

DIANNA FERGUSON
 L. 16595, F. 149
 ZONING: RC-DEO
 (P. 85) AGRICULTURAL LAND
 PRESERVATION EASEMENT
 (HO-10-05E)
 N16°58'30"E 705.00'

DIANNA FERGUSON
 L. 16595, F. 149
 ZONING: RC-DEO
 (P. 85) AGRICULTURAL LAND
 PRESERVATION EASEMENT
 (HO-10-05E)

NOTE: VEHICULAR
 INGRESS & EGRESS IS
 RESTRICTED.

FREDERICK ROAD
 (MD ROUTE 144A)
 MAJOR COLLECTOR
 SCENIC ROAD
 80' RW - ULTIMATE

EX. ASPHALT PARKING
 PROPOSED
 PAVEMENT
 WIDENING

EX. ASPHALT PARKING
 BIORETENTION
 FACILITY #1

EX. ASPHALT PARKING
 BIORETENTION
 FACILITY #2

EX. ASPHALT PARKING
 BIORETENTION
 FACILITY #3

APPROVED
 FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS.
 HOWARD COUNTY HEALTH DEPARTMENT

APPROVED
 HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

APPROVED
 HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

NOTE:
 POLE RELOCATION IS THE RESPONSIBILITY OF THE OWNER, LISBON
 VOLUNTEER FIRE COMPANY, INC.

OWNER / DEVELOPER:
 LISBON VOL. FIRE COMPANY
 c/o CURTIS LOWREY
 P.O. BOX 40,
 LISBON, MD 21765
 443-472-7765

PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED
 BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER
 THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 18417, EXPIRATION
 DATE 08/15/17

DATE
 8-4-2017
 10-3-2017
 11-17-2017

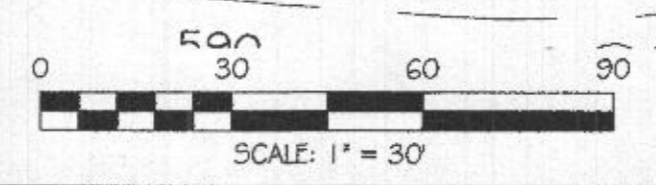
SITE DEVELOPMENT PLAN
 LOT 3, LOWER TRAIL
LISBON VOLUNTEER FIRE CO., INC.

TAX MAP: 7
 GRID NO: 11
 PARCEL NO: 488

ELECTION DISTRICT: No. 4
 HOWARD COUNTY, MARYLAND
 EX. ZONING: RC-DEO

SCALE: 1" = 30'
 DATE: JANUARY, 2017
 SHEET 2 OF 15

VANMAR ASSOCIATES, INC.
 Engineers Surveyors Planners
 310 South Main Street Mount Airy, Maryland 21771
 (301) 829-2880 (301) 831-5015 (410) 549-2751
 Fax (301) 831-5603 ©Copyright, Latest Date Shown 5DP-17-035



B-4-2 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: A. Soil Preparation 1. Temporary Stabilization a. Detailed preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural or construction equipment...

- 2. Permanent Stabilization a. A soil test is required for any 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...

- 3. Topsoiling a. Topsoil is placed over prepared subsoil prior to establishment of permanent vegetation. The purpose is to provide a suitable soil medium for turfgrass growth...

- 4. Soil Amendments (Fertilizer and Lime Specifications) a. Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer...

- 5. Where the subsoil is either highly acidic or composed of heavy clays, spread ground limestone at the rate of 4 to 10 tons/acre (2000 to 4000 pounds per 1,000 square feet) prior to the placement of topsoil.

SEQUENCE OF CONSTRUCTION

- 1. OBTAIN ALL REQUIRED GRADING, NDE PERMITS, APPROVALS AND LICENSES FROM APPROPRIATE AGENCIES. (1 WEEK)
- 2. NOTIFY SEDIMENT CONTROL INSPECTOR AT LEAST THREE (3) WORKING DAYS PRIOR TO STARTING WORK. (1 WEEK)
- 3. INSTALL STABILIZED CONSTRUCTION ENTRANCE, EARTH DIKS, SUPER SILT FENCE, TEMPORARY STONE OUTLET AND TEMPORARY GABION OUTLET STRUCTURES WITH LIMITED DISTURBANCE. (1 WEEK)

- 4. ONCE THE SEDIMENT CONTROL DEVICES ARE INSTALLED, THE PERMITTEE MUST OBTAIN APPROVAL FROM THE INSPECTOR BEFORE PROCEEDING WITH ADDITIONAL GRADING OR GRADING. (1 WEEK)
- 5. ROUGH GRADE THE SITE, INSTALL PERMETER DITCHES. (2 WEEKS)
- 6. INSTALL UTILITIES AND GRADE SITE. (6 WEEKS)
- 7. CONSTRUCT BUILDING AND PAVEMENTS. (16 WEEKS)
- 8. FINAL GRADING OF SITE, STABILIZE DISTURBED AREAS PER PERMANENT SEEDING NOTES. (3 WEEKS)
- 9. ONCE SURROUNDING AREAS ARE STABILIZED WITH GRASS GROWING INSTALL STORMWATER MANAGEMENT FACILITIES INCLUDING MICRO-BIORETENTION FACILITIES. (2 WEEKS)

- 10. UPON APPROVAL OF SEDIMENT CONTROL INSPECTOR, REMOVE ALL TEMPORARY SEDIMENT CONTROL DEVICES. (1 WEEK)
- 11. NOTIFY INSPECTOR FOR FINAL INSPECTION. (1 WEEK)

APPROVED

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT

Signature: James R. Robertson, DATE: 5/29/18

Signature: N. Adams, DATE: 7-12-18

Signature: Vert Sealove, DATE: 7-11-18

Signature: Chris Johnson, DATE: 6-12-18

Signature: [Blank], DATE: [Blank]

Signature: [Blank], DATE: [Blank]

Signature: [Blank], DATE: [Blank]

Signature: [Blank], DATE: [Blank]

Signature: [Blank], DATE: [Blank]

B-4-3 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 contours, slopes, and any disturbed area not under active grading.

