SHEET INDEX	
SHEET No.	DESCRIPTION
1	TITLE SHEET
2	SNOW CHIEF ROAD - PLAN & PROFILE
3	SNOW CHIEF ROAD - PLAN, BOLD VENTURE DRIVE - PLAN & PROFILE
4	BOLD RULER COURT -PLAN AND PROFILE, HEADPLAY COURT -PLAN & PROFILE
5	BURNT WOODS ROAD - PLAN, PROFILE, & CROSS SECTIONS & FILLET PROFILES
6	STREET TREE, GRADING AND SEDIMENT CONTROL PLAN
7	STREET TREE, GRADING AND SEDIMENT CONTROL PLAN
8	S.W.M. GRADING AND SEDIMENT CONTROL PLAN- ACCESS ROAD PROFILE
9	S.W.M. NOTES AND DETAILS
10	ROADWAY SECTION & SEDIMENT CONTROL DETAILS
11	COMPOSITE SEDIMENT CONTROL PLAN
12	SEDIMENT CONTROL NOTES & DETAILS
13	STORM DRAIN PROFILES
14	STORM DRAIN PROFILES AND DETAILS
15	DRAINAGE AREA MAP
16	BIO-RETENTION FACILITY PLAN, PROFILE & DETAILS
17	ON-SITE FOREST CONSERVATION AND LANDSCAPE PLAN
18	OFFSITE REFOREST PLAN
19	OFFSITE REFOREST PLAN DETAILS & SPECIFICATIONS

APPROVED: DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAYS — DATE 6-20-00

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6-27-00

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 6/21/00

FINAL ROAD CONSTRUCTION, GRADING AND STORMWATER MANAGEMENT PLANS

THE PADDOCKS

LOTS 1 THRU 33
AND
PRESERVATION PARCELS 'A' AND 'B'

ZONING "RR-DEO"

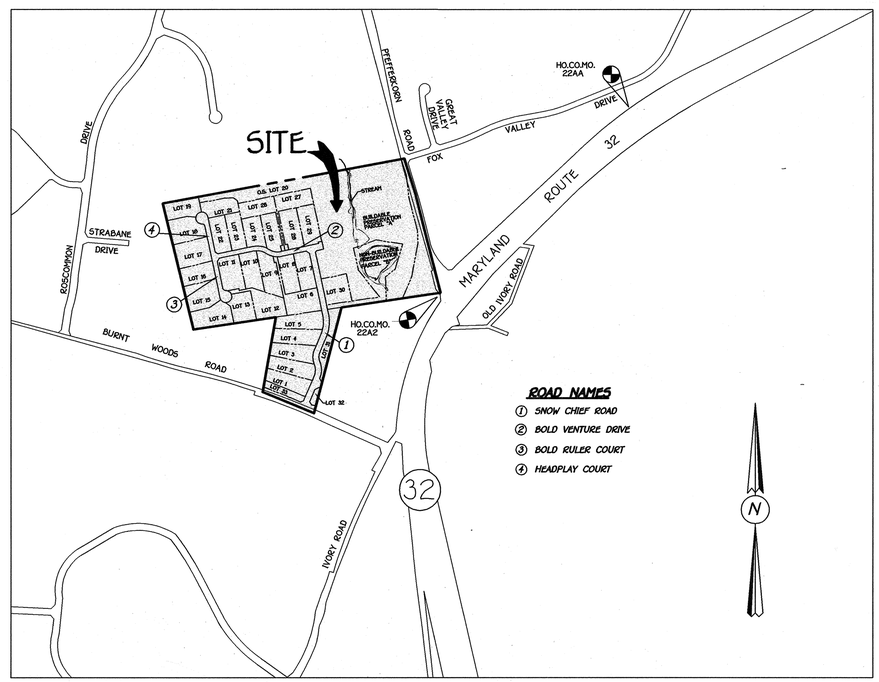
TAX MAP No. 22, PARCEL NO'S. 141 & 234, GRID NO'S. 1 & 7,

THIRD ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

ROAD CLASSIFICATION		
ROAD NAME	CLASSIFICATION	R/W
SNOW CHIEF ROAD	ACCESS STREET	50'
BOLD VENTURE DRIVE	ACCESS STREET	40'
HEADPLAY COURT	PUBLIC ACCESS PLACE	40'
BOLD RULER COURT	PUBLIC ACCESS PLACE	40'

TRAFFIC CONTROL SIGNS				
STREET NAME	C.L. STATION	OFFSET	POSTED SIGN	SIGN CODE
SNOW CHIEF ROAD	0+40	16'L	STOP	(R1-1)
SNOW CHIEF ROAD	3+90	14'R	SPEED LIMIT 30	(R2-1)
SNOW CHIEF ROAD	10+05	@ ℄	KEEP RIGHT	(R4-7)
SNOW CHIEF ROAD	10+80	@ ℄	KEEP RIGHT	(R4-7)
SNOW CHIEF ROAD	13+89	23'R	STOP	(R1-1)
SNOW CHIEF ROAD	12+50	14'L	SPEED LIMIT 30	(R2-1)
BOLD VENTURE DRIVE	1+90	13'R	SPEED LIMIT 25	(R2-1)
BOLD VENTURE DRIVE	8+14	15'R	STOP	(R1-1)
BOLD VENTURE DRIVE	6+35	13'L	SPEED LIMIT 25	(R2-1)

STREET LIGHT CHART				
DWG. NO.	STREET NAME	STATION	OFFSET	FIXTURE/POLE TYPE
2	SNOW CHIEF ROAD	9+57 11+27	18'R 18'R	100-WATT "TRADITIONAIRE" H.P.S. VAPOR FIXTURE POST TOP MOUNTED ON A 14-FOOT BLACK FIBERGLASS POLE POLE.
2,5	SNOW CHIEF ROAD	0+35	25'R	150-WATT HPS VAPOR PENDANT FIXTURE (CUTOFF) MOUNTED AT 30' ON BRONZE FIBERGLASS POLE USING A 12' ARM.



ROAD NAMES

1. SNOW CHIEF ROAD
2. BOLD VENTURE DRIVE
3. BOLD RULER COURT
4. HEADPLAY COURT

VICINITY MAP
SCALE: 1" = 600'

GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
2. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS / BUREAU OF ENGINEERING / CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST (5) WORKING DAYS PRIOR TO THE START OF WORK.
3. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
4. TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
5. 2 FOOT CONTOUR TOPOGRAPHY AND EXISTING CONDITIONS BASED ON AERIAL TOPOGRAPHIC SURVEY PREPARED BY HARTFORD AERIAL DATED DEC., 1998 AND FIELD RUN TOPO BY FISHER COLLINS AND CARTER INC. PERFORMED ON OR ABOUT JULY, 1999.
6. THE COORDINATES SHOWN HEREON ARE BASED ON HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED ON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT Nos. 22A2 AND 22AA WERE USED FOR THIS PROJECT.

   22A2 N 178609.6686 (METERS) ELEV. 620.893 FT. OR 189.2486 M. E 401204.1472 (METERS)

   22AA N 179071.1948 (METERS) ELEV. 569.712 FT. OR 173.6486 M. E 401696.1041(METERS)
7. WATER IS PRIVATE.
8. SEWER IS PRIVATE.
9. THE TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY STREET TRAFFIC STUDIES (APPROVED UNDER 599-04).
10. BACKGROUND INFORMATION:
    - A. SUBDIVISION NAME: THE PADDOCKS
    - B. TAX MAP NO.: 22
    - C. PARCEL NOS.: 141 & 234
    - D. ZONING: RR-DEO
    - E. ELECTION DISTRICT: THIRD
    - F. TOTAL TRACT AREA: 62.29 AC. ±
    - G. NO. OF BUILDABLE CLUSTER LOTS: 29
    - H. NO OF BUILDABLE PRESERVATION PARCELS: 1
    - I. NO. OF NON-BUILDABLE PRESERVATION PARCELS: 1
    - J. TOTAL NO. OF PRESERVATION PARCELS: 2
    - K. NO. OF OPEN SPACE LOTS: 4
    - L. PRELIMINARY PLAN APPROVAL DATE: JULY 19, 1999
    - M. PREVIOUS FILE Nos. : 599-04 AND P99-15
    - N. TOTAL AREA OF OPEN SPACE REQUIRED: (62.29 AC. x 5%) = 3.11 AC.±
    - O. TOTAL AREA OF OPEN SPACE PROVIDED: 3.41 AC.±
11. REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE TO BE PROVIDED AT THE JUNCTION OF THE PIPE / FLAG STEM AND THE ROAD R/W AND NOT ONTO THE PIPE / FLAG STEM DRIVEWAY.
12. NO CEMETERIES EXIST ON THE PROPERTY.
13. ALL FILL AREAS WITHIN ROADWAYS AND UNDER STRUCTURES SHALL BE COMPACTED TO A MINIMUM OF 95% COMPACTION OF AASHTO T-180.
14. THE WETLANDS WERE DELINEATED BY McCARTHY & ASSOCIATES AND FOREST STAND DELINEATION WAS PREPARED BY ECO-SCIENCE PROFESSIONALS, INC. AND WAS APPROVED UNDER 599-04 ON 12/17/98 AND P99-15 ON 7/19/99.
15. NOISE STUDY WAS PREPARED BY WILDMAN ENVIRONMENTAL SERVICES; DATED 3/13/98 AND WAS APPROVED UNDER 599-04 AND P99-15.
16. THE FOREST CONSERVATION EASEMENT(S) HAVE BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY FOREST CONSERVATION ACT. NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT, EXCEPT AS SHOWN ON AN APPROVED ROAD CONSTRUCTION DRAWING OR SITE DEVELOPMENT PLAN. HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED.

    NOTE: THE FOREST CONSERVATION OBLIGATION WILL BE MET BY PROVIDING 1.742 ACRES OF RETENTION ON LOTS 14 THRU 18 AND AN AFFORESTATION AREA IN THE AMOUNT OF 0.70 ACRES ON LOTS 31 AND 32 OF THE PADDOCKS SUBDIVISION. THE REMAINING FOREST CONSERVATION OBLIGATIONS INCURRED BY THIS SUBDIVISION WILL BE MET BY PROVIDING 6.470 ACRES OFF-SITE PLANTING ON WELLINGTON WEST, SECTION 2, (F98-181), TAX MAP NO. 14, GRID NO. 20, PARCEL NO. 69. THE SURETY AMOUNT WILL BE $102,435.69 FOR THIS PROJECT.
17. STORMWATER MANAGEMENT FACILITY:

    TYPE - RETENTION FACILITY

    OWNER - PRIVATELY OWNED (H.O.A.) AND JOINTLY MAINTAINED w/ HOWARD COUNTY

    MAINTENANCE - MAINTENANCE BY HOWARD COUNTY & HOMEOWNER'S ASSOCIATION.
18. ▨ THIS AREA DESIGNATES A PRIVATE SEWERAGE EASEMENT OF 10,000 SQUARE FEET AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWER DISPOSAL. IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWERAGE IS AVAILABLE. THESE EASEMENTS SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWERAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT VARIANCES FOR ENCROACHMENTS INTO THE PRIVATE SEWERAGE EASEMENT. RECORDATION OF A MODIFIED EASEMENT SHALL NOT BE NECESSARY.
19. A.P.F.O. MITIGATION IS FULLFILLED BY PAYMENT OF A FEE-IN-LIEU IN THE AMOUNT OF $34,000.00 TO CAPITAL PROJECT NUMBER J-4124 ACCOUNT NO. 816-99J-4134-J134-9000.
20. M.D.E. PERMIT TRACKING NUMBER FOR WETLAND PERMIT IS 199966274, W.M.A. NO. 99-PO-2102. PERMIT EFFECTIVE DATE IS APRIL 14, 2000. PERMIT EXPIRATION DATE IS APRIL 14, 2003.
21. BIO-RETENTION FACILITY: (PRIVATE)

    TYPE - BIO-RETENTION

    OWNER - THE PADDOCKS HOMEOWNER'S ASSOCIATION

    MAINTENANCE - THE PADDOCKS HOMEOWNER'S ASSOCIATION
22. STREET LIGHTS WILL BE REQUIRED IN THIS DEVELOPMENT IN ACCORDANCE WITH THE DESIGN MANUAL. STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURE AND POLE SELECTED SHALL BE IN ACCORDANCE WITH THE LATEST HOWARD COUNTY DESIGN MANUAL, VOLUME III (1993) AND AS MODIFIED BY "GUIDELINES FOR STREET LIGHTS IN RESIDENTIAL DEVELOPMENT (JUNE 1993)." THE JUNE 1993 POLICY INCLUDES GUIDELINES FOR LATERAL AND LONGITUDINAL PLACEMENT. A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.
23. LANDSCAPE OBLIGATIONS ARE MET ON-SITE AND HAVE BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. FINANCIAL SURETY FOR THE 218 REQUIRED LANDSCAPE TREES HAS BEEN POSTED AS PART OF THE DEVELOPERS AGREEMENT IN THE AMOUNT OF $51,300.00.

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

F.C.C.* 30664TITLESHEET.1.DWG

OWNERS

GRETCHEN MOBBERLEY
SUMMER HILL FARM
ROUTE 144
WEST FRIENDSHIP, MARYLAND 21794

PULTE HOME CORPORATION
c/o JOHN E. BITTNER, PRESIDENT
1501 SOUTH EDGEWOOD STREET, SUITE K
BALTIMORE, MARYLAND 21227

DEVELOPER

PULTE HOME CORPORATION
c/o JOHN E. BITTNER, PRESIDENT
1501 SOUTH EDGEWOOD STREET, SUITE K
BALTIMORE, MARYLAND 21227

STATE OF MARYLAND — TERRELL A. HESSER — No. 9711 — REGISTERED PROFESSIONAL ENGINEER

As-Built's 2/17/03

STATE OF MARYLAND — ZACHARIA YOSEF FISCH — 22418 — PROFESSIONAL ENGINEER

Zacharia Y. Fisch

THE PADDOCKS
LOTS 1 - 33
AND PRESERVATION PARCELS 'A' AND 'B'

ZONED RR-DEO

TAX MAP NO. 22 PARCEL NO'S. 141 & 234 GRID NO'S. 1 & 7
THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: APRIL 7, 2000
SHEET 1 OF 19

As Built: 2/17/03

F 00-71

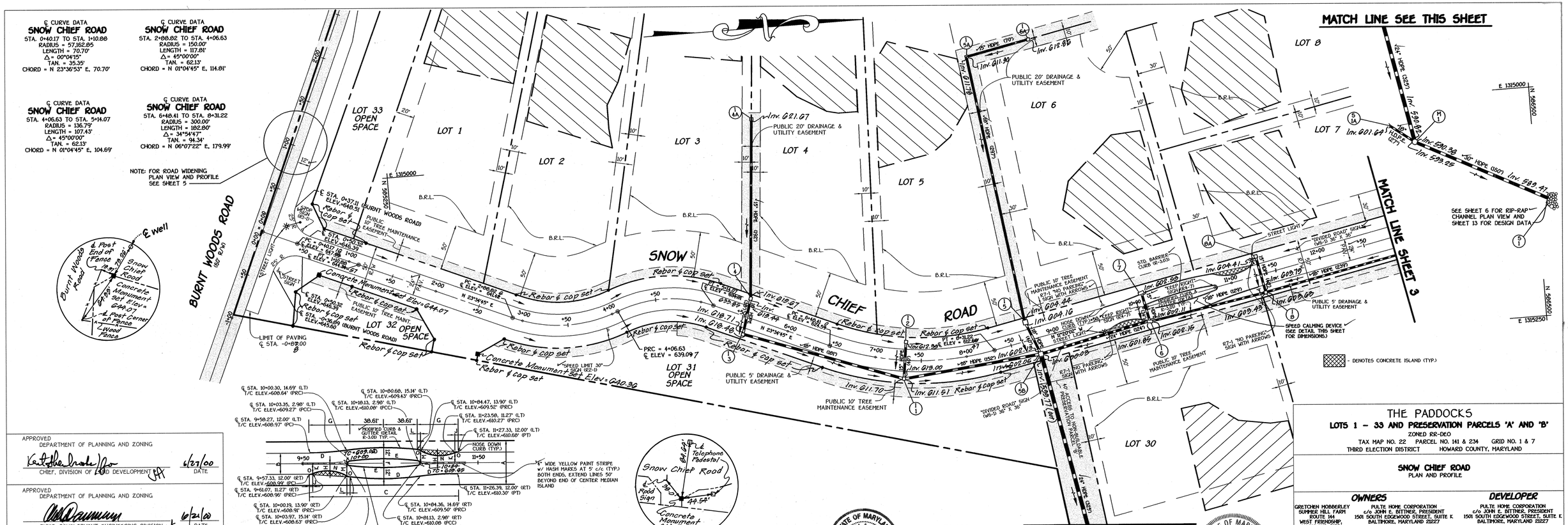
℄ CURVE DATA
SNOW CHIEF ROAD
STA. 0+40.17 TO STA. 1+10.88
RADIUS = 57,162.85
LENGTH = 70.70'
Δ = 00°04'15"
TAN. = 35.35'
CHORD = N 23°36'53" E, 70.70'

℄ CURVE DATA
SNOW CHIEF ROAD
STA. 2+88.82 TO STA. 4+06.63
RADIUS = 150.00'
LENGTH = 117.81'
Δ = 45°00'00"
TAN. = 62.13'
CHORD = N 01°04'45" E, 114.81'

℄ CURVE DATA
SNOW CHIEF ROAD
STA. 4+06.63 TO STA. 5+14.07
RADIUS = 136.79'
LENGTH = 107.43'
Δ = 45°00'00"
TAN. = 62.13'
CHORD = N 01°04'45" E, 104.69'

℄ CURVE DATA
SNOW CHIEF ROAD
STA. 6+48.41 TO STA. 8+31.22
RADIUS = 300.00'
LENGTH = 182.80'
Δ = 34°54'47"
TAN. = 94.34'
CHORD = N 06°07'22" E, 179.99'

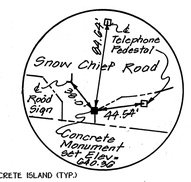
NOTE: FOR ROAD WIDENING PLAN VIEW AND PROFILE SEE SHEET 5



SPEED CALMING DEVICE

SCALE: 1" = 50'

CLASSIFICATION	DESIGN SPEED (M.P.H.)	SECTION TYPE (OPEN/CLOSED)	DIMENSIONS														
			A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
ACCESS STREET	30	OPEN	50'	24'	170'	330'R	318'R	10.75'	46.39'	8.00'	3'R	3.74'	11.27'	3.53'	13.90'	45'R	10'R



PLAN

SCALE: 1" = 50'

APPROVED
DEPARTMENT OF PLANNING AND ZONING
Keith Alan Dunn for
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6/21/00

APPROVED
DEPARTMENT OF PLANNING AND ZONING
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 6/21/00

APPROVED
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
CHIEF, BUREAU OF HIGHWAYS — DATE 6-20-00

STATE OF MARYLAND — TERRELL A. FISCH — No. 8195 — REGISTERED PROFESSIONAL ENGINEER
2/17/03

STATE OF MARYLAND — ZACHARIA YOSEF FISCH — 22418 — PROFESSIONAL ENGINEER
Zachariah Y. Fisch

THE PADDOCKS

LOTS 1 - 33 AND PRESERVATION PARCELS 'A' AND 'B'
ZONED RR-DEO
TAX MAP NO. 22 PARCEL NO. 141 & 234 GRID NO. 1 & 7
THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

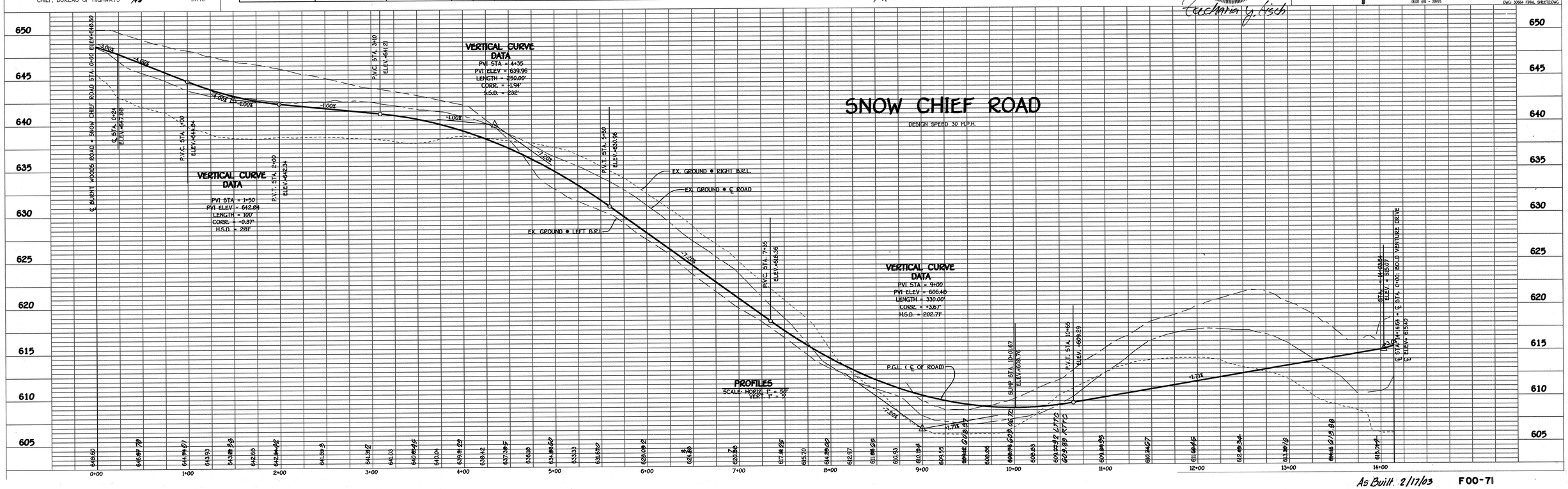
SNOW CHIEF ROAD
PLAN AND PROFILE

OWNERS	DEVELOPER
GRETCHEN MOBBERLEY SUMMER HILL FARM ROUTE 144 WEST FRIENDSHIP, MARYLAND 21794	PULTE HOME CORPORATION c/o JOHN E. BITTNER, PRESIDENT 1501 SOUTH EDGEWOOD STREET, SUITE K BALTIMORE, MARYLAND 21227
	PULTE HOME CORPORATION c/o JOHN E. BITTNER, PRESIDENT 1501 SOUTH EDGEWOOD STREET, SUITE K BALTIMORE, MARYLAND 21227

SCALE: AS SHOWN | DATE: APRIL 7, 2000 | DWG. NO. 2 OF 19
DES. F.M. / R.I. | DRN. F.M. / R.I. | CHK. Z. Y. FISCH

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

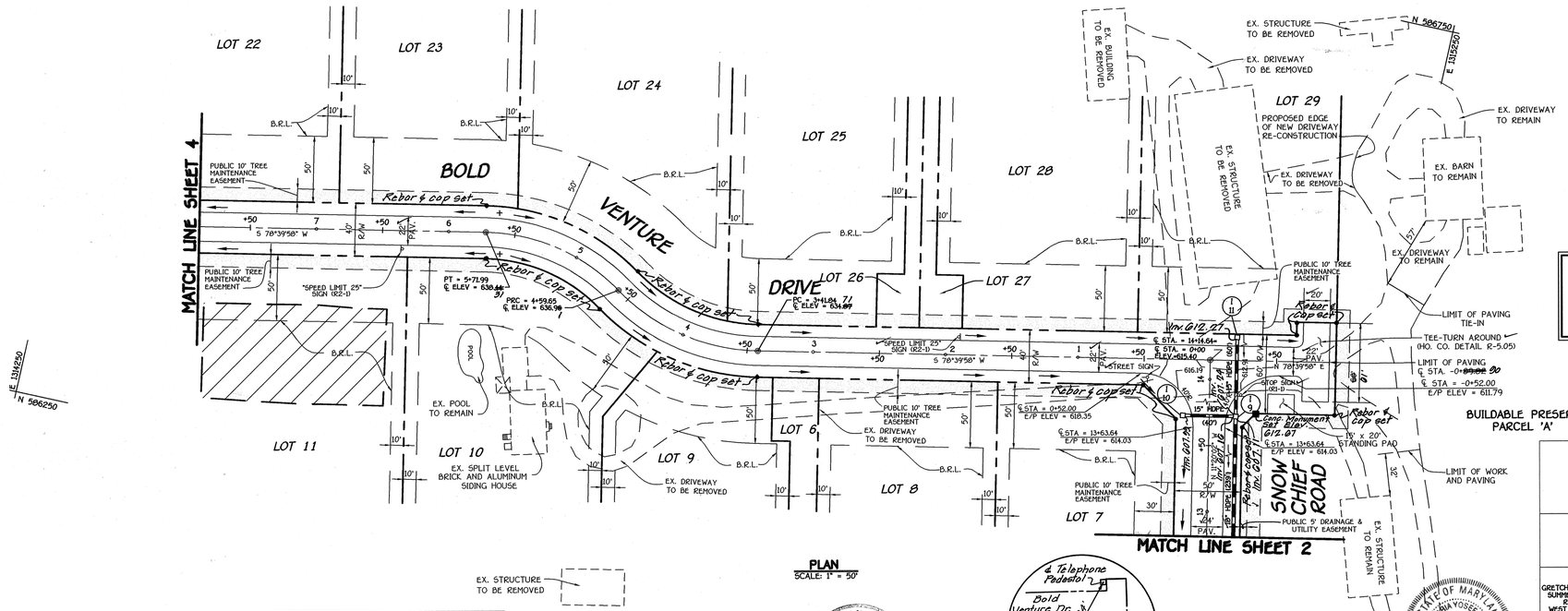
DWG 30664 FINAL SHEETZ.DWG



As Built 2/17/03 F00-71

℄ CURVE DATA
BOLD VENTURE DRIVE
STA. 4+59.65 TO STA. 5+71.99
RADIUS = 143.03'
LENGTH = 112.34'
Δ = 45°00'00"
TAN. = 59.24'
CHORD = N 78°50'02" E, 109.47'

℄ CURVE DATA
BOLD VENTURE DRIVE
STA. 3+41.84 TO STA. 4+59.65
RADIUS = 150.00'
LENGTH = 117.81'
Δ = 45°00'00"
TAN. = 62.13'
CHORD = N 78°50'02" E, 114.81'

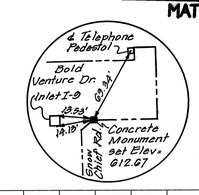


NOTE: THE HORIZONTAL LOCATION OF THE EXISTING DRIVEWAYS WILL NOT BE DISTURBED. VERTICALLY, THE EXISTINGS DRIVEWAYS WILL BE FILLED IN TO MATCH THE GRADE AT THE END OF THE EXISTING TEE-TURN AROUND. ANY GRASSED AREA DUE TO THIS DISTURBANCE WILL BE STABILIZED WITH SOLID SODDING. THE ACCESS TO THIS AREA WILL MAINTAINED BY RE-CONSTRUCTING ONE HALF OF THE ROAD AT A TIME AND ALLOWING TRAFFIC TO BY-PASS FREELY TO THE BARN.

PLAN
SCALE: 1" = 50'

EX. STRUCTURE TO BE REMOVED

NOTE: ACCESS TO THE EXISTING HOUSE ON LOT 10 WILL BE MAINTAINED BY PROVIDING ACCESS TO THE HOUSE VIA A NEW DRIVEWAY TO BE CONNECTED TO BOLD VENTURE DRIVE.



STATE OF MARYLAND
TERRELL A. FISCH
No. 22418
PROFESSIONAL ENGINEER
15-Original Engineer 2/17/03

STATE OF MARYLAND
ZACHARIA YOSEF FISCH
22418
PROFESSIONAL ENGINEER
Zacharia Y. Fisch

APPROVED
DEPARTMENT OF PLANNING AND ZONING
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6/27/00

APPROVED
DEPARTMENT OF PLANNING AND ZONING
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 6/21/00

APPROVED
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
CHIEF, BUREAU OF HIGHWAYS — DATE 6-20-00

THE PADDOCKS
LOTS 1 – 33 AND PRESERVATION PARCELS 'A' AND 'B'
ZONED RR-DEO

TAX MAP NO. 22 PARCEL NO'S. 141 & 234 GRID NO'S. 1 & 7
THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SNOW CHIEF ROAD
PLAN

BOLD VENTURE DRIVE
PLAN AND PROFILE

OWNERS
GRETCHEN MOBBERLEY
SUMMER HILL FARM
ROUTE 144
WEST FRIENDSHIP, MARYLAND 21794

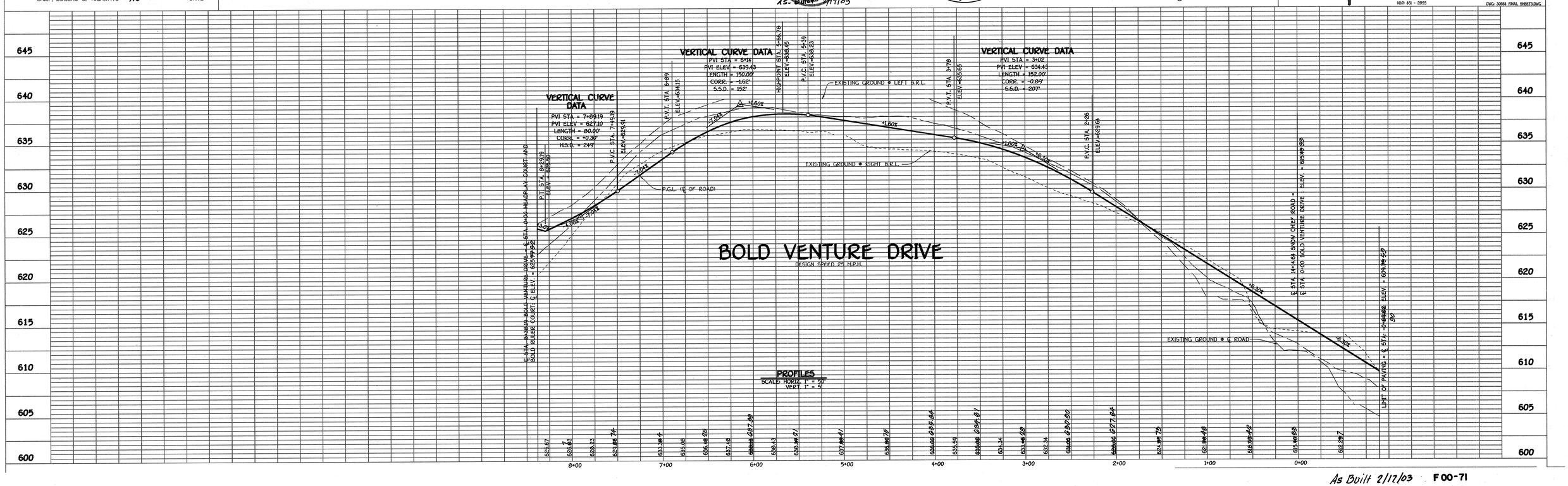
PULTE HOME CORPORATION
c/o JOHN E. BITTNER, PRESIDENT
1501 SOUTH EDGEWOOD STREET, SUITE K
BALTIMORE, MARYLAND 21227

DEVELOPER
PULTE HOME CORPORATION
c/o JOHN E. BITTNER, PRESIDENT
1501 SOUTH EDGEWOOD STREET, SUITE K
BALTIMORE, MARYLAND 21227

SCALE: AS SHOWN	DATE: APRIL 7, 2000	DWG. NO. 3 OF 19
DES. F.M. / R.I.	DRN. F.M. / R.I.	CHK. Z. Y. FISCH

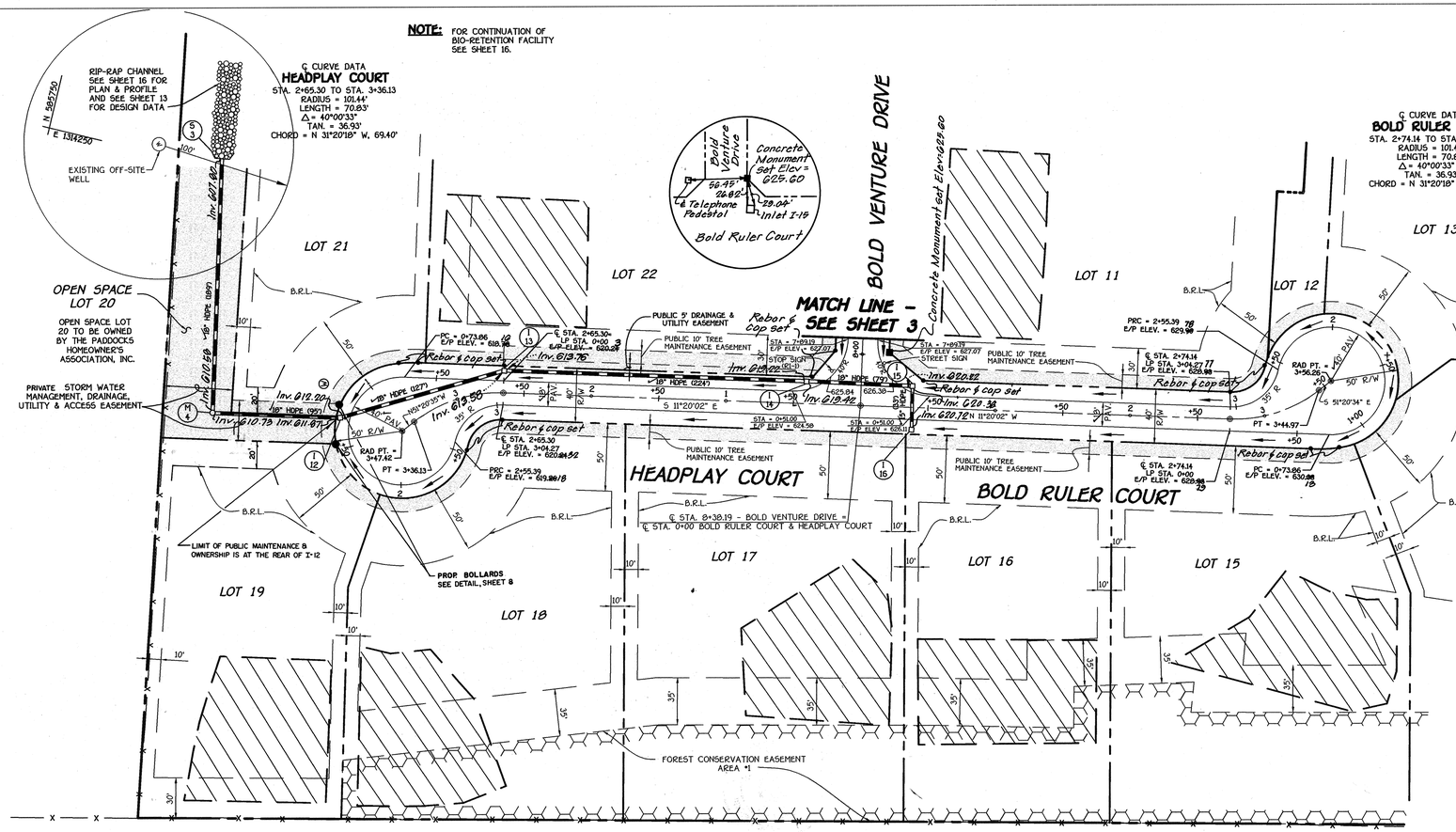
FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

DWG 30664 FINAL SHEETS.DWG



As Built 2/17/03 F00-71

NOTE: FOR CONTINUATION OF BIO-RETENTION FACILITY SEE SHEET 16.



