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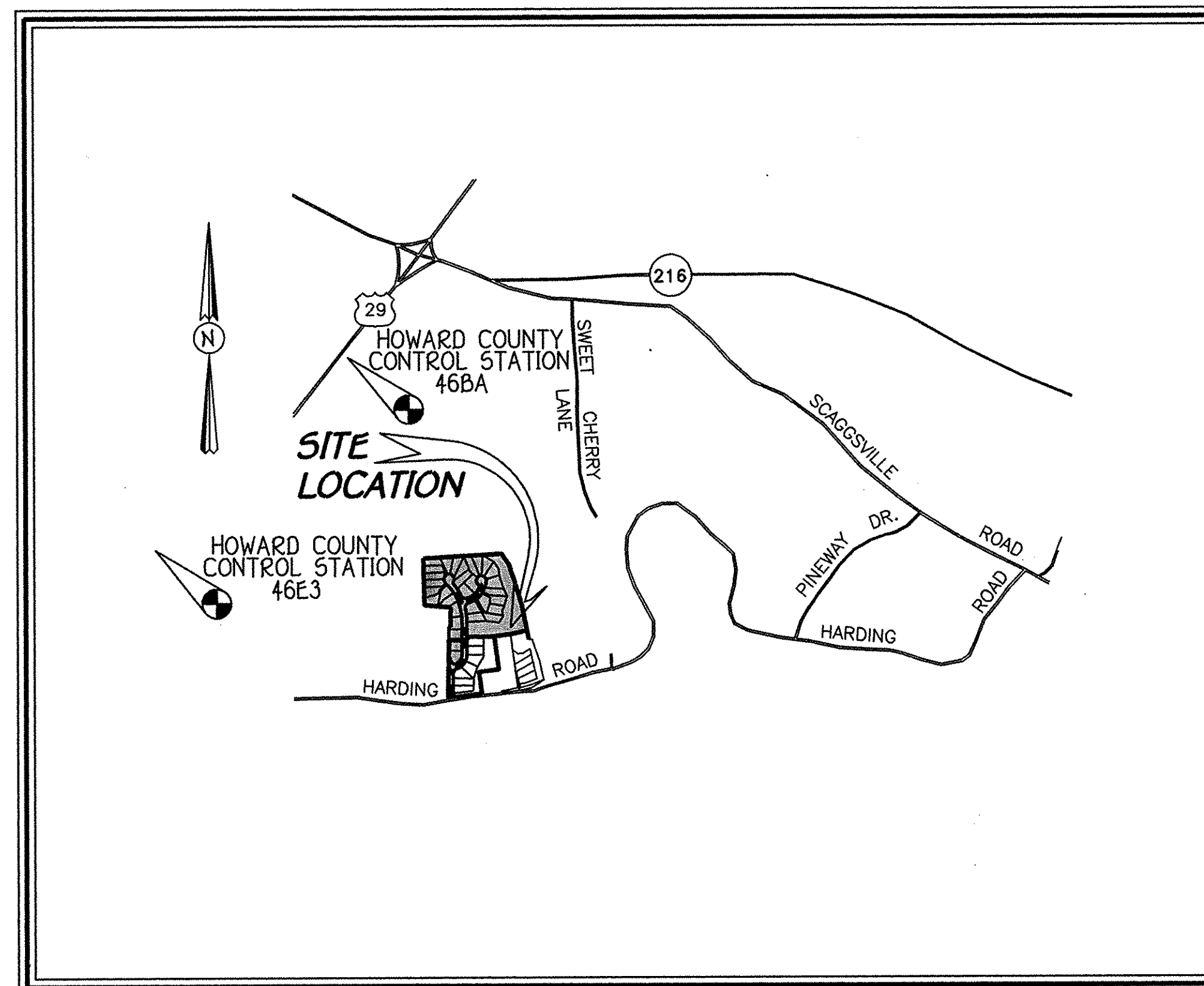
# FINAL ROAD CONSTRUCTION, STORM DRAIN PLANS AND STORMWATER MANAGEMENT PLANS CHERRY CREEK OVERLOOK

APPROVED: DEPARTMENT OF PUBLIC WORKS CHIEF, BUREAU OF HIGHWAYS	<i>Richard M. Jankel</i>	2-5-98	DATE
APPROVED: DEPARTMENT OF PLANNING AND ZONING CHIEF, DIVISION OF LAND DEVELOPMENT	<i>Cindy Hamilton</i>	2/19/98	DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION	<i>Mark Dammann</i>	2/19/98	DATE

## SECTION ONE AREA TWO LOTS 5 THRU 45 TAX MAP NO. 46 PARCELS 66 & 67 SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

STREET LIGHT CHART				
DWG. No.	STREET NAME	STATION	OFF-SET	FIXTURE/POLE TYPE
2	FLOWERING CHERRY LANE	2+89	15R	100-WATT "TRADITIONAIRE" HPS VAPOR POST TOP FIXTURE ON A 14-FOOT BLACK FIBERGLASS POLE
3	WATER FALL DRIVE	1+99	15R	100-WATT "TRADITIONAIRE" HPS VAPOR POST TOP FIXTURE ON A 14-FOOT BLACK FIBERGLASS POLE
2	HIDDEN POOL COURT	2+78	19L	100-WATT "TRADITIONAIRE" HPS VAPOR POST TOP FIXTURE ON A 14-FOOT BLACK FIBERGLASS POLE
2	FLOWERING CHERRY LANE	0+30	16R	150-WATT HPS VAPOR PENDANT FIXTURE (CUTOFF) MOUNTED ON A 30-FOOT BRONZE FIBERGLASS POLE USING A 12' ARM
3	WATER FALL DRIVE	6+95	17R	100-WATT "TRADITIONAIRE" HPS VAPOR POST TOP FIXTURE ON A 14-FOOT BLACK FIBERGLASS POLE
3	WATER FALL DRIVE	L.P. 0+98	3L	100-WATT "TRADITIONAIRE" HPS VAPOR POST TOP FIXTURE ON A 14-FOOT BLACK FIBERGLASS POLE

TRAFFIC CONTROL SIGNS				
STREET NAME	STATION	OFFSET	POSTED SIGN	SIGN CODE
FLOWERING CHERRY LANE	0+30	17L	STOP SIGN	R1-1
FLOWERING CHERRY LANE	2+70	21R	STREET SIGN	
WATER FALL DRIVE	0+35	14L	STOP	R1-1
WATER FALL DRIVE	0+17	25R	STREET SIGN	
WATER FALL DRIVE	1+50	16R	SPEED LIMIT	R2-1
WATER FALL DRIVE	1+90	16L	STOP AHEAD	W3-12
HIDDEN POOL COURT	0+47	17L	STOP	R1-1



VICINITY MAP  
SCALE: 1" = 600'

### GENERAL NOTES

- UNLESS OTHERWISE NOTED, ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE FOLLOWING:
  - HOWARD COUNTY STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION.
  - MARYLAND STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, AS AMENDED.
  - SOIL CONSERVATION SERVICE 1983 MARYLAND STANDARD AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
  - SOIL CONSERVATION SERVICE 1993 MARYLAND STANDARDS AND SPECIFICATIONS FOR POND CONSTRUCTION (CODE 378).
- 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.
- THE CONTRACTOR SHALL NOTIFY "THE UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION.
- TOPOGRAPHY SHOWN HEREON WAS PREPARED BY JOHN C. MELLEMA, INC. ON OCTOBER 1996.
- THE HORIZONTAL AND VERTICAL DATUM SHOWN IS BASED ON THE FOLLOWING NAD83 HOWARD COUNTY CONTROL STATIONS:
 

HOWARD COUNTY MONUMENT NO. 46E3	N 163254.4726 (METERS)	ELEV. = 410.06
	E 407801.1581 (METERS)	
HOWARD COUNTY MONUMENT NO. 46E4	N 163644.2398 (METERS)	ELEV. = 426.45
	E 408386.8130 (METERS)	
- THE 100 YR. FLOODPLAIN SHOWN ON THESE PLANS IS BASED ON THE FLOODPLAIN STUDY THAT WAS PREPARED BY FISHER, COLLINS & CARTER, INC. FOR THE CHERRY CREEK SUBDIVISION F-92-122.
- THE WETLANDS STUDY WAS PREPARED BY ECO-SCIENCE PROFESSIONALS ON OCTOBER 1996.
- THE SOILS INVESTIGATION REPORT WAS PREPARED BY I.T.E. INC. ON DECEMBER 2, 1996.
- THE PRELIMINARY EQUIVALENT SKETCH PLAN SP-97-05 WAS APPROVED ON 3/24/97.
- 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.
- 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)." A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.
- PUBLIC WATER AND PUBLIC SEWER SHALL BE UTILIZED WITHIN THIS DEVELOPMENT.
- SECTION 16.116(a) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS PROHIBITS CLEARING, GRADING OR CONSTRUCTION ACTIVITY WITHIN THE WETLAND OR STREAM BANK BUFFERS. WATER WETLAND APPROVED FOR GRADING WITHIN THE STREAM BUFFER.
- A SITE DISTANCE ANALYSIS AT THE INTERSECTION OF HARDING ROAD AND PROPOSED FLOWERING CHERRY LANE WAS PREPARED BY MARKS & VOGEL, ASSOCIATES, INC. AND APPROVED BY HOWARD COUNTY DEVELOPMENT ENGINEERING DIVISION ON DECEMBER 10, 1997.

ROAD CLASSIFICATION CHART		
ROAD NAME	CLASSIFICATION	R/W WIDTH
FLOWERING CHERRY LA.	LOCAL ROAD	50'
WATER FALL DRIVE	CUL-DE-SAC	50'
HIDDEN POOL COURT	CUL-DE-SAC	50'

## CHERRY CREEK OVERLOOK

SECTION ONE AREA TWO  
LOTS 5 THRU 43

ZONED: R-20  
TAX MAP No. 46 PARCELS 66 and 67  
SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN DATE: JANUARY 14, 1998  
SHEET 1 OF 16

FISHER, COLLINS & CARTER, INC.  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CENTRAL SQUARE OFFICE PARK - 10722 BALTIMORE NATIONAL PIKE  
ELLICOTT CITY, MARYLAND 21114  
(410) 481-2899

No.	DESCRIPTION	DATE
1	REVISE FLOWERING CHERRY TO CURB & GUTTER	3-26-98
REVISIONS		

DEVELOPER  
BARNES PROPERTY, LLC  
C/O LAND DESIGN & DEVELOPMENT, INC.  
10605 HICKORY RIDGE ROAD  
COLUMBIA, MARYLAND 21044

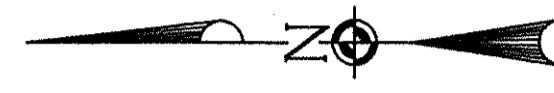
OWNER  
MR. AND MRS. JOSEPH BARNES  
1110 HARDING ROAD  
LAUREL, MARYLAND 20723

OWNER  
MR. AND MRS. DAVID COON  
ROUTE 1, BOX 255 E  
BURLINGTON, WEST VIRGINIA 25710

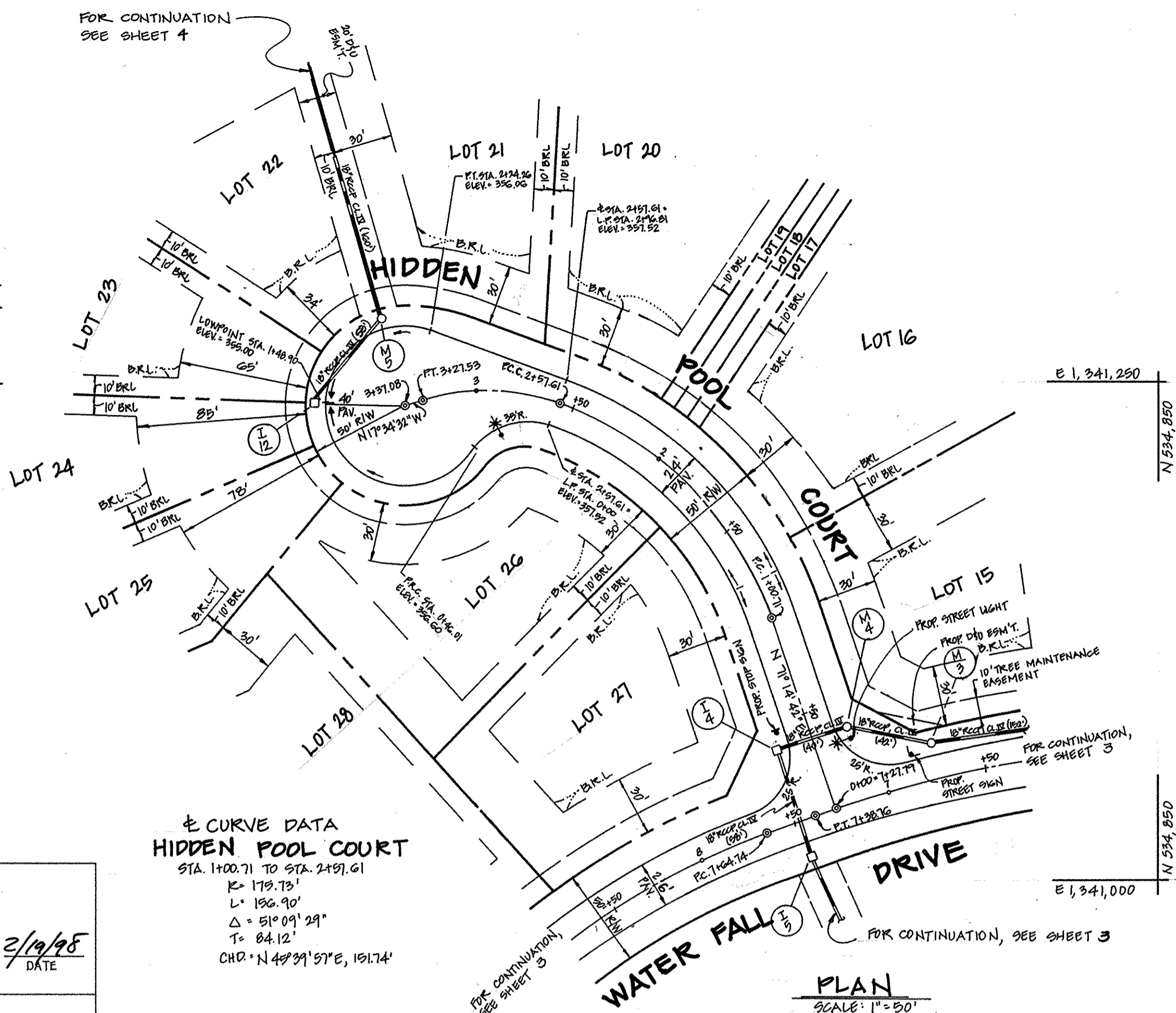


*Richard M. Jankel*





± CURVE DATA  
HIDDEN POOL COURT  
STA. 2497.61 TO STA. 2497.93  
K = 106.37  
L = 69.92  
Δ = 37° 31' 48"  
T = 36.28  
CHD = N 01° 19' 20" E, 60.67'



± CURVE DATA  
HIDDEN POOL COURT  
STA. 1400.71 TO STA. 2497.61  
K = 179.73  
L = 192.90  
Δ = 51° 09' 29"  
T = 84.12  
CHD = N 49° 31' 57" E, 191.74'

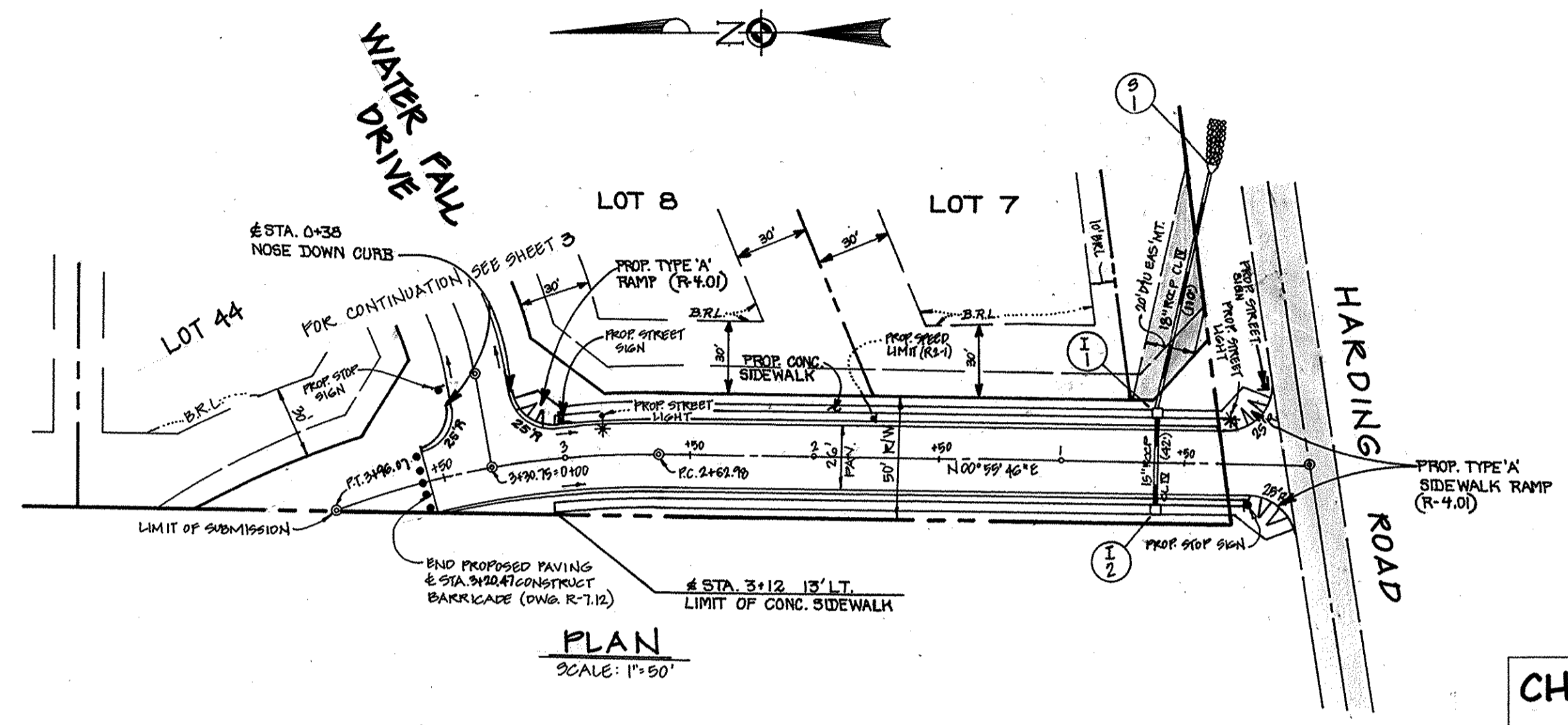
PLAN  
SCALE: 1" = 50'

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*Cindy Hamilton* 2/19/98  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*William Dammann* 2/5/98  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Andrew M. Daulton* 2-5-98  
CHIEF, BUREAU OF HIGHWAYS DATE

No.	REVISIONS	DATE
1	REVISE FLOWERING CHERRY TO CURB & GUTTER	2-28-98



± CURVE DATA  
FLOWERING CHERRY LANE  
STA. 2462.78 TO STA. 2496.07  
K = 350.00  
L = 193.09  
Δ = 21° 47' 12"  
T = 67.36  
CHD = N 09° 57' 50" W, 192.21'

PLAN  
SCALE: 1" = 50'

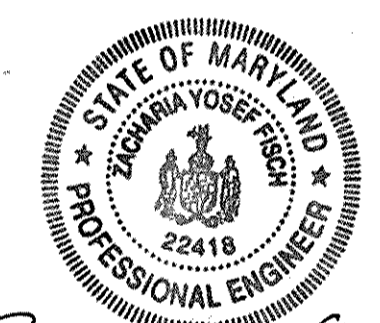
**CHERRY CREEK OVERLOOK**  
SECTION ONE AREA TWO  
LOTS 5-45  
TAX MAP #46 PARCELS 66-1-67  
6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

**HIDDEN POOL COURT & FLOWERING CHERRY COURT**  
PLAN AND PROFILE

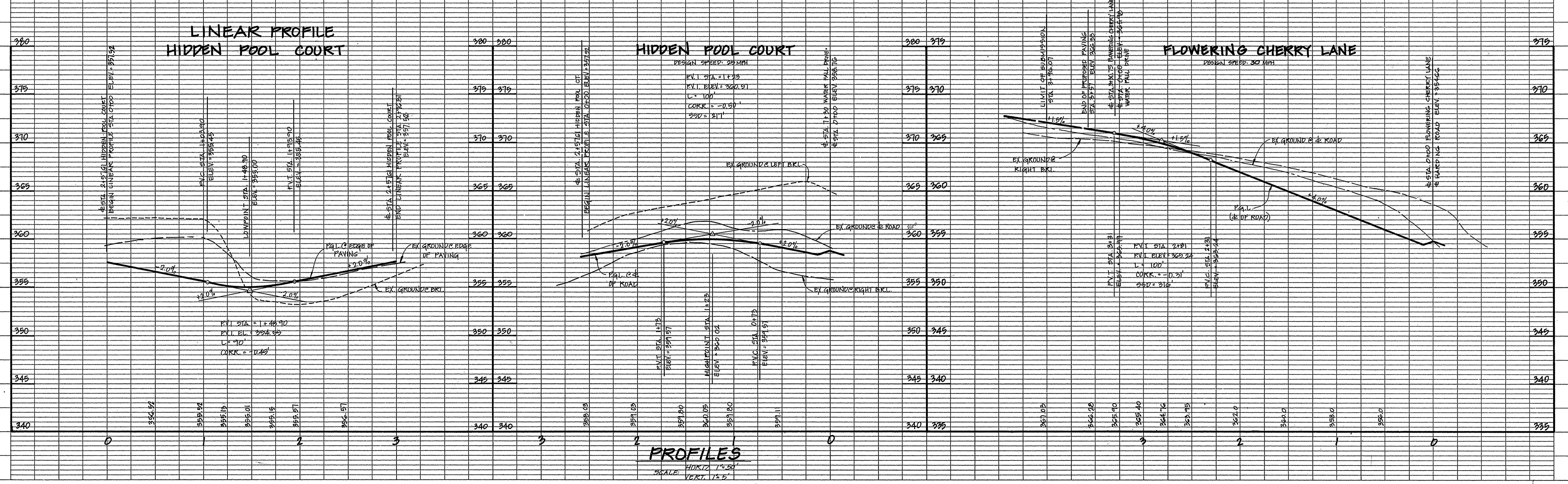
DEVELOPER: BARNES PROPERTY, LLC  
OWNER: MR. AND MRS. JOSEPH BARNES  
OWNER: MR. AND MRS. DAVID COON

SCALE: AS SHOWN DATE: 1/14/98 DWG. NO. 2 OF 16  
DES. D.J.K. DRN. J.A.M. CHK. Z.T. FISCH

**FISHER, COLLINS & CARTER, INC.**  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CENTENAL SQUARE OFFICE PARK - 18272 BALTIMORE NATIONAL PIKE  
ELLCOTT CITY, MARYLAND 21117  
410-481-2855

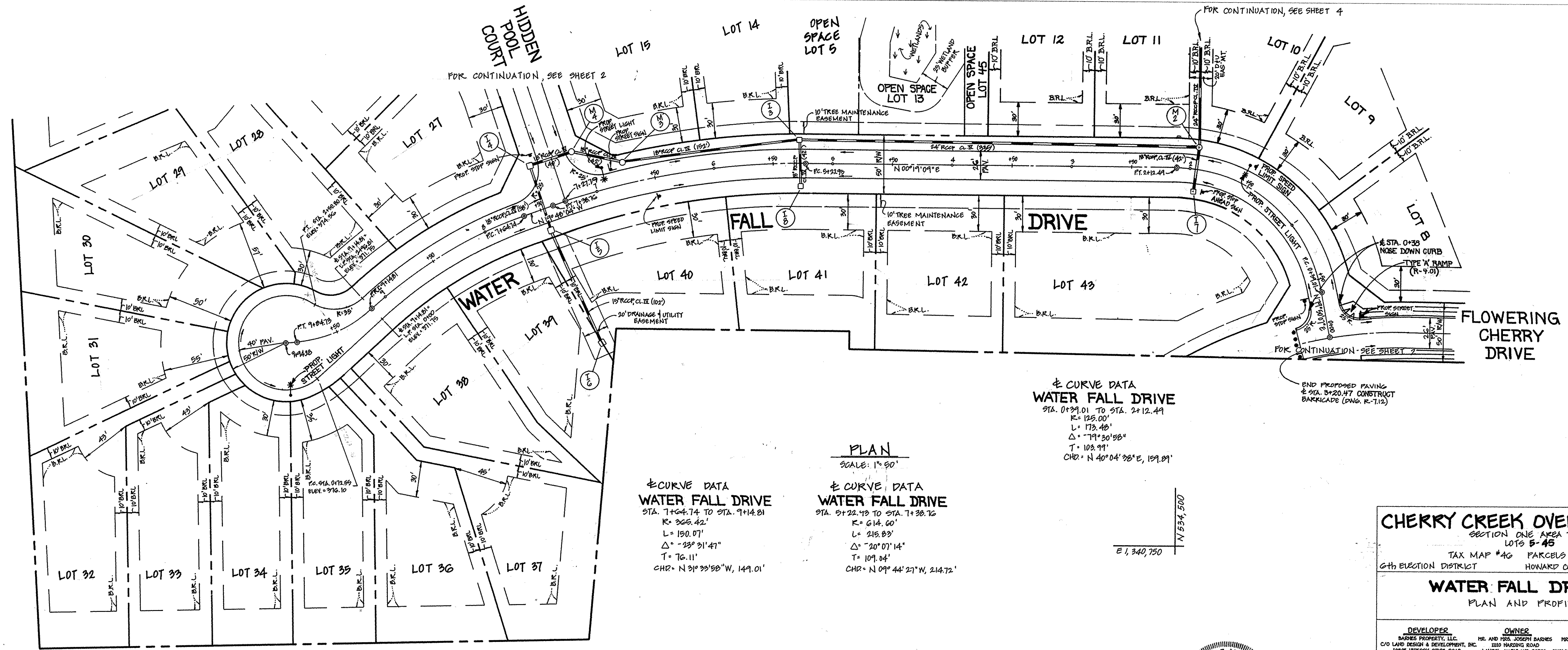
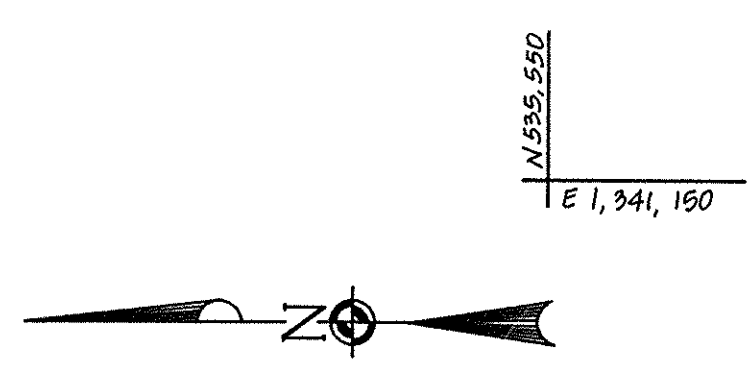


Zacharia G. Fisch



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





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

**WATER FALL DRIVE**  
STA. 0+00.01 TO STA. 2+12.49  
R = 125.00'  
L = 173.40'  
Δ = 79°30'58"  
T = 103.99'  
CHR: N 40°04'38"E, 109.89'

**WATER FALL DRIVE**  
STA. 7+04.74 TO STA. 7+14.81  
R = 306.42'  
L = 150.07'  
Δ = 29°31'41"  
T = 76.11'  
CHR: N 31°33'50"W, 149.01'

**WATER FALL DRIVE**  
STA. 9+22.49 TO STA. 7+38.76  
R = 614.00'  
L = 215.83'  
Δ = 30°07'14"  
T = 109.04'  
CHR: N 09°44'21"W, 214.72'

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*Cindy Hamotta* 2/19/98  
CHIEF, DIVISION OF LAND DEVELOPMENT

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*William J. ...* 2/5/98  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Andrew M. ...* 2-5-98  
CHIEF, BUREAU OF HIGHWAYS

No.	REVISION	DATE
1	REVISE FLOWERING CHERRY TO CURB & GUTTER	3-26-98

**CHERRY CREEK OVERLOOK**  
SECTION ONE AREA TWO  
LOTS 5-45

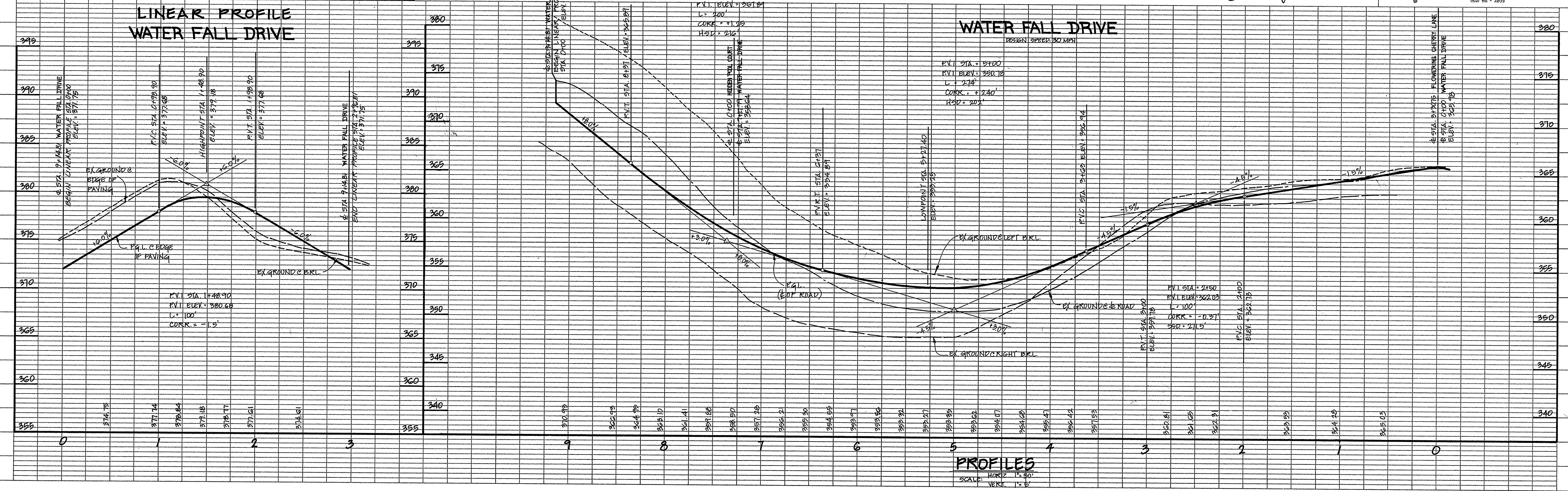
TAX MAP #46 PARCELS 66-161  
GHS ELECTION DISTRICT HOWARD COUNTY, MARYLAND

**WATER FALL DRIVE**  
PLAN AND PROFILE

DEVELOPER: BARNES PROPERTY, LLC  
OWNER: H.S. AND PHEL. JOSEPH BARNES  
OWNER: H.S. AND PHEL. DAVID COON

SCALE: AS SHOWN DATE: 1/14/98 DWG. NO. 3 OF 16  
DES. B.J.K. DRN. J.A.U. CHK. Z.Y. FISCH

**FISHER, COLLINS & CARTER, INC.**  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS





**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.

Zacharia J. Fisch 1/16/98  
Signature Of Engineer 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.

