



**B-2. STANDARDS AND SPECIFICATIONS**

**FOR SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS**

**Definition**  
The process of preparing the soils to sustain adequate vegetative stabilization.

**Purpose**  
To provide a suitable soil medium for vegetative growth.

**Conditions Where Practice Applies**  
Where vegetative stabilization is to be established.

**Criteria**

- Soil Preparation**
  - Temporary Stabilization**
    - Seedbed preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened, it must not be rolled or dragged smooth but left in the roughened condition. Slopes 3:1 or flatter are to be treated with ridges running parallel to the contour of the slope.
    - Apply fertilizer and lime as prescribed on the plans.
    - Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disking or other suitable means.
  - Permanent Stabilization**
    - A soil test is required for every earth disturbance of 5 acres or more. The minimum soil conditions required for permanent vegetative establishment are:
      - Soil pH between 6.0 and 7.0.
      - Soluble salts less than 500 parts per million (ppm).
      - Soil contains less than 40 percent clay but enough fine grained material (greater than 30 percent silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception: If loess will be placed, then a sandy soil (less than 30 percent silt plus clay) would be acceptable.
      - Soil contains 1.5 percent minimum organic matter by weight.
      - Soil contains sufficient pore space to permit adequate root penetration.
    - Application of amendments or topsoil is required if on-site soils do not meet the above conditions.
    - Construction must be maintained in a deep and even grade as specified on the approved plan, then scarified or otherwise loosened to a depth of 3 to 5 inches.
    - Apply soil amendments as specified on the approved plan or as indicated by the results of a soil test.
    - Mix soil amendments into the top 3 to 5 inches of soil by disking or other suitable means. Make sure to smooth the surface, remove large objects like stones and branches, and ready the area for seed application. Loosen surface soil by dragging with a heavy chain or other equipment to magna the surface where site conditions will not permit normal seedbed preparation. Track slopes 3:1 or flatter with tracked equipment leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. Leave the top 1 to 3 inches of soil loose and friable. Seedbed loosening may be unnecessary on newly disturbed areas.

**B-3. STANDARDS AND SPECIFICATIONS**

**FOR SEEDING AND MULCHING**

**Definition**  
The application of seed and mulch to establish vegetative cover.

**Purpose**  
To protect disturbed soils from erosion during and at the end of construction.

**Conditions Where Practice Applies**  
To the surface of all perimeter controls, slopes, and any disturbed area not under active grading.

**Criteria**

- Seeding**
  - Specifications**
    - All seed must meet the requirements of the Maryland State Seed Law. All seed must be subject to re-testing by a recognized seed laboratory. All seed used must have been tested within the 6 months immediately preceding the date of sowing such material on any project. Refer to Table B-4 regarding the quality of seed. Seed tags must be available upon request to the inspector to verify type of seed and seeding rate.
    - Mulch alone may be applied between the fall and spring seeding dates only if the ground is frozen. The appropriate seeding mixture must be applied when the ground thaws.
    - Inoculants: The inoculant for treating legume seed in the seed mixtures must be a pure culture of nitrogen fixing bacteria specifically for the species. Inoculants must not be used later than the date indicated on the container. Add fresh inoculants as directed on the package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as possible until use. Temperatures above 75 to 80 degrees Fahrenheit can weaken bacteria and make the inoculant less effective.
    - Soil and seed must not 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.
  - Application**
    - Dry Seeding:** This includes use of conventional drop or broadcast seeder.
      - Incorporate seed into the subsoil at the rates prescribed on Temporary Seeding Table B.1, Permanent Seeding Table B.3, or site-specific seeding summaries.
      - Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction. Roll the seed down with a weighted roller to provide good seed to soil contact.
    - Drill or Cultipacker Seeding:** Mechanized seeders that apply seed and cover seed with soil.
      - Cultipacker seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seeding must be firm after planting.
      - Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction.
    - Hydroseeding:** Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer).
      - If fertilizer is being applied at the time of seeding, the application rates should not exceed the following: nitrogen, 100 pounds per acre total of soluble nitrogen; P<sub>2</sub>O<sub>5</sub> (phosphorus), 200 pounds per acre; K<sub>2</sub>O (potassium), 200 pounds per acre.
      - Lime: Use only ground agricultural limestone (up to 1 test per acre may be applied by hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding.
      - Mix seed and fertilizer on site and seed immediately and without interruption.
      - When hydroseeding do not incorporate seed into the soil.

