

TEMPORARY SEDIMENT BASIN #1

MODIFICATIONS REQUIRED FOR CONVERSION TO SWM

REMOVE ANY SEDIMENT LADEN WATER WITHIN THE BASIN.

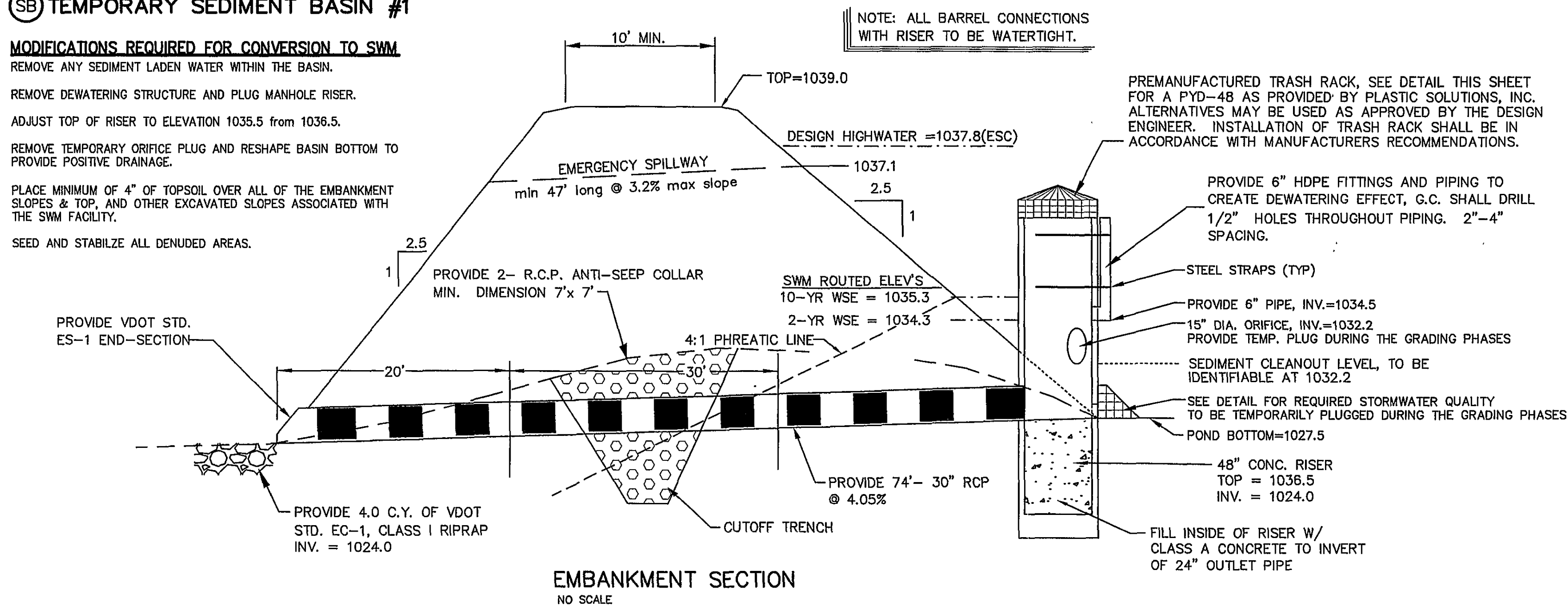
REMOVE DEWATERING STRUCTURE AND PLUG MANHOLE RISER.

ADJUST TOP OF RISER TO ELEVATION 1035.5 FROM 1036.5.

