# SHEET INDEX COVER SHEET ROAD PLANS, PROFILES & TYPICAL SECTIONS ROAD PLANS, PROFILES & TYPICAL SECTIONS FILLET PROFILES GRADING AND SEDIMENT CONTROL PLAN SEDIMENT CONTROL NOTES AND DETAILS DRAINAGE AREA MAP STORMDRAIN PROFILES STORMWATER MANAGEMENT PLAN, SECTIONS & PROFILES STORMWATER MANAGEMENT DETAILS STORMWATER MANAGEMENT TYPICAL DETAILS LANDSCAPE PLAN

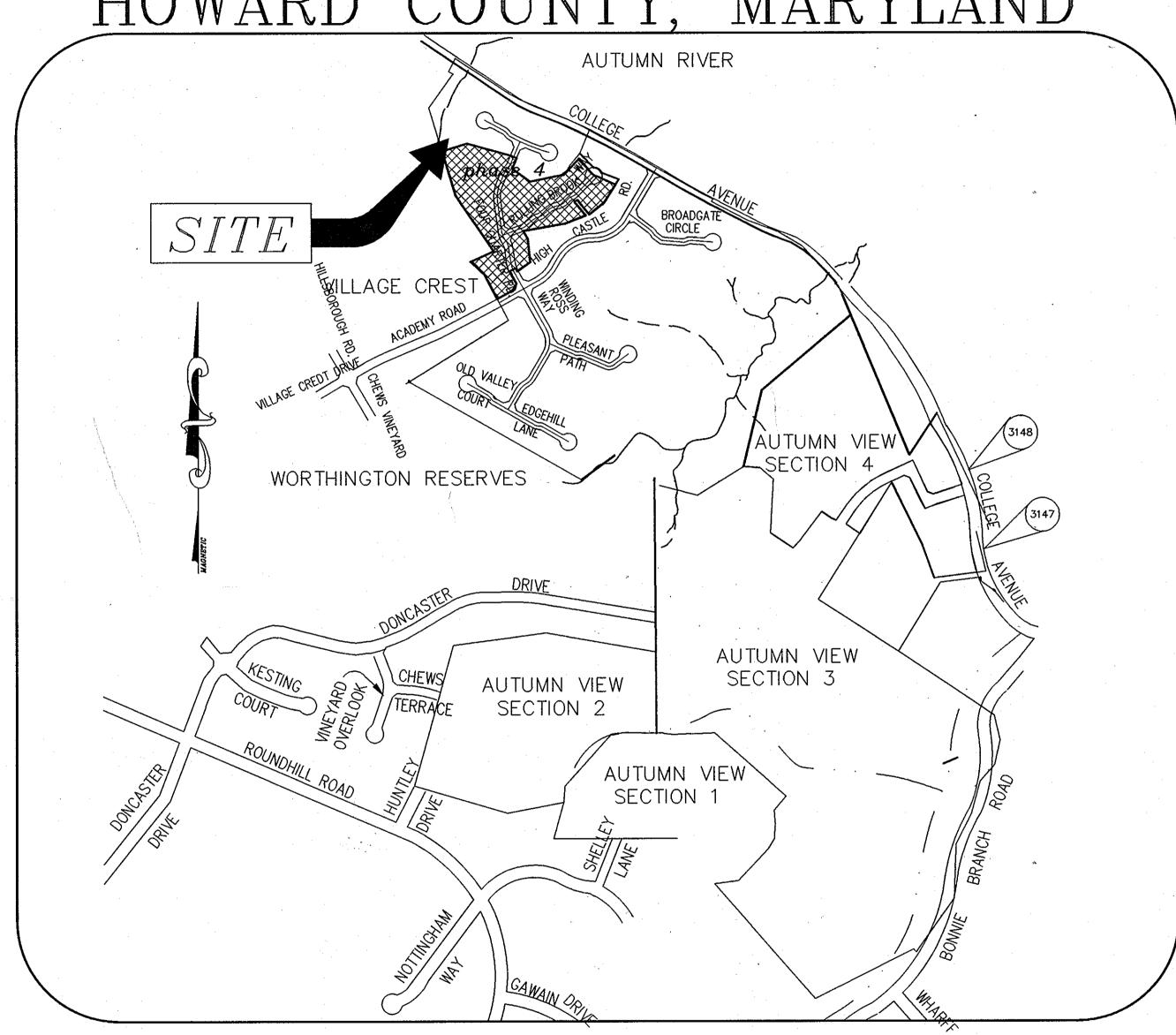
AUTUMN MEW BUSINESS TRUST ELLICOTT CITY, MD 21043

**DEVELOPER** HOWARD COUNTY LAND SERVICES, Inc. 8000 MAIN STREET ELLICOTT CITY, MD 21043

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

# ROAD CONSTRUCTION PLANS

AUTUMN VIEW SECTION 5, PHASE 4 LOTS 336-379 SECOND ELECTION DISTRICT



# GENERAL NOTES

- ALL CONSTRUCTION SHALL BEIN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.

  THE CONTRACTOR SHALL NOTIFY THE DEPARTEMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/ CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST 5 WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DOEN. TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL FOR UNIFORM 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 MODIGFIED BY "GUIDLINES FOR STREET LIGHTS IN RESIDENTIAL DEVELOPMENTS (JUNE 1993). A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE. ALL ASPECTS OF THE PROJECT ARE IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN GRANTED

LOCATION: TAX MAP 31 ELECTION DISTRICT: 2ND

SECTION: PROVIDED OPEN SPACE:

S-99-01, PB-329, PB-354, F-99-45, F-01-15,

TOPOGRAPHIC INFORMATION ARE BASED ON AERIAL TOPOGRAPHIC SURVEY BY WINGS AERIAL MAPPING CO., INC. FLOWN ON MARCH 25,

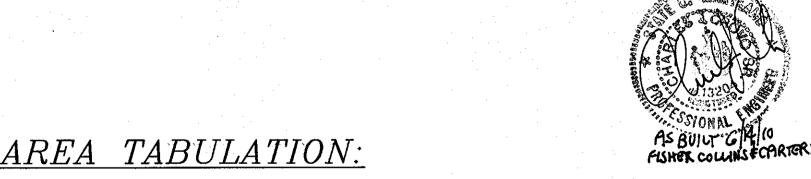
1995. VERTICAL DATUM IS NAD 83. THIS SURVEYIS PREPARED WITH 2 FOOT CONTOURS. COORDINATES BASED ON NAD'83 MARYLAND COORDINATE SYSTEMAS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS NO

√STA. 3147 N575598.0794, ✓ E137581.7684 ✓ EL.335.987 ✓ STA. 3148 N576015.4313 ✓ E1375770.4364 ✓ EL.379.248 ✓

- BOUNDARYS BASED ON A FIELD RUN MONUMENTED BOUNDARY SURVEY PERFORMED ON OR ABOUT MARCH 1997 BY MILDENBERG BOENDER & ASSOCIATES, INC.
- STORM WATER MANAGEMENT IS PRIVATELY OWNED AND MAINTAINED BY THE H.O.A. AND WILL BE PROVIDED BY THE METHOD
- 12. WETLANDS AND STREAM DELINEATION FOR ALL OF AUTUMN VIEW SECTION 5 IS BY CHESAPEAKE ENVIRONMENTAL MANAGEMENT, INC.
- 13. NO WETLANDS EXISIT ON THIS PHASE OF AUTUMN VIEW SECTION 5
- 14. NO FLOODPLAINS EXIST ON SITE. NO CEMETERIES OR HISTORIC STRUCTURES EXIST ON SITE.
- ALL EXISTING STRUCTURES ARE TO BE REMOVED UNLESS OTHERWISE NOTED. TRAFFIC STUDY BY TRAFFIC GROUP, DATED JUNE 4, 1998. APPROVED AUGUST 20, 1999.
- MANUAL HAVE BEEN SATISFIED BY PLACEMENTOF A TOTAL OF 62.67 ACRES IN A FOREST CONSERVATION EASEMENT (41.22 ACRES OF
- RETENTION UNDER AUTUMN VIEW, SECTION 3 (F-99-45) 7.59 ACRES OF RETENTION UNDER AUTUMN VIEW, SECTION 5, PHASE 1 (F-01-23), AND 13.86 ACRES OF RETENTION UNDER AUTUMN VIEW, SECTION 5, PHASE 2 (F-01-38). 59.66 ACRES OF WHICH IS THE REQUIRED BREAK EVEN POINT FOR THE ACREAGE OF AUTUMN VIEW, SECTIONS 3, 4, AND 5 (PHASE 1THRU 4). THE REMAINING 3.01
- DRY WELLS TO BE USED ON LOTS 336 TO 347

STREET NAME	STATION	OFFSET	FIXTURE/POLE TYPE				
FOUR QUARTER ROAD	2+85	15' LT					
FOUR QUARTER ROAD	4+38	19° RT	100 watt HPS VAPOR PREMIER				
FOUR QUARTER ROAD	6+09	15' LT	BLACK POST-TOP MOUNTED ON A				
FOUR QUARTER ROAD	8+12	15' LT	FIBERGLASS POLE				
ROLLING BROOK WAY	1+83	13' RT					
ROLLING BROOK WAY	4+52	13' LT					
ROLLING BROOK (CUL-DE-SAC)	1+46	6'					

- 24. IN ACCORDANCE WITH SECTION 133.D.2 OF THE ZONING REGULATIONS 2 OFF STREET PARKING SPACES ARE PROVIDED FOR LOTS 336-357. PRELIMINARY PLAN FOR THIS PAHSE WAS APPROVED UNDER P-02-009.
- THIS PROJECT IS SUBJECT TO P.B. CASE No. 354 REQUESTING APPROVAL TO AMEND S-99-01 TO CHANGE THE LOCATION OF THE WATER AND SEWER EASEMENTS. IT WAS APPROVED ON DEC. 13, 2001.
- THIS PROJECT IS SUBJECT TO P.B. CASE No. 329 APPROVED ON JULY 1, 1999
- STREET LIGHTS WILL BE REQUIRED IN THIS DEVELOPMENT IN ACCORDANCE WITH THE DESIGN MANUAL STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURE AND POLE SELECTED SHALL BE IN ACCORDANCE WITH THE LATEST HOWARD COUNTY DESIGN MANUAL, VOLUME III (1993) AND AS MODIFIED BY "GUIDELINES FOR STREET LIGHTS IN RESIDENTIAL DEVELOPMENTS (JUNE 1993)." THE JUNE 1993 POLICY INCLUDES GUIDELINES FOR LATERAL AND LONGITUDINAL PLACEMENT. A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE



# VICINITY MAP

SCALE: 1'=500'

