MAIER INDUSTRIAL PARK
SITE DEVELOPMENT PLAN
6th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

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GENERAL NOTES

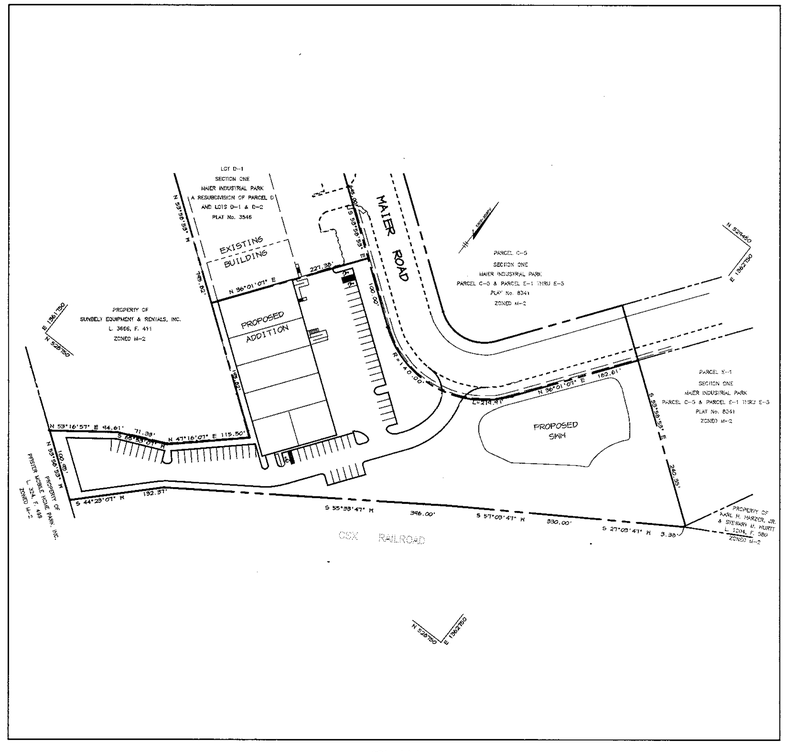
1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE.
2. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/ CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
3. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
4. 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.
5. ALL PLAN DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
6. THE EXISTING TOPOGRAPHY IS TAKEN FROM A FIELD RUN TOPO SURVEY WITH MAXIMUM TWO FOOT CONTOUR INTERVALS PREPARED BY RIEMER, MUEGGE, ASSOC. INC. DATED (AUGUST, 1998).
7. 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. 47IB AND 47IC WERE USED FOR THIS PROJECT.
8. WATER IS PUBLIC. CONTRACT NO. - 382-W&S
9. SEWER IS PUBLIC. CONTRACT NO. - 382-A-S DRAINAGE AREA : LITTLE PATUXENT RIVER.
11. 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
12. A 100 YEAR FLOODPLAIN STUDY IS NOT REQUIRED FOR THIS PROJECT.
13. THERE ARE NO WETLANDS ON THIS SITE.
14. DUE TO LESS THAN 100 VEHICLES PER PEAK HOUR GENERATED, A TRAFFIC STUDY FOR THIS PROJECT IS NOT REQUIRED.
15. A NOISE STUDY FOR THIS PROJECT IS NOT REQUIRED.
16. A GEOTECHNICAL STUDY FOR THIS PROJECT WAS PREPARED BY HILLIS CARNES INC., DATED NOV. 1998.
17. STORMWATER QUALITY AND QUANTITY MANAGEMENT IS PROVIDED ON SITE.
18. SUBJECT PROPERTY ZONED M-2 PER 10-18-93 COMPREHENSIVE ZONING PLAN.
19. ALL ELEVATIONS SHOWN ARE BASED ON THE U.S.C. AND G.S. MEAN SEA LEVEL DATUM, 1929.
20. SEE DEPARTMENT OF PLANNING AND ZONING FILE NO'S. F-69-20, SDP-72-112, SDP-76-89, SDP-83-44, F-80-53, SDP-89-81, SDP-88-97, F-76-89
21. THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES AT LEAST (5) DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.
22. CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.
23. 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.
24. NO PIPE SHALL BE LAID UNTIL LINES OF EXCAVATION HAVE BEEN BROUGHT WITHIN 6" OF FINISHED GRADE.
25. 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.
26. ALL INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS.
27. ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
29. PROFILES STATIONS SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO PLAN DIMENSIONS.
30. ALL FILL AREAS WITHIN ROADWAY AND UNDER STRUCTURES TO BE COMPACTED TO A MINIMUM OF 95% COMPACTION OF AASHTO T180.

FOREST CONSERVATION NOTES

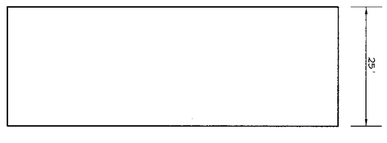
1. FOREST CONSERVATION WORKSHEET

BASIC SITE DATA	
A. GROSS SITE AREA:	3.60 Ac.±
B. LESS AREA WITHIN 100 YR. FLOODPLAIN:	0.00 Ac.±
C. NET TRACT AREA:	3.60 Ac.±
PLANTING REQUIREMENT	
D. REFORESTATION THRESHOLD (15%):	0.54 Ac.±
E. EX. FOREST WITHIN NET TRACT AREA:	1.80 Ac.±
F. FOREST AREA TO BE CLEARED:	1.80 Ac.±
G. FOREST AREA TO BE RETAINED:	0.00 Ac.±
H. REFORESTATION FOR CLEARING ABOVE THRESHOLD (E-D x 0.25):	0.30 Ac.±
I. REFORESTATION FOR CLEARING BELOW THRESHOLD (D-G x 2): OR LESS CREDIT FOR RETENTION ABOVE THRESHOLD (IF G>D THEN G-D):	1.08 Ac.± / N/A
K. REFORESTATION OBLIGATION (H+I):	1.40 Ac.±
REFORESTATION PLANTING DISTRIBUTION	
L. ON-SITE REFORESTATION:	0.00 Ac.±
M. OFF-SITE REFORESTATION:	0.00 Ac.±
N. OFF-SITE AFFORESTATION: (ROMITI PROPERTY FARM - SEE SHEETS 9 & 10)	1.40 Ac.±

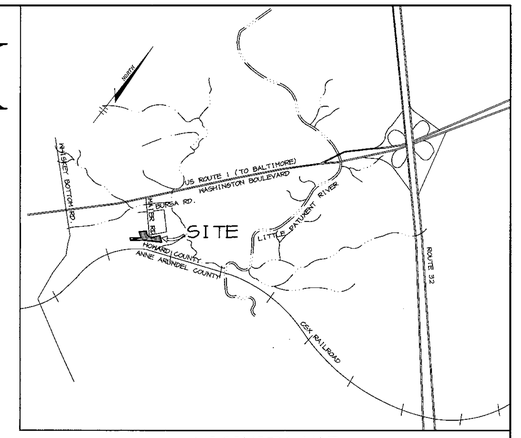
2. JUSTIFICATION FOR FOREST REMOVAL:
   A. THE FOREST AT THE SOUTHWEST SITE CORNER SHALL BE REMOVED TO INSTALL A PARKING / STORAGE LOT. ALONG WITH PROVIDING A LOCATION FOR 21± PARKING SPACES, STORAGE LOTS INCREASE THE VALUE OF THE PROPOSED BUILDING TO POTENTIAL LESSEES.
   B. THE EXISTING FOREST BETWEEN THE PROPOSED ADDITION AND THE PROPOSED S.W.M. POND HAS THE POTENTIAL FOR FUTURE USE BY THE CLIENT, THEREFORE, IT WILL NOT BE PUT IN A FOREST CONSERVATION EASEMENT.
   C. THE REMAINING TREE STANDS DO NOT MEET THE MINIMUM SIZE REQUIREMENTS TO BE CONSIDERED FOREST.



PLAN
SCALE: 1"=100'



BUILDING ELEVATION
(NOT TO SCALE)



VICINITY MAP
SCALE: 1"=2000'

BENCHMARKS

HO. CO. SURVEY CONTROL
STATION: 47IB
N 529,702 E 1,361,470

HO. CO. SURVEY CONTROL
STATION: 47IC
N 532,037 E 1,362,819

SITE TABULATION

TOTAL AREA	3.579 AC. (155,901 SF)
CURRENT ZONING	M-2
PROPOSED USE	WAREHOUSE/MANUFACTURING
BUILDING COVERAGE	24,408 SQ. FT.
REQUIRED PARKING	2.5 SPACES PER/1000 SF* = 61 SPACES
PROPOSED PARKING	61 SPACES (INCLUDES 3 HC SPACES)
PAVED AREA	45,540 SF (29% OF SITE)

* PER HOWARD COUNTY ZONING REGULATIONS SECTION 133

SUBDIVISION NAME:			SECT./AREA:	PARCEL:
MAIER INDUSTRIAL PARK			-	885
PLAT #:	BLOCK #:	ZONE:	TAX MAP NO.:	ELECT. DIST.:	CENSUS TRACT:
3546	23	M-2	47	6TH	6069.02
WATER CODE:		SEWER CODE:		
7000000		C04		

OWNER/DEVELOPER:
FRED MAIER
PO BOX 600
BELTSVILLE, MD 20705

ADDRESS CHART

LOT NUMBER	STREET ADDRESS
D-2	#9060 MAIER ROAD

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 9/24/99
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 9/7/99
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 9/22/99

DATE	NO.	REVISION
3-30-99	1	REMOVE OVERHANG AND PERMIT REVISIONS

PROJECT MAIER INDUSTRIAL PARK
A COMMERCIAL BUILDING ADDITION
AREA TAX MAP 47 ZONED M-2 PARCEL 885
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
TITLE SHEET

RIEMER MUEGGE & ASSOCIATES, INC.
ENGINEERING ● ENVIRONMENTAL SERVICES ● PLANNING ● SURVEYING
8818 Centre Park Drive, Columbia, Maryland 21045
tel 410.997.8900 fax 410.997.9282

DATE
ARTHUR E. MUEGGE #8707

DESIGNED BY : C.J.R.	
DRAWN BY: K.E.V.	
PROJECT NO : 98265 SDP1.DWG	
DATE : JUNE 16, 1999	
SCALE : AS SHOWN	
DRAWING NO. 1 OF 10	

SDP-99-48

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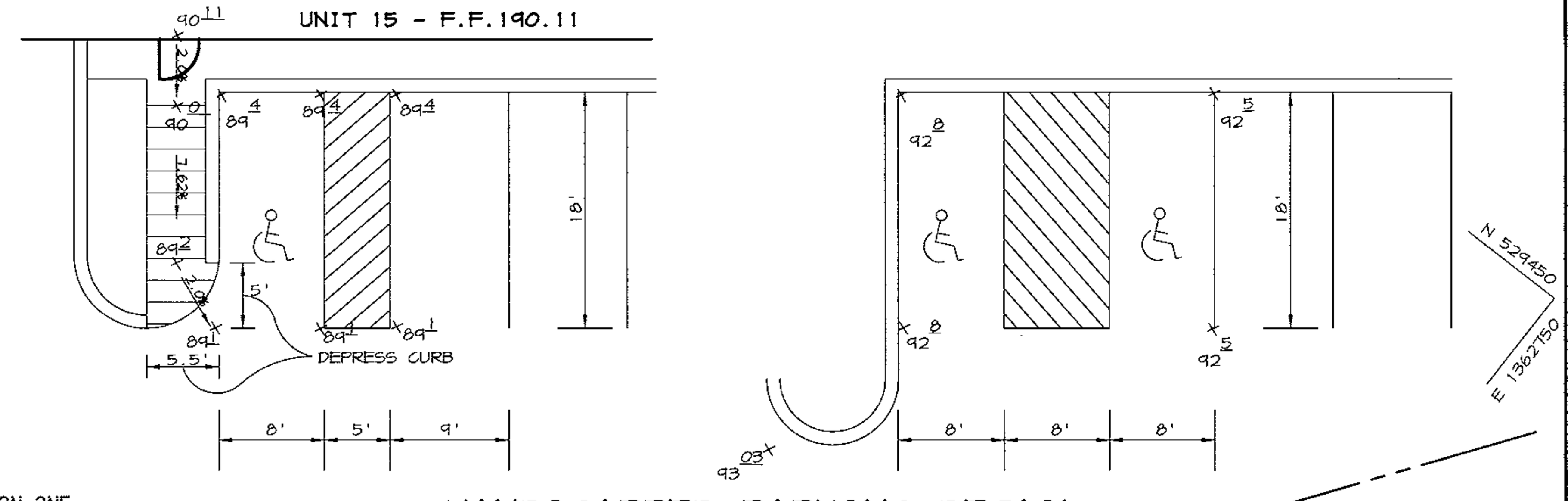
SWM SUMMARY CHART DA: 4.15 AC.					
STORM	ALLOWABLE RELEASE RATE	INFLOW	DISCHARGE	ELEVATION	STORAGE
2 YR.	2.54 CFS	12.32 CFS	1.32 CFS	167.17	0.330 AC*FT
10 YR.	8.22 CFS	22.01 CFS	1.78 CFS	168.75	0.662 AC*FT
100 YR.	N/A	32.62 CFS	24.07 CFS	171.12	1.254 AC*FT



HANDICAPPED PARKING DETAIL

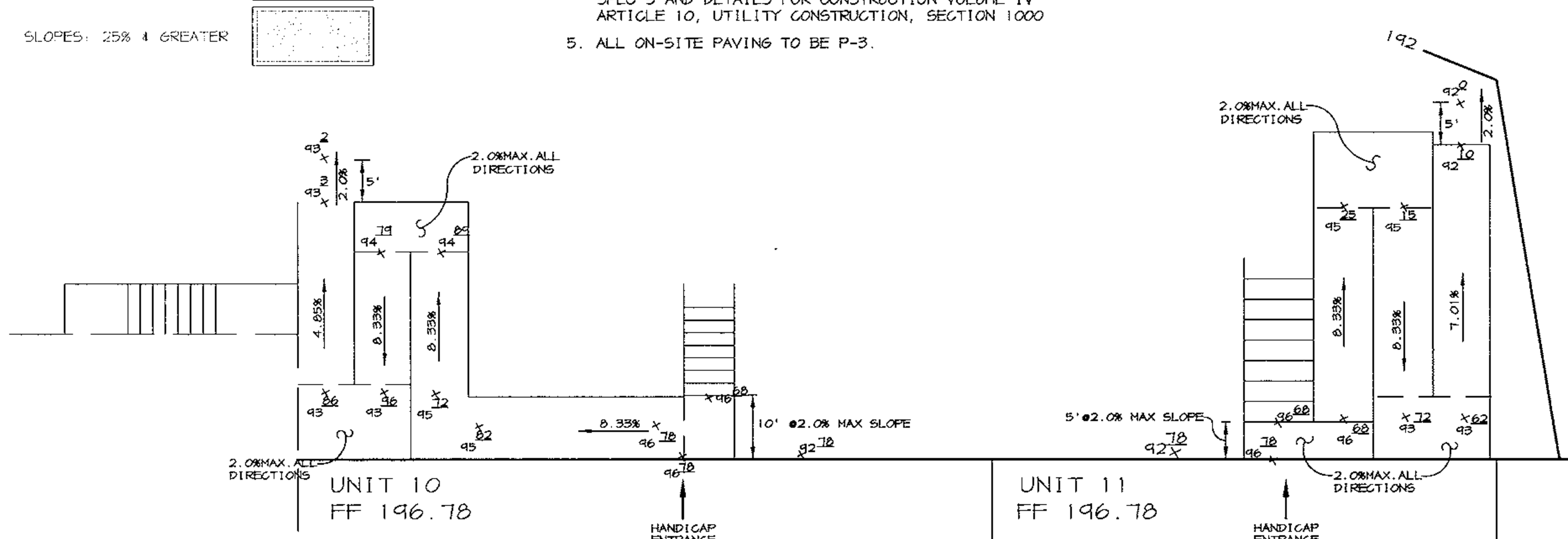
SCALE : HOR. - 1" = 10'

NOTES:

1. ALL LIGHTING SHALL BE DIRECTED/REFLECTED AWAY FROM ADJACENT PUBLIC ROADS AND RESIDENTIALLY ZONED PROPERTIES.
2. ALL CURB RADII ARE 5' UNLESS OTHERWISE SHOWN.
3. ALL ON-SITE ROADS ARE PRIVATE.
4. CONTRACTOR TO INSTALL UTILITIES PER HO.CO.STD. SPEC'S AND DETAILS FOR CONSTRUCTION VOLUME IV ARTICLE 10, UTILITY CONSTRUCTION, SECTION 1000
5. ALL ON-SITE PAVING TO BE P-3.

LEGEND

SLOPES: 15-24.9%	▭
SLOPES: 25% & GREATER	▨



RAMP DETAIL

SCALE : HOR. - 1" = 10'

OPERATION AND MAINTENANCE SCHEDULE
OF PRIVATELY OWNED AND MAINTAINED
STORMWATER MANAGEMENT FACILITY
DETENTION POND

ROUTINE MAINTENANCE

1. Facility shall be inspected anually and after major storms. Inspections should be performed during wet weather to determine if the pond is functioning properly.
2. Top and side slopes of the embankment shall be mowed a minimum of two (2) times a year, once in June and once in September. Other side slopes, the bottom of the pond, and maintenance access should be mowed as needed.
3. Debris and litter next to the outlet structure shall be removed during regular mowing operations and as needed.
4. Visible signs of erosion in the pond as well as riprap outlet area shall be repaired as soon as it is noticed.

NON-ROUTINE MAINTENANCE

1. Structural components of the pond such as the dam, the riser, and the pipes shall be repaired upon the the detection of any damage. The components should be inspected during routine maintenance operations.
2. Sediment should be removed when its accumulation significantly reduces the design storage, interfere with the function of the riser, when deemed necessary for aesthetic reasons, or when deemed necessary by the Howard County's Department of Public Works.

OWNER/DEVELOPER:
FRED MAIER
PO BOX 600
BELTSVILLE, MD 20705

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

[illegible] 9/24/99
DIRECTOR DATE

[illegible] 9/7/99
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Cindy Hamilton 9/22/99
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE	NO.	REVISION
3-30-99	1	REMOVE OVERHANG AND PERMIT REVISIONS

PROJECT MAIER INDUSTRIAL PARK
A COMMERCIAL
BUILDING ADDITION

AREA TAX MAP 47 ZONED M-2 PARCEL 885
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
SITE DEVELOPMENT PLAN

RIEMER MUEGGE & ASSOCIATES, INC.
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8818 Centre Park Drive, Columbia, Maryland 21045
tel 410.997.8900 fax 410.997.9282

DATE
STATE OF MARYLAND ARTHUR E. MUEGGE III NO. 8707 REGISTERED PROFESSIONAL ENGINEER
[illegible]
ARTHUR E. MUEGGE #8707

DESIGNED BY : C.J.R.
DRAWN BY: K.E.V.
PROJECT NO : 98265 SDP2.DWG
DATE : JUNE 16, 1999
SCALE : 1" = 30'
DRAWING NO. 2 OF 10

SDP-99-48

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DRAINAGE CHART

INLET	DRAINAGE AREA (AC)	%IMP	'C'
I-1	0.07	94%	0.84
I-2	0.19	98%	0.85
I-3	0.36	91%	0.81
I-4	1.12	94%	0.82
I-5	0.50	92%	0.81
I-6	0.31	73%	0.69
I-7	0.25	100%	0.86

NOTE: ALL ON-SITE SOILS ARE ASSUMED TYPE "C" DUE TO MASS GRADING.