- Criteria: A. Seeding 1. Specifications a. 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 seed on any project...

- 2. Application a. Topsoiling includes use of conventional drop or broadcast spreaders. Department of Agriculture, Soil Conservation Service, and Maryland State Seed Law, 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...

- 3. Sod Installation a. During periods of excessively high temperature or in areas having dry subsoil, lightly irrigate the sods immediately prior to laying the sods. Lay the first row of sods in a straight line with subsequent rows placed parallel to it and tightly wedged against each other. Stagger lateral joints to promote more uniform growth and strength. Sod must not be levelled or tamped when moisture content (concessively dry or wet) adversely affect its survival.

B-4-4 STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION

Definition: To stabilize disturbed soils with vegetation for up to 6 months.

Purpose: To use fast growing vegetation that provides cover on disturbed soils.

Conditions Where Practice Applies: Deposed soils where ground cover is needed for 6 months or less. For longer duration of time, Permanent Stabilization practices are required.

- Criteria: 1. Select one or more of the species or seed mixtures listed in Table B.1 for the appropriate Plant Hardiness Zone (from Figure B.3), and enter them in the Temporary Seeding Summary below along with application rates, seeding dates and seeding depths. If the Summary is not filled out on the plan and completed, then Table B.1 plus fertilizer and lime rates must be put on the plan. For sites having soil tests performed, use and show the recommended rates by the testing agency. Soil tests and on-site soil tests are strictly prohibited.

Table with 5 columns: No., Species, Application Rate (lb/ac), Seeding Dates, Seeding Depths, Lime Rate. Includes rows for Annual Ryegrass and Paspalum.

B-4-5 STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION

Definition: To stabilize disturbed soils with permanent vegetation.

Purpose: To use long-lived perennial grasses and legumes to establish permanent ground cover on disturbed soils.

Conditions Where Practice Applies: Deposed soils where ground cover is needed for 6 months or more.

- Criteria: A. Seed Mixture 1. General Use a. Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant Hardiness Zone (from Figure B.3) and based on the site condition or purpose listed on Table B.2. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan. b. Detailed specifications for exceptional sites such as shorelands, stream banks, or ditches for special purposes such as wildlife or aesthetic treatment may be found in USDA-NRCS Technical Field Office Guide, Section 342 - Critical Area Planting.

VEGETATION SPECIFICATIONS AND NOTES

- 1. Establish an area of the present cover as possible while performing grading. 2. Limit duration of exposure of bare earth from grading operation to 7 days by the establishment of temporary vegetation (for mowing) or by completing permanent seeding within 14 days. Establish permanent vegetative cover immediately after final grading is completed. (This includes grading on or off the site that is affected by this construction.) If final grading is completed at a time other than the seeding season, a temporary ground cover such as mulch will be used to stabilize the bare soil.

Table with 5 columns: Hardiness Zone, Application Rate (lb/ac), Seeding Dates, Seeding Depths, Fertilizer Rate. Includes rows for Kentucky Bluegrass and Perennial Ryegrass.

- 3. General Specifications a. Turfgrass sods must be Maryland State Certified. Sod labels must be made available to the job foreman or inspector. Sod must be machine cut at a uniform soil thickness of 3/4 inch, plus or minus 1/4 inch, at the time of cutting. Measurement for thickness must exclude top growth and thatch. Broken joints and torn or uneven sods will not be accepted. 200 pounds per acre of 20/40 mesh fertilizer must be applied to sods immediately prior to laying the sods. Mix seed and fertilizer on soil and seed immediately and under irrigation. When hydroseeding do not incorporate seed into the soil.

