

5. Backfill around the inlet in compacted 6" layers until the

top elevation on the sides.

FENCE SECTIONS

for Geotextile Class F:

Flow Rate

Tensile Strength

Filtering Efficiency 75% (min.)

folded and stapled to prevent sediment bypass

layer of earth is level with the notch elevation on the ends and

5. If the inlet is not in a sump, construct a compacted earth dike across the ditch line directly below it. The top of the earth dike should be at least 6" higher than the top of the frame. ?. The structure must be inspected periodically and after each rain and the geotextile replaced when it becomes clagged. MARYLAND DEPARTMENT OF ENVIRONMEN U.S. DEPARTMENT OF AGRICULTURE WATER MANAGEMENT ADMINISTRATION E - 16 - 5 DETAIL 22 - SILT FENCE S" MINIMUM LENGTH FENCE POST DRIVEN A MINIMUM OF 16" INTO GEOTEXTILE CLASS F 36" MINIMUM FENCE-POST LENGTH - FENCE POST SECTION MINIMUM 20" ABOVE GROUND EMBED GEOTEXTILE CLASS F - FENCE POST DRIVEN A A MINIMUM OF 8" VERTICALLY INTO THE GROUND THE GROUND CROSS SECTION STANDARD SYMBOL JOINING TWO ADJACENT SIL

Construction Specifications

1. Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be $11/2" \times 11/2"$ 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 stoples at top and mid-section and shall meet the following requirements

50 lbs/in (min.)

20 tbs/in (min.)

Where ends of geotextile fobric come together, they shall be overlapped.

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

Test: MSMT 509

Test: MSMT 509

Test: MSMT 322

MARYLAND DEPARTMENT OF ENVIRONMEN

0.3 gal ft / minute (max.) Test: MSMT 322

BERM (6" MIN.) EXISTING PAVEMENT - EARTH FILL ** GECTEXTILE CLASS 'C'------PIPE AS NECESSARY MINIMUM 6" OF 2"-3" AGGREGATE OVER LENGTH AND WIDTH OF STRUCTURE FXISTING GROUND PROF ILE _ # 50' MINIMUM-**BORNES** CE鐵 Length - minimum of 50' (#30' for single residence lot). 2. width - 10' minimum, should be flored at the existing road to provide a turning 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 1. 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 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 occording 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 PAGE MARYLAND DEPARTMENT OF ENVIRONMENT F - 17 - 3 . WATER MANAGEMENT ADMINISTRATION

DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE

STANDARD SEDIMENT CONTROL NOTES A HINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY

P - 17 - 3

- DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313-1855) ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT
- CONTROL AND REVISIONS THERETO. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3:1, B) 14 DAYS AS TO ALL OTHER DISTURBED
- OR GRADED AREAS ON THE PROJECT SITE. 4) ALL SEDIMENT TRAPS/BASING SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THE PERIMETER IN ACCORDANCE HITH VOL. 1, CHAPTER 1, OF THE HOMARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING, SOD, TEMPORARY SEEDING, AND MULCHING (SEC. 6.). TEMPORARY STABILIZATION WITH MULCH ALONE SHALL ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER SERMINATION 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.

SITE ANALYSIS:

TOTAL AREA OF SITE aréa disturbed AREA TO BE ROOFED OR PAVED AREA TO BE VEGETATIVELY STABILIZED TOTAL CUT TOTAL FILL

SOIL CONSERVATION SERVICE

1.78 KRES 752 ACRES 0.92 KRES 2000 CU. YARDS

- BE ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF
- 4 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.
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE MORKING DAY, WHICHEVER IS SHORTER.
- 12 SITE GRADING HILL 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. idiscing or other acceptable means before seeding. If not previously

<u> Soll Amendments : Apply 600 lbs. per acre 10-10-10 fertillzer (14</u> (lbs. per 1000 sq.ft.).

