

NOTE: CONSTRUCTION OF DWELLING UNITS 56 THROUGH 59 TO BE DELAYED UNTIL SEDIMENT CONTROL INSPECTOR HAS GRANTED PERMISSION TO REMOVE THE EXISTING SEDIMENT TRAP 10 (S.D.P. 96-115).

NOTE: ALL 9" H.C. ARE 4" DIAMETER. ALL TWIN W.H.C. ARE 1 1/2" DIAMETER. ALL SINGLE W.H.C. ARE 3/4" DIAMETER.

ZONING: R-54-B

ZONING: R-20

ZONING: R5C

EX SEDIMENT TRAP 10 TRAP DATA

1. TYPE OF TRAP: STONE OUTLET 5" I.D.
2. DRAINAGE AREA: 2.60 AC ±
3. STORAGE REQUIRED: 9300 CU FT
4. STORAGE PROVIDED: 9304 CU FT
5. WEIR LENGTH: 11.00'
6. STORAGE DEPTH BELOW OUTLET: 3.0'
7. CLEANOUT ELEV.: 426.00
8. EMBANKMENT HEIGHT
9. ELEV. OF EMBANKMENT: 428.00
10. TYPICAL DETAIL: C-9-10
11. TRAP BOTTOM: 424.50
12. NET STORAGE LIMIT: 426.00
13. WEIR CREST ELEV.: 427.50

LEGEND	
SYMBOL	DESCRIPTION
---	EXISTING CONTOUR 2' INTERVAL
---	EXISTING CONTOUR 10' INTERVAL
---	PROPOSED CONTOUR 2' INTERVAL
---	PROPOSED CONTOUR 10' INTERVAL
+ 624	SPOT ELEVATION
-9F -9F	SILT FENCE
SSP -SSP	SUPER SILT FENCE
-X-X-	TREE PROTECTION FENCE
---	EXISTING TREE LINE
L.D.D.	LIMIT OF DISTURBANCE
---	EXISTING STREET TREE

NOTE: UNITS ON LOTS 56-59 WILL BE DELAYED UNTIL DISTURBED UPLAND AREAS HAVE BEEN STABILIZED WITH PERMANENT SEEDING AND P/S INSPECTOR GIVES PERMISSION TO REMOVE EX SEDIMENT TRAP 10

BUILDER

SHC WAVERLY WOODS LLC  
STANLEY HALLO MANAGING MEMBER  
1651 CROFTON BLVD SUITE 7  
CROFTON, MARYLAND 21114

PLAN VIEW  
SCALE: 1"=30'

FISHER, COLLINS & CARTER, INC.  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CENTRAL SQUARE OFFICE PARK • 10722 BALTIMORE NATIONAL PIKE

**ENGINEER'S CERTIFICATE**  
"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."  
Signature of Engineer (Print name below signature) *CCW* Date *6/17/97*

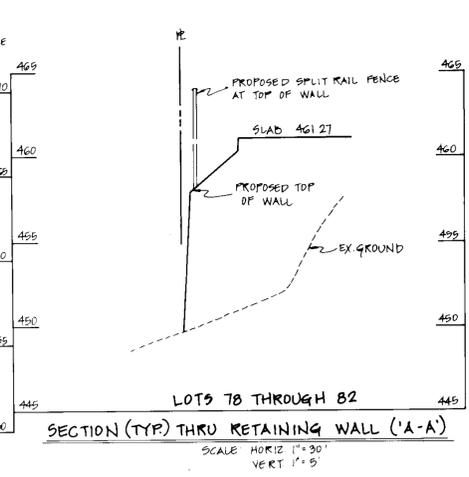
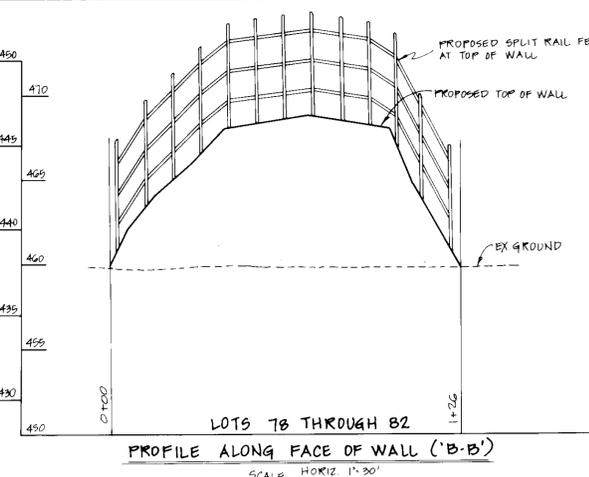
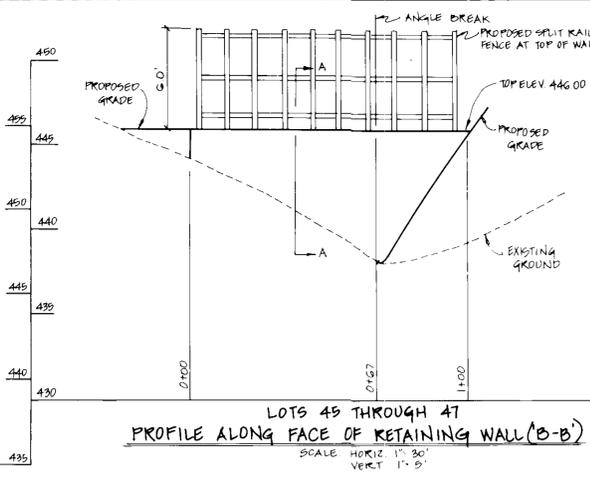
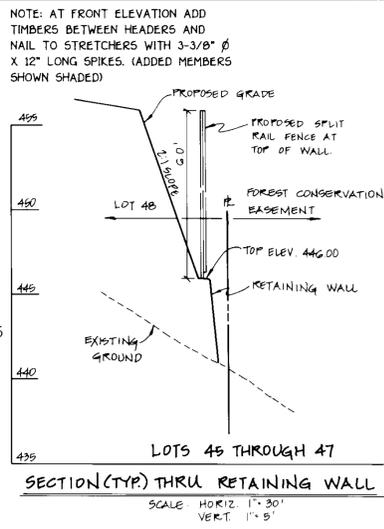
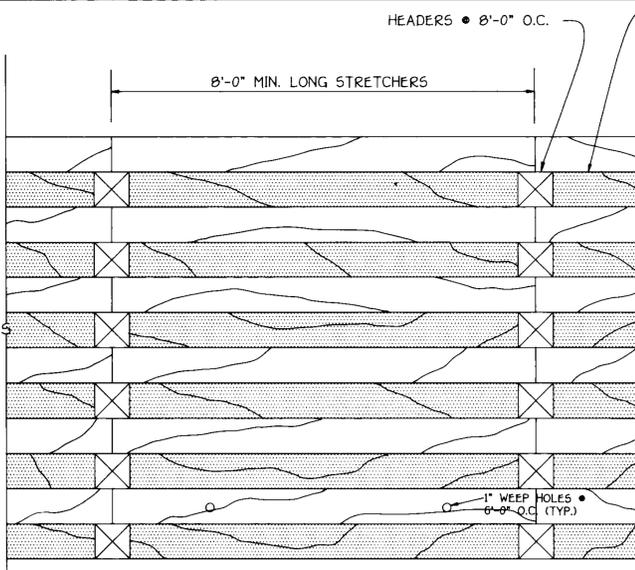
**DEVELOPER'S CERTIFICATE**  
"I/we certify that all development and construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District."  
Stanley S. Hallo M.P. DATE 5/31/97  
SHC WAVERLY WOODS LLC  
STANLEY HALLO MANAGING MEMBER

Reviewed for HOWARD SCD and meets Technical Requirements.  
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.  
Howard SCD

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
Director: *James R. Ruter* Date: *6/20/97*  
Chief, Division of Land Development: *William J. Hamilton* Date: *6/20/97*  
Chief, Development Engineering Division: *William J. Hamilton* Date: *6/15/97*

