Montjoy
SINGLE FAMILY DETACHED
ELECTION DISTRICT NO.2
HOWARD COUNTY, MARYLAND

FINAL ROAD CONSTRUCTION, STORM DRAIN, AND STORMWATER MANAGEMENT PLANS

AS-BUILT PLANS

GENERAL NOTES
FINAL PLAN

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS SHA 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 FIVE (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. STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURE AND POLE SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME III (1993) AND AS MODIFIED BY "GUIDELINES FOR STREET LIGHTS IN RESIDENTIAL DEVELOPMENTS (JUNE 1993)."
6. THE EXISTING TOPOGRAPHY IS TAKEN FROM AERIAL SURVEY (SUPPLEMENTED BY FIELD SURVEY) WITH TWO FOOT CONTOUR INTERVALS PREPARED BY RODGERS CONSULTING, INC. DATED OCTOBER 2001.
7. THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM . HOWARD COUNTY MONUMENT NOS. 30FA AND 30CA WERE USED FOR THIS PROJECT.
8. WATER IS PUBLIC. HOWARD COUNTY CONTRACT #24-4065-D.
9. SEWER IS PUBLIC. HOWARD COUNTY CONTRACT #24-4065-D.
10. STORMWATER MANAGEMENT WILL BE PROVIDED ONSITE WITH 4 PUBLIC SWM PONDS. POND # 1 IS A MICRO- POOL (P1) & POND #4 IS A WET POND (P-2) BOTH PROVIDING WATER QUALITY AND QUANTITY CONTROL (TO BE BUILT UNDER F-03-87). POND 2 IS A SAND FILTER (F-1) PROVIDING WATER QUALITY ONLY(TO BE BUILT UNDER F-03-87). POND # 3 IS A SAND FILTER (F-1) PROVIDING WATER QUALITY ONLY (TO BE BUILT UNDER THIS PLAN). FACILITIES WILL BE OWNED BY THE HOA WITH JOINT MAINTENANCE BETWEEN THE HOA AND HOWARD COUNTY.
11. EXISTING UTILITIES ARE BASED ON HOWARD COUNTY CONTRACT DRAWINGS AND SOME SUPPLEMENTAL FIELD SURVEY INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONFIRM THE EXISTING UTILITIES WITHIN THE LIMITS OF CONSTRUCTION.
12. THE FLOODPLAIN STUDY FOR THIS PROJECT WAS PREPARED BY RODGERS CONSULTING, INC. NOVEMBER 2001 AND REVISED ON DECEMBER 2002 AND APPROVED ON 5/12/03.
13. THE WETLANDS DELINEATION STUDY FOR THIS PROJECT WAS PREPARED BY MCCARTHY & ASSOCIATES, INC. DATED NOVEMBER 2000 AND WAS APPROVED PER SKETCH PLAN S-01-20.
14. THE TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY THE TRAFFIC GROUP DATED JANUARY 24, 2002.
15. PROJECT BACKGROUND INFORMATION:

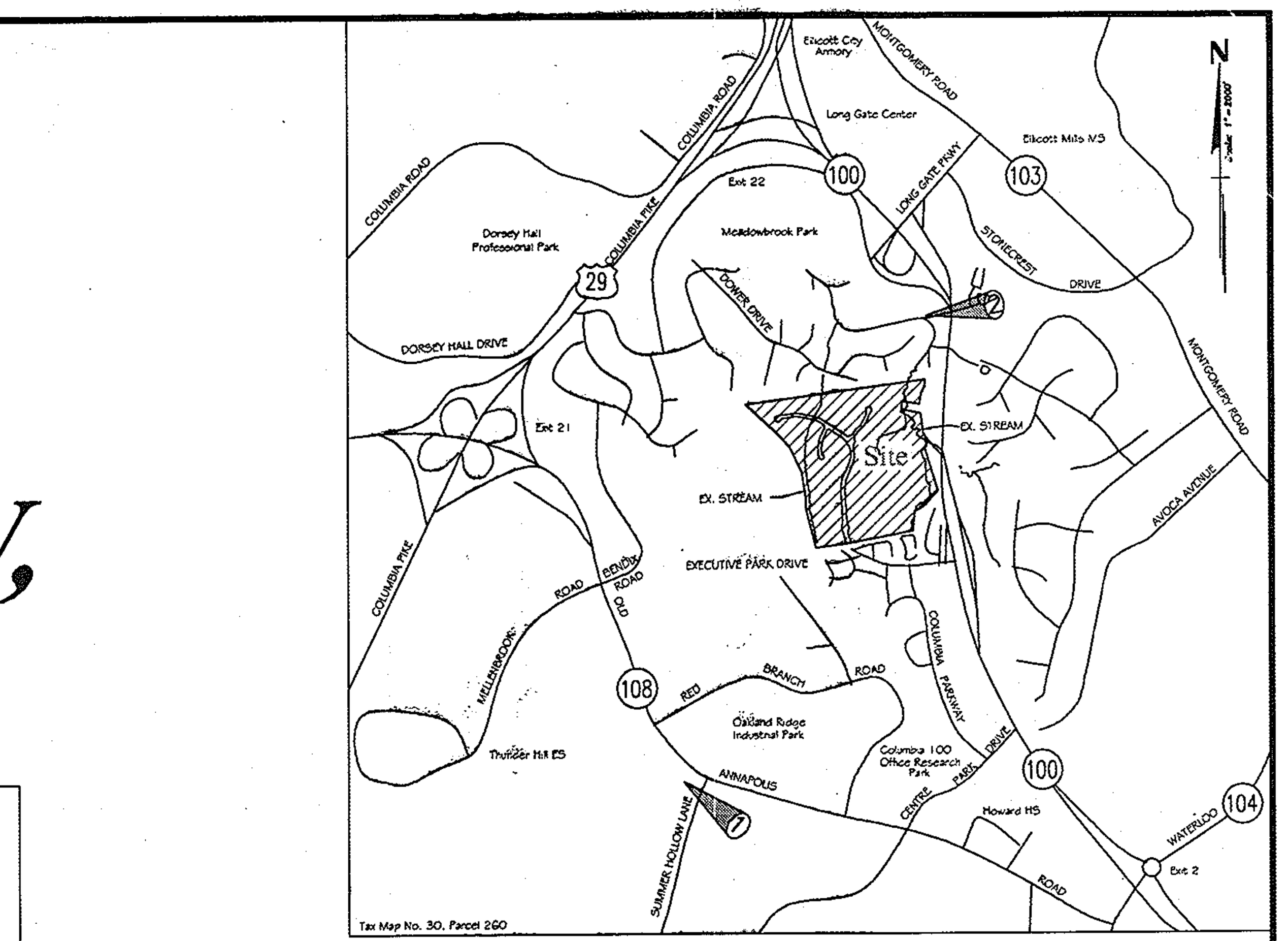
SUBDIVISION NAME:	MONTJOY
ZONING	R-20 (THIS PLAN ONLY)
TAX MAP:	30
GRID:	12
PARCEL	260
ELECTION DISTRICT:	2 nd
GROSS TRACT AREA	30.06 ACRES (TOTAL SITE – 76.43 ACRES)
NUMBER OF LOTS:	62 BUILDABLE LOTS 5 OPEN SPACE LOTS

PRELIMINARY PLANS
PHASE I & II P02-10 APPROVED 9/27/02 (FINAL PLAN NEEDED TO BE SUBMITTED BY JULY 3,2003)
PHASE III – P03-03 APPROVED 10/28/02 (FINAL PLAN NEEDED TO BE SUBMITTED BY MARCH 2,2003)
SINGLE FAMILY – P-02-17 APPROVED 9/26/02 (FINAL PLAN NEEDED TO SUBMITTED BY APRIL 1, 2003)

16. THE FOREST CONSERVATION EASEMENT HAS BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY FOREST CONSERVATION ACT. FOREST CONSERVATION REQUIREMENTS FOR THIS PLAN HAS BEEN PROVIDED UNDER F-03-87. NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTEDWITHIN THE FOREST CONSERVATION EASEMENT, EXCEPT AS SHOWN ON AN APPROVED ROAD CONSTRUCTION DRAWING OR SITE DEVELOPMENT PLAN.
17. FINAL HOUSE LOCATIONS TO BE ESTABLISHED UNDER THE S.D.P. SHALL BE A MINIMUM OF 2' FROM ANY EASEMENTS.
18. THE WAIVER PETITION, WP-01-117, WAS APPROVED ON AUGUST 1, 2001 TO WAIVE SECTION 16.115 AND 16.116(A) TO ALLOW WORK IN THE FLOODPLAIN AND IN THE STREAM BUFFER FOR THE CONSTRUCTION OF A PUBLIC ACCESS PLACE CROSSING TO SERVE 15 PROPOSED RESIDENTIAL R-20 ZONED LOTS, AND SECTION 15-120(C)(4) TO ALLOW SFA LOTS TO FRONT ON A PRIVATE ROAD GREATER THAN 200 FEET IN LENGTH (APPLIES TO ROAD IN FRONT OF PROPOSED LOTS 89 - 103). APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS: (1) CONSTRUCT THE CROSSING USING THE BOTTOMLESS CULVERT PROPOSED WITH THE WAIVER DOCUMENTATION. (2) LIMIT THE DISTURBANCE TO THE ENVIRONMENTAL AREAS TO THE MINIMUM EXTEND NECESSARY FOR CONSTRUCTION OF THE STREAM CROSSING. (3) IN PREPARATION OF THE FOREST CONSERVATION PLAN PROPOSAL, PROVIDE AFFORESTATION WITHIN THE UNWOODED AREA OF THE PRIORITY STREAM BUFFER SHOWN ON THE STREAM CROSSING EXHIBIT.
19. A WAIVER OF DESIGN MANUAL, VOLUME I, SECTION 5.2.4.1 TO ALLOW POND TOP OF CUT TO BE LOCATED LESS THAN THE REQUIRED 25' MINIMUM DISTANCE FROM A RIGHT-OF-WAY WAS APPROVED ON AUGUST 7, 2002. APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS: "(1) INTERNAL POND LANDSCAPING IS REQUIRED FOR OPEN SPACE LOTS 189 AND 197 AS PER THE 2000 MARYLAND STORMWATER MANAGEMENT DESIGN MANUAL VOLUMES I AND II. EACH POND PERIMETER SHALL, AT A MINIMUM, MEET THE REQUIREMENTS OF THE HOWARD COUNTY LANDSCAPE MANUAL, TYPE B LANDSCAPE BUFFER. (2) STATE ON THE EXHIBIT THAT THE DESIGN MANUAL WAIVER REQUEST IS ON SHEETS 5, 6, AND 7 OF THE PRELIMINARY PLAN P-02-17 (3). THE PROPOSED ALIGNMENT OF THE WATER AND SEWER EASEMENT ACROSS LOTS 138-140 AND LOTS 162-163 COMBINED WITH THE PROPOSED STORM DRAIN EASEMENT RESULTS IN AN UNACCEPTABLE ENCUMBRANCE OF USABLE LOT SPACE FOR THESE LOTS. AN APPROVAL OF THIS DESIGN MANUAL WAIVER REQUEST CANNOT RESULT IN THE LOT LAYOUTS AS PROPOSED. ALTERNATIVE LOCATIONS OF THE STORM DRAIN SYSTEM AND ASSOCIATED EASEMENT MUST BE SHOWN ON THE PRELIMINARY PLANS P-02-17 TO REDUCE THE LOT ENCUMBRANCES OF LOTS 138-140 AND LOTS 162-163.
20. THIS PLAN IS SUBJECT TO COMPLIANCE WITH THE FOURTH EDITION OF THE SUBDIVISION REGULATIONS. IN ADDITION, BECAUSE IT DID NOT HAVE PRELIMINARY PLAN APPROVED PRIOR TO NOVEMBER 1,2001, IT IS SUBJECT TO COMPLIANCE WITH COUNTY COUNCIL BILL 50-2001 EFFECTIVE JANUARY 8, 2002 WHICH AMENDS PORTIONS OF THE ZONING REGULATIONS.
21. SURETY FOR THE LANDSCAPE BUFFER AND STREET TREES HAVE BEEN POSTED AS A PART OF DEVELOPER'S AGREEMENT IN THE AMOUNT OF $76,650.00. ($37,350.00 FOR LANDSCAPE BUFFER, $39,300.00 FOR STREET TREES). BONDING FOR THE LANDSCAPE MATERIAL IS SEPARATE FROM THE BONDING FOR STREET TREES.
22. 95 % COMPACTION REQUIRED IN FILL AREA PER AASHTO-T80 SPECIFICATIONS.
23. A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.
24. THE EXISTING DWELLING (MAIN DWELLING) LOCATED ON PROPOSED LOT 119 IS LISTED AS HO-145 ON THE HOWARD COUNTY HISTORIC SITE INVENTORY. THIS DWELLING WILL BE RETAINED AND RENOVATED. TWO OTHER EXISTING STRUCTURES LOCATED ON LOT 119 NORTHEAST OF THE MAIN DWELLING WILL BE RETAINED FOR THEIR HISTORICAL SIGNIFICANCE (SLAVE QUARTERS AND TOBACCO HOUSE). THESE TWO STRUCTURES ARE STRUCTURALLY UNSTABLE AND APPROPRIATE MEASURE WILL BE TAKEN TO EITHER STABILIZE THE STRUCTURES OR PRESERVE THE REMNANTS IN AN APPROPRIATE MANNER. ALL OTHER STRUCTURES LOCATED ON THE PROPERTY WILL BE DEMOLISHED EXCEPT FOR THE EXISTING BARN(S) LOCATED AT THE SOUTHERN PORTION OF THE SITE WHICH MAY BE SALVAGED FOR USE AT AN OFFSITE LOCATION.
25. THE WAIVER PETITION, WP-03-78 WAS APPROVED ON JUNE 26, 2003 TO WAIVE SECTION 16.116(a) TO ALLOW GRADING AND DISTURBANCE WITHIN 75 FEET OF A PERENNIAL STREAM FOR THE PURPOSE OF RELOCATING THE ALIGNMENT OF 60 LF OF AN EXISTING AT&T EASEMENT.
APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:
   1.) COMPLY WITH ATTACHED REQUIREMENT FROM THE SOIL CONSERVATION DISTRICT FOR MITIGATION OF THE DISTURBANCE CAUSED BY THE RELOCATION OF THE AT&T LINE AND EASEMENT. THIS ENLARGEMENT OF THE FOREST CONSERVATION EASEMENT APPLIES TO THE CROSSING OF WETHERED DRIVE OVER THE STREAM BEHIND LOT 145.
   2.) THE MITIGATION (AN EXPANDED PLANTING AREA ON THE FCE ADJACENT TO THE BOTTOMLESS ARCH CULVERT) REQUIRED BY THE SOIL CONSERVATION DISTRICT IS NOT TO BE CONSTRUED AS OFF-SITE PLANTING MITIGATION FOR ANY OTHER SITE NOR AS A FOREST CONSERVATION BANK FOR ANY OTHER PROPERTY.
   3.) THE PROPOSED REALIGNMENT OF THE AT&T FIBER OPTIC CABLE MUST BE COORDINATED WITH WATER, SEWER, AND OTHER PUBLIC UTILITIES, AS REQUIRED BY THE ATTACHED COMMENTS FROM DED.

NOTE:
THE AS-BUILT INFORMATION CONTAINED HEREIN IS BASED IN FIELD DATA OBTAINED BY RODGERS CONSULTING BETWEEN JULY 20, 2006 THROUGH OCTOBER 1, 2008.

LOCATION MAP
SCALE:1"=200'



Vicinity Map
Scale: 1" = 2000

NOTES:

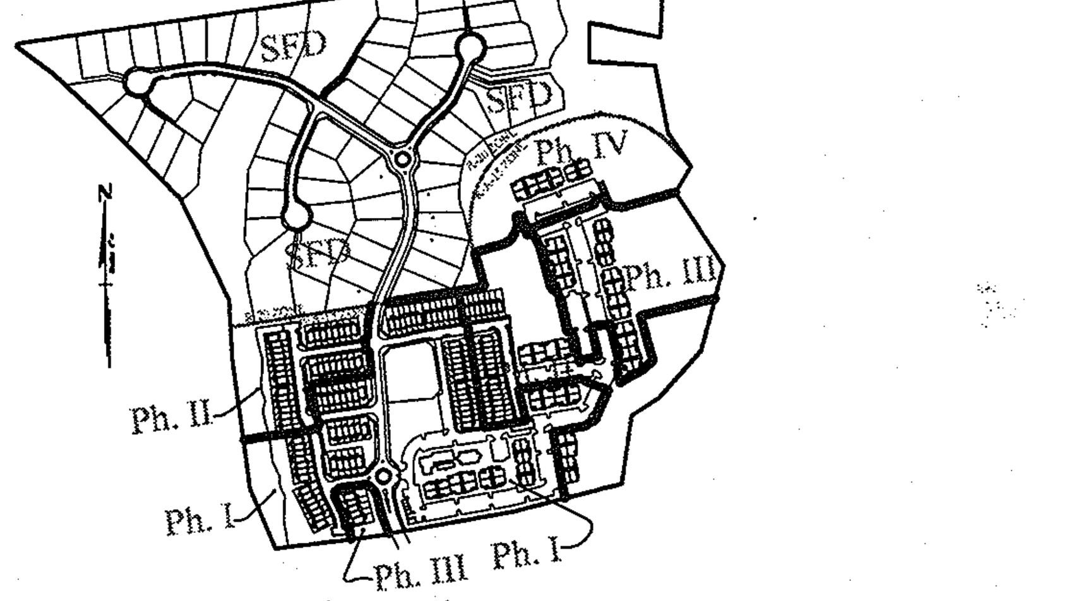
THIS SURVEY IS IN THE MARYLAND STATE PLANE COORDINATE SYSTEM BASED ON GPS OBSERVATIONS INCORPORATING THE FOLLOWING HOWARD COUNTY, MARYLAND CONTROL STATIONS:

STATION 30FA N.568621.336' E.1361563.983'
STATION 37GB N.553452.821' E.1368503.167'
STATION 30CA N.575083.465' E.1364681.801'
STATION 30CB N.576541.342' E.1361211.296'
STATION 30IA N.567750.958' E.1364842.598'

BENCH MARKS (NAD83)

BENCHMARK NO. 1---HO. CO. No. 30FA
HOWARD CO. STD. STAMPED DISC LOCATED SW CORNER OF RT. 108 AND SUMMER HOLLOW LANE.
N 568621.336, E 1361563.983 ELEV. 441.619

BENCHMARK NO. 2---HO. CO. No. 30CA
HOWARD CO. STD. STAMPED DISC LOCATED ON THE EAST SIDE OF THE N.B.L. OF RT. 100
N 575083.465, E 1364681.801 ELEV. 380.087



PHASING MAP
NOT TO SCALE

SHEET INDEX

SHEET 1-	COVER SHEET-	CS-1
SHEET 2-	PLAN & PROFILES- EXECUTIVE PARK DRIVE-	RP-1
SHEET 3-	PLAN & PROFILES- WETHERED DRIVE-	RP-2
SHEET 4-	PLAN & PROFILES- SANTE FE COURT-	RP-3
SHEET 5-	PLAN & PROFILES- CARSON COURT-	RP-4
SHEET 6-	ROUNDABOUT PLAN & DETAILS- EXECUTIVE PARK DR. STA. 13+74.49-	RP-5
SHEET 7-	CURB FILLET PROFILES-	RP-6
SHEET 8-	STREET LIGHT DATA & SIGNAGE PLAN-	RP-7
SHEET 9-	GRADING & STORM DRAIN PLANS/ DRAINAGE AREA MAP-	GSD-1
SHEET 10-	GRADING & STORM DRAIN PLANS/ DRAINAGE AREA MAP-	GSD-2
SHEET 11-	GRADING & STORM DRAIN PLANS/ DRAINAGE AREA MAP-	GSD-3
SHEET 12-	SEDIMENT & EROSION CONTROL PLAN-	SC-1
SHEET 13-	SEDIMENT & EROSION CONTROL PLAN-	SC-2
SHEET 14-	SEDIMENT & EROSION CONTROL PLAN-	SC-3
SHEET 15-	SEDIMENT & EROSION CONTROL NOTES & DETAILS-	SC-4
SHEET 16-	SEDIMENT & EROSION CONTROL PROFILES & DETAILS	SC-5
SHEET 17-	STORM DRAIN PROFILES, NOTES & SCHEDULES-	SD-1
SHEET 18-	STORM DRAIN PROFILES-	SD-2
SHEET 19-	STORM DRAIN PROFILES-	SD-3
SHEET 20-	SWM PLAN, PROFILES & DETAILS- POND #3-	SWM-1
SHEET 21-	SWM SCHEDULES, GENERAL DETAILS-	SWM-2
SHEET 22-	SWM POND 3 STRUCTURAL PLANS & SECTIONS	SWM-3
SHEET 23-	SWM SCHEDULES, SPECIFICATIONS & SOIL BORING LOGS-	SWM-4
SHEET 24-	SWM LANDSCAPE PLAN- POND #3-	SWM-5
SHEET 25-	LANDSCAPE PLAN-	LS-1
SHEET 26-	LANDSCAPE PLAN-	LS-2
SHEET 27-	LANDSCAPE PLAN-	LS-3
SHEET 28-	LANDSCAPE PLAN DETAILS-	LS-4
SHEET 29-	LOW PROFILE ARCH PLAN, PROFILE & LOGS-	LPA-1
SHEET 30-	LOW PROFILE ARCH DETAILS-	LPA-2
SHEET 31-	LOW PROFILE ARCH DETAILS-	LPA-3
SHEET 32-	LOW PROFILE ARCH SPECIFICATIONS-	LPA-4
SHEET 33-	LOW PROFILE ARCH SPECIFICATIONS-	LPA-5
SHEET 34-	LOW PROFILE ARCH SPECIFICATIONS-	LPA-6

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAY — DATE 10-14-03

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/27/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/17/03

SURETY CALCULATION-LANDSCAPE TREES:
(INCLUDES REQUIRED SWM BUFFER PLANTING)

SHADE TREES	100 @ $300 ea – $30,000	
ORNAMENTAL/EVERGREENS	49 @ $150 ea – $ 7,350	
TOTAL	$37,350	

SURETY CALCULATION-PUBLIC STREET LANDSCAPE TREES:

SHADE TREES	131 @ $300 ea = $39,300
TOTAL	$39,300

OPEN SPACE CALCULATIONS

Total Area of SFD Phase(R-20) – 38.8 ac.
Total Open Space required @ 30 % = 11.64 ac.
Total Open Space provided = 13.49 ac. (excludes recreational open space)

Recreational Open Space:
Required: 62 SFD units @ 200 sf/unit – 12,400 sf or 0.28 ac.
Provided: 13,800 sf or 0.32 ac.

AS-BUILT PLANS

AS-BUILT 12/5/08
PROFESSIONAL CERTIFICATION

"I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 20637, Expiration Date: 11/12/2010."

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 PLAN AND SPECIFICATIONS.

SIGNATURE — P.E. NO.: 20637 DATE: 12/5/08

CALL "MISS UTILITY" AT 1-800-257-7777
48 Hours Before Start Of Construction

9/23/03

REVISION	DATE		BY	DATE
		BASE DATA	CADD	
		DESIGNED	PFB,YSL	
FINAL AS-BUILT REVISIONS	OCT.08	DRAWN	YSL	
FINAL MYLAR SUBMITTAL FOR SIGNATURE	9/24/03	REVIEWED	PFB	
RE-SUBMITTED FOR REVIEW AND APPROVAL	07/11/03	RELEASE FOR		
RE-SUBMITTED FOR REVIEW AND APPROVAL	04/25/03			
SUBMITTED FOR REVIEW	1-14-03	BY		DATE

Developer/Owner:
Winchester Homes, Inc. &
Winchester Homes, Inc. , as nominee for Stringtown Investments, LLC
6905 Rockledge Drive
Suite 800
Bethesda, Maryland 20817
Stephen J. Nardella, Vice President
(301) 803 - 4800

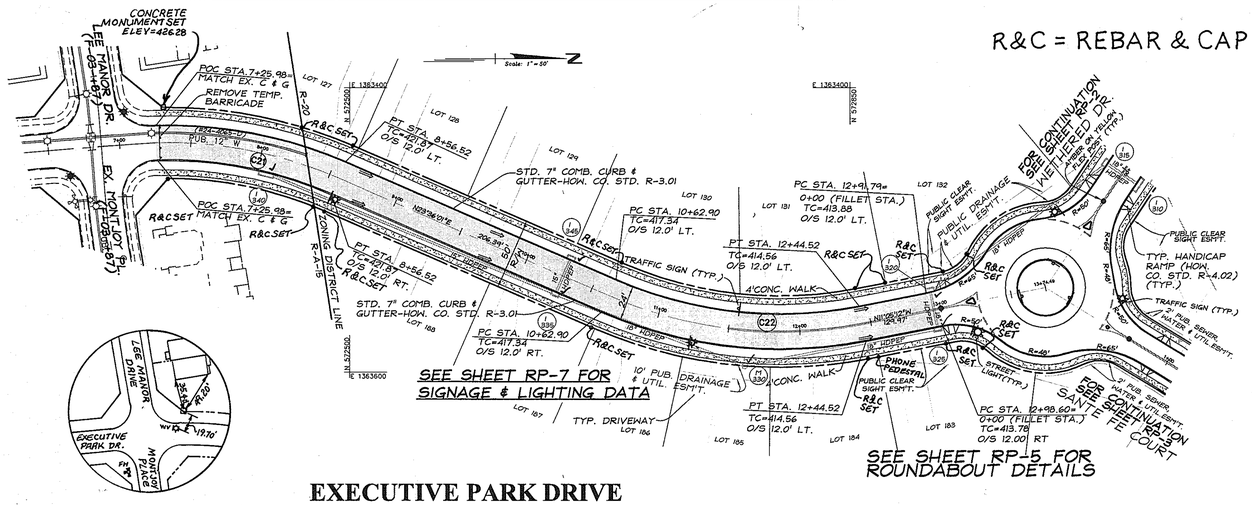
CONSTRUCTION PLANS
COVER SHEET

RODGERS CONSULTING
Enhancing the value of land assets

Rodgers Consulting, Inc.
9260 Gaither Road
Gaithersburg, MD 20877
301.948.4700
301.948.6256 (fax)
301.253.6609
www.rodgers.com

Montjoy - Single Family Detached
A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL C (F-03-87) TO BUILDABLE LOTS 127- 188 AND OPEN SPACE LOTS 189-193
ELECTION DISTRICT #2 HOWARD COUNTY, MARYLAND
TAX MAP: 30, GRID: 12, PARCEL 260
DPZ FILES: S-01-20, WP-01-117, P-02-10, P-02-17, P-03-03, F-03-87

SCALE: AS SHOWN
JOB No. 506V3
DATE: 1-14-03
INDEX No. CS-1
SHEET No. 1 OF 34



EXECUTIVE PARK DRIVE

PUBLIC ACCESS STREET-- 50' R/W (DESIGN SPEED=30 MPH)

PLAN VIEW

SCALE: 1"=50'

CENTERLINE CURVE DATA

CURVE #	RAD.	ARC	TANG	DELTA	CHORD	CH. BEARING	PC STATION	PT STATION
21	295.00'	130.54'	66.35'	25°21'11"	129.47'	N10°55'25"E	7+25.98	8+56.52
22	300.00'	181.62'	93.69'	34°41'12"	178.86'	N06°15'24"E	10+62.90	12+44.52

DRIVEWAY LOCATION DATA

LOT #	LOCATION	STREET NAME
127	C.L. 8+45	EXECUTIVE PARK DRIVE
128	C.L. 8+87	EXECUTIVE PARK DRIVE
129	C.L. 9+70	EXECUTIVE PARK DRIVE
130	C.L. 10+48	EXECUTIVE PARK DRIVE
131	C.L. 11+81	EXECUTIVE PARK DRIVE
132	C.L. 12+83	EXECUTIVE PARK DRIVE
183	C.L. 12+67	EXECUTIVE PARK DRIVE
184	C.L. 12+04	EXECUTIVE PARK DRIVE
185	C.L. 11+36	EXECUTIVE PARK DRIVE
186	C.L. 10+76	EXECUTIVE PARK DRIVE
187	C.L. 10+08	EXECUTIVE PARK DRIVE
188	C.L. 9+26	EXECUTIVE PARK DRIVE

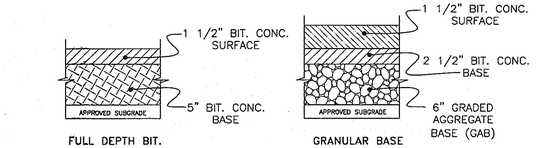
DRIVEWAY WIDTHS AT R/W SHALL BE 12' OR 18' WIDE AS REPRESENTED ON PLANS

NOTE: ALL CURB ELEVATIONS ARE TOP OF CURB FOR STD. 7" HOWARD CO. STD. COMB. CURB & GUTTER, UNLESS OTHERWISE NOTED ON THE PLAN. CONTRACTOR MUST ADJUST ELEVATION FOR DRIVEWAY APRON AND HANDICAP RAMP.

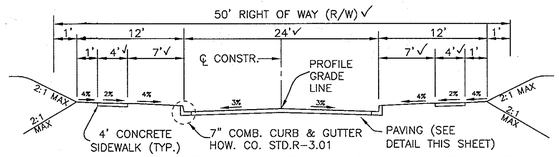
PAVING NOTES

1. ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARD AND SPECIFICATIONS OF HOWARD COUNTY PLUS SHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE.
2. ALL CONNECTIONS AT EXISTING IMPROVEMENTS SHALL BE WITH A CLEAN VERTICAL JOINT. SEE HOWARD COUNTY STANDARD DETAIL G4.01.
3. ALL SPOT GRADES SHOWN ARE FLOW LINE ELEVATIONS (FL) UNLESS OTHERWISE NOTED.
4. THE CONTRACTOR SHALL NOTIFY MISS UTILITY AT 1-800-257-7777 48 HOURS IN ADVANCE OF ANY EXCAVATION.
5. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT PUBLIC WORK/ CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
6. CURBS, GUTTERS, SIDEWALKS, AND ALL PAVING SHALL BE INSTALLED IN SUCH A MANNER AS TO PROVIDE POSITIVE DRAINAGE OF ALL AREAS SO THERE IS NO ACCUMULATION OF SURFACE WATER.
7. WHERE PROPOSED CURB MEETS EX. CURB, THE CONTRACTOR SHALL MATCH EX. CURB & GUTTER IN LINE AND ON GRADE OR AS DIRECTED BY THE INSPECTOR.
8. FOR SIDEWALK HANDICAP RAMP DETAIL & CONSTRUCTION SPECIFICATIONS, SEE HOWARD COUNTY STANDARD DETAIL R-4.02.
9. ALL CURB AND GUTTERS SHOWN ON THE PLANS ARE HOWARD COUNTY STANDARDS AND DETAILS.
10. ALL ROADWAY SUBGRADE SHALL MEET HOWARD COUNTY STANDARD AND SPECIFICATIONS.
11. ALL DRIVEWAY APRON SHALL BE CONSTRUCTED PER HOWARD COUNTY STANDARD DETAIL R-6.01
12. ALL CURB FILLET RADIUS SHALL BE 25' UNLESS NOTED OTHERWISE.
13. CONTRACTOR SHALL PROVIDE SPILL GUTTER ON CURB FILLETS AS NEEDED TO CONVEY WATER ACROSS INTERSECTIONS.
14. GRADE ALL DISTURBED AREAS TO PROVIDE POSITIVE DRAINAGE.
15. INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS, BUT THE CONTRACTOR MUST DETERMINE THE EXACT LOCATION AND ELEVATIONS OF THE MAINS BY DIGGING TEST PITS BY HAND AT ALL UTILITY CROSSINGS, WELL IN ADVANCE OF TRENCHING. IF CLEARANCES ARE LESS THAN SHOWN ON THIS PLAN, OR TWELVE (12) INCHES, WHICHEVER IS LESS, CONTACT THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORK AND THE APPROPRIATE UTILITY OWNER BEFORE PROCEEDING WITH CONSTRUCTION.

CALL "MISS UTILITY" AT 1-800-257-7777
48 Hours Before Start Of Construction



SECTION NUMBER	ROAD AND STREET CLASSIFICATION
P-2	RESIDENTIAL ZONES LOCAL, CUL-DE-SAC STS. ALLEYS AND PRIVATE ROADS SERVING INDIVIDUAL LOTS TRAVELWAYS APARTMENTS AND COMMERCIAL-INDUSTRIAL ZONES WITH NO MORE THAN 10 HEAVY TRUCKS PER DAY*

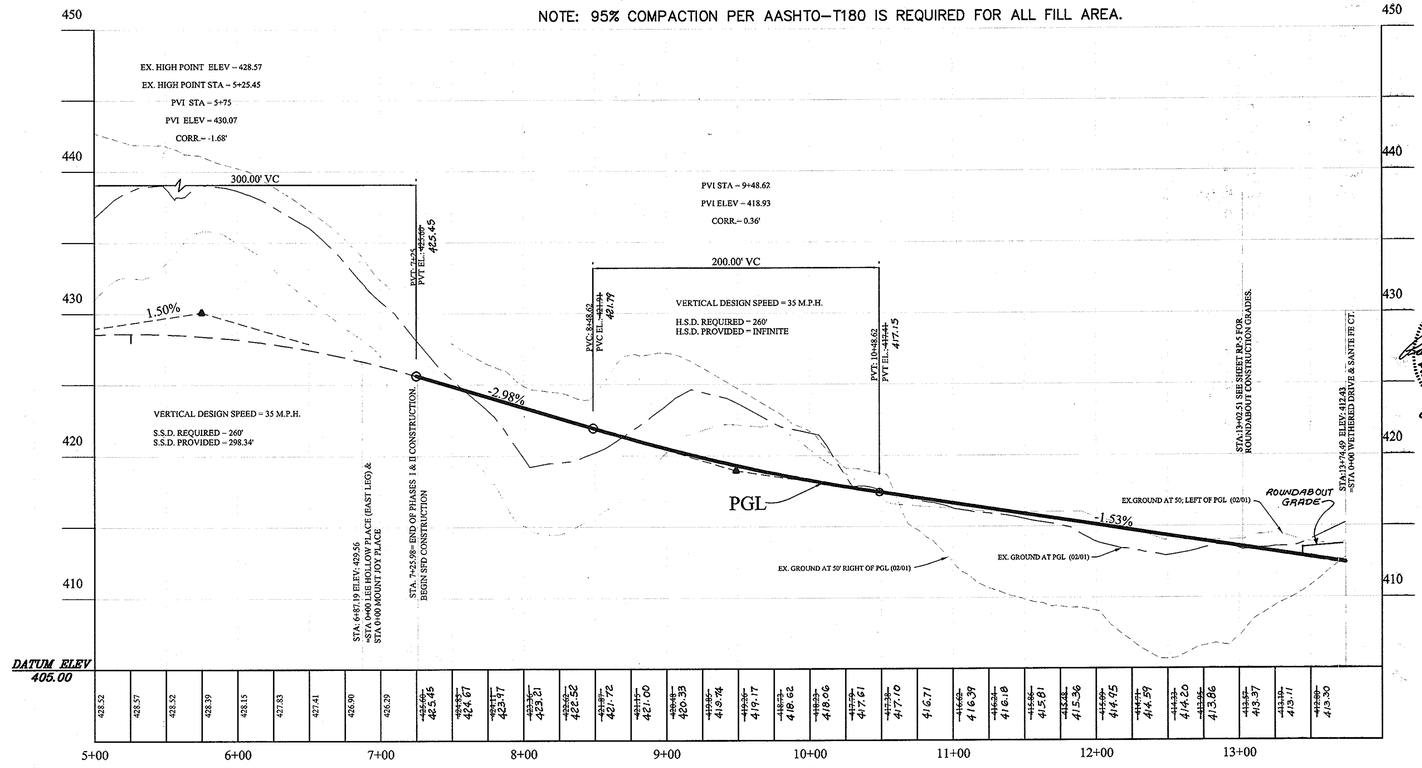


TYPICAL SECTION --PUBLIC ACCESS STREET

(NOT TO SCALE)

EXECUTIVE PARK DRIVE -- FROM STA. 7+25.98 TO STA. 12+98.60
HOWARD COUNTY STANDARD FIGURE 2.09a
MINIMUM DESIGN SPEED - 30 MPH

NOTE: 95% COMPACTION PER AASHTO-T180 IS REQUIRED FOR ALL FILL AREA.



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

EXECUTIVE PARK DRIVE

PUBLIC ACCESS STREET-- 50' R/W (DESIGN SPEED=30 MPH)

CALL "MISS UTILITY" AT 1-800-257-7777
48 Hours Before Start Of Construction

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/2/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/17/03

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAY — DATE 10-14-03

AS-BUILT PLANS

	DATE	REVISION	DATE
		FINAL AS-BUILT REVISIONS	OCT-08
		FINAL MYLAR SUBMITTAL FOR SIGNATURE	9/24/03
		RE-SUBMITTED FOR REVIEW AND APPROVAL	07/11/03
		RE-SUBMITTED FOR REVIEW AND APPROVAL	04/25/03
		SUBMITTED FOR REVIEW	1-14-03

	BY	DATE
BASE DATA	CADD	DATE
DESIGNED	YSL/RC	DATE
DRAWN	YSL	DATE
REVIEWED	PFB	DATE

RELEASE FOR ☐
BY _____ DATE _____

Developer/Owner:
Winchester Homes, Inc. &
Winchester Homes, Inc. , as nominee for Stringtown Investments, LLC
6905 Rockledge Drive
Suite 800
Bethesda, Maryland 20817
Stephen J. Nardella, Vice President
(301) 803 - 4800

(PUBLIC ACCESS STREET)
EXECUTIVE PARK DRIVE
PLAN & PROFILE

RODGERS CONSULTING
Enhancing the value of land assets

Rodgers Consulting, Inc.
9260 Gaither Road
Gaithersburg, MD 20877
301.948.4700
301.948.6256 (fax)
301.253.6609
www.rodgers.com

Montjoy - Single Family Detached

A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL C (F-03-87)
TO
BUILDABLE LOTS 127- 188 AND OPEN SPACE LOTS 189-193

ELECTION DISTRICT #2 HOWARD COUNTY, MARYLAND
TAX MAP: 30, GRID: 12, PARCEL 260

DPZ FILES: S-01-20, WP-01-117, P-02-10, P-02-17, P-03-03, F-03-87

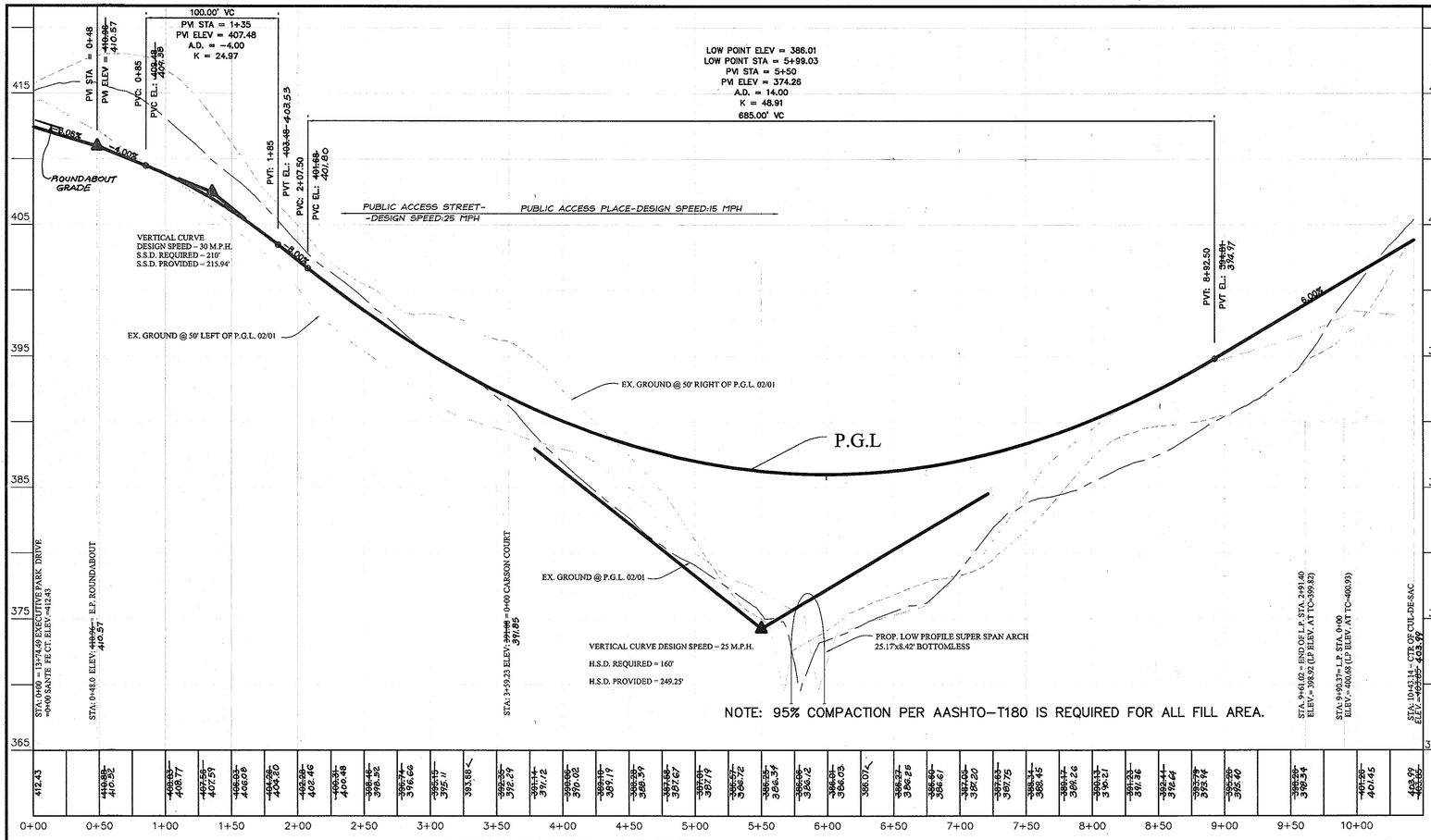
SCALE:	AS SHOWN
JOB No.	506V3
DATE:	1-14-03
INDEX No.	RP-1
SHEET No.	2 OF 34

STATE OF MARYLAND — PAUL F. BOSLEY — No. 21552 — PROFESSIONAL ENGINEER — as built only 12/5/08

STATE OF MARYLAND — PAUL F. BOSLEY — No. 21552 — PROFESSIONAL ENGINEER — 9/23/03

Q:\projects\506V\dwg\Final Construction Plan\SFD_506V3\02-ROADPROFILE-FINAL-SFD.dwg 09/23/2003 07:34:00 AM EDT

F-03-100



WETHERED DRIVE

STA 0+00 TO 3+88.5 PUBLIC ACCESS STREET - DESIGN SPEED = 25 MPH
STA. 3+88.5 TO 10+43.14 PUBLIC ACCESS PLACE - DESIGN SPEED = 15 MPH

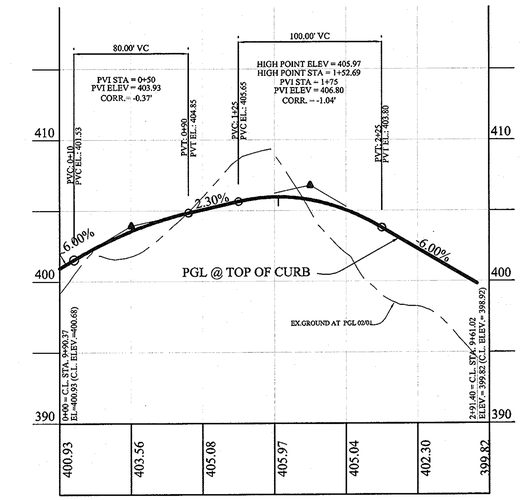
CENTERLINE CURVE DATA

CURVE #	RAD.	ARC	TANG	DELTA	CHORD	CH. BEARING	PC STATION	PT STATION
23	150.00'	59.83'	30.32'	22°51'12"	59.43'	N67°30'48"W	4+78.91	5+38.74
24	150.00'	49.84'	25.15'	19°02'18"	49.61'	N88°27'33"W	7+64.36	8+14.20
25	50.00'	39.27'	20.71'	45°00'00"	38.27'	S59°31'18"W	9+96.30	10+35.57

NOTE:
PROVIDE HOWARD CO. STD. GUARD RAIL W/ BEAM
FROM STA. 4+81 TO 7+03 (O/S 19.5' LT.)
FROM STA. 4+79 TO 6+63 (O/S 19.5' RT.)

NOTE: ALL CURB ELEVATIONS ARE TOP OF CURB FOR STD. 7" HOWARD CO. STD. COMB. CURB & GUTTER, UNLESS OTHERWISE NOTED ON THE PLAN. CONTRACTOR MUST ADJUST ELEVATION FOR DRIVEWAY APRON AND HANDICAP RAMP.

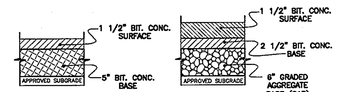
NOTE: 95% COMPACTION PER AASHTO-T180 IS REQUIRED FOR ALL FILL AREA.



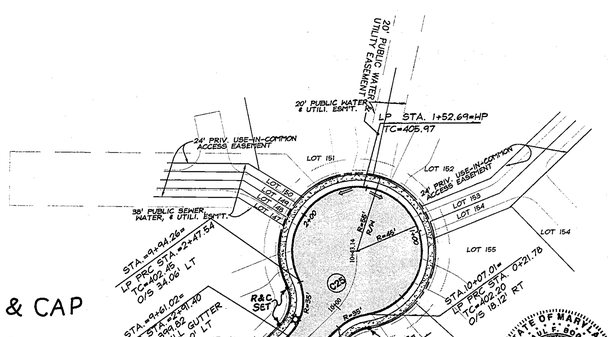
LINEAR PROFILE: WETHERED DRIVE

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

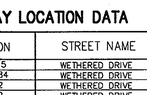
CALL "MISS UTILITY" AT 1-800-257-7777
48 Hours Before Start Of Construction



SECTION NUMBER	ROAD AND STREET CLASSIFICATION
P-2	RESIDENTIAL ZONES LOCAL, CUL-DE-SAC STS, ALLEYS AND PRIVATE ROADS SERVING INDIVIDUAL LOTS TRAVELWAYS APARTMENTS AND COMMERCIAL-INDUSTRIAL ZONES WITH NO MORE THAN 10 HEAVY TRUCKS PER DAY*



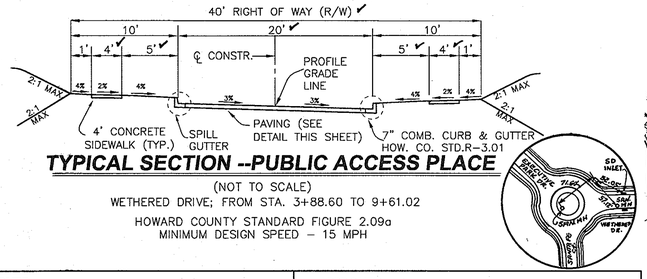
R&C = REBAR & CAP



DRIVEWAY LOCATION DATA

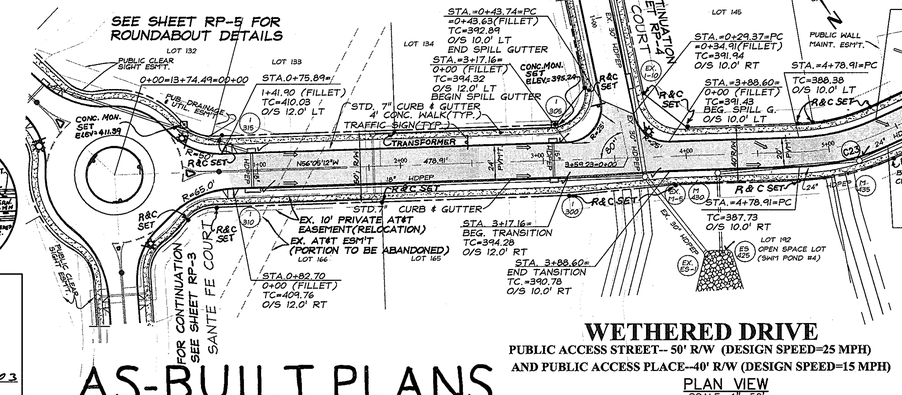
LOT #	LOCATION	STREET NAME
133	C.L. 1+15	WETHERED DRIVE
134	C.L. 2+84	WETHERED DRIVE
146	LP 2+32	WETHERED DRIVE
147 TO 150	LP 2+02	WETHERED DRIVE
151	LP 1+60	WETHERED DRIVE
152	LP 1+31	WETHERED DRIVE
153/154	LP 1+04	WETHERED DRIVE
155	LP 0+72	WETHERED DRIVE
156	LP 0+35	WETHERED DRIVE
157	C.L. 9+27	WETHERED DRIVE
158	C.L. 8+41	WETHERED DRIVE
159	C.L. 7+77	WETHERED DRIVE
160	C.L. 7+09	WETHERED DRIVE
161 TO 164	C.L. 3+60	WETHERED DRIVE
165	C.L. 2+84	WETHERED DRIVE
192	C.L. 4+53	WETHERED DRIVE

DRIVEWAY WIDTHS AT R/W SHALL BE 12' OR 18' WIDE AS REPRESENTED ON PLANS



TYPICAL SECTION --PUBLIC ACCESS PLACE

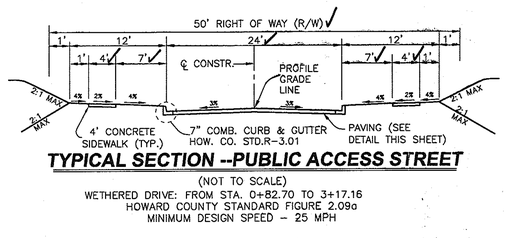
(NOT TO SCALE)
WETHERED DRIVE; FROM STA. 3+88.60 TO 9+61.02
HOWARD COUNTY STANDARD FIGURE 2.09a
MINIMUM DESIGN SPEED - 15 MPH



WETHERED DRIVE

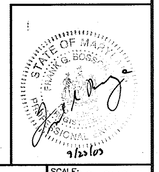
PUBLIC ACCESS STREET-- 50' R/W (DESIGN SPEED=25 MPH)
AND PUBLIC ACCESS PLACE--40' R/W (DESIGN SPEED=15 MPH)

PLAN VIEW
SCALE: 1"=50'



TYPICAL SECTION --PUBLIC ACCESS STREET

(NOT TO SCALE)
WETHERED DRIVE: FROM STA. 0+82.70 TO 3+17.16
HOWARD COUNTY STANDARD FIGURE 2.09a
MINIMUM DESIGN SPEED - 25 MPH



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/27/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/17/03

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAY — DATE 10-14-03

AS-BUILT PLANS

DATE	REVISION	DATE
	FINAL AS-BUILT REVISIONS	OCT-08
	FINAL MYLAR SUBMITTAL FOR SIGNATURE	9/24/03
	RE-SUBMITTED FOR REVIEW AND APPROVAL	07/11/03
	RE-SUBMITTED FOR REVIEW AND APPROVAL	04/25/03
	SUBMITTED FOR REVIEW	1-14-03

	BY	DATE
BASE DATA	CADD	DATE
DESIGNED	YSL/RC	DATE
DRAWN	YSL	DATE
REVIEWED	PFB	DATE

RELEASE FOR _____
BY _____ DATE _____

Developer/Owner:
Winchester Homes, Inc. &
Winchester Homes, Inc. , as nominee for Stringtown Investments, LLC
6905 Rockledge Drive
Suite 800
Bethesda, Maryland 20817
Stephen J. Nardella, Vice President
(301) 803 - 4800

(PUBLIC ACCESS STREET / ACCESS PLACE)
WETHERED DRIVE
PLAN AND PROFILE

RODGERS CONSULTING
Enhancing the value of land assets

Rodgers Consulting, Inc.
9260 Gaither Road
Gaithersburg, MD 20877
301.948.4700
301.948.6256 (fax)
301.253.6609
www.rodgers.com

Montjoy - Single Family Detached

A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL C (F-03-87)
TO
BUILDABLE LOTS 127- 188 AND OPEN SPACE LOTS 189-193

ELECTION DISTRICT #2 HOWARD COUNTY, MARYLAND
TAX MAP: 30, GRID: 12, PARCEL 260

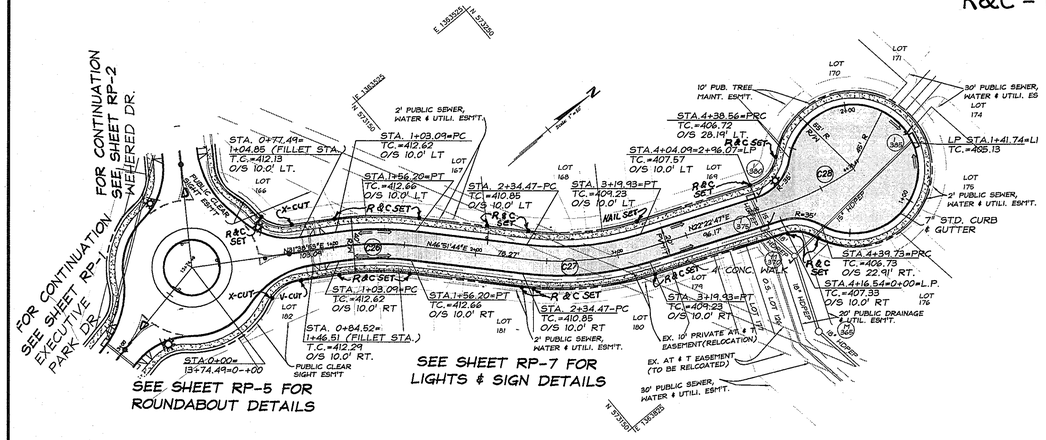
DPZ FILES: S-01-20, WP-01-117, P-02-10, P-02-17, P-03-03, F-03-87

SCALE:	AS SHOWN
JOB No.	506V3
DATE:	1-14-03
INDEX No.	RP-2
SHEET No.	3 OF 34

Q:\projects\506V\dwg\Final Construction Plan\SFD_506V3\03-ROADPROFILE-FINAL-SFD.dwg 09/23/2003 07:36:48 AM EDT

F-03-100

R&C = REBAR & CAP



SANTE FE COURT

PUBLIC ACCESS PLACE– 40' R/W (DESIGN SPEED=15 MPH)

PLAN VIEW

SCALE: 1"=50'

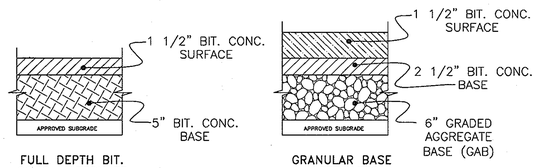
CENTERLINE CURVE DATA								
CURVE #	RAD.	ARC	TANG	DELTA	CHORD	CH. BEARING	PC STATION	PT STATION
26	200.00'	53.11'	26.71'	15°12'51"	52.95'	N39°15'19"E	1+03.09	1+56.20
27	200.00'	85.46'	43.39'	24°28'57"	84.81'	N34°37'16"E	2+34.47	3+19.93
28	200.00'	60.37'	30.41'	17°17'36"	60.14'	N13°43'59"E	4+16.10	4+76.47

DRIVEWAY LOCATION DATA

LOT #	LOCATION	STREET NAME
166	C.L. 1+10	SANTE FE COURT
167	C.L. 1+41	SANTE FE COURT
168	C.L. 2+75	SANTE FE COURT
169	C.L. 3+25	SANTE FE COURT
170	LP. 2+23	SANTE FE COURT
171 TO 174	LP 1+61	SANTE FE COURT
175	LP 0+95	SANTE FE COURT
177 TO 179	C.L. 3+76	SANTE FE COURT
180	C.L. 2+65	SANTE FE COURT
181	C.L. 1+90	SANTE FE COURT
182	C.L. 1+26	SANTE FE COURT
193	C.L. 4+16	SANTE FE COURT

DRIVEWAY WIDTHS AT R/W SHALL BE 12' OR 18' WIDE AS REPRESENTED ON PLANS

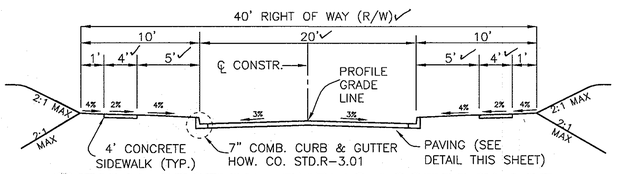
NOTE: ALL CURB ELEVATIONS ARE TOP OF CURB FOR STD. 7" HOWARD CO. STD. COMB. CURB & GUTTER, UNLESS OTHERWISE NOTED ON THE PLAN. CONTRACTOR MUST ADJUST ELEVATION FOR DRIVEWAY APRON AND HANDICAP RAMP.



FULL DEPTH BIT. CONC. ALTERNATE

GRANULAR BASE ALTERNATES

SECTION NUMBER	ROAD AND STREET CLASSIFICATION
P-2	RESIDENTIAL ZONES LOCAL, CUL-DE-SAC ST.. ALLEYS AND PRIVATE ROADS SERVING INDIVIDUAL LOTS TRAVEL WAYS APARTMENTS AND COMMERCIAL ZONES WITH NO MORE THAN 10 HEAVY TRUCKS PER DAY



TYPICAL SECTION --PUBLIC ACCESS PLACE

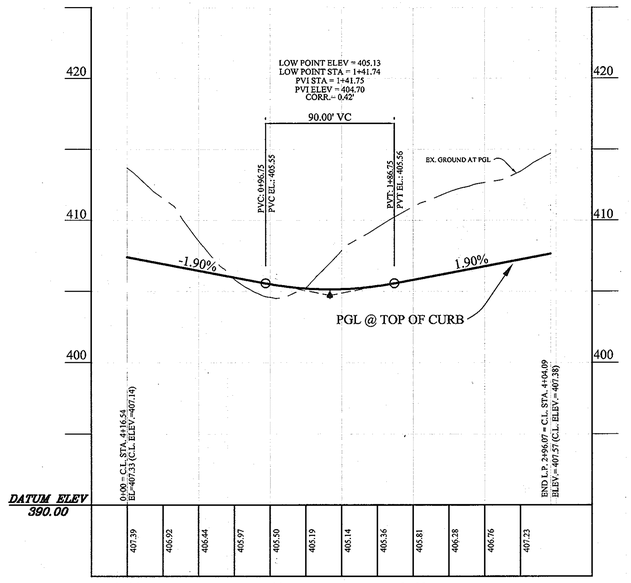
(NOT TO SCALE)

SANTE FE COURT – FROM STA. 0+84.52 TO 4+04.09

HOWARD COUNTY STANDARD FIGURE 2.09a

MINIMUM DESIGN SPEED – 15 MPH

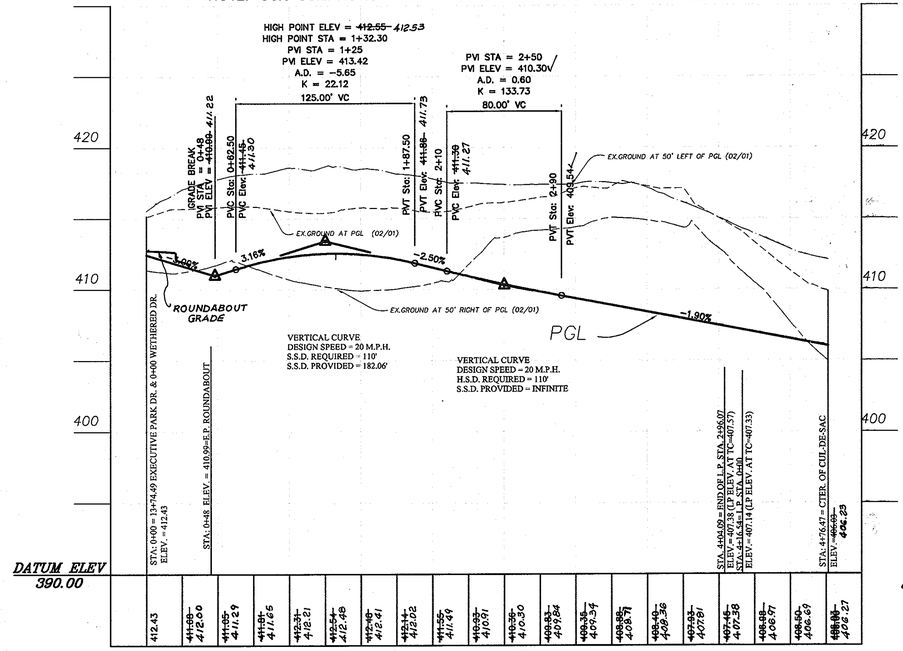
NOTE: 95% COMPACTION PER AASHTO–T180 IS REQUIRED FOR ALL FILL AREA.



LINEAR PROFILE: SANTE FE COURT

AS-BUILT PLANS

NOTE: 95% COMPACTION PER AASHTO–T180 IS REQUIRED FOR ALL FILL AREA.



