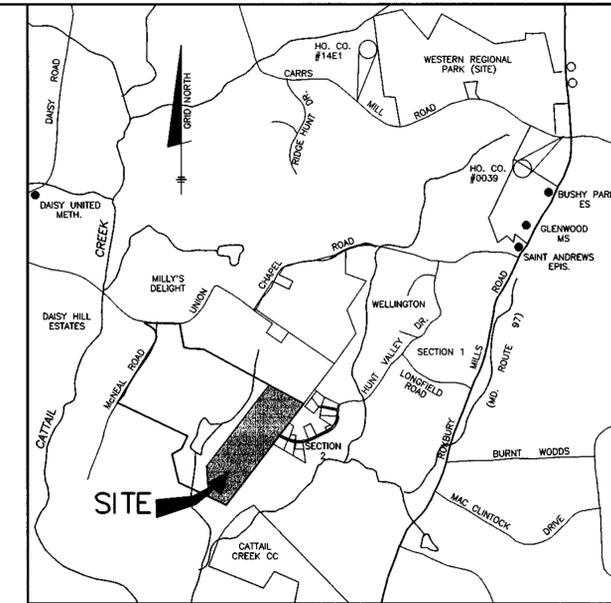


THE WOODS OF WELLINGTON

ROAD, STORMWATER MANAGEMENT AND STORM DRAIN CONSTRUCTION PLANS

GENERAL NOTES

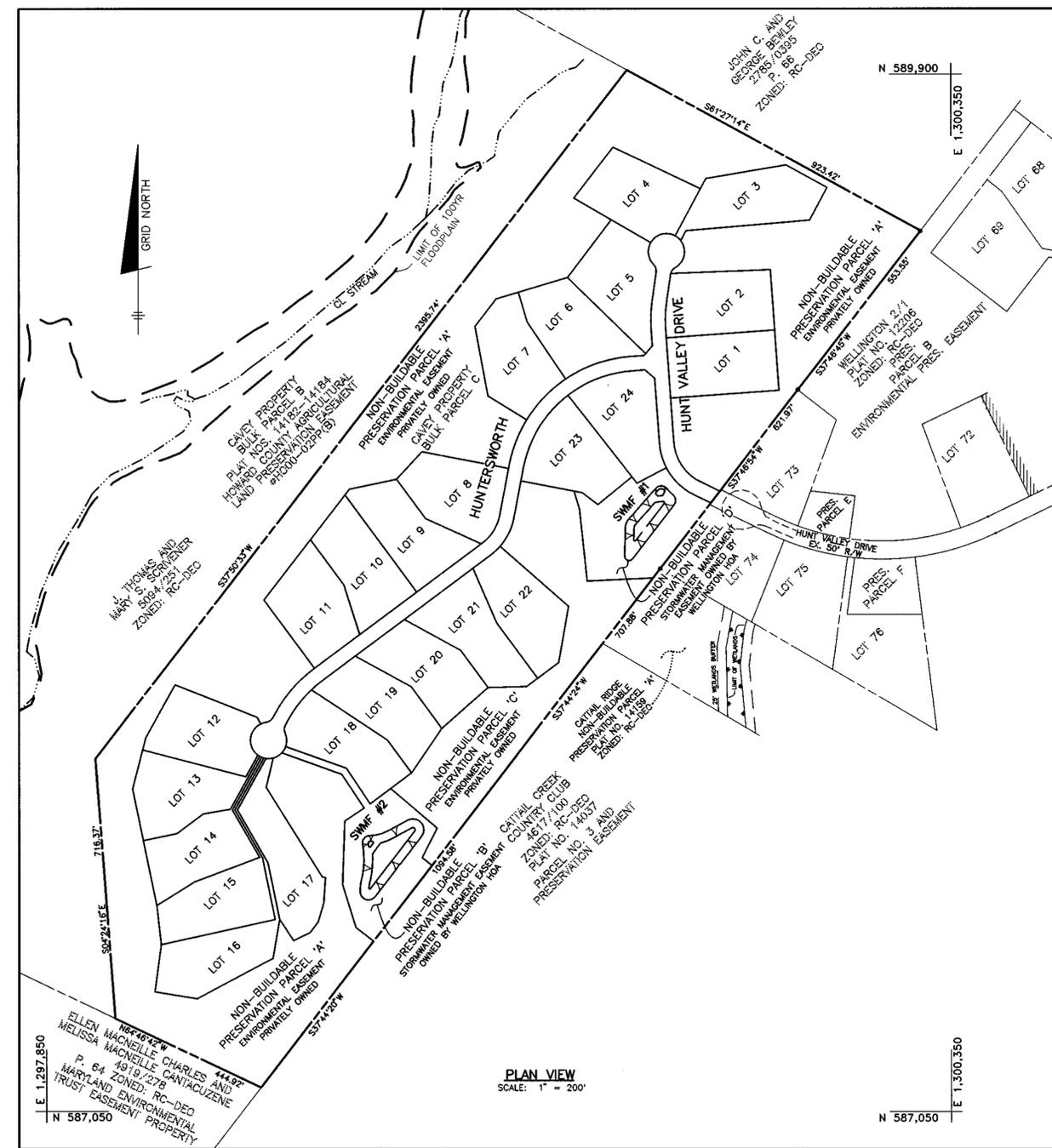
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARD AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE. ALL LINES SHOWN IN STANDARD SYMBOLS AS PRESENTED IN THE DESIGN MANUAL, VOLUME IV, "STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION."
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/CONSTRUCTION INSPECTION DIVISION AT 410-313-1880 AT LEAST FIVE (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.
- PROJECT BACKGROUND:
 - LOCATION: TAX MAP NO. 14 - GRID NO. 20 AND TAX MAP NO. 2 - GRID NO. 2 - P/O PARCEL 246
 - ZONING: RC-DEO
 - ELECTION DISTRICT: 4th
 - TOTAL TRACT AREA: 59.54 AC.
 - NUMBER OF PROPOSED LOTS: 24
 - NUMBER OF PROPOSED OPEN SPACE LOTS: 0
 - NUMBER OF PROPOSED PRESERVATION PARCELS: 4
 - TWO TO BE PRIVATELY OWNED AND TWO TO BE OWNED BY THE WELLINGTON HOA
 - DP2 REFERENCE FILE: F-00-88, S-00-04, P-01-04
 - SKETCH PLAN APPROVED ON MARCH 21, 2000.
 - PRELIMINARY PLAN APPROVED ON NOVEMBER 29, 2000.
- TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
- TOPOGRAPHY SHOWN HEREON WAS TAKEN FROM FIELD RUN SURVEY DONE BY BENCHMARK ENGINEERING, INC., DATED APRIL, 2000, AND SUPPLEMENTED WITH TOPOGRAPHIC FILE INFORMATION PURCHASED FROM HOWARD COUNTY GEOGRAPHICAL INFORMATION SERVICES. CONTOURS SHOWN ARE 2 FOOT INTERVALS.
- BOUNDARY SURVEY WAS PERFORMED BY BENCHMARK ENGINEERING, INC. DATED SEPTEMBER, 1999. COORDINATES ARE BASED ON NAD 83, MARYLAND STATE PLAN GRID AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS Nos. 1421 AND 0039. VERTICAL CONTROL IS NAD'27 BASED ON HOWARD COUNTY CONTROL STATION NO. 3432001.
- THE PROJECT IS NOT WITHIN THE METROPOLITAN DISTRICT. WATER AND SEWER FOR THIS PROJECT SHALL BE PRIVATE AND WILL BE PROVIDED ON THE INDIVIDUAL LOT.
- WATER QUALITY AND QUANTITY TREATMENT FOR THE PROPOSED ROADWAYS AND LOTS IS BEING PROVIDED BY EXTENDED DETENTION FACILITIES. THESE FACILITIES WILL BE OWNED AND MAINTAINED BY THE HOMEOWNERS ASSOCIATION.
- THERE IS NO FLOOD PLAIN LOCATED ON THIS SITE.
- THERE ARE NO WETLANDS LOCATED ON THIS SITE.
- ADEQUATE PUBLIC FACILITIES ORDINANCE TRAFFIC ANALYSIS WAS PREPARED BY THE LEE CLUNNINGHAM & ASSOCIATES, DATED NOVEMBER, 1999 AND APPROVED IN NOVEMBER, 1999 (S-00-04).
- MINIMUM BUILDABLE LOT SIZE SHALL BE 40,000 SQUARE FEET. MAXIMUM BUILDABLE LOT SIZE SHALL BE 50,000 SQUARE FEET.
- THE GEOTECHNICAL REPORT FOR THIS PROJECT WAS PREPARED BY HILLIS-CARNES AND ASSOCIATES, DATED JULY 14, 2000.
- EXISTING UTILITIES SHOWN ARE TAKEN FROM RECORD INFORMATION AND FIELD LOCATIONS. CONTRACTOR TO VERIFY LOCATION PRIOR TO STARTING CONSTRUCTION.
- FOREST STAND DELINEATION WAS PREPARED BY ECO-SCIENCE PROFESSIONALS, INC., DATED NOVEMBER, 1999 (S-00-04).
- NO DISTURBANCE SHALL OCCUR IN THE FOREST CONSERVATION EASEMENT AREAS EXCEPT AS APPROVED AS A PART OF THESE PLANS.
- EXISTING WELLS AND/OR SEWERAGE EASEMENTS WITHIN 100' OF THE PROPERTY HAVE BEEN SHOWN FROM THE BEST AVAILABLE INFORMATION.
- TO THE BEST OF THE OWNERS KNOWLEDGE, THERE ARE NO CEMETERY LOCATIONS ONSITE.
- DRIVEWAYS SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLING TO INSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:
 - WIDTH - 12' (14' SERVING MORE THAN ONE RESIDENCE);
 - SURFACE - 6" OF COMPACT CRUSHER RUN BASE WITH TAR AND CHIP COATING (1-1/2" MIN.);
 - GEOMETRY - MAX. 15% GRADE, MAX. 10% GRADE CHANGE AND MIN. 45' TURNING RADIUS;
 - STRUCTURES (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (M25 LOADING);
 - DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100-YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY SURFACE;
 - MAINTENANCE - SUFFICIENT TO INSURE ALL WEATHER USE.
- ALL ROAD FILLS SHALL BE COMPACTED TO 95% AS DETERMINED BY AASHTO T-180.
- PERIMETER AND SWM LANDSCAPE SURETY FOR 18 SHADE TREES AND 30 EVERGREEN TREES IN THE AMOUNT OF \$9,900.00 AND SURETY FOR 115 STREET TREES, SHALL BE PART OF THE D.P.W., DEVELOPERS AGREEMENT.
- THIS PLAN COMPLIES WITH THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION BY 24.1 ACRES OF RETENTION ON-SITE. FINANCIAL SURETY FOR THE REQUIRED OBLIGATION MUST BE POSTED AS PART OF THE DEVELOPERS AGREEMENT IN THE AMOUNT OF \$209,857.20.
- THE CONTRACTOR SHALL PROVIDE DRIVEWAY ACCESS TO EXISTING RESIDENCES ON LOTS 73 AND 74 IF CONSTRUCTION ACTIVITIES IMPACT THE USE. AFTER CONSTRUCTION IS COMPLETED DRIVEWAYS SHALL BE REPAIRED OR RECONSTRUCTED TO PROVIDE ACCESS ONTO HUNT VALLEY DRIVE IN ACCORDANCE WITH HOWARD COUNTY STANDARD R-6.06 AND THESE PLANS.
- STREET LIGHTS ARE NOT REQUIRED FOR THIS PROJECT AS IT IS IN THE RC ZONING DISTRICT.
- THIS AREA DESIGNATES A PRIVATE SEWERAGE EASEMENT OF AT LEAST 10,000 SQUARE FEET AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWERAGE DISPOSAL (COMAR 26.0403). IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWERAGE IS AVAILABLE. THESE EASEMENTS SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWERAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT VARIANCES FOR ENCROACHMENT INTO THE PRIVATE SEWERAGE EASEMENT. RECORDATION OF A MODIFIED SEWERAGE EASEMENT PLAT SHALL NOT BE REQUIRED. THE PERCOLATION CERTIFICATION PLAN FOR THIS PROJECT WAS APPROVED ON FEBRUARY 29, 2000.
- THERE ARE NO CONTIGUOUS AREAS OF STEEP SLOPES (25% OR GREATER) OF 20,000 S.F. OR GREATER ON THIS SITE. GRADING OF STEEP SLOPE AREAS LESS THAN 20,000 S.F. IS PERMITTED UNDER SECTION 16.11610(D) OF THE SUBDIVISION REGULATIONS.
- THERE IS AN EXISTING DWELLING LOCATED ON LOT 1 TO REMAIN. NO NEW BUILDINGS, EXTENSIONS OR ADDITIONS TO THE EXISTING DWELLING ARE TO BE CONSTRUCTED AT A DISTANCE LESS THAN THE ZONING REGULATIONS REQUIRE.
- ALL LINES SHOWN IN STANDARD SYMBOLS AS PRESENTED IN THE DESIGN MANUAL, VOLUME IV, "STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION."



VICINITY MAP
SCALE: 1" = 2000'

BENCH MARKS NAD'83	
HO. CO. #14E1	
STAMPED BRASS DISK SET ON TOP OF CONC. BASE, 33' WEST OF CL OF DRIVE TO 15050 CARRS MILL ROAD; 19.8' NORTH OF EDGE OF PAVING OF CARRS MILL ROAD.	
N 596213.6182'	E 1301991.8973'
ELEV. 590.862'	
HO. CO. #0039	
STAMPED BRASS DISK SET ON TOP OF CONC. BASE @ SOUTHWEST CORNER OF CARRS MILL ROAD AND ROUTE 97; 33.4' SOUTH OF CL OF CARRS MILL ROAD AND 40.3' WEST OF CL OF ROUTE 97.	
N 595722.8341'	E 1306481.8720'
ELEV. 590.862'	

SHEET INDEX	
SHEET NO.	DESCRIPTION
1	COVER SHEET
2-3	ROAD AND STORM DRAIN PLAN
4	SPEED CONTROL DETAILS
5-7	ROAD PROFILES
8	STORM DRAIN PROFILES AND SCHEDULES
9-10	GRADING AND SEDIMENT & EROSION CONTROL PLAN
11	SEDIMENT AND EROSION CONTROL NOTES AND DETAILS
12	STORM DRAIN DRAINAGE AREA MAP
13-14	STORMWATER MANAGEMENT NOTES AND DETAILS
15	STORMWATER MANAGEMENT NOTES AND BORING LOGS
16	LANDSCAPE PLAN, NOTES AND DETAILS
17	FOREST CONSERVATION PLAN, NOTES AND DETAILS



PLAN VIEW
SCALE: 1" = 200'

APPROVED: DEPARTMENT OF PUBLIC WORKS
Andrew M. Canale 10-25-01
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Cindy Hantz 10/26/01
 CHIEF, DIVISION OF LAND DEVELOPMENT

Mr. Demas 10/26/01
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

1	7/09/01	REVISED PER HO. CO. COMMENTS OF 6/21/01
NO.	DATE	REVISION

BENCHMARK
ENGINEERS • LAND SURVEYORS • PLANNERS

ENGINEERING, INC.

8480 BALTIMORE NATIONAL PIKE & SUITE 418
ELLICOTT CITY, MARYLAND 21043
PHONE: 410-465-6105 FAX: 410-465-6644
EMAIL: benchmark@cois.com



Donald Mear

OWNER/DEVELOPER: SDC GROUP, INC. P.O. BOX 417 ELLICOTT CITY, MD 21041 410-465-4244	PROJECT: THE WOODS OF WELLINGTON LOTS 1-24 AND NON-BUILDABLE PRES. PARCELS 'A' THRU 'D'
LOCATION: TAX MAP NO. 14, GRID NO. 20 TAX MAP NO. 2, GRID NO. 2 P/O PARCEL 246 4th ELECTION DISTRICT HOWARD COUNTY, MARYLAND	TITLE: COVER SHEET
DATE: MARCH, 2001 MAY, 2001	PROJECT NO. 1251
DESIGN: GWF DRAFT: JMC	SCALE: AS SHOWN DRAWING 1 OF 17

CAVEY PROPERTY
BULK PARCEL B
PLAT No. 14184
HOWARD COUNTY AGRICULTURAL
LAND PRESERVATION EASEMENT
#HCOO-02PP(B)
ZONED: RC-DEC

J. THOMAS AND
MARY S. SCRIVENER
5084/2251
ZONED: RC-DEC

FOREST CONSERVATION
EASEMENT 1
-RETENTION-
TOTAL AREA 15.53 ACRES±

CAVEY PROPERTY
BULK PARCEL C
PLAT No. 14184

NON-BUILDABLE
PRESERVATION PARCEL 'A'
PRIVATELY OWNED WITH
HOWARD COUNTY AND THE WELLINGTON
HOMEOWNERS ASSOCIATION AS EASEMENT HOLDERS
ENVIRONMENTAL EASEMENT

LOT 4
50,000 S.F.

LOT 7
50,000 S.F.

LOT 6
49,905 S.F.

LOT 5
50,000 S.F.

LOT 3
50,000 S.F.

LOT 23
49,270 S.F.

LOT 24
48,795 S.F.

LOT 2
50,000 S.F.

LOT 1
50,000 S.F.

NON-BUILDABLE
PRESERVATION PARCEL 'A'
PRIVATELY OWNED WITH
HOWARD COUNTY AND THE WELLINGTON
HOMEOWNERS ASSOCIATION AS EASEMENT HOLDERS
ENVIRONMENTAL EASEMENT

FOREST CONSERVATION
EASEMENT 2
-RETENTION-
4.61 ACRES±

NON-BUILDABLE
PRESERVATION PARCEL 'D'
OWNED BY THE WELLINGTON HOA
WITH HOWARD COUNTY AS EASEMENT HOLDER
STORMWATER MANAGEMENT EASEMENT

CURVE	RADIUS	LENGTH	DELTA	TANGENT	CHORD
C1	150.00'	157.24'	60°03'38"	86.71'	S34°08'01"E 150.14'
C2	350.00'	74.64'	121°3'08"	37.46'	S02°00'22"W 74.50'
C3	350.00'	458.77'	75°06'07"	269.06'	S48°20'44"W 426.63'

APPROVED: DEPARTMENT OF PUBLIC WORKS
Andrew M. Deane 10-25-01
CHIEF, BUREAU OF HIGHWAYS
DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Cindy Hunter 10/29/01
CHIEF, DIVISION OF LAND DEVELOPMENT
DATE

Mike Roman 10/29/01
CHIEF, DEVELOPMENT ENGINEERING DIVISION
DATE

1	7/17/01	REV PER HO. CO. COMMENTS OF 6/21/01
NO.	DATE	REVISION

BENCHMARK
ENGINEERS & LAND SURVEYORS & PLANNERS
ENGINEERING, INC.
8480 BALTIMORE NATIONAL PIKE & SUITE 418
ELLCOTT CITY, MARYLAND 21043
PHONE: 410-465-6105 FAX: 410-465-6644
EMAIL: benchmark@cois.com

Ronald Moon
10/3/01

OWNER/DEVELOPER:
SDC GROUP, INC.
P.O. BOX 417
ELLCOTT CITY, MD 21041
410-465-4244

PROJECT:
THE WOODS OF WELLINGTON
LOTS 1-24 AND NON-BUILDABLE PRES. PARCELS 'A' THRU 'D'

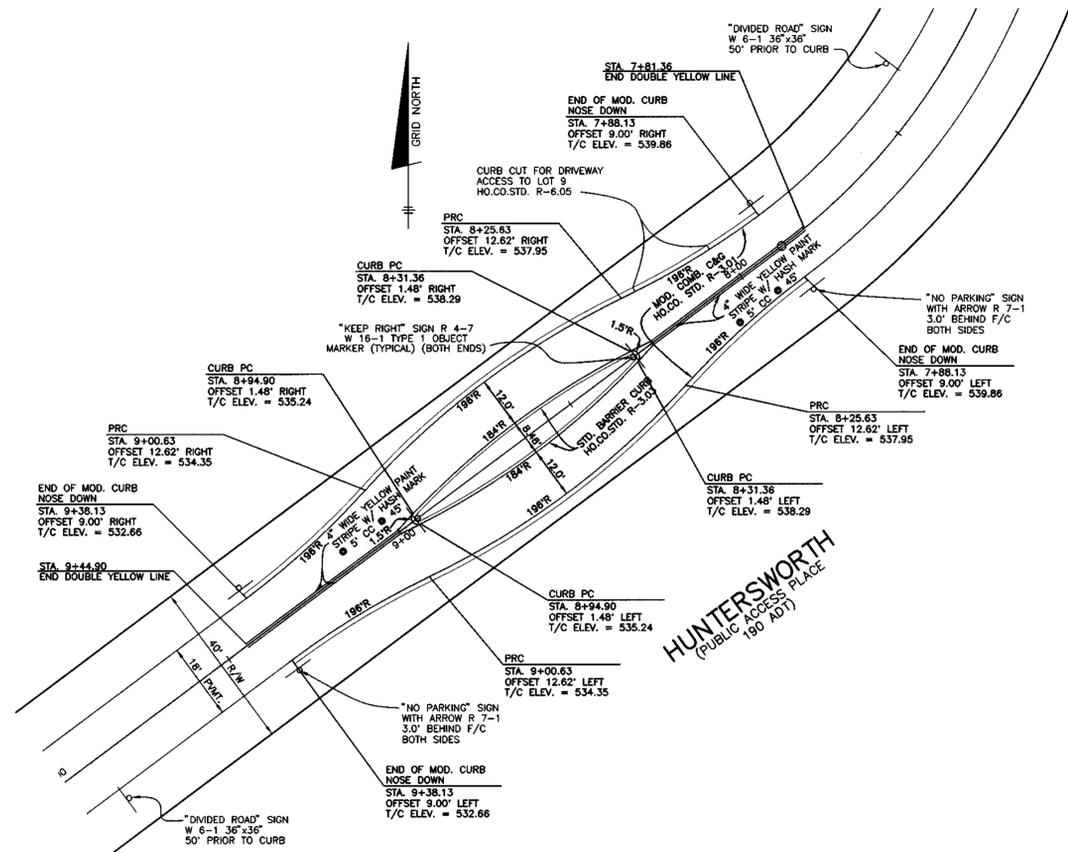
LOCATION: TAX MAP NO. 14, GRID NO. 20
TAX MAP NO. 21, GRID NO. 2
P/O PARCEL 246
4TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE:
ROAD AND STORM DRAIN PLAN

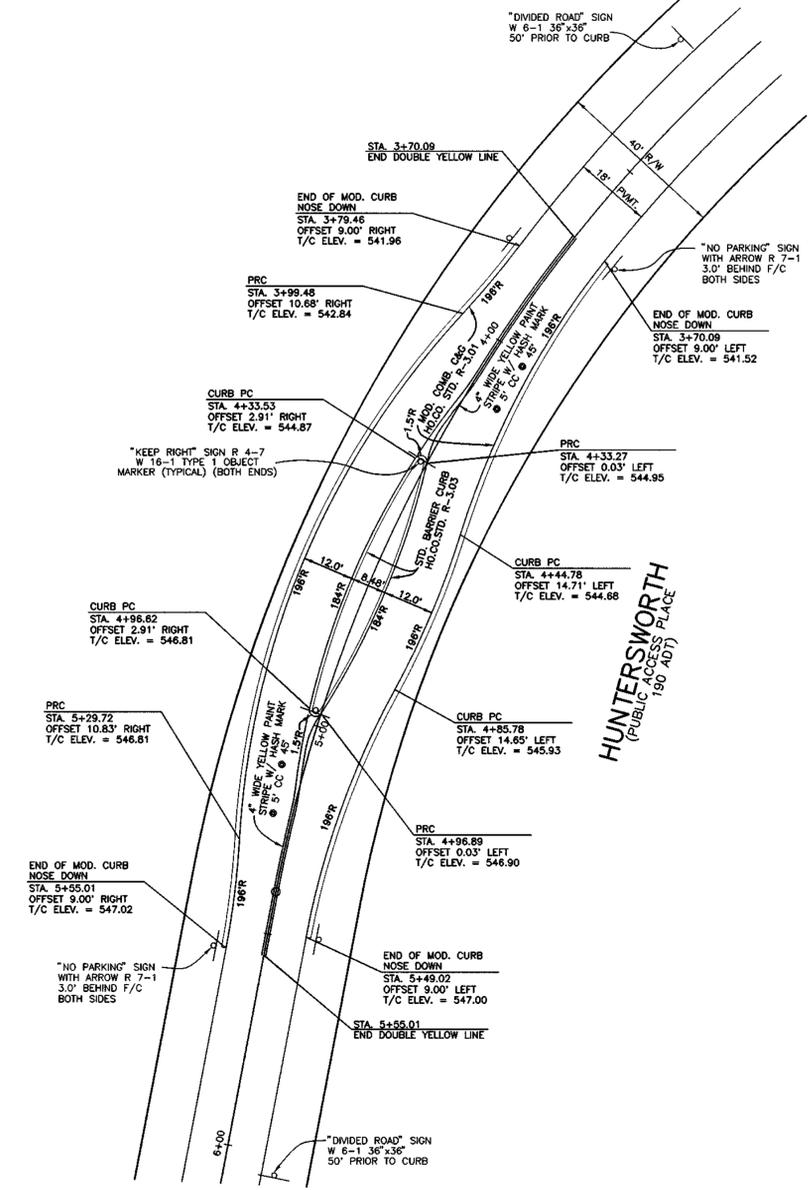
DATE: MARCH, 2001
MAY, 2001

PROJECT NO. 1251

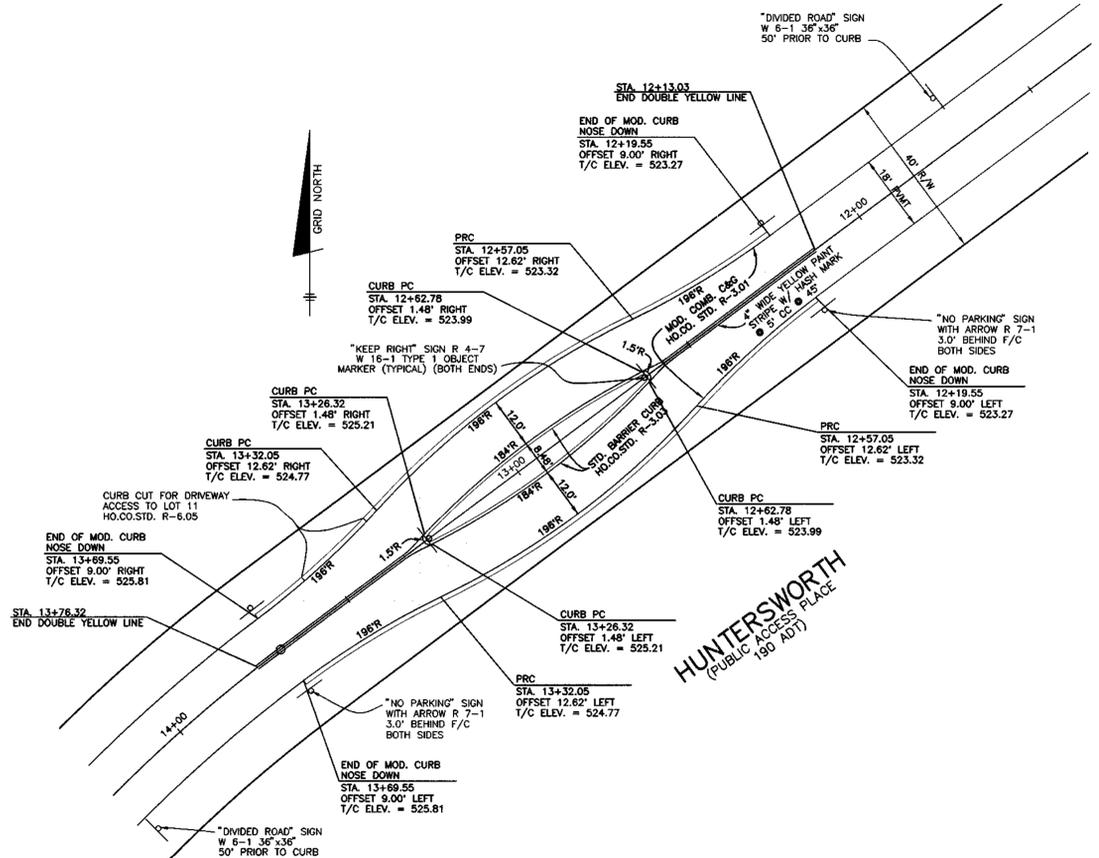
DESIGN: GWF DRAFT: JMC SCALE: 1" = 50' DRAWING 2 OF 17



SPEED CONTROL #3
SCALE: 1" = 20'



SPEED CONTROL #2
SCALE: 1" = 20'



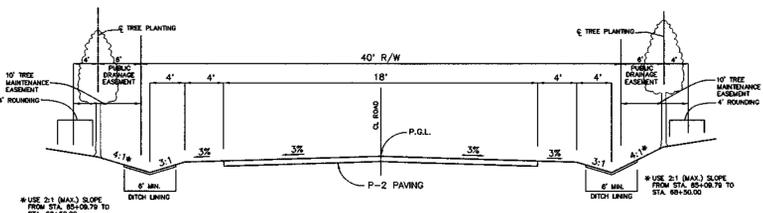
SPEED CONTROL #4
SCALE: 1" = 20'

APPROVED: DEPARTMENT OF PUBLIC WORKS
Richard M. Daniels 10-25-01
 CHIEF, BUREAU OF HIGHWAYS DATE

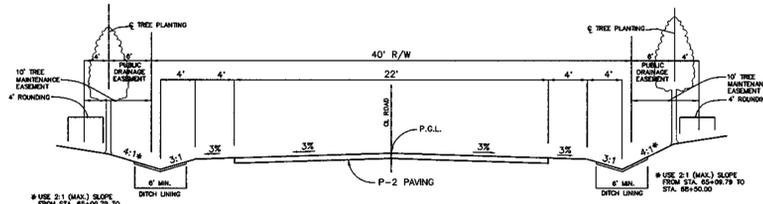
APPROVED: DEPARTMENT OF PLANNING AND ZONING
Cindy Hernandez 11/29/01
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

David D. ... 10/29/01
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

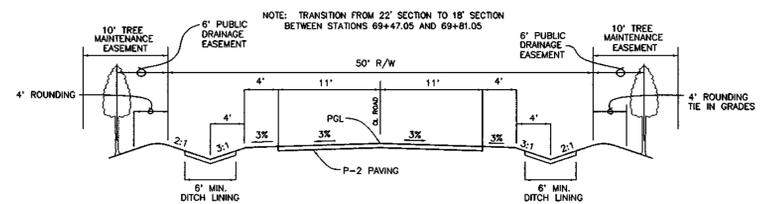
NO.	DATE	REVISION
BENCHMARK ENGINEERS & LAND SURVEYORS & PLANNERS ENGINEERING, INC. 8480 BALTIMORE NATIONAL PIKE & SUITE 418 ELLICOTT CITY, MARYLAND 21043 PHONE: 410-465-6105 FAX: 410-465-6644 EMAIL: benchmark@coia.com		
OWNER/DEVELOPER: SDC GROUP, INC. P.O. BOX 417 ELLICOTT CITY, MD 21041 410-465-4244		PROJECT: THE WOODS OF WELLINGTON LOTS 1-24 AND NON-BUILDABLE PRES. PARCELS 'A' THRU 'D' LOCATION: TAX MAP NO. 14, GRID NO. 20 TAX MAP NO. 21, GRID NO. 2 P/O PARCEL 246 4TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND TITLE: SPEED CONTROL DETAILS
DATE: MARCH, 2001	PROJECT NO. 1251	
DATE: MAY, 2001		
DESIGN: GWF	DRAFT: JMC	SCALE: AS SHOWN
		DRAWING 4 OF 17



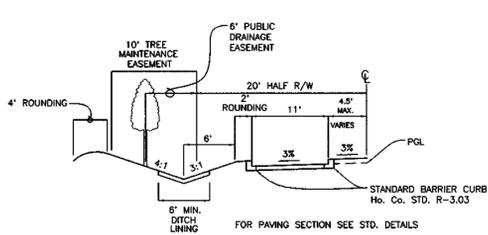
TYPICAL ROADWAY SECTION
HUNT VALLEY DRIVE HUNTERS WORTH
 (ACCESS PLACE - 200 ADT OR LESS) (ACCESS PLACE - 200 ADT OR LESS)
 DESIGN SPEED: 25 MPH DESIGN SPEED: 25 MPH
 STA. 69+81.05 TO STA. 71+90.25 (CUL-DE-SAC) STA. 0+00 TO STA. 15+34.54 (CUL-DE-SAC)
 NOT TO SCALE NOT TO SCALE
 NOTE: TRANSITION FROM 22' SECTION TO 18' SECTION BETWEEN STATIONS 69+47.05 AND 69+81.05



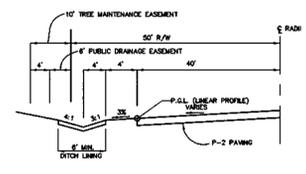
TYPICAL ROADWAY SECTION
HUNT VALLEY DRIVE
 (ACCESS STREET - 250 ADT OR LESS)
 DESIGN SPEED: 25 MPH
 STA. 65+09.79 TO STA. 69+47.05
 NOT TO SCALE



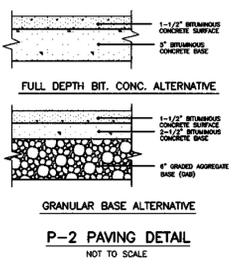
TYPICAL ROADWAY SECTION
HUNT VALLEY DRIVE
 DESIGN SPEED: 30 MPH (PER F-90-67)
 STA. 63+51.10 TO STA. 65+09.79
 NOT TO SCALE



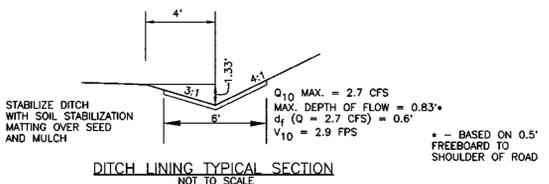
TYPICAL ROADWAY SECTION
18' PAVING W/ 9' ISLAND
 NOT TO SCALE



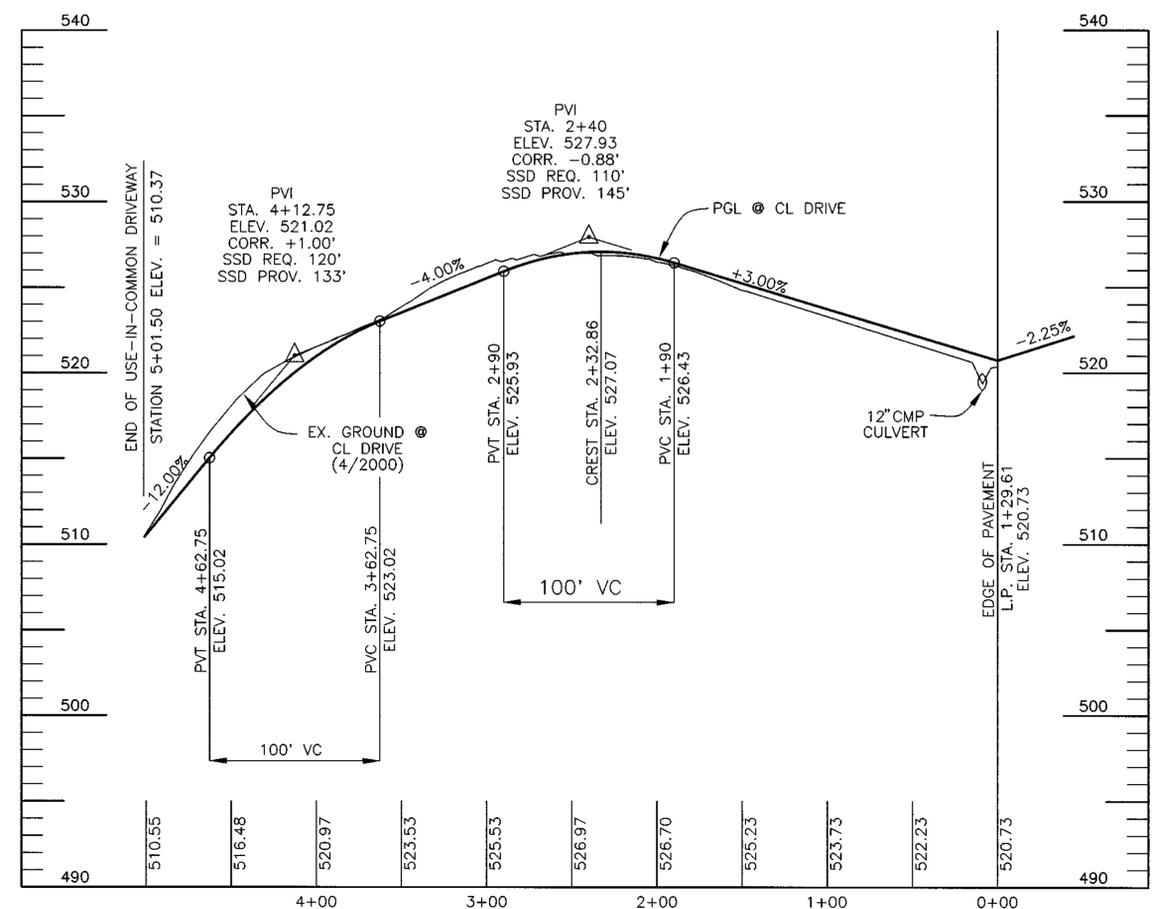
TYPICAL ROADWAY SECTION
AT CUL-DE-SAC
 LINEAR PROFILE
 NOT TO SCALE



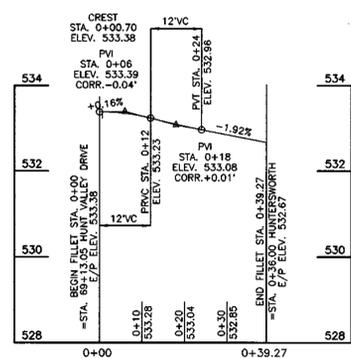
P-2 PAVING DETAIL
 NOT TO SCALE



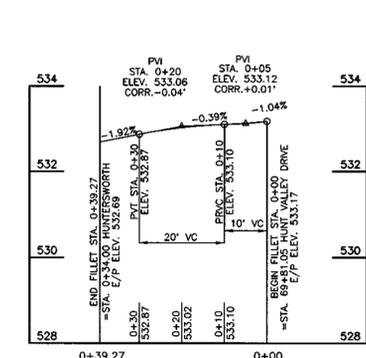
STABILIZE DITCH WITH SOIL STABILIZATION MATTING OVER SEED AND MULCH
 $Q_{10} \text{ MAX.} = 2.7 \text{ CFS}$
 $\text{MAX. DEPTH OF FLOW} = 0.83'$
 $d_f (Q = 2.7 \text{ CFS}) = 0.6'$
 $V_{10} = 2.9 \text{ FPS}$
 * - BASED ON 0.5' FREEBOARD TO SHOULDER OF ROAD
DITCH LINING TYPICAL SECTION
 NOT TO SCALE



DESIGN SPEED: 15 MPH
USE-IN-COMMON DRIVEWAY LOTS 13-16
 SCALE: 1"=50' HORIZ., 1"=5' VERT.



CURB RETURN PROFILE
SOUTH WESTERN QUADRANT
 HUNT VALLEY DR. AND HUNTERS WORTH
 SCALE: 1"=20' HORIZ., 1"=2' VERT.



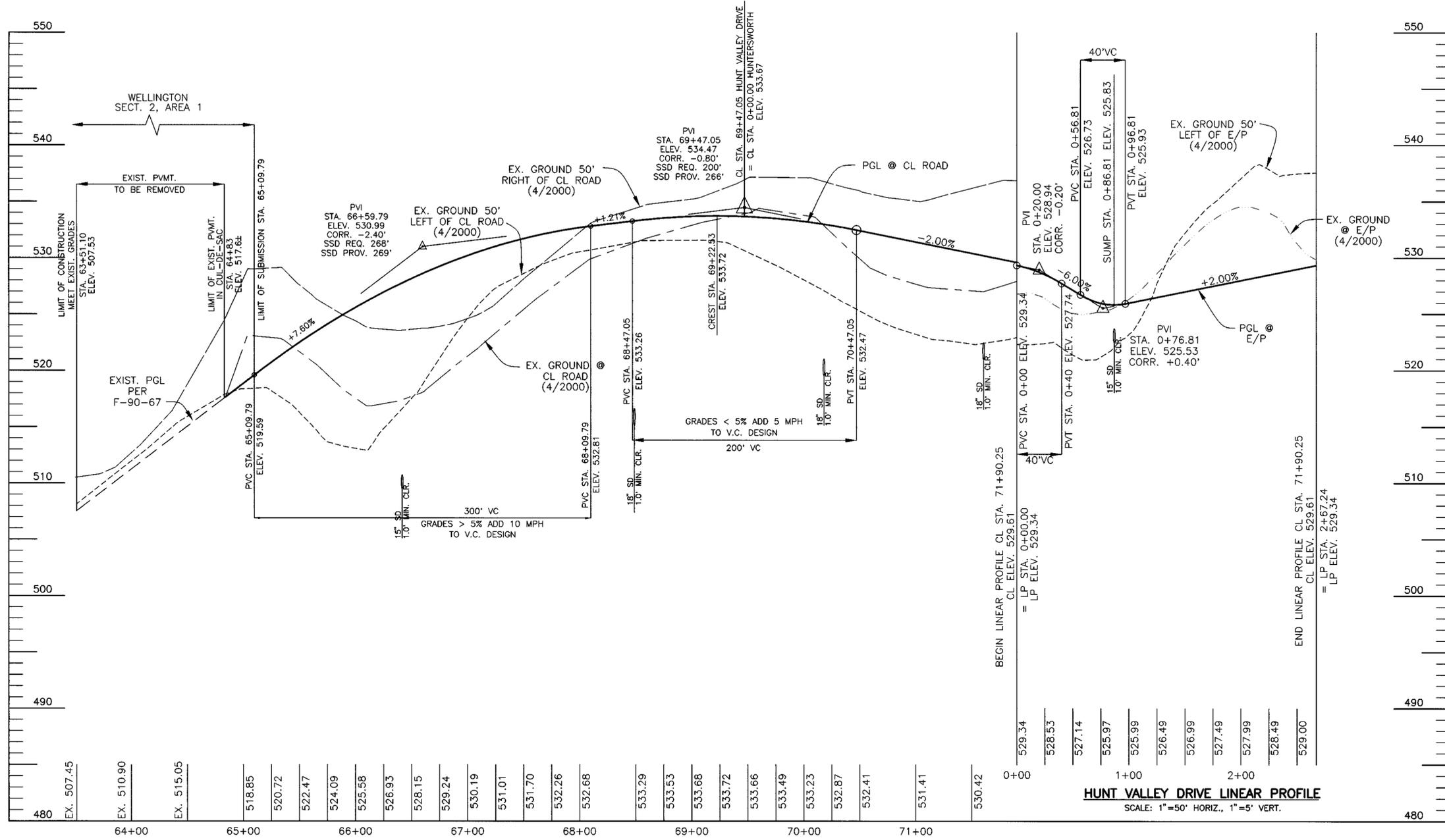
CURB RETURN PROFILE
NORTHWESTERN QUADRANT
 HUNT VALLEY DR. AND HUNTERS WORTH
 SCALE: 1"=20' HORIZ., 1"=2' VERT.

APPROVED: DEPARTMENT OF PUBLIC WORKS
Richard M. Danek 10-25-01
 CHIEF, BUREAU OF HIGHWAYS DATE
 APPROVED: DEPARTMENT OF PLANNING AND ZONING
Cindy Hamilton 10/25/01
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE
John D. Williams 10/25/01
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

NO.	DATE	REV PER HO. CO. COMMENTS OF
1	7/17/01	REV PER HO. CO. COMMENTS OF 6/21/01
REVISION		

BENCHMARK
 ENGINEERS • LAND SURVEYORS • PLANNERS
ENGINEERING, INC.
 8480 BALTIMORE NATIONAL PIKE • SUITE 418
 ELLICOTT CITY, MARYLAND 21043
 PHONE: 410-465-6105 • FAX: 410-465-6644
 EMAIL: benchmark@ccis.com

OWNER/DEVELOPER: SDC GROUP, INC. P.O. BOX 417 ELLICOTT CITY, MD 21041 410-465-4244	PROJECT: THE WOODS OF WELLINGTON LOTS 1-24 AND NON-BUILDABLE PRES. PARCELS 'A' THRU 'D'
LOCATION: TAX MAP NO. 14, GRID NO. 20 TAX MAP NO. 21, GRID NO. 2 P/O PARCEL 248 4TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND	TITLE: ROAD PROFILES AND DETAILS
DATE: MARCH, 2001 MAY, 2001	PROJECT NO. 1251
DESIGN: GWF	DRAFT: JMC
SCALE: AS SHOWN	DRAWING 5 OF 17



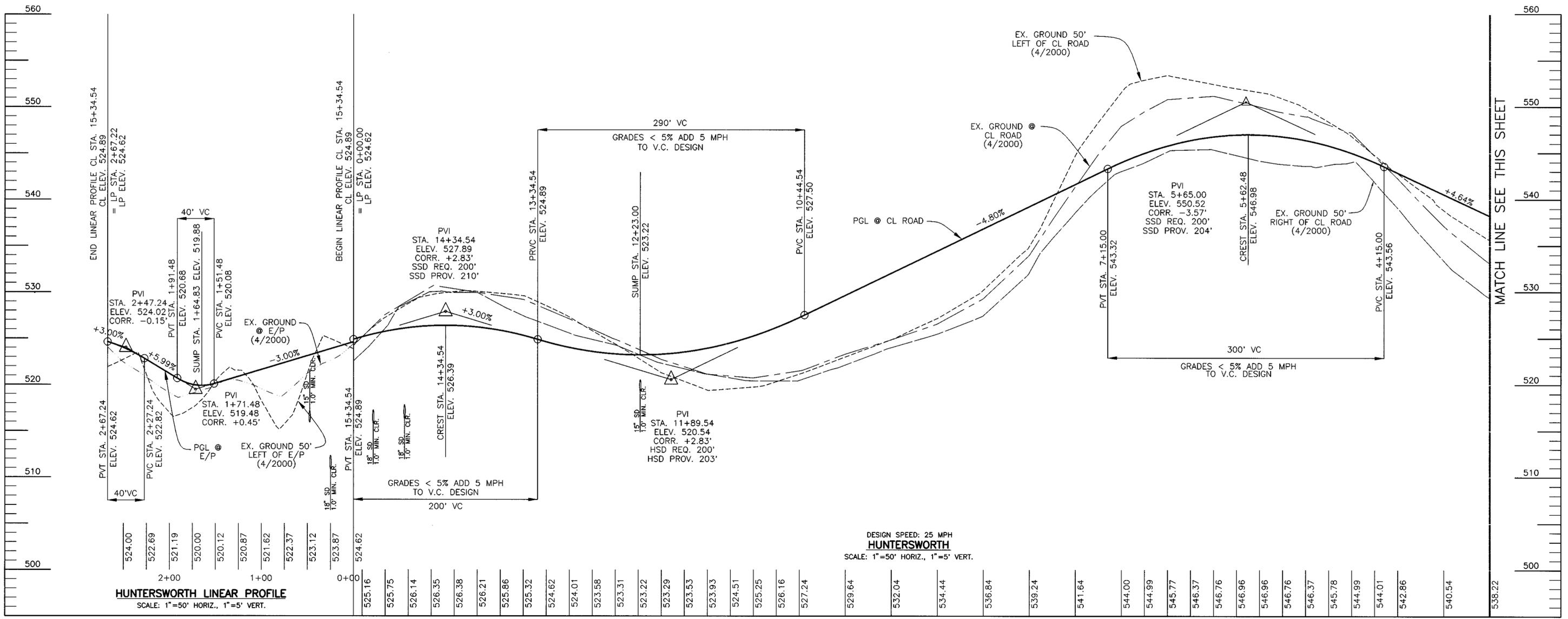
DESIGN SPEED: 25 MPH
HUNT VALLEY DRIVE
 SCALE: 1"=50' HORIZ., 1"=5' VERT.

APPROVED: DEPARTMENT OF PUBLIC WORKS
Andrew M. Pappalardo 10-25-01
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Andy Hamilton 10/29/01
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Chris Drummond 10/29/01
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

NO.	DATE	REVISION
BENCHMARK ENGINEERS & LAND SURVEYORS & PLANNERS ENGINEERING, INC. 8480 BALTIMORE NATIONAL PIKE & SUITE 418 ELLICOTT CITY, MARYLAND 21043 PHONE: 410-465-8105 FAX: 410-465-6644 EMAIL: benchmark@ccis.com		
OWNER/DEVELOPER: SDC GROUP, INC. P.O. BOX 417 ELLICOTT CITY, MD 21041 410-465-4244		PROJECT: THE WOODS OF WELLINGTON LOTS 1-24 AND NON-BUILDABLE PRES. PARCELS 'A' THRU 'D' LOCATION: TAX MAP NO. 14, GRID NO. 20 TAX MAP NO. 21, GRID NO. 2 P/O PARCEL 246 4th ELECTION DISTRICT HOWARD COUNTY, MARYLAND TITLE: ROAD PROFILES
DATE: MARCH, 2001	PROJECT NO. 1251	
DATE: MAY 2001	SCALE: AS SHOWN	DRAWING 6 OF 17
DESIGN: GWF	DRAFT: JMC	

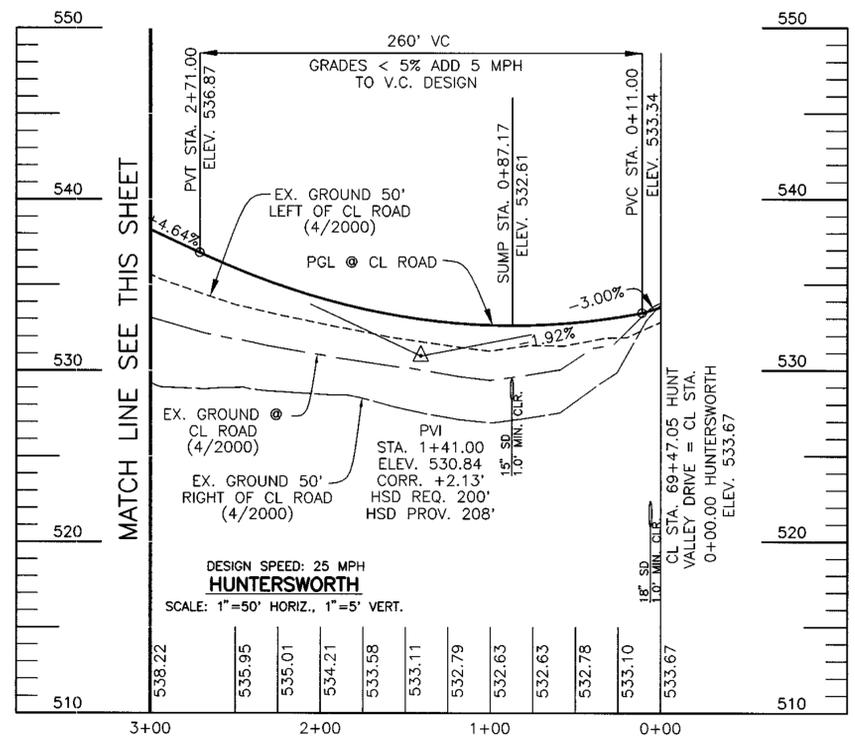


HUNTERSWORTH LINEAR PROFILE
SCALE: 1"=50' HORIZ., 1"=5' VERT.

DESIGN SPEED: 25 MPH
HUNTERSWORTH
SCALE: 1"=50' HORIZ., 1"=5' VERT.

APPROVED: DEPARTMENT OF PUBLIC WORKS
Andrew M. G... 10-25-01
CHIEF, BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Chad... 10/25/01
CHIEF, DEVELOPMENT ENGINEERING DIVISION



MATCH LINE SEE THIS SHEET

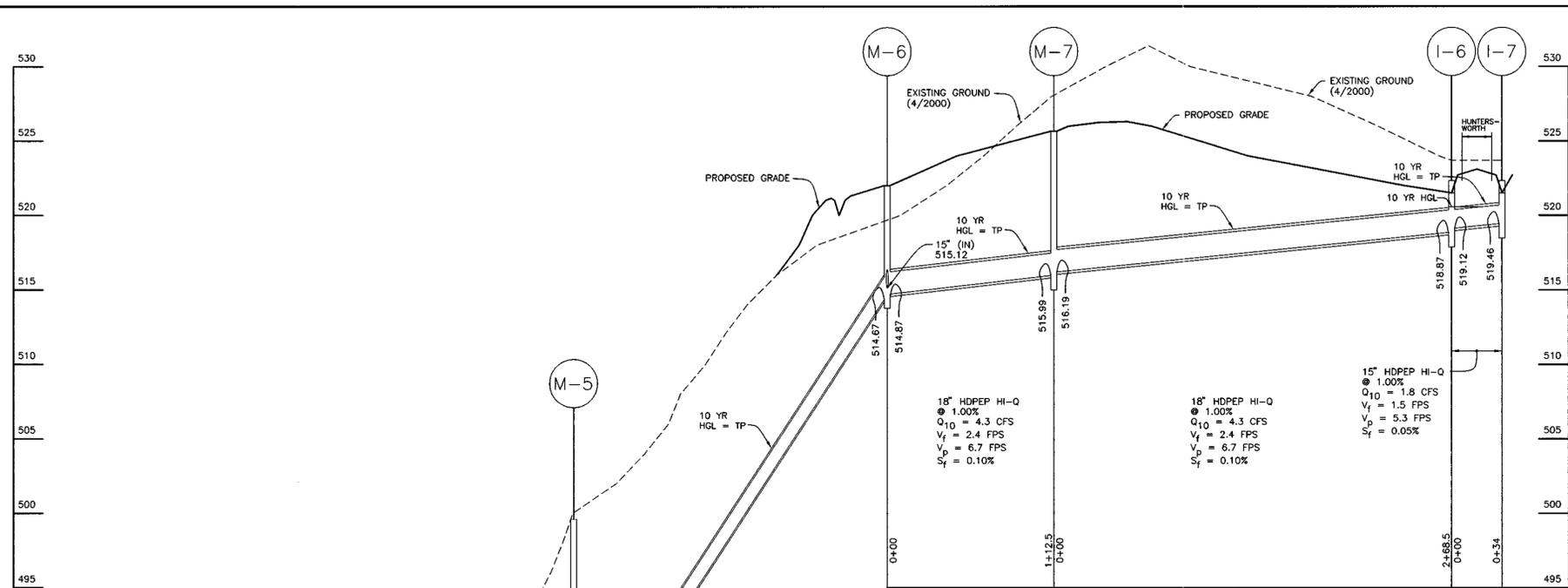
DESIGN SPEED: 25 MPH
HUNTERSWORTH
SCALE: 1"=50' HORIZ., 1"=5' VERT.

NO.	DATE	REVISION

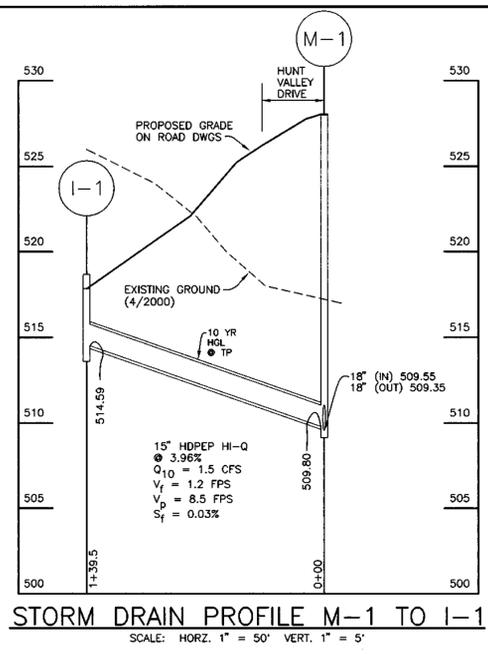
BENCHMARK
ENGINEERS & LAND SURVEYORS & PLANNERS
ENGINEERING, INC.
8480 BALTIMORE NATIONAL PIKE & SUITE 418
ELLCOTT CITY, MARYLAND 21043
PHONE: 410-465-6105 FAX: 410-465-6644
EMAIL: benchmark@cois.com

Donald M. Mean
10/31/01

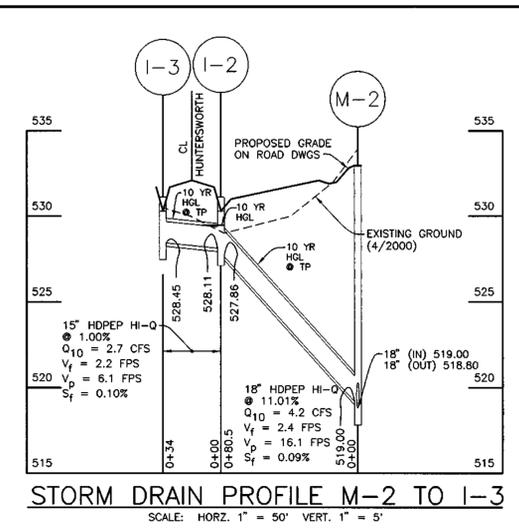
<p>OWNER/DEVELOPER: SDC GROUP, INC. P.O. BOX 417 ELLCOTT CITY, MD 21041 410-465-4244</p>	<p>PROJECT: THE WOODS OF WELLINGTON LOTS 1-24 AND NON-BUILDABLE PRES. PARCELS 'A' THRU 'D'</p> <p>LOCATION: TAX MAP NO. 14, GRID NO. 20 TAX MAP NO. 21, GRID NO. 2 P/O PARCEL 246 4TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND</p> <p>TITLE: ROAD PROFILES</p>
<p>DATE: MARCH, 2001 MAY, 2001</p>	<p>PROJECT NO. 1251</p>
<p>DESIGN: GWF DRAFT: JMC</p>	<p>SCALE: AS SHOWN DRAWING 7 OF 17</p>



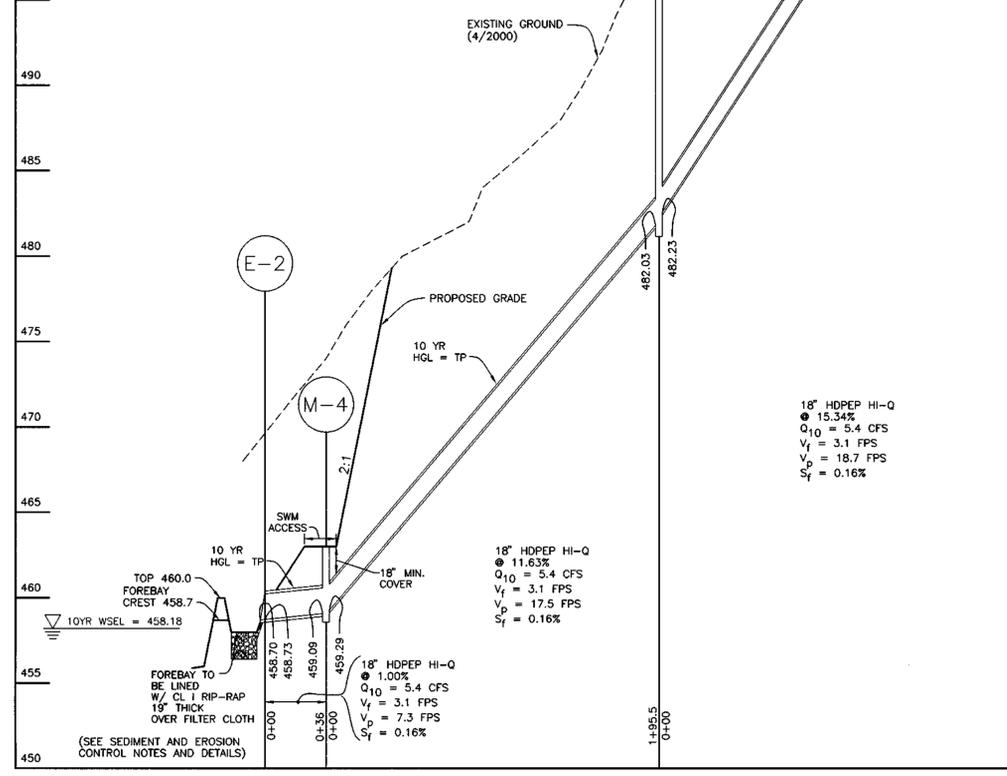
STORM DRAIN PROFILE E-2 TO I-7
SCALE: HORZ. 1" = 50' VERT. 1" = 5'



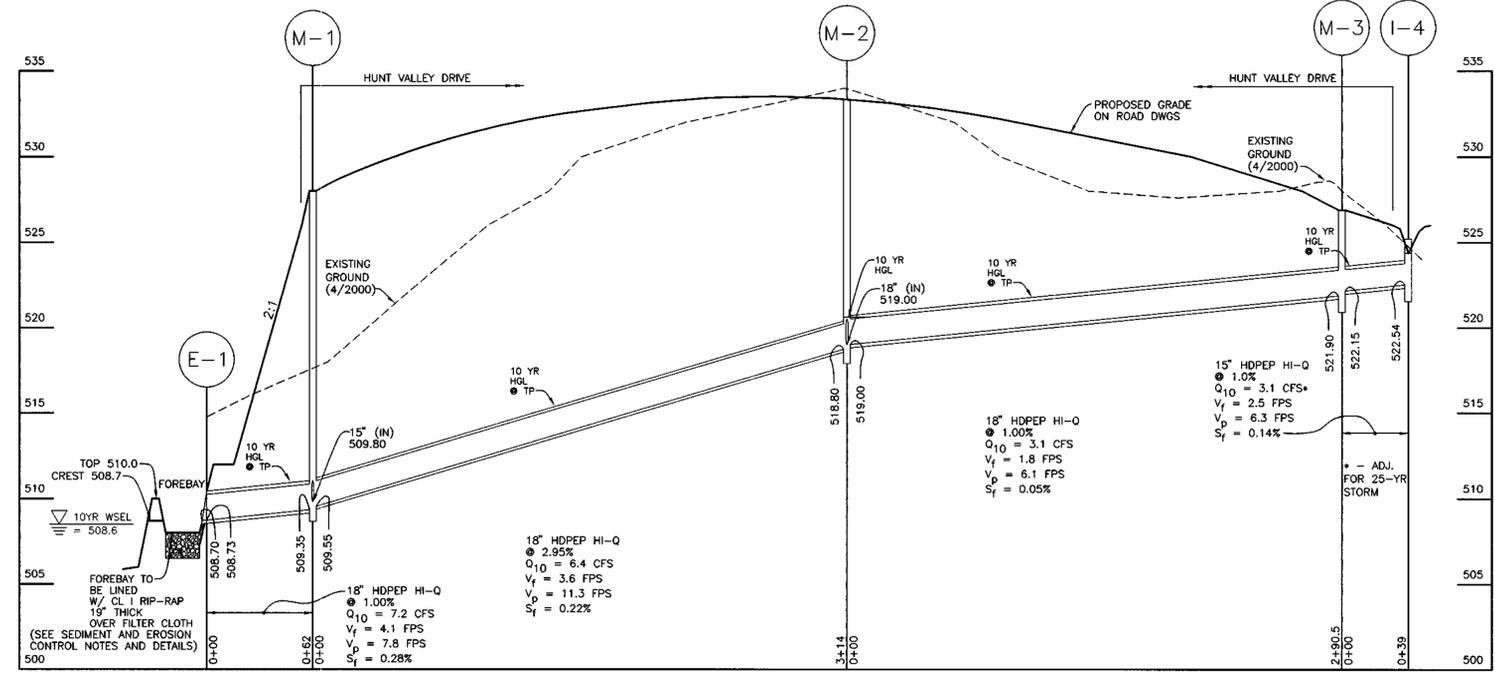
STORM DRAIN PROFILE M-1 TO I-1
SCALE: HORZ. 1" = 50' VERT. 1" = 5'



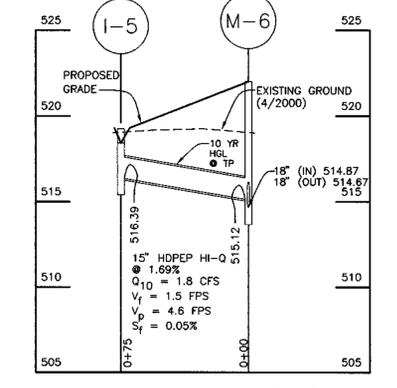
STORM DRAIN PROFILE M-2 TO I-3
SCALE: HORZ. 1" = 50' VERT. 1" = 5'



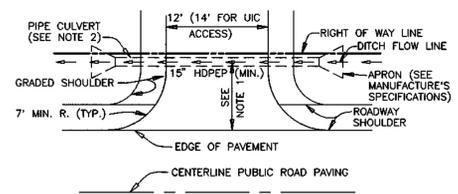
STORM DRAIN PROFILE E-2 TO I-7
SCALE: HORZ. 1" = 50' VERT. 1" = 5'



STORM DRAIN PROFILE E-1 TO I-4
SCALE: HORZ. 1" = 50' VERT. 1" = 5'



STORM DRAIN PROFILE M-6 TO I-5
SCALE: HORZ. 1" = 50' VERT. 1" = 5'



- NOTES:
- DRIVEWAY MUST BE PAVED FROM EDGE OF PUBLIC ROAD TO RIGHT-OF-WAY LINE USING STANDARD PAVING SECTION P-1 AS SHOWN ON STD NO. R-2.01 OR ALTERNATIVE SECTION EQUAL TO OR BETTER THAN P-1, AS APPROVED BY D.P.W.
 - DRAINAGE CULVERT SHALL BE SIZED FOR A 10 YEAR FREQUENCY STORM.
 - ALL DRIVEWAY CULVERT PIPES TO BE 15" HDPEP OR GREATER TO PREVENT BLOCKING. HDPE APRONS TO BE INSTALLED AT EACH END OF THE DRIVEWAY CULVERT AND SIZED PER MANUFACTURER'S SPECIFICATIONS. IF A LARGER PIPE IS REQUIRED, DITCH INVERT CAN BE LOWERED TO PROVIDE MIN. DITCH GRADIENT OF 0.5% AND CLEARANCE SHOWN.
 - SWALE FLOW MAY BE PROVIDED OVER DRIVEWAY IF LOCATED AT OR NEAR THE CREST OF A VERTICAL CURVE ON THE PUBLIC ROAD WHERE QUANTITY OF FLOW IS SMALL, AS APPROVED BY D.P.W.
 - TIE IN GRADE OF PRIVATE DRIVEWAY SHALL NOT EXCEED 14%.
 - SEE HOWARD COUNTY STANDARD DETAIL R-6.06 FOR ADDITIONAL INFORMATION.
 - LOTS 1, 2, 8, 18 AND 19 MAY NOT REQUIRE DRIVEWAY CULVERTS DEPENDING ON THE FINAL DRIVEWAY LOCATION. ALL OTHER LOTS WILL REQUIRE A 15" HDPEP WITH END TREATMENT TO CROSS THE ROADSIDE SWALE. COMPUTATIONS JUSTIFYING THIS SIZING OF THE DRIVEWAY CULVERTS WAS REVIEWED AND APPROVED WITHIN THE FINAL STORM DRAIN REPORT ASSOCIATED WITH THESE ROAD CONSTRUCTION PLANS.

