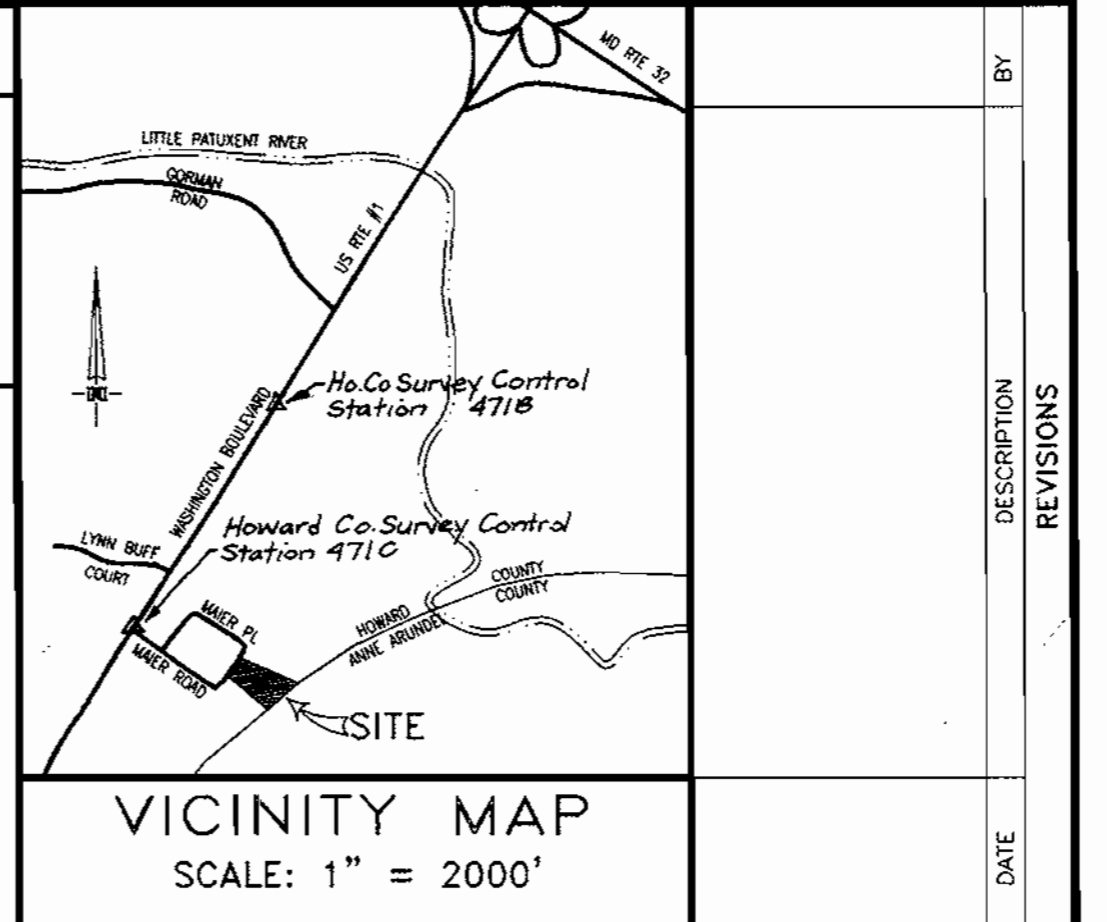


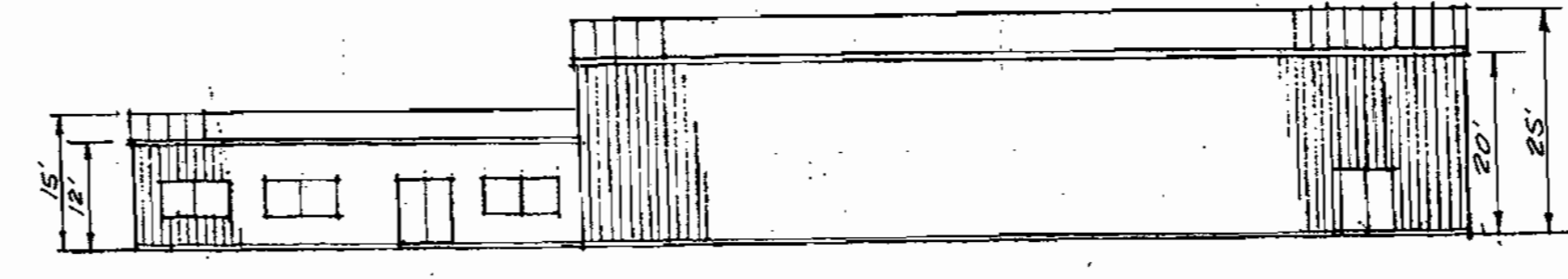
SWM SUMMARY CHART DA = 1.20AC

STORM	ALLOWABLE RELEASE RATE	INFLOW	DISCHARGE	ELEVATION	STORAGE
2 YR.	1.09 CFS	3.83	0.94	163.73	0.0738
10 YR (Clogged)	-	6.05	5.19	165.37	0.1677
10 YR	2.88 CFS	6.65	2.71	164.85	0.1366
100 YR (Clogged)	-	9.18	7.84	165.66	0.1901
100 YR	-	9.73	6.10	165.34	0.1706



PARCEL C-5
SECTION ONE
MAIER INDUSTRIAL PARK
PARCEL C-5 & PARCEL E-1 THRU E-5
PLAT No. 8430
ZONED M-2

N/F
PARCEL E-2
SECTION ONE
MAIER INDUSTRIAL PARK
PARCEL C-5 & PARCEL E-1 THRU E-5
PLAT No. 8430
ZONED M-2



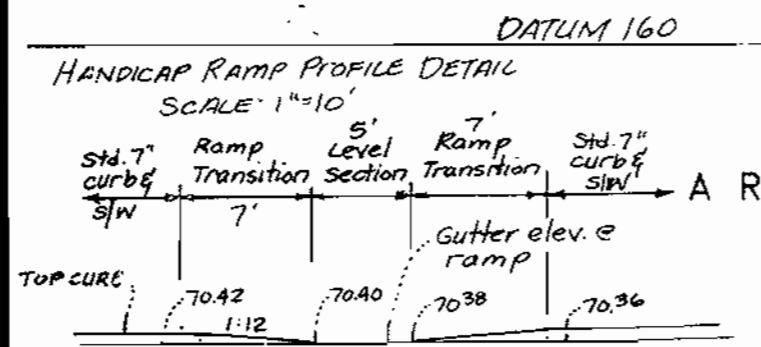
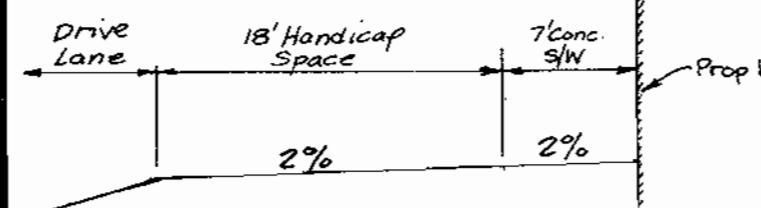
GENERAL NOTES

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/ BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- ALL PLAN DIMENSIONS ARE TO FACE OF CURB UNLESS NOTED OTHERWISE.
- THE EXISTING TOPOGRAPHY IS TAKEN FROM FIELD RUN TOPO SURVEY PREPARED BY WITMER ASSOCIATES, L.L.C. DATED FEBRUARY 2000.
- EXISTING PUBLIC WATER: CONTRACT #24-1536-D
- EXISTING PUBLIC SEWER: CONTRACT #382-A-S
- DRAINAGE AREA: LITTLE PATUXENT RIVER
- 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.
- A 100 YEAR FLOODPLAIN STUDY IS NOT REQUIRED FOR THIS SITE.
- THERE ARE WETLANDS ON THIS SITE. PLOTTED FROM APPROVED PLAN FOR PARCEL D-2 & FIELD VERIFIED FOR ACCURACY.
- PROPERTY ZONED M-2 PER 10-18-93 COMPREHENSIVE ZONING PLAN.
- THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES AT LEAST FIVE (5) DAYS BEFORE STARTING THE WORK ON THIS SITE.
- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.
- ALL FILL AREAS WITHIN ROADWAY AND UNDER STRUCTURES TO BE COMPACTED TO A MINIMUM OF 95% COMPACTION OF AASHTO 1180.
- 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.
- DUE TO LESS THAN 100 VEHICLES PER PEAK HOUR GENERATED, A TRAFFIC STUDY FOR THIS PROJECT IS NOT REQUIRED.
- A NOISE STUDY FOR THIS PROJECT IS NOT REQUIRED.
- STORMWATER QUALITY AND QUANTITY MANAGEMENT IS PROVIDED ON SITE.
- FOREST CONSERVATION: THIS SITE IS EXEMPT FROM THE FOREST CONSERVATION REGULATIONS, DUE TO THIS SITE ONLY CONTAINS 0.20 AC. OF EXISTING FOREST AND A DECLARATION OF INTENT SHALL BE FILED WITH THIS APPLICATION FOR A SINGLE LOT CLEARING LESS THAN 40,000 S.F. OF EXISTING FOREST (4,900 S.F. CLEARED).
- PARCEL E-1 IS RECORDED AS PLAT NO. 8430, RELATED PLAT - PARCEL E, SECTION ONE, MAIER INDUSTRIAL PARK, P.B. 25 P.63, F-88-101.

BENCHMARKS

HO. CO. SURVEY CONTROL STATION, 471B
N 524,702 E 1,361,470
HO. CO. SURVEY CONTROL STATION, 471C
N 532,037 E 1,362,814

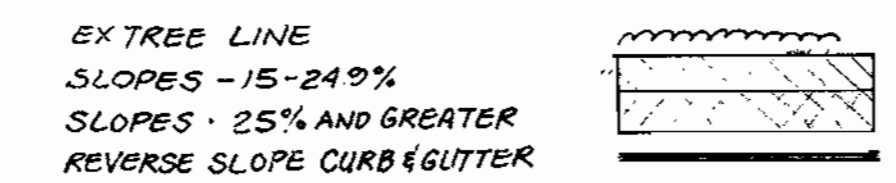
GENERAL NOTES (CONT.)
23. WAIVER PETITION WP-01-14 WAS APPROVED 7-13-00 TO GRANT A 45 DAY TIME EXTENSION.
24. APFO REPORT WAS PREPARED BY THE TRAFFIC GROUP, INC. AND WAS APPROVED ON 1-8-01.



PARCEL D-2
SECTION ONE
MAIER INDUSTRIAL PARK
AND LOTS D-1 7 D-2
PLAT No. 3546
ZONED M-2

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

LEGEND



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

- ROUTINE MAINTENANCE**
- Facility shall be inspected annually and after major storms. Inspections should be performed during wet weather to determine if the pond is functioning properly.
 - 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.
 - Debris and litter next to the outlet structure shall be removed during regular mowing operations and as needed.
 - Visible signs of erosion in the pond as well as clogup outlet area shall be repaired as soon as it is noticed.
- NON-ROUTINE MAINTENANCE**
- Structural components of the pond such as the dam, the riser, and the pipes shall be repaired upon the detection of any damage. The components should be inspected during routine maintenance operations.
 - 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.

SUBDIVISION NAME	SECT./AREA	PARCEL
MAIER INDUSTRIAL PARK	SECTION ONE	E-1
PLAT # 8430	BLOCK # 23	ZONE M-2
WATER CODE 7000000	SEWER CODE COA	CENSUS TRACT 606202

LOT NUMBER	STREET ADDRESS
E-1	#9030 MAIER ROAD

SITE TABULATION

TOTAL AREA: 1.027 ACRES OR 70,872 S.F.
CURRENT ZONING: M-2
PROPOSED USE: WAREHOUSE/OFFICE
BUILDING COVERAGE: 10,500 S.F.
REQUIRED PARKING: 2.5 SPACES PER 1000 S.F.
27 SPACES
PROPOSED PARKING: 27 SPACES (2 HANDICAP)
PAVED AREA: 36,405 S.F. (50.0% OF SITE)
BUILDING -
OFFICE - 1 STORY, 2500 S.F.
WAREHOUSE - 1 STORY, 8000 S.F.

OWNER/DEVELOPER
DDP CONTRACTING, INC.
20 CONCHESTER ROAD
GLEN MILLS, PA 19342-1506
(610) 361-9337

SHEET INDEX	
1	TITLE SHEET - SITE DEVELOPMENT PLAN
2	SEDIMENT CONTROL, SOILS MAP AND DRAINAGE AREA MAP
3	PROFILE AND DETAIL SHEET
4	DETAILS AND NOTES
5	SWM DETAILS AND NOTES
6	SWM DETAILS AND NOTES
7	LANDSCAPE PLAN

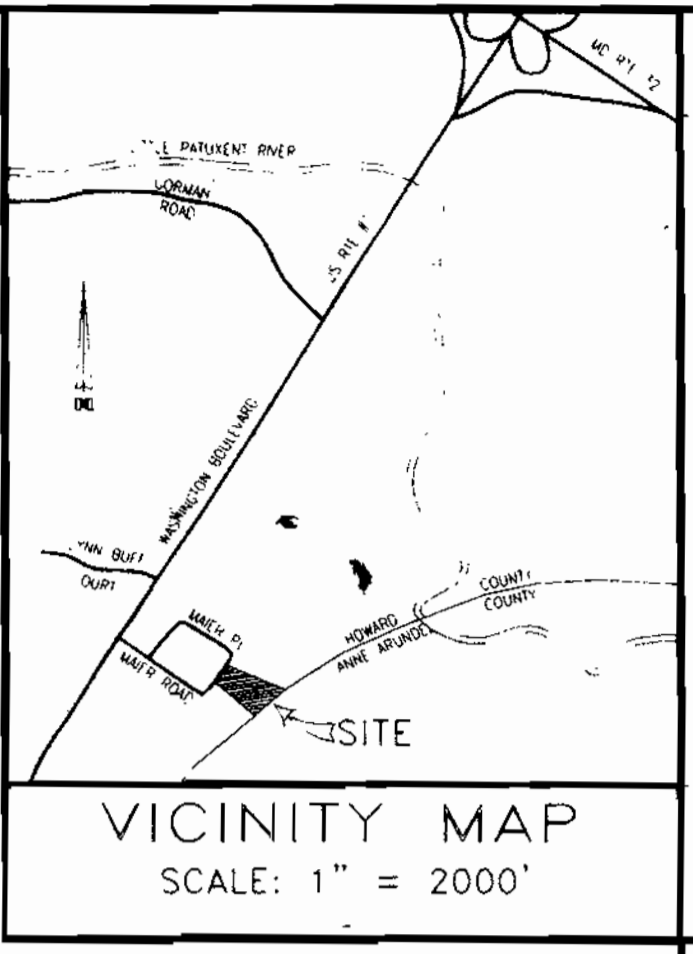
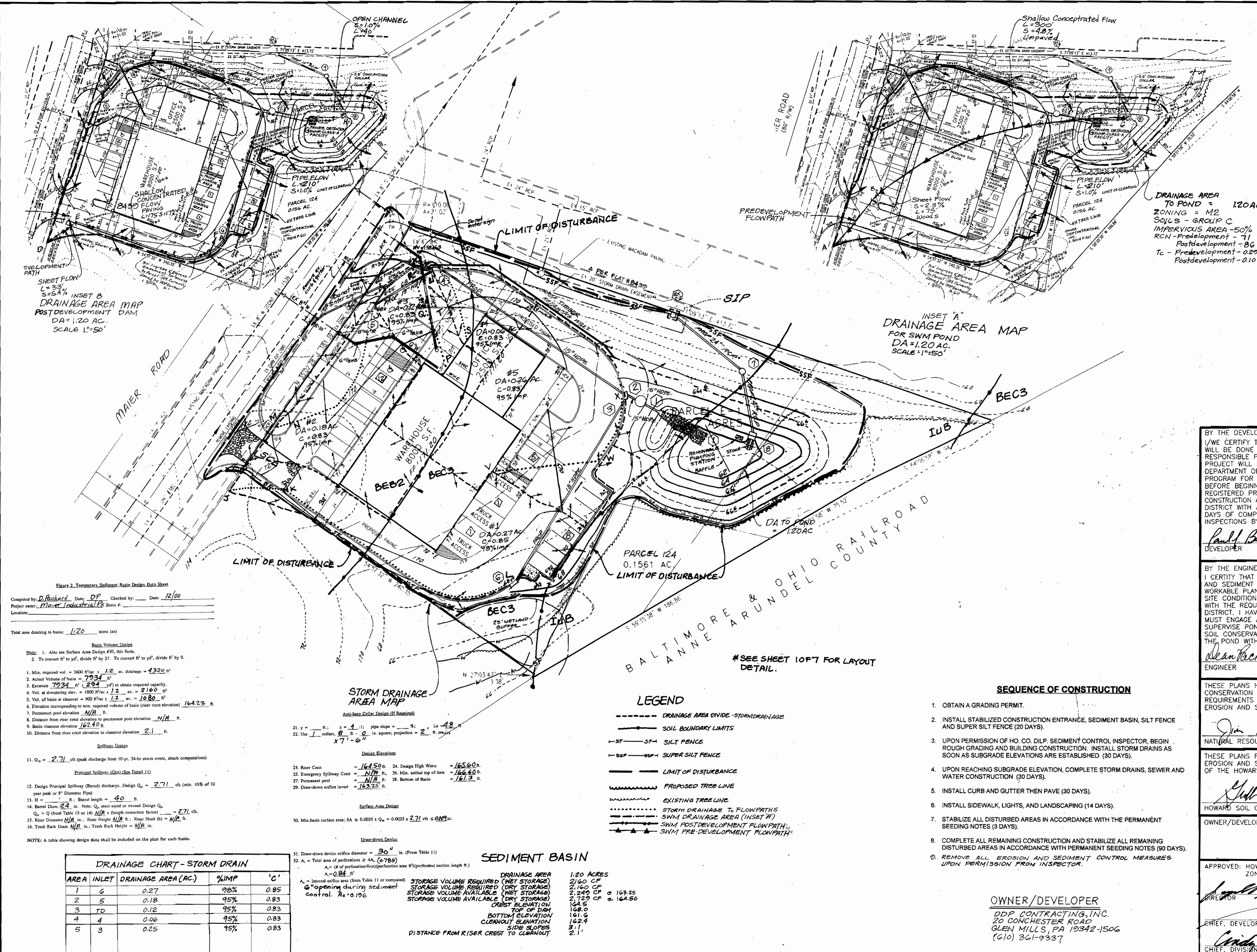
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

DATE: 4/26/01
DATE: 4/16/01
DATE: 4/23/01

SCALE: 1" = 30'
DRAWN: SE
DATE: FEB 2000
JOB NO.:
SHEET 1 of 7

P.G. ASSOCIATES, INC.
CIVIL ENGINEERS * SURVEYORS * LAND PLANNERS
354-B HUNGERFORD DRIVE
ROCKVILLE, MARYLAND 20850
PHONE (301) 309-1361

SITE DEVELOPMENT PLAN
PARCEL E-1
MAIER INDUSTRIAL PARK
PLAT NO. 8430
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND



DRAINAGE AREA TO POND = 120 AC.
 ZONING = M2
 SOILS - GROUP C
 IMPERVIOUS AREA - 50%
 RCN - Predevelopment - 71
 Postdevelopment - 86
 Tc - Predevelopment - 0.20 hr.
 Postdevelopment - 0.10 hr.