Seeding: For periods March I thru April 30 and from August 15 thru November 15, seed with 2-1/2 bushels per acre of annual rue (3.2 lbs per 1000 sq.ft.). For the period May I thru August 14, seed with 3 1bs. per acre of meeping 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 iflat 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

Soil Amendments: In lieu of soil test recommendations, use one of the foillowing 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. ber acre 30-0-0 ureaform fertilizer (9 lbs. per 1000 sq.ft.).
- 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 soll.

: For the period March ! 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 3! Tall Fescue. For the period May 1 thru July 31, seed with 60 lbs. Kentucky 31 Tail 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.
- 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 ibs. 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 greas and make needed repairs. replacements and reseedings.

21.0 STANDARD AND SPECIFICATIONS FOR TOPSOIL <u>Pefinition</u>

Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation.

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.
- 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

- 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.
- 11. Topso!! Specifications So!! to be used as topso!! must meet the following:
- Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting fragments, gravel, sticks, roots, trash, or other materials larger than 📳 in diameter.
- Topsoil must be free of plants or plant parts such as bermuda grass, quackgrass, Johnsongrass, nutseage, poison lvy, 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 tiliage operations as described in the following procedures.
- For sites having disturbed areas under 5 acres:
 Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization Section 1 Vegetative Stabilization Methods and Materials.
- III. For sites having disturbed areas over 5 acres:
- 1. 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. Topsoll having soluble sait 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.
- 11. Place topsoil (if required) and apply soil amendments as specified in <u>20.0 Vegetative</u> <u>Stabilization</u> Section I Vegetative Stabilization Methods and Materials.
- 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. 11. Grades on the areas to be topsolled, which have been previously established, shall be
- maintained, aibeit 4" 8" higher in elevation. 111. 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 topsolling or other operations shall be corrected in order to prevent the formation of depressions or mater pockets.
- IV. Topsoil shall not be placed while the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively met 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:
- 1. Composted Studge 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 1b/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.

See plan
Pond at principal spillma USCS STRA PP AASHTO -TUM (tef) VISUAL DESCRIPTION DEPTH SPT Fill contains: multicolored 1 2.5 clayey sand, sandy clay, fat clay, fine to coarse gravel, roots, organic meterial, moist to wet contains concrete 4.5't to 5't 2+3+3 gray, red, and brown FAT CLAY, contains seems of clayey sand, moist to wet 4+7+11 8+12+16 8+11+12 Boring terminated at 20 feet WATER OBSERVATIONS: 1) PP = Pocket Penetrometer, s = sheared, d = disturbed, na = not applicable

2) Bulk sample obtained from 5: to 9: feet Before Auger Pulled: None After Augers Pulled: Hone, Caved 12.0' After 4 Days: 8.0', Caved 9.1'

RIPRAP TO BE EMBEDDED IN PROPOSED TRANSITION SECTION

SECTION A

CONSTRUCTION SPECIFICATIONS

BE COMPACTED TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING

2. THE ROCK OR GRAVEL SHALL CONFORM TO THE SPECIFIED GRADING LIMITS WHEN

3. GEOTEXTILE CLASS C OR BETTER SHALL BE PROTECTED FROM PUNCHING, CUTTING,

OR TEARING. ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE SHALL BE

OUT OF THE CHANNEL AND SCOUR ADJACENT TO THE STONE WILL OCCUR.

REPAIRED BY PLACING ANOTHER PIECE OF GEOTEXTILE FABRIC OVER THE DAMAGED

WHETHER FOR REPAIRS OR FOR JOINING TWO PIECES OF GEOTEXTILE FABRIC SHALL

INSTALLED RESPECTIVELY IN THE RIP-RAP OR FILTER.

THE REQUIRED LINES AND GRADES. ANY FILL REQUIRED IN THE SUBGRADE SHALL

1. THE SUBGRADE FOR THE FILTER, RIP-RAP, OR GABION SHALL BE PREPARED TO

UNDISTURBED MATERIAL.

BE A MINIMUM OF ONE FOOT.