Donald R. Lewis Jr. 8/7/97  
Signature Of Developer Date

Reviewed For Howard County Soil Conservation District And Meets Technical Requirements.  
Carol Summers 1/23/98  
Signature Date

Approved This Development Is Approved For Erosion And Sediment Control By The Howard Soil Conservation District.  
John R. Robertson 1/23/98  
Signature Date

Approved Department Of Planning And Zoning  
Linda Hamilton 2/19/98  
Signature Date

Approved Howard County Department Of Public Works  
Richard M. Dwyer 2-5-98  
Signature Date

NOTE: FOR UNDERGROUND SWIM FACILITY DETAIL, SEE SHEET 16.

PROVIDE TEMP 2" TO FROM M-7 TO R.O.S.T No. 1 (INKOUT 320.25) BLOCK OUTFALL PIPES TO W-1 AND W-2.

**R.O.S.T No. 1**  
FINAL DRAINAGE AREA = 75 AC ±  
STORAGE REQUIRED: 75 AC x 1800 CF = 13,500 CF  
WET: 75 x 1800 CF = 13,500 CF  
DRY: 75 x 1800 CF = 13,500 CF  
SIDE SLOPES: 2:1  
TOP OF EMBANKMENT = 322.0  
EX. GROUND @ EMBANKMENT = 323.0  
CLEAN-OUT ELEV = 318.00  
WEIR CREST = 320.0  
WEIR LENGTH = 10'

**REFORESTATION AREA 2**  
(1.203 AC ±)  
(TO BE PLANTED)

**REFORESTATION AREA 3**  
(0.063 AC ±)  
(TO BE PLANTED)

**REFORESTATION AREA 2**  
(0.007 AC ±)  
(TO BE PLANTED)

**REFORESTATION AREA 4**  
(0.092 AC ±)  
(TO BE PLANTED)

**REFORESTATION AREA 3**  
(0.098 AC ±)  
(TO BE PLANTED)

**SEDIMENT BASIN No. 2**  
D.A. TO SEDIMENT BASIN = 9.4 AC  
STORAGE REQUIRED: 9.4 AC x 3000 CF = 28,200 CF  
STORAGE PROVIDED @ EL. 338.70 = 38,780 CF  
CREST EL. FOR 10 MIN. COEF. WEIR = 339.00  
BOTTOM OF BASIN EL. = 335.00  
VOLUME @ CLEAN-OUT EL. = 900 CF x 9.4 AC = 8,460 CF  
CLEAN-OUT EL. = 336.20  
VOLUME @ SEPARATING EL. = 1,800 CF x 9.4 AC = 16,920 CF  
SEPARATING EL. = 337.00  
PROVIDE 4" PVC W/ ELBOW @ EL. 338.70

**LEGEND**

- STABILIZED CONSTRUCTION ENTRANCE
- SILT FENCE
- EX. STREET TREES
- EARTH DIKE
- LIMIT OF DISTURBANCE
- TREE PROTECTION FENCE
- PROPOSED STREET TREES
- INLET PROTECTION
- DRY WELL
- FOREST CONSERVATION AREA

SYMBOL	BOTANICAL AND COMMON NAME	SIZE	COMMENTS
(Symbol)	ARECULUS HIPPOCASTANUM 'BAUMANNI' (BAUMANNI HORSECHESTNUT)	2 1/2" - 3" CALIPER	40' APART ON PUBLIC OR PRIVATE

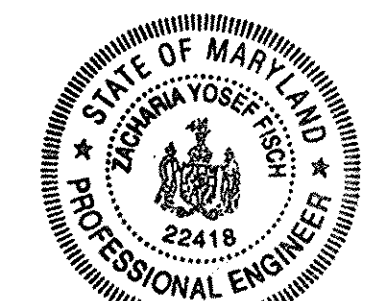
NOTE: STREET TREES ARE ONLY A RECOMMENDATION. THIS MAY BE REVISED TO A COUNTY ACCEPTABLE EQUIVALENT.

TOTAL NUMBER OF STREET TREES: 33 STREET TREES (THIS SHEET)

NOTE: SEE SHEET B FOR SCHEDULE D PLANTING CHART  
NOTE: SEE SHEET B FOR SOIL BORING CHARTS

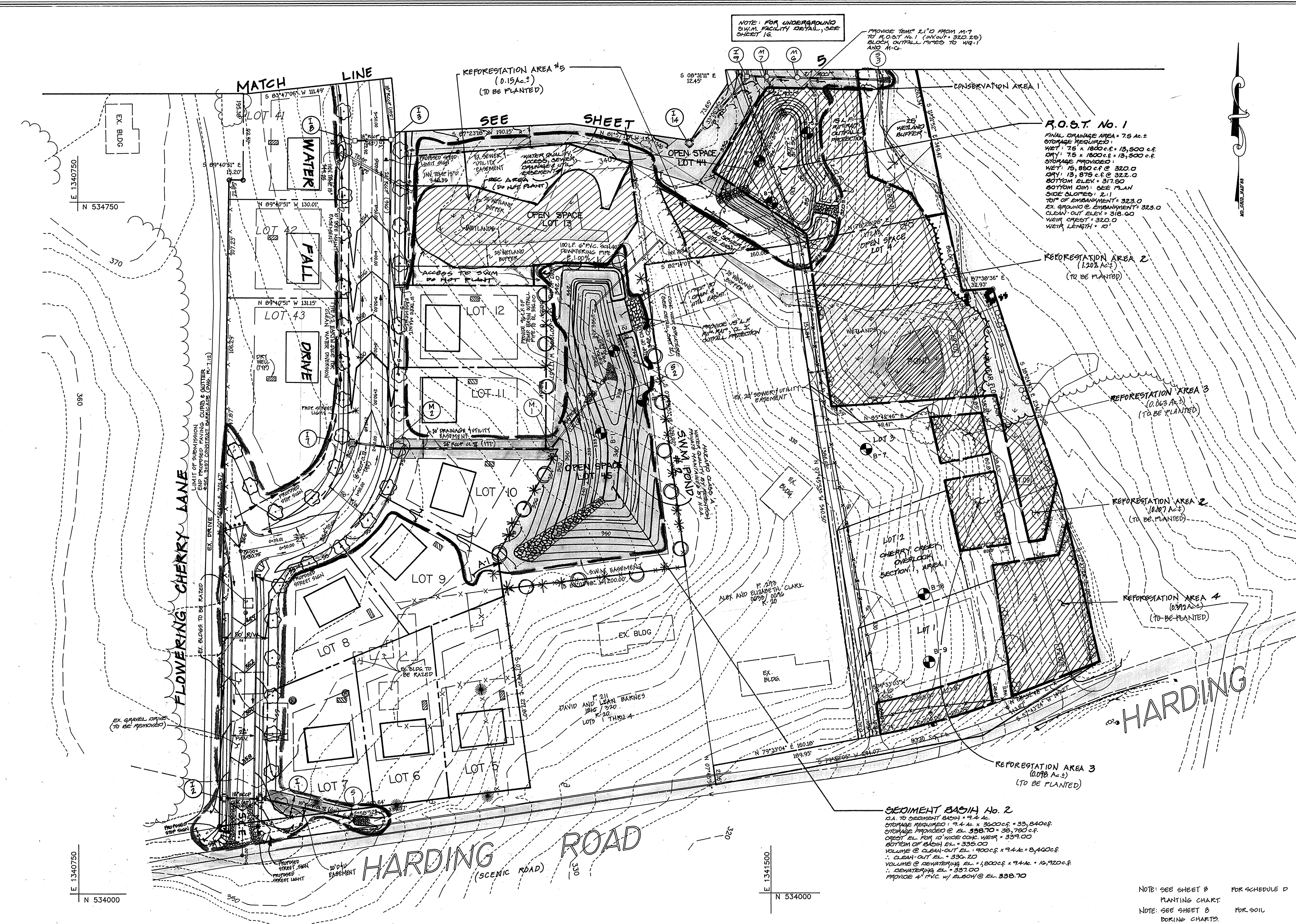
**STREET TREE, GRADING AND SEDIMENT CONTROL PLAN**  
**CHERRY CREEK OVERLOOK**

SECTION ONE AREA TWO  
LOTS 5 THRU 45  
ZONING: "R-20"  
TAX MAP NO. 46 PARCEL 66 AND 67  
SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
SCALE: AS SHOWN DATE: JANUARY 14, 1998  
SHEET 4 OF 16



Zacharia J. Fisch

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



**FISHER, COLLINS & CARTER, INC.**  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL FREE  
ELICOTT CITY, MARYLAND 21042  
410 481-2202

No.	DESCRIPTION	DATE
1	REVISE FLOWERING CHERRY TO CURB & GUTTER	3-26-98
REVISIONS		

**DEVELOPER**  
BARNES PROPERTY, LLC  
C/O LAND DESIGN & DEVELOPMENT, INC.  
10905 HICKORY RIDGE ROAD  
COLUMBIA, MARYLAND 21044

**OWNER**  
MR. AND MRS. JOSEPH BARNES  
1110 HARDING ROAD  
LAUREL, MARYLAND 20723

**OWNER**  
MR. AND MRS. DAVID COON  
ROUTE 1, BOX 255 E  
BURLINGTON, WEST VIRGINIA 26710



**ENGINEER'S CERTIFICATE**

I Herby 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.

*Eucharis J. Fisch* 1/16/98  
Signature Of Engineer 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.

*Donald J. Quinn Jr* 3/7/97  
Signature Of Developer Date

Reviewed For Howard County Soil Conservation District And Meets Technical Requirements  
*Cheryl Sumner* 1/23/98  
USA - Natural Resources Conservation Service Date

Approved This Development Is Applicable For Erosion And Sediment Control By The Howard Soil Conservation District.  
*John P. Robertson* 1/23/98  
District Howard Soil Conservation Dist. Date

Approved Department Of Planning And Zoning  
*Andy Hanita* 2/19/98  
Chief, Division Of Land Development TC Date

*Mark Damun* 2/19/98  
Chief, Development Engineering Division Date

Approved Howard County Department Of Public Works  
*Andrew M. Souder* 2-5-98  
Chief, Bureau Of Highways MS Date

STREET TREE SCHEDULE			
SYMBOL	BOTANICAL AND COMMON NAME	SIZE	COMMENTS
	AESCULUS HIPPOCASTANUM 'BAUMANN' (BAUMANN HORSECHESTNUT)	2 1/2" - 3" CALIPER	40' APART ON PUBLIC R/W
	ZELKOVA SERRATA 'VILLAGE GREEN' (VILLAGE GREEN JAPANESE ZELKOVA)	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

- 24 STREET TREES (THIS SHEET)
- 16 STREET TREES (THIS SHEET)

**LEGEND**

- STABILIZED CONSTRUCTION ENTRANCE
- SILT FENCE
- EX. STREET TREES
- EARTH DIKE
- LIMIT OF DISTURBANCE
- TREE PROTECTION FENCE
- PROPOSED STREET TREES
- INLET PROTECTION
- DRY WELL
- CONSERVATION AREA

NOTE: FOR FOREST CONSERVATION NOTES AND DETAILS SEE SHEET 15  
NOTE: SEE SHEET 5 FOR SCHEDULE D PLANTING CHARTS.

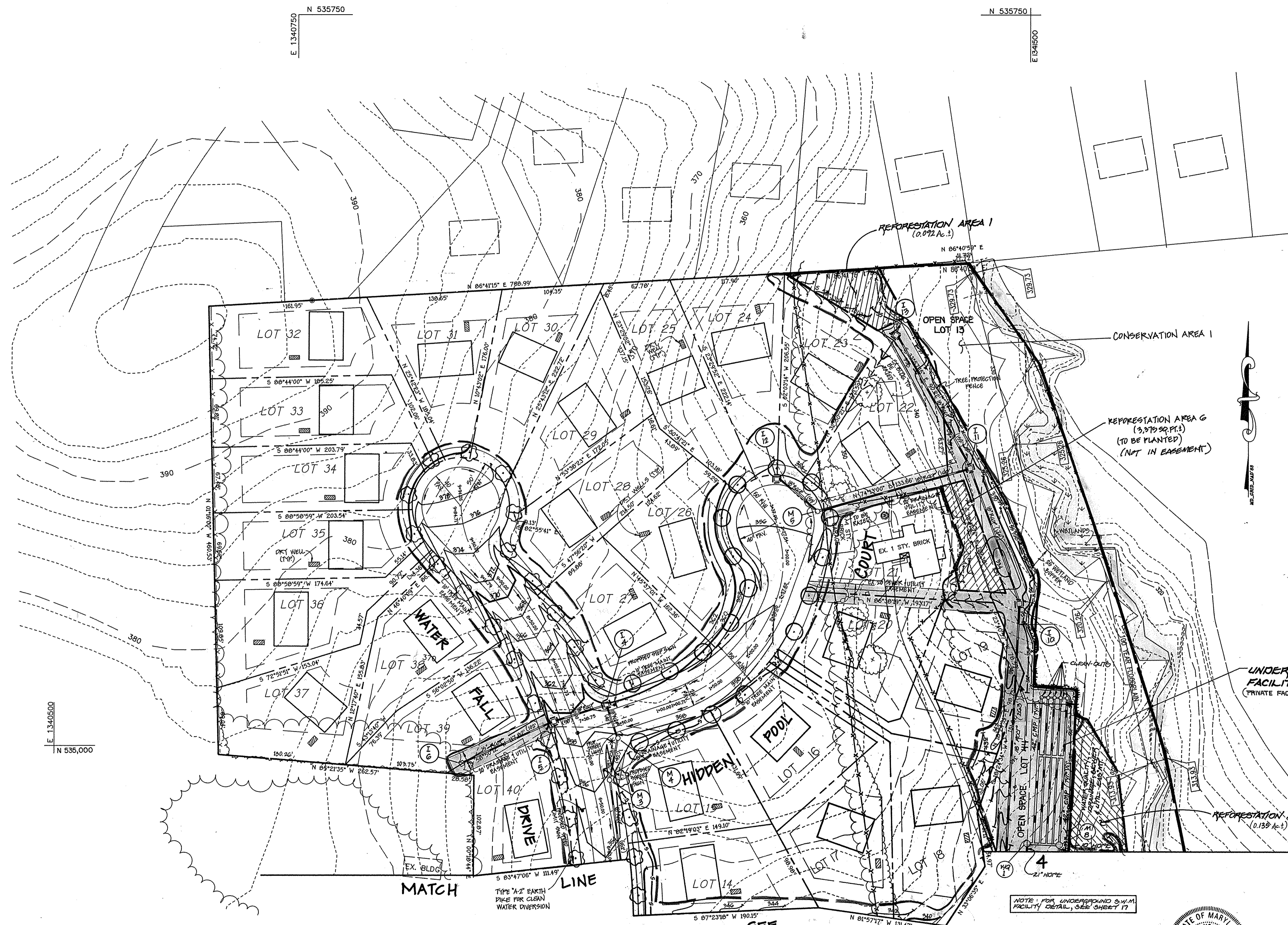
STREET TREE, GRADING AND SEDIMENT CONTROL PLAN

**CHERRY CREEK OVERLOOK**

SECTION ONE AREA TWO  
LOTS 5 THRU 45  
ZONING: "R-20"

TAX MAP NO. 46 PARCEL 66 AND 67  
SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
SCALE: AS SHOWN DATE: JANUARY 14, 1998

SHEET 5 OF 16



PLAN SCALE: 1"=50'  
SEE SHEET

**FISHER, COLLINS & CARTER, INC.**  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CENTRAL SQUARE OFFICE PARK - 1872 BALTIMORE NATIONAL FREE  
ELLCOTT CITY, MARYLAND 21042  
410-487-2055

No.	DESCRIPTION	DATE
1	REVISE FLOWERING CHERRY TO CURB & GUTTER	3-26-98
REVISIONS		

**DEVELOPER**  
BARNES PROPERTY, LLC  
C/O LAND DESIGN & DEVELOPMENT, INC.  
10805 HICKORY RIDGE ROAD  
COLUMBIA, MARYLAND 21044

**OWNER**  
MR. AND MRS. JOSEPH BARNES  
1110 HARDING ROAD  
LAUREL, MARYLAND 20723

**OWNER**  
MR. AND MRS. DAVID COON  
ROUTE 1, BOX 255 E  
BURLINGTON, WEST VIRGINIA 26710









**MD 370 POND SPECIFICATIONS**

**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 level with the 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 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.

**Earth Fill**

**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, 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 maximum 8 inch thick layers. 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 subsoil 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 deepfoot 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 the Method AASHTO T-99.

**Cut Off Trench** - The cutoff trench shall be excavated into impervious material along or parallel to 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 to 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 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 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.

**Corrugated Metal Pipe** - All of the following criteria shall apply for corrugated metal pipe:

1. **Materials** - (Steel Pipe) - This pipe and its appurtenances shall be galvanized and fully bituminous coated and shall conform to the requirements of AASHTO Specification M-190 Type A with watertight coupling bands. Any bituminous coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound. Steel pipes with polymeric coatings shall have a minimum coating thickness of 0.01 inch (10 mil) on both sides of the pipe. The following coatings or an approved equal may be used: Nexon, Plastil-Cote, Blac-Klad, and Beth-Cu-Loy. Coated corrugated steel pipe shall meet the requirements of AASHTO M-245 and M-246.

**Materials** - (Aluminum Coated Steel Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-274 with watertight coupling bands or flanges. Any aluminum coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound.

**Materials** - (Aluminum Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-195 or M-211 with watertight coupling bands or flanges. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer. Hot dip galvanized bolts may be used for connections. The pH of the surrounding soils shall be between 4 and 9.

2. **Coupling bands, anti-seep collars, end sections, etc.**, must be composed of the same material as the pipe. Metals must be insulated from dissimilar materials with use of rubber or plastic insulating materials at least 24 mils in thickness.

3. **Connections** - All connections with pipes must be completely watertight. The drain pipe or barrel connection to the riser shall be welded all around when the pipe and riser are metal. Anti-seep collars shall be connected to the pipe in such a manner as to be completely watertight. Dimple bands are not considered to be watertight.

All connections shall use a rubber or neoprene gasket when joining pipe sections. The end of each pipe shall be re-rolled an adequate number of corrugations to accommodate the band width. The following type connections are acceptable for pipes less than 24" in diameter. Flanges on both ends of the pipe, a 12" wide standard lap type band with 12" wide by 3/8" thick closed cell circular neoprene gasket; and a 12" wide hugger type band with O-ring gaskets having a minimum diameter of 1/2" greater than the corrugation depth. Pipes 24" in diameter and larger shall be connected by a 24" long annular corrugated band using rods and nuts. A 12" wide by 3/8" thick closed cell circular neoprene gasket will be installed on the end of each pipe for a total of 24".

Helically corrugated pipe shall have either continuously welded seams or have lock seams with infernal caulking or a neoprene bead.

4. **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.

5. **Backfilling** shall conform to "Structure Backfill".

6. **Other details** (anti-seep collars, valves, etc.) shall be as shown on the drawings.

**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 1/2" 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-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 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 homogeneously 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 912.

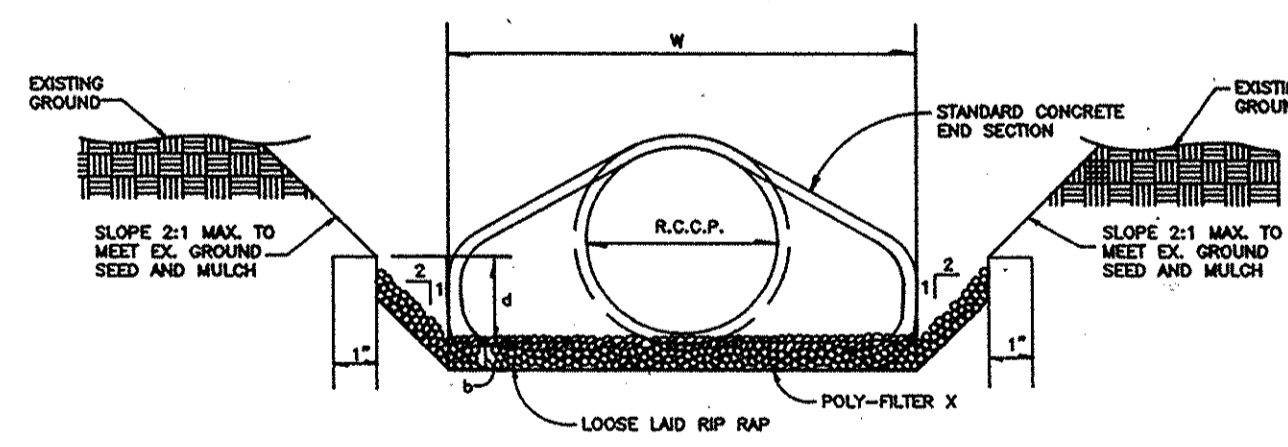
**Care of Water during Construction**

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 sightly condition. All exposed surfaces of the embankment, spilt, spoil 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.