INSET 'A' DRAINAGE AREA MAP FOR SWM POND
 DA = 120 AC.
 SCALE 1" = 50'

SHEET FLOW
 L = 33'
 S = 5.4%
INSET B DRAINAGE AREA MAP POST DEVELOPMENT DAM
 DA = 120 AC.
 SCALE 1" = 50'

Figure 2 Temporary Sediment Basin Design Data Sheet
 Compiled by D. Packard Date: DP Checked by: DP Date: 12/00
 Project name: Maier Industrial Park Basin #
 Location: _____

- Total area draining to basin: 120 acres (ac)
- Basin Volume Design**
1. Min. required vol. = 3600 ft³ x 1.2 ac. drainage = 4320 ft³
 2. Actual Volume of basin = 7934 ft³
 3. Excavate 7934 ft³ (294 yd³) to obtain required capacity.
 4. Vol. at dewatering elev. = 1800 ft³/ac x 1.2 ac. = 2160 ft³
 5. Vol. of basin at cleanout = 900 ft³/ac x 1.2 ac. = 1080 ft³
 6. Elevation corresponding to min. required volume of basin (riser crest elevation) = 164.23 ft.
 7. Permanent pool elevation = N/A ft.
 8. Distance from riser crest elevation to permanent pool elevation = N/A ft.
 9. Basin cleanout elevation = 162.40 ft.
 10. Distance from riser crest elevation to cleanout elevation = 2.1 ft.
- Spillway Design**
11. Q₂ = 2.71 cfs (peak discharge from 10-yr, 24-hr storm event, attach computations)
- Principal Spillway (Q₂) (See Detail 11)**
12. Design Principal Spillway (Barrel) discharge, Design Q₂ = 2.71 cfs (min. 10% of 10 year peak or 8" Diameter Pipe)
 13. H = _____ ft.; Barrel length = 40 ft.
 14. Barrel Diam. 24 in. Note: Q₂ must equal or exceed Design Q₂.
 15. Rise of Dam N/A in.; Riser Height N/A ft.; Riser Head (H) = N/A ft.
 16. Trash Rack Dam N/A in.; Trash Rack Height = N/A in.
- NOTE: A table showing design data shall be included on the plan for each basin.

STORM DRAINAGE AREA MAP
 Anti-Seep Collar Design (If Required)

21. y = _____ ft.; z = 4 ft.; pipe slope = _____%; L = 48 ft.
22. Use _____ collars, _____ ft. in. square; projection = 2 ft. min.

Basin Elevation

23. Riser Crest = 164.50 ft.
24. Design High Water = 165.60 ft.
25. Emergency Spillway Crest = N/A ft.
26. Min. settled top of dam = 166.60 ft.
27. Permanent pool = N/A ft.
28. Bottom of Basin = 161.3 ft.
29. Draw-down orifice invert = 163.25 ft.

Surface Area Design

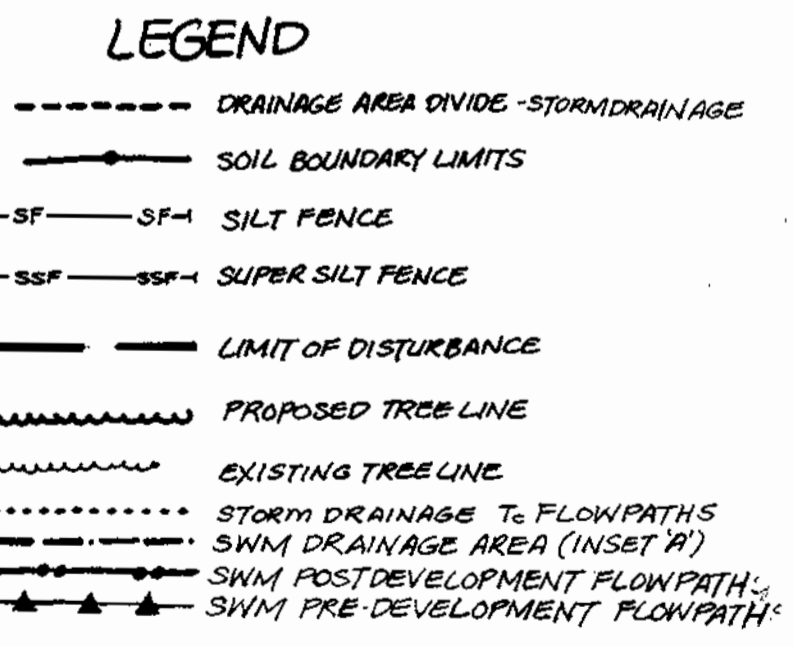
30. Min. basin surface area; SA = 0.0035 x Q₂ = 0.0035 x 2.71 cfs = 0.0095 ac.

Draw-down Design

31. Draw-down orifice diameter = 30 in. (From Table 11)
32. A = Total area of perforations ≥ 4A₁ (L/785)
 A₁ = (# of perforations/foot/perforation area ft²/perforated section length ft.)
 A₁ = 0.84 ft²
 A = lateral orifice area (from Table 11 or computed)
 A = opening during sediment control. A = 0.196

SEDIMENT BASIN

AREA	INLET	DRAINAGE AREA (AC.)	%IMP	'C'
1	6	0.27	98%	0.85
2	5	0.18	95%	0.83
3	TD	0.12	95%	0.83
4	4	0.06	95%	0.83
5	3	0.25	95%	0.83



SEQUENCE OF CONSTRUCTION

1. OBTAIN A GRADING PERMIT.
2. INSTALL STABILIZED CONSTRUCTION ENTRANCE, SEDIMENT BASIN, SILT FENCE AND SUPER SILT FENCE (20 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 (30 DAYS).
4. UPON REACHING SUBGRADE ELEVATION, COMPLETE STORM DRAINS, SEWER AND WATER CONSTRUCTION (30 DAYS).
5. INSTALL CURB AND GUTTER THEN PAVE (30 DAYS).
6. INSTALL SIDEWALK, LIGHTS, AND LANDSCAPING (14 DAYS).
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 (90 DAYS).
9. REMOVE ALL EROSION AND SEDIMENT CONTROL MEASURES UPON PERMISSION FROM INSPECTOR.

OWNER/DEVELOPER
 DDP CONTRACTING, INC.
 20 CONCHESTER ROAD
 GLEN MILLS, PA 19342-1506
 (610) 361-9337

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.

Paul J. Beck 7/25/00
 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.

Dean Packard 3/19/00
 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.

Jim Myers / cs. 4/10/01
 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.

Shelby W. Selig 4/10/01
 HOWARD SOIL CONSERVATION DISTRICT DATE

OWNER/DEVELOPER

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Scott Smith 4/26/01
 DIRECTOR DATE