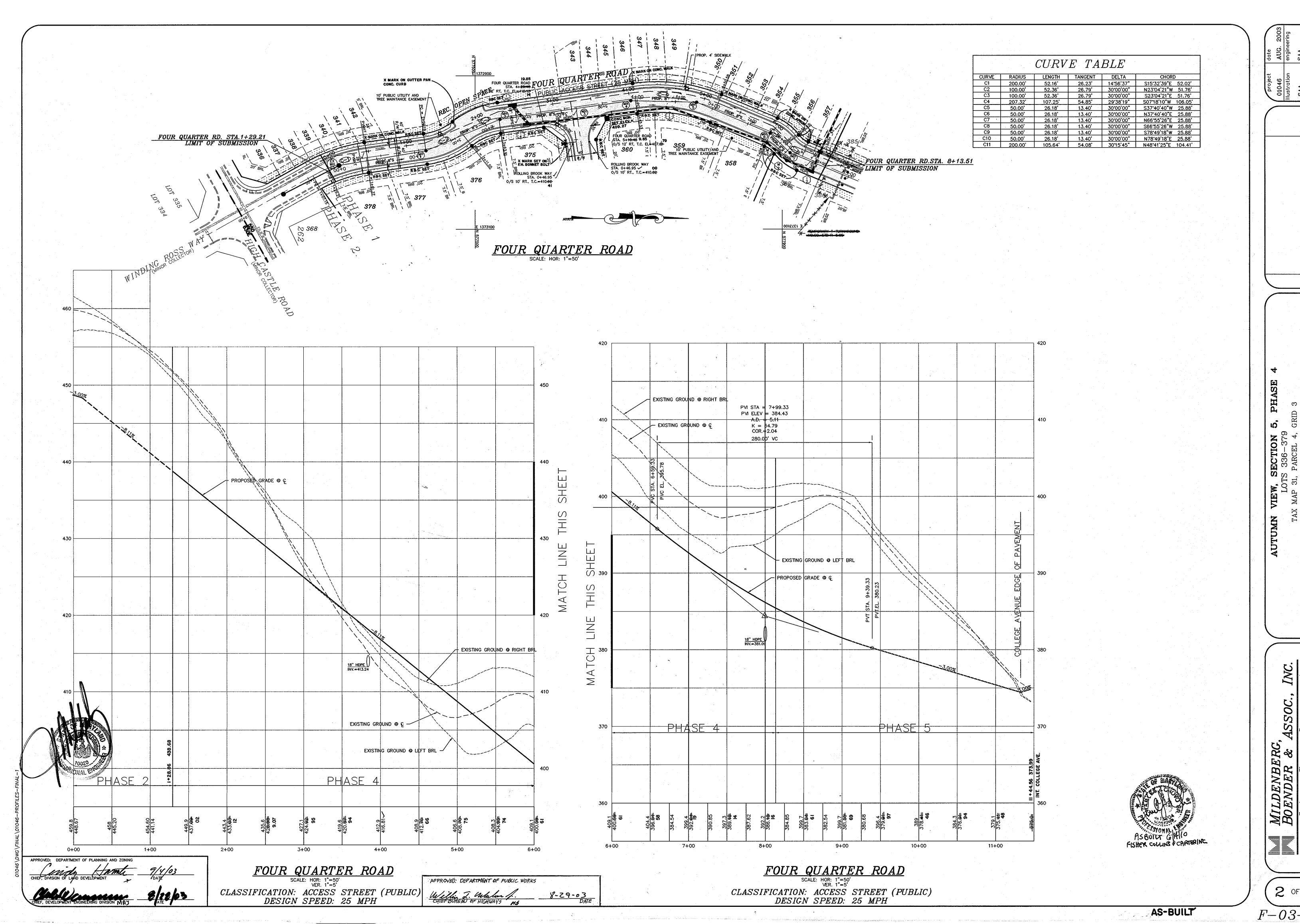
AREA TABULATION:							FISHER COLLINS & CHRICKING		
	EXISTING SECTION 3 F-99-45	SECTION 4 F-01-15	SECTION 5 PHASE 1 F-01-23	SECTION 5 PHASE 2 F-01-38	SECTION 5 PHASE 3 F-01-192	SECTION 5 PHASE 4 F-03-08	SECTION 5	SECTION 3, 4 & 5	
GROSS AREA:	87.39 AC ±	19.08 AC ±	31.15 AC ±	29.87 AC ±	6.87 AC ±	9.30 AC ±	77.19 AC ±	183.66 AC ±	
AREA OF STEEP SLOPES:	13.20 AC. ±	2.05 AC. ±	6.28 AC ±	5.16 AC ±	0	0	11.44 AC ±	26.69 AC ±	
AREA OF FLOODPLAIN:	6.19 AC ±	0	0.90 AC ±	0.67 AC ±	0	0	1.57 AC ±	7.76 AC ±	
NET AREA:	68.00 AC ±	17.03 AC ±	23.97 AC ±	24.04 AC ±	6.87 AC ±	9.30 AC ±	64.18 AC ±	149.21 AC ±	
AREA OF PROPOSED BUILDABLE LOTS SFD:	16.46 AC ±	14.39 AC ±	9.93 AC ±	7.26 AC ±	5.87 AC ±	3.85 AC ±	26.91 AC ±	57.76 AC ±	
AREA OF PROPOSED BUILDABLE LOTS SFA:	. 0	0	0	0	0.40 AC ±	1.14 AC ±	1.54 AC ±	1.54 AC ±	
TOTAL AREA OF PROPOSED BUILDABLE LOTS:	16.46 AC ±	14.39 AC ±	9.93 AC ±	7.26 AC ±	6.27 AC ±	5.01 AC ±	28.47 AC ±	60.86 AC ±	
AREA OF PROPOSED ROAD (R/W):	6.11 AC ±	2.12 AC ±	2.75 AC ±	2.51 AC ±	0.36 AC ±	1.31 AC ±	6.93 AC ±	15.16 AC ±	
REQUIRED OPEN SPACE (25% OF GROSS AREA):	21.85 AC ±	4.77 AC ±	7.79 AC ±	7.47 AC ±	1.72 AC ±	2.33 AC ±	19.31 AC ±	45.93 AC ±	
PROVIDED OPEN SPACE:	60.50 AC ±	6.89 AC ±	18.47 AC ±	20.10 AC ±	0.24 AC ±	3.00 AC ±	41.81 AC ±	109.20 AC ±	
NON CREDITED OPEN SPACE:	0.06 AC ±	0.08 AC ±	0.09 AC±	0.06 AC ±	0.07 AC ±	0.08 AC ±	0.30 AC ±	0.44 AC ±	
CREDITED OPEN SPACE:	60.44 AC ±	6.81 AC ±	18.47 AC ±	20.04 AC ±	0.17 AC ±	2.92 AC ±	41.60 AC ±	108.85 AC ±	
REQUIRED RECREATIONAL OPEN SPACE (250 S.F. PER LOT):	18,000 S.F.	14,000 S.F.	11,500 S.F.	9,500 S.F.	8,500 S.F.	10,750 S.F.	40,250 S.F.	76,500 S.F.	
PROVIDED RECREATIONAL OPEN SPACE:	18,000 S.F.	14,250 S.F.	15,000 S.F.	19,500 S.F.	0	11,000 S.F.	45,500 S.F.	77,500 S.F.**	
NUMBER OF BUILDABLE LOTS ALLOWED (NET AREA x 2):		34	47	48	13	18	128	298	
NUMBER OF PROPOSED BUILDABLE LOTS (SFD):	72	56	46	38	27	21	132	260	
NUMBER OF PROPOSED BUILDABLE LOTS (SFA):	0	. 0	0	0	7	22	29	29	
NUMBER OF PROPOSED BUILDABLE LOTS:	72	-56	46	38	34	43	161	289	
NUMBER OF PROPOSED OPEN SPACE LOTS:	.4	3	3	3	1	1	8	15	
NUMBER OF BULK PARCELS:	1	0	0	0	0	0	0	1	
TOTAL NUMBER OF PROPOSED LOTS:	77*	59	49	41	- 35	44	169	305*	
	I '	i e			1	. ,			

\*\*CREDIT OF 1,500 S.F. OF RECREATIONAL OPEN SPACE WILL BE APPLIED TO FUTURE PHASES OF SECTION 5.

_	EXISTING SECTION 3 F-99-45	SECTION 4 F-01-15	SECTION 5 PHASE 1 F-01-23	SECTION 5 PHASE 2 F-01-38	SECTION 5 PHASE 3 F-01-192	SECTION 5 PHASE 4 F-03-08	SECTION 5	SECTION 3, 4 & 5
GROSS AREA:	87.39 AC ±	19.08 AC ±	31.15 AC ±	29.87 AC ±	6.87 AC ±	9.30 AC ±	77.19 AC ±	183.66 AC ±
AREA OF STEEP SLOPES:	13.20 AC. ±	2.05 AC. ±	6.28 AC ±	5.16 AC ±	0	0	11.44 AC ±	26.69 AC ±
AREA OF FLOODPLAIN:	6.19 AC ±	0	0.90 AC ±	0.67 AC ±	0	0	1.57 AC ±	7.76 AC ±
NET AREA:	68.00 AC ±	17.03 AC ±	23.97 AC ±	24.04 AC ±	6.87 AC ±	9.30 AC ±	64.18 AC ±	149.21 AC ±
AREA OF PROPOSED BUILDABLE LOTS SFD:	16.46 AC ±	14.39 AC ±	9.93 AC ±	7.26 AC ±	5.87 AC ±	3.85 AC ±	26.91 AC ±	57.76 AC ±
AREA OF PROPOSED BUILDABLE LOTS SFA:	. 0	0	0	0	0.40 AC ±	1.14 AC ±	1.54 AC ±	1.54 AC ±
TOTAL AREA OF PROPOSED BUILDABLE LOTS:	16.46 AC ±	14.39 AC ±	9.93 AC ±	7.26 AC ±	6.27 AC ±	5.01 AC ±	28.47 AC ±	60.86 AC ±
AREA OF PROPOSED ROAD (R/W):	6.11 AC ±	2.12 AC ±	2.75 AC ±	2.51 AC ±	0.36 AC ±	1.31 AC ±	6.93 AC ±	15.16 AC ±
REQUIRED OPEN SPACE (25% OF GROSS AREA):	21.85 AC ±	4.77 AC ±	7.79 AC ±	7.47 AC ±	1.72 AC ±	2.33 AC ±	19.31 AC ±	45.93 AC ±
PROVIDED OPEN SPACE:	60.50 AC ±	6.89 AC ±	18.47 AC ±	20.10 AC ±	0.24 AC ±	3.00 AC ±	41.81 AC ±	109.20 AC ±
NON CREDITED OPEN SPACE:	0.06 AC ±	0.08 AC ±	0.09 AC±	0.06 AC ±	0.07 AC ±	0.08 AC ±	0.30 AC ±	0.44 AC ±
CREDITED OPEN SPACE:	60.44 AC ±	6.81 AC ±	18.47 AC ±	20.04 AC ±	0.17 AC ±	2.92 AC ±	41.60 AC ±	108.85 AC ±
REQUIRED RECREATIONAL OPEN SPACE (250 S.F. PER LOT):	18,000 S.F.	14,000 S.F.	11,500 S.F.	9,500 S.F.	8,500 S.F.	10,750 S.F.	40,250 S.F.	76,500 S.F.
PROVIDED RECREATIONAL OPEN SPACE:	18,000 S.F.	14,250 S.F.	15,000 S.F.	19,500 S.F.	0	11,000 S.F.		77,500 S.F.**
NUMBER OF BUILDABLE LOTS ALLOWED (NET AREA x 2):	136	34	47	48	13	18	128	298
NUMBER OF PROPOSED BUILDABLE LOTS (SFD):	72	- 56	46	38	27	21	132	260
NUMBER OF PROPOSED BUILDABLE LOTS (SFA):	0	- 0	0	0	7	22	29	29
NUMBER OF PROPOSED BUILDABLE LOTS:	72	-56	46	38	34	43	161	289
NUMBER OF PROPOSED OPEN SPACE LOTS:	4	3	3	3	1	1	8	15
NUMBER OF BULK PARCELS:	1	0	0	0	0	0	0	1
TOTAL NUMBER OF PROPOSED LOTS:	77*	59	49	41	35	44	169	305*

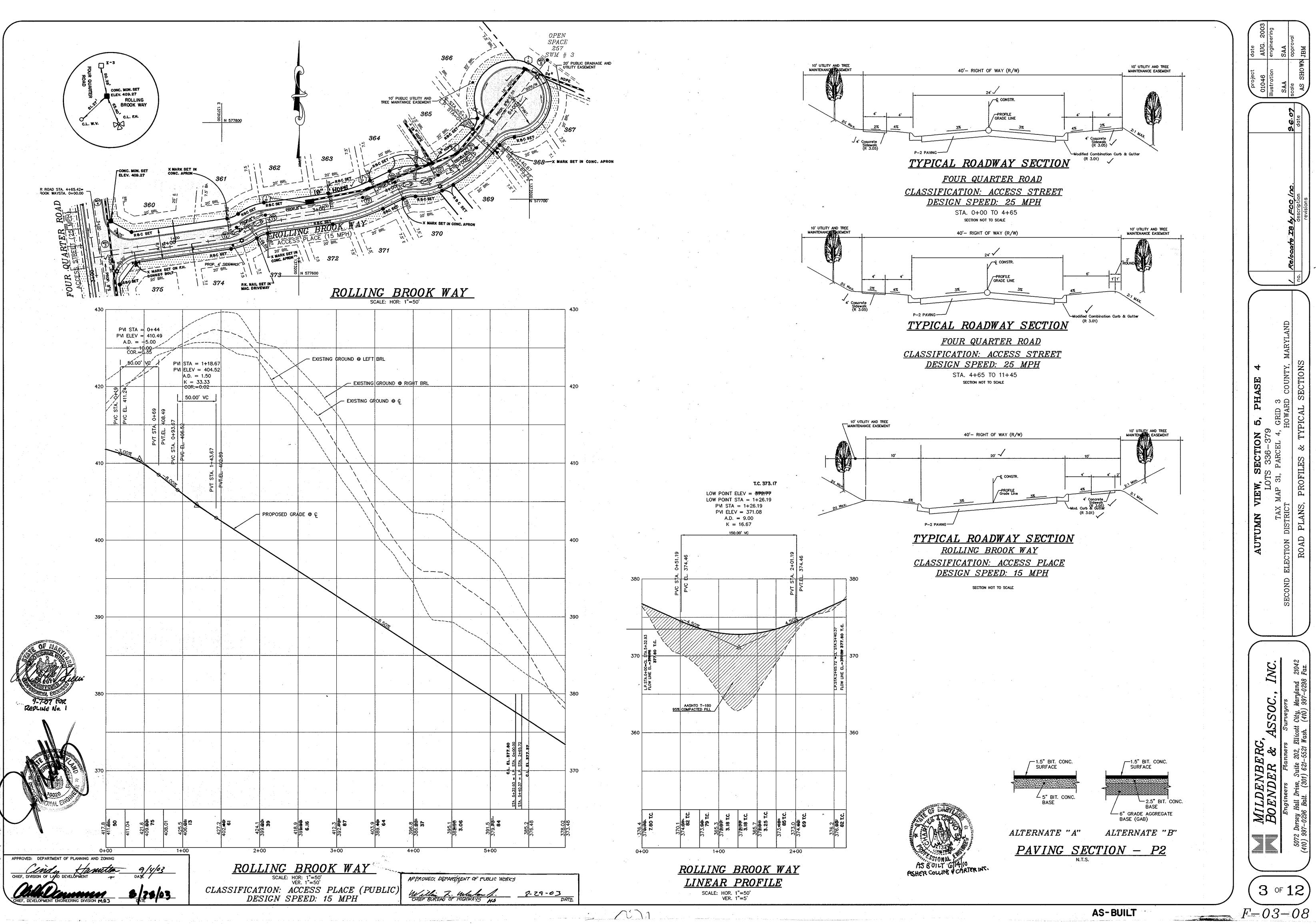
\*\*: 250 sq.ft. EXTRA RECREATIONAL OPEN SPACE PROVIDED FOR THE FUTURE RESUBDIVISION OF LOT 205 AUTUN VIEW SECTION 4 F-01-15 \*: INCLUDING BULK PARCEL A