STRUCTURE		LOCATION	TOP ELEV.	INVERT IN	INVERT OUT	TYPE	DETAIL REFERENCE	REMARKS
I-1	HUNTERS WORTH	SIA 08+50.5, 18' RT.	518.95	528.11	515.99	18" HDPEP	G-5.11	OPEN ON 2 SIDES
I-2	HUNTERS WORTH	SIA 08+57.17, 17' LT.	528.89	528.45	528.45	18" HDPEP	G-5.11	OPEN ON 2 SIDES
I-3	HUNTERS WORTH	SIA 08+74.17, 17' LT.	531.72	528.45	528.45	18" HDPEP	G-5.11	OPEN ON 2 SIDES
M-3	HUNTS VALLEY DR.	SIA 72+50.8, 8' LT.	511.90	511.90	511.90	18" HDPEP	G-5.11	OPEN ON 2 SIDES
I-4	HUNTERS WORTH	SIA 12+84.83, 8' LT.	519.28	516.39	516.39	18" HDPEP	G-5.11	OPEN ON 2 SIDES
I-5	HUNTERS WORTH	SIA 12+23.17, 17' LT.	522.33	519.12	519.12	18" HDPEP	G-5.11	OPEN ON 2 SIDES
M-7	HUNTERS WORTH	SIA 12+23.17, 17' LT.	522.33	519.46	519.46	18" HDPEP	G-5.11	OPEN ON 2 SIDES
M-1	HUNTS VALLEY DR.	SIA 68+50.5, 5' LT.	528.03	509.55 (18")	509.55 (18")	STD. MANHOLE	G-5.11	
M-2	HUNTS VALLEY DR.	SIA 69+04.05, 7' LT.	533.37	519.00 (18")	519.00 (18")	STD. MANHOLE	G-5.11	
M-3	HUNTS VALLEY DR.	SIA 72+50.8, 8' LT.	528.89	528.45	528.45	STD. MANHOLE	G-5.11	
M-4	N 587.822.013 E 1.298.780.7281		483.00	488.28	489.09	SHALLOW MP	G-5.12	
M-5	N 587.984.4167 E 1.298.872.1392		489.80	482.24	482.03	STD. MANHOLE	G-5.11	
M-6	HUNTERS WORTH	SIA 12+03.15, 15' LT.	522.00	514.87 (18")	515.97	STD. MANHOLE	G-5.11	
M-7	HUNTERS WORTH	SIA 12+97.2, 4.5' RT.	528.87	516.19	515.99	STD. MANHOLE	G-5.11	
E-1	N 588.764.1811 E 1.299.555.9274		508.73	508.70	508.70	HDPEP	MANUFACTURER	SEE MANUFACTURER'S SPECS
E-2	N 587.795.3939 E 1.298.755.8558		458.73	458.70	458.70	HDPEP	MANUFACTURER	SEE MANUFACTURER'S SPECS
S-1	N 588.611.7178 E 1.299.480.2884		510.77	505.00	502.80			SEE SWM DETAILS
S-2	N 587.523.5243 E 1.298.749.5594		460.87	459.00	452.80			SEE SWM DETAILS
HW-1	N 588.581.3321 E 1.299.528.5008		503.95	501.20	501.20	TYPE 'C'	SD-3.21	FOR A 24" PIPE
HW-2	N 587.631.3570 E 1.298.781.2103		455.45	452.70	452.70	TYPE 'C'	SD-3.21	FOR A 24" PIPE

NOTE: ELEVATIONS AND LOCATIONS ARE AT THE TOP CENTER OF THE STRUCTURE.

PIPE SCHEDULE		
RUN	LENGTH (LF)	DESCRIPTION
E-1 TO M-1	62.0	18" HDPEP
M-1 TO M-2	31.4	18" HDPEP
M-2 TO I-3	390.5	18" HDPEP
M-3 TO I-4	80.5	15" HDPEP
M-2 TO I-2	36	15" HDPEP
I-2 TO I-3	36	15" HDPEP
M-1 TO I-1	139.5	15" HDPEP
E-2 TO M-4	36	18" HDPEP
M-4 TO M-5	195.5	18" HDPEP
M-5 TO M-6	711.5	18" HDPEP
M-2 TO M-7	112.5	18" HDPEP
M-7 TO I-6	288.5	18" HDPEP
I-6 TO I-7	36	15" HDPEP
M-8 TO I-5	75	15" HDPEP
HW-1 TO S-2	26.5	15" HDPEP
HW-2 TO S-2	31	24" HDPEP

APPROVED: DEPARTMENT OF PUBLIC WORKS
Richard M. Douglas 10-25-01
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Amelia Hamstra 10/29/01
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Michael J. ... 10/29/01
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

1	7/18/01	REV PER HO. CO. COMMENTS OF 6/21/01
NO.	DATE	REVISION

BENCHMARK
 ENGINEERS & LAND SURVEYORS & PLANNERS
ENGINEERING, INC.
 8480 BALTIMORE NATIONAL PIKE Δ SUITE 418
 ELLICOTT CITY, MARYLAND 21043
 PHONE: 410-465-6105 Δ FAX: 410-465-6844
 EMAIL: benchmark@ccis.com

Ronald Mean

OWNER/DEVELOPER: SDC GROUP, INC. P.O. BOX 417 ELLICOTT CITY, MD 21041 410-465-4244

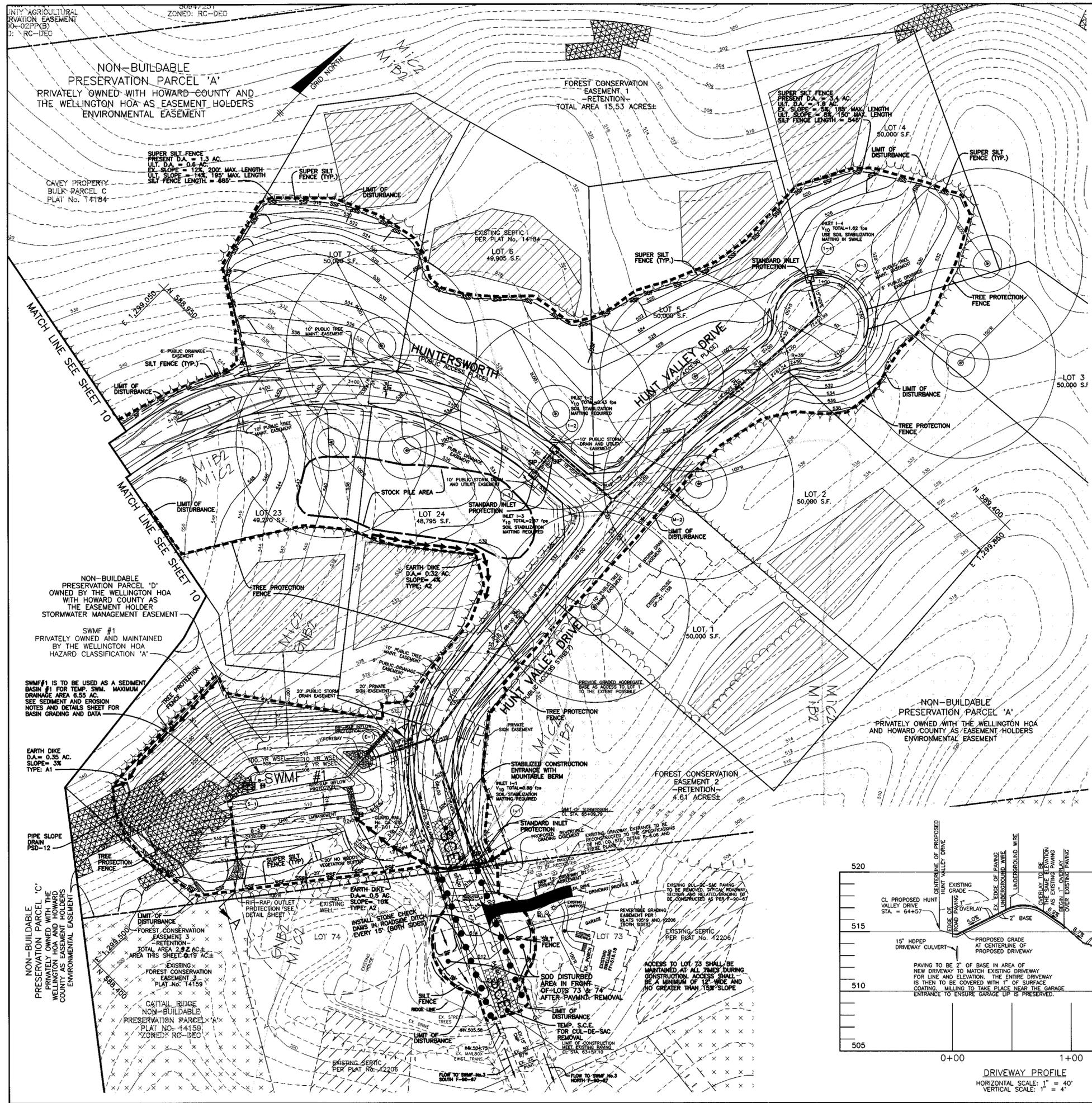
PROJECT: THE WOODS OF WELLINGTON
 LOTS 1-24 AND NON-BUILDABLE PRES. PARCELS 'A' THRU 'D'

LOCATION: TAX MAP NO. 14, GRID NO. 20
 4th ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

TITLE: STORM DRAIN PROFILES AND SCHEDULES

DATE: MARCH, 2001 PROJECT NO. 1251
 MAY, 2001

DESIGN: GWF DRAFT: JMC SCALE: AS SHOWN DRAWING 8 OF 17



SOILS LEGEND		
MAP SYMBOL	SOIL GROUP	SOIL TYPE
EIC3	B	ELUOK SILTY CLAY LOAM, 8 TO 15% SLOPES, SEVERELY ERODED
OB2	B	GLENEGL LOAM, 3 TO 8% SLOPES, MODERATELY ERODED
OC2	B	GLENEGL LOAM, 8 TO 15% SLOPES, MODERATELY ERODED
OC3	B	GLENEGL LOAM, 8 TO 15% SLOPES, SEVERELY ERODED
OB2	C	GLENEVAL SILT LOAM, 3 TO 8% SLOPES, MODERATELY ERODED
MB2	B	MANOR LOAM, 3 TO 8% SLOPES, MODERATELY ERODED
MC2	B	MANOR LOAM, 8 TO 15% SLOPES, MODERATELY ERODED
MC3	B	MANOR LOAM, 8 TO 15% SLOPES, SEVERELY ERODED
ME	B	MANOR LOAM, 25 TO 45 % SLOPES

NOTE: CONTRACTOR TO MAINTAIN POSITIVE DRAINAGE AT ALL TIMES TO BASINS.

	STORMWATER MANAGEMENT SUMMARY TABLE					
	SWMF #1		D.A. = 6.60 AC.			
	D.A. = 6.60 AC.	SWMF #2	D.A. = 11.65 AC.	PE NO.	DATE	
STORM FREQUENCY	2	10	100	2	10	100
PRESENT CONDITION DISCHARGE AT STUDY POINT (cfs)	0.93	5.36	N/A	2.64	16.98	N/A
INFLOW INTO SWMF (cfs)	4.81	15.02	28.54	7.93	24.54	46.56
DISCHARGE FROM SWMF (cfs)	0.47	4.98	21.93	0.74	12.36	28.20
COMBINED DISCHARGE AT STUDY POINT (cfs)	0.50	5.15	22.89	0.98	17.06	39.04
WATER SURFACE ELEV. IN FACILITY (feet)	507.22	508.62	509.62	457.08	458.18	459.30
STORAGE VOLUME (AC.-FT.)	0.153	0.337	0.510	0.296	0.534	0.867

LEGEND

- EXISTING CONTOURS
- EXISTING TREELINE
- PROPOSED TREELINE
- LIMIT OF SUBMISSION
- SOILS LINE
- PROPOSED SEPTIC FIELD
- PROPOSED WELL LOCATION
- FOREST CONSERVATION EASEMENT
- SLOPES 25% AND GREATER
- SUPER SILT FENCE
- SILT FENCE
- EARTH DIKE
- LIMIT OF DISTURBANCE
- STABILIZED CONSTRUCTION ENTRANCE
- STONE CHECK DAMS
- TREE PROTECTION FENCE
- STANDARD INLET PROTECTION

AS-BUILT CERTIFICATION

I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE AS-BUILT PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

ENGINEER: Donald Moon PE NO. 10/3/01 DATE

DATE

CERTIFY MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED UPON ON-SITE INSPECTIONS AND MATERIAL TESTS WHICH ARE CONDUCTED DURING CONSTRUCTION. THE ON-SITE INSPECTIONS AND MATERIAL TESTS ARE TESTS DEEMED SUFFICIENT AND APPROPRIATE BY COMMONLY ACCEPTED ENGINEERING STANDARDS. CERTIFY DOES NOT MEAN OR IMPLY A GUARANTEE BY THE ENGINEER NOR DOES AN ENGINEER'S CERTIFICATION RELIEVE ANY OTHER PARTY FROM MEETING REQUIREMENTS IMPOSED BY CONTRACT, EMPLOYMENT, OR OTHER MEANS, INCLUDING MEETING COMMONLY ACCEPTED INDUSTRY PRACTICES.

ENGINEER'S CERTIFICATE

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

ENGINEER: Donald Moon PE # 21443 DATE 10/3/01

DEVELOPER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL 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 ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

DEVELOPER: SDC Group Inc. DATE 10/3/01

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS

REVIEWER: Jim Ryan/US DATE 10/18/01

USDA - NATURAL RESOURCES CONSERVATION SERVICE

THIS DEVELOPMENT PLAN IS APPROVED FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

APPROVED: Richard M. Daniels DATE 10/25/01

CHIEF, BUREAU OF HIGHWAYS

APPROVED: Chris Hamilton DATE 10/29/01

CHIEF, DIVISION OF LAND DEVELOPMENT

APPROVED: Donald Moon DATE 10/31/01

CHIEF, DEVELOPMENT ENGINEERING DIVISION

NO.	DATE	REV PER HO. CO. COMMENTS	REVISION
1	7/19/01	REV PER HO. CO. COMMENTS OF 6/21/01	

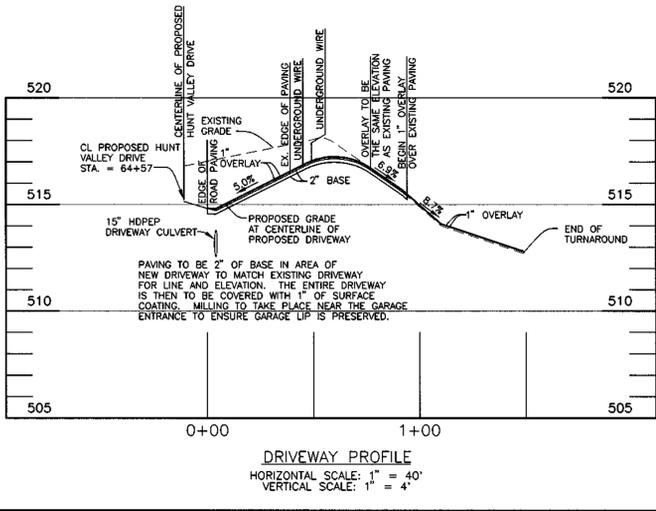
BENCHMARK ENGINEERING, INC.

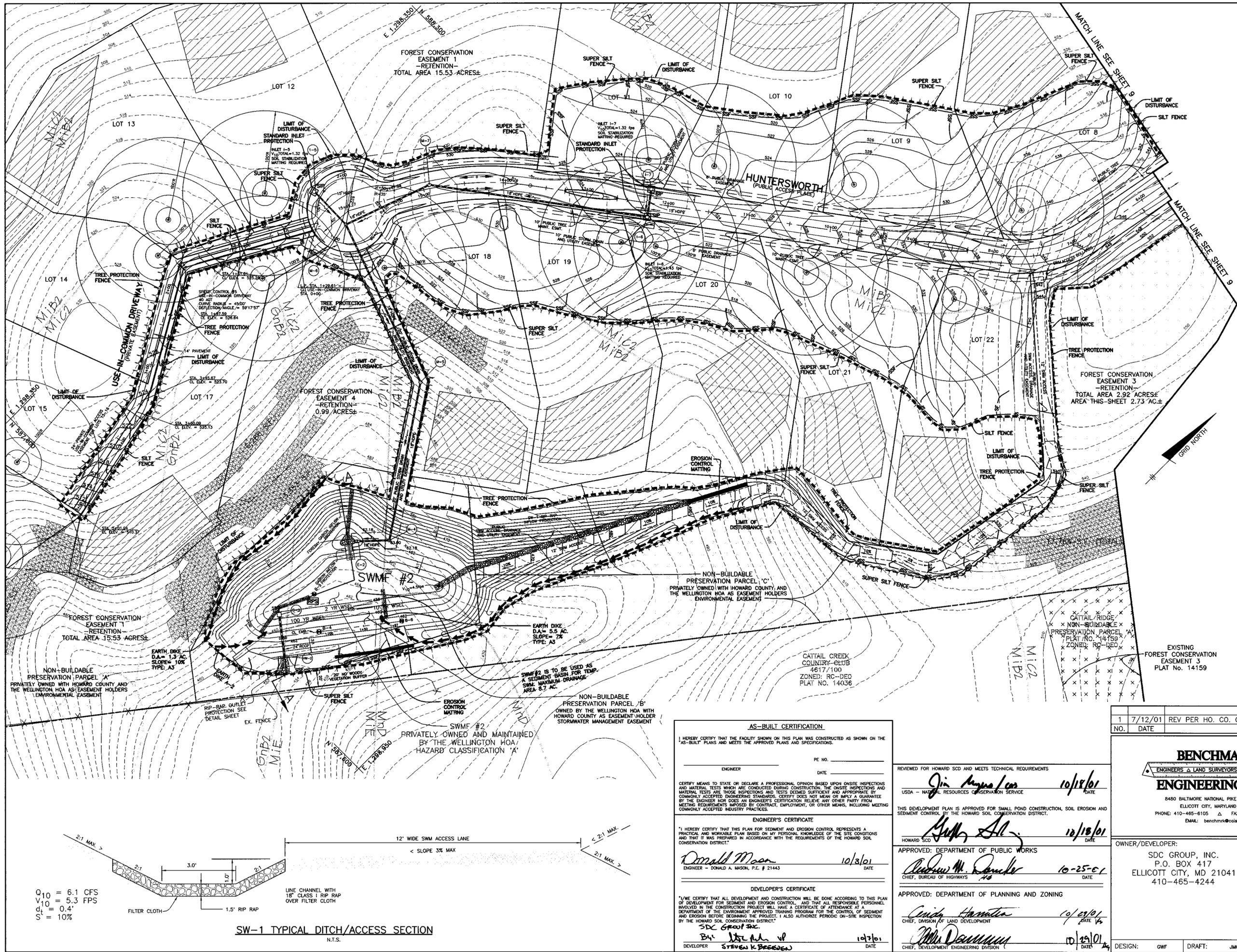
ENGINEERS • LAND SURVEYORS • PLANNERS

8480 BALTIMORE NATIONAL PIKE • SUITE 418
ELLICOTT CITY, MARYLAND 21043
PHONE: 410-465-6105 • FAX: 410-465-6644
EMAIL: benchmr@cois.com

Donald Moon 10/3/01

OWNER/DEVELOPER: SDC GROUP, INC. P.O. BOX 417 ELLICOTT CITY, MD 21041 410-465-4244	PROJECT: THE WOODS OF WELLINGTON LOTS 1-24 AND NON-BUILDABLE PRES. PARCELS 'A' THRU 'D'
LOCATION: TAX MAP NO. 14, GRID NO. 20 TAX MAP NO. 21, GRID NO. 2 P/O PARCEL 246 4th ELECTION DISTRICT HOWARD COUNTY, MARYLAND	TITLE: GRADING, SEDIMENT AND EROSION CONTROL PLAN
DATE: MARCH, 2001 MAY, 2001	PROJECT NO. 1251
DESIGN: GWF DRAFT: JMC	SCALE: 1" = 50' DRAWING 9 OF 17



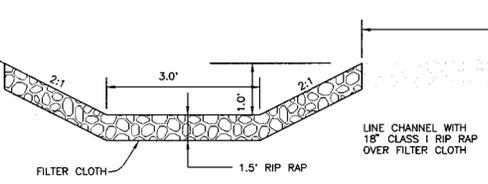


LEGEND

- EXISTING CONTOURS
- EXISTING TREELINE
- PROPOSED TREELINE
- LIMIT OF SUBMISSION
- SOILS LINE
- PROPOSED SEPTIC FIELD
- PROPOSED WELL LOCATION
- FOREST CONSERVATION EASEMENT
- SLOPES 25% AND GREATER
- SUPER SILT FENCE
- SILT FENCE
- EARTH DIKE
- LIMIT OF DISTURBANCE
- STABILIZED CONSTRUCTION ENTRANCE
- STONE CHECK DAMS
- TREE PROTECTION FENCE
- SIP
- EROSION CONTROL MATTING

NOTE: CONTRACTOR TO MAINTAIN POSITIVE DRAINAGE AT ALL TIMES TO BASINS.

Q10 = 6.1 CFS
V10 = 5.3 FPS
dt = 0.4'
S = 10%



SW-1 TYPICAL DITCH/ACCESS SECTION
N.T.S.

AS-BUILT CERTIFICATION

I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

ENGINEER: Donald Mason PE NO. 21443 DATE: 10/3/01

ENGINEER'S CERTIFICATE

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

ENGINEER: Donald Mason DATE: 10/3/01

DEVELOPER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL 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 ALSO AUTHORIZED PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

DEVELOPER: STEVEN K. BEEDEN DATE: 10/3/01

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS

DATE: 10/18/01

DATE: 10/18/01

APPROVED: DEPARTMENT OF PUBLIC WORKS
DATE: 10-25-01

APPROVED: DEPARTMENT OF PLANNING AND ZONING
DATE: 10/25/01

1	7/12/01	REV PER HO. CO. COMMENTS OF 6/21/01
NO.	DATE	REVISION

BENCHMARK ENGINEERING, INC.
ENGINEERS & LAND SURVEYORS & PLANNERS

8480 BALTIMORE NATIONAL PIKE & SUITE 418
ELLICOTT CITY, MARYLAND 21043
PHONE: 410-465-6105 FAX: 410-465-6644
EMAIL: benchmark@coia.com

Donald Mason

OWNER/DEVELOPER:
SDC GROUP, INC.
P.O. BOX 417
ELLICOTT CITY, MD 21041
410-465-4244

PROJECT:
THE WOODS OF WELLINGTON
LOTS 1-24 AND NON-BUILDABLE PRES. PARCELS 'A' THRU 'D'

LOCATION: TAX MAP NO. 14, GRID NO. 20
P/O PARCEL 246
4TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: **GRADING AND SEDIMENT & EROSION CONTROL PLAN**

DATE: MARCH, 2001 PROJECT NO. 1251
MAY, 2001

DESIGN: GWF DRAFT: JMC SCALE: 1" = 50' DRAWING 10 OF 17

PERMANENT SEEDING NOTES

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

Seeded 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 on the following schedules.

- 1) Preferred - Apply 2 tons per acre dolomitic limestone (92 lbs/1000 sf) and 800 lbs per acre (14 lbs/1000 sf) of Kentucky 31 Tall Fescue. For the period May 1 through July 31, seed with 60 lbs Kentucky 31 Tall Fescue per acre and 2 lbs per acre (0.05 lbs/1000 sf) of Weeping Lovegrass. During the period of October 16 through February 28, protect site by Option 1) 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring. Option 2) use sod. Option 3) seed with 60 lbs/acre Kentucky 31 Tall Fescue and mulch with 2 tons/acre well anchored straw.
- 2) Acceptable - Apply 2 tons per acre dolomitic limestone (92 lbs/1000 sf) and 1000 lbs per acre 10-10-10 fertilizer (23 lbs/1000 sf) before seeding. Harrow or disc into upper three inches of soil.

Seeding: For the periods March 1 through April 30 and August 1 through October 15, seed with 60 lbs per acre (14 lbs/1000 sf) of Kentucky 31 Tall Fescue. For the period May 1 through July 31, seed with 60 lbs Kentucky 31 Tall Fescue per acre and 2 lbs per acre (0.05 lbs/1000 sf) of Weeping Lovegrass. During the period of October 16 through February 28, protect site by Option 1) 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring. Option 2) use sod. Option 3) seed with 60 lbs/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 sf) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using much anchoring tool or 218 gallons per acre (5 gal/1000 sf) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000 sf) for anchoring.

Maintenance: Inspect all seeded areas and make needed repairs, replacements and reseedings.

TEMPORARY SEEDING NOTES

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

Seeded 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 sf).

Seeding: For periods March 1 through April 30 and from August 15 through November 15, seed with 2-1/2 bushel per acre of annual rye (3.2 lbs/1000 sf). For the period May 1 through July 31, seed with 3 lbs per acre of Weeping Lovegrass (0.07 lbs/1000 sf). For the period November 16 through 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 sf) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using much anchoring tool or 218 gallons per acre (5 gal/1000 sf) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000 sf) for anchoring.

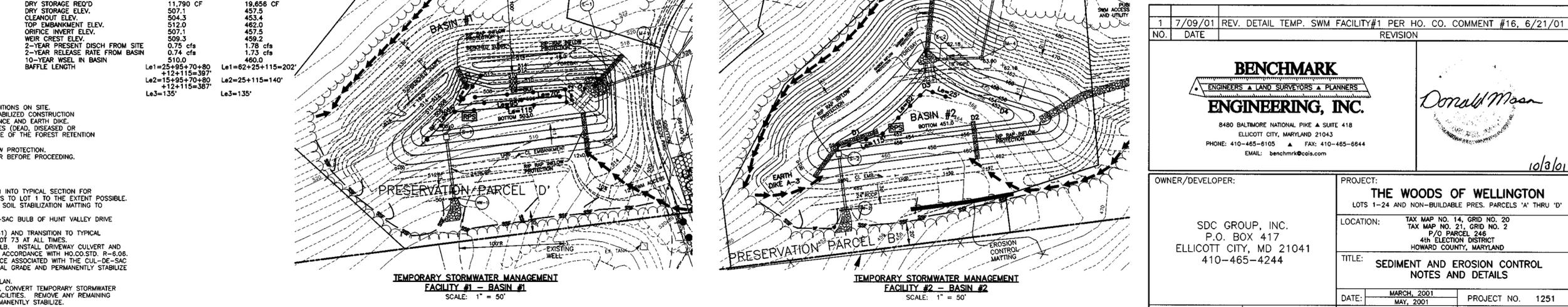
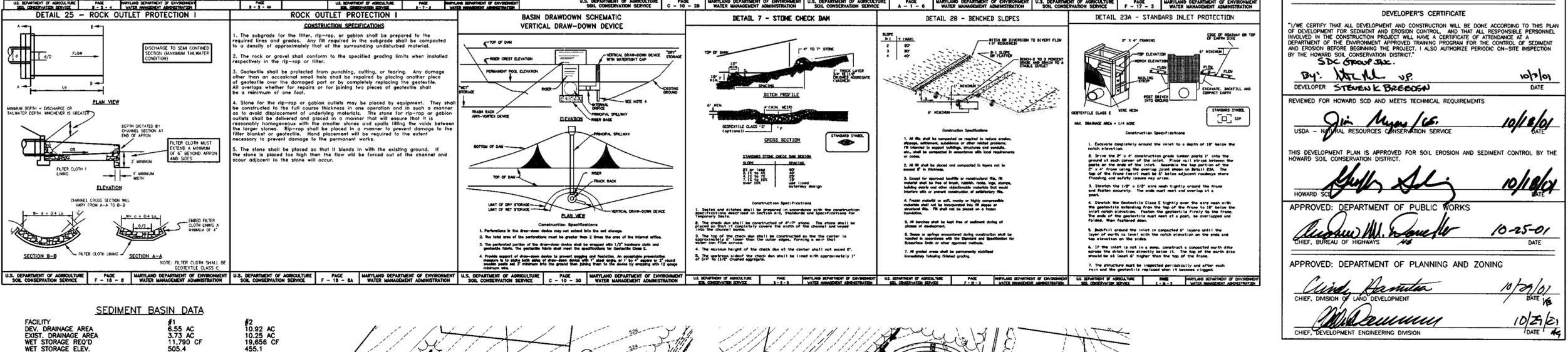
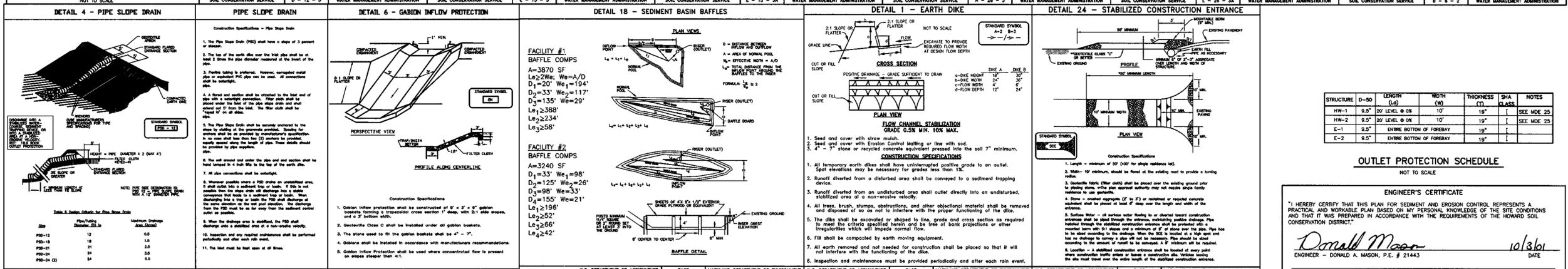
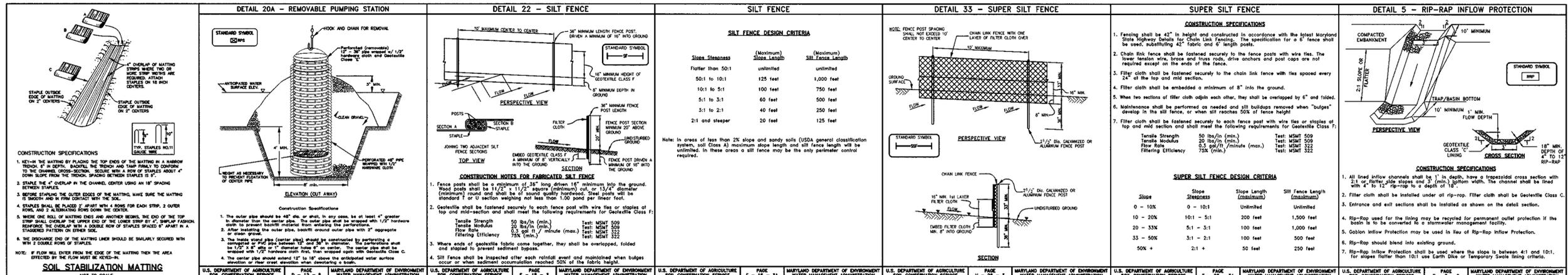
Refer to the 1994 Maryland Standards and Specifications for Soil Erosion and Sediment Control for rate and methods not covered.

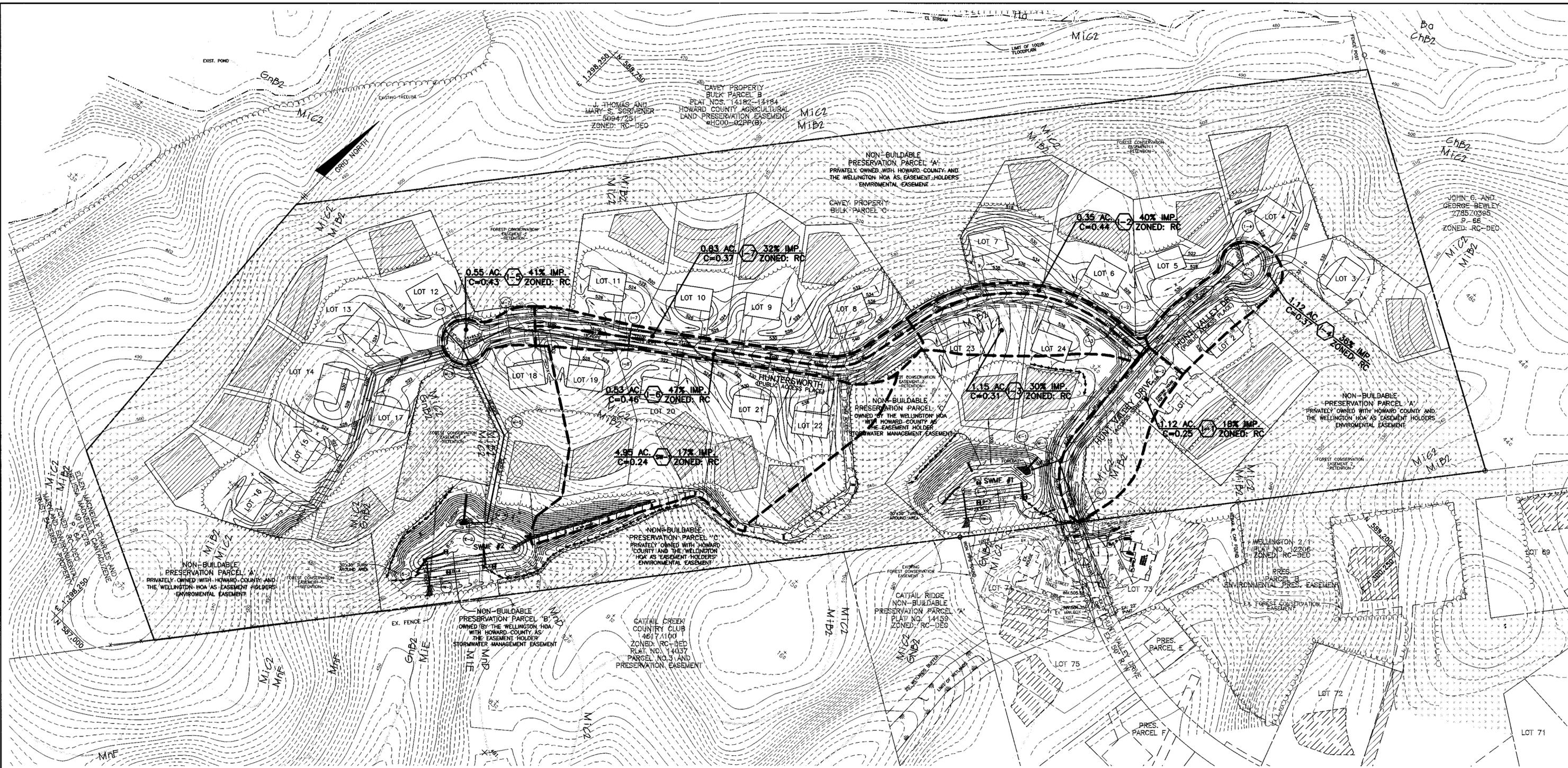
SEDIMENT CONTROL NOTES

1. A minimum of 48 hours notice must be given to the Howard County Department of Inspections and Permits, Sediment Control Division prior to the start of any construction (410-313-1855).
2. All vegetative and structural practices to be installed according to the provisions of this plan and are to be in conformance with the most current Maryland Standards and Specifications for Soil Erosion and Sediment Control, and revisions thereto.
3. Following initial soil disturbances 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 calendar days as to all other disturbed or graded areas on the project.
4. All sediment traps/basins shown must be located and warning signs posted around their perimeter in accordance with Vol. 1, Chapter 12 of the "Howard County Design Manual, Storm Drainage".
5. All disturbed areas must be stabilized within the time period specified above in accordance with the "1994 Maryland Standards and Specifications for Soil Erosion and Sediment Control" for Permanent Seeding (Sec. 51) Soil (Sec. 54), Temporary Seeding (Sec. 50) and Multiple (Sec. 52). Temporary stabilization with much alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
6. All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.
7. Site Analysis:
Total Area of site: 59.54 acres
Area to be disturbed: 17.62 acres
Area to be roofed or paved: 1.274 acres
Area to be vegetatively stabilized: 18.653 acres
Total Cut: 38,034 C.Y.
Total Fill: 38,885 C.Y.
8. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
9. Additional sediment controls must be provided, if deemed necessary by the Howard County DPW Sediment Control Inspector.
10. On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until the initial approval by the inspection agency is made.
11. Trenches for the construction of utilities to lengths of three pipe lengths or that which can be back filled and stabilized within one working day, whichever is shorter.
12. Quantities and estimates shown are for sediment control purposes only. Contractor shall provide his own quantity estimates to his/her satisfaction.
* It is the responsibility of the contractor to identify the spot/borrow site and notify and gain approval from the sediment control inspector of the site and its grading permit number at the time of construction.

SEQUENCE OF CONSTRUCTION

DAY 1 OBTAIN GRADING PERMIT.
DAY 2 CONTRACTOR TO IDENTIFY AND MARK ANY AND ALL HAZARDOUS CONDITIONS ON SITE.
DAY 3-4 CLEAR AND GRUB FOR SEDIMENT CONTROL FACILITIES. INSTALL STABILIZATION ENTRANCE LOCATED AT STATION 69+10, SILT FENCE, SUPER SILT FENCE AND EARTH DIKE.
DAY 5 INSTALL TREE PROTECTION FENCE. THE REMOVAL OF HAZARDOUS TREES (DEAD, DISEASED OR THOSE SUBJECT TO WIND THROW) WILL BE ALLOWED ALONG THE EDGE OF THE FOREST RETENTION AREAS AS WELL AS WITHIN THE OTHER TREE SAVE AREAS.
DAY 6-10 INSTALL TEMPORARY STORMWATER MANAGEMENT FACILITIES AND INFLOW PROTECTION. CONTRACTOR TO GET APPROVAL FROM SEDIMENT CONTROL INSPECTOR BEFORE PROCEEDING.
DAY 11-15 CLEAR AND GRUB REMAINDER OF SITE.
DAY 16-24 STABILIZE IN ACCORDANCE WITH TEMPORARY SEEDING NOTES.
DAY 25-34 INSTALL STORM DRAIN AND OTHER UTILITIES.
DAY 35-40 INSTALL CURBS AND UTILITY OF SPREAD CONTROL DEVICES.
DAY 41-45 INSTALL PAVING FOR ROADS, TRANSITION EXISTING CUL-DE-SAC BULB INTO TYPICAL SECTION FOR HUNT VALLEY DRIVE. PROVIDED GRADED AGGREGATE BASE AS ACCESS TO LOT 1 TO THE EXTENT POSSIBLE.
DAY 46-52 FINAL GRADE REMAINDER OF SITE, PERMANENTLY STABILIZE, AND ADD SOIL STABILIZATION MATTING TO ALL SWALES, DITCHES AND CONCENTRATED FLOW AREAS.
DAY 53-56 INSTALL SEDIMENT CONTROL DEVICES AROUND THE EXISTING CUL-DE-SAC BULB OF HUNT VALLEY DRIVE.
DAY 57-60 REMOVE PAVING OF HUNT VALLEY CUL-DE-SAC BULB (STATION 83+51) AND TRANSITION TO TYPICAL SECTION OF EXTENDED HUNT VALLEY DRIVE. MAINTAIN ACCESS TO LOT 73 AT ALL TIMES.
DAY 60-63 INSTALL TYPICAL SECTION PAVING IN PLACE OF THE CUL-DE-SAC BULB. INSTALL DRIVEWAY CULVERT AND REMOVE EXISTING DRIVEWAY OF LOT 73 TO NEW EDGE OF ROAD IN ACCORDANCE WITH HO.CO.S.D. R-6.06.
DAY 64-65 REMOVE STONE CHECK DAMS AND STABILIZED CONSTRUCTION ENTRANCE ASSOCIATED WITH THE CUL-DE-SAC REMOVAL. INSTALL SOIL STABILIZATION MATTING IN THE DITCHES, FINAL GRADE AND PERMANENTLY STABILIZE THE CUL-DE-SAC REMOVAL AREA.
DAY 66-72 INSTALL REQUIRED LANDSCAPING AS SPECIFIED ON THE LANDSCAPE PLAN.
DAY 72-75 UPON APPROVAL OF HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, CONVERT TEMPORARY STORMWATER MANAGEMENT FACILITIES TO PERMANENT STORMWATER MANAGEMENT FACILITIES. REMOVE ANY REMAINING SEDIMENT CONTROL DEVICES AND TREE PROTECTION FENCE AND PERMANENTLY STABILIZE.





PLAN VIEW
SCALE: 1" = 100'

NO.	DATE	REVISION
1	8/02/01	REV PER HO. CO. COMMENTS OF 6/21/01

BENCHMARK
ENGINEERS & LAND SURVEYORS & PLANNERS
ENGINEERING, INC.

8480 BALTIMORE NATIONAL PIKE Δ SUITE 418
ELLCOTT CITY, MARYLAND 21043
PHONE: 410-465-6105 Δ FAX: 410-465-6644
EMAIL: benchmark@ccis.com



10/3/01

SOILS LEGEND		
MAP SYMBOL	SOIL GROUP	SOIL TYPE
GC3	B	ELDON SILTY CLAY LOAM, 8 TO 15% SLOPES, SEVERELY ERODED
GB2	B	GLENELO LOAM, 3 TO 8% SLOPES, MODERATELY ERODED
GC2	B	GLENELO LOAM, 8 TO 15% SLOPES, MODERATELY ERODED
GC3	B	GLENELO LOAM, 8 TO 15% SLOPES, SEVERELY ERODED
ChB2	* C	GLENNVILLE SILT LOAM, 3 TO 8% SLOPES, MODERATELY ERODED
MB2	B	MANOR LOAM, 3 TO 8% SLOPES, MODERATELY ERODED
MC2	B	MANOR LOAM, 8 TO 15% SLOPES, MODERATELY ERODED
MC3	B	MANOR LOAM, 8 TO 15% SLOPES, SEVERELY ERODED
ME	B	MANOR LOAM, 25 TO 45 % SLOPES

* INDICATES A HYDRIC SOIL

APPROVED: DEPARTMENT OF PUBLIC WORKS

Andrew M. Dwyer 10-25-01
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Cindy Hamilton 10/29/01
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Mr. [Signature] 10/29/01
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

OWNER/DEVELOPER:

SDC GROUP, INC.
P.O. BOX 417
ELLCOTT CITY, MD 21041
410-465-4244

PROJECT:

THE WOODS OF WELLINGTON
LOTS 1-24 AND NON-BUILDABLE PRES. PARCELS 'A' THRU 'D'

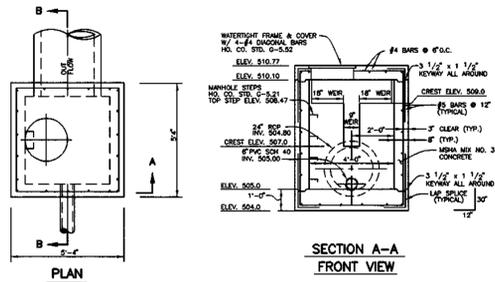
LOCATION: TAX MAP NO. 14, GRID NO. 20
TAX MAP NO. 21, GRID NO. 2
P/O PARCEL 246
4TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE:

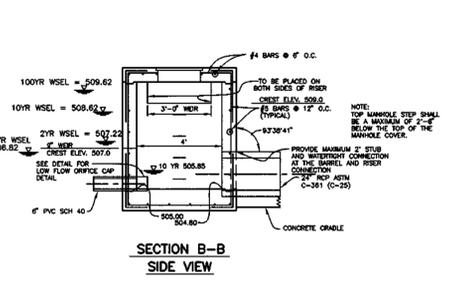
STORM DRAIN DRAINAGE AREA MAP

DATE: MARCH, 2001 PROJECT NO. 1251
MAY 2001

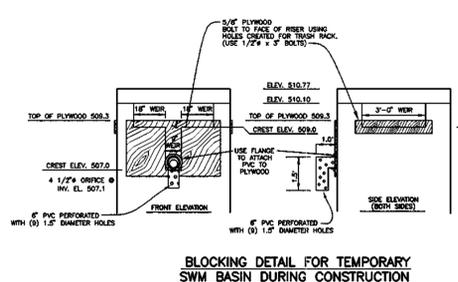
DESIGN: GWF DRAFT: JMC SCALE: 1" = 100' DRAWING 12 OF 17



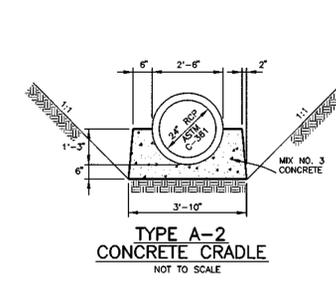
SECTION A-A FRONT VIEW
CONTROL STRUCTURE
SCALE: 1" = 4'



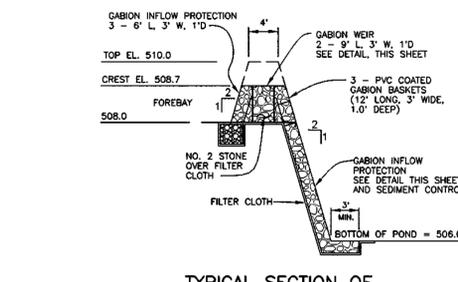
SECTION B-B SIDE VIEW
CONTROL STRUCTURE
SCALE: 1" = 4'



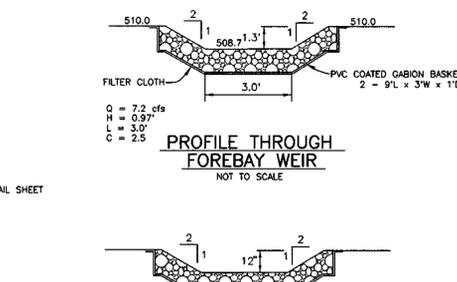
BLOCKING DETAIL FOR TEMPORARY SWM BASIN DURING CONSTRUCTION
SCALE: 1" = 4'



TYPE A-2 CONCRETE CRADLE
NOT TO SCALE



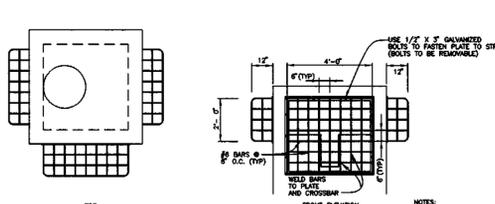
TYPICAL SECTION OF GABION WEIR AT FOREBAY
NOT TO SCALE



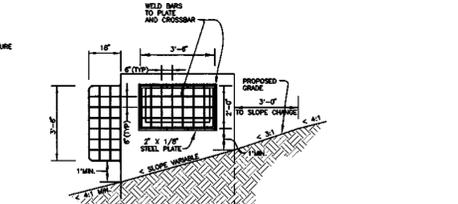
PROFILE THROUGH FOREBAY WEIR
NOT TO SCALE



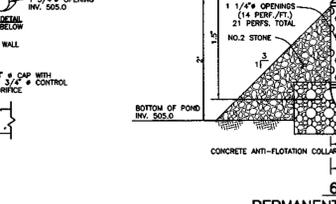
GABION INFLOW PROTECTION CHANNEL
NOT TO SCALE



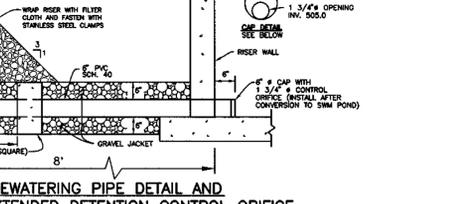
TRASH RACK DETAIL
SCALE: 1" = 4'



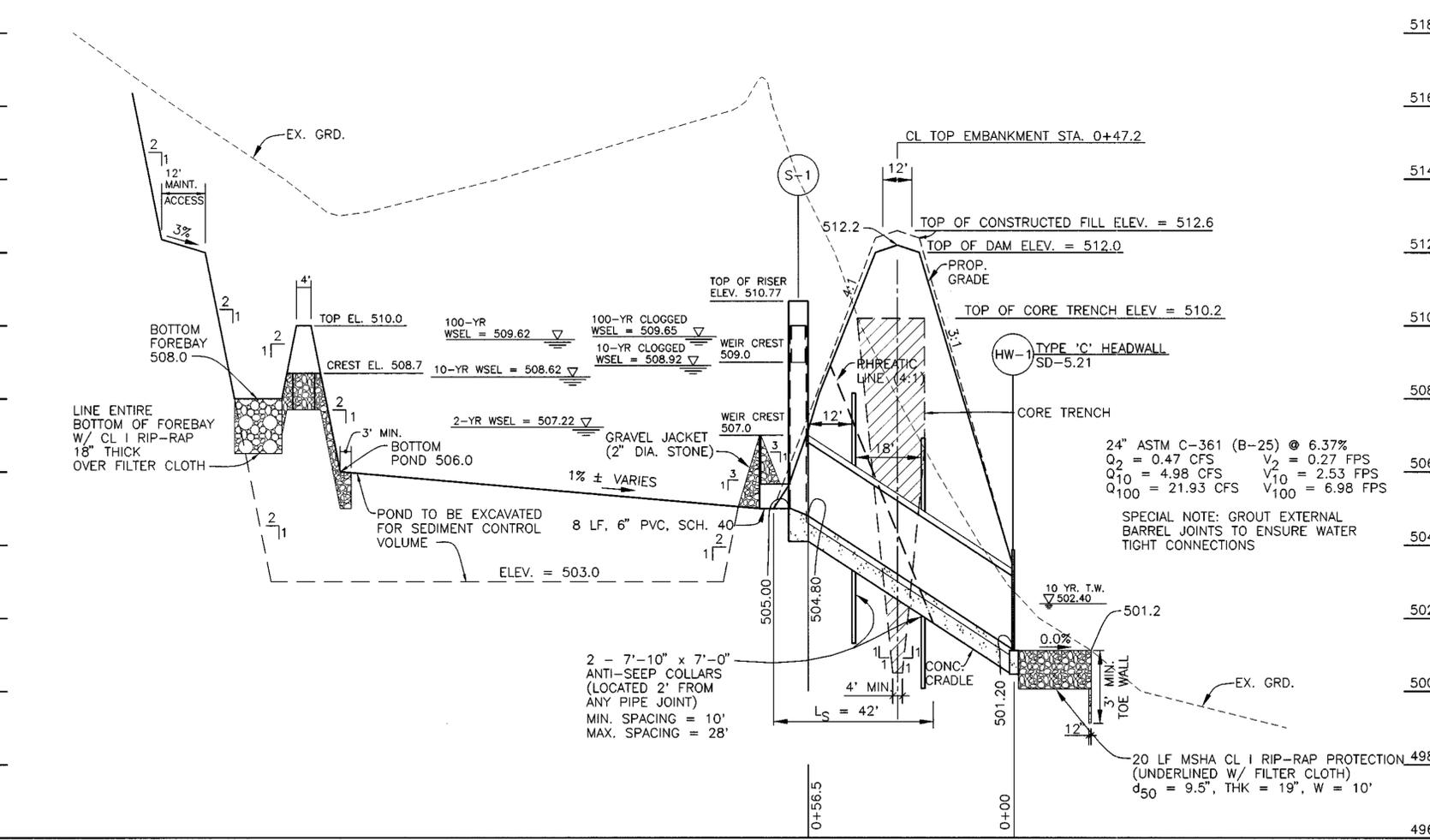
6" TEMPORARY SWM VERTICAL DRAW-DOWN DEVICE
NOT TO SCALE



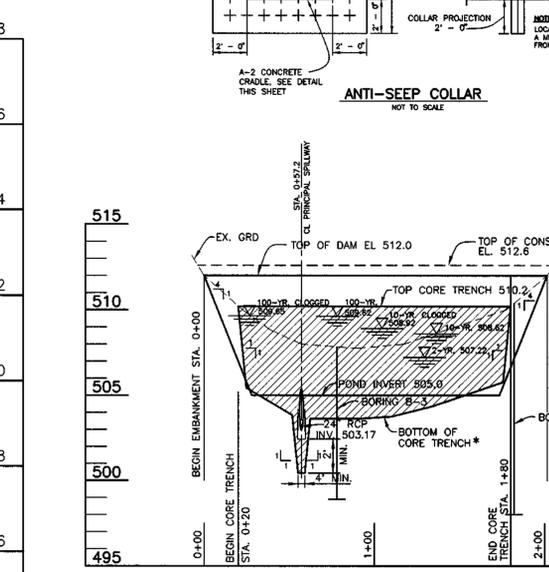
6" DEWATERING PIPE DETAIL AND PERMANENT EXTENDED DETENTION CONTROL ORIFICE
NOT TO SCALE



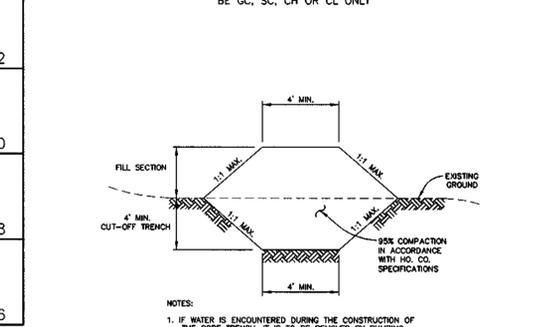
ANTI-SEEP COLLAR
NOT TO SCALE



SECTION A-A THRU FOREBAY, POND & PRINCIPAL SPILLWAY
SCALE: HOR: 1" = 20' VERT: 1" = 2'



PROFILE ALONG CL OF EMBANKMENT
SCALE: HOR: 1" = 50' VERT: 1" = 5'



CORE TRENCH SECTION
NOT TO SCALE

OPERATION, MAINTENANCE AND INSPECTION NOTE
INSPECTION OF THE POND(S) SHOWN HEREON SHALL BE PERFORMED AT LEAST ANNUALLY, IN ACCORDANCE WITH THE CHECKLIST AND REQUIREMENTS WITHIN USDA SCS STANDARDS AND SPECIFICATIONS FOR PONDS (MD-378). THE POND OWNERS AND ANY HEIRS, SUCCESSORS, OR AGENTS SHALL BE RESPONSIBLE FOR THE SAFETY OF THE POND AND THE CONTINUED OPERATIONAL SURVEILLANCE, INSPECTION, AND MAINTENANCE THEREOF. THE POND OWNERS SHALL PROMPTLY NOTIFY THE SOIL CONSERVATION DISTRICT OF ANY UNUSUAL OBSERVATIONS THAT MAY BE INDICATORS OF DISTRESS SUCH AS EXCESSIVE SEEPAGE, TUBED SEEPAGE, SLIDING, OR SLUMPING.

AS-BUILT CERTIFICATION
I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE AS-BUILT PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

ENGINEER: _____ PE NO. _____ DATE: _____

CERTIFY MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED UPON ON-SITE INSPECTIONS AND MATERIAL TESTS WHICH ARE CONDUCTED DURING CONSTRUCTION, THE ON-SITE INSPECTIONS AND MATERIAL TESTS ARE THOSE INSPECTIONS AND TESTS DEEMED SUFFICIENT AND APPROPRIATE BY COMMONLY ACCEPTED ENGINEERING STANDARDS. CERTIFY DOES NOT MEAN OR IMPLY A GUARANTEE BY THE ENGINEER NOR DOES AN ENGINEER'S CERTIFICATION RELIEVE ANY OTHER PARTY FROM MEETING REQUIREMENTS IMPOSED BY CONTRACT, EMPLOYMENT, OR OTHER MEANS, INCLUDING MEETING COMMONLY ACCEPTED INDUSTRY PRACTICES.

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

Donald Mason 10/31/01
ENGINEER - DONALD A. MASON, P.E. # 21443 DATE

DEVELOPER'S CERTIFICATE
"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AS A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

SDC Group Inc. 10/2/01
BY: *Steve K. Breeden* VP DEVELOPER DATE

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS
10/18/01
USDA - NATURAL RESOURCES CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
10/18/01
HOWARD SCD DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS
10-25-01
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
10/29/01
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

10/25/01
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

1	7/17/01	REV PER HO. CO. COMMENTS OF 6/21/01
NO.	DATE	REVISION

BENCHMARK
ENGINEERS & LAND SURVEYORS & PLANNERS
ENGINEERING, INC.
8480 BALTIMORE NATIONAL PIKE & SUITE 418
ELLICOTT CITY, MARYLAND 21043
PHONE: 410-465-8105 FAX: 410-465-6844
EMAIL: benchmark@bcis.com

Donald Mason
10/31/01

OWNER/DEVELOPER: SDC GROUP, INC. P.O. BOX 417 ELLICOTT CITY, MD 21041 410-465-4244	PROJECT: THE WOODS OF WELLINGTON LOTS 1-24 AND NON-BUILDABLE PRES. PARCELS 'A' THRU 'D' LOCATION: TAX MAP NO. 14, GRID NO. 20 TAX MAP NO. 21, GRID NO. 2 P/O PARCEL 246 4TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND TITLE: STORMWATER MANAGEMENT DETAILS - FACILITY #1 DATE: MARCH 2001 PROJECT NO. 1251 MAY 2001 DESIGN: GWF/MLV DRAFT: JMC SCALE: AS SHOWN DRAWING 13 OF 17
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CONSTRUCTION SPECIFICATIONS

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

Site Preparation

Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped to topsoil. All trees, vegetation, roots and other objectionable material shall be removed. Channel banks and sharp breaks shall be sloped to no steeper than 1:1. All trees shall be cleared and grubbed within 15 feet of the toe of the embankment.

Areas to be covered by the reservoir will be cleared of all trees, brush, logs, fences, rubbish 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.

Earth Fill

Material - The fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, rubbish, stones greater than 6", frozen or other objectionable material. 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 #20 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.

Materials used in the outer shell of the embankment must have the capability to support vegetation of the quality required to prevent erosion of the embankment.

Placement - Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in maximum 8 inch thick (before compaction) layers which are to be continuous over the entire length of the fill. The most permeable borrow material shall be placed in the downstream portions of the embankment. The principal spillway must be installed concurrently with fill placement 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 both equipment used. The fill material shall contain sufficient moisture so that if formed into a ball it will not crumble, yet not be so wet that water can be squeezed out.

When required by the reviewing agency the minimum required density shall not be less than 95% of maximum dry density with a moisture content within ± 2% of the optimum. Each layer of fill shall be compacted as necessary to obtain that density, and it 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 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 cores shall be a minimum of four feet. The height shall extend up to at least the 10 year water elevation or as shown on the plans. The side slopes shall be 1 to 1 or flatter. The core shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density 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 adjoining fill material. The fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material needs to fill completely all spaces under and adjacent to the pipe. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe, unless there is 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 315 as modified. The mixture shall have a 100-200 psi, 28 day unconfined compressive strength. The flowable fill shall have a minimum pH of 4.0 and a minimum resistivity of 2,000 ohm-cm. Material shall be placed such that a minimum of 6" (measured perpendicular to the axis of the pipe) of 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 (sand bags, etc.) to prevent flooding the pipe. When using flowable fill, all metal pipe shall be bituminous coated. Any adjoining soil shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material shall completely fill all voids adjacent to the flowable fill zone. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a structure or pipe unless there is a compacted fill of 24" or greater over the structure or pipe. Backfill material outside the structural backfill (flowable fill) zone shall be of the type and quality conforming to that specified for the core of the embankment or other embankment materials.

Pipe Conduits

All pipes shall be circular in cross section

Corrugated Metal Pipe - all of the following criteria shall apply for corrugated metal pipe:

- 1. Materials - (Polymer Coated Steel Pipe) - Steel pipes with polymeric coatings shall have a minimum coating thickness of 0.01 inch (10 mils) on both ends 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 flanges.
Materials - (Aluminum Coated Steel Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-274 with watertight coupling bands or flanges. Aluminum Coated Steel Pipes, when used with flowable fill or 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 one 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 M-195 or M-211 with watertight coupling bands or 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 painted with one coat of zinc chromate primer or two coats of asphalt. galvanized bolts may be used for connections. The pH of the surrounding soils shall be between 4 and 9.

HILLIS-CARNES ENGINEERING, INC. RECOMMENDATIONS

Embankment and Cut-off trench Construction

The site should be stripped of topsoil and any other unsuitable materials from the embankment or structure area in accordance with Soil Conservation Guidelines. After stripping operations have been completed, the exposed subgrade materials should be profiled with a loaded dumptruck 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 profiling or penetrometer testing should be excavated to suitable firm soil, and then grades re-established by backfilling with suitable soil.

A representative of the geotechnical Engineer should be present to monitor placement and composition of fill for each embankment and cut-off trench. In accordance with Maryland Soil Conservation Specification 377, soils considered suitable for the center of embankment and cut-off trench shall conform to Unified Soil Classification GC, SC, CH, or CL.

It is our professional opinion that in addition to the soil materials described above a fine-grain soil, including silt (ML) with a plasticity index of 10 or more can be utilized for the center of the embankment and core trench. All fill materials must be placed and compacted in accordance with MD SCS 378 specifications.

- 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 least 24 mils in thickness.
3. Connections - All connections with pipes must be completely watertight. The drain pipe or barrel connection to the riser shall be welded all around when the pipe 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 connection shall use a rubber or neoprene gasket when joining pipe sections. The end of each pipe shall be re-rolled or adequate number of corrugations to accommodate the bandwidth. The following type connections are acceptable for pipes less than 24 inches in diameter: flanges on both ends of the pipe with a circular 3/8 inch closed cell neoprene gasket, pre-punched to the flange bolt circle, sandwiched between adjacent flanges; a 12-inch wide standard lap type band with 12-inch wide by 3/8-inch thick closed cell circular neoprene gasket; 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 2 1/4 inch long annular corrugated band using a minimum of 4 (four) rods and lugs, 2 on each connecting pipe end. A 2 1/4-inch wide by 3/8-inch thick closed cell circular neoprene gasket will be installed with 12 inches on the end of each pipe. Flanged joints with 3/8 inch closed cell gaskets the full width of the flange is also acceptable.

Helically corrugated pipe shall have either continuously welded seams or have lock seams with internal caulking or a neoprene bead.

- 4. Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.
5. Backfilling shall conform to "Structure Backfill".

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

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

- 1. Materials - Reinforced concrete pipe shall have bell and spigot joints with rubber gaskets and shall equal or exceed ASTM C-301.
2. Bedding - Reinforced concrete pipe conduits shall be laid in a concrete bedding/cradle for their entire length. This bedding/cradle shall consist of high slump concrete placed under the pipe 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 shown on the drawings.

Plastic Pipe - The following criteria shall apply for plastic pipe:

- 1. Materials - PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241, Corrugated High Density Polyethylene (HDPE) pipe, couplings and fittings shall conform to the following: 4" - 10" inch pipe shall meet the requirements of AASHTO M252 Type 5, and 12" through 24" inch shall meet the requirements of AASHTO M294 Type 5.
2. Joints and connections to anti-seep collars shall be completely watertight.
3. Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.
4. Backfilling shall conform to "Structure Backfill".
5. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Drainage Diaphragms - When a drainage diaphragm is used, a registered professional engineer will supervise the design and construction inspection.

Concrete

Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 414, Mix No. 3.

Rock Riprap

Rock riprap shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 311.

Geotextile

Geotextile 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.

Core of Water during Construction

All work on permanent structures shall be carried out in areas free from water. The contractor shall construct and maintain all temporary dikes, levees, cofferdams, drainage channels, and stream diversions necessary to protect the areas to be occupied by the permanent works. The contractor shall also furnish, install, operate, and maintain all necessary pumping and other equipment required for removal of water from various parts of the work and for maintaining the excavations, foundation, and other parts of the work free from water as required or directed by the engineer for constructing each part of the work. After having served their purpose, all temporary protective works shall be removed or leveled and graded to the extent required to prevent obstruction in any degree whatsoever of the flow of water to the spillway or outlet works and so as not to interfere in any way with the maintenance of the structure. Stream diversions shall be maintained until the full flow can be passed through the permanent works. The removal of water from the required excavation and the foundation shall be accomplished in a manner and to the extent that will maintain stability of the excavated slopes and bottom required excavations and will allow satisfactory performance of all construction operations. During the placing and compacting of material in required excavations, the water level at the location 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 slightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and berms shall be stabilized by seeding, liming, fertilizing and mulching in accordance with the Natural Resources Conservation Service Standards and Specifications for Critical Area Planting (MD-342) or as shown on the accompanying drawings.

Erosion and Sediment Control

Construction operations will be carried out in such a manner that erosion will be controlled and water and air pollution minimized. State and local laws concerning pollution abatement will be followed. Construction plans shall detail erosion and sediment control measures.

OPERATION AND MAINTENANCE SCHEDULE OF PRIVATELY OWNED AND MAINTAINED STORMWATER MANAGEMENT FACILITY

ROUTINE MAINTENANCE

- 1. FACILITY SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHOULD BE PERFORMED DURING WEATHER TO DETERMINE IF THE POND IS FUNCTIONING PROPERLY.
2. TOP AND SIDE SLOPES OF THE EMBANKMENT SHALL BE MOWED A MINIMUM OF TWICE PER YEAR, ONCE IN JUNE AND ONCE IN SEPTEMBER. OTHER SIDE SLOPES AND MAINTENANCE ACCESS SHOULD BE MOWED AS NEEDED.
3. DEBRIS AND LITTER SHALL BE REMOVED DURING REGULAR MOWING OPERATIONS AND AS NEEDED.
4. VISIBLE SIGNS OF EROSION IN THE POND AS WELL AS RIPRAP OUTLET AREA SHALL BE REPAIRED AS SOON AS IT IS NOTICED.

NON-ROUTINE MAINTENANCE

- 1. STRUCTURAL COMPONENTS OF THE POND SUCH AS THE DAM, RISER, AND THE PIPES SHALL BE REPAIRED UPON THE DETECTION OF ANY DAMAGE. THE COMPONENTS SHOULD BE INSPECTED DURING ROUTINE MAINTENANCE OPERATIONS.
2. SEDIMENT SHOULD BE REMOVED FROM THE POND NO LATER THAN WHEN THE CAPACITY OF THE POND IS HALF FULL OF SEDIMENT, WHEN DEEMED NECESSARY FOR AESTHETIC REASONS, OR WHEN DEEMED NECESSARY BY HOWARD COUNTY'S DEPARTMENT OF PUBLIC WORKS.

Table with columns: ELEV., SOIL DESCRIPTION, STRA. DEPTH, STRA. DEPTH, COIL, BORE #, DIA., REC., BORING & SAMPLING NOTES. Includes data for borings 1 through 5.