SANTE FE COURT

PUBLIC ACCESS PLACE - DESIGN SPEED = 15 MPH

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

CALL "MISS UTILITY" AT 1-800-257-7777 48 Hours Before Start Of Construction

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/27/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/27/03

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAY — DATE 10-14-03

DATE	REVISION	DATE
	FINAL AS-BUILT REVISIONS	OCT-08
	FINAL MYLAR SUBMITTAL FOR SIGNATURE	9/24/03
	RE-SUBMITTED FOR REVIEW AND APPROVAL	07/11/03
	RE-SUBMITTED FOR REVIEW AND APPROVAL	04/25/03
	SUBMITTED FOR REVIEW	1-14-03

	BY	DATE
BASE DATA	CADD	DATE
DESIGNED	YSL/RC	DATE
DRAWN	YSL	DATE
REVIEWED	PFB/RF	DATE

RELEASE FOR _____ BY _____ DATE _____

Developer/Owner:
Winchester Homes, Inc. &
Winchester Homes, Inc. , as nominee for Stringtown Investments, LLC
6905 Rockledge Drive
Suite 800
Bethesda, Maryland 20817
Stephen J. Nardella, Vice President
(301) 803 - 4800

(PUBLIC ACCESS PLACE)

SANTE FE COURT

PLAN & PROFILE

RODGERS CONSULTING
Enhancing the value of land assets

Rodgers Consulting, Inc.
9260 Gaither Road
Gaithersburg, MD 20877
301.948.4700
301.948.6256 (fax)
301.253.6609
www.rodgers.com

Montjoy - Single Family Detached

A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL C (F-03-87) TO BUILDABLE LOTS 127- 188 AND OPEN SPACE LOTS 189-193

ELECTION DISTRICT #2 HOWARD COUNTY, MARYLAND
TAX MAP: 30, GRID: 12, PARCEL 260

DPZ FILES: S-01-20, WP-01-117, P-02-10, P-02-17, P-03-03, F-03-87

SCALE:	AS SHOWN
JOB No.	506V3
DATE:	1-14-03
INDEX No.	RP-3
SHEET No.	4 OF 34

O:\projects\506V\dwg\Final Construction Plan\SFD_506V3\04-ROADPROFILE-FINAL-SFD.dwg 09/23/2003 07:39:39 AM EDT

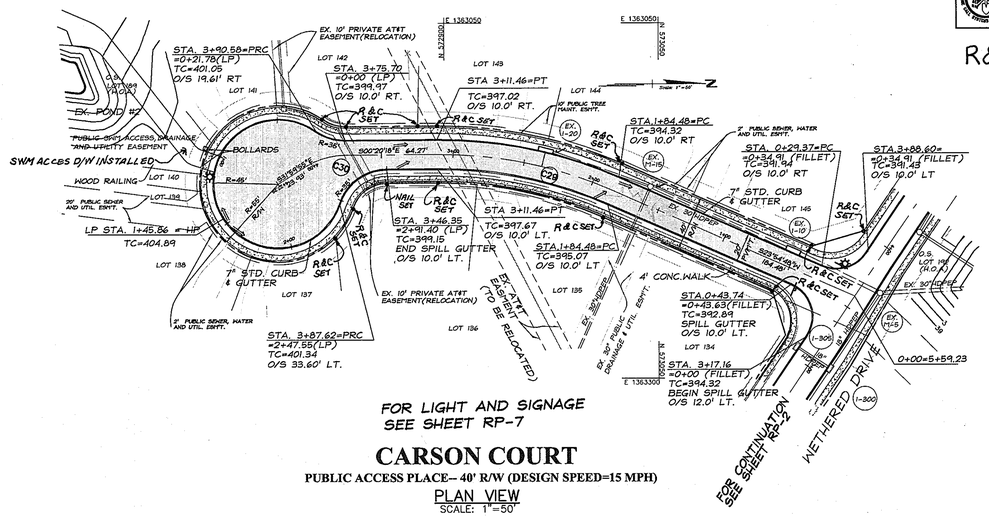
F-03-100

CALL "MISS UTILITY" AT
1-800-257-7777
48 Hours Before Start Of Construction

R&C = REBAR & CAP

CENTERLINE CURVE DATA

CURVE #	RAD.	ARC	TANG	DELTA	CHORD	CH. BEARING	PC STATION	PT STATION
29	300.00'	126.98'	64.46'	24°15'06"	126.04'	S11°47'15"W	1+84.48	3+11.46
30	50.00'	27.63'	14.18'	31°39'37"	27.28'	S16°10'07"E	3+75.73	4+03.36



FOR LIGHT AND SIGNAGE SEE SHEET RP-7

CARSON COURT

PUBLIC ACCESS PLACE-- 40' R/W (DESIGN SPEED=15 MPH)

PLAN VIEW
SCALE: 1"=50'

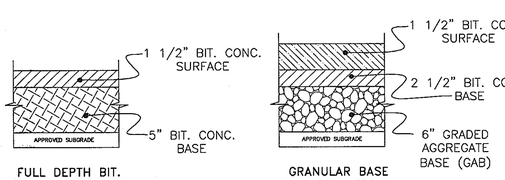
DRIVEWAY LOCATION DATA

LOT #	LOCATION	STREET NAME
135	C.L. 2+60	CARSON COURT
136	C.L. 3+44	CARSON COURT
137	LP 1+82	CARSON COURT
138	LP 1+62	CARSON COURT
139/140	LP 1+27	CARSON COURT
141	LP 0+81	CARSON COURT
142	C.L. 3+46	CARSON COURT
143	C.L. 2+69	CARSON COURT
144	C.L. 1+39	CARSON COURT
145	C.L. 1+08	CARSON COURT
189	LP 1+08	CARSON COURT

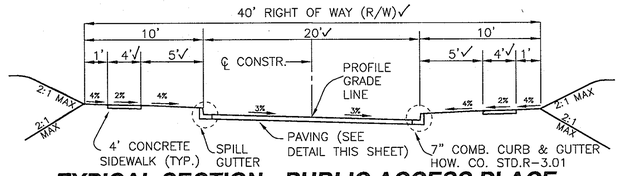
DRIVEWAY WIDTHS AT R/W SHALL BE 12' OR 18' WIDE AS REPRESENTED ON PLANS

NOTE: ALL CURB ELEVATIONS ARE TOP OF CURB FOR STD. 7" HOWARD CO. STD. COMB. CURB & GUTTER, UNLESS OTHERWISE NOTED ON THE PLAN. CONTRACTOR MUST ADJUST ELEVATION FOR DRIVEWAY APRON AND HANDICAP RAMP.

NOTE: 95% COMPACTION PER AASHTO-T180 IS REQUIRED FOR ALL FILL AREA.



SECTION NUMBER	ROAD AND STREET CLASSIFICATION
P-2	RESIDENTIAL ZONES LOCAL, CUL-DE-SAC STS. ALLEYS AND PRIVATE ROADS SERVING INDIVIDUAL LOTS TRAVELWAYS APARTMENTS AND COMMERCIAL-INDUSTRIAL ZONES WITH NO MORE THAN 10 HEAVY TRUCKS PER DAY*



TYPICAL SECTION --PUBLIC ACCESS PLACE

(NOT TO SCALE)
CARSON COURT – FROM STA. 0+43.74 TO STA. 3+46.35
HOWARD COUNTY STANDARD FIGURE 2.09a (MODIFIED)
MINIMUM DESIGN SPEED – 15 MPH

LINEAR PROFILE: CARSON COURT

CARSON COURT

PUBLIC ACCESS PLACE - DESIGN SPEED = 15 MPH

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

AS-BUILT PLANS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/27/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/17/03

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAY — DATE 10-14-03

DATE	REVISION	DATE
	FINAL AS-BUILT REVISIONS	OCT-08
	FINAL MYLAR SUBMITTAL FOR SIGNATURE	9/24/03
	RE-SUBMITTED FOR REVIEW AND APPROVAL	07/11/03
	RE-SUBMITTED FOR REVIEW AND APPROVAL	04/25/03
	SUBMITTED FOR REVIEW	1-14-03

BY	DATE
BASE DATA: CADD	DATE
DESIGNED: YSL/RC	DATE
DRAWN: YSL	DATE
REVIEWED: PFB	DATE

RELEASE FOR _____ BY _____ DATE

Developer/Owner:
Winchester Homes, Inc. &
Winchester Homes, Inc. , as nominee for Stringtown Investments, LLC
6905 Rockledge Drive
Suite 800
Bethesda, Maryland 20817
Stephen J. Nardella, Vice President
(301) 803 - 4800

(PUBLIC ACCESS PLACE)
CARSON COURT
PLAN & PROFILE

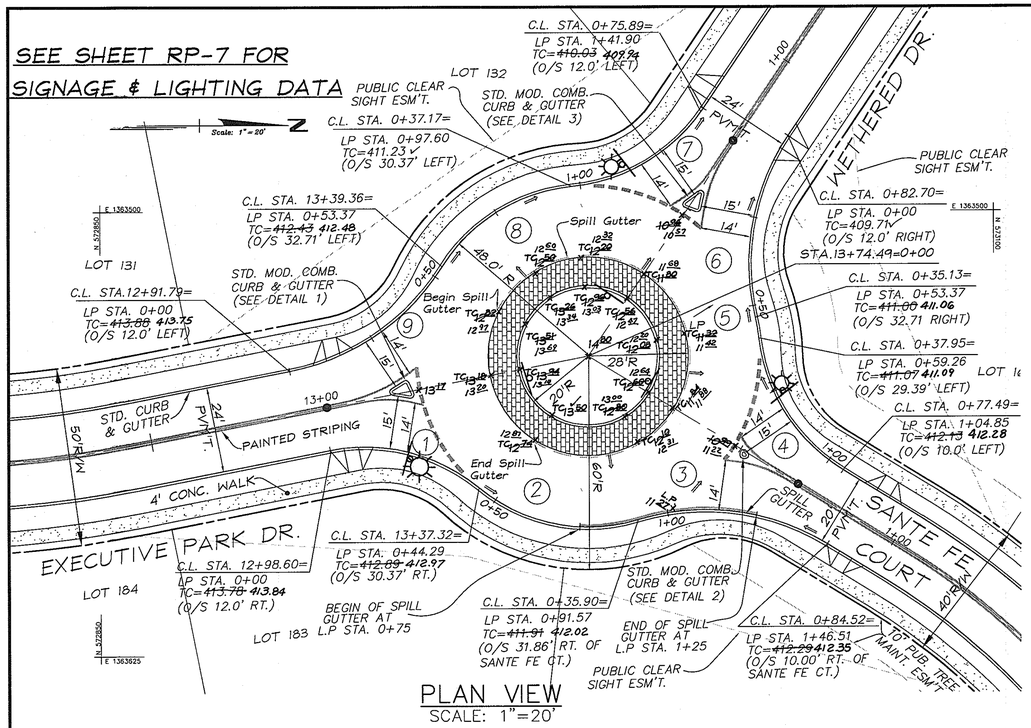
RODGERS CONSULTING
Enhancing the value of land assets
Rodgers Consulting, Inc.
9260 Gaither Road
Gaithersburg, MD 20877
301.948.4700
301.948.6256 (fax)
301.253.6609
www.rodgers.com

Montjoy - Single Family Detached
A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL C (F-03-87)
TO
BUILDABLE LOTS 127- 188 AND OPEN SPACE LOTS 189-193
ELECTION DISTRICT #2 HOWARD COUNTY, MARYLAND
TAX MAP: 30, GRID: 12, PARCEL 260
DPZ FILES: S-01-20, WP-01-117, P-02-10, P-02-17, P-03-03, F-03-87

SCALE: AS SHOWN
JOB No. 506V3
DATE: 1-14-03
INDEX No. RP-4
SHEET No. 5 OF 34

Q:\projects\506V\dwg\Final Construction Plan\SFD_506V3\05-ROADPROFILE-FINAL-SFD.dwg 09/23/2003 07:41:45 AM EDT

F-03-100

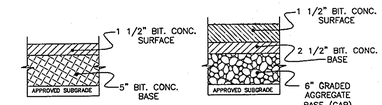


PLAN VIEW
SCALE: 1"=20'

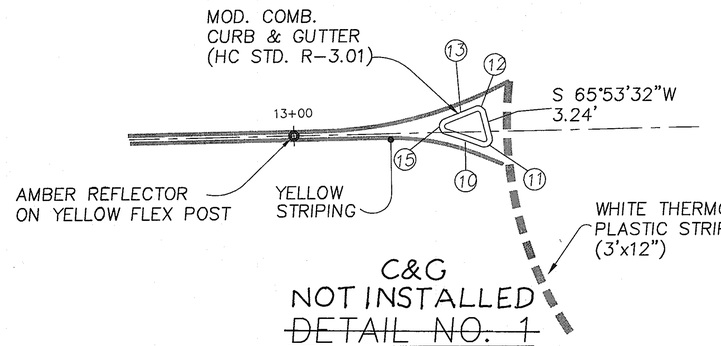
ROUNDABOUT CURB RADII DATA

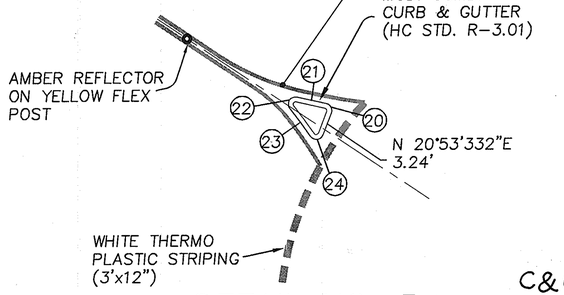
CURVE #	RAD.	ARC	TANG	DELTA	CHORD	CH. BEARING	PC STATION / OFFSET	TC ELEV. @ PC	PT STATION / OFFSET	TC ELEV.@ PT	REMARKS
1	50.00'	44.29'	23.76'	50°45'14"	42.86'	N14°17'25"E	12+98.60 / 12.00' RIGHT	SEE PLAN	13+37.32 / 30.37' RIGHT	SEE PLAN	EXECUTIVE PK./SANTE FE
2	48.00'	47.28'	25.76'	52°26'07"	45.39'	N11°26'59"E	13+37.32/ 30.37' RIGHT	SEE PLAN	0+35.90/ 31.86' RIGHT	SEE PLAN	EXECUTIVE PK./SANTE FE
3	65.00'	54.93'	29.22'	48°24'58"	53.31'	N07°26'24"E	0+35.90/ 31.86' RIGHT	SEE PLAN	0+84.52 / 10.00' RIGHT	SEE PLAN	EXECUTIVE PK./SANTE FE
4	50.00'	45.59'	24.52'	52°14'53"	44.03'	S57°46'19"W	0+77.49 / 10.00' LEFT	SEE PLAN	0+37.95 / 29.39 LEFT	SEE PLAN	SANTE FE CT.
5	48.00'	5.89'	2.95'	07°01'42"	5.88'	S80°22'55"W	0+37.95 / 29.39 LEFT	SEE PLAN	0+35.13 / 32.71' RIGHT	SEE PLAN	WETHERED /SANTE FE
6	65.00'	53.37'	28.29'	47°02'44"	51.88'	N79°36'34"W	0+35.13 / 32.71' RIGHT	SEE PLAN	0+82.70 / 12.00' RIGHT	SEE PLAN	WETHERED DRIVE
7	50.00'	41.37'	21.95'	47°24'31"	40.20'	S30°54'06"W	0+75.89 / 12.00' LEFT	SEE PLAN	0+37.17 / 30.37' LEFT	SEE PLAN	WETHERED DRIVE
8	45.00'	42.03'	22.69'	53°31'10"	40.52'	S33°35'12E	0+37.13 / 30.37' LEFT	SEE PLAN	13+39.36 / 32.71' LEFT	SEE PLAN	WETHERED/EXECUTIVE PK.
9	50.00'	42.99'	22.92'	49°15'35"	41.68'	N35°42'59"W	13+39.36 / 32.71' LEFT	SEE PLAN	12+91.79 / 12' LEFT	SEE PLAN	EXECUTIVE PARK DR.
10	65.00'	4.78'	2.39'	04°12'57"	4.78'	N09°06'27"E	13+18.77 / 0.21' RIGHT	413.61	13+23.26 / 1.86' RIGHT	413.59	EXECUTIVE PARK DR.
11	1.00'	2.19'	1.93'	125°19'24"	1.78'	N51°26'46"W	13+23.26 / 1.86' RIGHT	413.59	13+24.62 / 0.71 RIGHT	413.53	EXECUTIVE PARK DR.
12	1.00'	1.74'	1.18'	99°34'39"	1.53'	S16°06'13"W	13+23.89 / 2.44' LEFT	413.59	13+22.53 / 3.14' LEFT	413.63	EXECUTIVE PARK DR.
13	80.00'	4.05'	2.03	02°54'10"	4.05'	S32°14'02"E	13+22.53 / 3.14' LEFT	413.63	13+18.75 / 1.68' LEFT	413.37	EXECUTIVE PARK DR.
14	1.00'	2.48'	2.92'	142°13'04"	1.89'	N78°06'31"E	13+18.75 / 1.68' LEFT	413.37	13+18.77 / 0.21' RIGHT	413.61	EXECUTIVE PARK DR.
15	1.00'	1.62'	1.05'	92°39'31"	1.45'	N53°54'38"E	0+50.56 / 1.41' RIGHT	411.56	0+51.90 / 1.95' RIGHT	411.56	SANTE FE CT.
16	80.00'	0.47'	0.23'	00°20'08"	0.47'	N07°44'56"E	0+51.90 / 1.95' RIGHT	411.56	0+52.33 / 1.76' RIGHT	411.45	SANTE FE CT.
17	1.00'	2.33'	2.33'	133°28'57"	1.84'	N58°49'28"W	0+52.33 / 1.76' RIGHT	411.45	0+52.31 / 0.07' LEFT	411.51	SANTE FE CT.
18	65.00'	0.65'	0.33'	00°34'36"	0.65'	S54°43'22"W	0+52.31 / 0.07' LEFT	411.51	0+51.71 / 0.33' LEFT	411.49	SANTE FE CT.
19	1.00'	2.35'	2.40'	134°46'16"	1.85'	S12°22'28"E	0+51.71 / 0.33' LEFT	411.49	0+50.38 / 0.95' RIGHT	411.42	SANTE FE CT.
20	1.00'	1.74'	1.18'	99°34'39"	1.53'	N28°53'47"W	0+50.60/ 2.44' RIGHT	411.11	0+51.96 / 3.14' RIGHT	411.03	SANTE FE CT.
21	80.00'	4.05'	2.03'	02°54'10'	4.05'	N77°14'02"W	0+51.96 / 3.14' RIGHT	411.03	0+55.74 / 1.98' RIGHT	410.95	SANTE FE CT.
22	1.00'	2.48'	2.92'	142°13'04"	1.89'	S33°06'31"W	0+55.74 / 1.98' RIGHT	410.95	0+55.72 / 0.21' LEFT	411.04	WETHERED DRIVE
23	65.00'	4.78'	2.39'	04°12'57"	4.78'	S35°53'33"E	0+55.72 / 0.21' LEFT	411.04	0+51.23 / 1.86' LEFT	411.21	WETHERED DR.
24	1.00'	2.19'	1.93'	125°19'24"	1.78'	N83°33'14"E	0+51.23 / 1.86' LEFT	411.21	0+49.87 / 0.71' LEFT	411.23	WETHERED DR.

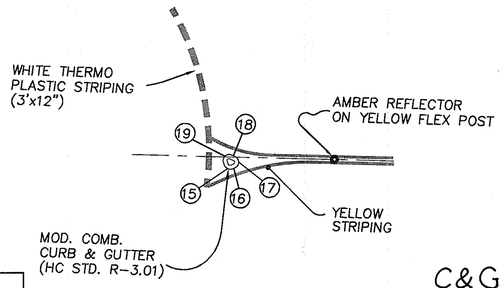
NOTE: ALL CURB ELEVATIONS ARE TOP OF CURB FOR STD. 7" HOWARD CO. STD. COMB. CURB & GUTTER, UNLESS OTHERWISE NOTED ON THE PLAN. CONTRACTOR MUST ADJUST ELEVATION FOR DRIVEWAY APRON AND HANDICAP RAMP.

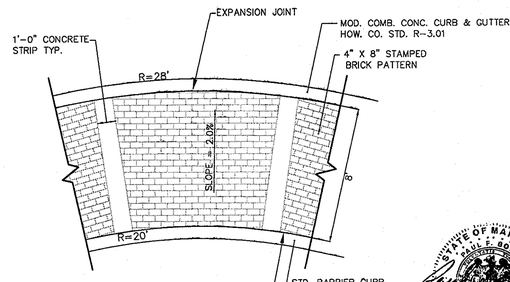


SECTION NUMBER	ROAD AND STREET CLASSIFICATION
P-2	RESIDENTIAL ZONES LOCAL, CUL-DE-CAC STS. ALLEYS AND PRIVATE ROADS SERVING INDIVIDUAL LOTS TRAVELWAYS APARTMENTS AND COMMERCIAL-INDUSTRIAL ZONES WITH NO MORE THAN 10 HEVY TRUCKS PER DAY*

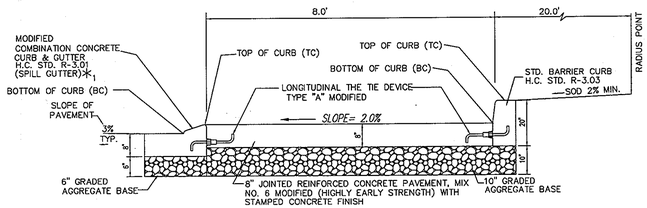








ROUNDABOUT APRON DETAIL
N.T.S.



ROUNDABOUT APRON PAVEMENT SECTION
N.T.S.

*1 REFER TO PLAN FOR THE LIMITS OF THE SPILL GUTTER

NOTE: ALL SIGN LOCATIONS AND ALL PAVEMENT MARKINGS SHALL BE APPROVED BY HOWARD COUNTY DPW/HIGHWAY TRAFFIC DIVISION PRIOR TO THE INSTALLATION OF ANY OF THESE TRAFFIC CONTROL DEVICES.

STATE OF MARYLAND — THOMAS P. BOSSONG — No. 21631 — PROFESSIONAL ENGINEER — 4/25/03

STATE OF MARYLAND — PAUL F. BOSS — No. 9951 — PROFESSIONAL ENGINEER — AS-BUILTS 14/5/09

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Cindy Hamilton JA — CHIEF, DIVISION OF LAND DEVELOPMENT — 10/23/03 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION — 10/17/03 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

William J. Mahler Jr. — CHIEF, BUREAU OF HIGHWAY — 10-14-03 DATE

AS-BUILT PLANS

	DATE	REVISION	DATE
		FINAL AS-BUILT REVISIONS	OCT-08
		FINAL MYLAR SUBMITTAL FOR SIGNATURE	9/24/03
		RE-SUBMITTED FOR REVIEW AND APPROVAL	07/11/03
		RE-SUBMITTED FOR REVIEW AND APPROVAL	04/25/03
		SUBMITTED FOR REVIEW	1-14-03

	BY	DATE
BASE DATA	CADD	DATE
DESIGNED	YSL	DATE
DRAWN	YSL	DATE
REVIEWED	PFB	DATE

RELEASE FOR _____ BY _____ DATE _____

Developer/Owner:
Winchester Homes, Inc. &
Winchester Homes, Inc. , as nominee for Stringtown Investments, LLC
6905 Rockledge Drive
Suite 800
Bethesda, Maryland 20817
Stephen J. Nardella, Vice President
(301) 803 - 4800

(PUBLIC ACCESS STREET)
ROUNDABOUT AT EXECUTIVE PARK DRIVE
PLAN AND DETAILS

RODGERS CONSULTING
Enhancing the value of land assets

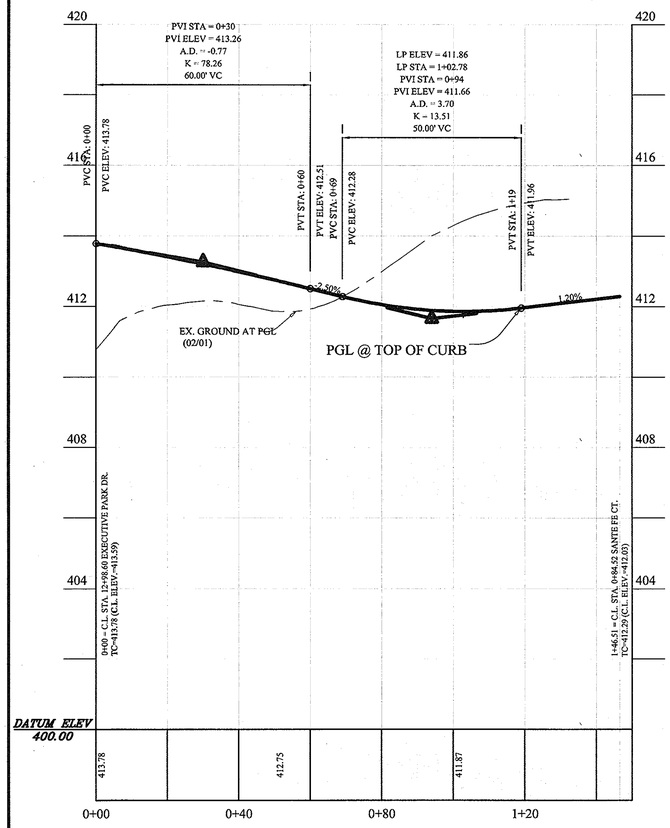
Rodgers Consulting, Inc.
9260 Gaither Road
Gaithersburg, MD 20877
301.948.4700
301.948.6256 (fax)
301.253.6609
www.rodgers.com

Montjoy - Single Family Detached
A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL C (F-03-87)
TO
BUILDABLE LOTS 127- 188 AND OPEN SPACE LOTS 189-193
ELECTION DISTRICT #2 HOWARD COUNTY, MARYLAND
TAX MAP: 30, GRID: 12, PARCEL 260
DPZ FILES: S-01-20, WP-01-117, P-02-10, P-02-17, P-03-03, F-03-87

SCALE:	AS SHOWN
JOB No.	506V3
DATE:	1-14-03
INDEX No.	RP-5
SHEET No.	6 OF 34

F-03-100

Q:\projects\506V\dwg\Final Construction Plan\SFD_506V3\06-ROUNDABOUT-DET-FINAL-SFD.DWG 09/23/2003 07:45:59 AM EDT

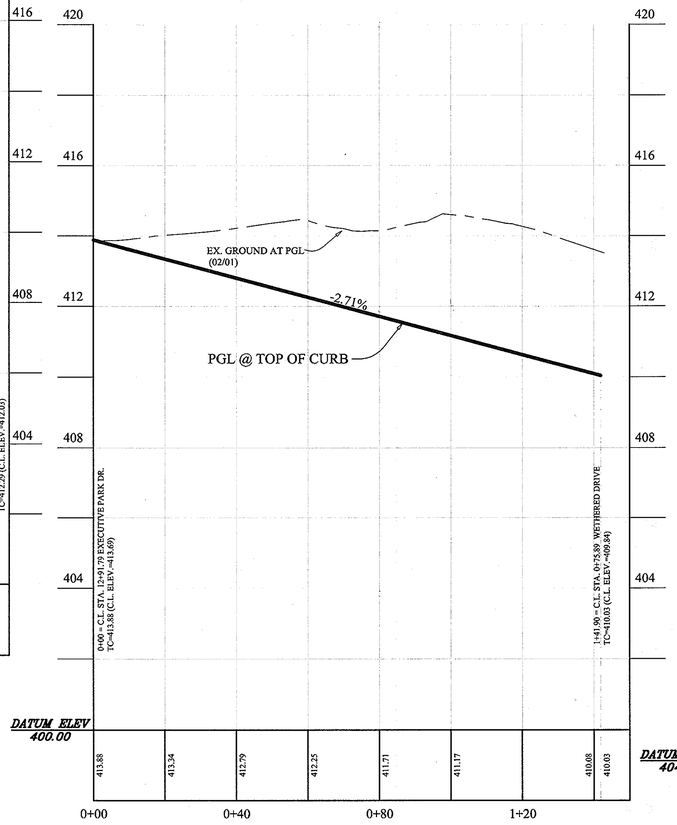


CURB RETURN PROFILE:

RIGHT OF EXECUTIVE PARK DR. & SANTE FE CT.

PROFILE

SCALE: H: 1"=20'
V: 1"= 2'

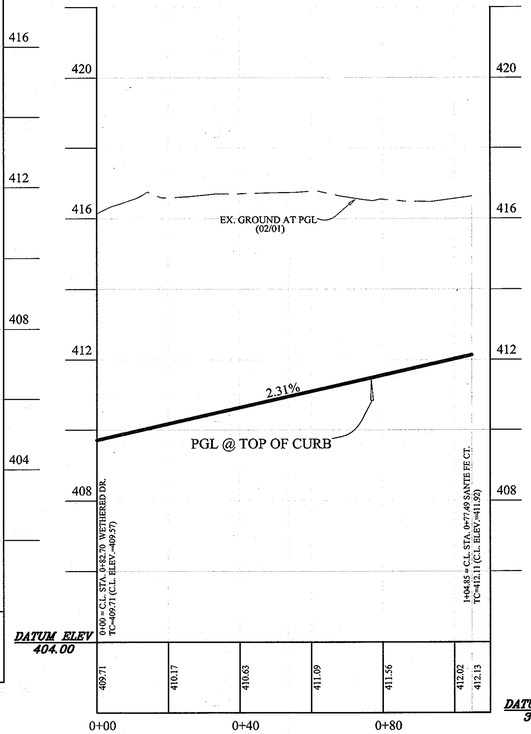


CURB RETURN PROFILE:

LEFT OF EXECUTIVE PARK DR. & WETHERED DR.

PROFILE

SCALE: H: 1"=20'
V: 1"= 2'

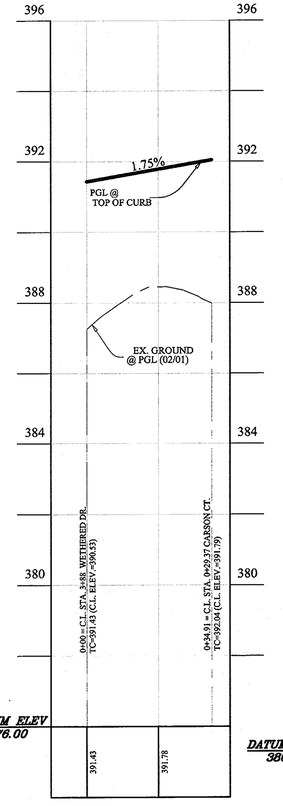


CURB RETURN PROFILE:

RIGHT OF SANTE FE CT. & WETHERED DRVIE

PROFILE

SCALE: H: 1"=20'
V: 1"= 2'

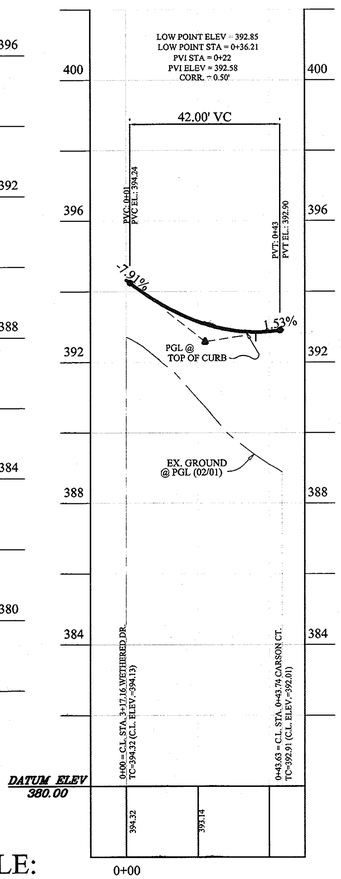


CURB RETURN PROFILE:

RIGHT OF CARSON CT. & WETHERED DR.

PROFILE

SCALE: H: 1"=20'
V: 1"= 2'



CURB RETURN PROFILE:

LEFT OF WETHERED DR. & CARSON CT.

PROFILE

SCALE: H: 1"=20'
V: 1"= 2'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Cindy Hamilton — 10/27/03
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

[signature] — 10/17/03
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

William E. Malone Jr. — 10-14-03
CHIEF, BUREAU OF HIGHWAY — DATE

AS-BUILT PLANS

(No As-Built Data This Sheet)

STATE OF MARYLAND — FRANK B. BOSSONG — No. 21631 — REGISTERED PROFESSIONAL ENGINEER — 9/23/03

	DATE	REVISION	DATE
		FINAL AS-BUILT REVISIONS	OCT-08
		FINAL MYLAR SUBMITTAL FOR SIGNATURE	9/24/03
		RE-SUBMITTED FOR REVIEW AND APPROVAL	07/11/03
		RE-SUBMITTED FOR REVIEW AND APPROVAL	04/25/03
		SUBMITTED FOR REVIEW	1-14-03

	BY	DATE
BASE DATA	CADD	DATE
DESIGNED	YSL	DATE
DRAWN	YSL	DATE
REVIEWED	PFB/RF	DATE

RELEASE FOR ☐
BY _____ DATE _____

Developer/Owner:
Winchester Homes, Inc. &
Winchester Homes, Inc. , as nominee for Stringtown Investments, LLC
6905 Rockledge Drive
Suite 800
Bethesda, Maryland 20817
Stephen J. Nardella, Vice President
(301) 803 - 4800

CURB RETURN PROFILES

RODGERS CONSULTING
Enhancing the value of land assets

Rodgers Consulting, Inc.
9260 Gaither Road
Gaithersburg, MD 20877
301.948.4700
301.948.6256 (fax)
301.253.6609
www.rodgers.com

Montjoy - Single Family Detached

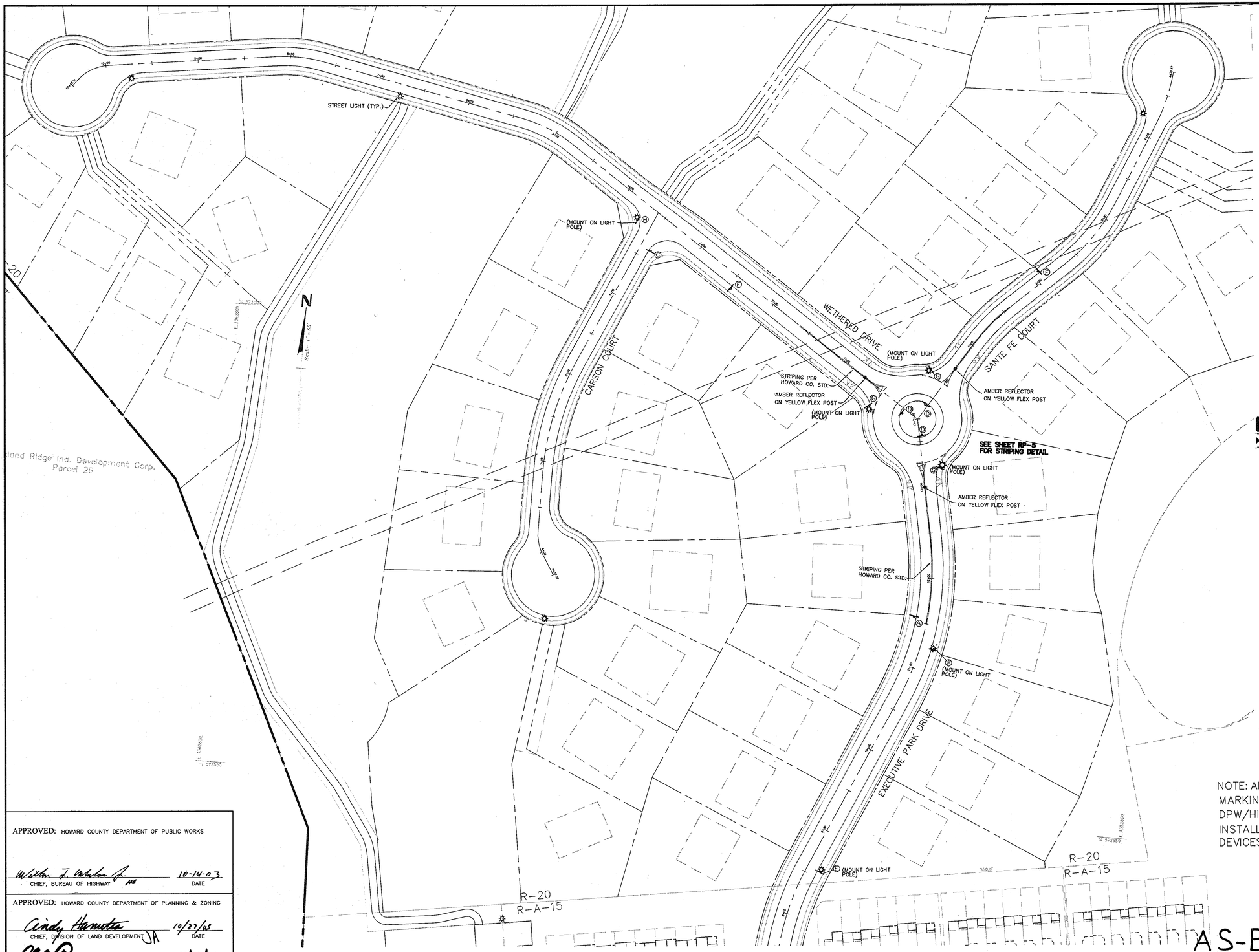
A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL C (F-03-87)
TO
BUILDABLE LOTS 127- 188 AND OPEN SPACE LOTS 189-193
ELECTION DISTRICT #2 HOWARD COUNTY, MARYLAND
TAX MAP: 30, GRID: 12, PARCEL 260
DPZ FILES: S-01-20, WP-01-117, P-02-10, P-02-17, P-03-03, F-03-87

SCALE:	AS SHOWN
JOB No.	506V3
DATE:	1-14-03
INDEX No.	RP-6
SHEET No.	7 OF 34

C:\projects\506V\dwg\Final Construction Plan\SFD_506V3\07-FILLETPROFILES-FINAL-SFD.DWG 09/20/2003 06:47:30 PM EDT

F-03-100

CALL "MISS UTILITY" AT
1-800-257-7777
48 Hours Before Start Of Construction



TRAFFIC SIGN LEGEND

SIGN	SYMBOL	SIGN	SYMBOL	SIGN	SYMBOL
(24x30) SPEED LIMIT 25 R2-1	A	(36x36) SANTE FE COURT / WETHERED DRIVE (BLACK/YELLOW)	E*	STREET NAME (ON BACK OF R1-2) (CONTACT THE COUNTY)	H
(12x15) R4-7	B				
(30x30) STOP R1-1	C	(36x36) YIELD W3-2a; 15 M.P.H. (18x18) W3-2a	F*	*36"x36" in inbound roadway 30"x30" in outbound roadway	
(36x12) ONE WAY (36x18) R6-1	D	(36x36x36) YIELD / TO TRAFFIC IN CIRCLE (30x18) R1-2	G		

NOTE:
Contact Howard County Traffic Division at 410-313-5752 prior to ordering and installing any signs.

STREET LIGHT LOCATION DATA

☼ = Pole Location

STREET NAME	STATION	OFF-SET	FIXTURE/POLE TYPE	COMMENTS
Executive Park Dr.	8+60	15' o/s R	100 watt HPS vapor premier colonial post top fixture mounted on 14' black fiberglass pole.	
Executive Park Dr.	11+29	15' o/s R	" "	
Executive Park Dr.	13+22	21.32' o/s R	" "	Round-about
Wethered Drive	0+48	24' o/s L	" "	Round-about
Wethered Drive	3+74	18' o/s L	" "	
Wethered Drive	6+74	13' o/s L	" "	
Wethered Drive	9+80	19' o/s L	" "	
Carson Court	1+14(L.P.)	3'	" "	Back of cul-de-sac
Sante Fe Court	0+50	21.80' o/s L	" "	
Sante Fe Court	4+21	17.70' o/s L	" "	

NOTE: ALL SIGN LOCATIONS AND ALL PAVEMENT MARKINGS SHALL BE APPROVED BY HOWARD COUNTY DPW/HIGHWAY TRAFFIC DIVISION PRIOR TO THE INSTALLATION OF ANY OF THESE TRAFFIC CONTROL DEVICES.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Wilbur J. Walker Jr. — CHIEF, BUREAU OF HIGHWAY — 10-14-03 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Cindy Hamuka — CHIEF, DIVISION OF LAND DEVELOPMENT JA — 10/22/03 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION — 10/17/03 DATE

AS-BUILT PLANS
(No As-Built Data This Sheet)

STATE OF MARYLAND — FRANK G. BOSSONG — 9/23/03

	DATE
FINAL MYLAR SUBMITTAL FOR SIGNATURE	9/24/03
RE-SUBMITTED FOR REVIEW AND APPROVAL	01/11/03
RE-SUBMITTED FOR REVIEW AND APPROVAL	04/25/03
SUBMITTED FOR REVIEW	12/20/02

	BY	DATE
BASE DATA	CADD	
DESIGNED	PFB,YSL	
DRAWN	YSL	
REVIEWED	PFB/RF	

RELEASE FOR _____ BY _____ DATE

Developer/Owner:
Winchester Homes, Inc. &
Winchester Homes, Inc. , as nominee for Stringtown Investments, LLC
6905 Rockledge Drive
Suite 800
Bethesda, Maryland 20817
Stephen J. Nardella, Vice President
(301) 803 - 4800

STREET LIGHT DATA & SIGNAGE PLAN

RODGERS CONSULTING
Enhancing the value of land assets
Rodgers Consulting, Inc.
9260 Gaither Road
Gaithersburg, MD 20877
301.948.4700
301.948.6256 (fax)
301.253.6609
www.rodgers.com

Montjoy - Single Family Detached

A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL C (F-03-87)
TO
BUILDABLE LOTS 127- 188 AND OPEN SPACE LOTS 189-193

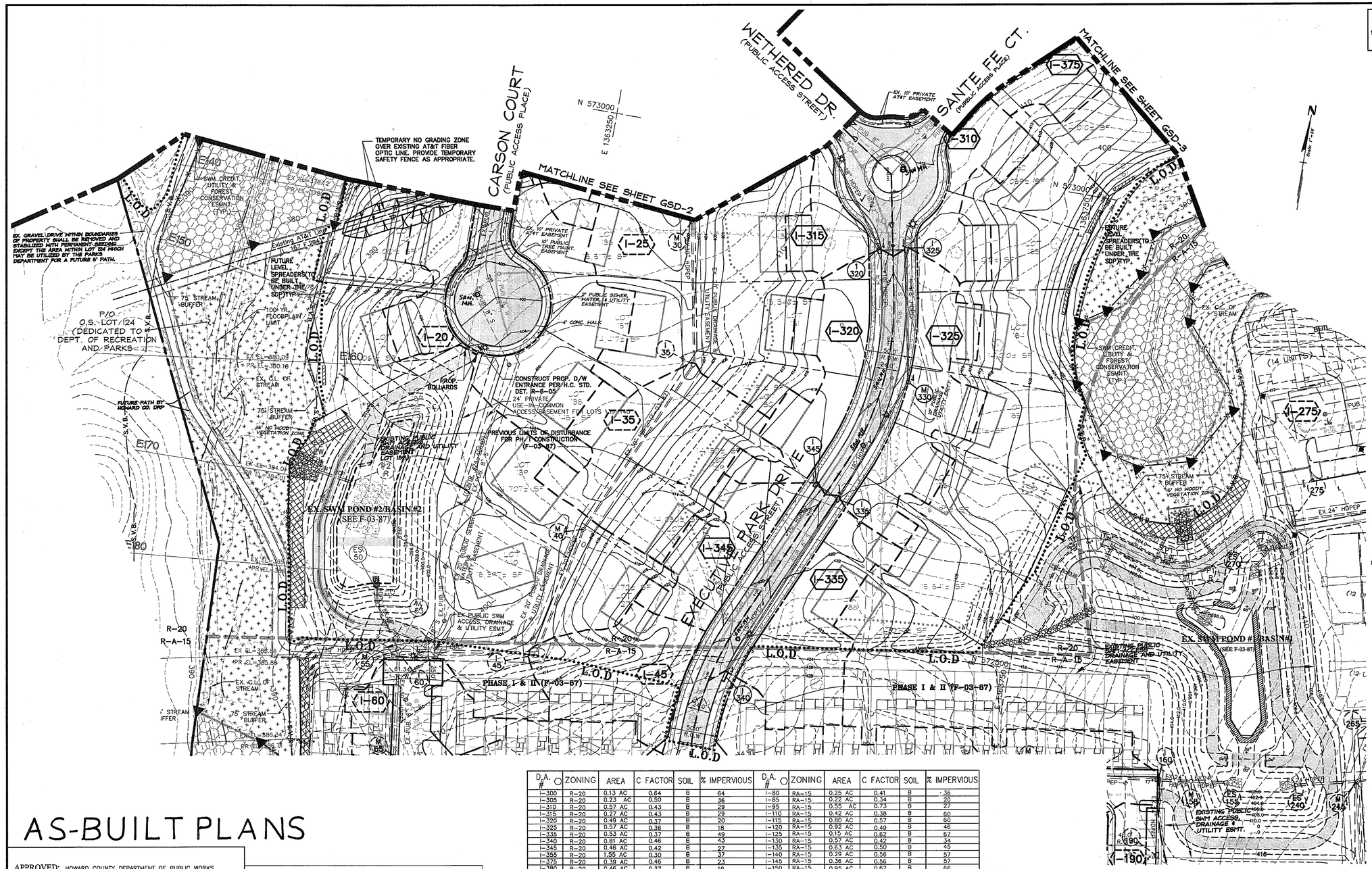
ELECTION DISTRICT #2 HOWARD COUNTY, MARYLAND
TAX MAP: 30, GRID: 12, PARCEL 260

DPZ FILES: S-01-20, WP-01-117, P-02-10, P-02-17, P-03-03, F-03-87

SCALE:	1"=50'
JOB No.	506V3
DATE:	01/14/03
INDEX No.	RP-7
SHEET No.	8 OF 34

Q:\projects\506V\dwg\Final Construction Plan\SFD_506V3\08-STREETLIGHTING&SIGNAGE-SFD.DWG 09/20/2003 07:07:45 PM EDT

F-03-100



CALL "MISS UTILITY" AT 1-800-257-7777
48 Hours Before Start Of Construction

Legend

- DRAINAGE AREA NUMBER
- STRUCTURE NUMBER
- DRAINAGE AREA NUMBER, EXISTING
- STRUCTURE NUMBER, EXISTING
- DRAINAGE AREA LINE
- STORM DRAIN
- S.V.B. — STREAM BUFFER
- 100 YR. FLOODPLAIN
- EXISTING TREELINE
- ZONING LINE
- MATCH LINE
- TP — TEMP. TREE PROTECTION FENCE
- EX. TREE PROTECTION FENCE (INST. UNDER F-03-87)
- COMBINED SILT/TREE PROTECTION FENCE
- CONSERVATION SIGNAGE
- L.O.D. — LIMIT OF DISTURBANCE, SINGLE FAMILY PHASE
- PREVIOUS LIMIT OF DISTURBANCE (PER F-03-87)
- EX. SWM CREDIT, UTILITY AND FOREST CONSERVATION EASEMENT (PER F-03-87)
- EX. SWM CREDIT EASEMENT (PER F-03-87)

* WHERE TREE PROTECTION DEVICES COINCIDE WITH LIMIT OF DISTURBANCE OR CONSERVATION EASEMENT BOUNDARY, SYMBOL IS SHOWN OFFSET FOR GRAPHIC CLARITY.

**THIS SITE DOES NOT CONTAIN SLOPES GREATER THAN 25% IN A CONTIGUOUS AREA 20,000 SQ. FT. OR MORE.

NOTE: CONTRACTOR TO FIELD LOCATE THE EXISTING AT&T FIBER OPTIC LINES THROUGHOUT THIS SITE

SWM CREDITS

LOTS	CREDIT TYPE	CREDIT TAKEN	COMMENTS
141, 142	SHEET FLOW TO BUFFER	WATER QUALITY, RECHARGE	USING LEVEL SPREADERS
136-140	GRASS SWALE	RECHARGE	
127-132	GRASS SWALE	RECHARGE	
181-186	SHEET FLOW TO BUFFER	WATER QUALITY, RECHARGE	USING LEVEL SPREADERS

NOTE: NATURAL CONSERVATION/BUFFER CREDIT AREAS INDICATED ON PLAN (SEE LEGEND ABOVE).

STATE OF MARYLAND — PAUL F. BOBIA — NO. 20637 — REGISTERED PROFESSIONAL ENGINEER
AS-BUILTS 12/5/03

SEE SHEETS 17-19 FOR STORM DRAIN ELEVATIONS

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 PLAN AND SPECIFICATIONS.

SIGNATURE _____ P.E. NO.: 20637 DATE: 12/5/03

D.A. #	ZONING	AREA	C FACTOR	SOIL	% IMPERVIOUS	D.A. #	ZONING	AREA	C FACTOR	SOIL	% IMPERVIOUS
I-300	R-20	0.13 AC	0.64	B	64	I-80	RA-15	0.25 AC	0.41	B	35
I-305	R-20	0.23 AC	0.50	B	36	I-85	RA-15	0.22 AC	0.34	B	20
I-310	R-20	0.57 AC	0.43	B	29	I-95	RA-15	0.55 AC	0.73	B	27
I-315	R-20	0.27 AC	0.43	B	29	I-110	RA-15	0.42 AC	0.38	B	60
I-320	R-20	0.49 AC	0.37	B	20	I-115	RA-15	0.80 AC	0.57	B	60
I-325	R-20	0.57 AC	0.36	B	18	I-120	RA-15	0.92 AC	0.49	B	46
I-335	R-20	0.53 AC	0.37	B	49	I-125	RA-15	0.15 AC	0.62	B	67
I-340	R-20	0.81 AC	0.46	B	43	I-130	RA-15	0.57 AC	0.42	B	34
I-345	R-20	0.46 AC	0.42	B	27	I-135	RA-15	0.63 AC	0.50	B	45
I-355	R-20	1.55 AC	0.30	B	37	I-140	RA-15	0.29 AC	0.56	B	57
I-375	R-20	0.39 AC	0.46	B	23	I-145	RA-15	0.36 AC	0.56	B	57
I-380	R-20	0.46 AC	0.37	B	19	I-150	RA-15	0.95 AC	0.62	B	66
I-385	R-20	1.10 AC	0.37	B	18	I-160	RA-15	0.38 AC	0.61	B	66
I-400	R-20	1.09 AC	0.30	B	37	I-170	RA-15	0.49 AC	0.57	B	59
I-415	R-20	1.12 AC	0.30	B	37	I-175	RA-15	0.41 AC	0.56	B	58
I-420	R-20	0.42 AC	0.30	B	37	I-180	RA-15	0.44 AC	0.41	B	36
I-440	R-20	0.51 AC	0.61	B/C	29	I-185	RA-15	0.33 AC	0.40	B	35
I-445	R-20	0.82 AC	0.36	B	14	I-190	RA-15	0.48 AC	0.67	B	74
I-455	R-20	1.93 AC	0.38	B	13	I-200	RA-15	0.23 AC	0.58	B	59
I-460	R-20	0.69 AC	0.30	B	37	I-210	RA-15	0.58 AC	0.64	B	65
I-465	R-20	0.52 AC	0.30	B	37	I-215	RA-15	0.90 AC	0.58	B	60
I-470	R-20	0.49 AC	0.30	B	37	I-220	RA-15	0.89 AC	0.73	B	72
EXISTING PHASES I, II, & III						I-235	RA-15	0.60 AC	0.62	B	64
I-10	R-20	0.69 AC	0.34	B	47	I-250	RA-15	0.86 AC	0.74	B	72
I-20	R-20	1.25 AC	0.39	B	50	I-255	RA-15	0.66 AC	0.66	B	71
I-25	R-20	1.43 AC	0.30	B	37	I-260	RA-15	1.18 AC	0.71	B	79
I-35	R-20	0.63 AC	0.30	B	37	I-265	RA-15	0.47 AC	0.67	B	73
I-45	R-20	0.38 AC	0.31	B	22	I-275	RA-15	0.53 AC	0.74	B/C	72
I-60	RA-15	0.79 AC	0.61	B	63	I-285	RA-15	0.94 AC	0.76	B/C	84
I-70	RA-15	0.55 AC	0.61	B	64	I-290	RA-15	0.98 AC	0.71	B	77
I-75	RA-15	0.42 AC	0.62	B	65						

AS-BUILT PLANS

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

William J. Weber Jr. NS — CHIEF, BUREAU OF HIGHWAY — 10-14-03 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Cindy Hamilton JA — CHIEF, DIVISION OF LAND DEVELOPMENT — 10/27/03 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION — 10/17/03 DATE

APPROVED:
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

APPROVED:
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

DEVELOPER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN 'AS-BUILT' PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."

Stephen J. Nardella — SIGNATURE OF DEVELOPER (PRINT NAME BELOW SIGNATURE) — DATE 9/23/03

ENGINEER'S CERTIFICATE

"I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN 'AS-BUILT' PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION."

Frank A. Rodgers III — SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE 9/24/03

STATE OF MARYLAND — FRANK A. RODGERS III — NO. 19811 — REGISTERED PROFESSIONAL ENGINEER — 9/24/03

DATE	REVISION	DATE
	FINAL AS-BUILT REVISIONS	OCT-08
	FINAL MYLAR SUBMITTAL FOR SIGNATURE	9/24/03
	RE-SUBMITTED FOR REVIEW AND APPROVAL	07/11/03
	RE-SUBMITTED FOR REVIEW AND APPROVAL	04/25/03
	SUBMITTED FOR REVIEW	1-14-03

	BY	DATE
BASE DATA	CADD	
DESIGNED	PFB,YSL	
DRAWN	YSL	
REVIEWED	PFB	

RELEASE FOR _____ BY _____ DATE _____

Developer/Owner:
Winchester Homes, Inc. &
Winchester Homes, Inc. , as nominee for Stringtown Investments, LLC
6905 Rockledge Drive
Suite 800
Bethesda, Maryland 20817
Stephen J. Nardella, Vice President
(301) 803 - 4800

GRADING & STORM DRAIN/ DRAINAGE AREA MAP

RODGERS CONSULTING
Enhancing the value of land assets
Rodgers Consulting, Inc.
9260 Gaither Road
Gaithersburg, MD 20877
301.948.4700
301.948.6256 (fax)
301.253.6609
www.rodgers.com

Montjoy - Single Family Detached

A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL C (F-03-87) TO BUILDABLE LOTS 127- 188 AND OPEN SPACE LOTS 189-193

ELECTION DISTRICT #2 HOWARD COUNTY, MARYLAND
TAX MAP: 30, GRID: 12, PARCEL 260

DPZ FILES: S-01-20, WP-01-117, P-02-10, P-02-17, P-03-03, F-03-87

SCALE:	1"=50'
JOB No.	506V3
DATE:	1-14-03
INDEX No.	GSD-1
SHEET No.	9 OF 34

Q:\projects\506V\dwg\Final Construction Plan\SFD_506V3\09-GRADING&STORMDRAIN-DAMAP.DWG 09/23/2003 07:56:28 AM EDT

F-03-100

CALL "MISS UTILITY" AT 1-800-257-7777
48 Hours Before Start Of Construction

STATE OF MARYLAND — PAUL F. BOGLE — No. 20637 — PROFESSIONAL ENGINEER

AS-BUILTS 12/5/03

EX. GRAVEL DRIVE WITHIN BOUNDARIES OF PROPERTY SHALL BE REMOVED AND STABILIZED WITH PERMANENT SEEDING EXCEPT THE AREA WITHIN LOT 134 WHICH MAY BE UTILIZED BY THE PARKS DEPARTMENT FOR A FUTURE 8' PATH.

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 PLAN AND SPECIFICATIONS.

SIGNATURE Paul F Bogle P.E. NO.: 20637 DATE: 12/5/03

DEVELOPER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN 'AS-BUILT' PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."

Stephen J. Nardella 9/23/03
SIGNATURE OF DEVELOPER (PRINT NAME BELOW SIGNATURE) DATE

ENGINEER'S CERTIFICATE

"I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION."

Frank O. Rodgers III 9/24/03
SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

William J. Weber Jr. 10-14-03
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Cindy Hamilton 10/27/03
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

10/17/03
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

APPROVED:
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

APPROVED:
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 12/5/03

Legend

- I-35 DRAINAGE AREA NUMBER
- M 40 STRUCTURE NUMBER
- I-35 DRAINAGE AREA NUMBER, EXISTING
- M 40 STRUCTURE NUMBER, EXISTING
- DRAINAGE AREA LINE
- STORM DRAIN
- S.V.B. STREAM BUFFER
- 100 YR. FLOODPLAIN
- EXISTING TREELINE
- ZONING LINE
- MATCH LINE
- TP TEMP. TREE PROTECTION FENCE
- EX. TREE PROTECTION FENCE (INST. UNDER F-03-87)
- X-SSF-X COMBINED SILT/TREE PROTECTION FENCE
- CONSERVATION SIGNAGE
- L.O.D. LIMIT OF DISTURBANCE, SINGLE FAMILY PHASE
- PREVIOUS LIMIT OF DISTURBANCE (PER F-03-87)
- EX. SWM CREDIT, UTILITY AND FOREST CONSERVATION EASEMENT (PER F-03-87)
- EX. SWM CREDIT EASEMENT (PER F-03-87)

* WHERE TREE PROTECTION DEVICES COINCIDE WITH LIMIT OF DISTURBANCE OR CONSERVATION EASEMENT BOUNDARY, SYMBOL IS SHOWN OFFSET FOR GRAPHIC CLARITY.

**THIS SITE DOES NOT CONTAIN SLOPES GREATER THAN 25% IN A CONTIGUOUS AREA 20,000 SQ. FT. OR MORE.

SWM CREDITS

LOTS	CREDIT TYPE	CREDIT TAKEN	COMMENTS
153, 159, 160, 148-151	ROOFTOP DISCONNECTION	WATER QUALITY, RECHARGE	
190	SHEET FLOW TO BUFFER	WATER QUALITY, RECHARGE	NON-PERVIOUS AREA
161-165, 133-135	GRASS SWALE	RECHARGE	
143-145	SHEET FLOW TO BUFFER	WATER QUALITY, RECHARGE	USING LEVEL SPREADERS

NOTE: NATURAL CONSERVATION/BUFFER CREDIT AREAS INDICATED ON PLAN (SEE LEGEND).

PREVIOUS LIMITS OF DISTURBANCE FOR PH. I CONSTRUCTION (F-03-87)

SEE SHEETS 17-19 FOR STORM DRAIN ELEVATIONS

AS-BUILT PLANS

NOTE: CONTRACTOR TO FIELD LOCATE THE EXISTING AT&T FIBER OPTIC LINES THROUGHOUT THIS SITE

STATE OF MARYLAND — PAUL F. BOGLE — No. 20637 — PROFESSIONAL ENGINEER — 9/24/03

	DATE	REVISION	DATE
		FINAL AS-BUILT REVISIONS	OCT-08
		FINAL MYLAR SUBMITTAL FOR SIGNATURE	9/24/03
		RE-SUBMITTED FOR REVIEW AND APPROVAL	07/11/03
		RE-SUBMITTED FOR REVIEW AND APPROVAL	04/23/03
		SUBMITTED FOR REVIEW	1-14-03

	BY	DATE
BASE DATA	CADD	
DESIGNED	PFB,YSL	
DRAWN	YSL	
REVIEWED	PFB	

RELEASE FOR ☐
BY_____ DATE____

Developer/Owner:
Winchester Homes, Inc. &
Winchester Homes, Inc. , as nominee for Stringtown Investments, LLC
6905 Rockledge Drive
Suite 800
Bethesda, Maryland 20817
Stephen J. Nardella, Vice President
(301) 803 - 4800

GRADING & STORM DRAIN/ DRAINAGE AREA MAP

RODGERS CONSULTING
Enhancing the value of land assets
Rodgers Consulting, Inc.
9260 Gaither Road
Gaithersburg, MD 20877
301.948.4700
301.948.6256 (fax)
301.253.6609
www.rodgers.com

Montjoy - Single Family Detached

A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL C (F-03-87) TO BUILDABLE LOTS 127- 188 AND OPEN SPACE LOTS 189-193
ELECTION DISTRICT #2 HOWARD COUNTY, MARYLAND
TAX MAP: 30, GRID: 12, PARCEL 260
DPZ FILES: S-01-20, WP-01-117, P-02-10, P-02-17, P-03-03, F-03-87

SCALE:	1"=50'
JOB No.	506V3
DATE:	1-14-03
INDEX No.	GSD-2
SHEET No.	10 OF 34

Q:\projects\506V\dwg\Final Construction Plan\SFD_506V3\10-GRADING&STORMDRAIN-DAMAP.DWG 09/23/2003 10:32:09 AM EDT

F-03-100

SWM POND #3:
PUBLIC CLASS A SANDFILTER (F-1)
(WATER QUALITY ONLY)

OWNER: HOA. JOINTLY MAINTAINED BY HOA & HOWARD COUNTY

SEE SHEET 20-22 FOR POND DETAILS NOT SHOWN-(SWM PLAN, PROFILE/DETAILS & RUNOFF SUMMARY TABLES)

SEE SHEET 24 FOR SWM LANDSCAPE PLAN

SEE SHEET 14 FOR TEMPORARY SEDIMENT BASIN GRADES

CALL "MISS UTILITY" AT 1-800-257-7777
48 Hours Before Start Of Construction

MATCHLINE SEE SHEET GSD-2

MATCHLINE SEE SHEET GSD-2

MATCHLINE SEE SHEET GSD-1

N 573500 E 1363500

N 573000 E 1363500

N 573000 E 1364250

TEMP. NO GRADING ZONE OVER EXISTING AT & T FIBER OPTIC LINE. PROVIDE TEMPORARY SAFETY FENCE AS APPROPRIATE.

AT&T RELOCATION

NOTE: CONTRACTOR TO FIELD LOCATE THE EXISTING AT&T FIBER OPTIC LINES THROUGHOUT THIS SITE

Legend

- DRAINAGE AREA NUMBER
- STRUCTURE NUMBER
- DRAINAGE AREA NUMBER, EXISTING
- STRUCTURE NUMBER, EXISTING
- DRAINAGE AREA LINE
- STORM DRAIN
- S.V.B. STREAM BUFFER
- 100 YR. FLOODPLAIN
- EXISTING TREELINE
- ZONING LINE
- MATCH LINE
- TP TEMP.TREE PROTECTION FENCE
- EX. TREE PROTECTION FENCE (INST. UNDER F-03-87)
- COMBINED SILT/TREE PROTECTION FENCE
- CONSERVATION SIGNAGE
- L.O.D. LIMIT OF DISTURBANCE, SINGLE FAMILY PHASE
- PREVIOUS LIMIT OF DISTURBANCE (PER F-03-87)
- EX. SWM CREDIT, UTILITY AND FOREST CONSERVATION EASEMENT (PER F-03-87)
- EX. SWM CREDIT EASEMENT (PER F-03-87)

* WHERE TREE PROTECTION DEVICES COINCIDE WITH LIMIT OF DISTURBANCE OR CONSERVATION EASEMENT BOUNDARY, SYMBOL IS SHOWN OFFSET FOR GRAPHIC CLARITY.

**THIS SITE DOES NOT CONTAIN SLOPES GREATER THAN 25% IN A CONTIGUOUS AREA 20,000 SQ. FT. OR MORE.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAY — DATE 10-14-03

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/27/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/17/03

APPROVED:
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

APPROVED:
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

STATE OF MARYLAND — STEPHEN J. NARDELLA — 20637 — REGISTERED PROFESSIONAL ENGINEER
AS BUILTS 12/5/06

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 PLAN AND SPECIFICATIONS.

SIGNATURE — P.E.NO.: 20637 DATE: 12/5/06

SEE SHEETS 17-19 FOR STORM DRAIN ELEVATIONS

AS-BUILT PLANS

SWM CREDITS

LOTS	CREDIT TYPE	CREDIT TAKEN	COMMENTS
166-172, 173-176	GRASS SWALE	RECHARGE	
177-180	SHEET FLOW TO BUFFER	WATER QUALITY, RECHARGE	USING LEVEL SPREADERS

NOTE: NATURAL CONSERVATION/BUFFER CREDIT AREAS INDICATED ON PLAN (SEE LEGEND).

DEVELOPER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN 'AS-BUILT' PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."

Stephan J. Nardella — 9/23/03

SIGNATURE OF DEVELOPER (PRINT NAME BELOW SIGNATURE) — DATE

ENGINEER'S CERTIFICATE

"I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN 'AS-BUILT' PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION."