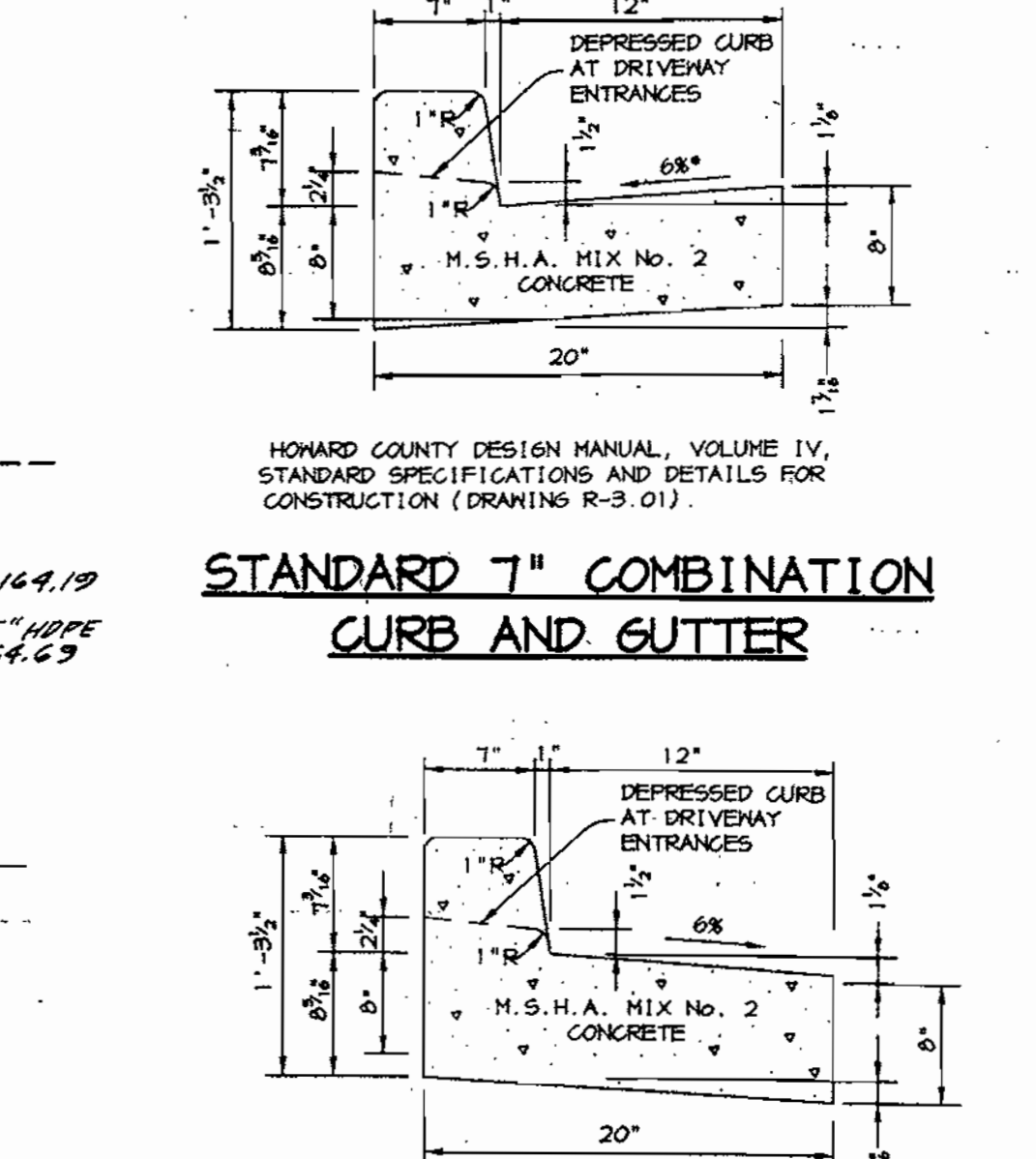
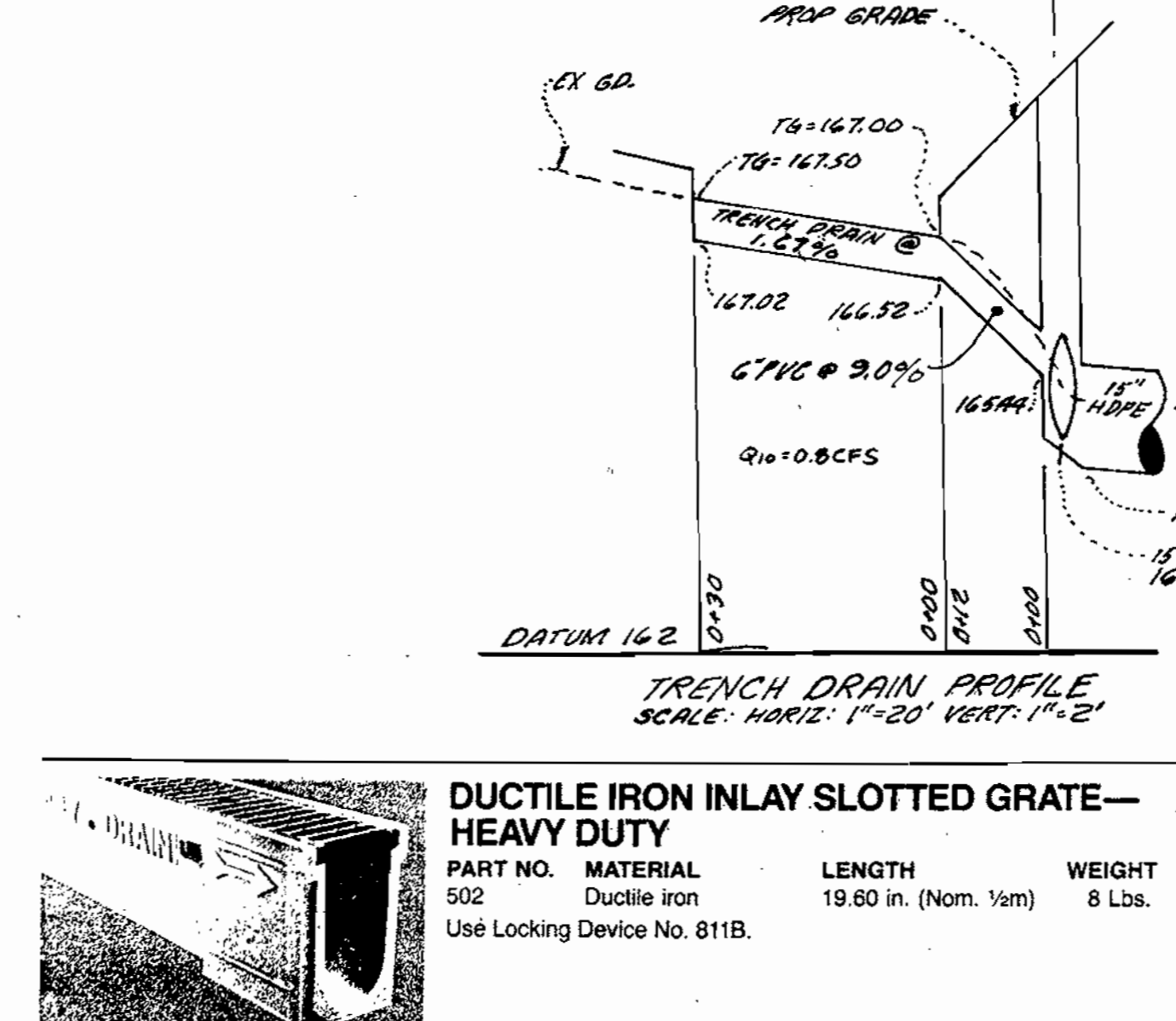
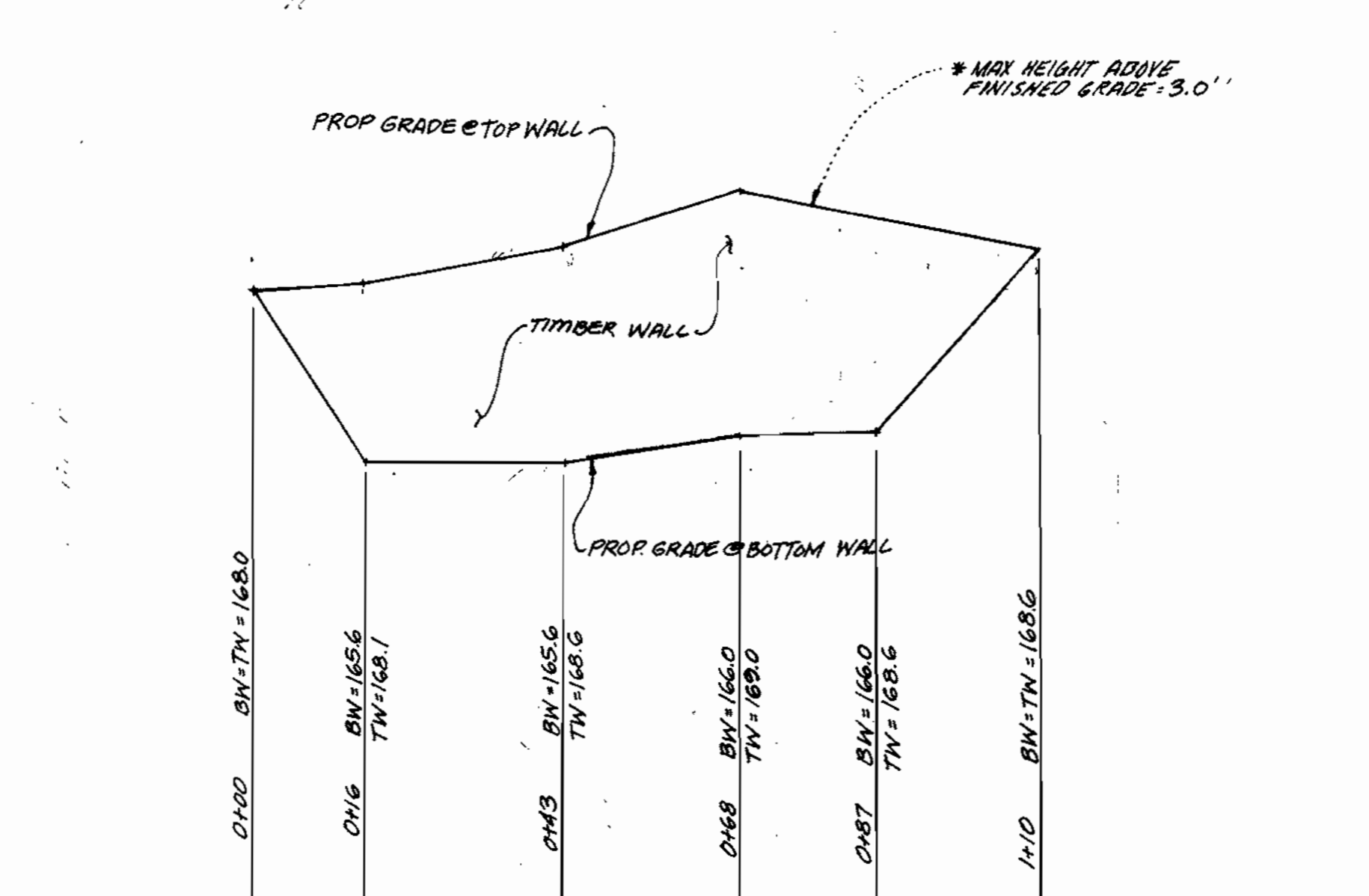
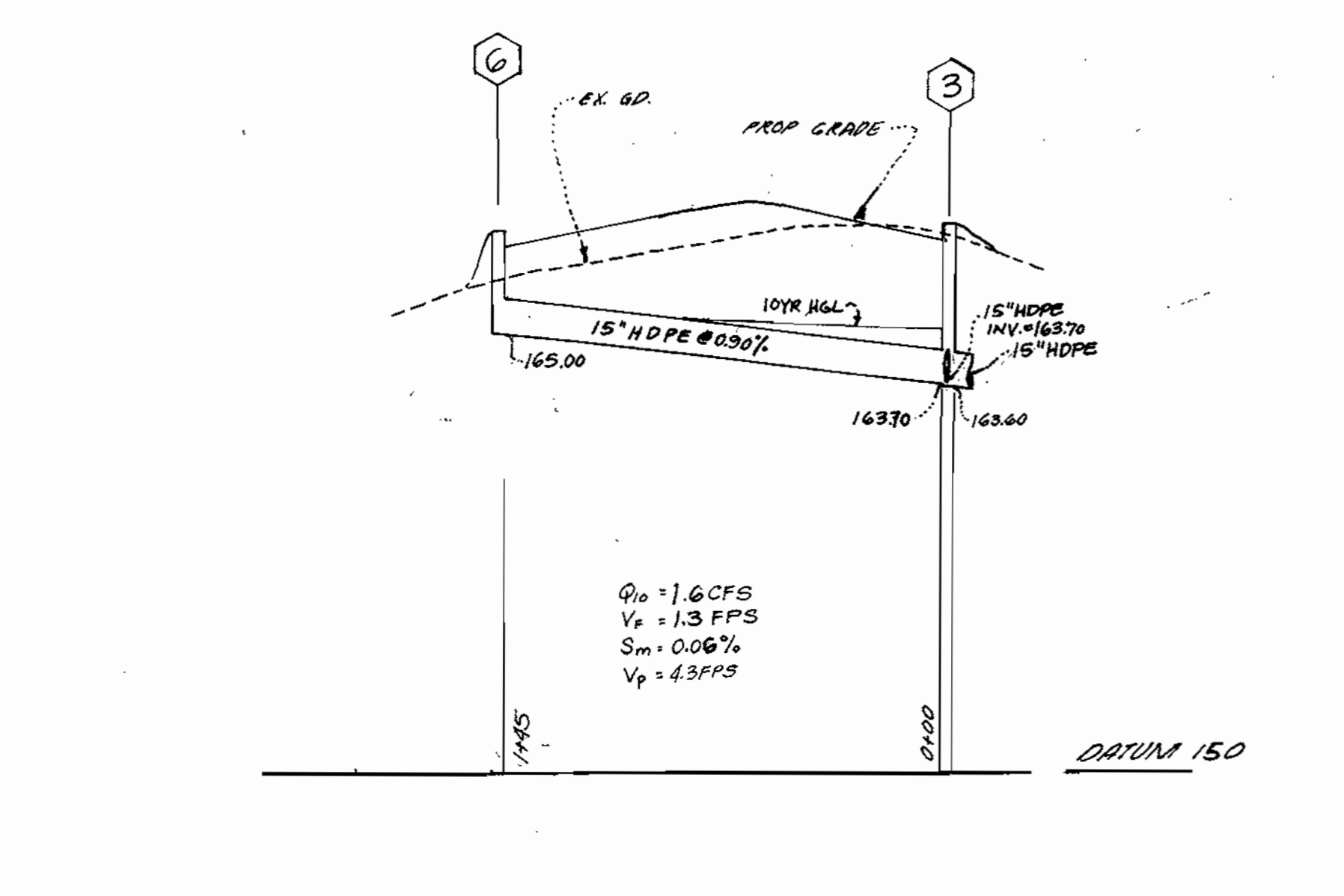
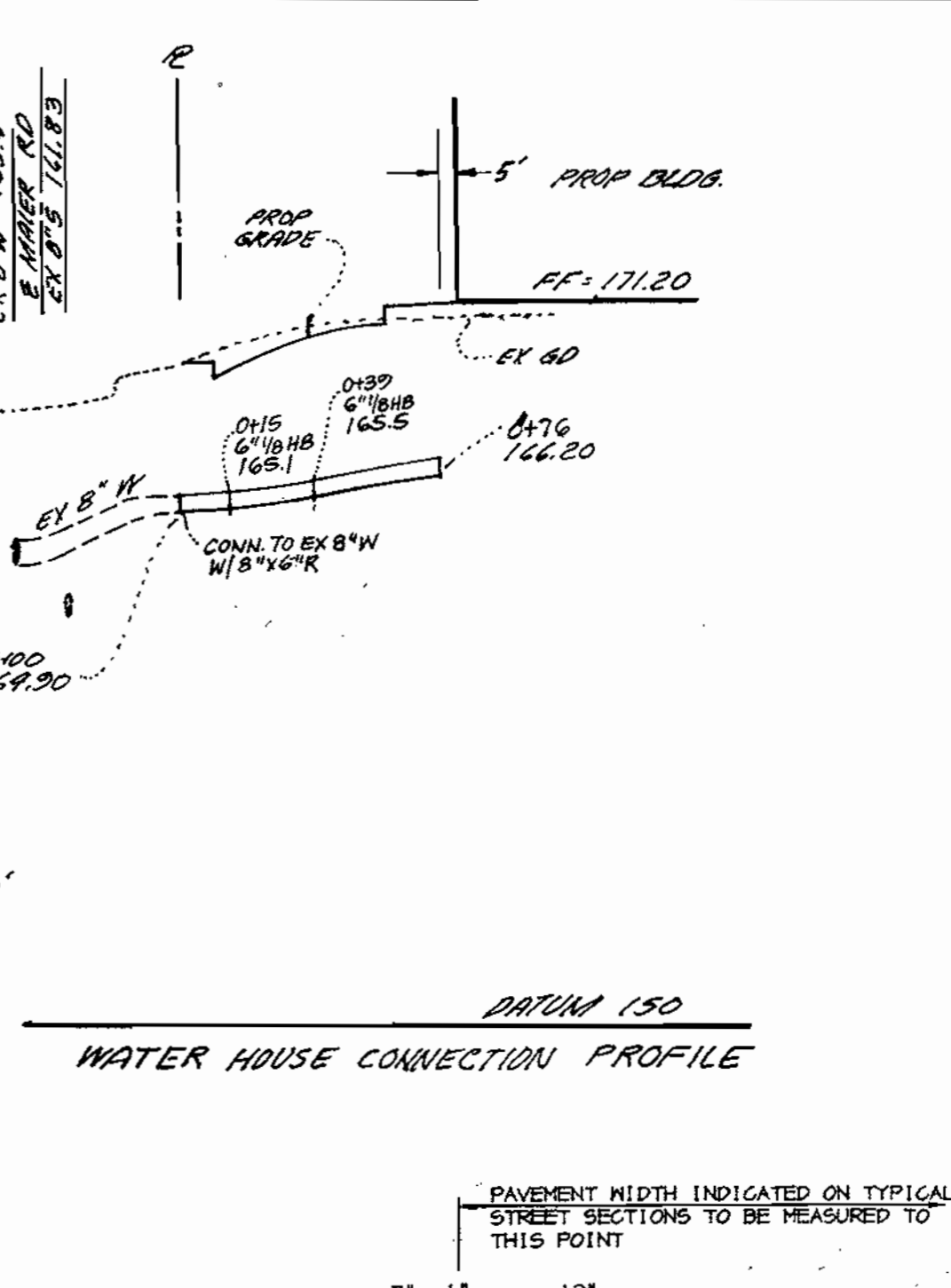
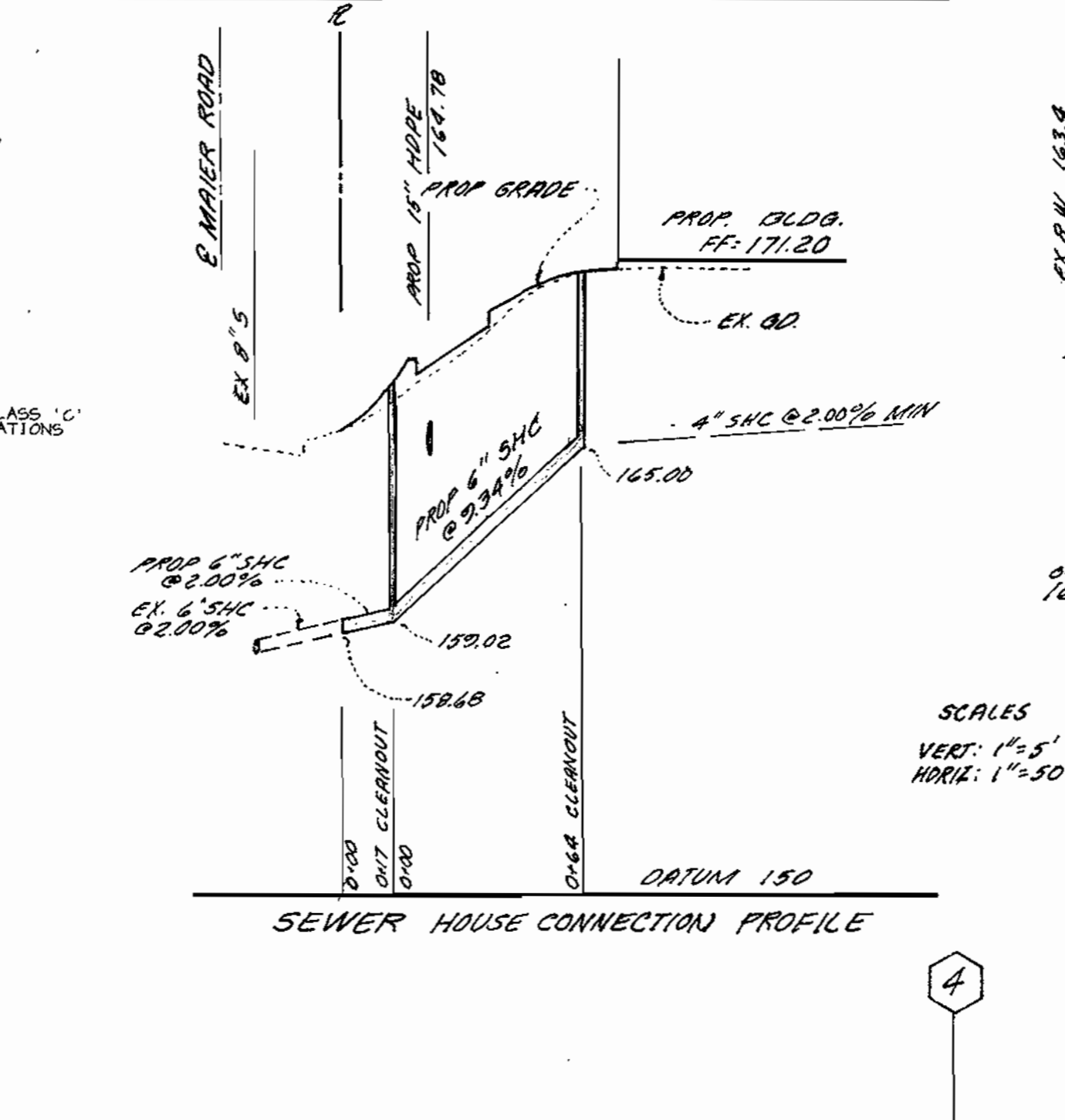
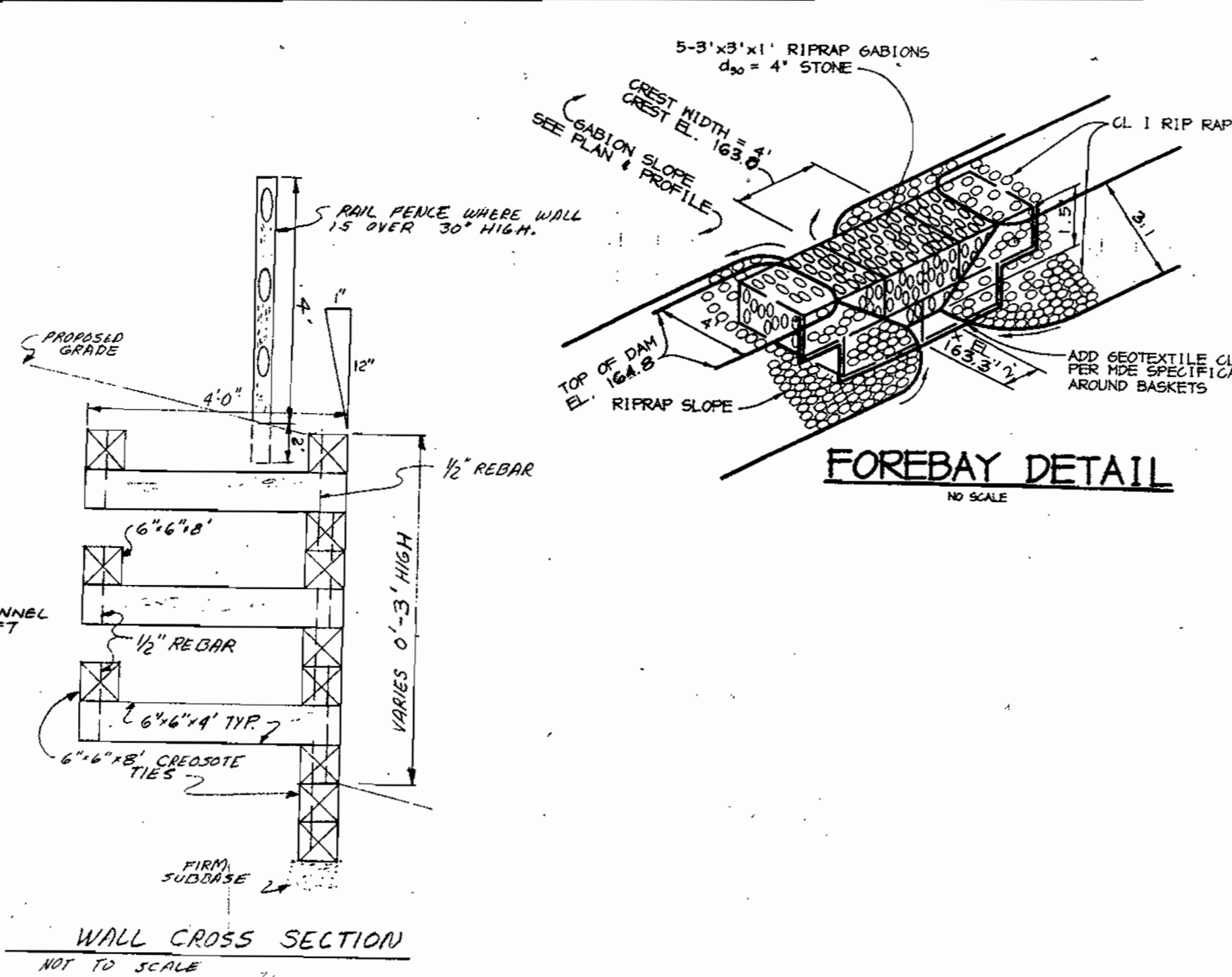
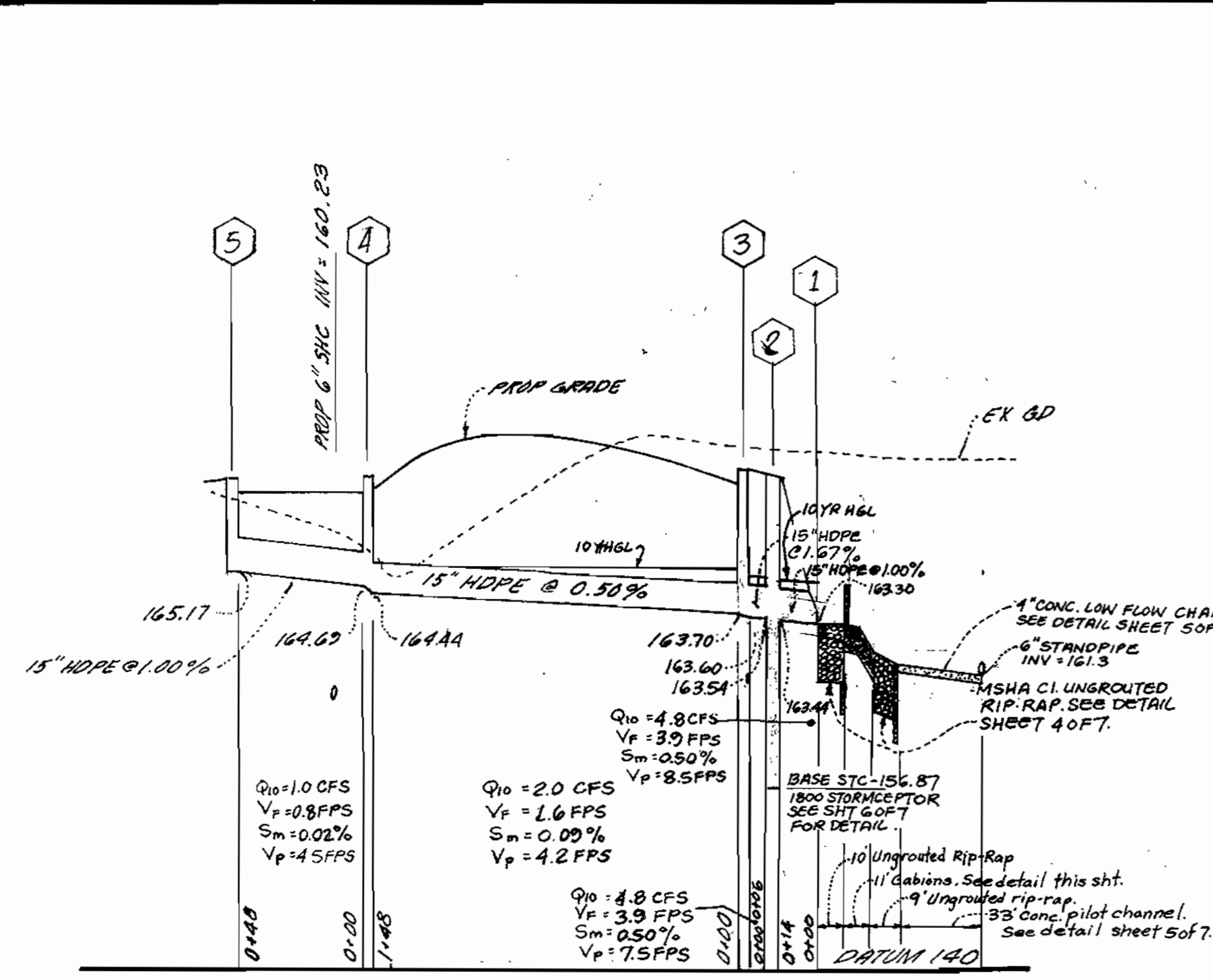
Carol Hamata 4/26/01
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Carol Hamata 4/26/01
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