STANDARD PENETRATION TEST - DRIVING 2" OD SAMPLER 1' WITH 140g HAMMER FALLING 30" COUNT MADE AT 6" INTERVALS

Table with columns: ELEV., SOIL DESCRIPTION, STRA. DEPTH, STRA. DEPTH, COIL, BORE #, DIA., REC., BORING & SAMPLING NOTES. Includes data for borings 1 through 4.

STANDARD PENETRATION TEST - DRIVING 2" OD SAMPLER 1' WITH 140g HAMMER FALLING 30" COUNT MADE AT 6" INTERVALS

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STANDARD PENETRATION TEST - DRIVING 2" OD SAMPLER 1' WITH 140g HAMMER FALLING 30" COUNT MADE AT 6" INTERVALS

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 VEGETATIVE GROWTH. SOILS OF CONCERN HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION.

CONDITIONS WHERE PRACTICE APPLIES

- I. THIS PRACTICE IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:
A. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.
B. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.
C. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.
D. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.

CONSTRUCTION AND MATERIAL SPECIFICATIONS

- I. TOPSOIL SALVAGED FROM THE EXISTING SITE MAY BE USED PROVIDED THAT IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS. THE DEPTH OF TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-SCS IN COOPERATION WITH MARYLAND AGRICULTURAL EXPERIMENTAL STATION.
II. TOPSOIL SPECIFICATIONS - SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING:
1. TOPSOIL SHALL BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, LOAM, SAND, OR SILT. IT SHALL BE RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. REGARDLESS, TOPSOIL SHALL NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND SHALL CONTAIN LESS THAN 5% BY VOLUME OF SANDS, SILTS, CLAYS, COARSE FRAGMENTS, GRASS, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1 1/2" IN DIAMETER.
2. TOPSOIL MUST BE FREE OF PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACK GRASS, JOHNSON GRASS, NUTSEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.
3. WHERE THE SUBSOIL IS EITHER 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. TOPSOIL SHALL BE DISTRIBUTED UNIFORMLY OVER THE DESIGNATED AREAS AND WORKED INTO THE SOIL IN CONJUNCTION WITH TILLAGE OPERATIONS AS DESCRIBED IN THE FOLLOWING PROCEDURES.
III. FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES:
1. ON SOIL MEETING TOPSOIL SPECIFICATIONS, OBTAIN TEST RESULTS DICATING FERTILIZER AND LIME AMENDMENTS REQUIRED TO BRING THE SOIL INTO COMPLIANCE WITH THE FOLLOWING:
A. PH FOR TOPSOIL SHALL BE BETWEEN 6.0 AND 7.5. IF THE TESTED SOIL DEMONSTRATES A PH OF LESS THAN 6.0, SUFFICIENT LIME SHALL BE PRESCRIBED TO RAISE THE PH TO 6.5 OR HIGHER.
B. ORGANIC CONTENT OF TOPSOIL SHALL BE NOT LESS THAN 1.5 PERCENT BY WEIGHT.
C. TOPSOIL HAVING SOLUBLE SALT CONTENT GREATER THAN 500 PARTS PER MILLION SHALL NOT BE USED.
2. TOPSOIL SHALL NOT BE PLACED WHILE THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MOIST CONDITION. WHEN THE SOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.
3. TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED IN A 4"-8" LAYER AND LIGHTLY COMPACTED TO A MINIMUM THICKNESS OF 4". SPREADING SHALL BE ACCOMPANIED BY A MANNER THAT SOODING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOP SOILING OR OTHER OPERATIONS SHALL BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.
4. TOPSOIL SHALL NOT BE PLACED WHILE THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MOIST CONDITION. WHEN THE SOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.
5. ALTERNATIVE FOR PERMANENT SEEDING - INSTEAD OF APPLYING THE FULL AMOUNTS OF LIME AND COMMERICAL FERTILIZER, COMPOSTED SLUDGE AND AMENDMENTS MAY BE APPLIED AS SPECIFIED BELOW:
I. COMPOSTED SLUDGE MATERIAL FOR USE AS A SOIL CONDITIONER FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES SHALL BE TESTED TO DETERMINE AMENDMENTS AND FOR SITES HAVING DISTURBED AREAS UNDER 5 ACRES SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:
A. COMPOSTED SLUDGE SHALL BE SUPPLIED BY, OR ORIGINATE FROM, A PERSON OR PERSONS THAT ARE PERMITTED (AT THE TIME OF ACQUISITION) TO BE IMPORTED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT UNDER COMAR 26.04.06.
B. COMPOSTED SLUDGE SHALL CONTAIN AT LEAST 1 PERCENT NITROGEN, 1.5 PERCENT PHOSPHORUS, AND 0.2 PERCENT POTASSIUM AND HAVE A C/N RATIO OF 7.0 TO 8.0. IF COMPOST DOES NOT MEET THE REQUIREMENTS, THE APPROPRIATE CONSTITUENTS MUST BE ADDED TO MEET THE REQUIREMENTS PRIOR TO USE.
C. COMPOSTED SLUDGE SHALL BE APPLIED AT A RATE OF 1 TON/1,000 SQUARE FEET.
II. COMPOSTED SLUDGE SHALL BE AMENDED WITH A POTASSIUM FERTILIZER APPLIED AT THE RATE OF 4 LB/1,000 SQUARE FEET, AND 1/3 THE NORMAL LIME APPLICATION RATE.

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

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS

USDA - NATURAL RESOURCES CONSERVATION SERVICE DATE 10/18/01

THIS DEVELOPMENT PLAN IS APPROVED FOR SMALL POND CONSTRUCTION SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

HOWARD SCD DATE 10/18/01

APPROVED: DEPARTMENT OF PUBLIC WORKS

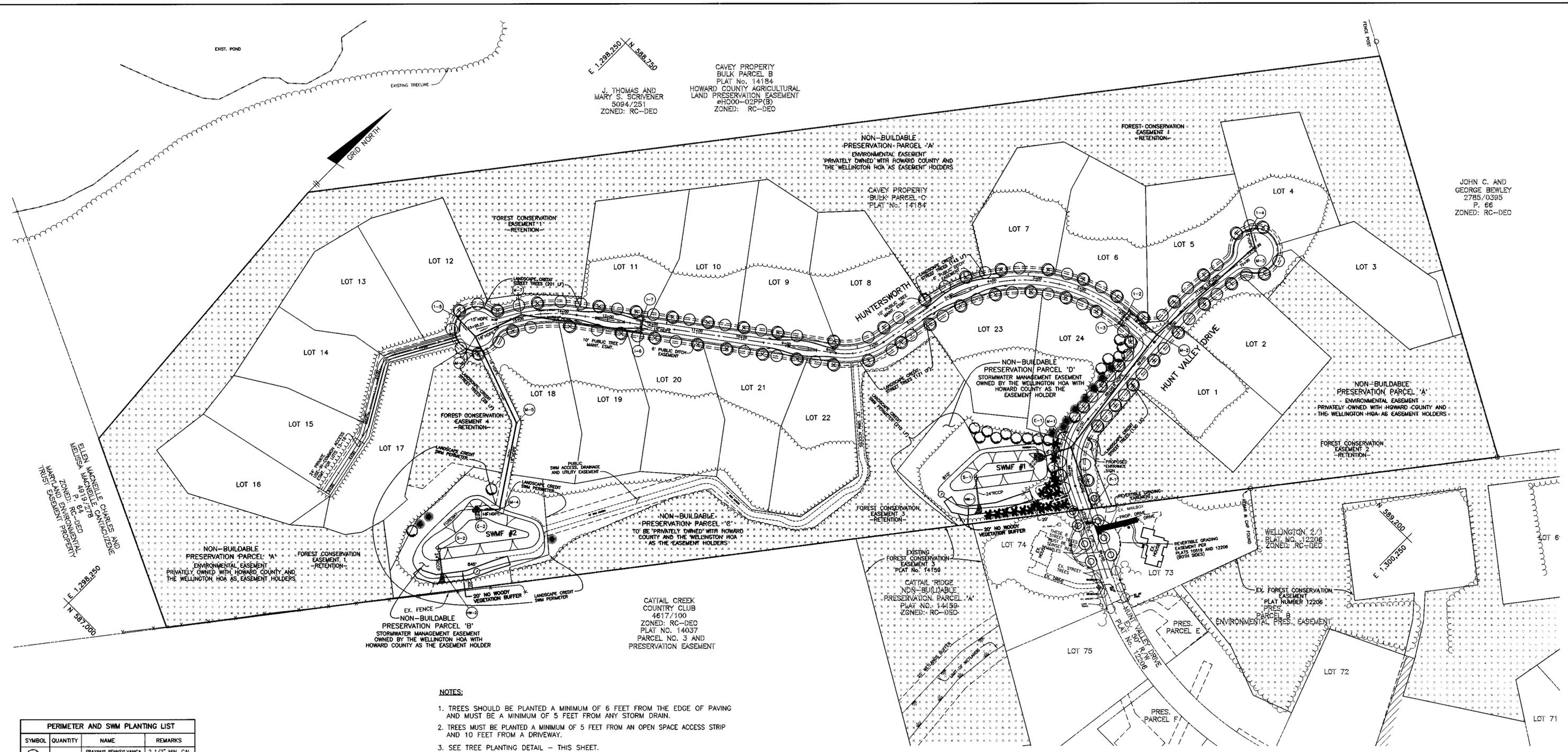
CHIEF, BUREAU OF HIGHWAYS DATE 10-25-01

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT DATE 10/29/01

CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE 10/29/01

BENCHMARK ENGINEERS & LAND SURVEYORS & PLANNERS. THE WOODS OF WELLINGTON. SDC GROUP, INC. P.O. BOX 417 ELLICOTT CITY, MARYLAND 21043. 410-465-4244. PROJECT: THE WOODS OF WELLINGTON. TAX MAP NO. 14, GRID NO. 20. TAX MAP NO. 21, GRID NO. 2. P/ PARCEL 248. 4TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND. TITLE: STORMWATER MANAGEMENT NOTES AND BORING LOGS. DATE: MARCH, 2001 PROJECT NO. 1251. DESIGN: GWF DRAFT: JMC SCALE: AS SHOWN DRAWING 15 OF 17.



CAVEY PROPERTY
BULK PARCEL B
PLAT No. 14184
HOWARD COUNTY AGRICULTURAL
LAND PRESERVATION EASEMENT
#H000-02PP(B)
ZONED: RC-DEC

JOHN C. AND
GEORGE BEWLEY
2785/0395
P. 66
ZONED: RC-DEC

ELENA MARIE CHARLES AND
HELENA MARIE CHARLES
4618/076
P. 64
ZONED: RC-DEC
TRUST AGREEMENT - SCHEDULE
LAND ENVIRONMENTAL

E 1,298,250
N 587,700

PERIMETER AND SWM PLANTING LIST			
SYMBOL	QUANTITY	NAME	REMARKS
○	18	FRAXINUS PENNSYLVANICA Palmore (Palmore Green Ash)	2 1/2" MIN. CAL B&B FULL HEAD
●	11	PINUS STROBUS (Eastern White Pine)	5'-6" HL UNSHEARED
✱	19	PINUS STROBUS (Eastern White Pine)	8'-10" HL SHEARED

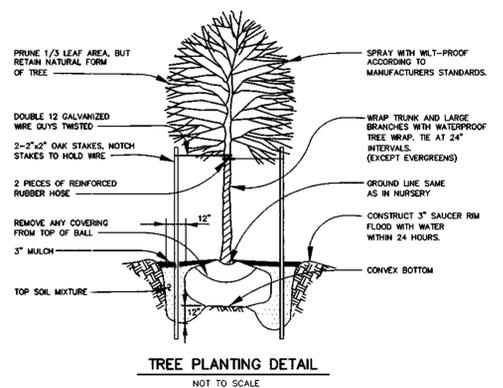
SCHEDULE D SWM AREA LANDSCAPING			
LINEAR FEET OF PERIMETER BUFFER TYPE	FACILITY 1	FACILITY 2	
CREDIT FOR EXISTING VEGETATION (NO, YES AND %)	YES ① 26%	YES ② 86%	
CREDIT FOR OTHER LANDSCAPING (NO, YES AND %)	NO	NO	
LINEAR FEET OF REQUIRED PLANTING	600	120	
NUMBER OF TREES REQUIRED			
SHADE TREES	12	2	
EVERGREEN TREES	15	3	
NUMBER OF TREES PROVIDED			
SHADE TREES	10	2	
EVERGREEN TREES	19 ③	3	
OTHER TREES (2:1 SUBSTITUTE)			

SCHEDULE A PERIMETER LANDSCAPE EDGE			
CATEGORY	ADJACENT TO ROADS	ADJACENT TO PERIMETER PROP.	
LANDSCAPE TYPE	LOT 24 - TYPE B	TYPE A	
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	285 (ALONG HUNT VALLEY DRIVE)	7458 ①	
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET)	NO	YES, 7458 ②	
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET)	NO	NO	
NUMBER OF PLANTS REQUIRED	285 LF.		
SHADE TREES	6		
EVERGREEN TREES	8		
OTHER TREES (2:1 SUBSTITUTE)	8		
NUMBER OF PLANTS PROVIDED			
SHADE TREES	6		
EVERGREEN TREES	8		
OTHER TREES (2:1 SUBSTITUTE)	8		
SHRUBS (10:1 SUBSTITUTE)			
DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED			

- NOTES:**
- TREES SHOULD BE PLANTED A MINIMUM OF 6 FEET FROM THE EDGE OF PAVING AND MUST BE A MINIMUM OF 5 FEET FROM ANY STORM DRAIN.
 - TREES MUST BE PLANTED A MINIMUM OF 5 FEET FROM AN OPEN SPACE ACCESS STRIP AND 10 FEET FROM A DRIVEWAY.
 - SEE TREE PLANTING DETAIL - THIS SHEET.
 - THE DEVELOPER SHALL BE RESPONSIBLE FOR STREET TREES, STORM WATER MANAGEMENT FACILITY PERIMETER PLANTING AND PRESERVATION OF THE PERIMETER VEGETATION AS SHOWN ON THESE PLANS.
 - PERIMETER AND SWM LANDSCAPE SURETY FOR 18 SHADE TREES AND 30 EVERGREEN TREES OF \$9,900.00 AND SURETY FOR 115 STREET TREES, SHALL BE PART OF THE D.P.W. DEVELOPERS AGREEMENT.

STREET TREE REQUIREMENT			
LINEAR FRONTAGE OF ROADWAY:	5,282		
FRONTAGE ADJACENT TO PRESERVED WOODS:	673		
LINEAR FRONTAGE OF REQUIREMENT:	4,609		
NUMBER OF STREET TREES REQUIRED:	115		
NUMBER OF STREET TREES PROVIDED:	115		

STREET TREE PLANTING LIST			
SYMBOL	QUANTITY	NAME	REMARKS
⊕	54	Prunus sargentii (Sargent Cherry)	2 1/2" MIN. CAL. B&B FULL HEAD
○	53	Platanus x acerifolia (Bloodgood London Plane)	2 1/2" MIN. CAL. B&B FULL HEAD
⊙	8	Acer Rubrum (Red Sunset Red MAPLE)	3" MIN. CAL. B&B FULL HEAD



I 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 LANDSCAPE MANUAL. I FURTHER CERTIFY THAT UPON COMPLETION A CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

SDC GROUP, INC.

By: *Stewart K. Bredow* 10/2/01
OWNER/DEVELOPER STEWART K. BREDEW DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS
Andrew M. Dangle 10-25-01
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Cindy Hamster 10/21/01
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

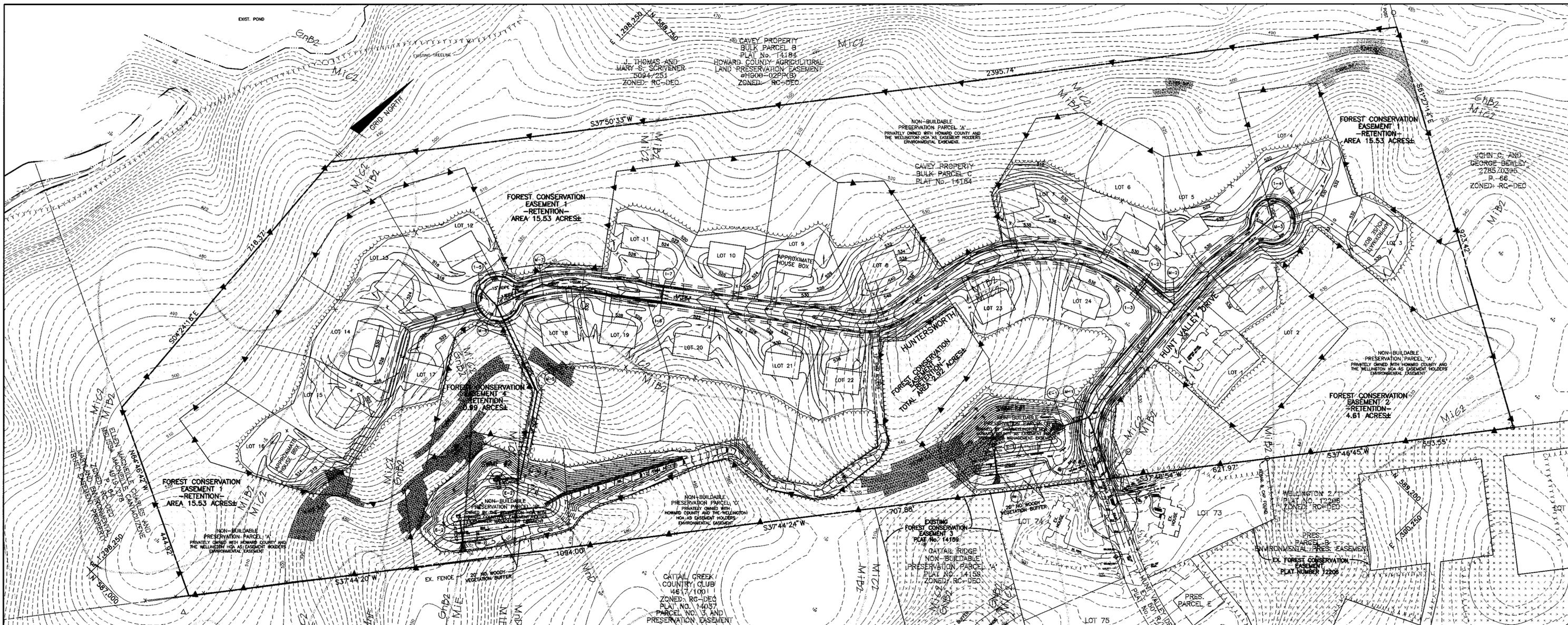
Chris Dammann 10/21/01
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

1	7/09/01	REV PER HO. CO. COMMENTS OF 6/21/01
NO.	DATE	REVISION

BENCHMARK
ENGINEERS & LAND SURVEYORS & PLANNERS
ENGINEERING, INC.
8480 BALTIMORE NATIONAL PIKE A SUITE 418
ELLICOTT CITY, MARYLAND 21043
PHONE: 410-465-6105 FAX: 410-465-6644
EMAIL: benchmark@coia.com

Donald Mason
10/3/01

OWNER/DEVELOPER: SDC GROUP, INC. P.O. BOX 417 ELLICOTT CITY, MD 21041 410-465-4244	PROJECT: THE WOODS OF WELLINGTON LOTS 1-24 AND NON-BUILDABLE PRES. PARCELS 'A' THRU 'D'
TITLE: LANDSCAPE PLAN, NOTES AND DETAILS	LOCATION: TAX MAP NO. 14, GRID NO. 20 P/O PARCEL 246 4TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: MARCH, 2001 MAY, 2001	PROJECT NO. 1251
DESIGN: GWF DRAFT: JMC	SCALE: 1" = 100' DRAWING 16 OF 17



FOREST DATA	
	ACRES
GROSS AREA: FLOODPLAIN/UNFORESTED PRESERVATION PARCEL:	59.5
NET TRACT AREA (NTA):	59.5
EXISTING FOREST THRESHOLD:	59.5
AFFORESTATION THRESHOLD:	11.9
REFORESTATION THRESHOLD:	14.9
BREAK-EVEN POINT:	14.9
FOREST TO BE CLEARED (NTA):	35.5
FOREST TO BE RETAINED (NTA):	24.0
FOREST TO BE RETAINED IN FCE:	24.1

FOREST CONSERVATION TABULATION		
DESIGNATION	TYPE	ACREAGE
1	RETENTION	15.53
2	RETENTION	4.81
3	RETENTION	2.92
4	RETENTION	0.99
TOTAL ALL RETENTION		24.05

SEQUENCE OF CONSTRUCTION

- SEDIMENT CONTROL AND TREE PROTECTION DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH GENERAL CONSTRUCTION PLAN FOR SITE. SITE SHALL BE GRADED IN ACCORDANCE WITH THE GENERAL CONSTRUCTION PLANS.
- REMOVE HAZARDOUS TREES (DEAD, DISEASED OR THOSE SUBJECT TO WIND THROWS) ALONG THE EDGE OF THE FOREST RETENTION AREAS AS WELL AS WITHIN OTHER TREE SAVE AREAS.
- SIGNAGE SHALL BE INSTALLED AS PER THE FOREST PROTECTION DEVICES SHOWN ON THE FOREST CONSERVATION PLAN.

FOP NOTES:

- ANY FOREST CONSERVATION EASEMENT (FCE) AREA SHOWN HEREON IS SUBJECT TO PROTECTIVE COVENANTS WHICH MAY BE FOUND IN THE LAND RECORDS OF HOWARD COUNTY WHICH RESTRICT THE DISTURBANCE AND USE OF THESE AREAS.
- FORESTED AREAS OCCURRING OUTSIDE OF THE FCE SHALL NOT BE CONSIDERED PART OF THE FCE AND SHALL NOT BE SUBJECT TO PROTECTIVE LAND COVENANTS.
- LIMITS OF DISTURBANCE SHALL BE RESTRICTED TO AREAS OUTSIDE THE LIMIT OF TEMPORARY FENCING OR THE FCE BOUNDARY, WHICHEVER IS GREATER.
- THERE SHALL BE NO CLEARING, GRADING, CONSTRUCTION OR DISTURBANCE OF VEGETATION IN THE FOREST CONSERVATION EASEMENT, EXCEPT AS PERMITTED BY HOWARD COUNTY DPZ.
- NO STOCKPILES, PARKING AREAS, EQUIPMENT CLEANING AREAS, ETC. SHALL OCCUR WITHIN AREAS DESIGNATED AS FOREST CONSERVATION EASEMENTS.
- TEMPORARY FENCING SHALL BE USED TO PROTECT FOREST RESOURCES DURING CONSTRUCTION. THE FENCING SHALL BE PLACED ALONG ALL FCE BOUNDARIES WHICH OCCUR WITHIN 25 FEET OF THE PROPOSED LIMITS.
- PERMANENT SIGNAGE SHALL BE PLACED 50-100' APART ALONG THE BOUNDARIES OF ALL AREAS INCLUDED IN FOREST CONSERVATION EASEMENTS. SIGNS SHALL BE MOUNTED ON A PERMANENT WOOD POST OR METAL STAKE. FCE SIGNS SHALL NOT BE ATTACHED TO TREES.
- THE FOREST CONSERVATION OBLIGATION FOR THIS SUBDIVISION WILL BE FULFILLED BY RETENTION OF 24.05 ACRES OF EXISTING FOREST IN FOREST CONSERVATION EASEMENTS WHICH IS GREATER THAN THE REQUIRED BREAK-EVEN POINT FOR THIS PROJECT.

**APPENDIX E
FOREST CONSERVATION WORKSHEET**

I. BASIC SITE DATA		IV. REFORESTATION CALCULATIONS	
	ACRES (1/10 acre)		ACRES (1/10 acre)
GROSS SITE AREA	59.5	A. NET TRACT AREA	59.5
AREA WITHIN 100 YEAR FLOOD PLAIN	0	B. REFORESTATION THRESHOLD (25% x A)	14.9
AREA WITHIN AGRICULTURAL USE OR PRESERVATION PARCEL (IF APPLICABLE)	0	D. EXISTING FOREST ON NET TRACT AREA	59.5
NET TRACT AREA	59.5	E. FOREST AREAS TO BE CLEARED	35.4
LAND USE CATEGORY (R-RD, R-RMD, R-S, C/I/O, I)	R-RMD	F. FOREST AREAS TO BE RETAINED	24.1
		G. FOREST AREAS CLEARED ABOVE REFORESTATION THRESHOLD (D-F, if F equals or is greater than B, Alternate 1) (D-B, if F is less than B, Alternate 2)	35.4
		H. FOREST AREAS CLEARED BELOW REFORESTATION THRESHOLD	0
		I. FOREST AREAS RETAINED ABOVE REFORESTATION THRESHOLD (F-B, Retention Credit, if applicable)	9.2

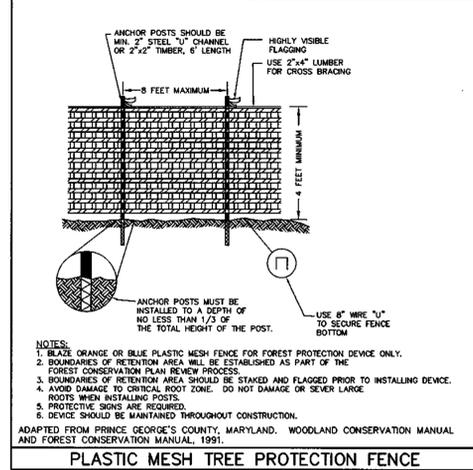
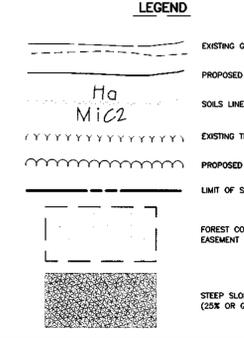
- III. DETERMINING REQUIREMENTS: AFFORESTATION OR REFORESTATION**
- Reforestation**
If existing forest areas equal or exceed the afforestation minimum (if D equals or is more than C), and clearing of forest areas is proposed, reforestation requirements may apply.
GO TO SECTION IV
 - Afforestation**
If existing forest areas equal or exceed the afforestation minimum (if D equals or is more than C), and no clearing of existing forest resources is proposed, no reforestation is required. No further calculations are needed.

PROTECTIVE TECHNIQUE LEGEND

- X—X—X TEMPORARY FENCING (SEE DETAIL)
- ▲ PERMANENT SIGNAGE

FOREST RETENTION AREA
MACHINERY, DUMPING OR STORAGE OF ANY MATERIALS IS PROHIBITED

VIOLATORS ARE SUBJECT TO FINES AS IMPOSED BY THE HOWARD COUNTY FOREST CONSERVATION ACT OF 1992



PLASTIC MESH TREE PROTECTION FENCE

APPROVED: DEPARTMENT OF PUBLIC WORKS
Andrew M. Danek 10-25-01
CHIEF, BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Cindy Hamilton 10/25/01
CHIEF, DIVISION OF LAND DEVELOPMENT

John Drummond 10/25/01
CHIEF, DEVELOPMENT ENGINEERING DIVISION

SOILS LEGEND		SOIL SURVEY SHEET 12
MAP SYMBOL	SOIL GROUP	SOIL TYPE
EC3	B	ELIQUA SILTY CLAY LOAM, 8 TO 15% SLOPES, SEVERELY ERODED
GB2	B	GLENELG LOAM, 3 TO 8% SLOPES, MODERATELY ERODED
GC2	B	GLENELG LOAM, 8 TO 15% SLOPES, MODERATELY ERODED
GC3	B	GLENELG LOAM, 8 TO 15% SLOPES, SEVERELY ERODED
GAB2	* C	GLENVILLE SILT LOAM, 3 TO 8% SLOPES, MODERATELY ERODED
MB2	B	MANOR LOAM, 3 TO 8% SLOPES, MODERATELY ERODED
MC2	B	MANOR LOAM, 8 TO 15% SLOPES, MODERATELY ERODED
MC3	B	MANOR LOAM, 8 TO 15% SLOPES, SEVERELY ERODED
ME	B	MANOR LOAM, 25 TO 45 % SLOPES

* INDICATES A HYDRIC SOIL

NO.	DATE	REV PER HO. CO. COMMENTS	REVISION
1	7/10/01	REV PER HO. CO. COMMENTS OF 6/21/01	

BENCHMARK ENGINEERING, INC.
ENGINEERS • LAND SURVEYORS • PLANNERS

8480 BALTIMORE NATIONAL PIKE SUITE 418
ELLICOTT CITY, MARYLAND 21043
PHONE: 410-465-6105 FAX: 410-465-6644
EMAIL: benchmark@ccia.com

Donald Mason

OWNER/DEVELOPER: **SDC GROUP, INC.**
P.O. BOX 417
ELLICOTT CITY, MD 21041
410-465-4244

PROJECT: **THE WOODS OF WELLINGTON**
LOTS 1-24 AND NON-BUILDABLE PRES. PARCELS 'A' THRU 'D'

LOCATION: TAX MAP NO. 14, GRID NO. 20
TAX MAP NO. 21, GRID NO. 2
P/O PARCEL 245
4th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: **FOREST CONSERVATION PLAN, NOTES AND DETAILS**

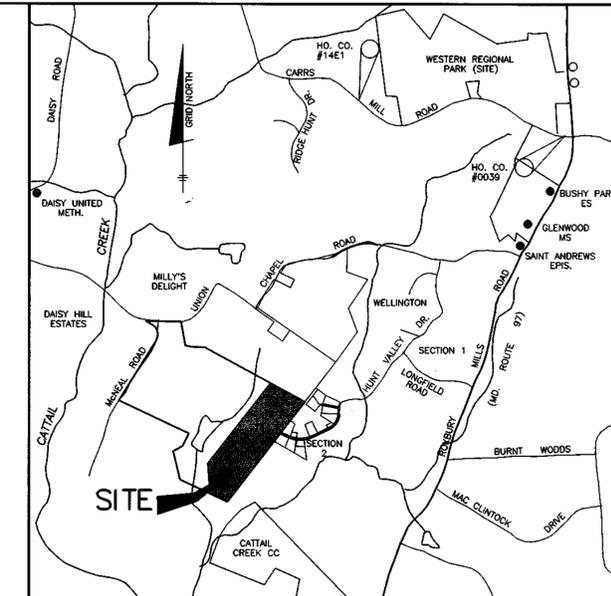
DATE: MARCH, 2001 PROJECT NO. 1251
MAY, 2001 P/O PARCEL 245

DESIGN: GWF DRAFT: JMC SCALE: 1" = 100' DRAWING 17 OF 17

THE WOODS OF WELLINGTON

4th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

ROAD, STORMWATER MANAGEMENT AND STORM DRAIN CONSTRUCTION PLANS

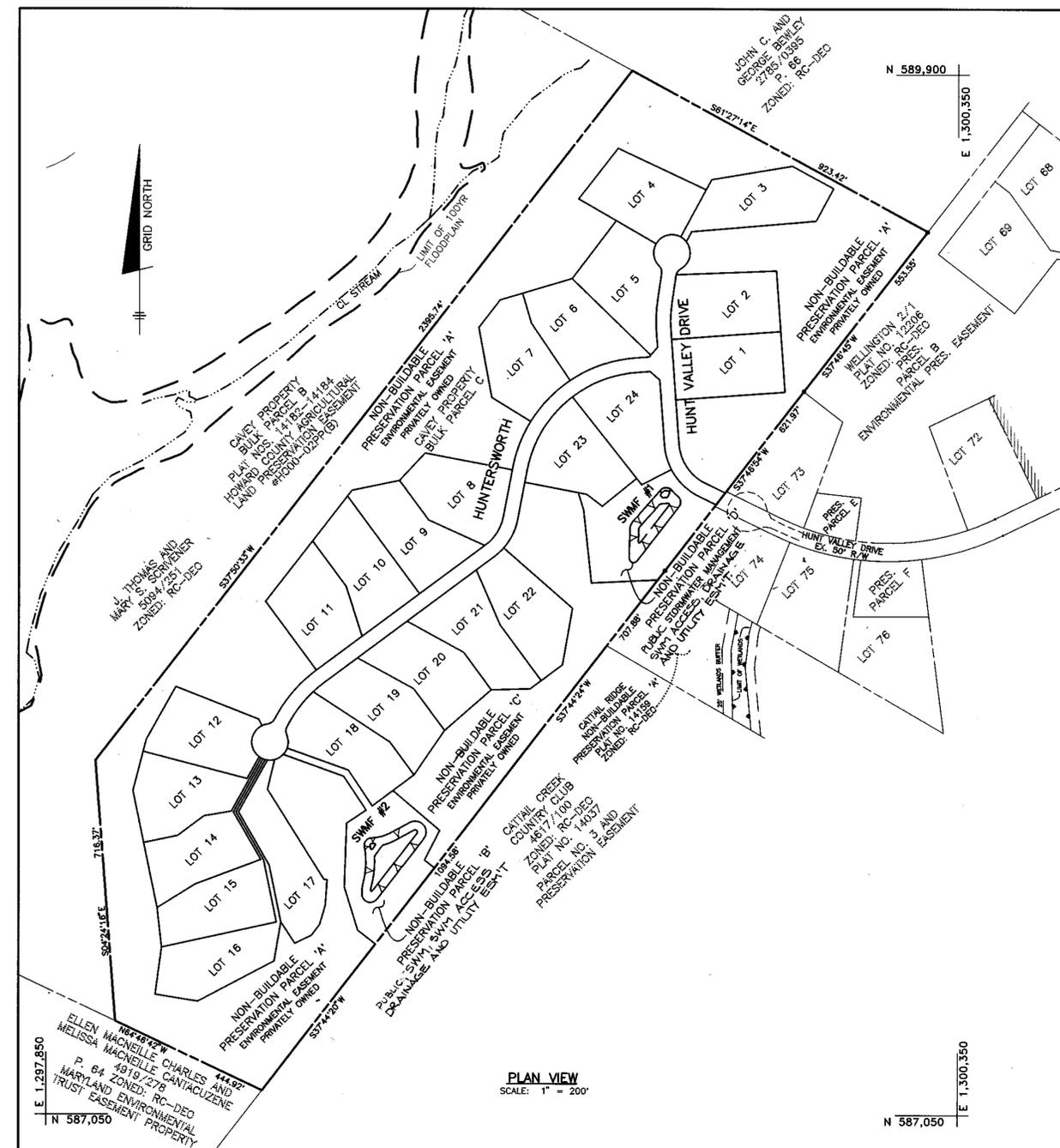


VICINITY MAP

SCALE: 1" = 2000'

BENCH MARKS NAD'83	
HO. CO. #14E1 STAMPED BRASS DISK SET ON TOP OF CONC. BASE 33' WEST OF CL OF DRIVE TO 15050 CARRS MILL ROAD; 19.5' NORTH OF EDGE OF PAVING OF CARRS MILL ROAD. N 596213.6182' E 1301991.8973' ELEV. 590.862'	
HO. CO. #0039 STAMPED BRASS DISK SET ON TOP OF CONC. BASE @ SOUTHWEST CORNER OF CARRS MILL ROAD AND ROUTE 97; 33.4' SOUTH OF CL OF CARRS MILL ROAD AND 40.3' WEST OF CL OF ROUTE 97. N 595722.8341' E 1306481.8720' ELEV. 590.862'	

SHEET INDEX	
SHEET NO.	DESCRIPTION
1	COVER SHEET
2-3	ROAD AND STORM DRAIN PLAN
4	SPEED CONTROL DETAILS
5-7	ROAD PROFILES
8	STORM DRAIN PROFILES AND SCHEDULES
9-10	GRADING AND SEDIMENT & EROSION CONTROL PLAN
11	SEDIMENT AND EROSION CONTROL NOTES AND DETAILS
12	STORM DRAIN DRAINAGE AREA MAP
13-14	STORMWATER MANAGEMENT NOTES AND DETAILS
15	STORMWATER MANAGEMENT NOTES AND BORING LOGS
16	LANDSCAPE PLAN, NOTES AND DETAILS
17	FOREST CONSERVATION PLAN, NOTES AND DETAILS



PLAN VIEW
SCALE: 1" = 200'

- GENERAL NOTES**
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARD AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE. ALL LINES SHOWN IN STANDARD SYMBOLS AS PRESENTED IN THE DESIGN MANUAL, VOLUME IV, "STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION."
 - THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/CONSTRUCTION INSPECTION DIVISION AT 410-313-1880 AT LEAST FIVE (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.
 - PROJECT BACKGROUND:
LOCATION: TAX MAP NO. 14 - GRID NO. 20 AND TAX MAP NO. 21 - GRID NO. 2 - P/O PARCEL 246
ZONING: RC-DEG
ELECTION DISTRICT: 4th
TOTAL TRACT AREA: 59.5± AC.
NUMBER OF PROPOSED LOTS: 24
NUMBER OF PROPOSED OPEN SPACE LOTS: 0
NUMBER OF PROPOSED PRESERVATION PARCELS: 4
TWO TO BE PRIVATELY OWNED AND TWO TO BE OWNED BY THE WELLINGTON HOA
DPZ REFERENCE FILE: COM-00-02, 3-00-04, 5-00-04, 10-01-04
SKETCH PLAN APPROVED ON MARCH 21, 2000.
PRELIMINARY PLAN APPROVED ON NOVEMBER 29, 2000.
 - TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
 - TOPOGRAPHY SHOWN HEREON WAS TAKEN FROM FIELD RUN SURVEY DONE BY BENCHMARK ENGINEERING, INC., DATED APRIL, 2000, AND SUPPLEMENTED WITH TOPOGRAPHIC FILE INFORMATION PURCHASED FROM HOWARD COUNTY GEOGRAPHICAL INFORMATION SERVICES. CONTOURS SHOWN ARE 2 FOOT INTERVALS.
 - BOUNDARY SURVEY WAS PERFORMED BY BENCHMARK ENGINEERING, INC. DATED SEPTEMBER, 1999. COORDINATES ARE BASED ON NAD 83, MARYLAND STATE PLAN GRID AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS Nos. 14E1 AND 0039. VERTICAL CONTROL IS NAD'27 BASED ON HOWARD COUNTY CONTROL STATION NO. 3432001.
 - THE PROJECT IS WITHIN THE METROPOLITAN DISTRICT. WATER AND SEWER FOR THIS PROJECT SHALL BE PRIVATE AND WILL BE PROVIDED ON THE INDIVIDUAL LOT.
 - WATER QUALITY AND QUANTITY TREATMENT FOR THE PROPOSED ROADWAYS AND LOTS IS BEING PROVIDED BY EXTENDED DETENTION FACILITIES.
 - THERE IS NO FLOOD PLAIN LOCATED ON THIS SITE.
 - THERE ARE NO WETLANDS LOCATED ON THIS SITE.
 - ADEQUATE PUBLIC FACILITIES ORDINANCE TRAFFIC ANALYSIS WAS PREPARED BY THE LEE CUNNINGHAM & ASSOCIATES, DATED NOVEMBER, 1999 AND APPROVED IN NOVEMBER, 1999 (S-00-04).
 - MINIMUM BUILDABLE LOT SIZE SHALL BE 40,000 SQUARE FEET. MAXIMUM BUILDABLE LOT SIZE SHALL BE 50,000 SQUARE FEET.
 - THE GEOTECHNICAL REPORT FOR THIS PROJECT WAS PREPARED BY HILLIS-CARNES AND ASSOCIATES, DATED JULY 14, 2000.
 - EXISTING UTILITIES SHOWN ARE TAKEN FROM RECORD INFORMATION AND FIELD LOCATIONS. CONTRACTOR TO VERIFY LOCATION PRIOR TO STARTING CONSTRUCTION.
 - FOREST STAND DELINEATION WAS PREPARED BY ECO-SCIENCE PROFESSIONALS, INC., DATED NOVEMBER, 1999 (S-00-04).
 - NO DISTURBANCE SHALL OCCUR IN THE FOREST CONSERVATION EASEMENT AREAS EXCEPT AS APPROVED AS A PART OF THESE PLANS.
 - EXISTING WELLS AND/OR SEWERAGE EASEMENTS WITHIN 100' OF THE PROPERTY HAVE BEEN SHOWN FROM THE BEST AVAILABLE INFORMATION.
 - TO THE BEST OF THE OWNERS KNOWLEDGE, THERE ARE NO CEMETERY LOCATIONS ON-SITE.
 - DRIVEWAYS SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLING TO INSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:
1) WIDTH - 12' (14' SERVING MORE THAN ONE RESIDENCE);
2) SURFACE - 6" OF COMPACT CRUSHER RUN BASE WITH TAR AND CHIP COATING (1-1/2" MIN.);
3) GEOMETRY - MAX. 15% GRADE, MAX. 10% GRADE CHANGE AND MIN. 45' TURNING RADIUS;
4) STRUCTURES (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (H25 LOADING);
5) DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100-YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY SURFACE;
6) MAINTENANCE - SUFFICIENT TO INSURE ALL WEATHER USE.
 - ALL ROAD FILLS SHALL BE COMPACTED TO 95% AS DETERMINED BY AASHTO T-180.
 - PERIMETER AND SWM LANDSCAPE SURETY FOR 18 SHADE TREES AND 30 EVERGREEN TREES IN THE AMOUNT OF \$9,900.00 AND SURETY FOR 115 STREET TREES, SHALL BE PART OF THE D.P.W. DEVELOPERS AGREEMENT.
 - THIS PLAN COMPLIES WITH THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION BY 24.7 ACRES OF RETENTION ON-SITE. FINANCIAL SURETY FOR THE REQUIRED OBLIGATION MUST BE POSTED AS PART OF THE DEVELOPERS AGREEMENT IN THE AMOUNT OF \$200,000.00.
 - THE CONTRACTOR SHALL PROVIDE DRIVEWAY ACCESS TO EXISTING RESIDENCES ON LOTS 73 AND 74 IF CONSTRUCTION ACTIVITIES IMPACT THE USE. AFTER CONSTRUCTION IS COMPLETED DRIVEWAYS SHALL BE REPAIRED OR RECONSTRUCTED TO PROVIDE ACCESS ONTO HUNT VALLEY DRIVE IN ACCORDANCE WITH HOWARD COUNTY STANDARD R-6.06 AND THESE PLANS.
 - STREET LIGHTS ARE NOT REQUIRED FOR THIS PROJECT AS IT IS IN THE RC ZONING DISTRICT.
 - THIS AREA DESIGNATES A PRIVATE SEWERAGE EASEMENT OF AT LEAST 10,000 SQUARE FEET AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWER DISPOSAL (COMAR 26.0403). IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWER IS AVAILABLE. THESE EASEMENTS SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWERAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT VARIANCES FOR ENCROACHMENT INTO THE PRIVATE SEWERAGE EASEMENT. RECORDATION OF A MODIFIED SEWERAGE EASEMENT PLAT SHALL NOT BE REQUIRED. THE PERCOLATION CERTIFICATION PLAN FOR THIS PROJECT WAS APPROVED ON FEBRUARY 29, 2000.
 - THERE ARE NO CONTIGUOUS AREAS OF STEEP SLOPES (25% OR GREATER) OF 20,000 S.F. OR GREATER ON THIS SITE. GRADING OF STEEP SLOPE AREAS LESS THAN 20,000 S.F. IS PERMITTED UNDER SECTION 16.116(b)(1) OF THE SUBDIVISION REGULATIONS.
 - THERE IS AN EXISTING DWELLING LOCATED ON LOT 1 TO REMAIN. NO NEW BUILDINGS, EXTENSIONS OR ADDITIONS TO THE EXISTING DWELLING ARE TO BE CONSTRUCTED AT A DISTANCE LESS THAN THE ZONING REGULATIONS REQUIRE.
 - ALL LINES SHOWN IN STANDARD SYMBOLS AS PRESENTED IN THE DESIGN MANUAL, VOLUME IV, "STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION."

APPROVED: DEPARTMENT OF PUBLIC WORKS
Andrew M. Canale 10-25-01
CHIEF, BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Cindy Heaton 10/25/01
CHIEF, DIVISION OF LAND DEVELOPMENT

Mr. [Signature] 10/25/01
CHIEF, DEVELOPMENT ENGINEERING DIVISION

2	1/08/02	REVISE SWM EASEMENT DESIGNATIONS
1	7/09/01	REVISED PER HO. CO. COMMENTS OF 6/21/01
NO.	DATE	REVISION

BENCHMARK
ENGINEERS & LAND SURVEYORS & PLANNERS
ENGINEERING, INC.
8480 BALTIMORE NATIONAL PIKE A SUITE 418
ELLCOTT CITY, MARYLAND 21043
PHONE: 410-465-6105 FAX: 410-465-6644
EMAIL: benchmark@ccis.com

Donald Moan

OWNER/DEVELOPER: SDC GROUP, INC. P.O. BOX 417 ELLCOTT CITY, MD 21041 410-465-4244	PROJECT: THE WOODS OF WELLINGTON LOTS 1-24 AND NON-BUILDABLE PRES. PARCELS 'A' THRU 'D'
LOCATION: TAX MAP NO. 14, GRID NO. 20 P/O PARCEL 246 4TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND	TITLE: COVER SHEET
DATE: MARCH, 2001 MAY, 2001	PROJECT NO. 1251
DESIGN: GWF DRAFT: JMC	SCALE: AS SHOWN DRAWING 1 OF 17

CAVEY PROPERTY
BULK PARCEL B
PLAT No. 14184
HOWARD COUNTY AGRICULTURAL
LAND PRESERVATION EASEMENT
#H000-02PP(B)
ZONED: RC-DEO

J. THOMAS AND
MARY S. SCRIVENER
5094/251
ZONED: RC-DEO

FOREST CONSERVATION
EASEMENT 1
-RETENTION-
TOTAL AREA 15.53 ACRES±

CAVEY PROPERTY
BULK PARCEL C
PLAT No. 14184

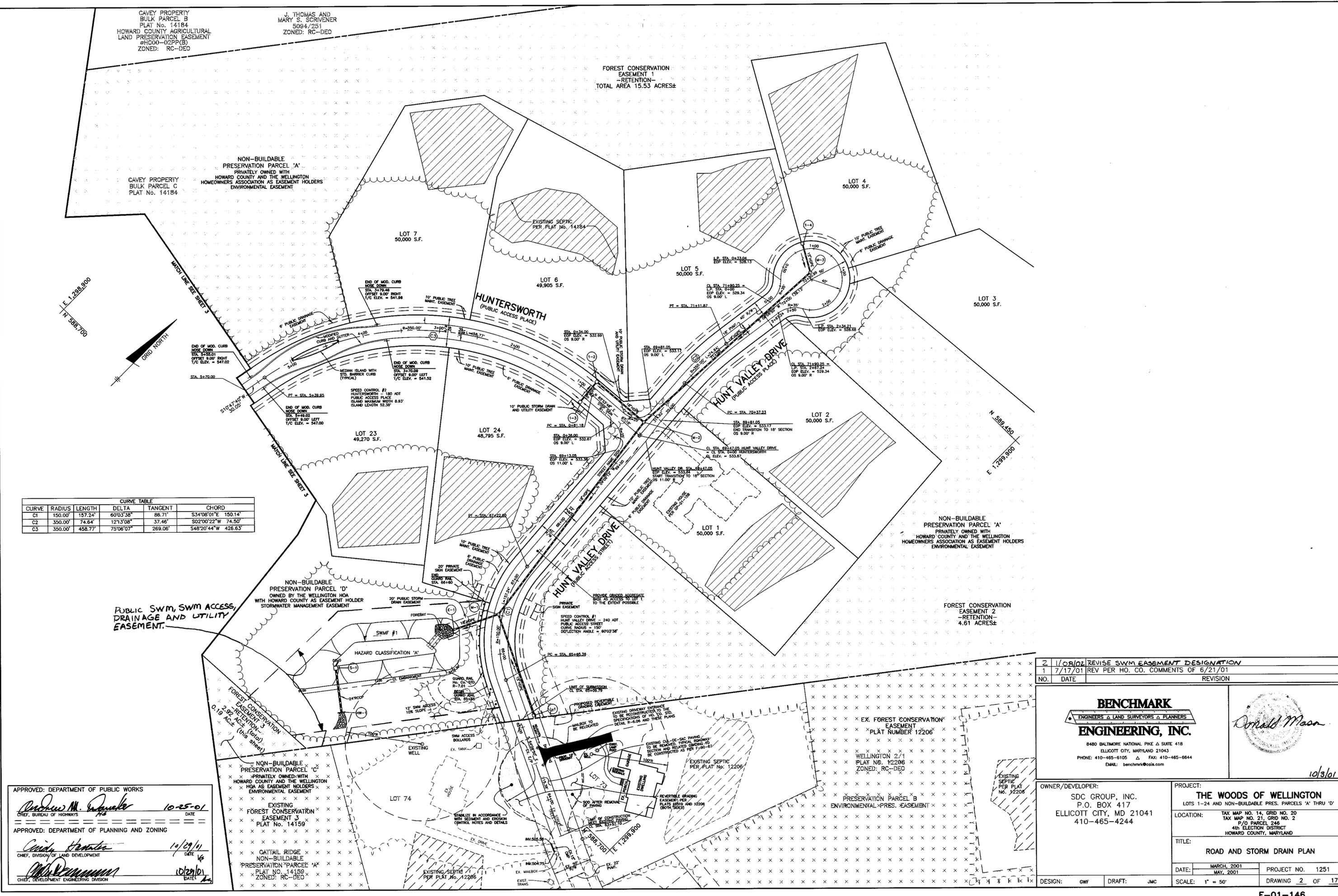
NON-BUILDABLE
PRESERVATION PARCEL 'A'
PRIVATELY OWNED WITH
HOWARD COUNTY AND THE WELLINGTON
HOMEOWNERS ASSOCIATION AS EASEMENT HOLDERS
ENVIRONMENTAL EASEMENT

CURVE	RADIUS	LENGTH	DELTA	TANGENT	CHORD
C1	150.00'	157.24'	60°03'38"	86.71'	S34°08'01"E 150.14'
C2	350.00'	74.64'	12°13'08"	37.46'	S02°00'22"W 74.50'
C3	350.00'	458.77'	75°06'07"	269.06'	S48°20'44"W 426.63'

APPROVED: DEPARTMENT OF PUBLIC WORKS
Richard M. [Signature] 10-25-01
CHIEF, BUREAU OF HIGHWAYS
DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Cathy [Signature] 10/29/01
CHIEF, DIVISION OF LAND DEVELOPMENT
DATE

[Signature] 10/29/01
CHIEF, DEVELOPMENT ENGINEERING DIVISION
DATE



2	1/08/02	REVISE SWM EASEMENT DESIGNATION
1	7/17/01	REV PER HO. CO. COMMENTS OF 6/21/01
NO.	DATE	REVISION

BENCHMARK
ENGINEERS & LAND SURVEYORS & PLANNERS
ENGINEERING, INC.

8480 BALTIMORE NATIONAL PIKE & SUITE 418
ELLCOTT CITY, MARYLAND 21043
PHONE: 410-465-6105 FAX: 410-465-6844
EMAIL: benchmark@cole.com

Donald Mason
10/3/01

OWNER/DEVELOPER:
SDC GROUP, INC.
P.O. BOX 417
ELLCOTT CITY, MD 21041
410-465-4244

PROJECT:
THE WOODS OF WELLINGTON
LOTS 1-24 AND NON-BUILDABLE PRES. PARCELS 'A' THRU 'D'

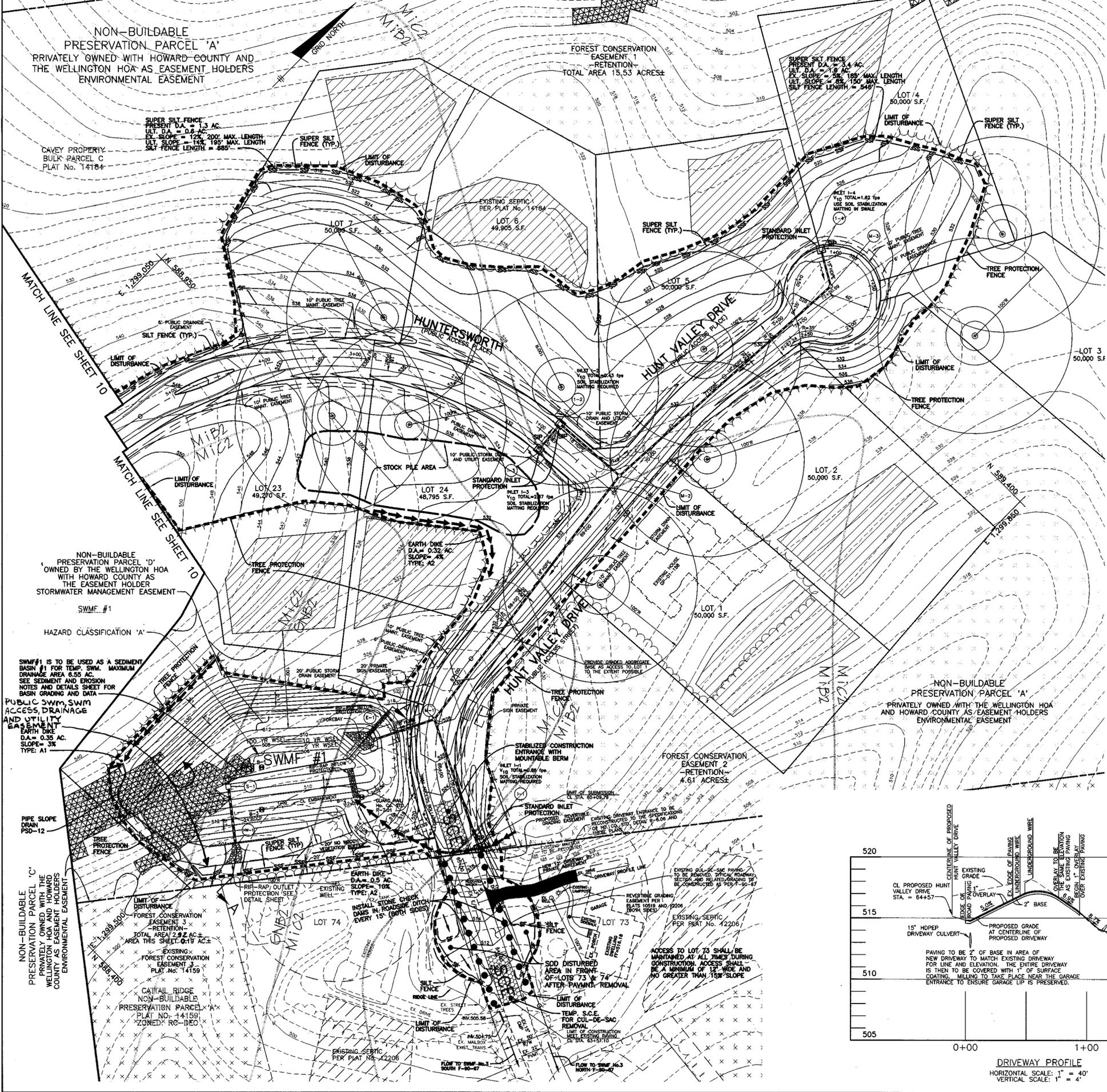
LOCATION: TAX MAP NO. 14, GRID NO. 20
TAX MAP NO. 21, GRID NO. 2
P/O PARCEL 248
4th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE:
ROAD AND STORM DRAIN PLAN

DATE: MARCH, 2001 PROJECT NO. 1251
MAY, 2001

DESIGN: GWF DRAFT: JMC SCALE: 1" = 50' DRAWING 2 OF 17

UNITS: AGRICULTURAL
 EASEMENT
 10-02PP(B)
 D: RC-DEC



SOILS LEGEND		
MAP SYMBOL	SOIL GROUP	SOIL TYPE
EIC3	B	ELIOLK SILTY CLAY LOAM, 8 TO 15% SLOPES, SEVERELY ERODED
GIC2	B	GLENLEK LOAM, 3 TO 8% SLOPES, MODERATELY ERODED
GIC3	B	GLENLEK LOAM, 8 TO 15% SLOPES, MODERATELY ERODED
GIC3	B	GLENLEK LOAM, 8 TO 15% SLOPES, SEVERELY ERODED
GIB2	C	GLENVILLE SILT LOAM, 3 TO 8% SLOPES, MODERATELY ERODED
MIB2	B	MANOR LOAM, 3 TO 8% SLOPES, MODERATELY ERODED
MIC2	B	MANOR LOAM, 8 TO 15% SLOPES, MODERATELY ERODED
MIC3	B	MANOR LOAM, 8 TO 15% SLOPES, SEVERELY ERODED
ME	B	MANOR LOAM, 25 TO 45% SLOPES

NOTE: CONTRACTOR TO MAINTAIN POSITIVE DRAINAGE AT ALL TIMES TO BASINS.

	STORMWATER MANAGEMENT SUMMARY TABLE					
	SWMF #1		SWMF #2		SWMF #3	
	D.A.	D.A.	D.A.	D.A.	D.A.	D.A.
STORM FREQUENCY	2	10	100	2	10	100
PRESENT CONDITION DISCHARGE AT STUDY POINT (cfs)	0.93	5.36	N/A	2.64	16.98	N/A
INFLOW INTO SWMF (cfs)	4.81	15.02	28.54	7.93	24.54	46.56
DISCHARGE FROM SWMF (cfs)	0.47	4.98	21.93	0.74	12.36	28.20
COMBINED DISCHARGE AT STUDY POINT (cfs)	0.50	5.15	22.69	0.98	17.06	39.04
WATER SURFACE ELEV. IN FACILITY (feet)	507.22	508.82	509.82	457.08	458.18	459.30
STORAGE VOLUME (AC.-FT.)	0.153	0.337	0.510	0.296	0.534	0.867

LEGEND

- EXISTING CONTOURS
- EXISTING TREELINE
- PROPOSED TREELINE
- LIMIT OF SUBMISSION
- SOILS LINE
- PROPOSED SEPTIC FIELD
- PROPOSED WELL LOCATION
- FOREST CONSERVATION EASEMENT
- SLOPES 25% AND GREATER
- SUPER SILT FENCE
- SILT FENCE
- EARTH DIKE
- LIMIT OF DISTURBANCE
- STABILIZED CONSTRUCTION ENTRANCE
- STONE CHECK DAMS
- TREE PROTECTION FENCE
- STANDARD INLET PROTECTION

AS-BUILT CERTIFICATION

I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE AS-BUILT PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

ENGINEER: Donald Moon PE NO. _____ DATE: 10/3/01

DATE: _____

ENGINEER'S CERTIFICATE

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

ENGINEER: Donald Moon P.E. # 21443 DATE: 10/3/01

DEVELOPER'S CERTIFICATE

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL 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 ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

DEVELOPER: Stephen K. Breeden DATE: 10/3/01

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS: Jim Ryan/GS DATE: 10/18/01

USDA - NATURAL RESOURCES CONSERVATION SERVICE

THIS DEVELOPMENT PLAN IS APPROVED FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

HOWARD SCD: [Signature] DATE: 10/18/01

APPROVED: DEPARTMENT OF PUBLIC WORKS: [Signature] DATE: 10-25-01

CHIEF, BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING: [Signature] DATE: 10/29/01

CHIEF, DIVISION OF LAND DEVELOPMENT

CHIEF, DEVELOPMENT ENGINEERING DIVISION: [Signature] DATE: 10/29/01

NO.	DATE	REVISION
2	1/08/02	REVISE SWM EASEMENT DESIGNATION
1	7/19/01	REV PER HO. CO. COMMENTS OF 6/21/01

BENCHMARK ENGINEERING, INC.

ENGINEERS • LAND SURVEYORS • PLANNERS

8480 BALTIMORE NATIONAL PIKE SUITE 418
 ELLICOTT CITY, MARYLAND 211043
 PHONE: 410-465-8105 FAX: 410-465-6844
 EMAIL: benchmark@cois.com

Donald Moon

10/3/01

OWNER/DEVELOPER: SDC GROUP, INC.
 P.O. BOX 417
 ELLICOTT CITY, MD 211041
 410-465-4244

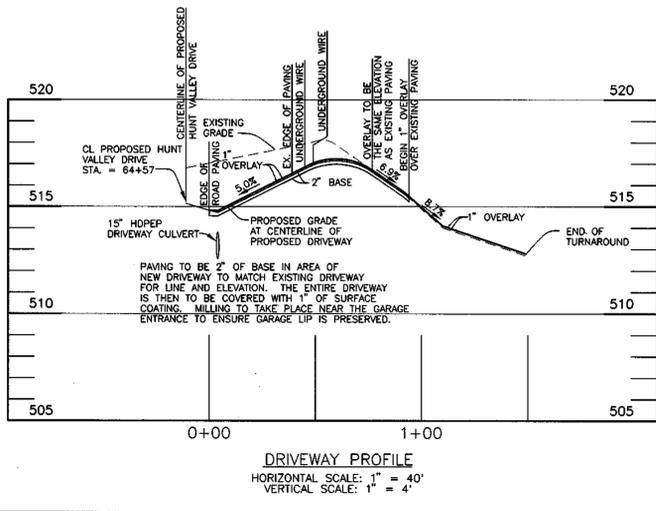
PROJECT: THE WOODS OF WELLINGTON
 LOTS 1-24 AND NON-BUILDABLE PRES. PARCELS 'A' THRU 'D'

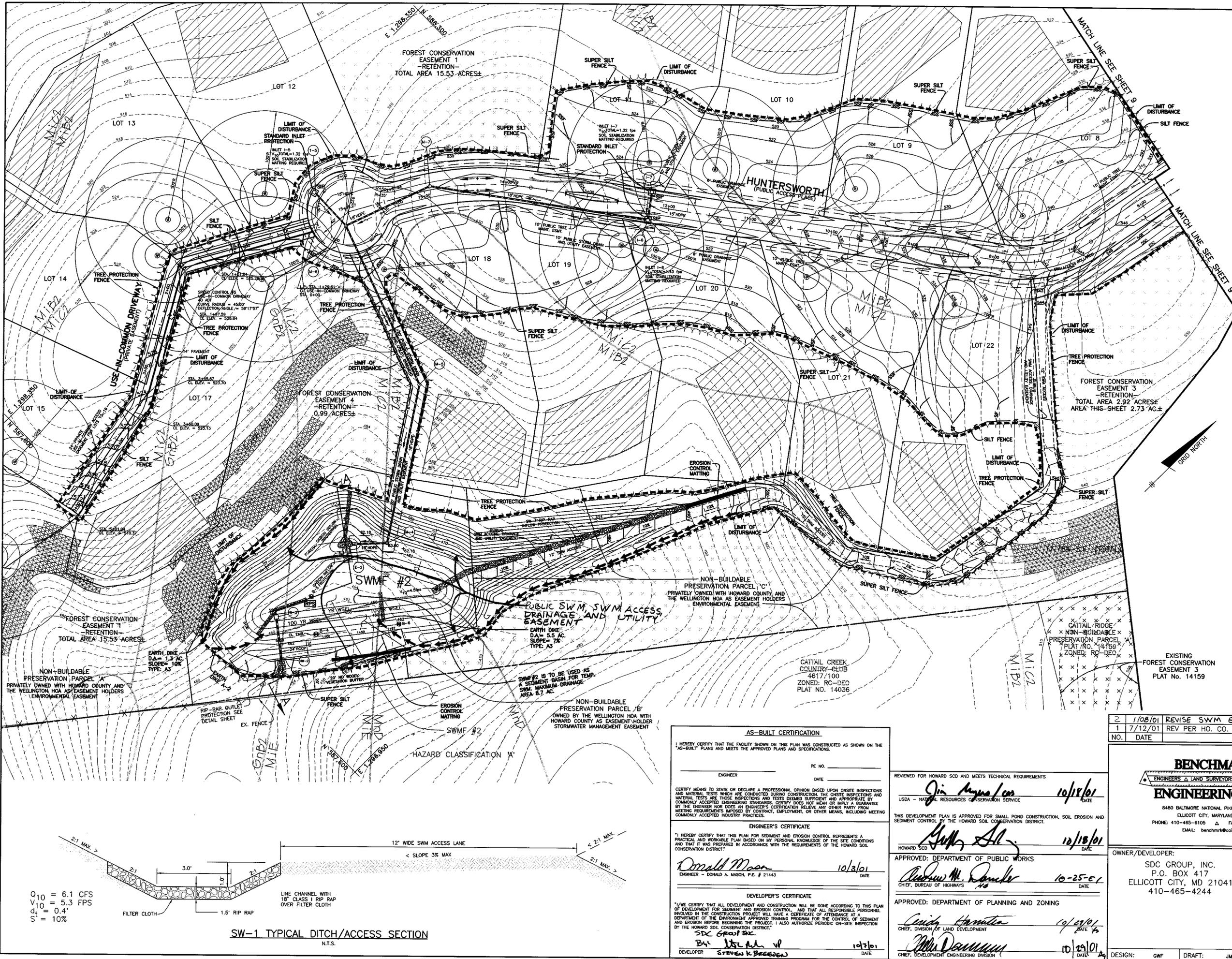
LOCATION: TAX MAP NO. 14, GRID NO. 20
 TAX MAP NO. 21, GRID NO. 2
 P.O. PARCEL 248
 4TH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

TITLE: GRADING, SEDIMENT AND EROSION CONTROL PLAN

DATE: MARCH, 2001 PROJECT NO. 1251
 MAY, 2001

DESIGN: GWF DRAFT: JMC SCALE: 1" = 50' DRAWING 9 OF 17





LEGEND

- EXISTING CONTOURS
- EXISTING TREELINE
- PROPOSED TREELINE
- LIMIT OF SUBMISSION
- SOILS LINE
- PROPOSED SEPTIC FIELD
- PROPOSED WELL LOCATION
- FOREST CONSERVATION EASEMENT
- SLOPES 25% AND GREATER
- SUPER SILT FENCE
- SILT FENCE
- EARTH DIKE
- LIMIT OF DISTURBANCE
- STABILIZED CONSTRUCTION ENTRANCE
- STONE CHECK DAMS
- TREE PROTECTION FENCE
- STANDARD INLET PROTECTION
- EROSION CONTROL MATTING

NOTE: CONTRACTOR TO MAINTAIN POSITIVE DRAINAGE AT ALL TIMES TO BASINS.

Q₁₀ = 6.1 CFS
 V₁₀ = 5.3 FPS
 C_t = 0.4'
 S = 10%

SW-1 TYPICAL DITCH/ACCESS SECTION
 N.T.S.

AS-BUILT CERTIFICATION

I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE AS-BUILT PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

ENGINEER: _____ PE NO. _____ DATE: _____

Donald Mason 10/3/01
 ENGINEER - DONALD A. MASON, P.E. # 21443

ENGINEER'S CERTIFICATE

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

Donald Mason 10/3/01
 ENGINEER - DONALD A. MASON, P.E. # 21443

DEVELOPER'S CERTIFICATE

*I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL 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 ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

Steven K. Breeden 10/3/01
 DEVELOPER

AS-BUILT CERTIFICATION

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS

Jin Nguyen/Car 10/18/01
 USDA - NATURAL RESOURCES CONSERVATION SERVICE

THIS DEVELOPMENT PLAN IS APPROVED FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

Jeffery A. ... 10/18/01
 HOWARD SCD

APPROVED: DEPARTMENT OF PUBLIC WORKS
Andrew M. ... 10-25-01
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Carole Hamilton 10/29/01
 CHIEF, DIVISION OF LAND DEVELOPMENT

Steve ... 10/29/01
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

2	1/08/01	REVISE SWM EASEMENT DESIGNATION
1	7/12/01	REV PER HO. CO. COMMENTS OF 6/21/01
NO.	DATE	REVISION

BENCHMARK
 ENGINEERS & LAND SURVEYORS & PLANNERS
ENGINEERING, INC.

