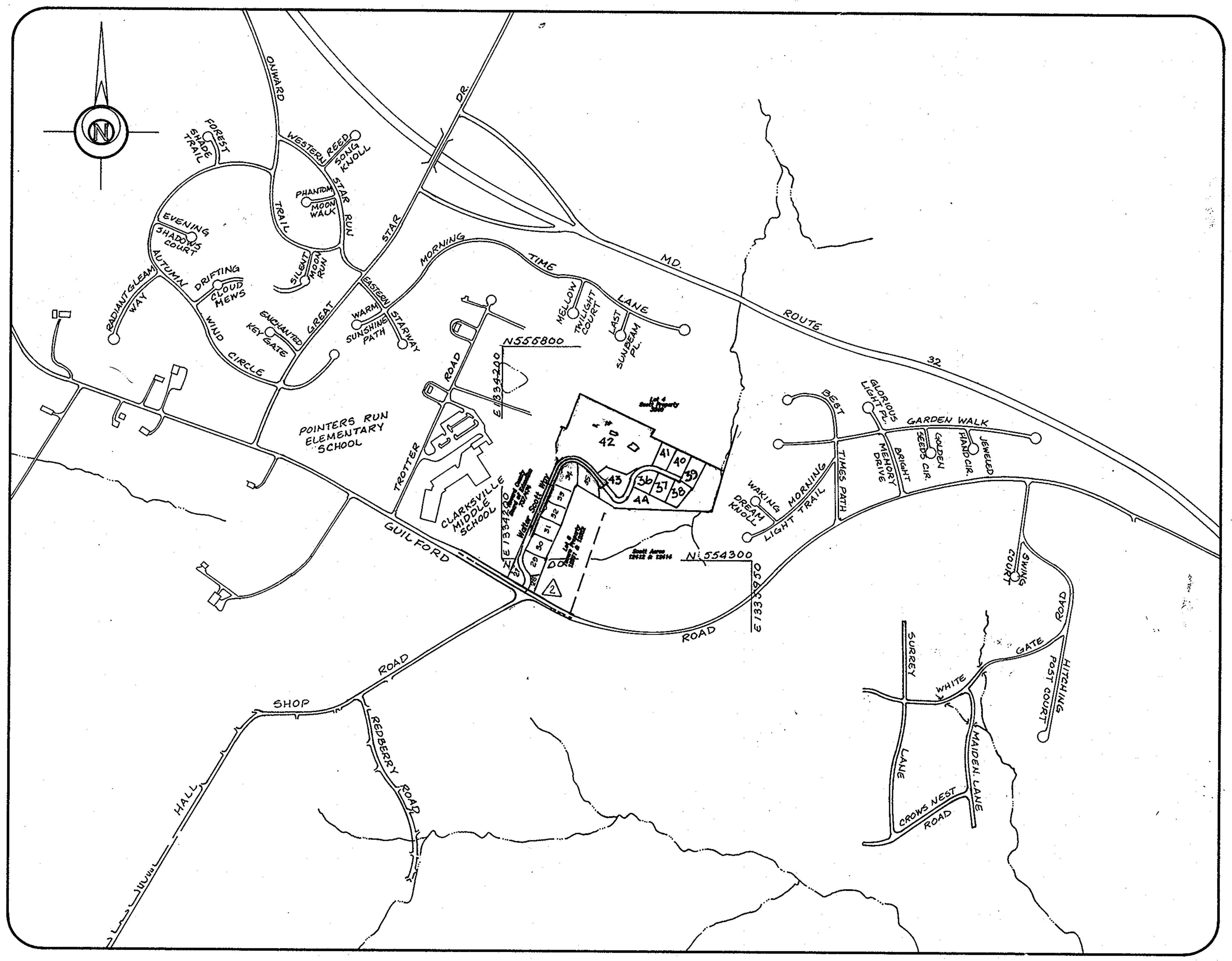
Index of Sheets

Sheet No.	Title
1	Cover Sheet
2	Plan & Profile – Guilford Road
3	Plan & Profile – Walter Scott Way (Public)
4	Plan & Profile – Walter Scott Way (Private)
5	Road & Construction Details
6	Storm Drain Profiles
7	Stormwater Management Notes & Details
8	Stormwater Management Details
9	Grading & Sediment Control Plan
10	Grading & Sediment Control Plan
11	Sediment & Erosion Control Notes & Details
12	Sediment & Erosion Control Notes & Details
13	Drainage Area Map
14	Drainage Area Map
15	Sediment Basin Plan, Notes & Details
16	~~Forest Conservation~~ & Landscape Planting Plan (Street Trees)
17	~~Forest Conservation~~ & Landscape Planting Plan (Street Trees)
18	~~Forest Conservation~~ & Landscape Notes & Details
(2) 19	Offsite Forest Mitigation Plan
20	Offsite Forest Mitigation Plan

LEGEND

- Existing Contours — 460
- Proposed Contours — 460
- Property/R/W Line
- C/L Existing Stream
- Floodplain Limits — FP
- Proposed Curb & Gutter
- Proposed Storm Drain
- Building Restriction Line — BRL
- Proposed Street Lights
- Existing Woods Line
- Proposed Woods Lines
- Soil Boring Hole — B-1
- Landscape Perimeter Number — 1
- Limit of Disturbance
- Silt Fence — SF
- Super Silt Fence — SSF
- Earth Dike
- Temporary Contours
- Proposed Forest Conservation Easement/Planting Area
- Drainage Divide
- Proposed Inlet — I 10
- Proposed Manhole — M 1
- Time of Concentration Flowpath — A → B

NO.	REVISIONS	DATE	BY
1	Sheets 1 – 20 Red Line Revision to show the realignment of the Private Access Place and resubdivision of affected lots.	September, 2005	KD
(2) 2	Revised General Notes, Lot Numbers & Size, Sheet Index, and Title Block Information for Red Line Revisions	September, 2005	KD
(3) 3	SHEETS 3,4,9,10,13 & 14 Revised to show TEE-turnaround modifications, SWM Concrete swales, Bus pad, conc. addition, sign modifications and community mailbox	5-18-09	PM
(3) 3	SHEETS 16,17 & 18 Revised to show Street Tree & Landscape rev.	5-18-09	PM
(3) 3	REDLINE CHANGES BY: BOWMAN/CHANGE of ENGINEER	5-18-09	PM

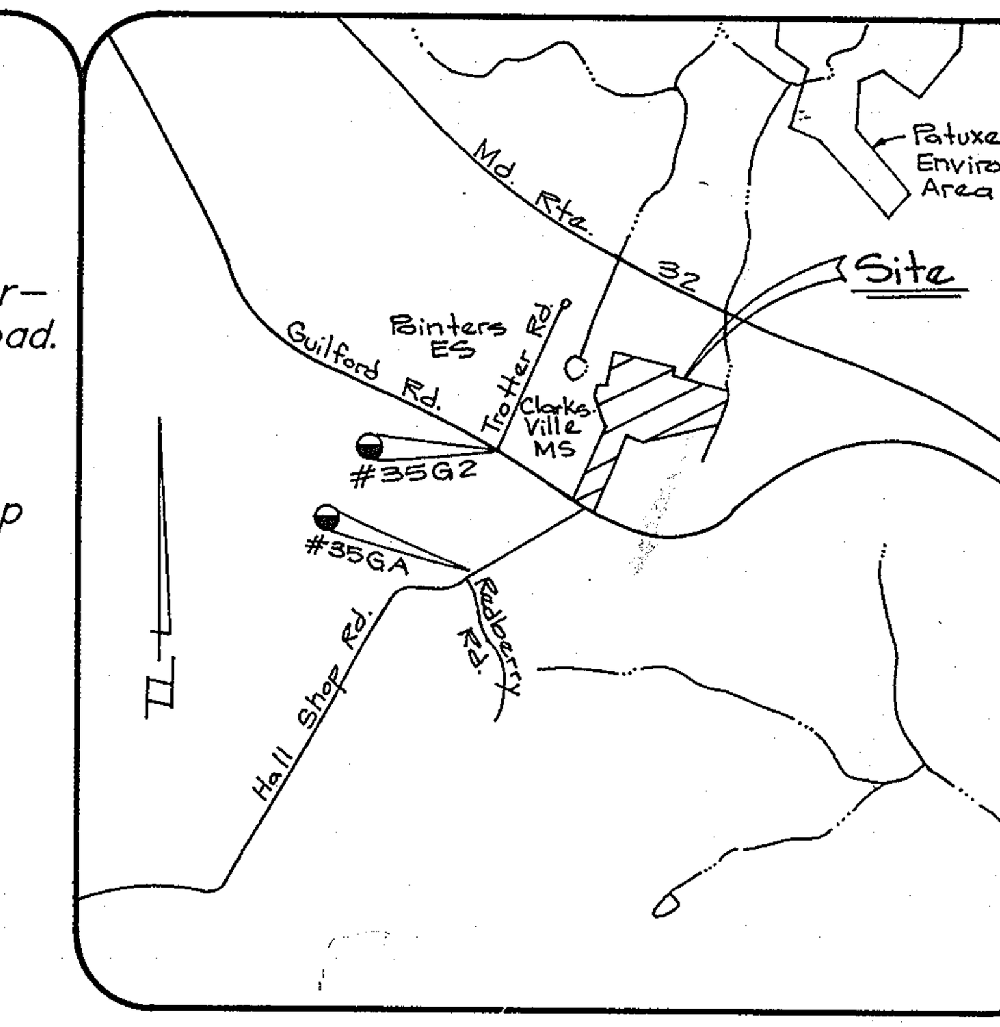


Location Map
Scale: 1" = 600'

Bench Marks:

1) Ho. Co. Monument # 35G2
Concrete Monument NW Corner of Intersection of Guilford Road & Trotter Road.
Elev 477.63

2) Ho. Co. Monument # 35GA
Concrete Monument N Side of Hall Shop Road Past Redberry Road.
Elev 482.11



Vicinity Map
Scale 1" = 2000'

General Notes

1. All construction shall be in accordance with the latest standards and specifications of Howard County Design Manual Vol IV and MSHA standards & specifications.
2. The contractor shall notify the Department of Public Works/Bureau of Engineering/Construction Inspection at (410) 313-1880 at least five (5) working days prior to the start of work.
3. The contractor shall notify "Miss Utility" at 1-800-257-7777 at least forty-eight (48) hours prior to any excavation work.
4. Project Background:
   Location: Clarksville, Tax Map: 35, Parcel: 354
   Deed Reference: Liber 4117, Folio 163.
   Plat Reference: Lot 5 - # 5847 ; Lot 10 - # 7389
   Zoning: R-20 (Per 10/18/93 Comprehensive Plan)
   Election District: 5 th
   Total Tract Area: 17.218 Ac. plus/minus
   Previous Submittals: F76-104, F84-144, F87-162, S97-23 BA91-24E, S95-10, WP-98-29, P96-13, SP99-04
5. (2) Number of Proposed Lots: 18 (14 Buildable & 4 Open Space)
   ~~a) Buildable: 21 lots (2 lots with existing dwellings, 19 new dwellings)~~
   ~~b) Open Space: 3 lots~~
6. (2) ~~Area of Proposed Lots:~~
   ~~a) Buildable (19 New lots) [illegible]~~
   ~~b) Buildable (2 Lots with existing dwellings) [illegible]~~
   ~~c) Required Open Space: [illegible]~~
   ~~d) Provided Credited Open Space: [illegible]~~
   ~~e) Provided Non-Credited Open Space: [illegible]~~
   ~~f) Required Recreation Open Space: [illegible]~~
   ~~g) Provided Recreation Open Space: (Lot 24) [illegible]~~
7. Area of Proposed Public Roadway: 55,742 s.f. or 1.2796 Ac.
8. Traffic control devices, markings, and signing shall be in accordance with the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD). All street and regulatory signs shall be in place prior to the placement of any asphalt.
9. Any damage caused by the contractor to existing public right-of-way, existing paving, existing curb and gutter, existing utilities, etc. shall be corrected at the contractors expense.
10. The existing utilities shown hereon are located from field surveys and construction drawings of record. The approximate location of existing utilities are shown for the contractors information and convenience. The contractor shall locate existing utilities to his own satisfaction and well in advance of any construction activities. Additionally, the contractor shall take all necessary precautions to protect all existing utilities and maintain uninterrupted service.
11. The onsite topography shown hereon was field run by LDE, Inc. in August, 1994. Offsite topography is compiled from Howard County Aerial Photogrammetry except in areas where offsite improvements are planned, including the Guilford Road improvements.
12. Horizontal and vertical datum's are related to the Maryland State Plane Coordinate System as projected from Howard county geodetic control station Nos. 2437001 and 2337001 (NAD 83).
13. Boundary shown hereon taken from record plat No. 5847, prepared by the Riemer Group, Inc. and recorded on 6/22/84 among the Land Records of Howard County and plat No. 7389 prepared by the RBA Group and recorded on 9/3/87 among the Land Records of Howard County. Boundary field verified by LDE, Inc. in August, 1994.
14. The nontidal wetlands shown are field located from a delineation prepared by Dennis J. Labare, M.S., & Associates dated August 24, 1994.
15. A Joint Federal/State permit application has been submitted to MDE for the purpose of obtaining a permit to conduct activities in nontidal wetlands, wetland buffers and "Waters of the U.S.", as regulated under sections 401 and 404 of the "Clean Water Act". Permit tracking # 199966191.
16. The 100 year floodplain shown hereon was computed as part of subdivision plan F-84-144 (Plat # 5847). As related to the proposed house elevations the floodplain was ruled 'non-critical' under S-95-10.
17. Stormwater Management is provided for the entire site based on the ultimate developed conditions. Lots 1-4 and the first 458 linear feet of Walter Scott Way will be managed by the existing downstream regional facility approved and constructed under F-96-105 (Scott Acres). The remainder of the site will be managed by two (2) privately owned and maintained retention ponds. Both quantity and quality management shall be provided by retention.
18. Stormwater management retention facilities # 1 shall be privately owned and maintained by the Home Owners Association. The stormwater management structures to be privately maintained by the Home Owners Association. The HOA will perform routine maintenance and will be responsible for yearly inspections, mowing once a year and correcting any structural problems that arise.
19. All hydraulic data is for the 10-year storm unless otherwise noted.
20. See sheet 11 of 18 for construction sequence.
21. 95% compaction in all fill areas shall be determined by AASHTO T-180.
22. Geotechnical report compiled by Hillis Carnes Engineering Associates, Inc. Dated December, 1995.
23. Noise Study compiled by LDE, Inc., dated March, 1999 and approved under SP-99-04.
24. Forest Stand Delineation and Forest Conservation Plan compiled by LDE, Inc and Dennis J. LaBare, M.S., & Associates, Dated March, 1999. Approval of the Forest Stand Delineation and preliminary approval of the For[illegible] Conservation Plan under SP-99-04.
25. (2) The Forest Conservation Program requirements will be met via .8 acres of off-site afforestation (planting), and payment of fee-in-lieu for the remaining 1.7 acres of the total 2.5 acre requirement. See calculations sheet 18.
26. All erosion and sediment control measures shown shall comply with the "1994 Standards and Specifications for Soil Erosion and Sediment Control in Maryland".
27. (2) The private use-in-common driveway serving lots 36 & 42 shall meet the following specifications: 16 foot width; 6" compacted crusher run base with "tar and chip" coating; Minimum turning radius of 45 feet; Designed to support vehicles with a gross weight of 25 tons; 12 feet of overhead clearance; Maintained for all weather use; Maximum grade is 15%, with the durable and sustained grade of 8%; Where one (1) driveway serves more than one (1) lot, a house number sign must be placed at each lot entrance and a range of street address house numbers sign where the common driveway intersects with the main road.
28. Street trees are provided for both the public and private portion of Walter Scott Way in accordance with Section 16.124 of the Subdivision Regulations and the applicable Sections of the Landscape Manual.
29. Sidewalks and ramps shall be in conformance with current ADA standards.
30. Traffic study compiled by Lee Cunningham & Associates, Inc. dated Setember, 1998 and approved under s-99-04.
31. The Sight Distance Analysis was submitted and approved under SP-99-04.
32. Street light placement and type of fixture and pole selected shall be in accordance with Howard County Design Manual, Volume III (1993) and as modified by "Guidelines for Street Lights in Residential Developments, June, 1993."

General Notes Cont.

33. The existing dwelling, garages and outbuildings on lot 19 will remain. The existing dwelling on lot 23 will remain. The existing pool on open space lot 24 shall remain.
34. All aspects of this project are in conformance with the latest Howard County Standards unless waivers have been approved. Onsite roadways have been designed in conformance with the new Residential Street Design Criteria, dated 1998.
35. (2) The property owner will maintain the special exception use of the historic resource H10210, the "E. Walter Scott Farmhouse" located on lot 23, as an antique shop (BA91-24E).
36. The existing swimming pool on open space lot 24 shall be restored by the owner and used as an amenity by the neighborhood. The pool shall be owned and maintained by the HOA.
37. The subject property is located within the Metropolitan District. Public Water and public sewer will be utilized for this development. Public Water is available by extension of Contract No. 34-3573-D. Public sewer is available via extension of Contract No. 34-3210-D and Contract No. 34-3573-D.
38. The existing well and septic systems on lots 19 and 23 will be abandoned upon connection to the proposed public system. These existing systems shall be abandoned in accordance with health department procedures. All known sewerage disposal easements have been shown.
39. (2) The proposed Access Street shall be public. The proposed Access Place shall be private and owned and maintained by the owners of lots 36 & 41. A use in common maintenance agreement shall be executed and recorded concurrent with the recording of the record plat.
40. B.R.L. denotes building restriction line.
41. Street trees are provided along the Access Street and Access Place in 4242 accordance with Section 16.124 of the Howard County Subdivision Regulations and the latest edition of the Howard County Landscape Manual.
42. The required 4200 square feet of recreation open space is provided on open space lot 24.
43. (2) Open space lots 27, 28, 43 & 44 shall be dedicated to the Home Owners Association.
44. Open space lot shall be dedicated to the H.O.A.; 27, 28, 43 & 44 Lots. The SWM Pond on open space lot 10 shall be owned & maintained by the Home Owners Association.
45. Sidewalks shall be provided along one side of the street only in accordance with Section 16.134 of the Howard County Subdivision Regulations.
46. No dwelling units are proposed within the 65 dBA zone. No noise mitigation is proposed.
47. a) Offstreet parking required: 0.5 spaces/ Residential lot : 21 lots x 0.5 = 11 sp
    b) Offstreet parking spaces provided: 11
48. The Zoning Regulations Section 133.D.(2) requires two (2) spaces per dwelling unit. These spaces shall be provided on individual private driveways. Two (2) spaces per driveway required = 42 spaces.
49. The Department of Planning and Zoning, Development Engineering Division on January 11, 1999 granted a Waiver from Design Manual Volume III - Roads and Bridges under SP-99-04 to allow the design speed of 25 MPH to be used for the proposed public Access Street.
50. The Department of Planning and Zoning, Development Engineering Division on May 24, 1999 granted Waivers under SP-99-04 from Design Manual Volume I - Storm Drainage, Section 5.2.6.D which requires a setback of 20 feet from the top of slope or toe of cut to all property lines or right-of-ways; Section 5.2.6 F.1, which requires that slopes not exceed 3:1 anywhere around the facility; Section 5.2.7.D.2., which requires that a 12 foot bench be provided for wet ponds 1 foot above the permanent pool elevations, and Section 5.2.7.D.3. which requires that a 5 foot bench be provided 1 foot below the permanent pool of a wet pond for with a permanent pool deeper than 2 feet.
51. The earthwork quantities shown herein are for information purposes only. Quantities shown are based solely on differences between existing and finished grades and do not account for undercuts. The excavating contractor shall be responsible for the determination of actual cut and fill quantities to be used for bid purposes.
52. The existing driveway serving the existing dwellings on lots 19 and 23 shall be removed between Guilford Road and the intersection of the public Walter Scott Way Right-of-Way/ Lot 19 pipestem. The driveway shall remain on lots 19 and 23. Vertical relocation to account for proposed grading will be required for the first 65 linear feet of the driveway on lots 19 and 23.
53. Failure to specifically mention any work normally associated with the construction of the improvements shown herein does not relieve the contractor of his responsibility to perform such work.
54. No new buildings, extensions or additions to the existing dwellings are to be constructed at a distance less than the zoning regulations require.
55. For flag or pipestem lots, refuse collection, snow removal and road maintenance are provided to the junction of the flag or pipestem and the public road right-of-way line and not to the pipestem lot driveway.
56. Street lights shall be spaced a maximum of 400 feet apart. A minimum spacing of 20 feet shall be maintained between any street light and any tree.
57. On April 10, 2000 Home Owners Association Documents were filed with the Maryland Department of Assessments & Taxation, Filing # 1000167351000000.
58. The Howard County School Board approved the temporary grading and permanent tree maintenance easements on the Clarksville Middle School property at the October, 1999 meeting. Easement documents have been delivered to the School Board for their recordation.
59. (2) A financial surety in the amount of has been posted as part of the Developers Agreement for Landscaping. Refer to Note 62.
60. (2) A financial surety in the amount of has been posted as part of the Developers Agreement for Forest Conservation. + $22,215.60 fee-in-lieu. FC= $39,639.60 Total
61. A financial surety in the amount of $19,200 has been posted as part of the Developers Agreement for Street Trees. Refer to Note 62.
62. (2) Revised Landscape Surety Requirements:
    Landscape Trees 102 x $100.00 per = 10,200.00
    Landscape Fence; 785 LF x $10.00 per = 7,850.00
    Subtotal $18,050.00
    Street Trees; 92 x $200.00 per = $18,400.00
    LANDSCAPE SHRUBS = 17 x $30.00 per = $510.00
    TOTAL SURETY $36,960.00

Road & Storm Drain Construction Plans (2)

FOR REVISIONS NOTED DATED 5-18-09 ONLY

Scott Farm

(2) Lots 29 to 42 and Open Space Lots 27, 28, 43 & 44 of Scott Farm

Tax Map No. 35 P/O Parcel 354
5th Election District – Howard County, Maryland

STATE OF MARYLAND — PIERO VAN MELLITS No. 21875 — REGISTERED PROFESSIONAL ENGINEER — 12-21-09

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed Professional Engineer under the laws of the State of Maryland.

License No. 21875. Expiration Date: 2/12/2010

(2) ~~Minimum Lot Size Tabulation~~

~~11~~	~~17721 SF~~	~~641 SF~~	~~17080 SF~~
~~12~~	~~17883 SF~~	~~1301 SF~~	~~16582 SF~~
~~13~~	~~18490 SF~~	~~[illegible] SF~~	~~16905 SF~~
~~14~~	~~18662 SF~~	~~2648 SF~~	~~16014 SF~~
~~15~~	~~20553 SF~~	~~1450 SF~~	~~19103 SF~~
~~16~~	~~[illegible] SF~~	~~1408 SF~~	~~19319 SF~~
~~17~~	~~21057 SF~~	~~1367 SF~~	~~[illegible] SF~~
~~[illegible]~~	~~20191 SF~~	~~986 SF~~	~~19205 SF~~

Revised Lot Table

(2) MIN. LOT SIZE TABULATION

Lot No.	NET Lot Area	Panhandle Area	GROSS Lot Area
36	21,376 sq.ft.	1,299 sq.ft.	22,675 sq.ft.
37	21,720 sq.ft.	2,295 sq.ft.	24,014 sq.ft.
38	22,051 sq.ft.	2,768 sq.ft.	24,819 sq.ft.
39	22,275 sq.f	3,015 sq.ft.	25,290 sq.ft.
40	20,353 sq.ft.	2,441 sq.ft.	22,994 sq.ft.
41	20,389 sq.ft.	2,038 sq.ft.	22,426 sq.ft.

REVISION #3 BY:
BOWMAN CONSULTING
2350 RIVA ROAD, SUITE 200
ANNAPOLIS, MD 21401
410-224-7590

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 6/26/00

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 7/12/00

APPROVED: Department of Public Works for Storm Drainage Systems and Roads

CHIEF, BUREAU OF HIGHWAYS — DATE 5-26-00

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION, AND SEDMIENT CONTROL

NATURAL RESOURCE CONSERVATION SERVICE — DATE 5/18/00

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION, AND SEDMIENT CONTROL, MEET THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT

HOWARD SOIL CONSERVATION DISTRICT — DATE 5/18/00

ENGINEER'S CERTIFICATE

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 an "as-built" plan of the pond within 30 days of completion.

SIGNATURE OF ENGINEER — DATE 5/9/00

DEVELOPER'S CERTIFICATE

I/We certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I shall engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by Howard Soil Conservation District.

SIGNATURE OF DEVELOPER — DATE 11-11-99

STATE OF MARYLAND — BRUCE DAVID BURTON No. 19184 — REGISTERED PROFESSIONAL ENGINEER — 5/9/00

STATE OF MARYLAND — GREGORY [illegible] No. 11432 — REGISTERED PROFESSIONAL ENGINEER — 9/8/05

LDE, INC.
9250 Rumsey Road, Suite 106, Columbia, MD. 21045
(410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

DESIGNED		SCALE
S.D.H.	Cover Sheet	As Shown
DRAWN	**Scott Farm**	DRAWING
CADD	(2) Lots 29 to 42 and Open Space Lots 27, 28, 43 & 44	(2) 1 of 20
CHECKED	Tax Map No. 35 – P/O Parcel 354; 5th Election District – Howard County, Maryland	JOB NO.
B.D.B.	Previous Submittals: F76-104, F84-144, F87-162, S97-23, BA91-24E, S95-10, EP98-29, P96-13 & SP99-04	98009
DATE	Owner/Developer: Scarlet Wilkinson & Earl Omer, 6799 Guilford Road, Clarksville, Maryland 21029, (410) 531-2626 or (410) 987-0497	FILE NO.
11 /99		F-00-73

F-00-73

REVISION #3 BY:
BOWMAN CONSULTING
2350 RIVA ROAD, SUITE 200
ANNAPOLIS, MD 21401
410-224-7590

NO.	REVISIONS	DATE	BY
2	Revised Storm Drain & Limit of Road Widening. Labeled Open Space. Revised Title Block & Sheet No.	09-09-05	KD
3	REVISED LOCATION OF CONCRETE BUS PAD AND ADDED 5' SIDEWALK	05-18-09	PM

STATE OF MARYLAND — GREGORY R. KLAR — No. 11432 — REGISTERED PROFESSIONAL ENGINEER

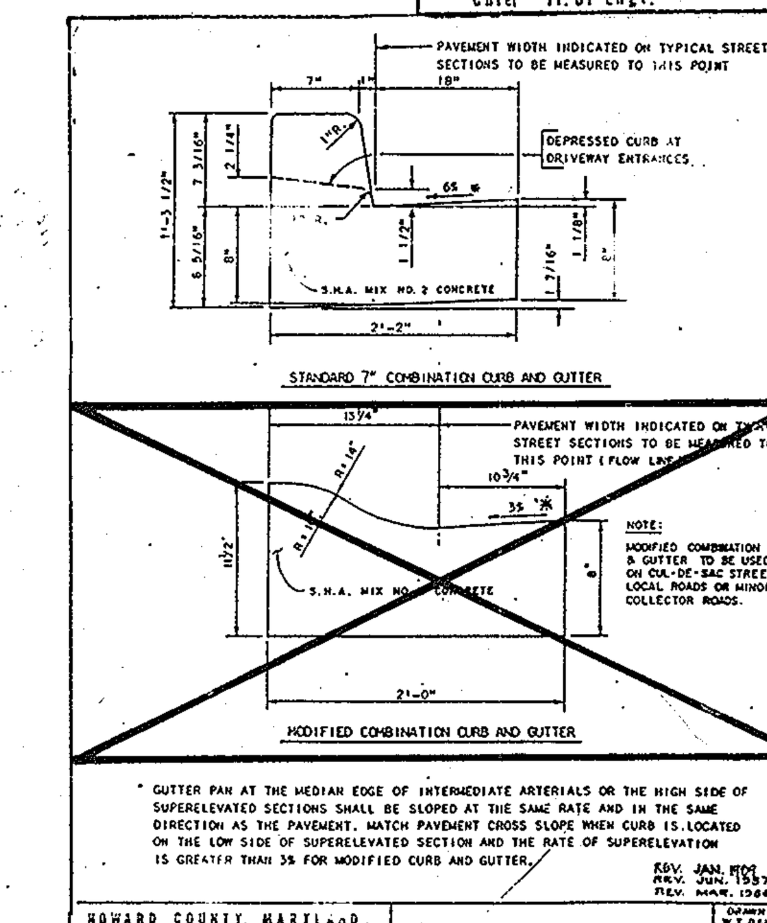
THIS SEAL FOR REVISION NO. 1 ONLY
REVISION NO. 1 & No. 2 BY: CENTURY ENGINEERING
32 WEST ROAD
TOWSON, MD. 21204
410-823-8070

CEI	1	REV. ALIGNMENT @ WALTER SCOTT WAY	8-15-01
BY	NO.	REVISION	DATE

STATE OF MARYLAND — BRUCE DAVID ... — No. 19184 — REGISTERED PROFESSIONAL ENGINEER — 5/9/00

SECTION NUMBER	ROAD AND STREET CLASSIFICATION	PAVEMENT MATERIALS: FULL DEPTH BIT. CONC. ALTERNATE	PAVEMENT MATERIALS: GRANULAR BASE ALTERNATES
P-5	COMMERCIAL-INDUSTRIAL ZONES MAJOR COLLECTOR; ALL ZONES MINOR ARTERIAL	1 1/2" BIT. CONC. SURFACE; 4 1/2" BIT. CONC. BASE; 5" BIT. CONC. BASE	1 1/2" BIT. CONC. SURFACE; 1 1/2" BIT. CONC. BASE; 5" BIT. CONC. BASE; 6" GRADED AGGREGATE BASE (GAB)

HOWARD COUNTY, MARYLAND DEPARTMENT OF PUBLIC WORKS — GUILFORD ROAD IMPROVEMENTS PAVING SECTION — DRAWN BY W.T. BALLARD — CHECKED BY J.L.R. — NO SCALE — R-2.02



* GUTTER PAN AT THE MEDIAN EDGE OF INTERMEDIATE ARTERIALS OR THE HIGH SIDE OF SUPERELEVATED SECTIONS SHALL BE SLOPED AT THE SAME RATE AND IN THE SAME DIRECTION AS THE PAVEMENT. MATCH PAVEMENT CROSS SLOPE WHEN CURB IS LOCATED ON THE LOW SIDE OF SUPERELEVATED SECTION AND THE RATE OF SUPERELEVATION IS GREATER THAN 3% FOR MODIFIED CURB AND GUTTER.

HOWARD COUNTY, MARYLAND DEPARTMENT OF PUBLIC WORKS — COMBINATION CURB AND GUTTER — R-3.01

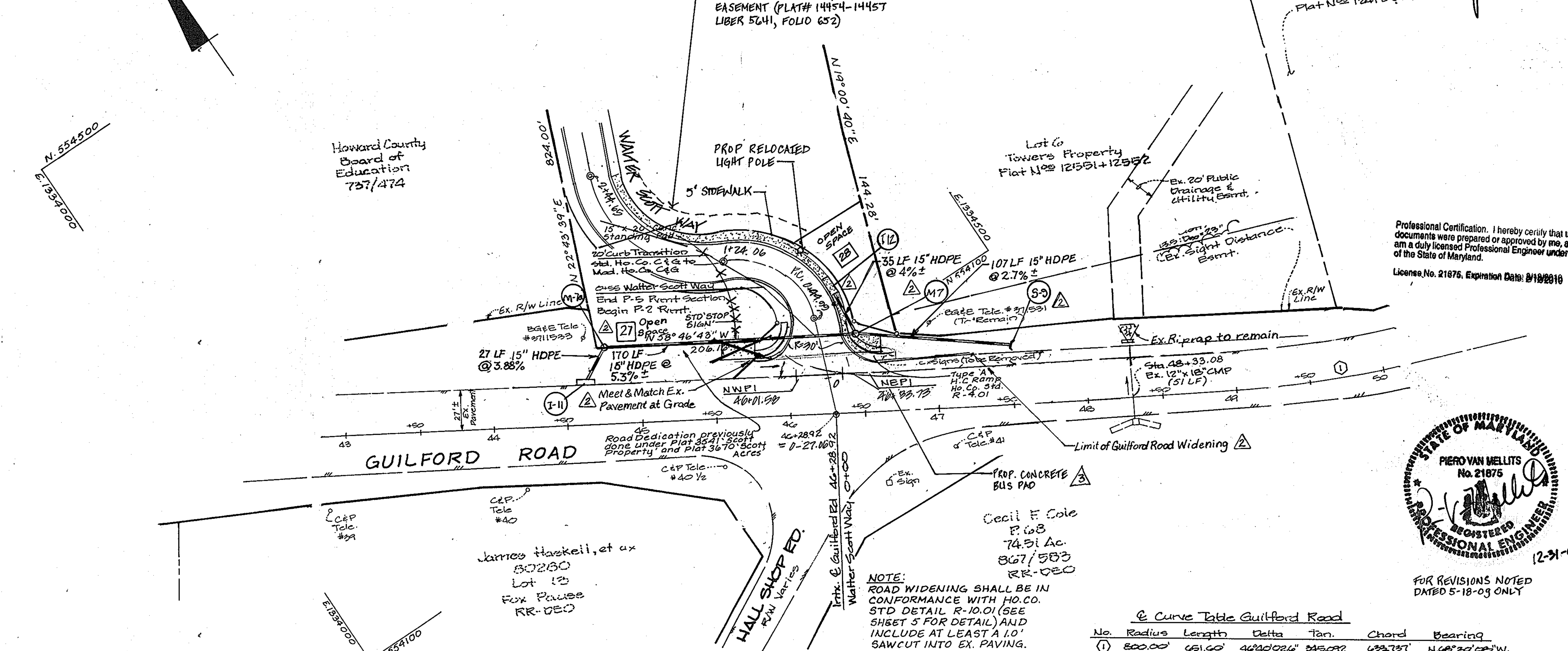
APPROVED: Department of Planning & Zoning

Chief, Division of Land Development — 7/18/00

Chief, Development Engineering Division — 6/26/00

APPROVED: Department of Public Works for Storm Drainage Systems and Roads

Chief, Bureau of Highways — 5-26-00



NOTE: ROAD WIDENING SHALL BE IN CONFORMANCE WITH HO.CO. STD DETAIL R-10.01 (SEE SHEET 5 FOR DETAIL) AND INCLUDE AT LEAST A 1.0' SAWCUT INTO EX. PAVING.

℄ Curve Table Guilford Road

No.	Radius	Length	Delta	Tan.	Chord	Bearing
1	800.00'	651.60'	46°40'02.6"	345.092	633.737'	N.68°30'08"W.

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed Professional Engineer under the laws of the State of Maryland.
License No. 21875, Expiration Date: 9/19/2010

STATE OF MARYLAND — PIERO VAN MELLITS — No. 21875 — REGISTERED PROFESSIONAL ENGINEER — 12-31-09

FOR REVISIONS NOTED DATED 5-18-09 ONLY

LEGEND:
- Prop. Lot Nos. [2]
- ℄ Road
- Flow Arrows
- Howard County Std. 7" Comb. Curb & Gutter (As Labeled)
- Howard County Mod. Curb & Gutter (As Labeled)
- BRL
- Tree Maint. Esmt.
- Storm Drain

NOTES:
1. For street tree locations, see sheets 16 & 17.
2. All street trees and/or street signs shall be located 5 feet minimum from proposed drainage and utility structures.
3. There shall be a minimum of 20 feet between street lights and street signs.
4. For storm drain profiles refer to sheet 6 of 18.
5. All future driveway crossings within the Public R/W shall be Approved at the time of Building Permit.
6. For Traffic Control Sign Location Table, see sht. 5 of 18.
7. See Sht. 2 of 18 for Guilford Road Improvement Plan and Profile.

PAVING LEGEND:
- P-5 Paving Section (Guilford Rd. Improvements) (Howard County)
- P-2 Paving Section (Walter Scott Way) (Howard County)

LDE, INC.
9250 Rumsey Road, Suite 106, Columbia, MD. 21045
(410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

DESIGNED S.D.H.	Plan & Profile — Guilford Road	SCALE 1"=5' V. 1"=50' H.
DRAWN S.M.C.	**Scott Farm** — Lots 29 to 42 and Open Space Lots 27, 28, 43 & 44	DRAWING 2 of 20
CHECKED B.D.B.	Tax Map No.35 – P/O Parcels 354, 5th Election District Howard County, Maryland. Previous Submittals: F76-104, F84-144, F87-162, S97-23, BA91-24E, S95-10, WP-98-29, P96-13 & SP-99-04	JOB NO. 98-009
DATE 11/99	Owner/Developer Scarlet Wilkinson & Earl Omer, 6799 Guiford Road, Clarksville, Maryland 21029, Tele: 410-531-2626 or 410-987-0497	FILE NO. F-00-73

HIGHWAY FEDERAL AID SHEET
PLATE 1-SINGLE PLAN AND PROFILE-FULL LINE
NATIONAL PRINTFAST
PRINTED IN U.S.A.

F-00-73

℄ COORDINATE DATA

℄ STATION	NORTHING	EASTING
0+44.99 PC	554127.06	1334378.14
1+24.06 PRC	554101.95	1334349.13
2+44.65 PT	554291.13	1334306.35
4+09.08 PT	554442.792	1334369.872
9+54.08 PC	554945.473	1334580.431
11+41.08 PCC	554998.116	1334737.098
12+66.67 PT	554917.295	1334832.359
13+90.51 END	554821.739	1334911.137

STREET LIGHT TABLE

Street Name	Symbol	℄ Station	Offset	Lamp Type	Fixture Type	Pole Type
Walter Scott Way	☼	0+51	43' Right	250w HPS Vapor	Pendant Mounted (cutoff) mounted at 30'	Bronze Fiberglass – 12' Arm
Walter Scott Way	☼	2+00	16' Right	100w HPS Vapor	Post – Top Traditionaire	Black Fiberglass Embedded – 14' Pole
Walter Scott Way	☼	4+08	15' Left	100w HPS Vapor	Post – Top Traditionaire	Black Fiberglass Embedded – 14' Pole
Walter Scott Way	☼	7+20	0' (Median)	100w HPS Vapor	Post – Top Traditionaire	Black Fiberglass Embedded – 14' Pole
Walter Scott Way	☼	9+86	15' Left	100w HPS Vapor	Post – Top Traditionaire	Black Fiberglass Embedded – 14' Pole
Walter Scott Way	☼	11+10	15' Left	100w HPS Vapor	Post – Top Traditionaire	Black Fiberglass Embedded – 14' Pole
Walter Scott Way	☼	13+91	11' Right	100w HPS Vapor	Post – Top Traditionaire	Black Fiberglass Embedded – 14' Pole

Howard County Board of Education
737/474

* Offsite Easements Tentatively Approved by the Ho. Co. School Board at the 10/99 Meeting.

CURVE DATA TABLE

Name & Station	Radius	Delta	Length	Tangent	Chord Bearing & Dist.
~~Walter Scott Way 0+71.50 – 2+54.27~~	~~150.00'~~	~~69°48'52"~~	~~182.77'~~	~~104.67'~~	~~N 01°23'53" W 171.67'~~
~~Walter Scott Way 2+54.27 – 4+08.83~~	~~150.01'~~	~~59°01'38"~~	~~154.56'~~	~~84.93'~~	~~N 06°47'36" W 147.81'~~
Walter Scott Way 9+53.83 – 11+40.82	110.00'	97°24'00"	187.00'	125.21'	N 71°25'36" E 165.28'
Walter Scott Way 11+40.82 – 12+66.41	353.25'	20°22'11"	125.59'	63.46'	S 49°41'16" E 124.93'
WALTER SCOTT WAY 0+44.99 - 1+24.06	50.0'	90°36'34"	79.07'	50.53'	S24°05'18"E - 71.00'
WALTER SCOTT WAY 1+24.06 - 2+44.65	75.0'	92°07'13"	120.59'	77.83'	S23°19'58"E - 108.01

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed Professional Engineer under the laws of the State of Maryland.

License No. 21875, Expiration Date: 2/12/2010

THIS SEAL FOR REVISION NO. 1 & No. 2

REVISION NO 1 BY: CENTURY ENGINEERING INC. 32 WEST RD. TOWSON, MARYLAND 21204 410-823-8070

REVISIONS

BY	NO.	REVISIONS	DATE
KD	2	Revised Lot Layout, Numbering, BRL's, and Storm Drain, Revised Title Block, Sheet No., and Deleted Lighting Infor.	9-9-05
PM	3	REVISED TEE TURN-AROUND INCLUDING BOLLARD LOCATIONS AND DUMPSTER ENCLOSURE, ADDED COMMUNITY MAILBOXES AND SPEED LIMIT SIGNS, REVISED LOCATIONS OF CONCRETE BUS PAD, AND REMOVED ON-STREET PARKING.	5-18-09

BY	NO.	REVISION	DATE
CEI	1	REV. ALIGNMENT STA 0+00 TO STA. 4+09	6-19-01

19

42 FOR REVISIONS NOTED DATED 5-18-09 ONLY

REV. NO. 2 BY: GREENHORNE & O'MARA, INC. 200 HARRY TRUMAN PKWY., STE 200, ANNAPOLIS, MD. 21401

PIERO VAN MELLITS No. 21875 – STATE OF MARYLAND – REGISTERED PROFESSIONAL ENGINEER 12-31-09

GREGORY R. KLAR No. 11432 – STATE OF MARYLAND – REGISTERED PROFESSIONAL ENGINEER

BRUCE DAVID BURTON No. 19184 – STATE OF MARYLAND – REGISTERED PROFESSIONAL ENGINEER 5/9/00

APPROVED: Department of Planning & Zoning

Cindy Hamilton 7/12/00
Chief, Division of Land Development

6/26/00
Chief, Development Engineering Division

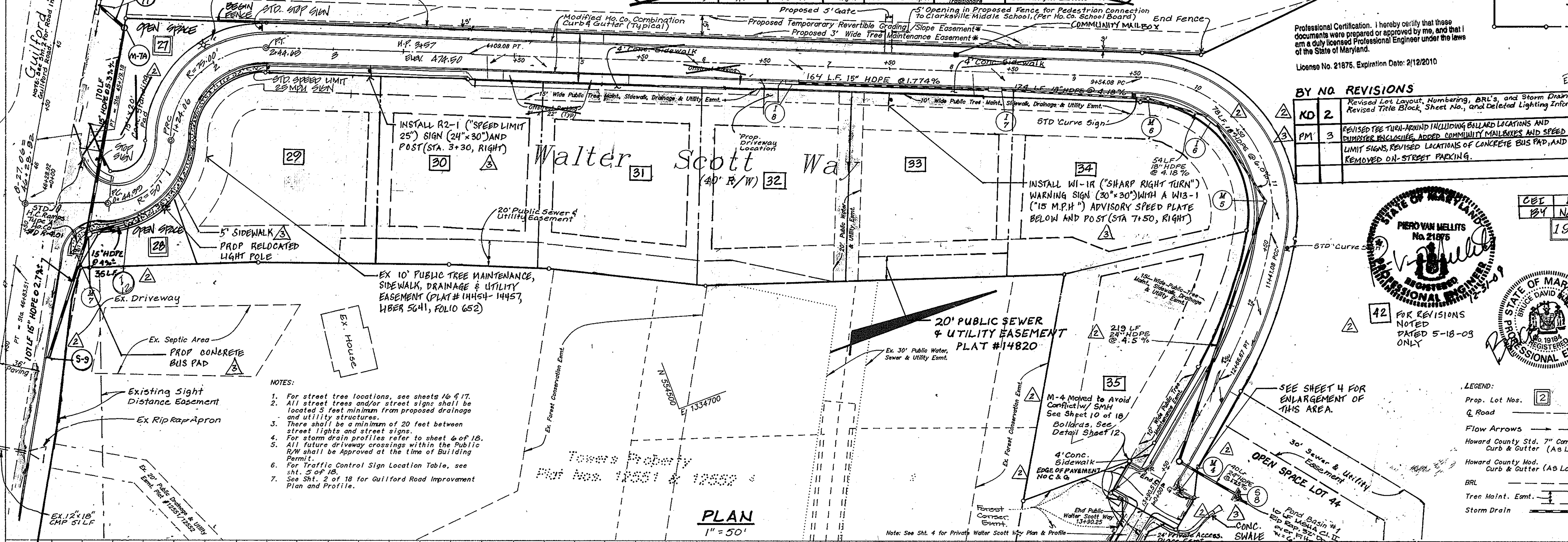
APPROVED: Department of Public Works for Storm Drainage Systems and Roads

Andrew M. Pouska 5-26-00
Chief, Bureau of Highways

PAVING LEGEND:
- P-5 Paving Section (Guilford Rd. Improvements) (Howard County)
- P-2 Paving Section (Walter Scott Way) (Howard County)

NOTES:
1. For street tree locations, see sheets 16 & 17.
2. All street trees and/or street signs shall be located 5 feet minimum from proposed drainage and utility structures.
3. There shall be a minimum of 20 feet between street lights and street signs.
4. For storm drain profiles refer to sheet 6 of 18.
5. All future driveway crossings within the Public R/W shall be Approved at the time of Building Permit.
6. For Traffic Control Sign Location Table, see sht. 5 of 18.
7. See Sht. 2 of 18 for Guilford Road Improvement Plan and Profile.

LEGEND:
- Prop. Lot Nos. [2]
- ℄ Road
- Flow Arrows
- Howard County Std. 7" Comb. Curb & Gutter (As Labeled)
- Howard County Mod. Curb & Gutter (As Labeled)
- BRL
- Tree Maint. Esmt.
- Storm Drain



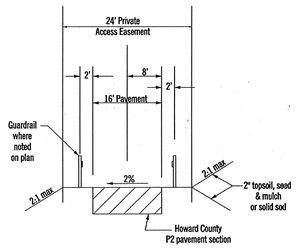
LDE, INC.
9250 Rumsey Road, Suite 106, Columbia, MD. 21045
(410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

DESIGNED S.D.H.	Plan & Profile Walter Scott Way 0+00 thru 13+90.51	SCALE 1" = 5' V 1" = 50' H
DRAWN CADD	**Scott Farm** Lots 29 to 42 and Open Space Lots 27, 28, 43 & 44	DRAWING 3 of 20
CHECKED B.D.B.	Tax Map No. 35 – P/O Parcel 354 5th Election District – Howard County, Maryland Previous Submittals: F76-104, F84-144, F87-162, S97-23, BA91-24E, S95-10, EP98-29, P96-13 & SP99-04	JOB NO. 98009
DATE 11/99	Owner/Developer: Scarlet Wilkinson & Earl Omer 6799 Guilford Road Clarksville, Maryland 21029 (410) 531-2626 or (410) 987-0497	FILE NO. F-00-73

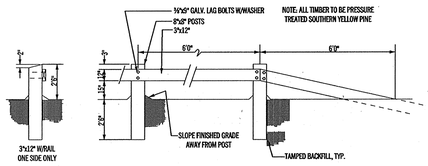
F-00-73

REVISION #3 BY:
BOWMAN CONSULTING
2350 RIVA ROAD, SUITE 200
ANNAPOLIS, MD 21401
410-224-7590

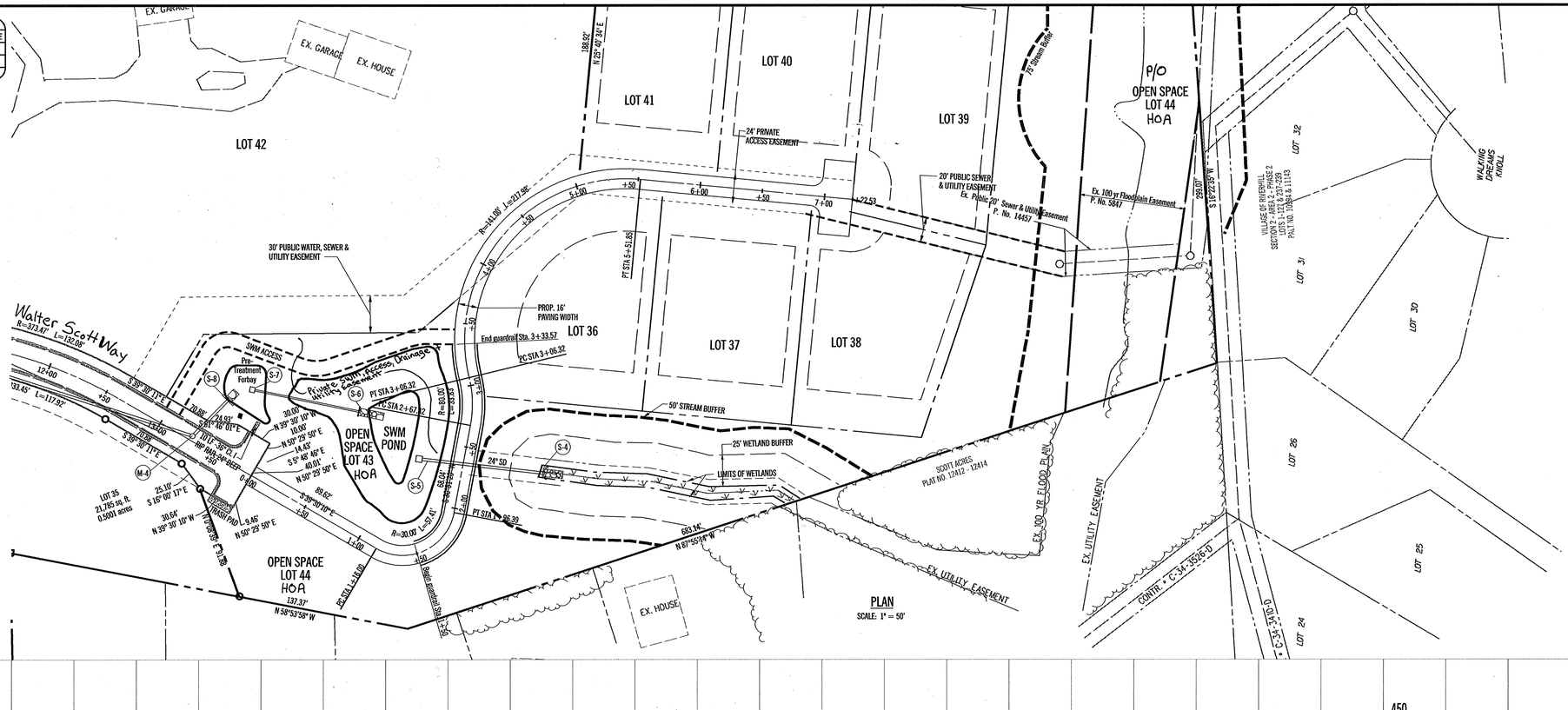
NAME AND STATION CENTERLINE CURVE DATA TABLE					
	RADIUS	DELTA	LENGTH	TANGENT	CHORD BEARING AND DISTANCE
Walter Scott Way 0+00.00 - 1+16.00	42.00'	109°38'31"	80.37'	59.59'	N 65°25'51" E 68.66'
Walter Scott Way 2+67.42 - 3+06.32	92.00'	24°13'40"	38.90'	19.75'	N 01°30'14" W 38.61'
Walter Scott Way 3+06.32 - 5+51.85	129.00'	109°02'54"	245.52'	181.01'	N 40°54'23" E 210.10'

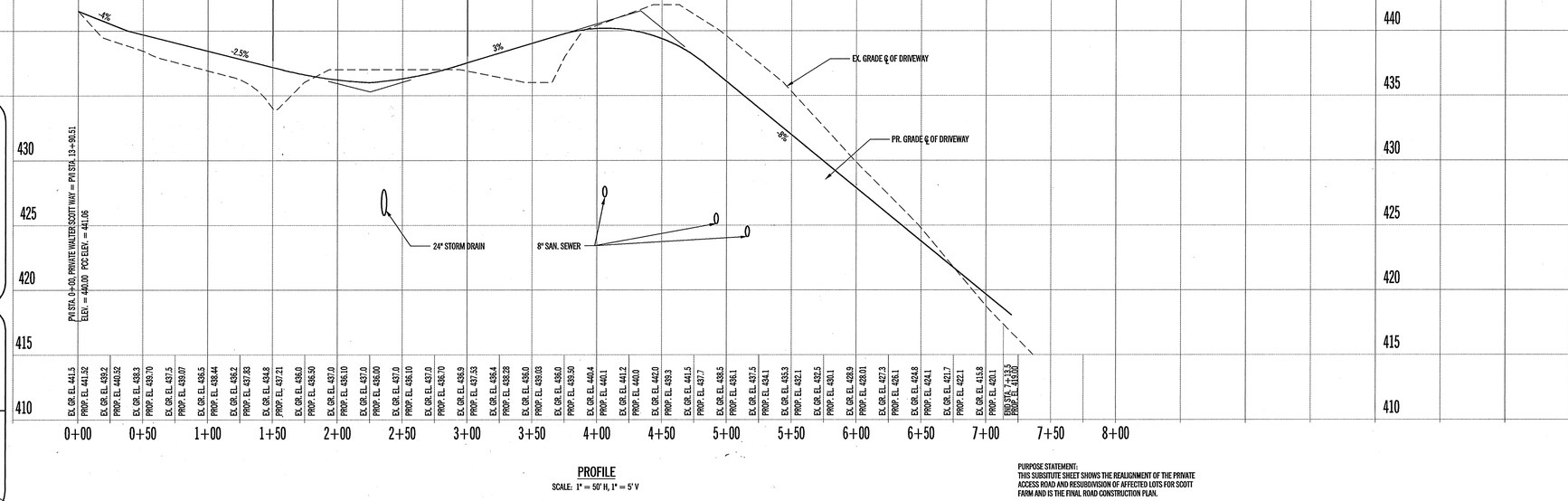


TYPICAL SECTION
NTS



TIMBER GUARDRAIL
NTS





PROFILE
SCALE: 1" = 50' H, 1" = 5' V

PURPOSE STATEMENT:
THIS SUBSTITUTE SHEET SHOWS THE REALIGNMENT OF THE PRIVATE ACCESS ROAD AND RESUBDIVISION OF AFFECTED LOTS FOR SCOTT FARM AND IS THE FINAL ROAD CONSTRUCTION PLAN.

