

**GENERAL NOTES AND SITE DATA**

- ALL ASPECTS OF THE PROJECT ARE IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARD DETAILS UNLESS WAIVERS HAVE BEEN APPROVED.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK.
- THE CONTRACTOR IS TO NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE DAYS BEFORE STARTING WORK ON THESE DRAWINGS:  
MISS UTILITY 1-800-257-7777  
BELL ATLANTIC TELEPHONE CO. 725-9976  
HOWARD COUNTY BUREAU OF UTILITIES 313-2366  
AT&T CABLE LOCATION DIVISION 393-3553  
B.G.&E. CO. CONTRACTOR SERVICES 850-4620  
B.G.&E. CO. UNDERGROUND DAMAGE CONTROL 787-4620  
STATE HIGHWAY ADMINISTRATION 531-5533

4. SITE ANALYSIS  
PHASE II - 75 UNITS SUBJECT TO FIFTH EDITION; SUBDIVISION AND LAND DEVELOPMENT REGULATIONS  
GROSS AREA OF PROPERTY: 33.97 ac  
R-MH (RESIDENTIAL: MOBILE HOME) DISTRICT  
ZONING: SINGLE FAMILY ATTACHED DEVELOPMENT  
PROPOSED USE: (UTILIZE R-A-15 DISTRICT BULK REGULATIONS, SECTION 112.D)  
4.86 ac.

AREA OF 100 YEAR FLOODPLAIN: 1.64 ac.  
AREA OF 25% OR GREATER SLOPES OUTSIDE OF FLOODPLAIN: 27.47 ac.  
NET AREA OF PROPERTY: 15 DWELLING UNITS PER NET ACRE  
DENSITY (R-A-15): 15 DWELLING UNITS PER NET ACRE x 27.47 ac.  
NUMBER OF UNITS ALLOWED: 412 UNITS ALLOWED.  
NUMBER OF UNITS PROPOSED: PHASE I: 192 UNITS (SDP-03-41)  
PHASE II: 75 UNITS

TOTAL OPEN SPACE REQUIRED (PHASE I AND II): 25% GROSS AREA=8.49 ac. (SDP-03-41)  
TOTAL OPEN SPACE PROVIDED (PHASE I AND II): 37% GROSS AREA=12.49 ac\*\* (SDP-03-41)  
\*CREDITED OPEN SPACE IS COMPRISED OF AREAS OF 100 YEAR FLOODPLAIN (4.86 AC), FOREST CONSERVATION EASEMENT (6.63 AC), AND RECREATION OPEN SPACE (1.00 AC).  
TOTAL NON-CREDIT OPEN SPACE (PHASE I AND II): 13.21 ac\*\*

\*\*NON-CREDITED OPEN SPACE = GROSS SITE AREA (33.97 AC) - CREDITED OPEN SPACE (12.49 AC) - AREA OF IMPERVIOUS SURFACES (8.27 AC)  
200 SF/UNIT x 192 UNITS = 38,400 SF OR 0.88 AC  
10 SF/UNIT x 75 UNITS = 750 SF OR 0.02 AC (CONSTRUCTED RECREATION)  
39,150 SF OR 0.90 AC  
\*UNLESS AMENDED BY COUNTY COUNCIL RESOLUTION.

RECREATION OPEN SPACE PHASE I PROVIDED: 0.95 AC (0.34 AC POOL RECREATION OPEN SPACE) (SDP-03-41)  
RECREATION OPEN SPACE PHASE II PROVIDED: 0.10 AC (POOL RECREATION OPEN SPACE)  
TOTAL: 1.05 AC  
PHASE I: 2 SPACES/UNIT = 384  
PHASE II: 2 SPACES/UNIT = 150  
TOTAL: 534 REQUIRED

RESIDENTIAL PARKING SPACES PROVIDED:  
PHASE I: 2 SPACES/UNIT (1 GARAGE + 1 DRIVEWAY OR 2 GARAGE) = 384 (SDP-03-41)  
ADDITIONAL OFF-STREET PARKING = 15 (11 ADDITIONAL SPACES IN POOL AREA)  
TOTAL: 549 PROVIDED

- DEED REFERENCE: L.4389 / F.156, L.4389 / F.144
- THE PROJECT BOUNDARY IS BASED ON A BOUNDARY SURVEY PERFORMED BY VOGEL & ASSOCIATES, INC. DATED JANUARY, 1998.
- THE TOPOGRAPHY SHOWN HEREON IS BASED ON AERIAL PHOTOCGRAMETRIC MAP PERFORMED BY POTOMAC AERIAL SURVEY, DATED MARCH, 1998.
- COORDINATE DATUM IS BASED ON THE MARYLAND COORDINATE SYSTEM (NAD 83) AS PROJECTED BY THE FOLLOWING H.O.G.D. GEODETIC CONTROL STATIONS: 4382 & 4386.
- WATER AND SEWER FOR THIS PROJECT TO TIE TO A PUBLIC SYSTEM. EXISTING WATER CONTRACT NUMBER 14-3564-D. EXISTING SEWER CONTRACT NUMBER 5445. THE ONSITE WATER TO BE PUBLIC. THE ONSITE SEWER TO BE PRIVATE.
- WETLANDS AND STREAMS SHOWN ONSITE ARE BASED ON A FIELD INVESTIGATION PERFORMED BY CAMPBELL-NOLAN ASSOCIATES DATED MARCH, 2000.
- FLOODPLAIN SHOWN ONSITE IS BASED ON HOWARD COUNTY FLOODPLAIN STUDY D-1084, DEEP RUN FLOODPLAIN STUDY, DATED JANUARY, 1997, AND STUDY DATED JANUARY 08, 2001 BY VOGEL & ASSOCIATES, INC.
- FOREST STAND DELINEATION PLAN PREPARED BY DENNIS J. LABARE DATED NOVEMBER, 1996.
- FOREST CONSERVATION PLAN PREPARED BY CAMPBELL-NOLAN ASSOCIATES DATED MARCH, 2000 IN CONJUNCTION WITH F-02-72.
- APFO TRAFFIC STUDY AND CHAPTER 5 STUDY PREPARED BY LEE CUNNINGHAM AND ASSOCIATES DATED DECEMBER, 1998 AND APPROVED UNDER S-98-13. ORIGINAL STUDY SUPPLEMENTED BY THE TRAFFIC GROUP DATED JUNE 7, 2000. AN ADDITIONAL APFO STUDY WILL BE REQUIRED FOR PHASE II.
- A NOISE STUDY WAS PERFORMED BY VOGEL & ASSOCIATES INC. DATED MARCH, 2000, AND REVISED SEPTEMBER 2000.
- THIS PROPERTY IS WITHIN THE METROPOLITAN DISTRICT.
- TO THE BEST OF THE OWNERS KNOWLEDGE, THERE ARE NO BURIAL LOCATIONS ON SITE.
- STORMWATER MANAGEMENT SOIL BORINGS FOR THIS SITE ARE BASED ON A GEOTECHNICAL ANALYSIS PROVIDED BY ENGINEERING CONSULTING SERVICES DATED MARCH, 2000. (SDP-03-41)
- THE EXISTING SWM #1 AND SWM #2 ARE PRIVATELY OWNED AND PRIVATELY MAINTAINED. (REFERENCE SDP-03-41)
- THIS PLAN IS SUBJECT TO WP 97-89 ON APRIL 3, 1997 THE PLANNING DIRECTOR APPROVED THE REQUEST TO WAIVE SECTION 16.119 (g) TO NOT REQUIRE A SECOND VEHICULAR ACCESS POINT FOR A PROJECT GENERATING OVER 1,000 ADT VOLUMES AND SECTION 16.116 (g) (1) AND (2) (g) TO PERMIT GRADING OR THE REMOVAL OF VEGETATIVE COVER WITHIN 25 FEET OF A WETLAND AND WITHIN 75 FEET OF A PERENNIAL STREAM FOR THE CONSTRUCTION OF TWO 16' WIDE EMERGENCY BYPASS ROADS AND A NOISE BARRIER, SUBJECT TO CONDITIONS.
- TWO OFF STREET PARKING SPACES HAVE BEEN PROVIDED FOR ALL UNITS. (EITHER 1 CAR WITH 1 CAR IN DRIVEWAY OR 2 CAR GARAGE) IN ACCORDANCE WITH SECTION 133 (B) (g) OF THE HOWARD COUNTY ZONING REGULATIONS. THE TWO REQUIRED AND PROVIDED PARKING SPACES FOR EACH SFA UNIT, AS DESCRIBED IN THE GENERAL NOTE 4, MUST BE USED ONLY FOR THE PARKING OF MOTOR VEHICLES IN ACCORDANCE WITH ZONING SECTIONS 133.C.1.g AND 133.D.2.g. ALSO, THE DRIVEWAYS LESS THAN 18 FEET SHALL NOT BE USED FOR PARKING IF ANY PART OF ANY PARKED MOTOR VEHICLE ON THESE DRIVEWAYS WILL EXTEND INTO ANY PRIVATE ROAD OR SIDEWALK.

- THE PROPOSED DEVELOPMENT IS A CONDOMINIUM REGIME. GENERAL COMMON ELEMENTS SHALL BE MAINTAINED BY THE CONDOMINIUM ASSOCIATION. LIMITED COMMON ELEMENTS WILL BE MAINTAINED BY INDIVIDUAL UNIT OWNERS.
- ALL 25 PERCENT STEEP SLOPES ON SITE CONTAIN LESS THAN 20,000 SF OF CONTIGUOUS AREA.
- REAR ROOF DRAINS ON DOWN SLOPE CONDITION UNITS WILL BE DIRECTED TO THE FRONT OF THE UNIT TO INSURE THAT ROOF AREAS WILL BE MANAGED BY THE STORM WATER MANAGEMENT FACILITY.
- PERIMETER, PHASE I INTERIOR, STREET TREE, AND POND LANDSCAPING IS PROVIDED FOR THIS SITE UNDER SDP-03-41. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING IS POSTED AS PART OF THE GRADING PERMIT FOR PHASE I. FINANCIAL SURETY FOR THE REQUIRED PHASE II INTERIOR LANDSCAPING MUST BE POSTED AS PART OF THE GRADING PERMIT FOR PHASE II IN THE AMOUNT OF \$34,200.00 FOR THE REQUIRED 75 SHADE TREES, 2 EVERGREENS AND 350 SHRUBS.
- REFER TO SHEET 2 FOR ADDRESS CHART.
- TOTAL MODERATE INCOME HOUSING UNITS REQUIREMENT:  
SINGLE FAMILY ATTACHED: 15% OF 267 UNITS = 41 UNITS REQUIRED  
PHASE I = 29 UNITS PROVIDED  
PHASE II = 12 UNITS PROVIDED  
TOTAL = 41 UNITS PROVIDED

\*\*THE MODERATE INCOME HOUSING IS PROVIDED BY THE OAKS AT WATERS EDGE PHASE III, LOT 1 MODERATE INCOME HOUSING DEVELOPMENT BY THE HOWARD COUNTY HOUSING COMMISSION.

- REFERENCE WETLANDS PERMIT NO. 02-NI-0537/200361438.
- ALL UNITS WILL REQUIRE FIRE PROTECTION.
- ALL TRASH COLLECTION TO BE PRIVATE.

30. FOREST STAND DELINEATION PLAN PREPARED BY DENNIS J. LABARE DATED NOVEMBER, 1996.  
FOREST CONSERVATION FOR THIS SITE IS PROVIDED UNDER F-02-72 AND PREPARED BY CAMPBELL-NOLAN ASSOCIATES DATED MARCH, 2000.  
FOREST CONSERVATION REQUIREMENTS  
FOREST RETENTION: 5.78 ACRES/251,671SF(0.20)=\$50,334.20  
REFORESTATION REQUIRED: 5.52 ACRES  
REFORESTATION SHOWN: 0.86 ACRES/37,303SF(0.50)=\$18,651.50  
TOTAL: 4.66 ACRES \$68,985.70  
THE ADDITIONAL 4.66 ACRES OF REFORESTATION WILL BE ACCOMPLISHED THROUGH PURCHASE OF REFORESTATION CREDIT FROM THE HOWARD COUNTY APPROVED WINKLER FOREST CONSERVATION BANK. SURETY FOR 5.78 AC. OF FOREST RETENTION IN THE AMOUNT OF (251,671 SF x \$0.20) \$50,334.20 AND 0.86 AC. OF REFORESTATION IN THE AMOUNT OF (37,303 SF x \$0.50) \$18,651.50, TOTALING 6.64 AC. OF FOREST CONSERVATION EASEMENT IN THE AMOUNT OF \$68,985.70 IS TO BE POSTED WITH THE DEVELOPER'S AGREEMENT.

- TREE PROTECTION FENCE IS TO BE PROVIDED IN ANY AREA WHERE GRADING, CLEARING, OR ANY OTHER DISTURBANCE ARE LOCATED ADJACENT TO, NFAR, OR IN ANY WETLAND, WETLAND BUFFER, 100 YEAR FLOODPLAIN, DRAINAGE AND UTILITY EASEMENT, OR ANY RETENTION FOREST CONSERVATION EASEMENTS. WHERE APPLICABLE, TREE PROTECTION SIGNS WILL BE POSTED ON SUPER SILT FENCE AND PROVIDE TREE PROTECTION.
- SEDIMENT CONTROL AND BASIN #2 PROVIDED UNDER SDP-03-41 TO REMAIN FOR PHASE II CONSTRUCTION.
- STORMWATER MANAGEMENT FOR THIS SITE IS PROVIDED UNDER SDP-03-41. EXISTING SWM #1 PROVIDES WATER QUALITY BY EXTENDED DETENTION AND MANAGEMENT OF THE 2 YEAR AND 10 YEAR STORM EVENT. EXISTING SWM #2 PROVIDED THE REQUIRED WQV AND CPV BY WET EXTENDED DETENTION REV IS PROVIDED BY GRASS SWALES AND OTHER METHODS. BOTH FACILITIES ARE HAZARD CLASS A.
- ALL STORM DRAIN STRUCTURES SHALL BE CONSTRUCTED AT PHASE I UNDER SDP-03-41.
- THIS PLAN IS SUBJECT TO WP-03-157 APPROVED ON AUGUST 7, 2003. THE PLANNING DIRECTOR APPROVED THE REQUEST TO WAIVE SUBDIVISION SECTIONS 16.136, 16.124 AND THE LANDSCAPE MANUAL REQUIRING STREET TREES BE PROVIDED ALONG BOTH SIDES OF ALL ROADS, AND SUBDIVISION SECTION 16.154(a)(1) REQUIRING SIDEWALKS TO BE PROVIDED ALONG BOTH SIDES OF ALL ROADS.
- THE MODERATE INCOME HOUSING REQUIREMENTS FOR PHASES I & II HAS BEEN RECORDED AT THE LAND RECORDS OF HOWARD COUNTY IN LIBER 1783 FOLIO 107, NOVEMBER 2003. THE MILL WILL BE CONSTRUCTED AS THE OAKS AT WATERS EDGE, PHASE III, LOT 4 (PLAT # 16-0228, P-04-CAR).
- THE DEVELOPER HAS AGREED TO SHARE IN THE COST OF THE PROPOSED TRAFFIC SIGNAL AT PORT CAPITAL DRIVE AND MARYLAND ROUTE 1. AN AGREEMENT LETTER IS ON FILE AT THE DEVELOPMENT ENGINEERING DIVISION OF THE HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