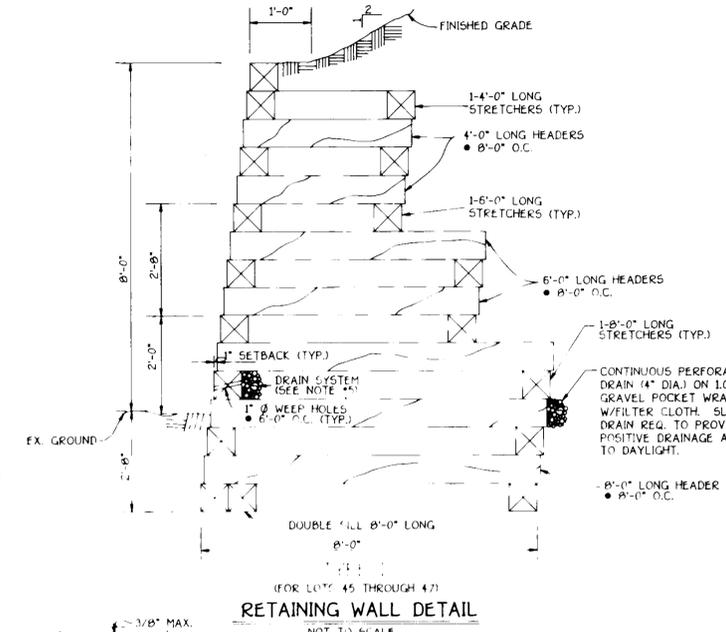
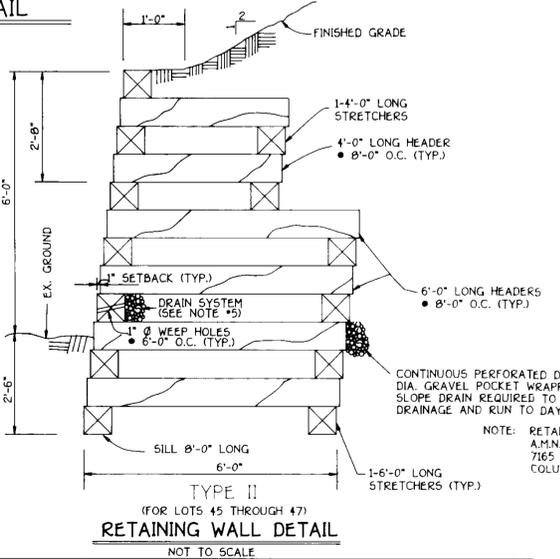
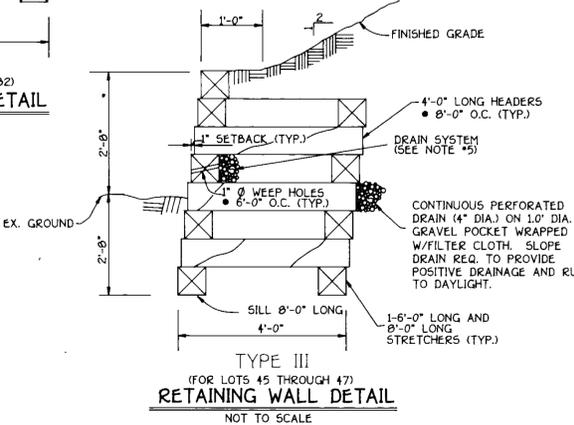
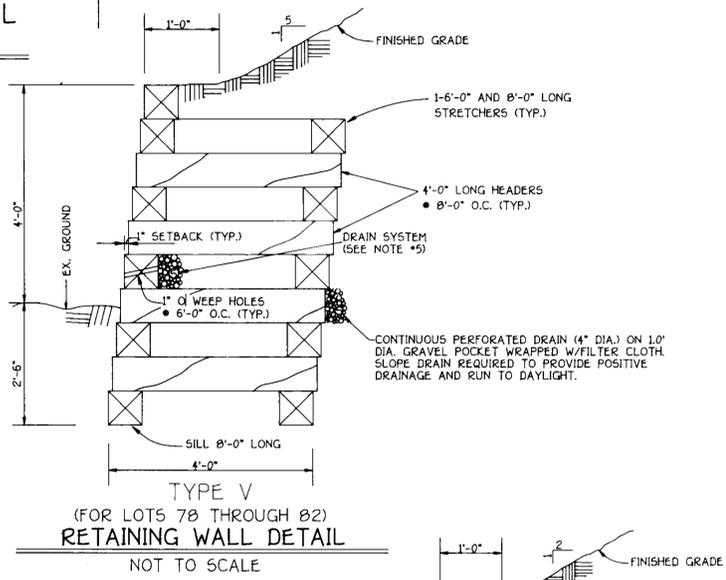
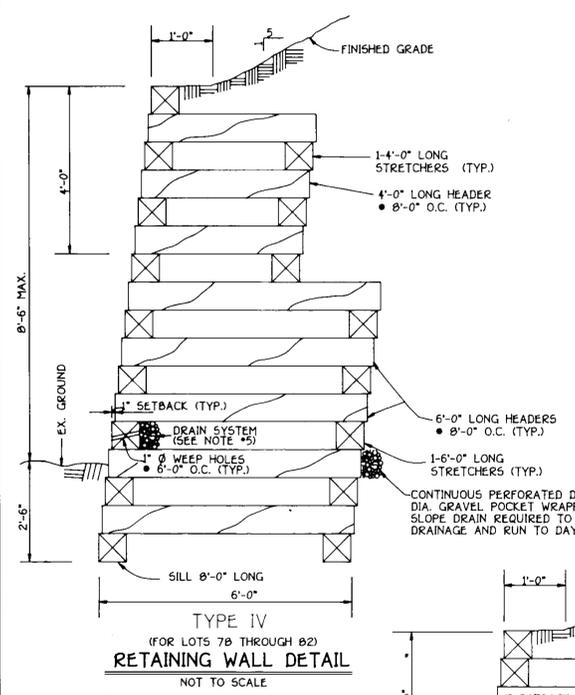
SITE DEVELOPMENT PLAN  
**WAVERLY WOODS SECTION 5**  
LOTS 29 THROUGH 82  
TAX MAP No: 16 PARCEL: 21  
3<sup>RD</sup> ELECTION DISTRICT, HOWARD COUNTY, MARYLAND  
SCALE: AS SHOWN DATE: APRIL, 1997  
SHEET 2 OF 7  
S.D.P. 97-57

SUBDIVISION	SECTION/AREA	LOT NO.
PLAT NO. 12711-12713	TAX/ZONE	ELEC. DIST. 6030
WATER CODE H02	SEWER CODE 000000	



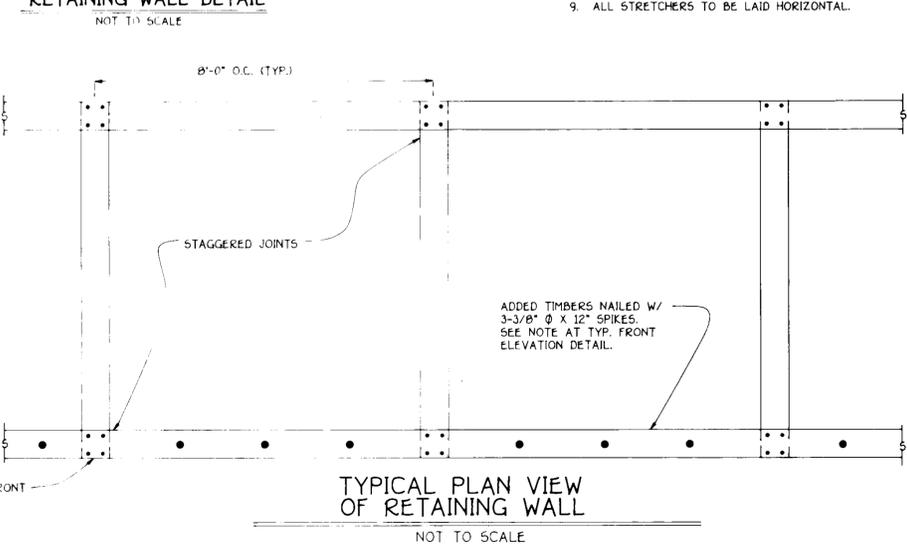
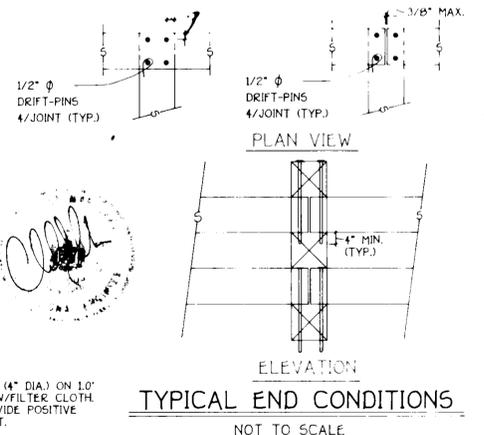
**TYPICAL FRONT ELEVATION DETAIL OF RETAINING WALL**

