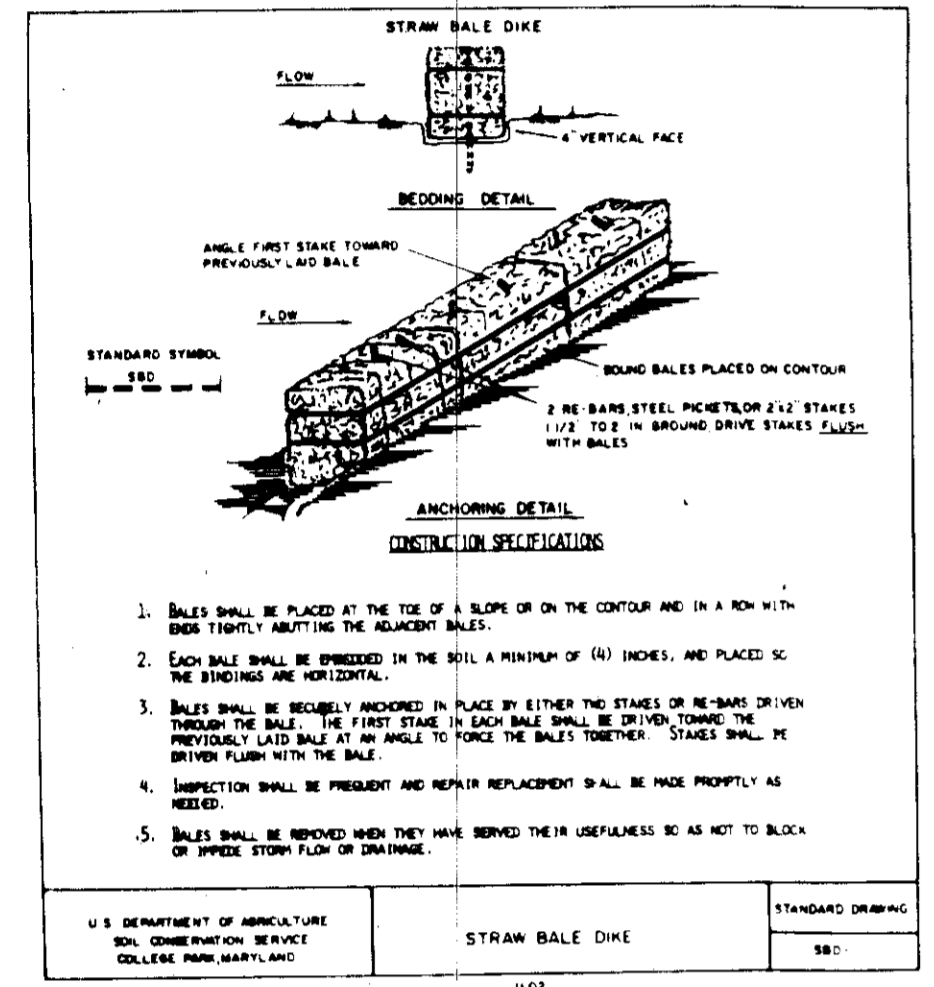
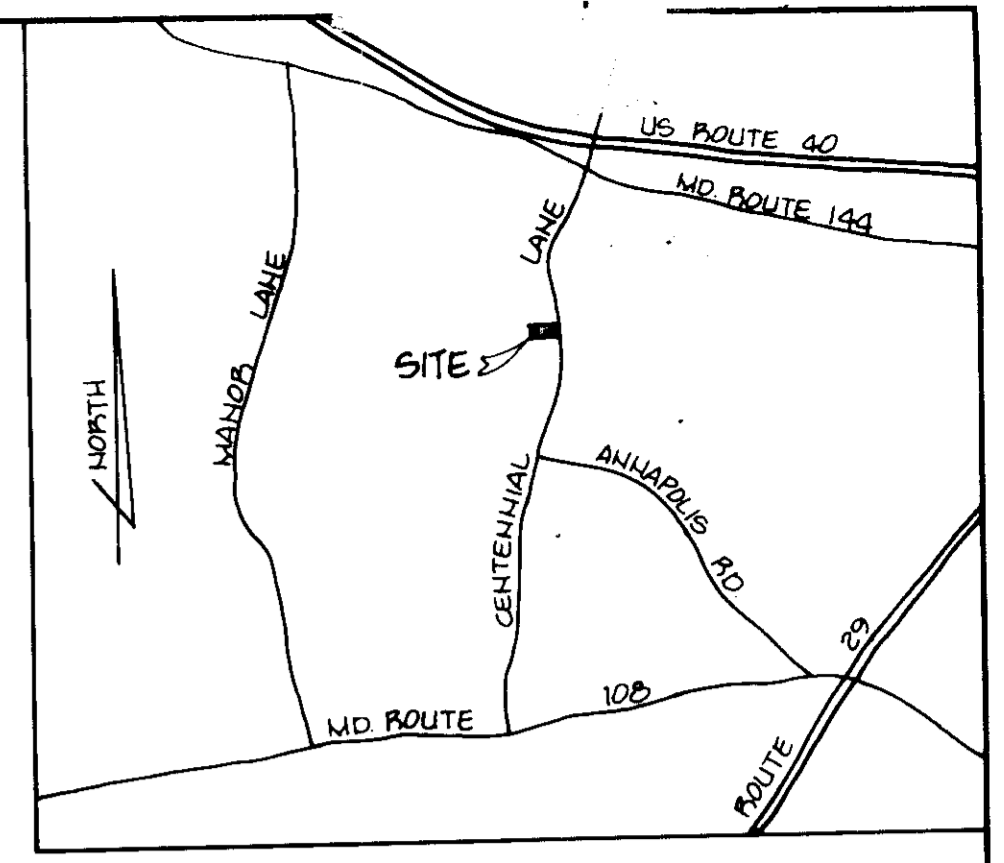
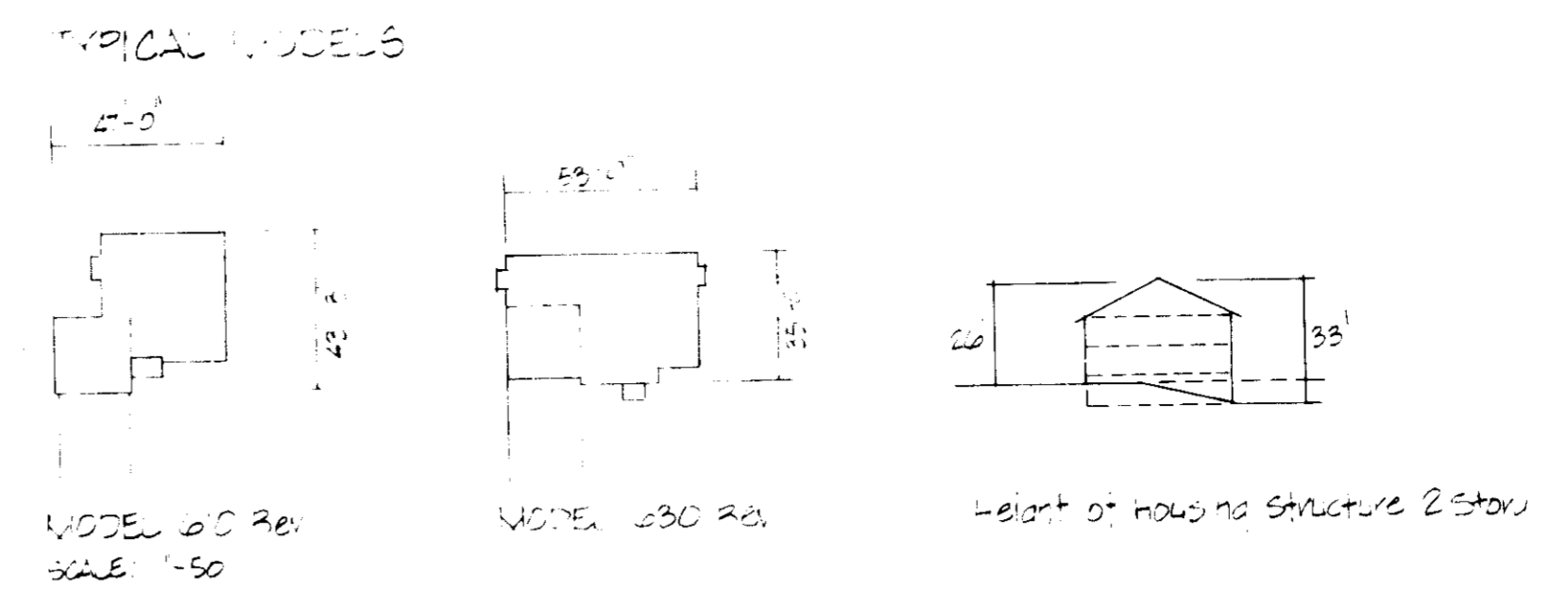