B-4-6 STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREA

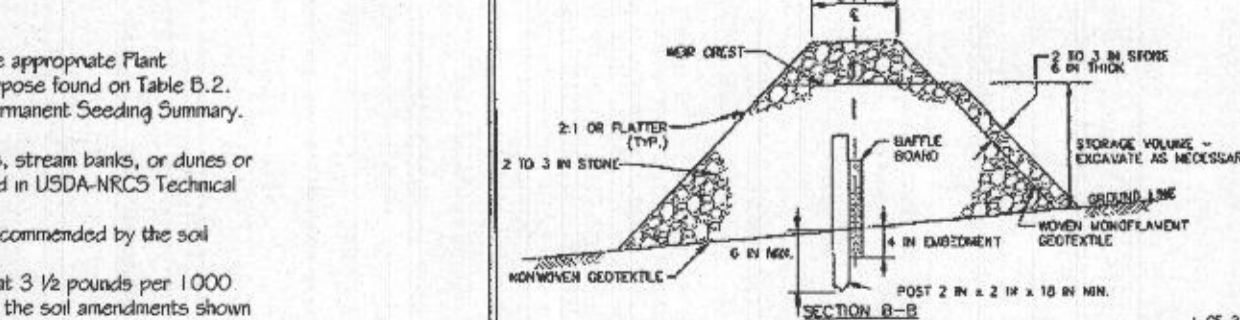
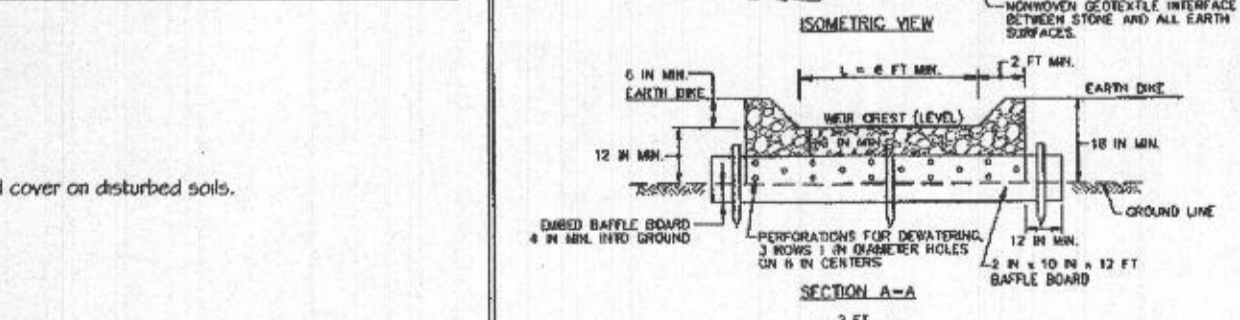
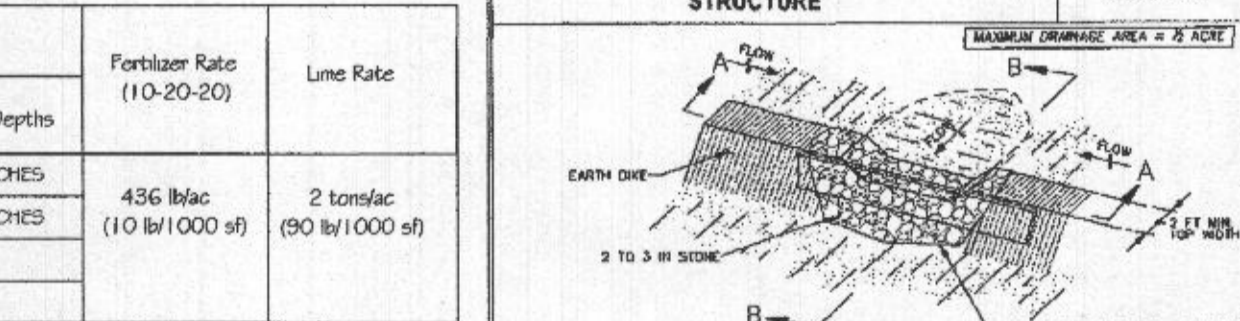
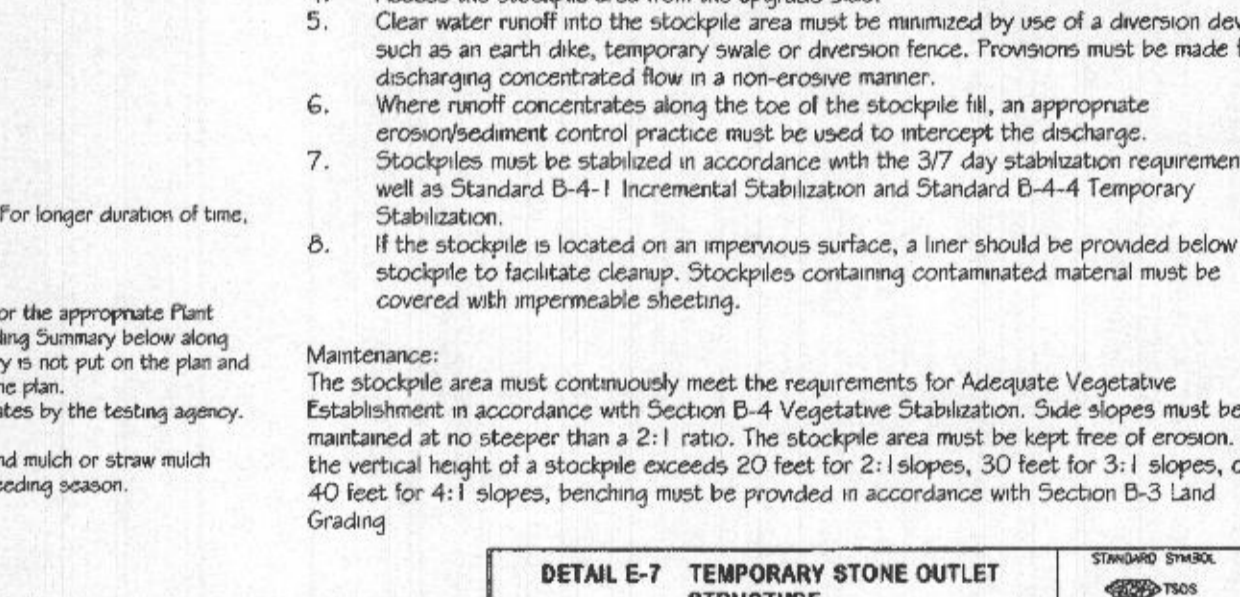
Definition: A mound or pile of soil protected by appropriately designed erosion and sediment control measures.

Purpose: To provide a designated location for the temporary storage of soil that controls the potential for erosion, sedimentation, and changes to drainage patterns.

Conditions Where Practice Applies: Stockpile areas are utilized when it is necessary to salvage and store soil for later use.

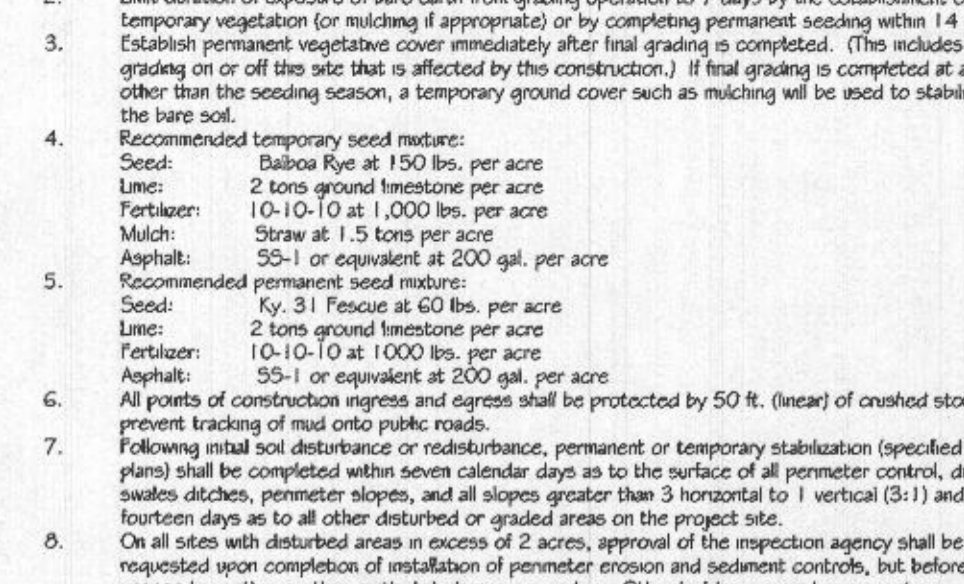
- Criteria: 1. The stockpile location and all related sediment control practices must be clearly indicated on the erosion and sediment control plan. 2. The footprint of the stockpile must be sized to accommodate the anticipated volume of material and based on a side slope ratio no steeper than 2:1. Benching must be provided in accordance with Section B-3 Land Grading.