ENGINEER'S CERTIFICATE

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 an "as-built plan of the pond within 30 days of completion.

SIGNATURE OF ENGINEER — Date 9-9-05

DEVELOPER'S CERTIFICATE

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 this pond within 30 days of completion.I also authorize the periodic on-site inspections by Howard Soil Conservation District.

SIGNATURE OF ENGINEER — Date 9/8/05

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — Date 10/18/05

CHIEF, DIVISION OF LAND DEVELOPMENT — Date 10/20/05

CHIEF, BUREAU OF HIGHWAYS — Date 10-14-05

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.

NATURAL RESOURCE CONSERVATION SERVICE — Date

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION, AND SEDIMENT CONTROL, MEET THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

HOWARD SOIL CONSERVATION DISTRICT — Date

OWNER:
SCARLET WILKINSON AND EARL OMER
6799 GUILFORD ROAD
CLARKSVILLE, MARYLAND 21029
(410)531-2626, (410)987-0497

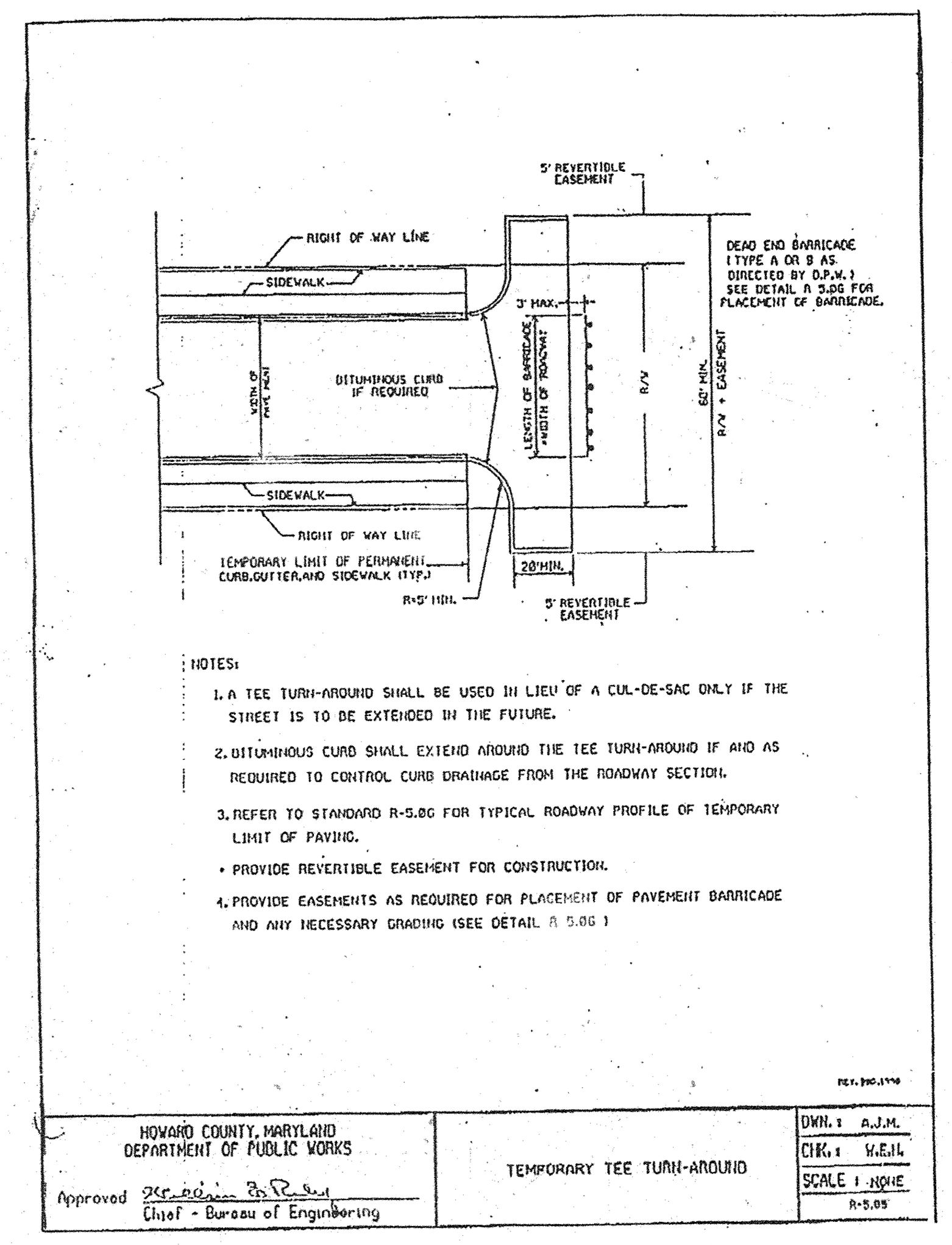
No.	REVISION	DATE	BY
1	Shows realignment of private road & resubdivision of lots. Added trash pad, rip rap channel. Revised SWM Pond 1 & storm drain layout. Revised title block & added purpose statement.	09-09-05	KD

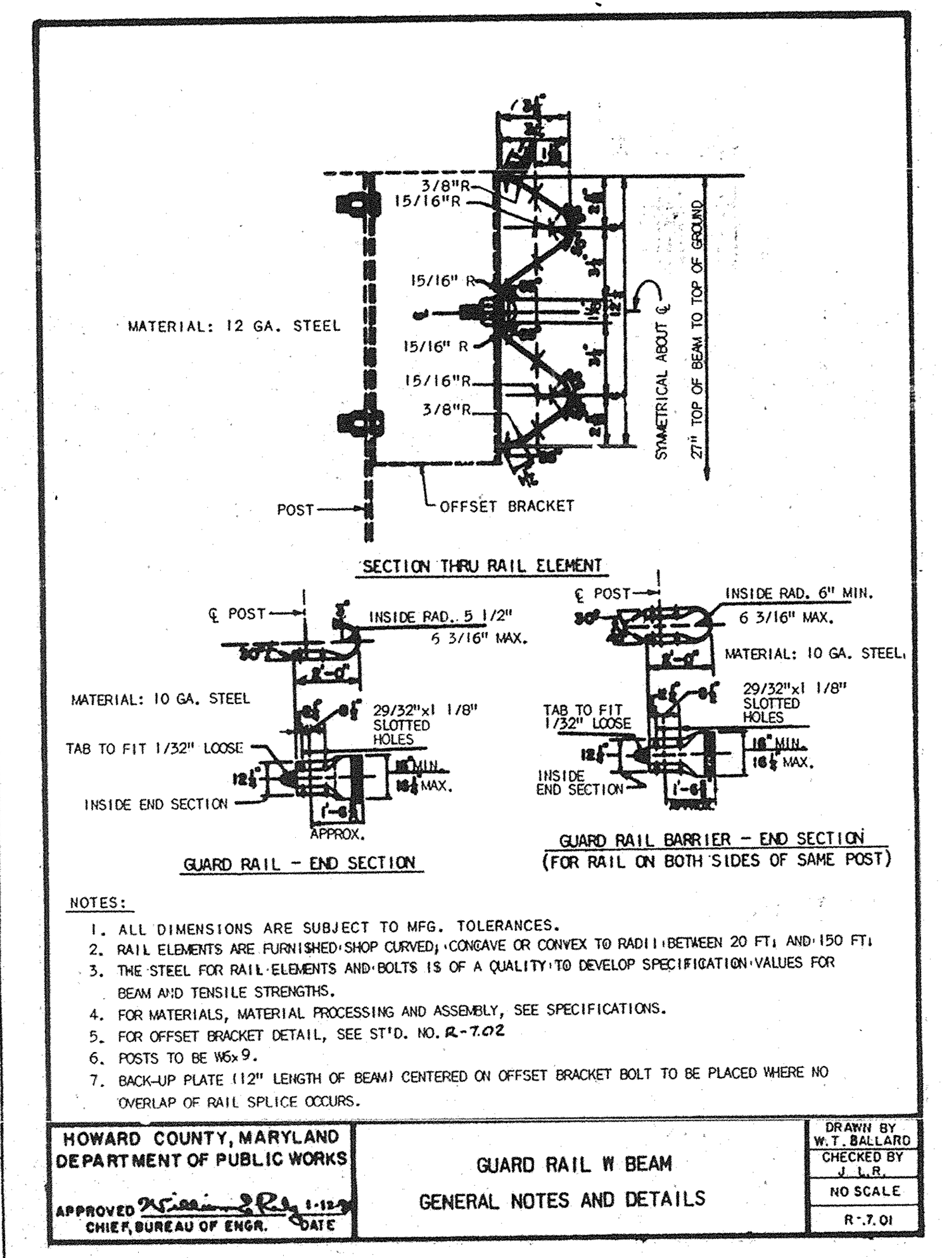
ENGINEERS • PLANNERS • SCIENTISTS • SURVEYORS
GREENHORNE & O'MARA, INC.
200 HARRY S TRUMAN PKWY. SUITE-200 ANNAPOLIS, MARYLAND 21401
(410) 266-0066
Greenbelt, MD - Annapolis, MD - Atlanta, GA - Fairfax, VA - Fredericksburg, VA - Mechanicsburg, PA
Raleigh, NC - Rockville, MD - Tampa, FL - West Palm Beach, FL

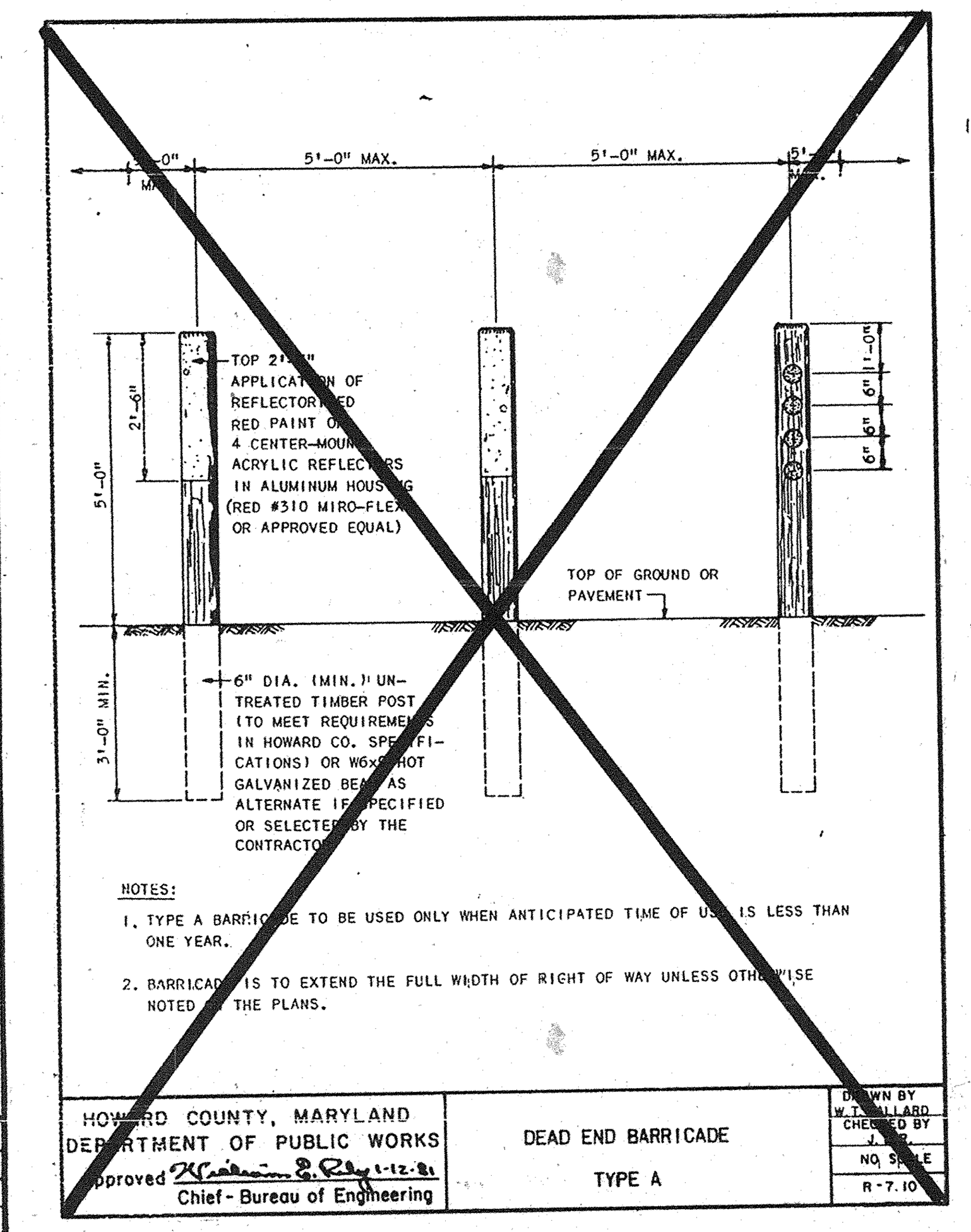
PLAN AND PROFILE
REVISED FINAL ROAD CONSTRUCTION PLAN
SCOTT FARM
LOTS 29-42 and Open Space Lots 27, 28, 43 & 44
TAX MAP NO. 35 P/O PARCEL 354
5th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

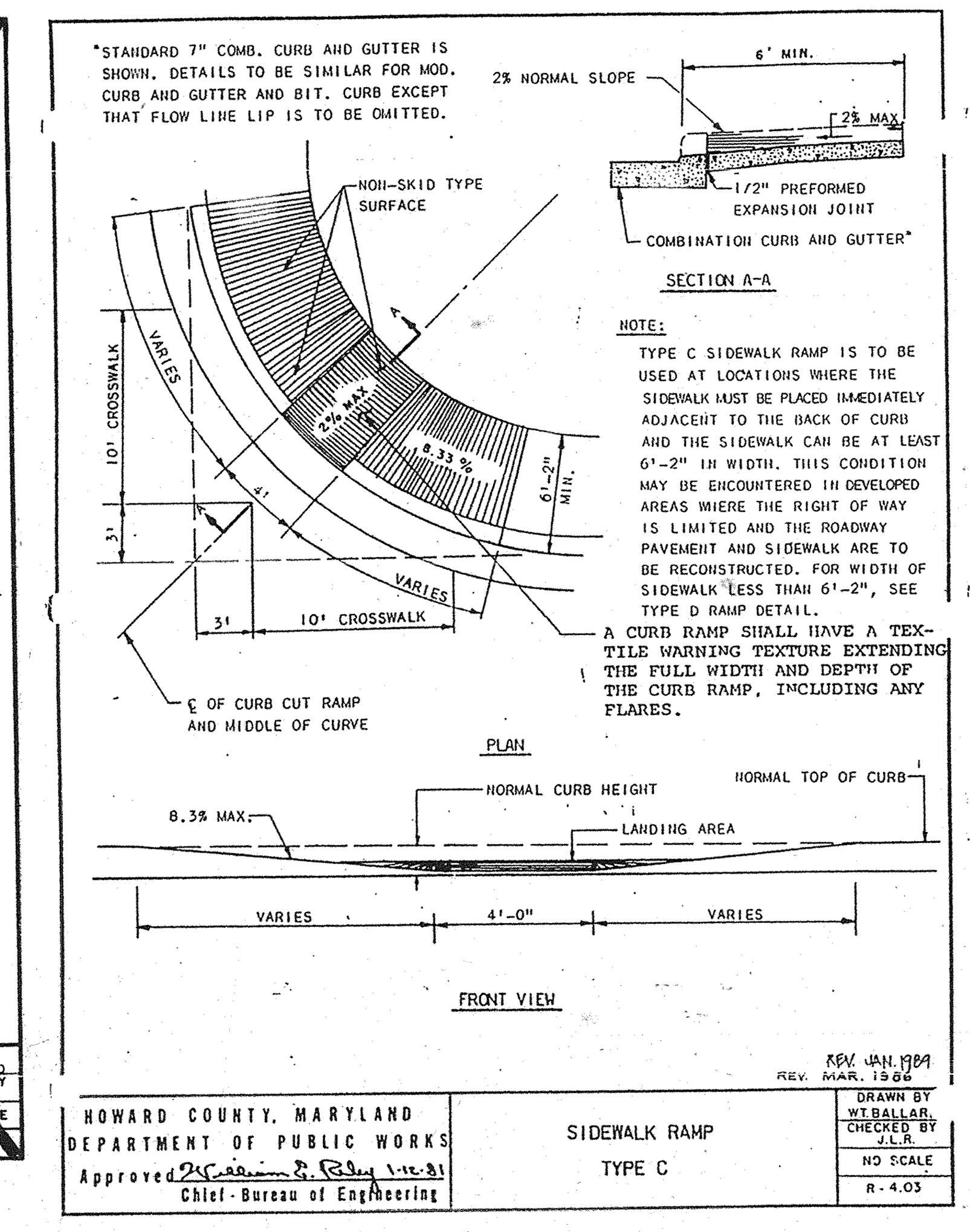
CVF DESIGN	AS SHOWN SCALE
LMM DRAWN	4 OF 20 SHEET
GRK CHECKED	
OCT., '04 DATE	PROJ No.
	F - 00 - 73 FILE No.

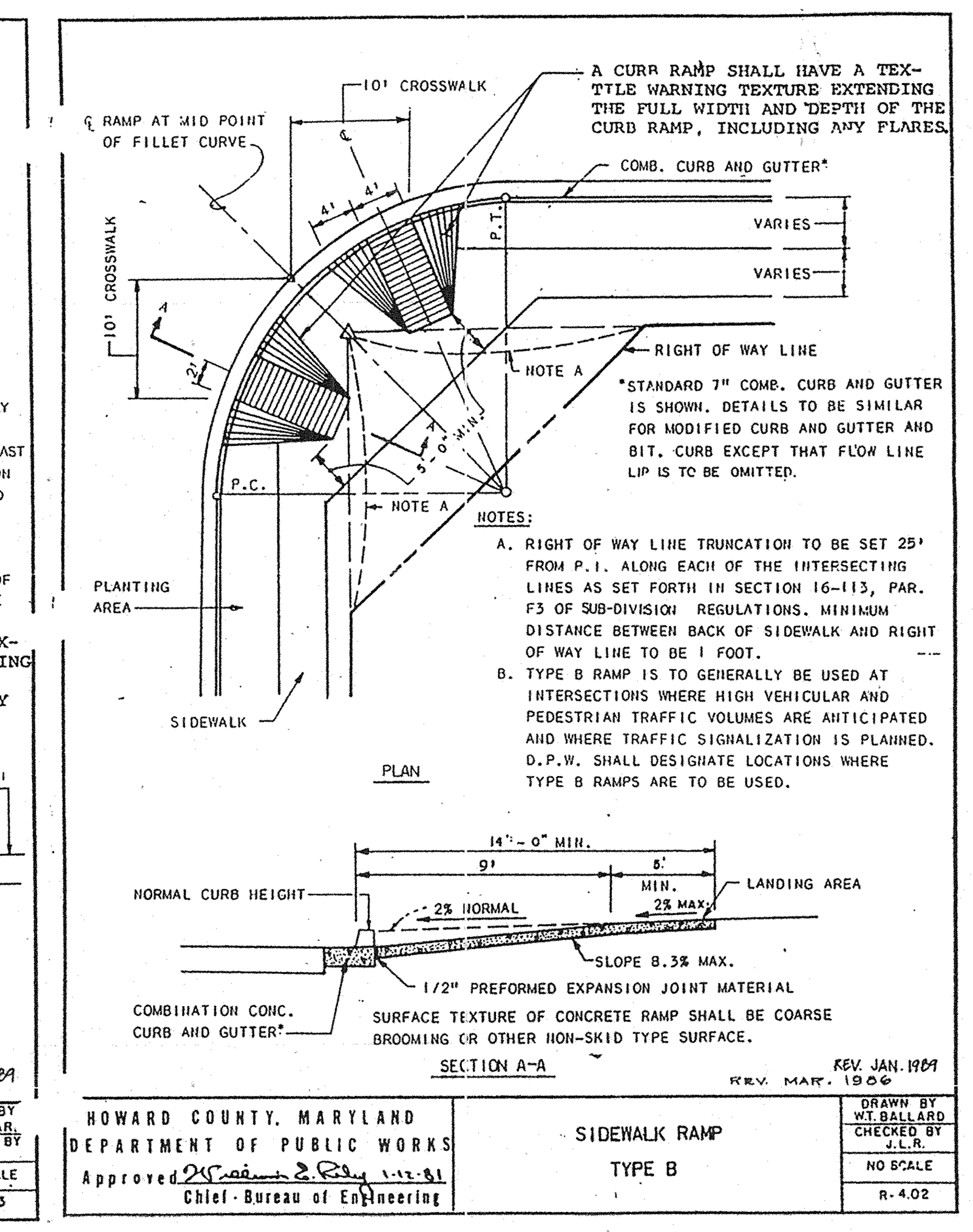
F00-73 *SUBSTITUTE SHEET











TRAFFIC CONTROL SIGN LEGEND

W.O. # F-00-73
DATE 12/6/1999

Symbol	* Street Name	℄ Station	Offset	Type
●	Walter Scott Way	0+57	32' Left	(1) R1-1, "STOP" Sign, 30" x 30" Octagon
●	Walter Scott Way	2+50	14' Left	(1) W3-1a, "STOP AHEAD" Sign, 36" x 36" Diamond
●	Walter Scott Way	2+50	14' Right	(1) R2-1, "SPEED LIMIT 25" Sign, 24" x 30" Rectangle
●	Walter Scott Way	6+87	None	(1) R4-7, "KEEP RIGHT" Sign, 24" x 30" Rectangle
●	Walter Scott Way	7+52	None	(1) R4-7, "KEEP RIGHT" Sign, 24" x 30" Rectangle
●	Walter Scott Way	9+50	14' Right	(1) W1-1R, "CURVE" Sign, 30" x 30" Diamond
●	Walter Scott Way	11+50	14' Left	(1) W1-L, "CURVE" Sign, 30" x 30" Diamond

* Refers to public Walter Scott Way (Access Street) only.

Notes:

1. The Department of Public Works shall be consulted concerning the utility location arrangement for a given street project.
2. Gas, electric and telephone lines may be placed in the same trench at the option of Baltimore Gas & Electric Company and Bell Atlantic.

GENERAL SPECIFICATIONS:

Specific gravity (+/-0.02) 1.46, ASTM D792
Izod impact ft.lbs/in. notch (.125 specimen) 17.0, ASTM D256
Tensile yield strength, 6,200 psi ASTM D638
Flexural Yield Strength, 12,000 psi ASTM D790
Tensile Modulus 365,000 psi ASTM D638 (for livestock pushing on fence)
Flexural Modulus 410,000 psi ASTM D790
DTUL at 264 psi = 72°C ASTM D648
Cell classification 1-40131-13-0101 ASTM D4216
Thermal Expansion 3.8 x 10-5 (in./in.)°F

RAIL:

11/2 X 51/2 with 2 internal webs (splines)
length 191 inches +/- 1/2 inch
wall thickness .100 +/- .010
web thickness .060 +/- .010
Attachment method: Tabs

POST:

5" x 5"
Standard on 4 rail is 84 inches
Wall thickness .150 +/- .010
Ranch post to be 8 feet on center; 96 inches apart. The distance between the outside of the posts is 91 inches or 187 inches on two sections.

POST ROUTING:

4 rail - 6 1/2 inch spacing on 7 foot post.
First hole is 2 inches from the top.

CONSTRUCTION SPECIFICATIONS:

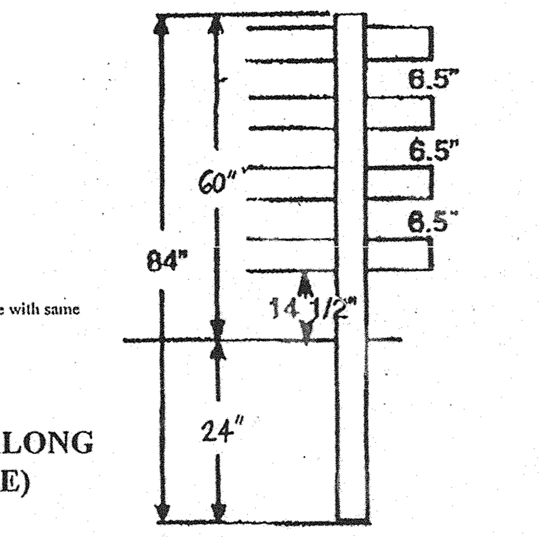
4 Rail:

Post length: 84"
Spacing between rails: 6.5"
Space from top of rail: 2"
In ground: 24"
Fence height: 60"

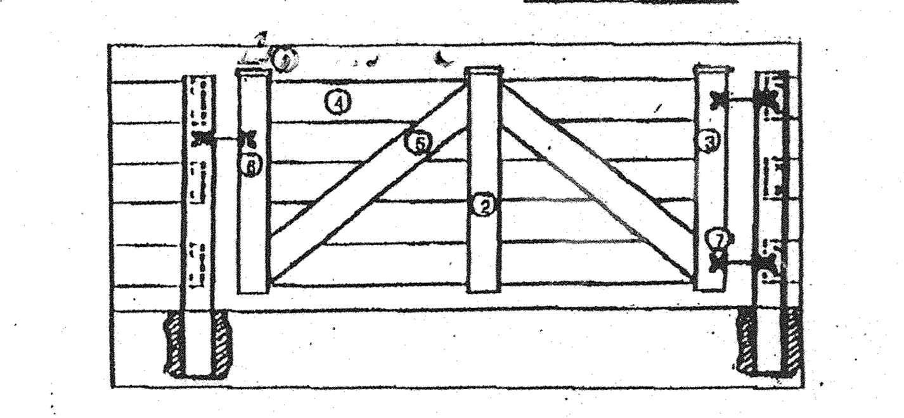
CAPS:

Outside or inside mounted pyramid caps made with same weathering and performance characteristics.

Source: Atlantic Fence Supply



(TO BE USED FOR FENCE ALONG WESTERN PROPERTY LINE)

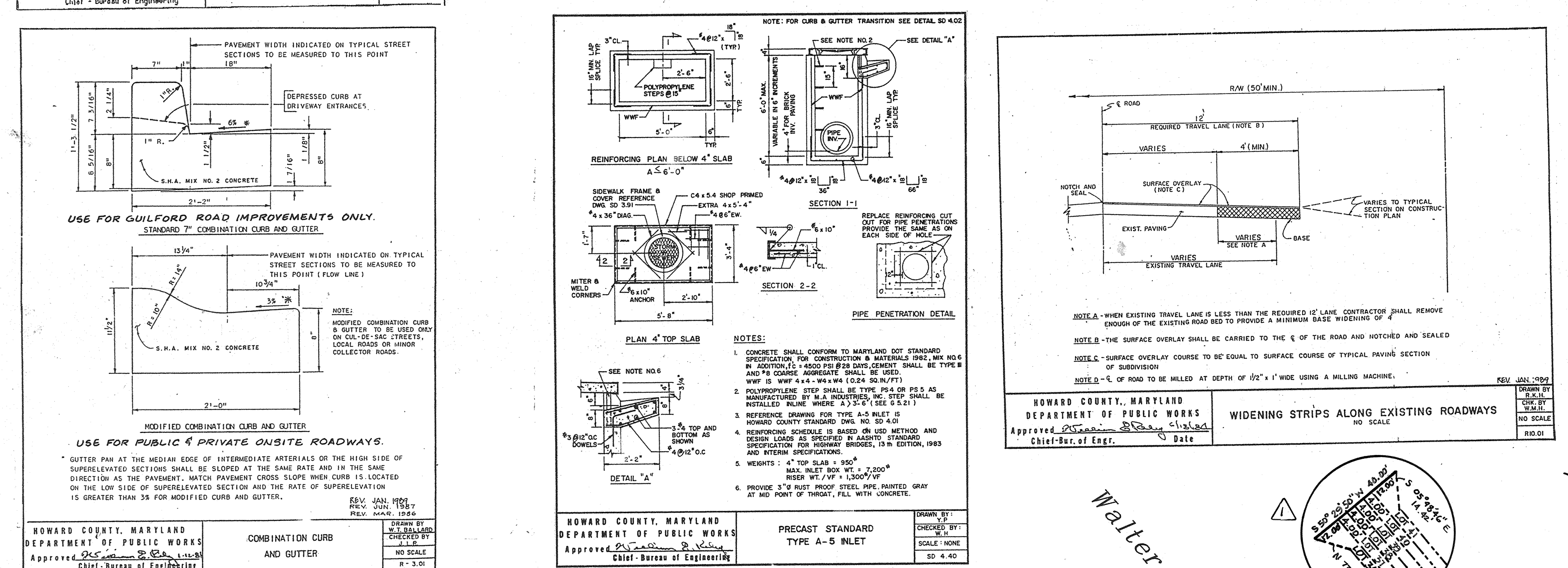


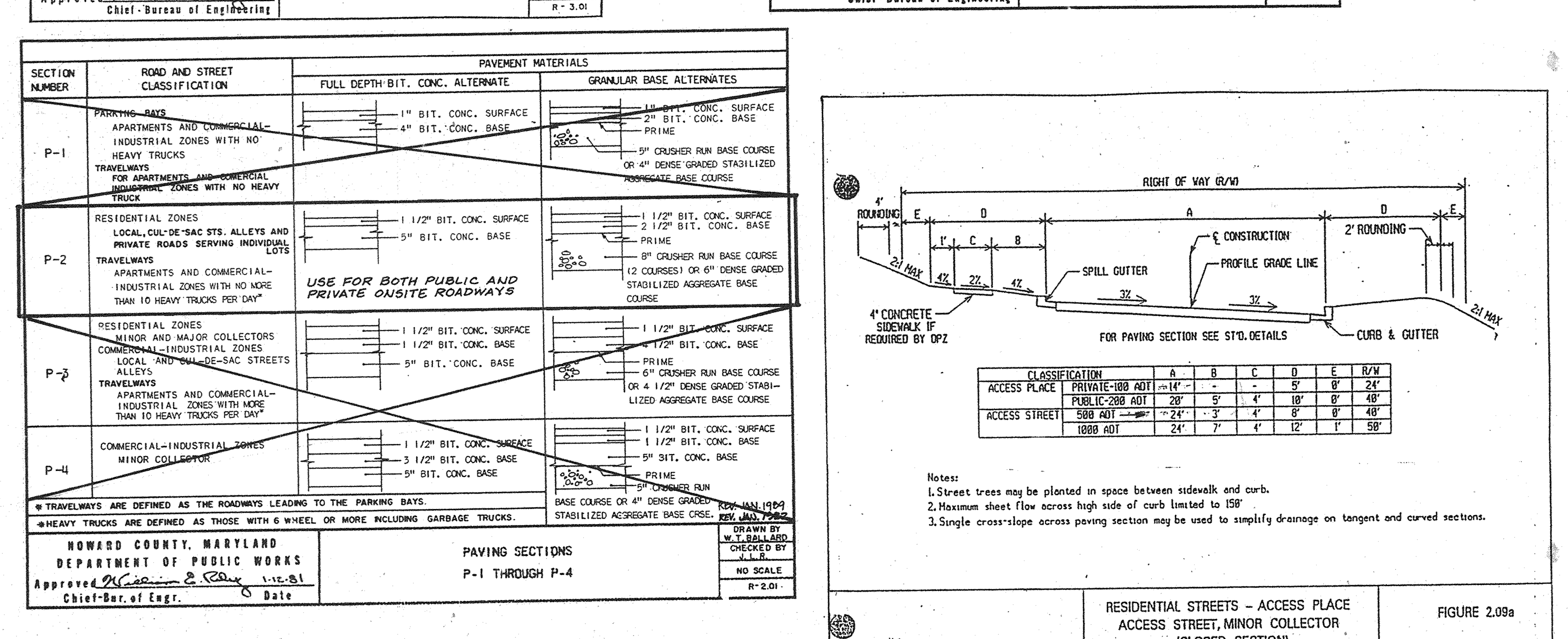
Gate Kits include:

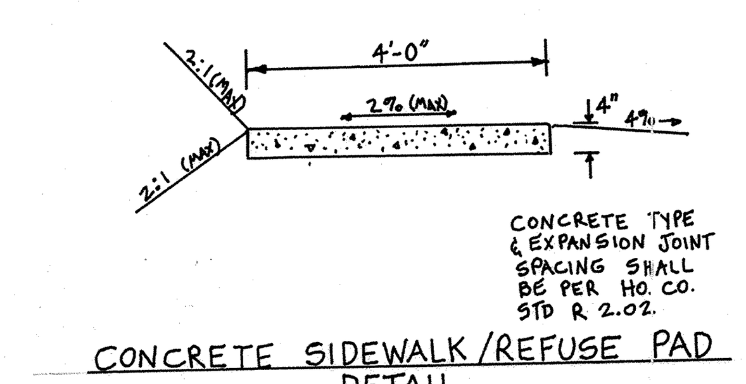
1. Stile Caps
2. Center Stile (except on 4')
3. Stile Sockets
4. Rails (not included)
5. Braces 3" x 3/8"
6. Latch
7. Hinges
8. Vinyl Glue (not included)
9. Hardware (not shown)

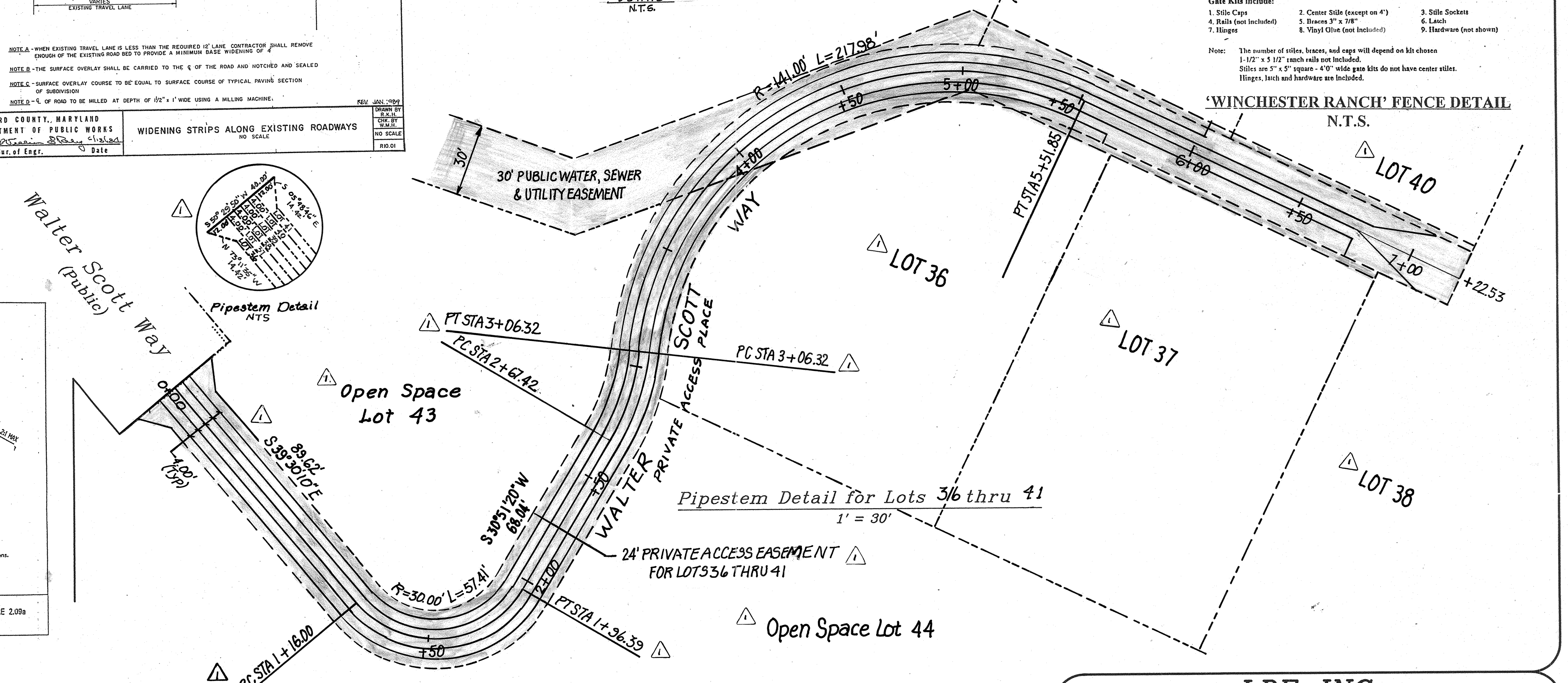
Note: The number of stiles, braces, and caps will depend on kit chosen. 1-1/2" x 5 1/2" ranch rails not included. Stiles are 5" x 5" square - 4'0" wide gate kits do not have center stiles. Hinges, latch and hardware are included.

'WINCHESTER RANCH' FENCE DETAIL
N.T.S.









Road Name	Station to Station	Class	R/W	Design Speed	Paving Section
Walter Scott Way	0+36.0 – 0+71.5	Access Street	50' (Varies)	25	P-5
Walter Scott Way	0+71.5 – 13+90.2	Access Street	40'	25	P-2
Walter Scott Way	0+00 – 6+13.3	Access Place	24'	25	P-2

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — 6/26/00 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT — 7/12/00 DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS FOR STORM DRAINAGE Systems & Roads

CHIEF, BUREAU OF HIGHWAYS — 5-26-00 DATE

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.

NATURAL RESOURCE CONSERVATION SERVICE — DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION, AND SEDIMENT CONTROL, MEET THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

HOWARD SOIL CONSERVATION DISTRICT — DATE

ENGINEER'S CERTIFICATE

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 an "as-built" plan of the pond within 30 days of completion.

SIGNATURE OF ENGINEER — 5/9/00 DATE

DEVELOPER'S CERTIFICATE

I/We certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I shall engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by Howard Soil Conservation District.

SIGNATURE OF DEVELOPER — 11-11-99 DATE

5/9/00

9/8/05

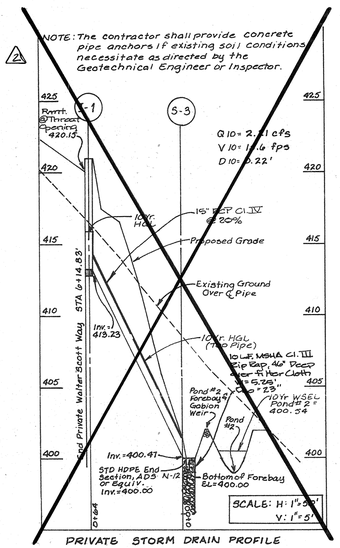
NO.	REVISIONS	DATE	BY
1	Revised to show the realignment of the Private Access Place and resubdivision of affected lots. Revised Title Block & Sheet #'s. Added Pipestem Detail. SHADED EASEMENT AREA	09-09-05	KD

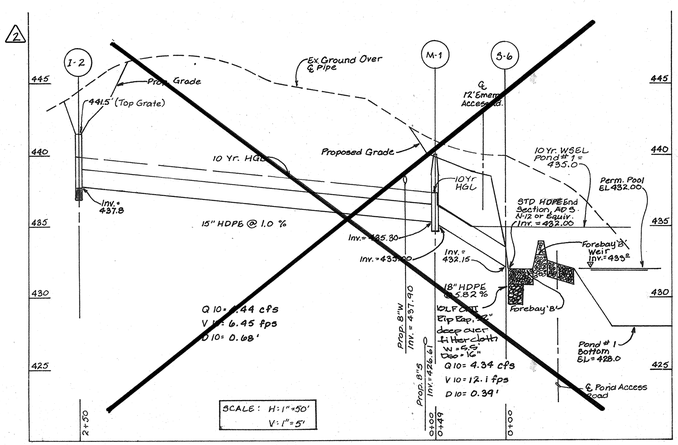
LDE, INC.
9250 Rumsey Road, Suite 106, Columbia, MD. 21045
(410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

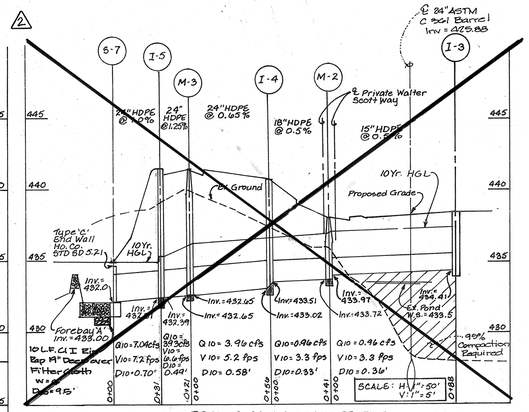
DESIGNED S.D.H.	Road Construction Details	SCALE As Shown
DRAWN CADD	**Scott Farm** Lots 29-42 and Open Space Lots 27, 28, 43 & 44	DRAWING 5 of 20
CHECKED B.D.B.	Tax Map No. 35 – P/o Parcel 354; 5th Election District – Howard County, Maryland; Previous Submittals: F76-104, F84-144, F87-162, S97-23, BA91-24E, S95-10, EP98-29, P96-13 & SP99-04	JOB NO. 98009
DATE 11/99	Owner/Developer: Scarlet Wilkinson & Earl Omer, 6799 Guilford Road, Clarksville, Maryland 21029, (410) 531-2626 or (410) 987-0497	FILE NO. F-00-73

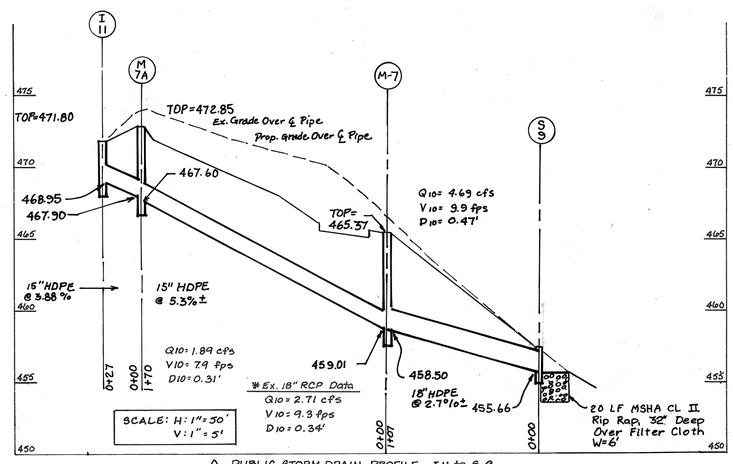
F-00-73

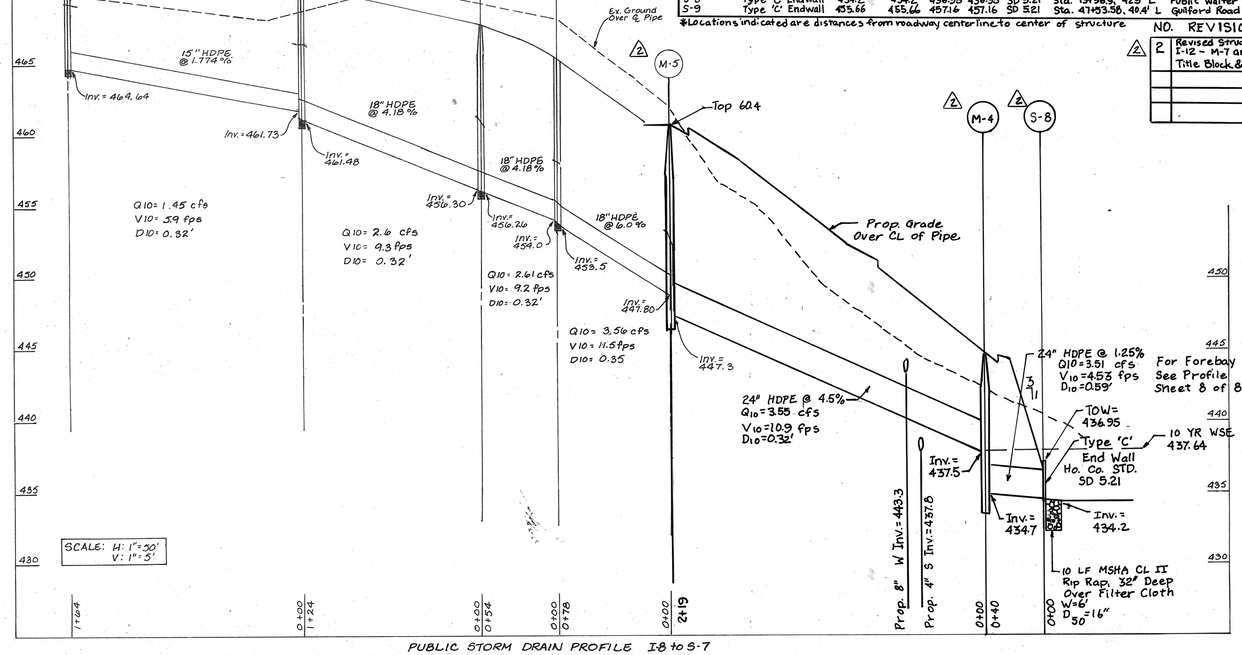
/users/land/CONROY/QUAIL/FINALS/rddetails.S70

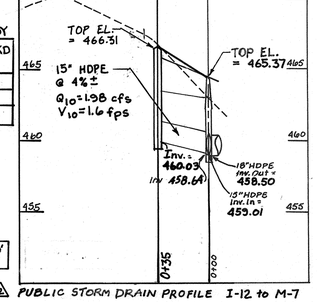


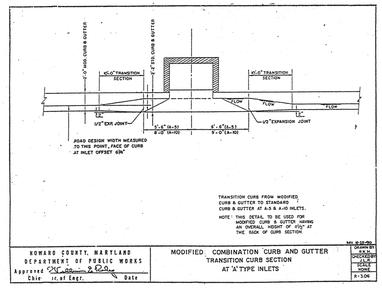


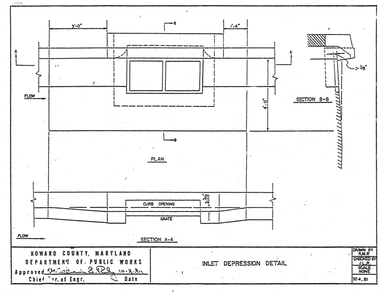












Note: All hydraulic gradient lines are at or below crown of pipe and, therefore, not shown per Howard County design requirements.

STORM DRAIN STRUCTURE SCHEDULE

Structure #	Type	Inv. In	Inv. Out	Upper	Lower	Detail	Location*	Remarks
I-6	A-10 Inlet	454.00	453.50	465.52	465.05	SD 4.02	Sta 10+25.25, 12.67 R	Public Walter Scott Way
I-7	A-10 Inlet	461.73	461.48	470.45	470.10	SD 4.02	Sta. 8+36.25, 12.52 R	Public Walter Scott Way
I-8	A-10 Inlet	–	464.64	472.59	472.09	SD 4.02	Sta. 6+72.25, 12.52 R	Public Walter Scott Way
I-11	K Inlet	–	468.95	471.80	471.80	SD 4.12	Sta. 0+46.53, 36' L	Guilford Road (STD. 4.13)
I-12	A-10 Inlet	–	460.03	466.31	466.31	SD 4.12	Sta. 0+62.56 17.25' L	Guilford Road
M-4	Std. Manhole	437.5	434.70	444.4	444.4	G 5.12	Sta. 13+41.26, 17' L	Public Walter Scott Way
M-5	Std. Manhole	447.80	447.3	460.4	460.4	G 5.12	Sta. 11+02.63, 6' R	Public Walter Scott Way
M-6	Std. Manhole	456.30	456.26	467.73	467.73	G 5.12	Sta. 9+61.25, 17' L	Public Walter Scott Way
M-7	Std. Manhole	459.01/458.64	458.50	565.37	565.37	G 5.12	Sta. 4+67.76, 42' L	Guilford Road (STD. 4.13)
M-7a	Junction Box	467.90	467.60	472.85	472.85	G 5.12	Sta. 4+43.5, 54.7' L	Guilford Road (STD. 4.14)
S-4	Type 'C' Endwall	422.04	422.00	424.75	424.75	SD 5.21	Sta. 2+40.94, 61.15' R	Private Walter Scott Way
S-5	Pond Riser	425.5	425.50	432.50	–		Sta. 2+34.57, 28.63' L	Private Walter Scott Way
S-6	Type 'C' Endwall	426.00	426.00	428.75	428.75	SD 5.21	Sta. 2+62.53, 30.83' L	Private Walter Scott Way
S-7	Type 'D' Inlet	434.00	434.00	437.93	437.93	SD 4.11	Sta. 13+93.6, 60.5' L	Public Walter Scott Way
S-8	Type 'C' Endwall	434.2	434.2	436.95	436.95	SD 5.21	Sta. 13+36.9, 42.9' L	Public Walter Scott Way
S-9	Type 'C' Endwall	455.66	455.66	457.16	457.16	SD 5.21	Sta. 4+53.58, 40.4' L	Guilford Road

*Locations indicated are distances from roadway centerline to center of structure

NO.	REVISION	DATE	BY
2	Revised Structure Schedule, SD Profile M-5 - S-8, Profile I-12 - M-7 and Profile I-11 - S-9. Added Note. Revised Title Block & Sheet No.	09-09-05	KD

STORM DRAIN STRUCTURE SCHEDULE

Structure No.	Type	Inv. In.	Inv. Out	Upper	Lower	Detail	Location*	Remarks
I-1	A-10 Inlet	-	413.23	421.25	421.25	SD 4.02	Sta. 6+14.83, 23.6' Left	Private Walter Scott Way
I-2	Yard Inlet	-	437.80	441.50	441.5	SD 4.14	N 555151.25/E 1335265.19	Private Structure
I-3	A-10 Inlet	-	434.41	438.52	438.52	SD 4.01	Sta. 1+79.05, 7.52' Left	Private Walter Scott Way
I-4	A-10 Inlet	433.51	433.02	440.12	440.02	SD 4.02	Sta. 0+46, 7.52' Left	Private Walter Scott Way
I-5	A-10 Inlet	432.39	432.31	440.88	440.32	SD 4.02	Sta. 13+80, 30.73' Left	Private Walter Scott Way
I-6	A-10 Inlet	454.00	453.5	465.52	465.05	SD 4.02	Sta 10+25.25, 12.67' Right	Public Walter Scott Way
I-7	A-10 Inlet	461.73	461.48	470.45	470.10	SD 4.02	Sta. 8+36.25, 12.52' Right	Public Walter Scott Way
I-8	A-10 Inlet	-	464.64	472.53	472.09	SD 4.02	Sta. 6+72.25, 12.52' Right	Public Walter Scott Way
I-9	A-10 Inlet	455.79/453.74	453.64	459.97	459.97	SD 4.02	Sta. 48+30.79, 36' Left	Guilford Road
I-10	A-10 Inlet	455.45	455.35	459.85	459.71	SD 4.14	Sta. 47+83.0, 36' Left	Guilford Road
I-11	A-10 Inlet	-	466.00	471.88	471.52	SD 4.12	Sta. 44+65.9, 36' Left	Guilford Road
I-12	A-10 Inlet	459.90	459.00	466.31	466.03	SD 4.02	Sta. 0+79.06, 16.66 Right	Public Walter Scott Way
I-13	A-10 Inlet	-	465.50	471.70	471.70	SD 4.02	Sta. 2+02.25, 12.00' Right	Public Walter Scott Way
M-1	Std. Manhole	435.30	435.00	439.80	439.80	G 5.12	Sta. 3+32.02, 21.97' Left	Private Walter Scott Way
M-2	Std. Manhole	433.97	433.72	438.67	438.67	G 5.12	Sta. 0+88.0, 3' Right	Private Walter Scott Way
M-3	Std. Manhole	432.65	432.65	440.33	440.33	G 5.12	Sta. 13+80, 10' Left	Private Walter Scott Way
M-4	Std. Manhole	434.30	434.20	443.8	443.8	G 5.12	Sta. 13+41.26, 17' Left	Public Walter Scott Way
M-5	Std. Manhole	447.80	447.30	459.42	459.42	G 5.12	Sta. 11+13.25, 6' Right	Public Walter Scott Way
M-6	Std. Manhole	456.30	456.26	467.73	467.73	G 5.12	Sta. 9+61.25, 17' Right	Public Walter Scott Way
M-7	Std. Manhole	459.14/458.85	458.85	464.10	464.10	G 5.12	Sta. 4+67.76, 42' left	Guilford Road
M-8	Std. Manhole	468.00	468.00	468.77	468.77	G 5.12	1+30.0, 19.5' Right	Public Walter Scott Way
S-1	Type 'C' Endwall	394.03	394.00	396.75	396.75	SD 5.21	N 554959.07/E 1336845.16	
S-2	Pond # 2 Riser	395.00	395.00	401.33	401.33	-	N 554961.80/ E 1335510.94	See Detail Sheet 8
S-3	HDPE End Sec.	400.47	400.00	401.72	401.72		N 554810.84/E 1335510.94	See Manufacturer's Specs
S-4	Type 'C' Endwall	422.04	422.00	424.75	424.75	SD 5.21	N 554745.45/E 1335129.57	
S-5	Pond # 1 Riser	427.00	427.00	436.33	436.33	-	N 554813.97/E 1334996.37	See Detail Sheet 8
S-6	HDPE End Sec.	432.15	432.00	433.65	433.65	-	Sta. 2+96.0, 35' Left	See Manufacturer's Specs
S-7	Type 'C' Endwall	432.01	432.00	434.75	434.75	SD 5.21	Sta. 13+66.0, 60' Left	Public Walter Scott Way
S-8	Type 'C' Endwall	432.07	432.00	434.75	434.75	SD 5.21	Sta. 13+41.26, 57' Left	Public Walter Scott Way
S-9	HDPE End Sec.	453.29	453.00	454.50	454.50	-	Sta. 48+30.79, 55' Left	Guilford Road

* Locations indicated are distances from roadway centerline to center of structure or center coordinate.

