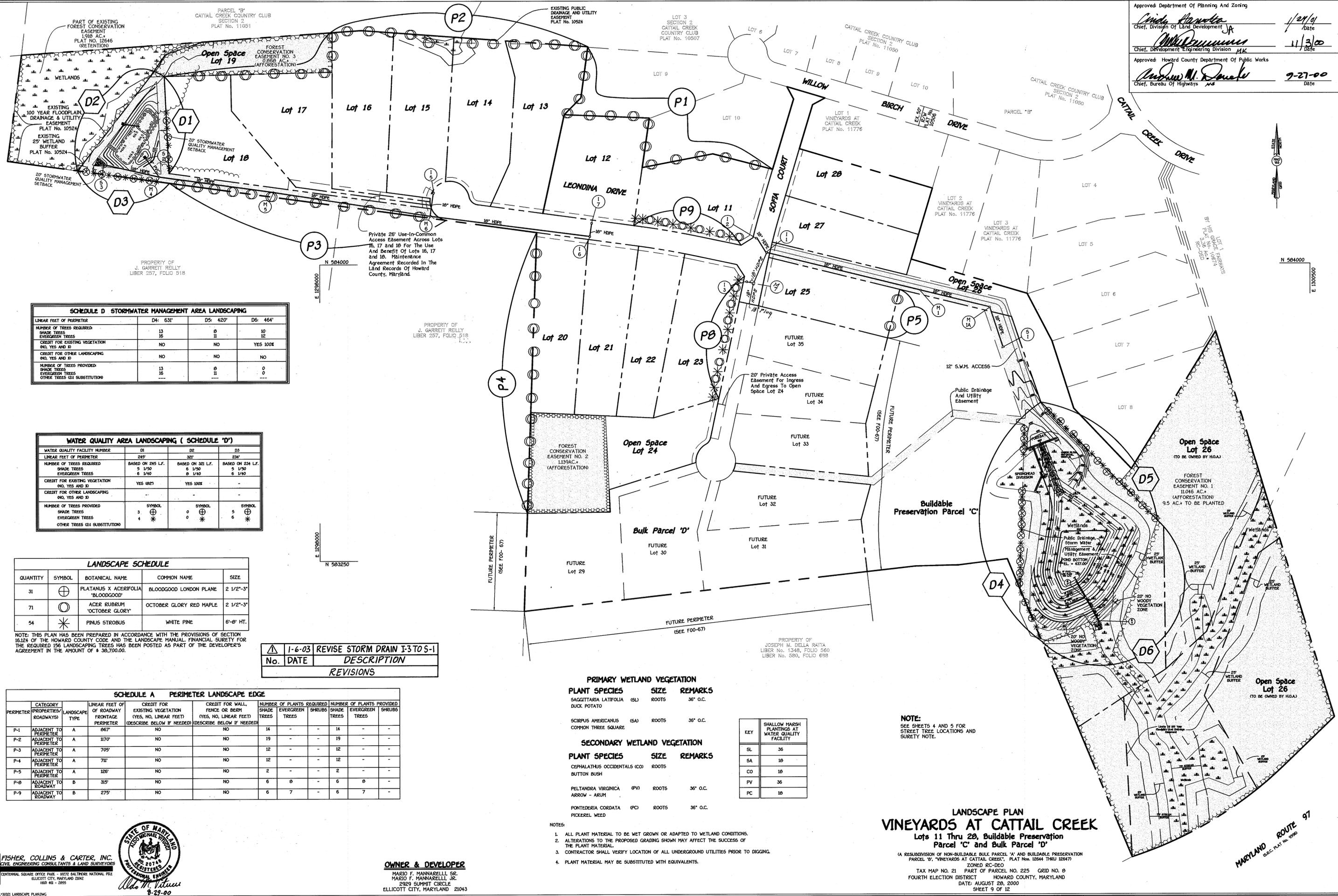


Approved: Department Of Planning And Zoning  
*Chris Handley* 1/24/01  
 Chief, Division Of Land Development JA Date  
*William D. ...* 11/3/00  
 Chief, Development Engineering Division MK Date  
 Approved: Howard County Department Of Public Works  
*Andrew M. ...* 9-27-00  
 Chief, Bureau Of Highways MS Date



**SCHEDULE D STORMWATER MANAGEMENT AREA LANDSCAPING**

LINEAR FEET OF PERIMETER	D4: 631'	D5: 420'	D6: 464'
NUMBER OF TREES REQUIRED	13	8	10
SHADE TREES	16	11	12
EVERGREEN TREES			
CREDIT FOR EXISTING VEGETATION (NO, YES AND #)	NO	NO	YES 100%
CREDIT FOR OTHER LANDSCAPING (NO, YES AND #)	NO	NO	NO
NUMBER OF TREES PROVIDED	13	8	0
SHADE TREES	16	11	0
EVERGREEN TREES			
OTHER TREES (24 SUBSTITUTION)			

**WATER QUALITY AREA LANDSCAPING ( SCHEDULE 'D')**

WATER QUALITY FACILITY NUMBER	D1	D2	D3
LINEAR FEET OF PERIMETER	245'	321'	234'
NUMBER OF TREES REQUIRED	BASED ON 245 LF. BASED ON 321 LF. BASED ON 234 LF.		
SHADE TREES	5 1/20	6 1/20	5 1/20
EVERGREEN TREES	4 1/40	6 1/40	6 1/40
CREDIT FOR EXISTING VEGETATION (NO, YES AND #)	YES 100%	YES 100%	-
CREDIT FOR OTHER LANDSCAPING (NO, YES AND #)	-	-	-
NUMBER OF TREES PROVIDED			
SHADE TREES	3	0	5
EVERGREEN TREES	4	0	6
OTHER TREES (24 SUBSTITUTION)			

**LANDSCAPE SCHEDULE**

QUANTITY	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE
31	⊕	PLATANUS X ACERIFOLIA "BLOODGOOD"	BLOODGOOD LONDON PLANE	2 1/2"-3"
71	⊙	ACER RUBRUM "OCTOBER GLORY"	OCTOBER GLORY RED MAPLE	2 1/2"-3"
54	*	PINUS STROBUS	WHITE PINE	6'-8' HT.

NOTE: 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 REQUIRED 15% LANDSCAPING TREES HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$ 38,700.00.

**REVISIONS**

No.	DATE	DESCRIPTION
1-6-03		REVISE STORM DRAIN I-3 TO S-1

**SCHEDULE A PERIMETER LANDSCAPE EDGE**

PERIMETER	CATEGORY	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)	NUMBER OF PLANTS REQUIRED	NUMBER OF PLANTS PROVIDED				
						SHADE TREES	EVERGREEN TREES	SHRUBS	SHADE TREES	EVERGREEN TREES	SHRUBS
P-1	ADJACENT TO PERIMETER	A	867'	NO	NO	14	-	-	14	-	-
P-2	ADJACENT TO PERIMETER	A	1170'	NO	NO	19	-	-	19	-	-
P-3	ADJACENT TO PERIMETER	A	705'	NO	NO	12	-	-	12	-	-
P-4	ADJACENT TO PERIMETER	A	711'	NO	NO	12	-	-	12	-	-
P-5	ADJACENT TO PERIMETER	A	126'	NO	NO	2	-	-	2	-	-
P-8	ADJACENT TO ROADWAY	B	315'	NO	NO	6	8	-	6	8	-
P-9	ADJACENT TO ROADWAY	B	275'	NO	NO	6	7	-	6	7	-

**PRIMARY WETLAND VEGETATION**

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

**SECONDARY WETLAND VEGETATION**

PLANT SPECIES	SIZE	REMARKS
CERPHALATHUS OCCIDENTALIS (CO)	ROOTS	
BUTTON BUSH		
PELTANDRA VIRGINICA (PV)	ROOTS	36" O.C.
ARUM		
PONTERDERIA CORDATA (PC)	ROOTS	36" O.C.
PICKEREL WEED		

**KEY**

SL	36
SA	18
CO	18
PV	36
PC	18

NOTE: SEE SHEETS 4 AND 5 FOR STREET TREE LOCATIONS AND SURETY NOTE.

- NOTES:
- ALL PLANT MATERIAL TO BE WET GROWN OR ADAPTED TO WETLAND CONDITIONS.
  - ALTERATIONS TO THE PROPOSED GRADING SHOWN MAY AFFECT THE SUCCESS OF THE PLANT MATERIAL.
  - CONTRACTOR SHALL VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO DIGGING.
  - PLANT MATERIAL MAY BE SUBSTITUTED WITH EQUIVALENTS.

**LANDSCAPE PLAN**  
**VINEYARDS AT CATTAIL CREEK**  
 Lots 11 Thru 28, Buildable Preservation Parcel 'C' and Bulk Parcel 'D'

(A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL 'A' AND BUILDABLE PRESERVATION PARCEL 'B', "VINEYARDS AT CATTAIL CREEK", PLAT No. 12844 THRU 12847)  
 ZONED RC-DEO  
 TAX MAP NO. 21 PART OF PARCEL NO. 225 GRID NO. 8  
 FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 DATE: AUGUST 28, 2000  
 SHEET 9 OF 12

**OWNER & DEVELOPER**  
 MARIO F. MANNARELLI, SR.  
 MARIO F. MANNARELLI, JR.  
 2929 SUMMIT CIRCLE  
 ELLICOTT CITY, MARYLAND 21043

**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTENNIAL SQUARE OFFICE PARK - 10772 BALTIMORE NATIONAL PIKE  
 ELLICOTT CITY, MARYLAND 21042  
 4100 46 - 2925

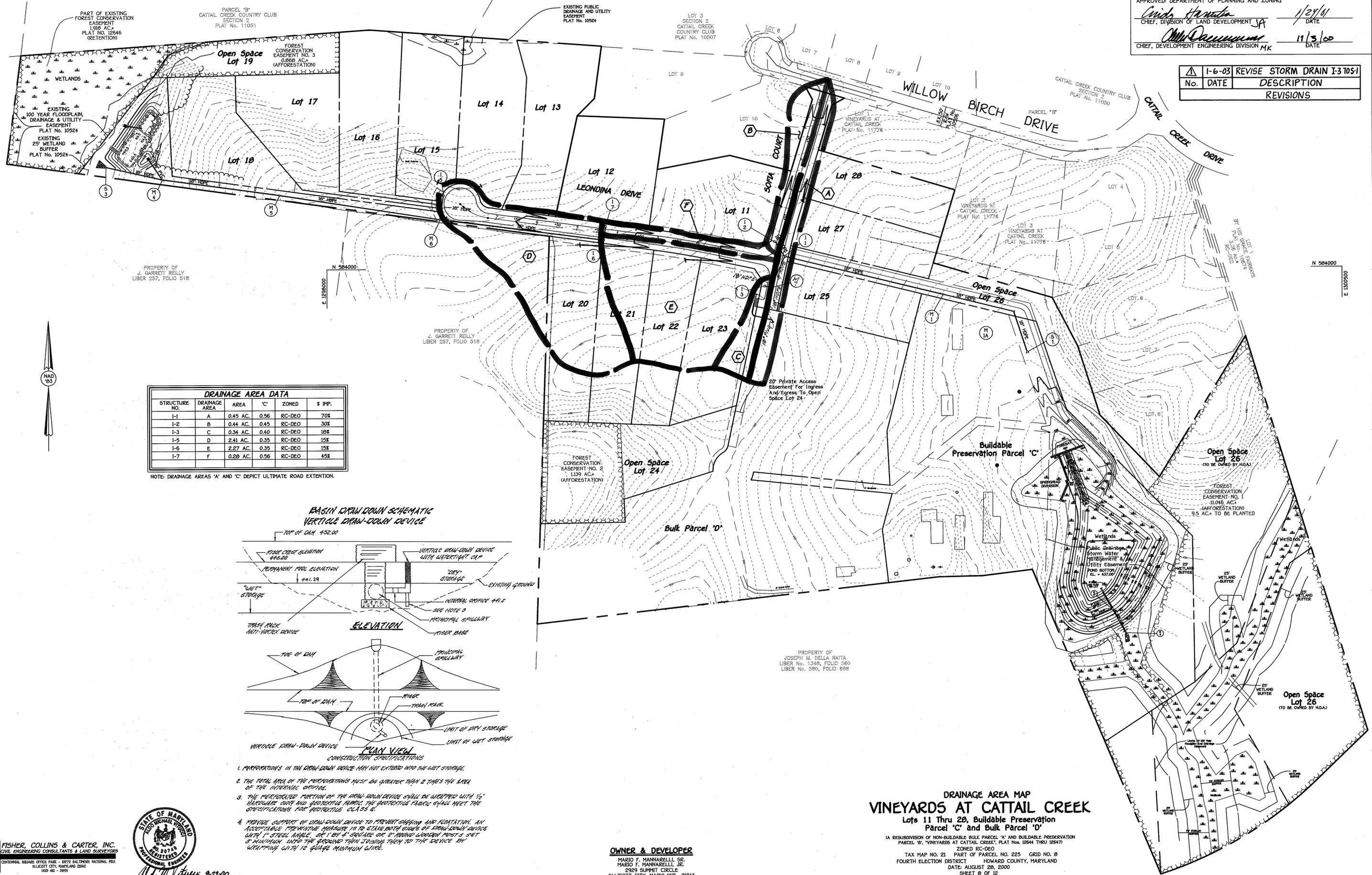


APPROVED: DEPARTMENT OF PUBLIC WORKS  
*Andrew M. Daniels* 9-27-00  
 CHIEF, BUREAU OF HIGHWAYS NO. DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*Cindy Hanuta* 1/28/01  
 CHIEF, DIVISION OF LAND DEVELOPMENT SA. DATE

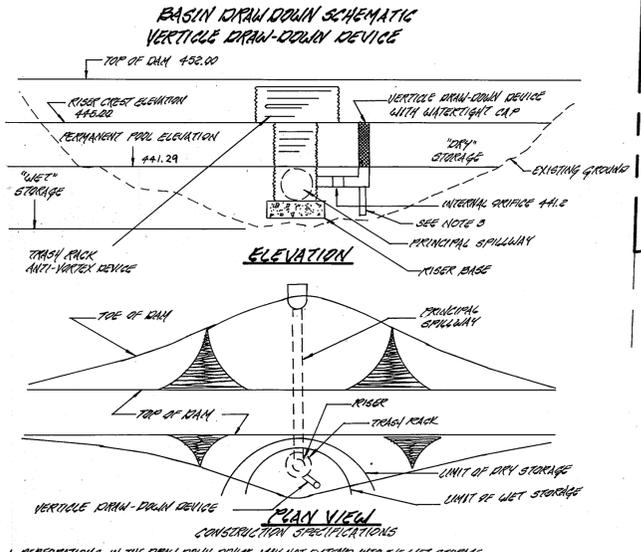
*Mike P... ..* 11/3/00  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION MK. DATE

▲	1-6-03	REVISE STORM DRAIN I-3 TO S1
No.	DATE	DESCRIPTION
REVISIONS		



STRUCTURE NO.	DRAINAGE AREA	AREA	'C'	ZONED	% IMP.
I-1	A	0.45 AC.	0.56	RC-DEO	70%
I-2	B	0.44 AC.	0.45	RC-DEO	30%
I-3	C	0.34 AC.	0.40	RC-DEO	10%
I-5	D	2.41 AC.	0.35	RC-DEO	15%
I-6	E	2.27 AC.	0.35	RC-DEO	15%
I-7	F	0.20 AC.	0.56	RC-DEO	45%

NOTE: DRAINAGE AREAS 'A' AND 'C' DEPICT ULTIMATE ROAD EXTENSION.



- CONSTRUCTION SPECIFICATIONS
1. PERFORATIONS IN THE DRAW-DOWN DEVICE MAY NOT EXTEND INTO THE WET STORAGE.
  2. THE TOTAL AREA OF THE PERFORATIONS MUST BE GREATER THAN 2 TIMES THE AREA OF THE INTERNAL ORIFICE.
  3. THE PERFORATED PORTION OF THE DRAW-DOWN DEVICE SHALL BE COVERED WITH 1/2" MESH AND PROTECTIVE FABRIC. THE PROTECTIVE FABRIC SHALL MEET THE SPECIFICATIONS FOR PROTECTIVE CLASS B.
  4. PROVIDE SUPPORT OF DRAW-DOWN DEVICE TO PREVENT CHIPPING AND FLOTTATION. AN ACCEPTABLE PREVENTIVE MEASURE IS TO SCALE BOTH SIDES OF DRAW-DOWN DEVICE WITH A STEEL ANGLE. SET 1/2" BY 1/2" SQUARES OR 2" ROUND WOODEN POSTS SET 3" MINIMUM INTO THE GROUND THEN STAPLE THEM TO THE DEVICE BY WRAPPING WITH 1/2" GAUGE MINIMUM WIRE.



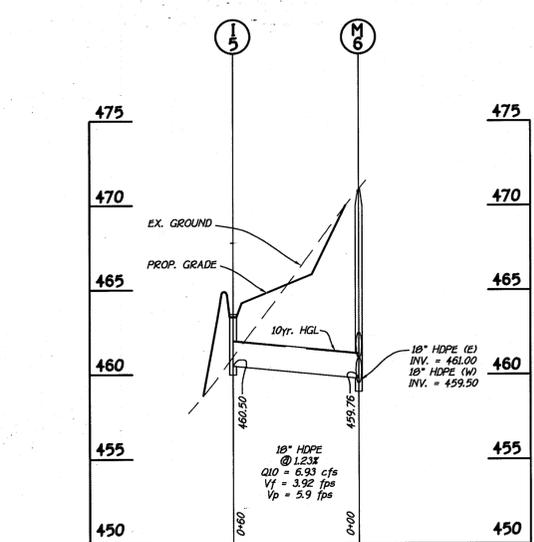
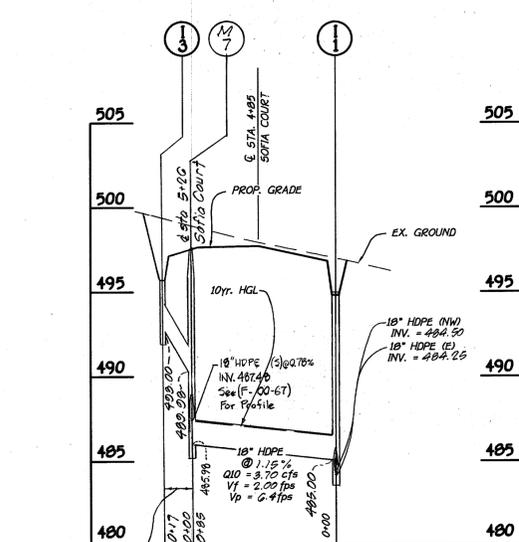
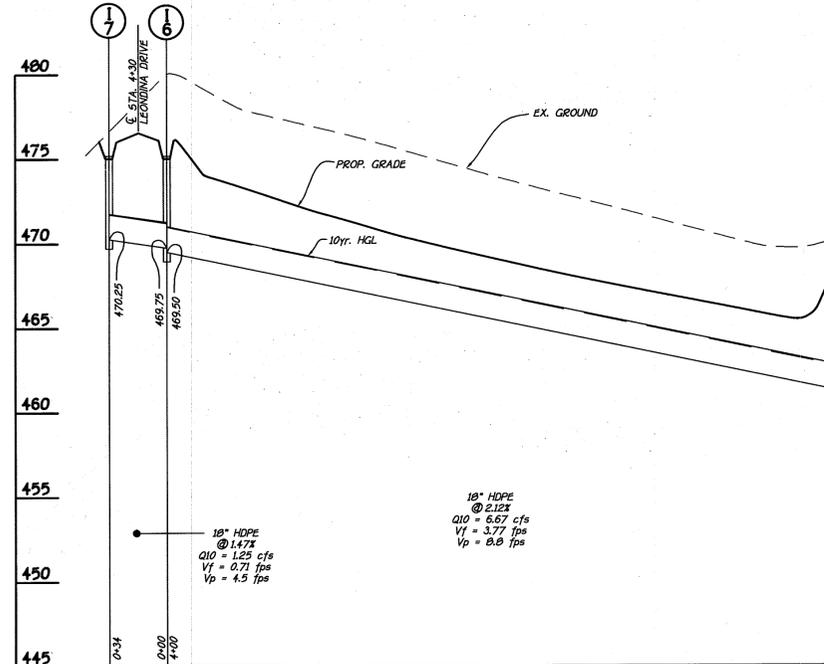
FISHER, COLLINS & CARTER, INC.  
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 CENTRAL SQUARE OFFICE PARK - 10772 BALTIMORE NATIONAL PIKE  
 ELICOTT CITY, MARYLAND 21042  
 410.461-2992

OWNER & DEVELOPER  
 MARIO F. MANNARELLI, SR.  
 MARIO F. MANNARELLI, JR.  
 2929 SUMMIT CIRCLE  
 ELICOTT CITY, MARYLAND 21043