DETAIL B-4-6-C PERMANENT SOIL STABILIZATION MATTING CHANNEL APPLICATION

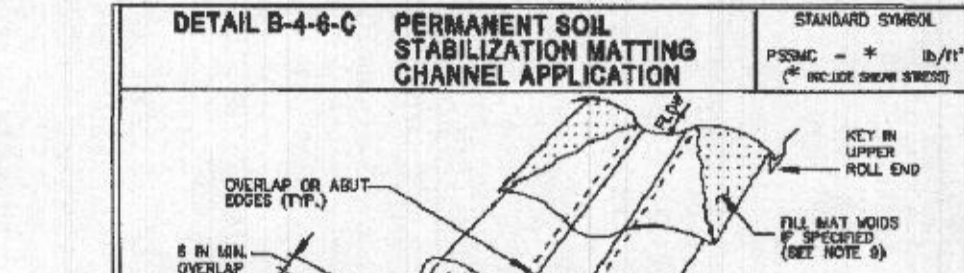


OWNER / DEVELOPER: LISBON VOL. FIRE COMPANY do CURTIS LOWREY P.O. BOX 40, LISBON, MD 21765 443-472-7765

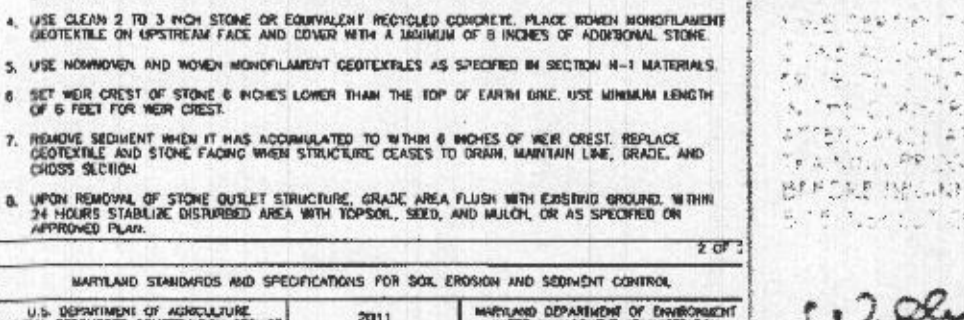
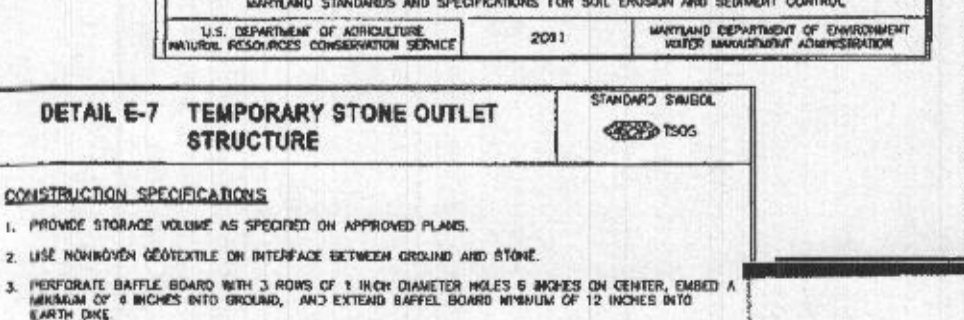
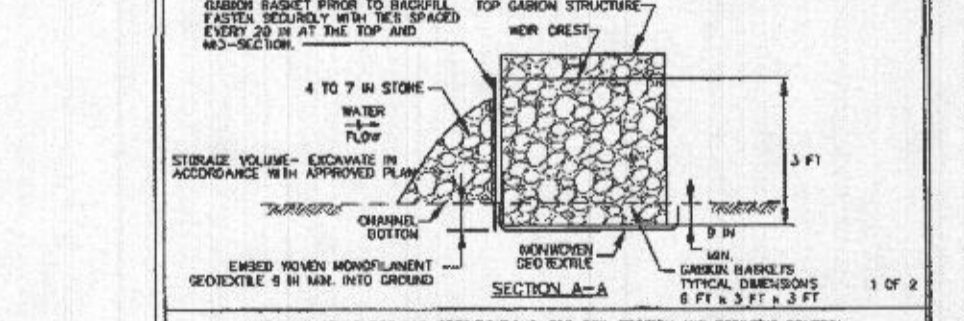
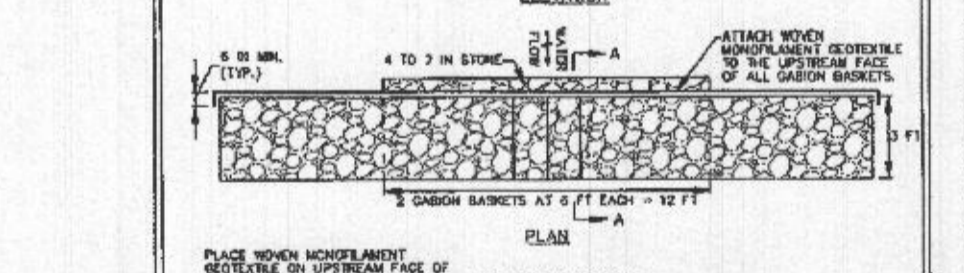
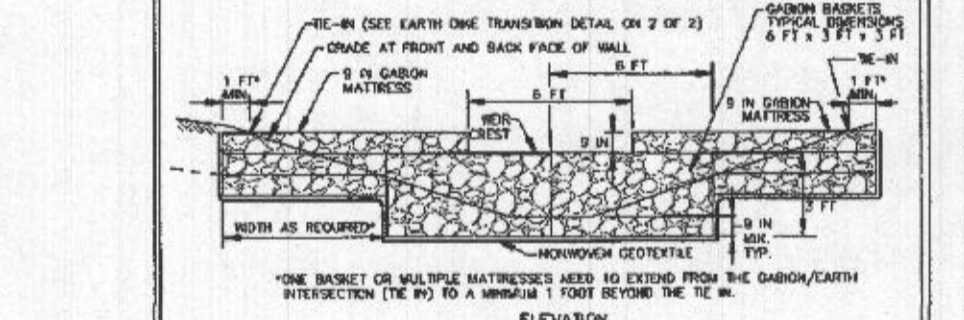
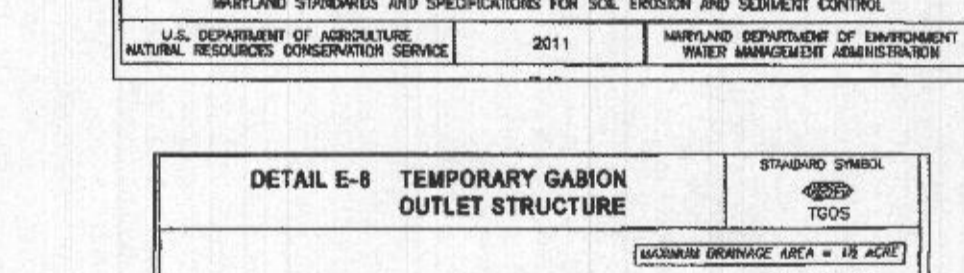
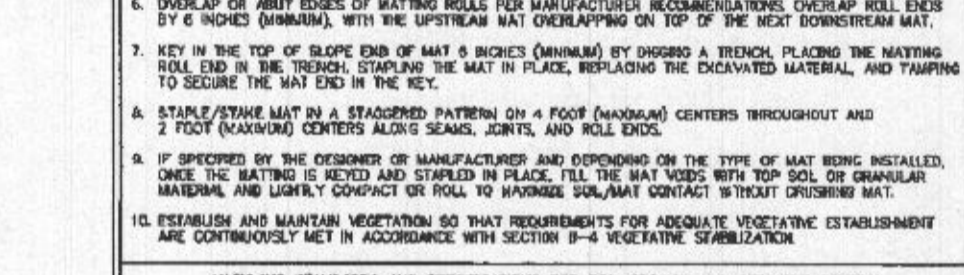
DETAIL B-1 STABILIZED CONSTRUCTION ENTRANCE