I-12	A-10 Inlet	–	459.86		SD 4.02	Sta. 0+79, 16' Left	Public Walter Scott Way

PIPE SCHEDULE

SIZE	CLASS	TOTAL LENGTH*
15"	HDPE Smooth Interior	590 LF
18"	HDPE Smooth Interior	256 LF
24"	HDPE Smooth Interior	259 LF
24"	RCP. Cl. IV	90 LF

* The total length of pipe does not take into account the slope of the pits. This total is for linear feet only.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 6/26/00

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 7/12/00

Approved: Department of Public Works for Storm Drainage Systems and Roads.

Chief, Bureau of Highways — DATE 6-26-00

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

NATURAL RESOURCE CONSERVATION SERVICE — DATE 5/18/00

"THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL, MEET THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT."

HOWARD SOIL CONSERVATION DISTRICT — DATE 5/18/00

ENGINEER'S CERTIFICATE

I certify that this plan for pond construction, soil 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 will notify the developer that he/she must engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion.

BRUCE D BUTLER No. 19184 REGISTERED PROFESSIONAL ENGINEER — SIGNATURE OF ENGINEER — DATE 5/9/00

DEVELOPER'S CERTIFICATE

I/We certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I shall engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by Howard Soil Conservation District.

SIGNATURE OF DEVELOPER — DATE 11-11-99

BRUCE D BUTLER No. 19184 REGISTERED PROFESSIONAL ENGINEER — 5/9/00

GREGORY K. FAIR No. 21432 REGISTERED PROFESSIONAL ENGINEER

REVISION No. 1 & 2 BY:
CENTURY ENGINEERING INC.
32 WEST ROAD
TOWSON, MD. 21204 (410)-823-8070
THIS SEAL FOR REVISION No. 1 ONLY

CES.	1	REVISED TO ELIMINATE I-13 & M-8	5-15-01
BY	NO.	REVISION	DATE

LDE, INC.
9250 Rumsey Road, Suite 106, Columbia, MD. 21045
(410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

DESIGNED S.D.H.	Storm Drain Profiles	SCALE 1"=50' H. 1"=5' V.
DRAWN CADD STB	Scott Farm	DRAWING 6 of 20
CHECKED B.D.B.	Lots 29-42 and Open Space Lots 27,28,43 & 44	JOB NO. 98009
DATE 11/99	Tax Map No. 35 - P/O Parcel 354; 5th Election District - Howard County, Maryland; Previous Submittals: F76-104, F84-144, F87-162, S87-25, BA91-24E, S95-10, SP98-18, P98-13 & SP98-04	FILE NO. F-00-73
	Owner/Developer: Scarlet Wilkinson & Earl Omer, 6799 Guilford Road, Clarksville, Maryland 21029, (410) 531-3838 or (410) 997-0497	

F-00-73

POND CONSTRUCTION SPECIFICATIONS

These specifications are appropriate to all ponds within the scope of the Standard for practice MD-378. All references to ASTM and AASHTO specifications apply to the most recent version.

SITE PREPARATION

Areas designated for borrow areas, embankment and structural works shall be cleared, grubbed, and stripped of topsoil. All trees, vegetation, roots, and other objectionable material shall be removed. Channel banks and sharp breaks shall be sloped to no steeper than 1:1.

Areas to be covered by the reservoir will be cleared of all trees, brush, logs, fences, rubbish, and other objectionable material unless otherwise designated on the plans. Trees, brush and stumps shall be cut approximately level to 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 the placement of fill. Fill materials shall be placed in maximum 8 inch thick (before compaction) layers which are to be continuous over the entire length of fill. The most permeable borrow material shall be placed in the downstream portions of the embankment. The principal spillway must be installed concurrently with fill placement and not excavated into the embankment.

Compaction – The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed by not less than one tread track of the equipment or compaction shall be achieved by a minimum of four complete passes of a sheepsfoot, rubber tired, or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction will be obtained with the equipment used. The fill material shall contain sufficient moisture so that if formed into a ball it will not crumble yet not be so wet that water can be squeezed out.

Where a minimum required density is specified, it shall not be less than 95% of maximum dry density with a moisture content within +/- 2% of the optimum. Each layer of fill shall be compacted as necessary to obtain that density, and is to be certified by the Engineer at the time of construction. All compaction is to be determined by AASHTO Method T-99.

Cut off Trench – The cutoff trench shall be excavated into impervious material along or parallel to the centerline of the embankment as shown on the plans. The bottom width of the trench shall be governed by the equipment used for excavation, with the minimum width being four feet. The depth shall be at least four feet below existing grade or as shown on the plans. The side slopes of the trench shall be 1 to 1 of flatter. The backfill shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability.

STRUCTURAL 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 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 have a minimum coating thickness of 0.01 inch (10 mil) on both sides of the pipe. The following coating or an approved equal may be used: Nexon, Plasti-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 appurtenances shall conform to the requirements of AASHTO Specifications M-196 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 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 inch wide standard lap type band with 12" wide by 3/8" thick closed cell circular neoprene gasket; and a 12 inch wide hugger type band with O-ring gaskets having a minimum diameter of 1/2 inch greater than the corrugated depth. Pipes 24" in diameter and larger shall be connected by a 24" long annular corrugated band using rods and lugs. 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 internal 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 10 % of its outside diameter with a minimum thickness of 3 inches, or as shown on the drawings.

3. Laying pipe – Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed for the entire line, the bedding shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe. The first joint must be located within 2 feet from the riser.

4. Backfilling shall conform to "Structure Backfill."

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

POLYVINYL CHLORIDE (PVC) PIPE – All of the following criteria shall apply for polyvinyl chloride (PVC) pipe:

1. Materials – PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-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 be reasonably homogeneous with the larger rocks uniformly distributed and firmly in contact one to another with the smaller rocks filling the voids between the larger rocks. Filter cloth shall be placed under all riprap and shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 919.12.

CARE OF WATER DURING CONSTRUCTION

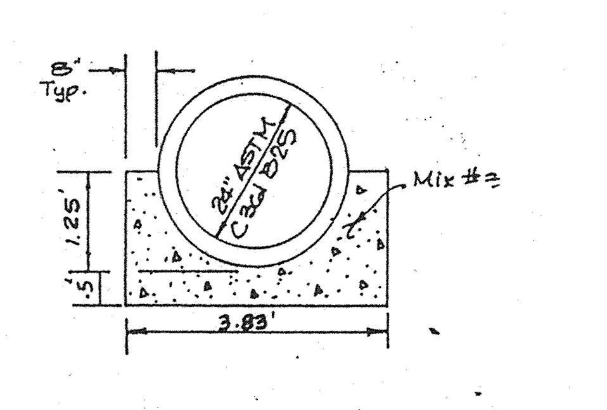
All work on permanent structures shall be carried out in areas free from water. The Contract shall construct and maintain all temporary dikes, levees, cofferdams, drainage channels, and stream diversions necessary to protect the areas to be occupied by the permanent works. The contractor shall also furnish, 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 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 required draining the water to sumps from which the water shall be pumped.

STABILIZATION

All borrow areas shall be graded to provide proper drainage and left in a sightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and berms shall be stabilized by seeding, liming, fertilizing and mulching 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 abatement will be followed. Construction plans shall detail erosion and sediment control measures to be employed during the construction process.



SCS TR-46
A-2 Cradle
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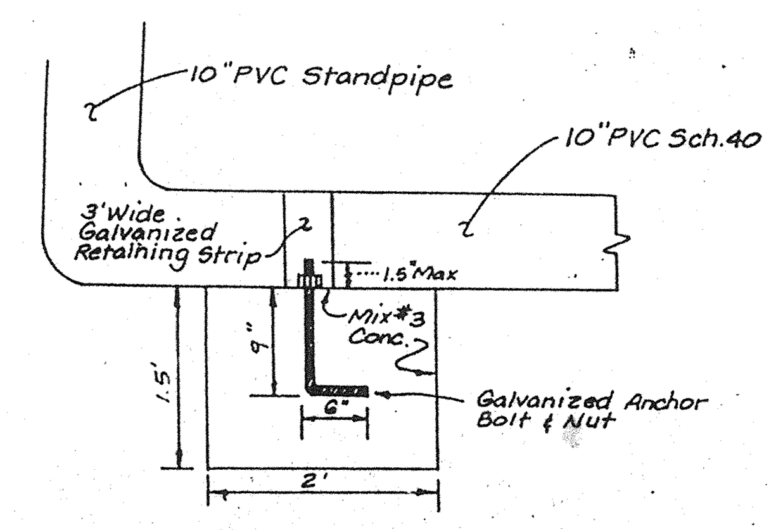


LOW FLOW CONCRETE BASE DETAIL
No Scale

GEOTECHNICAL RECOMMENDATIONS

EVALUATIONS AND RECOMMENDATIONS

Given the presence of groundwater at or above the proposed bottom of pond elevations (Borings B-4, B-6, B-7, B-8, B-9) stormwater management practices via infiltration are not recommended. Consideration should be given to the design of wet ponds.

It is our understanding that the existing pond (proposed pond # 1) was constructed under the supervision of the Soil Conservation Service (SCS) and that documentation reflecting the required inspections and approval has been obtained by LDE. Boring B-6, located in the existing emergency spillway encountered natural soils and a groundwater level of 430.17. Boring B-5 located at the existing pond embankment and spillway did not encounter groundwater. This would substantiate the documentation by SCS of the proper construction of impervious core trench material. Based on the SCS documentation, the presence of impervious soil materials and non occurrence of groundwater encountered in boring B-5 it is our professional opinion that the existing pond may be converted during the proposed development without complete reconstruction. HCEA recommends that a geotechnical engineer from our office further inspect the pond during the conversion for signs of piping, seepage or other anomalies.

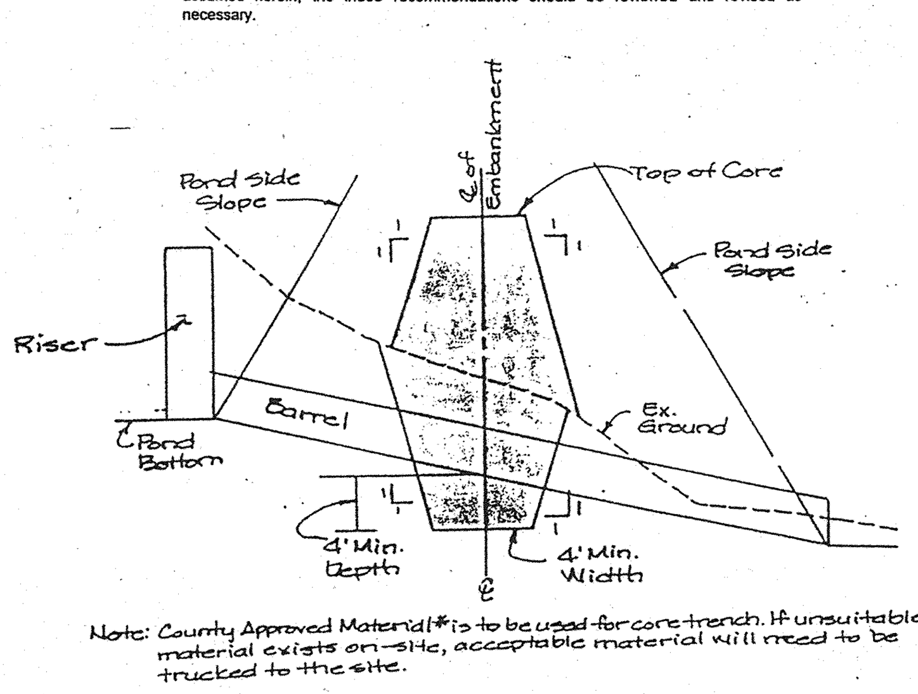
EMBANKMENT AND CUT-OFF TRENCH CONSTRUCTION

The site should be stripped of topsoil and any other unsuitable materials from the embankment or structure area in accordance with Soil Conservation Guidelines. After stripping operations have been completed, the exposed subgrade materials should be proofrolled with a loaded dump truck or similar equipment in the presence of a geotechnical engineer or his representative. For areas that are not accessible to a dump truck, the exposed materials should be observed and tested by a geotechnical engineer or his representative utilizing a Dynamic Cone Penetrometer. Any excessively soft or loose materials identified by proofrolling or penetrometer testing should be excavated to suitably firm soil, and then grades re-established by backfilling with suitable soil.

Based on the groundwater levels identified in the borings dewatering of excavations should be anticipated. A representative of the Geotechnical Engineer should be present to monitor placement and compaction of fill for the embankment and cut off trench. In accordance with Maryland Soil Conservation Specification 378 soils considered suitable for the center of embankment and cut off trench shall conform to Unified Soil Classification GC, SC, CH, or CL. These soil materials were not identified in the soil borings however, per MD. SCS 378 consideration may be given to the use of other materials in the embankment if design and construction are supervised by a geotechnical engineer. It is our professional opinion that in addition to the soil materials described above a fine grained soil, including Silt (ML) with a plastic index of 8 or more can be utilized for the center of the embankment and core trench. These soil materials were identified on site and it is our professional opinion that these materials are suitable for core trench and center of embankment as impervious soils. These material are predominantly encountered directly under the topsoil layer for a depth of 1-4'.

QUALIFICATIONS

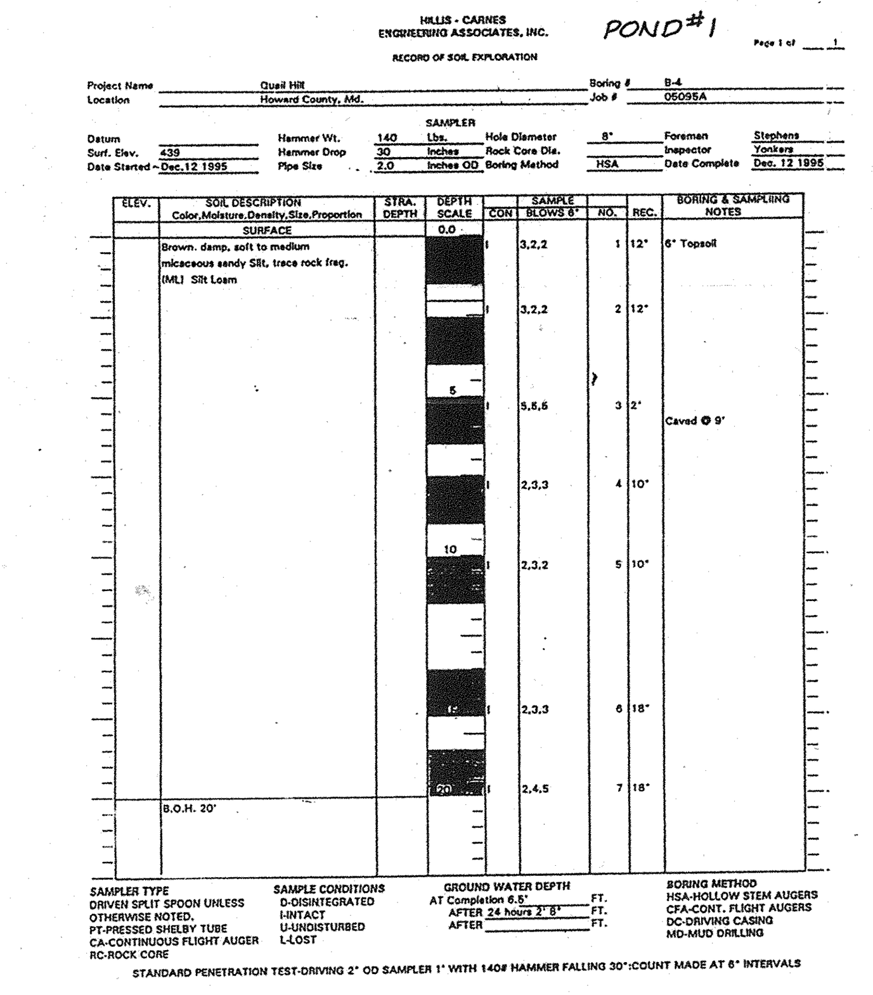
These recommendations are based upon generally accepted principles of geotechnical engineering. These recommendations are intended for the use of designer for planning this project. HCEA is not responsible for any other use. Inherent in these recommendations is the assumption that all work will be done under the supervision of a registered professional engineer specializing in geotechnical engineering. The analysis for this project was based upon the information from the borings and the assumption of uniform subsurface condition between the borings whereas, in reality, abrupt changes may occur. If any conditions are encountered in the field which differ from the conditions assumed herein, the these recommendations should be reviewed and revised as necessary.

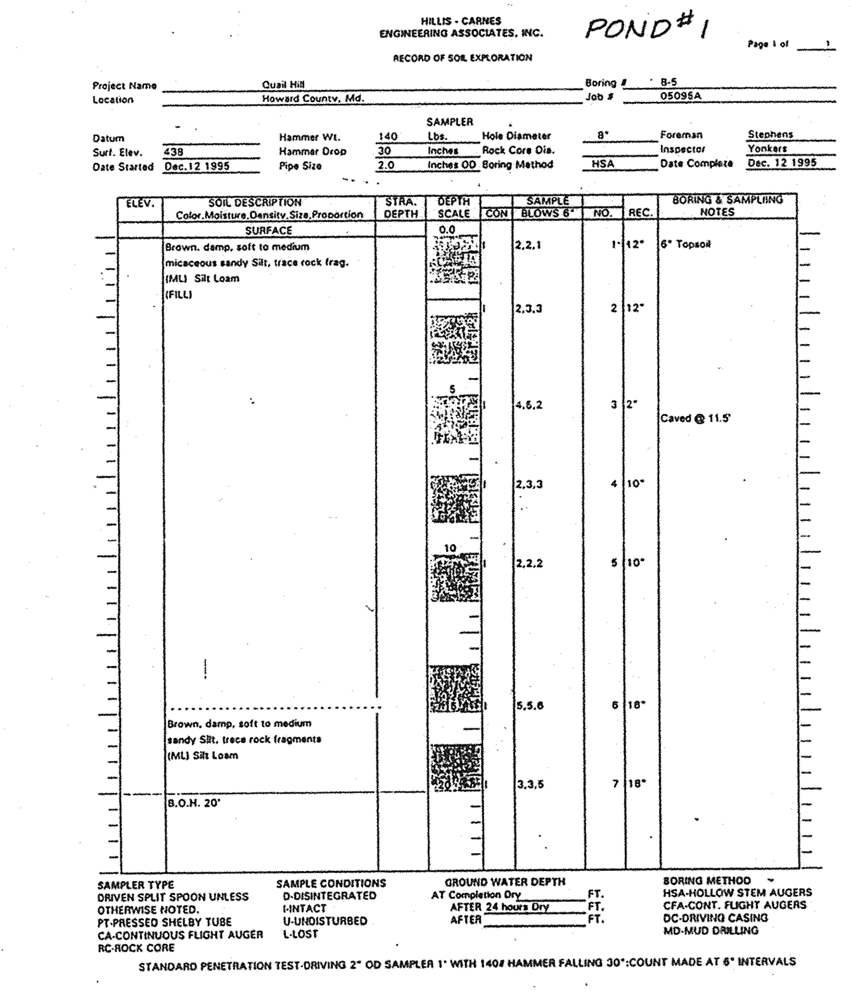


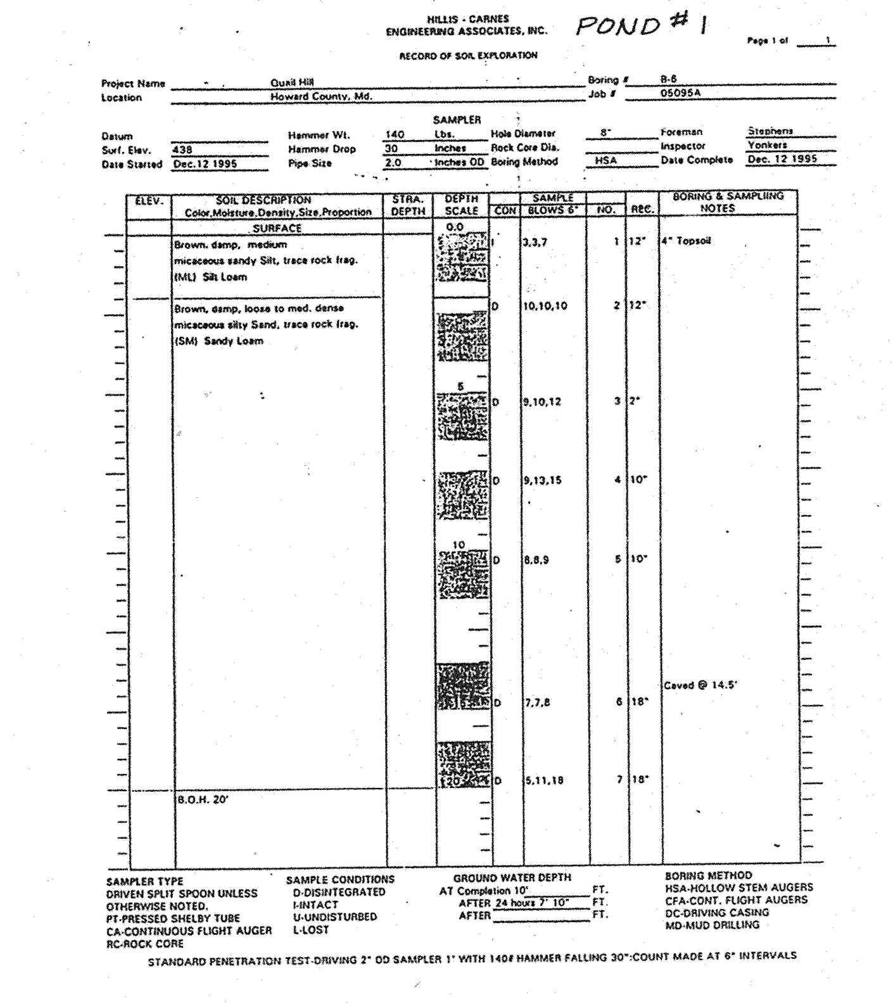
Note: County Approved Material* is to be used for core trench. If unsuitable material exists on-site, acceptable material will need to be trucked to the site.

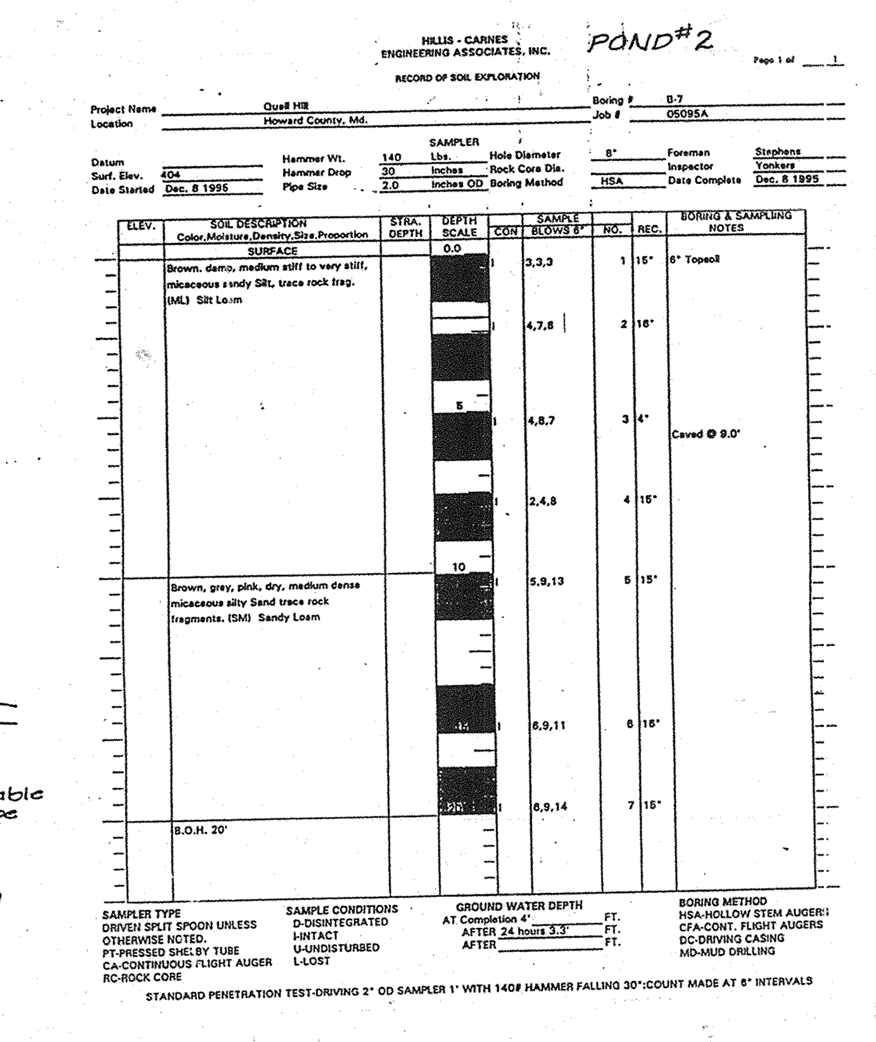
*County Approved Material must conform to Unified Classification Designations of CL, CH, SC or GC

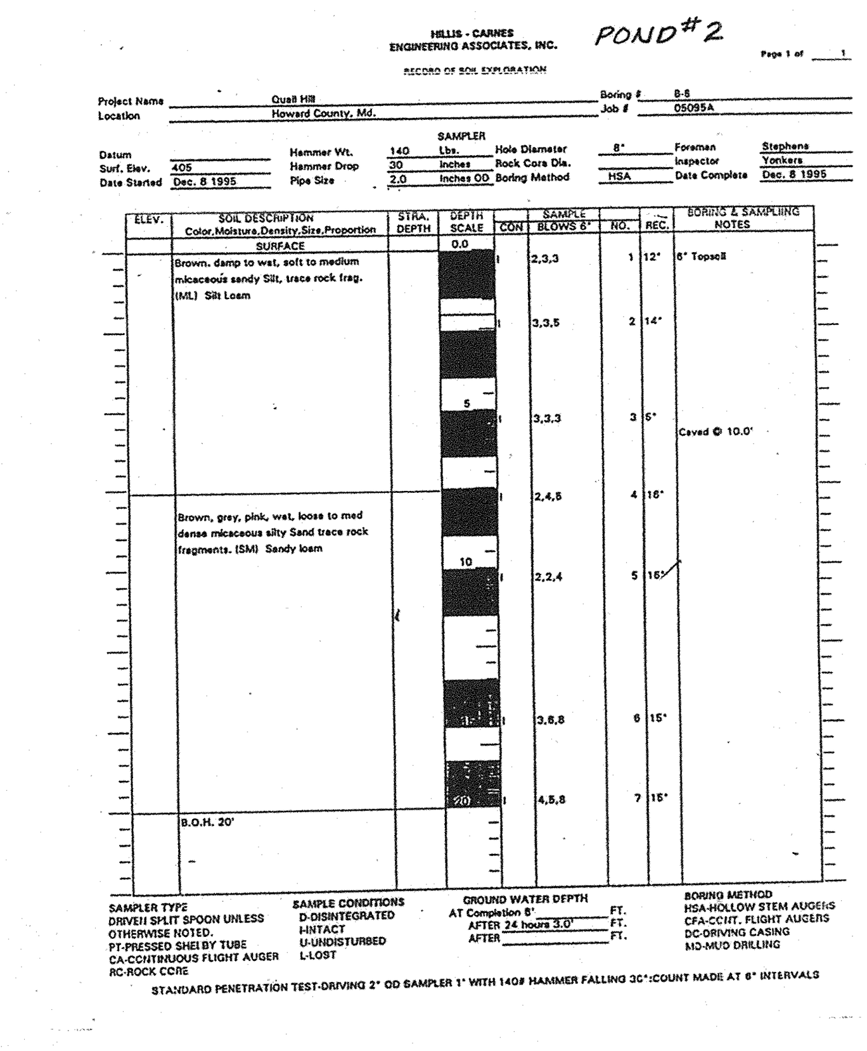
Core Trench Typ. Section
No Scale

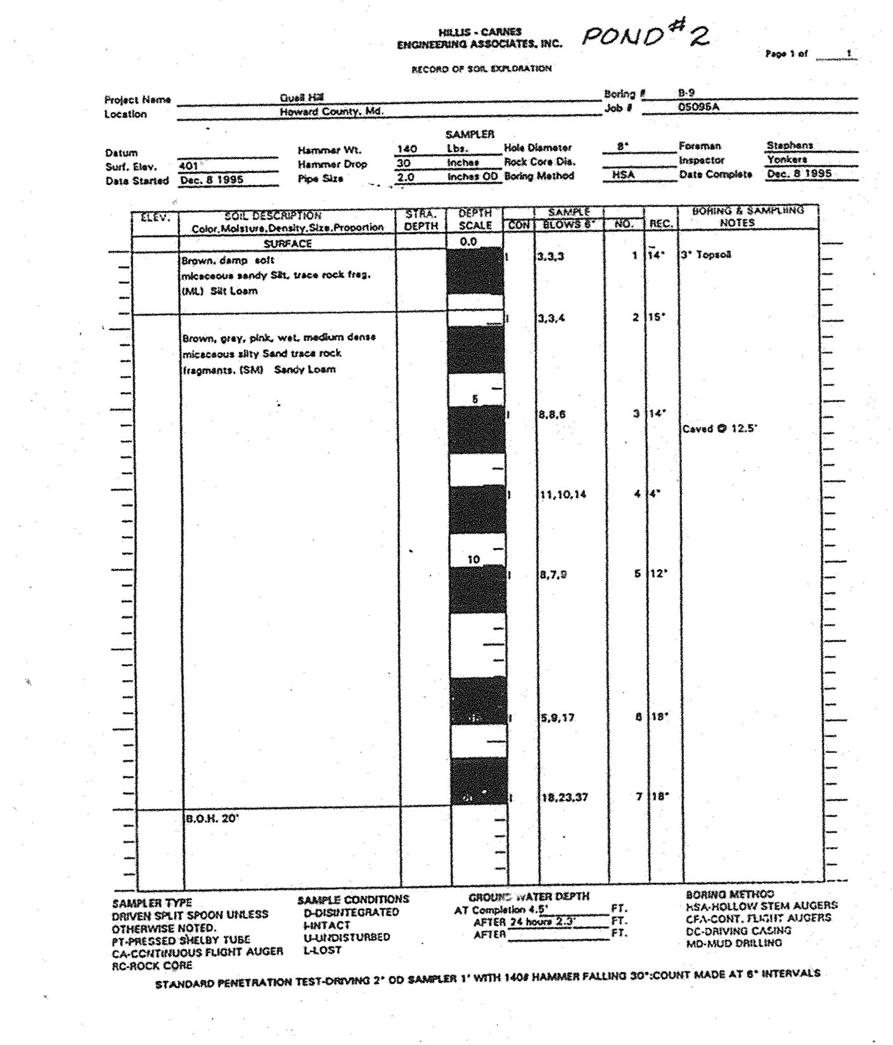




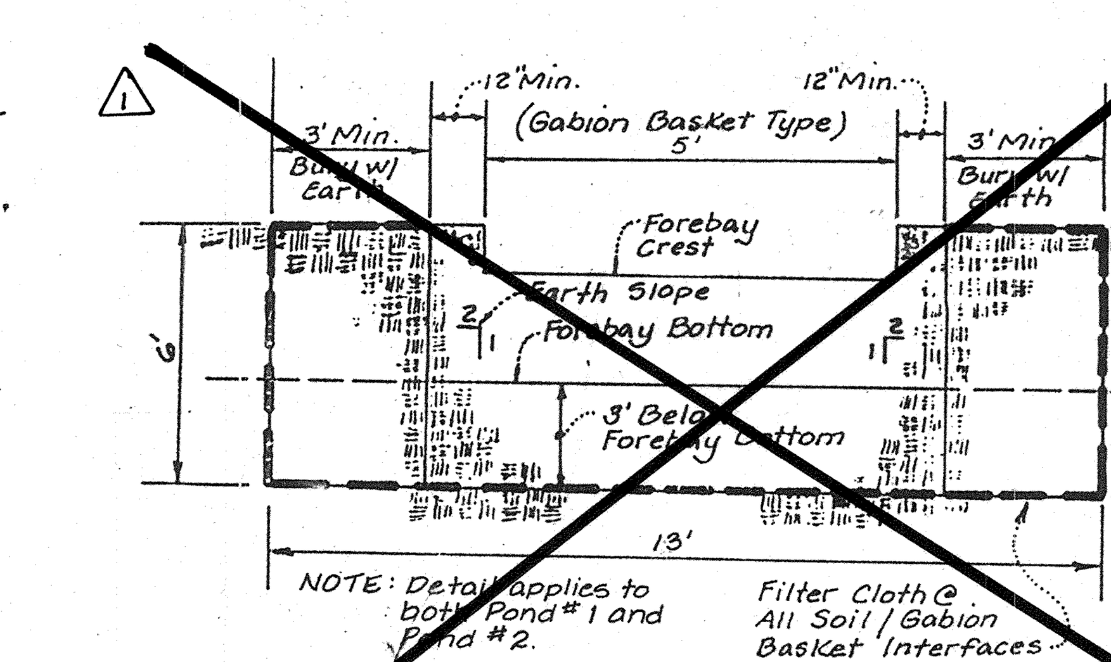




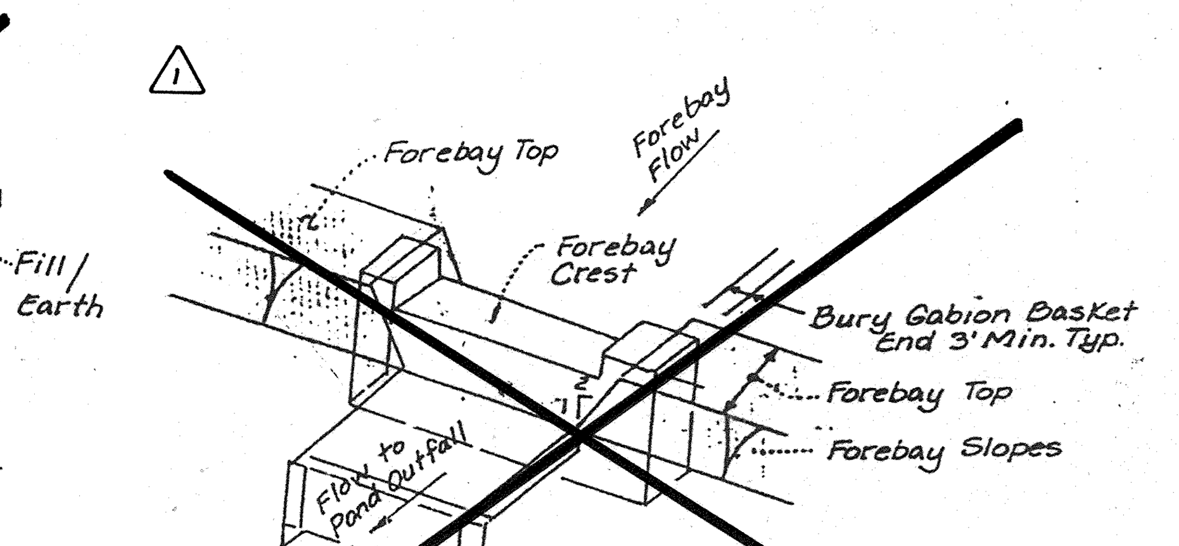




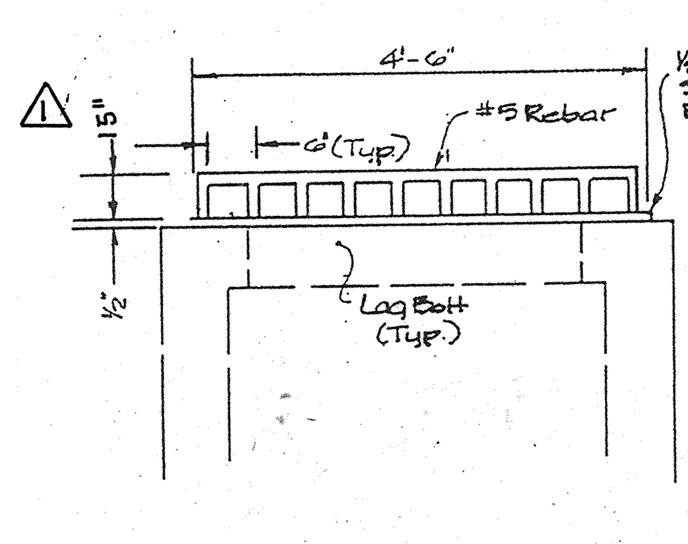
TYPICAL FOREBAY DETAILS (N.T.S.)



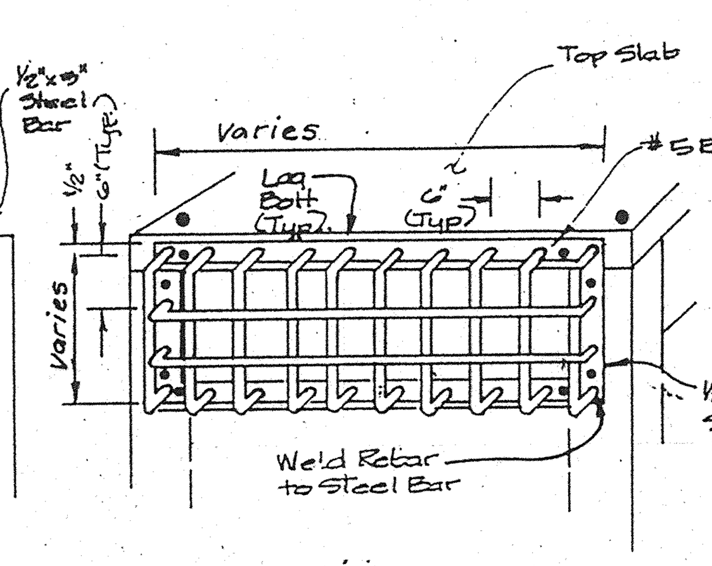
FOREBAY DETAIL
PLAN VIEW
(N.T.S.)



PERSPECTIVE VIEW
(N.T.S.)



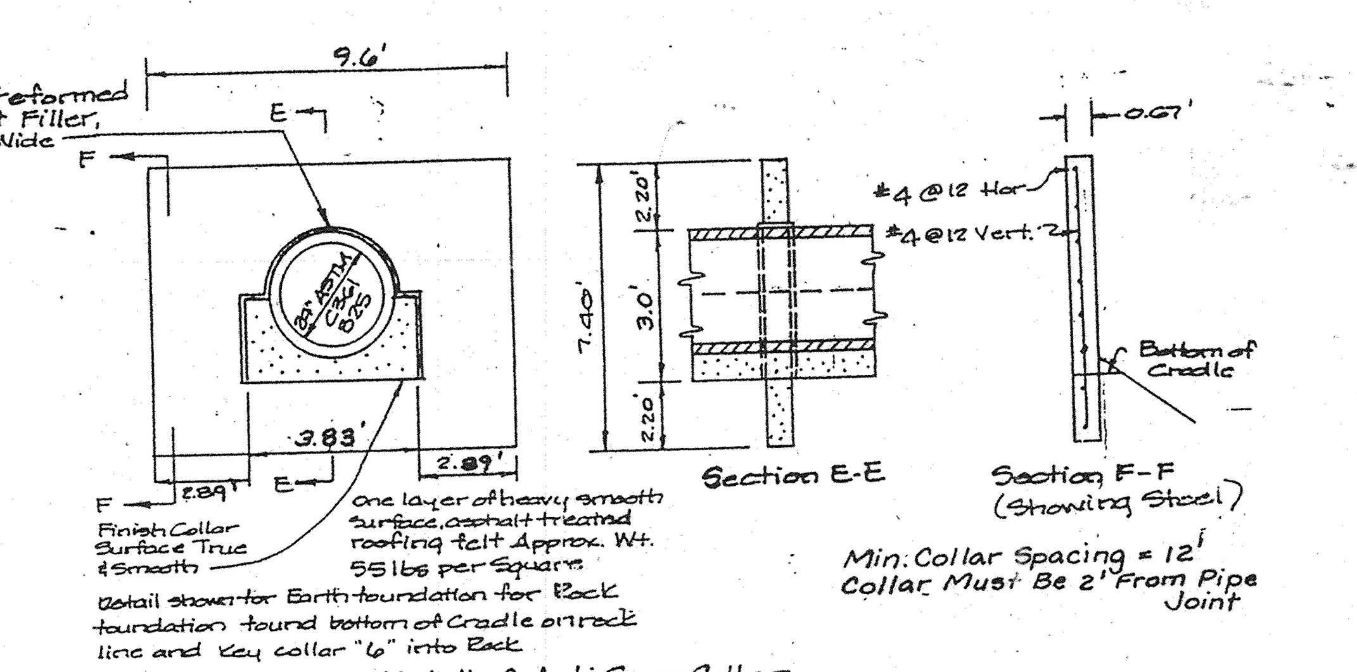
Plan View



Isometric View

Notes 1. The steel used in the trash rack shall be galvanized and painted battleship grey after fabrication.
2. The #5 Rebar to be welded to the 1/2"x3" steel bar and bolted to the face of the structure.
3. All bolts used to fasten trash rack to the riser structure shall be galvanized.

Trash Rack Details (2 Required)
Scale: 1/2" = 1'



Detail of Anti Seep Collar
Use (3) 9.6' x 7.40')
N.T.S.

NO	REVISION	DATE	BY
1	Revised Title Block & Sheet No. Revised Trash Rack Size Deleted Forebay Details	09-09-05	KD

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 6/26/00

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 7/12/00

APPROVED: Department of Public Works for Storm Drainage Systems and Roads.

CHIEF, BUREAU OF HIGHWAYS — DATE 5-26-00

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.

NATURAL RESOURCE CONSERVATION SERVICE — DATE 5/18/00

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION, AND SEDIMENT CONTROL, MEET THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

HOWARD SOIL CONSERVATION DISTRICT — DATE 5/18/00

ENGINEER'S CERTIFICATE

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 an "as-built" plan of the pond within 30 days of completion.

SIGNATURE OF ENGINEER — Bruce D. Burton — DATE 5/9/00

DEVELOPER'S CERTIFICATE

I/We certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I shall engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by Howard Soil Conservation District.

SIGNATURE OF DEVELOPER — DATE 11-1-99

State of Maryland — Bruce David Burton — No. 19184 — Registered Professional Engineer — 5/9/00

State of Maryland — Gregory K. K... — No. 11432 — Registered Professional Engineer — 9-8-05

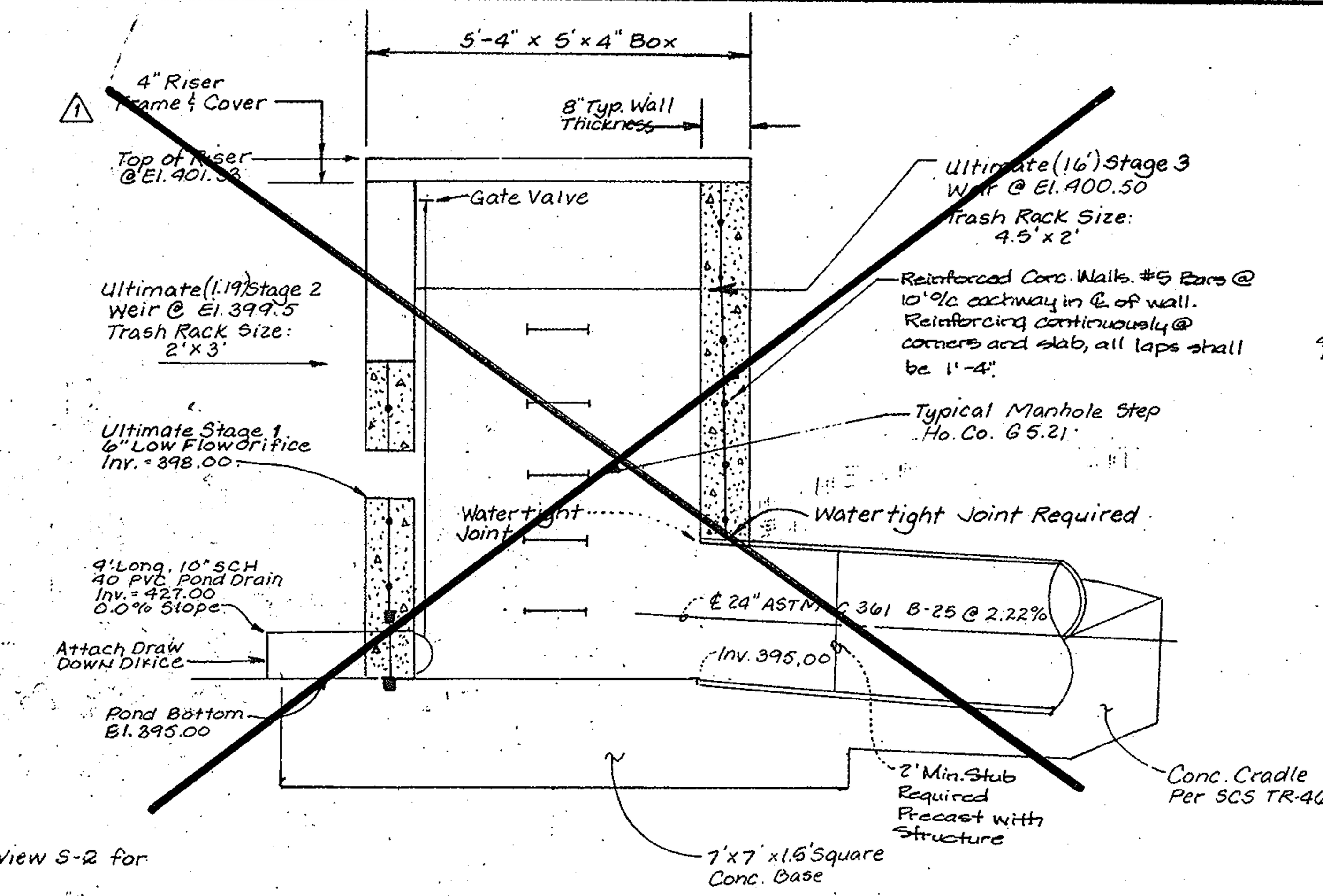
LDE, INC.

9250 Rumsey Road, Suite 106, Columbia, MD. 21045
(410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

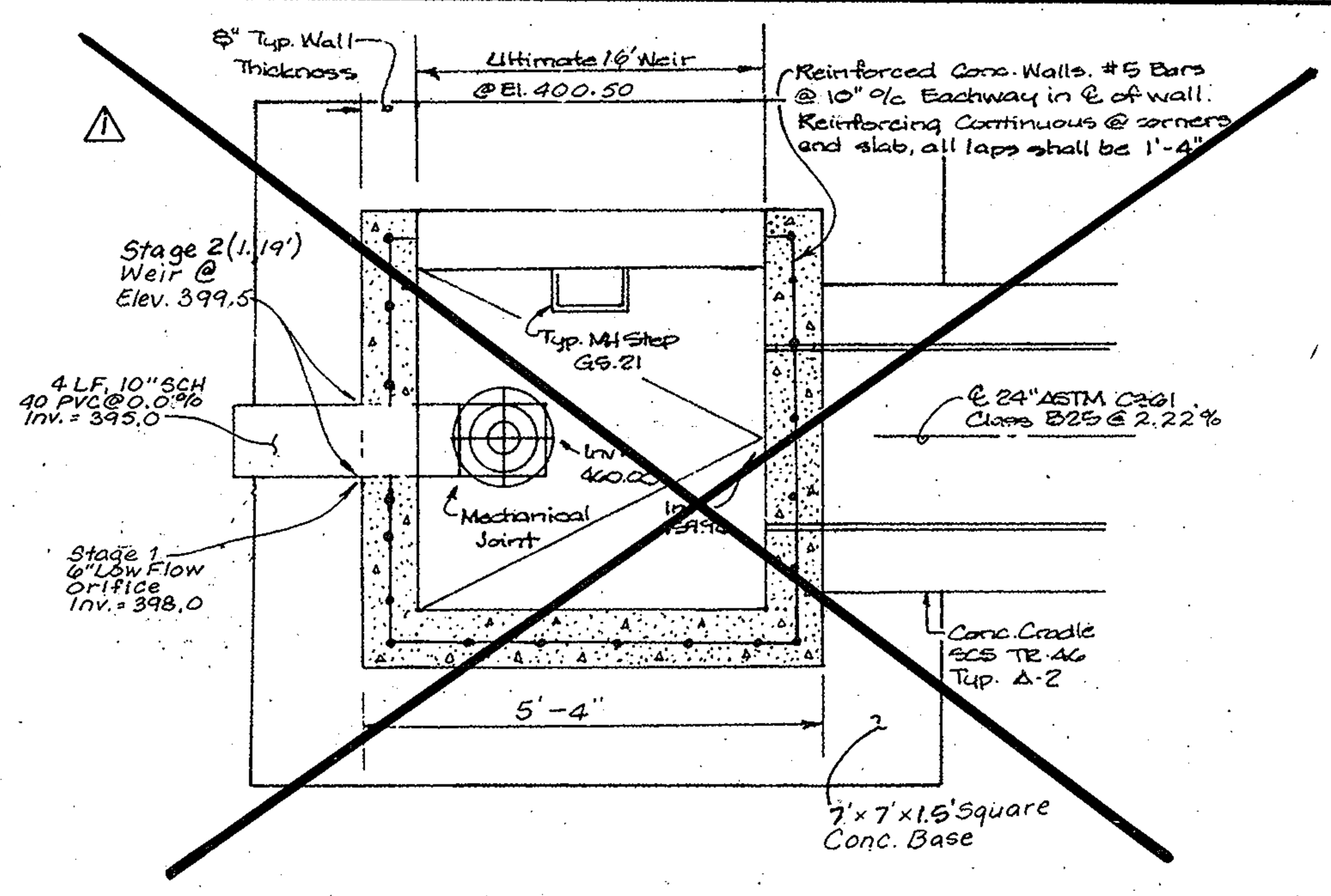
DESIGNED S.D.H.	Stormwater Management Details & Notes	SCALE As Shown
DRAWN CADD	**Scott Farm** — Lots 29-42 and Open Space Lots 27,28,43 & 44	DRAWING 7 of 20
CHECKED B.D.B.	Tax Map No. 35 – P/O Parcel 354; 5th Election District – Howard County, Maryland; Previous Submittals: F76-104, F84-144, F87-162, S97-23, BA91-24E, S95-10, EP98-29, P96-13 & SP99-04	JOB NO. 98009
DATE 11/99	Owner/Developer: Scarlet Wilkinson & Earl Omer, 6799 Guilford Road, Clarksville, Maryland 21029, (410) 531-2626 or (410) 987-0497	FILE NO. F-00-73

/users/land/CONROY/QUAIL/FINALS/scdetails2.S70

F-00-73

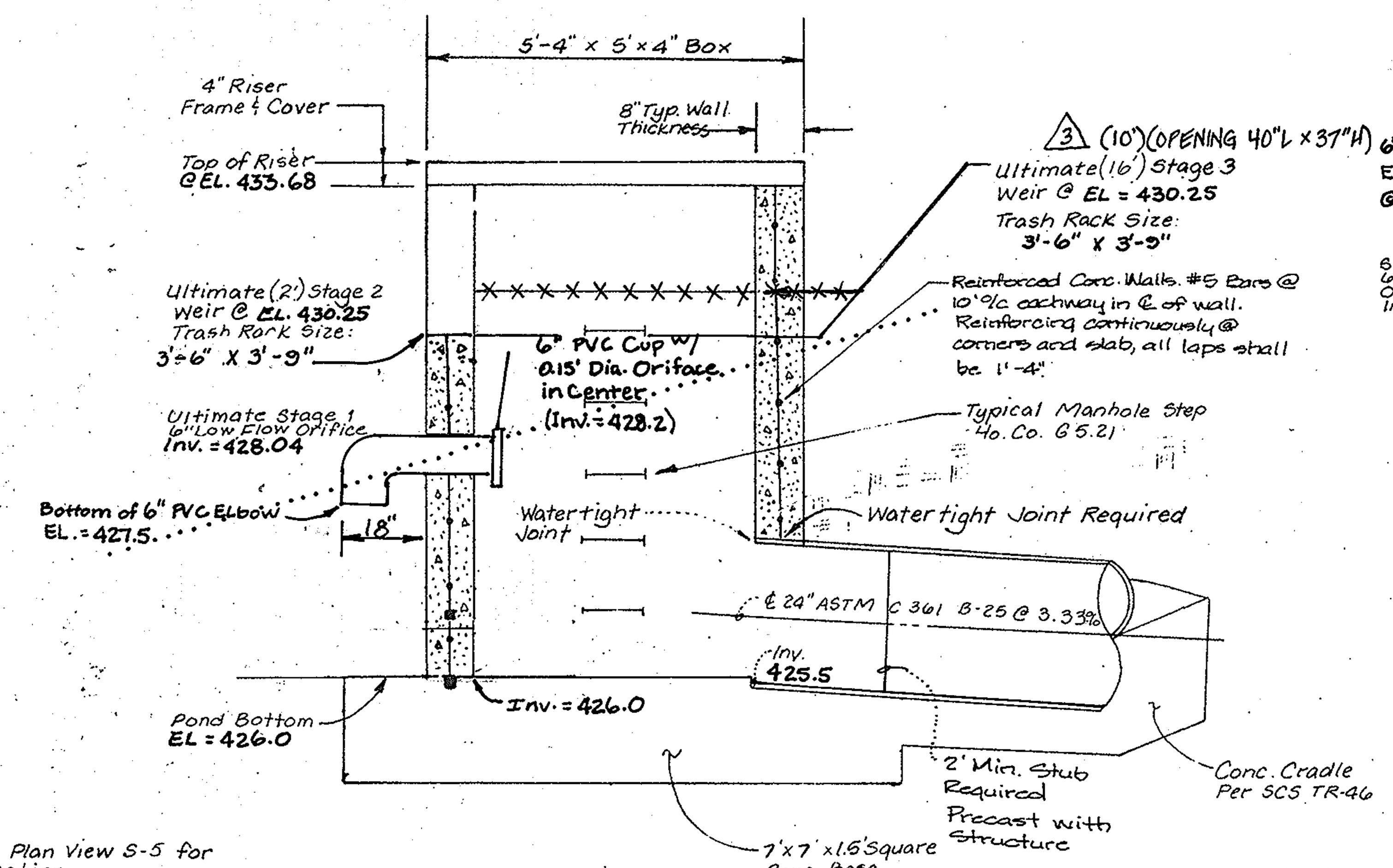


NOTES: 1. Refer to Plan View S-2 for weir location.