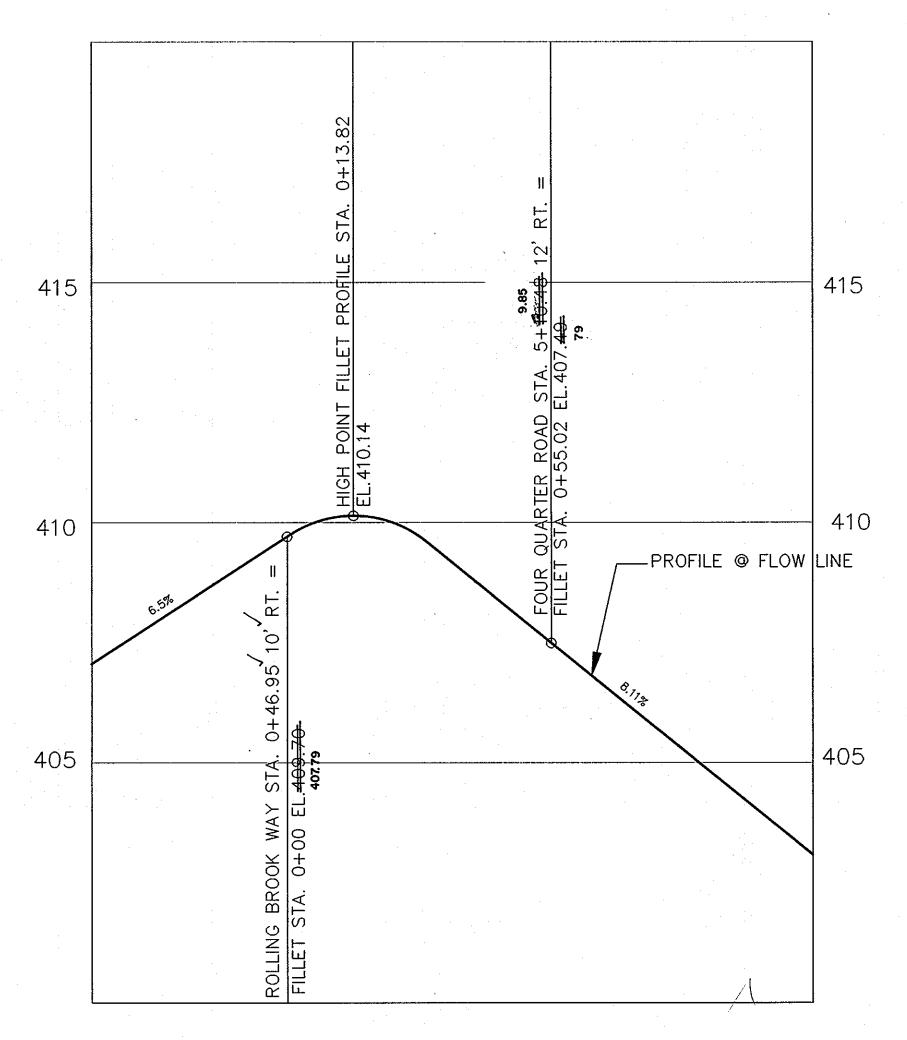
of 12



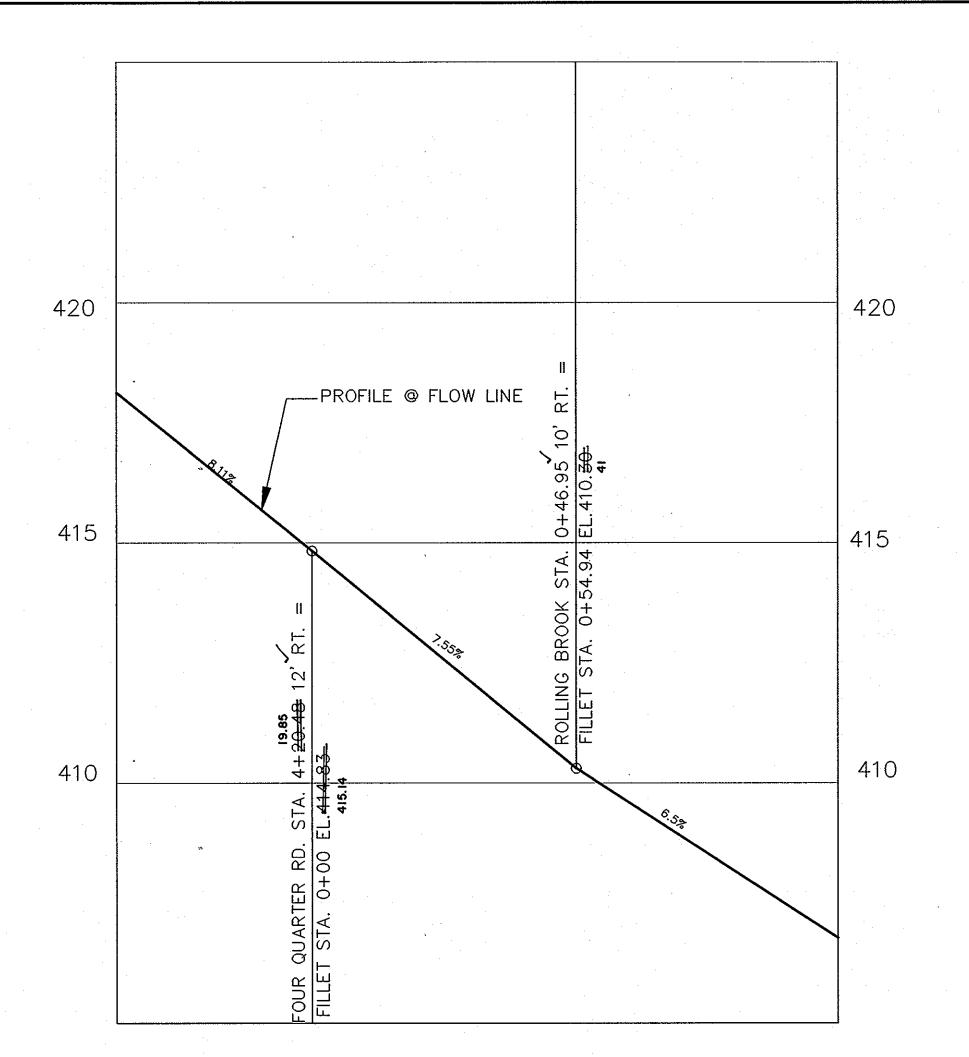
2 of 12

F-03-08





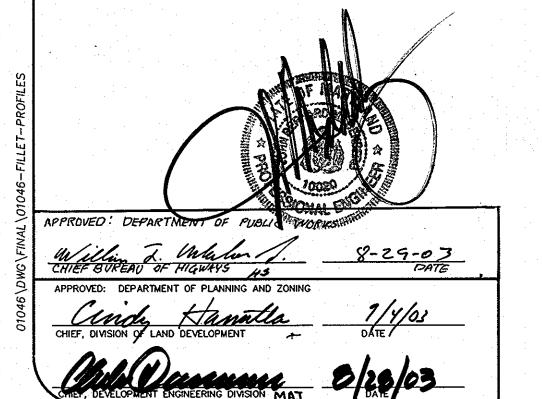
ROLLING BROOK WAY RIGHT TURN
TO FOUR QUARTER ROAD SCALE: HOR. 1" = 20', VER 1" = 2'



FOUR QUARTER ROAD RIGHT TURN

TO ROLLING BROOK WAY

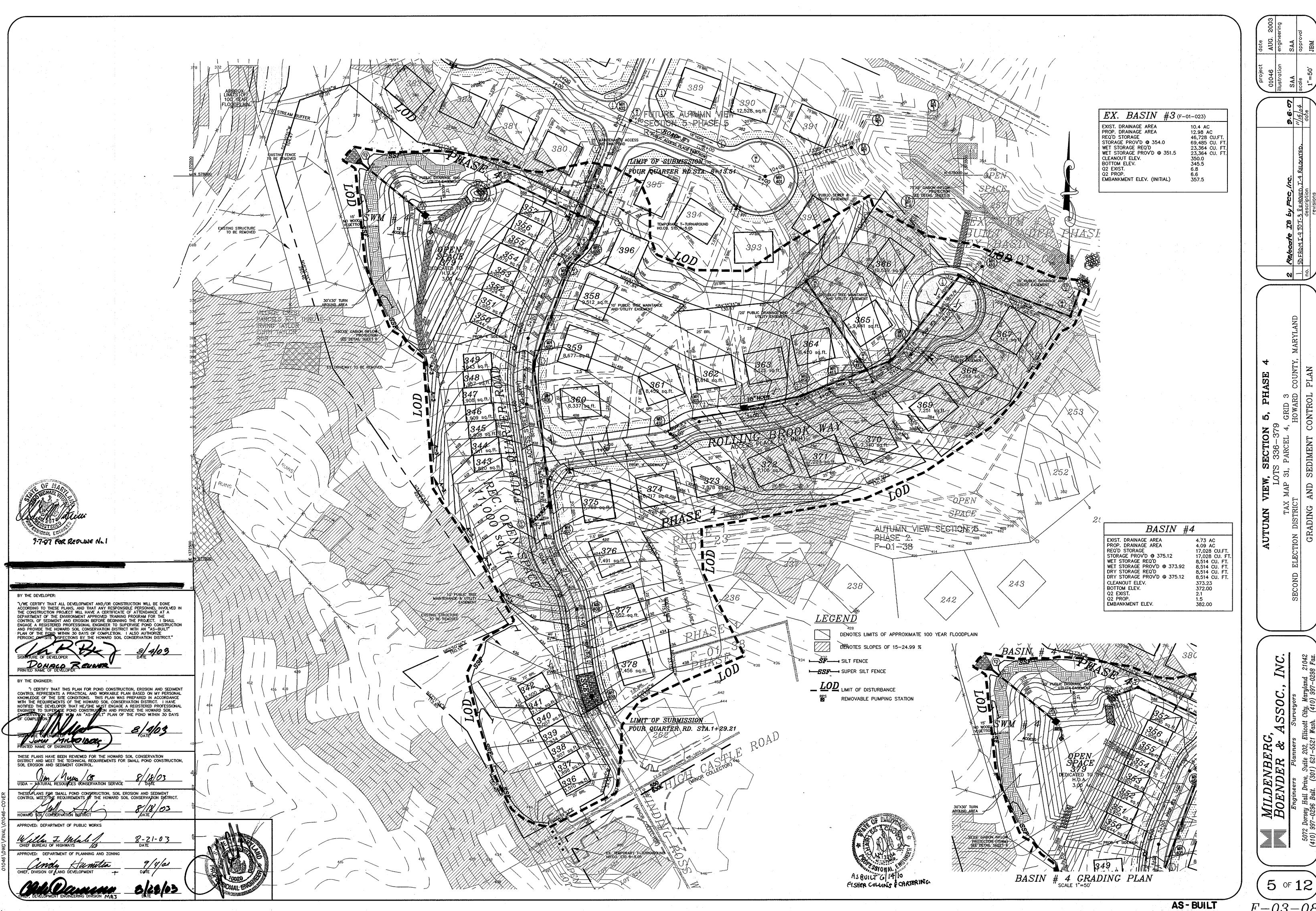
SCALE: HOR. 1" = 20', VER 1" = 2'



4 of 12

AS-BUILT

F - 03 - 08



### HOWARD SOIL CONSERVATION DISTRICT

### <u>PERMANENT SEEDING NOTES</u>

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

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

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

1) PREFERRED - APPLY 2 TONS PER ACRES DOLOMITIC LIMESTONE (92 LBS/1000 SQ.FT.)

AND 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ.FT.) BEFORE SEEDING.