- CONSTRUCTION SPECIFICATIONS: 1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE CENTER LINE OF THE SIDE. USE MINIMUM LENGTH OF 50 FEET WITH 10 FEET OVERLAP TO PREVENT TRACKING OF SOIL. 2. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.

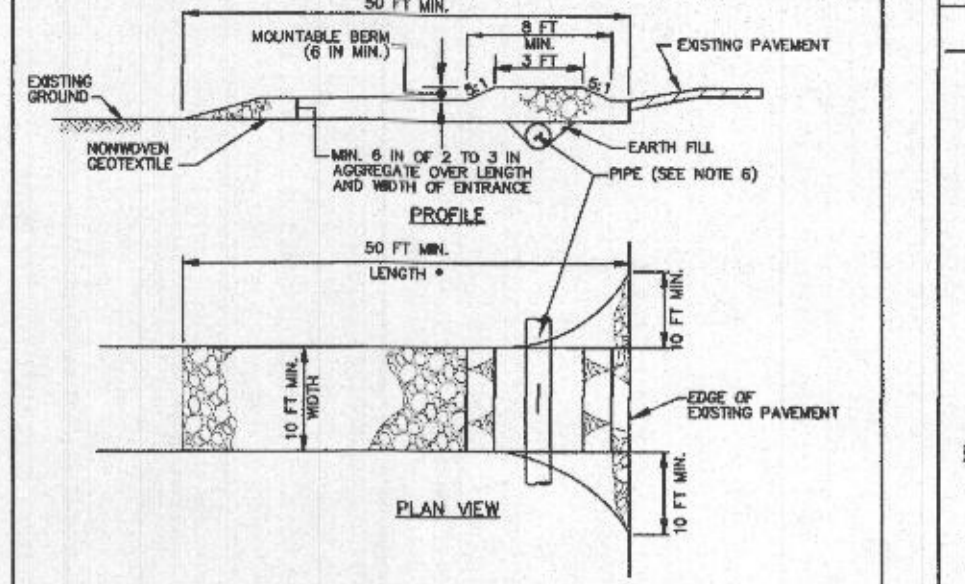


- CONSTRUCTION SPECIFICATIONS: 1. USE MATTING THAT HAS A TENSILE STRENGTH OF AT LEAST 100 LBS PER YARD. 2. USE PERMANENT SOIL STABILIZATION MATTING MADE OF OPEN WEAVE SYNTHETIC NON-Biodegradable FIBER OF POLYPROPYLENE OR POLYESTER. 3. APPLY MATTING TO THE TOP OF THE SOIL SURFACE TO BE STABILIZED. MATTING MUST BE LAYED IN A MANNER THAT PROVIDES A MINIMUM 10% OVERLAP BETWEEN MATS.