SEQUENCE OF CONSTRUCTION

1. OBTAIN A GRADING PERMIT.
2. INSTALL STABILIZED CONSTRUCTION ENTRANCE, SEDIMENT BASIN, SILT FENCE, AND EARTH DIKE (12 DAYS).
3. UPON PERMISSION OF HO.CO.DILP.SEDIMENT CONTROL INSPECTOR, BEGIN ROUGH GRADING AND BUILDING CONSTRUCTION. INSTALL STORM DRAINS AS SOON AS SUBGRADE ELEVATIONS ARE ESTABLISHED. ESTABLISHED.
4. UPON REACHING SUBGRADE ELEVATION COMPLETE STORM DRAINS, SEWER AND WATER CONSTRUCTION (4 WEEKS).
5. INSTALL CURB AND GUTTER THEN PAVE (4 WEEKS).
6. INSTALL SIDEWALK, LIGHTS, AND LANDSCAPING. (2 WEEKS)
7. STABILIZE ALL DISTURBED AREAS IN ACCORDANCE WITH THE PERMANENT SEEDING NOTES (3 DAYS).
8. COMPLETE ALL REMAINING CONSTRUCTION AND STABILIZE ALL REMAINING DISTURBED AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES. (3 MONTHS)

LEGEND

▪▪▪▪▪▪▪▪	DRAINAGE AREA DIVIDE
▬▬▬	SOIL BOUNDARY LIMITS
➞ ➞ ➞	EARTH DIKE A-1
SF——SF——SF	SILT FENCE
SSF——SSF——SSF	SUPER SILT FENCE
▬ ▬ ▬	LIMIT OF DISTURBANCE
◡◡◡◡◡	PROPOSED TREE LINE
◡◡◡◡◡	EXISTING TREE LINE

SEDIMENT BASIN

DRAINAGE AREA	4.15 ACRES
STORAGE VOLUME REQUIRED (WET STORAGE)	7,470 CFS
STORAGE VOLUME REQUIRED (DRY STORAGE)	7,470 CFS
STORAGE VOLUME AVAILABLE (WET STORAGE)	7,470 CFS @ 166.6
STORAGE VOLUME AVAILABLE (DRY STORAGE)	7,470 CFS @ 170.6
CREST ELEVATION	170.6
TOP OF DAM	173.0
BOTTOM ELEVATION	165.0
CLEANOUT ELEVATION	166.1
SIDE SLOPES	3:1
DISTANCE FROM RISER CREST TO CLEANOUT	4.5'

N 528750 E 1362750

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.

Fred Maier 8/2/99
DEVELOPER 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/SHE 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.

[illegible] 6.17.99
ENGINEER 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.

[illegible] / 65 8/25/99
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.

[illegible] 8/25/99
HOWARD SOIL CONSERVATION DISTRICT DATE

OWNER/DEVELOPER:

FRED MAIER
PO BOX 600
BELTSVILLE, MD 20705

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

[illegible] 9/24/99
DIRECTOR DATE

[illegible] 9/7/99
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Cindy Hamilton 9/22/99
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE	NO.	REVISION
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PROJECT MAIER INDUSTRIAL PARK
A COMMERCIAL
BUILDING ADDITION

AREA TAX MAP 47 ZONED M-2 PARCEL 885
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
GRADING, SEDIMENT CONTROL PLAN
& DRAINAGE AREA MAP

RIEMER MUEGGE & ASSOCIATES, INC.
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8818 Centre Park Drive, Columbia, Maryland 21045
tel 410.997.8900 fax 410.997.9282

DATE

STATE OF MARYLAND
ARTHUR E. MUEGGE III
NO. 8707
REGISTERED
PROFESSIONAL ENGINEER

[illegible]
ARTHUR E. MUEGGE # 8707

DESIGNED BY : C.J.R.
DRAWN BY: K.E.V.
PROJECT NO : 98265 SDP3.DWG
DATE : JUNE 16, 1999
SCALE : 1" = 30'
DRAWING NO. 3 OF 10

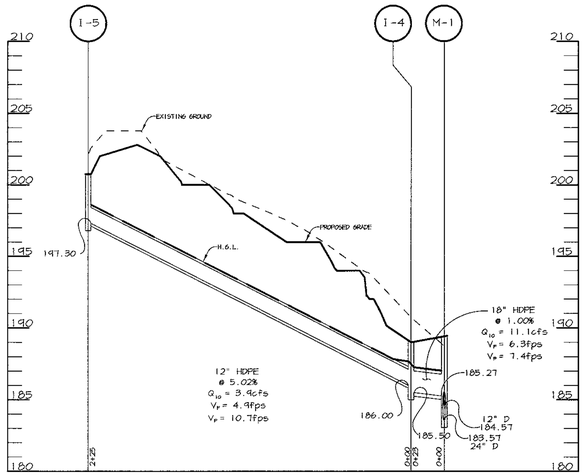
SDP-99-48

M:\PROJECT\98265\SDP3.DWG Wed Jun 16 14:14:04 1999

STRUCTURE SCHEDULE

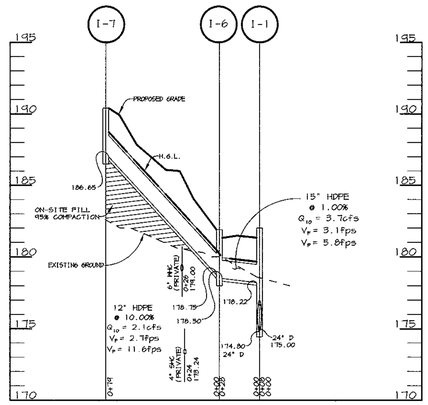
STRUCTURE	TYPE	WIDTH	LOCATION	INV. IN	INV. OUT	TOP	REMARKS
E-1	HDPE 24" END SEC.		SEE PLAN	170.00	-	-	-
HW-1	TYPE 'A' HEADWALL		SEE PLAN	164.00	-	-	HOCO STD. DETAIL SD 5.11
I-1	A-5	3'-6"	SEE PLAN	178.22 (15")	178.12 (24")	182.08	HOCO STD. DETAIL SD 4.01
I-2	"	2'-6"	SEE PLAN	182.12	181.90	187.58	HOCO STD. DETAIL SD 4.01
I-3	"	2'-6"	SEE PLAN	-	186.5	190.28	HOCO STD. DETAIL SD 4.01
I-4	S COMB. W/ RET. GR.		SEE PLAN	186.0	185.5	189.58	HOCO STD. DETAIL SD 4.32 & 4.93
I-5	S INLET		SEE PLAN	-	197.3	200.3	HOCO STD. DETAIL SD 4.22
I-6	A-5	2'-6"	SEE PLAN	178.75	178.5	188.48	HOCO STD. DETAIL SD 4.22
I-7	A-5	2'-6"	SEE PLAN	-	186.65	190.38	HOCO STD. DETAIL SD 4.22
OS-1	-		SEE PLAN	-	-	-	SEE DETAIL SH. 6
M-1	4' MH		SEE PLAN	185.27 184.57 (12")	183.57 (24")	189.4	HOCO STD. DETAIL # 5.12
S-1	STORMCEPTOR		SEE PLAN	179.59 (24")	179.51 (24")	178.89	FOR DETAIL SEE SHEET 7

NOTES: * LOCATION OF "S" & M2 FACILITY INLETS AND MANHOLES IS AT CENTER OF TOP COVER; FOR "A" INLETS LOCATION IS GIVEN FOR CENTER OF THROAT OPENING AT FACE OF CURB;
FOR END SECTIONS AND HEADWALLS THE LOCATION IS CENTER OF THROAT OPENINGS AT FACE OF STRUCTURE.
TOP ELEVATION IS TOP OF CURB/GRATE/RIM.



PROFILE

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



PROFILE

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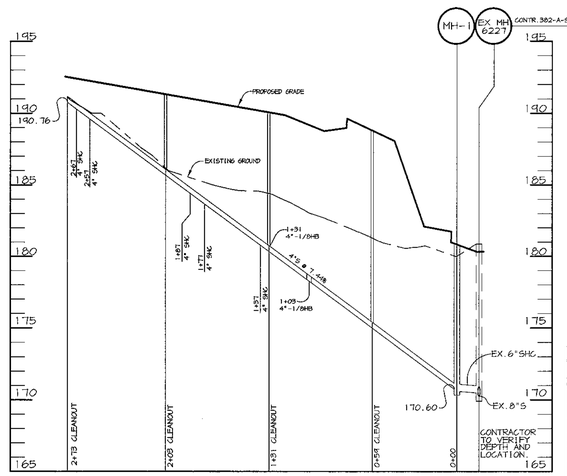
VER. -1"=5'



SEWER PROFILE

SCALE :
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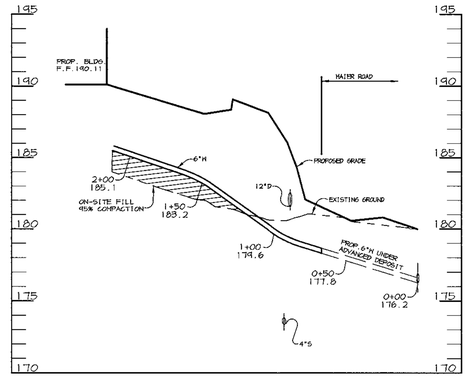
VER. -1"=5'



WATER PROFILE

SCALE :
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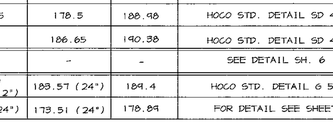
VER. -1"=5'

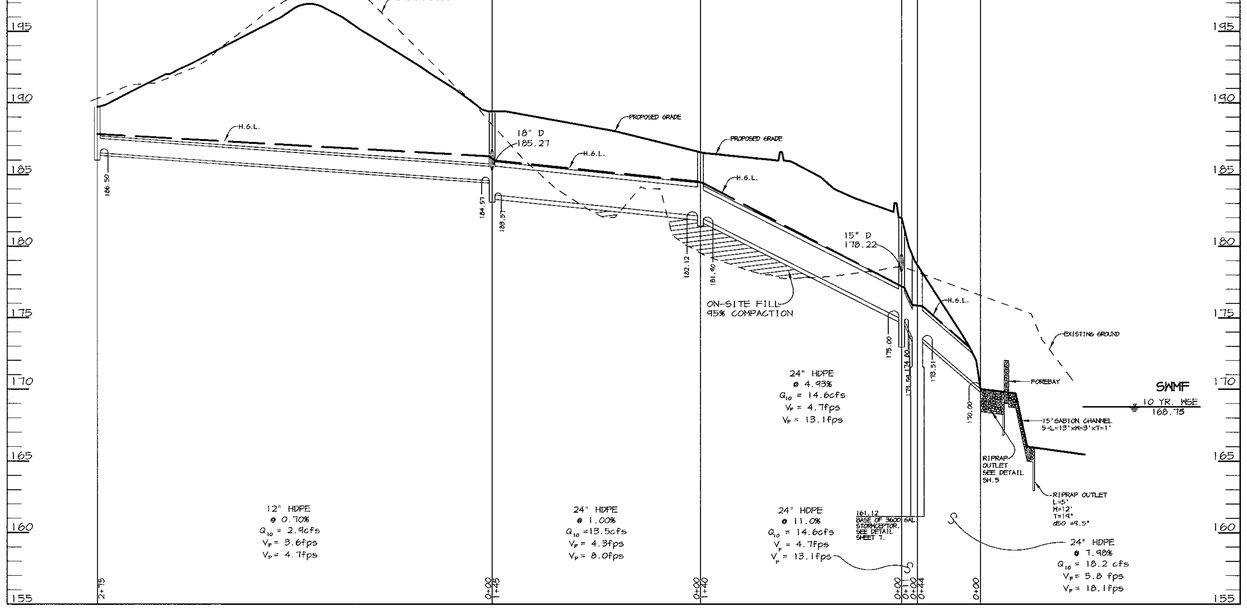


HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (DRAWING R-3.01).

* 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.

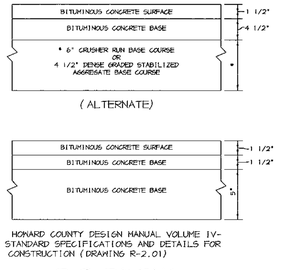
STANDARD 7" COMBINATION CURB AND GUTTER

NO SCALE



PROFILE

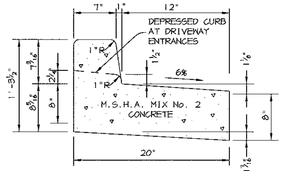
SCALE :
HOR. -1"=50'
VER. -1"=5'



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

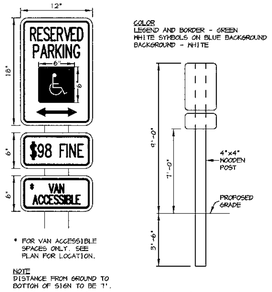
P-3 PAVING

NO SCALE



REVERSE 7" COMBINATION CURB AND GUTTER

NO SCALE

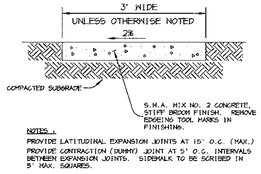


* FOR VAN ACCESSIBLE SPACES ONLY. SEE PLAN FOR LOCATION.

NOTE
DISTANCE FROM GROUND TO BOTTOM OF SIGN TO BE 7'.

HANDICAP SIGN DETAIL

NO SCALE



NOTES :
PROVIDE LATITUDINAL EXPANSION JOINTS AT 15' O.C. (MAX.)
PROVIDE CONTRACTION (DUMMY) JOINT AT 5' O.C. INTERVALS BETWEEN EXPANSION JOINTS. SIDEWALK TO BE SCORIBED IN 5' MAX. SQUARES.

SIDEWALK DETAIL

NO SCALE

OWNER/DEVELOPER:

FRED MAIER
PO BOX 600
BELTSVILLE, MD 20705

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 9/24/99

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 9/7/99

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 9/23/99

DATE	NO.	REVISION

PROJECT MAIER INDUSTRIAL PARK
A COMMERCIAL BUILDING ADDITION

AREA TAX MAP 47 ZONED M-2 PARCEL 885
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
PROFILE & DETAIL SHEET

RIEMER MUEGGE & ASSOCIATES, INC.
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8818 Centre Park Drive, Columbia, Maryland 21045
tel 410.997.8900 fax 410.997.9282

DATE

STATE OF MARYLAND — ARTHUR E. MUEGGE — NO. 8707 — REGISTERED PROFESSIONAL ENGINEER

ARTHUR E. MUEGGE # 8707

DESIGNED BY : C.J.R.	
DRAWN BY: K.E.V.	
PROJECT NO : 98265 SDP4.DWG	
DATE : JUNE 16, 1999	
SCALE : AS SHOWN	
DRAWING NO. 4 OF 10	

SDP-99-48

M:\PROJECT\98265\SDP4.DWG Wed Jun 16 14:41:59 1999

STANDARD SEDIMENT CONTROL NOTES

1. 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 (313-1855).
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 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.
3. 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.
4. ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THE PERIMETER IN ACCORDANCE WITH VOL. I, CHAPTER 7, 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 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING, SOD, TEMPORARY SEEDING, AND MULCHING (SEC. G.). TEMPORARY STABILIZATION WITH MULCH ALONE SHALL ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHED 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	3.579 ACRES
AREA DISTURBED	3.12 ACRES
AREA TO BE ROOFED OR PAVED	1.6 ACRES
AREA TO BE VEGETATIVELY STABILIZED	1.52 ACRES
TOTAL CUT	5,700 CU. YARDS
TOTAL FILL	10,700 CU. YARDS
OFFSITE BORROW AREA LOCATION TO HAVE AN APPROVED GRADING PERMIT.	

8. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
9. ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
10. ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
11. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.
12. SITE GRADING WILL BEGIN ONLY AFTER ALL PERIMETER SEDIMENT CONTROL MEASURES HAVE BEEN INSTALLED AND ARE IN A FUNCTIONING CONDITION.
13. SEDIMENT WILL BE REMOVED FROM TRAPS WHEN ITS DEPTH REACHES CLEAN OUT ELEVATION SHOWN ON THE PLANS.
14. 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.

TEMPORARY SEEDING NOTES

Apply to graded or cleared areas likely to be redisturbed where a short-term vegetative cover is needed.

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

Soil Amendments : Apply 600 lbs. per acre 10-10-10 fertilizer (14 lbs. 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 rye (3.2 lbs. per 1000 sq.ft.). For the period May 1 thru August 14, seed with 3 lbs. per acre of weeping 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 218 gal. per acre (5 gal. per 1000 sq.ft.) of emulsified 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 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for rate and methods not covered.

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. 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 (9 lbs. per 1000 sq.ft.).

2) Acceptable - Apply 2 tons per acre dolomitic limestone (92 lbs. per 1000 sq.ft.) and 1000 lbs. per acre 10-10-10 fertilizer (23 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 weeping lovegrass. During the period October 16 thru February 28, protect site by one of the following options :

1) 2 tons per acre of well-anchored mulch straw and seed as soon as possible in the spring.

2) Use sod.

3) 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 218 gal. per acre (5 gal. per 1000 sq.ft.) of emulsified 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.

21.0 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

I. This practice is limited to areas having 2:1 or flatter slopes where:
 a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
 b. 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.
 c. The original soil to be vegetated contains material toxic to plant growth.
 d. The soil is so acidic that treatment with limestone is not feasible.

II. 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

I. Topsoil salvaged from the existing site may be used provided that it meets the standards as 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 Experimentation Station.

II. Topsoil Specifications - Soil to be used as topsoil must meet the following:

 i. 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 cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1½" in diameter.

 ii. Topsoil must be free of plants or plant parts such as bermuda grass, quackgrass, Johnsongrass, nutsedge, poison ivy, thistle, or others as specified.

 iii. 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.

II. For sites having disturbed areas under 5 acres:
 i. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.

III. For sites having disturbed areas over 5 acres:

 i. On soil meeting Topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:
 a. 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.
 b. Organic content of topsoil shall be not less than 1.5 percent by weight.
 c. Topsoil having soluble salt content greater than 500 parts per million shall not be used.
 d. 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 phyto-toxic 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.

 ii. 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

 i. 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.

 ii. Grades on the areas to be topsoiled, which have been previously established, shall be maintained, albeit 4" - 8" higher in elevation.

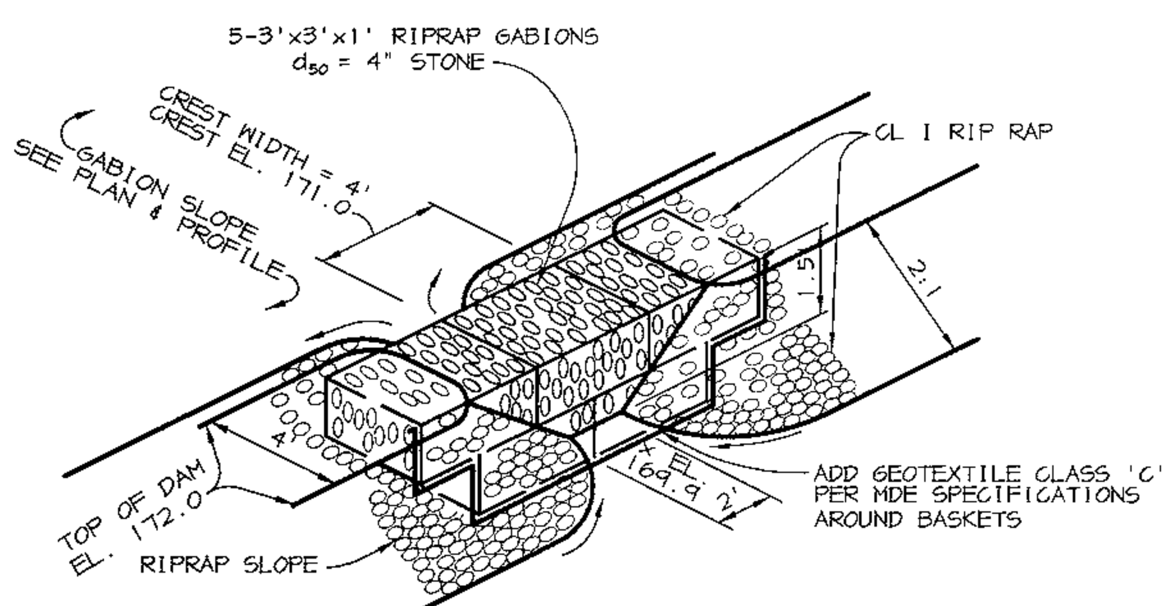
 iii. Topsoil shall be uniformly distributed in a 4" - 8" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.

 iv. 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 seedbed preparation.