PROTECTION DETAIL

TEST BORING LOG PROFESSIONAL CONSULTING CORPORATION

Boring Location:

Boring Contractor: Connelly and Associates

Drilling Method: 2%" Rollow Stem Augers

Boring No. : B-3 Ground Surface EL: 166.5

Date Completed : 4-13-00

TEST BORING LOG

Boring Location:

Boring Contractor: Connelly and Associates Drilling Method: 2%" Hollow Stem Augers

USCS STRA PP HC AASHTO -TUM (tsf) (X) VISUAL DESCRIPTION FILL, contains; brown, gray, and black clayey sand, silty sand, fat clay, gravel wood, organic material, moist to wet 1.0 1.5 0.5 PROBABLE FILL/ALLUVIAL, contains; gray clayey sand, red FAT CLAY, Moist 9+13+16 Boring terminated at 15 feet Encountered: 12.0'
Before Auger Pulled: 12.0'
After Augers Pulled: 9.2', Caved 11.0'
After 4 Days: 9.1', Caved 10.0' 1) PP = Pocket Penetrometer, s = sheared, d = disturbed, na = not applicable

2) Bulk sample obtained from 3: to 5: feet

Majer Industrial Park

orilling Equipment: CNE 450 on truck

Boring No. : B-4 Ground Surface EL: 167.5±

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 \Box

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OWNER/DEVELOPER

BY THE DEVELOPER:

ENGINE

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

	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
ı	DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.
ı	Paul Bucher 1/25/00 DEVELOPER DATE
ı	DEVELOPER DATE
•	

BY THE ENGINEER: CERTITY 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/SHF 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, 01

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CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

OF THE HOWARD SOIL CONSERVATION DISTRICT.

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	APPROVED: HOWARD COUNTY DEPARTMENT OF F
	SMALLER STONES AND SPALLS FILLING THE VOIDS BETWEEN THE LARGER STONES. RIP-RAP SHALL BE PLACED IN A MANNER TO PREVENT DAMANGE TO THE ELLIPS.	Land Rutts
	BLANKET OR GEOTEXTILE FABRIC. HAND PLACEMENT WILL BE REQUIRED TO THE EXTENT NECESSARY TO PREVENT DAMAGE TO THE PERMANENT WORKS.	DIRECTOR
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	CHIEF, DEVELOPMENT ENGINEERING DIVISION