DRAINAGE AREA MAP  
**VINEYARDS AT CATTAIL CREEK**  
 Lots 11 Thru 28, Buildable Preservation Parcel 'C' and Bulk Parcel 'D'  
 (A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL 'A' AND BUILDABLE PRESERVATION PARCEL 'B', VINEYARDS AT CATTAIL CREEK, PLAT NO. 12644 THRU 12647)  
 ZONED RC-DEO  
 TAX MAP NO. 21 PART OF PARCEL NO. 225 GRID NO. B  
 FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 DATE: AUGUST 28, 2000  
 SHEET 8 OF 12

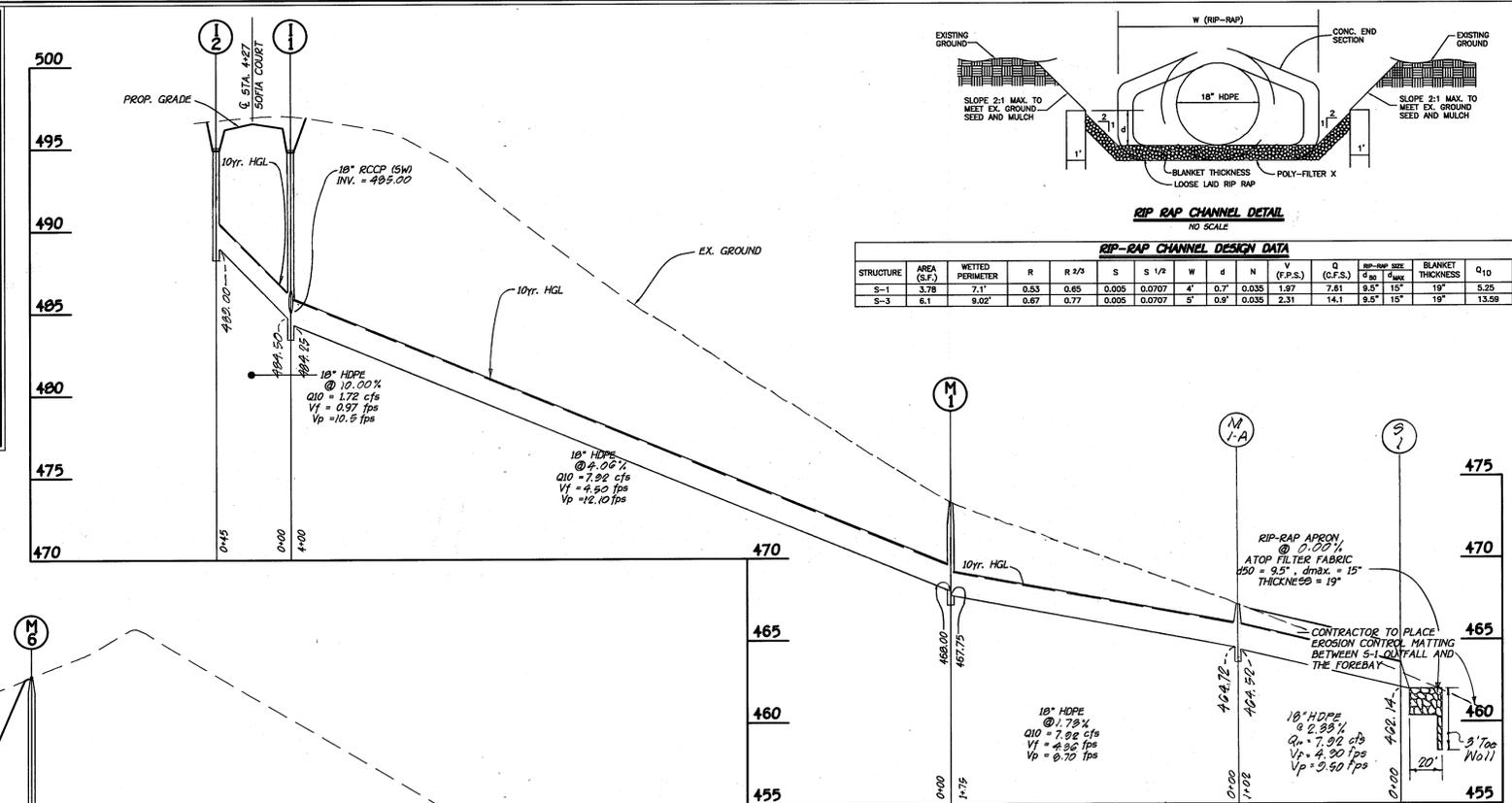
**STRUCTURE SCHEDULE**

STRUCTURE NO.	TOP ELEVATION	INV. IN	INV. OUT	ROAD NAME	ROAD STA.	OFFSET	TYPE	REMARKS
I-1	494.86	484.50	484.25	SOPIA COURT	C.L. STA. 4+45.24	17' L	OPEN END GRATE	S.D. 4.36 W/ S.D. 4.13
I-2	495.01	489.00	489.00	SOPIA COURT	C.L. STA. 4+13	17' R	OPEN END GRATE	S.D. 4.36 W/ S.D. 4.13
I-3	495.76	493.00	493.00	SOPIA COURT	C.L. STA. 5+26	17' R	OPEN END GRATE	S.D. 4.36 W/ S.D. 4.13
I-5	463.12	460.50	460.50	LEONIDINA DRIVE	L.P. STA. 1+48.01	6'	OPEN END GRATE	S.D. 4.36 W/ S.D. 4.13
I-6	475.03	470.25	470.25	LEONIDINA DRIVE	C.L. STA. 4+30	17' L	OPEN END GRATE	S.D. 4.36 W/ S.D. 4.13
I-7	475.03	469.75	469.50	LEONIDINA DRIVE	C.L. STA. 4+30	17' R	OPEN END GRATE	S.D. 4.36 W/ S.D. 4.13
M-1	473.50	468.00	467.75		N 5833.957 E 1299.817		STD. MANHOLE	G - 5.01
M-1A	467.50				N 5833.957 E 1299.817		STD. MANHOLE	G - 5.01
M-4	474.00	420.00	419.75, 416.60		N 5842.224 E 1297.595		STD. MANHOLE	G - 5.01
M-5	455.00	448.00	447.75		N 5842.224 E 1297.595		STD. MANHOLE	G - 5.01
M-6	470.00	461.00, 459.76	459.50		N 5842.224 E 1297.595		STD. MANHOLE	G - 5.01
S-1	463.04	462.14	462.14		N 5855.752 E 1299.732		CONC. END SECTION	S.D. 5.51
S-2	416.75	416.00	416.00		N 5842.273 E 1297.595		CONC. END SECTION	S.D. 5.51
S-3	407.15	405.40	405.40		N 5842.273 E 1297.595		CONC. END SECTION	S.D. 5.51
S-4	442.00	440.00	440.00		N 5833.957 E 1299.817		CONC. END SECTION	S.D. 5.51
R-1			442.00		N 5833.958 E 1299.943		CONC. RISER	

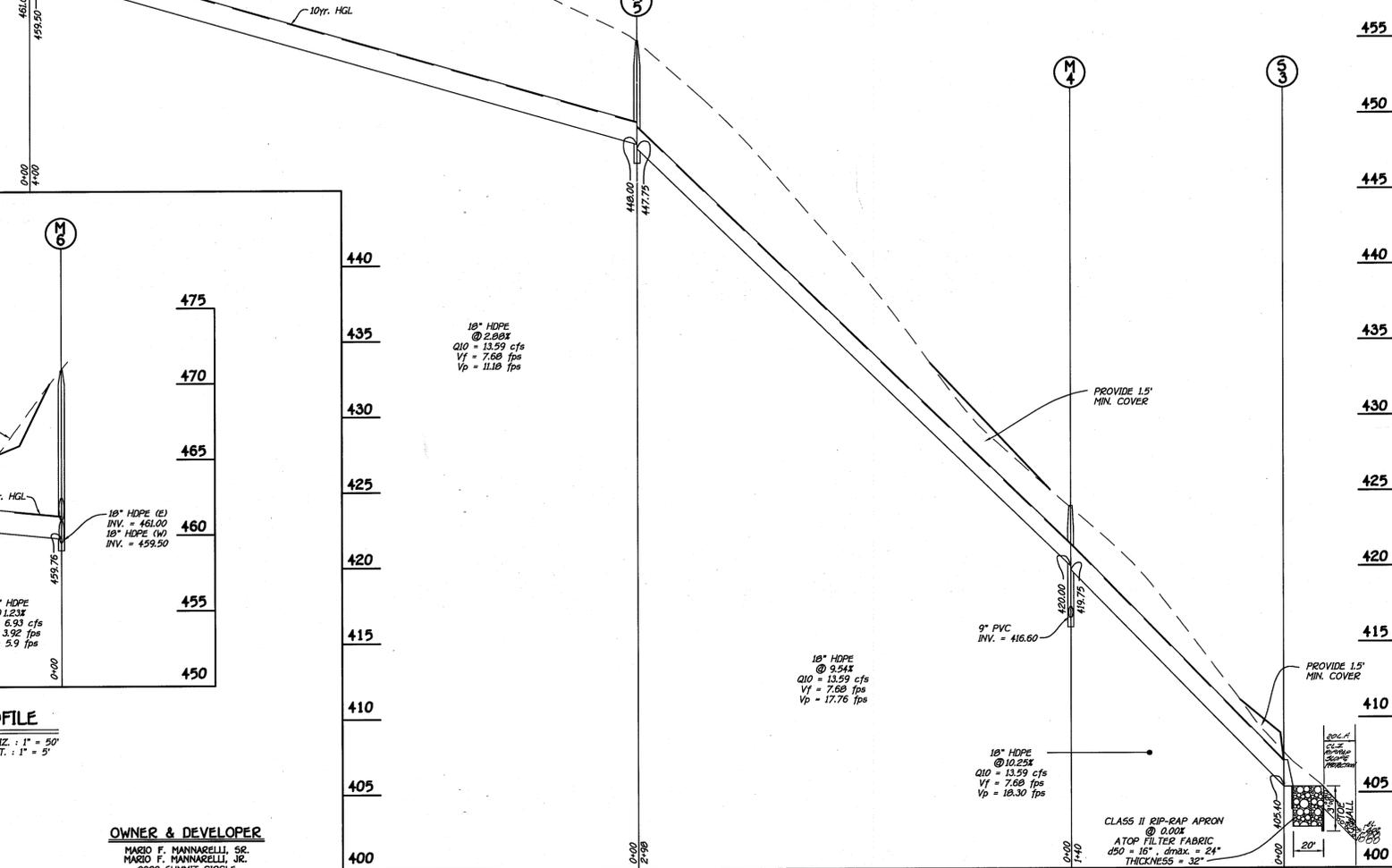


**PROFILE**  
SCALE: HORIZ. : 1" = 50'  
VERT. : 1" = 5'

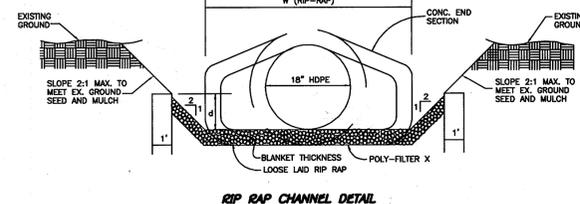
**PROFILE**  
SCALE: HORIZ. : 1" = 50'  
VERT. : 1" = 5'



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



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



**RIP-RAP CHANNEL DESIGN DATA**

STRUCTURE	AREA (S.F.)	WETTED PERIMETER	R	R <sup>2/3</sup>	S	S <sup>1/2</sup>	W	d	N	V (F.P.S.)	Q (C.F.S.)	BLANKET THICKNESS	Q <sub>10</sub>	DIA.
S-1	3.78	7.1'	0.83	0.65	0.005	0.0707	4'	0.7'	0.035	1.97	7.61	8.5"	15"	5.25 18"
S-3	6.1	8.02'	0.87	0.77	0.005	0.0707	5'	0.9'	0.035	2.31	14.1	9.5"	15"	13.58 18"

Approved: Department of Planning And Zoning  
*Chris Howard* 1/21/01  
 Chief, Division of Land Development  
*Mike...* 1/21/01  
 Chief, Development Engineering Division  
 Approved: Howard County Department of Public Works  
*Richard M. Dwyer* 9-27-00  
 Chief, Bureau of Highways

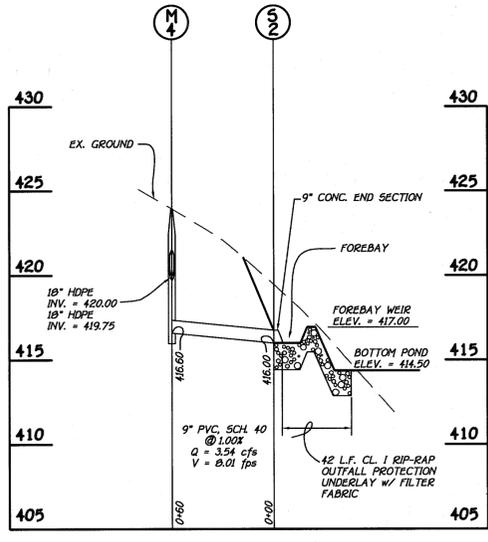
- CONSTRUCTION SPECIFICATIONS FOR RIP-RAP OUTFALLS**
- The subgrade for the filter, riprap or gabion shall be prepared to the required lines and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.
  - The rock or gravel shall conform to the specified grading limits when installed respectively in the riprap or filter.
  - Filter cloth shall be protected from punching, cutting or tearing. Any damage other than on occasional small 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.
  - Stones 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 stones for riprap or gabion outlets shall be delivered and placed in a manner that will insure that it is reasonably homogeneous with the smaller stones and spots 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.

NO.	DATE	DESCRIPTION
1-6-03		REVISE STORM DRAIN I-3 TO S-1

REVISIONS

**PIPE SCHEDULE**

SIZE	MATERIAL	LENGTH
18"	H.D.P.E.	2000'
9"	P.V.C.	60'



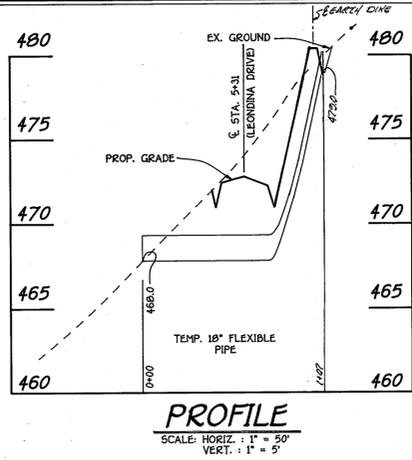
**PROFILE**  
SCALE: HORIZ. : 1" = 50'  
VERT. : 1" = 5'

**STORM DRAIN PROFILES**  
**VINEYARDS AT CATTAIL CREEK**  
 Lots 11 Thru 28, Buildable Preservation Parcel 'C' and Bulk Parcel 'D'  
 (A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL 'A' AND BUILDABLE PRESERVATION PARCEL 'B', 'VINEYARDS AT CATTAIL CREEK', PLAT NO. 12644 THRU 12647)  
 ZONED RC-BDO  
 TAX MAP NO. 21 PART OF PARCEL NO. 225 GRID NO. 8  
 FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 DATE: AUGUST 28, 2000  
 SHEET 7 OF 12

**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTRAL SQUARE OFFICE PARK 10772 SALTSTONE NATIONAL PIKE  
 ELLICOTT CITY, MARYLAND 21117  
 (410) 481-2855



**OWNER & DEVELOPER**  
 MARGO F. MANNARELLI, SR.  
 MARGO F. MANNARELLI, JR.  
 2925 SUMMIT CIRCLE  
 ELLICOTT CITY, MARYLAND 21143



**NOTE:**  
EROSION CONTROL MATTING TO BE INSTALLED IN ALL ROADSIDE DITCHES AND CHANNEL FROM S-1 TO S.W.M. POND, SEE DETAIL, SHEET 5

STREET TREE SCHEDULE				
SYMBOL	QUANTITY	BOTANICAL AND COMMON NAME	SIZE	COMMENTS
○	16	ACER RUBRUM "OCTOBER GLORY" RED MAPLE	2 1/2-3" CAL.	40' APART ON PUBLIC R/W
○	29 THIS SHEET 35 TOTAL	PLATANUS OCCIDENTALIS "BLOODGOOD" LONDON PLANETREE	2 1/2-3" CAL.	40' APART ON PUBLIC R/W

STREET TREE TYPE MAY BE SUBSTITUTED WITH AN EQUIVALENT FROM THE APPROVED LIST OF STREET TREES IN THE HOWARD COUNTY LANDSCAPE MANUAL. FINANCIAL SURETY FOR THE 51 REQUIRED STREET TREES HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF (51 x \$ 300) = \$ 15,300.00

NO.	DATE	DESCRIPTION
1	11/17/01	REVISE GRADING ASSOCIATED WITH TYPICAL ROAD SECTION
2	11/16/03	REVISE STORM DRAIN 1-3 TO S-1

By The Developer:  
I/We Certify That All Development And/Or Construction Will Be Done According To These Plans, 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 Shall Engage A Registered Professional Engineer, To Supervise Pond Construction And Provide The Howard Soil Conservation District With An "As-Built" Plan Of The Pond Within 30 Days Of Completion. I Also Authorize Periodic On-Site Inspections By The Howard Soil Conservation District.

Signature Of Developer: *Mario Mannarelli Jr.* Date: 10/29/99  
Printed Name Of Developer: **MARIO MANNARELLI JR.**

By The Engineer:  
I Certify That This Plan For Pond Construction, Erosion And Sediment Control Represents A Practical And Workable Plan Based On My Personal Knowledge Of The Site Conditions. This Plan Was Prepared In Accordance With The Requirements Of The Howard Soil Conservation District. I Have Notified The Developer That I Must Engage A Registered Professional Engineer To Supervise Pond Construction And Provide The Howard Soil Conservation District With An "As-Built" Plan Of The Pond Within 30 Days Of Completion.

Signature Of Engineer: *Aldo M. Vitucci* Date: 9-29-00  
Printed Name Of Engineer: **ALDO M. VITUCCI**

These Plans Have Been Reviewed By The Howard Soil Conservation District And Meet The Technical Requirements For Small Pond Construction, Soil Erosion And Sediment Control.

Signature: *John Thomas* Date: 11/21/01  
USDA Natural Resources Conservation Service

Signature: *Robert Sig* Date: 11/21/01  
Howard Soil Conservation District

Signature: *Andrew M. Daniels* Date: 9-27-00  
Approved: Department Of Public Works  
Chief, Bureau Of Highways

Signature: *David Aspinall* Date: 11/21/01  
Approved: Department Of Planning And Zoning  
Chief, Division Of Land Development

Signature: *Michael...* Date: 11/21/01  
Chief, Development Engineering Division

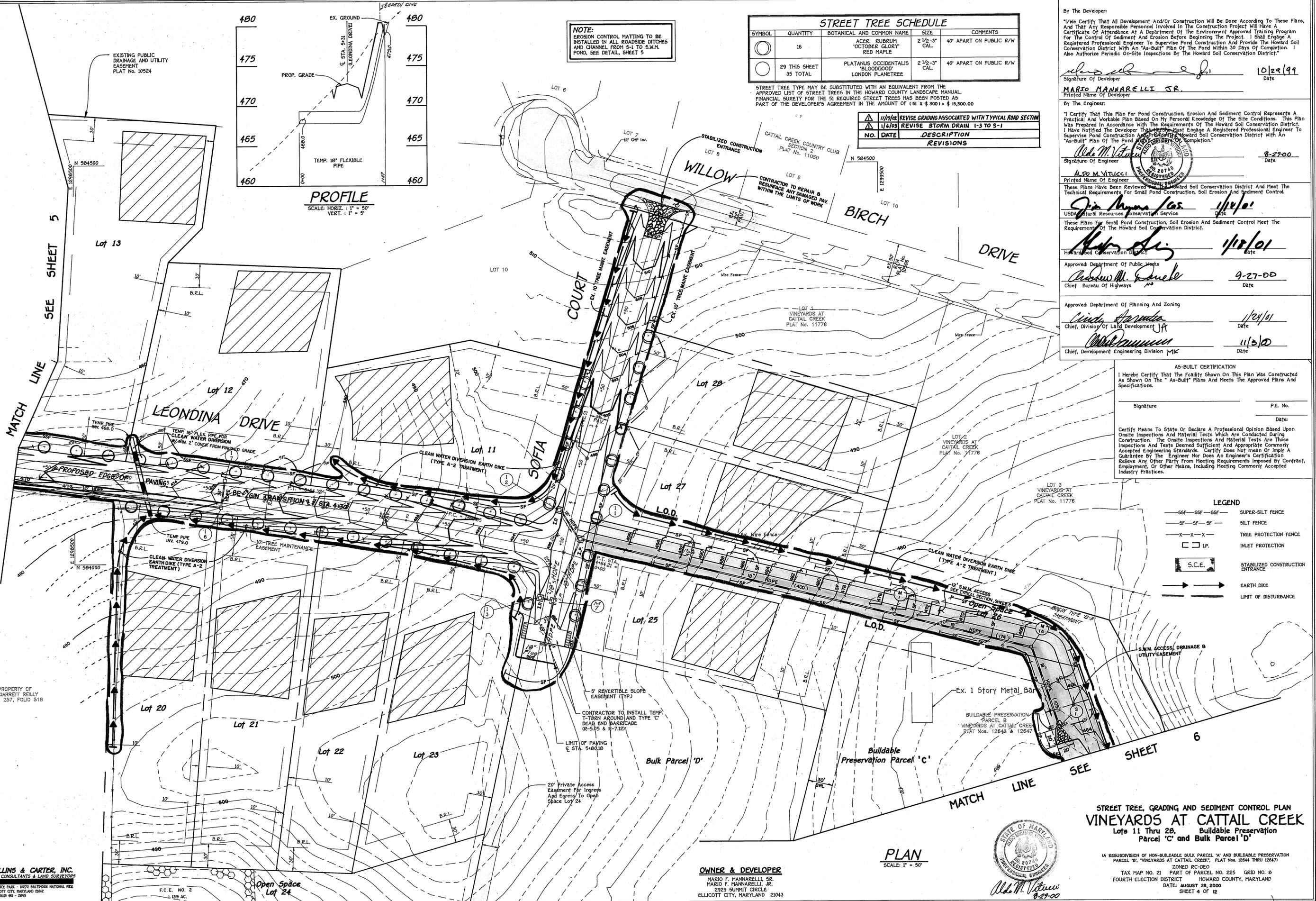
**AS-BUILT CERTIFICATION**  
I Herby Certify That The Facility Shown On This Plan Was Constructed As Shown On The "As-Built" Plans And Meets The Approved Plans And Specifications.