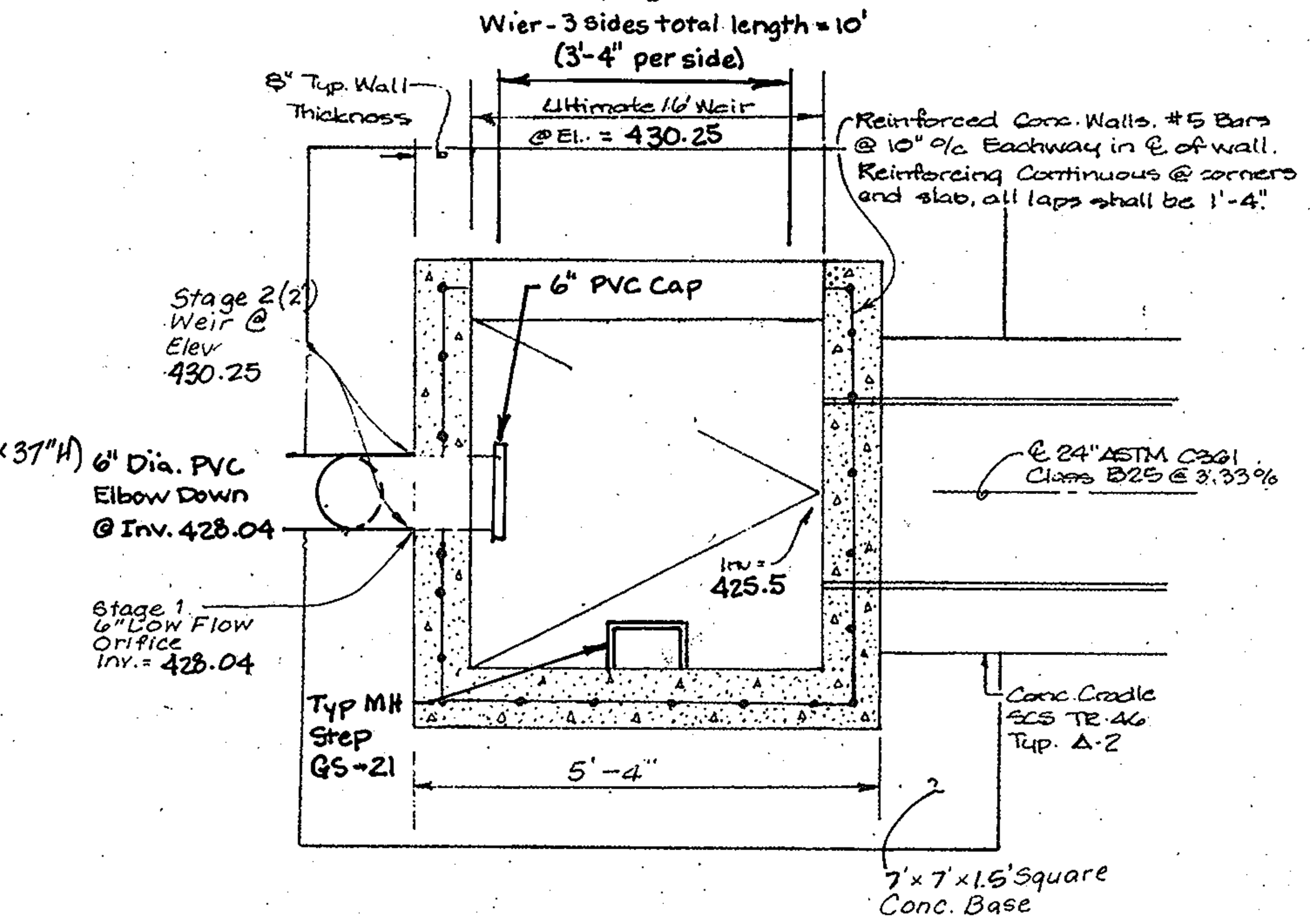


△ S-2 Plan View
1" = 2'

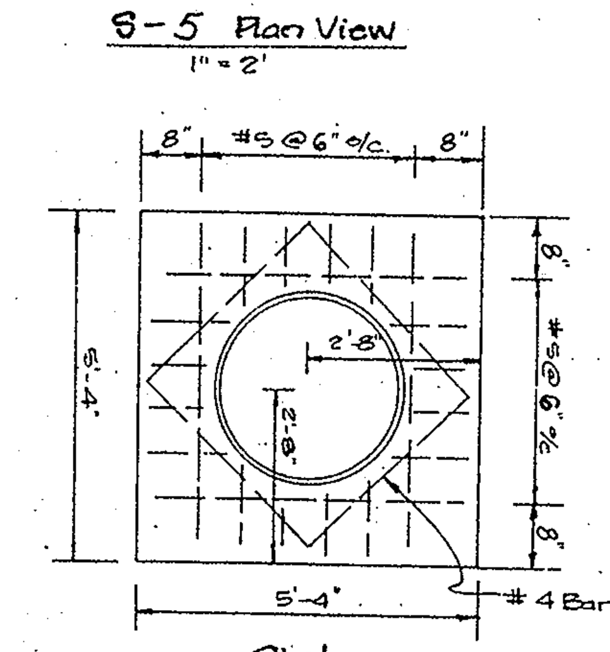
△ S-2 Profile View
1" = 2'



NOTES: 1. Refer to Plan View S-5 for weir location.



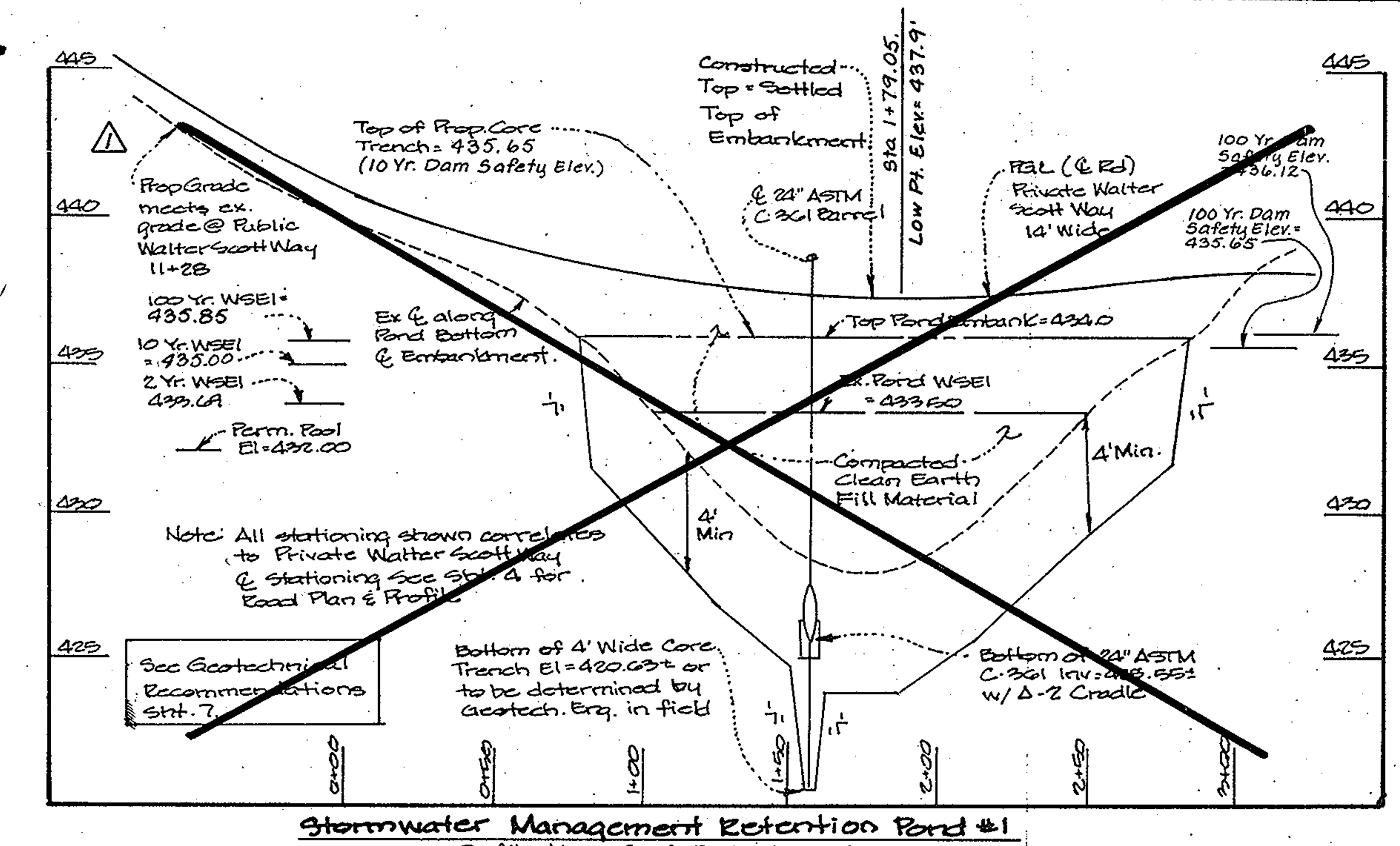
S-5 Plan View
1" = 2'



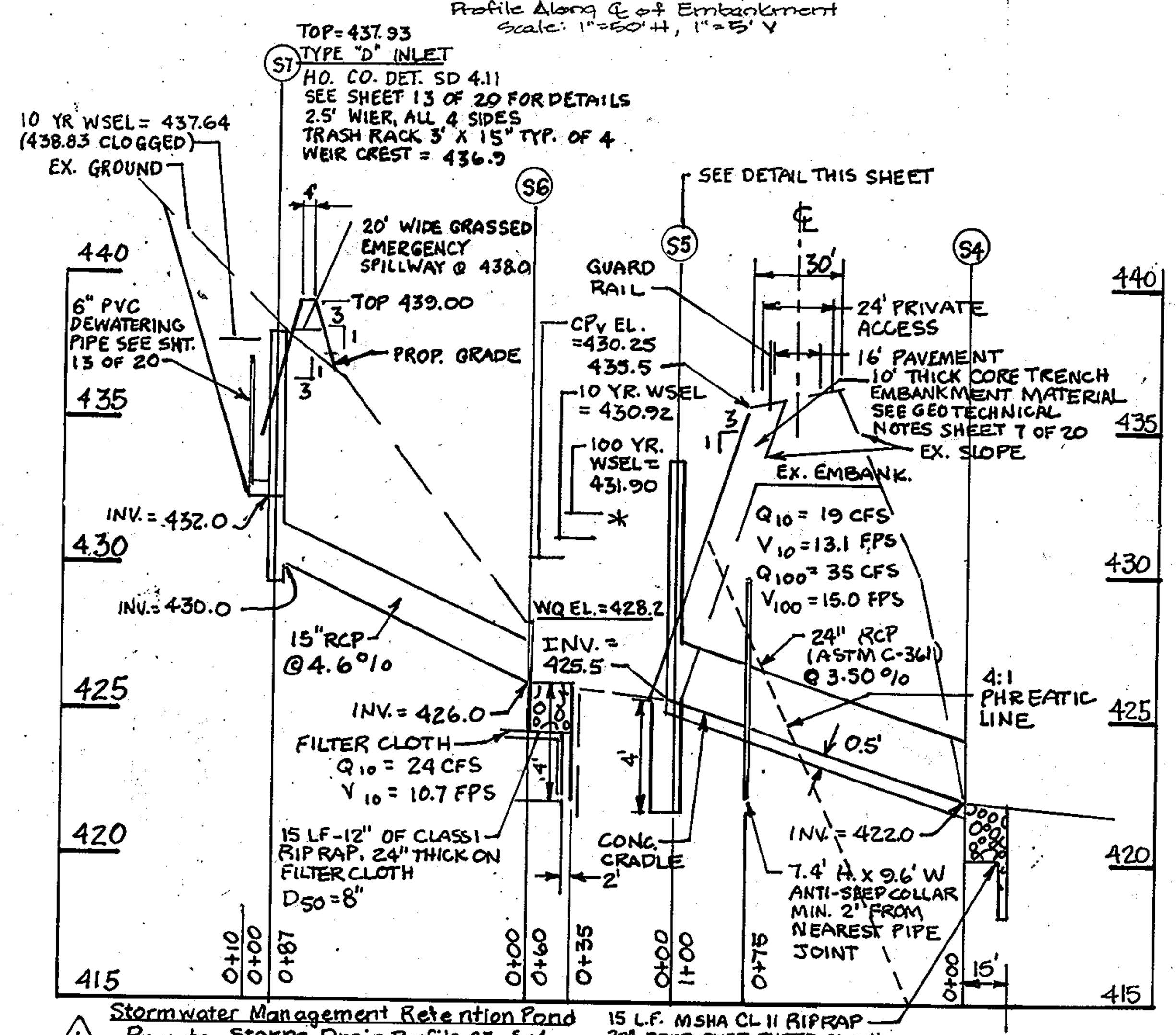
Slab

Riser Frame & Cover Detail
N.T.S.

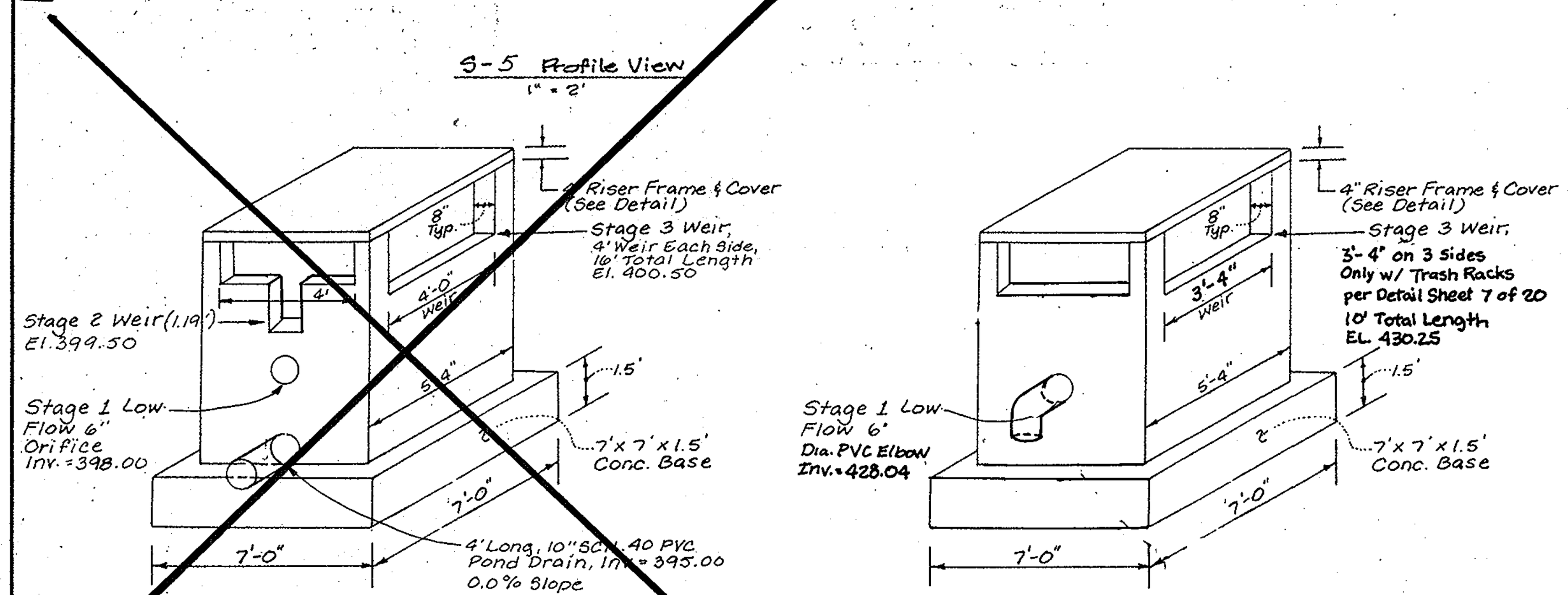
Note Riser Frame & Cover shall be bolted to riser structure.



Stormwater Management Retention Pond #1
Profile Along ℄ of Embankment
Scale: 1"=50' H, 1"=5' V



△ Stormwater Management Retention Pond
Private Storm Drain Profile S7-S-4
*See Profile Dwg. 10 of 20 for Clogged Condition Elevations.



S-2 Isometric View
No Scale

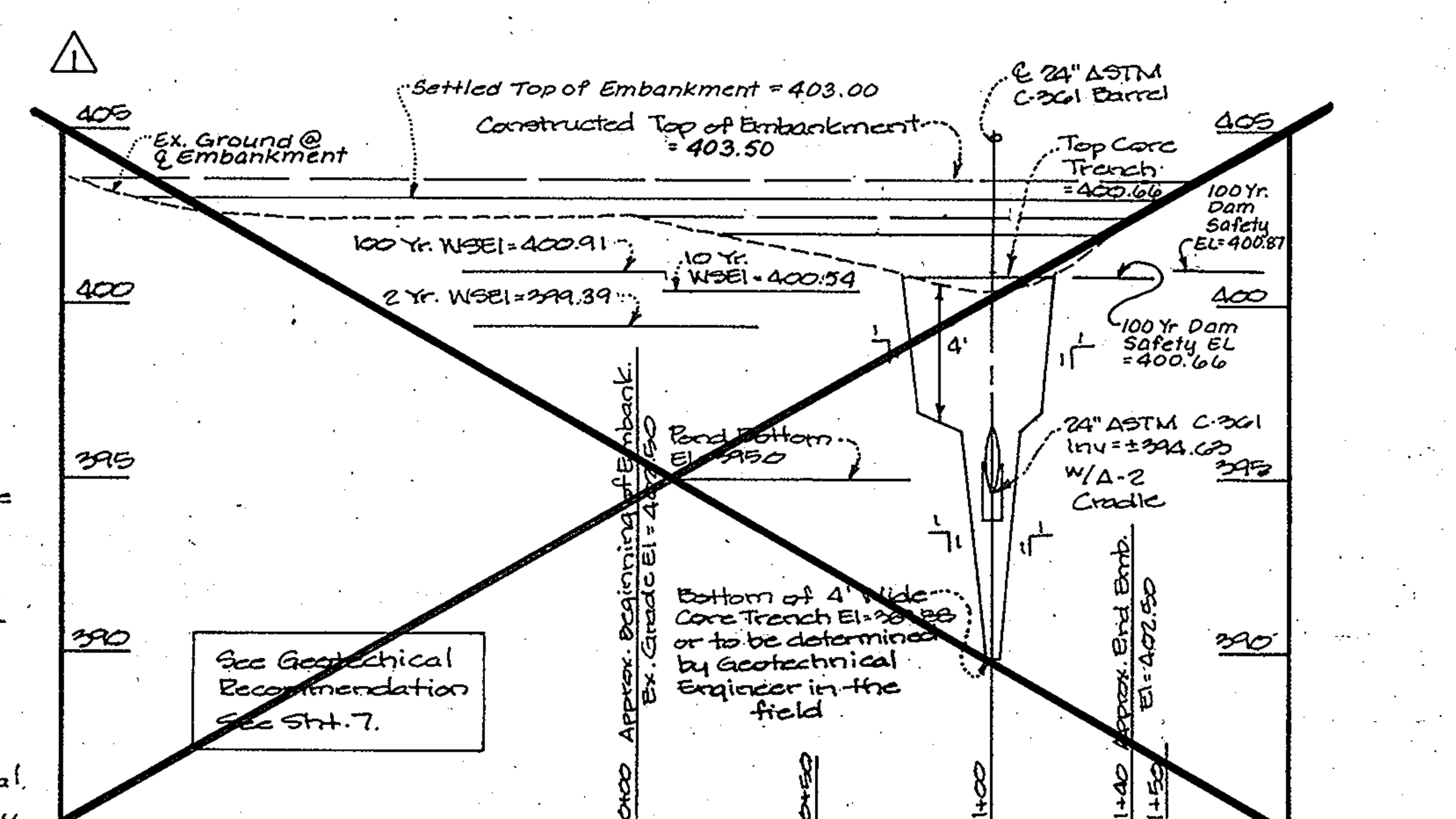
△ S-5 Isometric View
No Scale

Notes: 1. A Geotechnical Engineer is to be present on site to supervise the construction of the core trench, per MD 378 Specifications.

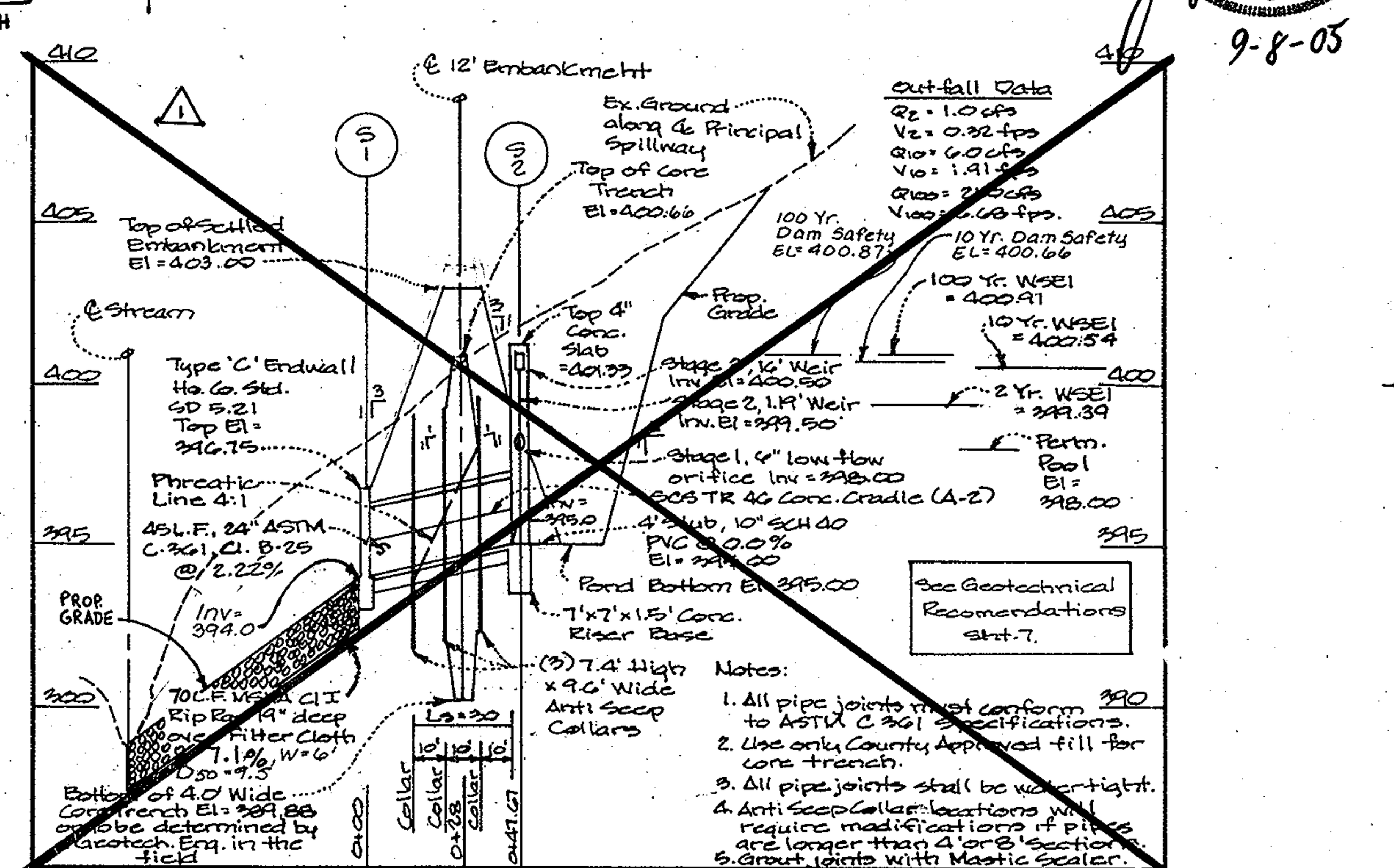
2. Core Trench shall be dewatered prior to the placement of County Approved fill material.

3. The site shall be stripped of topsoil and any other unsuitable materials from the embankment or structure area in accordance with Soil Conservation Guidelines. After stripping operations have been completed, the exposed subgrade materials should be proofrolled with a loaded dump truck or similar equipment in the presence of a Geotechnical Engineer or his representative. For areas that are not accessible to a dump truck, exposed material shall be observed and tested by a Geotechnical Engineer or his representative utilizing a Dynamic Cone Penetrometer. Any excessively soft or loose materials identified by proofrolling or penetrometer testing should be excavated to suitably firm soil, and then re-established by backfilling with suitable soil.

4. Refer to Hillis Carnes "Geotechnical Recommendations" on Sheet 7.



Stormwater Management Retention Pond #2
Profile Along ℄ of Embankment
Scale: 1"=50' H ; 1"=5' V



Stormwater Management Retention Pond #2
Profile Along ℄ Principal Spillway
Scale: 1"=50' H ; 1"=5' V

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED RETENTION PONDS

ROUTINE MAINTENANCE:

1. Facility shall be inspected annually & after major storms. Inspections shall be performed during wet weather to determine if the pond is functioning properly.
2. Top & side slopes of the embankment shall be mowed a minimum of two (2) times per year, once in June & once in September. Other side slopes & maintenance access shall be mowed as needed.
3. Debris & litter shall be removed during regular mowing operations and as needed.
4. Visible signs of erosion in the pond as well as the rip-rap or gabion outlet area shall be repaired as soon as it is noticed.

NON-ROUTINE MAINTENANCE:

1. Structural components of the pond, such as the dam, riser, and pipes shall be repaired upon the detection of any damage. The components shall be inspected during routine maintenance operations.
2. Sediment shall be removed from the pond, and forebay, no later than when the capacity of the pond, or forebay, is half full or when deemed necessary for aesthetic reasons.

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed Professional Engineer under the laws of the State of Maryland.

License No. 21875, Expiration Date: 2/12/2010

STATE OF MARYLAND — PIERO VAN MELLITS — No. 21875 — REGISTERED PROFESSIONAL ENGINEER — 12-31-09

FOR REVISIONS NOTED DATED 5-18-09 ONLY

REVISION #3 BY:
BOWMAN CONSULTING
2350 RIVA ROAD, SUITE 200
ANNAPOLIS, MD 21401
410-224-7590

	NO.	REVISION	DATE	BY
△1	1	Revised SWM Retention Pond 1 Profile, S-2 & S-5 Details. Deleted Details. Revised Title Block & Sheet No.	09-09-05	KD
△3	3	REVISED S-5 PROFILE VIEW	05-18-09	PM

STATE OF MARYLAND — GREGORY R. KLA[illegible] — REGISTERED PROFESSIONAL ENGINEER — 9-8-05

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 by 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 means, including meeting commonly accepted industry practices.

OPERATION, MAINTENANCE, AND INSPECTION

Inspection of the pond shown hereon shall be performed at least annually, in accordance with the checklist and requirements contained within USDA, SCS "Standards And Specifications For Ponds" (MD 378). The pond owner(s) and their heirs, successors, or assigns shall be responsible for the safety of the pond and the continued operation, surveillance, inspection, and maintenance thereof. The pond owner(s) shall promptly notify the Soil Conservation District of any unusual observations that may be indications of distress such as excessive seepage, turbid seepage, sliding or slumping.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — 6/26/00 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT — 7/12/00 DATE

APPROVED: Department of Public Works for Storm Drainage Systems and Roads.

CHIEF, BUREAU OF HIGHWAYS — 5-26-00 DATE

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.

NATURAL RESOURCE CONSERVATION SERVICE — 5/18/00 DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL, MEET THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

HOWARD SOIL CONSERVATION DISTRICT — 5/18/00 DATE

ENGINEER'S CERTIFICATE

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 an "as-built" plan of the pond within 30 days of completion.

SIGNATURE OF ENGINEER — Bruce D. Burton — [illegible]/00 DATE

DEVELOPER'S CERTIFICATE

I/We certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I shall engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by Howard Soil Conservation District.

SIGNATURE OF DEVELOPER — 11-1-99 DATE

STATE OF MARYLAND — BRUCE DAVID BURTON — No. 19184 — REGISTERED PROFESSIONAL ENGINEER — 5/9/00

LDE, INC.

9250 Rumsey Road, Suite 106, Columbia, MD. 21045
(410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

DESIGNED		SCALE
S.D.H.	Stormwater Management Details & Notes	As Shown
DRAWN	△ **Scott Farm**	DRAWING △
CADD	Lots 29-42 and Open Space Lots 27, 28, 43 & 44	8 of 20
CHECKED	Tax Map No. 35 - P/O Parcel 354	JOB NO.
B.D.B.	5th Election District - Howard County, Maryland; Previous Submittals: F76-104, F84-144, F87-162, S97-23, BA91-24E, S95-10, EP98-29, P96-13 & SP99-04	98009
DATE	Owner/Developer: Scarlet Wilkinson & Earl Omer, 6799 Guilford Road, Clarksville, Maryland 21029, (410) 531-2626 or (410) 987-0497	FILE NO.
11/99		F-00-73

F-00-73

WPD 5.2: Utility Crossing

Temporary instream construction

Description — The work shall consist of installing erosion control devices in and adjacent to the construction of utility crossings.

Material Specifications — Materials for sandbag and stone stream diversions shall meet the following requirements:

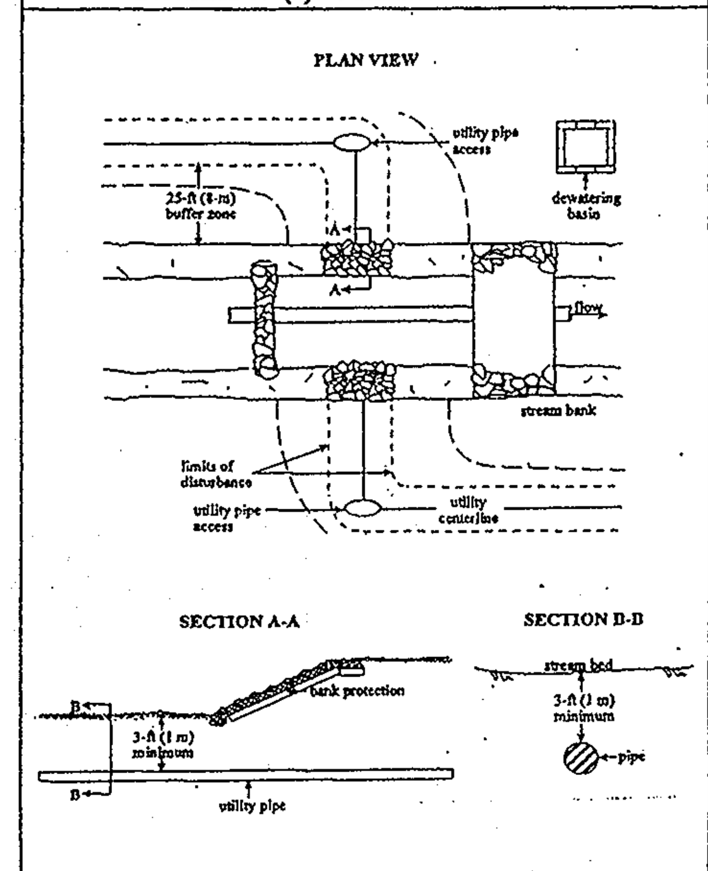
- *Riprap*: Riprap shall be washed and have a minimum diameter of 6 inches (15 centimeters).
- *Sandbags*: Sandbags shall consist of materials which are resistant to ultra-violet radiation, tearing, and puncture and shall be woven tightly enough to prevent leakage of the fill material (i.e., sand, fine gravel, etc.).

Installation Guidelines — All erosion and sediment control devices, including dewatering basins, shall be implemented as the first order of business according to a plan approved by the Water Management Administration (WMA). (See Maryland Standards and Specifications for Sediment Control.) The proposed construction sequence is as follows (refer to the attached figures):

1. The contractor shall insure that a continuous perimeter control barrier is in place to minimize the amount of pollutants entering the flow.
2. Excavated topsoil and subsoil shall be kept separate, placed on the upland side of the excavation, and replaced in their natural order.
3. All construction shall take place during stream low flows. The length of construction time shall be limited to a maximum of 5 days for each crossing.
4. All utility crossings shall be placed a minimum of 3 feet (1 meter) beneath the streambed unless an alternative section is specifically approved by the WMA. (For instances where a 3-foot cover is not viable, two alternate stabilization options are given in the attached detail.)
5. The stream shall be diverted by an approved temporary stream diversion, the construction area shall be dewatered, and any disturbed banks shall be stabilized. (The contractor may elect to construct the utility crossing in two stages. In this case, a WMA approved flow barrier may be constructed to keep the construction area dry.)
6. Once the crossing is completed, the diversion shall be removed from upstream to downstream. Sediment control devices, including perimeter erosion controls, are to remain in place until all disturbed areas are stabilized in accordance with an approved sediment and erosion control plan and the inspection authority approves their removal.

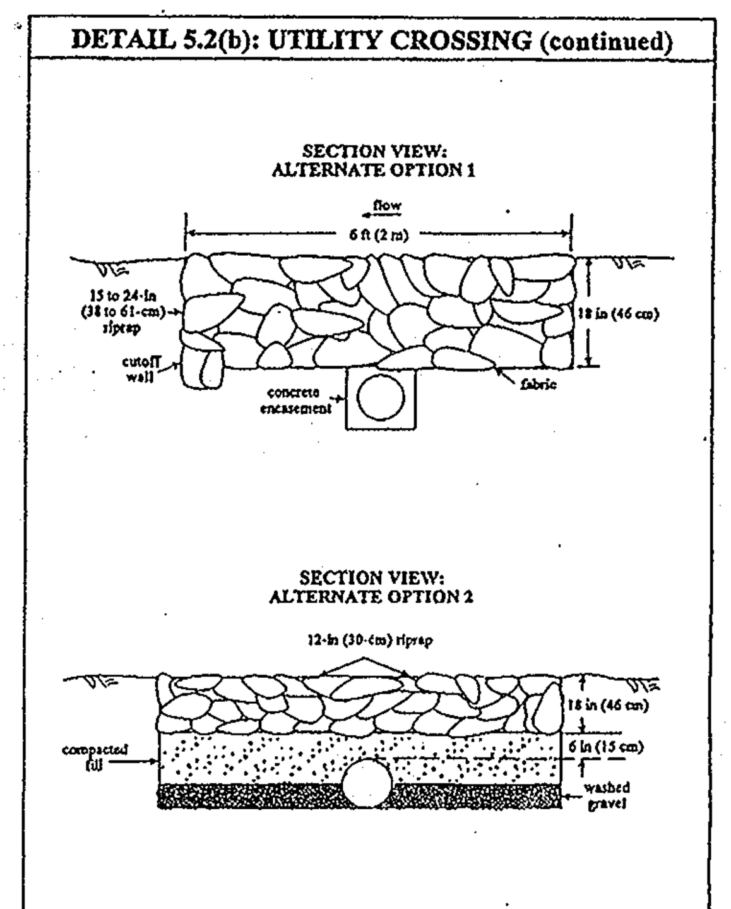
STREAM CROSSING DETAILS FOR PROPOSED 8" SEWER CROSSING SHOWN ON SHEET 10 OF 18.

DETAIL 5.2(a): UTILITY CROSSING

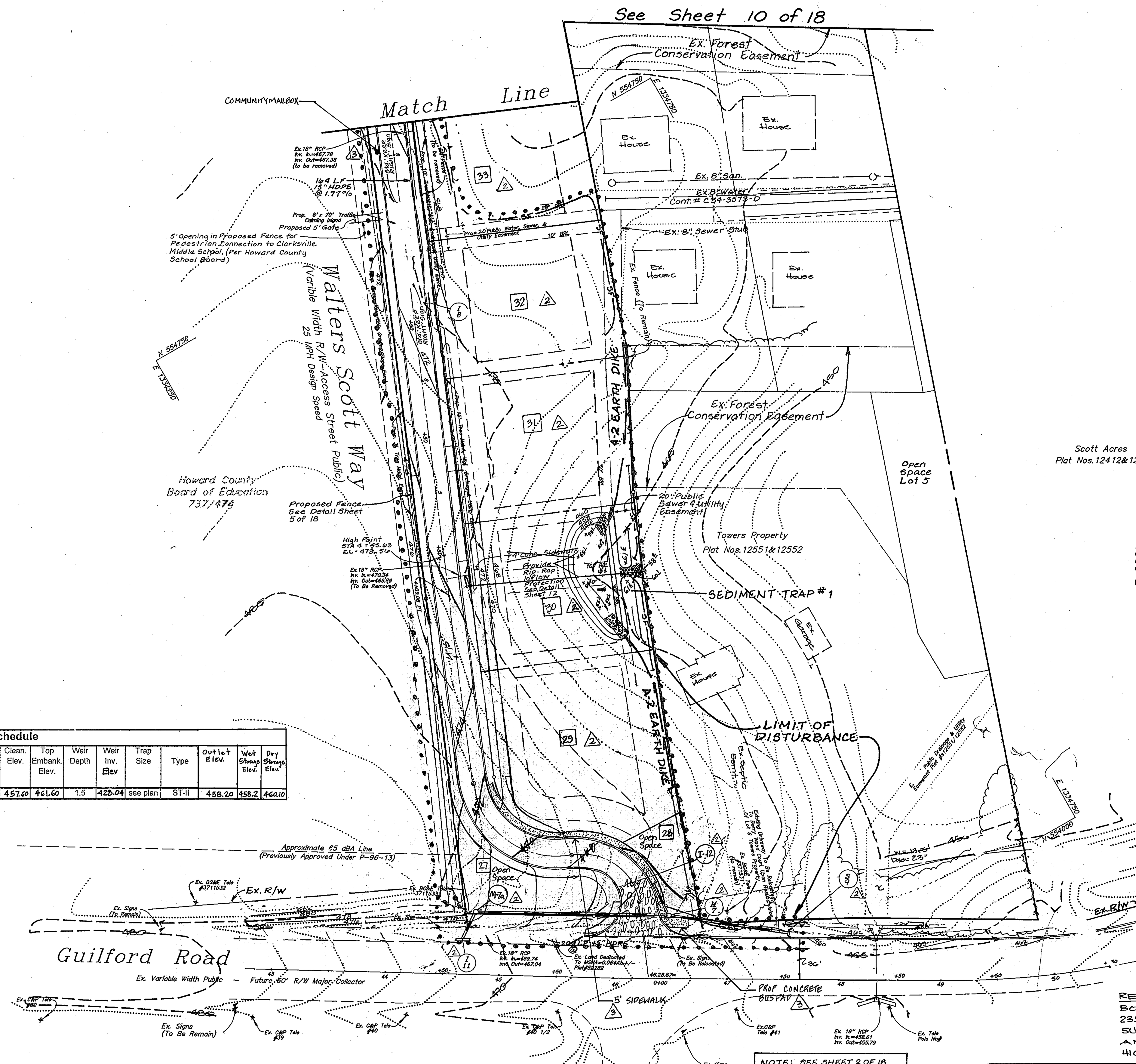


STREAM CROSSING	PAGE 77	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 5.2(b): UTILITY CROSSING (continued)



STREAM CROSSING	PAGE 78	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



Trap No.	Max. D.A. Acres	Dry Stor. Req'D ft^3	Wet Stor. Req'D ft^3	Dry Stor. Prov'D ft^3	Wet Stor. Prov'D ft^3	Stor. Depth ft.	Weir Length ft.	Bottom Elev.	Clean. Elev.	Top Embank. Elev.	Weir Depth	Weir Inv. Elev	Trap Size	Type	Outlet Elev.	Wet Storage Elev.	Dry Storage Elev.
1	2.66	4788	4788	6275	6275	5	6.0	455.10	457.60	461.60	1.5	428.04	see plan	ST-II	458.20	458.2	460.10

Sediment Trap Schedule

NOTE: SEE SHEET 2 OF 18 FOR GUILFORD ROAD IMPROVEMENT PLAN

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed Professional Engineer under the laws of the State of Maryland.

License No. 21875, Expiration Date: 2/12/2010

STATE OF MARYLAND PIERO VAN MELLITS No. 21875 REGISTERED PROFESSIONAL ENGINEER 12-31-09

FOR REVISIONS NOTED DATED 5-18-09 ONLY

REVISION #3 BY:
BOWMAN CONSULTING
2350 RIVA ROAD
SUITE 200
ANNAPOLIS, MD 21401
410-224-7590

REVISION NO 1 BY:
CENTURY ENGINEERING INC.
32 WEST ROAD
TOWSON, MD 21204
410-823-8070

THIS SEAL FOR REVISION #1 & #2

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 6/20/00

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 7/12/00

APPROVED: Department of Public Works for Storm Drainage Systems and Roads

CHIEF, BUREAU OF HIGHWAYS — DATE 5-26-00

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

NATURAL RESOURCE CONSERVATION SERVICE — DATE 5/18/00

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION, AND SEDIMENT CONTROL, MEET THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT

HOWARD SOIL CONSERVATION DISTRICT — DATE 5/18/00

ENGINEER'S CERTIFICATE

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 have engaged a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspection by Howard Soil Conservation District.

SIGNATURE OF ENGINEER — DATE 5/9/00

DEVELOPER'S CERTIFICATE

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 an "as-built" plan of the pond within 30 days of completion.

SIGNATURE OF DEVELOPER — DATE 11-11-99

STATE OF MARYLAND BRUCE DAVID BURTON No. 19184 REGISTERED PROFESSIONAL ENGINEER 5/9/00

STATE OF MARYLAND GREGORY ... No. 11432 REGISTERED PROFESSIONAL ENGINEER

BY	NO.	REVISION	DATE
PM	3	ADD COMMUNITY MAILBOX, 5' PATHWAY, 5' SIDEWALK AND CONCRETE BUS PAD	5-18-09
KD	2	Revised Lot Layout, Lot No's, BRL's and Storm Drain. Revised Title Block & Sheet no. Revised L.O.D & Work	09-09-05
CEI	1	REVISED GRADING LOTS 25-28	9-19-01

LDE, INC.
9250 Rumsey Road, Suite 106, Columbia, MD. 21045
(410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

DESIGNED S.D.H.	Grading & Erosion & Sediment Control Plan	SCALE 1" = 50'
DRAWN CADD STB	**Scott Farm** Lots 29 to 42 and Open Space Lots 27, 28, 43 & 44	DRAWING 9 of 20
CHECKED B.D.B.	Tax Map No. 35 - P/O Parcel 354; 5th Election District - Howard County, Maryland; Previous Submittals: F76-104, F84-144, F87-162, S97-23, BA91-24E, S95-10, EP98-29, P96-13 & SP99-04	JOB NO. 98009
DATE 11/99	Owner/Developer: Scarlet Wilkinson & Earl Omer, 6799 Guilford Road, Clarksville, Maryland 21029, (410) 531-2626 or (410) 987-0497	FILE NO. F-00-73

/users/land/CONROY/QUAL/RDCONST/GSC1.S70

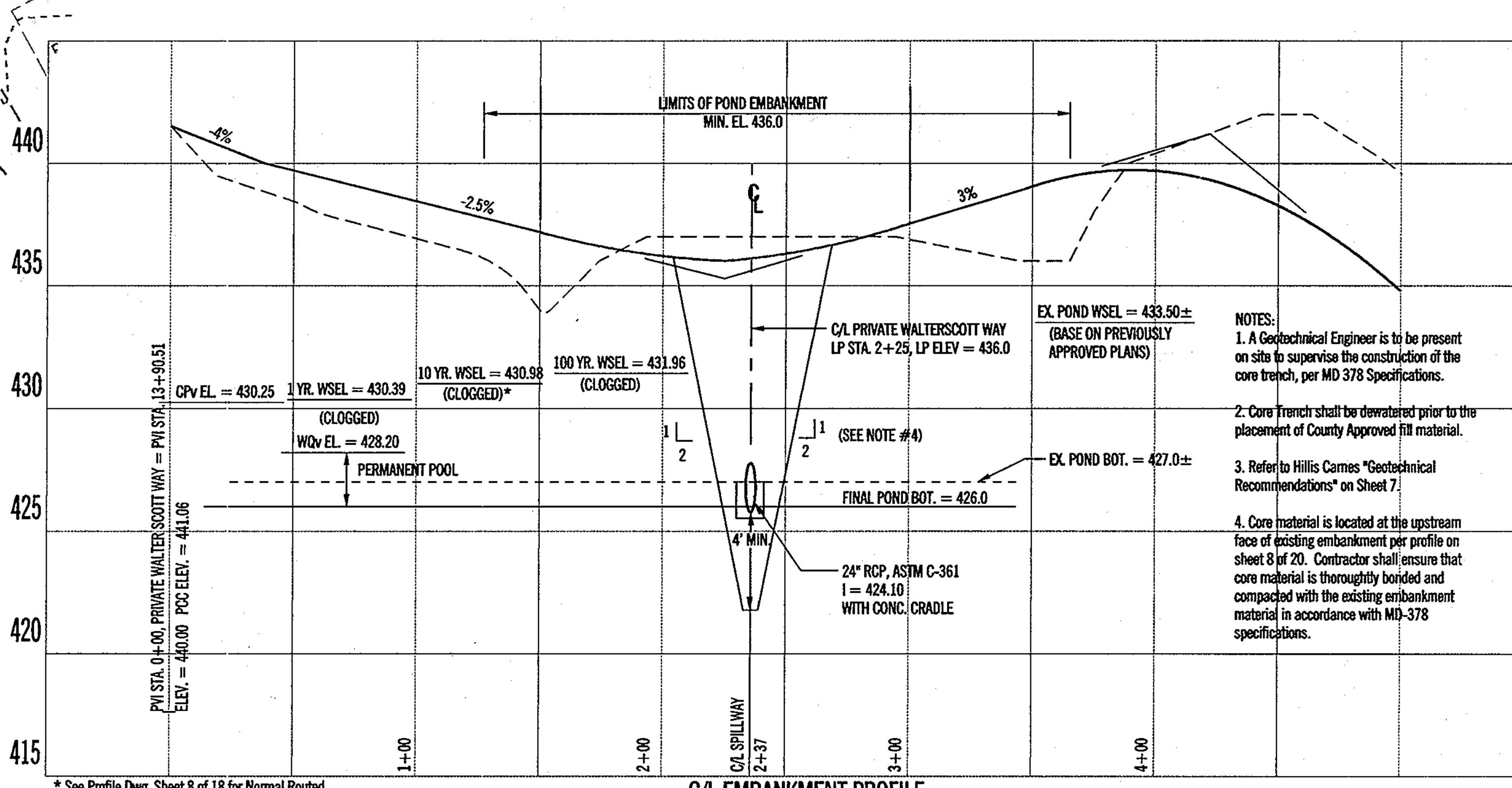
F.00.73

STORMWATER MANAGEMENT NOTE:

LOTS 36-42 WILL PROVIDE INDIVIDUAL STORMWATER MANAGEMENT ON EACH LOT AT THE TIME OF HOUSE CONSTRUCTION. EACH LOT WILL ALSO BE RESPONSIBLE FOR THAT PROTION OF THE DRIVEWAY DRAINING TO THE LOT.

NOTE:

WORK SHALL NOT COMMENCE UNTIL ALL MATERIALS FOR CONSTRUCTING S-4 AND S-5 ARE ONSITE, A 5-DAY CLEAR WEATHER (NO PRECIPITATION) FORECAST IS ISSUED BY THE NWS, AND WRITTEN PERMISSION IS GRANTED BY THE INSPECTOR TO PROCEED.



NOTES:

1. A Geotechnical Engineer is to be present on site to supervise the construction of the core trench, per MD 378 Specifications.
2. Core Trench shall be dewatered prior to the placement of County Approved fill material.
3. Refer to Hillis Carnes "Geotechnical Recommendations" on Sheet 7.
4. Core material is located at the upstream face of existing embankment per profile on sheet 8 of 20. Contractor shall ensure that core material is thoroughtly bonded and compacted with the existing embankment material in accordance with MD-378 specifications.

* See Profile Dwg. Sheet 8 of 18 for Normal Routed Water Surface Elevations (WS EL)

C/L EMBANKMENT PROFILE

SCALE: 1" = 50' H, 1" = 5' V

PURPOSE STATEMENT:
THIS SUBSITUTE SHEET SHOWS THE REALIGNMENT OF THE PRIVATE ACCESS ROAD AND RESUBDIVISION OF AFFECTED LOTS FOR SCOTT FARM AND IS THE FINAL ROAD CONSTRUCTION PLAN.

REVISION # 3 BY:
BOWMAN CONSULTING
2350 RIVA ROAD, SUITE 200
ANNAPOLIS, MD 21401
410-224-7590

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] 9/26/05
NATURAL RESOURCE CONSERVATION SERVICE — Date

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION, AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

[signature] 9/26/05
HOWARD SOIL CONSERVATION DISTRICT — Date

ENGINEER'S CERTIFICATE

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 an "as-built" plan of the pond within 30 days of completion.

[signature] 9-9-05
SIGNATURE OF ENGINEER — Date

DEVELOPER'S CERTIFICATE

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[signature] 9/15/05
SIGNATURE OF ENGINEER — Date

APPROVED: DEPARTMENT OF PLANNING AND ZONING

[signature] 10/18/05
CHIEF, DEVELOPMENT ENGINEERING DIVSION — Date

[signature] 10/21/05
CHIEF, DIVISION OF LAND DEVELOPMENT — Date

[signature] 10-14-05
CHIEF, BUREAU OF HIGHWAYS — Date

FOR REVISIONS NOTED DATED 5-18-09 ONLY

STATE OF MARYLAND — PIERO VAN MELLITS — No. 21875 — REGISTERED PROFESSIONAL ENGINEER — 12-31-09

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed Professional Engineer under the laws of the State of Maryland.

License No. 21875. Expiration Date: 2/12/2010

OWNER:
SCARLET WILKINSON AND EARL OMER
6799 GUILFORD ROAD
CLARKSVILLE, MARYLAND 21029
(410)531-2626, (410)987-0497

No.	REVISION	DATE	BY
1	Shows realignment of private road & resubdivision of lots. Added trash pad, rip rap channel. Revised SWM Pond 1 & storm drain layout. Added notes, legend, shaded core material & embankment toe. Revised title block & added purpose statement.	09-09-05	KD
3	REVISED TEE TURN-AROUND INCLUDING BOLLARD LOCATIONS & DUMPSTER ENCLOSURE, ADDED COMMUNITY MAILBOX, AND SWM CONC. SWALES	5-18-09	PM

ENGINEERS • PLANNERS • SCIENTISTS • SURVEYORS

GREENHORNE & O'MARA, INC.

200 HARRY S TRUMAN PKWY. SUITE-200 ANNAPOLIS, MARYLAND 21401
(410) 266-0066

Greenbelt, MD - Annapolis, MD - Atlanta, GA - Fairfax, VA - Fredericksburg, VA - Mechanicsburg, PA
Raleigh, NC - Rockville, MD - Tampa, FL - West Palm Beach, FL

© Latest Date Hereon

GRADING, SOIL, SEDIMENT AND EROSION CONTROL PLAN
REVISED FINAL ROAD CONSTRUCTION PLAN

SCOTT FARM

LOTS 29-42 and Open Space Lots 27, 28, 43 & 44
TAX MAP NO. 35 P/O PARCEL 354

5th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

CF DESIGN	SCALE 1" = 50'		
LMM DRAWN	SHEET 10 OF 20		
GRK CHECKED			
OCT., '04 DATE	PROJ No.	F - 00 - 73 FILE No.	

F00-73 *SUBSTITUTE SHEET

HOWARD SOIL CONSERVATION DISTRICT
STANDARD SEDIMENT CONTROL NOTES

1. 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, (313-1855).
2. All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the most current "MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL", and revisions thereto.
3. Following initial soil disturbance or redisturbance, permanent or temporary stabilization shall be completed within: a) 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1, b) 14 days as to all other disturbed or graded areas on the project site.
4. All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chapter 7, of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
5. All disturbed areas must be stabilized within the time period specified above in accordance with the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL (Section G) for permanent seeding, sod, temporary seeding, and mulching. Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
6. All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.
7. Site Analysis:

Total Area of Site	17.2	Acres
Area Disturbed	9.8	Acres
Area to be roofed or paved	1.46	Acres
Area to be vegetatively stabilized	8.34	Acres
*Total Cut	6675	Cu. Yds.
*Total Fill	8760	Cu. Yds.
Offsite waste/borrow area location	2085 Borrow	

8. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
9. Additional sediment control must be provided, if deemed necessary by the Howard County Sediment Control Inspector.
10. On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made.
11. Trenches for the construction of utilities is limited to three pipe lengths or that which can be back filled and stabilized within one working day, whichever is shorter.

*See General Note #51, sht. 1 of 18

HOWARD SOIL CONSERVATION DISTRICT
PERMANENT SEEDING NOTES

Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.

SEEDBED PREPARATION: Loosen upper three inches of soil by raking, disking, or other acceptable means before seeding, if not previously loosened.