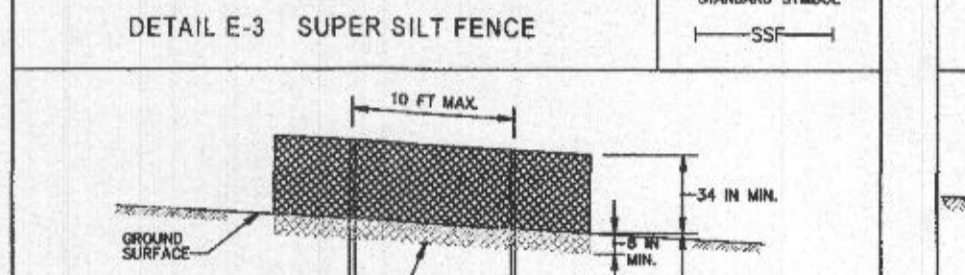
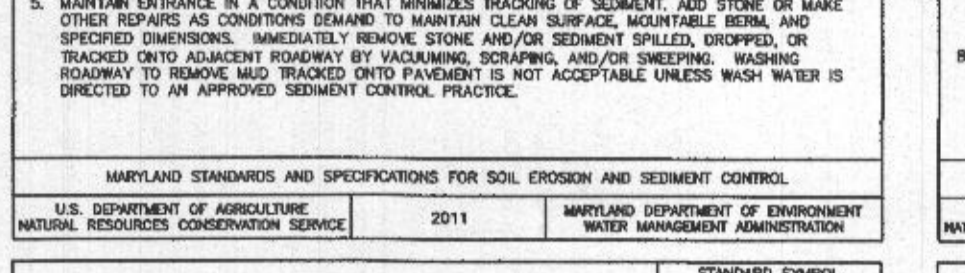


PROFESSIONAL CERTIFICATION: I, [Signature], a duly Licensed Professional Engineer in the State of Maryland, certify that I am the Designer of the above project and that the design complies with the applicable codes and standards.

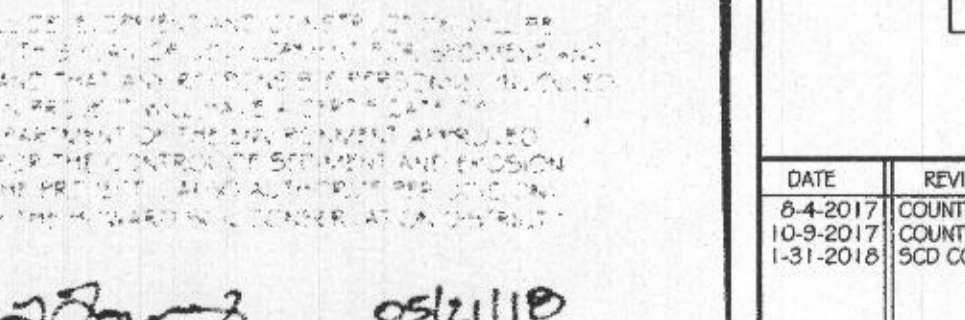
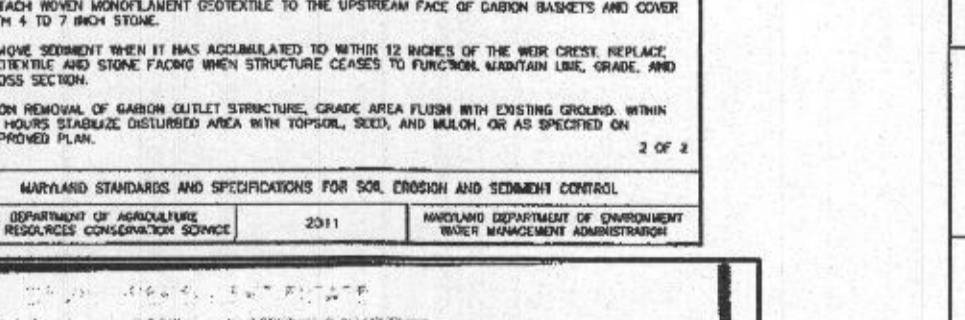
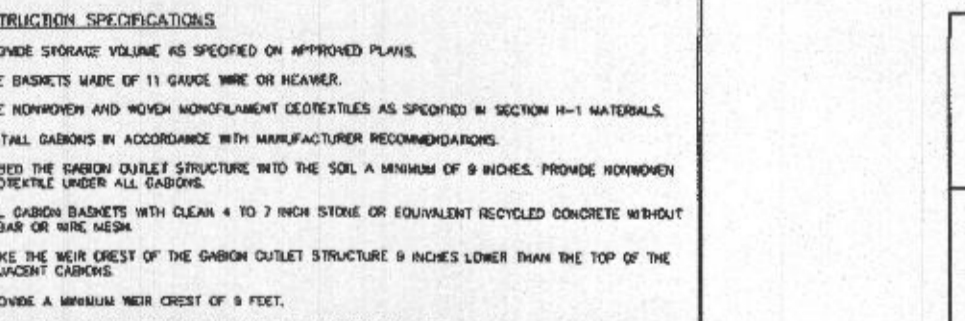
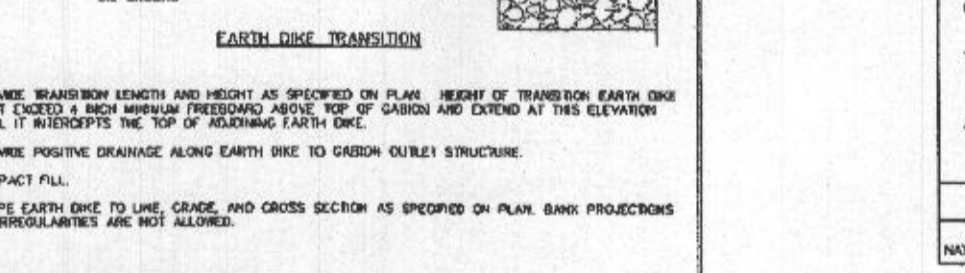
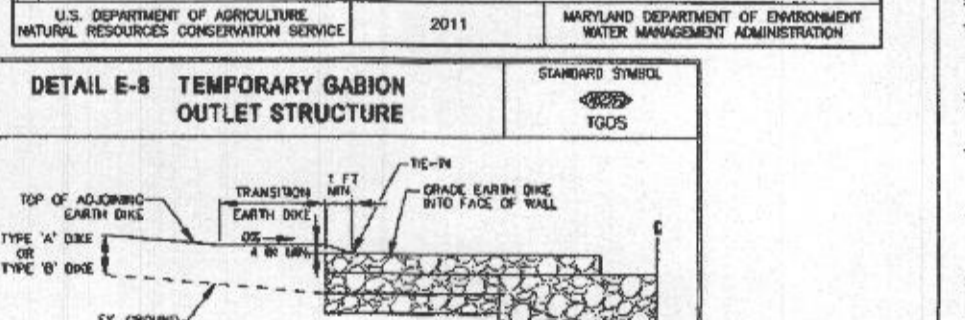
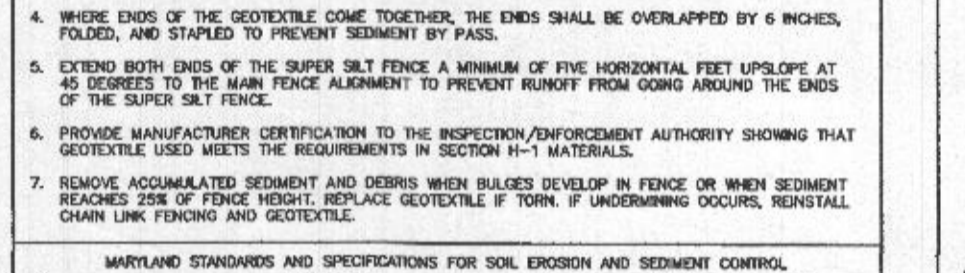
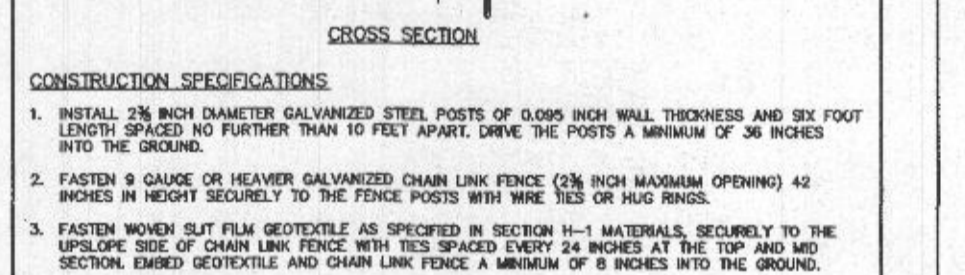
DETAIL C-1 EARTH DIKE



