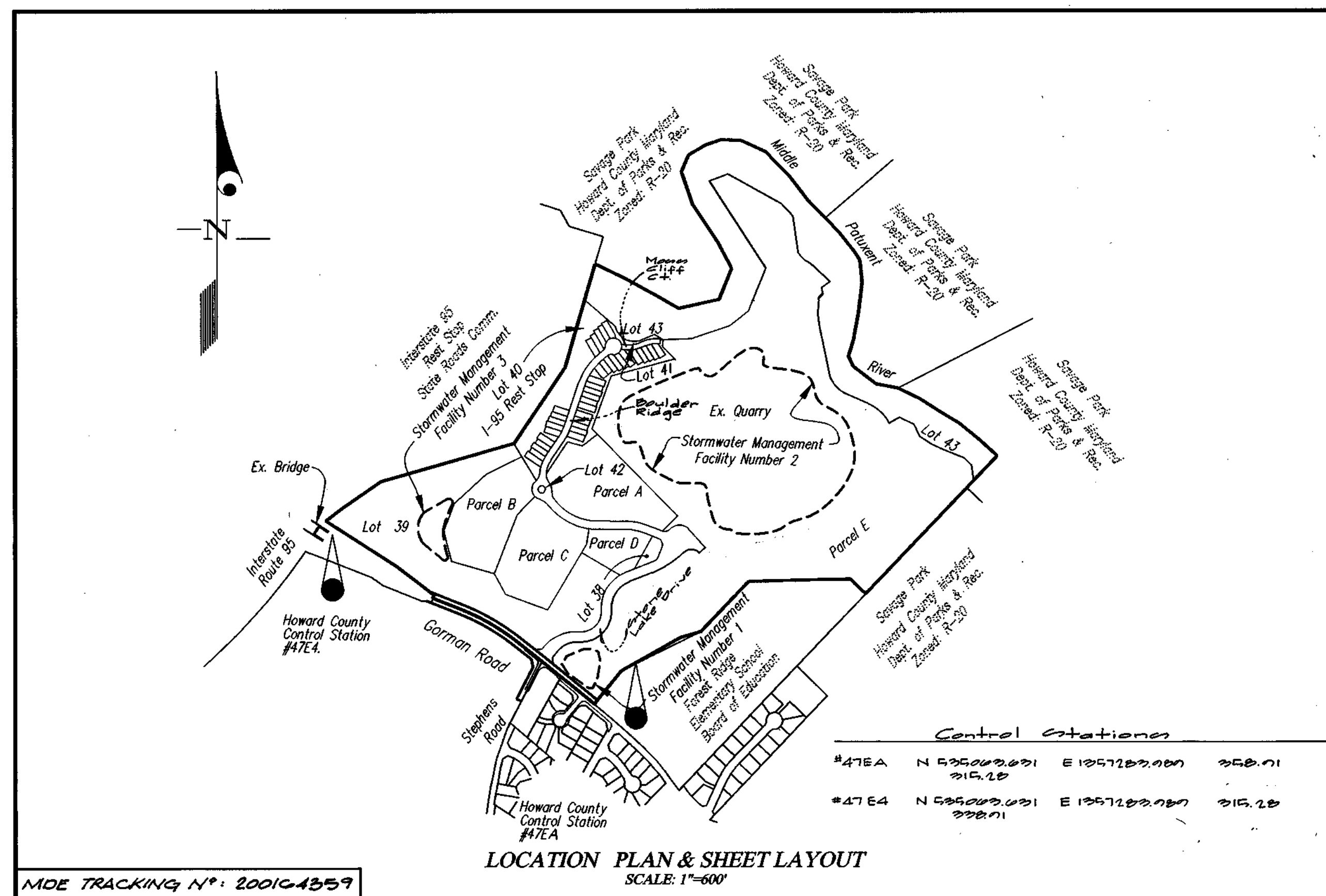
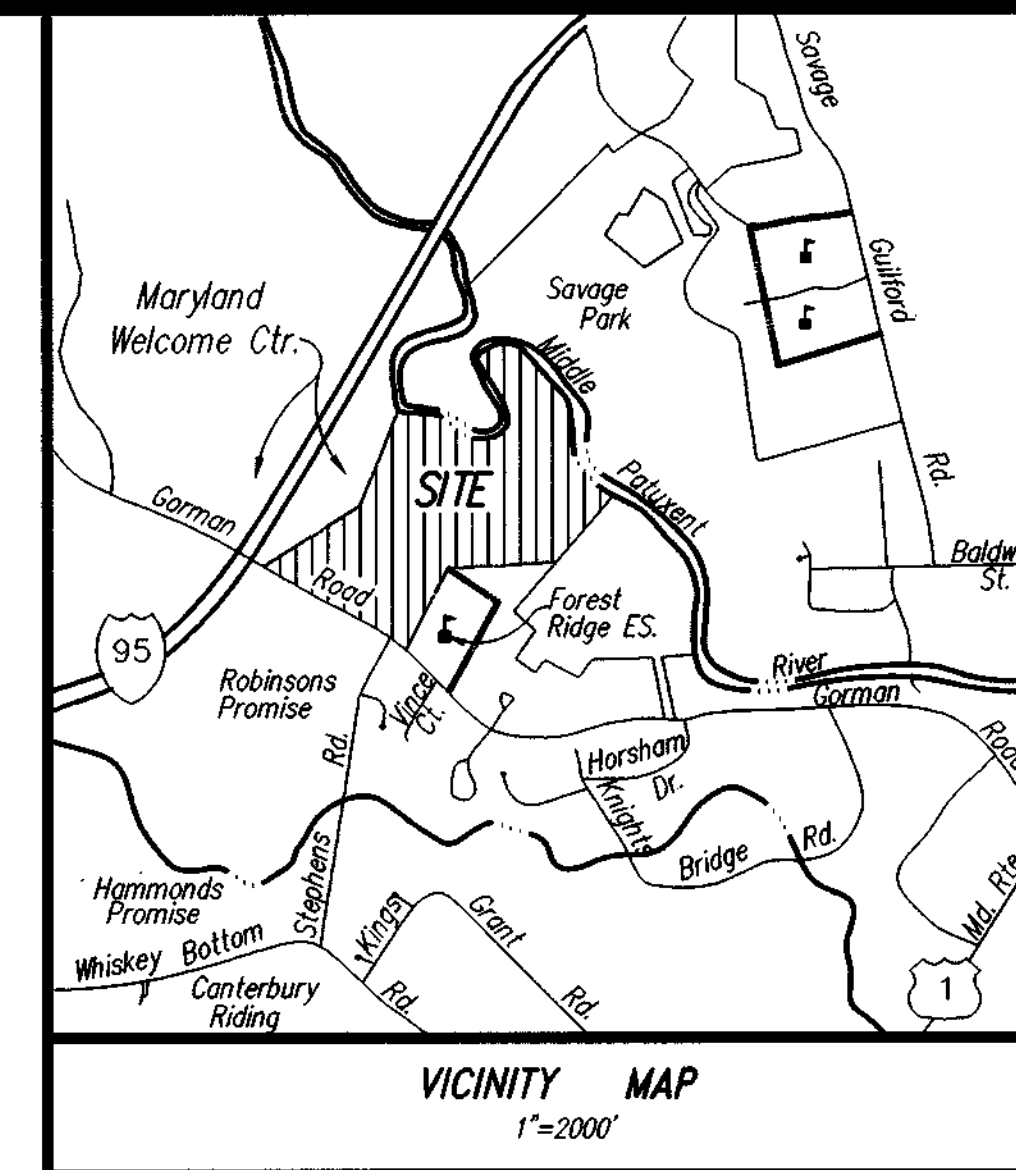


GENERAL NOTES

- THE PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED.
- PROJECT BACKGROUND:  
LOCATION: GORMAN ROAD @ STEPHENS ROAD  
TAX MAP: 36-18, 37-13  
ZONING: R-ED  
ELECTION DISTRICT: 6  
GROSS AREA OF TRACT: 136.7 ACRES
- SEE DEPARTMENT OF PLANNING & ZONING FILE NUMBERS:  
S 00-13, WP 00-88, WP 00-126, WP 01-60, PB 345 & WP 01-94, P 01-15, F-01-155.
- THE TOPOGRAPHY SHOWN HAS A 2' CONTOUR INTERVAL AND WAS DETERMINED BY: AERIAL PHOTOGRAPHY BY DAFT, McCUNE & WALKER, SUMMER 1998.
- PUBLIC WATER AND SEWER TO BE UTILIZED.  
SITE IS IN METROPOLITAN DISTRICT.
- HORIZONTAL AND VERTICAL CONTROL BASED ON HOWARD COUNTY CONTROL STATIONS 47 EA. & 47 EA.
- INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM BEST AVAILABLE RECORDS. THE CONTRACTOR MUST DETERMINE THE EXACT LOCATION AND ELEVATION OF THE MAINS BY DIGGING TEST PITS BY HAND AT ALL CROSSINGS WELL IN ADVANCE OF CONSTRUCTION. ANY DISCREPANCIES MUST BE COMMUNICATED TO THE ENGINEER AT ONCE.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY AND MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS /DIVISION OF CONSTRUCTION INSPECTION AT 1 (410) 313 - 1880 AT LEAST FIVE (5) DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE (5) WORKING DAYS BEFORE STARTING WORK SHOWN ON THE PLANS.  
MISS UTILITY 1-800-257-7777  
VERIZON 1-800-446-5266  
HOWARD COUNTY BUREAU OF UTILITIES 410-313-4900  
AT&T CABLE LOCATION DIVISION 393-3553  
BALTIMORE GAS & ELECTRIC CO. 410-850-4620 & 410-787-9068
- TYPES OF STORM DRAINS REFER TO THE STANDARD DETAILS OF HOWARD COUNTY AND MSHA.
- TRENCH COMPACTION FOR STORM DRAINS WITHIN ROADS AND STREET RIGHT - OF - WAYS LIMITS SHALL BE IN ACCORDANCE WITH "HOWARD COUNTY DESIGN MANUAL", VOL. IV, STANDARD G-2.01.
- SEDIMENT CONTROL SHALL BE PROVIDED IN ACCORDANCE WITH "1994 MARYLAND STANDARDS AND SPECIFICATION FOR SOILS EROSION AND SEDIMENT CONTROL".
- TRAFFIC CONTROL DEVICES, MARKINGS, AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
- STREET TREES SHALL BE PLANTED A MINIMUM OF FIVE (5) FEET FROM STORM DRAIN, WATERLINE OR SEWER PIPE MANHOLES; ALSO A MINIMUM OF TWENTY (20) FEET FROM STREET LIGHTS.
- COMPACTION IN FILL AREAS SHALL BE IN ACCORDANCE WITH AASHTO T-180 OR AS APPROVED IN THE DESIGN MANUAL VOLUME IV.
- WETLAND, STREAM, STEEP SLOPE, AND FOREST COVER DELINEATION BY DAFT, McCUNE AND WALKER.
- TRAFFIC STUDY WAS APPROVED AS PART OF THE SKETCH PLAN ON OCT. 10, 2000.
- ALL ROADS IN THIS DEVELOPMENT ARE PRIVATE.
- STREET TREE LOCATIONS SHOWN ARE TENTATIVE AND ARE TO BE USED FOR BOND PURPOSES ONLY. THE FINAL LOCATION AND VARIETY OF TREES MAY VARY TO ACCOMMODATE FIELD CONDITIONS AND BUILDERS LANDSCAPE PROGRAM.
- LANDSCAPING FOR THIS PROJECT HAS BEEN PREPARED ACCORDING TO THE ALTERNATIVE COMPLIANCE PORTION OF THE LANDSCAPE MANUAL (CHAPTER VI).
- THE 100-YEAR FLOOD PLAIN INFORMATION WAS TAKEN FROM AVAILABLE RECORDS AT DEVELOPMENT ENGINEERING DIVISION OF THE DEPARTMENT OF PLANNING AND ZONING.
- Development of this portion of Stone Lake under the current Forest Conservation Act requires the clearing of approximately 2,000 ac of forest. No reforestation requirement is generated by this clearing. The reforestation area shown on the Forest Conservation Plan is in anticipation of future forest clearing associated with later phases of development. Reforestation obligations for future development phases will be assessed cumulatively on a separate Forest Conservation Plan.
- ON AUGUST 11, 2000, WP 00-88, WAIVER SECTION 16.116 b(1) AND (2) WAS GRANTED WHICH PROHIBITS GRADING OR CLEARING ON STEEP SLOPES OVER 25% IF THE CONTIGUOUS AREA IS MORE THAN 20,000 SQUARE FEET; AND SECTION 16.116(c), WAS GRANTED, WHICH PROHIBITS GRADING OR CLEARING IN WETLANDS, WETLAND BUFFERS, STREAMS, STREAM BUFFERS AND FLOODPLAINS, SUBJECT TO FIVE CONDITIONS IN THE APPROVAL LETTER. THE APPROVAL OF THIS WAIVER ALLOWS GRADING & REMOVAL OF VEGETATIVE COVER ON THE EXISTING STREAM BUFFER AND WITHIN THE FLOOD PLAIN FOR THE INSTALLATION OF THE PROPOSED CONNECTION TO THE EXISTING SANITARY SEWER, GRADING AND REMOVAL OF THE VEGETATIVE COVER ON THE EXISTING STEEP SLOPE FOR THE PURPOSES OF AN OUTFALL FOR THE STORM DRAIN SYSTEM TO THE LAKE AS INDICATED ON THESE PLANS.
- ON AUGUST 11, 2000, WP 00-126, WAIVER OF SECTION 16.144 (C)(2) AND 16.114(3) WAS GRANTED WHICH REQUIRES THAT A DEVELOPER SUBMIT ADDITIONAL INFORMATION TO THE SRC WITHIN 45 DAYS OF RECEIVING NOTICES TO DO SO OR THE PLAN WILL BE DENIED, SUBJECT TO ONE CONDITION IN THE APPROVAL LETTER.
- ON JANUARY 16, 2001, WP 01-60, WAIVER OF SECTION 16.120 c (2) WAS GRANTED WHICH REQUIRES ALL LOTS TO HAVE FRONTAGE ON A PUBLIC ROAD; AND SECTION 16.120 c (4) WHICH LIMITS THE LENGTH OF A PRIVATE ROAD FOR SFA UNITS TO 200, SUBJECT TO ONE CONDITION IN THE APPROVAL LETTER.
- ON APRIL 3, 2001, WP 01-94, WAIVER OF SECTIONS 16.116 b (1) AND (2) WAS GRANTED WHICH CLEARING ON STEEP SLOPES OVER 25% AND GREATER THAN 20,000 SQUARE FEET IN CONTIGUOUS AREA, SUBJECT TO THREE CONDITIONS. THE APPROVAL OF THE WAIVER ALLOWS GRADING ON LOTS INDICATED ON F-01-204.
- THE PROPOSED STORM DRAIN SYSTEM AS SHOWN ON THESE PLANS IS PRIVATE AND WILL BE OWNED & MAINTAINED BY THE HOME OWNER'S ASSOCIATION.
- STORMWATER FACILITIES NUMBERS 1 & 3 AS SHOWN ON THESE PLANS ARE TO BE PRIVATELY OWNED & MAINTAINED.
- NOISE STUDY WAS APPROVED AS A PART OF THE SKETCH PLAN ON OCTOBER 10, 2000.
- SCHEMATIC A & D LANDSCAPING FOR PARCEL E WILL BE PROVIDED AS A PART OF THE REZONING OF PARCEL B UNDER F-01-204.

# CONSTRUCTION PLAN FOR STONE LAKE LOTS 1 THRU 44 PARCELS 'A' THRU 'E' STONE LAKE DRIVE, BOULDER RIDGE AND MOSS CLIFF COURT

- LEGEND
- EXISTING STREET LIGHT
  - PROPOSED STREET LIGHT
  - PROP. TOP OF CURB ELEVATION
  - EXISTING WATER MAIN
  - EXISTING STORM DRAIN
  - EXIST. CURB/CURB & GUTTER
  - PROP. CURB & GUTTER
  - EXISTING PAVING
  - PROPOSED PAVING
  - EXISTING CONTOUR
  - PROPOSED CONTOUR
  - EXISTING STREET TREES
  - PROPOSED STREET TREES
  - Limit of Submission
  - Structure Setback Line
  - Forest Conservation Emt.



SHEET INDEX

- COVER SHEET
- STONE LAKE DRIVE STATION 0+00 TO STATION 9+50
- STONE LAKE DRIVE STATION 9+50 TO STATION 15+27.14 AND BOULDER RIDGE STATION 0+00 TO STATION 7+48
- BOULDER RIDGE STATION 7+48 TO STATION 14+05.07
- BOULDER RIDGE STATION 14+05.07 TO STATION 18+56.30 AND MOSS CLIFF COURT STATION 0+00 TO STATION 2+84.56
- TYPICAL ROAD DETAILS AND WEATHERED STONE WAY FUTURE PROFILE
- GRADING AND STORMWATER MANAGEMENT FACILITY 1 PLAN-ENTRY AREA
- GRADING AND STORMWATER MANAGEMENT FACILITY 3 PLAN-PARCEL E AND BERM AREA
- GRADING PLAN-SOUTH TOWNHOUSE AREA
- GRADING PLAN-NORTH TOWNHOUSE AREA
- GRADING PLAN-OUTFALL AREA
- SEDIMENT CONTROL PLAN-ENTRY AREA
- SEDIMENT CONTROL PLAN-PARCEL E AND BERM AREA
- SEDIMENT CONTROL PLAN-SOUTH TOWNHOUSE AREA
- SEDIMENT CONTROL PLAN-NORTH TOWNHOUSE AREA
- SEDIMENT CONTROL PLAN-OUTFALL AREA
- SEDIMENT CONTROL DETAILS
- SEDIMENT CONTROL DETAILS
- SEDIMENT CONTROL OVERVIEW PLAN
- STORMWATER MANAGEMENT FACILITIES 1 DETAILS
- STORMWATER MANAGEMENT FACILITIES 3 DETAILS
- STORMWATER MANAGEMENT FACILITY 3 PLANTING PLAN AND DETAILS
- SEDIMENT CONTROL AND STORMWATER MANAGEMENT NOTES AND SEQUENCE OF CONSTRUCTION
- STORM DRAIN PROFILES
- STORM DRAIN PROFILES
- STORM DRAIN DRAINAGE AREA MAP
- STORM DRAIN DRAINAGE AREA MAP
- STORM DRAIN DRAINAGE AREA MAP
- STORM DRAIN DRAINAGE AREA MAP
- LANDSCAPE PLAN-ENTRY PLAN
- LANDSCAPE PLAN-PARCEL E AND BERM AREA
- LANDSCAPE PLAN-SOUTH TOWNHOUSE AREA
- LANDSCAPE PLAN-NORTH TOWNHOUSE AREA
- LANDSCAPE DETAIL SHEET
- PRE-DEVELOPED SWM DRAINAGE AREA MAP
- PRE-DEVELOPED SWM DRAINAGE AREA MAP
- POST-DEVELOPED SWM DRAINAGE AREA MAP
- POST-DEVELOPED SWM DRAINAGE AREA MAP
- Forest Conservation Plan
- Forest Conservation Plan
- Forest Conservation Plan
- Forest Conservation Plan
- Forest Conservation Plan
- Forest Conservation Plan
- Forest Conservation Plan

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
**N/A No Public Facilities**  
 Chief, Bureau of Highways AS Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
*Quincy Hamilton* 2/14/02  
 Chief, Division of Land Development Date

Chief, Development Engineering Division E Date



<b>GLW GUTSCHICK LITTLE &amp; WEBER, P.A.</b> CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS 3909 NATIONAL DRIVE - SUITE 250 - BURTONTVILLE OFFICE PARK BURTONTVILLE, MARYLAND 20866 TEL: 301-421-4024 BAL: 410-889-1820 DC/VA: 301-989-2524 FAX: 301-421-4186 99140\design\99140rds.DWG DES. DRN. DCF CHK. <b>not</b> DATE REVISION BY APPR.				OWNER: <b>THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION</b> 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MD 21044 PH: 410-992-6089 ATTN: MR. BOB JENKINS				<b>COVER SHEET</b> <b>STONE LAKE</b> <b>PARCELS 'A' THRU 'E'</b> <b>LOTS 1 THRU 44</b> 572 FOLIO 430 ELECTION DISTRICT No. 6				SCALE AS SHOWN	ZONING R-ED	G. L. W. FILE No. 99140
DATE October, 2001								TAX MAP - GRID 47 - 9/10	SHEET 1 OF 40					



Note: For Street Lights at the Intersection of Stone Lake Drive & Gorman Road, See F-01-185.

STEPHENS ROAD MAJOR COLLECTOR (PUBLIC)  
Limit of Construction F-01-185

GORMAN ROAD MAJOR COLLECTOR (PUBLIC)  
Limit of Construction F-01-177

Pt. No.	Station	Offset	Elev.
1	0+21.95	10' Right	209.01
2	0+57.10	20' Right	209.71
3	1+40.10	10' Right	209.51
4	2+19.72	15' Right	209.04
5	3+02.15	10' Right	214.88
6	3+02.15	10' Left	214.88
7	3+50.00	12' Left	209.45
8	1+50.00	10' Left	209.00
9	1+00.00	10' Left	209.00
10	1+00.00	10' Left	209.00
11	2+00.00	10' Left	209.05
12	2+00.00	10' Left	209.05
13	2+00.00	10' Left	209.05
14	2+00.00	10' Left	209.05
15	2+00.00	10' Left	209.05
16	2+00.00	10' Left	209.05
17	2+00.00	10' Left	209.05
18	2+00.00	10' Left	209.05
19	2+00.00	10' Left	209.05
20	2+00.00	10' Left	209.05
21	1+01.47	2' Right	209.59
22	1+02.47	2' Right	209.70
23	1+02.47	2' Right	209.70
24	1+02.47	2' Right	209.70
25	1+02.47	2' Right	209.70
26	1+02.47	2' Right	209.70
27	1+02.47	2' Right	209.70

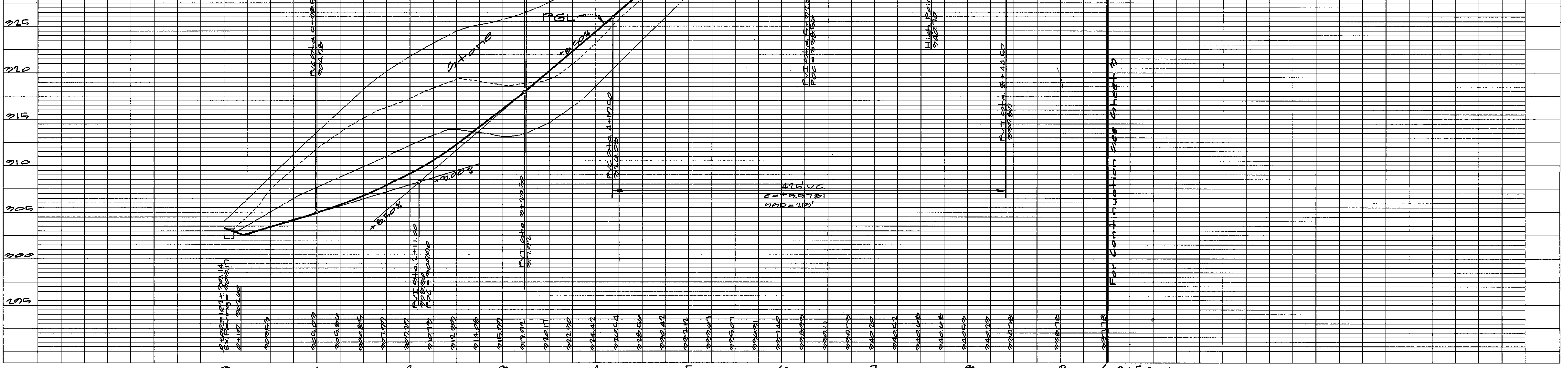
Pt. No.	Station	Offset	Elev.
28	1+02.47	2' Left	209.70
29	1+02.47	2' Left	209.70
30	1+02.47	2' Left	209.70
31	1+02.47	2' Left	209.70
32	1+02.47	2' Left	209.70
33	1+02.47	2' Left	209.70
34	1+02.47	2' Left	209.70
35	1+02.47	2' Left	209.70
36	1+02.47	2' Left	209.70
37	1+02.47	2' Left	209.70

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
NIA  
Chief, Bureau of Highways  
Date

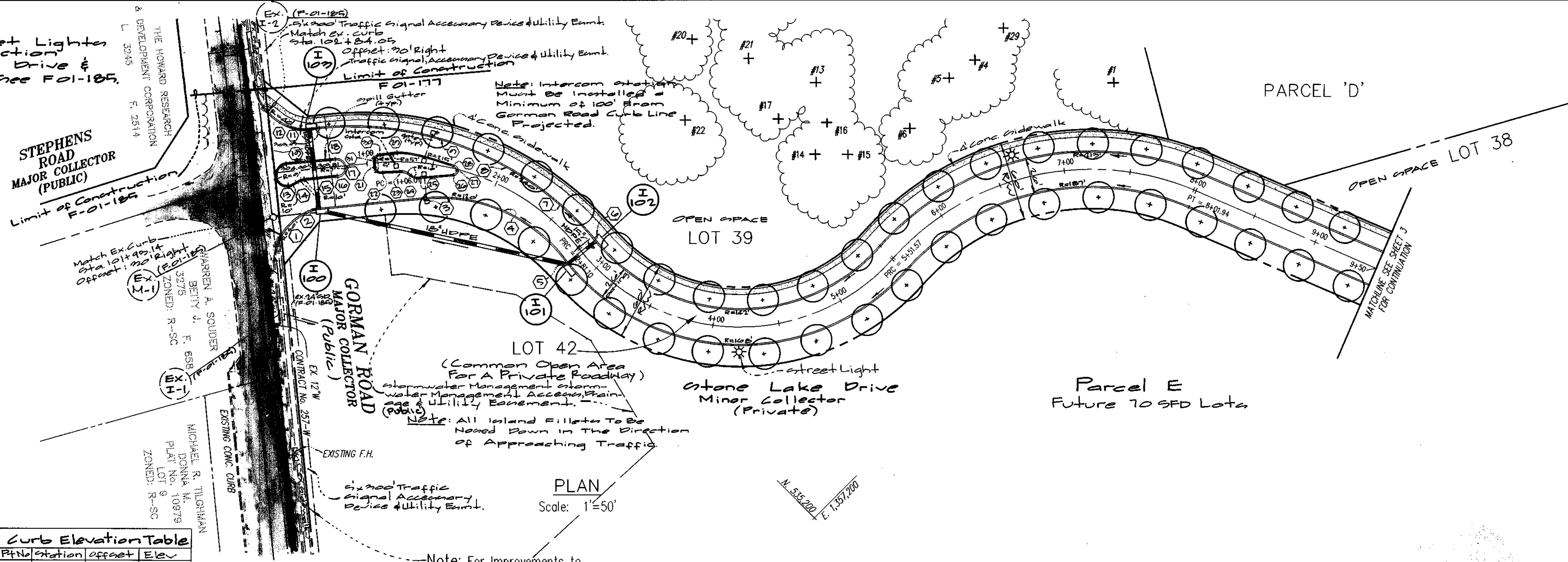
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
Cindy Skonieczka  
Chief, Division of Land Development  
Date 2/14/02

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
Date 2/14/02

Existing & PGL	---
20' Right	---
20' Left	---
PGL	---



STREET NAME	P.O.C. STA.	P.R.C. STA.	P.R.C. STA.	P.T. STA.	RADIUS	ARC	TANGENT	CHORD	BEARING	DELTA
Stone Lake Drive	1+08.29	2+81.10			175.00'	175.08'	95.66'	167.87'	N 67°55'55" E	57°19'22"
Stone Lake Drive		2+81.10	5+49.50		155.00'	270.48'	184.86'	237.44'	N 46°36'09" E	99°58'54"
Stone Lake Drive			5+49.50	7+99.86	200.00'	250.37'	144.57'	234.33'	N 46°28'26" E	71°43'28"



Note: For Improvements to Gorman Road See F-01-185

PLAN Scale: 1"=50'

LOCATION	LAMP TYPE	MOUNTING	POLE TYPE
4+19 @ 17' RIGHT	100-W Metal Halide	Acorn Flood Top Fixture	12' BRONZE ALUMINUM
6+65 @ 17' LEFT	100-W Metal Halide	Acorn Flood Top Fixture	12' BRONZE ALUMINUM

SYMBOL	NAME (BOTANICAL/COMMON)	SIZE	QUANTITY	REMARKS
(C)	Acer Saccharum / Green Mountain Sugar Maple	2"-2 1/2" col.	45	B & B Full Stock

Michael J. Troppa

**GLW GUTSCHICK LITTLE & WEBER, P.A.**  
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK  
 BURTONSVILLE, MARYLAND 20866  
 TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

**ROAD CONSTRUCTION PLANS**  
**STONE LAKE**  
 Stone Lake Drive  
 STATION 0+00 TO 9+50

ELECTION DISTRICT No. 6  
 HOWARD COUNTY, MARYLAND

PREPARED FOR:  
 THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION  
 10275 LITTLE PATUXENT PARKWAY  
 COLUMBIA, MARYLAND 21044  
 ATTN: MR. BOB JENKINS  
 PH: (410) 992-6089

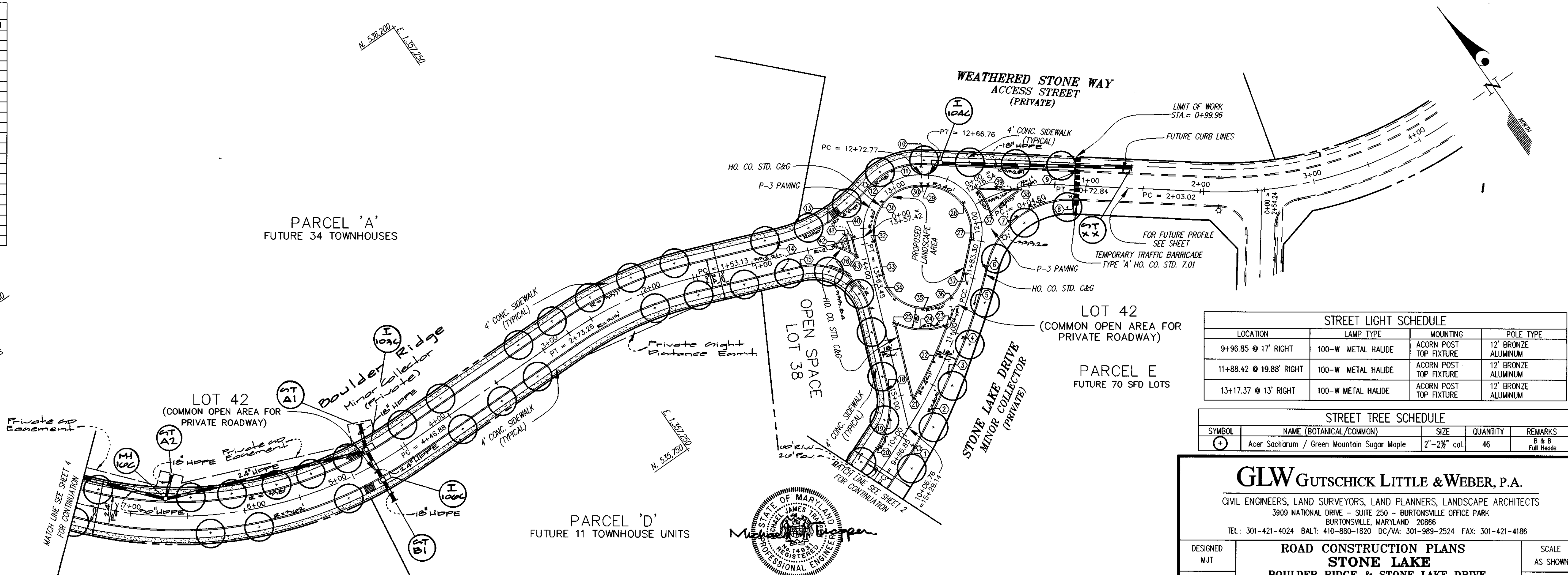
DESIGNED: MJT  
 DRAWN: WSL/CAD  
 CHECKED: Rjt  
 DATE: 2/14/02

SCALE: AS SHOWN  
 DRAWING: 2 OF 40  
 ZONING: R-ED  
 JOB No.: 99140



PT. No.	STATION	OFFSET	ELEVATION
1	9+96.85	13' RIGHT	337.14
2	10+29.92	10.56' RIGHT	336.43
3	10+63.19	9' RIGHT	335.82
4	10+96.54	9' RIGHT	335.15
5	11+29.90	9' RIGHT	334.48
6	11+63.35	9' RIGHT	333.86
7	04+34.00	24.61' RIGHT	333.17
8	04+89.97	12' RIGHT	331.10
9	04+89.97	12' LEFT	331.10
10	12+73.75	9' RIGHT	333.05
11	12+95.56	9' RIGHT	333.13
12	13+17.37	9' RIGHT	333.29
13	04+27.48	19.39' RIGHT	333.94
14	04+74.12	12' RIGHT	332.81
15	04+59.37	12' LEFT	333.31
16	04+24.02	24.61' LEFT	334.26
17	14+19.43	9' RIGHT	334.92
18	14+90.96	9' RIGHT	336.24
19	15+17.44	14.69' RIGHT	336.84
20	9+76.63	13' LEFT	337.43
21	10+42.40	10.28' LEFT	337.73
22	10+77.59	9' LEFT	336.50

PT. No.	STATION	OFFSET	ELEVATION
23	11+12.72	10.15' LEFT	335.54
24	14+47.05	30.46' LEFT	336.41
25	14+37.77	10.11' LEFT	335.89
26	11+62.28	9' LEFT	334.48
27	11+83.30	9' LEFT	334.16
28	12+25.05	9' LEFT	333.75
29	12+66.80	9' LEFT	333.64
30	12+72.82	9' LEFT	333.64
31	13+18.14	9' LEFT	333.89
32	13+63.22	9' LEFT	334.48
33	13+93.26	9' LEFT	335.04
34	14+17.31	16.68' LEFT	335.53
35	14+30.41	38.27' LEFT	336.01
36	11+29.03	13.79' RIGHT	335.24
37	12+05.20	9.52' RIGHT	333.29
38	04+40.86	2.66' RIGHT	333.11
39	12+25.98	2.66' RIGHT	333.13
40	13+56.57	9.58' RIGHT	333.76
41	13+54.37	15.61' RIGHT	333.87
42	13+60.46	25.85' RIGHT	334.17
43	13+71.78	9.62' RIGHT	334.02



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 Chief, Bureau of Highways *N/A* Date \_\_\_\_\_  
 APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
 Chief, Division of Land Development *Cindy Hamilton* Date *2/1/02*  
 Chief, Development Engineering Division *[Signature]* Date *2/1/02*

PARCEL 'C'  
 FUTURE 36 TOWNHOUSE UNITS  
 PLAN  
 Scale: 1"=50'

STREET NAME	P.O.C. STA.	P.C.C. STA.	P.C. STA.	P.T. STA.	RADIUS	ARC	TANGENT	CHORD	BEARING	DELTA
STONE LAKE DRIVE	9+96.85	11+83.30			460.00'	186.45'	94.52'	185.18'	N.56°43'27"E.	231°32'
STONE LAKE DRIVE		11+83.30		12+66.76	49.00'	83.46'	55.96'	73.73'	N.03°40'49"W.	97°35'07"
STONE LAKE DRIVE			12+72.77	13+63.45	49.00'	90.68'	65.07'	78.25'	N.74°30'36"W.	106°02'03"
WEATHERED STONE WAY			0+04.60	04+72.04	125.00'	58.98'	30.36'	58.13'	S.58°39'54"E.	33°47'35"
BOULDER RIDGE	1+52.76			2+72.89	325.00'	120.13'	60.76'	119.45'	N.79°05'46"W.	21°10'42"
BOULDER RIDGE	4+46.51			7+72.19	350.00'	325.68'	175.70'	314.06'	N.63°01'41"W.	53°18'52"

LOCATION	LAMP TYPE	MOUNTING	POLE TYPE
9+96.85 @ 17' RIGHT	100-W METAL HALIDE	ACORN POST TOP FIXTURE	12' BRONZE ALUMINUM
11+88.42 @ 19.88' RIGHT	100-W METAL HALIDE	ACORN POST TOP FIXTURE	12' BRONZE ALUMINUM
13+17.37 @ 13' RIGHT	100-W METAL HALIDE	ACORN POST TOP FIXTURE	12' BRONZE ALUMINUM

SYMBOL	NAME (BOTANICAL/COMMON)	SIZE	QUANTITY	REMARKS
⊕	Acer Saccharum / Green Mountain Sugar Maple	2"-2 1/2" cal.	46	Full Needs

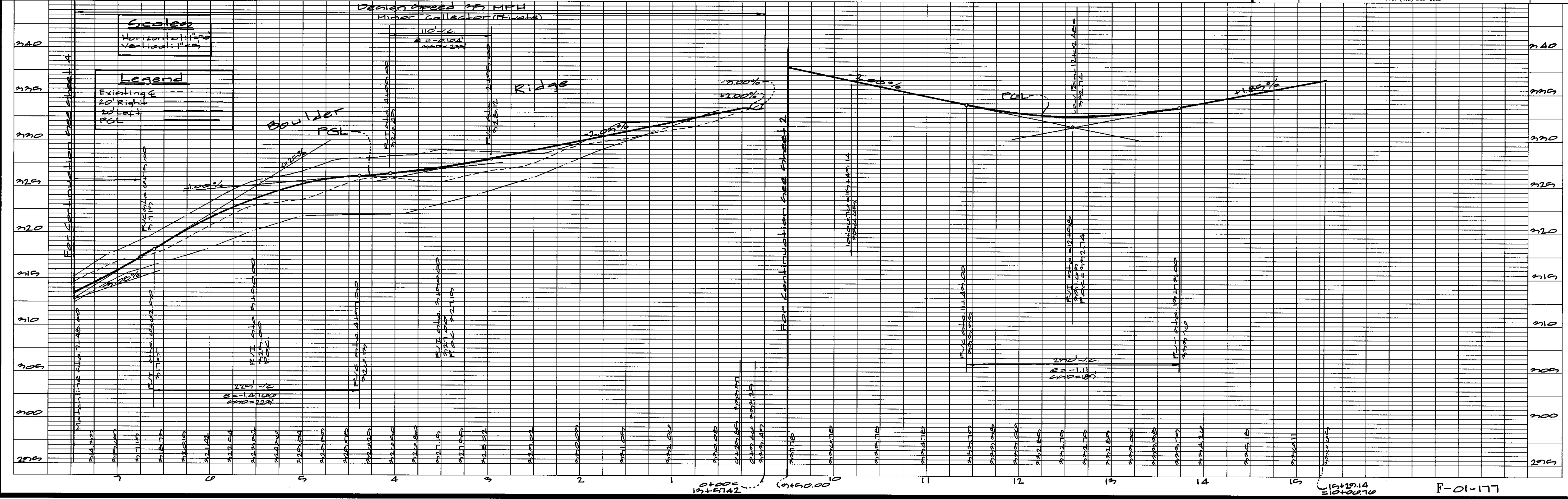
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**ROAD CONSTRUCTION PLANS**  
**STONE LAKE**  
**BOULDER RIDGE & STONE LAKE DRIVE**  
 STATION 0+00 TO 7+48.00  
 STATION 9+50 TO 15+29.14  
 ELECTION DISTRICT No.6  
 HOWARD COUNTY, MARYLAND

DESIGNED: MJT  
 DRAWN: WSA/CAD  
 CHECKED: [Signature]  
 DATE: OCT, 2001

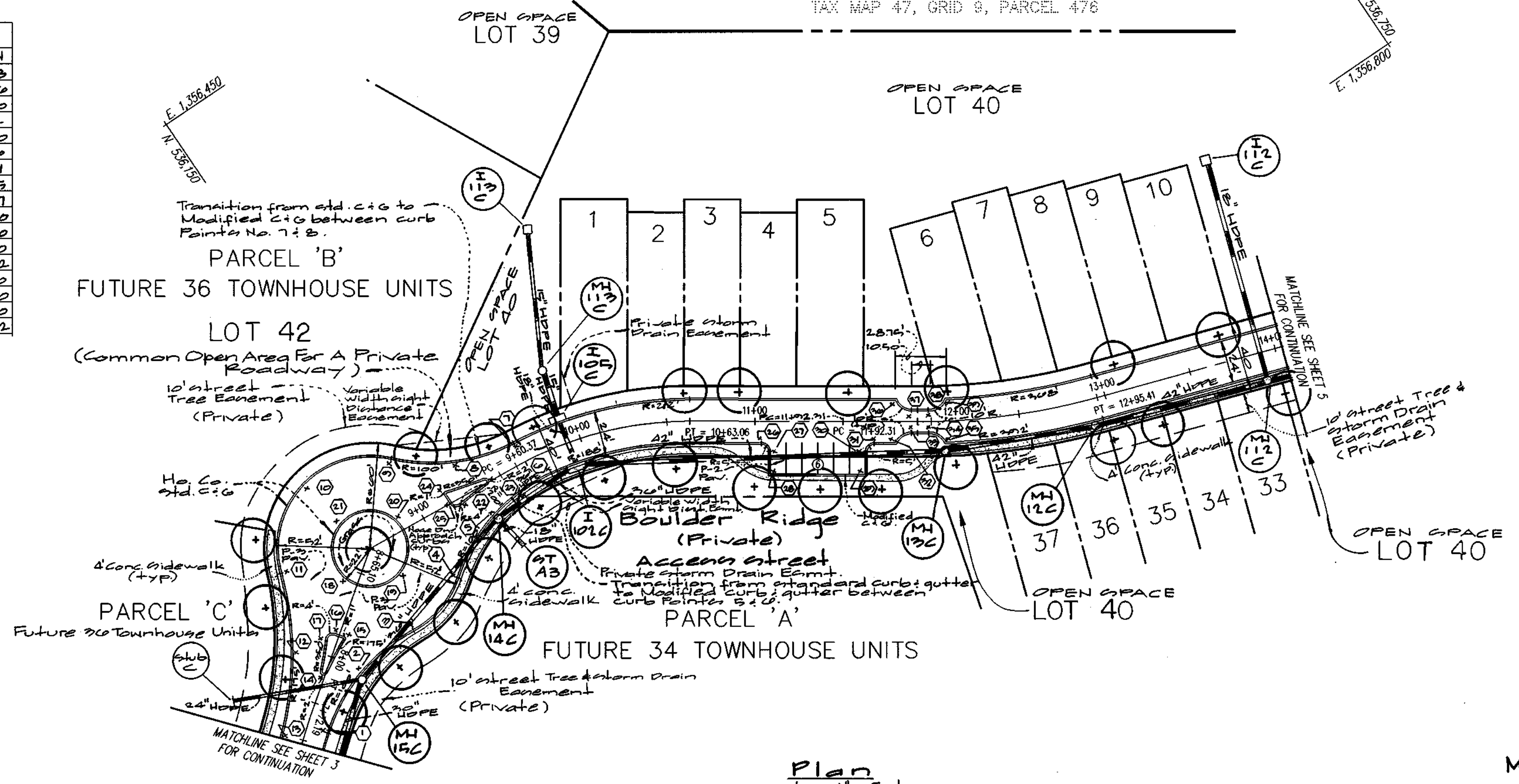
SCALE: AS SHOWN  
 DRAWING: 3 OF 40  
 ZONING: R-ED  
 JOB No.: 99140

PREPARED FOR:  
 THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION  
 10275 LITTLE PATUXENT PARKWAY  
 COLUMBIA, MARYLAND 21044  
 ATTN: MR. BOB JENKINS  
 PH: (410) 992-6089