**SITE DEVELOPMENT PLAN**

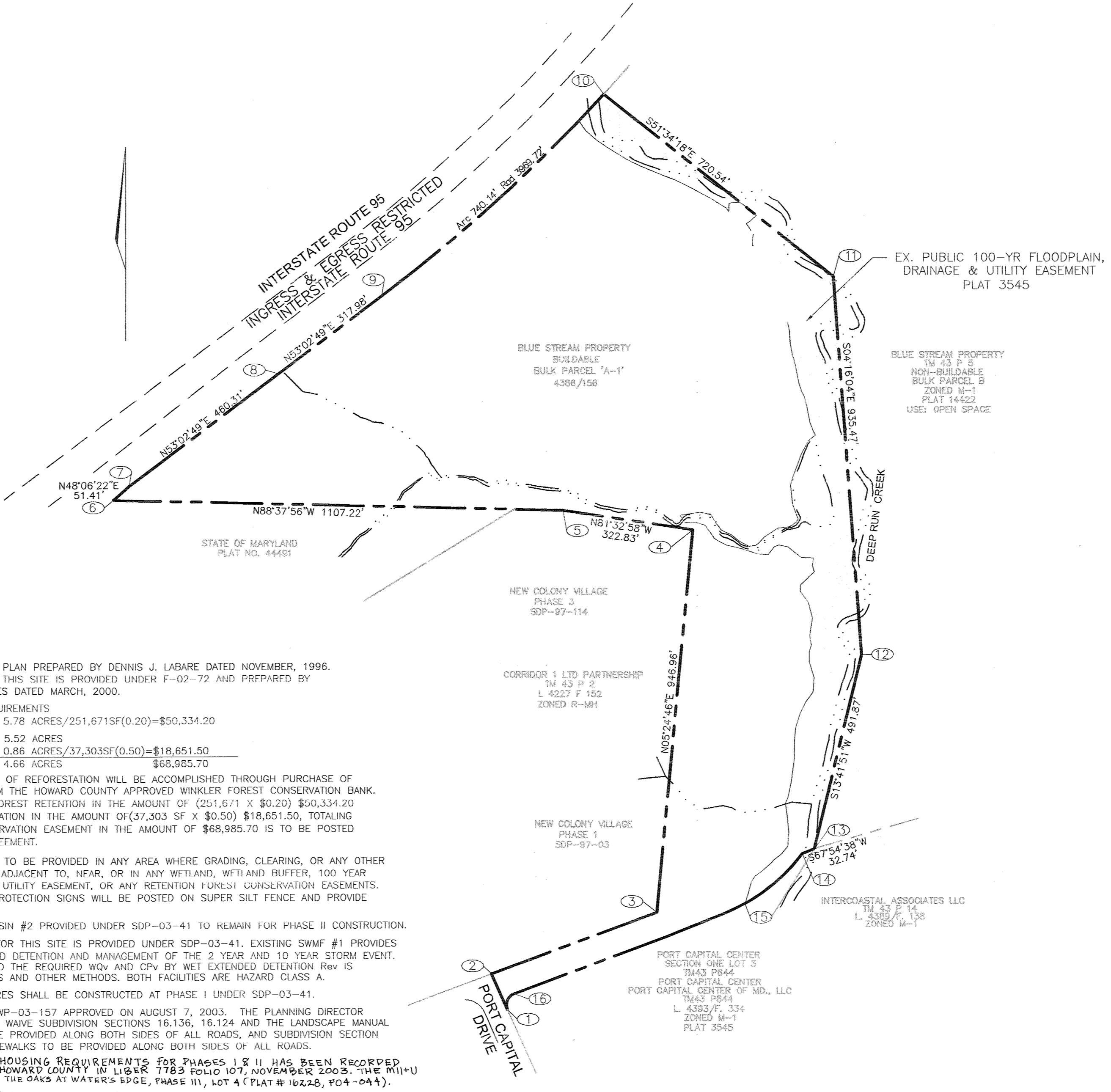
**THE OAKS AT WATERS EDGE**

**BUILDABLE BULK PARCEL 'A-1'**

**TOWNHOUSE COMMUNITY**

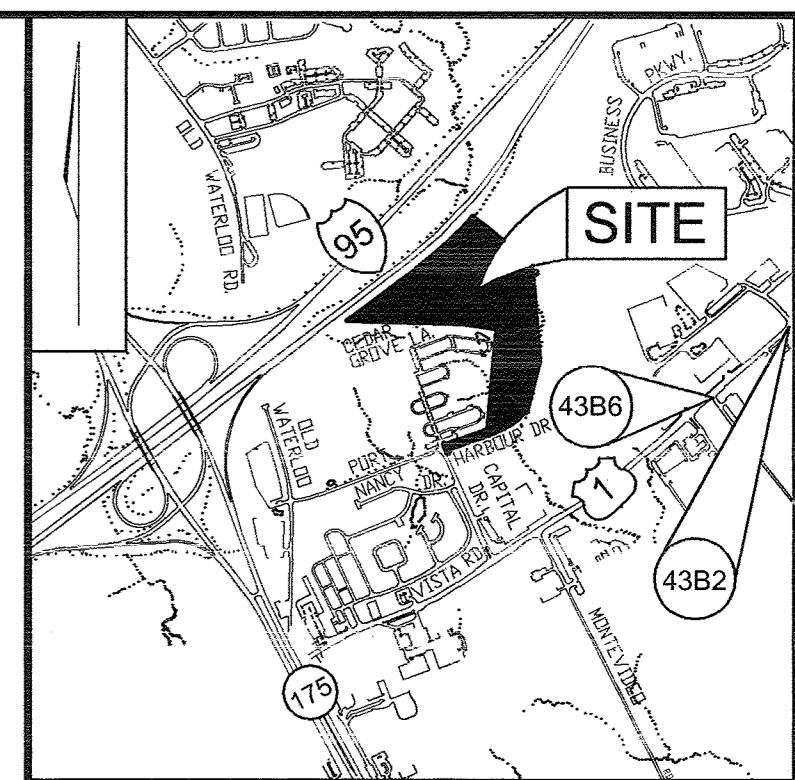
**HOWARD COUNTY, MARYLAND**

**PHASE II**



**BENCHMARKS**

NO.	NORTHING	EASTING	ELEVATION
4382	551,655.009	1,378,176.941	209.605
4386	550,601.593	1,376,866.047	210.560



**COORDINATE CHART**

NO.	NORTHING	EASTING
1	550235.4789	1374660.2617
2	550324.1320	1374620.5281
3	550475.8334	1375027.8452
4	551418.5752	1375117.1747
5	551466.0167	1374787.8469
6	551492.4433	1373690.9447
7	551526.7724	1373729.2134
8	551803.4926	1374097.0601
9	551994.6488	1374351.1652
10	552491.6809	1374898.1436
11	552043.8407	1375462.6038
12	551110.9646	1375532.2195
13	550633.0836	1375415.7468
14	550620.7732	1375385.4138
15	550472.9797	1375193.8486
16	550275.8554	1374677.1599

**SHEET INDEX**

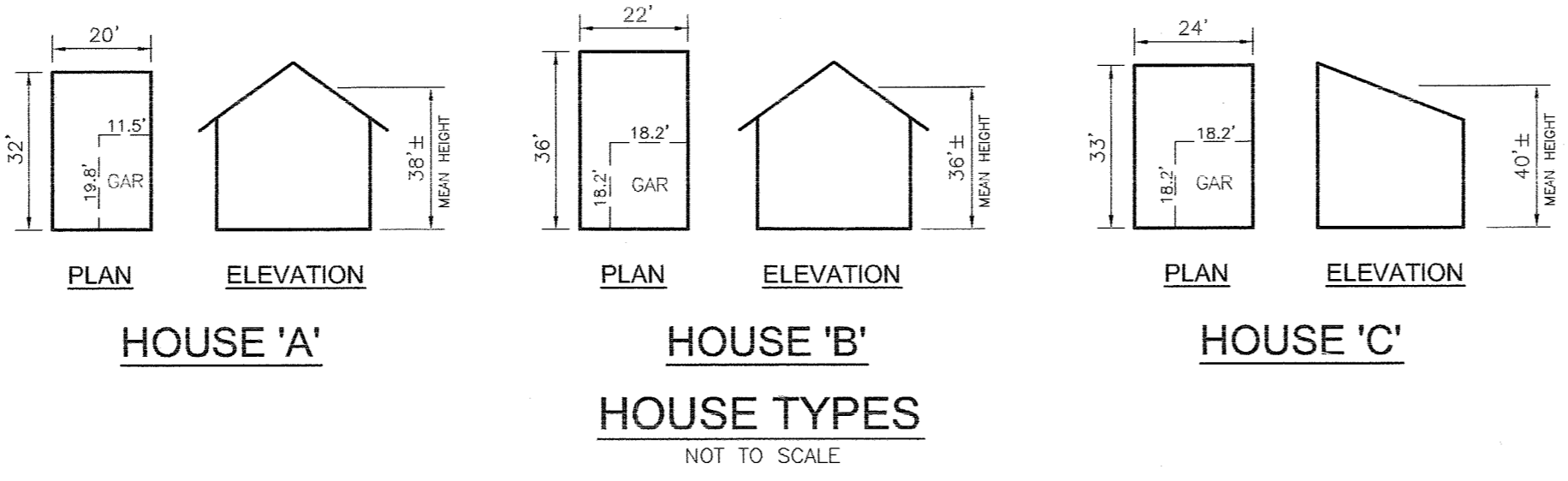
DESCRIPTION	SHEET NO.
COVER SHEET	1 OF 9
SITE PLAN	2 OF 9
GRADING AND SEDIMENT EROSION CONTROL PLAN	3 OF 9
GRADING AND SEDIMENT EROSION CONTROL PLAN	4 OF 9
GRADING AND SEDIMENT EROSION CONTROL PLAN	5 OF 9
GRADING AND SEDIMENT EROSION CONTROL PLAN	6 OF 9
SEDIMENT AND EROSION CONTROL DETAILS	7 OF 9
LANDSCAPING PLAN	8 OF 9
LANDSCAPING PLAN	9 OF 9

**PERMIT INFORMATION CHART**

PROJECT NAME	SECTION/AREA	PARCEL NUMBER
THE OAKS AT WATERS EDGE	PHASE II	BUILDABLE PARCEL A-1
PLAT REF. 16799-16805	BLOCK NO. 3	ZONE R-MH
	TAX MAP 43	ELECT. DIST. 1ST
		CENSUS TR. 6012.02
WATER CODE: B01	SEWER CODE: 2420000	

**LOCATION MAP**

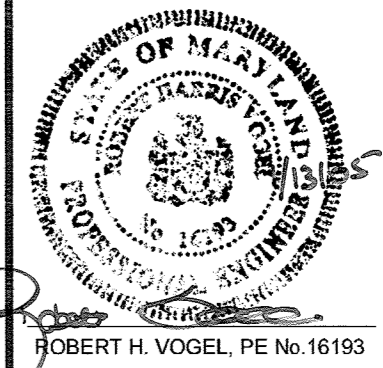
SCALE: 1"=200'



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
*Chad Danner*  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
*Cathy Kramel*  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
*Mark DeCigle*  
 DIRECTOR

**OWNER/DEVELOPER**

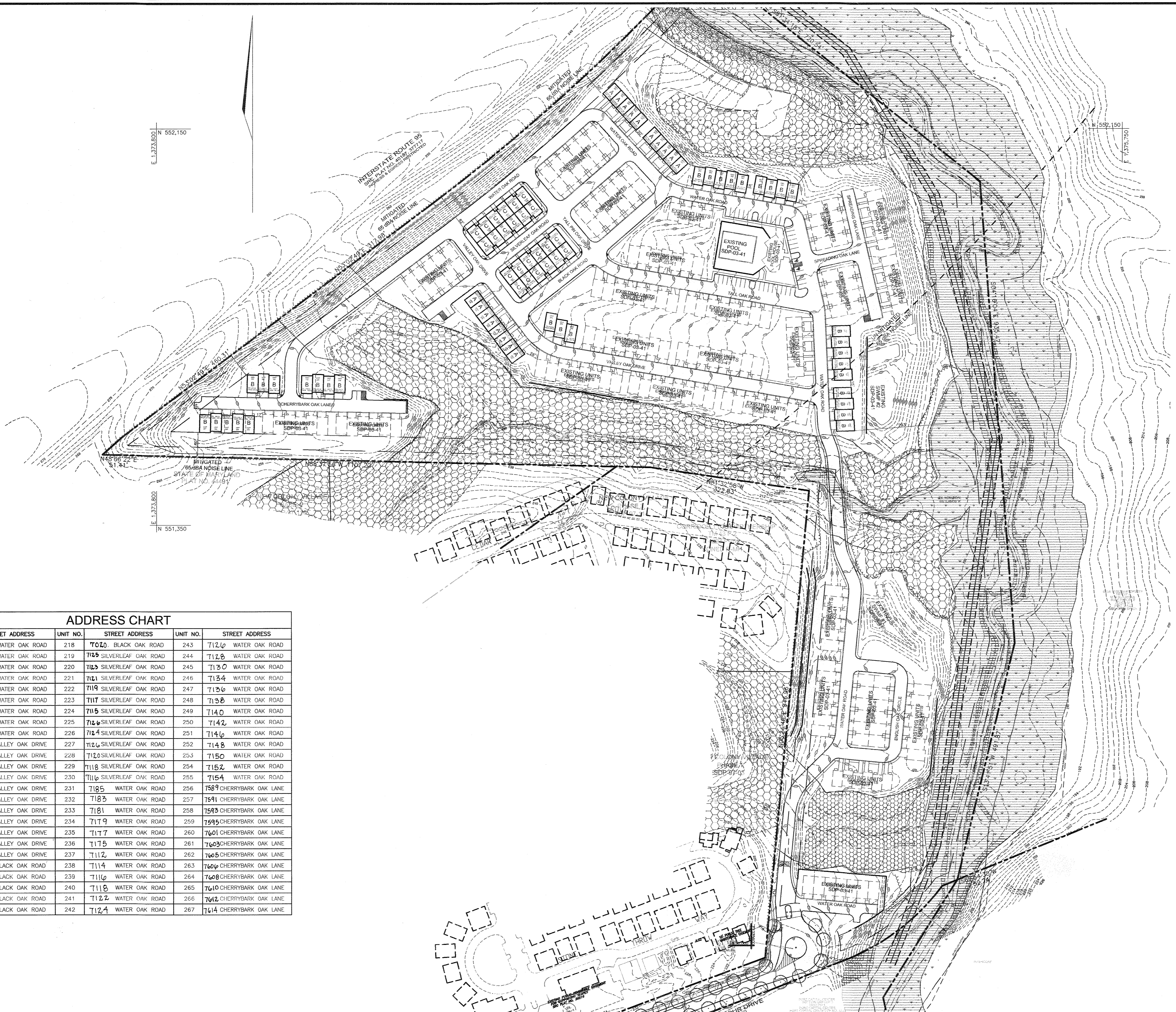
BLUE STREAM L.L.C.  
 c/o NORTHERN TRADING L.L.C.  
 P.O. BOX 416  
 ELLICOTT CITY, MD 21041  
 410-465-2020