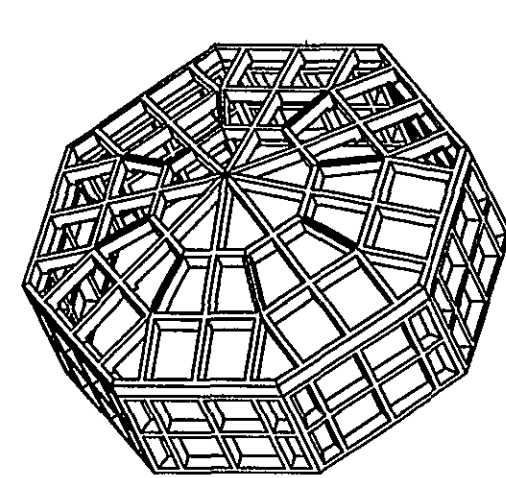
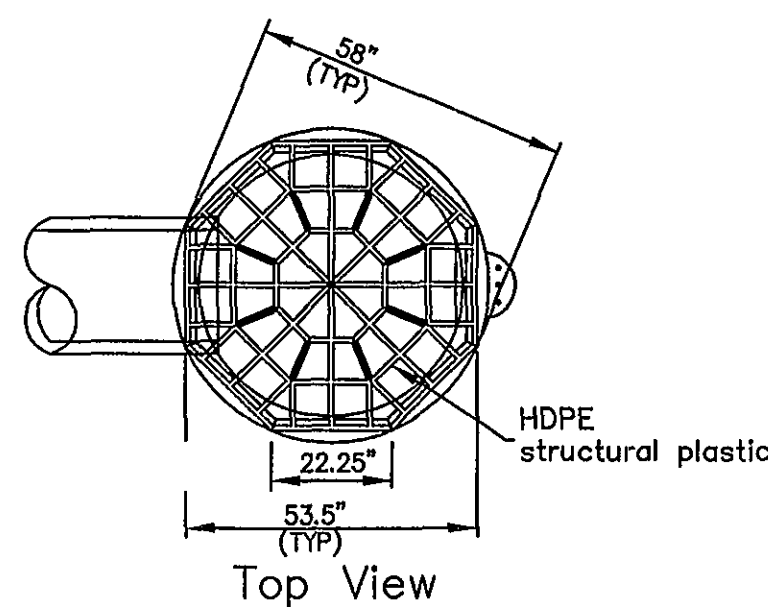
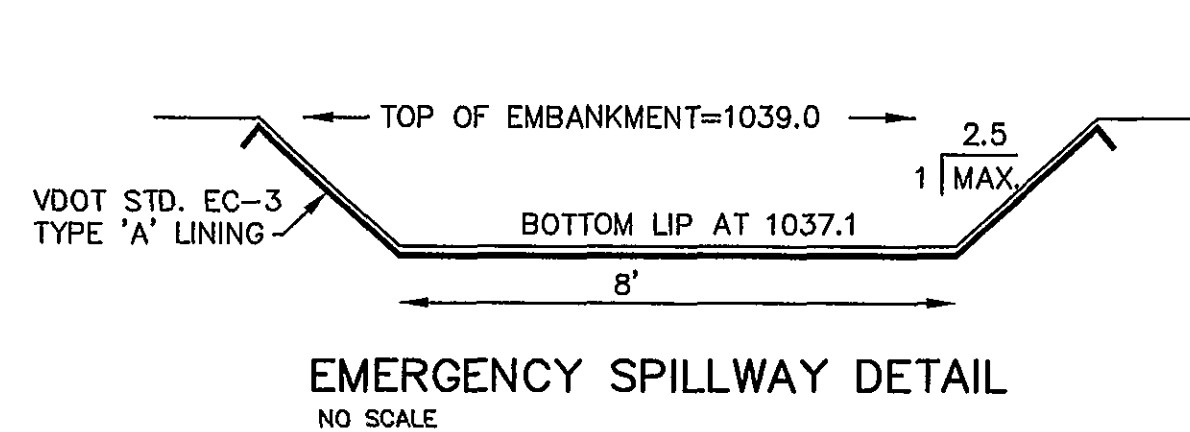
REMOVE TEMPORARY ORIFICE PLUG AND RESHAPE BASIN BOTTOM TO PROVIDE POSITIVE DRAINAGE.

PLACE MINIMUM OF 4" OF TOPSOIL OVER ALL OF THE EMBANKMENT SLOPES & TOP, AND OTHER EXCAVATED SLOPES ASSOCIATED WITH THE SWM FACILITY.

SEED AND STABILIZE ALL DENUDE AREAS.



