SHEET INDEX	
SHEET No.	SHEET
1	TITLE SHEET
2	MILLERS WAY DRIVE PLAN & PROFILE , DORSEY SPRING COURT PLAN
3	DORSEY SPRING COURT PROFILE & TYPICAL ROADWAY SECTIONS
4	WATER QUALITY, STREET TREE, GRADING & SEDIMENT CONTROL PLAN
5	DRAINAGE AREA MAP & LANDSCAPE PLAN
6	STORM DRAIN PROFILES
7	WATER QUALITY NOTES AND DETAILS & SEDIMENT CONTROL DETAILS
8	SEDIMENT CONTROL NOTES & DETAILS
9	LOTS 309 AND 310 LOCATION PLAN

FINAL ROAD CONSTRUCTION AND GRADING PLANS

DANIELS MILL OVERLOOK

SECTION 3 AREA 2

LOTS 277 THRU 310

(A RESUBDIVISION OF PARCEL 'J'- DANIELS MILL OVERLOOK, SECTION 3, AREA 1, PLAT Nos. THRU , AND PARCEL 'B' - DANIELS MILL OVERLOOK, SECTION 2 AREA 1 PLAT NOS. 12764 THRU 12765)

ZONED R-ED

TAX MAP NO. 17 PART OF PARCEL 41 AND 547

SECOND ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

APPROVED: DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAYS — DATE 7-21-98

APPROVED: DEPARTMENT OF PLANNING AND ZONING

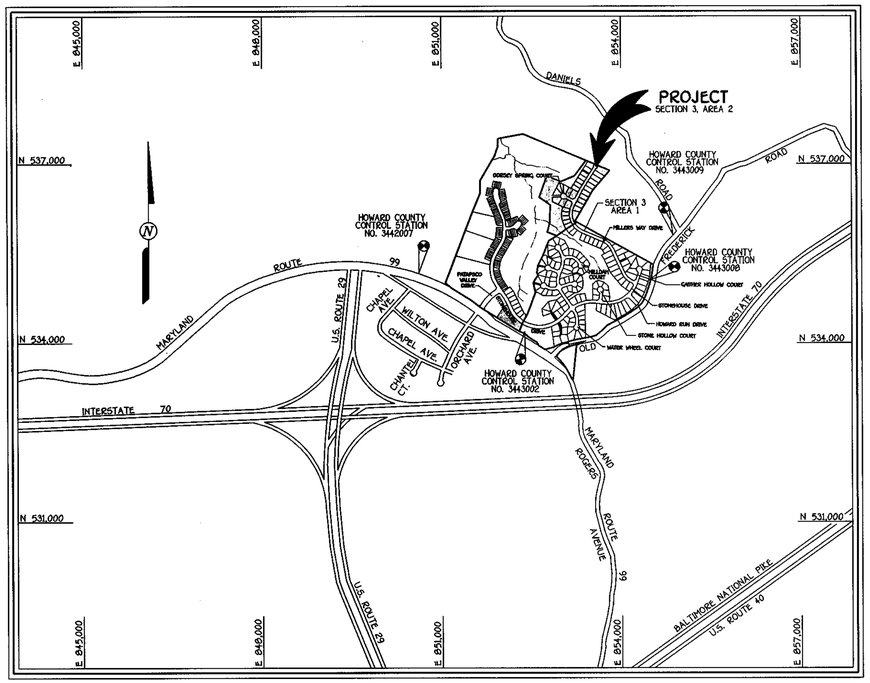
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 7/28/98

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 7/21/98

STREET LIGHT CHART				
DWG. No.	STREET NAME	STATION	OFF-SET	FIXTURE/POLE TYPE
2	MILLERS WAY DRIVE	19+23	18'L	100-WATT HPS VAPOR "TRADITIONAIRE" POST TOP FIXTURE MOUNTED ON A 14-FOOT BLACK FIBERGLASS POLE
2	MILLERS WAY DRIVE	22+48	16'L	100-WATT HPS VAPOR "TRADITIONAIRE" POST TOP FIXTURE MOUNTED ON A 14-FOOT BLACK FIBERGLASS POLE
2	MILLERS WAY DRIVE	25+68	16'L	100-WATT HPS VAPOR "TRADITIONAIRE" POST TOP FIXTURE MOUNTED ON A 14-FOOT BLACK FIBERGLASS POLE

TRAFFIC CONTROL SIGNS				
STREET NAME	STATION	OFFSET	POSTED SIGN	SIGN CODE
DORSEY SPRING COURT	0+35	14'L.	STOP	R1-1
MILLERS WAY DRIVE	17+22	15'L.	SPEED LIMIT 25	R2-1

ROAD CLASSIFICATION CHART		
ROAD NAME	CLASSIFICATION	R/W WIDTH
MILLERS WAY DRIVE	LOCAL ROAD	50'
DORSEY SPRING COURT	CUL-DE-SAC	50'



VICINITY MAP

SCALE: 1" = 1200'

GENERAL NOTES

1. UNLESS OTHERWISE NOTED, ALL CONSTRUCTION IS TO BE IN ACCORDANCE WITH THE FOLLOWING:
   a. HOWARD COUNTY STANDARD SPECIFICATION AND DETAILS FOR CONSTRUCTION.
   b. MARYLAND STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, AS AMENDED
   c. SOIL CONSERVATION SERVICE 1983 MARYLAND STANDARD AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
   d. SOIL CONSERVATION SERVICE 1993 MARYLAND STANDARDS AND SPECIFICATION FOR POND CONSTRUCTION (CODE 378)
2. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS, DIVISION OF CONSTRUCTION INSPECTION AT 410-313-1880 AT LEAST (5) WORKING DAYS. PRIOR TO THE START OF CONSTRUCTION.
3. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION.
4. TOPOGRAPHY SHOWN HEREON IS FROM FIELD RUN SURVEY BY FISHER, COLLINS & CARTER, INC. 2' CONTOUR INTERVAL AUGUST, 1997.
5. THIS HORIZONTAL AND VERTICAL DATUM SHOWN ARE BASED ON THE FOLLOWING NAD'83 HOWARD COUNTY CONTROL STATIONS:
   HOWARD COUNTY MONUMENT NO. 3443008 — N 535051.402, E 851471.468 — ELEV. = 479.13'
   HOWARD COUNTY MONUMENT NO. 3443009 — N 535806.602, E 854860.710 — ELEV. = 484.01'
   HOWARD COUNTY MONUMENT NO. 3443002 — N 534193.678, E 852269.574 — ELEV. = 484.23'
   HOWARD COUNTY MONUMENT NO. 3443007 — N 535080.370, E 850670.146 — ELEV. = 470.18'
6. NOISE STUDY WAS PROVIDED BY M.A. DIRCKS AND CO., INC. AND APPROVED ON JUNE 15, 1995.
7. FOREST STAND DELINEATION WAS PROVIDED BY M.A. DIRCKS AND CO., INC. DATED JUNE, 1993. EXISTING FOREST CONSERVATION PER PLAT 12765.
8. THE 100 Yr. FLOODPLAIN AS SHOWN ON THESE PLANS ARE BASED ON THE FLOODPLAIN STUDY THAT WAS PROVIDED BY FISHER, COLLINS & CARTER, INC.
9. THE WETLANDS STUDY WAS PREPARED BY ENVIRONMENTAL SYSTEMS ANALYSIS UNDER S-95-18 AND APPROVED ON JUNE 15, 1995.
10. THE TRAFFIC STUDY WAS PROVIDED BY The Traffic Group AND APPROVED ON JUNE 15, 1995.
11. THE SOILS INVESTIGATION REPORT WAS PREPARED BY G.T.A. INC. ON NOVEMBER 1995.
12. THE SKETCH PLAN S-95-18 WAS APPROVED ON 6/15/95. PRELIMINARY PLANS WERE WAIVED UNDER WP-97-95 ON AUGUST 15, 1997.
13. TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THERE PLACEMENT OF ANY ASPHALT.
14. STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURE AND POLE SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME III (1993) AND AS MODIFIED BY "GUIDELINES FOR STREET LIGHTS IN RESIDENTIAL DEVELOPMENTS (JUNE 1993)."
15. A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.
16. PUBLIC WATER AND PUBLIC SEWER WILL BE USED WITHIN THIS DEVELOPMENT.
17. EXISTING UTILITIES ARE BASED ON CONTRACT 14-3580-D, 14-3581-D & 14-3651-D.
18. SECTION 16.116(a) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS PROHIBITS CLEARING, GRADING OR CONSTRUCTION ACTIVITY WITHIN THE REQUIRED WETLAND OR STREAM BANK BUFFERS. A WAIVER(WP 95-74) WAS SUBMITTED FOR GRADING WITHIN THE STREAM BUFFER, AND WETLAND BUFFER ON NOV. 25, 1996, AND APPROVED ON APRIL 9, 1998.
19. QUANTITY CONTROL, STORMWATER MANAGEMENT ANALYSIS WAS APPROVED ON APRIL 27, 1996 UNDER F-96-128. WATER QUALITY IS PROVIDED BY SHALLOW MARSH.
20. LETTER OF AUTHORIZATION NO. FOR DISTURBANCE IN WETLAND AND STREAM BUFFER IS 95-NT-0811 / 199568507.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

30594TITLEAREA2.DWG

OWNER

RYLAND HOMES AT HOLLIFIELD STATION, L.L.C.
ATTN: MR. JOHN W. MEADE
THE RYLAND GROUP, INC.
GALLERIA TOWERS
SUITE #705 1447 YORK ROAD
LUTHERVILLE, MARYLAND 21093

DEVELOPER

THE RYLAND GROUP, INC.
ATTN: MR. JOHN W. MEADE
GALLERIA TOWERS
SUITE #705 1447 YORK ROAD
LUTHERVILLE, MARYLAND 21093

STATE OF MARYLAND — JAYESH VITHALBHAI PANCHOLI — No. 21217 — REGISTERED PROFESSIONAL ENGINEER

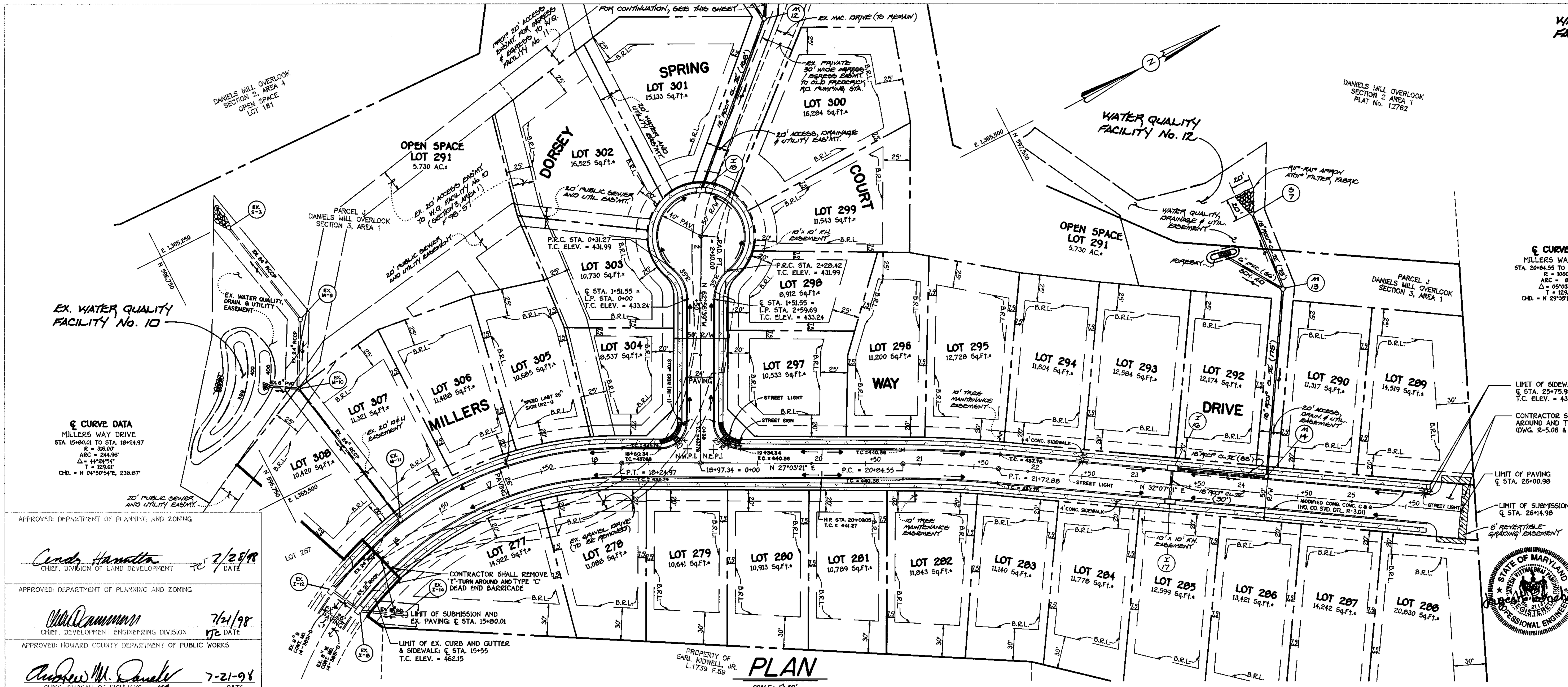
Jayesh Pancholi — 12-17-97
JAYESH V. PANCHOLI — DATE

