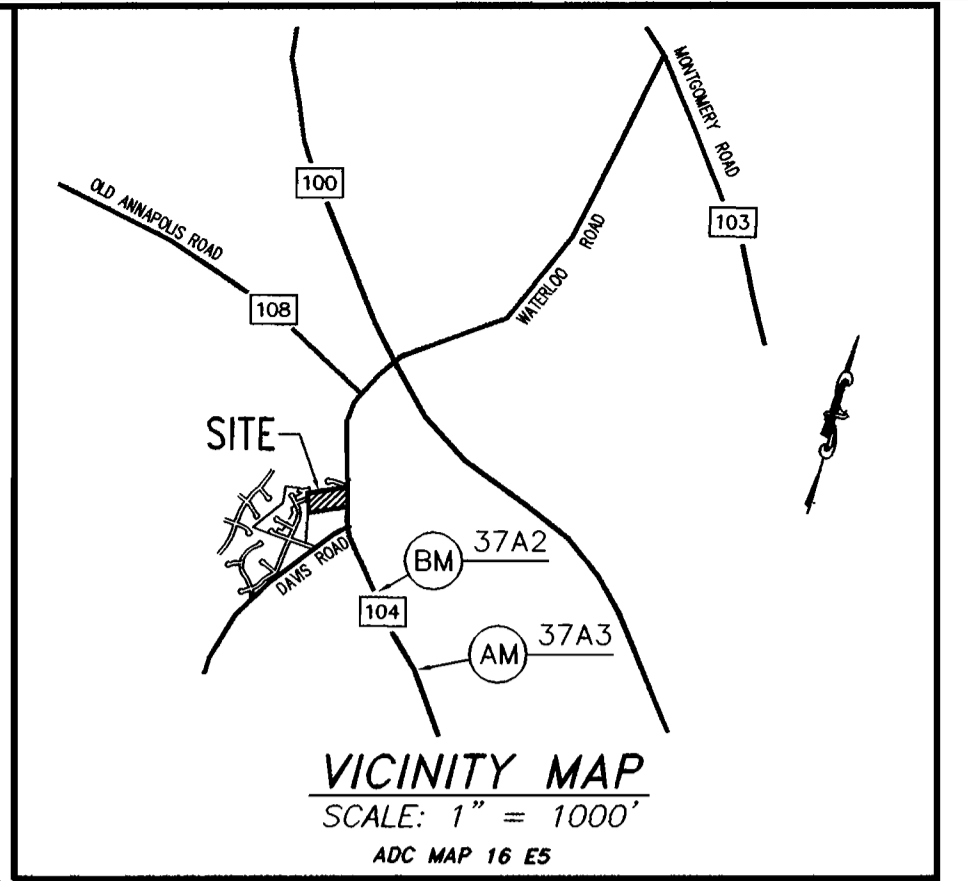


**NOTES:** THE IMPROVEMENTS SHOWN ON LOTS 2, 3, AND 4 ARE CONCEPTUAL ONLY. THEY ARE SHOWN TO ILLUSTRATE HOW THE PLACEMENT OF VARIOUS UTILITIES MUST BE CAREFULLY COORDINATED.

**LEGEND**

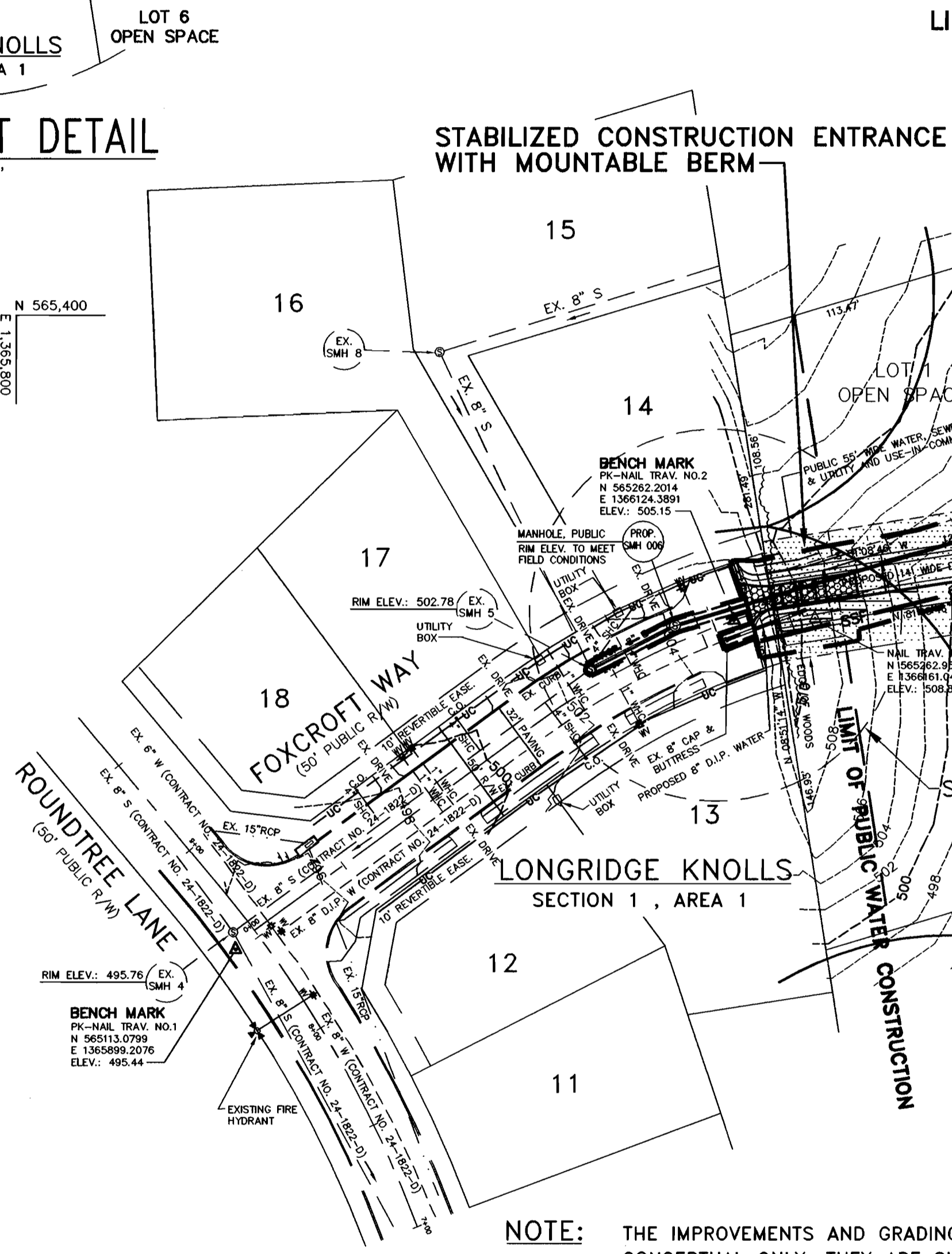
EXISTING WATER VALVE SIGN	
EXISTING UTILITY BOX	
EXISTING CLEANOUT	
EXISTING WATER	
EXISTING SEWER	
EXISTING STORM DRAIN	
EXISTING SEWER HOUSE CONNECTION	
EXISTING WATER HOUSE CONNECTION	
EXISTING UNDERGROUND CABLE	
PUBLIC DRAINAGE & UTILITY AND USE-IN-COMMON EASEMENT	
PRIVATE USE-IN-COMMON RIGHT-OF-WAY AND DRAINAGE & UTILITY EASEMENT	