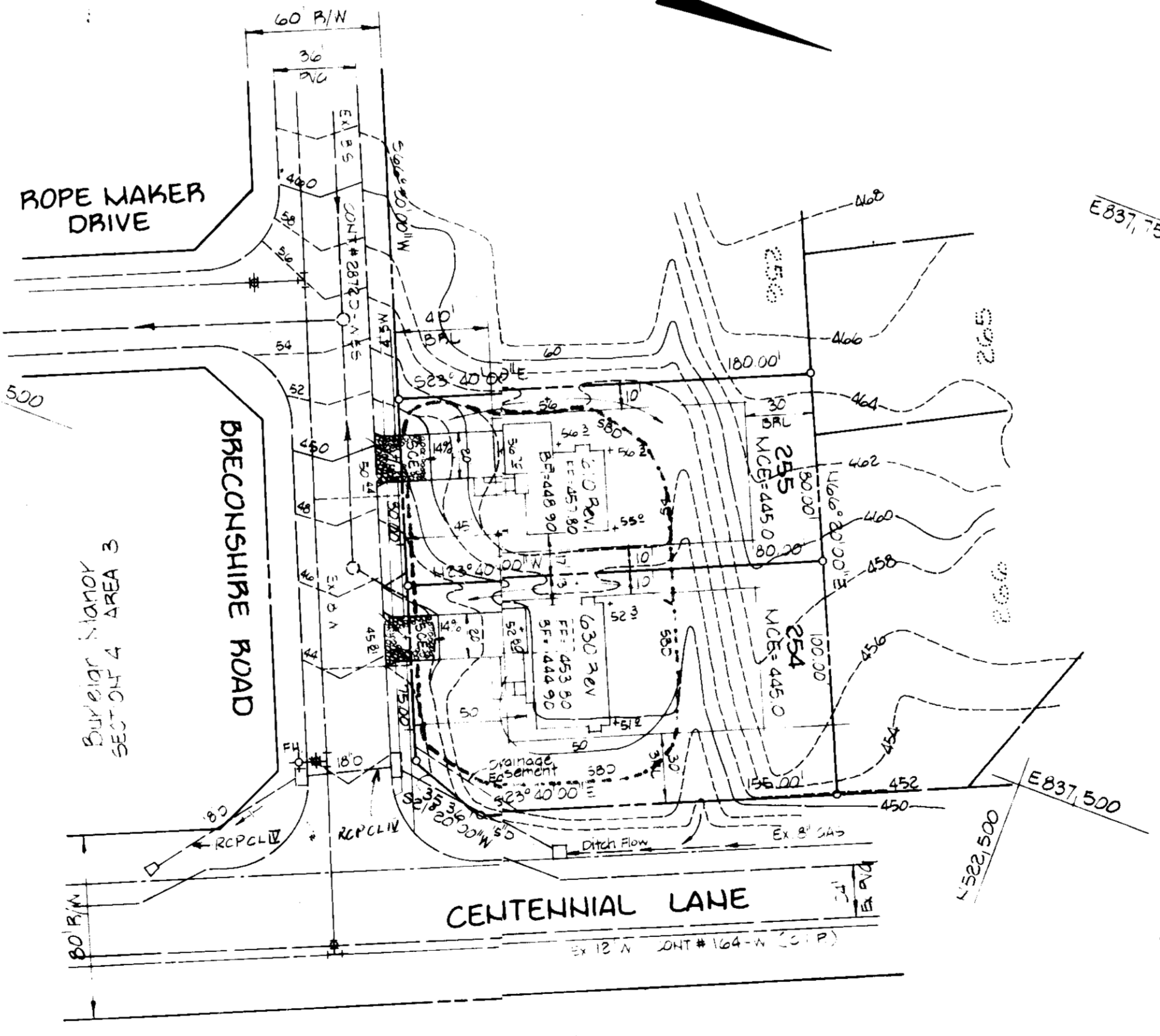
- SEDIMENT CONTROL NOTES**
- All erosion and sediment control measures are to be constructed and maintained in accordance with applicable published Standards and Specifications for Soil Erosion and Sediment Control in Developing Areas.
 - All points of construction ingress and egress will be protected to prevent tracking of mud onto public ways.
 - A grading permit will be obtained from the Department of Public Works prior to start of any earthwork, construction, etc., on dedicated street rights-of-way.
 - Construction or installation of all temporary sediment control measures shall be prior to initial grading.
 - All seeding and/or seeding and mulching is to be done concurrently with fine grading and in accordance with "Critical Area Stabilization" Specification Pages 50.01 through 50.04 of Standards and Specifications, etc.
 - Minor grade adjustments may be made to accommodate interested parties.
 - All temporary diversion dikes are to be temporarily stabilized as per Page 50.01 of Standards and Specifications, etc., immediately after grading.
 - Excavated material to be left rough until period of construction and until just prior to fine grading.
 - Continuous inspection and maintenance of all sediment control structures must be provided to insure intended purpose is accomplished. Devices are to remain until drainage area is stabilized permanently.
 - After removal of temporary sediment structures, the disturbed area must be permanently stabilized per Page 50.01 of Standards and Specifications, etc.
 - All areas not to be constructed upon within 30 days following grading shall be temporarily stabilized as per Page 50.01 of Standards and Specifications, etc.
 - Developer shall protect all adjacent property from damage or disturbance.
 - No sediment control structures will be removed without permission from the sediment control Inspector. Structures shall be removed by the Department of Public Works.
 - Land preparation for ungraded areas:
 - Grass seed shall be broadcast at 500 per 1000 s.f.
 - Commercial fertilizer (10-10-10) spread at 500 per 1000 s.f. shall be mixed with top of top soil.
 - Seed shall be 1000 Kentucky No. 31 Fescue per acre or 1000 s.f.
 - Seeds shall be mulched with straw at the rate of 2000 lbs. per acre and tied down with liquid asphalt at the rate of 0.1 gal. per sq. ft.
 - All straw bales used on project shall be baled with non-weathering materials and shall be of the same approximate size: 14' x 18' x 36". Drive stakes flush with bales for safety.
 - No clearing, grubbing or grading shall be done until temporary dams and berms are constructed and stabilized.
 - Soil to be disposed of in an area approved by the appropriate soil conservation district.
 - Diversion dikes are to be constructed at end of each day's operations in areas specified by the engineer. Diverted runoff will be directed into existing sediment traps around lots or to overflow chutes when specified on plan.
 - The contractor will provide temporary weirs and berms to direct runoff into traps. All sediment devices will become property of contractor at end of project.
 - The developer is responsible for the acquisition of all required easements, rights, and/or rights-of-way pursuant to the discharge from the sediment and erosion control practices, storm water management practices and the discharge of storm water into or across and grading or other work to be performed on adjacent or abutting properties affected by this plan.
 - All areas shall be permanently stabilized when site development work, grading and/or construction activities, cease. Areas shall be stabilized in accordance with the "Critical Area Stabilization" Specification for Soil Erosion and Sediment Control in Developing Areas. The sediment control measures shall be maintained on a continuing basis until the structures are permanently stabilized and all permit requirements are met.
 - Following minimal soil disturbance or disturbance, permanent or temporary stabilization shall be completed within:
 - Sever: 10 calendar days for 1/2 acre sediment control structures
 - 1 acre sediment bales and 2 acres greater than 3/4
 - Fourteen days to all other disturbed or graded area on the project site