8480 BALTIMORE NATIONAL PIKE # SUITE 418
 ELLICOTT CITY, MARYLAND 21043
 PHONE: 410-465-6105 FAX: 410-465-6644
 EMAIL: benchmark@cois.com

Donald Mason
 10/3/01

OWNER/DEVELOPER:
 SDC GROUP, INC.
 P.O. BOX 417
 ELLICOTT CITY, MD 21041
 410-465-4244

PROJECT:
THE WOODS OF WELLINGTON
 LOTS 1-24 AND NON-BUILDABLE PRES. PARCELS 'A' THRU 'D'

LOCATION: TAX MAP NO. 14, GRID NO. 20
 TAX MAP NO. 21, GRID NO. 2
 P/O PARCEL 246
 4th ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

TITLE:
GRADING AND SEDIMENT & EROSION CONTROL PLAN

DATE: MARCH, 2001
 MAY, 2001

PROJECT NO. 1251

DESIGN: GWF DRAFT: JMC

SCALE: 1" = 50'

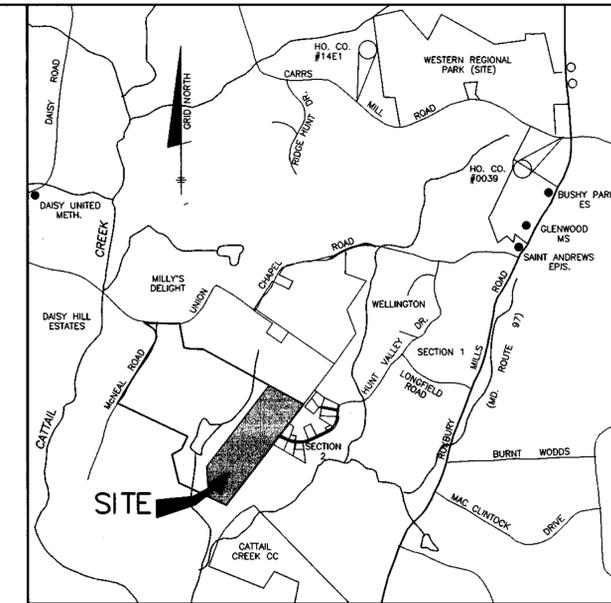
DRAWING 10 OF 17

THE WOODS OF WELLINGTON

ROAD, STORMWATER MANAGEMENT AND STORM DRAIN CONSTRUCTION PLANS

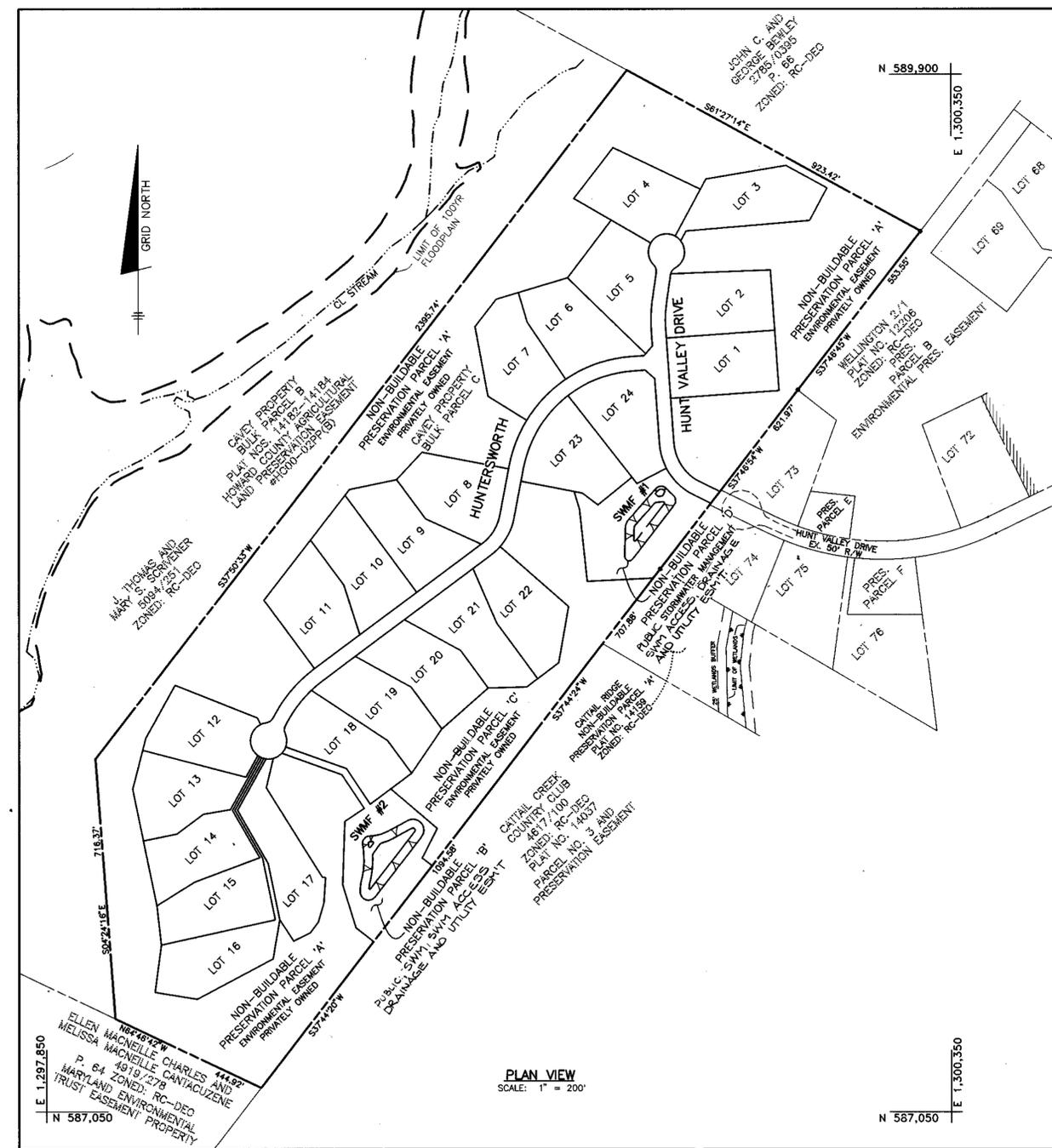
GENERAL NOTES

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARD AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE. ALL LINES SHOWN IN STANDARD SYMBOLS AS PRESENTED IN THE DESIGN MANUAL, VOLUME IV, "STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION."
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/CONSTRUCTION INSPECTION DIVISION AT 410-313-1880 AT LEAST FIVE (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.
- PROJECT BACKGROUND:
LOCATION: TAX MAP NO. 14 - GRID NO. 20 AND TAX MAP NO. 2 - GRID NO. 2 - P/O PARCEL 246
ZONING: RC-DEO
ELECTION DISTRICT: 4th
TOTAL TRACT AREA: 59.54 AC.
NUMBER OF PROPOSED LOTS: 24
NUMBER OF PROPOSED OPEN SPACE LOTS: 0
NUMBER OF PRESERVATION PARCELS: 4
TWO TO BE PRIVATELY OWNED AND TWO TO BE OWNED BY THE WELLINGTON HOA
DP2 REFERENCE FILE: F-00-86, S-00-04, P-01-04
SKETCH PLAN APPROVED ON MARCH 21, 2000.
PRELIMINARY PLAN APPROVED ON NOVEMBER 29, 2000.
- TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
- TOPOGRAPHY SHOWN HEREON WAS TAKEN FROM FIELD RUN SURVEY DONE BY BENCHMARK ENGINEERING, INC., DATED APRIL, 2000, AND SUPPLEMENTED WITH TOPOGRAPHIC FILE INFORMATION PURCHASED FROM HOWARD COUNTY GEOGRAPHIC INFORMATION SERVICES. CONTOURS SHOWN ARE 2 FOOT INTERVALS.
- BOUNDARY SURVEY WAS PERFORMED BY BENCHMARK ENGINEERING, INC. DATED SEPTEMBER, 1999. COORDINATES ARE BASED ON NAD 83, MARYLAND STATE PLAN GRID AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS Nos. 14E1 AND D039. VERTICAL CONTROL IS NAD27 BASED ON HOWARD COUNTY CONTROL STATION NO. 3432001.
- THE PROJECT IS NOT WITHIN THE METROPOLITAN DISTRICT. WATER AND SEWER FOR THIS PROJECT SHALL BE PRIVATE AND WILL BE PROVIDED ON THE INDIVIDUAL LOT.
- WATER QUALITY AND QUANTITY TREATMENT FOR THE PROPOSED ROADWAYS AND LOTS IS BEING PROVIDED BY EXTENDED DETENTION FACILITIES.
- THERE IS NO FLOOD PLAIN LOCATED ON THIS SITE.
- THERE ARE NO WETLANDS LOCATED ON THIS SITE.
- ADEQUATE PUBLIC FACILITIES ORDINANCE TRAFFIC ANALYSIS WAS PREPARED BY THE LEE CLUNNINGHAM & ASSOCIATES, DATED NOVEMBER, 1999 AND APPROVED IN NOVEMBER, 1999 (S-00-04).
- MINIMUM BUILDABLE LOT SIZE SHALL BE 40,000 SQUARE FEET. MAXIMUM BUILDABLE LOT SIZE SHALL BE 50,000 SQUARE FEET.
- THE GEOTECHNICAL REPORT FOR THIS PROJECT WAS PREPARED BY HILLIS-CARNES AND ASSOCIATES, DATED JULY 14, 2000.
- EXISTING UTILITIES SHOWN ARE TAKEN FROM RECORD INFORMATION AND FIELD LOCATIONS. CONTRACTOR TO VERIFY LOCATION PRIOR TO STARTING CONSTRUCTION.
- FOREST STAND DELINEATION WAS PREPARED BY ECO-SCIENCE PROFESSIONALS, INC., DATED NOVEMBER, 1999 (S-00-04).
- NO DISTURBANCE SHALL OCCUR IN THE FOREST CONSERVATION EASEMENT AREAS EXCEPT AS APPROVED AS A PART OF THESE PLANS.
- EXISTING WELLS AND/OR SEWERAGE EASEMENTS WITHIN 100' OF THE PROPERTY HAVE BEEN SHOWN FROM THE BEST AVAILABLE INFORMATION.
- TO THE BEST OF THE OWNERS KNOWLEDGE, THERE ARE NO CEMETERY LOCATIONS ONSITE.
- DRIVEWAYS SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLING TO INSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:
1) WIDTH - 12' (14' SERVING MORE THAN ONE RESIDENCE);
2) SURFACE - 6" OF COMPACT CRUSHER RUN BASE WITH TAR AND CHIP COATING (1-1/2" MIN.);
3) GEOMETRY - MAX. 15% GRADE, MAX. 10% GRADE CHANGE AND MIN. 45° TURNING RADIUS;
4) STRUCTURES (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (M25 LOADING);
5) DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100-YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY SURFACE.
6) MAINTENANCE - SUFFICIENT TO INSURE ALL WEATHER USE.
- ALL ROAD FILLS SHALL BE COMPACTED TO 95% AS DETERMINED BY AASHTO T-180.
- PERIMETER AND SWM LANDSCAPE SURETY FOR 18 SHADE TREES AND 30 EVERGREEN TREES IN THE AMOUNT OF \$9,900.00 AND SURETY FOR 115 STREET TREES, SHALL BE PART OF THE D.P.W., DEVELOPERS AGREEMENT.
- THIS PLAN COMPLIES WITH THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION BY 24.1 ACRES OF RETENTION ON-SITE. FINANCIAL SURETY FOR THE REQUIRED OBLIGATION MUST BE POSTED AS PART OF THE DEVELOPERS AGREEMENT IN THE AMOUNT OF \$209,857.20.
- THE CONTRACTOR SHALL PROVIDE DRIVEWAY ACCESS TO EXISTING RESIDENCES ON LOTS 73 AND 74 IF CONSTRUCTION ACTIVITIES IMPACT THE USE. AFTER CONSTRUCTION IS COMPLETED DRIVEWAYS SHALL BE REPAIRED OR RECONSTRUCTED TO PROVIDE ACCESS ONTO HUNT VALLEY DRIVE IN ACCORDANCE WITH HOWARD COUNTY STANDARD R-606 AND THESE PLANS. STREET LIGHTS ARE NOT REQUIRED FOR THIS PROJECT AS IT IS IN THE RC ZONING DISTRICT.
- THIS AREA DESIGNATES A PRIVATE SEWERAGE EASEMENT OF AT LEAST 10,000 SQUARE FEET AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL (COMAR 26.0403). IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWAGE IS AVAILABLE. THESE EASEMENTS SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT VARIANCES FOR ENCROACHMENT INTO THE PRIVATE SEWERAGE EASEMENT. RECORDATION OF A MODIFIED SEWERAGE EASEMENT PLAT SHALL NOT BE REQUIRED. THE PERCOLATION CERTIFICATION PLAN FOR THIS PROJECT WAS APPROVED ON FEBRUARY 29, 2000.
- THERE ARE NO CONTIGUOUS AREAS OF STEEP SLOPES (25% OR GREATER) OF 20,000 S.F. OR GREATER ON THIS SITE. GRADING OF STEEP SLOPE AREAS LESS THAN 20,000 S.F. IS PERMITTED UNDER SECTION 16.11(B)(6)(ii) OF THE SUBDIVISION REGULATIONS.
- THERE IS AN EXISTING DWELLING LOCATED ON LOT 1 TO REMAIN. NO NEW BUILDINGS, EXTENSIONS OR ADDITIONS TO THE EXISTING DWELLING ARE TO BE CONSTRUCTED AT A DISTANCE LESS THAN THE ZONING REGULATIONS REQUIRE.
- ALL LINES SHOWN IN STANDARD SYMBOLS AS PRESENTED IN THE DESIGN MANUAL, VOLUME IV, "STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION."



VICINITY MAP
SCALE: 1" = 2000'

BENCH MARKS NAD'83	
HO. CO. #14E1	
STAMPED BRASS DISK SET ON TOP OF CONC. BASE, 33' WEST OF CL OF DRIVE TO 15050 CARRS MILL ROAD; 19.8' NORTH OF EDGE OF PAVING OF CARRS MILL ROAD.	
N 596213.6182'	E 1301991.8973'
ELEV. 590.862'	
HO. CO. #0039	
STAMPED BRASS DISK SET ON TOP OF CONC. BASE @ SOUTHWEST CORNER OF CARRS MILL ROAD AND ROUTE 97; 33.4' SOUTH OF CL OF CARRS MILL ROAD AND 40.3' WEST OF CL OF ROUTE 97.	
N 595722.8341'	E 1306481.8720'
ELEV. 590.862'	



PLAN VIEW
SCALE: 1" = 200'

SHEET INDEX	
SHEET NO.	DESCRIPTION
1	COVER SHEET
2-3	ROAD AND STORM DRAIN PLAN
4	SPEED CONTROL DETAILS
5-7	ROAD PROFILES
8	STORM DRAIN PROFILES AND SCHEDULES
9-10	GRADING AND SEDIMENT & EROSION CONTROL PLAN
11	SEDIMENT AND EROSION CONTROL NOTES AND DETAILS
12	STORM DRAIN DRAINAGE AREA MAP
13-14	STORMWATER MANAGEMENT NOTES AND DETAILS
15	STORMWATER MANAGEMENT NOTES AND BORING LOGS
16	LANDSCAPE PLAN, NOTES AND DETAILS
17	FOREST CONSERVATION PLAN, NOTES AND DETAILS

NO.	DATE	REVISION
2	1/08/02	REVISE SWM EASEMENT DESIGNATIONS
1	7/09/01	REVISED PER HO. CO. COMMENTS OF 6/21/01

BENCHMARK ENGINEERING, INC.
ENGINEERS • LAND SURVEYORS • PLANNERS
8480 BALTIMORE NATIONAL PIKE & SUITE 418
ELLICOTT CITY, MARYLAND 21043
PHONE: 410-465-6105 • FAX: 410-465-6644
EMAIL: benchmark@cois.com

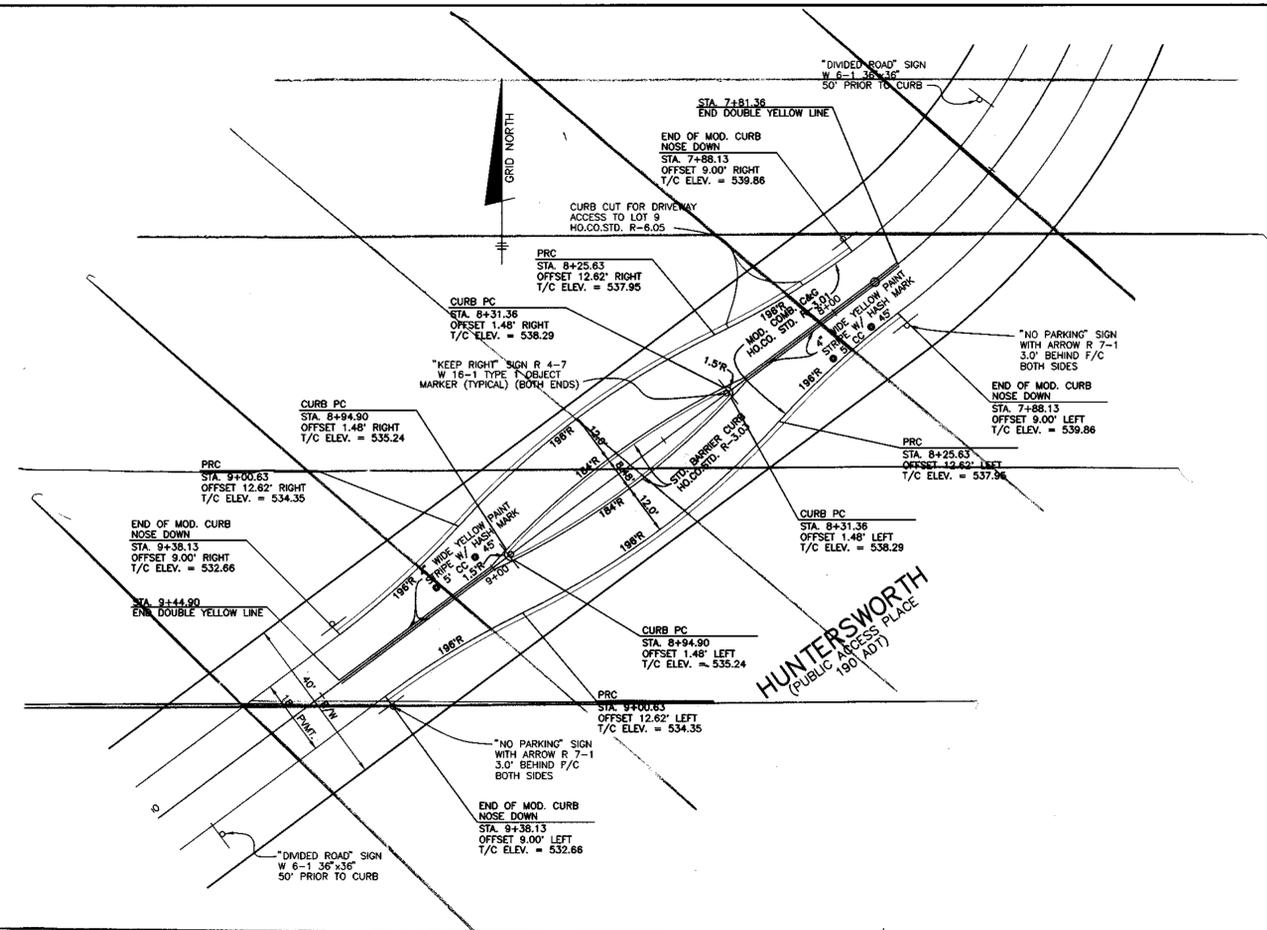
Donald Moan
10/3/01

OWNER/DEVELOPER: SDC GROUP, INC. P.O. BOX 417 ELLICOTT CITY, MD 21041 410-465-4244	PROJECT: THE WOODS OF WELLINGTON LOTS 1-24 AND NON-BUILDABLE PRES. PARCELS 'A' THRU 'D'
LOCATION: TAX MAP NO. 14, GRID NO. 20 TAX MAP NO. 21, GRID NO. 2 P/O PARCEL 246 4th ELECTION DISTRICT HOWARD COUNTY, MARYLAND	TITLE: COVER SHEET
DATE: MARCH, 2001 MAY, 2001	PROJECT NO. 1251
DESIGN: GWF DRAFT: JMC	SCALE: AS SHOWN DRAWING 1 OF 17

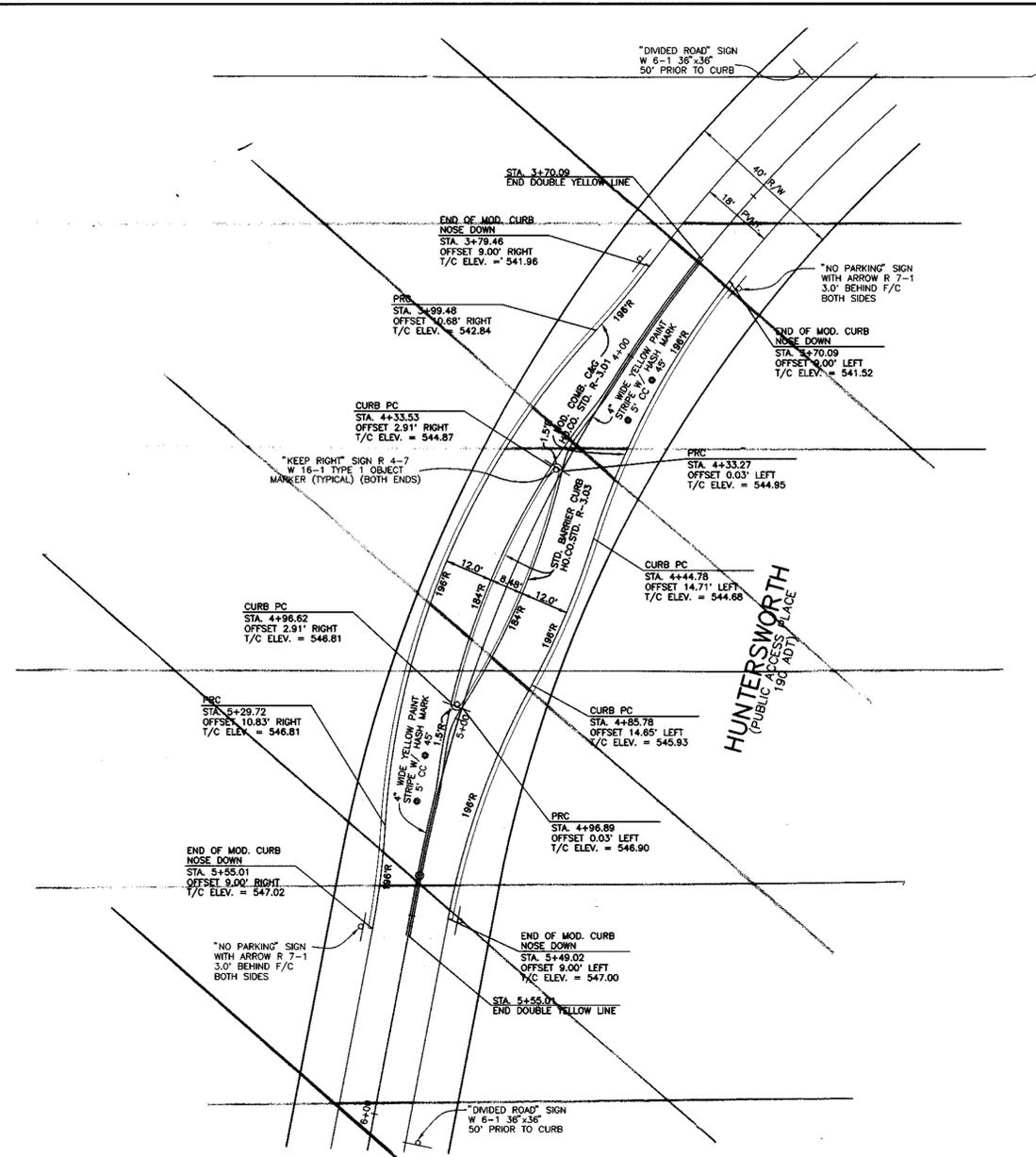
APPROVED: DEPARTMENT OF PUBLIC WORKS
Andrew M. Canale 10-25-01
CHIEF, BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Cindy Hancock 10/26/01
CHIEF, DIVISION OF LAND DEVELOPMENT

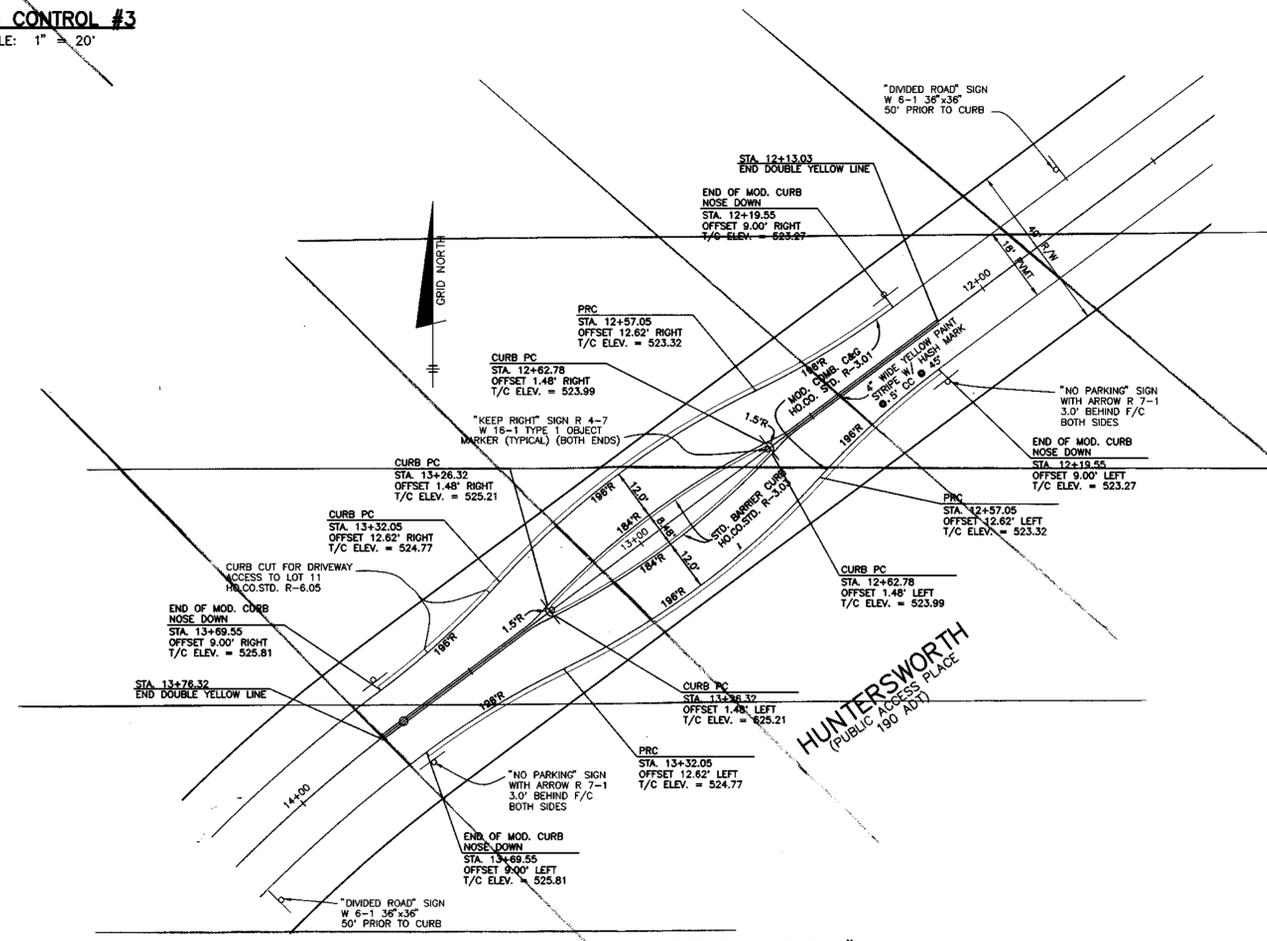
Michael J. ... 10/26/01
CHIEF, DEVELOPMENT ENGINEERING DIVISION



SPEED CONTROL #3
SCALE: 1" = 20'



SPEED CONTROL #2
SCALE: 1" = 20'



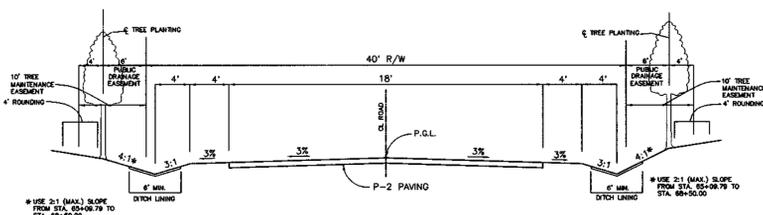
SPEED CONTROL #4
SCALE: 1" = 20'

APPROVED: DEPARTMENT OF PUBLIC WORKS
Richard M. Daniels 10-25-01
 CHIEF, BUREAU OF HIGHWAYS DATE

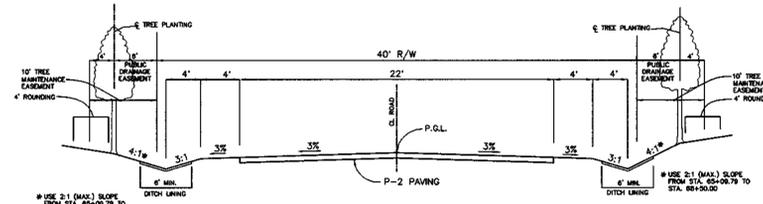
APPROVED: DEPARTMENT OF PLANNING AND ZONING
Cindy Hernandez 11/29/01
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

David D. ... 10/29/01
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

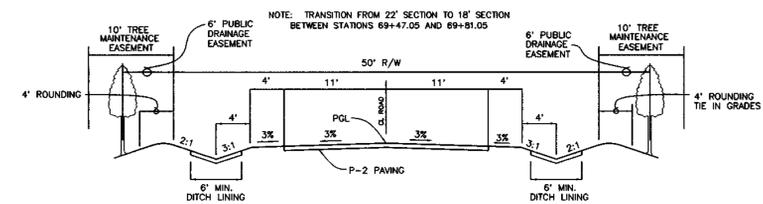
1 11/15/02 REMOVE SPEED CONTROL ISLANDS	
NO.	REVISION
BENCHMARK ENGINEERS & LAND SURVEYORS & PLANNERS ENGINEERING, INC. 8480 BALTIMORE NATIONAL PIKE & SUITE 418 ELLICOTT CITY, MARYLAND 21043 PHONE: 410-465-6105 FAX: 410-465-6644 EMAIL: benchmark@cois.com	
 10/3/01	
OWNER/DEVELOPER:	PROJECT:
SDC GROUP, INC. P.O. BOX 417 ELLICOTT CITY, MD 21041 410-465-4244	THE WOODS OF WELLINGTON LOTS 1-24 AND NON-BUILDABLE PRES. PARCELS 'A' THRU 'D'
TITLE:	LOCATION:
SPEED CONTROL DETAILS	TAX MAP NO. 14, GRID NO. 20 TAX MAP NO. 21, GRID NO. 2 P/O PARCEL 246 4TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE:	PROJECT NO. 1251
MARCH, 2001 MAY, 2001	
DESIGN: GWF DRAFT: JMC	SCALE: AS SHOWN DRAWING 4 OF 17



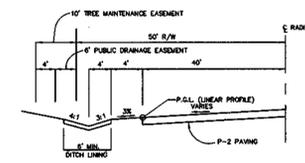
**TYPICAL ROADWAY SECTION
HUNT VALLEY DRIVE
HUNTERS WORTH**
(ACCESS PLACE - 200 ADT OR LESS)
DESIGN SPEED: 25 MPH
STA. 69+81.05 TO STA. 71+90.25 (CUL-DE-SAC) NOT TO SCALE
STA. 0+00 TO STA. 15+34.54 (CUL-DE-SAC) NOT TO SCALE
NOTE: TRANSITION FROM 22' SECTION TO 18' SECTION BETWEEN STATIONS 69+47.05 AND 69+81.05



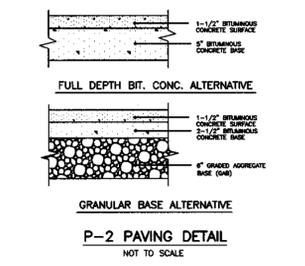
**TYPICAL ROADWAY SECTION
HUNT VALLEY DRIVE**
(ACCESS STREET - 250 ADT OR LESS)
DESIGN SPEED: 25 MPH
STA. 65+09.79 TO STA. 69+47.05
NOT TO SCALE



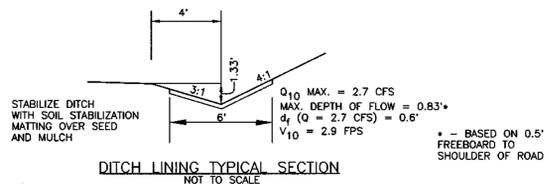
**TYPICAL ROADWAY SECTION
HUNT VALLEY DRIVE**
DESIGN SPEED: 30 MPH (PER F-90-67)
STA. 63+51.10 TO STA. 65+09.79
NOT TO SCALE



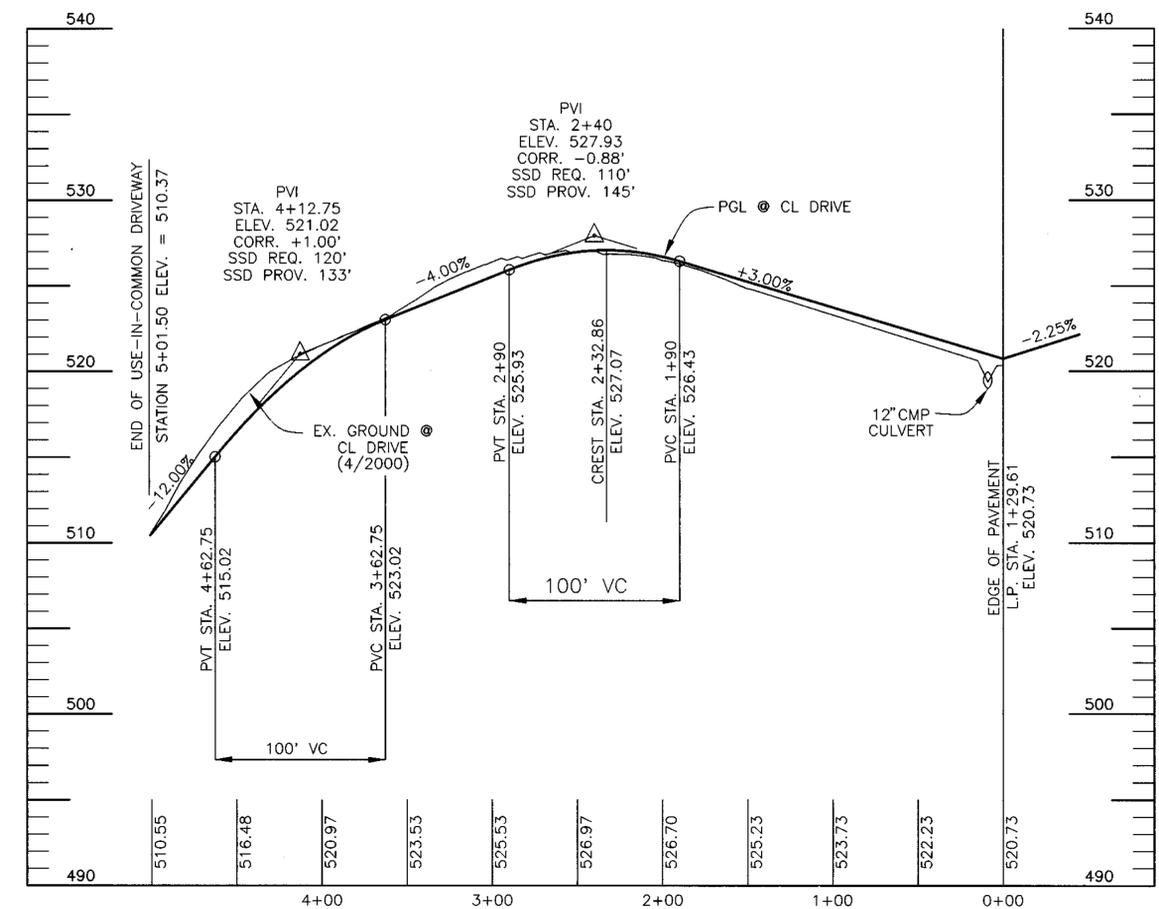
**TYPICAL ROADWAY SECTION
AT CUL-DE-SAC**
LINEAR PROFILE
NOT TO SCALE



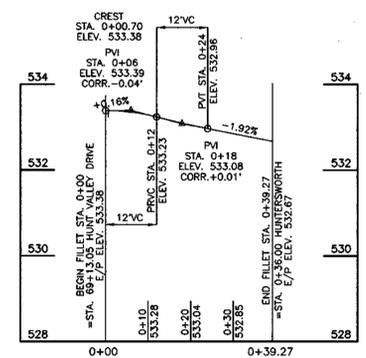
P-2 PAVING DETAIL
NOT TO SCALE



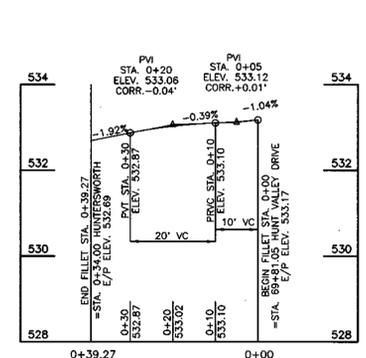
DITCH LINING TYPICAL SECTION
NOT TO SCALE
Q₁₀ MAX. = 2.7 CFS
MAX. DEPTH OF FLOW = 0.83'
d₅ (Q = 2.7 CFS) = 0.6'
V₁₀ = 2.9 FPS
* - BASED ON 0.5' FREEBOARD TO SHOULDER OF ROAD



DESIGN SPEED: 15 MPH
USE-IN-COMMON DRIVEWAY LOTS 13-16
SCALE: 1"=50' HORIZ., 1"=5' VERT.



**CURB RETURN PROFILE
SOUTH WESTERN QUADRANT
HUNT VALLEY DR. AND HUNTERS WORTH**
SCALE: 1"=20' HORIZ., 1"=2' VERT.



**CURB RETURN PROFILE
NORTH WESTERN QUADRANT
HUNT VALLEY DR. AND HUNTERS WORTH**
SCALE: 1"=20' HORIZ., 1"=2' VERT.

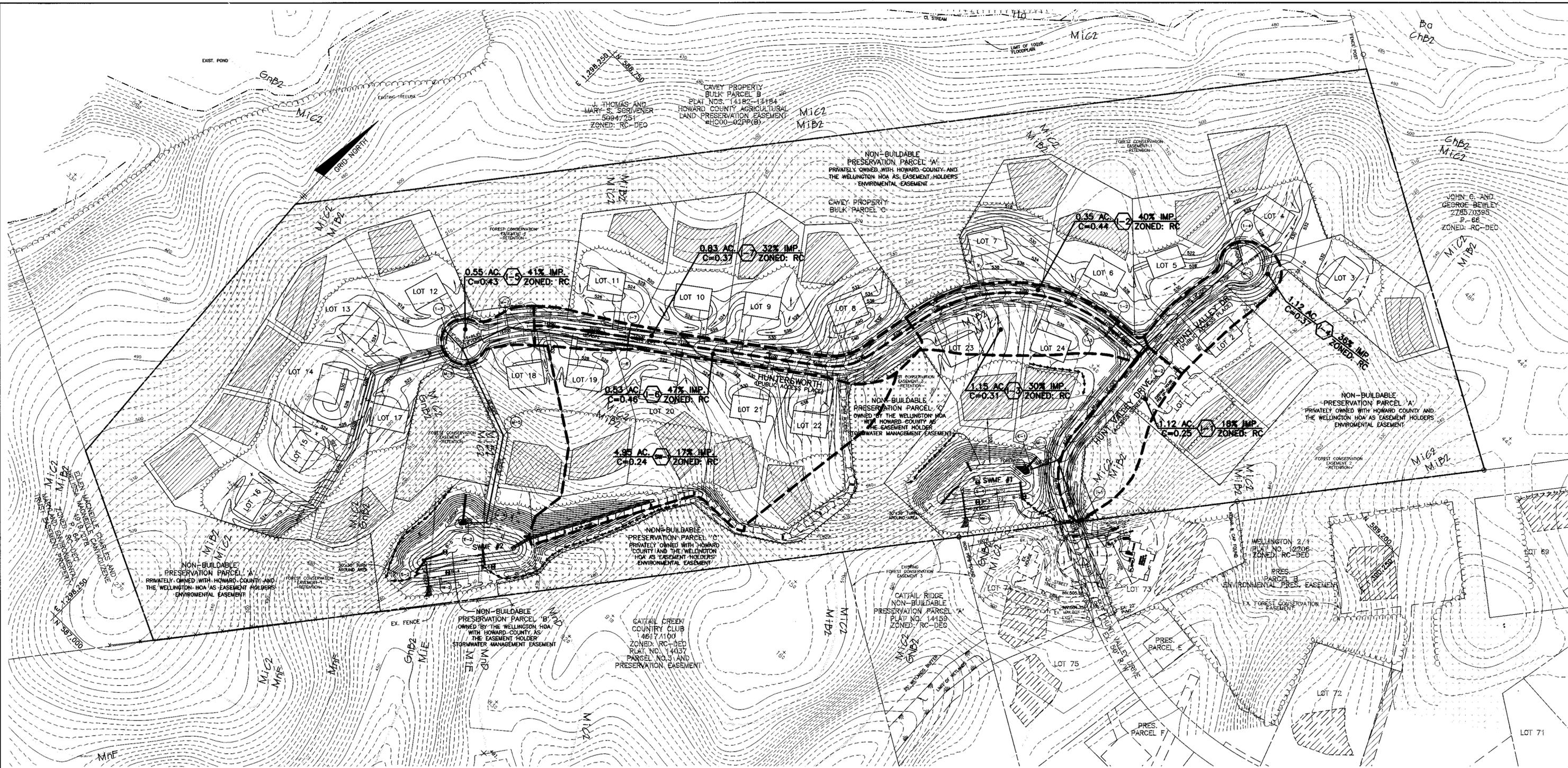
APPROVED: DEPARTMENT OF PUBLIC WORKS
Andrew M. Dwyer 10-25-01
CHIEF, BUREAU OF HIGHWAYS DATE
APPROVED: DEPARTMENT OF PLANNING AND ZONING
Carol K. Hester 10/29/01
CHIEF, DIVISION OF LAND DEVELOPMENT DATE
John D. ... 10/29/01
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

2	1/15/02	REMOVE SPEED ISLANDS
1	7/17/01	REV PER HO. CO. COMMENTS OF 6/21/01
NO.	DATE	REVISION

BENCHMARK
ENGINEERS & LAND SURVEYORS & PLANNERS
ENGINEERING, INC.
8480 BALTIMORE NATIONAL PIKE & SUITE 418
ELLICOTT CITY, MARYLAND 21043
PHONE: 410-465-6105 FAX: 410-465-6644
EMAIL: benchmark@comcast.com

Donald Moon

OWNER/DEVELOPER: SDC GROUP, INC. P.O. BOX 417 ELLICOTT CITY, MD 21041 410-465-4244	PROJECT: THE WOODS OF WELLINGTON LOTS 1-24 AND NON-BUILDABLE PRES. PARCELS 'A' THRU 'D'
TITLE: ROAD PROFILES AND DETAILS	LOCATION: TAX MAP NO. 14, GRID NO. 20 TAX MAP NO. 21, GRID NO. 2 P/O PARCEL 246 4TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: MARCH, 2001 MAY, 2001	PROJECT NO. 1251
DESIGN: GWF DRAFT: JMC	SCALE: AS SHOWN DRAWING 5 OF 17



PLAN VIEW
SCALE: 1" = 100'

2	11/15/02	REMOVE SPEED CONTROL ISLANDS
1	8/02/01	REV PER HO. CO. COMMENTS OF 6/21/01
NO.	DATE	REVISION

BENCHMARK
ENGINEERS • LAND SURVEYORS • PLANNERS
ENGINEERING, INC.

8480 BALTIMORE NATIONAL PIKE Δ SUITE 418
ELLICOTT CITY, MARYLAND 21043
PHONE: 410-465-6105 Δ FAX: 410-465-6644
EMAIL: benchmark@ceis.com

Donald Mean

10/3/01

SOILS LEGEND		
MAP SYMBOL	SOIL GROUP	SOIL TYPE
EC3	B	ELIOMK SILTY CLAY LOAM, 8 TO 15% SLOPES, SEVERELY ERODED
GB2	B	GLENELO LOAM, 3 TO 8% SLOPES, MODERATELY ERODED
GC2	B	GLENELO LOAM, 8 TO 15% SLOPES, MODERATELY ERODED
GC3	B	GLENELO LOAM, 8 TO 15% SLOPES, SEVERELY ERODED
GB2 *	C	GLENELO SILT LOAM, 3 TO 8% SLOPES, MODERATELY ERODED
MB2	B	MANOR LOAM, 3 TO 8% SLOPES, MODERATELY ERODED
MC2	B	MANOR LOAM, 8 TO 15% SLOPES, MODERATELY ERODED
MC3	B	MANOR LOAM, 8 TO 15% SLOPES, SEVERELY ERODED
ME	B	MANOR LOAM, 25 TO 45 % SLOPES

* INDICATES A HYDRIC SOIL

APPROVED: DEPARTMENT OF PUBLIC WORKS
Andrew M. Dangler 10-25-01
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Cindy Hamilton 10/29/01
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Mr. [Signature] 10/29/01
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

OWNER/DEVELOPER: SDC GROUP, INC.
P.O. BOX 417
ELLICOTT CITY, MD 21041
410-465-4244

PROJECT: THE WOODS OF WELLINGTON
LOTS 1-24 AND NON-BUILDABLE PRES. PARCELS 'A' THRU 'D'

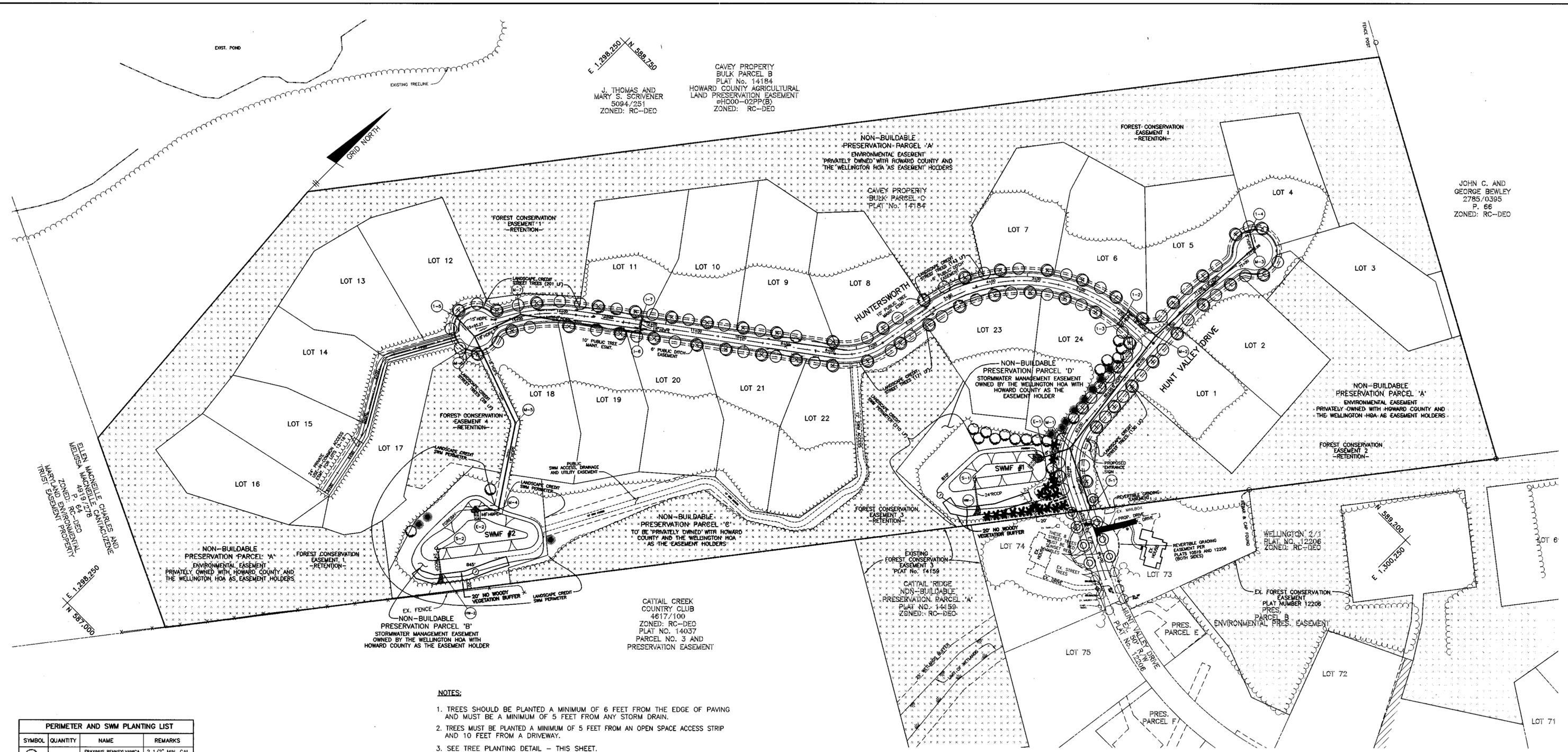
LOCATION: TAX MAP NO. 14, GRID NO. 20
P/O PARCEL 248
4th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: STORM DRAIN DRAINAGE AREA MAP

DATE: MARCH, 2001
MAY 2001

PROJECT NO. 1251

DESIGN: GWF DRAFT: JMC SCALE: 1" = 100' DRAWING 12 OF 17



- NOTES:**
- TREES SHOULD BE PLANTED A MINIMUM OF 6 FEET FROM THE EDGE OF PAVING AND MUST BE A MINIMUM OF 5 FEET FROM ANY STORM DRAIN.
 - TREES MUST BE PLANTED A MINIMUM OF 5 FEET FROM AN OPEN SPACE ACCESS STRIP AND 10 FEET FROM A DRIVEWAY.
 - SEE TREE PLANTING DETAIL - THIS SHEET.
 - THE DEVELOPER SHALL BE RESPONSIBLE FOR STREET TREES, STORM WATER MANAGEMENT FACILITY PERIMETER PLANTING AND PRESERVATION OF THE PERIMETER VEGETATION AS SHOWN ON THESE PLANS.
 - PERIMETER AND SWM LANDSCAPE SURETY FOR 18 SHADE TREES AND 30 EVERGREEN TREES OF \$9,900.00 AND SURETY FOR 115 STREET TREES, SHALL BE PART OF THE D.P.W. DEVELOPERS AGREEMENT.

I 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 LANDSCAPE MANUAL. I FURTHER CERTIFY THAT UPON COMPLETION A CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

SDC GROUP, INC.

By: *Stewart K. Breenow* 10/2/01
OWNER/DEVELOPER STEWART K. BREENOW DATE

PERIMETER AND SWM PLANTING LIST

SYMBOL	QUANTITY	NAME	REMARKS
○	18	FRAXINUS PENNSYLVANICA Palmetto (Palmetto Green Ash)	2 1/2" MIN. CAL. B&B FULL HEAD
●	11	PINUS STROBUS (Eastern White Pine)	5'-6" ht. UNSHEARED
✱	19	PINUS STROBUS (Eastern White Pine)	8'-10" ht. SHEARED

**SCHEDULE D
SWM AREA LANDSCAPING**

	FACILITY 1	FACILITY 2
LINEAR FEET OF PERIMETER	810	845
BUFFER TYPE	B	B
CREDIT FOR EXISTING VEGETATION (NO, YES AND %)	YES ① 26%	YES ② 88%
CREDIT FOR OTHER LANDSCAPING (NO, YES AND %)	NO	NO
LINEAR FEET OF REQUIRED PLANTING	600	120
NUMBER OF TREES REQUIRED		
SHADE TREES	12	2
EVERGREEN TREES	15	3
NUMBER OF TREES PROVIDED		
SHADE TREES	10	2
EVERGREEN TREES	19 ②	3
OTHER TREES (2:1 SUBSTITUTE)		

**SCHEDULE A
PERIMETER LANDSCAPE EDGE**

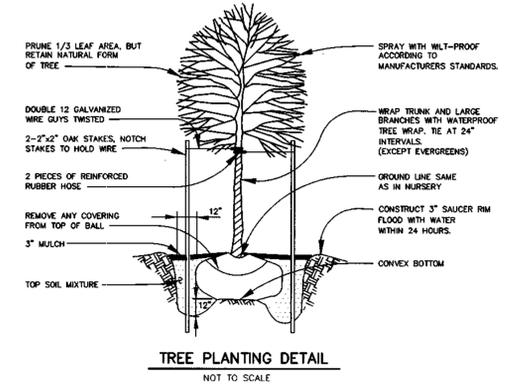
CATEGORY	ADJACENT TO ROADS	ADJACENT TO PERIMETER PROP.
LANDSCAPE TYPE	LOT 24 - TYPE B	TYPE A
LINEAR FEET OF ROADWAY FRONTAGE/PERMETER (ALONG HUNT VALLEY DRIVE)	285	745 ①
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	YES, 745 ②
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	NO
NUMBER OF PLANTS REQUIRED	285 L.F.	
SHADE TREES	6	
EVERGREEN TREES	8	
OTHER TREES (2:1 SUBSTITUTE)	--	
SHRUBS	--	
NUMBER OF PLANTS PROVIDED		
SHADE TREES	5	
EVERGREEN TREES	8	
OTHER TREES (2:1 SUBSTITUTE)	--	
SHRUBS (10:1 SUBSTITUTE)	--	
(DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED)		

STREET TREE REQUIREMENT

LINEAR FRONTAGE OF ROADWAY: 5,282
FRONTAGE ADJACENT TO PERSERVED WOODS: 673
LINEAR FRONTAGE OF REQUIREMENT: 4,609
NUMBER OF STREET TREES REQUIRED: 115
NUMBER OF STREET TREES PROVIDED: 115

STREET TREE PLANTING LIST

SYMBOL	QUANTITY	NAME	REMARKS
+	54	Prunus sargentii (Sargent Cherry)	2 1/2" MIN. CAL. B&B FULL HEAD
○	53	Platanus x acerifolia 'Bloodgood' (Bloodgood London Plane)	2 1/2" MIN. CAL. B&B FULL HEAD
⊙	8	Acer Rubrum 'Red Sunset' (RED SUNSET RED MAPLE)	3" MIN. CAL. B&B FULL HEAD



① SWM#1 LOCATION IS BUFFERED FROM A PORTION OF INTERNAL LOTS AND ADJACENT PROPERTIES BY EXISTING WOODS (20' WIDE OR GREATER) AND TOPOGRAPHY. THE ONLY PERIMETER REQUIREMENT FOR LANDSCAPING IS THAT WHICH IS ADJACENT TO HUNT VALLEY DRIVE, PORTION TO NORTHWEST ALONG LOTS 23 AND 24, AND ALONG THE NORTHWESTERLY LINE OF ADJOINING LOT 74.

② SWM#2 LOCATION IS BUFFERED FROM A PORTION OF INTERNAL LOTS AND ADJACENT PROPERTIES BY AGRICULTURAL PRESERVATION EASEMENT, EXISTING WOODS (20' WIDE OR GREATER) AND TOPOGRAPHY. THE ONLY PERIMETER LANDSCAPING IS REQUIRED IS THAT WHICH IS ADJACENT TO LOTS 17 & 18.

③ TWO (2) SHADE TREES SUBSTITUTED WITH FOUR (4) EVERGREEN TREES.

① LINEAR FOOTAGE REPRESENTS ENTIRE PROPERTY BOUNDARY. CLUSTER LOTS DO NOT IMPACT ADJACENT PROPERTY, THEREFORE NO LANDSCAPING IS REQUIRED.

② EXISTING WOODS WITH WIDTH 20' OR GREATER.

APPROVED: DEPARTMENT OF PUBLIC WORKS
Andrew M. Dangle 10-25-01
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Cindy Vanmeter 10/29/01
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Chris Drummond 10/28/01
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

NO.	DATE	REV PER HO.	CO.	COMMENTS OF	REVISION
2	1/15/02			REMOVE SPEED CONTROL ISLANDS	
1	7/09/01			REV PER HO. CO. COMMENTS OF 6/21/01	

BENCHMARK
ENGINEERS & LAND SURVEYORS & PLANNERS
ENGINEERING, INC.

8480 BALTIMORE NATIONAL PIKE & SUITE 418
ELLICOTT CITY, MARYLAND 21043
PHONE: 410-465-6105 FAX: 410-465-6644
EMAIL: benchmrk@ccis.com

Donald Mason

OWNER/DEVELOPER: SDC GROUP, INC.
P.O. BOX 417
ELLICOTT CITY, MD 21041
410-465-4244

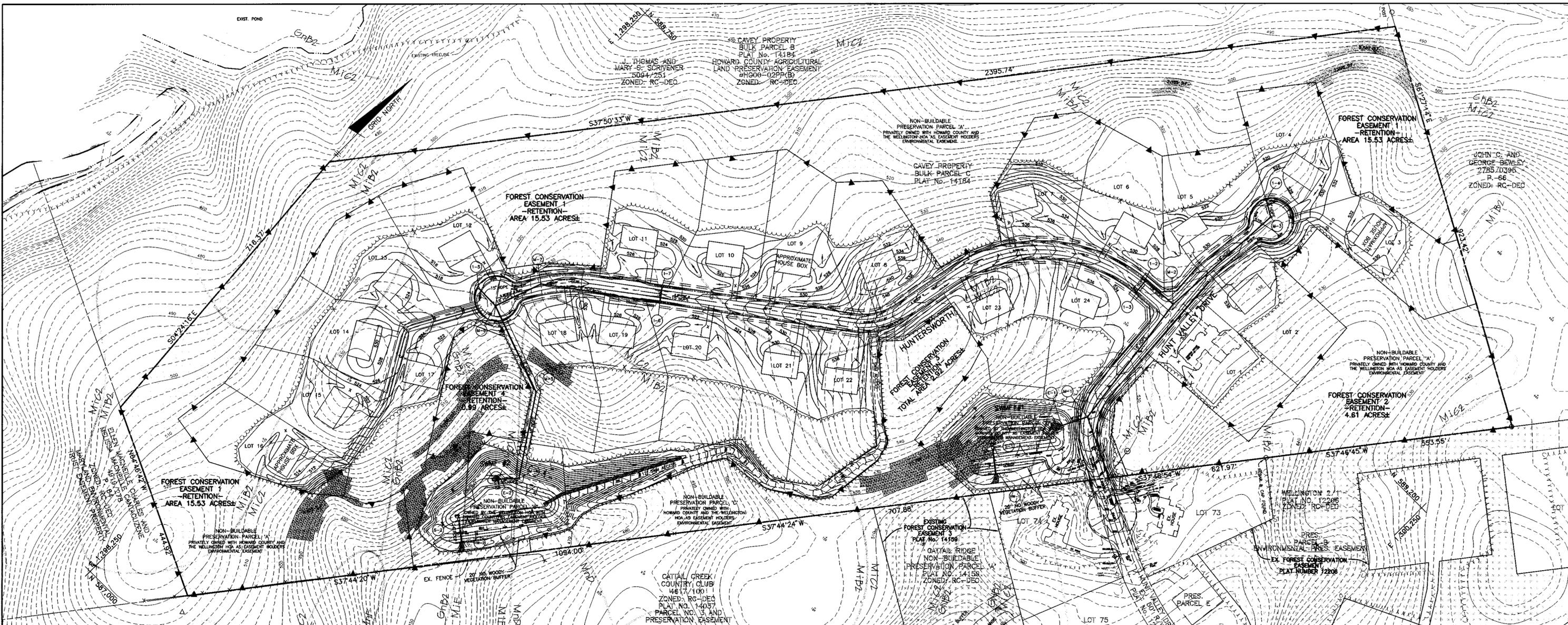
PROJECT: THE WOODS OF WELLINGTON
LOTS 1-24 AND NON-BUILDABLE PRES. PARCELS 'A' THRU 'D'

LOCATION: TAX MAP NO. 14, GRID NO. 20
P/O PARCEL 245
4TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: LANDSCAPE PLAN, NOTES AND DETAILS

DATE: MARCH 2001 PROJECT NO. 1251
MAY, 2001 DATE

DESIGN: GWF DRAFT: JMC SCALE: 1" = 100' DRAWING 16 OF 17



FOREST DATA

	ACRES
GROSS AREA: FLOODPLAIN/UNFORESTED PRESERVATION PARCEL:	0
NET TRACT AREA (NTA):	59.5
EXISTING FOREST (NTA):	59.5
AFFORESTATION THRESHOLD:	11.9
REFORESTATION THRESHOLD:	14.9
BREAK-EVEN POINT:	14.9
FOREST TO BE CLEARED (NTA):	35.5
FOREST TO BE RETAINED (NTA):	24.0
FOREST TO BE RETAINED IN FCE:	24.1

FOREST CONSERVATION TABULATION

DESIGNATION	TYPE	ACREAGE
1	RETENTION	15.53
2	RETENTION	4.61
3	RETENTION	2.92
4	RETENTION	0.99
TOTAL	ALL RETENTION	24.05

SEQUENCE OF CONSTRUCTION

- SEDIMENT CONTROL AND TREE PROTECTION DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH GENERAL CONSTRUCTION PLAN FOR SITE. SITE SHALL BE GRADED IN ACCORDANCE WITH THE GENERAL CONSTRUCTION PLANS.
- REMOVE HAZARDOUS TREES (DEAD, DISEASED OR THOSE SUBJECT TO WIND THROWS) ALONG THE EDGE OF THE FOREST RETENTION AREAS AS WELL AS WITHIN OTHER TREE SAVE AREAS.
- SIGNAGE SHALL BE INSTALLED AS PER THE FOREST PROTECTION DEVICES SHOWN ON THE FOREST CONSERVATION PLAN.

FCP NOTES:

- ANY FOREST CONSERVATION EASEMENT (FCE) AREA SHOWN HEREON IS SUBJECT TO PROTECTIVE COVENANTS WHICH MAY BE FOUND IN THE LAND RECORDS OF HOWARD COUNTY WHICH RESTRICT THE DISTURBANCE AND USE OF THESE AREAS.
- FORESTED AREAS OCCURRING OUTSIDE OF THE FCE SHALL NOT BE CONSIDERED PART OF THE FCE AND SHALL NOT BE SUBJECT TO PROTECTIVE LAND COVENANTS.
- LIMITS OF DISTURBANCE SHALL BE RESTRICTED TO AREAS OUTSIDE THE LIMIT OF TEMPORARY FENCING OR THE FCE BOUNDARY, WHICHEVER IS GREATER.
- THERE SHALL BE NO CLEARING, GRADING, CONSTRUCTION OR DISTURBANCE OF VEGETATION IN THE FOREST CONSERVATION EASEMENT, EXCEPT AS PERMITTED BY HOWARD COUNTY DPZ.
- NO STOCKPILES, PARKING AREAS, EQUIPMENT CLEANING AREAS, ETC. SHALL OCCUR WITHIN AREAS DESIGNATED AS FOREST CONSERVATION EASEMENTS.
- TEMPORARY FENCING SHALL BE USED TO PROTECT FOREST RESOURCES DURING CONSTRUCTION. THE FENCING SHALL BE PLACED ALONG ALL FCE BOUNDARIES WHICH OCCUR WITHIN 25 FEET OF THE PROPOSED LIMITS.
- PERMANENT SIGNAGE SHALL BE PLACED 50-100' APART ALONG THE BOUNDARIES OF ALL AREAS INCLUDED IN FOREST CONSERVATION EASEMENTS. SIGNS SHALL BE MOUNTED ON A PERMANENT WOOD POST OR METAL STAKE. FCE SIGNS SHALL NOT BE ATTACHED TO TREES.
- THE FOREST CONSERVATION OBLIGATION FOR THIS SUBMISSION WILL BE FULFILLED BY RETENTION OF 24.05 ACRES OF EXISTING FOREST IN FOREST CONSERVATION EASEMENTS WHICH IS GREATER THAN THE REQUIRED BREAK-EVEN POINT FOR THIS PROJECT.