VI. Alternative for Permanent Seeding - Instead of applying the full amounts of lime and commercial fertilizer, composted sludge and amendments may be applied as specified below:

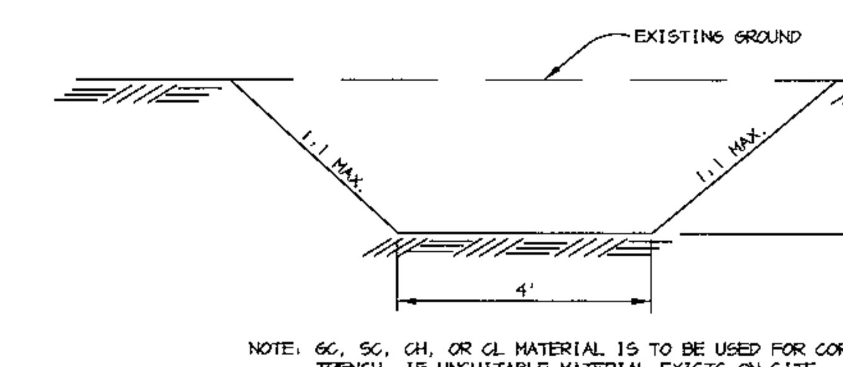
 i. Composted Sludge Material for use as a soil conditioner for sites having disturbed areas over 5 acres shall be tested to prescribe amendments and for site having disturbed areas under 5 acres shall conform to the following requirements:
 a. Composted sludge shall be supplied by, or originate from, a person or persons that are permitted (at the time of acquisition of the compost) by the Maryland Department of the Environment under COMAR 26.04.06.
 b. 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.
 c. Composted sludge shall be applied at a rate of 1 ton/1,000 square feet.
 d. 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 Sodding. MD-VA, Pub. #1, Cooperative Extension Service, University of Maryland and Virginia Polytechnic Institutes. Revised 1973.



FOREBAY DETAIL

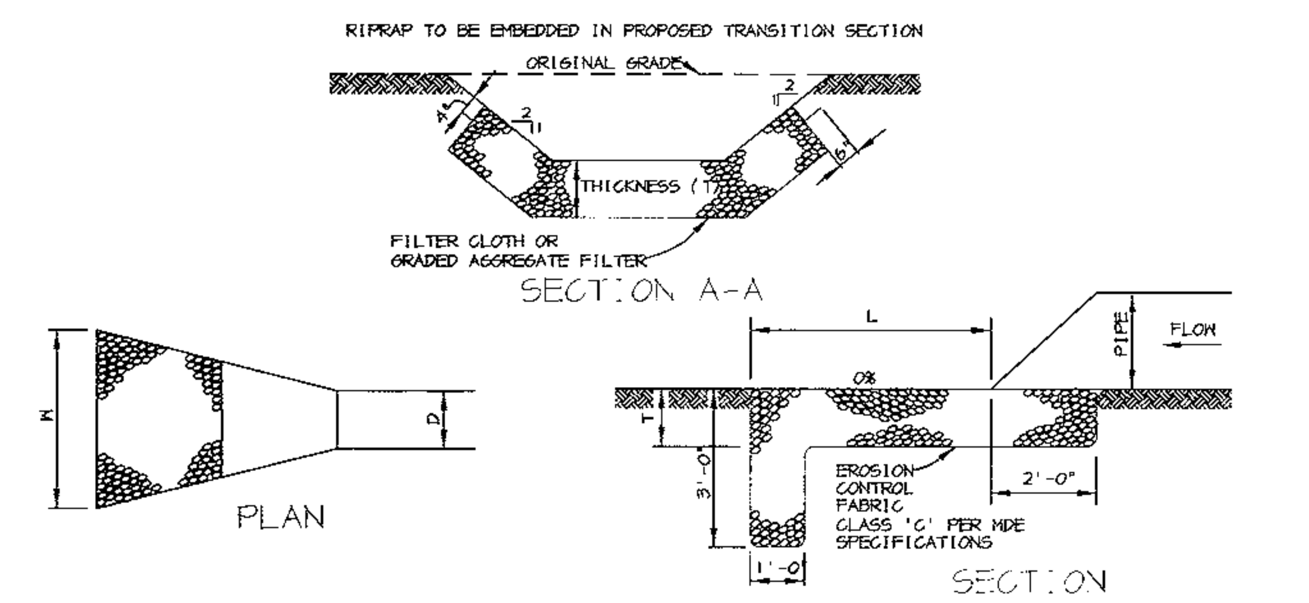
NO SCALE



NOTE: GC, SC, CH, OR CL MATERIAL IS TO BE USED FOR CORE TRENCH. IF UNSUITABLE MATERIAL EXISTS ON SITE, ACCEPTABLE MATERIAL WILL NEED TO BE TRUCKED TO SITE.

CORE TRENCH DETAIL

NO SCALE



NOTE: Q_{10}, V & DEPTH CALCULATED AT END OF RIPRAP OUTLET CHANNEL.

STRUCTURE	MEDIAN STONE DIA.	LENGTH (L)	WIDTH (W)	THICKNESS (T)	Q_{10}	V	DEPTH
E-1	9.5"	10'	12'	19"	18.2	5.8	0.4
HW-1	9.5"	33.5'	23'	19"	1.0	-	-

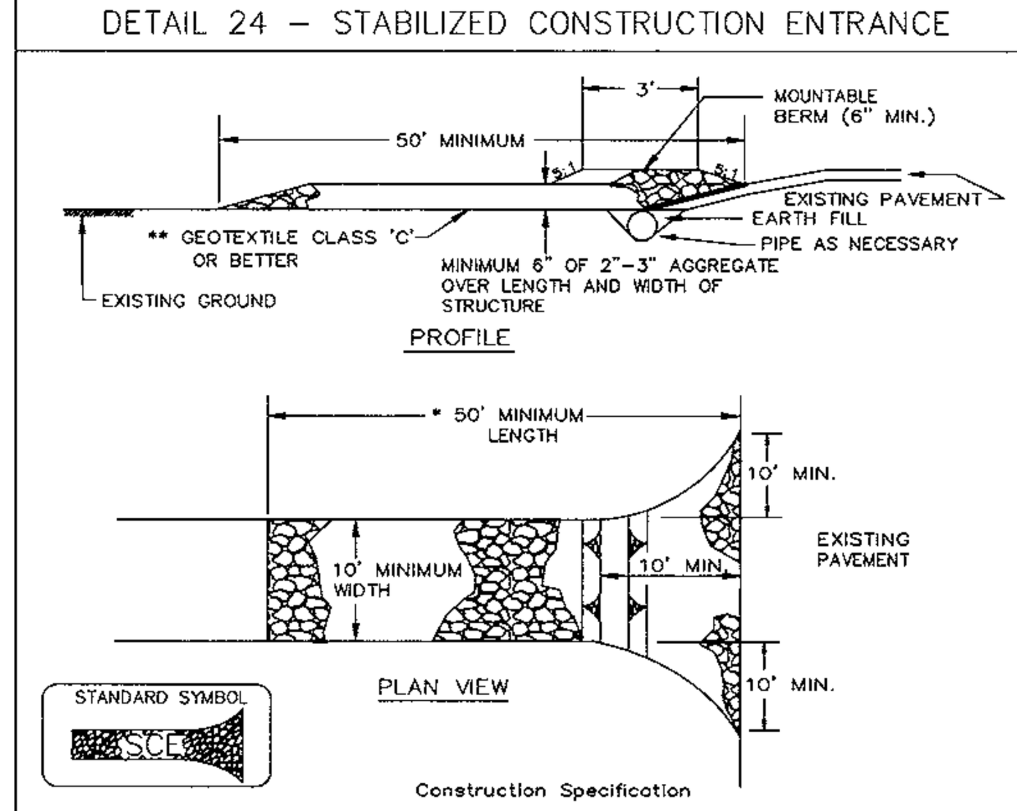
RIPRAP OUTLET PROTECTION DETAIL

NO SCALE

CONSTRUCTION SPECIFICATIONS

1. THE SUBGRADE FOR THE FILTER, RIP-RAP, OR GABION SHALL BE PREPARED TO THE REQUIRED LINES AND GRADES. ANY FILL REQUIRED IN THE SUBGRADE SHALL BE COMPACTED TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL.
2. THE ROCK OR GRAVEL SHALL CONFORM TO THE SPECIFIED GRADING LIMITS WHEN INSTALLED RESPECTIVELY IN THE RIP-RAP OR FILTER.
3. GEOTEXTILE CLASS C OR BETTER SHALL BE PROTECTED FROM PUNCHING, CUTTING, OR TEARING. ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE SHALL BE REPAIRED BY PLACING ANOTHER PIECE OF GEOTEXTILE FABRIC OVER THE DAMAGED WHETHER FOR REPAIRS OR FOR JOINING TWO PIECES OF GEOTEXTILE FABRIC SHALL BE A MINIMUM OF ONE FOOT.
4. STONE FOR THE RIP-RAP OR GABION OUTLETS MAY BE PLACED BY EQUIPMENT. THEY SHALL BE CONSTRUCTED TO THE FULL COURSE THICKNESS IN ONE OPERATION AND AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. THE STONE FOR RIP-RAP OR GABION OUTLETS SHALL BE DELIVERED AND PLACED IN A MANNER THAT WILL ENSURE THAT IT IS REASONABLY HOMOGENOUS WITH THE SMALLER STONES AND SPALLS FILLING THE VOIDS BETWEEN THE LARGER STONES. RIP-RAP SHALL BE PLACED IN A MANNER TO PREVENT DAMANGE TO THE FILTER BLANKET OR GEOTEXTILE FABRIC. HAND PLACEMENT WILL BE REQUIRED TO THE EXTENT NECESSARY TO PREVENT DAMAGE TO THE PERMANENT WORKS.
5. THE STONE SHALL BE PLACED SO THAT IT BLENDS IN WITH THE EXISTING GROUND. IF THE STONE IS PLACED TOO HIGH THEN THE FLOW WILL BE FORCED OUT OF THE CHANNEL AND SCOUR ADJACENT TO THE STONE WILL OCCUR.

DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE



Construction Specification

1. Length — minimum of 50' (*30' for single residence lot).

2. Width — 10' minimum, should be flared at the existing road to provide a turning radius.

3. Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. **The plan approval authority may not require single family residences to use geotextile.

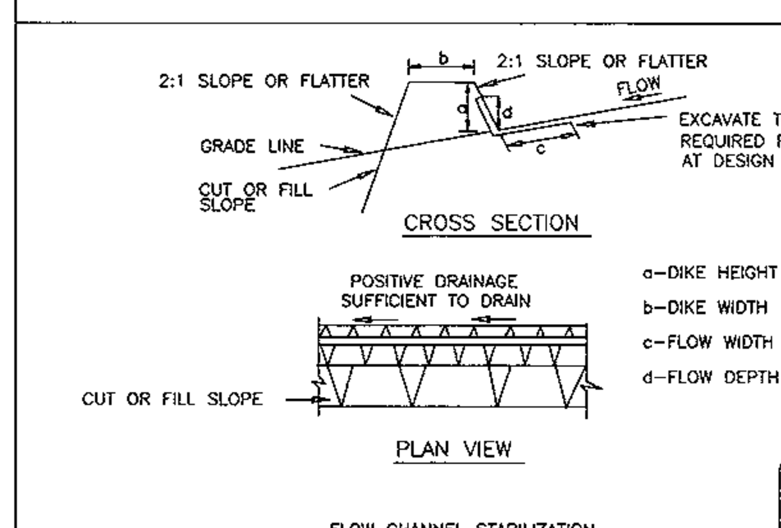
4. Stone — crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.

5. Surface Water — all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.

6. Location — A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE F - 17 - 3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 1 - EARTH DIKE



	DIKE A	DIKE B
a-DIKE HEIGHT	18"	30"
b-DIKE WIDTH	24"	36"
c-FLOW WIDTH	4'	6'
d-FLOW DEPTH	12"	24"

STANDARD SYMBOL
A-2 B-3
→ —/→ —

1. Seed and cover with straw mulch.
2. Seed and cover with Erosion Control Matting or line with sod.
3. 4" - 7" stone or recycled concrete equivalent pressed into the soil 7" minimum

Construction Specifications

1. All temporary earth dikes shall have uninterrupted positive grade to an outlet. Spot elevations may be necessary for grades less than 1%.

2. Runoff diverted from a disturbed area shall be conveyed to a sediment trapping device.

3. Runoff diverted from an undisturbed area shall outlet directly into an undisturbed, stabilized area at a non-erosive velocity.

4. All trees, brush, stumps, obstructions, and other objectional material shall be removed and disposed of so as not to interfere with the proper functioning of the dike.

5. The dike shall be excavated or shaped to line, grade and cross section as required to meet the criteria specified herein and be free of bank projections or other irregularities which will impede normal flow.

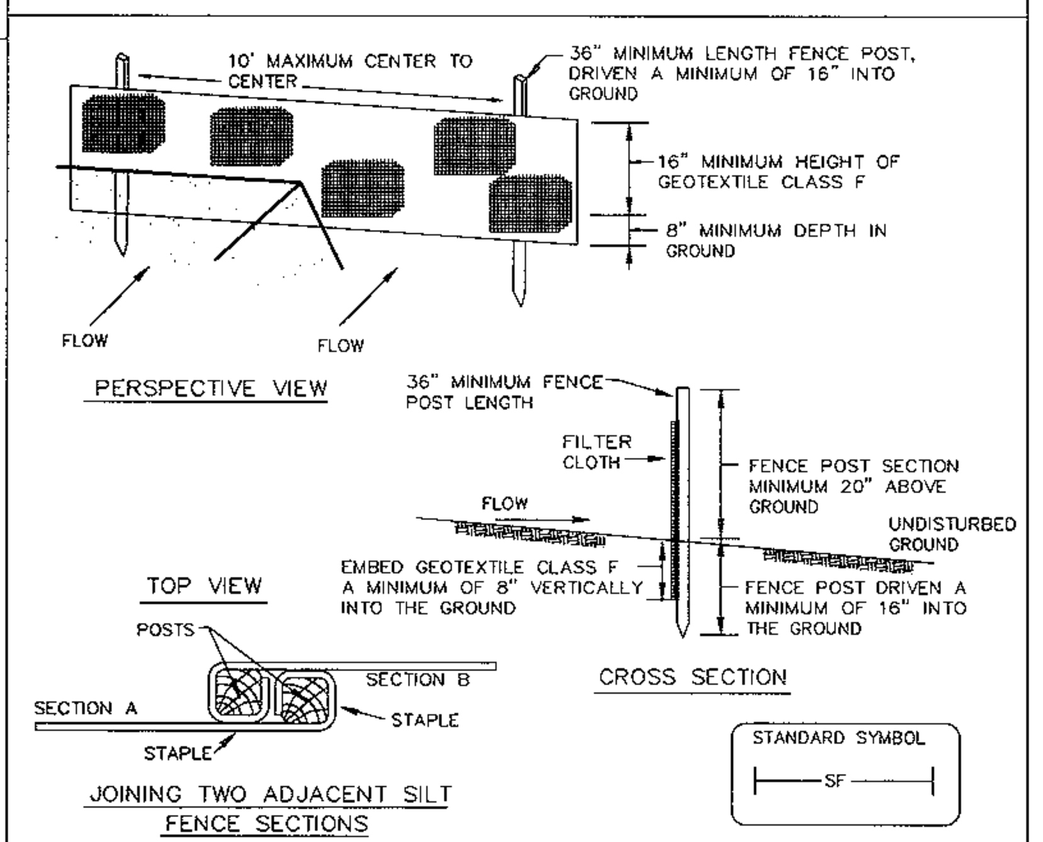
6. Fill shall be compacted by earth moving equipment.

7. All earth removed and not needed for construction shall be placed so that it will not interfere with the functioning of the dike.

8. Inspection and maintenance must be provided periodically and after each rain event.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE A - 1 - 6	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 22 - SILT FENCE



Construction Specifications

1. Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 11/2" x 11/2" square (minimum) cut, or 13/4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighting not less than 1.00 pond per linear foot.

2. Geotextile shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall meet the following requirements for Geotextile Class F:

Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal ft ²/ minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

3. Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.

4. Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE E - 15 - 3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

BORING SWM-1

Depth	
0'	BROWN, DRY TO MOIST, MEDIUM DENSE TO DENSE, FINE SILTY SAND WITH TRACE GRAVEL (SM) FILL
4.5'	GRAY, MOIST, MEDIUM DENSE, FINE SILTY SAND WITH TRACE GRAVEL, ORGANICS AND WOOD (SM) FILL
7.0' (water 7.0')	DARK GRAY, VERY MOIST, VERY LOOSE, FINE CLAYEY SAND (SC)
9.0'	GRAY AND BROWN, VERY MOIST TO WET, FINE TO MEDIUM CLAYEY SAND WITH TRACE GRAVEL (SC)
14.0'	BROWN/GRAY/ORANGE, MOIST, VERY STIFF, SILTY CLAY WITH TRACE FINE SAND (CL)
16.5'	BOTTOM OF HOLE AT 16.5'

NO SCALE

BEARING STRENGTH = 2,500 lbs/sq ft

BORING SWM-2

Depth	
0'	BROWN, DRY TO MOIST, LOOSE TO MEDIUM DENSE, SILTY SAND WITH TRACE TO SOME GRAVEL (SM) FILL
4.5' (water 5.0')	DARK GRAY, MOIST TO VERY MOIST, LOOSE, FINE TO MEDIUM SAND WITH TRACE TO SOME SILT (SM) POSSIBLE FILL
6.5'	TAN TO LIGHT GRAY, MOIST, STIFF TO MEDIUM STIFF, CLAYEY SAND/SANDY CLAY (SC-CL)
14.0'	LIGHT GRAY, MOIST, STIFF, SILTY CLAY TRACE FINE SAND (CL)
16.5'	BOTTOM OF HOLE AT 16.5'

NO SCALE

BEARING STRENGTH = 2,500 lbs/sq ft

BORING SWM-3

Depth	
0' (water 3.5')	BROWN, MOIST, LOOSE, FINE SILTY SAND WITH TRACE CLAY AND GRAVEL (SM) FILL
4.5'	GRAY AND BROWN, VERY MOIST, VERY LOOSE, CLAYEY SAND WITH TRACE GRAVEL (SC)
7.0'	BROWN, WET, MEDIUM DENSE, FINE TO COARSE SAND AND GRAVEL TRACE SILT (SP-GP)
14.0'	RED/BROWN, WET, STIFF, SILTY CLAY WITH TRACE FINE SAND AND GRAVEL (CL)
16.5'	BOTTOM OF HOLE AT 16.5'

NO SCALE

BEARING STRENGTH = 2,500 lbs/sq ft

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.

Fred Maier 8/2/99
DEVELOPER 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/SHE 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.

[illegible] 6.17.99
ENGINEER 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.

[illegible] /GS 8/25/99
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.