- General Notes**
- All roadways existing and public.
 - Any damage to county-owned rights of way will be corrected at developer's expense.
 - Legend:
 - 444 Existing contour
 - 444 Proposed contour
 - x142 Spot elevation
 - Direction of drainage
 - Proposed Straw Bale Dike
 - Proposed Stabilized Construction Entrance
 - Site Analysis:
 - Existing Zoning: R-20
 - No. of lots: 2
 - Area of lots: 30,088 sq. ft. = 0.737 Ac.
 - Area to be paved: 1,900 sq. ft. = 0.030 Ac.
 - Area to be roofed: 3,876 sq. ft. = 0.043 Ac.
 - Area to be seeded: 7,224 sq. ft. = 0.166 Ac.
 - Area to be undisturbed: 24,864 sq. ft. = 0.571 Ac.
 - Construction Sequence:
 - Obtain grading and building permits.
 - Install sediment control measures.
 - Excavate for foundation and rough grade site.
 - Construct house.
 - Fine grade and stabilize.
 - Obtain permission for removal of sediment control measures.
 - Tax Map 24
 - Deed Reference: 9-23-87
 - Division and Sediment Control approved and existing under plan F-80-08 sht 14 of 16.
 - Limits of submission shall be the 0' lines. All other grading shown as proposed shall be considered completed under the F-80-08 construction plans.