9/29/03

SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE

STATE OF MARYLAND — JOHN C. BOSLEY — 20637 — REGISTERED PROFESSIONAL ENGINEER
9/24/03

DATE	REVISION	DATE
	FINAL AS-BUILT REVISIONS	OCT-06
	FINAL MYLAR SUBMITTAL FOR SIGNATURE	9/24/03
	RE-SUBMITTED FOR REVIEW AND APPROVAL	07/11/03
	RE-SUBMITTED FOR REVIEW AND APPROVAL	04/25/03
	SUBMITTED FOR REVIEW	1-14-03

	BY	DATE
BASE DATA	CADD	
DESIGNED	PFB,YSL	
DRAWN	YSL	
REVIEWED	PFB/RF	

RELEASE FOR _____ BY _____ DATE

Developer/Owner:
Winchester Homes, Inc. &
Winchester Homes, Inc. , as nominee for Stringtown Investments, LLC
6905 Rockledge Drive
Suite 800
Bethesda, Maryland 20817
Stephen J. Nardella, Vice President
(301) 803 - 4800

GRADING & STORM DRAIN/ DRAINAGE AREA MAP

RODGERS CONSULTING
Enhancing the value of land assets

Rodgers Consulting, Inc.
9260 Gaither Road
Gaithersburg, MD 20877
301.948.4700
301.948.6256 (fax)
301.253.6609
www.rodgers.com

Montjoy - Single Family Detached

A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL C (F-03-87)
TO
BUILDABLE LOTS 127- 188 AND OPEN SPACE LOTS 189-193

ELECTION DISTRICT #2 HOWARD COUNTY, MARYLAND
TAX MAP: 30, GRID: 12, PARCEL 260

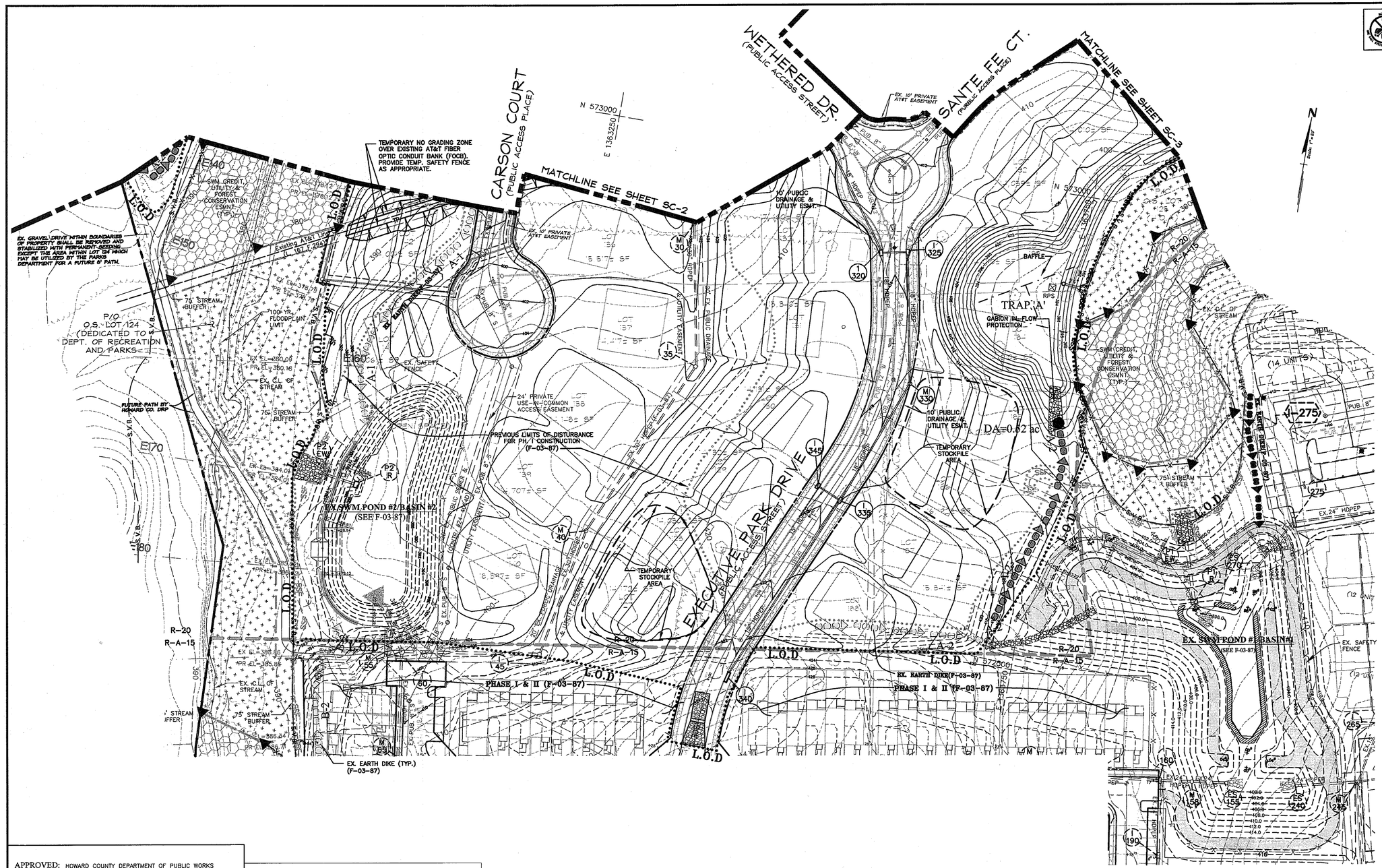
DPZ FILES: S-01-20, WP-01-117, P-02-10, P-02-17, P-03-03, F-03-87

SCALE: 1"=50'
JOB No. 506V3
DATE: 1-14-03
INDEX No. GSD-3
SHEET No. 11 OF 34

Q:\projects\506V\dwg\Final Construction Plan\SFD_506V3\11-GRADING&STORMDRAIN-DAMAP.DWG 09/23/2003 10:28:05 AM EDT

F-03-100

CALL "MISS UTILITY" AT 1-800-257-7777
48 Hours Before Start Of Construction



Legend

- PROPOSED EARTH DIKE
- EXISTING EARTH DIKE (PER F-03-87)
- STABILIZED CONSTRUCTION ENTRANCE
- SF — SF — SILT FENCE
- SSF — SSF — SUPER SILT FENCE
- x — x — SAFETY FENCE
- INLET PROTCTION
- DRAINAGE AREA LINE
- STORM DRAIN
- S.V.B. — STREAM BUFFER
- 100 YR. FLOODPLAIN
- LIMIT OF DISTURBANCE
- PREVIOUS LIMIT OF DISTURBANCE (PER F-03-87)
- EXISTING TREELINE
- ZONING LINE
- MATCH LINE
- X — X *TREE PROTECTION FENCE
- X-SSF-X COMBINED SILT/TREE PROTECTION FENCE
- CONSERVATION SIGNAGE
- EX. SWM CREDIT, UTILITY AND FOREST CONSERVATION EASEMENT (PER F-03-87)
- EX. SWM CREDIT EASEMENT (PER F-03-87)

* WHERE TREE PROTECTION DEVICES COINCIDE WITH LIMIT OF DISTURBANCE OR CONSERVATION EASEMENT BOUNDARY SYMBOL IS SHOWN OFFSET FOR GRAPHIC CLARITY.

**THIS SITE DOES NOT CONTAIN SLOPES GREATER THAN 25% IN A CONTIGUOUS AREA 20,000 SQ. FT. OR MORE.

NOTE: THIS PLAN TO BE USED FOR SEDIMENT CONTROL ONLY. ALL OTHER INFORMATION SHOWN FOR REFERENCE PURPOSE ONLY. SEE APPROPRIATE CONSTRUCTION DRAWING FOR ALL OTHER INFORMATION.

NOTE: CONTRACTOR TO FIELD LOCATE THE EXISTING AT&T FIBER OPTIC LINES THROUGHOUT THIS SITE

TRAP/BASIN SCHEDULE

BASIN/TRAP NO.	TRAP A
TRAP TYPE	STd
EXISTING DA (AC)	4.09
PROPOSED DA (AC)	1.94
TOTAL STORAGE VOLUME REQD (CF)	14,724
WET STORAGE REQD. (CF)	7362
WET STORAGE PROVIDED (CF)	7362 @ ELEV = 384.78
DRY STORAGE REQD. (CF)	7362
DRY STORAGE PROVIDED (CF)	7362 @ ELEV = 395.46
WEIR LENGTH (FT) OR RISER DIA (IN)	36" Ø
DEPTH BELOW OUTLET (FT)	N/A
CHANNEL DEPTH (FT)	N/A
OUTFALL LENGTH (FT)	N/A
EMBANKMENT ELEV	396.00
RISER CREST ELEV	396.35
DEWATERING ORIFICE ELEV	394.78
CLEANOUT ELEV	394.39
BOTTOM ELEV	394.00
BOTTOM DIMENSIONS (FT X FT)	SEE PLAN
Q_{WEIR} / $Q_{ORIFICE}$ (CFS/CFS)	0.29 / 0.26

REFER TO SHEET 16 FOR PROFILES, RISER AND BARREL DATA, AND DEWATERING DEVICE DETAILS.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAY — DATE 10-14-03

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/27/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/17/03

APPROVED:
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 10/3/03

APPROVED:
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 10/3/03

AS-BUILT PLANS
(No As-Built Data This Sheet)

DEVELOPER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN 'AS-BUILT' PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."

Stephen J. Nardella — 9/23/03
SIGNATURE OF DEVELOPER (PRINT NAME BELOW SIGNATURE) — DATE

ENGINEER'S CERTIFICATE

"I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION."

FRANK A. BOSSONG JR. — 9/24/03
SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE

DATE	REVISION	DATE
	FINAL AS-BUILT REVISIONS	Oct-08
	FINAL MYLAR SUBMITTAL FOR SIGNATURE	9/24/03
	RE-SUBMITTED FOR REVIEW AND APPROVAL	07/11/03
	RE-SUBMITTED FOR REVIEW AND APPROVAL	04/25/03
	SUBMITTED FOR REVIEW	1-14-03

	BY	DATE
BASE DATA	CADD	
DESIGNED	PFB,YSL	
DRAWN	YSL	
REVIEWED	PFB	
RELEASE FOR		
BY		DATE

Developer/Owner:
Winchester Homes, Inc. &
Winchester Homes, Inc. , as nominee for Stringtown Investments, LLC
6905 Rockledge Drive
Suite 800
Bethesda, Maryland 20817
Stephen J. Nardella, Vice President
(301) 803 - 4800

SEDIMENT & EROSION CONTROL PLAN

RODGERS CONSULTING
Enhancing the value of land assets
Rodgers Consulting, Inc.
9260 Gaither Road
Gaithersburg, MD 20877
301.948.4700
301.948.6256 (fax)
301.253.6609
www.rodgers.com

Montjoy - Single Family Detached

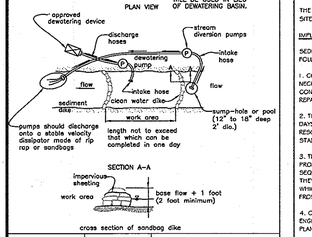
A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL C (F-03-87)
TO
BUILDABLE LOTS 127- 188 AND OPEN SPACE LOTS 189-193
ELECTION DISTRICT #2 HOWARD COUNTY, MARYLAND
TAX MAP: 30, GRID: 12, PARCEL 260
DPZ FILES: S-01-20, WP-01-117, P-02-10, P-02-17, P-03-03, F-03-87

SCALE: 1"=50'
JOB No. 506V3
DATE: 1-14-03
INDEX No. SC-1
SHEET No. 12 OF 34

Q:\projects\506V\dwg\Final Construction Plan\SFD_506V3\12-SEDCTRL-PLAN.DWG 09/23/2003 10:24:16 AM EDT

F-03-100

Maryland's Guidelines To Waterway Construction
DETAIL 1.2: PUMP-AROUND PRACTICE



TEMPORARY INTERIM CONSTRUCTION MEASURES | REVISED NOVEMBER 2000 PAGES 1.1 - 3 | MARYLAND DEPARTMENT OF THE ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

MGWC 1.2: PUMP-AROUND PRACTICE
TEMPORARY MEASURE FOR DEWATERING IN-CHANNEL CONSTRUCTION SITES

THE WORK SHOULD CONSIST OF INSTALLING A TEMPORARY PUMP AROUND AND SUPPORTING MEASURES TO DIVERT FLOW STREAM CONSTRUCTION SITES.

IMPLEMENTATION SEQUENCE

SEDIMENT CONTROL MEASURES, PUMP-AROUND PRACTICES, AND ASSOCIATED CHANNEL AND BANK CONSTRUCTION SHOULD BE COMPLETED IN THE FOLLOWING SEQUENCE (REFER TO DETAIL 1.2):

1. CONSTRUCTION ACTIVITIES INCLUDING THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES SHOULD NOT BEGIN UNTIL ALL NECESSARY EASEMENTS AND/OR, RIGHT-OF-WAYS HAVE BEEN ACQUIRED. ALL EXISTING UTILITIES SHOULD BE MARKED IN THE FIELD PRIOR TO CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES THAT MAY RESULT FROM CONSTRUCTION AND SHOULD REPAIR THE DAMAGE AT HIS/HER OWN EXPENSE TO THE COUNTY'S OR UTILITY COMPANY'S SATISFACTION.

2. THE CONTRACTOR SHOULD NOTIFY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT OR WMA SEDIMENT CONTROL INSPECTOR AT LEAST 5 DAYS BEFORE BEGINNING CONSTRUCTION. ADDITIONALLY, THE CONTRACTOR SHOULD INFORM THE LOCAL ENVIRONMENTAL PROTECTION AND RESOURCES MANAGEMENT INSPECTION AND ENFORCEMENT DIVISION AND THE PROVIDER OF LOCAL UTILITIES A MINIMUM OF 48 HOURS BEFORE STARTING CONSTRUCTION.

3. THE CONTRACTOR SHOULD CONDUCT A PRE-CONSTRUCTION MEETING ON SITE WITH THE WMA SEDIMENT CONTROL INSPECTOR, THE COUNTY PROJECT MANAGER, AND THE ENGINEER TO REVIEW LIMITS OF DISTURBANCE, EROSION AND SEDIMENT CONTROL REQUIREMENTS, AND THE SEQUENCE OF CONSTRUCTION. THE CONTRACTOR SHOULD STAKE OUT ALL LIMITS OF DISTURBANCE PRIOR TO THE PRE-CONSTRUCTION MEETING SO THEY MAY BE REVIEWED. THE PARTICIPANTS WILL ALSO DESIGNATE THE STAGING AREAS AND FLAG ALL TREES WITHIN THE LIMIT OF DISTURBANCE WHICH WILL BE REMOVED FOR CONSTRUCTION ACCESS. TREES SHOULD NOT BE REMOVED WITHIN THE LIMIT OF DISTURBANCE WITHOUT APPROVAL FROM THE WMA OR LOCAL AUTHORITY

4. CONSTRUCTION SHOULD NOT BEGIN UNTIL ALL SEDIMENT AND EROSION CONTROL MEASURES HAVE BEEN INSTALLED AND APPROVED BY THE ENGINEER AND THE SEDIMENT CONTROL INSPECTOR. THE CONTRACTOR SHOULD STAY WITHIN THE LIMITS OF DISTURBANCE AS SHOWN ON THE PLANS AND MINIMIZE DISTURBANCE WITHIN THE WORK AREA WHENEVER POSSIBLE.

5. UPON INSTALLATION OF ALL SEDIMENT CONTROL MEASURES AND APPROVAL BY THE SEDIMENT CONTROL INSPECTOR AND THE LOCAL ENVIRONMENTAL PROTECTION AND RESOURCE MANAGEMENT INSPECTION AND ENFORCEMENT DIVISION, THE CONTRACTOR SHOULD BEGIN WORK AT THE UPSTREAM SECTION AND PROCEED DOWNSTREAM BEGINNING WITH THE ESTABLISHMENT OF STABILIZED CONSTRUCTION ENTRANCES. IN SOME CASES, WORK MAY BEGIN DOWNSTREAM IF APPROPRIATE. THE SEQUENCE OF CONSTRUCTION MUST BE FOLLOWED UNLESS THE CONTRACTOR GETS WRITTEN APPROVAL FOR DEVIATIONS FROM THE WMA OR LOCAL AUTHORITY. THE CONTRACTOR SHOULD ONLY BEGIN WORK IN AN AREA WHICH CAN BE COMPLETED BY THE END OF THE DAY INCLUDING GRADING ADJACENT TO THE CHANNEL. AT THE END OF EACH WORK DAY, THE WORK AREA MUST BE STABILIZED AND THE PUMP AROUND REMOVED FROM THE CHANNEL. WORK SHOULD NOT BE CONDUCTED IN THE CHANNEL DURING RAIN EVENTS.

6. SANDBAG DIKES SHOULD BE SITUATED AT THE UPSTREAM AND DOWNSTREAM ENDS OF THE WORK AREAS AS SHOWN ON THE PLAN, AND STREAM FLOW SHOULD BE PUMPED AROUND THE WORK AREA. THE PUMP SHOULD DISCHARGE ONTO A STABLE VELOCITY DISSIPATER, MADE OF RIPRAP OR SANDBAGS.

MGWC 1.2: PUMP-AROUND PRACTICE (CONTINUED)

7. WATER FROM THE WORK AREA SHOULD BE PUMPED TO A SEDIMENT FILTERING MEASURE SUCH AS A DEWATERING BASIN, SEDIMENT BAG, OR OTHER APPROVED SOURCE. THE MEASURE SHOULD BE LOCATED SUCH THAT THE WATER DRAINS BACK INTO THE CHANNEL BELOW THE DOWNSTREAM SANDBAG DIKE.

8. TRAVERSING A CHANNEL REACH WITH EQUIPMENT WITHIN THE WORK AREA WHERE NO WORK IS PROPOSED SHOULD BE AVOIDED. IF EQUIPMENT HAS TO TRAVERSE SUCH A REACH FOR ACCESS TO ANOTHER AREA, THEN TIMBER MATS OR SIMILAR MEASURES SHOULD BE USED TO MINIMIZE DISTURBANCE TO THE CHANNEL. TEMPORARY STREAM CROSSINGS SHOULD BE USED ONLY WHEN NECESSARY AND ONLY WHERE NOTED ON THE PLANS OR SPECIFIED. (SEE SECTION 4, STREAM CROSSINGS, MARYLAND GUIDELINES TO WATERWAY CONSTRUCTION)

9. ALL STREAM RESTORATION MEASURES SHOULD BE INSTALLED AS INDICATED BY THE PLANS AND ALL BANKS GRADED IN ACCORDANCE WITH THE GRADING PLANS AND TYPICAL CROSS-SECTIONS. ALL GRADING MUST BE STABILIZED AT THE END OF EACH DAY WITH SEED AND MULCH OR SOD AND MATTING AS SPECIFIED ON THE PLANS.

10. AFTER AN AREA IS COMPLETED AND STABILIZED, THE CLEAN WATER DIKE SHOULD BE REMOVED. AFTER THE FIRST SEDIMENT FLUSH, A NEW CLEAN WATER DIKE SHOULD BE ESTABLISHED UPSTREAM FROM THE OLD SEDIMENT DIKE. FINALLY, UPON ESTABLISHMENT OF A NEW SEDIMENT DIKE BELOW THE OLD ONE, THE OLD SEDIMENT DIKE SHOULD BE REMOVED.

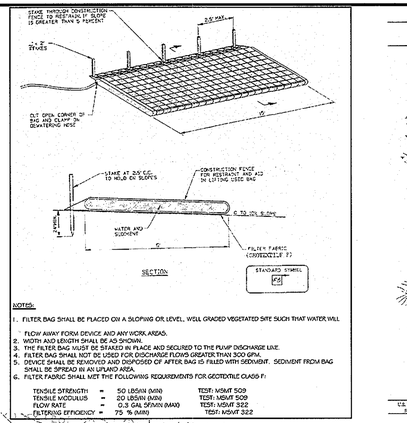
11. A PUMP AROUND MUST BE INSTALLED ON ANY TRIBUTARY OR STORM DRAIN OUTFALL WHICH CONTRIBUTES BASEFLOW TO THE WORK AREA. THIS SHOULD BE ACCOMPLISHED BY LOCATING A SUMBAG DIKE AT THE DOWNSTREAM END OF THE TRIBUTARY OR STORM DRAIN OUTFALL AND PUMPING THE STREAM FLOW AROUND THE WORK AREA. THIS WATER SHOULD DISCHARGE ONTO THE SAME VELOCITY DISSIPATER USED FOR THE MAIN STEM PUMP AROUND.

12. IF A TRIBUTARY IS TO BE RESTORED, CONSTRUCTION SHOULD TAKE PLACE ON THE TRIBUTARY BEFORE WORK ON THE MAIN STEM REACHES THE TRIBUTARY CONFLUENCE. CONSTRUCTION IN THE TRIBUTARY, INCLUDING PUMP AROUND PRACTICES, SHOULD FOLLOW THE SAME SEQUENCE AS FOR THE MAIN STEM OF THE RIVER OR STREAM. WHEN CONSTRUCTION ON THE TRIBUTARY IS COMPLETED, WORK ON THE MAIN STEM SHOULD RESUME. WATER FROM THE TRIBUTARY SHOULD CONTINUE TO BE PUMPED AROUND THE WORK AREA IN THE MAIN STEM.

13. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ACCESS TO AND MAINTAINING ALL EROSION AND SEDIMENT CONTROL DEVICES UNTIL THE SEDIMENT CONTROL INSPECTOR APPROVES THEIR REMOVAL.

14. AFTER CONSTRUCTION, ALL DISTURBED AREAS SHOULD BE REGRADED AND REVEGETATED AS PER THE PLANTING PLAN.

TEMPORARY UNDSTREAM CONSTRUCTION MEASURES MARYLAND DEPARTMENT OF THE ENVIRONMENT WATERWAY CONSTRUCTION GUIDELINES REVISED NO VEMBER 2000

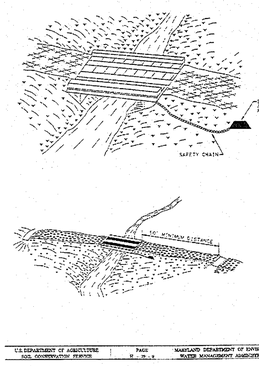


NOTES:
1. FILTER BAG SHALL BE PLACED ON A SLOPING OR LEVEL, WELL GRADED VEGETATED SITE SUCH THAT WATER WILL FLOW AWAY FORM DEVICE AND ANY WORK AREAS.
2. WIDTH AND LENGTH SHALL BE AS SHOWN.
3. THE FILTER BAG MUST BE STAKED IN PLACE AND SECURED TO THE PUMP DISCHARGE LINE.
4. FILTER BAG SHALL NOT BE USED FOR DISCHARGE FLOWS GREATER THAN 500 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
6. FILTER FABRIC SHALL MET 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 SF/MIN (MAX)	TEST: MSMT 322
FILTERING EFFICIENCY	=	75 % (MIN)	TEST: MSMT 322

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE | PAGE M - D - 9 | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 35 TEMPORARY ACCESS BRIDGE



INDIVIDUAL PRACTICES

TEMPORARY ACCESS BRIDGE

A TEMPORARY ACCESS BRIDGE IS A STRUCTURE MADE OF WOOD, METAL OR OTHER MATERIALS WHICH PROVIDES ACCESS ACROSS A STREAM OR WATERWAY.

CONSIDERATIONS

1. PREFERRED METHOD - THIS IS THE PREFERRED METHOD FOR TEMPORARY ACCESS WATERWAY CROSSINGS. NORMALLY, BRIDGE CONSTRUCTION CAUSES THE LEAST DISTURBANCE TO THE WATERWAY BED AND BANKS WHEN COMPARED TO THE OTHER ACCESS WATERWAY CROSSINGS. DISTURBANCE TO THE STREAM BANKS SHALL BE KEPT TO A MINIMUM.

2. MOST BRIDGES CAN BE QUICKLY REMOVED AND REUSED.

3. TEMPORARY ACCESS BRIDGES POSE THE LEAST CHANCE FOR INTERFERENCE WITH FISH MIGRATION WHEN COMPARED TO THE OTHER TEMPORARY ACCESS WATERWAY CROSSINGS.

CONSTRUCTION SPECIFICATIONS

1. RESTRICTION - CONSTRUCTION, USE, OR REMOVAL OF A TEMPORARY ACCESS BRIDGE WILL NOT NORMALLY HAVE ANY TIME OF YEAR RESTRICTIONS SINCE CONSTRUCTION, USE, OR REMOVAL SHOULD NOT AFFECT THE STREAM OR ITS BANKS, UNLESS THE BRIDGE IS BUILT WITH A PIER(S) IN THE WATER.

2. BRIDGE PLACEMENT - A TEMPORARY BRIDGE STRUCTURE SHALL BE CONSTRUCTED AT OR ABOVE THE BANK ELEVATION TO PREVENT THE ENTRAPMENT OF FLOATING MATERIALS AND DEBRIS.

3. ABUTMENTS - ABUTMENTS SHALL BE PLACED PARALLEL TO, AND ON, STABLE BANKS.

4. BRIDGE SPAN - BRIDGES SHALL BE CONSTRUCTED TO SPAN THE ENTIRE CHANNEL. IF THE CHANNEL WIDTH EXCEEDS 8 FEET, (AS MEASURED FROM TOP-OF-BANK TO TOP-OF-BANK), THEN A FOOTING, PIER, OR BRIDGE SUPPORT MAY BE CONSTRUCTED WITHIN THE WATERWAY. ONE ADDITIONAL FOOTING, PIER, OR BRIDGE SUPPORT WILL BE PERMITTED FOR EACH ADDITIONAL 8-FOOT WIDTH OF THE CHANNEL. HOWEVER, NO FOOTING, PIER, OR BRIDGE SUPPORT WILL BE PERMITTED WITHIN THE CHANNEL FOR WATERWAYS LESS THAN 8 FEET WIDE.

5. STRINGERS - STRINGERS SHALL EITHER BE LOGS, SAWN TIMBER, PRESTRESSED CONCRETE BEAMS, METAL BEAMS, OR OTHER APPROVED MATERIALS.

6. DECK MATERIAL - DECKING MATERIALS SHALL BE OF SUFFICIENT STRENGTH TO SUPPORT THE ANTICIPATED LOAD. ALL DECKING MEMBERS SHALL BE PLACED PERPENDICULAR TO THE STRINGERS, BUTTED TIGHTLY, AND SECURELY FASTENED TO THE STRINGERS. DECKING MATERIALS MUST BE BUTTED TIGHTLY TO PREVENT ANY SOIL MATERIAL TRACKED ONTO THE BRIDGE FROM FALLING INTO THE WATERWAY BELOW.

7. RUN PLANKS (OPTIONAL) - RUN PLANKING SHALL BE SECURELY FASTENED TO THE LENGTH OF THE SPAN. ONE RUN PLANK SHALL BE PROVIDED FOR EACH TRACK OF THE EQUIPMENT WHEELS. ALTHOUGH RUN PLANKS ARE OPTIONAL, THEY MAY BE NECESSARY TO PROPERLY DISTRIBUTE LOADS.

8. CURBS OR FENDERS - CURBS OR FENDERS MAY BE INSTALLED ALONG THE OUTER SIDES OF THE DECK. CURBS OR FENDERS ARE AN OPTION WHICH WILL PROVIDE ADDITIONAL SAFETY.

9. BRIDGE ANCHORS - BRIDGES SHALL BE SECURELY ANCHORED AT ONLY ONE END USING STEEL CABLE OR CHAIN. ANCHORING AT ONLY ONE END WILL PREVENT CHANNEL OBSTRUCTION IN THE EVENT THAT A FLOOD WATERS FLOAT THE BRIDGE. ACCEPTABLE ANCHORS ARE LARGE TREES, LARGE BOULDERS, OR DRIVEN STEEL ANCHORS. ANCHORING SHALL BE SUFFICIENT TO PREVENT THE BRIDGE FROM FLOATING DOWNSTREAM AND POSSIBLY CAUSING AN OBSTRUCTION TO THE FLOW.

10. STABILIZATION - ALL AREAS DISTURBED DURING INSTALLATION SHALL BE STABILIZED WITHIN 14 CALENDAR DAYS OF THE DISTURBANCE IN ACCORDANCE WITH THE STAN,DARD FOR "CRITICAL AREAS - STABILIZATION WITH PERMANENT SEEDING."

BRIDGE MAINTENANCE REQUIREMENTS

1. INSPECTION - PERIODIC INSPECTION SHALL BE PERFORMED BY THE USER TO ENSURE THAT THE BRIDGE, STREAMBED, AND STREAM BANKS ARE MAINTAINED AND NOT DAMAGED.

2. MAINTENANCE - MAINTENANCE SHALL BE PERFORMED, AS NEEDED TO ENSURE THAT THE STRUCTURE COMPLIES WITH THE STANDARD AND SPECIFICATIONS. THIS SHALL INCLUDE REMOVAL AND DISPOSAL OF ANY TRAPPED SEDIMENT OR DEBRIS. SEDIMENT SHALL BE DISPOSED OF OUTSIDE OF THE FLOODPLAIN AND STABILIZED.

BRIDGE REMOVAL AND CLEAN-UP REQUIREMENTS

1. REMOVAL - WHEN THE TEMPORARY BRIDGE IS NO LONGER NEEDED, ALL STRUCTURES INCLUDING ABUTMENTS AND OTHER BRIDGING MATERIALS SHALL BE REMOVED WITHIN 14 CALENDAR DAYS. IN ALL CASES, THE BRIDGE MATERIALS SHALL BE REMOVED WITHIN ONE YEAR OF INSTALLATION.

2. FINAL CLEAN-UP - FINAL CLEAN-UP SHALL CONSIST OF REMOVAL OF THE TEMPORARY BRIDGE FROM THE WATERWAY, PROTECTION OF BANKS FROM EROSION, AND REMOVAL OF ALL CONSTRUCTION MATERIALS. ALL REMOVED MATERIALS SHALL BE STORED OUTSIDE THE WATERWAY FLOODPLAIN.

3. METHOD - REMOVAL OF THE BRIDGE AND CLEAN UP OF THE AREA SHALL BE ACCOMPLISHED WITHOUT CONSTRUCTION EQUIPMENT WORKING IN THE WATERWAY CHANNEL.

4. FINAL STABILIZATION - ALL AREAS DISTURBED DURING REMOVAL SHALL BE STABILIZED WITHIN 14 CALENDAR DAYS OF THAT DISTURBANCE IN ACCORDANCE WITH THE STANDARDS FOR "CRITICAL AREA STABILIZATION WITH PERVANENT SEEDING."

TRAP/BASIN SCHEDULE

BASIN/TRAP NO.	BASIN
TRAP TYPE	BASIN
EXISTING DA (AC)	5.64
PROPOSED DA (AC)	5.82
TOTAL STORAGE VOLUME REQD (CF)	20952
WET STORAGE REQD. (CF)	10476
WET STORAGE PROVIDED (CF)	11446 @ ELEV = 376.00
DRY STORAGE REQD. (CF)	10476
DRY STORAGE PROVIDED (CF)	10563 @ ELEV = 377.50
WEIR LENGTH (FT), OR RISER DIA (IN)	40' @
DEPTH BELOW OUTLET (FT)	N/A
CHANNEL DEPTH (FT)	N/A
OUTFALL LENGTH (FT)	N/A
EMBANKMENT ELEV	382.50
RISER CREST ELEV	379.30
DEWATERING ORIFICE ELEV	376.00
CLEANOUT ELEV	374.92
BOTTOM ELEV	374.00
BOTTOM DIMENSIONS (FT X FT)	SEE PLAN
Qcont / Qcont (CFS/CFS)	0.34 / 0.23

REFER TO SHEET 16 FOR BASIN PROFILES, RISER AND BARREL DATA, AND DEWATERING DEVICE DETAILS.

EX. GRAVEL DRIVE WITHIN BOUNDARIES OF PROPERTY SHALL BE REMOVED AND STABILIZED WITH PERMANENT SEEDING EXCEPT THE AREA WITHIN LOT 124 WHICH MAY BE UTILIZED BY THE PARCS DEPARTMENT FOR A FUTURE 8' PATH.

DEVELOPER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."

Stephen J. Nardella — 9/23/03

SIGNATURE OF DEVELOPER (PRINT NAME BELOW SIGNATURE) — DATE

ENGINEER'S CERTIFICATE

"I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION."

FRANK G. RODGERS PE — 9/24/03

SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAY — 10-14-03 — DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — 10/27/03 — DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION — 10/27/03 — DATE

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

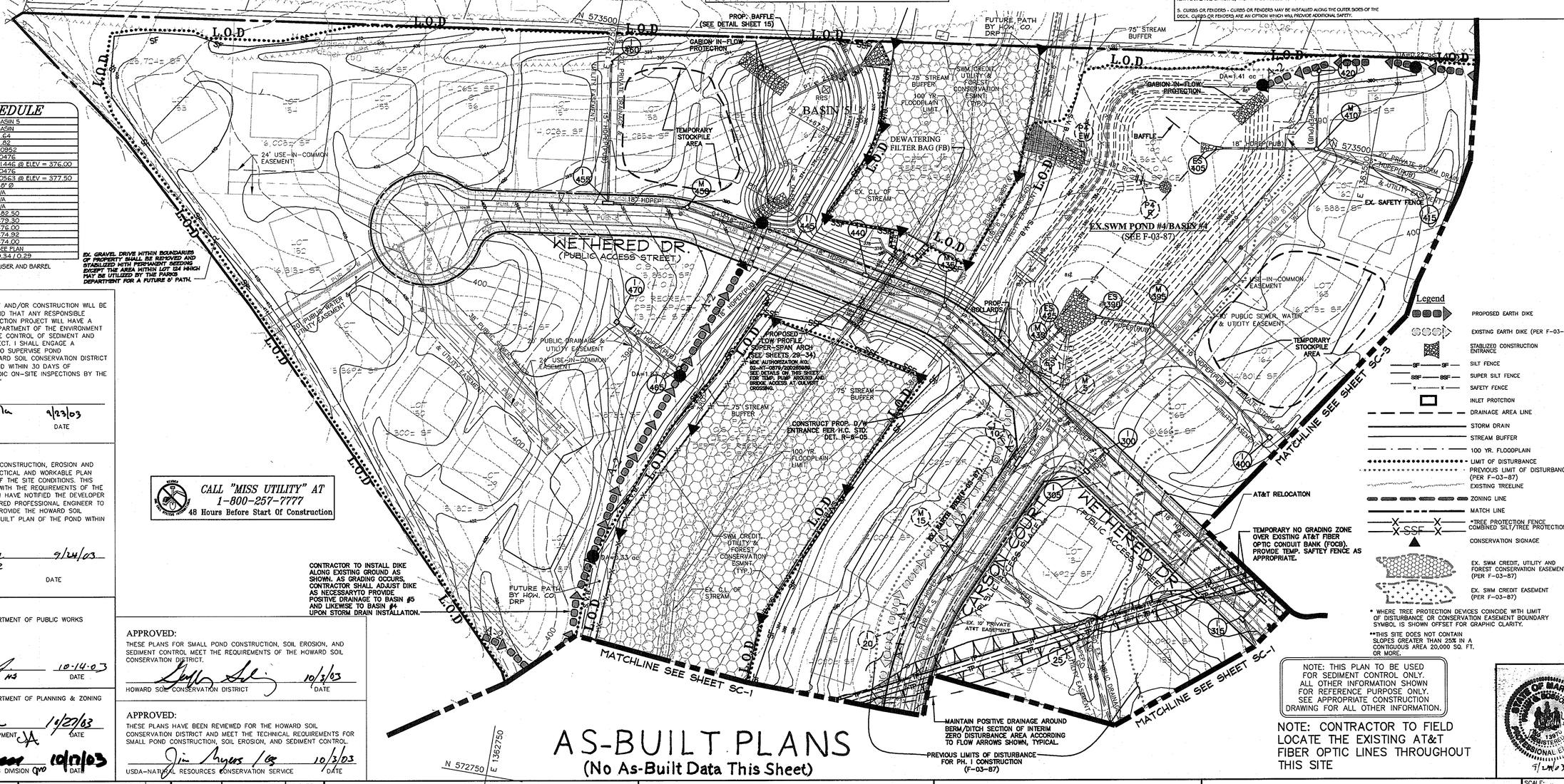
HOWARD SOIL CONSERVATION DISTRICT — 10/3/03 — DATE

APPROVED:
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 — 10/3/03 — DATE

CALL "MISS UTILITY" AT 1-800-257-7777
48 Hours Before Start Of Construction

CONTRACTOR TO INSTALL DIKE ALONG EXISTING GROUND AS SHOWN. AS GRADING OCCURS, CONTRACTOR SHALL ADJUST DIKE AS NECESSARY TO PROVIDE POSITIVE DRAINAGE TO BASIN #5 AND LIKEWISE TO BASIN #4 UPON STORM DRAIN INSTALLATION.



MAINTAIN POSITIVE DRAINAGE AROUND BERM/DITCH SECTION OF INTERIM ZERO DISTURBANCE AREA ACCORDING TO FLOW ARROWS SHOWN, TYPICAL.

PREVIOUS LIMITS OF DISTURBANCE FOR PH. I CONSTRUCTION (F-03-87)

NOTE: THIS PLAN TO BE USED FOR SEDIMENT CONTROL ONLY. ALL OTHER INFORMATION SHOWN FOR REFERENCE PURPOSE ONLY. SEE APPROPRIATE CONSTRUCTION DRAWING FOR ALL OTHER INFORMATION.

NOTE: CONTRACTOR TO FIELD LOCATE THE EXISTING AT&T FIBER OPTIC LINES THROUGHOUT THIS SITE

Legend
- PROPOSED EARTH DIKE
- EXISTING EARTH DIKE (PER F-03-87)
- STABILIZED CONSTRUCTION ENTRANCE
- SF — SF — SILT FENCE
- SSF — SSF — SUPER SILT FENCE
- SF — X — SF — SAFETY FENCE
- INLET PROTCTION
- DRAINAGE AREA LINE
- STORM DRAIN
- STREAM BUFFER
- 100 YR. FLOODPLAIN
- LIMIT OF DISTURBANCE
- PREVIOUS LIMIT OF DISTURBANCE (PER F-03-87)
- EXISTING TREELINE
- ZONING LINE
- MATCH LINE
- *TREE PROTECTION FENCE
- COMBINED SILT/TREE PROTECTION FENCE
- CONSERVATION SIGNAGE
- EX. SWM CREDIT, UTILITY AND FOREST CONSERVATION EASEMENT (PER F-03-87)
- EX. SWM CREDIT EASEMENT (PER F-03-87)

* WHERE TREE PROTECTION DEVICES COINCIDE WITH LIMIT OF DISTURBANCE OR CONSERVATION EASEMENT BOUNDARY SYMBOL IS SHOWN OFFSET FOR GRAPHIC CLARITY.
**THIS SITE DOES NOT CONTAIN SLOPES GREATER THAN 25% IN A CONTIGUOUS AREA 20,000 SQ. FT. OR MORE.

STATE OF MARYLAND — FRANK G. RODGERS — No. 13810 — REGISTERED PROFESSIONAL ENGINEER — 9/24/03

AS-BUILT PLANS
(No As-Built Data This Sheet)

DATE	REVISION	DATE
	FINAL AS-BUILT REVISIONS	OCT.-08
	FINAL MYLAR SUBMITTAL FOR SIGNATURE	9/24/03
	RE-SUBMITTED FOR REVIEW AND APPROVAL	07/11/03
	RE-SUBMITTED FOR REVIEW AND APPROVAL	04/25/03
	SUBMITTED FOR REVIEW	1-14-03

		DATE
BASE DATA	CADD	
DESIGNED	PFB,YSL	
DRAWN	YSL	
REVIEWED	PFB	
RELEASE FOR		
BY		DATE

Developer/Owner:
Winchester Homes, Inc. &
Winchester Homes, Inc. , as nominee for Stringtown Investments, LLC
6905 Rockledge Drive
Suite 800
Bethesda, Maryland 20817
Stephen J. Nardella, Vice President
(301) 803 - 4800

SEDIMENT & EROSION CONTROL PLAN

RODGERS CONSULTING
Enhancing the value of land assets
Rodgers Consulting, Inc.
9260 Gaither Road
Gaithersburg, MD 20877
301.948.4700
301.948.6256 (fax)
301.253.6609
www.rodgers.com

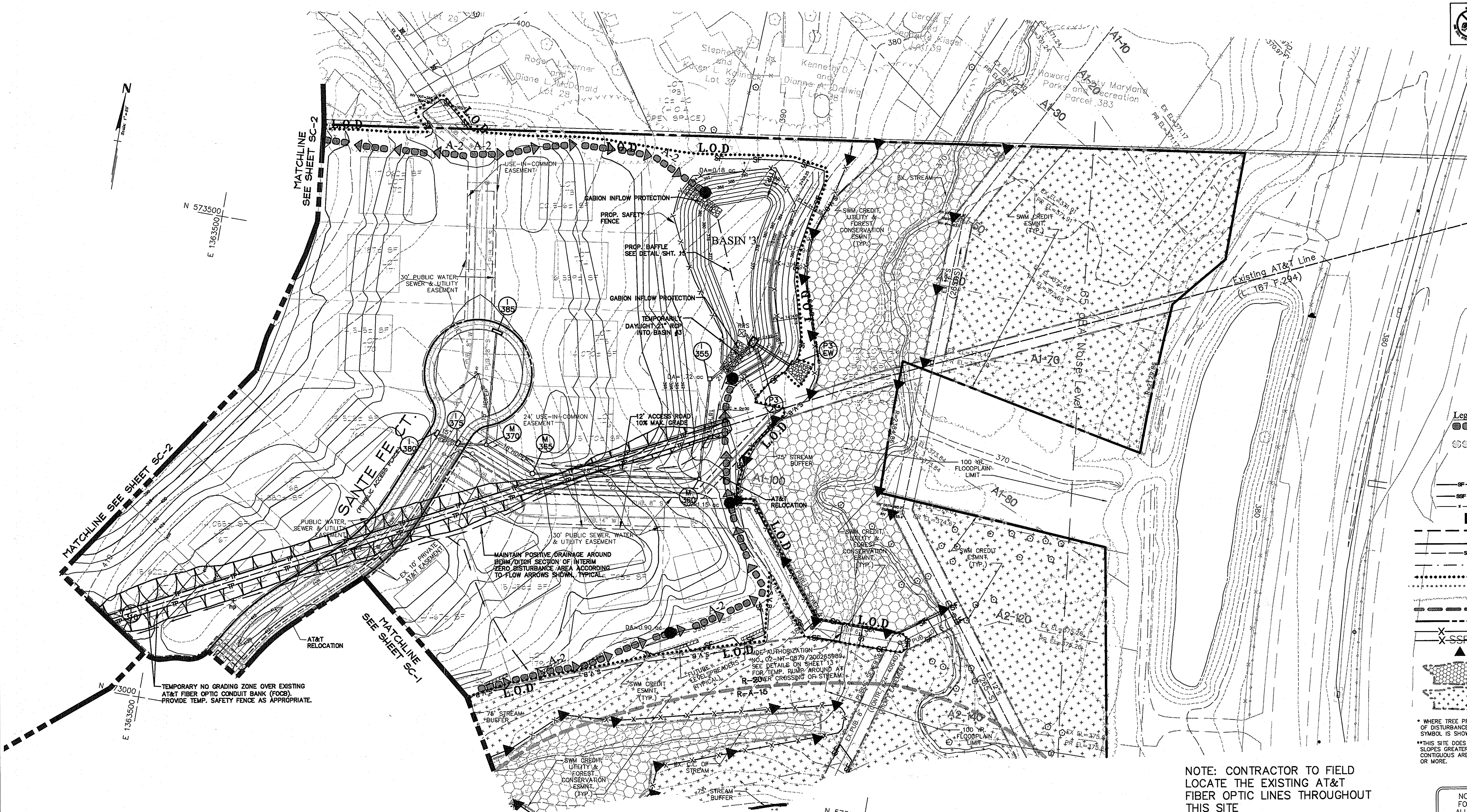
Montjoy - Single Family Detached
A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL C (F-03-87) TO BUILDABLE LOTS 127- 188 AND OPEN SPACE LOTS 189-193
ELECTION DISTRICT #2 HOWARD COUNTY, MARYLAND
TAX MAP: 30, GRID: 12, PARCEL 260
DPZ FILES: S-01-20, WP-01-117, P-02-10, P-02-17, P-03-03, F-03-87

SCALE:	1"=50'
JOB No.	506V3
DATE:	1-14-03
INDEX No.	SC-2
SHEET No.	13 OF 33

Q:\projects\506V\dwg\Final Construction Plan\SFD_506V3\13-SEDCTRL-PLAN.DWG 09/23/2003 10:15:07 AM EDT

F-03-100

CALL "MISS UTILITY" AT
1-800-257-7777
48 Hours Before Start Of Construction



Legend

- PROPOSED EARTH DIKE
- EXISTING EARTH DIKE (PER F-03-87)
- STABLIZED CONSTRUCTION ENTRANCE
- SILT FENCE
- SUPER SILT FENCE
- SAFETY FENCE
- INLET PROTCTION
- DRAINAGE AREA LINE
- STORM DRAIN
- STREAM BUFFER
- 100 YR. FLOODPLAIN
- LIMIT OF DISTURBANCE
- PREVIOUS LIMIT OF DISTURBANCE (PER F-03-87)
- EXISTING TREELINE
- ZONING LINE
- MATCH LINE
- *TREE PROTECTION FENCE
- COMBINED SILT/TREE PROTECTION FENCE
- CONSERVATION SIGNAGE
- EX. SWM CREDIT, UTILITY AND FOREST CONSERVATION EASEMENT (PER F-03-87)
- EX. SWM CREDIT EASEMENT (PER F-03-87)

* WHERE TREE PROTECTION DEVICES COINCIDE WITH LIMIT OF DISTURBANCE OR CONSERVATION EASEMENT BOUNDARY SYMBOL IS SHOWN OFFSET FOR GRAPHIC CLARITY.

**THIS SITE DOES NOT CONTAIN SLOPES GREATER THAN 25% IN A CONTIGUOUS AREA 20,000 SQ. FT. OR MORE.

NOTE: CONTRACTOR TO FIELD LOCATE THE EXISTING AT&T FIBER OPTIC LINES THROUGHOUT THIS SITE

NOTE: THIS PLAN TO BE USED FOR SEDIMENT CONTROL ONLY. ALL OTHER INFORMATION SHOWN FOR REFERENCE PURPOSE ONLY. SEE APPROPRIATE CONSTRUCTION DRAWING FOR ALL OTHER INFORMATION.

AS-BUILT PLANS
(No As-Built Data This Sheet)

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

William I. Malone Jr. — 10-14-03
CHIEF, BUREAU OF HIGHWAY — DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Cindy Hamilton JA — 10/27/03
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

10/17/03
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

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

10/3/03
HOWARD SOIL CONSERVATION DISTRICT — DATE

APPROVED:
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.

Jim Myers — 10/3/03
USDA-NATURAL RESOURCES CONSERVATION SERVICE — DATE

TRAP/BASIN SCHEDULE

BASIN/TRAP NO.	BASIN 3
TRAP TYPE	BASIN
EXISTING DA (AC)	4.03
PROPOSED DA (AC)	4.77
TOTAL STORAGE VOLUME REQ'D (CF)	17,172
WET STORAGE REQ'D. (CF)	8586
WET STORAGE PROVIDED (CF)	9151 @ ELEV = 378.50
DRY STORAGE REQ'D. (CF)	8586
DRY STORAGE PROVIDED (CF)	17172 @ ELEV = 379.70
WEIR LENGTH (FT) OR RISER DIA (IN)	14'
DEPTH BELOW OUTLET (FT)	N/A
CHANNEL DEPTH (FT)	N/A
OUTFALL LENGTH (FT)	N/A
EMBANKMENT ELEV	384.00/12' WIDE
WEIR CREST ELEV	381.25
DEWATERING ORIFICE ELEV.	2' Ø@377.25
CLEANOUT ELEV	377.73
BOTTOM ELEV	377.00
BOTTOM DIMENSIONS (FT X FT)	SEE PLAN
Q_{2} / Q_{10} (CFS/CFS)	0.21 / 0.21

REFER TO SHEETS 20-22 FOR SWM DETAILS & PROFILES.
REFER TO SHEET 16 FOR TEMPORARY DEWATERING DEVICE DETAILS.

DEVELOPER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN 'AS-BUILT' PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."

Stephen J. Nardella — 9/23/03
SIGNATURE OF DEVELOPER (PRINT NAME BELOW SIGNATURE) — DATE

ENGINEER'S CERTIFICATE

"I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN 'AS-BUILT' PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION."

9/24/03
SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE

STATE OF MARYLAND — REGISTERED PROFESSIONAL ENGINEER — 9/24/03

	DATE	REVISION	DATE
		FINAL AS-BUILT REVISIONS	OCT-08
		FINAL MYLAR SUBMITTAL FOR SIGNATURE	9/24/03
		RE-SUBMITTED FOR REVIEW AND APPROVAL	07/11/03
		RE-SUBMITTED FOR REVIEW AND APPROVAL	04/25/03
		SUBMITTED FOR REVIEW	1-14-03

	BY	DATE
BASE DATA	CADD	
DESIGNED	PFB,YSL	
DRAWN	YSL	
REVIEWED	PFB	

RELEASE FOR ____
BY ____ DATE ____

Developer/Owner:
Winchester Homes, Inc. &
Winchester Homes, Inc. , as nominee for Stringtown Investments, LLC
6905 Rockledge Drive
Suite 800
Bethesda, Maryland 20817
Stephen J. Nardella, Vice President
(301) 803 - 4800

SEDIMENT & EROSION CONTROL PLAN

RODGERS CONSULTING
Enhancing the value of land assets

Rodgers Consulting, Inc.
9260 Gaither Road
Gaithersburg, MD 20877
301.948.4700
301.948.6256 (fax)
301.253.6609
www.rodgers.com

Montjoy - Single Family Detached

A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL C (F-03-87) TO BUILDABLE LOTS 127- 188 AND OPEN SPACE LOTS 189-193

ELECTION DISTRICT #2 HOWARD COUNTY, MARYLAND
TAX MAP: 30, GRID: 12, PARCEL 260

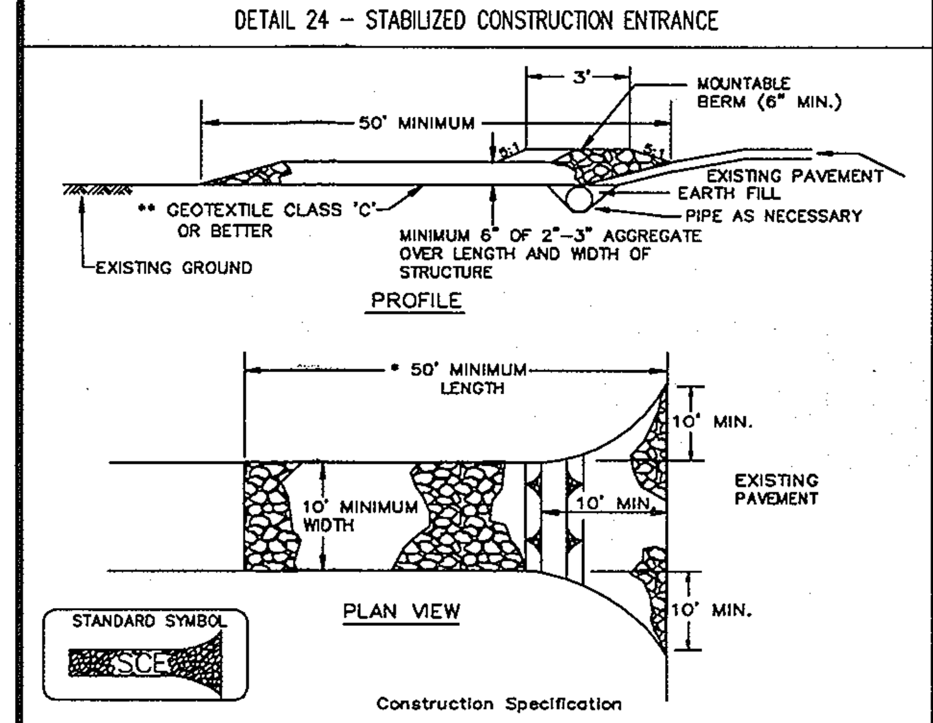
DPZ FILES: S-01-20, WP-01-117, P-02-10, P-02-17, P-03-03, F-03-87

SCALE: 1"=50'
JOB No. 506V3
DATE: 1-14-03
INDEX No. SC-3
SHEET No. 14 OF 33

Q:\projects\506V\dwg\Final Construction Plan\SFD_506V3\14-SEDCTRL-PLAN.DWG 09/23/2003 10:11:21 AM EDT

F-03-100

DETAIL 24 – STABILIZED CONSTRUCTION ENTRANCE



Construction Specification

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

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

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.

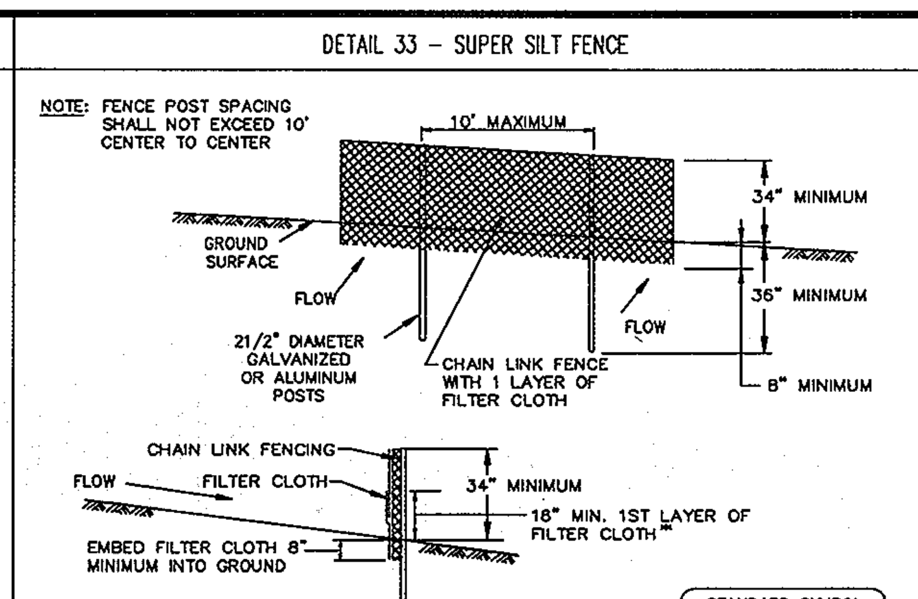
4. Stone – crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.

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.

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

DETAIL 33 – SUPER SILT FENCE



Construction Specifications

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

2. Chain link fence shall be fastened securely to the fence posts with wire ties. The lower tension wire, brace and truss rods, drive anchors and post caps are not required except on the ends of the fence.

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

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

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

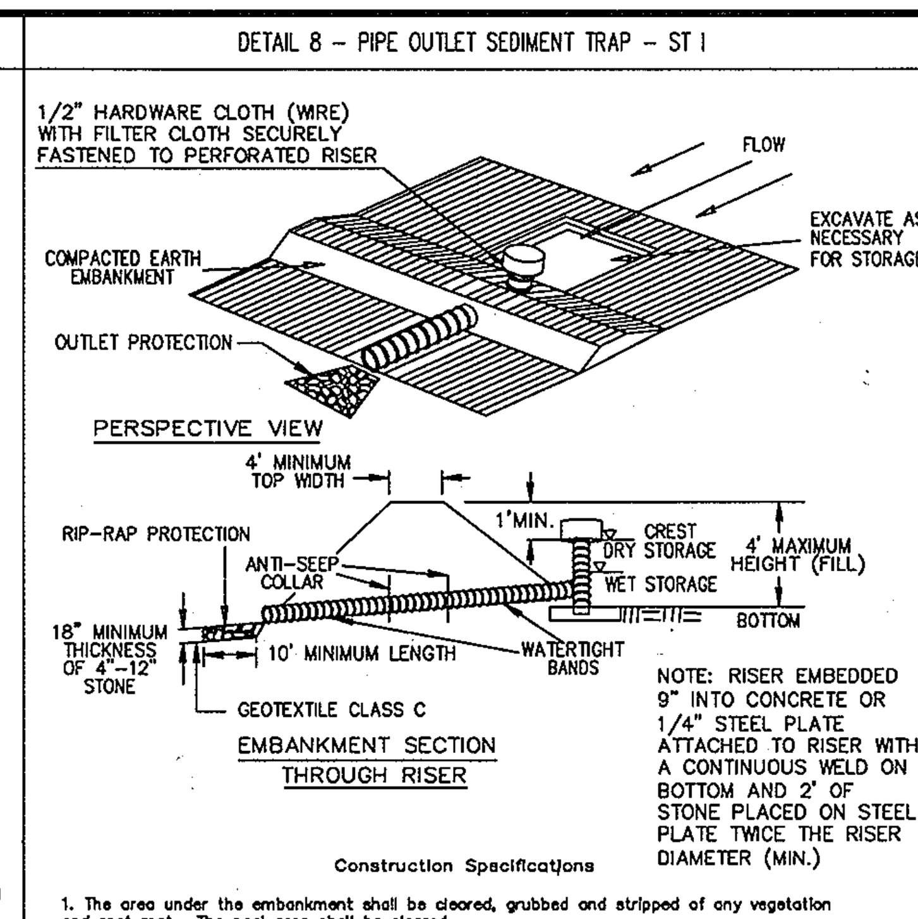
6. Maintenance shall be performed as needed and silt buildups removed when "bulges" develop in the silt fence, or when silt reaches 50% of fence height

7. Filter cloth shall be fastened securely to each fence post with wire ties or staples at top and mid section and shall meet the following requirements for Geotextile Class F:

Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal/ft ²/minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

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

DETAIL 8 – PIPE OUTLET SEDIMENT TRAP – ST I



Construction Specifications

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

2. The fill material for the embankment shall be free of roots or other woody vegetation as well as oversized stones, rocks, organic material, or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed.

3. The total trap volume as measured from the bottom to riser crest elevation shall be 3600 cubic feet per acre of drainage area (see Table 9). The top of embankment must be >1' above the riser crest elevation.

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

5. The structure shall be inspected periodically and after each rain and repairs made as necessary.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	C - 9 - 7	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

PIPE OUTLET SEDIMENT TRAP – ST I

6. Construction operations shall be carried out in such a manner that erosion and water pollution are abated. Once constructed, the top and outside face of the embankment shall be stabilized with seed and mulch. Points of concentrated inflow shall be protected in accordance with Grade Stabilization Structure criteria. The remainder of the interior slopes should be stabilized (one time) with seed and mulch upon trap completion and monitored and maintained erosion free during the life of the trap.

7. The structure shall be removed and area stabilized when the drainage area has been properly stabilized.

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

9. All pipe connections shall be watertight.

10. Above the wet storage elevation, the riser shall be perforated with 1/2" wide by 6" long slits or 1" diameter holes spaced 6" vertically and horizontally. No perforations will be allowed within 6" of the horizontal barrel.

11. The riser shall be wrapped with 1/2" hardware cloth (wire) then wrapped with Geotextile Class E. The filter cloth shall extend 6" above the highest slit and 6" below the lowest slit. Where ends of filter cloth come together, they shall be overlapped, folded and fastened to prevent bypass. Filter cloth shall be replaced as necessary to prevent clogging.

12. Straps or connecting bands shall be used to hold the filter cloth and wire fabric in place. They shall be placed at the top and bottom of the cloth.

13. Fill material around the pipe spillway shall be hand compacted in 4" layers. A minimum of 2' of hand-compacted backfill shall be placed over the pipe spillway before crossing it with construction equipment.

14. The riser shall be anchored with either a concrete base or steel plate base to prevent flotation. Concrete bases shall be at least twice the riser diameter and 12" deep with the riser embedded 9". Steel plate bases shall be at least twice the riser diameter, 1/4" minimum thickness and attached to the bottom of the riser by a continuous weld to form a watertight connection. Then place 2' of stone, gravel or tamped earth on the plate.

15. Anti seep collars shall be constructed in accordance with plans (ref. table 16 and Details 13 and 14).

16. Concentric trash rack and anti-vortex device design details are on Detail 16.

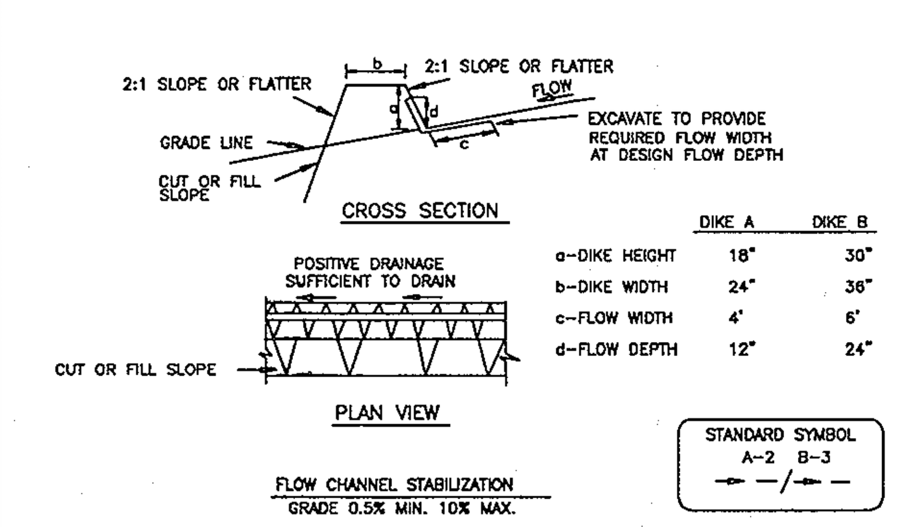
17. Refer to Section D for dewatering requirements of sediment traps.

18. Outlet – An outlet shall be provided, which includes a means of conveying the discharge in an erosion free manner to an existing stable channel.

19. Where discharge occurs at the property line, local ordinances and drainage easement requirements shall be met.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	C - 9 - 7A	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 1 – EARTH DIKE



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

FLOW CHANNEL STABILIZATION

GRADE 0.5% MIN. 10% MAX.

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

Construction Specifications

1. All temporary earth dikes shall have uninterrupted positive grade to an outlet. Spot elevations may be necessary for grades less than 1%.

2. Runoff diverted from a disturbed area shall be 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 dike.

5. The dike shall be excavated or shaped to line, grade and cross section as required to meet the criteria specified herein and be free of bank projections or other irregularities which will impede normal flow.

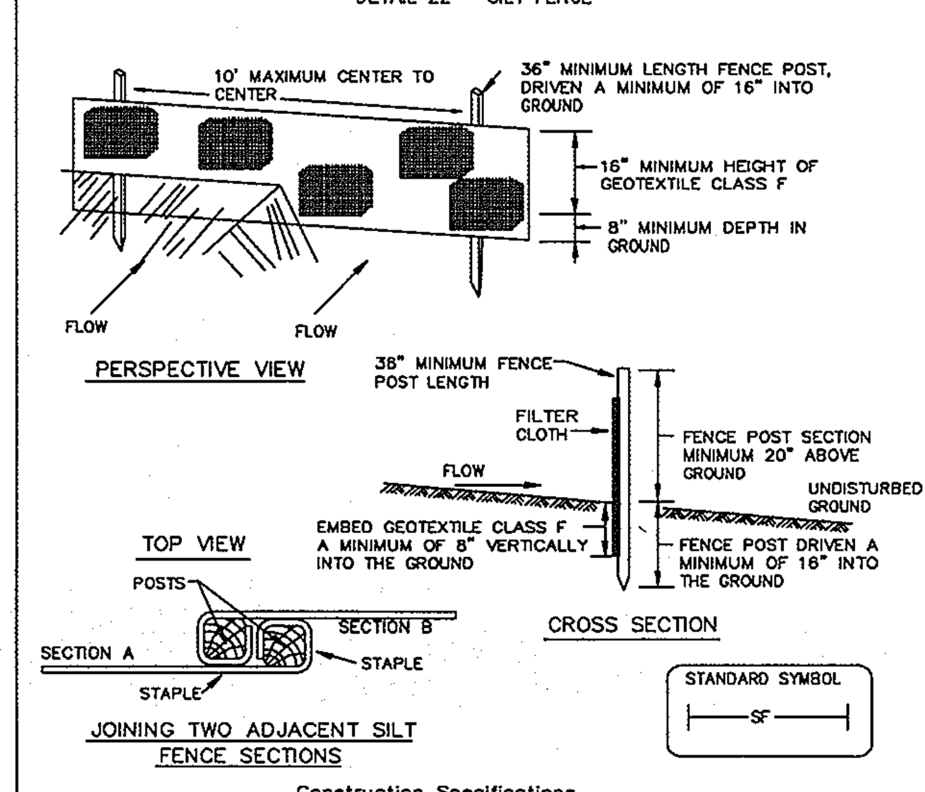
6. Fill shall be compacted by earth moving equipment.

7. All earth removed and not needed for construction shall be placed so that it will not interfere with the functioning of the dike.