TITLE SHEET

DANIELS MILL OVERLOOK

SECTION 3 AREA 2
LOTS 277 THRU 310
ZONED: R-ED
(A RESUBDIVISION OF PARCELS 'J' - DANIELS MILL OVERLOOK, SECTION 3 AREA 1, PLAT Nos. THRU , AND PARCEL 'B' - DANIELS MILL OVERLOOK, SECTION 2 AREA 1 PLAT NOS. 12764 THRU 12765)
TAX MAP No. 17 PART OF PARCEL 41 AND 547
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: DECEMBER 10, 1997
SHEET 1 OF 9

F-98-73



APPROVED: DEPARTMENT OF PLANNING AND ZONING

Cindy Hamilton 7/28/98
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

7/21/98
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Andrew M. Daniels 7-21-98
CHIEF, BUREAU OF HIGHWAYS — DATE

DANIELS MILL OVERLOOK
SECTION 3, AREA 2
LOTS 277 THRU 310

ZONING: R-ED

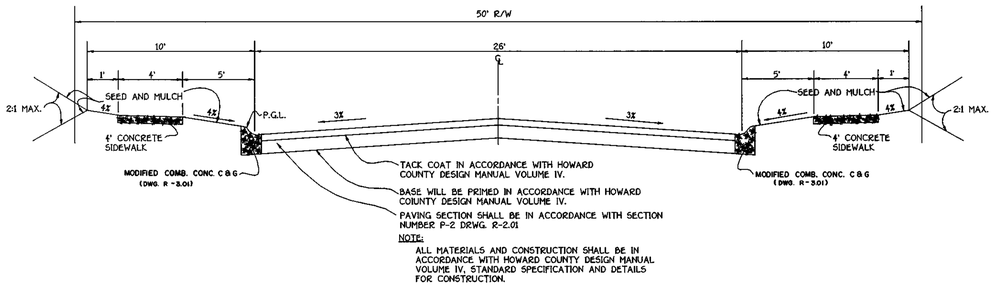
2nd. ELECTION DISTRICT HOWARD COUNTY, MARYLAND

MILLERS WAY DRIVE PLAN AND PROFILE — **DORSEY SPRING COURT** PLAN

OWNER	DEVELOPER
RYLAND HOMES AT HOLLIFIELD STATION, LLC ATTENTION: MR. JOHN W. MEADE THE RYLAND GROUP, INC. GALLERIA TOWERS SUITE #705 1447 YORK ROAD LUTHERVILLE, MARYLAND 21093	THE RYLAND GROUP, INC. ATTENTION: MR. JOHN W. MEADE GALLERIA TOWERS SUITE #705 1447 YORK ROAD LUTHERVILLE, MARYLAND 21093

SCALE: AS SHOWN	DATE: DEC. 10, 1997	DWG. NO. 2 OF 9
DES. J.V.P.	DRN. J.C.L.	CHK. C.J.C.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

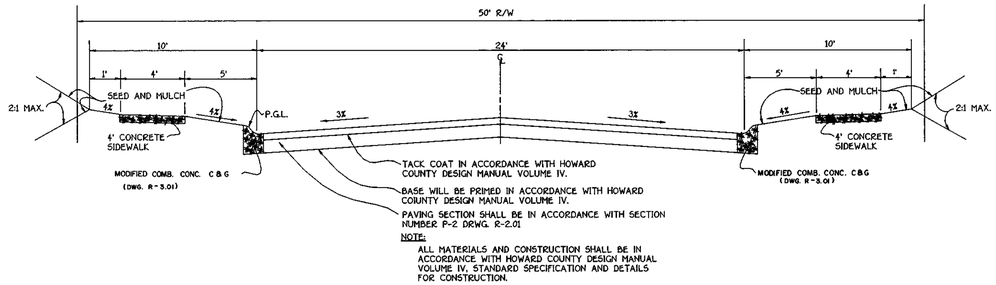


TYPICAL ROADWAY SECTION (LOCAL ROAD)

NO SCALE

ROADWAY INFORMATION CHART

ROAD NAME	CLASSIFICATION	DESIGN SPEED	ZONING	℄ STATION LIMITS	R/W	PAVING SECTION
MILLERS WAY DRIVE	LOCAL ROAD	30 M.P.H.	R-ED	15+80 TO 26+00.98	50'	P-2



TYPICAL ROADWAY SECTION (CUL-DE-SAC)

NO SCALE

ROADWAY INFORMATION CHART

ROAD NAME	CLASSIFICATION	DESIGN SPEED	ZONING	℄ STATION LIMITS	R/W	PAVING SECTION
DORSEY SPRING COURT	CUL-DE-SAC	25 M.P.H.	R-ED	0+00 TO 2+10.00	50'	P-2

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Cindy Hamilton TC 7/28/98
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

7/21/98
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

7-21-98
CHIEF, BUREAU OF HIGHWAYS DATE

DANIELS MILL OVERLOOK
SECTION 3, AREA 2
LOTS 277 THRU 310
ZONING: R-ED
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

DORSEY SPRING COURT
PROFILE

TYPICAL ROADWAY SECTIONS

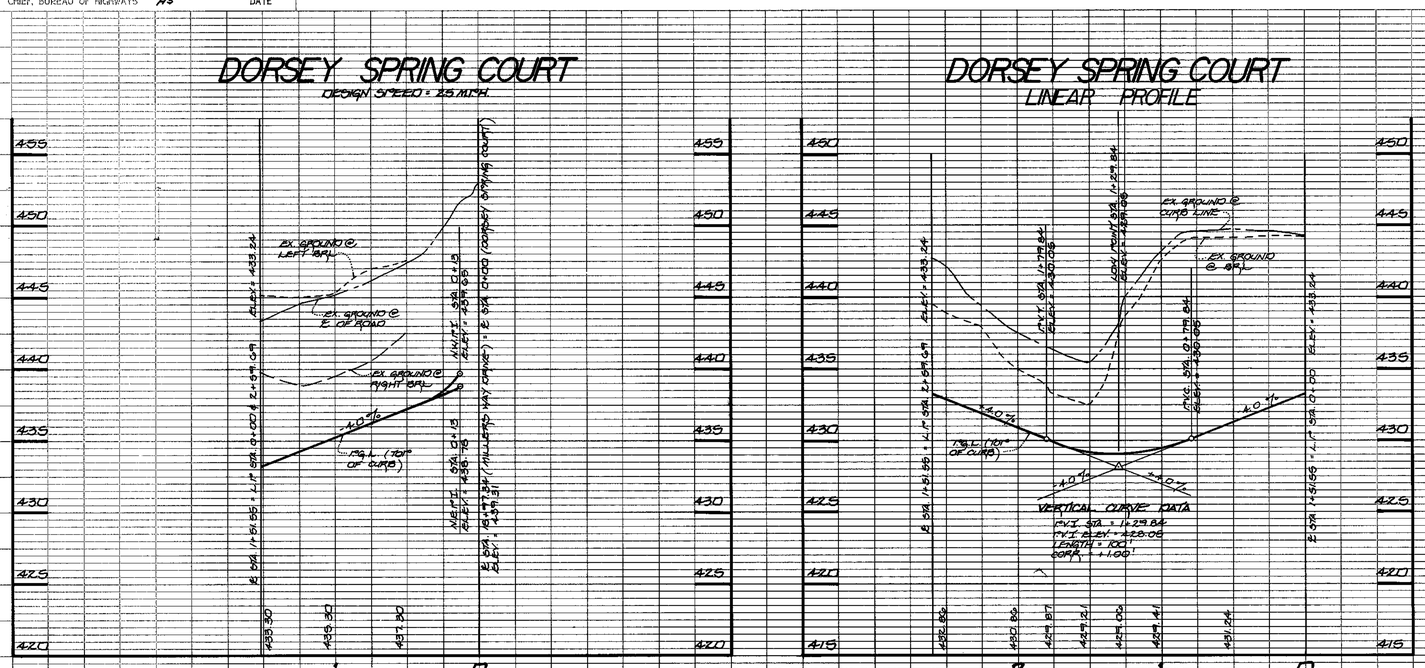
OWNER
RYLAND HOMES AT HOLLIFIELD STATION, LLC
ATTENTION MR. JOHN W. MEADE
THE RYLAND GROUP, INC.
GALLERIA TOWERS
SUITE 1705
1447 YORK ROAD
LUTHERVILLE, MARYLAND 21093

DEVELOPER
THE RYLAND GROUP, INC.
ATTENTION MR. JOHN W. MEADE
GALLERIA TOWERS
SUITE 1705
1447 YORK ROAD
LUTHERVILLE, MARYLAND 21093

SCALE: AS SHOWN	DATE: DEC 10, 1997	DWG. NO. 3 OF 9
DES. J.V.P.	DRN. J.C.L.	CHK. C.J.C.

STATE OF MARYLAND — STEVEN FAITHFULL MATTHEWS — No. 21410 — REGISTERED PROFESSIONAL ENGINEER

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855



F 98-73

ENGINEER'S CERTIFICATE

I Hereby Certify That This Plan For Erosion And Sediment Control Represents A Practical And Workable Plan Based On My Personal Knowledge Of The Site Condition And That It Was Prepared In Accordance With The Requirements Of The Howard Soil Conservation District.

Signature Of Engineer — 12-17-97 Date

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 Personnel Involved In The Construction Project Will Have A Certificate Of Attendance At A Department 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."

Signature Of Developer — 12/19/97 Date

Reviewed For Howard County Soil Conservation District And Meets Technical Requirements

U.S.D.A. - Natural Resources Conservation Service — 7/16/98 Date

Approved: This Development Is Acceptable For Erosion And Sediment Control By The Howard Soil Conservation District.

District Howard Soil Conservation Dist. — 7/16/98 Date

Approved: Department Of Planning And Zoning

Chief, Division Of Land Development — 7/28/98 Date

Chief, Development Engineering Division — 7/21/98 Date

Approved: Howard County Department Of Public Works

Chief, Bureau Of Highways — 7-21-98 Date

STREET TREE SCHEDULE

SYMBOL	BOTANICAL AND COMMON NAME	SIZE	COMMENTS
✿	ACER RUBUM 'OCTOBER GLORY' RED MAPLE	2 1/2" - 3" CALIPER	40' APART ON PUBLIC R/W
⊗	PLATANUS OCCIDENTALIS 'BLOODGOOD' LONDON PLANETREE	2 1/2" - 3" CALIPER	40' APART ON PUBLIC R/W

NOTE: STREET TREES ARE ONLY A RECOMMENDATION. THIS MAY BE REVISED TO A COUNTY ACCEPTABLE EQUIVALENT.

TOTAL NUMBER OF STREET TREES:

✿ - 12 STREET TREES

⊗ - 49 STREET TREES

No.1
STONE OUTLET SEDIMENT TRAP (ST-IV)
DRAINAGE AREA = 2.60 AC.±
STORAGE REQ'D. = 9,360 CU.FT.
STORAGE PROV'D. = 10,000 CU.FT.
BOTTOM AREA = 3,200 SQ.FT.
SIDE SLOPES = 3:1
DEPTH = 3'
BOTTOM ELEV. = 424.00
CLEAN-OUT ELEV. = 425.50
WEIR CREST ELEV. = 427.00
WEIR LENGTH = 10'

No.3
STONE OUTLET SEDIMENT TRAP (ST-IV)
DRAINAGE AREA = 2.90 AC.±
STORAGE REQ'D. = 10,440 CU.FT.
STORAGE PROV'D. = 10,500 CU.FT.
BOTTOM AREA = 2,500 SQ.FT.
SIDE SLOPES = 2:1
DEPTH = 3'
BOTTOM ELEV. = 414.00
CLEAN-OUT ELEV. = 415.50
WEIR CREST ELEV. = 417.00
WEIR LENGTH = 5'

No.4
STONE OUTLET SEDIMENT TRAP (ST-IV)
DRAINAGE AREA = 1.50 AC.±
STORAGE REQ'D. = 5,400 CU.FT.
STORAGE PROV'D. = 5,400 CU.FT.
BOTTOM AREA = 900 SQ.FT.
SIDE SLOPES = 3:1
DEPTH = 3'
BOTTOM ELEV. = 401.00
CLEAN-OUT ELEV. = 402.50
WEIR CREST ELEV. = 404.00
WEIR LENGTH = 5'

EX. RIP-RAP OUTLET TRAP NO. 2
(SECTION 3, AREA 1)
TO BE USED AS SEDIMENT TRAP FOR SECTION 3, AREA 2
TYPE: RIP-RAP SEDIMENT TRAP (ST IV)
DRAINAGE AREA = 1.90 AC.±
STORAGE REQ'D. = 6,840 CU.FT.
STORAGE PROV'D. = 22,103 CU.FT.
TOP OF EMBAKMENT = 403.00
SIDE SLOPES = 2:1
DEPTH = 4'
BOTTOM ELEV. = 398.00
CLEAN-OUT ELEV. = 400.00
WEIR CREST ELEV. = 402.00
WEIR LENGTH = 24'

NOTE: CONTRACTOR SHALL CLEAR MIN. AMOUNT OF TREES IN WATER & UTIL. EASEMENT AS NECESSARY FOR TRENCHING OF UTILITIES.

NOTE: SEE SHEET 5 FOR WATER QUALITY FACILITY LANDSCAPING. (PLAN VIEWS)

PLAN
SCALE: 1" = 50'

LEGEND

- S.C.E. — STABILIZED CONSTRUCTION ENTRANCE
- —S—S—S— SILT FENCE
- —SS—SS—SS— SUPER-SILT FENCE
- INLET PROTECTION
- A-2 EARTH DIKE
- —x—x—x— TREE PROTECTION FENCE
- LIMIT OF DISTURBANCE

OWNER
RYLAND HOMES AT HOLLIFIELD STATION, LLC
ATTENTION: MR. JOHN W. MEADE
THE RYLAND GROUP, INC.
GALLERIA TOWERS
SUITE #705
1447 YORK ROAD
LUTHERVILLE, MARYLAND 21093

DEVELOPER
THE RYLAND GROUP, INC.
ATTENTION: MR. JOHN W. MEADE
GALLERIA TOWERS
SUITE #705
1447 YORK ROAD
LUTHERVILLE, MARYLAND 21093

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

F.C.C.#30594GRADINGPLANAREA2.DWG.