ADDRESS CHART	
LOT NUMBER	STREET ADDRESS
254	10150 BRECONSHIRE ROAD
255	10158 BRECONSHIRE ROAD

OWNER AND DEVELOPER
 COSTAIN, INC.
 RESIDENTIAL BUILDERS
 SUITE 1200
 THE EQUITABLE BANK CENTER
 COLUMBIA, MD. 21044
 (301) 465-0141



APPROVED: For Public Water and Public Sewerage Systems,
 Howard County Health Department
Joyce Taylor 12-11-84
 Public Health Officer

APPROVED: Howard County Department of Planning and Zoning
 Planning Director
Thomas A. Harris 12-13-84
John M. ... 12-13-84
 Chief, Division of Land Development and Zoning Administration

APPROVED: For Public Water and Public Sewerage, Storm
 Drainage Systems and Public Roads,
 Howard County Department of Public Works
Wm. F. ... 12-5-84
 Director

Sam ... 12-4-84
 Chief, Bureau of Engineering

APPROVED
 DIVISION OF LAND DEVELOPMENT &
 ZONING ADMINISTRATION
 HOWARD COUNTY, MARYLAND
 DATE 11-19-84
...

Reviewed for *Howard* S.C.D.
 Name
 and meets Technical Requirements.
James M. ... 11-30-84
 U.S. Soil Conservation Service Date

THIS DEVELOPMENT PLAN IS APPROVED
 FOR SOIL EROSION AND SEDIMENT
 CONTROL BY THE HOWARD SOIL
 CONSERVATION DISTRICT
Stephen ... 11/30/84
 Howard S.C.D. Date

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.
Rodolph May Jr. 11/13/84
 Signature of Engineer Date
 RODOLPH MAY, JR.

DEVELOPER'S CERTIFICATE
 I/We certify that all development and construction will be done according to this plan of development and plan for erosion and sediment control and that all responsible personal involved in the construction project will have a certificate of attendance at a Dept. Of Natural Resources 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 or their authorized agents, as are deemed necessary.
Robert Luckert 10/19/84
 SIGNATURE OF DEVELOPER DATE

DESIGNED	SITE DEVELOPMENT PLAN & SEDIMENT CONTROL	SCALE 1"=50'
DRAWN	LOTS 254 & 255	SHEET NO. 10E
CHECKED	BURLEIGH MANOR	OR 40 20033
DATE	SECTION 5, PLAT # 4752 HOWARD COUNTY, MARYLAND 2ND ELECTION DISTRICT	FILE NO. 07
EVANS, HAGAN & HOLDEFER, INC. ENGINEERS, LAND PLANNERS & SURVEYORS 80 S. ... (301) 725-0555 20707		
530 POPLAR STREET / CAMBRIDGE, MD 21613 (301) 228-3350 111 JOHN STREET / WESTMINSTER, MD 21157 (301) 848-1700 8013 BALTIMORE ROAD / BALTIMORE, MD 21286 (301) 458-1901 <i>Rodolph May Jr.</i> DATE 11/13/84 SCALE 1"=50'		

STANDARD AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION TEMPORARY MEASURES

SPECIFICATIONS

I. Site Preparation

A. Prior to seeding, install needed erosion and sediment control practices such as diversions, grade stabilization structures, berms, dikes, grassed waterways, and sediment basins.

B. Final grading and shaping has usually not been completed for temporary seedings.

II. Soil Amendments

For temporary seedings, fertilizer shall be applied at the rate of 400 lbs./ac. or 15 lbs./1,000 sq. ft., using 10-10-10 or equivalent. Soils which are highly acid should be limed.