P.G. ASSOCIATES, INC.
 CIVIL ENGINEERS * SURVEYORS * LAND PLANNERS
 354 B HUNGERFORD DRIVE
 ROCKVILLE, MARYLAND 20850
 PHONE (301) 509-1361

SOIL EROSION & SEDIMENT CONTROL PLAN
SOILS MAP AND DRAINAGE AREA MAP
PARCEL 124
MAIER INDUSTRIAL PARK
 TRX MAP # 47
 6TH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

SCALE: 1" = 30'
 DRAWN: SE
 CHECKED: DP
 DATE: FEB 2000
 ACAD FILE NAME:
 JOB NO:
 DRAWING NO: SDP-00-120
 SHEET 2 OF 7



PIPE SCHEDULE

SIZE	DESCRIPTION	LENGTH
15"	HDPE	361'

STRUCTURE SCHEDULE

NO.	TYPE	LOCATION	ELEVATIONS		INVERTS		DESCRIPTION
			UPPER	LOWER	IN	OUT	
1.	METAL END SECTION	SEE PLAN	N/A	N/A	N/A	162.00	CMP END SECTION FOR 15" HDPE
3.	A-5 INLET, PRECAST	SEE PLAN	162.10	N/A	163.49	162.99	HC DPW STD SD 4.40, 2.5' WIDTH
4.	A-5 INLET, PRECAST	SEE PLAN	160.20	168.60	169.29	169.19	HC DPW STD SD 4.40, 2.5' WIDTH
5.	A-5 INLET, PRECAST	SEE PLAN	168.81	168.60	N/A	165.17	HC DPW STD SD 4.40, 2.5' WIDTH
6.	A-5 INLET, PRECAST	SEE PLAN	169.10	N/A	N/A	165.00	HC DPW STD SD 4.40, 2.5' WIDTH
2.	STORMCEPTOR - STC 1800	SEE PLAN	168.80	N/A	162.89	162.79	SEE DETAIL SHEET G

POLYDRAIN SPECIFICATIONS

SUGGESTED SPECIFICATIONS

PRODUCT: Trench drains shall be the PolyDrain System as manufactured by ABT, Inc., Troutman, N.C. (800) 438-6057, in N.C. (800) 334-6057.

TRENCH DRAIN CHANNELS: Shall be made of precast polymer concrete with a top width of 5.1 inches, radiused bottoms and nominal lengths of 1/2 or 1 meter. All channels shall interlock with tongue and groove connections with adjoining channels. Each channel shall have four horizontal anchoring ribs to mechanically lock the channel into the floor slab or pavement.

Channels shall have available vertical cut outs for 4" or 6" discharge and available 4" or 6" horizontal outlet end caps. Channels shall have a built-in bottom slope of .6%, or be non-sloping, as shown on plans.

CHANNEL GRATES: Shall be PolyDrain #502 made of *RECTILE LEXAN*. Grates should be securely locked down with built-in channel lock blocks. Locking mechanism shall be designed so as to provide an obstruction-free trench for maintenance and cleaning as well as to prevent concrete from entering channels during installation.

INSTALLATION: Trench drains shall be installed in strict accordance with manufacturer's details. A minimum of 4 inches of concrete shall be placed beneath each channel.

CATCH BASINS: Shall be precast polymer concrete (PolyDrain #900, 501, 610 or 611) with galvanized steel trash buckets. Any trench drains entering catch basins shall interlock fully with tongue and groove connections.

NOTE TO SPECIFIERS: Where corrosive environments are anticipated, joints between channels for the channel material (polyester or vinyl ester) and environment. See the PolyDrain Chemical Resistance Guide for additional information.

Additional design and specification data is contained in our comprehensive 3-ring binder, available through your local PolyDrain representative or by calling 800-438-6057 (800-334-6057 in N.C.).

CHANNEL SPECIFICATIONS

021 DEPTH 5.8 IN

Minimum overall depth (No. 010)	5.3 in.
Maximum overall depth (No. 300)	12.3 in.
Inside top width (all channels)	4.0 in.
Length of slope system	98.1 feet
Channel bottom thickness	1.0 in. (Nom.)

PolyDrain system can be extended to greater lengths by insertion of any number of non-slope channels (No. 021, 091, 096, 191, and 291) at the appropriate locations, or by the addition of PolyWall Sidewalk Extensions.

39.15' (nom. 1 meter) Slope 0.6%

OWNER/DEVELOPER
DDP CONTRACTING, INC.
20 CONCHESTER ROAD
GLEN MILLS, PA 19342-1506
(610) 361-9337

HANDICAP SIGN DETAIL
NO SCALE

SIDEWALK DETAIL
NO SCALE

P-3 PAVING
NO SCALE

BITUMINOUS CONCRETE SURFACE - 1 1/2"
BITUMINOUS CONCRETE BASE - 4 1/2"
* 6" CRUSHER RUN BASE COURSE OR
* 1 1/2" DENSE GRADED STABILIZED AGGREGATE BASE COURSE

(ALTERNATE)

BITUMINOUS CONCRETE SURFACE - 1 1/2"
BITUMINOUS CONCRETE BASE - 1 1/2"
BITUMINOUS CONCRETE BASE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

DATE: 4/26/01
DATE: 4/26/01

CHIEF, DEVELOPMENT ENGINEERING DIVISION
CHIEF, DIVISION OF LAND DEVELOPMENT

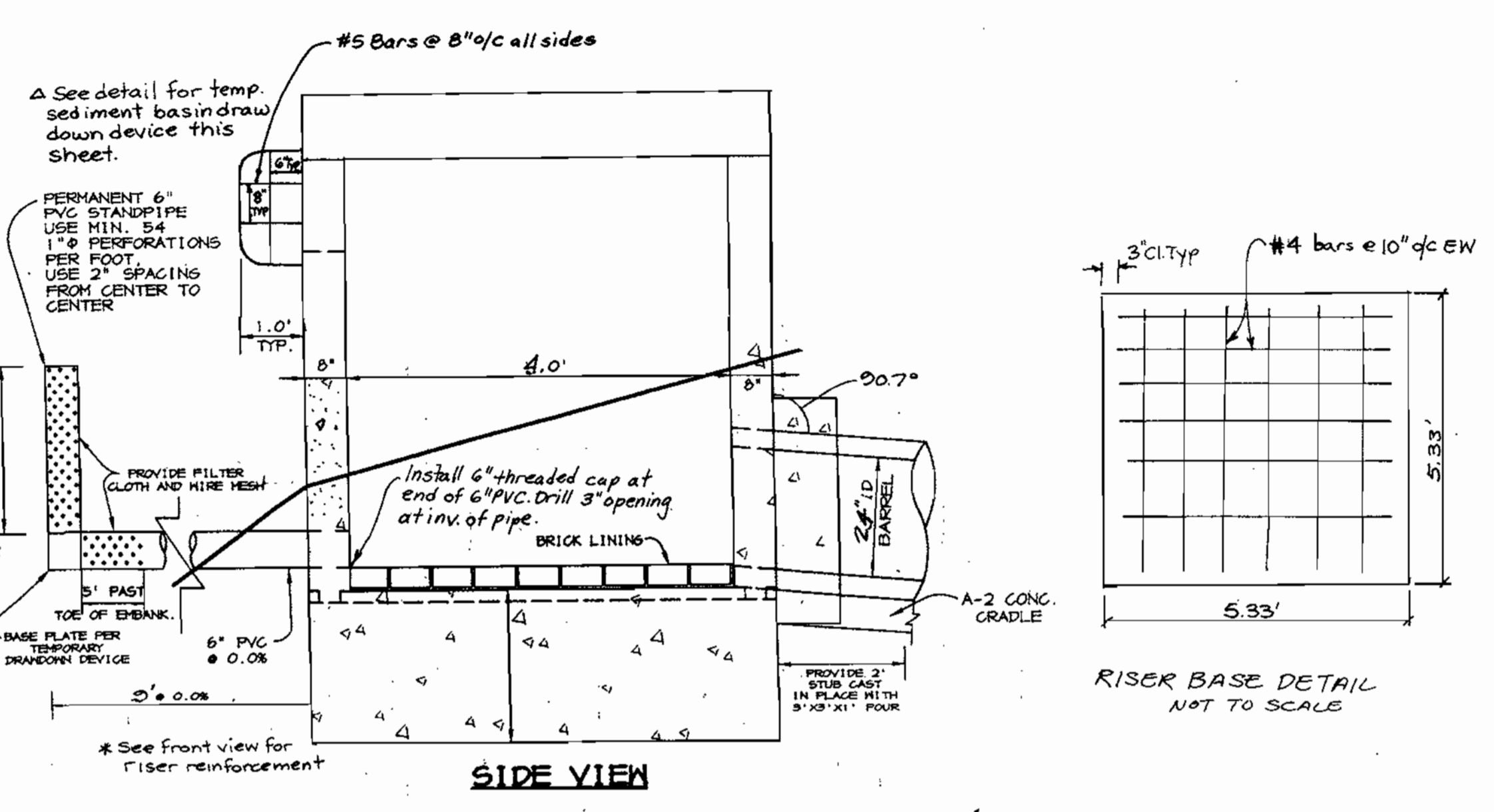
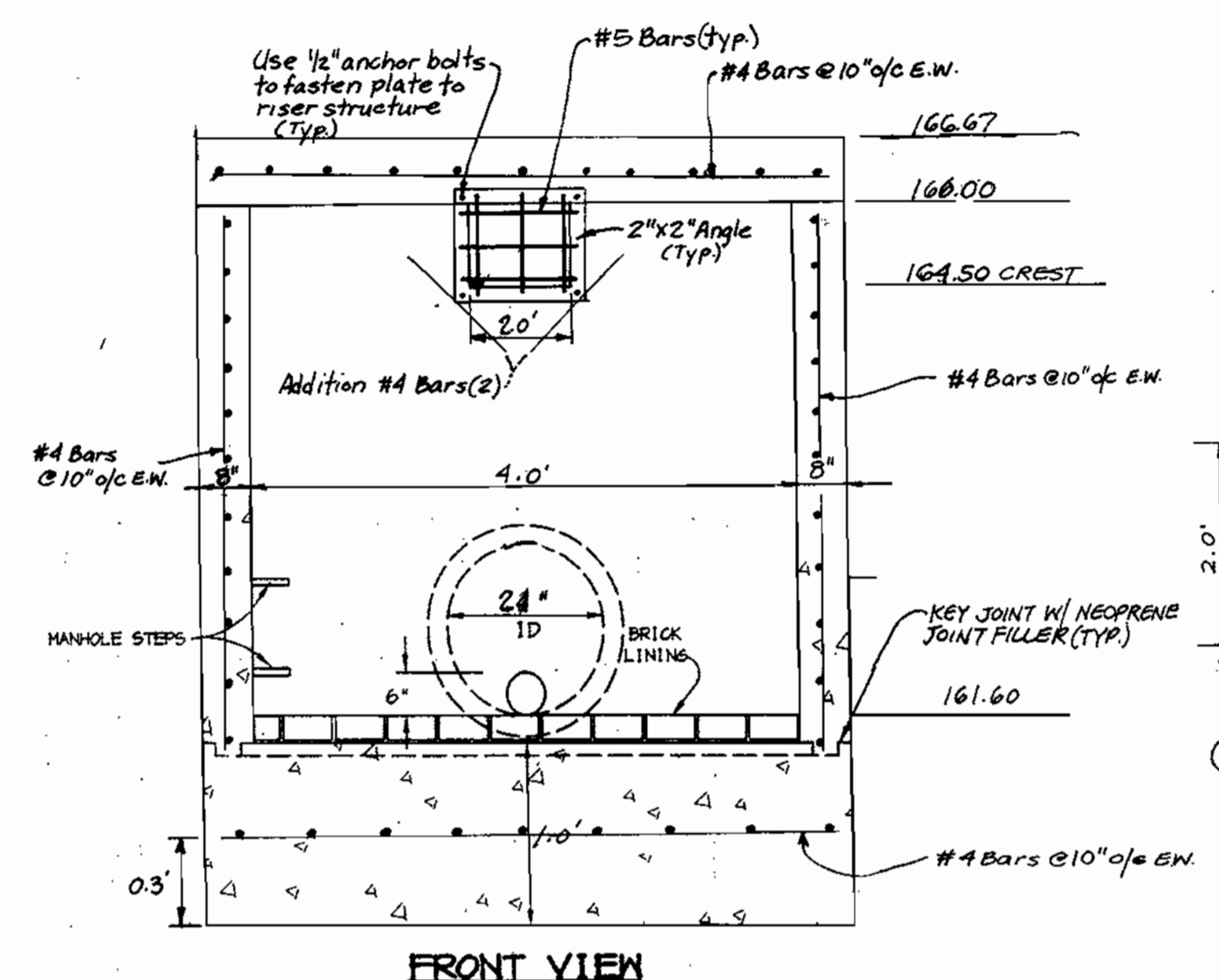
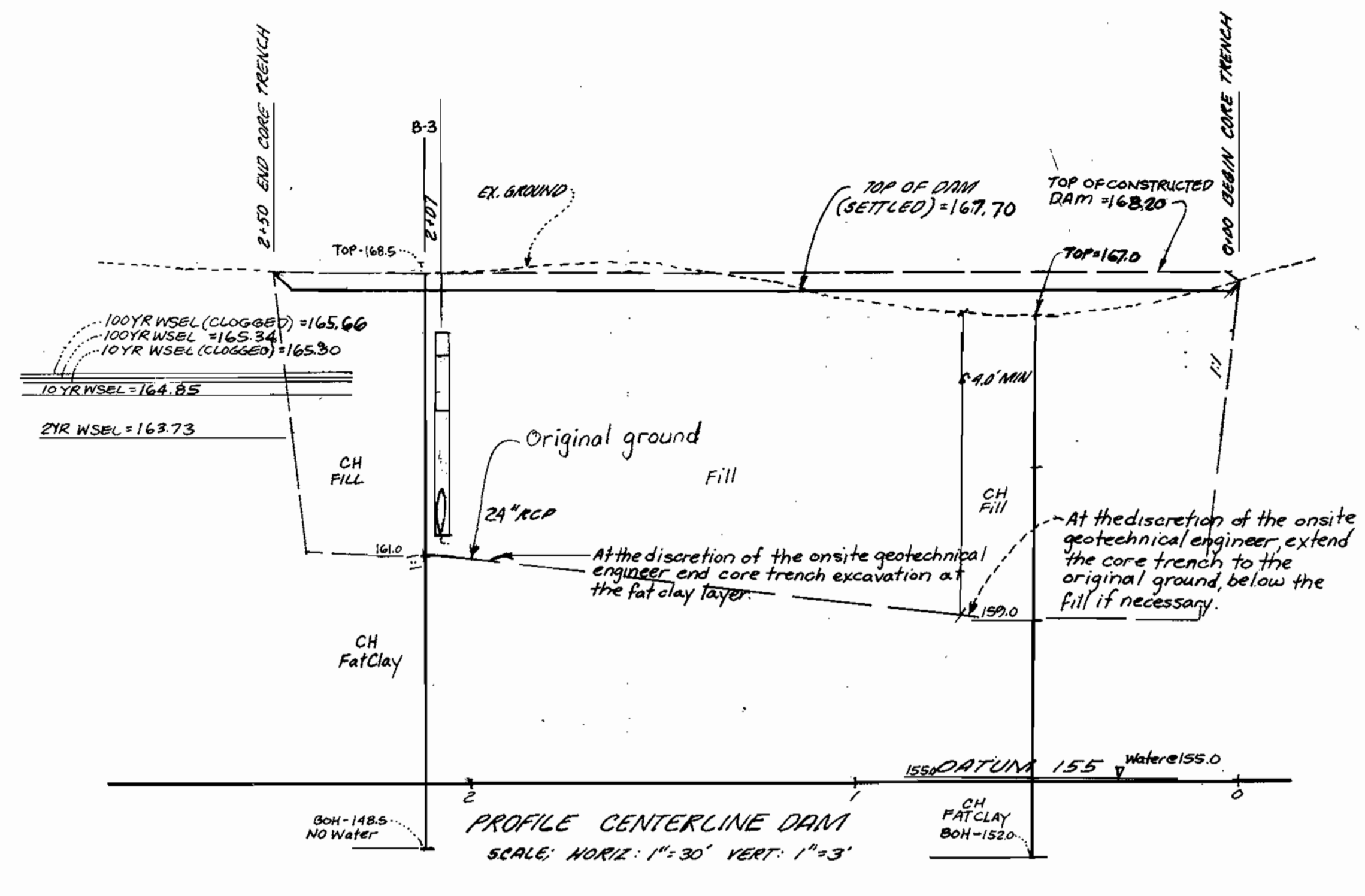
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PHONE (301) 309-1361