NOT TO SCALE



**RETAINING WALL CONSTRUCTION NOTES**

- BOTTOM OF TIMBER CRIB WALLS SHALL BEAR ON NATURAL UNDISTURBED SOIL.
- BOTTOM OF TIMBER CRIB WALL SHALL BE 2'-6" BELOW FINISHED GRADE TYPICAL.
- THE EXISTING FIELD CONDITIONS SHALL BE FIELD VERIFIED BY A GEOTECHNICAL ENGINEER. MAXIMUM DESIGN PRESSURE IS 3100 P.S.F. IF ACTUAL BEARING VALUE IS FOUND TO BE LESS THAN THE DESIGN VALUE, THE CONTRACTOR MUST INFORM THE ENGINEER OF ACTUAL VALUE PRIOR TO INSTALLING WALLS.
- WALLS SHALL BE BACKFILLED SIMULTANEOUSLY WITH THE ERECTION OF THE WALL. BACKFILL MUST BE INSTALLED IN 1'-0" MAXIMUM LIFTS AND MUST BE COMPACTED BY HAND TAMPING OR OTHER APPROVED METHOD. BACKFILL MATERIAL TO BE TYPE "SM" OR BETTER.
- PROVIDE A CONTINUOUS PERFORATED DRAIN IN A GRAVEL BED WRAPPED WITH FILTER CLOTH. BACKFILL ALSO 1" DIAMETER WEEP HOLES AT 6'-0" ON CENTER.
- ALL TIMBERS SHALL BE 8" x 8" CCA TREATED LANDSCAPING TIMBERS (40 LB/FT RETENTION) OR CREAMED TREATED RAILROAD TIES.
- ALL HARDWARE SHALL BE HOT DIPPED GALVANIZED.
- DRIFT PINS SHALL BE OF SUFFICIENT LENGTH TO PENETRATE THRU 2 MEMBERS AND 4" INTO THE 3RD MEMBER. PROVIDE 1/2" O.C. HOLES FOR ALL DRIFT PINS.
- ALL STRETCHERS TO BE LAID HORIZONTAL.



**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTRAL SQUARE OFFICE PARK - 10775 BALTIMORE NATIONAL PPK  
 ELKLOTT CITY, MARYLAND 21242  
 410 461 - 2855

**ENGINEER'S CERTIFICATE**  
 "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."  
 Signature of Engineer (Print name below signature) *Stanley S. Walker* Date *6/2/97*  
**DEVELOPER'S CERTIFICATE**  
 "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."  
 Signature of Developer (Print name below signature) *Stanley S. Walker* Date *5-31-97*  
 S.H.C. WAVERLY WOODS L.L.C.  
 STANLEY HALLIE MANAGING MEMBER

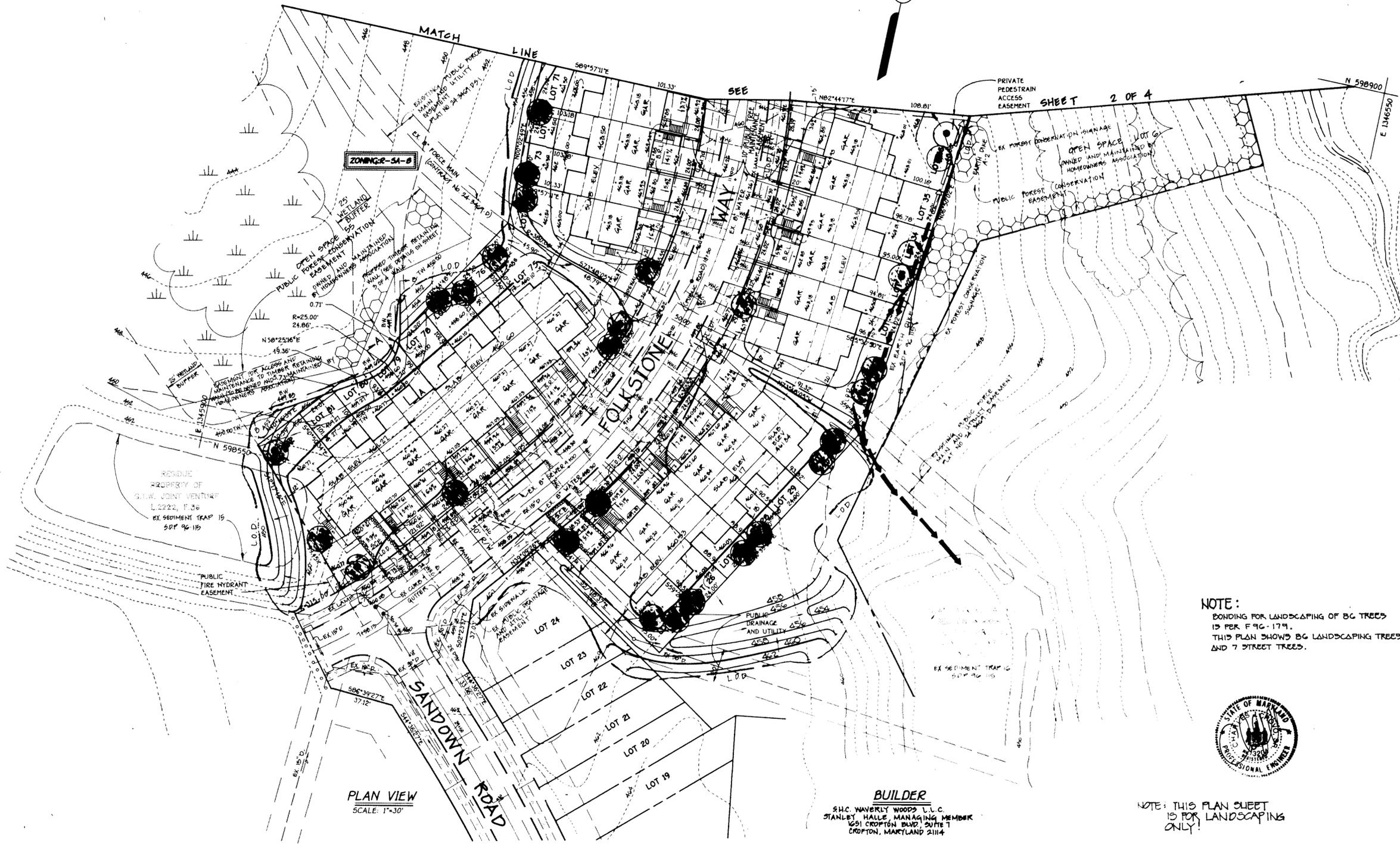
Reviewed for HOWARD SCD and meets Technical Requirements.  
 U.S.D.A. (Natural Resources Conservation Service) *John K. Lawrence* Date *6/11/97*  
 This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.  
 Signature of Howard SCD *John K. Lawrence* Date *6/11/97*  
**BUILDER**  
 S.H.C. WAVERLY WOODS L.L.C.  
 STANLEY HALLIE MANAGING MEMBER  
 1651 CROFTON BLVD., SUITE 7  
 CROFTON, MARYLAND 21114