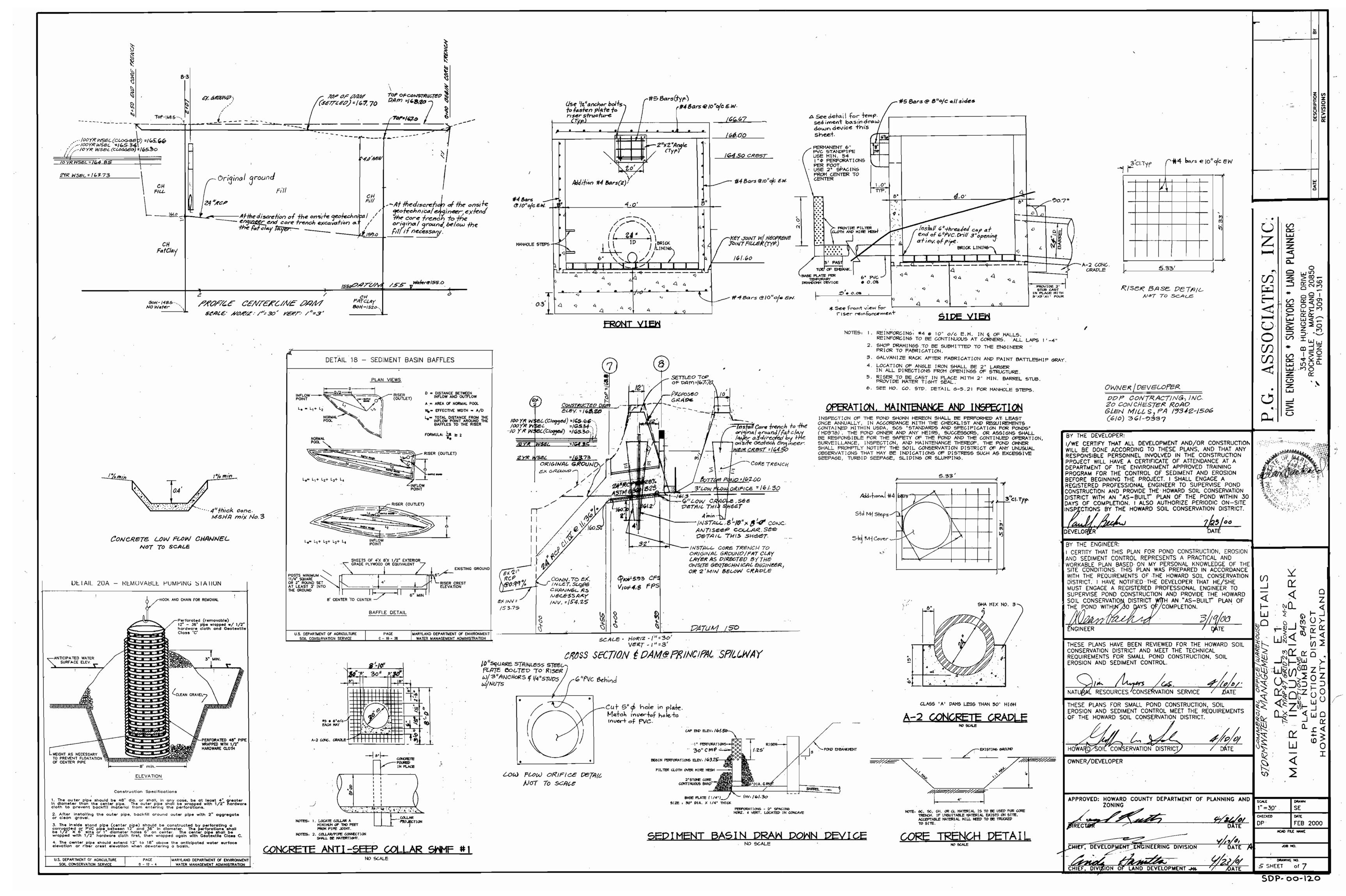
1/10/0/ DATE NATURAL RESOURCES CONSERVATION SERVICE HESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS SOIL CONSERVATION DISTRICT DWNER/DEVELOPER