PT. No.	STATION	OFFSET	ELEVATION
1	7+58.01	12' Right	302.11
2	7+02.04	18' Right	301.04
3	8+20.02	28' Right	302.94
4	9+00.15	28' Right	302.42
5	9+25.19	17' Right	302.42
6	9+70.60	12' Right	307.00
7	9+65.44	12' Left	307.23
8	9+20.52	10' Left	302.28
9	9+00.30	28' Left	307.12
10	8+05.10	42' Left	310.25
11	8+25.10	42' Left	311.59
12	7+02.04	18' Left	312.04
13	7+47.01	12' Left	312.55
14	7+02.04	12' Right	312.01
15	8+12.04	28' Right	311.52
16	8+12.04	28' Left	311.52
17	8+02.04	28' Left	311.52
18	8+44.41	17' Left	312.00
19	8+57.03	12' Right	310.87
20	8+02.04	12' Left	310.83
21	—	12' Left	311.12
22	9+21.07	27' Right	308.80

PT. No.	STATION	OFFSET	ELEVATION
23	9+21.07	28' Left	308.28
24	9+17.05	12' Left	308.86
25	9+17.10	21' Right	309.20
26	11+02.70	12' Right	300.74
27	11+02.70	17' Right	307.42
28	11+02.70	22' Right	307.46
29	11+02.70	27' Right	307.81
30	11+02.70	17' Right	307.85
31	11+07.70	12' Right	307.87
32	11+07.70	17' Right	307.87
33	11+02.70	6' Right	307.00
34	11+02.70	6' Right	307.70
35	12+02.09	12' Right	307.52
36	11+07.70	12' Left	307.50
37	11+02.70	6' Left	307.00
38	11+02.70	6' Left	307.70
39	12+02.09	12' Left	307.52



Plan  
Scale: 1"=50'

STREET NAME	P.C. STA.	P.R.C. STA.	P.T. STA.	RADIUS	ARC	TANGENT	CHORD	BEARING	DELTA
Boulder Ridge	9+60.37	—	10+63.06	200.00'	102.69'	52.50'	101.56'	N19°24'04"E	29°25'05"
Boulder Ridge	11+92.31	—	12+95.41	380.00'	103.10'	51.87'	102.78'	N20°20'00"E	15°32'42"

STREET LIGHT SCHEDULE			
LOCATION	LAMP TYPE	MOUNTING	POLE TYPE
—	100-W Metal Halide	Accorn Post TOP FIXTURE	1 1/2" BRONZE ALUMINUM

STREET TREE SCHEDULE				
SYMBOL	NAME (BOTANICAL/COMMON)	SIZE	QUANTITY	REMARKS
⊕	Acer Saccharum / Green Mountain Sugar Maple	2"-2 1/2" cal.	27	B & B Full Heads

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 Chief, Bureau of Highways *NIA* Date  
 APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
 Chief, Division of Land Development *Cindy Hamata* 2/14/02 Date  
 Chief, Development Engineering Division *[Signature]* Date

Michael J. Trapp

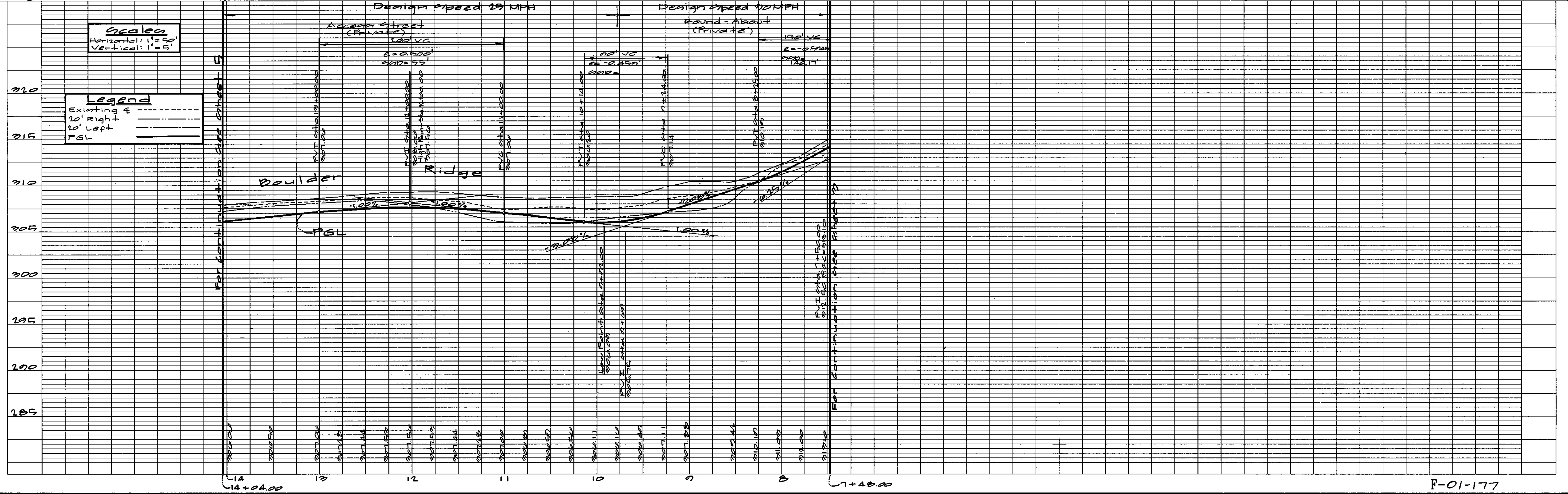
**GLW GUTSCHICK LITTLE & WEBER, P.A.**  
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK  
 BURTONSVILLE, MARYLAND 20866  
 TEL: 301-421-4024 BAL: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

**ROAD CONSTRUCTION PLANS**  
**STONE LAKE**  
**Boulder Ridge**  
 STATION 7+48.00 TO 14+04.00  
 ELECTION DISTRICT No. 6  
 HOWARD COUNTY, MARYLAND

DESIGNED: MJT  
 DRAWN: WSJ/CAD  
 CHECKED: KLF  
 DATE: Oct., 2001

SCALE AS SHOWN  
 DRAWING 4 OF 40  
 ZONING R-ED  
 JOB No. 99140

PREPARED FOR:  
 THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION  
 10275 LITTLE PATRICK PARKWAY  
 COLUMBIA, MARYLAND 21044  
 ATTN: MR. BOB JENKINS  
 PH: (410) 992-6089

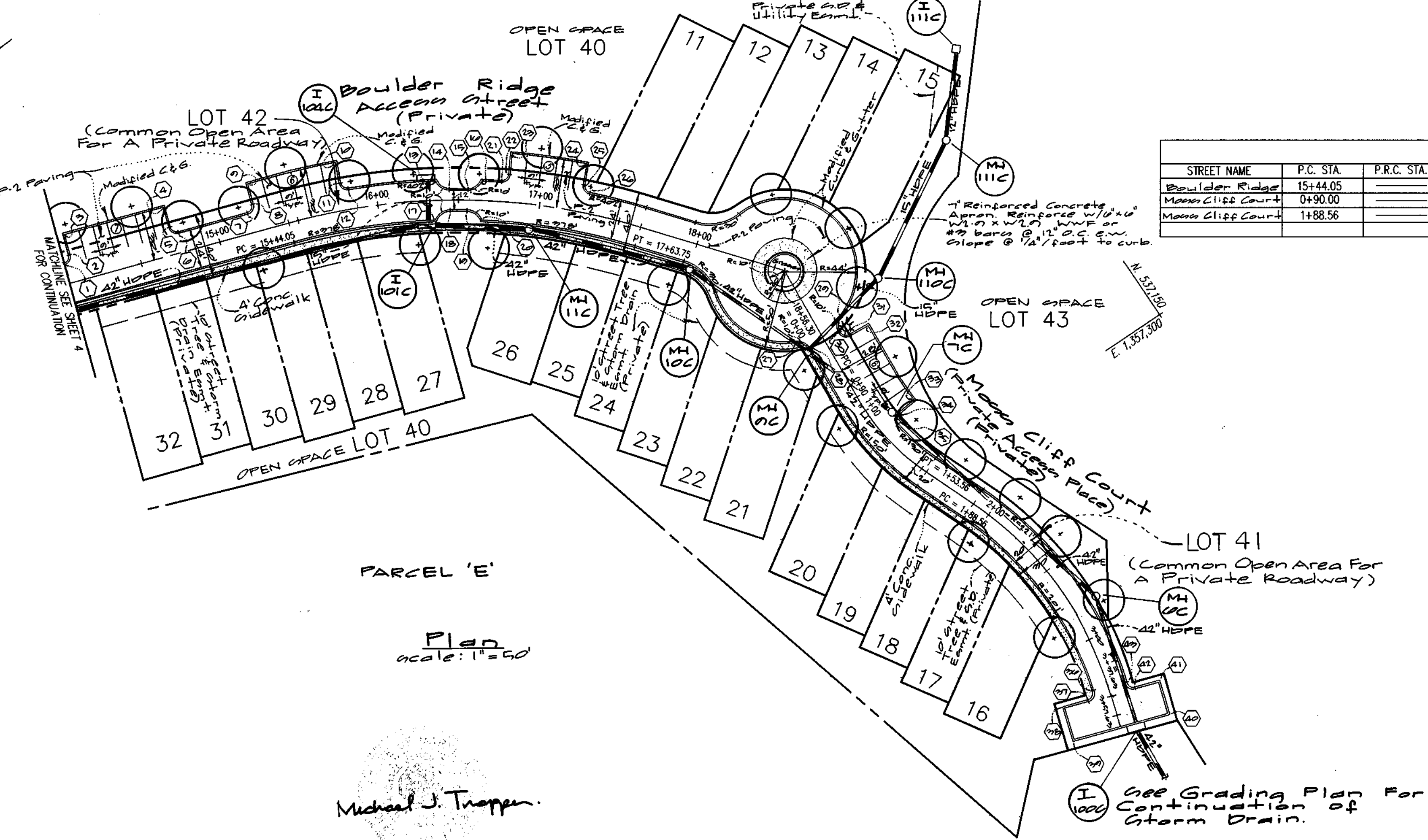
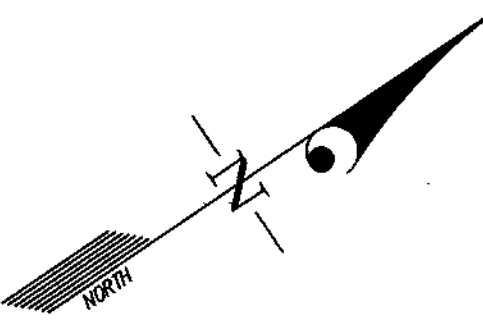




INTERSTATE ROUTE 95  
REST STOP  
STATE ROADS COMMISSION  
TAX MAP 47, GRID 8, PARCEL 476

PT. No.	STATION	OFFSET	ELEVATION
1	14+24.00	12' Left	205.07
2	14+27.00	17' Left	204.70
3	14+27.00	20' Left	204.50
4	14+27.00	20' Left	204.50
5	14+72.00	17' Left	205.40
6	14+72.00	17' Left	205.25
7	15+21.00	17' Left	204.81
8	15+21.00	17' Left	204.80
9	15+21.00	17' Left	205.12
10	15+78.00	10' Left	204.50
11	15+78.00	10' Left	204.32
12	15+78.00	10' Left	204.18
13	16+24.70	12' Left	203.67
14	16+24.70	12' Left	203.77
15	16+24.70	12' Left	203.64
16	16+24.70	12' Left	203.77
17	16+24.70	12' Right	203.67
18	16+24.70	12' Right	203.77
19	16+24.70	12' Right	203.64
20	16+24.70	12' Right	203.77
21	16+24.70	12' Right	203.64
22	16+24.70	12' Right	203.77

PT. No.	STATION	OFFSET	ELEVATION
23	16+24.70	20' Left	203.58
24	17+20.70	20' Left	203.14
25	17+20.70	20' Left	202.88
26	17+20.70	20' Left	202.88
27	17+20.70	20' Left	202.77
28	17+20.70	20' Left	202.77
29	17+20.70	20' Left	202.77
30	17+20.70	20' Left	202.77
31	17+20.70	20' Left	202.77
32	17+20.70	20' Left	202.77
33	17+20.70	20' Left	202.77
34	17+20.70	20' Left	202.77
35	17+20.70	20' Left	202.77
36	17+20.70	20' Left	202.77
37	17+20.70	20' Left	202.77
38	17+20.70	20' Left	202.77
39	17+20.70	20' Left	202.77
40	17+20.70	20' Left	202.77
41	17+20.70	20' Left	202.77
42	17+20.70	20' Left	202.77
43	17+20.70	20' Left	202.77



CURVE DATA									
STREET NAME	P.C. STA.	P.R.C. STA.	P.T. STA.	RADIUS	ARC	TANGENT	CHORD	BEARING	DELTA
Boulder Ridge	15+44.05		17+63.75	390.00'	219.70'	112.85'	216.81'	N.34°42'13"E	32°16'35"
Moon Cliff Court	0+90.00		1+58.56	140.00'	63.56'	32.34'	63.01'	N.81°05'35"E	26°00'40"
Moon Cliff Court	1+88.56		2+84.56	211.00'	96.00'	48.85'	95.17'	N.81°07'18"E	26°04'06"

STREET LIGHT SCHEDULE			
LOCATION	LAMP TYPE	MOUNTING	POLE TYPE
0+50 @ 15' Left	100-W Metal Halide	Asym. Post Top Fixture	1" BRONZE ALUMINUM

STREET TREE SCHEDULE				
SYMBOL	NAME (BOTANICAL/COMMON)	SIZE	QUANTITY	REMARKS
⊕	Acer Socharum / Green Mountain Sugar Maple	2"-2 1/2" cal.	2,8	B & B Full Heads

**GLW GUTSCHICK LITTLE & WEBER, P.A.**  
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK  
BURTONSVILLE, MARYLAND 20866  
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4168

**ROAD CONSTRUCTION PLANS**  
**STONE LAKE**  
Boulder Ridge and Moon Cliff Ct.  
Boulder Ridge STATION 14+04 TO 18+56.36  
Moon Cliff Court STATION 0+00 TO 2+84.56  
ELECTION DISTRICT No. 6  
HOWARD COUNTY, MARYLAND

PREPARED FOR:  
THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION  
10275 LITTLE PATENT PARKWAY  
COLUMBIA, MARYLAND 21044  
ATTN: MR. BOB ENKINS  
PH: (410) 992-6089

DESIGNED MIT  
DRAWN WSI/CAD KLP  
CHECKED JH  
DATE 2/1/2001

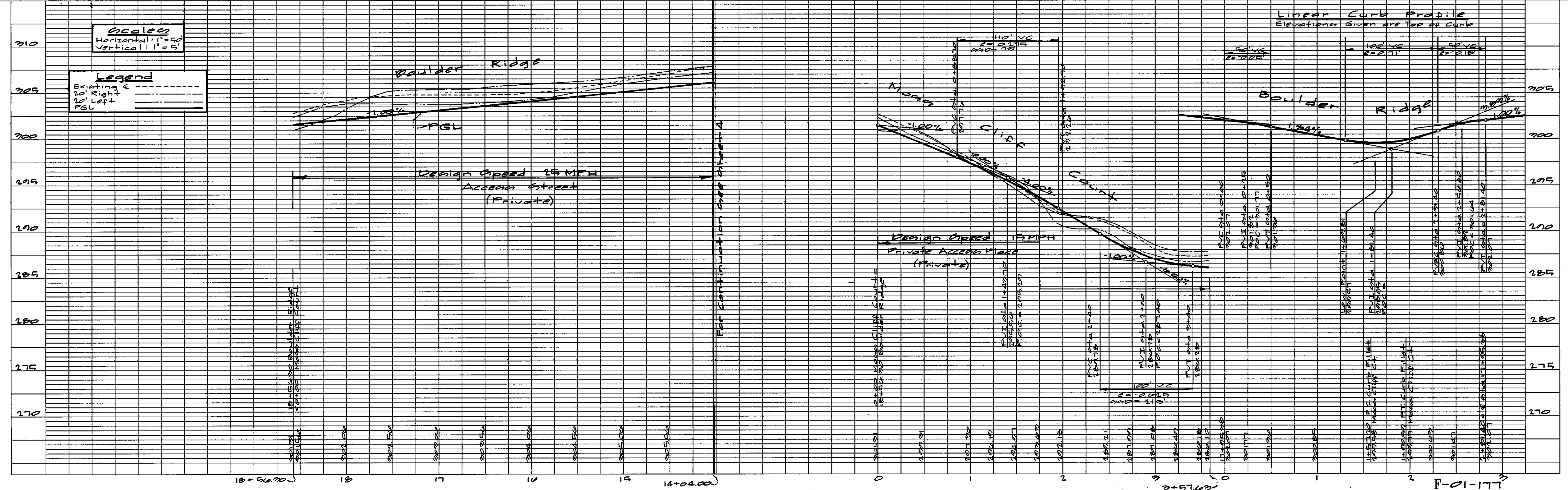
SCALE AS SHOWN  
DRAWING 5 OF 40  
ZONING R-ED  
JOB No. 99140

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
N/A  
Chief, Bureau of Highways  
Date

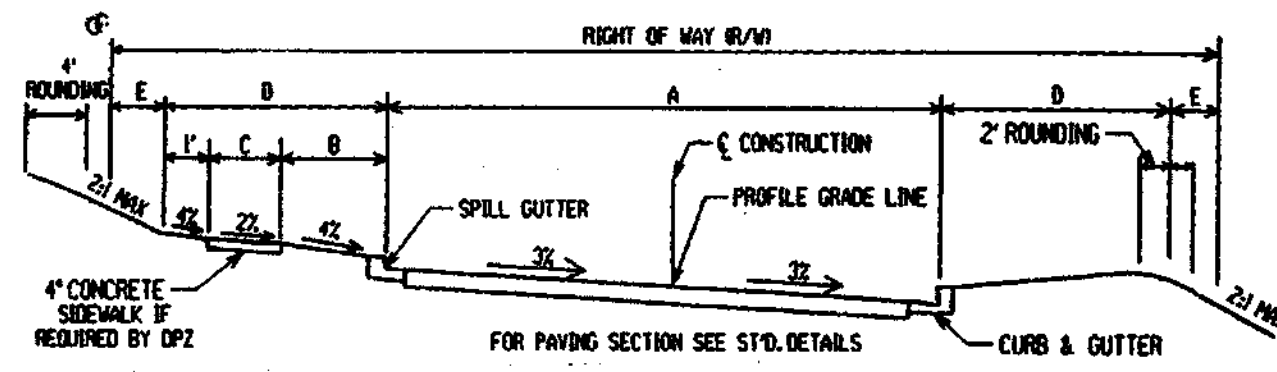
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
Cindy Hamilton  
Chief, Division of Land Development  
Date 2/14/01

Chief, Development Engineering Division  
Date

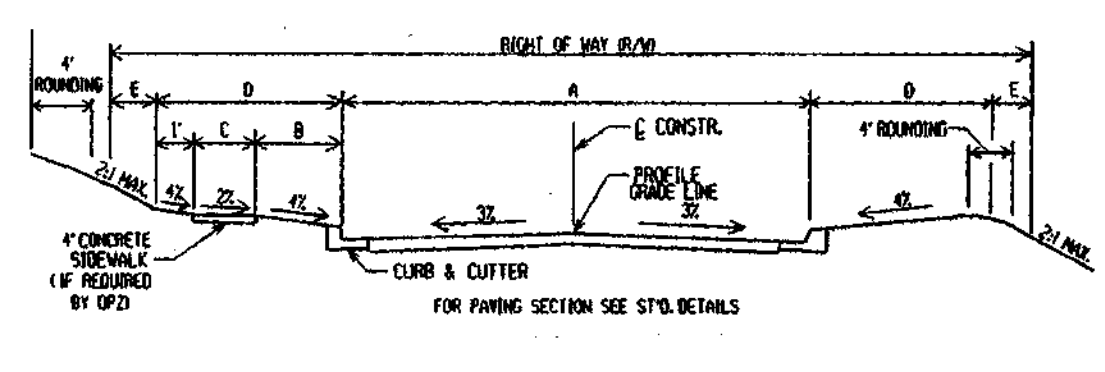
Michael J. Troppa







Typical Section  
Moss Cliff Court



Typical Section  
Stone Lake Drive & Boulder Ridge

Road Name	Station	Road Classification*	Design Speed	A	B	C	D	E	RW*	Paving Section
Moss Cliff Court	Sta. 0+00 to Sta. 2+84.56	Access Place - Public	15 mph	20'	0'	4'	5'	0'	30'	P-2

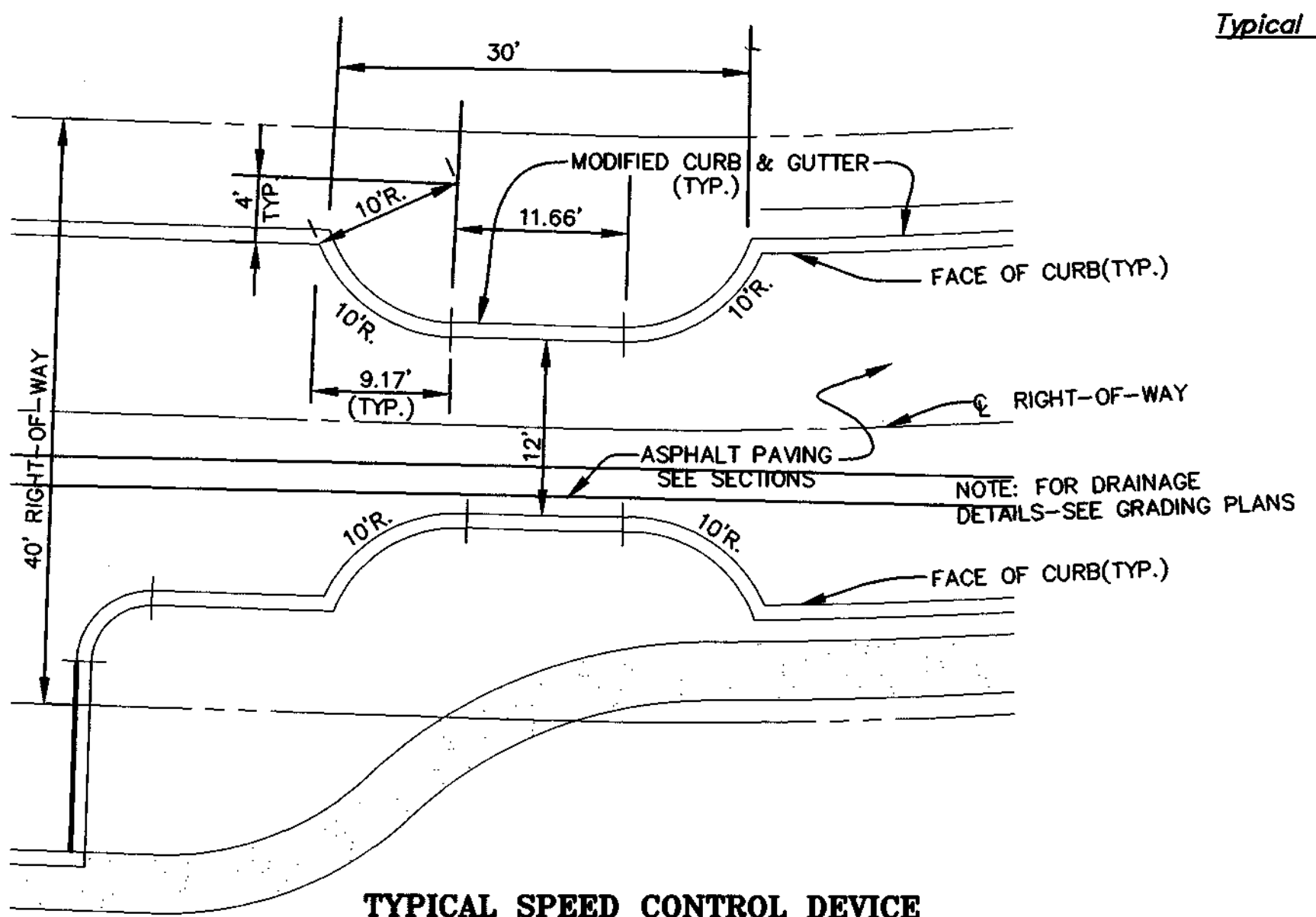
Road Name	Station	Road Classification*	Design Speed	A	B	C	D	E	RW*	Paving Section
Stone Lake Drive	Sta. 2+83.15 to Sta. 9+70.23	Minor Collector	35 mph	26'	12'	4'	17'	0'	60'	P-3
Boulder Ridge	Sta. 0+59.00 to Sta. 7+47.61	Minor Collector	35 mph	24'	8'	4'	13'	0'	50'	P-3
Boulder Ridge	Sta. 9+76.89 to Sta. 17+95.38	Access Street	25 mph	24'	3'	4'	8'	0'	40'	P-2

\* All roads in this subdivision will be privately owned and maintained by the Homeowner's Association

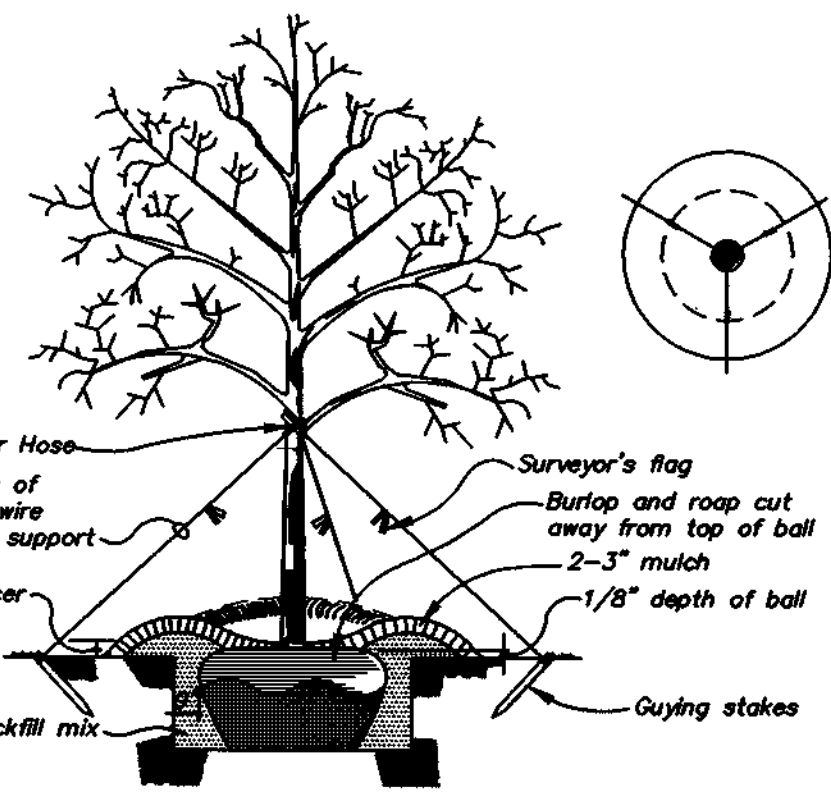
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
**NIA**  
 Chief, Bureau of Highways  
 Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
**Cindy Karamba**  
 Chief, Division of Land Development  
 Date: 2/14/02

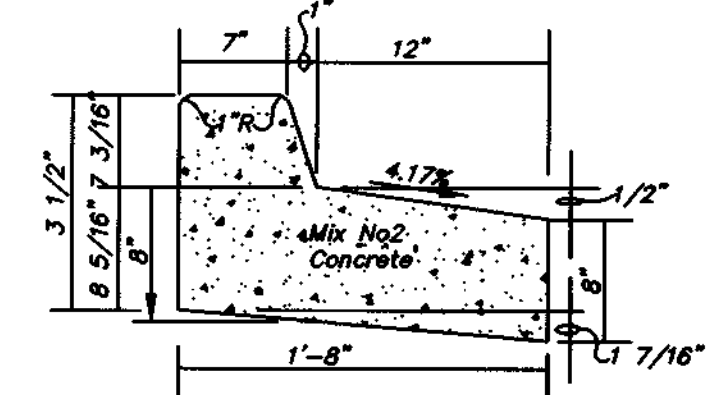
**[Signature]**  
 Chief, Development Engineering Division  
 Date: 2/14/02



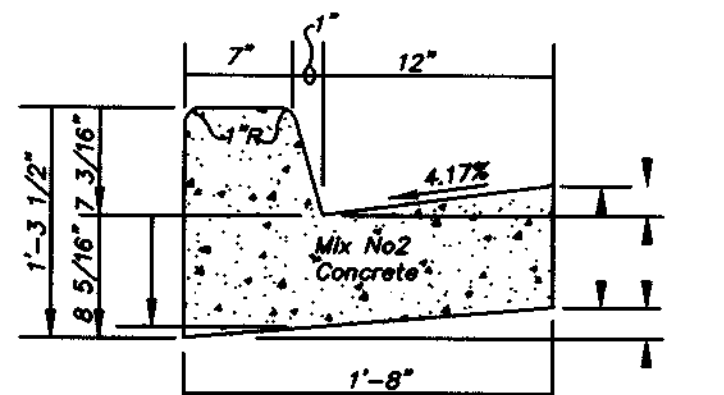
TYPICAL SPEED CONTROL DEVICE  
(SINGLE LANE SLOW POINT)  
SCALE: 1"=10'



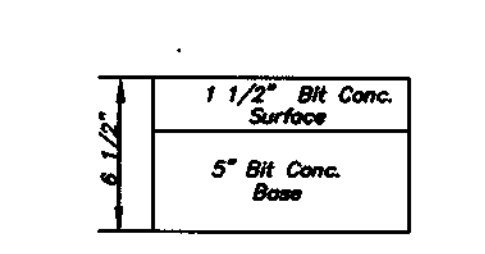
Typical Tree Guying Detail  
N.T.S.



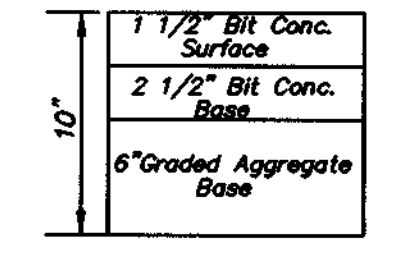
Reverse 7" Combination  
Curb & Gutter  
N.T.S.



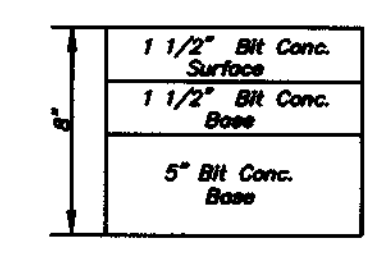
Standard 7" Combination  
Curb & Gutter  
N.T.S.



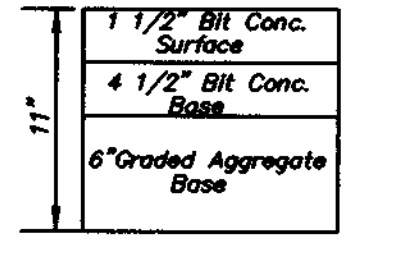
P-2 Full Depth  
Bituminous Concrete  
N.T.S.



P-2 Granular  
Base (Alternate)  
N.T.S.

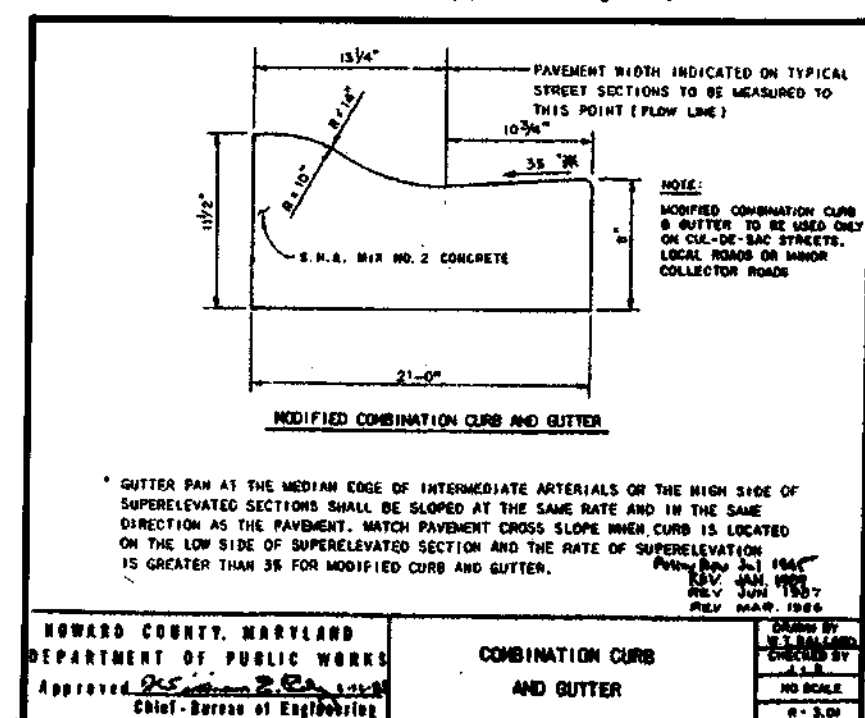


P-3 Full Depth  
Bituminous Concrete  
N.T.S.



P-3 Granular  
Base (Alternate)  
N.T.S.

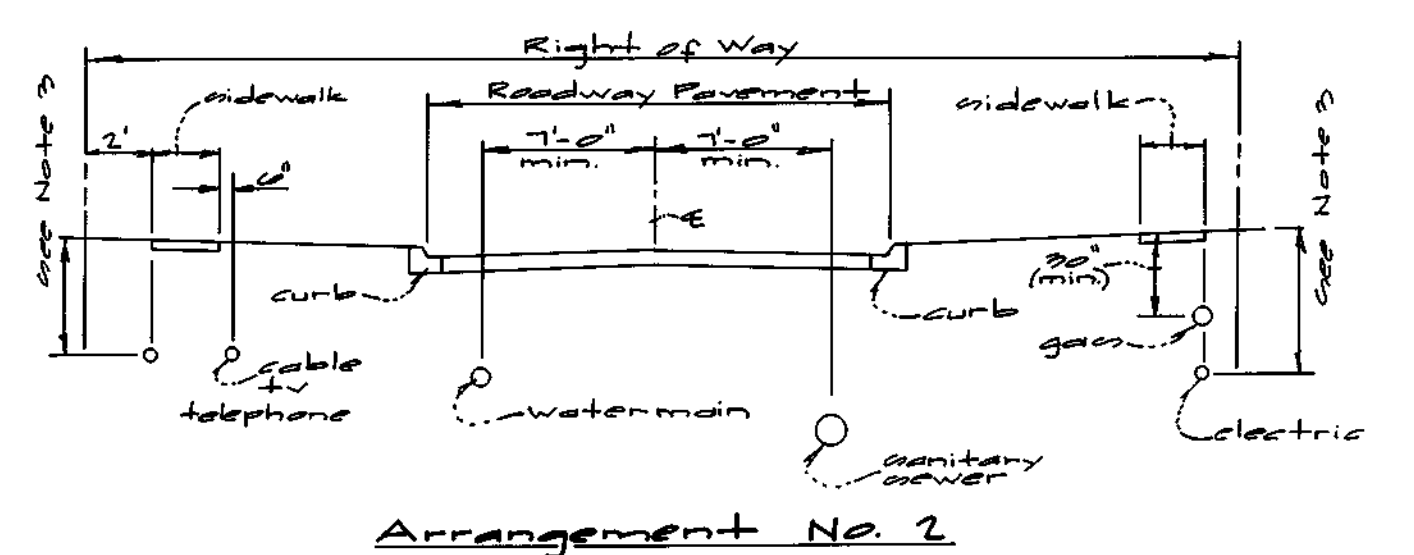
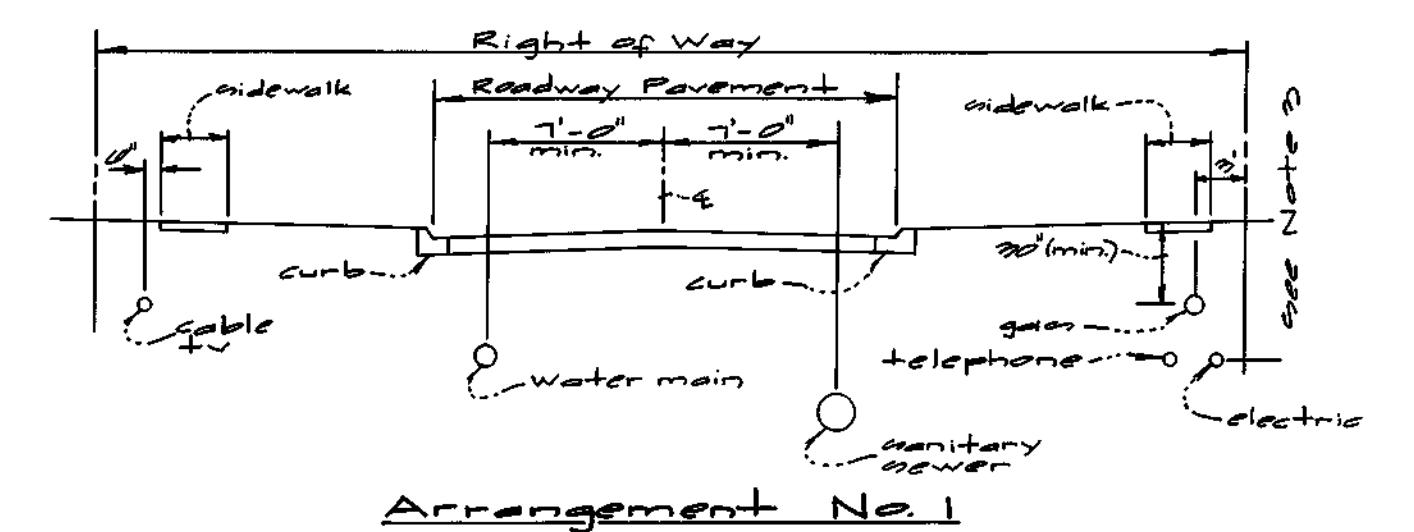
Note: Other equivalent paving sections may be approved where approved by a professional soils engineer.



HOWARD COUNTY, MARYLAND  
 DEPARTMENT OF PUBLIC WORKS  
 APPROVED: [Signature] Chief, Bureau of Engineering

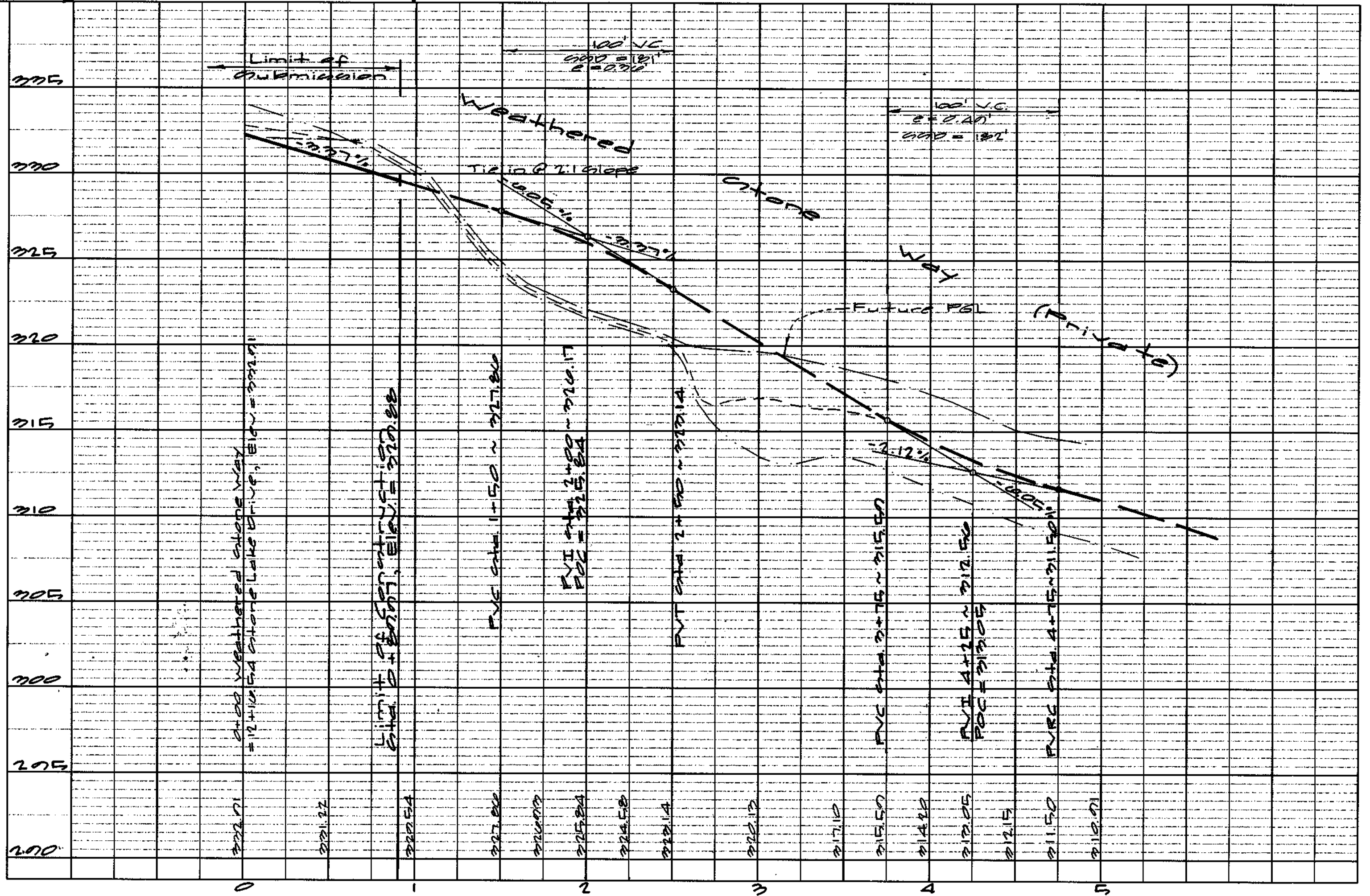
**GLW GUTSCHICK LITTLE & WEBER, P.A.**  
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK  
 BURTONSVILLE, MARYLAND 20886  
 TEL: 301-421-4024 BAL: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

DESIGNED	ROAD CONSTRUCTION PLANS	SCALE
MJT		AS SHOWN
DRAWN		
WSJ/CAD	<b>STONE LAKE</b>	DRAWING
	<b>TYPICAL DETAILS</b>	OF 20
CHECKED		
not	ELECTION DISTRICT No. 6 HOWARD COUNTY, MARYLAND	ZONING
	PREPARED FOR: THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MARYLAND 21044 ATTN: MR. BOB JENKINS PH: (410) 992-6089	R-ED
DATE		JOB No.
Oct, 2001		99140



- Notes**
- The Department of Public Works shall be consulted concerning the utility location arrangement for a given street project.
  - Gas, electric and telephone lines may be placed in the same trench at the option of the Baltimore Gas & Electric Co and Bell Atlantic.
  - Electric: 0-400V 24" cover, over 400V 36" cover.  
Telephone: Main service 24" cover, residential connection 11" cover.  
Cable TV: 11" cover.