Signature: \_\_\_\_\_ P.E. No. \_\_\_\_\_  
Date: \_\_\_\_\_

Certify Means To State Or Declare A Professional Opinion Based Upon On-Site Inspections And Material Tests Which Are Conducted During Construction. The Onsite Inspections And Material Tests Are Those Inspections And Tests Deemed Sufficient And Appropriate Commonly Accepted Engineering Standards. Certify Does Not Mean Or 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.

**LEGEND**

- SSF—SSF—SSF— SUPER-SILT FENCE
- SF—SF—SF— SILT FENCE
- X—X—X— TREE PROTECTION FENCE
- I.P. INLET PROTECTION
- ▭ S.C.E. STABILIZED CONSTRUCTION ENTRANCE
- EARTH DIKE
- LIMIT OF DISTURBANCE



**FISHER, COLLINS & CARTER, INC.**  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CENTRAL SQUARE OFFICE PARK - 10272 BALDWIN NATIONAL FREE  
ELICOTT CITY, MARYLAND 21042  
1800 461-2222

**OWNER & DEVELOPER**  
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2929 SUMMIT CIRCLE  
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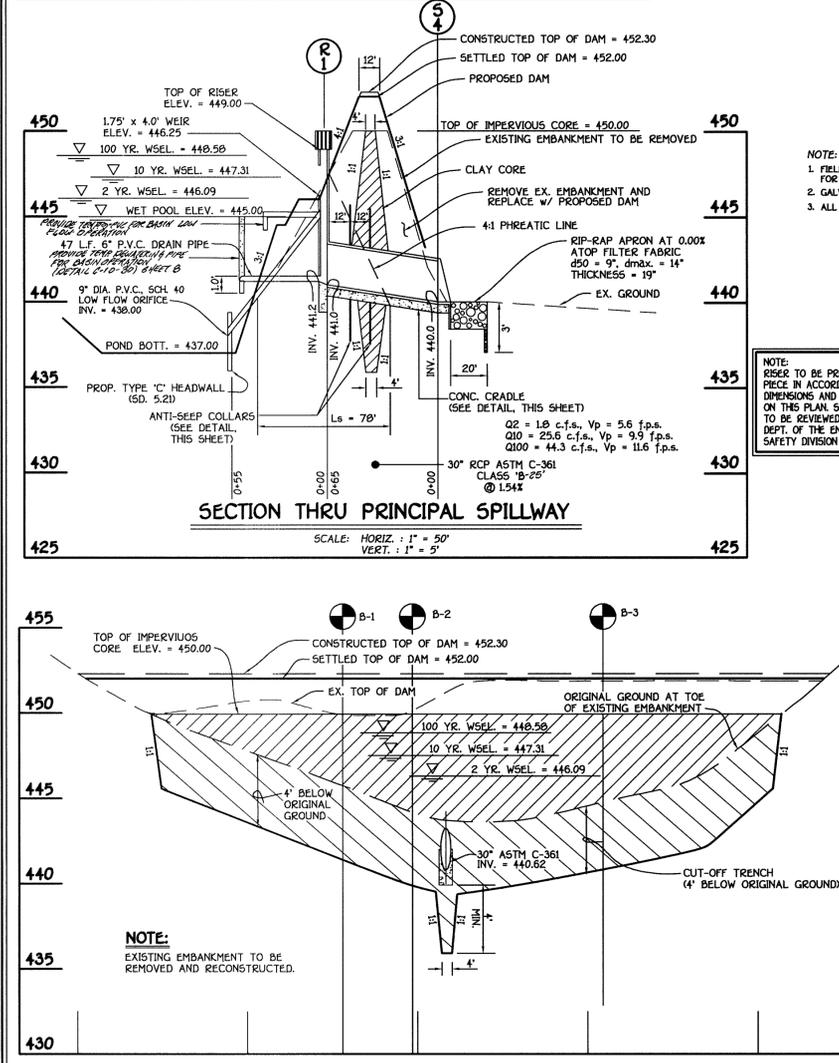
**STREET TREE, GRADING AND SEDIMENT CONTROL PLAN**  
**VINEYARDS AT CATTAIL CREEK**  
Lots 11 Thru 28, Buildable Preservation Parcel 'C' and Bulk Parcel 'D'

(A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL 'A' AND BUILDABLE PRESERVATION PARCEL 'B', "VINEYARDS AT CATTAIL CREEK", PLAT Nos. 12644 THRU 12647)  
ZONED RC-DEO  
TAX MAP NO. 21 PART OF PARCEL NO. 225 GRID NO. 8  
FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
DATE: AUGUST 28, 2000  
SHEET 4 OF 12

BORING B-1		
DEPTH	DESCRIPTION OF MATERIALS	REMARKS
SURFACE	GRAY AND BROWN MOIST, CLAYEY SILT, AND (SAND, TRACE ROCK FRAGS, TRACE MICA (FILL) (M))	
4.5	GRAY AND GREENISH BROWN, MOIST, MOTTLED CLAYEY SILT, AND (SAND, TRACE MICA (M))	0.2' TOPSOIL
6.5	BROWN TO GREENISH BROWN, MOIST, (SAND, SILT, TRACE ROCK FRAGS, TRACE MICA DECOMPOSED ROCK) (SM)	3 DAYS AFTER COMPLETION WATER AT 6.5', CAVED AT 10.4'
12.0	GREENISH-BROWN AND LIGHT GRAY, MOIST, (SAND, AND SILT, TRACE MICA DECOMPOSED ROCK) (SM)	
20.0	BOTTOM OF HOLE AT 20.0'	

BORING B-2		
DEPTH	DESCRIPTION OF MATERIALS	REMARKS
SURFACE	GRAY AND GREENISH BROWN, MOIST SILT, AND (SAND, TRACE MICA, AND CLAY (FILL) (M))	
3.0	GRAY, VERY MOIST, CLAYEY SILT, AND (SAND, TRACE QUARTZ FRAGS, TRACE MICA, TRACE TOPSOIL, TRACE ROOTS (FILL) (M))	0.2' TOPSOIL
11.5	GRAY TO BROWN, MOIST, SILT, AND QUARTZ FRAGS, SOME (SAND, TRACE MICA DECOMPOSED ROCK) (M))	3 DAYS AFTER COMPLETION WATER AT 8.4', CAVED AT 15.7'
15.0	BROWN, MOIST, SILT, AND (SAND, TRACE MICA DECOMPOSED ROCK) (M))	
19.0	GRAYISH BROWN, MOIST, (SAND, AND SILT, TRACE MICA DECOMPOSED ROCK) (SM)	
25.0	BOTTOM OF HOLE AT 25.0'	

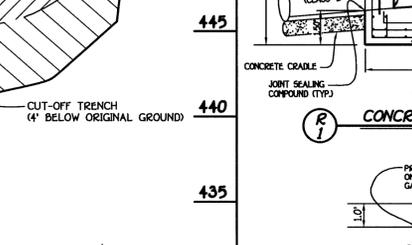
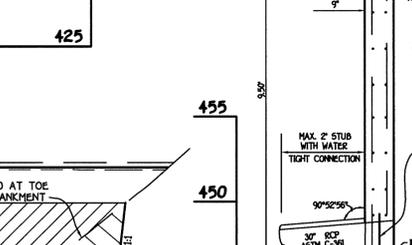
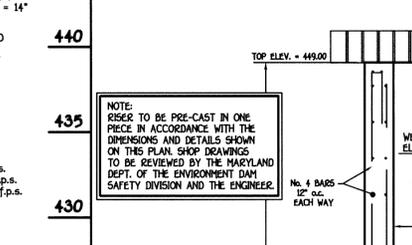
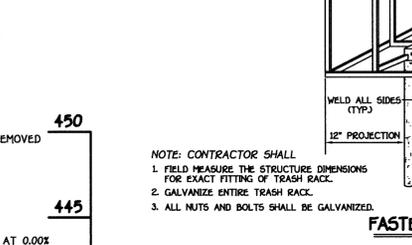
BORING B-3		
DEPTH	DESCRIPTION OF MATERIALS	REMARKS
SURFACE	BROWN, MOIST, SILT & CLAY, AND (SAND, TRACE ROCK FRAGS, TRACE MICA (FILL) (M))	
5.5	DARK GRAY, VERY MOIST, SILT & CLAY, AND (SAND, TRACE ORGANICS / TOPSOIL, TRACE MICA (FILL) (M))	0.2' TOPSOIL
7.5	GRAY AND GREENISH BROWN, VERY MOIST, (SAND, AND SILT & CLAY, TRACE QUARTZ FRAGS, TRACE MICA (SM))	3 DAYS AFTER COMPLETION WATER AT 7.5', CAVED AT 9.5'
10.5	GRAY TO BROWN, MOIST, (SAND, AND SILT, TRACE ROCK FRAGS, TRACE MICA DECOMPOSED ROCK) (SM)	
13.0	GRAYISH BROWN, MOIST, (SAND, AND SILT, TRACE ROCK FRAGS, TRACE MICA DECOMPOSED ROCK) (SM)	
19.0	BOTTOM OF HOLE AT 19.0'	



370 - 12 Pond SPECIFICATIONS  
These specifications are appropriate to all ponds within the scope of the Standard for practice MD-370. All references to ASTM and ASHTO specifications apply to the most recent version.  
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 reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material unless otherwise designated on the plans. Trees, brush and stumps shall be cut approximately 1.50 foot from the ground surface. For dry stormwater management ponds, a minimum of a 50 foot radius around the 1:1:1 structure shall be cleared.  
All cleared and grubbed material shall be disposed of outside and below 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.  
Material: The fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, rubbish, stones greater than 6", frozen or other objectionable materials. Fill material for the center of the embankment and cut off trench shall conform to Unified Soil Classification GC, SC, CL, 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 maximum 8 inch thick before compacting layers which are to be continuous over the entire length of the fill. The most permeable borrow material shall be placed in the downstream portion of the embankment. The Department of Transportation will 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 traveled by not less than one 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% 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, or a geotechnical engineer.  
Cut Off Trench - The cutoff trench shall be excavated into impervious material along or parallel to the centerline of the embankment as shown on the plans. The bottom width of the trench shall be governed by the equipment used for excavation, with the minimum width being four feet. The depth shall be at least four feet below existing grade or as shown on the plans. The side slopes of the trench shall be 1:1 or flatter. The backfill shall be compacted with construction equipment, rollers or hand tampers to assure maximum density and minimum permeability.  
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 compaction equipment. The material needs to fill completely all spaces under and adjacent to the pipe. At no time during the building 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 or pipe, unless there is a compacted fill of 24" or greater over the structure or pipe.  
Pipe Conduits  
All pipes shall be circular in cross section.

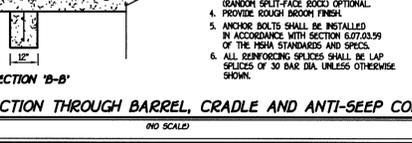
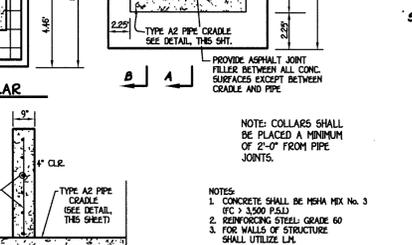
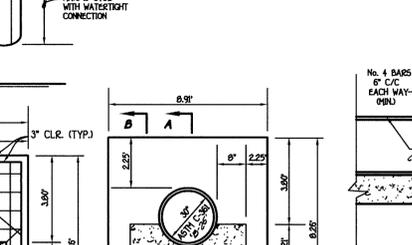
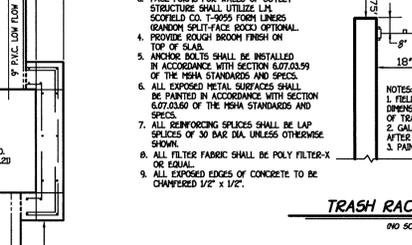
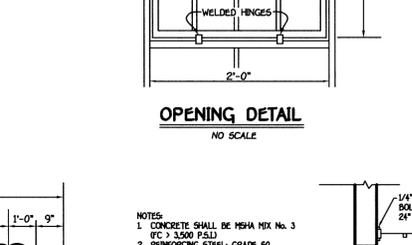
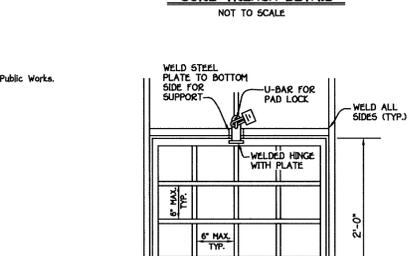
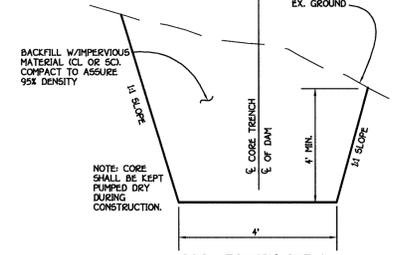
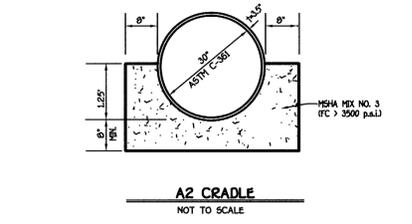
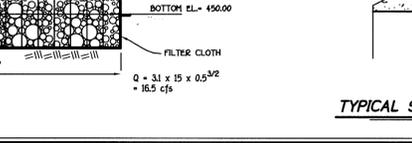
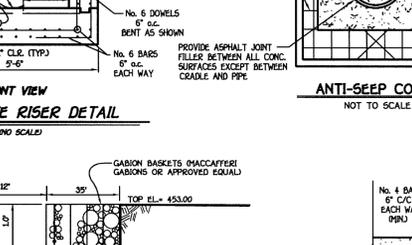
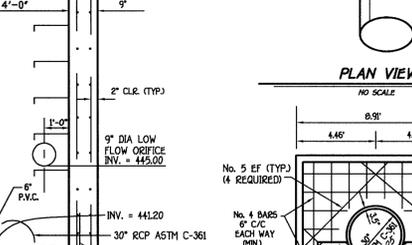
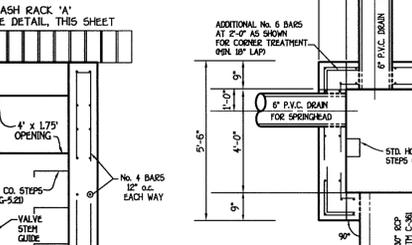
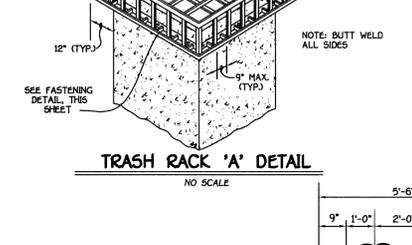
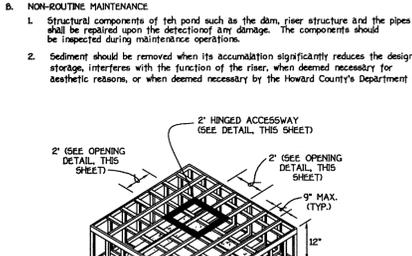
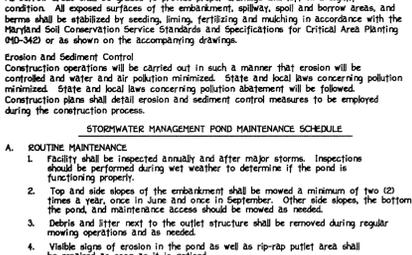
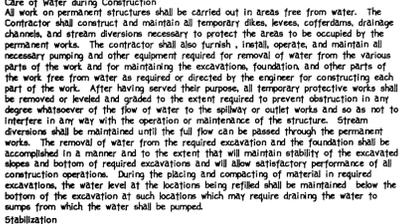
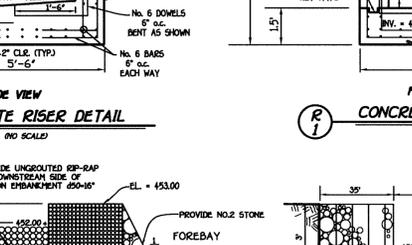
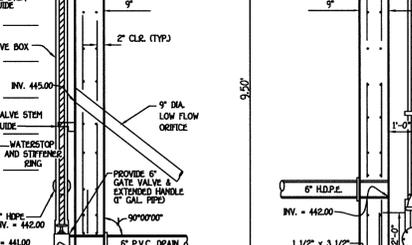
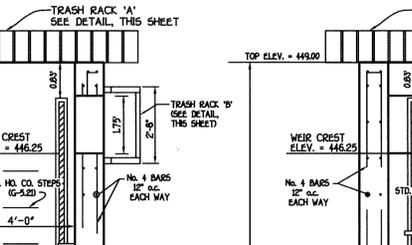
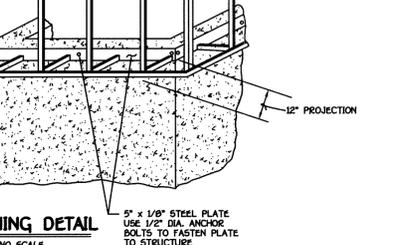
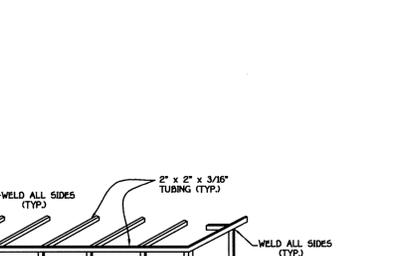
Reinforced Concrete Pipe - All of the following criteria shall apply for reinforced concrete pipe.  
1. Materials - Reinforced concrete pipe shall have bell and spigot joints with rubber gaskets and shall equal or exceed ASTM Designation C-361.  
2. Bedding - All reinforced concrete pipe conduits shall be laid in a concrete bedding for their entire length. This bedding shall consist of high slump concrete placed under the pipe and up the sides of the pipe at least 10% of its outside diameter with a minimum thickness of 3 inches, or as shown on the drawings.  
3. Laying pipe - Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed for the entire line, the bedding shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe. The first joint must be located within 2 feet from the riser.  
4. Backfilling shall conform to "Structure Backfill".  
5. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.  
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-2242.  
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 suitable 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 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 952.

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 compaction equipment. The material needs to fill completely all spaces under and adjacent to the pipe. At no time during the building 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 or pipe, unless there is a compacted fill of 24" or greater over the structure or pipe.  
Pipe Conduits  
All pipes shall be circular in cross section.



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 protective 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 slightly condition. All exposed surfaces of the embankment, spillway, soil and borrow areas, and berms shall be stabilized by seeding, liming, fertilizing and mulching 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 and Sediment Control  
Construction operations will be carried out in such a manner that erosion will be controlled and water and air pollution minimized. State and local laws concerning 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.