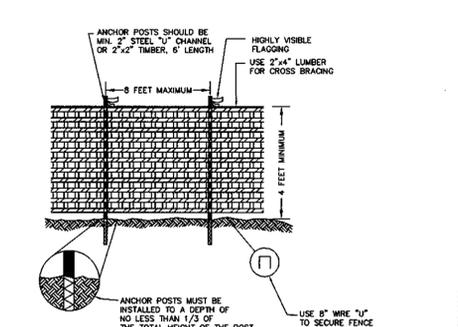
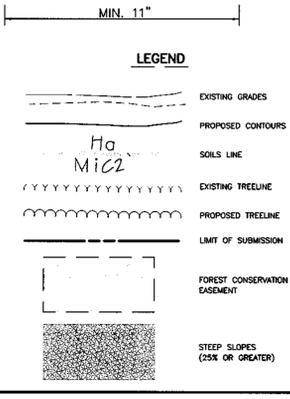
APPENDIX E FOREST CONSERVATION WORKSHEET

	ACRES (1/10 acre)	ACRES (1/10 acre)
I. BASIC SITE DATA		
GROSS SITE AREA	59.5	
AREA WITHIN 100 YEAR FLOOD PLAIN	0	
AREA WITHIN AGRICULTURAL USE OR PRESERVATION PARCEL (IF APPLICABLE)	15.53	
NET TRACT AREA	59.5	
LAND USE CATEGORY (R-RLD, R-RMD, R-S, C/I/O, I)	R-RMD	
II. INFORMATION FOR CALCULATIONS		
A. NET TRACT AREA	59.5	
B. REFORESTATION THRESHOLD (25% x A)	14.9	
C. AFFORESTATION MINIMUM (20% x A)	11.9	
D. EXISTING FOREST ON NET TRACT AREA	59.5	
E. FOREST AREAS TO BE CLEARED	35.4	
F. FOREST AREAS TO BE RETAINED (RETENTION)	24.1	
III. DETERMINING REQUIREMENTS: AFFORESTATION OR REFORESTATION		
1. Reforestation		
If existing forest areas equal or exceed the afforestation minimum (if D equals or is more than C), and no clearing of existing forest resources is proposed, no reforestation is required. No further calculations are needed.		
GO TO SECTION IV		
2. Afforestation		
If existing forest areas are less than the afforestation minimum (if D is less than C), afforestation requirements apply.		
GO TO SECTION V		
IV. REFORESTATION CALCULATIONS		
A. NET TRACT AREA	59.5	
B. REFORESTATION THRESHOLD (25% x A)	14.9	
C. EXISTING FOREST ON NET TRACT AREA	59.5	
D. FOREST AREAS TO BE CLEARED	35.4	
E. FOREST AREAS TO BE RETAINED	24.1	
F. FOREST AREAS CLEARED ABOVE REFORESTATION THRESHOLD (D-F, if F equals or is greater than B, Alternate 1) (D-B, if F is less than B, Alternate 2)	0	
G. FOREST AREAS CLEARED BELOW REFORESTATION THRESHOLD (F-B, if applicable)	0	
H. FOREST AREAS CLEARED ABOVE REFORESTATION THRESHOLD (D-F, if applicable)	0	
I. FOREST AREAS RETAINED ABOVE REFORESTATION THRESHOLD (F-B, Retention Credit, if applicable)	9.2	
SELECT THE ALTERNATE THAT APPLIES:		
1. Clearing above the threshold only		
If forest areas to be retained equal or are greater than the reforestation threshold (if F equals or is greater than B), the following calculations apply:		
REFORESTATION FOR CLEARING ABOVE THRESHOLD (G x 1/4)	0	
CREDIT FOR FOREST AREAS RETAINED ABOVE THRESHOLD (I = Retention Credit)	9.2	
TOTAL REFORESTATION REQUIRED (G x 1/4) - I	0	
If the total reforestation requirement is equal to or less than 0, no reforestation is required.		
2. Clearing below the threshold		
If forest areas to be retained are less than the reforestation threshold (if F is less than B), the following calculations apply:		
REFORESTATION FOR CLEARING ABOVE THRESHOLD (G x 1/4)	0	
REFORESTATION FOR CLEARING BELOW THRESHOLD (H x 2)	0	
TOTAL REFORESTATION REQUIRED (G x 1/4) + (H x 2)	0	
Since clearing occurs below the threshold, no forest retention credit is possible.		

FOREST RETENTION AREA

MACHINERY, DUMPING OR STORAGE OF ANY MATERIALS IS PROHIBITED

VIOLATORS ARE SUBJECT TO FINES AS IMPOSED BY THE HOWARD COUNTY FOREST CONSERVATION ACT OF 1992



PLASTIC MESH TREE PROTECTION FENCE

NOTES:
 1. BRACE ORANGE OR BLUE PLASTIC MESH FENCE FOR FOREST PROTECTION DEVICE ONLY.
 2. BOUNDARIES OF RETENTION AREA WILL BE ESTABLISHED AS PART OF THE FOREST CONSERVATION PLAN REVIEW PROCESS.
 3. BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICE.
 4. AVOID DAMAGE TO CRITICAL ROOT ZONE. DO NOT DAMAGE OR SEVER LARGE ROOTS WHEN INSTALLING POSTS.
 5. PROTECTIVE SIGNS ARE REQUIRED.
 6. DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.
 ADAPTED FROM PRINCE GEORGE'S COUNTY, MARYLAND, WOODLAND CONSERVATION MANUAL AND FOREST CONSERVATION MANUAL, 1991.

APPROVED: DEPARTMENT OF PUBLIC WORKS
Andrew M. Spake 10-25-01
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Cindy Hamilton 10/24/01
 CHIEF, DIVISION OF LAND DEVELOPMENT

Mike Drummond 10/24/01
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

SOILS LEGEND SOIL SURVEY SHEET 12

MAP SYMBOL	SOIL GROUP	SOIL TYPE
DC3	B	ELIOM SILTY CLAY LOAM, 8 TO 15% SLOPES, SEVERELY ERODED
GB2	B	GLENELG LOAM, 3 TO 8% SLOPES, MODERATELY ERODED
GC2	B	GLENELG LOAM, 8 TO 15% SLOPES, MODERATELY ERODED
GC3	B	GLENELG LOAM, 8 TO 15% SLOPES, SEVERELY ERODED
GB2*	C	GLENVILLE SILT LOAM, 3 TO 8% SLOPES, MODERATELY ERODED
MB2	B	MANOR LOAM, 3 TO 8% SLOPES, MODERATELY ERODED
MC2	B	MANOR LOAM, 8 TO 15% SLOPES, MODERATELY ERODED
MC3	B	MANOR LOAM, 8 TO 15% SLOPES, SEVERELY ERODED
ME	B	MANOR LOAM, 25 TO 45 % SLOPES

* INDICATES A HYDRIC SOIL

NO.	DATE	REVISION
2	1/15/02	REMOVE SPEED CONTROL ISLANDS
1	7/10/01	REV PER HO. CO. COMMENTS OF 6/21/01

BENCHMARK ENGINEERING, INC.
 ENGINEERS & LAND SURVEYORS & PLANNERS
 8480 BALTIMORE NATIONAL PIKE SUITE 418
 ELLICOTT CITY, MARYLAND 21043
 PHONE: 410-465-8105 FAX: 410-465-6644
 EMAIL: benchmark@caia.com

Donald M. ...

OWNER/DEVELOPER: SDC GROUP, INC.
 P.O. BOX 417
 ELLICOTT CITY, MD 21041
 410-465-4244

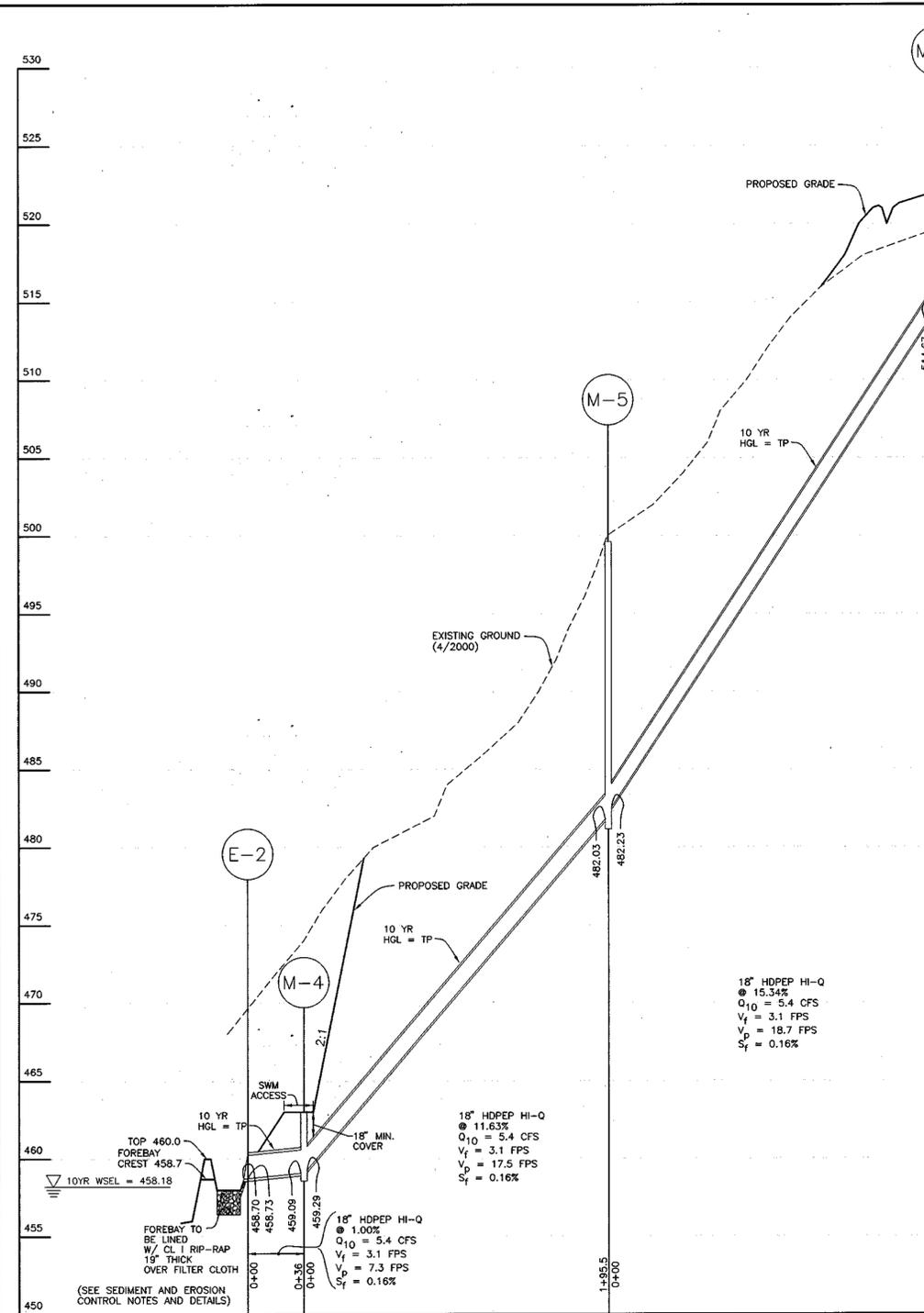
PROJECT: THE WOODS OF WELLINGTON
 LOTS 1-24 AND NON-BUILDABLE PRES. PARCELS 'A' THRU 'D'

LOCATION: TAX MAP NO. 14, GRID NO. 20
 TAX MAP NO. 21, GRID NO. 2
 P/O PARCEL 244
 4TH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

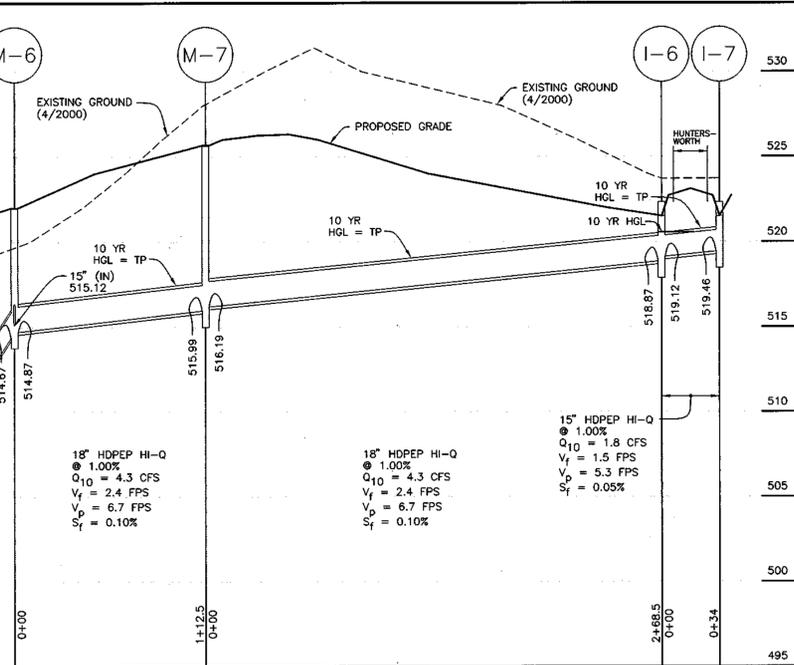
TITLE: FOREST CONSERVATION PLAN, NOTES AND DETAILS

DATE: MARCH, 2001 PROJECT NO. 1251
 MAY, 2001

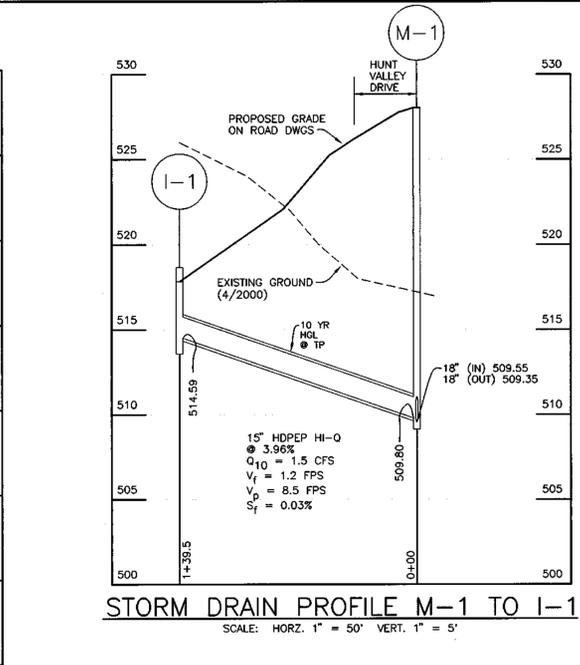
DESIGN: GWF DRAFT: JMC SCALE: 1" = 100' DRAWING 17 OF 17



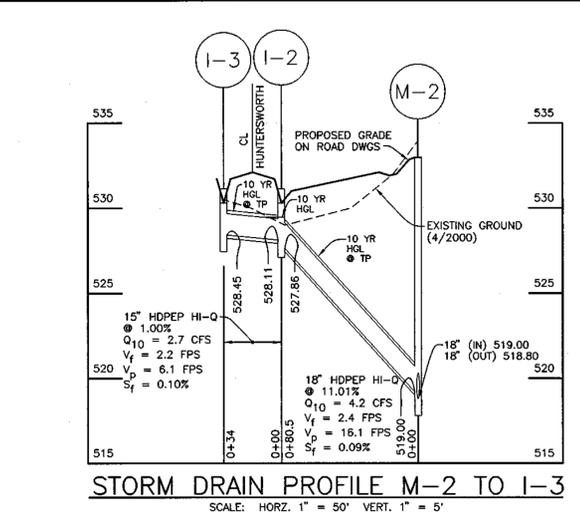
STORM DRAIN PROFILE E-2 TO I-7
SCALE: HORZ. 1" = 50' VERT. 1" = 5'



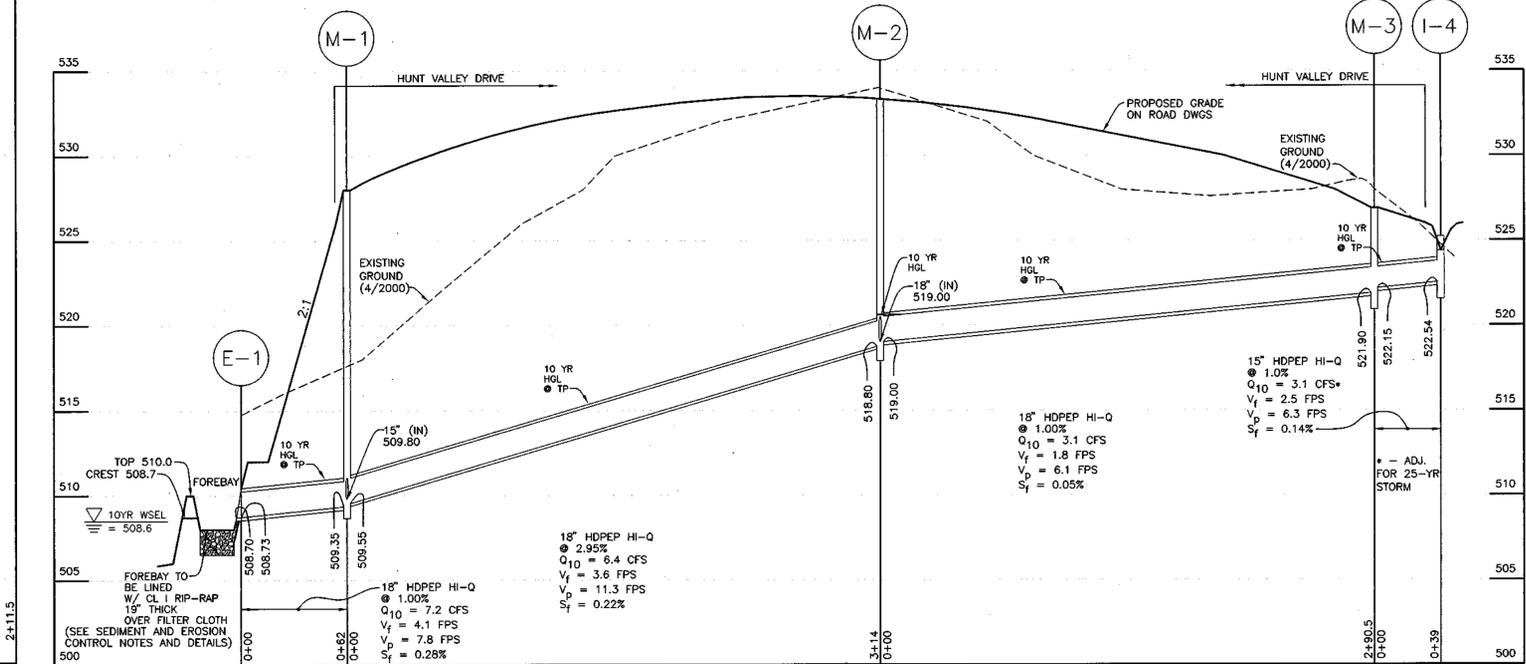
STORM DRAIN PROFILE E-2 TO I-7
SCALE: HORZ. 1" = 50' VERT. 1" = 5'



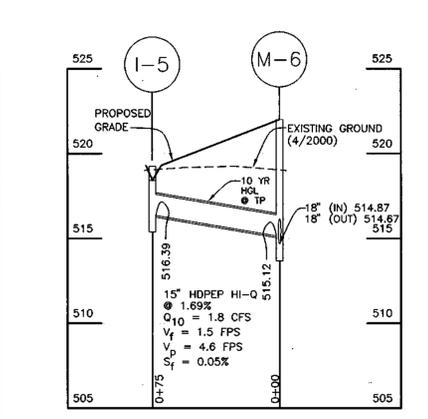
STORM DRAIN PROFILE M-1 TO I-1
SCALE: HORZ. 1" = 50' VERT. 1" = 5'



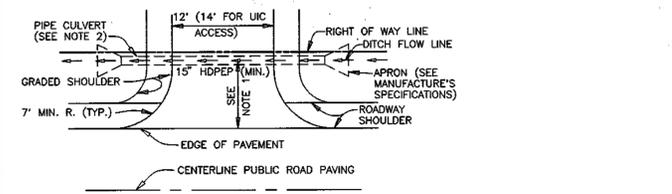
STORM DRAIN PROFILE M-2 TO I-3
SCALE: HORZ. 1" = 50' VERT. 1" = 5'



STORM DRAIN PROFILE E-1 TO I-4
SCALE: HORZ. 1" = 50' VERT. 1" = 5'



STORM DRAIN PROFILE M-6 TO I-5
SCALE: HORZ. 1" = 50' VERT. 1" = 5'



NOTES:
1. DRIVEWAY MUST BE PAVED FROM EDGE OF PUBLIC ROAD TO RIGHT-OF-WAY LINE USING STANDARD PAVING SECTION P-1 AS SHOWN ON STD. NO. R-2.01 OR ALTERNATIVE SECTION EQUAL TO OR BETTER THAN P-1, AS APPROVED BY D.P.W.
2. DRAINAGE CULVERT SHALL BE SIZED FOR A 10 YEAR FREQUENCY STORM.
3. ALL DRIVEWAY CULVERT PIPES TO BE 15" HDPEP OR GREATER TO PREVENT BLOCKING. HDPE APRONS TO BE INSTALLED AT EACH END OF THE DRIVEWAY CULVERTS AND SIZED PER MANUFACTURER'S SPECIFICATIONS. IF A LARGER PIPE IS REQUIRED, DITCH INVERT CAN BE LOWERED TO PROVIDE MIN. DITCH GRADIENT OF 0.5% AND CLEARANCE SHOWN.
4. SWALE FLOW MAY BE PROVIDED OVER DRIVEWAY IF LOCATED AT OR NEAR THE CREST OF A VERTICAL CURVE ON THE PUBLIC ROAD WHERE QUANTITY OF FLOW IS SMALL, AS APPROVED BY D.P.W.
5. THE IN GRADE OF PRIVATE DRIVEWAY SHALL NOT EXCEED 14%.
6. SEE HOWARD COUNTY STANDARD DETAIL R-6.06 FOR ADDITIONAL INFORMATION.
7. LOTS 1, 2, 8, 18 AND 19 MAY NOT REQUIRE DRIVEWAY CULVERTS DEPENDING ON THE FINAL DRIVEWAY LOCATION. ALL OTHER LOTS WILL REQUIRE A 15" HDPEP WITH END TREATMENT TO CROSS THE ROADSIDE SWALE. COMPUTATIONS JUSTIFYING THIS SIZING OF THE DRIVEWAY CULVERTS WAS REVIEWED AND APPROVED WITHIN THE FINAL STORM DRAIN REPORT ASSOCIATED WITH THESE ROAD CONSTRUCTION PLANS.
8. PRIVATE ACCESS AT HUNTERS WORTH STA. N+7.0 WILL NOT REQUIRE A CULVERT.

STRUCTURE	LOCATION	TOP ELEV.	INVERT IN	INVERT OUT	TYPE	DETAIL REFERENCE	REMARKS
I-1	HUNT VALLEY DR. STA. 85+09.3, 19' RT.	518.64	518.64	514.56	18" HDPEP	SD-4.39	OPEN ON 2 SIDES
I-2	HUNTERS WORTH STA. 0+87.27, 17' RT.	517.72	518.11	517.86	18" HDPEP	SD-4.39	OPEN ON 2 SIDES
I-3	HUNTERS WORTH STA. 0+87.47, 17' LT.	517.72	518.11	517.86	18" HDPEP	SD-4.39	OPEN ON 2 SIDES
M-4	HUNT VALLEY DR. STA. 0+86.81, 8' LT.	524.21	524.21	524.21	18" HDPEP	SD-4.39	OPEN ON 2 SIDES
I-5	HUNTERS WORTH STA. 1+54.83, 8' LT.	519.26	519.26	518.39	18" HDPEP	SD-4.39	OPEN ON 2 SIDES
I-6	HUNTERS WORTH STA. 12+24, 17' LT.	522.83	522.83	518.87	18" HDPEP	SD-4.39	OPEN ON 2 SIDES
M-7	HUNTERS WORTH STA. 14+77.2, 4.5' RT.	522.87	516.19	516.19	18" HDPEP	SD-4.39	OPEN ON 2 SIDES
M-1	HUNT VALLEY DR. STA. 88+50.5, 3' LT.	528.03	509.35 (18")	509.35 (15")	STD. MANHOLE	G-5.11	
M-2	HUNT VALLEY DR. STA. 89+54.25, 7' LT.	533.37	519.00 (18")	518.80 (18")	STD. MANHOLE	G-5.11	
M-3	HUNT VALLEY DR. STA. 92+50.8, 8' LT.	528.86	522.15	521.90	STD. MANHOLE	G-5.11	
M-4	N 587,822.0313 E 1,298,780.7281	483.00	459.29	459.09	SHALLOW MANHOLE	G-5.12	
M-5	N 587,894.4167 E 1,298,874.1892	489.60	465.23	465.03	SHALLOW MANHOLE	G-5.11	
M-6	HUNTERS WORTH STA. 16+04, 15.5' LT.	522.00	514.87 (18")	515.12 (18")	STD. MANHOLE	G-5.11	
M-7	HUNTERS WORTH STA. 14+77.2, 4.5' RT.	522.87	516.19	516.19	STD. MANHOLE	G-5.11	
E-1	N 588,764.1811 E 1,299,526.9274	508.73	508.73	508.70	HDPEP	MANUFACTURER	SEE MANUFACTURER'S SPECS
E-2	N 587,795.9399 E 1,298,755.8358	458.73	458.73	458.70	HDPEP	MANUFACTURER	SEE MANUFACTURER'S SPECS
S-1	N 588,617.1725 E 1,299,480.2854	510.77	505.00	504.80			SEE SWM DETAILS
S-2	N 587,863.5943 E 1,298,749.5584	460.87	455.00	454.80			SEE SWM DETAILS
HW-1	N 588,581.3321 E 1,299,526.5008	503.95	501.20	501.20	TYPE 'C'	SD-5.21	FOR A 24" PIPE
HW-2	N 587,631.3570 E 1,298,781.2103	455.45	452.70	452.70	TYPE 'C'	SD-5.21	FOR A 24" PIPE

PIPE SCHEDULE	PIPE	LENGTH (L)	DESCRIPTION
E-1 TO M-1	62.0	18" HDPEP	
M-1 TO M-2	34.0	18" HDPEP	
M-2 TO M-3	280.5	18" HDPEP	
M-3 TO I-4	89.2	18" HDPEP	
I-4 TO I-3	34.0	18" HDPEP	
M-1 TO I-1	139.5	15" HDPEP	
E-2 TO M-4	36.0	18" HDPEP	
M-4 TO M-5	185.5	18" HDPEP	
M-5 TO M-6	211.5	18" HDPEP	
M-6 TO I-5	128.2	18" HDPEP	
I-5 TO I-6	34.0	18" HDPEP	
M-6 TO I-5	75.0	15" HDPEP	
HW-1 TO S-1	68.5	24" RCP	
HW-2 TO S-2	51.0	24" RCP	

APPROVED: DEPARTMENT OF PUBLIC WORKS
Andrew M. Dunphy 10-25-01
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Cindy Kamstra 10/29/01
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Tom Dammann 10/29/01
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

2 2/13/03 ADD NOTE 8 FOR PRIVATE ACCESS
1 7/18/01 REV PER HO. CO. COMMENTS OF 6/21/01

NO.	DATE	REVISION
2	2/13/03	ADD NOTE 8 FOR PRIVATE ACCESS
1	7/18/01	REV PER HO. CO. COMMENTS OF 6/21/01

BENCHMARK ENGINEERING, INC.
ENGINEERS & LAND SURVEYORS & PLANNERS
8480 BALTIMORE NATIONAL PIKE # 418
ELLCOTT CITY, MARYLAND 21043
PHONE: 410-465-6105 FAX: 410-465-6644
EMAIL: benchmark@ccis.com

Donald Mean

10/3/01

OWNER/DEVELOPER: SDC GROUP, INC.
P.O. BOX 417
ELLCOTT CITY, MD 21041
410-465-4244

PROJECT: THE WOODS OF WELLINGTON
LOTS 1-24 AND NON-BUILDABLE PRES. PARCELS 'A' THRU 'D'

LOCATION: TAX MAP NO. 14, GRID NO. 20
TAX MAP NO. 21, GRID NO. 2
P/O PARCEL 246
4TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: STORM DRAIN PROFILES AND SCHEDULES

DATE: MARCH, 2001 PROJECT NO. 1251
MAY, 2001 TAX MAP NO. 21, GRID NO. 2

DESIGN: GWF DRAFT: JMC SCALE: AS SHOWN DRAWING 8 OF 17

CAVEY PROPERTY
BULK PARCEL B
PLAT No. 14184
HOWARD COUNTY AGRICULTURAL
LAND PRESERVATION EASEMENT
#H000-02PP(B)
ZONED: RC-DEO

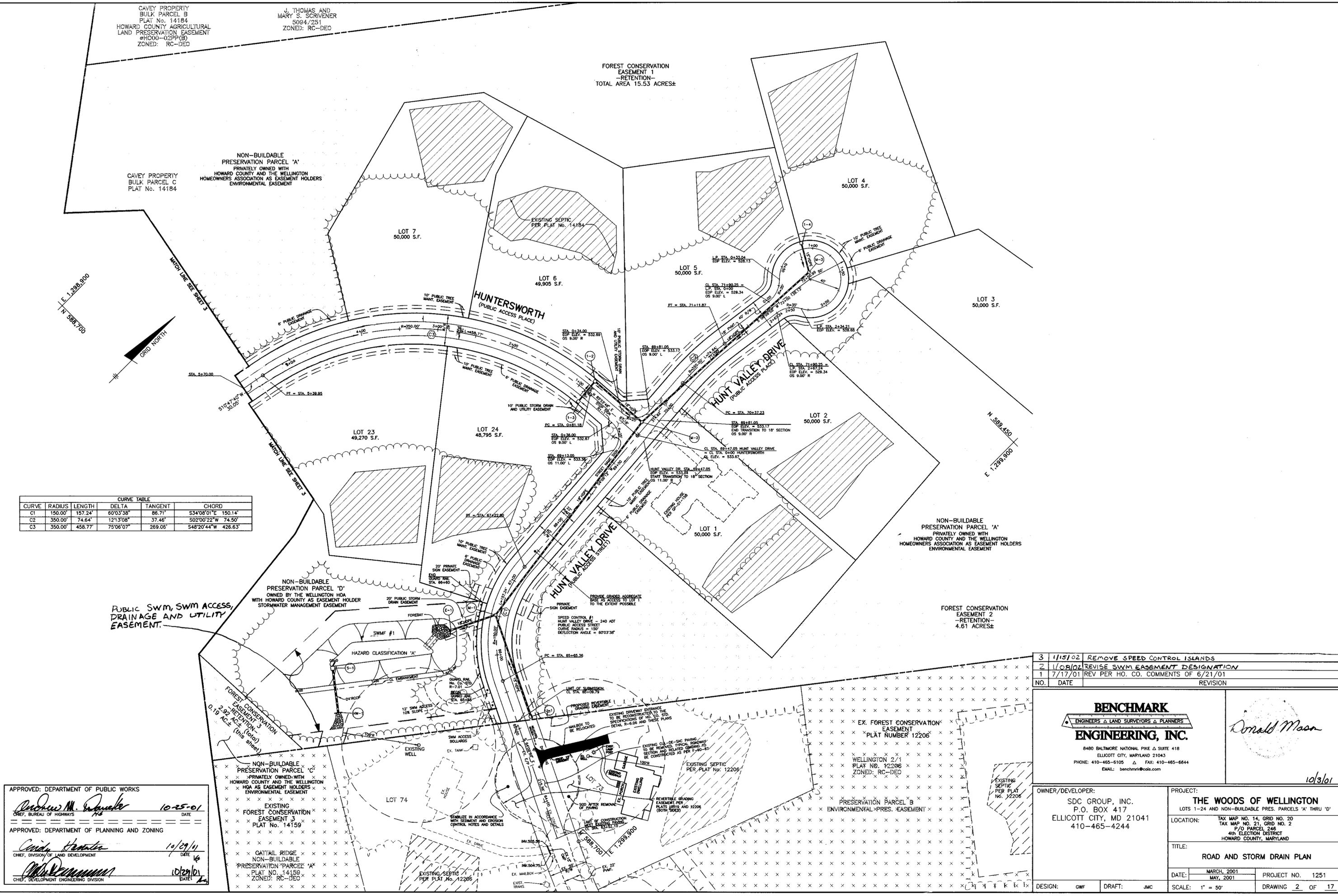
J. THOMAS AND
MARY S. SCRIVENER
5084/2351
ZONED: RC-DEO

FOREST CONSERVATION
EASEMENT 1
-RETENTION-
TOTAL AREA 15.53 ACRES±

NON-BUILDABLE
PRESERVATION PARCEL 'A'
PRIVATELY OWNED WITH
HOWARD COUNTY AND THE WELLINGTON
HOMEOWNERS ASSOCIATION AS EASEMENT HOLDERS
ENVIRONMENTAL EASEMENT

CAVEY PROPERTY
BULK PARCEL C
PLAT No. 14184

CURVE	RADIUS	LENGTH	DELTA	TANGENT	CHORD
C1	150.00'	157.24'	60°03'38"	86.71'	S34°08'01"E 150.14'
C2	350.00'	74.64'	121°3'08"	37.46'	S02°00'22"W 74.50'
C3	350.00'	458.77'	75°06'07"	269.06'	S48°20'44"W 426.63'



PUBLIC SWM, SWM ACCESS,
DRAINAGE AND UTILITY
EASEMENT.

NON-BUILDABLE
PRESERVATION PARCEL 'A'
PRIVATELY OWNED WITH
HOWARD COUNTY AND THE WELLINGTON
HOMEOWNERS ASSOCIATION AS EASEMENT HOLDERS
ENVIRONMENTAL EASEMENT

FOREST CONSERVATION
EASEMENT 2
-RETENTION-
4.61 ACRES±

APPROVED: DEPARTMENT OF PUBLIC WORKS
Andrew M. DePue 10-25-01
CHIEF, BUREAU OF HIGHWAYS
APPROVED: DEPARTMENT OF PLANNING AND ZONING
Cindy Hanlon 10/29/01
CHIEF, DIVISION OF LAND DEVELOPMENT
Michael J. ... 10/29/01
CHIEF, DEVELOPMENT ENGINEERING DIVISION

3	11/15/02	REMOVE SPEED CONTROL ISLANDS
2	1/08/02	REVISE SWM EASEMENT DESIGNATION
1	7/17/01	REV PER HO. CO. COMMENTS OF 6/21/01
NO.	DATE	REVISION

BENCHMARK
ENGINEERS & LAND SURVEYORS & PLANNERS
ENGINEERING, INC.
8480 BALTIMORE NATIONAL PIKE & SUITE 418
ELLCOTT CITY, MARYLAND 21043
PHONE: 410-465-6105 FAX: 410-465-6644
EMAIL: benchmark@cois.com

Ronald Mason
10/3/01

OWNER/DEVELOPER:
SDC GROUP, INC.
P.O. BOX 417
ELLCOTT CITY, MD 21041
410-465-4244

PROJECT:
THE WOODS OF WELLINGTON
LOTS 1-24 AND NON-BUILDABLE PRES. PARCELS 'A' THRU 'D'

LOCATION:
TAX MAP NO. 14, GRID NO. 2D
TAX MAP NO. 21, GRID NO. 2
P/O PARCEL 246
4TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE:
ROAD AND STORM DRAIN PLAN

DATE: MARCH, 2001
MAY, 2001

PROJECT NO. 1251

DESIGN: GWF DRAFT: JMC SCALE: 1" = 50'

DRAWING 2 OF 17

NON-BUILDABLE PRESERVATION PARCEL 'A' PRIVATELY OWNED WITH HOWARD COUNTY AND THE WELLINGTON HOMEOWNERS ASSOC. AS EASEMENT HOLDERS ENVIRONMENTAL EASEMENT

FOREST CONSERVATION EASEMENT 1 -RETENTION- TOTAL AREA 15.53 ACRES±

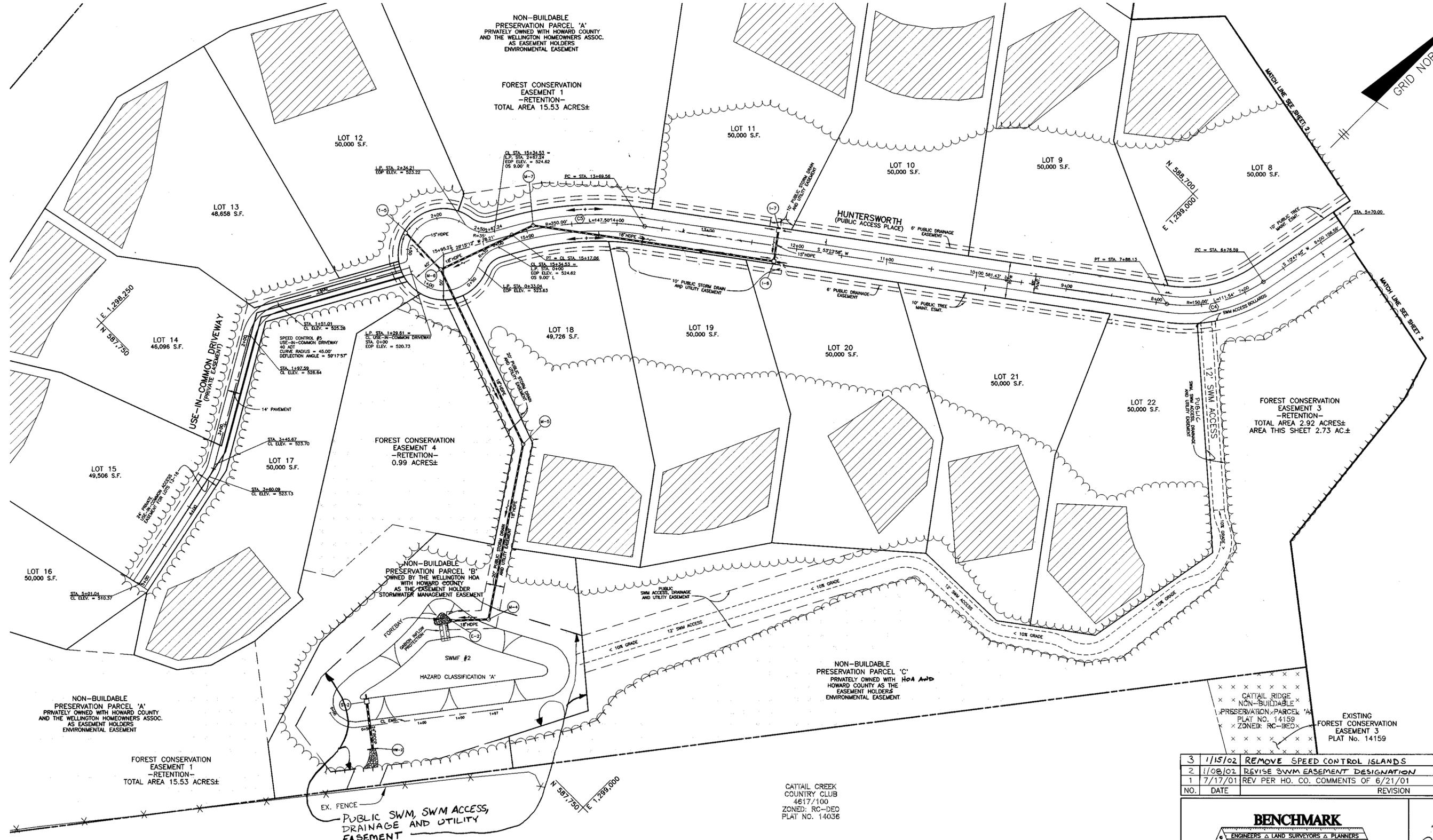
FOREST CONSERVATION EASEMENT 3 -RETENTION- TOTAL AREA 2.92 ACRES± AREA THIS SHEET 2.73 AC±

NON-BUILDABLE PRESERVATION PARCEL 'C' PRIVATELY OWNED WITH HOWARD COUNTY AS THE EASEMENT HOLDERS ENVIRONMENTAL EASEMENT

NON-BUILDABLE PRESERVATION PARCEL 'B' OWNED BY THE WELLINGTON HOA WITH HOWARD COUNTY AS THE EASEMENT HOLDER STORMWATER MANAGEMENT EASEMENT

NON-BUILDABLE PRESERVATION PARCEL 'A' PRIVATELY OWNED WITH HOWARD COUNTY AND THE WELLINGTON HOMEOWNERS ASSOC. AS EASEMENT HOLDERS ENVIRONMENTAL EASEMENT

FOREST CONSERVATION EASEMENT 1 -RETENTION- TOTAL AREA 15.53 ACRES±



CURVE TABLE					
CURVE	RADIUS	LENGTH	DELTA	TANGENT	CHORD
C4	150.00'	111.54'	42°36'18"	58.49'	S32°05'49"W 108.99'
C5	350.00'	147.50'	24°08'46"	74.86'	S41°19'35"W 146.41'

NO.	DATE	REVISION
3	1/15/02	REMOVE SPEED CONTROL ISLANDS
2	1/08/02	REVISE SWM EASEMENT DESIGNATION
1	7/17/01	REV PER HO. CO. COMMENTS OF 6/21/01

BENCHMARK ENGINEERS & LAND SURVEYORS & PLANNERS
ENGINEERING, INC.
 8480 BALTIMORE NATIONAL PIKE & SUITE 418
 ELLICOTT CITY, MARYLAND 21043
 PHONE: 410-465-6105 FAX: 410-465-6644
 EMAIL: benchmark@cois.com

Donald Moore

APPROVED: DEPARTMENT OF PUBLIC WORKS
Andrew M. Quaker 10-25-01
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Cindy Harman 10/29/01
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Mike Dammann 10/29/01
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

OWNER/DEVELOPER:
 SDC GROUP, INC.
 P.O. BOX 417
 ELLICOTT CITY, MD 21041
 410-465-4244

PROJECT:
THE WOODS OF WELLINGTON
 LOTS 1-24 AND NON-BUILDABLE PRES. PARCELS 'A' THRU 'D'

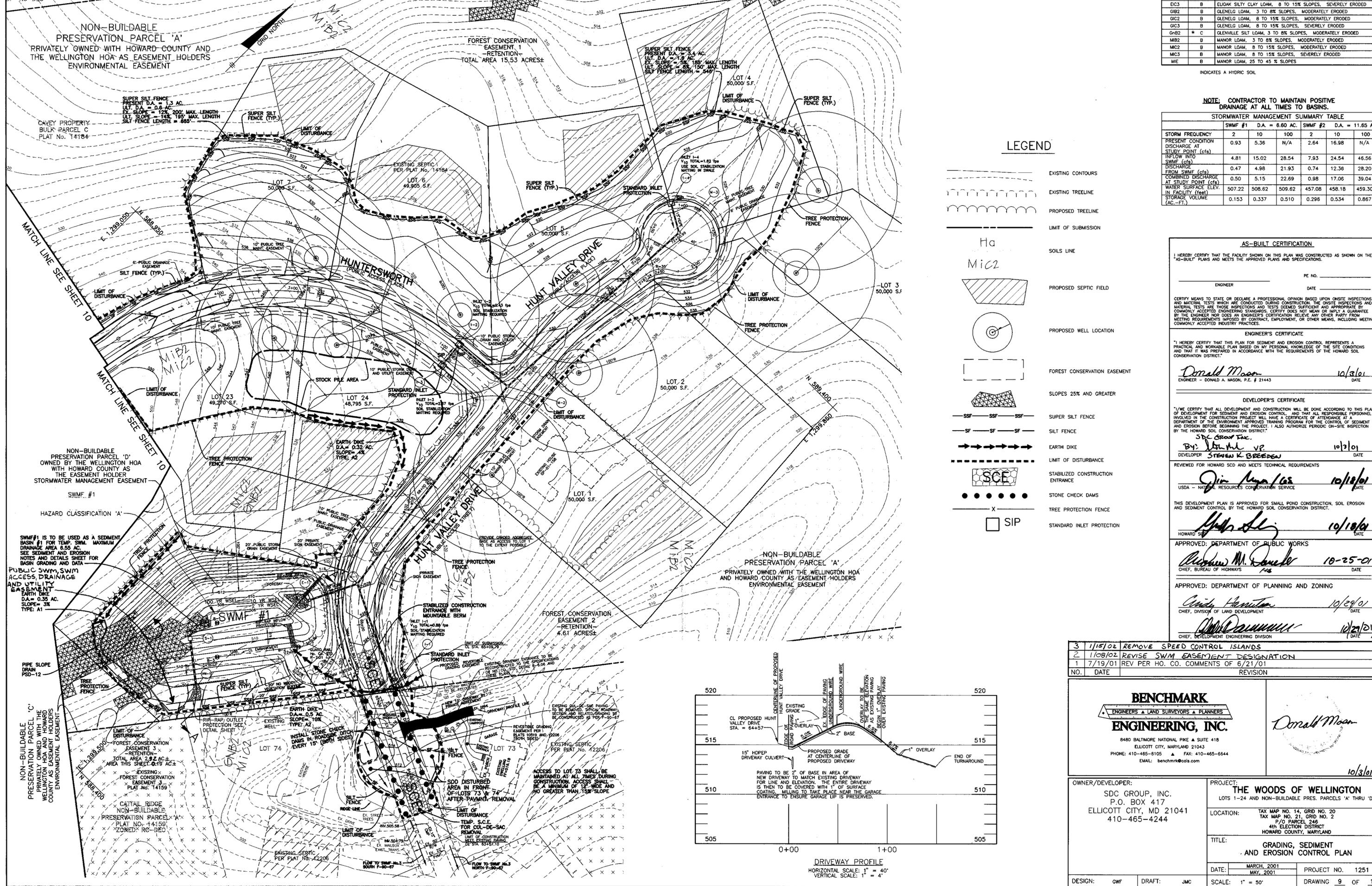
LOCATION: TAX MAP NO. 14, GRID NO. 20
 TAX MAP NO. 21, GRID NO. 2
 P/O PARCEL 248
 4th ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

TITLE:
ROAD AND STORM DRAIN PLAN

DATE: MARCH, 2001 PROJECT NO. 1251
 MAY, 2001

DESIGN: GWF DRAFT: JMC SCALE: 1" = 50' DRAWING 3 OF 17

UNITS AGRICULTURAL
 EASEMENT
 (04-02PXB)
 ZONED: RC-DEC



SOILS LEGEND		
MAP SYMBOL	SOIL GROUP	SOIL TYPE
EIC3	B	EUOAK SILTY CLAY LOAM, 8 TO 15% SLOPES, SEVERELY ERODED
GIB2	B	GLENELG LOAM, 3 TO 8% SLOPES, MODERATELY ERODED
GC2	B	GLENELG LOAM, 8 TO 15% SLOPES, MODERATELY ERODED
GC3	B	GLENELG LOAM, 8 TO 15% SLOPES, SEVERELY ERODED
GnB2	* C	GLENVILLE SILT LOAM, 3 TO 8% SLOPES, MODERATELY ERODED
MIB2	B	MANOR LOAM, 3 TO 8% SLOPES, MODERATELY ERODED
MIC2	B	MANOR LOAM, 8 TO 15% SLOPES, MODERATELY ERODED
MC3	B	MANOR LOAM, 8 TO 15% SLOPES, SEVERELY ERODED
ME	B	MANOR LOAM, 25 TO 45 % SLOPES

INDICATES A HYDRIC SOIL

NOTE: CONTRACTOR TO MAINTAIN POSITIVE DRAINAGE AT ALL TIMES TO BASINS.

	STORMWATER MANAGEMENT SUMMARY TABLE					
	SWMF #1 D.A. = 6.60 AC.		SWMF #2 D.A. = 11.85 AC.			
STORM FREQUENCY	2	10	100	2	10	100
PRESENT CONDITION DISCHARGE AT STUDY POINT (cfs)	0.93	5.36	N/A	2.64	16.98	N/A
INTLOW INTO SWMF (cfs)	4.81	15.02	28.54	7.93	24.54	46.56
DISCHARGE FROM SWMF (cfs)	0.47	4.98	21.93	0.74	12.36	28.20
COMBINED DISCHARGE AT STUDY POINT (cfs)	0.50	5.15	22.69	0.98	17.06	39.04
WATER SURFACE ELEV. IN FACILITY (FEET)	507.22	508.62	509.62	457.08	458.18	459.30
STORAGE VOLUME (AC.-FT.)	0.153	0.337	0.510	0.298	0.534	0.867

LEGEND

- EXISTING CONTOURS
- EXISTING TREELINE
- PROPOSED TREELINE
- LIMIT OF SUBMISSION
- SOILS LINE
- PROPOSED SEPTIC FIELD
- PROPOSED WELL LOCATION
- FOREST CONSERVATION EASEMENT
- SLOPES 25% AND GREATER
- SUPER SILT FENCE
- SILT FENCE
- EARTH DIKE
- LIMIT OF DISTURBANCE
- STABILIZED CONSTRUCTION ENTRANCE
- STONE CHECK DAMS
- TREE PROTECTION FENCE
- STANDARD INLET PROTECTION

AS-BUILT CERTIFICATION

I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE AS-BUILT PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

ENGINEER: Donald Moon DATE: 10/18/01

PE NO. _____ DATE _____

CERTIFY MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED UPON ON-SITE INSPECTIONS AND MATERIAL TESTS WHICH ARE CONDUCTED DURING CONSTRUCTION. THE ON-SITE INSPECTIONS AND MATERIAL TESTS ARE THOSE INSPECTIONS AND TESTS DEEMED SUFFICIENT AND APPROPRIATE BY COMMONLY ACCEPTED ENGINEERING STANDARDS. CERTIFY DOES NOT MEAN OR IMPLY A GUARANTEE BY THE ENGINEER NOR DOES AN ENGINEER'S CERTIFICATION RELIEVE ANY OTHER PARTY FROM MEETING REQUIREMENTS IMPOSED BY CONTRACT, EMPLOYMENT, OR OTHER MEANS, INCLUDING MEETING COMMONLY ACCEPTED INDUSTRY PRACTICES.

ENGINEER'S CERTIFICATE

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

Donald Moon DATE: 10/18/01

ENGINEER - DONALD A. MOON, P.E. # 21443

DEVELOPER'S CERTIFICATE

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL REGULATORY 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. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

By: Steven K. Bredon VP. DATE: 10/2/01

DEVELOPER: Steven K. Bredon

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS

Jim Ryan DATE: 10/18/01

USDA - NATURAL RESOURCES CONSERVATION SERVICE

THIS DEVELOPMENT PLAN IS APPROVED FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

John S. ... DATE: 10/18/01

APPROVED: DEPARTMENT OF PUBLIC WORKS

Richard M. ... DATE: 10-25-01

CHIEF, BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chris Hamilton DATE: 10/29/01

CHIEF, DIVISION OF LAND DEVELOPMENT

Donald Moon DATE: 10/21/01

CHIEF, DEVELOPMENT ENGINEERING DIVISION

3	1/15/02	REMOVE SPEED CONTROL ISLANDS
2	1/08/02	REVISE SWM EASEMENT DESIGNATION
1	7/19/01	REV PER HO. CO. COMMENTS OF 6/21/01
NO.	DATE	REVISION

BENCHMARK ENGINEERING, INC.

ENGINEERS • LAND SURVEYORS • PLANNERS

8480 BALTIMORE NATIONAL PIKE SUITE 418
 ELLICOTT CITY, MARYLAND 21043
 PHONE: 410-465-8105 FAX: 410-465-6844
 EMAIL: benchmark@cois.com

Donald Moon

OWNER/DEVELOPER: SDC GROUP, INC. P.O. BOX 417 ELLICOTT CITY, MD 21041 410-465-4244

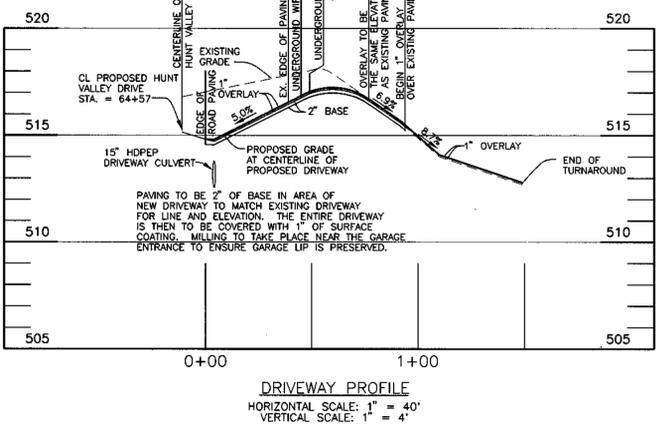
PROJECT: THE WOODS OF WELLINGTON LOTS 1-24 AND NON-BUILDABLE PRES. PARCELS 'A' THRU 'D'

LOCATION: TAX MAP NO. 14, GRID NO. 20 TAX MAP NO. 21, GRID NO. 2 P/O PARCEL 246 4th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE: GRADING, SEDIMENT AND EROSION CONTROL PLAN

DATE: MARCH, 2001 PROJECT NO. 1251
 MAY, 2001

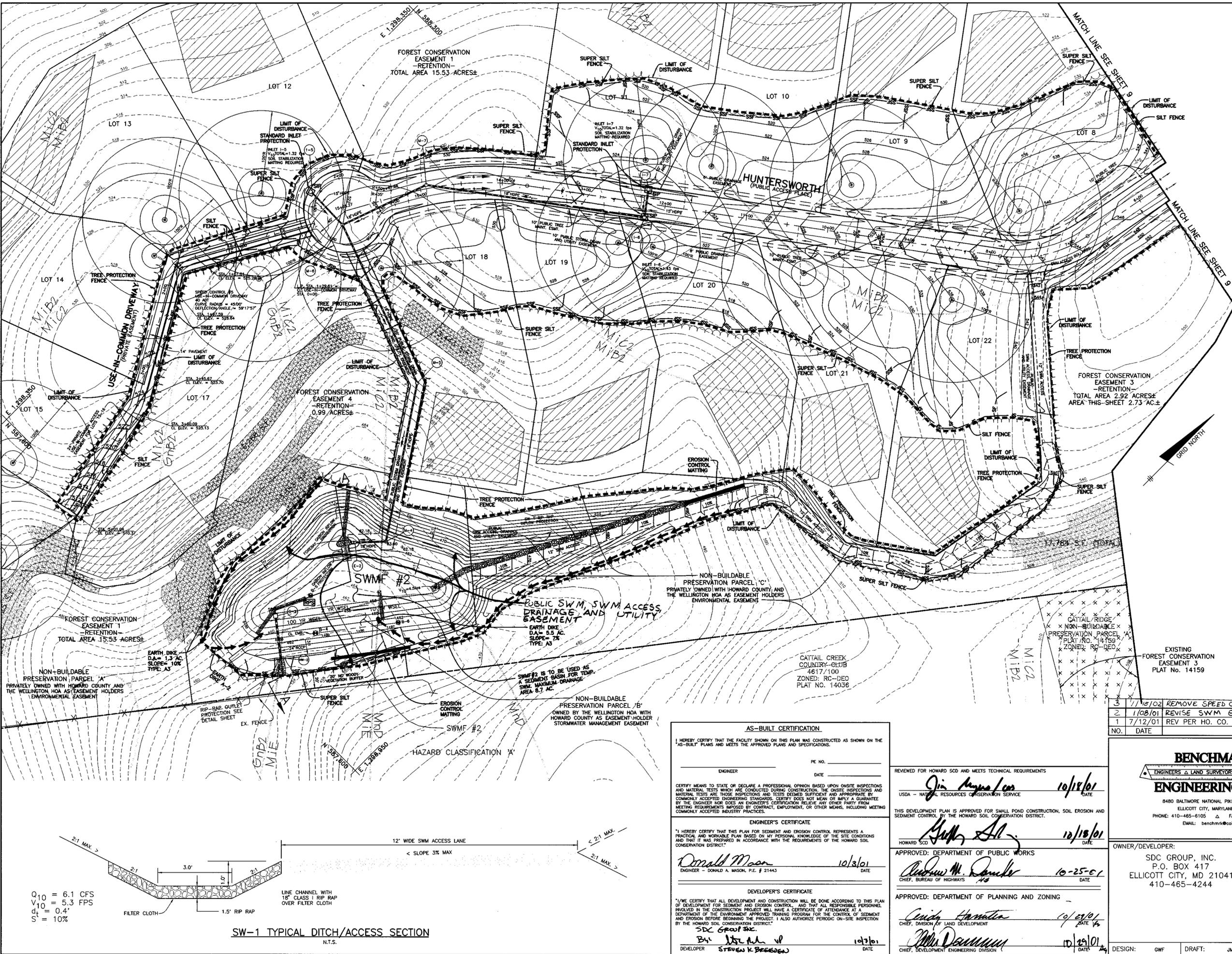
DESIGN: GWF DRAFT: JMC SCALE: 1" = 50' DRAWING 9 OF 17



SWMF #1 IS TO BE USED AS A SEDIMENT BASIN #1 FOR TEMP. SWM. MAXIMUM DRAINAGE AREA 6.55 AC. SEE SEDIMENT AND EROSION NOTES AND DETAILS SHEET FOR BASIN GRADING AND DATA.

NON-BUILDABLE PRESERVATION PARCEL 'C' PRIVATELY OWNED BY HOWARD COUNTY AS EASEMENT HOLDERS ENVIRONMENTAL EASEMENT

NON-BUILDABLE PRESERVATION PARCEL 'A' PRIVATELY OWNED WITH HOWARD COUNTY AND THE WELLINGTON HOA AS EASEMENT HOLDERS ENVIRONMENTAL EASEMENT



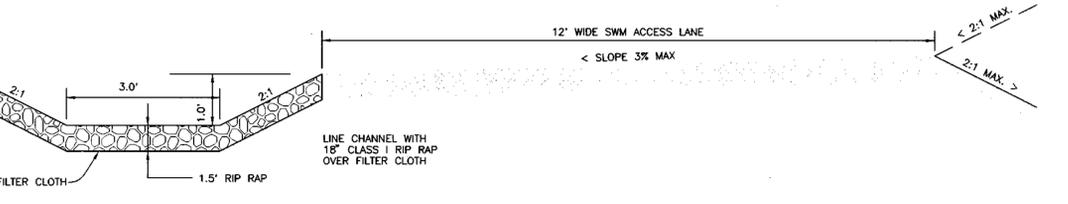
LEGEND

- EXISTING CONTOURS
- EXISTING TREELINE
- PROPOSED TREELINE
- LIMIT OF SUBMISSION
- SOILS LINE
- PROPOSED SEPTIC FIELD
- PROPOSED WELL LOCATION
- FOREST CONSERVATION EASEMENT
- SLOPES 25% AND GREATER
- SUPER SILT FENCE
- SILT FENCE
- EARTH DIKE
- LIMIT OF DISTURBANCE
- STABILIZED CONSTRUCTION ENTRANCE
- STONE CHECK DAMS
- TREE PROTECTION FENCE
- SIP
- EROSION CONTROL MATTING

NOTE: CONTRACTOR TO MAINTAIN POSITIVE DRAINAGE AT ALL TIMES TO BASINS.

$Q_{10} = 6.1 \text{ CFS}$
 $V_{10} = 5.3 \text{ FPS}$
 $ct = 0.4'$
 $S = 10\%$

SW-1 TYPICAL DITCH/ACCESS SECTION
N.T.S.



AS-BUILT CERTIFICATION

I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

ENGINEER: _____ PE NO. _____ DATE: _____

ENGINEER'S CERTIFICATE

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

Donald Mason 10/3/01
ENGINEER - DONALD A. MASON, P.E. # 21443

DEVELOPER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL 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 ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

SDC GROUP INC. 10/3/01
DEVELOPER: STEVEN K. BEEDEN DATE

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS

Jin Anaya/Car 10/18/01
USDA - NATIONAL RESOURCES CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

Yuhua Shi 10/18/01
HOWARD SCD DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS

Richard M. Daniels 10-25-01
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Quinn Hamilton 10/29/01
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Mr. Deane 10/29/01
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

NO.	DATE	REV PER HO. CO. COMMENTS OF	REVISION
3	11/15/02	REMOVE SPEED CONTROL ISLANDS	
2	1/08/01	REVISE SWM EASEMENT DESIGNATION	
1	7/12/01	REV PER HO. CO. COMMENTS OF 6/21/01	

BENCHMARK ENGINEERING, INC.
ENGINEERS & LAND SURVEYORS & PLANNERS

8480 BALTIMORE NATIONAL PIKE Δ SUITE 418
ELLCOTT CITY, MARYLAND 21043
PHONE: 410-465-6105 Δ FAX: 410-465-6644
EMAIL: benchmark@cois.com

Donald Mason 10/3/01

OWNER/DEVELOPER:
SDC GROUP, INC.
P.O. BOX 417
ELLCOTT CITY, MD 21041
410-465-4244

PROJECT:
THE WOODS OF WELLINGTON
LOTS 1-24 AND NON-BUILDABLE PRES. PARCELS 'A' THRU 'D'

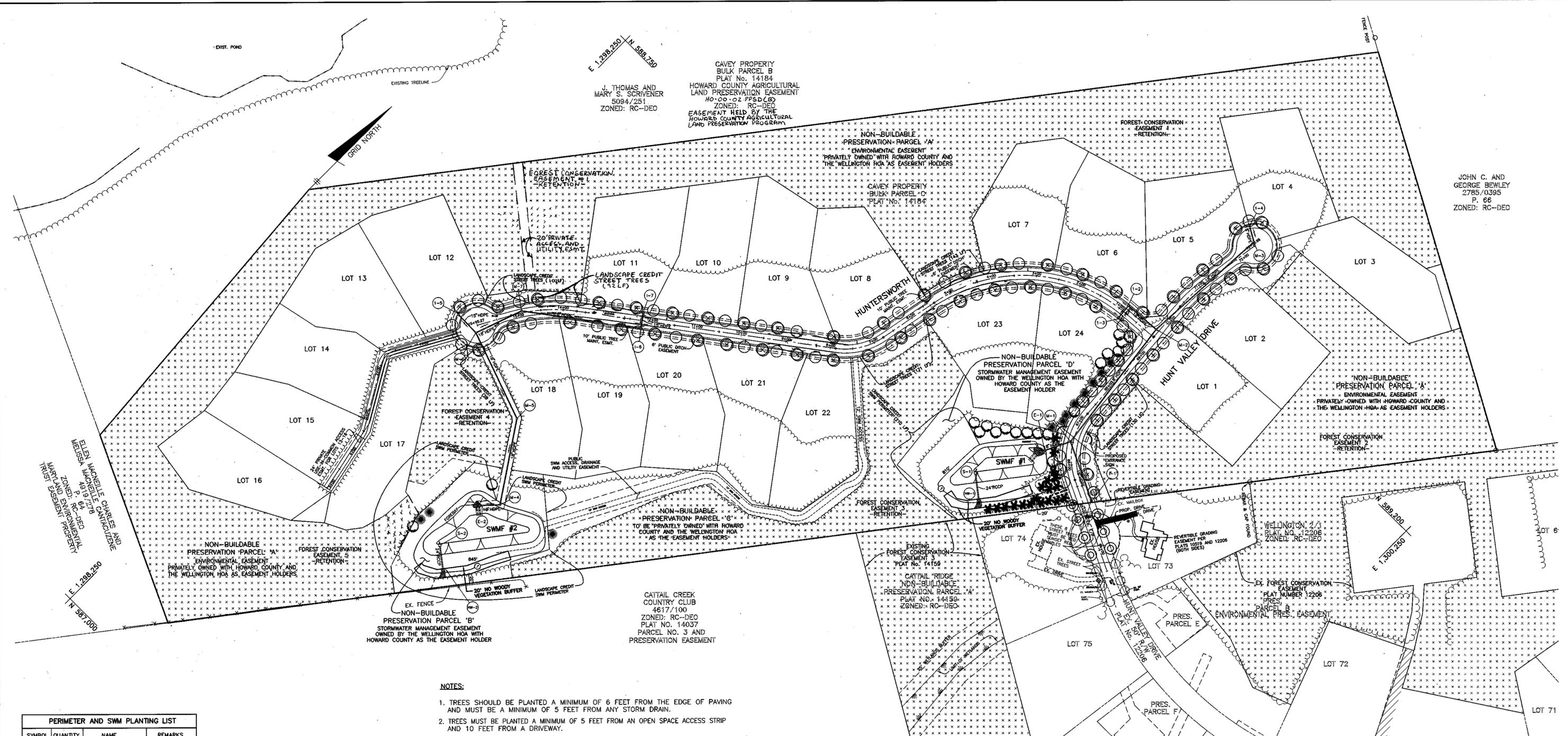
LOCATION: TAX MAP NO. 14, GRID NO. 20
TAX MAP NO. 21, GRID NO. 2
P/O PARCEL 246
4TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE:
GRADING AND SEDIMENT & EROSION CONTROL PLAN

DATE: MARCH, 2001 PROJECT NO. 1251
MAY, 2001

SCALE: 1" = 50' DRAWING 10 OF 17

DESIGN: GWF DRAFT: JMC



J. THOMAS AND MARY S. SCRIVENER
5094/281
ZONED: RC-DEC

CAVEY PROPERTY BULK PARCEL B
PLAT No. 14184
HOWARD COUNTY AGRICULTURAL LAND PRESERVATION EASEMENT
HO-00-02 PPSDC
ZONED: RC-DEC
EASEMENT HELD BY THE HOWARD COUNTY AGRICULTURAL LAND PRESERVATION PROGRAM

JOHN C. AND GEORGE BEWLEY
2785/0395
P. 66
ZONED: RC-DEC

SYMBOL	QUANTITY	NAME	REMARKS
○	18	FRAXINUS PENNSYLVANICA (Palmetto Green Ash)	2 1/2" MIN. CAL. B&B FULL HEAD
●	11	PINUS STROBUS (Eastern White Pine)	5'-6" HL. UNSHEARED
✱	19	PINUS STROBUS (Eastern White Pine)	8'-10" HL. SHEARED

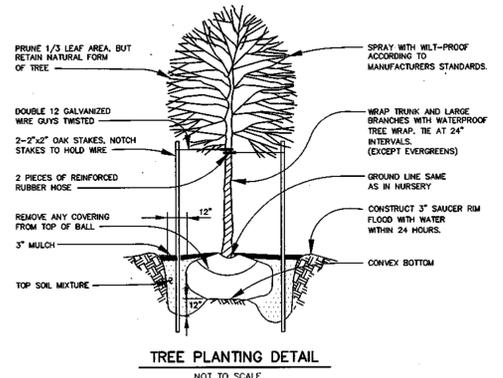
- NOTES:**
- TREES SHOULD BE PLANTED A MINIMUM OF 6 FEET FROM THE EDGE OF PAVING AND MUST BE A MINIMUM OF 5 FEET FROM ANY STORM DRAIN.
 - TREES MUST BE PLANTED A MINIMUM OF 5 FEET FROM AN OPEN SPACE ACCESS STRIP AND 10 FEET FROM A DRIVEWAY.
 - SEE TREE PLANTING DETAIL - THIS SHEET.
 - THE DEVELOPER SHALL BE RESPONSIBLE FOR STREET TREES, STORM WATER MANAGEMENT FACILITY PERIMETER PLANTING AND PRESERVATION OF THE PERIMETER VEGETATION AS SHOWN ON THESE PLANS.
 - PERIMETER AND SWM LANDSCAPE SURETY FOR 18 SHADE TREES AND 30 EVERGREEN TREES OF \$9,900.00 AND SURETY FOR 115 STREET TREES, SHALL BE PART OF THE D.P.W. DEVELOPERS AGREEMENT.