Normal Locations of Public Utilities Closed Section  
 Md. Co. Maryland  
 Dept. of Public Works  
 Volume 111, Reader & Bridges  
 Figure 2.15



**LEGEND**

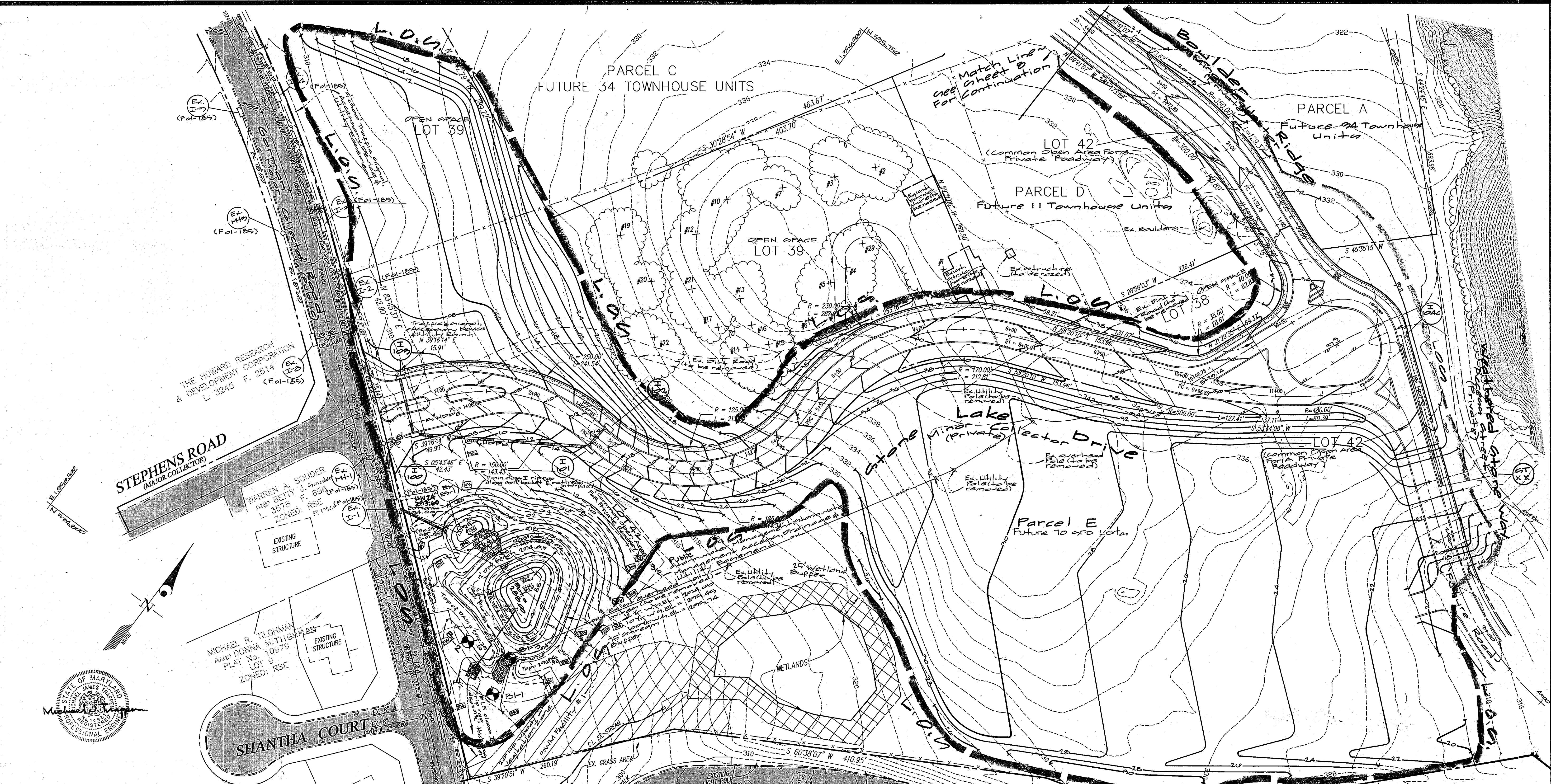
EXISTING @ \_\_\_\_\_

20' RIGHT \_\_\_\_\_

20' LEFT \_\_\_\_\_

PGL \_\_\_\_\_





**AS-BUILT CERTIFICATION**  
 I HEREBY CERTIFY, BY MY SEAL, THAT THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS "AS-BUILT" PLAN MEET THE APPROVED PLANS AND SPECIFICATIONS.  
 G. MATT SHANABGER / SHANABGER & SHANABGER  
 PROFESSIONAL L.C. #10449 LIC. EXP. 4/12/12

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 Chief, Bureau of Highways *NIA* Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
 Chief, Division of Land Development *Condy Hambley* 2/14/02 Date  
 Chief, Development Engineering Division *W/02* Date

**GLW GUTSCHICK LITTLE & WEBER, P.A.**  
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
 3909 NATIONAL DRIVE - SUITE 250 - BURTONTVILLE OFFICE PARK  
 BURTONTVILLE, MARYLAND 20866  
 TEL: 301-421-4024 BALT: 410-992-1820 DC/VA: 301-988-2524 FAX: 301-421-4186

WARREN A. SCUDER AND BETTY J. SCUDER  
 L. 3575 ZONED: RSE  
 EXISTING STRUCTURE

MICHAEL R. TILGHMAN AND DONNA M. TILGHMAN  
 PLAT No. 10979 ZONED: RSE  
 EXISTING STRUCTURE

SHANTHA COURT

LANBERT V. FLEMING AND DENISE C. FLEMING  
 PLAT No. 10979 ZONED: RSE

ROBINSON'S PROMISE  
 PLAT No. 7030 ZONED: R-SC  
 N/4 J. E. FLEMING L. 1735  
 EXISTING STRUCTURE

FOREST RIDGE ELEMENTARY SCHOOL  
 BOARD OF EDUCATION  
 LIBER 2276 FOLIO 232  
 ZONED: R-12

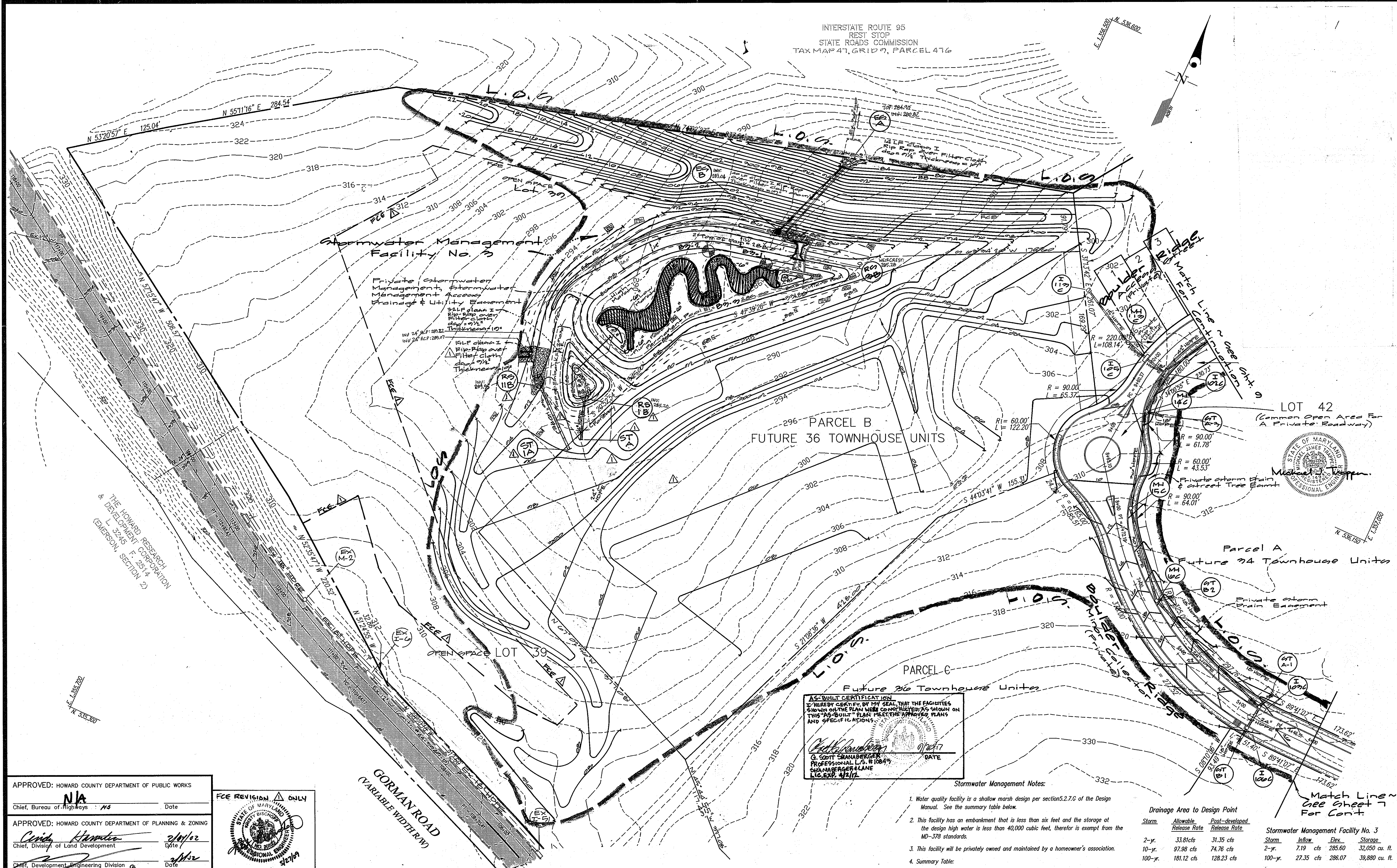
**Stormwater Management Notes**

1. Water quantity control is provided by a hazard class A detention/retention facility.
2. Water quality is provided by the retention portion of the facility per section 9.2.1.2 of the Design Manual.
3. This facility has an embankment that is less than 40 feet and the storage at the design high water is less than 40,000 cubic feet, therefore is exempt from the MD-378 standards.
4. This facility will be privately owned and maintained by Howard County.
5. Summary Table:

SWM Facility # 1					Drainage Area to Design Point		
Storm CFS	Inflow CFS	Release CFS	Elev. (ft)	Storage (cu ft)	Storm (yr)	Pre-Developed Release Rate (cfs)	Post-Developed Release Rate (cfs)
4	16.60	1.09	296.62	26,602	2	9.97	9.02
10	29.84	20.91	295.45	24,116	10	25.60	26.25
100	259.15	220.20	295.74	40,000	100	51.60	40.00

PREPARED FOR: THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION 10275 LITTLE PATIENT PARKWAY COLUMBIA, MD 21044 PH: 410-992-6089 ATTN: MR. BOB JENKINS		<b>GRADING PLAN</b> <b>STONE LAKE</b> <b>PARCELS 'A' THRU 'E'</b> <b>LOTS 1 THRU 44</b> <b>LIBER 572 FOLIO 430</b>		SCALE 1"=50' DATE October, 2001		ZONING R-ED TAX MAP - GRID 47 - 9/10		G. L. W. FILE No. 99140 SHEET <b>7 OF 46</b>	
DATE	REVISION	BY	APP'R.	ELECTION DISTRICT No. 6		HOWARD COUNTY, MARYLAND		F-01-177	





Private Stormwater Management Access Drainage & Utility Easement  
 24" dia. I.P.P. over Filter Cloth, slope 0.75%, Thickness 10"  
 12" dia. I.P.P. over Filter Cloth, slope 0.75%, Thickness 10"  
 12" dia. I.P.P. over Filter Cloth, slope 0.75%, Thickness 10"

**AS-BUILT CERTIFICATION**  
 I HEREBY CERTIFY BY MY SEAL, THAT THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS "AS-BUILT" PLAN MEETING THE APPROVED PLANS AND SPECIFICATIONS.  
 G. SCOTT SHANBERGER  
 PROFESSIONAL L.S. # 10849  
 SHANBERGER & LANE  
 LIC. EXP. 12/17

**Stormwater Management Notes:**

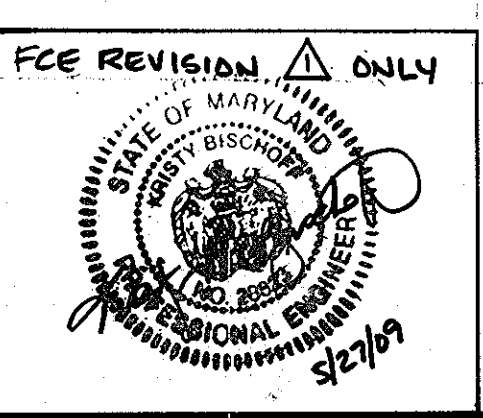
- Water quality facility is a shallow marsh design per section 5.2.7.G of the Design Manual. See the summary table below.
- This facility has an embankment that is less than six feet and the storage at the design high water is less than 40,000 cubic feet, therefore is exempt from the MD-378 standards.
- This facility will be privately owned and maintained by a homeowner's association.
- Summary Table:

Drainage Area to Design Point		Stormwater Management Facility No. 3	
Storm	Allowable Release Rate	Post-developed Release Rate	
2-yr.	33.81 cfs	31.35 cfs	Storm Inflow
10-yr.	97.98 cfs	74.76 cfs	2-yr. 285.60
100-yr.	181.12 cfs	128.23 cfs	100-yr. 286.07
			Storage 39,880 cu. ft.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 Chief, Bureau of Highways  
 N/A  
 Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
 Chief, Division of Land Development  
 Cindy Hamilton  
 Date 2/10/02

Chief, Development Engineering Division  
 Date 2/11/02



**GLW GUTSCHICK LITTLE & WEBER, P.A.**  
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK  
 BURTONSVILLE, MARYLAND 20866  
 TEL: 301-421-4024 BALT. 410-890-1820 DC/VA 301-889-2524 FAX: 301-421-4186

DATE	REVISION	BY	APP'R.
5/27/09	FCE REVISION (SHEETS 9, 15 + 44 ONLY)		
1/21/11	Revise storm Drain Parcel B	97	

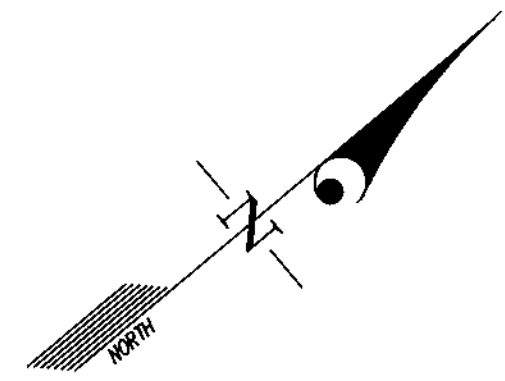
PREPARED FOR:  
 THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION  
 10275 LITTLE PATUNTON PARKWAY  
 COLUMBIA, MD 21044  
 PH: 410-982-6089  
 ATTN: MR. BOB JENKINS

**GRADING PLAN**  
**STONE LAKE**  
**PARCELS 'A' THRU 'E'**  
 LOTS 1 THRU 44  
 LIBER 572 FOLIO 430  
 HOWARD COUNTY, MARYLAND

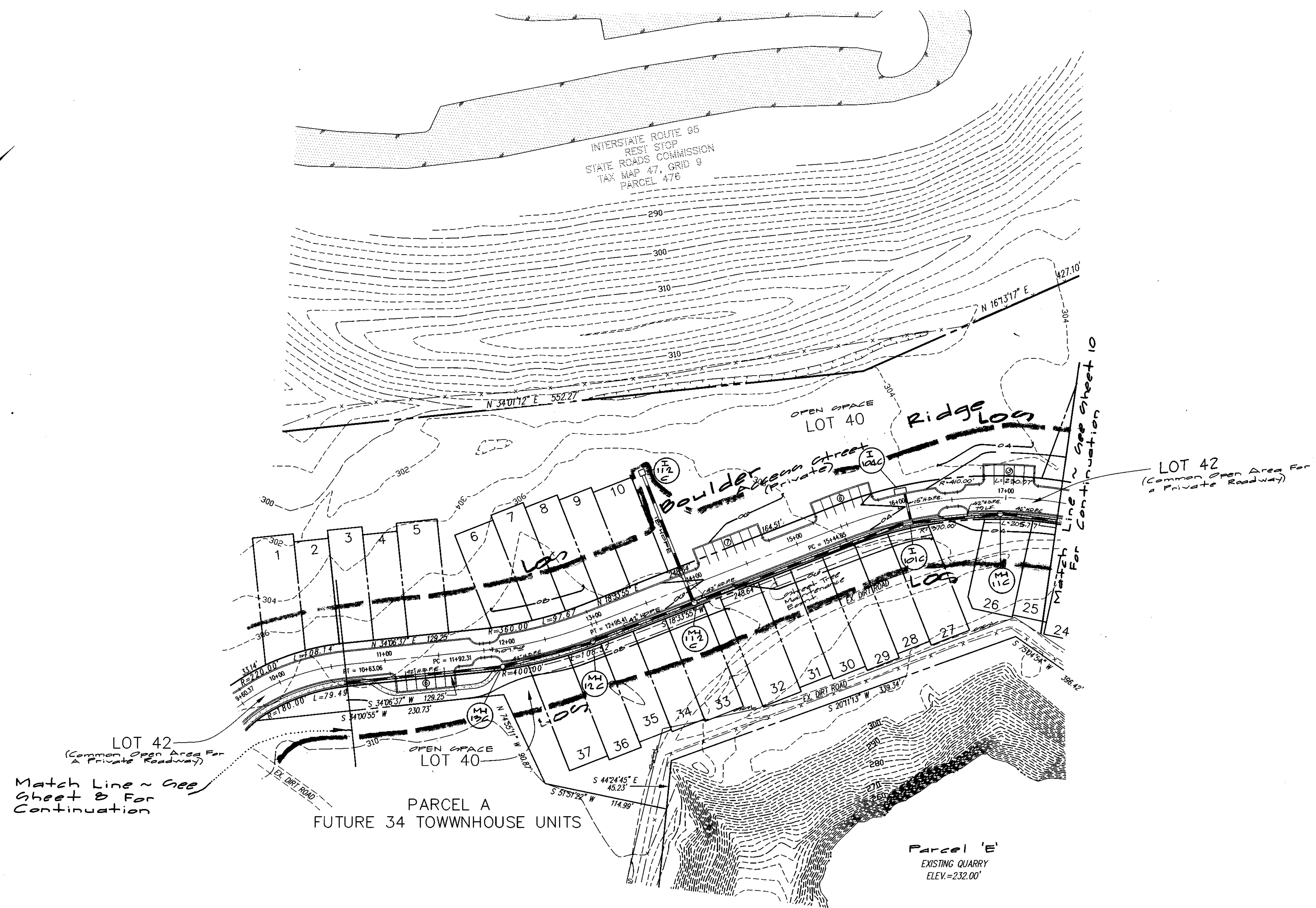
SCALE	ZONING	G. L. W. FILE No.
1"=50'	R-ED	99140
DATE	TAX MAP - GRID	SHEET
October, 2001	47 - 9/10	8 OF 40



E 1,356,000  
N 536,220



N 537,220  
E 1,357,200



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 Chief, Bureau of Highways NIA Date \_\_\_\_\_  
 APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
 Chief, Division of Land Development Cindy Hamata 2/14/02 Date  
 Chief, Development Engineering Division [Signature] Date

Michael J. Tropper

**GLW GUTSCHICK LITTLE & WEBER, P.A.**  
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK  
 BURTONSVILLE, MARYLAND 20866  
 TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

DATE	REVISION	BY	APP'R.

PREPARED FOR:  
 THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION  
 10275 LITTLE PATUXENT PARKWAY  
 COLUMBIA, MD 21044  
 PH: 410-992-6089  
 ATTN: MR. BOB JENKINS

**GRADING PLAN**  
**STONE LAKE**  
 PARCELS 'A' THRU 'E'  
 LOTS 1 THRU 44  
 LIBER 572 FOLIO 430

ELECTION DISTRICT No. 6

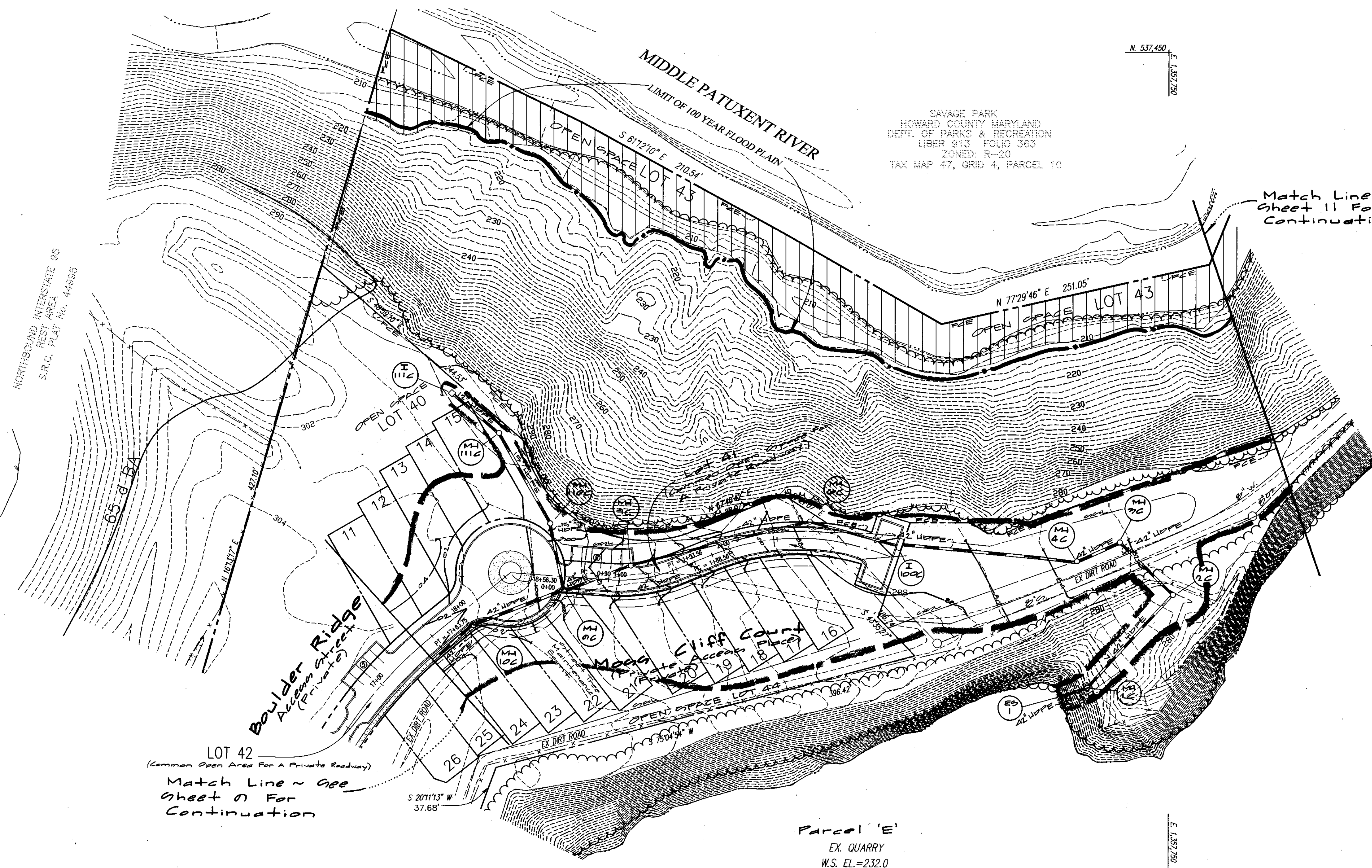
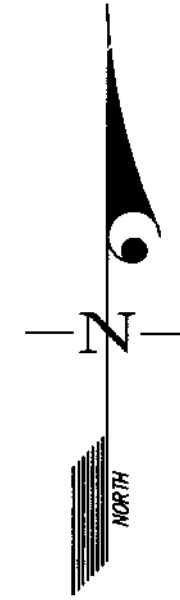
SCALE	ZONING	G. L. W. FILE No.
1"=50'	R-ED	99140
DATE	TAX MAP - GRID	SHEET
October, 2001	47 - 9/10	9 OF 40

HOWARD COUNTY, MARYLAND



N. 537,450  
E. 1,356,350

N. 537,450  
E. 1,357,750



SAVAGE PARK  
HOWARD COUNTY MARYLAND  
DEPT. OF PARKS & RECREATION  
LIBER 913 FOLIO 363  
ZONED: R-20  
TAX MAP 47, GRID 4, PARCEL 10

Match Line ~ See  
Sheet 11 For  
Continuation

LOT 42  
(Common Open Area For A Private Roadway)  
Match Line ~ See  
Sheet 9 For  
Continuation

Parcel 'E'  
EX. QUARRY  
W.S. EL.=232.0

N. 536,700  
E. 1,357,750

Michael J. Trapp

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
N/A  
Chief, Bureau of Highways  
Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
Cindy Rasmussen 2/14/02  
Chief, Division of Land Development  
Date

Chief, Development Engineering Division  
Date

**GLW** GUTSCHICK LITTLE & WEBER, P.A.  
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK  
BURTONSVILLE, MARYLAND 20866  
TEL: 301-421-4024 BAL: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

DATE	REVISION	BY	APP'R.

PREPARED FOR:  
THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION  
10275 LITTLE PATUXENT PARKWAY  
COLUMBIA, MD 21044  
PH: 410-992-6089  
ATTN: MR. BOB JENKINS

Grading Plan - North Townhouse Area

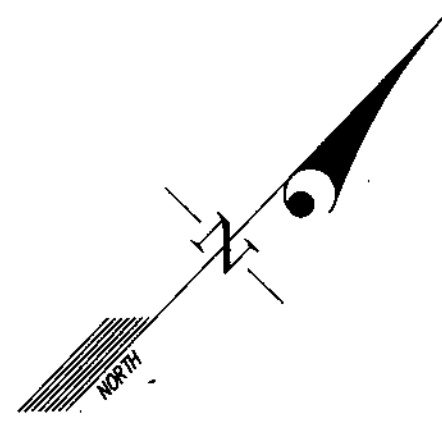
**STONE LAKE**  
PARCELS 'A' THRU 'E'  
LOTS 1 THRU 44  
LIBER 572 FOLIO 430

ELECTION DISTRICT No. 6

HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1"=50'	R-ED	99140
DATE	TAX MAP - GRID	SHEET
Oct. 2001	47 - 9/10	10 OF 40



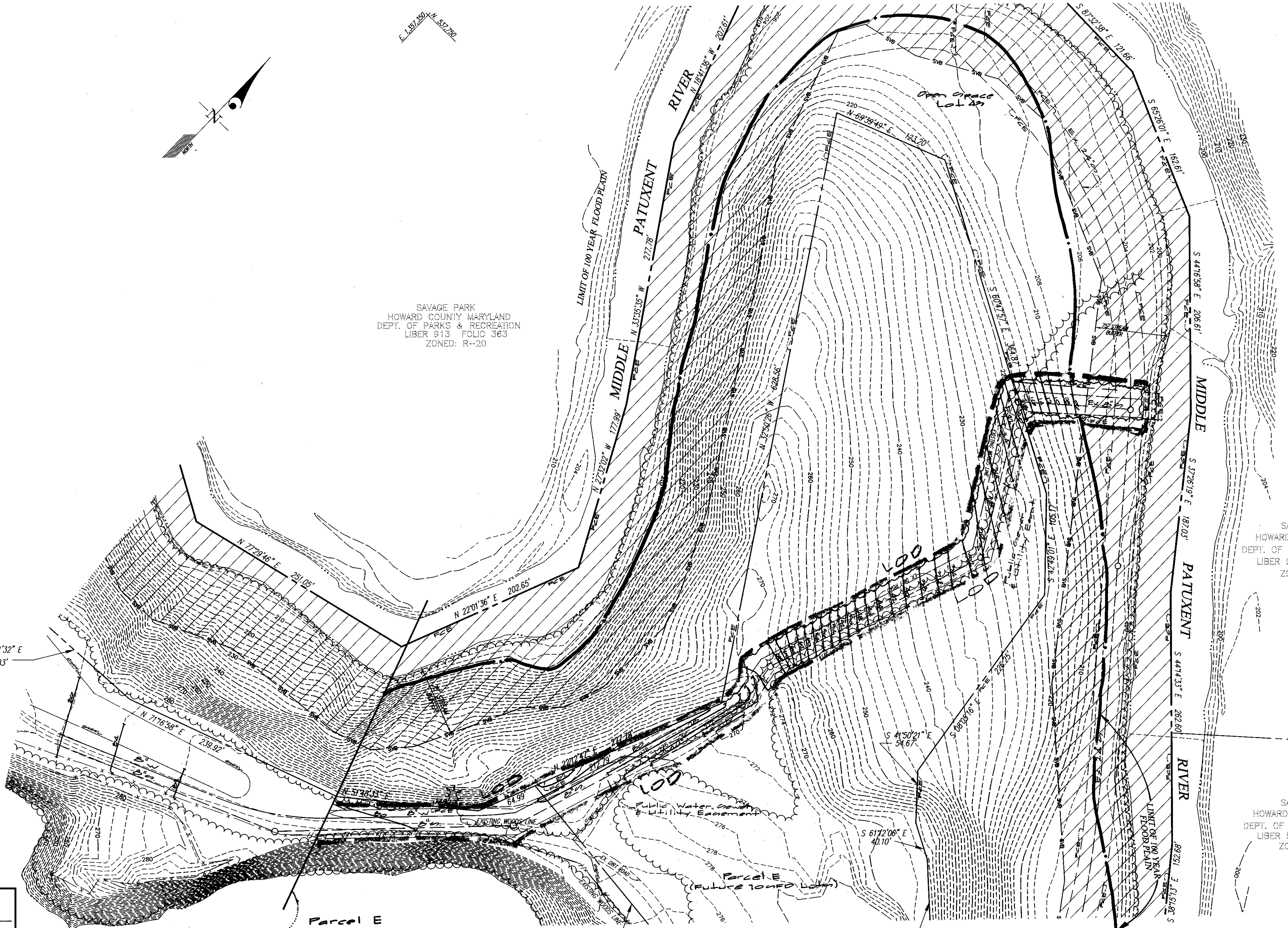


E 1,857.89' N 537.39'

SAVAGE PARK  
HOWARD COUNTY MARYLAND  
DEPT. OF PARKS & RECREATION  
LIBER 913 FOLIO 363  
ZONED: R-20

SAVAGE PARK  
HOWARD COUNTY MARYLAND  
DEPT. OF PARKS & RECREATION  
LIBER 913 FOLIO 363  
ZONED: R-20

SAVAGE PARK  
HOWARD COUNTY MARYLAND  
DEPT. OF PARKS & RECREATION  
LIBER 551 FOLIO 453  
ZONED: R-20



E 1,597.89' N 536.89'

N 87°51'32" E  
172.83'

Match Line -  
See sheet 10 For  
Continuation

Parcel E  
EX. QUARRY  
ELEV.=232.00

S 83°07'41" E  
194.97'

S 46°25'53" E  
164.74'

N 537.700' E 1,584.700'

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
N/A  
Chief, Bureau of Highways \_\_\_\_\_ Date \_\_\_\_\_  
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
Cindy Hamrick 2/14/02  
Chief, Division of Land Development \_\_\_\_\_ Date \_\_\_\_\_  
Chief, Development Engineering Division \_\_\_\_\_ Date \_\_\_\_\_

**GLW GUTSCHICK LITTLE & WEBER, P.A.**  
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK  
BURTONSVILLE, MARYLAND 20866  
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

PREPARED FOR:  
THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION  
10275 LITTLE PATUXENT PARKWAY  
COLUMBIA, MD 21044  
PH: 410-992-6089  
ATTN: MR. BOB JENKINS

GRADING PLAN - OUTFALL AREA  
**STONE LAKE**  
PARCELS 'A' THRU 'E'  
LOTS 1 THRU 44  
LIBER 572 FOLIO 430

SCALE 1"=50'	ZONING R-ED	G. L. W. FILE No. 99140
DATE Feb., 2001	TAX MAP - GRID 47- 9/10	SHEET 11 OF 40

HOWARD COUNTY, MARYLAND

ELECTION DISTRICT No. 6

DESIGN	DRN	CHK	DATE	REVISION	BY	APP'R.



**DEVELOPER'S/BUILDER'S CERTIFICATE**  
 I/we certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Maryland Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project.

*Michael J. Troppan* 12/20/01  
 Signature of Developer/Builder Date

**ENGINEER'S CERTIFICATE**  
 I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District.

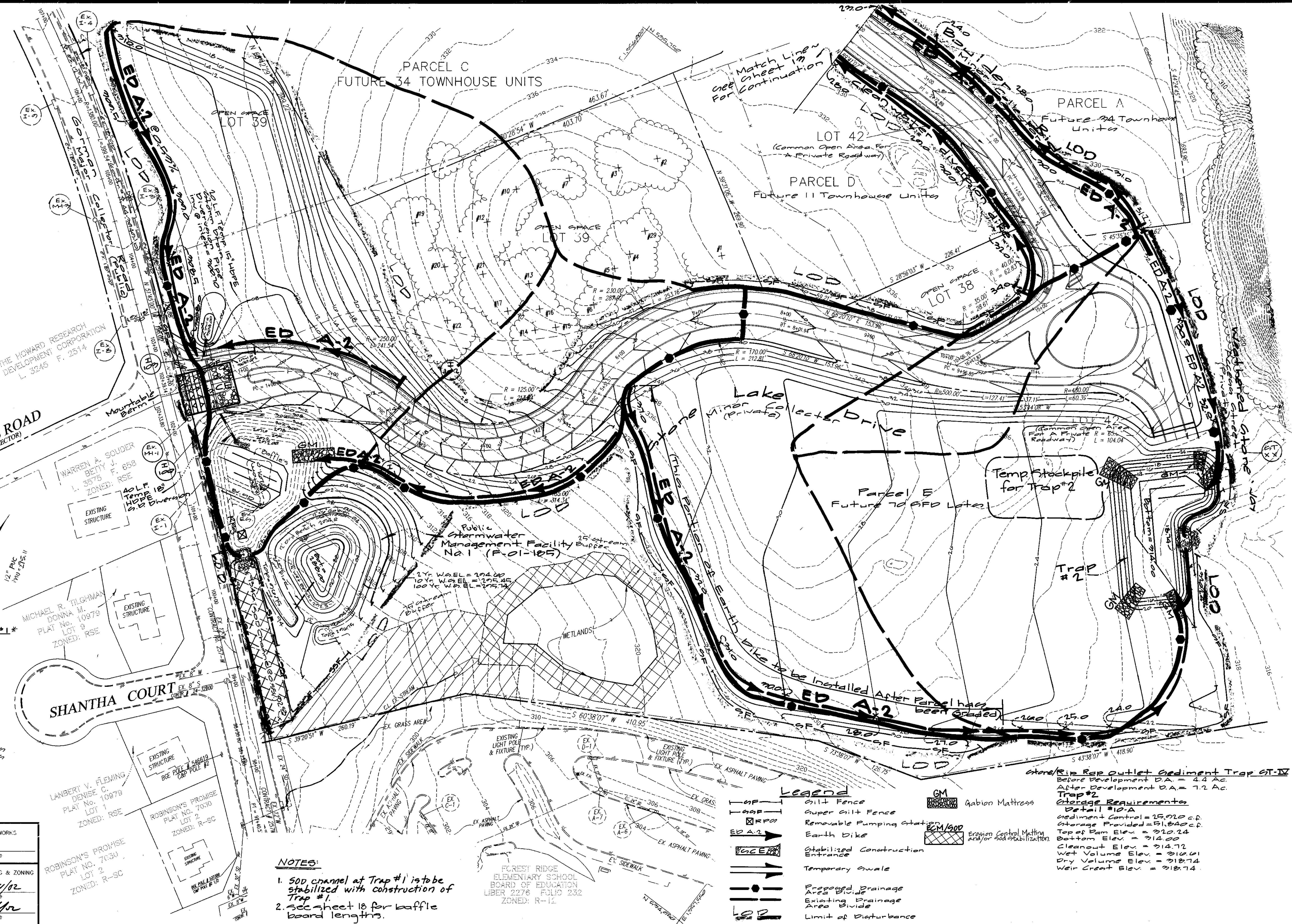
*Michael J. Troppan* 12/20/01  
 Engineer's Signature Date

These Plans meet the requirements of the Howard Soil Conservation District.

*[Signature]* 1/28/02  
 Howard Soil Conservation District Date

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for erosion and sediment control.

*[Signature]* 1/28/02  
 Natural Resources Conservation Service Date



**Stone/Rip-Rap Outlet Sediment Trap #1**  
 Before Development DA = 6.90 Ac.  
 After Development DA = 0.10 Ac.

**Storage Requirements**  
 Temp. SWM = 11,275 c.f.  
 Sediment Control = 14,500 c.f.  
 Storage Provided = 25,875 c.f.  
 Top of Dam Elev. = 202.00  
 Bottom Elev. = 201.00  
 Cleanout Elev. = 202.40  
 Wet Volume Elev. = 202.40  
 Dry Volume Elev. = 205.17  
 Temp. SWM Elev. = 205.02  
 Weir Crest Elev. = 200.00  
 Before Development  $Q_2 = 4.4$  cfs  
 After Development  $Q_2 = 14.5$  cfs  
 Managed  $Q_2 = 2.32$  cfs

\*Ex. Trap #1 was constructed under F-01-185.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 Chief, Bureau of Highways *[Signature]* Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
 Chief, Division of Land Development *[Signature]* 2/14/02 Date

Chief, Development Engineering Division *[Signature]* Date

**NOTES:**  
 1. SOD channel at Trap #1 is to be stabilized with construction of Trap #1.  
 2. See sheet 18 for baffle board lengths.

**Legend**

- Gilt Fence
- Super Gilt Fence
- RPD Removable Pumping Station
- ED A-2 Earth Dike
- Stabilized Construction Entrance
- Temporary Swale
- Proposed Drainage Area Divide
- Existing Drainage Area Divide
- Limit of Disturbance
- GM Gabion Mattress
- ERM/ERM Erosion Control Matting and/or Sed. Stabilization

**Stone/Rip-Rap Outlet Sediment Trap #2-IV**  
 Before Development DA = 4.4 Ac.  
 After Development DA = 7.2 Ac.

**Trap #2**  
**Storage Requirements**  
 Detail #10-A  
 Sediment Control = 15,010 c.f.  
 Storage Provided = 51,800 c.f.  
 Top of Dam Elev. = 212.24  
 Bottom Elev. = 212.00  
 Cleanout Elev. = 212.72  
 Wet Volume Elev. = 212.01  
 Dry Volume Elev. = 218.74  
 Weir Crest Elev. = 218.74

**GLW GUTSCHICK LITTLE & WEBER, P.A.**  
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK  
 BURTONSVILLE, MARYLAND 20886  
 TEL: 301-421-4024 FAX: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

DATE	REVISION	BY	APPR.

PREPARED FOR:  
**THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION**  
 10275 LIT. PATUXENT PARKWAY  
 CLYDE, MD 21044  
 PH: 410-992-5089  
 ATTN: M. BOB JENKINS

**Sediment Control Plan**  
**STONE LAKE**  
 PARCELS 'A' THRU 'E'  
 LOTS 1 THRU 44  
 ELECTION DISTRICT No. 6

SCALE: 1"=50'  
 ZONING: R-ED  
 DATE: October, 2001  
 TAX MAP - GRID: 47-9/10  
 SHEET: 12 OF 40  
 HOWARD COUNTY, MARYLAND



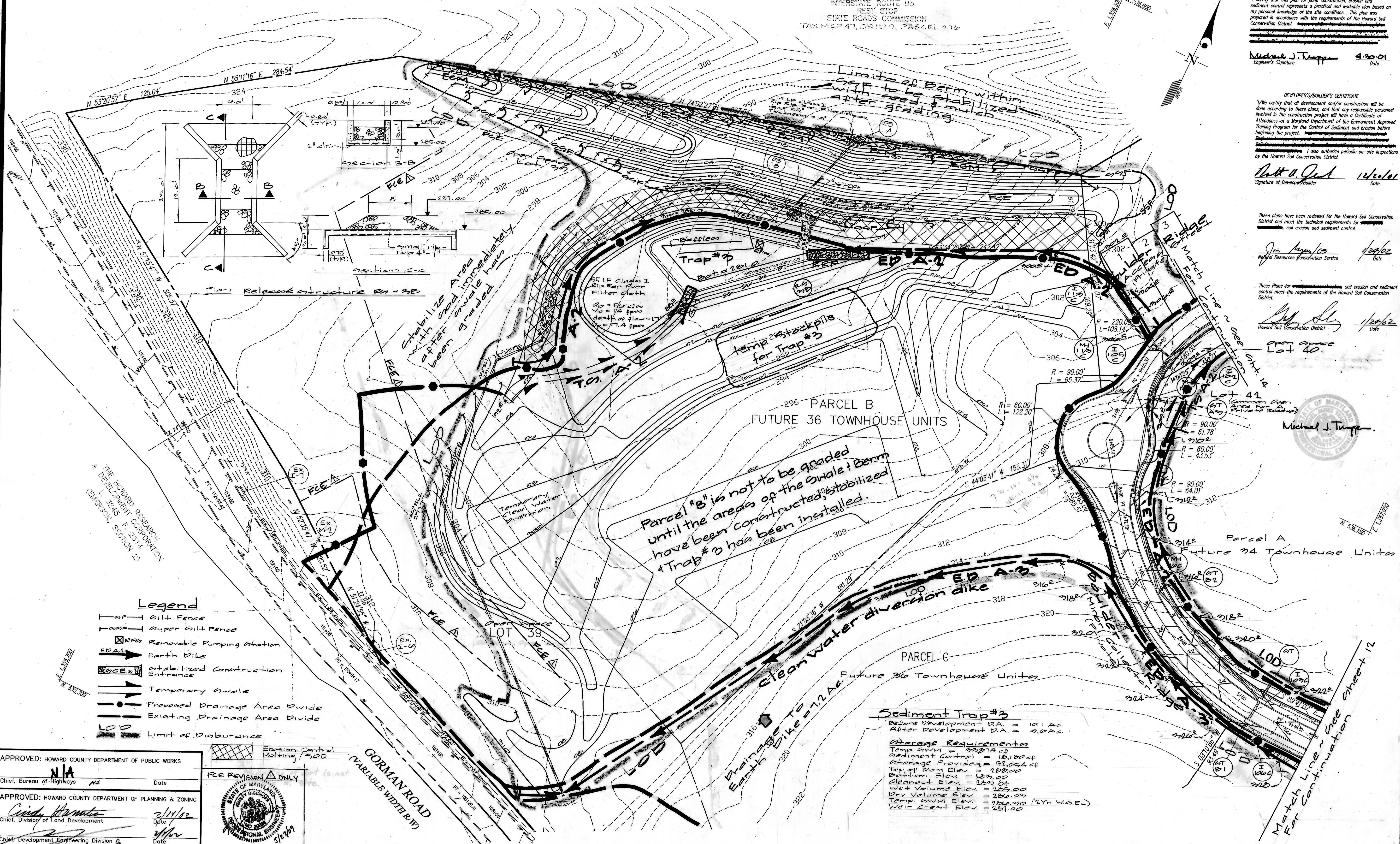
ENGINEER'S CERTIFICATE  
I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District.  
**Michael J. Tripp** 4-20-01  
Engineer's Signature Date

DEVELOPER'S/BUILDER'S CERTIFICATE  
I/We certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Maryland Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project.  
I also authorize periodic on-site inspections by the Howard Soil Conservation District.  
**Mark A. Oest** 12/20/01  
Signature of Developer/Builder Date

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for erosion and sediment control.  
**Jim Hynes** 1/24/02  
Natural Resources Conservation Service Date

These Plans for erosion and sediment control meet the requirements of the Howard Soil Conservation District.  
**Michael J. Tripp** 1/24/02  
Howard Soil Conservation District Date

Common Plan  
Parcel A  
Future 24 Townhouse Units  
**Michael J. Tripp**



- Legend**
- Gull Fence
  - Super Gull Fence
  - ⊠ Removable Pumping Station
  - Earth Dike
  - Stabilized Construction Entrance
  - Temporary Swale
  - Proposed Drainage Area Divide
  - Existing Drainage Area Divide
  - LOD Limit of Disturbance

**Sediment Trap #3**  
Before Development D.A. = 10.1 AC.  
After Development D.A. = 9.6 AC.

**Storage Requirements**  
Temp. SWM = 27874 cu ft  
Sediment Control = 18,180 cu ft  
Storage Provided = 51,024 cu ft  
Top of Dam Elev. = 128.00  
Bottom Elev. = 125.04  
Cleanout Elev. = 125.04  
Wet Volume Elev. = 125.00  
Dry Volume Elev. = 126.00  
Temp. SWM Elev. = 126.00 (2yr W.0.E.L.)  
Weir Crest Elev. = 127.00

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
**NIA**  
Chief, Bureau of Highways  
Date: 1/24/02

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
**Cindy Hamon**  
Chief, Division of Land Development  
Date: 1/24/02

Chief, Development Engineering Division  
Date: 1/24/02

5-27-09 FCE REVISION (SHEETS B.13 & 44 ONLY)

STATE OF MARYLAND  
DEPARTMENT OF THE ENVIRONMENT  
HOWARD SOIL CONSERVATION DISTRICT

**GLW GUTSCHICK LITTLE & WEBER, P.A.**  
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
3809 NATIONAL DRIVE - SUITE 250 - BURTNSVILLE OFFICE PARK  
BURTNSVILLE, MARYLAND 20866  
TEL: 301-421-4024 BALT. 410-880-1820 DC/VA 301-589-2524 FAX: 301-421-4186

NO.	DATE	REVISION	BY	APP'R.