STORMWATER MANAGEMENT POND MAINTENANCE SCHEDULE  
A. ROUTINE MAINTENANCE  
1. Facility shall be inspected annually and after major storms. Inspections should be performed during wet weather to determine if the pond is functioning properly.  
2. Top and side slopes of the embankment shall be mowed a minimum of two (2) times a year, once in June and once in September. Other side slopes, the bottom of the pond, and maintenance access should be mowed as needed.  
3. Debris and litter next to the outlet structure shall be removed during regular mowing operations and as needed.  
4. Visible signs of erosion in the pond as well as rip-rap outlet area shall be repaired as soon as it is noticed.  
B. NON-ROUTINE MAINTENANCE  
1. Structural components of the pond such as the dam, riser structure and the pipes should be inspected during maintenance operations.  
2. Sediment should be removed when its accumulation significantly reduces the design storage, interferes with the function of the riser, when deemed necessary for aesthetic reasons, or when deemed necessary by the Howard County's Department of Public Works.



By The Developer:  
"I/We Certify That All Development And/Or Construction Will Be Done According To These Plans, 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 Shall Engage A Registered Professional Engineer To Supervise Pond Construction And Provide The Howard Soil Conservation District With An "As-Built" Plan Of The Pond Within 30 Days Of Completion. I Also Authorize Periodic On-Site Inspections By The Howard Soil Conservation District."  
Signature Of Developer: *[Signature]* 8-29-00 Date

Printed Name Of Developer  
By The Engineer:  
"I Certify That This Plan For Pond Construction, Erosion And Sediment Control Represents A Practical And Workable Plan Based On My Personal Knowledge Of The Site Conditions. This Plan Was Prepared In Accordance With The Requirements Of The Howard Soil Conservation District. I Have Notified The Developer, I Have Engaged A Registered Professional Engineer To Supervise Pond Construction And Provide The Howard Soil Conservation District With An "As-Built" Plan Of The Pond Within 30 Days Of Completion."  
Signature Of Engineer: *[Signature]* 8-29-00 Date  
Printed Name Of Engineer: *[Signature]*

Approved Department Of Public Works  
Signature: *[Signature]* 9-27-00 Date  
Chief, Bureau Of Highways  
Approved Department Of Planning And Zoning  
Signature: *[Signature]* 1/24/01 Date  
Chief, Division Of Land Development  
Signature: *[Signature]* 11/2/00 Date  
Chief, Development Engineering Division

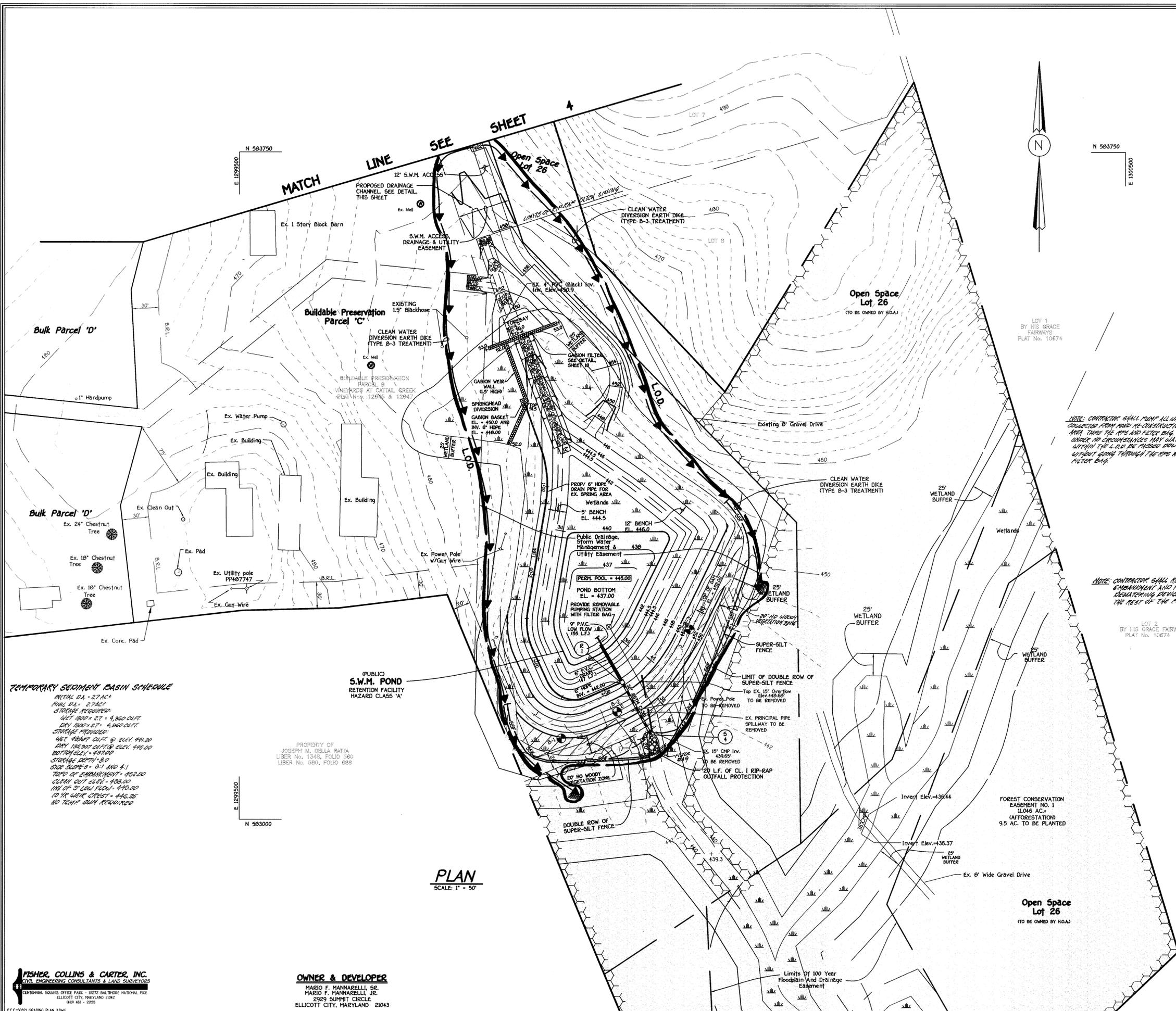
AS-BUILT CERTIFICATION  
I hereby Certify That The Facility Shown On This Plan Was Constructed As Shown On The "As-Built" Plans And Meets The Approved Plans And Specifications.  
Signature: \_\_\_\_\_ P.E. No. \_\_\_\_\_  
Date: \_\_\_\_\_  
Certify Means To State Or Declare A Professional Opinion Based Upon Onsite Inspections And Material Tests Which Are Conducted During Construction. The Onsite Inspections And Material Tests Are Those Inspections And Tests Deemed Sufficient And Appropriate Commonly Accepted Engineering Standards. Certify Does Not Mean Or 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 the 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-376). The pond owner(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 owner(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.  
GEOTECHNICAL RECOMMENDATIONS FOR EMBANKMENT AND CUT-OFF TRENCH CONSTRUCTION  
THE SITE SHOULD BE STRIPPED OF TOPSOIL AND ANY OTHER UNSUITABLE MATERIALS FROM THE EMBANKMENT OR STRUCTURE AREA IN ACCORDANCE WITH SOIL CONSERVATION DISTRICT GUIDELINES. AFTER STRIPPING OPERATIONS HAVE BEEN COMPLETED, THE EXPOSED MATERIALS SHOULD BE PROFILESOLLED WITH A LOADS DUMP TRUCK OR SIMILAR EQUIPMENT IN THE PRESENCE OF A GEOTECHNICAL ENGINEER OR HIS REPRESENTATIVE FOR AREAS THAT ARE NOT ACCESSIBLE TO A DUMP TRUCK. THE EXPOSED MATERIALS SHOULD BE OBSERVED AND TESTED BY A GEOTECHNICAL ENGINEER OR HIS REPRESENTATIVE UTILIZING A DYNAMIC CONE PENETROMETER. ANY EXCESSIVE SETTLE OR LOOSE MATERIALS IDENTIFIED BY THE DYNAMIC CONE PENETROMETER TESTING SHOULD BE EXCAVATED TO SUITABLE FIRM SOIL, AND THEN GRADES RE-ESTABLISHED BY BACKFILLING WITH SUITABLE SOIL.

DESIGN SUMMARY					
DESIGN STORM	ALLOWABLE RELEASE RATE	FACILITY INFLOW	FACILITY DISCHARGE	WATER SURFACE ELEVATION	STORAGE VOLUME (ACFT)
2 YEAR	2.4 CFS	22.7 CFS	1.8 CFS	446.09	1.05
10 YEAR	3.3 CFS	67.0 CFS	25.6 CFS	417.31	2.12
100 YEAR	N/A	125.3 CFS	44.3 CFS	446.90	3.70

STORAGE - HEIGHT PRODUCT = 6.03 x 3.7 = 22.57  
WATERSHED AREA TO FACILITY (ACRES) 30.94 AC.

S.W.M. NOTES AND DETAILS  
VINEYARDS AT CATTAIL CREEK  
Lots 11 Thru 28, Buildable Preservation Parcel 'C' and Bulk Parcel 'D'  
(A) SUBDIVISION OF NON-BUILDABLE BULK PARCEL 'A' AND BUILDABLE PRESERVATION PARCEL 'B', "VINEYARDS AT CATTAIL CREEK", PLAT NO. 12644 THRU 12647 ZONE DC-CR  
TAX MAP NO. 21 PART OF PARCEL NO. 225 GRID NO. B FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND DATE: AUGUST 28, 2000 SHEET 10 OF 12



**TEMPORARY SEDIMENT BASIN SCHEDULE**  
 INITIAL D.A. = 27 AC.<sup>2</sup>  
 FINAL D.A. = 27 AC.<sup>2</sup>  
 STORAGE REQUIRED:  
 WET 1800' x 27' = 4,860 CU FT  
 DRY 1800' x 27' = 4,860 CU FT  
 STORAGE PROVIDED:  
 WET 4800' x 27' @ 2' ELEV. 441.00  
 DRY 1800' x 27' @ 2' ELEV. 445.00  
 BOTTOM ELEV. = 437.00  
 STORAGE DEPTH = 2.0'  
 SIDE SLOPE = 3:1 AND 4:1  
 TOP OF 5' BENCH = 452.00  
 CLEAN CUT 22' ELEV. = 438.00  
 10' OF 5' LOW FLOW = 445.00  
 10' OF WEIR CREST = 446.25  
 NO TEMP SWIM REQUIRED

PROPERTY OF  
 JOSEPH M. BELLA PATTA  
 LIBER No. 1348, FOLIO 560  
 LIBER No. 580, FOLIO 688

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

**OWNER & DEVELOPER**  
 MARIO F. MANNARELLI, SR.  
 MARIO F. MANNARELLI, JR.  
 2909 SUMMIT CIRCLE  
 ELLICOTT CITY, MARYLAND 21043

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

By The Developer:  
 I/We Certify That All Development And/Or Construction Will Be Done According To These Plans, 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 Shall Engage A Registered Professional Engineer To Supervise Pond Construction And Provide The Howard Soil Conservation District With An "As-Built" Plan Of The Pond Within 30 Days Of Completion. I Also Authorize Periodic On-Site Inspections By The Howard Soil Conservation District.

Signature Of Developer: *[Signature]* Date: 9-27-00

Printed Name Of Developer: \_\_\_\_\_

By The Engineer:  
 I Certify That This Plan For Pond Construction, Erosion And Sediment Control Represents A Practical And Workable Plan Based On My Personal Knowledge Of The Site Conditions. This Plan Was Prepared In Accordance With The Requirements Of The Howard Soil Conservation District. I Have Notified The Developer That He/She Shall Engage A Registered Professional Engineer To Supervise Pond Construction And Provide The Howard Soil Conservation District With An "As-Built" Plan Of The Pond Within 30 Days Of Completion.

Signature Of Engineer: *[Signature]* Date: 9-27-00

Printed Name Of Engineer: ALDO M. VITUCCI

These Plans Have Been Reviewed For The Howard Soil Conservation District And Meet The Technical Requirements For Small Pond Construction, Soil Erosion And Sediment Control.

Signature: *[Signature]* Date: 1/18/01

USDA - Natural Resources Conservation Service

These Plans For Small Pond Construction, Soil Erosion And Sediment Control Meet The Requirements Of The Howard Soil Conservation District.

Signature: *[Signature]* Date: 1/18/01

Howard Soil Conservation District

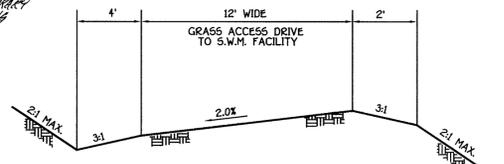
Approved: Department of Public Works  
 Signature: *[Signature]* Date: 9-27-00  
 Chief, Bureau of Highways

Approved: Department of Planning And Zoning  
 Signature: *[Signature]* Date: 1/27/01  
 Chief, Division Of Land Development

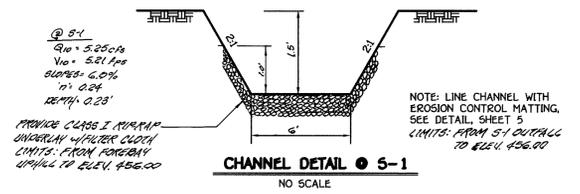
Signature: *[Signature]* Date: 11/2/00  
 Chief, Development Engineering Division

NOTE: CONTRACTOR SHALL PUMP ALL WATER COLLECTED FROM POND RE-CONSTRUCTION AFTER 2000 THE RIP-RAP AND FILTER BAGS. UNDER NO CIRCUMSTANCES MAY WATER WITHIN THE L.O.D. BE PASSED DOWNSTREAM WITHOUT GOING THROUGH THE RIP-RAP AND FILTER BAGS.

NOTE: CONTRACTOR SHALL RECONSTRUCT THE EMBANKMENT AND PROVIDE THE TEMPORARY DEMATERING DEVICE, BEFORE GRADING THE REST OF THE POND.



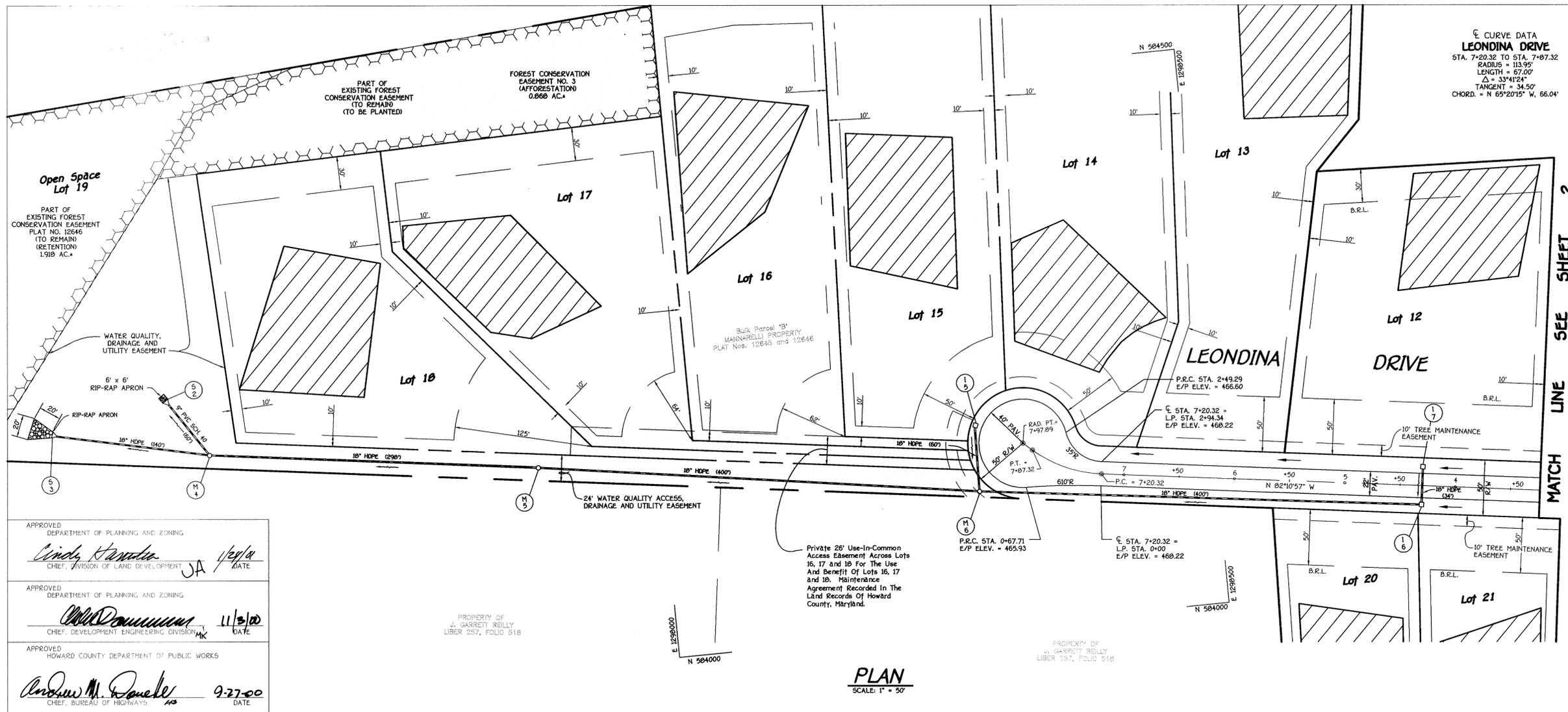
TYPICAL SECTION - S.W.M. ACCESS DRIVEWAY  
 NO SCALE



CHANNEL DETAIL S-1  
 NO SCALE

**GRADING AND SEDIMENT CONTROL PLAN**  
**VINEYARDS AT CATTAIL CREEK**  
 Lots 11 Thru 20, Buildable Preservation Parcel 'C' and Bulk Parcel 'D'  
 (A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL 'A' AND BUILDABLE PRESERVATION PARCEL 'B', 'VINEYARDS AT CATTAIL CREEK', PLAT No. 12644 THRU 12647)  
 ZONED RC-DEO  
 TAX MAP NO. 21 PART OF PARCEL NO. 225 GRID NO. 8  
 FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 DATE: AUGUST 28, 2000  
 SHEET 6 OF 12





SEE SHEET 2  
MATCH LINE

**VINEYARDS AT CATTAIL CREEK**  
 Lots 11 Thru 28, Buildable Preservation Parcel 'C' and Bulk Parcel 'D'  
(A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL 'A' AND BUILDABLE PRESERVATION PARCEL 'B', 'VINEYARDS AT CATTAIL CREEK', PLAT Nos. 12644 THRU 12647)  
 ZONED RC-000  
 FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

**LEONDINA DRIVE**  
 PLAN AND PROFILE

**OWNER & DEVELOPER**  
 MARIO F. MANNARELLI, SR.  
 MARIO F. MANNARELLI, JR.  
 2929 SUMMIT CIRCLE  
 ELLICOTT CITY, MARYLAND 21043

SCALE: AS SHOWN    DATE: AUGUST 28, 2000    DWG. NO. 3 OF 12  
 DES. Z.Y.F.    DRN. J.C.L.    CHK. Z.Y.F.

