

**Construction Specifications**

**1. Site Preparation:** Perimeter sediment control devices must be installed prior to clearing and grubbing. Areas where the embankment is to be placed shall be cleared, grubbed, and stripped of topsoil to remove trees, vegetation, roots or other objectionable material. The pool area shall not be cleared until completion of the dam embankment unless the pool area is to be used for borrow. In order to facilitate clean-out and restoration, the pool area (measured at the top of the pipe spillway) shall be cleared of all brush, trees, and other objectionable materials.

**2. Cut-off Trench:** A cut-off trench shall be excavated along the centerline of earth fill embankments. The minimum depth shall be four feet. The cut-off trench shall extend up both abutments to the riser crest elevation. The minimum bottom width shall be two feet, but wide enough to permit operation of excavation and compaction equipment. The side slopes shall be no steeper than 1:1. Compaction requirements shall be the same as those for the embankment. The trench shall be dewatered during the backfilling-compaction operations. For dewatering see Section D.

**3. Embankment:** The fill material shall be taken from approved areas shown on the plans. It shall be clean mineral soil free of roots, woody vegetation, oversized stones, rocks, or other objectionable material. Relatively pervious materials such as sand or gravel (Unified Soil Classes GW, GP, SW & SP) or organic materials (Unified Soil Classes OL and OH) shall not be placed in the embankment. Areas on which fill is to be placed shall be scarified prior to placement of fill. The fill material shall contain sufficient moisture so that it can be formed by hand into a ball without crumbling. If water can be squeezed out of the ball, it is too wet for proper compaction. Fill material shall be placed in six-inch to eight-inch thick continuous lifts over the entire length of the fill. Compaction shall be obtained by routing and hauling the construction equipment over the fill so that the entire surface of each layer of the fill is traversed by at least one wheel or tread track of the equipment or by the use of a compactor. The embankment shall be constructed to an elevation 10 percent higher than the design height to allow for settlement.

**4. Principal Spillway:** Steel risers shall be securely attached to the barrel or barrel stub by welding the full circumference making a watertight structural connection. Concrete risers shall be poured with the full circumference in place or precast with voids around the principal spillway filled with concrete or shrink proof grout for watertight connection. The barrel stub must be attached to the riser at the same percent (angle) of grade as the outlet conduit. The connection between the riser and the riser base shall be watertight. All connections between barrel sections must be achieved by approved watertight hand assemblies. The barrel and riser shall be placed on a firm, smooth foundation of impervious soil as the embankment is constructed. Breaching the embankment to install the barrel is unacceptable. Pervious materials such as sand, gravel, or crushed stone shall not be used as backfill around the pipe or anti-seep collars. The fill material around the pipe spillway shall be placed in four inch lifts and hand compacted under and around the pipe to at least the same density as the adjacent embankment. A depth of 1.5 times the pipe diameter (min.) shall be backfilled over the principal spillway and hand compacted before crossing it with construction equipment.

**5. Emergency Spillway:** The emergency spillway shall be installed in undisturbed ground. The achievement of planned elevations, grades, design width, entrance and exit channel slopes are critical to the successful operation of the emergency spillway and must be constructed within a tolerance of ± 0.2 feet.

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**6. Vegetative Treatment:** Stabilize the embankment in accordance with the appropriate vegetative Standard and Specifications immediately following construction. In no case shall the embankment remain unstabilized for more than seven (7) days. Once constructed, the top and outside face of the embankment shall be stabilized with seed and mulch. The remainder of the interior slopes should be stabilized (one time) with seed and mulch upon basin completion and monitored and maintained erosion free during the life of the basin.

**7. Safety:** Local requirements concerning fencing and signs shall be met, warning the public of hazards of soft sediment and floodwater.

**8. Maintenance:** Repair all damage caused by soil erosion and construction equipment at or before the end of each working day. Sediment shall be removed from the basin when it reaches the specified distance below the top of the riser as shown on the riser. This sediment shall be placed in such a manner that it will not erode from the site. The sediment shall not be deposited downstream from the embankment, adjacent to a stream or floodplain. Disposal areas must be stabilized.