**RIP RAP OUTFALL DETAIL**  
NO SCALE

**RIP-RAP CHANNEL DESIGN DATA**

STRUCTURE	AREA	WETTED PERIMETER	R	R <sup>2/3</sup>	S	S <sup>1/2</sup>	W	d	N	V	Q	W <sub>max</sub> PER 100'	BLANKET THICKNESS
S-1	2.20	9.42	0.41	0.548	.005	.0707	3.0'	0.54'	.04	1.44 fpm	3.0' cfs	8.5'	15"
S-3	5.88	25.20	0.71	0.351	.01	.100	3.5'	1.05'	.04	2.10 fpm	12.15 cfs	"	"

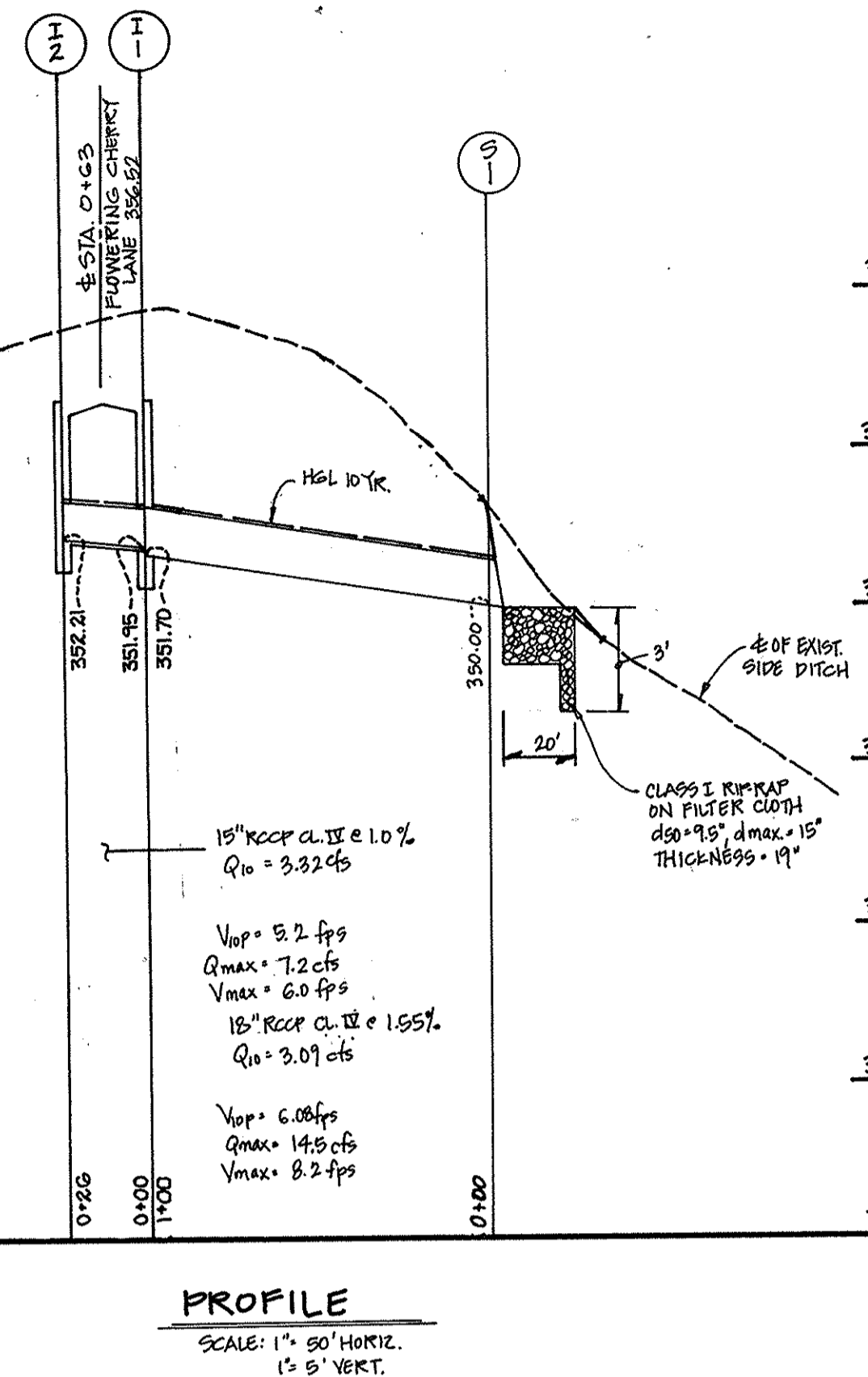
**FISHER, COLLINS & CARTER, INC.**  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
1000 SQUARE OFFICE PARK - 10272 BALTIC NATIONAL PIKE  
ELICOTT CITY, MARYLAND 21042  
410-481-2555

No.	DESCRIPTION	DATE
1	REVISE FLOWERING CHERRY TO CURB & GUTTER	3-26-98
REVISIONS		

**OWNER**  
MR. AND MRS. JOSEPH BARNES  
1110 HARDING ROAD  
LAUREL, MARYLAND 20723

**OWNER**  
MR. AND MRS. DAVID COON  
ROUTE 1, BOX 255 E  
BURLINGTON, WEST VIRGINIA 26710

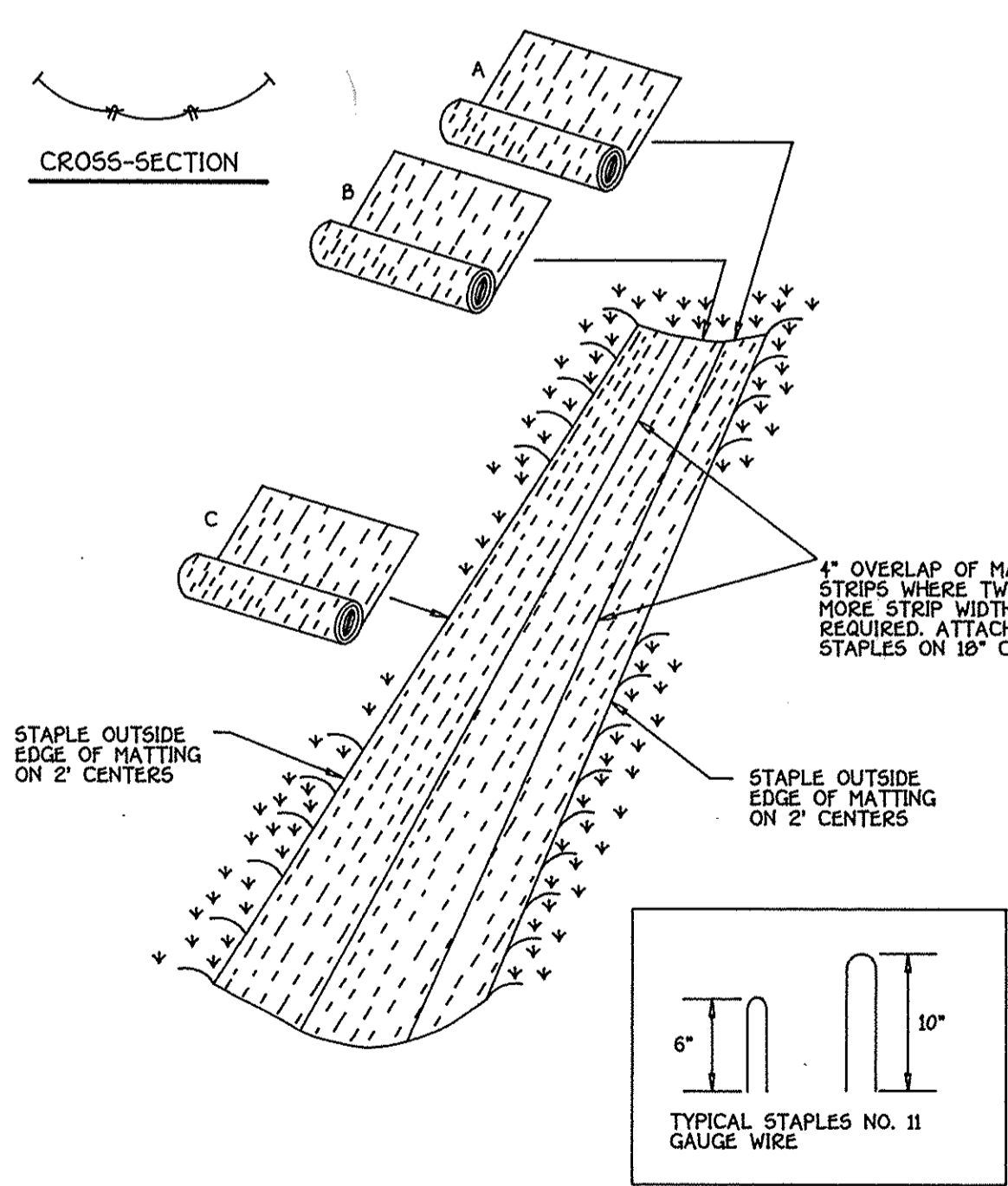
**DEVELOPER**  
BARNES PROPERTY, LLC  
C/O LAND DESIGN & DEVELOPMENT, INC.  
10805 HICKORY EDGE ROAD  
COLUMBIA, MARYLAND 21044



**PROFILE**

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

**DETAIL 30 - EROSION CONTROL MATTING**

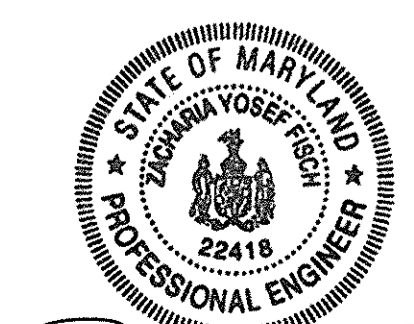


**EROSION CONTROL MATTING**

**Construction Specifications**

- Key-in the matting by placing the top ends of the matting in a narrow trench, 6" in depth. Backfill the trench and tamp firmly to conform to the channel cross-section. Secure with a row of staples about 4" down slope from the trench. Spacing between staples is 6".
  - Staple the 4" overlap in the channel center using an 18" spacing between staples.
  - Before stapling the outer edges of the matting, make sure the matting is smooth and in firm contact with the soil.
  - Staples shall be placed 2' apart with 4 rows for each strip, 2 outer rows, and 2 alternating rows down the center.
  - Where one roll of matting ends and another begins, the end of the top strip shall overlap the upper end of the lower strip by 4", staple fashion. Reinforce the overlap with a double row of staples spaced 6" apart in a staggered pattern on either side.
  - The discharge end of the matting liner should be similarly secured with 2 double rows of staples.
- Note: If flow will enter from the edge of the matting then the area effected by the flow must be keyed-in.

**STORM DRAIN PROFILE AND STORMWATER MANAGEMENT DETAILS**  
**CHERRY CREEK OVERLOOK**  
SECTION ONE AREA TWO  
LOTS 5 THRU 45  
ZONING: "R-20"  
TAX MAP No. 46 PARCEL 66 AND 67  
SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
SCALE: AS SHOWN DATE: JANUARY 14, 1998  
SHEET 7 OF 16



Zacharia Y. Fisch

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 Road Within 30 Days Of Completion. Also Authorize Periodic On-Site Inspections By The Howard Soil Conservation District."  
*Donald R. Renner, Jr.* 8/7/97  
Signature of Developer  
Printed Name of Developer  
By The Engineer:  
*Zacharia Y. Fisch* 8/7/97  
Signature of Engineer  
Printed Name of Engineer  
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.  
*Zacharia Y. Fisch* 8/7/97  
Signature of Engineer  
Printed Name of Engineer  
These Plans For Small Pond Construction Soil Erosion And Sediment Control Meet The Requirements Of The Howard Soil Conservation District.  
*John R. Robertson* 11/23/98  
Signature of Engineer  
Printed Name of Engineer  
Approved Department of Public Works  
*Andrew M. Sanchez* 2-5-98  
Signature of Chief  
Printed Name of Chief  
Approved: Department Of Planning And Zoning  
*Cathy Hamilton* 2/19/98  
Signature of Chief  
Printed Name of Chief  
*John Damman* 2/19/98  
Signature of Chief  
Printed Name of Chief

**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.



**STRUCTURE SCHEDULE**

STRUCTURE NO.	GRATE ELEVATION	TOP ELEVATION	INV. IN	INV. OUT	ROAD NAME	ROAD STA.	OFFSET	TYPE	REMARKS
I-1		* 356.70	351.95	351.70	FLOWERING CHERRY LANE	C.L. STA. 0+63	13' RT	"A-B" INLET	S.D. 4.12 W/S.D. 4.01
I-2		* 356.70		352.71	FLOWERING CHERRY LANE	C.L. STA. 0+63	13' LT	"A-10" INLET	S.D. 4.12 W/S.D. 4.02
I-3		* 351.41	347.41	346.91	WATER FALL DRIVE	C.L. STA. 5+27.40	21' RT	"K" INLET	S.D. 4.12 W/S.D. 4.13
I-4		* 357.04	353.04	352.79	HIDDEN POOL COURT	C.L. STA. 0+37	20' LT	"K" INLET	S.D. 4.12 W/S.D. 4.13
I-5		* 357.92	354.00	353.75	WATER FALL DRIVE	C.L. STA. 7+48	21' LT	"K" INLET	S.D. 4.12 W/S.D. 4.13
I-6	364.03	* 363.20		359.50		N 534081307 E 134297329		"D" INLET	S.D. 4.11
I-7		* 361.03		355.50	WATER FALL DRIVE	C.L. STA. 1+94	21' LT	"K" INLET	S.D. 4.12 W/S.D. 4.13
I-8		* 351.41		347.91	WATER FALL DRIVE	C.L. STA. 5+27.40	21' LT	"K" INLET	S.D. 4.12 W/S.D. 4.13
I-9	333.33	* 332.50	325.00	322.56		N 534080379 E 134477209		"D" INLET	S.D. 4.11
I-10	331.83	* 331.00	325.76	325.51		N 534081797 E 134494538		"D" INLET	S.D. 4.11
I-11	332.33	* 331.00	327.50	327.25		N 534084482 E 134455983		"D" INLET	S.D. 4.11
I-12		* 353.75		349.61	HIDDEN POOL COURT	L.P. STA. 1+48.90	5' LT	"K" INLET	S.D. 4.12 W/S.D. 4.13
I-13	337.25	* 336.25		332.25		N 534081775 E 134354777		"D" INLET	S.D. 4.11
I-14	339.83	* 339.00		331.50		N 534084415 E 134462775		"D" INLET	S.D. 4.11
M-1		353.40	341.54	341.29		N 534087374 E 134263682		STD. MANHOLE	G. 5.01
M-2		361.03	354.66	343.31	WATER FALL DRIVE	C.L. STA. 1+94	21' RT	STD. MANHOLE	G. 5.01
M-3		354.37	350.37	350.12	WATER FALL DRIVE	C.L. STA. 6+75	21' RT	STD. MANHOLE	G. 5.01
M-4		357.04	352.19	351.94	HIDDEN POOL COURT	C.L. STA. 0+37	20' RT	STD. MANHOLE	G. 5.01
M-5		354.56	344.55	344.30	HIDDEN POOL COURT	L.P. STA. 1+93	5' LT	STD. MANHOLE	G. 5.01
M-6		326.00	317.75	317.50		N 534080379 E 134297329		STD. MANHOLE	G. 5.01
M-7		330.00	322.25	322.00		N 534087351 E 134494541		STD. MANHOLE	G. 5.01
M-8		325.50	318.00	318.00		N 534083305 E 134529699		STD. MANHOLE	G. 5.01
WQ-1		329.50	319.83	319.75		N 534080327 E 134495747		STORMCEPTOR	MODEL 1800
S-1		351.55	350.02			N 534080318 E 134496302		CONC. END SECTION	S.D. 5.51
S-2		337.10	335.0			N 534082776 E 134357981		CONC. END SECTION	S.D. 5.51
S-3		318.81	317.06			N 534080340 E 134496702		CONC. END SECTION	S.D. 5.51

\* DENOTES THROAT ELEVATION  
 \*\* IN ACCORDANCE WITH HOWARD COUNTY MEMORANDUM DATED OCTOBER 2, 1997  
 ALL TYPE "K" INLETS CAN BE SUBSTITUTED WITH PRECAST OPEN END GRATE (S.D. 4.36).  
 THE CONTRACTOR MUST INFORM THE ENGINEER WHICH TYPE INLET WAS SELECTED PRIOR  
 TO CONSTRUCTION STAKEOUT.

**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)	CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET)	NUMBER OF PLANTS REQUIRED			NUMBER OF PLANTS PROVIDED			
						SHADE TREES	EVERGREEN TREES	SHRUBS	SHADE TREES	EVERGREEN TREES	OTHER TREES (2:1 SUBSTITUTION)	SHRUBS
P-1	ADJACENT TO ROADWAY	B	90'	NO	NO	1	2	-	1	2	-	-
P-2	ADJACENT TO PERIMETER	A	265'	NO	NO	4	-	-	4	-	-	-
P-3	ADJACENT TO PERIMETER	A	195'	NO	NO	3	-	-	3	-	-	-
P-4	ADJACENT TO PERIMETER	A	265'	YES 265'	NO	0	-	-	0	-	-	-
P-5	ADJACENT TO PERIMETER	A	462'	YES 462'	NO	0	-	-	0	-	-	-
P-6	ADJACENT TO PERIMETER	A	780'	NO	NO	13	-	-	13	-	-	-
P-7	ADJACENT TO PERIMETER	A	1360'	YES 980'	NO	6	-	-	6	-	-	-
P-8	ADJACENT TO ROADWAY	B	185'	NO	NO	4	3	-	4	3	-	-
P-9	ADJACENT TO PERIMETER	A	542'	NO	NO	9	-	-	9	-	-	-
P-10	ADJACENT TO PERIMETER	A	160'	YES 50'	NO	1	-	-	1	-	-	-
P-11				SEE SCHEDULE "D"								
P-12				SEE SCHEDULE "D"								
P-13	ADJACENT TO PERIMETER	A	220'	NO	NO	3	-	-	3	-	-	-
P-14	ADJACENT TO ROADWAY	B	290'	NO	NO	5	7	-	5	7	-	-
P-15	ADJACENT TO ROADWAY	B	100'	NO	NO	2	2	-	2	2	-	-
P-16	ADJACENT TO ROADWAY	B	110'	NO	NO	2	2	-	2	2	-	-

**SUMMARY OF SOIL BORINGS**

BORING	DEPTH (ft.)	SOIL DESCRIPTION	REMARKS
B-5	0.0 - 2.5	CLAYEY FINE SAND W/ TOPSOIL, ORGANICS, ROOT MAT (FILL)	NO GROUNDWATER ENCOUNTERED.
	2.5 - 4.5	REDDISH BROWN MICACEOUS CLAYEY FINE SAND (SC)	
	4.5 - 6.5	GRAYISH BROWN MICACEOUS SILTY FINE TO MED. SAND TRACE DECOMPOSED ROCK FRAGMENTS (SM-SP)	
	6.5 - 8.5	ORANGE BROWN MICACEOUS SILTY FINE TO MED. SAND TRACE DECOMPOSED ROCK FRAGMENTS (SM-SP)	
	8.5 - 10.0	GRAYISH BROWN MICACEOUS SAND W/TRACE DECOMPOSED ROCK FRAGMENT, TRACE SILT (SM-SP)	

BORING TERMINATED AT 10.0 FT. DEPTH

**SUMMARY OF SOIL BORINGS**

BORING	DEPTH (ft.)	SOIL DESCRIPTION	REMARKS
B-6	0.0 - 0.5	TOPSOIL, ORGANICS, ROOT MAT	GROUNDWATER AT DEPTH 7.0 FT. AT COMPLETION. WATER AT DEPTH 6.0 FT. AFTER 24 HOURS.
	0.5 - 3.0	REDDISH BROWN MICACEOUS CLAYEY FINE SAND (SC)	
	3.0 - 6.0	REDDISH BROWN MICACEOUS SILTY FINE SAND (SM)	
	6.0 - 10.0	GRAYISH BROWN MICACEOUS SAND W/TRACE DECOMPOSED ROCK FRAGMENTS, TRACE SILT (SM-SP)	

BORING TERMINATED AT 10.0 FT. DEPTH

**SUMMARY OF SOIL BORINGS**

BORING	DEPTH (ft.)	SOIL DESCRIPTION	REMARKS
B-7	0.0 - 0.5	TOPSOIL, ORGANICS, ROOT MAT	NO GROUNDWATER ENCOUNTERED AT COMPLETION OR AFTER 24 HOURS
	0.5 - 2.0	ORANGE BROWN MICACEOUS SILTY FINE SAND (SM)	
	2.0 - 6.0	ORANGE BROWN MICACEOUS SAND WITH TRACE SILT (SM-SP)	
	6.0 - 10.0	GRAYISH BROWN MICACEOUS SAND AND DECOMPOSED ROCK FRAGMENTS, TRACE SILT (SM)	

BORING TERMINATED AT 10.0 FT. DEPTH

**SUMMARY OF SOIL BORINGS**

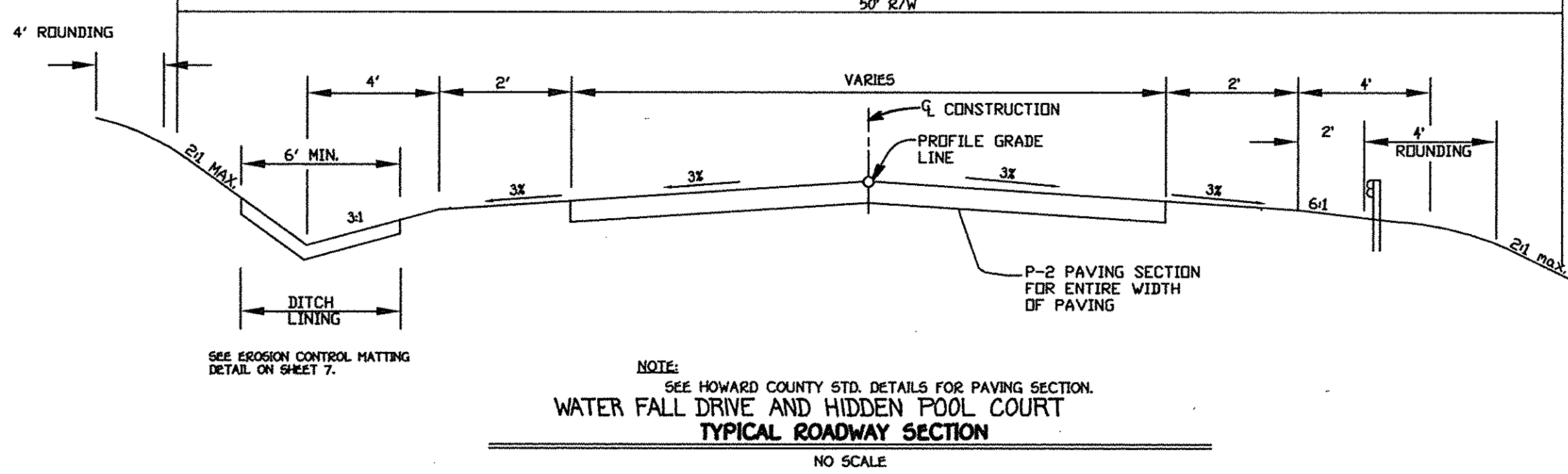
BORING	DEPTH (ft.)	SOIL DESCRIPTION	REMARKS
B-8	0.0 - 0.5	TOPSOIL, ORGANICS, ROOT MAT	NO GROUNDWATER ENCOUNTERED.
	0.5 - 6.5	ORANGE BROWN MICACEOUS SILTY SAND TRACE DECOMPOSED ROCK FRAGMENTS (SM)	
	6.5 - 10.0	ORANGE BROWN MICACEOUS SAND W/TRACE DECOMPOSED ROCK, TRACE SILT (SM-SP)	

BORING TERMINATED AT 10.0 FT. DEPTH

**SUMMARY OF SOIL BORINGS**

BORING	DEPTH (ft.)	SOIL DESCRIPTION	REMARKS
B-9	0.0 - 0.5	TOPSOIL, ORGANICS, ROOT MAT	NO GROUNDWATER ENCOUNTERED.
	0.5 - 6.5	ORANGE BROWN MICACEOUS SILTY SAND TRACE DECOMPOSED ROCK FRAGMENTS (SM)	
	6.5 - 10.0	ORANGE BROWN MICACEOUS SAND W/TRACE DECOMPOSED ROCK, TRACE SILT (SM-SP)	

BORING TERMINATED AT 10.0 FT. DEPTH



**ROADWAY INFORMATION CHART**

ROAD NAME	CLASSIFICATION	DESIGN SPEED	ZONING	STATION LIMITS	PAVING WIDTH	PAVING SECTION
WATER FALL DRIVE	LOCAL ROAD	30 MPH	R-20	0+00 TO 9+84.73	26'	P-2
FLOWERING CHERRY LANE	LOCAL ROAD	30 MPH	R-20	0+00 TO 3+37.08	26'	P-2
HIDDEN POOL COURT	LOCAL ROAD	25 MPH	R-20	0+00 TO 3+58.54	24'	P-2

**SUMMARY OF SOIL BORINGS**

BORING	DEPTH (ft.)	SOIL DESCRIPTION	REMARKS
B-1	0.0 - 0.5	TOPSOIL, ORGANICS, ROOT MAT	NO GROUNDWATER ENCOUNTERED AT COMPLETION OR AFTER 24 HOURS
	0.5 - 2.5	REDDISH BROWN MICACEOUS CLAYEY FINE SAND (SC)	
	2.5 - 8.0	ORANGE BROWN MICACEOUS SILTY FINE SAND (SM)	
	8.0 - 9.0	GRAY MICACEOUS SILTY FINE SAND (SM)	
	9.0 - 10.0	ORANGE BROWN MICACEOUS SILTY FINE SAND (SM)	

BORING TERMINATED AT 10.0 FT. DEPTH

**SUMMARY OF SOIL BORINGS**

BORING	DEPTH (ft.)	SOIL DESCRIPTION	REMARKS
B-2	0.0 - 0.5	TOPSOIL, ORGANICS, ROOT MAT	GROUNDWATER ENCOUNTERED AT DEPTH 2.5 FT. ON COMPLETION. GROUNDWATER AT 4.0 FT. DEPTH AFTER 24 HOURS.
	0.5 - 3.5	REDDISH BROWN MICACEOUS CLAYEY FINE SAND (SC)	
	3.5 - 5.0	ORANGE BROWN MICACEOUS SILTY FINE SAND (SM)	
	5.0 - 10.0	GRAY MICACEOUS SILTY FINE SAND (SM)	

BORING TERMINATED AT 10.0 FT. DEPTH

**SUMMARY OF SOIL BORINGS**

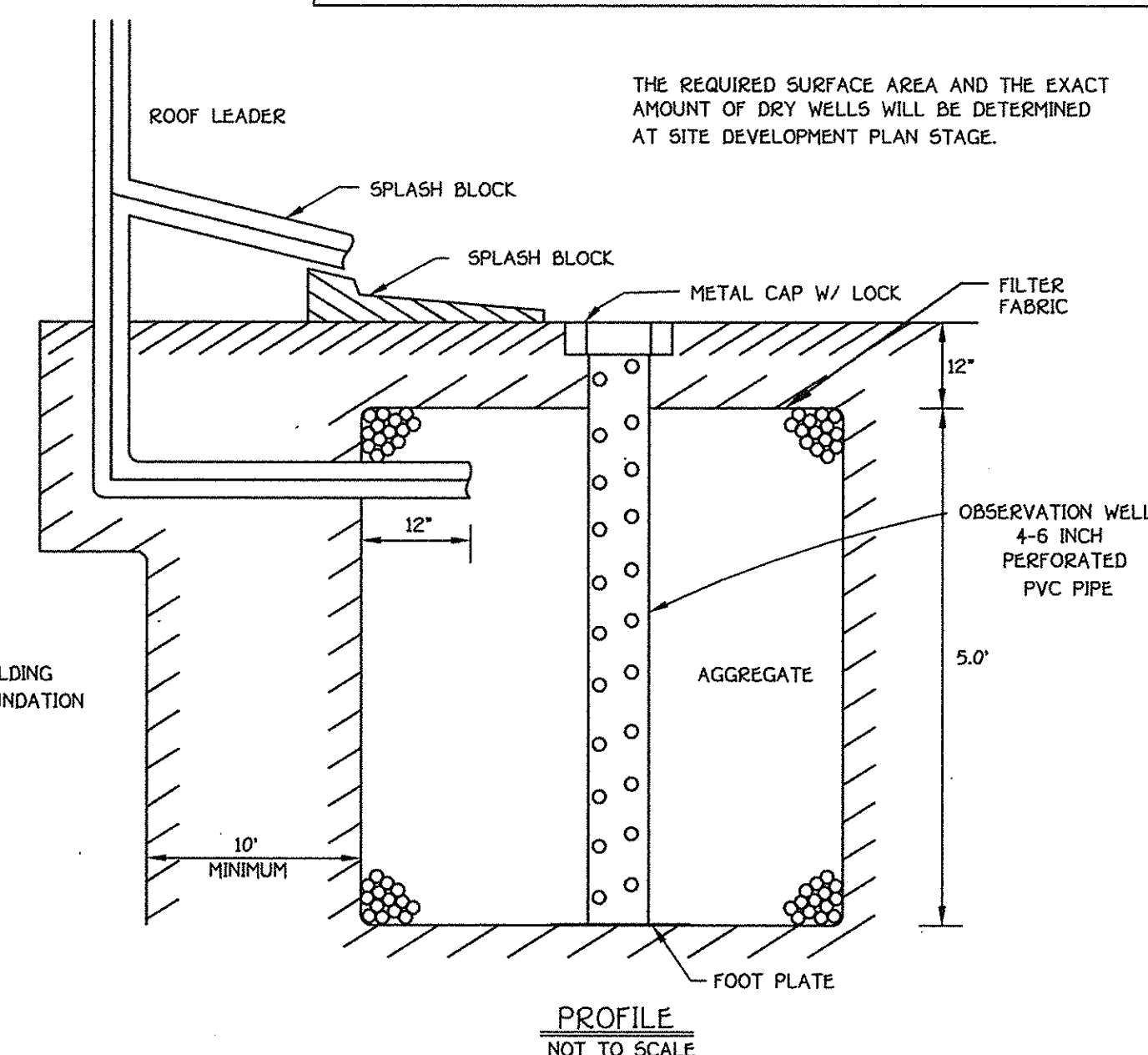
BORING	DEPTH (ft.)	SOIL DESCRIPTION	REMARKS
B-3	0.0 - 0.5	TOPSOIL, ORGANICS, ROOT MAT	NO GROUNDWATER ENCOUNTERED AT COMPLETION. GROUNDWATER AT 9.75 FT. DEPTH AFTER 24 HOURS.
	0.5 - 2.0	REDDISH BROWN MICACEOUS CLAYEY FINE SAND (SC)	
	2.0 - 3.5	REDDISH BROWN MICACEOUS SILTY FINE SAND W/TRACE CLAY (SM-SC)	
	3.5 - 5.0	ORANGE BROWN MICACEOUS SILTY FINE SAND (SM)	
	5.0 - 10.0	GRAYISH BROWN TO GRAY MICACEOUS SILTY FINE SAND (SM)	