DESIGN BY: JT  
 DRAWN BY: JT  
 CHECKED BY: RHW  
 DATE: AUG. 13, 2004  
 SCALE: AS NOTED  
 W.O. NO.: 03-82

1 SHEET OF 9





### LEGEND

- 2 FT--- EXISTING 2 FT CONTOURS
- 10 FT--- EXISTING 10 FT CONTOURS
- 2 FT--- PROPOSED 2 FT CONTOURS
- 10 FT--- PROPOSED 10 FT CONTOURS
- 25 FT--- 25 FT WETLAND BUFFER
- --- EXISTING STREAM BUFFER
- --- LIMITS OF EXISTING WETLANDS
- --- LIMIT OF DISTURBANCE
- --- SUPER SILT FENCE
- --- TREE PROTECTION FENCE
- --- MODIFIED CURB (R-3.01)
- [Pattern] EXISTING WETLANDS
- [Pattern] EXISTING 100 YEAR FLOODPLAIN
- [Pattern] FOREST CONSERVATION EASEMENT (REFORESTATION)
- [Pattern] FOREST CONSERVATION EASEMENT (RETENTION)
- [Pattern] EXISTING SEWER EASMENT
- [Pattern] CONCRETE
- [Pattern] RECREATIONAL OPEN SPACE
- [Pattern] RETAINING WALL MAINTENANCE EASEMENT
- [Pattern] NO WOODY VEGETATION BUFFER
- [Pattern] POND ACCESS ROAD
- [Pattern] RIP RAP
- [Pattern] GABIONS

### HOUSE SCHEDULE

PHASE II				
MODEL	TYPE	SIZE	GARAGE	QUANTITY
A	TOWNHOUSE	20' X 30'	1 CAR	18
B	TOWNHOUSE	22' X 36'	2 CAR	33
C	TOWNHOUSE	24' X 33'	2 CAR	24
			<b>TOTAL</b>	<b>75</b>

### ADDRESS CHART

UNIT NO.	STREET ADDRESS	UNIT NO.	STREET ADDRESS	UNIT NO.	STREET ADDRESS
193	7070 WATER OAK ROAD	218	7020 BLACK OAK ROAD	243	7120 WATER OAK ROAD
194	7072 WATER OAK ROAD	219	7125 SILVERLEAF OAK ROAD	244	7128 WATER OAK ROAD
195	7074 WATER OAK ROAD	220	7125 SILVERLEAF OAK ROAD	245	7130 WATER OAK ROAD
196	7076 WATER OAK ROAD	221	7121 SILVERLEAF OAK ROAD	246	7134 WATER OAK ROAD
197	7080 WATER OAK ROAD	222	7119 SILVERLEAF OAK ROAD	247	7136 WATER OAK ROAD
198	7082 WATER OAK ROAD	223	7117 SILVERLEAF OAK ROAD	248	7138 WATER OAK ROAD
199	7084 WATER OAK ROAD	224	7115 SILVERLEAF OAK ROAD	249	7140 WATER OAK ROAD
200	7086 WATER OAK ROAD	225	7116 SILVERLEAF OAK ROAD	250	7142 WATER OAK ROAD
201	7088 WATER OAK ROAD	226	7114 SILVERLEAF OAK ROAD	251	7146 WATER OAK ROAD
202	7740 VALLEY OAK DRIVE	227	7126 SILVERLEAF OAK ROAD	252	7148 WATER OAK ROAD
203	7746 VALLEY OAK DRIVE	228	7120 SILVERLEAF OAK ROAD	253	7150 WATER OAK ROAD
204	7750 VALLEY OAK DRIVE	229	7118 SILVERLEAF OAK ROAD	254	7152 WATER OAK ROAD
205	7755 VALLEY OAK DRIVE	230	7116 SILVERLEAF OAK ROAD	255	7154 WATER OAK ROAD
206	7757 VALLEY OAK DRIVE	231	7125 WATER OAK ROAD	256	7589 CHERRYBARK OAK LANE
207	7759 VALLEY OAK DRIVE	232	7123 WATER OAK ROAD	257	7591 CHERRYBARK OAK LANE
208	7761 VALLEY OAK DRIVE	233	7121 WATER OAK ROAD	258	7593 CHERRYBARK OAK LANE
209	7763 VALLEY OAK DRIVE	234	7119 WATER OAK ROAD	259	7595 CHERRYBARK OAK LANE
210	7765 VALLEY OAK DRIVE	235	7117 WATER OAK ROAD	260	7601 CHERRYBARK OAK LANE
211	7767 VALLEY OAK DRIVE	236	7115 WATER OAK ROAD	261	7603 CHERRYBARK OAK LANE
212	7769 VALLEY OAK DRIVE	237	7112 WATER OAK ROAD	262	7605 CHERRYBARK OAK LANE
213	7030 BLACK OAK ROAD	238	7114 WATER OAK ROAD	263	7607 CHERRYBARK OAK LANE
214	7028 BLACK OAK ROAD	239	7116 WATER OAK ROAD	264	7609 CHERRYBARK OAK LANE
215	7026 BLACK OAK ROAD	240	7118 WATER OAK ROAD	265	7610 CHERRYBARK OAK LANE
216	7024 BLACK OAK ROAD	241	7122 WATER OAK ROAD	266	7612 CHERRYBARK OAK LANE
217	7022 BLACK OAK ROAD	242	7124 WATER OAK ROAD	267	7614 CHERRYBARK OAK LANE

NO.	REVISION	DATE

### SITE PLAN

#### THE OAKS AT WATERS EDGE - PHASE II

BUILDABLE PARCEL A-1  
UNITS 193-267

REF: S-97-01, ZB-966-M, P-00-19, WP-97-89, F-75-05, F-00-126, F-02-72, SDP-03-41

TAX MAP 43 BLOCK 3 PARCELS 279, 647, AND PART OF 5  
1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

## ROBERT H. VOGEL ENGINEERING, INC.

ENGINEERS • SURVEYORS • PLANNERS

8407 MAIN STREET TEL: 410.461.7666  
ELLCOTT CITY, MD 21043 FAX: 410.461.8961

DESIGN BY: JT  
DRAWN BY: JT  
CHECKED BY: RHV  
DATE: AUG. 13, 2004  
SCALE: 1"=100'  
W.O. NO.: 03-82

2 SHEET OF 9

ROBERT H. VOGEL, PE No. 16193

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*Carol Dammer* 2/14/05  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

*Andy Kametz* 3/10/05  
CHIEF, DIVISION OF LAND DEVELOPMENT

*Robert H. Vogel* 2/10/05  
DIRECTOR

ENGINEER'S CERTIFICATE

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

*Robert H. Vogel* 2/13/04  
SIGNATURE OF ENGINEER  
ROBERT H. VOGEL

DEVELOPER'S CERTIFICATE

I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE IN ACCORDANCE 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.

*Arnold Berger* 8/13/04  
SIGNATURE OF DEVELOPER

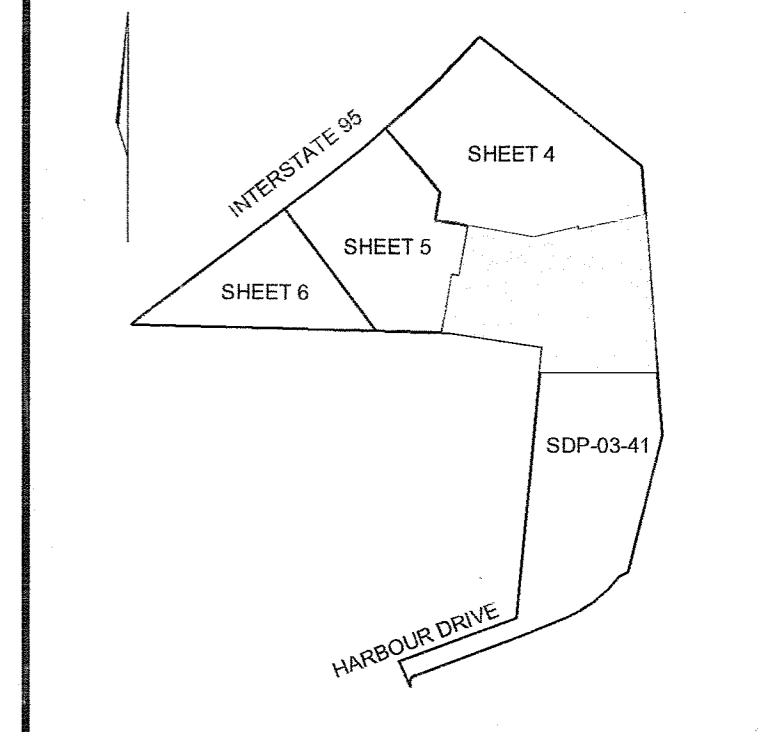
THESE PLANS HAVE BEEN REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEET THE REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

USDA-NATURAL RESOURCES CONSERVATION SERVICE DATE

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

HOWARD SOIL CONSERVATION DISTRICT DATE





**KEY MAP**  
NOT TO SCALE

**LEGEND**

	EXISTING 2 FT CONTOURS
	EXISTING 10 FT CONTOURS
	PROPOSED 2 FT CONTOURS
	PROPOSED 10 FT CONTOURS
	25 FT WETLAND BUFFER
	EXISTING STREAM BUFFER
	LIMITS OF EXISTING WETLANDS
	LIMIT OF DISTURBANCE
	SUPER SILT FENCE
	TREE PROTECTION FENCE
	MODIFIED CURB (R-3.01)
	EXISTING WETLANDS
	EXISTING 100 YEAR FLOODPLAIN
	FOREST CONSERVATION EASEMENT (REFORESTATION)
	FOREST CONSERVATION EASEMENT (RETENTION)
	EXISTING SEWER EASEMENT
	CONCRETE
	RECREATIONAL OPEN SPACE
	RETAINING WALL MAINTENANCE EASEMENT
	NO WOODY VEGETATION BUFFER
	POND ACCESS ROAD
	RIP RAP
	GABIONS



**PLAN**  
LIMIT OF PHASE II (SEE PHASE I SDP-03-41)  
SCALE: 1"=30'

1	REVISE FIRST FLOOR ELEVATIONS AND GRADING UNITS	10.21.05
NO.	REVISION	DATE
		10/3/2011

**GRADING AND SEDIMENT EROSION CONTROL PLAN**  
**THE OAKS AT WATERS EDGE - PHASE II**  
BUILDABLE PARCEL A-1  
UNITS 193-214  
REF: S-97-01, ZB-966-M, P-00-19, WP-97-89, F-75-05, F-00-126, F-02-72, SDP-03-41  
TAX MAP 43 BLOCK 3 PARCELS 279, 647, AND PART OF 5  
1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

**ROBERT H. VOGEL ENGINEERING, INC.**  
ENGINEERS • SURVEYORS • PLANNERS  
8407 MAIN STREET  
ELLCOTT CITY, MD 21043 TEL: 410.461.2666 FAX: 410.461.5961

	DESIGN BY: JT
	DRAWN BY: JT
	CHECKED BY: RHW
	DATE: AUG 13, 2004
	SCALE: 1"=30'
W.O. NO.: 03-82	3 SHEET OF 9

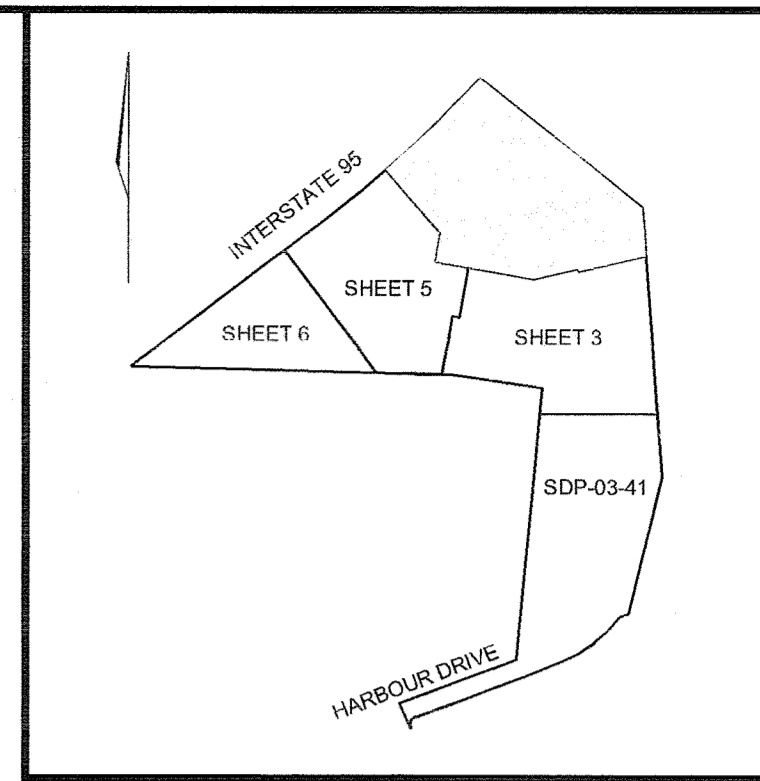
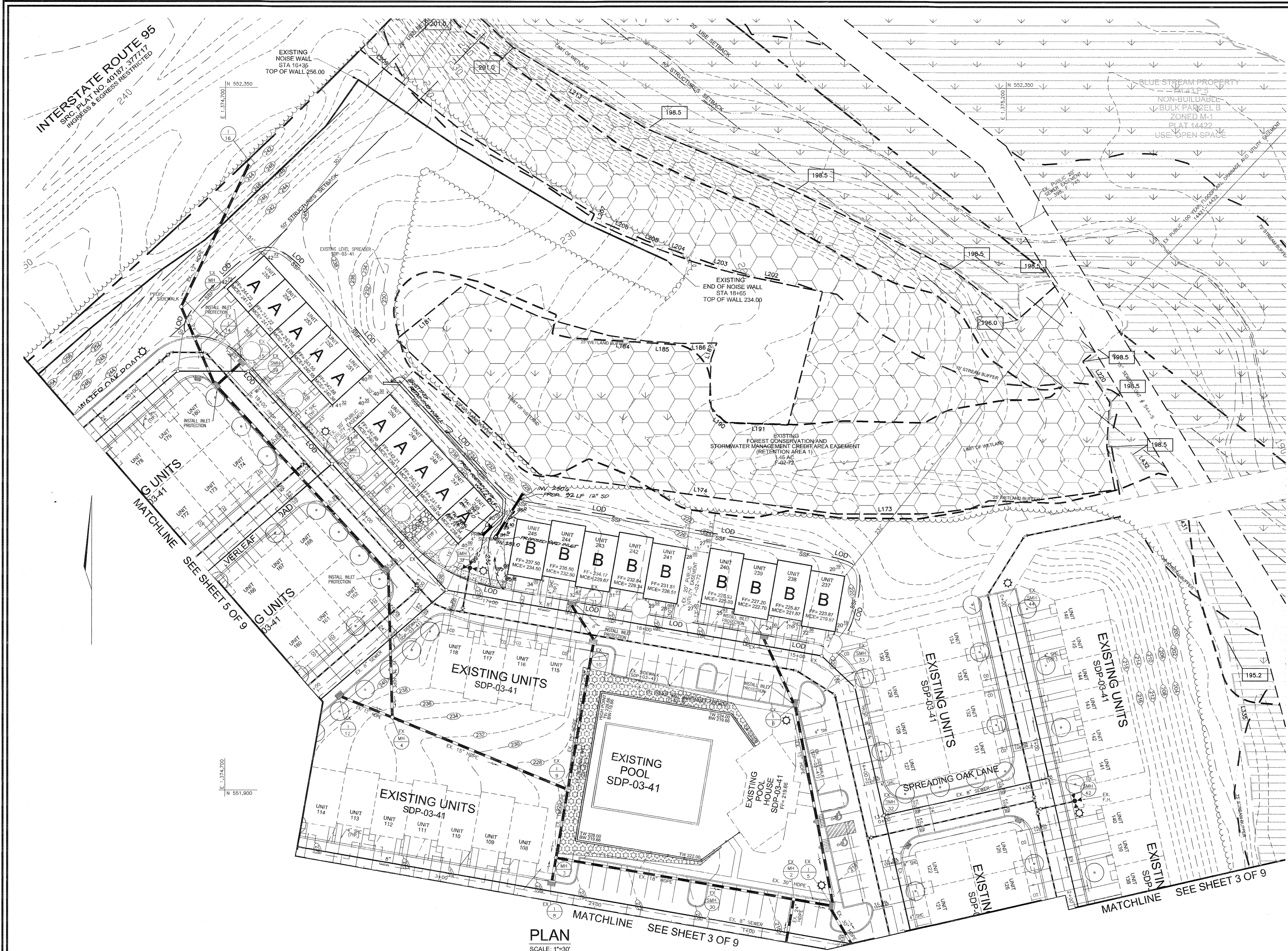
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
  