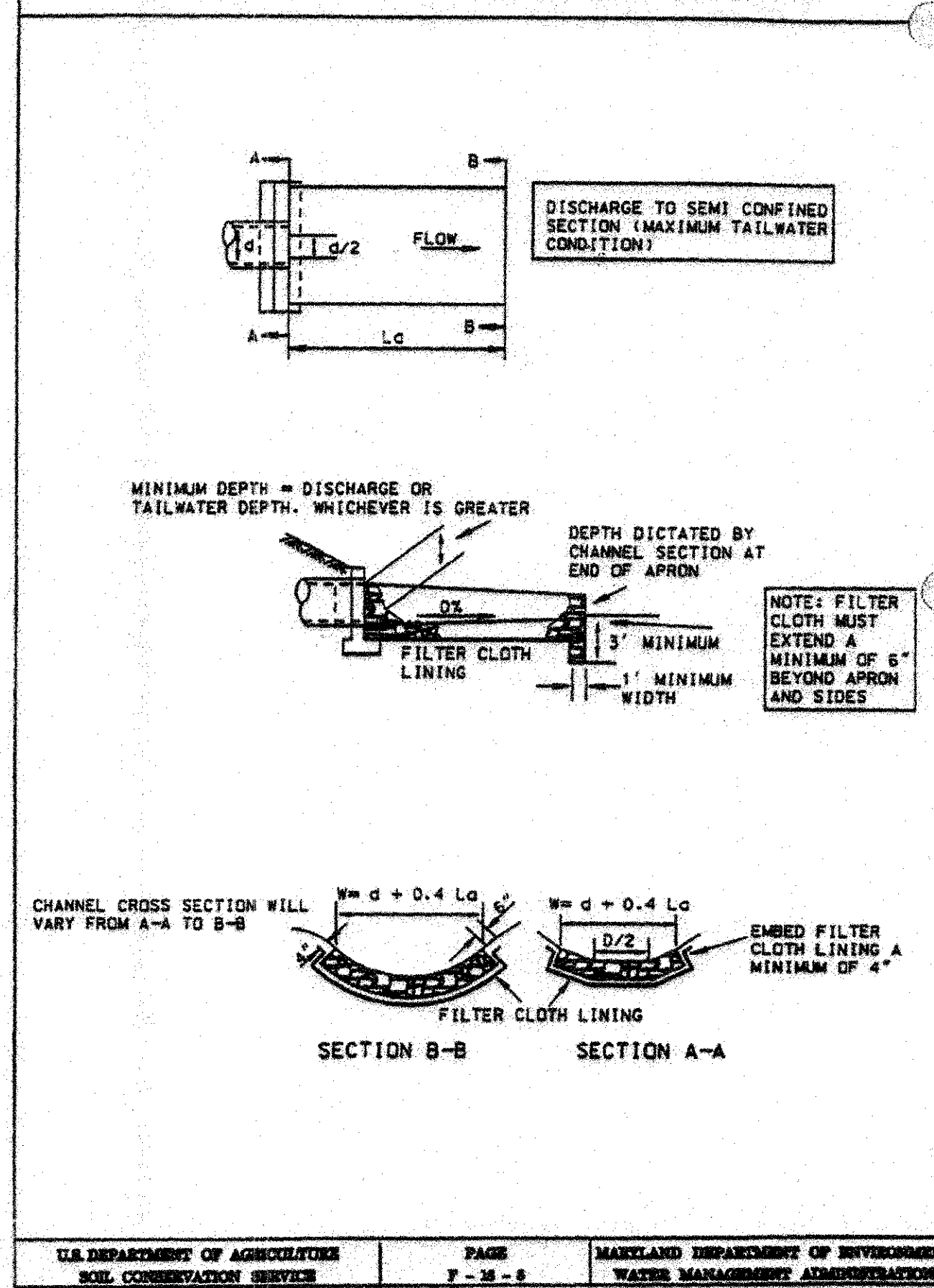
**9. Final Disposal:** When temporary structures have served their intended purpose and the contributing drainage area has been properly stabilized, the embankment and resulting sediment deposits are to be leveled or otherwise disposed of in accordance with the approved sediment control plan. The proposed use of a sediment basin site will often dictate final disposition of the basin and any sediment contained therein. If the site is scheduled for future construction, then the basin material and trapped sediments must be removed and safely disposed of and the basin shall be backfilled with a structural fill. When the basin area is to remain open space, the pond may be pumped dry (using methods in Section D - Dewatering), graded, and back filled.

**10. Conversion to Stormwater Management Structure:** After permanent stabilization of all disturbed contributory drainage areas, temporary sediment basins, if initially built and certified to meet permanent standards, may be converted to permanent stormwater management structures. To convert the basin from temporary to permanent use, the outlet structure must be modified in accordance with approved stormwater management design plans. Additional grading may also be necessary to provide the required storage volume in the basin. Conversion can only take place after all disturbed areas have been permanently stabilized to the satisfaction of the inspection authority and storm drains have been flushed.