BORING TERMINATED AT 10.0 FT. DEPTH

**SUMMARY OF SOIL BORINGS**

BORING	DEPTH (ft.)	SOIL DESCRIPTION	REMARKS
B-4	0.0 - 0.5	TOPSOIL, ORGANICS, ROOT MAT	NO GROUNDWATER ENCOUNTERED.
	0.5 - 2.0	ORANGE BROWN MICACEOUS SILTY FINE SAND (SM)	
	2.0 - 3.5	GRAYISH BROWN MICACEOUS SAND TO MEDIUM SILTY SAND (SM)	
	3.5 - 8.0	GRAYISH BROWN MICACEOUS SAND WITH TRACE DECOMPOSED ROCK FRAGMENTS, TRACE SILT (SM-SP)	
	8.0 - 10.0	YELLOWISH BROWN MICACEOUS FINE TO MED. SAND W/ DECOMPOSED ROCK FRAGMENTS, TRACE SILT (SM-SP)	

BORING TERMINATED AT 10.0 FT. DEPTH

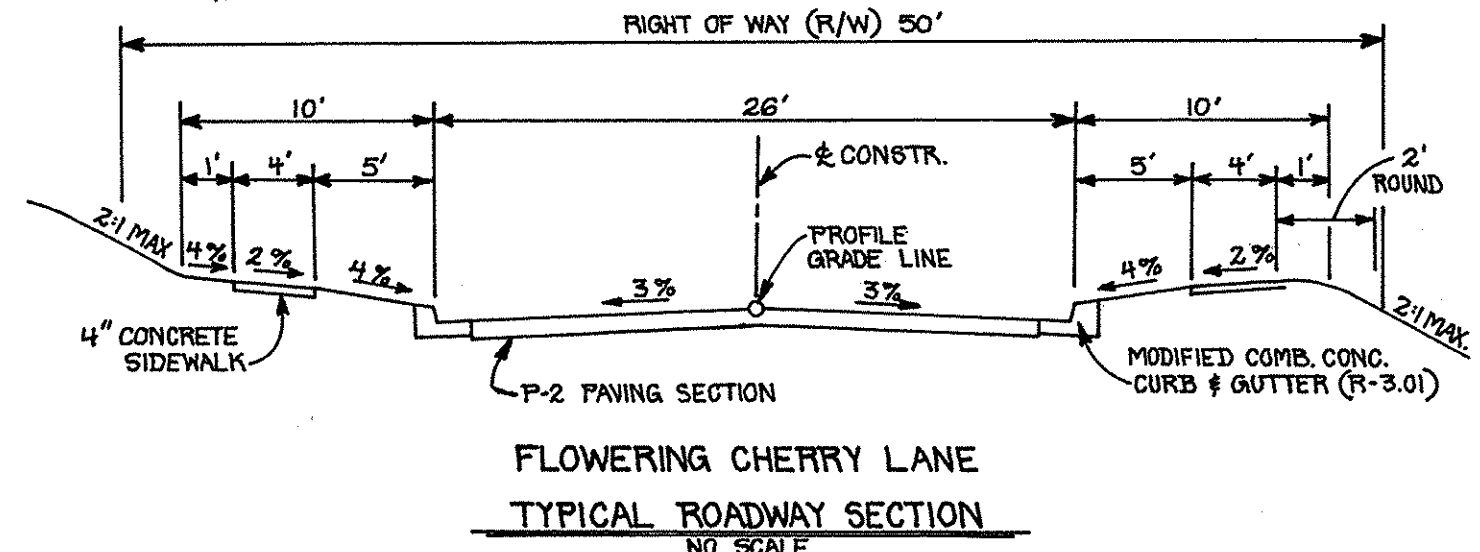


**TYPICAL DRY WELL CROSS SECTION INFILTRATION MANUAL**

(APPLICABLE TO ALL LOTS)

**SCHEDULE D FOR POND #2 STORMWATER MANAGEMENT AREA LANDSCAPING**

Linear Feet of Perimeter	967
Number of Trees Required	
Shade Trees	19
Evergreen Trees	24
Credit for Existing Vegetation (No, Yes and X)	NO
Credit for Other Landscaping (No, Yes and X)	NO
Number of Trees Provided	
Shade Trees	19
Evergreen Trees	24
Other Trees (2:1 substitution)	-



**FLOWERING CHERRY LANE TYPICAL ROADWAY SECTION**

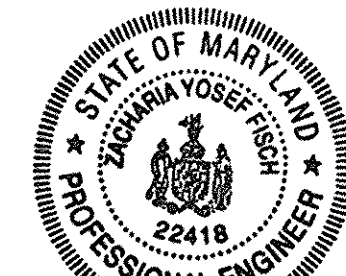
NO SCALE

No.	REVISIONS	DATE
1	REVISE FLOWERING CHERRY TO CURB & GUTTER	3-26-98

**DEVELOPER**  
 BARNES PROPERTY, LLC  
 C/O LAND DESIGN & DEVELOPMENT, INC.  
 10805 HICKORY RIDGE ROAD  
 COLUMBIA, MARYLAND 21044

**OWNER**  
 MR. AND MRS. JOSEPH BARNES  
 1110 HARDING ROAD  
 LAUREL, MARYLAND 20723

**OWNER**  
 MR. AND MRS. DAVID COON  
 ROUTE 1, BOX 255 E  
 BURLINGTON, WEST VIRGINIA 25710



Zachary J. Fisch

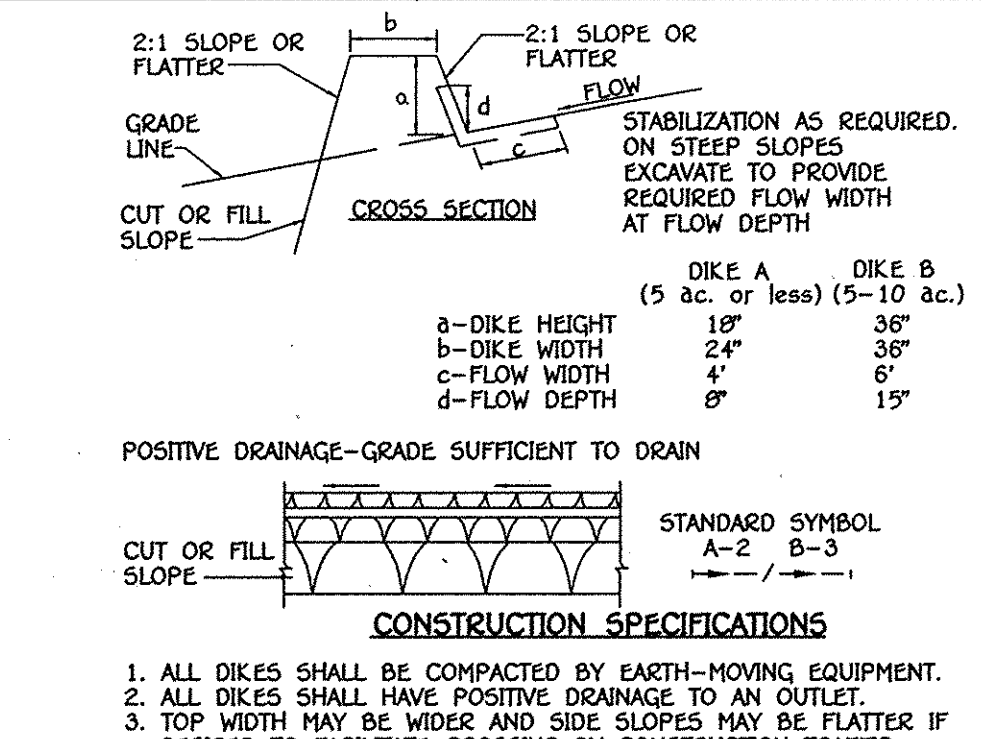
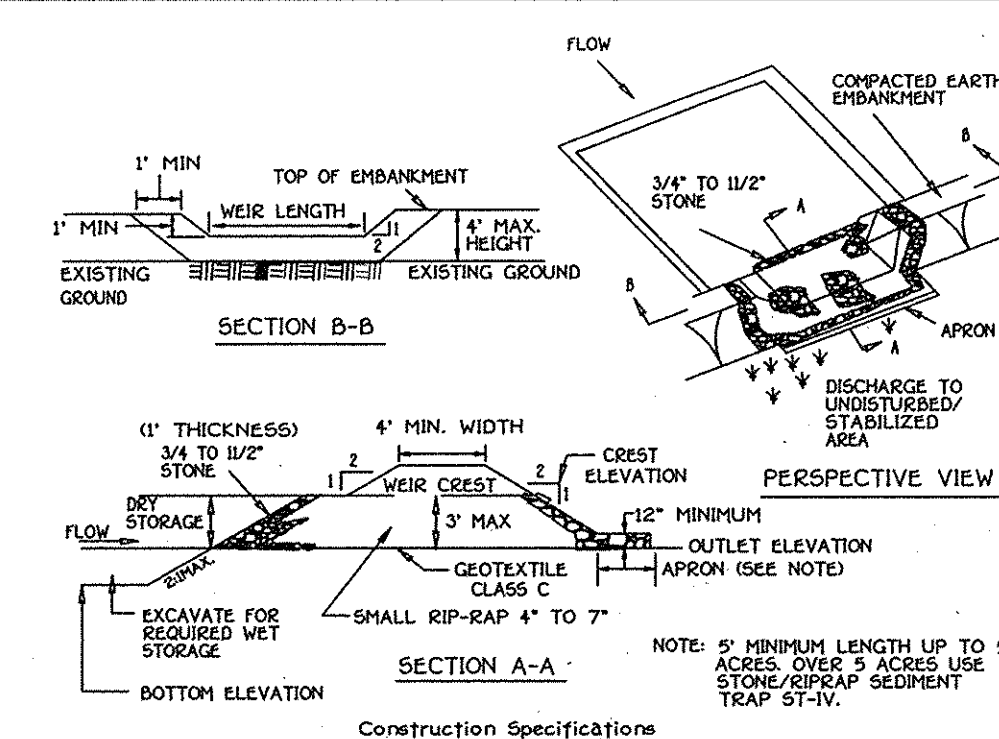
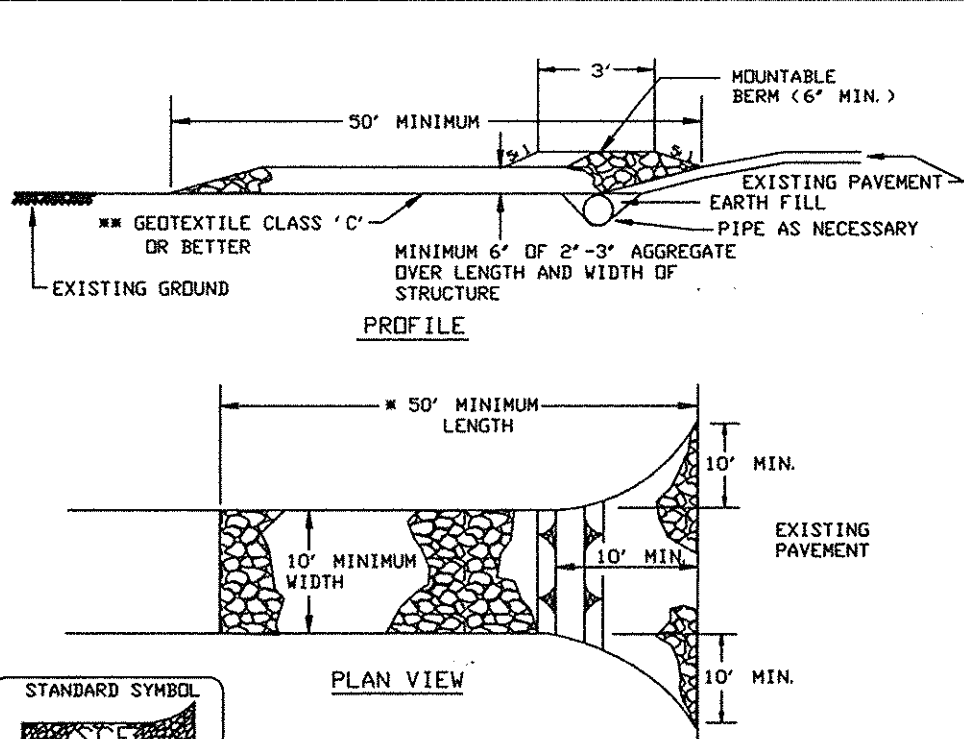
**DETAIL SHEET CHERRY CREEK OVERLOOK**

SECTION 1, AREA 2  
 LOTS 5 THRU 45

ZONING: "R-20"  
 TAX MAP No. 46 PARCEL 66 AND 67  
 SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 SCALE: AS SHOWN DATE: JANUARY 14, 1998  
 SHEET 8 OF 15

**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE  
 ELLICOTT CITY, MARYLAND 21042  
 (410) 461-2895





**Construction Specifications**

- Length - minimum of 50' (#30' for single residence lots).
- Width - 10' minimum, should be flared at the existing road to provide a turning radius.
- Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. \*The plan approval authority may not require single family residences to use geotextile.
- Stone - crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalents shall be placed at least 6" deep over the length and width of the entrance.
- Surface Water - all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 2:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SEE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.
- Location - A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

**Construction Specifications**

- Area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.
- The fill material for the embankment shall be free of roots and any other woody vegetation as well as over-sized stones, rocks, organic material or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed.
- All cut and fill slopes shall be 2:1 or flatter.
- The stone used in the outlet shall be small rip-rap 4" to 7" in size with a 1/2" thick layer of 3/4" to 1/2" washed aggregate placed on the upstream face of the outlet. Stone facing shall be as constructed.
- Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to one half of the wet storage depth of the trap. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.

**CONSTRUCTION SPECIFICATIONS**

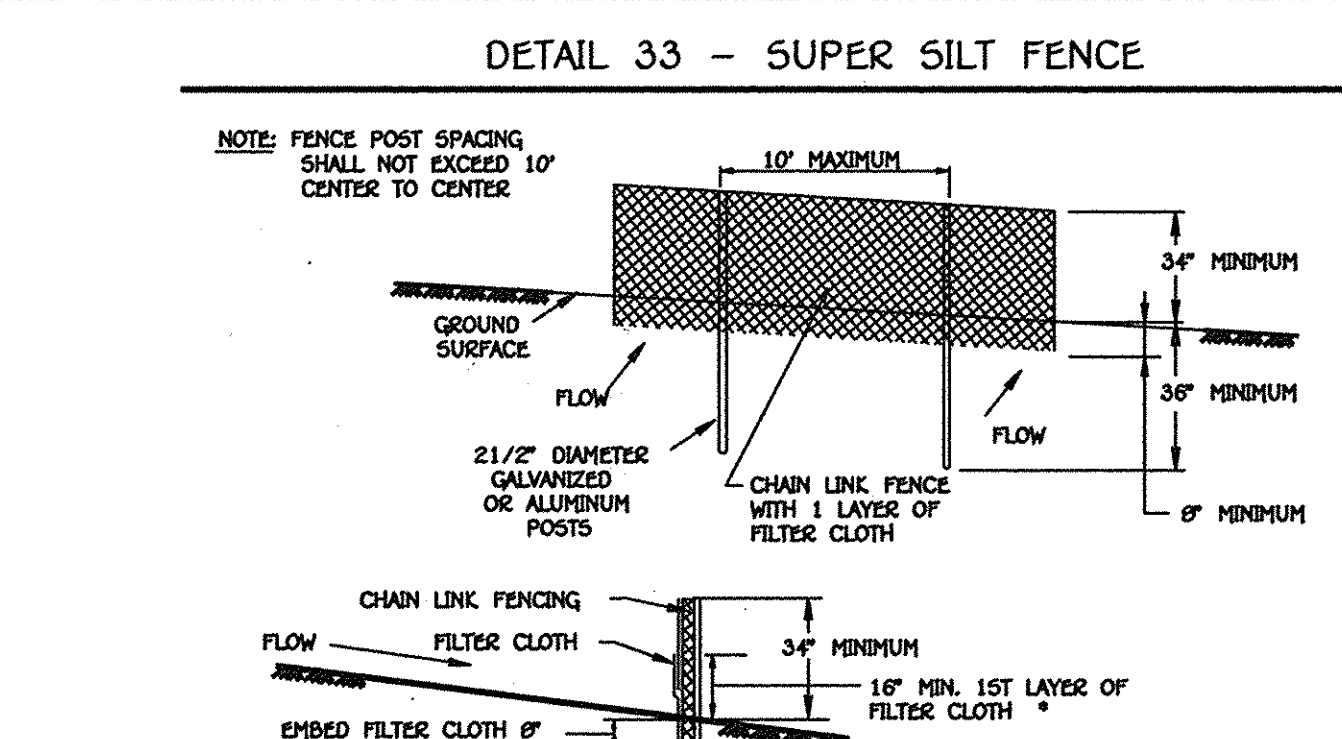
- ALL DIKES SHALL BE COMPACTED BY EARTH-MOVING EQUIPMENT.
- ALL DIKES SHALL HAVE POSITIVE DRAINAGE TO AN OUTLET.
- DESIGN TO FACILITATE CROSSING BY CONSTRUCTION TRAFFIC.
- FIELD LOCATION SHOULD BE ADJUSTED AS NEEDED TO UTILIZE A STABILIZED SAFE OUTLET.
- EARTH DIKES SHALL HAVE AN OUTLET THAT FUNCTIONS 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.
- 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 EXCELSDIOR; SOD; 2" STONE
3	5.1-8.0%	SEED WITH JUTE, OR SOD;	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.



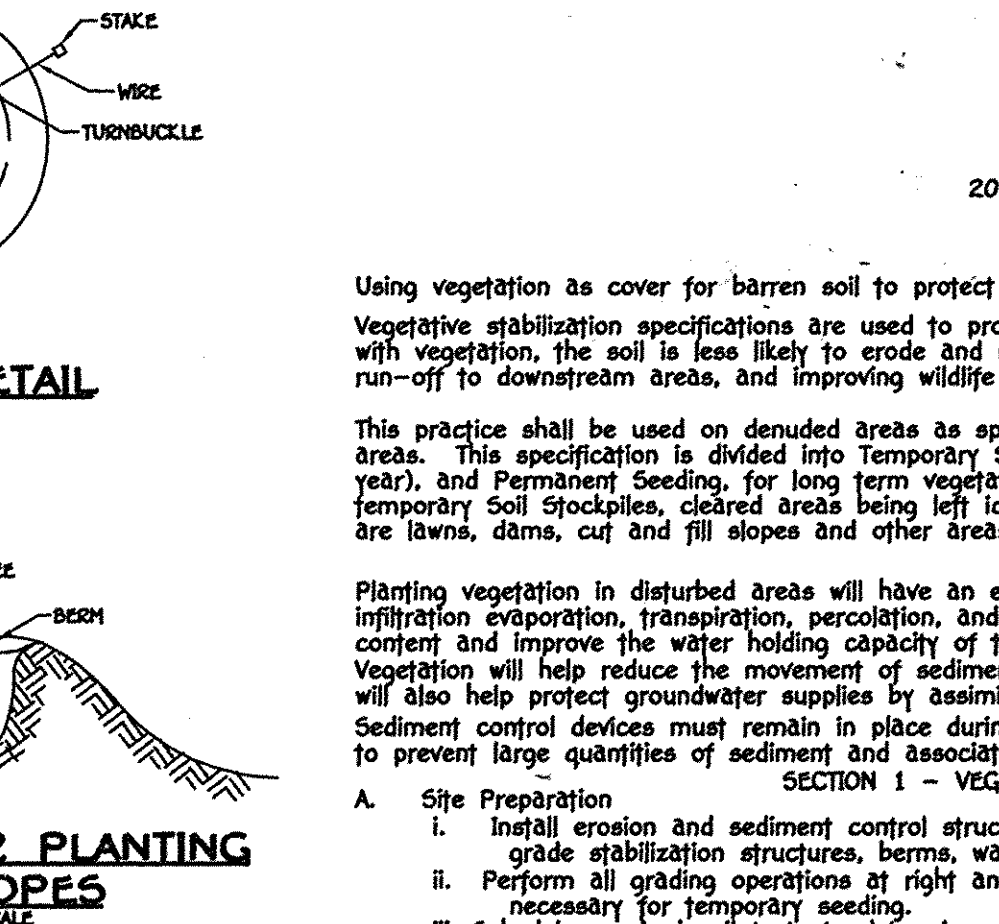
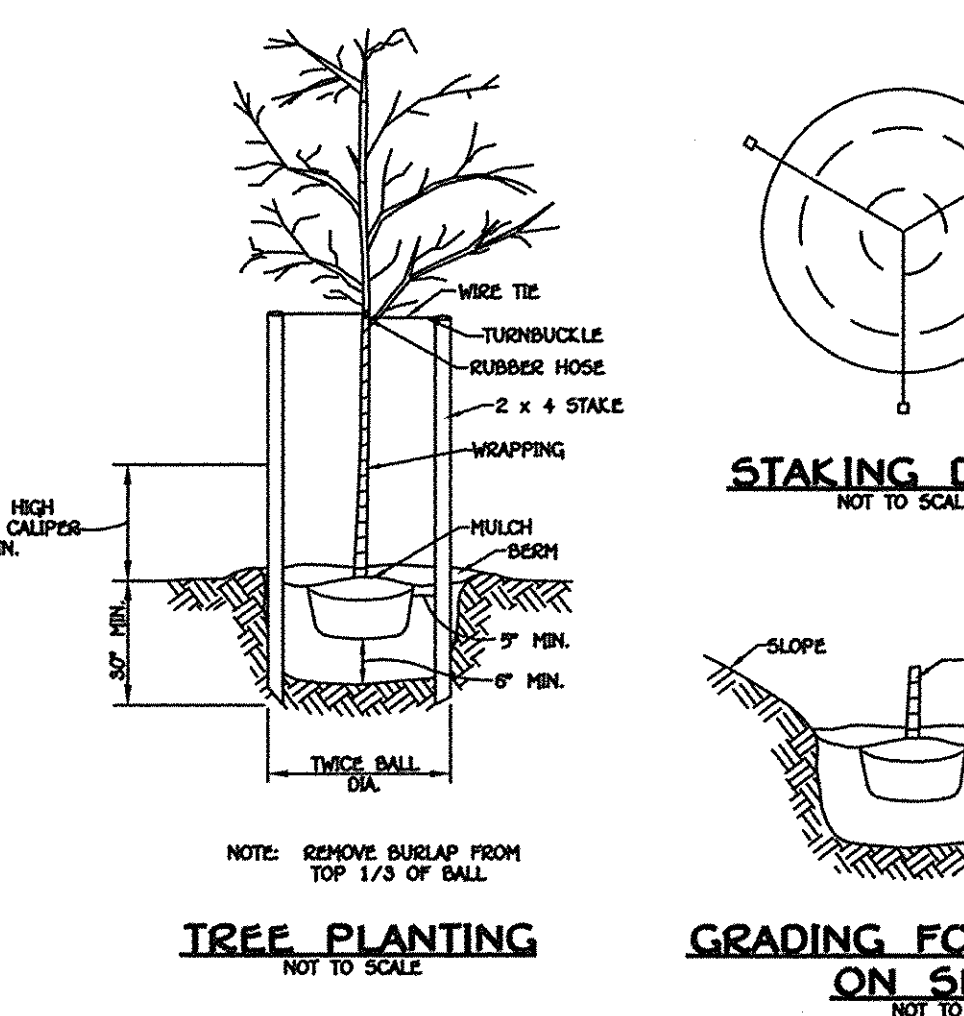
**SEQUENCE OF CONSTRUCTION**

- Obtain Grading Permit. (1 Day)
- Notify "Miss Utility" 48 Hours Before Beginning Any Work At 1-800-257-7777. Notify Howard County Office of Construction/Inspection Division At (410) 313-1800, 24 Hours Before Starting Work. (1 Day)
- Install Sediment Control Measures: Stone Construction Entrance, Sediment Basin, Earth Dikes, Silt Fence, Dry Wells, Tree Protection Fence. Stabilize Dikes With Temporary Seeding. (1 Week)
- Existing Wet Pond On Open Space Lot 4 Shall Be Dewatered And Stabilized With Permanent Seeding.
- Grade Site To Subgrade, Stabilize And Install Storm Drains, Install Inlet Protection Around Inlets. (3 Weeks)
- Sediment Shall Be Removed From Sediment Basins Once The Cleanout Elevations Have Been Reached. (1 Day)
- Install Road Base Course. (4 Days)
- Remove Sediment From Roadways And Dress Stone Construction. Entrance As Required And Stabilize All Disturbed Areas. (2 Days)
- Remove Inlet Protection And Flush Storm Drain System To Remove. Any Trapped Sediment. (2 Days)
- Apply Tack Coat To Subbase And Lay Surface Course. (4 Days)
- Construct Storm Water Management/Water Quality Pond. Stabilize With Permanent Seeding. (7 Days)
- Remove All Sediment Control Measures Upon Sediment Control Inspectors Approval. (2 Days)
- All Disturbed Areas Due To Removal Of Sediment Control Measures Shall Be Graded And Stabilized By Permanent Seeding. (3 Days)

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

**DETAIL 9 - STONE OUTLET SEDIMENT TRAP - ST II**  
NOT TO SCALE

**EARTH DIKE**  
NOT TO SCALE



**20.0 STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION**

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

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 aesthetics.

**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 (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 of 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.

**SECTION 1 - VEGETATIVE STABILIZATION METHODS AND MATERIALS**

A. Site Preparation

- Install erosion and sediment control structures (either temporary or permanent) such as diversions, grade stabilization structures, berms, waterways, or sediment control basins.
- Perform all grading operations at right angles to the slope. Final grading and shaping is not usually necessary for temporary seeding.
- Schedule required soil tests to determine soil amendment composition and application rates for sites having disturbed areas over 5 acres.

B. Soil Amendments (Fertilizer and Lime Specifications)

- Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas over 5 acres. Soil analysis may be performed by the University of Maryland or a recognized commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses.
- Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers shall all be delivered to the site fully labeled according to the applicable state fertilizer laws and shall bear the name, trade name or trademark and warranty of the producer.
- Lime materials shall be ground limestone (hydrated or burnt lime) may be substituted which contains at least 50% total oxides (calcium oxide plus magnesium oxide). Limestone shall be ground to such fineness that at least 50% will pass through a #100 mesh sieve and 90-100% will pass through a #20 mesh sieve.
- Incorporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means.

C. Seeded Preparation

- Temporary Seeding
  - Seeded preparation shall consist of loosening soil to a depth of 3" to 5" by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened it should not be rolled or dragged smooth, but left in the roughened condition. Sloped areas (greater than 3:1) should be tracked leaving the surface in an irregular condition with ridges running parallel to the contour of the slope.
  - Apply fertilizer and lime as prescribed on the plans.
  - Incorporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means.
- Permanent Seeding
  - Minimum soil conditions required for permanent vegetative establishment:
    - Soil pH shall be between 6.0 and 7.0.
    - Soluble salts shall be less than 500 parts per million (ppm).
    - The soil shall contain less than 40% clay.
    - The soil shall contain enough fine grained material (>30% silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception is for loess or serecia loess which is to be planted, then a sandy soil (<30% silt plus clay) would be acceptable.
    - Soil shall contain 1.5% minimum organic matter by weight.
    - Soil must contain sufficient pore space to permit adequate root penetration.
    - If these conditions cannot be met by soils on a depth of 3-5" to permit bonding of the topsoil to the graded 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.
  - Apply soil amendments as per soil test or as included on the plans.
  - Mix soil amendments into the top 3-5" of topsoil by disking or other suitable means. Lawn areas should be raked to smooth the surface, remove large objects like stones and branches, and ready the area for seed and application, where site conditions will not permit normal seeded preparation, loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface. Steep slopes (steeper than 3:1) should be tracked by a dozer leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. The top 1-3" of soil should be loose and friable. Seeded loosening may not be necessary on newly disturbed areas.