**B. Topsoiling**

- Topsoil is placed over prepared subsoil prior to establishment of permanent vegetation. The purpose is 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.
- Topsoil salvaged from an existing site may be used provided it meets the standards 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 Maryland Soil Survey or the USDA-NRCS.
- Topsoiling is limited to areas having 2:1 or flatter slopes as follows:
  - The texture of the exposed subsoil/bottom material is not adverse to produce vegetative growth.
  - The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of nutrient and plant nutrients.
  - The original soil to be vegetated contains material toxic to plant growth.
  - The soil is so acidic that treatment with limestone is not feasible.
- Areas having slopes steeper than 2:1 require special consideration and design.
  - Topsoil Specifications:** Soil to be used as topsoil must meet the following criteria:
    - Topsoil must be a loam, sandy loam, clay loam, silt loam, sandy clay loam, or loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Topsoil must not be a mixture of contrasting textured subsoils and must contain less than 5 percent by volume of clods, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1 1/2 inches in diameter.
    - Topsoil must be free of noxious plants or plant parts such as Bermuda grass, quack grass, Johnson grass, net sedge, poison ivy, blaine, or others as specified.
    - Topsoil substitutes or 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.
  - Topsoil Application:**
    - Erosion and sediment control practices must be maintained when applying topsoil.
    - Uniformly distribute topsoil in a 4 to 8 inch layer and lightly compact to a minimum thickness of 4 inches. Spreading is to be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations must be corrected in order to prevent the formation of depressions or water pockets.
    - Topsoil must not be placed if the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may be detrimental to proper grading and seedbed preparation.

**C. Soil Amendments (Fertilizer and Lime Specifications)**

- Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer as sites having disturbed areas of 5 acres or more. Soil analysis may be performed by a recognized private or commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses.
- Fertilizers must be uniform in composition, free flowing and suitable for accurate application by appropriate equipment. Measure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers must all be delivered to the site fully labeled according to the applicable laws and must bear the name, trade name or trademark and warranty of the producer.
- Lime materials must be ground limestone (hydrated or burnt lime may be substituted except when hydroseeding) which contains at least 50 percent total oxidized calcium oxide plus magnesium oxide. Limestone must be ground to such fineness that at least 50 percent will pass through a #100 mesh sieve and 98 to 100 percent will pass through a #200 mesh sieve.
- Lime and fertilizer are to be evenly distributed and incorporated into the top 3 to 5 inches of soil by disking or other suitable means.
- When the subsoil is either highly acidic or composed of heavy clays, ground granular limestone at the rate of 4 to 8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil.

Seed Mixture (Hardness Zone 7a and 6b)		Fertilizer Rate (10-20-20)		Lime Rate
No.	Species	Application Rate (lb/acre)	Seeding Dates	Seeding Depths
10	Tall Fescue (80%) Hard Fescue (20%)	120 30	3/1-5/15 8/15-11/15	0.5 in.
		90lb/a/c (2.0lb/1000sf)	175lb/a/c (41b/1000sf)	K20 (4lb/1000sf)
				2 tons/a/c (100lb/1000sf)

Seed Mixture (Hardness Zone 6a and 7a)		Fertilizer Rate (10-10-10)		Lime Rate
No.	Species	Application Rate (lb/acre)	Seeding Dates	Seeding Depths
2	Barley or Rye plus Foxtail Millet	150 lbs (3.5lbs/1000sf)	2/1-11/30 (7a) 3/15-10/31 (6a)	1/4 in-1/2 in
				600 lb/a/c (15lb/1000sf)
				2 tons/a/c (100lb/1000sf)

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

5-24-16 DATE

5-24-16 DATE

5-31-16 DATE

1 REMOVE SSF & PERM CONG, REV DRYWELL DET, ADD SF

2/24/17 DATE

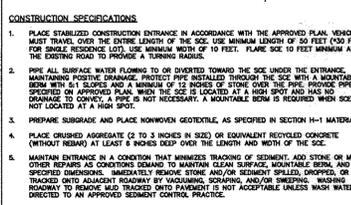
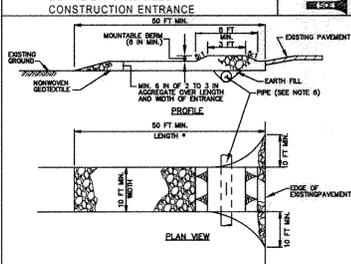
REVISION