LINEAR FEET OF PERIMETER BUFFER TYPE	SWM AREA LANDSCAPING	
	FACILITY 1	FACILITY 2
CREDIT FOR EXISTING VEGETATION (NO, YES AND %)	YES ① 28%	YES ② 86%
CREDIT FOR OTHER LANDSCAPING (NO, YES AND %)	NO	NO
LINEAR FEET OF REQUIRED PLANTING	600	120
NUMBER OF TREES REQUIRED		
SHADE TREES	12	2
EVERGREEN TREES	15	3
NUMBER OF TREES PROVIDED		
SHADE TREES	10	2
EVERGREEN TREES	19 ③	3
OTHER TREES (2:1 SUBSTITUTE)		

CATEGORY	SCHEDULE A PERIMETER LANDSCAPE EDGE	
	ADJACENT TO ROADS	ADJACENT TO PERIMETER PROP.
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	285 (ALONG HUNT VALLEY DRIVE)	7458 ①
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	YES, 7458' ②
CREDIT FOR WALL, FENCE OR BERM (DESCRIBE BELOW IF NEEDED)	NO	NO
NUMBER OF PLANTS REQUIRED		
SHADE TREES	285 L.F.	-
EVERGREEN TREES	6	-
OTHER TREES (2:1 SUBSTITUTE)	-	-
NUMBER OF PLANTS PROVIDED		
SHADE TREES	6	-
EVERGREEN TREES	8	-
OTHER TREES (2:1 SUBSTITUTE)	-	-
SHRUBS (10:1 SUBSTITUTE)	-	-
(DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED)		

STREET TREE REQUIREMENT			
LINEAR FRONTAGE OF ROADWAY:	5,282		
FRONTAGE ADJACENT TO PRESERVED WOODS:	666		
LINEAR FRONTAGE OF REQUIREMENT:	4616		
NUMBER OF STREET TREES REQUIRED:	115		
NUMBER OF STREET TREES PROVIDED:	115		

SYMBOL	QUANTITY	NAME	REMARKS
⊕	54	Prunus sargentii (Sargent Cherry)	2 1/2" MIN. CAL. B&B FULL HEAD
○	53	Platanus x acerifolia (Bloodgood London Plane)	2 1/2" MIN. CAL. B&B FULL HEAD
⊙	8	Acer Rubrum 'Red Sunset' (RED SUNSET RED MAPLE)	3" MIN. CAL. B&B FULL HEAD



I 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 LANDSCAPE MANUAL. I FURTHER CERTIFY THAT UPON COMPLETION A CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

SDC GROUP, INC.
By: *Stevan K. Breen* 10/9/01
OWNER/DEVELOPER STEVAN K. BREEN DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS
Andrew M. Danz 10-25-01
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Cindy Panetta 10/25/01
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Alan Dammann 10/21/01
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

NO.	DATE	REVISION
3	2/13/03	ADD ACCESS EASEMENT AND REVISE FOREST CONSERVATION EASEMENT
2	1/15/02	REMOVE SPEED CONTROL ISLANDS
1	7/09/01	REV PER HO. CO. COMMENTS OF 6/21/01

BENCHMARK ENGINEERING, INC.
ENGINEERS & LAND SURVEYORS & PLANNERS
8480 BALTIMORE NATIONAL PIKE A SUITE 418
ELLCOTT CITY, MARYLAND 21043
PHONE: 410-465-6105 FAX: 410-465-6644
EMAIL: benchmark@cois.com

Donald Mason
10/3/01

OWNER/DEVELOPER: SDC GROUP, INC.
P.O. BOX 417
ELLCOTT CITY, MD 21041
410-465-4244

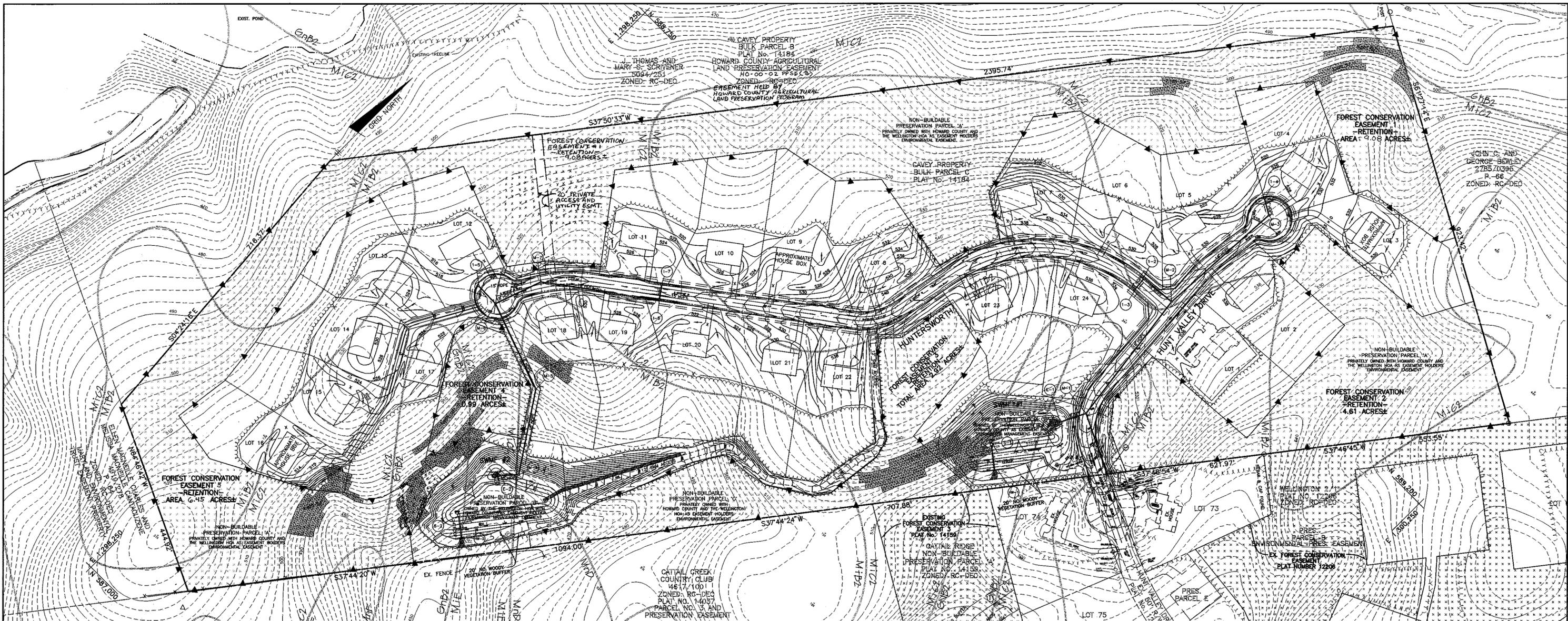
PROJECT: THE WOODS OF WELLINGTON
LOTS 1-24 AND NON-BUILDABLE PRES. PARCELS 'A' THRU 'D'

LOCATION: TAX MAP NO. 14, GRID NO. 20
TAX MAP NO. 21, GRID NO. 2
P/O PARCEL 246
4TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: LANDSCAPE PLAN, NOTES AND DETAILS

DATE: MARCH, 2001 PROJECT NO. 1251
MAY, 2001 TAX MAP NO. 21, GRID NO. 2

DESIGN: GWF DRAFT: JMC SCALE: 1" = 100' DRAWING 16 OF 17



FOREST DATA	
	ACRES
GROSS AREA FLOODPLAIN/UNFORESTED PRESERVATION	59.5
NET TRACT AREA (NTA)	59.5
EXISTING FOREST (NTA)	59.5
AFFORESTATION THRESHOLD	11.9
REFORESTATION THRESHOLD	14.9
BREAK-EVEN POINT	14.9
FOREST TO BE CLEARED (NTA)	35.5
FOREST TO BE RETAINED (NTA)	24.0
FOREST TO BE RETAINED IN FCE	24.1

FOREST CONSERVATION TABULATION		
DESIGNATION	TYPE	ACREAGE
1	RETENTION	4.61
2	RETENTION	4.61
3	RETENTION	2.92
4	RETENTION	0.93
TOTAL		ALL RETENTION 24.05

SEQUENCE OF CONSTRUCTION

- SEDIMENT CONTROL AND TREE PROTECTION DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH GENERAL CONSTRUCTION PLAN FOR SITE. SITE SHALL BE GRADED IN ACCORDANCE WITH THE GENERAL CONSTRUCTION PLANS.
- REMOVE HAZARDOUS TREES (DEAD, DISEASED OR THOSE SUBJECT TO WIND THROWS) ALONG THE EDGE OF THE FOREST RETENTION AREAS AS WELL AS WITHIN OTHER TREE SAVE AREAS.
- SIGNAGE SHALL BE INSTALLED AS PER THE FOREST PROTECTION DEVICES SHOWN ON THE FOREST CONSERVATION PLAN.

FCP NOTES:

- ANY FOREST CONSERVATION EASEMENT (FCE) AREA SHOWN HEREON IS SUBJECT TO PROTECTIVE COVENANTS WHICH MAY BE FOUND IN THE LAND RECORDS OF HOWARD COUNTY WHICH RESTRICT THE DISTURBANCE AND USE OF THESE AREAS.
- FORESTED AREAS OCCURRING OUTSIDE OF THE FCE SHALL NOT BE CONSIDERED PART OF THE FCE AND SHALL NOT BE SUBJECT TO PROTECTIVE LAND COVENANTS.
- LIMITS OF DISTURBANCE SHALL BE RESTRICTED TO AREAS OUTSIDE THE LIMIT OF TEMPORARY FENCING OR THE FCE BOUNDARY, WHICHEVER IS GREATER.
- THERE SHALL BE NO CLEARING, GRADING, CONSTRUCTION OR DISTURBANCE OF VEGETATION IN THE FOREST CONSERVATION EASEMENT, EXCEPT AS PERMITTED BY HOWARD COUNTY DPZ.
- NO STOCKPILES, PARKING AREAS, EQUIPMENT CLEANING AREAS, ETC. SHALL OCCUR WITHIN AREAS DESIGNATED AS FOREST CONSERVATION EASEMENTS.
- TEMPORARY FENCING SHALL BE USED TO PROTECT FOREST RESOURCES DURING CONSTRUCTION. THE FENCING SHALL BE PLACED ALONG ALL FCE BOUNDARIES WHICH OCCUR WITHIN 25 FEET OF THE PROPOSED LIMITS.
- PERMANENT SIGNAGE SHALL BE PLACED 50'-100' APART ALONG THE BOUNDARIES OF ALL AREAS INCLUDED IN FOREST CONSERVATION EASEMENTS. SIGNS SHALL BE MOUNTED ON A PERMANENT WOOD POST OR METAL STAKE. FCE SIGNS SHALL NOT BE ATTACHED TO TREES.
- THE FOREST CONSERVATION OBLIGATION FOR THIS SUBDIVISION WILL BE FULFILLED BY RETENTION OF 24.05 ACRES OF EXISTING FOREST IN FOREST CONSERVATION EASEMENTS WHICH IS GREATER THAN THE REQUIRED BREAK-EVEN POINT FOR THIS PROJECT.

APPENDIX E FOREST CONSERVATION WORKSHEET

I. BASIC SITE DATA		IV. REFORESTATION CALCULATIONS	
	ACRES (1/10 acre)		ACRES (1/10 acre)
GROSS SITE AREA	59.5	A. NET TRACT AREA	59.5
AREA WITHIN 100 YEAR FLOOD PLAIN	0	B. REFORESTATION THRESHOLD (25% x A)	14.9
AREA WITHIN AGRICULTURAL USE OR PRESERVATION PARCEL (IF APPLICABLE)	0	D. EXISTING FOREST ON NET TRACT AREA	59.5
NET TRACT AREA	59.5	E. FOREST AREAS TO BE CLEARED	35.4
LAND USE CATEGORY (R-RLD, R-RMD, R-S, C/I/O, I)	R-RMD	F. FOREST AREAS TO BE RETAINED	24.1
		G. FOREST AREAS CLEARED ABOVE REFORESTATION THRESHOLD	35.4
		(D-F, If F equals or is greater than B, Alternate 1)	
		(D-B, If F is less than B, Alternate 2)	
		H. FOREST AREAS CLEARED BELOW REFORESTATION THRESHOLD	0
		(B-F, If applicable)	
		I. FOREST AREAS RETAINED ABOVE REFORESTATION THRESHOLD	9.2
		(F-B, Retention Credit, if applicable)	

- SELECT THE ALTERNATE THAT APPLIES:
- Clearing above the threshold only
 - If forest areas to be retained equal or are greater than the reforestation threshold (if F equals or is greater than B), the following calculations apply:

REFORESTATION FOR CLEARING ABOVE THRESHOLD	8.9
CREDIT FOR FOREST AREAS RETAINED ABOVE THRESHOLD	9.2
TOTAL REFORESTATION REQUIRED	0

 (G x 1/4) - I
 If the total reforestation requirement is equal to or less than 0, no reforestation is required.
 - Clearing below the threshold
 - If forest areas to be retained are less than the reforestation threshold (if F is less than B), the following calculations apply:

REFORESTATION FOR CLEARING ABOVE THRESHOLD	G x 1/4
REFORESTATION FOR CLEARING BELOW THRESHOLD	H x 2
TOTAL REFORESTATION REQUIRED	(G x 1/4) + (H x 2)

 Since clearing occurs below the threshold, no forest retention credit is possible.

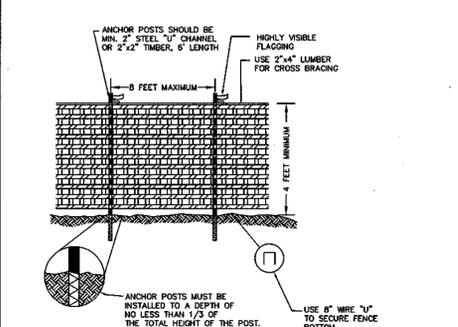
FOREST RETENTION AREA

MACHINERY, DUMPING OR STORAGE OF ANY MATERIALS IS PROHIBITED

VIOLATORS ARE SUBJECT TO FINES AS IMPOSED BY THE HOWARD COUNTY FOREST CONSERVATION ACT OF 1992

LEGEND

(---)	EXISTING GRADES
(---)	PROPOSED CONTOURS
(---)	SOILS LINE
(---)	EXISTING TREELINE
(---)	PROPOSED TREELINE
(---)	LIMIT OF SUBMISSION
(---)	FOREST CONSERVATION EASEMENT
(---)	STEEP SLOPES (25% OR GREATER)



PLASTIC MESH TREE PROTECTION FENCE

ADAPTED FROM PRINCE GEORGE'S COUNTY, MARYLAND. WOODLAND CONSERVATION MANUAL AND FOREST CONSERVATION MANUAL, 1991.

APPROVED: DEPARTMENT OF PUBLIC WORKS
Andrew M. Daniels 10-25-01
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Cinda Hamstra 10/29/01
 CHIEF, DIVISION OF LAND DEVELOPMENT

John P. ... 10/29/01
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

SOILS LEGEND		SOIL SURVEY SHEET 12
M&P SYMBOL	SOIL GROUP	SOIL TYPE
E1C3	B	ELOAK SILTY CLAY LOAM, 8 TO 15% SLOPES, SEVERELY ERODED
GB2	B	GLENELG LOAM, 3 TO 8% SLOPES, MODERATELY ERODED
GC2	B	GLENELG LOAM, 8 TO 15% SLOPES, MODERATELY ERODED
GC3	B	GLENELG LOAM, 8 TO 15% SLOPES, SEVERELY ERODED
GnB2	* C	GLENVILLE SILT LOAM, 3 TO 8% SLOPES, MODERATELY ERODED
MB2	B	MANOR LOAM, 3 TO 8% SLOPES, MODERATELY ERODED
MIC2	B	MANOR LOAM, 8 TO 15% SLOPES, MODERATELY ERODED
MIC3	B	MANOR LOAM, 8 TO 15% SLOPES, SEVERELY ERODED
ME	B	MANOR LOAM, 25 TO 45 % SLOPES

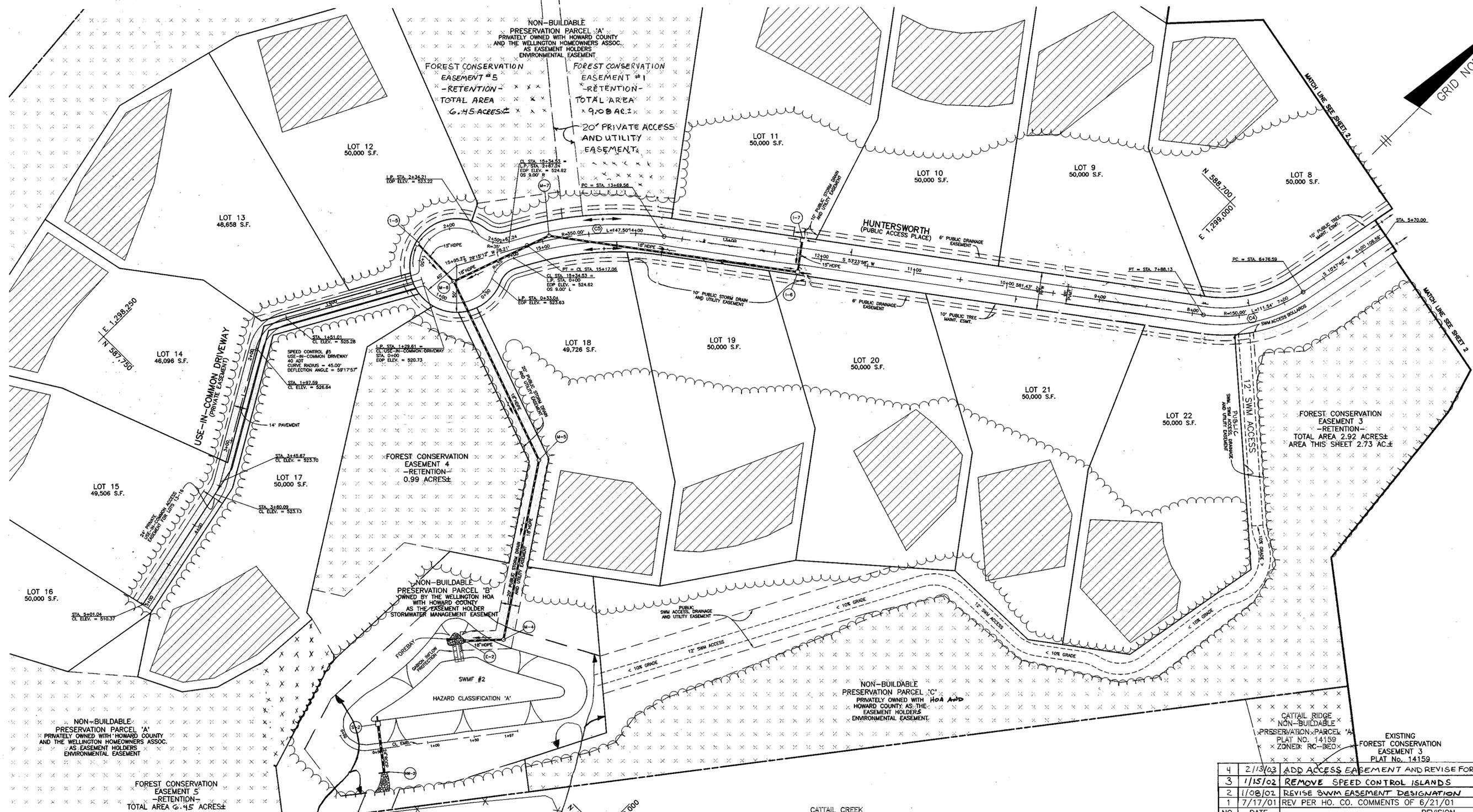
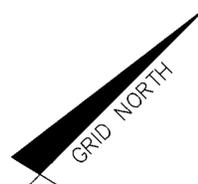
* INDICATES A HYDRIC SOIL

NO.	DATE	REV PER HO. CO. COMMENTS OF 6/21/01	REVISION
3	2/13/03	ADD ACCESS EASEMENT AND REVISE FOREST CONSERVATION EASEMENT	
2	1/15/02	REMOVE SPEED CONTROL ISLANDS	
1	7/10/01	REV PER HO. CO. COMMENTS OF 6/21/01	

BENCHMARK ENGINEERING, INC.
 ENGINEERS & LAND SURVEYORS & PLANNERS
 8480 BALTIMORE NATIONAL PIKE & SUITE 418
 ELLICOTT CITY, MARYLAND 21043
 PHONE: 410-465-6105 FAX: 410-465-6844
 EMAIL: benchmark@comcast.com

Donald Maco
 10/3/01

OWNER/DEVELOPER: SDC GROUP, INC. P.O. BOX 417 ELLICOTT CITY, MD 21041 410-465-4244	PROJECT: THE WOODS OF WELLINGTON LOTS 1-24 AND NON-BUILDABLE PRES. PARCELS 'A' THRU 'D'
LOCATION: TAX MAP NO. 14, GRID NO. 20 TAX MAP NO. 21, GRID NO. 2 P/O PARCEL 246 4th ELECTION DISTRICT HOWARD COUNTY, MARYLAND	TITLE: FOREST CONSERVATION PLAN, NOTES AND DETAILS
DATE: MARCH, 2001 MAY, 2001	PROJECT NO. 1251
DESIGN: GWF DRAFT: JMC	SCALE: 1" = 100'
	DRAWING 17 OF 17



NO.	DATE	REVISION
4	2/13/03	ADD ACCESS EASEMENT AND REVISE FOREST CONSERVATION ESMT.
3	1/15/02	REMOVE SPEED CONTROL ISLANDS
2	1/08/02	REVISE SWM EASEMENT DESIGNATION
1	7/17/01	REV PER HO. CO. COMMENTS OF 6/21/01

BENCHMARK
ENGINEERS & LAND SURVEYORS & PLANNERS
ENGINEERING, INC.

8480 BALTIMORE NATIONAL PIKE & SUITE 418
ELLCOTT CITY, MARYLAND 21043
PHONE: 410-465-6105 FAX: 410-465-6644
EMAIL: benchmark@ccis.com

Ronald Mason

CURVE TABLE					
CURVE	RADIUS	LENGTH	DELTA	TANGENT	CHORD
C4	150.00'	111.54'	42°36'18"	58.49'	S32°05'49" W 108.99'
C5	350.00'	147.50'	24°08'46"	74.86'	S41°19'35" W 146.41'

APPROVED: DEPARTMENT OF PUBLIC WORKS
Andrew M. Quaker 10-25-01
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
David Hamilton 10/23/01
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Michael J. Dammann 10/29/01
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

OWNER/DEVELOPER:
SDC GROUP, INC.
P.O. BOX 417
ELLCOTT CITY, MD 21041
410-465-4244

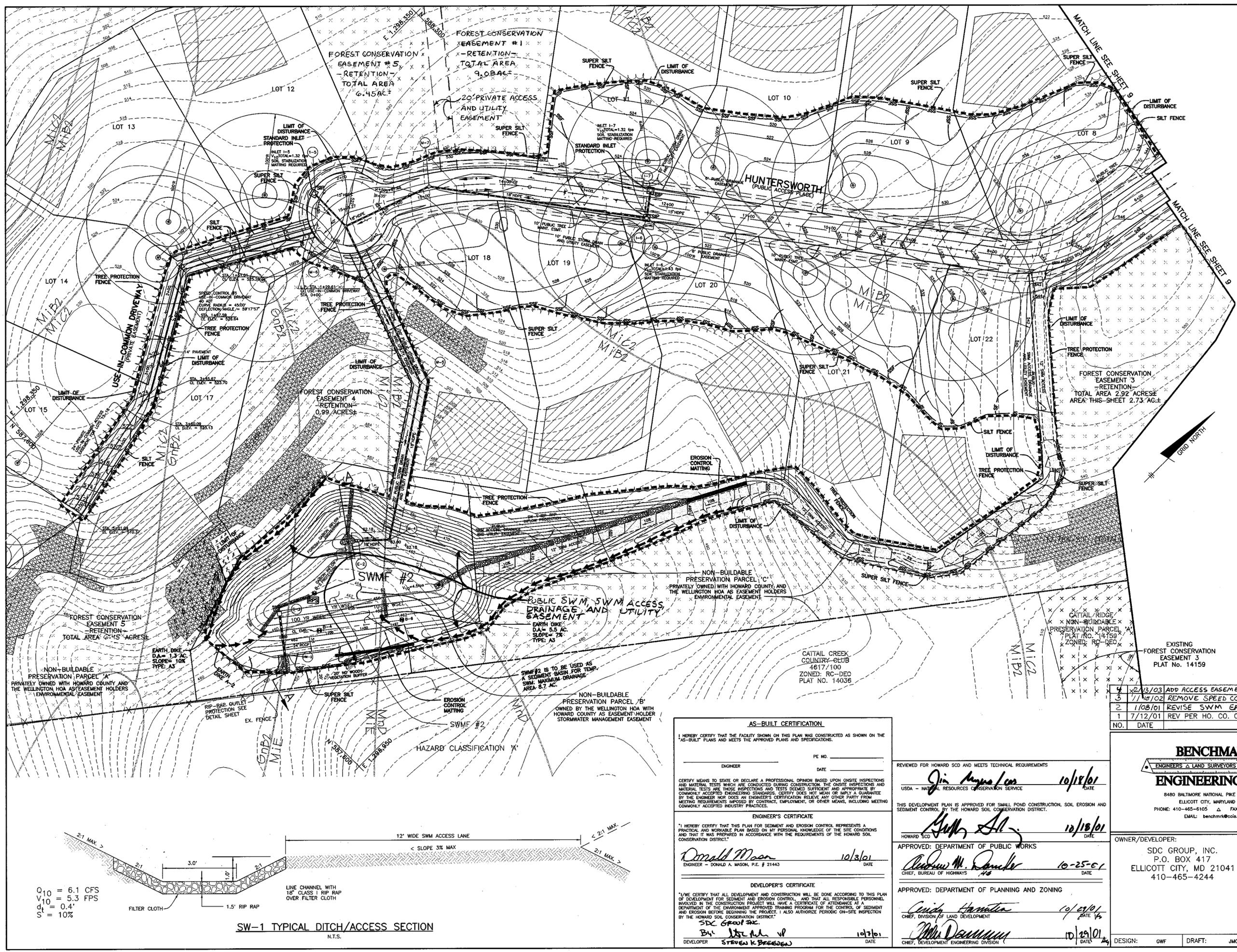
PROJECT:
THE WOODS OF WELLINGTON
LOTS 1-24 AND NON-BUILDABLE PRES. PARCELS 'A' THRU 'D'

LOCATION: TAX MAP NO. 14, GRID NO. 20
TAX MAP NO. 21, GRID NO. 2
P/O PARCEL 246
4TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE:
ROAD AND STORM DRAIN PLAN

DATE: MARCH, 2001 PROJECT NO. 1251
MAY, 2001

DESIGN: GWF DRAFT: JMC SCALE: 1" = 50' DRAWING 3 OF 17



LEGEND	
	EXISTING CONTOURS
	EXISTING TREELINE
	PROPOSED TREELINE
	LIMIT OF SUBMISSION
	SOILS LINE
	PROPOSED SEPTIC FIELD
	PROPOSED WELL LOCATION
	FOREST CONSERVATION EASEMENT
	SLOPES 25% AND GREATER
	SUPER SILT FENCE
	SILT FENCE
	EARTH DIKE
	LIMIT OF DISTURBANCE
	STABILIZED CONSTRUCTION ENTRANCE
	STONE CHECK DAMS
	TREE PROTECTION FENCE
	STANDARD INLET PROTECTION
	EROSION CONTROL MATTING

NOTE: CONTRACTOR TO MAINTAIN POSITIVE DRAINAGE AT ALL TIMES TO BASINS.

NO.	DATE	REVISION
4	12/13/03	ADD ACCESS EASEMENT AND REVISE FOREST CONSERVATION EASEMENT
3	11/15/02	REMOVE SPEED CONTROL ISLANDS
2	11/08/01	REVISE SWM EASEMENT DESIGNATION
1	7/12/01	REV PER HO. CO. COMMENTS OF 6/21/01

BENCHMARK
ENGINEERS & LAND SURVEYORS & PLANNERS
ENGINEERING, INC.
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ELLCOTT CITY, MARYLAND 21043
PHONE: 410-465-6105 FAX: 410-465-6644
EMAIL: benchmark@cois.com

Donald Mason
10/3/01

OWNER/DEVELOPER: SDC GROUP, INC. P.O. BOX 417 ELLCOTT CITY, MD 21041 410-465-4244	PROJECT: THE WOODS OF WELLINGTON LOTS 1-24 AND NON-BUILDABLE PRES. PARCELS 'A' THRU 'D'
LOCATION: TAX MAP NO. 14, GRID NO. 20 TAX MAP NO. 21, GRID NO. 2 P/O PARCEL 246 4TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND	TITLE: GRADING AND SEDIMENT & EROSION CONTROL PLAN
DATE: MARCH, 2001 MAY, 2001	PROJECT NO.: 1251
DESIGN: GWF	DRAFT: JMC
SCALE: 1" = 50'	DRAWING 10 OF 17

AS-BUILT CERTIFICATION

I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE AS-BUILT PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

ENGINEER: _____ PE NO. _____ DATE: _____

Donald Mason 10/3/01
ENGINEER - DONALD A. MASON, P.E. # 21443

ENGINEER'S CERTIFICATE

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

Andrew M. Rando 10/25/01
CHIEF, BUREAU OF HIGHWAYS

DEVELOPER'S CERTIFICATE

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL 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 ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

Steve K. Prosen 10/3/01
DEVELOPER

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS

Jim Mays 10/18/01
USDA - NATURAL RESOURCES CONSERVATION SERVICE

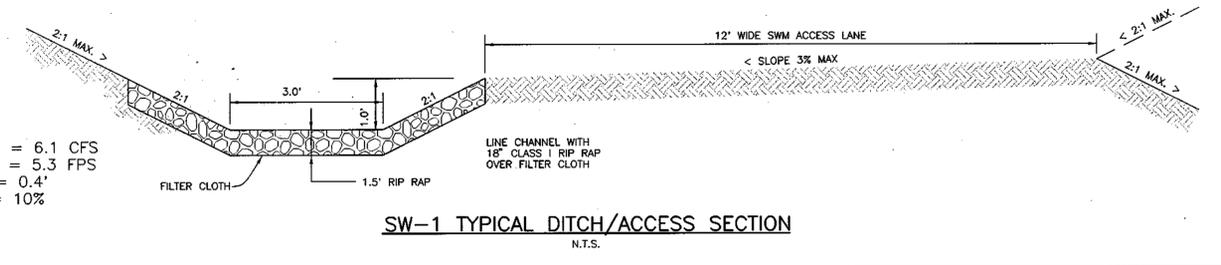
THIS DEVELOPMENT PLAN IS APPROVED FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL, BY THE HOWARD SOIL CONSERVATION DISTRICT.

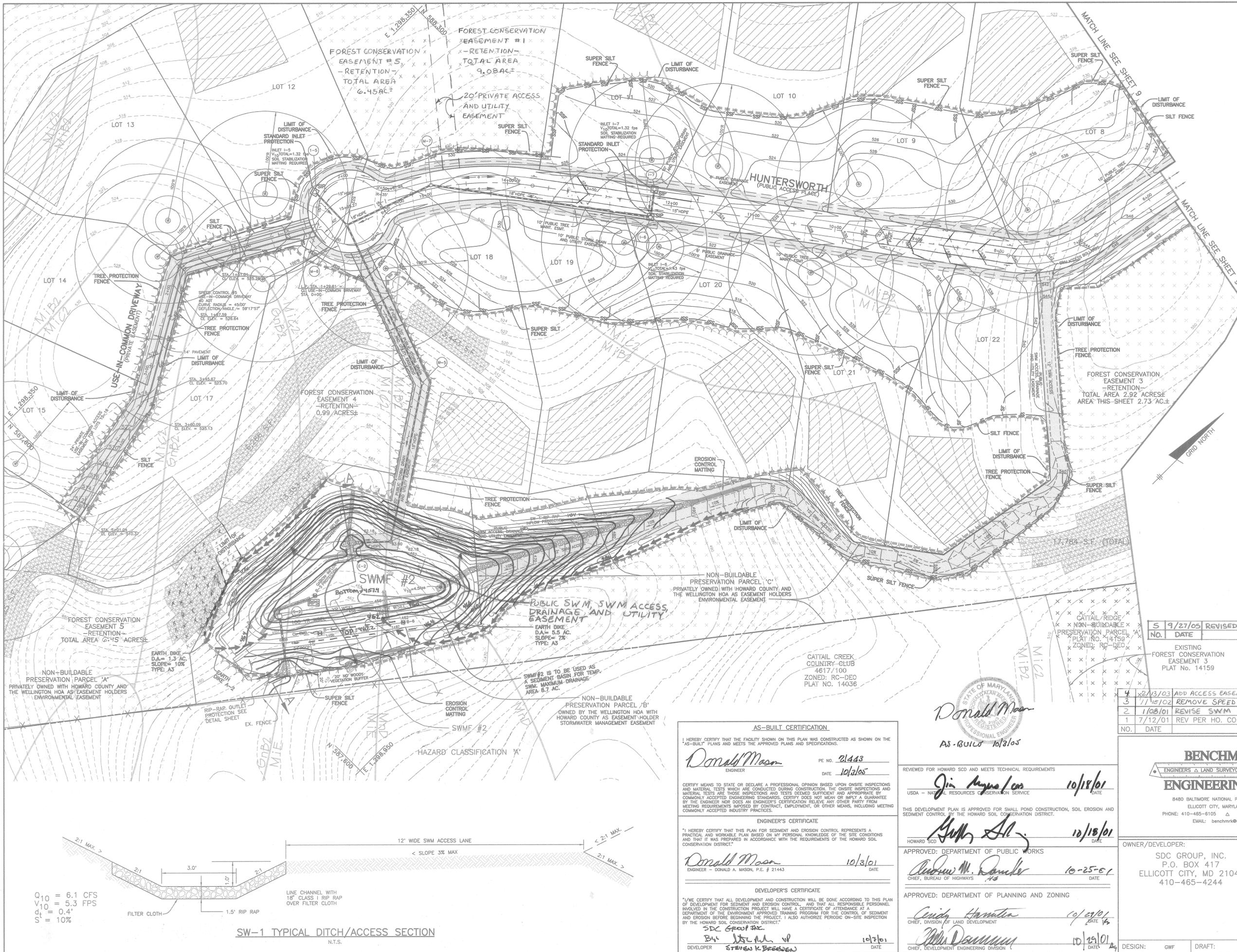
John S. ... 10/18/01
HOWARD SCD

APPROVED: DEPARTMENT OF PUBLIC WORKS
Andrew M. Rando 10-25-01
CHIEF, BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Cindy Hamilton 10/23/01
CHIEF, DIVISION OF LAND DEVELOPMENT

Steve K. Prosen 10/29/01
CHIEF, DEVELOPMENT ENGINEERING DIVISION





LEGEND

- EXISTING CONTOURS
- EXISTING TREELINE
- PROPOSED TREELINE
- LIMIT OF SUBMISSION
- SOILS LINE
- PROPOSED SEPTIC FIELD
- PROPOSED WELL LOCATION
- FOREST CONSERVATION EASEMENT
- SLOPES 25% AND GREATER
- SUPER SILT FENCE
- SILT FENCE
- EARTH DIKE
- LIMIT OF DISTURBANCE
- STABILIZED CONSTRUCTION ENTRANCE
- STONE CHECK DAMS
- TREE PROTECTION FENCE
- STANDARD INLET PROTECTION
- EROSION CONTROL MATTING

NOTE: CONTRACTOR TO MAINTAIN POSITIVE DRAINAGE AT ALL TIMES TO BASINS.

NO.	DATE	REVISION
5	9/27/05	REVISED PER AS-BUILT CONDITIONS
4	12/13/03	ADD ACCESS EASEMENT AND REVISE FOREST CONSERVATION EASEMENT
3	11/10/02	REMOVE SPEED CONTROL ISLANDS
2	1/08/01	REVISE SWM EASEMENT DESIGNATION
1	7/12/01	REV PER HO. CO. COMMENTS OF 6/21/01

BENCHMARK ENGINEERING, INC.
 ENGINEERS & LAND SURVEYORS & PLANNERS
 8480 BALTIMORE NATIONAL PIKE A SUITE 418
 ELLICOTT CITY, MARYLAND 21043
 PHONE: 410-465-6105 FAX: 410-465-6644
 EMAIL: benchmark@cois.com

OWNER/DEVELOPER: SDC GROUP, INC. P.O. BOX 417 ELLICOTT CITY, MD 21041 410-465-4244	PROJECT: THE WOODS OF WELLINGTON LOTS 1-24 AND NON-BUILDABLE PRES. PARCELS 'A' THRU 'D'
LOCATION: TAX MAP NO. 14, GRID NO. 20 TAX MAP NO. 21, GRID NO. 2 P/O PARCEL 248 4th ELECTION DISTRICT HOWARD COUNTY, MARYLAND	TITLE: GRADING AND SEDIMENT & EROSION CONTROL PLAN
DATE: MARCH, 2001 MAY, 2001	PROJECT NO. 1251
SCALE: 1" = 50'	DRAWING 10 OF 17

AS-BUILT CERTIFICATION
 I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.
Donald Mason PE NO. 21443 DATE 10/3/05
 ENGINEER

ENGINEER'S CERTIFICATE
 I HEREBY CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
Donald Mason 10/3/01 DATE
 ENGINEER - DONALD A. MASON, P.E. # 21443

DEVELOPER'S CERTIFICATE
 I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL 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 ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.
 SDC GROUP INC.
By: [Signature] 10/3/01 DATE
 DEVELOPER STEVEN K. BREWER

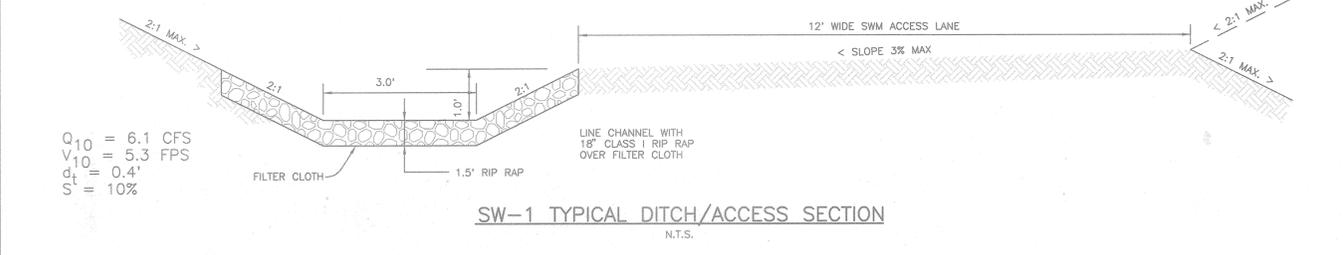
REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS
Jin Myung / on 10/18/01 DATE
 USDA - NATURAL RESOURCES CONSERVATION SERVICE

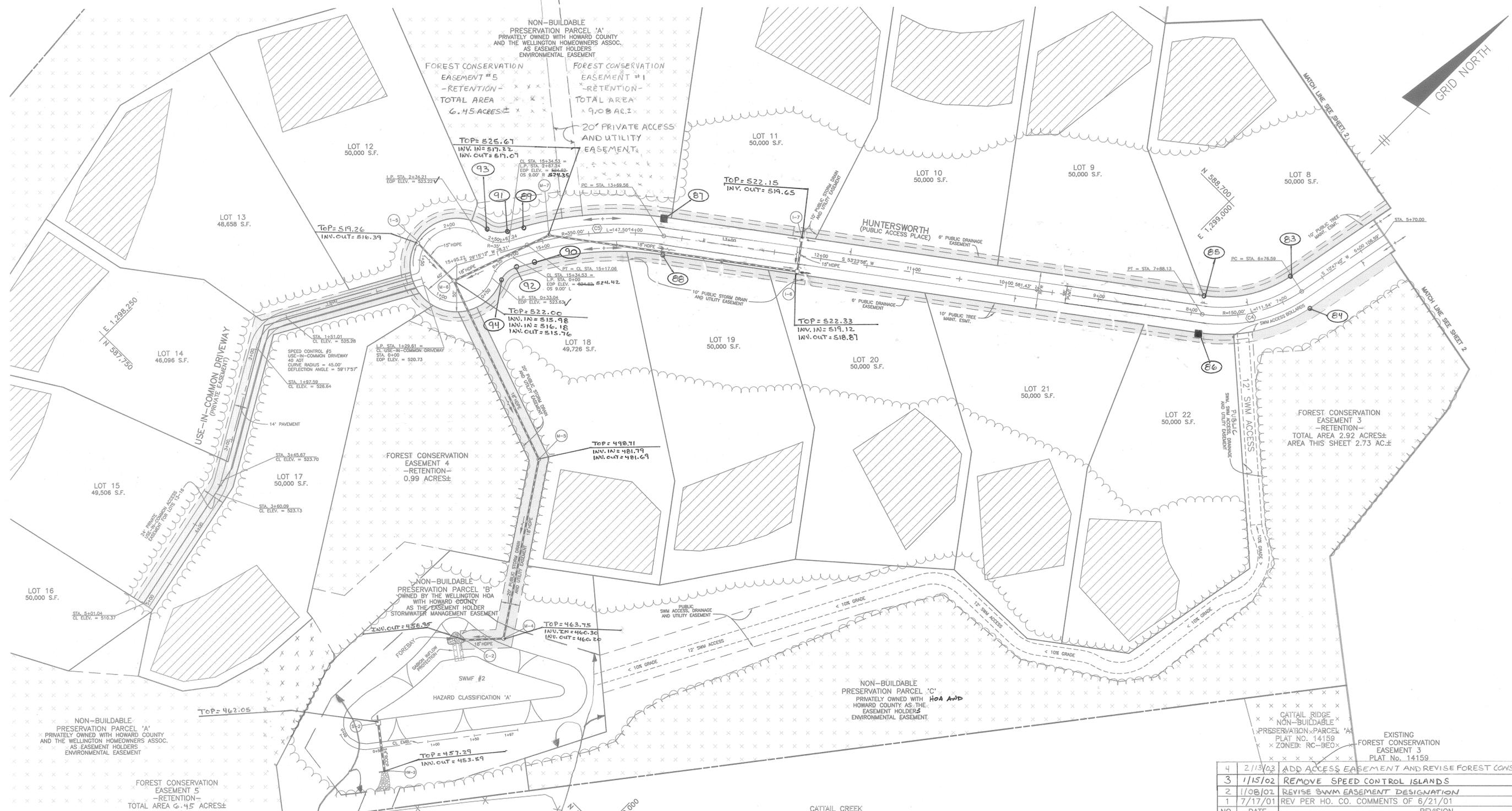
THIS DEVELOPMENT PLAN IS APPROVED FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
[Signature] 10/18/01 DATE
 HOWARD SCD

APPROVED: DEPARTMENT OF PUBLIC WORKS
[Signature] 10-25-01 DATE
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING
[Signature] 10/23/01 DATE
 CHIEF, DIVISION OF LAND DEVELOPMENT

[Signature] 10/23/01 DATE
 CHIEF, DEVELOPMENT ENGINEERING DIVISION





NON-BUILDABLE PRESERVATION PARCEL 'A' PRIVATELY OWNED WITH HOWARD COUNTY AND THE WELLINGTON HOMEOWNERS ASSOC. AS EASEMENT HOLDERS ENVIRONMENTAL EASEMENT

NON-BUILDABLE PRESERVATION PARCEL 'B' OWNED BY THE WELLINGTON HOA WITH HOWARD COUNTY AS THE EASEMENT HOLDER STORMWATER MANAGEMENT EASEMENT

NON-BUILDABLE PRESERVATION PARCEL 'C' PRIVATELY OWNED WITH HOWARD COUNTY AS THE EASEMENT HOLDERS HOA AND ENVIRONMENTAL EASEMENT

EXISTING FOREST CONSERVATION EASEMENT #3 PLAT NO. 14159

FOREST CONSERVATION EASEMENT #5 -RETENTION- TOTAL AREA 6.45 ACRES±

FOREST CONSERVATION EASEMENT #1 -RETENTION- TOTAL AREA 9.08 ACRES±

FOREST CONSERVATION EASEMENT #3 -RETENTION- TOTAL AREA 2.92 ACRES± AREA THIS SHEET 2.73 ACRES±

APPROVED: DEPARTMENT OF PUBLIC WORKS
Andrew M. Daniels 10-25-01
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
David Horvath 10/23/01
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

William J. Dammann 10/29/01
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

CURVE TABLE					
CURVE	RADIUS	LENGTH	DELTA	TANGENT	CHORD
C4	150.00'	111.54'	42°36'18"	58.49'	S32°05'49"W 108.99'
C5	350.00'	147.50'	24°08'46"	74.86'	S41°19'35"W 146.41'



NO.	DATE	REVISION
4	2/13/02	ADD ACCESS EASEMENT AND REVISE FOREST CONSERVATION ESMT.
3	1/15/02	REMOVE SPEED CONTROL ISLANDS
2	1/08/02	REVISE SWM EASEMENT DESIGNATION
1	7/17/01	REV PER HO. CO. COMMENTS OF 6/21/01

BENCHMARK ENGINEERING, INC.
 ENGINEERS & LAND SURVEYORS & PLANNERS
 8480 BALTIMORE NATIONAL PIKE & SUITE 418
 ELLICOTT CITY, MARYLAND 21043
 PHONE: 410-465-6105 FAX: 410-465-6644
 EMAIL: benchmark@cois.com

Donald Mason
 PROFESSIONAL ENGINEER

OWNER/DEVELOPER:
 SDC GROUP, INC.
 P.O. BOX 417
 ELLICOTT CITY, MD 21041
 410-465-4244

PROJECT:
THE WOODS OF WELLINGTON
 LOTS 1-24 AND NON-BUILDABLE PRES. PARCELS 'A' THRU 'D'

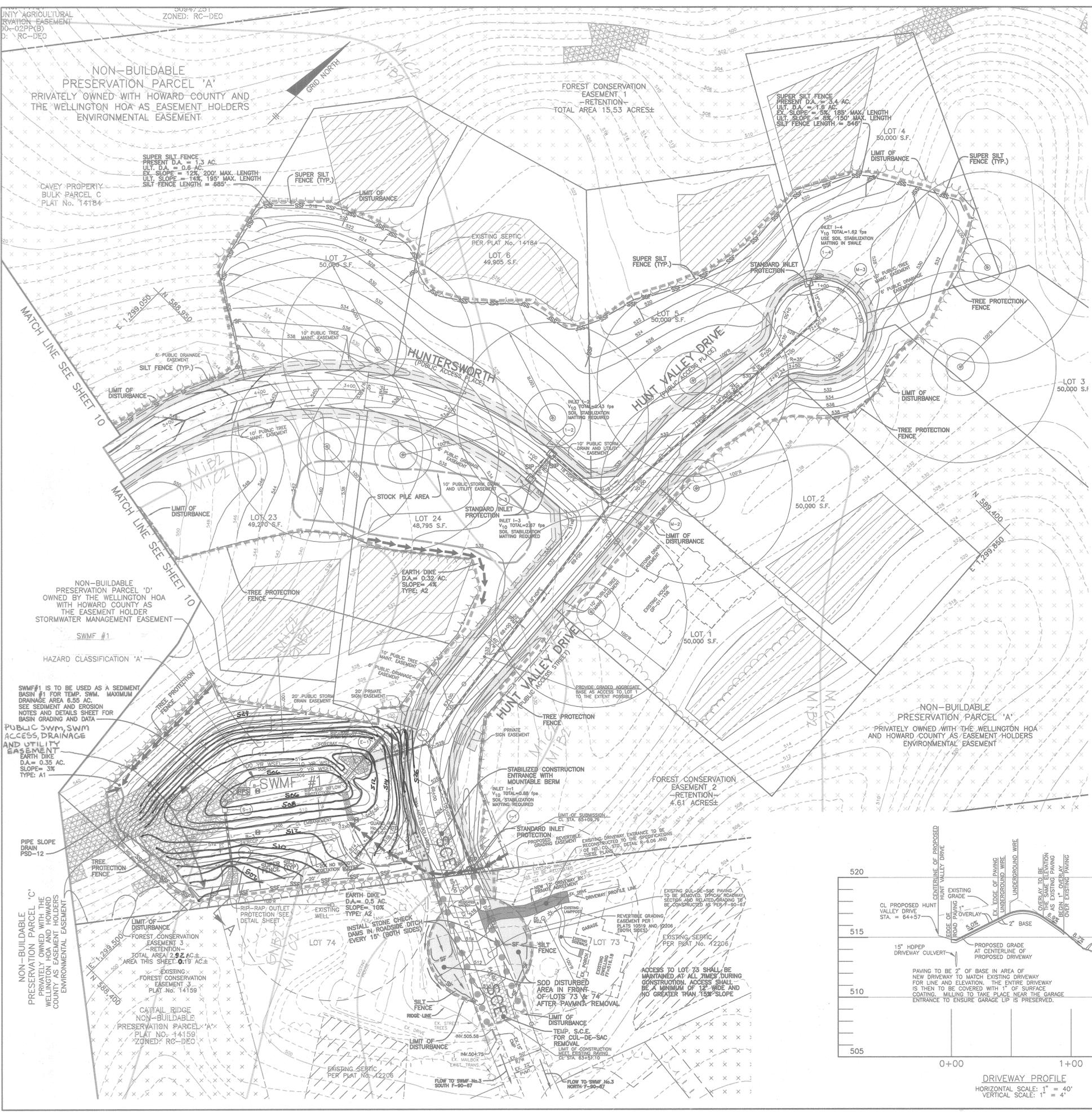
LOCATION:
 TAX MAP NO. 14, GRID NO. 20
 TAX MAP NO. 21, GRID NO. 2
 P/O PARCEL 248
 4TH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

TITLE:
ROAD AND STORM DRAIN PLAN

DATE: MARCH, 2001 PROJECT NO. 1251
 MAY, 2001

DESIGN: GWF DRAFT: JMC SCALE: 1" = 50' DRAWING 3 OF 17

NO.	DATE	REVISION
5	9/27/05	REVISED PER AS-BUILT CONDITIONS

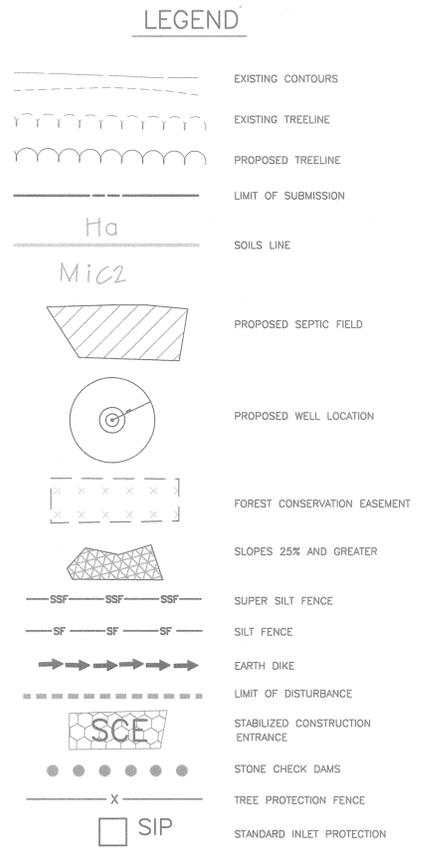


SOILS LEGEND		
MAP SYMBOL	SOIL GROUP	SOIL TYPE
EIC3	B	ELIOAK SILTY CLAY LOAM, 8 TO 15% SLOPES, SEVERELY ERODED
GIB2	B	GLENELG LOAM, 3 TO 8% SLOPES, MODERATELY ERODED
GIC2	B	GLENELG LOAM, 8 TO 15% SLOPES, MODERATELY ERODED
GIC3	B	GLENELG LOAM, 8 TO 15% SLOPES, SEVERELY ERODED
GnB2	* C	GLENVILLE SILT LOAM, 3 TO 8% SLOPES, MODERATELY ERODED
MB2	B	MANOR LOAM, 3 TO 8% SLOPES, MODERATELY ERODED
MC2	B	MANOR LOAM, 8 TO 15% SLOPES, MODERATELY ERODED
MC3	B	MANOR LOAM, 8 TO 15% SLOPES, SEVERELY ERODED
ME	B	MANOR LOAM, 25 TO 45 % SLOPES

INDICATES A HYDRIC SOIL

NOTE: CONTRACTOR TO MAINTAIN POSITIVE DRAINAGE AT ALL TIMES TO BASINS.

	STORMWATER MANAGEMENT SUMMARY TABLE					
	SWMF #1	D.A. = 6.60 AC.	SWMF #2	D.A. = 11.65 AC.		
STORM FREQUENCY	2	10	100	2	10	100
PRESENT CONDITION DISCHARGE AT STUDY POINT (cfs)	0.93	5.36	N/A	2.64	16.98	N/A
INFLOW INTO SWMF (cfs)	4.81	15.02	28.54	7.93	24.54	46.56
DISCHARGE FROM SWMF (cfs)	0.47	4.98	21.93	0.74	12.36	28.20
COMBINED DISCHARGE AT STUDY POINT (cfs)	0.50	5.15	22.69	0.98	17.06	39.04
WATER SURFACE ELEV. IN FACILITY (FEET)	507.22	508.62	509.62	457.08	458.18	459.30
STORAGE VOLUME (AC.-FT.)	0.153	0.337	0.510	0.296	0.534	0.867



AS-BUILT CERTIFICATION

I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE AS-BUILT PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

Donald Moor ENGINEER FE NO. 21443 DATE 10/3/05

CERTIFY MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED UPON ON-SITE INSPECTIONS AND MATERIAL TESTS WHICH ARE CONDUCTED DURING CONSTRUCTION. THE ON-SITE INSPECTIONS AND MATERIAL TESTS ARE THOSE INSPECTIONS AND TESTS DEEMED SUFFICIENT AND APPROPRIATE BY COMMONLY ACCEPTED ENGINEERING STANDARDS. CERTIFY DOES NOT MEAN OR IMPLY A GUARANTEE BY THE ENGINEER NOR DOES AN ENGINEER'S CERTIFICATION RELIEVE ANY OTHER PARTY FROM MEETING REQUIREMENTS IMPOSED BY CONTRACT, EMPLOYMENT, OR OTHER MEANS, INCLUDING MEETING COMMONLY ACCEPTED INDUSTRIAL PRACTICES.

ENGINEER'S CERTIFICATE

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

Donald Moor ENGINEER - DONALD A. MOOR, P.E. # 21443 DATE 10/3/05

DEVELOPER'S CERTIFICATE

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL 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 ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

By: *Stefan K. Bredem* DEVELOPER DATE 10/3/05

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS

Jim Ryan / G.S. DATE 10/18/05
USDA - NATURAL RESOURCES CONSERVATION SERVICE

THIS DEVELOPMENT PLAN IS APPROVED FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

John S. [Signature] DATE 10/18/05
HOWARD SCD

APPROVED: DEPARTMENT OF PUBLIC WORKS
Richard M. Daniels DATE 10-25-05
CHIEF, BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Chris Hamilton DATE 10/28/05
CHIEF, DIVISION OF LAND DEVELOPMENT

Chris Hamilton DATE 10/28/05
CHIEF, DEVELOPMENT ENGINEERING DIVISION



4 | 9/27/05 REVISED PER AS-BUILT CONDITIONS

NO.	DATE	REV PER HO. CO. COMMENTS OF	REVISION
3	1/15/02	REMOVE SPEED CONTROL ISLANDS	
2	1/08/02	REVISE SWM EASEMENT DESIGNATION	
1	7/19/01	REV PER HO. CO. COMMENTS OF 8/21/01	

BENCHMARK ENGINEERING, INC.

ENGINEERS • LAND SURVEYORS • PLANNERS

8480 BALTIMORE NATIONAL PIKE & SUITE 418
ELLICOTT CITY, MARYLAND 21043
PHONE: 410-485-8105 FAX: 410-485-8844
EMAIL: benchmark@cois.com

Donald Moor

OWNER/DEVELOPER: SDC GROUP, INC. P.O. BOX 417 ELLICOTT CITY, MD 21041 410-465-4244	PROJECT: THE WOODS OF WELLINGTON LOTS 1-24 AND NON-BUILDABLE PRES. PARCELS 'A' THRU 'D'
LOCATION: TAX MAP NO. 14, GRID NO. 20 TAX MAP NO. 21, GRID NO. 2 P/O PARCEL 246 4th ELECTION DISTRICT HOWARD COUNTY, MARYLAND	TITLE: GRADING, SEDIMENT AND EROSION CONTROL PLAN
DATE: MARCH, 2001 MAY, 2001	PROJECT NO. 1251
DESIGN: GWF DRAFT: JMC	SCALE: 1" = 50' DRAWING 9 OF 17

CAVEY PROPERTY BULK PARCEL B PLAT No. 141B4 HOWARD COUNTY AGRICULTURAL LAND PRESERVATION EASEMENT #HC00-02PP(B) ZONED: RC-DEC

J. THOMAS AND MARY S. SCRIVENER 5084/251 ZONED: RC-DEC

FOREST CONSERVATION EASEMENT 1 -RETENTION- TOTAL AREA 15.53 ACRES±

NON-BUILDABLE PRESERVATION PARCEL 'A' PRIVATELY OWNED WITH HOWARD COUNTY AND THE WELLINGTON HOMEOWNERS ASSOCIATION AS EASEMENT HOLDERS ENVIRONMENTAL EASEMENT

CAVEY PROPERTY BULK PARCEL C PLAT No. 141B4

LOT 7 50,000 S.F.

LOT 6 49,905 S.F.

LOT 5 50,000 S.F.

LOT 4 50,000 S.F.

LOT 3 50,000 S.F.

LOT 2 50,000 S.F.

LOT 1 50,000 S.F.

LOT 23 49,270 S.F.

LOT 24 48,795 S.F.

NON-BUILDABLE PRESERVATION PARCEL 'D' OWNED BY THE WELLINGTON HOA WITH HOWARD COUNTY AS EASEMENT HOLDER STORMWATER MANAGEMENT EASEMENT

NON-BUILDABLE PRESERVATION PARCEL 'A' PRIVATELY OWNED WITH HOWARD COUNTY AND THE WELLINGTON HOMEOWNERS ASSOCIATION AS EASEMENT HOLDERS ENVIRONMENTAL EASEMENT

FOREST CONSERVATION EASEMENT 2 -RETENTION- 4.61 ACRES±

PUBLIC SWM, SWM ACCESS, DRAINAGE AND UTILITY EASEMENT.

CURVE TABLE				
CURVE	RADIUS	LENGTH	DELTA	CHORD
C1	150.00'	157.24'	60°03'38"	86.71'
C2	350.00'	74.64'	121°3'08"	37.46'
C3	350.00'	456.77'	75°06'07"	269.06'

STATE OF MARYLAND
DONALD MASON
REGISTERED PROFESSIONAL ENGINEER
AS-BUILT 10/8/08

NO.	DATE	REVISION
4	9/27/05	REVISED PER AS-BUILT CONDITIONS
3	1/15/02	REMOVE SPEED CONTROL ISLANDS
2	1/08/02	REVISE SWM EASEMENT DESIGNATION
1	7/17/01	REV PER HO. CO. COMMENTS OF 6/21/01

BENCHMARK
ENGINEERS & LAND SURVEYORS & PLANNERS
ENGINEERING, INC.

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STATE OF MARYLAND
DONALD MASON
REGISTERED PROFESSIONAL ENGINEER

OWNER/DEVELOPER:
SDC GROUP, INC.
P.O. BOX 417
ELLCOTT CITY, MD 21041
410-465-4244

PROJECT:
THE WOODS OF WELLINGTON
LOTS 1-24 AND NON-BUILDABLE PRES. PARCELS 'A' THRU 'D'

LOCATION:
TAX MAP NO. 14, GRID NO. 20
TAX MAP NO. 21, GRID NO. 2
P/O PARCEL 248
4th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE:
ROAD AND STORM DRAIN PLAN

DATE: MARCH, 2001 PROJECT NO. 1251
MAY, 2001

SCALE: 1" = 50' DRAWING 2 OF 17

DESIGN: GWF DRAFT: JMC

APPROVED: DEPARTMENT OF PUBLIC WORKS
Andrew M. Daneker 10-25-01
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Cindy Hamble 10/29/01
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Mike Dammann 10/29/01
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

NON-BUILDABLE PRESERVATION PARCEL 'C' PRIVATELY OWNED WITH HOWARD COUNTY AND THE WELLINGTON HOA AS EASEMENT HOLDERS ENVIRONMENTAL EASEMENT

EXISTING FOREST CONSERVATION EASEMENT 3 PLAT No. 14159

CAITAIL RIDGE NON-BUILDABLE PRESERVATION PARCEL 'A' PLAT No. 14159 ZONED: RC-DEC

LOT 74

EXISTING SEPTIC PER PLAT No. 12206

STABILIZE IN ACCORDANCE WITH SEDIMENT AND EROSION CONTROL NOTES AND DETAILS

LOT 73

EXISTING SEPTIC PER PLAT No. 12206

REVERSIBLE GRADING EASEMENT PER PLATS 10519 AND 12206 (BOTH 2005)

LOT 72

EXISTING SEPTIC PER PLAT No. 12206

REVERSIBLE GRADING EASEMENT PER PLATS 10519 AND 12206 (BOTH 2005)

LOT 71

EXISTING SEPTIC PER PLAT No. 12206

REVERSIBLE GRADING EASEMENT PER PLATS 10519 AND 12206 (BOTH 2005)

LOT 70

EXISTING SEPTIC PER PLAT No. 12206

REVERSIBLE GRADING EASEMENT PER PLATS 10519 AND 12206 (BOTH 2005)

LOT 69

EXISTING SEPTIC PER PLAT No. 12206

REVERSIBLE GRADING EASEMENT PER PLATS 10519 AND 12206 (BOTH 2005)

LOT 68

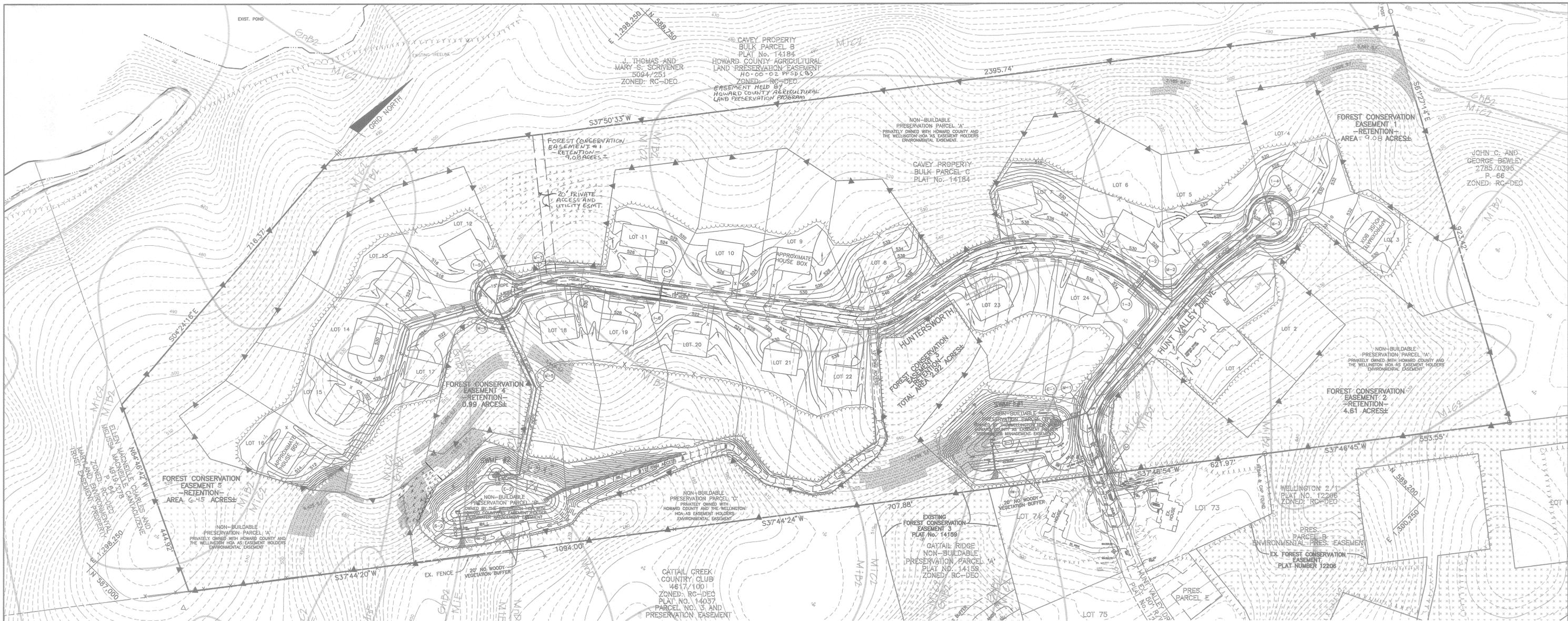
EXISTING SEPTIC PER PLAT No. 12206

REVERSIBLE GRADING EASEMENT PER PLATS 10519 AND 12206 (BOTH 2005)

LOT 67

EXISTING SEPTIC PER PLAT No. 12206

REVERSIBLE GRADING EASEMENT PER PLATS 10519 AND 12206 (BOTH 2005)



FOREST DATA	
	ACRES
GROSS AREA FLOODPLAIN/UNFORESTED PRESERVATION	59.5
NET TRACT AREA (NTA)	0
EXISTING FOREST (NTA)	59.5
AFFORESTATION THRESHOLD	11.9
REFORESTATION THRESHOLD	14.9
BREAK-EVEN POINT	14.9
FOREST TO BE CLEARED (NTA)	35.5
FOREST TO BE RETAINED (NTA)	24.1
FOREST TO BE RETAINED IN FCE	24.1

FOREST CONSERVATION TABULATION			
DESIGNATION	TYPE	ACREAGE	
1	RETENTION	4.08	
2	RETENTION	4.61	
3	RETENTION	2.92	
4	RETENTION	0.99	
		6.45	
TOTAL		ALL RETENTION	24.05

SEQUENCE OF CONSTRUCTION

- SEDIMENT CONTROL AND TREE PROTECTION DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH GENERAL CONSTRUCTION PLAN FOR SITE. SITE SHALL BE GRADED IN ACCORDANCE WITH THE GENERAL CONSTRUCTION PLANS.
- REMOVE HAZARDOUS TREES (DEAD, DISEASED OR THOSE SUBJECT TO WIND THROWS) ALONG THE EDGE OF THE FOREST RETENTION AREAS AS WELL AS WITHIN OTHER TREE SAVE AREAS.
- SIGNAGE SHALL BE INSTALLED AS PER THE FOREST PROTECTION DEVICES SHOWN ON THE FOREST CONSERVATION PLAN.