 DIRECTOR

ENGINEER'S CERTIFICATE  
 I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.  
  
 SIGNATURE OF ENGINEER  
 ROBERT H. VOGEL  
 8/13/04  
 DATE

DEVELOPER'S CERTIFICATE  
 I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE IN ACCORDANCE 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.  
  
 SIGNATURE OF DEVELOPER  
 8/13/04  
 DATE

THESE PLANS HAVE BEEN REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEET THE REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.  
 USFS - NATURAL RESOURCES CONSERVATION SERVICE  
  
 JIM MEYER  
 2/10/05  
 DATE  
 THESE PLANS FOR SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.  
  
 JOHN P. ROBERTS  
 2/10/05  
 DATE  
 HOWARD SOIL CONSERVATION DISTRICT





KEY MAP  
NOT TO SCALE

**LEGEND**

---202---	EXISTING 2 FT CONTOURS
---210---	EXISTING 10 FT CONTOURS
---220---	PROPOSED 2 FT CONTOURS
---230---	PROPOSED 10 FT CONTOURS
---	25 FT WETLAND BUFFER
---	EXISTING STREAM BUFFER
---	LIMITS OF EXISTING WETLANDS
---	LIMIT OF DISTURBANCE
---	SUPER SILT FENCE
---	TREE PROTECTION FENCE
---	MODIFIED CURB (R-3.01)
[Pattern]	EXISTING WETLANDS
[Pattern]	EXISTING 100 YEAR FLOODPLAIN
[Pattern]	FOREST CONSERVATION EASEMENT (REFORESTATION)
[Pattern]	FOREST CONSERVATION EASEMENT (RETENTION)
[Pattern]	EXISTING SEWER EASEMENT
[Pattern]	CONCRETE
[Pattern]	RECREATIONAL OPEN SPACE
[Pattern]	RETAINING WALL MAINTENANCE EASEMENT
[Pattern]	NO WOODY VEGETATION BUFFER
[Pattern]	POND ACCESS ROAD
[Pattern]	RIP RAP
[Pattern]	GABIIONS

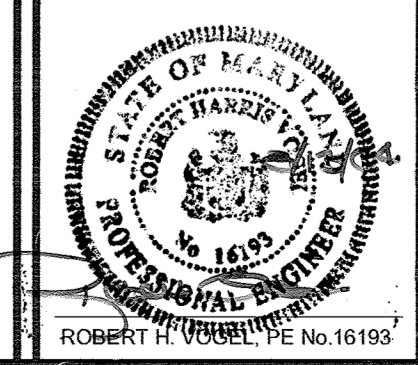
PLAN  
SCALE: 1"=30'

NO.	REVISION	DATE
1	ADD YARD INLET, OUTFALL, AND EXTEND RETAINING WALL (LESS THAN 30')	8/11/09

**GRADING AND SEDIMENT EROSION CONTROL PLAN**  
**THE OAKS AT WATERS EDGE - PHASE II**  
 BUILDABLE PARCEL A-1  
 UNITS 193-207  
 REF: S-97-01, ZB-966-M, P-00-19, WP-97-89, F-75-05, F-00-126, F-02-72, SDP-03-41  
 TAX MAP 43 BLOCK 3 PARCELS 279, 647, AND PART OF 5  
 1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

**ROBERT H. VOGEL ENGINEERING, INC.**  
 ENGINEERS • SURVEYORS • PLANNERS  
 8407 MAIN STREET ELLICOTT CITY, MD 21043 TEL: 410.461.7666 FAX: 410.461.8961

DESIGN BY:	JT
DRAWN BY:	JT
CHECKED BY:	RHV
DATE:	AUG. 13, 2004
SCALE:	1"=30'
W.O. NO.:	03-82



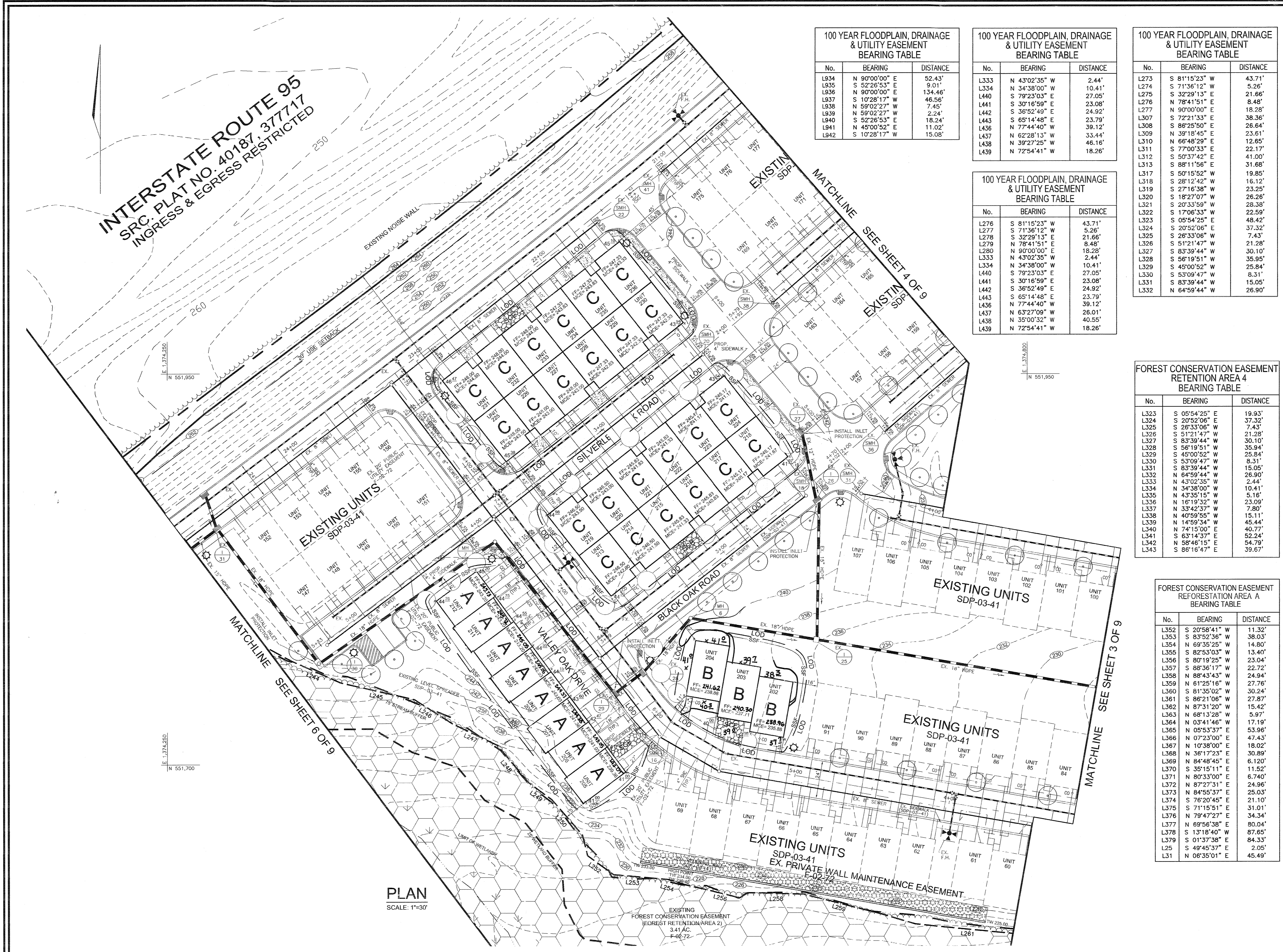
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 [Signature] 3/1/05  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 [Signature] 3/1/05  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 [Signature] 3/1/05  
 DIRECTOR

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 [Signature] 8/13/04  
 SIGNATURE OF ENGINEER  
 ROBERT H. VOGEL

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 [Signature] 8/13/04  
 SIGNATURE OF DEVELOPER

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 [Signature] 2/10/05  
 USFS NATURAL RESOURCES CONSERVATION SERVICE  
 THESE PLANS FOR SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.  
 [Signature] 2/10/05  
 HOWARD SOIL CONSERVATION DISTRICT





100 YEAR FLOODPLAIN, DRAINAGE & UTILITY EASEMENT BEARING TABLE

No.	BEARING	DISTANCE
L934	N 90°00'00" E	52.43'
L935	S 52°26'53" E	9.01'
L936	N 90°00'00" E	134.46'
L937	S 10°28'17" W	46.56'
L938	N 59°02'27" W	7.45'
L939	N 59°02'27" W	2.24'
L940	S 52°26'53" E	18.24'
L941	N 45°00'52" E	11.02'
L942	S 10°28'17" W	15.06'

100 YEAR FLOODPLAIN, DRAINAGE & UTILITY EASEMENT BEARING TABLE

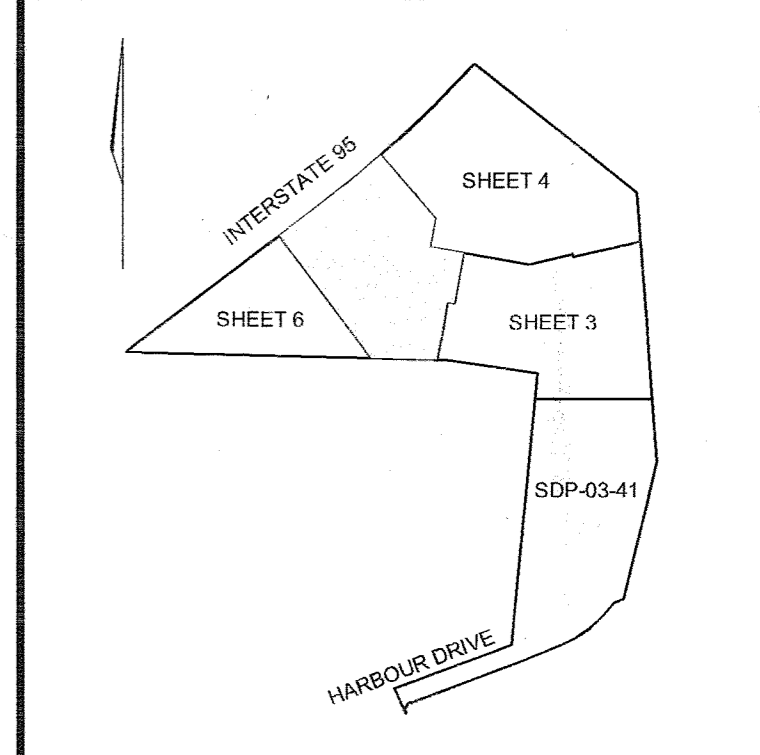
No.	BEARING	DISTANCE
L333	N 43°02'35" W	2.44'
L334	N 34°38'00" W	10.41'
L440	S 79°23'03" E	27.05'
L441	S 30°16'59" E	23.08'
L442	S 36°52'49" E	24.92'
L443	S 65°14'48" E	23.79'
L436	N 77°44'40" W	39.12'
L437	N 62°28'13" W	33.44'
L438	N 39°27'25" W	46.16'
L439	N 72°54'41" W	18.26'

100 YEAR FLOODPLAIN, DRAINAGE & UTILITY EASEMENT BEARING TABLE

No.	BEARING	DISTANCE
L276	S 81°15'23" W	43.71'
L277	S 71°36'12" W	5.26'
L278	S 32°29'13" E	21.66'
L279	N 78°41'51" E	8.48'
L280	N 90°00'00" E	18.28'
L333	N 43°02'35" W	2.44'
L334	N 34°38'00" W	10.41'
L440	S 79°23'03" E	27.05'
L441	S 30°16'59" E	23.08'
L442	S 36°52'49" E	24.92'
L443	S 65°14'48" E	23.79'
L436	N 77°44'40" W	39.12'
L437	N 62°28'13" W	33.44'
L438	N 39°27'25" W	46.16'
L439	N 72°54'41" W	18.26'

100 YEAR FLOODPLAIN, DRAINAGE & UTILITY EASEMENT BEARING TABLE

No.	BEARING	DISTANCE
L273	S 81°15'23" W	43.71'
L274	N 71°36'12" W	5.26'
L275	S 32°29'13" E	21.66'
L276	N 78°41'51" E	8.48'
L277	N 90°00'00" E	18.28'
L307	S 72°21'33" E	38.36'
L308	S 85°25'50" E	26.64'
L309	N 39°18'45" E	23.61'
L310	N 66°48'29" E	12.65'
L311	S 77°00'33" E	22.17'
L312	S 50°37'42" E	41.00'
L313	S 88°11'56" E	31.68'
L317	S 50°15'52" W	19.85'
L318	S 28°12'42" W	16.12'
L319	S 27°16'38" W	23.25'
L320	S 18°27'07" W	26.26'
L321	S 20°33'59" W	28.38'
L322	S 17°06'33" W	22.59'
L323	S 05°54'25" E	48.42'
L324	S 20°52'06" E	37.32'
L325	S 26°33'06" W	7.43'
L326	S 51°21'47" W	21.28'
L327	S 83°39'44" W	30.10'
L328	S 56°19'51" W	35.95'
L329	S 45°00'52" W	25.84'
L330	S 53°09'47" W	8.31'
L331	S 83°39'44" W	15.05'
L332	N 64°59'44" W	26.90'