HOWARD SCD SIGNATURE BLOCK

5/6/16 DATE

SDP-07-095

**DETAIL B-1 STABILIZED CONSTRUCTION ENTRANCE**



**CONSTRUCTION SPECIFICATIONS**

- PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE CURB. USE MINIMUM LENGTH OF 50 FEET (150 FEET FOR SMALL RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. PLACE SOIL TO FILL MINIMUM AT THE CURBING ROAD TO PREVENT A TURNING SHAG.
- PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED THROUGH THE ENTRANCE. MAINTAIN POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE CURB WITH MOUNTABLE BEAM WITH 6" SLOPE AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. PROVIDE 12 INCHES OF STONE OVER THE PIPE AND 6 INCHES OF STONE TO THE ADJACENT ROADWAY BY MOUNTING, POSING, AND/OR SLEWING. WASHING ROADWAY SHOULD BE MAINTAINED THROUGHOUT. NOT ACCEPTABLE UNLESS WATER WASH IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.
- PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
- PLACE CURBING AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 8 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE CURB.
- MAINTAIN ENTRANCE IN A CONDITION WHERE EXCESSIVE EROSION OR SETTLEMENT DOES NOT OCCUR. OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAR SURFACE, MOUNTABLE BEAM, AND POSITIVE DRAINAGE. IMMEDIATE REPAIRS TO MAINTAIN CLEAR SURFACE, MOUNTABLE BEAM, AND POSITIVE DRAINAGE TO CONVEY. A PIPE IS NOT NECESSARY. A MOUNTABLE BEAM IS REQUIRED WHEN PIPE IS NOT LOCATED AT A HIGH SPOT.

**MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL**

U.S. DEPARTMENT OF AGRICULTURE NATIONAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

**DETAIL E-3 SUPER SILT FENCE**



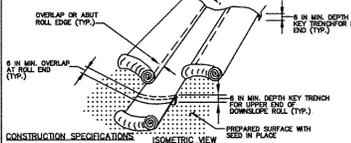
**CONSTRUCTION SPECIFICATIONS**

- INSTALL 2 IN. DIA. GALVANIZED STEEL POSTS OF 1/2" MIN. WALL THICKNESS AND 36 INCHES INTO THE GROUND.
- FASTEN 8 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE CHAIN LINK POSTS AT THE CORNERS AND AT 10 FT. INTERVALS.
- USE WOVEN SUEDE FILTER FABRIC AS SPECIFIED IN SECTION H-1 MATERIALS. SECURELY TO THE UPPER SIDE OF CHAIN LINK FENCE WITH THIS SPACING EVERY 24 INCHES AT THE TOP AND MID SECTION. LAYER SOLE AND CHAIN LINK FENCE. A MINIMUM OF 12 INCHES OF STONE SHALL BE PLACED OVER THE SUPER SILT FENCE TO PREVENT RUNOFF OVER THE TOP OF THE FENCE.
- WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, SECURED TO PREVENT SEPARATION OF THE MAT FROM THE FURTHER MATERIALS.
- EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF 10 HORIZONTAL FEET UPSTREAM AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING ROUND THE ENDS OF THE SUPER SILT FENCE.
- PROVIDE ADEQUATE VENTILATION TO THE INSPECTION/ALERTMENT ALTHOUGH SPOILING THAT MATERIALS USED MUST MEET THE REQUIREMENTS IN SECTION H-1 MATERIALS.
- USE 1/2" DIA. GALVANIZED STEEL POSTS OF 1/2" MIN. WALL THICKNESS AND 36 INCHES INTO THE GROUND TO SUPPORT THE SUPER SILT FENCE. PROVIDE A MINIMUM OF 12 INCHES OF STONE OVER THE SUPER SILT FENCE TO PREVENT RUNOFF OVER THE TOP OF THE FENCE.

**MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL**

U.S. DEPARTMENT OF AGRICULTURE NATIONAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

**DETAIL B-4-6-A TEMPORARY SOIL STABILIZATION MATTING CHANNEL APPLICATION**



**CONSTRUCTION SPECIFICATIONS**

- USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS GENERATED ON APPROVED PLANS.
- USE TEMPORARY SOIL STABILIZATION MATTING MADE OF DEGRADABLE (LASTS 6 MONTHS MINIMUM) NATURAL OR MAN-MADE FIBERS (WOOL, ORGANO MAT) THAT MUST HAVE UNIFORM THICKNESS AND CONSISTENTLY OF FIBERS PROTECTED AND BY SHADDER RESISTANT. ORGANICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-HARMFUL TO THE SOIL. IF PRESENT, NETTING MUST BE EXTENDED PLASTIC WITH A MAXIMUM WEIGH OPENING OF 24 INCHES AND SUFFICIENTLY BOND OR STITCH ON 2 INCH CENTERS ALONG LONGITUDINAL JOINTS OF THE MATERIAL TO PREVENT SEPARATION OF THE MAT FROM THE FURTHER MATERIALS.
- SOIL MATTING USING STEEL STAPLES, WOOD STAPLES, OR BIODEGRADABLE EQUIVALENT, STAPLES MUST BE 1/4" OR 1/2" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF 10, 11 AND NO. 8 RESPECTIVELY. SHAPED STAPLES MUST AVERAGE 12 TO 18 INCHES LONG AND BE A MINIMUM OF 8 INCHES LONG. 1/2" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG. A MINIMUM 1 INCH SECONDARY LEG AND A MINIMUM 1/2" SHAPED STAPLES MUST BE BENT TO A 90 DEGREE ANGLE. THE MAIN LEG SHOULD BE 12 TO 24 INCHES IN LENGTH, 1/2" HIGH IN CROSS SECTION, AND WEDGE SHAPED AT THE BOTTOM.
- PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS AND SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING AND AGGREGATE MATTING. MATTING SHALL BE SECURED TO THE SUBGRADE WITH GALVANIZED STEEL OR ALUMINUM NAILS OR STAPLES. MATTING SHALL BE SECURED TO THE SUBGRADE WITH GALVANIZED STEEL OR ALUMINUM NAILS OR STAPLES. MATTING SHALL BE SECURED TO THE SUBGRADE WITH GALVANIZED STEEL OR ALUMINUM NAILS OR STAPLES. MATTING SHALL BE SECURED TO THE SUBGRADE WITH GALVANIZED STEEL OR ALUMINUM NAILS OR STAPLES.
- UNROLL MATTING IN DIRECTION OF WATER FLOW, CENTERING THE FIRST ROLL ON THE CHANNEL CENTERLINE. WORK FROM CENTER OF CHANNEL OUTWARD WITH FLARING ROLLS. LAY MAT SMOOTHLY AND FIRMLY ON THE SEEMED SURFACE. AVOID STRETCHING THE MATTING.
- KEEP-UP UPSTREAM END OF EACH MAT ROLL BY DOING A 6 INCH MINIMUM DEPTH AT THE BOTTOM OF THE CHANNEL. REPAIR THE EXISTING MATTING, PLACING THE ROLL DOWN TO THE TOP OF THE MAT IN PLACE, REPAIRING THE EXISTING MATTING. REPAIR THE EXISTING MATTING, PLACING THE ROLL DOWN TO THE TOP OF THE MAT IN PLACE, REPAIRING THE EXISTING MATTING. REPAIR THE EXISTING MATTING, PLACING THE ROLL DOWN TO THE TOP OF THE MAT IN PLACE, REPAIRING THE EXISTING MATTING.
- ROLLS OF MAT OR MAT ROLLS SHOULD BE UNREELLED RECOMMENDATIONS OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSTREAM MAT OVERLAPPING TOP OF THE NEXT DOWNSTREAM MAT.
- STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MINIMUM) CENTERS THROUGHOUT AND 2 FOOT (MINIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.
- REPAIR AND MAINTAIN CHANNELS THAT REQUIRE PERIODIC MAINTENANCE. REPAIR AND MAINTAIN CHANNELS THAT REQUIRE PERIODIC MAINTENANCE. REPAIR AND MAINTAIN CHANNELS THAT REQUIRE PERIODIC MAINTENANCE. REPAIR AND MAINTAIN CHANNELS THAT REQUIRE PERIODIC MAINTENANCE.

**MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL**

U.S. DEPARTMENT OF AGRICULTURE NATIONAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

**SEDIMENT CONTROL NOTES**

- A pre-construction meeting must occur with the Howard County Department of Public Works, Construction Inspection Division (CID) 410-313-1885 after the future LOD and protected areas are marked clearly on the plans. A minimum of 48 hours notice to CID must be given in the following stages:
  - Prior to the start of earth disturbance.
  - Upon completion of the installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading.
  - Prior to the start of another phase of construction or opening of another grading unit.
  - Prior to the removal or modification of sediment control practices.
- Other building or grading inspection approvals may not be authorized until this initial approval by the Inspection agency is made. Other related state and federal permits shall be referred to the CID for coordination and to avoid conflicts with this plan.
- All vegetative stabilization practices are to be installed according to the provisions of this plan and are to be in conformance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR SOIL EROSION AND SEDIMENT CONTROL and revisions thereto.
- Following initial soil disturbance or re-disturbance, permanent or temporary stabilization is required within 72 hours of disturbance on the surface of all perimeter controls, dikes, swales, ditches, perimeter slopes and all slopes greater than 5 horizontal to 1 vertical (5:1); and seven (7) color-coded areas to all other disturbed areas on the project site, except for those areas under active grading.
- All disturbed areas must be stabilized within the time period specified above in accordance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for topsoil (Sec. B-4-5), temporary seeding (Sec. B-4-5), temporary seeding (Sec. B-4-4) and mulching (Sec. B-4-5). Temporary stabilization with mulch alone can only be applied between the fall and spring seeding dates if the ground is frozen. Incremental stabilization (Sec. B-4-4) specifications shall be enforced in areas with 3% of cut and/or fill. Slopesides (Sec. B-4-4) in excess of 20 ft. must be bermed with stable outlet. All concentrated flow, steep slope, and highly erodible areas shall receive stabilization materials (Sec. B-4-6).
- 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 CID.

**OFFSITE WASTE/BORROW AREA LOCATION**

- Any sediment control practice that disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
- Additional sediment control must be installed if required by the CID. The site and all controls shall be inspected by the contractor weekly, and the next day after each rain event. A written report by the contractor, made available upon request, is part of every inspection and must include:
  - Inspection date
  - Name and title of inspector
  - Weather information (current conditions as well as time and amount of last recorded precipitation)
  - Brief description of project's status (e.g. percent complete) and/or current activities
  - Evidence of sediment discharges
  - Identification of plan deficiencies
  - Identification of sediment controls that require maintenance
  - Identification of erosion or sediment control structures that require maintenance
  - Compliance status regarding the sequence of construction and stabilization requirements
  - Photography
  - Monitoring/inspecting
  - Other Inspection Items as required by the General Permit for Stormwater Associated with Construction Activities (NPDES, MDE).
- Trenches for the construction of utilities is limited to three pipe lengths that which can and shall be back-filled and stabilized by the end of each utility, whichever is shorter.
- Any major changes or revisions to the sequence of construction must be reviewed and approved by the HSCD prior to proceeding with construction. Minor revisions may be allowed by the CID on the list of HSCD-approved field changes.
- Disturbance shall not occur outside the L.O.D. A project is to be sequenced so that grading activities begin on a grading unit (maximum average of 20 ac, per grading unit) at a time. Work may proceed to a subsequent grading unit when at least 50 percent of the disturbed area in the preceding grading unit has been stabilized and approved by the CID. Unless otherwise specified and approved by the CID, no more than 30 acres cumulatively may be disturbed at a given time.
- Wash water from any equipment, vehicles, wheels, pavement, and other sources must be treated in a sediment basin or other approved washout structure.
- Topsoil shall be stockpiled and preserved on-site for redistribution until final grade.
- All fill, fence and super silt fence shall be placed on-the-contour, and be implemented at 25' minimum intervals, with lower end curled up by 2' in minimum intervals.
- Stream channels must not be disturbed during the following restricted time periods (inclusive):
  - Use I and IIP March 1 - June 15
  - Use II and IIP October 1 - April 30
  - Use IV March 1 - May 31
- A copy of this plan, the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and associated permits shall be on-site and available when the site is active.
- Earthquake activities are safety for the purpose of calculating design. Contractor to verify all quantities prior to the start of construction.
- To be determined by contractor with pre-approval of the Sediment Control Inspector with an approved and active grading permit.

**B-2. STANDARDS AND SPECIFICATIONS**

**FOR DRYWELL CONTROL**

**Definition**  
Containing the suspension of dust particles from construction activities.

**Purpose**  
To prevent blowing and movement of dust from exposed soil surfaces to reduce on and off-site damage including health and traffic hazards.

**Conditions Where Practice Applies**  
Areas subject to dust blowing and movement when on and off-site damage is likely without treatment.