- SEQUENCE OF CONSTRUCTION
1. Obtain a Grading Permit.
  2. Clear and grub areas for stabilized construction entrance with mountable berm and super silt fence. (1 day)
  3. Install stabilized construction entrance with mountable berm and super silt fence as shown on plan and in accordance with details. (1 day)
  4. Install Public Sewer and Water Services. (4 days)
  5. Perform necessary grading and stabilize the site with topsoil and seeding notes. All concentrated flow areas shall receive erosion control matting. (1 day)
  6. After the site is permanently stabilized and permission is granted from the Howard County Sediment Control Inspector, remove sediment controls and stabilize any remaining disturbed areas. (1 day)
- \* NOTE TO UTILITY CONTRACTOR: THE GRADING OPERATION PERTINENT TO THIS PLAN SHALL BE LIMITED TO THAT NECESSARY FOR THE WATER AND SEWER INSTALLATIONS ONLY. THE CONTRACTOR IS SPECIFICALLY PROHIBITED FROM GRADING THE AREAS OF THE LOTS WHICH ILLUSTRATE CONCEPTUAL CONTOURS AND IMPROVEMENTS.

**ENLARGEMENT DETAIL**  
SCALE: 1" = 30'

SAWCUT MACADAM FOR PUBLIC WATER & SEWER INSTALLATION.



LIMIT OF DISTURBANCE

STABILIZED CONSTRUCTION ENTRANCE WITH MOUNTABLE BERM

**PLAN VIEW**  
SCALE: 1" = 50'

NOTE: THE IMPROVEMENTS AND GRADING SHOWN ON LOTS 2, 3, AND 5 ARE CONCEPTUAL ONLY. THEY ARE SHOWN ONLY TO ILLUSTRATE POSSIBLE FUTURE DEVELOPMENT OF THE PROPERTY

- HOWARD SOIL CONSERVATION DISTRICT  
STANDARD SEDIMENT CONTROL NOTES
1. A minimum of 48 hours notice must be given to the Howard County Department of Inspections, Licenses and Permits, Sediment Control Division prior to the start of any construction (313-1855)
  2. 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.
  3. 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/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol 1, Chapter 7 of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
  5. 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. G). Temporary stabilization germination and establishment of grasses.
  6. All sediment control structure 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.
  7. Site Analysis:  
Total Area of Site = 4.963 Acres  
Area Disturbed = 0.35 Acres  
Area to be roofed or paved = 0 Acres  
Area to be vegetatively stabilized = 0.34 Acres  
Total Cut = 0 Cu. Yds.  
Total Fill = 0 Cu. Yds.  
Offsite waste/borrow area location: N/A
  8. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired the same day of disturbance.
  9. Additional sediment control 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.
  11. Trenches for the construction of utilities is limited to three pipe lengths or that which shall be back-filled and stabilized within one working day, whichever is shorter.

- LEGEND**
- LIMIT OF DISTURBANCE
  - SUPER SILT FENCE 390 L.F.
  - STABILIZED CONSTRUCTION ENTRANCE WITH MOUNTABLE BERM 1 EA.
  - EXISTING CONTOUR
  - PROPOSED CONTOUR
  - SOIL TYPES
  - EXISTING WATER VALVE
  - SIGN
  - EXISTING UTILITY BOX
  - EXISTING CLEANOUT
  - EXISTING WATER
  - EXISTING SEWER
  - EXISTING STORM DRAIN
  - EXISTING SEWER HOUSE CONNECTION
  - EXISTING WATER HOUSE CONNECTION
  - EXISTING UNDERGROUND CABLE
  - PUBLIC DRAINAGE & UTILITY AND USE-IN-COMMON EASEMENT
  - PRIVATE USE-IN-COMMON RIGHT-OF-WAY AND DRAINAGE & UTILITY EASEMENT

Developer:  
"I/We certify that all development and construction will be done according to this plan, 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 also authorize periodic on-site inspection by the Howard Soil Conservation District."