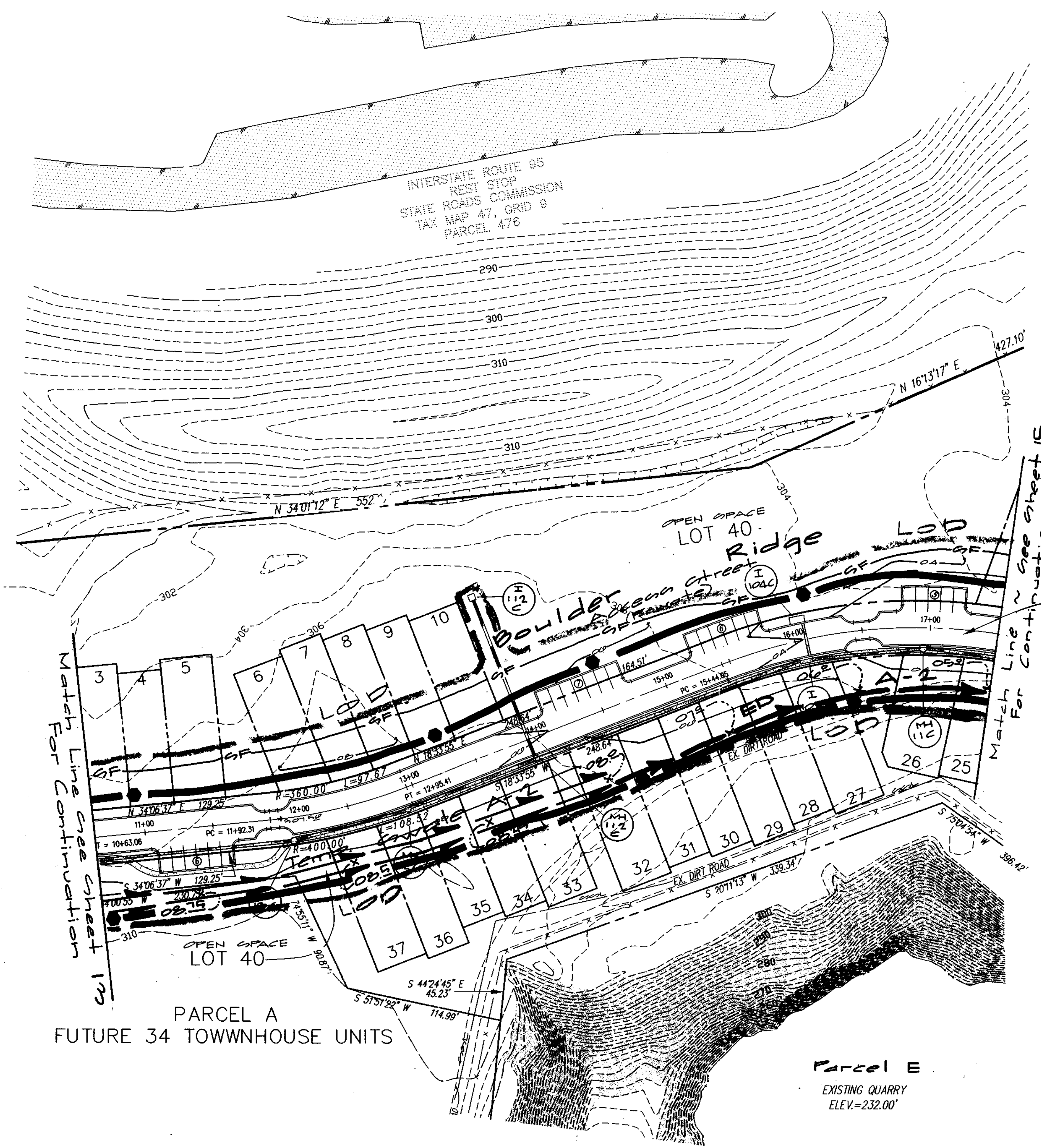
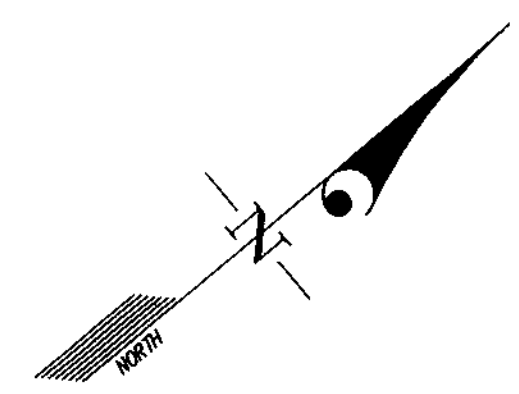
PREPARED FOR:  
**THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION**  
10275 LITTLE PATENT PARKWAY  
COLUMBIA, MD 21044  
PH: 410-892-6089  
ATTN: MR. BOB JENNINS

**Sediment Control Plan**  
**STONE LAKE**  
PARCELS 'A' THRU 'E'  
LOTS 1 THRU 44

SCALE 1"=50'	ZONING R-ED	G. L. W. FILE No. 99140
DATE October 2001	TAX MAP - GRID 47-9/10	SHEET 17 OF 40



E. 1,386,000  
N. 536,300



N. 537,300  
E. 1,387,200

PARCEL A  
FUTURE 34 TOWNHOUSE UNITS

Parcel E  
EXISTING QUARRY  
ELEV. = 232.00'

- Legend**
- GF — Gilt Fence
  - EDA — Earth Dike
  - TSW — Temporary Swale
  - PDA — Proposed Drainage Area Divide
  - LDP — Limit of Disturbance

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 Chief, Bureau of Highways NIA Date \_\_\_\_\_  
 APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
 Chief, Division of Land Development Cindy Hammett Date 2/14/02  
 Chief, Development Engineering Division W.H.V. Date \_\_\_\_\_

**DEVELOPER'S/BUILDER'S CERTIFICATE**  
 I/We certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Maryland Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project.  
 I also authorize periodic on-site inspections by the Howard Soil Conservation District.  
Matt A. Quil 4/20/01  
 Signature of Developer/Builder Date

**ENGINEER'S CERTIFICATE**  
 I certify that this plan for sediment erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District.  
Michael J. Trappan 4/20/01  
 Engineer's Signature Date



These Plans for erosion and sediment control meet the requirements of the Howard Soil Conservation District.  
Michael J. Trappan 4/20/01  
 Howard Soil Conservation District Date

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for erosion and sediment control.  
Jin Nguyen 1/29/02  
 Natural Resources Conservation Service Date

**GLW GUTSCHICK LITTLE & WEBER, P.A.**  
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK  
 BURTONSVILLE, MARYLAND 20866  
 TEL: 301-421-4024 BAL: 410-880-1820 DC/VA: 301-988-2524 FAX: 301-421-4186

DATE	REVISION	BY	APP'R.

PREPARED FOR:  
 THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION  
 10275 LITTLE PATENT PARKWAY  
 COLUMBIA, MD 21044  
 PH: 410-992-3099  
 ATTN: MR. BOB JENKINS

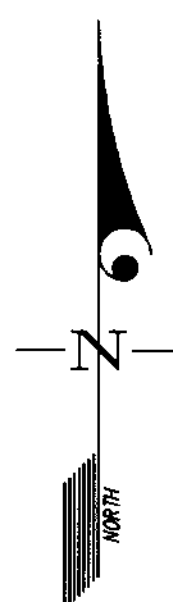
**Sediment Control Plan**  
**STONE LAKE**  
 PARCELS 'A' THRU 'E'  
 LOTS 1 THRU 4  
 LIBER 572 FOLIO 430  
 ELECTION DISTRICT No. 6

SCALE	ZONING	G. L. W. 5TH No.
1" = 50'	R-ED	99140
DATE	TAX MAP - GRID	SHEET
October 2001	47 - 9/10	14 OF 40

HOWARD COUNTY, MARYLAND

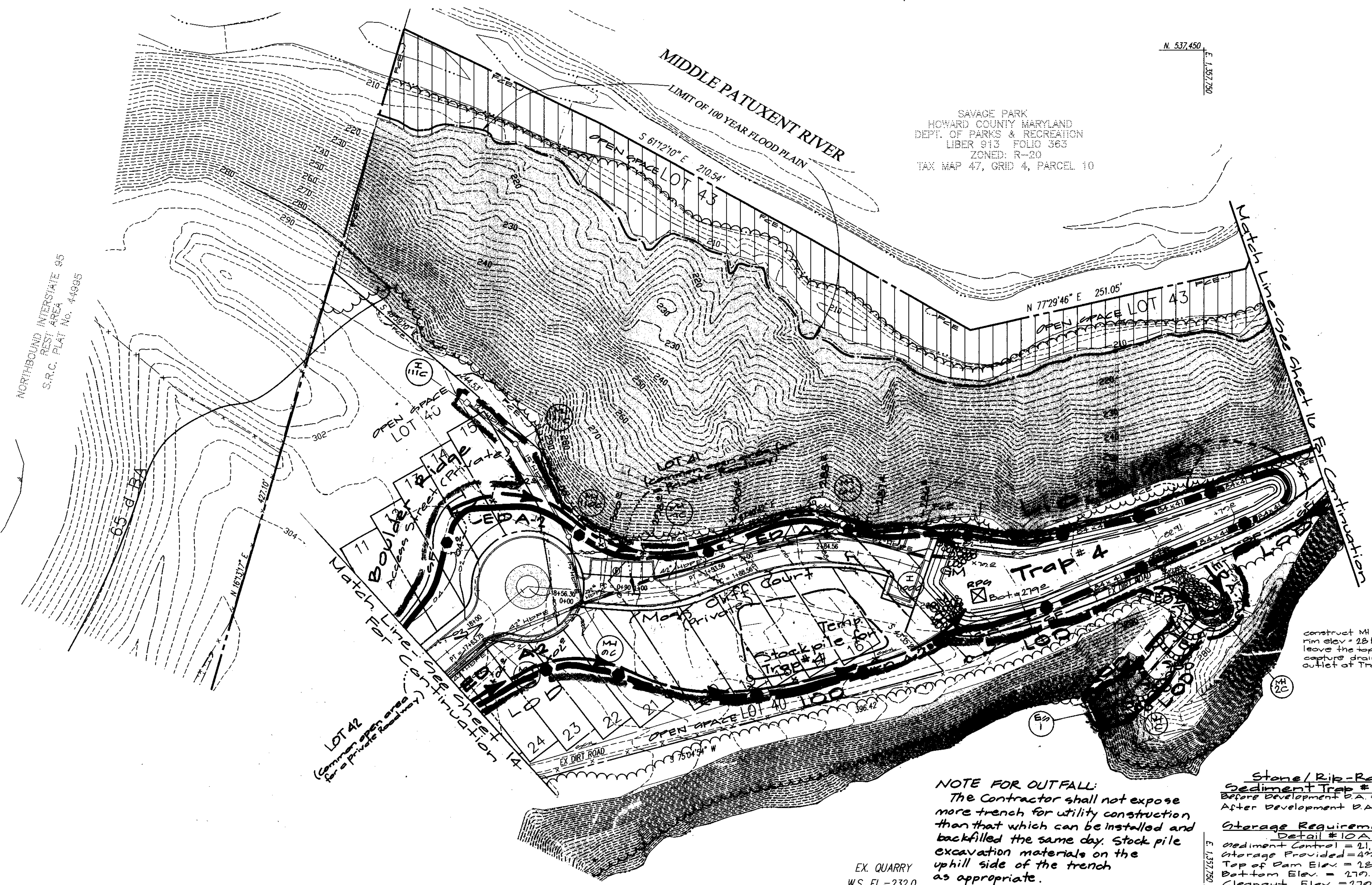


N. 537,450  
E. 1,357,290



N. 537,450  
E. 1,357,290

SAVAGE PARK  
HOWARD COUNTY MARYLAND  
DEPT. OF PARKS & RECREATION  
LIBER 913 FOLIO 363  
ZONED: R-20  
TAX MAP 47, GRID 4, PARCEL 10



**DEVELOPER'S/BUILDER'S CERTIFICATE**  
 I/We certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Maryland Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project.  
 I also authorize periodic on-site inspections by the Howard Soil Conservation District.  
 Signature of Developer/Builder: *Robert A. Oak*  
 Date: 12/30/01

**ENGINEER'S CERTIFICATE**  
 I certify that this plan for sediment control, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District.  
 Signature: *Michael J. Trapp*  
 Date: 4/20/02

These Plans for sediment control, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.  
 Signature: *[Signature]*  
 Date: 1/24/02  
 Howard Soil Conservation District

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for sediment control, soil erosion and sediment control.  
 Signature: *[Signature]*  
 Date: 1/24/02  
 Natural Resources Conservation Service

**NOTE FOR OUTFALL:**  
 The Contractor shall not expose more trench for utility construction than that which can be installed and backfilled the same day. Stock pile excavation materials on the uphill side of the trench as appropriate.

**Stone/Rip-Rap Outlet Sediment Trap #4 - St IV**  
 Before Development O.A. = 5.00 AC.  
 After Development O.A. = 5.10 AC.  
**Storage Requirements Detail #10A**  
 Sediment Control = 21,504 cf  
 Storage Provided = 42,108 sf  
 Top of Dam Elev. = 284.41  
 Bottom Elev. = 270.00  
 Cleanout Elev. = 270.02  
 Wet Volume Elev. = 281.20  
 Dry Volume Elev. = 282.41  
 Weir Crest Elev. = 282.41

EX. QUARRY  
 W.S. EL. = 232.0  
 Parcel E

- Legend**
- GF — Silt Fence
  - TPF — Tree Protection Fence
  - ⊠ RPS Removable Pumping Station
  - ED — Earth Dike
  - PD — Proposed Drainage Area Divide
  - ED — Existing Drainage Area Divide
  - L.O.D. — Limit of Disturbance
  - S.B.D. Straw Bale Dike
  - FCE —

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 Chief, Bureau of Highways: *N/A*  
 Date: \_\_\_\_\_

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
 Chief, Division of Land Development: *Cindy Hambleton*  
 Date: 2/14/02

Chief, Development Engineering Division: *[Signature]*  
 Date: 4/10/02

**GLW GUTSCHICK LITTLE & WEBER, P.A.**  
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
 3909 NATIONAL DRIVE - SUITE 250 - BURTNSVILLE OFFICE PARK  
 BURTNSVILLE, MARYLAND 20686  
 TEL: 301-421-4024 BALT. 410-895-1820 DC/VA 301-988-2524 FAX: 301-421-4186

DATE	REVISION	BY	APPR.

PREPARED FOR:  
 THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION  
 10275 LITTLE PATUXENT PARKWAY  
 COLUMBIA, MD 21044  
 PH: 410-992-6089  
 ATTN: MR. BOB JENKINS

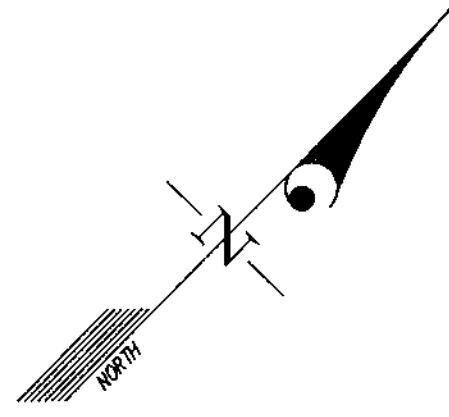
**Sediment Control Plan**  
**STONE LAKE**  
 PARCELS 'A' THRU 'E'  
 LOTS 1 THRU 44  
 LIBER 572 FOLIO 430  
 ELECTION DISTRICT No. 6

SCALE	ZONING	G. L. W. FILE No.
1"=50'	R-ED	99140
DATE	TAX MAP - GRID	SHEET
October, 2001	47 - 9/10	15 OF 40



**DEVELOPER'S/BUILDER'S CERTIFICATE**  
 I/We certify that all development and/or construction will be done according to these plans, and that any responsible person involved in the construction project will have a Certificate of Attendance at a Maryland Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project.  
 I/We also authorize periodic on-site inspections by the Howard Soil Conservation District.

*Mark A. Oak* 12/20/01  
 Signature of Developer/Builder Date



**ENGINEER'S CERTIFICATE**  
 I certify that this plan for ~~land development~~ erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District.

*Michael J. Tripp* 4/30/01  
 Engineer's Signature Date

*Michael J. Tripp*

SAVAGE PARK  
 HOWARD COUNTY MARYLAND  
 DEPT. OF PARKS & RECREATION  
 LIBER 913 FOLIO 363  
 ZONED: R-20

- Legend**
- GSF — Silt Fence
  - LOD — Limit of Disturbance
  - GSF — Super Silt Fence
  - SBD — Straw Bale Dike

These Plans for ~~land development~~ soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.

*John St.* 1/24/02  
 Howard Soil Conservation District Date

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements.

*Jim Myers/CS* 1/26/02  
 Natural Resources/Conservation Service Date

Match Line - See Sheet 15 For Continuation

Match Line - See Sheet 15 For Continuation

Parcel E  
 EX. QUARRY  
 ELEV. = 232.00

**NOTE FOR OUTFALL:**  
 The Contractor shall not expose more trench for utility construction than that which can be installed and backfilled the same day. Stockpile excavation materials on the uphill side of the trench in appropriate.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*NIA*  
 Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
*Cindy Hamble* 2/14/02  
 Chief, Division of Land Development Date

Chief, Development Engineering Division Date

**GLW GUTSCHICK LITTLE & WEBER, P.A.**  
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
 3009 NATIONAL DRIVE - SUITE 250 - BURTONGVILLE OFFICE PARK  
 BURTONGVILLE, MARYLAND 20866  
 TEL: 301-421-4024 FAX: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4115

DATE	REVISION	BY	APPR.

PREPARED FOR:  
 THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION  
 10275 LITTLE PATUXENT PARKWAY  
 COLUMBIA, MD 21044  
 PH: 410-992-6089  
 ATTN: MR. BOB JENKINS

Sediment Control-OUTFALL AREA  
**STONE LAKE**  
 PARCELS 'A' THRU 'E'  
 LOTS 1 THRU 44  
 LIBER 572 FOLIO 430  
 ELECTION DISTRICT No. 6

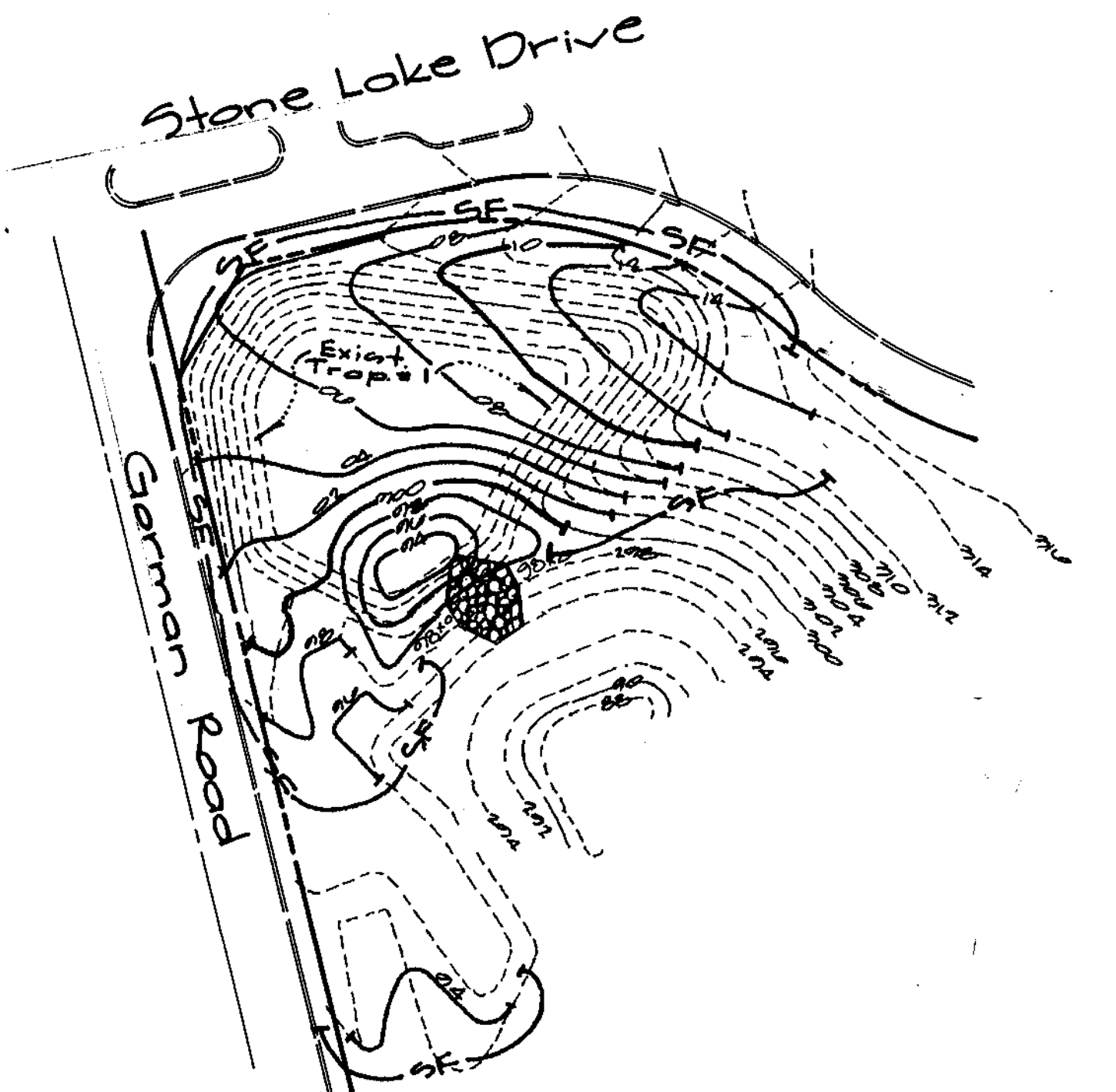
SCALE	ZONING	G. L. W. FILE No.
1"=50'	R-ED	99140
DATE	TAX MAP - GRID	SHEET
Oct., 2001	47- 9/10	10 OF 40

HOWARD COUNTY, MARYLAND

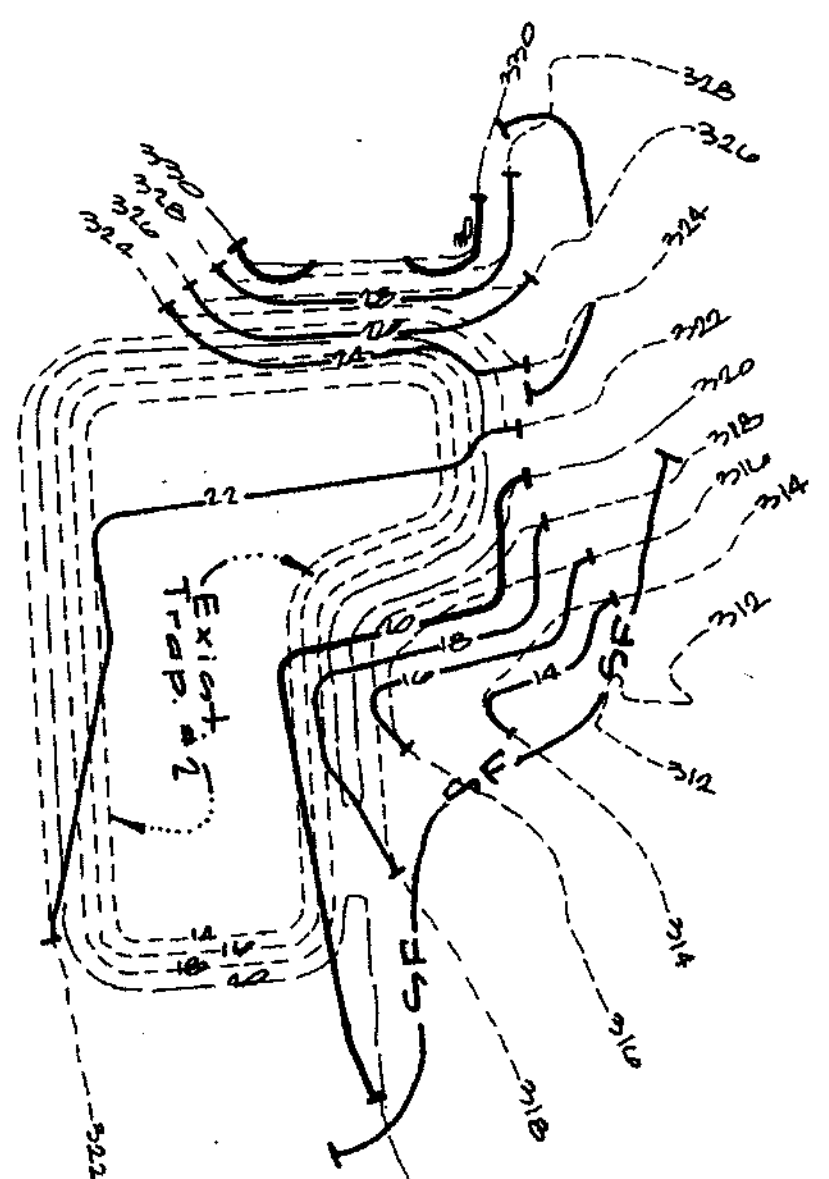




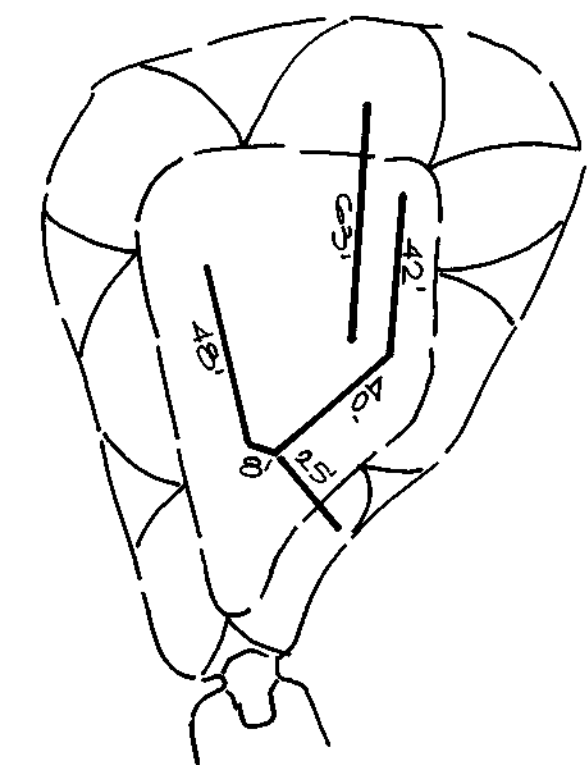




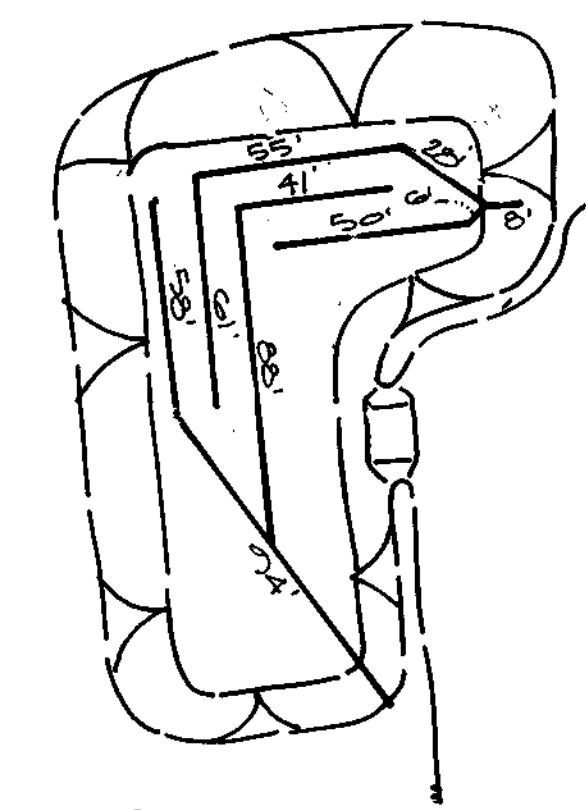
Trap Restoration Detail ~ Trap #1  
Scale: 1" = 50'



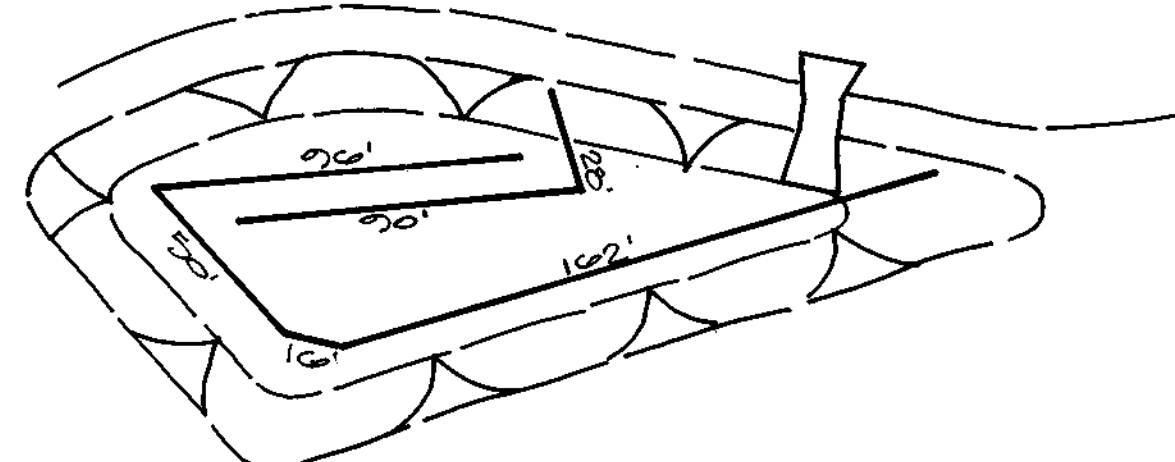
Trap Restoration Detail ~ Trap #2  
Scale: 1" = 50'



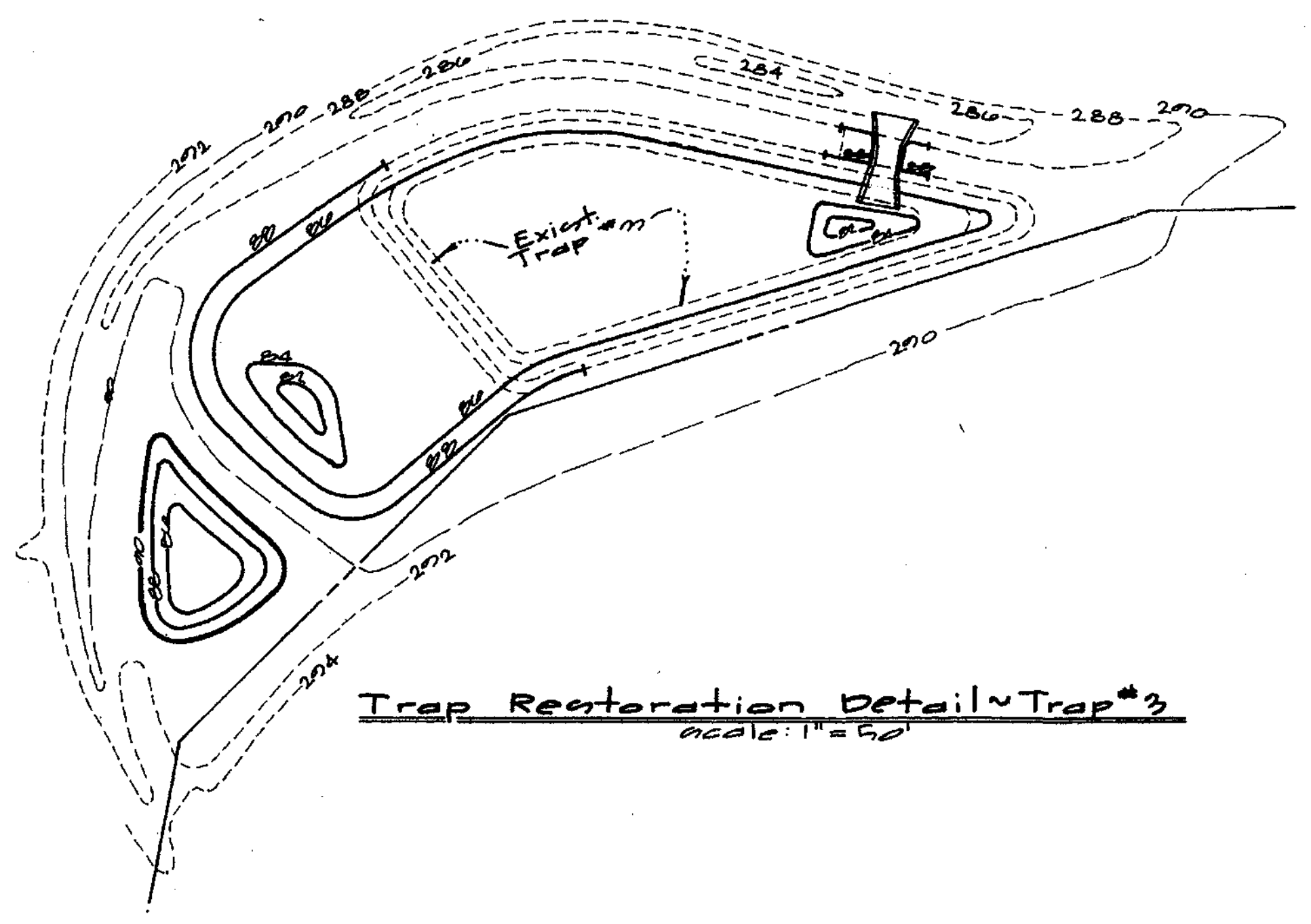
Baffle Board Detail  
for Trap #1  
N.T.S.



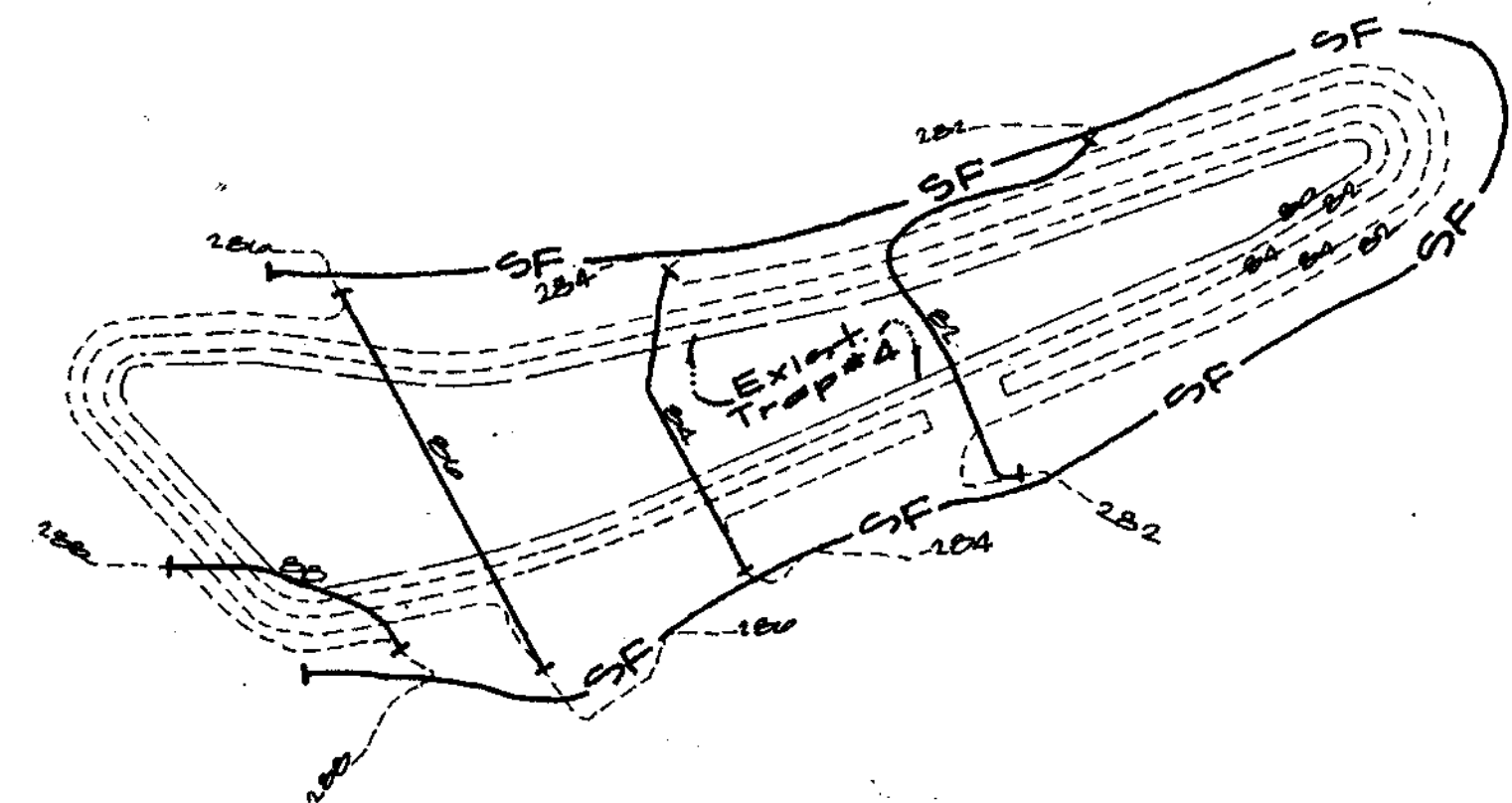
Baffle Board Detail  
for Trap #2  
N.T.S.



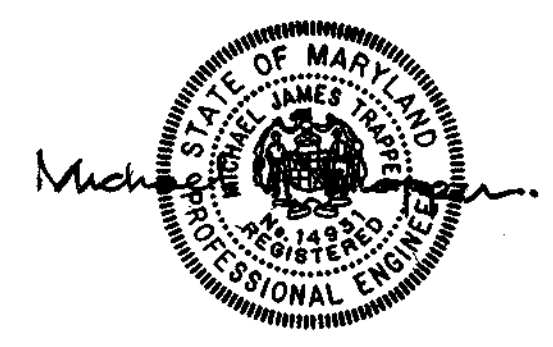
Baffle Board Detail  
for Trap #3  
N.T.S.



Trap Restoration Detail ~ Trap #3  
Scale: 1" = 50'



Trap Restoration Detail ~ Trap #4  
Scale: 1" = 50'



ENGINEER'S CERTIFICATE

I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District.

Michael J. Troppa 7/20/01  
Date

DEVELOPER'S/BUILDER'S CERTIFICATE

I/We certify that all development and/or construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Maryland 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 HSCD.

Signature of Developer/Builder 12/20/01  
Date

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements.

Jim Hayes /cs 1/24/02  
Natural Resources Conservation Service Date

This Development Plan is approved for Soil Erosion and Sediment Control by the Howard Soil Conservation District.

1/24/02  
Howard S.C.D. Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS	
N/A Chief, Bureau of Highways	Date
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING	
Cindy Haranto Chief, Division of Land Development	2/14/02 Date
Chief, Development Engineering Division	2/14/02 Date

**GLW GUTSCHICK LITTLE & WEBER, P.A.**  
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
3609 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK  
BURTONSVILLE, MARYLAND 20866  
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4188

DATE	REVISION	BY	APP'R.