**SEDIMENT CONTROL NOTES**

- A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313-1899).
- ALL VEGETATIVE PRACTICES ARE TO BE INSTALLED IN ACCORDANCE WITH 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 THEREOF.
- 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, DIVERSIONS AND ALL SLOPES STEEPER THAN 3:1. b) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12 OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 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.
- 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.
- SITE ANALYSIS
 

TOTAL AREA OF SITE	20,669 ACRES
AREA TO BE ROOFED OR PAVED	6.91 ACRES
AREA TO BE VEGETATIVELY STABILIZED	2.46 ACRES
TOTAL FILL	19,742 ACRES
TOTAL CUT	12,000 CU.YDS.
TOTAL FILL	12,000 CU.YDS.
- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OR WITHIN 72 HOURS.
- ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED FOR COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OF THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

**STAKING DETAIL**  
NOT TO SCALE

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

**SEED SPECIFICATIONS**

- 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.
- Seed tags shall be made available to the inspector to verify type and rate of seed used.
- Inoculant - The inoculant or treating fungus used 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 of application. Inoculants are to be kept in cool dry place in airtight containers until used. Temperatures above 75-80° F. can weaken bacteria and make the inoculant less effective.

**Methods of Seeding**

- Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer), broadcast or drop seeded, or a cultipacker seeder.
  - 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; P205 (phosphorus); 200 lbs./acre; K2O (potassium); 200 lbs./acre.
  - Lime - use only ground agricultural limestone. (Use 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.
  - Seed and fertilizer shall be mixed on site and seeding shall be done immediately and without interruption.
- Dry Seeding: This includes use of conventional drop or broadcast spreaders.
  - Seed spreader shall be used to apply the seed 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.
  - Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.
- Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.
  - Cultipacker seeders are required to bury the seed in such a fashion as to provide at least 1/4" inch of soil covering. Seeded must be firm after planting.
  - Where practical, seed should be applied in two directions perpendicular to each other. Apply half in each direction.

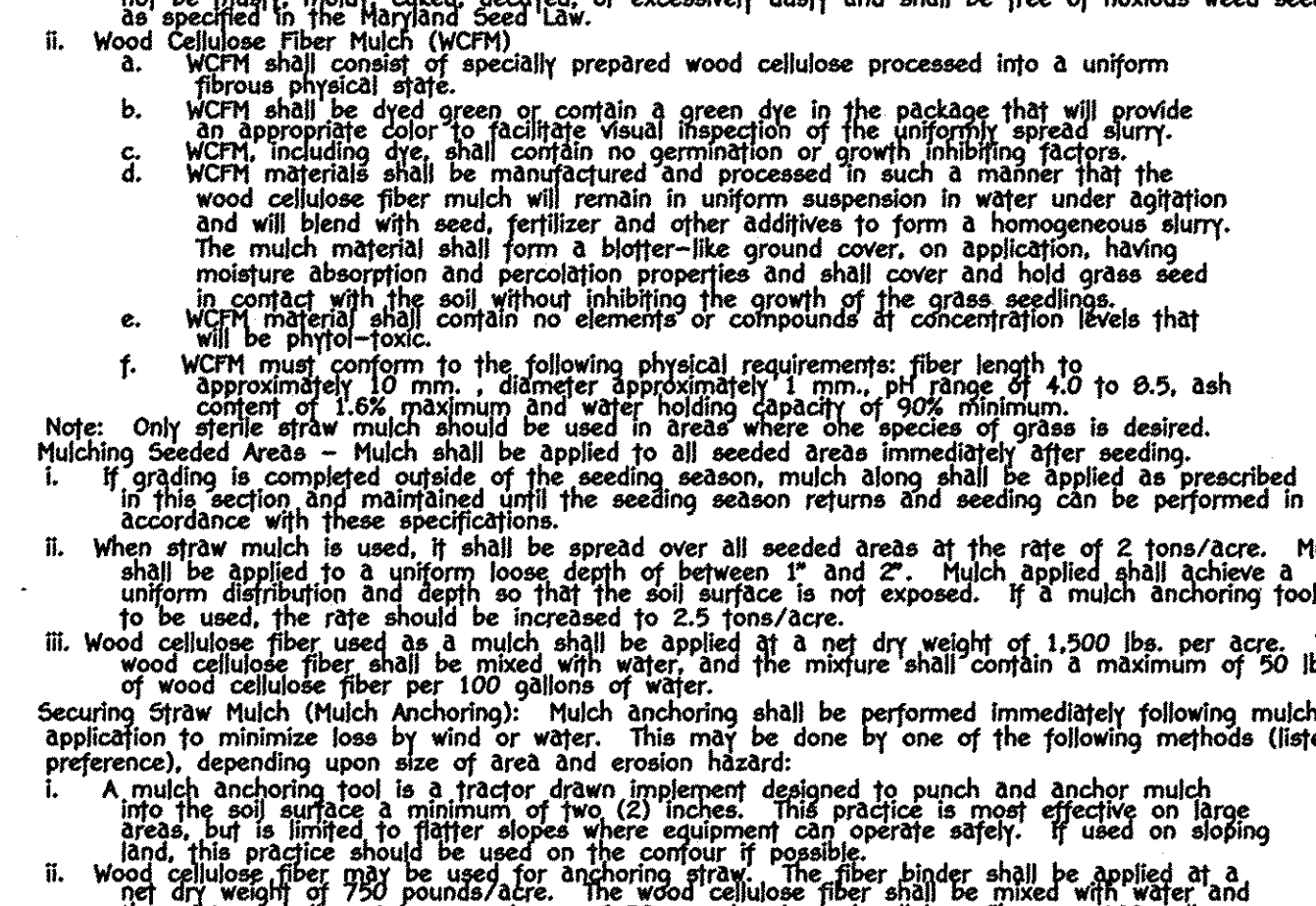
**Mulch Specifications (in order of preference)**

- Straw shall consist of thoroughly threshed wheat, rye or oat straw, reasonable bright in color, and shall be uniform in distribution and free of excessive dust and shall be free of noxious weed seeds as specified in the Maryland Seed Law.
- Wood Cellulose Fiber Mulch (WCFM)
  - WCFM shall consist of specially prepared wood cellulose processed into a uniform fibrous physical state.
  - WCFM shall be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry.
  - WCFM, including dye, shall contain no germination or growth inhibiting factors.
  - WCFM materials shall be manufactured and processed in a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry.
  - The mulch material shall form a blotter-like ground cover on application, having moisture absorption and percolation properties and shall cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
  - WCFM shall contain no elements or compounds at concentration levels that will be phytotoxic.
  - WCFM must conform to the following physical requirements: fiber length to approximately 10" minimum; diameter approximately 1.5" to 2.5"; ash content of 1.6% maximum and water holding capacity of 90% minimum.
- Only sterile straw mulch should be used in areas where the spread of grass is desired.
- Mulching Seeded Area - Mulch shall be applied to all seeded areas immediately after seeding.
- 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.

**Securing Straw Mulch (Mulch Anchoring):** Mulch anchoring shall be performed immediately following mulch application to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending upon size of area and erosion hazard:

- A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil on the site. The mulch anchoring tool is used on sloping lands, and is preferred to other methods of mulch anchoring. If used on sloping lands, the mulch anchoring tool shall be used in a manner that will not permit bonding of the topsoil to the graded 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.
- Wood cellulose fiber may be used as an anchoring straw. The fiber binder shall be applied at a net dry weight of 150 pounds/acre. The wood cellulose fiber shall be mixed with water and the mixture shall contain a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
- Application of liquid binders should be heavier at the edges where wind catches mulch, such as in the crests and crests of banks. The remainder of area should be applied uniform after binder application. Synthetic binders - such as Acrylic DiE (Ago-Tack), DCA-700 Petroseal, Terra Tax or Terra Tack 42 or other approved ester based binders - shall be recommended by the manufacturer to anchor mulch.
- Lightweight plastic netting may be stabled over the mulch according to manufacturer's recommendations. Netting is usually available in rolls 4' to 19' feet wide and 300 to 3,000 feet long.

**DETAIL 22 - SILT FENCE**



**Construction Specifications**

- Fence posts shall be a minimum of 30' long driven 18" minimum into the ground. Wood posts shall be 1 1/2" x 1 1/2" square (minimum) cut, or 1 3/4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighing not less than 1.00 pound per linear foot.
- 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
- Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.
- 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 EROSION AND SEDIMENT BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY."

Signature of Developer: *Donald R. Rouse Jr.* Date: 8/7/97

**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 COUNTY SOIL CONSERVATION DISTRICT.

Signature of Engineer: *Richard J. Lisch* Date: 1/16/98

Signature of Engineer: *Chief Simmons* Date: 1/23/98

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

Signature of Engineer: *John R. Rouse* Date: 1/23/98

Signature of Engineer: *Chief Simmons* Date: 2/9/98

Signature of Engineer: *Richard J. Lisch* Date: 2-5-98

APPROVED: DEPARTMENT OF PLANNING AND ZONING

APPROVED: DEPARTMENT OF PLANNING AND ZONING

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Signature of Engineer: *Richard J. Lisch* Date: 2-5-98

**FISHER, COLLINS & CARTER, INC.**  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
10000 NATIONAL PIKE  
ELLICOTT CITY, MARYLAND 21042  
(410) 461-2855

**DEVELOPER**  
BARNES PROPERTY, LLC  
C/O LAND DESIGN & DEVELOPMENT, INC.  
10905 HICKORY RIDGE ROAD  
COLUMBIA, MARYLAND 21044

**OWNER**  
MR. AND MRS. JOSEPH BARNES  
1110 HARDING ROAD  
LAUREL, MARYLAND 20723

**OWNER**  
MR. AND MRS. DAVID COOK  
ROUTE 1, BOX 255  
BURLINGTON, WEST VIRGINIA 25710

**SEDIMENT CONTROL NOTES AND DETAILS**

**CHERRY CREEK OVERLOOK**

SECTION ONE AREA ONE

LOTS 1 THRU 45

ZONING: "R-20"

TAX MAP No. 46 PARCEL 66 AND 67

SIX ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN DATE: JANUARY 14, 1998

SHEET 9 OF 16

**DEVELOPER**  
BARNES PROPERTY, LLC  
C/O LAND DESIGN & DEVELOPMENT, INC.  
10905 HICKORY RIDGE ROAD  
COLUMBIA, MARYLAND 21044

**OWNER**  
MR. AND MRS. JOSEPH BARNES  
1110 HARDING ROAD  
LAUREL, MARYLAND 20723

**OWNER**  
MR. AND MRS. DAVID COOK  
ROUTE 1, BOX 255  
BURLINGTON, WEST VIRGINIA 25710

*Richard J. Lisch*  
PROFESSIONAL ENGINEER  
22418



NOTE: FOR UNDERGROUND SWIM FACILITY DETAIL, SEE SHEET 17

PROVIDE TEMP 2" O FROM M-7 TO R.O.S.T No. 1 (INLET + 320.25) BLOCK OUTFALL PIPES TO WQ-1 AND M-6.

**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.

*Joseph Panchali*  
Signature Of Engineer 8/7/97  
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.

*Donald R. Kerner Jr*  
Signature Of Developer 8/7/97  
Date

Reviewed For Howard County Soil Conservation District And Meets Technical Requirements.  
*Cheryl Semmens* 11/23/98  
USDA - Natural Resources Conservation Service Date

Approved: This Development Is Approved For Erosion And Sediment Control By The Howard Soil Conservation District.  
*John R. Robertson* 11/23/98  
District Howard Soil Conservation Dist. Date

Approved: Department Of Planning And Zoning  
*Cindy Hamilton* 3/19/98  
Chief, Division Of Land Development Date

*John Drummond* 2/16/98  
Chief, Development Engineering Division Date

Approved: Howard County Department Of Public Works  
*Andrew M. Douch* 2-5-98  
Chief, Bureau Of Highways Date

**R.O.S.T No. 1**  
FINAL DRAINAGE AREA = 7.5 AC.  
STORAGE REQUIRED:  
WET: 7.5 x 1800 c.f. = 13,500 c.f.  
DRY: 7.5 x 1800 c.f. = 13,500 c.f.  
STORAGE PROVIDED:  
WET: 15,850 c.f. @ 322.0  
DRY: 13,875 c.f. @ 322.0  
BOTTOM ELEV. = 317.60  
BOTTOM DIM: SEE PLAN  
SIDE SLOPES: 2:1  
TOP OF EMBANKMENT = 323.0  
EX. GROUND @ EMBANKMENT: 323.0  
CLEAN-OUT ELEV. = 318.60  
WEIR CREST = 320.0  
WEIR LENGTH = 10'



**LEGEND**

- STABILIZED CONSTRUCTION ENTRANCE
- SILT FENCE
- EX. STREET TREES
- EARTH DIKE
- LIMIT OF DISTURBANCE
- TREE PROTECTION FENCE
- PROPOSED STREET TREES
- INLET PROTECTION
- DRY WELL
- FOREST CONSERVATION AREA

**STREET TREE SCHEDULE**

SYMBOL	BOTANICAL AND COMMON NAME	SIZE	COMMENTS
	AESCULUS HIPPOCASTANUM 'BAUMANNI' (BAUMANNI HORSECHESTNUT)	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:  
- 33 STREET TREES (THIS SHEET)

NOTE: SEE SHEET 8 FOR PERIMETER LANDSCAPE CHART.

DRAINAGE AREA MAP AND LANDSCAPE PLAN

**CHERRY CREEK OVERLOOK**

SECTION ONE AREA TWO LOTS 5 THRU 45  
ZONING: "R-20"

TAX MAP NO. 46 PARCEL 66 AND 67  
SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
SCALE: AS SHOWN DATE: JANUARY 14, 1998

SHEET 10 OF 16

**SEDIMENT BASIN No. 2**  
D.A. TO SEDIMENT BASIN = 9.4 AC.  
STORAGE REQUIRED: 9.4 AC. x 3600 c.f. = 33,840 c.f.  
STORAGE PROVIDED @ EL. 338.70 = 38,750 c.f.  
CREST EL. FOR 10' HIGH CONC. WEIR = 339.00  
BOTTOM OF BASIN EL. = 335.00  
VOLUME @ CLEAN-OUT EL. = 9000 c.f. x 9.4 AC. = 8,400 c.f.  
∴ CLEAN-OUT EL. = 336.20  
VOLUME @ DEWATERING EL. = 1,000 c.f. x 9.4 AC. = 9,400 c.f.  
∴ DEWATERING EL. = 337.00  
PROVIDE 4" PVC W/ BUSH @ EL. 338.70

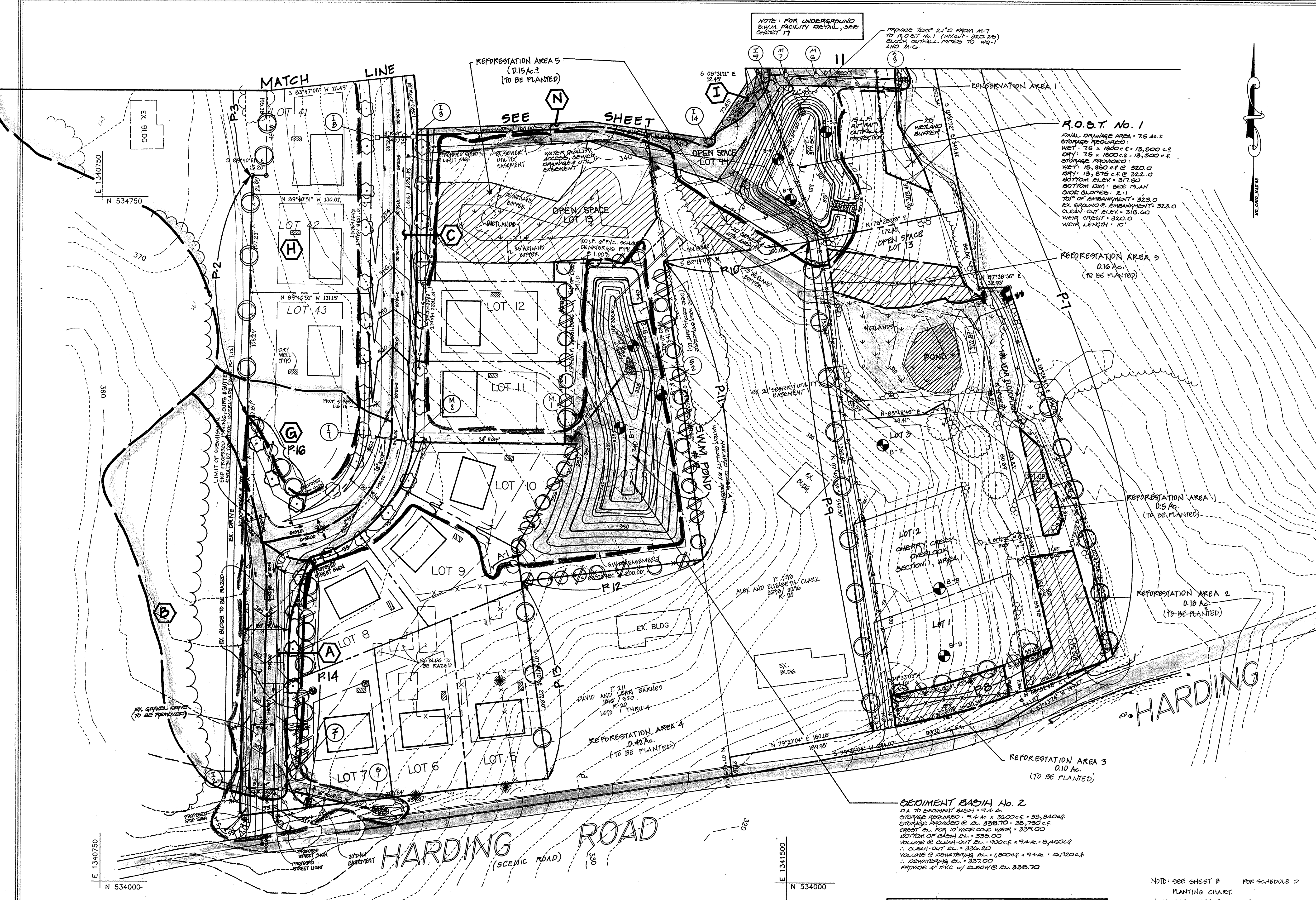
**LANDSCAPING PLANT LIST**

QTY.	KEY	NAME	SIZE
12		ACER RUBRUM 'OCTOBER GLORY' (OCTOBER RED MAPLE)	2-2 1/2" CALIPER FULL CROWN B+B
40		PINUS THUNBERGIANA (JAPANESE BLACK PINE)	6'-8' HEIGHT

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 90 REQUIRED LANDSCAPE TREES IN SECTION ONE(1) AREA (2) HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$9,000.

NOTE: SEE SHEET 8 FOR SCHEDULE D PLANTING CHART  
NOTE: SEE SHEET 8 FOR SOIL BORING CHARTS

PLAN SCALE: 1" = 50'



**FISHER, COLLINS & CARTER, INC.**  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE  
ELLCOTT CITY, MARYLAND 21117  
410-461-2922

**REVISIONS**

No.	DESCRIPTION	DATE
1	REVISE FLOWERING CHERRY TO CURB & GUTTER	3-26-98

**DEVELOPER**  
BARNES PROPERTY, LLC  
C/O LAND DESIGN & DEVELOPMENT, INC.  
10005 HICKORY RIDGE ROAD  
COLUMBIA, MARYLAND 21044

**OWNER**  
MR. AND MRS. JOSEPH BARNES  
ROUTE 1, BOX 255 E  
LAUREL, MARYLAND 20723

**OWNER**  
MR. AND MRS. DAVID COON  
ROUTE 1, BOX 255 E  
BURLINGTON, WEST VIRGINIA 26710







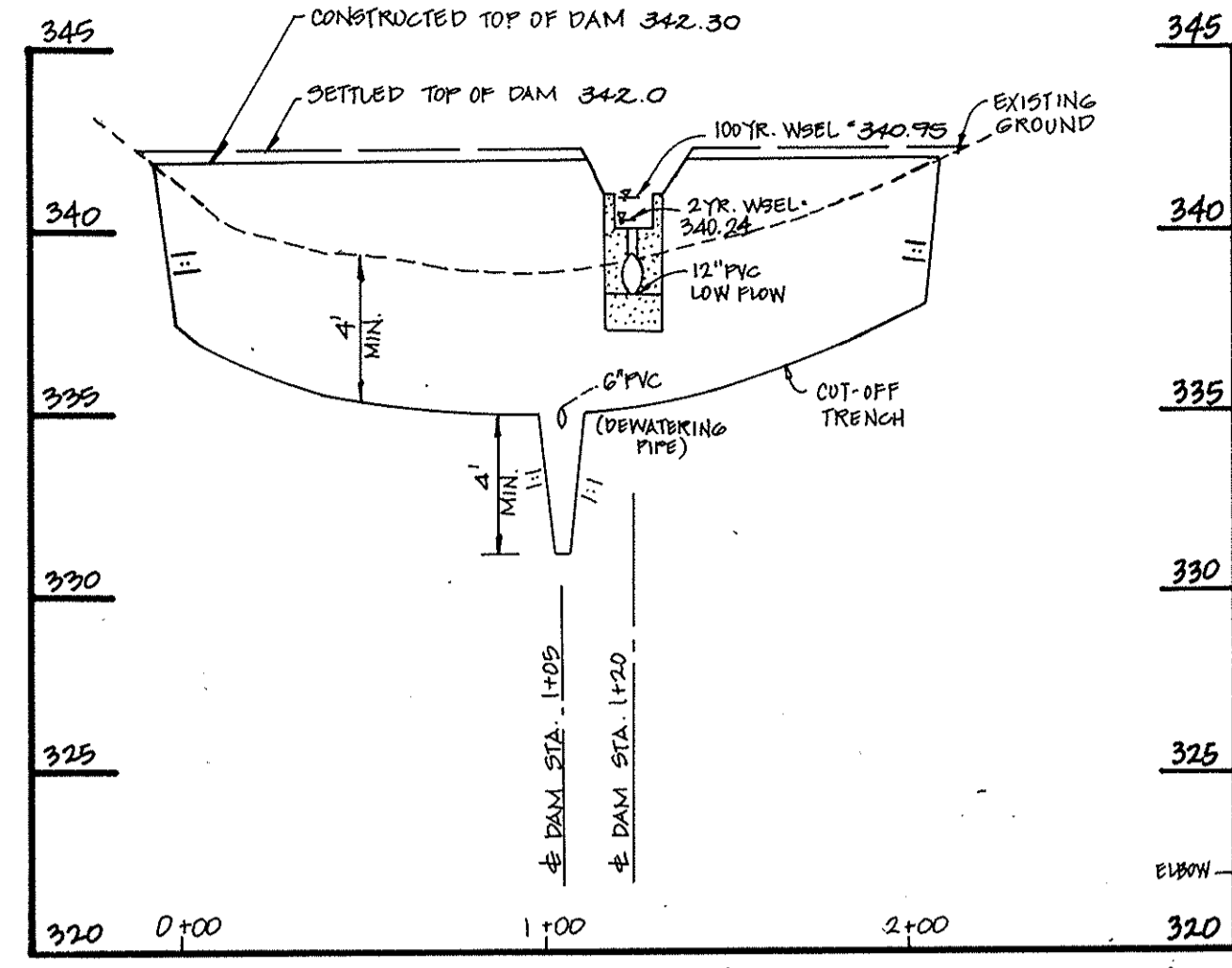
OPERATION AND MAINTENANCE SCHEDULE  
FOR  
H.O.A. OWNED AND MAINTAINED  
UNDERGROUND SWM FACILITY No. 1

A. H.O.A. ROUTINE MAINTENANCE RESPONSIBILITIES:

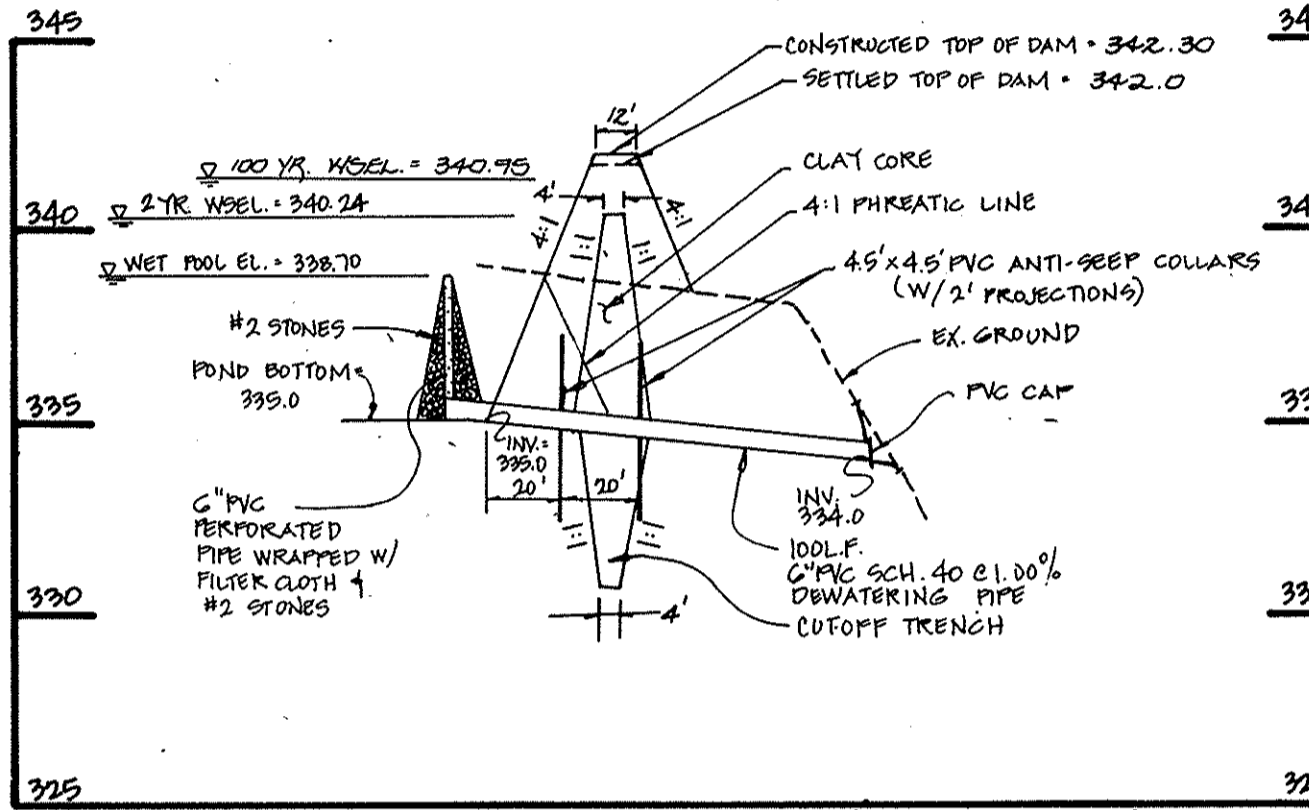
1. THE UNDERGROUND SWM FACILITY SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHOULD BE PERFORMED DURING WET WEATHER TO DETERMINE IF THE FACILITY IS FUNCTIONING PROPERLY.
2. MAINTENANCE OF THE 42-INCH STORAGE PIPES SHALL BE PERFORMED BY FLUSHING THE SYSTEM THROUGH THE CLEANOUTS PROVIDED AND BY VACUUMING AT MANHOLE M-B. THE DOWNSTREAM ORIFICE OF THE UNDERGROUND SWM FACILITY SHALL BE TEMPORARILY BLOCKED DURING SAID MAINTENANCE OPERATION.
3. DISPOSAL OF MATERIAL SHALL BE IN ACCORDANCE WITH SIMILAR B.M.P. THAT RANGE FROM DISPOSAL IN A SANITARY LANDFILL TO INCINERATION IN A LICENSED FACILITY. PETROLEUM WASTE PRODUCTS SHOULD BE REMOVED BY A LICENSED WASTE MANAGEMENT COMPANY.