PLAN
SCALE: 1" = 50'

STATE OF MARYLAND — TERRELL A. FISHER — REG. NO. 9913 — REGISTERED PROFESSIONAL ENGINEER
2/17/03

STATE OF MARYLAND — JAMES T. COLLINS — REG. NO. 13302 — REGISTERED PROFESSIONAL ENGINEER

APPROVED
DEPARTMENT OF PLANNING AND ZONING
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6-21-00

APPROVED
DEPARTMENT OF PLANNING AND ZONING
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 6/21/00

APPROVED
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
CHIEF, BUREAU OF HIGHWAYS — DATE 6-20-00

THE PADDOCKS

LOTS 1 - 33 AND PRESERVATION PARCELS 'A' AND 'B'

ZONED RR-DEO

TAX MAP NO. 22 PARCEL NO. 141 & 234 GRID NO. 1 & 7

THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

BOLD RULER COURT
PLAN AND PROFILE

HEADPLAY COURT
PLAN AND PROFILE

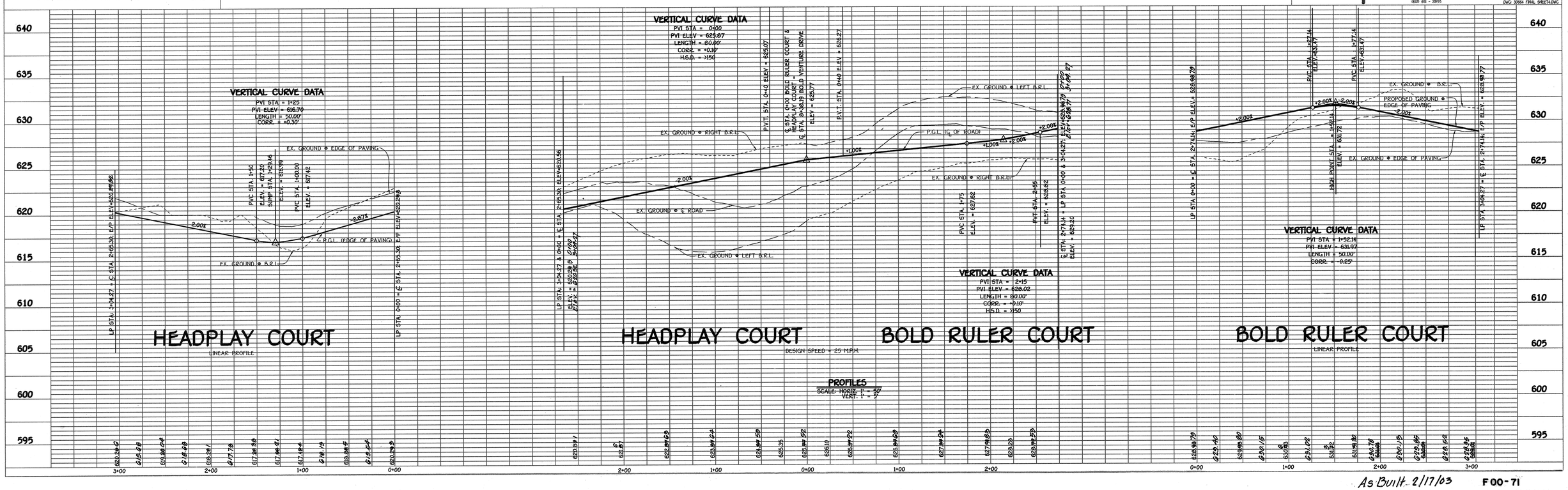
OWNERS
GRETCHEN MOBBERLEY
SUMMER HILL FARM
ROUTE 144
WEST FRIENDSHIP, MARYLAND 21794
PULTE HOME CORPORATION
C/O JOHN E. BITTNER, PRESIDENT
1501 SOUTH EDGEWOOD STREET, SUITE K
BALTIMORE, MARYLAND 21227

DEVELOPER
PULTE HOME CORPORATION
C/O JOHN E. BITTNER, PRESIDENT
1501 SOUTH EDGEWOOD STREET, SUITE K
BALTIMORE, MARYLAND 21227

SCALE: AS SHOWN	DATE: APRIL 7, 2000	DWG. NO. 4 OF 19
DES. F.M. / R.I.	DRN. F.M. / R.I.	CHK. Z. Y. FISCH

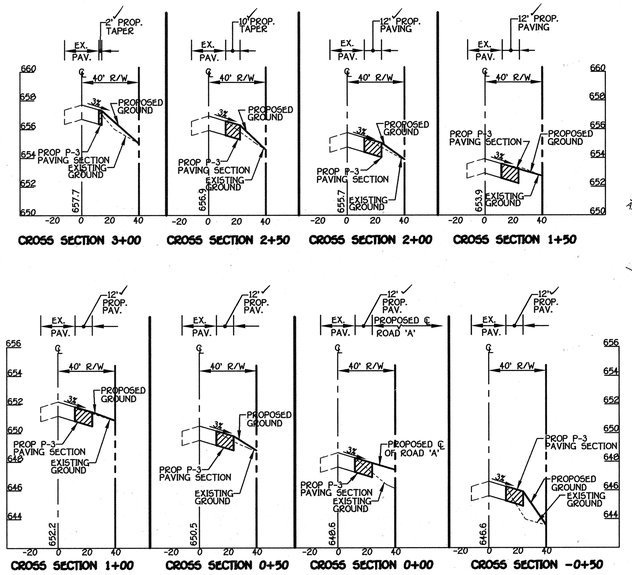
FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

DWG. 30664 FINAL SHEETS.DWG



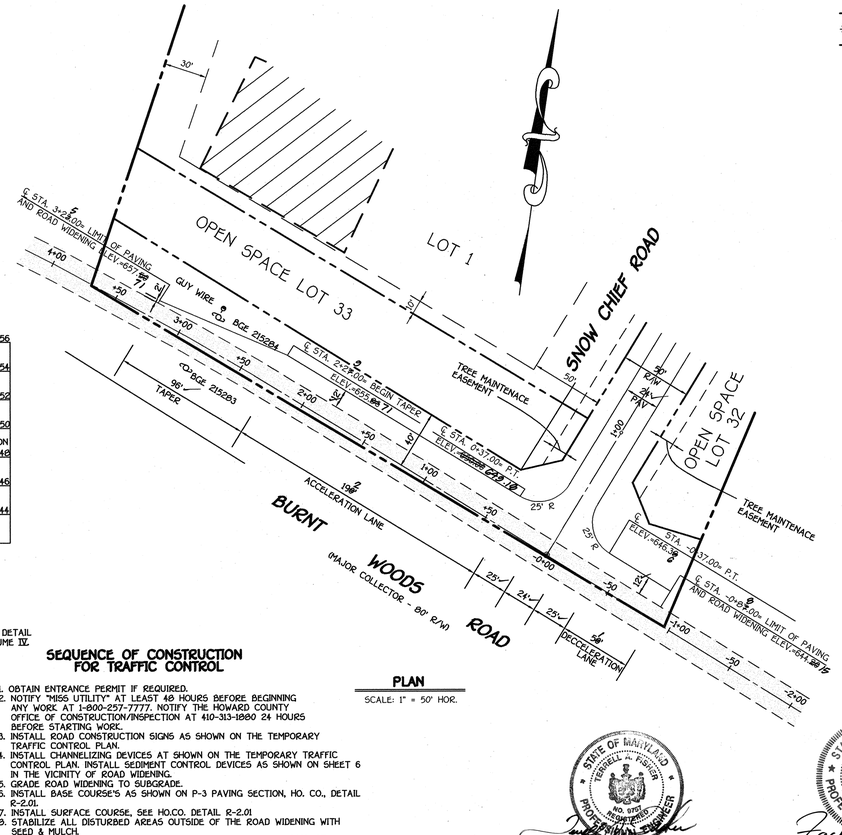
As Built 2/17/03

F00-71



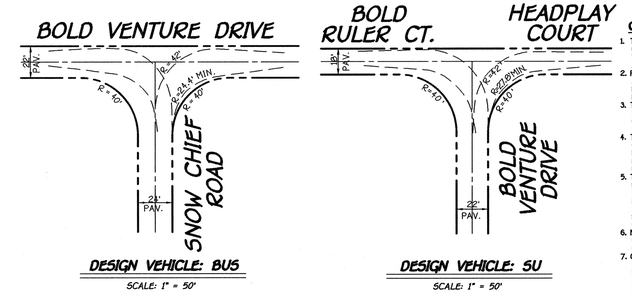
CROSS SECTIONS

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



PLAN

SCALE: 1" = 50' HOR.



DESIGN VEHICLE: BUS

SCALE: 1" = 50'

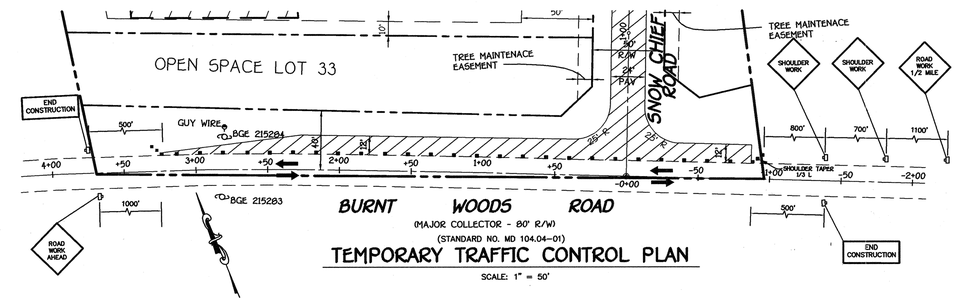
DESIGN VEHICLE: SU

SCALE: 1" = 50'

MAINTENANCE OF TRAFFIC SPECIAL PROVISIONS

GENERAL NOTES:

1. THE PURPOSE OF THIS PORTION OF THE SPECIAL PROVISION IS TO SET FORTH THE TRAFFIC CONTROL REQUIREMENTS NECESSARY FOR THE SAFE AND EFFICIENT MAINTENANCE TO TRAFFIC WITHIN WORK AREAS, AND TO MINIMIZE ANY INCONVENIENCES TO THE TRAVELING PUBLIC AND THE CONTRACTOR AND/OR PERMITTEE.
2. PROPER TRAFFIC CONTROL THROUGH WORK AREAS IS ESSENTIAL FOR INSURING THE SAFETY AND THAT OF HIGHWAY WORKERS HAS THE HIGHEST PRIORITY OF ALL TASKS WITHIN THIS PROJECT. THE PROPERTY APPLICATION OF THE APPROVED TRAFFIC CONTROL PLAN (TCP) WILL PROVIDE THE DESIRED LEVEL OF SAFETY.
3. THROUGHOUT THESE SPECIAL PROVISIONS, ANY MENTION OF THE TCP SHALL BE IMPLIED TO INCLUDE ANY COMBINATION OF TYPICAL TRAFFIC CONTROL STANDARDS WHICH FORM THE OVERALL TCP FOR THIS PROJECT WHICH HAS BEEN APPROVED BY THE APPROPRIATE SHA TRAFFIC ENGINEER.
4. THE CONTRACTOR AND/OR PERMITTEE SHALL BE REQUIRED TO ADHERE TO THE PROVISIONS OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), 1988 EDITION, ESPECIALLY PART VI, AND TO SECTION 614 OF THE MARYLAND DOT STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS (JANUARY, 1982) INCLUDING ALL REVISIONS AND SUPPLEMENTS TO EACH. ANY FLAGGING OPERATION REQUIRED SHALL CONFORM TO STANDARD TE-18.
5. THE CONTRACTOR AND/OR PERMITTEE SHALL BE REQUIRED TO ADHERE TO THE REQUIREMENTS SET FOR IN THE TCP AND THESE SPECIAL PROVISIONS, UNLESS OTHERWISE DIRECTED BY THE ENGINEER. ANY REQUESTS TO MAKE MINOR CHANGES TO THE TCP OR THE SPECIAL PROVISIONS WITH REGARD TO THE TRAFFIC CONTROL ITEMS SHALL BE MADE IN WRITING TO THE ENGINEER A MINIMUM OF THREE(3) WORKING DAYS PRIOR TO THE PROPOSED SCHEDULING CHANGE. THE CONTRACTOR AND/OR PERMITTEE SHALL HAVE WRITTEN APPROVAL OF THE ENGINEER PRIOR TO THE IMPLEMENTATION OF ANY CHANGE.
6. NO WORK SHALL BEGIN ON ANY WORK ACTIVITY OR WORK PHASE UNTIL ALL REQUIRED TRAFFIC CONTROL PATTERNS AND DEVICES INDICATED ON THE TCP FOR THAT ACTIVITY OR PHASE ARE COMPLETELY AND CORRECTLY IN PLACE TO HAVE BEEN CHECKED FOR APPROVED USAGE.
7. GENERAL AND SPECIFIC WARNING SIGNS SHALL ONLY BE IN PLACE WHEN SPECIFIC WORK TASKS AND ACTIVITIES ARE ACTUALLY UNDERWAY OR CONDITIONS EXIST THAT POSE A POTENTIAL HAZARD TO THE PUBLIC, AND ANY ADDITIONAL SIGNING HAS BEEN APPROVED BY THE APPROPRIATE SHA TRAFFIC ENGINEER. NOTE: THE PRACTICE OF PLACING SIGNING OTHER TRAFFIC CONTROL DEVICES IN ADDITION TO AND THOSE INDICATED ON THE APPROVED TCP IS NOT PERMITTED.



TEMPORARY TRAFFIC CONTROL PLAN

SCALE: 1" = 50'

KEY

- DIRECTION OF TRAFFIC
- SIGN SUPPORT
- FACE OF SIGN
- CHANNELIZING DEVICES
- WORK SITE

MAINTENANCE OF TRAFFIC SPECIAL PROVISIONS GENERAL NOTES: (CONT'D)

8. THE CONTRACTOR AND/OR PERMITTEE SHALL PROVIDE, MAINTAIN IN NEW CONDITION, AND MOVE WHEN NECESSARY, OR AS DIRECTED BY THE ENGINEER, ALL TRAFFIC CONTROL DEVICES USED FOR THE GUIDANCE AND PROTECTION OF MOTORISTS, PEDESTRIANS, AND WORKERS.
9. ALL TRAFFIC CONTROL DEVICES REQUIRED BY THE TCP SHALL BE KEPT IN GOOD CONDITION, FULLY PERFORMING AS SET FORTH IN THE TCP, THE MUTCD, AND/OR SECTION 614 OF THE SPECIFICATIONS. FOR REFLECTIVE DEVICES, A PARTICULAR DEVICE IS ASSUMED TO HAVE FAILED TO MEET MINIMUM OPERATIONAL STANDARDS WHEN THE DEVICE NO LONGER HAS RETRO-REFLECTANCE CAPABILITY OF AT LEAST 60% OF THE SPECIFIED MINIMUM VALUE OVER AT LEAST 90% OF THE VISIBLE REFLECTIVE SURFACE.
10. ALL TRAFFIC CONTROL DEVICES NOT REQUIRED FOR THE SAFE CONDUCT OF TRAFFIC SHALL BE PROMPTLY REMOVED, COMPLETELY COVERED, TURNED AWAY FROM TRAFFIC, OR OTHERWISE TAKEN OUT OF SERVICE. IT IS INTENDED THAT NO TRAFFIC CONTROL DEVICE IS TO BE IN SERVICE WHEN THERE IS NO CLEAR CUT REASON FOR THE DEVICE.
11. THROUGHOUT THE PERIOD(S) OF WORK ACTIVITIES, TRAFFIC SHALL BE MAINTAINED BY IMPLEMENTING THE APPROVED TCP. IN LIEU OF THE TCP PREPARED FOR THIS PROJECT, AND/OR INDIVIDUAL TYPICAL TRAFFIC CONTROL STANDARDS, THE CONTRACTOR AND/OR PERMITTEE HAS THE OPTION OR PREPARING AND SUBMITTING A TCP, WHOLLY OR IN PART, OF HIS OWN DESIGN, FOLLOWING GUIDELINES SET FORTH IN THE MUTCD AND PRESCRIBED BY THE ADMINISTRATION. A TCP DEVELOPED BY THE CONTRACTOR AND/OR PERMITTEE SHALL NOT BE IMPLEMENTED UNTIL ADVANCE WRITTEN APPROVAL IS OBTAINED FROM THE ENGINEER. TCP'S MAY BE IMPLEMENTED WITHIN A SINGLE PROJECT OR JOINTLY BETWEEN TWO OR MORE PROJECTS. IN SITUATIONS WHERE TCP'S JOINTLY IMPLEMENTED, CARE SHALL BE EXERCISED TO PRESENT CORRECT AND NON-CONFLICTING GUIDANCE TO THE TRAVELING PUBLIC.
12. THROUGHOUT THESE SPECIAL PROVISIONS, WHERE SPEED OF TRAFFIC IS NOTED, THIS MEANS THE POSTED SPEED OR PREVAILING TRAVEL SPEED, WHICHEVER IS HIGHER, UNLESS OTHERWISE NOTED.
13. TRAFFIC SHALL BE MAINTAINED AT ALL TIMES THROUGHOUT THE ENTIRE LENGTH OF THE PROJECT, UNLESS OTHERWISE NOTED. NO TRAVEL LANE(S) OTHER THAN THOSE DESIGNATED FOR POSSIBLE CLOSURE IN THE TCP SHALL BE CLOSED WITHOUT OBTAINING PRIOR APPROVAL FOR THE ENGINEER. ALL INGRESS AND EGRESS TO THE WORK AREA BY THE CONTRACTOR AND/OR PERMITTEE SHALL BE PERFORMED WITH THE FLOW OF TRAFFIC.

APPROVED
DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6/27/00

APPROVED
DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 6/21/00

APPROVED
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAYS — DATE 6-20-00

NOTE: ROAD WIDENING SHALL BE IN ACCORDANCE WITH THE DETAIL R10-01 IN THE HOWARD COUNTY DESIGN MANUAL VOLUME IV.

SEQUENCE OF CONSTRUCTION FOR TRAFFIC CONTROL

1. OBTAIN ENTRANCE PERMIT IF REQUIRED.
2. NOTIFY "MISS UTILITY" AT LEAST 48 HOURS BEFORE BEGINNING ANY WORK AT 1-800-257-7777. NOTIFY THE HOWARD COUNTY OFFICE OF CONSTRUCTION/INSPECTION AT 410-313-1880 24 HOURS BEFORE STARTING WORK.
3. INSTALL ROAD CONSTRUCTION SIGNS AS SHOWN ON THE TEMPORARY TRAFFIC CONTROL PLAN.
4. INSTALL CHANNELIZING DEVICES AT SHOWN ON THE TEMPORARY TRAFFIC CONTROL PLAN. INSTALL SEDIMENT CONTROL DEVICES AS SHOWN ON SHEET 6 IN THE VICINITY OF ROAD WIDENING.
5. GRADE ROAD WIDENING TO SUBGRADE.
6. INSTALL BASE COURSE'S AS SHOWN ON P-3 PAVING SECTION, HO. CO., DETAIL R-2.01.
7. INSTALL SURFACE COURSE, SEE HO.CO. DETAIL R-2.01
8. STABILIZE ALL DISTURBED AREAS OUTSIDE OF THE ROAD WIDENING WITH SEED & MULCH.
9. REMOVE SEDIMENT CONTROL DEVICES, UPON APPROVAL FROM INSPECTOR
10. REMOVE CHANNELIZING DEVICES AND ROAD CONSTRUCTION SIGNS.

STATE OF MARYLAND — TERRELL L. FISCH — No. 9707 — REGISTERED PROFESSIONAL ENGINEER

As Built 2/17/03

STATE OF MARYLAND — ZACHARY Y. FISCH — 22418 — PROFESSIONAL ENGINEER

Zachary Y. Fisch

THE PADDOCKS

LOTS 1 - 33 AND PRESERVATION PARCELS 'A' - 'B'

TAX MAP NO. 22 PARCEL NO. 141 & 234 GRID NO. 1 & 7
THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

BURNT WOODS ROAD

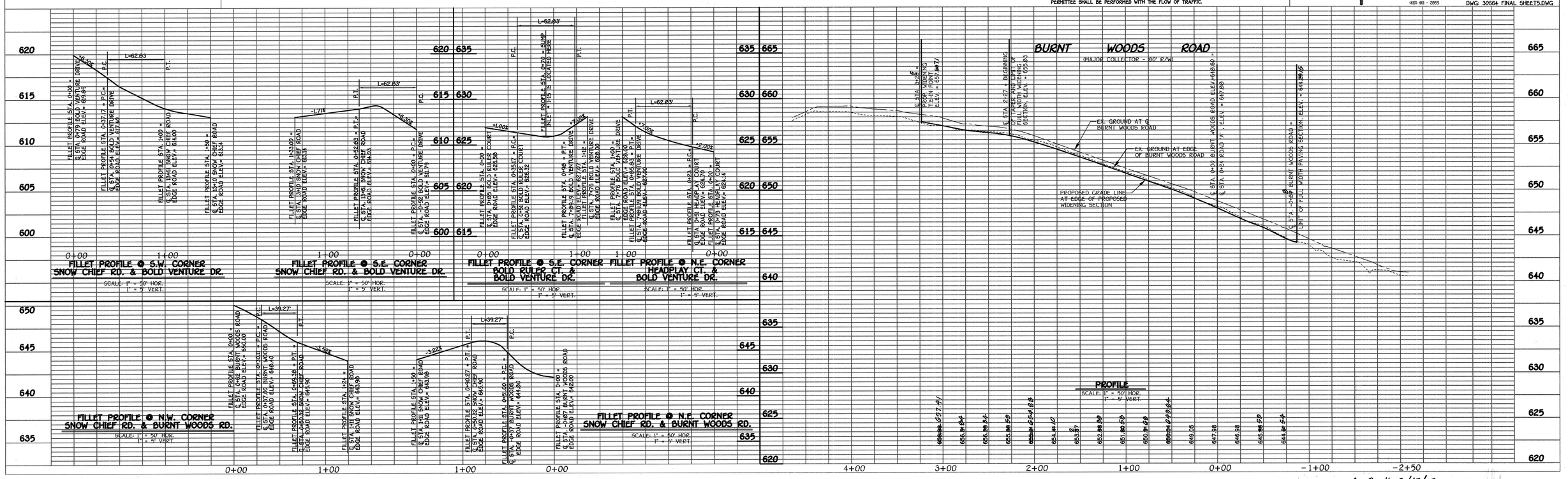
PLAN, PROFILE, TRAFFIC MAINTENANCE, CROSS SECTIONS, TURNING MOVEMENTS AND FILLET PROFILES FOR SNOW CHIEF ROAD, BOLD VENTURE DRIVE, HEAD PLAY COURT AND BOLD RULER COURT

OWNERS	DEVELOPER
GRETCHEN MOBBERLEY SUMMER HILL FARM c/o JOHN E. BITTNER, PRESIDENT ROUTE 144 1501 SOUTH EDGEWOOD STREET, WEST FRIENDSHIP, SUITE K MARYLAND 21794 BALTIMORE, MARYLAND 21227	PULTE HOME CORPORATION c/o JOHN E. BITTNER, PRESIDENT 1501 SOUTH EDGEWOOD STREET, SUITE K BALTIMORE, MARYLAND 21227

SCALE: AS SHOWN	DATE: APRIL 7, 2000	DWG. NO. 5 OF 19
DES. F.M. / R.I.	DRN. F.M. / R.I.	CHK. Z. Y. FISCH

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

DWG 30564 FINAL SHEETS.DWG



As Built 2/17/03

F 00-71

"I/We Certify That All Development And/Or Construction Will Be Done According To These Plans, And That Any Responsible Personnel Involved In The Construction Project Will Have A Certificate Of Attendance At A Department Of The Environment Approved Training Program For The Control Of Sediment And Erosion Before Beginning The Project. I Shall Engage A Registered Professional Engineer To Supervise Pond Construction And Provide The Howard Soil Conservation District With An "As-Built" Plan Of The Pond Within 30 Days Of Completion. I Also Authorize Periodic On-Site Inspections By The Howard Soil Conservation District."

Signature Of Developer — Date: 5/5/00

MICHAEL FITZGERALD
Printed Name Of Developer

By The Engineer:

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

Signature Of Engineer — Date: 5/5/00

ZACHARIA Y. FISHER

Printed Name Of Engineer

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

USDA-Natural Resources Conservation Service — Date: 5/15/00

PLAN

SCALE: 1"=50'

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

Howard Soil Conservation District — Date: 5/15/00

Approved: Department Of Public Works

Chief Bureau Of Highways — Date: 6-20-00

Approved: Department Of Planning And Zoning

Chief, Division Of Land Development — Date: 6/27/00

Chief, Development Engineering Division — Date: 6/21/00

AS-BUILT CERTIFICATION

I Hereby Certify That The Facility Shown On This Plan Was Constructed As Shown On The " As-Built" Plans And Meets The Approved Plans And Specifications.

Signature — P.E. No.

Date:

Certify Means To State Or Declare A Professional Opinion Based Upon Onsite Inspections And Material Tests Which Are Conducted During Construction. The Onsite Inspections And Material Tests Are Those Inspections And Tests Deemed Sufficient And Appropriate Commonly Accepted Engineering Standards. Certify Does Not mean Or Imply A Guarantee By The Engineer Nor Does An Engineer's Certification Relieve Any Other Party From Meeting Requirements Imposed By Contract, Employment, Or Other Means, Including Meeting Commonly Accepted Industry Practices.

S.W.M. POND / SEDIMENT BASIN NO. 1

DRAINAGE AREA = 3.89 AC. - AREA INSIDE DIVERSIONS
MIN. REQUIRED VOLUME = 14,004 ft^3
TOTAL VOLUME PROVIDED = 347,609 ft^3
VOLUME REQUIRED AT WET POND STORAGE = 7,002 ft^3
VOLUME PROVIDED AT WET POND STORAGE = 8,142 ft^3
ELEVATION AT WET POND STORAGE = 586.00
VOLUME REQUIRED AT DRY STORAGE = 7,002 ft^3
VOLUME PROVIDED AT DRY STORAGE = 7,148 ft^3
ELEVATION AT DRY POND STORAGE = 586.57
CLEANOUT ELEVATION = 586.29

NOTES:

1) FOR STORM WATER MANAGEMENT BORINGS 1 THRU 3, SEE SOIL BORING PROFILES SHEET 9.
2) CONSTRUCT TEMPORARY TRAP 100' L. x 35' W. x 2'H. FOR WET POND STORAGE TO INITIALLY START THE RECONSTRUCTION OF THE RISER. INSTALL UPRIGHT DEWATERING DEVICE TO ELEVATION 587.00.

STATE OF MARYLAND — ZACHARIA Y. FISHER — NO. 9757 — REGISTERED PROFESSIONAL ENGINEER

2/17/03

LEGEND

SILT FENCE	SF — SF — SF
SUPER SILT FENCE	SSF — SSF — SSF
LIMIT OF DISTURBANCE	L.O.D.
EARTH DIKE/TREATMENT TYPE	
DENOTES LIMIT OF WETLANDS AND WATERS OF THE U.S.	
AT GRADE INLET PROTECTION	A.G.I.P.
STANDARD INLET PROTECTION	S.I.P.
REMOVEABLE PUMP STATION	R.P.S.
FILTER BAG	F.B.

STREET TREE SCHEDULE (THIS SHEET)

SYMBOL	BOTANICAL AND COMMON NAME	SIZE	COMMENTS
◯	ACER RUBRUM 'OCTOBER GLORY' RED MAPLE	2 1/2-3" CAL.	40' APART ON PUBLIC R/W

NOTE: STREET TREE TYPE IS ONLY A RECOMMENDATION. THIS MAY BE REVISED TO A COUNTY ACCEPTABLE EQUIVALENT.

TOTAL NUMBER OF STREET TREES: 57 TREES SURETY FOR 57 TREES x $300.00(EACH) = $17,100 (THIS SHEET)

◯ - 57 TREES

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

F.C.C.#30664 STREET TREE GRADING 6.dwg

OWNERS

GRETCHEN MOBBERLEY
SUMMER HILL FARM
ROUTE 144
WEST FRIENDSHIP, MARYLAND 21794

PULTE HOME CORPORATION
c/o JOHN E. BITTNER, PRESIDENT
1501 SOUTH EDGEWOOD STREET, SUITE K
BALTIMORE, MARYLAND 21227

DEVELOPER

PULTE HOME CORPORATION
c/o JOHN E. BITTNER, PRESIDENT
1501 SOUTH EDGEWOOD STREET, SUITE K
BALTIMORE, MARYLAND 21227

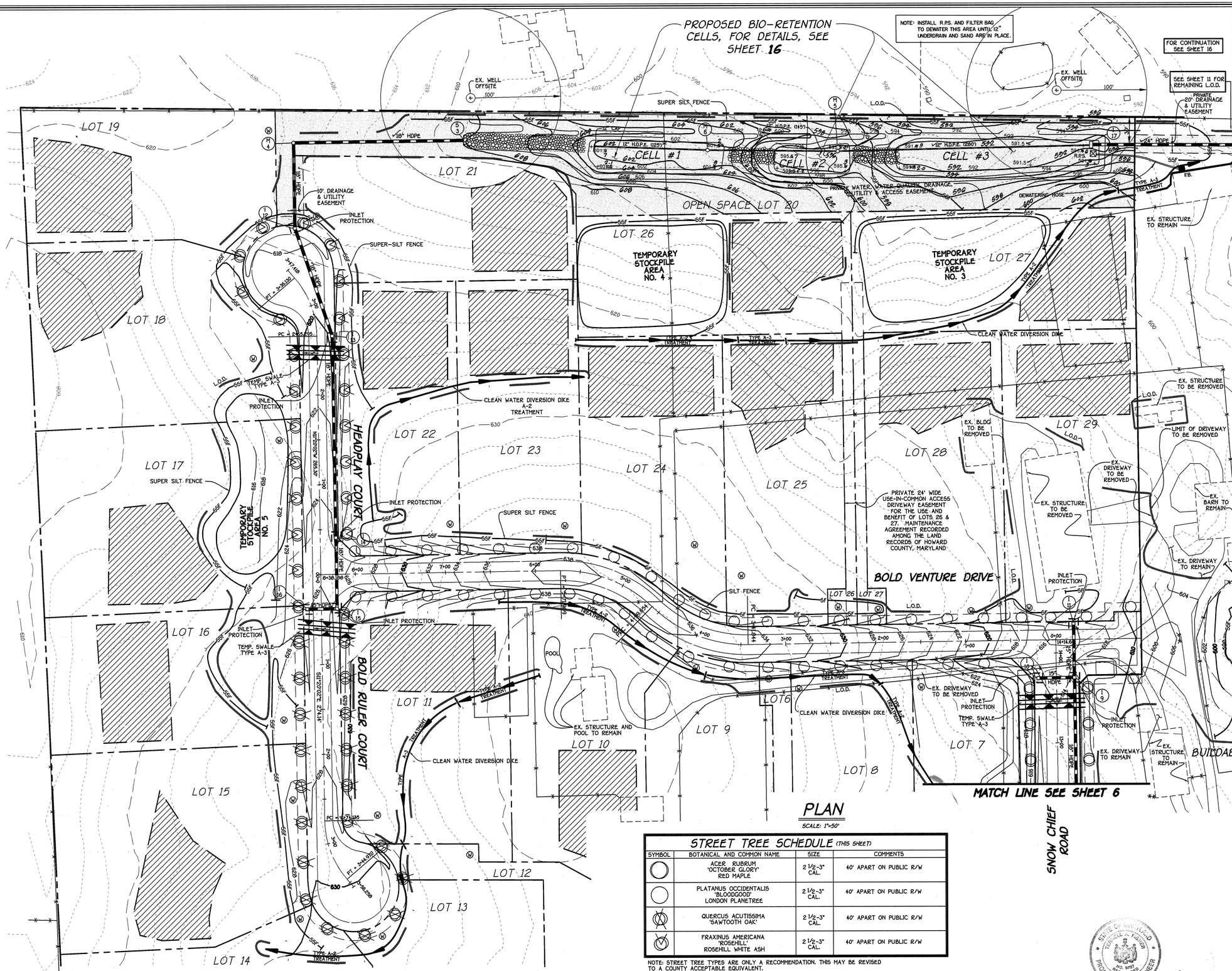
STREET TREE, GRADING AND SEDIMENT CONTROL PLAN

THE PADDOCKS

LOTS 1-33 & PRESERVATION PARCELS 'A' AND 'B'

ZONED RR-DEO
TAX MAP NO. 22 PARCEL NOs. 141 AND 234
THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: APRIL 7, 2000
SHEET 6 OF 19

As Built 2/17/03 F00-71



PLAN

SCALE: 1"=50'

By The Developer:

"I/We Certify That All Development And/Or Construction Will Be Done According To These Plans, And That Any Responsible Personnel Involved In The Construction Project Will Have A Certificate Of Attendance At A Department Of The Environment Approved Training Program For The Control Of Sediment And Erosion Before Beginning The Project. I Shall Engage A Registered Professional Engineer To Supervise Pond Construction And Provide The Howard Soil Conservation District With An "As-Built" Plan Of The Pond Within 30 Days Of Completion. I Also Authorize Periodic On-Site Inspections By The Howard Soil Conservation District."

Signature Of Developer — Date: 4/25/00

MICHAEL FITZGERALD
Printed Name Of Developer

By The Engineer:

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

Signature Of Engineer — Date: 4/26/00

ZACHARIA Y. FISCHER
Printed Name Of Engineer

STATE OF MARYLAND — ZACHARIA Y. FISCHER — No. 22418 — PROFESSIONAL ENGINEER

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

USDA-Natural Resources Conservation Service — Date: 5/15/00

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

Howard Soil Conservation District — Date: 5/15/00

Approved: Department Of Public Works

Chief, Bureau Of Highways — Date: 6-20-00

Approved: Department Of Planning And Zoning

Chief, Division Of Land Development — Date: 6/27/00

Chief, Development Engineering Division — Date: 6/21/00

AS-BUILT CERTIFICATION

I Hereby Certify That The Facility Shown On This Plan Was Constructed As Shown On The " As-Built" Plans And Meets The Approved Plans And Specifications.

Signature — P.E. No. — Date:

Certify Means To State Or Declare A Professional Opinion Based Upon Onsite Inspections And Material Tests Which Are Conducted During Construction. The Onsite Inspections And Material Tests Are Those Inspections And Tests Deemed Sufficient And Appropriate Commonly Accepted Engineering Standards. Certify Does Not mean Or Imply A Guarantee By The Engineer Nor Does An Engineer's Certification Relieve Any Other Party From Meeting Requirements Imposed By Contract, Employment, Or Other Means, Including Meeting Commonly Accepted Industry Practices.

NOTE: STABILIZE ALL DISTURBED AREAS AT THE END OF THE TEE-TURN AROUND WITH SOLID SODDING.