[illegible] 8/25/95
HOWARD SOIL CONSERVATION DISTRICT DATE

OWNER/DEVELOPER:

FRED MAIER
PO BOX 600
BELTSVILLE, MD 20705

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

[illegible] 9/24/99
DIRECTOR DATE

[illegible] 9/7/99
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE AG

[illegible] 9/22/99
CHIEF, DIVISION OF LAND DEVELOPMENT DATE R

DATE	NO.	REVISION

PROJECT MAIER INDUSTRIAL PARK
A COMMERCIAL
BUILDING ADDITION

AREA TAX MAP 47 ZONED M-2 PARCEL 885
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
DETAILS AND NOTES

RIEMER MUEGGE & ASSOCIATES, INC.
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8818 Centre Park Drive, Columbia, Maryland 21045
tel 410.997.8900 fax 410.997.9282

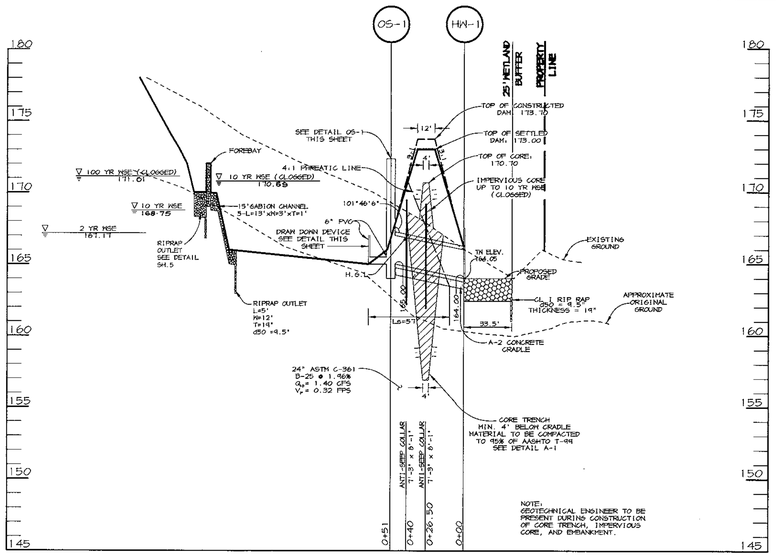
DATE

STATE OF MARYLAND
ARTHUR E. MUEGGE III
NO. 8707
REGISTERED
PROFESSIONAL ENGINEER

[illegible]
ARTHUR E. MUEGGE # 8707

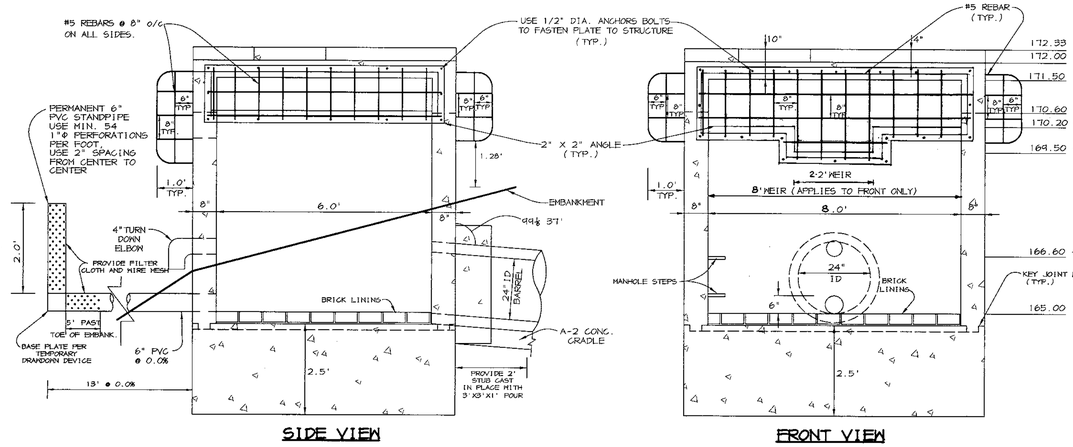
DESIGNED BY : C.J.R.	
DRAWN BY: K.E.V.	
PROJECT NO : 98265 SDP5.DWG	
DATE : JUNE 16, 1999	
SCALE : AS SHOWN	
DRAWING NO. 5 OF 10	

SDP-99-48



SWMF#1 PRINCIPAL SPILLWAY PROFILE

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



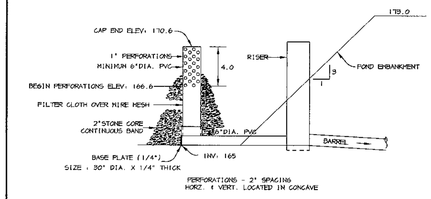
OS-1 DETAIL

SCALE: 1"=2'

NOTES:
1. REINFORCING: #4 @ 10" O/C E.W. IN & OF WALLS. REINFORCING TO BE CONTINUOUS AT CORNERS. ALL LAPS 1'-4"
2. SHOP DRAWINGS TO BE SUBMITTED TO THE ENGINEER PRIOR TO FABRICATION.
3. GALVANIZE RACK AFTER FABRICATION AND PAINT BATTLESHIP GRAY.
4. LOCATION OF ANGLE IRON SHALL BE 2" LARGER IN ALL DIRECTIONS FROM OPENINGS OF STRUCTURE.
5. RISER TO BE CAST IN PLACE WITH 2' MIN. BARREL STUB. PROVIDE WATER TIGHT SEAL.
6. SEE HO. CO. STD. DETAIL 6-5.21 FOR MANHOLE STEPS.

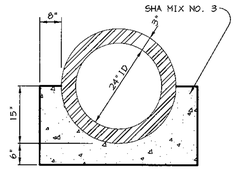
OPERATION, MAINTENANCE AND INSPECTION

INSPECTION OF THE POND SHOWN HEREON SHALL BE PERFORMED AT LEAST ONCE ANNUALLY, IN ACCORDANCE WITH THE CHECKLIST AND REQUIREMENTS CONTAINED WITHIN USDA, SCS "STANDARDS AND SPECIFICATION FOR PONDS" (MD378). THE POND OWNER AND ANY HEIRS, SUCCESSORS, OR ASSIGNS SHALL BE RESPONSIBLE FOR THE SAFETY OF THE POND AND THE CONTINUED OPERATION, SURVEILLANCE, INSPECTION, AND MAINTENANCE THEREOF. THE POND OWNER SHALL PROMPTLY NOTIFY THE SOIL CONSERVATION DISTRICT OF ANY UNUSUAL OBSERVATIONS THAT MAY BE INDICATIONS OF DISTRESS SUCH AS EXCESSIVE SEEPAGE, TURBID SEEPAGE, SLIDING OR SLUMPING.



SEDIMENT BASIN DRAW DOWN DEVICE

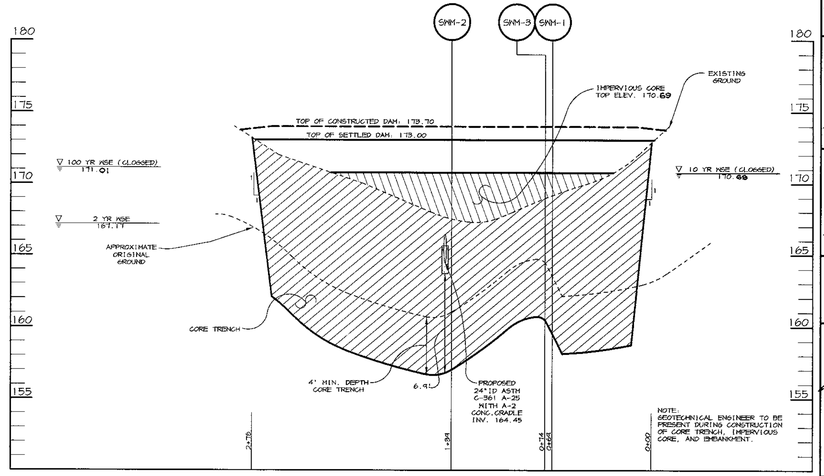
NO SCALE



CLASS 'A' DAMS LESS THAN 50' HIGH

A-2 CONCRETE CRADLE

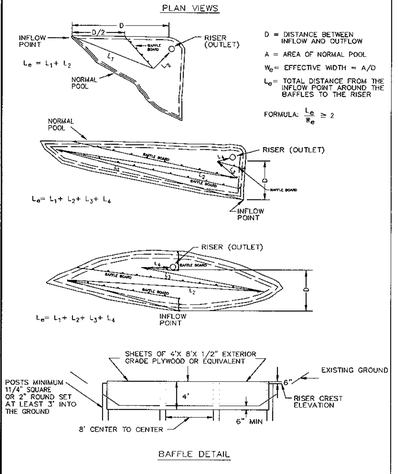
NO SCALE



SWMF #1 EMBANKMENT CENTERLINE PROFILE

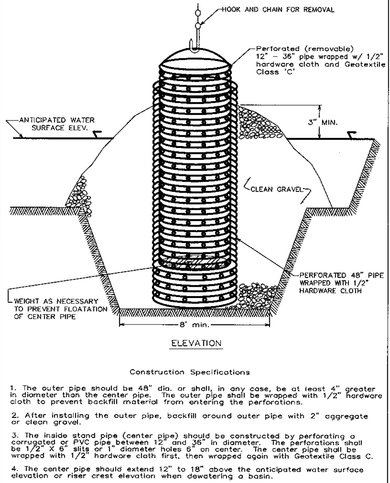
SCALE :
HOR. - 1" = 50'
VERT. - 1" = 5'

DETAIL 18 – SEDIMENT BASIN BAFFLES



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE C - 19 - 28	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 20A – REMOVABLE PUMPING STATION

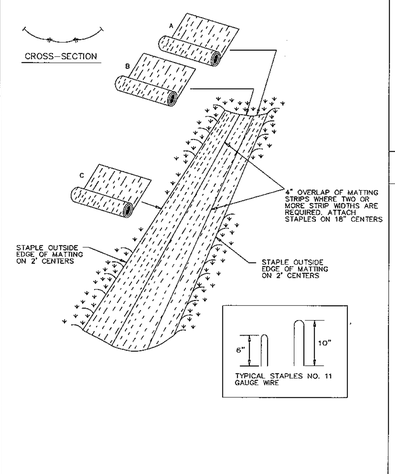


Construction Specifications

1. The outer pipe should be 48" dia. or shall, in any case, be at least 4" greater in diameter than the center pipe. The outer pipe shall be wrapped with 1/2" hardware cloth to prevent backfill material from entering the perforations.
2. After installing the outer pipe, backfill around outer pipe with 2" aggregate or clean gravel.
3. The inside stand pipe (center pipe) should be constructed by perforating a corrugated or PVC pipe between 12" and 36" in diameter. The perforations shall be 1/2" x 4" slits or 1" diameter holes 6" on center. The center pipe shall be wrapped with 1/2" hardware cloth first, then wrapped again with Geotextile Class C.
4. The center pipe should extend 12" to 18" above the anticipated water surface elevation or riser crest elevation when dewatering a basin.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE D - 12 - 4	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 30 – EROSION CONTROL MATTING



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE G - 22 - 2	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

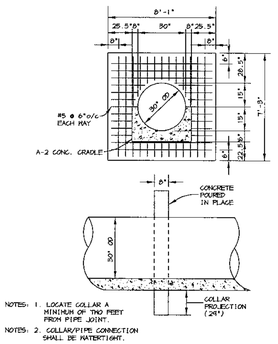
EROSION CONTROL MATTING

Construction Specifications

1. Key-in the matting by placing the top ends of the matting in a narrow trench, 6" in depth. Backfill the trench and tamp firmly to conform to the channel cross-section. Secure with a row of staples about 4" down slope from the trench. Spacing between staples is 6".
2. Staple the 4" overlap in the channel center using an 18" spacing between staples.
3. Before stapling the outer edges of the matting, make sure the matting is smooth and in firm contact with the soil.
4. Staples shall be placed 2' apart with 4 rows for each strip, 2 outer rows, and 2 alternating rows down the center.
5. Where one roll of matting ends and another begins, the end of the top strip shall overlap the upper end of the lower strip by 4", shiplap fashion. Reinforce the overlap with a double row of staples spaced 6" apart in a staggered pattern on either side.
6. The discharge end of the matting liner should be similarly secured with 2 double rows of staples.

Note: If flow will enter from the edge of the matting then the area effected by the flow must be keyed-in.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE G - 22 - 2A	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



NOTES: 1. LOCATE COLLAR A MINIMUM OF TWO FEET FROM PIPE JOINT.
NOTES: 2. COLLAR/PIPE CONNECTION SHALL BE WATERTIGHT.

CONCRETE ANTI-SEEP COLLAR SWMF #1

NO SCALE

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.

Fred Maier 8/2/99
DEVELOPER 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/SHE 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.

Arthur E. Muegge 6.17.99
ENGINEER 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.

NATURAL RESOURCES CONSERVATION SERVICE 8/25/99 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 8/25/99 DATE

OWNER/DEVELOPER:

FRED MAIER
PO BOX 600
BELTSVILLE, MD 20705

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR 9/24/99 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION 9/15/99 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT 9/22/99 DATE

DATE	NO.	REVISION

PROJECT MAIER INDUSTRIAL PARK
A COMMERCIAL BUILDING ADDITION

AREA TAX MAP 47 ZONED M-2 PARCEL 885
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE STORM WATER MANAGEMENT DETAILS & NOTES

RIEMER MUEGGE & ASSOCIATES, INC.
ENGINEERING ● ENVIRONMENTAL SERVICES ● PLANNING ● SURVEYING
8818 Centre Park Drive, Columbia, Maryland 21045
tel 410.997.8900 fax 410.997.9282

DATE

STATE OF MARYLAND — ARTHUR EDWARD MUEGGE III — NO. 8707 — REGISTERED PROFESSIONAL ENGINEER

ARTHUR E. MUEGGE # 8707

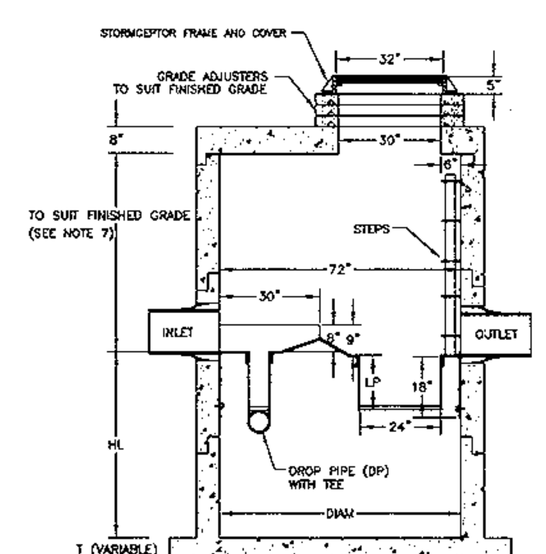
DESIGNED BY : C.J.R.	
DRAWN BY: K.E.V.	
PROJECT NO : 98265 SDP6.DWG	
DATE : JUNE 16, 1999	
SCALE : AS SHOWN	
DRAWING NO. 6 OF 10	

SDP-99-48

M:\PROJECT\98265\SWP6.DWG Wed Jun 16 14:41:01 1999

Stormceptor® Specifications

(Concrete – Disc Design)



NOTE : VARIABLE BASE SLAB WIDTH DEPENDENT ON BASE SLAB THICKNESS

FLOWS AND CAPACITIES*

MODEL	DROP/RISER PIPE (LP) (in.)	MAX. TREATED FLOW RATE (gpm)**	SEDIMENT CAPACITY (ft3)	OIL CAPACITY (US gal)	TOTAL CAPACITY (US gal)
STC 900	16	285	75	280	950
STC 1200	16	285	115	280	1230
STC 1800	16	285	195	280	1830
STC 2400	44	475	180	880	2495
STC 3600	44	475	350	880	3750
STC 4800	44	800	465	1025	5020
STC 6000	44	800	610	1025	6095
STC 7200	44	1110	725	1102	7415

* APPROXIMATE
** WITHOUT BY-PASSING

DIMENSIONS *

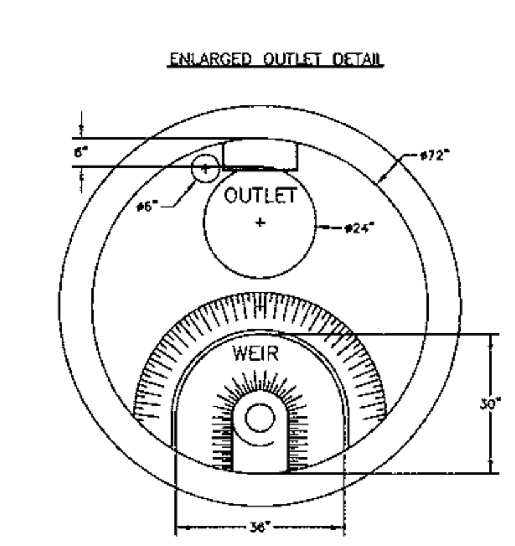
MODEL	DIAM (ft)	DROP PIPE DIAM. (in) (DP)	HL (in)	T ** (in)	W ** (in)
STC 900	6	6	55	8	8
STC 1200	6	6	71	8	8
STC 1800	6	6	105	8	8
STC 2400	8	8	96	10	0
STC 3600	8	8	136	10	0
STC 4800	10	10	126	12	0
STC 6000	10	10	148	12	0
STC 7200	12	12	134	14	0

* APPROXIMATE
** MAXIMUM VALUES

NOTES :

1. THE STORMCEPTOR® IS PROTECTED BY U.S. PATENT NO. 4,985,148
2. CAST IRON FRAME & COVER TO BE APPROVED BY STORMCEPTOR CORPORATION. "STORMCEPTOR" TO BE EMBOSSED ON COVER
3. BEDDING, BACKFILL AND GENERAL INSTALLATION REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE MANUFACTURER AND A PROFESSIONAL ENGINEER BASED ON SITE SPECIFIC SOILS CONDITIONS, SUBJECT TO THE APPROVAL OF THE REGULATORY AGENCIES.
4. SIZING OF THE STORMCEPTOR® SHALL BE IN ACCORDANCE WITH THE GUIDELINES PROVIDED BY STORMCEPTOR CORPORATION, SUBJECT TO THE APPROVAL OF THE REGULATORY AGENCIES.
5. THE STORMCEPTOR® SHOULD BE MAINTAINED ANNUALLY AND/OR IMMEDIATELY FOLLOWING ANY KNOWN SPILLS.
6. THE STORMCEPTOR® CONFORMS TO ASTM C 478 DESIGN SPECIFICATIONS / STANDARDS
7. MINIMUM NUMBER OF STEPS TO BE USED IN THE ACCESS WAY DEPENDS UPON LOCAL REQUIREMENTS.
8. COVER TO BE OFFSET 9" FROM ACCESS WALL ADJACENT TO 24" ø OUTLET RISER PIPE AND 6"ø VENT PIPE
9. NON-SMOOTH WALL O.D. PIPE TO BE GROUTED IN PLACE
10. MAXIMUM OF 1" FALL FROM INLET TO OUTLET
11. FURTHER TECHNICAL INFORMATION IS AVAILABLE FROM STORMCEPTOR CORPORATION 1 (800) 762-4703

ENLARGED OUTLET DETAIL

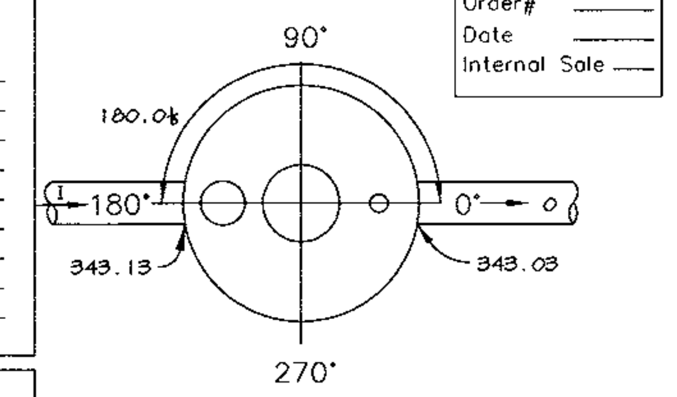


PLAN

Concrete Stormceptor Order Request Form

Contractor Information

Name
Address
City
State
Zip Code
Contact
Phone
Fax



Office Use Only
Order#
Date
Internal Sale

Owner Information

Name FRED MAIER
Phone (410) -
Fax (410) -

Please draw orientation of inlet and outlet pipes on diagram along with pipe inside diameter (in.) and invert elevation (ft). Clearly mark inlet pipes with in I and outlet pipes with and O and provide the inlet/outlet pipe angle in degrees.

Stormceptor Model

900	☐	3600	☒
1200	☐	4800	☐
1800	☐	6000	☐
2400	☐	7200	☐

IMPERV. D. AREA= 2.60 AC.