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 Director *Leah R. Bette* Date *6/20/97*  
 Chief, Division of Land Development *Robert M. ...* Date *6/2/97*  
 Chief, Development Engineering Division *...* Date *6/12/97*  
 SUBDIVISION: WAVERLY WOODS SECTION/AREA: 5 LOT NO.: 82  
 PLAT NO.: 12711-12729 BLOCK NO.: 23 ZONE: R-4B TAX/ZONE: 11-10 ELEC. DIST.: 6030  
 WATER CODE: 102 SEWER CODE: 0000000

**SITE DEVELOPMENT PLAN DETAILS**  
**WAVERLY WOODS**  
 SECTION 5  
 LOTS 25 THROUGH 82  
 TAX MAP No: 16 PARCEL: 21  
 THIRD ELECTION DISTRICT, HOWARD COUNTY, MARYLAND  
 SCALE: AS SHOWN DATE: APRIL, 1997  
 SHEET 3 OF 7

LANDSCAPE LEGEND		
SYMBOL	QUANTITY	TYPE
⊙	20	ACER RUBRUM 'OCTOBER GLORY' OCTOBER GLORY RED MAPLE
⊙	32	FRAXINUS PENNSYLVANICA 'MARSHALL'S NEEDLESS' MARSHALL'S NEEDLESS GREEN ASH
⊙	20	LIQUIDAMBAR STYRACIFLUA AMERICAN SWEETGUM
⊙	15	PRUNUS PENNSYLVANICA KWANZAN CHERRY

NUMBER OF TREES REQUIRED PER DU: 97  
 NUMBER OF TREES REQUIRED PER PERIMETER: 27  
 STREET TREES PER SHEET 11 OF 30: 17  
 TOTAL TREES: 75



LEGEND	
SYMBOL	DESCRIPTION
---	EXISTING CONTOUR 2' INTERVAL
---	EXISTING CONTOUR 10' INTERVAL
---	PROPOSED CONTOUR 2' INTERVAL
---	PROPOSED CONTOUR 10' INTERVAL
•	SPOT ELEVATION
—	SALT FENCE
—	SUPER SALT FENCE
—X—	TREE PROTECTION
---	EXISTING TREE LINE
L.O.D.	LIMIT OF DISTURBANCE
⊙	EXISTING STREET TREE

PLAN VIEW  
SCALE: 1"=30'

**BUILDER**  
 S.H.C. WAVERLY WOODS L.L.C.  
 STANLEY HALLE, MANAGING MEMBER  
 1051 CROFTON BLVD., SUITE 7  
 CROFTON, MARYLAND 21114

**NOTE:**  
 BONDING FOR LANDSCAPING OF 80 TREES  
 IS PER F 96-179.  
 THIS PLAN SHOWS 80 LANDSCAPING TREES  
 AND 7 STREET TREES.



**NOTE:** THIS PLAN SHEET  
 IS FOR LANDSCAPING  
 ONLY!

**FISHER, COLLINS & CARTER, INC.**  
 ENGINEERS, ARCHITECTS & LAND SURVEYORS  
 1000 W. BROADWAY, SUITE 2000  
 BALTIMORE, MARYLAND 21201  
 410.526.1000

**ENGINEER'S CERTIFICATE**  
 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.

*[Signature]* 6/23/97  
 Signature of Engineer (Print name below signature) Date

**DEVELOPER'S CERTIFICATE**  
 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.

Stanley S. Halle N.K.F. 5-31-97  
 S.H.C. WAVERLY WOODS L.L.C. DATE

Reviewed for HOWARD SCD and meets Technical Requirements.  
*[Signature]* 6/11/97  
 U.S.D.A. Natural Resources Date  
 Conservation Service

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.  
*[Signature]* 6/14/97  
 Howard SCD Date

**OWNER/DEVELOPER**  
 WAVERLY WOODS DEVELOPMENT CORPORATION  
 c/o LAND DESIGN AND DEVELOPMENT, INC.  
 10805 HICKORY RIDGE ROAD, SUITE 225  
 COLUMBIA, MARYLAND 21044

APPROVED: DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 6/20/97  
 Director, Department of Planning and Zoning Date

*[Signature]* 6/20/97  
 Chief, Division of Land Development Date

*[Signature]* 6/12/97  
 Chief, Development Engineering Division Date

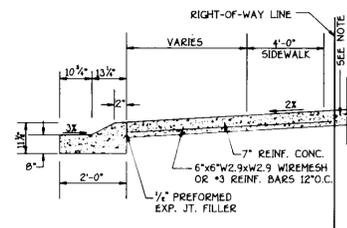
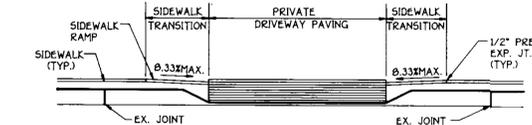
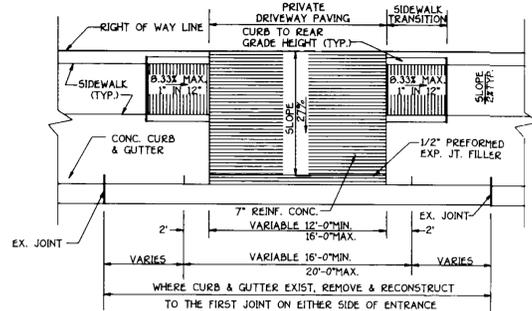
SUBDIVISION	WOODS	SECTION	9	LOT NO.	25-82
PLAT NO.	12111-12723	BLOCK NO.	23	ZONE	R-2A-B
TAX/ZONE	16	ELEC. DIST.	THIRD	CENSUS TR.	6030
WATER CODE	405	SEWER CODE	5093000		