STREET TREE SCHEDULE (THIS SHEET)

SYMBOL	BOTANICAL AND COMMON NAME	SIZE	COMMENTS
	ACER RUBRUM 'OCTOBER GLORY' RED MAPLE	2 1/2-3" CAL.	40' APART ON PUBLIC R/W
	PLATANUS OCCIDENTALIS 'BLOODGOOD' LONDON PLANETREE	2 1/2-3" CAL.	40' APART ON PUBLIC R/W
	QUERCUS ACUTISSIMA 'SAWTOOTH OAK'	2 1/2-3" CAL.	40' APART ON PUBLIC R/W
	FRAXINUS AMERICANA 'ROSEHILL' ROSEHILL WHITE ASH	2 1/2-3" CAL.	40' APART ON PUBLIC R/W

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

- 6 TREES
- 43 TREES
- 21 TREES
- 21 TREES

TOTAL NUMBER OF STREET TREES: 91 TREES (SURETY AMOUNT = 91 TREES X $300.00)= $27,300.00 (THIS SHEET)
TOTAL SURETY AMOUNT DUE FOR THIS JOB = $27,300.00 + $17,100.00 = $44,400.00 (148 STREET TREES TOTAL)

STATE OF MARYLAND — TERRELL W. FISHER — No. 9795 — REGISTERED PROFESSIONAL ENGINEER

As-Built 2/17/03

LEGEND

SILT FENCE	SF — SF — SF
SUPER SILT FENCE	SSF — SSF — SSF
LIMIT OF DISTURBANCE	L.O.D.
EARTH DIKE/TREATMENT TYPE	
AT GRADE INLET PROTECTION	
REMOVEABLE PUMPING STATION	R.P.S.
FILTER BAG	F.B.

STREET TREE, GRADING AND SEDIMENT CONTROL PLAN

THE PADDOCKS

LOTS 1-33 & PRESERVATION PARCELS 'A' AND 'B'

ZONED RR-DEO
TAX MAP NO. 22 — PARCEL NOs. 141 AND 234
THIRD ELECTION DISTRICT — HOWARD COUNTY, MARYLAND
DATE: APRIL 7, 2000
SHEET 7 OF 19

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

F.C.C.#30664 STREET TREE GRADING 7.DWG

OWNERS

GRETCHEN MOBBERLEY
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ROUTE 144
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1501 SOUTH EDGEWOOD STREET, SUITE K
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DEVELOPER

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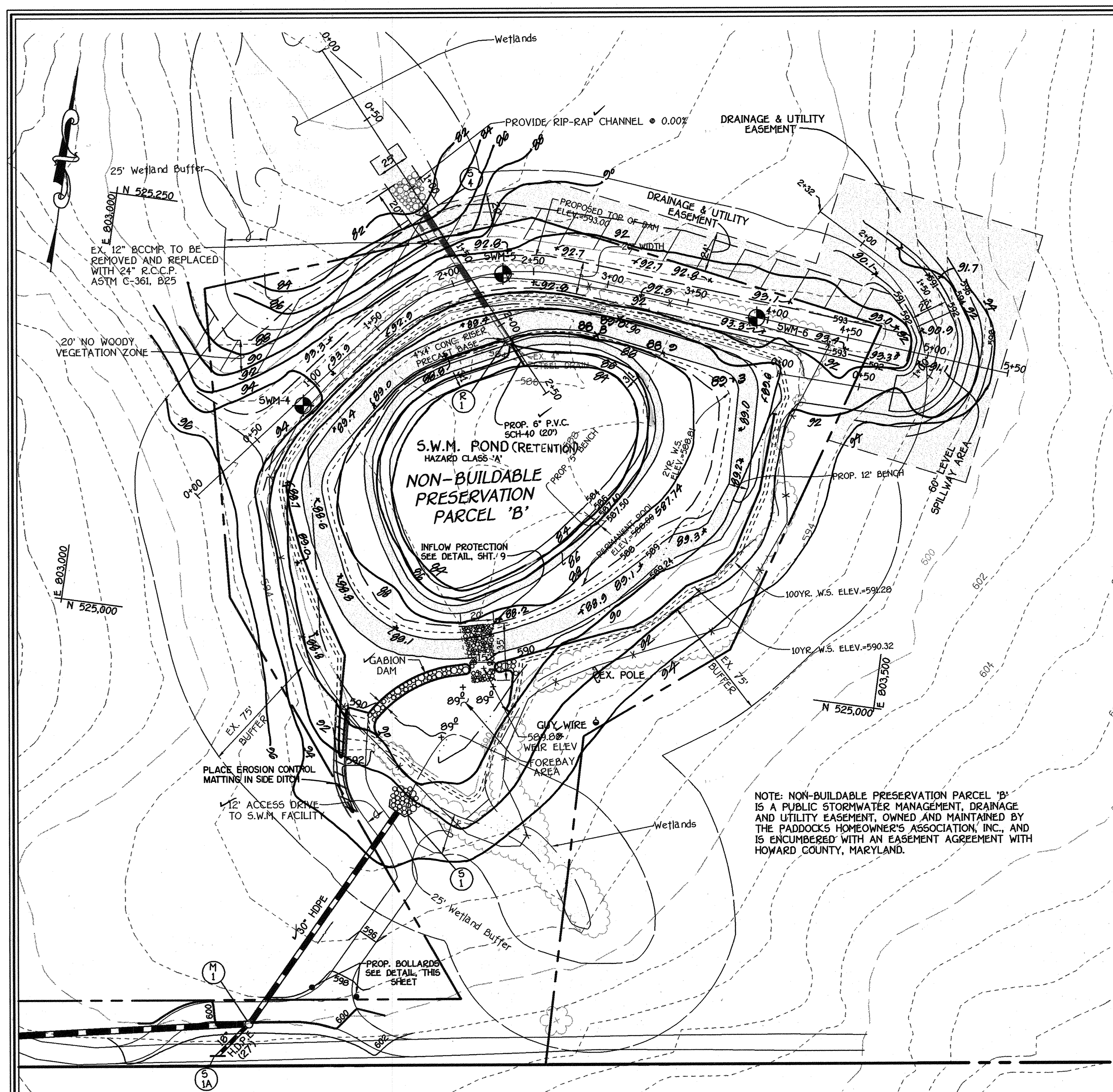
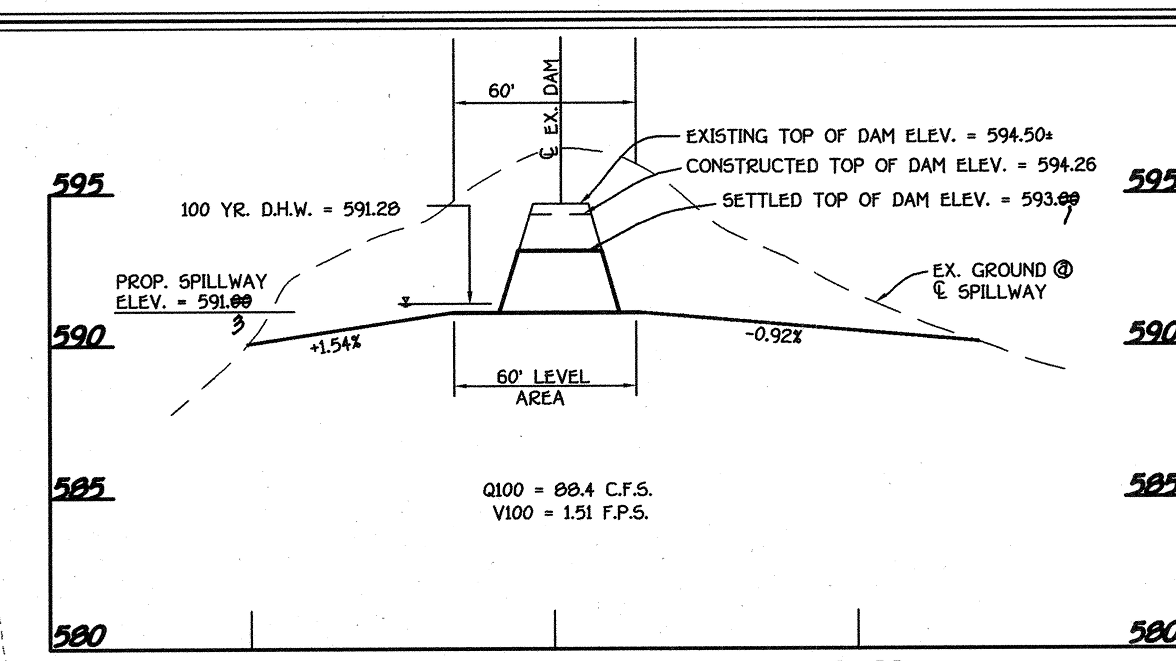
c/o JOHN E. BITTNER, PRESIDENT
1501 SOUTH EDGEWOOD STREET, SUITE K
BALTIMORE, MARYLAND 21227

As Built 2/17/03 F00-71

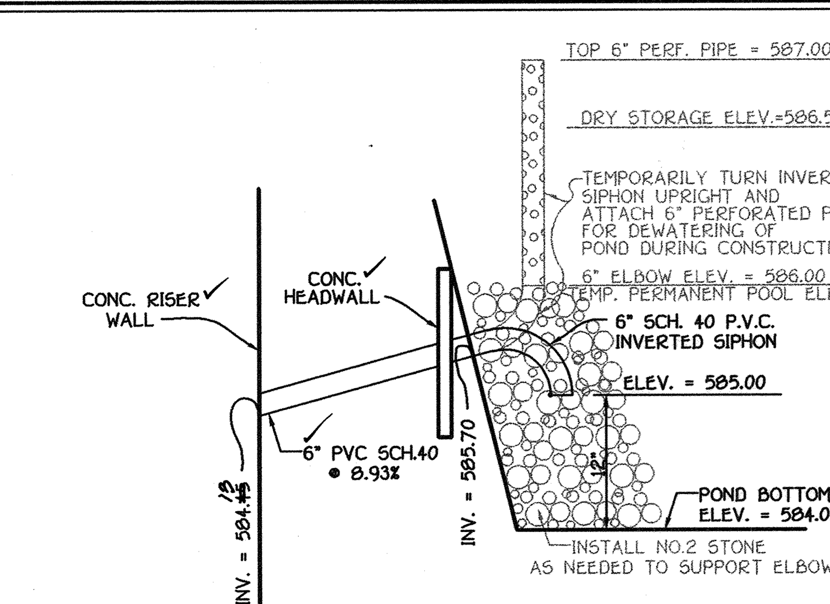


NOTE: NON-BUILDABLE PRESERVATION PARCEL 'B' IS A PUBLIC STORMWATER MANAGEMENT, DRAINAGE AND UTILITY EASEMENT, OWNED AND MAINTAINED BY THE PADDOCKS HOMEOWNER'S ASSOCIATION, INC., AND IS ENCUMBERED WITH AN EASEMENT AGREEMENT WITH HOWARD COUNTY, MARYLAND.

PLAN
SCALE: 1"= 50'



PROFILE THRU EMERGENCY SPILLWAY
SCALE: HOR. 1"=50' VER. 1"=5'



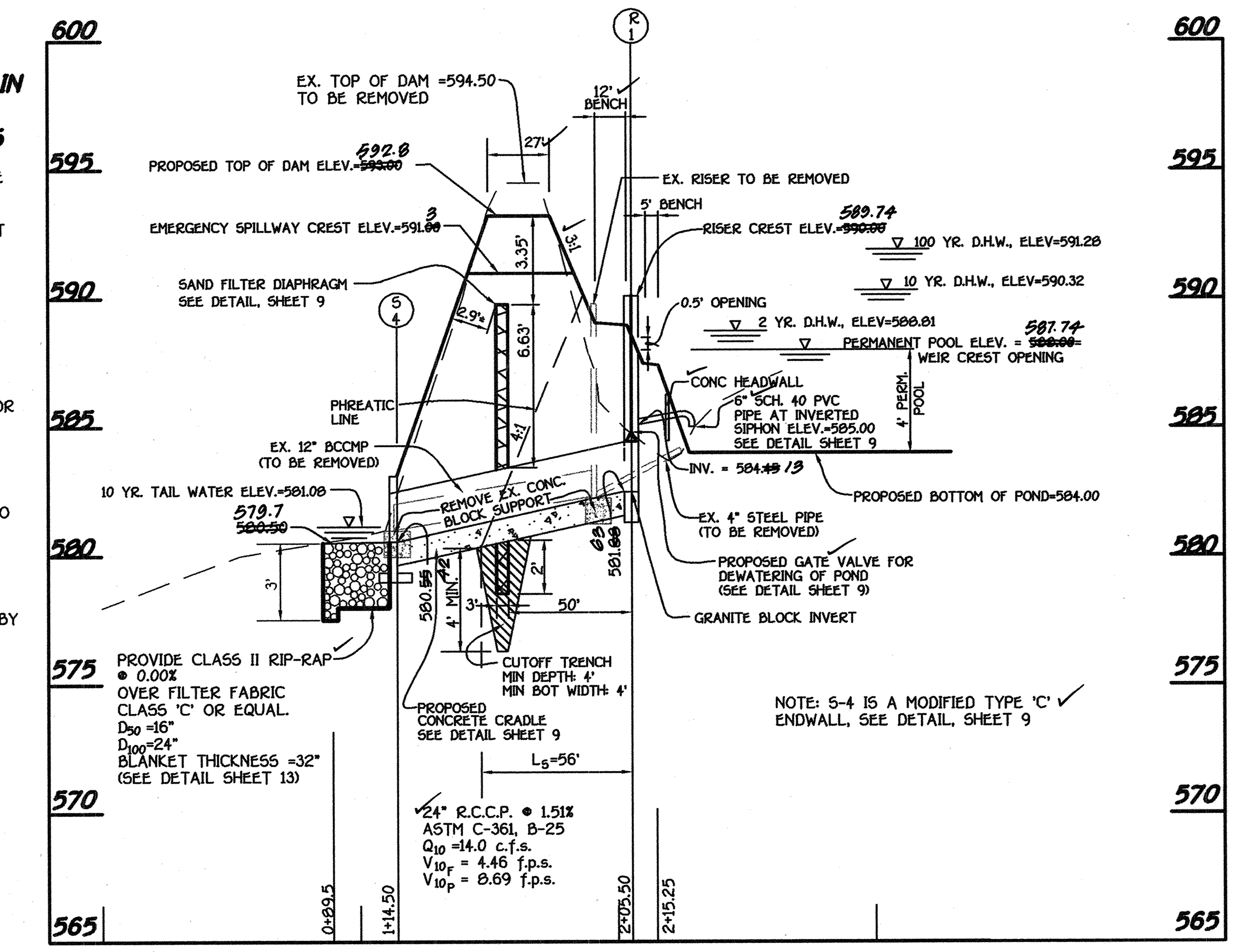
INVERTED SIPHON DETAIL
NOT TO SCALE

BEST MANAGEMENT PRACTCES FOR WORKING IN NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS, AND 100 - YEAR FLOODPLAINS

1) NO EXCESS FILL, CONSTRUCTION MATERIAL, OR DEBRIS SHALL BE STOCKPILED OR STORED IN NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.
2) PLACE MATERIALS IN A LOCATION AND MANNER WHICH DOES NOT ADVERSLY IMPACT SURFACE OR SUBSURFACE WATER FLOW INTO OR OUT OF NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.
3) DO NOT USE THE EXCAVATED MATERIAL AS BACKFILL IF IT CONTAINS WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE. IF ADDITIONAL BACKFILL IS REQUIRED, USE CLEAN MATERIAL FREE OF WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE.
4) PLACE HEAVY EQUIPMENT ON MATS OR SUITABLY OPERATE THE EQUIPMENT TO PREVENT DAMAGE TO NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.
5) REPAIR AND MAINTAIN ANY SERVICEABLE STRUCTURE OR FILL SO THERE IS NO PERMANENT LOSS OF NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, OR WATERWAYS, OR PERMANENT MODIFICATION OF THE 100-YEAR FLOODPLAIN IN EXCESS OF THAT LOST UNDER THE ORIGNALLY AUTHORIZED STRUCTURE OR FILL.
6) RECTIFY ANY NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS, OR 100-YEAR FLOODPLAIN TEMPORARILY IMPACTED BY ANY CONSTRUCTION.
7) ANY STABLIZATION IN THE NONTIDAL WETLAND AND NONTIDAL WETLAND BUFFER SHALL CONSIST OF THE FOLLOWING SPECIES: ANNUAL RYEGRASS (LOLIUM MULTIFORM), MILLET (SETARIA ITALICA), BARLEY (HORDEUM SP.), OATS (UNIOLA SP.), AND/OR RYE (SECALE CEREALE). THESE SPECIES WILL ALLOW FOR THE STABILIZATION OF THE SITE WHILE ALSO ALLOWING FOR THE VOLUNTARY REVEGETATION OF NATURAL WETLAND SPECIES. OTHER NON-PERSISTANT VEGETATION MAY BE ACCEPTABLE, BUT MUST BE APPROVED BY THE NONTIDAL WETLANDS AND WATERWAYS DIVISION. KENTUCKY 31 FESCUE SHALL NOT BE UTILIZED IN WETLAND OR BUFFER AREAS. THE AREA SHOULD BE SEEDED AND MULCHED TO REDUCE EROSION AFTER CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED.
8) AFTER INSTALLATION HAS BEEN COMPLETED, MAKE POST CONSTRUCTION GRADES AND ELEVATIONS THE SAME AS THE ORIGINAL GRADES AND ELEVATIONS IN TEMPORARILY IMPACTED AREAS.
9) TO PROTECT AQUATIC SPECIES, IN-STREAM WORK IS PROHIBITED AS DETERMINED BY THE CLASSIFICATION OF THE STREAM:

USE I WATERS: IN STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD MARCH 1 THROUGH JUNE 15, INCLUSIVE, DURING ANY YEAR.

10) STORMWATER RUNOFF FROM IMPERVIOUS SURFACES SHALL BE CONTROLLED TO PREVENT THE WASHING OF DEBRIS INTO THE WATERWAY.
11) CULVERTS SHALL BE CONSTRUCTED AND ANY RIPRAP PLACED SO AS NOT TO OBSTRUCT THE MOVEMENT OF AQUATIC SPECIES, UNLESS THE PURPOSE OF THE ACTIVITY IS TO IMPOUND WATER.



PROFILE ALONG ℄ PRINCIPLE SPILLWAY
SCALE: HOR. 1"=50' VER. 1"=5'

DESIGN SUMMARY - TR-20

DESIGN STORM	CONTROL STRUCTURE ELEVS.	ALLOWABLE RELEASE RATE	FACILITY INFLOW	FACILITY DISCHARGE	WATER SURFACE ELEVATION	STORAGE VOLUME (AC.FT.) (PROVIDED)	STORAGE VOLUME (AC.FT.) (REQUIRED)
2 YEAR	588.00	3.0 CFS	20.5 CFS	2.70 CFS	588.81	0.630	0.52
10 YEAR	590.00	32.0 CFS	76.9 CFS	14.0 CFS	590.32	2.36	1.58
100 YEAR	591.00	N/A	156.3 CFS	87.8 CFS	591.28	3.65	3.06

STORAGE - 0.5401 AC.FT. x 5.81' = 3.14
WATERSHED AREA TO FACILITY (ACRES): 3.04 AC. - DURING CONSTRUCTION
DRAINAGE AREA TO FACILITY = 0.0693 SQ. MI. OR 44.35 AC±

By The Developer:

"I/We Certify That All Development And/Or Construction Will Be Done According To These Plans, And That Any Responsible Personnel Involved In The Construction Project Will Have A Certificate Of Attendance At A Department Of The Environment Approved Training Program For The Control Of Sediment And Erosion Before Beginning The Project. I Shall Engage A Registered Professional Engineer To Supervise Pond Construction And Provide The Howard Soil Conservation District With An "As-Built" Plan Of The Pond Within 30 Days Of Completion. I Also Authorize Periodic On-Site Inspections By The Howard Soil Conservation District."

[signature] 4/25/00
Signature Of Developer — Date

MICHAEL FITZGERALD
Printed Name Of Developer

By The Engineer:

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

Zacharia Y. Fisch 4/26/00
Signature Of Engineer — Date

ZACHARIA Y. FISCH
Printed Name Of Engineer

STATE OF MARYLAND · ZACHARIA Y. FISCH · 22418 · PROFESSIONAL ENGINEER

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

[signature] 5/15/00
USDA-Natural Resources Conservation Service — Date

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

[signature] 5/15/00
Howard Soil Conservation District — Date

Approved: Department Of Public Works
[signature] 6-20-00
Chief Bureau Of Highways — Date

Approved: Department Of Planning And Zoning
[signature] 6/27/00
Chief, Division Of Land Development — Date

[signature] 6/21/00
Chief, Development Engineering Division — Date

AS-BUILT CERTIFICATION

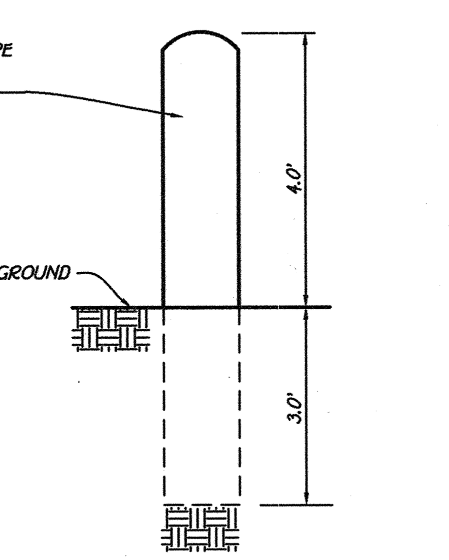
I Hereby Certify That The Facility Shown On This Plan Was Constructed As Shown On The " As-Built" Plans And Meets The Approved Plans And Specifications.

Signature — P.E. No.
Date:

Certify Means To State Or Declare A Professional Opinion Based Upon Onsite Inspections And Material Tests Which Are Conducted During Construction. The Onsite Inspections And Material Tests Are Those Inspections And Tests Deemed Sufficient And Appropriate Commonly Accepted Engineering Standards. Certify Does Not Mean Or Imply A Guarantee By The Engineer Nor Does An Engineer's Certification Relieve Any Other Party From Meeting Requirements Imposed By Contract, Employment, Or Other Means, Including Meeting Commonly Accepted Industry Practices.

OPERATION, MAINTENANCE AND INSPECTION

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



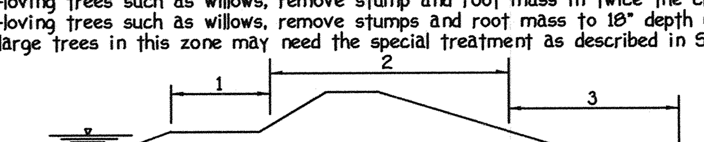
TYPICAL BOLLARD DETAIL
NOT TO SCALE

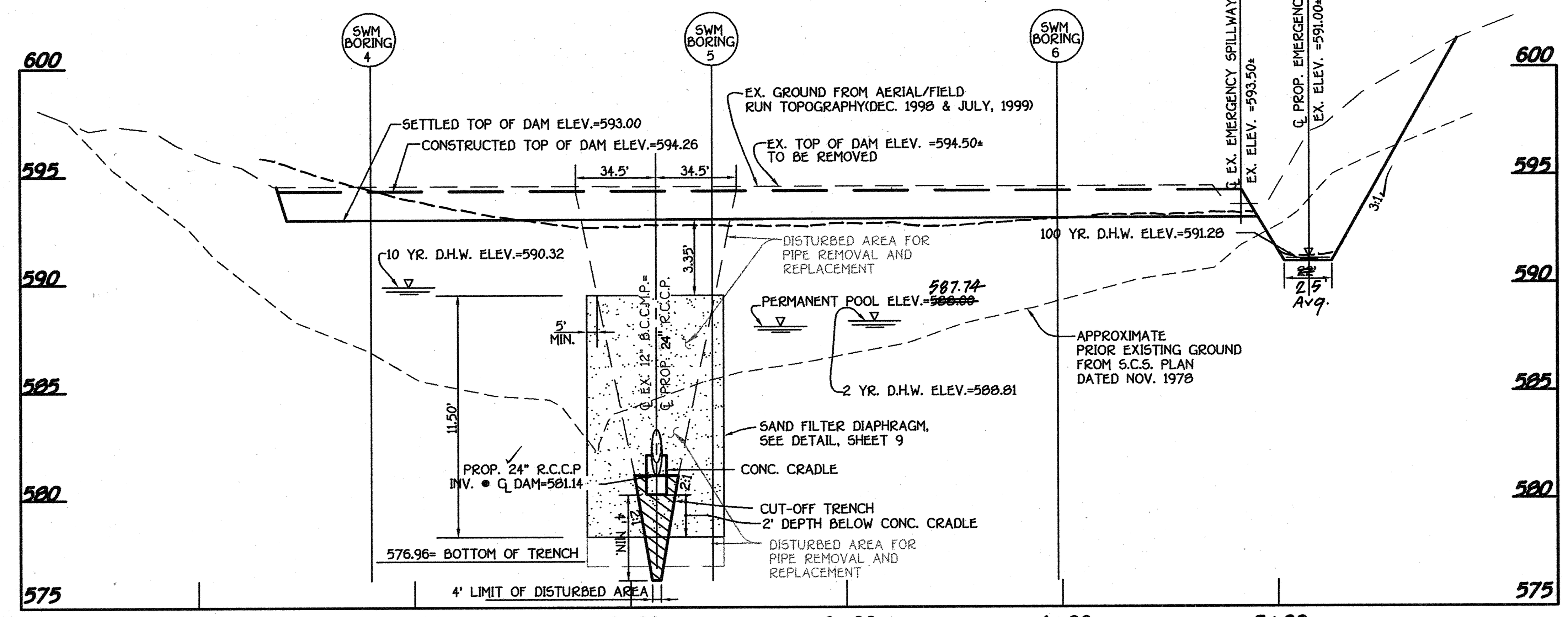
TABLE A - FROM S.C.S. AND THE U.S.D.A. TECHNICAL NOTE #705

GENERAL RECOMMENDATIONS FOR TREE REMOVAL IN EXISTING POND 1/

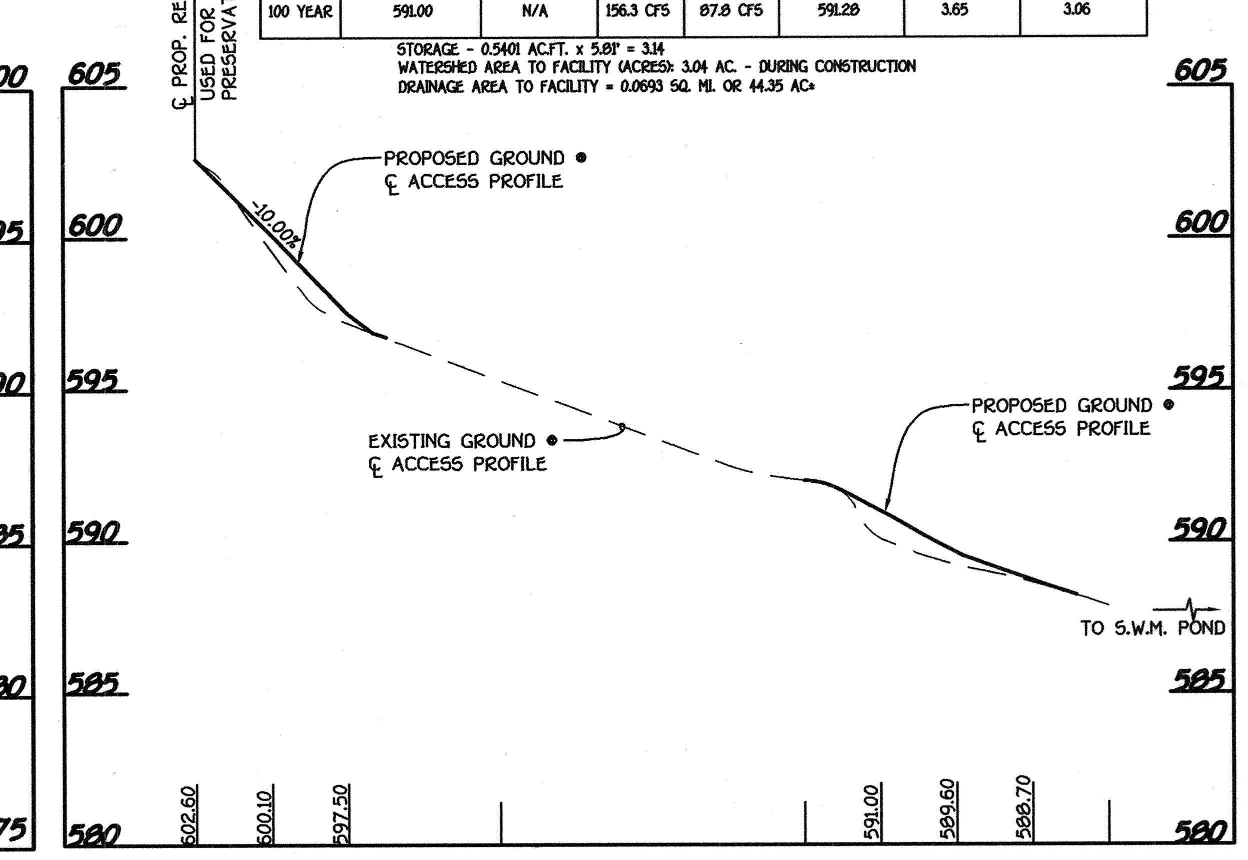
TREE LOCATION ZONE	TREE TYPE A (TAP ROOTS)				TREE TYPE B (SPREADING ROOTS)			
	DBH < 8'		DBH ≥ 8'		DBH < 8'		DBH ≥ 8'	
	LIGHT COVER	HEAVY COVER	LIGHT COVER	HEAVY COVER	LIGHT COVER	HEAVY COVER	LIGHT COVER	HEAVY COVER
1 1/	CUT & KILL STUMPS.	CUT & KILL STUMPS.	CUT & KILL STUMPS.	CUT & KILL STUMPS.	CUT & KILL STUMPS.	CUT & KILL STUMPS.	CUT & KILL STUMPS.	CUT & KILL STUMPS.
2 4/	CUT & KILL STUMPS. 2/	CUT & GRUB STUMPS AND ROOT MASS TO 18" DEPTH UNIFORMLY.	CUT & GRUB STUMPS AND ROOT MASS TO 24" DEPTH IN 1/2" CROWN WIDTH DIAMETER AREA.	CUT & GRUB STUMPS AND ROOT MASS TO 24" DEPTH UNIFORMLY.	CUT & KILL STUMPS. 2/	CUT & GRUB STUMPS AND ROOT MASS TO 12" DEPTH UNIFORMLY.	CUT & GRUB STUMPS AND ROOT MASS TO 18" DEPTH IN CROWN WIDTH DIAMETER AREA.	CUT & GRUB STUMPS AND ROOT MASS TO 18" DEPTH UNIFORMLY.
3 7/	CUT & KILL STUMPS.	CUT & GRUB STUMPS AND ROOT MASS TO 18" DEPTH UNIFORMLY.	CUT & GRUB STUMPS AND ROOT MASS TO 24" DEPTH IN 1/2" CROWN WIDTH DIAMETER AREA. 3/	CUT & GRUB STUMPS AND ROOT MASS UNIFORMLY TO 18" DEPTH.	CUT & KILL STUMPS. 5/	CUT & GRUB STUMPS AND ROOT MASS TO 12" DEPTH UNIFORMLY. 5/	CUT & GRUB STUMPS AND ROOT MASS TO 18" DEPTH IN CROWN WIDTH DIAMETER AREA. 3/ 5/	CUT & GRUB STUMPS AND ROOT MASS UNIFORMLY TO 12" DEPTH. 6/

1/ Tree growth smaller than 2" DBH will be removed by spraying, injection or cutting and stump killing. Trees and shrubs planted for shoreline protection in Zone 1 shall be maintained at heights < 4 feet.
2/ In embankment type (a) dispersed soil--cut stumps 12 inches below surface and backfill with compacted soil.
3/ In embankment type (d) earthfill with low piping potential--cut and kill stumps.
4/ In riprapped or heavy rockfill sections, grubbing is not required.
5/ For water-loving trees such as willows, remove stump and root mass in twice the crown width area.
6/ For water-loving trees such as willows, remove stumps and root mass to 18" depth uniformly.
7/ Individual large trees in this zone may need the special treatment as described in Section 3.





PROFILE ALONG ℄ TOP DAM
SCALE: HOR. 1"=50' VER. 1"=5'



S.W.M. POND ACCESS PROFILE
SCALE: HOR. 1"=50' VER. 1"=5'

NOTES:

1. THE POND SHALL BE RECONSTRUCTED UNDER THE SUPERVISION OF A GEO-TECHNICAL ENGINEER. AFTER RECONSTRUCTION, THE POND SHALL BE MONITORED BY A GEO-TECHNICAL ENGINEER FOR STABILITY AND LEAKS UNTIL DEDICATION TO HOWARD COUNTY.
2. FOR JOINING THE 24" RCCP, ASTM C-361, B-25 PIPE, MASTIC GROUT SHALL BE USED. SEE DETAIL, SHEET 9.