**LEGEND**

- 202 --- EXISTING 2 FT CONTOURS
- 210 --- EXISTING 10 FT CONTOURS
- 220 --- PROPOSED 2 FT CONTOURS
- 230 --- PROPOSED 10 FT CONTOURS
- 240 --- 25 FT WETLAND BUFFER
- 250 --- EXISTING STREAM BUFFER
- 260 --- LIMITS OF EXISTING WETLANDS
- 270 --- LIMIT OF DISTURBANCE
- 280 --- SUPER SILT FENCE
- 290 --- TREE PROTECTION FENCE
- 300 --- MODIFIED CURB (R-3.01)
- 310 --- EXISTING WETLANDS
- 320 --- EXISTING 100 YEAR FLOODPLAIN
- 330 --- FOREST CONSERVATION EASEMENT (REFORESTATION)
- 340 --- FOREST CONSERVATION EASEMENT (RETENTION)
- 350 --- EXISTING SEWER EASEMENT
- 360 --- CONCRETE
- 370 --- RECREATIONAL OPEN SPACE
- 380 --- RETAINING WALL MAINTENANCE EASEMENT
- 390 --- NO WOODY VEGETATION BUFFER
- 400 --- POND ACCESS ROAD
- 410 --- RIP RAP
- 420 --- GABIONS

FOREST CONSERVATION EASEMENT RETENTION AREA 4 BEARING TABLE

No.	BEARING	DISTANCE
L323	S 05°54'25" E	19.93'
L324	S 20°52'06" E	37.32'
L325	S 26°33'06" W	7.43'
L326	S 51°21'47" W	21.28'
L327	S 83°39'44" W	30.10'
L328	S 56°19'51" W	35.94'
L329	S 45°00'52" W	25.84'
L330	S 53°09'47" W	8.31'
L331	S 83°39'44" W	15.05'
L332	N 64°59'44" W	26.90'
L333	N 43°02'35" W	2.44'
L334	N 34°38'00" W	10.41'
L335	S 43°35'15" W	5.15'
L336	N 16°19'32" W	23.09'
L337	N 33°42'37" W	7.80'
L338	N 40°59'55" W	15.11'
L339	N 14°59'34" W	45.44'
L340	N 74°15'00" E	40.77'
L341	S 63°14'37" E	52.24'
L342	N 58°46'15" E	54.79'
L343	S 88°16'47" E	39.67'

FOREST CONSERVATION EASEMENT REFORESTATION AREA A BEARING TABLE

No.	BEARING	DISTANCE
L352	S 20°58'41" W	11.32'
L353	S 83°52'36" W	38.03'
L354	N 69°35'25" W	14.80'
L355	S 82°53'03" W	13.40'
L356	S 80°19'25" W	23.04'
L357	S 89°58'17" W	22.72'
L358	N 88°43'43" W	24.94'
L359	N 61°25'16" W	27.76'
L360	S 81°35'02" W	30.24'
L361	S 86°21'06" W	27.87'
L362	N 87°31'20" W	15.42'
L363	N 68°13'28" W	5.97'
L364	N 03°41'46" W	17.19'
L365	N 05°53'37" E	53.96'
L366	N 07°23'00" E	47.43'
L367	N 10°38'00" E	18.02'
L368	N 36°17'23" E	30.89'
L369	N 84°48'45" E	6.120'
L370	S 35°15'11" E	11.52'
L371	N 80°53'00" E	6.740'
L372	N 87°27'51" E	24.96'
L373	N 84°55'37" E	25.03'
L374	S 76°20'45" E	21.10'
L375	S 71°15'51" E	31.01'
L376	N 79°47'27" E	34.34'
L377	N 69°56'38" E	80.04'
L378	S 13°18'40" W	87.65'
L379	S 01°57'58" E	84.33'
L25	S 49°45'37" E	2.05'
L31	N 06°35'01" E	45.49'

PLAN  
SCALE: 1"=30'

NO.	REVISION	DATE
2	REVISE FIRST FLOOR ELEVATIONS UNITS 205-212	7.28.06
1	REVISE FIRST FLOOR ELEVATION AND GRADING UNITS 202-204	2.17.06

**GRADING AND SEDIMENT EROSION CONTROL PLAN**  
**THE OAKS AT WATERS EDGE - PHASE II**  
 BUILDABLE PARCEL A-1  
 UNITS 193-207  
 REF: S-97-01, ZB-966-M, P-00-19, WP-97-89, F-75-05, F-00-126, F-02-72, SDP-03-41  
 TAX MAP 43 BLOCK 3 PARCELS 279, 647, AND PART OF 5  
 1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

**ROBERT H. VOGEL ENGINEERING, INC.**  
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 8407 MAIN STREET  
 ELLICOTT CITY, MD 21043  
 TEL: 410.461.7666  
 FAX: 410.461.8961

DESIGN BY: JT  
 DRAWN BY: JT  
 CHECKED BY: RHV  
 DATE: AUG. 13, 2004  
 SCALE: 1"=30'  
 W.O. NO.: 03-82

5 SHEET OF 9

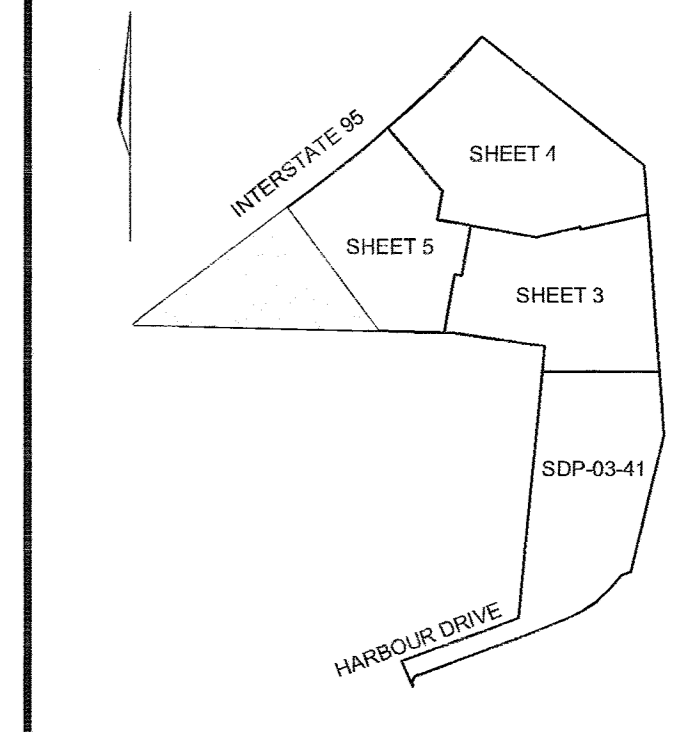
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE: 8/16/05

ENGINEER'S CERTIFICATE  
 I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.  
 SIGNATURE OF ENGINEER: ROBERT H. VOGEL  
 DATE: 8/12/04

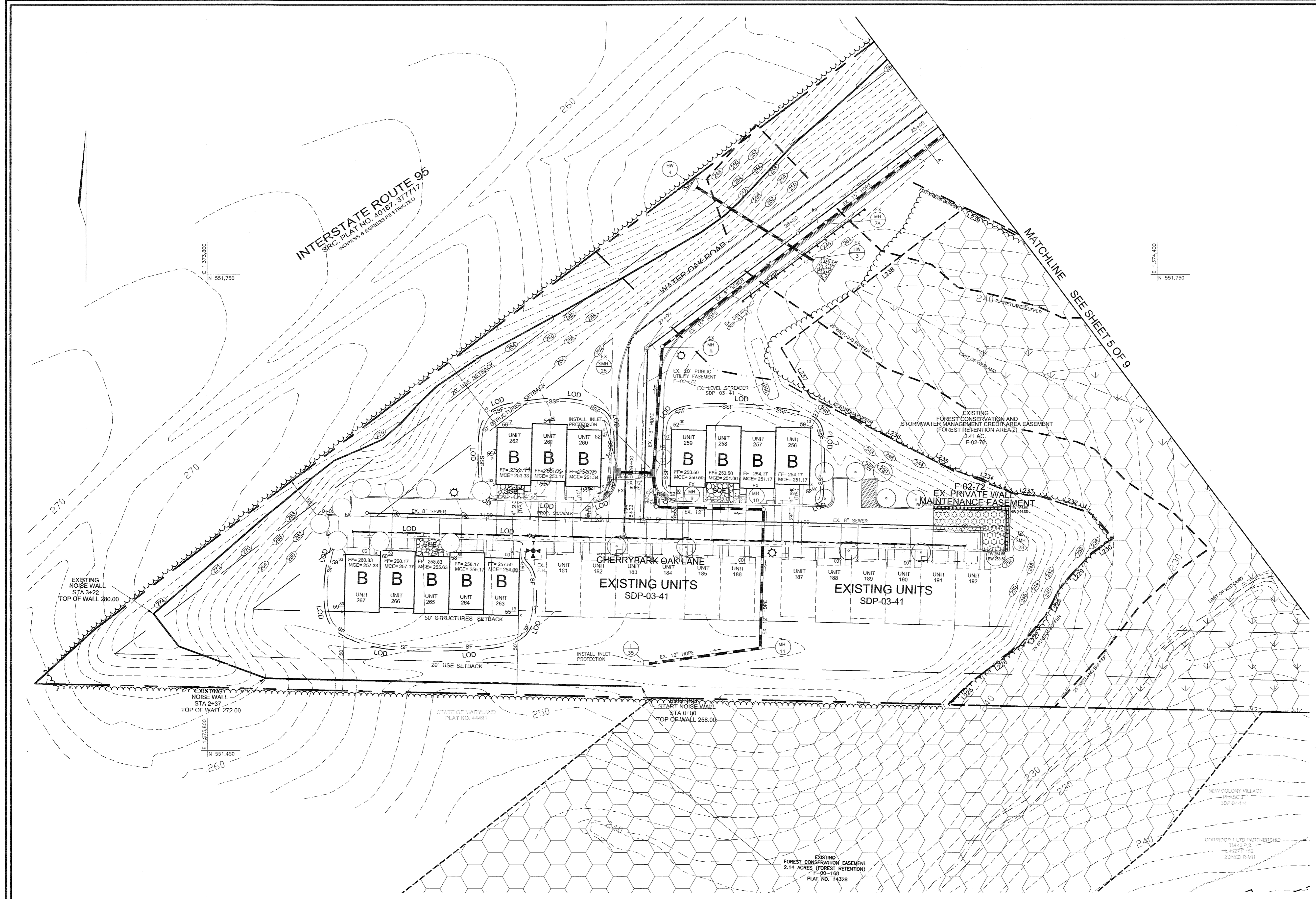
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 SIGNATURE OF DEVELOPER: JAMES M. MAYER  
 DATE: 8/13/04

THESE PLANS HAVE BEEN REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEET THE REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.  
 SIGNATURE OF REVIEWER: JAMES M. MAYER  
 DATE: 8/16/05





**KEY MAP**  
NOT TO SCALE



**LEGEND**

- - - - - EXISTING 2 FT CONTOURS
- - - - - EXISTING 10 FT CONTOURS
- - - - - PROPOSED 2 FT CONTOURS
- - - - - PROPOSED 10 FT CONTOURS
- - - - - 25 FT WETLAND BUFFER
- - - - - EXISTING STREAM BUFFER
- - - - - LIMITS OF EXISTING WETLANDS
- - - - - LIMIT OF DISTURBANCE
- - - - - SUPER SILT FENCE
- - - - - TREE PROTECTION FENCE
- - - - - MODIFIED CURB (R=3.01)
- [Pattern] EXISTING WETLANDS
- [Pattern] EXISTING 100 YEAR FLOODPLAIN
- [Pattern] FOREST CONSERVATION EASEMENT (REFORESTATION)
- [Pattern] FOREST CONSERVATION EASEMENT (RETENTION)
- [Pattern] EXISTING SEWER EASEMENT
- [Pattern] CONCRETE
- [Pattern] RECREATIONAL OPEN SPACE
- [Pattern] RETAINING WALL MAINTENANCE EASEMENT
- [Pattern] NO WOODY VEGETATION BUFFER
- [Pattern] POND ACCESS ROAD
- [Pattern] RIP RAP
- [Pattern] GABIONS

**PLAN**  
SCALE: 1"=30'

NO.	REVISION	DATE
1	REVISE FIRST FLOOR ELEVATION UNITS 200-201	6/27/00

**GRADING AND SEDIMENT EROSION CONTROL PLAN**  
**THE OAKS AT WATERS EDGE - PHASE II**  
 BUILDABLE PARCEL A-1  
 UNITS 193-207  
 REF: S-97-01, ZB-966-M, P-00-19, WP-97-89, F-75-05, F-00-126, F-02-72, SDP-03-41  
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DESIGN BY: JT  
 DRAWN BY: JT  
 CHECKED BY: RHV  
 DATE: AUG. 13, 2004  
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6 SHEET OF 9

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DIRECTOR

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ROBERT H. VOGEL  
 SIGNATURE OF ENGINEER  
 DATE: 8/13/04

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JIM MUYER  
 SIGNATURE OF DEVELOPER  
 DATE: 8/13/04

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USDA NATURAL RESOURCE CONSERVATION SERVICE  
 THESE PLANS FOR SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

JIM MUYER  
 SIGNATURE OF DEVELOPER  
 DATE: 8/13/04



**SOIL EROSION CONTROL**

**Definition**  
Controlling dust blowing and movement on construction sites and roads.

**Purpose**  
To prevent blowing and movement of dust from exposed soil surfaces, reduce on and off-site damage health hazards, and improve traffic safety.

**Conditions Where Practice Applies**  
This practice is applicable to areas subject to dust blowing and movement where on and off-site damage is likely without treatment.

**Specifications**

**Temporary Methods**

- Mulches - See standards for vegetative stabilization with mulches only. Mulch should be crimped or tacked to prevent blowing.
- Vegetative Cover - See standards for temporary vegetative cover.
- Tillage - To roughen 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 spaced about 12' apart, spring-toothed harrows, and similar plows are examples of equipment which may produce the desired effect.
- 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 intervals of about 10 times their height are effective in controlling soil blowing.
- Calcium Chloride - Apply at rates that will keep surface moist. May need retreatment.

**Permanent Methods**

- Permanent vegetation - See standards for permanent vegetative cover, and permanent stabilization with sod. Existing trees or large shrubs may afford valuable protection if left in place.
- Topsoiling - Covering with less erosive soil materials. See standards for Topsoiling.
- Stone - Cover surface with crushed stone or coarse gravel.

**References**

- Agricultural Handbook 346. Wind Erosion Forces in the United States and Their Use in Predicting Soil Loss.
- Agricultural Information Bulletin 354. How to Control Wind Erosion, USDA-ARS.