**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
1000 CENTRAL SQUARE OFFICE PARK - SUITE 200 BALTIMORE NATIONAL FREE ELLICOTT CITY, MARYLAND 21042  
 REG. NO. 1200

APPROVED  
 DEPARTMENT OF PLANNING AND ZONING  
*Cindy Harada* JA 1/27/01  
 CHIEF, DIVISION OF LAND DEVELOPMENT    DATE

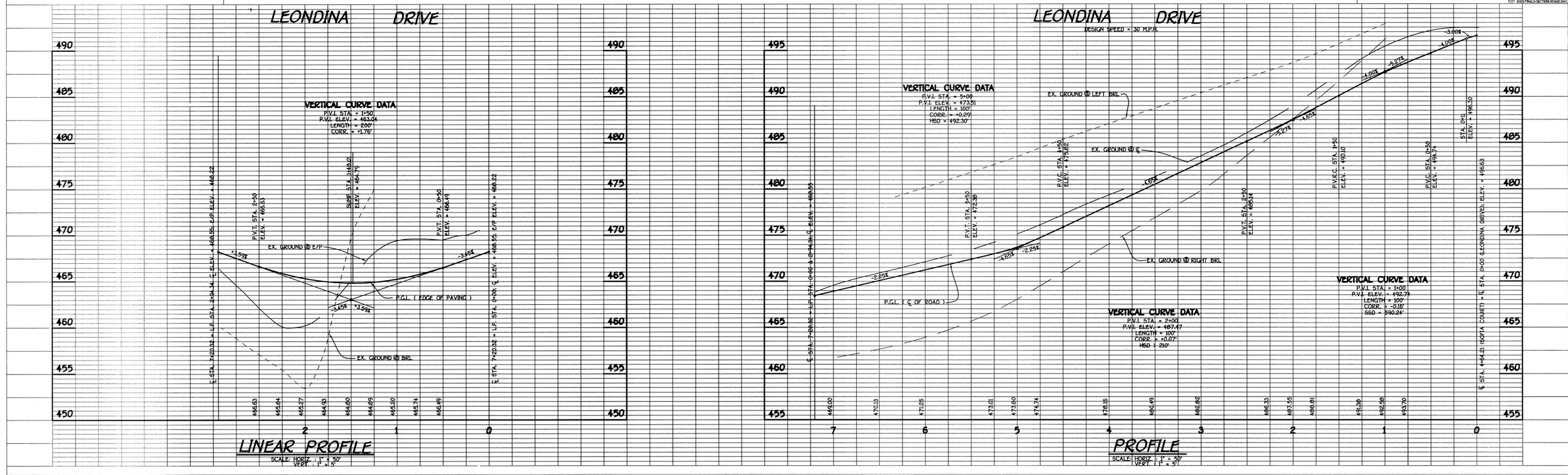
APPROVED  
 DEPARTMENT OF PLANNING AND ZONING  
*Chris D'Amico* MK 11/13/00  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION    DATE

APPROVED  
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Andrew M. Doncker* HS 9-27-00  
 CHIEF, BUREAU OF HIGHWAYS    DATE

PROPERTY OF  
 J. GARRETT REILLY  
 LIBER 257, FOLIO 518

PROPERTY OF  
 J. GARRETT REILLY  
 LIBER 257, FOLIO 518

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

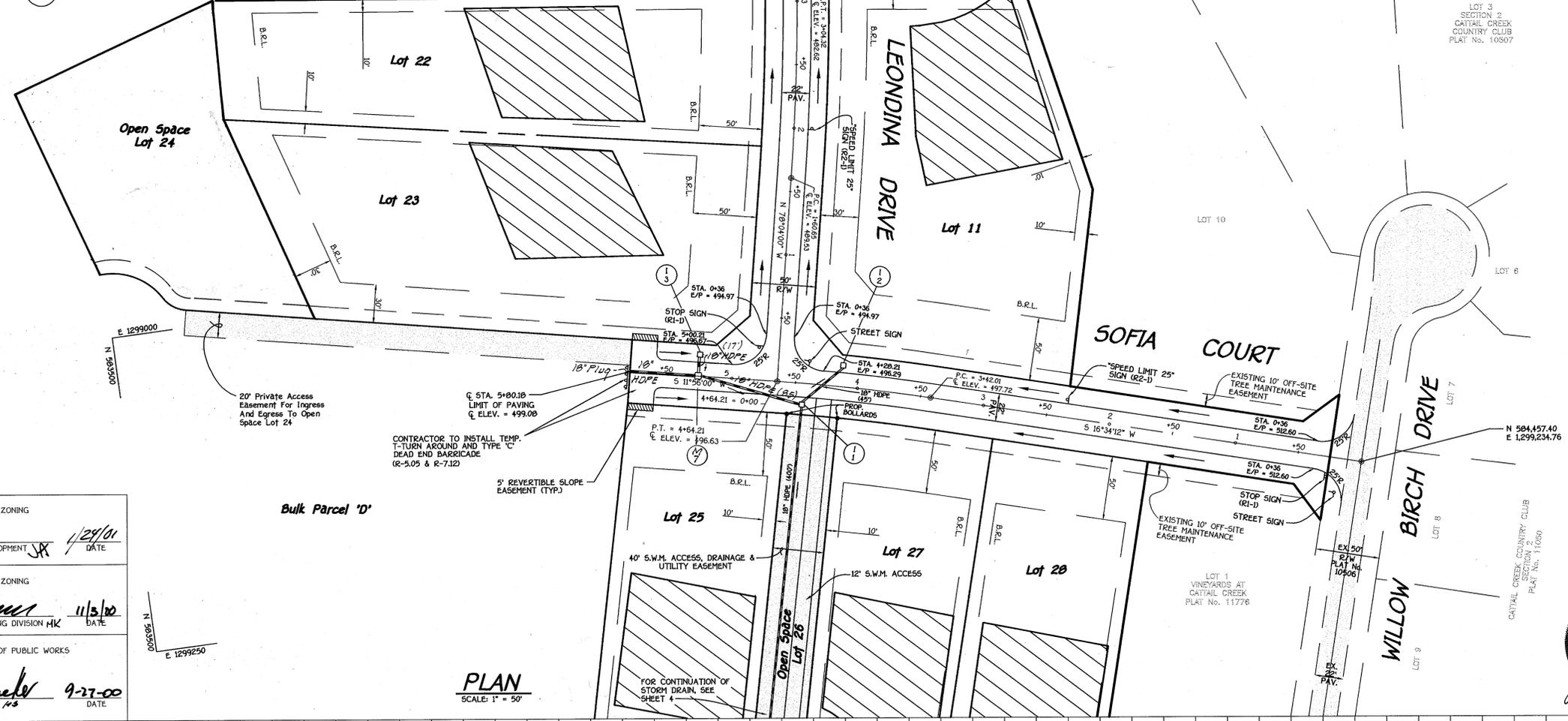




MATCH LINE SEE SHEET 3

☺ CURVE DATA  
**SOFIA COURT**  
 STA. 3+42.01 TO STA. 4+64.21  
 RADIUS = 2000.00'  
 LENGTH = 122.20'  
 $\Delta = 04^{\circ}38'12''$   
 TANGENT = 61.13'  
 CHORD = 5 14'15.06" W, 122.16'

☺ CURVE DATA  
**LEONINDA DRIVE**  
 STA. 1+60.65 TO STA. 3+04.32  
 RADIUS = 2000.00'  
 LENGTH = 143.67'  
 $\Delta = 04^{\circ}06'57''$   
 TANGENT = 71.87'  
 CHORD = N 09^{\circ}07'29" W, 143.64'



APPROVED  
 DEPARTMENT OF PLANNING AND ZONING  
*Cindy Stanuta* 1/24/01  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE

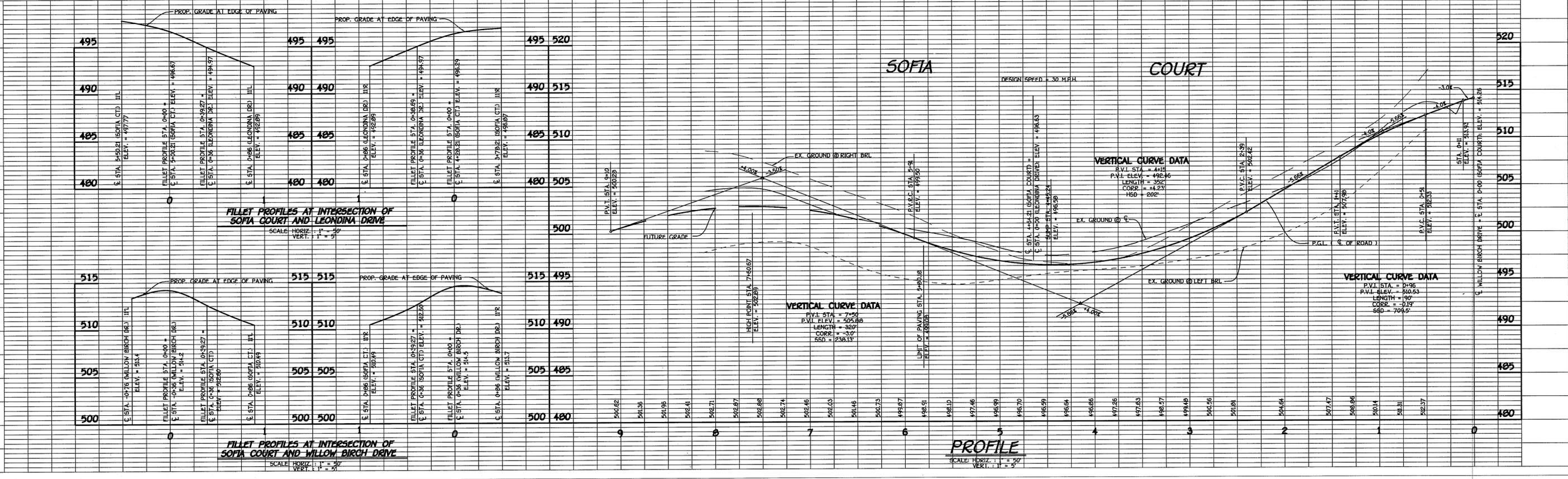
APPROVED  
 DEPARTMENT OF PLANNING AND ZONING  
*Michael J. McKelvey* 11/3/00  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE

APPROVED  
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Richard M. Daniels* 9-27-00  
 CHIEF, BUREAU OF HIGHWAYS  
 DATE

Bulk Parcel 'D'

PLAN  
 SCALE: 1" = 50'

NO.	DATE	REVISION DESCRIPTION
1-6-03		REVISE STORM DRAIN I-3 TO S-1
<b>REVISIONS</b>		
<b>VINEYARDS AT CATTAIL CREEK</b> Lots 11 Thru 28, Buildable Preservation Parcel 'C' and Bulk Parcel 'D'		
(A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL 'A' AND BUILDABLE PRESERVATION PARCEL 'D', VINEYARDS AT CATTAIL CREEK, PLAT No. 12044 THRU 12047)		
ZONED RC-500		
FOURTH ELECTION DISTRICT		HOWARD COUNTY, MARYLAND
<b>SOFIA COURT</b>		<b>LEONINDA DRIVE</b>
PLAN AND PROFILE		PLAN
<b>OWNER &amp; DEVELOPER</b>		
MARIO F. MANNARELLI, JR. MARIO F. MANNARELLI, JR. 2329 SUMMIT CIRCLE ELLICOTT CITY, MARYLAND 21043		
SCALE: AS SHOWN	DATE: AUGUST 28, 2000	DWG. NO. 2 OF 12
DES. Z.Y.F.	DRN. J.C.L.	CHK. Z.Y.F.
<b>FISHER, COLLINS &amp; CARTER, INC.</b> CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS 10000 BALTIMORE NATIONAL FREE ELICOTT CITY, MARYLAND 21043 (410) 461-2200		



SHEET INDEX	
SHEET No.	DESCRIPTION
1	TITLE SHEET
2	SOFIA COURT PLAN AND PROFILE
3	LEONDINA DRIVE PLAN AND PROFILE
4	STREET TREE, GRADING AND SEDIMENT CONTROL PLAN
5	STREET TREE, GRADING AND SEDIMENT CONTROL PLAN
6	GRADING AND SEDIMENT CONTROL PLAN
7	STORM DRAIN PROFILES
8	DRAINAGE AREA MAP
9	LANDSCAPE PLAN
10	S.W.M. NOTES AND DETAILS
11	SEDIMENT CONTROL NOTES AND DETAILS
12	FOREST CONSERVATION PLAN

APPROVED: DEPARTMENT OF PUBLIC WORKS  
*Andrew M. Daniels* 9-27-00  
 CHIEF, BUREAU OF HIGHWAYS ns DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*Cecilia Hanlon* 1/24/01  
 CHIEF, DIVISION OF LAND DEVELOPMENT JK DATE

*Mark J. ...* 11/5/00  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION MK DATE

## FINAL ROAD CONSTRUCTION, GRADING AND STORMWATER MANAGEMENT PLANS

# VINEYARDS AT CATTAIL CREEK

**Lots 11 Thru 28, Buildable Preservation  
Parcel 'C' and Bulk Parcel 'D'**

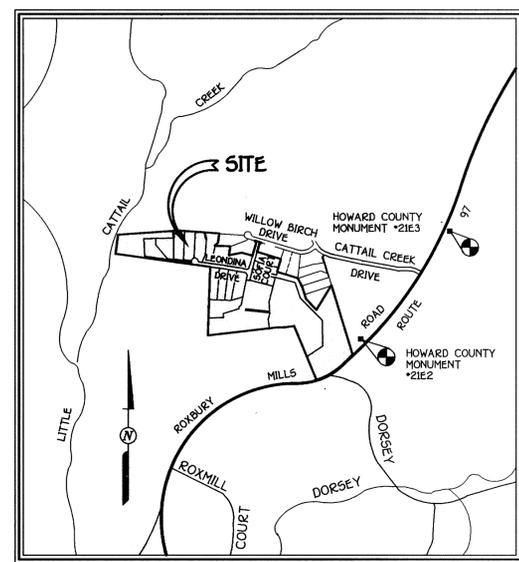
**(A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL 'A' AND BUILDABLE PRESERVATION  
PARCEL 'B', "VINEYARDS AT CATTAIL CREEK", PLAT Nos. 12644 THRU 12647)**

**ZONED: RC-DEO**

**TAX MAP. NO. : 21 PART OF PARCEL NO. 225 GRID NO. : 8**

**FOURTH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND**

ROAD CLASSIFICATION		
ROAD NAME	CLASSIFICATION	R/W
SOFIA COURT	LOCAL ROAD	50'
LEONDINA DRIVE	LOCAL ROAD	50'



**VICINITY MAP**  
SCALE: 1" = 1200'

TRAFFIC CONTROL SIGNS				
STREET NAME	C.L. STATION	OFFSET	POSTED SIGN	SIGN CODE
SOFIA COURT	0+26	14.5'L	STOP	R1-1
SOFIA COURT	2+34	12'R	SPEED LIMIT 25	R2-1
LEONDINA DRIVE	0+26	14.5'L	STOP	R1-1
LEONDINA DRIVE	2+00	12'R	SPEED LIMIT 25	R2-1

**GENERAL NOTES**

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
  - THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS / BUREAU OF ENGINEERING / CONSTRUCTION INSPECTION DIVISION AT (410) 313-1000 AT LEAST (5) WORKING DAYS PRIOR TO THE START OF WORK.
  - THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
  - 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 THE PLACEMENT OF ANY ASPHALT.
  - 2 FOOT CONTOUR TOPOGRAPHY AND EXISTING CONDITIONS BASED ON AERIAL TOPOGRAPHIC SURVEY PREPARED BY AERIAL MAPPING CO., INC., FLOWN IN 1996 AND FIELD SURVEY BY FISHER, COLLINS & CARTER, INC. ON JULY 1999.
  - THE COORDINATES SHOWN HEREON ARE BASED UPON HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT Nos. 21E2 AND 21E3 WERE USED FOR THIS PROJECT.
- 21E2 N 583,065.3000 E 1,300,868.4336  
 21E3 N 584,559.4765 E 1,302,074.5340
- WATER IS PRIVATE.
  - SEWER IS PRIVATE.
  - THE TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY THE TRAFFIC GROUP, INC. (APPROVED UNDER SP96-11).
  - BACKGROUND INFORMATION:  
 A. SUBDIVISION NAME: VINEYARDS AT CATTAIL CREEK  
 B. TAX MAP NO.: 21  
 C. PARCEL NO.: PART OF 225  
 D. ZONING: RC-DEO  
 E. ELECTION DISTRICT: FOURTH  
 F. TOTAL TRACT AREA: 57.017 AC. +  
 G. NO. OF BUILDABLE LOTS: 15  
 H. NO. OF PARCELS: 2  
 I. NO. OF OPEN SPACE LOTS: 3  
 J. PRELIMINARY EQUIVALENT SKETCH PLAN APPROVAL DATE: 4/10/96  
 K. PREVIOUS FILE Nos.: SP96-11, 594-43, F95-139, F91-171 AND W995-96.  
 L. TOTAL AREA OF OPEN SPACE PROVIDED:  
 (LOT 19 + LOT 24 + LOT 26 = 17.210 AC.)
  - REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE TO BE PROVIDED AT THE JUNCTION OF THE PIPE / FLAG STEM AND THE ROAD R/W AND NOT ONTO THE PIPE / FLAG STEM DRIVEWAY.
  - NO CEMETERIES EXIST ON THE PROPERTY.
  - ALL FILL AREAS WITHIN ROADWAYS AND UNDER STRUCTURES SHALL BE COMPACTED TO A MINIMUM OF 95% COMPACTION OF ASTM T-100.
  - THE WETLAND AND FOREST STAND DELINEATION WAS PREPARED BY ECO-SCIENCE PROFESSIONALS, INC. AND APPROVED UNDER SP96-11.
  - THE FOREST CONSERVATION EASEMENT(S) HAS BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY FOREST CONSERVATION ACT. NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT, EXCEPT AS SHOWN ON AN APPROVED ROAD CONSTRUCTION DRAWING OR SITE DEVELOPMENT PLAN. HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED.
  - STORMWATER MANAGEMENT FACILITY:  
 TYPE - RETENTION FACILITY  
 OWNER - HOWARD COUNTY (PUBLIC)  
 MAINTENANCE - HOMEOWNER'S ASSOCIATION AND HOWARD COUNTY
  - THIS FINAL PLAN IS PREPARED IN ACCORDANCE WITH THE APPROVED ZONING, SUBDIVISION AND DESIGN MANUAL GUIDELINES AS EXISTED AT THE TIME OF THE PRELIMINARY EQUIVALENT SKETCH PLAN SIGNATURE ON APRIL 4, 1996.
  - WETLAND DISTURBANCE FOR THE PURPOSE OF STORMWATER MANAGEMENT POND RECONSTRUCTION APPROVED UNDER PERMIT NO.
  - THREE (3) FOREST CONSERVATION EASEMENTS, FOR AFFORESTATION, ARE PROPOSED FOR THIS PROJECT TOTALING 11.4 AC.+. TOTAL AMOUNT OF SURETY IS \$149,975.00.
  - LANDSCAPE SURETY AMOUNT IS \$38,700.00.
  - PROJECT IS SUBJECT TO THE NON-TIDAL WETLANDS TRACKING NUMBER 00-NY-0113/200062933 AND ALL OF IT'S CONDITIONS OF APPROVAL.



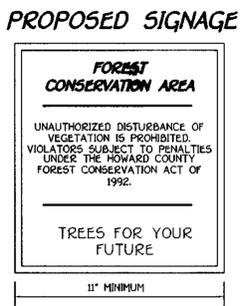
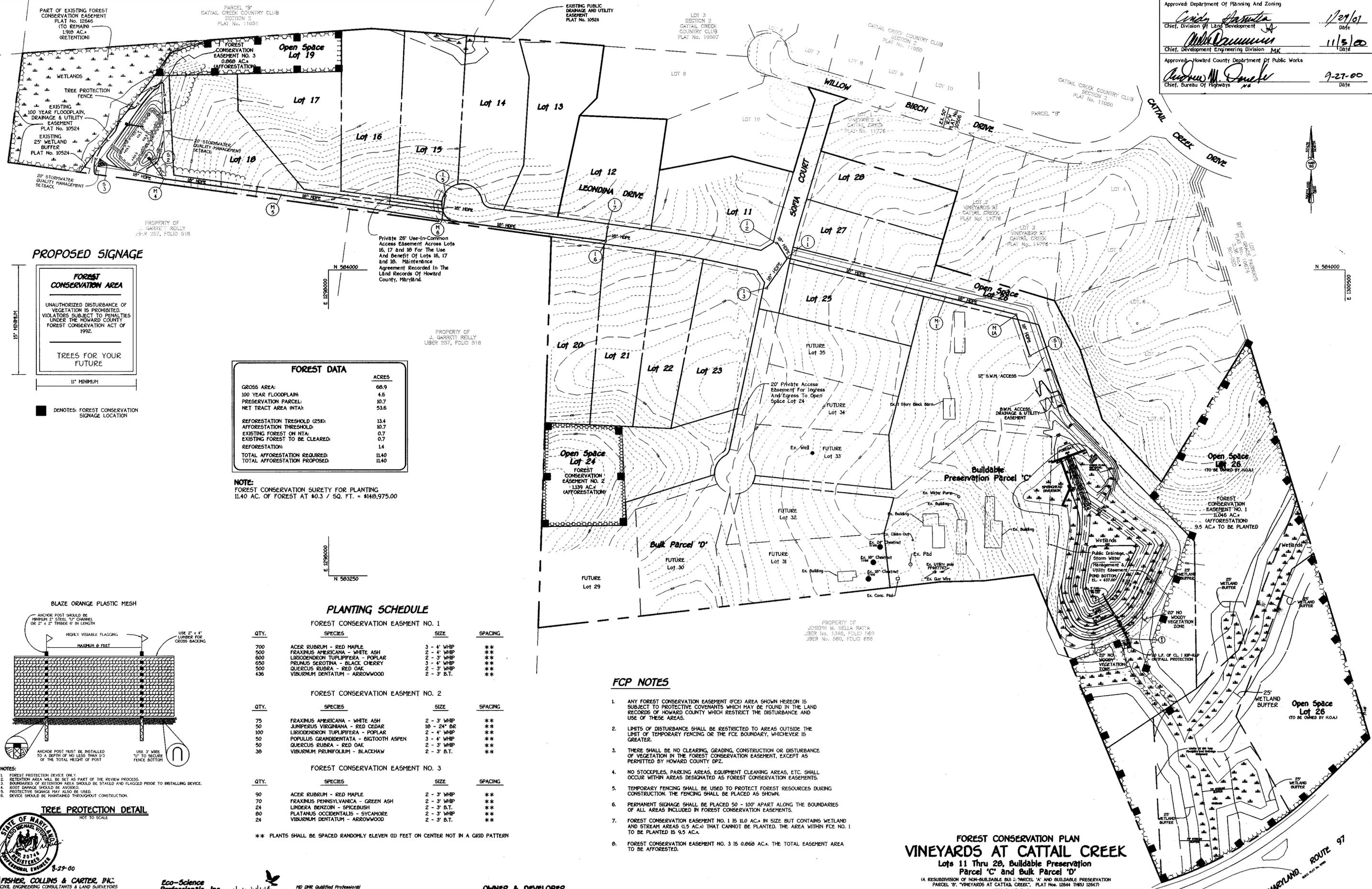
**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE  
 ELLICOTT CITY, MARYLAND 21042  
 (410) 461-2855