EMBAKMENT SECTION
NO SCALE



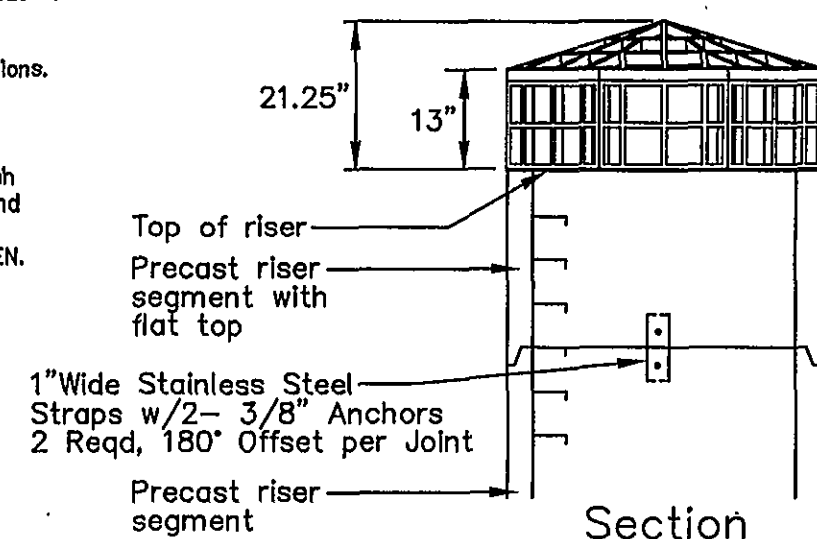
Trash Rack Assembly

- INSTALLATION NOTES:
ALL PLASTIC SOLUTIONS TRASH RACKS ARE SUPPLIED PRE-DRILLED & INCLUDE WITH CONCRETE ANCHOR BOLTS.
1. Lift trash rack onto concrete structure
 2. Center the trash rack on structure and mark all mounting hole locations.
 3. Remove trash rack from concrete structure.
 4. Drill mounting holes using a 3/8" diameter masonry drill bit
 5. Install 3/8"x3" supplied anchor bolts
 6. Lift trash rack over anchor bolts-insure trash rack is completely flush against concrete mounting surface and then secure using flat washers and nuts (supplied)
 7. Insure all anchor bolt nuts are tight and secure. DO NOT OVERTIGHTEN.



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PART NO: PYD-48



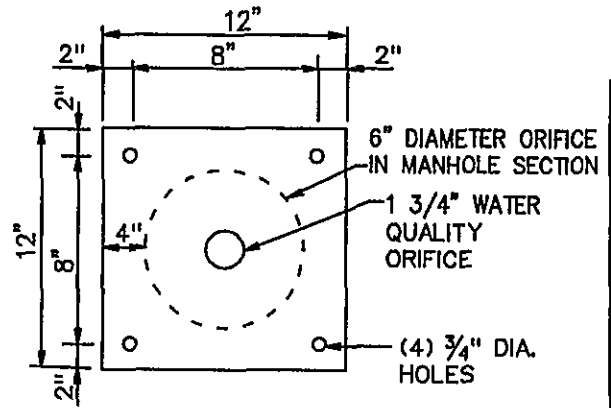
Section

NOTES:

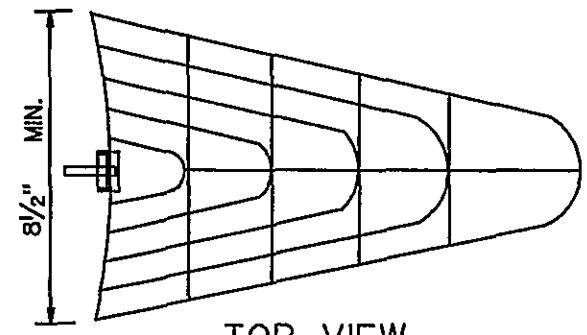
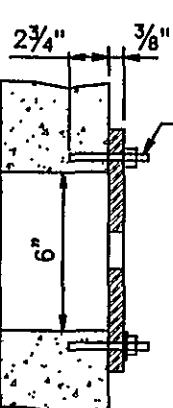
TO PROVIDE THE REQUIRED WATER QUALITY ORIFICE, ALL STORMWATER MANAGEMENT (SWM) BASINS SHALL BE CONSTRUCTED WITH THE FOLLOWING:

1. FOR SWM DRAINAGE STRUCTURES, SWM DAMS OR SWM RISER PIPES OF CONCRETE, AN OPENING SHALL BE PROVIDED IN THE CONCRETE WALL: 12" MAX. OR 6" MIN. AND SHALL BE COVERED WITH THE 3/8" METAL PLATE.
2. DEBRIS RACK SHALL BE ATTACHED TO SWM DRAINAGE STRUCTURE, SWM DAM OR SWM RISER PIPE TO COVER WATER QUALITY ORIFICE.