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

F.C.C.# 30664 SWM SHEET 8.DWG

OWNERS

GRETCHEN MOBBERLEY
SUMMER HILL FARM
ROUTE 144
WEST FRIENDSHIP, MARYLAND 21794

THEODORE C. AND BETTY J. OWENS
c/o MISSY RUTH
ROUTE 1
P.O. BOX 170
STAUNTON, VIRGINIA 24401

DEVELOPER

HAILEY DEVELOPMENT, L.C.
c/o RICHARD THOMETZ
7013 HELMSDALE CT.
CLARKSVILLE, MAYLAND 21029

STATE OF MARYLAND · TERRELL A. FISHER · NO. 9757 · REGISTERED PROFESSIONAL ENGINEER
As-Built 2/17/03

STORM WATER MANAGEMENT PLAN AND PROFILES

THE PADDOCKS

LOTS 1 THRU 33 AND PARCELS 'A' AND 'B'
ZONED R-20
TAX MAP NO. 22 PARCEL NO. 141 AND 234
THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: APRIL 7, 2000

As Built 2/17/03

F00-71

BORING SWM-1

DESCRIPTION OF MATERIALS	DEPTH	REMARKS
	SURFACE	
YELLOW-BROWN, DRY TO MOIST, MEDIUM DENSE TO LOOSE, SILT AND CLAY, SOME MEDIUM TO FINE SAND,(ML) AASHTO A-4 USDA: LOAM		3" TOPSOIL
BROWN , MOIST, LOOSE, MICACEOUS,SILT AND SAND. (SM) AASHTO: A-4	10.0	NO GROUNDWATER ENCOUNTERED WHILE DRILLING
BOTTOM OF HOLE AT 15'	15.0	

BORING SWM-2

DESCRIPTION OF MATERIALS	DEPTH	REMARKS
	SURFACE	
YELLOW-BROWN, DRY TO MOIST, MEDIUM-DENSE TO LOOSE, SAND AND CLAYEY SILT. (SM) AASHTO: A-4 USDA: SANDY LOAM		3" TOPSOIL
BROWN TO GRAY-BROWN, MOIST, MEDIUM DENSE, MICACEOUS, SAND AND SILT. (SM) AASHTO: A-4	11.0	NO GROUNDWATER ENCOUNTERED WHILE DRILLING
BOTTOM OF HOLE AT 15.0'	15.0	

BORING SWM-3

DESCRIPTION OF MATERIALS	DEPTH	REMARKS
	SURFACE	
BROWN, DRY, MEDIUM DENSE, CLAYEY SILT AND FINE SAND, TRACE GRAVEL (ML) AASHTO: A-4		1" TOPSOIL
YELLOW-RED, MOIST, MEDIUM DENSE TO LOOSE, SILT AND FINE SAND, SOME SILT (SM) AASHTO: A-4	2.0	
LIGHT GREY-BROWN, MOIST, MEDIUM DENSE, MEDIUM TO FINE SAND AND CLAYEY SILT (SM) AASHTO: A-4 USDA: SANDY LOAM	6.0	NO GROUNDWATER ENCOUNTERED WHILE DRILLING
BOTTOM OF HOLE AT 15.0'	15.0	

BORING SWM-4

DESCRIPTION OF MATERIALS	DEPTH	REMARKS
	SURFACE	
BROWN, MOIST TO DRY, MEDIUM DENSE TO LOOSE SILT AND COARSE TO FINE SAND, SOME GRAVEL. (SM) (FILL) AASHTO: A-4		2" TOPSOIL
BROWN AND GRAY-BROWN, MOIST, LOOSE SILT AND SAND, SOME ORGANICS, (MLY FILL) AASHTO: A-4	8.0	NO GROUNDWATER ENCOUNTERED WHILE DRILLING
YELLOW-BROWN, MOIST, LOOSE COARSE TO FINE SAND AND SILT, SOME IRON CEMENTATION (SM) AASHTO: A-4	12'	
BOTTOM OF HOLE AT 16'	11.5	

BORING SWM-5

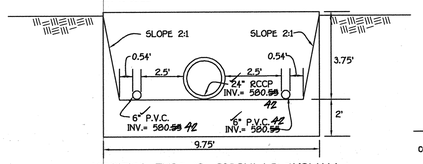
DESCRIPTION OF MATERIALS	DEPTH	REMARKS
	SURFACE	
BROWN, DRY TO MOIST, MEDIUM-DENSE TO LOOSE, MEDIUM TO FINE SAND AND SILT, TRACE ORGANICS (SM) (FILL) AASHTO: A-4		3" TOPSOIL
GRAY-BROWN, MOIST, SOFT, CLAYEY SILT AND MEDIUM TO FINE SAND (ML) (FILL) AASHTO: A-4	8.0	
BROWN, MOIST, MEDIUM DENSE, IRON CEMENTATION TO FINE SAND (ML) (FILL) AASHTO: A-4	13.0	NO GROUNDWATER ENCOUNTERED WHILE DRILLING
BROWN, MOIST, LOOSE, SILT AND SAND (CS) AASHTO: A-4	15.0	
BOTTOM OF HOLE AT 16.0'	16.0	

BORING SWM-6

DESCRIPTION OF MATERIALS	DEPTH	REMARKS
	SURFACE	
BROWN, MOIST, MEDIUM DENSE TO DENSE, COARSE TO FINE SAND AND SILT, SOME GRAVEL (SM) (FILL) AASHTO: A-4		3" TOPSOIL
BROWN, MOIST TO WET, LOOSE TO MEDIUM DENSE, MEDIUM TO FINE SAND, SOME SILT (SM) (FILL) AASHTO: A-4	6.0	
BROWN, MOIST TO WET, LOOSE TO MEDIUM DENSE, MEDIUM TO FINE SAND, SOME SILT (SM) AASHTO: A-4	10.0	GROUNDWATER ENCOUNTERED WHILE DRILLING AT 12'
BOTTOM OF HOLE AT 16.0'	16.0	

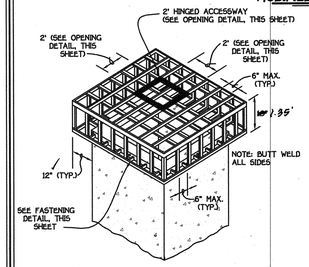
SOIL BORING LOGS

(NOT TO SCALE)



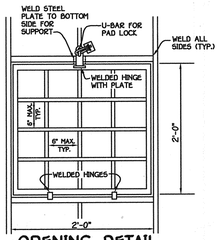
MODIFIED TYPE 'C' CIRCULAR ENDWALL

(NO SCALE)



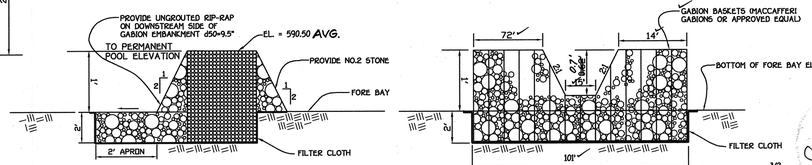
TRASH RACK 'A' DETAIL

NO SCALE



OPENING DETAIL

NO SCALE



Q = 3.1 x 15 x 0.62^3/2 = 22.7 cfs

GABION FILTER AT FORE BAY

(NO SCALE)

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(410) 461 - 2855

F.C.C.-X0056459\MDETAIL5\DWG

370 - 12 Pond

SPECIFICATIONS

These specifications are appropriate to all ponds within the scope of the Standard for practice MD-370. All references to ASTM and 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 1d.

Areas to be covered by the reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material unless otherwise designated on the plans. Trees, brush and stumps shall be cut approximately level with the ground surface. For dry stormwater management ponds, a minimum of a 50 foot radius around the inlet structure shall be cleared.

All cleared and grubbed material shall be disposed of outside and below the limits of the dam and reservoir as directed by the owner or his representative. When specified, a sufficient quantity of topsoil will be stockpiled in a suitable location for use on the embankment and other designated areas.

Earth Fill

Material -The fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, rubbish, stones greater than 6", frozen or other objectionable materials. Fill material for the center of the embankment and cut off trench shall conform to Unified Soil Classification GC, SC, CH, or CL. Consideration may be given to the use of other materials in the embankment if design and construction are supervised by a geotechnical engineer.

Placement - Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in maximum 8 inch thick (before compaction) layers which are to be continuous over the entire length of the fill. The most permeable borrow material shall be placed in the downstream portions of the embankment. The principal spillway must be installed concurrently with fill placement and not excavated into the embankment.

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

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

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 or flatter. The back fill shall be compacted with construction equipment, rollers or hand tampers to assure maximum density and minimum permeability.

Structure Back Fill

Back fill 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 back filling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe, unless there is a compacted fill of 24' or greater over the structure or pipe.

Pipe Conduits

All pipes shall be circular in cross section.

Reinforced Concrete Pipe - All of the following criteria shall apply for reinforced concrete pipe:

1. Materials - Reinforced concrete pipe shall have bell and spigot joints with rubber gaskets and shall equal or exceed ASTM Designation C-361.

2. Bedding - All reinforced concrete pipe conduits shall be laid in a concrete bedding for their entire length. This bedding shall consist of high slump concrete placed under the pipe and up the sides of the pipe at least 1/3 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. Back filling shall conform to "Structure Back fill".

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. Back filling shall conform to "Structure Back fill".

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

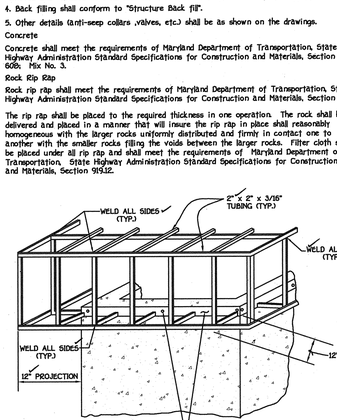
Concrete

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 Rip Rap

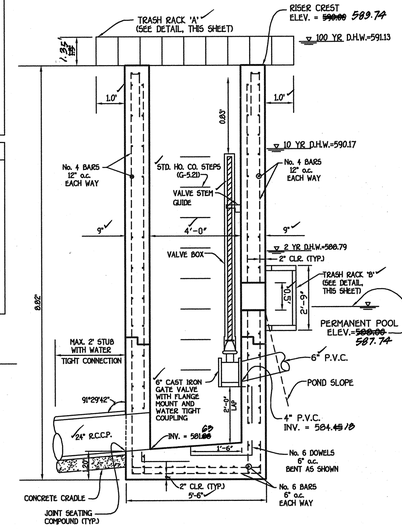
Rock rip rap shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 905.

The rip rap shall be placed to the required thickness in one operation. The rock shall be delivered and placed in a manner that will insure the rip rap in place shall reasonably homogeneous with the larger rocks uniformly distributed and firmly in contact one to another with the smaller rocks filling the voids between the larger rocks. Filter cloth shall be placed under all rip rap and shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 915.12.



FASTENING DETAIL

NO SCALE

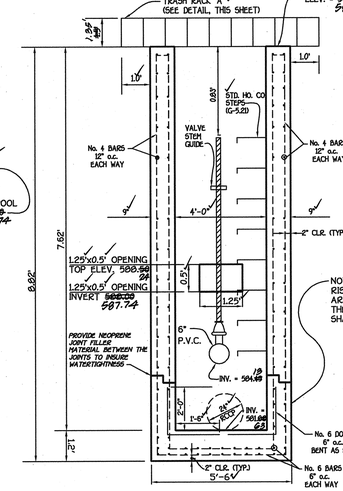


PROFILE VIEW A

CONCRETE RISER DETAIL

(NO SCALE)

NOTE: GATE VALVE TO BE PROVIDED BY MUELLER CO. FROM DECATUR, ILL. PHONE: (217)423-4471 OR APPROVED EQUAL



NOTE: RISER BASE AND WALLS ARE TO BE MONOLITHIC THEREFORE NO KEYWAY SHALL BE PROVIDED

PROFILE VIEW B

CONCRETE RISER DETAIL

(NO SCALE)

Care of Water during Construction

All work on permanent structures shall be carried out in areas free from water. The Contractor shall construct and maintain all temporary dikes, levees, cofferdams, drainage channels, and stream diversions necessary to protect the areas to be occupied by the permanent works. The contractor shall also furnish , install, operate, and maintain all necessary pumping and other equipment required for removal of water from the various parts of the work and for maintaining the excavations, foundation, and other parts of the work free from water as required or directed by the engineer for constructing each part of the work. After having served their purpose, all temporary protective works shall be removed or leveled and graded to the extent required to prevent obstruction in any degree whatsoever of the flow of water to the spillway or outlet works and so as not to interfere in any way with the operation or maintenance of the structure. Stream diversions shall be maintained until the full flow can be passed through the permanent works. The removal of water from the required excavation and the foundation shall be accomplished in a manner and to the extent that will maintain stability of the excavated slopes and bottom of required excavations and will allow satisfactory performance of all construction operations. During the placing and compacting of material in required excavations, the water level at the locations being refilled shall be maintained below the bottom of the excavation at such locations which may require draining the water to sumps from which the water shall be pumped.

Stabilization

All borrow areas shall be graded to provide proper drainage and left in a sightly condition. All exposed surfaces of the embankment, 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 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.

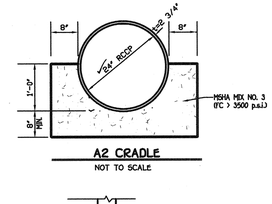
STORM WATER MANAGEMENT POND MAINTENANCE SCHEDULE

A. ROUTINE MAINTENANCE

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

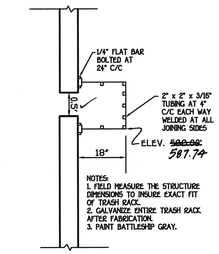
B. NON-ROUTINE MAINTENANCE

1. Structural components of the pond such as the dam, riser structure and the pipes shall be repaired upon the detection of any damage. The components should be inspected during maintenance operations.
2. Sediment should be removed when its accumulation significantly reduces the design storage, interferes with the function of the riser, when deemed necessary for aesthetic reasons, or when deemed necessary by the Howard County's Department of Public Works.



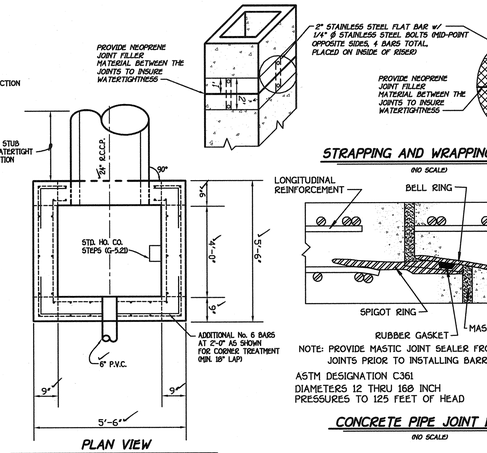
A2 CRADLE

NOT TO SCALE



TRASH RACK 'B' DETAIL

(NO SCALE)

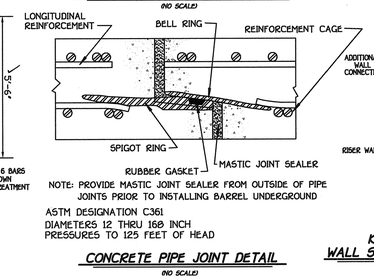


STRAPPING AND WRAPPING DETAILS

(NO SCALE)

PLAN VIEW

NO SCALE

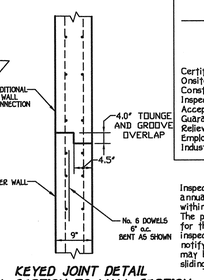


NOTE: PROVIDE MASTIC JOINT SEALER FROM OUTSIDE OF PIPE JOINTS PRIOR TO INSTALLING BARREL UNDERGROUND

ASTM DESIGNATION C361
DIAMETERS 12 THRU 168 INCH
PRESSURES TO 125 FEET OF HEAD

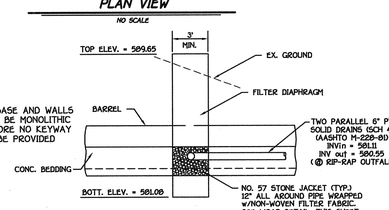
CONCRETE PIPE JOINT DETAIL

(NO SCALE)

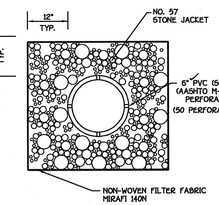


KEYED JOINT DETAIL
WALL SECTION TO WALL SECTION

(NO SCALE)

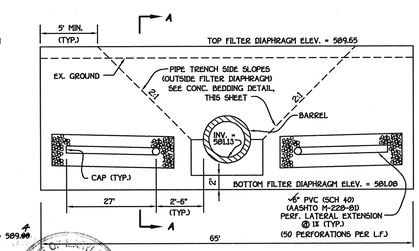


SECTION 'A-A'



WRAP DETAIL

(NO SCALE)



(TYPICAL SECTION THROUGH BARREL AND CRADLE)

FILTER DIAPHRAGM DETAIL

(NO SCALE)

NOTES:

1. FILTER MATERIAL SHALL CONFORM TO ASTM C-33 (CONCRETE SAND).
2. FILTER DIAPHRAGM SHALL BE CONSTRUCTED IN HORIZONTAL LAYERS, 12 INCHES THICK (BEFORE COMPACTION).
3. EACH LAYER SHALL BE HYDROCOMPACTED USING A SPRINKLER. MATERIAL MUST BE SATURATED.
4. CARE SHALL BE TAKEN SO THAT THE FILTER MATERIAL IS NOT CONTAMINATED.
5. ANY CONTAMINATED SAND SHALL BE REMOVED AND REPLACED WITH APPROVED MATERIAL.
6. PROTECTIVE COVERING OVER THE FILTER SAND MAY BE REQUIRED BETWEEN LIFTS.
7. ELBOWS SHALL BE USED FOR PVC INTERCONNECTIONS.

By The Developer:

"I/We Certify That All Development And/Or Construction Will Be Done According To These Plans, And That Any Responsible Personnel Involved In The Construction Project Will Have A Certificate Of Attendance At A Department Of The Environment Approved Training Program For The Control Of Sediment And Erosion Before Beginning The Project. I Shall Engage A Registered Professional Engineer To Supervise Pond Construction And Provide The Howard Soil Conservation District With An "As-Built" Plan Of The Pond Within 30 Days Of Completion. I Also Authorize Periodic On-Site Inspections By The Howard Soil Conservation District."

Signature Of Developer — Date: 5/5/00

MICHAEL FITZGERALD
Printed Name Of Developer

By The Engineer:

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

Signature Of Engineer — Date: 5/5/00

ZACHARIA Y. FISCH
Printed Name Of Engineer

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

USDA-Natural Resources Conservation Service — Date: 5/15/00

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

Howard Soil Conservation District — Date: 5/15/00

Approved: Department Of Public Works

Chief Bureau Of Highways — Date: 6-20-00

Approved: Department Of Planning And Zoning

Chief, Division Of Land Development — Date: 6/27/00

Chief, Development Engineering Division — Date: 6/21/00

AS-BUILT CERTIFICATION

I Hereby Certify That The Facility Shown On This Plan Was Constructed As Shown On The " As-Built" Plans And Meets The Approved Plans And Specifications.

Signature — P.E. No.

Date:

Certify Means To State Or Declare A Professional Opinion Based Upon Onsite Inspections And Material Tests Which Are Conducted During Construction. The Onsite Inspections And Material Tests Are Those Inspections And Tests Deemed Sufficient And Appropriate Commonly Accepted Engineering Standards. Certify Does Not Mean Or Imply A Guarantee By The Engineer Nor Does An Engineer's Certification Relieve Any Other Party From Meeting Requirements Imposed By Contract, Employment, Or Other Means, Including Meeting Commonly Accepted Industry Practices.

OPERATION, MAINTENANCE AND INSPECTION

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

GEOTECHNICAL RECOMMENDATIONS FOR EMBANKMENT AND CUT-OFF TRENCH CONSTRUCTION

THE SITE SHOULD BE STRIPPED OF TOPSOIL AND ANY OTHER UNSUITABLE MATERIALS FROM THE EMBANKMENT OR STRUCTURE AREA IN ACCORDANCE WITH SOIL CONSERVATION GUIDELINES. AFTER STRIPPING OPERATIONS HAVE BEEN COMPLETED, THE EXPOSED SUBGRADE MATERIALS SHOULD BE PROOF ROLLED 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 PROOF ROLLING OR PENETROMETER TESTING SHOULD BE EXCAVATED TO SUITABLE FIRM SOIL, AND THEN GRADES RE-ESTABLISHED BY BACK FILLING WITH SUITABLE SOIL.

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. ALL FILL MATERIALS MUST BE PLACED AND COMPACTED IN ACCORDANCE WITH HD SCS 378 SPECIFICATIONS.

NOTE:
FOR GEOTECHNICAL RECOMMENDATIONS FOR POND CONSTRUCTION SEE SHEET 12.

DESIGN SUMMARY - TR-20

DESIGN STORM	CONTROL STRUCTURE ELEVS.	ALLOWABLE RELEASE RATE	FACILITY INFLOW	FACILITY DISCHARGE	WATER SURFACE ELEVATION	STORAGE VOLUME (ACFT.) (PROVIDED)	STORAGE VOLUME (ACFT.) (REQUIRED)
2 YEAR	588.00	3.0 CFS	20.5 CFS	2.70 CFS	588.81	0.530	0.52
10 YEAR	590.00	32.0 CFS	76.9 CFS	14.0 CFS	590.32	2.36	1.58
100 YEAR	591.00	N/A	156.3 CFS	87.8 CFS	591.28	3.65	3.06

STORAGE = 0.5601 AC.FT. x 5.81' = 3.34
WATERSHED AREA TO FACILITY (ACRES) 3.04 AC. - DURING CONSTRUCTION
DRAINAGE AREA TO FACILITY = 0.0693 SQ. MI. OR 44.35 AC.

STORMWATER MANAGEMENT DETAILS

THE PADDOCKS

LOTS 1 THRU 33 AND PARCELS 'A' AND 'B'
ZONED R-20
TAX MAP NO. 22 PARCEL NO'S. 141 AND 234
THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: APRIL 7, 2000
SHEET 9 OF 19

OWNERS

GRETCHEN MOBBERLEY
SUMMER HILL FARM
ROUTE 144
WEST FRIENDSHIP, MARYLAND 21794

PULTE HOME CORPORATION
c/o JOHN E. BITTNER, PRESIDENT
1501 SOUTH EDGEWOOD STREET, SUITE K
BALTIMORE, MARYLAND 21227

DEVELOPER

PULTE HOME CORPORATION
c/o JOHN E. BITTNER, PRESIDENT
1501 SOUTH EDGEWOOD STREET, SUITE K
BALTIMORE, MARYLAND 21227

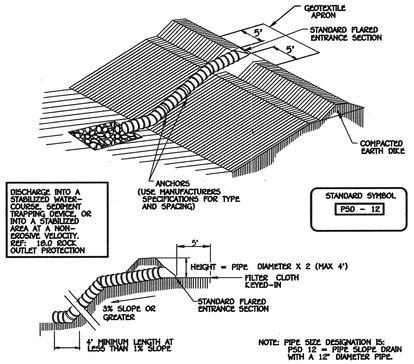
As-Built 2/17/03

As Built 2/17/03

F00-71

PIPE SLOPE DRAIN

NOT TO SCALE



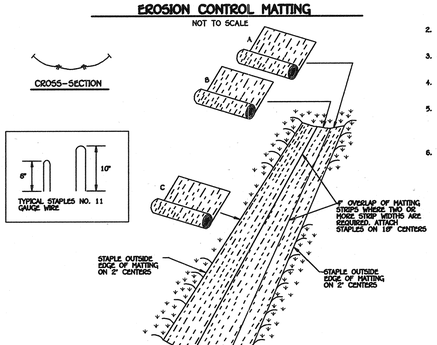
NOTE: PIPE SIZE DESIGNATION IS: PSD 12 = PIPE SLOPE DRAIN WITH A 12" DIAMETER PIPE.

Table 6 Design Criteria for Pipe Slope Drain

Size	Pipe/Tubing Diameter (D) in	Maximum Drainage Area (Acres)
PSD-12	12	0.5
PSD-18	18	1.5
PSD-21	21	2.5
PSD-24	24	3.5
PSD-24 (2)	24	5.0

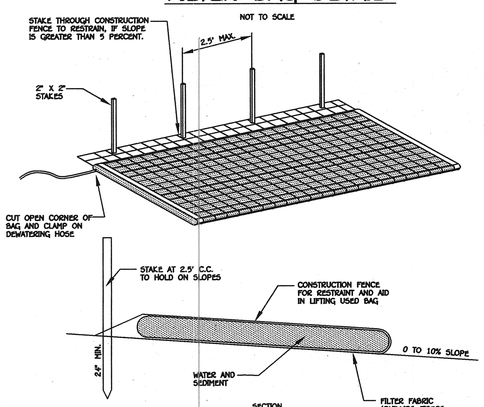
EROSION CONTROL MATTING

NOT TO SCALE



FILTER BAG DETAIL

NOT TO SCALE



NOTES

1. FILTER BAG SHALL BE PLACED ON A SLOPING OR LEVEL, WELL GRADED VEGETATED SITE SUCH THAT WATER WILL FLOW AWAY FROM DEVICE AND ANY WORK AREAS.
2. WIDTH AND LENTH SHALL BE AS SHOWN IN THE TABLE.
3. THE FILTER BAG MUST BE STAKED IN PLACE AND SECURED TO THE PUMP DISHARGE LINE.
4. FILTER BAG SHALL NOT BE USED FOR DISCHARGE FLOWS GREATER THAN 300 GPM.
5. DEVICE SHALL BE REMOVED AND DISPOSED OF AFTER BAG IS FILLED WITH SEDIMENT. SEDIMENT FROM BAG SHALL BE SPREAD IN AN UPLAND AREA.

AVAILABLE FROM:

INDIAN VALLEY INDUSTRIES, INC.
P.O. BOX 810
JOHNSON CITY, NEW YORK 13790
(800) 659-5111

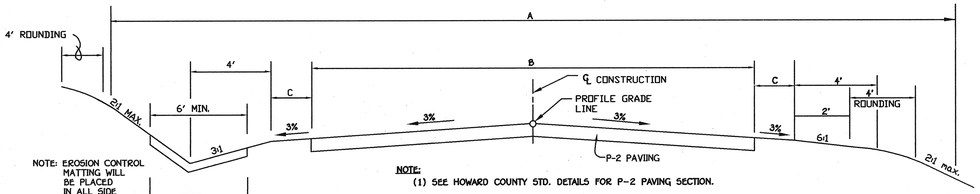
OR

A.C.F. ENVIRONMENTAL
8201-A WILLIS ROAD
RICHMOND, VIRGINIA 23237
TOLL FREE 1-800-446-3636

OR

PRICE AND COMPANY, INC.
423 30TH STREET
WYOMING, MI. 49548
(616) 530-8230

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855
F.C.C. # 30564/TRALS/ SEDCONCETAIL.500.DWG



NOTE: EROSION CONTROL MATTING WILL BE PLACED IN ALL SIDE DITCHES FOR ALL PROPOSED ROADS

NOTE:
(1) SEE HOWARD COUNTY STD. DETAILS FOR P-2 PAVING SECTION.

TYPICAL ROADWAY SECTION

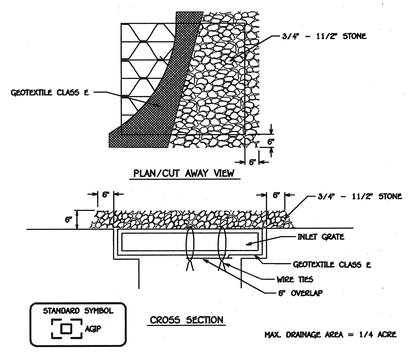
NO SCALE

ROADWAY INFORMATION CHART

ROAD NAME	CLASSIFICATION	DESIGN SPEED	ZONING	℄ STATION LIMITS	A	B	C	PAVING SECTION
SNOW CHIEF ROAD	LOCAL ROAD	30 M.P.H.	RR-DEO	0+00 TO 14+14.64	50'	24'	4'	P-2
BOLD VENTURE DRIVE	ACCESS STREET	25 M.P.H.	RR-DEO	0+00 TO 84+38.19	40'	22'	4'	P-2
BOLD VENTURE DRIVE	ACCESS STREET	25 M.P.H.	RR-DEO	0+00 TO ~~0+69.62~~	60'	18'	4'	P-2
HEADPLAY COURT	ACCESS PLACE	25 M.P.H.	RR-DEO	0+00 TO 3+56.26	40'	18'	4'	P-2
BOLD RULER COURT	ACCESS PLACE	25 M.P.H.	RR-DEO	0+00 TO 3+47.42	40'	18'	4'	P-2

AT GRADE INLET PROTECTION

NOT TO SCALE



MAX. DRAINAGE AREA = 1/4 ACRE

Construction Specifications

1. Lift grate and wrap with Geotextile Class E to completely cover all openings, then set grate back in place.
2. Place 3/4" to 11/2" stone, 4"-6" thick on the grate to secure the fabric and provide additional filtration.

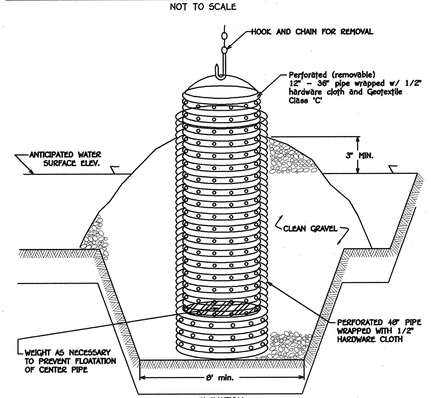
Construction Specifications

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 6" apart in a staggered pattern on either side.
6. The discharge end of the matting liner should be similarly secured with 2 double rows of staples.

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

REMOVABLE PUMPING STATION

NOT TO SCALE

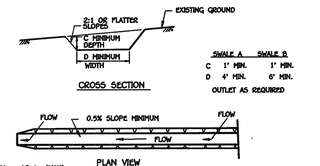


Construction Specifications

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 C.
4. The center pipe should extend 12" to 18" above the anticipated water surface elevation or riser crest elevation when dewatering a basin.

TEMPORARY SWALE

NOT TO SCALE



	SWALE A	SWALE B
C	1' MIN.	1' MIN.
D	4' MIN.	6' MIN.

OUTLET AS REQUIRED

DRAINAGE AREA = 10 ac (MAX)
SLOPE = 10% (MAX)

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 soil in a minimum 7" layer.

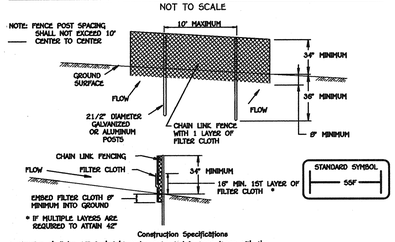
STANDARD SYMBOL
A - 2/ B - 3

Construction Specifications

1. All temporary swales 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 conveyed 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 swale.
5. The swale 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, if necessary, 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 swale.
8. Inspection and maintenance must be provided periodically and after each rain event.

SUPER SILT FENCE

NOT TO SCALE



Construction Specifications

1. Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 6' fence shall be used, substituting 42" fabric and 6' length posts.
2. Chain link fence shall be fastened securely to the fence posts with wire ties. The lower tension wire, brace and truss rods, drive anchors and post caps are not required except on the ends of the fence.
3. Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.
4. Filter cloth shall be embedded a minimum of 8" into the ground.
5. When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.
6. Maintenance shall be performed as needed and silt buildups removed when "bulges" develop in the silt fence, or when silt reaches 50% of fence height
7. Filter cloth shall be fastened securely to each fence post with wire ties or staples at top and mid section and shall meet the following requirements for Geotextile Class F:

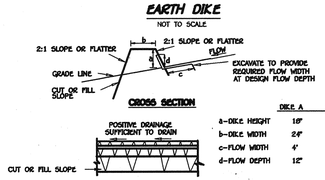
Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal/ft / minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

STATE OF MARYLAND
TERRENCE L. FISHER
No. 9787
PROFESSIONAL ENGINEER

As-Built 2/17/03

EARTH DIKE

NOT TO SCALE



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

STANDARD SYMBOL
A-2 B-3

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

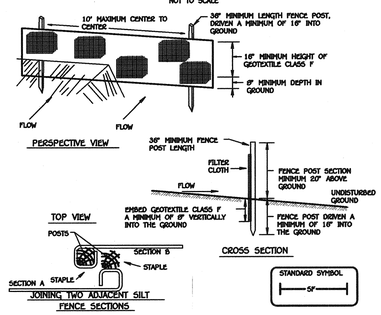
1. Seed and cover with straw mulch.
2. Seed and cover with Erosion Control Matting or line with sod.
3. 4" - 7" stone or recycled concrete equivalent pressed into the soil 7" minimum

Construction Specifications

1. All temporary earth dikes shall have uninterrupted positive grade to an outlet. Spot elevations may be necessary for grades less than1%
2. Runoff diverted from a disturbed area shall be conveyed 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 objectionable 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.

SILT FENCE

NOT TO SCALE



Construction Specifications

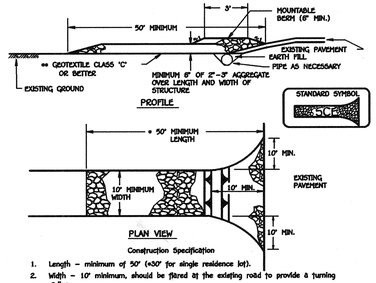
1. Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 11/2" x 11/2" square (minimum) cut, or 13/4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighting not less than 1.00 pond per linear foot.
2. Geotextile shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall meet the following requirements for Geotextile Class F:

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

3. Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.
4. Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE



Construction Specification

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

OWNERS

GRETCHEN MOBBERLEY
SUMMER HILL FARM
ROUTE 144
WEST FRIENDSHIP, MARYLAND 21794

PULTE HOME CORPORATION
c/o JOHN E. BITTNER, PRESIDENT
1501 SOUTH EDGEWOOD STREET, SUITE K
BALTIMORE, MARYLAND 21227

DEVELOPER

PULTE HOME CORPORATION
c/o JOHN E. BITTNER, PRESIDENT
1501 SOUTH EDGEWOOD STREET, SUITE K
BALTIMORE, MARYLAND 21227

DEVELOPER'S CERTIFICATE

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SIGNATURE OF DEVELOPER — DATE 5/5/00

ENGINEER'S CERTIFICATE

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

SIGNATURE OF ENGINEER — DATE 5/5/00

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

U.S.D.A. NATURAL RESOURCES CONSERVATION SERVICE — DATE 5/15/00

THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
APPROVED:
HOWARD SOIL CONSERVATION DISTRICT — DATE 5/15/00

APPROVED: DEPARTMENT OF PLANNING AND ZONING
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6/21/00

APPROVED: DEPARTMENT OF PLANNING AND ZONING
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 6/21/00

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
CHIEF, BUREAU OF HIGHWAYS — DATE 6-20-00

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 RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: a) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3:1, b) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
4) ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 15, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
5) ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIODS SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC. 51), SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50), AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
6) ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
7) SITE ANALYSIS:

TOTAL AREA OF SITE	62.297 ACRES
AREA DISTURBED	16.694 ACRES
AREA TO BE ROOFED OR PAVED	1.824 ACRES
AREA TO BE VEGETATIVELY STABILIZED	14.87 ACRES
TOTAL CUT	8,000 CU.YDS.
TOTAL FILL	8,000 CU.YDS.
ESTIMATED WASTE/BORROW AREA LOCATION	N/A CU.YDS.

8) ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITIES FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY THE DISTURBANCE.
9) ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
10) ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
11) TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

SEQUENCE OF CONSTRUCTION

1. OBTAIN A GRADING PERMIT.
2. NOTIFY "MISS UTILITY" AT LEAST 48 HOURS BEFORE BEGINNING ANY WORK AT 1-800-257-7777. NOTIFY THE HOWARD COUNTY OFFICE OF CONSTRUCTION/INSPECTION AT 410-313-1880 24 HOURS BEFORE STARTING WORK.
3. CLEAR AND GRUB FOR SEDIMENT CONTROL MEASURES WHERE NEEDED. INSTALL STABILIZED CONSTRUCTION ENTRANCE. (1 week)
4. INSTALL EARTH DIKE, TEMPORARY SWALES, SUPER-SILT FENCE, SILT FENCE AND TREE PROTECTION FENCE AS SHOWN ON THE PLANS. (1 Week)
5. OBTAIN PERMISSION OF THE SEDIMENT CONTROL INSPECTOR PRIOR TO PROCEEDING.
6. INSTALL INLETS 1-7, 1-8, AND 3D TEMPORARY FLEXIBLE PIPE. BLOCK OFF INVERTS IN FROM H-3 AND OUT TOWARDS H-2 IN STRUCTURE 1-8. INSTALL REMAINING TEMPORARY FLEXIBLE PIPES ONSITE. STABILIZE ALL AREAS OF DISTURBANCE AT THE END OF EACH WORKING DAY. (1 WEEK)
7. GRADE ROADWAY SYSTEM, REMOVE EXISTING DRIVEWAY AND CONSTRUCT DRIVEWAY TO EXISTING HOUSE ON LOT 10. GRADE BIO-RETENTION FACILITIES, AND INSTALL EROSION CONTROL MATTING IN ALL ROADWAY SIDE DITCHES. GET APPROVAL OF THE SEDIMENT CONTROL INSPECTOR PRIOR TO PROCEEDING. INSTALL REMAINING STORM DRAINAGE SYSTEM. CONSTRUCT STORM WATER MANAGEMENT FACILITY PROVIDED THAT A 5-DAY CLEAR WEATHER FORECAST IS GIVEN BY THE NATIONAL WEATHER SERVICE. DRAIN EXISTING SMP POND BY PUMPING THE EXISTING CLEAN WATER OUT OF THE FACILITY. REMOVE AND REPLACE EXISTING PRINCIPAL SPILLWAY AND RISER IN THE STORM WATER MANAGEMENT POND. INSTALL DEWATERING DEVICE IN THE STORM WATER MANAGEMENT POND. (1 1/2 WEEKS)
8. GRADE AND DRESSGE THE REMAINING POND TO THE ELEVATIONS AS SHOWN ON THE PLANS. (1/2 WEEK)*
9. THE CONTRACTOR SHALL INSPECT AND PROVIDE NECESSARY MAINTENANCE ON ALL SEDIMENT AND EROSION CONTROL STRUCTURES SHOWN HEREON AFTER EACH RAINFALL AND ON A DAILY BASIS.
10. INSTALL BASE COURSE FOR THE PROPOSED ROAD AND WIDENING ALONG BURNT WOODS ROAD. (1 week)
11. STABILIZE ALL DISTURBED AREAS AND OBTAIN PERMISSION FROM THE SEDIMENT CONTROL INSPECTORS TO PROCEED.
12. APPLY TACK COAT TO SUB-BASE AND LAY SURFACE COURSE. (2 weeks)
13. WHEN ALL CONTRIBUTING AREAS TO THE SEDIMENT CONTROL DEVICES HAVE BEEN STABILIZED AND WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, THE DEVICES MAY BE REMOVED AND THE REMAINING AREAS BROUGHT TO FINAL GRADE. REMOVE BLOCKING DEVICES FOR I-8 INVERT OUT TO H-3 INVERT IN AND I-6 INVERT OUT TO H-2 INVERT IN. FLUSH STORM DRAIN SYSTEM TO REMOVE ANY TRAPPED SEDIMENT. STABILIZE ALL REMAINING AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES. (3 weeks)
14. NOTIFY HOWARD COUNTY OFFICE OF INSPECTIONS AND PERMITS FOR A FINAL INSPECTION OF THE COMPLETED PROJECT.