**PERMANENT SEEDING NOTES**

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

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

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

- Preferred - Apply 2 tons per acre dolomitic limestone (92 lbs./100 sq.ft.) and 600 lbs per acre 10-10-10 fertilizer (14 lbs./1000 sq.ft.) before seeding. Harrow or disc into upper three inches of soil. At the time of seeding, apply 400 lbs. per acre 30-0-0 ureaform fertilizer (9 lbs./1000 sq.ft.).
- Acceptable - Apply 2 tons per acre dolomitic limestone (92 lbs./1000 sq.ft.) and apply 1000 lbs. per acre 10-10-10 fertilizer (23 lbs./1000 sq.ft.) before seeding. Harrow or disc 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 (14 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 lbs. per acre (50 lbs./1000 sq.ft.) of wavytop lespedeza, during the period of October 16 thru February 28, protect site by Option (1) 2 tons per acre well anchored straw mulch and seed as soon as possible in the spring. Option (2) Use sod. Option (3) Seed with 60 lbs/acre Kentucky 31 Tall Fescue and mulch with 2 tons/acre well anchored straw.

**MULCHING:** Apply 1 1/2 to 2 tons per acre (70 to 90 lbs./1000 sq. ft.) of unrattled 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 seeded areas and make needed repairs, replacements and reseedings.

**TEMPORARY SEEDING NOTES**

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

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

**SEEDING:** For periods March 1 thru April 30, and from August 15 thru November 15, seed with 2 1/2 bushel per acre of annual ryegrass (3.2 lbs./1000 sq.ft.) for the period May 1 thru August 14, seed with 3 bushels per acre of creeping lovegrass (4.7 lbs./1000 sq.ft.). For the period November 1 thru February 28, protect site by applying 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.

**MULCHING:** Apply 1 1/2 to 2 tons per acre (70 to 90 lbs./1000 sq.ft.) of unrattled 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.

REFER TO THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.

**21.0 STANDARDS AND SPECIFICATIONS FOR TOPSOIL**

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

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

**Conditions Where Practice Applies**

- This practice is limited to areas having 2:1 or flatter slopes where:
  - The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
  - 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.
  - The original soil to be vegetated contains material toxic to plant growth.
  - 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 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 Experiment 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 a 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, silt, rocks, trash, or other materials larger than 1 and 1/2" in diameter.
  - Topsoil must be free of plants or plant parts such as Bermuda grass, quackgrass, Johnsongrass, nutgrass, poison ivy, thistle, or others as specified.
  - Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be applied at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.

- For sites having disturbed areas under 5 acres:
  - On soil meeting topsoil specifications, obtain test results indicating fertilizer and lime amendments required to bring the soil into compliance with the following:
    - 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.
    - Organic content of topsoil shall be not less than 1.5 percent by weight.
    - Topsoil having soluble salt content greater than 500 parts per million shall not be used.
    - No sod or seed shall be placed on soil soil which has been treated with soil sterilants or chemicals used for weed control until sufficient lime has elapsed (14 days min.) to permit dissipation of phytotoxic materials.
  - Place topsoil (if required) and apply soil amendments specified in 20.0 Vegetative Stabilization-Section 1-Vegetative Stabilization Methods and Materials.
- Topsoil Application
  - When topsoiling, maintain needed erosion and sediment control practices such as diversions, Grass 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 be maintained, albeit 4" - 6" higher in elevation.
  - Topsoil shall be uniformly distributed in a 4" - 8" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.
  - 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 seeded preparation.

**SEDIMENT CONTROL NOTES**

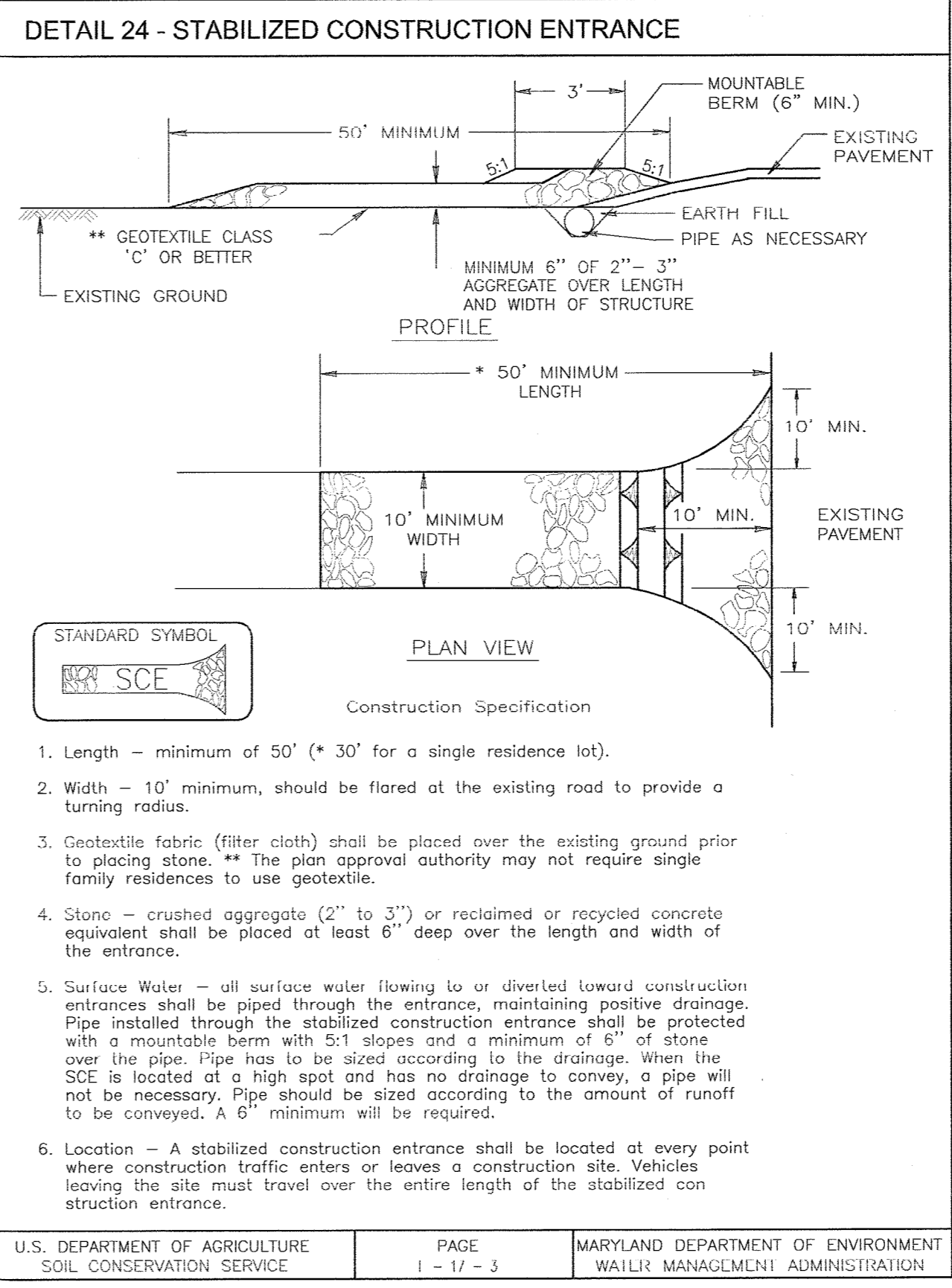
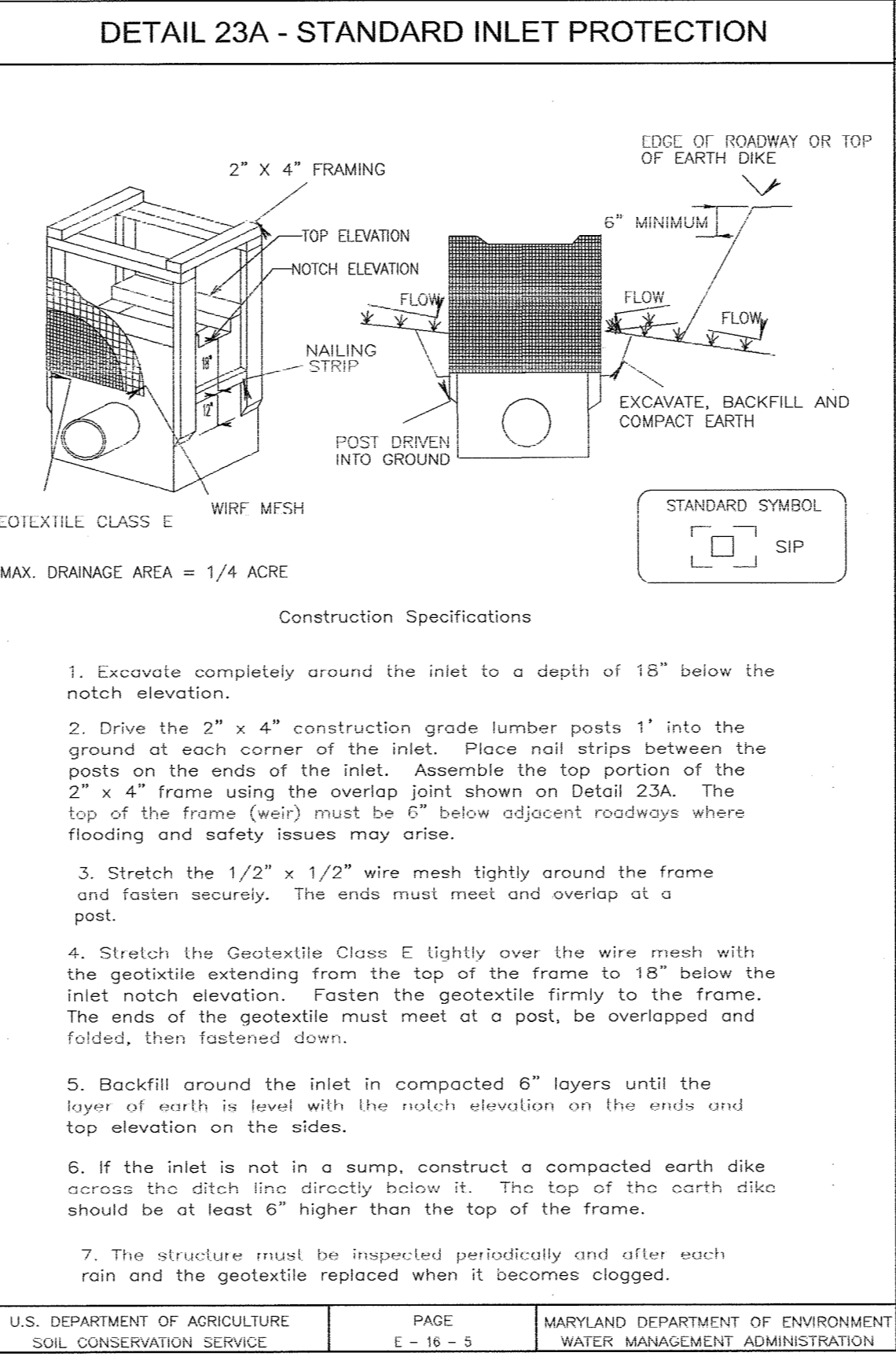
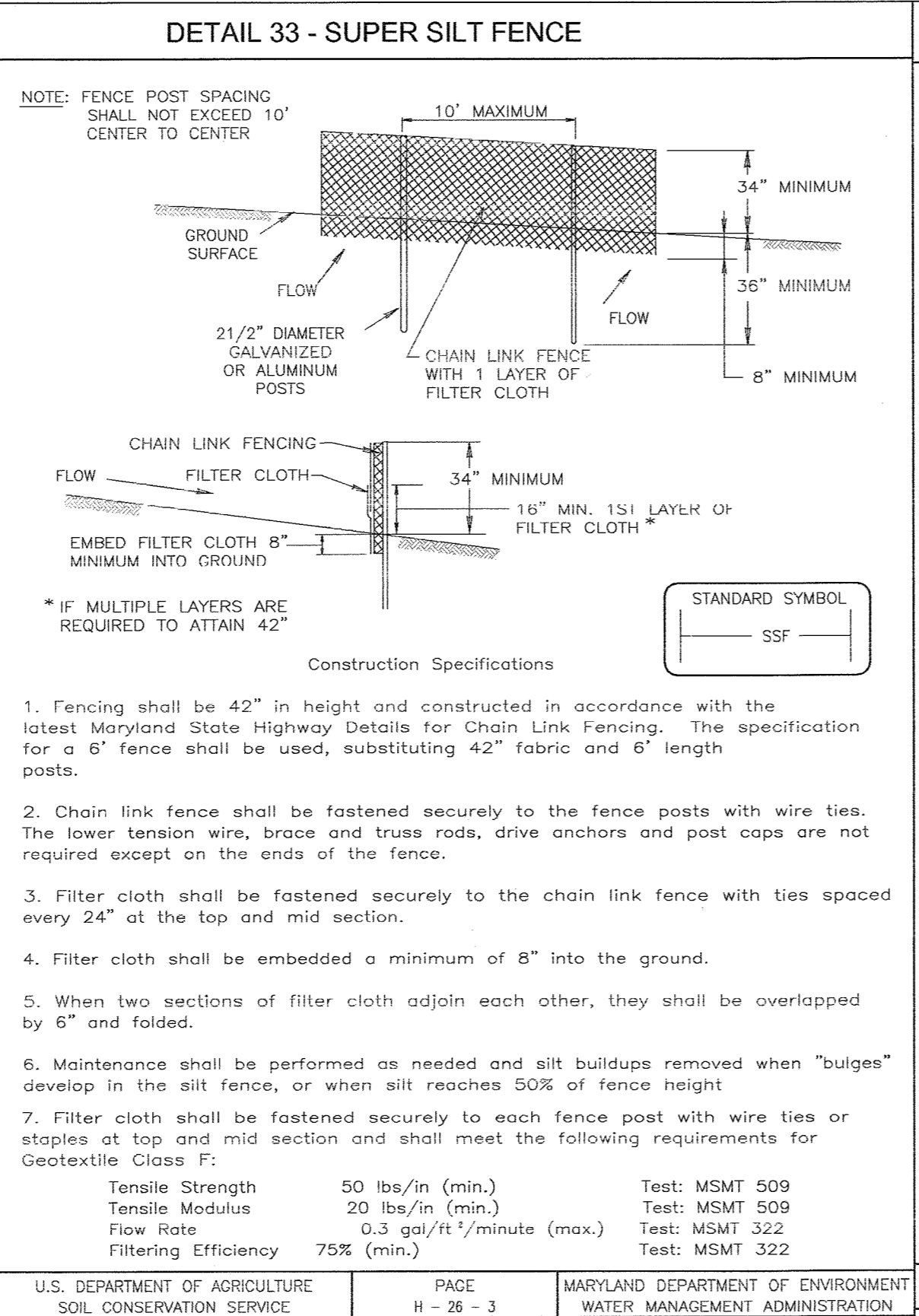
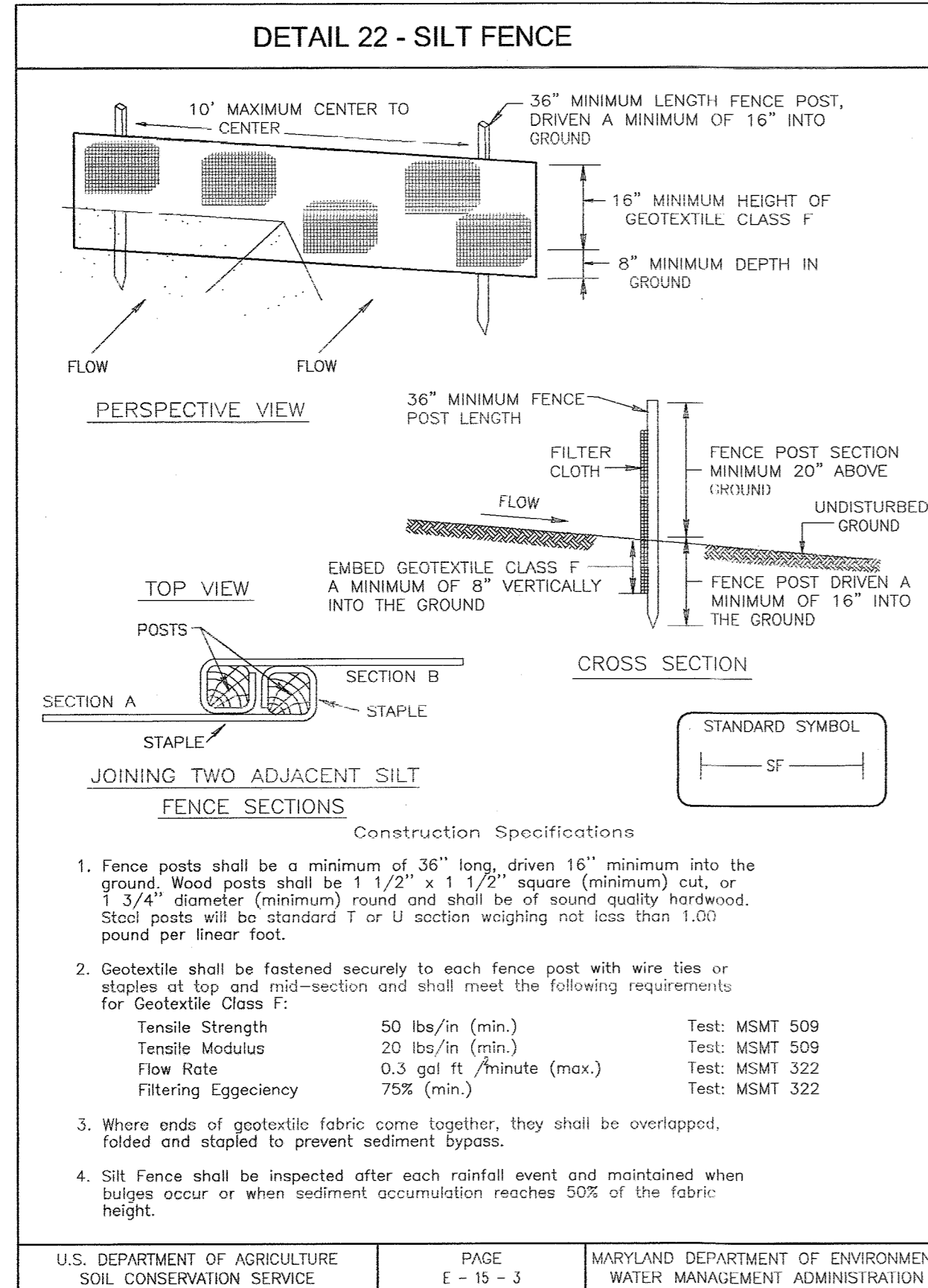
- A minimum of 48 hours notice must be given to the Howard County Department of Inspection, License and Permits Sediment Control Division prior to the start of any construction (313-1855).
  - All vegetation and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and revisions thereto.
  - Following initial soil disturbance or redistribution, 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.
  - All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chapter 7, HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
  - All disturbed areas must be stabilized within the time period specified above in accordance with the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seeding, sod, temporary seeding, and mulching (Sec. G). Temporary stabilization with mulch alone shall be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
  - All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.
  - Site Analysis:
 