*William H. Burke, Jr.* 1/30/01  
Signature of Developer  
Date  
WILLIAM H. BURKE, JR.  
Engineer

"I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

*Arthur E. Leonard* 01-30-01  
Signature of Engineer  
Date  
ARTHUR E. LEONARD  
Reviewed for HOWARD SCD and meets Technical Requirements  
*Jim Meyer* 3/7/01  
USDA-Natural Resources Conservation Service  
Date  
This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.  
*John Robertson* 3/7/01  
Howard SCD  
Date

GP-01-100

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENT

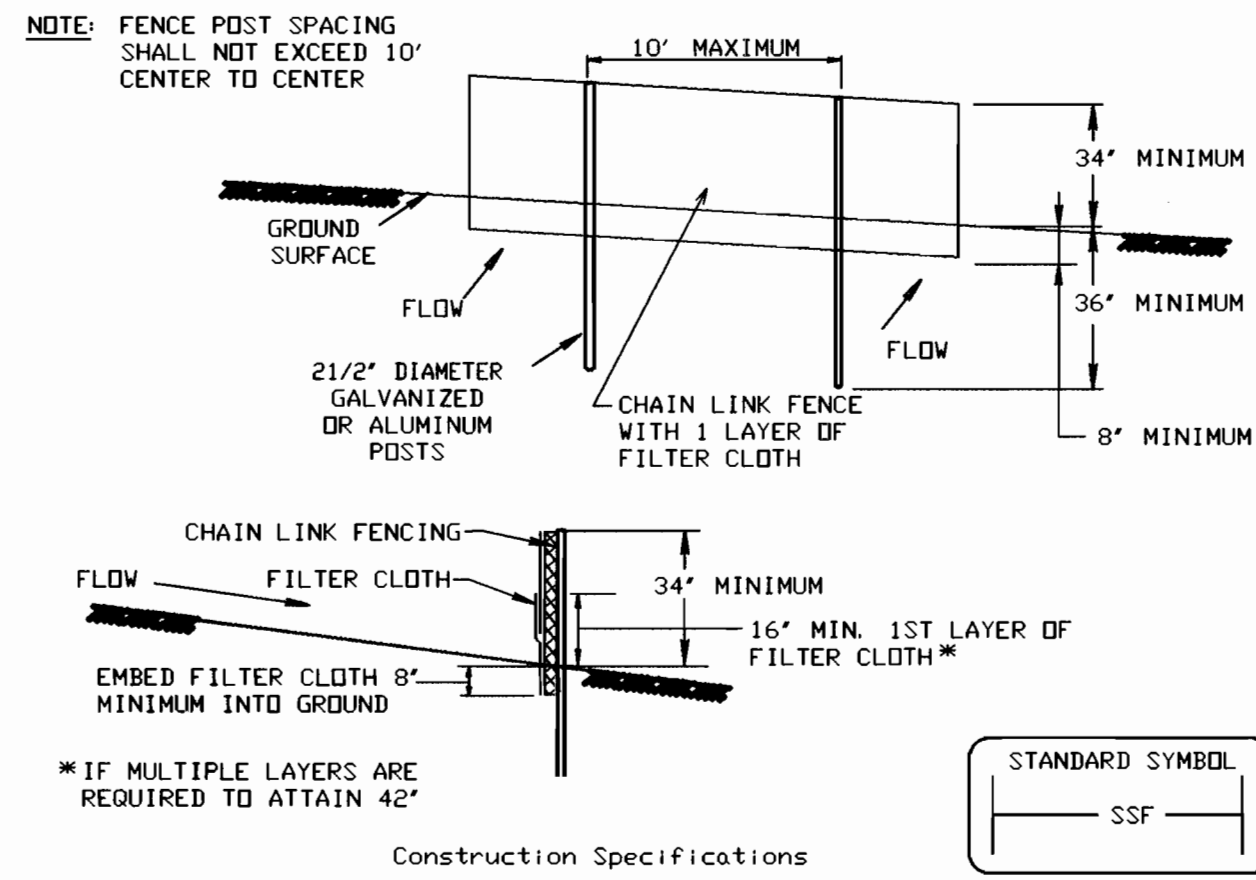
*Jim Meyer* 3/7/01  
SIGNATURE DATE  
U.S.D.A. NATURAL RESOURCES CONSERVATION SERVICE

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

APPROVED: *John Robertson* 3/7/01  
HOWARD S.C.D. DATE

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND <i>John Robertson</i> 2-21-02 CHIEF, BUREAU OF UTILITIES DATE	DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND <i>John Robertson</i> 3/7/01 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE	<b>STATE OF THE ART CIVIL ENGINEERING, INC.</b> ENGINEERING / SURVEYING / PLANNING 206 SOUTH HAYS STREET, SUITE 201 BEL AIR, MARYLAND 21014 PHONE: 410-879-8053, FAX 410-879-0417	DESIGN: J. ALEXANDER DRAWN: J. ALEXANDER CHECK: A. LEONARD DATE: 1-26-01	BY NO. _____ REVISION _____ DATE _____	SCALE: 600' MAP NO. 30 & 36 BLOCK NO. 24 & 6	<b>SEDIMENT CONTROL PLAN</b>	<b>LAND OF WILLIAM H. BURKE JR.</b> LOTS 1-6 6TH ELECTION DISTRICT CONTRACT NO. 24-3928-D	SCALE AS SHOWN SHEET 3 OF 5
---	--	---	---	--	--	------------------------------	--	--------------------------------