MAIER INDUSTRIAL PARK
6th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

GENERAL DETAILS

DATE: 4/26/01
DATE: 4/26/01

SCALE: DRAWN SE
CHECKED: DATE FEB 2000
DP: DATE
ACAD FILE NAME: SHEET 30 of 7
SDP-00-120



- 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.

OWNER/DEVELOPER
DDP CONTRACTING, INC.
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(610) 361-9387

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, SOCS "STANDARDS AND SPECIFICATION FOR PONDS" (1987B). 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.

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.

Paul Bucher 7/25/00
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.

Warwick 3/19/00
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.

Jim Myers 4/16/01
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.

Chiff 4/10/01
HOWARD SOIL CONSERVATION DISTRICT DATE

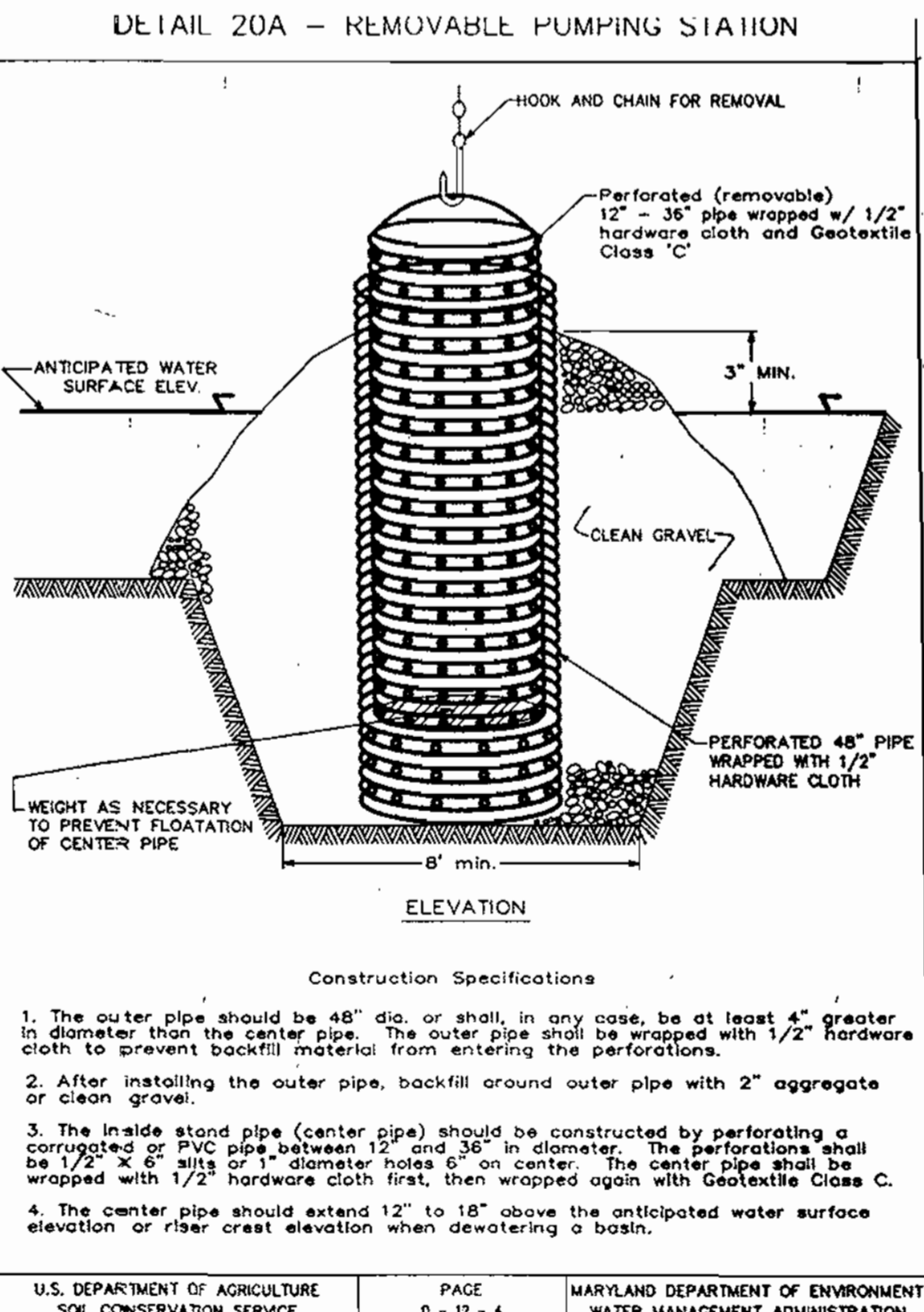
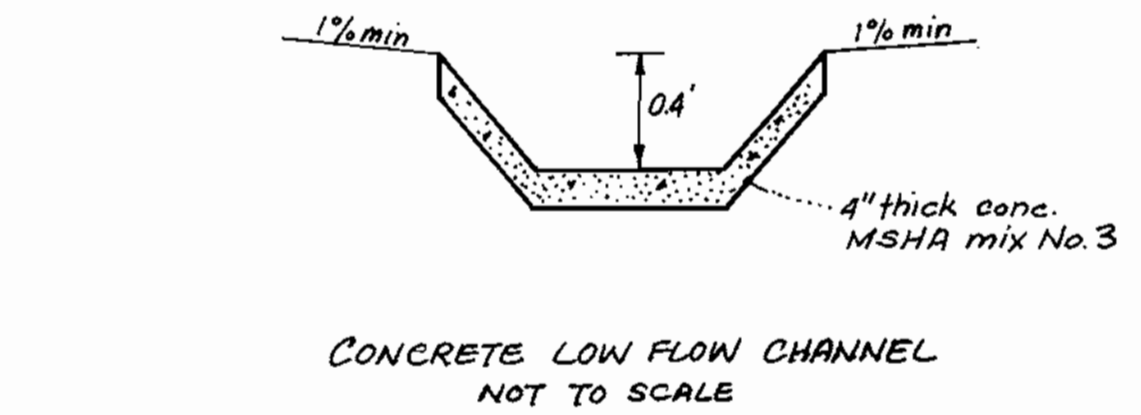
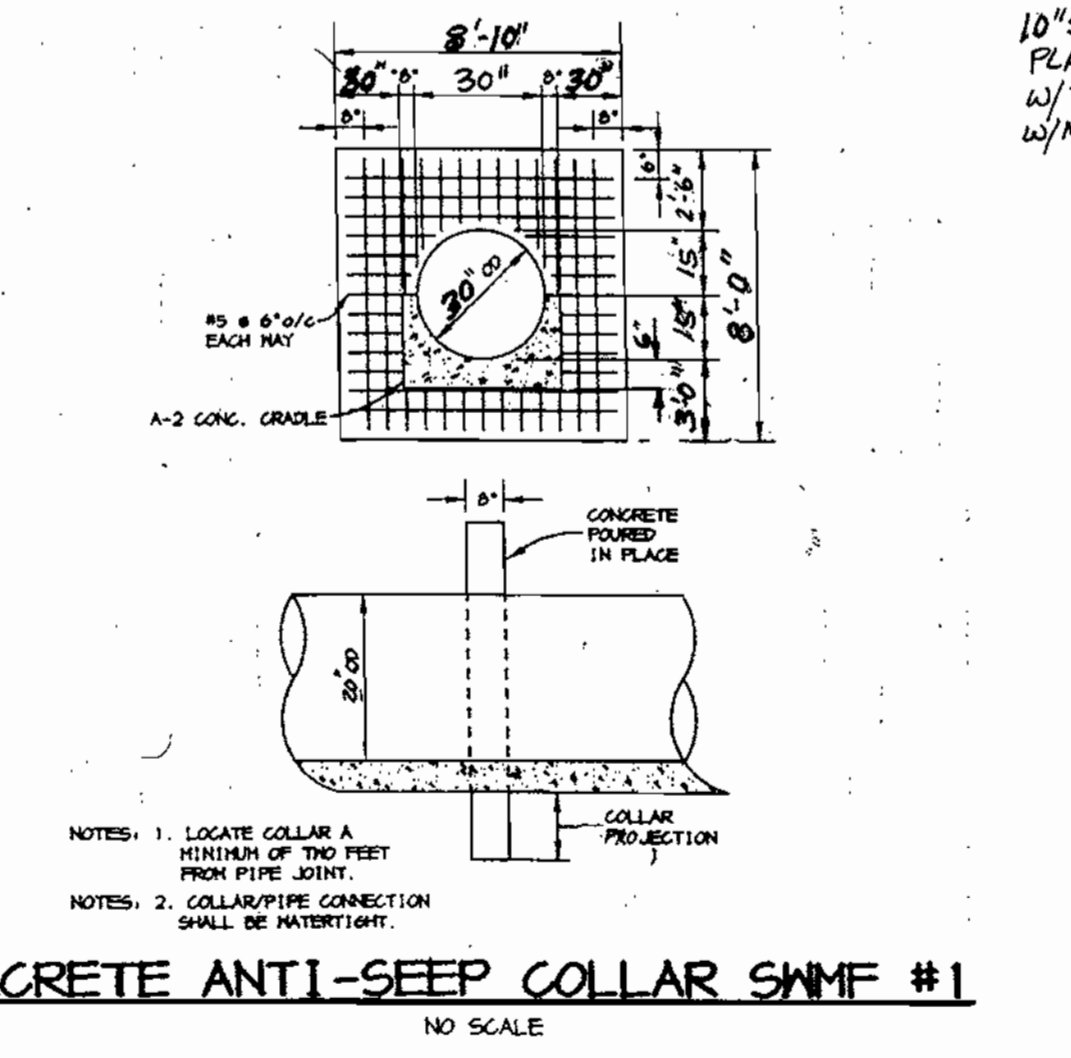
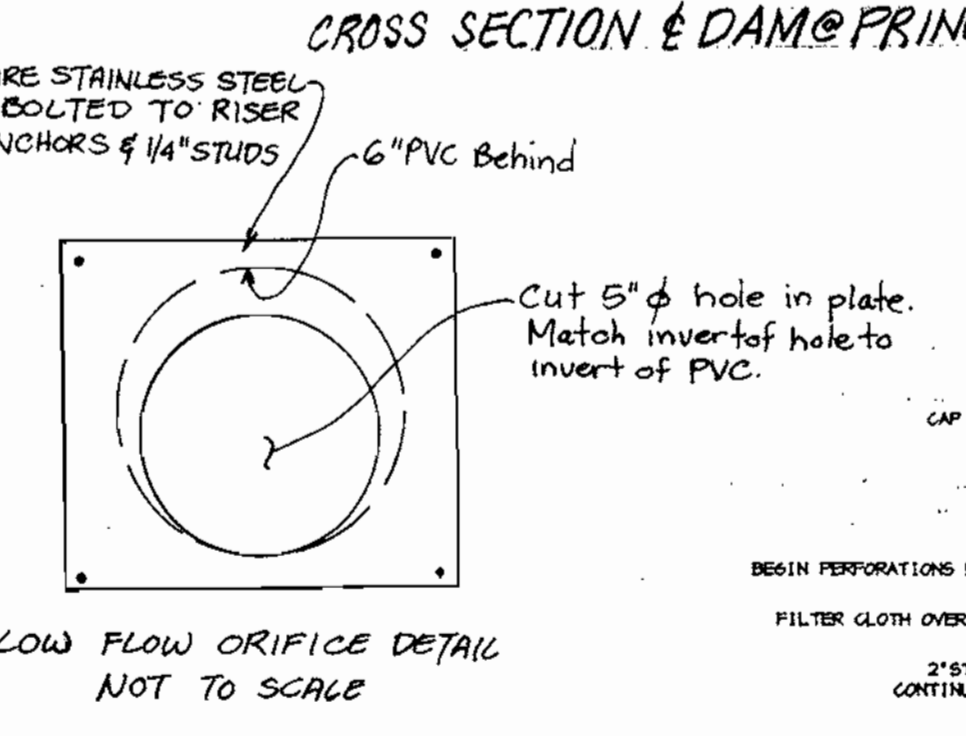
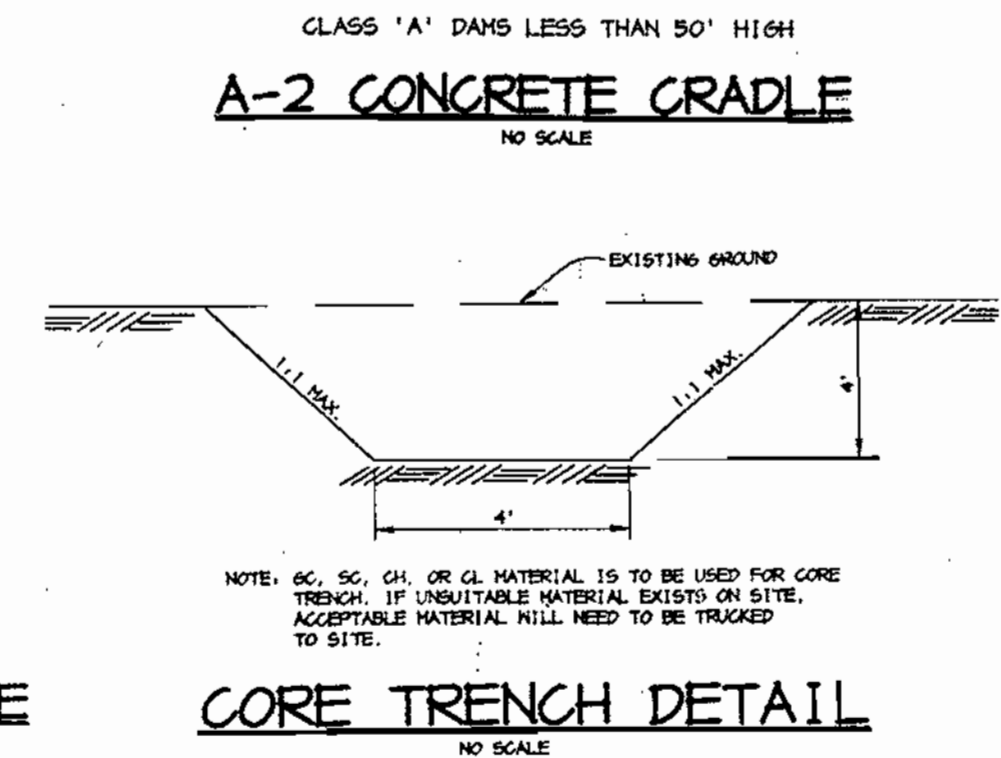
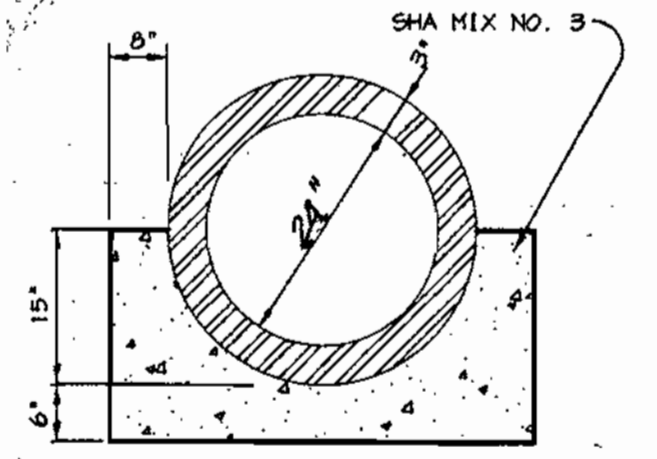
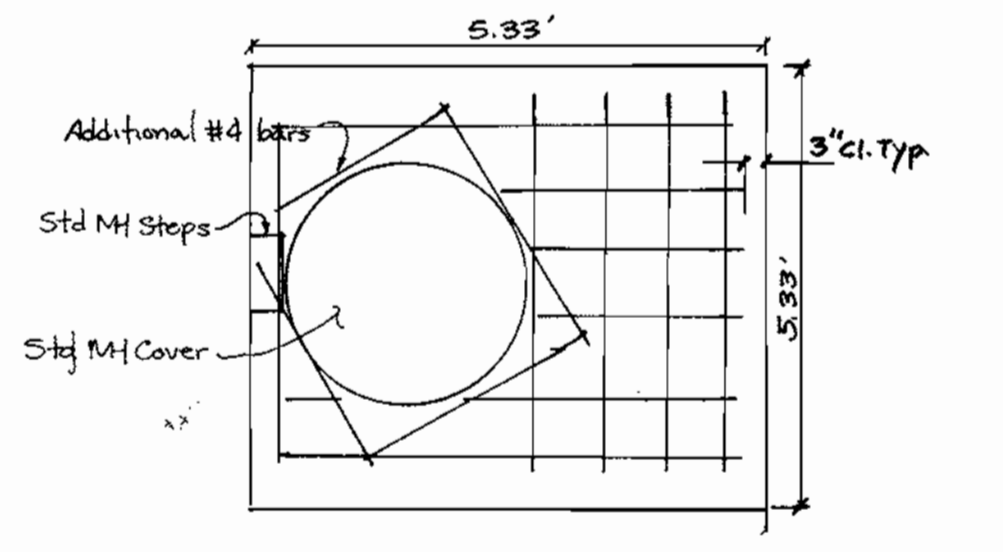
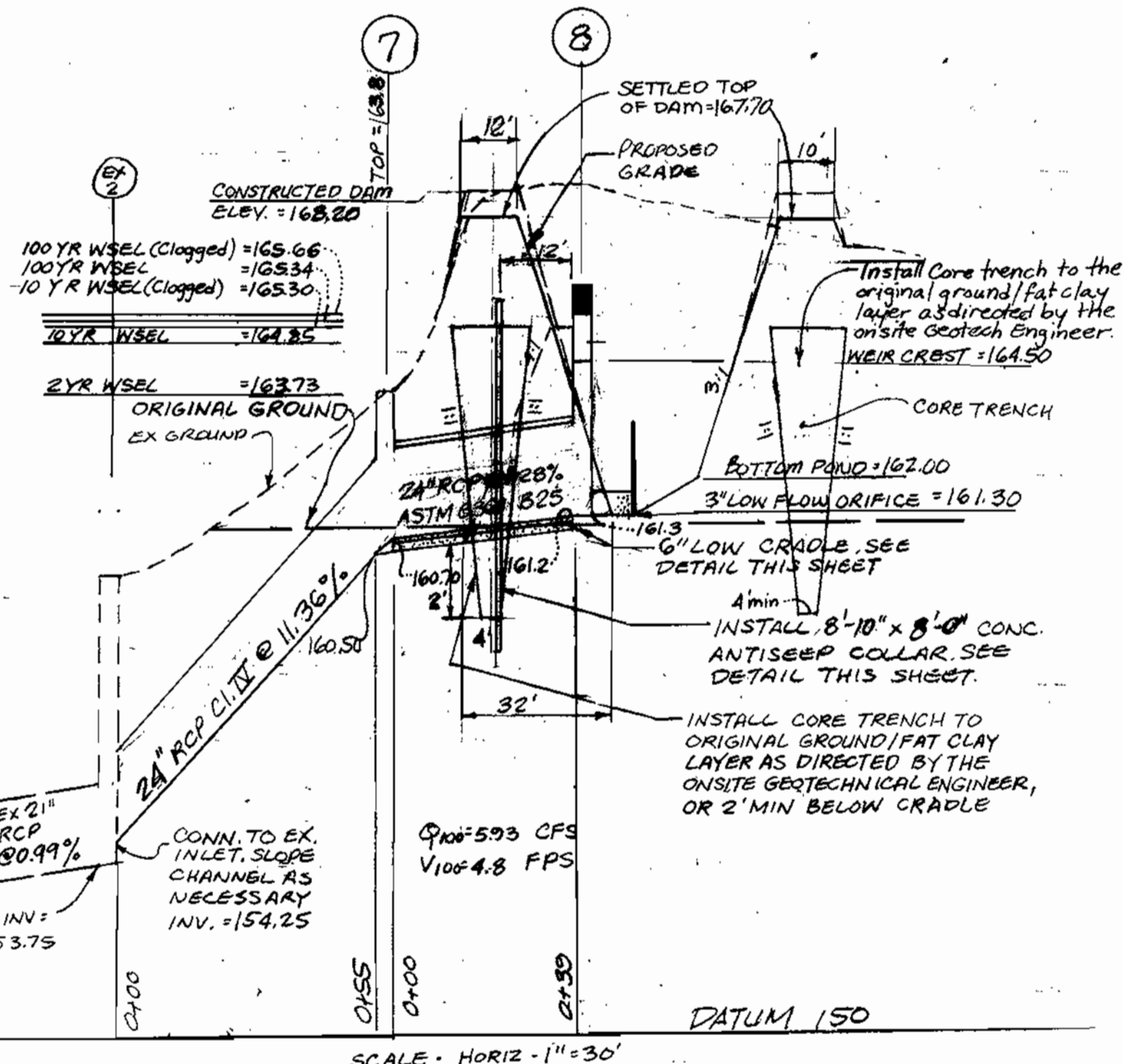
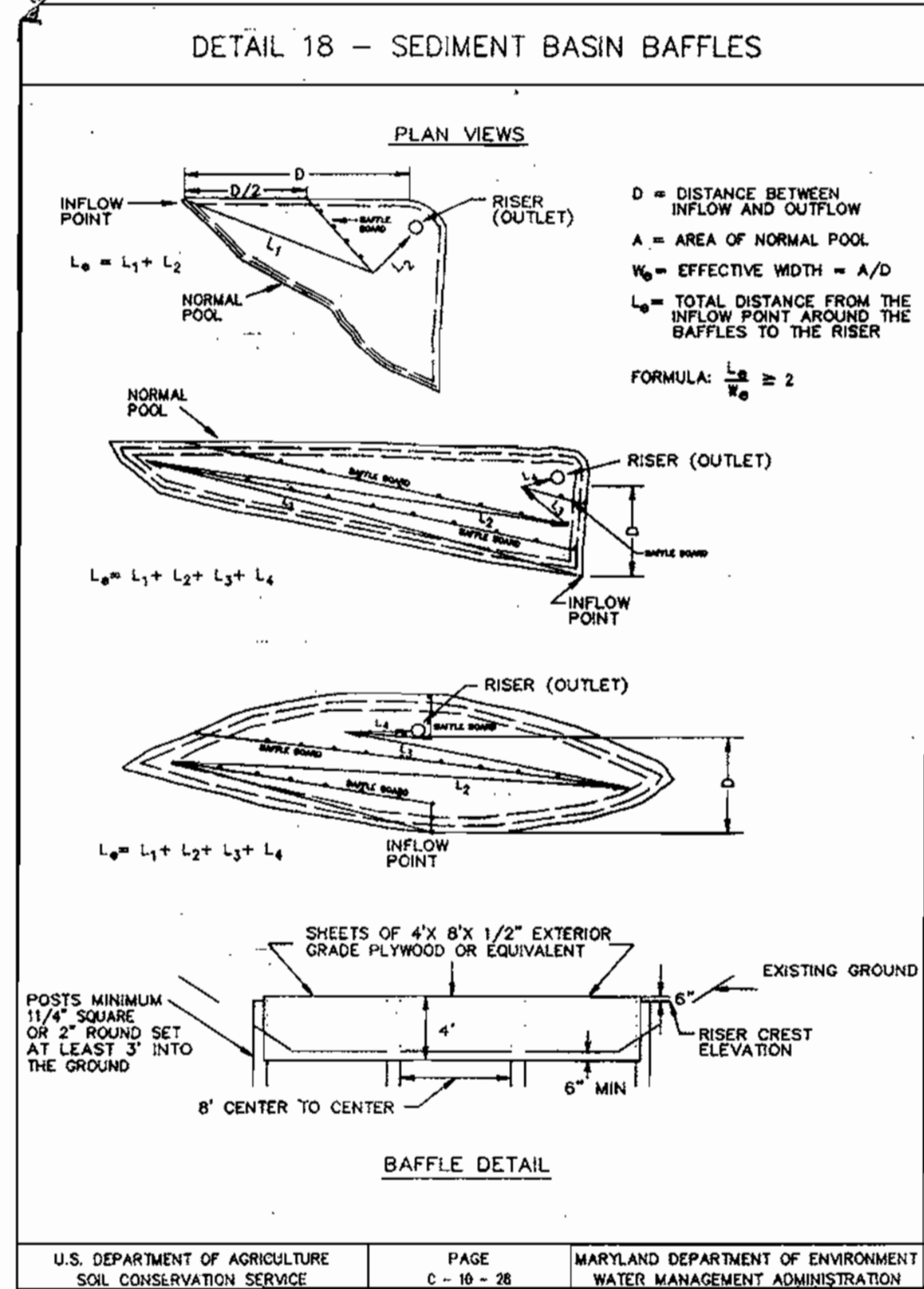
OWNER/DEVELOPER