**SITE DEVELOPMENT PLAN  
 LANDSCAPE PLAN**

**WAVERLY WOODS  
 SECTION 5**

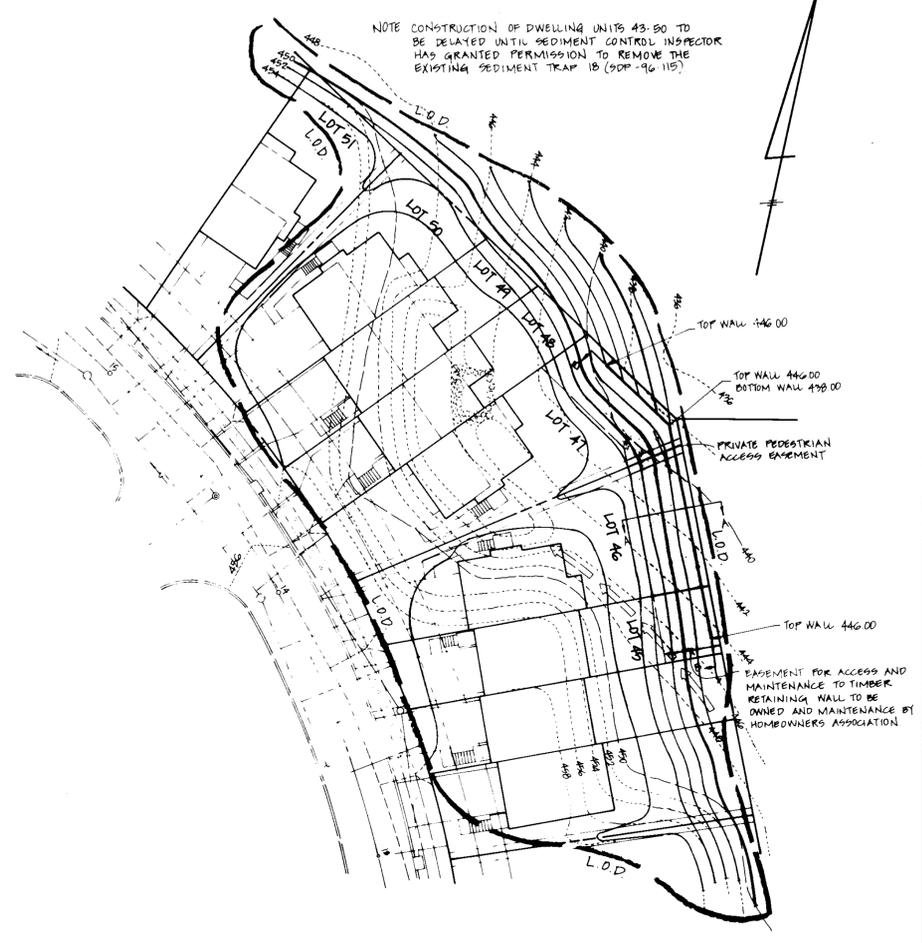
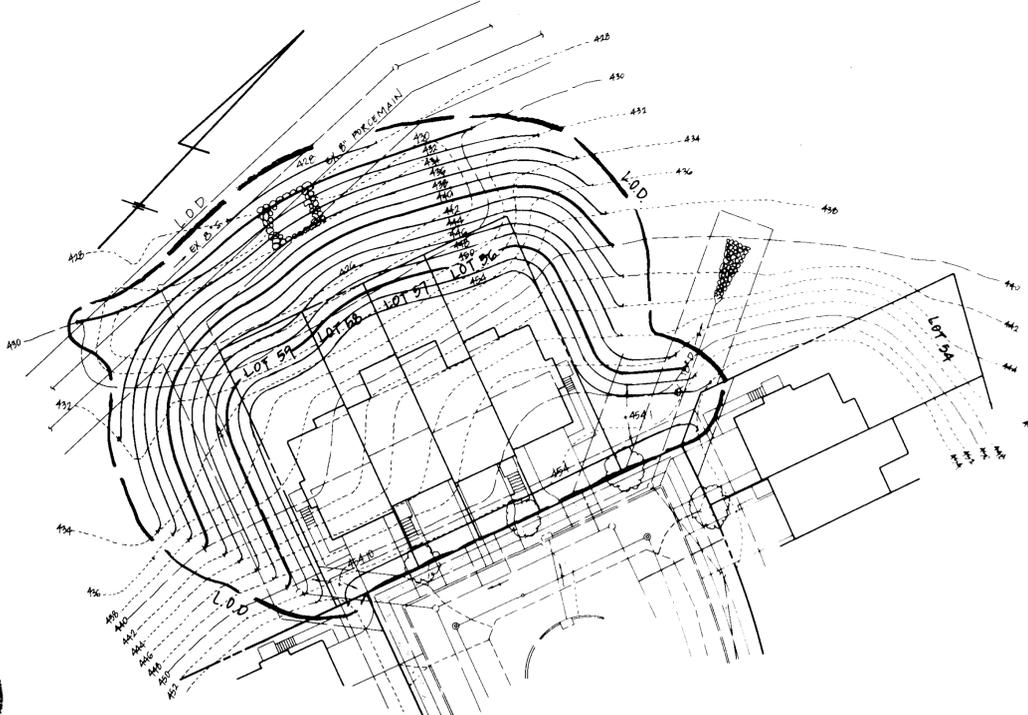
LOTS 25 THROUGH 82  
 TAX MAP No. 16 PARCEL 21  
 3<sup>RD</sup> ELECTION DISTRICT, HOWARD COUNTY, MARYLAND  
 SCALE: AS SHOWN DATE: APRIL, 1997  
 SHEET 6 OF 7

LOT INFORMATION								
LOT #	LOT SIZE (SQ. FT.)	DWLG. SIZE W/O OPTIONS	% OF COVERAGE W/O OPTIONS	DWLG. SIZE W/OPTIONS	% OF COVERAGE W/OPTIONS	STREET ADDRESS	MIN. CELLAR ELEV.	INV. ELEV. * PROPERTY LINE (S.H.C.)
25	3180	1066	33	1176	37	10740 FOLKESTONE WAY	454.7	450.19
26	2150	1066	49	1176	55	10742 FOLKESTONE WAY	454.6	450.04
27	2131	1066	50	1176	55	10744 FOLKESTONE WAY	454.5	449.95
28	2151	1066	49	1176	55	10746 FOLKESTONE WAY	454.4	449.86
29	2209	1066	48	1176	53	10748 FOLKESTONE WAY	454.4	449.81
30	3783	1066	28	1176	31	10750 FOLKESTONE WAY	454.2	449.64
31	3889	1066	27	1176	30	10752 FOLKESTONE WAY	454.0	449.45
32	2289	1066	46	1176	51	10754 FOLKESTONE WAY	453.9	449.34
33	2275	1066	47	1176	52	10756 FOLKESTONE WAY	453.8	449.29
34	2298	1066	46	1176	51	10758 FOLKESTONE WAY	453.7	449.15
35	2360	1066	45	1176	50	10760 FOLKESTONE WAY	453.6	449.06
36	1471	994	26	1143	30	10762 FOLKESTONE WAY	453.4	448.85
37	4121	994	24	1143	28	10764 FOLKESTONE WAY	453.4	448.89
38	2565	912	36	---	---	10766 FOLKESTONE WAY	453.2	448.61
39	2526	912	36	---	---	10768 FOLKESTONE WAY	453.2	448.61
40	2526	912	36	---	---	10770 FOLKESTONE WAY	453.0	448.42
41	2558	912	36	---	---	10772 FOLKESTONE WAY	452.9	448.37
42	3532	912	26	---	---	10774 FOLKESTONE WAY	452.8	448.23
43	3564	912	26	---	---	10776 FOLKESTONE WAY	452.6	448.09
44	2673	912	34	---	---	10778 FOLKESTONE WAY	452.5	447.96
45	2766	912	33	---	---	10780 FOLKESTONE WAY	452.4	447.84
46	4513	994	22	1143	26	10782 FOLKESTONE WAY	452.2	447.63
47	4576	994	22	1143	25	10784 FOLKESTONE WAY	452.1	447.55
48	2732	1066	39	1176	43	10786 FOLKESTONE WAY	451.9	447.37
49	2620	1066	41	1176	45	10788 FOLKESTONE WAY	451.7	447.15
50	3561	994	28	1143	32	10790 FOLKESTONE WAY	451.4	444.86
51	3566	994	28	1143	32	10792 FOLKESTONE WAY	451.4	446.69
52	2503	1066	42	1176	47	10794 FOLKESTONE WAY	450.7	446.12
53	2550	1066	42	1176	46	10796 FOLKESTONE WAY	450.1	445.52
54	4030	994	25	1143	28	10798 FOLKESTONE WAY	449.7	445.10
56	3250	994	31	1143	35	10799 FOLKESTONE WAY	449.0	444.49
57	2400	1066	44	1176	49	10797 FOLKESTONE WAY	448.9	444.30
58	2400	994	44	1176	49	10795 FOLKESTONE WAY	448.6	444.09
59	3250	1066	31	1143	35	10793 FOLKESTONE WAY	447.7	443.14
60	3250	994	30	1143	35	10791 FOLKESTONE WAY	447.6	443.04
61	2400	1066	44	1176	49	10789 FOLKESTONE WAY	447.7	444.11
62	2400	994	44	1176	49	10787 FOLKESTONE WAY	447.8	444.22
63	2400	1066	44	1176	49	10785 FOLKESTONE WAY	449.0	444.48
64	3250	994	31	1143	35	10783 FOLKESTONE WAY	449.4	444.85
65	3399	1066	44	1176	49	10779 FOLKESTONE WAY	452.1	447.59
66	2318	994	31	1143	35	10777 FOLKESTONE WAY	452.3	447.79
67	2328	1066	44	1176	49	10775 FOLKESTONE WAY	452.5	447.93
68	2328	994	31	1143	35	10773 FOLKESTONE WAY	452.6	448.07
69	3229	1066	44	1176	49	10771 FOLKESTONE WAY	452.7	448.12
70	3653	994	31	1143	35	10769 FOLKESTONE WAY	453.0	448.48
71	2458	1066	44	1176	49	10767 FOLKESTONE WAY	453.2	448.67
72	2480	994	31	1143	35	10765 FOLKESTONE WAY	453.3	448.79
73	2458	1066	44	1176	49	10763 FOLKESTONE WAY	453.4	448.86
74	4028	994	31	1143	35	10761 FOLKESTONE WAY	453.6	449.03
75	4111	1066	44	1176	49	10759 FOLKESTONE WAY	453.9	449.39
76	2473	994	31	1143	35	10757 FOLKESTONE WAY	454.3	449.73
77	2465	1066	44	1176	49	10755 FOLKESTONE WAY	454.4	449.82
78	2413	994	31	1143	35	10753 FOLKESTONE WAY	454.5	449.93
79	2267	1066	44	1176	49	10751 FOLKESTONE WAY	454.6	450.03
80	2348	994	31	1143	35	10749 FOLKESTONE WAY	454.8	450.21
81	2418	1066	44	1176	49	10747 FOLKESTONE WAY	454.8	450.26
82	3827	994	31	1143	35	10745 FOLKESTONE WAY	455.0	450.43