- CONSTRUCTION SPECIFICATIONS: 1. REMOVE AND DISPOSE OF ALL TREES, BRUSH, STUMPES, OBSTRUCTIONS, AND OTHER OBJECTABLE MATERIALS TO BE REMOVED TO PREVENT OBSTRUCTION OF THE DIKE. 2. EXCAVATE OR SHADE EARTH TO THE LINE, GRADE, AND CROSS SECTION AS SPECIFIED. BANK PROJECTIONS OR OTHER IRREGULARITIES ARE NOT ALLOWED.



- CONSTRUCTION SPECIFICATIONS: 1. INSTALL 2x6 INCH DIAMETER GALVANIZED STEEL POSTS OF 10-12 INCH WALL THICKNESS AND SIX FOOT LENGTHS AT 10-12 FEET ON CENTER. 2. FASTEN 3/4 INCH OR HEAVIER GALVANIZED CHAIN LINK FENCE TO THE POSTS AT A MINIMUM OF 36 INCHES ABOVE THE GROUND.



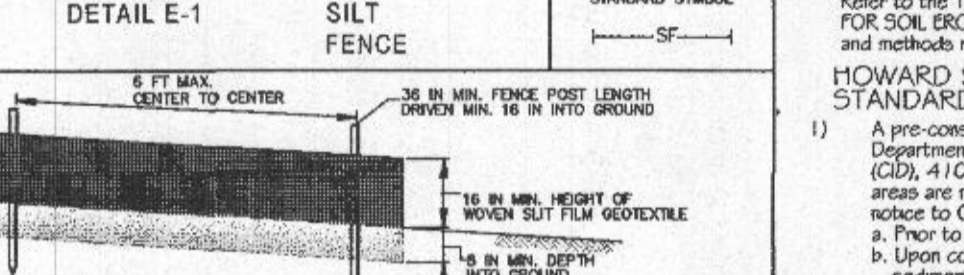
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HOWARD SOIL CONSERVATION DISTRICT PERMANENT SEEDING NOTES

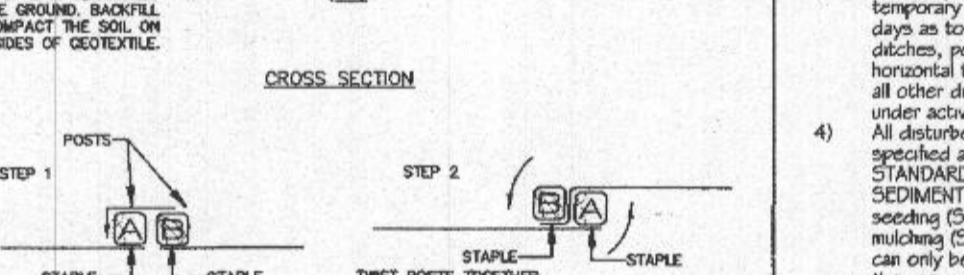
- 1. Prepare and grade areas to be seeded to immediately after final grading is completed. 2. Prepare: Loosen upper three inches of soil by raking, disking or other acceptable means before seeding. 3. Soil Amendments: In lieu of soil test recommendations, use the following schedule: a. 1/2 ton/acre of 0-20-0 fertilizer (10-10-10 fertilizer) before seeding. b. 1/2 ton/acre of 0-20-0 fertilizer before seeding. c. 1/2 ton/acre of 0-20-0 fertilizer before seeding.

- 4. Seeding: Apply 2 tons/acre of Kentucky Bluegrass (10-10-10 fertilizer) and 2 tons/acre of Perennial Ryegrass (10-10-10 fertilizer) in two passes. 5. Mulching: Apply 1-2 tons per acre of well-anchored straw mulch per 1,000 square feet.