BASIN STORAGE VOLUME:

ELEV. (FEET)	DEPTH (FEET)	WATER SURFACE AREA (SQ.FT.)	AVG. AREA (SQ.FT.)	INC. VOLUME (CU.FT.)	TOTAL VOLUME (CU.FT.)	TOTAL VOLUME (AC-FT.)
[A]	[B]	[C]	[D]	[B]X[D]	-	0.00000
250.00	2.00	2,143	2,708	5,416	-	0.00000
252.00	2.00	3,273	3,946	7,892	5,416	0.12433
254.00	2.00	4,619			13,308	0.30551

**DETAIL 25 - ROCK OUTLET PROTECTION I**



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**ROCK OUTLET PROTECTION I**

**Construction Specifications**

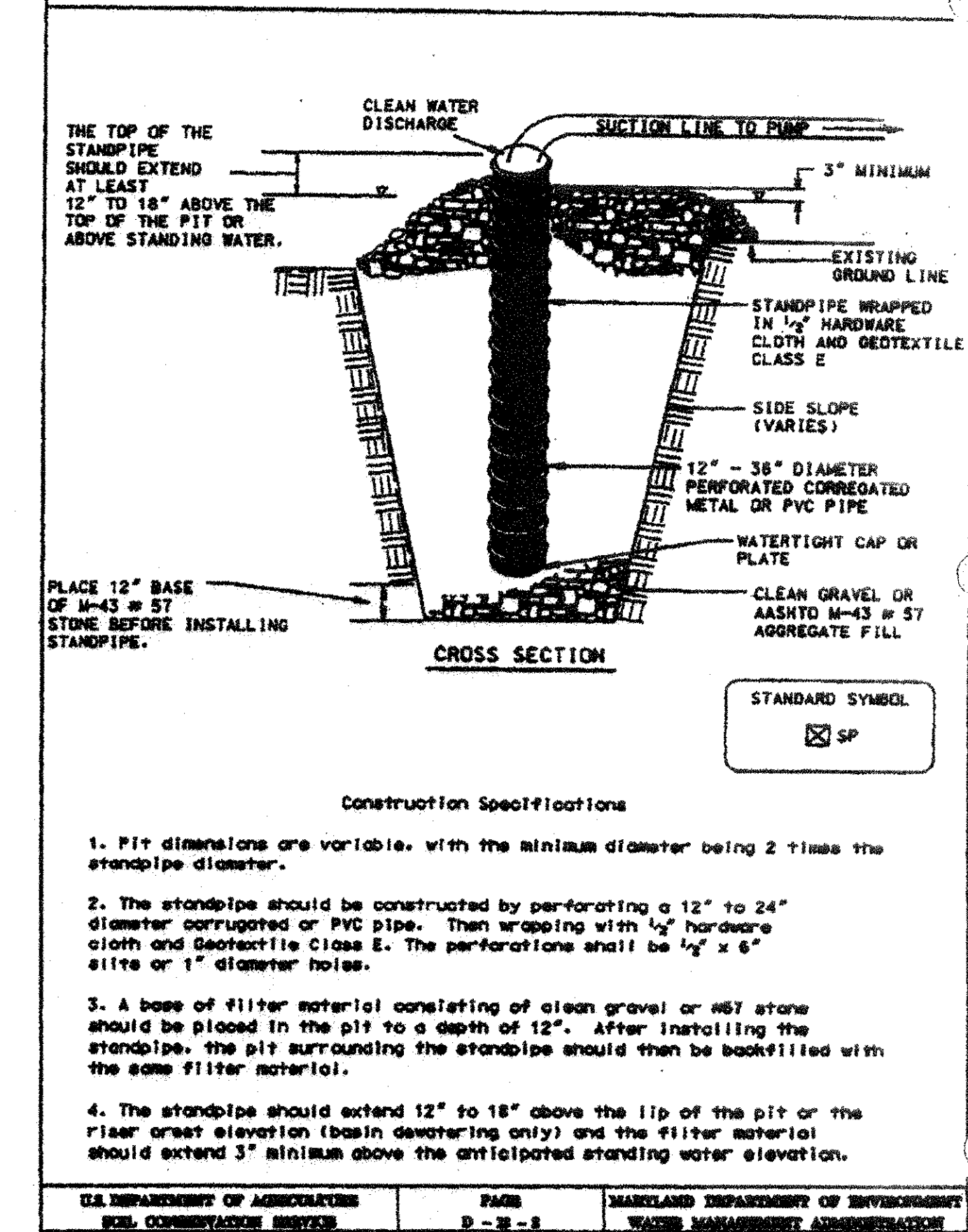
- The subgrade for the filter, rip-rap, or gabion shall be prepared to the required lines and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.
- The rock or gravel shall conform to the specified grading limits when installed respectively in the rip-rap or filter.
- Geotextile shall be protected from punching, cutting, or tearing. Any damage other than an occasional small hole shall be repaired by placing another piece of geotextile over the damaged part or by completely replacing the geotextile. All overlaps whether for repairs or for joining two pieces of geotextile shall be a minimum of one foot.
- 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 in such a manner as to avoid displacement of underlying materials. The stone for rip-rap or gabion outlets shall be delivered and placed in a manner that will ensure that it is reasonably homogeneous with the smaller stones and spoils filling the voids between the larger stones. Rip-rap shall be placed in a manner to prevent damage to the filter blanket or geotextile. Hand placement will be required to the extent necessary to prevent damage to the permanent works.
- The stone shall be placed so that it blends in with the existing ground. If the stone is placed too high then the flow will be forced out of the channel and scour adjacent to the stone will occur.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 7 - 38 - 5A MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