Total Area	33.97 AC
Area Disturbed	2.43 AC
Area to be roofed or paved	1.65 AC
Area to be vegetatively stabilized	0.78 AC
Total Cut	300 CY
Total Fill	0 CY
Offsite waste/borrow area location	N/A
  - Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
  - Additional sediment controls must be provided, if deemed necessary by the Howard County Sediment Control Inspector.
  - On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made.
  - Trenches for the construction of utilities is limited to three pipe lengths or that which shall be back-filled and stabilized within one working day, whichever is shorter.
- \* To be determined by contractor, with pre-approval of the Sediment Control Inspector with an approved and active grading permit

**SEQUENCE OF CONSTRUCTION**

- Obtain grading permit.
- Notify Howard County Bureau of Inspections and Permits at (410)313-1880 at least 24 hours before starting any work.
- Install Stabilized Perimeter Silt Fence, Super Silt Fence and Inlet Protection.
- With permission of sediment control inspector, rough grade site. Use dust control methods as required. (2 months)
- Begin construction of buildings. (6 mo. - 1 year)
- As building construction continues fine grade site. (1 week)
- Complete building, paving, and sidewalk construction.
- Install Landscaping. (1 week)
- With permission of the inspector flush storm drain system and stabilize all disturbed areas. (1 week)

**NOTES:**  
During grading and after each rainfall, contractor will inspect and provide necessary maintenance to the Sediment Control measures on this plan.  
Following initial soil disturbances or redistribution permanent or temporary stabilization shall be completed within:  
A. 7 calendar days for all perimeter Sediment Control Structures, Dikes,  
B. 14 calendar days for all other disturbed areas.



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION: *[Signature]* 3/16/05

CHIEF, DIVISION OF LAND DEVELOPMENT: *[Signature]* 3/17/05

DIRECTOR: *[Signature]* 3/16/05

ENGINEERS CERTIFICATE

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

*[Signature]* 3/16/05

SIGNATURE OF ENGINEER: ROBERT H. VOGEL

DEVELOPER'S CERTIFICATE

I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE IN ACCORDANCE TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT.

*[Signature]* 3/16/05

SIGNATURE OF DEVELOPER

THESE PLANS HAVE BEEN REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEET THE REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

*[Signature]* 3/16/05

USDA NATURAL RESOURCES CONSERVATION SERVICE

DATE: 3/16/05

**SEDIMENT AND EROSION CONTROL DETAILS**

**THE OAKS AT WATERS EDGE - PHASE II**

BUILDABLE PARCEL A-1  
UNITS 193-207

REF: S-97-01, ZB-966-M, P-00-19, WP-97-89, F-75-05, F-00-126, F-02-72, SDP-03-41

TAX MAP 43 BLOCK 3 PARCELS 279, 647, AND PART OF 5  
1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND









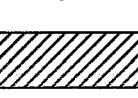

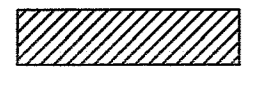
**ROBERT H. VOGEL ENGINEERING, INC.**  
ENGINEERS • SURVEYORS • PLANNERS  
2407 MAIN STREET ELICOTT CITY, MD 21043 TEL: 410.461.2666 FAX: 410.461.8961

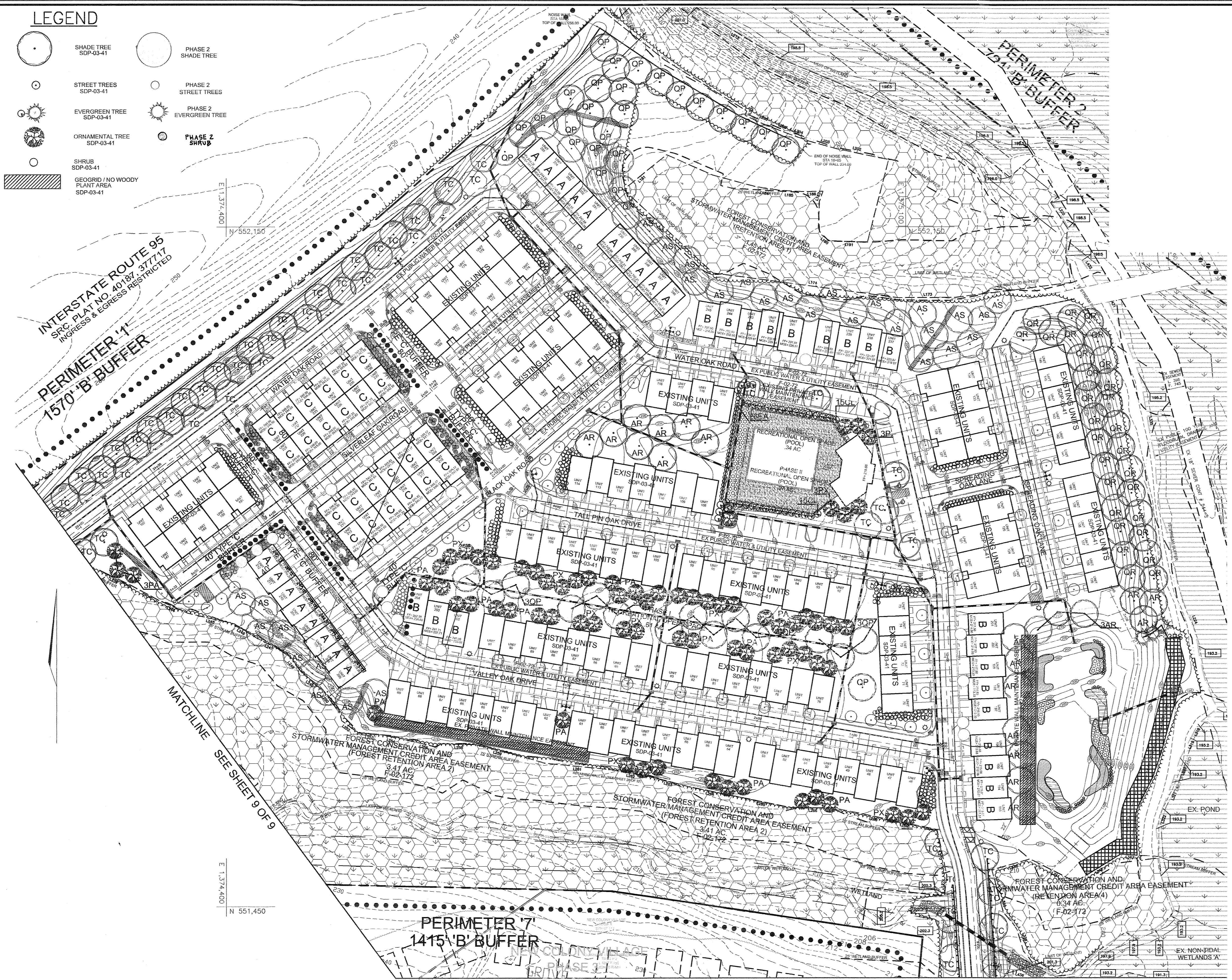
DESIGN BY: JT  
DRAWN BY: JT  
CHECKED BY: RHV  
DATE: AUG 13, 2004  
SCALE: AS NOTED  
W.O. NO.: 03-82

7 SHEET OF 9



**LEGEND**

-  SHADE TREE SDP-03-41
-  PHASE 2 SHADE TREE
-  STREET TREES SDP-03-41
-  PHASE 2 STREET TREES
-  EVERGREEN TREE SDP-03-41
-  PHASE 2 EVERGREEN TREE
-  ORNAMENTAL TREE SDP-03-41
-  PHASE 2 ORNAMENTAL TREE
-  SHRUB SDP-03-41
-  PHASE 2 SHRUB
-  GEOGRID / NO WOODY PLANT AREA SDP-03-41



LANDSCAPE SCHEDULE THIS SHEET				
KEY	QUAN.	BOTANICAL NAME	SIZE	REM.
AR	8	Acer rubrum 'Red Sunset' Red Sunset Maple	2 1/2"-3" Cal.	B & B
AS	30	Acer saccharum 'Goldspire' Columnar Sugar Maple	2 1/2"-3" Cal.	B & B
CL	2	Cupressocyparis leylandii Leyland Cypress	6'-8' Ht	B & B
EA	300	Euonymus alata 'Compacta' Compact Winged Euonymus	30"-36" Ht.	B & B or Cont.
QP	10	Quercus palustris 'Green Pillar' Columnar Pin Oak	2 1/2"-3" Cal.	B & B
TC	2	Tilia cordata Littleleaf Linden	2 1/2"-3" Cal.	B & B
ARR	38	Acer rubrum 'Armstrong' Columnar Red Maple	2 1/2"-3" Cal.	B & B

1. ALL PLANT MATERIALS SHALL BE FULL AND HEAVY, BE WELL FORMED AND SYMMETRICAL, CONFORM TO THE MOST CURRENT AAN SPECIFICATIONS AND BE INSTALLED IN ACCORDANCE WITH LCAMW PLANTING SPECIFICATIONS.
2. CONTRACTOR SHALL VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO DIGGING.
3. FINAL LOCATION OF PLANT MATERIAL MAY NEED TO VARY TO MEET FINAL FIELD CONDITIONS. TREES SHALL NOT BE PLANTED IN THE BOTTOM OF DRAINAGE SWALES.
4. CONTRACTOR SHALL VERIFY PLANT QUANTITIES PRIOR TO BIDDING. IF PLAN DIFFERS FROM LANDSCAPE SCHEDULE, THE PLAN SHALL GOVERN.