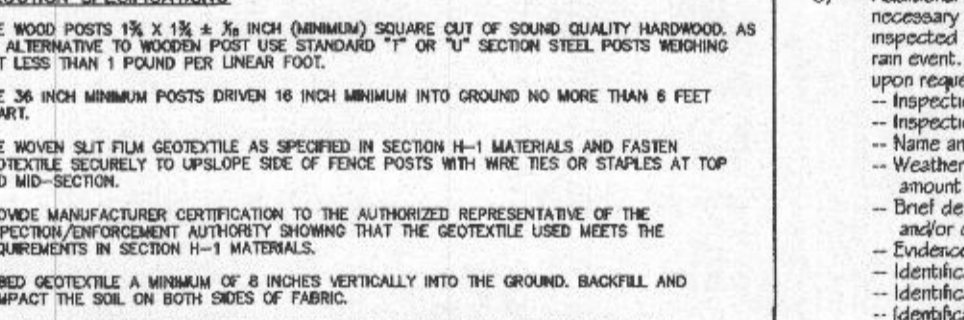
- 6. Temporary Seeding Notes: Apply 2 tons/acre of Kentucky Bluegrass (10-10-10 fertilizer) and 2 tons/acre of Perennial Ryegrass (10-10-10 fertilizer) in two passes.



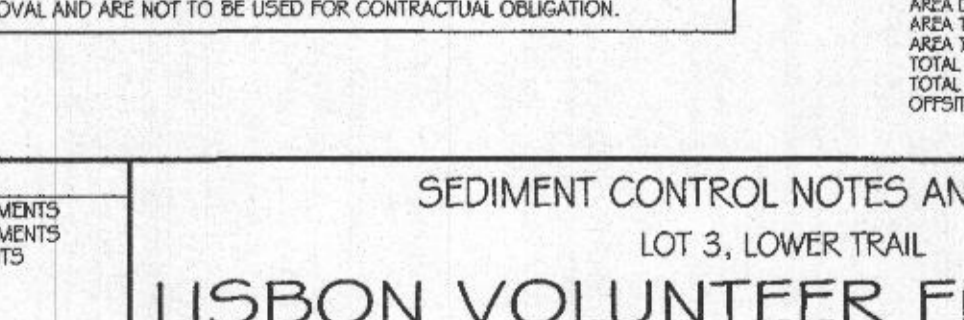
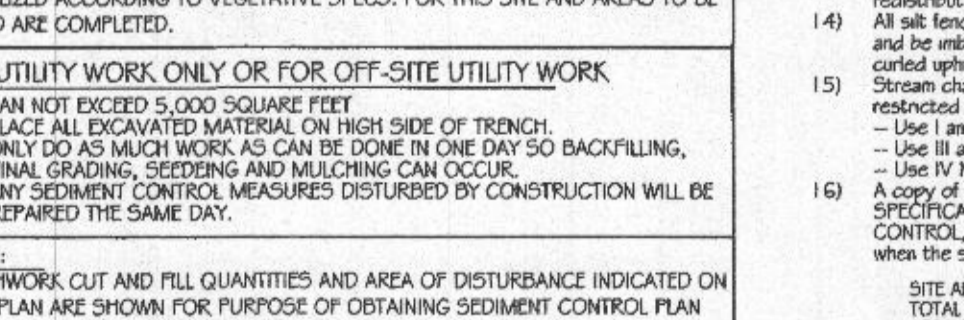
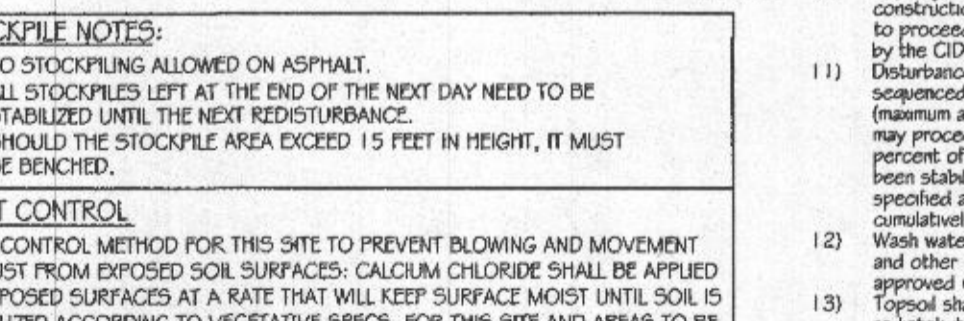
- 7. Sediment Control Notes: a. A pre-construction meeting must be held with the Howard County Department of Public Works, Construction Inspection Division. b. Areas marked clearly in the following schedule: 1. Areas to be cleared of vegetation. 2. Areas to be seeded. 3. Areas to be mulched. 4. Areas to be stabilized.



- 8. Sediment Control Notes: a. A pre-construction meeting must be held with the Howard County Department of Public Works, Construction Inspection Division. b. Areas marked clearly in the following schedule: 1. Areas to be cleared of vegetation. 2. Areas to be seeded. 3. Areas to be mulched. 4. Areas to be stabilized.



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SEDIMENT CONTROL NOTES AND DETAILS: LOT 3, LOWER TRAIL LISBON VOLUNTEER FIRE CO., INC. TAX MAP: 7 GRID NO: 11 PARCEL NO: 488. ELECTION DISTRICT: No. 4 HOWARD COUNTY, MARYLAND EX. ZONING: RC-DEO. SCALE: AS SHOWN DATE: JANUARY, 2017 SHEET 5 OF 15.

Site Analysis: 8.23 ACRES AREA DISTURBED 5.59 ACRES AREA TO BE RECOVERED OR PAVED 4.24 ACRES AREA TO BE VEGETATIVE STABILIZED 2.49 ACRES TOTAL CUT 0.000 Cubic Yards OFFSITE WASTEWATER AREA LOCATION N/A. VANMAR ASSOCIATES, INC. Engineers Surveyors Planners 310 South Main Street Mount Airy, Maryland 21771 (301) 829-2890 (301) 831-5015 (410) 549-2751 Fax: (301) 831-5603 ©Copyright, Latest Date Sheet 5DP-17-035