HARROW OR DISK INTO UPPER THREE INCHES OF SOIL AT TIME OF SEEDING, APPLY

400 LBS. PER ACRE 30-0-0 UREAFORM FERTILIZER (9 LBS./1000 SQ.FT.)

2) ACCEPTABLE - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS./1000

SQ.FT.) AND 1000 LBS. PER ACRE 10-10-10 FERTILIZER (23 LBS./1000 SQ.FT.) BEFORE

SEEDING. HARROW OR DISK HITO LIMPER THEFE INCHES OF SOIL

SEEDING. HARROW OR DISK INTO UPPER THREE INCHES OF SOIL. SEEDING - FOR THE PERIODS MARCH 1 THRU APRIL 30, AND AUGUST 1 THRU OCTOBER 15, SEED WITH 60 LBS. PER ACRE 1.4 LBS/1000 SQ.FT.) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THRU JULY 31, SEED WITH 60 LBS. KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LOBS. PER ACRE (.05 LBS./1000 SQ.FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THRU FEBRUARY 28, PROTECT SITE BY: OPTION (1) - 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSBLE IN THE SPRING. OPTION (2) - USE SOO. OPTION (3) -SEED WITH 60 LBS./ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONE/ACRE WELL ANCHORED STRAW.

MULCHING - APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS./1000 SQ.FT) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL/1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1000 SQ.FT.) FOR ANCHORING.

MAINTENANCE - INSPECT ALL SEEDING AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

TEMPORARY SEEDING NOTES

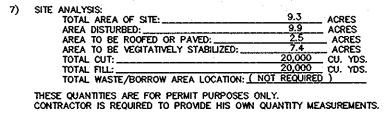
APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED. D PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISKING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, FOR NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS: APPLY 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS./1000 SQ.FT.) SEEDING: FOR PERIODS MARCH 1 THRU APRIL 30 AND FROM AUGUST 15 THRU OCTOBER 15, SEED WITH 2-1/2
BUSHEL PER ACRE OF ANNUAL RYE (3.2 LBS./1000 SQ.FT.) FOR THE PERIOD MAY 1 THRU AUGUST 14, SEED WITH 3
LBS. PER ACRE OF WEEPING LOVEGRASS (.07 LBS./1000 SQ.FT.). FOR THE PERIOD NOVEMBER 16 THRU NOVEMBER
28, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OR USE SOO.

MULCHING: APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS./1000 SQ.FT.) OF UNROTTED WEED FREE SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GAL PER ACRE (5 GAL/1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FEET OR HIGHER, USE 348 GAL PER ACRE (8 GAL/1000 SQ.FT.) FOR ANCHORING. REFER TO THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR ADDITIONAL RATES AND METHODS NOT COVERED.

### STANDARD SEDIMENT CONTROL NOTES

- 1) A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF NAY
- 2) ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT "MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL", AND REVISIONS THERETO.
- 5) FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1, B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- 4) ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN
- 5) ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1991 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC.51), SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50) AND MULCHING (SEC.52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- 6) ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD



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

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

APPROVED: DEPARTMENT OF PUBLIC WORKS

ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

10) ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL

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

### STANDARD AND SPECIFICATIONS FOR TOPSOIL

PLACEMENT OF TOPSOIL OVER A PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION.

TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. SOILS OF CONCERN HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW  $\rho H$ , MATERIALS TOXIC TO PLANTS, AND/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
- 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.
- FOR THE PURPOSE OF THESE STANDARDS AND SPECIFICATIONS, AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN FOR ADEQUATE STABILIZATION. AREAS HAVING SLOPES STEEPER THAN 2:1 SHALL HAVE THE APPROPRIATE STABILIZATION SHOWN ON THE PLANS.

### CONSTRUCTION AND MATERIAL SPECIFICATIONS

- TOPSOIL SALVAGED FROM THE EXISTING SITE MAY BE USED PROVIDED THAT IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATION. 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. TOPSOIL SPECIFICATIONS - SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING
- 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 CON-TRASTING 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 1 1/2" IN DIAMETER.
- II. TOPSOIL MUST BE FREE OF PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACKGRASS, JOHNSON— SON GRASS, NUTSEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.
- WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, GROUND LIMESTONE SHALL BE SPREAD AT THE RATE OF 4-8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL LIME SHALL BE DISTRIBUTED UNIFORMLY OVER DESIGNATED AREAS AND WORKED INTO THE SOIL IN CONJUNCTION WITH TILLAGE OPERATIONS AS DESCRIBED IN THE FOLLOWING PROPOSEDUDES
- III. FOR SITES HAVING DISTURBED AREAS UNDER 5 ACRES:
- PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN  $\underline{20.0}$  VEGETATIVE STABILIZATION SECTION I VEGETATIVE STABILIZATION METHODS AND MATERIALS.
- IV. FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES:
- ON SOIL MEETING TOPSOIL SPECIFICATIONS, OBTAIN TEST RESULTS DICTATING FERTILIZER AND LIME AMENDMENTS REQUIRED TO BRING THE SOIL INTO COMPLIANCE WITH THE FOLLOWING:
- LESS THAN 6.0, SUFFICIENT LIME SHALL BE PERSCRIBED TO RAISE THE pH TO 6.5 OR HIGHER.
- b. ORGANIC CONTENT OF TOPSOIL SHALL BE NOT LESS THAN 1.5 PERCENT BY WEIGHT. c. TOPSOIL HAVING SOLUBLE SALT CONTENT GREATER THAN 500 PARTS PER MILLION SHALL NOT BE USED.
- d. NO SOD OR SEED SHALL BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS OR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN.) TO PERMIT DISSIPATION OF PHYTO-TOXIC MATERIALS.
- NOTE: TOPSOIL SUBSTITUTES OR AMENDMENTS, AS RECOMMENDED BY A QUALIFIED AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY, MAY BE USED IN LIEU OF NATURAL TOPSOIL.
- . PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION SECTION I VEGETATIVE STABILIZATION METHODS AND MATERIALS. SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS SHALL BE CORRECTED IN ORDER TO PREVENT THE TOPSOIL APPLLICATION
- WHEN TOPSOILING, MAINTAIN NEEDED EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, EARTH DIKES, SLOPE SILT FENCE AND SEDIMENT TRAPS AND BASINS.
- GRADES ON THE AREAS TO BE TOPSOILED, WHICH HAVE BEEN PREVIOUSLY ESTABLISHED, SHALL B III. TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED IN A 4" TO 8" LAYER AND LIGHTLY COMPACTED TO A MINIMUM THICKNESS OF 4". SPREADING SHALL BE PERFORMED IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE
- IV. TOPSOIL SHALL NOT BE PLACED WHILE THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN
- THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.
- ALTERNATIVE FOR PERMANENT SEEDING INSTEAD OF APPLYING THE FULL AMOUNTS OF LIME AND COMMERCIAL FERTILIZER, COMPOSTED SLUDGE AND AMENDMENTS MAY BE APPLIED AS SPECIFIED BELOW: 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 AREAS UNDER 5 ACRES SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:
- a. COMPOSTED SLUDGE SHALL BE SUPPLIED BY, OR ORIGINATE FROM, A PERSON OR PERSONS WHO 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 LEASE 1 PERCENT NITROGEN, 1.5 PERCENT PHOSPHOURUS, AND 0.2 PERCENT POTASSIUM AND HAVE A Ph OF 7.0 TO 8.0. IF COMPOST DOES NOT MEET THESE REQUIREMENTS, THE APPROPRIATE CONSTITUENTS MUST BE ADDED TO MEET THE REQUIREMENTS PRIOR TO USE. c. COMPOSTED SLUDGE SHALL BE APPLIED AT A RATE OF 1 TON/1,000 SQUARE FEET.
- v. COMPOSTED SLUDGE SHALL BE AMENDED WITH A POTASSIUM FERTILLIZER APPLIED AT THE RATE OF 4 LB/1,000 SQUARE FEET, AND 1/3 THE NORMAL LIME APPLICATION RATE.

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

### TEMPORARY DUST CONTROL MEASURES

1. MULCHES — SEE STANDARDS FOR VEGETATIVE STABILIZATION WITH MULCHES ONLY. MULCH SHOULD BE CRIMPED OR TACKED TO PREVENT BLOWING.

2. VEGETATIVE COVER - SEE STANDARDS FOR TEMPORARY VEGETATIVE COVER.

3. TILLAGE — TO ROUGHTN SURFACE AND BRING CLODS TO THE SURFACE. THIS IS AN EMERGENCY MEASURE WHICH SHOULD BE USED BEFORE SOIL BLOWING STARTS. BEGIN PLOWING ON WINDWARD SIDE OF SITE. CHISEL—TYPE PLOWS APCED ABOUT 12" APART, SPRING—TOOTHED HARROWS, AND SMILAR PLOWS ARE EXAMPLES OF EQUIPMENT WHICH

4. IRRIGATION — THIS IS GENERALLY DONE AS AN EMERGENCY TREATMENT. SITE IS SPRINKLED WITH WATER UNTIL THE SURFACE IS MOIST. REPEAT AS NEEDED. AT NO TIME SHOULD THE SITE BE IRRIGATED TO THE POINT THAT RUNOFF BEGINS TO FLOW.

BARRIERS - SOLID BOARD FENCES, SILT FENCES, SNOW FENCES, BURLAP FENCES, STRAW BALES, AND SIMILAR MATERIAL CAN BE USED TO CONTROL AIR CURRENTS AND SOIL BLOWING. BARRIERS PLACED AT RIGHT ANGLES TO PREVAILING CURRENTS AT NTERVALT OF ABOUT 10 TIMES THEIR HEIGHT ARE EFFECTIVE IN CONTROLLING SOIL

. CALCIUM CHLORIDE - APPLY AT RATES THAT WILL KEEP SURFACE MOIST. MAY NEED

# DETAIL 33 - SUPER SILT FENCE 10' MAXIMUM CHAIN LINK FENCING-LOV \_\_\_\_FILTER CLOTH ENBED FILTER CLOTH 8' STANDARD SYNBOL 1. Fencing shall be 42' in height and constructed in accordance with the tatest Maryland. State Highmay Details for Chain Link Fencing. The specification for a 6' fence shall be used, substituting 42' fabric and 6' length 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 $\mathbf{6}^{\star}$ and folded.

Design Criteria (maximum) 0 - 10% 0 - 10 1 Unlimited 10:1 - 5:1 200 feet 1,500 feet 1,000 feet 100 feet 100 feet

DETAIL 25 - ROCK OUTLET PROTECTION I

HINIMUM DEPTH = DISCHARGE OR TAILWATER DEPTH. VHICHEVER IS GREATER

SECTION B-B

and the second of the second o

DISCHARGE TO SEMI CONFINED SECTION (MAXIMUM TAILVATER CONDITION)

NOTE: FILTER CLOTH HUST EXTEND A
MINIMUM OF 6' BEYOND APRON
AND SIDES

\* SECTION A-A

SUPER SILT FENCE

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.

 Haintenance 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 neet the following requirements for Geotextile Class Fi

ROCK DUTLET PROTECTION

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

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

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

4. Stone for the rip-rap or gabion outlets may be placed by equipment. They shall be constructed to the full course, thickness in one operation and in such a moment as to avoid displacement of underlying naterials. The stone for rip-rap

that will ensure that it is reasonably homogeneous with the smaller stones and spalls filling the voids between the larger stones. Rip-rap shall be placed in a manner to prevent damage to the filter blanket or geotextile. Hand placement will be

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

or gabion outlets shall be delivered and placed in a manni

required to the extent necessary to prevent damage to the

U.S. DEPARTMENT OF AGRICULTURE PAGE MARYLAND DEPARTMENT OF ENVIRONMENT U.S. DEPARTMENT OF AGRICULTURE PAGE MARYLAND DEPARTMENT OF ENVIRONMENT SUBL CONSERVATION SERVICE H - 26 - 34 VATER MANAGEMENT ADMONISTRATION SUBL CONSERVATION SERVICE H - 26 - 34 VATER MANAGEMENT ADMONISTRATION

STANDARD SYMBOL

RPS RPS

- ANTICIPATED WATER

SURFACE ELEV.

DETAIL 20A - REMOVABLE PUMP STATION

00000

TO THE STATE OF TH

2000

2000

(0000)

Reces?

0000

( 0 0 0 0 °)

2000S

0000

20000 

0000 0000

(000000

**ELEVATION (CUT. AWAY)** 

PERSPECTIVE\_VIEW EMBED GEDTEXTILE CLASS F — A MINIMUM OF 8' VERTICALLY INTO THE GROUND CROSS SECTION STANDARD SYNBOL —-a-

— HOOK AND CHAIN FOR REMOVAL

12"-36" PIPE WRAPPED W/ 1/2" HARDWARE CLOTH AND GEOTEXTILE CLASS 'E'

DETAIL 22 - SILT FENCE

1. Fence posts shall be a minimum of 36' long driven 16' minimum into the ground. Wood posts shall be  $11/2^{\circ} \times 11/2^{\circ}$  square (minimum) cut, or  $13/4^{\circ}$  diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be Geotextile shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall neet the following requirements Tensite Strength 50 lbs/in (nin.) Test: MSNT 509
Tensite Modulus 20 lbs/in (nin.) Test: MSNT 509
Flow Rate 0.3 gat ft\*/ minute (nox.) Test: MSNT 509
Filtering Efficiency 75% (nin.) Test: MSNT 322

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

10' HAXIMUM CENTER TO Silt Fence Design Criteria Silt Fence Length Slope Steepness Stope Length Flatter than 50 untinited 1,000 feet 125 feet 50-1 to 10-1 100 feet 750 feet 10-1 to 5-1 500 feet 5-1 to 3-1 60 feet 3:1 to 2:1 40 feet 250 feet ote: In areas of less than 2% slope and sandy soils (USDA general classification system, soil Class A) maximum slope length and silt fence length will be unlimited. In these areas a silt fence may be the only perimeter control

> SPECIFICATIONS FOR REMOVABLE PUMP STATION 12. 0 DEVATERING SPECIFICATIONS

REMOVABLE PUMPING STATION

SILT FENCE

AUG engin SAA appro

 $\mathfrak{m} \subset$ 

Description of Practice A temporary sturcture which is used to remove water from exacvated areas, sediment traps and basins. The pumping staton provides a device that fiters sediment laden water for pumping to a suitable discharge area.