DETAIL 33 - SUPER SILT FENCE



- NOTE: FENCE POST SPACING SHALL NOT EXCEED 10' CENTER TO CENTER
- CONSTRUCTION SPECIFICATIONS
- Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 6' fence shall be used, substituting 42" fabric and 6' length posts.
  - Chain link fence shall be fastened securely to the fence posts with wire ties. The lower tension wire, brace and truss rods, drive anchors and post caps are not required except on the ends of the fence.
  - Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.
  - Filter cloth shall be embedded a minimum of 8" into the ground.
  - When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.
  - Maintenance shall be performed as needed and silt buildups removed when "bulges" develop in the silt fence, or when silt reaches 50% of fence height.
  - Filter cloth shall be fastened securely to each fence post with wire ties or staples at top and mid section and shall meet the following requirements for Geotextile Class F:

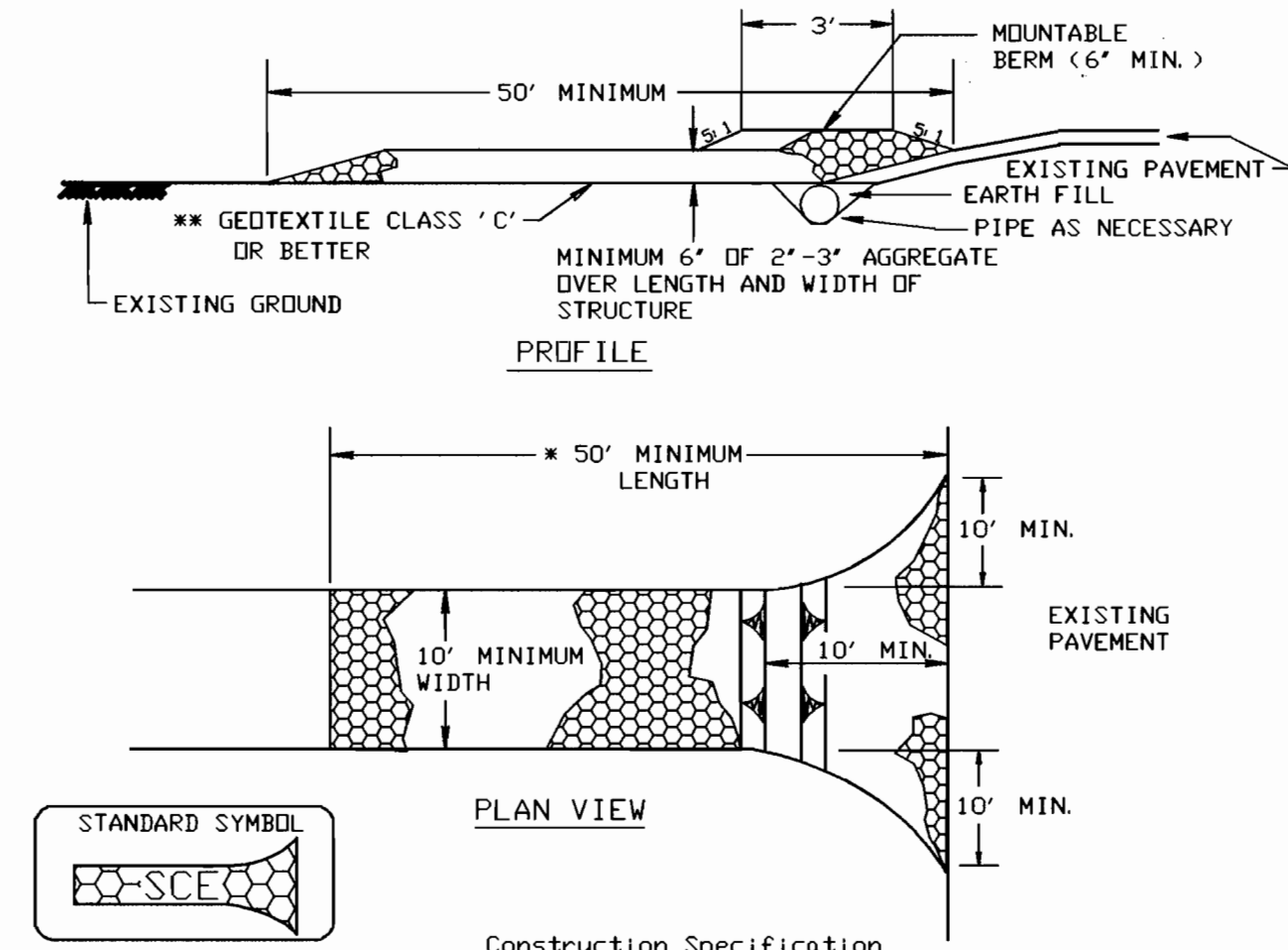
Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal/ft <sup>2</sup> /minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

SUPER SILT FENCE

Design Criteria

Slope	Slope Steepness	Slope Length (maximum)	Silt Fence Length (maximum)
0 - 10%	0 - 10:1	Unlimited	Unlimited
10 - 20%	10:1 - 5:1	200 feet	1,500 feet
20 - 33%	5:1 - 3:1	100 feet	1,000 feet
33 - 50%	3:1 - 2:1	100 feet	500 feet
50% +	2:1 +	50 feet	250 feet

DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE



- CONSTRUCTION SPECIFICATION
- Length - minimum of 50' (<30' for single residence lot).
  - Width - 10' minimum, should be flared at the existing road to provide a turning radius.
  - Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. \*\*The plan approval authority may not require single family residences to use geotextile.
  - 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 entrance.
  - 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 according 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.
  - 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.