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Paul Rutter 4/24/01
DIRECTOR DATE

Conde Hamilton 4/23/01
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

CHIEF, DIVISION OF LAND DEVELOPMENT DATE



P.G. ASSOCIATES, INC.
CIVIL ENGINEERS * SURVEYORS * LAND PLANNERS
354-B HUNGERFORD DRIVE
ROCKVILLE, MARYLAND 20850
PHONE (301) 309-1361

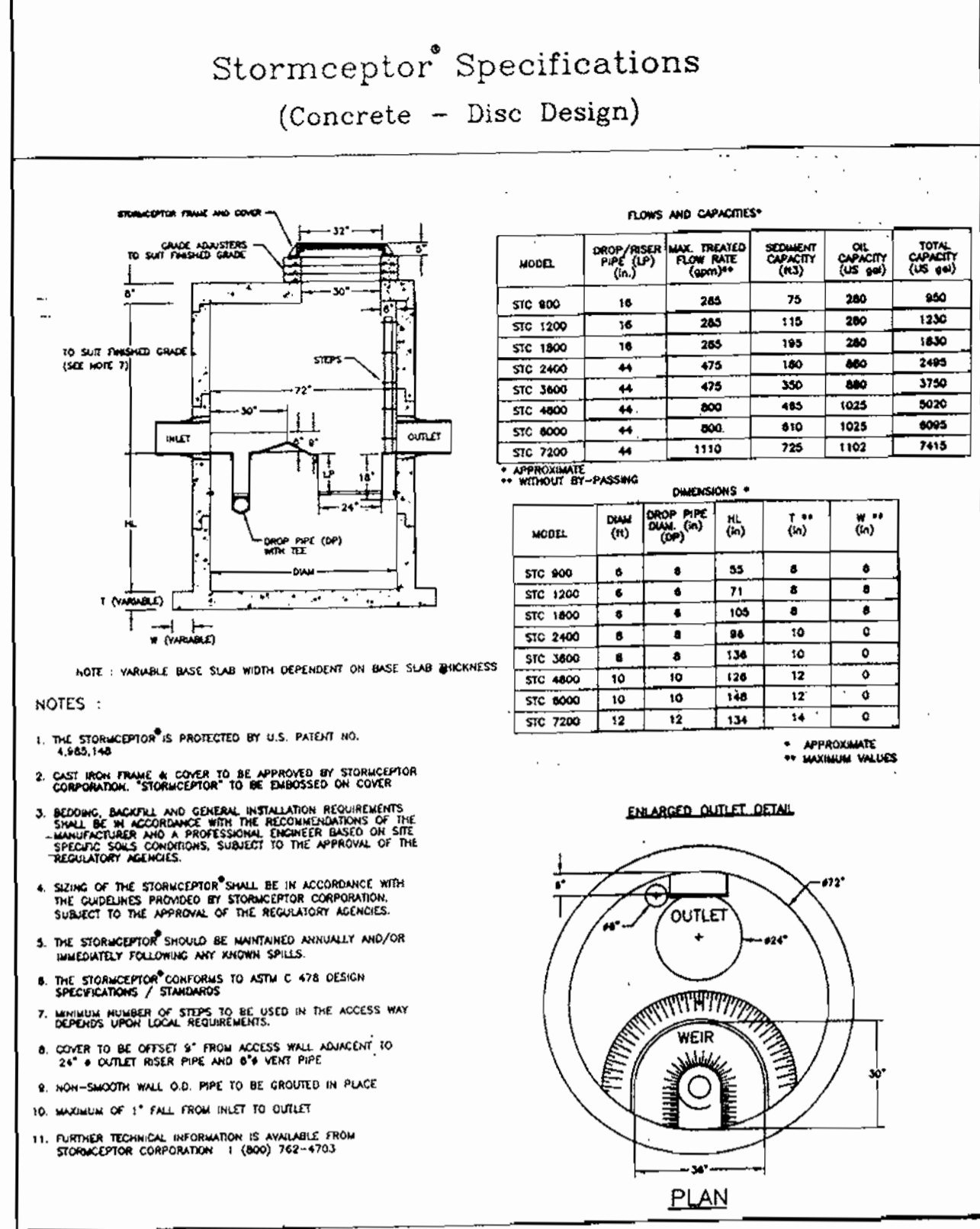
DATE _____ DESCRIPTION _____ REVISIONS _____