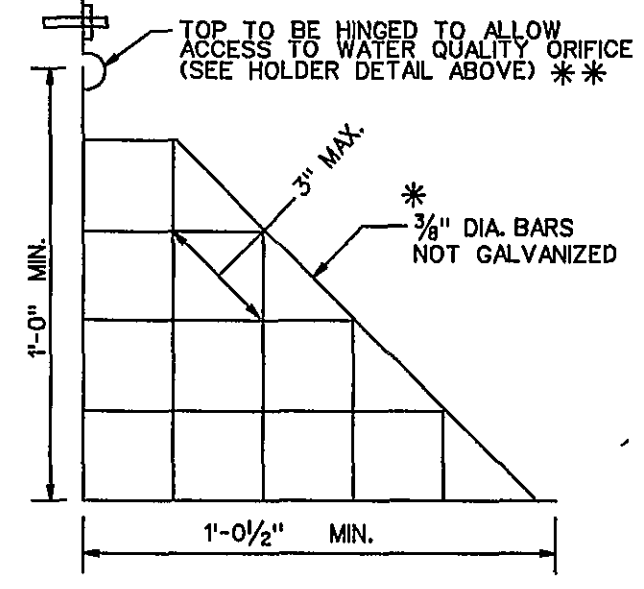
METAL PLATE MUST BE CURVED TO FIT CIRCULAR UNITS WHERE APPLICABLE.



METAL PLATE DETAIL
(GALVANIZED)



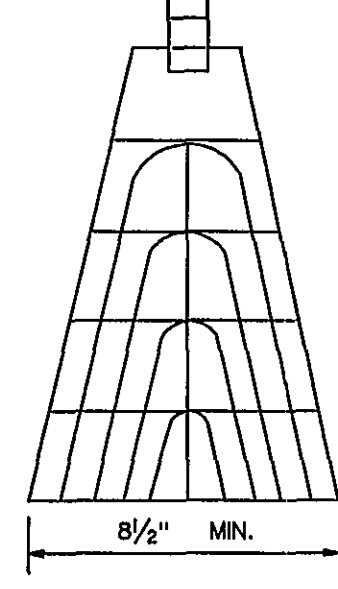
TOP VIEW



SIDE VIEW

PURPOSE OF THIS UNIT IS TO ALLOW DEBRIS TO FLOAT ABOVE DEBRIS RACK AND TO MINIMIZE CLOSING OF THE WATER QUALITY ORIFICE.

* UNIT TO BE CONSTRUCTED OF WELDED 3/8" DIA. BARS - NOT GALVANIZED. TO BE ATTACHED WITH HINGE AS SHOWN OR APPROVED BY THE ENGINEER. CONTRACTOR MAY SUBSTITUTE COMPARABLE DESIGN AS APPROVED BY THE ENGINEER. COST TO BE INCLUDED IN PRICE BID FOR SWM DAM OR SWM DRAINAGE STRUCTURE.