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENT

*Jim Myers*  
SIGNATURE  
3/7/01  
DATE  
U.S.D.A. NATURAL RESOURCES CONSERVATION SERVICE

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

APPROVED:  
*John Robertson*  
HOWARD S.C.D.  
3/7/01  
DATE



DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND  
*Robert...*  
CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND  
*...*  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

STATE OF THE ART  
CIVIL ENGINEERING, INC.  
ENGINEERING / SURVEYING / PLANNING  
206 SOUTH HAYS STREET, SUITE 201  
BEL AIR, MARYLAND 21014  
PHONE: 410-879-8053, FAX 410-879-0417

DESIGN: J. ALEXANDER			
DRAWN: J. ALEXANDER			
CHECK: A. LEONARD			
DATE: 1-26-01			
BY NO.	REVISION	DATE	

SEDIMENT CONTROL PLAN  
SCALE: 600' MAP NO. 30 & 36 BLOCK NO. 24 & 6

LAND OF WILLIAM H. BURKE JR.  
LOTS 1-6  
6TH ELECTION DISTRICT  
CONTRACT NO. 24-3928-D

SCALE AS SHOWN  
SHEET 4 OF 5

**SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS**

- A. SITE PREPARATION**
- Install erosion and sediment control structures (either temporary or permanent) such as diversions, grade stabilization structures, berms, waterways, or sediment control basins.
  - Perform all grading operations at right angles to the slope. Final grading and shaping is not usually necessary for temporary seeding.
  - Schedule required soil tests to determine soil amendment composition and application rates for sites having disturbed area over 5 acres.
- B. SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS)**
- Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas over 5 acres. Soil analysis may be performed by the University of Maryland or a recognized commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses.
  - Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers shall all be delivered to the site fully labeled according to the applicable state fertilizer laws and shall bear the name, trade name or trademark and warrantee of the producer.
  - Lime materials shall be ground limestone (hydrated or burnt lime may be substituted) which contains at least 50% total oxides (calcium oxide plus magnesium oxide). Limestone shall be ground to such fineness that at least 50% will pass through a #100 mesh sieve and 98-100% will pass through a #20 mesh sieve.
  - Incorporate lime and fertilizer into the top 3" - 5" of soil by disking or other suitable means.
- C. SEEDBED PREPARATION**
- Temporary seeding
    - Seedbed preparation shall consist of loosening soil to a depth of 3" to 5" 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 should not be rolled or dragged smooth but left in the roughened condition. Sloped areas (greater than 3:1) should be tracked leaving the surface in irregular condition 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" - 5" of soil by disking or other suitable means.
  - Permanent Seeding
    - Minimum soil conditions required for permanent vegetative establishment:
      - Soil pH shall be between 6.0 and 7.0.
      - Soluble salts shall be less than 500 parts per million (ppm).
      - The soil shall contain less than 40% clay but enough fine grained material (>30% silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception is if lowgrass or sercila lespedeza is to be planted, then a sandy soil (<30% silt plus clay) would be acceptable.
      - Soil shall contain 1.5% minimum organic matter by weight.
      - Soil must contain sufficient pore space to permit adequate root penetration.
      - If these conditions cannot be met by soils on site, adding topsoil is required in accordance with Section 21 Standard and Specification for Topsoil.
    - Areas previously graded in conformance with the drawings shall be maintained in a true and even grade, then scarified or otherwise loosened to a depth of 3" - 5" to permit bonding of the topsoil to the surface area and to create horizontal erosion check slots to prevent topsoil from sliding down a slope.
    - Apply soil amendments as per soil test or as included on the plans.
    - Mix soil amendments into the top 3" - 5" of topsoil by disking or other suitable means. Lawn areas should be raked to smooth the surface, remove large objects like stones and branches, and ready the area for seed application. Where site conditions will not permit normal seeded preparation, loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface. Steep slopes (steeper than 3:1) should be tracked by a dozer leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. The top 1" - 3" of soil should be loose and friable. Seeded loosening may not be necessary on newly disturbed areas.

- Lime - use only ground agricultural limestone, (up to 3 tons per acre may be applied by hydrosedding). Normally, not more than 2 tons are applied by hydrosedding at any one time. Do not use burnt or hydrated lime when hydrosedding.
  - Seed and fertilizer shall be mixed on site and seeding shall be done immediately and without interruption.
  - Dry Seeding: This includes use of conventional drop or broadcast spreaders.
    - Seed spread dry shall be incorporated into the subsoil at the rates prescribed on the Temporary or Permanent Seeding Summaries or Tables 25 or 26. The seeded area shall then be rolled with a weighted roller to provide good seed to soil contact.
    - Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.
  - Drill or Cultipacker Seeding: Mechanized seeders that apply 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. Seeded must be firm after planting.
    - Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.
- F. MULCH SPECIFICATIONS (IN ORDER OF PREFERENCE)**
- Straw shall consist of thoroughly threshed wheat, rye or oat straw, reasonably bright in color, and shall not be rusty, moldy, caked, decayed, or excessively dusty and shall be free of noxious weed seeds as specified in the Maryland Seed Law.
  - Wood Cellulose Fiber Mulch (WCFM)
    - WCFM shall consist of specially prepared wood cellulose processed into a uniform fibrous physical state.
    - WCFM shall be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry.
    - WCFM, including dye, shall contain no germination or growth inhibiting factors.
    - WCFM materials shall be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material shall form a blotter-like ground cover, on application, having moisture absorption and percolation properties and shall cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
    - WCFM material shall contain no elements or compounds at concentration levels that will be phytotoxic.
    - WCFM must conform to the following physical requirements: fiber length to approximately 10 mm., diameter approximately 1 mm., pH range of 4.0 to 8.5, ash content of 1.6% maximum and water holding capacity of 90% minimum.
- NOTE:** Only sterile straw mulch should be used in areas where one species of grass is desired.
- G. MULCHING SEEDED AREAS - MULCH SHALL BE APPLIED TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING.**
- If grading is completed outside of the seeding season, mulch alone shall be applied as prescribed in this section and maintained until the seeding season returns and seeding can be performed in accordance with these specifications.
  - When straw mulch is used, it shall be spread over all seeded areas at the rate of 2 tons/acre. Mulch shall be applied to a uniform loose depth of between 1" and 2". Mulch applied shall achieve a uniform distribution and depth so that the soil surface is not exposed. If a mulch anchoring tool is to be used, the rate should be increased to 2.5 tons/acre.
  - Wood cellulose fiber used as a mulch shall be applied at a net dry weight of 1,500 lbs. per acre. The wood cellulose fiber shall be mixed with water and the mixture shall contain a maximum of 50 lbs. of wood cellulose fiber per 100 gallons of water.
- H. SECURING STRAW MULCH (MULCH ANCHORING):** MULCH ANCHORING SHALL BE PERFORMED IMMEDIATELY FOLLOWING MULCH APPLICATION TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS (LISTED BY PREFERENCE), DEPENDING UPON SIZE OF AREA AND EROSION HAZARD:
- A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of two (2) inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should be used on the contour if possible.
  - Wood cellulose fiber may be used for anchoring straw. The fiber binder shall be applied at a net dry weight of 750 pounds/acre. The wood cellulose fiber shall be mixed with water and the mixture shall contain a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
  - Application of liquid binders should be heavier at the edges where wind catches mulch, such as in valleys and on crests of banks. The remainder of area should appear uniform after binder application. Synthetic binders - such as Acrylic DLR (Ago-Tack), BGA-70, Patrosel, Terra Tax II, Tack AR or other approved equal may be used at rates recommended by the manufacturer to anchor mulch.
  - Lightweight plastic netting may be stapled over the mulch according to manufacturer's recommendations. Netting is usually available in rolls 4' to 15' feet wide and 300 to 3,000 feet long.