FCP NOTES:

- ANY FOREST CONSERVATION EASEMENT (FCE) AREA SHOWN HEREON IS SUBJECT TO PROTECTIVE COVENANTS WHICH MAY BE FOUND IN THE LAND RECORDS OF HOWARD COUNTY WHICH RESTRICT THE DISTURBANCE AND USE OF THESE AREAS.
- FORESTED AREAS OCCURRING OUTSIDE OF THE FCE SHALL NOT BE CONSIDERED PART OF THE FCE AND SHALL NOT BE SUBJECT TO PROTECTIVE LAND COVENANTS.
- LIMITS OF DISTURBANCE SHALL BE RESTRICTED TO AREAS OUTSIDE THE LIMIT OF TEMPORARY FENCING OR THE FCE BOUNDARY, WHICHEVER IS GREATER.
- THERE SHALL BE NO CLEARING, GRADING, CONSTRUCTION OR DISTURBANCE OF VEGETATION IN THE FOREST CONSERVATION EASEMENT, EXCEPT AS PERMITTED BY HOWARD COUNTY DPZ.
- NO STOCKPILES, PARKING AREAS, EQUIPMENT CLEANING AREAS, ETC. SHALL OCCUR WITHIN AREAS DESIGNATED AS FOREST CONSERVATION EASEMENTS.
- TEMPORARY FENCING SHALL BE USED TO PROTECT FOREST RESOURCES DURING CONSTRUCTION. THE FENCING SHALL BE PLACED ALONG ALL FCE BOUNDARIES WHICH OCCUR WITHIN 25 FEET OF THE PROPOSED LIMITS.
- PERMANENT SIGNAGE SHALL BE PLACED 50'-100' APART ALONG THE BOUNDARIES OF ALL AREAS INCLUDED IN FOREST CONSERVATION EASEMENTS. SIGNS SHALL BE MOUNTED ON A PERMANENT WOOD POST OR METAL STAKE. FCE SIGNS SHALL NOT BE ATTACHED TO TREES.
- THE FOREST CONSERVATION OBLIGATION FOR THIS SUBDIVISION WILL BE FULFILLED BY RETENTION OF 24.05 ACRES OF EXISTING FOREST IN FOREST CONSERVATION EASEMENTS WHICH IS GREATER THAN THE REQUIRED BREAK-EVEN POINT FOR THIS PROJECT.

APPENDIX E FOREST CONSERVATION WORKSHEET

	ACRES (1/10 acre)		ACRES (1/10 acre)
I. BASIC SITE DATA			
GROSS SITE AREA	59.5	A. NET TRACT AREA	59.5
AREA WITHIN 100 YEAR FLOOD PLAIN	0	B. REFORESTATION THRESHOLD (25% x A)	14.9
AREA WITHIN AGRICULTURAL USE OR PRESERVATION PARCEL (IF APPLICABLE)		C. AFFORESTATION MINIMUM (20% x A)	11.9
NET TRACT AREA	59.5	D. EXISTING FOREST ON NET TRACT AREA	59.5
LAND USE CATEGORY (R-RLD, R-RMD, R-S, C, V/O, I)	R-RMD	E. FOREST AREAS TO BE CLEARED	35.4
IV. REFORESTATION CALCULATIONS			
F. FOREST AREAS TO BE CLEARED	35.4	F. FOREST AREAS TO BE CLEARED	35.4
G. FOREST AREAS CLEARED ABOVE REFORESTATION THRESHOLD	35.4	G. FOREST AREAS CLEARED ABOVE REFORESTATION THRESHOLD	35.4
(D-F, If F equals or is greater than B, Alternate 1)		(D-F, If F is less than B, Alternate 2)	
H. FOREST AREAS CLEARED BELOW REFORESTATION THRESHOLD	0	H. FOREST AREAS CLEARED BELOW REFORESTATION THRESHOLD	0
(B-F, If applicable)		(B-F, If applicable)	
I. FOREST AREAS RETAINED ABOVE REFORESTATION THRESHOLD	9.2	I. FOREST AREAS RETAINED ABOVE REFORESTATION THRESHOLD	9.2
(F-B, Retention Credit, if applicable)		(F-B, Retention Credit, if applicable)	

	ACRES (1/10 acre)
REFORESTATION FOR CLEARING ABOVE THRESHOLD	8.9
CREDIT FOR FOREST AREAS RETAINED ABOVE THRESHOLD	9.2
TOTAL REFORESTATION REQUIRED	0
(G x 1/4) - I	

If the total reforestation requirement is equal to or less than 0, no reforestation is required.

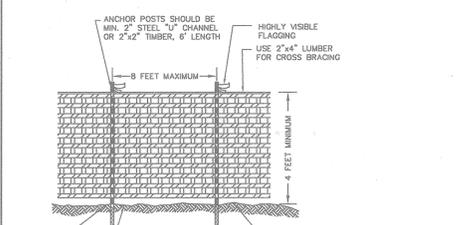
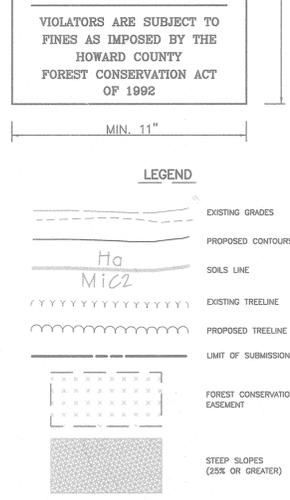
	ACRES (1/10 acre)
REFORESTATION FOR CLEARING ABOVE THRESHOLD	G x 1/4
REFORESTATION FOR CLEARING BELOW THRESHOLD	H x 2
TOTAL REFORESTATION REQUIRED	(G x 1/4) + (H x 2)

Since clearing occurs below the threshold, no forest retention credit is possible.

FOREST RETENTION AREA

MACHINERY, DUMPING OR STORAGE OF ANY MATERIALS IS PROHIBITED

VIOLATORS ARE SUBJECT TO FINES AS IMPOSED BY THE HOWARD COUNTY FOREST CONSERVATION ACT OF 1992



PLASTIC MESH TREE PROTECTION FENCE

NOTES:
 1. BLAZE ORANGE OR BLUE PLASTIC MESH FENCE FOR FOREST PROTECTION DEVICE ONLY.
 2. BOUNDARIES OF RETENTION AREA WILL BE ESTABLISHED AS PART OF THE FOREST CONSERVATION PLAN REVIEW PROCESS.
 3. BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICE.
 4. AVOID DAMAGE TO CRITICAL ROOT ZONE. DO NOT DAMAGE OR SEVERE LARGE ROOTS WHEN INSTALLING POSTS.
 5. PROTECTIVE SIGNS ARE REQUIRED.
 6. DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.

ADAPTED FROM PRINCE GEORGE'S COUNTY, MARYLAND. WOODLAND CONSERVATION MANUAL AND FOREST CONSERVATION MANUAL, 1991

APPROVED: DEPARTMENT OF PUBLIC WORKS
Andrew M. Quake 10-25-01
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Cinda Hamrick 10/29/01
 CHIEF, DIVISION OF LAND DEVELOPMENT

John D. ... 10/29/01
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

SOILS LEGEND		SOIL SURVEY SHEET 12
MFP SYMBOL	SOIL GROUP	SOIL TYPE
EC3	B	ELIOAK SILTY CLAY LOAM, 8 TO 15% SLOPES, SEVERELY ERODED
GB2	B	GLENELG LOAM, 3 TO 8% SLOPES, MODERATELY ERODED
GC2	B	GLENELG LOAM, 8 TO 15% SLOPES, MODERATELY ERODED
GC3	B	GLENELG LOAM, 8 TO 15% SLOPES, SEVERELY ERODED
GhB2	* C	GLENVILLE SILT LOAM, 3 TO 8% SLOPES, MODERATELY ERODED
MB2	B	MANOR LOAM, 3 TO 8% SLOPES, MODERATELY ERODED
MIC2	B	MANOR LOAM, 8 TO 15% SLOPES, MODERATELY ERODED
MC3	B	MANOR LOAM, 8 TO 15% SLOPES, SEVERELY ERODED
ME	B	MANOR LOAM, 25 TO 45 % SLOPES

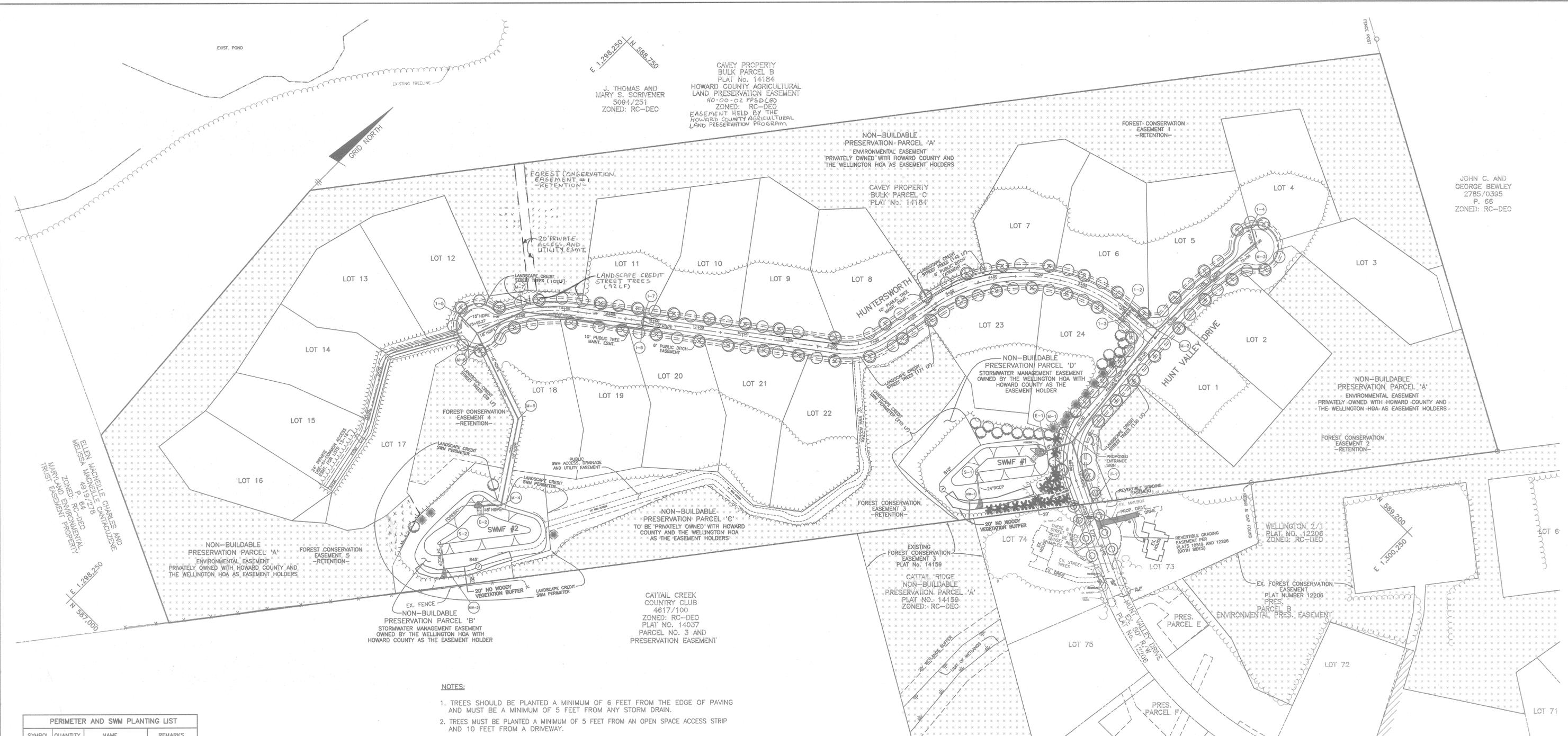
* INDICATES A HYDRIC SOIL

NO.	DATE	REVISION
3	2/13/03	ADD ACCESS EASEMENT AND REVISE FOREST CONSERVATION EASEMENT
2	11/15/02	REMOVE SPEED CONTROL ISLANDS
1	7/10/01	REV PER HO. CO. COMMENTS OF 6/21/01

BENCHMARK ENGINEERING, INC.
 ENGINEERS & LAND SURVEYORS & PLANNERS
 8480 BALTIMORE NATIONAL PIKE & SUITE 418
 ELLICOTT CITY, MARYLAND 21043
 PHONE: 410-465-8105 FAX: 410-465-8644
 EMAIL: benchmark@ceils.com

Donald Mason
 PROFESSIONAL SURVEYOR

OWNER/DEVELOPER:		PROJECT:	
SDC GROUP, INC. P.O. BOX 417 ELLICOTT CITY, MD 21041 410-465-4244		THE WOODS OF WELLINGTON LOTS 1-24 AND NON-BUILDABLE PRES. PARCELS 'A' THRU 'D'	
DESIGN: GWF		DRAFT: JMC	
DATE: MARCH, 2001		PROJECT NO. 1251	
SCALE: 1" = 100'		DRAWING 17 OF 17	



JOHN C. AND
GEORGE BEWLEY
2785/0395
P. 66
ZONED: RC-DEC

- NOTES:**
- TREES SHOULD BE PLANTED A MINIMUM OF 6 FEET FROM THE EDGE OF PAVING AND MUST BE A MINIMUM OF 5 FEET FROM ANY STORM DRAIN.
 - TREES MUST BE PLANTED A MINIMUM OF 5 FEET FROM AN OPEN SPACE ACCESS STRIP AND 10 FEET FROM A DRIVEWAY.
 - SEE TREE PLANTING DETAIL - THIS SHEET.
 - THE DEVELOPER SHALL BE RESPONSIBLE FOR STREET TREES, STORM WATER MANAGEMENT FACILITY PERIMETER PLANTING AND PRESERVATION OF THE PERIMETER VEGETATION AS SHOWN ON THESE PLANS.
 - PERIMETER AND SWM LANDSCAPE SURETY FOR 18 SHADE TREES AND 30 EVERGREEN TREES OF \$9,900.00 AND SURETY FOR 115 STREET TREES, SHALL BE PART OF THE D.P.W. DEVELOPERS AGREEMENT.

PERIMETER AND SWM PLANTING LIST

SYMBOL	QUANTITY	NAME	REMARKS
○	18	FRAXINUS PENNSYLVANICA (Patmore) (Patmore Green Ash)	2 1/2" MIN. CAL. B&B FULL HEAD
●	11	PINUS STROBUS (Eastern White Pine)	5'-6" HT. UNSHEARED
✱	19	PINUS STROBUS (Eastern White Pine)	8'-10" HT. SHEARED

**SCHEDULE D
SWM AREA LANDSCAPING**

	FACILITY 1	FACILITY 2
LINEAR FEET OF PERIMETER	810	845
BUFFER TYPE	B	B
CREDIT FOR EXISTING VEGETATION (NO, YES AND %)	YES ① 28%	YES ② 86%
CREDIT FOR OTHER LANDSCAPING (NO, YES AND %)	NO	NO
LINEAR FEET OF REQUIRED PLANTING	600	120
NUMBER OF PLANTS REQUIRED		
SHADE TREES	12	2
EVERGREEN TREES	15	3
NUMBER OF TREES PROVIDED		
SHADE TREES	10	2
EVERGREEN TREES	19 ③	3
OTHER TREES (2:1 SUBSTITUTE)		

**SCHEDULE A
PERIMETER LANDSCAPE EDGE**

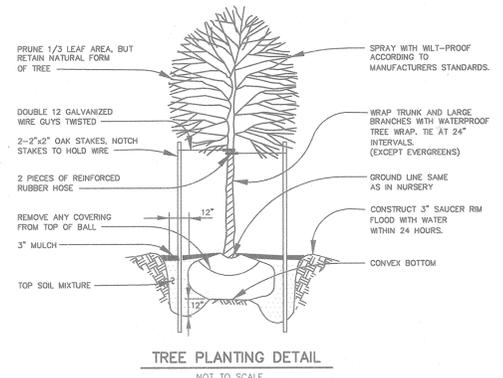
CATEGORY	ADJACENT TO ROADS	ADJACENT TO PERIMETER PROP.
LANDSCAPE TYPE	LOT 24 - TYPE B	TYPE A
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	285 (ALONG HUNT VALLEY DRIVE)	7458 ①
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	YES, 7458' ②
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	NO
NUMBER OF PLANTS REQUIRED	285 L.F.	-
SHADE TREES	6	-
EVERGREEN TREES	8	-
OTHER TREES (2:1 SUBSTITUTE)	-	-
NUMBER OF PLANTS PROVIDED		
SHADE TREES	6	-
EVERGREEN TREES	8	-
OTHER TREES (2:1 SUBSTITUTE)	-	-
SHRUBS (10:1 SUBSTITUTE)	-	-
(DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED)		

STREET TREE REQUIREMENT

LINEAR FRONTAGE OF ROADWAY: 5,282
FRONTAGE ADJACENT TO PRESERVED WOODS: 666
LINEAR FRONTAGE OF REQUIREMENT: 4616
NUMBER OF STREET TREES REQUIRED: 115
NUMBER OF STREET TREES PROVIDED: 115

STREET TREE PLANTING LIST

SYMBOL	QUANTITY	NAME	REMARKS
⊕	54	Prunus sargentii (Sargent Cherry)	2 1/2" MIN. CAL. B&B FULL HEAD
○	53	Platanus x acerifolia (Bloodgood London Plane)	2 1/2" MIN. CAL. B&B FULL HEAD
⊙	8	Acer Rubrum (RED SUNSET RED MAPLE)	3" MIN. CAL. B&B FULL HEAD



I 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 LANDSCAPE MANUAL. I FURTHER CERTIFY THAT UPON COMPLETION A CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

SDC GROUP, INC.
By: *Stewart K. Breeden* 10/3/01
OWNER/DEVELOPER STEWART K. BREEDEN DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS
Andrew M. Danese 10-25-01
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Cindy Kamstra 10/23/01
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

NO.	DATE	REVISION
3	2/13/03	ADD ACCESS EASEMENT AND REVISE FOREST CONSERVATION EASEMENT
2	1/15/02	REMOVE SPEED CONTROL ISLANDS
1	7/09/01	REV PER HO. CO. COMMENTS OF 6/21/01

BENCHMARK ENGINEERING, INC.
ENGINEERS & LAND SURVEYORS & PLANNERS

8480 BALTIMORE NATIONAL PIKE & SUITE 418
ELLCOTT CITY, MARYLAND 21043
PHONE: 410-465-6105 FAX: 410-465-6644
EMAIL: benchmark@cois.com

Ronald Mason
REGISTERED PROFESSIONAL ENGINEER

10/3/01

OWNER/DEVELOPER: SDC GROUP, INC.
P.O. BOX 417
ELLCOTT CITY, MD 21041
410-465-4244

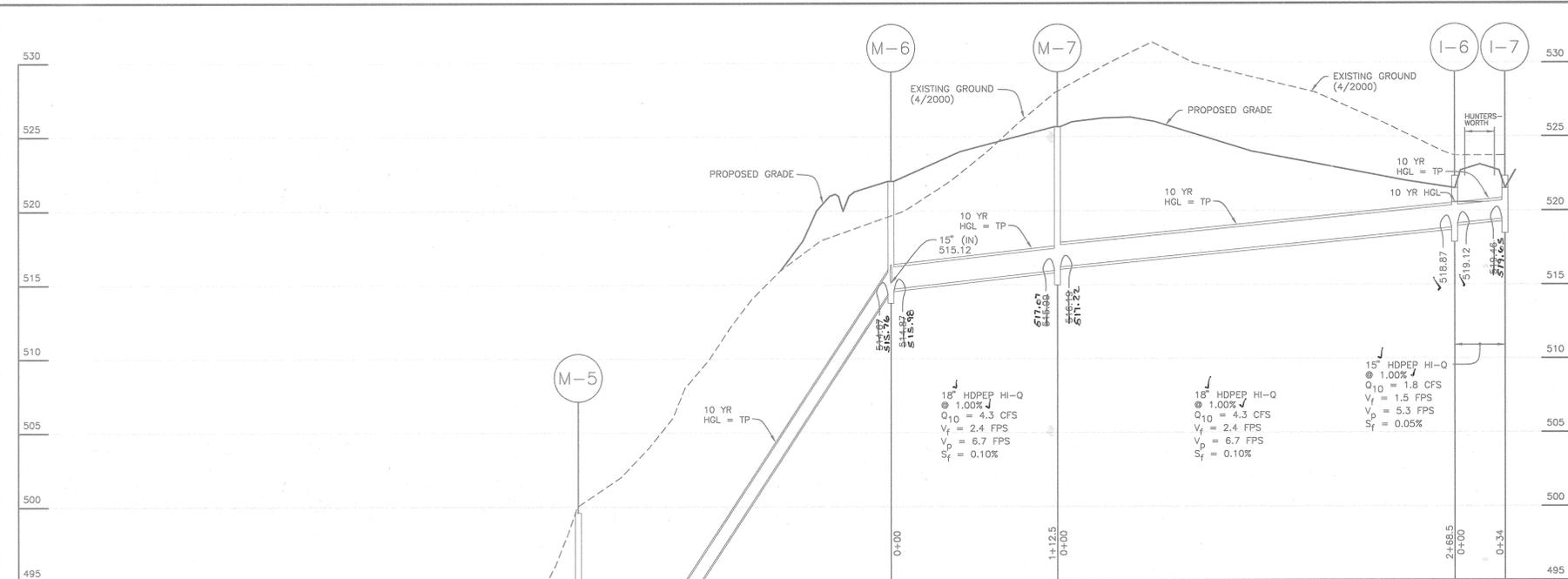
PROJECT: THE WOODS OF WELLINGTON
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LOCATION: TAX MAP NO. 14, GRID NO. 20
TAX MAP NO. 21, GRID NO. 2
P/O PARCEL 248
4th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

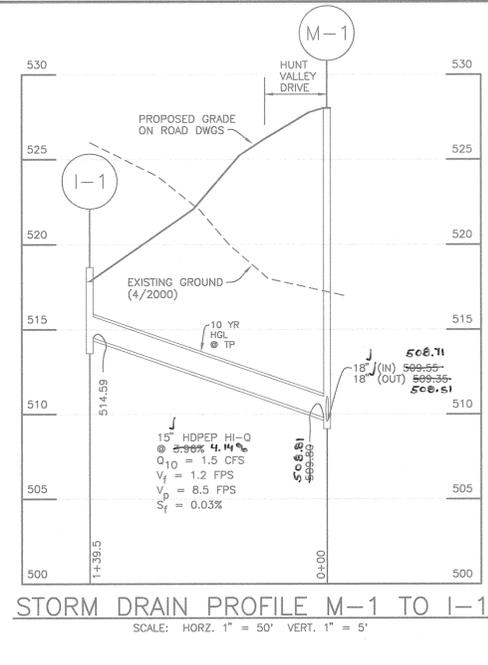
TITLE: LANDSCAPE PLAN, NOTES AND DETAILS

DATE: MARCH, 2001 PROJECT NO. 1251
MAY, 2001

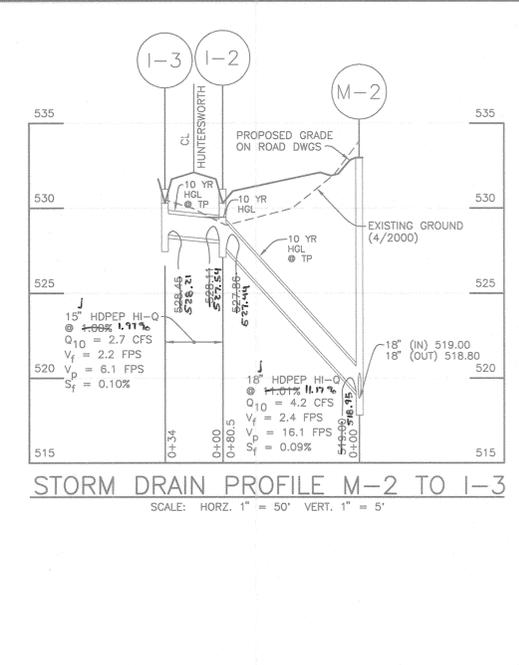
DESIGN: GWF DRAFT: JMC SCALE: 1" = 100' DRAWING 16 OF 17



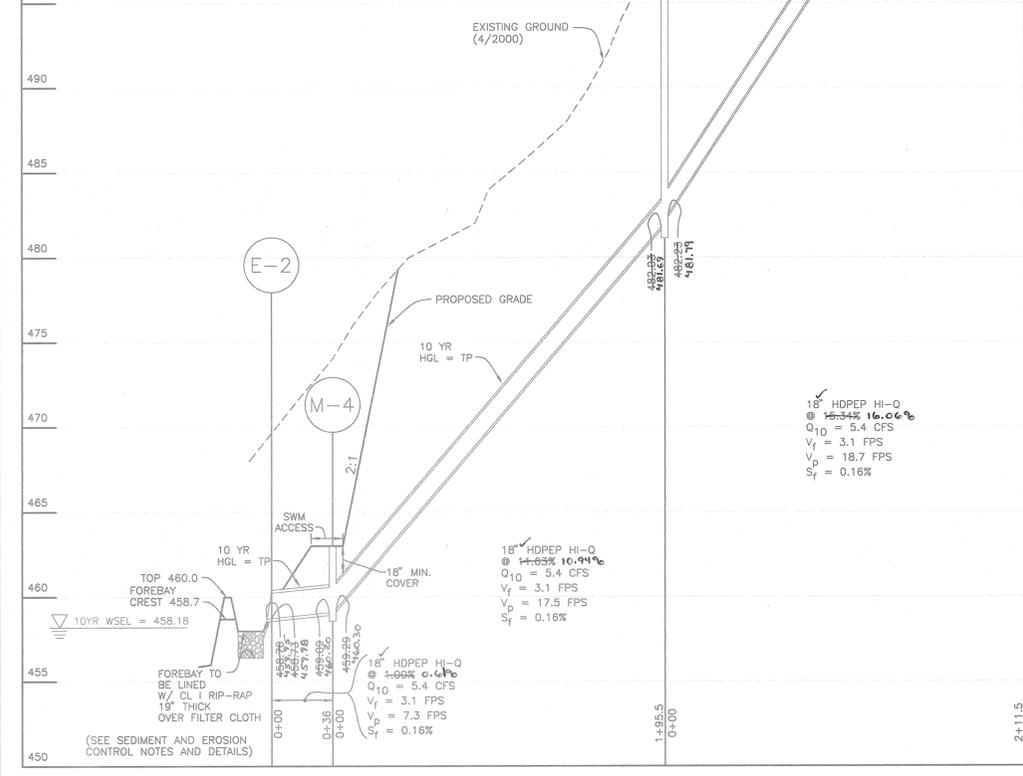
STORM DRAIN PROFILE E-2 TO I-7
SCALE: HORZ. 1" = 50' VERT. 1" = 5'



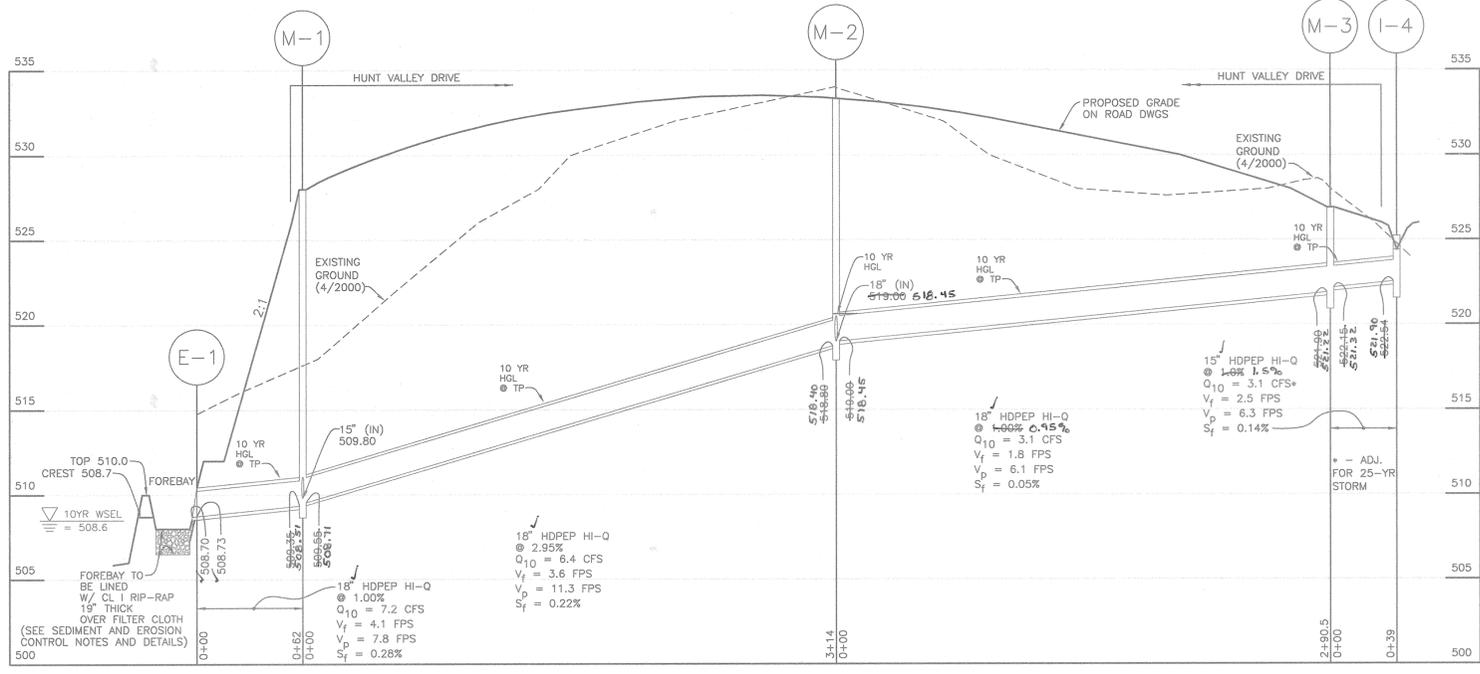
STORM DRAIN PROFILE M-1 TO I-1
SCALE: HORZ. 1" = 50' VERT. 1" = 5'



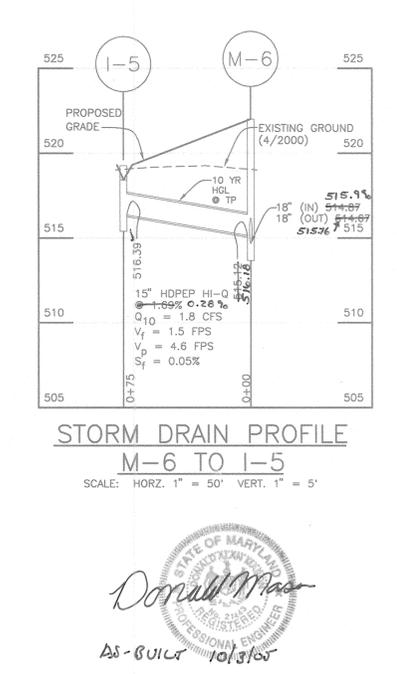
STORM DRAIN PROFILE M-2 TO I-3
SCALE: HORZ. 1" = 50' VERT. 1" = 5'



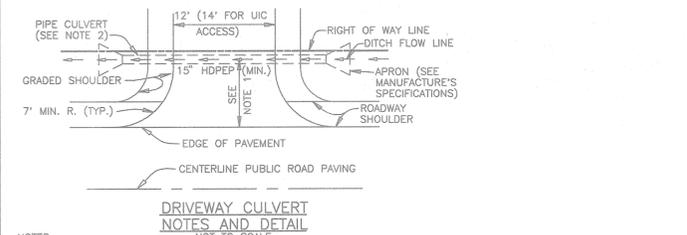
STORM DRAIN PROFILE E-2 TO I-7
SCALE: HORZ. 1" = 50' VERT. 1" = 5'



STORM DRAIN PROFILE E-1 TO I-4
SCALE: HORZ. 1" = 50' VERT. 1" = 5'



STORM DRAIN PROFILE M-6 TO I-5
SCALE: HORZ. 1" = 50' VERT. 1" = 5'



- NOTES:
- DRIVEWAY MUST BE PAVED FROM EDGE OF PUBLIC ROAD TO RIGHT-OF-WAY LINE USING STANDARD PAVING SECTION P-1 AS SHOWN ON STD NO. R-2.01 OR ALTERNATIVE SECTION EQUAL TO OR BETTER THAN P-1, AS APPROVED BY D.P.W.
 - DRAINAGE CULVERT SHALL BE SIZED FOR A 10 YEAR FREQUENCY STORM.
 - ALL DRIVEWAY CULVERT PIPES TO BE 15" HDPEP OR GREATER TO PREVENT BLOCKING. HDPE APRONS TO BE INSTALLED AT EACH END OF THE DRIVEWAY CULVERT AND SIZED PER MANUFACTURER'S SPECIFICATIONS. IF A LARGER PIPE IS REQUIRED, DITCH INVERT CAN BE LOWERED TO PROVIDE MIN. DITCH GRADIENT OF 0.5% AND CLEARANCE SHOWN.
 - SWALE FLOW MAY BE PROVIDED OVER DRIVEWAY IF LOCATED AT OR NEAR THE CREST OF A VERTICAL CURVE ON THE PUBLIC ROAD WHERE QUANTITY OF FLOW IS SMALL, AS APPROVED BY D.P.W.
 - THE IN GRADE OF PRIVATE DRIVEWAY SHALL NOT EXCEED 14%.
 - SEE HOWARD COUNTY STANDARD DETAIL R-8.06 FOR ADDITIONAL INFORMATION.
 - LOTS 1, 2, 8, 18 AND 19 MAY NOT REQUIRE DRIVEWAY CULVERTS DEPENDING ON THE FINAL DRIVEWAY LOCATION. ALL OTHER LOTS WILL REQUIRE A 15" HDPEP WITH END TREATMENT TO CROSS THE ROADSIDE SWALE. COMPUTATIONS JUSTIFYING THIS SIZING OF THE DRIVEWAY CULVERTS WAS REVIEWED AND APPROVED WITHIN THE FINAL STORM DRAIN REPORT ASSOCIATED WITH THESE ROAD CONSTRUCTION PLANS.
 - PRIVATE ACCESS AT HUNTERS WORTH STA. 14+70 WILL NOT REQUIRE A CULVERT.

NO.	DATE	REVISION
3	9/27/05	REVISED PER AS-BUILT CONDITIONS

STRUCTURE	LOCATION	TOP ELEV.	INVERT IN	INVERT OUT	TYPE	DETAIL REFERENCE	REMARKS
I-1	HUNT VALLEY DR. STA. 85+09.5, 19' RT.	518.64	514.53	514.53	18" HDPEP	SD-4.39	OPEN ON 2 SIDES
I-2	HUNTERS WORTH STA. 0+87.27, 17' RT.	517.22	520.54	527.85	18" HDPEP	SD-4.39	OPEN ON 2 SIDES
I-3	HUNTERS WORTH STA. 0+87.27, 17' LT.	517.22	520.54	519.08	18" HDPEP	SD-4.39	OPEN ON 2 SIDES
I-4	HUNT VALLEY DR. L.P. STA. 0+88.81, 8' LT.	525.21	522.18	521.32	18" HDPEP	SD-4.39	OPEN ON 2 SIDES
I-5	HUNTERS WORTH, L.P. STA. 1+64.83, 8' LT.	519.28	519.12	519.28	18" HDPEP	SD-4.39	OPEN ON 2 SIDES
I-6	HUNTERS WORTH, STA. 12+23, 17' RT.	522.83	519.12	519.12	18" HDPEP	SD-4.39	OPEN ON 2 SIDES
I-7	HUNTERS WORTH, STA. 12+23, 17' RT.	522.33	522.15	519.46	18" HDPEP	SD-4.39	OPEN ON 2 SIDES
M-1	HUNT VALLEY DR. STA. 86+30.5, 9' LT.	520.02	506.71	506.81	SID. MANHOLE	G-5.11	
M-2	HUNT VALLEY DR. STA. 89+54.05, 7' LT.	533.77	530.19	529.85	(18")	509.80	G-5.11
M-3	HUNT VALLEY DR. STA. 72+50.8, 8' LT.	526.89	522.18	521.32	SID. MANHOLE	G-5.11	
M-4	N 587.822.0313 E 1.298.789.7281	483.00	483.78	483.00	SHALLOW MANHOLE	G-5.12	
M-5	N 587.824.4167 E 1.298.672.1992	489.80	489.71	489.80	SID. MANHOLE	G-5.11	
M-6	HUNTERS WORTH, STA. 16+03, 15.5' LT.	522.00	515.71	516.38	(18")	514.67	G-5.11
M-7	HUNTERS WORTH, STA. 14+97.2, 4.9' RT.	523.87	514.19	514.19	SID. MANHOLE	G-5.11	
E-1	N 588.784.1811 E 1.299.555.9274	508.73	508.73	508.70	HDPEP	MANUFACTURER	SEE MANUFACTURER'S SPECS
E-2	N 587.795.3939 E 1.298.735.8358	490.73	490.73	490.73	HDPEP	MANUFACTURER	SEE MANUFACTURER'S SPECS
S-1	N 588.617.1725 E 1.299.480.2854	510.77	505.00	504.80			SEE SWM DETAILS
S-2	N 587.683.5943 E 1.298.749.5584	460.67	462.06	460.69			SEE SWM DETAILS
HW-1	N 588.581.3321 E 1.299.528.5008	493.36	494.67	501.20	TYPE 'C'	SD-5.21	FOR A 24" PIPE
HW-2	N 587.631.3570 E 1.298.791.2103	495.35	492.29	492.70	TYPE 'C'	SD-5.21	FOR A 24" PIPE

NOTE: ELEVATIONS AND LOCATIONS ARE AT THE TOP CENTER OF THE STRUCTURE.

RUN	LENGTH (L)	DESCRIPTION
E-1 TO M-1	62.0	18" HDPEP
M-1 TO M-2	114	18" HDPEP
M-2 TO M-3	280.5	18" HDPEP
M-3 TO I-4	80.5	18" HDPEP
M-2 TO I-2	39	18" HDPEP
I-2 TO I-3	34	18" HDPEP
M-1 TO I-1	139.5	18" HDPEP
E-2 TO M-4	38	18" HDPEP
M-4 TO M-5	195.5	18" HDPEP
M-5 TO M-6	211.5	18" HDPEP
M-6 TO M-7	112.5	18" HDPEP
M-7 TO I-5	288.5	18" HDPEP
I-5 TO I-7	34	18" HDPEP
M-6 TO I-5	76	18" HDPEP
HW-1 TO S-1	58.3	24" RCP
HW-2 TO S-2	51	24" RCP

APPROVED: DEPARTMENT OF PUBLIC WORKS
Andrew M. Dangle
 CHIEF, BUREAU OF HIGHWAYS
 DATE: 10-25-01

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Cindy Hamilton
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 10/27/01

Donna M. Damm
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 10/26/01

2	2/13/03	ADD NOTE 8 FOR PRIVATE ACCESS
1	7/18/01	REV PER HO. CO. COMMENTS OF 6/21/01
NO.	DATE	REVISION

BENCHMARK
ENGINEERS & LAND SURVEYORS & PLANNERS
ENGINEERING, INC.

8480 BALTIMORE NATIONAL PIKE A BOX 418
ELLCOTT CITY, MARYLAND 21043
PHONE: 410-465-6105 FAX: 410-465-6644
EMAIL: benchmrk@coia.com

Donna M. Damm
REGISTERED PROFESSIONAL ENGINEER
No. 81112 10/3/01

OWNER/DEVELOPER:
SDC GROUP, INC.
P.O. BOX 417
ELLCOTT CITY, MD 21041
410-465-4244

PROJECT:
THE WOODS OF WELLINGTON
LOTS 1-24 AND NON-BUILDABLE PRES. PARCELS 'A' THRU 'D'

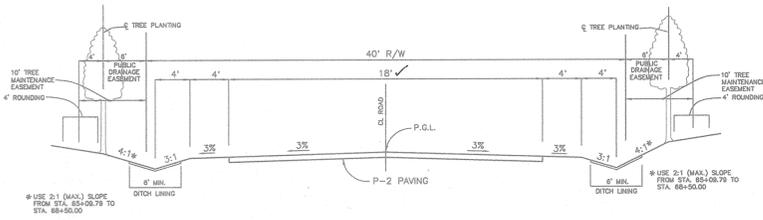
LOCATION: TAX MAP NO. 14, GRID NO. 20
PARCEL NO. 21, GRID NO. 2
P/O PARCEL 246
4TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE:
STORM DRAIN PROFILES AND SCHEDULES

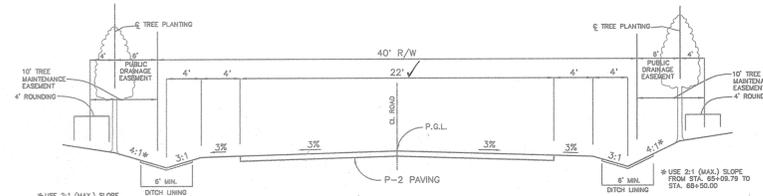
DATE: MARCH, 2001 PROJECT NO. 1251
MAY, 2001

DESIGN: GWF DRAFT: JMC

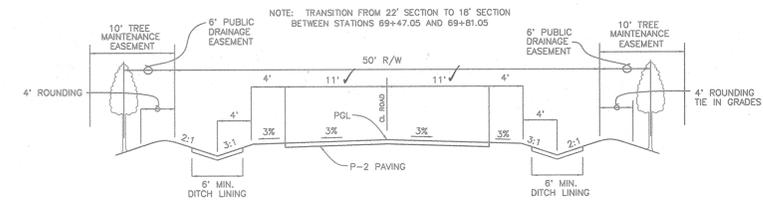
SCALE: AS SHOWN DRAWING 8 OF 17



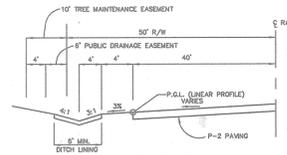
TYPICAL ROADWAY SECTION
HUNT VALLEY DRIVE (ACCESS PLACE - 200 ADT OR LESS)
HUNTERS WORTH (ACCESS PLACE - 200 ADT OR LESS)
 DESIGN SPEED: 25 MPH
 STA. 69+81.05 TO STA. 71+80.25 (CUL-DE-SAC) NOT TO SCALE
 STA. 0+00 TO STA. 15+34.54 (CUL-DE-SAC) NOT TO SCALE
 NOTE: TRANSITION FROM 22' SECTION TO 18' SECTION BETWEEN STATIONS 69+47.05 AND 69+81.05



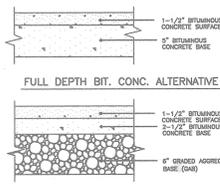
TYPICAL ROADWAY SECTION
HUNT VALLEY DRIVE
 (ACCESS STREET - 250 ADT OR LESS)
 DESIGN SPEED: 25 MPH
 STA. 65+09.79 TO STA. 69+47.05
 NOT TO SCALE



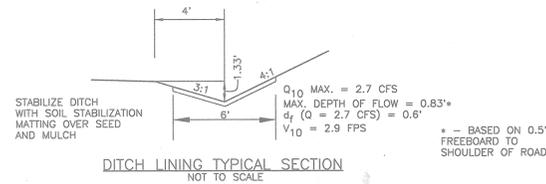
TYPICAL ROADWAY SECTION
HUNT VALLEY DRIVE
 DESIGN SPEED: 30 MPH (PER F-90-67)
 STA. 63+51.10 TO STA. 65+09.79
 NOT TO SCALE



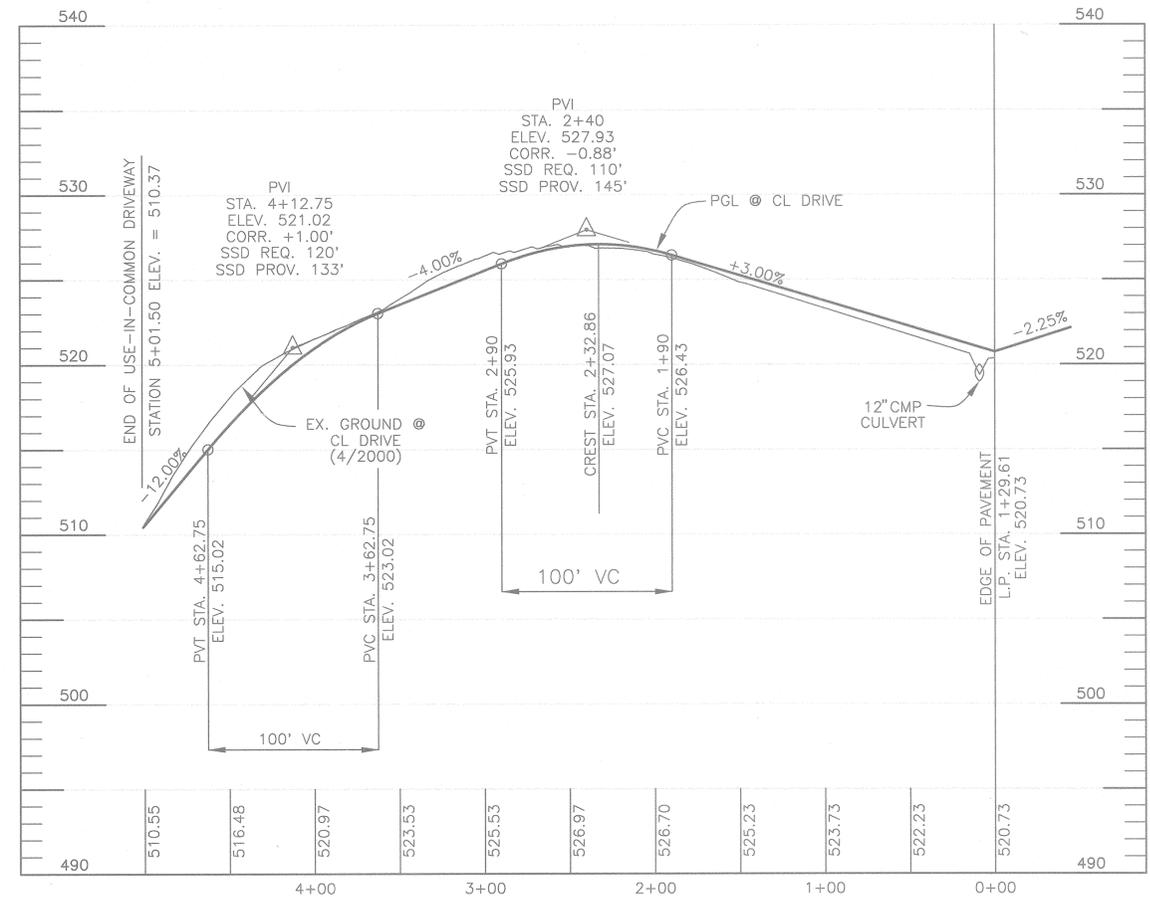
TYPICAL ROADWAY SECTION
AT CUL-DE-SAC
 LINEAR PROFILE
 NOT TO SCALE



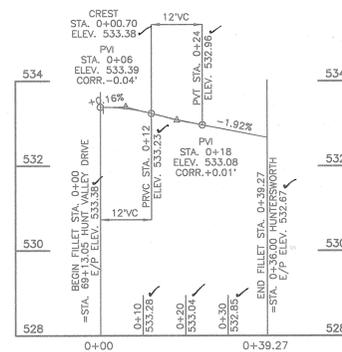
P-2 PAVING DETAIL
 NOT TO SCALE



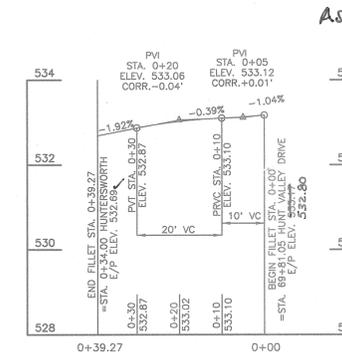
DITCH LINING TYPICAL SECTION
 NOT TO SCALE



DESIGN SPEED: 15 MPH
USE-IN-COMMON DRIVEWAY LOTS 13-16
 SCALE: 1"=50' HORIZ., 1"=5' VERT.



CURB RETURN PROFILE
 SOUTH WESTERN QUADRANT
 HUNT VALLEY DR. AND HUNTERS WORTH
 SCALE: 1"=20' HORIZ., 1"=2' VERT.



CURB RETURN PROFILE
 NORTH WESTERN QUADRANT
 HUNT VALLEY DR. AND HUNTERS WORTH
 SCALE: 1"=20' HORIZ., 1"=2' VERT.

Donald Maas
 AS-BUILT 10/3/05

3	9/27/05	REVISED PER AS-BUILT CONDITIONS
2	1/15/02	REMOVE SPEED ISLANDS
1	7/17/01	REV PER HO. CO. COMMENTS OF 6/21/01
NO.	DATE	REVISION

BENCHMARK
 ENGINEERS & LAND SURVEYORS & PLANNERS
ENGINEERING, INC.
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Donald Maas
 PROFESSIONAL ENGINEER

10/3/05

APPROVED: DEPARTMENT OF PUBLIC WORKS
Stephen M. Doncker 10-25-01
 CHIEF, BUREAU OF HIGHWAYS
 APPROVED: DEPARTMENT OF PLANNING AND ZONING
Cindy Hamer 10/29/01
 CHIEF, DIVISION OF LAND DEVELOPMENT
W.D. Dammann 10/29/01
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

OWNER/DEVELOPER:
 SDC GROUP, INC.
 P.O. BOX 417
 ELLICOTT CITY, MD 21041
 410-465-4244

PROJECT:
THE WOODS OF WELLINGTON
 LOTS 1-24 AND NON-BUILDABLE PRES. PARCELS 'A' THRU 'D'

LOCATION:
 TAX MAP NO. 14, GRID NO. 20
 TAX MAP NO. 21, GRID NO. 2
 P/O PARCEL 248
 4th ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

TITLE:
 ROAD PROFILES AND DETAILS

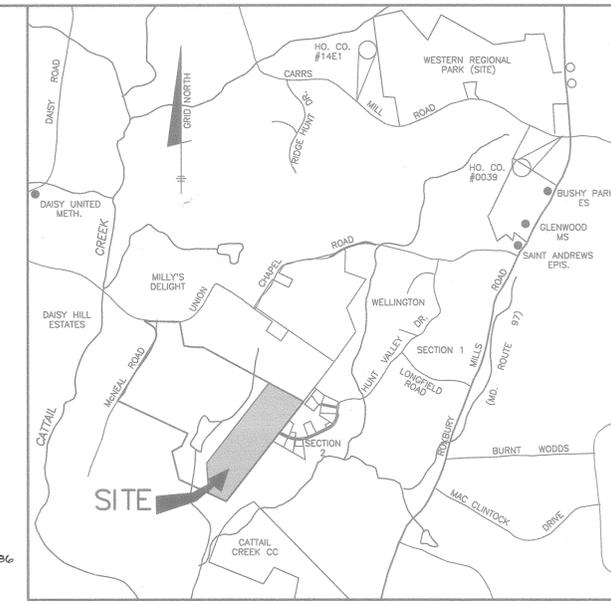
DATE: MARCH, 2001 PROJECT NO. 1251
 MAY, 2001

DESIGN: GWF DRAFT: JMC SCALE: AS SHOWN DRAWING 5 OF 17

THE WOODS OF WELLINGTON

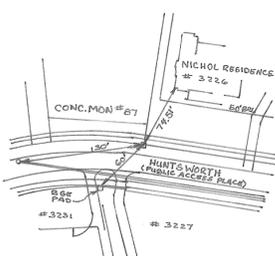
4th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

ROAD, STORMWATER MANAGEMENT AND STORM DRAIN CONSTRUCTION PLANS



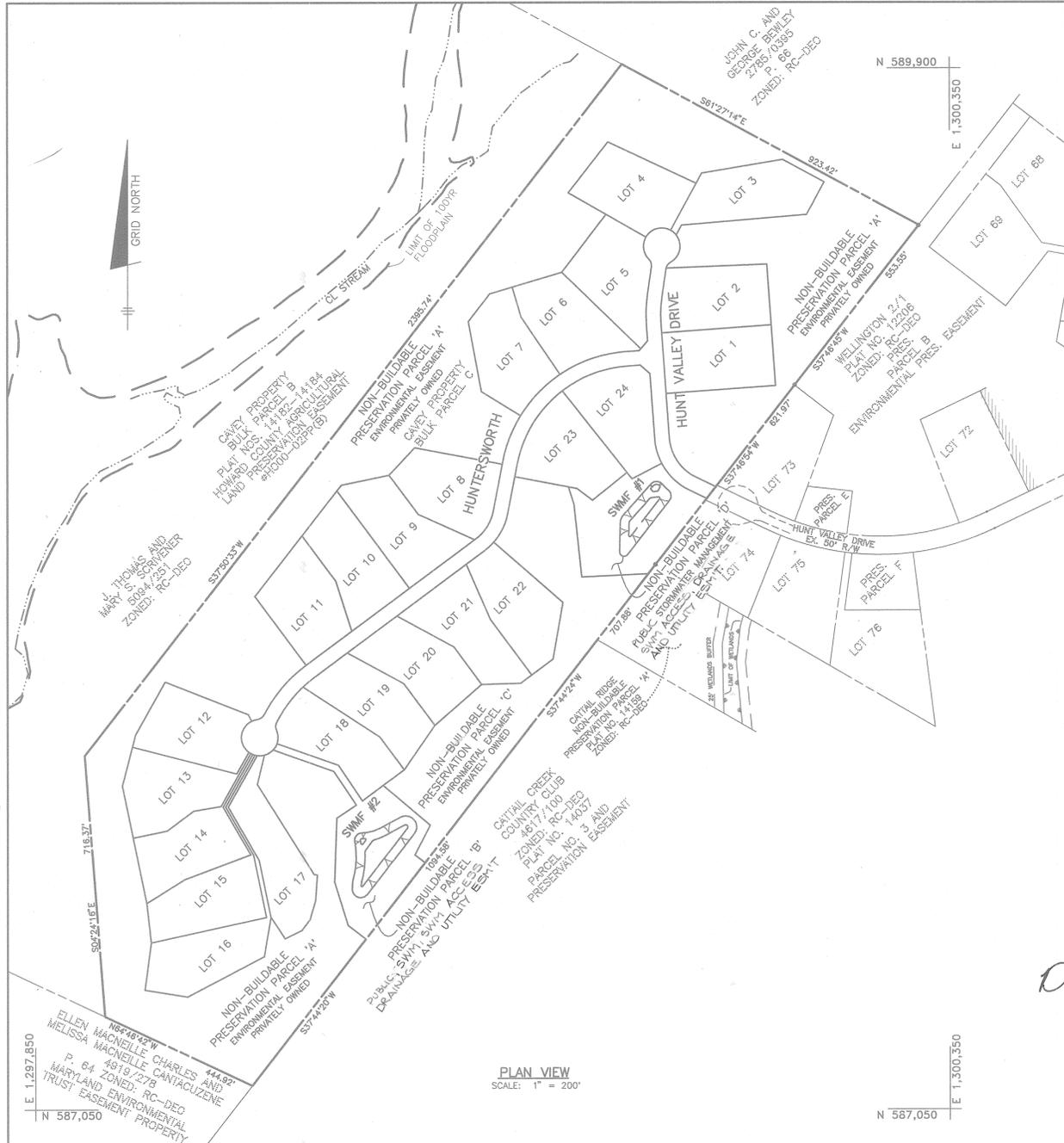
VICINITY MAP
SCALE: 1" = 200'

BENCHMARK NAD'83	
HO. CO. #14E1	STAMPED BRASS DISK SET ON TOP OF CONC. BASE, 33' WEST OF CL OF DRIVE TO 15050 CARRS MILL ROAD; 19.8' NORTH OF EDGE OF PAVING OF CARRS MILL ROAD.
N 59623.6182'	E 1301991.8973'
ELEV. 590.862'	
HO. CO. #0039	STAMPED BRASS DISK SET ON TOP OF CONC. BASE @ SOUTHWEST CORNER OF CARRS MILL ROAD AND ROUTE 97; 33.4' SOUTH OF CL OF CARRS MILL ROAD AND 40.3' WEST OF CL OF ROUTE 97.
N 595722.8341'	E 1306481.8720'
ELEV. 590.862'	

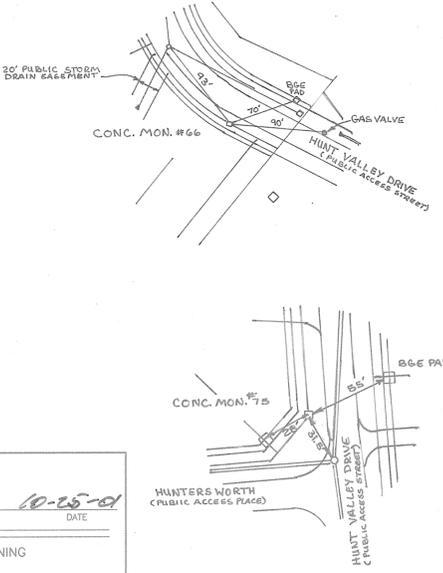


SHEET INDEX	
SHEET NO.	DESCRIPTION
1	COVER SHEET
2-3	ROAD AND STORM DRAIN PLAN
4	SPEED CONTROL DETAILS
5-7	ROAD PROFILES
8	STORM DRAIN PROFILES AND SCHEDULES
9-10	GRADING AND SEDIMENT & EROSION CONTROL PLAN
11	SEDIMENT AND EROSION CONTROL NOTES AND DETAILS
12	STORM DRAIN DRAINAGE AREA MAP
13-14	STORMWATER MANAGEMENT NOTES AND DETAILS
15	STORMWATER MANAGEMENT NOTES AND BORING LOGS
16	LANDSCAPE PLAN, NOTES AND DETAILS
17	FOREST CONSERVATION PLAN, NOTES AND DETAILS

- GENERAL NOTES**
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARD AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE. ALL LINES SHOWN IN STANDARD SYMBOLS AS PRESENTED IN THE DESIGN MANUAL, VOLUME IV, "STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION."
 - THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/CONSTRUCTION INSPECTION DIVISION AT 410-313-1880 AT LEAST FIVE (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.
 - PROJECT BACKGROUND:
LOCATION: TAX MAP NO. 14 - GRID NO. 20 AND TAX MAP NO. 21 - GRID NO. 2 - P/O PARCEL 246
ZONING: RC-DEO SERVING MORE THAN ONE RESIDENCE
ELECTION DISTRICT: 4th
TOTAL TRACT AREA: 59.54 AC.
NUMBER OF PROPOSED LOTS: 24
NUMBER OF PROPOSED OPEN SPACE LOTS: 0
NUMBER OF PROPOSED PRESERVATION PARCELS: 4
TWO TO BE PRIVATELY OWNED AND TWO TO BE OWNED BY THE WELLINGTON HOA
DPZ REFERENCE FILE: F-00-86, S-00-04, P-01-04
SKETCH PLAN APPROVED ON MARCH 21, 2000.
PRELIMINARY PLAN APPROVED ON NOVEMBER 29, 2000.
 - TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
 - TOPOGRAPHY SHOWN HEREON WAS TAKEN FROM FIELD RUN SURVEY DONE BY BENCHMARK ENGINEERING, INC., DATED APRIL, 2000, AND SUPPLEMENTED WITH TOPOGRAPHIC FILE INFORMATION PURCHASED FROM HOWARD COUNTY GEOGRAPHICAL INFORMATION SERVICES. CONTOURS SHOWN ARE 2 FOOT INTERVALS.
 - BOUNDARY SURVEY WAS PERFORMED BY BENCHMARK ENGINEERING, INC. DATED SEPTEMBER, 1999. COORDINATES ARE BASED ON NAD 83, MARYLAND STATE PLAN GRID AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS Nos. 14E1 AND 0039. VERTICAL CONTROL IS NAD'27 BASED ON HOWARD COUNTY CONTROL STATION NO. 3432001.
 - THE PROJECT IS NOT WITHIN THE METROPOLITAN DISTRICT. WATER AND SEWER FOR THIS PROJECT SHALL BE PRIVATE AND WILL BE PROVIDED ON THE INDIVIDUAL LOT.
 - WATER QUALITY AND QUANTITY TREATMENT FOR THE PROPOSED ROADWAYS AND LOTS IS BEING PROVIDED BY EXTENDED DETENTION FACILITIES.
 - THERE IS NO FLOOD PLAIN LOCATED ON THIS SITE.
 - THERE ARE NO WETLANDS LOCATED ON THIS SITE.
 - ADEQUATE PUBLIC FACILITIES ORDINANCE TRAFFIC ANALYSIS WAS PREPARED BY THE LEE CUNNINGHAM & ASSOCIATES, DATED NOVEMBER, 1999 AND APPROVED IN NOVEMBER, 1999 (S-00-04).
 - MINIMUM BUILDABLE LOT SIZE SHALL BE 40,000 SQUARE FEET. MAXIMUM BUILDABLE LOT SIZE SHALL BE 50,000 SQUARE FEET.
 - THE GEOTECHNICAL REPORT FOR THIS PROJECT WAS PREPARED BY HILLIS-CARNES AND ASSOCIATES, DATED JULY 14, 2000.
 - EXISTING UTILITIES SHOWN ARE TAKEN FROM RECORD INFORMATION AND FIELD LOCATIONS. CONTRACTOR TO VERIFY LOCATION PRIOR TO STARTING CONSTRUCTION.
 - FOREST STAND DELINEATION WAS PREPARED BY ECO-SCIENCE PROFESSIONALS, INC. DATED NOVEMBER, 1999 (S-00-04).
 - NO DISTURBANCE SHALL OCCUR IN THE FOREST CONSERVATION EASEMENT AREAS EXCEPT AS APPROVED AS A PART OF THESE PLANS.
 - EXISTING WELLS AND/OR SEWERAGE EASEMENTS WITHIN 100' OF THE PROPERTY HAVE BEEN SHOWN FROM THE BEST AVAILABLE INFORMATION.
 - TO THE BEST OF THE OWNERS KNOWLEDGE, THERE ARE NO CEMETERY LOCATIONS ONSITE.
 - DRIVEWAYS SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLING TO INSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:
1) WIDTH - 12' SERVING MORE THAN ONE RESIDENCE;
2) SURFACE - 6" OF COMPACT CRUSHER RUN BASE WITH TAR AND CHIP COATING (1-1/2" MIN.);
3) GEOMETRY - MAX. 15% GRADE, MAX. 10% GRADE CHANGE AND MIN. 45' TURNING RADIUS;
4) STRUCTURES/BRIDGES - CAPABLE OF SUPPORTING 25 GROSS TONS (H25 LOADING);
5) DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100-YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY SURFACE;
6) MAINTENANCE - SUFFICIENT TO INSURE ALL WEATHER USE.
 - ALL ROAD FILLS SHALL BE COMPACTED TO 95% DETERMINED BY AASHTO T-180.
 - PERIMETER AND SWM LANDSCAPE SURETY FOR 18 SHADE TREES AND 30 EVERGREEN TREES IN THE AMOUNT OF \$9,900.00 AND SURETY FOR 115 STREET TREES, SHALL BE PART OF THE D.P.W., DEVELOPERS AGREEMENT.
 - THIS PLAN COMPLIES WITH THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION BY 241 ACRES OF RETENTION ON-SITE FINANCIAL SURETY FOR THE REQUIRED OBLIGATION MUST BE POSTED AS PART OF THE DEVELOPERS AGREEMENT IN THE AMOUNT OF \$209,951.20.
 - THE CONTRACTOR SHALL PROVIDE DRIVEWAY ACCESS TO EXISTING RESIDENCES ON LOTS 73 AND 74 IF CONSTRUCTION ACTIVITIES IMPACT THE DRIVEWAY. AFTER CONSTRUCTION IS COMPLETED DRIVEWAYS SHALL BE REPAIRED OR RECONSTRUCTED TO PROVIDE ACCESS ONTO HUNT VALLEY DRIVE IN ACCORDANCE WITH HOWARD COUNTY STANDARD R-6.06 AND THESE PLANS.
 - STREET LIGHTS ARE NOT REQUIRED FOR THIS PROJECT AS IT IS IN THE RC ZONING DISTRICT.
 - THIS AREA DESIGNATES A PRIVATE SEWERAGE EASEMENT OF AT LEAST 10,000 SQUARE FEET REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL (COMAR 26.0403). IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWAGE IS AVAILABLE. THESE EASEMENTS SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT VARIANCES FOR ENCROACHMENT INTO THE PRIVATE SEWERAGE EASEMENT. RECORDATION OF A MODIFIED SEWERAGE EASEMENT PLAT SHALL NOT BE REQUIRED. THE PERCOLATION CERTIFICATION PLAN FOR THIS PROJECT WAS APPROVED ON FEBRUARY 29, 2000.
 - THERE ARE NO CONTIGUOUS AREAS OF STEEP SLOPES (25% OR GREATER) OF 20,000 S.F. OR GREATER ON THIS SITE. GRADING OF STEEP SLOPE AREAS LESS THAN 20,000 S.F. IS PERMITTED UNDER SECTION 16.116(B) OF THE SUBDIVISION REGULATIONS.
 - THERE IS AN EXISTING DWELLING LOCATED ON LOT 1 TO REMAIN. NO NEW BUILDINGS, EXTENSIONS OR ADDITIONS TO THE EXISTING DWELLING ARE TO BE CONSTRUCTED AT A DISTANCE LESS THAN THE ZONING REGULATIONS REQUIRE.
 - ALL LINES SHOWN IN STANDARD SYMBOLS AS PRESENTED IN THE DESIGN MANUAL, VOLUME IV, "STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION."



RIGHT OF WAY ELEVATION CHART NAD 83		
R/N FT. IN.	DESCRIPTION	ELEVATION
6.3	REBAR # CAP	518.00'
6.4	REBAR # CAP	519.42'
6.5	REBAR # CAP	522.48'
6.6	CONC. MON. SET	522.41'
6.7	REBAR # CAP	524.35'
6.8	REBAR # CAP	532.11'
7.0	REBAR # CAP	530.63'
7.2	REBAR # CAP	529.04'
7.3	REBAR # CAP	521.43'
7.4	REBAR # CAP	521.28'
7.5	CONC. MON. SET	522.26'
7.6	REBAR # CAP	532.81'
7.7	REBAR # CAP	531.62'
7.8	REBAR # CAP	531.88'
7.9	REBAR # CAP	531.24'
8.0	REBAR # CAP	531.18'
8.5	REBAR # CAP	531.16'
8.6	CONC. MON. SET	529.61'
8.7	CONC. MON. SET	528.07'
8.8	REBAR # CAP	524.21'
8.9	REBAR # CAP	523.83'
9.0	REBAR # CAP	523.49'
9.1	REBAR # CAP	523.52'
9.2	REBAR # CAP	523.51'
9.3	REBAR # CAP	522.33'
9.4	REBAR # CAP	522.39'



APPROVED: DEPARTMENT OF PUBLIC WORKS
Andrew M. Quack 10-25-01
CHIEF, BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Cindy Hancock 10/29/01
CHIEF, DIVISION OF LAND DEVELOPMENT

Mr. [Signature] 10/29/01
CHIEF, DEVELOPMENT ENGINEERING DIVISION

Donald Mean
PROFESSIONAL ENGINEER
10/3/01

NO.	DATE	REVISION
3	9/16/05	REVISED PER AS-BUILT CONDITIONS
2	1/08/02	REVISE SWM EASEMENT DESIGNATIONS
1	7/09/01	REVISED PER HO. CO. COMMENTS OF 6/21/01

BENCHMARK
ENGINEERS & LAND SURVEYORS & PLANNERS
ENGINEERING, INC.
8480 BALTIMORE NATIONAL PIKE A SUITE 418
ELLCOTT CITY, MARYLAND 21043
PHONE: 410-465-6105 • FAX: 410-465-6644
EMAIL: benchmark@cois.com

OWNER/DEVELOPER: SDC GROUP, INC. P.O. BOX 417 ELLCOTT CITY, MD 21041 410-465-4244	PROJECT: THE WOODS OF WELLINGTON LOTS 1-24 AND NON-BUILDABLE PRES. PARCELS 'A' THRU 'D'
LOCATION: TAX MAP NO. 14, GRID NO. 20 TAX MAP NO. 21, GRID NO. 2 P/O PARCEL 246 4th ELECTION DISTRICT HOWARD COUNTY, MARYLAND	TITLE: COVER SHEET
DATE: MARCH, 2001 MAY, 2001	PROJECT NO. 1251
DESIGN: GWF	DRAFT: JMC
SCALE: AS SHOWN	DRAWING 1 OF 17

CONSTRUCTION SPECIFICATIONS

These specifications are appropriate to all ponds within the scope of the Standard for practice MD-37B. All references to ASTM and AASHTO specifications apply to the most recent version.