WATER QUALITY, STREET TREE, GRADING AND SEDIMENT CONTROL PLAN

DANIELS MILL OVERLOOK

SECTION 3, AREA 2

LOTS 277 THRU 310

(A RESUBDIVISION OF PARCEL 'J'-DANIELS MILL OVERLOOK, SECTION 3, AREA 1, PLAT Nos. THRU AND PARCEL 'B'-DANIELS MILL OVERLOOK, SECTION 2, AREA 1, PLAT Nos. 12764 THRU 12765)

ZONING: R-ED

TAX MAP No: 17 PART OF PARCEL No: 41 AND 547 GRID No: 12

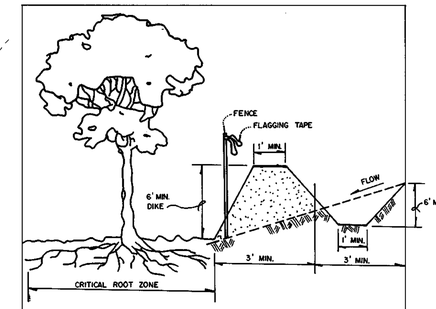
2nd. ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN DATE: DECEMBER 10, 1997

SHEET 4 OF 9

F 98-73

APPROVED: DEPARTMENT OF PUBLIC WORKS	
CHIEF, BUREAU OF HIGHWAYS MS	7-21-98 DATE
APPROVED: DEPARTMENT OF PLANNING AND ZONING	
CHIEF, DIVISION OF LAND DEVELOPMENT TC	7/28/98 DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION TC	7/21/98 DATE



1. Combine sediment control and forest protection device.
2. Boundaries of Retention Area will be established as part of the forest conservation plan review process.
3. Boundaries of Retention Area should be staked prior to installing protection device.
4. Root damage should be avoided.
5. Toe of slope should be outside the Critical Root Zone.
6. Equipment is prohibited within Critical Root Zone of Retention Area; place dike accordingly.
7. All standard maintenance for earth dikes and swales apply to these details.
8. All standard reclamation practices for earth dikes and swales shall apply to these details.

COMBINED SEDIMENT CONTROL AND FOREST PROTECTION DETAIL

N.T.S.

NOTE: SEE SHEET 7 FOR WATER QUALITY LANDSCAPING CHART.

WATER QUALITY FACILITY No. 12

WATER QUALITY FACILITY No. 11

EX. WATER QUALITY FACILITY No. 10

EX. FOREST CONSERVATION EASEMENT

WATER QUALITY DRAINAGE & UTILITY EASEMENT

EX. 20' WTR. FACILITY ACCESS EASMT. TO WTR. FACILITY No. 10

EX. 20' WTR. FACILITY ACCESS EASMT. TO WTR. FACILITY No. 11

EX. WATER QUALITY FACILITY No. 10

EX. TREE PROTECTION FENCE (SECTION 3, AREA 1)

DORSEY SPRINGS COURT

DORSEY SPRINGS WAY

MILLERS DRIVE

OPEN SPACE LOT 291

LOTS 277 THRU 310

SCHEDULE A PERIMETER LANDSCAPE EDGE											
PERIMETER	CATEGORY (PROPERTIES/ ROADWAYS)	LANDSCAPE TYPE	LINEAR FEET OF ROADWAY FRONTAGE PERIMETER	CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO. OF PLANTS REQ'D.			NUMBER OF PLANTS PROVIDED			
						SHADE TREES	EVERGREEN TREES	SHRUBS	SHADE TREES	EVERGREEN TREES	OTHER TREES (2:1 SUBSTITUTION)	SHRUBS (10:1 SUBSTITUTION)
									(DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED)			
P-1	ADJACENT TO PERIMETER	A	1037'	NO	NO	20	-	-	20	-	-	-
P-2	ADJACENT TO PERIMETER	A	423'	NO	NO	8	-	-	8	-	-	-

LANDSCAPING PLANT LIST			
QTY.	KEY	NAME	SIZE
28		ACER RUBRUM 'OCTOBER GLORY' (OCTOBER RED MAPLE)	2 - 2 1/2" CALIPER FULL CROWN, B&B

"THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. FINANCIAL SURETY FOR THE 28 REQUIRED LANDSCAPE TREES HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF $2,800.00.

DRAINAGE AREA DATA					
STRUCTURE NO.	DRAINAGE AREA	AREA	'C'	ZONED	% IMP.
I-15	RRR	1.35	0.59	R-ED	49%
I-16	555	0.45	0.74	R-ED	70%
I-17	TTT	2.00	0.49	R-ED	34%

PLAN
SCALE: 1" = 50'

DRAINAGE AREA MAP AND LANDSCAPE PLAN

DANIELS MILL OVERLOOK

SECTION 3, AREA 2

LOTS 277 THRU 310

(A RESUBDIVISION OF PARCEL 'J'-DANIELS MILL OVERLOOK, SECTION 3, AREA 1, PLAT Nos. THRU AND PARCEL 'B'-DANIELS MILL OVERLOOK, SECTION 2, AREA 1, PLAT Nos. 12764 THRU 12765)

ZONING: R-ED

TAX MAP No: 17 PART OF PARCEL No: 41 AND 547 GRID No: 12

2nd. ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN DATE: DECEMBER 10, 1997

SHEET 5 OF 9

OWNER
RYLAND HOMES AT HOLLIFIELD STATION, LLC
ATTENTION: MR. JOHN W. MEADE
THE RYLAND GROUP, INC.
GALLERIA TOWERS
SUITE #705
1447 YORK ROAD
LUTHERVILLE, MARYLAND 21093

DEVELOPER
THE RYLAND GROUP, INC.
ATTENTION: MR. JOHN W. MEADE
GALLERIA TOWERS
SUITE #705
1447 YORK ROAD
LUTHERVILLE, MARYLAND 21093

STATE OF MARYLAND — JAMES R. CARTER — No. 21141 — REGISTERED PROFESSIONAL ENGINEER

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

F.C.C.*30594GRADINGPLANAREA2.DWG

F98-73

APPROVED: DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAYS — DATE 7-21-98

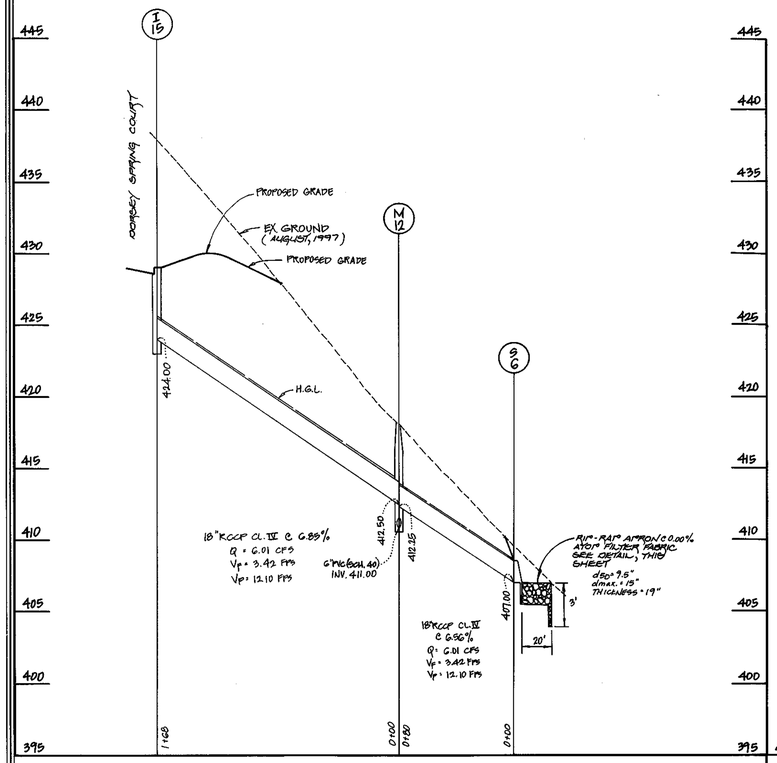
APPROVED: DEPARTMENT OF PLANNING AND ZONING

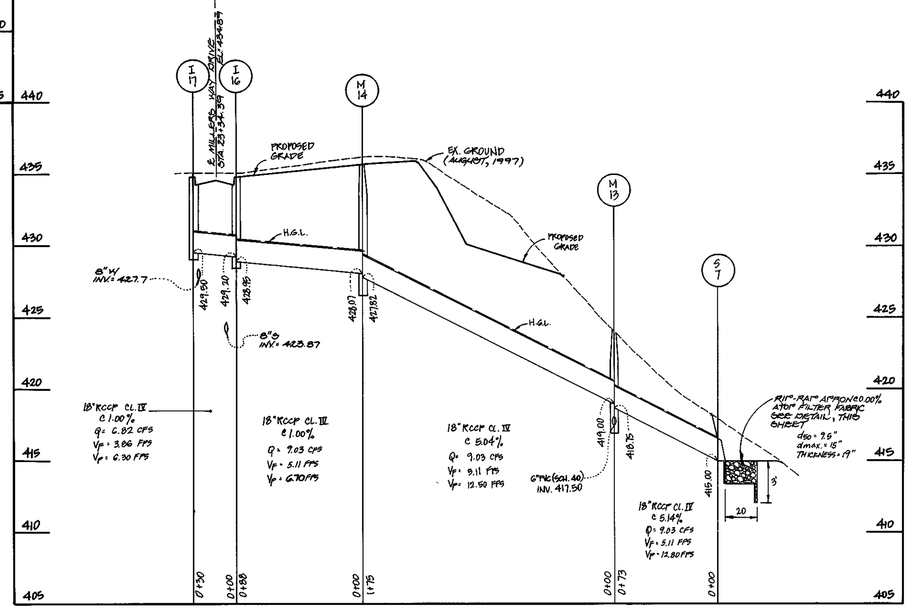
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 7/20/98

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 7/21/98

STRUCTURE SCHEDULE

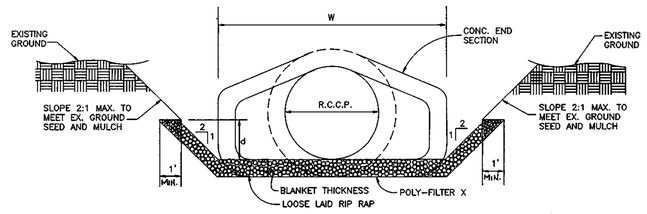
STRUCTURE NO.	TOP ELEVATION	INV.IN	INV.OUT	ROAD NAME	ROAD STA.	OFFSET	TYPE	REMARKS
I-15	429.05	——	424.00	DORSEY SPRING COURT	L.P. STA. 1+29.84	——	A-10 INLET	S.D. 4.41
I-16	434.82	429.20	428.95	MILLERS WAY DRIVE	C.L. STA. 23+34.39	13' LT.	A-10 INLET	S.D. 4.41
I-17	434.82	——	429.50	MILLERS WAY DRIVE	C.L. STA. 23+34.39	13' RT.	A-10 INLET	S.D. 4.41
M-12	418.00	412.50	412.25	——	——	N 597,347.150 E 1,365,301.581	STD. MANHOLE	G 5.01
M-13	424.00	419.00	418.75	——	——	N 597,660.953 E 1,365,742.857	STD. MANHOLE	G 5.01
M-14	435.72	428.07	427.82	MILLERS WAY DRIVE	C.L. STA. 24+20	15.5' LT.	STD. MANHOLE	G 5.01
S-6	408.5	407.00	407.00	——	——	N 597,337.622 E 1,365,223.90	CONC. END SECTION	S.D. 5.52
S-7	416.5	415.00	415.00	——	——	N 597,666.953 E 1,365,688.445	CONC. END SECTION	S.D. 5.52





PROFILES

SCALE: HORIZ. : 1"= 50'
VERT. : 1"= 5'



RIP-RAP CHANNEL DETAIL

NO SCALE

RIP-RAP CHANNEL DESIGN DATA

STRUCTURE	AREA (S.F.)	WETTED PERIMETER	R	R 2/3	S	S 1/2	W	d	N	V (FPS)	Q (CFS)	RIP-RAP SIZE D_{50}	RIP-RAP SIZE D_{MAX}	BLANKET THICKNESS	Q10 (CFS)	DIA. BY S.D.
S-6	4.128	7.39'	0.56'	0.680	0.005	0.0707	4.8'	0.75'	0.035	2.04	8.41	9.5"	15"	19"	6.01	18"
S-7	4.480	7.98'	0.69'	0.704	0.009	0.0707	4.8'	0.88'	0.035	3.11	9.47	9.5"	15"	19"	9.03	18"

CONSTRUCTION SPECIFICATIONS FOR RIP-RAP OUTFALLS

1. The subgrade for the filter, riprap or gabion shall be prepared to the required lines and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.
2. The rock or gravel shall conform to the specified grading limits when installed respectively in the riprap or filter.
3. Filter cloth shall be protected from punching, cutting or tearing. Any damage other than an occasional shall hole shall be repaired by placing another piece of cloth over the damaged part or by completely replacing the cloth. All overlaps whether for repairs or for joining two pieces of cloth shall be a minimum of one foot.
4. Stone for the riprap or gabion outlets may be placed by equipment. Both shall each be constructed to the full course thickness in one operation and in such a manner as to avoid displacement of underlying materials. The stone for riprap or gabion outlets shall be delivered and placed in a manner that will insure that it is reasonably homogenous with the smaller stones and spalls filling the voids between the larger stones. Riprap shall be placed in a manner to prevent damage to the filter blanket or filter cloth. Hand placement will be required to the extent necessary to prevent damage to the permanent works.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855
F.C.C.#305945TORMDRAINAREA2