DETAILS

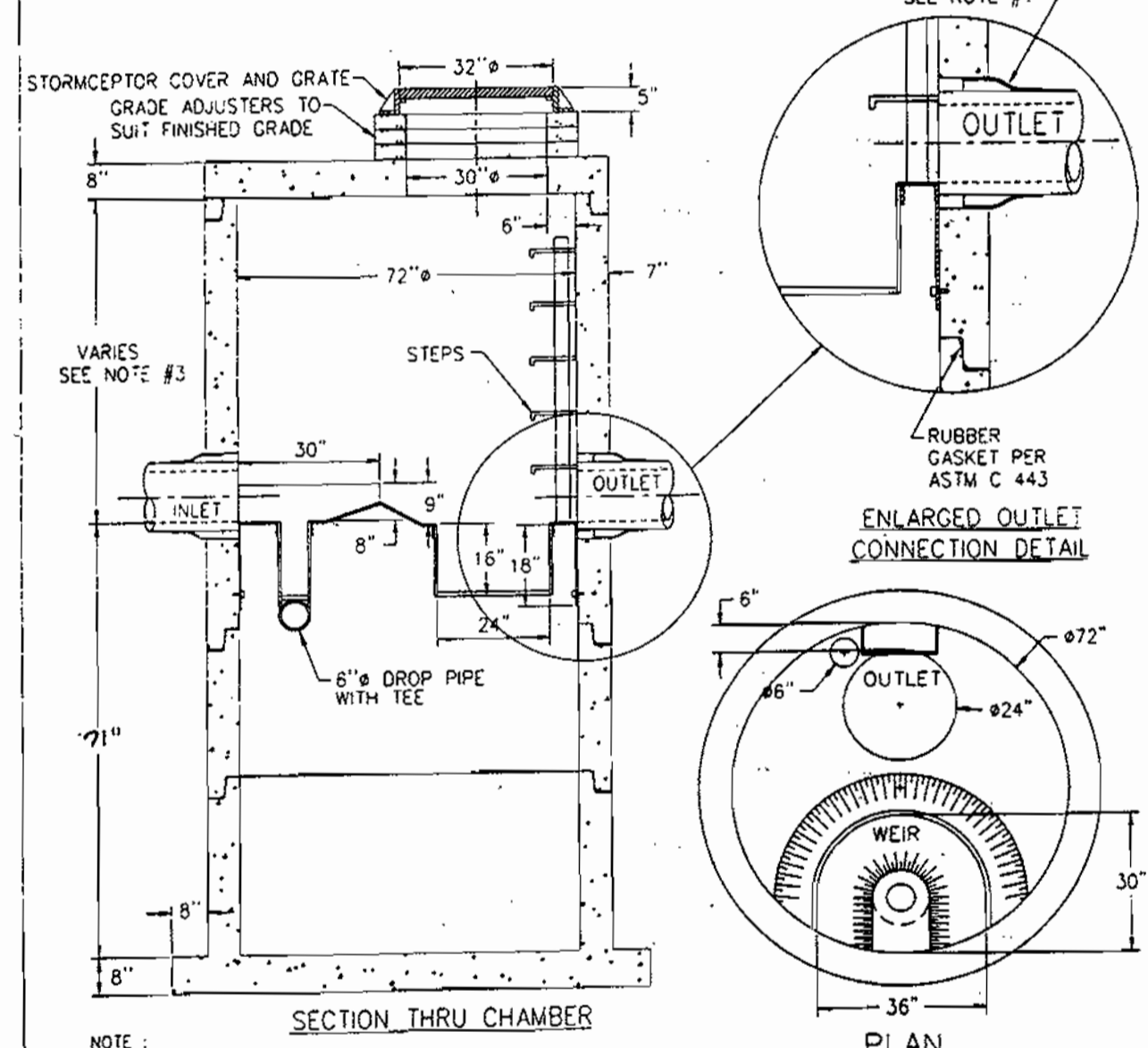
CONCRETE ANTI-SEEP COLLAR SAME #1
SEDIMENT BASIN DRAW DOWN DEVICE
CORE TRENCH DETAIL

PARCEL E1
TAX MAP 47 GRIDS 3 ZONED M12
MAIER INDUSTRIAL PARK
SECTION ONE
PLAT NUMBER 8430
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE: 1"=30' DRAWN: SE
CHECKED: DATE: FEB 2000
ACAD FILE NAME: _____
JOB NO.: _____
DRAWING NO: 5 SHEET OF 7
SDP-00-120



MODEL	DROP/RISE (FT)	MAX FLOW RATE (GPM)	TOTAL CAPACITY (GAL)
STC 900	18	265	75
STC 1200	18	265	110
STC 1800	18	265	180
STC 2400	44	475	300
STC 3600	44	475	300
STC 4800	44	800	485
STC 6000	44	800	810
STC 7200	44	1110	725

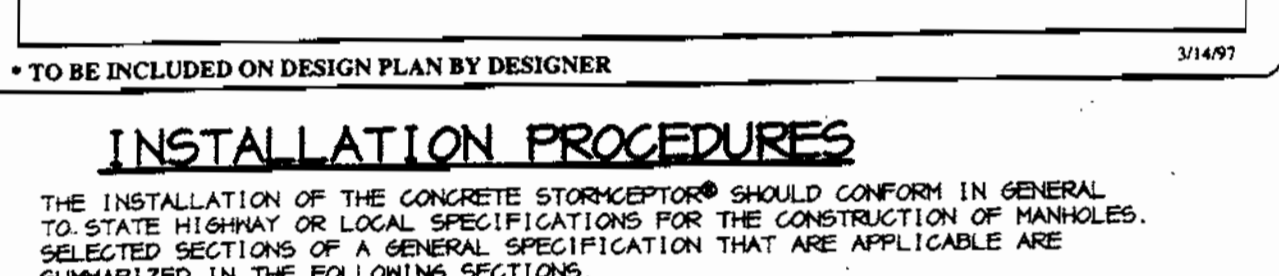


OPERATION AND MAINTENANCE SCHEDULE FOR STORMCEPTOR WATER QUALITY DEVICE

- 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 depth exceeds the specified level (Table 6 of Technical Manual) then cleaning of the unit is required.
- Stormceptor water quality structures must be checked and cleaned immediately after petroleum spills. Contact appropriate regulatory agencies.
- 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.
- 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.
- Owner shall retain and make Stormceptor Inspection/Monitoring Forms available to Howard County officials upon their request.

Concrete Stormceptor® Order Request Form *

Contractor Information Name _____ Address _____ City _____ State _____ Contact _____ Phone _____ Fax _____		Office Use Only Order # _____ Date _____ Internal Sale _____
Owner Information Name _____ Phone _____ Fax _____		Stormceptor Model 900 <input type="checkbox"/> 3600 <input type="checkbox"/> 1200 <input checked="" type="checkbox"/> 4800 <input type="checkbox"/> 1800 <input type="checkbox"/> 6000 <input type="checkbox"/> 2400 <input type="checkbox"/> 7200 <input type="checkbox"/>
Manhole Number Finish Top Elevation (ft) _____ Top Slab Elevation (ft) _____ Inlet Pipe Invert (ft) _____ Outlet Pipe Invert (ft) _____ Pipe Type: <u>HDPPE</u> Pipe Inside Diam. (in) [ID] _____ Pipe Outside Diam. (in) [OD] _____		Insert Size <input checked="" type="checkbox"/> 22" <input type="checkbox"/> 32" <input type="checkbox"/> 44" <input type="checkbox"/> Custom
Project Name <u>Maier Industrial Park</u> Approximate time frame until required delivery (weeks) <u>4</u> Delivery Address: Street <u>9030 Maier Road</u> City <u>Savage</u> State <u>MD</u> Zip Code _____ Designer Company <u>PG Associates, Inc.</u> Designer Contact <u>Deep Packard</u> Phone <u>(301) 309-1361</u> Fax <u>(301) 309-3757</u>		
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		



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 FLOOR, 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 LEVELLED 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 PLACED 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 DOWN PIPE IS INSTALLED BY COATING THE OUTSIDE OF THE PIPE WITH GLUE AND PUSHING THE PIPE INTO THE COLLARS. CHEMREX 948 CAULKING SHOULD BE APPLIED TO THE CONNECTION ONCE THE INLET DOWN PIPE IS SECURE IN PLACE. THE TEE AT THE END OF THE INLET DOWN 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 FIBERGLASS 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 (1.6). THE TOP ELEVATION OF THE FLANGE IS LEVEL WITH THE SURROUNDING FIBERGLASS 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 WATER-TIGHT. 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 GROUDED 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.

CONSTRUCTION SPECIFICATIONS

THESE SPECIFICATIONS ARE APPROPRIATE 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 FILM OF 24" OR GREATER OF THE STRUCTURE OR PIPE.

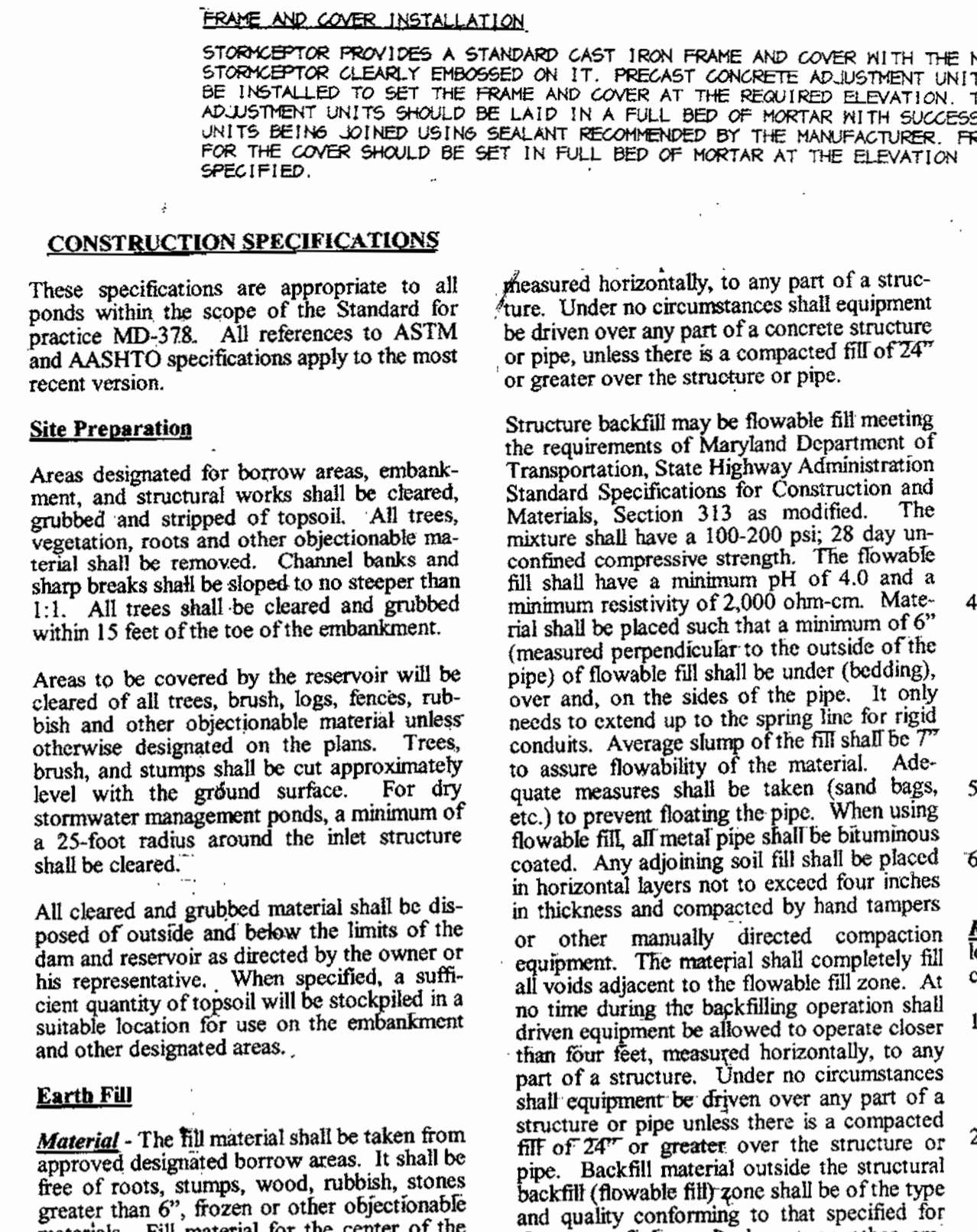
Structure backfill may be flowable fill meeting the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 313 as modified. The mixture shall have a 100-200 psi; 28 day unconfined compressive strength. The flowable fill shall have a minimum pH of 4.0 and a minimum resistivity of 2,000 ohm-cm. Material shall be placed such that a minimum of 6" (measured perpendicular to the outside of the pipe) of flowable fill shall be under (bedding), over, and on the sides of the pipe. It only needs to extend up to the spring line for rigid conduits. Average slump of the fill shall be 7" to assure flowability of the material. Adequate measures shall be taken (sand bags, etc.) to prevent floating the pipe. When using flowable fill, all joining pipe 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 shall completely fill 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 film of 24" or greater over the structure or pipe.

Structure backfill may be flowable fill meeting the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 313 as modified. The mixture shall have a 100-200 psi; 28 day unconfined compressive strength. The flowable fill shall have a minimum pH of 4.0 and a minimum resistivity of 2,000 ohm-cm. Material shall be placed such that a minimum of 6" (measured perpendicular to the outside of the pipe) of flowable fill shall be under (bedding), over, and on the sides of the pipe. It only needs to extend up to the spring line for rigid conduits. Average slump of the fill shall be 7" to assure flowability of the material. Adequate measures shall be taken (sand bags, etc.) to prevent floating the pipe. When using flowable fill, all joining pipe 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,

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FRAME AND COVER INSTALLATION
STORMCEPTOR PROVIDES A STANDARD CAST IRON FRAME AND COVER WITH THE MANE 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.

CONSTRUCTION SPECIFICATIONS

These specifications are appropriate 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 film of 24" or greater over the structure or pipe.

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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 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 structure. 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 fill 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 required for 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 sumps from which the water shall be pumped.

Stabilization
All borrow areas shall be graded to provide proper drainage and left in a slightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and berms shall be stabilized by seeding, liming, fertilizing and mulching in accordance with the Natural Resources 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.

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 FLOOR, 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 LEVELLED 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 PLACED 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 DOWN PIPE IS INSTALLED BY COATING THE OUTSIDE OF THE PIPE WITH GLUE AND PUSHING THE PIPE INTO THE COLLARS. CHEMREX 948 CAULKING SHOULD BE APPLIED TO THE CONNECTION ONCE THE INLET DOWN PIPE IS SECURE IN PLACE. THE TEE AT THE END OF THE INLET DOWN 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 FIBERGLASS 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 (1.6). THE TOP ELEVATION OF THE FLANGE IS LEVEL WITH THE SURROUNDING FIBERGLASS 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 WATER-TIGHT. 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 GROUDED 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.

CONSTRUCTION SPECIFICATIONS

These specifications are appropriate 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 film of 24" or greater over the structure or pipe.

Structure backfill may be flowable fill meeting the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 313 as modified. The mixture shall have a 100-200 psi; 28 day unconfined compressive strength. The flowable fill shall have a minimum pH of 4.0 and a minimum resistivity of 2,000 ohm-cm. Material shall be placed such that a minimum of 6" (measured perpendicular to the outside of the pipe) of flowable fill shall be under (bedding), over, and on the sides of the pipe. It only needs to extend up to the spring line for rigid conduits. Average slump of the fill shall be 7" to assure flowability of the material. Adequate measures shall be taken (sand bags, etc.) to prevent floating the pipe. When using flowable fill, all joining pipe 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 film of 24" or greater over the structure or pipe.

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P.G. ASSOCIATES, INC.
 CIVIL ENGINEERS * SURVEYORS * LAND PLANNERS
 354-B HUNGERFORD DRIVE
 ROCKVILLE, MARYLAND 20850
 PHONE (301) 309-1361

OWNER/DEVELOPER
D.P. CONTRACTING, INC.
 20 CONCHESTER ROAD
 GLEN MILLS, PA 19342-1506
 (610) 361-9337

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.

Paul F. Budaw 7/25/00
 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.

Shawn Packard 3/19/00
 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.

Jim Anagnostis 4/10/01
 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.