PREPARED FOR:  
THE HOWARD RESEARCH  
AND DEVELOPMENT CORPORATION  
10275 LITTLE PATUXENT PARKWAY  
COLUMBIA, MARYLAND 21044  
ATTN: BOB JENKINS  
(410) 992-6089

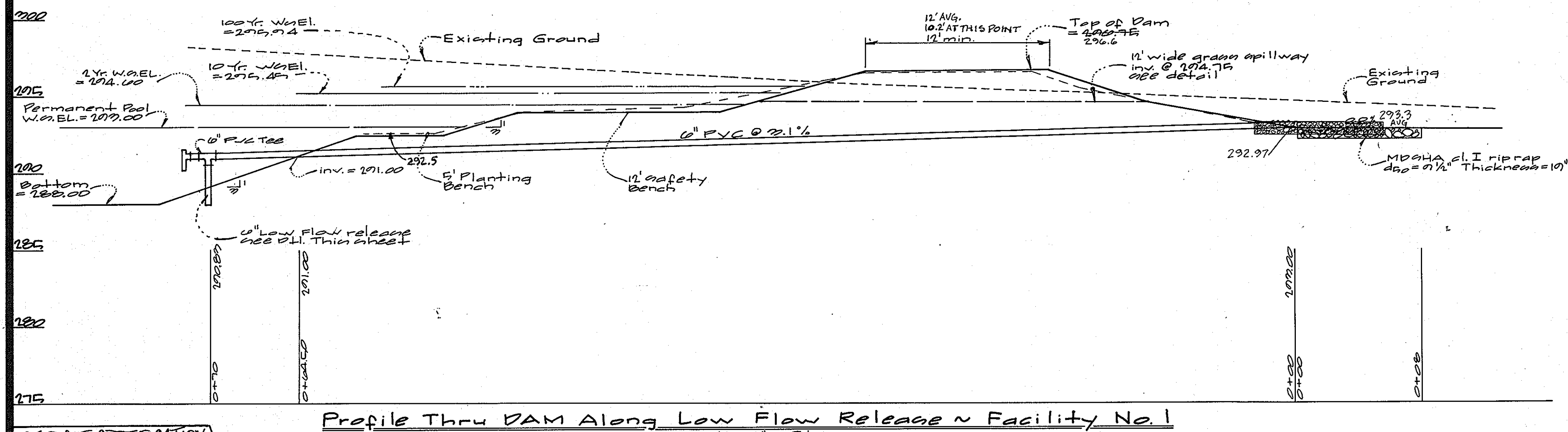
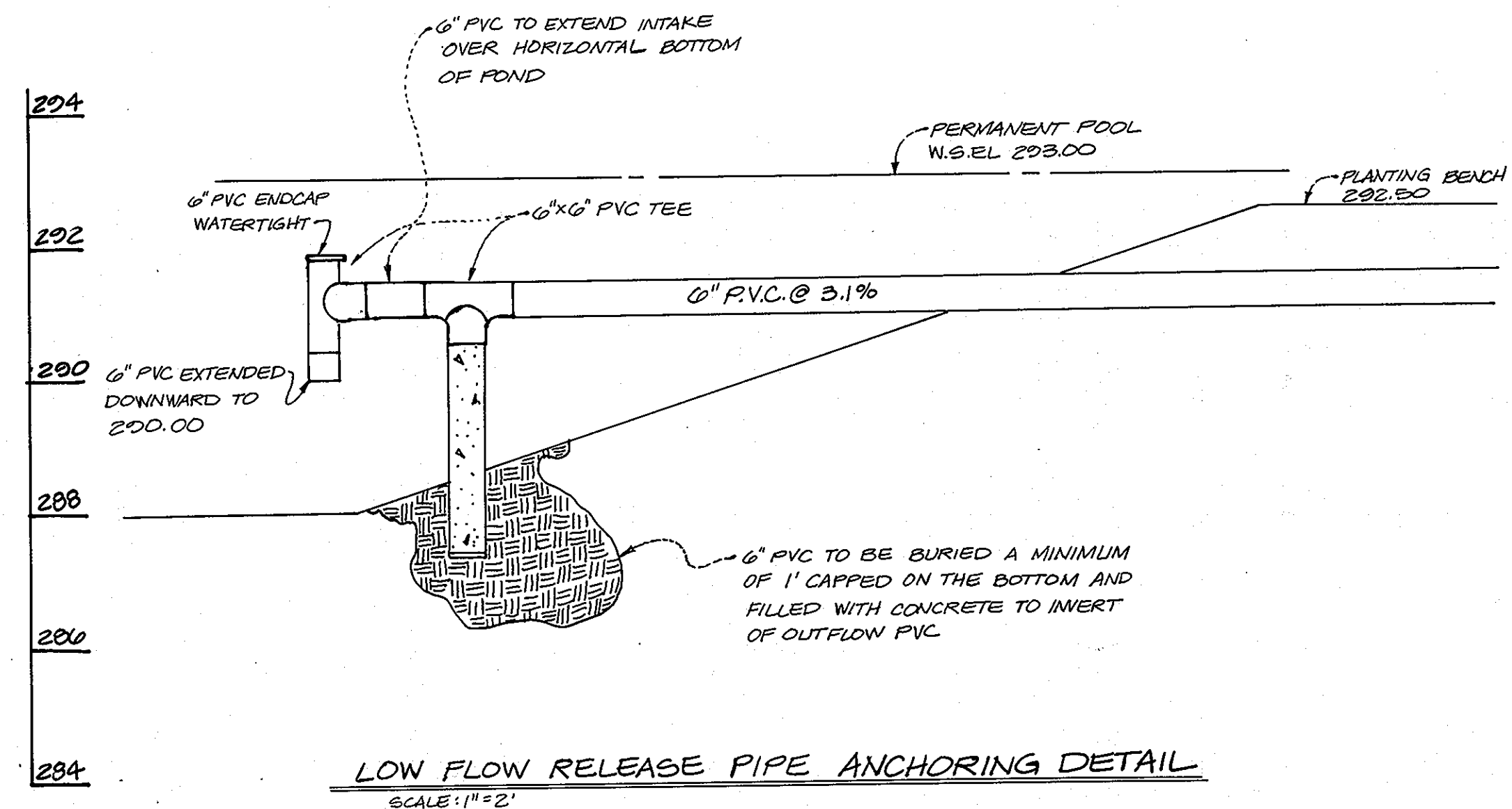
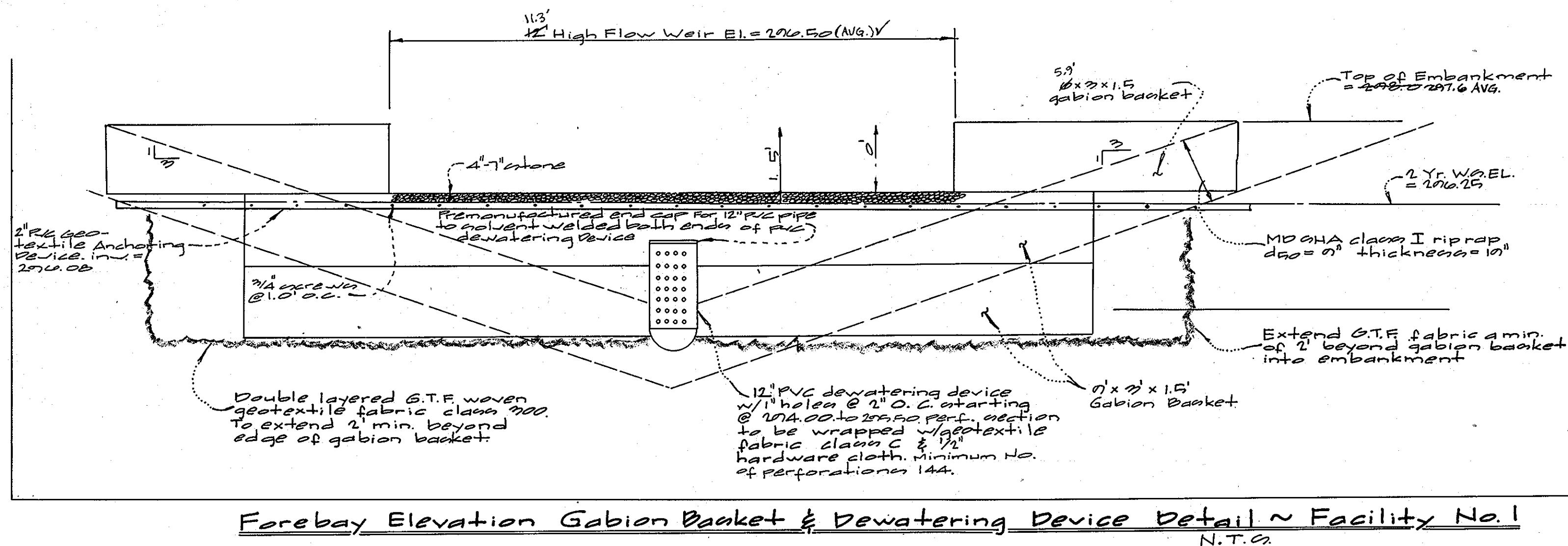
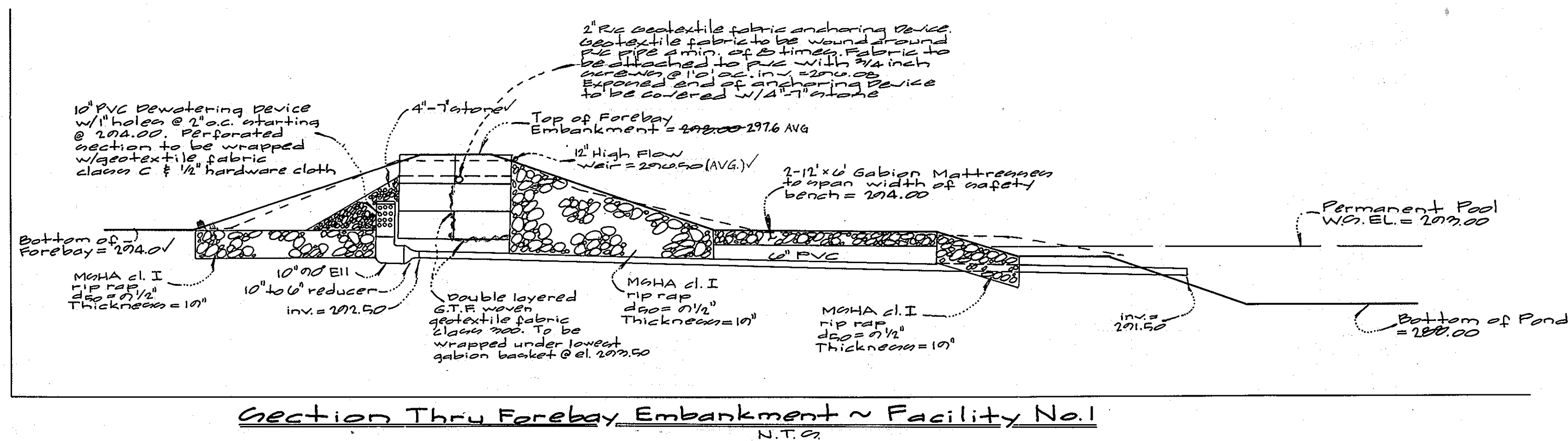
SEDIMENT CONTROL DETAILS  
**STONE LAKE**  
PARCELS 'A' THRU 'E'  
LOTS 1 THRU 44  
LIBER 372 FOLIO 430  
ELECTION DISTRICT No. 6  
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN	ZONING R-ED	G. L. W. FILE No. 99140
DATE Oct., 2001	TAX MAP - GRID 47-9/10	SHEET 18 OF 40



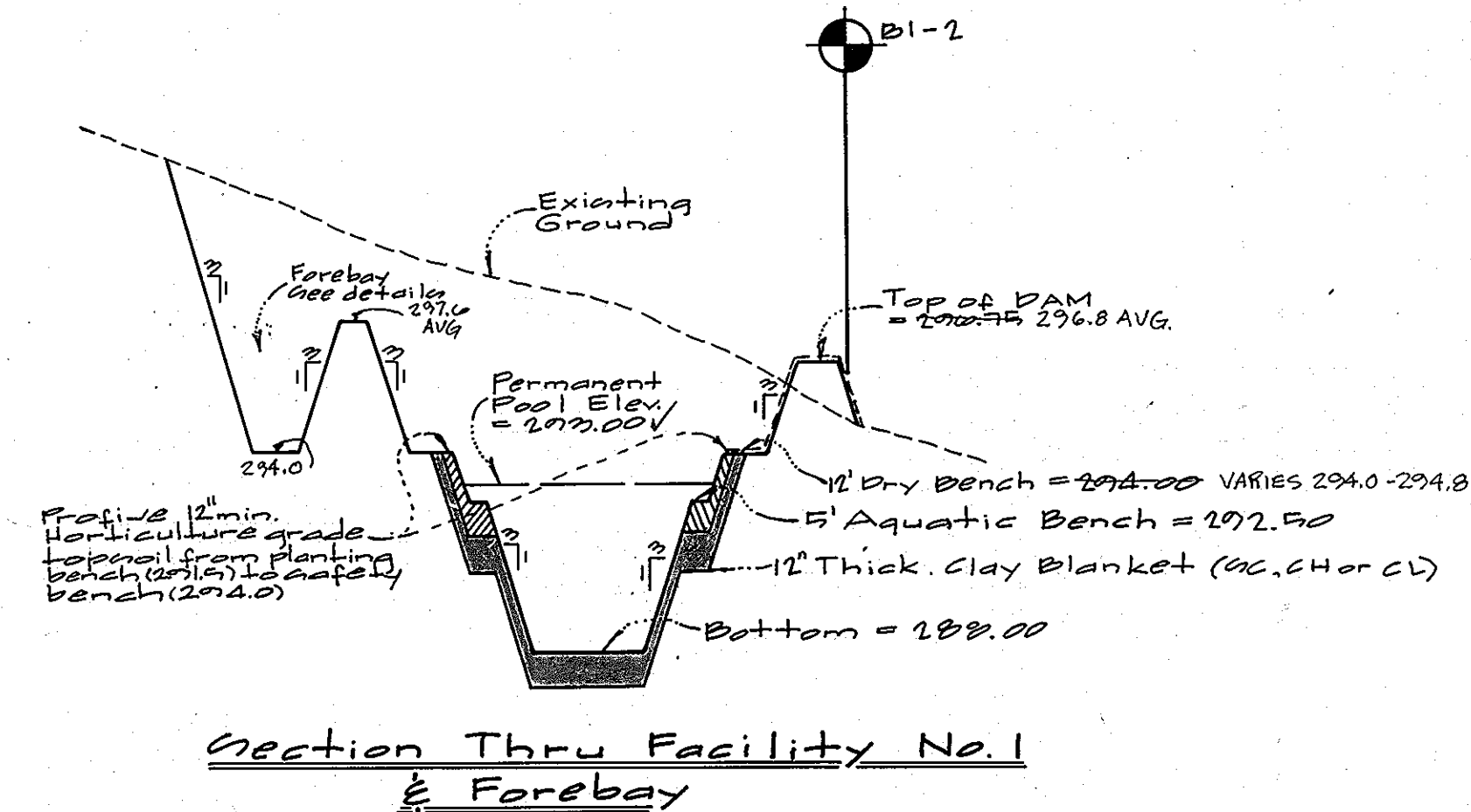
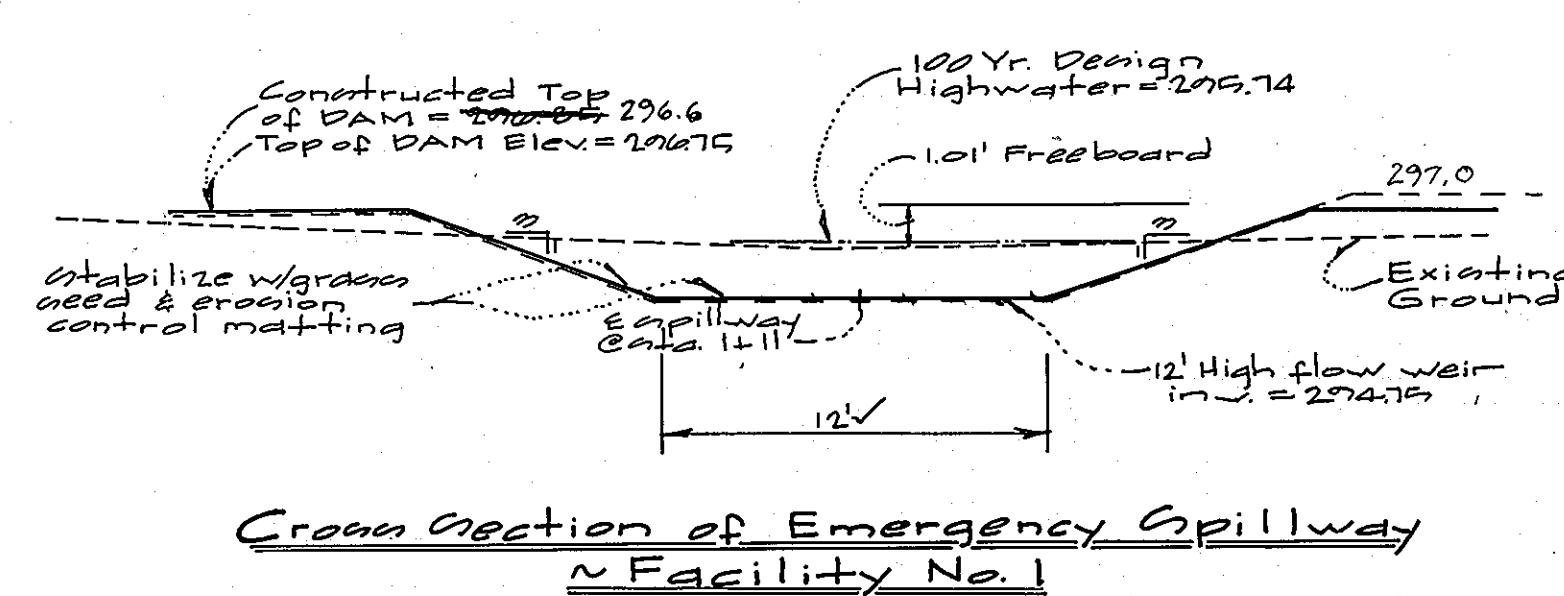
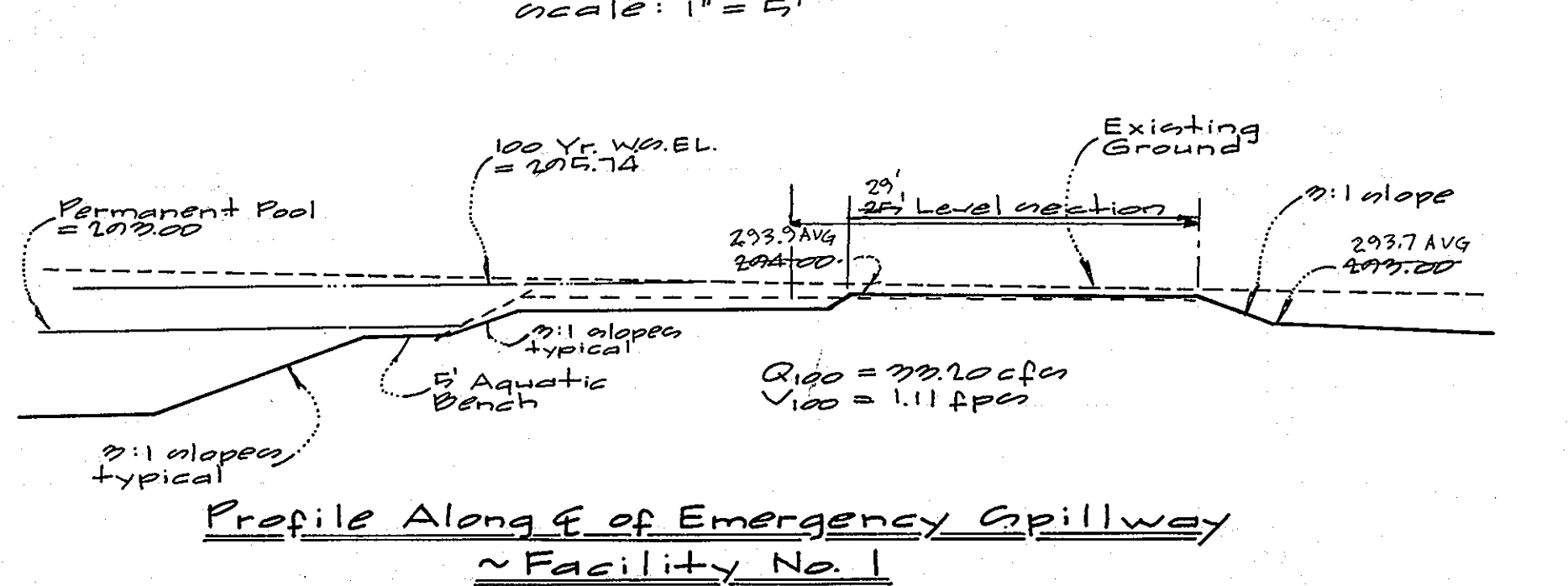






**AS-BUILT CERTIFICATION**  
I HEREBY CERTIFY, BY MY SEAL, THAT THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS "AS-BUILT" PLAN MEET THE APPROVED PLANS AND SPECIFICATIONS.

G SCOTT SHANBERGER DATE  
PROFESSIONAL L.S. # 10849  
LIC. EX. 4/2/2014  
SHANBERGER & LANE



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APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
Chief, Bureau of Highways MS Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
Chief, Division of Land Development 2/14/02 Date  
2/1/02 Date

**GLW GUTSCHICK LITTLE & WEBER, P.A.**  
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DESIGN	DRN	CHK	DATE	REVISION	BY	APP'R

PREPARED FOR:  
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10275 LITTLE PATUXENT PARKWAY  
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Stormwater Management Facility No. 1 Details

**STONE LAKE**  
PARCELS 'A' THRU 'E'  
LOTS 1 THRU 44  
LIBER 572 FOLIO 430

ELECTION DISTRICT No. 6

HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	R-ED	99140
DATE	TAX MAP - GRID	SHEET
Oct., 2001	47-9/10	20 OF 40





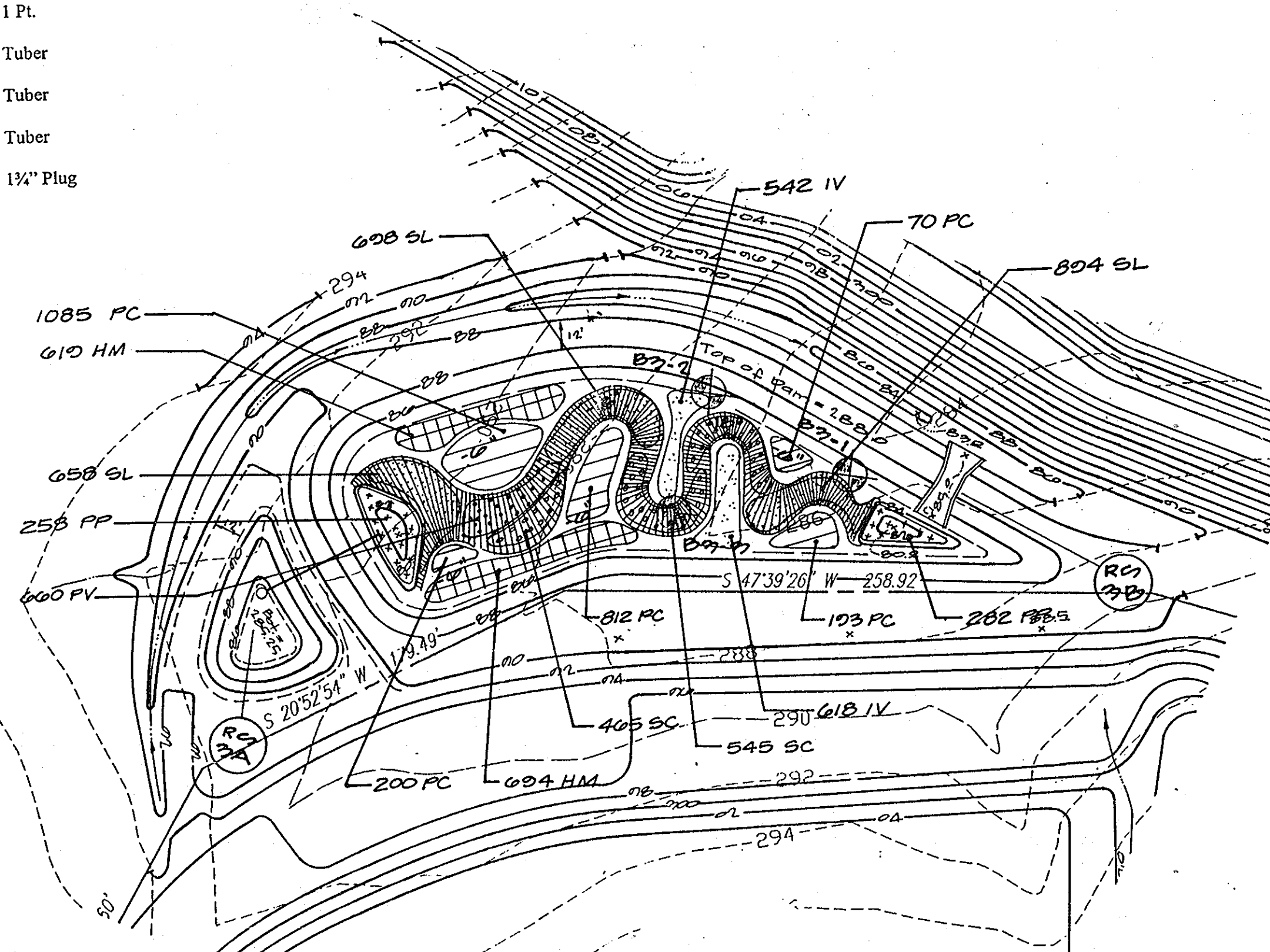
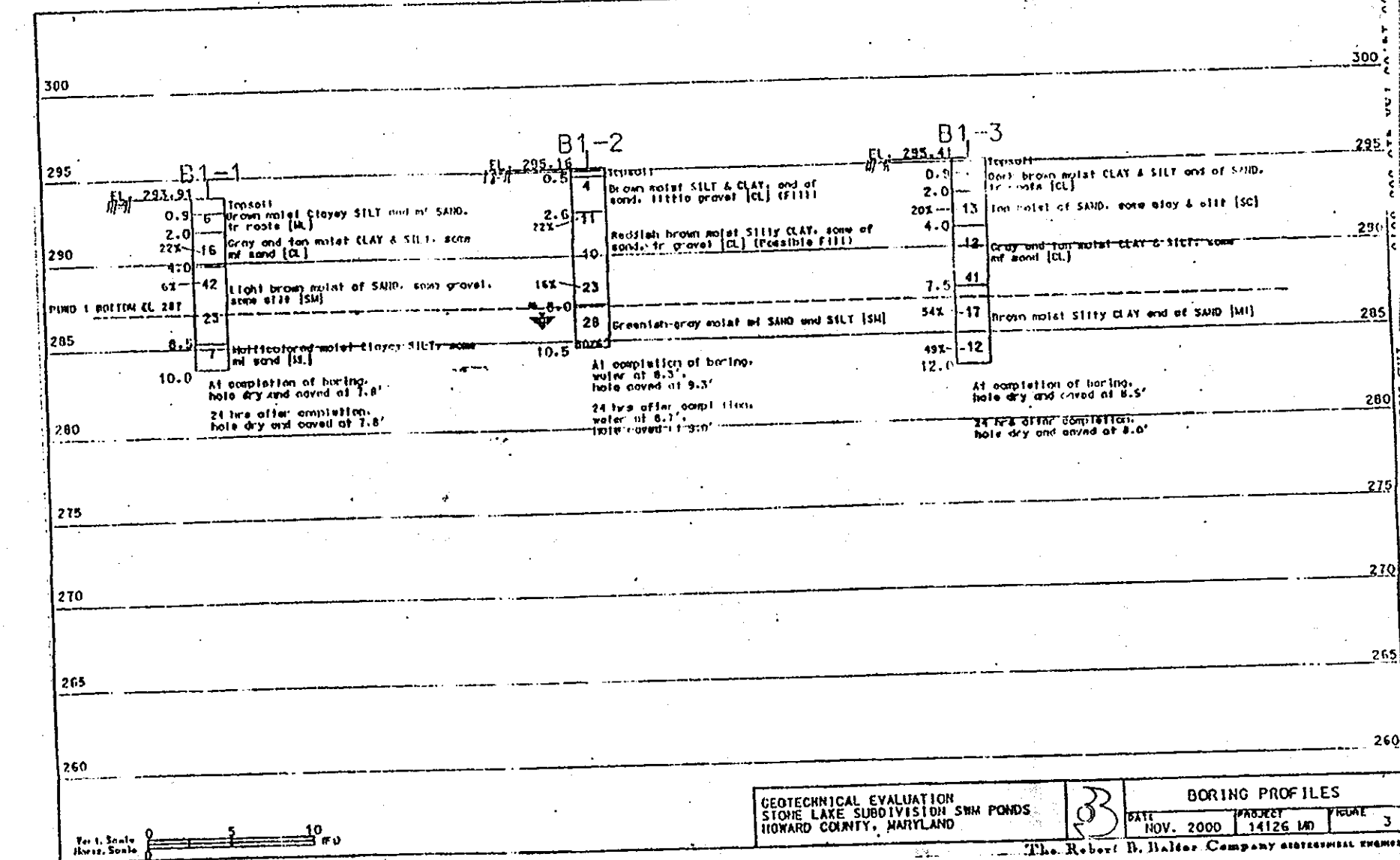
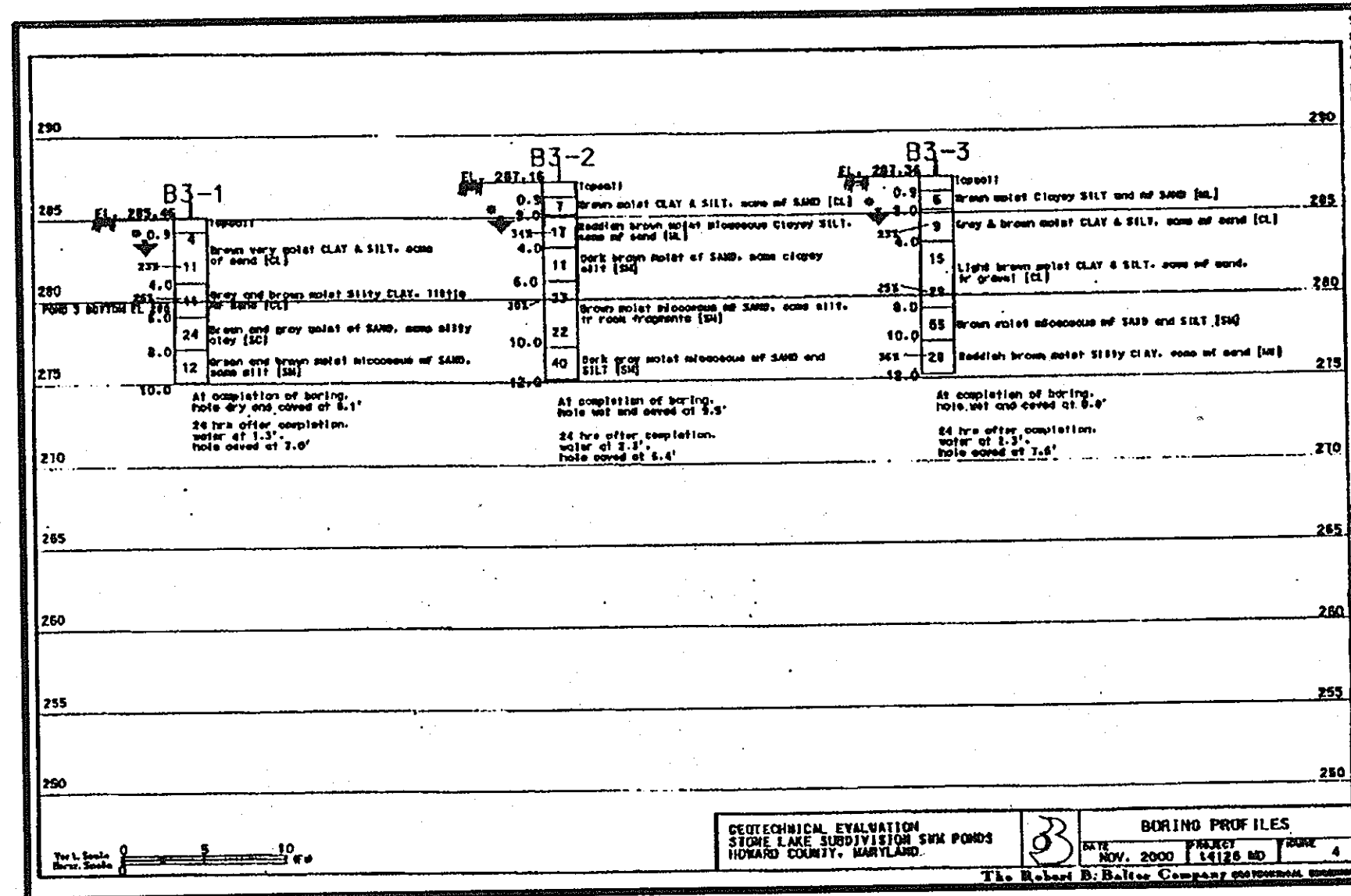


**SWM POND PLANTING NOTES**

- Upon conversion of sediment control pond to stormwater management pond, the contractor shall remove any stones, debris, or construction material larger than two inches (2") in any dimension. The ponds be flooded and left undisturbed for a period of 10 day prior to planting.
- One ounce of 18-6-25 slow release fertilizer shall be incorporated into the soil for each plant at the time of planting.
- Soil shall be saturated with water during and after planting, or the planting area may be completely flooded at this time (wet planting). Planting soil shall be firmly pressed around to prevent floatation.
- The source of all aquatic and emergent plants shall be approved by the owner or landscape architect prior to ordering. These plants shall be grown in pots (container specified) or nursery growing beds (bare root specified) for a minimum of 12 months prior to installation and shall have been wet cultivated during the entire period.
- All plant material shall be guaranteed for a period of one year after formal acceptance. Plants which have greater than 33% dieback or have not grown so as to emerge from the water surface shall be replaced at the next planting season.
- Remove litter and debris as required during the first growing season and at the beginning of the second growing season.

**SHALLOW MARSH PLANTING FOR FACILITY No. 3**

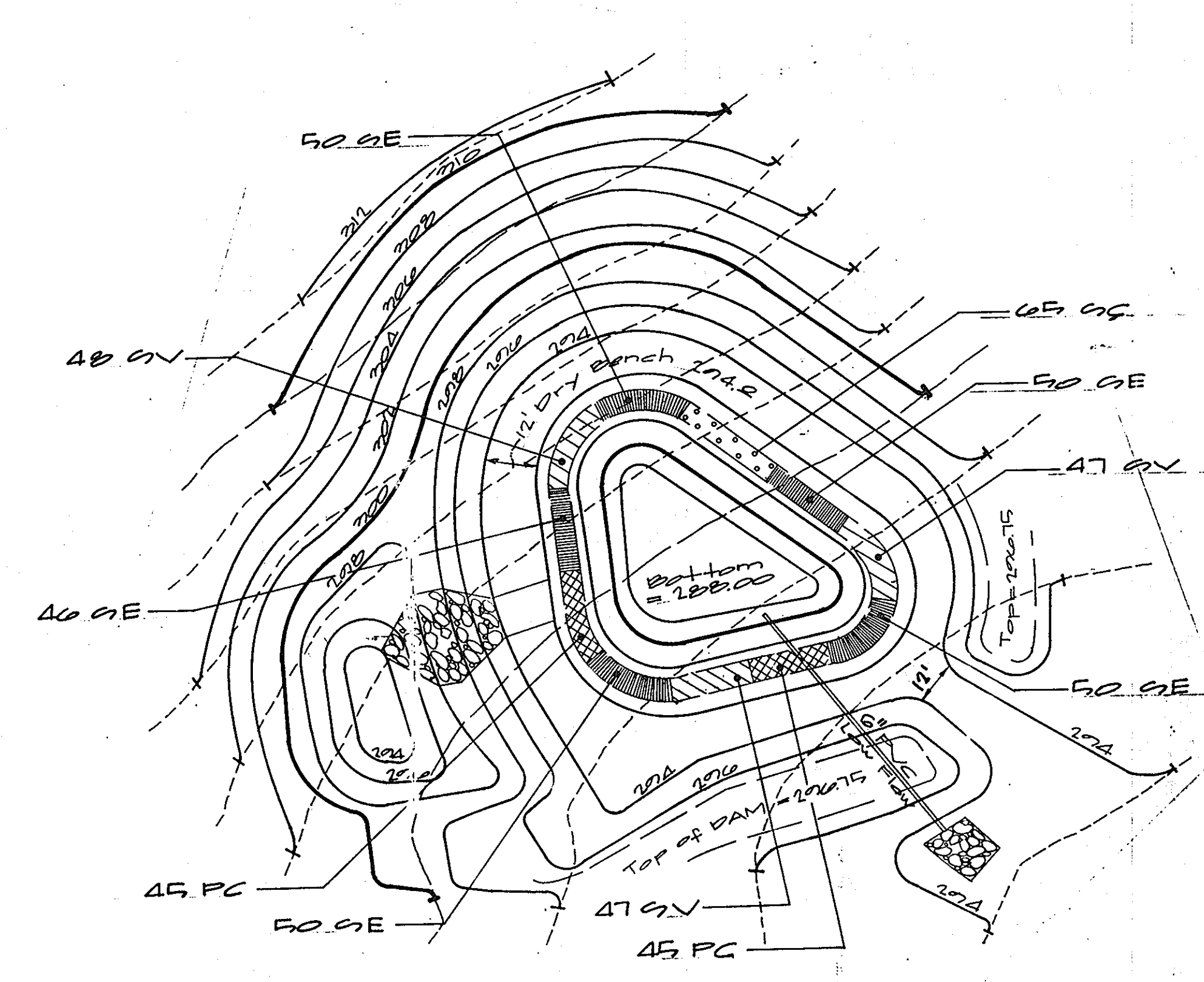
Key	Qty	Name (Botanical/Common Name)	Remarks
IV	1,160	Iris versicolor/Blue Flag	Tuber
PC	2,360	Ponederia cordata/Pickerelweed	Tuber
PP	540	Potamageton pectinatus/Pondweed	1 Pt.
SL	2,250	Sagittaria latifolia/Duck Potato	Tuber
SC	1,010	Saururus cernuus/Lizard's Tail	Tuber
PV	1,280	Peltandra virginicum/Arrow Arum	Tuber
HM	1,313	Hibiscus moschelitos/Marsh Hibiscus	1 1/2" Plug



**SHALLOW MARSH PLANTING PLAN FACILITY No. 3**  
SCALE: 1" = 50'

**LEGEND**

[Symbol]	IRIS VERSICOLOR/ BLUE FLAG
[Symbol]	PONLEDERIA CORDATA/ PICKERELWEED
[Symbol]	POTAMAGETON PECTINATUS/ PONDWEED
[Symbol]	SAGITTARIA LATIFALIA/ DUCK POTATO
[Symbol]	SAURURUS CERNUUS/ LIZARD'S TAIL
[Symbol]	PELTANDRA VIRGINICUM/ ARROW ARUM
[Symbol]	HIBISCUS MOSCHELITOS/ MARSH HIBISCUS



**Wet Bench Planting Plan Facility No. 1**  
SCALE: 1" = 20'

**Legend**

[Symbol]	Pickerel Weed/ Ponederia Cordata
[Symbol]	Lizard's Tail/ Saururus Cernuus
[Symbol]	Giant Bur-reed/ Sparganium Eurycarpum
[Symbol]	Soft Stem Bulrush/ Scirpus Validus

**Wet Bench Planting For Facility No. 1**

Key	Qty	Name (Common/Botanical)	Remarks
PC	100	Pickerel Weed/Ponederia	Bare Root @ 18" OC ±
OC	65	Lizard's Tail/Saururus cernuus	Bare Root @ 18" OC ±
OE	240	Giant Bur-reed/Sparganium Eurycarpum	Bare Root @ 18" OC ±
OV	142	Soft Stem Bulrush/Scirpus Validus	Bare Root @ 18" OC ±

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
Chief, Bureau of Highways  
Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
Chief, Division of Land Development  
Date

Chief, Development Engineering Division  
Date

**GLW GUTSCHICK LITTLE & WEBER, A.**  
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(410) 992-6089



STORMWATER MANAGEMENT FACILITY 3 PLANTING PLANS & DETAILS

**STONE LAKE**  
PARCELS 'A' THRU 'E'  
LOTS 1 THRU 4.4  
LIBER 572 FOLIO 430

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	R-ED	99140
DAIL	TAX MAP - GRID	SHEET
Oct., 2001	47-9/10	22 OF 40

HOWARD COUNTY, MARYLAND

ELECTION DISTRICT No. 6

DESIGN	DATE	REVISION	BY	APP'R.



CONSTRUCTION SPECIFICATIONS

These specifications are appropriate to all ponds facility number 1A.3. All references to ASTM and AASHTO specifications apply to the most recent version.

Site Preparation

Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped of topsoil. All trees, vegetation, roots and other objectionable material shall be removed.

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

Earth Fill

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

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 layers compacted in lifts which shall be continuous over the entire length of the fill.

Compaction - The movement of the loading 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 track tread of heavy equipment or compaction shall be achieved by a minimum of four complete passes of a pneumatic rubber tired or vibratory roller.

Backfilling - 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.

Backfilling shall conform to "Structure Backfill". Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

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.

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.

Flowable Fill - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-274 with anti-seep collars, valves, and flanges.

Pipe Details

All pipes shall be circular in cross section.

Corroded Metal Pipes

All of the following criteria shall apply for corroded metal pipes.

1. Materials - (Polymer Coated Steel Pipe) - Steel pipes with polymeric coatings shall have a minimum coating thickness of 0.01 inch (10 mil) on both sides of the pipe.

Materials - (Aluminum Coated Steel Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-274 with anti-seep collars, valves, and flanges.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Chief, Bureau of Highways

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Chief, Division of Land Development

Chief, Development Engineering Division

Materials - (Aluminum Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-196 or M-211 with weatherlight coupling bands or flanges.

2. Coupling bands, anti-seep collars, and sections, etc. must be composed of the same material and coatings as the pipe.

3. Connections - All connections with pipes must be completely weatherlight. The drain pipe or barrel connection to the riser shall be welded all around when the pipe and riser are metal.

Materials - The fill material shall be taken from approved designated borrow areas. It shall be free of rocks, stumps, wood, rubbish, stones greater than 6" across or other objectionable materials.

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Chief, Division of Land Development

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STANDARD 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.

CONDUCTIONS WHERE PRACTICE APPLIES

- 1. 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.

CONSTRUCTION AND MATERIAL SPECIFICATIONS

1. Topsoil salvaged from the existing site may be used provided that it meets the standards as set forth in these specifications.

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1. 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.

2. 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.

3. Following initial soil disturbance or redistribution, permanent or temporary stabilization shall be completed within: a) 7 calendar days for all perimeter sediment control structures, dikes and perimeter slopes and all slopes greater than 3:1, b) 14 days as to all other disturbed or graded areas on the project site.

4. All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chapter 12 of the HOWARD COUNTY DESIGN 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.

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: 136.7 Acres; Area Disturbed: 28.31 Acres; Area to be roofed or paved: 2.50 Acres; Area to be vegetatively stabilized: 25.81 Acres.

8. Any sediment control practices which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.

9. Additional sediment control must be provided, if deemed necessary by the Howard County DPW Sediment Control Inspector.

10. On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading.

11. Trenches for the construction of utilities is limited to 3 pipe lengths or that which shall be backfilled and stabilized within 1 working day, whichever is shorter.

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, discing or other acceptable means before seeding (unless previously loosened).

Soil Amendments: In lieu of soil test recommendations, use one of the following schedules

1) Preferred - Apply 2 tons per acre dolomitic limestone (92 lbs/1000 square feet) and 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sq ft) before seeding.

2) Acceptable - Apply 2 tons per acre dolomitic limestone (92 lbs/1000 sq ft) and 1000 lbs per acre 10-10-10 fertilizer (23 lbs/1000 sq ft) before seeding.

3) Composted Sludge Material for use as a soil conditioner for sites having disturbed areas over 5 acres shall be tested to prescribe amendments and for sites having disturbed areas under 5 acres shall conform to the following requirements:

a. Composted sludge shall be supplied by, or originate from, a person or persons that are permitted (at the time of acquisition of the compost) by the Maryland Department of the Environment under COMAR 26.04.06.

Alternative for Permanent Seeding - Instead of applying the full amounts of lime and commercial fertilizer, composted sludge and amendments may be applied as specified below:

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

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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.

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: 136.7 Acres; Area Disturbed: 28.31 Acres; Area to be roofed or paved: 2.50 Acres; Area to be vegetatively stabilized: 25.81 Acres.

8. Any sediment control practices which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.

9. Additional sediment control must be provided, if deemed necessary by the Howard County DPW Sediment Control Inspector.

10. On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading.

11. Trenches for the construction of utilities is limited to 3 pipe lengths or that which shall be backfilled and stabilized within 1 working day, whichever is shorter.

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, discing or other acceptable means before seeding (unless previously loosened).

Soil Amendments: In lieu of soil test recommendations, use one of the following schedules

1) Preferred - Apply 2 tons per acre dolomitic limestone (92 lbs/1000 square feet) and 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sq ft) before seeding.

2) Acceptable - Apply 2 tons per acre dolomitic limestone (92 lbs/1000 sq ft) and 1000 lbs per acre 10-10-10 fertilizer (23 lbs/1000 sq ft) before seeding.

3) Composted Sludge Material for use as a soil conditioner for sites having disturbed areas over 5 acres shall be tested to prescribe amendments and for sites having disturbed areas under 5 acres shall conform to the following requirements:

a. Composted sludge shall be supplied by, or originate from, a person or persons that are permitted (at the time of acquisition of the compost) by the Maryland Department of the Environment under COMAR 26.04.06.

Alternative for Permanent Seeding - Instead of applying the full amounts of lime and commercial fertilizer, composted sludge and amendments may be applied as specified below:

i. Composted Sludge Material for use as a soil conditioner for sites having disturbed areas over 5 acres shall be tested to prescribe amendments and for sites having disturbed areas under 5 acres shall conform to the following requirements:

a. Composted sludge shall be supplied by, or originate from, a person or persons that are permitted (at the time of acquisition of the compost) by the Maryland Department of the Environment under COMAR 26.04.06.

STANDARD 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.

CONDUCTIONS WHERE PRACTICE APPLIES

- 1. 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.