DEVELOPER
THE RYLAND GROUP, INC.
ATT: MR. JOHN W. MEADE
GALLERIA TOWERS
SUITE 705
1447 YORK ROAD
LUTHERVILLE, MD. 21093

OWNER
RYLAND HOMES AT HOLLIFIELD STATION, L.L.C.
ATT: MR. JOHN W. MEADE
THE RYLAND GROUP, INC.
GALLERIA TOWERS
SUITE 705
1447 YORK ROAD
LUTHERVILLE, MD. 21093

STATE OF MARYLAND — JAMES EDWARD NOLAN — REGISTERED PROFESSIONAL ENGINEER

STORM DRAIN PROFILES

DANIELS MILL OVERLOOK

SECTION 3, AREA 2

LOTS 277 THRU 310

(A RESUBDIVISION OF PARCEL 'J'-DANIELS MILL OVERLOOK, SECTION 3, AREA 1, PLAT Nos. THRU AND PARCEL 'B'-DANIELS MILL OVERLOOK, SECTION 2, AREA 1, PLAT Nos. 12764 THRU 12765)

ZONING: R-ED

TAX MAP No: 17 PART OF PARCEL No: 41 AND 547 GRID No: 12

2nd. ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN DATE: DECEMBER 10, 1997

SHEET 6 OF 9

F 98-73

WATER QUALITY CONSTRUCTION SPECIFICATIONS

SPECIFICATIONS

I SITE PREPARATION: AREAS DESIGNATED FOR BORROW AREAS, EMBANKMENT, AND STRUCTURAL WORKS SHALL BE CLEARED, GRUBBED AND STRIPPED OF TOPSOIL. ALL TREES, VEGETATION, ROOTS AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED. CHANNEL BANKS AND SHARP BREAKS SHALL BE SLOPED TO NO STEEPER THAN 1:1.

AREAS TO BE COVERED BY THE POND OR RESERVOIR WILL BE CLEARED OF ALL TREES, BRUSH, LOGS, FENCE, RUBBISH AND OTHER OBJECTIONABLE MATERIAL UNLESS OTHERWISE DESIGNATED ON THE PLANS. TREE, BRUSH AND STUMPS SHALL BE CUT APPROXIMATELY LEVEL WITH GROUND SURFACE. FOR DRY STORMWATER MANAGEMENT PONDS, A MINIMUM OF A 50 FOOT RADIUS AROUND THE INLET STRUCTURE SHALL BE CLEARED.

ALL CLEARED AND GRUBBED MATERIAL SHALL BE DISPOSED OF OUTSIDE THE LIMITS OF THE DAM AND RESERVOIR AS DIRECTED BY THE OWNER OR HIS REPRESENTATIVE. WHEN SPECIFIED, A SUFFICIENT QUANTITY OF TOPSOIL WILL BE STOCKPILED IN A SUITABLE LOCATION FOR USE ON THE EMBANKMENT AND OTHER DESIGNATED AREAS.

II EARTH FILL:

MATERIAL: THE FILL MATERIAL SHALL BE TAKEN FROM APPROVED DESIGNATED BORROW AREA OR AREAS. IT SHALL BE FREE OF ROOTS STUMPS, WOOD, RUBBISH, OVERSIZE STONES, FROZEN OR OTHER OBJECTIONALBE MATERIALS. FILL MATERIAL FOR THE CENTER OF THE EMBANKMENT AND CUT OFF TRENCH SHALL CONFORM TO UNITED SOIL CLASSIFICATION GC, SC, CH, OR CL. CONSIDERATION MAY BE GIVEN TO THE USE OF OTHER MATERIALS IN THE EMBANKMENT IF DESIGN AND CONSTRUCTION ARE SUPERVISED BY A GEOTECHNICAL ENGINEER.

PLACEMENT: AREAS ON WHICH FILL IS TO BE PLACED SHALL BE SCARIFIED PRIOR TO PLACEMENT OF FILL. FILL MATERIALS SHALL BE PLACED IN 8-INCH MAXIMUM THICKNESS (BEFORE COMPACTION) LAYERS WHICH ARE TO BE CONTINUOUS OVER THE ENTIRE LENGTH OF THE FILL. THE MOST PERMEABLE BORROW MATERIAL SHALL BE PLACED IN THE DOWNSTREAM PORTIONS OF THE EMBANKMENT. THE PRINCIPAL SPILLWAY MUST BE INSTALLED CONCURRENTLY WITH FILL PLACEMENT AND NOT EXCAVATED INTO THE EMBANKMENT.

COMPACTION: THE MOVEMENT OF THE HAULING AND SPREADING EQUIPMENT OVER THE FILL SHALL BE CONTROLLED SO THAT THE ENTIRE SURFACE OF EACH LIFT SHALL BE TRAVERSED BY NOT LESS THAN ONE TREAD TRACK OF THE EQUIPMENT OR COMPACTION SHALL BE ACHIEVED BY A MINIMUM OF FOUR COMPLETE PASSES OF A SHEEPSFOOT, RUBBER TIRED OR VIBRATORY ROLLER. FILL MATERIAL SHALL CONTAIN SUFFICIENT MOISTURE SUCH THAT THE REQUIRED DEGREE OF COMPACTION WILL BE OBTAINED WITH THE EQUIPMENT USED. THE FILL MATERIAL SHALL CONTAIN SUFFICIENT MOISTURE SO THAT IF FORMED INTO A BALL IT WILL NOT CRUMBLE YET NOT BE SO WET THAT WATER CAN BE SQUEEZED OUT.

WHERE A MINIMUM REQUIRED DENSITY IS SPECIFIED, IT SHALL NOT BE LESS THAN 95% OF MAXIMUM DRY DENSITY WITH A MOISTURE CONTENT WITHIN ±2% OF THE OPTIMUM. EACH LAYER OF FILL SHALL BE COMPACTED AS NECESSARY TO OBTAIN THAT DENSITY, AND IS TO BE CERTIFIED BY THE ENGINEER AT THE TIME OF CONSTRUCTION. ALL COMPACTION IS TO BE DETERMINED BY AASHTO METHOD T-99.

STRUCTURE BACKFILL: BACKFILL ADJACENT TO PIPES OR STRUCTURES SHALL BE OF THE TYPE AND QUALITY CONFORMING TO THAT SPECIFIED FOR THE ADJOINING FILL MATERIAL. THE FILL SHALL BE PLACED IN HORIZONTAL LAYERS NOT TO EXCEED FOUR INCHES IN THICKNESS AND COMPACTED BY HAND TAMPERS OR OTHER MANUALLY DIRECTED EQUIPMENT. THE MATERIAL NEEDS TO FILL COMPLETELY ALL SPACES UNDER AND ADJACENT TO THE PIPE. AT NO TIME DURING THE BACKFILLING OPERATION SHALL DRIVEN EQUIPMENT BE ALLOWED TO OPERATE CLOSER THAN FOUR FEET, MEASURED HORIZONTALLY, TO ANY PART OF A STRUCTURE. UNDER NO CIRCUMSTANCES SHALL EQUIPMENT BE DRIVEN OVER ANY PART OF A CONCRETE STRUCTURE PIPE UNLESS THERE IS A COMPACTED FILL OF TWENTY-FOUR INCHES OR GREATER OVER THE STRUCTURE OR PIPE.

PIPE CONDUITS: ALL PIPES SHALL BE CIRCULAR IN CROSS SECTION.

POLYVINYL CHLORIDE (PVC) PIPE - ALL OF THE FOLLOWING CRITERIA SHALL APPLY FOR POLYVINYL CHLORIDE (PVC) PIPE:

1. MATERIALS - PVC PIPE SHALL BE PVC-1120 OR PVC-1220 CONFORMING TO ASTM D-1785 OR ASTM D-2241.
2. JOINTS AND CONNECTIONS TO ANTI-SEEP COLLARS SHALL BE COMPLETELY WATERTIGHT.
3. BEDDING - THE PIPE SHALL BE FIRMLY AND UNIFORMLY BEDDED THROUGHOUT ITS ENTIRE LENGTH. WHERE ROCK OR SOFT, SPONGY OR OTHER UNSTABLE SOIL IS ENCOUNTERED, ALL SUCH MATERIAL SHALL BE REMOVED AND REPLACED WITH SUUITABLE EARTH COMPACTED TO PROVIDE ADEQUATE SUPPORT.
4. BACKFILLING SHALL CONFORM TO "STRUCTURE BACKFILL".
5. OTHER DETAILS (ANTI-SEEP COLLARS, VALVES, ETC.) SHALL BE AS SHOWN ON THE DRAWINGS.

CONCRETE
CONCRETE SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 608, MIX NO. 3.

ROCK RIPRAP
ROCK RIPRAP SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 905.

THE RIPRAP SHALL BE PLACED TO THE REQUIRED THICKNESS IN ONE OPERATION. THE ROCK SHALL BE DELIVERED AND PLACED IN A MANNER THAT WILL INSURE THE RIPRAP IN PLACE SHALL BE REASONABLY HOMOGENEOUS WITH THE LARGER ROCKS UNIFORMLY DISTRIBUTED AND FIRMLY IN CONTACT ONE TO ANOTHER WITH THE SMALLER ROCKS FILLING THE VOIDS BETWEEN THE LARGER ROCKS. FILTER CLOTH SHALL BE PLACED UNDER ALL RIPRAP AND SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 919.12.

CARE OF WATER DURING CONSTRUCTION
ALL WORK ON PERMANENT STRUCTURES SHALL BE CARRIED OUT IN AREAS FREE FROM WATER. THE CONTRACTOR SHALL CONSTRUCT AND MAINTAIN ALL TEMPORARY DIKES, LEVEES, COFFERDAMS, DRAINAGE CHANNELS, AND STREAM DIVERSIONS NECESSARY TO PROTECT THE AREAS TO BE OCCUPIED BY THE PERMANENT WORKS. THE CONTRACTOR SHALL ALSO FURNISH, INSTALL, OPERATE, AND MAINTAIN ALL NECESSARY PUMPING AND OTHER EQUIPMENT REQUIRED FOR REMOVAL OF WATER FROM THE VARIOUS PARTS OF THE WORK AND FOR MAINTAINING THE EXCAVATIONS, FOUNDATION, AND OTHER PARTS OF THE WORK FREE FROM WATER AS REQUIRED OR DIRECTED BY THE ENGINEER FOR CONSTRUCTING EACH PART OF THE WORK. AFTER HAVING SERVED THEIR PURPOSE ALL TEMPORARY PRPOTECTIVE WORKS SHALL BE REMOVED OR LEVELED AND GRADED TO THE EXTENT REQUIRED TO PREVENT OBSTRUCTION IN ANY DEGREE WHATSOEVER OF THE FLOW OF WATER TO THE SPILLWAY OR OUTLET WORKS AND SO AS NOT TO INTERFERE IN ANY WAY WITH THE OPERATION OR MAINTENANCE OF THE STRUCTURE. STREAM DIVERSIONS SHALL BE MAINTAINED UNTIL THE FULL FLOW CAN BE PASSED THROUGH THE PERMANENT WORKS. THE REMOVAL OF WATER FROM THE REQUIRED EXCAVATION AND THE FOUNDATION SHALL BE ACCOMPLISHED IN A MANNER AND TO THE EXTENT THAT WILL MAINTAIN STABILITY OF THE EXCAVATED SLOPES AND BOTTOM OF REQUIRED EXCAVATIONS AND WILL ALLOW SATISFACTORY PERFORMANCE OF ALL CONSTRUCTION OPERATIONS. DURING THE PLACING AND COMPACTING OF MATERIAL IN REQUIRED EXCAVATIONS, THE WATER LEVEL AT THE LOCATIONS BEING REFILLED SHALL BE MAINTAINED BELOW THE BOTTOM OF THE EXCAVATION AT SUCH LOCATIONS WHICH MAY REQUIRE DRAINING THE WATER TO SUMPS FROM WHICH THE WATER SHALL BE PUMPED.

STABILIZATION: ALL BORROW AREAS SHALL BE GRADED TO PROVIDE PROPER DRAINAGE AND LEFT IN A SIGHTLY CONDITION. ALL EXPOSED SURFACES OF THE EMBANKMENT,SPILLWAY, SPOIL AND BORROW AREAS, AND BERMS SHALL BE STABILIZED BY SEEDING, LIMING, FERTILIZING AND MULCHING AS REQUIRED IN ACCORDANCE WITH THE MARYLAND SOIL CONSERVATION SERVICE STANDARDS AND SPECIFICATIONS FOR CRITICAL AREA PLANTING (MD-342) OR AS SHOWN ON THE ACCOMPANYING DRAWINGS.

EROSION & SEDIMENT CONTROL: CONSTRUCTION OPERATIONS WILL BE CARRIED OUT IN SUCH A MANNER THAT EROSION WILL BE CONTROLLED & WATER & AIR POLLUTION MINIMIZED. STATE AND LOCAL LAWS CONCERNING POLLUTION ABATEMENT WILL BE FOLLOWED. CONSTRUCTION PLANS SHALL DETAIL EROSION AND SEDIMENT CONTROL MEASURES TO BE EMPLOYED DURING THE CONSTRUCTION PROCESS.