The pumping station will be used to dewater sediment traps and basins for maintenance or removal.

A design is not required but construction must conform to the general criteria outlined on the next page.  $\begin{tabular}{ll} \hline \end{tabular} \label{table_equation}$ A perforated vertical stand pipe is placed inside another pipe. The outside pipe is then enveloped by a cone of washed 2" aggreagate. Water is then pumped from the center of the inside pipe to a suitable dischage area. Vater pumped from the standpipe should discharge into a sediment traap, sediment basin of stabilized area. If water from the sump pit will be pumped directley to a storm drainage system, geotextile fabric and wire mesh must be wrapped around the standpipe to ensure clean water discharge. Water pumped from the standpipe should discharge into a sediment trap, sediment basin or stabilized area.

1. the inner pipe shall be constructed by perforating a 12' to 36' diameter pipe with a watertight cap on the bottom end and wrapping it with 1/2' hardware cloth and Geotexmile Class E. The perforations shall be  $1/2^{\prime}$ X6' slits or i' diameter holes 6' on center. The outer pipe shall be at least 4' larger in diameter than the inside pipe. Both the inner and outer pipes should extend 12' to 18' above the riser crest elevation, or anticipated high water elevation.

4. The suction hose from the pump shall be placed inside the inner pipe to begin devatering, the discharge hose shall be placed in a stabilized areas downslope of unstabilized area to prevent erosion. Headow or wooded areas are preferred discharge locations, but storm drains and paved areas are acceptable.

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

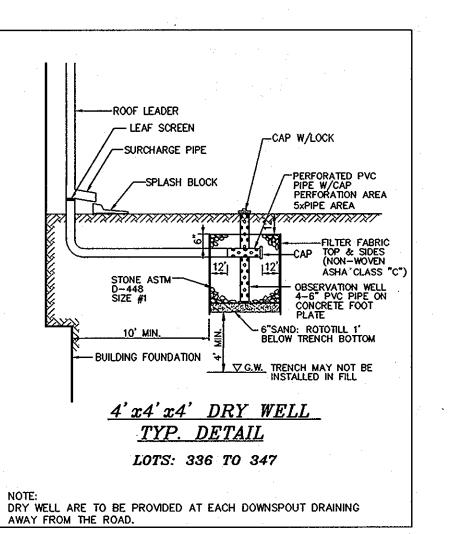
# SEQUENCE OF CONSTRUCTION

1. OBTAIN GRADING PERMIT. (1 DAY)

- 2. CONSTRUCT STABILIZED CONSTRUCTION ENTRANCES WITH MOUNTABLE BERMS AT LOCATIONS INDICATED. (1 DAY)
- 3. CONSTRUCT SILT FENCES, SUPER SILT FENCES (3 DAYS)
- CONSTRUCT SEDIMENT BASIN # 3 AS SHOWN. (2 DAYS)
  CHECK AND REPAIR SEDIEMTN BASIN # 4 AS NEED. (1 DAY) 6. WITH PERMISSION OF SEDIMENT CONTROL INSPECTOR BRING SITE TO GRADE INDICATED. WITH PERMISSION OF SEDIMENT CONTROL INSPECTOR REMOVE SEDIMENT FROM BASIN WHEN THEIR CLEANOUT ELEVATION HAVE BEEN REACHED.
- 8. CONSTRUCT PAVEMENT AND CURB AND GUTTER AS INDICATED. (10 DAYS) 9. STABILIZE DISTURBED AREAS. (3 DAYS)
- 10. WHEN ALL CONTRIBUTING DRAINAGE AREAS TO SEDIMENT CONTROL DEVICES HAVE BEEN STABILIZED AND WITH THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, REMOVE SEDIMENT CONTROL DEVICES AND STABILIZE REMAINING DISTURBED 11. WITH PERMISSION FROM SEDIMENT CONTROL INSPECTOR CONTRACTOR SHALL
- FLUSH ALL STORM DRAIN SYSTEMS PRIOR TO CONVERSION OF SEDIMENT BASIN TO STORM WATER MANAGEMENT POND. (2 DAYS) 12. CONVERT SEDIMENT BASIN TO SWM POND. (10 DAYS)

1. FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A. 7 CALENDAR DAYS FOR ALL PERIMETER SLOPES AND ALL SLOPES GREATER

B. 14 CALENDER DAYS FOR ALL OTHER DISTURBED AREAS ON THE SITE.



1. DRY WELLS TO BE USED ON LOTS 336 TO 347

DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE EXISTING PAVEMENT

EARTH FILL

PIPE AS NECESSARY \*\* GEOTEXTILE CLASS 'C'-MINIMUM 6' OF 2'-3' AGGREGATE OVER LENGTH AND VIDTH OF STRUCTURE LEXISTING GROUND PROFILE STANDARD SYMBOL SCE W . Length - minimum of 50' (≥30' for single residence lot). 2. Width - 10°, minimum, should be flared at the existing road to provide a turning

, Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. \*\*The plan approval authority may not require single family 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 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 bern with 5-1 stopes 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 MARYLAND DEPARTMENT OF ENVIRONMENT VATER MANAGEMENT ADMINISTRATION

DETAIL 6 - GABION INFLOW PROTECTION GИ PERSPECTIVE VIEW PROFILE ALONG CENTERLINE . Gabion inflow protection shall be constructed of  $9' \times 3' \times 9'$  cabion baskets forming a trapezoidal cross section 1' deep, with 2:1 side slopes,

2. Geotextile Class C shall be installed under all gabion baskets. 3. The stone used to fill the gabion baskets shall be  $4^{\prime}$  -  $7^{\prime}$ .

. Gabions shall be installed in accordance with manufacturers recommendations . Gabion Inflow Protection shall be used where concentrated flow is present on slopes steeper than 4:1.