CONSTRUCTION AND MATERIAL SPECIFICATIONS

1. Topsoil salvaged from the existing site may be used provided that it meets the standards as set forth in these specifications.

CONSTRUCTION AND MATERIAL SPECIFICATIONS

1. Topsoil salvaged from the existing site may be used provided that it meets the standards as set forth in these specifications.

1. 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.

2. 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.

3. Following initial soil disturbance or redistribution, permanent or temporary stabilization shall be completed within: a) 7 calendar days for all perimeter sediment control structures, dikes and perimeter slopes and all slopes greater than 3:1, b) 14 days as to all other disturbed or graded areas on the project site.

4. All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chapter 12 of the HOWARD COUNTY DESIGN 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.

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: 136.7 Acres; Area Disturbed: 28.31 Acres; Area to be roofed or paved: 2.50 Acres; Area to be vegetatively stabilized: 25.81 Acres.

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9. Additional sediment control must be provided, if deemed necessary by the Howard County DPW Sediment Control Inspector.

10. On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading.

11. Trenches for the construction of utilities is limited to 3 pipe lengths or that which shall be backfilled and stabilized within 1 working day, whichever is shorter.

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, discing or other acceptable means before seeding (unless previously loosened).

Soil Amendments: In lieu of soil test recommendations, use one of the following schedules

1) Preferred - Apply 2 tons per acre dolomitic limestone (92 lbs/1000 square feet) and 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sq ft) before seeding.

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i. Composted Sludge Material for use as a soil conditioner for sites having disturbed areas over 5 acres shall be tested to prescribe amendments and for sites having disturbed areas under 5 acres shall conform to the following requirements:

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STANDARD 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.

CONDUCTIONS WHERE PRACTICE APPLIES

- 1. 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.

CONSTRUCTION AND MATERIAL SPECIFICATIONS

1. Topsoil salvaged from the existing site may be used provided that it meets the standards as set forth in these specifications.

CONSTRUCTION AND MATERIAL SPECIFICATIONS

1. Topsoil salvaged from the existing site may be used provided that it meets the standards as set forth in these specifications.

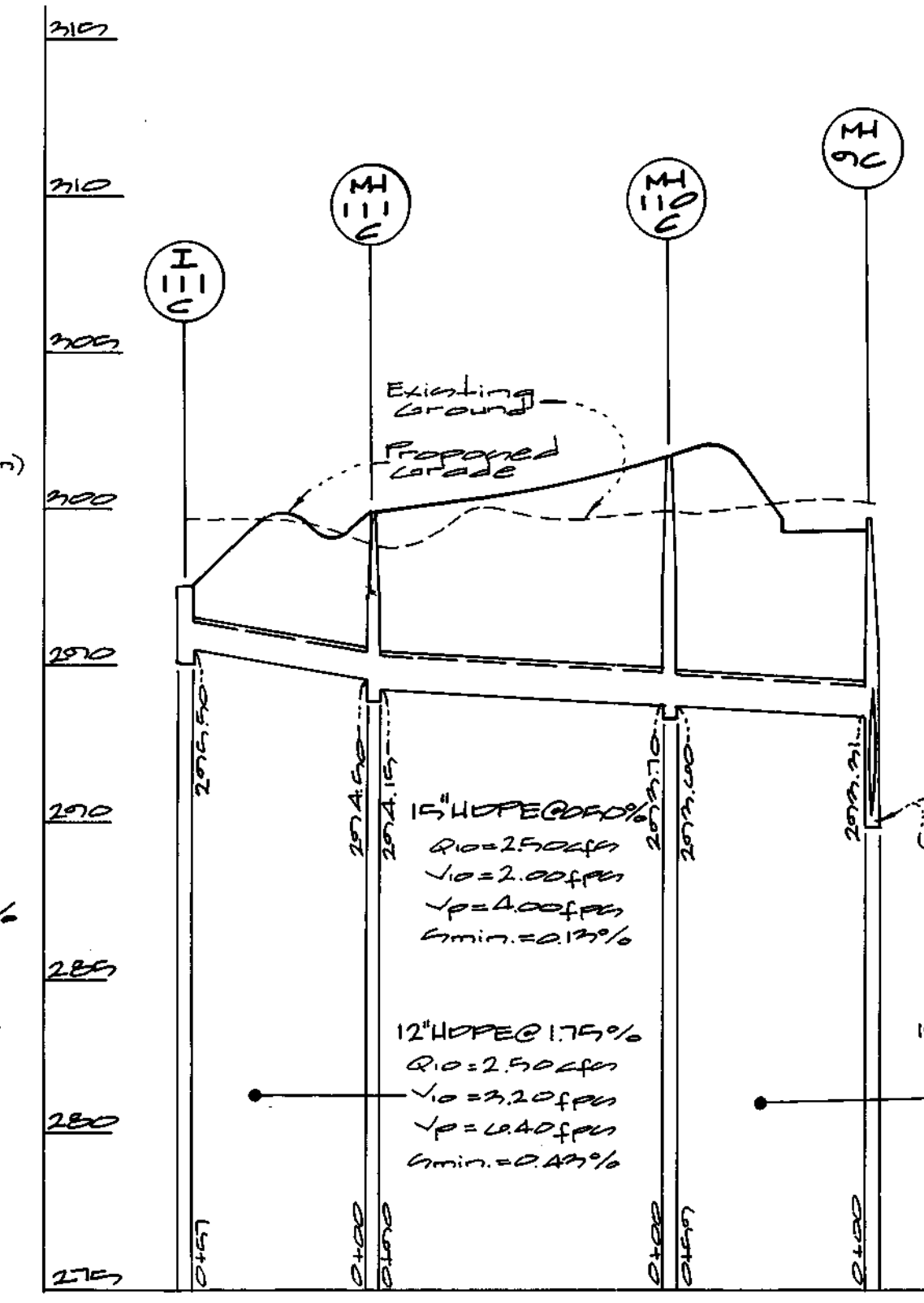
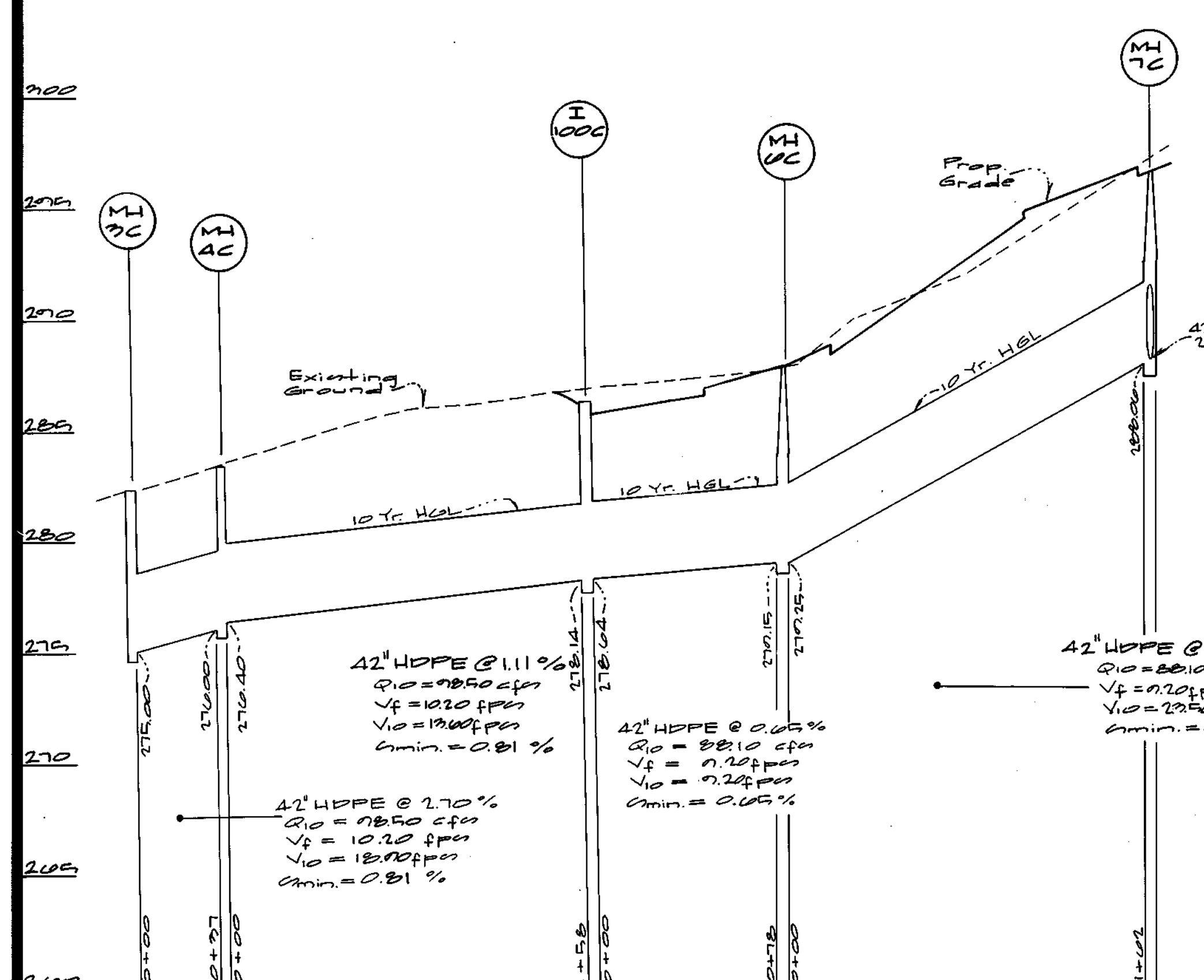
1. Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority.

2. 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.



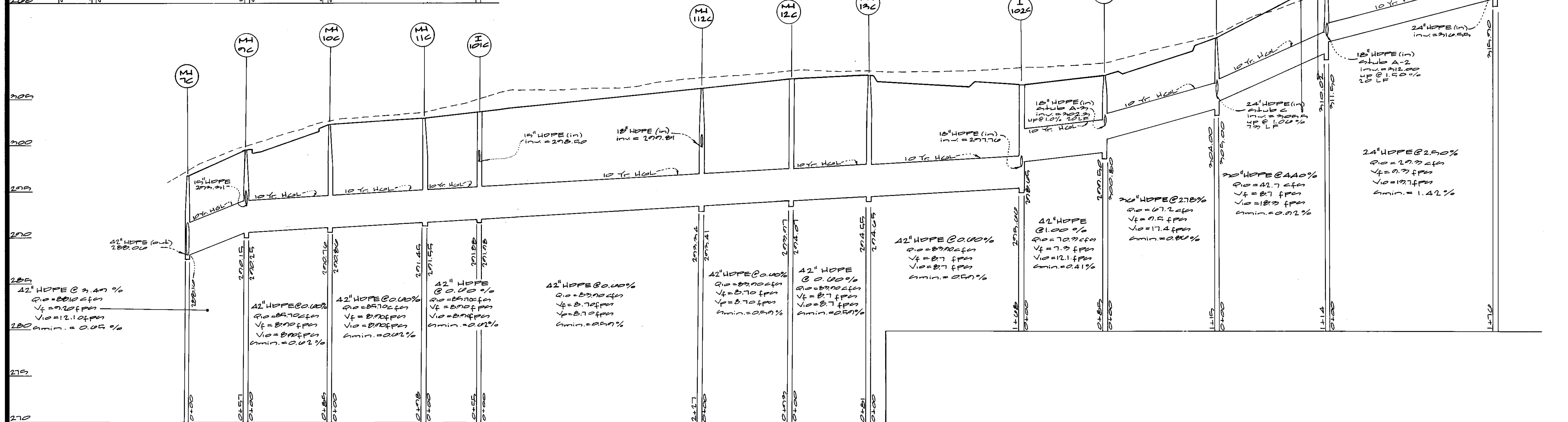






PIPE SUMMARY		
SIZE	TYPE	LENGTH
24"	HDPE	240'
72"	"	114'
36"	"	115'
42"	"	1350'
18"	"	40'

STRUCTURE SCHEDULE										
NO	TYPE	WIDTH (INSIDE)	TOP ELEVATION		INVERT ELEVATION		STD. DETAIL	LOCATIONS	REMARKS	
			UPPER	LOWER	UPPER	LOWER				
MH-10C	Std. Precast MH	48"	217.74	217.74	210.02	210.02	G 5.12	Entr. For Manholes East of Face of Curb on Right	Shoulder Ridge	
MH-15C	"	72"	202.20	202.20	204.00	204.00	MD 384.05	7+93.00	21' Right	"
MH-14C	"	60"	202.41	202.41	200.50	200.50	G 5.13	9+37.00	21' Right	"
MH-13C	"	72"	201.92	201.92	194.55	194.55	MD 384.05	12+07	15.5' Right	"
MH-18C	"	72"	200.00	200.00	199.97	199.97		12+90	15.5' Right	"
MH-11C	"	72"	202.10	202.10	191.45	191.45		16+95.00	15.5' Right	"
MH-10C	"	72"	202.10	202.10	191.70	191.70		16+95.00	15.5' Right	"
MH-7C	Std. Precast MH	72"	192.00	192.00	188.00	188.00	MD 384.05	1+10	12' Left	Mass cliff cut
MH-6C	"	72"	200.00	200.00	190.15	190.15		2+20	15' Left	"
I-100C	A-10 Inlet	4'-6"	206.00	206.00	178.14	178.14	SD 4.41	3+57.00	0.00' Left	"
MH-10C	Std. Precast MH	4'	201.00	201.00	203.00	203.00	G 5.12	985 Plan	Shoulder Ridge	"
MH-11C	"	4'	200.00	200.00	201.15	201.15	G 5.12		"	"
I-111C	Type D Inlet	2'-7"	207.50	207.50	206.50	206.50	SD 4.30		"	"



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 Chief, Bureau of Highways

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
 Chief, Division of Land Development

Profile  
 scales: 1" = 50' horiz.  
 1" = 5' vert.

Michael J. Tropper

**GLW** GUTSCHICK LITTLE & WEBER, P.A.  
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
 3909 NATIONAL DRIVE - SUITE 250 - BARTONSVILLE OFFICE PARK  
 BARTONSVILLE, MARYLAND 20866  
 TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

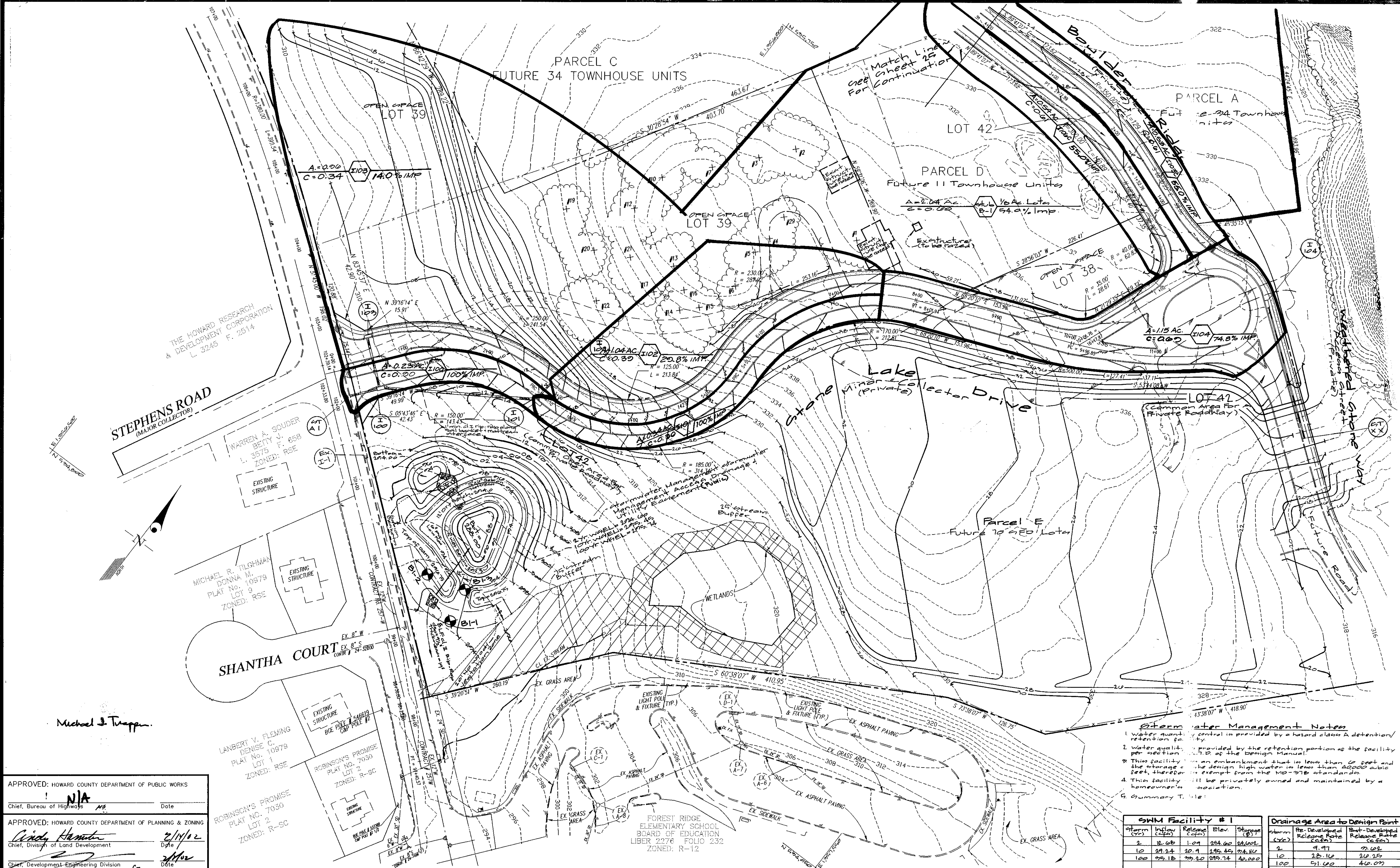
DATE	REVISION	BY	APP'R.

PREPARED FOR:  
 THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION  
 10275 LITTLE PATUXENT PKWY.  
 COLUMBIA, MD 21044  
 ATTN: BOB JENKINS  
 (410) 992-6089

STORM DRAIN PROFILES  
**STONE LAKE**  
 PARCELS 'A' THRU 'E'  
 LOTS 1 THRU 4.4  
 LIBER 572 FOLIO 430  
 HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	R-ED	99140
Oct., 2001	47-9/10	25 OF 40





THE HOWARD RESEARCH & DEVELOPMENT CORPORATION  
L. 3245 F. 2514

STEPHENS ROAD  
(MAJOR COLLECTOR)

WARREN A. SOUDER  
BETTY J.  
L. 3575 F. 658  
ZONED: RSE

EXISTING STRUCTURE

MICHAEL R. TLOHMAN  
DONNA M.  
PLAT NO. 10679  
LOT 9  
ZONED: RSE

EXISTING STRUCTURE

SHANTHA COURT  
EX. B'S  
CONV. # 24-52200

LANBERT V. FLEMING  
DENISE C.  
PLAT NO. 10979  
LOT 1  
ZONED: RSE

ROBINSON'S PROMISE  
PLAT NO. 7030  
LOT 2  
ZONED: R-SC

EXISTING STRUCTURE

ROBINSON'S PROMISE  
PLAT NO. 7030  
LOT 2  
ZONED: R-SC

EXISTING STRUCTURE

FOREST RIDGE  
ELEMENTARY SCHOOL  
BOARD OF EDUCATION  
LIBER 2276 FOLIO 232  
ZONED: R-12

Michael J. Trapp

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
N/A  
Chief, Bureau of Highways  
Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
Cindy Hamlin  
Chief, Division of Land Development  
Date 2/11/02

Chief, Development Engineering Division  
Date 2/11/02

**Stormwater Management Notes**

1. Water quantity control is provided by a hazard class A detention/retention facility.
2. Water quality is provided by the retention portion of the facility per section 2-7.12 of the Design Manual.
3. This facility has an embankment that is less than 60 feet and the storage of the design high water is less than 40,000 cubic feet, therefore it is exempt from the MD-37B standards.
4. This facility will be privately owned and maintained by a homeowner's association.
5. Summary Table:

Storm Facility # 1					Drainage Area to Design Point		
Storm (yr)	Inflow (cfs)	Release (cfs)	Elev. (ft)	Storage (cu ft)	Storm (yr)	Re-Developed Release Rate (cfs)	But-Developed Release Rate (cfs)
2	10.00	1.09	294.00	24,000	2	9.97	2.02
10	29.24	20.9	295.45	24,000	10	28.16	20.25
100	95.18	79.20	295.74	40,000	100	51.00	40.00

GLW GUTSCHICK LITTLE & WEBER, P.A.  
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
3909 NATIONAL DRIVE - SUITE 250 - BURTONTOWN, MARYLAND 20866  
TEL: 301-421-4024 BAL: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

NO.	DATE	REVISION	BY	APP'R.

PREPARED FOR:  
THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION  
10275 LITTLE PATENT PARKWAY  
COLUMBIA, MD 21044  
PH: 410-992-6089  
ATTN: MR. BOB JENKINS

STORM DRAIN DRAINAGE AREA MAP  
STONE LAKE  
PARCELS 'A' THRU 'E'  
LOTS 1 THRU 44  
ELECTION DISTRICT No. 6

SCALE  
1"=50'

ZONING  
R-ED

G. L. W. FILE NO.  
99140

DATE  
October, 2001

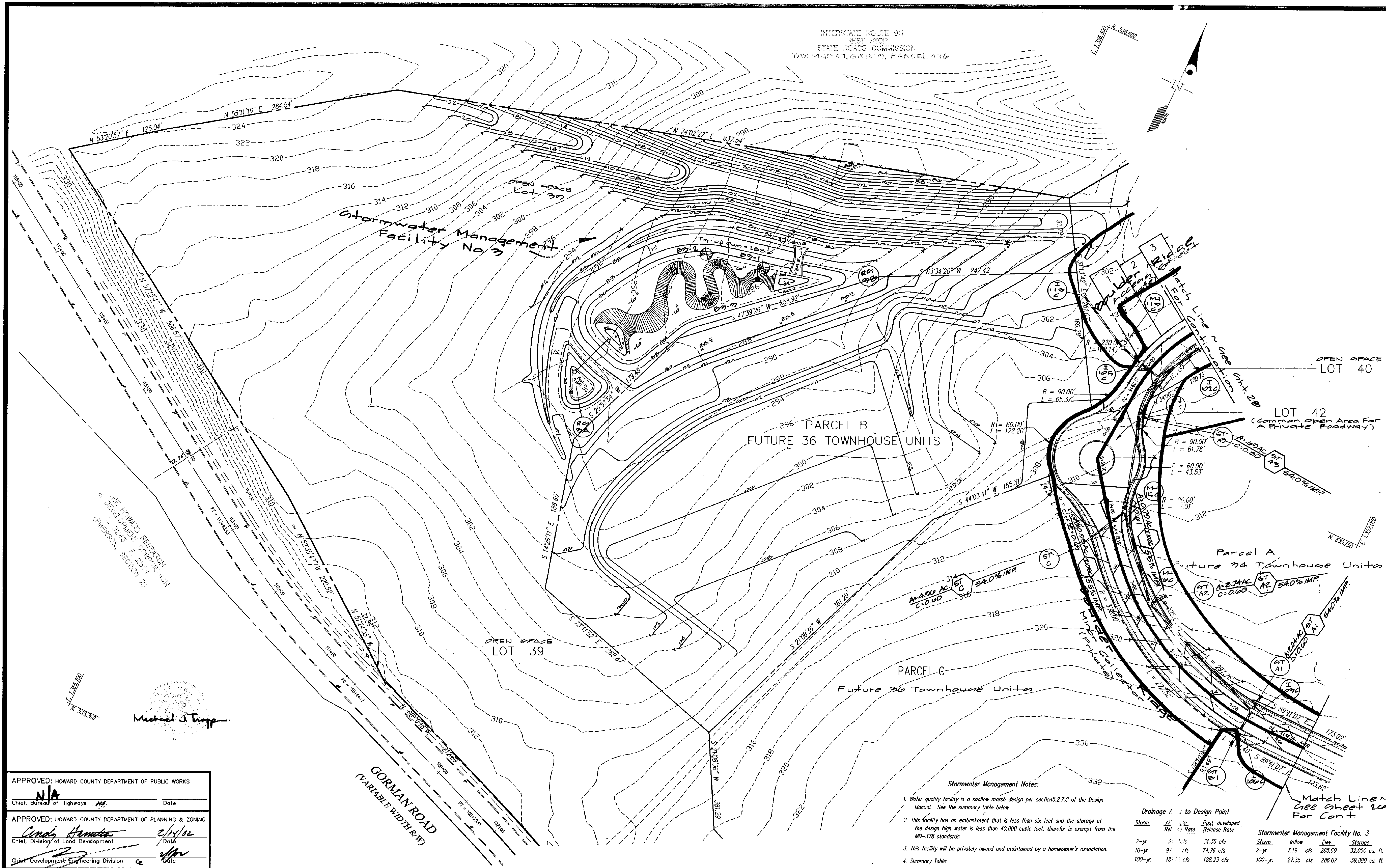
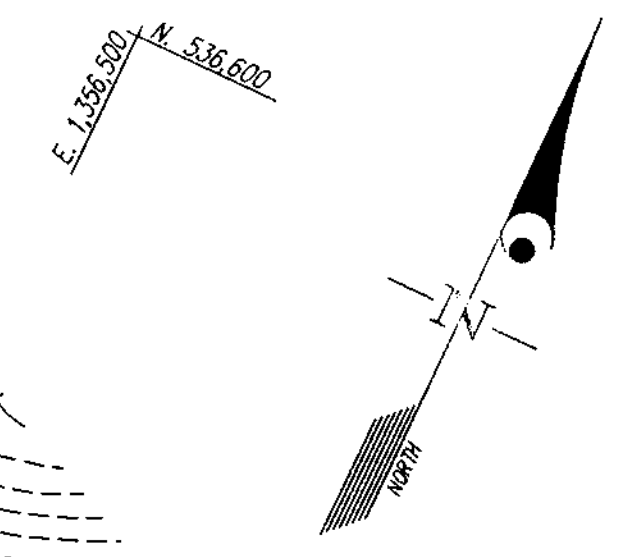
TAX MAP - GRID  
47 - 9/10

SHEET  
20 OF 40

HOWARD COUNTY, MARYLAND



INTERSTATE ROUTE 95  
REST STOP  
STATE ROADS COMMISSION  
TAX MAP 47, GRID 9, PARCEL 476



THE HOWARD RESEARCH  
& DEVELOPMENT CORPORATION  
L. 3245 F. 251.4  
GEMERSON, SECTION 2D

Michael J. Trapp

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
N/A  
Chief, Bureau of Highways  
Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
Candy Hamata  
Chief, Division of Land Development  
Date 2/14/02

Chief, Development Engineering Division  
Date

- Stormwater Management Notes:**
1. Water quality facility is a shallow marsh design per section 5.2.7.G of the Design Manual. See the summary table below.
  2. This facility has an embankment that is less than six feet and the storage at the design high water is less than 40,000 cubic feet, therefore is exempt from the MD-378 standards.
  3. This facility will be privately owned and maintained by a homeowner's association.
  4. Summary Table:

Drainage Area to Design Point				Stormwater Management Facility No. 3			
Storm	All-Weather Release Rate	Post-developed Release Rate	Storm	Inflow	Elev.	Storage	
2-yr.	31.35 cfs	31.35 cfs	2-yr.	7.19 cfs	285.60	32,050 cu. ft.	
10-yr.	97.12 cfs	74.76 cfs	10-yr.	27.35 cfs	286.07	39,880 cu. ft.	
100-yr.	181.12 cfs	128.23 cfs	100-yr.	27.35 cfs	286.07	39,880 cu. ft.	

**GLW GUTSCHICK LITTLE & WEBER, P.A.**  
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
3809 NATIONAL DRIVE - SUITE 250 - BURTONTOWN OFFICE PARK  
BURTONTOWN, MARYLAND 20866  
TEL: 301-421-4024 BAL: 410-890-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

DATE	REVISION	BY	APPR.

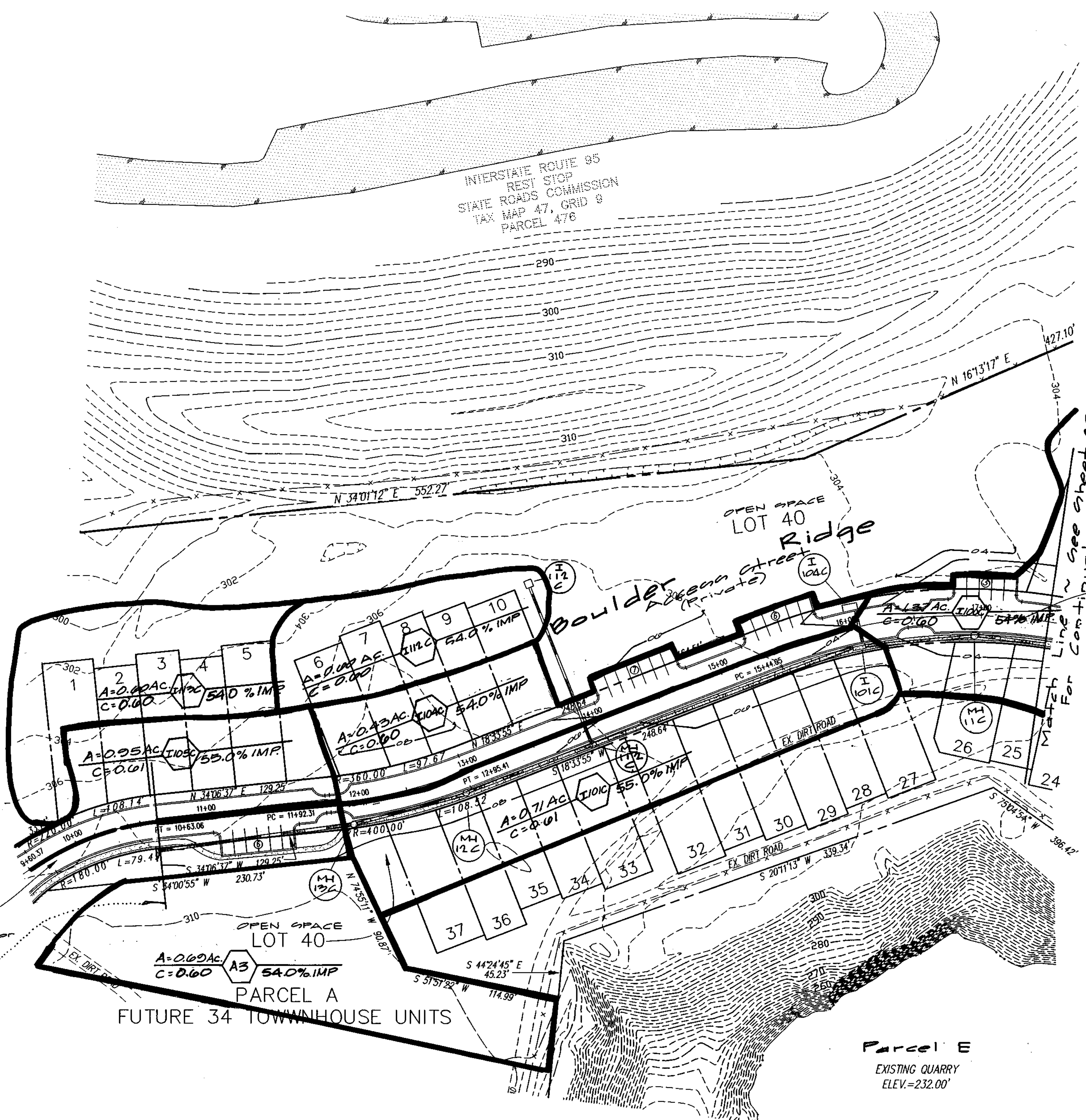
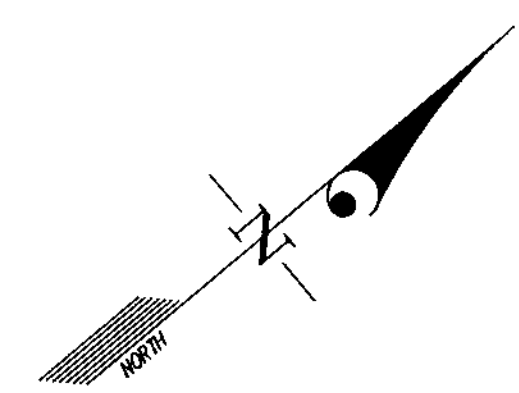
PREPARED FOR:  
**THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION**  
10275 LITTLE PATUXENT PARKWAY  
COLUMBIA, MD 21044  
PH: 410-992-6089  
ATTN: MR. BOB JENKINS

**STORM DRAIN DRAINAGE AREA MAP**  
**STONE LAKE**  
PARCELS 'A' THRU 'E'  
LOTS 1 THRU 44  
ELECTION DISTRICT No. 6

SCALE	ZONING	G. L. W. FILE No.
1"=50'	R-ED	99140
DATE	TAX MAP - GRID	SHEET
October 2001	47 - 9/10	27 OF 40



E. 1,357,000  
N. 537,200



LOT 42  
(Common Open Area For  
A Private Roadway)  
Match Line ~ See  
Sheet 17 For  
Continuation

LOT 42  
(Common Open Area For  
A Private Roadway)

Michael J. Treppa

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 Chief, Bureau of Highways *MS* Date  
 APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
 Chief, Division of Land Development *Andy Hensley* 2/14/02  
 Chief, Development Engineering Division *CE* Date

**GLW GUTSCHICK LITTLE & WEBER, P.A.**  
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK  
 BURTONSVILLE, MARYLAND 20866  
 TEL: 301-421-4024 BALE 410-890-1820 DC/VA 301-989-2524 FAX 301-421-4186

DATE	REVISION	BY	APPR.

PREPARED FOR:  
 THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION  
 10275 LITTLE PATENT PARKWAY  
 COLUMBIA, MD 21044  
 PH: 410-992-6089  
 ATTN: MR. BOB JENKINS

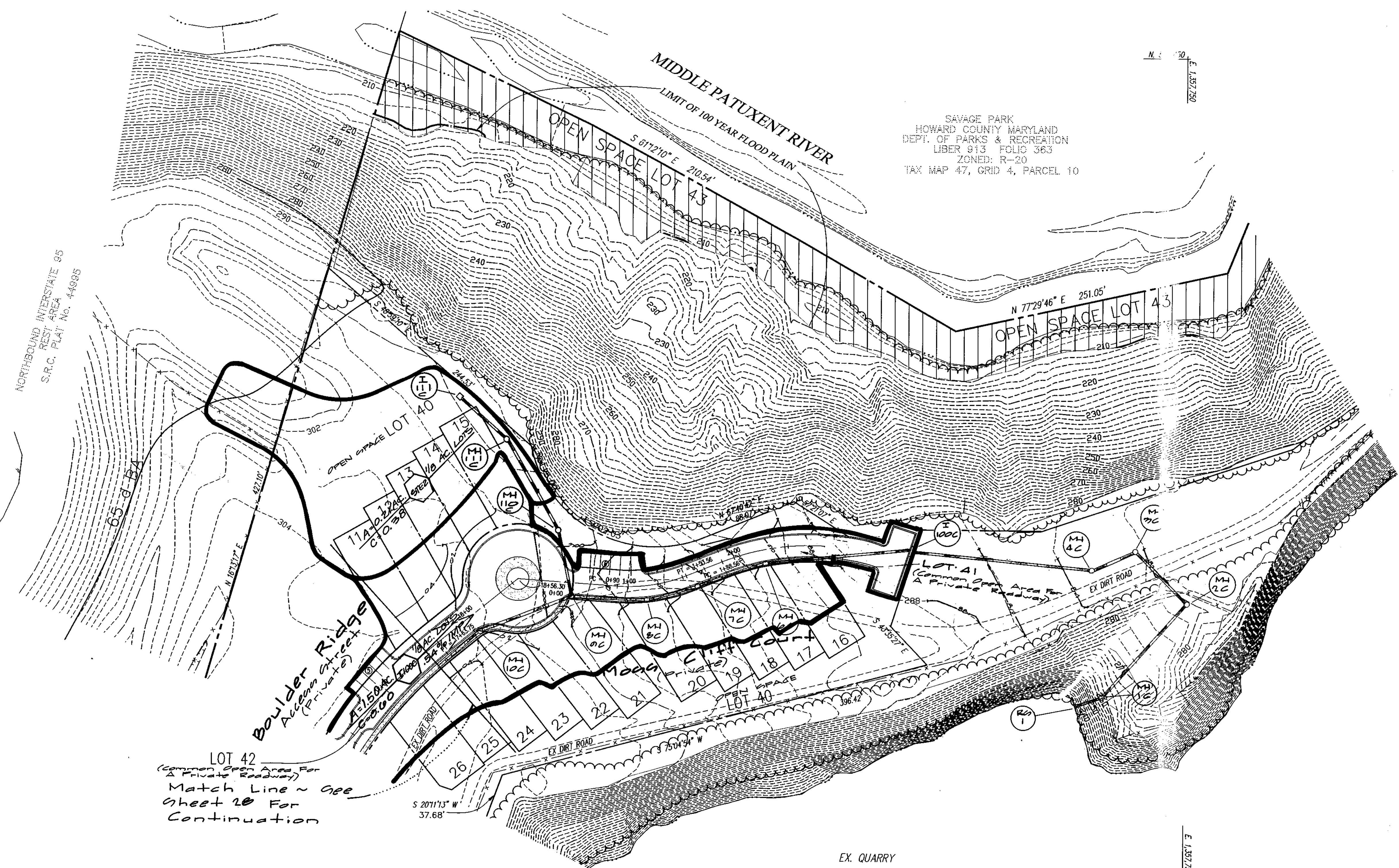
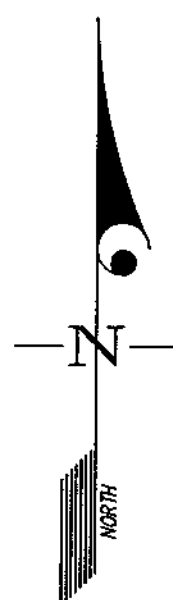
**STORM DRAIN DRAINAGE AREA MAP**  
**STONE LAKE**  
 PARCELS 'A' THRU 'E'  
 LOTS 1 THRU 44  
 LIBER 572 FOLIO 430  
 ELECTION DISTRICT No. 6

SCALE	ZONING	G. L. W. FILE No.
1"=50'	R-ED	99140
DATE	TAX MAP - GRID	SHEET
October, 2001	47 - 9/10	20 OF 40


HOWARD COUNTY, MARYLAND




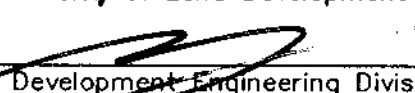
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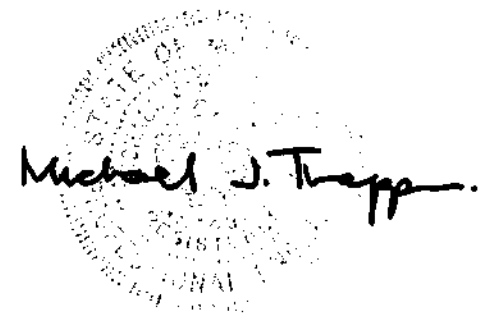


Savage Park  
HOWARD COUNTY MARYLAND  
DEPT. OF PARKS & RECREATION  
LIBER 813 FOLIO 363  
ZONED: R-20  
TAX MAP 47, GRID 4, PARCEL 10

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
  
 Chief, Bureau of Highways  
 Date: \_\_\_\_\_

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
  
 Chief, Division of Land Development  
 Date: 2/1/02

Chief, Development Engineering Division  
  
 Date: \_\_\_\_\_



**GLW GUTSCHICK LITTLE & WEBER, P.A.**  
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK  
 BURTONSVILLE, MARYLAND 20886  
 TEL: 301-421-4024 BALT. 410-980-1820 DC/VA: 301-989-2524 FAX: 301-421-4188

DATE	REVISION	BY	APP'R.

PREPARED FOR:  
**THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION**  
 10275 LITTLE PATUXENT PARKWAY  
 COLUMBIA, MD 21044  
 PH: 410-992-6089  
 ATTN: MR. BOB JENKINS

**STORM DRAIN DRAINAGE AREA MAP**

**STONE LAKE**  
 PARCELS 'A' THRU 'E'  
 LOTS 1 THRU 44  
 LIBER 572 FOLIO 430

ELECTION DISTRICT No. 6

SCALE	ZONING	G. L. W. FILE No.
1"=50'	R-ED	99140
DATE	TAX MAP - GRID	SHEET
October, 2001	47 - 9/10	27 OF 40





THE HOWARD RESEARCH & DEVELOPMENT CORPORATION  
L. 3245 F. 2514

STEPHENS ROAD  
(MAJOR COLLECTOR)

WARREN & SCOUPE  
BETTY J. F. 658  
L. 3575 F. 858  
ZONED: RSE

MICHAEL R. TILGHMAN  
DONNA M.  
PLAT No. 10979  
LOT 9  
ZONED: RSE

SHANTHA COURT

LANGBERT V. FLEMING  
DENISE C.  
PLAT No. 10979  
LOT 1  
ZONED: RSE

ROBINSON'S PROMISE  
PLAT No. 7030  
LOT 2  
ZONED: R-SC

FOREST RIDGE  
ELEMENTARY SCHOOL  
BOARD OF EDUCATION  
LIBER 2276 FOLIO 232  
ZONED: R-12

INTERNAL LANDSCAPING FOR  
SCHEDULE C IS DEFERRED  
TO THE SITE PLAN, ONCE HOUSES  
ARE LOCATED

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
N/A  
Chief, Bureau of Highways  
Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
Cecily R. Smith  
Chief, Division of Land Development  
2/14/02  
Date

Chief, Development Engineering Division  
Date

GLW GUTSCHICK LITTLE & WEBER, P.A.  
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK  
BURTONSVILLE, MARYLAND 20866  
TEL: 301-421-4024 BAL: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

DATE	REVISION	BY	APPR.