**Specifications**  
1. Mulch: See Section B-2-1 Soil Preparation, Topsoiling, and Soil Amendments, Section B-4-3 Seeding and Mulching, and Section B-4-4 Temporary Stabilization. Mulch must be applied to prevent blowing.  
2. Vegetative Cover: See Section B-4-4 Temporary Stabilization.  
3. Tillage: Till to roughen surface and bring clods to the surface. Begin plowing on windward side of site. Clod-type plows should be used to break up clods and prevent blowing, and similar plows are examples of equipment that may produce the desired effect.  
4. Irrigation: Irrigate site with water until the surface is moist. Report as needed. The site must not be irrigated to the point that runoff occurs.  
5. Barriers: Solid board fences, all fences, snow fences, border fences, straw bales, and similar methods may be used to control dust current and prevent blowing.  
6. Chemical Treatment: Use of chemical treatment requires approval by the appropriate plan review authority.

**SEQUENCE OF CONSTRUCTION**

- Obtain grading and access permits.
  - Notify Howard County Department of Inspections, License and Permits at (410) 313-1880 at least 24 hours before starting any work.
  - Install Stabilized Construction Entrance and Super Silt Fence. (1 week)
  - After receiving permission from the sediment control inspector, rough grade site and begin building construction. (1 week)
  - Complete house construction, construct driveway, dry wells & fire grade. (3 months)
  - Upon stabilization of all disturbed areas and with the permission of the Sediment Control Inspector, remove all sediment control measures and stabilize any remaining disturbed area. (1 week)
- During grading and after each rainfall, contractor will inspect and provide necessary maintenance to all sediment control measures on this plan.

**OWNERS/DEVELOPER CERTIFICATION:**

I/We hereby certify that any clearing, grading, construction, or development will be done pursuant to this approved erosion and sediment control plan, including inspecting and maintaining controls, and that the responsible personnel involved in the construction project will have a Certificate of Training at a Maryland Department of the Environment (MDE) approved training program for the control on erosion and sediment prior to beginning the project. I certify right-of-entry for periodic on-site evaluation by Howard County, the Howard Soil Conservation District and/or MDE.

5/5/16 DATE

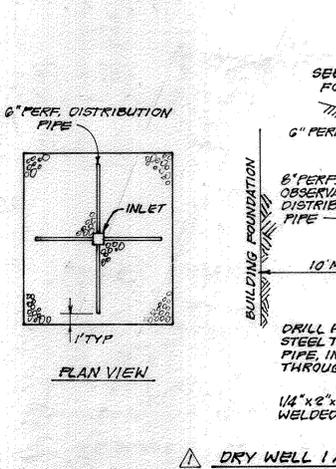
2/24/18 DATE

OWNER/DEVELOPER

2/24/18 DATE

OWNER/DEVELOPER

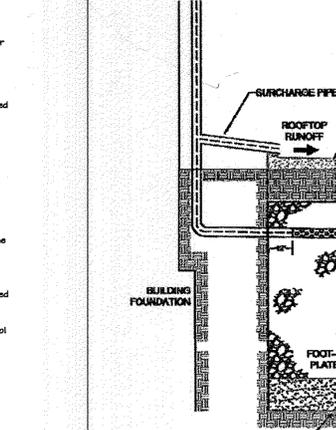
**DRY WELL 1 AND 2 DETAIL**



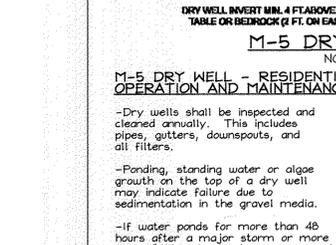
**\* DRY WELL TEST PIT SUMMARY**

- TP No.1 - No Groundwater or Bedrock Encountered at 11' Depth.
  - TP No.2 - Groundwater Encountered at 10.5'
  - No Bedrock Encountered.
- Denotes Test Pit Location.