Site Preparation

Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped to topsoil. All trees, vegetation, roots and other objectionable material shall be removed and sharp breaks shall be sloped to no steeper than 1:1. All trees shall be cleared and grubbed within 15 feet of the embankment.

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.

Earth Fill

Material - The fill material shall be taken from approved designated borrow areas. If soil materials shall be placed in increments 9 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 bottom 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.

Placement - Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in increments 9 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 bottom 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.

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 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 cores shall be a minimum of four feet. The height shall extend up to at least the 10 year water elevation or as shown on the plans. The side slopes shall be 1 to 1 or flatter. The core shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density 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 adjoining fill material. The fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manual directed compaction equipment. The material needs to fill completely all spaces under and adjacent to the pipe. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet measured horizontally to any part of a structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe, unless there is 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 pH 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 outside of the pipe) of flowable fill shall be under (bedding), over and, on the sides of the pipe. It only needs to extend up to the spring line rigid conduits. Average slump of the fill shall be 7" to assure flowability of the material. Adequate measures shall be taken (sand bags, etc.) to prevent floating the pipe. When using flowable fill, all metal pipe shall be bituminous coated. Any adjoining soil fill shall be placed in horizontal layers not to exceed four inches in thickness 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 allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a structure or pipe unless there is a compacted fill of 24" or greater over the structure or pipe. Backfill material outside the structural backfill (flowable fill) zone shall be of the type and quality conforming to that specified for the core of the embankment or other embankment materials.

Pipe Conduits

All pipes shall be circular in cross section

Corrugated Metal Pipe - all of the following criteria shall apply for corrugated metal pipe:

1. Materials - (Polymer Coated steel pipe) - Steel pipes with polymeric coatings shall have a minimum coating thickness of 0.01 mils 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 flanges.

Materials - (Aluminum Coated Steel Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-274 with watertight coupling bands or flanges. Aluminum Coated Steel Pipe, when used with flowable fill or 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 one 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 M-198 or M-211 with watertight coupling bands or 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 painted with one coat of zinc chromate primer or two coats of asphalt. Hot dip galvanized bolts may be used for connections. The pH of the surrounding soils shall be between 4 and 9.

HILLIS-CARNES ENGINEERING ASSOCIATES, INC. RECOMMENDATIONS

Embankment and Cut-off trench Construction

The site should be stripped of topsoil and any other unsuitable materials from the embankment or structure area in accordance with Soil Conservation Guidelines. After stripping operations have been completed, the exposed subgrade materials should be profiled with a loaded dumptruck 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 Dynamic Cone Penetration. Any excessively soft or loose materials identified by profiling or penetrometer testing should be excavated to suitable firm soil, and then graded re-established by backfilling with suitable soil.

A representative of the geotechnical Engineer should be present to monitor placement and compaction of fill for each embankment and cut-off trench. In accordance with Maryland Soil Conservation Specification 37B, soils considered suitable for the center of embankment and cut-off trench shall conform to Unified Soil Classification CC, SC, CH, or CL.

It is our professional opinion that in addition to the soil materials described above a fine-grain soil, including silt (ML) with a plasticity index of 10 or more can be utilized for the center of the embankment and core trench. All fill materials must be placed and compacted in accordance with MD SCS 37B specifications.

OPERATION AND MAINTENANCE SCHEDULE

STORMWATER MANAGEMENT FACILITY

ROUTINE MAINTENANCE (BY HOMEOWNERS ASSOC.)

- 1. FACILITY SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHOULD BE PERFORMED DURING WET WEATHER TO DETERMINE IF THE POND IS FUNCTIONING PROPERLY.
2. TOP AND SIDE SLOPES OF THE EMBANKMENT SHALL BE MOWED A MINIMUM OF TWO (2) TIMES A YEAR, ONCE IN JUNE AND ONCE IN SEPTEMBER. OTHER SIDE SLOPES AND MAINTENANCE ACCESS SHOULD BE MOWED AS NEEDED.
3. DEBRIS AND LITTER SHALL BE REMOVED DURING REGULAR MOWING OPERATIONS AND AS NEEDED.
4. VISIBLE SIGNS OF EROSION IN THE POND AS WELL AS RIPRAP OUTLET AREA SHALL BE REPAIRED AS SOON AS IT IS NOTICED.

NON-ROUTINE MAINTENANCE (BY HOWARD COUNTY)

- 1. STRUCTURAL COMPONENTS OF THE POND SUCH AS THE DAM, THE RISER, AND THE PIPES SHALL BE REPAIRED UPON THE DETECTION OF ANY DAMAGE. THE COMPONENTS SHOULD BE INSPECTED DURING ROUTINE MAINTENANCE OPERATIONS.
2. SEDIMENT SHOULD BE REMOVED FROM THE POND NO LATER THAN WHEN THE CAPACITY OF THE POND IS HALF FULL OF SEDIMENT, WHEN DEEMED NECESSARY FOR AESTHETIC REASONS OR WHEN DEEMED NECESSARY BY HOWARD COUNTY'S DEPARTMENT OF PUBLIC WORKS.

Table with columns: ELEV., SOIL DESCRIPTION, STRA., DEPTH, SAMPLE, BORING & SAMPLING NOTES. Includes data for borings 1 through 7.

STANDARD PENETRATION TEST - DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30" COUNT MADE AT 6" INTERVALS

Table with columns: ELEV., SOIL DESCRIPTION, STRA., DEPTH, SAMPLE, BORING & SAMPLING NOTES. Includes data for borings 1 through 4.

STANDARD PENETRATION TEST - DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30" COUNT MADE AT 6" INTERVALS

Table with columns: ELEV., SOIL DESCRIPTION, STRA., DEPTH, SAMPLE, BORING & SAMPLING NOTES. Includes data for borings 1 through 5.

STANDARD PENETRATION TEST - DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30" COUNT MADE AT 6" INTERVALS

Table with columns: ELEV., SOIL DESCRIPTION, STRA., DEPTH, SAMPLE, BORING & SAMPLING NOTES. Includes data for borings 1 through 5.

STANDARD PENETRATION TEST - DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30" COUNT MADE AT 6" INTERVALS

Table with columns: ELEV., SOIL DESCRIPTION, STRA., DEPTH, SAMPLE, BORING & SAMPLING NOTES. Includes data for borings 1 through 4.

STANDARD PENETRATION TEST - DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30" COUNT MADE AT 6" INTERVALS

Table with columns: ELEV., SOIL DESCRIPTION, STRA., DEPTH, SAMPLE, BORING & SAMPLING NOTES. Includes data for borings 1 through 5.

STANDARD PENETRATION TEST - DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30" COUNT MADE AT 6" INTERVALS

STORMWATER MANAGEMENT FACILITY #1

Table with columns: ELEV., SOIL DESCRIPTION, STRA., DEPTH, SAMPLE, BORING & SAMPLING NOTES. Includes data for borings 1 through 5.

STANDARD PENETRATION TEST - DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30" COUNT MADE AT 6" INTERVALS

STORMWATER MANAGEMENT FACILITY #2

Table with columns: ELEV., SOIL DESCRIPTION, STRA., DEPTH, SAMPLE, BORING & SAMPLING NOTES. Includes data for borings 1 through 5.

STANDARD PENETRATION TEST - DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30" COUNT MADE AT 6" INTERVALS

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 VEGETATIVE GROWTH. SOILS OF CONCERN HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE MATERIALS.

CONDITIONS WHERE PRACTICE APPLIES

- I. THIS PRACTICE IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:
A. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.
B. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.
C. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.
D. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.

CONSTRUCTION AND MATERIAL SPECIFICATIONS

- I. TOPSOIL SALVAGED FROM THE EXISTING SITE MAY BE USED PROVIDED THAT IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS. TYPICALLY, THE DEPTH OF TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE DETERMINED BY THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-SCS IN COOPERATION WITH MARYLAND AGRICULTURAL EXPERIMENTAL STATION.
II. TOPSOIL SPECIFICATIONS - SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING:
I. TOPSOIL SHALL BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. REGARDS, TOPSOIL SHALL NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND SHALL CONTAIN LESS THAN SIX (6) PERCENT VOL. OF COARSE STONES, 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, QUACK GRASS, JOHNSON GRASS, NUTSEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.
III. WHERE THE SUBSOIL IS EITHER ACIDIC OR COMPOSED OF HEAVY CLAYS, GROUND LIMESTONE SHALL BE SPREAD AT THE RATE OF 4-8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL. LIME SHALL BE DISTRIBUTED UNIFORMLY OVER DESIGNATED AREAS AND WORKED INTO THE SOIL IN CONJUNCTION WITH TILLAGE OPERATIONS AS DESCRIBED IN THE FOLLOWING PROCEDURES.
III. FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES:
I. ON SOIL MEETING TOPSOIL SPECIFICATIONS, OBTAIN TEST RESULTS INDICATING FERTILIZER AND LIME DEFICIENCIES REQUIRED TO BRING THE SOIL INTO COMPLIANCE WITH THE FOLLOWING:
A. PH FOR TOPSOIL SHALL BE BETWEEN 6.0 AND 7.5. IF THE TESTED SOIL DEMONSTRATES A PH OF LESS THAN 6.0, SUFFICIENT LIME SHALL BE APPLIED 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.

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

REVIEWED FOR HOWARD SOIL AND MEETS TECHNICAL REQUIREMENTS

USDA - NATURAL RESOURCES CONSERVATION SERVICE DATE 10/18/01

HOWARD SOIL DATE 10/18/01

APPROVED: DEPARTMENT OF PUBLIC WORKS DATE 10-25-01

APPROVED: DEPARTMENT OF PLANNING AND ZONING DATE 10/29/01

DATE 10/29/01

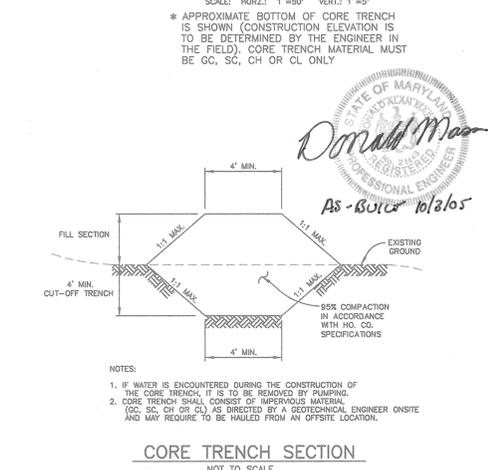
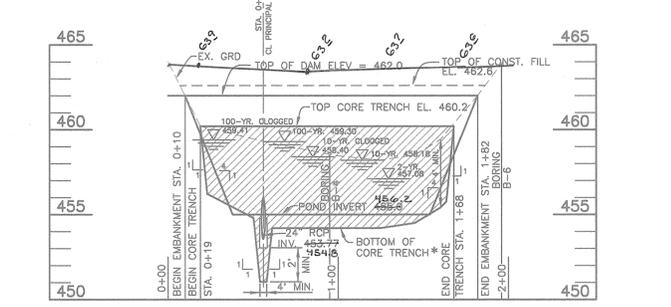
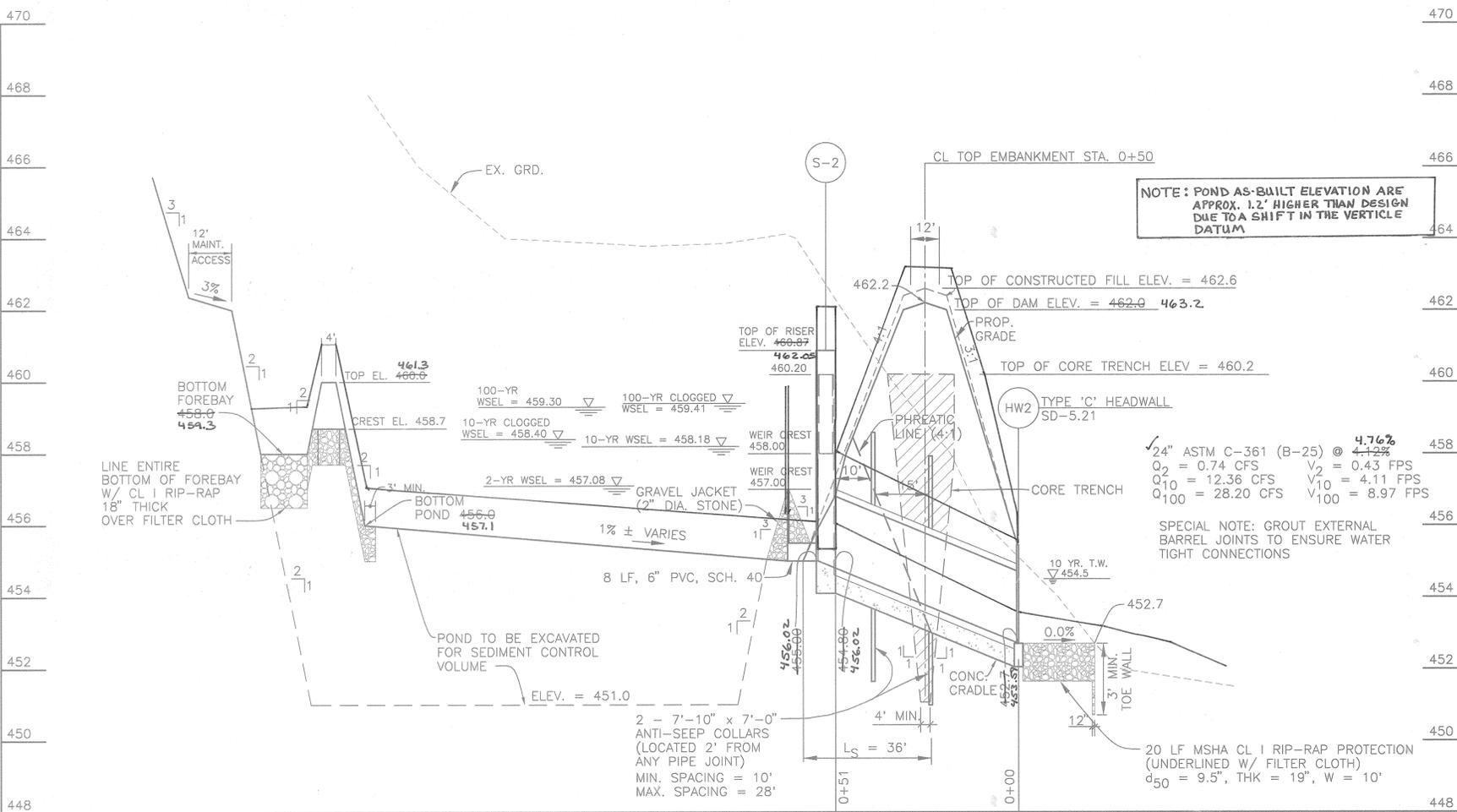
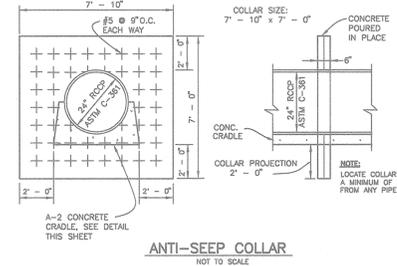
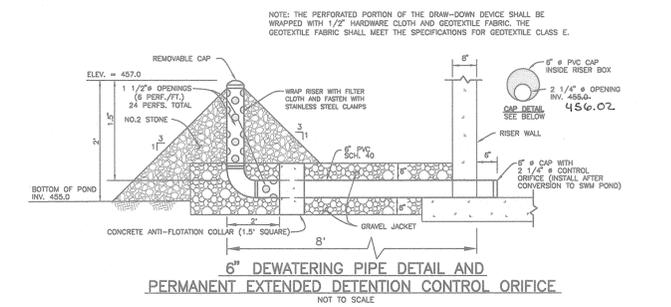
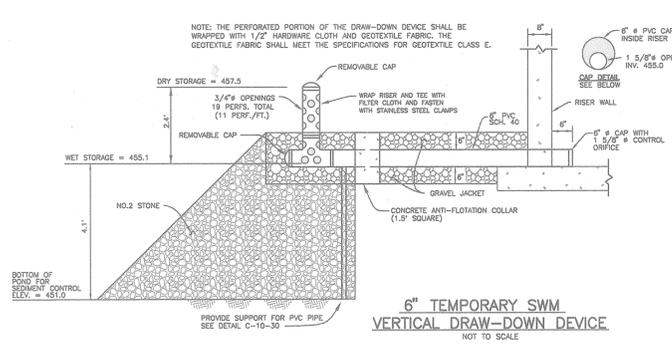
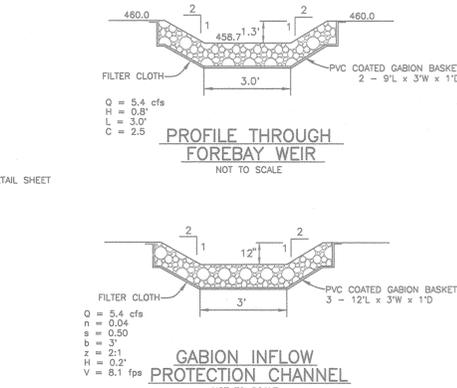
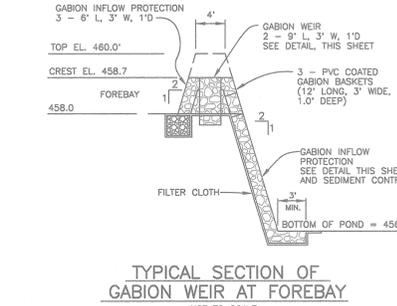
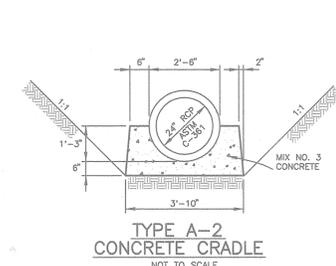
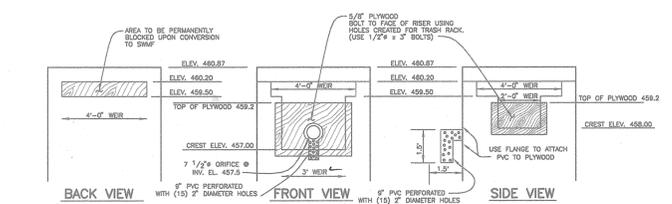
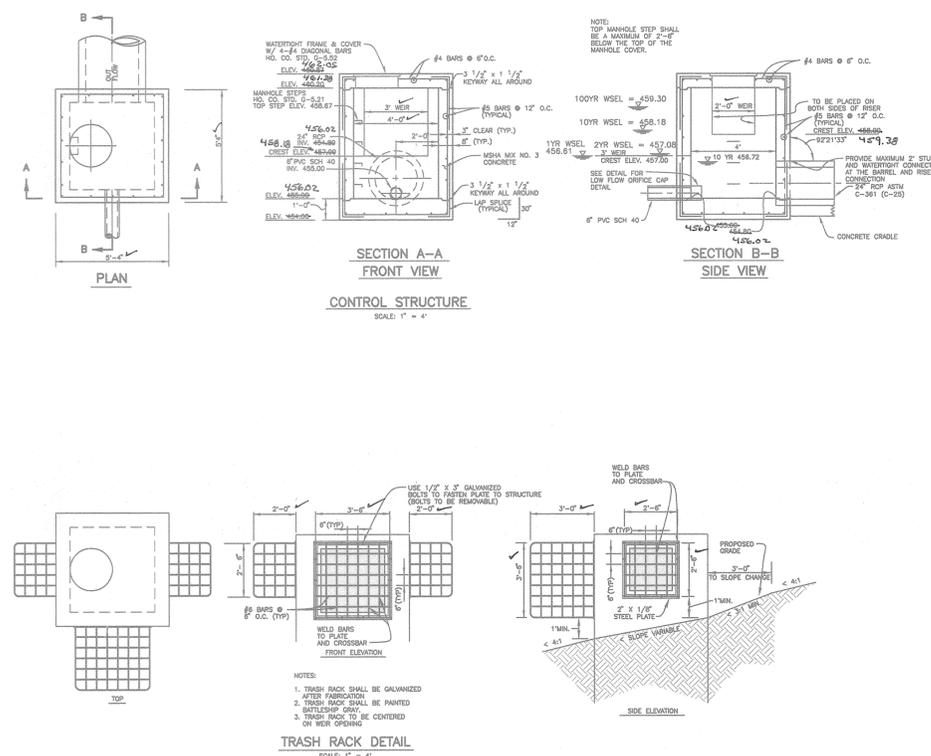
DATE 10/29/01

Table with columns: NO., DATE, REVISION. Row 2: 11/08/02 REVISE SWM EASEMENT DESIGNATION

BENCHMARK ENGINEERS, INC. ENGINEERS & LAND SURVEYORS & PLANNERS

8480 BALTIMORE NATIONAL PIKE A SUITE 418 ELLICOTT CITY, MARYLAND 21043 PHONE: 410-465-6105 FAX: 410-465-6644 EMAIL: benchmrk@aol.com

Table with columns: OWNER/DEVELOPER, PROJECT, LOCATION, TITLE, DATE, PROJECT NO., DESIGN, DRAFT. Includes details for 'THE WOODS OF WELINGTON' and 'STORMWATER MANAGEMENT NOTES AND BORING LOGS'.



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

AS-BUILT CERTIFICATION
 I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

Donald Mason ENGINEER
 PE NO. 21443
 DATE 10/3/05

CERTIFY MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED UPON ON-SITE INSPECTIONS AND MATERIAL TESTS WHICH ARE CONDUCTED DURING CONSTRUCTION, THE ON-SITE INSPECTIONS AND MATERIAL TESTS ARE THOSE INSPECTIONS AND TESTS DEEMED SUFFICIENT AND APPROPRIATE BY COMMONLY ACCEPTED ENGINEERING STANDARDS. CERTIFY DOES NOT MEAN OR IMPLY A GUARANTEE BY THE ENGINEER NOR DOES AN ENGINEER'S CERTIFICATION RELIEVE ANY OTHER PARTY FROM MEETING REQUIREMENTS IMPOSED BY CONTRACT, EMPLOYMENT, OR OTHER MEANS, INCLUDING MEETING COMMONLY ACCEPTED INDUSTRY PRACTICES.

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

Donald Mason ENGINEER - DONALD A. MASON, P.E. # 21443
 DATE 10/3/01

DEVELOPER'S CERTIFICATE
 "I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL 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 ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

SDC Group Inc.
 BY: *John H. Up* DEVELOPER
 STEVEN K. BRIDGES DATE 10/3/01

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS
Jim Myers 10/18/01
 USDA - NATURAL RESOURCES CONSERVATION SERVICE DATE

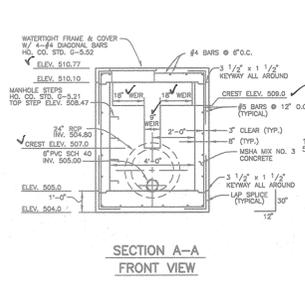
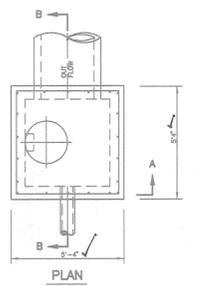
THIS DEVELOPMENT PLAN IS APPROVED FOR SMALL POND CONSTRUCTION SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
John H. Up 10/18/01
 HOWARD SCD DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS
Andrew M. Sander 10-25-01
 CHIEF, BUREAU OF HIGHWAYS DATE

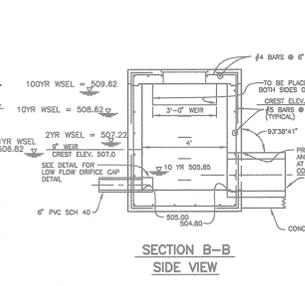
APPROVED: DEPARTMENT OF PLANNING AND ZONING
Andy Hamilton 10/29/01
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Don Damman 10/25/01
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

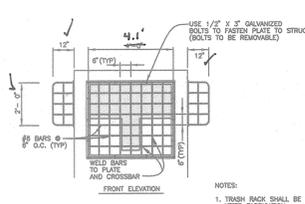
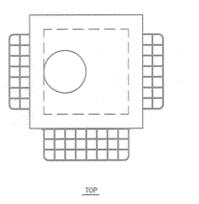
1	9/27/05	REVISED PER AS-BUILT CONDITIONS	
NO.	DATE	REVISION	
BENCHMARK ENGINEERING, INC. 8480 BALTIMORE NATIONAL PIKE & SUITE 418 ELLICOTT CITY, MARYLAND 21043 PHONE: 410-465-8105 FAX: 410-465-8644 EMAIL: benchmkr@cds.com			
LOCATION:		TAX MAP NO. 14, GRID NO. 20 TAX MAP NO. 21, GRID NO. 2 P/O PARCEL 248 4th ELECTION DISTRICT HOWARD COUNTY, MARYLAND	TITLE: STORMWATER MANAGEMENT DETAILS - FACILITY #2
DATE:	MARCH, 2001 MAY, 2001	PROJECT NO. 1251	DRAWING 14 OF 17
DESIGN:	GWF/MLV	DRAFT:	JMC



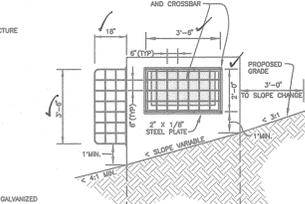
CONTROL STRUCTURE
SCALE: 1" = 4'



SECTION B-B
SIDE VIEW

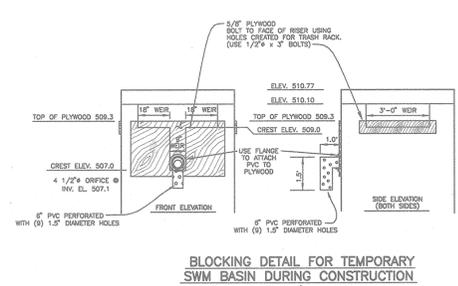


TRASH RACK DETAIL
SCALE: 1" = 4'

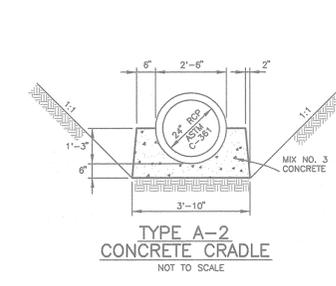


SIDE ELEVATION

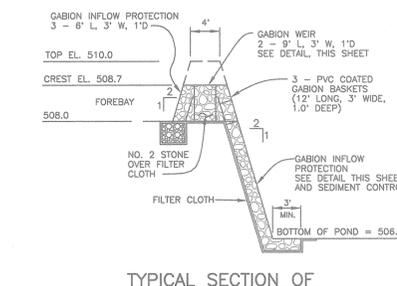
- NOTES:
1. TRASH RACK SHALL BE GALVANIZED AFTER FABRICATION.
 2. TRASH RACK SHALL BE PAINTED BATTLESHIP GRAY.
 3. TRASH RACK TO BE CENTERED ON WEIR OPENING.



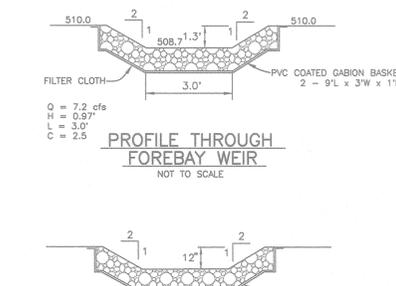
BLOCKING DETAIL FOR TEMPORARY SWM BASIN DURING CONSTRUCTION
SCALE: 1" = 4'



TYPE A-2
CONCRETE CRADLE
NOT TO SCALE



TYPICAL SECTION OF
GABION WEIR AT FOREBAY
NOT TO SCALE

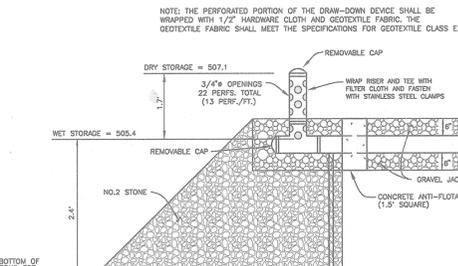


PROFILE THROUGH
FOREBAY WEIR
NOT TO SCALE

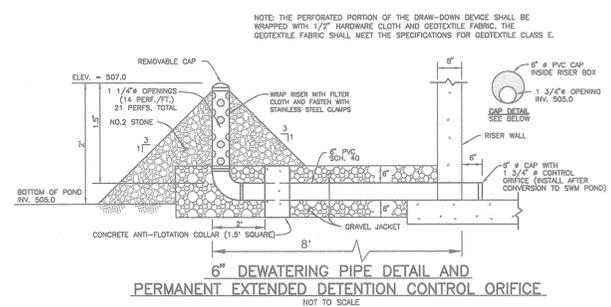


GABION INFLOW
PROTECTION CHANNEL
NOT TO SCALE

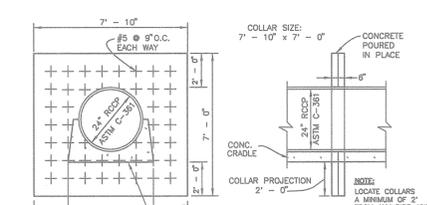
Q = 7.2 cfs
n = 0.04
b = 0.50
z = 2:1
H = 0.23'
V = 9.0 fps



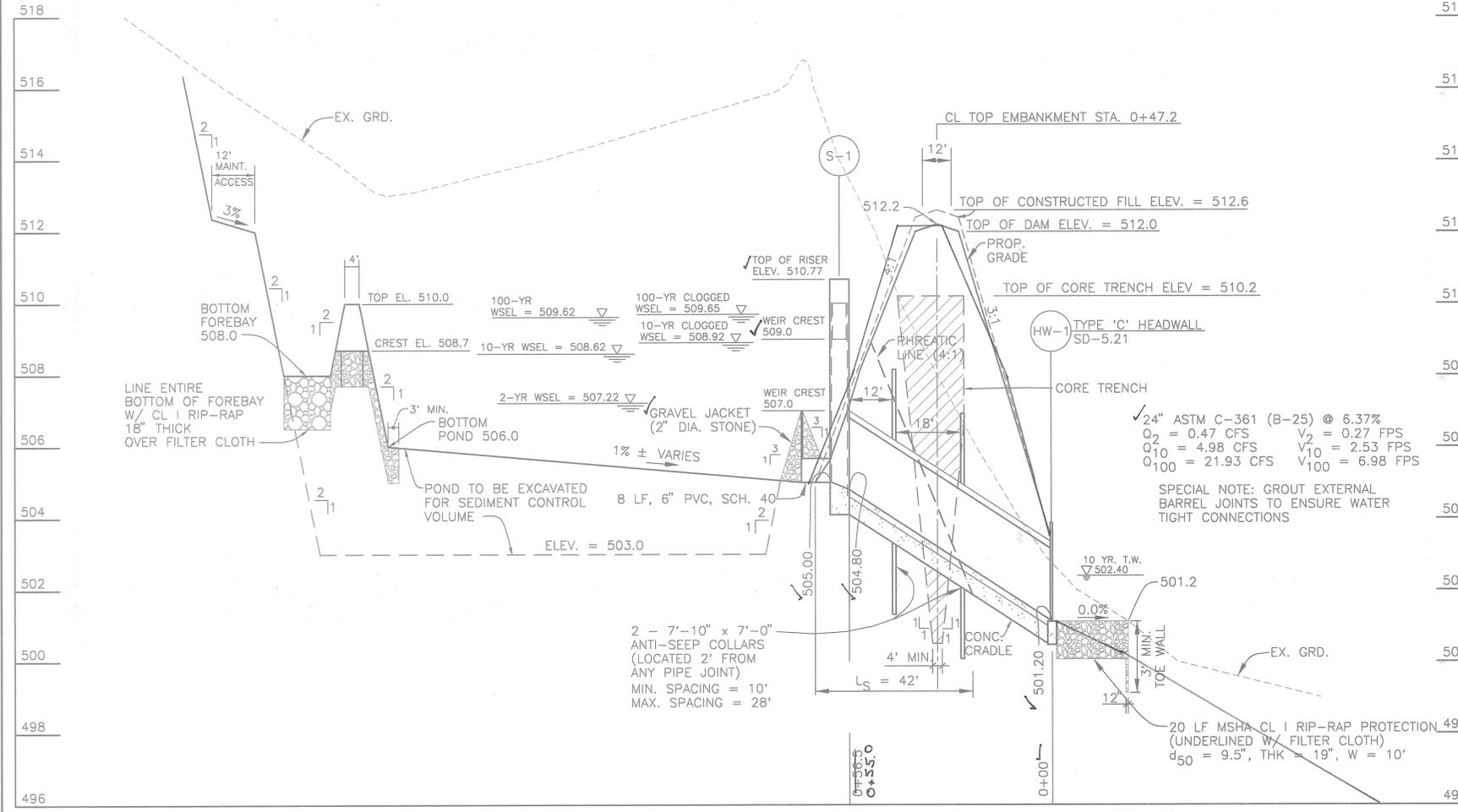
6" TEMPORARY SWM
VERTICAL DRAW-DOWN DEVICE
NOT TO SCALE



6" DEWATERING PIPE DETAIL AND
PERMANENT EXTENDED DETENTION ORIFICE
NOT TO SCALE



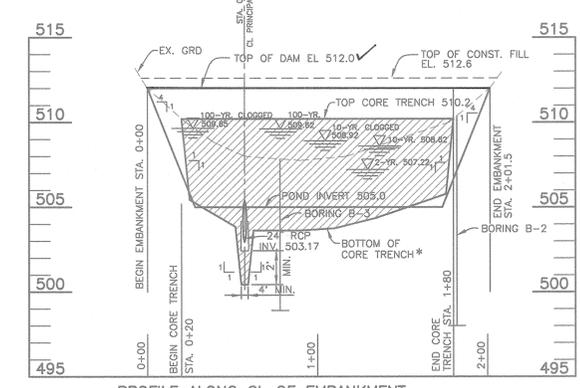
ANTI-SEEP COLLAR
NOT TO SCALE



SECTION A-A THRU
FOREBAY, POND & PRINCIPAL SPILLWAY
SCALE: HOR: 1" = 20' VERT: 1" = 2'

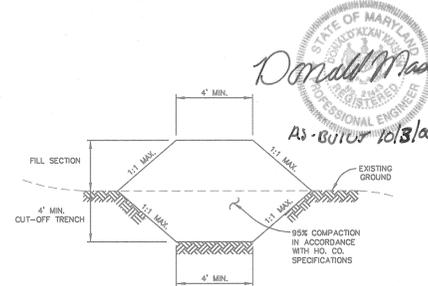
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PROFILE ALONG CL OF EMBANKMENT
SCALE: HORZ: 1" = 50' VERT: 1" = 5'

* APPROXIMATE BOTTOM OF CORE TRENCH IS SHOWN (CONSTRUCTION ELEVATION IS TO BE DETERMINED BY THE ENGINEER IN THE FIELD). CORE TRENCH MATERIAL MUST BE CC, SC, CH OR CL ONLY.



CORE TRENCH SECTION
NOT TO SCALE

NOTES:

1. IF WATER IS ENCOUNTERED DURING THE CONSTRUCTION OF THE CORE TRENCH, IT IS TO BE REMOVED BY PUMPING.
2. CORE TRENCH SHALL CONSIST OF IMPERVIOUS MATERIAL (CC, SC, CH OR CL) AS DIRECTED BY A GEOTECHNICAL ENGINEER ON-SITE AND MAY REQUIRE TO BE HAILED FROM AN OPPOSITE LOCATION.

OPERATION, MAINTENANCE AND INSPECTION NOTE

INSPECTION OF THE POND(S) SHOWN HEREON SHALL BE PERFORMED AT LEAST ANNUALLY, IN ACCORDANCE WITH THE CHECKLIST AND REQUIREMENTS CONTAINED WITHIN USDA 505 STANDARDS AND SPECIFICATIONS FOR PONDS (MD-370). THE POND OWNER(S) AND ANY HEIRS, SUCCESSORS, OR ASSIGNS SHALL BE RESPONSIBLE FOR THE SAFETY OF THE POND AND THE CONTINUED OPERATION, SURVEILLANCE, INSPECTION AND MAINTENANCE THEREOF. THE POND OWNER(S) SHALL PROMPTLY NOTIFY THE SOIL CONSERVATION DISTRICT OF ANY UNUSUAL OBSERVATIONS THAT MAY BE INDICATORS OF DISTRESS SUCH AS EXCESSIVE SEEPAGE, TURBID SEEPAGE, SLIDING OR SLUMPING.

AS-BUILT CERTIFICATION

I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE AS-BUILT PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

Donald Mason ENGINEER PE NO. 21443 DATE 10/3/01

CERTIFY MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED UPON ON-SITE INSPECTIONS AND MATERIAL TESTS WHICH ARE CONDUCTED DURING CONSTRUCTION. THE ON-SITE INSPECTIONS AND MATERIAL TESTS ARE THOSE IDENTIFIED IN THE SPECIFICATIONS AND APPROPRIATE BY COMMONLY ACCEPTED ENGINEERING STANDARDS. CERTIFY DOES NOT MEAN OR IMPLY A GUARANTEE BY THE ENGINEER NOR DOES AN ENGINEER'S CERTIFICATION RELIEVE ANY OTHER PARTY FROM MEETING REQUIREMENTS IMPOSED BY CONTRACT, EMPLOYMENT, OR OTHER MEANS, INCLUDING MEETING COMMONLY ACCEPTED INDUSTRY PRACTICES.

ENGINEER'S CERTIFICATE

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

Donald Mason 10/3/01
ENGINEER - DONALD A. MASON, P.E. # 21443 DATE

DEVELOPER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL 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." ALSO ADVISE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

SDC Group Inc. 10/2/01
DEVELOPER *STEWART K. BREWSTER* VP DATE

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS 10/18/01
USDA - NATURAL RESOURCES CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

Yuhua Shih 10/18/01
HOWARD SCD DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS 10-25-01
Stephen M. Danvers DATE
CHIEF, BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING 10/29/01
David Hamilton DATE
CHIEF, DIVISION OF LAND DEVELOPMENT

Mike Dammann 10/25/01
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

2. 9/27/05 REVISED PER AS-BUILT CONDITIONS
1. 7/17/01 REV PER HO. CO. COMMENTS OF 6/21/01
NO. DATE REVISION

BENCHMARK ENGINEERS, INC.
ENGINEERS • LAND SURVEYORS • PLANNERS
8480 BALTIMORE NATIONAL PIKE A SUITE 418
ELLICOTT CITY, MARYLAND 21043
PHONE: 410-465-6105 • FAX: 410-465-6644
EMAIL: benchmrk@comcast.com

Donald Mason 10/3/01
PROFESSIONAL ENGINEER

OWNER/DEVELOPER:
SDC GROUP, INC.
P.O. BOX 417
ELLICOTT CITY, MD 21041
410-465-4244

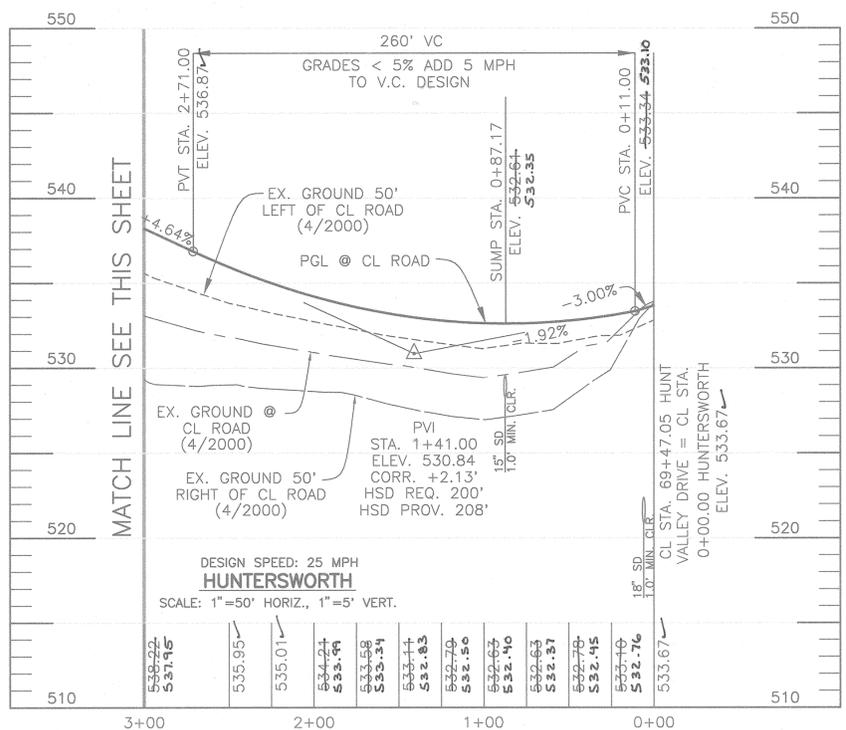
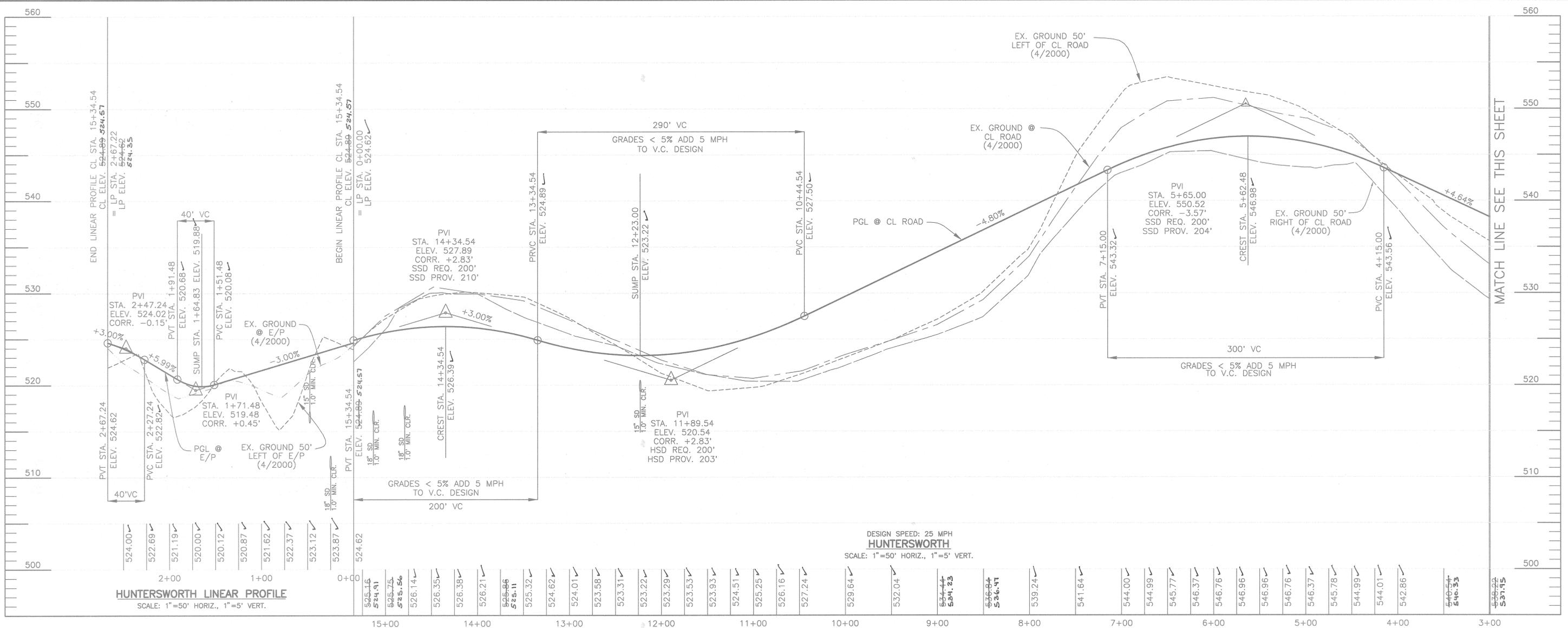
PROJECT:
THE WOODS OF WELLINGTON
LOTS 1-24 AND NON-BUILDABLE PRES. PARCELS 'A' THRU 'D'

LOCATION:
TAX MAP NO. 14, GRID NO. 20
TAX MAP NO. 21, GRID NO. 2
P/O PARCEL 248
4th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE:
STORMWATER MANAGEMENT
DETAILS - FACILITY #1

DATE: MARCH, 2001 PROJECT NO. 1251
MAY, 2001

DESIGN: GWF/MLV DRAFT: JMC SCALE: AS SHOWN DRAWING 13 OF 17



APPROVED: DEPARTMENT OF PUBLIC WORKS
Andrew M. Gaudin 10-25-01
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Cindy Hamata 10/27/01
 CHIEF, DIVISION OF LAND DEVELOPMENT

Chris Deussen 10/27/01
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

Donald Mason
 PROFESSIONAL ENGINEER
 AS-BUILT 10/3/05

NO.	DATE	REVISION
1	9/27/05	REVISED PER AS-BUILT CONDITIONS

BENCHMARK
 ENGINEERS & LAND SURVEYORS & PLANNERS
ENGINEERING, INC.
 8480 BALTIMORE NATIONAL PIKE & SUITE 418
 ELLICOTT CITY, MARYLAND 21043
 PHONE: 410-465-6105 FAX: 410-465-6644
 EMAIL: benchmark@cois.com

Donald Mason
 PROFESSIONAL ENGINEER

OWNER/DEVELOPER: SDC GROUP, INC. P.O. BOX 417 ELLICOTT CITY, MD 21041 410-465-4244	PROJECT: THE WOODS OF WELLINGTON LOTS 1-24 AND NON-BUILDABLE PRES. PARCELS 'A' THRU 'D'
LOCATION: TAX MAP NO. 14, GRID NO. 20 TAX MAP NO. 21, GRID NO. 2 P/O PARCEL 248 4TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND	TITLE: ROAD PROFILES
DATE: MARCH, 2001 MAY, 2001	PROJECT NO. 1251
DESIGN: GWF DRAFT: JMC	SCALE: AS SHOWN DRAWING 7 OF 17

PERMANENT SEEDING NOTES

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

Seeded 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 on the following schedules.

- 1) Preferred - Apply 2 tons per acre dolomitic limestone (92 lbs/1000 sf) and 800 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sf) before seeding. Harrow or disc into upper three inches of soil. At time of seeding, apply 400 lbs per acre 30-0-0 ureaform fertilizer (9 lbs/1000 sf).
- 2) Acceptable - Apply 2 tons per acre dolomitic limestone (92 lbs/1000 sf) and 800 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sf) before seeding. Harrow or disc into upper three inches of soil. At time of seeding, apply 400 lbs per acre 30-0-0 ureaform fertilizer (9 lbs/1000 sf).

Seeding: For the periods March 1 through April 30 and August 1 through October 15, seed with 60 lbs per acre (1.4 lbs/1000 sf) of Kentucky 31 Tall Fescue. For the period May 1 through July 31, seed with 60 lbs Kentucky 31 Tall Fescue per acre and 2 lbs per acre (0.05 lbs/1000 sf) of Weeping Lovegrass. During the period of October 16 through February 28, protect site by Option 1) 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring. Option 2) use sod. Option 3) seed with 60 lbs/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 sf) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 216 gallons per acre (5 gal/1000 sf) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000 sf) for anchoring.

Maintenance: Inspect all seeded areas and make needed repairs, replacements and reseedings.

TEMPORARY SEEDING NOTES

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

Seeded 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 sf).

Seeding: For periods March 1 through April 30 and from August 15 through November 15, seed with 2-1/2 bushel per acre of annual rye (3.2 lbs/1000 sf). For the period May 1 through August 14, seed with 3 lbs per acre of Weeping Lovegrass (0.07 lbs/1000 sf). For the period November 16 through 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 sf) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 216 gallons per acre (5 gal/1000 sf) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000 sf) for anchoring.

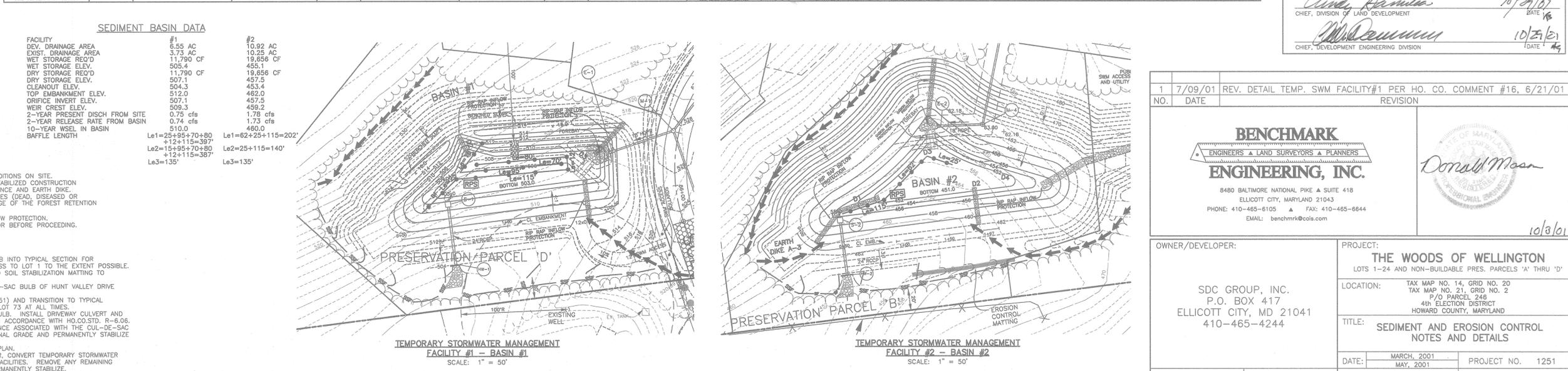
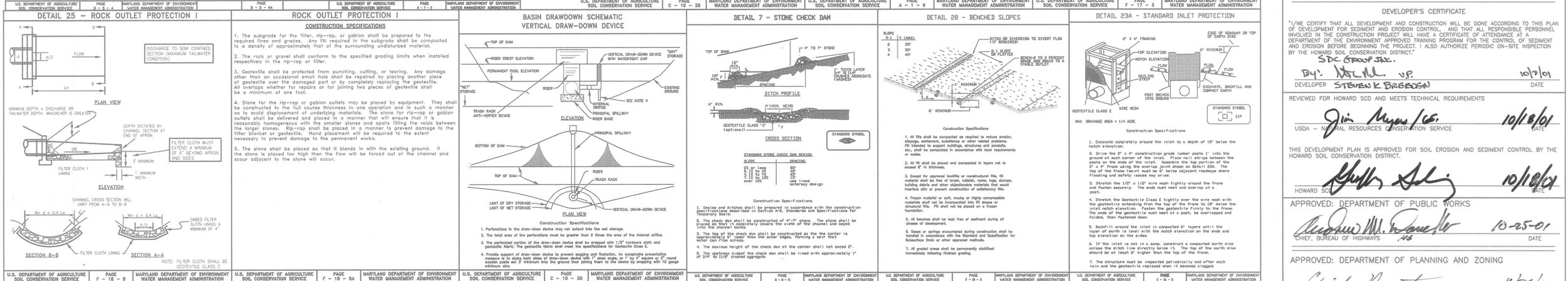
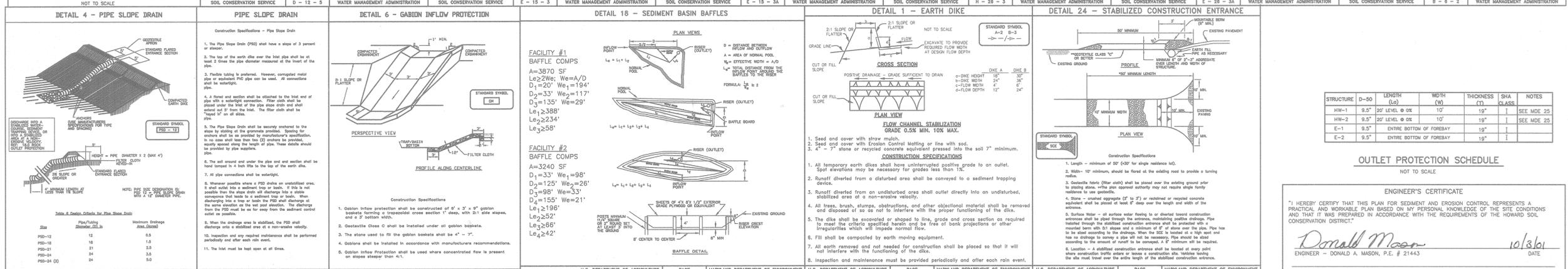
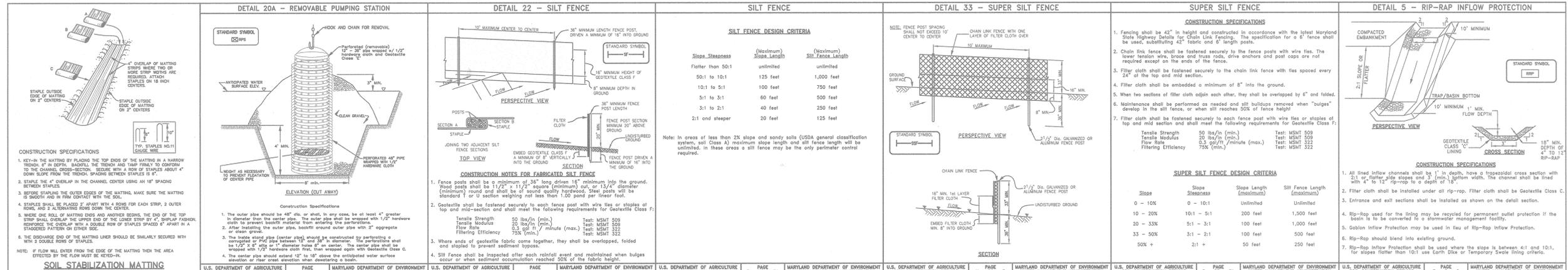
Refer to the 1994 Maryland Standards and Specifications for Soil Erosion and Sediment Control for rate and methods not covered.

SEDIMENT CONTROL NOTES

1. A minimum of 48 hours notice must be given to the Howard County Department of Inspections and Permits, Sediment Control Division prior to the start of any construction (410-313-1855).
2. All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the most current "Maryland Standards and Specifications for Soil Erosion and Sediment Control", and revisions thereto.
3. Following initial soil disturbances or redistribution, permanent or temporary stabilization shall be completed within: a) 7 calendar days for all perimeter sediment control structures, ditches, perimeter slopes and all slopes greater than 3:1, b) 14 calendar days 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 Manual, Storm Drainage".
5. All disturbed areas must be stabilized within the time period specified above in accordance with the "1994 Maryland Standards and Specifications for Soil Erosion and Sediment Control" for Permanent Seedings (Sec. 51) and Temporary Seedings (Sec. 50) and Mulching (Sec. 52). Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
6. All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.
7. Site Analysis:
Total Area of Site: 59.55 acres
Area to be Disturbed: 17,162 acres
Area to be roofed or paved: 1,272 acres
Area to be vegetatively stabilized: 15,838 acres
Total Cut: 38,034 C.Y.
Total Fill: 38,885 C.Y.
8. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
9. Additional sediment controls must be provided, if deemed necessary by the Howard County DPW Sediment Control Inspector.
10. On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until the initial approval by the inspection agency is made.
11. Trenches for the construction of utilities limited to three pipe lengths or that which can be back filled and stabilized within one working day, whichever is shorter.
12. Quantities and estimates shown are for sediment control purposes only. Contractor shall prepare his/her own quantity estimates to his/her satisfaction. It is the responsibility of the contractor to identify the soil/borrow site and notify and gain approval from the sediment control inspector of the site and its grading permit number at the time of construction.

SEQUENCE OF CONSTRUCTION

DAY 1 OBTAIN GRADING PERMIT.
DAY 2 CONTRACTOR TO IDENTIFY AND MARK ANY AND ALL HAZARDOUS CONDITIONS ON SITE.
DAY 3-4 CLEAR AND GRUB FOR SEDIMENT CONTROL DEVICES, INSTALL THE STABILIZED CONSTRUCTION ENTRANCE LOCATED AT STATION 69+10, SILT FENCE, SUPER SILT FENCE AND EARTH DIKE.
DAY 5 INSTALL TREE PROTECTION FENCE, BARRIERS, TRUCK AND TRAILER PROTECTION OR THOSE SUBJECT TO WIND THROW WILL BE ALLOWED ALONG THE EDGE OF THE FOREST RETENTION AREAS AS WELL AS WITHIN THE OTHER TREE SAVE AREAS.
DAY 6-10 INSTALL TEMPORARY STORMWATER MANAGEMENT FACILITIES AND INFLOW PROTECTION. CONTRACTOR TO GET APPROVAL FROM SEDIMENT CONTROL INSPECTOR BEFORE PROCEEDING.
DAY 11-15 CLEAR AND GRUB REMAINDER OF SITE.
DAY 16-24 STABILIZE IN ACCORDANCE WITH TEMPORARY SEEDING NOTES.
DAY 25-34 INSTALL STORM DRAIN AND OTHER UTILITIES. INSTALL DRIVEWAY CULVERT AND INSTALL CURB AND GUTTER OF SPEED CONTROL DEVICES.
DAY 41-45 FINAL PAVING FOR ROADS, TRANSITION EXISTING CUL-DE-SAC BULB INTO TYPICAL SECTION FOR HUNT VALLEY DRIVE. PROVIDE GRADED AGGREGATE BASE AS ACCESS TO LOT 1 TO THE EXTENT POSSIBLE.
DAY 46-52 FINAL GRADE REMAINDER OF SITE, PERMANENTLY STABILIZE, AND ADD SOIL STABILIZATION MATTING TO ALL SWALES, DITCHES AND CONCENTRATED FLOW AREAS.
DAY 53-56 INSTALL SEDIMENT CONTROL DEVICES AROUND THE EXISTING CUL-DE-SAC BULB OF HUNT VALLEY DRIVE (STATION 63+51).
DAY 57-60 REMOVE PAVING OF HUNT VALLEY CUL-DE-SAC BULB (STATION 63+51) AND TRANSITION TO TYPICAL SECTION OF EXTENDED HUNT VALLEY DRIVE. MAINTAIN ACCESS TO LOT 73 AT ALL TIMES.
DAY 60-63 INSTALL TYPICAL SECTION OF THE CUL-DE-SAC BULB. INSTALL DRIVEWAY CULVERT AND CONNECT EXISTING DRIVEWAY OF LOT 73 TO NEW EDGE OF ROAD IN ACCORDANCE WITH HO.CD.SD. R-6.06.
DAY 64-65 REMOVE STONE CHECK DAMS AND STABILIZED CONSTRUCTION ENTRANCE ASSOCIATED WITH THE CUL-DE-SAC REMOVAL. INSTALL SOIL STABILIZATION MATTING IN THE DITCHES. FINAL GRADE AND PERMANENTLY STABILIZE THE CUL-DE-SAC REMOVAL AREA.
DAY 66-72 INSTALL REQUIRED LANDSCAPING AS SPECIFIED ON THE LANDSCAPE PLAN.
DAY 72-75 UPON APPROVAL OF HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, CONVERT TEMPORARY STORMWATER MANAGEMENT FACILITIES TO PERMANENT STORMWATER MANAGEMENT FACILITIES. REMOVE ANY REMAINING SEDIMENT CONTROL DEVICES AND TREE PROTECTION FENCE AND PERMANENTLY STABILIZE.



1 7/09/01 REV. DETAIL TEMP. SWM FACILITY#1 PER HO. CO. COMMENT #16, 6/21/01
NO. DATE REVISION

BENCHMARK ENGINEERING, INC.
8480 BALTIMORE NATIONAL PIKE & SUITE 418
ELLICOTT CITY, MARYLAND 21043
PHONE: 410-465-8105 FAX: 410-465-8644
EMAIL: benchm@cois.com

OWNER/DEVELOPER: SDC GROUP, INC.
P.O. BOX 417
ELLICOTT CITY, MD 21041
410-465-4244

PROJECT: THE WOODS OF WELLINGTON
LOTS 1-24 AND NON-BUILDABLE PRES. PARCELS 'A' THRU 'D'

LOCATION: TAX MAP NO. 14, GRID NO. 20
TAX MAP NO. 21, GRID NO. 25
P/O PARCEL 24B
4th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

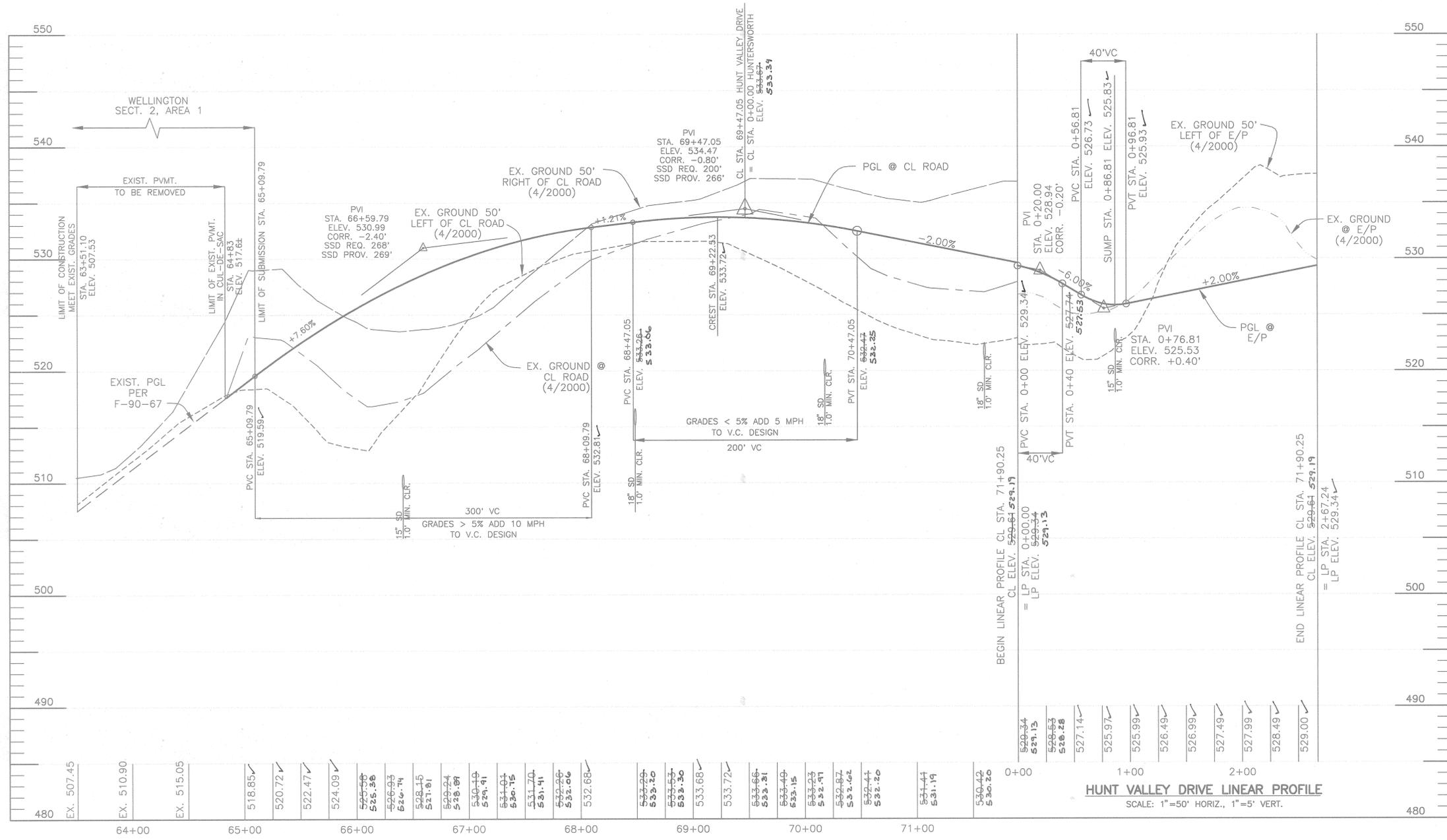
TITLE: SEDIMENT AND EROSION CONTROL NOTES AND DETAILS

DATE: MARCH, 2001 PROJECT NO. 1251
DESIGN: GWF/MLV DRAFT: JMC SCALE: AS SHOWN DRAWING 11 OF 17

ENGINEER'S CERTIFICATE
"I HEREBY CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."
DONALD MASON, P.E. #21443 10/3/01
ENGINEER - DONALD A. MASON, P.E. #21443 DATE

DEVELOPER'S CERTIFICATE
"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL 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 ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."
BY: STEVEN K. BOBERSON 10/7/01
DEVELOPER STEVEN K. BOBERSON DATE
BY: Jim Nguyen 10/8/01
USDA - NATURAL RESOURCES CONSERVATION SERVICE 10/8/01 DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
APPROVED: DEPARTMENT OF PUBLIC WORKS
APPROVED: DEPARTMENT OF PLANNING AND ZONING



DESIGN SPEED: 25 MPH
HUNT VALLEY DRIVE
 SCALE: 1"=50' HORIZ., 1"=5' VERT.

APPROVED: DEPARTMENT OF PUBLIC WORKS
Andrew M. Penick 10-25-01
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Cindy Hamstra 10/29/01
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Chris Damman 10/29/01
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE



AS-BUILT 10/31/01

NO.	DATE	REVISION

BENCHMARK
 ENGINEERS & LAND SURVEYORS & PLANNERS
ENGINEERING, INC.
 8480 BALTIMORE NATIONAL PIKE & SUITE 418
 ELLICOTT CITY, MARYLAND 21043
 PHONE: 410-465-6105 FAX: 410-465-6644
 EMAIL: benchmark@cois.com

10/31/01

OWNER/DEVELOPER: SDC GROUP, INC. P.O. BOX 417 ELLICOTT CITY, MD 21041 410-465-4244	PROJECT: THE WOODS OF WELLINGTON LOTS 1-24 AND NON-BUILDABLE PRES. PARCELS 'A' THRU 'D'
LOCATION: TAX MAP NO. 14, GRID NO. 20 TAX MAP NO. 21, GRID NO. 2 P/O PARCEL 248 4th ELECTION DISTRICT HOWARD COUNTY, MARYLAND	TITLE: ROAD PROFILES
DATE: MARCH, 2001 MAY 2001	PROJECT NO. 1251
DESIGN: GWF	DRAFT: JMC
SCALE: AS SHOWN	DRAWING 6 OF 17