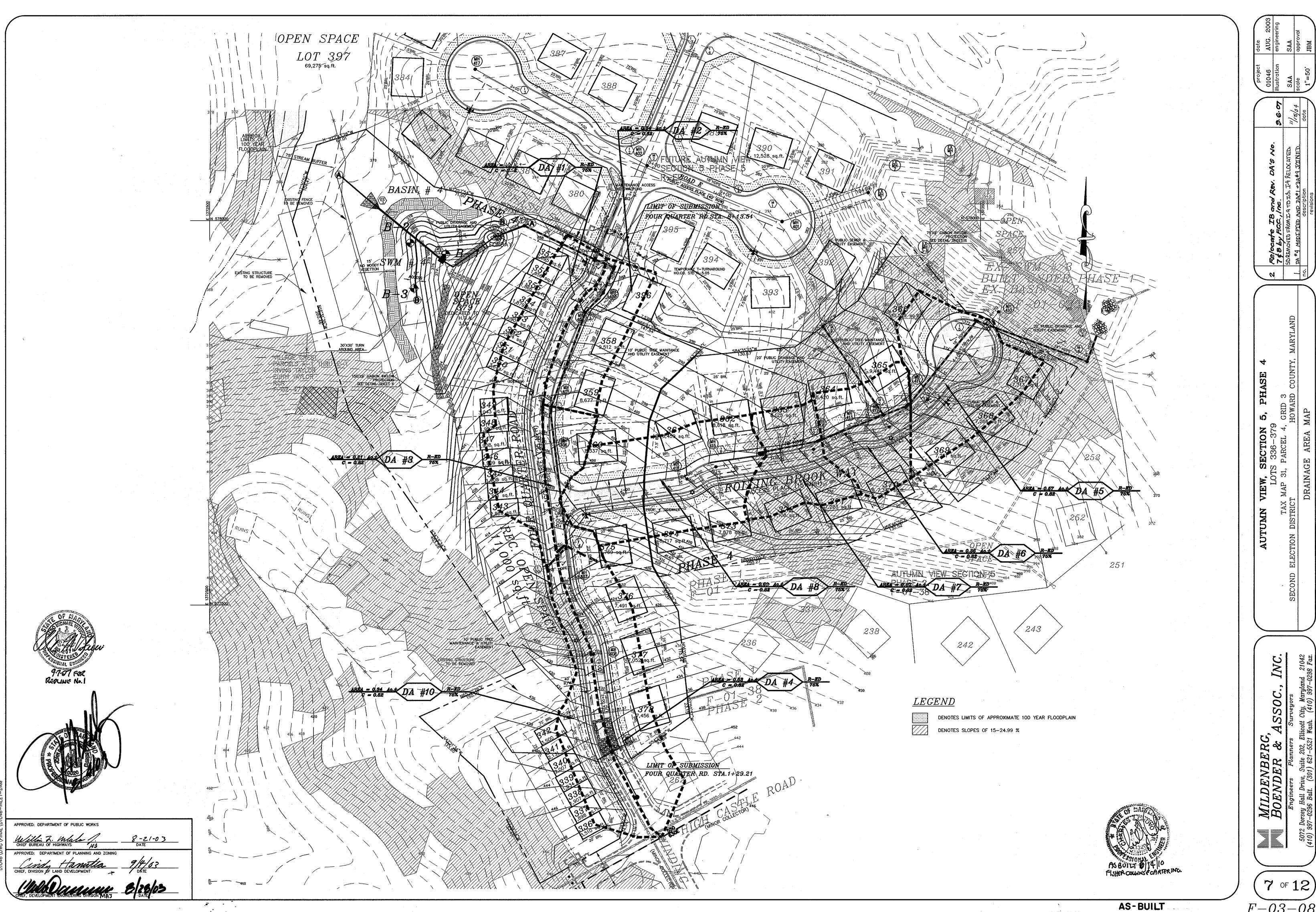
(ILDEN OENDI

0

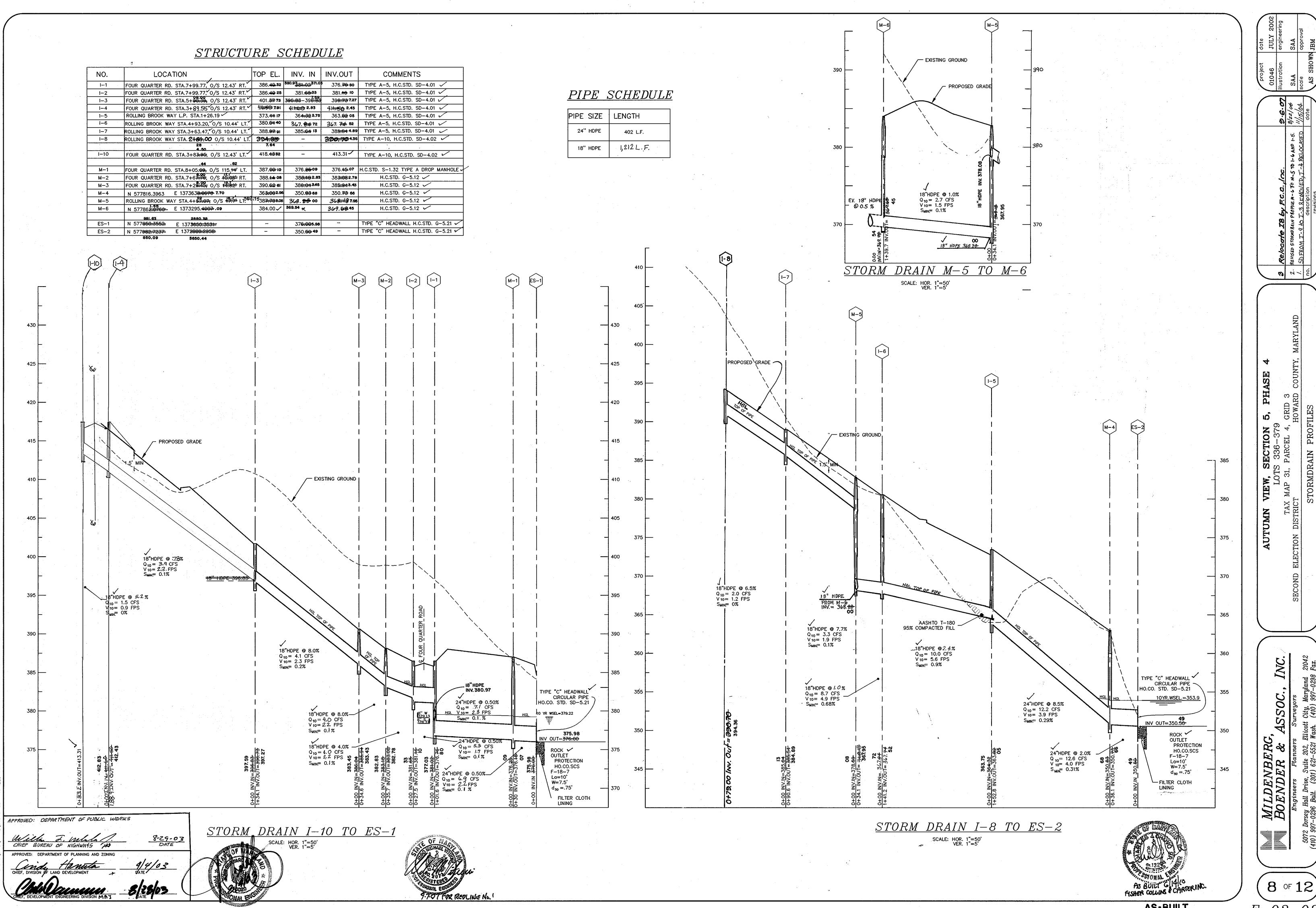
S

6 of 12

AS-BUILT

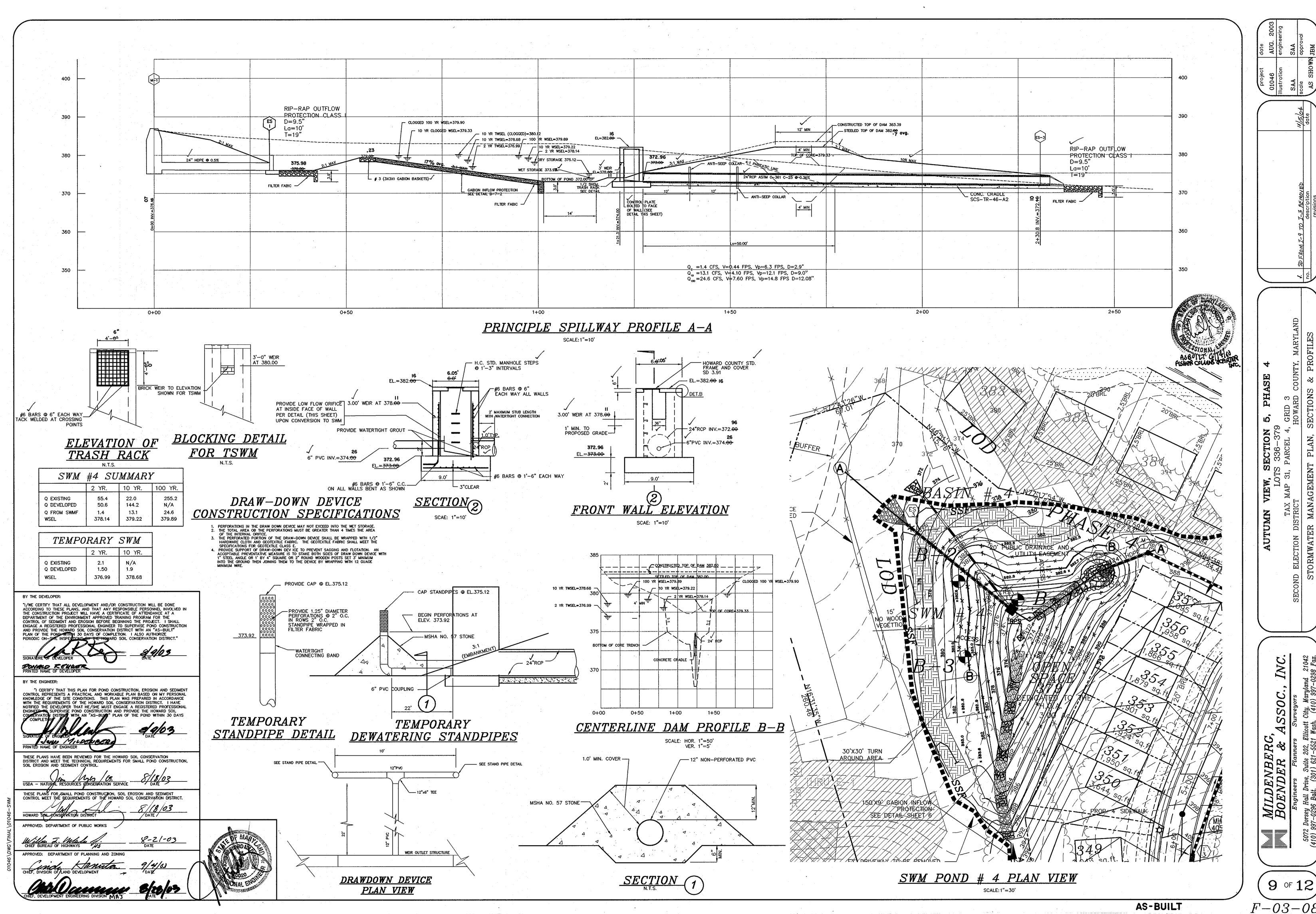


F-03-08

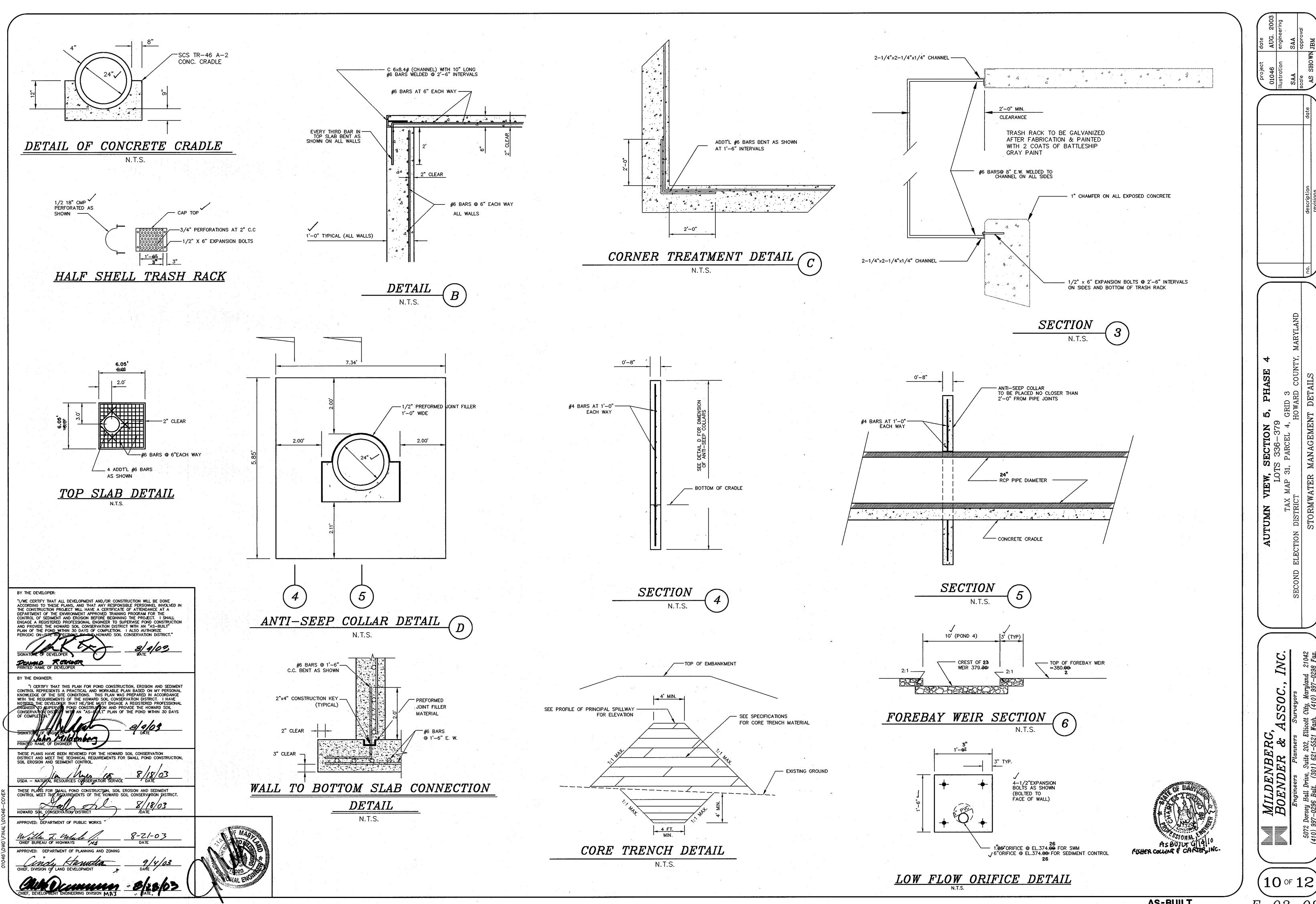


AS-BUILT

F-03-08



F - 03 - 08



AS-BUILT

F-0.3-0.8

### POND SPECIFICATIONS

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

SITE PREPARATION

AREAS DESIGNATED FOR BORROW AREAS, EMBANKMENT, AND STRUCTURAL WORKS SHALL BE CLEARED, GRUBBED AND STRIPPED OF TOPSOIL ALL TREES, VEGETATION, ROOTS AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMEWED, CHANNEL BANKS AND SHARP BREAKS SHALL BE SLOPED TO NO STEEPER THAN 1:1. ALL TREES SHALL BE CLEARED AND GRUBBED WITHIN 15 FEET OF THE TOE OF

AREAS TO BE COVERED BY THE RESERVOIR WILL BE CLEARED OF ALL TREES, BRUSH, LOGS, FENCES, RUBBISH AND OTHER OBJECTIONABLE MATERIAL UNLESS OTHERWISE DESIGNATED ON THE PLANS. TREES, BRUSH AND STUMPS SHALL BE CUT APPROXIMATELY LEVEL WITH THE GROUND SURFACE, FOR DRY STORMWATER MANAGEMENT PONDS, A MINIMUM OF A 25-FOOT RADIUS AROUND THE INLET STRUCTURE SHALL BE CLEARED.

ALL CLEARED AND GRUBBED MATERIAL SHALL BE DISPOSED OF OUTSIDE AND BELOW THE LIMITS OF THE DAM AND RESERVOIR AS DIRECTED BY THE OWNER OR HIS REPRESENTATIVE. WHEN SPECIFIED, A SUFFICIENT QUANTITY OF TOPSOIL WILL BE STOCKPILED IN A SUITABLE LOCATION FOR USE ON THE EMBANKMENT AND OTHER DESIGNATED AREAS.

MATERIAL-THE FILL MATERIAL SHALL BE TAKEN FROM APPROVED DESIGNATED BURROW AREAS. IT SHALL BE FREE OF ROOTS, STUMPS, WOOD, RUBBISH, STONES GREATER THAN 6', FROZEN OR OTHER DBJECTIONABLE MATERIALS. FILL MATERIAL FOR THE CENTER OF THE EMBANKMENT, AND CUT OFF TRENCH SHALL CONFORM TO UNIFIED SOIL CLASSIFICATION GC, SC, CH, OR CL AND MUST HAVE AT LEAST 30% PASSING THE #200 SIEVE, CONSIDERATION MAY BE GIVEN TO THE USE OF OTHER MATERIALS IN THE EMBANKMENT IF DESIGNED BY A GEOTECHNICAL ENGINEER, SUCH SPECIAL DESIGNS MUST HAVE CONSTRUCTION SUPERVISED BY A GEOTECHNICAL ENGINEER.

MATERIAL USED IN THE DUTER SHELL OF THE EMBANKMENT MUST HAVE THE CAPABILITY TO SUPPORT VEGETATION OF THE QUALITY REQUIRED TO PREVENT EROSION OF THE EMBANKMENT. STRUCTURE BACKFILL

PLACEMENT - AREAS ON WHICH FILL IS TO BE PLACED SHALL BE SCARIFIED PRIOR TO PLACEMENT OF FILL FILL MATERIALS SHALL BE PLACED IN MAXIMUM 8 INCH THICK (BEFORE COMPACTION) LAYERS WHICH ARE TO BE CONTINUOUS OVER THE ENTIRE LENGTH OF THE FILL THE MOST PERMEABLE BORROW MATERIAL SHALL BE PLACED IN THE DOWNSTREAM PORTIONS OF THE EMBANKMENT, THE PRINCIPAL SPILLWAY MUST BE INSTALLED CONCURRENTLY WITH FILL PLACEMENT AND NOT EXCAVATED INTO THE EMBANKMENT.

COMPACTION - THE MOVEMENT OF THE HAULING AND SPREADING EQUIPMENT OVER THE FILL SHALL BE CONTROLLED SO THAT THE ENTIRE SURFACE OF EACH LIFT SHALL BE TRAVERSED BY NOT LESS THAN ONE TREAD TRACK OF 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 IT FORMED INTO A BALL IT WILL NOT CRUMBLE, YET NOT BE SO WET THAT WATER CAN BE

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% OF THE OPTIMUM. EACH LAYER OF FILL SHALL BE COMPACTED AS NECESSARY TO OBTAIN THAT DENSITY, AND IS TO BE CERTIFIED BY THE ENGINEER AT THE TIME OF CONSTRUCTION, ALL COMPACTION IS TO BE DETERMINED BY AASHTO METHOD T-99 (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 AND 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 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 AND MINIMUM PERMEABILITY. IN ADDITION, THE CORE SHALL BE PLACED CONCURRENTLY WITH THE OUTER SHELL OF THE EMBANKMENT.