B. H.O.A. NON-ROUTINE MAINTENANCE:

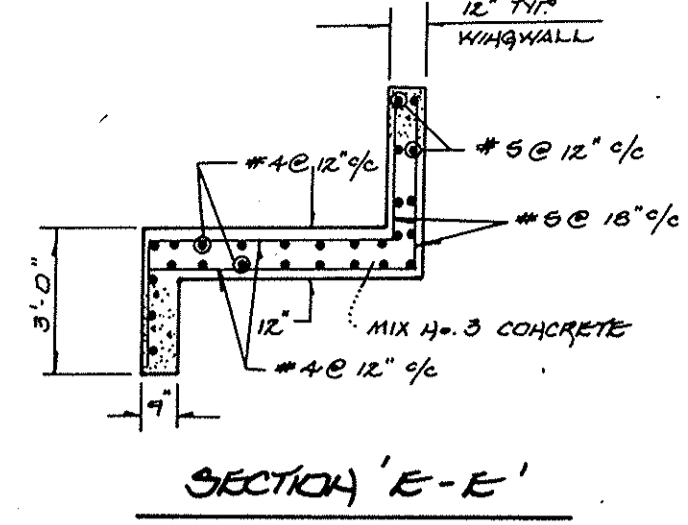
1. STRUCTURAL COMPONENTS OF THE UNDERGROUND FACILITY SUCH AS THE STORAGE TANK, MANHOLES, PIPES AND ORIFICE SHALL BE REPAIRED UPON DETECTION OF ANY DAMAGE. THE COMPONENTS SHOULD BE INSPECTED DURING ROUTINE MAINTENANCE OPERATIONS. INSPECTION REPORTS SHALL BE KEPT UNTIL THE NEXT SUBSEQUENT INSPECTION.
2. PROBLEMS IDENTIFIED DURING INSPECTION WILL BE PROMPTLY CORRECTED. MAJOR PROBLEMS SHALL ALSO BE BROUGHT TO THE ATTENTION OF THE HOWARD COUNTY DEPT. OF PUBLIC WORKS TO INSURE THAT PUBLIC SAFETY IS MAINTAINED.



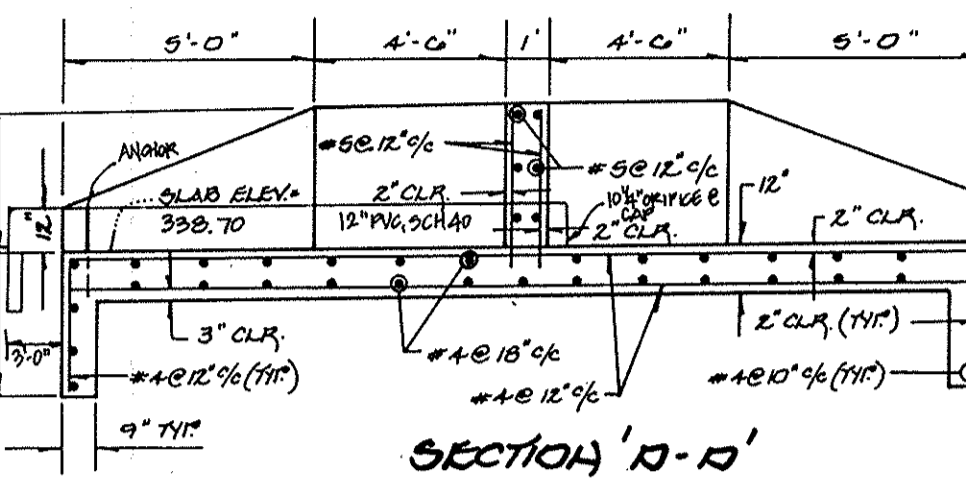
PROFILE THRU THE DAM (POND #2)  
SCALE: HORIZ. 1"=50'  
VERT. 1"=5'



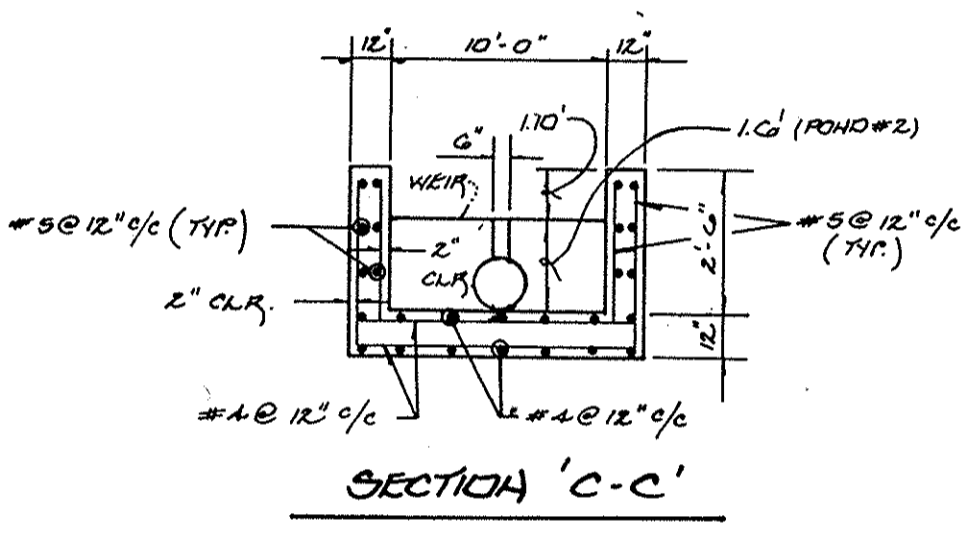
SECTION 'A-A' (POND #2)  
SCALE: HORIZ. 1"=50'  
VERT. 1"=5'



SECTION 'E-E'



SECTION 'D-D'



SECTION 'C-C'

OPERATION AND MAINTENANCE SCHEDULE  
OF HOME OWNERS ASSOCIATION OWNED AND MAINTAINED  
STORMWATER MANAGEMENT FACILITY  
WET POND

HOME OWNERS ASSOCIATION'S MAINTENANCE RESPONSIBILITIES:

1. 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 and maintenance access should be mowed as needed.
2. Debris and litter next to the outlet structure shall be removed during regular mowing operations and as needed.
3. When deemed necessary for aesthetic reasons, sediment should be removed from the pond. Approval of the Department of Public Works is required.

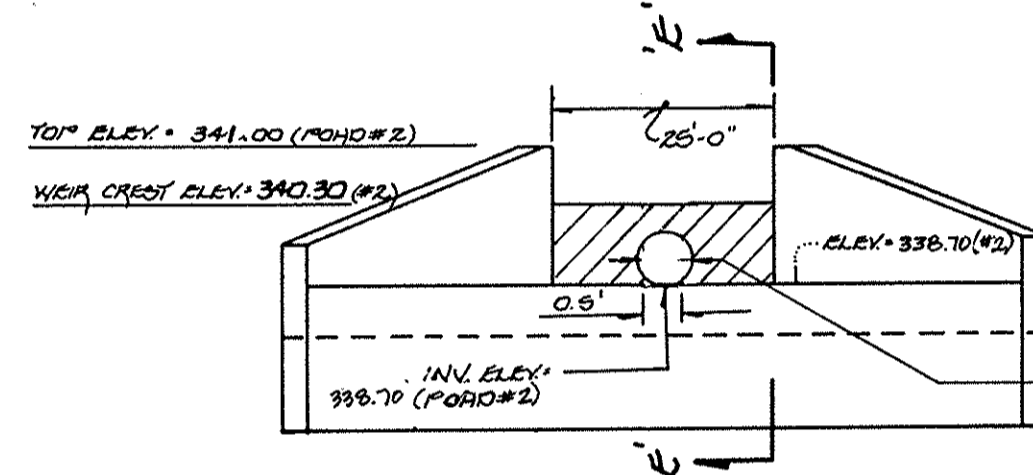
OPERATION AND MAINTENANCE SPECIFICATIONS

I hereby certify that I will operate and maintain the completed pond in accordance with the following:

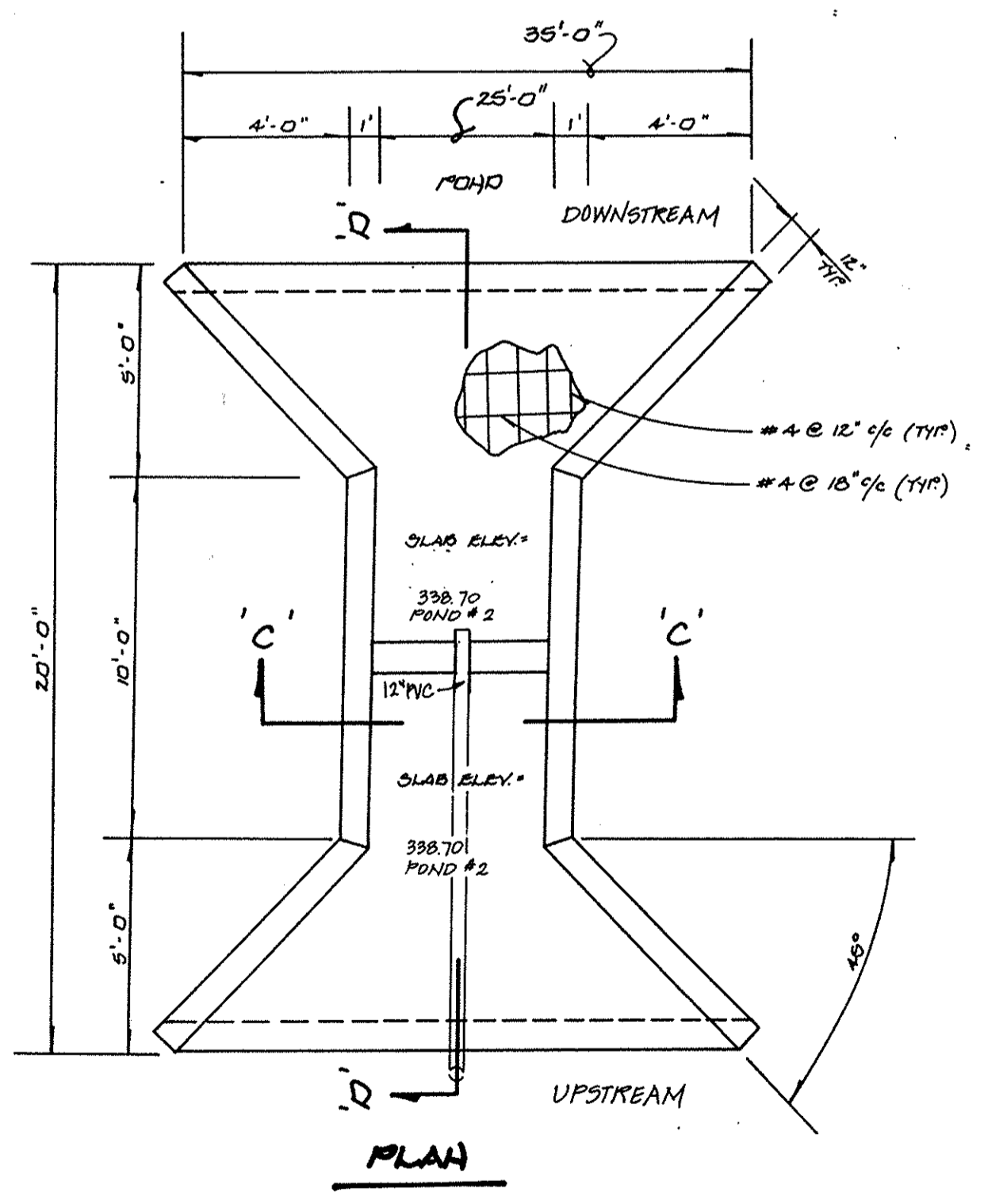
- 1) Periodic inspections of the facility will be made to identify potential problems that may affect its safety. These inspections will be made after periods of heavy rainfall and at least twice annually. Inspection reports shall be kept until the next subsequent inspection. Inspection items to be looked at include:
  - A. Spillway and outlet works
  - B. Rip-rap
  - C. Vegetative cover
  - D. Cracks in the fill
  - E. Slope failures; and
  - F. Seepage and other signs of distress.
- 2) Problems identified during inspections will be promptly corrected. Major problems will be brought to the attention of the soil conservation district and the dam safety division of the Maryland Water Resources Administration. As a very minimum, grassy vegetation will be maintained in a dense and healthy state, and woody vegetation will not be permitted to grow on the embankment.

NOTES

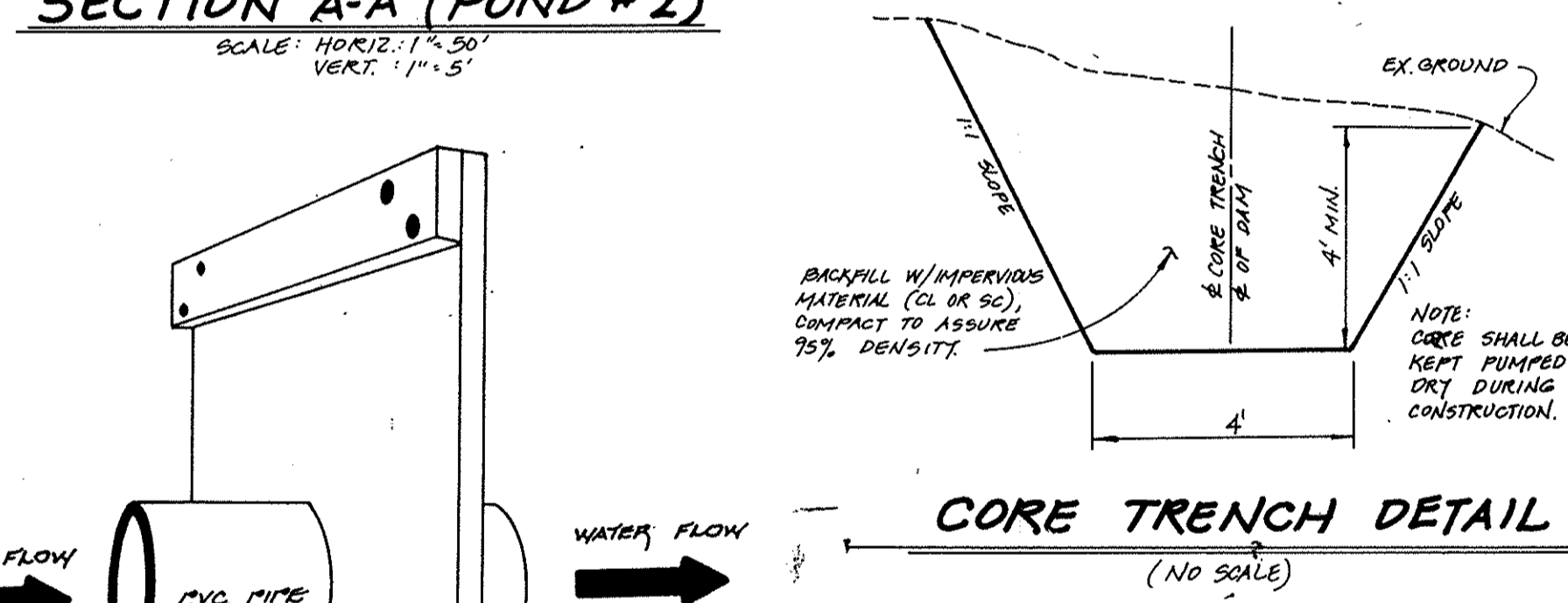
1. Concrete shall conform to the Maryland D.O.T.S.H.A. Standard Spec's for construction and materials, 1982 Mix No. 6, except that T. III Cement and A.S.T.M. C 33 No. 6 coarse AGG. shall be used.



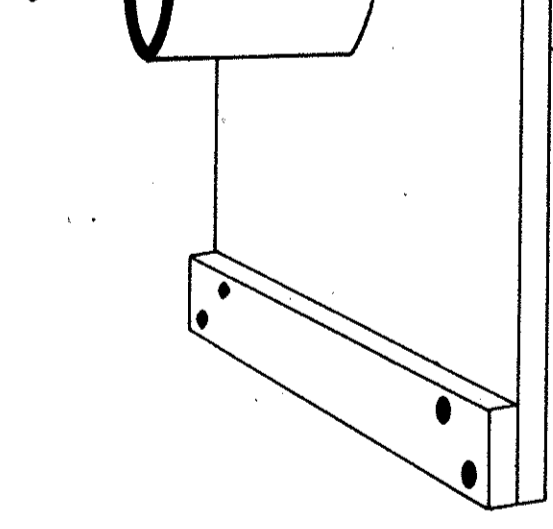
FRONT ELEVATION



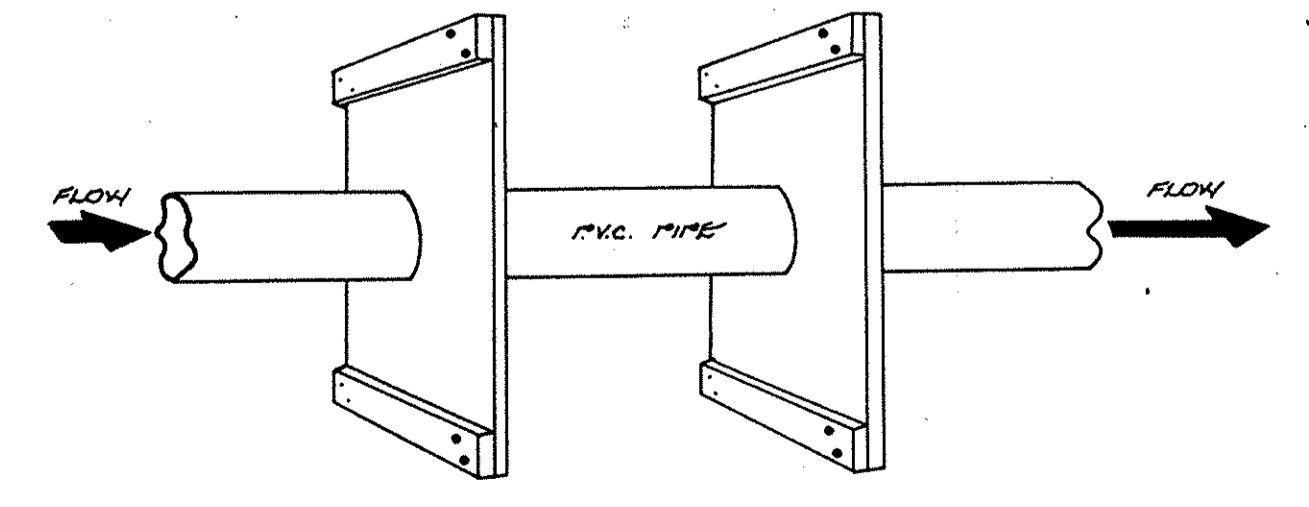
PLAN



CORE TRENCH DETAIL  
(NO SCALE)



LOW FLOW ORIFICE DETAIL (POND #2)  
NOT TO SCALE



PVC ANTI-SEEP COLLAR DETAIL  
(NO SCALE)

(MODIFIED HOWARD COUNTY STD. DET. 5.12-7.00)  
CONCRETE WEIR STRUCTURE DETAIL  
(NO SCALE)

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. Also Authorize Periodic On-Site Inspections By The Howard Soil Conservation District.

*Donald R. Reuter Jr.* 8/1/97  
Signature Of Developer Date  
DONALD REUTER JR.  
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 I, The Engineer, 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.

*Zacharia Y. Gisch* 1/16/98  
Signature Of Engineer Date  
Zacharia Y. Gisch  
Printed Name Of Engineer

These Plans Have Been Reviewed For Small Pond Construction, Soil Erosion And Sediment Control Technical Requirements For Small Pond Construction, Soil Erosion And Sediment Control.

*Keith Simmon* 1/23/98  
Signature Of Engineer Date  
Keith Simmon  
Printed Name Of Engineer  
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.

*John R. Robertson* 1/23/98  
Signature Of Engineer Date  
John R. Robertson  
Printed Name Of Engineer  
Howard Soil Conservation District

Approved Department Of Public Works  
*Richard M. Davelos* 2-5-98  
Signature Date  
Richard M. Davelos  
Printed Name Of Engineer  
Chief, Bureau Of Highways

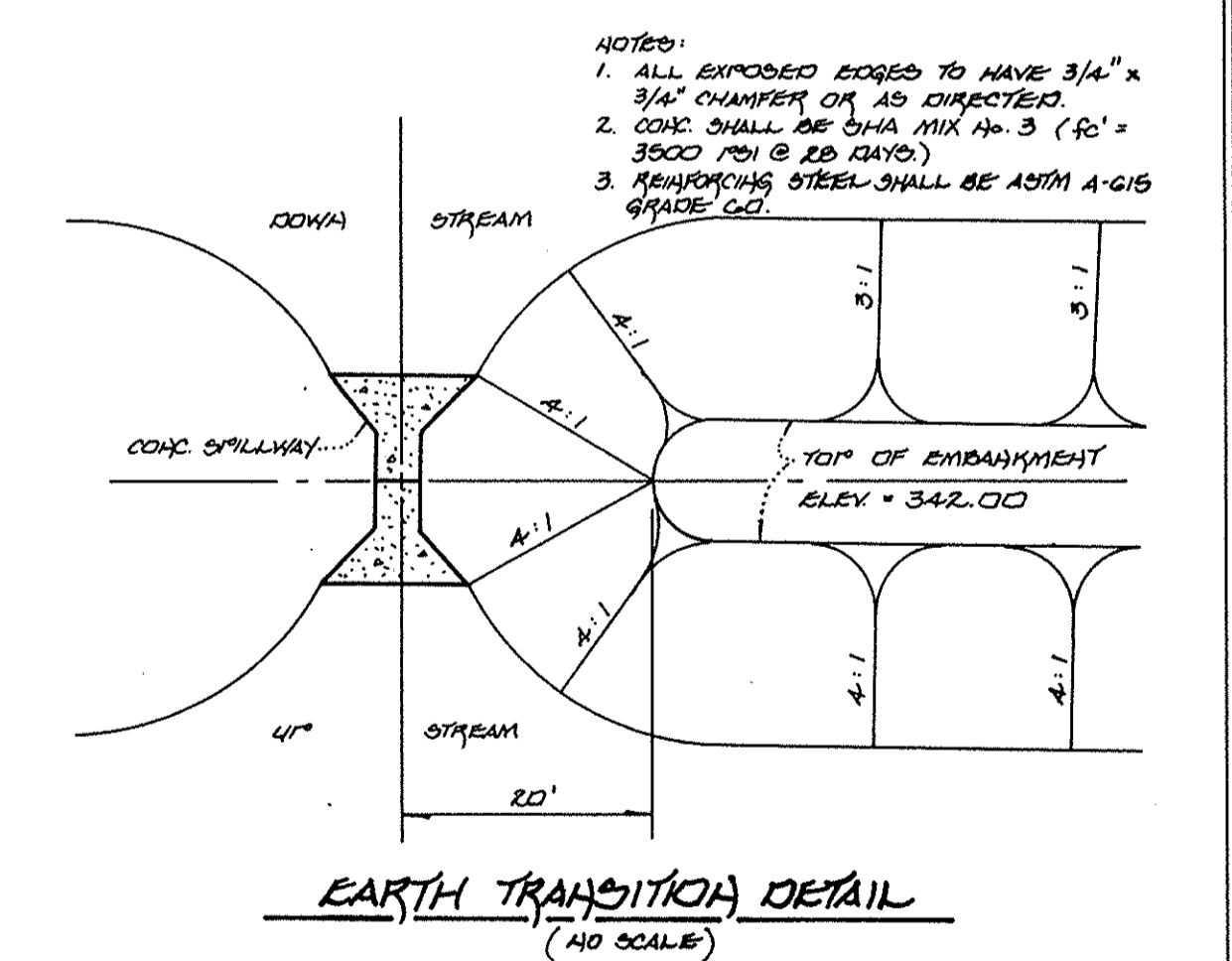
Approved Department Of Planning And Zoning  
*Cindy Hamstra* 2/19/98  
Signature Date  
Cindy Hamstra  
Printed Name Of Engineer  
Chief, Division Of Land Development

*John D. Dammann* 2/19/98  
Signature Date  
John D. Dammann  
Printed Name Of Engineer  
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.

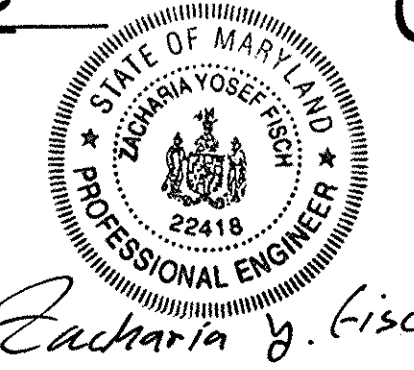
Signature \_\_\_\_\_ P.E. No. \_\_\_\_\_  
Date \_\_\_\_\_

Certify Means To State Or Declare A Professional Opinion Based Upon 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.