SOIL AMENDMENTS: In lieu of soil test recommendations, use one of the following schedules:

1) PREFERRED — Apply 2 tons per acres dolomitic limestone (92 lbs/1000sq. ft.) and 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sq. ft.) before seeding. Harrow or disk into upper three inches of soil. At time of seeding, apply 400 lbs per acre 30-0-0 ureaform fertilizer (9 lbs/1000sq. ft.)

2) ACCEPTABLE — Apply 2 tons per acres dolomitic limestone (92 lbs/1000sq. ft.) and 1000 lbs per acre 10-10-10 fertilizer (23 lbs/1000 sq. ft.) before seeding. Harrow or disk into upper three inches of soil.

SEEDING — For the periods March 1 thru April 30, and August 1 thru October 15, seed with 60 lbs per acre (1.4 lbs/1000sq. ft.) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 60 lbs per acre (1.4 lbs/1000sq. ft.) of Kentucky 31 Tall Fescue and 2 lbs. per acre (.05 lbs/1000sq. ft.) of weeping lovegrass. During the period of October 16 thru February 28, protect site by: Option (1) – 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring. Option (2) – Use sod. Option (3) – Seed with 60 lbs.per acre Kentucky 31 Tall Fescue and mulch 2 tons / acre well anchored straw.

MULCHING — Apply 1-1/2 to 2 tons per acre (70 to 90 lbs/1000sq. ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000sq. ft.) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/ 1000sq. ft.) for anchoring.

MAINTENANCE — Inspect all seeding areas and make needed repairs, replacements and reseedings.

TEMPORARY SEEDING NOTES

Apply to graded or cleared areas likely to be redisturbed where a short-term vegetative cover is needed.

SEEDBED PREPARATION: — Loosen upper three inches of soil by raking, disking, or other acceptable means before seeding, if not previously loosened.

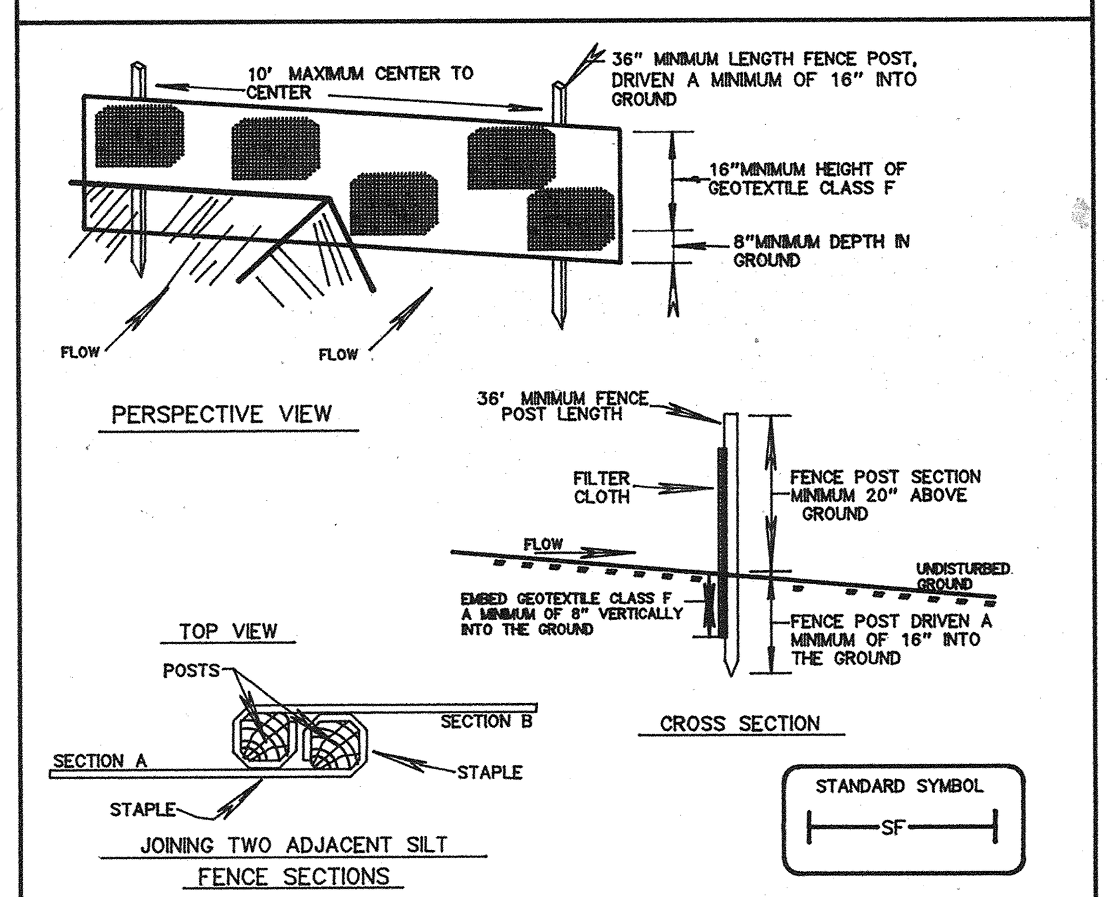
SOIL AMENDMENTS: — Apply 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000sq. ft.).

SEEDING — For periods March 1 thru April 30, and from August 15 thru October 15 seed with 2-12 bushels per acre of annual rye (3.2 lbs/1000sq. ft.). For the period May 1 thru August 14, seed with 3 lbs. per acre of weeping lovegrass (.07 lbs/1000sq. ft.). For the period November 16 thru February 28, protect site by applying 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.

MULCHING — Apply 1-1/2 to 2 tons per acre (70 to 90 lbs/1000sq. ft.) of unrotted weed free small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000sq. ft.) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000sq. ft.) for anchoring.

Refer to the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for additional rates and methods not covered.

DETAIL 22 - SILT FENCE



Construction Specifications

1. Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 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 weighting not less than 1.00 pound per linear foot.

2. Geotextile shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall meet the following requirements

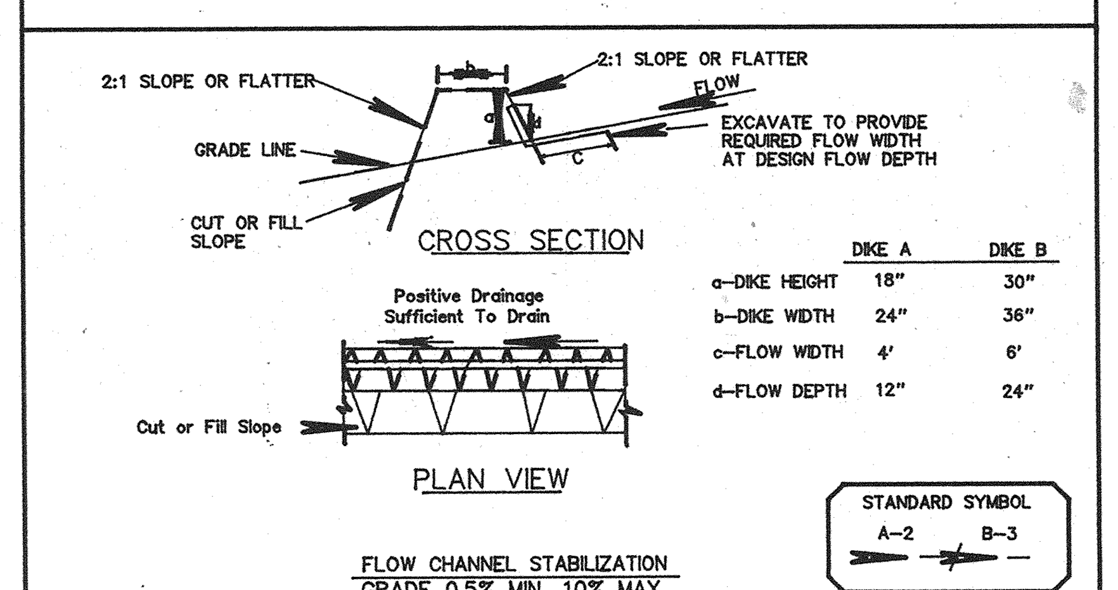
Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal ft / minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

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

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

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE | PAGE E - 15 - 3 | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 1 - EARTH DIKE



	DIKE A	DIKE B
a-DIKE HEIGHT	18"	30"
b-DIKE WIDTH	24"	36"
c-FLOW WIDTH	4'	6'
d-FLOW DEPTH	12"	24"

FLOW CHANNEL STABILIZATION
GRADE 0.5% MIN. 10% MAX.

1. Seed and cover with straw mulch.
2. Seed and cover with Erosion Control Matting or line with sod.
3. 4"-7" stone or recycled concrete equivalent pressed into the soil 7" minimum.

Construction Specifications

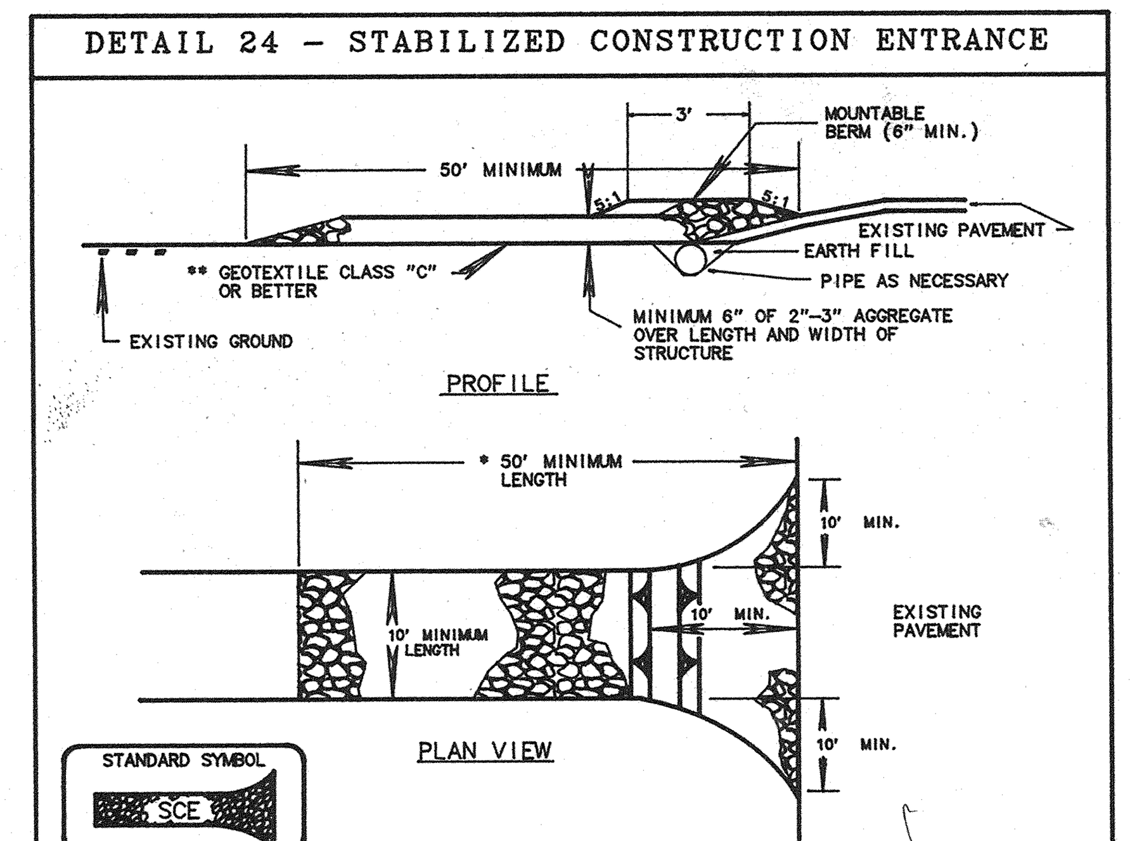
1. All temporary earth dikes shall have uninterrupted positive grade to an outlet. Spot elevations may be necessary for grades less than 1%.
2. Runoff diverted from a disturbed area shall be converted to a sediment trapping device.
3. Runoff diverted from an undisturbed area shall outlet directly into an undisturbed, stabilized area at a non-erosive velocity.
4. All trees, brush, stumps, obstructions, and other objectional material shall be removed and disposed of so as not to interfere with the proper functioning of the dike.
5. The dike shall be excavated or shaped to line, grade and cross section as required to meet the criteria specified herein and be free of bank projections or other irregularities which will impede normal flow.
6. Fill shall be compacted by earth moving equipment.
7. All earth removed and not needed for construction shall be placed so that it will not interfere with the functioning of the dike.
8. Inspection and maintenance must be provided periodically and after each rain event

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE | PAGE A - 1 - 6 | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

SEQUENCE OF CONSTRUCTION

1. Obtain grading permit. 1 Day
2. Notify the Howard County Department of Public Works Construction Inspection Division at 410-313-1855 at least 48 hours prior to beginning construction. 1 Day
3. Install stabilized construction entrance, tree protection fence and signage, silt fence, super silt fence, earth dikes, sediment trap, and drain and remove existing pond and install basins in accordance with the approved grading plan and detail sheets 8 and 15. (See MD 378 Specs for Basins). 3 Weeks
4. Insure all sediment controls are installed and obtain permission from the Sediment Control Inspector prior to rough grade for Public Walter Scott Way. 1 Week
5. Stabilize all disturbed areas not to be paved in accordance with the temporary seeding notes. 1 Day
6. Insure all sediment controls are installed. Obtain permission from the Sediment Control Inspector and remove existing driveway and associated culverts. 2 Days
7. Insure all sediment controls are installed. Obtain permission from the Sediment Control Inspector and rough grade for Private Walter Scott Way and Install Basin # 2 in accordance with the approved grading plan. Install drainage swales on Lot 19 and rear of lots 11-14. 1 Week
8. Install silt fence for Guilford Road improvement lane along Guilford Road Right of Way. 1 Day
9. Relocate signs, and utilities along Guilford Road and grade for Guilford Road improvement lane. 3 Days
10. Fine grade all road beds and install utilities, including water, sewer, storm drain, electric, and telephone. 3 Weeks
11. Stabilize all disturbed areas not to be paved in accordance with the temporary seeding notes. 1 Day
13. Install curb and gutter and sidewalks, including handicapped ramps. Install driveway apron for lot 19 and existing property to the east along Guilford Road. 8 Days
14. Install gravel road base. 5 Days
15. Install bituminous base and surface for roads. 4 Days
16. Fine grade any remaining areas and stabilize all remaining disturbed areas in accordance with the permanent seeding notes. 3 Days
17. With permission from the sediment control inspector, remove all perimeter sediment control devices including silt fence, earth dikes and trap. Leave silt fence below Basin # 1 and # 2 embankments. 3 Days
Stabilize Disturbed Areas
18. Convert both basins to permanent stormwater retention ponds: 1 Week
    a) Dewater both basins completely.
    b) Remove all accumulated sediment and insure pond bottoms are at the final design bottom elevation.
    c) Remove the dewatering devices from both ponds.
    d) Unblock weir openings and insure all permanent orifice and weir openings are sized to the final design dimensions and elevations.
    e) Insure all pond side slopes are in accordance with SWM details and specifications. Close the gate valves on both structures and allow both ponds to fill to design permanent pool elevations.
    f) Install forebay gabions per details and specs.
    g) Permanently stabilize the inside of both ponds and embankments.
    h) Insure Pond # 1 meets all MD 378 Stds and Specs.
    i) Stabilize all disturbed areas
19. With permission from the sediment control inspector, remove the remaining silt fence and any other remaining sediment control devices. Stabilize disturbed areas 2 Days
20. Install fencing, street lights and landscaping. 2 Weeks
Stabilize all remaining disturbed areas.

DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE

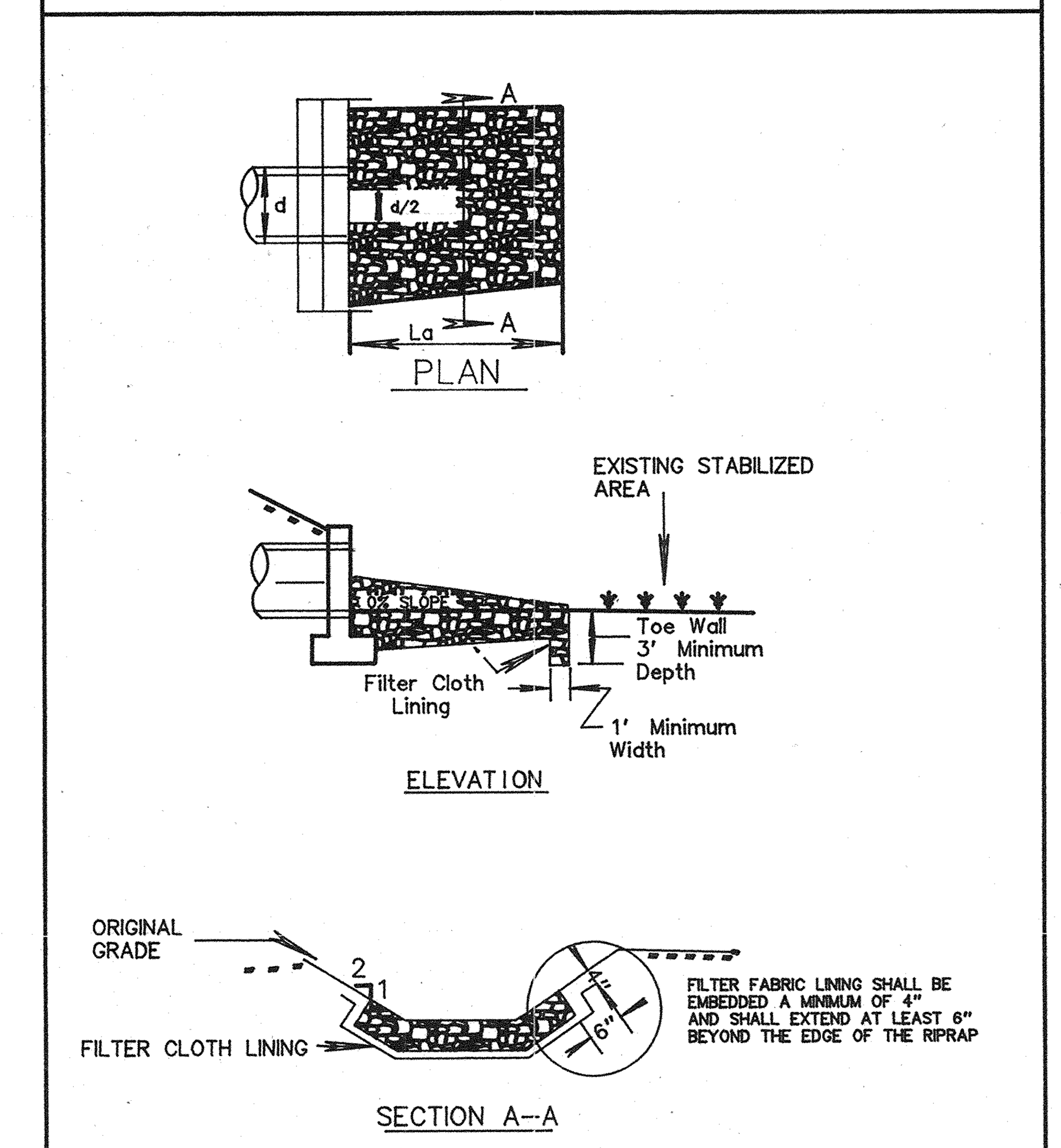


Construction Specification

1. Length – minimum of 50' (*30' for single residence lot).
2. Width – 10' minimum, should be flared at the existing road to provide a turning radius.
3. Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. **The plan approval authority may not require single family residences to use geotextile.
4. Stone – crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.
5. Surface Water – all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amonut of runoff to be conveyed. A 6" minimum will be required.
6. Location – A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE | PAGE F - 17 - 3 | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 27 - ROCK OUTLET PROTECTION III



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE | PAGE F - 18 - 10 | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

ROCK OUTLET PROTECTION III

Construction Specifications

1. The subgrade for the filter, riprap, or gabion shall be prepared to the required lines and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.

2. The rock or gravel shall conform to the specified grading limits when installed respectively in the rip-rap or filter

3. Geotextile shall be protected from punching, cutting, or tearing. Any damage other than an occasional small hole shall be repairing by placing another piece of geotextile over the damaged part or by completely replacing the geotextile. All overlaps whether for repairs or for joining two pieces of geotextile shall be a minimum of one foot

4. Stone for the rip-rap or gabion outlets may be placed by equipment. They shall be constructed to the full course thickness in one operation and in such a manner as to avoid displacement of underlying materials. The stone for rip-rap or gabion outlets shall be delivered and placed in a manner that will ensure that it is reasonably homogeneous with the smaller stones and spalls filling the voids between the larger stones. Rip-rap sahll be placed in a manner to prevent damage to the filter blanket or geotextile. Hand placement will be required to the extent necessary to prevent damage to the permanent works.

5. The stones shall be placed so that it blends in with the existing ground. If the stone is placed too high then the flow will be forced out of the channel and scour adjacent to the stone will occur.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE | PAGE F - 18 - 10A | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

21.0 STANDARD AND SPECIFICATIONS FOR TOPSOIL

Definition

Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation.

Purpose

To provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.

Conditions Where Practice Applies

I. This practice is limited to areas having 2:1 or flatter slopes where:

a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.
c. The original soil to be vegetated contains material toxic to plant growth.
d. The soil is so acidic that treatment with limestone is not feasible.

II. For the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate stabilization shown on the plans.

Construction and Material Specifications

I. Topsoil salvaged from the existing site may be used provided that it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-SCS in cooperation with Maryland Agricultural Experimental Station.

II. Topsoil Specifications – Soil to be used as topsoil must meet the following:

i. Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay Loam, loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting textured subsoils and shall contain less than 5% by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 11/2" in diameter.
ii. Topsoil must be free of plants or plant parts such as bermuda grass, quackgrass, Johnsongrass, nutsedge, poison ivy, thistle, or others as specified.
iii. Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.

III. For sites having disturbed areas under 5 acres:

i. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization – Section I – Vegetative Stabilization Methods and Materials.

IV. For sites having disturbed areas over 5 acres:

i. On soil meeting Topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:
a. pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher.
b. Organic content of topsoil shall be not less than 1.5 percent by weight.
c. Topsoil having soluble salt content greater than 500 parts per million shall not be used.
d. No sod or seed shall be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phyto-toxic materials.

Note: Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.

ii. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization —Section I – Vegetative Stabilization Methods and Materials.

V. Topsoil Application

i. When topsoiling, maintain needed erosion and sediment control practices such as diversions, Grade Stabilization Structures, Earth Dikes, Slope Silt Fence and Sediment Traps and Basins.
ii. Grades on the areas to be topsoiled, which have been previously established, shall be maintained, albeit 4" - 8" higher in elevation.
iii. Topsoil shall be uniformly distributed in a 4" - 8" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.
iv. Topsoil shall not be placed while the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.

VI. Alternative for Permanent Seeding – Instead of applying the full amounts of lime and commercial fertilizer, composted sludge and amendments may be applied as specified below:

i. Composted Sludge Material for use as a soil conditioner for sites having disturbed areas over 5 acres shall be tested to prescribe amendments and for sites having disturbed areas under 5 acres shall conform to the following requirements:
a. Composted sludge shall be supplied by, or originate from, a person or persons that are permitted (at the time of acquisition of the compost) by the Maryland Department of the Environment under COMAR 26.04.06.
b. Composted sludge shall contain at least 1 percent nitrogen, 1.5 percent phosphorus, and 0.2 percent potassium and have a Ph of 7.0 to 8.0. If compost does not meet these requirements, the appropriate constituents must be added to meet the requirements prior to use.
c. Composted sludge shall be applied at a rate of 1 ton/1,000 square feet,

ii. Composted sludge shall be amended with a potassium fertilizer applied at the rate of 4 lb./1,000 square feet, and 1/3 the normal lime application rate.

References: Guideline Specifications, Soil Preparation and Sodding. MD-VA, Pub. #1, Cooperative Extension Service, University of Maryland and Virginia Polytechnic Institutes. Revised 1973.

/users/land/CONROY/QUAIL/FINALS/scdetails.S70

APPROVED: DEPARTMENT OF PLANNING AND ZONING

[signature] 6/26/00
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[signature] 7/12/00
CHIEF, DIVISION OF LAND DEVELOPMENT JA DATE

APPROVED: Department of Public Works for Storm Drainage Systems and Roads.

Andrew M. Dancke 5-26-00
CHIEF, BUREAU OF HIGHWAYS HS DATE

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] / CS. 8/18/00
NATURAL RESOURCE CONSERVATION SERVICE DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION, AND SEDIMENT CONTROL, MEET THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

[signature] 5/18/00
HOWARD SOIL CONSERVATION DISTRICT DATE

ENGINEER'S CERTIFICATE

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 an "as-built" plan of the pond within 30 days of completion.

Bruce D. Burton 5/9/00
SIGNATURE OF ENGINEER DATE

DEVELOPER'S CERTIFICATE

I/We certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I shall engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by Howard Soil Conservation District.

[signature] 11-11-99
SIGNATURE OF DEVELOPER DATE

STATE OF MARYLAND — BRUCE DAVID BURTON — No. 19184 REGISTERED — PROFESSIONAL ENGINEER
5/9/00

9-8-05

BY	No	REVISION	DATE
KD	1	REVISED TITLE BLOCK & DRAWING NUMBER	9-13-05

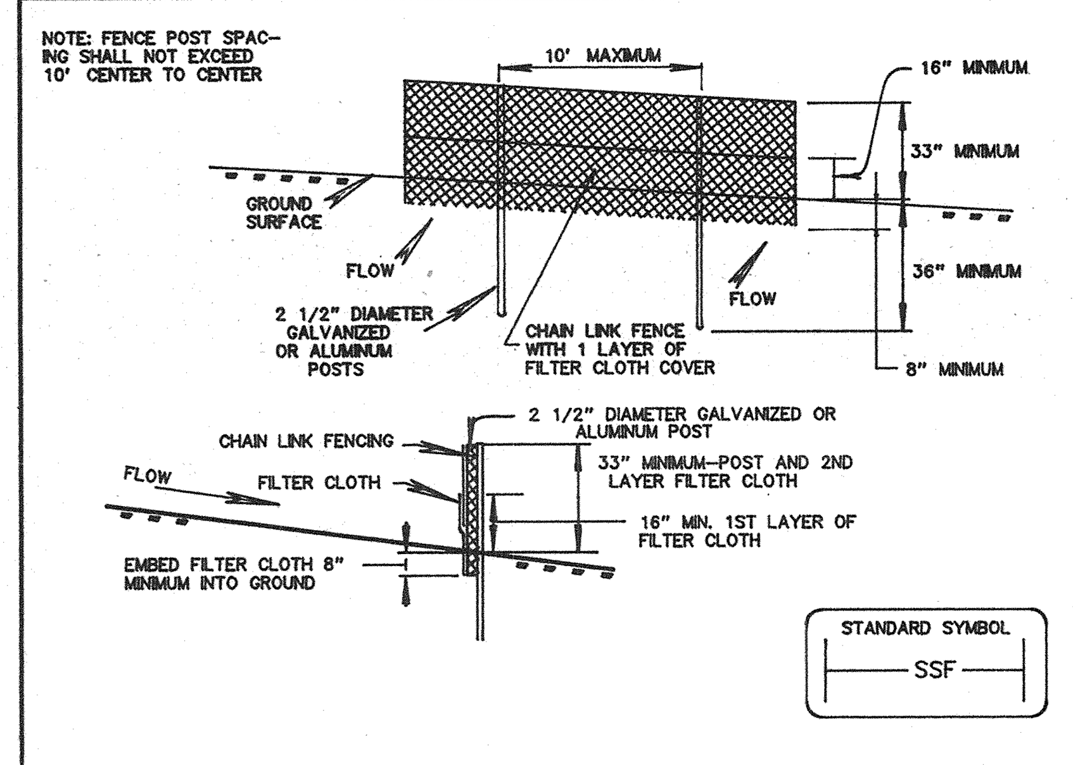
LDE, INC.

9250 Rumsey Road, Suite 106, Columbia, MD. 21045
(410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

DESIGNED S.D.H.	Grading & Soil Erosion & Sediment Control Plan - Details	SCALE As Shown
DRAWN CADD	**Scott Farm** ⚠ Lots 29 - 42 and Open Space Lots 27,28,43 & 44	DRAWING ⚠ 11 of 20
CHECKED B.D.B.	Tax Map No. 35 - P/O Parcel 354; 5th Election District - Howard County, Maryland; Previous Submittals: F76-104, F84-144, F87-162, S97-23, BA91-24E, S95-10, EP98-29, P96-13 & SP99-04	JOB NO. 98009
DATE 11/99	Owner/Developer: Scarlet Wilkinson & Earl Omer, 6799 Guilford Road, Clarksville, Maryland 21029, (410) 531-2626 or (410) 987-0497	FILE NO. F-00-73

F.00.73

DETAIL 33 – SUPER SILT FENCE



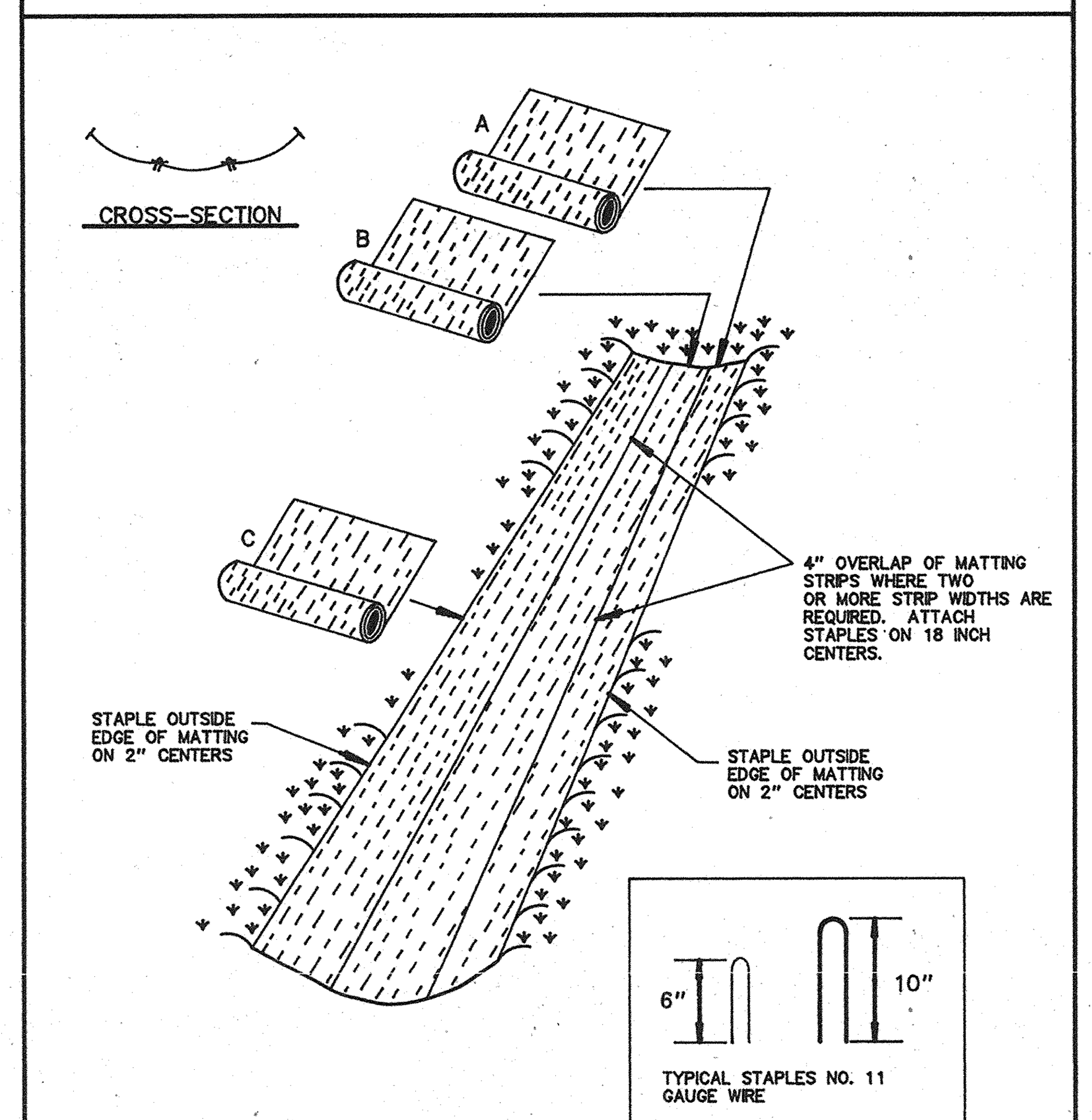
Construction Specifications

Fencing shall be 42 inches in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 6 foot fence shall be used, substituting 42 inch fabric and 6 foot length posts.

1. The poles do not need to set in concrete.
2. Chain link fence shall be fastened securely to the fence posts with wire ties or staples.
3. Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.
4. Filter cloth shall be embedded a minimum of 8" into the ground.
5. When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.
6. Maintenance shall be performed as needed and silt buildups removed when "bulges" develop in the silt fence.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE H – 26 – 3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 30 – EROSION CONTROL MATTING



U.S DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE G – 22 – 2	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

EROSION CONTROL MATTING

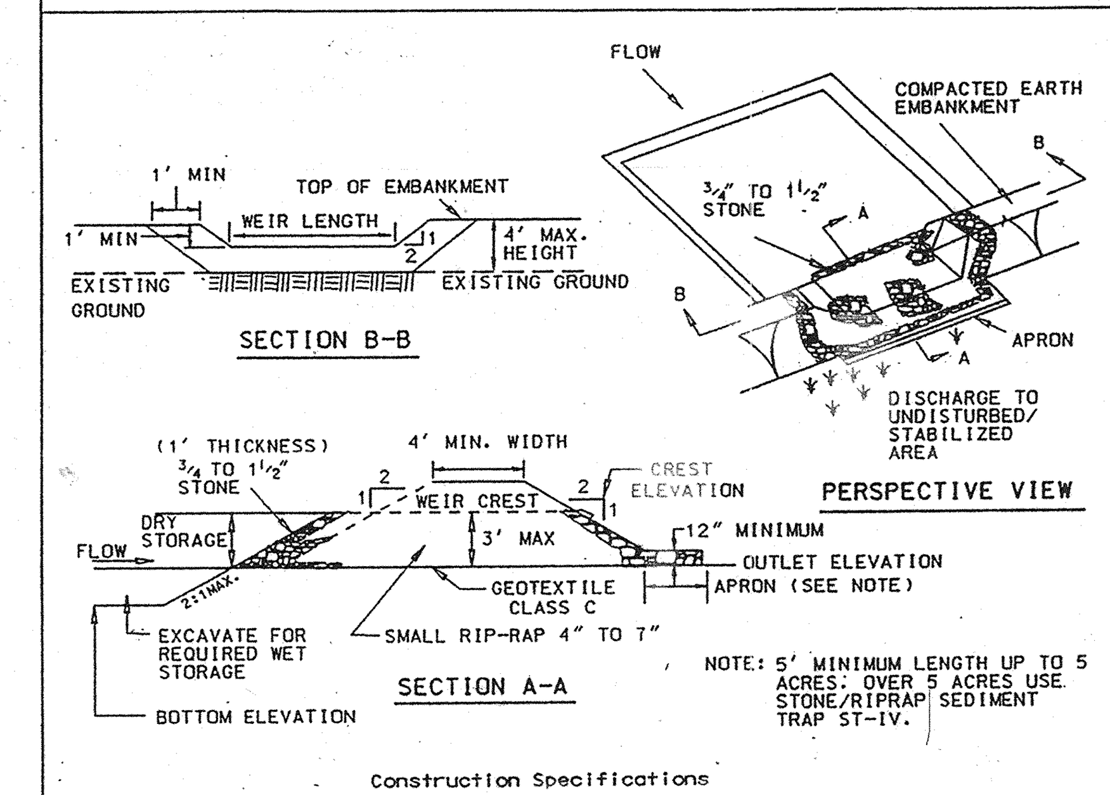
Construction Specifications

1. 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".
2. Staple the 4" overlap in the channel center using an 18" spacing between staples.
3. Before stapling the outer edges of the matting, make sure the matting is smooth and in firm contact with the soil.
4. Staples shall be placed 2' apart with 4 rows for each strip. 2 outer rows, and 2 alternating rows down the center.
5. 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", shiplap fashion. Reinforce the overlap with a double row of staples spaced with 2 double rows of staples.
6. The discharge end of the matting liner should be similarly secured with a double row of staples.

NOTE: If flow will enter from the edge of the matting then the area effected by the flow must be keyed–in.

U.S DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE G – 22 – 2A	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 9 – STONE OUTLET SEDIMENT TRAP – ST II



Construction Specifications

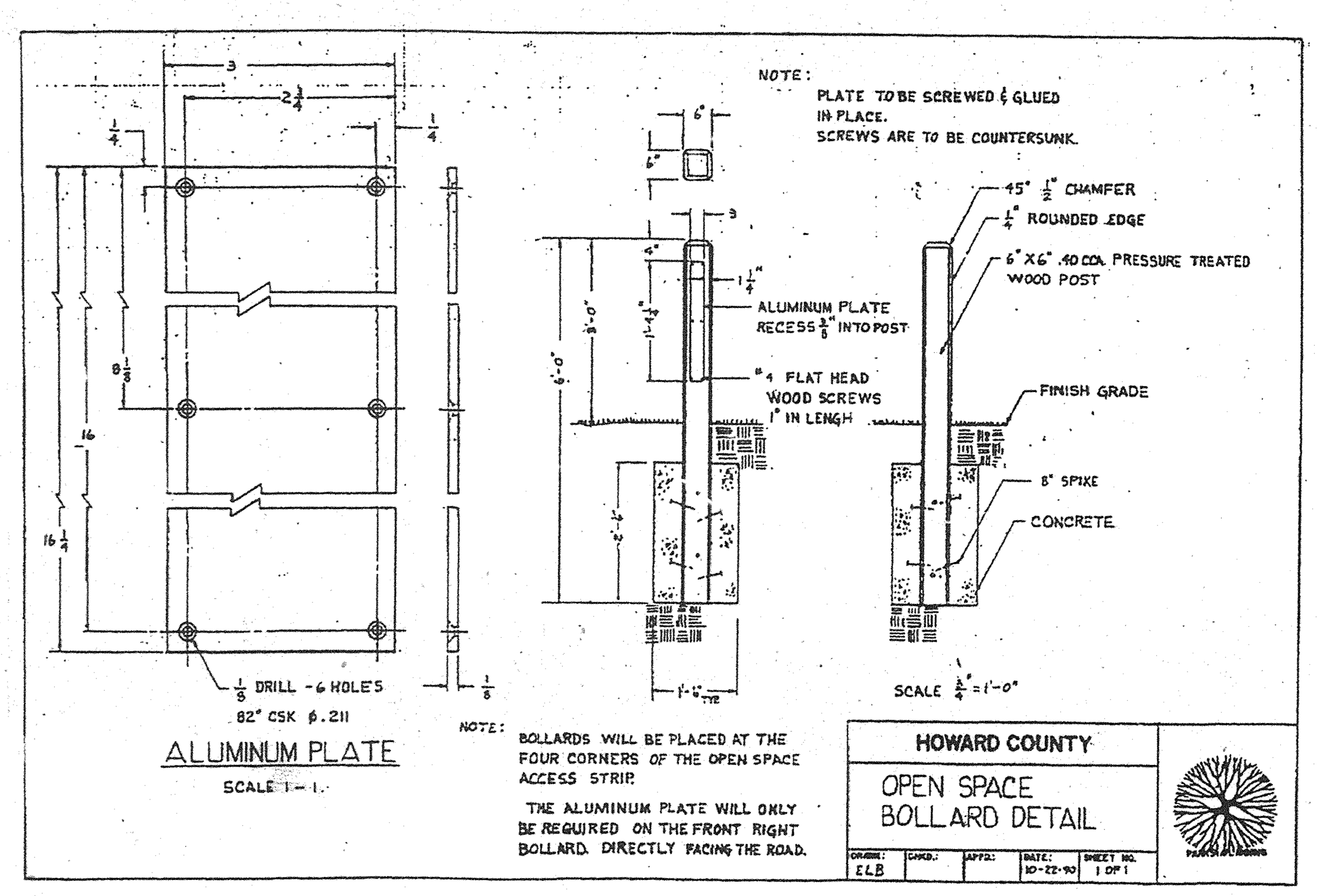
1. Area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.
2. The fill material for the embankment shall be free of roots and other woody vegetation as well as over–sized stones, rocks, organic material or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed.
3. All cut and fill slopes shall be 2:1 or flatter.
4. The stone used in the outlet shall be small rip–rap 4" to 7" in size with a 1' thick layer of 3/4" to 1 1/2" washed aggregate placed on the upstream face of the outlet. Stone facing shall be as necessary to prevent clogging. Geotextile Class C may be substituted for the stone facing by placing it on the inside face of the stone outlet.
5. 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.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE C – 9 – 10	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

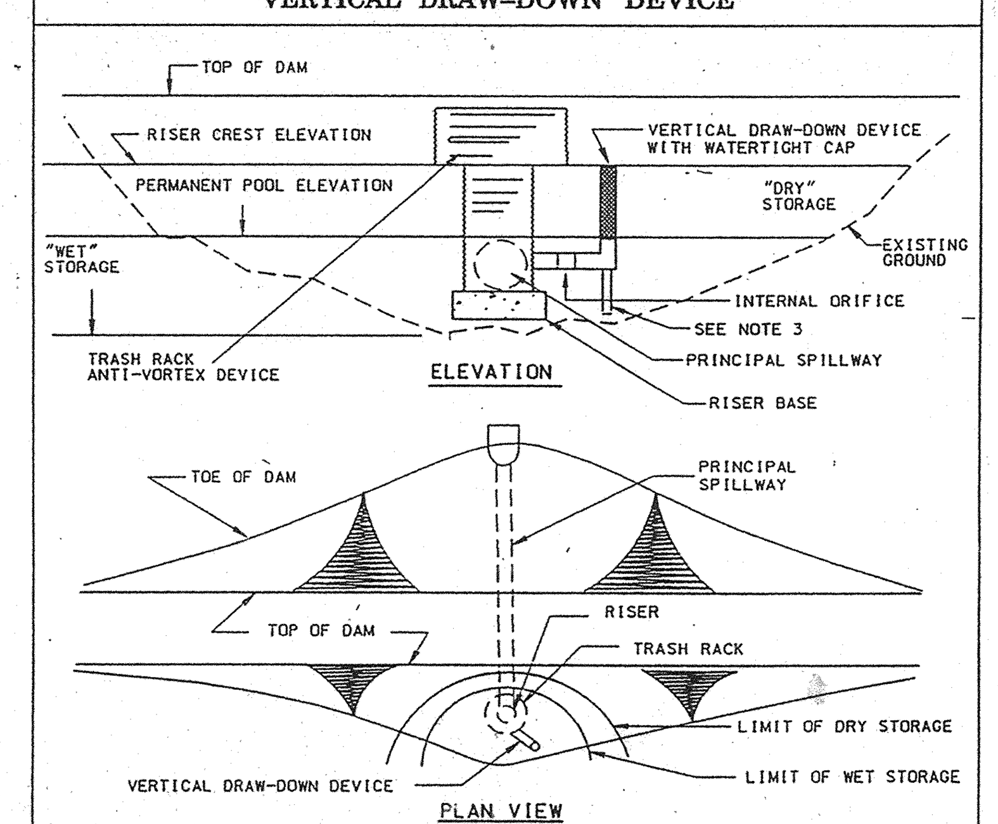
STONE OUTLET SEDIMENT TRAP – ST II

6. The structure shall be inspected periodically and after each rain and repairs made as needed.
7. Construction of traps shall be carried out in such a manner that sediment pollution is abated. Once constructed, the top and outside face of the embankment shall be stabilized with seed and mulch. Points of concentration inflow shall be protected in accordance with Grade Stabilization Structure criteria. The remainder of the interior slopes should be stabilized (one time) with seed and mulch upon trap completion and monitored and maintained erosion free during the life of the trap.
8. The structure shall be dewatered by approved methods, removed and the area stabilized when the drainage area has been properly stabilized.
9. Refer to Section D for specifications concerning trap dewatering.
10. Minimum trap depth shall be measured from the weir elevation.
11. The elevation of the top of any dike directing water into the trap must equal or exceed the elevation of the trap embankment.
12. Geotextile Class C shall be placed over the bottom and sides of the outlet channel prior to the placement of stone. Sections of filter cloth must overlap at least 1' with the section nearest the entrance placed on top. The filter cloth shall be embedded at least 6" into existing ground at the entrance of the outlet channel.
13. Outlet – An outlet shall be provided, including a means of conveying the discharge in an erosion free manner to an existing stable channel.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE C – 9 – 10A	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



BASIN DRAWDOWN SCHEMATIC VERTICAL DRAW–DOWN DEVICE

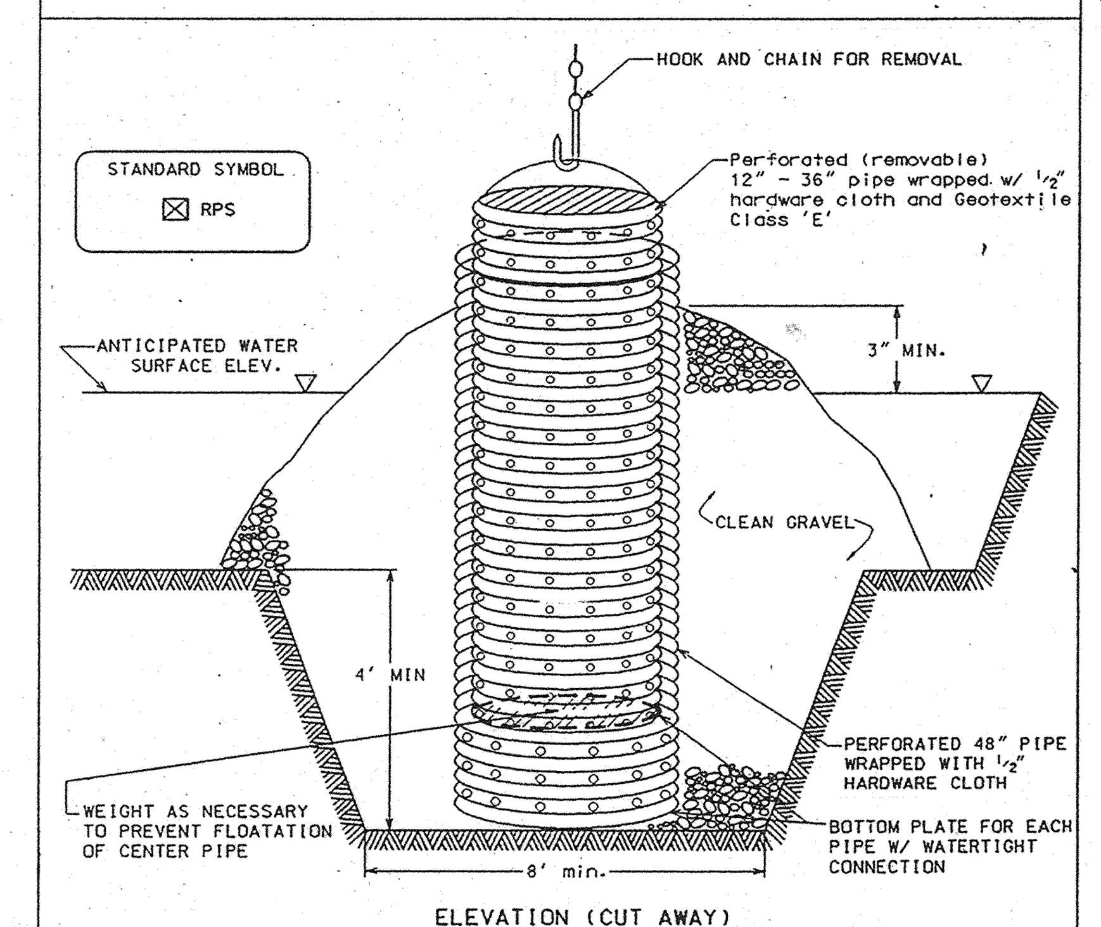


Construction Specifications

1. Perforations in the draw–down device may not extend into the wet storage.
2. The total area of the perforations must be greater than 2 times the area of the internal orifice.
3. The perforated portion of the draw–down device shall be wrapped with 1/2" hardware cloth and geotextile fabric. The geotextile fabric shall meet the specifications for Geotextile Class E.
4. Provide support of draw–down device to prevent sagging and floatation. An acceptable preventative measure is to stake both sides of draw–down device with 1" steel angle, or 1' by 4" square or 2" round wooden posts set 3' minimum into the ground then joining them to the device by wrapping with 12 guage minimum wire.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE C – 10 – 30	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 20A – REMOVABLE PUMPING STATION

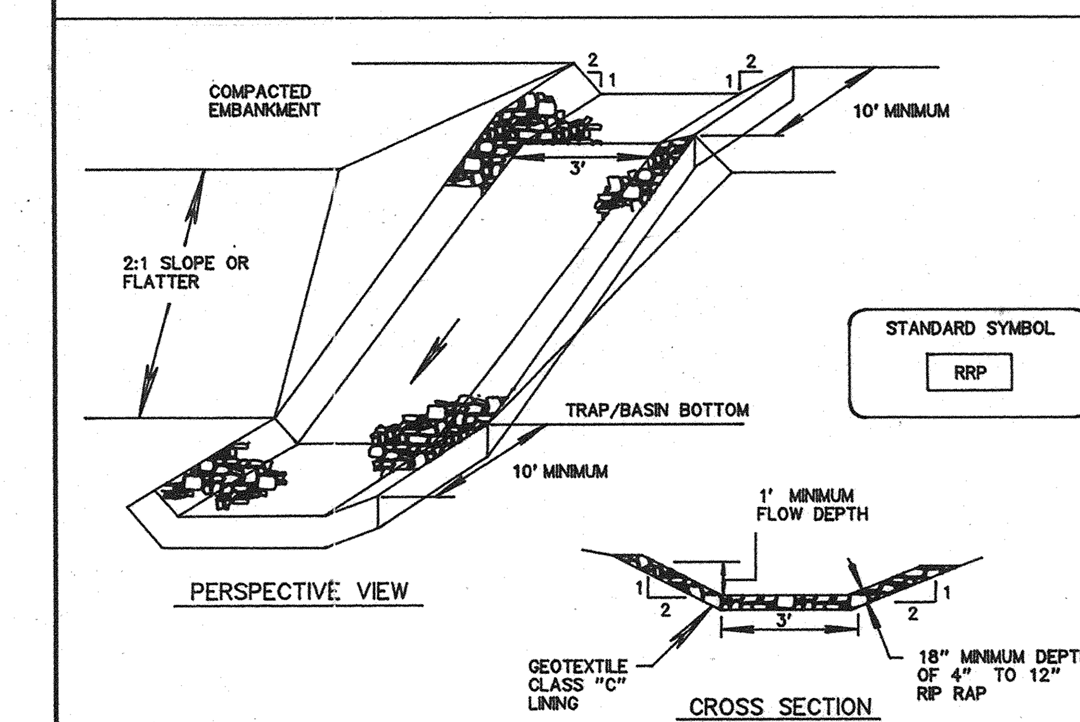


Construction Specifications

1. The outer pipe should be 48" dia. or shall, in any case, be at least 4" greater in diameter than the center pipe. The outer pipe shall be wrapped with 1/2" hardware cloth to prevent backfill material from entering the perforations.
2. After installing the outer pipe, backfill around outer pipe with 2" aggregate or clean gravel.
3. The inside stand pipe (center pipe) should be constructed by perforating a corrugated or PVC pipe between 12" and 36" in diameter. The perforations shall be 1/2" X 6" slits or 1" diameter holes 6" on center. The center pipe shall be wrapped with 1/2" hardware cloth first, then wrapped again with Geotextile Class E.
4. The center pipe should extend 12" to 18" above the anticipated water surface elevation or riser crest elevation when dewatering a basin.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE D – 12 – 5	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 5 – RIP RAP INFLOW PROTECTION

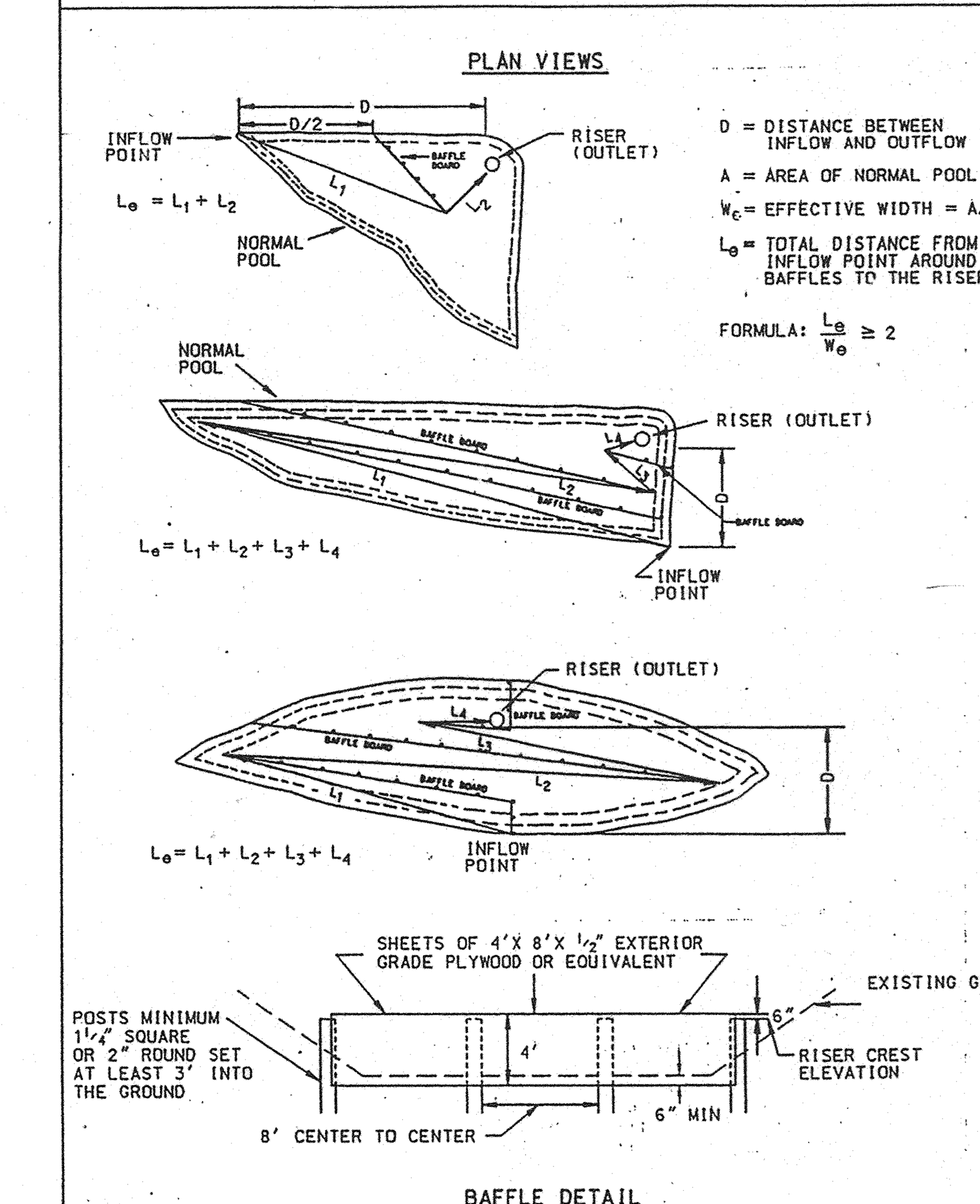


Construction Specifications

1. Rip–rap lined inflow channels shall be 1' in depth, have a trapezoidal cross section with 2:1 or flatter side slopes and 3' (min.) bottom width. The channel shall be lined with 4" to 12" rip–rap to a depth of 18".
2. Filter cloth shall be installed under all rip–rap. Filter cloth shall be Geotextile Class C.
3. Entrance and exit sections shall be installed as shown on the detail section.
4. Rip–rap used for the lining may be recycled for permanent outlet protection if the basin is to be converted to a stormwater management facility.
5. Gabion minflow Protection may be used in lieu of Rip–rap Inflow Protection
6. Rip–rap should blend into existing ground.
7. Rip–rap Inflow Proptection shall be used where the slope is between 4:1 and 10:1, for slopes flatter than 10:1 use Earth Dike or Temporary Swale lining criteria.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE B – 6 – 2	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 18 – SEDIMENT BASIN BAFFLES



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE C – 10 – 28	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 6/26/00

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 7/12/00

APPROVED: Department of Public Works for Storm Drainage Systems and Roads

CHIEF, BUREAU OF HIGHWAYS — DATE 6-26-00

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.