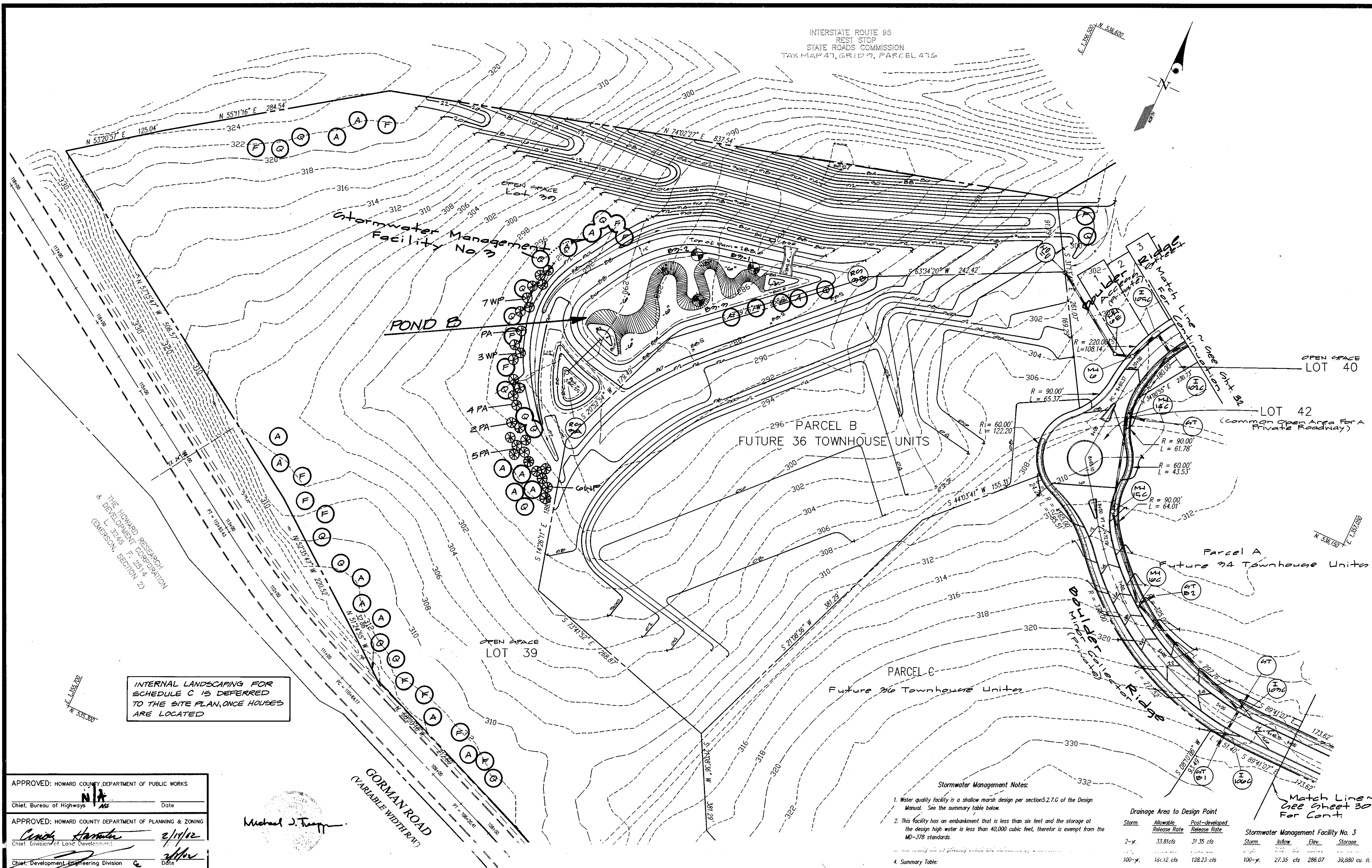
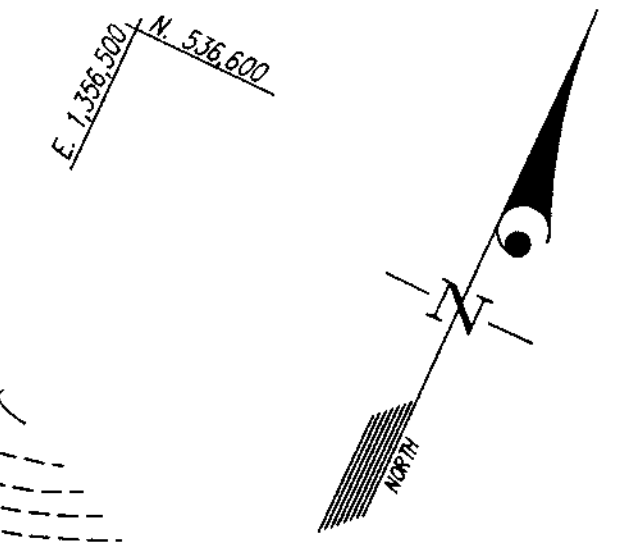
PREPARED FOR:  
THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION  
10275 LITTLE PATUXENT PARKWAY  
COLUMBIA, MD 21044  
PH: 410-992-6089  
ATTN: MR. BOB JENKINS

LANDSCAPE PLAN - ENTRY AREA  
STONE LAKE  
PARCELS 'A' THRU 'E'  
LOTS 1 THRU 44  
ELECTION DISTRICT No. 6

SCALE	ZONING	G. L. W. FILE No.
1"=50'	R-ED	99140
DATE	TAX MAP - GRID	SHEET
October, 2001	47 - 9/10	20 OF 40

HOWARD COUNTY, MARYLAND





INTERNAL LANDSCAPING FOR SCHEDULE C IS DEFERRED TO THE SITE PLAN, ONCE HOUSES ARE LOCATED

Stormwater Management Notes:

1. Water quality facility is a shallow marsh design per section 5.2.7.C of the Design Manual. See the summary table below.
2. This facility has an embankment that is less than six feet and the storage at the design high water is less than 40,000 cubic feet, therefore is exempt from the MD-378 standards.
4. Summary Table:

Drainage Area to Design Point

Storm	Allowable Release Rate	Post-developed Release Rate	Storm	Inflow	Elev.	Storage
2-yr.	33.81 cfs	31.35 cfs	100-yr.	77.0 cfs	286.07	39,880 cu. ft.
100-yr.	161.12 cfs	128.23 cfs				

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 Chief, Bureau of Highways *AS* Date  
 APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
 Chief, Division of Land Development *2/11/12*  
 Chief, Development Engineering Division *2/11/12* Date

Michael J. Trapp

GORMAN ROAD  
(VARIABLE WIDTH RW)

GLW GUTSCHICK LITTLE & WEBER, P.A.  
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK  
 BURTONSVILLE, MARYLAND 20866  
 TEL: 301-421-4024 BALT: 410-680-1620 DC/VA: 301-988-2524 FAX: 301-421-4186

DATE	REVISION	BY	APP'R.

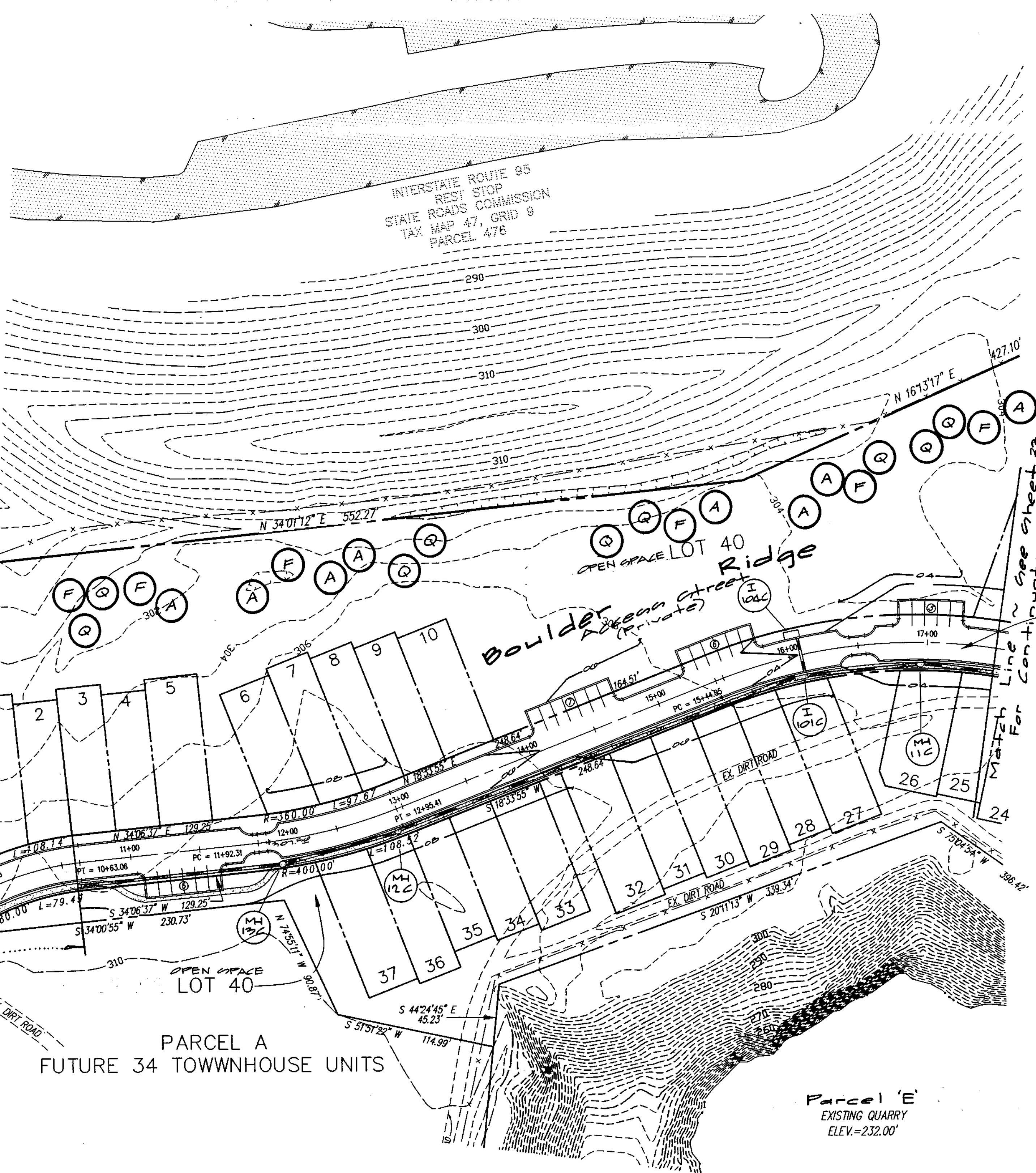
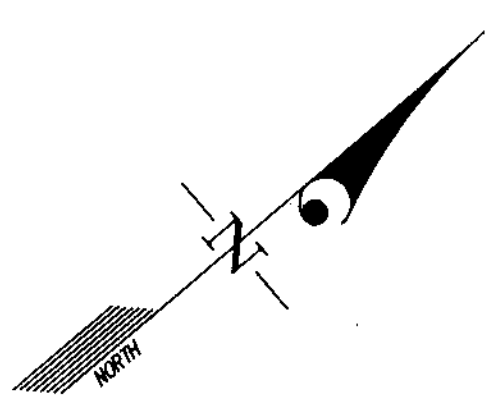
PREPARED FOR:  
 THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION  
 10275 LITTLE PATUXENT PARKWAY  
 COLUMBIA, MD 21044  
 PH: 410-992-6089  
 ATTN: MR. BOB JENKINS

LANDSCAPE PLAN - PARCELS A & BERM AREA  
**STONE LAKE**  
 PARCELS 'A' THRU 'E'  
 LOTS 1 THRU 44  
 ELECTION DISTRICT No. 6

SCALE	ZONING	G. L. W. FILE No.
1"=50'	R-ED	99140
DATE	TAX MAP - GRID	SHEET
October, 2001	47 - 9/10	31 OF 40



N 53.250  
E 1.587.200



N 53.250  
E 1.587.200

INTERNAL LANDSCAPING FOR SCHEDULE C IS DEFERRED TO THE SITE PLAN, ONCE HOUSES ARE LOCATED.

Michael J. Trapp

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 Chief, Bureau of Highways  
 Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
 Chief, Division of Land Development  
 Date

Chief, Development Engineering Division  
 Date

**GLW GUTSCHICK LITTLE & WEBER, P.A.**  
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK  
 BURTONSVILLE, MARYLAND 20886  
 TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

NO.	REVISION	DATE	BY	APP'R.

PREPARED FOR:  
 THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION  
 10275 LITTLE PATUXENT PARKWAY  
 COLUMBIA, MD 21044  
 PH: 410-992-6089  
 ATTN: MR. BOB JENKINS

LANDSCAPE PLAN - SOUTH TOWNHOUSE AREA

**STONE LAKE**  
 PARCELS 'A' THRU 'E'  
 LOTS 1 THRU 44  
 LIBER 572 FOLIO 430

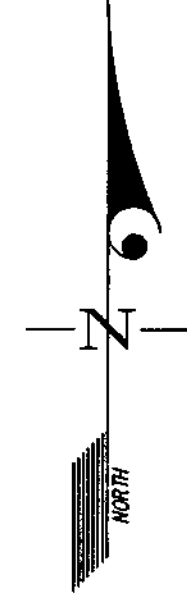
ELECTION DISTRICT No. 6

HOWARD COUNTY, MARYLAND

SCALE 1"=50'	ZONING R-ED	G. L. W. FILE No. 99140
DATE October, 2001	TAX MAP - GRID 47 - 9/10	SHEET 22 OF 40

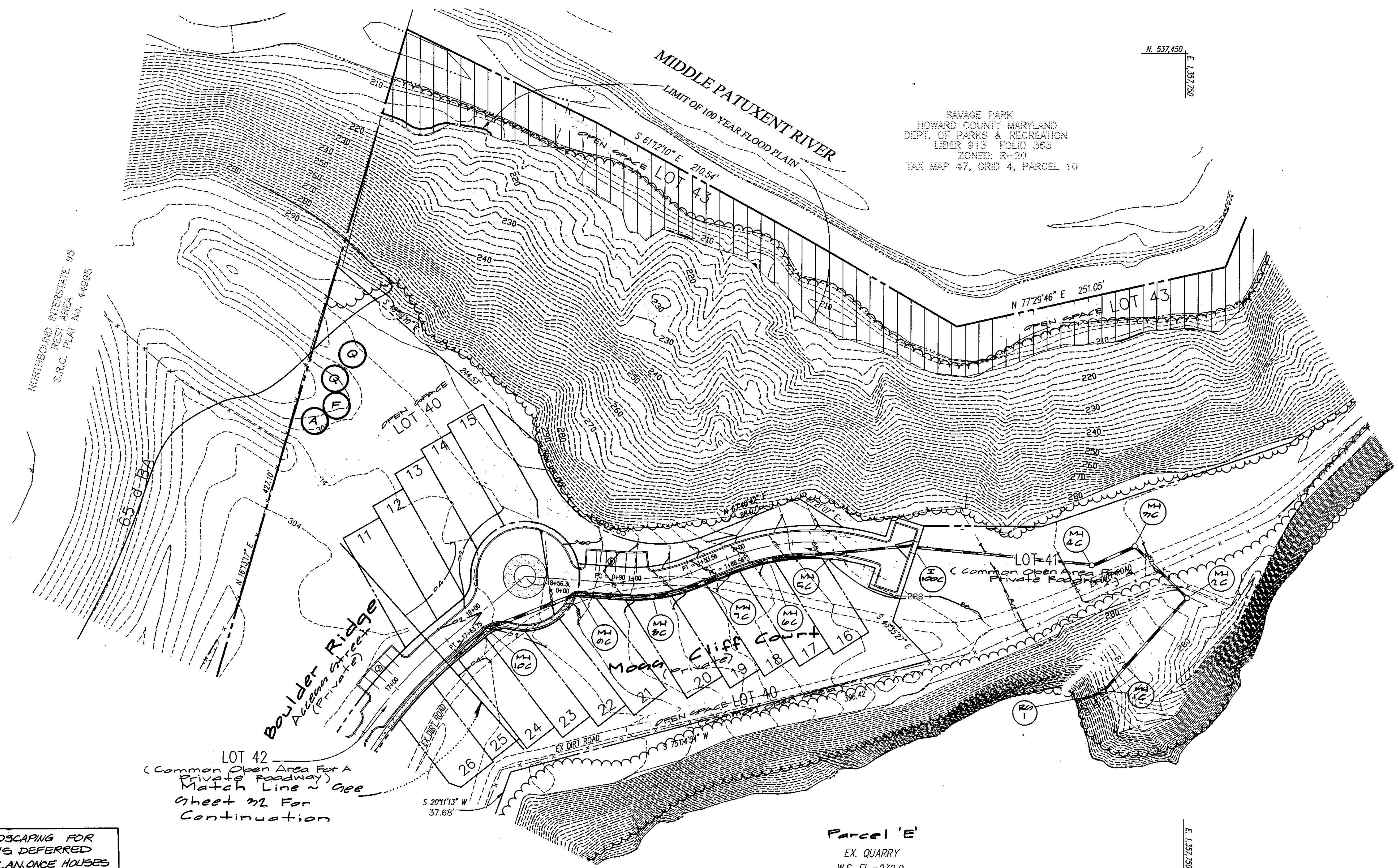


N. 537.450  
E. 1,357.790



N. 537.450  
E. 1,357.790

SAVAGE PARK  
HOWARD COUNTY MARYLAND  
DEPT. OF PARKS & RECREATION  
LIBER 813 FOLIO 363  
ZONED: R-20  
TAX MAP 47, GRID 4, PARCEL 10



LOT 42  
(Common Open Area For A  
Private Roadway)  
Match Line ~ See  
Sheet 22 For  
Continuation

INTERNAL LANDSCAPING FOR  
SCHEDULE C IS DEFERRED  
TO THE SITE PLAN, ONCE HOUSES  
ARE LOCATED

Parcel 'E'  
EX. QUARRY  
W.S. EL.=232.0

N. 536,700  
E. 1,357,790

Michael J. Treppa

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
Chief, Bureau of Highways  
Date  
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
Chief, Division of Land Development  
Date  
Chief, Development Engineering Division  
Date

GLW GUTSCHICK LITTLE & WEBER, P.A.  
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK  
BURTONSVILLE, MARYLAND 20866  
TEL: 301-421-4024 FAX: 410-980-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

DATE	REVISION	BY	APPR.

PREPARED FOR:  
THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION  
10275 LITTLE PATUXENT PARKWAY  
COLUMBIA, MD 21044  
PH: 410-992-6089  
ATTN: MR. BOB JENKINS

LANDSCAPE PLAN - NORTH TOWNHOUSE AREA  
STONE LAKE  
PARCELS 'A' THRU 'E'  
LOTS 1 THRU 4A  
LIBER 572 FOLIO 430  
ELECTION DISTRICT No. 6  
HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1"=50'	R-ED	99140
DATE	TAX MAP - GRID	SHEET
October, 2001	47 - 9/10	22 OF 40



SCHEDULE A PERIMETER LANDSCAPE EDGE Category	Sec. 16.124 (2) i		
	Adj. to Roadways	Adj. to Perimeter Property	
Perimeter	5	1	4A
Landscape Buffer Type	A	A	A
Linear Feet of Roadway/ Perimeter Frontage	1952	2310	1217
Credit for Ex. Vegetation (Yes, No, Linear Feet) (describe below if needed)	NO	YES 220	NO
Credit for Wall, Fence or Berm (Yes, No, Linear Feet) (describe below if needed)	NO	NO	NO
Number of Plants Required			
Shade Trees	32	34	20
Evergreen Trees	0	0	0
Shrubs	0	0	0
Number of Plants Provided			
Shade Trees	33	35	23
Evergreen Trees	0	0	0
Other Trees (2:1 subst.)			
Shrubs (10:1 subst.)			
(describe plant substitution credits below if needed)	- Alternative Compliance...exceeds county req. -		

SCHEDULE D STORMWATER MANAGEMENT AREA LANDSCAPING	Sec. 16.124 (2) i	
	FACILITY 1	FACILITY 3
Linear Feet of Perimeter:	913 LINEAR FEET	1120 LINEAR FEET
Number of Trees Required	Buffer B: 1:50 Shade Trees 1:40 Evergreen Trees	Buffer B: 50 Shade Trees 40 Evergreen Trees
Shade Trees	18	22
Evergreen Trees	29	28
Credit for Other Vegetation (No, Yes, and %)	NO	NO
Credit for Existing Vegetation (No, Yes, and %)	NO	NO
Number of Trees Provided	NO	NO
Shade Trees	21	23
Evergreen Trees	40	28

Schedule 'A' Number of Shade Trees for bonding: 86 x \$300 = \$25,800.00  
 Schedule 'D' Number of shade trees for bonding: 40 x \$300 = \$12,000.00  
 Schedule 'D' Number of evergreen trees for bonding: 51 x \$150 = \$7,650.00  
**TOTAL LANDSCAPE SURETY REQUIRED WITH DEVELOPER'S AGREEMENT: \$45,450.00**

Financial surety for the required landscaping has been posted as part of the DPW Developer's Agreement in the amount of \$45,450.00.

Internal landscaping for SFA lots on this plan is deferred until Site Plan.

Note: Schedule A and D Landscaping for Parcel E will be provided as a part of the re-subdivision of Parcel E under F-01-204.

**PLANT LIST**

SYMBOL	QTY.	NAMES (BOTANICAL / SCIENTIFIC)	SIZE	ROOT	COMMENTS
<b>SHADE TREES</b>					
A*	49	Acer rubrum 'October Sunset'	2 2 1/2" Cal.	B&B	
F	31	Fraxinus pennsylvanicum 'Summit'	2 1/2-3" Cal.	B&B	
Q	55	Quercus pelustris Pin Oak	2 1/2-3" Cal.	B&B	
<b>EVERGREEN TREES</b>					
PA	30	Picea abies Norway Spruce	8'-10' HL.	B&B	
WP	38	Pinus strobus White Pine	8'-10' HL.	B&B	

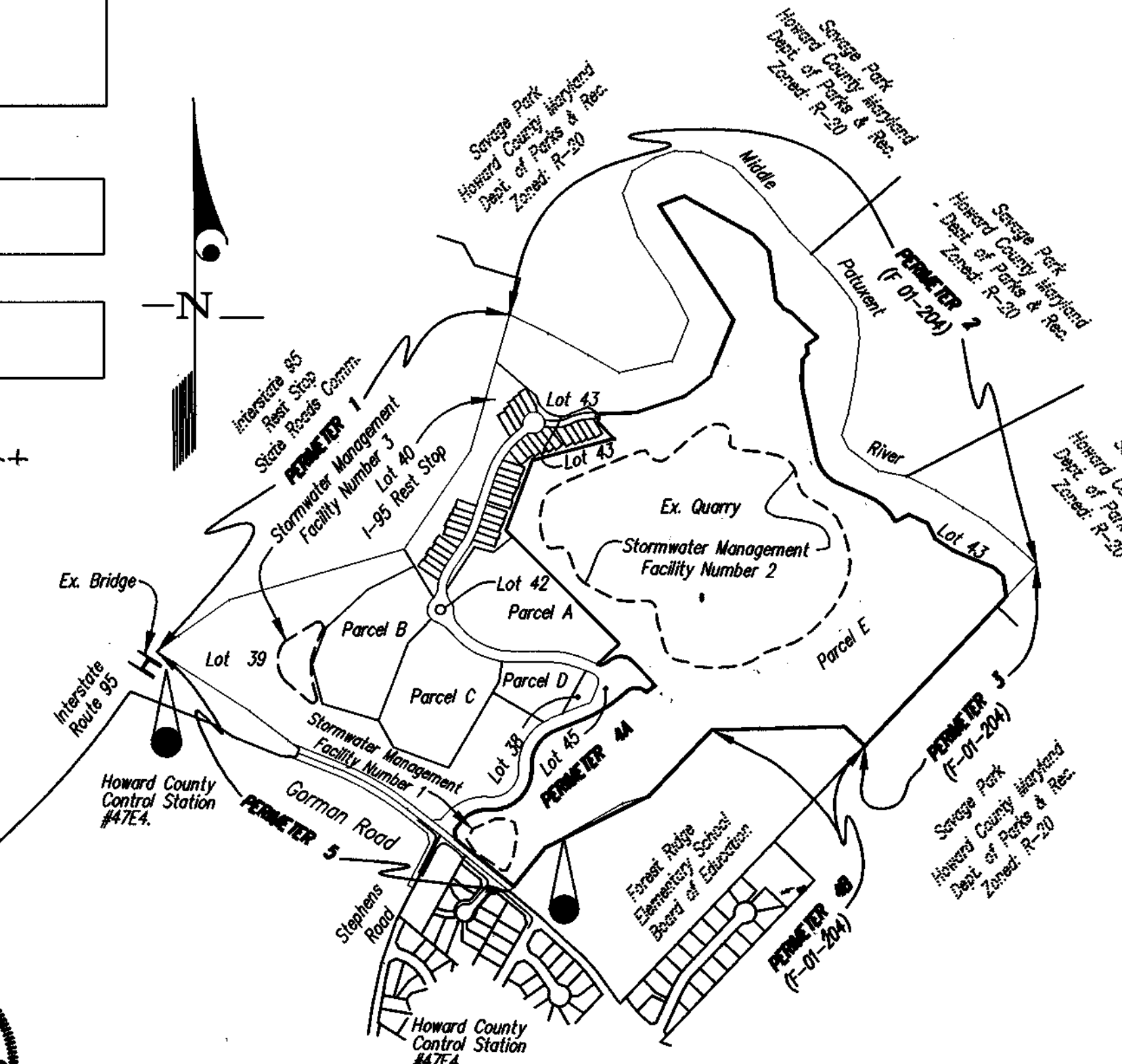
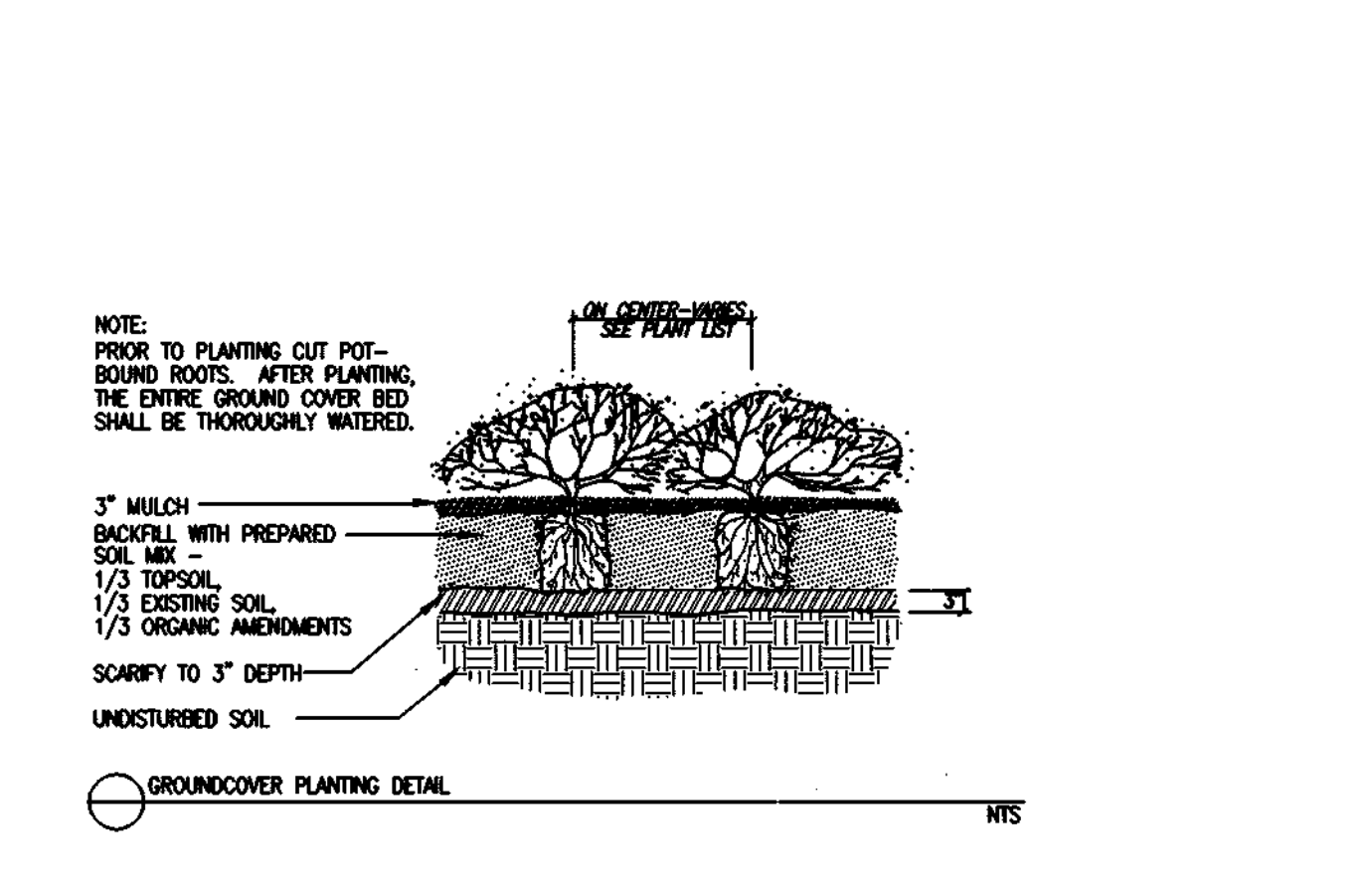
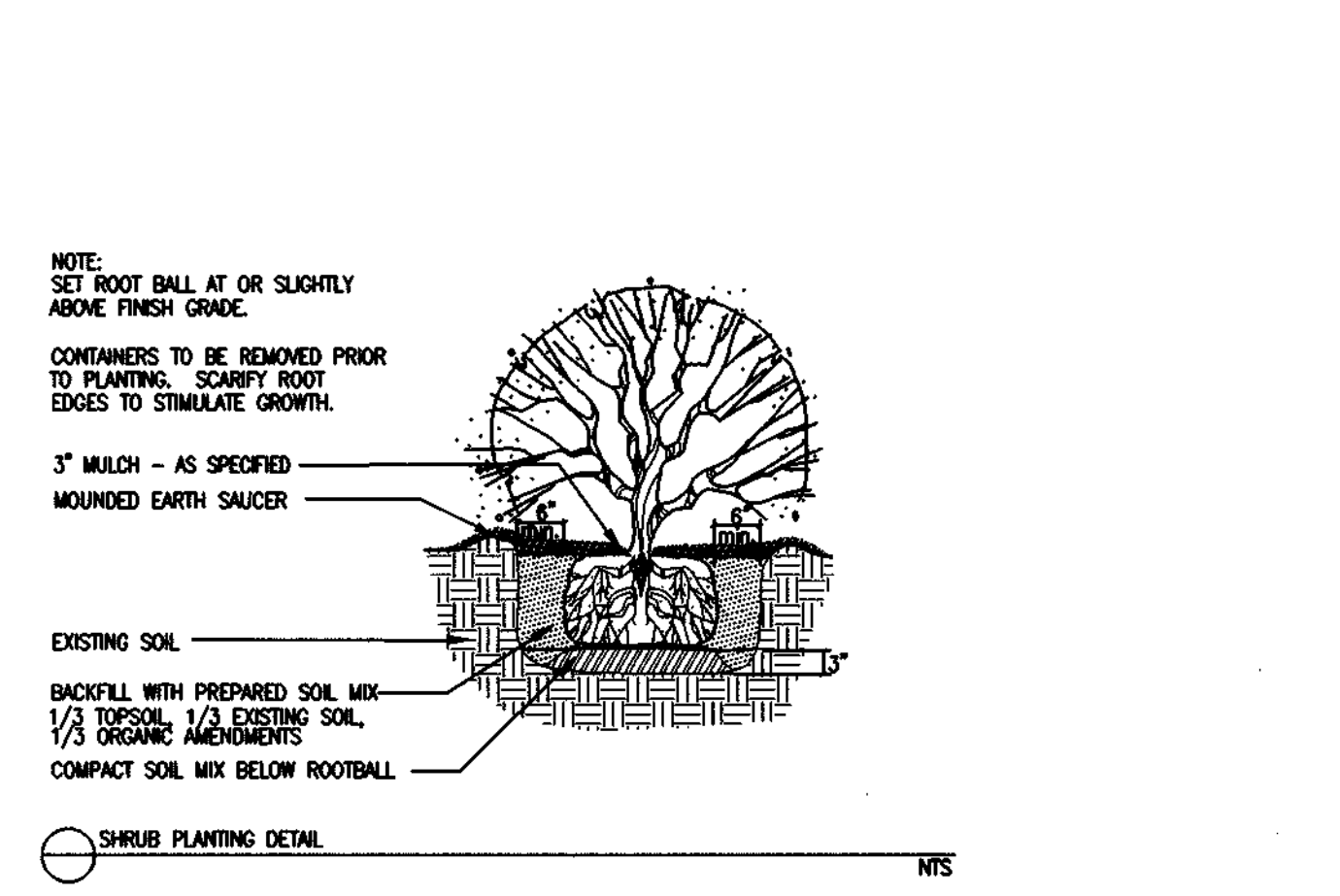
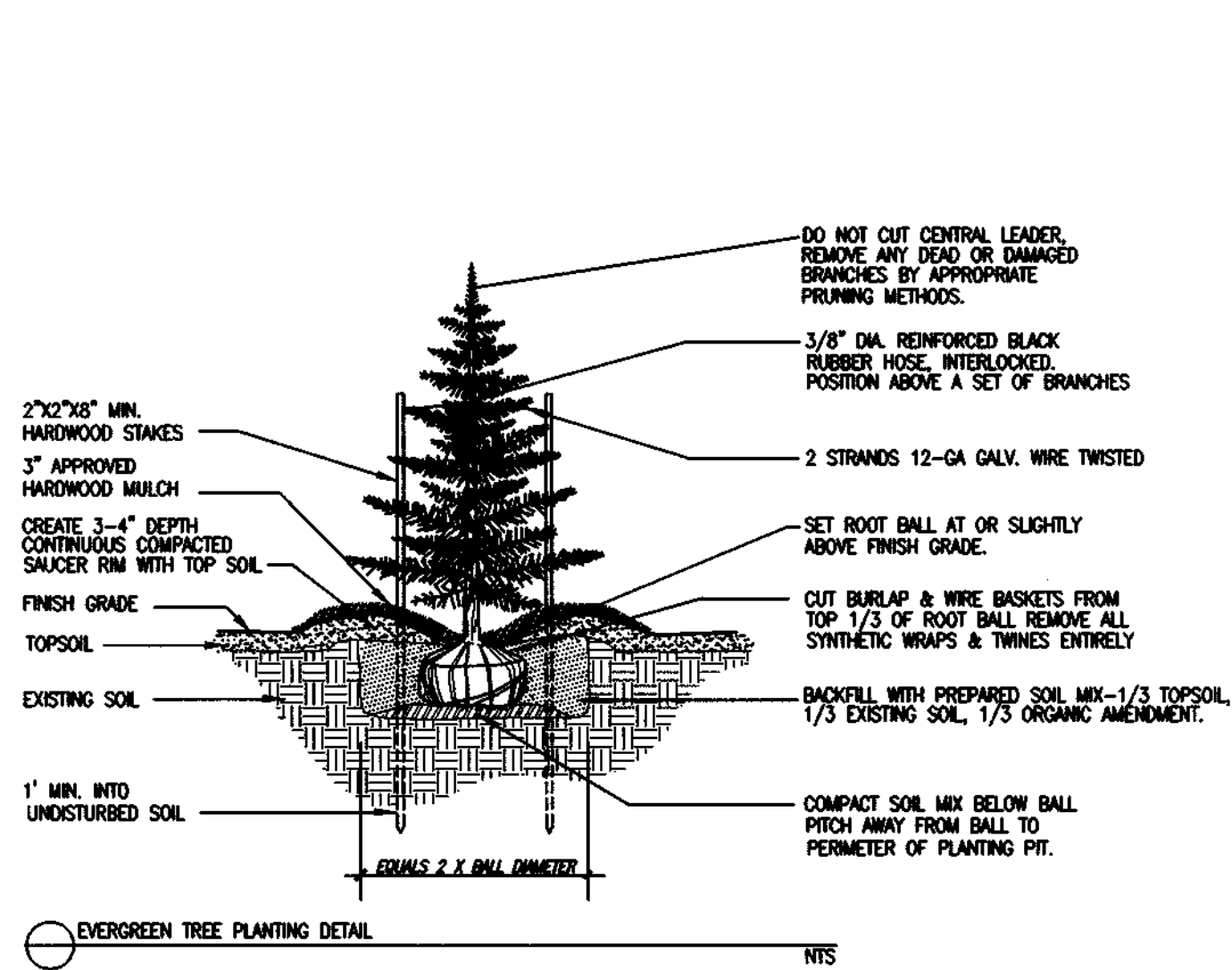
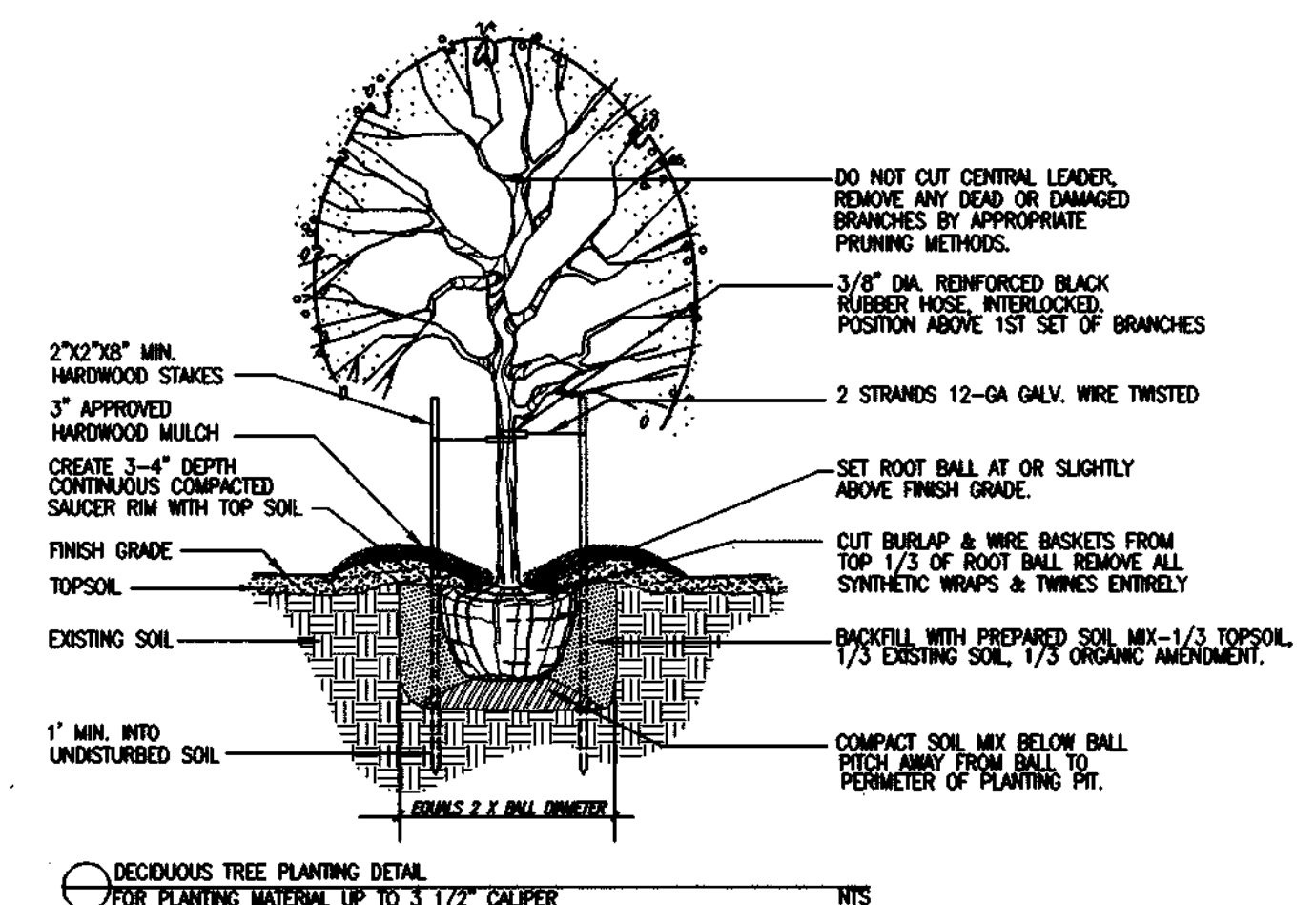
**LANDSCAPING NOTES**

- This plan has been prepared in accordance with Section 16.124 of the Howard County Code and Chapter VI (Alternative Compliance) of the Howard County Landscape Manual.
- Contractor shall notify all utilities at least (5) five days before starting work. All General Notes, especially those regarding utilities, on Sheet 1 shall apply.
- Field verify underground utility locations and existing conditions before starting planting work. Contact engineer / landscape architect if any relocations are required.
- Plant quantities shown on Plant List are provided for the convenience of the contractor only. If discrepancies exist between quantities shown on the plan and those shown on the plant list, the quantities on the plan shall take precedence.
- All plant material shall be full, heavy, well formed, and symmetrical, and conform to the A.A.M. Specifications, and be installed in accordance with project specifications.
- No substitution shall be made without written consent of the owner or his representative.
- All areas disturbed by construction activities but not otherwise planted, seeded, or mulched shall be seeded or sodded in accordance with the project specifications.
- The contractor shall notify the owner in writing if he/she encounters soil drainage conditions which may be detrimental to the growth of the plants.
- All exposed earth within limits of planting beds shall be mulched with shredded hardwood mulch per Planting Details.
- "Schedule A - Perimeter Landscape Edge" and "Schedule D - Stormwater Management Area Landscaping" are provided for landscape surety calculation purposes only. Financial surety for the required landscaping shall be posted with the developer agreement in the amount of \$45,450.00.
- Planting provided:  
Shade Trees (proposed): 135  
Ornamental Trees: 0  
Evergreen Trees (proposed): 68

**PLANT MATERIALS AND PLANTING METHODS**

- A. Plant Materials**
- The landscape contractor shall furnish and install and/or dig, ball, burlap and transport all of the plant materials called for on drawings and/or listed in the Plant Schedule.
- Plant Names**  
Plant names used in the Plant Schedule shall conform with "Standardized Plant Names," latest edition.
  - Plant Standards**  
All plant material shall be equal to or better than the requirements of the "USA Standard for Nursery Stock" latest edition, as published by the American Association of Nurserymen (hereafter referred to as AAN Standards). All plants shall be typical of their species and variety, shall have a normal habit of growth and shall be first quality, sound, vigorous, well-branched and with healthy, well-furnished root systems. They shall be free of disease, insect pests and mechanical injuries.  
All plants shall be nursery grown and shall have been grown under the same climate conditions as the location of this project for at least two years before planting. Neither heeled-in plants nor plants from cold storage will be accepted.
  - Plant Measurements**  
All plants shall conform to the measurements specified in the Plant Schedule as approved by the ARC.
- PLANT SIZE ROOT BALL DIAMETER PIT DEPTH**
- |                |     |      |     |
|----------------|-----|------|-----|
| 3" - 3.5" cal. | 32" | 64"  | 28" |
| 3.5" - 4" cal. | 36" | 72"  | 32" |
| 4" - 4.5" cal. | 40" | 80"  | 36" |
| 4.5" - 5" cal. | 44" | 88"  | 40" |
| 5" - 5.5" cal. | 48" | 96"  | 44" |
| 5.5" - 6" cal. | 52" | 104" | 48" |
- A 20% compaction figure of the soil to be removed is assumed and will be allowed in calculation of extra topsoil. The tabulated pit sizes are for purposes of uniform calculation and shall not override the specified depths below the bottom of the root balls.
- Staking, Guying and Wrapping**  
All plant material shall be staked or guyed, and wrapped in accordance with the following specifications:
    - Stakes: Shall be sound wood 2" x 2" rough sawn oak or similar durable woods, or lengths minimum 7'-0" for major trees and 5'-0" minimum for minor trees.
    - Wire and Cable: Wire shall be #10 galvanized or bethenized annealed steel wire. For trees over 3" caliper, provide 5/16" turn buckles, eye and eye with 4" take-up. For trees over 5" caliper, provide 3/16", 7 strand cable coiled steel, with galvanized "eye" thimbles of wire and hose on trees up to 3" in caliper.
    - Hose: Shall be new, 2 ply reinforced rubber hose, minimum 1/2" I.D. "Plastic Lock Ties" or "Paul's Trees Braces" may be used in place of wire and hose on trees up to 3" in caliper.
  - Plant Pruning, Edging and Mulching**
    - Each tree, shrub or vine shall be pruned in an appropriate manner to its particular requirements, in accordance with accepted standard practice. Broken or bruised branches shall be removed with clean cuts flush with the adjacent trunk or branches. All cuts over 1" in diameter shall be pointed with an approved antiseptic tree wound dressing.
    - All trenches and shrub beds shall be edged and cultivated to the lines shown on the drawing. The areas around isolated plants shall be edged and cultivated to the full diameter of the pit. Sod which has been removed and stacked shall be used to trim the edges of all excavated areas to the neat lines of the plant pit saucers, the edges of shrub areas, hedge trenches and vine pockets.
    - After cultivation, all plant materials shall be mulched with a 2" layer of fine, shredded pine bark, peat moss, or another approved material over the entire area of the bed or saucer.