8. Inspection and maintenance must be provided periodically and after each rain event.

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

DETAIL 22 – SILT FENCE



Construction Specifications

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

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

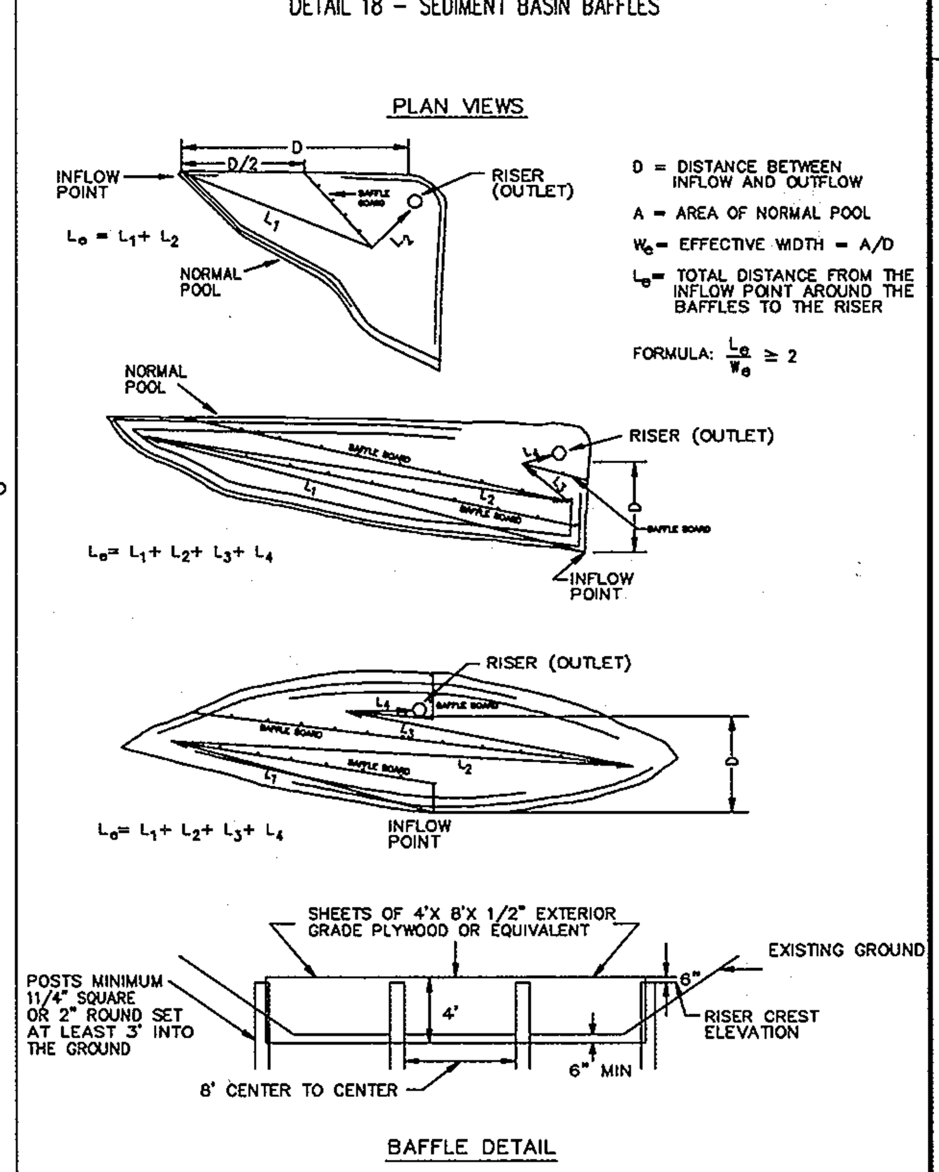
Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal ft ²/ minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

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

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

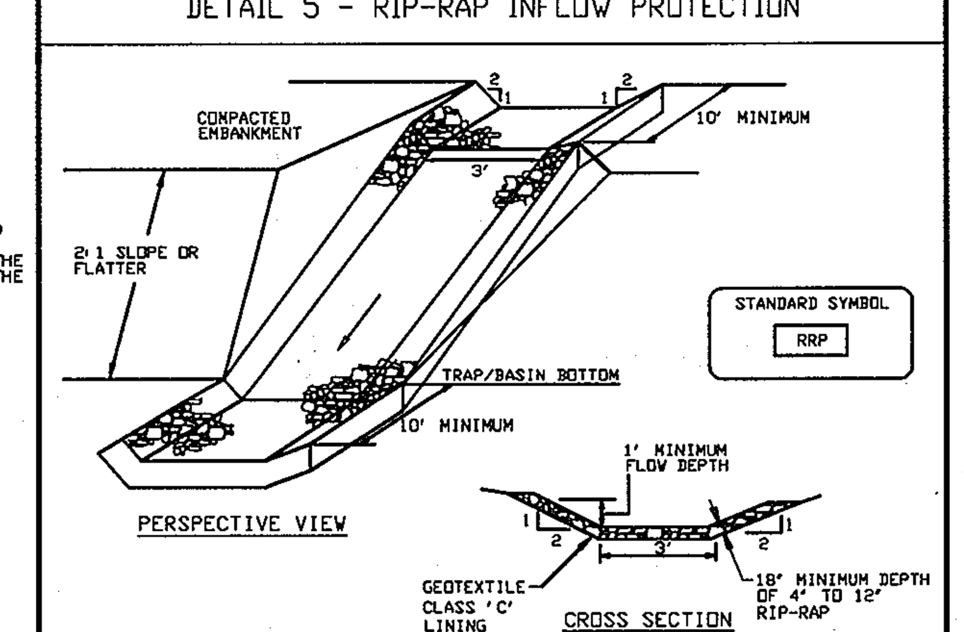
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE E - 15 - 3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 18 – SEDIMENT BASIN BAFFLES



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

DETAIL 5 – RIP-RAP INFLOW PROTECTION



Construction Specifications

1. Rip-rap lined inflow channels shall be 1' in depth, have a trapezoidal cross section with 2:1 or flatter side slopes and 3' (min.) bottom width. The channel shall be lined with 4" to 12" rip- rap to a depth of 18".

2. Filter cloth shall be installed under all rip-rap. Filter cloth shall be Geotextile Class C.

3. Entrance and exit sections shall be installed as shown on the detail section.

4. Rip-rap used for the lining may be recycled for permanent outlet protection if the basin is to be converted to a stormwater management facility.

5. Gabion Inflow Protection may be used in lieu of Rip-rap Inflow Protection.

6. Rip-rap should blend into existing ground.

7. Rip-rap Inflow Protection shall be used where the slope is between 4:1 and 10:1. for slopes flatter than 10:1 use Earth Dike or Temporary Swale lining criteria.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE B - 4 - 2	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

21.0 STANDARD & 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, &/OR UNACCEPTABLE SOIL GRADATION.

CONDITIONS WHERE PRACTICE APPLIES

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 & DESIGN FOR ADEQUATE STABILIZATION. AREAS HAVING SLOPES STEEPER THAN 2:1 SHALL HAVE THE APPROPRIATE STABILIZATION SHOWN ON THE PLANS.

CONSTRUCTION & 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 1½" IN DIAMETER.

ii. TOPSOIL MUST BE FREE OF PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACKGRASS, JOHNSONGRASS, NUTSEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.

iii. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, GROUND LIMESTONE SHALL BE SPREAD AT THE RATE OF 4-8 TONS/ACRE (200-400 LBS/1,000 SF) PRIOR TO THE PLACEMENT OF TOPSOIL. LIME SHALL BE DISTRIBUTED UNIFORMLY OVER DESIGNATED AREAS & 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) & APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION - SECTION I - VEGETATIVE STABILIZATION METHODS & MATERIALS.

III. FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES:

i. ON SOIL MEETING TOPSOIL SPECIFICATIONS, OBTAIN TEST RESULTS DICTATING FERTILIZER & 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 & APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY MAY BE USED IN LIEU OF NATURAL TOPSOIL.

ii. PLACE TOPSOIL (IF REQUIRED) & APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION - SECTION I - VEGETATIVE STABILIZATION METHODS & MATERIALS.

V. TOPSOIL APPLICATION

i. WHEN TOPSOILING, MAINTAIN NEEDED EROSION & SEDIMENT CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, EARTH DIKES, SLOPE SILT FENCE & SEDIMENT TRAPS AND BASINS.

ii. GRADES ON THE AREAS TO BE TOPSOILED, WHICH HAVE BEEN PREVIOUSLY ESTABLISHED, SHALL BE MAINTAINED, ALBEIT 4" - 8" HIGHER IN ELEVATION.

iii. TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED IN A 4" - 8" LAYER & 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 & TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS SHALL BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.

iv. TOPSOIL SHALL NOT BE PLACED WHILE THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING & SEEDBED PREPARATION.

VI. ALTERNATIVE FOR PERMANENT SEEDING - INSTEAD OF APPLYING THE FULL AMOUNTS OF LIME & COMMERCIAL FERTILIZER, COMPOSTED SLUDGE & AMENDMENTS MAY BE APPLIED AS SPECIFIED BELOW:

i. COMPOSTED SLUDGE MATERIAL FOR USE AS A SOIL CONDITIONER FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES SHALL BE TESTED TO PRESCRIBE AMENDMENTS AND FOR SITES HAVING DISTURBED AREAS UNDER 5 ACRES SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:

A. COMPOSTED SLUDGE SHALL BE SUPPLIED BY, OR ORIGINATE FROM, A PERSON OR PERSONS THAT ARE PERMITTED (AT THE TIME OF ACQUISITION OF THE COMPOST) BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT UNDER COMAR 26.04.06.

B. COMPOSTED SLUDGE SHALL CONTAIN AT LEAST 1 PERCENT NITROGEN, 1.5 PERCENT PHOSPHORUS, AND 0.2 PERCENT POTASSIUM & HAVE A pH OF 7.0 TO 8.0. IF COMPOST DOES NOT MEET THESE REQUIREMENTS, THE APPROPRIATE CONSTITUENTS MUST BE ADDED TO MEET THE REQUIREMENTS PRIOR TO USE.

C. COMPOSTED SLUDGE SHALL BE APPLIED AT A RATE OF 1 TON/1,000 SF.

IV. COMPOSTED SLUDGE SHALL BE AMENDED WITH A POTASSIUM FERTILIZER APPLIED AT THE RATE OF 4 LB/1,000 SF, & 1/3 THE NORMAL LIME APPLICATION RATE.

REFERENCES: GUIDELINE SPECIFICATIONS, SOIL PREPARATION & SODDING. MD-VA, PUB. #1, COOPERATIVE EXTENSION SERVICE, UNIVERSITY OF MARYLAND & VIRGINIA POLYTECHNIC INSTITUTES. REVISED 1973.

SEQUENCE OF CONSTRUCTION (SINGLE FAMILY PHASE)

(2 WEEKS)
1. OBTAIN ALL REQUIRED GRADING, MDE PERMITS, APPROVALS, AND LICENSES FROM APPROPRIATE AGENCIES.

(1 DAY)
2. NOTIFY HOWARD COUNTY CONSTRUCTION INSPECTION DIVISION (410) 313-1855 AT LEAST FIVE (5) WORKING DAYS PRIOR TO STARTING WORK.

(2 DAYS)
3. INSTALL STABILIZED CONSTRUCTION ENTRANCE. CONFIRM ALL TREE CONSERVATION SIGNS AND TREE PROTECTION FENCES HAVE BEEN INSTALLED PER F-03-87.

(8 WEEKS)
4. CONSTRUCT SEDIMENT BASINS (SWM POND/BASIN 3 AND BASIN 5) AS FOLLOWS.

A. MAINTAIN EXISTING BASINS 2 AND 4 AS SEDIMENT BASINS PER F-03-87.
B. INSTALL SILT FENCE BELOW SEDIMENT BASINS
C. CLEAR AND GRUB AREA FOR SEDIMENT BASINS.
D. CONSTRUCT CORE TRENCH WITH SUITABLE MATERIAL AS VERIFIED BY A PROFESSIONAL ENGINEER.
E. CONSTRUCT PRINCIPAL SPILLWAY RISER STRUCTURE, BARREL, CRADLE FOR BASIN 3, ANTI-SEEP COLLAR, AND OUTFALL PER PLANS.
F. UPON OBTAINING PROPER INSPECTION AND CERTIFICATION, BACKFILL PRINCIPAL SPILLWAY.
G. COMPLETE EMBANKMENT FILLS AND EXCAVATE FOR POND VOLUMES PER PLAN. POND/BASIN 3 AND 5 WILL BE UTILIZED AS SEDIMENT CONTROL BASINS DURING CONSTRUCTION, WITH BASIN 2, 3 AND 4 BEING CONVERTED TO SWM POND 2, 3 AND 4 AT END OF PROJECT, RESPECTIVELY. FOR SEDIMENT CONTROL AND TEMPORARY SWM PURPOSES, GRADE BASINS PER GRADING SHOWN ON THE SEDIMENT CONTROL PLANS. FINAL GRADES FOR SWM POND 3 AND BASIN 5 ARE REFLECTED ON THE GRADING PLANS. REFER TO SHEETS 16, AND 20-22 FOR THE APPROPRIATE POND MODIFICATIONS FOR SEDIMENT CONTROL INCLUDING DEWATERING DEVICE AND WEIR BLOCKING.
H. INSTALL INFLOW PROTECTION DEVICES AND ALL OTHER ASSOCIATED SEDIMENT CONTROL APPURTENANCES.
I. PROTECT EXISTING SWM POND 1 FROM SEDIMENT-LADEN RUNOFF.
J. REMOVAL OF ANY CONTROLS MAY NOT OCCUR UNTIL PERMISSION IS GRANTED BY THE INSPECTOR.

(6 WEEKS)
5. INSTALL REMAINING SEDIMENT AND EROSION CONTROL MEASURES AND DEVICES FOR CONSTRUCTION OF THIS PLAN AS FOLLOWS, INCLUDING SEDIMENT TRAP A. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE EXISTING AT&T FIBER OPTIC CONDUIT BANK (FOCB) AS FOLLOWS.

A. DIKES, SF, SSF, PIPES, ETC, SHOULD NOT BE INSTALLED WITHOUT THE PERMISSION OF THE AT&T FIELD REPRESENTATIVE. THE CONTRACTOR SHALL CONTACT THE AT&T FIELD REPRESENTATIVE FOR PERMISSION TO TEST PIT THE EXISTING FOCB. THE CONTRACTOR SHALL PROVIDE TEST PITS ON THE FOCB TO DETERMINE ITS LOCATION AS NECESSARY, AND WILL ONLY TEST PIT WHILE THE AT&T FIELD REPRESENTATIVE IS PRESENT.
B. THE EXISTING FOCB IS TO REMAIN IN OPERATION UNTIL IT IS RELOCATED ACCORDING TO PLAN. AN INTERIM 10' WIDE ZERO DISTURBANCE AREA CENTERED ON THE FOCB IS SHOWN ON THE PLAN. NO EARTH DISTURBANCE IN THIS AREA WILL BE PERMITTED UNTIL THE FOCB HAS BEEN RELOCATED. MASS GRADING MAY PROCEED ON BOTH SIDES OF THE EXISTING FOCB. CONTRACTOR SHALL PROVIDE 2:1 (H:V) CUT AND FILL SLOPE TIE-INS TO THE OUTSIDE EDGES OF THE 10' WIDE ZERO DISTURBANCE AREA ACCORDING TO PLAN. THE CONTRACTOR WILL MAINTAIN POSITIVE DRAINAGE AROUND THE INTERIM BERMS/DITCHES FORMED BY THE TIE-IN OF THE ZERO DISTURBANCE AREA TO PROPOSED GRADE.

UPON COMPLETION OF ALL SEDIMENT CONTROL MEASURES, SECURE PERMISSION FROM INSPECTOR BEFORE PROCEEDING. CONTRACTOR SHALL HAVE THE OPTION TO PROCEED WITH THE GRADING OPERATION PRIOR TO HAVING ALL SEDIMENT CONTROL MEASURES FOR THE SITE IN PLACE PROVIDED APPROVAL IS OBTAINED FROM THE INSPECTOR FOR THE AREAS WHERE SEDIMENT CONTROL MEASURES ARE IN PLACE AND FUNCTIONAL.

(6 WEEKS)
6. CLEAR AND GRUB REMAINDER OF SITE. BEGIN MASS GRADING OF SITE. *

(2 WEEKS)
7. INSTALL 25' CONTECH SUPER-SPAN CORRUGATED METAL ARCH CULVERT AT WETHERED DRIVE STREAM CROSSING AS FOLLOWS. INSTALLATION OF THE ARCH CULVERT MAY BEGIN CONCURRENTLY WITH MASS GRADING.

A. NOTIFY HOWARD COUNTY CONSTRUCTION INSPECTION DIVISION (410) 313-1855 AT LEAST FIVE (5) WORKING DAYS PRIOR TO STARTING THIS WORK.
B. NOTIFY MDE/WMA SEDIMENT CONTROL INSPECTOR AT LEAST FIVE (5) DAYS BEFORE BEGINNING CONSTRUCTION.
C. ALL WORK ON THE ARCH CULVERT MUST BE SCHEDULED SO THAT THERE IS NO INTERRUPTED WORK PERIOD. WORK MUST CONTINUE STEADILY AND QUICKLY TO MINIMIZE IMPACTS.
D. CONTRACTOR SHALL COORDINATE WITH ALL INSPECTION AGENCIES FOR A PRE-CONSTRUCTION MEETING, AND SHALL STAKE OUT WORK AREA LIMITS PRIOR TO THE MEETING.
E. PERFORM INITIAL CLEARING AND GRUBBING REQUIRED FOR INSTALLATION OF PERIMETER CONTROLS, SILT FENCE AND DEWATERING FILTER BAGS (FB).
F. CONTRACTOR SHALL TEST PIT TO DETERMINE SIZE, TYPE, LOCATION AND ELEVATION OF KNOWN EXISTING UTILITIES. POTENTIAL CONFLICTS ARE TO BE RESOLVED BEFORE PROCEEDING WITH ANY FURTHER WORK.
G. STRIP TOPSOIL FROM REMAINING AREAS IN WORK AREA AND MOVE TO APPROVED STOCKPILE.
H. INSTALL TEMPORARY BRIDGE ACCESS AS NECESSARY. INSTALL STREAM DIVERSION PUMP (MGWC 1.2) AS NECESSARY. DO NOT DISTURB STREAM.
I. STREAM DIVERSION PUMP (MGWC 1.2) SHALL BE INSTALLED ACCORDING TO MGWC 1.2 SPECIFICATIONS. CONTRACTOR SHALL UTILIZE FILTER BAGS (FB) IN LIEU OF DEWATERING BASINS. SECURE FILTER BAGS ACCORDING TO PLAN DETAIL.
J. DEWATER WORK AREA UTILIZING PUMP-AROUND PRACTICE (MGWC 1.2), WITH EFFLUENT DISCHARGE TO FILTER BAG (FB).
K. STAKEOUT AND BEGIN EXCAVATION FOR ARCH CULVERT FOUNDATION AFTER PERMISSION IS OBTAINED FROM INSPECTOR AND WORK AREA HAS BEEN ADEQUATELY DEWATERED.
OVER-EXCAVATE TO REMOVE UNSUITABLE BEARING MATERIAL AS NECESSARY AND REPLACE WITH STRUCTURAL BACKFILL ACCORDING TO PLAN. CONSTRUCTION MUST PROCEED CAUTIOUSLY SO THAT STREAM IS NOT DISTURBED DURING ALL WORK ACTIVITIES.
L. INSTALL TENSAR ™ MAT SUB-FOOTING AND CONCRETE CULVERT FOOTING AS PER PLAN. CONTINUE DEWATERING WORK AREA AS NECESSARY
M. STAKEOUT, EXCAVATE, AND DEWATER FOR WINGWALL FOUNDATION. CONSTRUCT CONCRETE WINGWALL FOUNDATION AS PER PLAN.
N. INSTALL PYRAMAT ™ STABILIZATION MATRIX AS SPECIFIED ON THE PLANS CONCURRENTLY WITH THE ERECTION OF THE SUPER SPAN ARCH SECTIONS.
O. CONSTRUCT CONTECH ® SUPER-SPAN ™ ARCH CULVERT PROPER AND KEYSTONE ® CMU AND INTEGRAL GEOGRID TIE BACKS CONCURRENTLY WITH THE PLACEMENT OF THE CULVERT BACKFILL MATERIAL AS PER PLAN. COMPLETE BACKFILLING AND CONSTRUCTION OF CULVERT WINGWALL. COMPLETE ROADWAY EMBANKMENT CONSTRUCTION AND ROUGH GRADING OF WETHERED DRIVE (WEST) ACROSS ENTIRE STREAM VALLEY. CONTINUE DEWATERING WORK AREA AS NECESSARY.
P. FINE GRADE AREA AT WINGWALLS TO RECEIVE PYRAMAT STABILIZATION MATRIX. INSTALL PYRAMAT STABILIZATION MATRIX ACCORDING TO SPECIFICATIONS. DO NOT DISTURB STREAM.
Q. CLEAN/DRESS UP WORK AREA, AND SEED/MULCH ALL DISTURBED NON-PAVED AREAS.
R. OBTAIN PERMISSION FROM INSPECTOR TO REMOVE DEWATERING DEVICES AND APPURTENANCES. DRESS UP AND SEED AND MULCH ANY REMAINING DISTURBED AREAS.
S. REMOVAL OF ANY CONTROLS MAY NOT OCCUR UNTIL PERMISSION IS GRANTED BY THE INSPECTOR.

(8 WEEKS)
8. CONSTRUCT SEWER, AT&T FOCB RELOCATION, AND WATER AS FOLLOWS. *
A. AS MASS GRADING IS COMPLETED (WITH THE EXCEPTION OF THE ZERO DISTURBANCE AREA OVER THE FOCB) AND ROADWAYS ARE BROUGHT TO GRADE, INSTALL ALL SANITARY SEWER AND APPURTENANCES. COORDINATE WITH AT&T FIELD REPRESENTATIVE FOR INSTALLATION OF SEWER UNDER THE EXISTING FIBER OPTIC CABLE.
B. ONCE THE SANITARY SEWER IS INSTALLED, RELOCATION OF THE AT&T FOCB MAY BEGIN. *
C. INSTALL WATER LINES AND APPURTENANCES AFTER AT&T FOCB AND SANITARY SEWER AND APPURTENANCES ARE INSTALLED, AND THE ZERO DISTURBANCE AREA IS RE-GRADED TO FINISHED GRADE.
D. REPAIR AND OR REPLACE DAMAGED SEDIMENT CONTROL MEASURE AS A RESULT OF INSTALLATION OF THE WATER AND SEWER MAINS.
E. COORDINATE WITH AT&T REPRESENTATIVES FOR WATER CROSSINGS AT THE RELOCATED FOCB.
F. REMOVAL OF ANY CONTROLS MAY NOT OCCUR UNTIL PERMISSION IS GRANTED BY THE INSPECTOR.

(4 WEEKS)
9. CONSTRUCT STORM DRAINAGE(MAY BEGIN CONCURRENTLY WITH WATER CONSTRUCTION). COORDINATE WITH AT&T REPRESENTATIVES FOR STORM DRAIN CROSSINGS AT THE RELOCATED FOCB.

(3 WEEKS)
10. BEGIN CONSTRUCTION OF CURB AND GUTTER AND ROADS. (MAY BEGIN AS UTILITY INSTALLATION COMPLETES IN DISCRETE SECTIONS OF ROADWAY AND ROADBED IS BROUGHT TO FINAL SUBGRADE ELEVATIONS).

(5 WEEKS)
11. AS GRADING OF LOTS AND COMMON AREAS IS COMPLETED, STABILIZE ALL DISTURBED AREAS. BASIN 5 AND TRAP A ENCROACH ON LOTS 160, 183, AND 184. CONSEQUENTLY, THEY WILL BE THE LAST LOTS THAT ARE GRADED AND STABILIZED. UPON STABILIZATION OF DISTURBED AREAS, CLEAN AND FLUSH STORM DRAINAGE, REMOVE REMAINING SEDIMENT CONTROLS, CONVERT SEDIMENT BASINS TO FINAL SWM PONDS AND STABILIZE. DO NOT REMOVE CONTROLS NECESSARY FOR FUTURE SITE DEVELOPMENT PLAN (SDP) STAGE. UPON APPROVAL BY THE INSPECTOR, THE CONTRACTOR MAY CONVERT THE BASINS TO SWM PONDS AS INDIVIDUAL DRAINAGE AREAS BECOME STABILIZED.

(2 WEEKS)
12. NOTIFY HOWARD COUNTY OFFICE OF INSPECTIONS AND PERMITS FOR FINAL INSPECTION OF COMPLETED PROJECT.

* THE AT&T RELOCATION(BY OTHERS) CAN OCCUR PRIOR TO GRADING AND SEWER INSTALLATION TO SUPPORT THE CONSTRUCTION SCHEDULE. THE CONTRACTOR TO VERIFY STATUS OF THE AT&T RELOCATION PRIOR TO INITIATING GRADING AND UTILITY WORK.

SEDIMENT CONTROL NOTES

1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS & PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (410-313-1855).

2. ALL VEGETATIVE & STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN & ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT "MARYLAND STANDARDS & SPECIFICATIONS FOR SOIL EROSION & SEDIMENT CONTROL", & REVISIONS THERETO.

3. FOLLOWING INITIAL SOIL DISTTURBANCES OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:

A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES & ALL SLOPES GREATER THAN 3:1.

B) 14 CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.

4. ALL SEDIMENT TRAPS/BASINS SHOWN ON THE PLAN MUST BE FENCED & WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOLUME 1, CHAPTER 12, OF THE "HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE".

5. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE MOST CURRENT "MARYLAND STANDARDS & SPECIFICATIONS FOR SOIL EROSION & SEDIMENT CONTROL", & REVISIONS THERETO. TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION & ESTABLISHMENT OF GRASSES.

6. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE & 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 SITE AREA:	38.8 ACRES (R-20 AREA)
DISTURBED AREA:	29.8 ACRES
IMPERVIOUS AREA:	12.5 ACRES
AREA TO BE VEG. STABILIZED:	17.3 ACRES
TOTAL CUT:	144,000 CY
TOTAL FILL:	144,000 CY
*OFFSITE WASTE/BORROW AREA	N/A

*ALL EXCESS MATERIAL SHALL BE TRANSPORTED TO A SUITABLE SPOIL SITE APPROVED BY THE SEDIMENT CONTROL INSPECTOR AND SHALL HAVE APPROPRIATE SEDIMENT CONTROL MEASURES AS REQUIRED.

8. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTRUBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.

9. ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY DPW 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 & SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.

11. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN BE BACK FILLED & STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

12. QUANTITIES & ESTIMATES SHOWN ARE FOR SEDIMENT CONTROL PURPOSES ONLY. CONTRACTOR SHALL PREPARE HIS/HER OWN QUANTITY ESTIMATES TO HIS/HER SATISFACTION.

24.0 MATERIALS SPECIFICATIONS

TABLE 27 GEOTEXTILE FABRICS

CLASS	APPARENT OPENING SIZE MM. MAX.	GRAB TENSILE STRENGTH LB. MIN.	BURST STRENGTH PSI. MIN.
A	0.30	250	500
B	0.60	200	320
C	0.30	200	320
D	0.60	90	145
E	0.30	90	145
F (SILT FENCE)	0.40 – 0.80*	90	190

* US STD SIEVE CW-02215

THE PROPERTIES SHALL BE DETERMINED IN ACCORDANCE WITH THE FOLLOWING PROCEDURES:

-APPARENT OPENING SIZE MSMT 323

-GRAB TENSILE STRENGTH ASTM D 1882: 4X8" SPECIMEN, 1X2" CLAMPS, 12"/MIN. STRAIN RATE IN BOTH PRINCIPAL DIRECTIONS OF GEOTEXTILE FABRIC.

-BURST STRENGTH ASTM D 3786

THE FABRIC SHALL BE INERT TO COMMONLY ENCOUNTERED CHEMICALS AND HYDROCARBONS, AND WILL BE ROT AND MILDEW RESISTANT. IT SHALL BE MANUFACTURED FROM FIBERS CONSISTING OF LONG CHAIN SYNTHETIC POLYMERS, AND COMPOSED OF A MINIMUM OF 85% BY WEIGHT OF POLYOLEPHINS, POLYESTERS, OR POLYAMIDES. THE GEOTEXTILE FABRIC SHALL RESIST DETERIORATION FROM ULTRAVIOLET EXPOSURE.

IN ADDITION, CLASSES A THROUGH E SHALL HAVE A 0.01 CM/SEC. MINIMUM PERMEABILITY WHEN TESTED IN ACCORDANCE WITH MSMT 507, AND AN APPARENT MINIMUM ELONGATION OF 20 PERCENT (20%) WHEN TESTED IN ACCORDANCE WITH THE GRAB TENSILE STRENGTH REQUIREMENTS LISTED ABOVE.

SILT FENCE

CLASS F GEOTEXTILE FABRICS FOR SILT FENCE SHALL HAVE A 50 LB./IN. MINIMUM TENSILE STRENGTH AND A 20 LB./IN. MINIMUM TENSILE MODULES WHEN TESTED IN ACCORDANCE WITH MSMT 509. THE MATERIAL SHALL ALSO HAVE A 0.3 GAL/FT2/MIN. FLOW RATE AND SEVENTY-FIVE PERCENT (75%) MINIMUM FILTERING EFFICIENCY WHEN TESTED IN ACCORDANCE WITH MSMT 322.

GEOTEXTILE FABRICS USED IN THE CONSTRUCTION OF SILT FENCE SHALL RESIST DETERIORATION FROM ULTRAVIOLET EXPOSURE. THE FABRIC SHALL CONTAIN SUFFICIENT AMOUNTS OF ULTRAVIOLET RAY INHIBITORS AND STABILIZERS TO PROVIDE A MINIMUM OF 12 MONTHS OF EXPECTED USABLE CONSTRUCTION LIFE AT A TEMPERATURE RANGE OF 0 TO 120 DEGREES F.

PERMANENT SEEDING NOTES

APPLY TO GRADED OR CLEARED AREA NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-LIVED VEGETATIVE COVER IS NEEDED.

SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BE RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING. (IF NOT PREVIOUSLY LOOSENED)

SOIL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ON THE FOLLOWING SCHEDULES.

1) PREFERRED - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/1,000 SF) & 600 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/1,000 SF) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL. AT TIME OF SEEDING, APPLY 400 LBS PER ACRE 30-0-0 UREAFORM FERTILIZER (9 LBS/1,000 SF).

2) ACCEPTABLE - APPLY 2 TONS PER ACRE DOLAMITIC LIMESTONE (92 LBS/1,000 SF) & 1,000 LBS PER ACRE 10-10-10 FERTILIZER (23 LBS/1,000 SF) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL.

SEEDING: FOR THE PERIODS MARCH 1 THROUGH APRIL 30 & AUGUST 1 THROUGH OCTOBER 15, SEED WITH 60 LBS PER ACRE (1.4 LBS/1,000 SF) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THROUGH JULY 31, SEED WITH 60 LBS KENTUCKY 31 TALL FESCUE PER ACRE & 2 LBS PER ACRE (0.05 LBS/1,000 SF) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 15 THROUGH FEBRUARY 28, PROTECT SITE BY: OPTION 1) 2 TONS PER ACRE OF WELL-ANCHORED STRAW MULCH & SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION 2) USE SOD. OPTION 3) SEED WITH 60 LBS/ACRE KENTUCKY 31 TALL FESCUE & MULCH WITH 2 TONS/ACRE WELL ANCHORED STRAW.

MULCHING: APPLY 1½ TO 2 TONS PER ACRE (70 TO 90 LBS/1,000 SF) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL/1,000 SF) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1,000 SF) FOR ANCHORING.

MAINTENANCE: INSPECT ALL SEEDED AREAS & MAKE NEEDED REPAIRS, REPLACEMENTS & RESEEDINGS.

TEMPORARY SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED.

SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING. (IF NOT PREVIOUSLY LOOSENED)

SOIL AMENDMENTS: APPLY 600 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/1,000 SF).

SEEDING: FOR PERIODS MARCH 1 THROUGH APRIL 30 & FROM AUGUST 15 THROUGH NOVEMBER 15, SEED WITH 2½ BUSHELS PER ACRE OF ANNUAL RYE (3.2 LBS/1,000 SF). FOR THE PERIOD MAY 1 THROUGH AUGUST 14, SEED WITH 3 LBS PER ACRE OF WEEPING LOVEGRASS (0.07 LBS/1,000 SF). FOR THE PERIOD NOVEMBER 16 THROUGH FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL-ANCHORED STRAW MULCH & SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOD.

MULCHING: APPLY 1½ TO 2 TONS PER ACRE (70 TO 90 LBS/1,000 SF) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL/1,000 SF) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1,000 SF) FOR ANCHORING.

STONE FOR GABION BASKETS

BASKET THICKNESS		SIZE OF INDIVIDUAL STONES	
INCHES	MM	INCHES	
6	150	3 – 5	75 – 125
9	225	4 – 7	100 – 175
12	300	4 – 7	100 – 175
18	460	4 – 7	100 MM 175
36	910	4 – 12	100 – 300

NOTE: RECYCLED CONCRETE EQUIVALENT MAY BE SUBSTITUTED FOR ALL STONE CLASSIFICATIONS. RECYCLED CONCRETE EQUIVALENT SHALL BE BROKEN INTO SIZES MEETING THE APPROPRIATE CLASSIFICATION, SHALL CONTAIN NO STEEL REINFORCEMENT, AND SHALL HAVE A DENSITY OF 150 POUNDS PER CUBIC FOOT.

TABLE 28 STONE SIZE

	SIZE RANGE	D_{50}	D_{100}	AASHTO	WEIGHT
NUMBER 57*	⅜" – 1½"	½"	1½"	M-43	N/A
NUMBER 1	2" – 3"	2½"	3"	M-43	N/A
RIP-RAP**	4" – 7"	5½"	7"	N/A	N/A
CLASS I	N/A	9½"	15"	N/A	150 LB MAX
CLASS II	N/A	16"	24"	N/A	700 LB MAX
CLASS III	N/A	23"	34"	N/A	2000 LB MAX

* THIS CLASSIFICATION IS TO BE USED ON THE INSIDE FACE OF STONE OUTLETS AND CHECK DAMS.

** THIS CLASSIFICATION IS TO BE USED WHENEVER SMALL RIP-RAP IS REQUIRED. THE STATE HIGHWAY ADMINISTRATION DESIGNATION FOR THIS STONE IS STONE FOR GABIONS (§905.01.04)

APPROVED:

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

[signature] 10/2/03

HOWARD SOIL CONSERVATION DISTRICT — DATE

APPROVED:

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] 10/2/03

USDA–NATURAL RESOURCES CONSERVATION SERVICE — DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

[signature] 10/27/03

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

[signature] 10/17/03

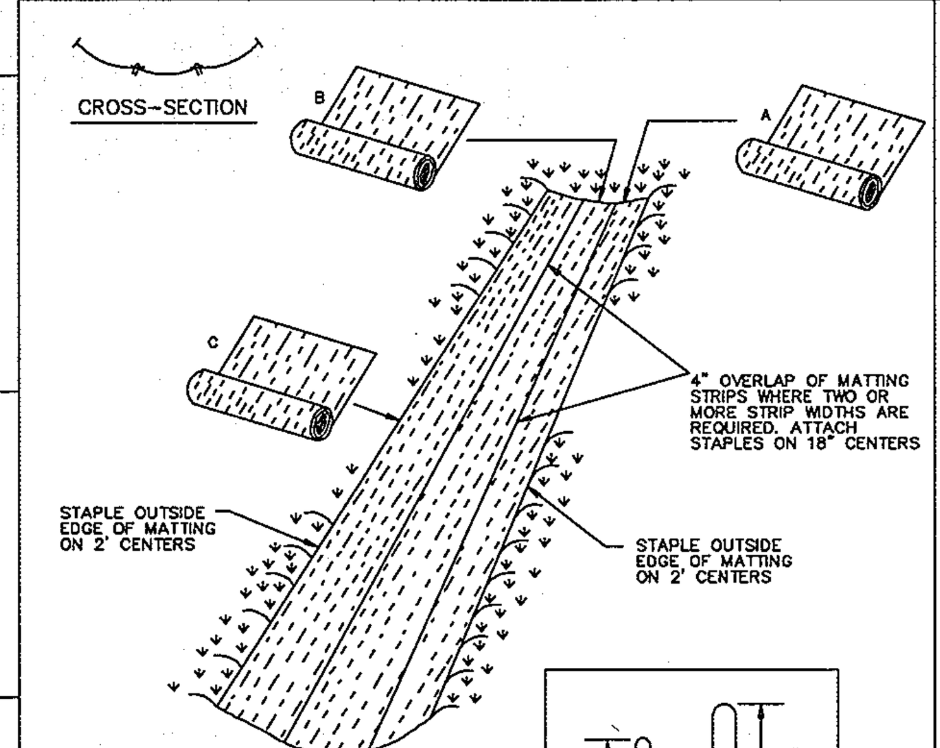
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

[signature] 10-14-03

CHIEF, BUREAU OF HIGHWAY — DATE

DETAIL 30 – EROSION CONTROL MATTING



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 soil.

4. Staples shall be placed 2' apart with 4 rows for each strip, 2 outer rows, and alternating rows down the center.

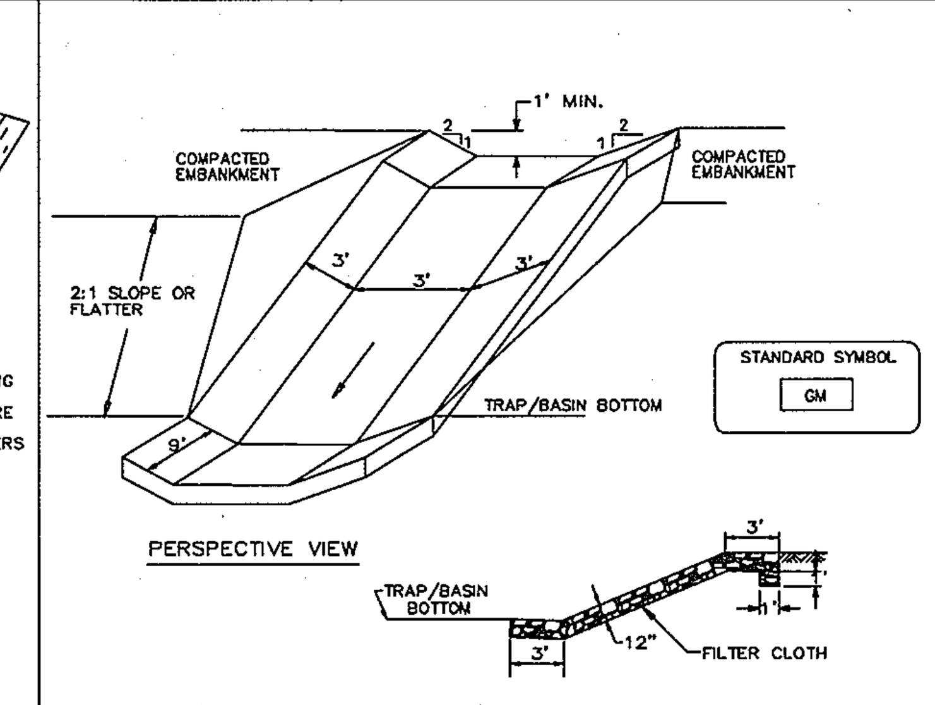
5. Where one roll of matting ends and another begins, the end of the top strip shall overlap the upper end of the lower strop by 4" shiplap fashion. Reinforce the overlap with a double row of staples spaced 6" apart in a staggered pattern on either side.

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.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE G - 22 - 21 B	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 6 – GABION INFLOW PROTECTION



Construction Specifications

1. Gabion inflow protection shall be constructed of 9' x 3' x 9" gabion baskets forming a trapezoidal cross section 1' deep, with 2:1 side slopes, and a 3' bottom width.

2. Geotextile Class C shall be installed under all gabion baskets.

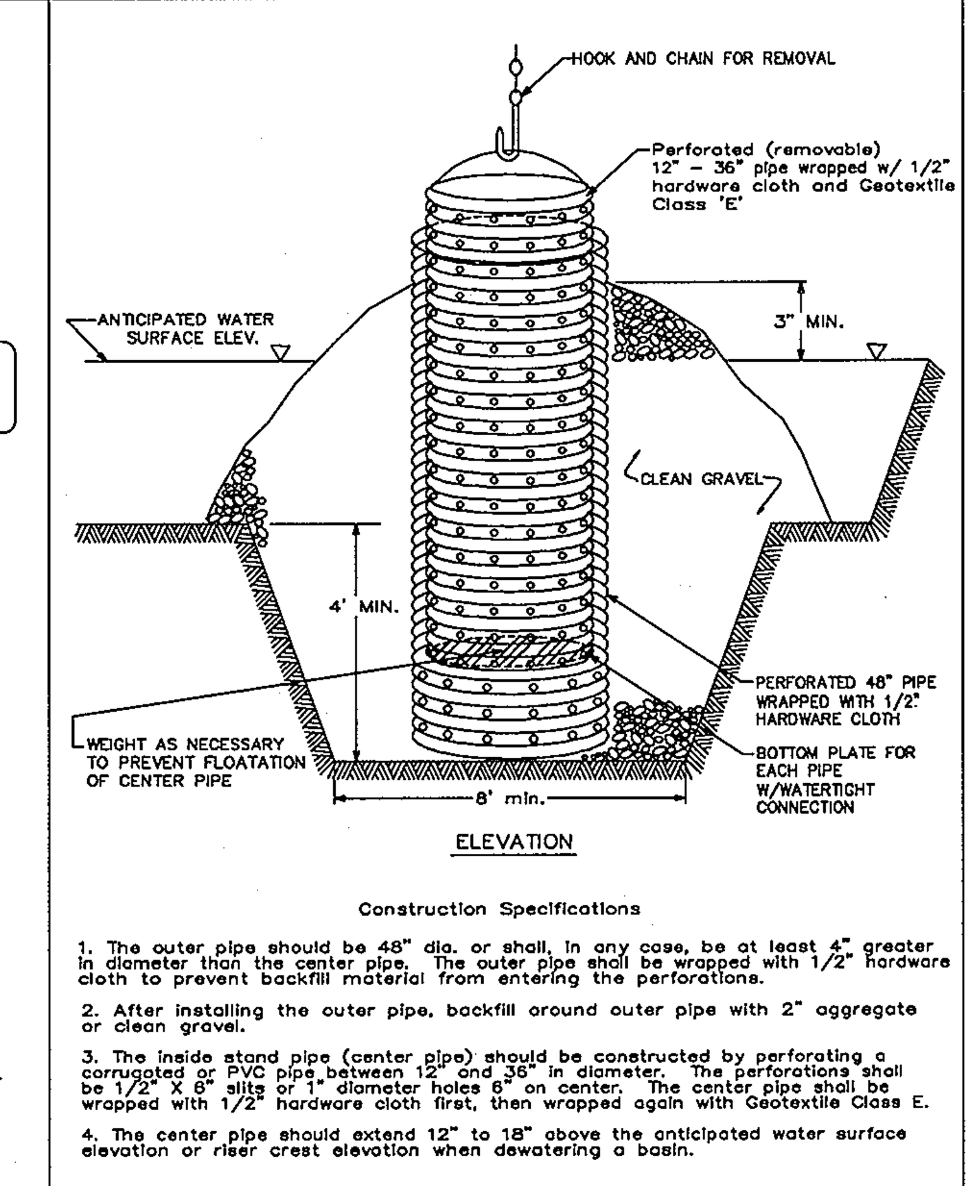
3. The stone used to fill the gabion baskets shall be 4" – 7".

4. Gabions shall be installed in accordance with manufacturers recommendations.

5. Gabion Inflow Protection shall be used where concentrated flow is present on slopes steeper than 4:1.

U.S. DEPARTMENT OF AGRICULTURE	PAGE B - 7 - 2	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 20A – REMOVABLE PUMPING STATION



Construction Specifications

1. The outer pipe should be 48" dia. or shall, in any case, be at least 4" greater in diameter than the center pipe. The outer pipe shall be wrapped with 1/2" hardware cloth to prevent backfill material from entering the perforations.

2. After installing the outer pipe, backfill around outer pipe with 2" aggregate or clean gravel.

3. The inside stand pipe (center pipe) should be constructed by perforating a corrugated or PVC pipe between 12" and 36" in diameter. The perforations shall be 1/2" X 6" slits or 1" diameter holes 6" on center. The center pipe shall be wrapped with 1/2" hardware cloth first, then wrapped again with Geotextile Class E.

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

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

DEVELOPER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN 'AS-BUILT' PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."

[signature] Stephen J. Nardella — 9/23/03

SIGNATURE OF DEVELOPER (PRINT NAME BELOW SIGNATURE) — DATE

ENGINEER'S CERTIFICATE

"I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN 'AS-BUILT' PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION."

[signature] FRANK G. BOSSONG III — 9/24/03

SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE

9/24/03

CALL "MISS UTILITY" AT 1-800-257-7777
48 Hours Before Start Of Construction

AS-BUILT PLANS
(No As-Built Data This Sheet)

	DATE	REVISION	DATE
		FINAL AS-BUILT REVISIONS	OCT-08
		FINAL MYLAR SUBMITTAL FOR SIGNATURE	9/24/03
		RE-SUBMITTED FOR REVIEW AND APPROVAL	07/11/03
		RE-SUBMITTED FOR REVIEW AND APPROVAL	04/25/03
		SUBMITTED FOR REVIEW	1-14-03

	BY	DATE
BASE DATA	CADD	
DESIGNED		
DRAWN		
REVIEWED	PFB	

RELEASE FOR ☐

BY________ DATE ____

Developer/Owner:
Winchester Homes, Inc. &
Winchester Homes, Inc. , as nominee for Stringtown Investments, LLC
6905 Rockledge Drive
Suite 800
Bethesda, Maryland 20817
Stephen J. Nardella, Vice President
(301) 803 - 4800

SEDIMENT & EROSION
CONTROL NOTES & DETAILS

RODGERS CONSULTING
Enhancing the value of land assets

Rodgers Consulting, Inc.
9260 Gaither Road
Gaithersburg, MD 20877
301.948.4700
301.948.6256 (fax)
301.253.6609
www.rodgers.com

Montjoy - Single Family Detached

A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL C (F-03-87) TO BUILDABLE LOTS 127- 188 AND OPEN SPACE LOTS 189-193

ELECTION DISTRICT #2 HOWARD COUNTY, MARYLAND
TAX MAP: 30, GRID: 12, PARCEL 260

DPZ FILES: S-01-20, WP-01-117, P-02-10, P-02-17, P-03-03, F-03-87

SCALE: AS SHOWN
JOB No. 506V3
DATE: 1-14-03
INDEX No. SC-4
SHEET No. 15 OF 33

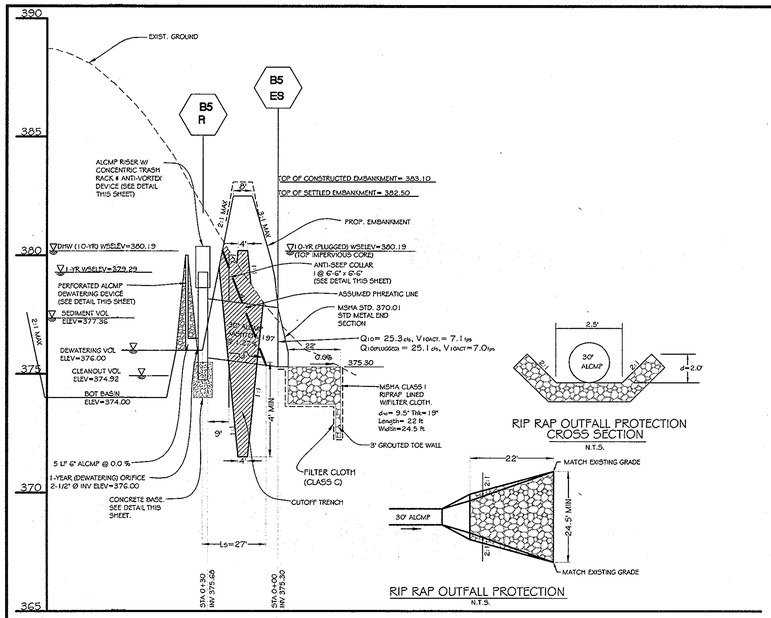
Q:\projects\506V\dwg\Final Construction Plan\SFD_506V3\15-SEDCTRL-NOTES&DETAILS.dwg 04/02/2003 09:44:40 AM EST

F-03-100

STRUCTURE SCHEDULE

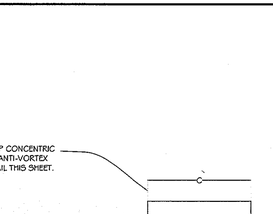
(SEE DIMENSIONS ON RISER, RISER BASE, TRASH RACK, AND DEWATERING DEVICE DETAILS THIS SHEET)

STRUCTURE	STRUCTURE DIMENSIONS									ELEVATION DATA						
	A (IN)	B (IN)	C (IN)	D (IN)	E (IN)	F(IN)	G(IN)	H(IN)	K(IN)	BASIN BOT.	SEDIMENT C/O ELEV.	WET VOL. ELEV.	DRY VOL. ELEV.	INV 1	INV 2	WEIR CREST / TOP DEWATERING DEVICE	1-YEAR WS ELEV	10-YEAR WS ELEV
TRAP A	24	36	54	3	12	72	72	72	24	394.00	394.39	394.78	395.48	393.60	394.78	396.35	396.34	396.96
BASIN 5	30	48	72	2.5	12	78	78	96	24	374.00	374.92	376.00	377.36	375.68	376.00	379.30	379.29	380.19



PROFILE THROUGH PRINCIPAL SPILLWAY BASIN '5'

Scale:
H: 1"=30'
V: 1"=3'

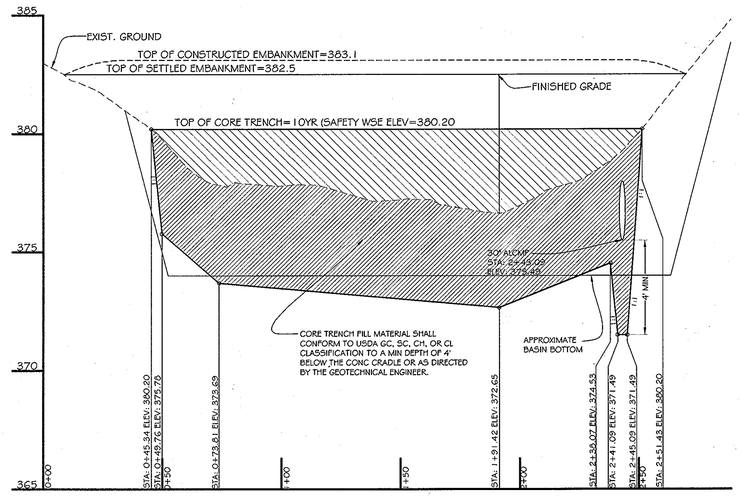


RIP RAP OUTFALL PROTECTION CROSS SECTION

N.T.S.

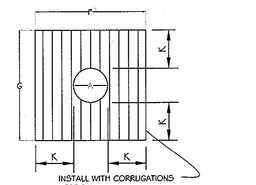
RIP RAP OUTFALL PROTECTION

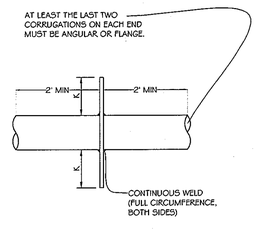
N.T.S.



PROFILE ALONG CENTERLINE OF EMBANKMENT BASIN '5'

Scale:
H: 1"=30'
V: 1"=3'

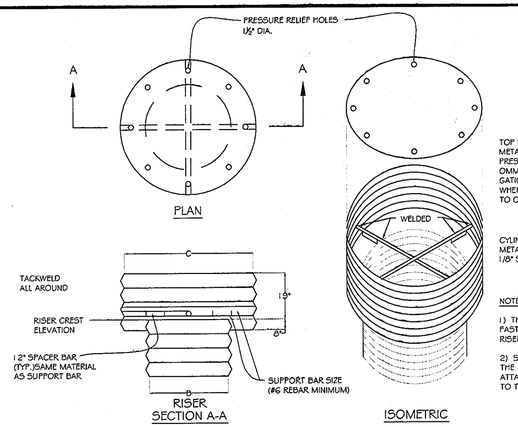




COLLAR WELDED IN PLACE ON BARREL SECTION

ANTI-SEEP COLLAR

N.T.S.



TOP IS 12 GAGE CORRUGATED METAL OF 1/8" STEEL PLATE. PRESSURE RELIEF HOLES MAY BE OMMITTED, IF ENDS OF CORRUGATIONS ARE LEFT FULLY OPEN WHEN CORRUGATED TOP IS WELDED TO CYLINDER.

CYLINDER IS 14 GAGE CORRUGATED METAL PIPE OR FABRICTATED FORM 1/8" STEEL PLATE.

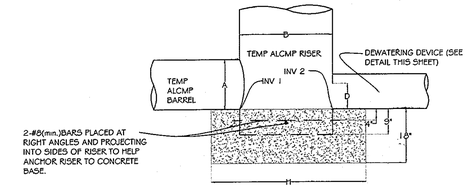
NOTES:

1) THE CYLINDER MUST BE FIRMLY FASTENED TO THE TOP OF THE RISER.

2) SUPPORT BARS ARE WELDED TO THE TOP OF THE RISER OR ATTACHED BY STRAPS BOLTED TO TOP OF RISER.

CONCENTRIC TRASH RACK AND ANTI -VORTEX DEVICE

N.T.S.



NOTES:

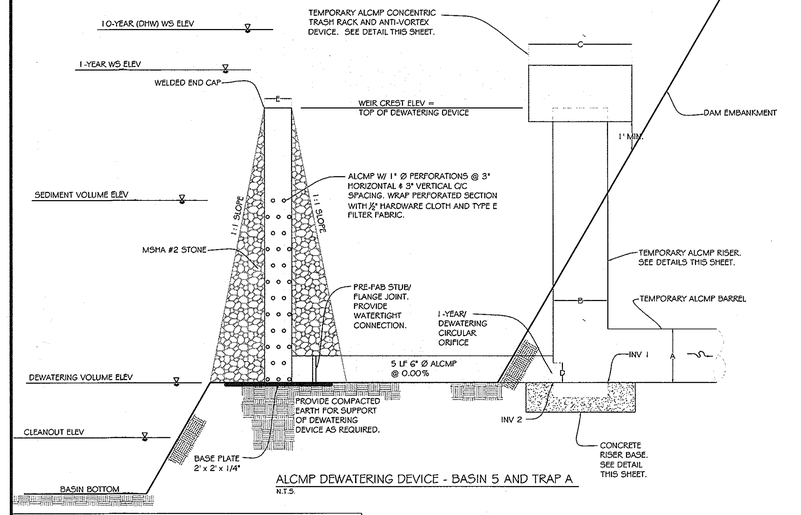
1. THE CONCRETE BASE SHALL BE POURED IN SUCH A MANNER TO INSURE THAT THE CONCRETE FILLS THE BOTTOM OF THE RISER TO THE INVERT OF THE OUTLET PIPE TO PREVENT THE RISER FROM BREAKING AWAY FROM THE BASE.

2. WITH ALUMINUM OR ALUMINIZED PIPE, THE EMBEDDED SECTION MUST BE PAINTED WITH ZINC CHROMATE OR EQUIVALENT.

3. BASE WIDTH IS 2 X RISER DIAMETER.

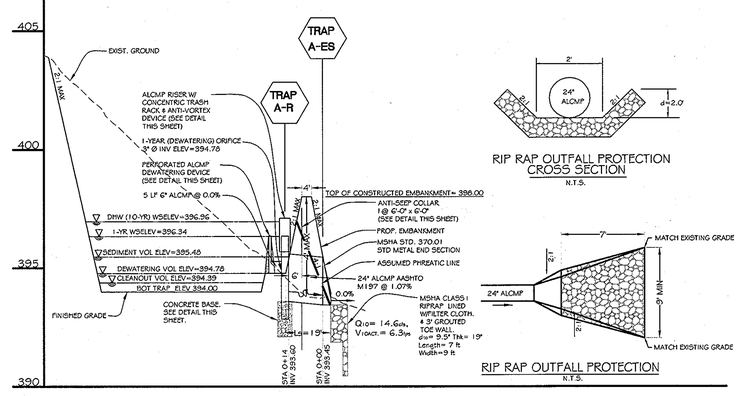
RISER BASE

N.T.S.



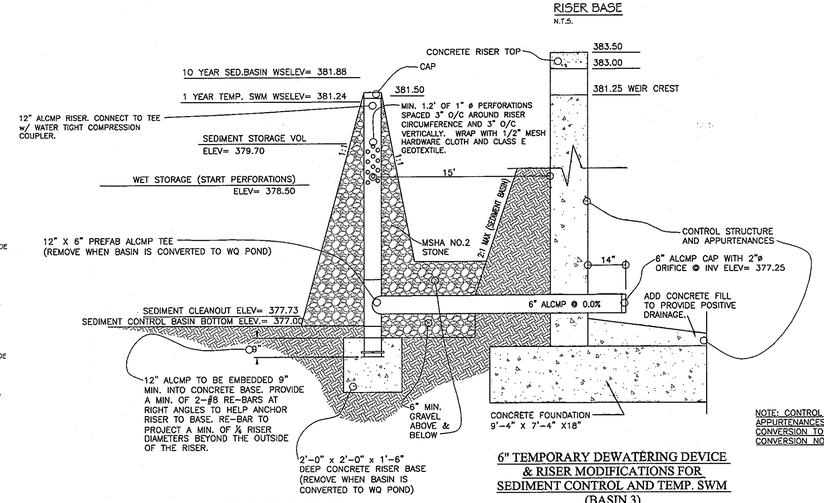
ALCMP DEWATERING DEVICE - BASIN 5 AND TRAP A

N.T.S.



PROFILE THROUGH PRINCIPAL SPILLWAY TRAP 'A'

Scale:
H: 1"=30'
V: 1"=3'



6" TEMPORARY DEWATERING DEVICE & RISER MODIFICATIONS FOR SEDIMENT CONTROL AND TEMP. SWM (BASIN 3)

NOT TO SCALE

NOTE: CONTROL STRUCTURE & APPURTENANCES TO REMAIN FOR CONVERSION TO WQ POND. SEE CONVERSION NOTES, THIS SHEET.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 11/27/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/17/03

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAYS — DATE 10-14-03

APPROVED:

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 10/2/03

APPROVED:

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 10/2/03

DEVELOPER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN 'AS-BUILT' PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."

Stephen J. Nardella — 9/23/03

SIGNATURE OF DEVELOPER (PRINT NAME BELOW SIGNATURE) — DATE

ENGINEER'S CERTIFICATE

"I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN 'AS-BUILT' PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION."

9/24/03

SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE

CONVERSION NOTES: TEMPORARY DEWATERING DEVICE TO POND DRAIN

(SEE TEMPORARY DEWATERING DEVICE & RISER MODIFICATION DETAILS THIS SHEET, & SAND FILTER DETAIL ON SWM POND 3 – SWM PLAN, &PROFILE & DETAILS, SHEET 20)

1. OBTAIN PERMISSION FROM EROSION & SEDIMENT CONTROL INSPECTOR. REMOVE MSHA NO. 2 STONE, 12" ALCMP RISER, 12" X 6" ALCMP TEE, CONCRETE BASE FOR 12" ALCMP RISER, & HORIZONTAL 6" ALCMP PIPE FROM THE RISER TO THE CONTROL STRUCTURE. REPLACE OR REPAIR ANY DAMAGE TO CONTROL STRUCTURE RESULTING FROM THE REMOVAL OF THE DEWATERING DEVICE & APPURTENANCES.

2. BRING BASIN TO PROPOSED GRADES AS SHOWN ON THE SWM PLAN (SHEET 20).

3. INSTALL WATER QUALITY SAND FILTER & APPURTENANCES AS PER PLAN, ONLY AFTER THE CONTRIBUTARY DRAINAGE AREA HAS BEEN VEGETATIVELY STABILIZED.

4. INSTALL 6" SCH 40 PVC FROM SAND FILTER THROUGH CONTROL STRUCTURE AS PER PLAN. PROVIDE WATER-TIGHT SEAL AROUND PIPE THROUGH THE CONSTROL STRUCTURE WALL.