← SEE BIO-RETENTION SUB-SEQUENCE OF CONSTRUCTION, THIS SHEET.

* ALL TREES, SHRUBS AND ANY OTHER WOODY VEGETATION SHALL BE REMOVED PER RECOMP MENTIONS OF SHEET 8.

BIO-RETENTION FACILITY SUB-SEQUENCE OF CONSTRUCTION:

1. PLACE SUPER SILT FENCE (SSF) DOWNGRADE OF CELL #1. SEE SHEETS 11 AND 16. (1/2 DAY)
2. CONSTRUCT BIO-RETENTION CELL #1. (1 WEEK)
3. STABILIZE THE AREA WITH MULCH. (1/2 DAY)
4. UPON APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, REMOVE THE EXISTING SSF INSTALLED IN STEP NUMBER 1. (1/2 DAY)
5. PLACE SSF DOWNGRADE OF CELL #2. SEE SHEETS 11 AND 16. (1/2 DAY)
6. CONSTRUCT BIO-RETENTION CELL #2. (1 WEEK)
7. STABILIZE THE AREA WITH MULCH. (1/2 DAY)
8. UPON APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, REMOVE THE EXISTING SSF INSTALLED IN STEP NUMBER 5. (1/2 DAY)
9. CONSTRUCT BIO-RETENTION CELL #3. (1 WEEK)
10. STABILIZE THE AREA WITH MULCH. (1/2 DAY)
11. UPON APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, REMOVE ALL REMAINING SEDIMENT CONTROL MEASURES WITHIN THE BIO-RETENTION AREA. (1/2 DAY)

ROADWAY SECTION AND SEDIMENT CONTROL DETAILS

THE PADDOCKS

LOTS 1-33 & PRESERVATION PARCELS 'A' AND 'B'

ZONED RR-DEO
TAX MAP NO. 22 — PARCEL NOs. 141 AND 234
THIRD ELECTION DISTRICT — HOWARD COUNTY, MARYLAND
DATE: APRIL 7, 2000
SHEET 10 OF 19

As Built 2/17/03

F00-71

PLAN

SCALE: 1"=100'

DEVELOPER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND THAT ANY RESPONSIBLE PERSONNEL IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY".

SIGNATURE OF DEVELOPER — DATE 6/5/00

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SIGNATURE OF ENGINEER — DATE 6/5/00

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

U.S.D.A. NATURAL RESOURCES CONSERVATION SERVICE — DATE 5/15/00

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APPROVED:

HOWARD SOIL CONSERVATION DISTRICT — DATE 5/15/00

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6/27/00

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 6/21/00

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAYS — DATE 6-20-00

LEGEND

SILT FENCE	SF — SF — SF
SUPER SILT FENCE	SSF — SSF — SSF
LIMIT OF DISTURBANCE	
EARTH DIKE/TREATMENT TYPE	
DENOTES LIMIT OF WETLANDS AND WATERS OF THE U.S.	
AT GRADE INLET PROTECTION	
REMOVEABLE PUMPING STATION	R.P.S.
FILTER BAG	F.B.

STATE OF MARYLAND — TERRELL A. FISHER — NO. 9757 — REGISTERED PROFESSIONAL ENGINEER

As Built 2/17/03

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

F.C.C.#30664 COMPOSITE SED CONTROL SHT 11.dwg

COMPOSITE SEDIMENT CONTROL PLAN
THE PADDOCKS
LOTS 1 - 33
AND PRESERVATION PARCELS 'A' AND 'B'

ZONED RR-DEO
TAX MAP NO. 22 PARCEL NO'S. 141 & 234
THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: APRIL 7, 2000
SHEET 11 OF 19

As Built 2/17/03 F00-71

20.0 STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION

DEFINITION

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

PURPOSE

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

CONDITIONS WHERE PRACTICE APPLIES

This practice shall be used on denuded areas as specified on the plans and may be used on highly erodible or critically eroding areas. This specification is divided into Temporary Seeding, to quickly establish vegetative cover for short duration O(up to one year), and Permanent Seeding, for long term vegetative cover. Examples of applicable areas for Temporary Seeding are temporary Soil Stockpiles, cleared areas being left idle between construction phases, earth dikes, etc. and for Permanent Seeding are lawns, dams, cut and fill slopes and other areas at final grade, former stockpile and staging areas, etc.

EFFECTS ON WATER QUALITY AND QUANTITY

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

SECTION 1 – VEGETATIVE STABILIZATION METHODS AND MATERIALS

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

B. Soil Amendments (Fertilizer and Lime Specifications)
  i. Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas over 5 acres. Soil analysis may be performed by the University of Maryland or a recognized commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses.
  ii. Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers shall all be delivered to the site fully labeled according to the applicable state fertilizer laws and shall bear the name, trade name or trademark and warrantee of the producer.
  iii. Lime materials shall be ground limestone (hydrated or burnt lime may be substituted) which contains at least 50% total oxides (calcium oxide plus magnesium oxide). Limestone shall be ground to such fineness that at least 50% will pass through a #100 mesh sieve and 98-100% will pass through a #20 mesh sieve.
  iv. Incorporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means.

C. Seedbed Preparation
  i. Temporary Seeding
    a. Seedbed preparation shall consist of loosening soil to a depth of 3" to 5" by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened it should not be rolled or dragged smooth, but left in the roughened condition. Sloped areas (greater than 3:1) should be tracked leaving the surface in an irregular condition with ridges running parallel to the contour of the slope.
    b. Apply fertilizer and lime as prescribed on the plans.
    c. In corporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means.
  ii. Permanent Seeding
    a. Minimum soil conditions required for permanent vegetative establishment:
      1. Soil pH shall be between 6.0 and 7.0.
      2. Soluble salts shall be less than 500 parts per million (ppm).
      3. The soil shall contain less than 40% clay, but enough fine grained material (>30% silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception is if lovegrass or serecia lespedezas is to be planted, then a sandy soil (<30% silt plus clay) would be acceptable.
      4. Soil shall contain 1.5% minimum organic matter by weight.
      5. Soil must contain sufficient pore space to permit adequate root penetration.
      6. If these conditions cannot be met by soils on site, adding topsoil is required in accordance with Section 21 Standard and Specification for Topsoil.
    b. Areas previously graded in conformance with the drawings shall be maintained in a true and even grade, then scarified or otherwise loosened to a depth of 3-5" to permit bonding of the topsoil to the surface area and to create horizontal erosion check slots to prevent topsoil to the surface area and to create horizontal erosion check slots to prevent topsoil from sliding down a slope.
    c. Apply soil amendments as per soil test or as included on the plans.
    d. Mix soil amendments into the top 3-5" of topsoil by disking or other suitable means. Lawn areas should be raked to smooth the surface, remove large objects like stones and branches, and ready the area for seed and application. Where site conditions will not permit normal seedbed preparation, loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface. Steep slopes (steeper than 3:1) should be tracked by a dozer leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. The top 1-3" of soil should be loose and friable. Seedbed loosening may not be necessary on newly disturbed areas.

D. Seed Specifications
  i. All seed must meet the requirements of the Maryland State Seed Law. All seed shall be subject to re-testing by a recognized seed laboratory. All seed used shall have been tested within the 6 months immediately preceding the date of sowing such material on this job.
  Note: Seed tags shall be made available to the inspector to verify type and rate of seed used.
  ii. Inoculant – The inoculant for treating legume seed in the seed mixtures shall be a pure culture of nitrogen-fixing bacteria prepared specifically for the species. Inoculants shall not be used later than the date indicated on the container. Add fresh inoculant as directed on package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as possible until used. Temperatures above 75°-80° F. can weaken bacteria and make the inoculant less effective.

E. Methods of Seeding
  i. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer), broadcast or drop seeded, or a cultipacker seeder.
    a. If fertilizer is being applied at the time of seeding, the application rates amounts will not exceed the following: nitrogen; maximum of 100 lbs. per acre total of soluble nitrogen; P205 (phosphorous); 200 lbs/ac; K20 (potassium): 200 lbs/ac.
    b. Lime – use only ground agricultural limestone, (Up to 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding.
    c. Seed and fertilizer shall be mixed on site and seeding shall be done immediately and without interruption.
  ii. Dry Seeding: This includes use of conventional drop or broadcast spreaders.
    a. Seed spread dry shall be incorporated into the subsoil at the rates prescribed on the Temporary or Permanent Seeding Summaries or Tables 265 or 26. The seeded area shall then be rolled with a weighted roller to provide good seed to soil contact.
    b. Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.
  iii. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.
    a. Cultipacking seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed must be firm after planting.
    b. Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.

F. Mulch Specifications (In order of preference)
  i. Straw shall consist of thoroughly threshed wheat, rye or oat straw, reasonable bright in color, and shall not be musty, moldy, caked, decayed, or excessively dusty and shall be free of noxious weed seeds as specified in the Maryland Seed Law.
  ii. Wood Cellulose Fiber Mulch (WCFM)
    a. WCFM shall consist of specially prepared wood cellulose processed into a uniform fibrous physical state.
    b. WCFM shall be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry.
    c. WCFM, including dye, shall contain no germination or growth inhibiting factors.
    d. WCFM materials shall be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material shall form a blotter-like ground cover, on application, having moisture absorption and percolation properties and shall cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
    e. WCFM material shall contain no elements or compounds at concentration levels that will be phytol-toxic.
    f. WCFM must conform to the following physical requirements: fiber length to approximately 10 mm. , diameter approximately 1 mm., pH range of 4.0 to 8.5, ash content of 1.6% maximum and water holding capacity of 90% minimum.
  Note: Only sterile straw mulch should be used in areas where one species of grass is desired.

G. Mulching Seeded Areas – Mulch shall be applied to all seeded areas immediately after seeding.
  i. If grading is completed outside of the seeding season, mulch along shall be applied as prescribed in this section and maintained until the seeding season returns and seeding can be performed in accordance with these specifications.
  ii. When straw mulch is used, it shall be spread over all seeded areas at the rate of 2 tons/acre. Mulch shall be applied to a uniform loose depth of between 1" and 2". Mulch applied shall achieve a uniform distribution and depth so that the soil surface is not exposed. If a mulch anchoring tool is to be used, the rate should be increased to 2.5 tons/acre.
  iii. Wood cellulose fiber used as a mulch shall be applied at a net dry weight of 1,500 lbs. per acre. The wood cellulose fiber shall be mixed with water, and the mixture shall contain a maximum of 50 lbs. of wood cellulose fiber per 100 gallons of water.

H. Securing Straw Mulch (Mulch Anchoring): Mulch anchoring shall be performed immediately following mulch application to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending upon size of area and erosion hazard:
  i. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of two (2) inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should be used on the contour if possible.
  ii. Wood cellulose fiber may be used for anchoring straw. The fiber binder shall be applied at a net dry weight of 750 pounds/acre. The wood cellulose fiber shall be mixed with water and the mixture shall contain a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
  iii. Application of liquid binders should be heavier at the edges where wind catches mulch, such as in valleys and crest of banks. The remainder of area should be appear uniform after binder application. Synthetic binders – such as Acrylic DLR (Agro-Tack), DCA-70 Petroset, Terra Tax II, Terra Tack AR or other approved equal may be used at rates recommended by the manufacturer to anchor mulch.
  iv. Lightweight plastic netting may be stapled over the mulch according to manufacturer's recommendations. Netting is usually available in rolls 4' to 15' feet wide and 300 to 3,000 feet long.

I. Incremental Stabilization – Cut Slopes
  i. All cuts slopes shall be dressed, prepared, seeded and mulched as the work progresses. Slopes shall be excavated and stabilized in equal increments not to exceed 15'.
  ii. Construction sequence (Refer to Figure 3 below):
    a. Excavate and stabilize all temporary swales, side ditches, or berms that will be used to convey runoff from the excavation.
    b. Perform Phase 1 excavation, dress, and stabilize.
    c. Perform Phase 2 excavation, dress and stabilize. Overseed Phase 1 areas as necessary.
    d. Perform final phase excavation, dress and stabilize. Overseed previously seeded areas as necessary.

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

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

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

SECTION 2 – TEMPORARY SEEDING

Vegetation – annual grass or grain used to provide cover on disturbed areas for up to 12 months. For longer duration of vegetative cover, Permanent Seeding is required.

A. Seed mixtures – Temporary Seeding

  i. Select one or more of the species or mixtures listed in Table 26 for the appropriate Plant Hardiness Zone (from Figure 5) and enter them in the Temporary seeding summary below, along with application rates, seeding dates and seeding depths. If this summary is not put on the plans and completed, then Table 26 must be put on the plans.

  ii. For sites having soil tests performed, the rates shown on this table shall be deleted and the rates recommended by the testing agency shall be written in. Soil tests are not required for Temporary Seeding.

Seed Mixture (Hardiness Zone 6b) From Table 26					Fertilizer Rate (10-10-10)	Lime Rate
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths		
1	BARLEY OATS RYE	122 96 140	3/1 – 5/15, 8/15 – 10/15	1" – 2" 1" – 2" 1" – 2"	600 lb/ac (15 lb/1000sf)	2 tons/ac (100 lb/1000sf)

SECTION 3 – PERMANENT SEEDING

Seeding grass and legumes to establish groung cover for a minimum of one year on disturbed areas generally receiving low maintenance.

A. Seed mixtures – Permanent Seeding

  i. Select one or more of the species or mixtures listed in Table 25 for the appropriate Plant Hardiness Zone (from Figure 5) and enter them in the Permanent Seeding Summary below, along with application rates and seeding dates. Seeding depths can be estimated using Table 26. If this summary is not put on the construction plans and completed, then Table 25 must be put on the plans. Additional planting specifications for exceptional sites such as shorelines, streambanks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-SCS Techinical Field Office Guide, Section 342 – Critical Area Planting. For special lawn maintenance areas, see Sections IV Sod and V Turfgrass.

  ii. For sites having disturbed area over 5 areas, the rates shown on this table shall be deleted and the rates recommended by the soil testing agency shall be written in.

  iii. For areas receiving low maintenance, apply ureaform fertilizer (46-0-0) at 3 1/2 lbs/1000 sq. ft. (150 lbs/ac), in addition to the above soil amendments shown in the table below, to be performed at the time of seeding.

Seed Mixture (Hardiness Zone 6b) From Table 25					Fertilizer Rate (10-20-20)			Lime Rate
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	N	P205	K20	
3	TALL FESCUE (85%) PERENNIAL RYE GRASS (10%) KENTUCKY BLUEGRASS (5%)	125 15 10	3/1 – 5/15, 8/15 – 10/15	1" – 2"	90 lb/ac (2.0 lb/ 1000sf)	175 lb/ac (4 lb/ 1000sf)	175 lb/ac (4 lb/ 1000sf)	2 tons/ac (100 lb/ 1000sf)
10	TALL FESCUE (80%) HARD FESCUE (20%)	120 30	3/1 – 5/15, 8/15 – 10/15	1" – 2"				

II. STORMWATER MANAGEMENT POND CONSIDERATIONS

1. EXISTING POND AND EMBANKMENT

THREE BORINGS WERE DRILLED IN THE EXISTING EMBANKMENT. THE BORINGS ENCOUNTERED LOOSE TO MEDIUM DENSE FILLED SOILS OVERLYING NATURAL MEDIUM DENSE MATERIALS. VISIBLY FINER AND SLIGHTLY MORE PLASTIC MATERIALS WERE ENCOUNTERED AT DEPTHS WHICH CORRESPOND TO THE CUT-OFF TRENCH DEPTH AS PROVIDED ON THE SCS PLANS. ACCORDINGLY, IT IS GTA'S OPINION THAT THE CUT-OFF TRENCH WAS CONSTRUCTED FOR THIS POND. THE FILLS WERE NOTED TO BE RELATIVELY UNIFORM IN CONSISTENCY, AND IT IS LIKELY THAT THE MATERIAL WAS PLACED IN A CONTROLLED MANNER.

CURRENT PLANS CALL FOR MAINTAINING THE POND, WHILE RETROFITTING THE EMBANKMENT. A NEW PRINCIPAL SPILLWAY WILL BE REQUIRED. THE NEW SPILLWAY WILL BE REINFORCED CONCRETE PIPE WITH APPROPRIATE SEEPAGE CONTROL MEASURES. FCC SHOULD CONSIDER THE USE OF A FILTER DIAPHRAGM IN LIEU OF ANTI-SEEP COLLARS FOR SEEPAGE CONTROL. A NEW RISER WILL ALSO BE CONSTRUCTED. THE VEGETATION ALONG THE TOP AND SIDES OF THE EMBANKMENT IS TO BE REMOVED. ADDITIONALLY, THE GEOMETRY OF THE EMBANKMENT MAY BE ADJUSTED TO MEET CURRENT REQUIREMENTS.

GTA WAS REQUESTED TO EVALUATE IF THE EMBANKMENT, OTHER THAN THE AREA OF THE SPILLWAY, MAY BE LEFT INTACT. BASED ON THIS EXPLORATION, THE SITE RECONNAISSANCE, AND SITE INTERVIEWS, IT IS GTA'S OPINION THAT THE EMBANKMENT PORTION DOES NOT APPEAR TO REQUIRE REMOVAL. GTA BASES THIS OPINION ON SEVERAL FACTORS:

THE FILLED EMBANKMENTS WERE GENERALLY UNIFORM IN CONSISTENCY AND DENSITY, AND IT APPEARS THAT THEY WERE PLACED IN A CONTROLLED MANNER.

A ZONE OF FINER AND MORE PLASTIC MATERIALS WERE IDENTIFIED AS A CUT-OFF TRENCH. WHILE THESE MATERIALS ARE PREDOMINATELY CLASSIFIED AS ML, LOW PLASTICITY SILT, AND DO NOT MEET CURRENT MD378 GUIDELINES FOR CUT-OFF TRENCH CONSTRUCTION, THEY ARE NONDISPERSIVE AND ARE OF LOW PERMEABILITY AS INDICATED BY OUR LABORATORY TESTING. THE FUNCTION OF THE CUT-OFF TRENCH IS TO PROVIDE A HYDRAULIC BARRIER TO INCREASE THE SEEPAGE PATH OF WATER TRAVELING THROUGH THE SOIL. GTA BELIEVES THAT THIS FUNCTION IS BEING SERVED BY THIS RELATIVELY LOW PERMABLE (2×10^{-7} cm/s) SOIL.

A VISUAL RECONNAISSANCE OF THIS POND WAS PERFORMED BY GTA. NO EVIDENCE OF SEEPAGE, BOILS, OR SLOUGHS ASSOCIATED WITH A COMPROMISE WITHIN THE EMBANKMENT WERE OBSERVED. THE CURRENT RESIDENTS WERE NOT AWARE OF ANY COMPROMISES WITHIN THE EMBANKMENT. OVERALL, IT APPEARS THAT THE EXISTING EMBANKMENT IS PERFORMING ITS INTENDED FUNCTION.

GTA MUST POINT OUT, HOWEVER, THAT WE REVIEWED THIS POND DURING AN EXTENDED DRY PERIOD, AND THE WATER LEVEL WAS BELOW THE RISER BASE, WELL BELOW NORMAL POOL ELEVATION. ACCORDINGLY, SEEPS WHICH MAY BE PRESENT WHEN THE POOL IS AT NORMAL OR HIGHER LEVELS WOULD NOT HAVE OBSERVED DURING OUR REVIEW. OUR REVIEW CONCLUDES THAT THE OCCURENCE OF THESE FEATURES IS, IN OUR OPINION, UNLIKELY. GTA ESTIMATES THAT THE GROUNDWATER AS ENCOUNTERED IN BORING SWM-6 IS A RESULT OF SHALLOW GROUNDWATER OR THE REFERENCED SPRINGS SUSPECTED TO BE IN THE VICINITY. HOWEVER, GTA RECOMMENDS THAT THIS EMBANKMENT BE REVIEWED FOR SEEPS OR OTHER COMPROMISES DURING WETTER PERIODS. IN THE EVENT THAT FUTURE SEEPAGE IS OBSERVED, PULTE MAY CONSIDER THE CONTRUCTION OF A TOE DRAIN OR OTHER SEEPAGE CONTROL MEASURES IN LIEU OF REMOVING AND REPLACING THE DAM. IF SUCH COMPROMISES ARE NOTICED, GTA WILL REVIEW THE CONDITIONS AND PROVIDE RECOMMENDATIONS FOR REMEDIATION.

2. CONSTRUCTION CONSIDERATIONS

GTA RECOMMENDS THAT THE EXCAVATION MADE TO ESTABLISH THE NEW PRINCIPAL SPILLWAY BE EXCAVATED WITH A SIDE SLOPE OF 2H:1V OR FLATTER. BASED ON THIS EXPLORATION, IT APPEARS THAT THE REMOVED EMBANKMENT FILL MAY BE REUSED TO BACKFILL THE NEW SPILLWAY. IF DELETERIOUS ITEMS ARE ENCOUNTERED DURING CONSTRUCTION, THEN GTA WILL MAKE APPROPRIATE RECOMMENDATIONS AT THAT TIME.

FILLS FOR EMBANKMENT CONSTRUCTION SHOULD BE CONSTRUCTED IN EIGHT-INCH LOOSE LIFTS, AND COMPACTED TO WITHIN 95 PERCENT OF THE MAXIMUM DRY DENSITY IN ACCORDANCE WITH THE STANDARD PROCTOR, ASTM D-698. FILLS AROUND THE OUTFALL WORKS; THE OUTFALL PIPE AND ANTI-SEEP COLLARS, IF PLANNED, SHOULD BE PLACED IN 4-INCH LIFTS AND COMPACTED TO THE SAME STANDARD WITH HAND EQUIPMENT. SOIL PLACED ADJACENT TO OUTFALL PIPES AND ANTI-SEEP COLLARS SHOULD CONSIST OF USCS CL, LOW PLASTICITY CLAY, SOILS. THE USE OF FINE-GRAINED MATERIALS ADJACENT TO THE OUTFALL WILL REDUCE THE POTENTIAL FOR PIPING FAILURES. DEPENDING UPON THE SEASON OF CONSTRUCTION, MOISTURE CONDITIONING MAY BE REQUIRED. COMPACTIVE EFFORT SHOULD BE MONITORED WITH IN-PLACE DENSITY TESTING AS PERFORMED BY A QUALIFIED REPRESENTATIVE UNDER THE DIRECTION OF A PROFESSIONAL ENGINEER.

A NEW CUT-OFF TRENCH SHOULD BE CONSTRUCTED BENEATH THE PROPOSED SPILLWAY. MD 378 SPECIFIES THAT SOILS FOR USE IN CORE AND/OR CUT-OFF TRENCH CONSTRUCTION MEET USCS CLASSIFICATION CL (LOW PLASTICITY CLAY), CH (HIGH PLASTICITY CLAY), SC (CLAYEY SAND) OR GC (CLAYEY GRAVEL). BASED ON OUR KNOWLEDGE OF THE SITE, IT WILL LIKELY BE DIFFICULT TO IDENTIFY APPROPRIATE MATERIALS ON SITE, AND SUITABLE OFF-SITE BORROW WILL BE REQUIRED. CUT-OFF TRENCH FILLS SHOULD BE COMPACTED TO 95 PERCENT IN ACCORDANCE WITH THE STANDARD PROCTOR.
WITH REGARD TO THE RISER CONSTRUCTION, GTA ANTCIPATES THAT COMPETENT MATERIALS TO CONSTRUCT THE NEW RISER UPON WILL BE PRESENT AT A DEPTH ON THE ORDER OF 7 FEET BELOW EXISTING GRADE AT THE CURRENT RISER LOCATION. THE RISER BASE CAN BE DESIGNED FOR AN ALLOWABLE BEARING CAPACITY OF 2,000 POUNDS PER SQUARE FOOT.

LIMITATIONS

THIS REPORT HAS BEEN PREPARED FOR THE EXCLUSIVE USE OF THE PULTE CORPORATION, IN ACCORDANCE WITH GENERALLY ACCEPTED GEOTECHNICAL ENGINEERING PRACTICE. NO OTHER WARRANTY, EXPRESSED OR IMPLIED, IS MADE.

THE ANALYSIS AND RECOMMENDATIONS CONTAINED IN THIS REPORT ARE BASED ON THE DATA OBTAINED FROM LIMITED OBSERVATION AND TESTING OF THE SURFACE MATERIALS. THE TEST BORINGS INDICATE SOIL CONDITIONS ONLY AT SPECIFIC LOCATIONS AND TIMES, AND ONLY TO THE DEPTHS PENETRATED. THEY DO NOT NECESSARILY REFLECT STRATA VARIATIONS THAT MAY EXIST BETWEEN THE TEST BORING LOCATIONS. CONSEQUENTLY, THE ANALYSIS AND RECOMMENDATIONS MUST BE CONSIDERED PRELIMINARY UNTIL THE SUBSURFACE CONDITIONS CAN BE VERIFIED BY DIRECT OBSERVATION AT THE TIME OF CONSTRUCTION. IF VARIATIONS IN SUBSURFACE CONDITIONS FROM THOSE DESCRIBED ARE NOTED DURING CONSTRUCTION, RECOMMENDATIONS IN THIS REPORT MAY NEED TO BE RE-EVALUATED.

STANDARDS 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, Johnson grass, 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.

II. 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.

III 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.

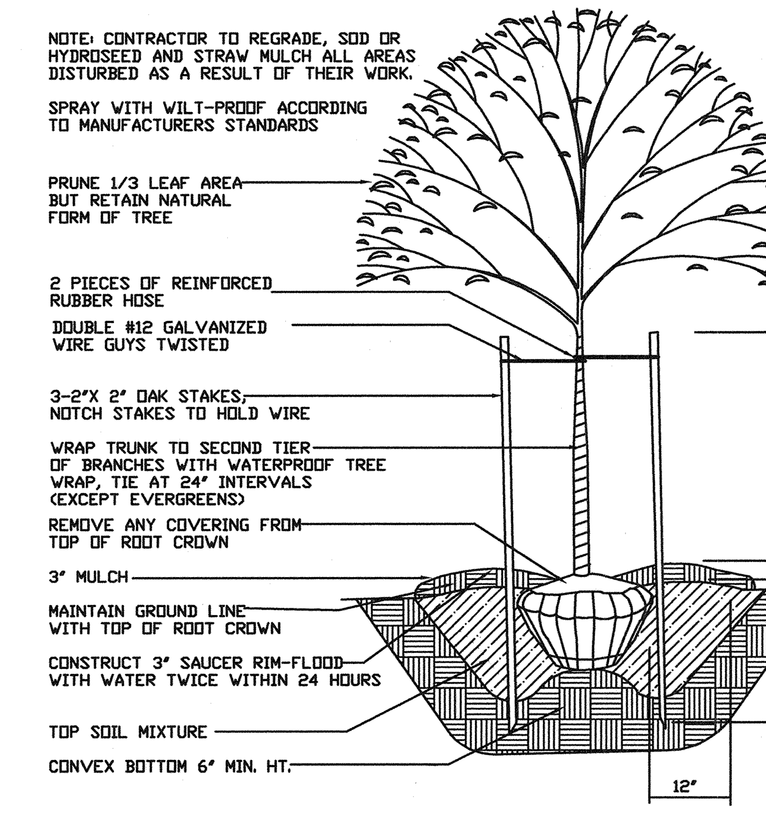
  Note: Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.

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

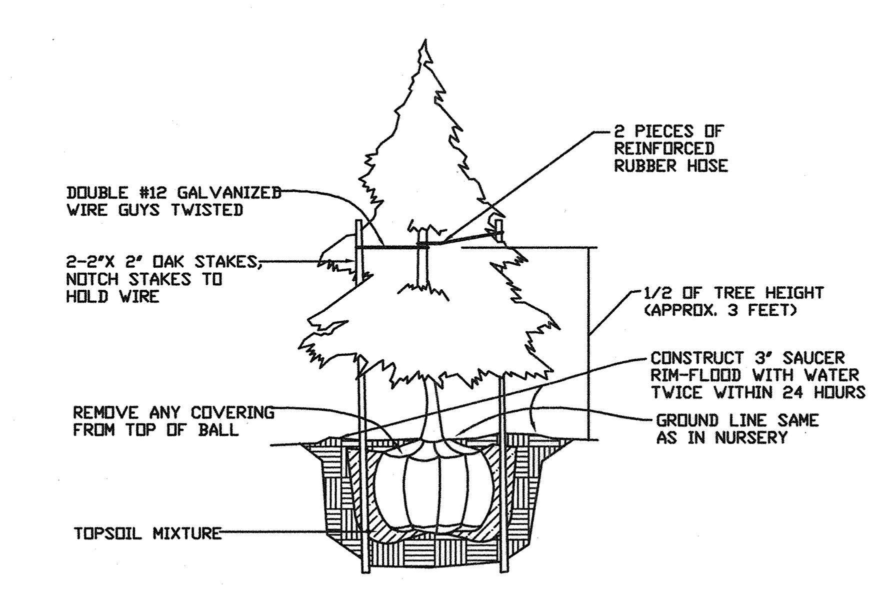
V. Topsoil Application
  i. When top soiling, maintain needed erosion and sediment control practices such as diversions, Grade Stabilization Structures, Earth Dikes, Slope Silt Fence and Sediment Traps and Basins.
  ii. Grades on the areas to be top soiled, which have been previously established, shall 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 top soiling 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 I 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 I ton/1,000 square feet.
  iv. 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.

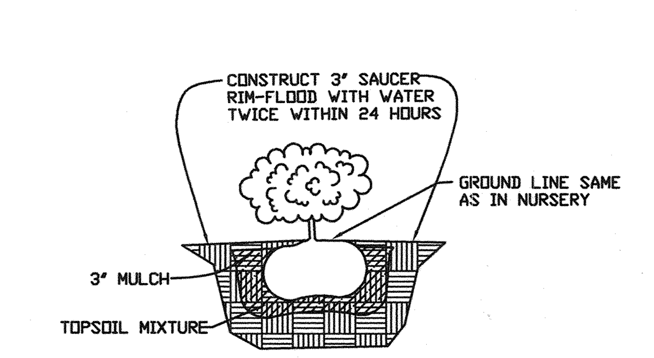
References: Guideline Specifications, Soil Preparation and Sodding,. MD-VA, Pub. #I, Cooperative Extension Service, University of Maryland and Virginia Polytechnic Institutes. Revised 1973.



TREE PLANTING DETAIL



EVERGREEN PLANTING DETAIL



SHRUB PLANTING DETAIL

PLANTING SPECIFICATIONS

Plants, related material, and operations shall meet the detailed description as given on the plans and as described herein.

All plant material, unless otherwise specified, shall be nursery grown, uniformly branched, have a vigorous root system, and shall conform to the species, size, root and shape shown on the plant list and the American Association of Nurserymen (AAN) Standards. Plant material shall be healthy, vigorous, free from defects, decay, disfiguring roots, sun scald injuries, abrasions of the bark, plant disease, insect pest eggs, borers and all forms of insect infestations or objectionable disfigurements. Plant material that is weak or which has been cut back from larger grades to meet specified requirements will be rejected. Trees with forked leaders will not be accepted. All plants shall be freshly dug; no healed-in plants from cold storage will be accepted.

unless otherwise specified, a)) general conditions, planting operations, details and planting specification shall conform to 'Landscape Specification Guidelines for Baltimore-Washington Metropolitan Areas', (hereinafter 'Landscape Guidelines') approved by the Landscape Contractors Association of Metropolitan Washington and the Potomac Chapter of the American Society of Landscape Architect, latest edition, including all agenda.

Contractor shall be required to guarantee all plant material for a period of one year after date of acceptance in accordance with the appropriate section of the Landscape Guidelines Contractor's attention is directed to the maintenance requirements found within the one year specifications including watering and replacement of specified plant material.

Contractor shall be responsible for notifying utility companies, utility contractors and 'Miss Utility' a minimum of 48 hours prior to beginning any work. Contractor may make minor adjustments in spacing and location of plant material to avoid conflicts with utilities. Damage to existing structure and utilities shall be repaired at the expense of the Contractor.

Protection of existing vegetation to remain shall be accomplished by the temporary installation of 4 foot high snow fence or blaze orange safety fence at the drip line.

Contractor id responsible for installing all material in the proper planting season for each plant type. All planting is to be completed within the growing season of completion of site construction.

Bid shall be base on actual site conditions. No extra payment shall be made for work arising from site conditions differing from those indicated on drawings and specifications

Plant quantities are provided for the convenience of the contractor only. If discrepancies exist between quantities shown on plan and those shown on the plant list, the quantities on the plan take precedence

All shrubs shall be planted in continuous trenches or prepared planting beds and mulched with composted hardwood mulch as details and specified except where noted on plans.

Positive drainage shall be maintained in planting beds 2 percent slope).

Planting mix shall be as follows: Deciduous Plants – Two parts topsoil, one part well-rotted cow or horse manure. Add 3 lbs. of standard fertilizer per cubic yard of planting mix. Evergreen Plants – two parts topsoil, one part humus or other approved organic material. Add 3 lbs. of evergreen (acidic) fertilizer per cubic yard of planting mix. Topsoil shall conform to the Landscape Guidelines.

Weed Control: Incorporate a pre-emergent herbicide into the planting bed following recommended rates on the label. Caution: Be sure to carefully check the chemical used to assure its adaptability to the specific ground cover to be treated.

All areas within contract limits disturbed during or prior to construction not designated to receive plants and mulch shall be fine graded and seeded.

This plan is intended for landscape use only. see other plan sheets for more information on grading, sediment control, layout, etc.