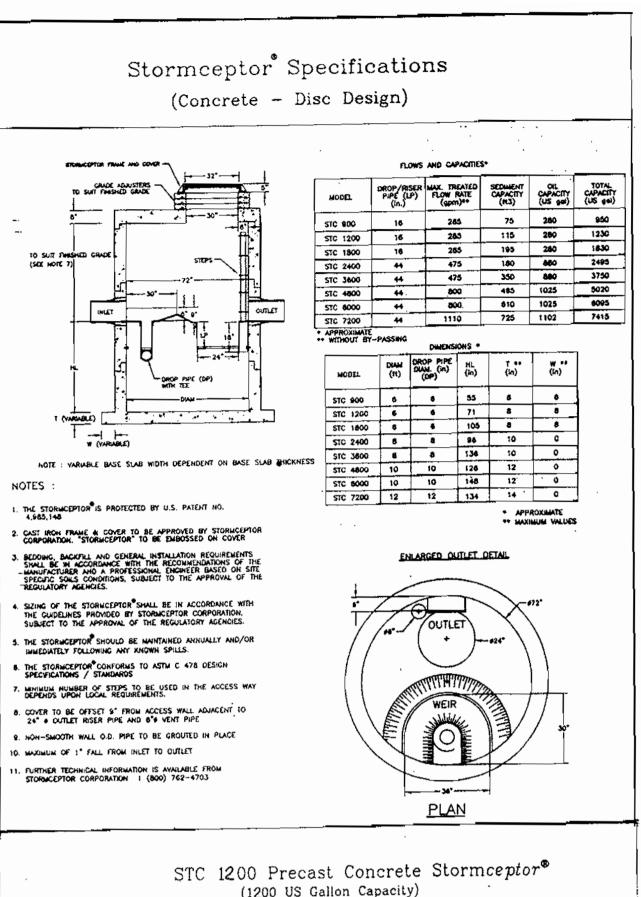
APPROVED:	HOWARD ZONING	COUNTY	DEPARTMENT	OF	PLANNING	AND
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DIRECTOR	<u> </u>				DA	TE .
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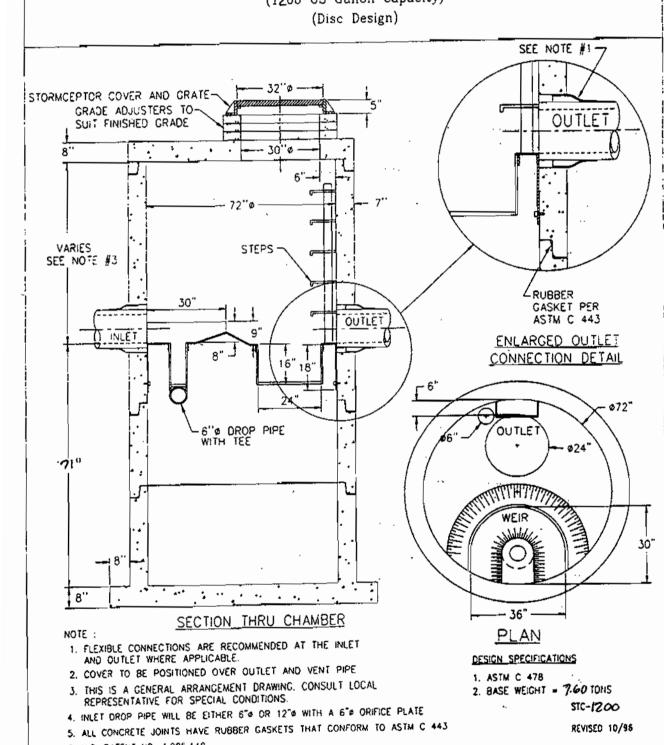
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5DP-00-120

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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 mater column sample. When sediment depths exceed the specified leve! (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.

1200 2400

Please draw orientation (angle) of inlet pipes (max 2 and outlet pipe (1) on diagram along with pipe inside Owner Information diameter (in.) and invert elevation (ft). Clearly mark DDP Consulting Inc inlet pipes with an I and outlet pipe with an O and (610) 361-9337 Phone provide the inlet/outlet pipe angle in degrees.

Contractor Information

Concrete Stormceptor® Order Request Form *

Manhole Number Finish Top Elevation (ft) Stormceptor Model Insert Size Top Slab Elevation (ft) 900 DISC Inlet Pipe Invert (ft) 3600 4800 22" Outlet Pipe Invert (ft) 区 32" Pipe Type: HOPE 6000 🔲 44" Pipe Inside Diam. (in) [ID] 7200 Custom Pipe Outside Diam. (in) [OD]

IMPERV. D. AREA = 0.50 Ac Project Name Majer Industrial Park Approximate time frame until required delivery (weeks) Delivery Address: Street' 9030 Maier Road State MD Designer Company PG Associates, Inc. Designer Contact Dean Packard Phone (301) 309-1361 Fax (301) 309-3757

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

TO BE INCLUDED ON DESIGN PLAN BY DESIGNER

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 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. EXCAYATION 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

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

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.