5. DRESS UP & STABILIZE DISTURBED AREA AS REQUIRED.

STATE OF MARYLAND — STEPHEN J. NARDELLA — No. 19731 — REGISTERED PROFESSIONAL ENGINEER — 9/24/03

AS-BUILT PLANS
(No As-Built Data This Sheet)

DATE	REVISION	DATE		BY	DATE
			BASE DATA	CADD	
			DESIGNED		
	FINAL AS-BUILT REVISIONS	OCT-03	DRAWN		
	FINAL MYLAR SUBMITTAL FOR SIGNATURE	9/24/03	REVIEWED	PFB	
	RE-SUBMITTED FOR REVIEW AND APPROVAL	07/11/03	RELEASE FOR ☐		
	RE-SUBMITTED FOR REVIEW AND APPROVAL	04/25/03	BY		DATE
	SUBMITTED FOR REVIEW	1-14-03			

Developer/Owner:
Winchester Homes, Inc. &
Winchester Homes, Inc. , as nominee for Stringtown Investments, LLC
6905 Rockledge Drive
Suite 800
Bethesda, Maryland 20817
Stephen J. Nardella, Vice President
(301) 803 - 4800

SEDIMENT CONTROL
PROFILES & DETAILS

RODGERS CONSULTING
Enhancing the value of land assets
Rodgers Consulting, Inc.
9260 Gaither Road
Gaithersburg, MD 20877
301.948.4700
301.948.6256 (fax)
301.253.6609
www.rodgers.com

Montjoy - Single Family Detached

A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL C (F-03-87) TO BUILDABLE LOTS 127- 188 AND OPEN SPACE LOTS 189-193

ELECTION DISTRICT #2 HOWARD COUNTY, MARYLAND
TAX MAP: 30, GRID: 12, PARCEL 260

DPZ FILES: S-01-20, WP-01-117, P-02-10, P-02-17, P-03-03, F-03-87

SCALE:	AS SHOWN
JOB No.	506V3
DATE:	1-14-03
INDEX No.	SC-5
SHEET No.	16 OF 33

Q:\projects\506V3\dwg\Final Construction Plan\SFD_506V3\16-SEDCTRL-BASINS-TRAPA-PROFILES.dwg 04/02/2003 09:53:16 AM EST

F-03-100

STRUCTURE SCHEDULE

STR. No.	STRUCTURE TYPE	STRUCTURE LOCATION	STRUCTURE ELEVATION	INVERT (IN)	INVERT (IN)	INVERT (OUT)	REMARKS
I-300	STD. A-5 INLET (WIDTH=2.5') HOWARD CO. STD. SD 4.40	WETHERED DRIVE STA. 3+07.16 O/S 12.0' RT.	~~396.07~~ / ~~394.72~~ ~~395.08~~ / ~~394.13~~	~~392.55~~ ✓ ~~389.41~~ (18") ✓	~~392.68~~ ✓ ~~389.66~~ (15") ✓	~~389.28~~ ✓ ~~389.16~~ (18") ✓	
I-305	STD. A-5 INLET (WIDTH=2.5') HOWARD CO. STD. SD 4.40	WETHERED DRIVE STA. 3+07.16 O/S 12.00' LT.	~~395.09~~ / ~~394.70~~ ~~395.09~~ / ~~394.13~~	-----	-----	~~390.19~~ ✓ ~~389.34~~ (15") ✓	
I-310	STD. A-10 INLET (WIDTH=2.5') HOWARD CO. STD. SD 4.41	WETHERED DRIVE STA. 0+96.20 O/S 12.00' RT.	~~409.50~~ ~~409.44~~ / ~~409.03~~ ~~408.95~~	~~403.11~~ ✓ ~~403.19~~ (18") ✓	-----	~~402.91~~ ✓ ~~402.94~~ (18") ✓	
I-315	STD. A-5 INLET (WIDTH=2.5') HOWARD CO. STD. SD 4.40	WETHERED DRIVE STA. 0+98.20 O/S 12.00' LT.	~~409.26~~ ~~409.33~~ / ~~409.02~~ ~~409.06~~	~~404.09~~ ✓ ~~404.06~~ (18") ✓	-----	~~403.89~~ ✓ ~~403.83~~ (18") ✓	
I-320	STD. A-5 INLET (WIDTH=2.5') HOWARD CO. STD. SD 4.40	EXECUTIVE PARK DRIVE STA. 12+95.08 O/S 12.00' LT.	~~413.75~~ ~~413.88~~ / ~~413.72~~ ~~413.79~~	~~408.21~~ ✓ ~~407.38~~ (18") ✓	-----	~~403.76~~ ✓ ~~407.74~~ (18") ✓	
I-325	STD. A-5 INLET (WIDTH=2.5') HOWARD CO. STD. SD 4.40	EXECUTIVE PARK DRIVE STA. 12+95.07 O/S 12.00' RT.	~~413.91~~ ~~413.86~~ / ~~413.84~~ ~~413.79~~	~~408.53~~ ✓ ~~408.40~~ (18") ✓	-----	~~408.31~~ ✓ ~~408.24~~ (18") ✓	
M-330	MANHOLE HOWARD CO. STD. G5.11	EXECUTIVE PARK DRIVE STA. 11+63.33 O/S 25.00 RT.	~~416.21~~ ~~416.10~~	~~411.10~~ ✓ ~~411.16~~ (18") ✓	----	~~411.00~~ ✓ ~~410.91~~ (18") ✓	
I-335	STD. A-5 INLET (WIDTH=2.5') HOWARD CO. STD. SD 4.40	EXECUTIVE PARK DRIVE STA. 10+28.08 O/S 12.00 RT.	~~417.78~~ ~~417.73~~ / ~~417.74~~ ~~417.67~~	~~412.64~~ ✓ ~~412.66~~ (15") ✓	~~412.69~~ ✓ ~~412.66~~ (15") ✓	412.61 ✓ (18") ✓	
I-340	STD. A-10 INLET (WIDTH=2.5') HOWARD CO. STD. SD 4.41	EXECUTIVE PARK DRIVE STA. 8+06.81 O/S 12.00 RT.	~~423.38~~ ~~423.32~~ / ~~423.08~~ ~~423.16~~	----	-----	~~418.31~~ ✓ ~~418.16~~ (15") ✓	
I-345	STD. A-5 INLET (WIDTH=2.5') HOWARD CO. STD. SD 4.40	EXECUTIVE PARK DRIVE STA. 10+28.08 O/S 12.00 LT.	~~417.81~~ ~~417.93~~ / ~~417.79~~ ~~417.87~~	-----	-----	~~412.86~~ ✓ ~~413.14~~ (15") ✓	
ES-354	10" END SECTION MODIFIED--SEE REMARKS	N 573469.5850 E 1364034.0941	~~381.01~~ ~~380.83~~	~~380.18~~ ✓ ~~380.00~~ (10") ✓	----	-----	MITRE END OF PIPE OR PROVIDE A 12"x10" REDUCER W/12" HDPEP END SECTION
I-355	PRECAST STD. TYPE "D" INLET HOWARD CO. STD. S.D. 4.39	N 573420.4380 E 1364018.2485	~~385.53~~ ~~385.33~~	~~381.63~~ ✓ ~~381.09~~ (18") ✓	~~381.68~~ ✓ ~~380.60~~ (10") ✓	~~381.63~~ (21") ✓ ~~380.59~~ (10") ✓	DIVERSION STRUCTURE 21"ø RCP PIPE
M-360	MANHOLE HOWARD CO. STD. G5.11	N 573317.2345 E 1364025.0421	~~391.93~~ ~~391.80~~	~~383.93~~ ✓ ~~384.38~~ (18") ✓	-----	~~383.73~~ ✓ ~~384.13~~ (18") ✓	
M-365	MANHOLE HOWARD CO. STD. G5.11	N 573293.6494 E 1363858.7637	~~406.32~~ ~~406.26~~	~~398.50~~ ✓ ~~398.85~~ (18") ✓	-----	~~398.30~~ ✓ ~~398.66~~ (18") ✓	
M-370	MANHOLE HOWARD CO. STD. G5.11	N 573314.9847 E 1363805.0454	~~407.68~~ ~~407.72~~	~~402.83~~ ✓ ~~402.96~~ (18") ✓	~~398.53~~ ✓ ~~399.06~~ (15") ✓	~~399.28~~ ✓ ~~399.11~~ (18") ✓	
I-375	STD. A-5 INLET (WIDTH=2.5') HOWARD CO. STD. SD 4.40	SANTE FE COURT STA. 4+06.70 O/S 10.00' RT.	~~407.54~~ ~~407.70~~ / ~~407.34~~ ~~407.56~~	~~404.03~~ ✓ ~~404.06~~ (15") ✓	-----	~~404.12~~ ✓ ~~403.93~~ (15") ✓	
I-380	STD. A-5 INLET (WIDTH=2.5') HOWARD CO. STD. SD 4.40	SANTE FE COURT STA. 4+04.09 O/S 10.00' LT.	~~407.98~~ ~~407.74~~ / ~~407.63~~	-----	-----	~~404.43~~ ✓ ~~404.32~~ (15") ✓	
I-385	STD. A-10 INLET (WIDTH=2.5') HOWARD CO. STD. SD 4.41	SANTE FE COURT L.P STA. 1+43.21 O/S 0.0'	405.13 ✓ 405.13 ✓	-----	-----	~~400.70~~ ✓ ~~400.85~~ (15") ✓	LOCATED IN SUMP

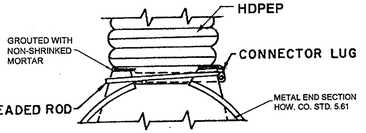
STR. No.	STRUCTURE TYPE	STRUCTURE LOCATION	STRUCTURE TC ELEVATION	INVERT (IN)	INVERT (IN)	INVERT (OUT)	REMARKS
ES-390	18"METAL END SECTION HOWARD CO. STD. SD-5.61	N 573297.9226 E 1363267.3591	~~378.60~~ ~~378.00~~	~~377.10~~ ✓ ~~377.16~~ (18") ✓	-----	-----	
M-395	MANHOLE HOWARD CO. STD. G5.11	N 573298.9173 E 1363316.3491	~~391.61~~ ~~392.00~~	~~386.90~~ ✓ ~~385.09~~ (15") ✓	-----	~~378.20~~ ✓ ~~378.11~~ (18") ✓	
I-400	PRECAST STD. TYPE "D" INLET HOWARD CO. STD. S.D. 4.39	N 573209.4524 E 1363449.4198	~~391.86~~ ~~391.85~~	-----	-----	~~388.46~~ ✓ ~~388.58~~ (15") ✓	
ES-405	18" METAL END SECTION HOWARD CO. STD. SD-5.61	N 573482.4277 E 1363354.9618	~~377.92~~ ~~377.50~~	~~376.32~~ ✓ ~~376.20~~ (18") ✓	-----	-----	
M-410	MANHOLE HOWARD CO. STD. G5.11	N 573497.2042 E 1363445.7073	~~393.87~~ ~~393.34~~	~~384.41~~ ✓ ~~384.77~~ (15") ✓	~~386.97~~ ✓ ~~387.39~~ (15") ✓	~~380.29~~ ✓ ~~381.82~~ (18") ✓	
I-415	PRECAST STD. TYPE "D" INLET HOWARD CO. STD. S.D. 4.39	N 573478.8246 E 1363570.7525	~~391.96~~ ~~391.85~~	-----	-----	388.58 ✓ (15") ✓	
I-420	PRECAST STD. TYPE "D" INLET HOWARD CO. STD. S.D. 4.39	N 573574.2252 E 1363434.9123	~~386.85~~ ~~386.83~~	-----	-----	382.68 ✓ (15") ✓	
ES-425	24" METAL END SECTION HOWARD CO. STD. SD-5.61	N 573275.9288 E 1363226.7434	~~379.10~~ ~~379.00~~	~~377.10~~ ✓ ~~377.04~~ (24") ✓	-----	-----	
M-430	MANHOLE HOWARD CO. STD. G5.11	WETHERED DRIVE STA. 4+21.64 O/S 12.85' RT.	389.58 ✓	~~377.19~~ ✓ ~~377.59~~ (24") ✓	-----	~~377.14~~ ✓ ~~377.54~~ (24") ✓	
M-435	MANHOLE HOWARD CO. STD. G5.11	WETHERED DRIVE STA. 5+17.91 O/S 12.98' RT.	~~386.82~~ ~~387.00~~	~~378.34~~ ✓ ~~378.74~~ (24") ✓	-----	378.58 ✓ (24") ✓	
I-440	STD. A-5 INLET (WIDTH=3.0') HOWARD CO. STD. SD 4.40	WETHERED DRIVE STA. 5+99.03 O/S 10.00' RT.	~~386.19~~ ~~386.26~~ / ~~386.20~~	~~379.45~~ ✓ ~~379.66~~ (18") ✓	-----	~~378.13~~ ✓ ~~379.16~~ (24") ✓	LOCATED IN SUMP
I-445	STD. A-10 INLET (WIDTH=3.0') HOWARD CO. STD. SD 4.41	WETHERED DRIVE STA. 6+75.92 O/S 10.00' RT.	~~386.95~~ ~~386.78~~ / ~~386.80~~ ~~386.98~~	~~379.99~~ ✓ ~~380.23~~ (18") ✓	~~380.00~~ ✓ ~~380.21~~ (18") ✓	~~379.99~~ ✓ ~~380.04~~ (18") ✓	
M-450	MANHOLE HOWARD CO. STD. G5.11	WETHERED DRIVE STA. 7+84.64 O/S 13.04' RT.	~~393.10~~ ~~393.90~~	~~384.60~~ ✓ ~~384.99~~ (18") ✓	-----	~~384.55~~ ✓ ~~384.82~~ (18") ✓	
I-455	STD. A-10 INLET (WIDTH=2.5') HOWARD CO. STD. SD 4.41	WETHERED DRIVE STA. 8+60.01 O/S 10.00' RT.	~~393.51~~ ~~393.32~~ / 392.93 ✓	~~388.28~~ ✓ ~~388.46~~ (15") ✓	-----	~~388.03~~ ✓ ~~388.21~~ (18") ✓	
I-460	PRECAST STD. TYPE "D" INLET HOWARD CO. STD. S.D. 4.39	N 573463.0149 E 1362749.5924	~~395.86~~ ~~396.11~~	-----	-----	390.96 ✓ (15") ✓	
I-465	PRECAST STD. TYPE "D" INLET HOWARD CO. STD. S.D. 4.39	N 573177.1138 E 1362867.2711	~~387.29~~ ~~387.60~~	~~381.64~~ ✓ ~~381.28~~ (15") ✓	-----	~~381.57~~ ✓ ~~381.84~~ (18") ✓	
I-470	PRECAST STD. TYPE "D" INLET HOWARD CO. STD. S.D. 4.39	N 573212.0160 E 1362799.0359	~~392.72~~ 393.00	-----	-----	~~387.32~~ ✓ ~~388.09~~ (15") ✓	

NOTES:
1. ALL CURB INLETS SHALL BE CAST FOR STANDARD 7" COMBINATION CURB & GUTTER (HOWARD CO. STD. R-3.01).
2. OFFSET FOR INLETS IS TO FACE OF CURB, AND FOR MANHOLES IS TO CENTER OF STRUCTURE.
3. STATION INDICATES THE CENTER OF THE OUTSIDE WALL OF THE THROAT SECTION FOR INLETS AND THE CENTER OF THE STRUCTURE FOR MANHOLES.
4. TC. ELEV. / TC ELEV. DENOTES THE UPSTREAM AND DOWNSTREAM EDGE OF THE OUTSIDE WALL OF THE THROAT SECTION FOR INLETS AND CENTER OF THE STRUCTURE FOR MANHOLES.

PIPE SCHEDULE

SIZE	TYPE	LENGTH
10"	HDPEP	50 L.F.
15"	HDPEP	999 L.F.
18"	HDPEP	1702 L.F.
24"	HDPEP	234 L.F.
21"	RCP, CLASS III	57 L.F.

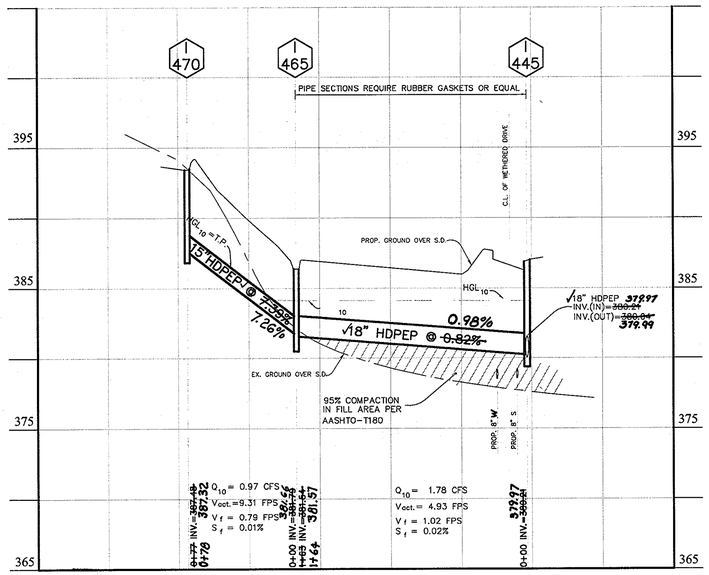
NOTES:
1. PIPE LENGTH SHOWN ON SCHEDULE ARE BASED ON PROFILE LENGTHS FROM CENTERLINE TO CENTERLINE OF THE STRUCTURES FOR PRECAST TYPE STRUCTURES.
2. PIPES SHOWN HEREON ARE RCP, CLASS III AND HI-Q PIPES MANUFACTURED BY HANCOR OR APPROVED EQUAL.
3. ALL PRECAST STRUCTURES SHALL BE PER HOWARD CO. STANDARD AND SPECIFICATIONS OR APPROVED EQUAL.



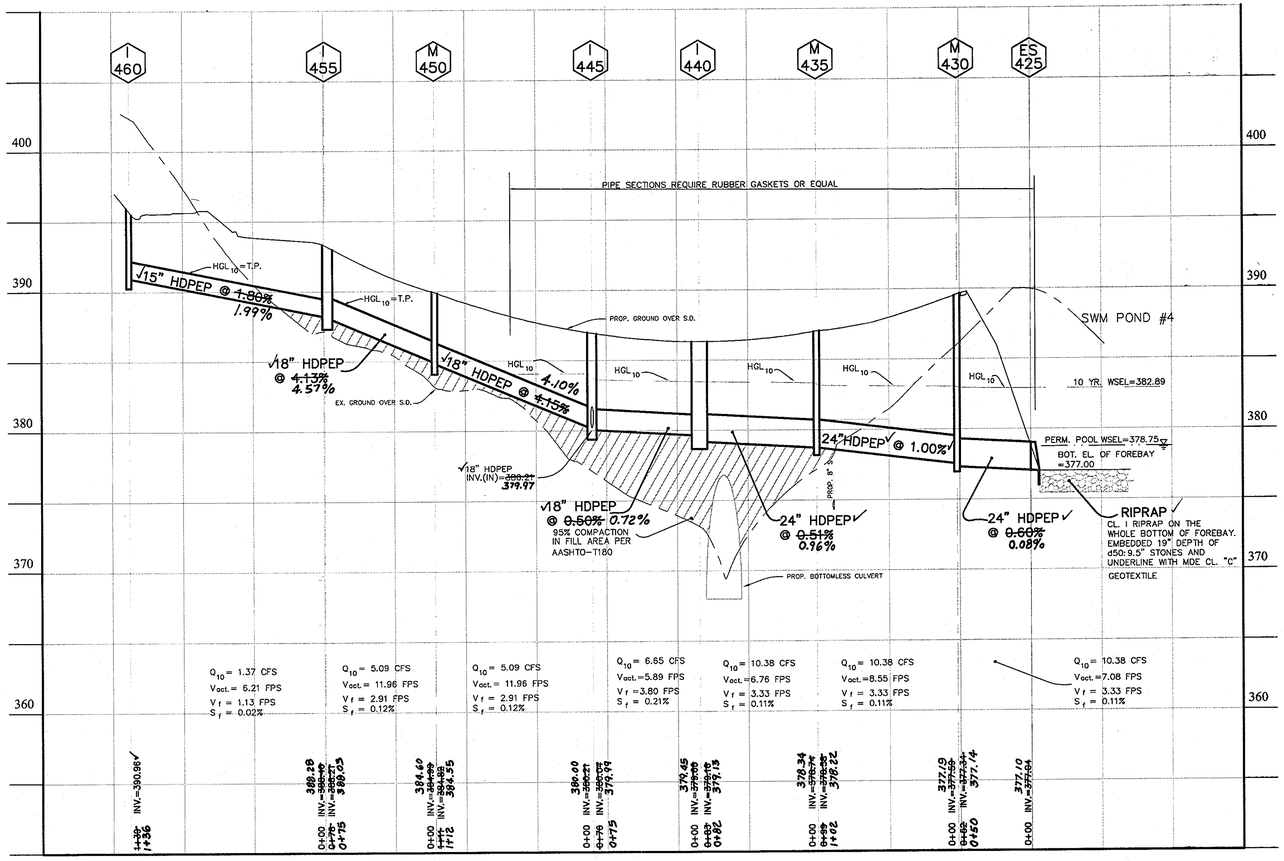
MODIFIED METAL END SECTION / HDPEP CONNECTION DETAIL
NOT TO SCALE

STORM DRAIN NOTES

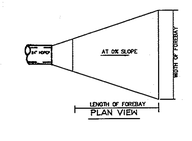
1. ALL STORM DRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH LATEST STANDARD AND SPECIFICATION OF HOWARD COUNTY PLUS SHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE.
2. FOR TYPES OF STRUCTURES, REFER TO THE STANDARD STORM DRAINAGE DETAILS OF HOWARD COUNTY.
3. WHERE THE DROP ON THE MAIN LINE THROUGH A STRUCTURE CAN BE ACCOMMODATED BY AN INVERT SLOPE OF 1 1/2:1 OR FLATTER, A ROUNDED CHANNEL SHALL BE BUILT TO THE CROWN OF THE PIPES.
4. INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS, BUT THE CONTRACTOR MUST DETERMINE THE EXACT LOCATION AND ELEVATIONS OF THE MAINS BY DIGGING TEST PITS BY HAND AT ALL UTILITY CROSSINGS, WELL IN ADVANCE OF TRENCHING. IF CLEARANCES ARE LESS THAN SHOWN ON THIS PLAN OR TWELVE (12) INCHES, WHICHEVER IS LESS, CONTACT THE INSPECTOR AND THE APPROPRIATE UTILITY OWNER BEFORE PROCEEDING WITH CONSTRUCTION.
5. CONTRACTOR MAKING ADJUSTMENTS TO EXISTING UTILITIES MUST BE APPROVED AND WORK UNDER THE SUPERVISION OF THE UTILITY COMPANY AND/OR HOWARD CO. DEPT. OF PUBLIC WORKS. REQUIRED MATERIAL'S MUST BE APPROVED BY THE APPROPRIATE UTILITY OWNER OR/AND THE HOWARD COUNTY DEPARTMENT IF PUBLIC WORKS.
6. ALL INLETS SHALL BE PROVIDED WITH WEEP HOLES AND FOUNDATION DRAINAGE MATERIALS PER HOWARD CO. STANDARDS.
7. WHERE ANY PART OF THE STORM DRAIN SYSTEM IS LOCATED IN FILL SECTION, PROVIDE SELECT FILL MATERIAL COMPACTED TO 95% AASHTO T-180 DENSITY FROM ORIGINAL UNDISTURBED GROUND UP TO STRUCTURE BOTTOM SLABS AND PIPE BEDDING. PROVIDE BEDDING PER HOWARD COUNTY STD. DETAIL #02.01
8. ELEVATIONS SHOWN ON PROFILES ARE AT PIPE INVERTS, UNLESS OTHERWISE NOTED.
9. GRADE ALL DISTURBED AREAS TO PROVIDE POSITIVE DRAINAGE.
10. ALL STANDARD STORM DRAINAGE STRUCTURES ARE SUBJECT TO MODIFICATION BY THE FIELD INSPECTOR TO MEET FIELD REQUIREMENTS.
11.. CONTRACTOR SHALL NOTIFY MISS UTILITY (1-800-257-7777), 48 HOURS IN ADVANCE OF ANY EXCAVATION.



STORM DRAIN PROFILE: FROM M-445 TO I-470
(PUBLIC SYSTEM)



STORM DRAIN PROFILE: FROM ES-425 TO I-460
(PUBLIC SYSTEM)



NOTE: FILTER CLOTH SHALL BE GEOTEXTILE CLASS C

RIP RAP PROTECTION DETAIL FOR ES-425

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

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/27/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/17/03

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAY — DATE 10-14-03

CALL "MISS UTILITY" AT 1-800-257-7777
48 Hours Before Start Of Construction

AS-BUILT PLANS

DATE	REVISION	DATE
	FINAL AS-BUILT REVISIONS	OCT-08
	FINAL MYLAR SUBMITTAL FOR SIGNATURE	9/24/03
	RE-SUBMITTED FOR REVIEW AND APPROVAL	07/11/03
	RE-SUBMITTED FOR REVIEW AND APPROVAL	04/25/03
	1. SUBMITTED FOR APPROVAL	12/02

	BY	DATE
BASE DATA	CADD	
DESIGNED	PFB,YSL	
DRAWN	YSL	
REVIEWED	PFB/RF	

RELEASE FOR _____ BY _____ DATE

Developer/Owner:
Winchester Homes, Inc. &
Winchester Homes, Inc. , as nominee for Stringtown Investments, LLC
6905 Rockledge Drive
Suite 800
Bethesda, Maryland 20817
Stephen J. Nardella, Vice President
(301) 803 - 4800

CONSTRUCTION PLANS
STORM DRAIN PROFILES

RODGERS CONSULTING
Enhancing the value of land assets
Rodgers Consulting, Inc.
9260 Gaither Road
Gaithersburg, MD 20877
301.948.4700
301.948.6256 (fax)
301.253.6609
www.rodgers.com

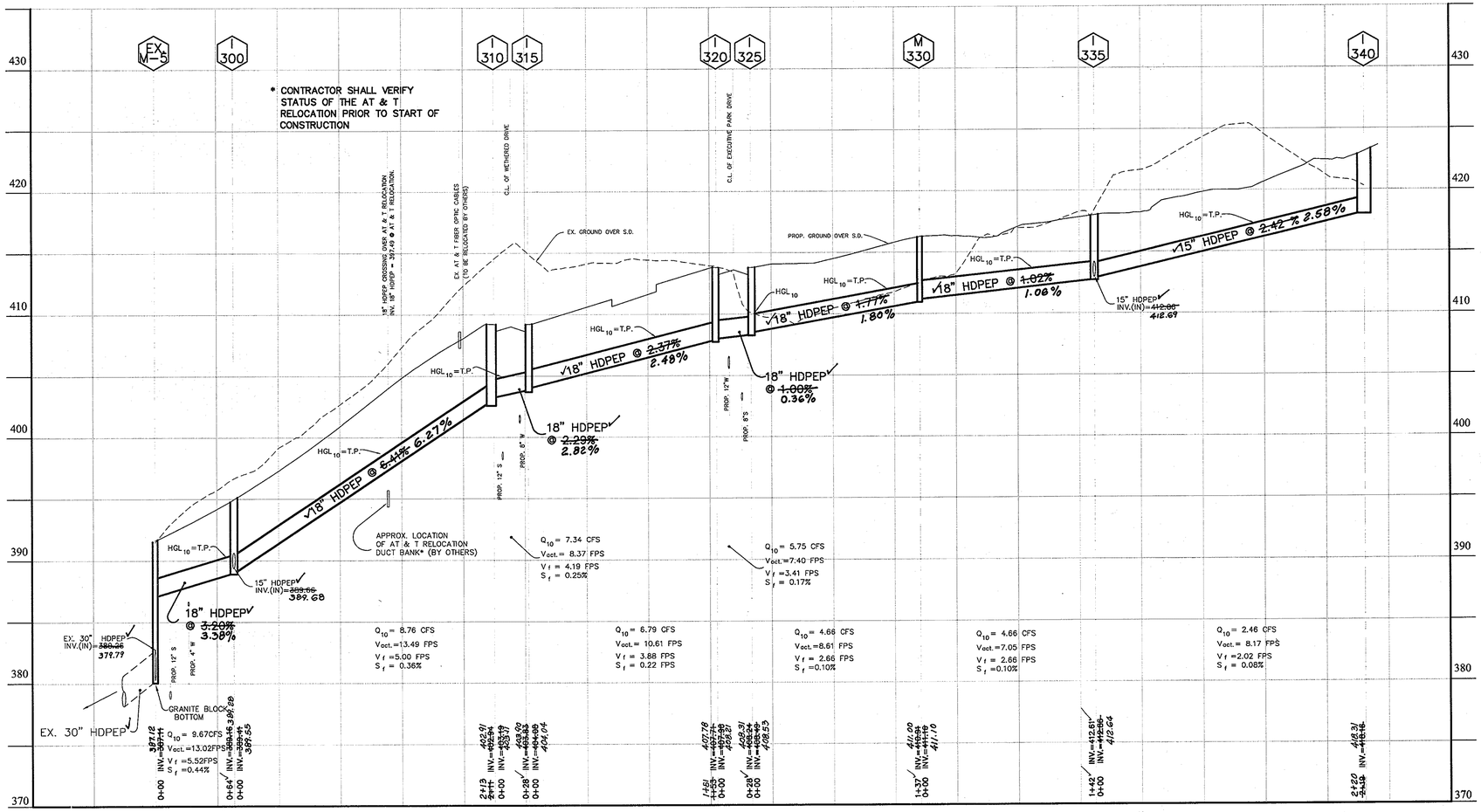
Montjoy - Single Family Detached
A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL C (F-03-87) TO BUILDABLE LOTS 127- 188 AND OPEN SPACE LOTS 189-193
ELECTION DISTRICT #2 HOWARD COUNTY, MARYLAND
TAX MAP: 30, GRID: 12, PARCEL 260
DPZ FILES: S-01-20, WP-01-117, P-02-10, P-02-17, P-03-03, F-03-87

SCALE:	AS SHOWN
JOB No.	506v3
DATE:	01/14/03
INDEX No.	SD-1
SHEET No.	17 OF 34

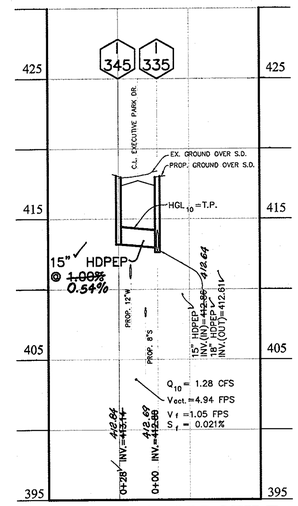
F-03-100

Q:\projects\506V\dwg\Final Construction Plan\SFD_506V3\17-SDPROFILES-FINAL-SFD.dwg 09/23/2003 06:41:34 AM EDT

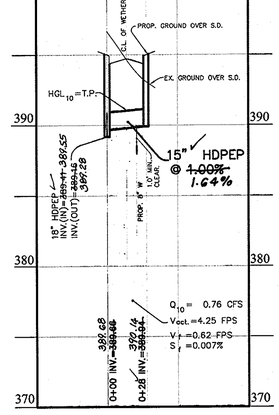
CALL "MISS UTILITY" AT
1-800-257-7777
48 Hours Before Start Of Construction



STORM DRAIN PROFILE: FROM EX. M-5 TO I-340
(PUBLIC SYSTEM)



STORM DRAIN PROFILE:
FROM I-345 TO I-335
(PUBLIC SYSTEM)



STORM DRAIN PROFILE:
FROM I-300 TO I-305
(PUBLIC SYSTEM)

AS-BUILTS 11/5/03

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

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/27/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/17/03

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAY — DATE 10-14-03

AS-BUILT PLANS

DATE	REVISION	DATE
	FINAL AS-BUILT REVISIONS	Oct-08
	FINAL MYLAR SUBMITTAL FOR SIGNATURE	9/24/03
	RE-SUBMITTED FOR REVIEW AND APPROVAL	07/11/03
	RE-SUBMITTED FOR REVIEW AND APPROVAL	04/25/03
	1. SUBMITTED FOR APPROVAL	12/02

	BY	DATE
BASE DATA	CADD	
DESIGNED	PFB,YSL	
DRAWN	YSL	
REVIEWED	PFB	

RELEASE FOR ☐

BY _____ DATE _____

Developer/Owner:
Winchester Homes, Inc. &
Winchester Homes, Inc. , as nominee for Stringtown Investments, LLC
6905 Rockledge Drive
Suite 800
Bethesda, Maryland 20817
Stephen J. Nardella, Vice President
(301) 803 - 4800

CONSTRUCTION PLANS
STORM DRAIN PROFILES

RODGERS CONSULTING
Enhancing the value of land assets

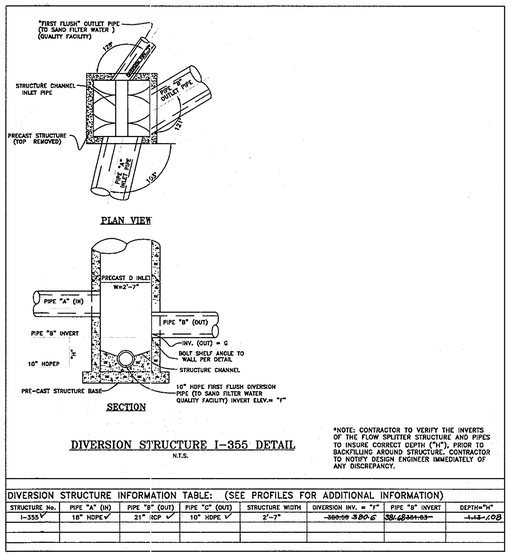
Rodgers Consulting, Inc.
9260 Gaither Road
Gaithersburg, MD 20877
301.948.4700
301.948.6256 (fax)
301.253.6609
www.rodgers.com

Montjoy - Single Family Detached
A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL C (F-03-87)
TO
BUILDABLE LOTS 127- 188 AND OPEN SPACE LOTS 189-193
ELECTION DISTRICT #2 HOWARD COUNTY, MARYLAND
TAX MAP: 30, GRID: 12, PARCEL 260
DPZ FILES: S-01-20, WP-01-117, P-02-10, P-02-17, P-03-03, F-03-87

SCALE:	AS SHOWN
JOB No.	506v3
DATE:	11/02/02
INDEX No.	SD-2
SHEET No.	18 OF 34

Q:\projects\506V\dwg\Final Construction Plan\SFD_506V3\18-SDPROFILES-FINAL-SFD.dwg 09/23/2003 08:45:12 AM EDT

F-03-100

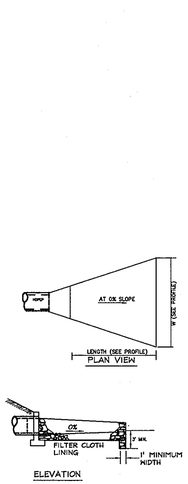


DIVERSION STRUCTURE I-355 DETAIL
N.T.S.

*NOTE: CONTRACTOR TO VERIFY THE INVERTS OF THE FLOW SPLITTER STRUCTURE AND PIPES TO INSURE CORRECT DEPTH ("H"), PRIOR TO BACKFILLING AROUND STRUCTURE. CONTRACTOR TO NOTIFY DESIGN ENGINEER IMMEDIATELY OF ANY DISCREPANCY.

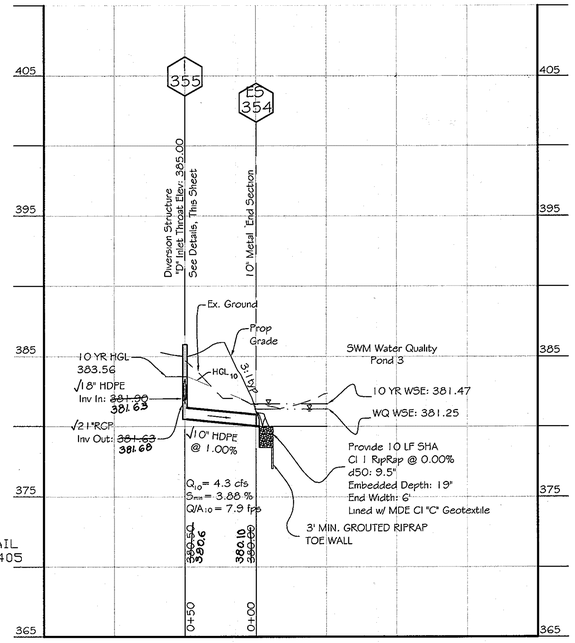
DIVERSION STRUCTURE INFORMATION TABLE: (SEE PROFILES FOR ADDITIONAL INFORMATION)

STRUCTURE No.	PIPE "A" (IN)	PIPE "B" (OUT)	PIPE "C" (OUT)	STRUCTURE WIDTH	DIVERSION INV. = "F"	PIPE "B" INVERT	DEPTH="H"
I-355 ✓	18" HDPE ✓	21" RCP ✓	10" HDPE ✓	2'-7"	~~380.00~~ 380.6	~~381.63~~ 381.63	~~1.13~~ 1.08

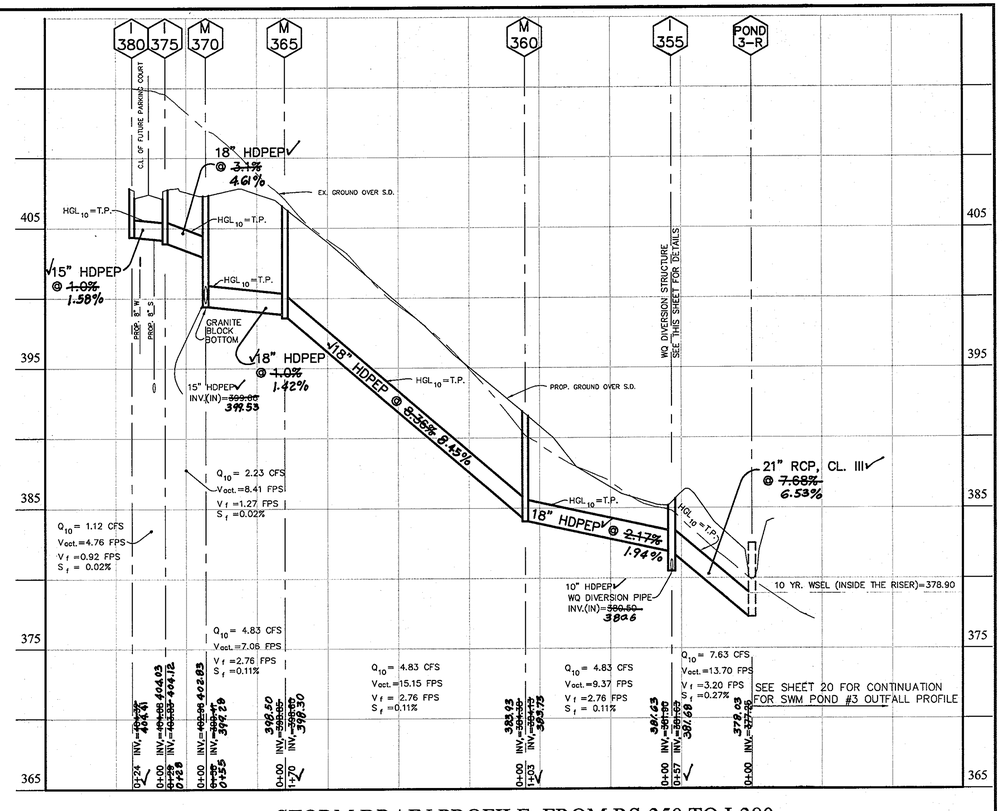


NOTE: FILTER CLOTH SHALL BE GEOTEXTILE CLASS C

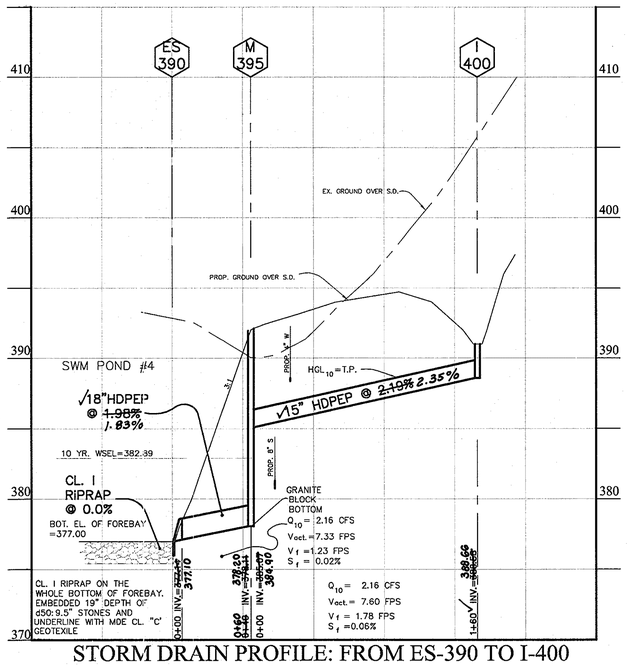
RIP RAP PROTECTION DETAIL
FOR ES-390, ES-354 & ES-405



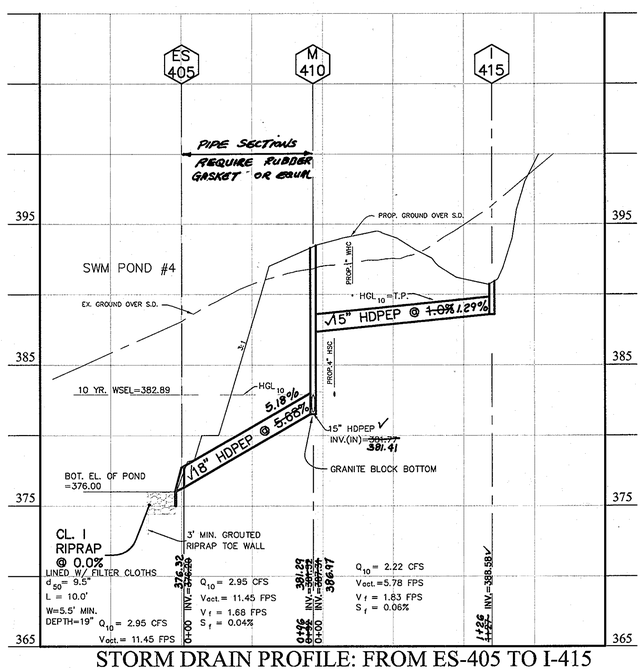
STORM DRAIN PROFILE: FROM ES-354 TO I-355



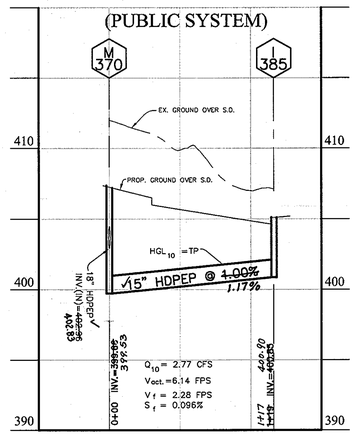
STORM DRAIN PROFILE: FROM RS-350 TO I-380
(PUBLIC SYSTEM)



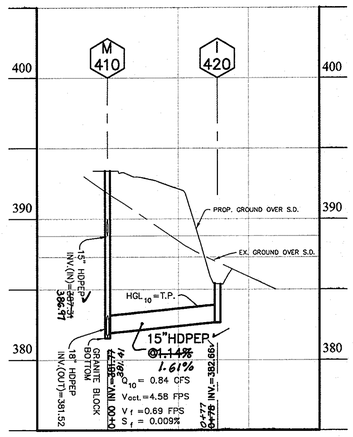
STORM DRAIN PROFILE: FROM ES-390 TO I-400
(PRIVATE SYSTEM)



STORM DRAIN PROFILE: FROM ES-405 TO I-415
(PUBLIC SYSTEM)



STORM DRAIN PROFILE:
FROM M-370 TO I-385
(PUBLIC SYSTEM)



STORM DRAIN PROFILE:
FROM M-410 TO I-420
(PUBLIC SYSTEM)

AS-BUILT PLANS

CALL "MISS UTILITY" AT 1-800-257-7777
48 Hours Before Start Of Construction

STATE OF MARYLAND — FRANK C. BOSSONG — No. 15870 REGISTERED PROFESSIONAL ENGINEER — 4/17/03
AS-BUILTS 4/17/03

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

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/27/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/17/03

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAY — DATE 10-14-03

DATE	REVISION	DATE
	FINAL AS-BUILT REVISIONS	OCT-08
	FINAL MYLAR SUBMITTAL FOR SIGNATURE	9/24/03
	RE-SUBMITTED FOR REVIEW AND APPROVAL	07/11/03
	RE-SUBMITTED FOR REVIEW AND APPROVAL	04/25/03
	1. SUBMITTED FOR APPROVAL	12/02

	BY	DATE
BASE DATA	CADD	
DESIGNED	PFB,YSL	
DRAWN	YSL	
REVIEWED	PFB/RF	
RELEASE FOR		
BY		DATE

Developer/Owner:
Winchester Homes, Inc. &
Winchester Homes, Inc. , as nominee for Stringtown Investments, LLC
6905 Rockledge Drive
Suite 800
Bethesda, Maryland 20817
Stephen J. Nardella, Vice President
(301) 803 - 4800

CONSTRUCTION PLANS
STORM DRAIN PROFILES

RODGERS CONSULTING
Enhancing the value of land assets

Rodgers Consulting, Inc.
9260 Gaither Road
Gaithersburg, MD 20877
301.948.4700
301.948.6256 (fax)
301.253.6609
www.rodgers.com

Montjoy - Single Family Detached
A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL C (F-03-87)
TO
BUILDABLE LOTS 127- 188 AND OPEN SPACE LOTS 189-193
ELECTION DISTRICT #2 HOWARD COUNTY, MARYLAND
TAX MAP: 30, GRID: 12, PARCEL 260
DPZ FILES: S-01-20, WP-01-117, P-02-10, P-02-17, P-03-03, F-03-87

SCALE:	AS SHOWN
JOB No.	506v3
DATE:	01/14/03
INDEX No.	SD-3
SHEET No.	19 OF 34

Q:\projects\506V\dwg\Final Construction Plan\SFD_506V3\19-SDPROFILES-FINAL-SFD.dwg 09/23/2003 06:49:33 AM EDT

F-03-100

DEVELOPER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN 'AS-BUILT' PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."

Stephen J. Nardella — 9/22/03

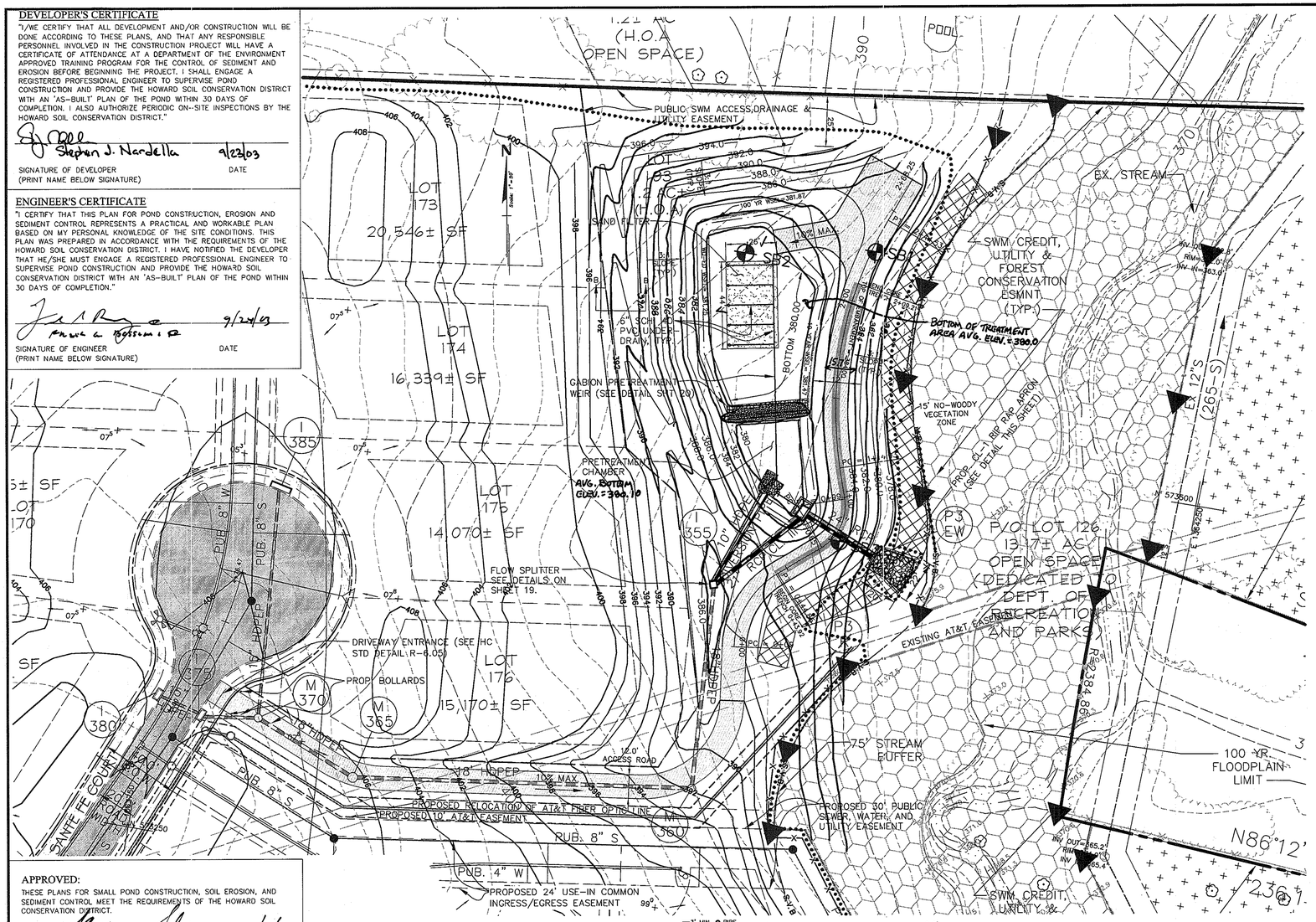
SIGNATURE OF DEVELOPER (PRINT NAME BELOW SIGNATURE) — DATE

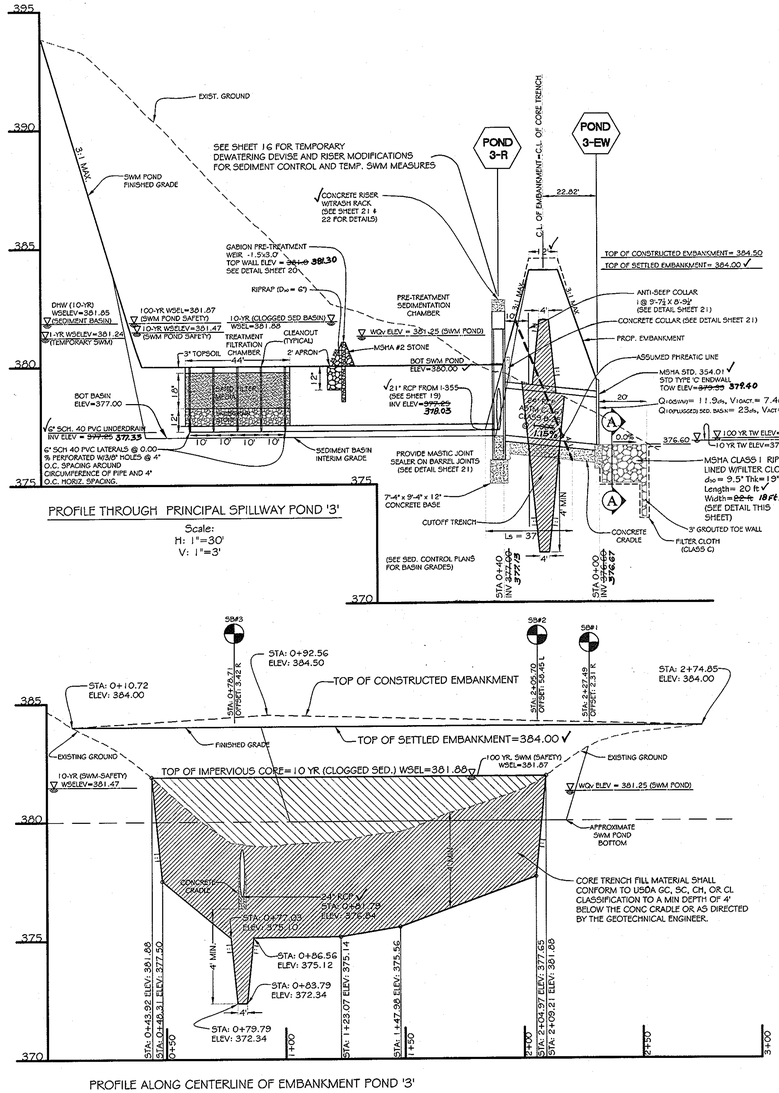
ENGINEER'S CERTIFICATE

"I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN 'AS-BUILT' PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION."

FRANK A. BOSSONG, JR. — 9/24/03

SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE





PROFILE THROUGH PRINCIPAL SPILLWAY POND '3'

Scale:
H: 1"=30'
V: 1"=3'

PROFILE ALONG CENTERLINE OF EMBANKMENT POND '3'

Scale:
H: 1"=30'
V: 1"=3'

APPROVED:

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

HOWARD SOIL CONSERVATION DISTRICT — 10/2/03 DATE

APPROVED:

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 — 10/2/03 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAY — 10-14-03 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

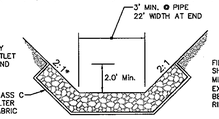
CHIEF, DIVISION OF LAND DEVELOPMENT — 10/27/03 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION — 10/17/03 DATE

SWM POND #3 NOTES:

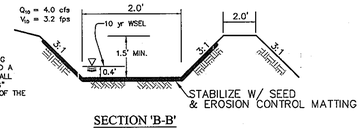
PUBLIC CLASS A POND.
SANDFILTER (F-1) WATER QUALITY ONLY
OWNER: HOA
JOINTLY MAINTAINED BY HOA & HOWARD COUNTY
SEE SHEET 23 FOR RUNOFF SUMMARY TABLES
SEE SHEET 24 FOR POND LANDSCAPING
SEE SHEET 14 FOR TEMPORARY SEDIMENT BASIN GRADES

*SIDE SLOPES TO VARY FROM 2:1 AT PIPE OUTLET TO FLAT AT FLARED END OF RIP-RAP.



√ RIPRAP INFLOW PROTECTION SECTION 'A-A'
NOT TO SCALE

FILTER FABRIC LINING SHALL BE EMBEDDED A MIN. OF 4" AND SHALL EXTEND AT LEAST 6" BEYOND THE EDGE OF THE RIP-RAP.



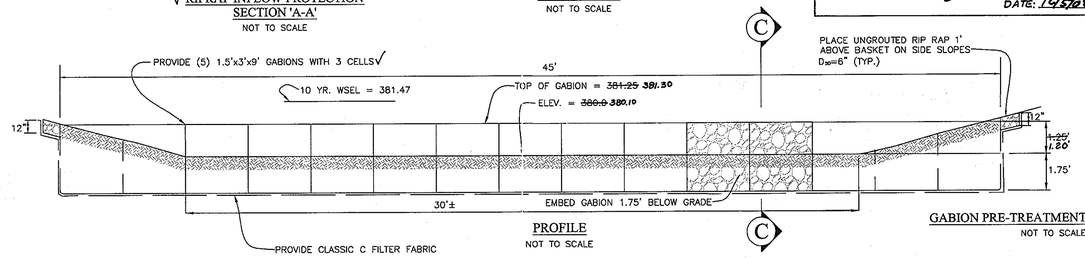
SECTION 'B-B'
NOT TO SCALE

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 PLAN AND SPECIFICATIONS.

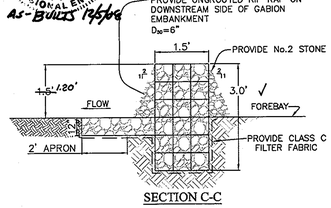
SIGNATURE: Frank A. Bossong — P.E. NO.: 20637 — DATE: 12/5/08

AS-BUILTS 12/5/08



PROFILE
NOT TO SCALE

GABION PRE-TREATMENT WEIR DETAILS
NOT TO SCALE



SECTION C-C
NOT TO SCALE

GABION STRUCTURE NOTES

1. ALL WIRE USED IN GABION CONSTRUCTION SHALL BE GALVANIZED AND PLASTIC COATED. ALL PLIERS AND TOOLS SHALL BE PLASTIC COATED.
2. FILTER CLOTH SHALL BE PLACED WHENEVER GABION COMES IN CONTACT WITH SOIL.
3. STONE FILL SHALL CONSIST OF HARD, DURABLE CLEAN STONE, 4"-8" IN SIZE OR APPROVED BY THE ENGINEER.
4. CONSTRUCTION MATERIALS AND METHODS SHALL BE IN ACCORDANCE WITH MACCAFFERRI GABIONS INC., SPECS OR EQUAL.

NOTE: THIS PLAN TO BE USED FOR STORMWATER MANAGEMENT ONLY. ALL OTHER INFORMATION SHOWN FOR REFERENCE PURPOSE ONLY. SEE APPROPRIATE CONSTRUCTION DRAWING FOR ALL OTHER INFORMATION.

CALL "MISS UTILITY" AT 1-800-257-7777 48 Hours Before Start Of Construction

AS-BUILT PLANS

DATE	REVISION	DATE
	FINAL AS-BUILT REVISIONS	OCT'08
	FINAL MYLAR SUBMITTAL FOR SIGNATURE	9/24/03
	RE-SUBMITTED FOR REVIEW AND APPROVAL	07/11/03
	RE-SUBMITTED FOR REVIEW AND APPROVAL	04/25/03
	SUBMITTED FOR REVIEW	1-14-03

	BY	DATE
BASE DATA	CADD	
DESIGNED	PFB,YSL	
DRAWN	YSL	
REVIEWED	PFB	

RELEASE FOR _____ BY _____ DATE

Developer/Owner:
Winchester Homes, Inc. &
Winchester Homes, Inc. , as nominee for Stringtown Investments, LLC
6905 Rockledge Drive
Suite 800
Bethesda, Maryland 20817
Stephen J. Nardella, Vice President
(301) 803 - 4800

SWM POND 3
SWM PLAN, PROFILES & DETAILS

RODGERS CONSULTING
Enhancing the value of land assets
Rodgers Consulting, Inc.
9260 Gaither Road
Gaithersburg, MD 20877
301.948.4700
301.948.6256 (fax)
301.253.6609
www.rodgers.com

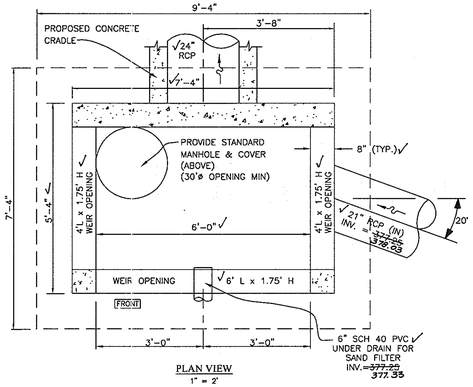
Montjoy - Single Family Detached

A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL C (F-03-87) TO BUILDABLE LOTS 127- 188 AND OPEN SPACE LOTS 189-193
ELECTION DISTRICT #2 HOWARD COUNTY, MARYLAND
TAX MAP: 30, GRID: 12, PARCEL 260
DPZ FILES: S-01-20, WP-01-117, P-02-10, P-02-17, P-03-03, F-03-87

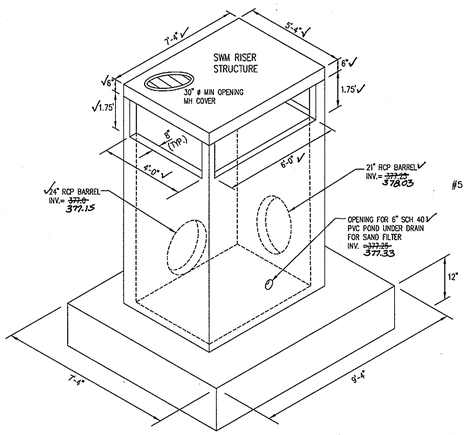
SCALE:	1"=30'
JOB No.	506V3
DATE:	1-14-03
INDEX No.	SWM-1
SHEET No.	20 OF 33

Q:\projects\506V\dwg\Final Construction Plan\SFD_506V3\20-SWM-PLAN-PROFILES-DETAILS-POND3.dwg 09/22/2003 07:28:53 PM EDT

F-03-100

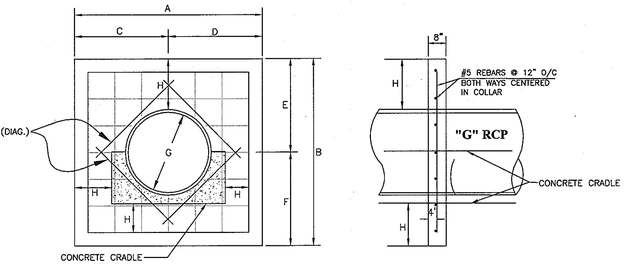


PLAN VIEW
1" = 2'



ISOMETRIC VIEW
NOT TO SCALE

NOTE: ANTI-SEEP COLLARS SHALL BE PLACED A MINIMUM OF 2 FT. FROM ANY PIPE JOINT.



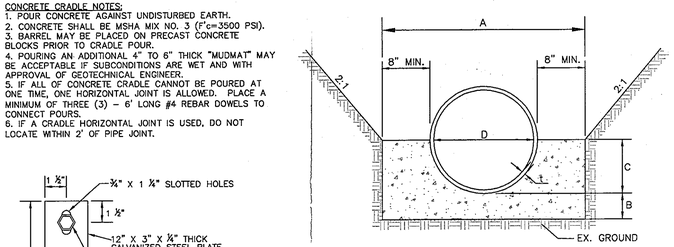
ANTI-SEEP COLLAR NOTES:
1. ANTI-SEEP COLLARS ARE TO BE FIELD LOCATED A MINIMUM OF 2' AWAY FROM ANY PIPE JOINT. SEE PIPE PROFILE FOR APPROX. SPACING.
2. CONCRETE SHALL BE MSHA MIX NO. 3 (F'c=3500 PSI).

ANTI-SEEP COLLAR DETAILS
N.T.S.

ANTI-SEEP COLLAR DETAIL DIMENSION TABLE

	"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"
POND 3	9'-7⅞"	8'-9¾"	4'-9⅝"	4'-9⅝"	4'-1⅝"	4'-7⅝"	24"	2'-10"

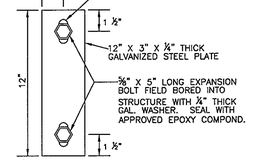
CONCRETE CRADLE NOTES:
1. POUR CONCRETE AGAINST UNDISTURBED EARTH.
2. CONCRETE SHALL BE MSHA MIX NO. 3 (F'c=3500 PSI).
3. BARREL MAY BE PLACED ON PRECAST CONCRETE BLOCKS PRIOR TO CRADLE POUR.
4. POURING AN ADDITIONAL 4" TO 6" THICK "MUDMAT" MAY BE ACCEPTABLE IF SUBCONDITIONS ARE WET AND WITH APPROVAL OF GEOTECHNICAL ENGINEER.
5. IF ALL OF CONCRETE CRADLE CANNOT BE POURED AT ONE TIME, ONE HORIZONTAL JOINT IS ALLOWED. PLACE A MINIMUM OF THREE (3) – 6' LONG #4 REBAR DOWELS TO CONNECT POURS.
6. IF A CRADLE HORIZONTAL JOINT IS USED, DO NOT LOCATE WITHIN 2' OF PIPE JOINT.



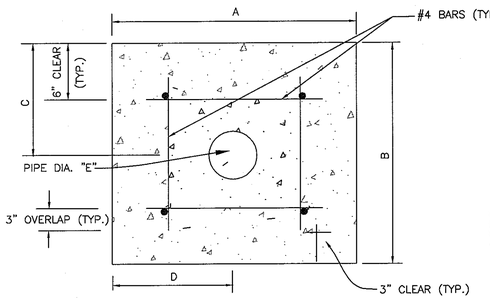
CONCRETE CRADLE DETAIL
N.T.S.

CONCRETE CRADLE DETAIL DIMENSION TABLE

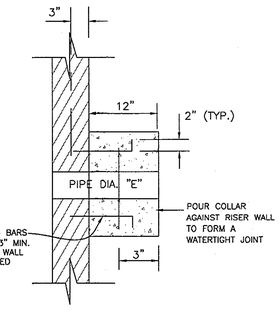
	"A"	"B"	"C"	"D"	"t"
POND 3	3'-11 ¼"	6"	15 ⅜"	24"	3 ⅜"



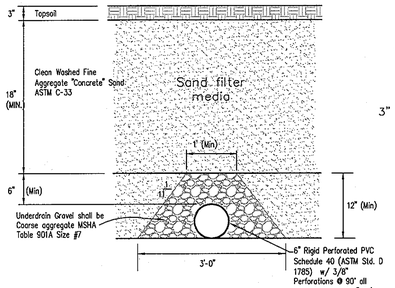
RISER JOINT FASTENER DETAIL
(IF REQUIRED)
NOT TO SCALE



(FRONT VIEW)



(SIDE VIEW)



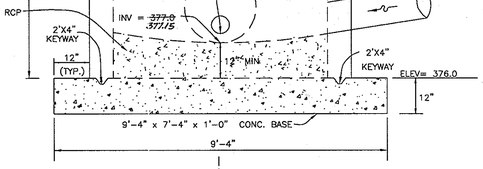
TYPICAL SAND FILTER SECTION
NOT TO SCALE

CONCRETE COLLAR NOTES:
1. CONCRETE SHALL BE MSHA MIX #3 (F'c=3500psi)
2. TO BE USED WITH PRE-CAST RISER ONLY.

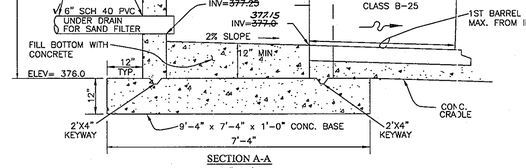
CONCRETE COLLAR DETAIL
N.T.S.

CONCRETE COLLAR DETAIL DIMENSION TABLE

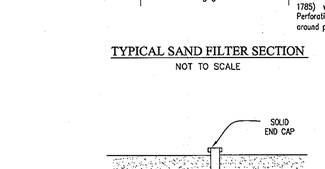
	"A"	"B"	"C"	"D"	"E"
POND 3	4'-7 ⅞"	4'-3 ⅝"	2'-3 ⅝"	2'-3 ⅝"	24"ø PIPE



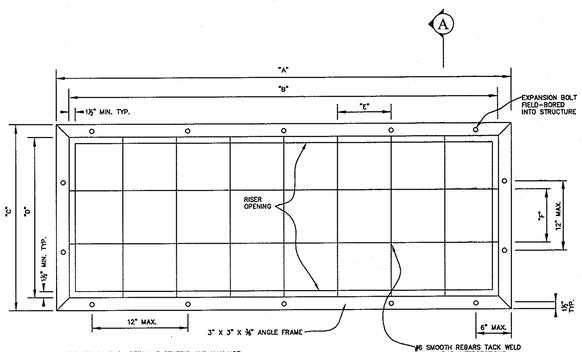
FRONT VIEW
1" = 2'



SECTION A-A
1" = 2'

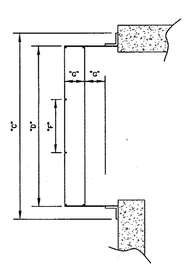


SAND FILTER CLEANOUT
NOT TO SCALE



NOTE: TRASH RACK DETAIL IS GENERIC AND MAY NOT REPRESENT THE NUMBER OF BARS SPECIFIED IN THE CHART.

ELEVATION
N.T.S.



SECTION A-A
(POND #3)
N.T.S.