NATURAL RESOURCE CONSERVATION SERVICE — DATE 5/18/00

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION, AND SEDIMENT CONTROL, MEET THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

HOWARD SOIL CONSERVATION DISTRICT — DATE 5/18/00

ENGINEER'S CERTIFICATE

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 an "as–built" plan of the pond within 30 days of completion.

SIGNATURE OF ENGINEER — DATE 5/9/00

DEVELOPER'S CERTIFICATE

I/We certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I shall engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as–built" plan of the pond within 30 days of completion. I also authorize periodic on–site inspections by Howard Soil Conservation District.

SIGNATURE OF DEVELOPER — DATE 11-11-99

5/9/00

9-8-05

BY	Nº	REVISION	DATE
KD	1	REVISED TITLE BLOCK & DRAWING NUMBER	9-13-05

LDE, INC.

9250 Rumsey Road, Suite 106, Columbia, MD. 21045
(410) 715–1070 (301) 596–3424 (410) 715–9540 (Fax)

DESIGNED S.D.H.	Grading & Soil Erosion & Sediment Control Plan – Details	SCALE As Shown
DRAWN CADD	**Scott Farm** Lots 29 - 42 and Open Space Lots 27,28,43 & 44	DRAWING 12 of 20
CHECKED B.D.B.	Tax Map No. 35 – P/O Parcel 354; 5th Election District – Howard County, Maryland; Previous Submittals: F76–104, F84–144, F87–162, S97–23, BA91–24E, S95–10, EP98–29, P96–13 & SP99–04	JOB NO. 98009
DATE 11–99	Owner/Developer: Scarlet Wilkinson & Earl Omer, 6799 Guilford Road, Clarksville, Maryland 21029, (410) 531–2626 or (410) 987–0497	FILE NO. F-00-73

F·00·73

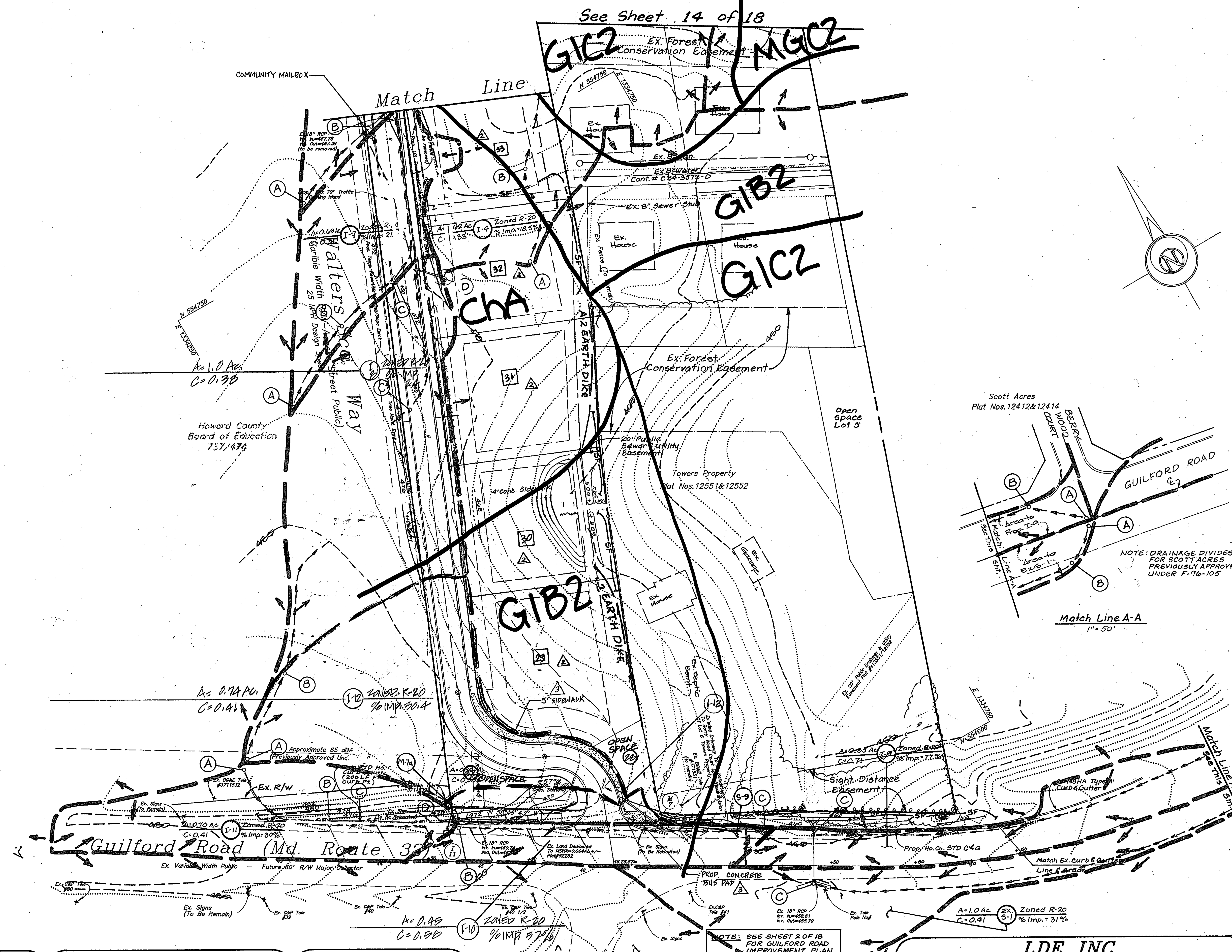
REVISION #3 BY:
BOWMAN CONSULTING
2350 RIVA ROAD
SUITE 200
ANNAPOLIS, MD 21401
410-224-7590

STATE OF MARYLAND
PIERO VAN MELLITS
No. 21875
REGISTERED
PROFESSIONAL ENGINEER
12-31-09

FOR REVISIONS NOTED
DATED 5-18-09 ONLY

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed Professional Engineer under the laws of the State of Maryland.

License No. 21875, Expiration Date: 2/12/2010



TIME OF CONCENTRATION FLOWPATH SEGMENT TABLE-INLETS (2)

DRAINAGE AREA	SEGMENT A-B	SEGMENT B-C	SEGMENT C-D	SEGMENT D-E	SEGMENT E-F
~~I-1~~	~~100' overland flow @ 12% (grass)~~	~~173' shallow conc. fl. @ 9% (grass)~~	~~145' gutter flow @ 7.3%~~		
~~I-2~~	~~100' overland flow @ 3.5% (grass)~~	~~170' shallow conc. fl. @ 9.4% (grass)~~	~~385' ditch flow @ 3%~~		
~~I-3~~	~~100' overland flow @ 14% (grass)~~	~~55' shallow conc. fl. @ 12.7% (grass)~~	~~130' gutter flow @ 4.0%~~		
~~I-4~~	~~100' overland flow @ 7% (woods)~~	~~295' shallow conc. fl. @ 6.8% (grass)~~	~~80' gutter flow @ 5%~~		
I-5	100' overland flow @ 6.5% (grass)	65' gutter flow @ 12.3%	245' gutter flow @ 6.94%		
I-6	100' overland flow @ 2% (grass)	210' gutter flow fl. @ 1% (grass)			
I-7	100' overland flow @ 2.5% (grass)	110' shallow conc. fl. @ 3.6% (grass)	200' gutter flow @ 1%		
I-8	~~100' overland flow @ 3% (grass)~~	~~90' shallow conc. fl. @ 3% (grass)~~	~~150' gutter flow @ 1%~~		
I-9	60' overland flow @ 3% (paved)	545' gutter flow @ 4%			
I-10	~~70' overland flow @ 3% (grass)~~	~~300' gutter flow @ 2.5%~~			
I-11	100' overland flow @ 8% (grass)	30' shallow conc. fl. @ 3% (grass)	185' gutter flow @ 4.4%		
I-12	~~100' overland flow @ 4% (grass)~~	~~80' shallow conc. fl. @ 4% (grass)~~	~~260' gutter flow @ 2%~~		
~~I-13~~	~~100' overland flow @ 4% (grass)~~	~~240' shallow conc. fl. @ 3.5% (grass)~~	~~470' gutter flow @ 2%~~		
EX. S-1	40' overland flow @ 2% (paved)	520' ditch flow @ 1.94% (grass)			

/users/land/CONROY/QUAIL/RDCONST/GSC1.S70

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 6/26/00

CHIEF, DIVISION OF LAND DEVELOPMENT JA — DATE 7/12/00

APPROVED: Department of Public Works for Storm Drainage Systems and Roads

CHIEF, BUREAU OF HIGHWAYS HS — DATE 5-26-00

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION, AND SEDMIENT CONTROL

NATURAL RESOURCE CONSERVATION SERVICE GS. — DATE 5/18/00

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION, AND SEDMIENT CONTROL, MEET THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT

HOWARD SOIL CONSERVATION DISTRICT — DATE 5/18/00

ENGINEER'S CERTIFICATE

I/We certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I shall engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by Howard Soil Conservation District.

SIGNATURE OF ENGINEER — DATE 5/9/00

DEVELOPER'S CERTIFICATE

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SIGNATURE OF DEVELOPER — DATE 11-11-97

STATE OF MARYLAND
BRUCE DAVID BURTON
No. 19184
REGISTERED
PROFESSIONAL ENGINEER
5/9/00

STATE OF MARYLAND
GREGORY R. KLAR
No. 21432
REGISTERED
PROFESSIONAL ENGINEER

THIS SEAL FOR REVISION #1 & 2

REVISION No 1 BY:
CENTURY ENGINEERING INC.
32 WEST ROAD
TOWSON, MARYLAND 21204
410-823-8070

NOTE: DRAINAGE DIVIDE SHOWN ARE BASED ON ULTIMATE SITE GRADING, INCLUDING INDIVIDUAL LOT GRADING.

BY	NO.	REVISION	DATE
PM	3	ADD COMMUNITY MAILBOX, 5' SIDEWALK AND CONCRETE BUS PAD	5-18-09
KD	2	Revised TC Table I-1 thru I-4, Added Soils. Revised Lot Layout, No.s & BRL's, and SD. Revised Title Block & Sheet #. Removed curb cuts.	9-09-05
CEI	1	REVISED DA'S I-8 & I-12	5-15-01

LDE, INC.
9250 Rumsey Road, Suite 106, Columbia, MD. 21045
(410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

DESIGNED: S.D.H.
DRAWN: CADD STB
CHECKED: B.D.B.
DATE: 11/99

Drainage Area Map

(2) **Scott Farm**

Lots 29 to 42 and Open Space Lots 27, 28, 43 & 44
~~A Resubdivision of Lots 5 & 10 "Wilkinson Acres"~~
Tax Map No. 35 - P/O Parcel 354
5th Election District - Howard County, Maryland
Previous Submittals: F76-104, F84-144, F87-162, S97-23, BA91-24E, S95-10, EP98-29, P96-13 & SP99-04

Owner/Developer: Scarlet Wilkinson & Earl Omer
6799 Guilford Road
Clarksville, Maryland 21029
(410) 531-2626 or (410) 987-0497

SCALE: 1" = 50'
DRAWING (2): 13 of 20
JOB NO. 98009
FILE NO. F-00-73

F-00-73

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.

NATURAL RESOURCE CONSERVATION SERVICE — Date 9/26/05

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION, AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

HOWARD SOIL CONSERVATION DISTRICT — Date 9/26/05

ENGINEER'S CERTIFICATE

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SIGNATURE OF ENGINEER — Date 9-15-05

DEVELOPER'S CERTIFICATE

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SIGNATURE OF ENGINEER — Date 9/15/05

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — Date 10/18/05

CHIEF, DIVISION OF LAND DEVELOPMENT — Date 10/27/05

CHIEF, BUREAU OF HIGHWAYS — Date 10-14-05

PURPOSE STATEMENT:
THIS SUBSITUTE SHEET SHOWS THE REALIGNMENT OF THE PRIVATE ACCESS ROAD AND RESUBDIVISION OF AFFECTED LOTS FOR SCOTT FARM AND IS THE FINAL ROAD CONSTRUCTION PLAN.

PIERO VAN MELLITS No. 21875 REGISTERED PROFESSIONAL ENGINEER — 12-31-09

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed Professional Engineer under the laws of the State of Maryland.

License No. 21875, Expiration Date: 2/12/2010

FOR REVISIONS NOTED DATED 5-18-19 ONLY

REVISION #3 BY:
BOHMAN CONSULTING GROUP
2350 RIVA ROAD, SUITE 200
ANNAPOLIS, MD 21401
410-224-7590

OWNER:
SCARLET WILKINSON AND EARL OMER
6799 GUILFORD ROAD
CLARKSVILLE, MARYLAND 21029
(410)531-2626, (410)987-0497

No.	REVISION	DATE	BY
1	Revised Post DA for realignment to road & subdivision, labeled land use, showed soils and Tc paths. Revised Title Block and Added Purpose Statement.	09-09-05	KD
3	REVISED TEE TOWN-HOUSE INCLUDING BALLARD LOCATIONS AND DUMPSTER ENCLOSURE, ADDED COMMUNITY MAILBOX & SWM CONCRETE SWALES	5-18-09	PM

ENGINEERS • PLANNERS • SCIENTISTS • SURVEYORS
GREENHORNE & O'MARA, INC.
200 HARRY S TRUMAN PKWY. SUITE-200 ANNAPOLIS, MARYLAND 21401
(410) 266-0066
Greenbelt, MD - Annapolis, MD - Atlanta, GA - Fairfax, VA - Fredericksburg, VA - Mechanicsburg, PA
Raleigh, NC - Rockville, MD - Tampa, FL - West Palm Beach, FL

DRAINAGE AREA MAP
REVISED FINAL ROAD CONSTRUCTION PLAN
SCOTT FARM
LOTS 29-42 and Open Space Lots 27, 28, 43 & 44
TAX MAP NO. 35 P/O PARCEL 354
5th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

CVF DESIGN	SCALE	1" = 50'	
LMM DRAWN	SHEET	14 OF 20	
GRK CHECKED			
OCT, '04 DATE	PROJ No.		F - 00 - 73 FILE No.

F00-73 *SUBSTITUTE SHEET

Construction Specifications For Sediment Basins

1. Site Preparation: Perimeter sediment control devices must be installed prior to clearing and grubbing. Areas where the embankment is to be placed shall be cleared, grubbed, and stripped of topsoil to remove trees, vegetation, roots or other objectionable material. The pool area shall not be cleared until completion of the dam embankment unless the pool area is to be used for borrow. In order to facilitate clean-out and restoration, the pool area (measured at the top of the pipe spillway) shall be cleared of all brush, trees, and other objectionable materials.

2. Cut-off Trench: A cut-off trench shall be excavated along the centerline of earth fill embankments. The minimum depth shall be four feet. The cut-off trench shall extend up both abutments to the riser crest elevation. The minimum bottom width shall be two feet, but wide enough to permit operation of excavation and compaction equipment. The side slopes shall be no steeper than 1:1. Compaction requirements shall be the same as those for the embankment. The trench shall be dewatered during the backfilling-compaction operations. For dewatering see Section D.

3. Embankment: The fill material shall be taken from approved areas shown on the plans. It shall be clean mineral soil free of roots, woody vegetation, oversized stones, rocks, or other objectionable material. Relatively pervious materials such as sand or gravel (Unified Soil Classes GW, GP, SW & SP) or organic materials (Unified Soil Classes OL and OH) shall not be placed in the embankment. Areas on which fill is to be placed shall be scarified prior to placement of fill. The fill material shall contain sufficient moisture so that it can be formed by hand into a ball without crumbling. If water can be squeezed out of the ball, it is too wet for proper compaction. Fill material shall be placed in six-inch to eight-inch thick continuous lifts over the entire length of the fill. Compaction shall be obtained by routing and hauling the construction equipment over the fill so that the entire surface of each layer of the fill is traversed by at least one wheel or tread track of the equipment or by the use of a compactor. **The embankment shall be constructed to an elevation 10 percent higher than the design height to allow for settlement.**

4. Principal Spillway: Steel risers shall be securely attached to the barrel or barrel stub by welding the full circumference making a watertight structural connection. Concrete risers shall be poured with the principal spillway in place or precast with voids around the principal spillway filled with concrete or shrink proof grout for watertight connection. The barrel stub must be attached to the riser at the same percent (angle) of grade as the outlet conduit. The connection between the riser and the riser base shall be watertight. All connections between barrel sections must be achieved by approved watertight band assemblies. The barrel and riser shall be placed on a firm, smooth foundation of impervious soil as the embankment is constructed. **Breaching the embankment to install the barrel is unacceptable.** Pervious materials such as sand, gravel, or crushed stone shall not be used as backfill around the pipe or anti-seep collars. The fill material around the pipe spillway shall be placed in four inch lifts and hand compacted under and around the pipe to at least the same density as the adjacent embankment. A depth of 1.5 times the pipe diameter (min.) shall be backfilled over the principal spillway and hand compacted before crossing it with construction equipment.

5. Emergency Spillway: **The emergency spillway shall be installed in undisturbed ground.** The achievement of planned elevations, grades, design width, entrance and exit channel slopes are critical to the successful operation of the emergency spillway and must be constructed within a tolerance of ± 0.2 feet.

6. Vegetative Treatment: Stabilize the embankment in accordance with the appropriate vegetative Standard and Specifications immediately following construction. In no case shall the embankment remain unstabilized for more than seven (7) days. Once constructed, the top and outside face of the embankment shall be stabilized with seed and mulch. The remainder of the interior slopes should be stabilized (one time) with seed and mulch upon basin completion and monitored and maintained erosion free during the life of the basin.

7. Safety: **Local requirements concerning fencing and signs shall be met, warning the public of hazards of soft sediment and floodwater.**

8. Maintenance: Repair all damage caused by soil erosion and construction equipment at or before the end of each working day. Sediment shall be removed from the basin when it reaches the specified distance below the top of the riser as shown on the riser. This sediment shall be placed in such a manner that it will not erode from the site. The sediment shall not be deposited downstream from the embankment, adjacent to a stream or floodplain. Disposal areas must be stabilized.

9. Final Disposal: When temporary structures have served their intended purpose and the contributing drainage area has been properly stabilized, the embankment and resulting sediment deposits are to be leveled or otherwise disposed of in accordance with the approved sediment control plan. The proposed use of a sediment basin site will often dictate final disposition of the basin and any sediment contained therein. If the site is scheduled for future construction, then the basin material and trapped sediments must be removed and safely disposed of and the basin shall be backfilled with a structural fill. When the basin area is to remain open space, the pond may be pumped dry (using methods in Section D - Dewatering), graded, and back filled.

10. Conversion to Stormwater Management Structure: After permanent stabilization of all disturbed contributory drainage areas, temporary sediment basins, if initially built and certified to meet permanent standards, may be converted to permanent stormwater management structures. To convert the basin from temporary to permanent use, the outlet structure must be modified in accordance with approved stormwater management design plans. Additional grading may also be necessary to provide the required storage volume in the basin. Conversion can only take place after all disturbed areas **have been permanently stabilized to the satisfaction of the inspection authority and storm drains have been flushed.**

Figure 2 Temporary Sediment Basin Design Data Sheet

Computed by: SDH Date: 11-11-99 Checked by: BDB Date: 11-11-99
Project name: Scott Farm Basin #: 1
Location: Intx. Guilford Road / Hall Shop Road
Clarksville, Howard County, MD
Basin #1

Total area draining to basin: 8.63 acres (ac)

Basin Volume Design

Note: 1. Also see Surface Area Design #30, this form.
2. To convert ft³ to yd³, divide ft³ by 27. To convert ft² to yd², divide ft² by 9.

1. Min. required vol. = 3600 ft³/ac x 8.63 ac. drainage 31,068 ft³
2. Actual Volume of basin = 31,068 ft³
3. Excavate N/A ft³ ______ to obtain required capacity.
4. Vol. at dewatering elev. = 1800 ft³/ac x 8.63 ac. = 15,534 ft³
5. Vol. of basin at cleanout = 900 ft³/ac x 8.63 ac. = 7,767 ft³
6. Elevation corresponding to min. required volume of basin (riser crest elevation) 432.3
7. Permanent pool elevation 430.13 ft.
8. Distance from riser crest elevation to permanent pool elevation 2.17 ft.
9. Basin cleanout elevation 428.12 ft.
10. Distance from riser crest elevation to cleanout elevation 4.18 ft.

Spillway Design

11. Q_{10} = 19 cfs (peak discharge from 10-yr, 24-hr storm event, attach computations)

Principal Spillway (Ops) (See Detail 11)

12. Design Principal Spillway (Barrel) discharge, Design Q_{ps} = 10/7 cfs (min. 10% of 10 year peak or 8" Diameter Pipe)
13. H = 13'/6' ft.; Barrel length = 150/45 ft.
14. Barrel Diam. 24/24 in. Note: Q_{ps} must equal or exceed Design Q_{ps}
Q_{ps} = Q (from Table 13 or 14) 25.8 x (length correction factor) 1.065 = 27.5 cfs. (8.845/ 32/)
15. Riser Diameter 48/48 in.; Riser Height 9'/0' ft.; Riser Head (h) = ____ ft.
16. Trash Rack Diam. ____ in.; Trash Rack Height = ____ in.

NOTE: A table showing design data shall be included on the plan for each basin.

BASIN #1	BASIN #2
2Yr WSEL = 434.38' / Q2 = 1.0 cfs	2Yr. WSEL = 399.75' / Q2 = 1.0 cfs
10Yr. WSEL = 435.50 / Q10 = 10.0 cfs	10Yr WSEL = 400.58' / Q10 = 7.0 cfs

Emergency Spillway (Oes) N/A

17. Emergency spillway cap., $Q_{es} = Q_{10} - Q_{ps}$ = ____ - ____ = 10/7 cfs
18. Width ____ ft; Hp ____ ft
19. Entrance channel slope ____ %.
20. Exit channel slope ____ %

Anti-Seep Collar Design (If Required) SEE SWM COMPUTATIONS

21. y = ____ ft.; z = 4/4 :1; pipe slope = 3.33/2.22 %; Ls = 75/30 ft
22. Use 3/2 collars, 7.4'x9'/7.4'x4.6' ft. 88.8x115 in. square; projection = 2.2/2.2 ft.

Design Elevations

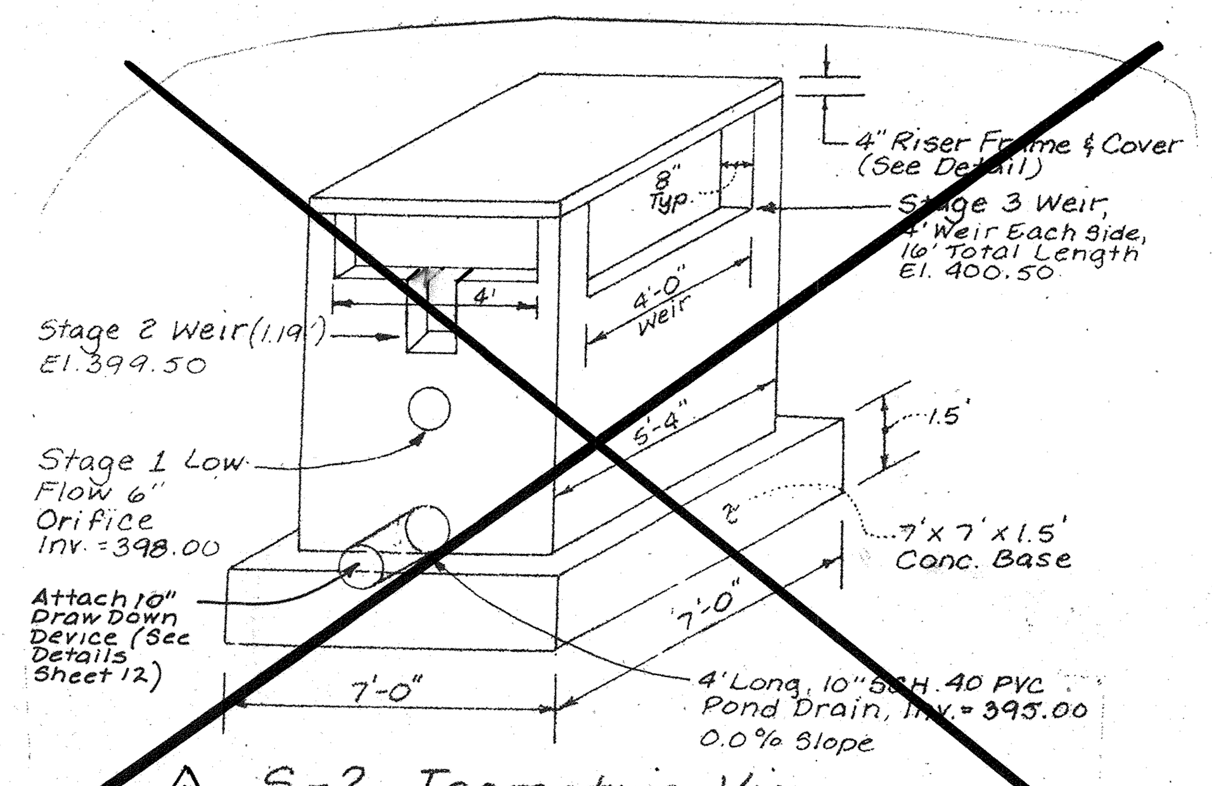
23. Riser Crest	= 432.3 ft.	24. Design High Water (10Yr)	= 430.92 ft.
25. Emergency Spillway Crest	= N/A ft.	26. Min. settled top of dam	= 436.0 ft.
27. Permanent pool	= 430.13 ft.	28. Bottom of Basin	= 426.0 ft.
29. Draw-down orifice invert	= 426.0 ft.		

Surface Area Design

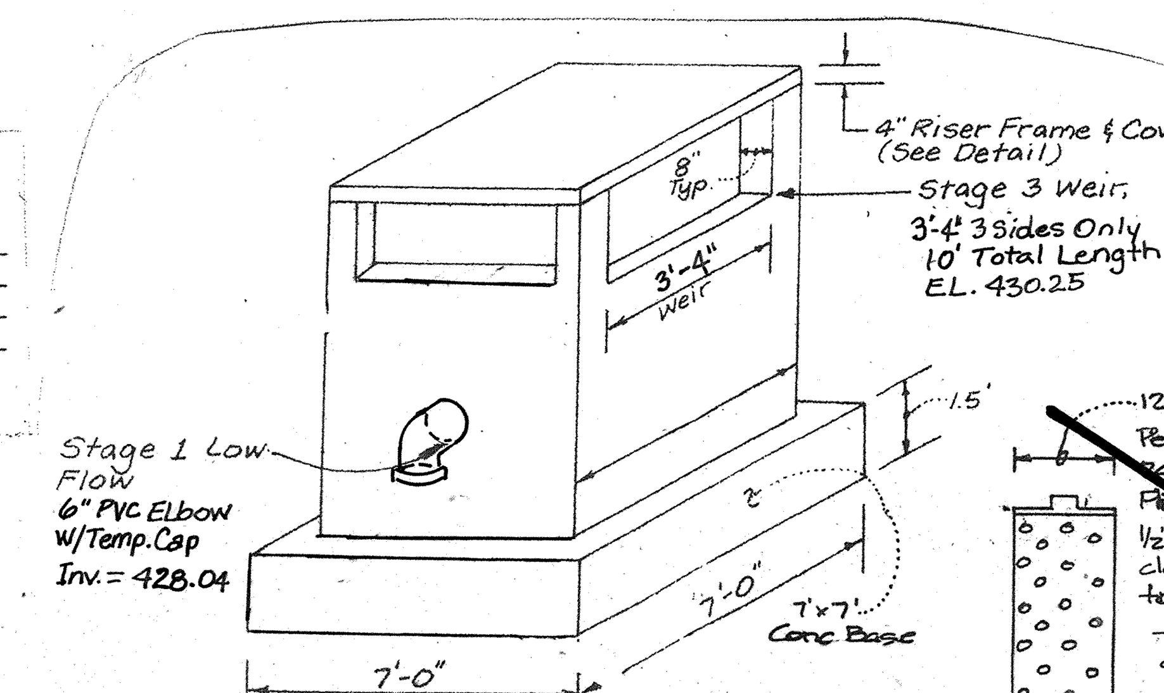
30. Min. basin surface area; SA ≥ 0.0035 x Q_{10} = 0.0035 x 10 cfs ≤ 0.035 ac.

Draw-down Device

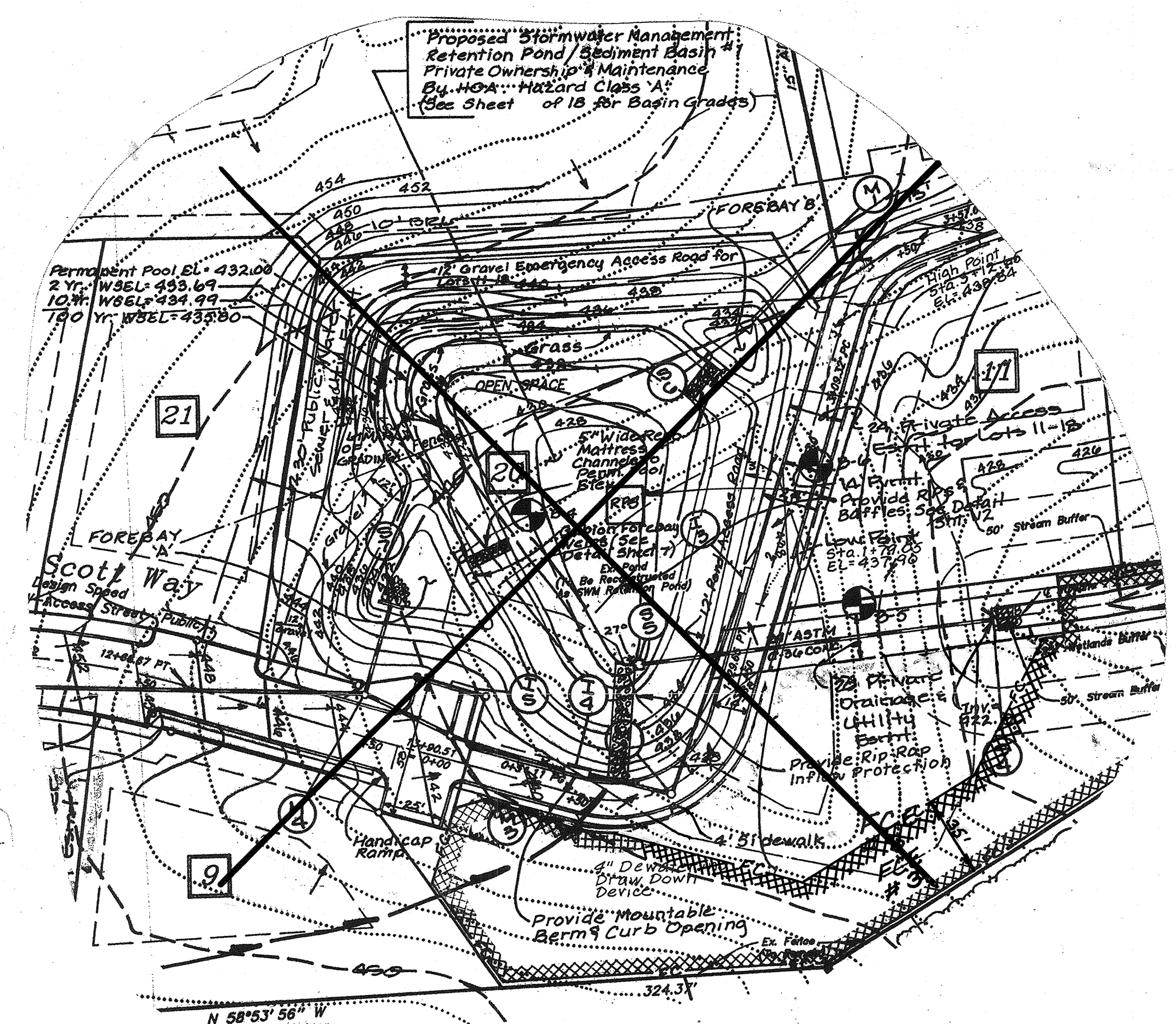
31. Draw-down device orifice diameter = 4"/4" in. (From Table 11)
32. A_t = Total area of perforations ≥ $4A_o$ Use 1.0" Diam. Holes, Area 0.0055 ft.²
A_t = (# of perforation/foot)(perforation area ft²)(perforated section length ft.) 38 0.0055 1.7/1.7
A_t = 0.355 ft²
A_o = Internal orifice area (from Table 11 or computed) Ao - 4" Orifice = 0.087 ft²
Use 65 holes in each Draw-down Device
Use a 12" drawdown to obtain required number of holes for both ponds.



S-2 Isometric View
No Scale

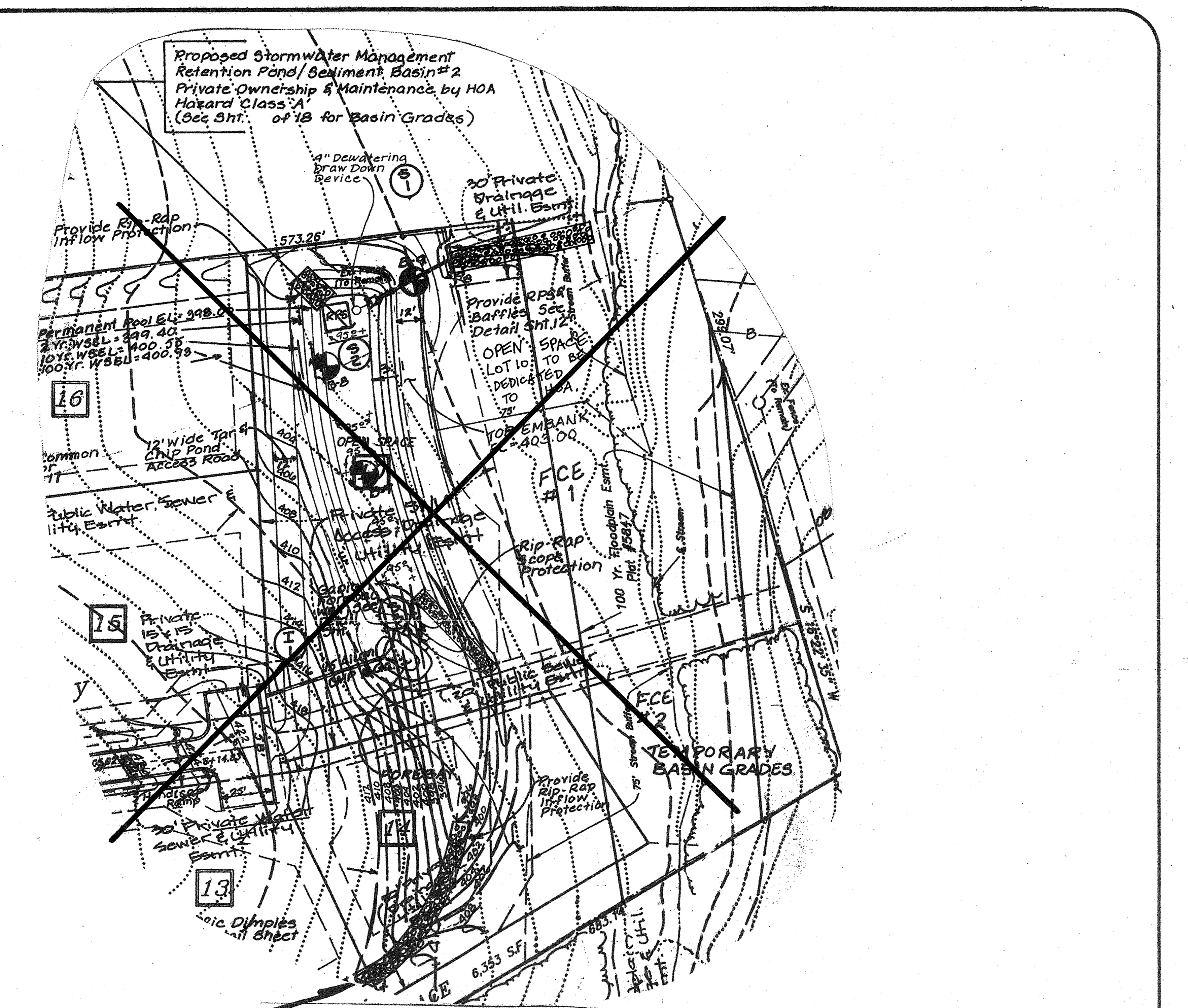


S-5 Isometric View
No Scale



Sediment Basin #1 Plan View
1" = 50'

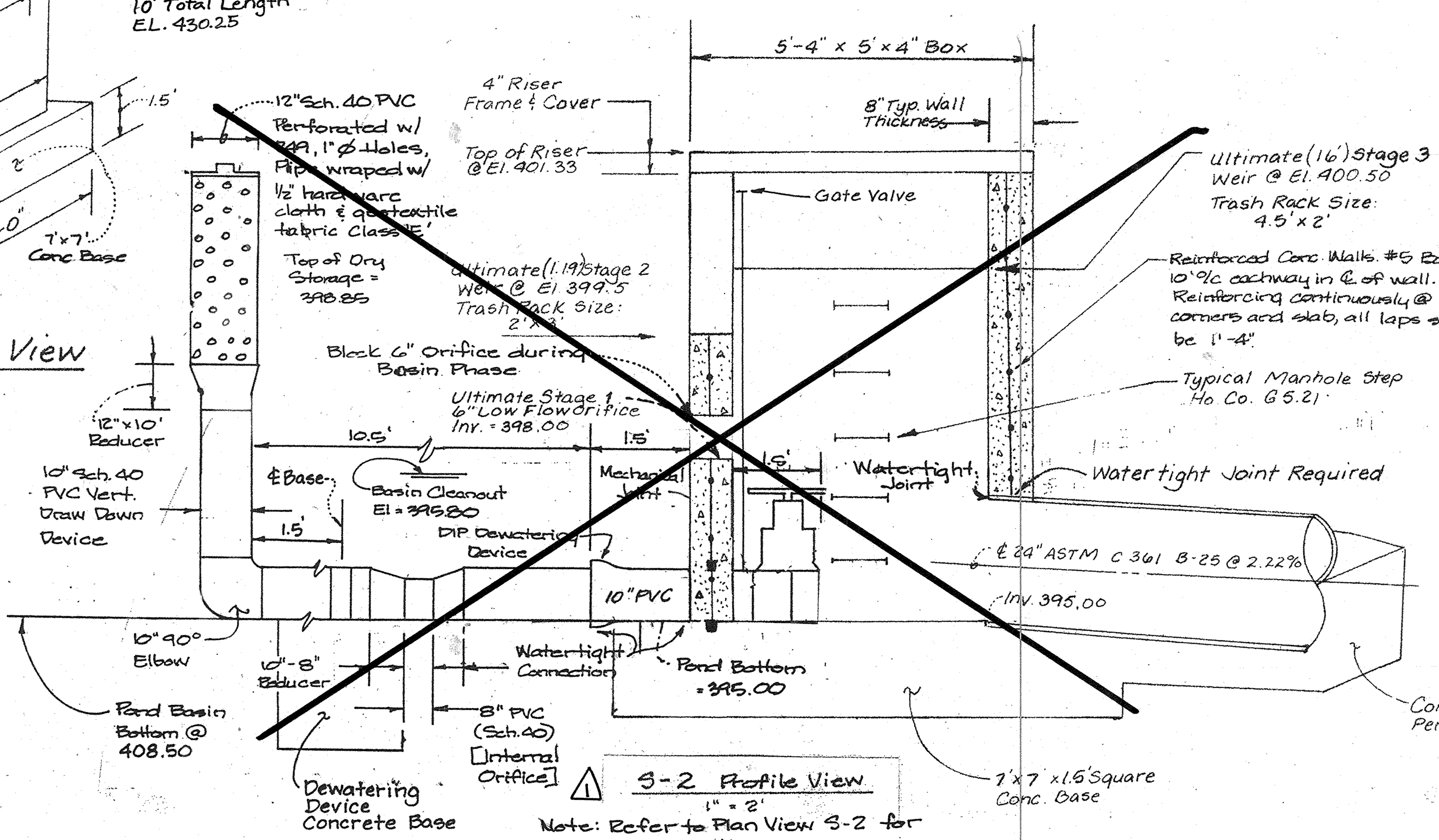
* See Substitute Sheet



Sediment Basin #2 Plan View
1" = 50'

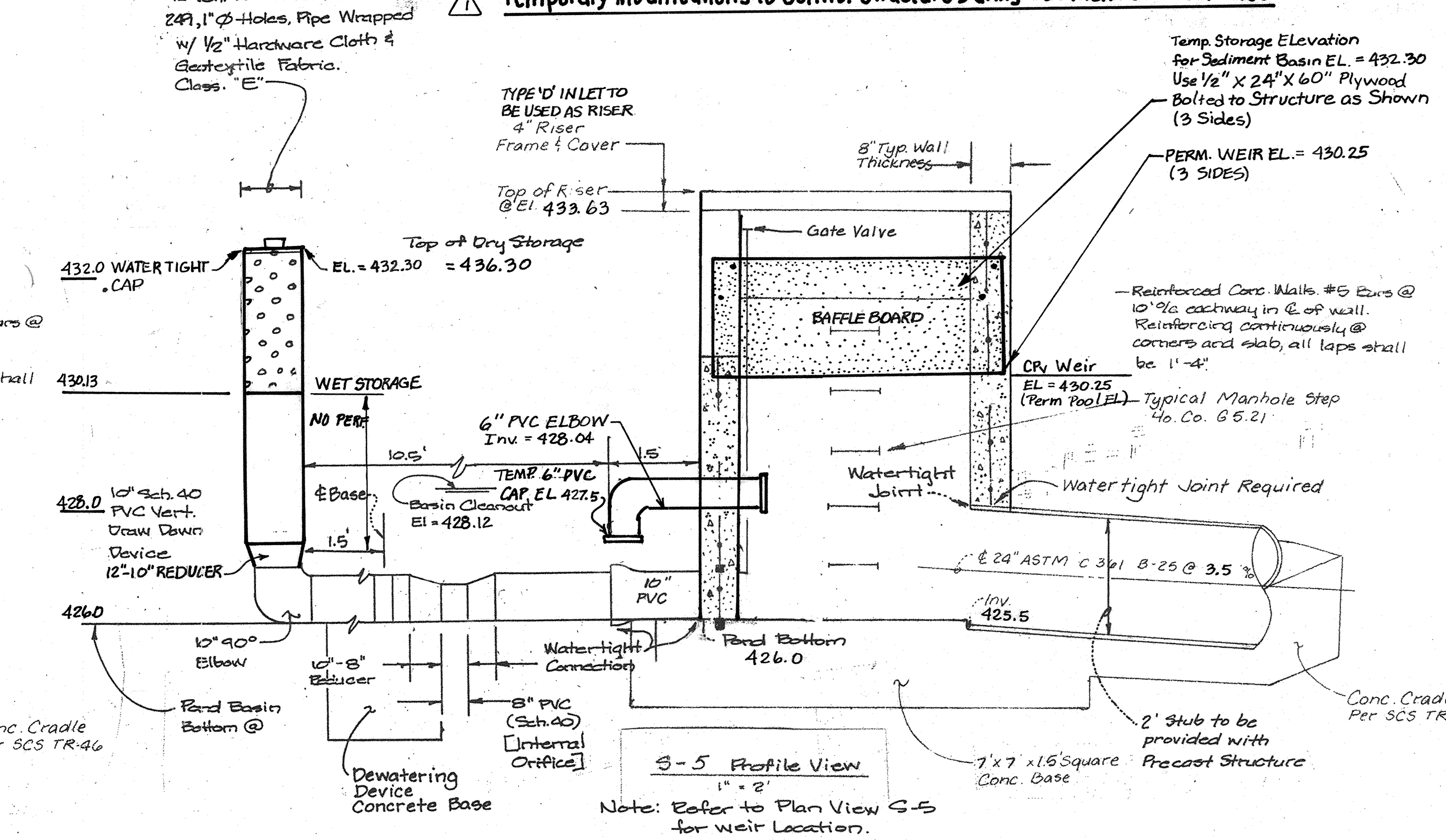
BASIN DESIGN DATA SUMMARY

	Basin #1	Basin #2
Top of Wet Storage Volume, Elev:	430.70	397.47
Begin Temp. SWM Storage Vol, Elev:	430.70	397.47
Top of Dry Storage Vol, Elev:	432.20	398.85
Top of 4" Draw-down Standpipe	432.40	399.17
Begin Perforations on Draw-down Standpipe	430.70	397.47



S-2 Profile View
1" = 2'
Note: Refer to Plan View S-2 for weir location.

Temporary Modifications to Control Structure During Sediment Control Phase



S-5 Profile View
1" = 2'
Note: Refer to Plan View S-5 for weir Location.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 6/26/00

CHIEF, DIVISION OF LAND DEVELOPMENT JA — DATE 7/12/00

APPROVED: Department of Public Works for Storm Drainage Systems and Roads

CHIEF, BUREAU OF HIGHWAYS HS — DATE 5-26-00

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.

NATURAL RESOURCE CONSERVATION SERVICE — DATE 5/18/00

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION, AND SEDIMENT CONTROL, MEET THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

HOWARD SOIL CONSERVATION DISTRICT — DATE 5/18/00

ENGINEER'S CERTIFICATE

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 an "as-built" plan of the pond within 30 days of completion.

SIGNATURE OF ENGINEER — DATE 5/9/00

DEVELOPER'S CERTIFICATE

I/We certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I shall engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by Howard Soil Conservation District.

SIGNATURE OF DEVELOPER — DATE 11-11-99

STATE OF MARYLAND — BRUCE DAVID BURTON — No. 19184 — REGISTERED PROFESSIONAL ENGINEER — 5/9/00

STATE OF MARYLAND — GREGORY — No. 11922 — REGISTERED PROFESSIONAL ENGINEER — 9-8-05

NO.	REVISION	DATE	BY
1.	Revised S-5 Detail & Profile. Deleted Plans & Details. Revised Title Block & Sheet No.	09-09-05	KD

LDE, INC.
9250 Rumsey Road, Suite 106, Columbia, MD. 21045
(410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

DESIGNED S.D.H.	Sediment Basin Plan, Notes and Details	SCALE As Shown
DRAWN CADD	**Scott Farm** Lots 29 42 and Open Space Lots 27, 28, 43 & 44	DRAWING 15 of 20
CHECKED B.D.B.	Tax Map No. 35 – P/O Parcel 354; 5th Election District – Howard County, Maryland; Previous Submittals: F76-104, F84-144, F87-162, S97-23, BA91-24E, S95-10, EP98-29, P96-13 & SP99-04	JOB NO. 98009
DATE 11/99	Owner/Developer: Scarlet Wilkinson & Earl Omer, 6799 Guilford Road, Clarksville, Maryland 21029, (410) 531-2626 or (410) 987-0497	FILE NO. F-00-73

F-00-73

AFFORESTATION
PLANTING SPECIFICATIONS AND NOTES

GENERAL NOTES

1.) This afforestation planting plan is provided in accordance with the requirements set forth by the Forest Conservation Program adiministered by the Howard County Department of Planning and Zoning. The preparation of these plan(s), the notes and details incident thereto were prepared using the guidelines of the Howard County Forest Conservation Manual, the State of Maryland Forest Conservation Manual, as well as sound professional forestry, arborist, and nurseryman practice.

2.) This plan shall be implemented by a contractor that is knowledgeable and experienced in the methods set forth herein.

3.) The survival rate of the plantings shall be 75% of the total number of plantings per acre as provided by this plan.

4.) Base sheet information was provided by LDE, Inc. of Columbia, Maryland.

QUALITY ASSURANCE

1.) Names of plant material listed conform generally with names accepted by the nursery trade. The contractor is to provide stock true to botanical/scientific name.

2.) Material shall be grown and delivered so as to be that speicfied herein.

3.) If specified material is not available or there are other technical, logistical, financial imperatives that shall necessitate the substitution of plant materials, the contract shall contact the plan preparer for permission to use equivalent material. These changes are subject to final approval by Howard County Department of Planning and Zoning, Forest Conservation Progam.

SITE PREPARATION AND SOILS

1.) Disturbance of soils should be limited to the Planting Field for each plant unless the area has been prepared with/for soil amendments and/or broadcast seeding for goundcovers, etc.

2.) Soil amendments should be considered for any site only after careful analysis of existing conditions. Soil samples should be analyzed by a qualified soils lab to determine the need for any amendments. Results of the soil analysis should be provided to the landscaping contractor and/or the local County Co-operative Extension Agent or interpretation in the context of the intended plantings. Their recommendations should be followed closely. In the case of highly compacted sites that need only soil aeration or loosening treatment, a mixture of 25% leaf mold and 25% manure, the remainder being landscape topsoil, may be added. This mixture should be applied at the rate of one cubic yard per 165 square feet of area. Till deeply taking care not to bring subsoils to the surface. Amendments should be tilled in after the initial tilling. This method is particularly suitable when broadcast seeding or perennial beds are involved.

3.) Soil mix for ericaceous material: Native topsoil into which the contractor shall thoroughly incorporate 25% by volume peat moss and 25% leaf mold may be mixed into soil.

PLANT STORAGE AND INSPECTION

1.) For container grown nursery stock, planting should occur within two weeks after delivery to site.

2.) Planting stock should be inspected prior to planting. Plants not conforming to standard nurseryman specifications for size, form and vigor, roots, trunk wounds, insects and disease should be replaced.

3.) Container stock, if not planted within two weeks, may be banked up with mulch and watered every other day or as needed until planting. Bare root stock may NOT be delivered and left on site prior to planting.

SEASONAL PLANTING LIMITATIONS

1.) Planting activities shall conform with established nureryman's practice and approximate the growing season for the geographic area. Planting of bare-root stock after March 15 should be avoided unless seasonal progression is measurably retarded by observable temperature or weather patterns and stock has been kept appropriately dormant through proper storage.

2.) Planting shall not take place in sub-freezing temperatures, when the ground is frozen, or when the soil is too wet or dry or otherwise in a condition not generally accepted as satisfactory for planting and may adversely affect plant materials.

PLANT INSTALLATION

1.) Container grown stock should be removed from the container and roots gently loosened from the soil. If the roots encircle the root ball, substitution is strongly recommended. J-shaped or kinked root systems should also be noted. ROOTS MAY NOT BE TRIMMED ON SITE, due to the increased chances of soil borne diseases.

2.) Bare root stock should be un-wrapped on-site only when ready to plant then held in water. When handled for planting, stock shall be immediately dipped in Super-sorb or equivalent water-holding polymer prepared with water as a slurry per manufacturer's specification. Roots must be thoroughly coated upon withdrawal from slurry. Plant stock immediately after dipping. If not planted immediately, wrap in burlap. Roots are not to be exposed to air.