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:

- . AGGREGATE BASE 2. BASE SLAB
- TREATMENT CHAMBER SECTION(S) 4. TRANSITION SLAB (IF REQUIRED)
- 5.BY-PASS SECTION WITH INSERT 6. CONNECT INLET AND OUTLET PIPES
- 1. RISER SECTION AND/OR TRANSITION SLAB (IF REQUIRED) 6. 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 GAULKING 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 FIBRESLASS 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 SROUT 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 INSTALLATION OF THE FLEXIBLE BOOTS SHOULD FOLLOW THE MANUFACTURER'S RECOMMENDATIONS. AS PREVIOUSLY MENTIONED, THE BOOTS WILL ALREADY BE ATTACHED TO THE STORMCEPTOR AT

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

measured horizontally, to any part of a struc-

ture. Under no circumstances shall equipment

be driven over any part of a concrete structure

or pipe, unless there is a compacted fill of 24"

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 un-

confined compressive strength. The flowable

fill shall have a minimum pH of 4.0 and a

minimum resistivity of 2,000 ohm-cm. Mate-

rial 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. Ade-

quate measures shall be taken (sand bags,

coated. Any adjoining soil 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 voids adjacent to the flowable fill zone. 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

structure or pipe unless there is a compacted

filf of 24" or greater over the structure or

pipe. Backfill material outside the structural

backfill (flowable fill) zone shall be of the type

and quality conforming to that specified for

the core of the embankment or other em-

All pipes shall be circular in cross section.

Corrugated Metal Pipe - All of the following

Materials - (Polymer Coated steel pipe)

Steel pipes with polymeric coatings shall

have a minimum coating thickness of 0.01

inch (10 mil) on both sides of the pipe.

This pipe and its appurtenances shall

conform to the requirements of AASHTO

Specifications M-245 & M-246 with wa-

Materials - (Aluminum Coated Steel Pipe)

- This pipe and its appurtenances shall

conform to the requirements of AASHTO

Specification M-274 with watertight cou-

pling bands or flanges. Aluminum Coated

Steel Pipe, when used with flowable fill or

when soil and/or water conditions warrant

the need for increased durability, shall be

A. Any aluminum coating damaged or

otherwise removed shall be replaced with

cold applied bituminous coating com-

pound. Aluminum surfaces that are to be

in contact with concrete shall be painted

with one coat of zinc chromate primer or

Materials - (Aluminum Pipe) - This pipe

bands or flanges. Aluminum Pipe, when

used with flowable fill or when soil and/or

water conditions warrant for increased du-

rability, shall be fully bituminous coated

per requirements of AASHTO Specifica-

tion M-190 Type A. Aluminum surfaces

that are to be in contact with concrete

shall be painted with one coat of zinc

chromate primer or two coats of asphalt

connections. The pH of the surrounding

materials with use of rubber or plastic in-

sulating materials at least 24 mils in thick-

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 neo-

prene gasket when joining pipe sections.

commodate the bandwidth. The following

type connections are acceptable for pipes

inch wide by 3/8-inch thick closed cell cir-

cular neoprene gasket; and a 12-inch wide

hugger type band with o-ring gaskets having a minimum diameter of 1/2 inch

greater than the corrugation depth. Pipes

24 inches in diameter and larger shall be

connected by a 24 inch long annular cor-

3. Connections - All connections with pipes

soils shall be between 4 and 9.

and its appurtenances shall conform to the

two coats of asphalt.

tertight coupling bands or flanges.

criteria shall apply for corrugated metal pipe:

bankment materials.

Pipe Conduits

or greater over the structure or pipe.

CONSTRUCTION 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

Office Use Only

Internal Sale

168.50 163.50 162.89

15"

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. All trees shall be cleared and grubbed within 15 feet of the toe of the embankment.

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 25-foot radius around the inlet structure shall be cleared.

All cleared and grubbed material shall be dis-posed 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.

<u>Earth Fill</u>

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 materials. Fill material for the center of the embankment, and cut off trench shall conform to Unified Soil Classification GC, SC, CH, or CL and must have at least 30% passing the #200 sieve. Consideration may be given to the use of other materials in the embankment if designed by a geotechnical engineer. Such special designs must have construction supervised by a geotechnical engineer.

Materials used in the outer shell of the embankment must have the capability to support vegetation of the quality required to prevent erosion of the embankment.

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

<u>Compaction</u> - 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 heavy equipment or compaction shall be achieved by a minimum of four complete passes of a sheepsfoot, rubber tired or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction 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.

When required by the reviewing agency the minimum required density 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 (Standard Proctor).