**MISS UTILITY**

"For location of utilities call 1-800-257-7777  
48 hours in advance of any work in this area"

**DETAIL 20B - SUMP PIT**



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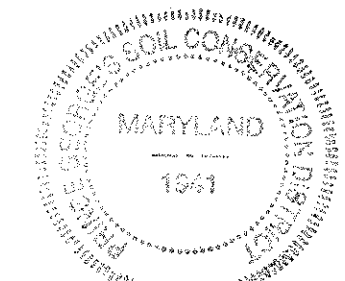
**SEDIMENT BASIN NARRATIVE:**

THE PROPOSED SEDIMENT BASIN TO PROVIDE EROSION AND SEDIMENT CONTROL DURING THE CONSTRUCTION PROCESS. AS EVIDENT ON THE DESIGN SHEETS, THE PROPOSED BASIN IS DESIGNED WITH A PERMANENT POOL AT ELEVATION 250.88. THE CLEANOUT VOLUME ELEVATION WAS DETERMINED TO BE 250.44. THE PRINCIPAL SPILLWAY RISER CREST ELEVATION WAS SET AT 251.75. IT WILL ALSO FUNCTION AS THE EMERGENCY SPILLWAY.

AS INDICATED BY THE SEDIMENT BASIN COMPUTATIONS ON THIS SHEET, THE REQUIRED STORAGE VOLUME WAS COMPUTED TO BE 4,752 C.F. THIS CORRESPONDS TO A WATER SURFACE ELEVATION OF 251.75, WHICH ESTABLISHED THE PROPOSED PRINCIPAL/EMERGENCY SPILLWAY ELEVATION. THEREFORE, THE BASIN IS ADEQUATE TO MEET THE SEDIMENT BASIN STORAGE REQUIREMENTS. THE PROPOSED BASIN SHOULD BE CONSTRUCTED WITH A 48" DIAMETER TEMPORARY CORRUGATED METAL RISER STRUCTURE, TEMPORARY 18" HDPE OUTFALL PIPE TO MANHOLE STRUCTURE #11, THEN THE PERMANENT 15" HDPE OUTFALL PIPE TO ENDWALL STRUCTURE #10. THE UPSTREAM STORM DRAIN SYSTEM SHOULD NOT BE CONSTRUCTED UNTIL THE BASIN IS REMOVED AND THE UNDERGROUND STORAGE AND INFILTRATION TRENCH ARE READY TO BE INSTALLED.

ONCE THE SEDIMENT BASIN IS NO LONGER REQUIRED, THE TEMPORARY 18" HDPE PIPE WILL BE REPLACED WITH THE PERMANENT 15" OUTFALL PIPE FOR CURB INLET, STR #12, AT THE SAME INVERT ELEVATION. THE PERMANENT PIPE WILL BE LAID AT A DIFFERENT SLOPE.

THE PROPOSED SEDIMENT BASIN IS NOT TO BE REMOVED UNTIL THE ENTIRE SITE HAS BEEN CONSTRUCTED AND STABILIZED. ONCE THE SITE IS STABILIZED, AND WITH THE PERMISSION OF THE INSPECTOR, THE BASIN WILL BE FILLED AND FINAL GRADE ESTABLISHED PER THE FINAL GRADING PLAN.



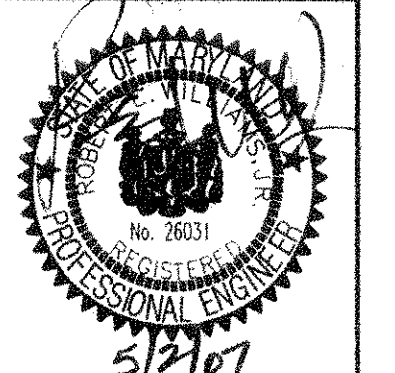
**CAUTION - NOTICE TO CONTRACTOR**

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS AND TO VERIFY THE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES.

REVISIONS:

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DATE: APRIL 2007  
SCALE: N/A  
DRAWING NAME:  
19D09-ESN

EROSION & SEDIMENT CONTROL NOTES  
PROJECT: BETH SHALOM AME ZION CHURCH  
6TH ELECTION DISTRICT  
PRINCE GEORGE'S COUNTY, MARYLAND

SHEET SC 6 OF 7  
FILE No. MDPG-19D09-01