Insert Size

DISC	☒
22"	☐
32"	☐
44"	☐
Custom	

Manhole Number	S-1
Finish Top Elevation (ft)	178.89
Top Slab Elevation (ft)	178.14
Inlet Pipe Invert (ft)	173.59
Outlet Pipe Invert (ft)	173.51
Pipe Type:	HDPE
Pipe Inside Diameter (in) [ID]	24.00
Pipe Outside Diameter (in) [OD]	30.00

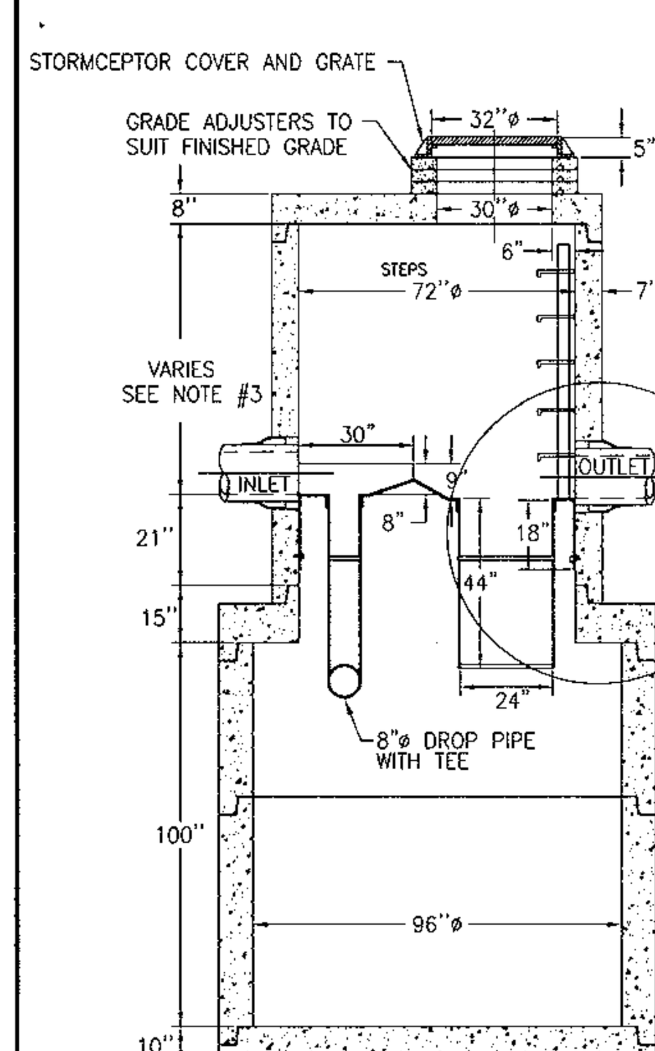
Project Name MAIER INDUSTRIAL PARK, A COMMERCIAL BUILDING ADDITION
Approximate time frame until required delivery (weeks)
Delivery Address: Street
City State Zip Code
Designer Company RIEMER MUEGGE & ASSOCIATES, INC.
Designer Contact CHRIS REID Phone (410) 997-8900 Fax (410) 997-9282

Please fax this order to Stormceptor at (301) 762-4190
For Technical Assistance Please Call Stormceptor Corporation at (301) 762-8361 or toll free at 1 (800) 762-4703

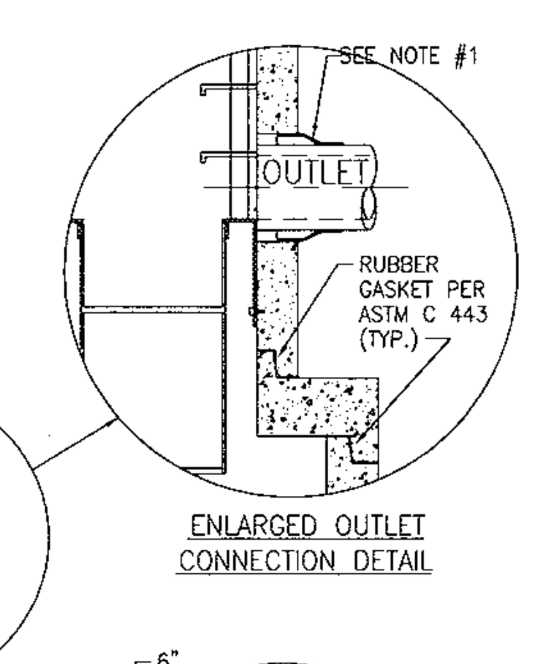
ALL LIFTING APPARATUS TO BE PROVIDED BY THE INSTALLATION CONTRACTOR
CONTACT VINCENT BERG AT (301) 762-8361 FOR TECHNICAL INFORMATION

STC 3600 Precast Concrete Stormceptor®

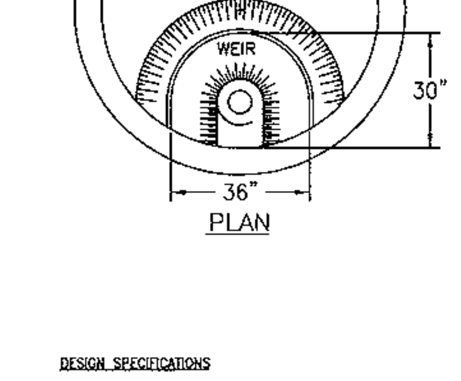
(3600 US Gallon Capacity)
(Disc Design)



SECTION THRU CHAMBER



ENLARGED OUTLET CONNECTION DETAIL



PLAN

NOTE :
1. FLEXIBLE CONNECTIONS ARE RECOMMENDED AT THE INLET AND OUTLET WHERE APPLICABLE.
2. COVER TO BE POSITIONED OVER OUTLET AND VENT PIPE
3. THIS IS A GENERAL ARRANGEMENT DRAWING. CONSULT LOCAL REPRESENTATIVE FOR SPECIAL CONDITIONS.
4. INLET DROP PIPE WILL BE EITHER 8"ø OR 12"ø WITH A 8"ø ORIFICE PLATE
5. ALL CONCRETE JOINTS HAVE RUBBER GASKETS THAT CONFORM TO ASTM C 443
6. U.S. PATENT NO. 4,985,148

DESIGN SPECIFICATIONS
1. ASTM C 478
2. BASE WEIGHT = 11.28 TONS

STC-3600
REVISED 10/96

OPERATION AND MAINTENANCE SCHEDULE
FOR STORMCEPTOR WATER QUALITY DEVICE

1. Stormceptor water quality structures will require periodic inspection and cleaning to maintain operation and function. Owners will have the Stormceptor unit inspected yearly or as required by Howard County, utilizing the Stormceptor Inspection/Monitoring Form. Inspections can be done by using a clear Plexiglas tube ("sludge judge") to extract a water column sample. When sediment depths exceed the specified level (Table 6 of Technical Manual) then cleaning of the unit is required.
2. Stormceptor water quality structures must be checked and cleaned immediately after petroleum spills. Contact appropriate regulatory agencies.
3. Maintenance of Stormceptor units should be done by a vacuum truck which will remove the water, sediment, debris, floating hydrocarbons, and other materials in the unit. The proper cleaning and disposal of the removed materials and liquid must be followed.
4. Inlet and outlet pipes must be checked for any obstructions and if any obstructions are found they must be removed. Structural parts of the Stormceptor will be repaired as needed.
5. Owner shall retain and make Stormceptor Inspection/Monitoring Forms available to Howard County officials upon their request.

INSTALLATION PROCEDURES

THE INSTALLATION OF THE CONCRETE STORMCEPTOR® SHOULD CONFORM IN GENERAL TO STATE HIGHWAY OR LOCAL SPECIFICATIONS FOR THE CONSTRUCTION OF MANHOLES. SELECTED SECTIONS OF A GENERAL SPECIFICATION THAT ARE APPLICABLE ARE SUMMARIZED IN THE FOLLOWING SECTIONS.

EXCAVATION

EXCAVATION FOR THE INSTALLATION OF THE STORMCEPTOR® SHOULD CONFORM TO STATE HIGHWAY OR LOCAL SPECIFICATIONS.
TOPSOIL THAT IS REMOVED DURING THE EXCAVATION FOR THE STORMCEPTOR® SHOULD BE STOCKPILED IN DESIGNATED AREAS AND SHOULD NOT BE MIXED WITH SUBSOIL OR OTHER MATERIALS. TOPSOIL STOCKPILES, AND THE GENERAL SITE PREPARATION FOR THE INSTALLATION OF THE STORMCEPTOR® SHOULD CONFORM TO STATE HIGHWAY OR LOCAL SPECIFICATIONS.

THE STORMCEPTOR® SHOULD NOT BE INSTALLED ON FROZEN GROUND. EXCAVATION SHOULD EXTEND A MINIMUM OF 12 INCHES FROM THE PRECAST CONCRETE SURFACES PLUS AN ALLOWANCE FOR SHORING AND BRACING WHERE REQUIRED. IF THE BOTTOM OF THE EXCAVATION PROVIDES AN UNSUITABLE FOUNDATION ADDITIONAL EXCAVATION MAY BE REQUIRED.

IN AREAS WITH A HIGH WATER TABLE, CONTINUOUS DEWATERING SHOULD BE PROVIDED TO ENSURE THAT THE EXCAVATION IS STABLE AND FREE OF WATER.

LEVELING

A 6 TO 12 INCH LAYER OF GRANULAR MATERIAL (CONFORMING TO LOCAL OR STATE HIGHWAY BACKFILL SPECIFICATIONS) SHOULD BE INSTALLED, COMPACTED, AND LEVELED AT THE BOTTOM OF THE EXCAVATION TO THE PROPER ELEVATION FOR THE INSTALLATION OF THE INTERCEPTOR BASE.

BACKFILLING

BACKFILL MATERIAL SHOULD CONFORM TO STATE HIGHWAY OR LOCAL SPECIFICATIONS. GENERALLY, BACKFILL MATERIAL SHOULD BE PLACED IN UNIFORM LAYERS NOT EXCEEDING 12 INCHES IN DEPTH. EACH LAYER SHOULD BE COMPACTED TO THE DENSITY REQUIRED BY LOCAL/STATE GUIDELINES. BACKFILL IS NOT TO CONTAIN TOPSOIL.

STORMCEPTOR® CONSTRUCTION SEQUENCE

THE CONCRETE STORMCEPTOR® IS INSTALLED IN SECTIONS IN THE FOLLOWING SEQUENCE:

1. AGGREGATE BASE
2. BASE SLAB
3. TREATMENT CHAMBER SECTION(S)
4. TRANSITION SLAB (IF REQUIRED)
5. BY-PASS SECTION WITH INSERT
6. CONNECT INLET AND OUTLET PIPES
7. RISER SECTION AND/OR TRANSITION SLAB (IF REQUIRED)
8. MAINTENANCE RISER SECTION(S) (IF REQUIRED)
9. FRAME AND ACCESS COVER

THE PRECAST BASE SHOULD BE PLACE LEVEL AT THE SPECIFIED GRADE. THE ENTIRE BASE SHOULD BE IN CONTACT WITH THE UNDERLYING COMPACTED GRANULAR MATERIAL. SUBSEQUENT SECTIONS, COMPLETE WITH JOINT SEALS, SHOULD BE INSTALLED IN ACCORDANCE WITH THE PRECAST CONCRETE MANUFACTURER'S RECOMMENDATIONS.

ADJUSTMENT OF THE STORMCEPTOR® CAN BE PERFORMED BY LIFTING THE UPPER SECTIONS FREE OF THE EXCAVATED AREA, RE-LEVELING THE BASE, AND RE-INSTALLING THE SECTIONS. DAMAGED SECTIONS AND GASKETS SHOULD BE REPAIRED OR REPLACED AS NECESSARY. ONCE THE STORMCEPTOR® HAS BEEN CONSTRUCTED, THE LIFT HOLES SHOULD BE PLUGGED AND MORTARED INSIDE AND OUTSIDE.

DOWN PIPE AND RISER PIPE

ONCE THE BY-PASS SECTION HAS BEEN ATTACHED TO THE LOWER TREATMENT CHAMBER, THE INLET DOWN PIPE, AND OUTLET RISER PIPE CAN BE ATTACHED. TO INSTALL THE INLET DOWN PIPE A WORKER ENTERS THE LOWER TREATMENT CHAMBER THROUGH THE OUTLET RISER PIPE OPENING (24 INCH DIAMETER) IN THE BY-PASS SECTION.

THE INLET DROP IS INSTALLED BY COATING THE OUTSIDE OF THE PIPE WITH GLUE AND PUSHING THE PIPE INTO THE COUPLING. CHEMREX 948 CAULKING SHOULD BE APPLIED TO THE CONNECTION ONCE THE INLET DROP PIPE IS SECURE IN PLACE. THE TEE AT THE END OF THE INLET DROP PIPE MUST BE ORIENTED SUCH THAT WATER WHICH ENTERS THE TREATMENT CHAMBER IS DIRECTED TANGENTIALLY AROUND THE INSIDE WALLS OF THE CHAMBER.

THE OUTLET RISER PIPE (24 INCH DIAMETER) SHOULD BE INSTALLED FROM THE TOP OF THE FIBREGLASS DISC BY SLIDING THE PIPE THAT IS PROVIDED INTO THE EXISTING 24" SLEEVE FROM ABOVE. THE 24"DIAMETER PIPE IS MANUFACTURED WITH A FLANGE ON THE END. CHEMREX 948 CAULKING SHOULD BE APPLIED UNDERNEATH THE FLANGE TO ACT AS A PERMANENT SEAL BEFORE THE PIPE IS SECURED IN PLACE. PRESSURE SHOULD BE CAREFULLY APPLIED TO THE TOP OF THE FLANGE TO ENSURE THAT THE PIPE IS FULLY EXTENDED INTO THE LOWER CHAMBER (i.e. THE TOP ELEVATION OF THE FLANGE IS LEVEL WITH THE SURROUNDING FIBREGLASS DISC) AND THAT THE CAULKING EVENLY SEALS THE PIPE IN PLACE.

INLET AND OUTLET PIPES

INLET AND OUTLET PIPES SHOULD BE SECURELY SET INTO THE BY-PASS CHAMBER USING GROUT OR APPROVED PIPE SEALS SO THAT THE STRUCTURE IS WATERTIGHT. FLEXIBLE RUBBER BOOTS ARE NORMALLY USED AND INSTALLED AT THE PRECAST CONCRETE PLANT PRIOR TO SHIPPING. THE FLEXIBLE BOOTS ARE APPLICABLE FOR PIPES WITH AN OUTSIDE DIAMETER UP TO 46 INCHES. THE LOCAL STORMCEPTOR AFFILIATE SHOULD BE NOTIFIED IF THE PIPE IS TO BE GROUTED IN THE FIELD AT THE TIME OF ORDERING SINCE THE BOOTS ARE GENERALLY INCLUDED IN THE PRICE QUOTATIONS.
INSTALLATION OF THE FLEXIBLE BOOTS SHOULD FOLLOW THE MANUFACTURER'S RECOMMENDATIONS. AS PREVIOUSLY MENTIONED, THE BOOTS WILL ALREADY BE ATTACHED TO THE STORMCEPTOR® AT THE CONCRETE PLANT.

FRAME AND COVER INSTALLATION

STORMCEPTOR PROVIDES A STANDARD CAST IRON FRAME AND COVER WITH THE NAME STORMCEPTOR CLEARLY EMBOSSED ON IT. PRECAST CONCRETE ADJUSTMENT UNITS SHOULD BE INSTALLED TO SET THE FRAME AND COVER AT THE REQUIRED ELEVATION. THE ADJUSTMENT UNITS SHOULD BE LAID IN A FULL BED OF MORTAR WITH SUCCESSIVE UNITS BEING JOINED USING SEALANT RECOMMENDED BY THE MANUFACTURER. FRAMES FOR THE COVER SHOULD BE SET IN FULL BED OF MORTAR AT THE ELEVATION SPECIFIED.

MD-378 STANDARDS AND SPECIFICATIONS

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, fences, rubbish and other objectionable material unless otherwise designated on the plans. Trees, brush and stumps shall be cut approximately level with the ground surface. For dry stormwater management ponds, a minimum of a 50 foot radius around the inlet structure shall be cleared.

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

EARTH FILL

Material - The fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, rubbish, stones greater than 6", frozen or other objectionable material. Fill material for the center of the embankment and cut off trench shall conform to Unified Soil Classification GC, SC, CH, or CL. Consideration may be given to the use of other materials in the embankment if design and construction are supervised by a geotechnical engineer.

Placement - Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in maximum 8-inch thick (before compaction) layers which are to be continuous over the entire length of the fill. The most permeable borrow material shall be placed in the downstream portions of the embankment. The principal spillway must be installed concurrently with fill placement and not excavated into the embankment.

Compaction - The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed by not less than one tread track of the equipment or compaction shall be achieved by a minimum of four complete passes of a sheepsfoot, rubber tire or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction will be obtained with the equipment used. The fill material shall contain sufficient moisture so that if formed into a ball it will not crumble yet not be so wet that water can be squeezed out.

Where a minimum required density is specified, it shall not be less than 95% of maximum dry density with a moisture content within +/- 2% of the optimum. Each layer of fill shall be compacted as necessary to obtain that density, and is to be certified by the Engineer at the time of construction. All compaction is to be determined by AASHTO Method T-99.

Cutoff Trench - The cutoff trench shall be excavated into impervious material along or parallel to the centerline of the embankment as shown on the plans. The bottom width of the trench shall be governed by the equipment used for excavation, with the minimum width being four feet. The depth shall be at least four feet below existing grade or as shown on the plans. The side slopes of the trench shall be 1 to 1 or flatter.

The back fill shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability.

STRUCTURE BACKFILL

Backfill adjacent to pipes or structures shall be of the type and quality conforming to that specified for the adjoining fill material. The fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material needs to fill completely all spaces under and adjacent to the pipe. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe, unless there is a compacted fill of 24" or greater over the structure or pipe.

PIPE CONDUITS

All pipes shall be circular in cross section.

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

1. Materials - (Steel Pipe) - This pipe and its appurtenances shall be galvanized and fully bituminous coated and shall conform to the requirements of AASHTO Specification M-190 Type A with watertight coupling bands. Any bituminous coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound. Steel pipes with polymeric coatings shall have a minimum coating thickness of 0.01 inch (10 mil) on both sides of the pipe. The following coatings or an approved equal may be used: Nexon, Plasti-Cote, Blac-Klad, and Beth-Cu-Loy. Coated corrugated steel pipe shall meet the requirements of AASHTO M-245 and M-246.
2. Coupling bands, anti-seep collars, end sections, etc., must be composed of the same material as the pipe. Metals must be insulated from dissimilar materials with use of rubber or plastic insulating materials at least 24 mils in thickness.
3. Connections - All connections with pipes must be completely watertight. The drain pipe or barrel connection to the riser shall be welded all around when the pipe and riser are metal. Anti-seep collars shall be connected to the pipe in such a manner as to be completely watertight. Dimple bands are not considered to be watertight.

   All connections shall use a rubber or neoprene gasket when joining pipe sections. The end of each pipe shall be re-rolled an adequate number of corrugations to accommodate the band width. The following type connections are acceptable for pipes less than 48" in diameter; flanges on both ends of the pipe, a 12" wide standard lap type band with 12" wide by 3/8" thick closed cell circular neoprene gasket; and a 12" wide hugger type band with O-ring gaskets having a minimum diameter of 1/2" greater than the corrugation depth. Pipes 48" in diameter and larger shall be connected by a 24" long annular corrugated band using rods and lugs. A 12" wide by 3/8" thick closed cell circular neoprene gasket will be installed on the end of each pipe for a total of 24". Helically corrugated pipe shall have either continuously welded seams or have lock seams.
4. Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.
5. Backfilling shall conform to "Structure Backfill."
6. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Reinforced Concrete Pipe - All of the following criteria shall apply for reinforced concrete pipe:

1. Materials - Reinforced concrete pipe shall have bell and spigot joints with rubber gaskets and shall equal or exceed ASTM Designation C-361.
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 side of the pipe at least 10% of its outside diameter with a minimum thickness of 3 inches, or as shown on the drawings.
3. Laying pipe - Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed for the entire line, the bedding shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe. The first joint must be located within 2 feet from the riser.
4. Backfilling shall conform to Structure Backfill.
5. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

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

1. Materials - PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241.
2. Joints and connections to anti-seep collars shall be completely watertight.
3. Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.
4. Backfilling shall conform to Structure "Backfill".
5. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

CONCRETE

Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 608, Mix No. 3.