EARTH TRANSITION DETAIL  
(NO SCALE)

STORMWATER MANAGEMENT DETAILS  
CHERRY CREEK OVERLOOK  
SECTION ONE AREA TWO  
LOTS 5 THRU 45  
ZONING: "R-20"  
TAX MAP No. 46 PARCEL 66 AND 67  
SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
SCALE: AS SHOWN DATE: JANUARY 14, 1998  
SHEET 12 OF 16





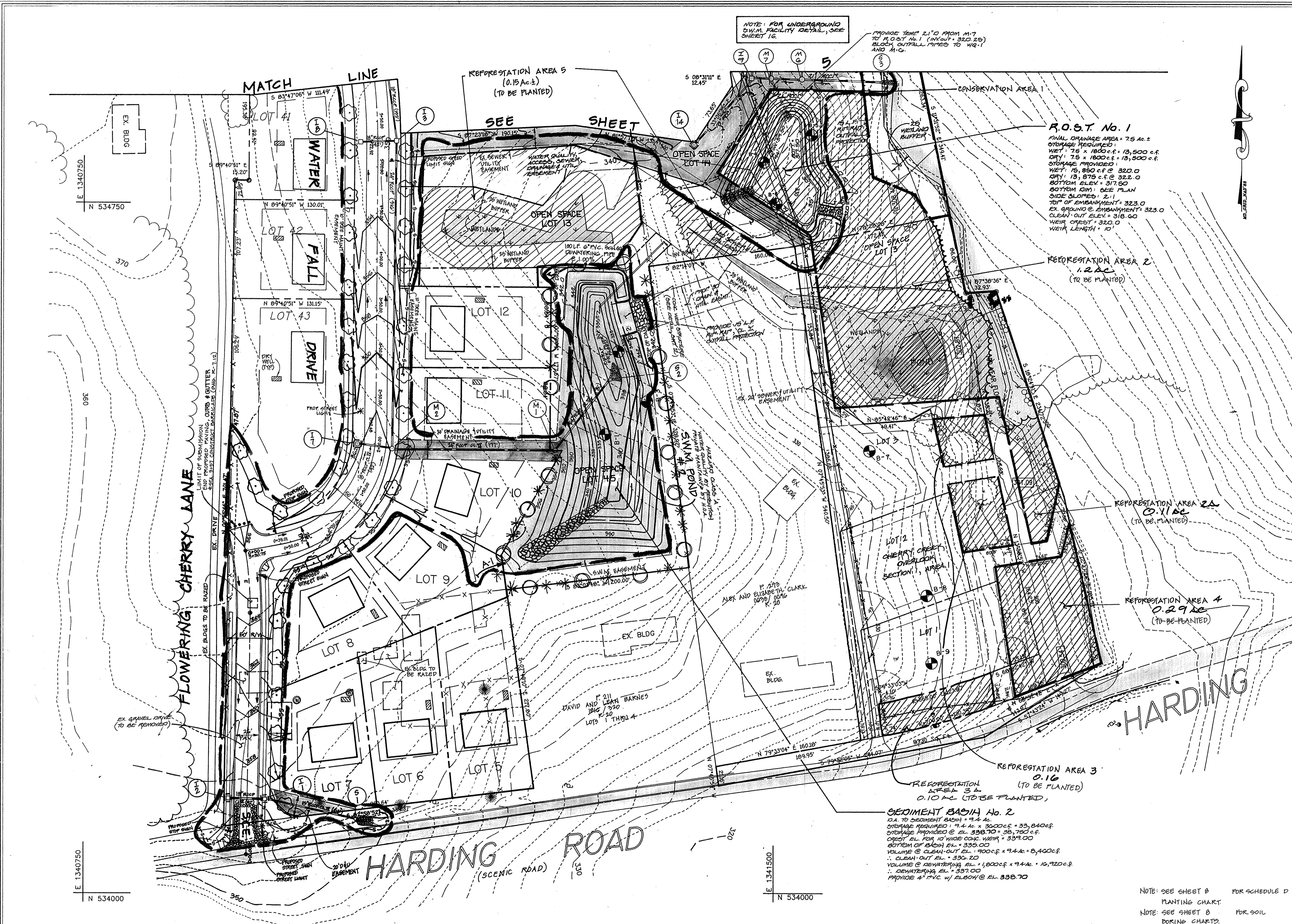
NOTE: FOR UNDERGROUND SW.M. FACILITY DETAIL, SEE SHEET 16.

PROVIDE TEMP 21" D FROM M-7 TO R.O.S.T. No. 1 (INCL. 320.25) BLOCK OUTFALL PIPES TO W-1 AND M-6.

**ENGINEER'S CERTIFICATE**  
 I Herby 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: *James R. Smith* Date: 8/7/97

**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: *Donald R. Lewis Jr.* Date: 8/7/97

Reviewed For Howard County Soil Conservation District And Meets Technical Requirements.  
 U.S.D.A. - Natural Resources Conservation Service Date: \_\_\_\_\_  
 Approved This Development Is Approved For Erosion And Sediment Control By The Howard Soil Conservation District.  
 District Howard Soil Conservation Dist. Date: \_\_\_\_\_  
 Approved Department Of Planning And Zoning  
*Andy Hamilton* Date: 2/19/98  
 Chief, Division Of Land Development  
*Chris Dammann* Date: 2/19/98  
 Chief, Development Engineering Division  
 Approved Howard County Department Of Public Works  
 Chief, Bureau Of Highways Date: \_\_\_\_\_



**LEGEND**

- Symbol: [Hatched Box] Label: STABILIZED CONSTRUCTION ENTRANCE
- Symbol: [Line with Dashes] Label: SILT FENCE
- Symbol: [Circle with Dashed Line] Label: EX. STREET TREES
- Symbol: [Line with Dots] Label: EARTH DIKE
- Symbol: [Line with Long Dashes] Label: LIMIT OF DISTURBANCE
- Symbol: [Line with X's] Label: TREE PROTECTION FENCE
- Symbol: [Circle with Dotted Line] Label: PROPOSED STREET TREES
- Symbol: [Square with X's] Label: INLET PROTECTION
- Symbol: [Square with Diagonal Lines] Label: DRY WELL
- Symbol: [Hatched Area] Label: FOREST CONSERVATION AREA

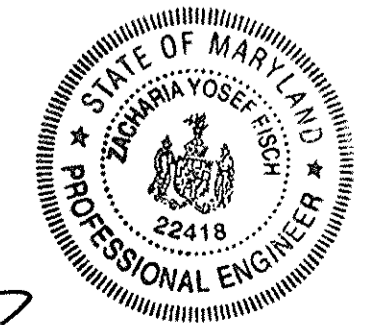
**STREET TREE SCHEDULE**

SYMBOL	BOTANICAL AND COMMON NAME	SIZE	COMMENTS
[Circle with Dotted Line]	AESCULUS HIPPOCASTANUM (BAUMANN HORSEHESTNUT)	2 1/2" - 3" CALIPER	40' APART ON PUBLIC R/W

NOTE: STREET TREES ARE ONLY A RECOMMENDATION THIS MAY BE REVISIED TO A COUNTY ACCEPTABLE EQUIVALENT.  
 TOTAL NUMBER OF STREET TREES: 31 STREET TREES (THIS SHEET)

NOTE: SEE SHEET B FOR SCHEDULE D PLANTING CHART.  
 NOTE: SEE SHEET B FOR SOIL BORING CHARTS.

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



*Zachary J. Ficht*

**REVISIONS**

No.	DESCRIPTION	DATE
1	REVISE FLOWERING CHERRY TO CURB & GUTTER	3-26-98

**DEVELOPER:** BARNES PROPERTY, LLC  
 C/O LAND DESIGN & DEVELOPMENT, INC.  
 10905 HICKORY RIDGE ROAD  
 COLUMBIA, MARYLAND 21044

**OWNER:** MR. AND MRS. JOSEPH BARNES  
 1110 HARDING ROAD  
 LAUREL, MARYLAND 20723

**OWNER:** MR. AND MRS. DAVID COON  
 ROUTE 1, BOX 255 E.  
 BURLINGTON, WEST VIRGINIA 26710

**FINAL FOREST CONSERVATION PLAN**  
**CHERRY CREEK OVERLOOK**

SECTION ONE AREA TWO  
 LOTS 5 THRU 15  
 ZONING: "R-20"  
 TAX MAP NO. 46 PARCEL 66 AND 67  
 SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 SCALE: AS SHOWN DATE: AUG. 8, 1997  
 SHEET 13 OF 16 REVISION 1/98



**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: *Richard R. Raman* Date: 8/7/97

**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 deemed necessary.  
 Signature of Developer: *Richard R. Raman Jr.* Date: 8/7/97

Reviewed for Howard County Soil Conservation District and Meets Technical Requirements.  
 S.D.A. - Natural Resources Conservation Service Date: \_\_\_\_\_  
 Approved this Development is Approved For Erosion and Sediment Control by the Howard Soil Conservation District.  
 District Howard Soil Conservation Dist. Date: \_\_\_\_\_  
 Approved Department of Planning and Zoning  
*Andy Hamilton* Date: 2/14/98  
 Chief, Division of Land Development  
*John Dammann* Date: 2/5/98  
 Chief, Development Engineering Division  
 Approved Howard County Department of Public Works  
 Chief, Bureau of Highways Date: \_\_\_\_\_

**STREET TREE SCHEDULE**

SYMBOL	BOTANICAL AND COMMON NAME	SIZE	COMMENTS
	AESCULUS HIPPOCASTANUM (BAUMANN HORSECHESTNUT)	2 1/2" - 3" CALIPER	40' APART ON PUBLIC R/W
	ZELKOVA SERRATA (VILLAGE GREEN JAPANESE ZELKOVA)	2 1/2" - 3" CALIPER	40' APART ON PUBLIC R/W

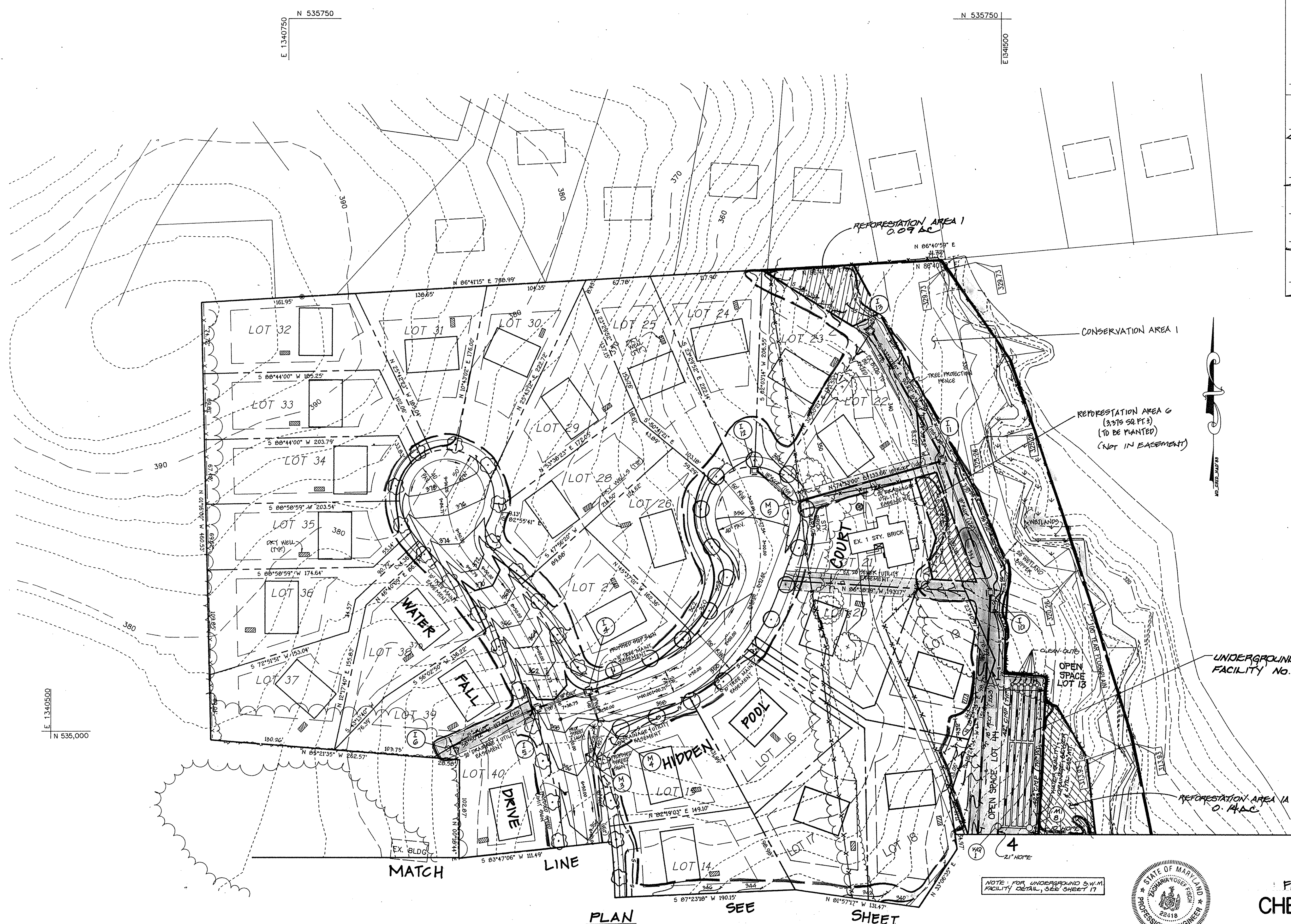
NOTE: STREET TREES ARE ONLY A RECOMMENDATION. THIS MAY BE REVISED TO A COUNTY ACCEPTABLE EQUIVALENT.

TOTAL NUMBER OF STREET TREES:  
 - 24 STREET TREES (THIS SHEET)  
 - 10 STREET TREES (THIS SHEET)

**LEGEND**

- STABILIZED CONSTRUCTION ENTRANCE
- SILT FENCE
- EX-STREET TREES
- EARTH DIKE
- LIMIT OF DISTURBANCE
- TREE PROTECTION FENCE
- PROPOSED STREET TREES
- INLET PROTECTION
- DRY WELL
- CONSERVATION AREA

NOTE: FOR FOREST CONSERVATION NOTES AND DETAILS SEE SHEET 15  
 NOTE: SEE SHEET 5 FOR SCHEDULE D PLANTING CHARTS



**FINAL FOREST CONSERVATION PLAN**  
**CHERRY CREEK OVERLOOK**



*Zacharia G. Fisch*

SECTION ONE AREA TWO  
 LOTS 5 THRU 45  
 ZONING: "R-20"  
 TAX MAP NO. 46 PARCEL 66 AND 67  
 SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 SCALE: AS SHOWN DATE: AUG 8, 1997  
 SHEET 14 OF 16 REVISED 1/98

**DEVELOPER**  
 BARNES PROPERTY, LLC  
 C/O LAND DESIGN & DEVELOPMENT, INC.  
 10805 HICKORY RIDGE ROAD  
 COLUMBIA, MARYLAND 21044

**OWNER**  
 MR. AND MRS. JOSEPH BARNES  
 1110 HARDING ROAD  
 LAUREL, MARYLAND 20723

**OWNER**  
 MR. AND MRS. DAVID COON  
 ROUTE 1, BOX 235 E  
 BURLINGTON, WEST VIRGINIA 26710

No.	DESCRIPTION	DATE
1	REVISE FLOWERING CHERRY TO CURD & GUTTER	3-26-98
REVISIONS		

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



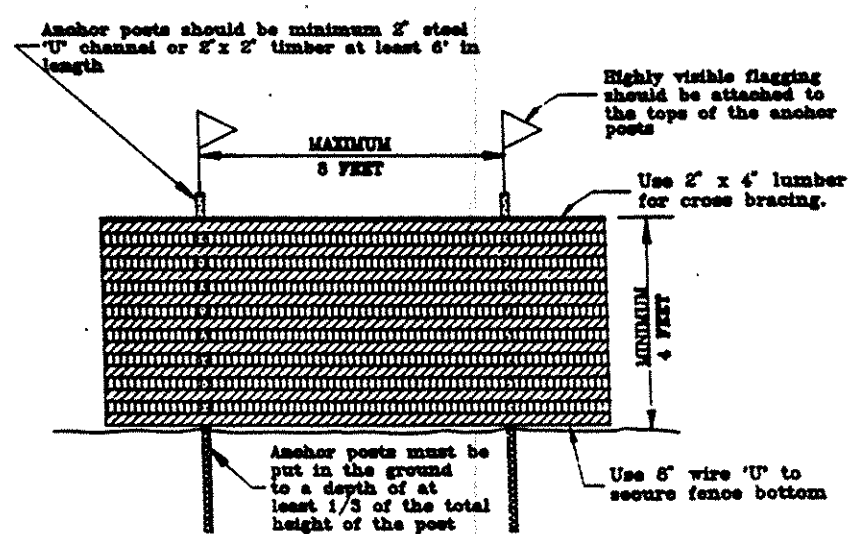
**CONSTRUCTION SEQUENCE**

1. Obtain grading and building permits for all structures as required.
2. Install tree protection fencing along disturbed limits per plan.
3. Complete construction of structures per plan.
4. Remove temporary tree protection measures.
5. Install afforestation/reforestation plantings.
6. Inspect and maintain afforestation plantings for a two year period.
7. Provide final report and certification of planting.

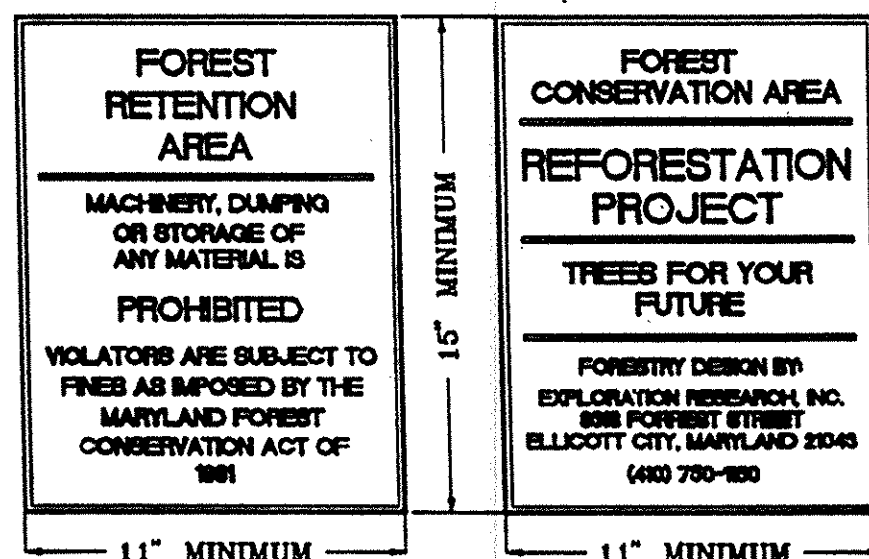
**PLANTING NOTES**

1. Area will be planted in late winter and early spring. Planting may begin as soon as the ground is no longer frozen. Contact Exploration Research, Inc. for guidance prior to planting if an alternate date is proposed.
2. Soil amendment and fertilization recommendations will be made based upon the results of soil analyses for nitrogen, phosphorus, potassium, organic matter content, and PH. Apply woodchips or hardwood bark mulch as shown in details provided.
3. Planting materials will consist of CONTAINER GROWN plants. Average density over the planting area will be 200 trees/acre. Hardwood species will consist of a randomized mix of three major and two minor species. A typical planting plan is shown in the RANDOM PLANTING DIAGRAM DETAIL.
4. Plant material shall be nursery grown CONTAINER GROWN stock in compliance with all standards of the AAN "American Standard for Nursery Stock".
5. Substitutions in plant species or size shall be made only with written approval of Exploration Research, Inc.
6. The contractor shall transport and handle plants to ensure protection from desiccation and breakage.
7. The contractor shall guarantee 75% survival of plant stock through the second growing season.
8. All trees shall be thoroughly watered immediately after planting and biweekly thereafter during the first growing season.
9. CONTACT EXPLORATION RESEARCH INC. FOR PRE-PLANTING SITE PREPARATION AND ADVISE PRIOR TO PLANTING.

**DETAIL 1: TREE PROTECTION FENCE**  
BLAZE ORANGE PLASTIC MESH



**DETAIL 5: PROPOSED SIGNAGE**



**APPENDIX G  
FOREST CONSERVATION WORKSHEET**

<b>I. BASIC SITE DATA</b>		ACRES (1/10 acre)
GROSS SITE AREA	22.7	
AREA WITHIN 100 YEAR FLOODPLAIN	1.2	
AREA WITHIN AGRICULTURAL USE OR PRESERVATION PARCEL (IF APPLICABLE)	0	
NET TRACT AREA	22.4	
LAND USE CATEGORY (R-RLD, R-RMD, R-S, C/O, I)	R-5	
<b>II. INFORMATION FOR CALCULATIONS</b>		
A. NET TRACT AREA	22.7	
B. REFORESTATION THRESHOLD (20% x A)	4.5	
C. AFFORESTATION MINIMUM (15% x A)	3.4	
D. EXISTING FOREST ON NET TRACT AREA	1.8	
E. FOREST AREAS TO BE CLEARED	0.96	
F. FOREST AREAS TO BE RETAINED	0.84	

**III. DETERMINING REQUIREMENTS: AFFORESTATION OR REFORESTATION**

1. **Reforestation**  
If existing forest areas equal or exceed the afforestation minimum (if D equals or is more than C), and clearing of forest areas is proposed, reforestation requirements may apply.  
**GO TO SECTION IV**
2. **Afforestation**  
If existing forests exceed the afforestation minimum (if D equals or is more than C) and no clearing of existing forest resources is proposed, no reforestation is required. No further calculations are needed.  
If existing forest area are less than the afforestation minimum (if D is less than C), afforestation requirements apply.  
**GO TO SECTION V**

**V. AFFORESTATION CALCULATIONS**

A. NET TRACT AREA	22.4
C. AFFORESTATION MINIMUM (15% x A)	3.4
D. EXISTING FOREST ON NET TRACT AREA	1.8
E. FOREST AREAS TO BE CLEARED	0.96
F. FOREST AREAS TO BE RETAINED	0.84

**Select the alternative that applies:**

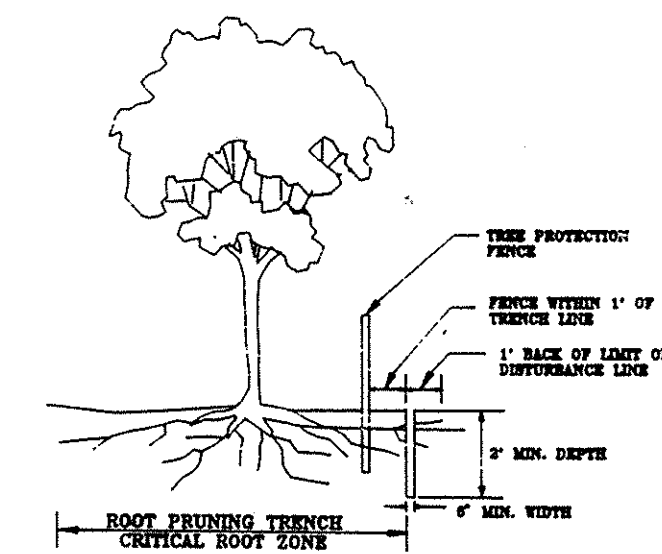
1. **No clearing below the Minimum**  
If existing forests are less than the afforestation minimum (if D is less than C) and no clearing is proposed, the following calculations apply:  
TOTAL AFFORESTATION REQUIRED C - D  
Afforestation must make total forest area equal the minimum required.
2. **Clearing below the Minimum**  
If existing forests are less than the afforestation minimum (if D is less than C) and clearing is proposed, the following calculations apply:  
AFFORESTATION FOR UNFORESTED AREAS BELOW MINIMUM C - D  
AFFORESTATION FOR CLEARING BELOW MINIMUM E x 2  
TOTAL AFFORESTATION REQUIRED (C - D) + (E x 2)  
Afforestation requires the total forest area be equal to the minimum and it requires compensation for clearing.

\* 22.4 ACI OF AFFORESTATION TO BE PROVIDED ON SITE. THE REMAINING 1.28 ACI WILL BE PROVIDED BY FEE-IN-LIEU PAYMENT

**FOREST MANAGEMENT NOTES**

- PRECONSTRUCTION**  
Conduct a preconstruction meeting with the contractor(s) to review forest protection measures and practices. Consultant to select edge trees to remove as appropriate.
- DURING CONSTRUCTION**  
Provide maintenance to tree protection measures.  
Water trees having critical root zone impacts on a bi-weekly basis or as needed.  
Monitor conditions of remaining trees for signs of stress (leaf discoloration, leaf drop, insect infestation, etc.).
- POST CONSTRUCTION (TWO YEAR MINIMUM)**  
Inspect existing trees around the perimeter of disturbed limits for signs damage or stress from construction, including excessive compaction in the root zone.  
Evaluate remaining trees for signs of stress and conduct appropriate cultural management: crown reduction, pruning, watering, soil aeration, fertilizing, etc. Remove dead or dying trees and evaluate for hazard trees. Inspect plantings twice per year to monitor plant survival at the level specified. Maintenance may include mowing twice annually, watering, mulching, spraying and fertilizing.
- \* A licensed arborist or forester should be retained for these services.

**DETAIL 2: ROOT PRUNING**



- NOTES:**
1. RETENTION AREAS WILL BE SET AS PART OF THE REVIEW PROCESS
  2. BOUNDARIES OF RETENTION AREAS SHOULD BE STAKED FLAGGED PRIOR TO CLEARING
  3. EXACT LOCATION OF TRENCH SHOULD BE IDENTIFIED
  4. TRENCH SHOULD BE IMMEDIATELY BACKFILLED WITH SOIL REMOVED OR OTHER HIGH ORGANIC SOIL
  5. ROOTS SHOULD BE CLEANLY CUT USING VIBRATORY KNIFE OR OTHER ACCEPTABLE EQUIPMENT.
- SOURCE: CITY OF SUPERIOR, MARYLAND

**Typical Forest Tree Distribution Patterns**

**Note:** Naturally occurring populations of trees tend to be found in informal groupings. A cluster of trees is really a mosaic of different species groups. The objective of an afforestation/reforestation plan is to select the appropriate species and distribution pattern for a chosen site that mimic natural patterns.

Source: Prince Georges County Woodland Conservation Manual.

**Aggregate Distribution Drift**

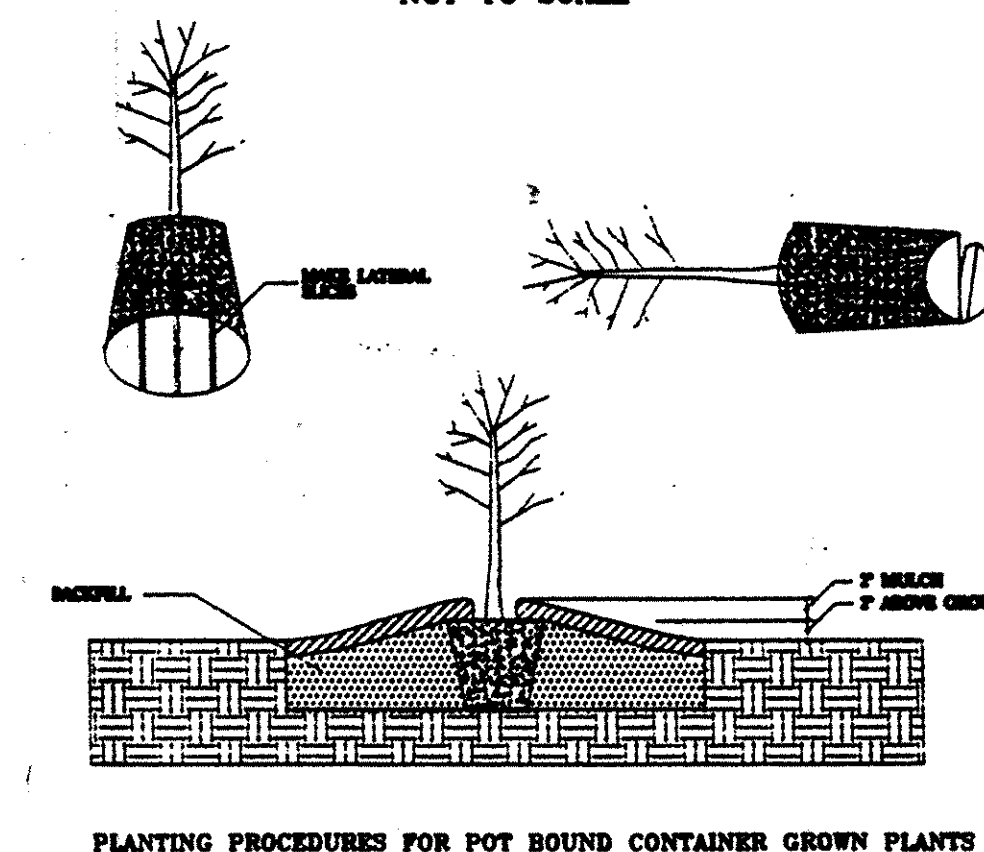
Source: EQRI, Inc.