3.) For trees planted in the afforestation area, contractor shall evenly disperse species in groups of two to four per species over the entire designated area to be planted or on random center spacing by species as dictated by planting density.

4.) Avoid planting in a straight grid pattern. Trees shall be planted on an average spacing of ten feet O.C., randomly.

5.) As shown on the detail view, a Planting Field diameter of two - three times the diameter of the root ball or container is recommended. The depth of the hole should be no more than 1 - 1.5 times the length of the root mass. The hole should be established with an auger. If the walls of the hole should glaze due to auger rotation, they can be scored with a spade or the auger may be "wiggled" upon withdrawal to assure no glazing occurs. Additionally, there will be loose earth in the bottom of any hole. This should be lightly tamped with the foot to keep the planting unit from settling too much.

Native stockpiled soils should be used to backfill Planting Field except where soil amendments are site-wide and specific. After plant placement in hole, move stock around in hole to allow settling of initial fill to avoid air pockets. Finish filling hole and use water to further settle soil backfilled around trees. Mulch with composted wood chips (> 1 year composting). Mulch should be 3" deep and extend to limits of augured hole. This should keep weeds down for about one year.

6.) Newly planted trees may need watering as much as once a week for the entire growing season on well drained sites. This combined with the looseness of the backfilled, newly amended soil is an additional drainage enhancement within the Planting Field. The next two years may require watering only a few times a year during summer and dry months. After that period, trees should only need water in severe droughts. Any watering plan should compensate for recent rainfall patterns.

7.) Do not fertilize newly planted trees within the first growing season after planting. Doing so may cause a spurt of canopy growth which the roots cannot support and add additional shock to the already disturbed plant. Fertilize by sidecasting after one year, if desirable.

8.) If and when it is time to fertilize, organic fertilizers are preferred to synthetic fertilizers. Bone meal or seaweed-based products are available commercially and are recommended. They have the ability to supply nutrients to the plant as needed while minimizing the risk of excess nutrients entering the forest system and water supply.

9.) All tags, labels, string, wire, etc., shall be removed from plant material

10.) The landscape contractor is responsible for the location of all existing underground utilities such that the repair of utilities damaged during planting shall be the landscape contractor's expense.

AFFORESTATION PLANT LIST

QTY	SPECIES	SIZE	REMARKS
56	Tulip Poplar *Liriodendron tulipifera*	4 Ft.	Cont. or BR
56	Flowering Dogwood *Cornus florida*	4 Ft.	" "
56	Red Maple *Acer rubrum*	4 Ft.	" "
56	N. Red Oak *Quercus rubra*	4 Ft.	" "
56	White Oak *Quercus alba*	4 Ft.	" "
280 Total	0.8 Ac. Afforestation × 350 Whips or Seedlings Per Acre = 280) Use Shelters; Space on 11"×11" Grid		

See Sheet 18 for Forest Conservation Worksheet and Calculations.

Planting Schedule/Timeframe

Planting shall occur after construction activities have ceased. If the planting stock is to be bare root material, it shall be planted no earlier than immediately after the first frost and no later than March 15. Container stock may be planted at any time and if such stock is chosen, planting shall be accomplished by the end of the first growing season after completion of construction activities.

Binding Maintenance Agreement/Schedule

1.) Annual maintenance during the growing season, for a period of two years. These tasks are the responsibility of the owner or individual to whom ownership has been conveyed or who has legally accepted responsibility for these tasks. Management may include the following: watering, fertilizing, pruning, removal of dead material and the control of pests and competing vegetation.

2.) Schedule: Year 1: 3 times (March-April), (July-August), (October-November). Year 2: Twice annually (April-May), (September-October). At the end of the time period specified in item #1 above, there shall be 75% survival of the total number of trees planted. If the survival rate is determined to have fallen below 75%, material identical to that not surviving shall be planted as replacement.

3.) Assess tree mortality of planting stock, remove and replace any dead or diseased plantings.

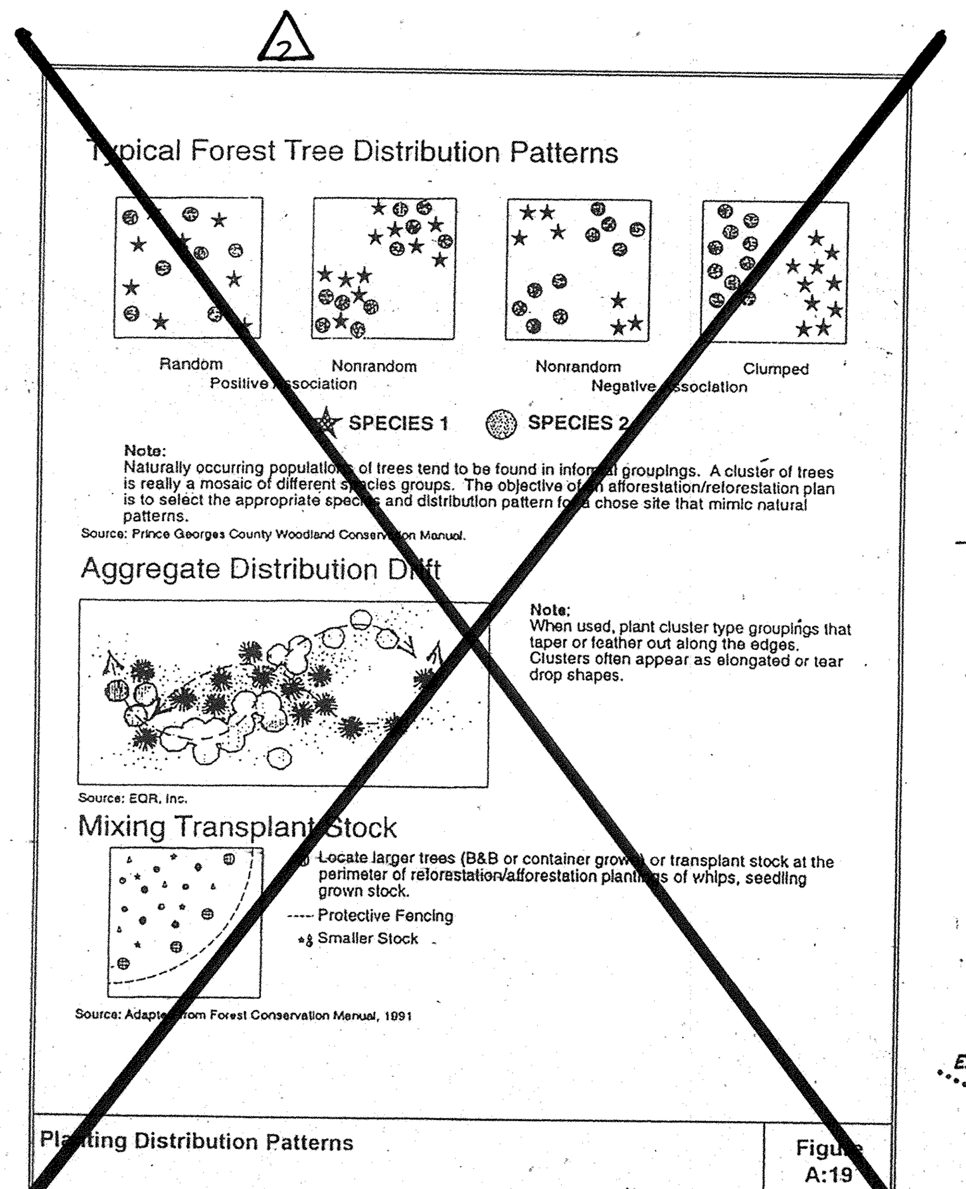
4.) Volunteer seeding of native, local and endemic vegetation is to be expected. Do not discourage this effort unless it is negatively effecting the planted stock.

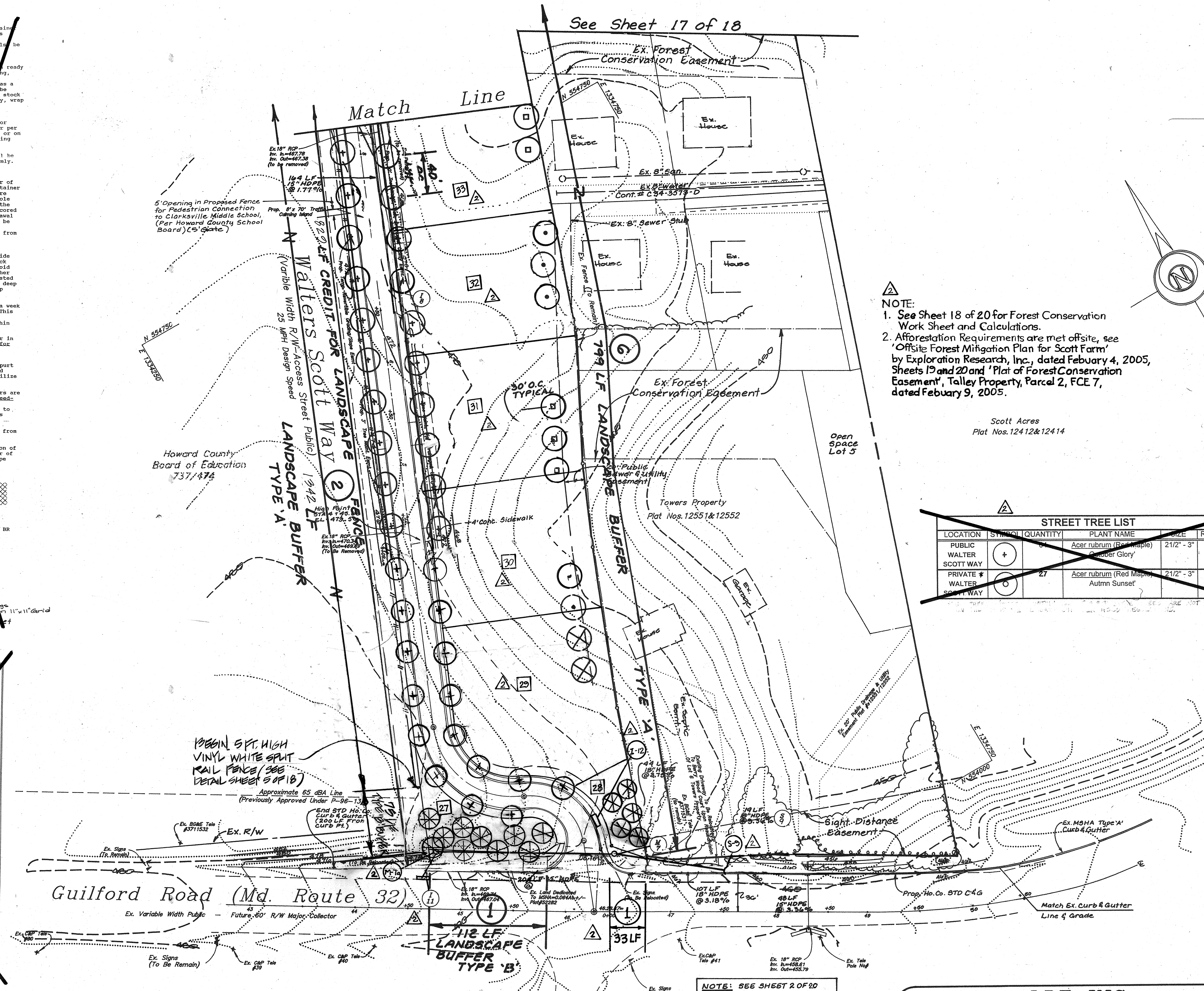
5.) Remove through manual means (grubbing, pulling, cutting) aggressive, noxious, invasive species herbaceous and otherwise, if deemed necessary. Twice annual mowing/brushhogging and spot treatment with Rodeo or Roundup is one of the most effective means to control exotic/invasive species. No mowing shall occur during the wildlife nesting period of early April through mid-July.

6.) Remove and dispose of man-made trash. Do not remove down and dead material naturally occurring or accumulating, unless it is smothering planting stock.

7.) Certification of survival as required shall be completed by a licensed forester, licensed landscape architect or other qualified professional per COMAR and submitted to Howard County Department of Planning and Zoning, Forest Conservation Program Release of security shall occur at this time.

8.) Perimeter signage, placed at minimum 100' intervals, shall be permanent.





NOTE: SEE SHEET 2 OF 20 FOR GUILFORD ROAD IMPROVEMENT PLAN

NOTE:
1. See Sheet 18 of 20 for Forest Conservation Work Sheet and Calculations.
2. Afforestation Requirements are met offsite, see 'Offsite Forest Mitigation Plan for Scott Farm' by Exploration Research, Inc., dated Febuary 4, 2005, Sheets 19 and 20 and 'Plat of Forest Conservation Easement', Talley Property, Parcel 2, FCE 7, dated Febuary 9, 2005.

STREET TREE LIST

LOCATION	SYMBOL	QUANTITY	PLANT NAME	SIZE	REMARKS
PUBLIC WALTER SCOTT WAY	(+)	31	Acer rubrum (Red Maple) 'October Glory'	21/2" - 3"	B & B
PRIVATE * WALTER SCOTT WAY	(o)	27	Acer rubrum (Red Maple) 'Autmn Sunset'	21/2" - 3"	B & B

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 6/26/00

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 7/12/00

APPROVED: Department of Public Works for Storm Drainage Systems and Roads

CHIEF, BUREAU OF HIGHWAYS — DATE 5-26-00

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

NATURAL RESOURCE CONSERVATION SERVICE — DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION, AND SEDIMENT CONTROL, MEET THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT

HOWARD SOIL CONSERVATION DISTRICT — DATE

ENGINEER'S CERTIFICATE

I/We certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I shall engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by Howard Soil Conservation District.

SIGNATURE OF ENGINEER — DATE 5/9/00

DEVELOPER'S CERTIFICATE

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 an "as-built" plan of the pond within 30 days of completion.

SIGNATURE OF DEVELOPER — DATE 11-11-99

STATE OF MARYLAND — BRUCE DAVID BURTON — No. 19184 — REGISTERED PROFESSIONAL ENGINEER

5/9/00

STATE OF MARYLAND — GREGORY ... — No. 11432 — REGISTERED PROFESSIONAL ENGINEER

REVISION NO. 1 BY:
CENTURY ENGINEERING INC.
32 WEST ROAD
TOWSON, MD 21204
410-823-8070

THIS SEAL FOR REVISION #1 & #2

DENNIS J. LaBAKE, M.S., & ASSOCIATES
Environmental Consulting Services
8903 Flagstone Circle
Randallstown, MD 21133
• Wetland Delineations & Mitigation
• Stream Assessment & Restoration
• Water Quality Monitoring
• Macroinvertebrate Taxonomy
• Forest Stand Delineations
• Forest Conservation Plans
Qualified Professional, MDFCA
Ph/Fax (410) 922-7476

BY	NO.	REVISION	DATE
KD	2	Revised Lot line & #, and storm Drain. Deleted Forest Conservation Notes. Labeled Buffer 1. Added Notes. Relocated Street Tree list to SHT 18. Revised Title BLK & SHT #.	9-9-05
CET	1		5-15-01

LDE, INC.
9250 Rumsey Road, Suite 106, Columbia, MD. 21045
(410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

STREET TREE, FOREST CONSERVATION & LANDSCAPE PLANTING PLAN

Scott Farm
Lots 29 - 42 and Open Space Lots 27, 28, 43 & 44

Tax Map No. 35 – P/O Parcel 354
5th Election District – Howard County, Maryland
Previous Submittals: F76-104, F84-144, F87-162, S97-23, BA91-24E, S95-10, EP98-29, P96-13 & SP99-04

Owner/Developer: Scarlet Wilkinson & Earl Omer, 6799 Guilford Road, Clarksville, Maryland 21029, (410) 531-2626 or (410) 987-0497

DESIGNED: S.D.H. | DRAWN: CADD | CHECKED: B.D.B. | DATE: 11/99
SCALE: 1" = 50' | DRAWING: 16 of 20 | JOB NO. 98009 | FILE NO. F-00-73

/users/land/CONROY/QUAL/RDCONST/GSC1.S70

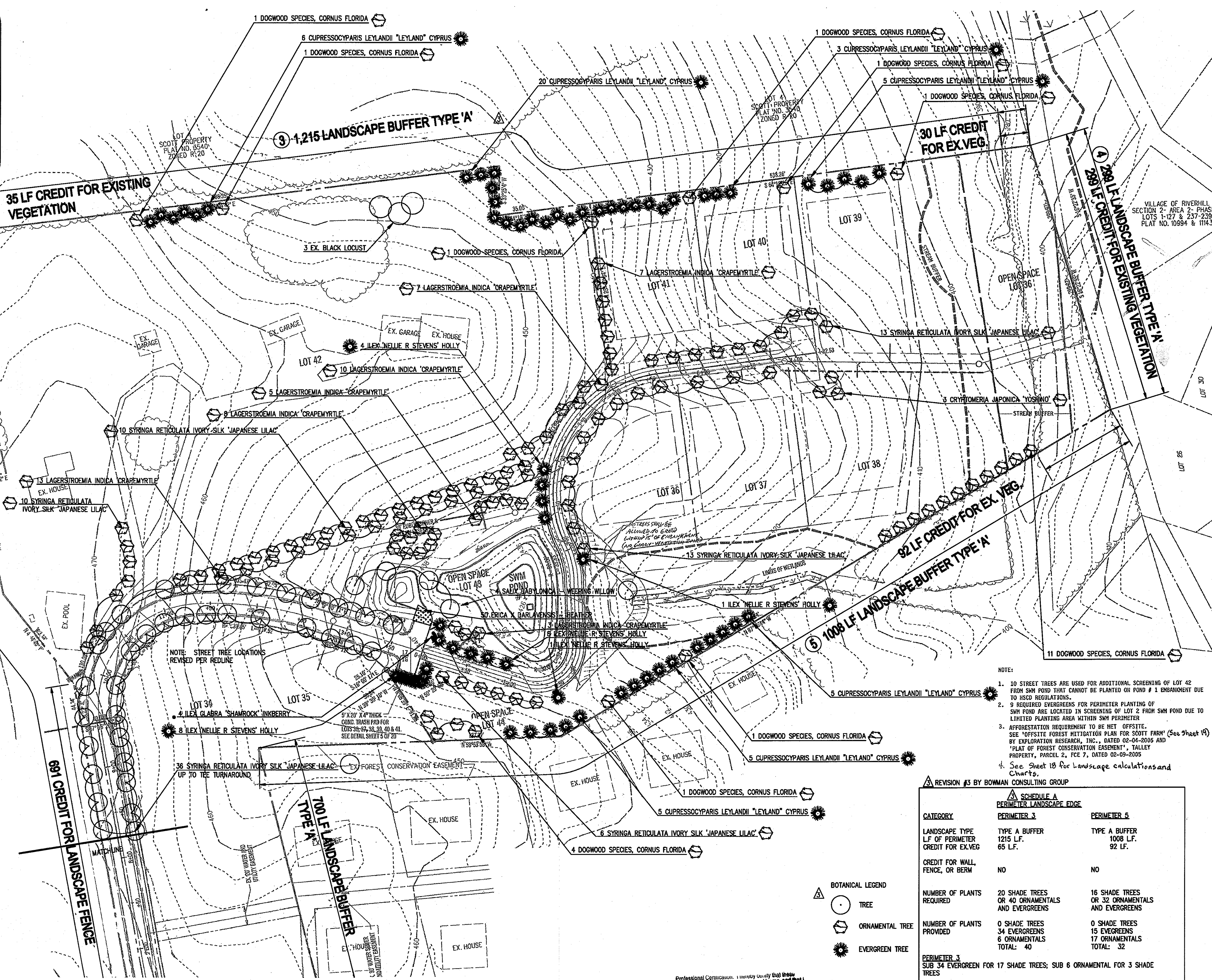
F-00-73

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

NATURAL RESOURCE CONSERVATION SERVICE — DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION, AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

HOWARD SOIL CONSERVATION DISTRICT — DATE



I/We 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 he requirements of the Howard Soil Conservation District. I have notified the developer that he/she must engage a registered professional engineer to supervise upon construction an d provide the Howard Soil Conservation District with an 'as-built' plan of the pond with in 30 days of completion.

SIGNATURE OF ENGINEER — 12-31-09 DATE

I 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 for Attendance of at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I shall engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an 'as-built' plan of the pond within 30 days of completion. I also authorize the periodic on-site inspections by Howard Soil conservation District.

SIGNATURE OF DEVELOPER — 1/5/2010 DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division — 1/26/10 DATE

Chief, Division of Land Development — 2/01/10 DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS FOR STORM DRAINAGE SYSTEMS AND ROADS

Chief, Bureau of Highways — 1-21-10 DATE

OWNERS:
SCARLET WILKINSON AND EARL OMER
6799 GUILFORD ROAD
CLARKSVILLE, MARYLAND 21029
410-531-2626 410-987-0497

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed Professional Engineer under the laws of the State of Maryland.
License No. 21875, Expiration Date: 2/12/2010

NOTE: 30 STREET TREES ON THIS SHEET

NOTE:

1. 10 STREET TREES ARE USED FOR ADDITIONAL SCREENING OF LOT 42 FROM SWM POND THAT CANNOT BE PLANTED ON POND # 1 EMBANKMENT DUE TO HSCD REGULATIONS.
2. 9 REQUIRED EVERGREENS FOR PERIMETER PLANTING OF SWM POND ARE LOCATED IN SCREENING OF LOT 2 FROM SWM POND DUE TO LIMITED PLANTING AREA WITHIN SWM PERIMETER
3. AFFORESTATION REQUIREMENT TO BE MET OFFSITE. SEE 'OFFSITE FOREST MITIGATION PLAN FOR SCOTT FARM' (See Sheet 19) BY EXPLORATION RESEARCH, INC., DATED 02-04-2005 AND 'PLAT OF FOREST CONSERVATION EASEMENT', TALLEY PROPERTY, PARCEL 2, FCE 7, DATED 02-09-2005
4. See Sheet 18 for Landscape calculations and Charts.

3 REVISION #3 BY BOWMAN CONSULTING GROUP

3 SCHEDULE A
PERIMETER LANDSCAPE EDGE

CATEGORY	PERIMETER 3	PERIMETER 5
LANDSCAPE TYPE L.F OF PERIMETER CREDIT FOR EX.VEG	TYPE A BUFFER 1215 L.F. 65 L.F.	TYPE A BUFFER 1008 L.F. 92 LF.
CREDIT FOR WALL, FENCE, OR BERM	NO	NO
NUMBER OF PLANTS REQUIRED	20 SHADE TREES OR 40 ORNAMENTALS AND EVERGREENS	16 SHADE TREES OR 32 ORNAMENTALS AND EVERGREENS
NUMBER OF PLANTS PROVIDED	0 SHADE TREES 34 EVERGREENS 6 ORNAMENTALS TOTAL: 40	0 SHADE TREES 15 EVEGREENS 17 ORNAMENTALS TOTAL: 32

PERIMETER 3
SUB 34 EVERGREEN FOR 17 SHADE TREES; SUB 6 ORNAMENTAL FOR 3 SHADE TREES

PERIMITER 4
SUB 15 EVERGREEN FOR 7.5 SHADE TREES; SUB 17 ORNAMENTAL FOR 8.5 SHADE TREES

Bowman CONSULTING

Bowman Consulting Group, Ltd.
Annapolis, Maryland 21401
Phone: (410) 224-7590
Fax: (410) 224-7592
www.bowmanconsulting.com
© Bowman Consulting Group, Ltd.

STORM WATER MANAGEMENT, STREET TREE, & LANDSCAPE PLANTING PLAN

SCOTT FARM

5TH ELECTION DISTRICT — HOWARD COUNTY, MARYLAND

STATE OF MARYLAND — PIERO VAN MELLITS — No. 21875 — REGISTERED PROFESSIONAL ENGINEER

PLAN STATUS

DATE	DESCRIPTION

SW	AM	CLW
DESIGN	DRAWN	CHKD

SCALE 1" = 50'
JOB No. 6245
DATE 12-14-2009
FILE No.

SUBSTITUTE MYLAR SHEET PURPOSE STATEMENT: THIS SUBSTITUTE SHEET SHOWS THE 'AS-BUILT' LANDSCAPE PLAN WITH ADDITIONS FOR COMPLIANCE WITH HOWARD COUNTY STANDARDS.

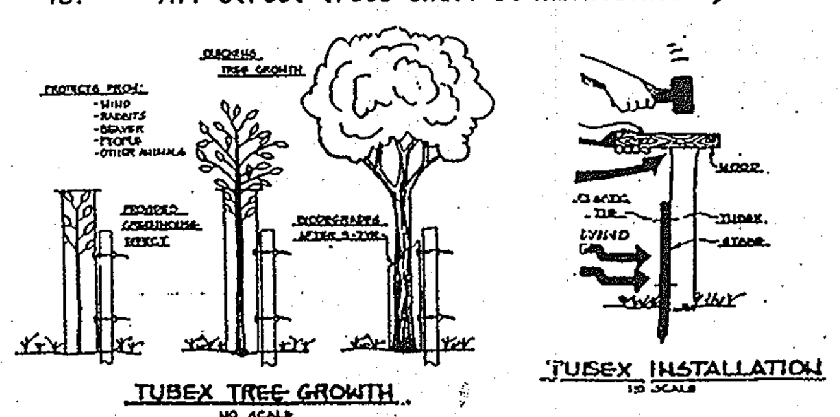
F-00-073

Cad file name : P:\6245 - Scott Farm\6245-01-001 (ENG) - Earl Omer\Engineering\0000 (ENG)\CADD Plot Files\Redline Revisions\Sheet 17 of 20.dwg

NO.	REVISION	DATE	BY
2	Removed Forest Conservation Notes, Revised Quantities & Species in Plant List & LS Schedules. Revised Surety Amt, Title Block & Sheet No.	09-09-05	KD
3	REVISE PERIMETER SUMMARY AND SWM LANDSCAPING TABLES	5-18-09	KJC

PLANTING / STREET TREE NOTES

1. Notify "Miss Utility" 72 hours prior to installation of all plant material.
2. Plant installation must conform to the minimum standards cited in the latest edition of Landscape Specification Guidelines, published by the Landscape Contractors Association.
3. Plants to be located in the field by the owner or owner's representative. Notify owner 72 hours in advance of planting.
4. A Certification of Landscape Installation is required as per the Howard County Landscape Ordinance.
5. The number, size, location of plants shall not be changed without the approval of the Landscape Architect. Substitutions must be included in the recommended plant list in the Howard County Landscape Ordinance.
6. Street tree locations may be adjusted for final location of driveways. Trees to be located a minimum of 10 feet from driveways.
7. Street trees may not be planted within 5 feet of drain inlets, 5 feet of an open space access strip and 10 feet of a driveway.
8. Street tree planting must conform to the Subdivision and Land Development Regulations and the Department of Public Works Design Manual of Howard County.
9. Balled and burlapped plant material shall not be accepted if ball is cracked or broken before or during planting. Protect all plants from drying by either sun or wind.
10. Tree pits shall be backfilled with 50% topsoil, 25% peat, 25% sand with one pound of 10-10-10 fertilizer per pit.
11. Top soil shall be sandy loam soil free from noxious weeds or grasses, roots, clay clumps, stones, sticks, etc. Peat moss shall be commercial with pi 4.5 to 5.5, free of woody material or harmful minerals.
12. All plants shall be watered at planting with weekly watering thereafter for the first 80 days. Watering shall continue bi-monthly or as necessary to maintain plants in a healthy condition during the guarantee period.
13. Maintain the site in an orderly manner. Streets and sidewalks shall be swept clean. All rejected or dead materials shall be immediately removed from the site.
14. Plant material to be alive and healthy at the time of the guarantee period (one year), as specified in the Howard County Landscape Ordinance.
15. Maintenance shall begin immediately after planting and continue to the end of guarantee period.
16. Maintenance consist of pruning, watering, weeding, re-mulching, resetting plants to proper grades as needed and repairing guys and stakes as needed.
17. There shall be a minimum of 20 feet between street lights and street trees.
18. All street trees shall be maintained by the HOA (Homeowners Association). end of guarantee period.
16. Maintenance consist of pruning, watering, weeding, re-mulching, resetting plants to proper grades as needed and repairing guys and stakes as needed.
17. There shall be a minimum of 20 feet between street lights and street trees.
18. All street trees shall be maintained by the HOA (Homeowners Associa



SCHEDULE A
PERIMETER LANDSCAPE EDGE

Category	Adjacent to Roadways	Adjacent to Perimeter Properties
Landscape Type	B	A
Linear Feet of Roadway Frontage / Perimeter	220	4,663
Credit for Existing Vegetation (Yes, No, Linear Feet) (Describe below if needed)	No	Yes 556 LF
Credit for Wall, Fence or Berm (Yes, No, Linear Feet) (Describe below if needed)	No	Yes 829 LF Fence
Number of Plants Required Shade Trees Evergreen Trees Shrubs	5 5 —	55 — —
Number of Plants Provided Shade Trees Evergreen Trees Other Trees (2:1 substitution) Shrubs (10:1 substitution) (Describe plant substitution credits below if needed)	— 15(1) — —	56 (2) — — —

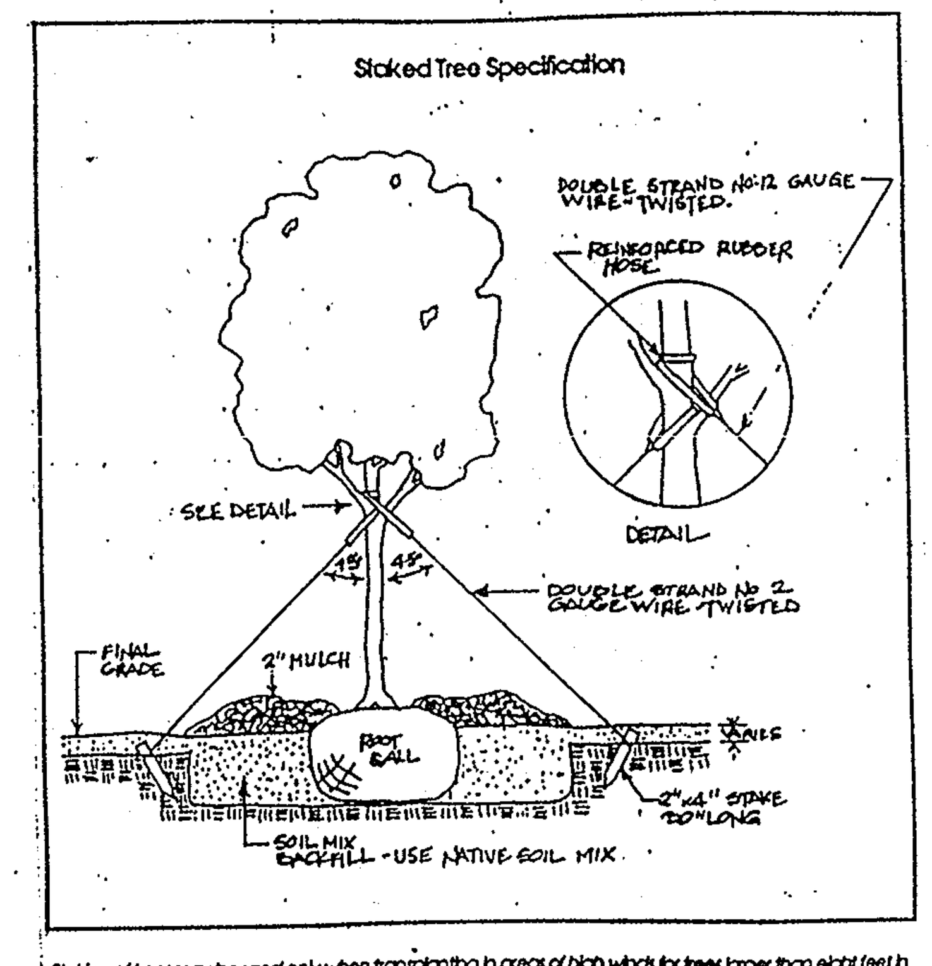
1. Substitute 10 Evergreens for 5 Shade Trees.
2. Number of Shade Trees provided based on perimeter of 3,278 L.F.

SCHEDULE D
STORMWATER MANAGEMENT AREA LANDSCAPING

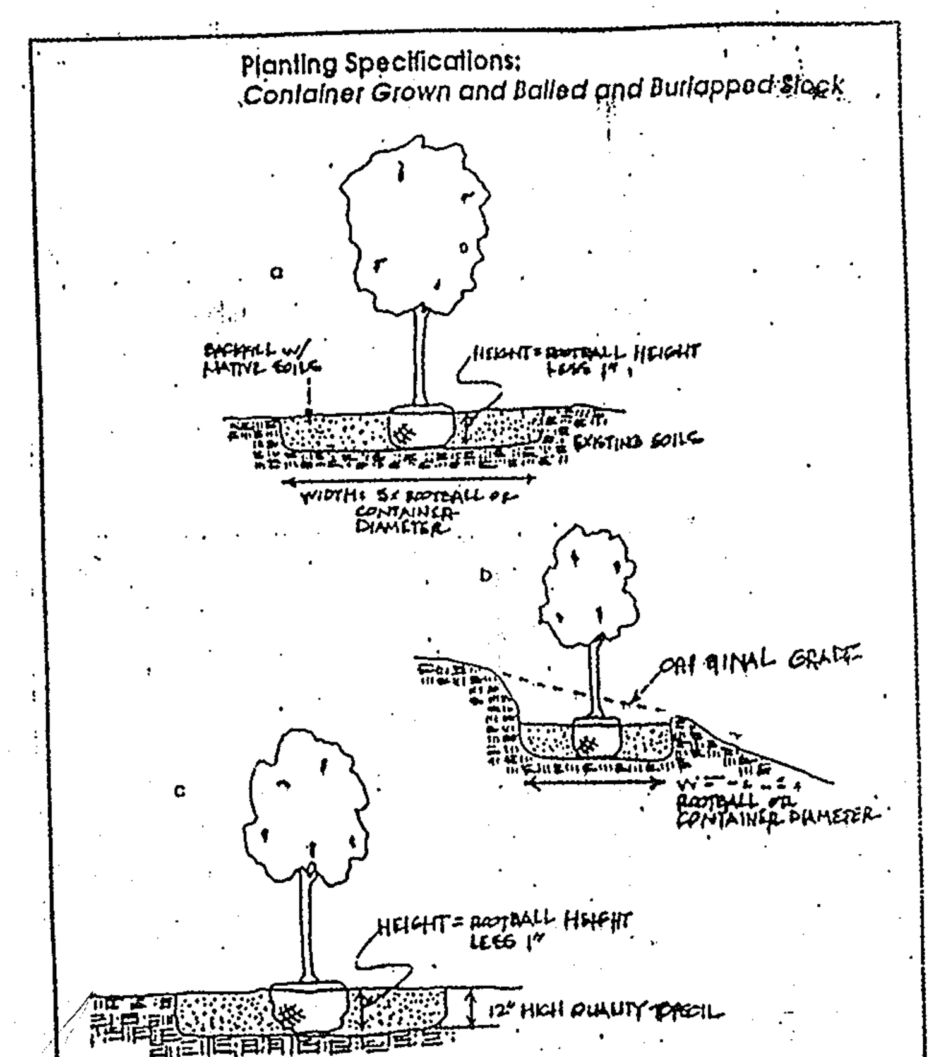
Linear Feet of Perimeter *	690 LF
Number of Trees Required (Type 'B' Buffer) Shade Trees 1 : 50 Evergreen Trees 1 : 40	14 18
Credit for Existing Vegetation (Yes, No, and %)	No
Credit for Other Landscaping (Yes, No, and %)	No
Number of Trees Provided Shade Trees Evergreen Trees Other Trees (2:1 substitution) SHRUBS	 ~~14~~ 4 ~~18~~ 10 29 54

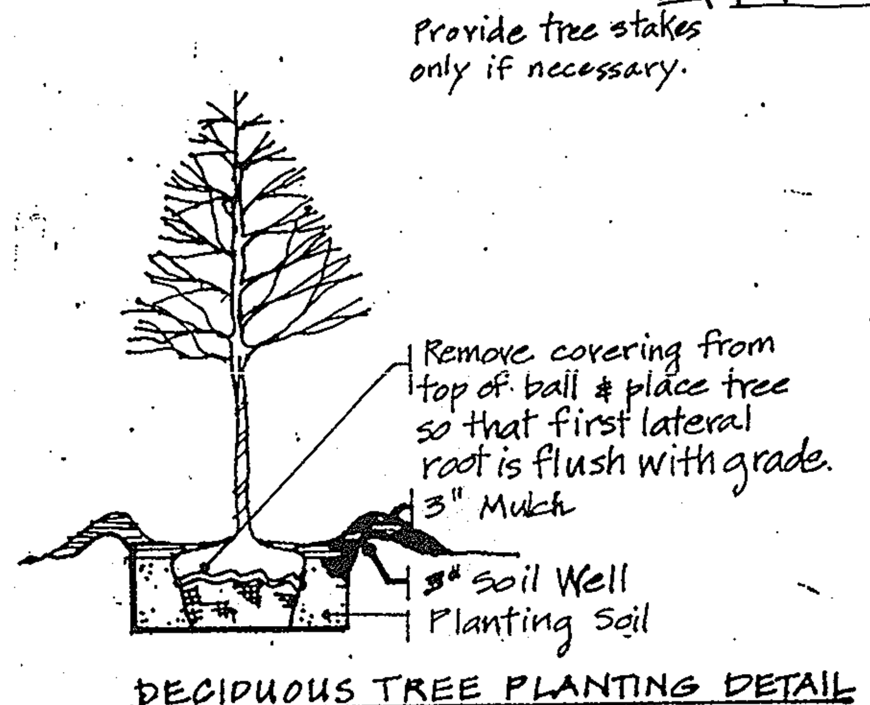
1. SUBSTITUTE 8 OTHER TREES FOR 8 EVERGREEN TREES.
2. SUBSTITUTE 14 OTHER TREES FOR 7 SHADE TREES (MAX 50%)
3. SUBSTITUTE 30 SHRUBS FOR 3 SHADE TREES (MAX 25%)

~~* Note that the perimeter around Pond #2 includes 94 LF of fence. Also note that Pond #1 includes 90 LF of embankment and Pond #2 includes 140 LF of embankment.~~ Embankment must remain free of vegetation in accordance with HSCD requirements.

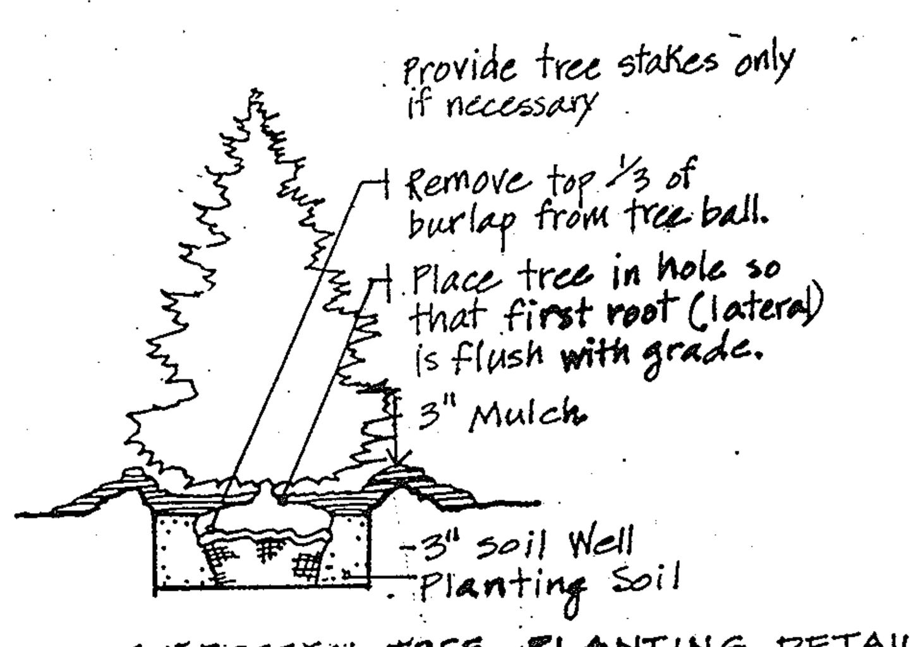


Staking of trees may be used only when transplanting in areas of high winds for trees larger than eight feet in height. Stakes and wires should be removed after the first growing season.



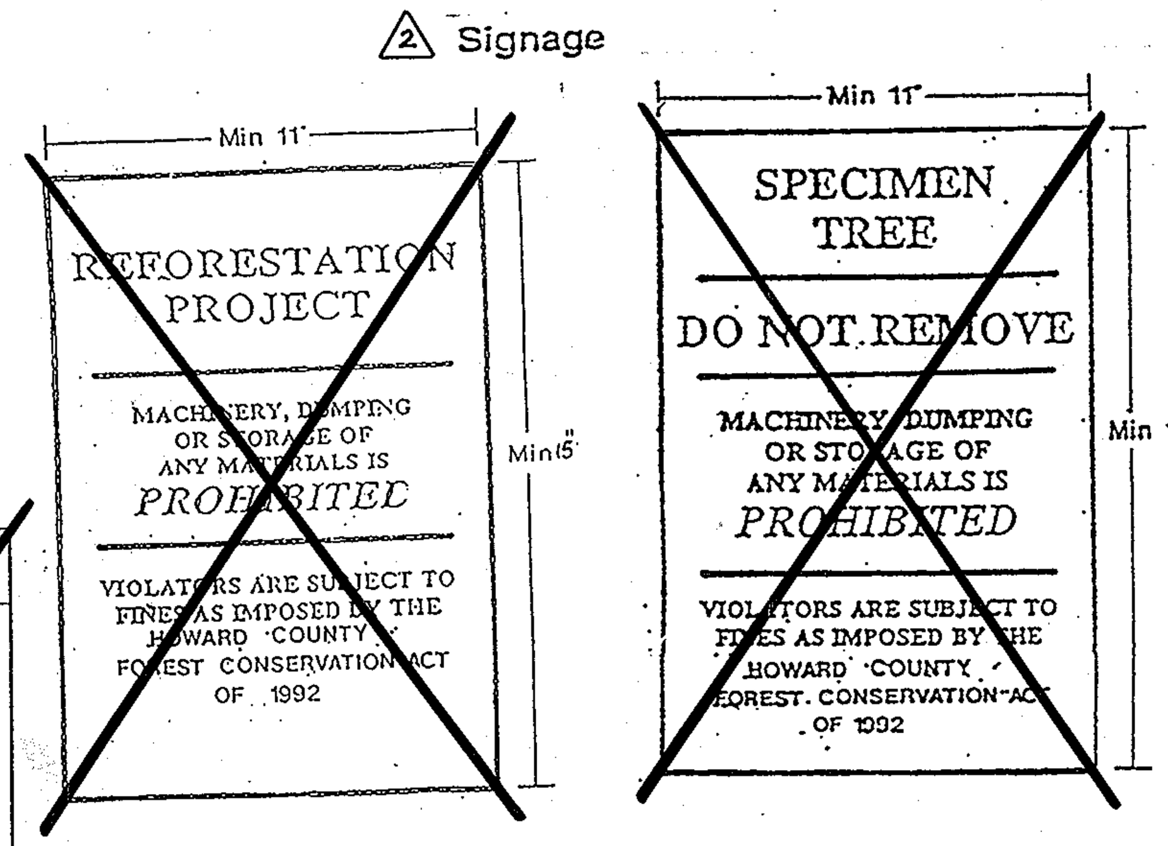


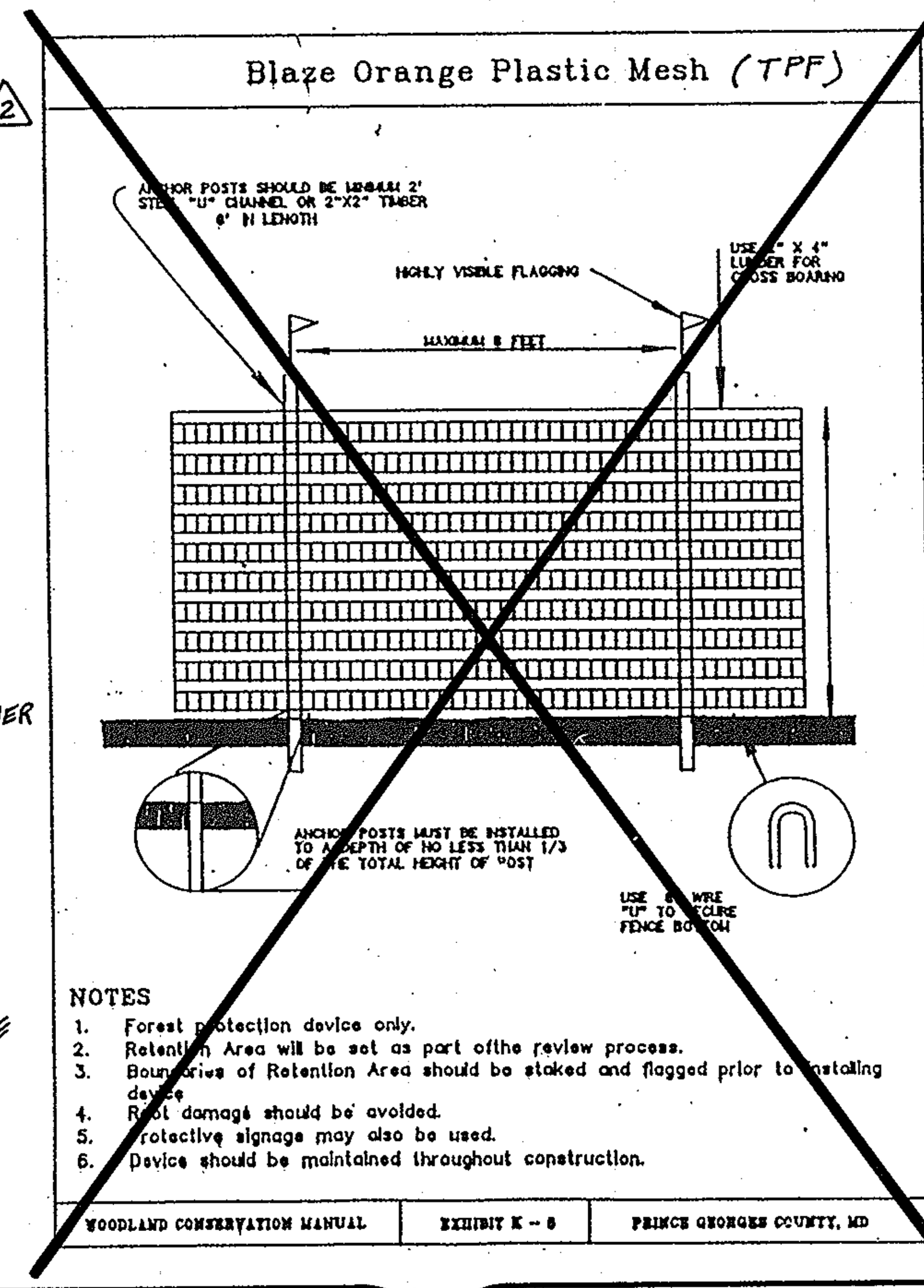
DECIDUOUS TREE PLANTING DETAIL
N.T.S.

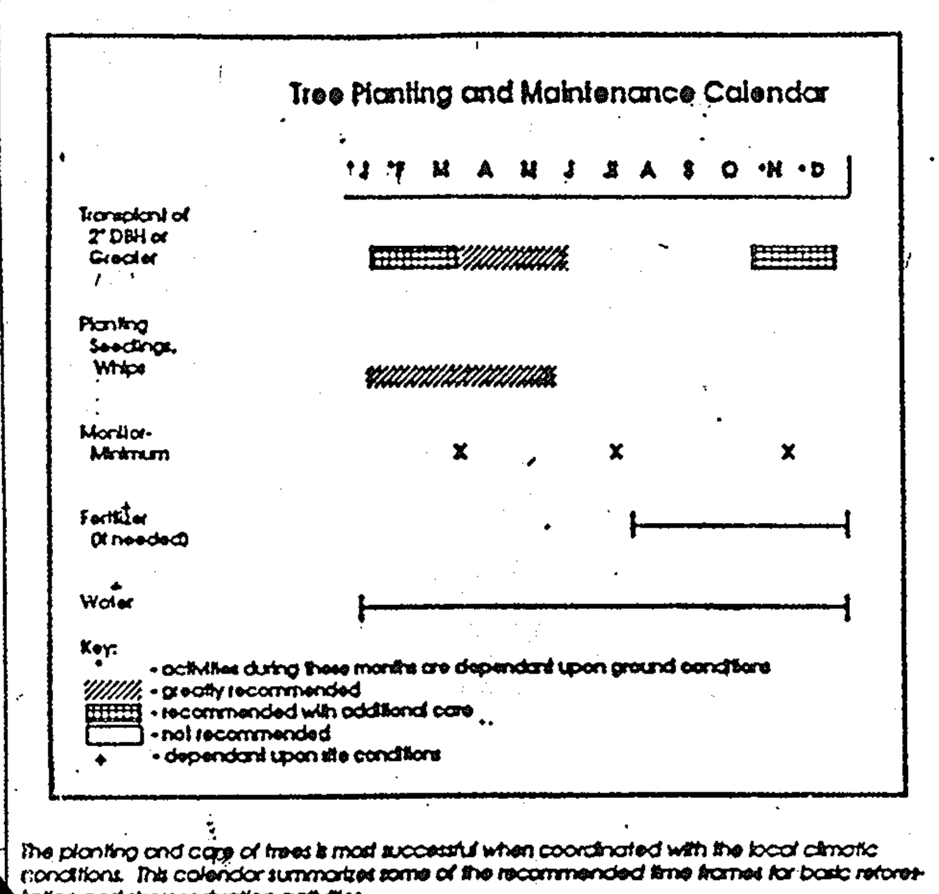


EVERGREEN TREE PLANTING DETAIL
N.T.S.

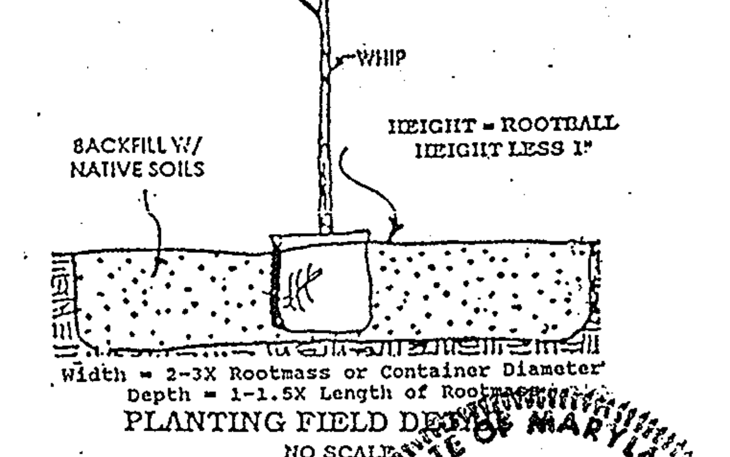
Signage







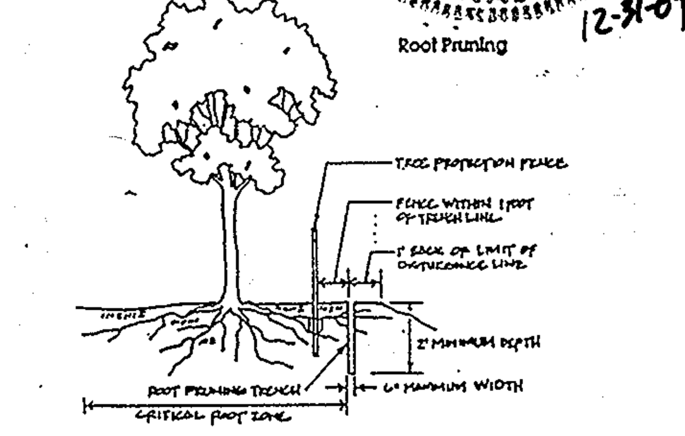
The planting and care of trees is most successful when coordinated with the local climatic conditions. This calendar summarizes some of the recommended time frames for basic reforestation and stress reduction activities.

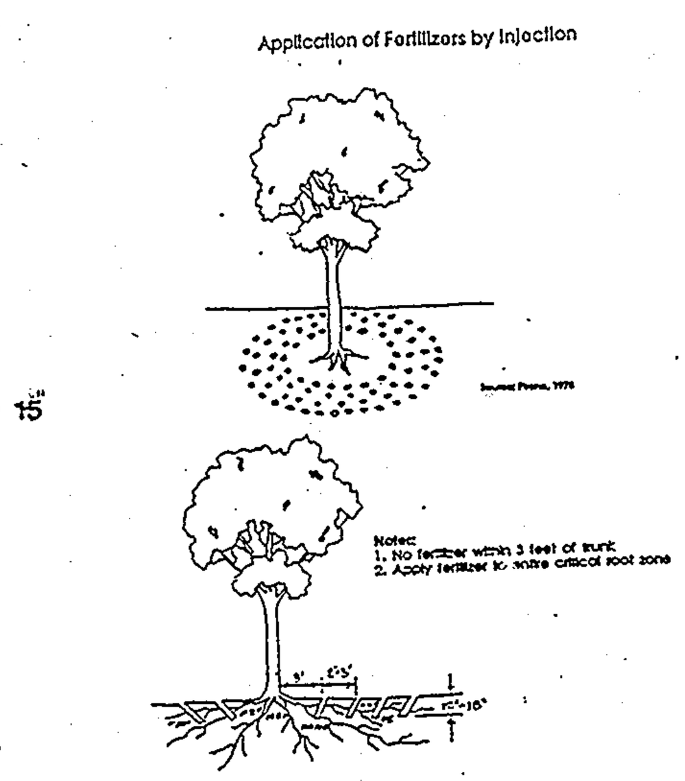


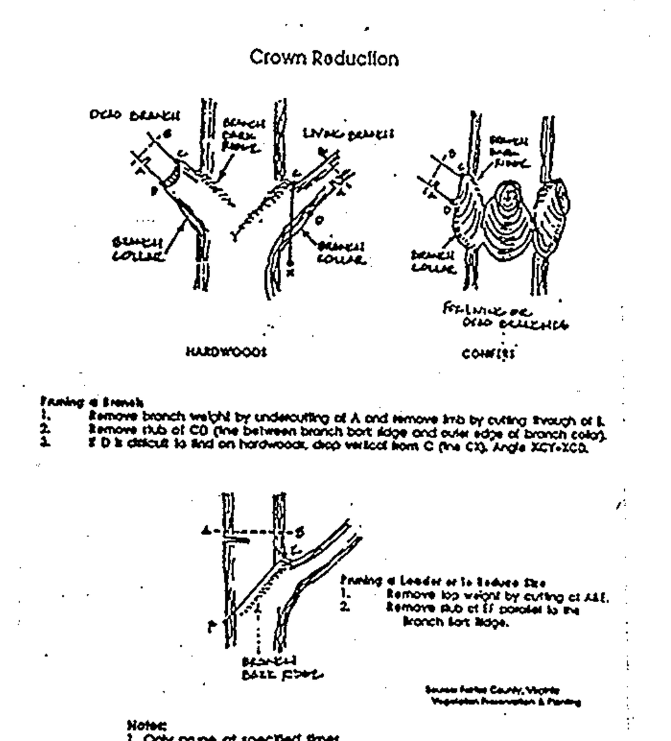
Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed Professional Engineer under the laws of the State of Maryland.