KEY	WATER QUALITY FACILITY NUMBER		
	NO.11	NO.12	
SL	18	18	
SA	9	9	
CO	9	9	
PV	18	18	
PC	9	9	

PRIMARY WETLAND VEGETATION

PLANT SPECIES		SIZE	REMARKS
SAGGITTARIA LATIFOLIA DUCK POTATO	(SL)	ROOTS	36" O.C.
SCIRPUS AMERICANUS COMMON THREE SQUARE	(SA)	ROOTS	36" O.C.

SECONDARY WETLAND VEGETATION

PLANT SPECIES		SIZE	REMARKS
CEPHALATHUS OCCIDENTALS BUTTON BUSH	(CO)	ROOTS	
PELTANDRA VIRGINICA ARROW - ARUM	(PV)	ROOTS	36" O.C.
PONTEDERIA CORDATA PICKEREL WEED	(PC)	ROOTS	36" O.C.

NOTES:

1. ALL PLANT MATERIAL TO BE WET GROWN OR ADAPTED TO WETLAND CONDITIONS.
2. ALTERATIONS TO THE PROPOSED GRADING SHOWN MAY AFFECT THE SUCCESS OF THE PLANT MATERIAL.
3. CONTRACTOR SHALL VERIFY LOCTAION OF ALL UNDERGROUND UTILITIES PRIOR TO DIGGING.

STORM WATER MANAGEMENT AREA LANDSCAPING (SCHEDULE 'D')

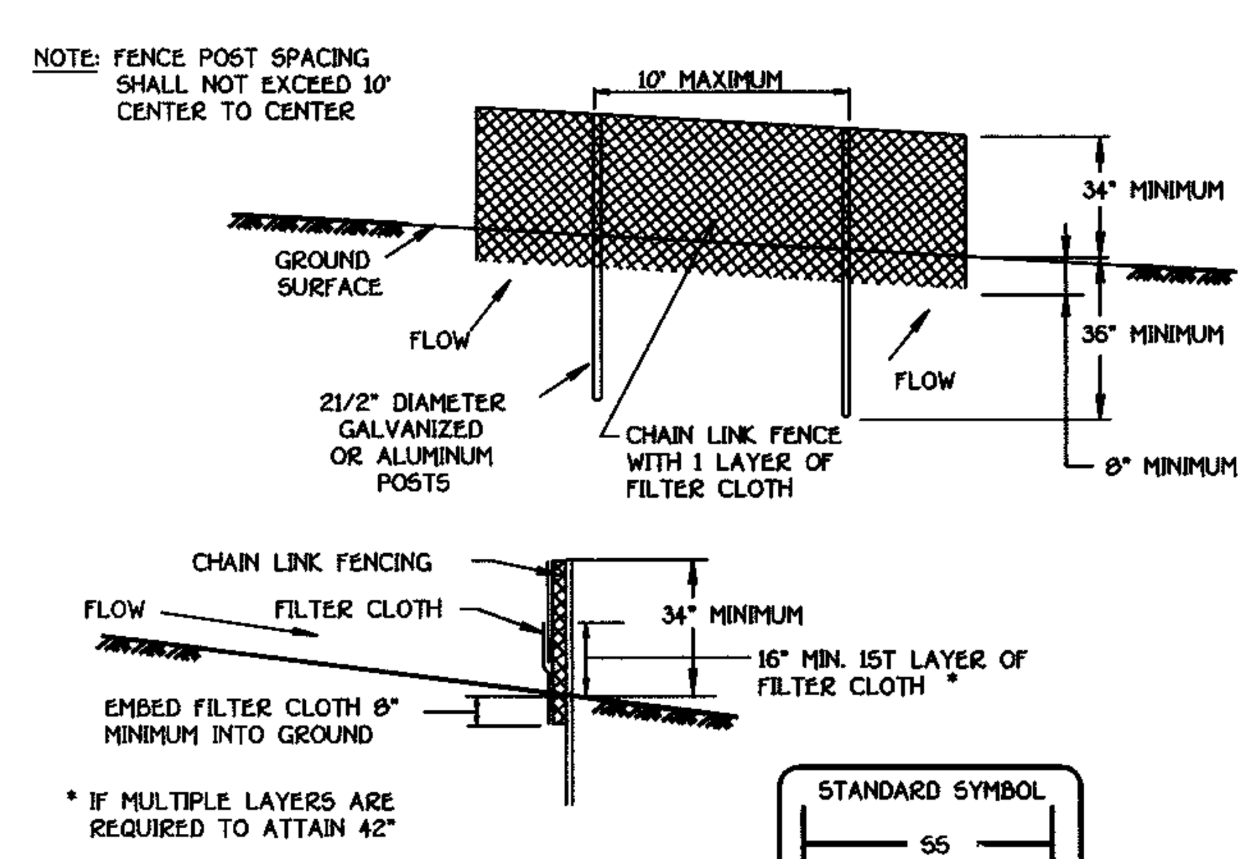
WATER QUALITY FACILITY NUMBER	11	12
LINEAR FEET OF PERIMETER	440'	530'
NUMBER OF TREES REQUIRED SHADE TREES EVERGREEN TREES	BASED ON 440 L.F. 8 1/50 11 1/40	BASED ON 530 L.F. 10 1/50 13 1/40
CREDIT FOR EXISTING VEGETATION (NO, YES AND %)	-	-
CREDIT FOR OTHER LANDSCAPING (NO, YES AND %)	-	-
NUMBER OF TREES PROVIDED SHADE TREES EVERGREEN TREES OTHER TREES (2:1 SUBSTITUTION)	SYMBOL 8 ⊕ 11 ✳	SYMBOL 10 ⊕ 13 ✳

PLANT LIST

QTY.	KEY	NAME	SIZE
18	⊕	ACER RUBRUM (OCTOBER GLORY' OCTOBER RED MAPLE)	2" - 2 1/2" CALIPER
24	✳	PINUS STROBUS (EASTERN WHITE PINE)	6' - 8.5' HEIGHT

* THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWRAD COUNTY CODE AND THE LANDSCAPE MANUAL." FINANCIAL SURETY FOR THE (52) REQUIRED LANDSCAPE TREES HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF 42 X 100.00 $4,200.00.

DETAIL 33 - SUPER SILT FENCE



Construction Specifications

1. 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.

2. 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.

3. Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.

4. Filter cloth shall be embedded a minimum of 8" into the ground.

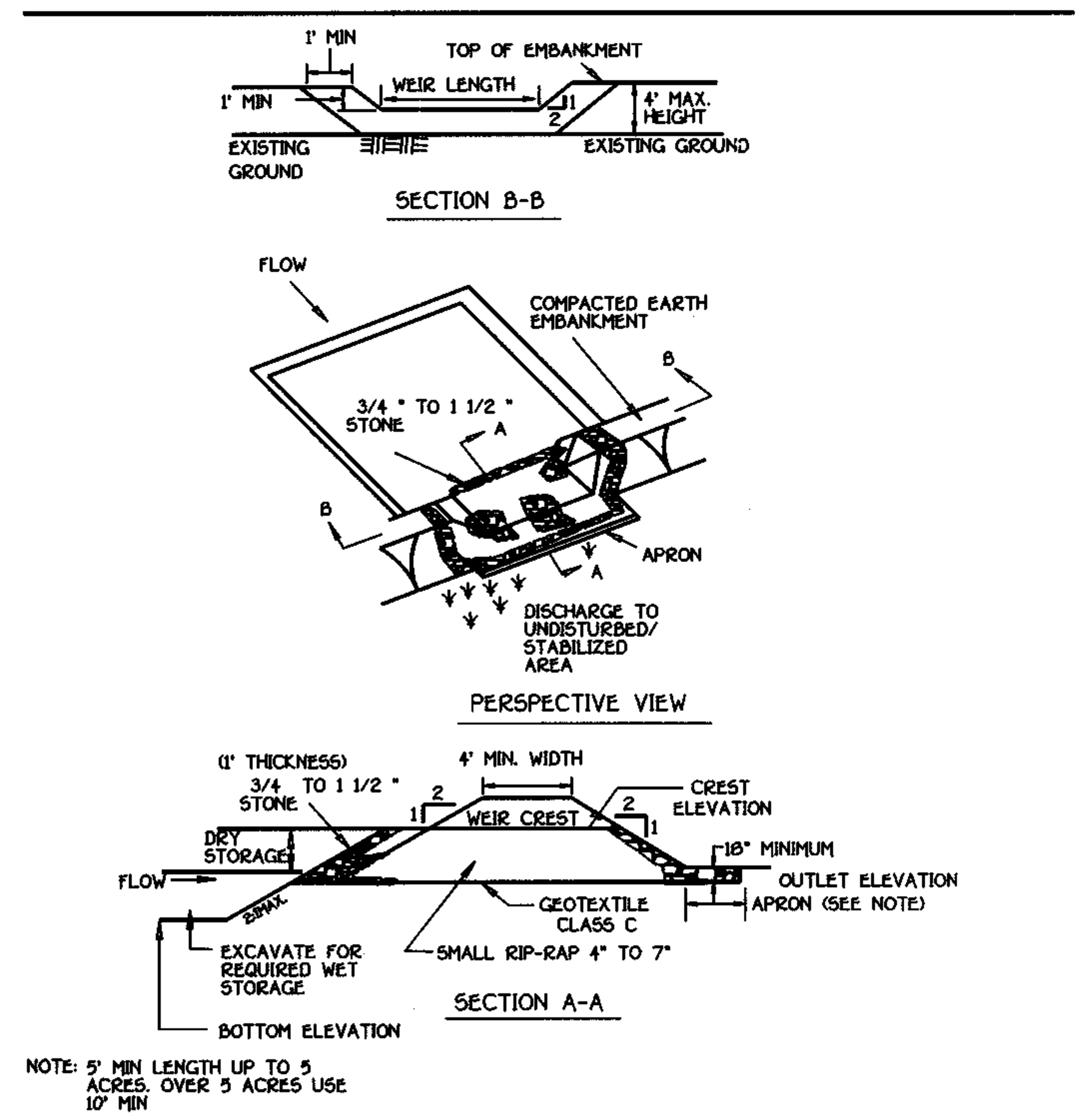
5. When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.

6. 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

7. 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 /minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

DETAIL 10A - STONE / RIP-RAP OUTLET SEDIMENT TRAP - ST IV



NOTE: 5' MIN LENGTH UP TO 5 ACRES, OVER 5 ACRES USE 10' MIN

STONE / RIP-RAP OUTLET SEDIMENT TRAP - ST IV

Constuction Specifications

1. The area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.

2. The fill material for the embankment shall be free of roots or 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. Maximum height of embankment shall be 4', measured at centerline of embankment.

3. All cut and fill slopes shall be 2:1 or flatter.

4. Elevation of the top of any dike directing water into trap must equal or exceed the height of trap embankment.

5. Storage area provided shall be figured by computing the volume measured from top of excavation. (For storage requirements see Table 9).

6. Geotextile Class C shall be placed over the bottom and sides of the outlet channelprior to placement of stone. Section of fabric must overlap at least 1' with section nearest the entrance placed on top. Fabric shall be embedded at least 6" into existing ground at entrance of outlet channel.

7. 4" - 7" stone shall be used to construct the weir and 4" - 12" or Class I rip-rap shall be used to construct the outlet channel.

8. Outlet - An outlet shall include a means of conveying the discharge in an erosion free manner to an existing stable channel. Protection against scour at the discharge point shall be provided as necessary.

9. Outlet channel must have positive drainage from the trap.

10. Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to 1/2 of the wet storage depth of the trap (900 cf/ac). Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.

11. The structure shall be inspected periodically after each rain and repaired as needed.

12. 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 concentrated 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.

13. The structure shall be dewatered by approved methods, removed and the area stabilized when the drainage area has been properly stabilized.

Sequence Of Construction

1. Obtain The Required Grading Permit. (1 DAY)
2. Notify Miss Utility 48 Hours Before Beginning Any Work (1-800-257-7777). Notify Howard County Constructiom/Inspection Division 24 Hours Before Staring Any Work (410) 313-1870.
3. Install The Required Sediment And Erosion Control Devices AND FOREST CONSERVATION PROTECTIVE DEVICES AS INDICATED ON THE PLAN SHEETS. (1 WEEK)
4. Grade Site To Subgrade, Stabilize And Install Storm Drains And Install Inlet Protections (3 weeks).
5. The Contractor Shall Inspect And Provide Necessary Maintenance On All Sediment And Erosion Control Structures Shown Hereon After Each Rainfall And On A Daily Basis.
6. Sediment Shall Be Removed From The Stone Outlet Sediment Traps Once The Cleanout Elevations Have Been Reached. Sediment Must Be Placed Uphill From The Traps. See Plans For Cleanout Elevations (1 Day).
7. Install Road Base Course (5 Days).
8. Install Forebay And Shallow Marsh Facility (1 Week).
9. Remove Sediment From Roadways And Dress Stone Construction Entrance As Required And Stabilize All Disturbed Areas (2 Days).
10. Remove Inlet Protections And Flush Storm Drain System To Remove Any Trapped Sediment.
11. Apply Tack Coat To Sub-Base And Lay Surface Course (4 Days).
12. Remove All Sediment Control Measures Upon Sediment Control Inspectors Approval (2 Days).
13. All Disturbed Areas Due To Removal Of Sediment Control Measures Shall Be Graded And Stabilized By Permanent Seeding (2 Days).

ENGINEER'S CERTIFICATE

I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITION AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

SIGNATURE OF ENGINEER — 12-17-97 DATE

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 PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT 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".