**Mixing Transplant Stock**

Source: Adapted from Forest Conservation Manual, 1991

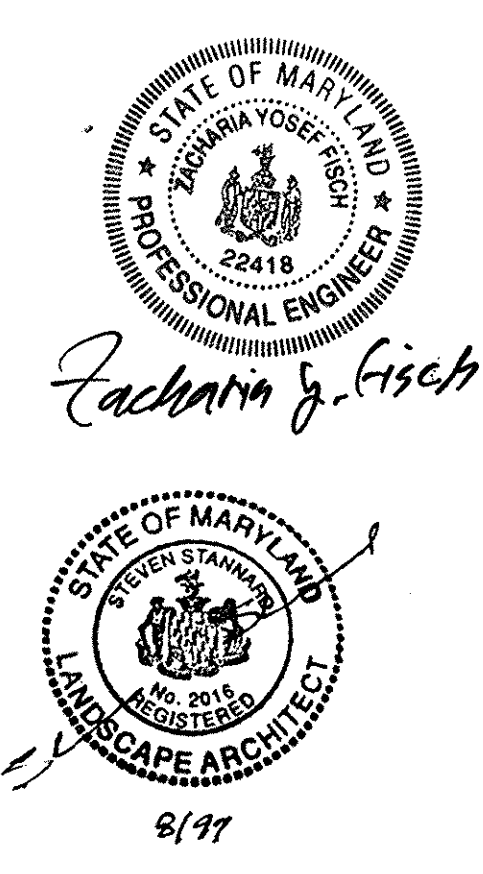
**Planting Distribution Patterns** Figure 3.8.2

**DETAIL 4: WHIP PLANTING DETAIL**  
CONTAINER NOT TO SCALE



**CHERRY CREEK OVERLOOK  
PLANT LIST**

TYPE (Quantity)	SIZE	ROOT	QUANTITY PER AREA											
			Area 1 (0.09 Ac)	Area 1A (0.14 Ac)	Area 2 (1.20 Ac)	Area 2A (0.11 Ac)	Area 3 (0.16 Ac)	Area 3A (0.10 Ac)	Area 4 (0.29 Ac)	Area 5 (0.05 Ac)	Area 6 (0.375 Ac)			
Red Maple (202)	2-3'	Container	12	14	100	7	20	6	24	10	10			
Green Ash (192)	2-3'	Container	10	7	100	7	15	13	24	10	7			
Pin Oak (127)	2-3'	Container	4	7	100				6	10				
White Pine (10)	2-3'	Container	4	14	25		10	4	24	10	10			
Black Willow (46)	2-3'	Container			20	13					13			
American Sycamore (70)	2-3'	Container	2		25	13		6	24					
White Oak (72)	2-3'	Container		7	50		10	6						
<b>Totals per Area</b>			<b>32</b>	<b>49</b>	<b>420</b>	<b>40</b>	<b>55</b>	<b>35</b>	<b>102</b>	<b>53</b>	<b>27</b>			
<b>Site Total</b>			<b>813 Plants</b>											



**EXPLORATION RESEARCH, INC.**  
ENVIRONMENTAL CONSULTANTS  
838 FORREST STREET  
HISTORIC ELLICOTT CITY, MARYLAND 21043  
TEL: (410) 750-1150 FAX: (410) 750-7350

**FINAL FOREST CONSERVATION PLAN**

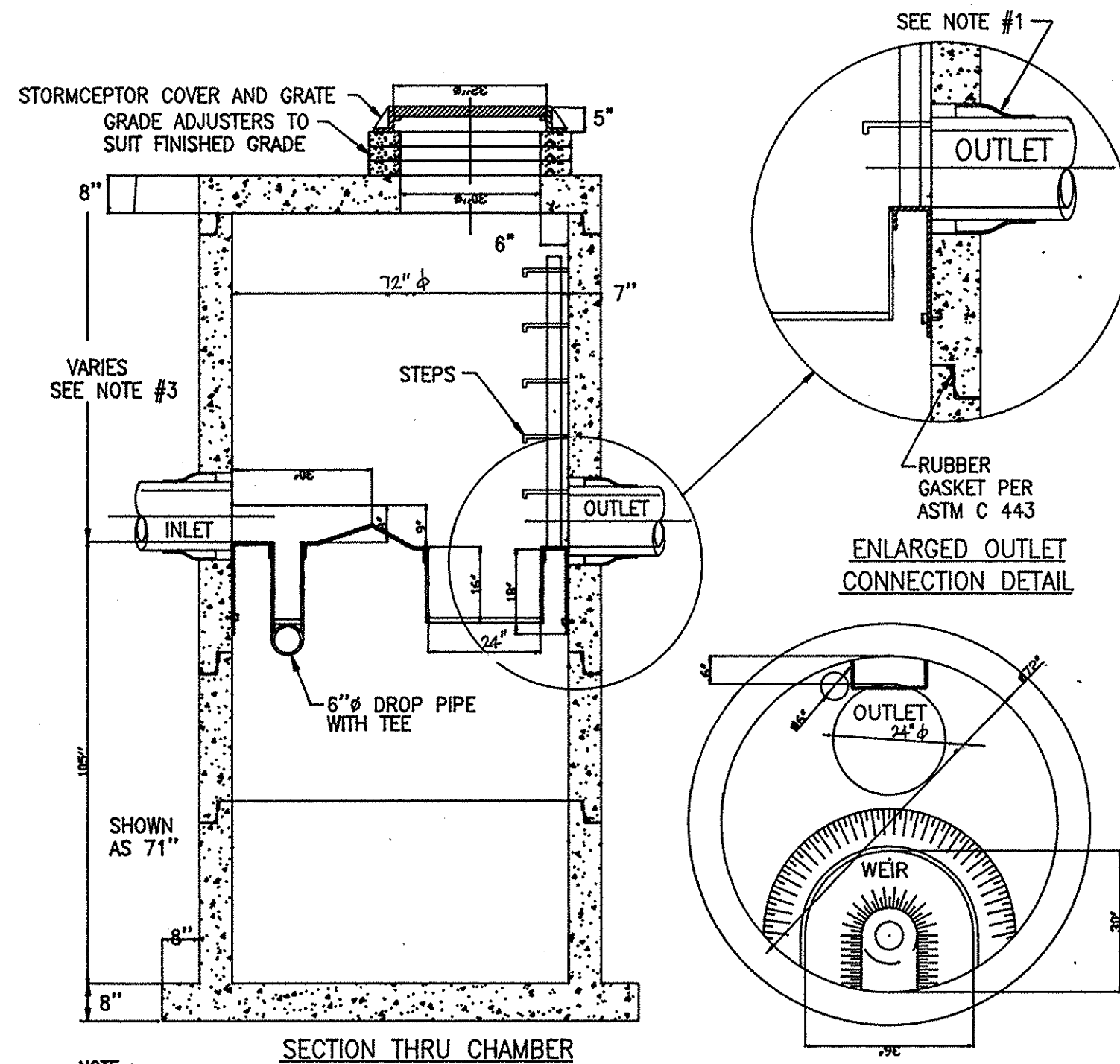
**CHERRY CREEK OVERLOOK  
SECTION ONE, AREA TWO**  
TAX MAP 46, PARCEL 66 AND 67  
SIXTH ELECTION DISTRICT, HOWARD CO. MARYLAND

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
Candy Hamilton 2/19/25  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE  
John Dammann 2/9/25  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

C:\DRAWINGS\BASES\VERL\_24DWG  
RAWN BY: SLS SCALE AS SHOWN  
DESIGNED BY: SH DATE: 2/19/25  
CHECKED BY: SLS SHEET 15 OF 16



STC 1800 Precast Concrete Stormceptor®  
(1800 US Gallon Capacity)  
(Disc Design)



- NOTE:
1. FLEXIBLE CONNECTIONS ARE RECOMMENDED AT THE INLET AND OUTLET WHERE APPLICABLE.
  2. COVER TO BE POSITIONED OVER OUTLET AND VENT PIPE.
  3. THIS IS A GENERAL ARRANGEMENT DRAWING. CONSULT LOCAL REPRESENTATIVE FOR SPECIAL CONDITIONS.
  4. INLET DROP PIPE WILL BE EITHER 6" OR 12" WITH A 6" ORIFICE PLATE.
  5. ALL CONCRETE JOINTS HAVE RUBBER GASKETS THAT CONFORM TO ASTM C 443.
  6. U.S. PATENT NO. 4,985,148

DESIGN SPECIFICATIONS

1. ASTM C 478
2. BASE WEIGHT = 6.35 TONS

STC-1800  
REVISED 10/98

CONTRACTOR INSTALLATION INSTRUCTIONS- PRECAST CONCRETE STORMCEPTOR "DISC" DESIGN

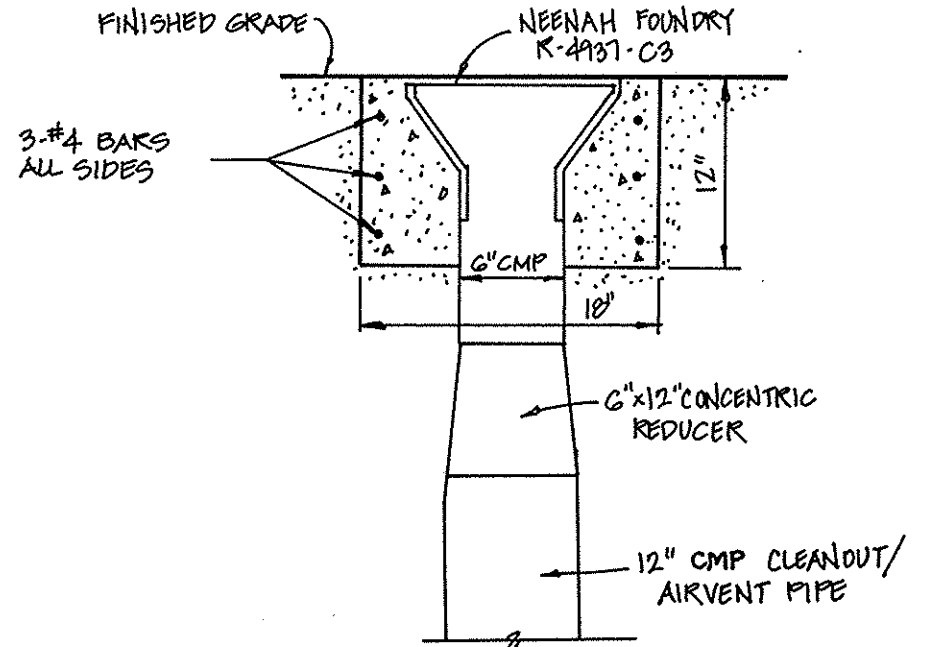
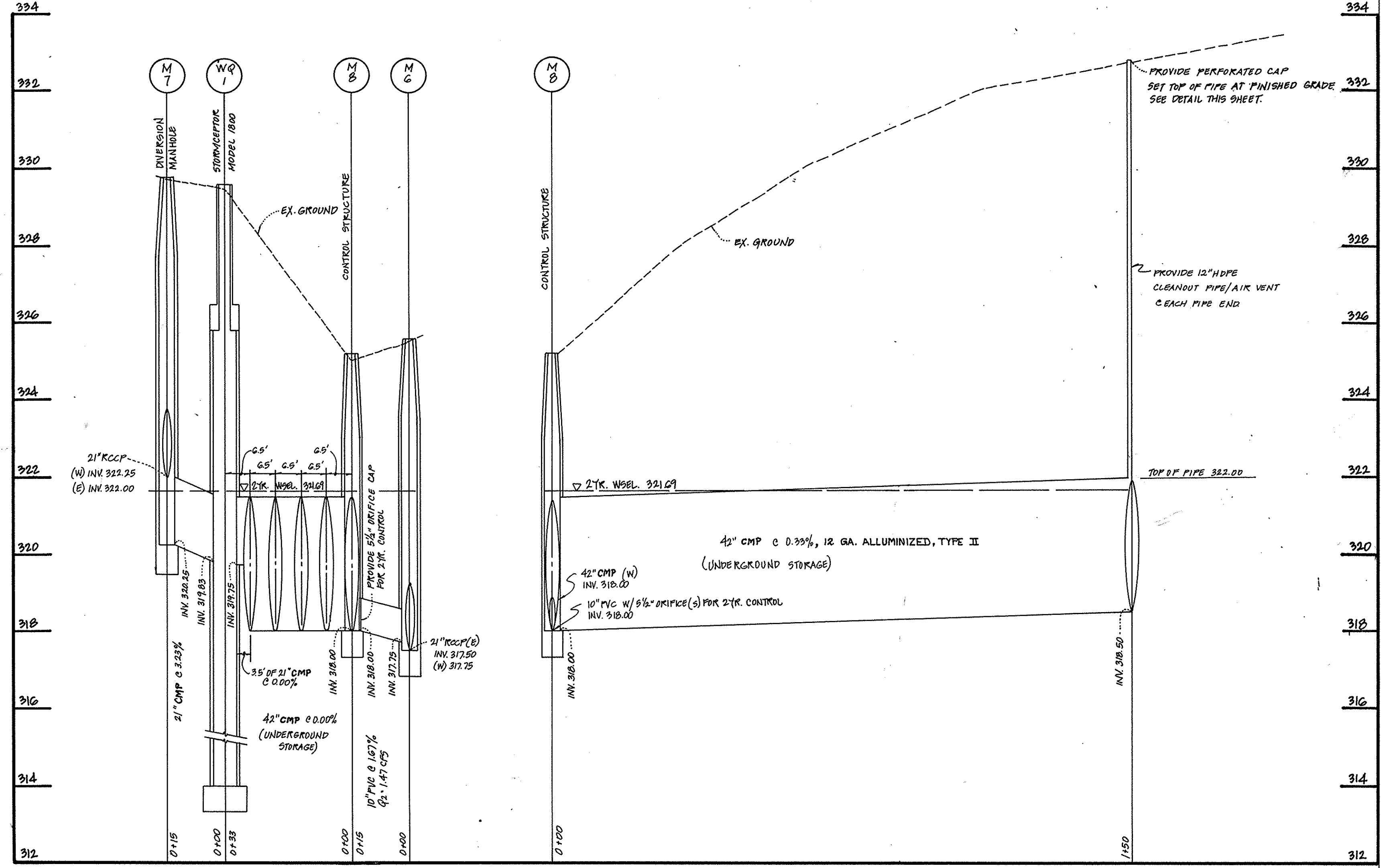
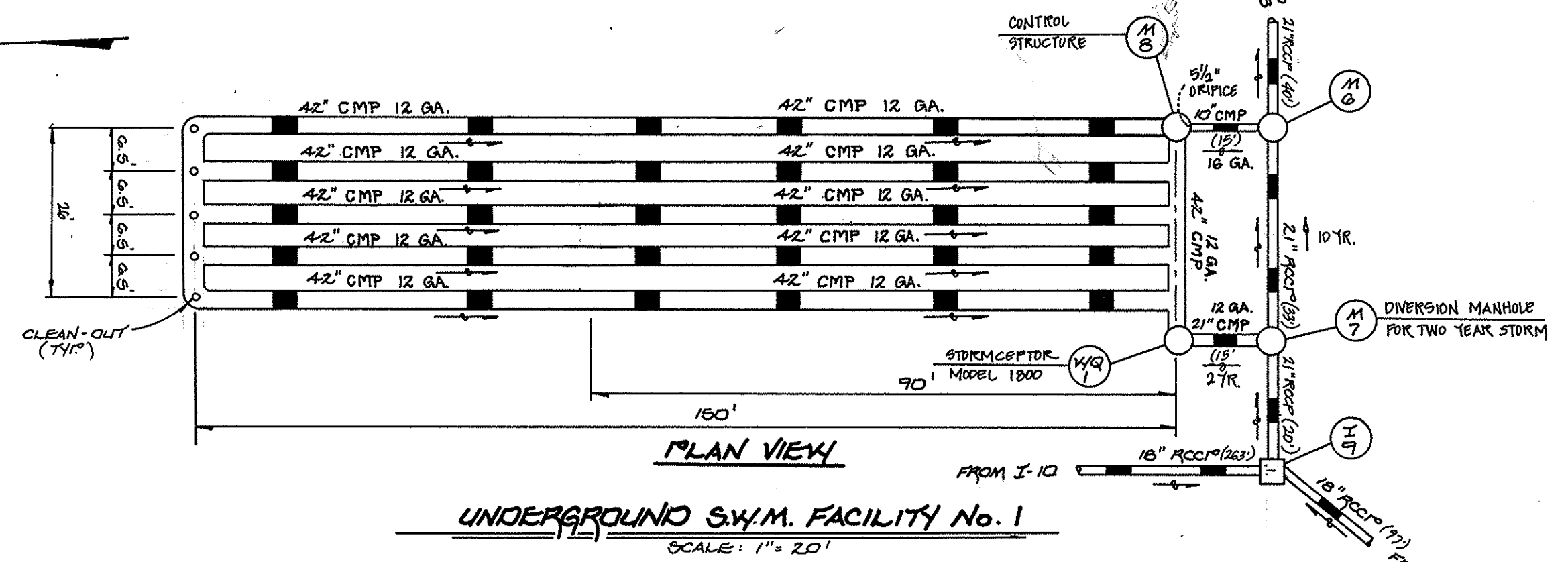
1. STAKE-OUT THE LOCATION OF THE STORMCEPTOR AND EXCAVATE HOLE. EXCAVATE ADEQUATE SPACE TO CONNECT INLET AND OUTLET PIPES TO UNIT. INSTALL A 12 INCH DEEP OR AS REQUIRED LAYER OF COMPACTED AGGREGATE SUBBASE AT THE BOTTOM OF THE EXCAVATION. INSTALL TRENCH BOX OR SHORING AS NEEDED.
2. CHECK ELEVATION OF UNIT BY MEASURING ITS SECTIONS FROM BASE OF THE STORAGE CHAMBER OUTSIDE BOTTOM OF UNITS SLAB TO THE INVERT OF STORMCEPTOR BYPASS CHAMBER INLET ELEVATION (OVERGLASS INSERT). SUBTRACT THIS DISTANCE FROM DESIGN INVERT ELEVATION TO DETERMINE TOP OF SUBBASE ELEVATION. CHECK ELEVATION OF INSTALLED SUBBASE AND ADJUST AS NEEDED.
3. SECURE INSPECTOR APPROVAL OF SUBBASE AND SUBBASE. ALL LIFTING APPARATUS IS TO BE PROVIDED BY THE INSTALLATION CONTRACTOR.
4. INSTALL STORAGE CHAMBER. INSTALL SCREW LIFTING PINS OR HOOKS INTO BASE OF STORAGE CHAMBER. ATTACH CABLES OR CHAINS TO LIFT LUGS ON THE BASE SLAB. USING LARGE EQUIPMENT OR CRANE, LIFT AND PLACE THE BASE SECTION OF THE STORAGE CHAMBER IN THE EXCAVATION HOLE OVER SUBBASE. MAKE SURE THAT THE BASE IS LEVEL. SPECIFIC ALIGNMENT OF THIS PART IS NOT REQUIRED.
5. INSTALL RUBBER GASKET ON BASE UNIT AND COAT WITH LUBRICATING GREASE PROVIDED IN SHIPMENT, IF NOT PRELUBRICATED. INSTALL ADDITIONAL STORAGE CHAMBER SECTIONS AS REQUIRED. PROCEEDING IS SAME AS STEP 4.
6. INSTALL BYPASS SECTION OF STORMCEPTOR WITH FACTORY INSTALLED OVERGLASS INSERT. LIFT BYPASS SECTION AND INSTALL WHILE CHECKING ALIGNMENT AND GRADE OF INLET AND OUTLET DRAINAGE PIPES. CHECK TO MAKE SURE THE BYPASS CHAMBER IS SET FLUSH LEVEL AND IS AT THE PROPER ELEVATION. THE BYPASS SECTION MUST BE ORIENTED SUCH THAT INLET PIPE DISCHARGES INTO THE V-SHAPED OVERGLASS WEIRS INSIDE INSERT. INSTALL RUBBER GASKET ON TOP OF BYPASS SECTION AND COAT WITH LUBRICATING GREASE, IF NOT PRELUBRICATED.
7. INSTALL INLET AND OUTLET STORMCEPTOR PIPES. CONNECT INLET AND OUTLET STORM DRAIN PIPES WITH FLEXIBLE BOOTS (WHEN PROVIDED) AND WITH NON-SHREKING GROUT WHEN NO FLEXIBLE BOOTS ARE PROVIDED. THE INVERT OF THE INLET AND OUTLET PIPE IS TO MATCH WITH THE INVERT OF THE STORMCEPTOR INSERT. FLEXIBLE BOOT INSTALLATION PROCEDURES: CENTER THE PIPE IN THE BOOT OPENING. LUBRICATE THE OUTSIDE OF THE PIPE AND/OR THE INSIDE OF THE BOOT. IF THE PIPE OUTSIDE DIAMETER IS THE SAME AS THE INSIDE DIAMETER OF THE BOOT, POSITION THE PIPE CLAMP IN THE GROOVE OF THE BOOT WITH THE SCREW AT THE TOP. TIGHTEN THE PIPE CLAMP SCREW TO 60 INCH POUNDS. IF THE PIPE IS HUSH SMALLER THAN THE BOOT, LET THE BOOT SLIP THAT IT CONTACTS THE BOTTOM OF THE PIPE WHILE TIGHTENING THE CLAMP TO ENSURE EVEN CONTRACTION OF THE RUBBER. MOVE THE PIPE HORIZONTALLY AND/OR VERTICALLY TO BRING IT TO GRADE.
8. INSTALL STORMCEPTOR DROP PIPES ACCORDING TO STC PIPE INSTALLATION PROCEDURE.
9. INSTALL RISER SECTION. LIFT RISER SECTION AND INSTALL WHILE CHECKING THAT SECTION IS SET FLUSH AND IS AT PROPER ELEVATION AND THAT UNIT IS LEVEL. SPECIFIC ALIGNMENT OF THIS PART IS REQUIRED. IF STEPS ARE INCLUDED, ALSO CHECK PROPERLY FOR ACCESS FROM HANDBOX OPENING AND ADJACENT TO VENT PIPE. NOTE: FOR SHALLOW INSTALLATIONS THIS SECTION MAY NOT BE REQUIRED.
10. INSTALL TOP SLAB WITH HANDBOX OPENING FOR STORMCEPTOR FRAME AND COVER. HANDBOX OPENING OFFSET (NOT CENTERED) SHOULD BE ORIENTED SO OPENING IS ABOVE STEPS AND ADJACENT TO VENT PIPE. SUCH THAT 6" VENT PIPE CAN BE CUT 1 INCH BELOW TOP OF SLAB AND SECURELY ATTACHED TO INSIDE EDGE OF HANDBOX ACCESS OPENING. TOP SLAB OPENING SHOULD BE ORIENTED ABOVE THE STORMCEPTOR OUTLET OR INCH DROP PIPE AND ABOVE THE 6 INCH VENT PIPE.
11. BACKFILL STORMCEPTOR WITH APPROVED BACKFILL MATERIAL. NO ORGANIC OR TOPSOIL IS TO BE USED FOR BACKFILL. BACKFILL AND COMPACT IN 8 INCH LIFTS. BACKFILL TO FINISHED GRADE.
12. INSTALL AND SET GRADE ADJUSTING RINGS OR USE APPROVED GRADE ADJUSTING MATERIALS AS NEEDED. PLUG ALL LIFT HOLES WITH TAPERED FLEXIBLE RINGS AND LOCK IN TO PLACE. PLUGS IN STORAGE CHAMBER MUST ALSO BE GROUTED INSIDE AND OUTSIDE WITH GROUT. GROUT ALL OTHER LIFT HOLES.
13. INSTALL AND SET STORMCEPTOR FRAME AND COVER.
14. THE STORMCEPTOR SHOULD BE PUMPED OUT AND SEDIMENT AND DEBRIS MATERIALS DISPOSED OF PROPERLY. WHEN THE PROJECTS SEDIMENT CONTROL MEASURES ARE REMOVED SITE PERMANENTLY STABILIZED.
15. FILL UNIT WITH CLEAN WATER AFTER UNIT IS CLEANED OUT, IF REQUIRED BY LOCAL INSPECTION PERSONNEL.
16. FINAL INSPECTION.

MAINTENANCE NOTES  
WATER QUALITY STRUCTURE WASTE

1. Water quality structures will require periodic cleaning. Owners of these facilities will have to clean them as needed.
2. Maintenance of these facilities will consist of cleaning out the stormceptor and disposal of the waste and repair of the facility as needed. Periodic inspections of these facilities will be made by the owner.
3. The disposal of the liquid and solid matter shall be as follows:
  - A. All liquid material in the stormceptor shall be pumped into a suitable tank truck and disposed of at an approved sanitary district discharge manhole or be taken to an approved sewage treatment plant for discharge.
  - B. The solid material shall be landfilled in an approved sanitary landfill.
4. The inlet pipes and structural parts shall be repaired as needed.
5. Stormceptor inlet and outlet assembly shall be periodically inspected. Blockages shall be removed and disposed of as required in 3B above.

OPERATION AND MAINTENANCE SCHEDULE FOR  
STORMCEPTOR WATER QUALITY DEVICE

1. Stormceptor water quality structures will require periodic inspection and cleaning to maintain operation and function. Owners will have the Stormceptor unit inspected yearly or as required by Howard County, utilizing the Stormceptor Inspection/Monitoring Form. Inspections shall be done by using a clear Plexiglas tube ("sludge judge") to extract a water column sample. When sediment depths exceed the specified level (Table 9 of Technical Manual) then cleaning of the unit is required.
2. Stormceptor water quality structures must be checked and cleaned immediately after petroleum spills, contact appropriate regulatory agencies.
3. Maintenance of Stormceptor units should be done by a vacuum truck which will remove the water, sediment, debris, floating hydrocarbons and other materials in unit. The proper cleaning and disposal of the removed materials and liquid must be followed.
4. Inlet and outlet pipes must be checked for any obstructions and if any obstructions are found they must be removed. Structural parts of the Stormceptor will be repaired as needed.
5. Owner shall retain and make Stormceptor Inspection/Monitoring Forms available to Howard County officials upon their request.



SWM FACILITY No. 1  
OBSERVATION WELLS CLEANOUT/AIR VENTS  
NO SCALE

DEVELOPER  
BARNES PROPERTY, LLC  
C/O LAND DESIGN & DEVELOPMENT, INC.  
10805 HICKORY RIDGE ROAD  
COLUMBIA, MARYLAND 21044

OWNER  
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FISHER, COLLINS & CARTER, INC.  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL FREE  
ELICOTT CITY, MARYLAND 21042  
4101 461 - 2929

No.	DESCRIPTION	DATE
1	REVISE FLOWERING CHERRY TO CURB & GUTTER	3-26-98

By The Developer:

"I/We Certify That All Development And/Or Construction Will Be Done According To These Plans, And That This And All Reasonable 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 A 42" RCP Pipe To Be Used For Sediment Control. I Also Authorize Periodic On-Site Inspections By The Howard Soil Conservation District."

Signature of Developer  
Donald R. Reimer, Jr.  
Date: 3/7/97

Signature of Developer  
DONALD R. REIMER, JR.  
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 Must Engage A Registered Professional Engineer To Supervise Pond Construction And Provide The Howard Soil Conservation District With A 42" RCP Pipe To Be Used For Sediment Control. I Also Authorize Periodic On-Site Inspections By The Howard Soil Conservation District."

Signature of Engineer  
Zacharia V. Fisch  
Date: 11/26/97

Printed Name of Engineer  
ZACHARIA V. FISCH

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 of Engineer  
Chester Simmons  
Date: 11/23/98

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 of Engineer  
John J. Johnston  
Date: 11/23/98

Approved: Department of Public Works  
Signature of Public Works  
Date: 2-5-98

Approved: Department of Planning And Zoning  
Signature of Planning And Zoning  
Date: 2/19/98

Signature of Chief, Development Engineering Division  
Date: 2/19/98

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 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.

STORMWATER MANAGEMENT DETAILS  
CHERRY CREEK OVERLOOK  
SECTION ONE AREA TWO  
LOTS 5 THRU 45  
ZONING: "R-20"  
TAX MAP No. 46 PARCEL 66 AND 67  
SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
SCALE: AS SHOWN DATE: JANUARY 14, 1998  
SHEET 16 OF 16



Zacharia V. Fisch