LOCATION OF TRASH RACK	QUANTITY REQUIRED	"A"	"B"	"C"	"D"	"E"	"F"	"G"	NOTES:
POND 3-FRONT	1	6'-6"	6'-3"	2'-6"	2'-0"	6⅛"	7⅛"	8"	10 VERTICAL BARS IN FRONT, BENT TOP & BOTTOM 4 HORIZONTAL BARS IN FRONT, MIDDLE BARS BENT AROUND SIDES 2 HORIZONTAL BARS, 1 ALONG TOP & 1 ALONG BOTTOM 2 VERTICAL BARS, 1 ALONG EACH SIDE.
POND 3-SIDES	2	4'-6"	4'-3"	2'-6"	2'-0"	6⅛"	7⅛"	8"	7 VERTICAL BARS IN FRONT, BENT TOP & BOTTOM 4 HORIZONTAL BARS IN FRONT, MIDDLE BARS BENT AROUND SIDES 2 HORIZONTAL BARS, 1 ALONG TOP & 1 ALONG BOTTOM 2 VERTICAL BARS, 1 ALONG EACH SIDE.

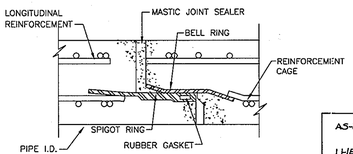
NOTE: TRASH RACKS ARE TO BE GALVANIZED AFTER FABRICATION, AND PAINTED WITH 2 COATS OF BATTLESHIP GREY PAINT.

RISER TRASH RACK DETAILS
N.T.S.

CONTROL STRUCTURE DETAIL
SCALE: 1"=2'

RISER STRUCTURE GENERAL NOTES FOR PRECAST OPTION:

1. PRECAST RISER AND TOP SLAB TO BE MANUFACTURED AND SUPPLIED BY FREDERICK PRECAST CONCRETE, INC. OR APPROVED EQUIVALENT.
2. SHOP DRAWINGS FOR RISER AND TOP SLAB MUST BE REVIEWED BY THE ENGINEER OF RECORD.
3. IF ANY DIMENSIONS ARE CHANGED OR REDUCED, REVISED ANTI-FLOTATION COMPUTATION MUST BE SUBMITTED WITH THE SHOP DRAWINGS TO HOWARD COUNTY FOR APPROVAL.
4. TRASH RACKS ARE NOT SHOWN FOR CLARITY.
5. PRECASTER SHALL ENSURE THAT RISER STRUCTURE JOINTS ARE WATERTIGHT (JOINTS SHALL INCLUDE RUBBER GASKET). RISER JOINTS THAT WILL BE BURIED SHALL BE WRAPPED IN CLASS "C" FILTER FABRIC 1' ON EACH SIDE OF JOINTS, OVERLAP 1' MIN.
6. ALL JOINTS SHALL BE FASTENED TOGETHER PER DETAIL ON THIS SHEET OR AN APPROVED EQUAL.



BARREL JOINT SEAL DETAIL
N.T.S.

STATE OF MARYLAND PAUL F. BOWEN PROFESSIONAL ENGINEER 20637 PROFESSIONAL ENGINEER
AS-BUILTS 12/5/08

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 PLAN AND SPECIFICATIONS

SIGNATURE _____ P.E. NO.: 20637
DATE: 12/5/08

AS-BUILT PLANS

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAY — DATE 10-14-03

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/27/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/17/03

APPROVED:
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 10/2/03

APPROVED:
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 10/2/03

ENGINEER'S CERTIFICATE

"I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION." I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."

SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE 9/24/03

DEVELOPER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."

Stephen J. Nardella

SIGNATURE OF DEVELOPER (PRINT NAME BELOW SIGNATURE) — DATE 9/23/03

CALL "MISS UTILITY" AT 1-800-257-7777
48 Hours Before Start Of Construction

NOTE: THIS PLAN TO BE USED FOR STORMWATER MANAGEMENT ONLY. ALL OTHER INFORMATION SHOWN FOR REFERENCE PURPOSE ONLY. SEE APPROPRIATE CONSTRUCTION DRAWING FOR ALL OTHER INFORMATION.

	DATE	REVISION	DATE		BY	DATE
				BASE DATA	CADD	
				DESIGNED		
		FINAL AS-BUILT REVISIONS	OCT-08	DRAWN		
		FINAL MYLAR SUBMITTAL FOR SIGNATURE	9/24/03	REVIEWED	PFB	
		RE-SUBMITTED FOR REVIEW AND APPROVAL	07/11/03	RELEASE FOR		
		RE-SUBMITTED FOR REVIEW AND APPROVAL	04/25/03	BY		DATE
		SUBMITTED FOR REVIEW	1-14-03			

Developer/Owner:
Winchester Homes, Inc. &
Winchester Homes, Inc. , as nominee for Stringtown Investments, LLC
6905 Rockledge Drive
Suite 800
Bethesda, Maryland 20817
Stephen J. Nardella, Vice President
(301) 803 - 4800

SWM POND 3
NOTES & DETAILS

RODGERS CONSULTING
Enhancing the value of land assets
Rodgers Consulting, Inc.
9260 Gaither Road
Gaithersburg, MD 20877
301.948.4700
301.948.6256 (fax)
301.253.6609
www.rodgers.com

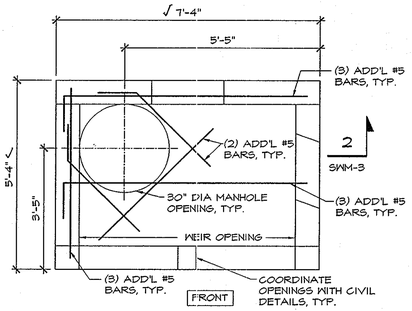
Montjoy - Single Family Detached
A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL C (F-03-87)
TO
BUILDABLE LOTS 127- 188 AND OPEN SPACE LOTS 189-193
ELECTION DISTRICT #2 HOWARD COUNTY, MARYLAND
TAX MAP: 30, GRID: 12, PARCEL 260
DPZ FILES: S-01-20, WP-01-117, F-02-10, P-02-17, F-03-03, F-03-87

SCALE: 1"=30'
JOB No. 506V3
DATE: 1-14-03
INDEX No. SWM-2
SHEET No. 21 OF 33

STATE OF MARYLAND PAUL F. BOWEN No. 13970 REGISTERED PROFESSIONAL ENGINEER
4/14/03

Q:\projects\506V\dwg\Final Construction Plan\SFD_506V3\21-SWM-PND3-DETAILS.dwg 04/10/2003 02:35:13 PM EDT

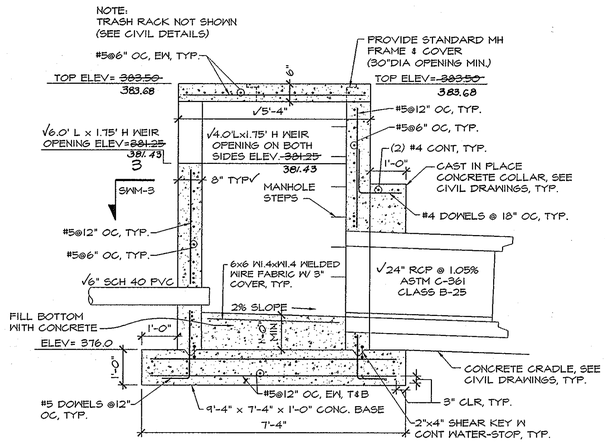
F-03-100



STRUCTURAL PLAN VIEW

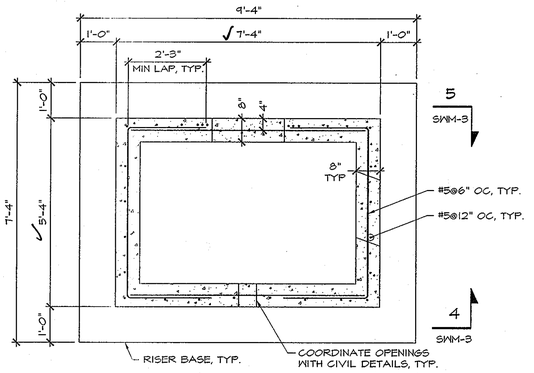
SECTION 1/SWM-3

SCALE:½" = 1'-0"



SECTION 2/SWM-3

SCALE:½" = 1'-0"



TYPICAL RISER SECTION

SECTION 3/SWM-3

SCALE:½" = 1'-0"

RISER ELEVATION (REINFORCING TYP @ OPENINGS < 1'-0" DIA)

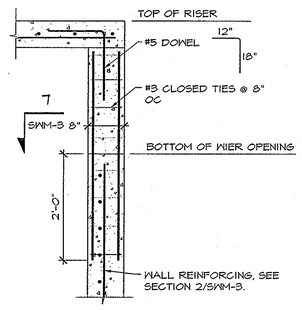
SECTION 4/SWM-3

SCALE:½" = 1'-0"

RISER ELEVATION (REINFORCING TYP @ OPENINGS > 1'-0" DIA)

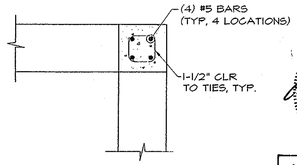
SECTION 5/SWM-3

SCALE:½" = 1'-0"



SECTION 6/SWM-3

SCALE:¾" = 1'-0"



SECTION 7/SWM-3

SCALE:1" = 1'-0"

STRUCTURAL NOTES

1. BUILDING CODES
   - A. ALL CONSTRUCTION SHALL CONFORM WITH THE 2000 INTERNATIONAL BUILDING CODE AND ALL SUBSEQUENT SUPPLEMENTS.
   - B. IN ADDITION, ALL CONSTRUCTION SHALL CONFORM WITH THE GOVERNING LOCAL BUILDING CODE.
2. DESIGN LOADS
   - A. THE MINIMUM DESIGN DEAD LOADING FOR ALL FRAMING IS BASED ON THE CONSTRUCTION MATERIALS SHOWN ON THE DRAWINGS AND INDICATED IN THE SPECIFICATIONS.
   - B. THE CONTRACTOR SHALL NOT STORE ANY CONSTRUCTION MATERIALS OR UNDERTAKE ANY CONSTRUCTION OPERATION WHICH WILL EXCEED THE DESIGN LIVE LOADINGS NOTED.
3. MISCELLANEOUS
   - B. THE CONTRACTOR SHALL REVIEW CIVIL DRAWINGS PREPARED BY RODGERS CONSULTING, INC., DATED 12/20/02 FOR LOCATION AND DIMENSION OF CHASES, INSERTS, OPENINGS, SLEEVES, DEPRESSIONS AND OTHER PROJECT REQUIREMENTS WHICH IMPACT THE STRUCTURAL COMPONENTS.
   - C. THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS SHOWN ON THE CONTRACT DRAWINGS BEFORE PROCEEDING WITH CONSTRUCTION. ALL DISCREPANCIES AND OMISSIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT.
   - D. THE CONTRACTOR SHALL NOT SUBMIT REPRODUCTIONS OF THE STRUCTURAL CONTRACT DOCUMENTS AS SHOP DRAWINGS.
   - E. SCALES SHOWN ON THE STRUCTURAL CONTRACT DRAWINGS ARE FOR GENERAL INFORMATION ONLY. DIMENSIONAL INFORMATION SHALL NOT BE OBTAINED BY SCALING THE DRAWINGS.
4. FOUNDATIONS
   - A. ALL FOUNDATIONS HAVE BEEN DESIGNED FOR AN ASSUMED NET ALLOWABLE SOIL BEARING PRESSURE OF 2000 PSF. THE ALLOWABLE SOIL BEARING PRESSURE SHALL BE FIELD VERIFIED BY A REGISTERED GEOTECHNICAL ENGINEER AND APPROVED PRIOR TO PLACING FOUNDATIONS. SHOULD THE ACTUAL SOIL BEARING PRESSURE BE LESS THAN 2000 PSF, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER.
   - B. ALL FILL PLACED UNDER FOUNDATIONS SHALL BE COMPACTED TO A DRY DENSITY OF AT LEAST 95 PERCENT OF MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D 698.
   - C. ALL EXCAVATION AND BACKFILLING OPERATIONS WITHIN THE BUILDING BUILDING FOOTPRINT, INCLUDING ALL COMPACTION TESTS AND INSPECTIONS, SHALL BE DONE UNDER THE DIRECTION AND SUPERVISION OF A REGISTERED GEOTECHNICAL ENGINEER. CONTRACTOR SHALL BACKFILL AROUND PERIMETER OF RISER AT AN EVEN RATE SO AS NOT TO CAUSE AN OVERTURNING MOMENT.
   - D. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ALL FOUNDATION AND SOIL CONDITIONS WHICH DIFFER FROM THOSE ANTICIPATED OR INDICATED IN THE CONTRACT DOCUMENTS.
   - E. ALL EXISTING SOIL CONTAINING GRAVEL, CONSTRUCTION OR DEMOLITION DEBRIS, ORGANIC SUBSTANCES, OR OTHER FOREIGN OBJECTS SHALL BE REMOVED FROM THE REGION WITHIN THE FOOTPRINT OF THE STRUCTURE.
5. CAST IN PLACE CONCRETE
   - A. ALL CONCRETE CONSTRUCTION SHALL CONFORM TO THE "SPECIFICATIONS FOR ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES 350)"; AND TO THE "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318)".
   - B. IN ADDITION TO THE ABOVE, ALL CONCRETE WORK SHALL CONFORM TO THE FOLLOWING:
     1. RECOMMENDED PRACTICE FOR HOT WEATHER CONCRETING (ACI 305).
     2. RECOMMENDED PRACTICE FOR COLD WEATHER CONCRETING (ACI 306).
     3. RECOMMENDED PRACTICE FOR CONCRETE FORMWORK (ACI 347).
   - C. ALL CONCRETE, UNLESS NOTED OTHERWISE, SHALL BE STONE AGGREGATE CONCRETE HAVING A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4500 PSI. ALL CONCRETE EXPOSED TO WEATHER SHALL HAVE AN AIR ENTRAINMENT OF 6% ± 1%. NO ADMIXTURES CONTAINING CALCIUM CHLORIDE SHALL BE PERMITTED. MAXIMUM AGGREGATE SIZE SHALL BE ¾", WATER/CEMENT RATIO SHALL BE 0.45, MAXIMUM SLUMP SHALL BE 4", 3" FOR SLABS ON GRADE. ALL CONCRETE, EXCEPT FOOTINGS, SHALL CONTAIN A WATER REDUCING ADMIXTURE. PORTLAND CEMENT SHALL CONFORM TO ASTM C 150 AND NORMAL WEIGHT AGGREGATES SHALL CONFORM TO ASTM C 33.
   - D. ALL REINFORCING BARS SHALL BE NEW BILLET STEEL CONFORMING TO ASTM A 615 GRADE 60. ALL WELDED WIRE FABRIC (WWF) SHALL CONFORM TO ASTM A 185. LAP ALL REINFORCING BARS A MINIMUM OF 48 BAR DIAMETERS AND ALL WWF. A MINIMUM OF TWO FULL GRIDS, UNLESS OTHERWISE INDICATED.
   - E. ALL REINFORCING SHALL BE DETAILED, FABRICATED AND PLACED IN ACCORDANCE WITH THE CRSI "MANUAL OF STANDARD PRACTICE", ACI 315" DETAILS AND DETAILING OF CONCRETE REINFORCEMENT", ACI SP 66 "DETAILING MANUAL".
   - F. ALL CONCRETE MIX DESIGNS, INCLUDING CEMENT CONTENT, WATER CEMENT RATIO, FINE AND COARSE AGGREGATE CONTENT AND ALL ADMIXTURES, SHALL BE REVIEWED BY ENGINEER PRIOR TO PLACING FIRST CONCRETE.
   - G. ALL CONCRETE SHALL BE SAMPLED AND TESTED BY THE TESTING AGENCY. THE CONTRACTOR SHALL NOTIFY THE TESTING AGENCY 48 HOURS PRIOR TO THE PLACING OF ANY CONCRETE.
   - H. GROUND BLAST FURNACE SLAG MAY BE USED TO REPLACE UP TO 50 PERCENT OF THE PORTLAND CEMENT IN A CONCRETE MIX, AND FLY ASH OR POZZOLAN MAY BE USED TO REPLACE UP TO 25 PERCENT OF PORTLAND CEMENT, SUBJECT TO THE APPROVAL OF THE STRUCTURAL ENGINEER AND SHALL CONFORM TO ASTM C 494.
   - I. MINIMUM COVER FOR ALL REINFORCING SHALL BE AS FOLLOWS UNLESS OTHERWISE INDICATED:

FOUNDATIONS	3 INCHES
WALLS	2 INCHES

   - J. THE GENERAL CONTRACTOR SHALL SUBMIT PLANS SHOWING ALL PENETRATIONS THROUGH THE FRAMED CONCRETE SLABS. THE OPENINGS SHALL BE ACCURATELY LOCATED AND DIMENSIONED.
6. RETAINING WALLS
   - A. RISER WALLS HAVE BEEN DESIGNED WITH BACKFILL MATERIAL HAVING THE FOLLOWING CHARACTERISTICS:

     γ_{soil} = 125.0 PCF
     K_p = 3.0
     EQUIVALENT FLUID = 50H

     IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO INSURE THE BACK FILL MATERIAL MEETS THESE CHARACTERISTICS.
   - B. RISER HAS BEEN DESIGNED FOR THE FOLLOWING MINIMUM FACTORS OF SAFETY:

     OVERTURNING 2.0
   - C. ALL RISER WALLS SHALL BE BRACED AND SHORED AS REQUIRED DURING BACKFILLING. BOTH SUPPORTING ELEMENTS SHALL BE IN PLACE AND DEVELOPING FULL REQUIRED STRENGTH PRIOR TO BACK FILLING OF WALLS SUPPORTED AT TOP AND BOTTOM.

STATE OF MARYLAND — PAUL F. BOOTH — No. 21627 — PROFESSIONAL ENGINEER
12/5/06 AS-BUILTS

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 PLAN AND SPECIFICATIONS

SIGNATURE _____ P.E. NO.: 20637 DATE: 12/5/06

STRUCTURAL REINFORCING DETAILS FOR RISER P3-R (CAST-IN-PLACE OPTION)

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAY — DATE 10-14-03

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/27/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/17/03

APPROVED:
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 10/2/03

APPROVED:
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 10/2/03

ENGINEER'S CERTIFICATE

"I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION."

SIGNATURE OF ENGINEER — DATE 9/24/03
(PRINT NAME BELOW SIGNATURE) Frank G. Bossone PE

DEVELOPER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."

SIGNATURE OF DEVELOPER — DATE 9/23/03
(PRINT NAME BELOW SIGNATURE) Stephen J. Nardella

MORRIS & RITCHIE ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS, AND LANDSCAPE ARCHITECTS
110 WEST ROAD, SUITE 245, TOWSON, MD 21204, PHONE: (410) 821-1690
9090 JUNCTION DRIVE, SUITE 9, ANNAPOLIS JUNCTION, MD 20701, PHONE: (410) 792-9792

STATE OF MARYLAND — JAMES P. PALMER — No. 19970 — REGISTERED PROFESSIONAL ENGINEER

AS-BUILT PLANS

CALL "MISS UTILITY" AT 1-800-257-7777 48 Hours Before Start Of Construction

NOTE: THIS PLAN TO BE USED FOR STORMWATER MANAGEMENT ONLY. ALL OTHER INFORMATION SHOWN FOR REFERENCE PURPOSE ONLY. SEE APPROPRIATE CONSTRUCTION DRAWING FOR ALL OTHER INFORMATION.

STATE OF MARYLAND — FRANK G. BOSSONE — No. 13970 — REGISTERED PROFESSIONAL ENGINEER
9/24/03

	DATE	REVISION	DATE
		FINAL AS-BUILT REVISIONS	OCT-08
		FINAL MYLAR SUBMITTAL FOR SIGNATURE	9/24/03
		RE-SUBMITTED FOR REVIEW AND APPROVAL	04/25/03
		SUBMITTED FOR REVIEW	1-14-03

	BY	DATE
BASE DATA	CADD	
DESIGNED		
DRAWN		
REVIEWED	PFB	

RELEASE FOR _____ BY _____ DATE _____

Developer/Owner:
Winchester Homes, Inc. &
Winchester Homes, Inc. , as nominee for Stringtown Investments, LLC
6905 Rockledge Drive
Suite 800
Bethesda, Maryland 20817
Stephen J. Nardella, Vice President
(301) 803 - 4800

SWM POND 3
STRUCTURAL PLANS & SECTIONS

RODGERS CONSULTING
Enhancing the value of land assets
Rodgers Consulting, Inc.
9260 Gaither Road
Gaithersburg, MD 20877
301.948.4700
301.948.6256 (fax)
301.253.6609
www.rodgers.com

Montjoy - Single Family Detached
A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL C (P-83-87) TO BUILDABLE LOTS 127- 188 AND OPEN SPACE LOTS 189-193
ELECTION DISTRICT #2 HOWARD COUNTY, MARYLAND
TAX MAP: 30, GRID: 12, PARCEL 260
DPZ FILES: S-01-20, WP-01-117, P-02-10, P-02-17, P-03-03, F-03-87

SCALE:	AS SHOWN
JOB No.	12233.05
DATE:	1-14-03
INDEX No.	SWM-3
SHEET No.	22 OF 34

Q:\projects\506V\dwg\Final Construction Plan\SFD_506V3\21-SWM-PND3-DETAILS.dwg 04/04/2003 11:16:12 AM EST

LOG OF BORING NO. B-1

Sheet 1 of 1

PROJECT: Mt. Joy Farm
PROJECT NO: 00372
PROJECT LOCATION: Howard County, Maryland

WATER LEVEL: ▽ Dry ▼ Dry ▽ ____
DATE: 11/8/01 11/9/01
CAVED (ft): 10.0 10.2

DATE STARTED: November 8, 2001
DATE COMPLETED: November 8, 2001
DRILLING CONTRACTOR: Geo-Technology Associates, Inc.
DRILLER: Geo-Technology Associates, Inc.
DRILLING METHOD: HSA
SAMPLING METHOD: Split Spoon

GROUND SURFACE ELEVATION: 383.1
DATUM: MSL
EQUIPMENT: CME 45
LOGGED BY: S. Cunningham
CHECKED BY: S. Rowe

SAMPLE NUMBER	SAMPLE DEPTH (ft)	SAMPLE RECOVERY (in)	SAMPLE BLOWS/6 inches	N (blows/ft)	ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
1	0.0	3	4-5-7	12	383.1	0	SM		Brown, moist, medium dense, SAND and SILT. AASHTO: A-4	Topsoil: 5 in.
2	2.5	12	3-4-6	10						Water Not Encountered While Drilling.
3	5.0	14	3-3-4	7	378.1	5	SM		Brown to dark gray, moist, loose to medium dense, SAND, some Silt. AASHTO: A-2-4	
4	8.5	18	4-6-7	13		10				
5	13.5	16	5-7-8	15	368.1	15			Bottom of Hole at 15.0 ft.	Coordinates: N: 573599.1 E: 1364070.4

NOTES:

GEO-TECHNOLOGY ASSOCIATES, INC.
9090 Junction Drive, Suite 9
Annapolis Junction, MD 20701

LOG OF BORING NO. B-1
Sheet 1 of 1

LOG OF BORING NO. B-2

Sheet 1 of 1

PROJECT: Mt. Joy Farm
PROJECT NO: 00372
PROJECT LOCATION: Howard County, Maryland

WATER LEVEL: ▽ Dry ▼ Dry ▽ ____
DATE: 11/8/01 11/9/01
CAVED (ft): 14.5 14.0

DATE STARTED: November 8, 2001
DATE COMPLETED: November 8, 2001
DRILLING CONTRACTOR: Geo-Technology Associates, Inc.
DRILLER: Geo-Technology Associates, Inc.
DRILLING METHOD: HSA
SAMPLING METHOD: Split Spoon

GROUND SURFACE ELEVATION: 390.0
DATUM: MSL
EQUIPMENT: CME 45
LOGGED BY: S. Cunningham
CHECKED BY: S. Rowe

SAMPLE NUMBER	SAMPLE DEPTH (ft)	SAMPLE RECOVERY (in)	SAMPLE BLOWS/6 inches	N (blows/ft)	ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
1	0.0	14	4-6-6	12	390.0	0	SM		Brown, moist, medium dense, SAND and SILT. AASHTO: A-4	Topsoil: 6 in.
2	2.5	16	8-8-9	17	387.0		SM		Brown, moist, medium dense to dense, coarse to fine SAND, little Silt, little Rock Fragments. AASHTO: A-1-b	Water Not Encountered While Drilling.
3	5.0	16	8-8-8	16		5				
4	8.5	10	9-11-13	24		10				
5	13.5	18	6-15-20	35		15				
6	18.5	15	6-15-13	28	370.0	20			Bottom of Hole at 20.0 ft.	Coordinates: N: 573587.6 E: 1364005.8

NOTES:

GEO-TECHNOLOGY ASSOCIATES, INC.
9090 Junction Drive, Suite 9
Annapolis Junction, MD 20701

LOG OF BORING NO. B-2
Sheet 1 of 1

LOG OF BORING NO. B-3

Sheet 1 of 1

PROJECT: Mt. Joy Farm
PROJECT NO: 00372
PROJECT LOCATION: Howard County, Maryland

WATER LEVEL: ▽ Dry ▼ Dry ▽ ____
DATE: 11/8/01 11/9/01
CAVED (ft): 6.4 6.2

DATE STARTED: November 8, 2001
DATE COMPLETED: November 8, 2001
DRILLING CONTRACTOR: Geo-Technology Associates, Inc.
DRILLER: Geo-Technology Associates, Inc.
DRILLING METHOD: HSA
SAMPLING METHOD: Split Spoon

GROUND SURFACE ELEVATION: 379.0
DATUM: MSL
EQUIPMENT: CME 45
LOGGED BY: S. Cunningham
CHECKED BY: S. Rowe

SAMPLE NUMBER	SAMPLE DEPTH (ft)	SAMPLE RECOVERY (in)	SAMPLE BLOWS/6 inches	N (blows/ft)	ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
1	0.0	3	3-4-6	10	379.0	0	ML		Brown, moist, medium dense, SILT and coarse to fine SAND. AASHTO: A-4	Topsoil: 5 in.
					377.0		SM		Brown to gray-brown, moist to dry, medium dense, coarse to fine SAND, little to some Silt. AASHTO: A-2-4 / A-1-b	
2	2.5	14	3-5-8	13						Water Not Encountered While Drilling.
3	5.0	3	10-10-9	19		5				
4	8.5	17	4-5-5	10	369.0	10			Bottom of Hole at 10.0 ft.	Coordinates: N: 573452.4 E: 1364076.8

NOTES:

GEO-TECHNOLOGY ASSOCIATES, INC.
9090 Junction Drive, Suite 9
Annapolis Junction, MD 20701

LOG OF BORING NO. B-3
Sheet 1 of 1

POND CONSTRUCTION SPECIFICATIONS

USDA NRCS MARYLAND POND CODE 378 – JANUARY 2000

THESE SPECIFICATIONS ARE APPROPRIATE TO ALL PONDS WITHIN THE SCOPE OF THE STANDARD FOR PRACTICE MD-378. ALL REFERENCES TO ASTM & AASHTO SPECIFICATIONS APPLY TO THE MOST RECENT VERSION.

SITE PREPARATION

AREAS DESIGNATED FOR BORROW AREAS, EMBANKMENT, & STRUCTURAL WORKS SHALL BE CLEARED, GRUBBED & STRIPPED OF TOPSOIL. ALL TREES, VEGETATION, ROOTS & OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED. CHANNEL BANKS & SHARP BREAKS SHALL BE SLOPED TO NO STEEPER THAN 1:1. ALL TREES SHALL BE CLEARED & GRUBBED WITHIN 15 FEET OF THE TOE OF THE EMBANKMENT. AREAS TO BE COVERED BY THE RESERVOIR WILL BE CLEARED OF ALL TREES, BRUSH, LOGS, FENCES, RUBBISH & OTHER OBJECTIONABLE MATERIAL UNLESS OTHERWISE DESIGNATED ON THE PLANS. TREES, BRUSH, & STUMPS SHALL BE CUT APPROXIMATELY LEVEL WITH THE GROUND SURFACE. FOR DRY STORMWATER MANAGEMENT PONDS, A MINIMUM OF A 25-FOOT RADIUS AROUND THE INLET STRUCTURE SHALL BE CLEARED. ALL CLEARED & GRUBBED MATERIAL SHALL BE DISPOSED OF OUTSIDE & BELOW THE LIMITS OF THE DAM & 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 & 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, & CUT OFF TRENCH SHALL CONFORM TO UNIFIED SOIL CLASSIFICATION GC, SC, % PASSING THE #200 SIEVE. CONSIDERATION MAY BE GIVEN TO THE USE OF OTHER MATERIALS IN THE EMBANKMENT IF DESIGNED BY A CH, OR CL & MUST HAVE AT LEAST 30 GEOTECHNICAL ENGINEER. SUCH SPECIAL DESIGNS MUST HAVE CONSTRUCTION SUPERVISED BY A GEOTECHNICAL ENGINEER. MATERIALS USED IN THE OUTER SHELL OF THE EMBANKMENT MUST HAVE THE CAPABILITY TO SUPPORT VEGETATION OF THE QUALITY REQUIRED TO PREVENT EROSION OF THE EMBANKMENT. 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 & NOT EXCAVATED INTO THE EMBANKMENT. COMPACTION – THE MOVEMENT OF THE HAULING & 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 HEAVY 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. WHEN REQUIRED BY THE REVIEWING AGENCY THE MINIMUM REQUIRED DENSITY SHALL NOT BE LESS THAN 95 % OF MAXIMUM DRY DENSITY WITH A MOISTURE CONTENT WITHIN (2 OPTIMUM. EACH LAYER OF FILL SHALL BE COMPACTED AS NECESSARY TO OBTAIN THAT DENSITY, & IS TO BE CERTIFIED BY THE ENGINEER AT THE TIME OF CONSTRUCTION. ALL COMPACTION IS TO BE DETERMINED BY AASHTO METHOD T-99 (STANDARD PROCTOR). 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 BACKFILL SHALL BE COMPACTED WITH CONSTRUCTION EQUIPMENT, ROLLERS, OR HAND TAMPERS TO ASSURE MAXIMUM DENSITY & MINIMUM PERMEABILITY. EMBANKMENT CORE – THE CORE SHALL BE PARALLEL TO THE CENTERLINE OF THE EMBANKMENT AS SHOWN ON THE PLANS. THE TOP WIDTH OF THE CORE SHALL BE A MINIMUM OF FOUR FEET. THE HEIGHT SHALL EXTEND UP TO AT LEAST THE 10-YEAR WATER ELEVATION OR AS SHOWN ON THE PLANS. THE SIDE SLOPES SHALL BE 1 TO 1 OR FLATTER. THE CORE SHALL BE COMPACTED WITH CONSTRUCTION EQUIPMENT, ROLLERS, OR HAND TAMPERS TO ASSURE MAXIMUM DENSITY & MINIMUM PERMEABILITY. IN ADDITION, THE CORE SHALL BE PLACED CONCURRENTLY WITH THE OUTER SHELL OF THE EMBANKMENT.

STRUCTURE BACKFILL

BACKFILL ADJACENT TO PIPES OR STRUCTURES SHALL BE OF THE TYPE & 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 & COMPACTED BY HAND TAMPERS OR OTHER MANUALLY DIRECTED COMPACTION EQUIPMENT. THE MATERIAL NEEDS TO FILL COMPLETELY ALL SPACES UNDER & ADJACENT TO THE PIPE. AT NO TIME DURING THE BACKFILLING OPERATION SHALL DRIVEN EQUIPMENT BE ALLOWED TO OPERATE CLOSER THAN FOUR FEET, MEASURED HORIZONTALLY, TO ANY PART OF A STRUCTURE. UNDER NO CIRCUMSTANCES SHALL EQUIPMENT BE DRIVEN OVER ANY PART OF A CONCRETE STRUCTURE OR PIPE, UNLESS THERE IS A COMPACTED FILL OF 24" OR GREATER OVER THE STRUCTURE OR PIPE. STRUCTURE BACKFILL MAY BE FLOWABLE FILL MEETING THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION & MATERIALS, SECTION 313 AS MODIFIED. THE MIXTURE SHALL HAVE A 100-200 PSI; 28 DAY UNCONFINED COMPRESSIVE STRENGTH. THE FLOWABLE FILL SHALL HAVE A MINIMUM PH OF 4.0 & A MINIMUM RESISTIVITY OF 2,000 OHM-CM. MATERIAL SHALL BE PLACED SUCH THAT A MINIMUM OF 6" (MEASURED PERPENDICULAR TO THE OUTSIDE OF THE PIPE) OF FLOWABLE FILL SHALL BE UNDER (BEDDING), OVER &, ON THE SIDES OF THE PIPE. IT ONLY NEEDS TO EXTEND UP TO THE SPRING LINE FOR RIGID CONDUITS. AVERAGE SLUMP OF THE FILL SHALL BE 7" TO ASSURE FLOWABILITY OF THE MATERIAL. ADEQUATE MEASURES SHALL BE TAKEN (SAND BAGS, ETC.) TO PREVENT FLOATING THE PIPE. WHEN USING FLOWABLE FILL, ALL METAL PIPE SHALL BE BITUMINOUS COATED. ANY ADJOINING SOIL FILL SHALL BE PLACED IN HORIZONTAL LAYERS NOT TO EXCEED FOUR INCHES IN THICKNESS & COMPACTED BY HAND TAMPERS OR OTHER MANUALLY DIRECTED COMPACTION EQUIPMENT. THE MATERIAL SHALL COMPLETELY FILL ALL VOIDS ADJACENT TO THE FLOWABLE FILL ZONE. AT NO TIME DURING THE BACKFILLING OPERATION SHALL DRIVEN EQUIPMENT BE ALLOWED TO OPERATE CLOSER THAN FOUR FEET, MEASURED HORIZONTALLY, TO ANY PART OF A STRUCTURE. UNDER NO CIRCUMSTANCES SHALL EQUIPMENT BE DRIVEN OVER ANY PART OF A STRUCTURE OR PIPE UNLESS THERE IS A COMPACTED FILL OF 24" OR GREATER OVER THE STRUCTURE OR PIPE. BACKFILL MATERIAL OUTSIDE THE STRUCTURAL BACKFILL (FLOWABLE FILL) ZONE SHALL BE OF THE TYPE & QUALITY CONFORMING TO THAT SPECIFIED FOR THE CORE OF THE EMBANKMENT OR OTHER EMBANKMENT MATERIALS.

PIPE CONDUITS

ALL PIPES SHALL BE CIRCULAR IN CROSS SECTION.

CORRUGATED METAL PIPE – ALL OF THE FOLLOWING CRITERIA SHALL APPLY FOR CORRUGATED METAL PIPE:

1. MATERIALS – (POLYMER COATED STEEL PIPE) – STEEL PIPES WITH POLYMERIC COATINGS SHALL HAVE A MINIMUM COATING THICKNESS OF 0.01 INCH (10 ML) ON BOTH SIDES OF THE PIPE. THIS PIPE & ITS APPURTENANCES SHALL CONFORM TO THE REQUIREMENTS OF AASHTO SPECIFICATIONS M-245 & M-246 WITH WATERTIGHT COUPLING BANDS OR FLANGES. MATERIALS – (ALUMINUM COATED STEEL PIPE) – THIS PIPE & ITS APPURTENANCES SHALL CONFORM TO THE REQUIREMENTS OF AASHTO SPECIFICATION M-274 WITH WATERTIGHT COUPLING BANDS OR FLANGES. ALUMINUM COATED STEEL PIPE, WHEN USED WITH FLOWABLE FILL OR WHEN SOIL &/OR WATER CONDITIONS WARRANT THE NEED FOR INCREASED DURABILITY, SHALL BE FULLY BITUMINOUS COATED PER REQUIREMENTS OF AASHTO SPECIFICATION M-190 TYPE A. ANY ALUMINUM COATING DAMAGED OR OTHERWISE REMOVED SHALL BE REPLACED WITH COLD APPLIED BITUMINOUS COATING COMPOUND. ALUMINUM SURFACES THAT ARE TO BE IN CONTACT WITH CONCRETE SHALL BE PAINTED WITH ONE COAT OF ZINC CHROMATE PRIMER OR TWO COATS OF ASPHALT. MATERIALS – (ALUMINUM PIPE) – THIS PIPE & ITS APPURTENANCES SHALL CONFORM TO THE REQUIREMENTS OF AASHTO SPECIFICATION M-196 OR M-211 WITH WATERTIGHT COUPLING BANDS OR FLANGES. ALUMINUM PIPE, WHEN USED WITH FLOWABLE FILL OR WHEN SOIL &/OR WATER CONDITIONS WARRANT FOR INCREASED DURABILITY, SHALL BE FULLY BITUMINOUS COATED PER REQUIREMENTS OF AASHTO SPECIFICATION M-190 TYPE A. ALUMINUM SURFACES THAT ARE TO BE IN CONTACT WITH CONCRETE SHALL BE PAINTED WITH ONE COAT OF ZINC CHROMATE PRIMER OR TWO COATS OF ASPHALT. HOT DIP GALVANIZED BOLTS MAY BE USED FOR CONNECTIONS. THE PH OF THE SURROUNDING SOILS SHALL BE BETWEEN 4 & 9.
2. COUPLING BANDS, ANTI-SEEP COLLARS, END SECTIONS, ETC., MUST BE COMPOSED OF THE SAME MATERIAL & COATINGS AS THE PIPE. METALS MUST BE INSULATED FROM DISSIMILAR MATERIALS WITH USE OF RUBBER OR PLASTIC INSULATING MATERIALS AT LEAST 24 MILS IN THICKNESS.
3. CONNECTIONS – ALL CONNECTIONS WITH PIPES MUST BE COMPLETELY WATERTIGHT. THE DRAIN PIPE OR BARREL CONNECTION TO THE RISER SHALL BE WELDED ALL AROUND WHEN THE PIPE & RISER ARE METAL. ANTI-SEEP COLLARS SHALL BE CONNECTED TO THE PIPE IN SUCH A MANNER AS TO BE COMPLETELY WATERTIGHT. DIMPLE BANDS ARE NOT CONSIDERED TO BE WATERTIGHT. ALL CONNECTIONS SHALL USE A RUBBER OR NEOPRENE GASKET WHEN JOINING PIPE SECTIONS. THE END OF EACH PIPE SHALL BE RE-ROLLED AN ADEQUATE NUMBER OF CORRUGATIONS TO ACCOMMODATE THE BANDWIDTH. THE FOLLOWING TYPE CONNECTIONS ARE ACCEPTABLE FOR PIPES LESS THAN 24-INCHES IN DIAMETER: FLANGES ON BOTH ENDS OF THE PIPE WITH A CIRCULAR 3/8- INCH CLOSED CELL NEOPRENE GASKET, PREPUNCHED TO THE FLANGE BOLT CIRCLE, SANDWICHED BETWEEN ADJACENT FLANGES; A 12-INCH WIDE STANDARD LAP TYPE BAND WITH 12-INCH WIDE BY 3/8-INCH THICK CLOSED CELL CIRCULAR NEOPRENE GASKET; & A 12-INCH WIDE HUGGER TYPE BAND WITH O-RING GASKETS HAVING A MINIMUM DIAMETER OF 1/2 INCH GREATER THAN THE CORRUGATION DEPTH. PIPES 24-INCHES IN DIAMETER & LARGER SHALL BE CONNECTED BY A 24 INCH LONG ANNULAR CORRUGATED BAND USING A MINIMUM OF 4 (FOUR) RODS & LUGS, 2 ON EACH CONNECTING PIPE END. A 24-INCH WIDE BY 3/8-INCH THICK CLOSED CELL CIRCULAR NEOPRENE GASKET WILL BE INSTALLED WITH 12 INCHES ON THE END OF EACH PIPE. FLANGED JOINTS WITH 3/8-INCH CLOSED CELL GASKETS THE FULL WIDTH OF THE FLANGE IS ALSO ACCEPTABLE. HELICALLY CORRUGATED PIPE SHALL HAVE EITHER CONTINUOUSLY WELDED SEAMS OR HAVE LOCK SEAMS WITH INTERNAL CAULKING OR A NEOPRENE BEAD.
4. BEDDING – THE PIPE SHALL BE FIRMLY & UNIFORMLY BEDDED THROUGHOUT ITS ENTIRE LENGTH. WHERE ROCK OR SOFT, SPONGY OR OTHER UNSTABLE SOIL IS ENCOUNTERED, ALL SUCH MATERIAL SHALL BE REMOVED & REPLACED WITH SUITABLE EARTH COMPACTED TO PROVIDE ADEQUATE SUPPORT.
5. BACKFILLING SHALL CONFORM TO "STRUCTURE BACKFILL".
6. OTHER DETAILS (ANTI-SEEP COLLARS, VALVES, ETC.) SHALL BE AS SHOWN ON THE DRAWINGS.

REINFORCED CONCRETE PIPE – ALL OF THE FOLLOWING CRITERIA SHALL APPLY FOR REINFORCED CONCRETE PIPE:

1. MATERIALS – REINFORCED CONCRETE PIPE SHALL HAVE BELL & SPIGOT JOINTS WITH RUBBER GASKETS & SHALL EQUAL OR EXCEED ASTM C-361.
2. BEDDING – REINFORCED CONCRETE PIPE CONDUITS SHALL BE LAID IN A CONCRETE BEDDING/CRADLE FOR THEIR ENTIRE LENGTH. THIS BEDDING/CRADLE SHALL CONSIST OF HIGH SLUMP CONCRETE PLACED UNDER THE PIPE & UP THE SIDES OF THE PIPE AT LEAST 50 % OF ITS OUTSIDE DIAMETER WITH A MINIMUM THICKNESS OF 6 INCHES. WHERE A CONCRETE CRADLE IS NOT NEEDED FOR STRUCTURAL REASONS, FLOWABLE FILL MAY BE USED AS DESCRIBED IN THE "STRUCTURE BACKFILL" SECTION OF THIS STANDARD. GRAVEL BEDDING IS NOT PERMITTED.
3. LAYING PIPE – BELL & 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 & GRADE OF THE PIPE. THE FIRST JOINT MUST BE LOCATED WITHIN 4 FEET FROM THE RISER.
4. BACKFILLING SHALL CONFORM TO "STRUCTURE BACKFILL".
5. OTHER DETAILS (ANTI-SEEP COLLARS, VALVES, ETC.) SHALL BE AS SHOWN ON THE DRAWINGS.

PLASTIC PIPE – THE FOLLOWING CRITERIA SHALL APPLY FOR PLASTIC PIPE:

1. MATERIALS – PVC PIPE SHALL BE PVC- 1120 OR PVC-1220 CONFORMING TO ASTM D- 1785 OR ASTM D-2241. CORRUGATED HIGH DENSITY POLYETHYLENE (HDPE) PIPE, COUPLINGS & FITTINGS SHALL CONFORM TO THE FOLLOWING: 4" – 10" INCH PIPE SHALL MEET THE REQUIREMENTS OF AASHTO M252 TYPE S, & 12" THROUGH 24" INCH SHALL MEET THE REQUIREMENTS OF AASHTO M294 TYPE S.
2. JOINTS & CONNECTIONS TO ANTI-SEEP COLLARS SHALL BE COMPLETELY WATERTIGHT.
3. BEDDING –THE PIPE SHALL BE FIRMLY & UNIFORMLY BEDDED THROUGHOUT ITS ENTIRE LENGTH. WHERE ROCK OR SOFT, SPONGY OR OTHER UNSTABLE SOIL IS ENCOUNTERED, ALL SUCH MATERIAL SHALL BE REMOVED & REPLACED WITH SUITABLE EARTH COMPACTED TO PROVIDE ADEQUATE SUPPORT.
4. BACKFILLING SHALL CONFORM TO "STRUCTURE BACKFILL".
5. OTHER DETAILS (ANTI-SEEP COLLARS, VALVES, ETC.) SHALL BE AS SHOWN ON THE DRAWINGS. DRAINAGE DIAPHRAGMS – WHEN A DRAINAGE DIAPHRAGM IS USED, A REGISTERED PROFESSIONAL ENGINEER WILL SUPERVISE THE DESIGN & CONSTRUCTION INSPECTION.

CONCRETE

CONCRETE SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION & MATERIALS, SECTION 414, MIX NO. 3.

ROCK RIPRAP

ROCK RIPRAP SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION & MATERIALS, SECTION 311. GEOTEXTILE SHALL BE PLACED UNDER ALL RIPRAP & SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION & MATERIALS, SECTION 921.09, CLASS C.

CARE OF WATER DURING CONSTRUCTION

ALL WORK ON PERMANENT STRUCTURES SHALL BE CARRIED OUT IN AREAS FREE FROM WATER. THE CONTRACTOR SHALL CONSTRUCT & MAINTAIN ALL TEMPORARY DIKES, LEVEES, COFFERDAMS, DRAINAGE CHANNELS, & STREAM DIVERSIONS NECESSARY TO PROTECT THE AREAS TO BE OCCUPIED BY THE PERMANENT WORKS. THE CONTRACTOR SHALL ALSO FURNISH, INSTALL, OPERATE, & MAINTAIN ALL NECESSARY PUMPING & OTHER EQUIPMENT REQUIRED FOR REMOVAL OF WATER FROM VARIOUS PARTS OF THE WORK & FOR MAINTAINING THE EXCAVATIONS, FOUNDATION, & 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 & GRADED TO THE EXTENT REQUIRED TO PREVENT OBSTRUCTION IN ANY DEGREE WHATSOEVER OF THE FLOW OF WATER TO THE SPILLWAY OR OUTLET WORKS & 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 & THE FOUNDATION SHALL BE ACCOMPLISHED IN A MANNER & TO THE EXTENT THAT WILL MAINTAIN STABILITY OF THE EXCAVATED SLOPES & BOTTOM REQUIRED EXCAVATIONS & WILL ALLOW SATISFACTORY PERFORMANCE OF ALL CONSTRUCTION OPERATIONS. DURING THE PLACING & 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 SUMPS FROM WHICH THE WATER SHALL BE PUMPED.

STABILIZATION

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

EROSION & SEDIMENT CONTROL

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

GEOTECHNICAL CONCLUSIONS & RECOMMENDATIONS FOR STORMWATER MANAGEMENT FACILITIES

(GEOTECH: GTA, INC.)

FINAL GRADES & STRUCTURAL DETAILS FOR THE PROPOSED SWM FACILITIES WERE NOT PROVIDED TO GTA BY THE DATE OF THIS REPORT. BASED ON REVIEW OF FINAL STORMWATER MANAGEMENT PLANS, GTA WILL REVIEW & APPROPRIATELY REVISE RECOMMENDATIONS PROVIDED IN THIS REPORT.

A. MATERIAL REQUIREMENTS

GTA UNDERSTANDS THAT MARYLAND SPECIFICATION 378 (MD 378) GOVERNS DESIGN & CONSTRUCTION OF THE POND FACILITIES. MD 378 SPECIFIES THAT SOILS FOR USE IN CUTOFF TRENCH CONSTRUCTION MEET USCS CLASSIFICATION CL (LOW PLASTICITY CLAY), CH (HIGH PLASTICITY CLAY), SC (CLAYEY SAND), OR GC (CLAYEY GRAVEL). FURTHERMORE, GTA RECOMMENDS THAT SIMILAR MATERIALS BE USED FOR BACKFILL ADJACENT TO THE OUTFALL STRUCTURE. THE USE OF THE FINE-GRAINED PLASTIC MATERIAL ADJACENT TO THE PIPE SHOULD DECREASE THE POTENTIAL FOR EMBANKMENT FAILURE INDUCED BY "PIPING" EROSION PROCESSES.

GTA'S EXPLORATION IDENTIFIED SOILS CLASSIFIED AS USCS SW, SM, ML, SC & CL. A TEST PIT EXPLORATION & ADDITIONAL LABORATORY TESTING SHOULD BE PERFORMED TO IDENTIFY AREAS OF SUITABLE CLAYEY MATERIALS ON SITE. BASED ON THE BORING DATA, SUFFICIENT MATERIALS SUITABLE FOR CUTOFF TRENCH CONSTRUCTION MAY BE AVAILABLE FROM ON-SITE SOURCES.

IF REQUIRED, OFF-SITE BORROW SOURCES MEETING THE REQUIRED CLASSIFICATIONS SHOULD BE IDENTIFIED PRIOR TO MASS GRADING. ALL CORE TRENCH MATERIAL SHOULD MEET THE CLASSIFICATIONS REQUIRED BY MD 378, & BE APPROVED BY GTA PRIOR TO PLACEMENT AS FILL.

MD 378 SPECIFIES THAT ALL OF THE REFERENCED SOIL CLASSIFICATIONS SUITABLE FOR CUTOFF TRENCH CONSTRUCTION ARE ALSO SUITABLE FOR EMBANKMENT CONSTRUCTION. THE USCS ML & SM SOILS PRESENT IN THE MAJORITY OF BORINGS ARE ALSO DEEMED SUITABLE, & SHOULD BE READILY AVAILABLE ON SITE. GTA RECOMMENDS THAT THE MOST PLASTIC NATIVE MATERIALS AVAILABLE BE USED FOR EMBANKMENT CONSTRUCTION. GTA SHOULD EVALUATE EMBANKMENT SOILS DURING THE POND CONSTRUCTION PHASE.

B. BASIN EXCAVATION & EMBANKMENT CONSTRUCTION

EXCAVATION TO ACHIEVE THE PROPOSED BASIN BOTTOM ELEVATIONS, & FILLS TO ACHIEVE PROPOSED EMBANKMENT ELEVATIONS WILL BE REQUIRED. BASED ON BORING DATA, STANDARD SCRAPING TECHNIQUES SHOULD BE SUITABLE FOR EXCAVATION OF THE PROPOSED PONDS. IF LOCALIZED ROCK IS ENCOUNTERED IN THE POND AREAS, RIPPING, JACKING, OR OTHER MECHANICAL MEANS WILL BE REQUIRED TO ACHIEVE BASIN OR OUTFALL INVERTS. BLASTING IS NOT RECOMMENDED IN THE STORMWATER MANAGEMENT AREAS.

GTA UNDERSTANDS THAT THE SWM PONDS WILL BE DESIGNED WITH 'MICRO POOLS.' GROUNDWATER WAS NOT OBSERVED IN BORINGS LOCATED IN THE FOUR PROPOSED STORMWATER MANAGEMENT PONDS. IN THE ABSENCE OF BASE FLOW, FURTHER ANALYSIS MAY BE REQUIRED TO DETERMINE OVERALL WATER BALANCE & RESULTING NORMAL POOL LEVELS.

WHILE NOT ANTICIPATED, IF GROUNDWATER IS ENCOUNTERED ABOVE PROPOSED BASIN BOTTOM LEVELS, DEWATERING OF BASINS & OF OUTFALL STRUCTURE SUBGRADES MAYBE REQUIRED DURING THE CONSTRUCTION PHASE.

PROPOSED SLOPES SHOULD BE DESIGNED IN ACCORDANCE WITH MD 378. PRIOR TO THE PLACEMENT OF COMPACTED FILL OR THE CONSTRUCTION OF THE OUTFALL CRADLE & STRUCTURES, AREAS SUPPORTING PROPOSED EMBANKMENTS & STRUCTURES SHOULD BE STRIPPED & GRUBBED TO REMOVE ALL TOPSOIL & OTHER ORGANIC MATTER. AFTER STRIPPING, THE SUBGRADE SHOULD BE PROOF-ROLLED AS DIRECTED BY A GEOTECHNICAL ENGINEER OR HIS QUALIFIED REPRESENTATIVE. UNSTABLE SOILS IDENTIFIED BY PROOFROLLING SHOULD BE REMOVED FROM SUBGRADE. NO FILLS SHOULD BE PLACED OR FOUNDATIONS CONSTRUCTED UNTIL THE SUBGRADE IS APPROVED BY THE GEOTECHNICAL ENGINEER.

FILLS FOR CUTOFF TRENCH & EMBANKMENT CONSTRUCTION SHOULD BE PLACED IN EIGHT-INCH LOOSE LIFTS, & COMPACTED TO AT LEAST 95 PERCENT OF THE MAXIMUM DRY DENSITY IN ACCORDANCE WITH THE STANDARD PROCTOR, ASTM D-698. FILLS AROUND THE OUTFALL WORKS SHOULD BE PLACED IN 4-INCH LIFTS & COMPACTED TO THE SAME STANDARD WITH HAND EQUIPMENT. BASED ON LABORATORY ANALYSIS, ON-SITE SOILS ARE LIKELY TO BE WET OF THE OPTIMUM MOISTURE FOR COMPACTION, & 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.

STORMWATER MANAGEMENT POND MAINTENANCE SCHEDULE (PONDS #3)

ROUTINE MAINTENANCE (H.O.A.)

FACILITY SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHOULD BE PERFORMED DURING WET WEATHER TO DETERMINE IF THE POND IS FUNCTIONING PROPERLY.

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.

DEBRIS AND LITER NEXT TO THE OUTLET STRUCTURE SHALL BE REMOVED DURING REGULAR MOWING OPERATIONS AND AS NEEDED.

VISIBLE SIGNS OF EROSION IN THE POND AS WELL AS RIP OUTLET AREA SHALL BE REPAIRED AS SOON AS IT IS NOTICED.

SAND FILTER TO BE OWNED AND MAINTAINED BY HOA.

NON-ROUTINE MAINTENANCE (HOWARD COUNTY)

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 ROUTINE MAINTENANCE OPERATIONS.

SEDIMENT SHOULD BE REMOVED WHEN ITS ACCUMULATION SIGNIFICANTLY REDUCES THE DESIGN STORAGE, INTERFERES WITH THE FUNCTION OF THE RISER, WHEN DEEMED NECESSARY BY THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

Study Point #1 SWM Storage Requirement Summary And Treatment Strategy

Study Point # 1	Proposed Conditions DA (Ac.)	WQv (Ac-Ft)	Rev Ac-FT/Ac	CPv (Ac-FT)	Overbank Protection(Qp) (Ac-Ft)	Extreme Flood (Qr) (Ac-Ft)	Remarks
Total onsite area to Study Point(Prop.)	37.69	—	—	—	N/A	N/A	
Total offsite area to Study Point	649	—	—	—	N/A	N/A	
Pond # 1 (Micropool P-1)	15.02	0.69**	0.176/2.14	0.8800	N/A	N/A	Provides WQv & Cpv
Pond #3 (Sandfilter F-1)	4.15	0.114 **	0.03/0.33	***	N/A	N/A	Provides WQv only
By-Pass Areas (onsite)	18.52	**	*	***			

Treatment Strategy
*Rev –Treated by Gross Swales, Sheet Flow to Buffers

**WQv – Treated by Micropool ED for Pond 1, Sand filter in Pond 3, & Sheet flow to buffer credits for By-Pass areas

***CPv – Provided in Pond # 1, remaining areas by-passed. One year flows pre & post checked at study point. CPv areas< 2.0cfs evaluated.

For Backup computations see SWM computation Package

Study Point #2 SWM Storage Requirement Summary And Treatment Strategy

Study Point # 2	Proposed Conditions DA (Ac.)	WQv (Ac-Ft)	Rev Ac-FT/Ac	CPv (Ac-FT)	Overbank Protection(Qp) (Ac-Ft)	Extreme Flood (Qr) (Ac-Ft)	Remarks
Total onsite area to Study Point (Prop)	38.7	—	—	—	N/A	N/A	
Toatl Offsite area to Study Point	50.3	—	—	—	N/A	N/A	
Pond # 4 (Micropool P-1)	17.93	0.5510	0.143/1.64	1.1400	N/A	N/A	Provides WQv & Cpv
Pond #2 (Sandfilter F-1)	9.84	0.4300	0.11/1.3	***	N/A	N/A	Provides WQv only
By-Pass Areas (Onsite)	12.76	**	*	***			

Treatment Strategy
*Rev –Treated by Gross Swales, Sheet Flow to Buffers & Disconnected Roof tops

**WQv – Treated by Micropool ED for Pond 4, Sand filter in Pond 2, & Sheet flow to buffer credits & disconnected roof tops for By-Pass areas

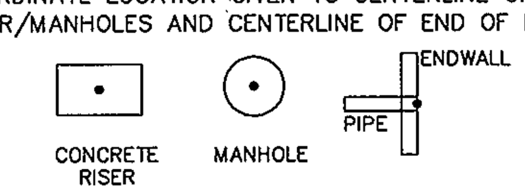
***CPv – Provided in Pond # 4, remaining areas by-passed. One year flows pre & post checked at study point. CPv areas< 2.0cfs evaluated.

For Backup computations see SWM computation Package

STORMWATER MANAGEMENT STRUCTURE SCHEDULE

STRUCTURE NUMBER	STRUCTURE TYPE	LOCATION	COORDINATES	MSHA STD. NO.	REMARKS
P3-EW	TYPE 'C' ENDWALL	POND 3	N 372863.3 E 1442950.8	MD-354.01	
P3-R	CONCRETE RISER	POND 3	N 327887.2 E 1442913.6		PRECAST STRUCTURE OR CAST-IN-PLACE (SEE DETAIL SHEET 21 & 22)

COORDINATE LOCATION GIVEN TO CENTERLINE OF PIPE AT FACE OF ENDWALLS, AT CENTER OF CONCRETE RISER/MANHOLES AND CENTERLINE OF END OF PIPE FOR CONNECTION OF END SECTIONS.



Montjoy
Existing Conditions Summary Table

Study Point #	Existing Conditions DA #	DA (ac.)	RCN	Tc (hr.)	1-Year (cfs)	2-Year (cfs)	10-Year (cfs)	100-Year (cfs)
1	1A	20.69	58	0.26	1.1	4.6	26.8	60.8
	1B	18.52	67	0.24	6.7	13.4	41.6	78.5
	Offsite	649.23	64	0.51	95.9	224.6	836.7	1693.9
	Combined Flows	688.51			99.8	234.2	878.5	1777.5
2	2A	23.86	58	0.2	1.4	6.2	34.5	77.3
	2B	12.76	64	0.19	3.3	7.7	26.8	52.8
	Offsite	50.28	59	0.38	3.0	10.7	57.3	126.5
	Combined Flows	86.81			6.5	21.7	109.3	240.1

Proposed Conditions Study Point 1 Summary Table

Study Point # 1	Proposed Conditions DA (ac.)	RCN	Tc (hr.)	WQv	1-Year	2-Year	10-Year	10-yr Safety	100-Year	100 yr Safety
Offsite	649.23	64	0.51	n/a	95.9cfs	224.6cfs	836.7cfs	n/a	1693.9cfs	n/a
Pond 1 Inflow	15.02	82	0.13		23.1cfs	33.4cfs	68.5cfs	68.5cfs	108.8cfs	108.8cfs
Pond 1 outflow	–	--	--		0.5cfs	0.7cfs	22.8cfs	49.0cfs	73.8cfs	84.9cfs
Pond 1 WSEL				401.00	402.81	403.51	404.12	404.56	404.82	404.94
PD 1 Storage(ac-ft)				0.5563	0.91	1.36	1.82	0.80	2.38	1.12
Pond # 3(WQ only)	4.15	72	0.22	1.5 cfs	2.7cfs	4.6 cfs	n/a	11.9 cfs	n/a	21.0 cfs
Pond 3 WSEL				381.25	n/a	n/a	n/a	381.47	n/a	381.87
P D 3 Storage(ac-ft)				0.14	n/a	n/a	n/a	n/a	n/a	n/a
By- Pass Flows	18.72	70	0.24		9.4cfs	17.2cfs	47.5cfs	n/a	86.2cfs	n/a
Combined Flows At study Point	687.5				101.3cfs	234.8cfs	890.2cfs	n/a	1802.5cfs	n/a

Proposed Conditions Study Point 2 Summary Table

Study Point # 2	Proposed Conditions DA (ac.)	RCN	Tc (hr.)	WQv	1-Year	2-Year	10-Year	10-yr Safety	100-Year	100 yr Safety
Offsite	50.28	59	0.38		3 cfs	10.7 cfs	57.3 cfs	57.3 cfs	126.5 cfs	126.5 cfs
Pond 2 (WQ only)	9.84			6.46 cfs	n/a	n/a	15.0 cfs	15.0 cfs	20.9 cfs	20.9 cfs
At flow splitter	8.01	83	0.15	6.46cfs	12.6cfs *	18.0cfs *	36.2 cfs *	36.2 cfs *	56.8 cfs *	56.8 cfs *
Overland to pond	1.83 **	67	0.12	n/a	1cfs	2.0 cfs	5.0 cfs	5.0 cfs	9.0 cfs	9.0 cfs
Pond 2 WSEL				391.00	n/a	n/a	391.50	391.50	391.67	391.67
PD 2 storage(ac-ft)				0.251	n/a	n/a	n/a	n/a	n/a	n/a
Pond 4 Inflow	17.93	74	0.23		25.5 cfs*	39.3 cfs*	88.7 cfs*	88.7 cfs *	147.4 cfs*	147.4 cfs *
Pond 4 Outflow	–	--	--		0.5 cfs	5 cfs	55.9 cfs	70.6 cfs	125.0 cfs	127.2 cfs
Pond 4 WSEL				378.75	381.73	381.81	382.89	383.10	383.63	383.66
PD 4 Storage(ac-ft)				0.414	1.24	1.30	1.93	0.83	2.43	1.21
By- Pass Flows (Onsite)	12.76 **	67	0.19		5.1 cfs	10.2 cfs	31 cfs	31 cfs	58.2 cfs	58.2 cfs
Combined Flows At study point	88.98				6.9 cfs	18.2 cfs	134.0 cfs	150.3 cfs	295.1 cfs	297.3 cfs

* Flows at pond #2 flow splitter are conveyed to pond # 4. Pond #4 inflow values include the flows split off from pond # 2.
** Area draining directly overland to pond # 2(1.83ac.) is added into the onsite By-pass area

OPERATION, MAINTENANCE & INSPECTION NOTE:

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 CONCERVATION DISTRICT OF ANY UNUSUAL OBSERVATIONS THAT MAY BE INDICATIONS OF DISTRESS SUCH AS EXCESSIVE SEEPAGE, TURBID SEEPAGE, SLIDING OR SLUMPING.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

10/27/03
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

10/17/03
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

10-14-03
CHIEF, BUREAU OF HIGHWAY — DATE

DEVELOPER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN 'AS-BUILT' PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."

Stephen J. Nardella — 9/23/03
SIGNATURE OF DEVELOPER (PRINT NAME BELOW SIGNATURE) — DATE

ENGINEER'S CERTIFICATE

"I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN 'AS-BUILT' PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION."

9/24/03
SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE

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

10/2/03
HOWARD SOIL CONSERVATION DISTRICT — DATE

APPROVED:
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.

10/2/03
USDA-NATURAL RESOURCES CONSERVATION SERVICE — DATE

AS-BUILT PLANS
(No As-Built Data This Sheet)

NOTE: THIS PLAN TO BE USED FOR STORMWATER MANAGEMENT ONLY. ALL OTHER INFORMATION SHOWN FOR REFERENCE PURPOSE ONLY. SEE APPROPRIATE CONSTRUCTION DRAWING FOR ALL OTHER INFORMATION.