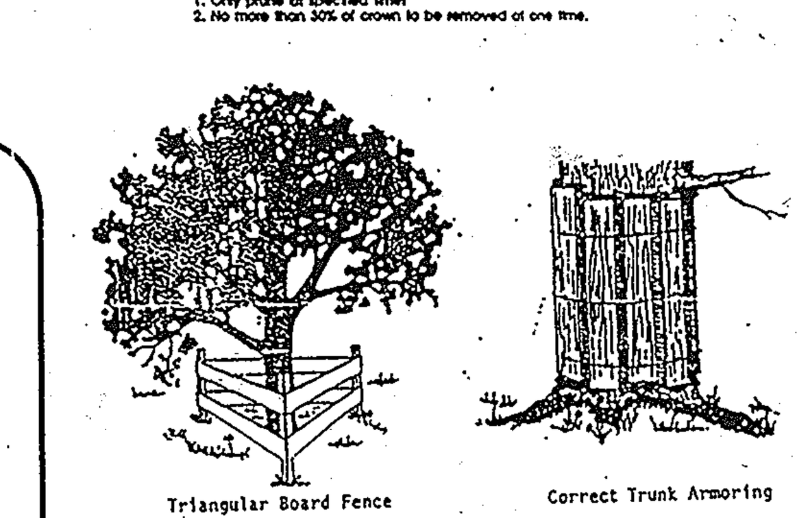
License No. 21875, Expiration Date: 2/12/2010

PIERO VAN MELLITS No. 21875 — STATE OF MARYLAND — REGISTERED PROFESSIONAL ENGINEER — 12-31-09









FOREST PROTECTION PROCEDURES addendum

Stress Reduction and Protection of Specimen Trees Isolated from Forest Retention Areas

Isolated specimen trees that are to be preserved will be examined to determine if stress reduction techniques are needed. Protective measures and their evaluation criteria are provided on this plan only if they are employed herein.

Delineation of the Critical Root Zone

Calculation of the CRZ for Isolated Specimen Trees:

1.5 feet of protective radius per inch of DBH

Radii for the respective trees found on the site are set forth in the table below.

Protection of the Critical Root Zone

Upon determining the CRZ, blaze orange protective fencing (see Figure "Protective Fencing") shall be erected one foot from the limits of the CRZ so as to completely surround the tree or trees to be protected. Per other figures provided, individual trees should be armoured/protected accordingly. No disturbance, storage, parking, or alteration of drainage of any kind shall be permitted within the CRZ Protective Area except prior allowable root pruning. Signs designating a specimen tree protective area shall be placed atop the protective fencing at a minimum interval of 25 feet (see Figure "Signage"). No signs are to be attached to the specimen tree itself.

Note: The surrounding driveway and nearby house may preclude detailed consideration of the critical root zone in this circumstance and individual tree protection provided. Other measures specified herein should be employed as appropriate. Construction and Post-construction phase measures are found elsewhere on this plan.

Root Pruning

Evaluation Criteria

Will the critical root zone be affected by construction activities such as grade changes, digging for foundations and roads or utility installation.

Design Considerations

a.) Prune prior to construction as shown on the plan (see Figure "Root Pruning Detail.")
b.) Prune root with a clean cut using proper pruning equipment such as a vibratory knife.
c.) Exact location of pruning trench should be identified, and immediately back-filled to cover exposed roots after pruning with soil removed other topsoil, peat moss, or other suitable material or with other high organic soil.
d.) For trees over 15" in diameter, root pruning may be done up to one year in advance of construction.
e.) Tree(s) will be monitored for signs of stress

Crown Reduction or Pruning

Evaluation Criteria

Has the root system been significantly reduced (>30%) or are there dead, damaged, or diseased limbs.

Design Considerations

a.) Reduce only at specified times of the year: Flowering trees - only after flowering and before bud set. Non-Flowering trees - in late winter, early spring or mid-summer.
b.) No more than 1/3 of the crown should be removed at one time using acceptable pruning methods (see Figure "Crown Reduction Detail.")
c.) Monitor for signs of stress

Watering

Evaluation Criteria

Will construction activities alter the hydrology of the site? Has or will root pruning occur.

Design Considerations

a.) Water only as necessary
b.) Monitor for signs of stress (see Figure "Tree Planting and Maintenance Calendar")

Fertilizing

Evaluation Criteria

Is or will the tree(s) be under stressful conditions? Has or will root pruning occur?

Design Considerations

a.) Use low nitrogen and slow release fertilizers.
b.) Apply in late fall or early spring (see Figure "Tree Planting and Maintenance and Calendar")
c.) For small trees (<3" in diameter), use broadcast method.
d.) For larger trees (>3" in diameter), use punch hole method or pressurized injection method (see Figure "Application of Fertilizers by Injection.")
e.) Do not apply fertilizer any closer than 3' from tree-trunk for pressurized injection method.
f.) Monitor for signs of stress.

(2) Located on Lot 42 pipestem,

Specimen tree on-site: 43" DBH Green Ash.
Critical Root Zone = 1.5 c 43" (measured in feet) = 64'

APPENDIX G
FOREST CONSERVATION WORKSHEET

		ACRES (1/10 acre)
I.	BASIC SITE DATA	
	GROSS SITE AREA	17.2
	AREA WITHIN 100 YEAR FLOODPLAIN	0.6
	AREA WITHIN AGRICULTURAL USE OR PRESERVATION PARCEL (IF APPLICABLE)	
	NET TRACT AREA	16.6
	LAND USE CATEGORY (R-RLD, R-RMD, R-S, C/I/O, I) R-S	
II.	INFORMATION FOR CALCULATIONS	
A.	NET TRACT AREA	16.6
B.	REFORESTATION THRESHOLD (20 % x A)	3.3
C.	AFFORESTATION MINIMUM (15 % x A)	2.5
D.	EXISTING FOREST ON NET TRACT AREA	0.0
E.	FOREST AREAS TO BE CLEARED	0
F.	FOREST AREAS TO BE RETAINED	0.0
V.	AFFORESTATION CALCULATIONS	
A.	NET TRACT AREA	16.6
C.	AFFORESTATION MINIMUM (15 % x A)	2.5
D.	EXISTING FOREST ON NET TRACT AREA	0.0
E.	FOREST AREAS TO BE CLEARED	0
F.	FOREST AREAS TO BE RETAINED	0.0

(2) Select the alternative that applies: *A 0.8 Acre afforestation provided off site. Remaining 1.7 acre obligation to be paid in fee.

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 — 2.5*

BREAK-EVEN (BEP) CALCULATIONS

Zone: R-S
Afforestation Threshold: 15%

Therefore:

(2) A 0.8* acre afforestation/forest conservation easement is provided.

* AFFORESTATION REQUIREMENTS ARE MET OFFSITE. SEE 'OFFSITE FOREST MITIGATION PLAN FOR SCOTT FARM, BY EXPLORATION RESEARCH, INC. DATED 02-04-2005 & 'PLAT OF FOREST CONSERVATION EASEMENT, TALLEY PROPERTY, PARCEL 2, FCE 7, DATED 02-05-2005.

DENNIS J. LaBARE, M.S., & ASSOCIATES
Environmental Consulting Services
8903 Flagstone Circle
Randallstown, MD 21133

- Wetland Delineations & Mitigation
- Stream Assessment & Restoration
- Water Quality Monitoring
- Macroinvertebrate Taxonomy
- Forest Stand Delineations
- Forest Conservation Plans

Qualified Professional, MDFCA
Ph/Fax (410) 922-7476

(2) GENERAL NOTES

1. This plan has been prepared in accordance with the provisions of Section 16.124 of the Howard County Code and Landscape Manual.
2. The Owner/Developer is responsible for the planting of all plant material required to meet the standards established by the Howard County Landscape Manual.
*3. Financial Surety for the required landscaping has been posted as part of the Department of Public Works Developer's Agreement in the amount of SEE BELOW. This amount includes 785 L.F of fence @ $10.00/L.F = $ 7,850.00.
*4. Financial Surety for the required street trees has been posted in the amount of $. * SEE REVISED SURETY REQUIREMENTS BELOW.
5. Financial Surety for the required forest conservation plantings has been posted as part of the DPW Developers Agreement in the amount of * SEE BELOW
6. Balled and burlapped plant material shall not be accepted if ball is cracked or broken before or during planting. Protect all plants from drying by either sun or wind.
7. Tree pits shall be backfilled with 50% topsoil, 25% peat, 25% sand with one pound of 10-10-10 fertilizer per pit.

* The forest conservation surety includes a fee-in-lieu for 1.7 Acres of required plantings.

1.7 Acers of fee-in-Lieu = 1.7 x 43,560 = 74,052 x 0.30 = $ 22,215.60
$17,424.00 + $ 22,215.00 = 39,639.00

(3) REVISION #3 BY BOWMAN CONSULTING GROUP
2530 RIVA ROAD, SUITE 200
ANNAPOLIS, MD 21401

REVISE PERIMETER SUMMARY AND SWM LANDSCAPING TABLES BY KJC 5-15-09

(2) STREET TREE LIST

No.	Key	Qty.	Plant Names	Size Cond.	Remarks
1	(+)	64	ACER RUBRUM (Red Maple - 'October Glory')	2½"-3" Cal.	B&B
2	(◎)	29	ACER RUBRUM (Red Maple - 'Autumn Sunset')	2½"-3" Cal.	B&B

LANDSCAPED EDGE / STORMWATER EDGE TABLE

No.	Key	Qty.	Plant Names	Size Cond.	Remarks
1	(⊕)	20	QUERCUS COCCINEA 'Scarlet Oak'	2½"-3" Cal.	B&B
2	(⊘)	10	LIQUIDAMBAR STYRACIFLUA 'American Sweetgum'	2½"-3" Cal.	B&B
3	(•)	20	AESCULUS HIPPOCASTANUM 'Baumann' - Baumann Horsechestnut	2½"-3" Cal.	B&B
4	(□)	18	Liriodendron tulipifera Tulip Poplar	2½"-3" Cal.	B&B
5	(✲)	33	PINUS STROBUS 'White Pine'	5'-6' Ht.	B&B
6	IG ○	17	Ilex glabra 'Shamrock' 'Shamrock Inkberry	4' O.C. 24"-30" Ht.	Cont.

(2) PROPERTY PERIMETER SUMMARY (3)

No.	Buffer Type	Linear Feet / Buffer Type	Required Plants	Provided Plants	Comments
1	'B'	145 LF	3 Shade 4 Evergreen	— 10 Evergreen	(1)
2	'B' 'A'	75 LF 1342 LF	2 Shade/2 Evergreen 21 ~~22~~ Shade	6 Evergreen 21 ~~X~~ Shade	(2) (3)
~~3~~	~~'A'~~	~~1,215 LF~~	~~21 Shade~~	~~19 Shade~~	~~(4)~~
4	'A'	299 LF	5 Shade	EX. VEGETATION	(5)
~~5~~	~~'A'~~	~~1008 LF~~	~~17 Shade~~	~~16 Shade~~	~~(6)~~
6	'A'	799 LF	13 Shade	~~13 Shade~~ 1 SHADE 55 EVERGREEN	—
Tot.		A 4,663 LF / B 220 LF	80 ~~83~~ Shade 6 Evergreen	22 ~~56~~ Shade 20 ~~16~~ Evergreen 17 ORNAMENTAL	

(3) SEE SHEET 17 OF 20
(3) SEE SHEET 17 OF 20

(2)
(1) Substitute 6 ~~4~~ Evergreen For 3 ~~2~~ Shade.
(2) Substitute 4 Evergreen for 2 Shade.
(3) (3) Credit for ~~820 LF of fence and~~ 100 LF of ex. vegetation ~~(15 Shade)~~.
(4) Credit for 65 LF of ex. vegetation (1 Shade).
(5) Credit for 299 LF of ex. vegetation (5 Shade).
(6) Credit for 92 LF of ex. vegetation (2 Shade).

TREE COUNT & USE	STREET	SWM	BUFFER
SHADE	92	14	50
EVERGREEN	—	18	20
SUBTOTAL	92	32	70
TOTAL NO. OF TREES PROVIDED = 194			

*For F.C. Surety See SHEETS 1 OF 20 & 20 of 20.

REVISED LANDSCAPE SURETY REQUIREMENT
STREET TREES = 92 X $200.00 per = $18,400.00
LANDSCAPE TREES = 102 X $100.00 per = $10,200.00
LANDSCAPE SHRUBS = 17 X $30.00 per = $ 510.00
LANDSCAPE FENCE = 785 L.F. X $10.00 per = $7,850.00
TOTAL SURETY = $36,960.00

(2) SWM PERIMETER SUMMARY

No.	Buffer Type	Linear Feet / Buffer Type	Required Plants	Provided Plants	Comments
7	'B' Pond #1	690 LF	14 Shade 18 Evergreen	14 Shade 18 Evergreen	—
8					—
Tot.		690 LF	14 Shade 18 Evergreen	14 Shade 18 Evergreen	

STATE OF MARYLAND — GREGORY ... No. 11432 — REGISTERED PROFESSIONAL ENGINEER

REVISION NO. 1 BY CENTURY ENGINEERING
32 WEST ROAD
TOWSON, MD. 21204
410-823-8070
THIS SEAL FOR REVISION # 1 & 2

BY	NO	REVISION	DATE
CET	1	REVISED QUANTITIES	5-15-01

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 6/26/00

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 7/12/00

APPROVED: DEPARTMENT OF PUBLIC WORKS FOR STORM DRAINAGE SYSTEMS AND ROADS.

CHIEF, BUREAU OF HIGHWAYS — DATE 5-26-00

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

NATURAL RESOURCE CONSERVATION SERVICE — DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION, AND SEDIMENT CONTROL, MEET THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

HOWARD SOIL CONSERVATION DISTRICT — DATE

ENGINEER'S CERTIFICATE

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 an "as-built" plan of the pond within 30 days of completion.

SIGNATURE OF ENGINEER — DATE 5/9/00

DEVELOPER'S CERTIFICATE

I/We certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I shall engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by Howard Soil Conservation District.

SIGNATURE OF DEVELOPER — DATE 11-11-99

STATE OF MARYLAND — BRUCE DAVID ... No. 19184 — REGISTERED PROFESSIONAL ENGINEER — 5/9/00

/users/land/CONROY/QUAIL/FINALS/lsdetails.S70

LDE, INC.
9250 Rumsey Road, Suite 106, Columbia, MD. 21045
(410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

DESIGNED S.D.H.	FOREST CONSERVATION, STREET TREE AND LANDSCAPE PLANTING NOTES AND DETAILS.	SCALE As Shown
DRAWN CADD	(2) **Scott Farm** Lots 29 to 42 and Open Space Lots 27, 28, 43 & 44 ~~A Resubdivision of Lots 5 & 10 "Wilkinson Acres"~~ Tax Map No. 35 - P/O Parcel 354	DRAWING (2) 18 of 20
CHECKED B.D.B.	5th Election District - Howard County, Maryland Previous Submittals: F76-104, F84-144, F87-162, S97-23, BA91-24E, S95-10, EP98-29, P96-13 & SP99-04	JOB NO. 98009
DATE 11/99	Owner/Developer Scarlet Wilkinson & Earl Omer 6799 Guilford Road Clarksville, Maryland 21029 (410) 531-2626 or (410) 987-0497	FILE NO. F-00-73

F-00-73

SOILS LEGEND

SYMBOL	NAME / DESCRIPTION	SOIL GROUP
ChB2	Chester silt loam, 3 to 8 percent slopes, moderately eroded	B
Co	Codorus silt loam	C
CuB	Comus silt loam, local alluvium, 3 to 8 percent slopes	B
GlB2	Glenelg loam, 3 to 8 percent slopes, moderately eroded	B
GlC2	Glenelg loam, 8 to 15 percent slopes, moderately eroded	B
GlC3	Glenelg loam, 8 to 15 percent slopes, severely eroded	B
GlD2	Glenelg loam, 15 to 25 percent slopes, moderately eroded	B
GlD3	Glenelg loam, 15 to 25 percent slopes, severely eroded	B
GnA	Glenville silt loam, 0 to 3 percent slopes	C
GnB2	Glenville silt loam, 3 to 8 percent slopes, moderately eroded	C
Ha	Hatboro silt loam	D
MIB2	Manor loam, 3 to 8 percent slopes, moderately eroded	B
MIC2	Manor loam, 8 to 15 percent slopes, moderately eroded	B
MIC3	Manor loam, 8 to 15 percent slopes, severely eroded	B
MID2	Manor loam, 15 to 25 percent slopes, moderately eroded	B
MID3	Manor loam, 15 to 25 percent slopes, severely eroded	B
MtE	Mt. Airy channery loam, 25 to 45 percent slopes	A

LEGEND

Forest Easement Signage	Proposed / Existing
Forest Conservation Easement	
Existing Forest Conservation Easement	
Steep Slopes 15-24.9%	
Steep Slopes >25%	
Existing Contour 5	
Existing Contour 25	375
Property Boundary Line	
Soils Division Line	
Forest Stand Type Boundary	
Existing Stream	
Stream Buffer	SB
Wetlands	W
Wetlands Buffer	WB

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/18/05

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/27/05

* Surety in the amount of $17,424.00 shall be posted as part of the Developer's Agreement for 0.80 ac/34,848 sq. ft. of Reforestation (off-site). A fee-in-lieu for the remaining obligation of 1.7 Ac of plantings shall be paid under F00-73.

This property is encumbered with a Ho. Co. Agricultural Land Preservation Easement which is held by the Ho. Co. Agricultural Land Preservation Program, under HO-03-01-PPSD.

STATE OF MARYLAND — STEPHEN L. HUBER — No. 383 — REGISTERED PROFESSIONAL FORESTER

OWNER
Talley Family LLP
1525 Daisy Road
Woodbine, MD 21797
410-442-2300

FSH Associates
Engineers Planners Surveyors
8318 Forrest Street Ellicott City, MD 21043
Tel:410-750-2251 Fax: 410-750-7350
E-mail: FSHAssociates@cs.com

OFFSITE FOREST MITIGATION PLAN
(Easement 7)
for SCOTT FARM

LOTS 36-44 for FCE obligations from LOTS 1-24, F-00-73 revisions, on Talley Property Parcel '2'
RE-03-02 DS2, P.N. 15816, F-04-054 FC, P.N. 17192, F-05-94

TAX MAP 8 GRID 13 — PARCEL 392
4TH ELECTION DISTRICT — HOWARD COUNTY, MARYLAND

EXPLORATION RESEARCH, INC.
ENVIRONMENTAL CONSULTANTS
LANDSCAPE ARCHITECTS
8318 FORREST STREET
ELLICOTT CITY, MARYLAND 21043
TEL: (410) 750-1150 FAX: (410) 750-7350
EMAIL: EXPLORATIONRES@CS.COM

DESIGN BY:	RAB
DRAWN BY:	RAB
CHECKED BY:	SLH
SCALE:	1"=100'
DATE:	Sept. 14, 2005
W.O. No.:	3082
SHEET No.:	19 OF 20

M:\Talley Property 3082\dwg\Forest bank ...\3082_S1_scott.dwg, 9/14/2005 3:20:07 PM, andyb

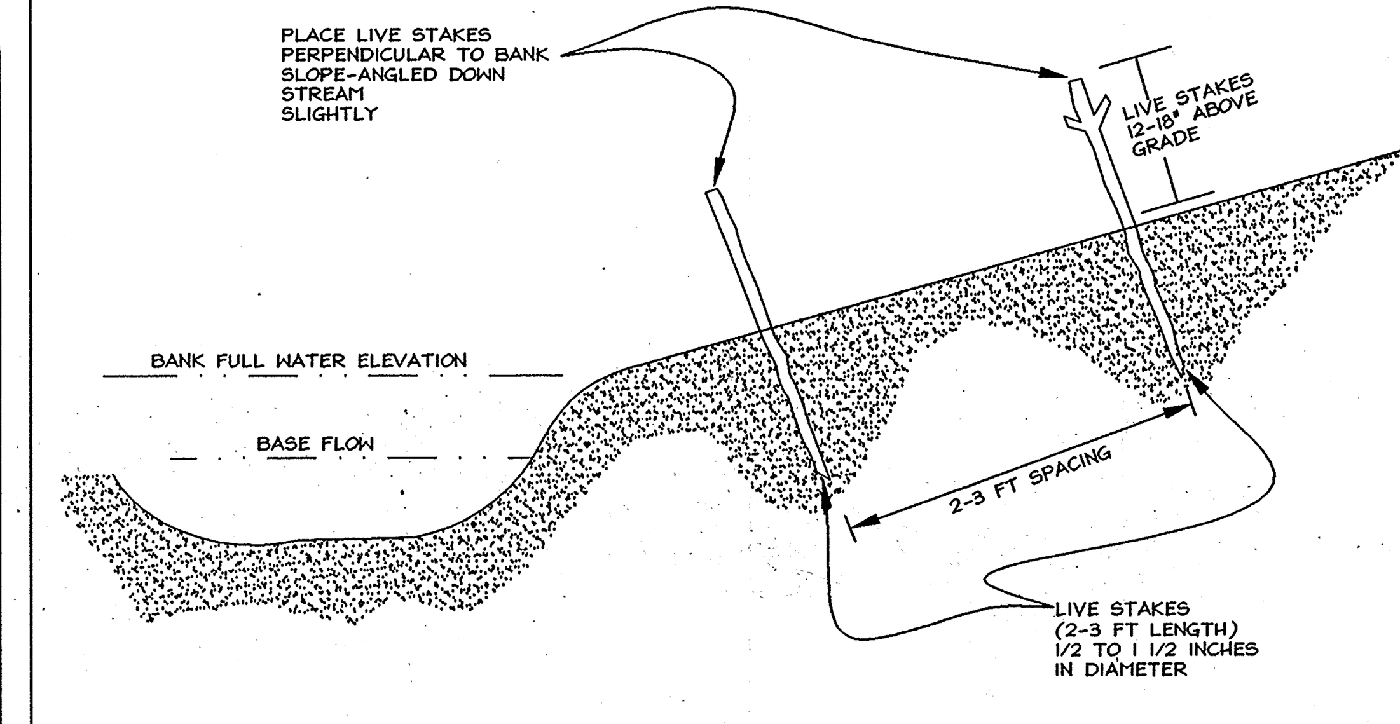
F-00-73

FOREST STAND ANALYSIS TABLE

KEY	TYPE OF COMMUNITY	AREA Acres	SOIL INFORMATION: SOIL TYPE	TYPICAL FOREST COVER	WOODLAND SUITABILITY INDEX	HABITAT VALUE	EXISTING VEGETATION (Type and approx. %)	STAND CHARACTERISTICS: SIZE AVG. DIAM	AGE	GENERAL CONDITIONS	FOREST AREA IN SENSITIVE ENVIRONMENTS
F-1	Upland Hardwoods	4.59	MID2 MIB2 GIB2	Mixed upland Hardwood	65-74 65-74 75-84	fair fair good	Black oak 60% White oak 20% Mockernut Hickory 20%	12-18 10-16 6-12	48-72 50-80 36-72	Poor Heavy understory grazing	1.2 Ac. Steep slopes 15-25%
OF-1	Open Field	41.01	Co Ha GnB2 GID3 GID2 MIC3 MID3 ChB2	Mixed water Tolerant Hardwoods Mixed upland Hardwood	75-84 95+ 65-74 75-84 75-84 65-74 65-74 65-74	good good good good good fair fair fair	N/A	N/A	N/A	N/A	N/A
C-1	Crop Field	27.16	GnA GIB2 GIC2 MIC3 MIC2 MIB2	Mixed water Tolerant Hardwoods Mixed upland Hardwood	65-74 75-84 75-84 65-74 65-74 65-74	good good good fair fair fair	N/A	N/A	N/A	N/A	N/A
C-2	Crop Field	32.21	Co CuB GnA GIB2 GIC3 GID3 MIB2 MIC2	Mixed water Tolerant Hardwoods Mixed upland Hardwood	75-84 75-84 65-74 75-84 75-84 75-84 65-74 65-74	good good good good good good fair fair	N/A	N/A	N/A	N/A	N/A
L-1	Lawn (Farm Stead)	2.86	GIB2	Mixed upland Hardwood	65-74	fair	N/A	N/A	N/A	N/A	N/A
L-2	Lawn	1.62	MIB2	Mixed upland Hardwood	65-74	fair	N/A	N/A	N/A	N/A	N/A

Forest Stand Narrative

F-1 This forest stand is 4.59 Ac, in size and contains steep slopes. The canopy is dominated by black oak, *Quercus velutina*, white oak, *Quercus alba* and mockernut hickory, *Carya tornentosa*. The area is currently grazed and the understory is sparse.
L-1: This 2.86 Ac. area surrounds an existing house and various farm out buildings. The area contains lawn, and ornamental tree plantings. No environmentally sensitive areas are covered by L-1.
L-2: This 1.62 Ac. area surrounds an existing house located on the south west corner of the property. The are contains lawn and various ornamental plantings. The area contains no environmentally sensitive areas.
C-1: This 27.16 Ac. crop area is currently in active crop land production. There are no environmentally sensitive areas.
C-2. This 32.21 Ac, crop area is currently in active crop production. The area contains environmentally sensitive areas including streams and associated buffers.
OF-1: This 41.01 Ac. open field area contains grazing pastures and open field. The area contains wetlands, streams and associated buffers.

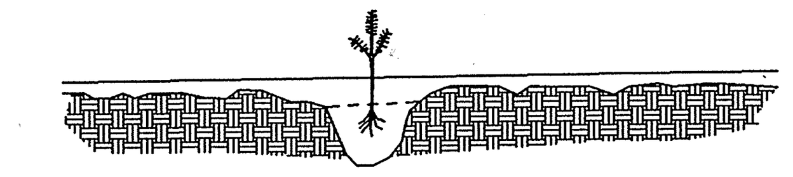


TYPICAL LIVE STAKE PLANTING DETAIL
CROSS-SECTION VIEW (NOT TO SCALE)

SPECIFICATIONS FOR LIVE STAKING

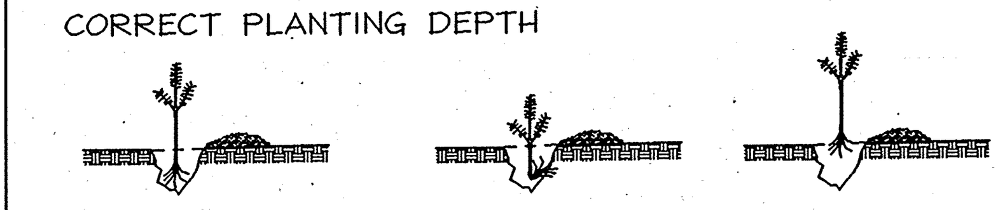
1. All cuttings shall be freshly cut from live woody plants of the species indicated, such as willow, alder, and shrub dogwood, during the dormant season.
2. Basal end of stake should be cut on an angle with the top cut square.
3. Prepare cuttings from dormant .5 in. to 2 in. diameter stock cut in 18in. to 3 feet long stakes.
4. Keep cuttings moist at all times.
5. Install stakes with deadblow hammer, angled downstream, on 3.0 ft. centers.
6. Replace. live stakes that split or become mushroomed.
7. Install stakes with buds pointing upwards.

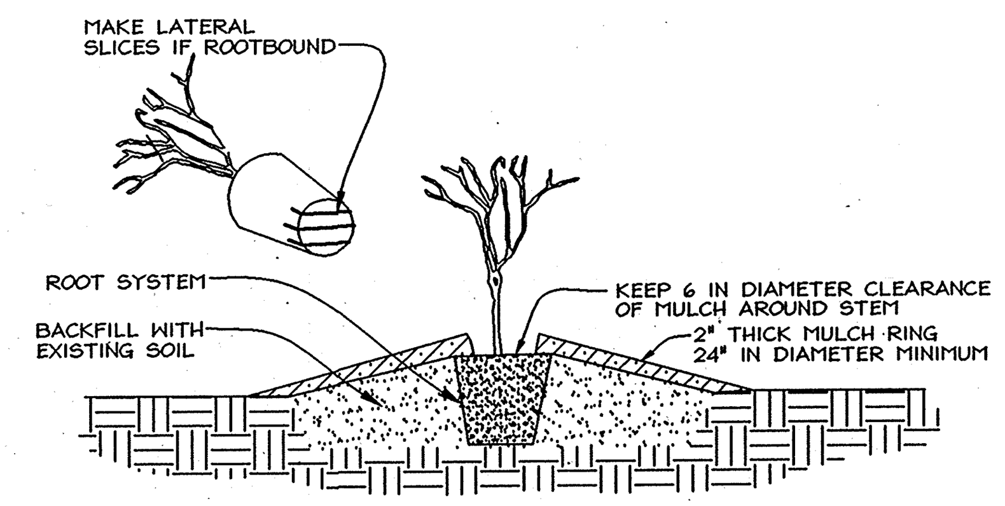
SEEDLING AND WHIP PLANTING



NOTE: MULCHING NEWLY PLANTED SEEDLINGS HELPS THE SOIL RETAIN MOISTURE AND THE SEEDLING FROM COMPACTION AND STEM INJURIES.

CORRECT PLANTING DEPTH





CONTAINER PLANTING
NOT TO SCALE

PLANTING PROCEDURE FOR CONTAINER GROWN PLANTS

1. REMOVE THE PLANT EITHER BY CUTTING OR INVERTING THE CONTAINER
2. USE A KNIFE TO CUT THROUGH BOTTOM HALF OF THE ROOT BALL.
3. PLANT SHRUBS ON FORMED UP MOUNDS 4" ABOVE THE EXISTING GRADE WHEN HIGH WATER TABLE CONDITIONS EXIST, OTHERWISE PLANT FLUSH WITH EXISTING GRADE.
4. PLANTING HOLE TO BE 2-3 TIMES THE DIAMETER OF THE CONTIANER.
5. INSERT FERTILIZER TABLET, BACKFILL 2/3 OF THE ROOT BALL AND WATER.
6. AFTER WATER PERCOLATES, BACKFILL HOLE TO TOP OF ROOT BALL AND GENTLY TAMP SOIL TO FIRM CONTACT WITH PLANT.
7. APPLY MULCH RING AROUND PLANT KEEPING A 6 IN CLEARANCE FROM STEM.

Reforestation and Afforestation Area Protection Signage

Min. 11"

Forest Conservation Area

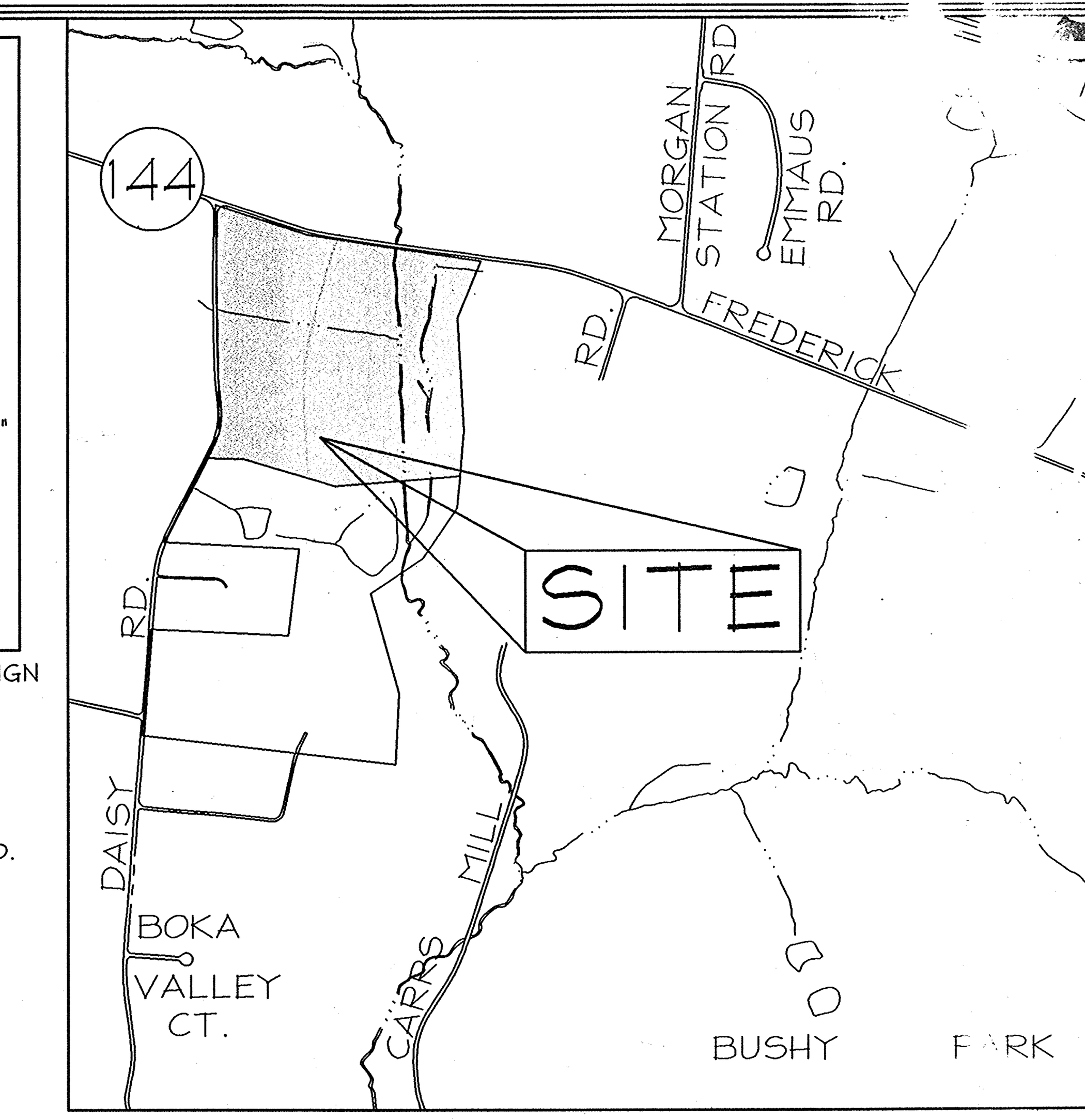
REFORESTATION PROJECT

Trees for Your Future

Min 15"

SIGN DETAIL: PERMANENT SIGN

SIGNAGE NOTE: ALL TREE PROTECTION SIGNS SHALL BE PLACED ON METAL "T" POSTS OR PRESSURE TREATED WOOD POLES. NO ATTACHMENT OF SIGNS TO TREES IS PERMITTED.



VICINITY MAP
SCALE:1=1000'

Easement 7: PLANTING AREA: 0.80 Ac.

Qty	Botanical Name	Common Name	Size	Credit/Plant	Total Credit
15	Acer rubrum	Red Maple	1" cal.	217.8	3267
20	Acer rubrum	Red Maple	2-3' ht.	125.0	2500
10	Amalanchier canadensis	Serviceberry	1" cal.	217.8	2178
16	Amalanchier canadensis	Serviceberry	2-3' ht.	125.0	2000
10	Betula nigra	River Birch	1" cal.	217.8	2178
20	Betula nigra	River Birch	2-3' ht.	125.0	2500
10	Carpinus caroliniana	Hornbeam	1" cal.	217.8	2178
15	Carpinus caroliniana	Hornbeam	2-3' ht.	125.0	1875
5	Cercis canadensis	Redbud	1" cal.	217.8	1089
10	Cercis canadensis	Redbud	2-3' ht.	125.0	1250
15	Liquidambar styraciflua	Sweetgum	1" cal.	217.8	3267
20	Liquidambar styraciflua	Sweetgum	2-3' ht.	125.0	2500
10	Nyssa sylvatica	Black Gum	1" cal.	217.8	2178
15	Nyssa sylvatica	Black Gum	2-3' ht.	125.0	1875
10	Platanus occidentalis	Sycamore	1" cal.	217.8	2178
15	Platanus occidentalis	Sycamore	2-3' ht.	125.0	1875

216 Total Plantings 34,888 s.f. = 0.80 Ac.

Native Seed Mix

Percentage	Botanical Name	Common Name
25%	Agrostis alba	Redtop
25%	Carex vulpinoides	Fox Sedge
25%	Alopecurus pratensis	Meadow Fox Tail
20%	Andropogon scoparius	Little Bluestem
5%	Chrysanthemum leucan themum	Ox Eye Daisy

Planting Areas Description

The proposed planting area is 0.80 Ac. are proposed entirely within stream and wetland buffer areas on OF-1, per ALPP criteria. The current land use is pasture land, making it an ideal area to plant and provide a forested stream buffer.

Planting will utilize a variety of sizes and species as shown in the proposed planting schedule. The larger stock will be placed farther upland. All container grown stock will utilize tree shelters. The entire area will be stabilized with the described seed mix cover crop. The planting as specified will more than satisfy the required acreage.

Plant Selection and Density Spacing Requirements.

Planting Material Size and Density Planting:
Planting size and density shall be varied with a combination of planting stock. Planting quantity and spacing are based on square footage credit, which varies by material size. A total of 43,560 sq. ft. of planting credit must be fulfilled for each acre planted. This credit can be fulfilled with any combination of material size in accordance with the following chart.

Plant Material Size Table.

Material Size	Spacing	TPA	Sq. Ft. Credit per Plant	Comments
2" caliper trees	20' x 20'	100	435.6	B & B
1" caliper trees	15' x 15'	200	217.8	B & B
seedlings or whips	11' x 11'	350	125	Container 1-3 gal w/tree shelters
seedlings or shrubs	8' x 8'	700	62	Bare root

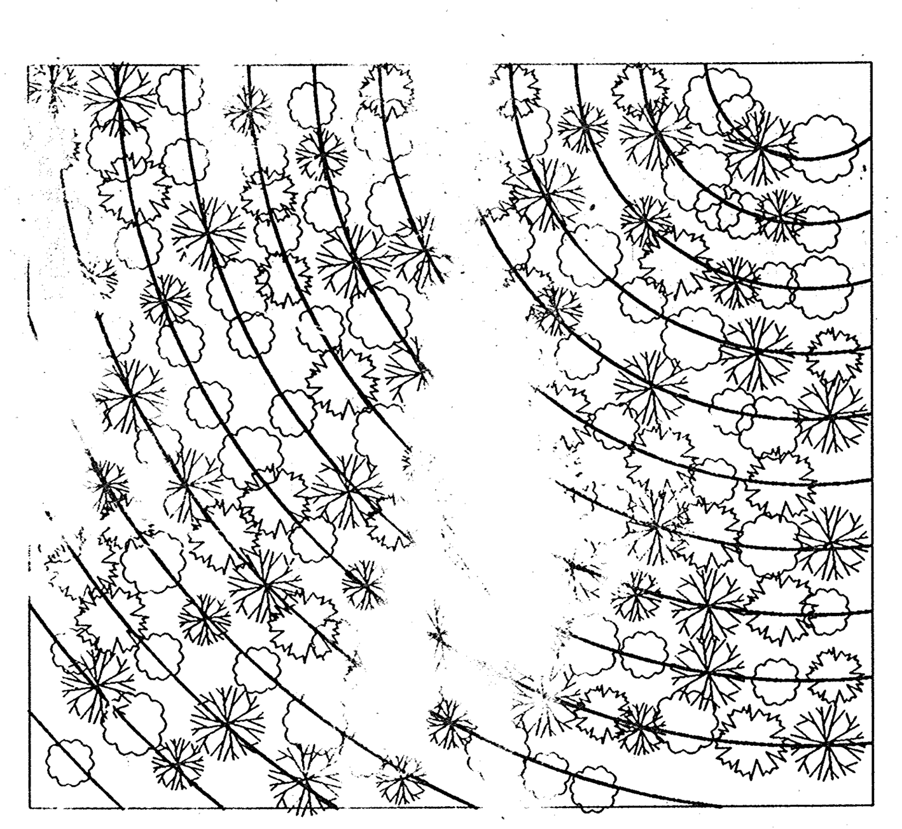
Reforestation Area Planting Notes

1. Initial planting inspection and certification required. Planting contractor to notify ERI qualified professional 24 hours in advance of planting.
2. Reforestation areas may be planted as soon as reasonable to do so. Late winter- early spring plantings are preferred. Earliest planting dates will vary from year to year but planting may generally begin as soon as the ground is no longer frozen. Alternate planting dates may be considered as conditions warrants.
3. Soil amendments and fertilization recommendations will be made based upon the results of soil analysis for nitrogen, phosphorus, potassium, organic matter content and pH. If required, fertilizer will be provided using a slow release, soluble 16-8-16 analysis designed to last 5-8 years contained in polyethylene perforated bags such as manufactured by ADCO Works, P.O. Box 310 Hollins, N.Y. 11423 or approved equal.
4. Plant materials shall be planted in accordance with the planting diagram, planting details and planting schedule.
5. Plant stock must be protected from desiccation at all times prior to planting. Materials held for planting shall be moistened and placed in cool shaded areas until ready for placement.
6. Planting materials shall be nursery grown and inspected prior to plan[illegible] Plants not conforming to the American Standards for Nursery Stock specifications for size, form, vigor, or roots, or due to trunk wounds breakage, desiccation, insect or disease must be replaced.
7. Newly planted trees may require watering at least once per week d[illegible] the first growing season depending on rainfall in order to get establis[illegible] The initial planting operation should allow for watering during installat[illegible] to completely soak backfill materials.
8. Mulch shall be applied in accordance with the diagram provided and shall consist of composted, shredded hardwood bark mulch, free of wood alcohol.
9. Planting holes should be excavated to a minimum diameter of 2.5 to times the diameter of the root ball or container. Mechanical augur[illegible] preferred with scarification of the sides of each hole.
10. All nursery stock may be sprayed with deer repellent containing Bitr[illegible] such as Repellex(TM). All nursery stock to be grown with de[illegible] tablets in growing medium, such as Repellex Tablets.

FOREST CONSERVATION EASEMENT TABLE

EASEMENT	TYPE	AREA (ACRES)
7	Reforestation	0.80
TOTAL		0.80

CURVILINEAR RANDOMIZED PLANTING



PLANT PLACEMENT DETAIL
NOT TO SCALE

1. MIX TREE AND SHRUB SPECIES IN THE STAGING AREA.
2. SET THE GUIDE CURVILINEAR LINE AS CLOSE TO CONTOUR AS POSSIBLE

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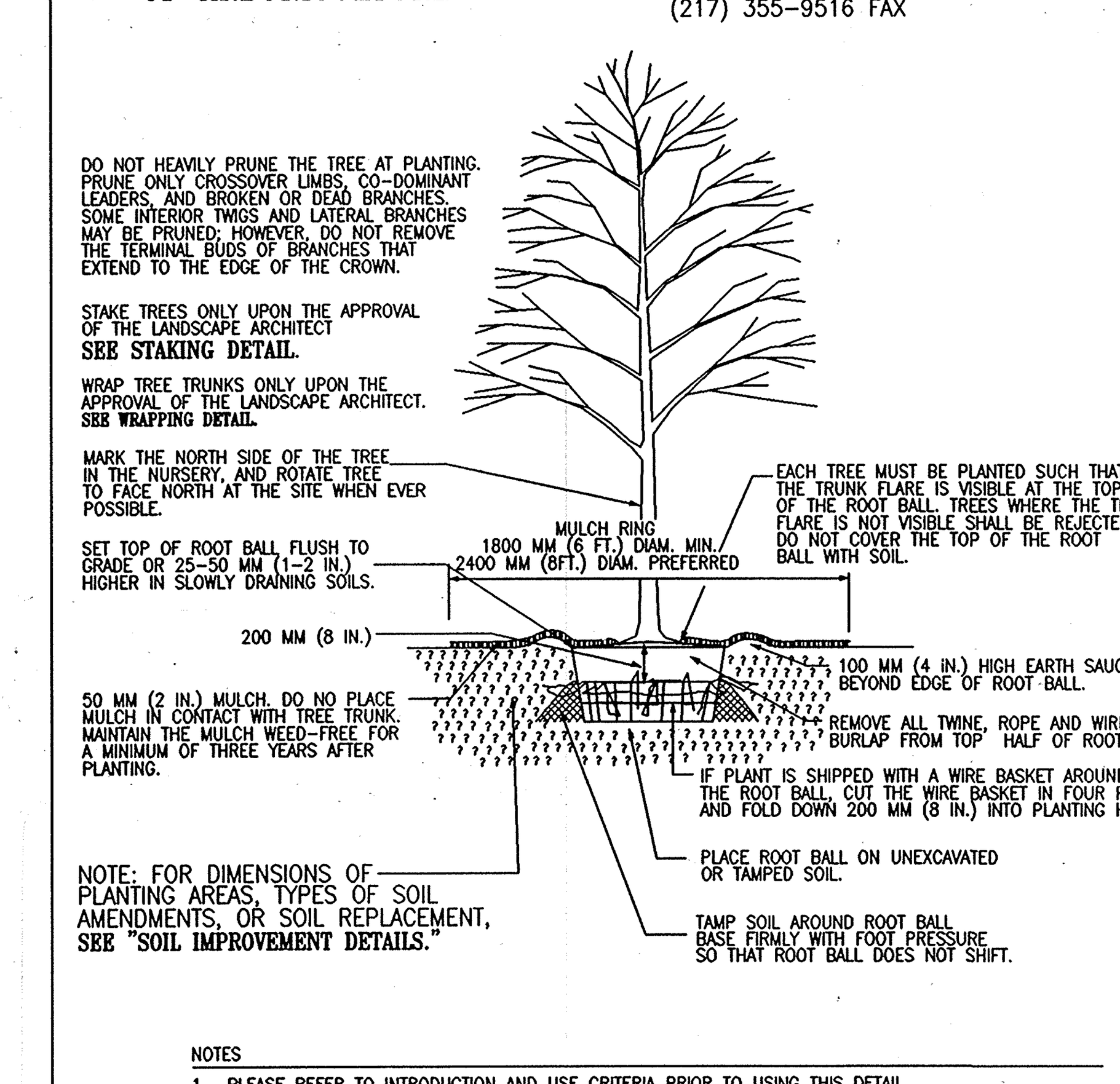
1400 WEST ANTHONY DRIVE
CHAMPAIGN, IL 61821
(217) 355-9411
(217) 355-9516 FAX



NOTES
1. PLEASE REFER TO INTRODUCTION AND USE CRITERIA PRIOR TO USING THIS DETAIL.

TREE PLANTING DETAIL - B&B TREES IN ALL SOIL TYPES

NOTE: THIS DETAIL ASSUMES THAT THE PLANTING SPACE IS LARGER THAN 2400 MM (8 FT.) SQUARE, OPEN TO THE SKY, AND NOT COVERED BY ANY PAVING OR GRATING.

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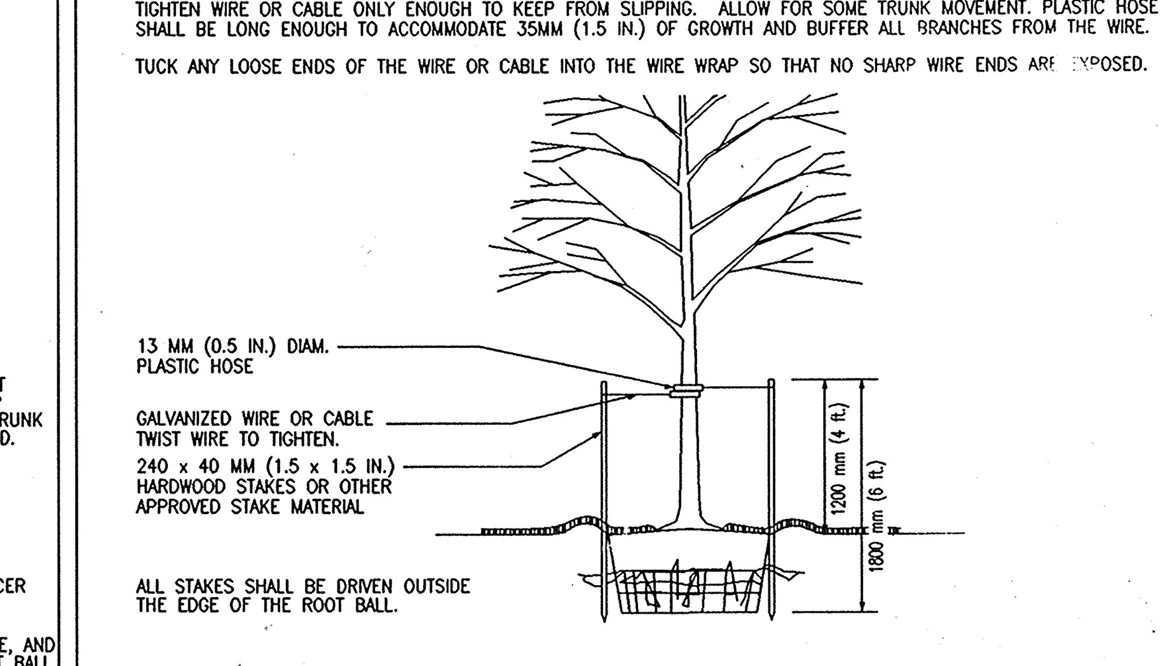
WIRE OR CABLE SIZES SHALL BE AS FOLLOWS:
TREES UP TO 65 MM (2.5 IN.) CALIPER - 14 GAUGE
TREES 65 MM (2.5 IN.) TO 75 MM (3 IN.) CALIPER - 12 GAUGE



NOTES
1. PLEASE REFER TO INTRODUCTION AND USE CRITERIA PRI[illegible]TAIL.

TREE STAKING DETAIL - TREES [illegible]M (3 IN.) CALIPER OR LESS

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Reforestation Area Monitoring Notes

1. Monthly visits during the first growing season are to assess the success of the plantings and to determine if supplemental watering, pest control, invasive plant management, mowing or other actions are necessary. Early spring visits will document winter kill and autumn visits will document summer kill.
2. The minimum survival rate shall be 75% of the total number of trees planted per acre at the end of the two year maintenance period. Wild tree seedlings from natural regeneration on the planting site may be counted up to 50% toward the total survival number if they are healthy native species at least 12 inches tall.
3. Survival will be determined by a stratified random sample of the plantings. The species composition of the sample population should be proportionate to the amount of each species in the entire planting to be sampled.
4. Effective monitoring will assess plant survivability during the first growing season and make recommendations for reinforcement planting if required at that time.

Forest Tree Protection and Management Notes

1. Any significant changes made to the Forest Conservation Plan shall be made with the prior approval if the Howard County Dept. Of Planning and Zoning.
2. Forest protection and management to be in accordance with a forest management plan. The plan shall be prepared by a MD. licensed forester to facilitate the landowners management objectives, such as wildlife enhancement, water quality, aesthetics, forest products, etc.
3. Future forest harvests may be conducted under a Howard County approved forest harvest plan, prepared by a MD. licensed forester.

STATE OF MARYLAND STEPHEN L. HUBER No. 393 REGISTERED PROFESSIONAL FORESTER

FSH Associates
Engineers Planners Surveyors
8318 Forrest Street Ellicott City, MD 21043
Tel:410-750-2251 Fax: 410-750-7350
E-mail: FSHAssociates@cs.com

*Surety in the amount of $17,424.00 shall be posted as part of the Developer's Agreement for 0.80 ac/34,848 sq. ft. of Afforestation under F05-55. A fee-in-Lieu for the remaining obligation of 1.7 Ac. of plantings shall be paid under F00-73.

OWNER
Talley Family LLP
1525 Daisy Road
Woodbine, MD 21797
410-442-2300

APPROVED HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF DEVELOPMENT ENGINEERING DIVISION 10/18/05 DATE

CHIEF DIVISION OF LAND DEVELOPMENT 10/27/05 DATE

OFFSITE FOREST MITIGATION PLAN
(Easement 7)
for SCOTT FARM
LOTS 36-44 for FCE obligations from LOTS 1-2[illegible]
F-00-73 revisions, on Talley Property Parcel [illegible]
RE-03-02 DS2, P.N. 15812 F-04-054 FC, P[illegible] 17192
F-05-94

TAX MAP 8 GRID 13 PARCEL 392
4TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

EXPLORATION RESEARCH, INC.
ENVIRONMENTAL CONSULTANTS
LANDSCAPE ARCHITECTS
8318 FORREST STREET
ELLICOTT CITY, MARYLAND 21043
TEL: (410) 750-1150 (410) 750-7350
EMAIL: EXPLORATION[illegible].COM

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DRAWN BY
CHECKED BY
SCALE
DATE
W.O
SHEET No. 20 OF 20

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