- NOTES
1. ALL RAMPS SHALL HAVE TEXTILE WARNING TEXTURE EXTENDING THE FULL WIDTH AND DEPTH OF THE RAMP.
  2. PRIVATE DRIVEWAY PAVING (IF CONC. 1/2\"/>

RESIDENTIAL DRIVEWAY ENTRANCE  
CLOSED SECTION W/MODIFIED COMBINATION  
CURB AND GUTTER AND SIDEWALK



- TRAP DATA
1. TYPE OF TRAP: STONE OUTLET TRAP II
  2. DRAINAGE AREA: 0.82 AC ±
  3. STORAGE REQUIRED: 2992 CU. FT.
  4. STORAGE PROVIDED: 3094 CU. FT.
  5. WEIR LENGTH: 4'0"
  6. STORAGE DEPTH BELOW OUTLET: 3'0"
  7. CLEANOUT ELEV.: 442.00
  8. EMBANKMENT HEIGHT: 0
  9. ELEVATION OF EMBANKMENT ELEV.: 444.00
  10. TYPICAL DETAIL: C-9-10
  11. TRAP BOTTOM: 440.50
  12. NET STORAGE LIMIT: 442.00
  13. WEIR CREST ELEV.: 443.50

NOTE: CONSTRUCTION OF DWELLING UNITS 43-50 TO BE DELAYED UNTIL SEDIMENT CONTROL INSPECTOR HAS GRANTED PERMISSION TO REMOVE THE EXISTING SEDIMENT TRAP 18 (90°-96°15').

FISHER, COLLINS & CARTER, INC.  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CENTRAL SQUARE OFFICE PARK - SUITE 2000 NATIONAL PIKE  
BELLETT CITY, MARYLAND 20848  
410-488-1295

ENGINEER'S CERTIFICATE  
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.  
Signature of Engineer (Print name below signature) *Stanley S. Hall* Date *6/3/97*  
DEVELOPER'S CERTIFICATE  
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.  
Stanley S. Hall w.p.f. 6/3/97  
S.H.C. WAVERLY WOODS L.L.C. DATE  
STANLEY HALL MANAGING MEMBER

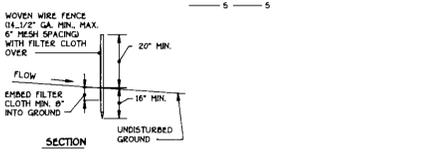
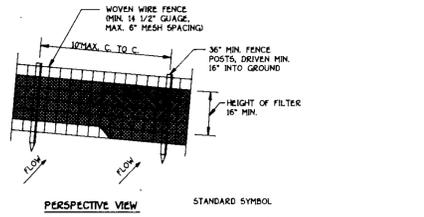
Reviewed for HOWARD SCD and meets Technical Requirements.  
U.S.D.A.-Natural Resources Conservation Service  
This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.  
Howard SCD

OWNER/DEVELOPER  
WAVERLY WOODS DEVELOPMENT CORPORATION  
C/O LAND DESIGN AND DEVELOPMENT, INC.  
10805 HICKORY RIDGE ROAD, SUITE #215  
COLUMBIA, MARYLAND 21044

APPROVED DEPARTMENT OF PLANNING AND ZONING  
James S. Ruth Director, Department of Planning and Zoning  
Catherine Division of Land Development  
Chief, Development Engineering Division  
6/20/97  
6/24/97  
6/12/97

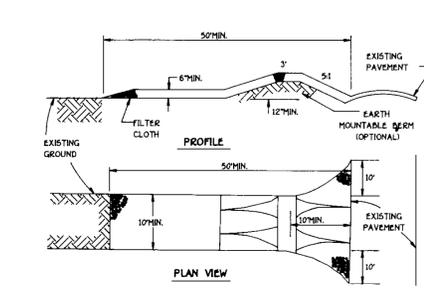
SUBDIVISION		SECTION/AREA		LOT NO.	
WAVERLY WOODS		5		25-82	
PLAT NO.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
1271	12723	R-5A-B	16	THRD	6030
WATER CODE		SEWER CODE			
405		003000			

NOTES AND DETAILS  
WAVERLY WOODS  
SECTION 5  
LOTS 25 THROUGH 82  
TAX MAP No: 16 PARCEL: 21  
3RD ELECTION DISTRICT, HOWARD COUNTY, MARYLAND  
SCALE: AS SHOWN DATE: APRIL, 1997  
SHEET 5 OF 7



- CONSTRUCTION NOTES FOR FABRICATED SILT FENCE**
- WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OF STAPLES. TYPE OR 2" HARDWOOD.
  - FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
  - WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.
  - MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

**SILT FENCE**  
NOT TO SCALE



- CONSTRUCTION SPECIFICATIONS**
- STONE SIZE - USE 2" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
  - LENGTH - AS REQUIRED, BUT NOT LESS THAN 90 FEET EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY.
  - THICKNESS - NOT LESS THAN SIX (6) INCHES.
  - WIDTH - TEN (10) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
  - FILTER CLOTH - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE. FILTER WILL NOT BE REQUIRED ON A SINGLE FAMILY RESIDENCE LOT.
  - SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BEAM WITH 5:1 SLOPES WILL BE PERMITTED.
  - MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
  - WASHING - WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
  - PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

**STABILIZED CONSTRUCTION ENTRANCE - 2**  
NOT TO SCALE

**DEFINITION**  
Using vegetation as cover for barren soil to protect it from forces that cause erosion.

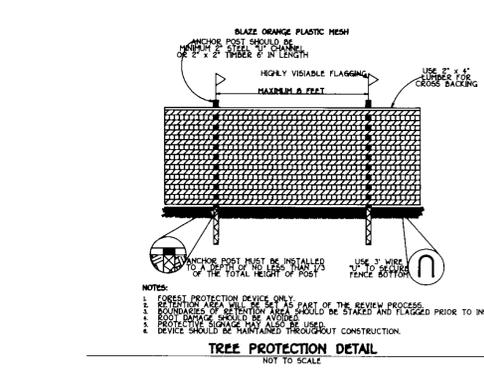
**PURPOSE**  
Vegetative stabilization specifications are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall, thereby reducing sediment loads and run-off to downstream areas, and improving wildlife habitat.