CALL "MISS UTILITY" AT 1-800-257-7777
48 Hours Before Start Of Construction

9/24/03

	DATE	REVISION	DATE
		FINAL AS-BUILT REVISIONS	OCT-08
		FINAL MYLAR SUBMITTAL FOR SIGNATURE	9/24/03
		RE-SUBMITTED FOR REVIEW AND APPROVAL	07/11/03
		RE-SUBMITTED FOR REVIEW AND APPROVAL	04/25/03
		SUBMITTED FOR REVIEW	1-14-03

	BY	DATE
BASE DATA	CADD	
DESIGNED	PFB,YSL	
DRAWN	YSL	
REVIEWED	PFB	

RELEASE FOR ____________ ☐
BY____________ DATE ____

Developer/Owner:
Winchester Homes, Inc. &
Winchester Homes, Inc. , as nominee for Stringtown Investments, LLC
6905 Rockledge Drive
Suite 800
Bethesda, Maryland 20817
Stephen J. Nardella, Vice President
(301) 803 - 4800

SWM SPECIFICATIONS
& SWM BORING LOGS

RODGERS CONSULTING
Enhancing the value of land assets

Rodgers Consulting, Inc.
9260 Gaither Road
Gaithersburg, MD 20877
301.948.4700
301.948.6256 (fax)
301.253.6609
www.rodgers.com

Montjoy - Single Family Detached

A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL C (F-03-87) TO BUILDABLE LOTS 127- 188 AND OPEN SPACE LOTS 189-193

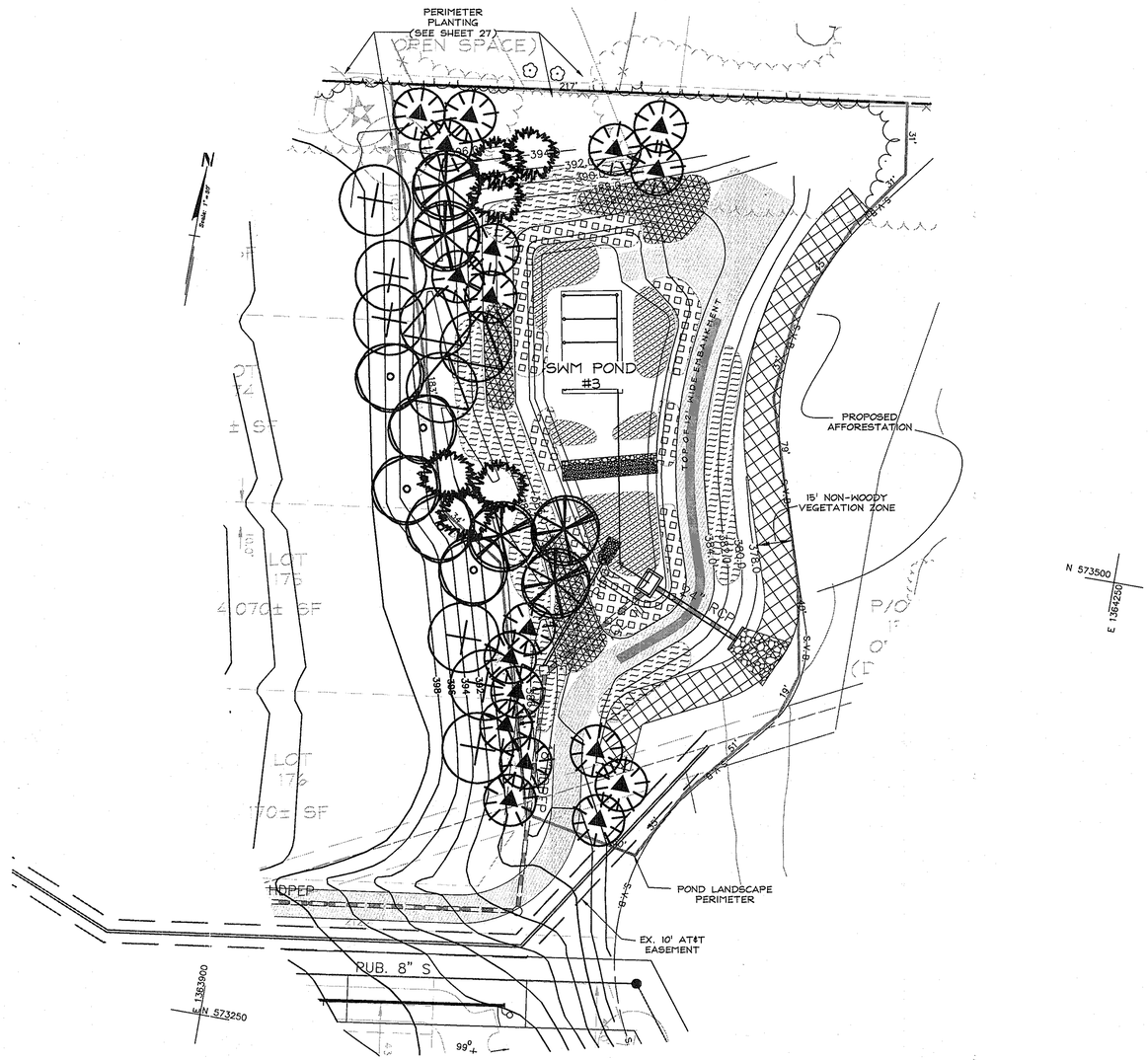
ELECTION DISTRICT #2 HOWARD COUNTY, MARYLAND
TAX MAP: 30, GRID: 12, PARCEL 260

DPZ FILES: S-01-20, WP-01-117, P-02-10, P-02-17, P-03-03, F-03-87

SCALE: N/A
JOB No. 506V3
DATE: 1-14-03
INDEX No. SWM-4
SHEET No. 23 OF 34

Q:\projects\506V\dwg\Final Construction Plan\SFD_506V3\23-SWM-SPECIFICATIONS&BORING LOGS.dwg 09/22/2003 07:50:14 PM EDT

F-03-100



THIS PLAN FOR LANDSCAPE USE ONLY (POND #3)

SCALE: 1'=30'

Pond #3 - Tree Schedule for Required Buffer

POND PERIMETER=960' REQ'D PLANTING=19 SHADE TREES, 24 EVERGREEN

SYMBOL	BOTANICAL NAME (COMMON NAME)	QTY	SIZE	ROOT	REMARKS
	ACER RUBUM (RED MAPLE) ALTERNATE PLATANUS OCCIDENTALIS (AMERICAN SYCAMORE)	6	2 1/2"-3" cal	B&B	
	LIQUIDAMBAR STYRACIFLUA (SWEET GUM) ALTERNATE LIRIODENDRON TULIPIFERRA (TULIP TREE)	3	2 1/2"-3" cal	B&B	
	QUERCUS RUBRA (RED OAK)	5	2 1/2"-3" cal	B&B	
	NYSSA SYLVATICA (BLACK GUM) ALTERNATE CRATAEGUS PHAENOPYRUM (WASHINGTON HAWTHORNE)	5	2 1/2"-3" cal	B&B	
	CUPRESSOCYPARIS LEYLANDII (LEYLAND CYPRESS)	0	6'-8' ht	B&B	
	PINUS STROBUS (WHITE PINE)	18	6'-8' ht	B&B	
	ILEX OPACA (AMERICAN HOLLY)	6	6'-8' ht	B&B	

*General Landscaping Guidance for All Stormwater BMP's

1. Trees, shrubs, and/or any type of woody vegetation are not allowed on the embankment.
2. Plant trees and shrubs at least 15ft away from the toe of slope of a dam.
3. Plant trees and shrubs at least 25ft away from perforated pipes.
4. Plant trees and shrubs at least 25ft away from a principal spillway structure.
5. Provide 15ft clearance from a non-clogging, low flow orifice.
6. Use erosion control mats and fabrics in channels to reduce the potential for erosion.
7. Divert flows temporarily from seeded areas until stabilized.
8. Do not block maintenance access to structures with trees or shrubs.
9. To reduce thermal warming, shade inflow and outflow channels as well as southern exposures of ponds.
10. For planting success, soils should be loosened to a depth of 3 – 5 inches.
11. Soils should be loosened regardless of plant type.
12. Whenever possible, topsoil should be spread to a depth of 4 – 8 inches and lightly compacted to a minimum thickness of 4 inches.
13. Be sure to provide a source of water, especially in dry periods.
14. Native plant species should be specified over exotic or foreign species.
15. Species layout should generally be random and natural.
16. A canopy should be established with an understory of shrubs and herbaceous material.
17. Existing and proposed utilities must be identified and considered.

*These guidelines were taken from the 2000 Maryland Stormwater Design Manual.

Pond #3 - Herbaceous Plant Listing

Zone 1 0 SF.
Zone 1 – Deep Water Pool – 1 to 6 foot deep permanent pool
Nuphar lutea – Spatterdock (Yellow water-lily)
Nymphaea odorata – White Water-lily
Sagittaria latifolia – Duck Potato
Potamogeton var. – Pondweed

Zone 2 0 SF.
Zone 2 – Shallow Water Bench – 6 inches to 1 foot deep
Aster spp.
Carex vulpinoidea – Fox Sedge
Iris versicolor – Blue Flag Iris
Sagittaria latifolia – Duck Potato (Arrowhead)
Scripus spp. – Bullrush

Zone 3 2,400 SF.
Zone 3 – Shoreline Fringe – Regularly Inundated
Aster spp.
Carex vulpinoidea – Fox Sedge
Eupatorium perpurea – Joe Pye Weed
Iris versicolor – Blue Flag Iris
Typha latifolia – Broad Leaved Cattail

Zone 4 3,200 SF.
Zone 4 – Riparian Fringe – Periodically inundated
Andropogon virginicus – Broomsedge
Lobelia cardinalis – Cardinal Flower
Panicum virgatum – Switch Grass
Spirea virginiana – Meadow Sweet Spirea
Viola papilionacea – Common Blue Violet

Zone 5 2,400 SF.
Zone 5 – Floodplain Terrace – Infrequently Inundated
Aster ericoides – White Heath Aster
Cyperus filicinus – Slender Flatsedge
Lolium perenne – Perrennial Rye Grass
Panicum virgatum – Switch Grass
Phlox paniculata – Fall Phlox
Rudbeckia fulgida goldsturm – Blackeyed Susan
Wild Flower Mix

Zone 6 0 SF.
Zone 6 – Upland Slopes – Seldom or Never inundated
Aster ericoides – White Heath Aster
Cyperus filicinus – Slender Flatsedge
Festuca pratensis – Meadow Fescue
Rudbeckia fulgida goldsturm – Blackeyed Susan
Viola papilionacea – Common Blue Violet
Wild Flower Mix

Grass Seed Mix 25,000 SF.
(To be planted in all areas that do not have a hatch (include aquatic & safety bench, as well as access road))
Open Channel & Grass Seed Mixture
15% – Agrostis palustris – Creeping Bentgrass
15% – Andropogon gerardii – Big Bluestem
20% – Festuca rubra – Red Fescue
5% – Lolium perenne – Perennial Rye Grass
15% – Panicum virgatum – Switch Grass
15% – Phalaris arundinacea – Red Canary Grass
15% – Poa pratensis – Kentucky Blue Grass

Wild Flower Seed Mix 5,000 SF.
Upland Slopes – Wildflower Seed Mix
See WildFlower Chart

Notes For Plant Selection
–Within each hydrologic planting zone, there are several suggestions for herbaceous plantings. It is intended that 3 to 4 plants be selected within each planting zone from the above list. If a plant on the list is not readily available, it is the contractor's responsibility to either choose a replacement plant for that zone, with guidance from the Plant Nursery they are dealing with, or the contractor may eliminate the plant and simply redistribute the square footage among the available plants.
–The square footages provided are approximate areas for each planting zone.
–The plants, when planted from (plug, pot or root) are to be spaced at a rate of ONE (1) plant per TWO (2) square feet.
–Grass seed should be planted at a rate of 50 pounds per acre.
–Plants should be clustered by species within each zone. It is the responsibility of the contractor to locate the plants in the field.

SCHEDULE D
STORMWATER MGMT AREA LANDSCAPING
TYPE 'B' BUFFER

	POND #3
LINEAR FEET OF PERIMETER	960'
NUMBER OF TREES REQ'D:	
SHADE TREES @ 1/50 LF	19
EVERGREEN TREES @ 1/40 LF	24
CREDIT FOR EX. VEGETATION	0

Wildflower Seed Mix

TYPE	Lbs. per Acre (kg/ha)
Wildflower Seed Mix:	
Black-Eyed Susan (Rudbeckia hirtie)	2.0 lbs./Acre
Corn Poppy (Papaver rhoeas)	1.25 lbs./Acre
Gold Yarrow (Achillea filipendulina)	0.2 lbs./Acre
Ox-Eyed Daisy (Chrysanthemum leucanthemum)	1.0 lbs./Acre
Plains Coreopsis (Coreopsis tinctoria)	1.0 lbs./Acre
White Yarrow (Achillea millefolium)	0.2 lbs./Acre
Cornflower (Centaurea cyanus)	1.25 lbs./Acre
Cosmos (Cosmos bipinnatus)	1.5 lbs./Acre
Dane's Rocket (Hesperis matronalis)	1.5 lbs./Acre
Evening Primrose (Oenothera hookeri)	2.0 lbs./Acre
Lance-Leaved Coreopsis (Coreopsis lanceolata)	2.0 lbs./Acre
Purple Coneflower (Echinacea purpurea)	2.0 lbs./Acre
Rocket Larkspur (Delphinium ajacis)	1.0 lbs./Acre
Gay Feather (Liatris spicata) with awns	2.0 lbs./Acre
Gaillardia (Gaillardia pulchella)	1.0 lbs./Acre
Meadow Grasses:	
Hard or Sheep Fescue (Companion Seed)	10 lbs./Acre

Wildflower Mixtures:
–Plant in spring or fall for best results. spring seeding should be completed to take advantage of the spring rainfall. Fall planting should be late enough so germination does not occur until the following spring or seedling will be lost to winter freeze.
–Planting Rates: The seeding rate is about 16 to 20 lbs/acre. Minimum rate is 10 lbs /acre and maximum rates are 8 to 22 lbs./acre. Avoid using more than the recommended rates since poor perennial establishment may result.
– A wildflower planting requires the same weed control as traditional landscaping. Before planting, remove existing weeds by tilling or by using a nonselective herbicide such as Roundup Pro or a combination of these methods.
– Seed Application: For seeding large areas over one acre, use a drill seeder. Work to a depth of 1/4 inch and firm soil with a cultipacker. On small sites use a hand cyclone or drop seeder to apply the seed after the site has been tilled.
– Supplemental Water: Soak the planted areas thoroughly and maintain moisture for 4 to 6 weeks then gradually reduce waterings.
– Fertilizer: If the soil needs improvement, use a fertilizer with a 10–22–22 ratio at the rate of 450 lbs./acre immediately after seeding. Avoid over–fertilization.

Management:
– Mowing: Mow twice a year, once in early summer to remove spring flower seed heads and then again in the fall. Mow to a height of 6–8 inches, leave residue on ground.
– Weed control: After the flowers have germinated, weeds should be controlled as soon as they can be recognized either by pulling, spot spraying with a selective herbicide or by cutting with a string trimmer. Annual and some perennial grasses can be controlled with herbicides such as Ornamec and Fusilade.
– Reseeding: Sometimes it is necessary to reseed in the second and additional years if establishment of wildflowers is poor or spotty. The bare areas can be reseeded with original mixture either in the spring or fall.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAY — DATE 10-14-03

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/27/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/17/03

AS-BUILT PLANS
(No As-Built Data This Sheet)

NOTE: THIS PLAN TO BE USED FOR STORMWATER MANAGEMENT ONLY. ALL OTHER INFORMATION SHOWN FOR REFERENCE PURPOSE ONLY. SEE APPROPRIATE CONSTRUCTION DRAWING FOR ALL OTHER INFORMATION.

CALL "MISS UTILITY" AT 1-800-257-7777
48 Hours Before Start Of Construction

DATE	REVISION	DATE
	FINAL AS-BUILT REVISIONS	OCT-08
	FINAL MYLAR SUBMITTAL FOR SIGNATURE	9/24/03
	RE-SUBMITTED FOR REVIEW AND APPROVAL	07/11/03
	RE-SUBMITTED FOR REVIEW AND APPROVAL	04/25/03
	SUBMITTED FOR REVIEW	1-14-03

	BY	DATE
BASE DATA	CADD	
DESIGNED	PFB,YSL	
DRAWN	YSL	
REVIEWED	PFB	
RELEASE FOR		
BY		DATE

Developer/Owner:
Winchester Homes, Inc. &
Winchester Homes, Inc. , as nominee for Stringtown Investments, LLC
6905 Rockledge Drive
Suite 800
Bethesda, Maryland 20817
Stephen J. Nardella, Vice President
(301) 803 - 4800

SWM POND 3
LANDSCAPE PLAN

RODGERS CONSULTING
Enhancing the value of land assets
Rodgers Consulting, Inc.
9260 Gaither Road
Gaithersburg, MD 20877
301.948.4700
301.948.6256 (fax)
301.253.6609
www.rodgers.com

Montjoy - Single Family Detached

A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL C (F-03-87) TO BUILDABLE LOTS 127- 188 AND OPEN SPACE LOTS 189-193
ELECTION DISTRICT #2 HOWARD COUNTY, MARYLAND
TAX MAP: 30, GRID: 12, PARCEL 260
DPZ FILES: S-01-20, WP-01-117, P-02-10, P-02-17, P-03-03, F-03-87

SCALE: 1"=30'
JOB No. 506V3
DATE: 1-14-03
INDEX No. SWM-5
SHEET No. 24 OF 34

Q:\projects\506V\dwg\Final Construction Plan\SFD_506V3\24-SWM-POND3-LANDSCAPE.dwg 09/22/2003 08:01:47 PM EDT

F-03-100

CALL "MISS UTILITY" AT 1-800-257-7777
48 Hours Before Start Of Construction

MATCHLINE SEE SHEET LS-2

MATCHLINE SEE SHEET LS-3

N 573000
E 1363250

N 573000
E 1363750

PERIMETER #1
TYPE 'A'
500 L.F.

EX. GRAVEL DRIVE WITHIN BOUNDARIES OF PROPERTY SHALL BE REMOVED AND STABILIZED WITH PERMANENT SEEDING, EXCEPT THE AREA WITHIN LOT 124 WHICH MAY BE UTILIZED BY THE PARKS DEPARMENT FOR A FUTURE 8-FT. PATH.

SWM CREDIT, UTILITY & FOREST CONSERVATION ESMNT (TYP.)

75' STREAM BUFFER

100 YR. FLOODPLAIN LIMIT

OPEN SPACE LOT 124 (DEDICATED TO DEPT. OF RECREATION & PARKS

EX. C.L. OF STREAM

75' STREAM BUFFER

FUTURE PATH (BY HOWARD COUNTY DEPT.)

SWM POND #2

NON-WOODY ZONE

POND LANDSCAPING TO BE INSTALLED UNDER F-03-87

EX. C.L. OF STREAM

LOT 120
33± AC

EX. 10' AT&T EASEM'T

Existing AT&T Dhe (L 161 F 284)

CARSON COURT

TREES INCL. IN PERIMETER #1 PLANTING REQ.

LOT 136 15,517± SF
LOT 137 14,417± SF
LOT 138 14,148± SF
LOT 139 14,707± SF
LOT 140 18,397± SF
LOT 141 14,172± SF
LOT 142 14,059± SF
LOT 143 14,010± SF
LOT 144 17,440± SF
LOT 131 15,340± SF
LOT 130 14,131± SF
LOT 129 14,132± SF
LOT 128 14,693± SF
LOT 127 14,172± SF
LOT 126 14,900± SF
LOT 125 14,410± SF
LOT 164 14,010± SF
LOT 165 14,011± SF
LOT 166 16,192± SF
LOT 167 15,841± SF
LOT 168 14,072± SF

P/O O.S. LOT 190
LEVEL SPREADER (TYP.)

SWM CREDIT, UTILITY, FOREST CONSERVATION ESMNT (TYP.)

34" Bl. Cherry

MOUNT JOY PHASE IV

R-20
R-A-15

PERIMETER #7
TYPE 'C'
260 L.F.

PERIMETER #6
TYPE 'C'
240 L.F.

MOUNT JOY - PHASE I-III

THIS PLAN FOR LANDSCAPE USE ONLY

Legend

- STORM DRAIN
- S.V.B. — STREAM BUFFER
- 100 YR. FLOODPLAIN
- LIMIT OF DISTURBANCE
- EXISTING TREELINE
- ZONING LINE
- MATCH LINE
- PHASING LINE
- WETLAND
- FOREST CONSERVATION EASEMENT
- PROPOSED UTILITY EASEMENTS
- PROPOSED LIGHT POLE LOCATION (PUBLIC STREETS)
- PROPOSED LANDSCAPE MAINTENANCE EASEMENT

*THIS SITE DOES NOT CONTAIN SLOPES GREATER THAN 25% IN A CONTIGUOUS AREA 20,000 SQ. FT. OR MORE.

TREE SYMBOL KEY
SEE SHEET 28 FOR SCHEDULE & DETAILS

- LIQUIDAMBAR STYRACIFLUA (AMERICAN SWEETGUM)
- ACER RUBUM (RED MAPLE)
- TILIA CORDATA (LITTLELEAF LINDEN)
- QUERCUS RUBRA (RED OAK)
- FRAXINUS PENNSYLVANICA (MARSHALL'S SEEDLESS ASH)
- CUPRESSOCYPARIS LEYLANDII (LEYLAND CYPRUS)
- PINUS STROBUS (WHITE PINE)
- TREES PROPOSED UNDER PHASE I-III LANDSCAPE PLAN NOT PART OF THIS PLAN. (SEE F-03-87)

NOTE: A MINIMUM SPACING OF 20 FEET SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAY — DATE 10-14-03

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/23/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/17/03

AS-BUILT PLANS
(No As-Built Data This Sheet)

	DATE
FINAL AS-BUILT REVISIONS	OCT-08
FINAL MYLAR SUBMITTAL FOR SIGNATURE	9/24/03
RE-SUBMITTED FOR REVIEW AND APPROVAL	07/11/03
RE-SUBMITTED FOR REVIEW AND APPROVAL	04/25/03
SUBMITTED FOR REVIEW	1-14-03

	BY	DATE
BASE DATA	CADD	
DESIGNED	PFB,YSL	
DRAWN	YSL	
REVIEWED	PFB	

RELEASE FOR _____ BY _____ DATE _____

Developer/Owner:
Winchester Homes, Inc. &
Winchester Homes, Inc. , as nominee for Stringtown Investments, LLC
6905 Rockledge Drive
Suite 800
Bethesda, Maryland 20817
Stephen J. Nardella, Vice President
(301) 803 - 4800

LANDSCAPE PLAN & STREET TREE PLAN

RODGERS CONSULTING
Enhancing the value of land assets
Rodgers Consulting, Inc.
9260 Gaither Road
Gaithersburg, MD 20877
301.948.4700
301.948.6256 (fax)
301.253.6609
www.rodgers.com

Montjoy - Single Family Detached

A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL C (F-03-87) TO BUILDABLE LOTS 127- 188 AND OPEN SPACE LOTS 189-193

ELECTION DISTRICT #2 HOWARD COUNTY, MARYLAND
TAX MAP: 30, GRID: 12, PARCEL 260

DPZ FILES: S-01-20, WP-01-117, P-02-10, P-02-17, P-03-03, F-03-87

SCALE:	1"=50'
JOB No.	506V3
DATE:	1-14-03
INDEX No.	LS-1
SHEET No.	25 OF 34

Q:\projects\506V\dwg\Final Construction Plan\SFD_506V3\25-LANDSCAPE.DWG 09/22/2003 09:20:17 PM EDT

F-03-100

CALL "MISS UTILITY" AT 1-800-257-7777
48 Hours Before Start Of Construction

PERIMETER #3
TYPE 'A'
1,000 L.F. (NET-EXCLUDES 150 LF FCE AND 250 LF SWM BUFFER)

PERIMETER #2
TYPE 'A'
780 L.F.

SWM POND # 4

POND LANDSCAPING TO BE INSTALLED UNDER F-03-87

NON-WOODY ZONE

NO TREES TO BE PLANTED WITHIN 10' OF ENDWALLS OR ON TOP OF CULVERT

FUTURE PATH (BY HOWARD COUNTY DRP)

MATCHLINE SEE SHEET LS-1

MATCHLINE SEE SHEET LS-3

N 573750 E 1363500

N 572750 E 1362750

THIS PLAN FOR LANDSCAPE USE ONLY

NOTE: A MINIMUM SPACING OF 20 FEET SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.

Legend

- STORM DRAIN
- S.V.B. — STREAM BUFFER
- 100 YR. FLOODPLAIN
- LIMIT OF DISTURBANCE
- EXISTING TREELINE
- ZONING LINE
- MATCH LINE
- PHASING LINE
- WETLAND
- FOREST CONSERVATION EASEMENT
- PROPOSED UTILITY EASEMENTS
- PROPOSED LIGHT POLE LOCATION (PUBLIC STREETS)
- PROPOSED LANDSCAPE MAINTENANCE EASEMENT

*THIS SITE DOES NOT CONTAIN SLOPES GREATER THAN 25% IN A CONTIGUOUS AREA 20,000 SQ. FT. OR MORE.

TREE SYMBOL KEY
SEE SHEET 28 FOR SCHEDULE & DETAILS

- LIQUIDAMBAR STYRACIFLUA (AMERICAN SWEETGUM)
- ACER RUBUM (RED MAPLE)
- TILIA CORDATA (LITTLELEAF LINDEN)
- QUERCUS RUBRA (RED OAK)
- FRAXINUS PENNSYLVANICA (MARSHALL'S SEEDLESS ASH)
- CUPRESSOCYPARIS LEYLANDII (LEYLAND CYPRUS)
- PINUS STROBUS (WHITE PINE)
- TREES PROPOSED UNDER PHASE I-III LANDSCAPE PLAN NOT PART OF THIS PLAN. (SEE F-03-87)

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAYS — DATE 10-14-03

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/27/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/17/03

	DATE	REVISION	DATE
		FINAL AS-BUILT REVISIONS	OCT-02
		FINAL MYLAR SUBMITTAL FOR SIGNATURE	9/24/03
		RE-SUBMITTED FOR REVIEW AND APPROVAL	07/11/03
		RE-SUBMITTED FOR REVIEW AND APPROVAL	04/25/03
		SUBMITTED FOR REVIEW	1-14-03

	BY	DATE
BASE DATA	CADD	
DESIGNED	PFB,YSL	
DRAWN	YSL	
REVIEWED	PFB	

RELEASE FOR _____ BY _____ DATE

Developer/Owner:
Winchester Homes, Inc. &
Winchester Homes, Inc. , as nominee for Stringtown Investments, LLC
6905 Rockledge Drive
Suite 800
Bethesda, Maryland 20817
Stephen J. Nardella, Vice President
(301) 803 - 4800

LANDSCAPE PLAN & STREET TREE PLAN

AS-BUILT PLANS
(No As-Built Data This Sheet)

RODGERS CONSULTING
Enhancing the value of land assets
Rodgers Consulting, Inc.
9260 Gaither Road
Gaithersburg, MD 20877
301.948.4700
301.948.6256 (fax)
301.253.6609
www.rodgers.com

STATE OF MARYLAND — 5082 — CHARLES CODE STRUMSKY — REGISTERED LANDSCAPE ARCHITECT — 9-25-03

Montjoy - Single Family Detached

A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL C (F-03-87)
TO
BUILDABLE LOTS 127- 188 AND OPEN SPACE LOTS 189-193

ELECTION DISTRICT #2 HOWARD COUNTY, MARYLAND
TAX MAP: 30, GRID: 12, PARCEL 260

DPZ FILES: S-01-20, WP-01-117, P-02-10, P-02-17, P-03-03, F-03-87

SCALE: 1"=50'
JOB No. 506V3
DATE: 1-14-03
INDEX No. LS-2
SHEET No. 26 OF 34

Q:\projects\506V\dwg\Final Construction Plan\SFD_506V3\26-LANDSCAPE.DWG 09/22/2003 09:26:26 PM EDT

F-03-100

CALL "MISS UTILITY" AT 1-800-257-7777
48 Hours Before Start Of Construction

PERIMETER #4
TYPE 'A'
580 L.F. (NET-EXCLUDES 130 L.F. FCE AND 230 L.F. SWM BUFFER)

MATCHLINE SEE SHEET FCP-4

MATCHLINE SEE SHEET FCP-4

MATCHLINE SEE SHEET FCP-3

LOT 193
1.2± AC
(H.O.A. OPEN SPACE)

SWM POND # 3

NON-WOODY ZONE

SEE SHEET 23 FOR POND LANDSCAPE BUFFER SCHEDULE

SWM CREDIT, UTILITY & FOREST CONSERVATION ESMNT. (TYP.)

SWM CREDIT ESMNT. (TYP.)

EX. STREAM

EX. 10' AT&T EASEMENT

75' STREAM BUFFER

100 YR. FLOODPLAIN LIMIT

65 dBA Noise Level

Existing AT&T Line (L. 167 F. 204)

PERIMETER #5
TYPE 'A'
1,110 L.F.

TREES INCLUDED IN PERIMETER #5 PLANTING REQ'MENT

LEVEL SPREADERS (TYP.)

ROUTE 100

MARYLAND

N 573500
E 1363500

N 573000
E 1363500

N 573000
E 1364250

THIS PLAN FOR LANDSCAPE USE ONLY

NOTE: A MINIMUM SPACING OF 20 FEET SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.

Legend

- STORM DRAIN
- S.V.B. — STREAM BUFFER
- 100 YR. FLOODPLAIN
- LIMIT OF DISTURBANCE
- EXISTING TREELINE
- ZONING LINE
- MATCH LINE
- PHASING LINE
- WETLAND
- FOREST CONSERVATION EASEMENT
- PROPOSED UTILITY EASEMENTS
- PROPOSED LIGHT POLE LOCATION (PUBLIC STREETS)
- PROPOSED LANDSCAPE MAINTENANCE EASEMENT

*THIS SITE DOES NOT CONTAIN SLOPES GREATER THAN 25% IN A CONTIGUOUS AREA 20,000 SQ. FT. OR MORE.

TREE SYMBOL KEY
SEE SHEET 26 FOR SCHEDULE & DETAILS

- LIQUIDAMBAR STYRACIFLUA (AMERICAN SWEETGUM)
- ACER RUBUM (RED MAPLE)
- TILIA CORDATA (LITTLELEAF LINDEN)
- QUERCUS RUBRA (RED OAK)
- FRAXINUS PENNSYLVANICA (MARSHALL'S SEEDLESS ASH)
- CUPRESSOCYPARIS LEYLANDII (LEYLAND CYPRUS)
- PINUS STROBUS (WHITE PINE)
- TREES PROPOSED UNDER PHASE I-III LANDSCAPE PLAN NOT PART OF THIS PLAN. (SEE F-03-87)

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAYS — DATE 10-14-03

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/21/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/17/03

AS-BUILT PLANS
(No As-Built Data This Sheet)

DATE	REVISION	DATE
	FINAL AS-BUILT REVISIONS	Oct-08
	FINAL MYLAR SUBMITTAL FOR SIGNATURE	9/24/03
	RE-SUBMITTED FOR REVIEW AND APPROVAL	07/11/03
	RE-SUBMITTED FOR REVIEW AND APPROVAL	04/25/03
	SUBMITTED FOR REVIEW	1-14-03

	BY	DATE
BASE DATA	CADD	
DESIGNED	PFB,YSL	
DRAWN	YSL	
REVIEWED	PFB	

RELEASE FOR _____ BY _____ DATE _____

Developer/Owner:
Winchester Homes, Inc. &
Winchester Homes, Inc. , as nominee for Stringtown Investments, LLC
6905 Rockledge Drive
Suite 800
Bethesda, Maryland 20817
Stephen J. Nardella, Vice President
(301) 803 - 4800

LANDSCAPE PLAN & STREET TREE PLAN

RODGERS CONSULTING
Enhancing the value of land assets
Rodgers Consulting, Inc.
9260 Gaither Road
Gaithersburg, MD 20877
301.948.4700
301.948.6256 (fax)
301.253.6609
www.rodgers.com

Montjoy - Single Family Detached

A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL C (F-03-87)
TO
BUILDABLE LOTS 127- 188 AND OPEN SPACE LOTS 189-193
ELECTION DISTRICT #2 HOWARD COUNTY, MARYLAND
TAX MAP: 30, GRID: 12, PARCEL 260
DPZ FILES: S-01-20, WP-01-117, P-02-10, P-02-17, P-03-03, F-03-87

SCALE:	1"=50'
JOB No.	506V3
DATE:	1-14-03
INDEX No.	LS-3
SHEET No.	27 OF 34

Q:\projects\506V\dwg\Final Construction Plan\SFD_506V3\27-LANDSCAPE.DWG 09/22/2003 09:39:28 PM EDT

F-03-100

SCHEDULE A
PERIMETER LANDSCAPE EDGES

PERIMETER #	1	2	3	4	5	6	7
PROPOSED USE	SFD	SFD	SFD	SFD	SFD/OPEN	SFD	SFD
ADJACENT USE	NT-EMPLOYMT CENTER	NT-EMPLOYMT CENTER	SFD	SFD	HIGHWAY	SFA	SFA
LANDSCAPE TYPE	A	A	A	A	A	C	C
LINEAR FEET OF PERIMETER	500'	780'	1,000'	580'	1110'	240'	260'
CREDIT FOR EX. VEGETATION	0'	0'	0'	0'	0'	0'	0'
NET PERIMETER	500'	780'	1,000'	580'	1110'	240'	260'
NUMBER OF PLANTS REQ'D: [1]							
SHADE TREES	9 @1/60 lf	13 @1/60 lf	17 @1/60 lf	10 @ 1/60 lf	19 @1/60 lf	6 @ 1/40 lf	7 @1/40 lf
EVERGREEN TREES	0	0	0	0	0	12 @ 1/20 lf.	13 @ 1/20 lf
SHRUBS	0	0	0	0	0	0	0
NUMBER OF PLANTS PROVIDED: [2]							
SHADE TREES	9	13	17	10	19	6	7
EVERGREEN TREES	0	0	0	0	0	12	13
SHRUBS	0	0	0	0	0	0	0

[1] BASED ON PERIMETER BEFORE CREDIT FOR EXISTING TREES.
[2] TREES PROVIDED BASED ON NET PERIMETER AFTER CREDIT FOR EXISTING TREES. NO CREDIT TAKEN ON THIS PLAN.

SCHEDULE D
STORMWATER MGMT AREA LANDSCAPING

TYPE 'B' BUFFER

	POND #3
LINEAR FEET OF PERIMETER	960'
NUMBER OF TREES REQ'D:	
SHADE TREES @ 1/50 LF	19
EVERGREEN TREES @ 1/40 LF	24
CREDIT FOR EX. VEGETATION	0

SEE SHEET 24 FOR POND BUFFER PLANTING DETAILS AND PLANT SCHEDULE

PLANTING SCHEDULE - LANDSCAPE TREES

SYMBOL	BOTANICAL NAME (COMMON NAME)	Q'TY	SIZE	ROOT
	ACER RUBUM (RED MAPLE)	28	2 1/2"-3" cal	B&B
	LIQUIDAMBAR STYRACIFLUA (AMERICAN SWEETGUM)	13	2 1/2"-3" cal	B&B
	QUERCUS RUBRA (RED OAK)	11	2 1/2"-3" cal	B&B
	FRAXINUS PENNSYLVANICA (MARSHALL'S SEEDLESS ASH)	29	2 1/2"-3" cal	B&B
	CUPRESSOCYPARIS LEYLANDII (LEYLAND CYPRESS)	10	6'-8' ht.	B&B
	PINUS STROBUS (WHITE PINE)	15	6'-8' ht.	B&B

PLANTING SCHEDULE - PUBLIC STREET TREES

SYMBOL	BOTANICAL NAME (COMMON NAME)	Q'TY	SIZE	ROOT
	ACER RUBUM (RED MAPLE)	28	2 1/2"-3" cal	B&B
	TILIA CORDATA (LITTLELEAF LINDEN)	49	2 1/2"-3" cal	B&B
	QUERCUS RUBRA (RED OAK)	7	2 1/2"-3" cal	B&B
	PYRUS CALLERYANA 'CHANTICLEER' (CHANTICLEER PEAR)	47	2"-2 1/2" cal	B&B

SEE SHEETS 24 FOR REQUIRED POND #3 PERIMETER LANDSCAPING AND SUPPLEMENTAL INTERIOR POND PLANTING

SURETY CALCULATION-LANDSCAPE TREES:
(INCLUDES REQUIRED SWM BUFFER PLANTING-SEE SHEET24 FOR PLANT SCHEDULE)

SHADE TREES	100 @ $300 ea =	$30,000
ORNAMENTAL/EVERGREENS	49 @ $150 ea =	$ 7,350
TOTAL		$37,350

SURETY CALCULATION-PUBLIC STREET LANDSCAPE TREES:

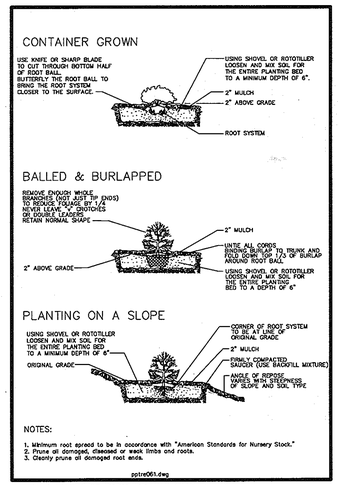
SHADE TREES	131 @ $300 ea =	$39,300
TOTAL		$39,300

Landscape Notes:

ALL PLANTING SHALL BE DONE IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL AS ADOPTED 1/4/93 AND AMENDED 3/2/98.

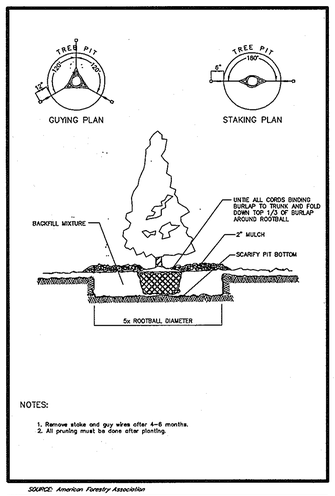
1. Plants shall conform to current "American Standards for Nursery Stock" by American Association of Nurserymen (AAN), particularly with regards to site, growth, and size of ball and density of branch structure. Contractor to insure conformance to national and local building codes and ordinances.
2. All plants (B&B or container) shall be properly identified by weatherproof labels securely attached hereto before delivery to project site. Labels shall identify plants by name, species and size. Labels shall not be removed until the final inspection by the owners representative.
3. Any material and/or work may be rejected by the owners representative if it does not meet the requirements of the specifications. The contractor shall remove all rejected materials from the site.
4. The contractor shall furnish all plants in quantities and sizes to complete the work as specified in plant schedule. The landscape contractor shall be responsible to verify all plant quantities on the plans prior to commencement of work. Quantities in the plant schedule are for the contractors convenience only and do not constitute the final count.
5. Substitutions in plant species or size shall not be permitted except with the written approval of the owners representative.
6. Plants shall be located as shown on the drawings and by scaling or as designated in the field by the owners representative. All locations are to be approved by the owners representative before excavation.
7. Contractor shall locate and mark all underground utility lines and irrigation systems prior to excavating plant beds or pits. All utility easement areas where no planting shall take place shall also be marked on the site, prior to locating and digging the tree pits. If utility lines are encountered in excavation of tree pits, other locations for the trees shall be selected by the owners representative. Such changes shall be made by the contractor without additional compensation. No changes of location shall be made without the approval of the owners representative.
8. All equipment and tools shall be placed so as not to interfere or hinder the pedestrian and vehicular traffic flow.
9. During planting operations, excess and waste materials shall be promptly and frequently removed from the site.
10. All plant shrub beds are to be dug to a minimum of 24" deep and all existing soil, construction debris, roots and other foreign material are to be removed and discarded off site. All plant shrub beds are to be excavated to the width shown on the plans.
11. All tree pits are to be excavated to a minimum depth to allow the tree root ball to be a minimum of 4" higher than finish grade. The tree root ball is to rest on undisturbed soil, or a compacted bed must be prepared for the tree root ball to rest on and which will not subside causing the tree to sink below finish grade. All tree pits are to be a minimum of 12" larger on every side of the trees root ball.
12. The planter beds are to be entirely cleaned out to the undisturbed soil level. All existing soil, construction debris, roots and other foreign material are to be removed and discarded offsite.
13. The topsoil to be used to fill the tree pits, shrub beds and planters is to be plant specific. The topsoil for the trees, shrubs and planter shall consist of a maximum 2/3 existing topsoil from the site, which is cleaned and free of clay, a minimum of 1/3 peat moss, or other approved organic material or imported new loamy topsoil and 10% cow manure. All of these materials are to be mixed prior to placing in the planter or backfilling when planting.
14. The contractor is responsible to ensure that all tree pits, shrub beds and planter are well drained. No The landscape contractor without cost to the owner will replace all plant material, which is affected by poor drainage.
15. All lawn areas are to be seeded with grass seed appropriate for each of the sunlight conditions, which exist on the site.
16. All lawn areas are to be tilled to a depth of 6" and all foreign material removed which will inhibit the healthy growth of the lawn. All old grass and grass roots are to be removed from the site. New topsoil of a minimum 4" is to be placed over the areas to be sodded. The grass areas are to be fine graded to ensure that no undulations occur in the lawn. The lawns are to be graded in such a way as to appear perfectly well tailored and even. The lawn topsoil is to be rolled and lightly irrigated prior to placing of the seed. The seed is not to be laid on frozen or soaked soil.
17. The existing trees are to be protected during the preparation of the lawn areas. The roots of the trees are to be undisturbed during the cleaning of the topsoil.
18. The trees and shrubs are to be handled with the best care and attention to ensure that the plants are not bruised, broken, torn, damaged in any way which will affect the plants general appearance and well being.
19. The trees and shrubs are to be planted with the accepted standards of the American Association of Nurserymen. The plants are to be properly watered and backfilled during the planting. All care must be taken to ensure that the plants are upright, a plant's best side is exposed to the point of the plants greatest visibility.
20. The trees must be staked in accordance with acceptable nursery practice to ensure that they are secure in the ground and will grow straight and uniform. The trees are to be wrapped if the contractor deems it necessary to protect the trees from sun scald or insect attack.
21. The Landscape Contractor is to provide a 1-year guarantee for all plant material and other work done on site.
22. Large growing plants are not to be planted in front of windows, under building overhangs, or in drainage swales. Shrubs planted near H.V.A.C units to be located so that shrubs at maturity will maintain 1 foot airspace between unit and plant.
23. Contractor to slightly adjust plant locations in the field as necessary to be clear of drainage swales and utilities. Finished planting beds shall be graded so as not to impede drainage away from buildings.
24. Trees in public rights of way shall be located at least 3 feet from sidewalks. When the distance between the curb and the sidewalk is less than 6 feet, trees shall be planted 3 feet from sidewalk in the direction away from the road. (See road sections, below)
25. Quantities as shown on the plan shall govern over plant list quantities. Contractor to verify plant list totals with quantities shown on plan.
26. Groups of shrubs shall be placed in a continuous raised mulch bed with smooth continuous lines. All mulched bed edges shall be curvilinear in shape following the contour of the plant mass. Trees located within 4 feet of shrub beds shall share some mulch bed.

SHRUB PLANTING



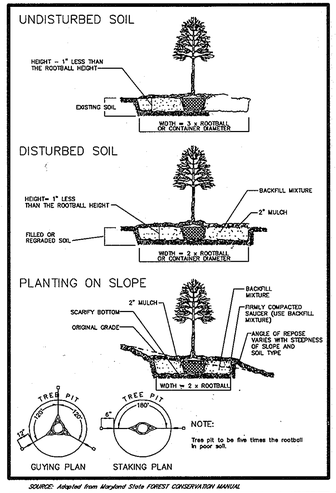
SOURCE: Adapted from Maryland State FOREST CONSERVATION MANUAL

EVERGREEN TREE PLANTING



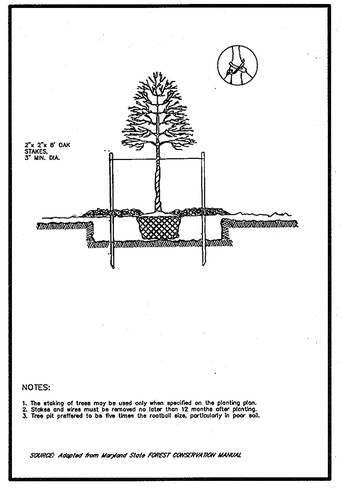
SOURCE: American Forestry Association

DECIDUOUS TREE PLANTING
CONTAINER GROWN AND BALLED & BURLAPPED STOCK

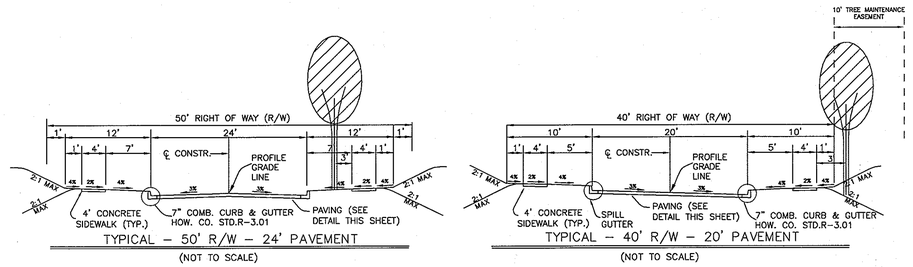


SOURCE: Adapted from Maryland State FOREST CONSERVATION MANUAL

STAKED TREE SPECIFICATION (2)



SOURCE: Adapted from Maryland State FOREST CONSERVATION MANUAL



STREET TREE PLACEMENT

NOTE: A MINIMUM SPACING OF 20 FEET SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

William T. Mulder Jr. 10-14-03
CHIEF, BUREAU OF HIGHWAY DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Cindy Hamilton 10/27/03
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

10/17/03
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

AS-BUILT PLANS
(No As-Built Data This Sheet)

Robert M. Walker 9-23-03

	DATE	REVISION	DATE
		FINAL AS-BUILT REVISIONS	OCT-03
		FINAL MYLAR SUBMITTAL FOR SIGNATURE	9/24/03
		REVISED PER DPZ COMMENTS OF 5/27/03	7/10/03
		RE-SUBMITTED FOR REVIEW AND APPROVAL	04/25/03
		SUBMITTED FOR REVIEW	1-14-03

	BY	DATE
BASE DATA	CADD	
DESIGNED	PFB,YSL	
DRAWN	YSL	
REVIEWED	PFB	

RELEASE FOR ☐
BY_____ DATE

Developer/Owner:
Winchester Homes, Inc. &
Winchester Homes, Inc. , as nominee for Stringtown Investments, LLC
6905 Rockledge Drive
Suite 800
Bethesda, Maryland 20817
Stephen J. Nardella, Vice President
(301) 803 - 4800

LANDSCAPE PLAN & STREET TREE PLAN Details

RODGERS CONSULTING
Enhancing the value of land assets

Rodgers Consulting, Inc.
9260 Gaither Road
Gaithersburg, MD 20877
301.948.4700
301.948.6256 (fax)
301.253.6609
www.rodgers.com

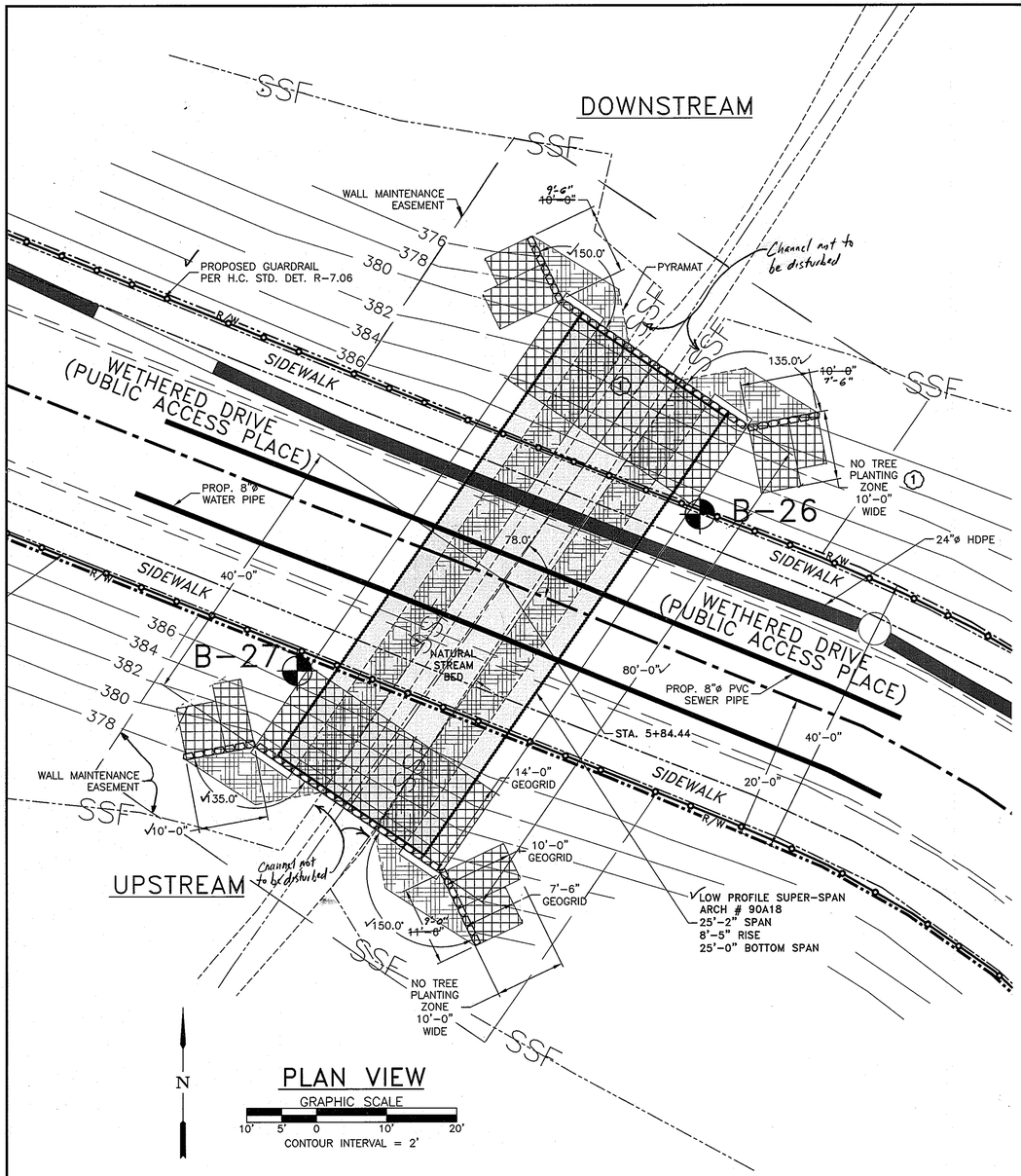
Montjoy - Single Family Detached

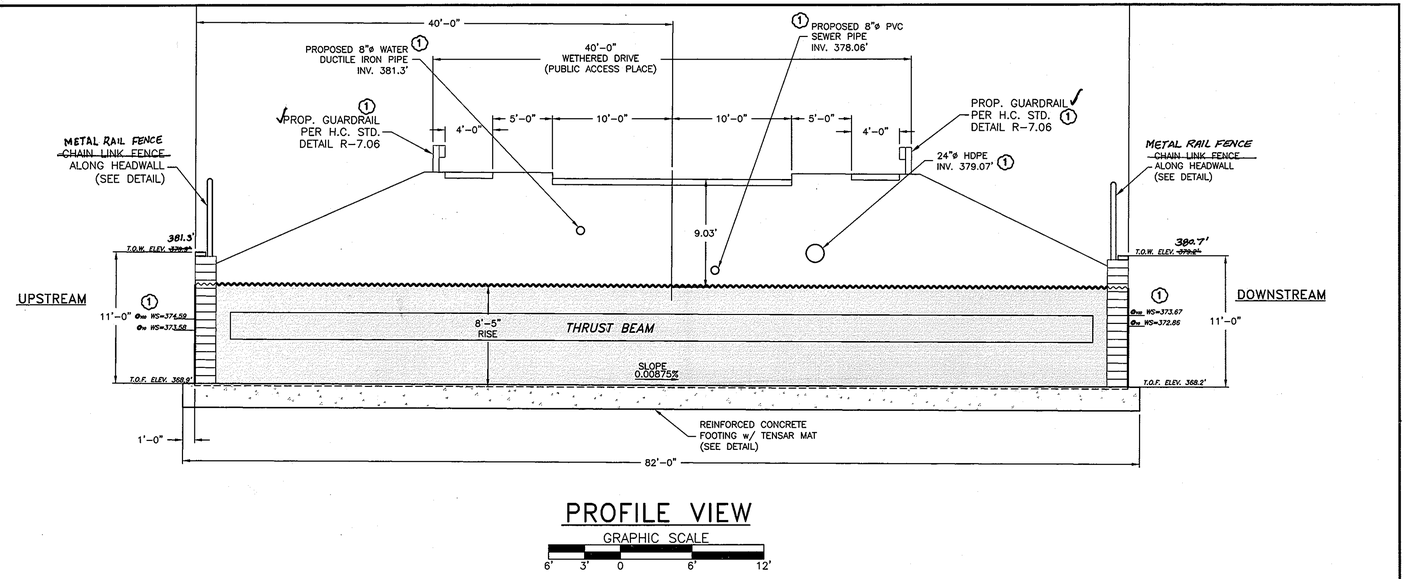
A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL C (F-03-87)
TO
BUILDABLE LOTS 127- 188 AND OPEN SPACE LOTS 189-193
ELECTION DISTRICT #2 HOWARD COUNTY, MARYLAND
TAX MAP: 30, GRID: 12, PARCEL 260
DPZ FILES: S-01-20, WP-01-117, P-02-10, P-02-17, P-03-03, F-03-87

SCALE:	AS SHOWN
JOB No.	506V3
DATE:	1-14-03
INDEX No.	LS-4
SHEET No.	28 OF 34

Q:\projects\506V\dwg\Final Construction Plan\SFD_506V3\28-LANDSCAPE-DETAILS.DWG 09/22/2003 09:45:09 PM EDT

F-03-100

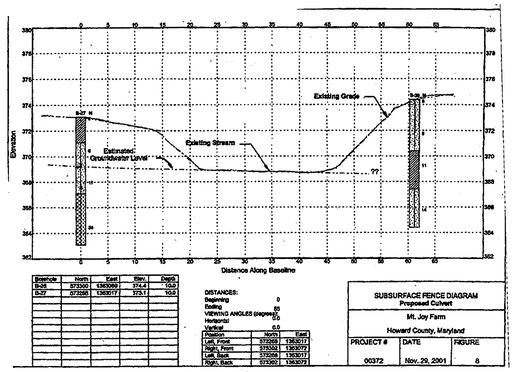




PROFILE VIEW

GRAPHIC SCALE

6' 3' 0 6' 12'



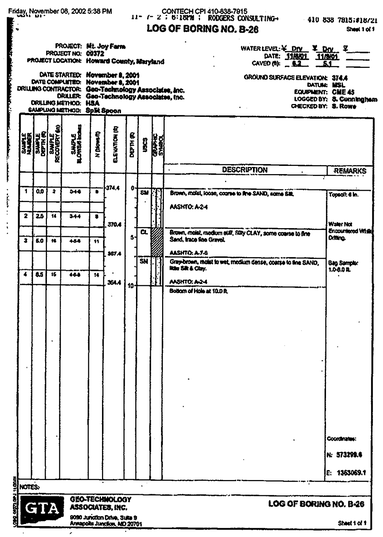
Borehole	North	East	Elev.	Depth
B-26	573300	1363099	374.4	15.0
B-27	573298	1363077	373.1	15.0

DISTANCES:
Beginning 0
Ending 89
VIEWING ANGLES (degrees)
Horizontal 0.0
Vertical 0.0

Position	North	East
Left, Front	573269	1363017
Right, Front	573333	1363072
Left, Back	573266	1363017
Right, Back	573302	1363072

SUBSURFACE FENCE DIAGRAM
Proposed Culvert
Mt. Joy Farm
Howard County, Maryland

PROJECT #	DATE	FIGURE
00372	Nov. 29, 2001	8



Friday, November 08, 2002 5:38 PM — CONTECH CPI 410-638-7915 — 11° 1' 2" S / 51978 ft — ENGINEERS CONSULTING — 410 638 7915 #18/21 — Sheet 1 of 1

LOG OF BORING NO. B-26

PROJECT: Mt. Joy Farm
PROJECT NO: 00372
PROJECT LOCATION: Howard County, Maryland

DATE STARTED: November 8, 2001
DATE COMPLETED: November 8, 2001
DRILLING CONTRACTOR: Geo-Technology Associates, Inc.
DRILLER: Geo-Technology Associates, Inc.
DRILLING METHOD: H.S.A.
SAMPLING METHOD: Split Spoon

WATER LEVEL: ▽ Dry ▽ Dry ▽
DATE: 11/8/01 11/9/01
CAVED (ft): 9.0 6.1
GROUND SURFACE ELEVATION: 374.4
DATUM: MSL
EQUIPMENT: CME 45
LOGGED BY: S. Cunningham
CHECKED BY: S. Rowe

SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DEPTH (ft)	SAMPLE RECOVERY (in)	BLOWS/6 inches	N (blows/ft)	ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
1	SS	0.0	2	0-0-0	0	374.4	0	SM		Brown, moist, loose, coarse to fine SAND, some Silt. AASHTO: A-2-4	Topsoil: 6 in.
2	SS	2.5	14	0-0-4	8	370.4					Water Not Encountered While Drilling.
3	SS	5.0	16	4-5-6	11		5	CL		Brown, moist, medium stiff, Silty CLAY, some coarse to fine Sand, trace fine Gravel. AASHTO: A-7-6	
4	SS	6.5	15	4-4-5	10	367.4		SM		Grey-brown, moist to wet, medium dense, coarse to fine SAND, little Silt & Clay. AASHTO: A-2-4	Bag Sample: 1.0-6.0 ft.
						364.4	10			Bottom of Hole at 10.0 ft.	

Coordinates:
N: 573298.6
E: 1363069.1

NOTES:

GTA GEO-TECHNOLOGY ASSOCIATES, INC.
6090 Junction Drive, Suite 9
Annapolis Junction, MD 20701

LOG OF BORING NO. B-26
Sheet 1 of 1

Friday, November 08, 2002 5:38 PM — CONTECH CPI 410-638-7915 — 11° 1' 2" S / 51978 ft — ENGINEERS CONSULTING — 410 638 7915 #18/21 — Sheet 1 of 1

LOG OF BORING NO. B-27

PROJECT: Mt. Joy Farm
PROJECT NO: 00372
PROJECT LOCATION: Howard County, Maryland

DATE STARTED: November 8, 2001
DATE COMPLETED: November 8, 2001
DRILLING CONTRACTOR: Geo-Technology Associates, Inc.
DRILLER: Geo-Technology Associates, Inc.
DRILLING METHOD: H.S.A.
SAMPLING METHOD: Split Spoon

WATER LEVEL: ▽ 6.6 ▽ 3.8 ▽
DATE: 11/8/01 11/9/01
CAVED (ft): 6.5 4.8
GROUND SURFACE ELEVATION: 373.1
DATUM: MSL
EQUIPMENT: CME 45
LOGGED BY: S. Cunningham
CHECKED BY: S. Rowe

SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DEPTH (ft)	SAMPLE RECOVERY (in)	BLOWS/6 inches	N (blows/ft)	ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
1	SS	0.0	18	3-3-3	6	373.1	0	CL		Brown, moist, medium stiff, SILT & CLAY and fine SAND. AASHTO: A-6	Topsoil: 5 in.
2	SS	2.5	16	2-3-3	6	371.1		GM		Grey, wet, loose, coarse to fine SAND, little Silt & Clay, trace Organics. AASHTO: A-4	Wet At 3 ft. ▽ ▽
3	SS	5.0	16	3-8-9	17	367.1	5	SW GM		Gray to brown, moist to dry, dense, coarse to fine SAND, trace Silt. AASHTO: A-1-b	
4	SS	6.5	18	9-13-23	36	363.1	10			Bottom of Hole at 10.0 ft.	

Coordinates:
N: 573268.0
E: 1363016.8

NOTES:

GTA GEO-TECHNOLOGY ASSOCIATES, INC.
6090 Junction Drive, Suite 9
Annapolis Junction, MD 20701

LOG OF BORING NO. B-27
Sheet 1 of 1

Developer/Owner:
Winchester Homes, Inc. &
Winchester Homes, Inc. , as nominee for Stringtown Investments, LLC
6905 Rockledge Drive

Bethesda, Maryland 20817
Stephen J. Nardella, Vice President
(301) 803 - 4800

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

William F. Mahler Jr. — CHIEF, BUREAU OF HIGHWAYS — 10-14-03 DATE

HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Cindy Hamilton — CHIEF, DIVISION OF LAND DEVELOPMENT — 10/27/03 DATE

Chad Edmondson — CHIEF, DEVELOPMENT ENGINEERING DIVISION — 10/17/03 DATE

AS-BUILT PLANS

STATE OF MARYLAND — CARL F. ROSE II — No. 20637 — PROFESSIONAL ENGINEER

12/5/08
AS-BUILT DIMENSIONS ONLY

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 PLAN AND SPECIFICATIONS.

SIGNATURE _____ P.E.NO.: 20637 DATE: 12/5/08

STATE OF MARYLAND — DANIEL R. CONLEY — 22729 — PROFESSIONAL ENGINEER

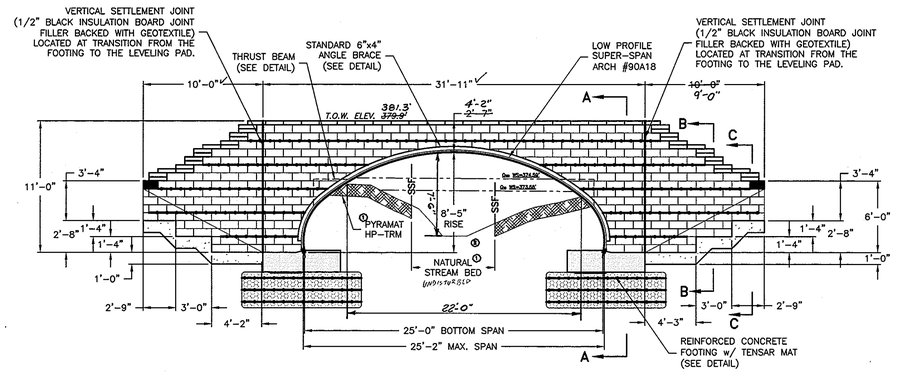
CONTECH CONSTRUCTION PRODUCTS, INC.
DESIGN OF SUPER-SPAN
LOW PROFILE ARCH #90A18

3	9/24/03	DWR	FINAL MYLAR SUBMITTAL FOR SIGNATURE
2	4/22/03	DWR	REVISION #2 - REVIEWER'S COMMENTS
1	4/11/03	DWR	REVISION #1 - REVIEWER'S COMMENTS

CBC ENGINEERS
DAYTON, OHIO

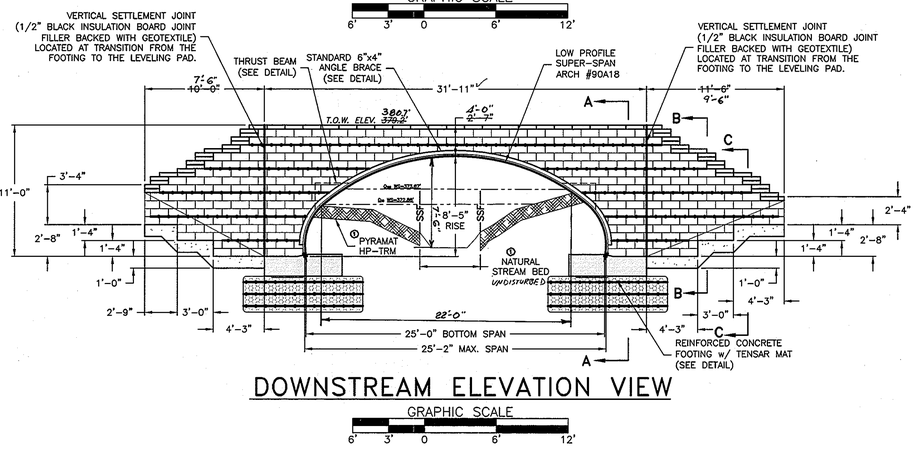
PLAN, PROFILE & LOGS

Drawn By: DWR	Date: 12/16/02	MONTJOY - SINGLE FAMILY DETACHED A RE-SUBDIVISION OF NON-BUILDABLE BULK PARCEL O(F-03-87) TO BUILDABLE LOTS 127-188 AND OPEN SPACE LOTS 189-193 ELECTION DISTRICT #2 HOWARD COUNTY, MARYLAND TAX MAP: 30 GRID: 12 PARCEL 260 DPZ FILES: S-01-20, WP-01-117, P-0310, P-0317, P-0003, P-03-87
Approved By:	Date:	
Scale: GRAPHIC	Project No.: CBC-4268	Rev.: 3
		Sheet: 29 OF 34



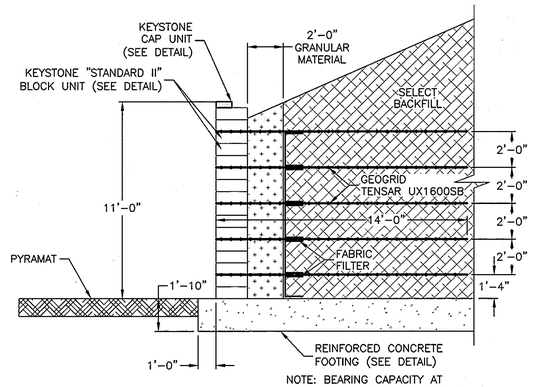
UPSTREAM ELEVATION VIEW

GRAPHIC SCALE
6' 3' 0 6' 12'



DOWNSTREAM ELEVATION VIEW

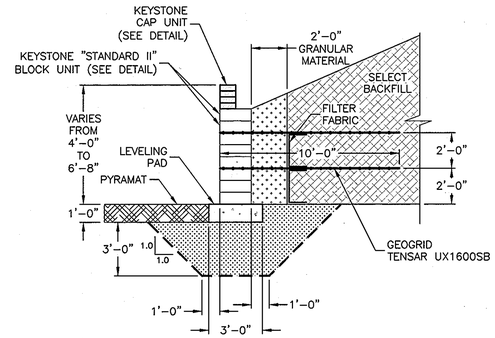
GRAPHIC SCALE
6' 3' 0 6' 12'



NOTE: BEARING CAPACITY AT THE TOP OF THE TENSAR MAT IS 4,000 psf.