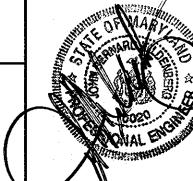
### STRUCTURE BACKFILL

BACKFILL ADJACENT TO PIPES OR STRUCTURES SHALL BE OF THE TYPE AND QUALITY CONFORMING TO THAT SPECIFIED FOR THE ADJUINING FILL MATERIAL, THE FILL SHALL BE PLACED IN HORIZONTAL LAYERS NOT TO EXCEED FOUR INCHES IN THICKNESS AND COMPACTED BY HAND TAMPERS OR OTHER MANUALLY DIRECTED COMPACT ION EQUIPMENT. THE MATERIAL NEEDS TO FILL COMPLETELY ALL SPACES UNDER AND ADJACENT TO THE PIPE. AT NO TIME DURING THE BACKFILLING OPERATION SHALL DRIVEN EQUIPMENT BE ALLOWED TO OPERATE CLOSER THAN FOUR FEET, MEASURED HORIZONTALLY, TO ANY PART OF A STRUCTURE, UNDER NO CIRCUMSTANCES SHALL EQUIPMENT BE DRIVEN OVER ANY PART OF A CONCRETE STRUCTURE OR PIPE, UNLESS THERE IS A COMPACTED FILL OF 24' OR GREATER OVER THE STRUCTURE OR PIPE.

STRUCTURE BACKFILL MAY BE FLOWABLE FILL MEETING THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND 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 oH OF 4.0 AND A MINIMUM RESISTIVITY OF 2,000 ohm-cm. MATERIAL SHALL BE PLACED SUCH THAT A MINIMUM OF 6" (MEASURED PERPENDICULAR TO THE DUTSIDE OF THE PIPE) OF THE FLOWABLE FILL SHALL BE UNDER (BEDDING), OVER AND, 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 (SANDBAGS, ETC...) TO PREVENT FLUATING THE PIPE. WHEN USING FLOWABLE FILL, ALL, ALL METAL PIPE SHALL BE BITUMINOUS COATED ANY ADJOINING SOIL FILL SHALL BE PLACED ON HORIZONTAL LAYERS NOT TO EXCEED FOUR INCHES IN THICKNESS AND 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 ALLOW 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 AND QUANTITY CONFORMING TO THAT SPECIFIED FOR THE CORE OF THE EMBANKMENT OR OTHER EMBANKMENT MATERIALS.

### LEAST 24 MILS IN THICKNESS.

BY THE DEVELOPER: I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHAUL 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 SPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT." "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 THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONA TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL DISTRICT WITH AN "ASS-BUILT" PLAN OF THE POND WITHIN 30 DAYS 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 THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE MOWARD SOIL CONSERVATION DISTRICT. HOWARD SOIL CONSERVATION DISTRICT APPROVED: DEPARTMENT OF PUBLIC WORKS



### PIPE CONDUITS

ALL PIPES SHALL BE CIRCULAR IN CROSS SECTION.

CORRUGATED METAL PIPE- ALL OF THE FOLLOWING CRITERIA SHALL APPLY FOR CORRUGATED METAL

1. MATERIALS- (POLYMER COATED STEEL PIPE)- STEEL PIPES WITH POLYMERIC COATINGS SHALL HAVE A MINIMUM COATING THICKNESS OF 0.01 INCH (10 MIL) ON BOTH SIDES OF THE PIPE. THIS PIPE AND ITS APPURTENANCES SHALL CONFORM TO THE REQUIREMENTS OF AASHTO SPECIFICATIONS M-245 & M-246 WITH WATERTIGHT COUPLING BANDS OR FLANGERS

MATERIALS- (ALUMINUM COATED STEEL PIPE)- THIS PIPE ITS APPURTENANCES SHALL CONFORM TO THE REQUIREMENTS OF AASHTO SPECIFICATION M-274 WITH WATERTIGHT COUPLING BANDS OR FLANGERS, ALUMINUM CDATED STEEL PIPE, WHEN USED WITH FLOWABLE FILL DR WHEN SOIL AND/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 DNE COAT OF ZINC CHROMATE PRIMER OR TWO COATS OF ASPHALT.

MATERIALS- (ALUMINUM PIPE)- THIS PIPE AND ITS APPURTENANCES SHALL CONFORM TO THE REQUIREMENTS OF AASHTO SPECIFICATION OR M-211 WITH WATERTIGHT COUPLING BANDS OF FLANGES. ALUMINUM PIPE, WHEN USED WITH FLOWABLE FILL OR WHEN SOIL AND/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 PRINTED WITH DNE 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 AND 9.

2. COUPLING BANDS, ANTI-SEEP COLLARS, END SECTIONS, ETC., MUST BE COMPOSED OF THE SAME MATERIAL AND COATINGS AS THE PIPE, METALS MUST BE INSULATED FROM DISSIMILAR MATERIALS WITH USE OF RUBBER OR PLASTIC INSULATING MATERIALS AT 3. CONNECTIONS- ALL CONNECTIONS WITH PIPES MUST BE COMPLETED WATERTIGHT, THE DRAIN PIPE OR BARREL CONNECTION TO THE RISER SHALL BE WELDED ALL AROUND WHEN THE PIPE AND RISER ARE METAL. ANTI-SEEP COLLARS SHALL BE CONNECTED TO THE PIPE IN SUCH A MANNER AS TO BE COMPLETELY WATERTIGHT. DIMPLE BANDS ARE NOT CONSIDERED TO BE WATERTIGHT.

ALL CONNECTIONS SHALL USE A RUBBER OR NEOPRENE GASKET WHEN JOINING PIPE SECTIONS. THE END OF EACH PIPE SHALL BE RE-ROLLED AN ADEQUATE NUMBER OF CORRUGATIONS TO ACCOMMODATE THE BANDWIDTH. THE FOLLOWING TYPE CONNECTIONS ARE ACCEPTABLE FOR PIPES LESS THAN 24 INCHES IN DIAMETER: FLANGES OR BOTH ENDS OF THE PIPE WITH A CIRCULAR 3/8 INCH CELL NEOPRENE GASKET, PRE-PUNCHED TO THE FLANGE BOLT CIRCLE, SANDWICHED BETWEEN ADJACENT FLANGES; A 12-INCH WIDE STANDARD LAP TYPE BAND WITH 12-INCH WIDE 3/8-INCH THICK CLOSED CELL CIRCULAR NEOPRENE GASKET; AND A 12-INCH WIDE HUGGER TYPE BAND WITH O-RING GASKETS HAVING A MINIMUM DIAMETER OF 1/2 INCH GREATER THAN THE CORRUGATION DEPTH, PIPES 24 INCHES IN DIAMETER AND LARGER SHALL BE CONNECTED BY A 24 INCH LONG ANNULAR CORRUGATED BAND USING A MINIMUM OF 4 (FOUR) RODS AND LUGS, 2 ON EACH CONNECTING PIPE END. A 24-INCH WIDE BY 3/8-INCH THICK CLUSED 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 SCAMS OR HAVE LOCK SEAMS WITH INTERNAL CAULKING OR A NEOPRENE BEAD.

4. BEDDING- THE PIPE SHALL BE FIRMLY AND UNIFORMLY BEDDED THROUGHOUT ITS ENTIRE LENGTH. WHERE ROCK OR SOFT, SPONGY OR OTHER UNSTABLE SOIL ENCOUNTERED, ALL SUCH MATERIAL SHALL BE REMOVED AND REPLACED WITH SUITABLE EARTH COMPACTED TO PROVIDE ADEQUATE SUPPORT.

5. BACKFILLING SHALL CONFORM TO "STRUCTURE BACKFILL".

6. OTHER DETAILS (ANTI-SEEP COLLARS, VALVES, ETC.) SHALL BE AS SHOWN THE DRAWINGS.

REINFURCED CUNCRETE PIPE- ALL OF THE FOLLOWING CRITERIA SHALL APPLY FOR REINFURCED

## CONCRETE PIPE

1. MATERIALS- REINFORCED CONCRETE PIPE SHALL HAVE BELL AND SPIGOT JOINTS WITH RUBBER GASKETS AND SHALL EQUAL OR EXCEED ASTM C-361.

2. BEDDING- REINFORCED CONCRETE PIPE CONDUITS SHALL BE LAID IN A CONCRETE BEDDING/CRADLE FOR THE ENTIRE LENGTH. THIS BEDDING /CRADLE SHALL CONSIST OF HIGH SLUMP CONCRETE PLACED UNDER THE PIPE AND 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 AND SPIGOT PIPE SHALL BE PLACED WITH THE BELL END UPSTREAM, JOINTS SHALL BE MADE IN ACCORDANCE WITH RECOMMENDATIONS OF THE MANUFACTURER OF THE MATERIAL. AFTER THE JOINTS ARE SEALED FOR THE ENTIRE LINE, THE BEDDING SHALL BE PLACED SO THAT ALL SPACES UNDER THE PIPE ARE FILLED, CARE SHALL BE EXERCISED TO PREVENT ANY DEVIATION FROM THE ORIGINAL LINE AND GRADE OF THE PIPE, THE FIRST JOINT MUST BE LOCATED WITHIN 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. MATERIAL- PVC PIPE SHALL BE PVE-1120 PVE-1220 CONFORMING TO ASTM D-1785 OR ASTM D-2241. CORRUGATED HIGH DENSITY POLYETHYLENE (HDPE) PIPE, COUPLINGS AND FITTINGS SHALL CONFORM TO THE FOLLOWING: 4' - 10' INCH PIPE SHALL MEET THE REQUIREMENTS OF AASHTO M252

2. JOINTS AND CONNECTIONS TO ANTI-SEEP COLLARS SHALL BE COMPLETELY WATERTIGHT.

TYPE S, AND 12' THROUGH 24' INCH SHALL MEET THE REQUIREMENTS OF ASSHTO M294 TYPE S.

3. BEDDING- THE PIPE SHALL BE FIRMLY AND UNIFORMLY BEDDED THROUGHOUT ITS ENTIRE LENGTH. WHERE RECK OR SOFT, SPONGY OR OTHER UNSTABLE SOIL IS ENCOUNTERED, ALL SUCH MATERIAL SHALL BE REMOVED AND REPLACED WITH SUITABLE EARTH COMPACTED TO PROVIDE ADEQUATE

4. BACKFILLING SHALL CONFORM TO 'STRUCTURE BACKFILL'.

5. DTHER 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 AND CONSTRUCTION INSPECTION.

CONCRETE SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION

### RUCK RIPRAP

ROCK RIPRAP SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION

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

### CARE DE VATER DURING CONSTRUCTION

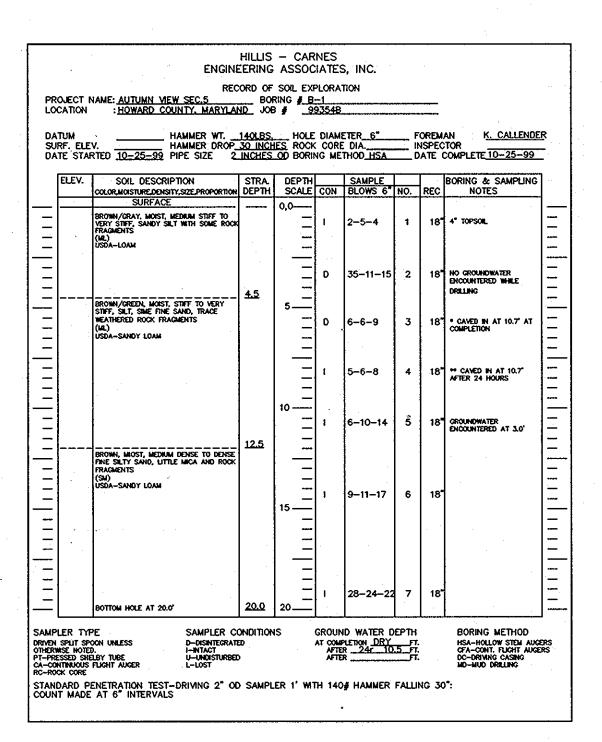
ALL WORK ON PERMANENT STRUCTURES SHALL BE CARRIED BUT IN AREAS FROM WATER, THE CONTRACTOR SHALL CONSTRUCT AND MAINTAIN ALL TEMPORARY DIKES, LEVEES, COFFERDAMS DRAINAGE CHANNELS, AND STEAM DIVERSIONS NECESSARY TO PROTECT THE AREAS TO BE OCCUPIED BY THE PERMANENT WORKS. THE CONTRACTOR SHALL ALSO FURNISH, INSTALL, OPERATE, AND MAINTAIN ALL NECESSARY PUMPING AND OTHER FOUIPMENT REQUIRED FOR REMOVAL OF WATER FROM VARIOUS PARTS OF THE WORK AND FOR MAINTAINING THE EXCAVATIONS, FOUNDATION, AND OTHER PARTS OF THE WORK FREE FROM WATER AS REQUIRED OR DIRECTED BY THE ENGINEER FOR CONSTRUCTING EACH PART OF THE WORK, AFTER HAVING SERVED THEIR PURPOSE, ALL TEMPORARY PROTECTIVE WORKS. SHALL BE REMOVED OR LEVELED AND GRADED TO THE EXTENT REQUIRED TO PREVENT OBSTRUCTION IN ANY DEGREE WHATSDEVER OF THE FLOW OF WATER TO THE SPILLWAY OR OUTLET WORKS AND SO AS NOT TO INTERFERE IN ANY WAY WITH THE OPERATION OR MAINTENANCE OF THE STRUCTURE. STREAM DIVERSIONS SHALL BE MAINTAINED UNTIL THE FULL FLOW CAN BE PASSED THROUGH THE PERMANENT WORKS. THE REMOVAL OF WATER FROM THE REQUIRED EXCAVATION AND THE FOUNDATION SHALL BE ACCOMPLISHED IN A MANNER AND TO THE EXCAVATED SLOPES AND BOTTOM REQUIRED EXCAVATIONS AND WILL ALLOW SATISFACTORY PERFORMANCE OF ALL CONSTRUCTION OPERATIONS. DURING THE PLACING AND COMPACTING OF MATERIAL IN REQUIRED EXCAVATIONS, THE WATER LEVEL AT THE LOCATIONS BEING REFILLED SHALL BE MAINTAINED BELOW THE BOTTOM OF THE EXCAVATION AT SUCH LOCATIONS WHICH MAY REQUIRE DRAINING THE WATER SUMPS FROM WHICH THE WATER SHALL BE PUMPED.