**CONDITIONS WHERE PRACTICE APPLIES**  
This practice shall be used on disturbed areas as specified on the plan and may be used on highly erodible or critically eroding areas. This specification is divided into Temporary Seeding, to quickly establish vegetative cover for short duration (up to one year), and Permanent Seeding, for long term vegetative cover. Examples of applicable areas for Temporary Seeding are temporary Soil Stockpiles, cleared areas being left idle between construction phases, strip mines, etc. and for Permanent Seeding are lava flows, cuts and fill slopes and other areas at final grade, former stockpiles and striping areas, etc.

**EFFECTS ON WATER QUALITY AND QUANTITY**  
Planting vegetation in disturbed areas will have an effect on the water budget, especially on volume and rate of runoff. Infiltration, evaporation, transpiration, percolation, and groundwater recharge. Vegetation over time, will increase organic matter content and improve the water holding capacity of the soil and subsequent plant growth. Vegetation will help reduce the movement of sediment, nutrients, and other chemicals carried by runoff to receiving waters. Plants will also help protect groundwater supplies by assimilating those substances present within the root zone. Sediment control devices must remain in place during grading, seedbed preparation, seeding, mulching and vegetative establishment to prevent large quantities of sediment and associated chemicals and nutrients from washing into surface waters.

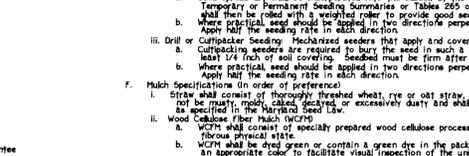
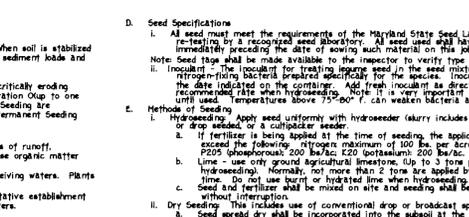
- SECTION 1 - VEGETATIVE STABILIZATION METHODS AND MATERIALS**
- Site Preparation**
    - Install erosion and sediment control structures (either temporary or permanent) such as diversions, grade stabilization structures, berms, waterways, or sediment control basins.
    - Perform all grading operations at right angles to the slope. Final grading and shaping is not usually necessary for temporary seeding.
    - Schedule required soil amendment composition and application rates for sites having disturbed areas over 5 acres.
  - Soil Amendment (Fertilizer and Lime Specifications)**
    - Soil tests must be performed to determine the exact ratio and application rates for both lime and fertilizer on sites having disturbed areas over 5 acres. Soil analyses may be performed by the University of Maryland or a recognized commercial laboratory. Soil analyses 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. Material may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers shall all be delivered to the site fully blended according to the applicable state fertilizer laws and shall bear the name, trade name or trademark and warranty of the producer.
    - Lime materials shall be ground limestone (hydrated or burnt) lime may be substituted which contains at least 50% total oxidized calcium oxide plus magnesium oxide. Limestone shall be ground to such fineness that at least 50% will pass through a #100 mesh sieve and 90-100% will pass through a #20 mesh sieve.
    - Incorporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means.
  - Seeded Preparation**
    - Temporary Seeding**
a">
      - Seeded 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 an irregular condition with ridges running parallel to the contour of the slope.
      - Apply fertilizer and lime as prescribed on the plan.
      - Apply fertilizer and lime as prescribed on the plan.
    - Permanent Seeding**
a">
      - Minimum soil conditions required for permanent vegetative establishment:
        - Soil 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 loesslike or aeolian loesslike soils 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 soil as existing, 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" to 5" to permit loosening 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 included on the plan.
      - Final 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 and 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.

**STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION**

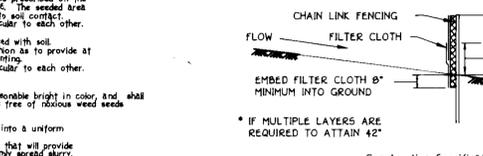
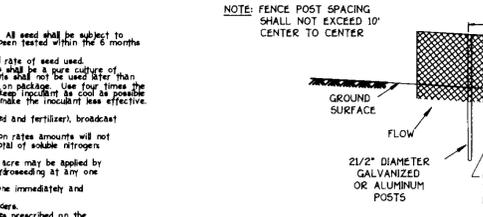


- TEMPORARY SEEDING NOTES**
- A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (03-1955).
  - ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED IN ACCORDANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND REVISIONS THEREOF.
  - FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN 60 DAYS.
  - CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DICES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3:1, IN 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
  - ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS PLACED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12 OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
  - ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1996 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, FOR PERMANENT SEEDING (SEC. 50, 50D (SEC. 54), TEMPORARY SEEDING (SEC. 50, AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
  - ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMITS FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
  - SOIL ANALYSIS**

TOTAL AREA OF SITE	41.52 ACRES
AREA TO BE ROOFED OR PAVED	5.24 ACRES
AREA TO BE VEGETATIVELY STABILIZED	2.84 ACRES
TOTAL CUT	0 ACRES
TOTAL FILL	0 ACRES
OFF-SITE WASTE/DROPPED AREA LOCATION	0 ACRES
  - ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
  - ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, TO PREVENT 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.
  - 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.



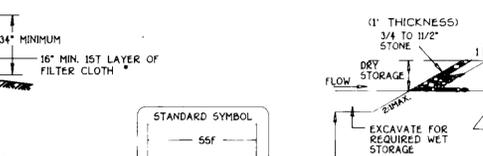
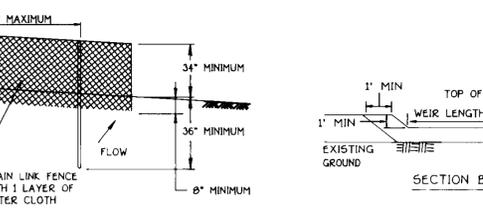
- SEED SPECIFICATIONS**
- All seed must meet the requirements of the Maryland Seed Law. All seed shall be subject to re-testing by a recognized seed laboratory. All seed used shall have been tested within the 6 months preceding the date of sowing.
  - Seed tags shall be made available to the inspector to verify type and rate of seed used.
  - Incubation** - The incubation for treating germination seed in the seed mixtures shall be a pure culture of *Aspergillus niger* (ATCC 26455) or *Aspergillus fumigatus* (ATCC 26455) at 25°C for 72 hours. The seed shall be incubated in the dark at 25°C for 72 hours. The incubation shall be done in a controlled environment with relative humidity of 75-80%. If incubation is not done, the seed shall be ineffective.
  - Method of Seeding**
    - Hydroseeding** - Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer, broadcast or top dress) or a similar device.
    - If fertilizer is being applied at the time of seeding, the application rate amounts will not exceed the following: Nitrogen maximum of 200 lbs. per acre total of available nitrogen (P205 phosphorous), 200 lbs./acre (K2O potassium), 200 lbs./acre.
    - Lime use only ground agricultural lime (50 lbs. per acre) may be applied by hydroseeding. Normal, not more than 2 tons/acre applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding.
    - Seed and fertilizer shall be applied to the seedbed and shall be done immediately and without interruption.
    - Dry Seeding** - The inclusion of conventional drop or broadcast spreaders.
    - Seed spreader shall be incorporated into the subsoil at the rate prescribed on the Temporary or Permanent Seeding Specifications for Chain Link Fencing. The seeded area shall then be rolled with a weighted roller to provide good seed to soil contact.
    - Lime use only ground agricultural lime (50 lbs. per acre) may be applied by dry seeding. Apply half the seeding rate in each direction.
    - Catpawking Seeding** - Mechanized seeders that apply and cover seed with soil.
    - Catpawking seeders are required to bury the seed in such a fashion as to provide at least 1/2 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.
  - Mulch Specifications** (in order of preference)
    - Straw shall consist of thoroughly threshed wheat, rice or oat straw, reasonable bright in color, and shall not be musty, moldy, abraded, or excessively dusty and shall be free of noxious weed seeds as specified in the Maryland Seed Law.
    - Wood Cellophane Fiber Mulch (WCFM)
      - WCFM shall consist of specially prepared wood cellophane processed into a uniform mulch.
      - WCFM shall be dyed green or contain a green dye in the package that will provide an appropriate visual indication of the uniformity of the material.
      - 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 cellophane 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 batter-like ground cover on application, having good moisture absorption and percolation properties and shall cover and hold seed in place.
      - WCFM material shall contain no elements of corrosion at concentrations levels that will damage any equipment used in its application.
      - WCFM must conform to the following physical requirements: fiber length to approximately 1/4 inch, minimum fiber diameter approximately 0.2 to 0.5, and maximum fiber diameter approximately 0.5 to 1.0. The mulch shall contain a maximum of 50% of wood cellophane fiber per 100 grams of water.
    - Wood cellophane fiber mulch shall be mixed with water and the mixture shall contain a maximum of 50 lbs. of wood cellophane fiber per 100 gallons of water.
    - Seeding straw mulch shall be applied immediately following mulch application. 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 type 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 a limited number of sites where equipment can operate safely. If used on a sloping area, this practice should be used on the contour if possible.
      - Wood cellophane fiber mulch shall be applied with a roller. The roller shall be applied at a rate of 1/2 inch of mulch per square foot. The wood cellophane fiber shall be mixed with water and the mixture shall contain a maximum of 50 pounds of wood cellophane fiber per 100 gallons of water.
      - Application of liquid binders should be heavier at the edges where wind catches much, such as in valleys and crests of banks. The remainder of area should be applied uniform after the binder. Synthetic binders such as Acrylic (D.L.S. (Acrylic)), DCA-70 (Petrol), T-12 (Terra Tack) or other approved equal may be used in accordance with the manufacturer's instructions.
    - Lightweight plastic netting may be applied over the mulch according to manufacturer's recommendations. Netting is usually available in rolls 4' to 12' feet wide and 300 to 3,000 feet long.