III. Seeding Preparation

When the area to be seeded has been recently loosened to the extent that adequate seedbed exists, no additional treatment is required. However, when the area to be seeded is packed, crusted, and hard, the top layer of soil shall be loosened by disking, raking or other acceptable means before seeding.

IV. Seeding

A. Select a mixture from Table 50-1.

B. Apply seed uniformly with a cyclone seeder, drill, cultipacker seeder or broadcast seeder (carry include seed and fertilizer).

V. Mulching

When seedings are made on critical slopes or adverse soil conditions, mulch material will be applied immediately after seeding. Seedings made on non-critical slopes and with favorable soils on very flat areas may not need to be mulched. Mulch materials are listed in order of their effectiveness.

A. Materials and Amounts

1. **Mulch Matting** - such as jute or excelsior blanket shall be applied to the surface in waterways and on steep slopes. Lighter materials of paper, plastic and cotton mulch matting may be used where erosion hazard is not severe. If the area is to be mowed, do not use metal staples.

STANDARD AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION PERMANENT MEASURES

SPECIFICATIONS

Vegetation cannot be expected to provide an erosion control cover and prevent soil slippage on a soil that is not stable due to its texture, structure, water movement or excessively steep slope.

Minimum soil conditions needed for the establishment and maintenance of a long-lived vegetative cover

A. Enough fine-grained materials (over 20 percent silt plus clay) to provide the capacity to hold at least a moderate amount of available moisture. Acceptable exception would be planting legumes and certain grasses which can be planted on a sandy soil.

B. Sufficient pore space to permit adequate root penetration.

C. The soil shall be free from any material harmful to plant growth.

D. If these conditions cannot be met, see specification, Topsoiling (57.01).

I. Site Preparation

A. Install needed erosion and sediment control practices such as dikes, contour ripping, erosion steps, channel liners, sediment basins, or other practices.

B. Seeds as needed and feasible to permit the use of conventional equipment for seedbed preparation, seeding, mulch application, anchoring and maintenance.

II. Soil Preparation

Flat areas and slopes up to 3 to 1 grade shall be loose and friable to a depth of at least 3 inches. The top layer of soil shall be loosened by raking, disking or other acceptable means before seeding. Slopes steeper than 3 to 1 shall have the top 1-3 inches of soil loose and friable before seeding.

III. Soil Amendments

Lime and fertilizer according to soil tests. Lime and fertilizer needs can be determined by a soil testing laboratory, such as the University of Maryland's Soil Testing Laboratory.

In lieu of soil test results, apply two tons dolomitic limestone per acre and one of the following rates of fertilizer: 1,000 pounds 10-10-10 or equivalent per acre. For a longer lasting fertilizer treatment apply 400 pounds 10-10-10 or equivalent per acre and disk in and at time of seeding apply an additional 400 pounds of ureaform fertilizer of a grade of at least 30-0-0 per acre. Apply the lime and fertilizer before seeding and harrow or disk uniformly into the soil to a minimum depth of 2 inches on slopes flatter than 3:1. On slopes steeper than 3:1 grade, the lime and fertilizer shall be worked the best way possible. On sloping lands, the final harrowing or disking operation should be on the contour wherever feasible. No attempt should be made to drag any disked area to make the soil surface smooth after disking.

When the above release surface fertilizer will supply nitrogen over a longer period of time.

IV. Seeding

A. Select a mixture from Table 50-1.

B. Apply seed uniformly with a cyclone seeder, drill, cultipacker seeder or broadcaster (carry include seed and fertilizer) on a firm, moist seedbed. Minimum seeding depth should be 1/2 inch on clayey soils and 1/2 inch on sandy soils, when using other than broadcaster method of application. Note: If hydroseeding is used and the seed and fertilizer is mixed, they will be mixed on site and the seeding shall be immediate without interruption.

APPROVED: For Public Water and Public Sewerage Systems, Howard County Health Department
 Date: 12-11-84

APPROVED: Howard County Department of Planning and Zoning.
 Date: 12-13-84
 Chief, Division of Land Development and Zoning Administration

APPROVED: For Public Water and Public Sewerage, Storm Drainage Systems and Public Roads, Howard County Department of Public Works
 Date: 12-5-84
 Chief, Bureau of Engineering

2. **Straw** - Material shall be uncutted small grain straw applied at the rate of 1/2 to 2 tons per acre, or 70 to 200 (500 bales) pounds per 1,000 sq. ft. Mulch materials shall be relatively free of all kinds of weeds and shall be free of prohibited noxious weeds such as: thistles, Johnsongrass and quackgrass.

Spread uniformly by hand or mechanically. For uniform distribution of hand spread mulch, divide area into approximately 1,000 square foot sections and place 70-90 lbs. of mulch in each section.

3. **Wood chips** - at the rate of approximately 6 tons per acre or 275 lbs. per 1,000 sq. ft. may be used when available and when feasible to use.

4. **Wood cellulose fiber** - mulch at the rate of 1,500 pounds per acre or 35 pounds per 1,000 sq. ft. may be applied by hydroseeding.

5. **Mulch anchoring** shall be accomplished immediately after mulch placement 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, erosion hazard, and cost. On sloping land, practice No. 1 below, should be done on the contour wherever possible, except "tracking" should be done up and down the slope with 1/4 inch cleat marks running across the slope.