**SECTION IV - SOD: TO PROVIDE QUICK COVER ON DISTURBED AREAS (2:1 GRADE OR FLATTER).**

- A. GENERAL SPECIFICATIONS**
- Class of turfgrass sod shall be Maryland or Virginia State Certified or Approved. Sod labels shall be made available to the job foreman and inspector.
  - Sod shall be machine cut at a uniform soil thickness of 3/4", plus or minus 1/4", at the time of cutting. Measurement for thickness shall exclude top growth and thatch. Individual pieces of sod shall be cut to the suppliers width and length. Maximum allowable deviation from standard widths and lengths shall be 5 percent. Broken pads and torn or uneven ends will not be acceptable.
  - Standard size sections of sod shall be strong enough to support their own weight and retain their size and shape when suspended vertically with a firm grasp on the upper 10 percent of the section.
  - Sod shall not be harvested or transported when moisture content (excessively dry or wet) may adversely affect its survival.
  - Sod shall be harvested, delivered, and installed within a period of 36 hours. Sod not transported within this period shall be approved by an agronomist or soil scientist prior to its installation.

- B. SOD INSTALLATION**
- During periods of excessively high temperature or in areas having dry subsoil, the subsoil shall be lightly irrigated immediately prior to laying the sod.
  - The first row of sod shall be laid in a straight line with subsequent rows placed parallel to and tightly wedged against each other. Lateral joints shall be staggered to promote more uniform growth and strength. Ensure that sod is not stretched or overlapped and that all joints are butted tight in order to prevent voids which would cause air drying of the roots.
  - Wherever possible, sod shall be laid with the long edges parallel to the contour and with staggering joints. Sod shall be rolled and tamped, pegged or otherwise secured to prevent slippage on slopes and to ensure solid contact between sod roots and the underlying soil surface.
  - Sod shall be watered immediately following rolling or tamping into the underside of the new side pad and soil surface below the sod are thoroughly wet. The operations of laying, tamping and irrigating for any piece of sod shall be completed within eight hours.
- C. SOD MAINTENANCE**
- In the absence of adequate rainfall, watering shall be performed daily or as often as necessary during the first week and in sufficient quantities to maintain moist soil to a depth of 4". Watering should be done during the heat of the day to prevent wilting.
  - After the first week, sod watering is required as necessary to maintain adequate moisture content.
  - The first mowing of sod should not be attempted until the sod is firmly rooted. No more than 1/3 of the grass leaf shall be removed by the initial cutting or subsequent cuttings. Grass height shall be maintained between 2" and 3" unless otherwise specified.

**HOWARD SOIL CONSERVATION DISTRICT 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, disking or other acceptable means before seeding, if not previously loosened.

Soil Amendments: In lieu of soil test recommendations, use one of the following schedules:

- Preferred-Apply 2 tons/acre dolomitic limestone (92lbs/1000 sq. ft.) and 600 lbs/acre 10-10-10 fertilizer (14 lbs/1000 sq. ft.) before seeding. Harrow or disk into upper three inches of soil. At time of seeding, apply 400 lbs/acre 30-0-0 ureaform fertilizer (9 lbs/1000 sq. ft.)
- Acceptable-Apply 2 tons/acre dolomitic limestone (92lbs/1000 sq. ft.) and 1000 lbs/acre 10-10-10 fertilizer (23 lbs/1000 sq. ft.) before seeding. Harrow or disk into upper three inches of soil.

Seeding-Far the periods March 1-April 30, and August 1-October 15, seed with 60 lbs/acre (1.4 lbs/1000 sq. ft.) of Kentucky 31 Tall Fescue. For the period May 1-July 31, seed with 60 lbs Kentucky 31 Tall Fescue per acre and 2 lbs/acre (.05 lbs/1000 sq. ft.) of weeping lovegrass. During the period of October 16-February 28, protect site by Option 1-Two tons per acre of well anchored straw mulch and seed as soon as possible in the spring. Option 2-Use sod. Option 3-Seed with 60 lbs/acre Kentucky 30 Tall Fescue and mulch with 2 tons/acre well anchored straw.

Mulching-Apply 1-1/2 to 2 tons per acre (70 to 90 lbs/1000 sq. ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000 sq. ft.) of emulsified asphalt on flat areas. On slope 8 feet or higher, use 348 gallons per acre (8 gal/1000 sq. ft.) for anchoring.