**OWNER & DEVELOPER**  
 MARIO F. MANNARELLI, SR.  
 MARIO F. MANNARELLI, JR.  
 2929 SUMMIT CIRCLE  
 ELLICOTT CITY, MARYLAND 21043

**VINEYARDS AT CATTAIL CREEK**  
 Lots 11 Thru 28, Buildable Preservation  
 Parcel 'C' and Bulk Parcel 'D'  
 (A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL 'A' AND BUILDABLE PRESERVATION  
 PARCEL 'B', "VINEYARDS AT CATTAIL CREEK", PLAT Nos. 12644 THRU 12647)  
 ZONED RC-DEO  
 TAX MAP NO. : 21 PART OF PARCEL NO. 225 GRID NO. : 8  
 FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 DATE: AUGUST 28, 2000  
 SHEET 1 OF 12



Approved: Department of Planning and Zoning  
*Cindy Hamstra* 1/27/01  
 Chief, Division of Land Development  
*Mike Drummond* 11/3/00  
 Chief, Development Engineering Division  
 Approved: Howard County Department of Public Works  
*Andrew M. Pomek* 9-27-00  
 Chief, Bureau of Highways



**FOREST DATA**

	ACRES
GROSS AREA:	68.9
100 YEAR FLOODPLAIN:	4.6
PRESERVATION PARCEL:	10.7
NET TRACT AREA (NTA):	53.6
REFORESTATION THRESHOLD (25%):	13.4
AFFORESTATION THRESHOLD:	10.7
EXISTING FOREST ON NTA:	0.7
EXISTING FOREST TO BE CLEARED:	0.7
REFORESTATION:	1.4
TOTAL AFFORESTATION REQUIRED:	11.40
TOTAL AFFORESTATION PROPOSED:	11.40

**NOTE:**  
 FOREST CONSERVATION SURETY FOR PLANTING  
 11.40 AC. OF FOREST AT \$0.3 / SQ. FT. = \$48,975.00

**PLANTING SCHEDULE**

FOREST CONSERVATION EASMENT NO. 1			
QTY.	SPECIES	SIZE	SPACING
700	ACER RUBRUM - RED MAPLE	3 - 4' WHIP	**
500	FRAXINUS AMERICANA - WHITE ASH	2 - 4' WHIP	**
600	LIRIODENDRON TULIPIFERA - POPLAR	2 - 3' WHIP	**
650	PRUNUS SCROTIANA - BLACK CHERRY	3 - 4' WHIP	**
500	QUERCUS RUBRA - RED OAK	2 - 3' WHIP	**
436	VIBURNUM DENTATUM - ARROWWOOD	2 - 3' B.T.	**

FOREST CONSERVATION EASMENT NO. 2			
QTY.	SPECIES	SIZE	SPACING
75	FRAXINUS AMERICANA - WHITE ASH	2 - 3' WHIP	**
50	JUNIPERUS VIRGINIANA - RED CEDAR	10 - 24" DR	**
100	LIRIODENDRON TULIPIFERA - POPLAR	2 - 4' WHIP	**
50	POPULUS GRANDIDENTATA - BIGTOOTH ASPEN	2 - 3' WHIP	**
50	QUERCUS RUBRA - RED OAK	2 - 3' WHIP	**
38	VIBURNUM PRUNIFOLIUM - BLACKHAW	2 - 3' B.T.	**

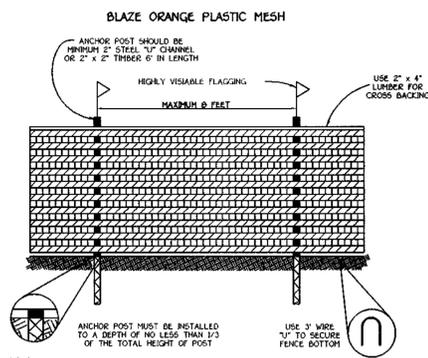
  

FOREST CONSERVATION EASMENT NO. 3			
QTY.	SPECIES	SIZE	SPACING
90	ACER RUBRUM - RED MAPLE	2 - 3' WHIP	**
70	FRAXINUS PENNSYLVANICA - GREEN ASH	2 - 3' WHIP	**
24	LINDERA BENZONI - SPICEBUSH	2 - 3' B.T.	**
80	PLATANUS OCCIDENTALIS - SYCAMORE	2 - 3' WHIP	**
24	VIBURNUM DENTATUM - ARROWWOOD	2 - 3' B.T.	**

\*\* PLANTS SHALL BE SPACED RANDOMLY ELEVEN (11) FEET ON CENTER NOT IN A GRID PATTERN

**FCP NOTES**

- ANY FOREST CONSERVATION EASEMENT (FCE) AREA SHOWN HEREON IS SUBJECT TO PROTECTIVE COVENANTS WHICH MAY BE FOUND IN THE LAND RECORDS OF HOWARD COUNTY WHICH RESTRICT THE DISTURBANCE AND USE OF THESE AREAS.
- LIMITS OF DISTURBANCE SHALL BE RESTRICTED TO AREAS OUTSIDE THE LIMIT OF TEMPORARY FENCING OR THE FCE BOUNDARY, WHICHEVER IS GREATER.
- THERE SHALL BE NO CLEARING, GRADING, CONSTRUCTION OR DISTURBANCE OF VEGETATION IN THE FOREST CONSERVATION EASEMENT, EXCEPT AS PERMITTED BY HOWARD COUNTY DPZ.
- NO STOCKPILES, PARKING AREAS, EQUIPMENT CLEANING AREAS, ETC. SHALL OCCUR WITHIN AREAS DESIGNATED AS FOREST CONSERVATION EASEMENTS.
- TEMPORARY FENCING SHALL BE USED TO PROTECT FOREST RESOURCES DURING CONSTRUCTION. THE FENCING SHALL BE PLACED AS SHOWN.
- PERMANENT SIGNAGE SHALL BE PLACED 50 - 100' APART ALONG THE BOUNDARIES OF ALL AREAS INCLUDED IN FOREST CONSERVATION EASEMENTS.
- FOREST CONSERVATION EASEMENT NO. 1 IS 11.0 AC. IN SIZE BUT CONTAINS WETLAND AND STREAM AREAS (1.5 AC.) THAT CANNOT BE PLANTED. THE AREA WITHIN FCE NO. 1 TO BE PLANTED IS 9.5 AC.
- FOREST CONSERVATION EASEMENT NO. 3 IS 0.868 AC. THE TOTAL EASEMENT AREA TO BE AFFORESTED.



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

**TREE PROTECTION DETAIL**



**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTRAL SQUARE OFFICE PARK - 1072 BALTIMORE NATIONAL PARK  
 ELICOTT CITY, MARYLAND 21042  
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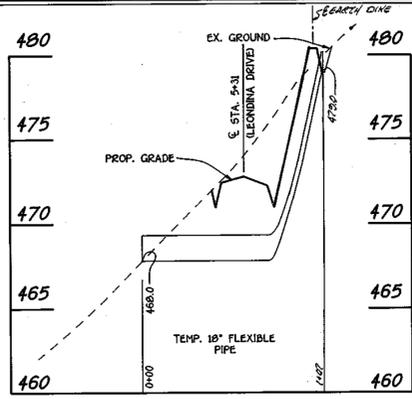
**Eco-Science Professionals, Inc.**  
 CONSULTING ECOLOGISTS

**ND DNR Qualified Professional USACE Wetland Delimitator**  
*JOHN R. CANKLES*

**OWNER & DEVELOPER**  
 MARIO F. MANNARELLI, SR.  
 MARIO F. MANNARELLI, JR.  
 2929 SUMMIT CIRCLE  
 ELICOTT CITY, MARYLAND 21043

**FOREST CONSERVATION PLAN VINEYARDS AT CATTAIL CREEK**

Lots 11 Thru 28, Buildable Preservation Parcel 'C' and Bulk Parcel 'D'  
 (A) RESUBDIVISION OF NON-BUILDABLE BULK PARCEL 'A' AND BUILDABLE PRESERVATION PARCEL 'B', "VINEYARDS AT CATTAIL CREEK", PLAT NO. 12644 THRU 12647  
 ZONED ICD-DEO  
 TAX MAP NO. 21 PART OF PARCEL NO. 225 GRID NO. B  
 FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 DATE: AUGUST 28, 2000  
 SHEET 12 OF 12



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

**NOTE:**  
EROSION CONTROL MATTING TO BE INSTALLED IN ALL ROADSIDE DITCHES AND CHANNEL FROM S-1 TO S.W.M. POND. SEE DETAIL, SHEET 5

STREET TREE SCHEDULE				
SYMBOL	QUANTITY	BOTANICAL AND COMMON NAME	SIZE	COMMENTS
○	16	ACER RUBRUM 'OCTOBER GLORY' RED MAPLE	2 1/2"-3" CAL.	40' APART ON PUBLIC R/W
○	29 THIS SHEET 35 TOTAL	PLATANUS OCCIDENTALIS 'BLOODGOOD' LONDON PLANETREE	2 1/2"-3" CAL.	40' APART ON PUBLIC R/W

STREET TREE TYPE MAY BE SUBSTITUTED WITH AN EQUIVALENT FROM THE APPROVED LIST OF STREET TREES IN THE HOWARD COUNTY LANDSCAPE MANUAL. FINANCIAL SURETY FOR THE 51 REQUIRED STREET TREES HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF (51 x \$ 300) = \$ 15,300.00

REVISIONS		
NO.	DATE	DESCRIPTION
1	11/14/01	REVISE GRADING ASSOCIATED WITH TYPICAL ROAD SECTION
2	11/16/01	REVISE STORM DRAIN 1-3 TO S-1

By The Developer:  
I/We Certify That All Development And/Or Construction Will Be Done According To These Plans, 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 Shall Engage A Registered Professional Engineer, To Supervise Pond Construction And Provide The Howard Soil Conservation District With An "As-Built" Plan Of The Pond Within 30 Days Of Completion. I Also Authorize Periodic On-Site Inspections By The Howard Soil Conservation District.

Signature of Developer: *Mario Mannarelli Jr.* Date: 10/29/99  
Printed Name of Developer: **MARIO MANNARELLI JR.**

By The Engineer:  
I Certify That This Plan For Pond Construction, Erosion And Sediment Control Represents A Practical And Workable Plan Based On My Personal Knowledge Of The Site Conditions. This Plan Was Prepared In Accordance With The Requirements Of The Howard Soil Conservation District. I Have Notified The Developer That I Must Engage A Registered Professional Engineer To Supervise Pond Construction And Provide The Howard Soil Conservation District With An "As-Built" Plan Of The Pond Within 30 Days Of Completion.

Signature of Engineer: *Alto M. Vitucci* Date: 9-27-00  
Printed Name of Engineer: **ALTO M. VITUCCI**

These Plans Have Been Reviewed By The Howard Soil Conservation District And Meet The Technical Requirements For Small Pond Construction, Soil Erosion And Sediment Control.

Signature: *John A. ...* Date: 11/16/01  
USDA Natural Resources Conservation Service

These Plans For Small Pond Construction, Soil Erosion And Sediment Control Meet The Requirements Of The Howard Soil Conservation District.

Signature: *Robert M. ...* Date: 9-27-00  
Approved Department of Public Works  
Chief, Bureau of Highways

Approved Department of Planning And Zoning

Signature: *...* Date: 11/21/01  
Chief, Division Of Land Development  
Signature: *...* Date: 11/21/01  
Chief, Development Engineering Division

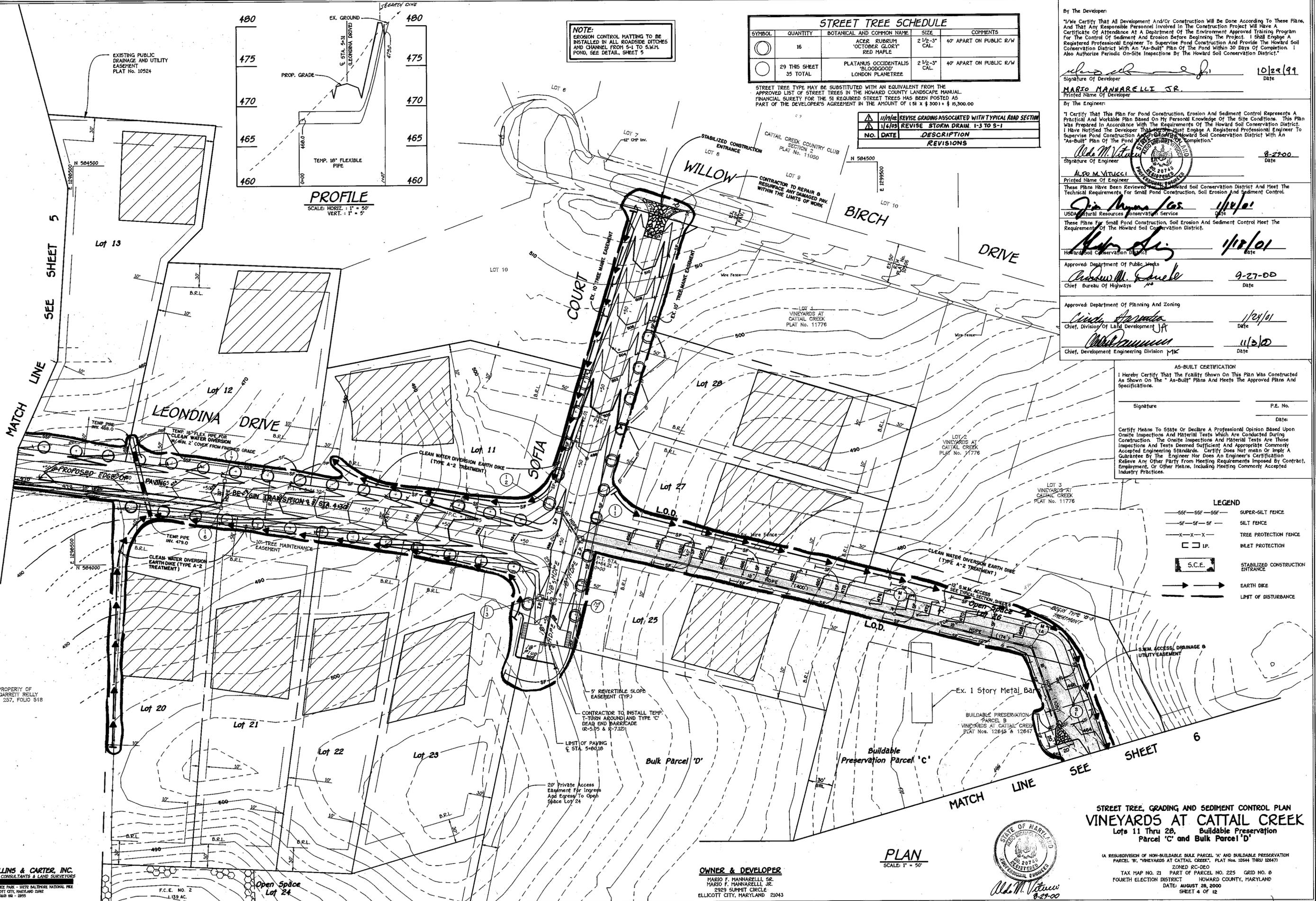
**AS-BUILT CERTIFICATION**  
I Herby Certify That The Facility Shown On This Plan Was Constructed As Shown On The "As-Built" Plans And Meets The Approved Plans And Specifications.

Signature: \_\_\_\_\_ P.E. No. \_\_\_\_\_  
Date: \_\_\_\_\_

Certify Means To State Or Declare A Professional Opinion Based Upon On-Site Inspections And Material Tests Which Are Conducted During Construction. The Onsite Inspections And Material Tests Are Those Inspections And Tests Deemed Sufficient And Appropriate Commonly Accepted Engineering Standards. Certify Does Not Mean Or 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.

**LEGEND**

- SF—SF—SF— SUPER-SILT FENCE
- SF—SF— SF SILT FENCE
- X—X—X— TREE PROTECTION FENCE
- IP. INLET PROTECTION
- ▭ S.C.E. STABILIZED CONSTRUCTION ENTRANCE
- EARTH DIKE
- LIMIT OF DISTURBANCE



**FISHER, COLLINS & CARTER, INC.**  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CENTRAL SQUARE OFFICE PARK - 10772 BALDWIN NATIONAL FREE  
ELLCOTT CITY, MARYLAND 21042  
410-484-2025

F.C.E. NO. 2  
1139 AC

**OWNER & DEVELOPER**  
MARIO F. MANNARELLI, SR.  
MARIO F. MANNARELLI, JR.  
2929 SUMMIT CIRCLE  
ELLCOTT CITY, MARYLAND 21043

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

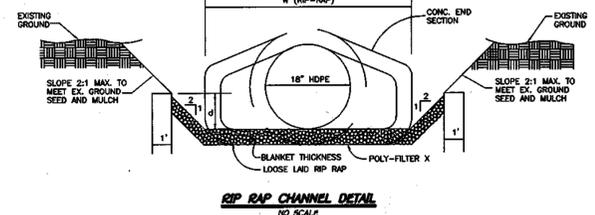
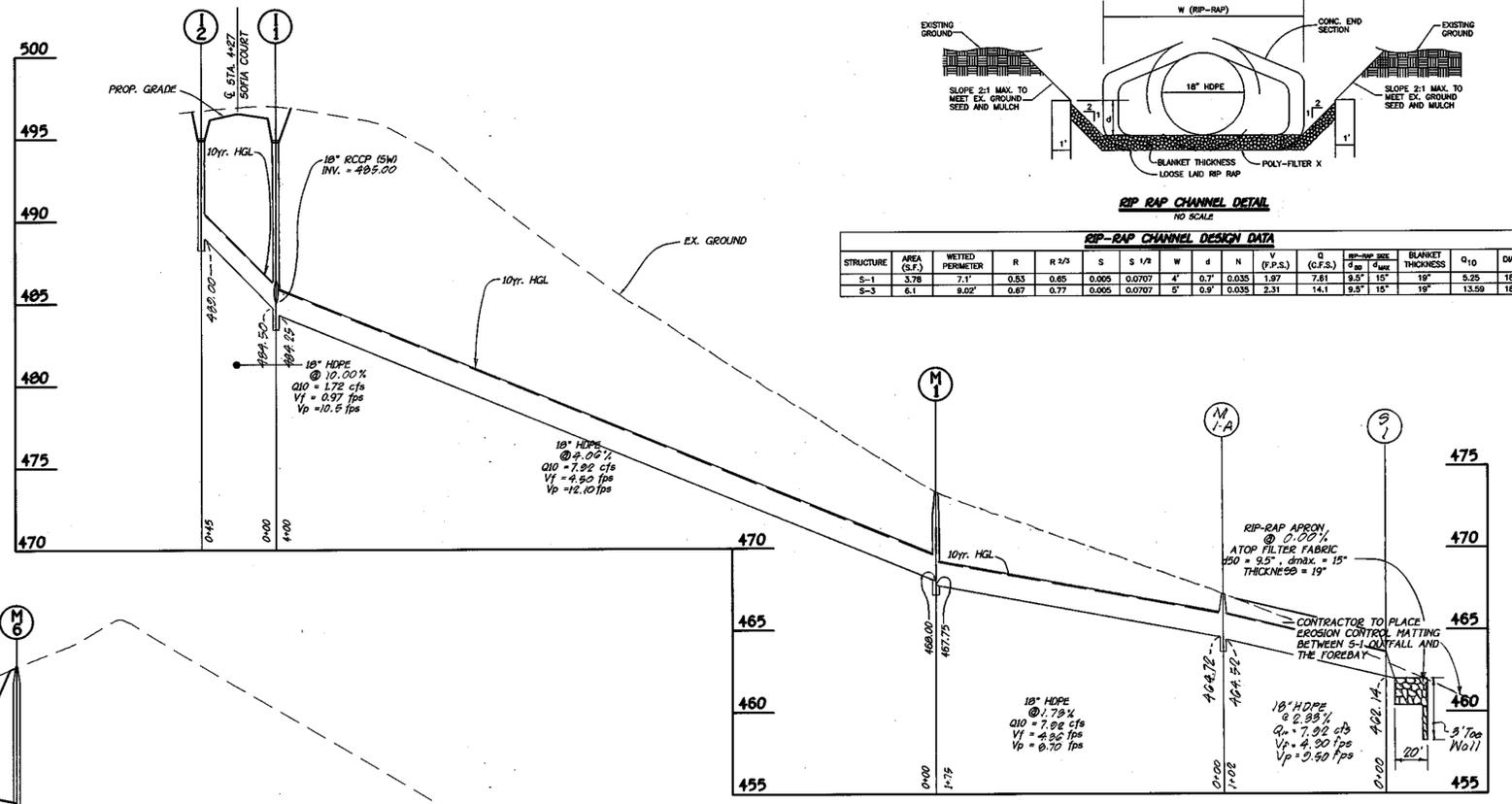