**DRY WELL INVERT MIN. 4 FEET ABOVE GROUNDWATER TABLE OR BEDROCK (4 FT. ON EASTERN SHORES)**



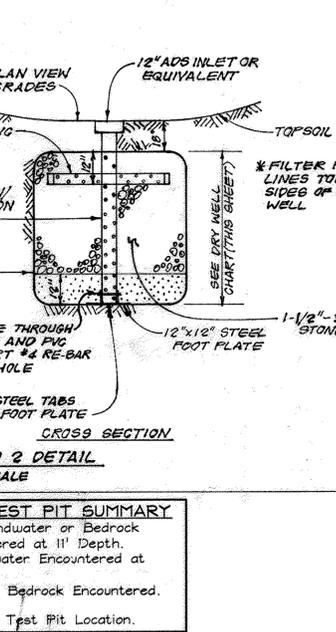
**M-5 DRY WELL DETAIL FOR DRY WELLS 3, 4, AND 5**



**M-5 DRY WELL - RESIDENTIAL OPERATION AND MAINTENANCE**

- Dry wells shall be inspected and cleaned annually. This includes pipes, gutters, downspouts, and all filters.
- Flooding, standing water or algae growth on the top of a dry well may indicate failure due to sedimentation in the gravel media.
- If water ponds for more than 48 hours after a major storm or more than 6' of sediment has accumulated, the gravel media should be excavated and replaced.
- Privately owned practices shall have a maintenance plan and shall be protected by easement, deed restriction, ordinance or other legal measures preventing its neglect, adverse alteration and removal.
- Pre-treatment to filter out leaves or other debris shall be done by gutter screens and a removable filter screen installed within the downspout pipe, or other locally approved method. The removable filter screen should be installed behind the overflow outlet (surcharge) and easily removed so the homeowners can clean the filter.

**REVISIONS**



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- REVISION 1: REMOVE SSF & PERM CONG, REV DRYWELL DET, ADD SF
- REVISION 2: ADD SF TO DRYWELL DET

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**NOTES**

- CONSULT INTERNATIONAL SOCIETY OF ARBORICULTURE GUIDELINES FOR FURTHER DETAIL OF PLANTING LEADERS, AND SPECIFICATIONS, OR CONSULT WITH A QUALIFIED PROFESSIONAL.
- EACH TREE SHALL BE PLANTED SUCH THAT THE TRUNK FLARE IS VISIBLE AT THE TOP OF THE ROOT BALL.
- STAKES SHALL BE REMOVED NO LATER THAN THE END OF THE FIRST GROWING SEASON AFTER PLANTING.
- PLACE UPRIGHT STAKES PARALLEL TO STALKS & BUILDINGS.
- KEEP MULCH 1" FROM TRUNK.
- SEE ARCHITECTURAL PLANS FOR ADDITIONAL PLANTING WHICH EXCEED HOWARD COUNTY MINIMUM REQUIREMENTS.
- TREES ARE NOT TO BE PLANTED OVER PRIVATE SEWAGE BASIN.
- LEADER MUST REMAIN INTACT DO NOT HEAVILY PRUNE TREE ONLY CROSSOVER LIMBS, CO-DOMINANT LEADER, AND BROKEN OR DEAD BRANCHES. SOME INTERIOR BRANCHES AND LATERAL BRANCHES MAY BE PRUNED; HOWEVER, DO NOT REMOVE THE TERMINAL BUDS OF BRANCHES THAT EXTEND TO THE EDGE OF THE CROWN.
- 2 BRANCHES OF GALVANIZED WIRE TWISTED FOR SUPPORT
- UPRIGHT STAKES - SET IN GROUND TO FIRM BALL BEYOND EDGE OF ROOT BALL. RUBBER HOSE MIN. 0.5" CUT BURLAP, ROPE AND WIRE LOOPS FROM TOP HALF OF ROOT BALL AND TIE TO WIRE BASKET DOWN 6" MIN. 2" DEPTH MULCH @ 6" MIN. 1" GAUZE
- 4" EARTH SAUCER
- ROOT BALL SHALL BE FLUSH WITH ORIGINAL GRADE OR RAISED UP TO 2" MAX. PLANTING MIX - SEE PLANTING NOTES
- PLACE ROOT BALL ON UNDEGRAVED OR TAMPED SOIL

**DECIDUOUS TREES UP TO 2-1/2" CALIPER NOT TO SCALE**

**DRY WELL CHART**

NO.	VOL. REQ'D	VOL. PROV.	WELL SIZE
DW 1	130.0 CF	147.0 CF	10.5' x 7.0' x 6.0' DEEP
DW 2	131.0 CF	136.0 CF	8.0' x 8.5' x 5.0' DEEP
DW 3	74.0 CF	120.0 CF	8.0' x 7.5' x 5.0' DEEP
DW 4	100.0 CF	120.0 CF	8.0' x 7.5' x 6.0' DEEP</