Cut Off 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 I to I or flatter. The backfill shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability.

Embankment Core - The core shall be parallel to the centerline of the embankment as shown on the plans. The top width of the core shall be a minimum of four feet. The height shall extend up to at least the 10 year water elevation or as shown on the plans. The side slopes shall be 1 to 1 or flatter. The core shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability. In addition, the core shall be placed concurrently with the outer shell of the embankment.

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.

rugated band using a minimum of 4 (four) rods and lugs, 2 on each connecting pipe end. A 24-inch wide by 3/8-inch thick closed cell circular neoprene gasket will be installed with 12 inches on the end of each pipe. Flanged joints with 3/8 inch closed cell gaskets the full width of the

Helically corrugated pipe shall have either continuously welded seams or have lock seams with internal caulking or a neoprene

also acceptable.

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.

Backfilling shall conform to "Structure Backfill".

etc.) to prevent floating the pipe. When using flowable fill, all metal pipe shall be bituminous 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 con-

Materials - Reinforced concrete pipe shall have bell and spigot joints with rubber gaskets and shalf equal or exceed ASTM

Bedding - Reinforced concrete pipe conduits shall be laid in a concrete bedding / cradle for their entire length. This bedding / cradle shall consist of high slump concrete placed under the pipe and up the sides of the pipe at least 50% of its outside diameter with a minimum thickness of 6 inches. Where a concrete cradle is not needed for structural reasons, flowable fill may be used as described in the "Structure Backfill' section of this standard. Gravel bedding is not permitted.

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 4 feet from the riser.

Backfilling shall conform to "Structure Backfill"

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

fully bituminous coated per requirements Plastic Pipe - The following criteria shall apof AASHTO Specification M-190 Type ply for plastic pipe:

Materials - PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241. Corrugated High Density Polyethylene (HDPE) pipe, couplings and fittings shall conform to the following: 4" - 10" inch pipe shall meet the requirements of AASHTO M252 Type S, and 12" through 24" inch shall meet the requirements of AASHTO M294 Type S.

requirements of AASHTO Specification Joints and connections to anti-seep collars M-196 or M-211 with watertight coupling shall be completely watertight.

- 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.
- Hot dip galvanized bolts may be used for 4. Backfilling shall conform to "Structure
- 2. Coupling bands, anti-seep collars, end etc.) shall be as shown on the drawings. sections, etc., must be composed of the same material and coatings as the pipe. Drainage Diaphragms - When a drainage Metals must be insulated from dissimilar

liaphragm is used, a registered professional engineer will supervise the design and construction inspection.

5. Other details (anti-seep collars, valves,

Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials. Section 414, Mix No. 3.

Rock Riprap

Rock riprap shall meet the requirements of Maryland Department of Transportation, The end of each pipe shall be re-rolled an State Highway Administration Standard Specifications for Construction and Materials, adequate number of corrugations to ac-Section 311.

less than 24 inches in diameter: flanges on Geotextile shall be placed under all riprap and both ends of the pipe with a circular 3/8 shall meet the requirements of Maryland Department of Transportation, State Highway inch closed cell neoprene gasket, pre-Administration Standard Specifications for punched to the flange bolt circle, sandwiched between adjacent flanges; a 12- Construction and Materials, Section 921.09, inch wide standard lap type band with 12- Class C.

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 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 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 sumps from which the water shall be pumped.

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 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.

OWNER/DEVELOPER

BY THE DEVELOPER:

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

/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION ROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION

PLANNERS

LAND

SURVEYORS

ENGINEERS

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"=30"

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. DATE BY THE ENGINEER: CERTITY THAT, THIS PLAN FOR POND CONSTRUCTION, EROSION

BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A

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 ENGACE 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.

ENGINEER 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 / / 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

OWNER/DEVELOPER

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

SION OF LAND DEVELOPMENT AND DATE

HIEF, DEVELOPMENT ENGINEERING DIVISION

SHEET 6 of 7

JOB NO.

AÇAD FILE NAME

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