- 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 6" 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:
 

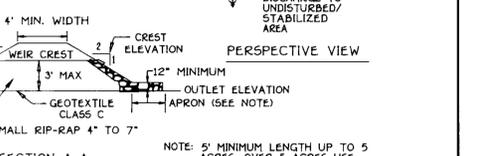
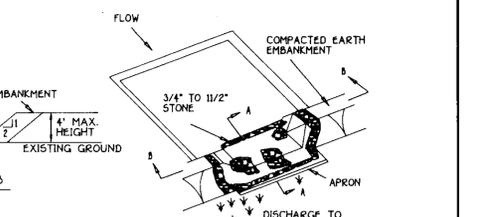
Tensile Strength	50 lbs/in (min)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min)	Test: MSMT 509
Flow Rate	0.3 gal/ft <sup>2</sup> /min (max)	Test: MSMT 322
Filtering Efficiency	75% (min)	Test: MSMT 322

**DETAIL 33 - SUPER SILT FENCE**



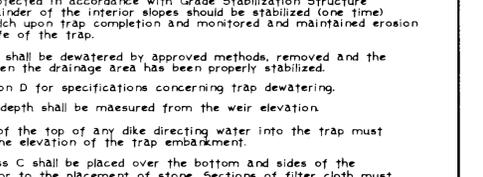
- CONSTRUCTION SPECIFICATIONS**
- Area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.
  - The fill material for the embankment shall be free of roots and other woody vegetation as well as over-sized stones, rocks, organic material or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed.
  - All cut and fill slopes shall be 2:1 or flatter.
  - The stone used in the outlet shall be small rip-rap 4" to 7" in size with a 1" thick layer of 3/4" to 1 1/2" washed aggregate placed on the upstream face of the outlet. Stone facing shall be as necessary to prevent clogging. Geotextile Class C may be substituted for the stone facing by placing it on the inside face of the stone outlet.
  - Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to one half of the wet storage depth of the trap. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.
  - The structure shall be inspected periodically and after each rain and repairs made as needed.
  - Construction of traps shall be carried out in such a manner that sediment pollution is abated. Once constructed, the top and outside face of the embankment shall be stabilized with seed and mulch. Points of concentration inflow shall be protected in accordance with Grade Stabilization Structure criteria. The remainder of the interior slopes should be stabilized (one time) with seed and mulch upon trap completion and monitored and maintained erosion free during the life of the trap.
  - The structures shall be dewatered by approved methods, removed and the area stabilized when the drainage area has been properly stabilized.
  - Refer to Section D for specifications concerning trap dewatering.
  - Minimum trap depth shall be measured from the weir elevation.
  - The elevation of the top of any dike directing water into the trap must equal or exceed the elevation of the trap embankment.
  - Geotextile Class C shall be placed over the bottom and sides of the outlet channel prior to the placement of stone. Sections of filter cloth must overlap at least 1' with the section nearest the entrance placed on top. The filter cloth shall be embedded at least 6" into existing ground at the entrance of the outlet channel.
  - Outlet - An outlet shall be provided, including a means of conveying the discharge in an erosion free manner to an existing stable channel.

**STONE OUTLET SEDIMENT TRAP - ST II**  
NOT TO SCALE

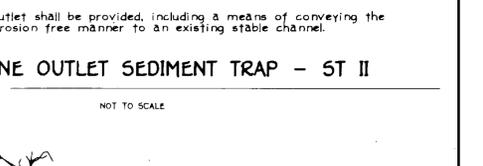


- PERMANENT SEEDING NOTES**
- APPLY 1 TO 2 TONS PER ACRE (10 TO 90 LBS./1000 SQFT.) OF UNROTTED SMALL GRASS STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING 200 GALLONS PER ACRE (15 GAL./1000 SQFT.) OF EMULSIFIED ASPHALT ON FLAT AREAS, ON SLOPES 6 FEET OR HIGHER USE 340 GALLONS PER ACRE (18 GAL./1000 SQFT.) FOR ANCHORING.
  - FOR PUBLIC PONDS SUBSTITUTE CHEMUNG CROWN VETCH AT 15 LBS./ACRE AND KENTUCKY 31 TALL FESCUE AT 10 LBS./ACRE AS THE SEEDING REQUIREMENT. OPTIMUM SEEDING DATE FOR THIS MIXTURE IS MARCH 1 TO APRIL 30.

**STAKING DETAIL**  
NOT TO SCALE



**TREE PLANTING**  
NOT TO SCALE



**GRADING FOR PLANTING ON SLOPES**  
NOT TO SCALE

**FISHER, COLLINS & CARTER, INC.**  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CENTRAL SQUARE OFFICE PARK - 12777 MALTBY NATIONAL PARKWAY  
ELICOTT CITY, MARYLAND 21042  
410 861-2955

**ENGINEER'S CERTIFICATE**  
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.

Signature of Engineer (Print name below signature) *Stanley S. Hello* Date *5-21-97*

**DEVELOPER'S CERTIFICATE**  
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.

Signature of Developer (Print name below signature) *Stanley S. Hello* Date *5-21-97*

**OWNER / DEVELOPER**  
WAVERLY WOODS DEVELOPMENT CORPORATION  
C/O L.D.D., INC.  
10805 HICKORY RIDGE ROAD, SUITE 215  
COLUMBIA, MARYLAND 21044

Reviewed for HOWARD SCD and meets Technical Requirements  
Signature of Inspector *John E. Peterson* Date *6/11/97*

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT  
Signature of District Director *John E. Peterson* Date *6/11/97*

APPROVED DEPARTMENT OF PLANNING AND ZONING  
Signature of Director *John E. Peterson* Date *6/20/97*

Signature of Chief Development Engineering Director *John E. Peterson* Date *6/20/97*

Signature of Director of Planning and Zoning *John E. Peterson* Date *6/20/97*

**SITE DEVELOPMENT PLAN**  
WAVERLY WOODS  
SECTION 5  
LOTS 25 THRU 82  
TAX MAP No: 16 PARCEL: 21  
THIRD ELECTION DISTRICT, HOWARD COUNTY, MARYLAND  
SCALE: AS SHOWN DATE: APRIL 1997  
SHEET 4 OF 7