TREE PLANTING DETAIL

NOT TO SCALE

DEVELOPER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND THAT ANY RESPONSIBLE PERSONNEL IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY".

SIGNATURE OF DEVELOPER — DATE 5/5/00

ENGINEER'S CERTIFICATE

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

SIGNATURE OF ENGINEER — DATE

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

U.S.D.A. NATURAL RESOURCES CONSERVATION SERVICE — DATE 5/15/00

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 5/15/00

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6/27/00

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 6/21/00

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAYS — DATE 6-20-00

OWNERS

GRETCHEN MOBBERLEY
SUMMER HILL FARM
ROUTE 144
WEST FRIENDSHIP, MARYLAND 21794

PULTE HOME CORPORATION
c/o JOHN E. BITTNER, PRESIDENT
1501 SOUTH EDGEWOOD STREET, SUITE K
BALTIMORE, MARYLAND 21227

DEVELOPER

PULTE HOME CORPORATION
c/o JOHN E. BITTNER, PRESIDENT
1501 SOUTH EDGEWOOD STREET, SUITE K
BALTIMORE, MARYLAND 21227

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855
F.C.C.# 30664/FINALS/ SEDCONDETAILS 12.DWG

SEDIMENT CONTROL DETAILS

THE PADDOCKS

LOTS 1-33 & PRESERVATION PARCELS 'A' AND 'B'
ZONED RR-DEO
TAX MAP NO. 22 PARCEL NOs. 141 AND 234
THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: APRIL 7, 2000
SHEET 12 OF 19

As Built 2/17/03 F00-71

STRUCTURE SCHEDULE

STRUCTURE NO.	TOP ELEVATION	INV.IN	INV.OUT	ROAD NAME	ROAD STA.	OFFSET	TYPE	REMARKS
I-1	* ~~616.63~~ 617.06	~~612.59, 612.75~~	~~612.25~~ 611.51	SNOW CHIEF ROAD	C.L. STA. 7+32.~~37~~ 80	20' RT.	OPEN END GRATE ✓	S.D. 4.36
I-2	* 616.~~63~~ 45	611.70 613.00	~~613.15~~ 612.39	SNOW CHIEF ROAD	C.L. STA. 7+32.~~37~~ 80	21' ~~20'~~ LT.	OPEN END GRATE ✓	S.D. 4.36
I-3	* ~~629.40~~ 628.55	~~619.40~~ 618.71	~~619.15~~ 618.48	SNOW CHIEF ROAD	C.L. STA. 5+53.50	~~20'~~ RT. 19.5	OPEN END GRATE ✓	S.D. 4.36
I-4	* 629.~~75~~ 34	~~620.03~~ 619.67	619.~~78~~ 44	SNOW CHIEF ROAD	C.L. STA. 5+50 ✓	20' LT. ✓	OPEN END GRATE ✓	S.D. 4.36
I-4A	** 625.~~02~~ 34	-----	621.~~95~~ 67	SNOW CHIEF ROAD	N 585,651.~~996~~ .05 E 1,314,9~~88.674~~ 71.87	-------	'D' INLET ✓	S.D. 4.11
I-5	* 609.~~12~~ 20	604.44	~~605.28~~ 604.16	SNOW CHIEF ROAD	C.L. STA. 8+71.~~78~~ 00	21' ~~20'~~ LT.	OPEN END GRATE ✓	S.D. 4.36
I-5A	** 620.00 619.54	~~613.05~~ 611.90	~~612.80~~ 611.78	SNOW CHIEF ROAD	N 585,890.~~560~~ .27 E 1,314,910.769 ✓	-------	'D' INLET ✓	S.D. 4.11
I-6	* ~~608.63~~ 609.00	602.5~~8~~ 15, 602.~~58~~ 11	~~602.25~~ 601.85	SNOW CHIEF ROAD	C.L. STA. 10+~~01.67~~ 10	16.~~5~~ 0' RT.	A-5 ✓	S.D. 4.40
I-6A	** ~~617.90~~ 616.91	-----	~~613.75~~ 612.86	SNOW CHIEF ROAD	N 585,959.~~88~~ .38 E 1,314,904.~~995~~ 5.10	-------	'D' INLET ✓	S.D. 4.11
I-7	* ~~608.63~~ 609.10	603.63 603.79	602.~~17~~ 53	SNOW CHIEF ROAD	C.L. STA. 10+~~01.67~~ 21.29	16.5' LT. ✓	A-5 ✓	S.D. 4.40
I-8	* 608.~~88~~ 45	~~604.04, 604.29~~	603.~~79~~ 43	SNOW CHIEF ROAD	C.L. STA. 11+3~~2.95~~ 3.00	20' RT. ✓	OPEN END GRATE ✓	S.D. 4.36
I-8A	* 608.~~88~~ 56	----- 24	604.~~89~~ 41	SNOW CHIEF ROAD	C.L. STA. 11+3~~2.95~~ 3.00	20' LT. ✓	OPEN END GRATE ✓	S.D. 4.36
I-9	* 612.~~62~~ 16	607.~~90~~, 607.~~90~~ 16	607.~~65~~ 11	SNOW CHIEF ROAD	C.L. STA. 13+72.~~32~~ 00	21' ~~20'~~ RT.	OPEN END GRATE ✓	S.D. 4.36
I-10	* ~~612.62~~ 613.05	-----	~~608.30~~ 607.99	SNOW CHIEF ROAD	C.L. STA. 13+72.~~32~~ 00	20' LT. ✓	OPEN END GRATE ✓	S.D. 4.36
I-11	* 612.2~~5~~ 7	-----	608.5~~84~~	BOLD VENTURE DRIVE	C.L. STA. -0+~~19.93~~ 20.00	16 ~~17.5'~~ LT.	OPEN END GRATE ✓	S.D. 4.36
I-12	* 616.0~~7~~ 0	612.~~19~~ 20	611.~~94~~ 87	HEADPLAY COURT	L.P. STA. 1+29.36 ✓	8' RT. ✓	OPEN END GRATE ✓	S.D. 4.36
I-13	* 618.~~60~~ 83	613.7~~1~~ 6	613.~~46~~ 58	HEADPLAY COURT	C.L. STA. 2+~~65.33~~ 64	18 ~~16.5'~~ RT.	OPEN END GRATE ✓	S.D. 4.36
I-14	* 623.~~17~~ 08	619.~~56~~ 42	619.~~31~~ 22	HEADPLAY COURT	C.L. STA. 0+~~40.05~~ 39.00	17 ~~16.5'~~ RT.	OPEN END GRATE ✓	S.D. 4.36
I-15	* 624.~~37~~ 22	620.~~60~~ 36	620.~~35~~ 22	BOLD RULER COURT	C.L. STA. 0+3~~7.86~~ 9.00	16.~~5~~ 0' LT.	OPEN END GRATE ✓	S.D. 4.36
I-16	* 624.~~37~~ 29	-----	620.~~98~~ 72	BOLD RULER COURT	C.L. STA. 0+3~~7.86~~ 9.00	16.~~5~~ 0' RT.	OPEN END GRATE ✓	S.D. 4.36
I-17	* 592.~~98~~ 16	584.~~24~~ 30	581.~~98~~ 30	BOLD VENTURE DRIVE	N 587,019.~~676~~ .89 E 1,315,06~~4.082~~ 70.17	-------	'D' INLET ✓	S.D. 4.11
I-5B	608.79 ~~607.56~~	~~603.00, 603.00~~, 600.~~83~~ 602.13 602.05 03	~~600.00~~ 599.77	SNOW CHIEF ROAD	C.L. STA. 8+~~78.64~~ 80	19 ~~20'~~ RT	OPEN END GRATE ✓	S.D. 4.36
		593.25 590.82						
M-1	601.~~25~~ 38	~~596.22, 591.50~~	~~591.00~~ 590.38	SNOW CHIEF ROAD	N 586,006.~~80~~ .10 E 1,315,56~~2.76~~ 7.74	-----	STD. MANHOLE ✓	G 5.01
M-4	617.~~20~~ 03	610.~~99~~ 73	610.~~74~~ 58	HEADPLAY COURT	N 586,8~~58.64~~ 60.16 E 1,314,192.~~405~~ 1.61	-----	STD. MANHOLE ✓	G 5.01
M-5	595.~~50~~ 60	588.~~95~~ 74	585.~~84~~ 44	-----	N 586,959.~~54~~ 8.62 E 1,314,70~~8.34~~ 5.01	-----	STD. MANHOLE ✓	G 5.01
M-6	601.50 ✓	594.~~61~~ 42	589.~~67~~ 45	-----	N 586,934.~~58~~ 3.73 E 1,314,646.~~31~~ 5.65	-----	STD. MANHOLE ✓	G 5.01
R-1	~~590.00~~ 589.74	~~588.00~~ 587.74	581.~~80~~ 63	-----	N 586440.~~787~~ .50 E 1315667.~~415~~ .19	-----	CONC. RISER ✓	
S-1	~~592.00~~ 591.97	589.~~50~~ 47	589.~~50~~ 47	-----	N 586,1~~40.62~~ 51.00 E 1,315,63~~0.86~~ 40.21	-----	H.D.P.E. END SECTION ✓	*** ADS FLARED END SEC.
S-1A	603.~~58~~ 39	601.~~75~~ 64	601.~~75~~ 64	-----	N 585,9~~01.21~~ 6.15 E 1,315,5~~49.02~~ 51.00	-----	TYPE 'C' ENDWALL ✓	S.D. 5.21
S-2	~~567.10~~ 566.97	~~565.10~~ 564.97	~~565.10~~ 564.07	-----	N 587,0~~81.78~~ 2.57 E 1,315,4~~21.20~~ 19.38	-----	H.D.P.E. END SECTION ✓	*** ADS FLARED END SEC.
S-3	609.~~45~~ 30	607.~~95~~ 80	607.~~92~~ 77	-----	N 586,896.~~232~~ .48 E 1,314,37~~7.889~~ 8.79	-----	H.D.P.E. END SECTION ✓	*** ADS FLARED END SEC.
S-4	584.22 ~~582.80~~	580.~~53~~ 42	580.~~54~~ 42	-----	N 58651~~1.028~~ 8.88 E 131560~~8.264~~ 8.26	-----	TYPE 'C' HEADWALL ✓	S.D. 5.21

* DENOTES TOP OF GRATE ELEVATION
** DENOTES THROAT ELEVATION
*** A.D.S. - ADVANCED DRAINAGE SYSTEMS, INC.
CORPORATE OFFICE
3300 RIVERSIDE DRIVE
COLUMBUS, OHIO 43221
PHONE: 1-800-733-7473

ADVANCED DRAINAGE SYSTEMS, INC.
LOCAL SALES REPRESENTATIVE:
MR. EDWARD C. MAULDIN
8103 HARRIS AVENUE
BALTIMORE, MD. 21234
PHONE: 410-665-3658
1-800-733-9554

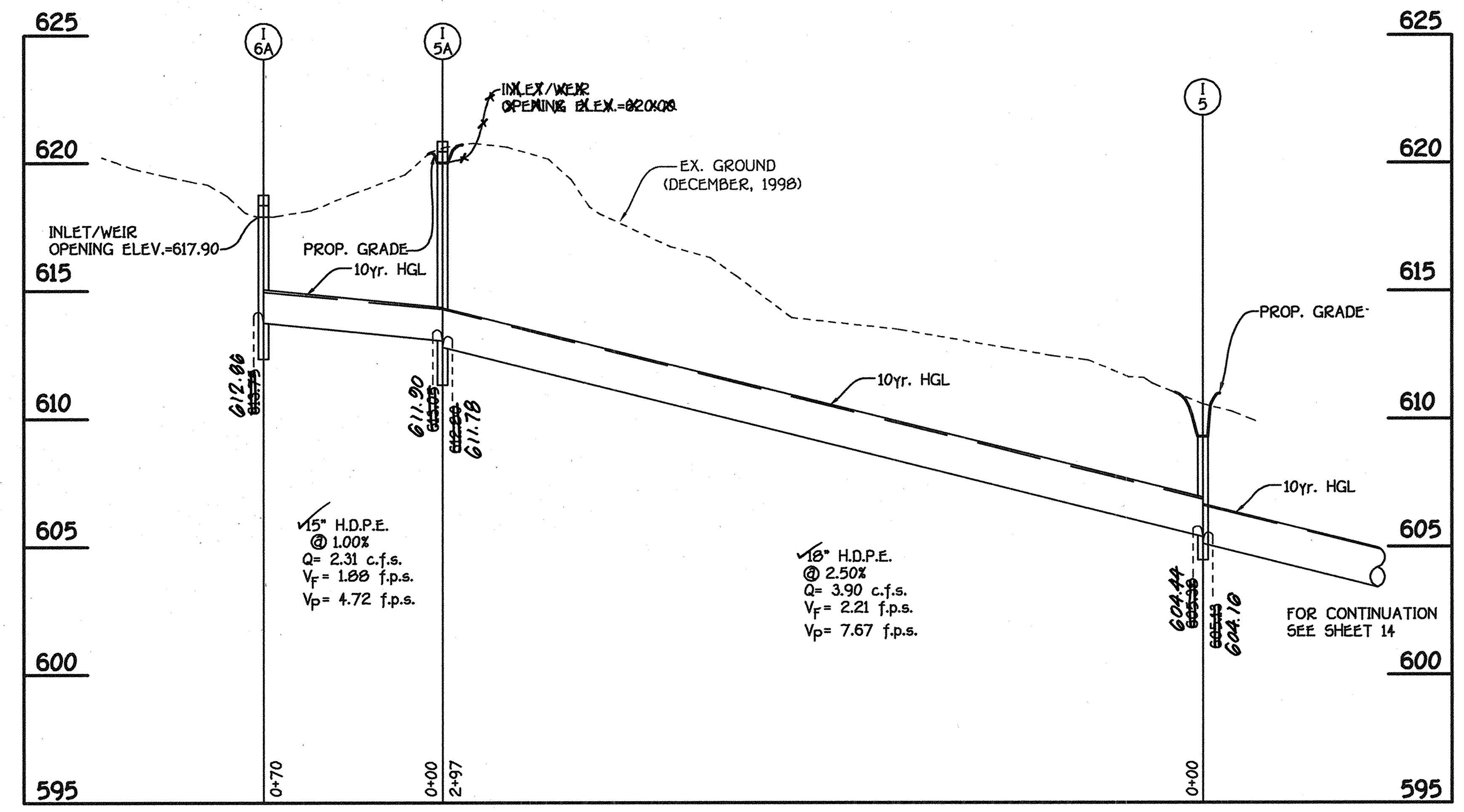
PIPE SCHEDULE (TOTAL)

SIZE	CLASS	LENGTH
12"	PERFORATED HDPE	550'
15"	HDPE	519'
18"	HDPE	1779'
24"	HDPE	449'
30"	HDPE	160'

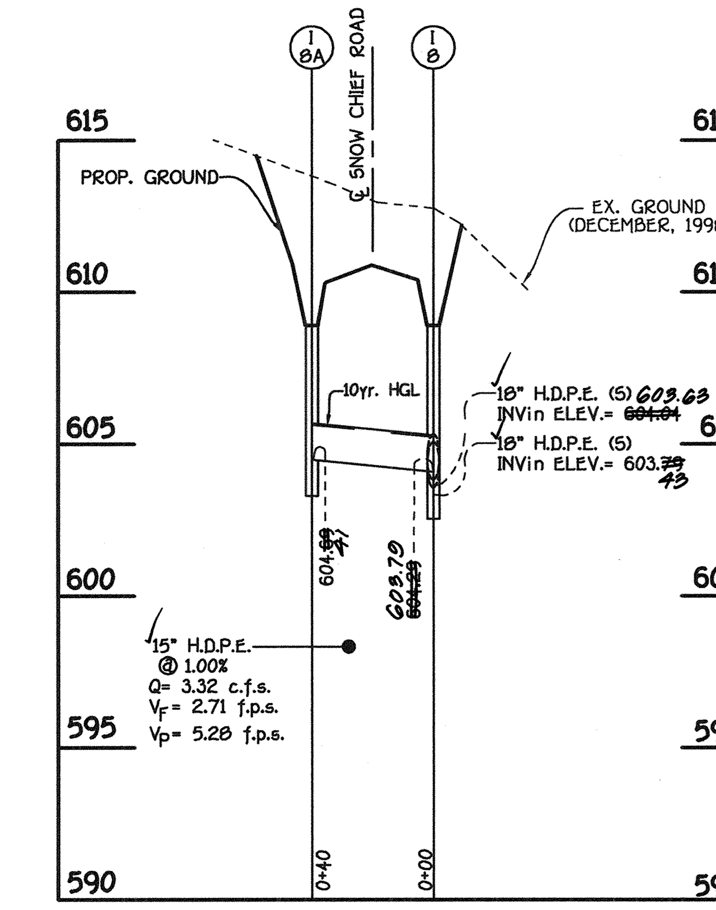
PIPE SCHEDULE (THIS SHEET)

SIZE	CLASS	LENGTH
15"	HDPE	143'
18"	HDPE	1,011'

Approved: Department Of Public Works
Chief Bureau Of Highways — 6-20-00 Date
Approved: Department Of Planning And Zoning
Chief, Division Of Land Development — 6/21/00 Date
Chief, Development Engineering Division — 6/21/00 Date



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



PROFILE
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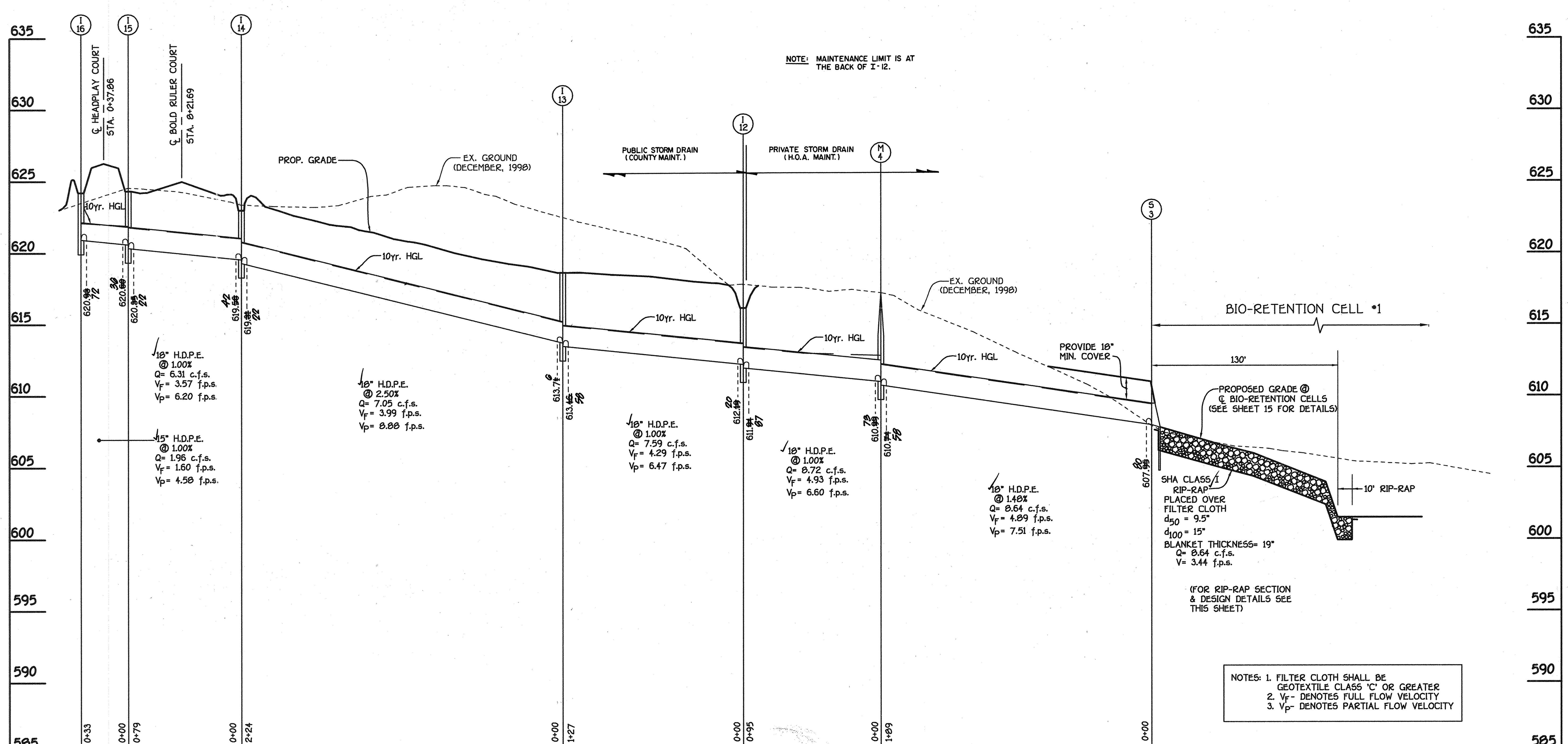

PROFILE
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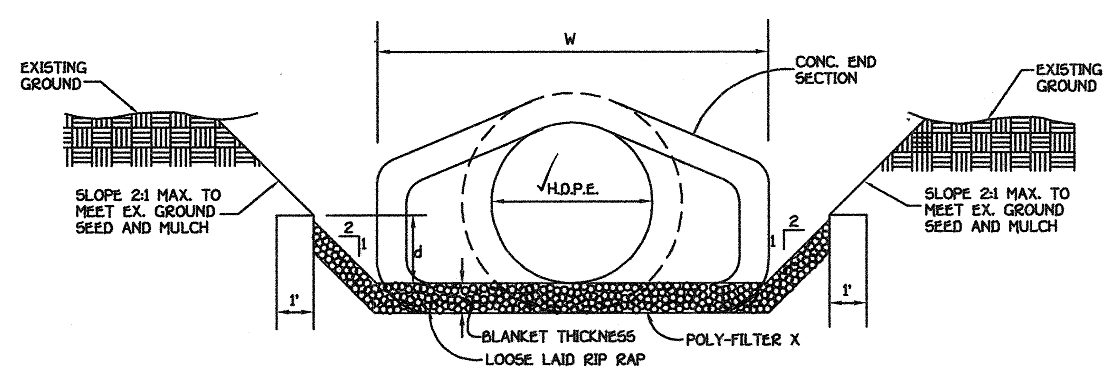


RIP RAP CHANNEL DETAIL
NO SCALE

RIP-RAP CHANNEL DESIGN DATA

STRUCTURE	AREA	WETTED PERIMETER	R	R 2/3	S	S 1/2	W	d	N	V (f.p.s.)	Q (c.f.s.)	RIP-RAP SIZE D_{50}	D_{MAX}	BLANKET THICKNESS
S-1	14.23	12.98	1.0963	1.064	0.0050	0.0707	6.0'	1.56'	0.04	2.79	40.02	9.5"	15"	19"
S-2	10.40	11.04	0.9420	0.9608	0.0050	0.0707	5.0'	1.35'	0.04	2.52	25.05	9.5"	15"	19"
S-3	2.62	6.33	0.4139	0.5538	0.0280	0.1673	4.0'	0.52'	0.04	3.44	8.64	9.5"	15"	19"
S-4	7.00	9.472	0.7390	0.8166	0.0050	0.0707	5.0'	1.00'	0.04	2.14	14.00	16"	24"	32"

CONSTRUCTION SPECIFICATIONS FOR RIP-RAP OUTFALLS

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

STATE OF MARYLAND TERRELL A. FISHER NO. 9757 REGISTERED PROFESSIONAL ENGINEER
AS-BUILT 2/17/03

NOTE:
V_F= DENOTES FULL FLOW VELOCITY
V_P= DENOTES PARTIAL FLOW VELOCITY
10yr. HGL = DENOTES 10 YEAR HYDRAULIC GRADIENT LINE

STATE OF MARYLAND ZACHARIA YOSEF FISCH 22418 PROFESSIONAL ENGINEER

OWNERS
GRETCHEN MOBBERLEY
SUMMER HILL FARM
ROUTE 144
WEST FRIENDSHIP, MARYLAND 21794

PULTE HOME CORPORATION
c/o JOHN E. BITTNER, PRESIDENT
1501 SOUTH EDGEWOOD STREET, SUITE K
BALTIMORE, MARYLAND 21227

DEVELOPER
PULTE HOME CORPORATION
c/o JOHN E. BITTNER, PRESIDENT
1501 SOUTH EDGEWOOD STREET, SUITE K
BALTIMORE, MARYLAND 21227

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

F.C.C.#30664SDPROFILES13.DWG

STORM DRAIN PROFILE AND DETAILS
THE PADDOCKS
LOTS 1 THRU 33 AND PRESERVATION PARCELS 'A' AND 'B'
ZONED R-20
TAX MAP NO. 22 PARCEL NO'S. 141 & 234 GRID NO'S. 1 & 7
THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: APRIL 7, 2000

As Built 2/17/03 F00-71

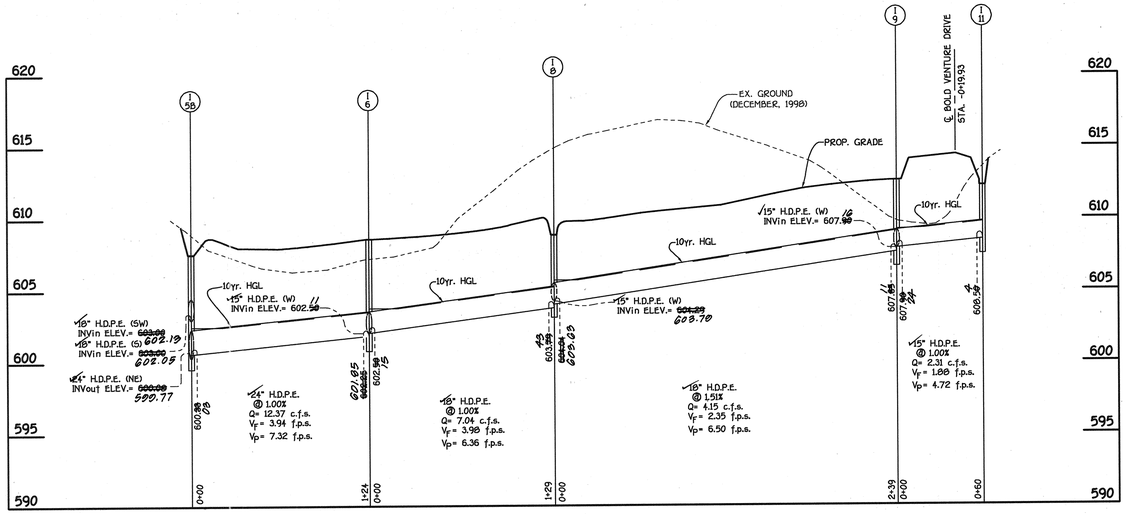
Approved: Department Of Public Works

Chief Bureau Of Highways — Date 6-20-00

Approved: Department Of Planning And Zoning

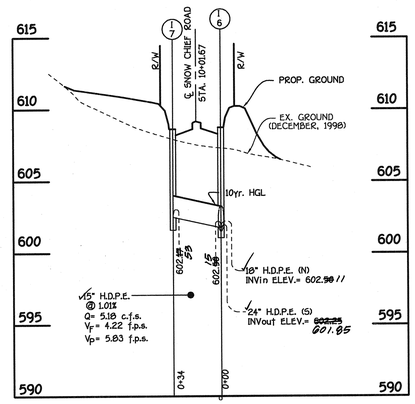
Chief, Division Of Land Development — Date 6/27/00

Chief, Development Engineering Division — Date 6/21/00



PROFILE

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



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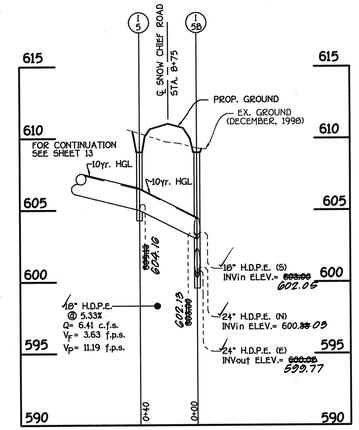
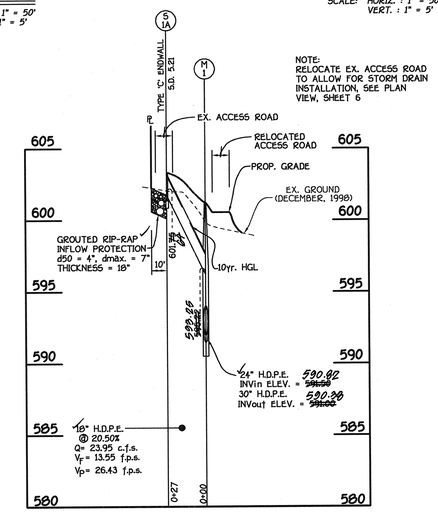


PROFILE

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

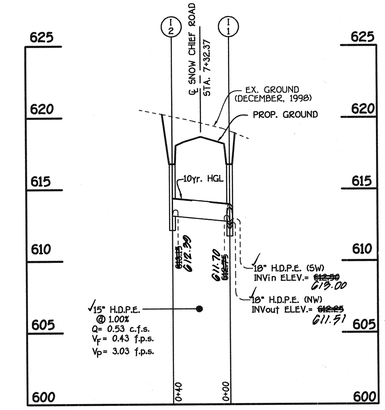
PIPE SCHEDULE (THIS SHEET)		
SIZE	CLASS	LENGTH
15"	HDPE	376'
18"	HDPE	768'
24"	HDPE	449'
30"	HDPE	160'



NOTE:
RELOCATE EX. ACCESS ROAD TO ALLOW FOR STORM DRAIN INSTALLATION. SEE PLAN VIEW, SHEET 6

PROFILE

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



PROFILE

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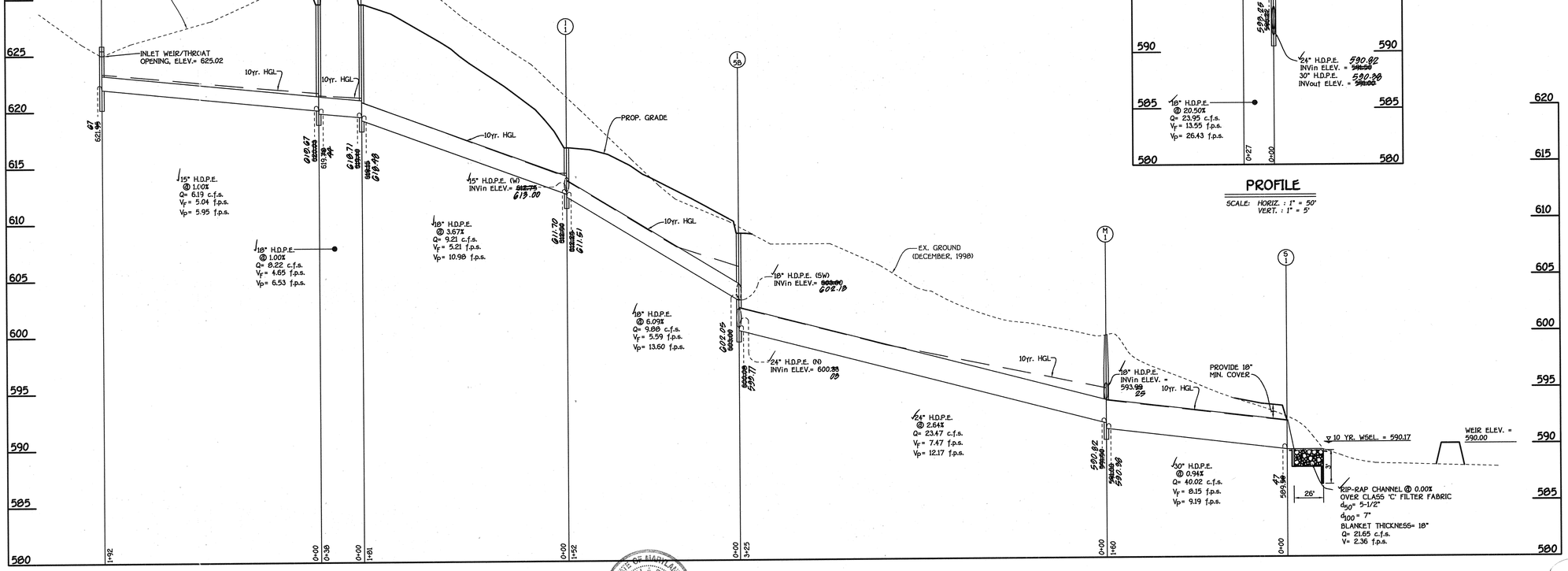
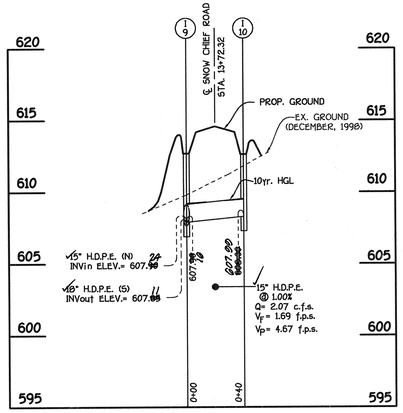


PROFILE

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



PROFILE

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

STATE OF MARYLAND — ZACHARIA YOSEF FISCH — 22418 — PROFESSIONAL ENGINEER

STORM DRAIN PROFILES

THE PADDOCKS

LOTS 1 THRU 33
AND PRESERVATION PARCELS 'A' AND 'B'

ZONED R-20
TAX MAP NO. 22 PARCEL NO'S. 141 & 234 GRID NO'S. 1 & 7
THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: APRIL 7, 2000
SHEET 14 OF 19

NOTE:
V_F = DENOTES FULL FLOW VELOCITY
V_P = DENOTES PARTIAL FLOW VELOCITY
10yr. HGL = DENOTES 10 YEAR HYDRAULIC GRADIENT LINE

PROFILE

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

STATE OF MARYLAND — TODD L. FISHER — NO. 9251 — REGISTERED PROFESSIONAL ENGINEER

As-Built 2/17/03

OWNERS

GRETCHEN MOBBERLEY
SUMMER HILL FARM
ROUTE 144
WEST FRIENDSHIP, MARYLAND 21794

PULTE HOME CORPORATION
c/o JOHN E. BITTNER, PRESIDENT
1501 SOUTH EDGEWOOD STREET, SUITE K
BALTIMORE, MARYLAND 21227

DEVELOPER

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CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