1. **Mulch Anchoring Tool and Tracking**. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the surface 2 inches of soil. This practice affords maximum erosion control but is limited to flatter slopes where equipment can operate safely. "Tracking" is primarily used on steeper than 3:1 cut and fill slopes to cut the mulch into the soil with cleated bulldozer tracks.

2. **Mulch Matting** - Staple lightweight biodegradable paper, plastic or cotton matting over the mulch according to manufacturer's recommendations. Matting is usually available in rolls 4 feet wide and up to 300 feet long.

3. **Liquid Mulch Binders** - Application of liquid binders should be heavier at edges where wind catches mulch, in valleys, and at areas of bare banks. Remainder of area should be uniform in appearance. Caution should be used with asphalt in residential and similar areas.

4. **Curtack asphalt** - rapid curing (RC-70, RC-250, and RC-800) or medium curing (MC-250 or MC-800). Apply 5 gallons per 1,000 square feet or 200 gallons per acre on flat areas and on slopes less than 8 feet high. On slopes 8 feet or more high, use 8 gallons per 1,000 square feet or 348 gallons per acre.

5. **Emulsified asphalt** - (ES-1, ES-1, ES-2, ES-1, ES-2, ES-1, and ES-2). Apply 5 gallons per 1,000 square feet or 218 gallons per acre on flat areas and on slopes less than 8 feet high. On slopes 8 feet or more high, use 8 gallons per 1,000 square feet or 348 gallons per acre.

All asphalt designations are from the Asphalt Institute Specifications.

6. **Synthetic binders** - Synthetic binders such as Acrylic BSA (Agr-Tac), DCA-70, Permacrete or Terra Tac II or Terra Tac AB may be used at rates recommended by the manufacturer to anchor mulch material.

7. **Wood cellulose fiber** - 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.

8. **Wood cellulose fiber** - 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.

9. **Straw** - Material shall be uncutted small grain straw applied at the rate of 1/2 to 2 tons per acre, or 70 to 200 (500 bales) pounds per 1,000 sq. ft. Mulch materials shall be relatively free of all kinds of weeds and shall be free of prohibited noxious weeds such as: thistles, Johnsongrass and quackgrass.

10. **Wood chips** - at the rate of approximately 6 tons per acre or 275 lbs. per 1,000 sq. ft. may be used when available and when feasible to use.

11. **Wood cellulose fiber** - mulch at the rate of 1,500 pounds per acre or 35 pounds per 1,000 sq. ft. may be applied by hydroseeding.

12. **Mulch anchoring** shall be accomplished immediately after mulch placement 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, erosion hazard, and cost. On sloping land, practice No. 1 below, should be done on the contour wherever possible, except "tracking" should be done up and down the slope with 1/4 inch cleat marks running across the slope.

13. **Mulch Anchoring Tool and Tracking**. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the surface 2 inches of soil. This practice affords maximum erosion control but is limited to flatter slopes where equipment can operate safely. "Tracking" is primarily used on steeper than 3:1 cut and fill slopes to cut the mulch into the soil with cleated bulldozer tracks.

14. **Mulch Matting** - Staple lightweight biodegradable paper, plastic or cotton matting over the mulch according to manufacturer's recommendations. Matting is usually available in rolls 4 feet wide and up to 300 feet long.

15. **Liquid Mulch Binders** - Application of liquid binders should be heavier at edges where wind catches mulch, in valleys, and at areas of bare banks. Remainder of area should be uniform in appearance. Caution should be used with asphalt in residential and similar areas.

16. **Curtack asphalt** - rapid curing (RC-70, RC-250, and RC-800) or medium curing (MC-250 or MC-800). Apply 5 gallons per 1,000 square feet or 200 gallons per acre on flat areas and on slopes less than 8 feet high. On slopes 8 feet or more high, use 8 gallons per 1,000 square feet or 348 gallons per acre.

17. **Emulsified asphalt** - (ES-1, ES-1, ES-2, ES-1, ES-2, ES-1, and ES-2). Apply 5 gallons per 1,000 square feet or 218 gallons per acre on flat areas and on slopes less than 8 feet high. On slopes 8 feet or more high, use 8 gallons per 1,000 square feet or 348 gallons per acre.

All asphalt designations are from the Asphalt Institute Specifications.

18. **Synthetic binders** - Synthetic binders such as Acrylic BSA (Agr-Tac), DCA-70, Permacrete or Terra Tac II or Terra Tac AB may be used at rates recommended by the manufacturer to anchor mulch material.

19. **Wood cellulose fiber** - 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.

20. **Wood cellulose fiber** - 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.

21. **Straw** - Material shall be uncutted small grain straw applied at the rate of 1/2 to 2 tons per acre, or 70 to 200 (500 bales) pounds per 1,000 sq. ft. Mulch materials shall be relatively free of all kinds of weeds and shall be free of prohibited noxious weeds such as: thistles, Johnsongrass and quackgrass.

22. **Wood chips** - at the rate of approximately 6 tons per acre or 275 lbs. per 1,000 sq. ft. may be used when available and when feasible to use.

23. **Wood cellulose fiber** - mulch at the rate of 1,500 pounds per acre or 35 pounds per 1,000 sq. ft. may be applied by hydroseeding.

24. **Mulch anchoring** shall be accomplished immediately after mulch placement 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, erosion hazard, and cost. On sloping land, practice No. 1 below, should be done on the contour wherever possible, except "tracking" should be done up and down the slope with 1/4 inch cleat marks running across the slope.