SIGNATURE OF DEVELOPER — 12/29/97 DATE

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

U.S.D.A. - NATURAL RESOURCES CONSERVATION SERVICE — 7/14/98 DATE

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

DISTRICT HOWARD SOIL CONSERVATION DIST. — 7/14/98 DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — 7/28/98 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION — 7/21/98 DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF ENGINEERING — DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAYS — 7-21-98 DATE

AS-BUILT CERTIFICATION

I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

SIGNATURE ______ PE. NO. ______ DATE ______

CERTIFY MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED UPON ONSITE INSPECTIONS AND AMTERIAL TESTS WHICH ARE CONDUCTED DURING CONSTRUCTION. THE ONSITE INSPECTIONS AND MATERIAL TESTS ARE THOSE INSPECTIONS AND TESTS DEEMED SUFFICIENT AND APPROPRIATE BY COMMONLY ACCEPTED ENGINEERING STANDARDS. CERTIFY DOES NOT MEANOR IMPLY A GUARANTEE BY THE ENGINEER NOR DOES AN ENGINEER'S CERTIFICATION RELIEVE ANY OTHER PARTY FROM MEETING REQUIREMENTS IMPOSED BY CONTRACT, EMPLOYMENT, OR OTHER MEANS, INCLUDING MEETING COMMONLY ACCEPTED INDUSTRY PRACTICES.

OPERATION, MAINTENANCE AND INSPECTION

INSPECTION OF POND(S) SHOWN HEREON SHALL BE PERFORMED AT LEAST ANNUALLY, IN ACCORDANCE WITH THE CHECKLIST AND REQUIREMENTS CONTAINED WITHIN USDA, SCS "STANDARDS AND SPECIFICATIONS FOR PONDS" (MD-378). THE POND OWNERS(S) AND ANY HEIRS, SUCCESSORS, OR ASSIGNS SHALL BE RESPONSIBLE FOR THE SAFETY OF THE POND AND THE CONTINUED OPERATION, SURVEILLANCE, INSPECTION, AND MAINTENANCE THEREOF. THE POND OWNERS(S) SHALL PROMPTLY NOTIFY THE SOIL CONSERVATION DISTRICT OF ANY UNUSUAL OBSERVATIONS THAT MAY BE INDICATIONS OF DISTRESS SUCH AS EXCESSIVE SEEPAGE, TURBID SEEPAGE, SLIDING OR SLUMPING.

HOMEOWNER'S ASSOCIATION
MAINTENANCE RESPONSIBILITIES
FOR SHALLOW MARSH

1. INSPECTION FOREBAY AFTER EACH STORM - IF SEDIMENT BUILDUP EXCEEDS FOUR (4) INCHES, NOTIFY THE DEPARTMENT OF PUBLIC WORKS, BUREAU OF HIGHWAYS TO FACILITATE CLEANOUT OPERATIONS.
2. REMOVAL OF ACCUMULATED PAPER, TRASH AND DEBRIS AFTER EVERY STORM,, AS NECESSARY.
3. ANNUAL INSPECTION AND REPAIR OF THE GABION STRUCTURES, AS NEEDED.
4. VEGETATION GROWING ON THE EMBANKMENT TOP OR FACES IS NOT ALLOWED TO EXCEED 18 INCHES IN HEIGHT AT ANYTIME.
5. CORRECTIVE MAINTENANCE IS REQUIRED ANYTIME THE FOREBAY DOES NOT DRAIN DOWN TO THE DESIGNED SURFACE ELEVATION WITHIN 60 HOURS.
6. NOTE: THIS FACILITY IS TO BE JOINTLY MAINTAINED BY THE H.O.A. FOR DANIELS MILL OVERLOOK AND THE DEPARTMENT OF PUBLIC WORKS.

STATE OF MARYLAND — No. 21147 — REGISTERED PROFESSIONAL ENGINEER

OWNER
RYLAND HOMES AT HOLLIFIELD STATION, L.L.C.
ATT: MR. JOHN W. MEADE
THE RYLAND GROUP, INC.
GALLERIA TOWERS, SUITE 705
1447 YORK ROAD
LUTHERVILLE, MD. 21093

DEVELOPER
THE RYLAND GROUP, INC.
ATTN: MR. JOHN W. MEADE
GALLERIA TOWERS, SUITE 705
1447 YORK ROAD
LUTHERVILLE, MARYLAND 21093

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855
30594WQDETAILAREA2.DWG

WATER QUALITY NOTES AND DETAILS
AND SEDIMENT CONTROL DETAILS

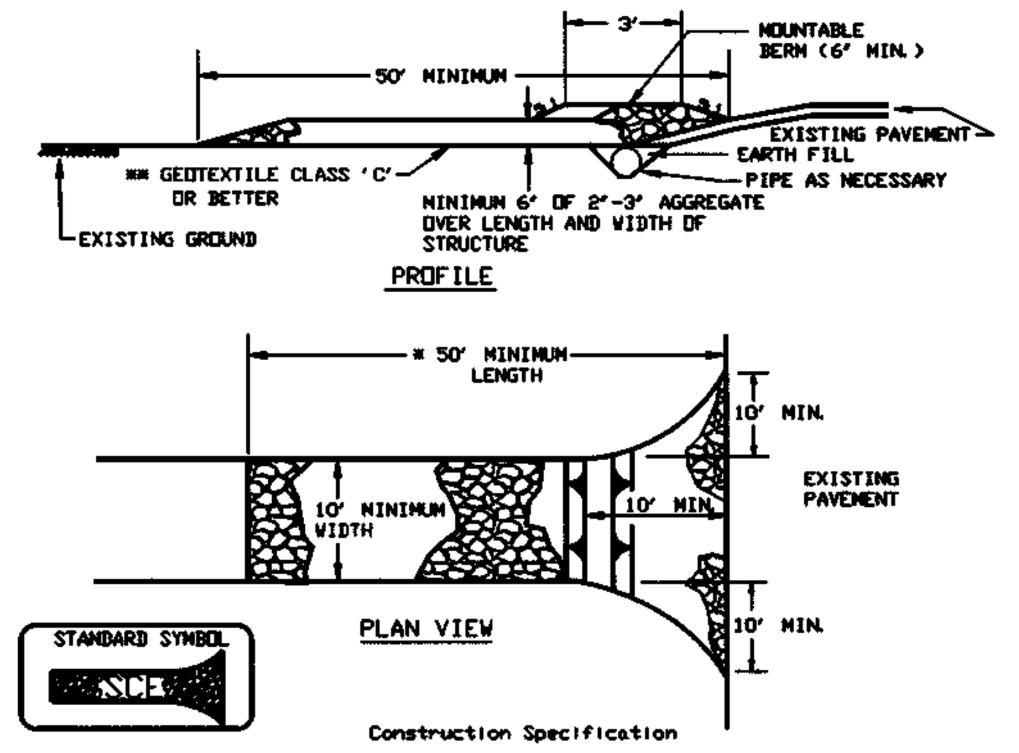
DANIELS MILL OVERLOOK

SECTION 3, AREA 2
LOTS 277 THRU 310

ZONING: R-ED
(A RESUBDIVISION OF PARCELS 'J' - DANIELS MILL OVERLOOK, SECTION 3 AREA 1, PLAT NOS. THRU , AND PARCEL 'B' - DANIELS MILL OVERLOOK, SECTION 2 AREA 1, PLAT NOS. 12764 THRU 12765)
TAX MAP No: 17 PART OF PARCEL No: 41 AND 547 GRID No: 12
2nd. ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: DECEMBER 10, 1997
SHEET 7 OF 9

F 98-73

G:\drawings\30594 Daniels Mill Section 3\30594wqdetailarea2.dwg Thu Dec 11 11:48:03 1997 PREPARED BY JAMES LAMKE



Construction Specification

1. Length - minimum of 50' (*30' for single residence lot).

2. Width - 10' minimum, should be flared at the existing road to provide a turning radius.

3. 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.

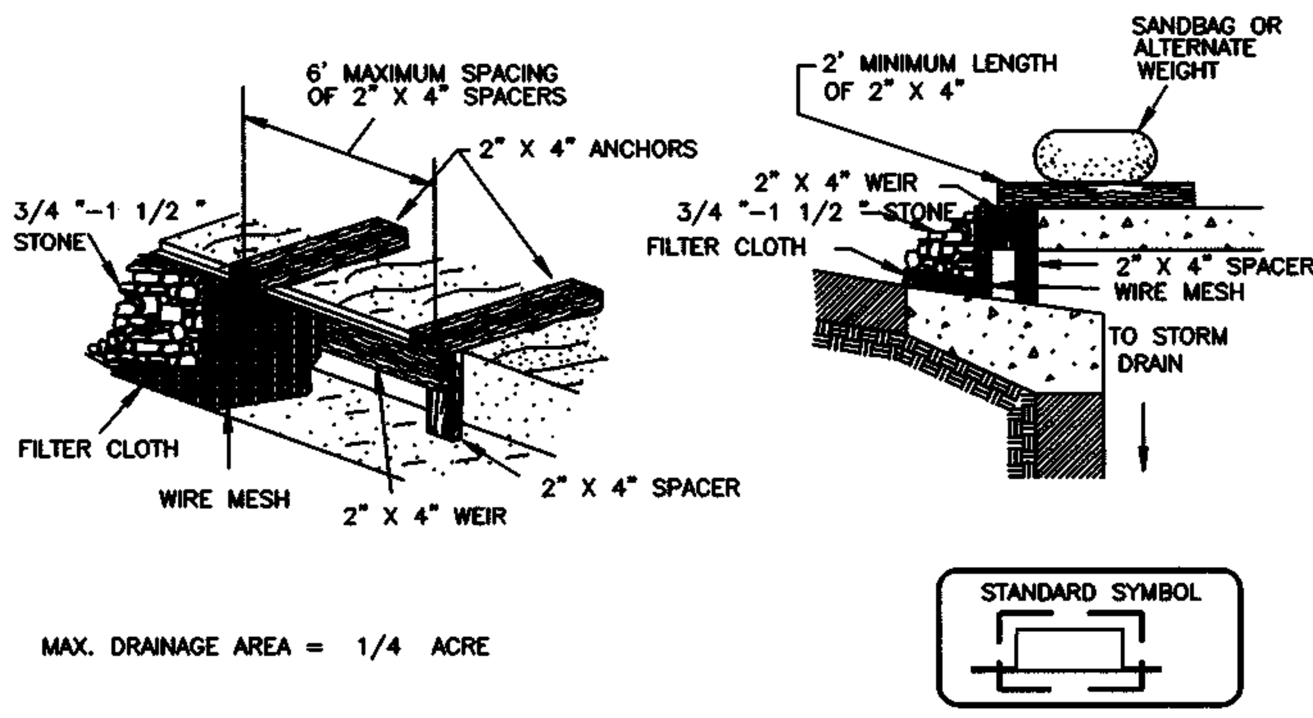
4. Stone - crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.

5. 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.

6. 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.

STABILIZED CONSTRUCTION ENTRANCE - 2

NOT TO SCALE



MAX. DRAINAGE AREA = 1/4 ACRE

Construction Specifications

1. Attach a continuous piece of wire mesh (30" minimum width by throat length plus 4') to the 2" x 4" weir (measuring throat length plus 2') as shown on the standard drawing.

2. Place a continuous piece of Geotextile Class E the same dimensions as the wire mesh over the wire mesh and securely attach it to the 2" x 4" weir.

3. Securely nail the 2" X 4" weir to a 9" long vertical spacer to be located between the weir and the inlet face (max. 4' apart).

4. Place the assembly against the inlet throat and nail (minimum 2' lengths of 2" x 4" to the top of the weir at spacer locations). These 2" x 4" anchors shall extend across the inlet top and be held in place by sandbags or alternate weight.

5. The assembly shall be placed so that the end spacers are a minimum 1' beyond both ends of the throat opening.

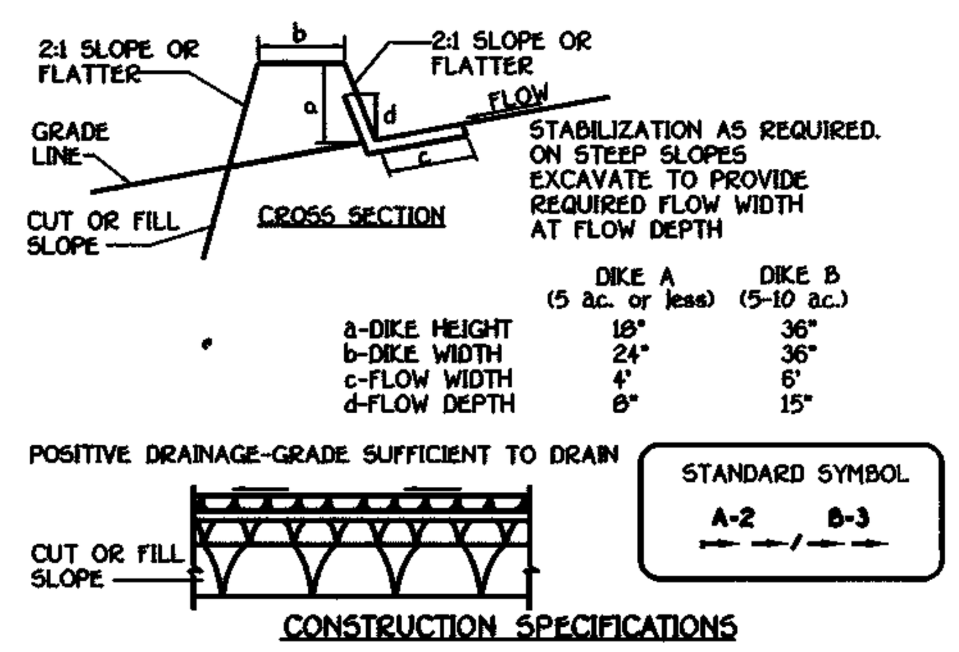
6. Form the 1/2 " x 1/2 " wire mesh and the geotextile fabric to the concrete gutter and against the face of the curb on both sides of the inlet. Place clean 3/4 " x 1 1/2 " stone over the wire mesh and geotextile in such a manner to prevent water from entering the inlet under or around the geotextile.