F.C.C.#306645DPROFILE514.DWG

As Built 2/17/03

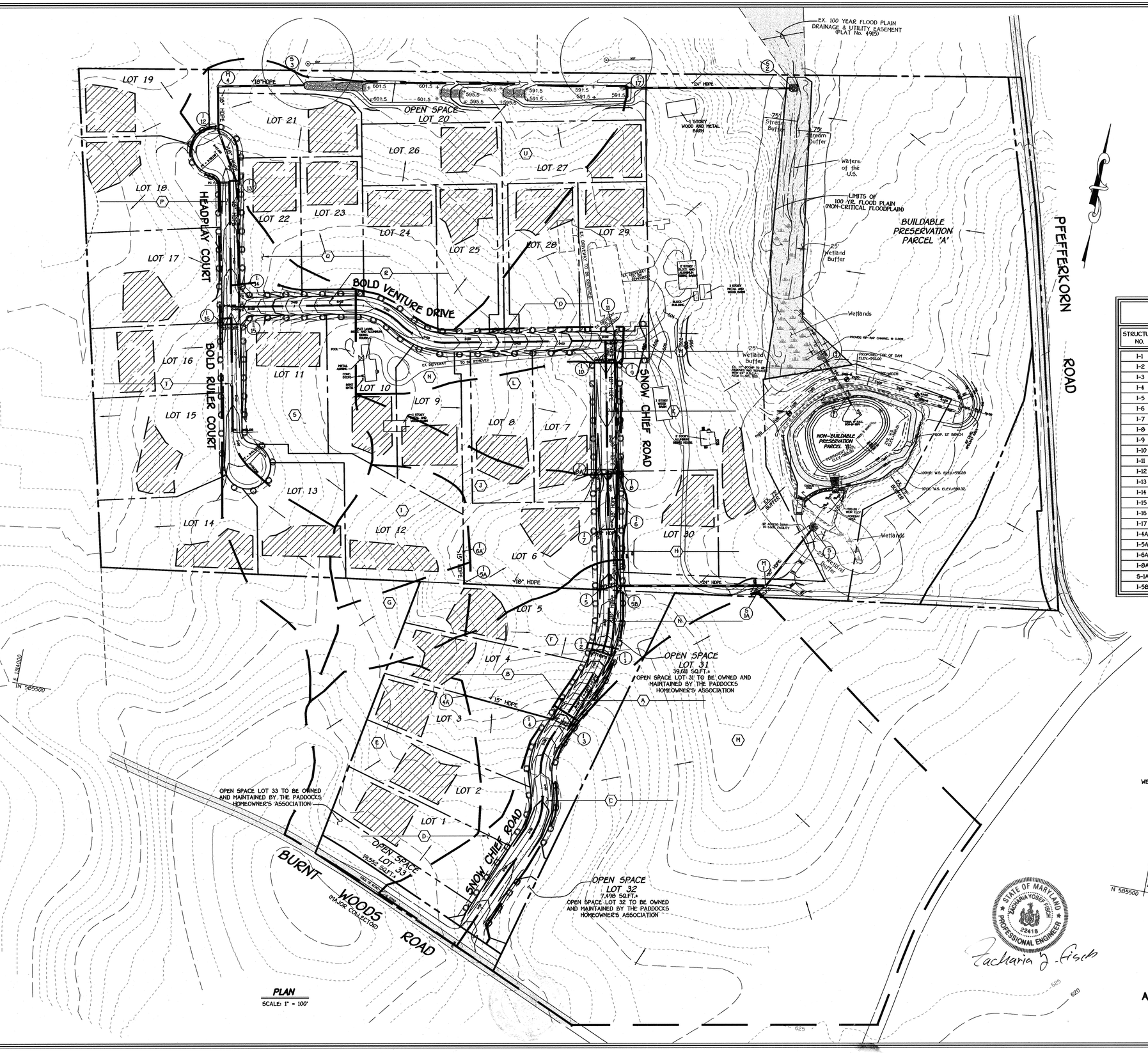
F00-71

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT	6/27/00 DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION	6/21/00 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAYS	6-20-00 DATE



DRAINAGE AREA DATA

STRUCTURE NO.	DRAINAGE AREA	AREA Ac.±	'C'	ZONED	% IMP
I-1	A	0.15	0.46	RR-DEO	38%
I-2	B	0.16	0.50	RR-DEO	44%
I-3	C	0.45	0.41	RR-DEO	30%
I-4	D	1.28	0.35	RR-DEO	33%
I-5	F	2.36	0.23	RR-DEO	23%
I-6	H	0.14	0.51	RR-DEO	39%
I-7	J	2.63	0.31	RR-DEO	34%
I-8	K	0.17	0.48	RR-DEO	41%
I-9	M	0.06	0.76	RR-DEO	83%
I-10	N	1.36	0.28	RR-DEO	33%
I-11	O	1.12	0.31	RR-DEO	50%
I-12	P	0.39	0.54	RR-DEO	49%
I-13	Q	0.51	0.43	RR-DEO	31%
I-14	R	0.24	0.64	RR-DEO	66%
I-15	S	2.69	0.30	RR-DEO	33%
I-16	T	1.52	0.24	RR-DEO	26%
I-17	U	7.94 / TOTAL = 13.24	0.25	RR-DEO	20%
I-4A	E	3.69	0.27	RR-DEO	22%
I-5A	G	1.12	0.26	RR-DEO	26%
I-6A	I	1.53	0.26	RR-DEO	26%
I-8A	L	1.90	0.28	RR-DEO	24%
S-1A	M	13.16	0.27	RR-DEO	9%
I-5B	N	0.17	0.46	RR-DEO	24%

OWNERS

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SUMMER HILL FARM
ROUTE 144
WEST FRIENDSHIP, MARYLAND 21794

PULTE HOME CORPORATION
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1501 SOUTH EDGEWOOD STREET, SUITE K
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DEVELOPER

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BALTIMORE, MARYLAND 21227

STATE OF MARYLAND — ZACHARIA YOSEF FISCH — 22418 — PROFESSIONAL ENGINEER

STATE OF MARYLAND — YEHSEEL A. FISHER — NO. 9787 — REGISTERED PROFESSIONAL ENGINEER

As-Built 2/17/03

DRAINAGE AREA MAP
THE PADDOCKS
LOTS 1 - 33
AND PRESERVATION PARCELS 'A' AND 'B'

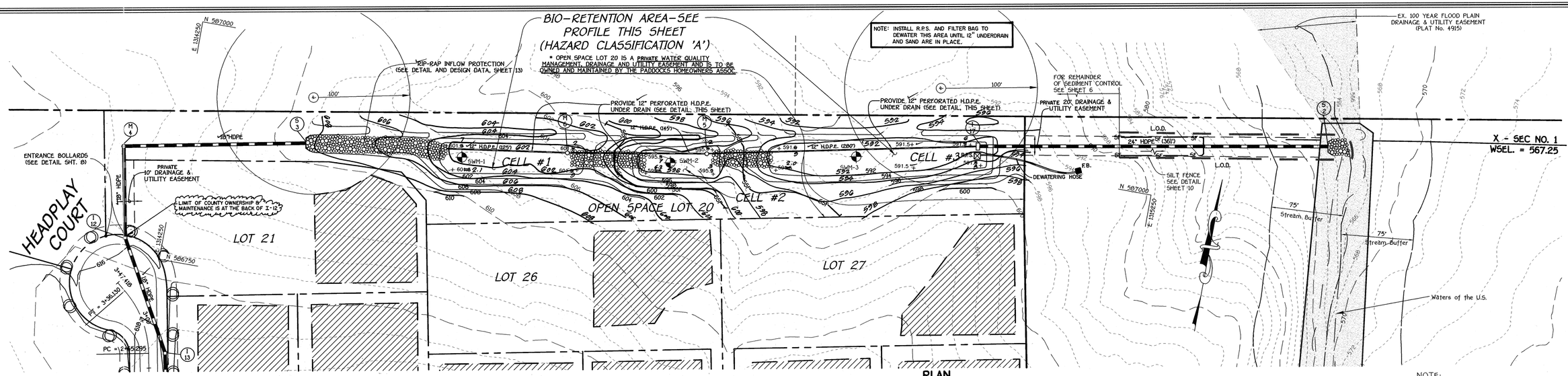
ZONED RR-DEO
TAX MAP NO. 22 PARCEL NO'S. 161 & 234
THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: APRIL 7, 2000
SHEET 15 OF 19

PLAN
SCALE: 1" = 100'

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

F.C.C.#30664 DRAINAGE AREA MAP 15.DWG

As Built 2/17/03 F00-71



PLAN

SCALE: 1" = 50'

NOTE:
SEE SHEET 9 FOR BORING LOGS SWM-1 THRU SWM-3 FOR THE BIO-RETENTION AREA.

LEGEND

SILT FENCE — SF
SUPER SILT FENCE — SSF
LIMIT OF DISTURBANCE
EARTH DIKE/TREATMENT TYPE

BIO-RETENTION PLANT MATERIAL CELL No. 1

QUANTITY	NAME	MAXIMUM SPACING (FT.)
TREE SPECIES		
10	SWAMP WHITE OAK	12
10	WHITE ASH	12
10	EASTERN RED CEDAR	12
SHRUB SPECIES		
19	WITCH HAZEL	12
19	RED OSIER DOGWOOD	12
19	WINTER BERRY	12
HERBACEOUS		
N/A	BLUEJOINT	N/A

NOTE: THE PLANTING SCHEDULE AND SPECIES FOR CELLS 1, 2 AND 3 ARE FOR DESIGN PURPOSES. PLANT DISTRIBUTION AND TYPES MAY BE SUBSTITUTED WITH SPECIES LISTED IN THE "DESIGN MANUAL FOR BIO-RETENTION IN STORM WATER MANAGEMENT" PRINCE GEORGE'S COUNTY GOVERNMENT.

BIO-RETENTION PLANT MATERIAL CELL No. 2

QUANTITY	NAME	MAXIMUM SPACING (FT.)
TREE SPECIES		
7	BLACK GUM	12
7	WILLOW OAK	12
6	EASTERN RED CEDAR	12
SHRUB SPECIES		
11	WITCH HAZEL	12
11	RED OSIER DOGWOOD	12
11	WINTER BERRY	12
HERBACEOUS		
N/A	REDTOP	N/A

TOTAL SURFACE AREA OF BIO-RETENTION CELLS 1, 2 & 3:

D.A. x Cw x 0.05 (USING SAND BED)

13.29ac.± x 0.29 x 0.05 = 0.1861 AC. OR 8,105 SQ.FT.

PROVIDED AREA OF BIO-RETENTION CELLS 1, 2 & 3 = 13,062 SQ.FT.

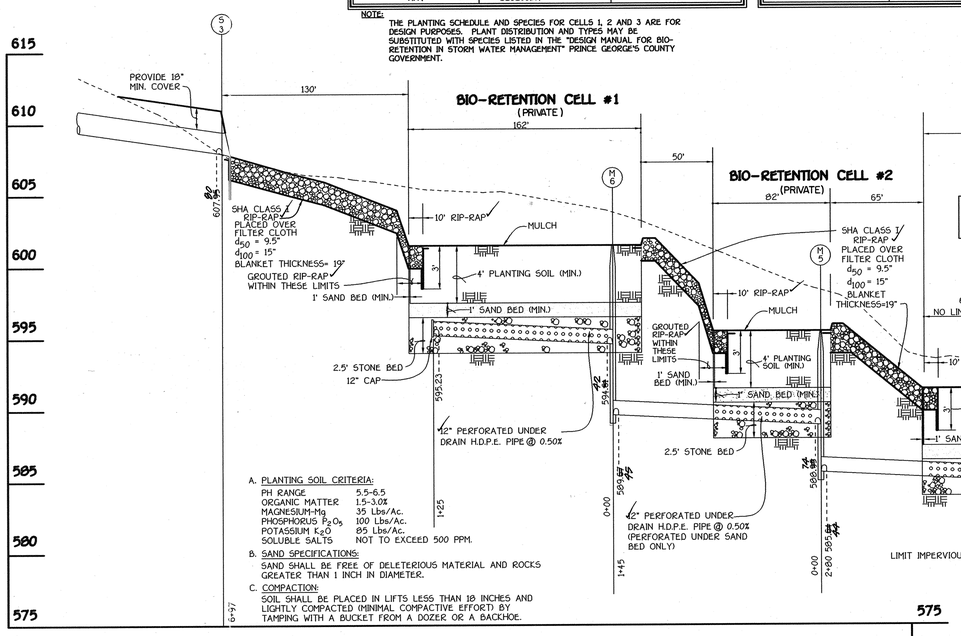
TOTAL No. OF TREES AND SHRUBS REQUIRED = 13,062/43,560 x 1,000 = 300 PLANTS

BIO-RETENTION PLANT MATERIAL CELL No. 3

QUANTITY	NAME	MAXIMUM SPACING (FT.)
TREE SPECIES		
15	RED MAPLE	12
15	WHITE ASH	12
20	EASTERN RED CEDAR	12
SHRUB SPECIES		
37	WITCH HAZEL	12
37	RED OSIER DOGWOOD	12
36	WINTER BERRY	12
HERBACEOUS		
N/A	COMMON PERIWINKLE	N/A

BIO-RETENTION SUMMARY

VOLUME REQUIRED	VOLUME PROVIDED	INLET WEIR ELEV.	TOP ELEV. I-17	RELEASE RATE PROVIDED
10,640 SQ. FT.	13,062 SQ. FT.	592.00	592.83	25.05 C.F.S.

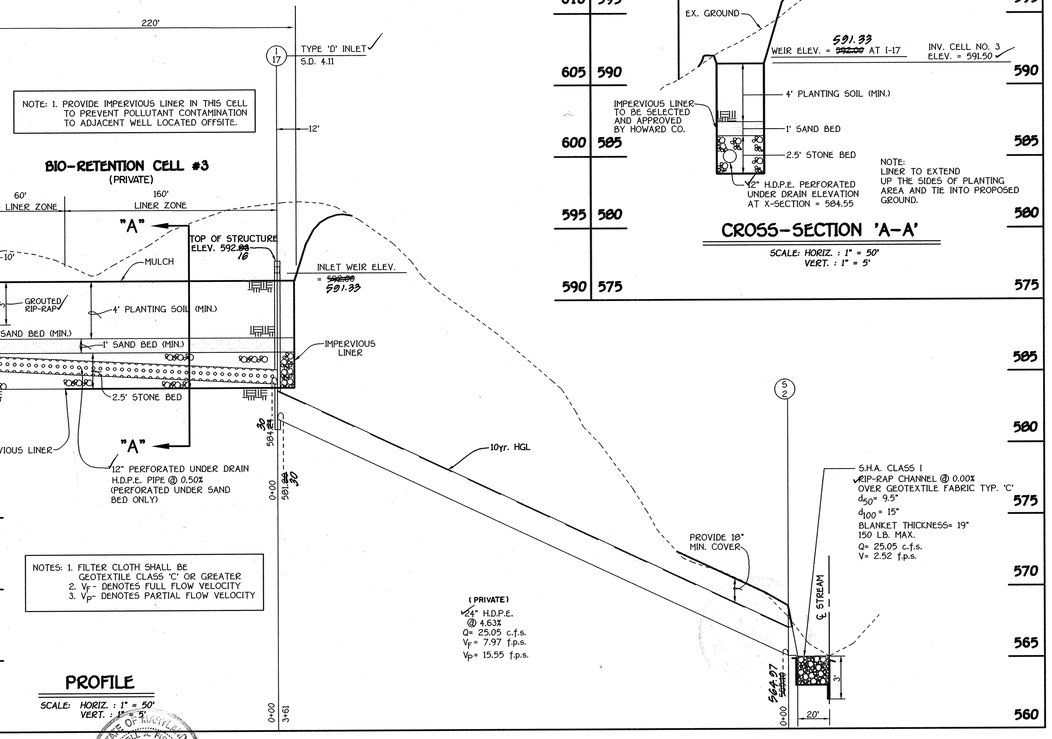


A. PLANTING SOIL CRITERIA:

PH RANGE	5.5-6.5
ORGANIC MATTER	1.5-3.0%
MAGNESIUM-Mg	35 Lbs/Ac.
PHOSPHORUS P_2O_5	100 Lbs/Ac.
POTASSIUM K_2O	85 Lbs/Ac.
SOLUBLE SALTS	NOT TO EXCEED 500 PPM.

B. SAND SPECIFICATIONS:
SAND SHALL BE FREE OF DELETERIOUS MATERIAL AND ROCKS GREATER THAN 1 INCH IN DIAMETER.

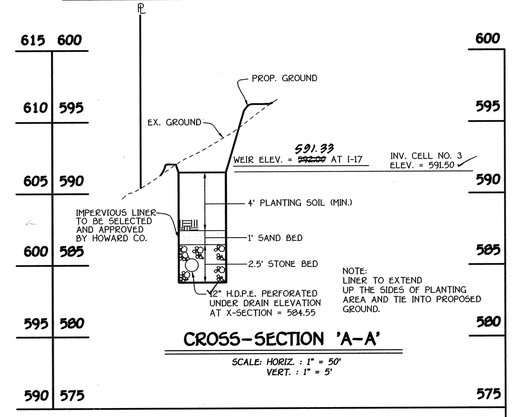
C. COMPACTION:
SOIL SHALL BE PLACED IN LIFTS LESS THAN 18 INCHES AND LIGHTLY COMPACTED (MINIMAL COMPACTIVE EFFORT) BY TAMPING WITH A BUCKET FROM A DOZER OR A BACKHOE.



NOTES: 1. FILTER CLOTH SHALL BE GEOTEXTILE CLASS 'C' OR GREATER
2. V_F- DENOTES FULL FLOW VELOCITY
3. V_P- DENOTES PARTIAL FLOW VELOCITY

PROFILE

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



CROSS-SECTION 'A-A'

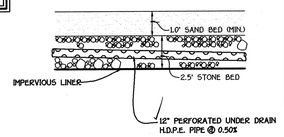
SCALE: HORIZ. : 1" = 50'
VERT. : 1" = 5'

OPERATION AND MAINTENANCE SCHEDULE FOR BIO-RETENTION AREA (PRIVATE)

1. ANNUAL MAINTENANCE OF PLANT MATERIAL, MULCH LAYER AND SOIL LAYER IS REQUIRED. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING.
2. SCHEDULE OF PLANT INSPECTION WILL BE TWICE A YEAR IN SPRING AND FALL. THIS INSPECTION WILL INCLUDE REMOVAL OF DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, TREATMENT OF ALL DISEASED TREES AND SHRUBS AND REPLACEMENT OF ALL DEFICIENT STAKES AND WIRES.
3. MULCH SHALL BE INSPECTED EACH SPRING. REMOVE PREVIOUS MULCH LAYER BEFORE APPLYING NEW LAYER ONCE EVERY 2 TO 3 YEARS.
4. SOIL EROSION TO BE ADDRESSED ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER HEAVY STORM EVENTS.
5. FLUSH OUT UNDER DRAIN AND OUTFALL PIPE FROM I-17 TO S-2 AT LEAST ONCE PER YEAR TO INSURE PROPER FLOW.

PIPE SCHEDULE (THIS SHEET)

SIZE	CLASS	LENGTH
24"	HDPE	361'
12"	HDPE PERFORATED	550'



PIPE UNDER DRAIN DETAIL

NO SCALE

STATE OF MARYLAND — TERRENCE L. FISCHER — No. 22418 — PROFESSIONAL ENGINEER

As-Built 2/17/03

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

F.C.C.*30664/FINALS/30664 BIO-RET 15.DWG

OWNERS

GRETCHEN MOBBERLEY
SUMMER HILL FARM
ROUTE 144
WEST FRIENDSHIP, MARYLAND 21794

PULTE HOME CORPORATION
c/o JOHN E. BITTNER, PRESIDENT
1501 SOUTH EDGEWOOD STREET, SUITE K
BALTIMORE, MARYLAND 21227

DEVELOPER

PULTE HOME CORPORATION
c/o JOHN E. BITTNER, PRESIDENT
1501 SOUTH EDGEWOOD STREET, SUITE K
BALTIMORE, MARYLAND 21227

By The Developer:

"I/We Certify That All Development And/Or Construction Will Be Done According To These Plans, And That Any Responsible Personnel Involved In The Construction Project Will Have A Certificate Of Attendance At A Department Of The Environment Approved Training Program For The Control Of Sediment And Erosion Before Beginning The Project. I Shall Engage A Registered Professional Engineer To Supervise Pond Construction And Provide The Howard Soil Conservation District With An "As-Built" Plan Of The Pond Within 30 Days Of Completion. I Also Authorize Periodic On-Site Inspections By The Howard Soil Conservation District."

Signature Of Developer — Date 4/25/00
Printed Name Of Developer

By The Engineer:

"I Certify That This Plan For Pond Construction, Erosion And Sediment Control Represents A Practical And Workable Plan Based On My Personal Knowledge Of The Site Conditions. This Plan Was Prepared In Accordance With The Requirements Of The Howard Soil Conservation District. I Have Notified The Developer That He/She 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 4/26/00
ZACHARIA Y. FISCH — PROFESSIONAL ENGINEER — No. 22418
Printed Name Of Engineer

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

USDA-Natural Resources Conservation Service — Date 5/15/00

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

Howard Soil Conservation District — Date 5/15/00

Approved: Department Of Public Works
Chief Bureau Of Highways — Date 6-20-00

Approved: Department Of Planning And Zoning
Chief, Division Of Land Development — Date 6/27/00
Chief, Development Engineering Division — Date 6/21/00

AS-BUILT CERTIFICATION

I Hereby Certify That The Facility Shown On This Plan Was Constructed As Shown On The " As-Built" Plans And Meets The Approved Plans And Specifications.

Signature — P.E. No.
Date:

Certify Means To State Or Declare A Professional Opinion Based Upon Onsite Inspections And Material Tests Which Are Conducted During Construction. The Onsite Inspections And Material Tests Are Those Inspections And Tests Deemed Sufficient And Appropriate Commonly Accepted Engineering Standards. Certify Does Not mean Or Imply A Guarantee By The Engineer Nor Does An Engineer's Certification Relieve Any Other Party from Meeting Requirements Imposed By Contract, Employment, Or Other Means, Including Meeting Commonly Accepted Industry Practices.

BIO-RETENTION PLAN, PROFILE, SECTION AND DETAILS
THE PADDOCKS
LOTS 1 THRU 33 AND PRESERVATION PARCELS 'A' AND 'B'

ZONED R-20
TAX MAP NO. 22 PARCEL NO'S. 141 & 234
THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: APRIL 7, 2000
SHEET 16 OF 19

As-Built 2/17/03

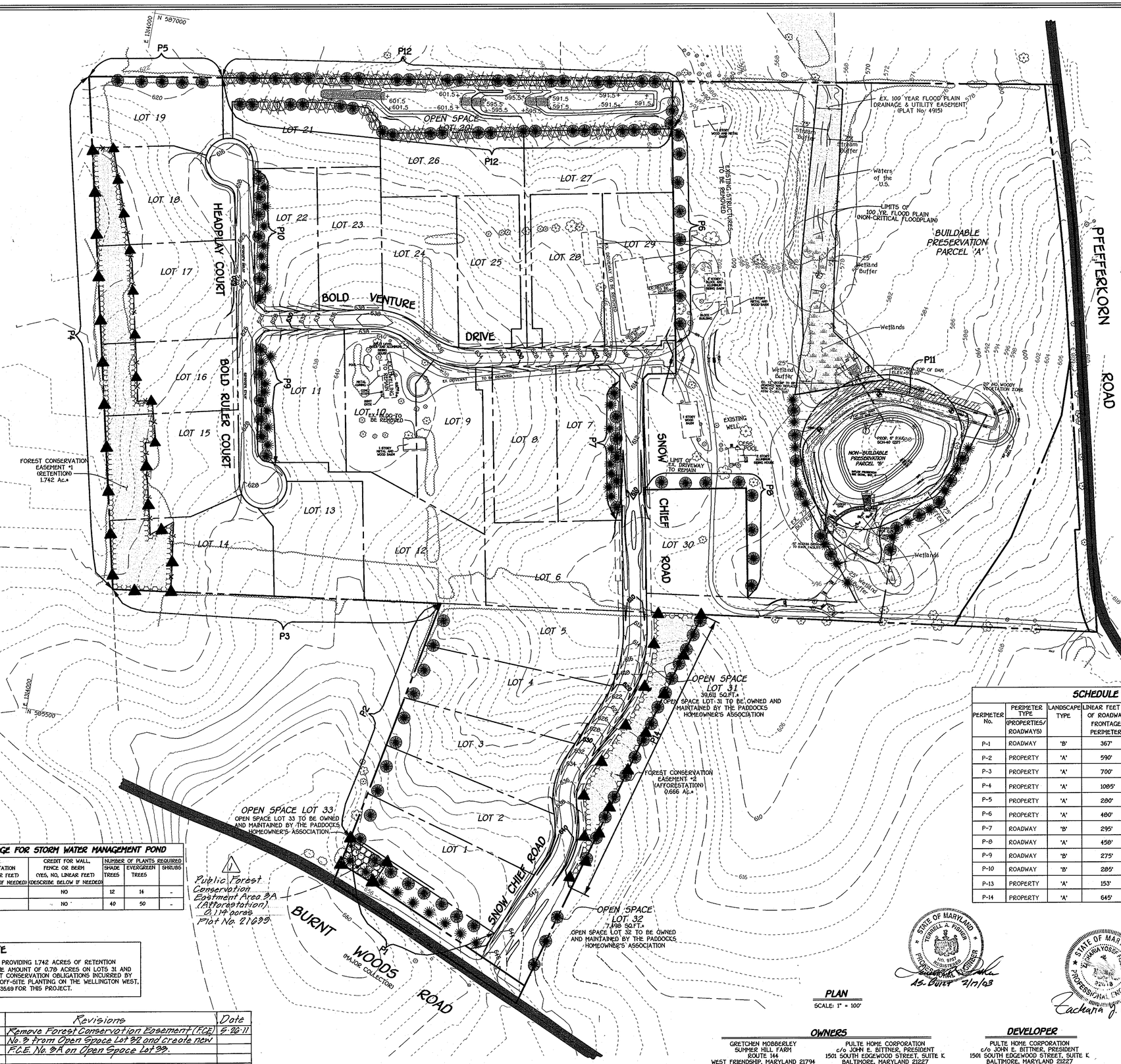
F 00-71

APPROVED: DEPARTMENT OF PUBLIC WORKS
CHIEF, BUREAU OF HIGHWAYS — DATE 6-20-00

APPROVED: DEPARTMENT OF PLANNING AND ZONING
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6/21/00
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 6/21/00

FOREST CONSERVATION WORKSHEET

1) GROSS AREA: .....62.3 AC.±
2) PRESERVATION PARCEL: .....17.5 AC.±
3) NET TRACT AREA: .....44.8 AC.±
4) EXISTING FOREST: .....1.742 AC.±
5) AFFORESTATION THRESHOLD: .....9.0 AC.±
6) REFORESTATION THRESHOLD: .....11.2 AC.±
7) AFFORESTATION REQUIRED: .....7.258 AC.±
8) FOREST TO BE CLEARED: .....0.0 AC.±
9) FOREST TO BE RETAINED IN FOREST CONSERVATION EASEMENT: .....1.742 AC.±
10) REFORESTATION REQUIRED: .....0.1 AC.±
11) ONSITE FORESTATION PROPOSED: .....0.78 AC.±
12) OFFSITE AFFORESTATION REQUIRED: ...6.478 AC.±
13) TOTAL FORESTATION PROVIDED: .....9.0 AC.±



FOREST CONSERVATION EASEMENT – LOT 31
(AFFORESTATION)

QTY.	SPECIES	SIZE	SPACING
15	ACER RUBRUM-RED MAPLE	2" CAL.	20' O.C.
15	FRAXINUS AMERICANA-WHITE ASH	2" CAL.	20' O.C.
20	PINUS STROBUS-WHITE PINE	6'-8' B&B	20' O.C.
12	QUERCUS RUBRA-RED OAK	2" CAL.	20' O.C.
20	VIBURNUM DENTATUM-ARROWWOOD	2-3' CONT.	**

⚠ FOREST CONSERVATION EASEMENT – LOT 33
(AFFORESTATION)

QTY.	SPECIES	SIZE	SPACING
1	Ex. Evergreen (credit)	—	—
1	Ex. Deciduous (credit)	—	—
22	Quercus alba - White Oak	2-3' Whips	11' O.C.

KEY:
CAL- CALIPER WHIP- MAY BE CONTAINER GROWN OR BARE ROOT CONT.- CONTAINER GROWN B&B- BALLED AND BURLAPED.
O.C.- ON CENTER
** SHRUBS SHALL BE PLANTED IN GROUPS OF 3-5 PLANTS, WITH SPACING 4-5' ON CENTER.

PLANTING NOTES:
1. THE POTENTIAL FOR DEER AND RODENT DAMAGE ON THIS FORESTATION PROJECT IS HIGH. THE PLANTING CONTRACTOR MAY UTILIZE PHYSICAL AND CHEMICAL TECHNIQUES TO IMPROVE THE SUCCESS OF THE PLANTINGS. THESE TECHNIQUES MUST BE APPROVED BY THE OWNER PRIOR TO INITIATION OF WORK.
2. PLANTING UNITS MAY BE RANDOMLY LOCATED WITHIN PLANTING AREA.

NOTE:
FOR PLANTING DETAIL AND SPECIFICATIONS, SEE TREE PLANTING DETAIL, SHEET 12.

LANDSCAPING PLANT LIST

QTY.	KEY	NAME	SIZE
84		ACER RUBRUM 'OCTOBER GLORY' (OCTOBER RED MAPLE)	2 - 2 1/2" CALIPER FULL CROWN, B&B
94		PINUS STROBUS (EASTERN WHITE PINE)	6' - 8.5' HEIGHT
40		QUERCUS ACUTISSIMA 'SAWTOOTH OAK'	2 1/2-3" CALIPER FULL CROWN, B&B

"THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL". FINANCIAL SURETY FOR THE 218 REQUIRED LANDSCAPE TREES HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF $51,300.00.

SCHEDULE A PERIMETER LANDSCAPE EDGE

PERIMETER No.	PERIMETER TYPE (PROPERTIES/ ROADWAYS)	LANDSCAPE TYPE	LINEAR FEET OF OF ROADWAY FRONTAGE PERIMETER	CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NUMBER OF PLANTS REQUIRED SHADE TREES	EVERGREEN TREES	SHRUBS
P-1	ROADWAY	'B'	367'	NO	NO	7	9	-
P-2	PROPERTY	'A'	590'	NO	NO	10	-	-
P-3	PROPERTY	'A'	700'	YES 700'	NO	-	-	-
P-4	PROPERTY	'A'	1085'	YES 1085'	NO	-	-	-
P-5	PROPERTY	'A'	280'	NO	NO	5	-	-
P-6	PROPERTY	'A'	480'	NO	NO	8	-	-
P-7	ROADWAY	'B'	295'	NO	NO	6	7	-
P-8	ROADWAY	'A'	450'	NO	NO	8	-	-
P-9	ROADWAY	'B'	275'	NO	NO	6	7	-
P-10	ROADWAY	'B'	285'	NO	NO	6	7	-
P-13	PROPERTY	'A'	153'	NO	NO	3	-	-
P-14	PROPERTY	'A'	645'	NO	NO	15	-	-

SCHEDULE D PERIMETER LANDSCAPE EDGE FOR STORM WATER MANAGEMENT POND

PERIMETER No.	PERIMETER TYPE (PROPERTIES/ ROADWAYS)	LANDSCAPE TYPE	LINEAR FEET OF PERIMETER	CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NUMBER OF PLANTS REQUIRED SHADE TREES	EVERGREEN TREES	SHRUBS
P-11	PROPERTY	'B'	1070'	YES 500'	NO	12	14	-
P-12	PROPERTY	'B'	2000'	NO	NO	40	50	-

FOREST CONSERVATION SURETY NOTE
⚠ THE FOREST CONSERVATION OBLIGATION WILL BE MET BY PROVIDING 1.742 ACRES OF RETENTION ON LOTS 14 THRU 18 AND AN AFFORESTATION AREA IN THE AMOUNT OF 0.78 ACRES ON LOTS 31 AND 33 OF THE PADDOCKS SUBDIVISION. THE REMAINING FOREST CONSERVATION OBLIGATIONS INCURRED BY THIS SUBDIVISION WILL BE MET BY PROVIDING 6.5 ACRES OFF-SITE PLANTING ON THE WELLINGTON WEST, SECTION 2, F98-181. THE SURETY AMOUNT WILL BE $ 102,435.69 FOR THIS PROJECT.