25. **Mulch Anchoring Tool and Tracking**. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the surface 2 inches of soil. This practice affords maximum erosion control but is limited to flatter slopes where equipment can operate safely. "Tracking" is primarily used on steeper than 3:1 cut and fill slopes to cut the mulch into the soil with cleated bulldozer tracks.

26. **Mulch Matting** - Staple lightweight biodegradable paper, plastic or cotton matting over the mulch according to manufacturer's recommendations. Matting is usually available in rolls 4 feet wide and up to 300 feet long.

27. **Liquid Mulch Binders** - Application of liquid binders should be heavier at edges where wind catches mulch, in valleys, and at areas of bare banks. Remainder of area should be uniform in appearance. Caution should be used with asphalt in residential and similar areas.

28. **Curtack asphalt** - rapid curing (RC-70, RC-250, and RC-800) or medium curing (MC-250 or MC-800). Apply 5 gallons per 1,000 square feet or 200 gallons per acre on flat areas and on slopes less than 8 feet high. On slopes 8 feet or more high, use 8 gallons per 1,000 square feet or 348 gallons per acre.

29. **Emulsified asphalt** - (ES-1, ES-1, ES-2, ES-1, ES-2, ES-1, and ES-2). Apply 5 gallons per 1,000 square feet or 218 gallons per acre on flat areas and on slopes less than 8 feet high. On slopes 8 feet or more high, use 8 gallons per 1,000 square feet or 348 gallons per acre.

All asphalt designations are from the Asphalt Institute Specifications.

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31. **Wood cellulose fiber** - 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.

32. **Wood cellulose fiber** - 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.

33. **Straw** - Material shall be uncutted small grain straw applied at the rate of 1/2 to 2 tons per acre, or 70 to 200 (500 bales) pounds per 1,000 sq. ft. Mulch materials shall be relatively free of all kinds of weeds and shall be free of prohibited noxious weeds such as: thistles, Johnsongrass and quackgrass.

34. **Wood chips** - at the rate of approximately 6 tons per acre or 275 lbs. per 1,000 sq. ft. may be used when available and when feasible to use.

35. **Wood cellulose fiber** - mulch at the rate of 1,500 pounds per acre or 35 pounds per 1,000 sq. ft. may be applied by hydroseeding.

36. **Mulch anchoring** shall be accomplished immediately after mulch placement 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, erosion hazard, and cost. On sloping land, practice No. 1 below, should be done on the contour wherever possible, except "tracking" should be done up and down the slope with 1/4 inch cleat marks running across the slope.

37. **Mulch Anchoring Tool and Tracking**. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the surface 2 inches of soil. This practice affords maximum erosion control but is limited to flatter slopes where equipment can operate safely. "Tracking" is primarily used on steeper than 3:1 cut and fill slopes to cut the mulch into the soil with cleated bulldozer tracks.

38. **Mulch Matting** - Staple lightweight biodegradable paper, plastic or cotton matting over the mulch according to manufacturer's recommendations. Matting is usually available in rolls 4 feet wide and up to 300 feet long.

39. **Liquid Mulch Binders** - Application of liquid binders should be heavier at edges where wind catches mulch, in valleys, and at areas of bare banks. Remainder of area should be uniform in appearance. Caution should be used with asphalt in residential and similar areas.

40. **Curtack asphalt** - rapid curing (RC-70, RC-250, and RC-800) or medium curing (MC-250 or MC-800). Apply 5 gallons per 1,000 square feet or 200 gallons per acre on flat areas and on slopes less than 8 feet high. On slopes 8 feet or more high, use 8 gallons per 1,000 square feet or 348 gallons per acre.

41. **Emulsified asphalt** - (ES-1, ES-1, ES-2, ES-1, ES-2, ES-1, and ES-2). Apply 5 gallons per 1,000 square feet or 218 gallons per acre on flat areas and on slopes less than 8 feet high. On slopes 8 feet or more high, use 8 gallons per 1,000 square feet or 348 gallons per acre.

All asphalt designations are from the Asphalt Institute Specifications.

42. **Synthetic binders** - Synthetic binders such as Acrylic BSA (Agr-Tac), DCA-70, Permacrete or Terra Tac II or Terra Tac AB may be used at rates recommended by the manufacturer to anchor mulch material.

43. **Wood cellulose fiber** - 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.

44. **Wood cellulose fiber** - 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.

45. **Straw** - Material shall be uncutted small grain straw applied at the rate of 1/2 to 2 tons per acre, or 70 to 200 (500 bales) pounds per 1,000 sq. ft. Mulch materials shall be relatively free of all kinds of weeds and shall be free of prohibited noxious weeds such as: thistles, Johnsongrass and quackgrass.

46. **Wood chips** - at the rate of approximately 6 tons per acre or 275 lbs. per 1,000 sq. ft. may be used when available and when feasible to use.

47. **Wood cellulose fiber** - mulch at the rate of 1,500 pounds per acre or 35 pounds per 1,000 sq. ft. may be applied by hydroseeding.

48. **Mulch anchoring** shall be accomplished immediately after mulch placement 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, erosion hazard, and cost. On sloping land, practice No. 1 below, should be done on the contour wherever possible, except "tracking" should be done up and down the slope with 1/4 inch cleat marks running across the slope.