Maintenance-Inspect all seeding areas and make needed repairs, replacements and reseedings.

**TEMPORARY SEEDING NOTES**

Apply to graded or cleared areas likely to be re-disturbed where short-term vegetative cover is needed.

Seedbed preparation - Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.

Soil Amendments - Apply 600 lbs/acre 10-10-10 fertilizer (14 lbs/1000 sq. ft.)

Seeding - For periods March 1 - April 30 and from August 15 - October 15, seed with 2-1/2 bushel per acre of annual rye (3.2 lbs/1000 sq.ft.). For the period May 1 - August 14, seed with 3 lbs/acre of weeping lovegrass (.07 lbs/1000 sq. ft.). For the period November 16 - February 28, protect site by applying 2 ton/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/acre (70 to 90 lbs/1000 sq. ft.) of unrotted weed-free, small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal. per acre (5 gal/1000 sq. ft.) of emulsified asphalt on flat areas. On slope 8 ft. or higher, use 348 gal. per acre (8 gal/1000 sq. ft.) for anchoring.

Refer to the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for additional rates and methods not covered.

**TABLE 26 TEMPORARY SEEDING RATES, DEPTHS AND DATES**

SPECIES	MINIMUM SEEDING RATES		PLANTING DEPTH	HARDINESS ZONES AND SEEDING DATES								
				7a AND 7b		6b		6a AND 5b				
	PER ACRE	LBS/1000 SQ.FT.	INCHES	2/1-4/30	5/1-8/14	8/15-11/30	3/1-4/30	5/1-8/14	8/15-11/15	6/1-7/31	8/1-10/31	
CHOOSE ONE: BARLEY OATS RYE 39	2.5 BU(122LBS) 3.0 BU(96LBS) 2.5 BU(140LBS)	2.80 2.21 3.22	1-2 1-2 1-2	X	-	BY 10/15	X	-	BY 10/15	X	-	BY 10/15
BARLEY OR RYE PLUS FOXTAIL MILLET 40	150 LBS	3.45	1	X	X	10/15	X	X	10/15	X	X	10/15
WEEPING LOVEGRASS 41	4 LBS	.09	1/4-1/2	-	X	-	-	X	-	-	X	-
ANNUAL RYEGRASS	50 LBS	1.15	1/4-1/2	X	-	11/1	X	-	11/1	X	-	8/15
MILLET 42	50 LBS	1.15	1/2	-	X	-	-	X	-	-	X	-

\* FOR PERIODS MARCH 1 THRU APRIL 30 AND AUGUST 15 THRU NOVEMBER 15, SEED MIXTURE MUST INCLUDE 30 LBS/ACRE OR 0.75 LB/1000 SF OF K-31 TALL FESCUE.

**TABLE 25 PERMANENT SEEDING FOR LOW MAINTENANCE AREAS**

MIX	SEED MIX (USE CERTIFIED MATERIAL-IF AVAILABLE)	PLANTING		SITE CONDITIONS	USDA HARDINESS ZONES	RECOMMENDED PLANTING DATES								REFERENCE NOTES	
		LBS/AC	LBS/1000SF			3/1-5/15	3/15-6/1	5/16-8/14	6/2-7/31	8/1-10/1	8/15-10/15	8/15-11/15			
1	TALL FESCUE(75%) CANADA BLUEGRASS(10%) KENTUCKY BLUEGRASS(10%) REDTOP(5%)	150	3.4	MOIST TO DRY	5a										A
					6a	X	X	X	X	X	X	X	X		
					6b	X	X	X	X	X	X	X	X		
					7a										
2	KENTUCKY BLUEGRASS(50%) CREEPING RED FESCUE OR A-HARD FESCUE(40%) REDTOP (10%)	150	3.4	MOIST TO MODERATELY DRY TO DRY	5a										B
					6a	X	X	X	X	X	X	X	X		
					6b	X	X	X	X	X	X	X	X		
					7a										
3	TALL FESCUE (85%) PERENNIAL RYEGRASS(10%) KENTUCKY BLUEGRASS(5%)	125	2.9	MOIST TO DRY	5a										C
					6a	X	X	X	X	X	X	X	X		
					6b	X	X	X	X	X	X	X	X		
					7a										
4	RED FESCUE OR CHEWINGS FESCUE(80%) PERENNIAL RYEGRASS(20%)	60	.92	MOIST TO DRY	5a										D
					6a										
					6b										
					7a										
5	TALL FESCUE(85%) OR PERENNIAL RYEGRASS(50%) PLUS CROWNVEICH OR FLATPEA	110	2.5	MOIST TO DRY	5a										E
					6a	X	X	X	X	X	X	X	X		
					6b	X	X	X	X	X	X	X	X		
					7a										
6	WEEPING LOVEGRASS(17%) SERCILA LESPEDEZA(83%)	4	.09	DRY TO VERY DRY	5a										F
					6a										
					6b										
					7a										
7	TALL FESCUE (83%) WEEPING LOVEGRASS (2%)PLUS SERCILA LESPEDEZA (15%)	110	2.5	DRY TO VERY DRY	5a										G
					6a	X	X	X	X	X	X	X	X		
					6b	X	X	X	X	X	X	X	X		
					7a										
8	REED CANARYGRASS (75%) REDTOP (6%) PLUS BIRDSFOOT TREEFOIL(19%)	40	.07	WET TO MODERATELY DRY	5a										H
					6a	X	X	X	X	X	X	X	X		
					6b	X	X	X	X	X	X	X	X		
					7a										
9	TALL FESCUE (86%) POA TRIVALIS (7%) BIRDSFOOT TREEFOIL (7%)	125	2.9	WET TO MODERATELY DRY	5a										I
					6a	X	X	X	X	X	X	X	X		
					6b	X	X	X	X	X	X	X	X		
					7a										
10	TALL FESCUE (80%) HARD FESCUE (20%)	120	3.4	WET TO DRY	5a										J
					6a	X	X	X	X	X	X	X	X		
					6b	X	X	X	X	X	X	X	X		
					7a										
11	HARD FESCUE (100%)	.75	1.7	MOIST TO DRY	5a										K
					6a	X	X	X	X	X	X	X	X		
					6b	X	X	X	X	X	X	X	X		
					7a										