7. This type of protection must be inspected frequently and the filter cloth and stone replaced when clogged with sediment.

8. Assure that storm flow does not bypass the inlet by installing a temporary earth or asphalt dike to direct the flow to the inlet.

STANDARD CURB INLET PROTECTION

NOT TO SCALE



	DIKE A (5 ac. or less)	DIKE B (5-10 ac.)
a-DIKE HEIGHT	18"	36"
b-DIKE WIDTH	24"	36"
c-FLOW WIDTH	4'	6'
d-FLOW DEPTH	8"	15"

POSITIVE DRAINAGE-GRADE SUFFICIENT TO DRAIN

CUT OR FILL SLOPE

STANDARD SYMBOL
A-2 / B-3

CONSTRUCTION SPECIFICATIONS

1. ALL DIKES SHALL BE COMPACTED BY EARTH-MOVING EQUIPMENT.
2. ALL DIKES SHALL HAVE POSITIVE DRAINAGE TO AN OUTLET.
3. TOP WIDTH MAY BE WIDER AND SIDE SLOPES MAY BE FLATTER IF DESIRED TO FACILITATE CROSSING BY CONSTRUCTION TRAFFIC.
4. FIELD LOCATION SHOULD BE ADJUSTED AS NEEDED TO UTILIZE A STABILIZED SAFE OUTLET.
5. EARTH DIKES SHALL HAVE AN OUTLET THAT FUNCTIONS WITH A MINIMUM OF EROSION. RUNOFF SHALL BE CONVEYED TO A SEDIMENT BASIN WHERE EITHER THE DIKE CHANNEL OR THE DRAINAGE AREA ABOVE THE DIKE ARE NOT ADEQUATELY STABILIZED.
6. STABILIZATION SHALL BE: (A) IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR SEED AND STRAW MULCH OR STRAW MULCH IF NOT IN SEEDING SEASON, (B) FLOW CHANNEL AS PER THE CHART BELOW.

FLOW CHANNEL STABILIZATION

TYPE OF TREATMENT	CHANNEL GRADE	DIKE A	DIKE B
1	.5-3.0%	SEED AND STRAW MULCH	SEED AND STRAW MULCH
2	3.1-5.0%	SEED AND STRAW MULCH	SEED USING JUTE, OR EXCELSIOR; SOD; 2" STONE
3	5.1-8.0%	SEED WITH JUTE, OR SOD; 2" STONE	LINED RIP-RAP 4"-8"
4	8.1-20%	LINED RIP-RAP 4"-8"	ENGINEERING DESIGN

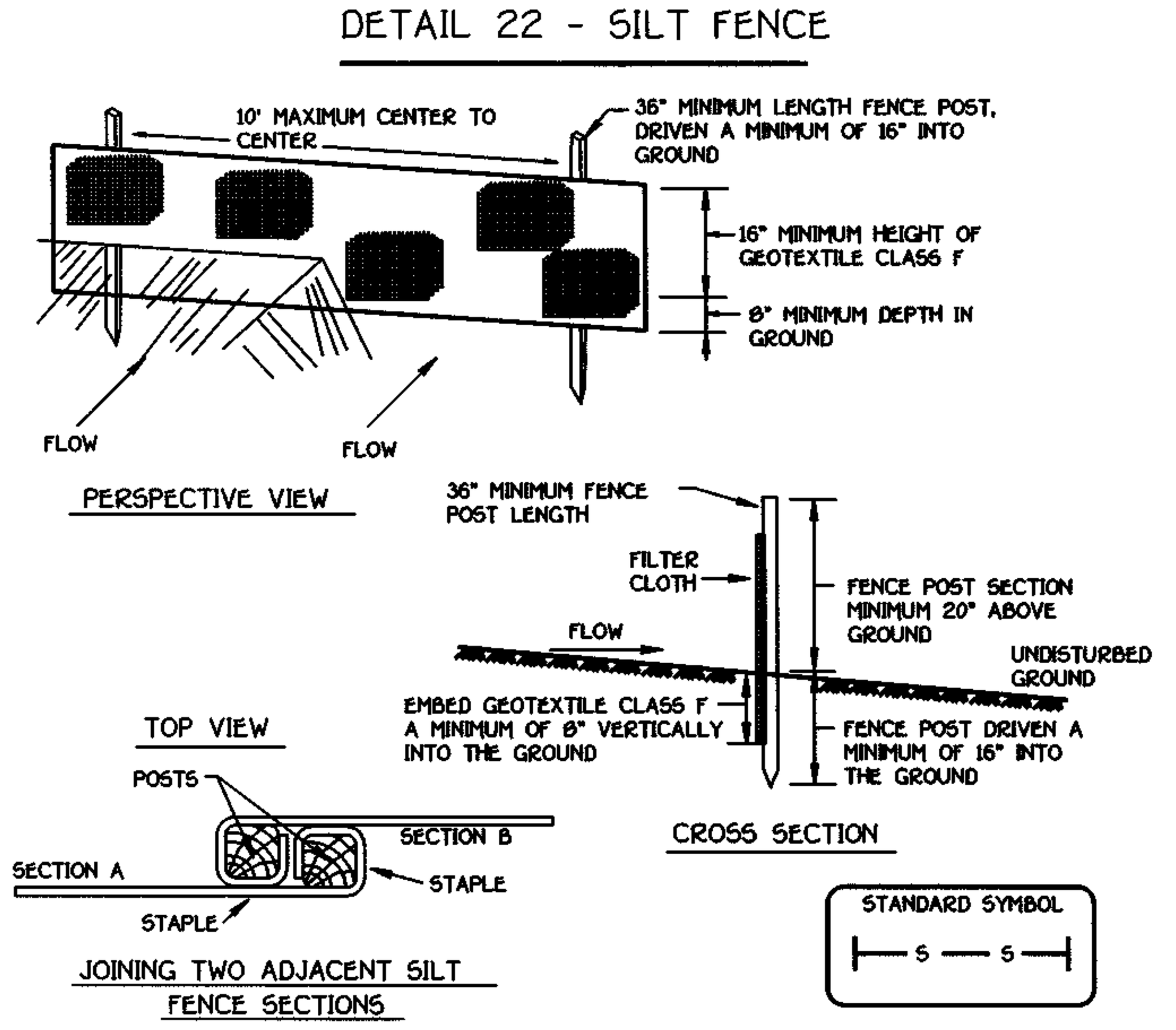
A. STONE TO BE 2 INCH STONE, OR RECYCLED CONCRETE EQUIVALENT, IN A LAYER AT LEAST 3 INCHES IN THICKNESS AND BE PRESSED INTO THE SOIL WITH CONSTRUCTION EQUIPMENT.
B. RIP-RAP TO BE 4-8 INCHES IN A LAYER AT LEAST 8 INCHES THICKNESS AND PRESSED INTO THE SOIL.
C. APPROVED EQUIVALENTS CAN BE SUBSTITUTED FOR ANY OF THE ABOVE MATERIALS.

7. PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.

EARTH DIKE

NOT TO SCALE

DETAIL 22 - SILT FENCE



Construction Specifications

1. Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 11/2" x 11/2" square (minimum) cut, or 13/4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighting not less than 1.00 pond per linear foot.

2. Geotextile 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 / minute (max.)*	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

3. Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.

4. Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

DEVELOPER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND THAT ANY RESPONSIBLE PERSONNEL IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT 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."

SIGNATURE OF DEVELOPER — 12/24/97 — DATE

ENGINEER'S CERTIFICATE

I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITION AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

SIGNATURE OF ENGINEER — 12-17-97 — DATE

REVIEW FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

U.S.D.A. NATURAL RESOURCES CONSERVATION SERVICE — 7/16/98 — DATE

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

APPROVED: HOWARD SOIL CONSERVATION DISTRICT — 7/16/98 — DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

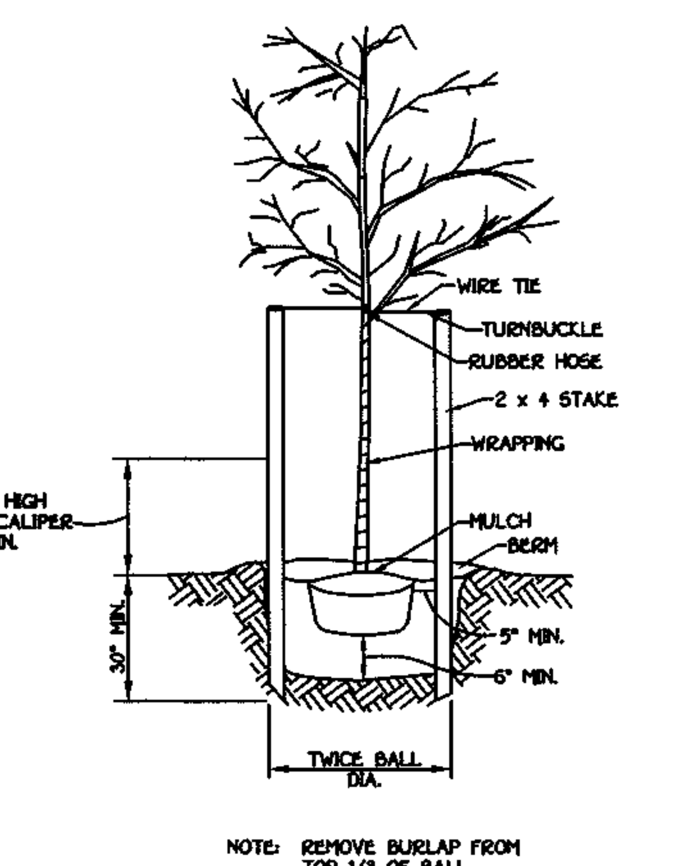
CHIEF, DIVISION OF LAND DEVELOPMENT — 7/28/98 — DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — 7/21/98 — DATE

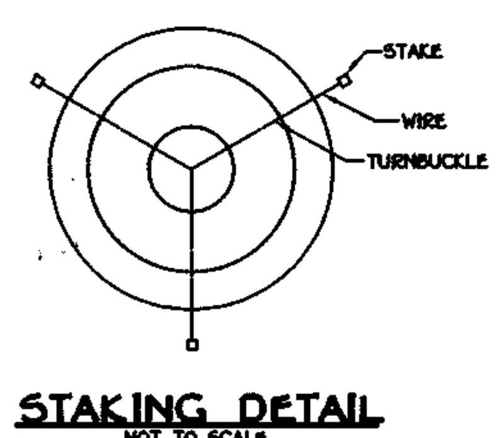
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAYS — 7-21-98 — DATE



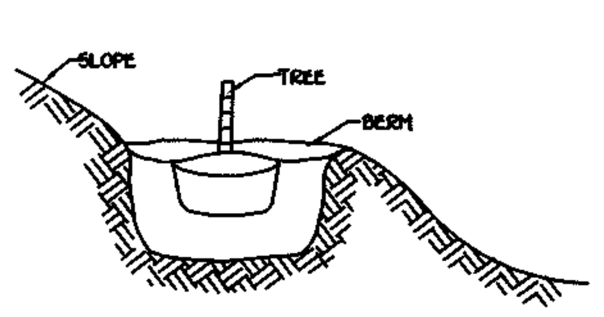
TREE PLANTING

NOT TO SCALE



STAKING DETAIL

NOT TO SCALE



GRADING FOR PLANTING ON SLOPES

NOT TO SCALE

SEDIMENT CONTROL NOTES

1) A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LISCENSES 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 MOST CURRENT 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 12, 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 (SEC. 51), SOD (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.

6) ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
7) SITE ANALYSIS:

TOTAL AREA OF SITE	21.01	ACRES
AREA DISTURBED	11.10	ACRES
AREA TO BE ROOFED OR PAVED	2.90	ACRES
AREA TO BE VEGETATIVELY STABILIZED	8.20	ACRES
TOTAL CUT	12,000	CU. YDS.
TOTAL FILL	12,000	CU. YDS.
OFFSITE WASTE/BORROW AREA LOCATION	N/A	CU. YDS.

8) ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
9) ADDITIONAL SEDIMENT CONTROLS 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 LENGHTS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

20.0 STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION

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 and visual resources.

CONDITIONS WHERE PRACTICE APPLIES

This practice shall be used on denuded areas as specified on the plans 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 O(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, earth dikes, etc. and for Permanent Seeding are lawns, dams, cut and fill slopes and other areas at final grade, former stockpile and staging areas, etc.

EFFECTS ON WATER QUALITY AND QUANTITY

Planting vegetation in disturbed areas will have an effect on the water budget, especially on volumes and rates 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.