ROCK RIPRAP

Rock riprap shall meet the requirements of Maryland Department of Transportation State Highway Administration Standard Specifications for Construction and Materials, Section 608, Mix No. 3.

The riprap shall be placed to the required thickness in one operation. The rock shall be delivered and placed in a manner that will insure the riprap in place shall be reasonably homogeneous with the larger rocks uniformly distributed and firmly in contact one to another with the smaller rocks filling the voids between the larger rocks. Filter cloth shall be placed under all riprap and shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 919.12.

CARE OF WATER DURING CONSTRUCTION

All work on permanent structures shall be carried out in areas free from water. The Contractor shall construct and maintain all temporary dikes, levees, cofferdams, drainage channels, and stream diversions necessary to protect the areas to be occupied by the permanent works. The contractor shall also furnish, install, operate, and maintain all necessary pumping and other equipment required for removal of water from the various parts of the work and for maintaining the excavations, foundation, and other parts of the work free from water as required or directed by the engineer for constructing each part of the work. After having served their purpose, all temporary protective works shall be removed or leveled and graded to the extent required to prevent obstruction in any degree whatsoever of the flow of water to the spillway or outlet works and so as not to interfere in any way with the operation or maintenance of the structure. Stream diversions shall be maintained until the full flow can be passed through the permanent works. The removal of water from the required excavation and the foundation shall be accomplished in a manner and to the extent that will maintain stability of the excavated slopes and bottom of required excavations and will allow satisfactory performance of all construction operations. During the placing and compacting of material in required excavations, the water level at the locations being refilled shall be maintained below the bottom of the excavation at such locations which may require draining the water to sumps from which the water shall be pumped.

STABILIZATION

All borrow areas shall be graded to provide proper drainage and left in a sightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and berms shall be stabilized by seeding, liming, fertilizing and mulching in accordance with the Maryland Soil Conservation Service Standards and Specifications for Critical Area Planting (MD-342) or as shown on the accompanying drawings.

EROSION AND SEDIMENT CONTROL

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

Refer to the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for rate and methods not covered.

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.

[illegible] 8/2/99
DEVELOPER 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/SHE 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.

[illegible] 6.17.99
ENGINEER 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.

[illegible] 8/25/99
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.

[illegible] 8/25/99
HOWARD SOIL CONSERVATION DISTRICT DATE

OWNER/DEVELOPER:

FRED MAIER
PO BOX 600
BELTSVILLE, MD 20705

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

[illegible] 9/24/99
DIRECTOR DATE

[illegible] 9/7/99
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[illegible] 7/22/99
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE	NO.	REVISION

PROJECT MAIER INDUSTRIAL PARK
A COMMERCIAL
BUILDING ADDITION

AREA TAX MAP 47 ZONED M-2 PARCEL 885
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE STORM WATER MANAGEMENT
DETAILS & NOTES

RIEMER MUEGGE & ASSOCIATES, INC.
ENGINEERING ● ENVIRONMENTAL SERVICES ● PLANNING ● SURVEYING
8818 Centre Park Drive, Columbia, Maryland 21045
tel 410.997.8900 fax 410.997.9282

DATE

STATE OF MARYLAND
ARTHUR E. MUEGGE III
NO. 8707
REGISTERED
PROFESSIONAL ENGINEER

[illegible]
ARTHUR E. MUEGGE # 8707

DESIGNED BY :	C.J.R.
DRAWN BY:	K.E.V.
PROJECT NO :	98265 SDP7.DWG
DATE :	JUNE 16, 1999
SCALE :	AS SHOWN
DRAWING NO.	7 OF 10

SDP-99-48

M:\PROJECT\98265\SDP7.DWG Wed Jun 16 14:44:18 1999

SCHEDULE B PARKING LOT INTERNAL LANDSCAPING	
PARKING LOT	N/A
NUMBER OF PARKING SPACES	61
NUMBER OF SHADE TREES/ISLANDS* REQUIRED (1/20 SPACES)	3
NUMBER OF TREES PROVIDED SHADE TREES OTHER TREES (2:1 SUBSTITUTION)	 3 -
NUMBER OF ISLANDS PROVIDED	3

* 200 SF PLANTING AREA / ISLAND

SCHEDULE D STORMWATER MANAGEMENT AREA LANDSCAPING	
S.W.M. NO.	1
LANDSCAPE TYPE	B
LINEAR FEET OF PERIMETER	210**
NUMBER OF TREES REQUIRED: SHADE TREES (1 S.T./50 L.F.) EVERGREEN TREES (1 E.T./40 L.F.)	 4 4
CREDIT FOR EX. VEGETATION (NO OR YES & %)	-
CREDIT FOR OTHER LANDSCAPING (NO OR YES & %)	YES 100%*
NUMBER OF PLANTS PROVIDED SHADE TREES EVERGREEN TREES (2:1 SUBSTITUTION, 50% MAX.) OTHER TREES (2:1 SUBSTITUTION, 50% MAX.) SHRUBS (10:1 SUBSTITUTION, 25% MAX.)	 - - - -

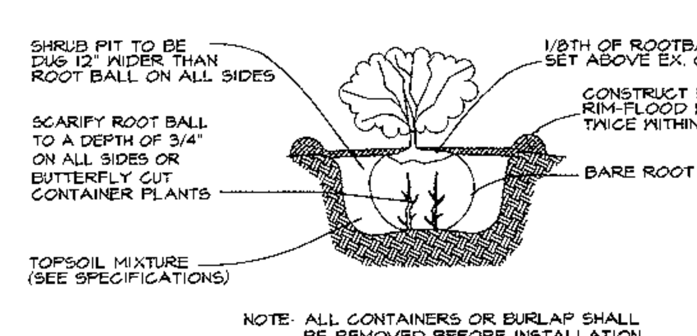
* ACCOUNTED FOR BY PERIMETER 2 (ALSO LANDSCAPE TYPE B).
** WHERE ADJACENT TO PUBLIC ROAD ONLY. SCREENING OF SWMF IS NOT REQUIRED WHERE NOT ADJACENT TO PUBLIC ROAD OR RESIDENTIAL ZONING IF IN AN M1 OR M2 ZONE.

SCHEDULE A	PERIMETER LANDSCAPE EDGE							
	ADJACENT TO PERIMETER PROPERTIES						ADJACENT TO ROADWAYS	
PERIMETER	3	4	5***	6	7	8	1	2
LANDSCAPE TYPE	NONE*	A	C	D	NONE*	NONE*	E	B
LINEAR FEET OF ROADWAY FRONTAGE/ PERIMETER	240	450	415	100	275	220	230	245
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	YES 450 EX. WOODS	NO	NO	NO	NO	NO	NO
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	NO	NO	NO	NO	NO	NO	NO
NUMBER OF PLANTS REQUIRED SHADE TREES EVERGREEN TREES SHRUBS	 - - -	 - - -	 10 21 -	 2 10 -	 - - -	 - - -	 6 - 58	 5 6 -
NUMBER OF PLANTS PROVIDED SHADE TREES EVERGREEN TREES SMALL FLOWERING TREES SHRUBS	 - - - -	 - - - -	 7 23 4 -	 2 10 - -	 - - - -	 - - - -	 6 - - 58	 5 6 - -

* NO REQUIREMENT FOR SAME DEVELOPMENT PARCEL BORDER.
*** 4 ORNAMENTAL TREES AND 2 EVERGREENS SUBSTITUTED FOR 3 SHADE TREES. THE SUBSTITUTION WILL YIELD A BETTER SCREEN OF THE PARKING/LOADING AREA.

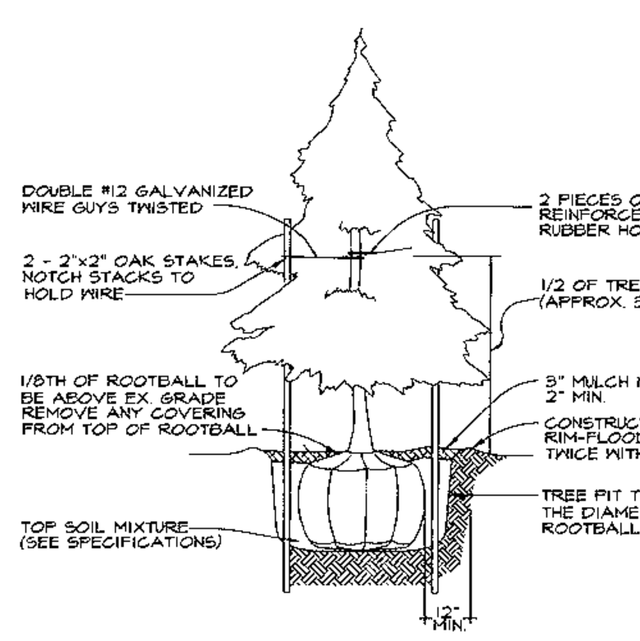
PLANT MATERIAL LIST

SYMBOL	KEY	QTY	BOTANICAL + COMMON NAME	SIZE	ROOT	REMARKS
			SHADE TREES			
	UP	17	Ulmus parvifolia 'Allee' Chinese Elm	2½" - 3" Cal.	B & B	Full Crown Central Leader
	ZS	6	Zelkova serrata 'Green Vase' Green Vase Zelkova	2½" - 3" Cal.	B & B	Full Crown Central Leader
			EVERGREEN TREES			
	PO	6	Picea omorika Serbian Spruce	6' - 8' Ht.	B & B	Full Form Central Leader
	PS	33	Pinus strobus White Pine	6' - 8' Ht.	B & B	Sheared Full Form
			FLOWERING TREES			
	MS	4	Magnolia stellata 'Royal Star' Royal Star Magnolia	6' - 8' Ht.	B & B	Multistemmed, Specimen
			SHRUBS			
	EA	30	Euonymus alatus 'compactus' Dwarf Burning Bush	30" - 36" Ht.	B & B	Full
	TM	28	Taxus X media 'Densiformis' Spreading Yew	30" - 36" Ht.	B & B	Full

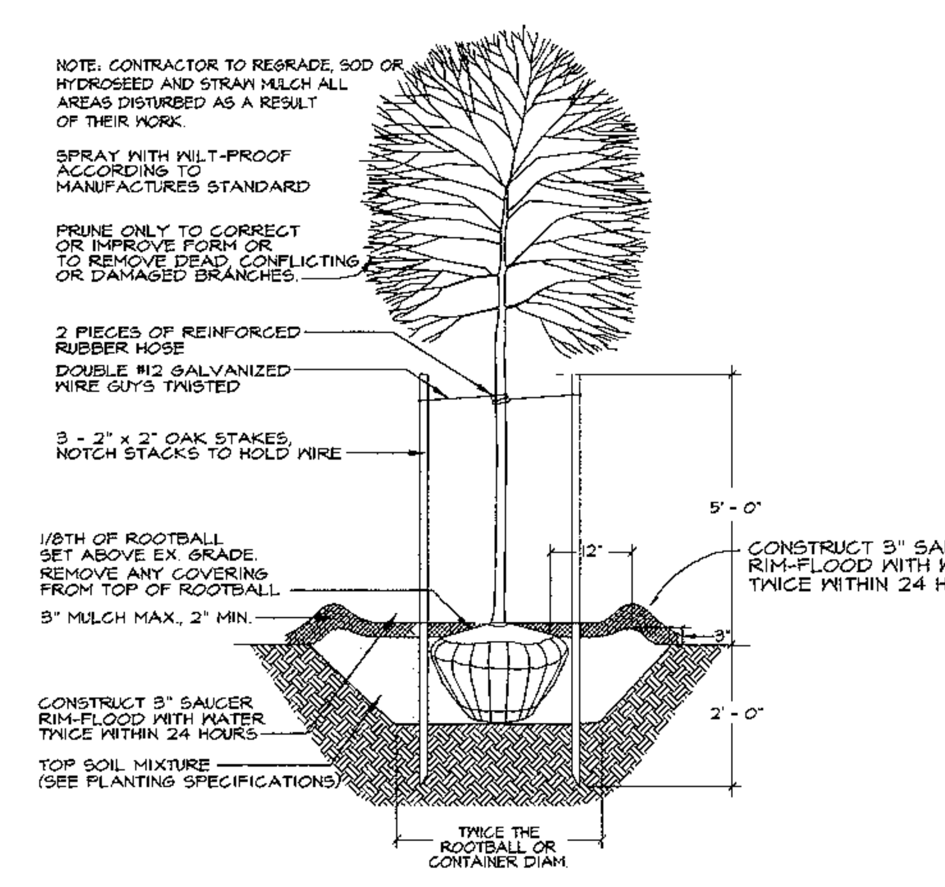


NOTE: ALL CONTAINERS OR BURLAP SHALL BE REMOVED BEFORE INSTALLATION.

SHRUB PLANTING DETAIL
NOT TO SCALE



EVERGREEN PLANTING DETAIL
NOT TO SCALE



B&B
TREE PLANTING DETAIL
NOT TO SCALE

NOTES:

1) "THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE ALTERNATE COMPLIANCE WITH THE HOWARD COUNTY RESEARCH AND DEVELOPMENT.
2) "FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING MUST BE POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF 15,090.00.
3) THIS PLAN IS FOR LANDSCAPING PURPOSES ONLY.
4) CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.

DEVELOPER'S/BUILDER'S CERTIFICATE:

I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION A CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

Fred Maier — NAME
8/2/99 — DATE

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

OWNER/DEVELOPER:
FRED MAIER
PO BOX 600
BELTSVILLE, MD 20705

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

[signature] DIRECTOR — 9/24/99 DATE
[signature] CHIEF, DEVELOPMENT ENGINEERING DIVISION — 9/7/99 DATE
Cindy Hamilton CHIEF, DIVISION OF LAND DEVELOPMENT — 9/22/99 DATE

DATE	NO.	REVISION
3-30-99	1	REMOVE OVERHANG AND PERMIT REVISIONS

PROJECT MAIER INDUSTRIAL PARK
A COMMERCIAL
BUILDING ADDITION

AREA TAX MAP 47 ZONED M-2 PARCEL 885
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
LANDSCAPE PLAN

RIEMER MUEGGE & ASSOCIATES, INC.
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8818 Centre Park Drive, Columbia, Maryland 21045
tel 410.997.8900 fax 410.997.9282

6.21.99
DATE
BOARD OF EXAMINERS OF LANDSCAPE ARCHITECTS 830 DAVID DOWS STATE OF MARYLAND
[signature]
DAVID T. DOWS #830

DESIGNED BY : R.A.F.
DRAWN BY: R.A.F.
PROJECT NO : 98265 LSCP.DWG
DATE : JUNE 16, 1999
SCALE : SEE GRAPHIC SCALE
DRAWING NO. 8 OF 10

SDP-99-48

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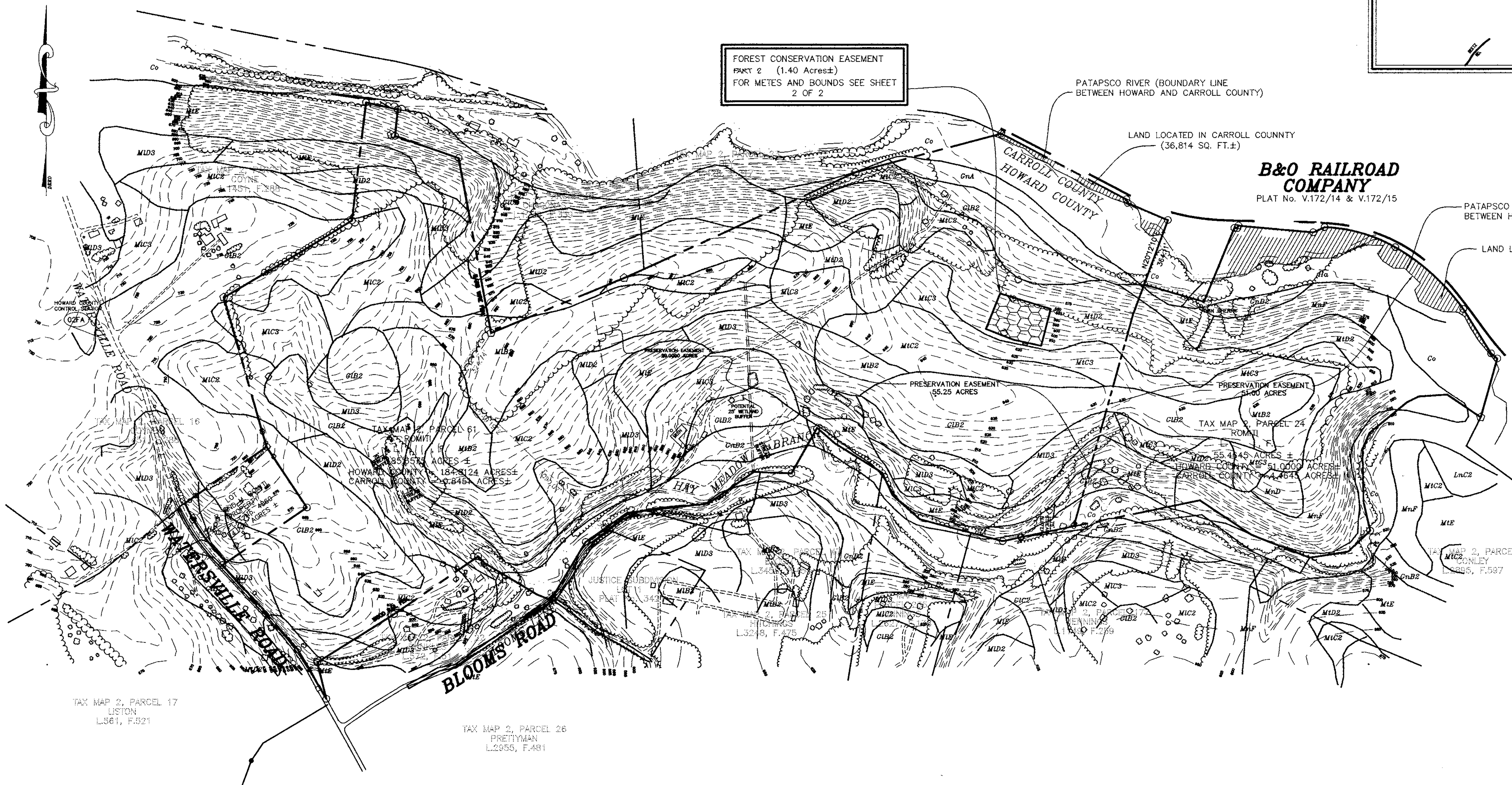