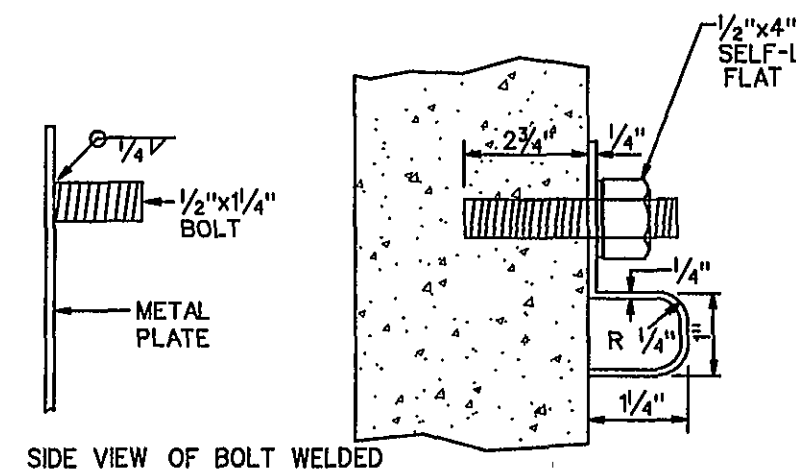


FRONT VIEW

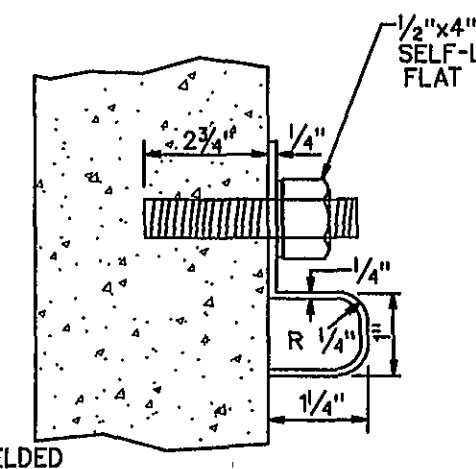
DETAIL FOR DEBRIS RACK
(FOR WATER QUALITY ORIFICE)

STORMWATER QUALITY DEVICE - VDOT STD. SWM-DR

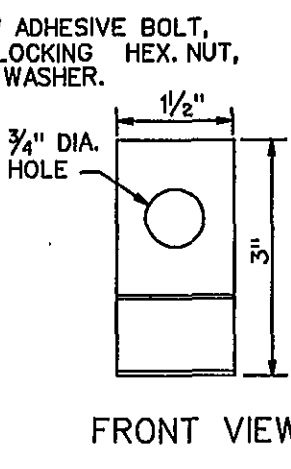
THE LOCATION OF THE DEBRIS RACK HOLDER MAY BE ADJUSTED FOR VARIABLE CONDITIONS. WHEN THE HOLDER BOLT IS LOCATED ON THE METAL PLATE THE 1/2" DIA. BOLT LENGTH IS TO BE SHORTENED TO 1/4" AND WELDED TO THE PLATE. DEBRIS RACK HOLDER AND ALL HARDWARE IS TO BE GALVANIZED.



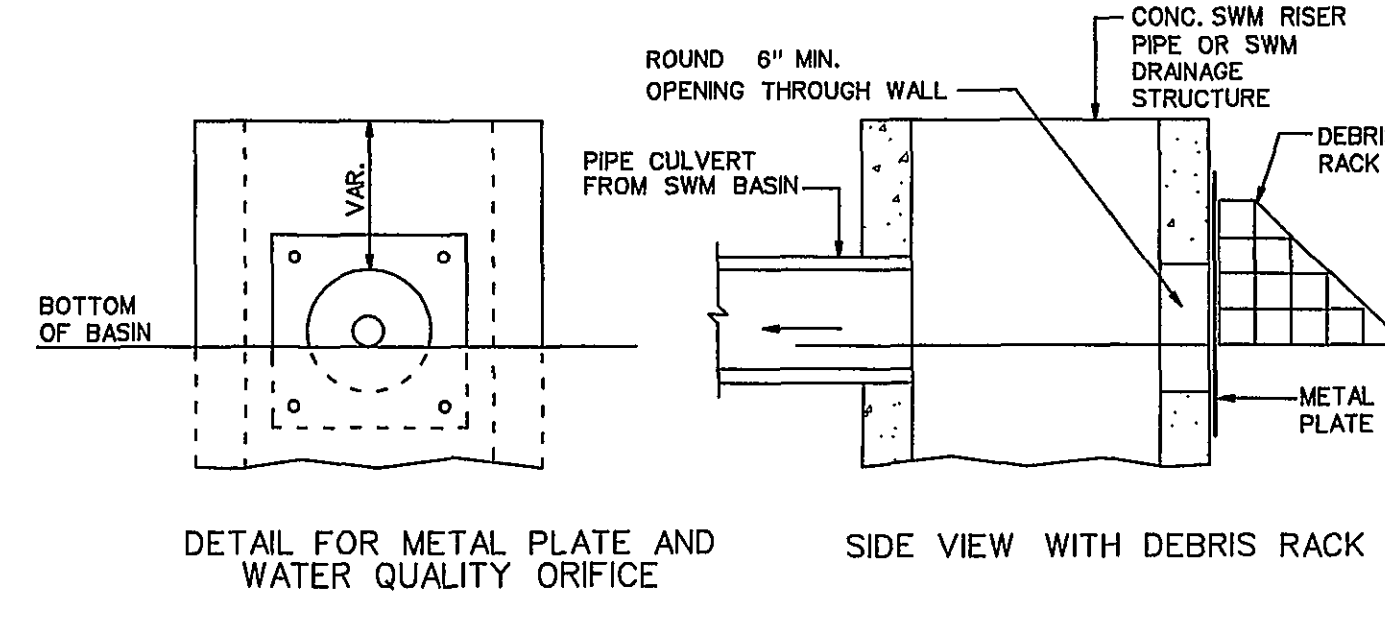
SIDE VIEW OF BOLT WELDED ON TO METAL PLATE