### **STABILIZATION**

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

### ERUSIUN AND SEDIMENT CONTROL

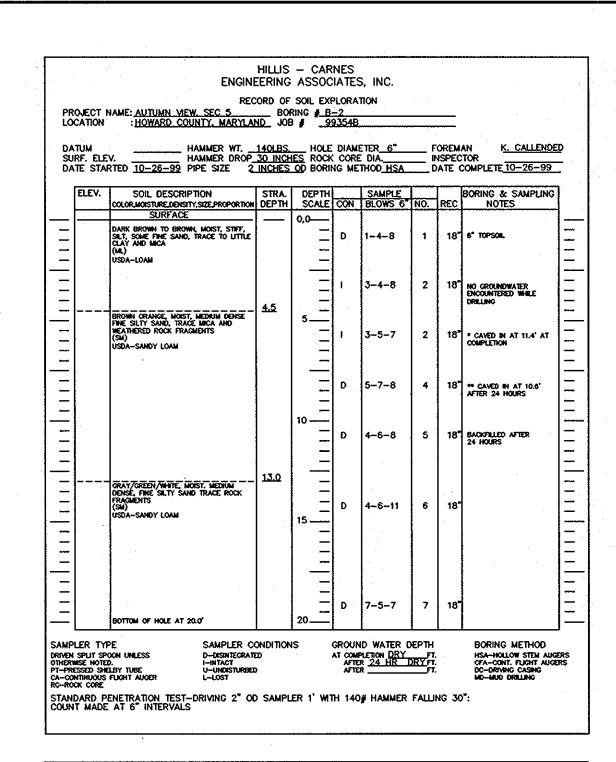
CONSTRUCTION OPERATIONS WILL BE CARRIED OUT IN SUCH A MANNER THAT EROSION WILL BE CONTROLLED AND WATER AND AIR POLLUTION MINIMIZED. STATE AND LOCAL LAWS CONCERNING POLLUTION ABATEMENT WILL BE FOLLOWED, CONSTRUCTION PLANS SHALL DETAIL EROSION AND SEDIMENT CONTROL MEASURES.

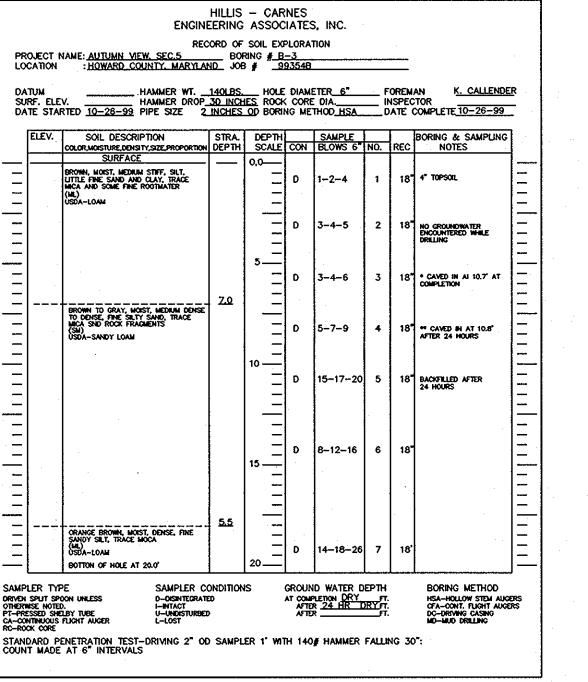


### GEOTECHNICAL RECOMMENDATIONS: EMBANKMENT AND CUT-OFF TRENCH CONSTRUCTION

THE SITE SHOULD BE STRIPPED OF TOPSOIL AND ANY OTHER UNSUITABLE MATERIALS FROM THE EMBANKMENT OT STRUCTURE AREA IN ACCORDANCE WITH SOIL CONSERVATION GUIDELINES. AFTER STRIPPING OPERATIONS HAVE BEEN COMPLETED, THE EXPOSED SUBGRADE MATERIALS SHOULD BE PROOF ROLLED WITH A LOADED DUMP TRUCK OR SIMILAR EQUIPMENT IN THE PRESENCE OF A GEOTECHNICAL ENGINEER OR HIS REPRESENTATIVE. FOR AREAS THAT ARE NOT ACCESSIBLE TO A DUMP TRUCK, THE EXPOSED MATERIALS SHOULD BE OBSERVED AND TESTED BY A GEOTECHNICAL ENGINEER OR HIS REPRESENTATIVE UTILIZING A DYNAMIC CONE PENETROMETER. ANY EXCESSIVELY SOFT OR LOOSE MATERIALS IDENTIFIED BY PROOFROLLING OR PENETROMETER TESTING SHOULD BE EXCAVATED TO SUITABLE FIRM SOIL, AND THEN GRADES REESTABLISHED BY BACKFILLING WITH

A REPRESENTATIVE OF GEOTECHNICAL ENGINEER SHOULD BE PRESENT TO MONITOR PLACEMENT AND COMPACTION OF FILL FOR EMBANKMENT AND CUT-OFF TRENCH. IN ACCORDANCE WITH MARYLAND SOIL CONSERVATION SPECIFICATION 378 SOILS CONSIDERED SUITABLE FOR THE CENTER OF EMBANKMENT AND CUT-OFF TRENCH SHALL CONFORM TO UNIFIED SOIL CLASSIFICATION GC, SC, SH OR CL. ALL FILL MATERIALS MUST BE PLACED AND COMPACTED IN ACCORDANCE WITH MD SSC 378 SPECIFICATIONS.





### SWM POND MAINTENANCE REQUIREMENTS (PRIVATE):

- SILT SHALL BE REMOVED WHEN ACCUMULATION EXCEEDS SIX (6) INCHES IN BASINS WITHOUT FOREBAYS. IN BASIN WITH FOREBAYS, SILT SHALL BE REMOVED WHEN THE ACCUMULATION
- ACCUMULATED PAPER, TRASH AND DEBRIS SHALL BE REMOVED AS NECESSARY.
- VEGETATION GROWING ON THE EMBANKMENT TOP AND FACES IS NOT ALLOWED TO EXCEED 18 INCHES IN HEIGHT AT ANY TIME.
  - ANNUAL INSPECTION AND REPAIR, IF REQUIRED, OF THE

### OPERATION. MAINTENANCE AND INSPECTION (PRIVATE):

INSPECTION OF THE POND(S) SHOWN HEREON SHALL BY PERFORMED AT LEAST ANNUALLY, IN ACCORDANCE WITH THE CHECKLIST AND REQUIREMENTS CONTAINED WITHIN USDA. SCS "STAND-ARDS AND SPECIFICATIONS FOR PONDS" (MD-378), THE POND OWNER(S) AND THE HEIRS SUCCESSORS OR ASSIGNS SHALL BE RESPONSIBLE FOR THE SAFETY OF THE POND AND THE CONTINUED OPERATION, SURVEILLANCE, INSPECTION AND MAINTENANCE THEREOF. THE POND OWNER(S) SHALL PROMPTLY NOTIFY THE SOIL CONSERVATION DISTRICT OF ANY UNUSUAL OBSERVATIONS THAT MAY BE INDICATIONS OF DISTRESS SUCH AS EXCESSIVE SEEPAGE, TURBID SEEPAGE, SLIDING OR SLUMPING.

EXCEEDS FOUR (4) INCHES IN THE FOREBAY.

STRUCTURE SHALL BE PERFORMED.

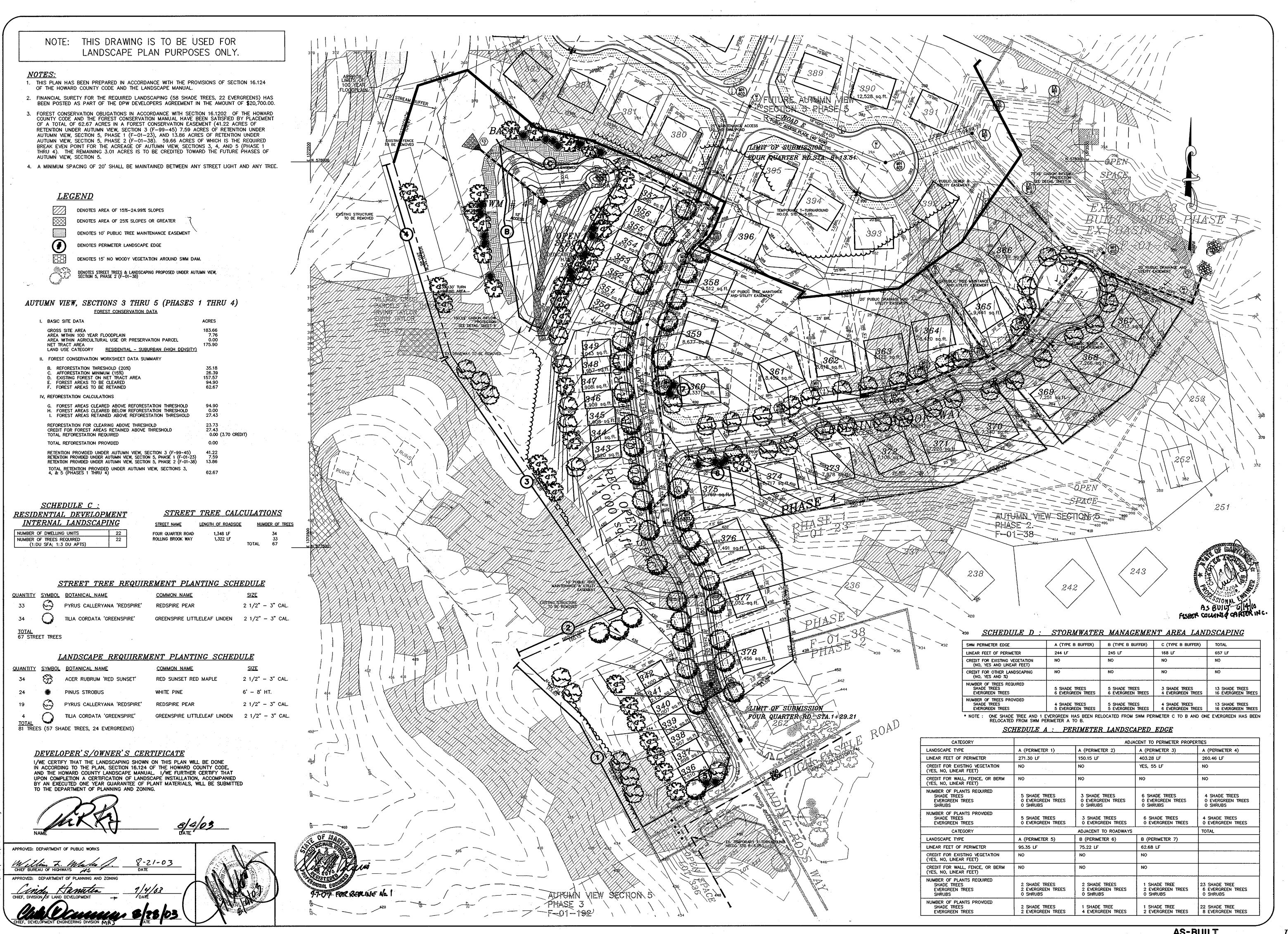
1 of 12

0

ILDEN

**AS-BUILT** 

3 RD



AS-BUILT

12 of 12

₽ ₽