**STREET TREE, GRADING AND SEDIMENT CONTROL PLAN**  
**VINEYARDS AT CATTAIL CREEK**  
Lots 11 Thru 28, Buildable Preservation Parcel 'C' and Bulk Parcel 'D'

(A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL 'A' AND BUILDABLE PRESERVATION PARCEL 'B', 'VINEYARDS AT CATTAIL CREEK', PLAT NO. 12644 THRU 12647)  
ZONED RC-200  
TAX MAP NO. 21 PART OF PARCEL NO. 225 GRID NO. 8  
FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
DATE: AUGUST 28, 2000  
SHEET 4 OF 12

**STRUCTURE SCHEDULE**

STRUCTURE NO.	TOP ELEVATION	INV. IN	INV. OUT	ROAD NAME	ROAD STA.	OFFSET	TYPE	REMARKS
I-1	494.06	484.50	484.25	SOPIA COURT	C.L. STA. +45.24	17' L	OPEN END GRATE	S.D. 4.36 W/ S.D. 4.13
I-2	495.01	---	489.00	SOPIA COURT	C.L. STA. +413	17' R	OPEN END GRATE	S.D. 4.36 W/ S.D. 4.13
I-3	493.76	---	493.00	SOPIA COURT	C.L. STA. 5+26	17' R	OPEN END GRATE	S.D. 4.36 W/ S.D. 4.13
I-5	463.12	---	460.50	LEONIDINA DRIVE	L.P. STA. 1+48.01	6'	OPEN END GRATE	S.D. 4.36 W/ S.D. 4.13
I-6	475.03	---	470.25	LEONIDINA DRIVE	C.L. STA. +430	17' L	OPEN END GRATE	S.D. 4.36 W/ S.D. 4.13
I-7	475.03	469.75	469.50	LEONIDINA DRIVE	C.L. STA. +430	17' R	OPEN END GRATE	S.D. 4.36 W/ S.D. 4.13
M-1	473.50	468.00	467.75	---	---	---	STD. MANHOLE	G - 5.01
M-1A	467.50	---	---	---	---	---	STD. MANHOLE	G - 5.01
M-4	474.00	420.00	419.75, 416.60	---	---	---	STD. MANHOLE	G - 5.01
M-5	455.00	448.00	447.75	---	---	---	STD. MANHOLE	G - 5.01
M-6	470.00	461.00, 459.76	459.50	---	---	---	STD. MANHOLE	G - 5.01
S-1	463.64	462.14	462.14	---	---	---	CONC. END SECTION	S.D. 5.51
S-2	416.75	416.00	416.00	---	---	---	CONC. END SECTION	S.D. 5.51
S-3	407.15	405.40	405.40	---	---	---	CONC. END SECTION	S.D. 5.51
S-4	442.00	440.00	440.00	---	---	---	CONC. END SECTION	S.D. 5.51
R-1	---	---	442.00	---	---	---	CONC. RISER	---



**RIP-RAP CHANNEL DESIGN DATA**

STRUCTURE	AREA (SQ. FT.)	WETTED PERIMETER	R	R <sup>2/3</sup>	S	S <sup>1/2</sup>	W	d	N	V (FPS.)	Q (C.F.S.)	BLANKET THICKNESS	Q10	DIA.
S-1	3.78	7.1	0.85	0.65	0.005	0.0707	4'	0.7'	0.035	1.97	7.61	9.5"	15"	5.25 18"
S-3	6.1	8.02	0.87	0.77	0.005	0.0707	5'	0.9'	0.035	2.31	14.1	9.5"	15"	13.59 18"

Approved Department of Planning And Zoning  
 Chief, Division of Land Development SA  
 Chief, Development Engineering Division MK  
 Approved Howard County Department of Public Works  
 Chief, Bureau of Highways MS

1/21/01 Date  
 11/2/00 Date  
 8-27-00 Date

**CONSTRUCTION SPECIFICATIONS FOR RIP-RAP OUTFALLS**

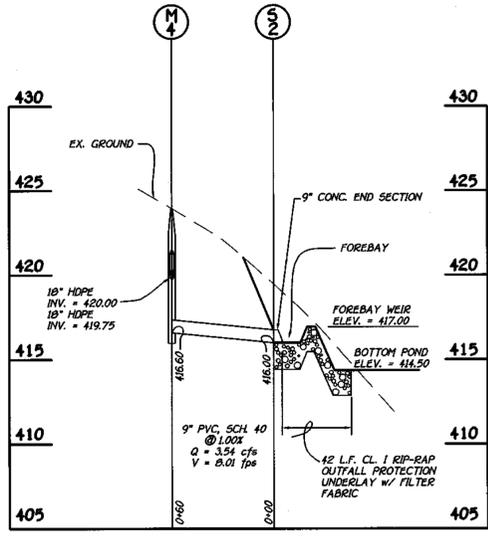
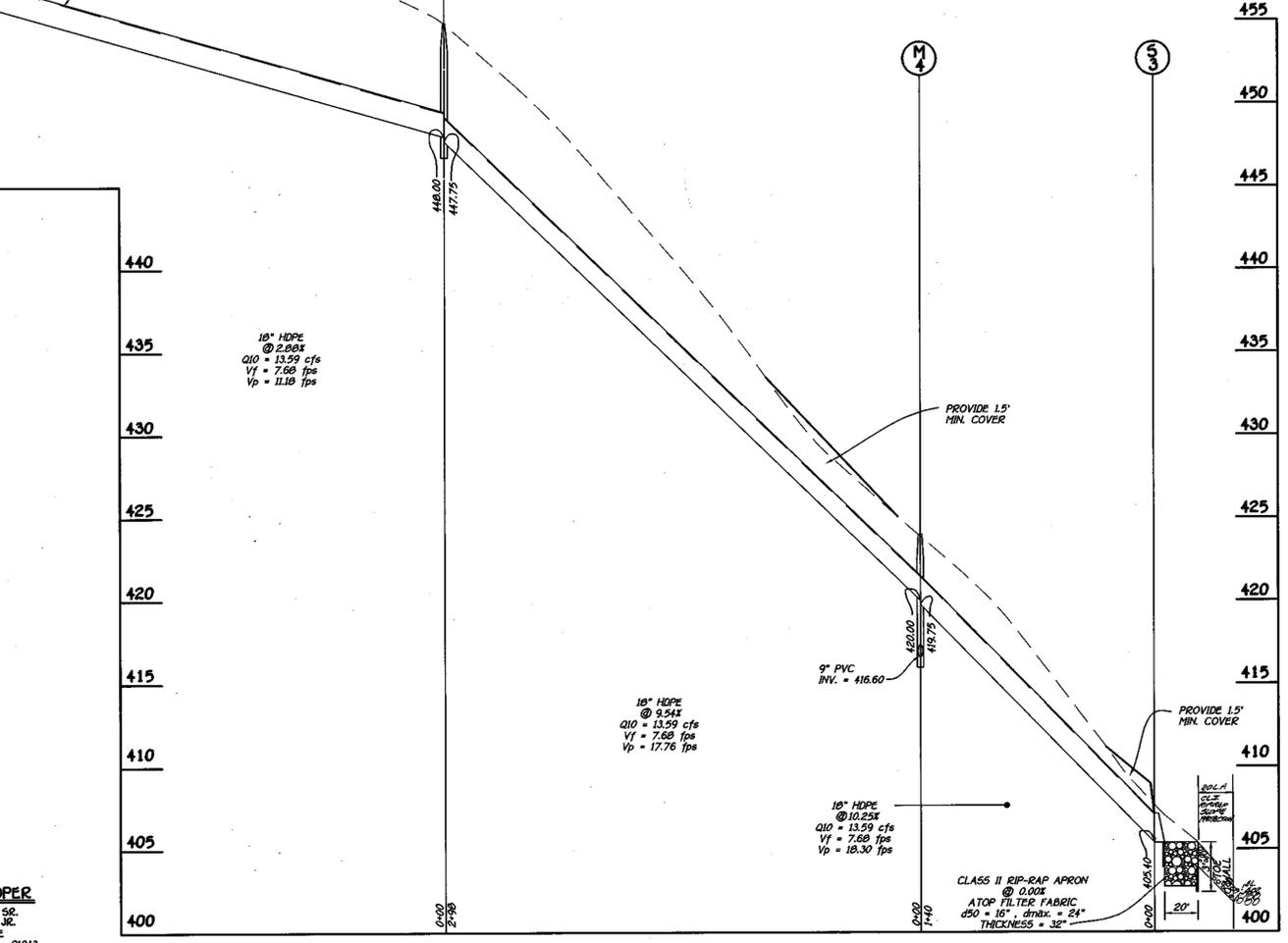
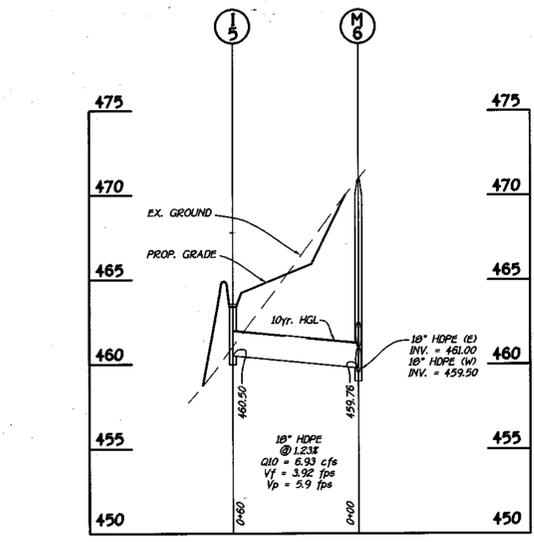
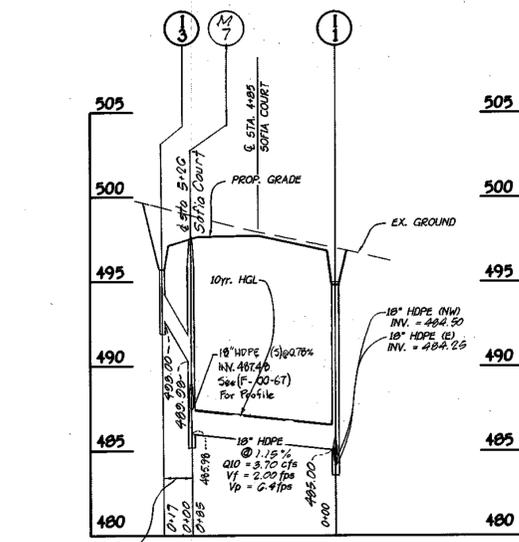
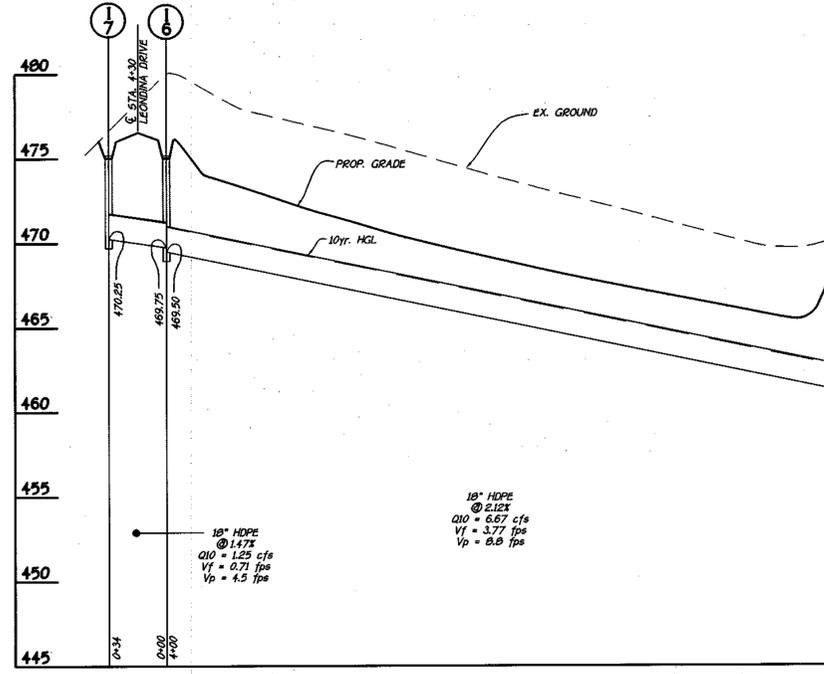
- The subgrade for the filter, riprap or gabion shall be prepared to the required fines and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.
- The rock or gravel shall conform to the specified grading limits when installed respectively in the riprap or filter.
- Filter cloth shall be protected from punching, cutting or tearing. Any damage other than an occasional small 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.
- Stones 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 material. The stones for riprap or gabion outlets shall be delivered and placed in a manner that will insure that it is reasonably homogeneous with the smaller stones and spots 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.

**REVISIONS**

NO.	DATE	DESCRIPTION
1-6-03	REVISE STORM DRAIN I-3 TO S-1	

**PIPE SCHEDULE**

SIZE	MATERIAL	LENGTH
18"	H.D.P.E.	2000'
9"	P.V.C.	60'



**STORM DRAIN PROFILES**  
**VINEYARDS AT CATTAIL CREEK**  
 Lots 11 Thru 28, Buildable Preservation Parcel 'C' and Bulk Parcel 'D'

(A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL 'A' AND BUILDABLE PRESERVATION PARCEL 'B', 'VINEYARDS AT CATTAIL CREEK', PLAT NO. 12644 THRU 12647)

TAX MAP NO. 21 PART OF PARCEL NO. 225 GRID NO. 8  
 FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 DATE: AUGUST 28, 2000  
 SHEET 7 OF 12

**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTENNIAL SQUARE OFFICE PARK 1877 BALTIMORE NATIONAL PIKE  
 ELKORT CITY, MARYLAND 21042  
 (410) 481-2855



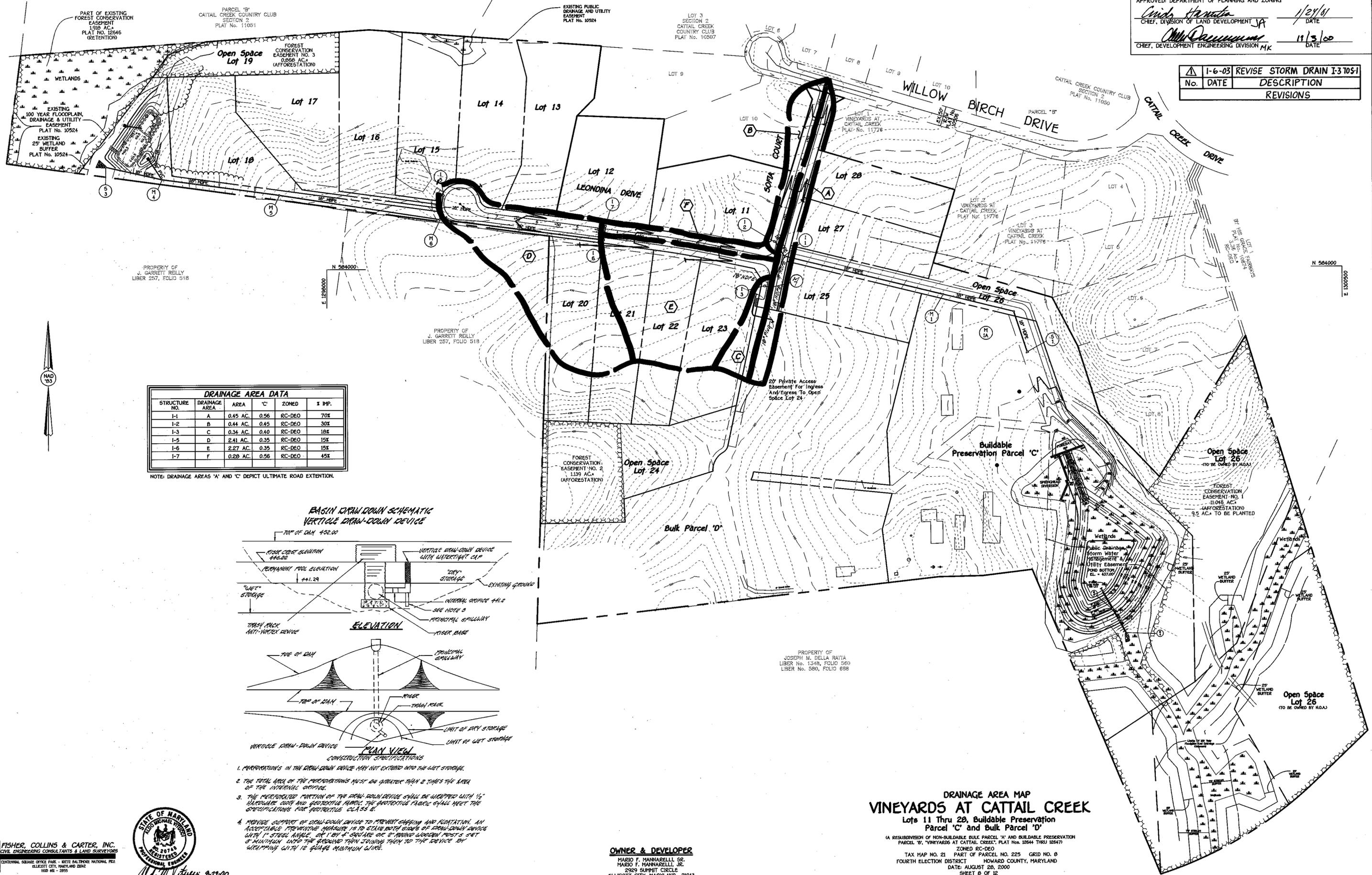
**OWNER & DEVELOPER**  
 MARIO F. MANNARELLI, SR.  
 MARIO F. MANNARELLI, JR.  
 2925 SUMMIT CIRCLE  
 ELLICOTT CITY, MARYLAND 21043

APPROVED: DEPARTMENT OF PUBLIC WORKS  
**Andrew M. Daniels** 9-27-00  
 CHIEF, BUREAU OF HIGHWAYS NO DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
**Cindy Hanata** 1/24/01  
 CHIEF, DIVISION OF LAND DEVELOPMENT SA DATE

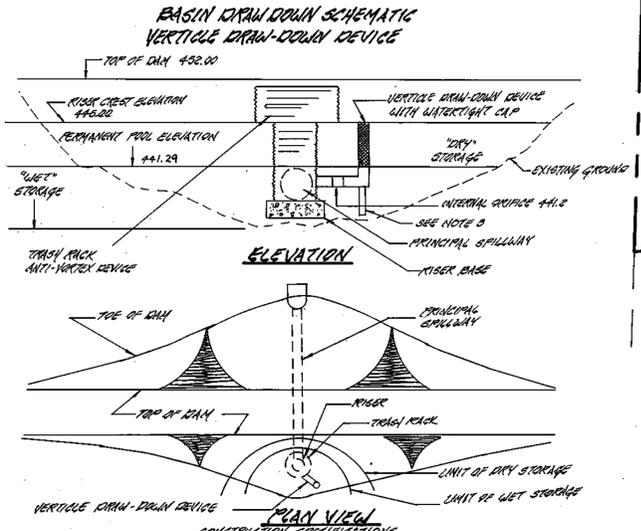
**Mike Dammann** 11/3/00  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION MK DATE

No.	DATE	DESCRIPTION
1-6-03		REVISE STORM DRAIN I-3 TO S1
REVISIONS		



STRUCTURE NO.	DRAINAGE AREA	AREA	'C'	ZONED	% IMP.
I-1	A	0.45 AC.	0.56	RC-DEO	70%
I-2	B	0.44 AC.	0.45	RC-DEO	30%
I-3	C	0.34 AC.	0.40	RC-DEO	10%
I-5	D	2.41 AC.	0.35	RC-DEO	15%
I-6	E	2.27 AC.	0.35	RC-DEO	15%
I-7	F	0.20 AC.	0.56	RC-DEO	45%

NOTE: DRAINAGE AREAS 'A' AND 'C' DEPICT ULTIMATE ROAD EXTENSION.