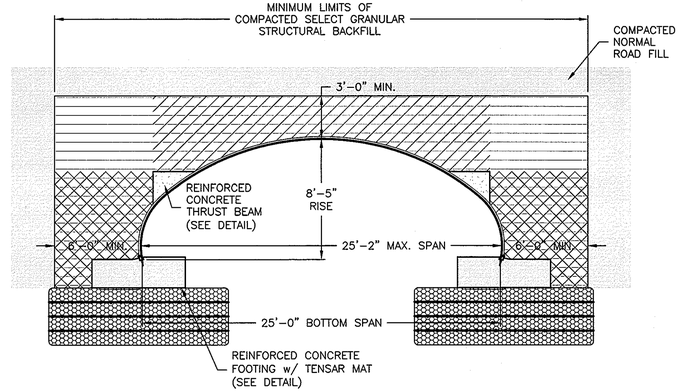
SECTION 'A-A'

GRAPHIC SCALE
4' 2' 0 4' 8'



SECTION 'B-B'
KEYSTONE WINGWALL

GRAPHIC SCALE
4' 2' 0 4' 8'

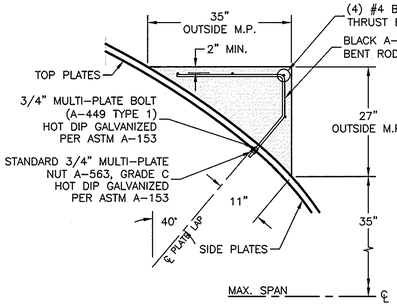


TYPICAL BACKFILL DETAIL

GRAPHIC SCALE
5' 2.5' 0 5' 10'

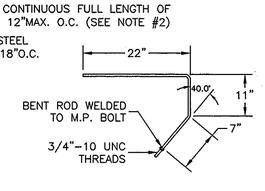
LEGEND:
- CRITICAL BACKFILL ZONE, PRESSURE ON SOIL GREATEST HERE.
- INITIAL LIFTS OVER CROWN OF STRUCTURE AS INDICATED BY SHADED AREA TO BE COMPACTED TO REQUIRED DENSITY WITH HAND OPERATED EQUIPMENT OR WITH SMALL TRACTOR (D-4 OR SMALLER) DRAWN EQUIPMENT.

NOTES FOR BACKFILL REQUIREMENTS:
1.) ALL SELECT GRANULAR FILL TO BE COMPACTED TO 90% PER AASHTO T-180.
2.) COMPLETE AND REGULAR MONITORING OF THE SUPER-SPAN SHAPE IS NECESSARY DURING ALL BACKFILLING OF THE STRUCTURE.
3.) DO NOT OPERATE HEAVY OR MEDIUM COMPACTORS ON BACKFILL (USE WALK BEHIND EQUIPMENT) CLOSER THAN 2 FEET FROM THE SIDE PLATES.
4.) PREVENT EXCESSIVE DISTORTION OF SHAPE AS NECESSARY BY VARYING COMPACTION METHODS AND EQUIPMENT.



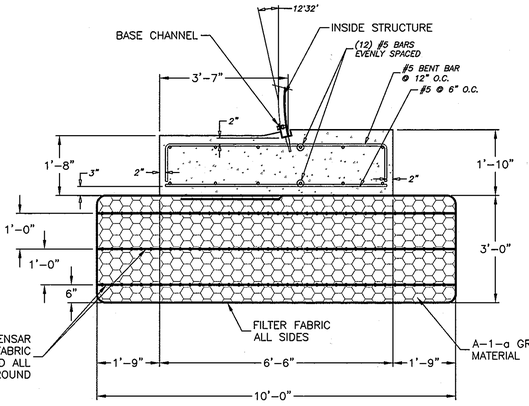
DETAIL OF THRUST BEAM

NOT TO SCALE



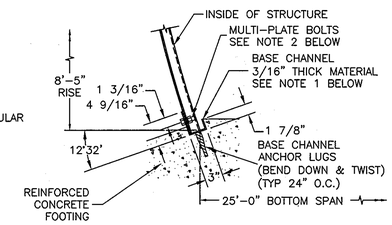
BENT ROD

ADDITIONAL NOTES FOR THRUST BEAM:
1.) REINFORCED CONCRETE THRUST BEAMS TO BE POURED IN A MANNER TO MAINTAIN A BALANCED LOADING ON EACH SIDE OF THE STRUCTURE.
2.) LONGITUDINAL REINFORCING BARS MAY BE PLACED ON EITHER SIDE OF BENT ROD.
3.) CONCRETE MAY BE f'_c = 2,400 psi.
4.) REINFORCEMENT SHALL BE ASTM A-615 GRADE 40.



TYPICAL FOOTING SECTION

GRAPHIC SCALE
2' 1' 0 2' 4'



BASE CHANNEL DETAIL

NOT TO SCALE

NOTES FOR BASE CHANNEL
1.) REFERENCE CONTECH DWG. No. 1008964 FOR BASE CHANNEL DETAILS.
2.) SHORT BOLT CONNECTION TO BASE CHANNEL SHOWN. OPPOSITE SIDE OF STRUCTURE REQUIRES 3" LONG BOLTS. REFERENCE CONTECH DWG. No. 103690 "MULTI-PLATE BASE CHANNEL INSTALLATION DETAILS."

CONSTRUCTION NOTES:
1.) CONCRETE SHALL BE $f'c$ = 3,500 psi
2.) ALL REINFORCEMENT SHALL BE ASTM A-615, GRADE 60
3.) RETAINING WALLS MAY ONLY BE CONSTRUCTED UNDER THE OBSERVATION OF A REGISTERED PROFESSIONAL ENGINEER AND A (NICET, WACEL, OR EQUIVALENT) CERTIFIED SOILS TECHNICIAN.
4.) THE REQUIRED BEARING PRESSURE BENEATH THE FOOTING OF THE WALL SHALL BE VERIFIED IN THE FIELD BY A CERTIFIED SOILS TECHNICIAN. TESTING DOCUMENTATION MUST BE PROVIDED TO THE HOWARD COUNTY INSPECTOR PRIOR TO THE START OF CONSTRUCTION. THE REQUIRED TEST PROCEDURE SHALL BE THE DYNAMIC CONE PENETRMETER TEST ASTM STP-399.

CONSTRUCTION NOTES (CONTINUED):
5.) THE SUITABILITY OF FILL MATERIAL SHALL BE CONFIRMED BY THE ON-SITE SOILS TECHNICIAN. EACH EIGHT INCH LIFT MUST BE COMPACTED TO A MINIMUM OF 95% STANDARD PROCTOR DENSITY AND THE TESTING REPORT SHALL BE MADE AVAILABLE TO HOWARD COUNTY INSPECTOR UPON COMPLETION OF CONSTRUCTION.
6.) THE BEARING CAPACITY TO BE 2,500 psf BENEATH THE ARCH TENSAR MAT. THIS SHALL BE VERIFIED IN THE FIELD.

Developer/Owner:
Winchester Homes, Inc. &
Winchester Homes, Inc. , as nominee for Stringtown Investments, LLC
6905 Rockledge Drive

Bethesda, Maryland 20817
Stephen J. Nardella, Vice President
(301) 803 - 4800

dev HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

William F. Mackey Jr. 10-14-03
CHIEF, BUREAU OF HIGHWAY DATE

dev HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Cindy Hamilton 10/10/03
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Chad Edmondson 10/17/03
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

STATE OF MARYLAND — PAUL F. BOSS — No. 20637 — PROFESSIONAL ENGINEER — PROJECT ENGINEER
12/5/03
AS-BUILT DIMENSIONS ONLY

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 PLAN AND SPECIFICATIONS

SIGNATURE Paul F. Boss P.E. NO.: 20637
DATE: 12/5/03

AS-BUILT PLANS

CONTECH CONSTRUCTION PRODUCTS, INC.
DESIGN OF SUPER-SPAN
LOW PROFILE ARCH #90A18

3	9/24/03	DWR	FINAL MYLAR SUBMITTAL FOR SIGNATURE
2	4/22/03	DWR	REVISION #2 - REVIEWER'S COMMENTS
1	4/11/03	DWR	REVISION #1 - REVIEWER'S COMMENTS

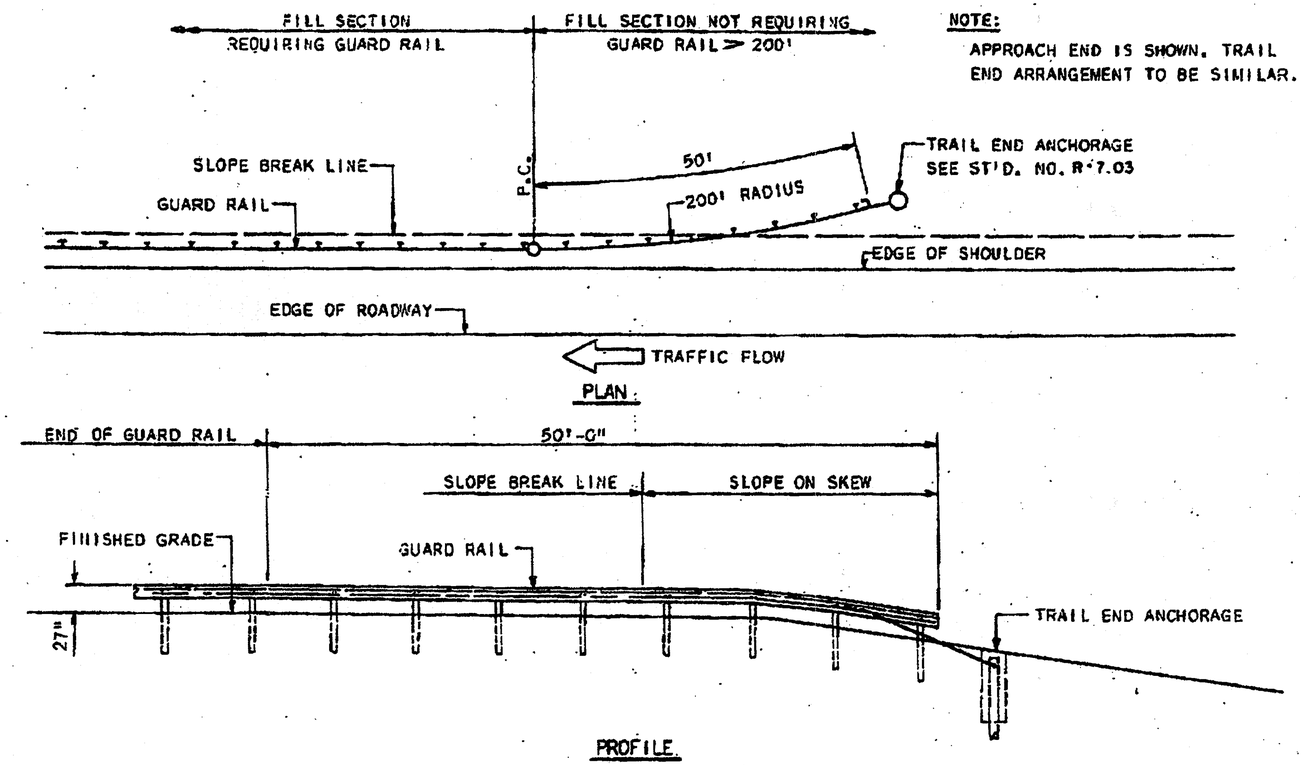
CBC ENGINEERS
DAYTON, OHIO

DETAILS

Drawn By: DWR	Date: 12/16/02
Approved By:	Date:
Scale: GRAPHIC	Project No.: CBC-4268
	Rev.: 3
	Sheet: 30 OF 34

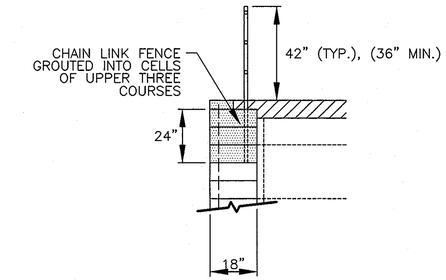
MONTJOY - SINGLE FAMILY DETACHED
A RE-SUBDIVISION OF NON-BUILDABLE BULK PARCEL C(F-03-87)
TO
BUILDABLE LOTS 127-188 AND OPEN SPACE LOTS 189-193
ELECTION DISTRICT #2 HOWARD COUNTY, MARYLAND
TAX MAP: 30 GRID: 12 PARCEL 250
DPZ FILES: S-01-20, WP-01-117, P-0210, P-0217, P-0303, P-03-87

STATE OF MARYLAND — PROFESSIONAL ENGINEER — 22779 — PAUL F. BOSS — CONTECH CONSTRUCTION PRODUCTS, INC.



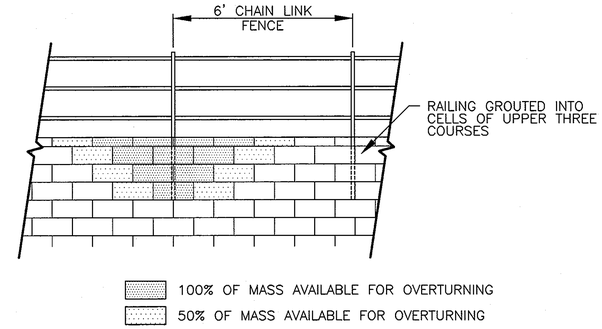
GUARD RAIL W/ BEAM DETAIL ✓ INSTALLED

NOT TO SCALE



STANDARD TYPICAL FENCE DESIGN SECTION

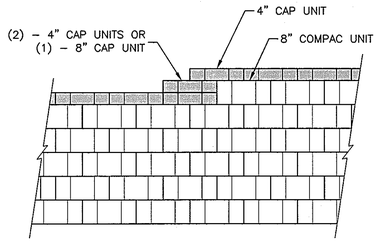
METAL RAIL FENCE INSTALLED



TYPICAL FENCE ELEVATION

TYPICAL FENCE DESIGN

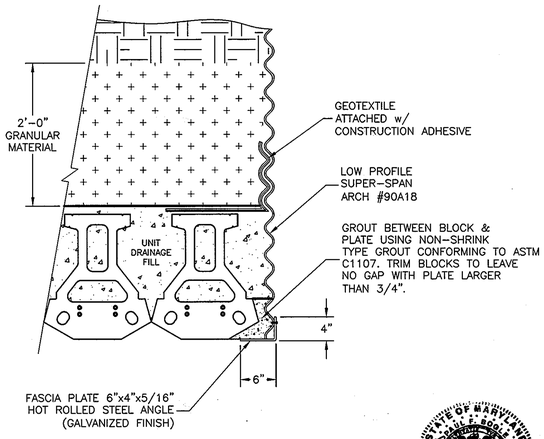
DIRECT MOUNT – 20 PLF – STANDARD UNITS
NO SCALE

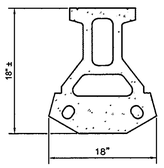


TOP OF WALL STEPS DETAIL

GRAPHIC SCALE

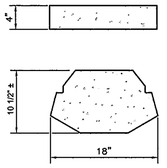
0.5' 0.25' 0 0.5' 1'





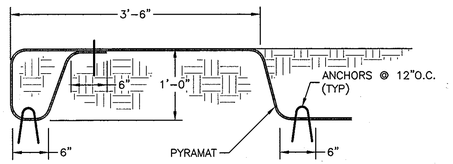
"STANDARD II" BLOCK UNIT DETAIL

NOT TO SCALE



"STANDARD II" CAP BLOCK DETAIL

NOT TO SCALE



PYRAMAT INSTALLATION DETAIL

GRAPHIC SCALE

1' 0.5' 0 1' 2'

DETAIL OF ANGLE BRACING

GRAPHIC SCALE

1' .5' 0 1' 2'

Developer/Owner:
Winchester Homes, Inc. &
Winchester Homes, Inc. , as nominee for Stringtown Investments, LLC
6905 Rockledge Drive

Bethesda, Maryland 20817
Stephen J. Nardella, Vice President
(301) 803 - 4800

dev HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAY — DATE 10-14-03

dev HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/27/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/10/03

STATE OF MARYLAND — DANIEL W. ROSS — 20637 — PROFESSIONAL ENGINEER — 12/5/08 — AS-BUILTS ONLY

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 PLAN AND SPECIFICATIONS.

SIGNATURE _____ P.E.NO.: 20637
DATE: 12/5/08

PROFESSIONAL ENGINEER — 22770 — REGISTERED — STATE OF MARYLAND

AS-BUILT PLANS

CONTECH CONSTRUCTION PRODUCTS, INC.
DESIGN OF SUPER-SPAN
LOW PROFILE ARCH #90A18

3	9/24/03	DWR	FINAL MYLAR SUBMITTAL FOR SIGNATURE
2	4/22/03	DWR	REVISION #2 - REVIEWER'S COMMENTS
1	4/11/03	DWR	REVISION #1 - REVIEWER'S COMMENTS

CBC ENGINEERS
DAYTON, OHIO

DETAILS (CONTINUED)

Drawn By: DWR	Date: 12/16/02	**MONTJOY - SINGLE FAMILY DETACHED** A RE-SUBDIVISION OF NON-BUILDABLE BULK PARCEL C(F-03-87) TO BUILDABLE LOTS 127-188 AND OPEN SPACE LOTS 189-193 ELECTION DISTRICT #2 HOWARD COUNTY, MARYLAND TAX MAP: 30 GRID: 12 PARCEL 260
Approved By:	Date:	DPZ FILES: S-81-20, WP-01-117, P-0210, P-0217, P-0003, P-0347
Scale: GRAPHIC	Project No.: CBC-4268	Rev.: 3 — Sheet: 31 OF 34

I - GENERAL

1.0 STANDARDS AND DEFINITIONS

1.1 STANDARDS - All standards refer to latest edition unless otherwise noted.

1.1.1 ASTM D-698-70 (Method C) "Standard Test Methods for Moisture. Density Relations of Soils and Soil Aggregate Mixtures Using 5.5-lb (2.5 kg.) Rammer and 12" (305-mm) Drop".

1.1.2 ASTM D-1557 "Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft^3 [2,700 kN · m/m^3]).

1.1.3 ASTM D-2922 "Standard Test Method for Density of Soil and Soil Aggregate in Place by Nuclear Methods (Shallow Depth)".

1.1.4 ASTM D-1556 "Standard Test Method for Density of Soil in Place by the Sand-Cone Method".

1.1.5 All construction and materials shall be in accordance with the current AASHTO Specifications.

1.2 DEFINITIONS

1.2.1 Owner - In these specifications the word "Owner" shall mean Winchester Homes, Greenbelt, Maryland.

1.2.2 Engineer - In these specifications the word "Engineer" shall mean the Owner designated engineer.

1.2.3 Design Engineer - In these specifications the words "Design Engineer" shall mean CBC Engineers and Associates, Ltd.

1.2.4 Contractor - In these specifications the word "Contractor" shall mean the firm or corporation undertaking the execution of any work under the terms of these specifications.

1.2.5 Approved - In these specifications the word "approved" shall refer to the approval of the Engineer or his designated representative.

1.2.6 As Directed - In these specifications the words "as directed" shall refer to the directions to the Contractor from the Owner or his designated representative.

2.0 GENERAL CONDITIONS

2.1 The Contractor shall furnish all labor, material and equipment and perform all work and services except those set out and furnished by the Owner, necessary to complete in a satisfactory manner the site preparation, excavation, footings, culvert installation, head walls, wing walls, filling, compaction, and grading as shown on the plans and as described therein.

This work is to be accomplished under the observation of the Owner or his designated representative.

2.2 The Contractor shall examine, investigate and inspect the construction site as to the nature and location of the work, and the general and local conditions at the construction site, including, without limitation, the character of surface or subsurface conditions and obstacles to be encountered on and around the construction site; and shall make such additional investigation as he may deem necessary for the planning and proper execution of the work.

If conditions other than those indicated are discovered by the Contractor, the Owner should be notified immediately. The material which the Contractor believes to be a changed condition should not be disturbed so that the owner can investigate the condition.

2.3 The construction shall be performed under the direction of an experienced engineer who is familiar with the SUPER-SPAN structures.

2.4 Contech Construction Products, Inc. will provide a shape technician to monitor the shape of the structure during construction of the backfill until all select backfill has been placed.

II - FOUNDATION PREPARATION

1.0 UNDERCUTS

1.1 The area beneath footings for the structure shall be excavated to a depth of 3.0 feet below the bottom of footings and replaced with a Tensar reinforced mat.

1.2 The width of the Tensar reinforced mat shall extend to a minimum of 1.75 feet outside each edge of the footings.

1.3 The Tensar mat shall be placed in accordance with Section III of these specifications.

1.4 The geogrid to be placed in the mat must meet the requirements of Section III of these specifications.

2.0 DEWATERING

2.1 There may be a need to dewater before excavating. All foundation excavations shall be pumped free of water and all soft and loose material shall be removed before pour concrete.

3.0 INSPECTION

3.1 All foundation excavations should be examined by a geotechnical engineer or his representative to determine that they are bearing on proper materials.

4.0 PLACEMENT OF GRANULAR MATERIAL

4.1 The fill in the geogrid reinforced mat shall be an A1a gradation material compacted to 95% of the maximum modified Proctor dry unit weight.

III - GEOGRID REINFORCED MATS

1.0 GEOGRID REINFORCED MATS

1.1 The structure footings shall be supported on geogrid mats consisting of a compacted granular layer reinforced with Tensar geogrids.

1.2 The dimensions of the mats shall be as shown on the construction drawings.

1.3 The excavations shall be pumped free of water before any compacted backfill is placed.

1.4 A filter fabric meeting the requirements of Section V of these specifications shall be placed in the bottom of the excavation for the compacted mat.

1.5 The material for the compacted backfill in the mat shall conform to A1a gradation, and shall be compacted to 95% of the maximum modified Proctor dry unit weight.

1.6 Tensar structural geogrid BX6100 shall be placed at the locations shown on the construction drawings.

1.7 The structural geogrid shall be Tensar BX6100 and shall meet the requirements of Chapter III of these specifications.

2.0 GEOGRID SPECIFICATIONS

2.1 GENERAL

2.1.1 Geogrid meeting the requirements of this specification shall be placed at the locations shown on the construction drawings.

2.1.2 The geogrid shall extend to the lengths shown on the construction drawings.

2.2 DELIVERY, STORAGE AND HANDLING

2.2.1 The contractor shall check the geogrid upon delivery to assure that the proper material has been received.

2.2.2 Geogrids shall be stored above -20°F (-29°C) and be shaded from prolonged periods of direct exposure to sunlight.

2.2.3 The contractor shall prevent excessive mud, wet cement, epoxy, and like materials, which may affix themselves to the gridwork, from coming in contact with the geogrid material.

2.2.4 Rolled geogrid material may be laid flat or stood on end for storage.

2.3 DEFINITIONS

2.3.1 Geogrid: A polymer grid structure specifically fabricated for use as soil reinforcement.

2.3.2 Direction of Reinforcement: Refers to the orientation that the geogrid is used in for a particular project; along the roll for uniaxial geogrid and either along or across the roll for biaxial geogrid.

2.3.3 MD: Machine direction.

2.3.4 CMD: Cross machine direction.

2.4 MATERIALS

2.4.1 The geogrid reinforcement shall:
- Be biaxially oriented polymer grid structure.
- Be composed of high density polyethylene.

2.4.2 The manufacturer shall furnish test reports certifying that the product meets the requirements of this Specification upon request.

2.4.3 The geogrid shall be a regular grid structure formed by biaxially drawing a continuous sheet of select high density polyethylene material and shall have aperture geometry and rib and juncture cross-sections sufficient to permit significant mechanical interlock with the material being reinforced. The geogrid shall have high flexural rigidity and high tensile modulus in relation to the material being reinforced and shall also have high continuity of tensile strength through all ribs and junctions of the grid structure. The geogrid shall have high resistance to deformation under sustained long term design load while in service and shall also be resistant to ultraviolet degradation, to damage under normal construction practices and to all forms of biological or chemical degradation normally encountered in the material being reinforced.

The geogrid shall also conform in all respects to the property requirements of TENSAR BX6100 or equivalent listed below.

TABLE III-1
PRODUCT PROPERTIES

PROPERTY	TEST METHOD	UNITS	BX6100
Reinforcement Strength			
Creep Limited Strength (CLT) • (100 Years)	GRI GG3 & GG4[1]	lb./ft.	425
Geometry	I.D. Calipered[5]		
Apertures[2]		in. (nom)	1.0
• MD		in. (nom)	1.3
• CMD	COE Method[6]	% (nom)	70
Open Area	ASTM D1777-64		
Thickness		in. (nom)	0.05
• Ribs		in. (nom)	0.16
• Junction			
Dimensional Stability	ASTM D1388-64[3]	mg-cm (min)	1,000,000
Flexural Rigidity	GRI GG1-87[4]		
Tensile Modulus		lb./ft. (min)	30,000
• MD	GRI GG2-87[7]		
Junctions		lb./ft. (min)	1,890
• Strength		% (min)	90
• Efficiency			
Material	ASTM D1248 Type III, Class A Grade 5	% (min)	pp8
Polyethylene			
Carbon Black	ASTM 4218	% (min)	0.5

Notes:
1. Long-Term strength measured by through-the-junction tensile creep testing to 10,000 hours as described in GRI Test Method GG3 "Tensile Creep Testing of Geogrids and GRI-GG4" Determination of the long-Term Design Strength of Geogrids"
2. MD dimensions is along the roll length. CMD dimension is across the roll width.
3. Maximum inside dimension in each principal direction measured by calipers.
4. Percent open area measured without magnification by Corps of Engineers method, as specified in CW 02215 Civil Works Construction Guide, November 1977
5. ASTM D1388-64 modified to account for wide specimen testing
6. Secant modulus at 2% elongation measured by Geosynthetic Research Institute Test Method GGI-87 "Geogrid Tensile Strength." No offset allowances are made in calculating secant modulus.
7. Geogrid junction strength and junction efficiency measured by GRI Test Method GG2-87 "Geogrid Junction Strength".
8. BX6100 is 99% (min) polypropylene.

2.5 GEOGRID INSTALLATION

2.5.1 Geogrid shall be laid at the proper elevation and orientation (i.e., the machine direction shall be perpendicular to the pipe structure axis) as shown on the construction drawings.

2.5.2 Correct orientation (roll direction) of the geogrid shall be verified by the Contractor. The correct roll direction shall be perpendicular to the structure axis.

2.5.3 Geogrid may be secured in-place with staples, pins, sand bags, or backfill as required by fill properties, fill placement procedures, or weather conditions, or as directed by the Engineer.

2.5.4 Geogrid Placement:

- Geogrids should be laid horizontally on compacted fill. Care must be taken to prevent slack from becoming trapped within the geogrid as fill is placed.

2.6 BACKFILL PLACEMENT OVER GEOGRID

2.6.1 Backfill material shall be placed in lifts and compacted as directed in the text of this document.

2.6.2 Backfill shall be placed, spread, and compacted in such a manner that minimizes the development of wrinkles in and/or movement of the geogrid.

2.6.3 Tracked construction equipment shall not be operated directly upon the geogrid. A minimum fill thickness of six (6) inches (150mm) is required prior to operation of tracked vehicles over the geogrid. Turning of tracked vehicles should be kept to a minimum to prevent tracks from displacing the fill and damaging the geogrid.

2.6.4 Rubber tired equipment may pass over geogrid reinforcement at slow speeds, less than 10 MPH (16 KPH). Sudden braking and sharp turning shall be avoided.

3.0 CONCRETE FOOTING DIMENSIONS

3.1 The footings shall be reinforced in accordance with the construction drawings.

IV - SELECT BACKFILL SPECIFICATIONS

1.0 GENERAL CONDITIONS

1.1 The contractor shall furnish all labor, materials, and equipment, and perform all work and services necessary to complete in a satisfactory manner the site preparation, excavation, filling, compaction and grading as shown on the plans and as described therein.

1.2 This work shall consist of all clearing and grading, removal of existing structures unless otherwise stated, preparation of the land to be filled, spreading and compaction of the fill, and all subsidiary work necessary to complete the grading of the cut and fill areas to conform with the lines, grades, slopes, and specifications.

1.3 This work is to be accomplished under the constant and continuous supervision of the Owner or his designated representative.

2.0 SUBSURFACE CONDITIONS

2.1 The Contractor shall examine, investigate and inspect the construction site as to the nature and location of the work, and the general and local conditions at the construction site, including, without limitation, the character of surface or subsurface conditions and obstacles to be encountered on and around the construction site; and shall make such additional investigation as he may deem necessary for the planning and proper execution of the work.

2.2 If conditions other than those indicated are discovered by the Contractor, the Owner should be notified immediately. The material which the Contractor believes to be a changed condition should not be disturbed so that the Owner can investigate the condition.

3.0 SITE PREPARATION

3.1 Within the specified areas, all debris, existing stockpile material, and structures scheduled for demolition shall be removed and disposed of.

3.2 Any rubbish, organic and other objectionable soils, and other deleterious material, shall be disposed of off the site, or as directed by the Owner or his designated representative if on site disposal is provided. In no case shall such objectionable material be allowed in, or under the fill.

3.3 Prior to the addition of fill, the undercuts specified in Section II shall be made and the original ground shall be compacted to the project specifications as outlined below. Special attention shall be given to the proposed fill area at this time. If wet spots, spongy conditions, or ground water seepage is found, corrective measures must be taken before the placement of fill.

4.0 FORMATION OF FILL AREAS

4.1 SELECT BACKFILL

4.1.1 Select backfill shall be placed to a minimum distance of 6 feet horizontally, as measured from the springline of the structure, and to a distance of 3 feet above the crown of the structure as shown on the construction drawings.

5.0 MINIMUM BACKFILL REQUIREMENTS FOR SUPER-SPAN AND LONG SPAN STRUCTURES

5.1 MATERIAL

A granular type of material shall be used around and over the structure. This select structural backfill material shall conform to AASHTO Specification M-145, A-1, A2(4), or A2(5). Maximum particle size shall not exceed 3 inches. The gradation must conform to the following table:

TABLE IV-1
BACKFILL REQUIREMENTS

AASHTO M-145 - TABLE 2 (MODIFIED)*				
GROUP CLASSIFICATION	A-1		A-2 (Modified)	
	A-1-a	A-1-b	A-2-4	A-2-5
Sieve Analysis, Percent Passing				
No. 10 (2.00 mm)	50 max.	--	--	--
No. 40 (0.425 mm)	30 max.	50 max.	--	--
No. 100 (.150 mm)	--	--	50 max.	50 max.
No. 200 (0.075 mm)	15 max.	25 max.	20 max.	20 max.
CHARACTERISTICS OF FRACTION PASSING NO. 40 (0.425 mm)				
Liquid Limit	--	--	40 max.	41 min.
Plasticity Index	6 max.		10 max.	10 max.
USUAL TYPES OF SIGNIFICANT CONSTITUENT MATERIALS	Stone Fragments, Gravel and Sand		Silty or Clayey Gravel and Sand	

*Modified to be more select than M-145.

Additional Backfill Material Requirements:
1. Backfill must be well-graded material. Open-graded or gap-graded materials are not allowed.
2. Fine beach sands, windblown sands, stream deposited sands exhibiting fine, rounded particles and typically classified by AASHTO M-145 as A-3 materials are not allowed.
3. On-site mixing or blending to achieve specified gradation is not allowed.
4. The maximum particle size shall not exceed 3 inches.

Other backfill materials which provide equivalent long term structural properties in the environmental conditions expected (saturation, freeze-thaw, etc.) may be used. Such materials shall be approved only after thorough investigation and testing by a soils engineer familiar with the requirements for structural backfill of MULTI-PLATE and long span structures and approval by the Chief Engineer, Contech.

5.2 BACKFILL LIMITS

The required width of the structural backfill shall be 6 feet minimum outside the springline and to 3 feet over the top of the structure.

Developer/Owner:
Winchester Homes, Inc. &
Winchester Homes, Inc. , as nominee for Stringtown Investments, LLC
6905 Rockledge Drive

Bethesda, Maryland 20817
Stephen J. Nardella, Vice President
(301) 803 - 4800

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAY — DATE 10-14-03

HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/27/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/17/03

AS-BUILT PLANS
(No As-Built Data This Sheet)

CONTECH CONSTRUCTION PRODUCTS, INC.
DESIGN OF SUPER-SPAN
LOW PROFILE ARCH #90A18

3	9/24/03	DWR	FINAL MYLAR SUBMITTAL FOR SIGNATURE
2	4/22/03	DWR	REVISION #2 - REVIEWER'S COMMENTS
1	4/11/03	DWR	REVISION #1 - REVIEWER'S COMMENTS

CBC ENGINEERS
DAYTON, OHIO

SPECIFICATIONS

Drawn By: DWR	Date: 12/16/02	**MONTJOY - SINGLE FAMILY DETACHED** A RE-SUBDIVISION OF NON-BUILDABLE BULK PARCEL C(F-03-87) TO BUILDABLE LOTS 127-188 AND OPEN SPACE LOTS 189-193 ELECTION DISTRICT #2 HOWARD COUNTY, MARYLAND TAX MAP: 30 GRID: 12 PARCEL 260 DPZ FILES: S-01-20, WP-01-117, P-0210, P-0217, P-0300, P-03-87
Approved By:	Date:	
Scale: GRAPHIC	Project No.: CBC-4268	Rev.: 3 — Sheet: 32 OF 34

5.3 BACKFILL PLACEMENT

Before backfilling, the erected structure shall meet the tolerance and symmetry requirements of AASHTO and Contech.

Approved backfill material shall be placed in horizontal, uniform layers not exceeding 8" in thickness, before compaction, and shall be brought up uniformly on both sides of the structure. Each layer of backfill shall be compacted to a relative density of not less than 90%, of the modified Proctor per AASHTO Test Method No. T-180. Field density tests of compacted backfill shall be made at regular intervals during backfill.

SUPER-SPAN and long span structures, due to their size and shape, are sensitive to the types and weights of equipment used to place and compact the select backfill material. This is especially critical in the areas immediately adjacent to and above the structure. Therefore, equipment types will be restricted in those critical zones. Compaction equipment or methods that produce horizontal or vertical earth pressures which cause excessive distortion or damage to these structures shall not be used.

Contractors should plan to have a D4 (approximately 20,000 lbs.) or similar weight tracked dozer to place and grade backfill immediately alongside and above the structure until minimum cover level is reached. Lightweight vibratory plate or roller type compaction equipment must be used to compact the backfill in these zones. Use of heavier equipment and/or rubber tired equipment such as scrapers, graders and front end loaders are prohibited inside the select fill envelope zone until appropriate minimum cover height has been obtained.

5.5 CONSTRUCTION OBSERVATION

Contech shall provide a Shape Control Technician who is a qualified representative of a professional soils engineering firm, or other qualified organization, to monitor the installation and backfilling of the structure. The Shape Control Technician shall monitor the structure shape during the placement of structural backfill to the minimum cover height over the structure. The Shape Control Technician shall take initial measurements of the erected structure before backfilling, monitor all backfill materials, their placement and their compaction. He shall record all density readings and ensure they meet the requirements of the plans and specifications. However, in no case shall the relative densities be less than 90% per AASHTO T-180. **No structural backfill shall be placed without the Contech Shape Control Technician on site.** A competent geotechnical engineer registered in the state of Maryland shall be present on-site for the placement of any fill material.

The Contech Shape Control Technician shall;

- monitor the structure's shape throughout the backfilling operation and report shape change rates to the contractor.
- contact the Contech Regional Engineer immediately if there are problems in meeting the established tolerances.
- have full authority to stop backfill work if necessary.

It is the Project Engineer's responsibility to insure that the requirements of AASHTO and Contech have been met relative to the installation and backfilling of the structure. The Project Engineer

shall also provide field density tests of the compacted backfill as directed by the Contech Shape Control Technician.

The Contech Shape Control Technician is not directly responsible for additional project control matters. However, the Shape Control inspector is expected to make observations and notify the Engineer of Record, Contractor, Project Engineer and Contech Region Engineer of any apparent problems or site condition charges which, in his judgment, may affect the quality or performance of the finished installation. Such conditions may include, but are not limited to:

- Observed soft or weak spots in the foundation, trench wall, embankment, or area within the controlled backfill zone.
- Apparent improper or changing backfill material quality. Specific details of the backfill material approved for the job will be provided by the Contech Region Engineer. Any changes in the backfill requirements must be approved in writing by the Contech Region Engineer.
- Use of improper compaction methods and/or lift thicknesses.
- Structural backfill limits that are less than those required by the plans and specifications.
- Adverse reaction of the SUPER-SPAN or long span to backfill placement or compaction methods.
- All items discussed and outlined in the Installation and Inspection Practices included in the Inspection Plan.

6.0 SLOPE RATIO AND STORM WATER RUN-OFF

Protected slopes shall not be greater than 2.0 (horizontal) to one (1) (vertical) in both cut and fill, and storm water shall not be drained over the slopes.

7.0 GRADING

The Contractor shall furnish, operate, and maintain such equipment as is necessary to construct uniform layers, and control smoothness of grade for maximum compaction and drainage.

8.0 COMPACTING

8.1 The compaction equipment shall be approved equipment of such design, weight, and quantity to obtain the required density in accordance with these specifications, without distorting the structure.

8.2 During backfill, only small tracked vehicles (D-4 or smaller) shall be near the structure as fill progresses above the crown and to finished grade. The contractor is cautioned that the minimum cover may need to be increased to handle temporary construction vehicle loads (larger than a D-4).

9.0 TOP LOADING

9.1 If the structure rises, and chord dimensions have become distorted by more than ±2% of plan, top loading or bracing may be necessary.

9.2 The structure can carry legal highway loads once the backfill is placed and compacted to a minimum cover of 3 feet. For heavier construction loads in the unpaved conditions the Contractor shall consult the Engineer.

10.0 TESTING AND INSPECTION SERVICES

10.1 Testing and inspection services will be provided by the Owner. No structural backfill shall be placed without the Contech Shape Control Technician on site.

10.2 Regular inspection during erection and backfilling is required to achieve a structure with proper shape and backfill compacted to the specified density. The structure's shape shall be monitored at all times during installation, and soil materials and compaction methods must be verified by testing.

11.0 SPECIFICS OF SHAPE MONITORING

11.1 The shape of the structure shall be monitored during construction.

11.2 Monitoring points other than the shape control hooks shall be identified with permanent paint. These points shall be monitored periodically throughout the placement of the backfill to determine if the shape of the structure has changed and to determine the rate of change. Typically the rise and chord dimensions should be maintained to less than ±2% of design values.

11.3 A set of measurements shall be made for each 12 to 16 inches of fill placed or one time each day, whichever is greater. The structure measurements should continue throughout the backfilling operation until all of the select material has been placed and compacted. After placement of soil over the select fill and completion of the final grade and roadway surfacing, the structure's shape should be documented by preparing an as-built shape of the structure.

11.4 Additional measurements shall be made to provide a record of the shape of the structure for comparison during future inspections. Corrugated metal structures can deflect and distort during erection and backfilling and also under subsequent loading. Although these distortions are not generally serious, the initial shape of the structure shall be documented for comparison with future inspections.

V – MODULAR BLOCK WALLS

1.0 GENERAL

1.1 DESCRIPTION

1.1.1 Work includes furnishing and installing modular block retaining wall units to the lines and grades shown on the construction drawings and as specified herein. The keystone blocks color and texture shall match other walls being constructed on site.

1.1.2 Work includes preparing foundation, furnishing and installing leveling pad, unit fill and backfill to the lines and grades shown on the construction drawings.

1.1.3 Work includes furnishing and installing all related materials required for construction of the retaining wall as shown on the construction drawings.

1.2 RELATED WORK

1.2.1 Section V – Geogrid soil reinforcement.

1.3 REFERENCE STANDARDS

1.3.1 ASTM C90 – Hollow load bearing masonry units.

1.3.2 ASTM C140 – Sampling and testing concrete masonry units.

1.3.3 ASTM C145 – Solid load bearing concrete masonry units.

1.3.4 UN-STD 1804.

1.3.5 ASTM 2339.

1.3.6 FHA UM-60.

1.4 DELIVERY, STORAGE AND HANDLING

1.4.1 Contractor shall check the materials upon delivery to assure that proper materials have been received.

1.4.2 Contractor shall prevent excessive mud, wet cement, epoxy and similar materials (which may affix themselves) from coming in contact with the materials.

1.4.3 Contractor shall protect the materials from damage. Damaged material shall not be incorporated into the retaining wall structure.

1.5 SUBMITTALS

1.5.1 Samples of all products used in the work of this section.

1.5.2 Latest edition of manufacturer's specifications for proposed materials, method of installation and list of material proposed for use.

1.6 QUALITY ASSURANCE

1.6.1 Owner will supply soil testing and inspection service for quality control testing during earth work operations.

2.0 PRODUCTS

2.1 CONCRETE UNITS

2.1.1 Masonry units shall be KEYSTONE Retaining Wall Standard Units manufactured in accordance with ASTM C-90 and ASTM C-140.

2.1.2 Exterior dimensions may vary in accordance with ASTM C90. Standard units shall have a minimum of 1 sq. ft. face area each.

2.1.3 KEYSTONE Standard units shall provide a minimum of 150 psf of wall face area. Fill which is contained within the dimensions of the units may be considered as 80% effective weight.

2.1.4 Units shall have angled sides capable of concave and convex alignment curves with a minimum radius of 3.5 feet (Where applicable, for straight walls, use non-angled straight side cap units).

2.1.5 Units shall be interlocked with non-corrosive fiberglass pins.

2.1.6 Units shall be interlocked and provide a vertical setback.

2.2 FIBERGLASS CONNECTING PINS

2.2.1 Connecting pins shall be ½" diameter thermoset isopthalic polyester resin-pultruded fiberglass reinforcement rods.

2.2.2 Pins shall have a minimum flexural strength of 128,000 psi and short beam shear of 64,000 psi.

2.3 KEYSTONE KAPSEAL CONSTRUCTION ADHESIVE

2.3.1 Material conforms to UN-STD 1804, ASTM 2339-70 and FHA UM-60.

2.4 BASE LEVELING PAD MATERIAL

2.4.1 Material shall consist of unreinforced concrete as shown on the construction drawing.

2.5 UNIT FILL

2.5.1 Fill for units shall be free draining crushed stone or coarse gravel. 3/8" to ¾" with (no more than 5% passing the No. 200 sieve). Gradation of the fill shall be approved by the engineer.

2.5.2 Place recommended fill behind the retaining wall units. Peagravel shall not be used.

2.6 BACKFILL

2.6.1 Material shall be site excavated soils when approved by the engineer unless otherwise specified in the drawings. Unsuitable soils for backfill (heavy clays or organic soils) shall not be used in the backfill or in the reinforced soil mass.

2.6.2 Where borrow fill is required, contractor shall submit sample and specifications to the engineer for approval.

3.0 EXECUTION

3.1 EXCAVATION

3.1.1 Contract shall excavate to the lines and grades shown on the construction drawings. Contractor shall be careful not to disturb embankment materials beyond lines shown.

3.2 FOUNDATION SOIL PREPARATION

3.2.1 Foundation soil shall be excavated as required for leveling pad dimensions shown on the construction drawings, or as directed by the engineer.

3.2.2 Foundation soil shall be approved by the engineer to confirm that the actual foundation soil conditions meet or exceed the design strength. Soils not meeting required strength shall be removed and replaced with acceptable material.

3.2.3 Over-excavated areas shall be filled with approved compacted backfill material.

3.3 BASE LEVELING PAD

3.3.1 Leveling pad materials shall be placed as shown on the construction drawings.

3.3.2 Material shall be compacted so as to provide a level surface on which to place the first course of units. Compaction shall be to 95% of modified Proctor for sand or gravel type materials. For crushed rock, material shall be densely compacted.

3.3.3 Leveling pad shall be prepared to ensure complete contact of retaining wall unit with base.

3.3.4 Leveling pad materials shall be to the depth and widths shown. Concrete shall be unreinforced and a maximum of 6" thick.

3.4 UNIT INSTALLATION

3.4.1 Place first course of concrete wall units on the base leveling pad. The units shall be checked for level and alignment.

3.4.2 Ensure that units are in full contact with base.

3.4.3 Units are placed side by side for full length of wall alignment. Alignment may be done by means of a string line or offset from base line.

3.4.4 Install fiberglass connecting pins and fill all voids at units with unit fill material. Tamp fill.

3.4.5 Sweep all excess material from top of units and install next course. Ensure each course is completely unit filled, backfilled and compacted prior to proceeding to next course.

3.4.6 Lay up each course ensuring that pins protrude into adjoining courses above a minimum of 1". Two pins required per unit. Pull each unit forward, away from the embankment, against pins in the previous course, and backfill as the course is completed. Repeat procedure to the extent of wall height.

3.4.7 As appropriate where the wall changes elevation, units can be stepped with grade or turned into the embankment with a convex return end. Provide appropriate buried units on compacted leveling pad in area of convex return end.

3.5 CAP INSTALLATION

3.5.1 Place KEYSTONE Cap units over projecting pins from units below. Pull forward to setback position. Backfill and compact to finished grade.

3.5.2 As required, provide permanent mechanical connection to wall units with KEYSTONE KapSeal construction adhesive. Apply adhesive to top surface of unit below, and place cap unit into position.

3.6 GEOGRID INSTALLATION

3.6.1 Follow the requirements of Section VI, Geogrid Soil Reinforcement.

VI – KEYSTONE WALL GEOGRID SPECIFICATIONS

1.0 GENERAL

1.1 Geogrid meeting the requirements of this specification shall be placed at the locations shown on the construction drawings.

1.2 The geogrid shall extend to the lengths shown on the construction drawings.

1.3 The geogrid shall be secured to the modular block as recommended by the manufacturer.

2.0 DELIVERY, STORAGE AND HANDLING

2.1 The contractor shall check the geogrid upon delivery to assure that the proper material has been received.

2.2 Geogrids shall be stored above -20°F (-29°C) and be shaded from prolonged periods of direct exposure to sunlight.

2.3 The contractor shall prevent excessive mud, wet cement, epoxy, and like materials, which may affix themselves to the gridwork, from coming in contact with the geogrid material.

2.4 Rolled geogrid material may be laid flat or stood on end for storage.

3.0 DEFINITIONS

3.1 Geogrid: A polymer grid structure specifically fabricated for use as soil reinforcement.

3.2 Uniaxial Grid: A geogrid which has been manufactured with high junction strength and a high tensile strength and modulus in one direction only.

3.3 Direction of Reinforcement: Refers to the orientation that the geogrid is used in for a particular project; along the roll for uniaxial geogrid and either along or across the roll for biaxial geogrid.

3.4 MD: Machine direction.

3.5 CMD: Cross machine direction.

4.0 MATERIALS

4.1 The geogrid reinforcement shall:
- Be uniaxially oriented polymer grid structure.
- Be composed of high density polyethylene.

4.2 The manufacturer shall furnish test reports certifying that the product meets the requirements of this Specification upon request.

Developer/Owner:
Winchester Homes, Inc. &
Winchester Homes, Inc. , as nominee for Stringtown Investments, LLC
6905 Rockledge Drive

Bethesda, Maryland 20817
Stephen J. Nardella, Vice President
(301) 803 - 4800

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

William T. Nardella Jr. HS — 10-14-03
CHIEF, BUREAU OF HIGHWAY — DATE

HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Cindy Hamilton JA — 10/27/03
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

10/17/03
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

AS-BUILT PLANS
(No As-Built Data This Sheet)

PROFESSIONAL ENGINEER 22779 REGISTERED STATE OF MARYLAND

CONTECH CONSTRUCTION PRODUCTS, INC.
DESIGN OF SUPER-SPAN
LOW PROFILE ARCH #90A18

3	9/24/03	DWR	FINAL MYLAR SUBMITTAL FOR SIGNATURE
2	4/22/03	DWR	REVISION #2 - REVIEWER'S COMMENTS
1	4/11/03	DWR	REVISION #1 - REVIEWER'S COMMENTS

CBC ENGINEERS
DAYTON, OHIO

SPECIFICATIONS (CONT'D.)

Drawn By: DWR	Date: 12/16/02	MONTJOY - SINGLE FAMILY DETACHED A RE-SUBDIVISION OF NON-BUILDABLE BULK PARCEL C(F-03-87) TO BUILDABLE LOTS 127-188 AND OPEN SPACE LOTS 189-193 ELECTION DISTRICT #2 HOWARD COUNTY, MARYLAND TAX MAP: 30 GRID: 12 PARCEL 260 OPZ FILES: 5-01-20, WP-01-157, P-02-15, P-02-17, P-03-03, P-03-07
Approved By:	Date:	
Scale: GRAPHIC	Project No.: CBC-4268	Rev.: 3
		Sheet: 33 OF 34

4.3 The geogrid shall be a regular grid structure formed by uniaxially drawing a continuous sheet of select high density polyethylene material and shall have aperture geometry and rib and juncture cross-sections sufficient to permit significant mechanical interlock with the material being reinforced. The geogrid shall have high flexural rigidity and high tensile modulus in relation to the material being reinforced and shall also have high continuity of tensile strength through all ribs and junctions of the grid structure. The geogrid shall have high resistance to deformation under sustained long term design load while in service and shall also be resistant to ultraviolet degradation, to damage under normal construction practices and to all forms of biological or chemical degradation normally encountered in the material being reinforced.

The geogrid shall also conform in all respects to the property requirements of TENSAR UX1600SB or equivalent listed below.

PROPERTY	TEST METHOD	UNITS	VALUE
INTERLOCK			
• Apertures[1]	I.D. Calipered[2]		
- MD		in	5.40 (nom)
- CMD		in	0.66 (nom)
• Open Area	COE Method[3]	%	60 (nom)
• Thickness	ASTMD1777-64		
- Ribs		in	0.070 (nom)
- Junctions		in	0.230 (nom)
REINFORCEMENT			
• Creep Limited Strength[4]	GRI GG3-87[4]	lb/ft	3,000 (min)
• Flexural Rigidity	ASTM D1388-64[5]	MG-CM	6,000,000 (min)
• Tensile Modulus – MD	GRI GG1-87[7]	lb/ft	130,000 (min)
• Junctions	GRI GG2-87[7]		
- Strength		lb/ft	7,000 (min)
- Efficiency		%	90 (min)
MATERIAL			
• High Density Polyethylene	ASTM D 1248	%	97.0 (min)
	Type III/Class A/Grade 5		
• Carbon	ASTM 4218	%	2.0 (min)
DIMENSIONS			
• Roll Length		ft	98
• Roll Width		ft	4.3

NOTES:

1. MD dimensions is along roll length. CMD dimension is across roll width.
2. Maximum inside dimension in each principal direction measured by calipers.
3. Percent open area measured without magnification by Corps of Engineers method as specified in CW 02215 Civil Works Construction Guide, November 1977.
4. Long term load capacity measured by through the junction tensile creep testing to 10,000 hours as described in Geosynthetic Research Institute test method GG3-87 "Creep Behavior and Long Term Design Load of Geogrids".
5. ASTM D 1388-64 modified to account for wide specimen testing as described in Tensar test method TTM-5.0 "Stiffness of Geosynthetics".
6. Secant modulus at 2% elongation measured by Geosynthetic Research institute test method GG1-87 "Geogrid Tensile Strength". No offset allowances are made in calculating secant modulus.
7. Geogrid junction strength and junction efficiency measured by Geosynthetic Research Institute test method GG2-87 "Geogrid Junction Strength".
8. The long-term allowable design strength (LTADS) is determined using the method outlined in GRI-GG4 "Determination of the Long Term Design Strength to Stiff Geogrids". The GRI-GG4 method applies various partial factors of safety to account for construction damage, junction strength, connections, chemical and biological degradation.

5.0 GEOGRID INSTALLATION

5.1 Geogrid shall be laid at the proper elevation and orientation (i.e., the machine direction shall be perpendicular to the pipe structure axis) as shown on the construction drawings.

5.2 Correct orientation (roll direction) of the geogrid shall be verified by the Contractor. The correct roll direction shall be perpendicular to the structure axis.

5.3 Geogrid may be secured in-place with staples, pins, sand bags, or backfill as required by fill properties, fill placement procedures, or weather conditions, or as directed by the Engineer.

5.4 Geogrid Placement:

- Geogrids should be laid horizontally on compacted fill and pulled taut from their connection to the concrete units before wall fill is placed over them. Care must be taken to prevent slack from becoming trapped within the geogrid as fill is placed.

6.0 BACKFILL PLACEMENT OVER GEOGRID

6.1 Backfill material shall be placed in lifts and compacted as directed in the text of this document.

6.2 Backfill shall be placed, spread, and compacted in such a manner that minimizes the development of wrinkles in and/or movement of the geogrid.

6.3 Tracked construction equipment shall not be operated directly upon the geogrid. A minimum fil thickness of six (6) inches (150mm) is required prior to operation of tracked vehicles over the geogrid. Turning of tracked vehicles should be kept to a minimum to prevent tracks from displacing the fill and damaging the geogrid.

6.4 Rubber tired equipment may pass over geogrid reinforcement at slow speeds, less than 10 MPH (16 KPH). Sudden braking and sharp turning shall be avoided.

Developer/Owner:
Winchester Homes, Inc. &
Winchester Homes, Inc. , as nominee for Stringtown Investments, LLC
6905 Rockledge Drive

Bethesda, Maryland 20817
Stephen J. Nardella, Vice President
(301) 803 - 4800

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAY — DATE 10-14-03

HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/27/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/17/03

VII - CONCRETE

1.0 CODES AND STANDARDS

1.1 Reinforced concrete shall conform to the requirements of AASHTO Standard Specifications for Highway Bridges, Division II - Construction, Section 8, "Concrete Structures" having a minimum compressive strength of 3,500 psi except for a minimum of 2400 psi for thrust beams.

2.0 STANDARDS FOR MATERIALS

2.1 Portland Cement - Conforming to ASTM Specification C-150, Type I or II.

2.2 Water - The water shall be drinkable, clean free from injurious amounts of oils, acids, alkalis, organic materials, or deleterious substances.

2.3 Aggregates - Fine and coarse aggregates shall conform to current ASTM Specification C-33 "Specification for Concrete Aggregates" except that local aggregates which have been shown by tests and by actual service to produce satisfactory qualities may be used when approved by the Engineer.

2.4 Submittals - Test data and/or certifications to the Owner shall be furnished upon request.

3.0 PROPORTIONING OF CONCRETE

3.1 COMPOSITION

3.1.1 The concrete shall be composed of cement, fine aggregate, coarse aggregate and water.

3.1.2 The concrete shall be homogeneous, readily placeable and uniformly workable and shall be proportioned in accordance with ACI-211.1.

3.1.3 Proportions shall be established on the basis of field experience with the materials to be employed. The mount of water used shall not exceed the maximum 0.49 water/cement ratio, and shall be reduced as necessary to produce concrete of the specified consistency at the time of placement.

3.2 Qualities Required - As indicated in the table below:

TABLE VII-1
QUALITIES REQUIRED

ITEM	QUALITY REQUIRED
Class	A
Type of Cement	I or II
Compressive Strength f'c @ 28 days	3500 psi, 2400 psi for Thrust Beams
Slump, inches	2 - 4 in.

3.3 Maximum Size of Coarse Aggregates - Maximum size of coarse aggregates shall not be larger than 38 mm (1 ½ inches).

3.4 Rate of Hardening of Concrete - Concrete mix shall be adjusted to produce the required rate of hardening for varied climatic conditions:
Under 40°F Ambient Temperature - Accelerate calcium chloride at 2% is acceptable when used within the recommendations of ACI-306R "Cold Weather Concreting." Admixtures containing chloride ion in excess of 1% by weight of admixture shall not be used in reinforced concrete.

4.0 MIXING AND PLACING

4.1 Equipment - Ready Mix Concrete shall be used and shall conform to the "Specifications for Ready-Mix Concrete," ASTM C-94. Approval is required prior to using job mixed concrete.

4.2 Preparation - All work shall be in accordance with ACI-304, "Recommended Practice for Measuring, Mixing, Transporting and Placing Concrete." All construction debris and extraneous matter shall be removed from within the forms. Concrete shall be placed on clean surfaces, free from water. Concrete that has to be dropped four (4) feet or more shall be placed through a tremie.

4.3 All concrete shall be consolidated by internal mechanical vibration immediately after placement. Vibrators shall be of a size appropriate for the work, capable of transmitting vibration to concrete at frequencies of not less than 4,500 impulses per minute.

5.0 FORM WORK

5.1 Forms shall be of wood, steel or other approved material and shall be set and held true to the dimensions, lines and grades of the concrete elements prior to and during the placement of concrete.

5.2 Forms shall not be removed until the concrete has sufficient strength to prevent concrete drainage.

6.0 CURING

6.1 Fresh concrete shall be protected from rains, flowing water and mechanical injury for a period of four (4) days.

7.0 REINFORCING STEEL

7.1 MATERIAL

7.1.1 All reinforcing bars shall be deformed bars (ASTM-A615) Grade 60. The reinforcement bars can be Grade 40 for the thrust beams.

7.2 BENDING AND SPLICING

7.2.1 Bar reinforcement shall be cut and bent to the shapes shown on the plans. Fabrication tolerances shall be in accordance with ACI 315. All bars shall be bent cold, unless otherwise permitted.

7.2.2 All reinforcement shall be furnished in the full lengths indicated on the plans unless otherwise permitted. Except for splices shown on the plans and splices for No. 5 or smaller bars, splicing of bars will not be permitted without written approval. Splices shall be staggered as far as possible.

7.2.3 In lapped splices, the bars shall be placed and wired in such a manner as to maintain the minimum distance to the surface of the concrete shown on the plans.

7.2.4 Substitution of different size bars will be permitted only when authorized by the engineer. The substituted bars shall have an area equivalent to the design area, or larger.

7.3 PLACING AND FASTENING

7.3.1 Steel reinforcement shall be accurately placed as shown on the plans and firmly held in position during the placing and setting of concrete. Bars shall be tied at all intersections around the perimeter of each mat and at not less than 2 foot centers or at every intersection, whichever is greater, elsewhere. Welding of cross bars (tack welding) will not be permitted for assembly of reinforcement.

7.3.2 Reinforcing steel shall be supported in its proper position by use of mortar blocks, wire bar supports, supplementary bars or other approved devices. Such devices shall be of such height and placed at sufficiently frequent intervals so as to maintain the distance between the reinforcing and the formed surface or the top surface within 1/4 inch of that indicated on the plans.

VIII - FILTER FABRIC

1.1 Filter fabric shall be placed around the granular material placed below the modular block walls, and below the riprap protection in accordance with MD S.H.A. specifications.

1.2 Filter fabric cloth shall conform to the following ASTM tests:

1.2.1 Equivalent opening size equal to #70 - #100 U.S. Standard Sieve Size.

1.2.2 ASTM D4632 (Grab Tensile Test) - Minimum Strength = 120 pounds.

1.2.3 ASTM D4632 (Grab Elongation) - 30-70%.

1.2.4 ASTM D4533 (Trapezoidal Tear) - Minimum Strength = 55 pounds.

1.2.5 ASTM D4355 (Stabilized for Heat and Ultra-Violet Degradation) - 70% strength retained.

1.3 The minimum fabric coefficient of permeability shall be 1 x 10^{-2} cm/sec.

1.4 Gradient ratio shall be less than or equal to three.

1.5 Fabric shall not be placed over sharp or angular rocks that could tear or puncture it.

1.6 Care should be exercised to prevent any puncturing or rupture of the filter fabric. Should such rupture occur the damaged area should be covered with a patch of filter fabric using an overlap minimum of one (1) foot.

IX - PYRAMAT EROSION MATRIX

1.0 GENERAL

1.1 SCOPE OF WORK
The work covered by this section consists of furnishing all labor, equipment, and materials, and performing all operations in connection with the installation of Turf Reinforcement Mats (TRMs) in accordance with the lines, grades, design, and dimensions shown on the drawings and as specified herein.

2.0 MATERIAL

2.1 The erosion matrix shall be Contech's turf reinforcement mat product TRC-61 or equivalent with the following minimum characteristics:

- thickness: 0.50"
- mass: 17 oz/sy
- tensile strength: 350 x 250 lbs/ft
- elongation: max 85%
- standard roll width: 8.5 feet

3.0 INSTALLATION

3.1 An anchor trench shall be excavated as shown on the construction drawings.

3.2 The PYRAMAT roll shall be folded and secured using U-shaped wire staples (preferred), geotextile pins or wooden stakes.

3.3 The anchor trench shall be backfilled with suitable soil compacted to a minimum of 90% of the standard Proctor dry unit weight.

3.4 Wire staples shall be a minimum of 4.3 mm (8 gauge). Metal pins shall be at least 4.7 mm (3/16") diameter steel with a 38 mm (1 ½") steel washer at the head of the pin. Wire staples and metal pins shall be driven flush to the soil surface. Wooden stakes shall be 75 x 38 mm (3" x 1 ½") triangular wooden survey stakes. Approximately 50 mm (2") of wood staking shall remain above the soil surface. All anchors should be between 20-45 cm (8"-18") long and have sufficient ground penetration to resist pullout. Longer anchors may be required for loose soils.

3.5 At the TRMs surface use 2 anchors/yd^2 as an anchor pattern guide.

AS-BUILT PLANS
(No As-Built Data This Sheet)

CONTECH CONSTRUCTION PRODUCTS, INC.
DESIGN OF SUPER-SPAN
LOW PROFILE ARCH #90A18

3	9/24/03	DWR	FINAL MYLAR SUBMITTAL FOR SIGNATURE
2	4/22/03	DWR	REVISION #2 - REVIEWER'S COMMENTS
1	4/11/03	DWR	REVISION #1 - REVIEWER'S COMMENTS

CBC ENGINEERS
DAYTON, OHIO

SPECIFICATIONS (CONT'D.)

Drawn By: DWR	Date: 12/16/02	MONTJOY - SINGLE FAMILY DETACHED A RE-SUBDIVISION OF NON-BUILDABLE BULK PARCEL C(F-03-87) TO BUILDABLE LOTS 127-188 AND OPEN SPACE LOTS 189-193 ELECTION DISTRICT #2 HOWARD COUNTY, MARYLAND TAX MAP: 30 GRID: 12 PARCEL 280 DPZ FILES: S-91-20, WP-91-147, P-03-15, P-03-17, F-03-53, F-03-87
Approved By:	Date:	
Scale: GRAPHIC	Project No.: CBC-4268	Rev.: 3 — Sheet: 34 OF 34