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

F.C.C.#30664 Landscape Plan 17.dwg

No	Revisions	Date
1	Remove Forest Conservation Easement (FCE) No. 3 from Open Space Lot 32 and create new F.C.E. No. 3A on Open Space Lot 33.	5-26-11

STATE OF MARYLAND — JEFFREY L. FISHER — REGISTERED PROFESSIONAL ENGINEER — No. 9705
As-Built 2/17/03

STATE OF MARYLAND — ZACHARY J. FISCH — PROFESSIONAL ENGINEER — No. 32218
Zachary J. Fisch

PLAN
SCALE: 1" = 100'

OWNERS
GRETCHEN MOBBERLEY
SUMMER HILL FARM
ROUTE 144
WEST FRIENDSHIP, MARYLAND 21794

PULTE HOME CORPORATION
c/o JOHN E. BITTNER, PRESIDENT
1501 SOUTH EDGEWOOD STREET, SUITE K
BALTIMORE, MARYLAND 21227

DEVELOPER
PULTE HOME CORPORATION
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1501 SOUTH EDGEWOOD STREET, SUITE K
BALTIMORE, MARYLAND 21227

ON-SITE FOREST CONSERVATION PLAN AND LANDSCAPE PLAN
THE PADDOCKS
LOTS 1 – 33
AND PRESERVATION PARCELS 'A' AND 'B'

ZONED RR-DEO
TAX MAP NO. 22 PARCEL NO'S. 141 & 234
THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: APRIL 7, 2000
SHEET 17 OF 19

As Built 2/17/03 F00-71

FINAL ROAD CONSTRUCTION, GRADING AND SEDIMENT CONTROL PLANS

MILLERS MILL WOODS

LOTS 1 THRU 16

ZONED: R-20

TAX MAP No. 17, GRID No. 12, PARCEL No. 44 AND PART OF PARCEL 47

APPROVED: DEPARTMENT OF PUBLIC WORKS	
CHIEF, BUREAU OF HIGHWAYS	DATE 6-18-07
APPROVED: DEPARTMENT OF PLANNING AND ZONING	
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 6/22/07
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 6/21/07

SHEET INDEX

SHEET No.	DESCRIPTION
1	TITLE SHEET
2	KIDWELL PLACE PLAN AND PROFILE
3	STREET TREE, GRADING AND SEDIMENT CONTROL PLAN
4	STREET TREE, GRADING AND SEDIMENT CONTROL PLAN
5	STORM DRAIN PROFILES
6	STORMWATER MANAGEMENT NOTES AND DETAILS - BMP•1
7	SEDIMENT AND EROSION CONTROL NOTES AND DETAILS
8	SEDIMENT AND EROSION CONTROL NOTES AND DETAILS
9	DRAINAGE AREA MAP & LANDSCAPING PLAN
10	FOREST CONSERVATION PLAN
11	SOIL BORINGS
12	STORMWATER MANAGEMENT NOTES AND DETAILS - BMP•2

NO.	REVISIONS	DATE
2	REVISED PLANS TO REFLECT THE ADDITION OF PART OF PARCEL 47 TO THIS SUBDIVISION	11/15/07
1	REVISE I-7 AND ASSOCIATED PIPE LENGTH DUE TO T-TURN AROUND ADJUST T-TURN AROUND SO THAT THE DRIVEWAYS ON THE SDP WILL ALIGN STRAIGHTER REVISED ROAD GRADES TO BALANCE SITE	10/10/07

ROAD CLASSIFICATION CHART

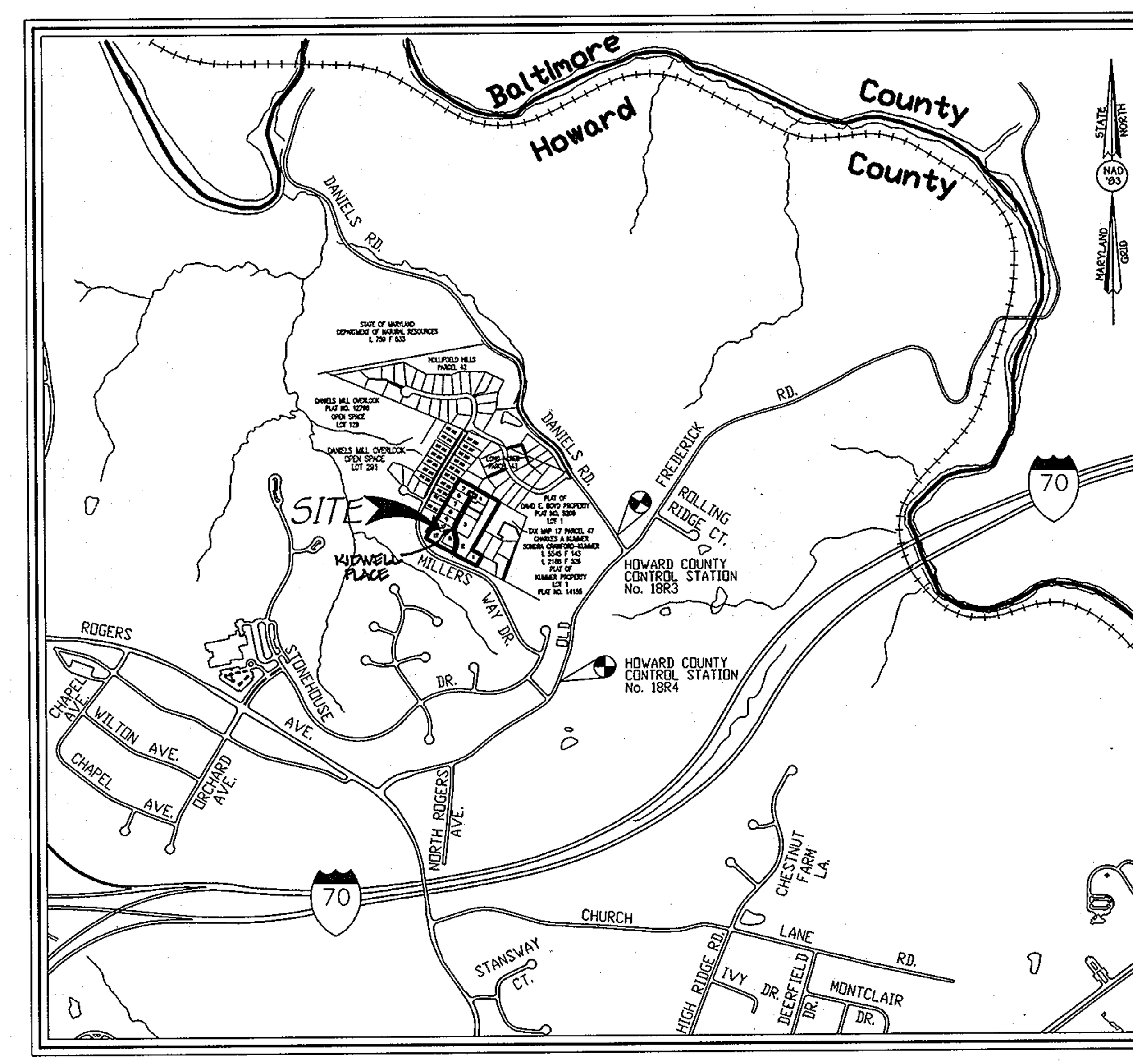
ROAD	CLASSIFICATION	R/W WIDTH
KIDWELL PLACE	PUBLIC ACCESS PLACE / PRIVATE ACCESS PLACE	40' R/W 24' EASEMENT

STREET LIGHT CHART

DWG. No.	STREET NAME	STATION	OFF-SET	FIXTURE/POLE TYPE
2	MILLERS WAY DRIVE	11+80	16'R	100 WATT "PREMIER" H.P.S. VAPOR FIXTURE POST TOP FIXTURE MOUNTED ON A 14 FOOT BLACK FIBERGLASS POLE.

TRAFFIC CONTROL SIGNS

STREET NAME	C.L. STATION	OFFSET	POSTED SIGN	SIGN CODE
KIDWELL PLACE	0+27	18'L	STOP	R1-1
MILLERS WAY DRIVE	7+50	15' L & R	NO PARKING	R7-1(1)
MILLERS WAY DRIVE	15+50	15' L & R	NO PARKING	R7-1(1)



Vicinity Map
Scale: 1" = 1200'

34. PLAT SUBJECT TO WP-08-026, WHICH THE PLANNING DIRECTOR APPROVED ON NOVEMBER 8, 2007 A REQUEST TO SECTION 16.145 WHICH REQUIRES THE SUBMITTAL OF A SKETCH PLAN, AND SECTION 16.146, WHICH REQUIRES THE SUBMITTAL OF A PRELIMINARY PLAN SUBJECT TO:
    1). WITHIN 60 DAYS (BY JANUARY 1, 2008) SUBMIT:
        A). COPIES OF AMENDED MILLERS MILL WOODS PLATS MODIFIED TO INCORPORATE KUMMER; LOT 1
        B). MODIFIED FOREST CONSERVATION WORKSHEET AND FC COST ESTIMATE
        C). RED-LINE COPIES OF MILLERS MILL WOODS ROAD CONSTRUCTION PLANS TO INCORPORATE THE ACREAGE OF KUMMER, LOT 1 AND TO SHOW THE 3 NEW LOTS
    2). WITHIN 120 DAYS (BY MARCH 1, 2008) COORDINATE WITH REAL ESTATE SERVICES
        A). REDO PREVIOUSLY PREPARED/EXECUTED PRIVATE ACCESS PLACE MAINTENANCE AGREEMENT.
        B). MODIFY PREVIOUSLY COMPLETED DEVELOPERS AGREEMENTS INCLUDING FOREST CONSERVATION, AS NECESSARY
    3). WITHIN 180 DAYS (APRIL 30, 2008) PAY ALL FEES AND SUBMIT PLAT ORIGINALS FOR RECORDATION.
    4). COORDINATE WITH DEVELOPMENT ENGINEERING DIVISION TO AMEND PUBLIC WATER AND SEWER CONTRACT DRAWINGS STORM DRAIN FEES AND ANY ASSOCIATED REVISED FEES.
    5). LOT 1, KUMMER PROPERTY (F-07-101) WILL BE VOIDED AND INCORPORATED INTO MILLERS MILL WOODS WITH THE EXISTING HOME CONTINUING TO ACCESS MILLERS WAY VIA THE PRIVATE USE-IN-COMMON DRIVEWAY CREATED ON PLAT NO. 14155.
    6). SDP-08-034 WILL HAVE A 60 DAY EXTENSION FOR RESUBMITTAL
35. THERE IS AN EXISTING DWELLING/STRUCTURE LOCATED ON LOT 16 TO REMAIN. NO NEW BUILDINGS, EXTENSIONS OR ADDITIONS TO THE EXISTING DWELLING ARE TO BE CONSTRUCTED AT A DISTANCE LESS THAN THE ZONING REGULATION REQUIREMENTS.

GENERAL NOTES

1. SUBJECT PROPERTY ZONED R-20 Per 2/2/04 COMPREHENSIVE ZONING PLAN AND THE COMP LITE ZONING AMENDMENTS EFFECTIVE 7/28/06.
2. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
3. TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
4. ALL ASPECTS OF THE PROJECT ARE IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS ARE APPROVED.
5. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS, DIVISION OF CONSTRUCTION INSPECTION AT 410-313-1880 AT LEAST (5) WORKING DAYS. PRIOR TO THE START OF CONSTRUCTION.
6. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION.
7. LOCATION: MILLERS WAY DRIVE, TAX MAP No. 17, PARCEL No. 44 **AND PART OF PARCEL 47**
8. THE TOPOGRAPHY IS BASED ON FIELD RUN SURVEYS PERFORMED BY FISHER, COLLINS & CARTER, INC. ON OR ABOUT 01-05-06, **08/22/07** AND SUPPLEMENTED WITH DANIEL'S MILL OVERLOOK ROAD PLANS (F 98-57).
9. BOUNDARY IS BASED ON A FIELD RUN MONUMENTED BOUNDARY SURVEYS PERFORMED ON OR ABOUT SEPTEMBER, 2002, **AUGUST, 2006** BY FISHER,COLLINS & CARTER, INC.
10. PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT.
11. PUBLIC WATER AND PUBLIC SEWER WILL BE USED WITHIN THIS SUBDIVISION. IT WILL BE CONNECTED TO THE EXISTING PUBLIC WATER AND PUBLIC SEWER LOCATED WITHIN DANIELS MILL OVERLOOK, SECTION 3, AREA 1 & 2 (CONTRACT Nos. 14-3651-D & 14-3672-D). WATER AND SEWER SERVICE TO THESE LOTS WILL BE GRANTED UNDER THE PROVISIONS OF SECTION 18.122.B OF THE HOWARD COUNTY CODE. **PUBLIC WATER AND PUBLIC SEWER SERVICE HAS BEEN GRANTED UNDER THE TERMS AND PROVISIONS THERE OF, EFFECTIVE JULY 25, 2007, ON WHICH DATE DEVELOPER AGREEMENT 14-4103-D WAS FILED AND ACCEPTED.**
12. THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORINATE SYSTEM. HOWARD COUNTY 18 R4 AND 18 R3 WERE USED FOR THIS PROJECT.

HO. CO. STA. NO. 18 R3	N 596,747.870	E 1,367,360.555	ELEV. = 459.680
HO. CO. STA. NO. 18 R4	N 595,543.252	E 1,366,800.879	ELEV. = 475.951

13. AREA TABULATION:

GROSS AREA OF TRACT:	**7.77** AC.
AREA OF FLOODPLAIN:	0.00 AC.
AREA OF STEEP SLOPES:	0.00 AC.
NET AREA OF TRACT:	**7.77** AC.
AREA OF PUBLIC ROAD R/W:	0.000 AC.
AREA OF BUILDABLE LOTS:	**4.519** AC.
AREA OF OPEN SPACE LOTS:	**3.251** AC.

14. TOTAL NO. OF PROPOSED LOTS: **16**
    NO. OF BUILDABLE LOTS: **14**
    NO. OF OPEN SPACE LOTS: 2
15. REQUIRED OPEN SPACE: **3.108** AC. (40% OF GROSS AREA)
    OPEN SPACE PROVIDED: **3.251** AC.
    a). Non Credited Open Space = **0.145** AC.
    b). Credited Open Space Provided = **3.106** AC.
    RECREATIONAL OPEN SPACE REQUIRED: 200 SQ.FT.x **14** D.U. = **2800** SQ.FT.
    RECREATIONAL OPEN SPACE PROVIDED: **3001** SQ.FT.
16. FOR FLAG OR PIPESTEM LOTS, REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE ARE TO BE PROVIDED TO THE JUNCTION OF THE FLAG OR PIPESTEM AND THE ROAD RIGHT-OF-WAY LINE AND NOT ONTO THE FLAG OR PIPESTEM DRIVEWAY.
17. DRIVEWAY (S) SHALL BE PROVIDED PRIOR TO RESIDENTIAL OCCUPANCY TO INSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING (MINIMUM) REQUIREMENTS:
    A) WIDTH - 12 FEET (**16** FEET SERVING MORE THAN ONE RESIDENCE)
    B) SURFACE - SIX (6") INCHES OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP COATING
    C) GEOMETRY - MAXIMUM 14% GRADE, MAXIMUM 10% GRADE CHANGE AND MINIMUM OF 45 FOOT TURNING RADIUS
    D) STRUCTURES (CULVERTS/BRIDGES) CAPABLE OF SUPPORTING 25 GROSS TONS (H25 LOADING)
    E) DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100 YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY SURFACE
    F) STRUCTURE CLEARANCES - MINIMUM 12 FEET
    G) MAINTENANCE - SUFFICIENT TO INSURE ALL WEATHER USE
18. WETLAND AND FOREST DELINEATION PREPARED BY ECO-SCIENCE PROFESSIONALS, INC DATED SEPTEMBER, 2001, AND APPROVED UNDER SP-03-004.
19. TRAFFIC REPORT PREPARED BY THE TRAFFIC GROUP, INC. AND APPROVED UNDER SP-03-004.
20. SOILS INFORMATION TAKEN FROM SOIL MAP NO. 10, SOIL SURVEY, HOWARD COUNTY, MARYLAND, JULY 1968 ISSUE.
21. THERE IS NO PUBLIC 100 YEAR FLOODPLAIN WITHIN THIS SUBMISSION.
22. STREET LIGHTS WILL BE REQUIRED IN THIS DEVELOPMENT IN ACCORDANCE WITH THE DESIGN MANUAL. STREET LIGHT PLACEMENT AND TYPE OF FIXTURE AND POLE SELECTED SHALL BE IN ACCORDANCE WITH THE LATEST HOWARD COUNTY DESIGN MANUAL, VOLUME III (1993) AND AS MODIFIED BY "GUIDELINES FOR STREET LIGHTS IN RESIDENTIAL DEVELOPMENTS (JUNE 1993)." THE JUNE 1993 POLICY INCLUDES GUIDELINES FOR LATERAL AND LONGITUDINAL PLACEMENT. A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN AND STREET LIGHT AND ANY TREE.
23. FOREST STAND DELINEATION & FOREST CONSERVATION PLAN WAS PREPARED BY ECO-SCIENCE PROFESSIONALS AND WAS APPROVED UNDER SP-03-004.
24. STORMWATER MANAGEMENT WILL BE PROVIDED IN ACCORDANCE WITH HOWARD COUNTY AND MARYLAND 378 SPECIFICATIONS. WATER QUALITY WILL BE PROVIDED BY TWO BIO-RETENTION FACILITIES (B.M.P. NO.'S 1 & 2) LOCATED ON OPEN SPACE LOT **1** AND LOT **15** & A DRY SWALE (B.M.P. No. 3) LOCATED ON OPEN SPACE LOT **14**.
    TYPE: BIO-RETENTION FACILITIES, DRY SWALE (O.S. LOT **14**)
    OWNER: THE HOMEOWNER'S ASSOCIATION (O.S. LOT **1**), PRIVATE HOMEOWNER (LOT **15**) PRIVATE - H.O.A. (O.S. LOT **14**)
    MAINTENANCE: THE HOMEOWNER'S ASSOCIATION - PRIVATELY MAINTAINED
25. PREVIOUS DEPARTMENT OF PLANNING AND ZONING FILE NUMBERS ARE SP-03-004. **AND WP-08-026**
26. THE FOREST CONSERVATION REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE AND FOREST CONSERVATION ACT FOR THIS SUBDIVISION WILL BE FULFILLED BY PROVIDING **1.09** ACRES OF ON-SITE FOREST RETENTION, **1.35** OF ON-SITE REFORESTATION/AFFORESTATION AND THE BALANCE OF **0.43** ACRES OF REFORESTATION OBLIGATION WILL BE PROVIDED BY A FEE-IN-LIEU PAYMENT OF **$14,049.00**. A TOTAL SURETY OF **$38,900.00** BASED ON **1.09** AC. RETENTION x 43,560 SQ.FT./ACRE = $0.20/SQ.FT. = **$9,497.00** AND **1.35** AC. REFORESTATION x 43,560 SQ.FT./ACRE x $0.50/ACRE = **$29,403.00** IS PROVIDED WITH THE DEVELOPER'S AGREEMENT.
    The Forest Conservation Easement Has Been Established To Fulfill The Requirements Of Section 16.1200 Of The Howard County Code And Forest Conservation Act. "no Clearing, Grading Or Construction Is Permitted Within The Forest Conservation Easement; However, Forest Management Practices As Defined In The Deed Of Forest Conservation Easement Are Allowed."
27. LANDSCAPING FOR LOTS 1-**16** IS PROVIDED IN ACCORDANCE WITH A CERTIFIED LANDSCAPE PLAN INCLUDED WITH THIS PLAN SET. A PERIMETER LANDSCAPE SURETY FOR **36** SHADE TREES AND **15** EVERGREEN TREES IN THE AMOUNT OF **$13,050.00** IS PROVIDED IN A DEVELOPER'S AGREEMENT. IN ADDITION, A STREET TREE SURETY FOR 33 SHADE TREES IN THE AMOUNT OF $9,900.00 IS PROVIDED.
28. "SIGN POSTS: ALL SIGN POST USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE POST (14 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE (12 GAUGE) - 3' LONG. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST."
29. 95% COMPACTION IN FILL AREAS SHALL BE IN ACCORDANCE WITH AASTHO T-180 STANDARDS.
30. THE EXISTING DWELLING LOCATED ON **LOT 13 AND OPEN SPACE LOT 14 HAS BEEN RAZED PRIOR TO THE RECORDATION OF THE RECORD PLAT.**
31. THE EXISTING WELL SERVING THE EXISTING DWELLING ON PROPOSED LOTS **13 AND 14** **HAS BEEN ABANDONED PRIOR** TO SUBMISSION OF RECORD PLAT FOR SIGNATURE.
32. NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE LIMITS OF WETLANDS, STREAM (S), OR THEIR REQUIRED BUFFERS, FLOODPLAIN AND FOREST CONSERVATION EASEMENT AREAS.
33. THE ENTRANCE TO THIS SUBDIVISION SHALL BE PRIVATELY MAINTAINED.

SECOND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

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

OWNERS

ELLICOTT CITY HOLDING, INC.
5300 DORSEY HALL DRIVE
SUITE 102
ELLICOTT CITY, MARYLAND 21042
410-367-0422

100% LAND, INC.
5300 DORSEY HALL DRIVE
SUITE 102
ELLICOTT CITY, MARYLAND 21042
ATTN: MS. LISA DEVRIES
410-367-0422

DEVELOPER

100% LAND, INC
5300 DORSEY HALL DRIVE
SUITE 102
ELLICOTT CITY, MARYLAND 21042
ATTN: MS. LISA DEVRIES
410-367-0422

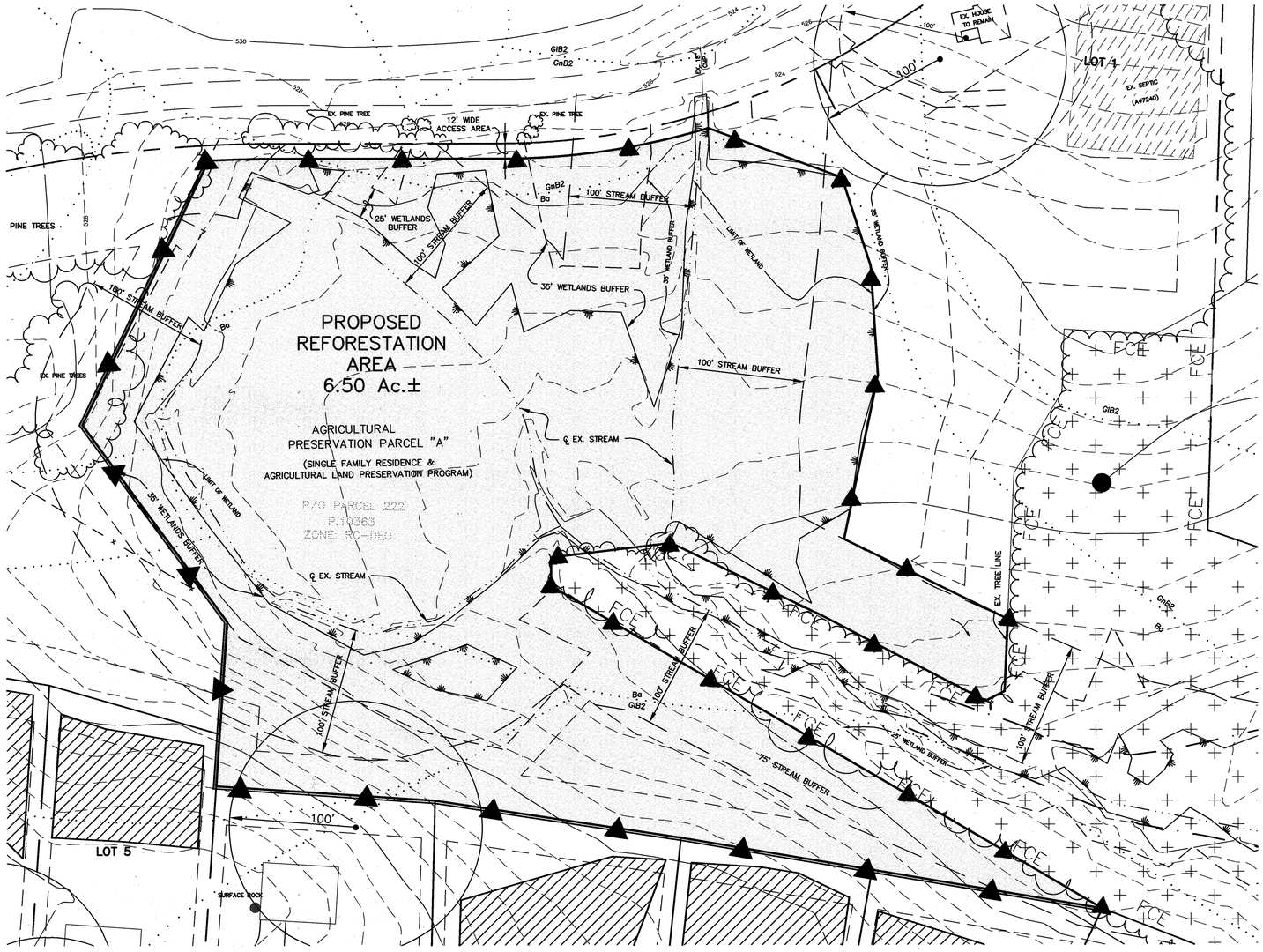
STATE OF MARYLAND — ALDO MICHAEL VITUCCI — No. 20747 — REGISTERED PROFESSIONAL ENGINEER

ALDO M. VITUCCI, P.E. — 5-10-07 DATE

MILLERS MILL WOODS
LOTS 1 THRU 16
ZONED R-20
TAX MAP No. 17, GRID 12, PARCEL No. 44 **AND PART OF PARCEL 47**
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: **JANUARY, 2008**
SHEET 1 OF 12

F-07-073

AS BUILT 6-14-2011



PLAN VIEW

1"=50'

PLANTING SPECIFICATIONS AND NOTES

SITE PREPARATION AND SOILS

1. PROTECTION FENCING AND SILT FENCES FOR SEDIMENT AND EROSION CONTROL ARE TO BE INSTALLED AS A FIRST ORDER OF BUSINESS. SEE PLAN FOR LOCATIONS.
2. DISTURBANCE OF SOILS SHOULD BE LIMITED TO THE PLANTING FIELD FOR EACH PLANT. AS SHOWN ON THE DETAIL VIEW, A PLANTING FIELD OF RADIUS = 5 X DIAMETER OF THE ROOT BALL OR CONTAINER IS RECOMMENDED.
3. SOIL MIX FOR ALL PLANTS EXCEPT ERICACEOUS MATERIAL: SOIL MIX SHALL CONSIST OF EXISTING NATIVE TOPSOIL MIXTURE AT EACH PLANTING FIELD LOCATION INTO WHICH THE CONTRACTOR SHALL THOROUGHLY INCORPORATE 25% BY VOLUME OF COMPOSTED SLUDGE.
4. SOIL MIX FOR ERICACEOUS MATERIAL: SOIL MIX SHALL CONSIST OF EXISTING NATIVE TOPSOIL MIXTURE AT EACH PLANTING FIELD. LOCATION INTO WHICH THE CONTRACTOR SHALL THOROUGHLY INCORPORATE 25% BY VOLUME PEAT MOSS.
5. ALL MIXING IN 3 AND 4 SHALL BE LIMITED TO CONTAINER GROWN OR BALL AND BURLAP STOCK ONLY AND CONFINED TO THE PLANTING FIELD AND IMMEDIATE ADJACENT SOIL SURFACE AREA AND SHALL BE DONE TO THE SATISFACTION OF THE DESIGN TEAM OR ENGINEER.

PLANT STORAGE AND INSPECTION

1. FOR CONTAINER GROWN NURSERY STOCK, PLANTING SHOULD OCCUR WITHIN 2 WEEKS AFTER DELIVERY TO THE SITE.
2. FOR BALL AND BURLAP NURSERY STOCK, PLANTING SHOULD OCCUR WITHIN THREE DAYS AFTER DELIVERY TO THE SITE.
3. PLANTING STOCK SHOULD BE INSPECTED PRIOR TO PLANTING. PLANTS NOT CONFORMING TO STANDARD NURSERYMAN SPECIFICATIONS FOR SIZE, FORM, VIGOR, ROOTS, TRUNK WOUNDS, INSECTS AND DISEASE SHOULD BE REPLACED.
4. UNTIL PLANTED, ALL PLANT STOCK SHALL BE KEPT IN A SHADED, COOL, AND MOISTENED ENVIRONMENT .

PLANT INSTALLATION

1. THE PLANTING FIELD SHOULD BE PREPARED AS SPECIFIED (SEE DETAIL). NATIVE STOCKPILED SOILS SHOULD BE USED FOR SOIL MIX AND BACKFILL FOR PLANTING FIELD. AFTER PLANT INSTALLATION, RAKE SOILS EVENLY OVER THE PLANTING FIELD AND COVER WITH AT LEAST 4 INCHES OF MULCH. WATER, GENEROUSLY, TO SETTLE SOIL BACKFILLED AROUND TREES.
2. PLANTING FIELD DIAMETERS SHOULD BE REDUCED OR PLANTING FIELD MOVED IF IT APPEARS THAT EXCESSIVE EXISTING ROOT DAMAGE MAY OCCUR DURING DIGGING OPERATION NEAR EXISTING FOREST.
3. CARE SHALL BE TAKEN WHEN DIGGING PLANTING FIELDS NOT TO CHOP THRU LARGER EXISTING ROOTS FROM EXISTING MATURE TREES. IF ROOTS GREATER THAN 1/2 INCH ARE ENCOUNTERED PLEASE TRY TO DIG AROUND THEM AS MUCH AS POSSIBLE TO MINIMIZE IMPACT TO EXISTING TREES. THEY WERE HERE FIRST.
4. 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.
5. FOR BALL AND BURLAP STOCK, PLACE TREE IN PREPARED PLANTING FIELD AND REMOVE WIRE AND/OR STRING FROM ROOT BALL. THEN PEEL BACK BURLAP TO BASE OF ROOT BALL AND COVER ENTIRE ROOT BALL WITH TOPSOIL MIXTURE INDICATED ABOVE AND WATER GENEROUSLY.
6. FOR TREES PLANTED IN THE AFFORESTATION AREA, CONTRACTOR SHALL EVENLY DISPERSE SPECIES IN GROUPS OF TWO (2) TO FOUR (4). PER SPECIES, OVER THE ENTIRE DESIGNATED AREA TO BE PLANTED WHILE MAINTAINING AN AVERAGE RANDOM SPACING OF INDIVIDUAL TREES AT PROPER SPACING INDICATED ON PLANT LIST.
7. AVOID PLANTING IN A STRAIGHT GRID PATTERN. TREES SHALL BE PLANTED ON AN AVERAGE SPACING AS INDICATED ON PLANT LISTS TO OBTAIN A MORE NATURAL APPEARANCE.
8. NEWLY PLANTED TREES MAY NEED WATERING AS MUCH AS ONCE A WEEK FOR THE ENTIRE GROWING SEASON, DUE TO THE WELL DRAINED NATIVE SOILS FOUND ON THIS SITE COMBINED WITH THE LOOSENESS OF THE BACKFILLED AREA 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.

FERTILIZING

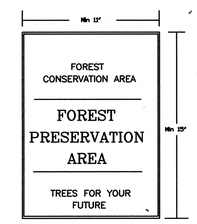
1. DO NOT FERTILIZE NEWLY PLANTED TREES WITHIN THE FIRST GROWING SEASON AFTER PLANTING. DOING SO MAY CAUSE A SPURT OF CANOPY GROWTH WHICH THE ROOTS CANNOT SUPPORT AND ADD ADDITIONAL SHOCK TO THE ALREADY DISTURBED PLANT.
2. NOTHING SHOULD BE ADDED TO THE SOIL WITHOUT TESTING IT FIRST TO DETERMINE ITS NEEDS.
3. 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.

MAINTENANCE SCHEDULE

1. ANNUAL MAINTENANCE DURING THE GROWING SEASON, FOR A THREE YEAR PERIOD.
2. ASSESS TREE MORTALITY OF PLANTING STOCK, REMOVE AND REPLACE ANY DEAD OR DISEASED PLANTINGS.
3. 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.
4. REMOVE THROUGH MANUAL MEANS (GRUBBING, PULLING, CUTTING) AGGRESSIVE, NOXIOUS, INVASIVE SPECIES AND ALL HERBACEOUS VEGETATION WITHIN A 3-FOOT RADIUS SURROUNDING THE PLANTED WOODY NURSERY STOCK.
5. REMOVE AND DISPOSE OF MAN-MADE TRASH, INCLUDING ITEMS CONTAINED WITHIN ENTIRE PLANTING AREA. DO NOT REMOVE DOWN AND DEAD MATERIAL NATURALLY OCCURRING OR ACCUMULATING, UNLESS IT IS SMOTHERING PLANTING STOCK.
6. A 75 PERCENT SURVIVAL OF PLANTED STOCK MUST BE ACHIEVED AT THE END OF THE 24 MONTH MANAGEMENT PERIOD. IF NOT, ADDITIONAL PLANTINGS MAY BE REQUIRED TO ACHIEVE THIS GOAL.

SUPERVISION

1. ALL FOREST CONSERVATION ACTIVITIES SHALL BY DONE UNDER THE DIRECT SUPERVISION OF SOMEONE FROM THE DESIGN TEAM OR OTHER "QUALIFIED PROFESSIONAL" AS DETERMINED BY THE REQUIREMENTS OF COMAR 08.19.06.01 AND THE MARYLAND DEPARTMENT OF NATURAL RESOURCES, PUBLIC LANDS AND FORESTRY DIVISION.



SIGNAGE DETAIL

NOT TO SCALE

General Notes

1) The Forest Conservation Easement Has Been Established As An Offsite Forest Mitigation Area, Per Section 16.1216 Of The Howard County Forest Conservation Act. No Clearing, Grading Or Construction Is Permitted Within The Forest Conservation Easement; However, Forest Management Practices As Defined In The Deed Of Forest Conservation easement Are Allowed.

2) Denotes Proposed ~~Retention~~ Replanting Area, Sheets 18 & 19

3) Denotes Tree Protection Signage, Sheets 17, 18 & 19

4) Denotes Protective Orange Fence, Sheets 17, 18 & 19

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Kent Sheubrooks for 6/27/00
Chief, Division of Land Development Date

6/21/00
Chief, Development Engineering Division Date

APPROVED: DEPARTMENT OF PUBLIC WORKS

6-20-00
Chief, Bureau of Highways 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.

U.S.D.A.-Natural Resources Conservation Service — Date

These Plans For Small Pond Construction, Soil Erosion And Sediment Control Meet The Requirements Of The HOWARD SOIL CONSERVATION DISTRICT.

Howard SCD — Date

DEVELOPER

PULTE HOME COPROPATION
MARYLAND DIVISION
1501 S EDGEWOOD ST.
BALTIMORE, MARYLAND. 21227

OWNER/GRANTOR

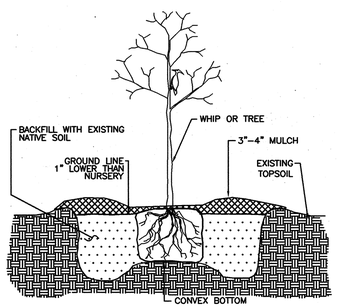
BPMB ASSOCIATES, LLC.
15298 UNION CHAPEL ROAD
WOODBINE, MARYLAND 21797
(410) 442-2101

THIS PLAN IS FOR
FOREST CONSERVATION EASEMENT
PLANTING PURPOSES ONLY

REFORESTATION PLANT LIST

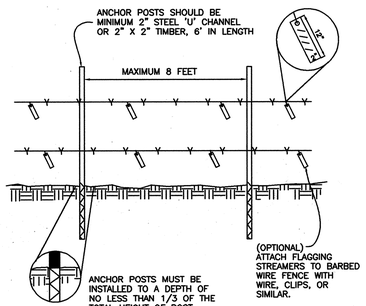
QTY.	SPECIES	SHADE TOL.	MOIST. REGIME	WET. STATUS	MIN.O.C. SPACING	SIZE & REMARKS
205	Prunus serotina Wild Black Cherry	I	M	FACU	10'	CONT/BROOT 3'-5' HEIGHT
205	Robinia pseudoacacia Black Locust	VI	D-M	FACU-	10'	CONT/BROOT 3'-5' HEIGHT
205	Quercus alba White Oak	MT	D-M	FACU-	10'	CONT/BROOT 3'-5' HEIGHT
205	Quercus rubra Red Oak	MT	D-M	UPL	10'	CONT/BROOT 3'-5' HEIGHT
205	Quercus palustris Pin Oak	T	M-W	FACW	10'	CONT/BROOT 3'-5' HEIGHT
205	Fraxinus americana White Ash	MT	D-M	FACU	10'	CONT/BROOT 3'-5' HEIGHT
205	Nyssa sylvatica Black Gum	T	M-W	FAC	10'	CONT/BROOT 3'-5' HEIGHT
205	Platanus occidentalis American Sycamore	i	D-W	FAC	10'	CONT/BROOT 3'-5' HEIGHT
205	Juglans nigra Black Walnut	VT	M	FACU	10'	CONT/BROOT 3'-5' HEIGHT
205	Liriodendron Tulipfera Yellow Poplar	I	M	FACU	10'	CONT/BROOT 3'-5' HEIGHT
205	Acer rubrum Red Maple	VT	D-W	FAC	10'	CONT/BROOT 3'-5' HEIGHT

Quantities Of Individual Species And Species Composition May Change Depending On Availability At Time Of Planting. Total Quantity Of Trees For Entire Easement Area Will Not Change.



TREE PLANTING DETAIL

CONTAINER GROWN



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

PROTECTIVE FENCE DETAIL

TWO STRAND BARBED WIRE

DATE	NO.	REVISION

PROJECT:
THE PADDOCKS
LOTS 1 - 33
AND PRESERVATION PARCELS 'A' - 'B'

TITLE:
OFF-SITE FOREST MITIGATION PLAN

AREA:
WELLINGTON WEST
SECTION TWO
(S-98-03) F-98-180
TAX MAP 14 - PART OF PARCEL 222, PARCELS 68 & 69
4th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE:
REFORESTATION PLANTING PLAN
COVER SHEET

WILDMAN
ENVIRONMENTAL SERVICES
4747 BONNIE BRANCH RD.
ELLICOTT CITY, MD. 21043
PHONE: (410) 313-9999
FAX: (410) 313-9099

Ronald B. Wildman 4-25-00

DESIGNED BY: R.B.W.	
DRAWN BY: J.E.P.	
PROJECT NO. 99301	
DATE: 04/07/00	
SCALE: 1"= 50'	
SHEET NO. 19 OF 19	

AUTOCAD FILE NAME C:\DRAWINGS\Wellington West\Wellington Combo

As Built 2/17/03

F 00-71 Sheet 19 of 19