Jeffrey W. Seale 4/10/01
 HOWARD SOIL CONSERVATION DISTRICT DATE

OWNER/DEVELOPER
 CONCRETE WATER MANAGEMENT OFFICE FOR PROJECT USE
STORMWATER MANAGEMENT DETAILS
 PARCEL # 4760033000
MAIER INDUSTRIAL PARK
 TAX MAP 4760033000
 PLAN NUMBER 8439
 6th ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

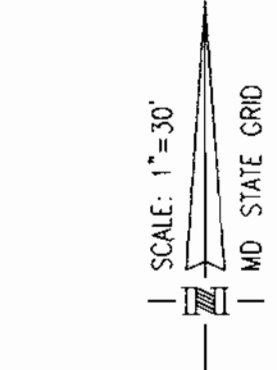
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

David R. Ruter 4/24/01
 DIRECTOR DATE

Conrad Hamilton 4/24/01
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

SCALE 1" = 30'
 DRAWN SE
 CHECKED DATE
 DP FEB 2000
 ACAD FILE NAME
 JOB NO.
 SHEET 6 of 7

SOP-00-120



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

PLANT MATERIAL LIST

SYMBOL	KEY	QTY	BOTANICAL + COMMON NAME	SIZE	ROOT	REMARKS
SHADE TREES						
UP	4	4	ULMUS PARVIFOLIA 'ALICE'	2 1/2" - 3" CAL.	B & B	FULL CROWN CENTRAL LEADER
ZS	3	3	ZELLOVA SERRATA 'GREEN VASE'	2 1/2" - 3" CAL.	B & B	FULL CROWN CENTRAL LEADER
SHRUBS						
EA	16	16	EUONYMUS ALATUS 'COMPACTUS'	30" - 36" HT.	B & B	FULL
TM	20	20	TRILLIS X MEDIA 'DENSIFORMIS'	30" - 36" HT.	B & B	FULL

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

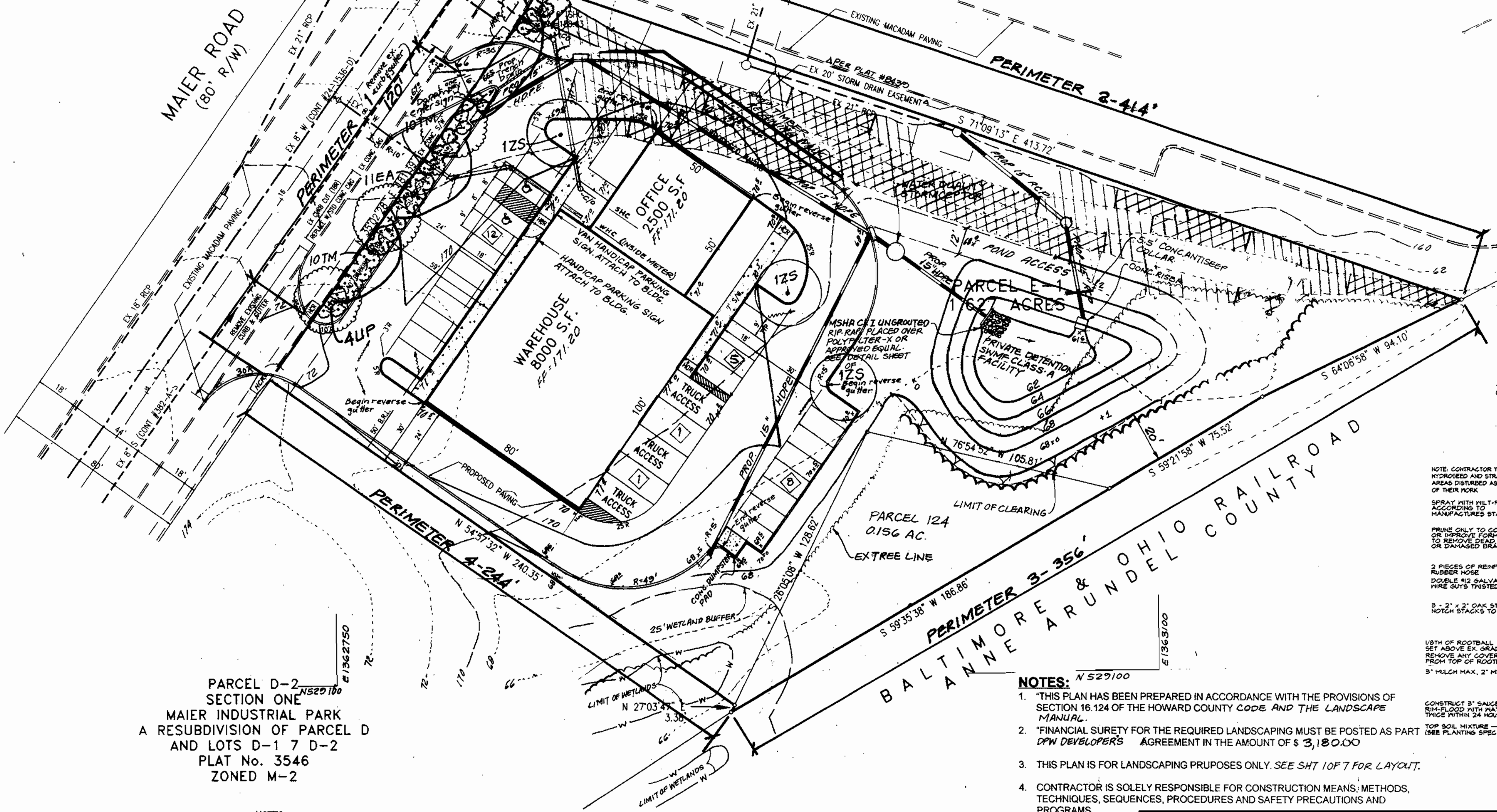
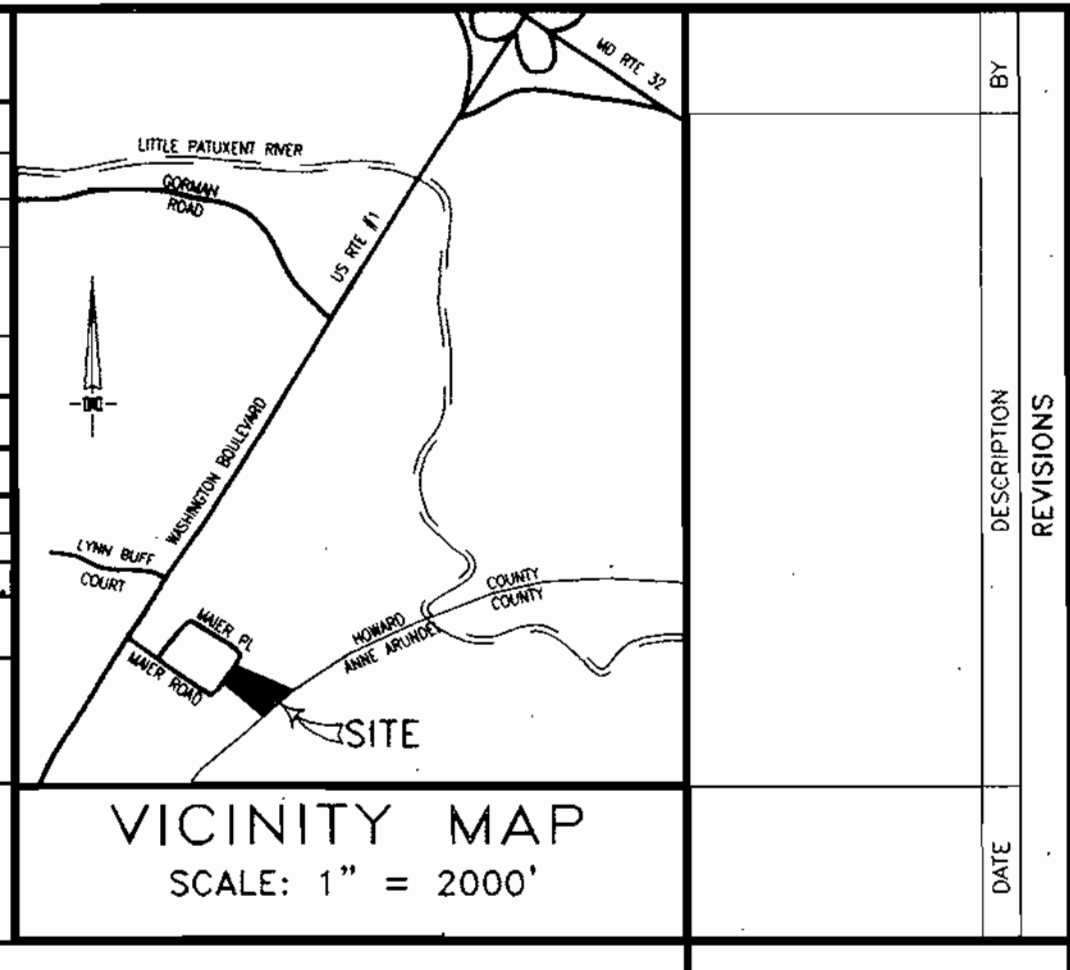
SCHEDULE B - PARKING LOT INTERNAL LANDSCAPING

ITEM	QTY	REMARKS
NUMBER OF PARKING SPACES	27	N/A
NUMBER OF SHADE TREES/ISLANDS *REQD. (1/20 SPACES)	2	
NUMBER OF TREES PROVIDED SHADE TREES	3	
NUMBER OF ISLANDS PROVIDED	3	
* 200 SF PLANTING AREA/ISLAND		

SCHEDULE A - PERIMETER LANDSCAPE EDGE

PERIMETER	2	3	4	5
LANDSCAPE TYPE	NONE	NONE	NONE	NONE
LINEAR FEET OF ROADWAY FRONTAGE PERIMETER	414'	356'	244'	145'
NUMBER OF PLANTS REQUIRED				
SHADE TREES				4
EVERGREEN TREES				36
SHRUBS				
NUMBER OF PLANTS PROVIDED				
SHADE TREES				4
EVERGREEN TREES				36
SMALL FLOWERING TREES				
SHRUBS				

* NO REQUIREMENT FOR SAME DEVELOPMENT PARCEL BORDER



PARCEL D-2
SECTION ONE
MAIER INDUSTRIAL PARK
A RESUBDIVISION OF PARCEL D
AND LOTS D-1 7 D-2
PLAT No. 3546
ZONED M-2

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

LEGEND

EX-TREE LINE

SLOPES - 15-24.9%

SLOPES - 25% AND GREATER

REVERSE SLOPE CURB & GUTTER

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

- ROUTINE MAINTENANCE**
- Facility shall be inspected annually and after major storms. Inspections should be performed during wet weather to determine if the pond is functioning properly.
 - 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.
 - Debris and litter next to the outlet structure shall be removed during regular mowing operations and as needed.
 - 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**
- Structural components of the pond such as the dam, the riser, and the pipes shall be repaired upon the detection of any damage. The components should be inspected during routine maintenance operations.
 - 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.

- NOTES:**
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.
 - FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING MUST BE POSTED AS PART OF DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$ 3,180.00
 - THIS PLAN IS FOR LANDSCAPING PURPOSES ONLY. SEE SH-1017 FOR LAYOUT.
 - CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES AND SAFETY PRECAUTIONS AND PROGRAMS.

SUBDIVISION NAME	SECT./AREA	PARCEL
MAIER INDUSTRIAL PARK	SECTION ONE	E-1
PLAT # 8430	BLOCK # 23	ZONE M-2
TAX MAP # ELBC DIST. 47	CENSUS TRACT 60202	
WATER CODE 7000000	SEWER CODE C01	

ADDRESS CHART

LOT NUMBER	STREET ADDRESS
E-1	#3030 MAIER ROAD

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.

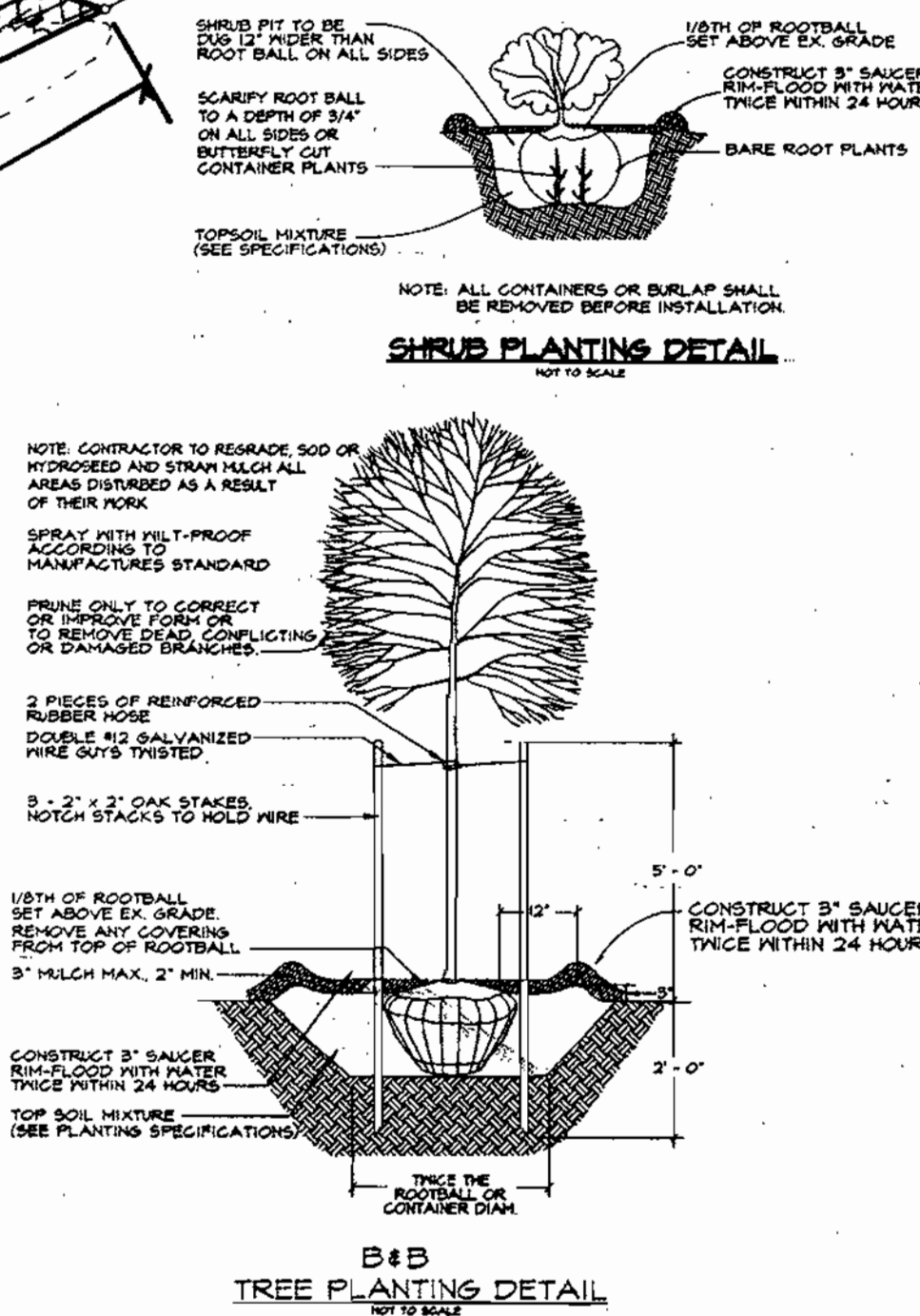
NAME: Paul J. Bush DATE: 7/25/00

SITE TABULATION

TOTAL AREA: 1.627 ACRES OR 70,872 SF
CURRENT ZONING: M-2
PROPOSED USE: WAREHOUSE/OFFICE
BUILDING COVERAGE: 10,500 S.F.
REQUIRED PARKING: 2.5 SPACES PER 1000 S.F.
27 SPACES
PROPOSED PARKING: 27 SPACES (2 HANDICAP)
PAVED AREA: 35,405 S.F. (50.0% OF SITE)
BUILDING -
OFFICE - 1 STORY, 2500 SF
WAREHOUSE - 1 STORY, 8000 SF

OWNER/DEVELOPER

DDP CONTRACTING, INC.
20 CONCHESTER ROAD
GLEN MILLS, PA 19342-1506
(610) 361-9337



- GENERAL NOTES**
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE.
 - THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/ BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
 - THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
 - ALL PLAN DIMENSIONS ARE TO FACE OF CURB UNLESS NOTED OTHERWISE.
 - THE EXISTING TOPOGRAPHY IS TAKEN FROM FIELD RUN TOPO SURVEY PREPARED BY WITMER ASSOCIATES, L.L.C. DATED FEBRUARY 2000.
 - EXISTING PUBLIC WATER: CONTRACT #24-1536-D
 - EXISTING PUBLIC SEWER: CONTRACT #382-A-S
 - DRAINAGE AREA: LITTLE PATUXENT RIVER
 - 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.
 - A 100 YEAR FLOODPLAIN STUDY IS NOT REQUIRED FOR THIS SITE.
 - THERE ARE NO WETLANDS ON THIS SITE.
 - PROPERTY ZONED M-2 PER 10-18-93 COMPREHENSIVE ZONING PLAN.
 - THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES AT LEAST FIVE (5) DAYS BEFORE STARTING THE WORK ON THIS SITE.
 - THE CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.
 - ALL FILL AREAS WITHIN ROADWAY AND UNDER STRUCTURES TO BE COMPACTED TO A MINIMUM OF 95% COMPACTION OF AASHTO T180.
 - 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.
 - DUE TO LESS THAN 100 VEHICLES PER PEAK HOUR GENERATED, A TRAFFIC STUDY FOR THIS PROJECT IS NOT REQUIRED.
 - A NOISE STUDY FOR THIS PROJECT IS NOT REQUIRED.
 - STORMWATER QUALITY AND QUANTITY MANAGEMENT IS PROVIDED ON SITE.
 - FOREST CONSERVATION- THIS SITE IS EXEMPT FROM THE FOREST CONSERVATION REGULATIONS, DUE TO THIS SITE ONLY CONTAINS 0.35 AC. OF EXISTING FOREST AND A DECLARATION OF INTENT SHALL BE FILED WITH THIS APPLICATION FOR A SINGLE LOT CLEARING LESS THAN 40,000 S.F. OF EXISTING FOREST. (18,000 sq. ft. max)

SHEET INDEX

SHEET NO.	TITLE
1	TITLE SHEET - SITE DEVELOPMENT PLAN
2	SEDIMENT CONTROL, SOILS MAP AND DRAINAGE AREAS
3	PROFILE AND DETAIL SHEET
4	DETAILS AND NOTES
5	SWM DETAILS AND NOTES
6	SWM DETAILS AND NOTES
7	LANDSCAPE PLAN

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

DATE: 4/26/01

DATE: 4/22/01

P.G. ASSOCIATES, INC.
CIVIL ENGINEERS * SURVEYORS * LAND PLANNERS
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ROCKVILLE, MARYLAND 20850
PHONE: (301) 309-1361

STATE OF MARYLAND
LANDSCAPE ARCHITECT

COMMERCIAL OFFICE/WAREHOUSE
LANDSCAPE PLAN
PARCEL E-1
MAIER INDUSTRIAL PARK
PLAT NUMBER 8430
6th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE: 1"=30'
DRAWN: SE
CHECKED: DP
DATE: FEB 2000
JOB NO.
DRAWING NO.: SHEET 7 of 7
SOP-00-120