NO.	1	REVISE FIRST FLOOR ELEVATION UNITS 205-212	7.28.00
		REVISION	DATE

**LANDSCAPE PLAN**  
**THE OAKS AT WATERS EDGE - PHASE II**  
BUILDABLE PARCEL A-1  
UNITS 193-267

REF: S-97-01, ZB-966-M, P-00-19, WP-97-89, F-75-05, F-00-126, F-02-72, SDP-03-41

TAX MAP 43 BLOCK 3 PARCELS 279, 647, AND PART OF 5  
1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

**ROBERT H. VOGEL**  
**ENGINEERING, INC.**  
ENGINEERS • SURVEYORS • PLANNERS  
8407 MAIN STREET TEL: 410.461.7666  
ELICOTT CITY, MD 21043 FAX: 410.461.2951

DESIGN BY: JT  
DRAWN BY: JT  
CHECKED BY: RHV  
DATE: AUG. 13, 2004  
SCALE: 1"=50'  
W.O. NO.: 03-82

8 SHEET OF 9

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 3/16/05  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

*[Signature]* 3/17/05  
CHIEF, DIVISION OF LAND DEVELOPMENT

*[Signature]* 3/18/05  
DIRECTOR

LANDSCAPE CERTIFICATE

I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION, A CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE(1) YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

*[Signature]* 8/13/04  
DEVELOPER'S NAME DATE

PLAN  
SCALE: 1"=50'

LIMIT OF PHASE II SEE SDP-03-41



LANDSCAPE SCHEDULE THIS SHEET				
KEY	QUAN.	BOTANICAL NAME	SIZE	REM.
ARR	13	Acer rubrum 'Armstrong' Columnar Red Maple	2 1/2"-3" Cal.	B & B
AR	5	Acer rubrum 'Red Sunset' Red Sunset Maple	2 1/2"-3" Cal.	B & B
AS	8	Acer saccharum 'Goldspire' Columnar Sugar Maple	2 1/2"-3" Cal.	B & B
EA	80	Euonymus alata 'Compacta' Compact Winged Euonymus	30"- 36" Ht.	B & B or Cont.
QR	10	Quercus palustris 'Green Pillar' Columnar Pin Oak	2 1/2"-3" Cal.	B & B
QP	1	Quercus robur fastigiata Columnar English Oak	2 1/2"-3" Cal.	B & B
TC	1	Tilia cordata Littletree Linden	2 1/2"-3" Cal.	B & B

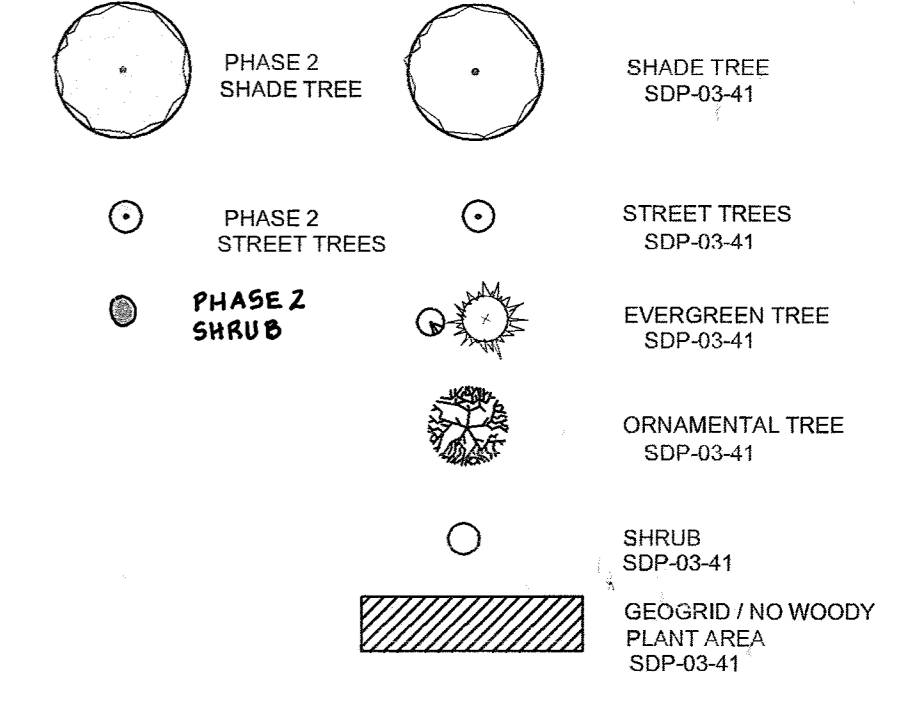
- ALL PLANT MATERIALS SHALL BE FULL AND HEAVY, BE WELL FORMED AND SYMMETRICAL, CONFORM TO THE MOST CURRENT AAN SPECIFICATIONS AND BE INSTALLED IN ACCORDANCE WITH LCAMM PLANTING SPECIFICATIONS.
- CONTRACTOR SHALL VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO DIGGING.
- FINAL LOCATION OF PLANT MATERIAL MAY NEED TO VARY TO MEET FINAL FIELD CONDITIONS. TREES SHALL NOT BE PLANTED IN THE BOTTOM OF DRAINAGE SWALES.
- CONTRACTOR SHALL VERIFY PLANT QUANTITIES PRIOR TO BIDDING. IF PLAN DIFFERS FROM LANDSCAPE SCHEDULE, THE PLAN SHALL GOVERN.

**GENERAL NOTES**

- Financial surety for the required landscaping must be posted as part of the Grading Permit in the amount of \$34,200.00 for the required 75 shade trees, 2 evergreens, and 380 shrubs.
- No trees shall be planted within 15 feet of the top of the geogrid reinforced retaining walls.

SCHEDULE A PERIMETER LANDSCAPE EDGE	
CATEGORY	ADJ. ROAD
PERIMETER/FRONTAGE DESIGNATION	1
LANDSCAPE TYPE	B
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	1570'
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET DESCRIBE BELOW IF NEEDED)	YES 170'
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET DESCRIBE BELOW IF NEEDED)	YES 1400'
NUMBER OF PLANTS REQUIRED	
SHADE TREES	150 0
EVERGREEN TREES	140 0
SHRUBS	0 0
NUMBER OF PLANTS PROVIDED	
SHADE TREES	NA
EVERGREEN TREES	NA
OTHER TREES (2:1 SUBSTITUTION)	NA
SHRUBS (10:1 SUBSTITUTION)	NA
DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED)	NA

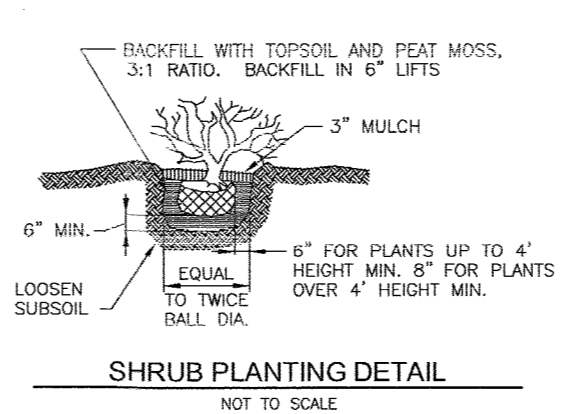
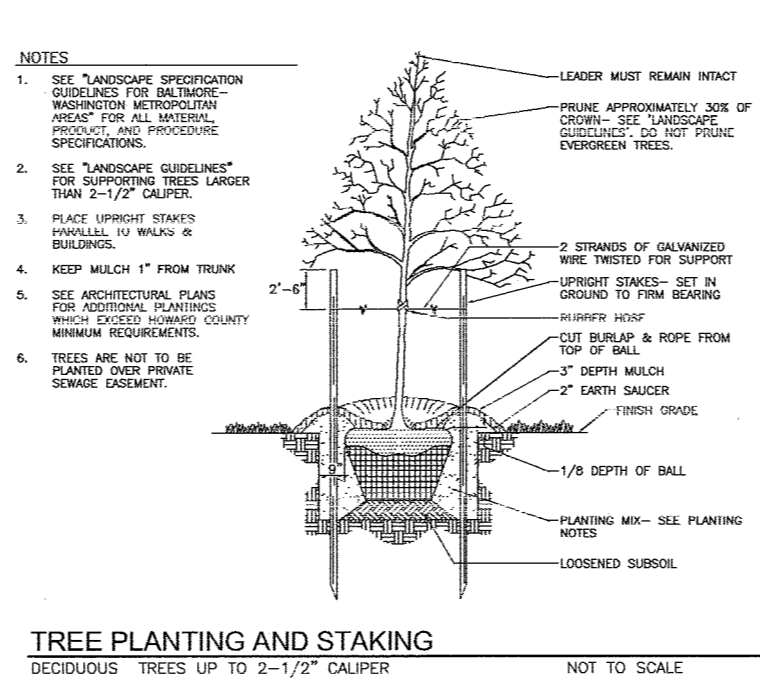
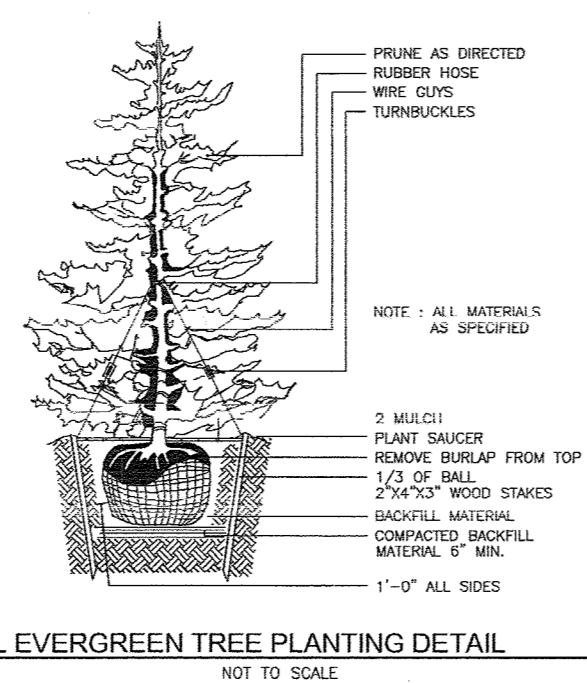
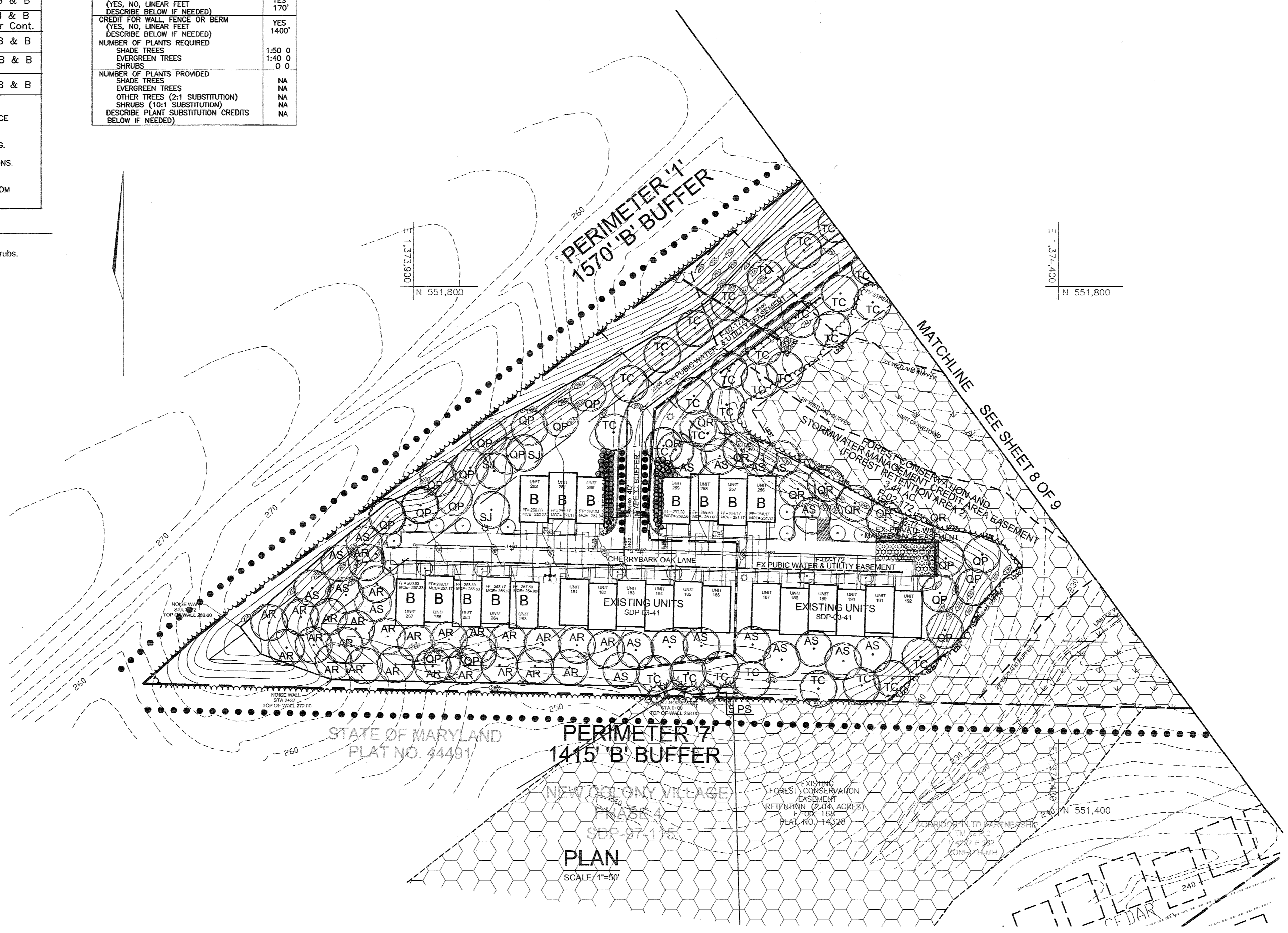
**LEGEND**



SCHEDULE C RESIDENTIAL DEVELOPMENT INTERNAL LANDSCAPING	
Phase	TOTAL
Number of Dwelling Units	75
Number of trees required (1:DU SFA: 1:3 DU APTS)	75
Number of trees provided	
Shade Trees	75
Other Trees (2:1 Substitution)	-
Shrubs (10:1 Substitution)	-

STREET TREES	
Number of street trees required	488
Number of street trees provided	490

TYPE 'C' BUFFER BETWEEN SIDE OF UNITS AND ADJACENT PRIVATE ROADS			
UNIT #	LINEAR FEET	REQUIRED PER ROAD	PROPOSED PER ROAD
204	40	1 TREE AND 2 EVERGREEN	40 SHRUBS
212	40	1 TREE AND 2 EVERGREEN	40 SHRUBS
213&219	80	2 TREES AND 4 EVERGREEN	60 SHRUBS
216&224	80	2 TREES AND 4 EVERGREEN	60 SHRUBS
225&231	80	2 TREES AND 4 EVERGREEN	60 SHRUBS
230&236	80	2 TREES AND 4 EVERGREEN	40 S & 2 E
259	40	1 TREE AND 2 EVERGREEN	40 SHRUBS
260	40	1 TREE AND 2 EVERGREEN	40 SHRUBS
<b>TOTAL</b>	<b>12</b>	<b>SIDE TO ROAD BUFFERS</b>	<b>OR 380 SHRUBS &amp; 2 EVERGREENS**</b>



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*Howard County Seal*  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE: 8/10/05

*David K. Smith*  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE: 8/17/05

*Frank D. Leavelle*  
 DIRECTOR  
 DATE: 8/18/05

LANDSCAPE CERTIFICATE

I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION, A CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE(1) YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

*Good Hope*  
 DEVELOPER'S NAME  
 DATE: 8/13/04

NO.	REVISION	DATE

LANDSCAPE PLAN  
 THE OAKS AT WATERS EDGE - PHASE II  
 BUILDABLE PARCEL A-1  
 UNITS 193-247  
 REF: S-97-01, ZB-966-M, P-00-19, WP-97-89, F-75-05, F-00-126, F-02-72, SDP-03-41  
 TAX MAP 43 BLOCK 3 PARCELS 279, 647, AND PART OF 5  
 1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

**ROBERT H. VOGEL ENGINEERING, INC.**  
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DESIGN BY: JT  
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9 SHEET OF 9