1. PRECIPITATIONS IN THE DRAW-DOWN DEVICE MAY NOT EXCEED INTO THE WET STORAGE.
2. THE TOTAL AREA OF THE PRECIPITATIONS MUST BE GREATER THAN 2 TIMES THE AREA OF THE INTERNAL STORAGE.
3. THE PRECIPITATED PORTION OF THE DRAW-DOWN DEVICE SHALL BE COVERED WITH 1/2" MESH SCREEN AND GEOTEXTILE FABRIC. THE GEOTEXTILE FABRIC SHALL MEET THE SPECIFICATIONS FOR GEOTEXTILE CLASS 5.
4. PROVIDE SUPPORT OF DRAW-DOWN DEVICE TO PREVENT CHIPPING AND ROTATION. AN ACCEPTABLE PREVENTIVE MEASURE IS TO SCALE BOTH SIDES OF DRAW-DOWN DEVICE WITH A STEEL ANGLE. SET 1/2" BY 1/2" SQUARES ON 2' SPACING ALONG SIDES. SET 3" MINIMUM INTO THE GROUND THEN STAPLING THEM TO THE DEVICE BY WHIPPING WITH 1/2" SQUARE MINIMUM WIRE.

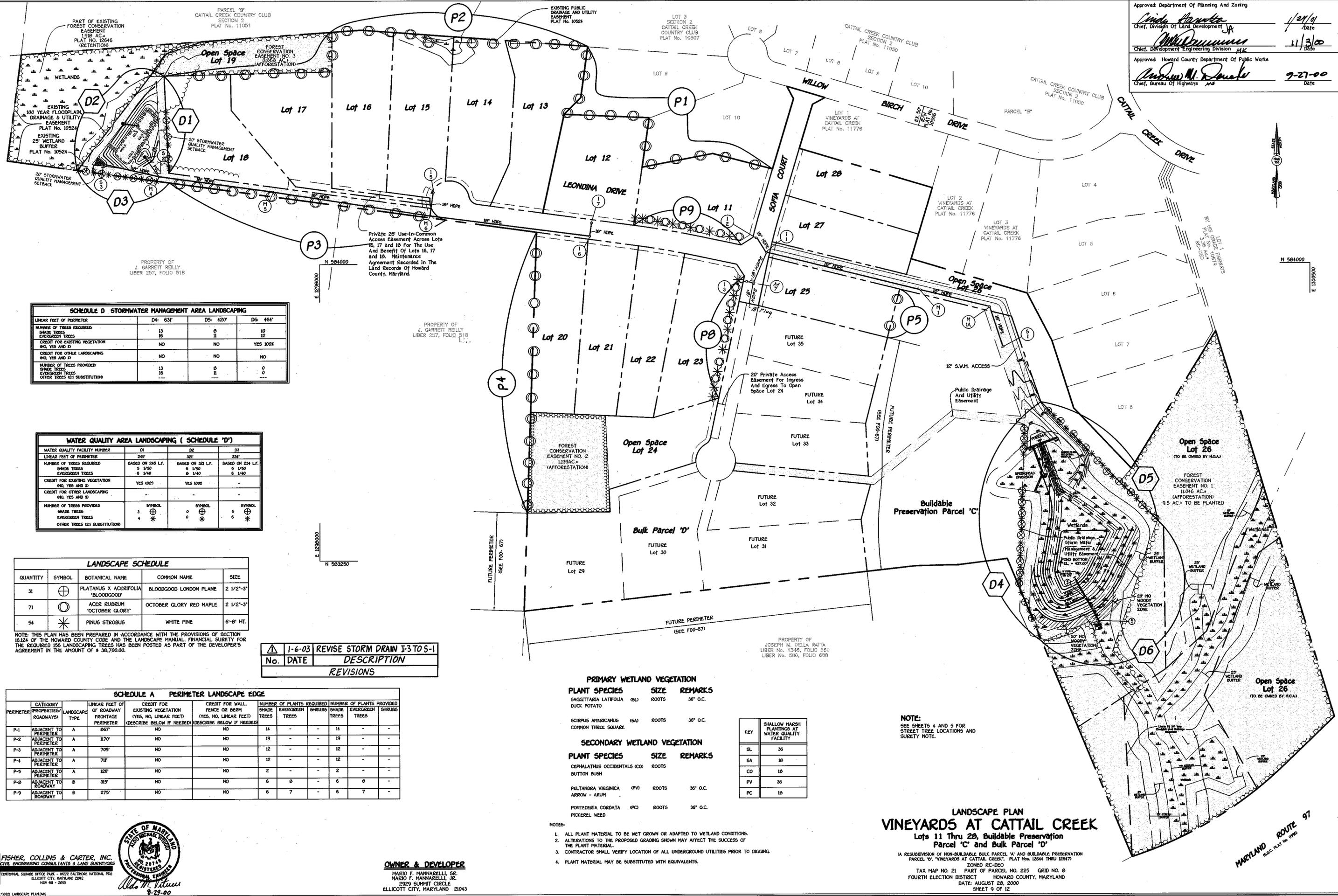


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 ELICOTT CITY, MARYLAND 21042  
 410.461.2925

OWNER & DEVELOPER  
 MARIO F. MANNARELLI, SR.  
 MARIO F. MANNARELLI, JR.  
 2929 SUMMIT CIRCLE  
 ELICOTT CITY, MARYLAND 21043

DRAINAGE AREA MAP  
**VINEYARDS AT CATTAIL CREEK**  
 Lots 11 Thru 28, Buildable Preservation Parcel 'C' and Bulk Parcel 'D'  
 (A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL 'A' AND BUILDABLE PRESERVATION PARCEL 'B', VINEYARDS AT CATTAIL CREEK, PLAT NO. 12644 THRU 12647)  
 ZONED RC-DEO  
 TAX MAP NO. 21 PART OF PARCEL NO. 225 GRID NO. 8  
 FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 DATE: AUGUST 28, 2000  
 SHEET 8 OF 12

Approved: Department of Planning And Zoning  
*Andy Handley* 1/21/01  
 Chief, Division Of Land Development  
 Approved: Chief, Development Engineering Division *MK* 11/3/00  
 Approved: Howard County Department of Public Works  
*Andrew M. D'Amico* 9-27-00  
 Chief, Bureau Of Highways



**SCHEDULE D STORMWATER MANAGEMENT AREA LANDSCAPING**

LINEAR FEET OF PERIMETER	D4: 631'	D5: 420'	D6: 464'
NUMBER OF TREES REQUIRED	13	8	10
SHADE TREES	16	11	12
EVERGREEN TREES			
CREDIT FOR EXISTING VEGETATION (NO, YES AND #)	NO	NO	YES 100%
CREDIT FOR OTHER LANDSCAPING (NO, YES AND #)	NO	NO	NO
NUMBER OF TREES PROVIDED	13	8	0
SHADE TREES	16	11	0
EVERGREEN TREES			
OTHER TREES (2:1 SUBSTITUTION)			

**WATER QUALITY AREA LANDSCAPING ( SCHEDULE 'D')**

WATER QUALITY FACILITY NUMBER	D1	D2	D3
LINEAR FEET OF PERIMETER	245'	321'	234'
NUMBER OF TREES REQUIRED	BASED ON 245 L.F.	BASED ON 321 L.F.	BASED ON 234 L.F.
SHADE TREES	5 1/50	8 1/50	5 1/50
EVERGREEN TREES	8 1/40	8 1/40	6 1/40
CREDIT FOR EXISTING VEGETATION (NO, YES AND #)	YES 100%	YES 100%	
CREDIT FOR OTHER LANDSCAPING (NO, YES AND #)			
NUMBER OF TREES PROVIDED			
SHADE TREES	3	0	5
EVERGREEN TREES	4	0	6
OTHER TREES (2:1 SUBSTITUTION)			

**LANDSCAPE SCHEDULE**

QUANTITY	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE
31	⊕	PLATANUS X ACERIFOLIA "BLOODGOOD"	BLOODGOOD LONDON PLANE	2 1/2"-3"
71	⊙	ACER RUBRUM "OCTOBER GLORY"	OCTOBER GLORY RED MAPLE	2 1/2"-3"
54	*	PINUS STROBUS	WHITE PINE	6'-8' HT.

NOTE: 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 REQUIRED 15% LANDSCAPING TREES HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$ 30,700.00.

**REVISIONS**

No.	DATE	DESCRIPTION
1-6-03		REVISE STORM DRAIN I-3 TO S-1

**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)	NUMBER OF PLANTS REQUIRED			NUMBER OF PLANTS PROVIDED		
						SHADE TREES	EVERGREEN TREES	SHRUBS	SHADE TREES	EVERGREEN TREES	SHRUBS
P-1	ADJACENT TO PERIMETER	A	867'	NO	NO	14	-	-	14	-	-
P-2	ADJACENT TO PERIMETER	A	1170'	NO	NO	19	-	-	19	-	-
P-3	ADJACENT TO PERIMETER	A	705'	NO	NO	12	-	-	12	-	-
P-4	ADJACENT TO PERIMETER	A	711'	NO	NO	12	-	-	12	-	-
P-5	ADJACENT TO PERIMETER	A	126'	NO	NO	2	-	-	2	-	-
P-8	ADJACENT TO ROADWAY	B	385'	NO	NO	6	8	-	6	8	-
P-9	ADJACENT TO ROADWAY	B	275'	NO	NO	6	7	-	6	7	-

**PRIMARY WETLAND VEGETATION**

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

**SECONDARY WETLAND VEGETATION**

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

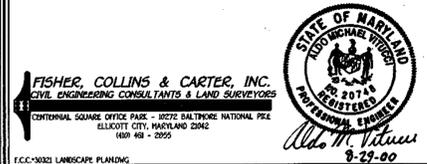
**KEY**

SL	36
SA	18
CO	18
PV	36
PC	18

- NOTES:
- ALL PLANT MATERIAL TO BE WET GROWN OR ADAPTED TO WETLAND CONDITIONS.
  - ALTERATIONS TO THE PROPOSED GRADING SHOWN MAY AFFECT THE SUCCESS OF THE PLANT MATERIAL.
  - CONTRACTOR SHALL VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO DIGGING.
  - PLANT MATERIAL MAY BE SUBSTITUTED WITH EQUIVALENTS.

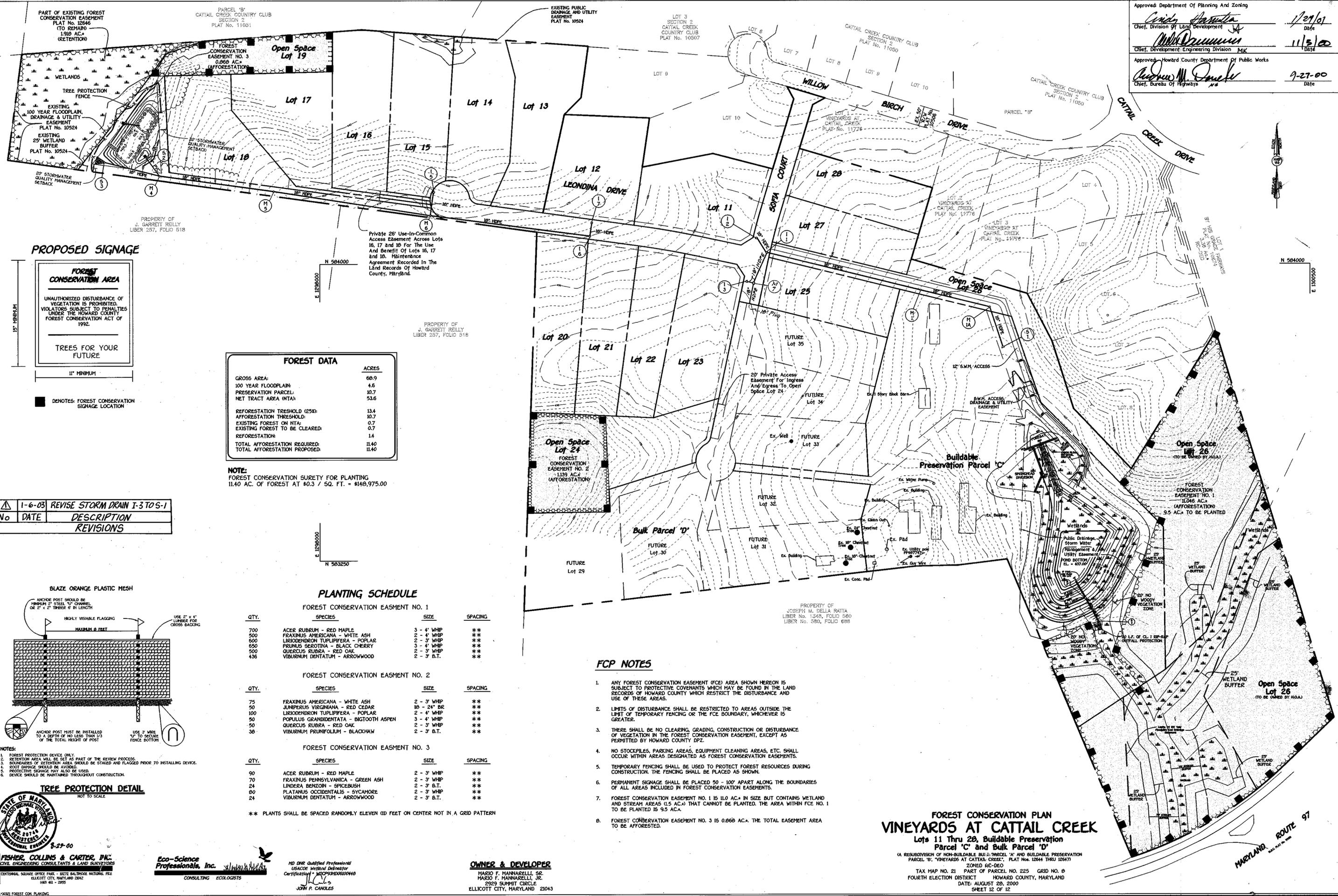
**LANDSCAPE PLAN**  
**VINEYARDS AT CATTAIL CREEK**  
 Lots 11 Thru 28, Buildable Preservation Parcel 'C' and Bulk Parcel 'D'

(A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL 'A' AND BUILDABLE PRESERVATION PARCEL 'B', VINEYARDS AT CATTAIL CREEK, PLAT NO. 12644 THRU 12647)  
 ZONED RC-DEO  
 TAX MAP NO. 21 PART OF PARCEL NO. 225 GRID NO. 8  
 FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 DATE: AUGUST 28, 2000  
 SHEET 9 OF 12

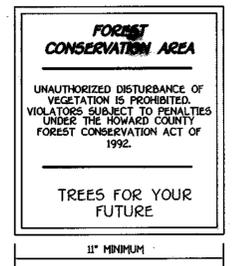


**OWNER & DEVELOPER**  
 MARIO F. MANNARELLI, SR.  
 MARIO F. MANNARELLI, JR.  
 2929 SUMMIT CIRCLE  
 ELICOTT CITY, MARYLAND 21043

Approved Department of Planning and Zoning  
*Chris Harvill* 1/29/01  
 Chief, Division of Land Development  
*Mike Drummond* 11/13/00  
 Chief, Development Engineering Division  
 Approved Howard County Department of Public Works  
*Andrew M. Smith* 9-27-00  
 Chief, Bureau of Highways



**PROPOSED SIGNAGE**



FOREST DATA	
	ACRES
GROSS AREA:	68.9
100 YEAR FLOODPLAIN:	4.6
PRESERVATION PARCEL:	10.7
NET TRACT AREA (NTA):	53.6
REFORESTATION THRESHOLD (25%):	13.4
AFFORESTATION THRESHOLD:	10.7
EXISTING FOREST ON NTA:	0.7
EXISTING FOREST TO BE CLEARED:	0.7
REFORESTATION:	1.4
TOTAL AFFORESTATION REQUIRED:	11.40
TOTAL AFFORESTATION PROPOSED:	11.40

**NOTE:**  
 FOREST CONSERVATION SURETY FOR PLANTING  
 11.40 AC. OF FOREST AT \$0.3 / SQ. FT. = \$140,975.00

No	DATE	DESCRIPTION
1-6-03		REVISE STORM DRAIN I-3 TO S-1
		REVISIONS

**PLANTING SCHEDULE**

FOREST CONSERVATION EASEMENT NO. 1			
QTY.	SPECIES	SIZE	SPACING
700	ACER RUBRUM - RED MAPLE	3 - 4' WHIP	**
500	FRAXINUS AMERICANA - WHITE ASH	2 - 4' WHIP	**
100	LIRIODENDRON TUPLIFIFERA - POPLAR	2 - 3' WHIP	**
650	PRUNUS SEROTINA - BLACK CHERRY	3 - 4' WHIP	**
500	QUERCUS RUBRA - RED OAK	2 - 3' WHIP	**
436	VIBURNUM DENTATUM - ARROWWOOD	2 - 3' B.T.	**
FOREST CONSERVATION EASEMENT NO. 2			
QTY.	SPECIES	SIZE	SPACING
75	FRAXINUS AMERICANA - WHITE ASH	2 - 3' WHIP	**
50	JUNIPERUS VIRGINIANA - RED CEDAR	10 - 24" BR	**
100	LIRIODENDRON TUPLIFIFERA - POPLAR	2 - 4' WHIP	**
50	POPULUS GRANDIDENTATA - BIGTOOTH ASPEN	3 - 4' WHIP	**
50	QUERCUS RUBRA - RED OAK	2 - 3' WHIP	**
36	VIBURNUM PRUNIFOLIUM - BLACKHAW	2 - 3' B.T.	**
FOREST CONSERVATION EASEMENT NO. 3			
QTY.	SPECIES	SIZE	SPACING
90	ACER RUBRUM - RED MAPLE	2 - 3' WHIP	**
70	FRAXINUS PENNSYLVANICA - GREEN ASH	2 - 3' WHIP	**
24	LINDERA BENZONIN - SPICEBUSH	2 - 3' B.T.	**
80	PLATANUS OCCIDENTALIS - SYCAMORE	2 - 3' WHIP	**
24	VIBURNUM DENTATUM - ARROWWOOD	2 - 3' B.T.	**

\*\* PLANTS SHALL BE SPACED RANDOMLY ELEVEN (11) FEET ON CENTER NOT IN A GRID PATTERN

**FCP NOTES**

- ANY FOREST CONSERVATION EASEMENT (FCE) AREA SHOWN HEREON IS SUBJECT TO PROTECTIVE COVENANTS WHICH MAY BE FOUND IN THE LAND RECORDS OF HOWARD COUNTY WHICH RESTRICT THE DISTURBANCE AND USE OF THESE AREAS.
- LIMITS OF DISTURBANCE SHALL BE RESTRICTED TO AREAS OUTSIDE THE LIMIT OF TEMPORARY FENCING OR THE FCE BOUNDARY, WHICHEVER IS GREATER.
- THERE SHALL BE NO CLEARING, GRADING, CONSTRUCTION OR DISTURBANCE OF VEGETATION IN THE FOREST CONSERVATION EASEMENT, EXCEPT AS PERMITTED BY HOWARD COUNTY DPZ.
- NO STOCKPILES, PARKING AREAS, EQUIPMENT CLEANING AREAS, ETC. SHALL OCCUR WITHIN AREAS DESIGNATED AS FOREST CONSERVATION EASEMENTS.
- TEMPORARY FENCING SHALL BE USED TO PROTECT FOREST RESOURCES DURING CONSTRUCTION. THE FENCING SHALL BE PLACED AS SHOWN.
- PERMANENT SIGNAGE SHALL BE PLACED 50 - 100' APART ALONG THE BOUNDARIES OF ALL AREAS INCLUDED IN FOREST CONSERVATION EASEMENTS.
- FOREST CONSERVATION EASEMENT NO. 1 IS 11.0 AC. IN SIZE BUT CONTAINS WETLAND AND STREAM AREAS (1.5 AC.) THAT CANNOT BE PLANTED. THE AREA WITHIN FCE NO. 1 TO BE PLANTED IS 9.5 AC.
- FOREST CONSERVATION EASEMENT NO. 3 IS 0.868 AC. THE TOTAL EASEMENT AREA TO BE AFFORESTED.

**FOREST CONSERVATION PLAN  
 VINEYARDS AT CATTAIL CREEK**

Lots 11 Thru 28, Buildable Preservation Parcel 'C' and Bulk Parcel 'D'  
 (A RESUBDIVISION OF NON-BUILDABLE BUILDING PARCEL 'A' AND BUILDABLE PRESERVATION PARCEL 'B', 'VINEYARDS AT CATTAIL CREEK', PLAT NO. 12844 THRU 12847)  
 ZONED RC-DEO  
 TAX MAP NO. 21 PART OF PARCEL NO. 225 GRID NO. B  
 FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 DATE: AUGUST 28, 2000  
 SHEET 12 OF 12



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 ELLICOTT CITY, MARYLAND 21114  
 410-461-2900

**Eco-Science Professionals, Inc.**  
 CONSULTING ECOLOGISTS  
 10000 WOODBURN ROAD  
 ELICOTT CITY, MARYLAND 21117  
 410-461-2900

MD ENR Qualified Professional  
 USACOC Wetland Delimiter  
 Certification # MD0033000004048  
*John P. Canoles*  
 JOHN P. CANOLES

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