- NOTES:**
- A--USED BY SHA ON SLOPED AREAS. ADD A LEGUME FOR SLOPES. THAN 3:1
  - B--USED IN MEDIAN AREAS BY SHA. SHADE TOLERANT.
  - C--POPULAR MIX - PRODUCES PERMANENT GROUNDCOVER QUICKLY. BLUEGRASS THICKENS STAND.
  - D--BEST USE ON SHADY SLOPES NOT ON POORLY DRAINED CLAYS.
  - E--USE ON LOW MAINTENANCE, STEEP SLOPES. USE TALL FESCUE IN DRAUGHT COND. CROWNVEICH BEST FOR 5a,6a,6b.
  - F--SUITABLE FOR SEEDING IN MID-SUMMER.
  - G--WEEPING LOVEGRASS MAY BE SEED ALONE. THE HARD FESCUE PROVIDES BETTER SHADE TOLERANCE AND PRODUCES A BETTER STAND.
  - H--USE ON POORLY DRAINED SOILS - DITCHES OR WATERWAYS. BIRDSFOOT TREEFOILS BEST FOR ZONES 7a AND 7b.
  - I--USE IN AREAS OF MOIST SHADE. POA TRIVALIS THRIVES IN WET SHADY AREAS.
  - J--TALL FESCUE MAY BE SEED ALONE. THE HARD FESCUE PROVIDES BETTER SHADE TOLERANCE AND PRODUCES A BETTER STAND.
  - K--LOW FERTILITY GRASS. REQUIRES INFREQUENT MOWING. GOOD COMPANION FOR WILDFLOWERS.
- LEGUMINOUS SEEDS SHALL BE INOCULATED OR TREATED WITH UNEXPIRED APPROVED CULTURE FOR THE SPECIFIC LEGUME. IN THE PROPER PROPORTIONS, AS SPECIFIED ON THE PACKAGE LABEL. THE INOCULANT SHALL BE STORED AT ROOM TEMPERATURE, OUT OF DIRECT SUNLIGHT AND AWAY FROM HEATING UNITS. WHEN SEEDING DRY WITH MECHANICAL SEEDERS THOROUGHLY MIX THE POWDER FORM OF THE INOCULANT WITH THE SEED BY WETTING THE SEED WITH A SMALL AMOUNT OF WATER AND THEN ADDING THE POWDER. THE INOCULATED SEED IS THEN MIXED WITH OTHER SEEDS AND PLANTED WITHIN 48 HOURS. SEEDS INOCULATED WITH LIQUID CULTURES SHALL BE PLANTED WITHIN 24 HOURS. INOCULATED SEED NOT PLANTED WITHIN THE SPECIFIED TIME WILL BE REINOCULATED. WHEN USING HYDRAULIC SEEDERS, USE 10 TIMES THE AMOUNT OF INOCULANT SPECIFIED FOR DRY SEEDING. INOCULATED SEED SHALL NOT BE EXPOSED TO SUNLIGHT OR LEFT IN A SLURRY FOR MORE THAN ONE HOUR, OTHERWISE REINOCULATION WILL BE NECESSARY.



REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENT

*Jim Meyers* 3/7/01  
SIGNATURE DATE

U.S.D.A. NATURAL RESOURCES CONSERVATION SERVICE

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

APPROVED: *[Signature]* 3/7/01  
HOWARD S.C.D. DATE

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*[Signature]* 2-21-02  
CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

*[Signature]* *[Signature]*  
CHIEF, DEVELOPMENT ENGINEERS DIVISION DATE

STATE OF THE ART CIVIL ENGINEERING, INC.  
ENGINEERING / SURVEYING / PLANNING  
206 SOUTH HAYS STREET, SUITE 201  
BEL AIR, MARYLAND 21014  
PHONE: 410-879-8053, FAX 410-879-0417

DESIGN: J. ALEXANDER			
DRAWN: J. ALEXANDER			
CHECK: A. LEONARD			
DATE: 1-26-01	BY NO.	REVISION	DATE

**TEMPORARY SEEDING SUMMARY**

SEED MIXTURE (HARDINESS ZONE) FROM TABLE 26				FERTILIZER RATE 10-10-10	LIME RATE
NO.	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS	
		(SEE TABLE ABOVE)			600 LB/AC (15LB/1000SF)      2 TON/AC (100LB/1000SF)

**PERMANENT SEEDING SUMMARY**

SEED MIXTURE (HARDINESS ZONE) FROM TABLE 25				FERTILIZER RATE (10-20-20)			LIME RATE
NO.	SPECIES	APPLICATION RATE (lb./ac.)	SEEDING DATES	SEEDING DEPTHS	N	P205	K20
		(SEE TABLE ABOVE)			90 lb./ac. (2.0 lb./1000 s.f.)	175 lb./ac. (4.0 lb./1000 s.f.)	175 lb./ac. (4.0 lb./1000 s.f.)

SEDIMENT CONTROL PLAN

**LAND OF WILLIAM H. BURKE JR.**  
LOTS 1-6  
6TH ELECTION DISTRICT  
CONTRACT NO. 24-3928-D

SCALE: 600' MAP NO. 30 & 36 BLOCK NO. 24 & 6

SCALE AS SHOWN SHEET 5 OF 5