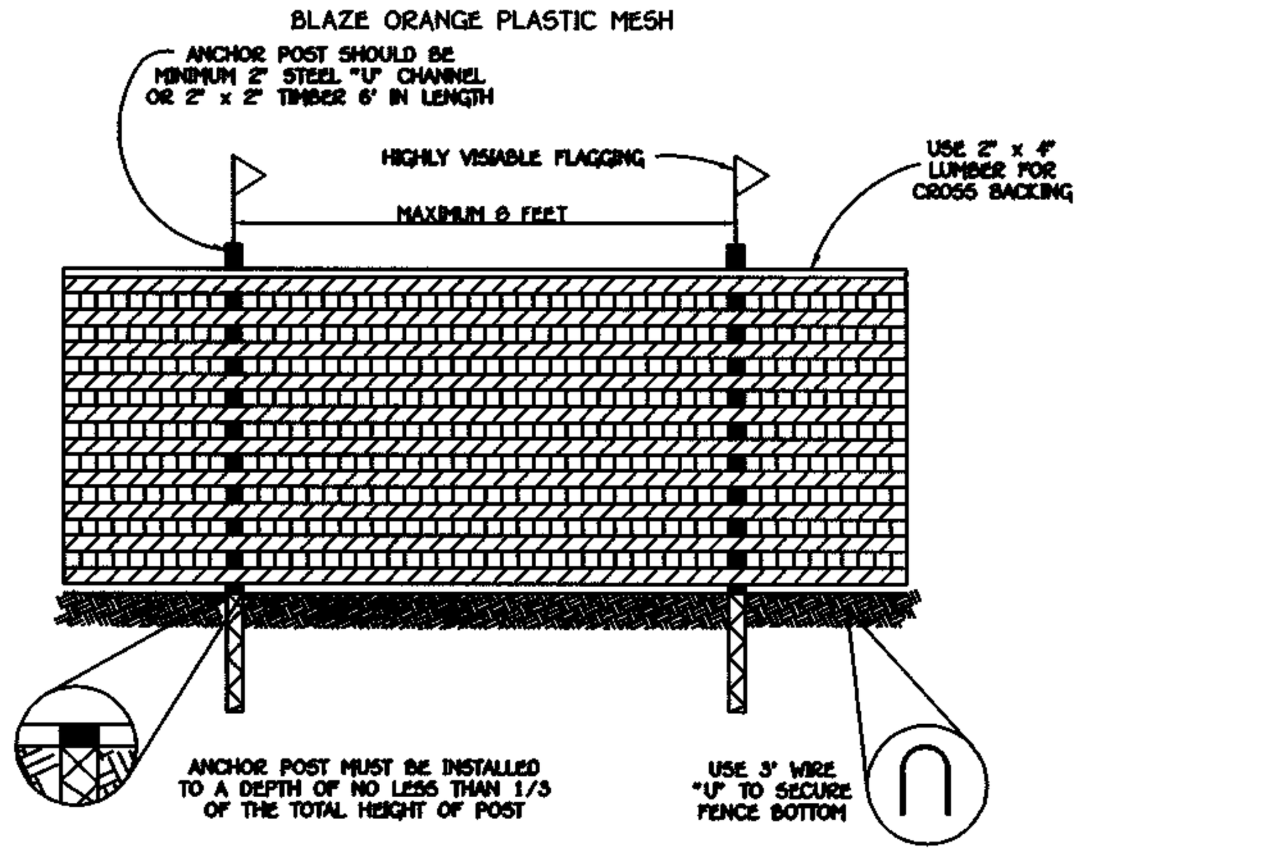
SECTION 1 - VEGETATIVE STABILIZATION METHODS AND MATERIALS

A. Site Preparation
   i. Install erosion and sediment control structures (either temporary of permanent) such as diversions, grade stabilization structures, berms, waterways, or sediment control basins.
   ii. Perform all grading operations at right angles to the slope. Final grading and shaping is not usually necessary for temporary seeding.
   iii. 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)
   i. 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.
   ii. 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.
   iii. 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.
   iv. Incorporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means.
C. Seedbed Preparation
   i. Temporary Seeding
      a. 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 an irregular condition with ridges running parallel to the contour of the slope.
      b. Apply fertilizer and lime as prescribed on the plans.
      c. In corporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means.
   ii. Permanent Seeding
      a. Minimum soil conditions required for permanent vegetative establishment:
         1. Soil pH shall be between 6.0 and 7.0.
         2. Soluble salts shall be less than 500 parts per million (ppm).
         3. 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 lovegrass or serecia lespedezas is to be planted, then a sandy soil (<30% silt plus clay) would be acceptable.
         4. Soil shall contain 1.5% minimum organic matter by weight.
         5. Soil must contain sufficient pore space to permit adequate root penetration.
         6. If these conditions cannot be met by soils on site, adding topsoil is required in accordance with Section 21 Standard and Specification for Topsoil.
      b. 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 to the surface area and to create horizontal erosion check slots to prevent topsoil from sliding down a slope.
      c. Apply soil amendments as per soil test or as included on the plans.
      d. 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 and application. Where site conditions will not permit normal seedbed 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. Seedbed loosening may not be necessary on newly disturbed areas.
D. Seed Specifications
   i. All seed must meet the requirements of the Maryland State 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 immediately preceding the date of sowing such material on this job.
   Note: Seed tags shall be made available to the inspector to verify type and rate of seed used.
   ii. Inoculant - The inoculant for treating legume seed in the seed mixtures shall be a pure culture of nitrogen-fixing bacteria prepared specifically for the species. Inoculants shall not be used later than the date indicated on the container. Add fresh inoculant as directed on package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as possible until used. Temperatures above 75°-80° F. can weaken bacteria and make the inoculant less effective.
E. Methods of Seeding
   i. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer), broadcast or drop seeded, or a cultipacker seeder.
      a. If fertilizer is being applied at the time of seeding, the application rates amounts will not exceed the following: nitrogen: maximum of 100 lbs. per acre total of soluble nitrogen; P2O5 (phosphorous): 200 lbs/ac; K2O (potassium): 200 lbs/ac.
      b. Lime - use only ground agricultural limestone, (Up to 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding.
      c. Seed and fertilizer shall be mixed on site and seeding shall be done immediately and without interruption.
   ii. Dry Seeding: This includes use of conventional drop or broadcast spreaders.
      a. Seed spread dry shall be incorporated into the subsoil at the rates prescribed on the Temporary or Permanent Seeding Summaries or Tables 265 or 26. The seeded area shall then be rolled with a weighted roller to provide good seed to soil contact.
      b. Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.
   iii. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.
      a. Cultipacking seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed must be firm after planting.
      b. 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)
   i. Straw shall consist of thoroughly threshed wheat, rye or oat straw, reasonable bright in color, and shall not be musty, moldy, caked, decayed, or excessively dusty and shall be free of noxious weed seeds as specified in the Maryland Seed Law.
   ii. Wood Cellulose Fiber Mulch (WCFM)
      a. WCFM shall consist of specially prepared wood cellulose processed into a uniform fibrous physical state.
      b. 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.
      c. WCFM, including dye, shall contain no germination or growth inhibiting factors.
      d. 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.
      e. WCFM material shall contain no elements or compounds at concentration levels that will be phytol-toxic.
      f. 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.
   i. If grading is completed outside of the seeding season, mulch along 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.
   ii. 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.
   iii. 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:
   i. 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.
   ii. 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.
   iii. Application of liquid binders should be heavier at the edges where wind catches mulch, such as in valleys and crest of banks. The remainder of area should be appear uniform after binder application. Synthetic binders - such as Acrylic DLR (Agro-Tack), DCA-70 Petroset, Terra Tax II, Terra Tack AR or other approved equal may be used at rates recommended by the manufacturer to anchor mulch.
   iv. 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.
I Incremental Stabilization - Cut Slopes
   i. All cuts slopes shall be dressed, prepared, seeded and mulched as the work progresses. Slopes shall be excavated and stabilized in equal increments not to exceed 15'.
   ii. Construction sequence (Refer to Figure 3 below):
      a. Excavate and stabilize all temporary swales, side ditches, or berms that will be used to convey runoff from the excavation.
      b. Perform Phase 1 excavation, dress, and stabilize.
      c. Perform Phase 2 excavation, dress and stabilize. Overseed Phase 1 areas as necessary.
      d. Perform final phase excavation, dress and stabilize. Overseed previously seeded areas as necessary.

Note: Once excavation has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions int he operation of completing the operation out of the seeding season will necessitate the application of temporary stabilization.

J. Incremental Stabilization of Embankments - Fill Slopes
   i. Embankments shall be constructed in lifts as prescribed on the plans.
   ii. Slopes shall be stabilized immediately when the vertical height of the multiple lifts reaches 15", or when the grading operation ceases as prescribed in the plans.
   iii. At the end of each day, temporary berms and pipe slope drains should be constructed along the top edge of the embankment to intercept surface runoff and convey it down the slope in a non-erosive manner to a sediment trapping device.
   iv. Construction sequence: Refer to Figure 4 (below).
      a. Excavate and stabilize all temporary swales, side ditches, or berms that will be used to divert runoff around the fill. Construct slope silt fence on low side of fill as shown in Figure 5, unless other methods shown on the plans address this area.
      b. Place Phase 1 embankment, dress and stabilize.
      c. Place Phase 2 embankment, dress and stabilize.
      d. Place final phase embankment, dress and stabilize. Overseed previously seeded areas as necessary.

Note: Once the placement of fill has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization.



NOTES:
1. FOREST PROTECTION DEVICE ONLY.
2. RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS.
3. BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICE.
4. ROOT DAMAGE SHOULD BE AVOIDED.
5. PROTECTIVE SIGNAGE MAY ALSO BE USED.
6. DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.

TREE PROTECTION DETAIL

NOT TO SCALE

OWNER

RYLAND HOMES AT HOLLIFIELD STATION, L.L.C.
ATTENTION: MR. JOHN V. MEADE
THE RYLAND GROUP, INC.
GALLERIA TOWERS
SUITE 704
1447 YORK ROAD
LUTHERVILLE, MARYLAND 21093

DEVELOPER

THE RYLAND GROUP, INC.
ATTENTION: MR. JOHN V. MEADE
GALLERIA TOWERS
SUITE 704
1447 YORK ROAD
LUTHERVILLE, MARYLAND 21093

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

30594dt2Area2.dwg

SEDIMENT CONTROL NOTES AND DETAILS

DANIELS MILL OVERLOOK

SECTION 3, AREA 2
LOTS 277 - 310
(A RESUBDIVISION OF PARCEL 'J' - DANIELS MILL OVERLOOK, SECTION 3 AREA 1, PLAT NOS. THRU , AND PARCEL 'B' - DANIELS MILL OVERLOOK, SECTION 2 AREA 1 PLAT NOS. 12764 THRU 12765)
ZONING: R-ED
TAX MAP NO. : 17 PART OF PARCEL NO. : 41 AND 547 GRID NO. : 12
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: DECEMBER 10, 1997
SHEET 8 OF 9

Approved: Department Of Planning And Zoning

Chief, Division Of Land Development — TC — 7/25/98 Date

Chief, Development Engineering Division — 7/24/98 Date

Approved: Howard County Department Of Public Works

Chief, Bureau Of Highways — 7-21-98 Date

NOTE: EX. ROAD GRADES & STORM DRAINS WERE DESIGNED UNDER F 97-82, (DANIELS MILL OVERLOOK), SECTION 2, AREA 3).

N 599,800
E 1,354,900

STONEHOUSE DRIVE

PATAPSCO VALLEY DRIVE

EX. PARCEL H
(DANIELS MILL OVERLOOK, SECTION 2, AREA 3)

EX. OPEN SPACE LOT 138
(DANIELS MILL OVERLOOK, SECTION 2, AREA 3)
PLAT No. 12784

E 1,355,250
N 599,250

131 132 133 134 135 136 137

EX. 5-8 · EX. 21"D · EX. 47"RC · EX. M-19A · EX. 21"D · EX. M-19 · EX. 1-30 · EX. 1-31 · EX. 18"D · EX. M-19 · EX. 1-32 · EX. 15"D · EX. 1-33 · EX. 5-7 · EX. 24"D · EX. M-18 · EX. 10"D · EX. 1-28 · EX. 1-28A · EX. 10"D · EX. 16"D · EX. 1-27 · EX. 1-24

60' R/W

B.R.L.

EX. 20' D & E EASEMENT

LOT 309
2.48 AC. ±

176 175 174

7.5'

EX. PARCEL B
AREA 4.938 Ac.±
(DANIELS MILL OVERLOOK, SECTION 2 AREA 1, PLAT NO. 12764)

(DANIELS MILL OVERLOOK, SECTION 2, AREA 3)
PLAT No. 12787

OPEN SPACE LOT 310
2.46 AC. ±

UNMITIGATED 65dBA LINE

PROP LOT LINE

EX. STRUCTURES (TO REMAIN)

75'

80' 100' 80' 80' 50' 50'

ROGERS AVENUE

EXISTING PAVING

The existing structures are non-complying with respect to the current zoning setbacks. No further additions, extensions or modifications will be permitted at a distance less than required by the current zoning.

PLAN
SCALE: 1" = 50'

LOTS 309 AND 310 LOCATION PLAN

DANIELS MILL OVERLOOK

SECTION 3, AREA 2

LOTS 277 THRU 310

(A RESUBDIVISION OF PARCEL 'J'-DANIELS MILL OVERLOOK, SECTION 3, AREA 1, PLAT NOS. THRU AND PARCEL 'B'-DANIELS MILL OVERLOOK, SECTION 2, AREA 1 PLAT Nos. 12764 THRU 12765)

ZONING: R-ED

TAX MAP No: 17 PART OF PARCEL No: 41 AND 547 GRID No: 12

2nd. ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN DATE: DECEMBER 10, 1997

SHEET 9 OF 9

STATE OF MARYLAND — JAMES W. CARTER — No. 9147 — REGISTERED PROFESSIONAL ENGINEER

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

OWNER
RYLAND HOMES AT HOLLIFIELD STATION, LLC
ATTENTION: MR. JOHN W. MEADE
THE RYLAND GROUP, INC.
GALLERIA TOWERS
SUITE #705
1447 YORK ROAD
LUTHERVILLE, MARYLAND 21093

DEVELOPER
THE RYLAND GROUP, INC.
ATTENTION: MR. JOHN W. MEADE
GALLERIA TOWERS
SUITE #705
1447 YORK ROAD
LUTHERVILLE, MARYLAND 21093

F 98-73