49. **Mulch Anchoring Tool and Tracking**. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the surface 2 inches of soil. This practice affords maximum erosion control but is limited to flatter slopes where equipment can operate safely. "Tracking" is primarily used on steeper than 3:1 cut and fill slopes to cut the mulch into the soil with cleated bulldozer tracks.

50. **Mulch Matting** - Staple lightweight biodegradable paper, plastic or cotton matting over the mulch according to manufacturer's recommendations. Matting is usually available in rolls 4 feet wide and up to 300 feet long.

51. **Liquid Mulch Binders** - Application of liquid binders should be heavier at edges where wind catches mulch, in valleys, and at areas of bare banks. Remainder of area should be uniform in appearance. Caution should be used with asphalt in residential and similar areas.

52. **Curtack asphalt** - rapid curing (RC-70, RC-250, and RC-800) or medium curing (MC-250 or MC-800). Apply 5 gallons per 1,000 square feet or 200 gallons per acre on flat areas and on slopes less than 8 feet high. On slopes 8 feet or more high, use 8 gallons per 1,000 square feet or 348 gallons per acre.

53. **Emulsified asphalt** - (ES-1, ES-1, ES-2, ES-1, ES-2, ES-1, and ES-2). Apply 5 gallons per 1,000 square feet or 218 gallons per acre on flat areas and on slopes less than 8 feet high. On slopes 8 feet or more high, use 8 gallons per 1,000 square feet or 348 gallons per acre.

All asphalt designations are from the Asphalt Institute Specifications.

54. **Synthetic binders** - Synthetic binders such as Acrylic BSA (Agr-Tac), DCA-70, Permacrete or Terra Tac II or Terra Tac AB may be used at rates recommended by the manufacturer to anchor mulch material.

55. **Wood cellulose fiber** - 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.

56. **Straw** - Material shall be uncutted small grain straw applied at the rate of 1/2 to 2 tons per acre, or 70 to 200 (500 bales) pounds per 1,000 sq. ft. Mulch materials shall be relatively free of all kinds of weeds and shall be free of prohibited noxious weeds such as: thistles, Johnsongrass and quackgrass.

57. **Wood chips** - at the rate of approximately 6 tons per acre or 275 lbs. per 1,000 sq. ft. may be used when available and when feasible to use.

58. **Wood cellulose fiber** - mulch at the rate of 1,500 pounds per acre or 35 pounds per 1,000 sq. ft. may be applied by hydroseeding.

59. **Mulch anchoring** shall be accomplished immediately after mulch placement 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, erosion hazard, and cost. On sloping land, practice No. 1 below, should be done on the contour wherever possible, except "tracking" should be done up and down the slope with 1/4 inch cleat marks running across the slope.

60. **Mulch Anchoring Tool and Tracking**. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the surface 2 inches of soil. This practice affords maximum erosion control but is limited to flatter slopes where equipment can operate safely. "Tracking" is primarily used on steeper than 3:1 cut and fill slopes to cut the mulch into the soil with cleated bulldozer tracks.

61. **Mulch Matting** - Staple lightweight biodegradable paper, plastic or cotton matting over the mulch according to manufacturer's recommendations. Matting is usually available in rolls 4 feet wide and up to 300 feet long.

62. **Liquid Mulch Binders** - Application of liquid binders should be heavier at edges where wind catches mulch, in valleys, and at areas of bare banks. Remainder of area should be uniform in appearance. Caution should be used with asphalt in residential and similar areas.

63. **Curtack asphalt** - rapid curing (RC-70, RC-250, and RC-800) or medium curing (MC-250 or MC-800). Apply 5 gallons per 1,000 square feet or 200 gallons per acre on flat areas and on slopes less than 8 feet high. On slopes 8 feet or more high, use 8 gallons per 1,000 square feet or 348 gallons per acre.

64. **Emulsified asphalt** - (ES-1, ES-1, ES-2, ES-1, ES-2, ES-1, and ES-2). Apply 5 gallons per 1,000 square feet or 218 gallons per acre on flat areas and on slopes less than 8 feet high. On slopes 8 feet or more high, use 8 gallons per 1,000 square feet or 348 gallons per acre.

All asphalt designations are from the Asphalt Institute Specifications.

65. **Synthetic binders** - Synthetic binders such as Acrylic BSA (Agr-Tac), DCA-70, Permacrete or Terra Tac II or Terra Tac AB may be used at rates recommended by the manufacturer to anchor mulch material.

66. **Wood cellulose fiber** - 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.

67. **Wood cellulose fiber** - 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.

68. **Straw** - Material shall be uncutted small grain straw applied at the rate of 1/2 to 2 tons per acre, or 70 to 200 (500 bales) pounds per 1,000 sq. ft. Mulch materials shall be relatively free of all kinds of weeds and shall be free of prohibited noxious weeds such as: thistles, Johnsongrass and quackgrass.

69. **Wood chips** - at the rate of approximately 6 tons per acre or 275 lbs. per 1,000 sq. ft. may be used when available and when feasible to use.

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76. **Emulsified asphalt** - (ES-1, ES-1, ES-2, ES-1, ES-2, ES-1, and ES-2). Apply 5 gallons per 1,000 square feet or 218 gallons per acre on flat areas and on slopes less than 8 feet high. On slopes 8 feet or more high, use 8 gallons per 1,000 square feet or 348 gallons per acre.

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84. **Mulch Anchoring Tool and Tracking**. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the surface 2 inches of soil.