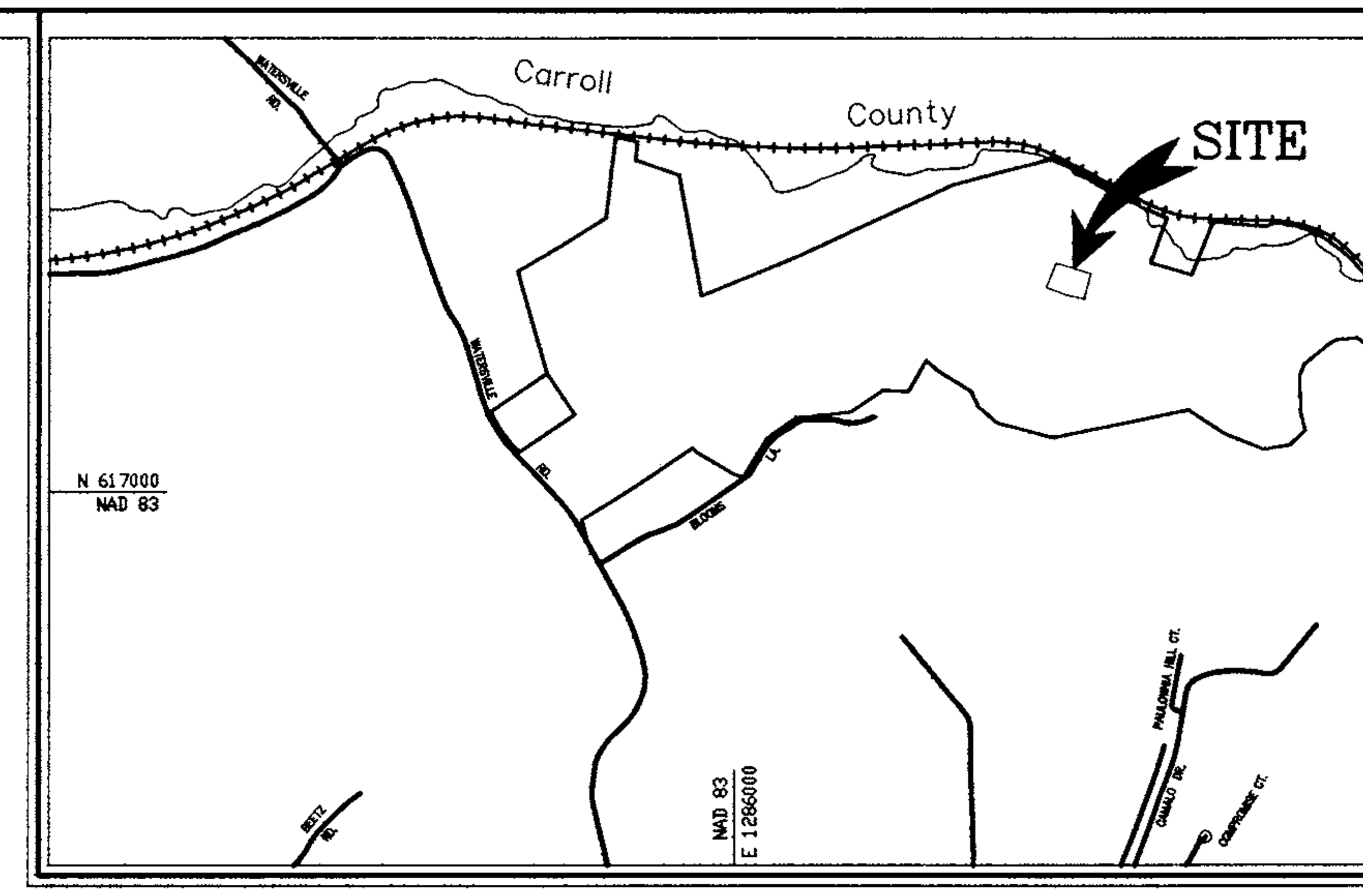

VICINITY MAP

SCALE: 1"=1200'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

DIRECTOR	9/24/99 DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION	9/17/99 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT	9/22/99 DATE

DATE	NO.	REVISION

PROJECT:

MAIER INDUSTRIAL PARK
A COMMERCIAL
BUILDING ADDITION
TO SDP-99-48.
SIXTH ELECTION DISTRICT
HOWARD COUNTY, MD.

SDP-99-48

TITLE:

OFF-SITE FOREST MITIGATION PLAN

AREA:

ROMITI FARM
TAX MAP, 2 PARCEL 24
HOWARD COUNTY MARYLAND
LIBER 4504, FOLIO 0032

TITLE:

REFORESTATION PLANTING PLAN
COVER SHEET

WILDMAN
ENVIRONMENTAL SERVICES
4747 BONNIE BRANCH RD.
ELLICOTT CITY, MD. 21043
PHONE: (410) 313-9999
FAX: (410) 313-9099

Ronald B. Wildman 6/16/99

DESIGNED BY: R.B.W.
DRAWN BY: J.E.P.
PROJECT NO. 99301
DATE: 5/24/99
SCALE: 1"= 300'
SHEET NO. 9 OF 10

DEVELOPER

FRED MAIER
14912 CLAUDE LANE
SILVER SPRING, MD.
20905

OWNER/GRANTOR

MR. ROBERT ROMITI
MR. LORENZO ROMITI
MS. THERESA ROMITI
6723 HOLIBIRD AVENUE
BALTIMORE, MARYLAND 21222

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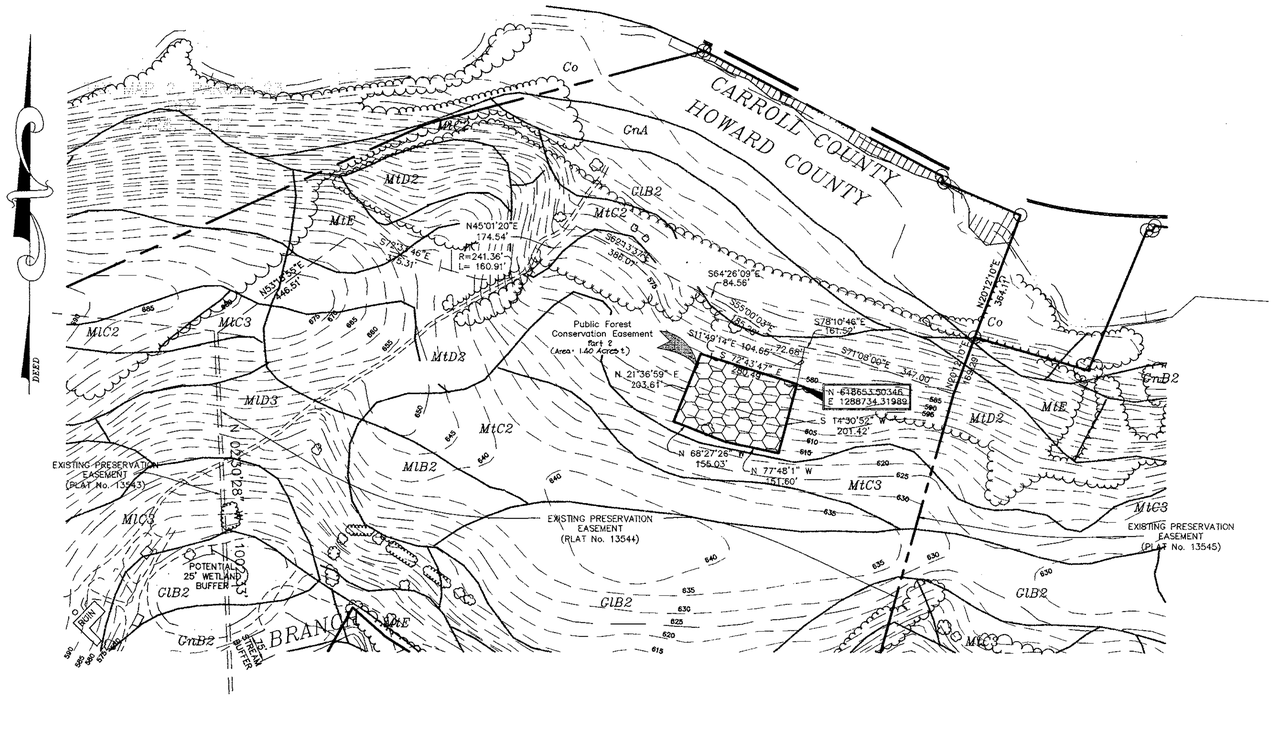
SDP 99 48



PLANTING SPECIFICATIONS AND NOTES

SITE PREPARATION AND SOILS

1. PROTECTION FENCING AND SILT FENCES FOR SEDIMENT AND EROSION CONTROL ARE TO BE INSTALLED AS A FIRST ORDER OF BUSINESS. SEE PLAN FOR LOCATIONS.
2. DISTURBANCE OF SOILS SHOULD BE LIMITED TO THE PLANTING FIELD FOR EACH PLANT. AS SHOWN ON THE DETAIL VIEW, A PLANTING FIELD OF RADIUS = 5 X DIAMETER OF THE ROOT BALL OR CONTAINER IS RECOMMENDED.
3. SOIL MIX FOR ALL PLANTS EXCEPT ERICACEOUS MATERIAL: SOIL MIX SHALL CONSIST OF EXISTING NATIVE TOPSOIL MIXTURE AT EACH PLANTING FIELD LOCATION INTO WHICH THE CONTRACTOR SHALL THOROUGHLY INCORPORATE 25% BY VOLUME OF COMPOSTED SLUDGE.
4. SOIL MIX FOR ERICACEOUS MATERIAL: SOIL MIX SHALL CONSIST OF EXISTING NATIVE TOPSOIL MIXTURE AT EACH PLANTING FIELD LOCATION INTO WHICH THE CONTRACTOR SHALL THOROUGHLY INCORPORATE 25% BY VOLUME PEAT MOSS.
5. ALL MIXING IN 3 AND 4 SHALL BE LIMITED TO CONTAINER GROWN OR BALL AND BURLAP STOCK ONLY AND CONFINED TO THE PLANTING FIELD AND IMMEDIATE ADJACENT SOIL SURFACE AREA AND SHALL BE DONE TO THE SATISFACTION OF THE DESIGN TEAM OR ENGINEER.

PLANT STORAGE AND INSPECTION

1. FOR CONTAINER GROWN NURSERY STOCK, PLANTING SHOULD OCCUR WITHIN 2 WEEKS AFTER DELIVERY TO THE SITE.
2. FOR BALL AND BURLAP NURSERY STOCK, PLANTING SHOULD OCCUR WITHIN THREE DAYS AFTER DELIVERY TO THE SITE.
3. PLANTING STOCK SHOULD BE INSPECTED PRIOR TO PLANTING. PLANTS NOT CONFORMING TO STANDARD NURSERYMAN SPECIFICATIONS FOR SIZE, FORM, VIGOR, ROOTS, TRUNK WOUNDS, INSECTS AND DISEASE SHOULD BE REPLACED.
4. UNTIL PLANTED, ALL PLANT STOCK SHALL BE KEPT IN A SHADED, COOL, AND MOISTENED ENVIRONMENT .

PLANT INSTALLATION

1. THE PLANTING FIELD SHOULD BE PREPARED AS SPECIFIED (SEE DETAIL). NATIVE STOCKPILED SOILS SHOULD BE USED FOR SOIL MIX AND BACKFILL FOR PLANTING FIELD. AFTER PLANT INSTALLATION, RAKE SOILS EVENLY OVER THE PLANTING FIELD AND COVER WITH AT LEAST 4 INCHES OF MULCH. WATER, GENEROUSLY, TO SETTLE SOIL BACKFILLED AROUND TREES.
2. PLANTING FIELD DIAMETERS SHOULD BE REDUCED OR PLANTING FIELD MOVED IF IT APPEARS THAT EXCESSIVE EXISTING ROOT DAMAGE MAY OCCUR DURING DIGGING OPERATION NEAR EXISTING FOREST.
3. CARE SHALL BE TAKEN WHEN DIGGING PLANTING FIELDS NOT TO CHOP THRU LARGER EXISTING ROOTS FROM EXISTING MATURE TREES. IF ROOTS GREATER THAN 1/2 INCH ARE ENCOUNTERED PLEASE TRY TO DIG AROUND THEM AS MUCH AS POSSIBLE TO MINIMIZE IMPACT TO EXISTING TREES. THEY WERE HERE FIRST.
4. CONTAINER GROWN STOCK SHOULD BE REMOVED FROM THE CONTAINER AND ROOTS GENTLY LOOSENED FROM THE SOIL. IF THE ROOTS ENCIRCLE THE ROOT BALL, SUBSTITUTION IS STRONGLY RECOMMENDED. J-SHAPED OR KINKED ROOT SYSTEMS SHOULD ALSO BE NOTED. ROOTS MAY NOT BE TRIMMED ON SITE, DUE TO THE INCREASED CHANCES OF SOIL BORNE DISEASES.
5. FOR BALL AND BURLAP STOCK, PLACE TREE IN PREPARED PLANTING FIELD AND REMOVE WIRE AND/OR STRING FROM ROOT BALL. THEN PEEL BACK BURLAP TO BASE OF ROOT BALL AND COVER ENTIRE ROOT BALL WITH TOPSOIL MIXTURE INDICATED ABOVE AND WATER GENEROUSLY.
6. FOR TREES PLANTED IN THE AFFORESTATION AREA, CONTRACTOR SHALL EVENLY DISPERSE SPECIES IN GROUPS OF TWO (2) TO FOUR (4), PER SPECIES, OVER THE ENTIRE DESIGNATED AREA TO BE PLANTED WHILE MAINTAINING AN AVERAGE RANDOM SPACING OF INDIVIDUAL TREES AT PROPER SPACING INDICATED ON PLANT LIST.
7. AVOID PLANTING IN A STRAIGHT GRID PATTERN. TREES SHALL BE PLANTED ON AN AVERAGE SPACING AS INDICATED ON PLANT LISTS TO OBTAIN A MORE NATURAL APPEARANCE.
8. NEWLY PLANTED TREES MAY NEED WATERING AS MUCH AS ONCE A WEEK FOR THE ENTIRE GROWING SEASON, DUE TO THE WELL DRAINED NATIVE SOILS FOUND ON THIS SITE COMBINED WITH THE LOOSENESS OF THE BACKFILLED AREA WITHIN THE PLANTING FIELD. THE NEXT TWO YEARS MAY REQUIRE WATERING ONLY A FEW TIMES A YEAR DURING SUMMER AND DRY MONTHS. AFTER THAT PERIOD, TREES SHOULD ONLY NEED WATER IN SEVERE DROUGHTS. ANY WATERING PLAN SHOULD COMPENSATE FOR RECENT RAINFALL PATTERNS.

FERTILIZING

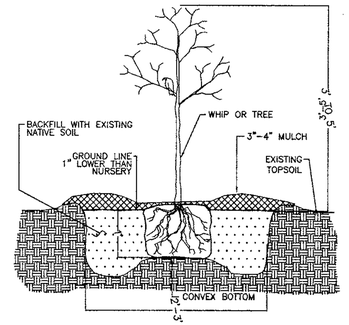
1. DO NOT FERTILIZE NEWLY PLANTED TREES WITHIN THE FIRST GROWING SEASON AFTER PLANTING. DOING SO MAY CAUSE A SPURT OF CANOPY GROWTH WHICH THE ROOTS CANNOT SUPPORT AND ADD ADDITIONAL SHOCK TO THE ALREADY DISTURBED PLANT.
2. NOTHING SHOULD BE ADDED TO THE SOIL WITHOUT TESTING IT FIRST TO DETERMINE ITS NEEDS.
3. IF AND WHEN IT IS TIME TO FERTILIZE, ORGANIC FERTILIZERS ARE PREFERRED TO SYNTHETIC FERTILIZERS. BONE MEAL OR SEAWEED BASED PRODUCTS ARE AVAILABLE COMMERCIALLY AND ARE RECOMMENDED. THEY HAVE THE ABILITY TO SUPPLY NUTRIENTS TO THE PLANT AS NEEDED WHILE MINIMIZING THE RISK OF EXCESS NUTRIENTS ENTERING THE FOREST SYSTEM AND WATER SUPPLY.

MAINTENANCE SCHEDULE

1. ANNUAL MAINTENANCE DURING THE GROWING SEASON, FOR A THREE YEAR PERIOD.
2. ASSESS TREE MORTALITY OF PLANTING STOCK, REMOVE AND REPLACE ANY DEAD OR DISEASED PLANTINGS.
3. VOLUNTEER SEEDING OF NATIVE, LOCAL AND ENDEMIC VEGETATION IS TO BE EXPECTED. DO NOT DISCOURAGE THIS EFFORT UNLESS IT IS NEGATIVELY EFFECTING THE PLANTED STOCK.
4. REMOVE THROUGH MANUAL MEANS (GRUBBING, PULLING, CUTTING) AGGRESSIVE, NOXIOUS, INVASIVE SPECIES AND ALL HERBACEOUS VEGETATION WITHIN A 3-FOOT RADIUS SURROUNDING THE PLANTED WOODY NURSERY STOCK.
5. REMOVE AND DISPOSE OF MAN-MADE TRASH, INCLUDING ITEMS CONTAINED WITHIN ENTIRE PLANTING AREA. DO NOT REMOVE DOWN AND DEAD MATERIAL NATURALLY OCCURRING OR ACCUMULATING, UNLESS IT IS SMOTHERING PLANTING STOCK.
6. A 75 PERCENT SURVIVAL OF PLANTED STOCK MUST BE ACHIEVED AT THE END OF THE 24 MONTH MANAGEMENT PERIOD. IF NOT, ADDITIONAL PLANTINGS MAY BE REQUIRED TO ACHIEVE THIS GOAL.

SUPERVISION

1. ALL FOREST CONSERVATION ACTIVITIES SHALL BY DONE UNDER THE DIRECT SUPERVISION OF SOMEONE FROM THE DESIGN TEAM OR OTHER "QUALIFIED PROFESSIONAL" AS DETERMINED BY THE REQUIREMENTS OF COMAR 08.19.06.01 AND THE MARYLAND DEPARTMENT OF NATURAL RESOURCES, PUBLIC LANDS AND FORESTRY DIVISION.



TREE PLANTING DETAIL

CONTAINER GROWN

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

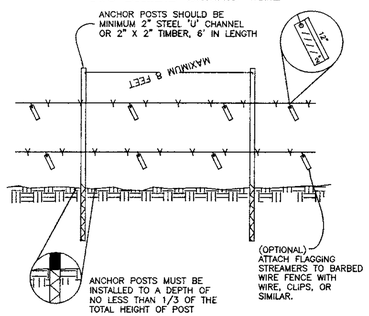
DIRECTOR — DATE 5/24/99

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 9/17/99

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 9/24/99

PROTECTIVE FENCE DETAIL

TWO STRAND BARBED WIRE

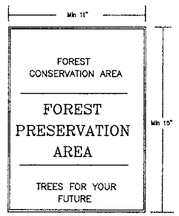


1. FOREST PROTECTION DEVICE ONLY.
2. RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS.
3. BOUNDARIES OF AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICE.
4. ROOT DAMAGE SHOULD BE AVOIDED.
5. PROTECTIVE SIGNAGE MAY ALSO BE USED.
6. DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.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

REFORESTATION PLANT LISTS

QTY.	SPECIES	SHADE TOL.	MOIST. REGIME	WET. STATUS	MIN.O.C. SPACING	SIZE & REMARKS
52	Prunus serotina Wild Black Cherry	I	M	FACU	10'	CONT/BROOT 3'-5' HEIGHT
52	Robinia pseudoacacia Black Locust	VI	D-M	FACU-	10'	CONT/BROOT 3'-5' HEIGHT
52	Quercus alba White Oak	MT	D-M	FACU-	10'	CONT/BROOT 3'-5' HEIGHT
52	Quercus rubra Red Oak	MT	D-M	UPL	10'	CONT/BROOT 3'-5' HEIGHT
52	Fraxinus americana White Ash	MT	D-M	FACU	10'	CONT/BROOT 3'-5' HEIGHT
52	Nyssa sylvatica Black Gum	T	M-W	FAC	10'	CONT/BROOT 3'-5' HEIGHT
52	Juglans nigra Black Walnut	VT	M	FACU	10'	CONT/BROOT 3'-5' HEIGHT
52	Cornus florida Flowering Dogwood	VT	D-M	FACU-	10'	CONT/BROOT 3'-5' HEIGHT
52	Acer rubrum Red Maple	VT	D-W	FAC	10'	CONT/BROOT 3'-5' HEIGHT
52	Cercis canadensis Eastern Redbud	T	M	UPL	10'	CONT/BROOT 3'-5' HEIGHT
52	Carya glabra Pignut Hickory	I	D-M	UPL	10'	CONT/BROOT 3'-5' HEIGHT
52	Diospyros virginiana Persimmon	I	D-M	UPL	10'	CONT/BROOT 3'-5' HEIGHT

Quantities Of Individual Species And Species Composition May Change Depending On Availability At Time Of Planting. Total Quantity Of Trees For Entire Easement Area Will Not Change.