SIDE VIEW DEBRIS RACK HOLDER



FRONT VIEW



TYPICAL SWM DRAINAGE STRUCTURE

SITE PREPARATION:

Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped of topsoil. All trees, vegetation, roots and other objectionable material shall be removed. 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.

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

EARTH FILL:

Material - The fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, rubbish, stones greater than 6", frozen or other objectionable 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 and not excavated into the embankment.

Compaction - The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed by not less than one tread track of 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 the existing ground, along the toe of the upstream embankment as shown on the details. The bottom width of the trench shall be governed by the equipment used for excavation, with the minimum width being four feet. The depth shall be at least four feet below existing grade or as shown on the plans. The side slopes of the trench shall be 1 to 1 or flatter. The backfill shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability.

STRUCTURE BACKFILL:

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

PIPE CONDUITS:

All pipes shall be circular in cross section.

Plastic Pipe - The following criteria shall apply 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.

Joints and connections to anti-seep collars 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.

Backfilling shall conform to recommendations of the pipe manufacturer.

CONCRETE:

Concrete shall meet the requirements of your local Department of Transportation or State Highway Administration Standard Specifications for Construction and Materials.

ROCK RIPRAP:

Rock riprap shall meet the requirements of the local Department of Transportation or State Materials Testing Agency.

Geotextile shall be placed under all riprap and shall meet the requirements of the local Department of Transportation or State Materials Testing Agency.

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 surps from which the water shall be pumped.

STABILIZATION:

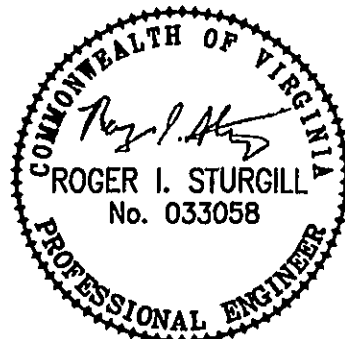
All borrow areas shall be graded to provide proper drainage and left in a slightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and berms shall be stabilized by seeding, liming, fertilizing and mulching in accordance with local Erosion and Sediment Regulations.

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. Refer to the construction plans for detailed erosion and sediment control measures.

MAINTENANCE:

A 4-inch layer of topsoil shall be placed on all disturbed areas of the dam embankment. Seeding, liming, fertilizing, mulching, etc. shall be in accordance with the standards and specifications noted on Sheet C-11. The purpose of the topsoil is to establish a good growth of grass, which is not always possible with some of the materials that may be placed for the embankment fill.



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MAPLE RIDGE
EROSION & SEDIMENT CONTROL DETAILS
ROANOKE CITY, VIRGINIA

DRAWN BY: JVV

DESIGNED BY: JVV

CHECKED BY: SMH

DATE: 09/29/2006

REVISIONS:

- 1st - 02/26/2007 per City Review
- 2nd - 04/20/2007 per City Review
- 3rd - 05/15/2007 per City Review
- 4th - 08/28/2007 Owner Revisions
- 5th - 09/20/2007 per City Review

SHEET NO.

C-12

JOB NO.

R0400131.03

THE FOLLOWING ARE REPRESENTATIVE DETAILS FOR THE STATE MINIMUM STANDARDS AND SPECIFICATIONS RELATIVE TO THE PROPOSED PROJECT. THE GENERAL CONTRACTOR SHALL RELY ON THE COMPLETE STANDARD AS INDICATED IN THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK FOR PROPER INSTALLATION, CONSTRUCTION AND MAINTENANCE OF THE INDIVIDUAL ITEMS REQUIRED BY THESE PLANS OR AS MAY BE REQUIRED BY THE LOCAL GOVERNING AUTHORITY.