SIGNAGE DETAIL

NOT TO SCALE

General Notes

1) The Forest Conservation Easement Has Been Established As An Offsite Forest Mitigation Area, Per Section 16.1216 Of The Howard County Forest Conservation Act. No Clearing, Grading Or Construction Is Permitted Within The Forest Conservation Easement after planting in accordance with Forest Conservation Easement Agreement and the Forest Conservation Installation and Maintenance Agreement per SDP-99-48; However, Forest Management Practices as defined in the Deed of Forest Conservation Easement are allowed.

2) Denotes Forest Conservation Easement.

DEVELOPER

FRED MAIER
14912 CLAUDE LANE
SILVER SPRING, MD.
20905

OWNER/GRANTOR

MR. ROBERT ROMITI
MR. LORENZO ROMITI
MS. THERESA ROMITI
6723 HOLIBIRD AVENUE
BALTIMORE, MARYLAND 21222

THIS PLAN IS FOR
FOREST CONSERVATION EASEMENT
PLANTING PURPOSES ONLY

DATE	NO.	REVISION

PROJECT:
MAIER INDUSTRIAL PARK
A COMMERCIAL
BUILDING ADDITION
TO SDP-99-48
SIXTH ELECTION DISTRICT
HOWARD COUNTY, MD.

SDP-99-48

TITLE:
OFF-SITE FOREST MITIGATION PLAN

AREA:
ROMITI FARM
TAX MAP. 2 PARCEL 24
HOWARD COUNTY MARYLAND
LIBER 4504, FOLIO 0032

TITLE:
REFORESTATION PLANTING PLAN
DETAILS AND SPECIFICATIONS

WILDMAN
ENVIRONMENTAL SERVICES
4747 BONNIE BRANCH RD.
ELLICOTT CITY, MD. 21043
PHONE: (410) 313-9999
FAX: (410) 313-9099

DESIGNED BY: R.B.W.
DRAWN BY: J.E.P.
PROJECT NO. 99301
DATE: 5/24/99
SCALE: 1"= 200'
SHEET NO. 10 OF 10

AUTOCAD FILE NAME C:\DRAWINGS\Romiti Property\80-base2.dwg

SDP 99 48

SWM SUMMARY CHART DA: 4.15 AC.					
STORM	ALLOWABLE RELEASE RATE	INFLOW	DISCHARGE	ELEVATION	STORAGE
2 YR.	2.54 CFS	12.32 CFS	1.32 CFS	167.17	0.330 AC*FT
10 YR.	8.22 CFS	22.01 CFS	1.78 CFS	168.75	0.662 AC*FT
100 YR.	N/A	32.62 CFS	24.07 CFS	171.12	1.254 AC*FT

LOT D-1
SECTION ONE
MAIER INDUSTRIAL PARK
A RESUBDIVISION OF PARCEL D
AND LOTS D-1 & D-2
PLAT No. 3546
ZONED M-2

EXISTING BLDG.

EX. ENTRANCE

MAIER ROAD
(100 CO. PUBLIC ROAD)
LOCAL ROAD
EX. CURB & GUTTER

EX. 8" W (CONT. NO. 382-W&S)

EX. PAVING

UNIT #9
F.F. = 196.78

HANDICAP RAMP SEE DETAIL THIS SHEET

227.38'

N 36°01'07" E

80' R/W

PARKING SETBACK 44' PAV.

VAN ACCESSIBLE HC PARKING SIGNS

PROP. CONCRETE

EX. 6' CHAINLINK FENCE

PROPERTY OF
SUNBELT EQUIPMENT & RENTALS, INC.
L. 3666, F. 411
ZONED M-2
P/O MAIER INDUSTRIAL PARK

EX. GRAVEL

LOADING AREA

UNIT #10
F.F. 196.78

UNIT #11
F.F. 196.78

UNIT #12
F.F. 191.45

UNIT #13
F.F. 191.45

UNIT #14
F.F. 190.11

HANDICAP RAMP SEE DETAIL THIS SHEET

10 SPACES

6" WATER MAIN CONSTRUCTION WITHIN MAIER ROAD RIGHT-OF-WAY TO BE CONSTRUCTED UNDER ADVANCED DEPOSIT AGREEMENT WITH HOWARD COUNTY.

PUNCH PINE RD.

REMOVE CURB AND GUTTER

REMOVE SIDEWALK AS NECESSARY

DEPRESS SIDEWALK AT ENTRANCE

PRIVATE DETENTION SWMF CLASS 'A' FACILITY

STONE

LIMIT OF CLEARING

FUTURE DEVELOPMENT AREA

MAINTAIN FLOW TOWARDS EXISTING PATH/WETLAND AREA.

25' WETLAND BUFFER

LIMIT OF WETLANDS

S 57°03'47" W 330.00'

S 27°03'47" W 3.38'

PROPERTY OF
KARL H. HARZER, JR.
& STEWART H. HURTT
L. 1204, F. 580
ZONED M-2

PROPERTY OF
PFEIFER MOBILE HOME PARK, INC.
L. 324, F. 499

EX. 6' CHAINLINK FENCE

1/2" REBAR FOUND

N 53°16'51" E 44.61'

S 65°59'07" W 71.33'

N 47°16'07" E 115.50'

13 SPACES

STORAGE AREA

S 44°23'07" W 132.37'

S 55°33'47" W 396.00'

OSX RAILROAD

SECTION ONE
MAIER INDUSTRIAL PARK
PARCEL C-5 & PARCEL E-1 THRU E-5
PLAT No. 8341
ZONED M-2

PARCEL E-1
SECTION ONE
MAIER INDUSTRIAL PARK
PARCEL C-5 & PARCEL E-1 THRU E-5
PLAT No. 8341
ZONED M-2

UNIT 15 - F.F. 190.11

DEPRESS CURB

HANDICAPPED PARKING DETAIL

SCALE
HOR. -1"=10'

NOTES:

1. ALL LIGHTING SHALL BE DIRECTED/REFLECTED AWAY FROM ADJACENT PUBLIC ROADS AND RESIDENTIALLY ZONED PROPERTIES.
2. ALL CURB RADII ARE 5' UNLESS OTHERWISE SHOWN.
3. ALL ON-SITE ROADS ARE PRIVATE.
4. CONTRACTOR TO INSTALL UTILITIES PER HO.CO.STD. SPEC'S AND DETAILS FOR CONSTRUCTION VOLUME IV ARTICLE 10, UTILITY CONSTRUCTION, SECTION 1000
5. ALL ON-SITE PAVING TO BE P-3.

LEGEND

RAMP DETAIL

SCALE
HOR. -1"=10'

UNIT 10
FF 196.78

UNIT 11
FF 196.78

OPERATION AND MAINTENANCE SCHEDULE
OF PRIVATELY OWNED AND MAINTAINED
STORMWATER MANAGEMENT FACILITY
DETENTION POND

ROUTINE MAINTENANCE

1. Facility shall be inspected anually and after major storms. Inspections should be performed during wet weather to determine if the pond is functioning properly.
2. Top and side slopes of the embankment shall be mowed a minimum of two (2) times a year, once in June and once in September. Other side slopes, the bottom of the pond, and maintenance access should be mowed as needed.
3. Debris and litter next to the outlet structure shall be removed during regular mowing operations and as needed.
4. Visible signs of erosion in the pond as well as riprap outlet area shall be repaired as soon as it is noticed.

NON-ROUTINE MAINTENANCE

1. Structural components of the pond such as the dam, the riser, and the pipes shall be repaired upon the the detection of any damage. The components should be inspected during routine maintenance operations.
2. Sediment should be removed when its accumulation significantly reduces the design storage, interfere with the function of the riser, when deemed necessary for aesthetic reasons, or when deemed necessary by the Howard County's Department of Public Works.

PROJECT MAIER INDUSTRIAL PARK
A COMMERCIAL
BUILDING ADDITION

AREA TAX MAP 47 ZONED M-2 PARCEL 885
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
SITE DEVELOPMENT PLAN

OWNER/DEVELOPER:
FRED MAIER
PO BOX 600
BELTSVILLE, MD 20705

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 9/24/99
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 9/7/99
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 9/24/99

DATE	NO.	REVISION
8-17-00	2	REV. WHC & SHC
3-30-99	1	REMOVE OVERHANG AND PERMIT REVISIONS

RIEMER MUEGGE & ASSOCIATES, INC.
ENGINEERING ● ENVIRONMENTAL SERVICES ● PLANNING ● SURVEYING
8818 Centre Park Drive, Columbia, Maryland 21045
tel 410.997.8900 fax 410.997.9282

STATE OF MARYLAND — ARTHUR E. MUEGGE — NO. 8707 — REGISTERED PROFESSIONAL ENGINEER
DATE
ARTHUR E. MUEGGE #8707

DESIGNED BY : C.J.R.	
DRAWN BY: K.E.V.	
PROJECT NO. 98265	SDP2.DWG
DATE : JUNE 16, 1999	
SCALE : 1" = 30'	
DRAWING NO. 2 OF 10	

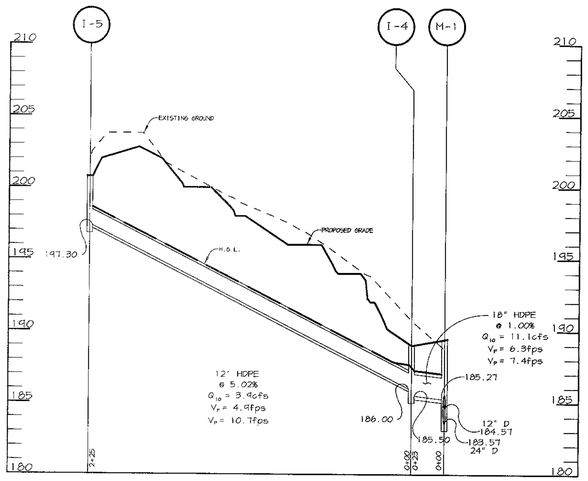
SDP-99-48

M:\PROJECT\98265\SDP2.DWG Wed Jun 16 14:25:19 1999

STRUCTURE SCHEDULE

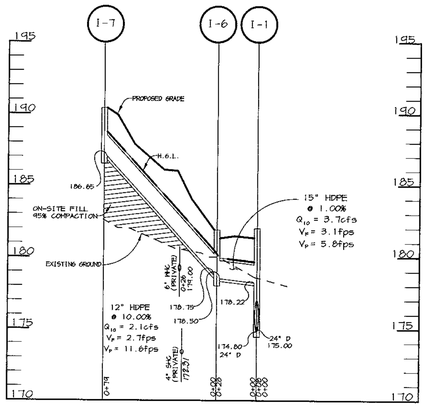
STRUCTURE	TYPE	WIDTH	LOCATION	INV. IN	INV. OUT	TOP	REMARKS
E-1	HDPE 24" END SEC.		SEE PLAN	170.00	-	-	-
HM-1	TYPE 'A' HEADWALL		SEE PLAN	164.00	-	-	HOCO STD. DETAIL SD 5.11
I-1	A-5	3'-6"	SEE PLAN	178.22 (15")	178.12 (24")	182.08	HOCO STD. DETAIL SD 4.01
I-2	"	2'-6"	SEE PLAN	182.12	181.90	187.58	HOCO STD. DETAIL SD 4.01
I-3	"	2'-6"	SEE PLAN	-	186.5	190.28	HOCO STD. DETAIL SD 4.01
I-4	S COMB. W/ RET. GR.		SEE PLAN	186.0	185.5	189.58	HOCO STD. DETAIL SD 4.32 & 4.43
I-5	S INLET		SEE PLAN	-	197.3	200.3	HOCO STD. DETAIL SD 4.22
I-6	A-5	2'-6"	SEE PLAN	178.75	178.5	188.98	HOCO STD. DETAIL SD 4.22
I-7	A-5	2'-6"	SEE PLAN	-	186.65	190.38	HOCO STD. DETAIL SD 4.22
OS-1	-		SEE PLAN	-	-	-	SEE DETAIL SH. 6
M-1	4' MH		SEE PLAN	185.27 184.57 (12")	183.57 (24")	189.4	HOCO STD. DETAIL 6 5.12
S-1	STORMCEPTOR		SEE PLAN	178.59 (24")	178.51 (24")	178.89	FOR DETAIL SEE SHEET 7

NOTES: * LOCATION OF "S" & MQ FACILITY INLETS AND MANHOLES IS AT CENTER OF TOP COVER; FOR "A" INLETS LOCATION IS GIVEN FOR CENTER OF THROAT OPENING AT FACE OF CURB; FOR END SECTIONS AND HEADWALLS THE LOCATION IS CENTER OF THROAT OPENING AT FACE OF STRUCTURE. TOP ELEVATION IS TOP OF CURB/GRATE/RIM.



PROFILE

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



PROFILE

SCALE :
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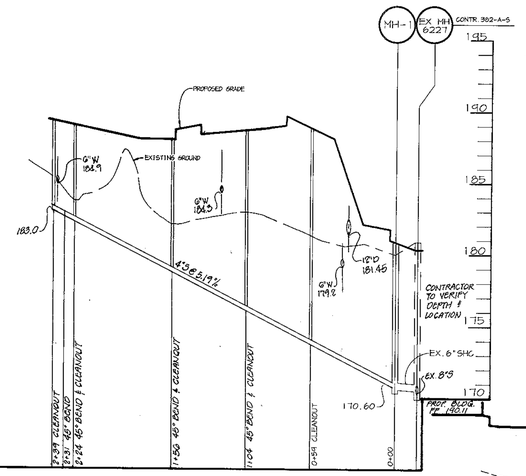
VER. -1"=5'



⚠ SEWER PROFILE

SCALE :
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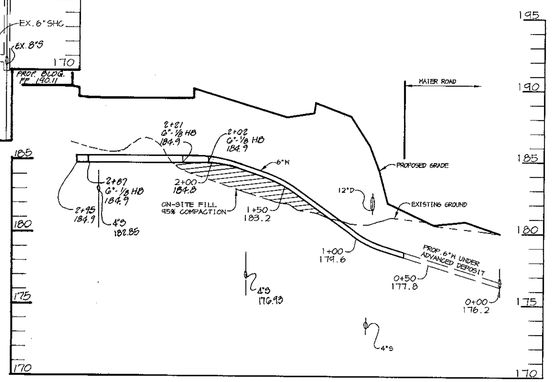
VER. -1"=5'



⚠ WATER PROFILE

SCALE :
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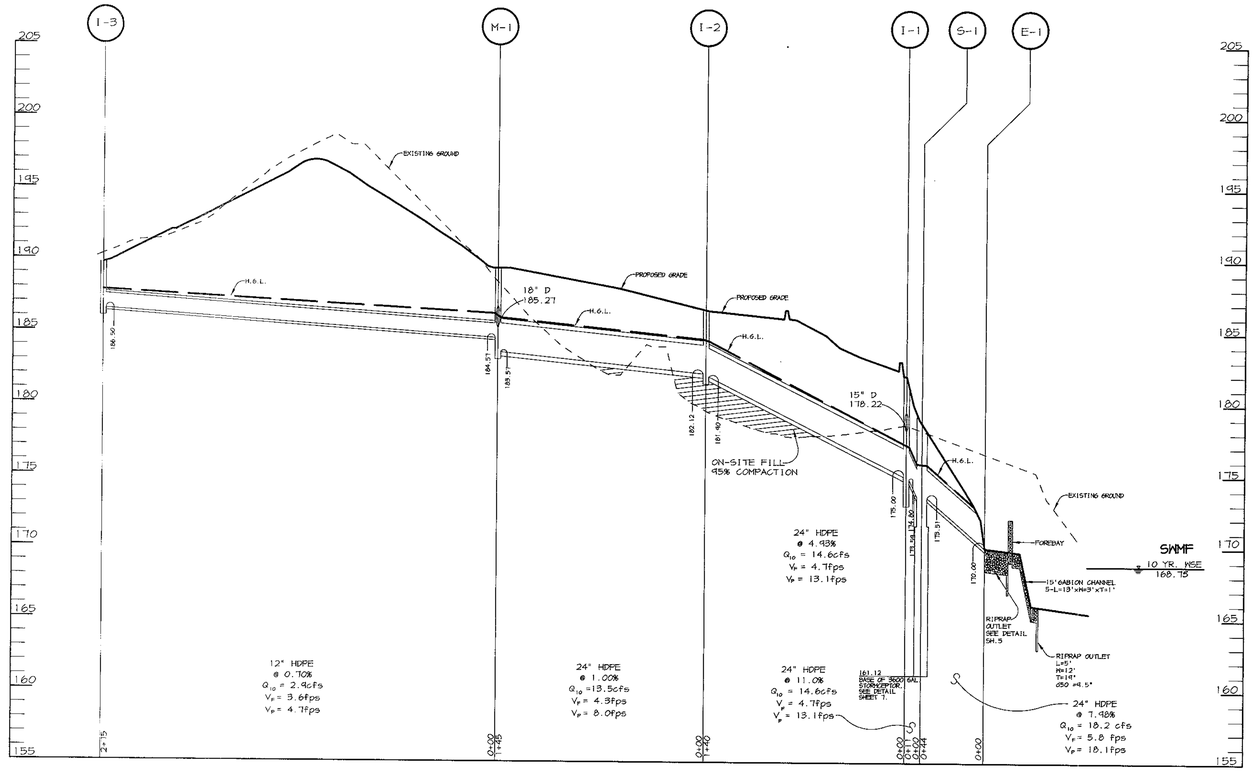
VER. -1"=5'



PROFILE

SCALE
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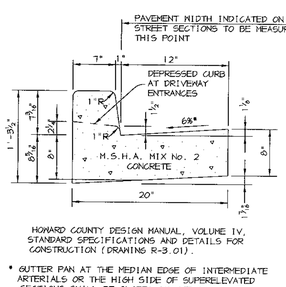
VER. -1"=5'

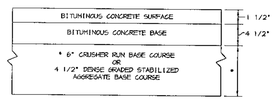


HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (DRAWING R-3.01).

* 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

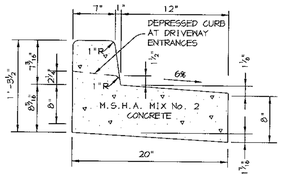
NO SCALE



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

P-3 PAVING

NO SCALE

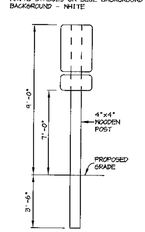


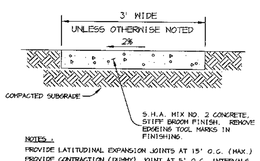
REVERSE 7" COMBINATION CURB AND GUTTER

NO SCALE

HANDICAP SIGN DETAIL

NO SCALE





SIDEWALK DETAIL

NO SCALE

OWNER/DEVELOPER:
FRED MAIER
PO BOX 600
BELTSVILLE, MD 20705

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR — DATE 9/24/99

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 9/7/99 ⚠1

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 9/22/99 ⚠2

DATE	NO.	REVISION
8.17.00	⚠1	REV. WATER & SEWER PROFILES

PROJECT MAIER INDUSTRIAL PARK
A COMMERCIAL BUILDING ADDITION

AREA TAX MAP 47 ZONED M-2 PARCEL 885
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
PROFILE & DETAIL SHEET

RIEMER MUEGGE & ASSOCIATES, INC.
ENGINEERING ● ENVIRONMENTAL SERVICES ● PLANNING ● SURVEYING
8818 Centre Park Drive, Columbia, Maryland 21045
tel 410.997.8900 fax 410.997.9282

DATE

STATE OF MARYLAND — ARTHUR E. MUEGGE — NO. 8707 REGISTERED PROFESSIONAL ENGINEER

ARTHUR E. MUEGGE # 8707

DESIGNED BY : C.J.R.	
DRAWN BY: K.E.V.	
PROJECT NO : 98265 SDP4.DWG	
DATE : JUNE 16, 1999	
SCALE : AS SHOWN	
DRAWING NO. 4 OF 10	

SDP-99-48

M:\PROJECT\98265\SDP4.DWG Wed Jun 16 14:41:59 1999