- B. Planting Methods**
- All proposed plant materials that meet the specifications in Section A are to be planted in accordance with the following methods during the proper planting seasons as described in the following:
- Planting Seasons**  
The planting of deciduous trees, shrubs and vines shall be from March 1st to June 15th and from September 15th to December 15th. Planting of deciduous material may be continued during the winter months providing there is no frost in the ground and frost-free topsoil planting mixtures are used.  
The planting of evergreen material shall be from March 15th to June 15th and from August 15th to December 1st. No planting shall be done when ground is frozen or excessively moist. No frozen or wet topsoil shall be used at any time.
  - Digging**  
All plant material shall be dug, balled and burlapped (B&B) in accordance with the "AAN Standards".
  - Excavation of Plant Pits**  
The landscaping contractor shall excavate all plant pits, vine pits, hedge trenches and shrub beds in accordance with the following schedule:
    - Locations of all proposed plant material shall be staked and approved in the field by the landscape architect before any of the proposed plant material is installed by the landscape contractor.
    - All pits shall be generally circular in outline, vertical sides; depth shall not be less than 6" deeper than the root ball, diameter shall not be less than two times the diameter of the root ball as set forth in the following schedule.



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 Chief, Bureau of Highways  
 Date: 2/1/12

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
 Chief, Division of Land Development  
 Date: 2/1/12

Chief, Development Engineering Division  
 Date: 2/1/12



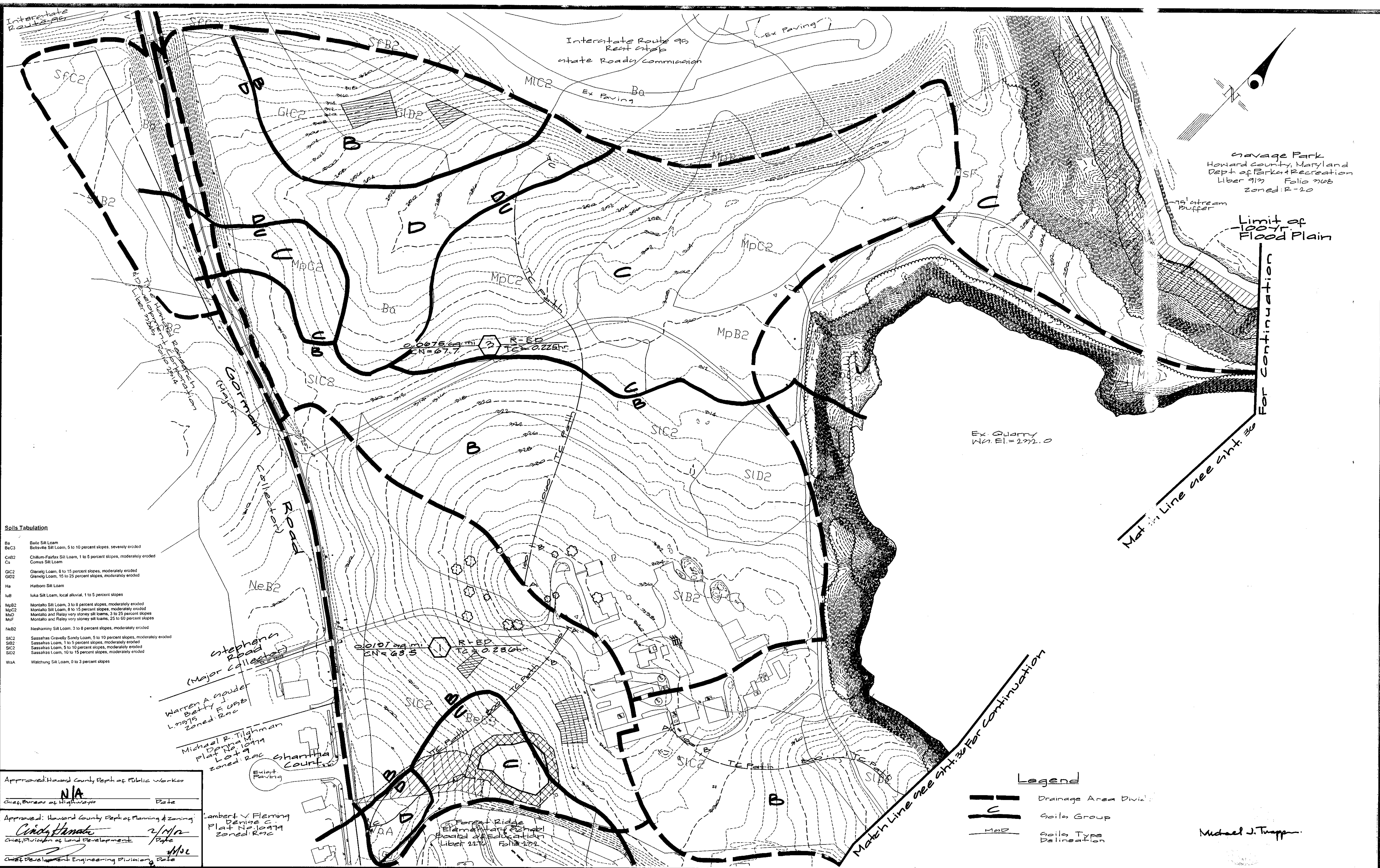
**GLW GUTSCHICK LITTLE & WEBER, P.A.**  
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
 3909 NATIONAL DRIVE - SUITE 250 - BURTNSVILLE OFFICE PARK  
 BURTNSVILLE, MARYLAND 20868  
 TEL: 301-421-4024 BAL: 410-980-1820 DC/VA: 301-989-2524 FAX: 301-421-4188

PREPARED FOR:  
**THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION**  
 10275 LITTLE PATRUXENT PARKWAY  
 COLUMBIA, MD 21044  
 PH: 410-992-6089  
 ATTN: MR. BOB JENNINS

**LANDSCAPE NOTES, DETAILS & OVERVIEW PLAN**  
**STONE LAKE**  
**PARCEL "A" THRU "E"**  
**LOTS 1 THRU 4.4**  
 LIBER 572 FOLIO 430  
 HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	R-ED	99140
DATE	TAX MAP - GRID	SHEET
2/1, 2011	47 - 9/10	7A OF 40





**Soils Tabulation**

Ba	Balic Silt Loam
BcC3	Beltville Silt Loam, 5 to 10 percent slopes, severely eroded
CnB2	Chillum-Fairfax Silt Loam, 1 to 5 percent slopes, moderately eroded
Cs	Comus Silt Loam
GIC2	Glenely Loam, 8 to 15 percent slopes, moderately eroded
GID2	Glenely Loam, 15 to 25 percent slopes, moderately eroded
Ha	Hatboro Silt Loam
IuB	Iuka Silt Loam, local alluvial, 1 to 5 percent slopes
MpB2	Montallo Silt Loam, 3 to 8 percent slopes, moderately eroded
MpC2	Montallo Silt Loam, 8 to 15 percent slopes, moderately eroded
MpD	Montallo and Raley very stoney silt loams, 3 to 25 percent slopes
MpF	Montallo and Raley very stoney silt loams, 25 to 60 percent slopes
NeB2	Neshaminy Silt Loam, 3 to 8 percent slopes, moderately eroded
SK2	Sassafras Gravelly Sandy Loam, 5 to 10 percent slopes, moderately eroded
SB2	Sassafras Loam, 1 to 5 percent slopes, moderately eroded
SD2	Sassafras Loam, 5 to 10 percent slopes, moderately eroded
SD2	Sassafras Loam, 10 to 15 percent slopes, moderately eroded
WAA	Watchung Silt Loam, 0 to 3 percent slopes

Approved: Howard County Dept of Public Works  
 Chief, Bureau of Highways  
 N/A  
 Date

Approved: Howard County Dept of Planning & Zoning  
 Chief, Division of Land Development  
 Cindy Hamate  
 2/1/12  
 Date

Chief Development Engineering Division  
 Date

Lambert V Fleming  
 Denise C.  
 Plat No. 10979  
 zoned: R-OC

**Legend**

	Drainage Area Division
	Soils Group
	Soils Type Delineation

Michael J. Trapp

**GLW GUTSCHICK LITTLE & WEBER, P.A.**  
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
 3809 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK  
 BURTONSVILLE, MARYLAND 20866  
 TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4188

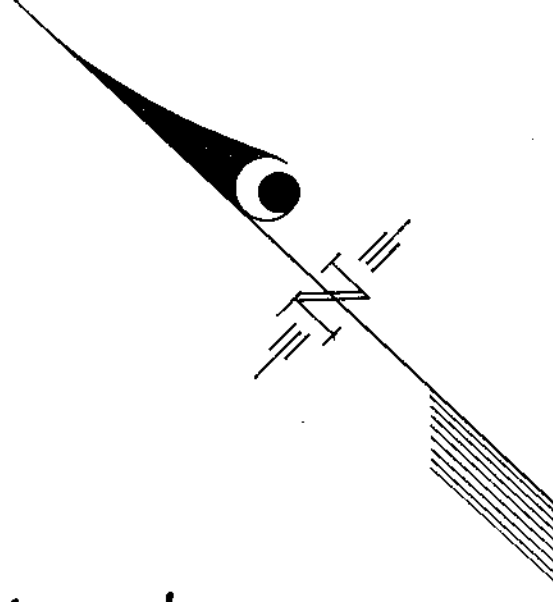
DATE	REVISION	BY	APPR.

OWNER:  
 The Howard Research  
 & Development Corporation  
 10275 Little Patuxent Plant  
 Columbia, Maryland 20444  
 Attn: Bob Jenkins  
 Phone: (410) 992-6080

PRE-DEVELOPED SWM DRAINAGE AREA MAP  
**STONE LAKE**  
 PARCELS 'A' THRU 'E'  
 LOTS 1 THRU 4 A  
 LIBER 512 FOLIO 430  
 ELECTION DISTRICT No. 6  
 HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1"=100'	R-ED	99140
DATE	TAX MAP - GRID	SHEET
Oct., 2001	47 - 9/10	35 OF 40





Savage Park  
Howard County Maryland  
Dept of Parks & Recreation  
Liber 719 Folio 2009  
Zoned: P-20

Limit of  
100 Yr  
Flood Plain

Limit of  
100 Year  
Flood Plain

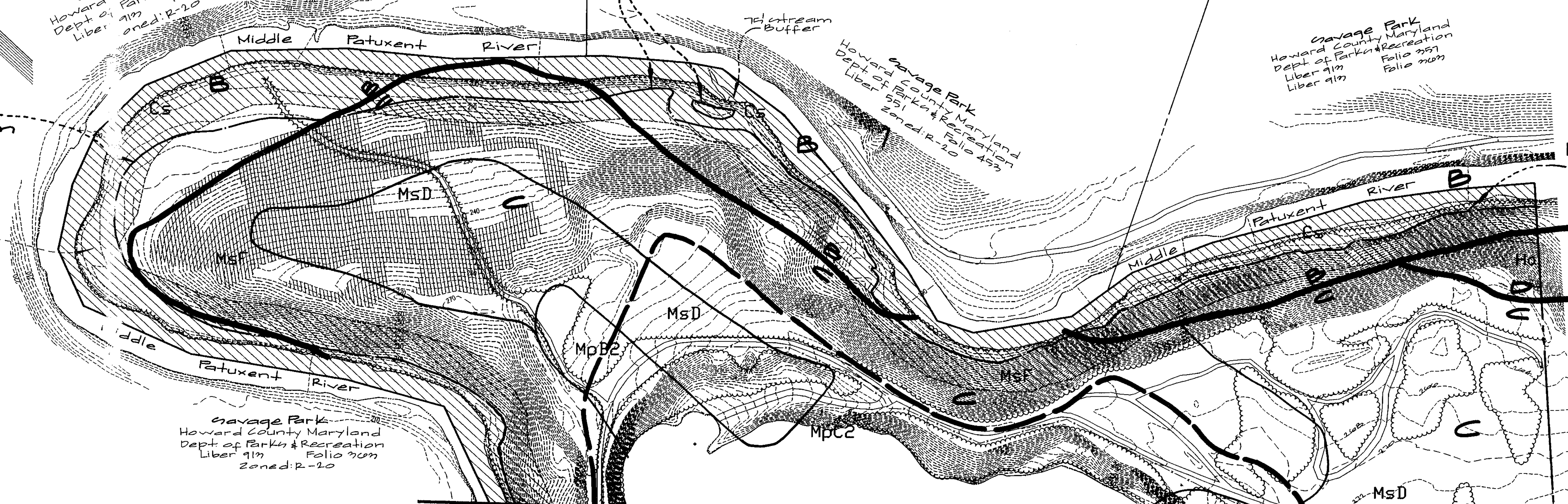
Upstream  
Buffer

Upstream  
Buffer

Savage Park  
Howard County Maryland  
Dept of Parks & Recreation  
Liber 551 Folio 493  
Zoned: P-20

Savage Park  
Howard County Maryland  
Dept of Parks & Recreation  
Liber 919 Folio 2009

Limit of  
100 Yr  
Flood Plain



Savage Park  
Howard County Maryland  
Dept of Parks & Recreation  
Liber 919 Folio 2009  
Zoned: P-20

Match Line see sheet 35  
For Continuation

Ex. Quarry  
W.G. El. = 272.0

$$\frac{0.0854 \text{ mi.}}{CN = 80.5} \left[ \frac{2}{T_c} \right] \frac{R-ED}{T_c = 0.102 \text{ hr.}}$$

Savage Park  
Howard County Maryland  
Dept of Parks & Recreation  
Liber 919 Folio 2009  
Zoned: P-1E

Approved: Howard County Dept of Public Works  
N/A  
Chief, Bureau of Highways  
Date  
Approved: Howard County Dept of Planning & Zoning  
C. H. Harris  
Chief, Division of Land Development  
2/14/02  
Date  
2/1/02  
Chief, Development Engineering Division  
Date

For Legend See Sheet 35

For Soils Tabulation See Sheet 35

Match Line see sheet 35 For Cont.

Forest Planning  
Elemental Plan  
Board of Environmental  
Liber 210 Folio 2009

Michael J. Tropp

GLW GUTSCHICK LITTLE & WEBER, A.  
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
3809 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK  
BURTONSVILLE, MARYLAND 20866  
TEL: 301-421-4024 FAX: 301-421-4186

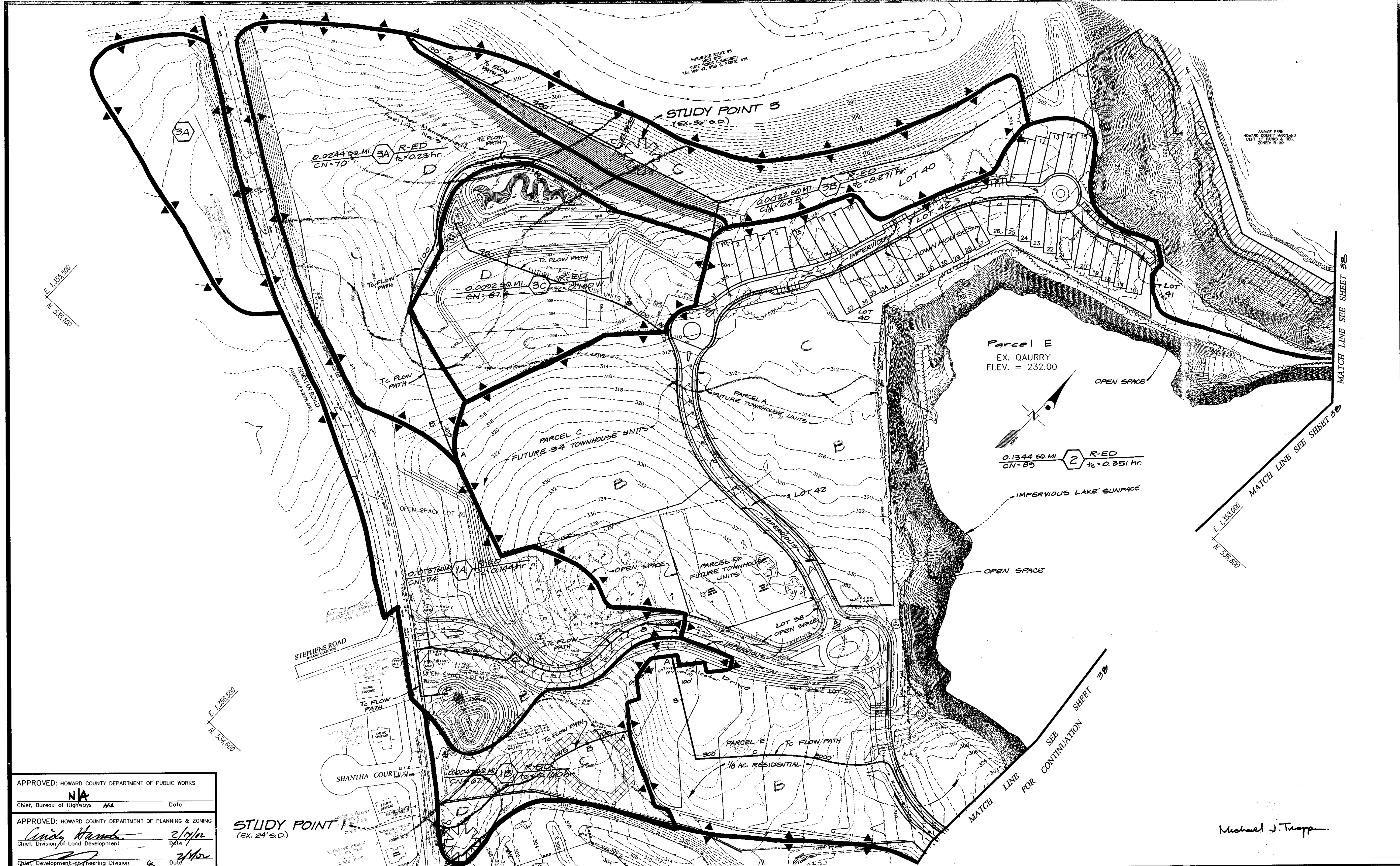
Owner:  
The Howard Research  
& Development Corporation  
10315 Little Patuxent Pkwy.  
Columbia, Maryland 21044  
Attn: Bob Jenkins  
Phone: (410) 992-6000

PRE-DEVELOPED SWM DRAINAGE AREA MAP  
STONE LAKE  
PARCELS A THRU 'E'  
LOTS 1 THRU 44  
LIBER 572 FOLIO 430  
ELECTION DISTRICT No. 6  
HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1"=100'	R-ED	99140
DATE	TAX MAP - GRID	SHEET
Oct, 2001	47 - 9/10	36 OF 46

DRAWINGS\99140\DESIGN\99140SK5.DWG	DESIGN	DRN-CL	CHK: JDT	DATE	REVISION	BY	APPR.
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APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
**NA**  
 Chief, Bureau of Highways *NA* Date \_\_\_\_\_

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
*Cindy K... 2/1/10*  
 Chief, Division of Land Development Date \_\_\_\_\_

*[Signature]* *2/1/10*  
 Chief, Development Engineering Division Date \_\_\_\_\_

**STUDY POINT 1**  
 (EX. 24' S.D.)

**GLW GUTSCHICK LITTLE & WEBER, P.A.**  
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
 3909 NATIONAL DRIVE - SUITE 250 - BURTONTVILLE OFFICE PARK  
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DATE	REVISION	BY	APPR.

PREPARED FOR:  
**THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION**  
 10275 LITTLE PATUXENT PARKWAY  
 COLUMBIA, MD 21044  
 PH: 410-992-6089  
 ATTN: MR. BOB JENKINS

POST-DEVELOPED SWM DRAINAGE AREA MAP  
**STONE LAKE**  
 PARCELS 'A' THRU 'E'  
 LOTS 1 THRU 44  
 LIBER 572 FOLIO 430

SCALE	ZONING	G. L. W. FILE No.
1"=100'	R-ED	99140
DATE	TAX MAP - GRID	SHEET
Oct., 2001	47-9/10	37 OF 40

*Michael J. Tropp*

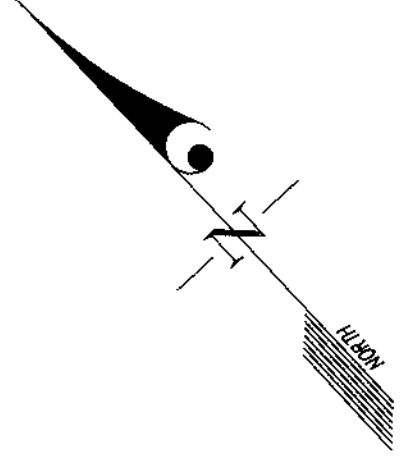
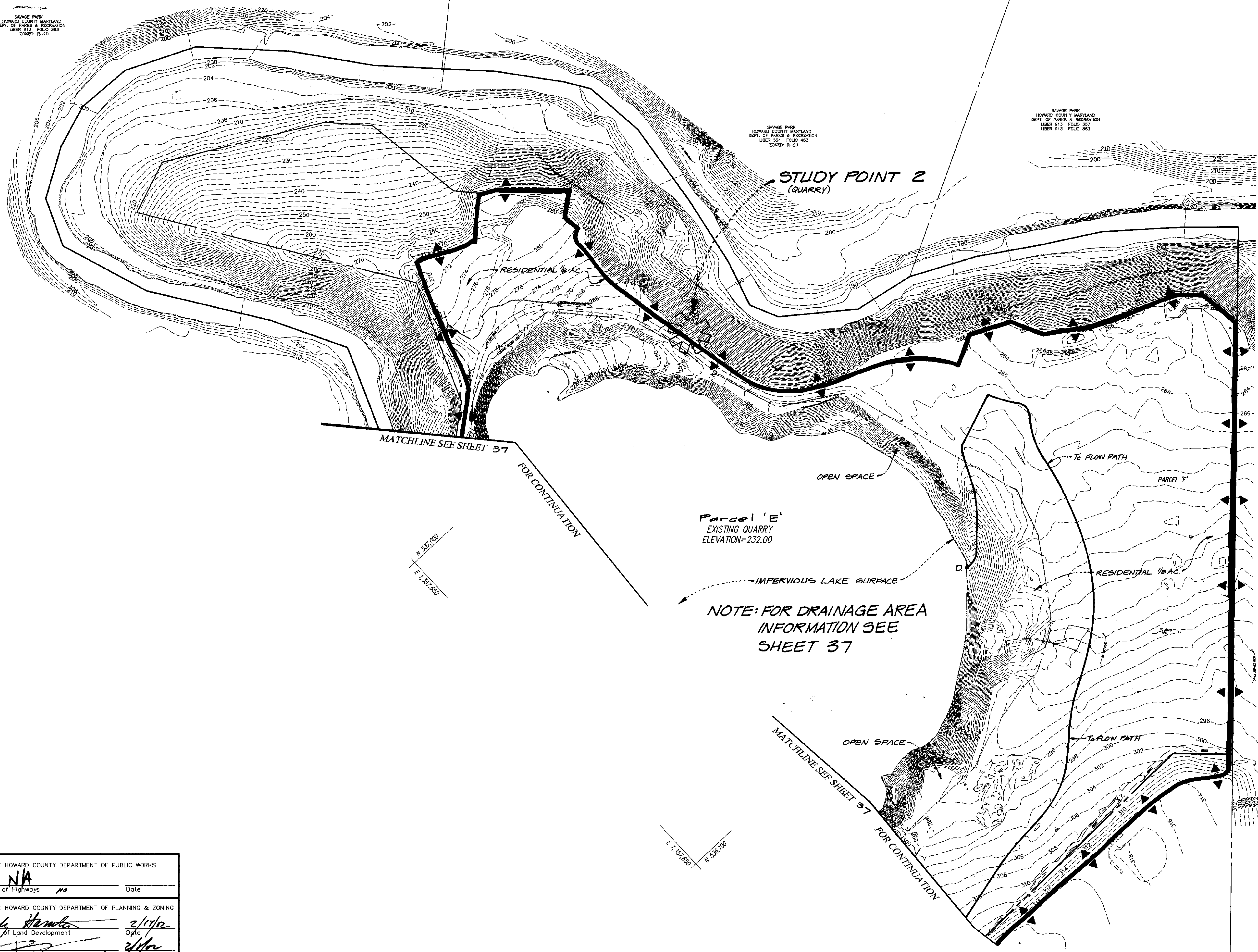
HOWARD COU., MD, MARYLAND



SAVAGE PARK  
HOWARD COUNTY MARYLAND  
DEPT. OF PARKS & RECREATION  
LIBER 913 FOLIO 353  
ZONED: R-20

SAVAGE PARK  
HOWARD COUNTY MARYLAND  
DEPT. OF PARKS & RECREATION  
LIBER 501 FOLIO 433  
ZONED: R-20

SAVAGE PARK  
HOWARD COUNTY MARYLAND  
DEPT. OF PARKS & RECREATION  
LIBER 913 FOLIO 353



E 1,357,730  
N 536,100

N 537,000  
E 1,357,650

E 1,357,650  
N 536,100

Parcel 'E'  
EXISTING QUARRY  
ELEVATION=232.00

NOTE: FOR DRAINAGE AREA  
INFORMATION SEE  
SHEET 37

Michael J. Troppa

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
NA  
Chief, Bureau of Highways  
Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
Crisis Hamble  
Chief, Division of Land Development  
Date 2/14/12

Chief, Development Engineering Division  
Date

**GLW GUTSCHICK LITTLE & WEBER, P.A.**  
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK  
BURTONSVILLE, MARYLAND 20886  
TEL: 301-421-4024 BAL: 410-980-1820 DC/VA: 301-989-2524 FAX: 301-421-4188

DATE	REVISION	BY	APP'R.

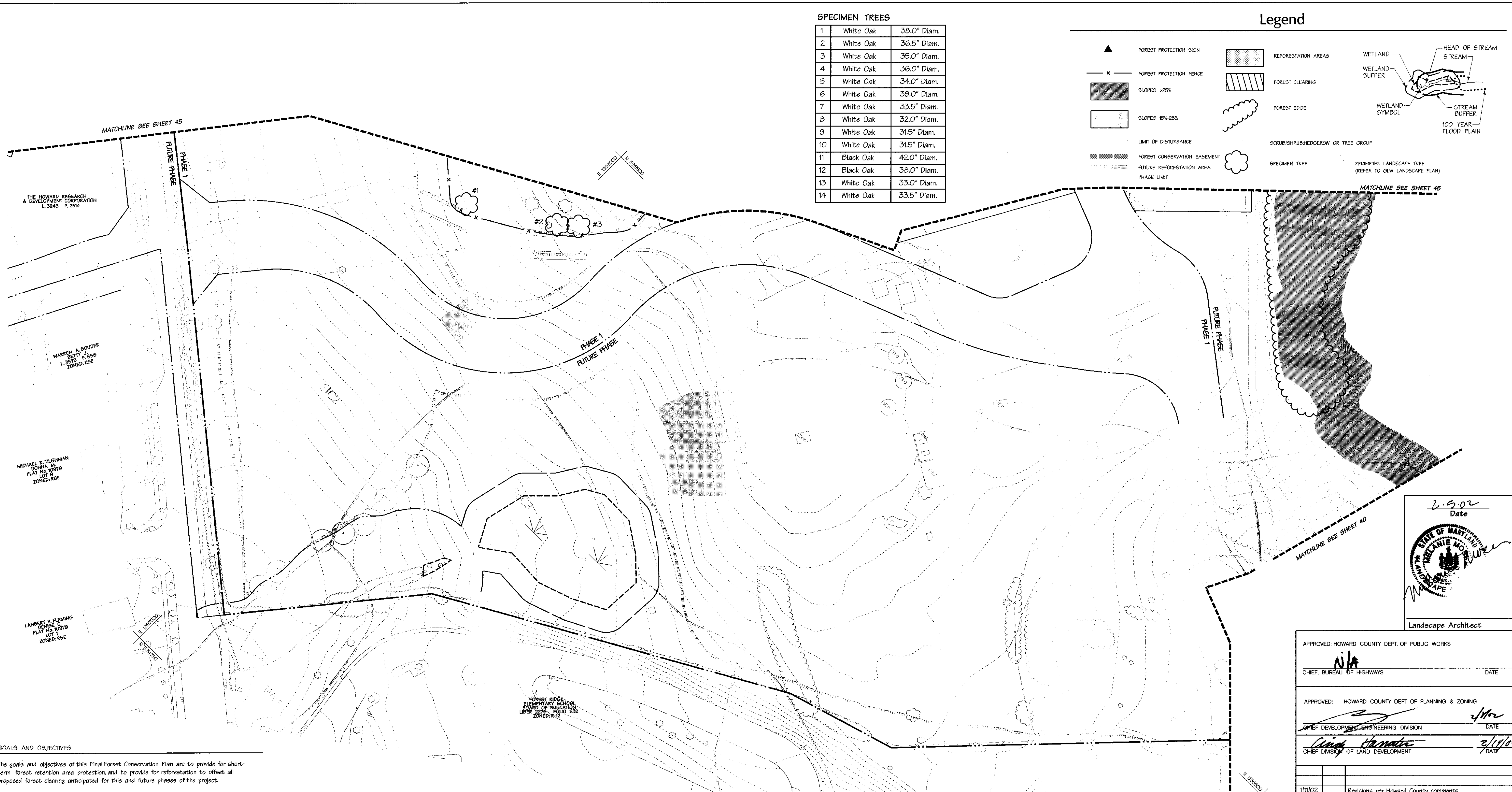
PREPARED FOR:  
THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION  
10275 LITTLE PATUENT PARKWAY  
COLUMBIA, MD 21044  
PH: 410-982-6089  
ATN: MR. BOB JENKINS

POST-DEVELOPED SWM DRAINAGE AREA MAP  
**STONE LAKE  
PARCELS 'A' THRU 'E'  
LOTS 1 THRU 4 4  
372 FOLIO 430**  
ELECTION DISTRICT No. 6  
HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1"=100'	R-ED	99140
DATE	TAX MAP - GRID	SHEET
Oct., 2001	47-9/10	28 OF 40

99140DAM.dwg 4--30--01 9:24:56 am EST





**GOALS AND OBJECTIVES**

The goals and objectives of this Final Forest Conservation Plan are to provide for short-term forest retention area protection, and to provide for reforestation to offset all proposed forest clearing anticipated for this and future phases of the project.

Development of Stone Lake - Phase 1 under the current Forest Conservation Act requires the clearing of approximately 0.99 acres of existing forest; no reforestation requirement is generated by this first phase of development.

We anticipate that a total of approximately 10.69 acres of forest clearing (7.87 acres outside of the quarry; 2.82 acres associated with the quarry reclamation) will be necessary for future development phases. The anticipated 7.87 acres of clearing outside the quarry generates a 7.64 acre reforestation requirement (based on standard Forest Conservation Worksheet calculations). The additional 2.82 acres of clearing anticipated within the quarry generates a 0.71 acre reforestation requirement (based on the negotiated 0.25:1 replacement ratio approved by MD DNR). In total, approximately 8.35 acres of reforestation are required for all phases of Stone Lake.

Approximately 3.54 acres of additional forest retention has been derived from development of Emerson Section I (F-01-140) and will be used to partially defray the reforestation requirement for Stone Lake (7.08 acres excess retention x 0.5 = 3.54 acres of credit). The remaining 4.81 acre reforestation requirement for Stone Lake will be satisfied on-site at the location shown hereon.

Short-term forest retention area protection will be accomplished by identifying those areas and indicating the locations of forest protection fencing and signage. Establishing these short-term protection measures prior to any earth-moving activities will help ensure that these areas will not be disturbed during construction activities.

Areas shown hereon as "Future Forest Conservation Area" may be reforested at a later date to satisfy potential reforestation requirements for other projects. Protective easements will be established at that time.

**EASEMENT TABULATION CHART**

Forest Conservation Easement	Type	Gross Area	Floodplain	Net Area
1	Retention	7.73 AC.	1.8 AC.	5.93 AC.
2	Retention	1.96 AC.	1.9 AC.	0.06 AC.
3	Retention	9.98 AC.	2.8 AC.	7.18 AC.
4	Reforestation	4.81 AC.	0.0 AC.	4.81 AC.
<b>TOTAL</b>		<b>24.48 AC.</b>	<b>6.5 AC.</b>	<b>17.98 AC.</b>

**SPECIMEN TREES**

1	White Oak	38.0" Diam.
2	White Oak	36.5" Diam.
3	White Oak	35.0" Diam.
4	White Oak	36.0" Diam.
5	White Oak	34.0" Diam.
6	White Oak	39.0" Diam.
7	White Oak	33.5" Diam.
8	White Oak	32.0" Diam.
9	White Oak	31.5" Diam.
10	White Oak	31.5" Diam.
11	Black Oak	42.0" Diam.
12	Black Oak	38.0" Diam.
13	White Oak	33.0" Diam.
14	White Oak	33.5" Diam.

**Legend**

- ▲ FOREST PROTECTION SIGN
- x — FOREST PROTECTION FENCE
- SLOPES >25%
- ▨ SLOPES 15%-25%
- ▤ LIMIT OF DISTURBANCE
- ▧ FOREST CONSERVATION EASEMENT
- ▨ FOREST REFORESTATION AREA
- ▩ PHASE LIMIT
- ▨ REFORESTATION AREAS
- ▨ FOREST CLEARING
- ▨ FOREST EDGE
- ▨ SCRUBSHRUBBERGROW OR TREE GROUP
- SPECIMEN TREE
- PERIMETER LANDSCAPE TREE (REFER TO GLW LANDSCAPE PLAN)
- ▨ WETLAND
- ▨ WETLAND BUFFER
- ▨ WETLAND SYMBOL
- ▨ HEAD OF STREAM
- ▨ STREAM
- ▨ STREAM BUFFER
- ▨ 100 YEAR FLOOD PLAIN

2-9-02  
Date

*Wendy H. Moore*  
Landscape Architect

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS  
 CHIEF, BUREAU OF HIGHWAYS  
 DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE

*Wendy H. Moore*  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE

1/11/02  
 Date No. Revisions per Howard County comments  
 Revision Description

**STONE LAKE PHASE 1**

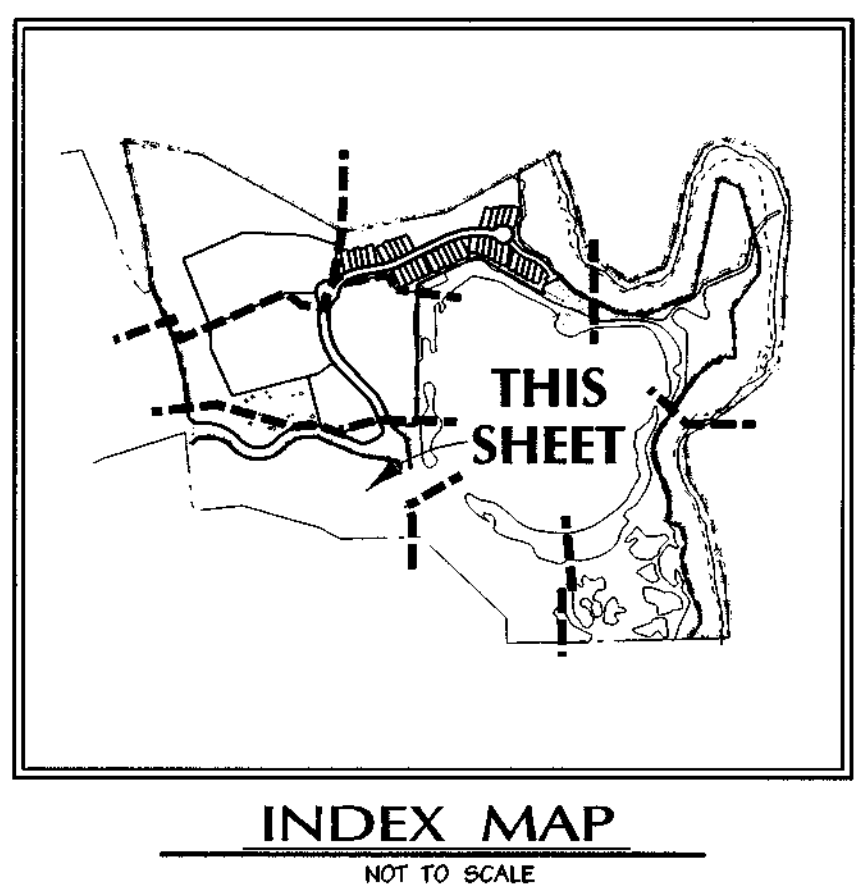
OWNER/DEVELOPER:  
**THE HOWARD RESEARCH & DEVELOPMENT CORPORATION**  
 10275 Little Patuxent Parkway  
 Columbia, Maryland 21044

**DMW**  
**Daft - McCune - Walker, Inc.**  
 A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals  
 200 East Pennsylvania Avenue  
 Towson, Maryland 21286  
 410 296 3333  
 Fax 296 4705

SUBDIVISION NAME: STONE LAKE SECTION AREA: P10 P. 837, P. 3, P. 462  
 PLAT NO. OF LOT: BLOCK 7 ZONING MAP: 47 ELEC. SURVEY: GEODESIC TRAIL  
 WATER CODE: SEWER CODE:

TITLE:  
**FINAL FOREST CONSERVATION PLAN**

Des By: BKC Scale: 1"=50' Proj. No. 96054-E2  
 Des By: HRD Date: 12-19-01  
 Chk By: Approved: 39 of 46





# Legend

- ▲ FOREST PROTECTION SIGN
- X — FOREST PROTECTION FENCE
- SLOPES >25%
- ▨ SLOPES 15%-25%
- LIMIT OF DISTURBANCE
- FOREST CONSERVATION EASEMENT
- FUTURE REFORESTATION AREA
- PHASE LIMIT
- ▨ REFORESTATION AREAS
- ▨ FOREST CLEARING
- FOREST EDGE
- SCRUB/SHRUB/HEDGEROW OR TREE GROUP
- SPECIMEN TREE
- WETLAND
- WETLAND BUFFER
- WETLAND SYMBOL
- HEAD OF STREAM
- STREAM
- STREAM BUFFER
- 100 YEAR FLOOD PLAN

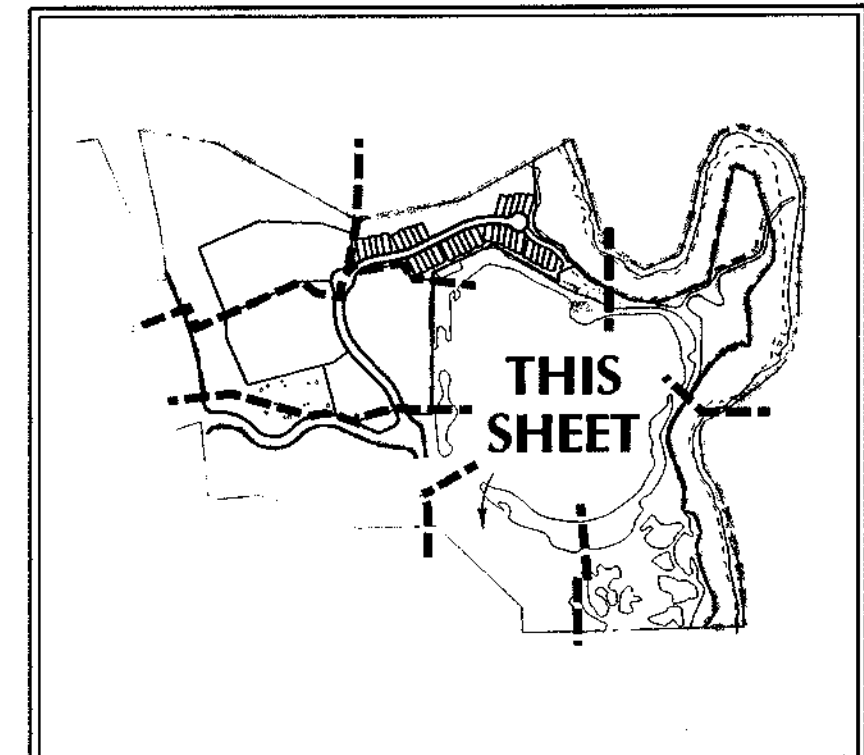
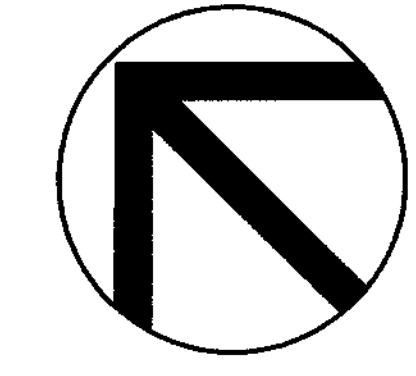
## FOREST CONSERVATION CALCULATIONS

BASIC SITE DATA	ACRES (NR)
GRASS SITE AREA	68.05
AREA WITHIN 100 YEAR FLOODPLAIN	7.95
AREA WITHIN EXISTING SANITARY SEWER EASEMENT	0.0
NET TRACT AREA	60.09
LAND USE CATEGORY	RED
<b>INFORMATION FOR CALCULATIONS</b>	
A. NET TRACT AREA	60.09
B. REFORESTATION THRESHOLD (20% x A)	12.02
C. AFFORESTATION MINIMUM (15% x A)	9.01
D. EXISTING FOREST ON NET TRACT AREA	13.96
E. FOREST AREAS TO BE CLEARED	0.89
F. FOREST AREAS TO BE RETAINED	12.96
<b>REFORESTATION CALCULATIONS</b>	
A. NET TRACT AREA	60.09
B. REFORESTATION THRESHOLD (20% x A)	12.02
C. EXISTING FOREST ON NET TRACT AREA	13.96
NO. FOREST AREAS TO BE CLEARED	0.89
E. FOREST AREAS TO BE RETAINED	12.96
F. FOREST AREAS CLEARED ABOVE REFORESTATION THRESHOLD	0.89
G. FOREST AREAS CLEARED BELOW REFORESTATION THRESHOLD	0.0
H. FOREST AREAS RETAINED ABOVE REFORESTATION THRESHOLD	0.78
<b>CLEARING ABOVE THE THRESHOLD ONLY</b>	
IF FOREST AREAS TO BE RETAINED ARE GREATER THAN THE REFORESTATION THRESHOLD (IF E IS GREATER THAN B), THE FOLLOWING CALCULATIONS APPLY:	
REFORESTATION FOR CLEARING ABOVE THRESHOLD	
Fx14	0.25
REFORESTATION FOR CLEARING BELOW THRESHOLD	
Gx2	0.0
TOTAL REFORESTATION REQUIRED	
(Fx14) + (Gx2)	0.25
CREDIT FOR RETENTION ABOVE CONSERVATION THRESHOLD	
REFORESTATION REQUIRED	0.0 ACRES
REFORESTATION PROVIDED	4.81 ACRES
POTENTIAL FUTURE REFORESTATION	3.60 ACRES
TOTAL	8.41 ACRES



SAVAGE PARK  
HOWARD COUNTY MARYLAND  
DEPT. OF PARKS AND RECREATION  
LIBER 315 FOLIO 565  
LIBER 316 FOLIO 565  
ZONED R-12

FOREST RIDGE  
ELEMENTARY SCHOOL  
BOARD OF EDUCATION 232  
LIBER 2276 FOLIO 232



INDEX MAP  
NOT TO SCALE

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS  
**N/A**  
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
**[Signature]** 2/14/02  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

**[Signature]** 2/14/02  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

1/11/02	Revisions per Howard County comments
Date	No. Revision Description

**STONE LAKE PHASE 1**

OWNER/ DEVELOPER:  
 THE HOWARD RESEARCH & DEVELOPMENT CORPORATION  
 10275 Little Patuxent Parkway  
 Columbia, Maryland 21044

**DMW**  
 Daft - McCune - Walker, Inc.  
 A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals  
 200 East Pennsylvania Avenue  
 Towson, Maryland 21286  
 410 286 3333  
 Fax 286 4705

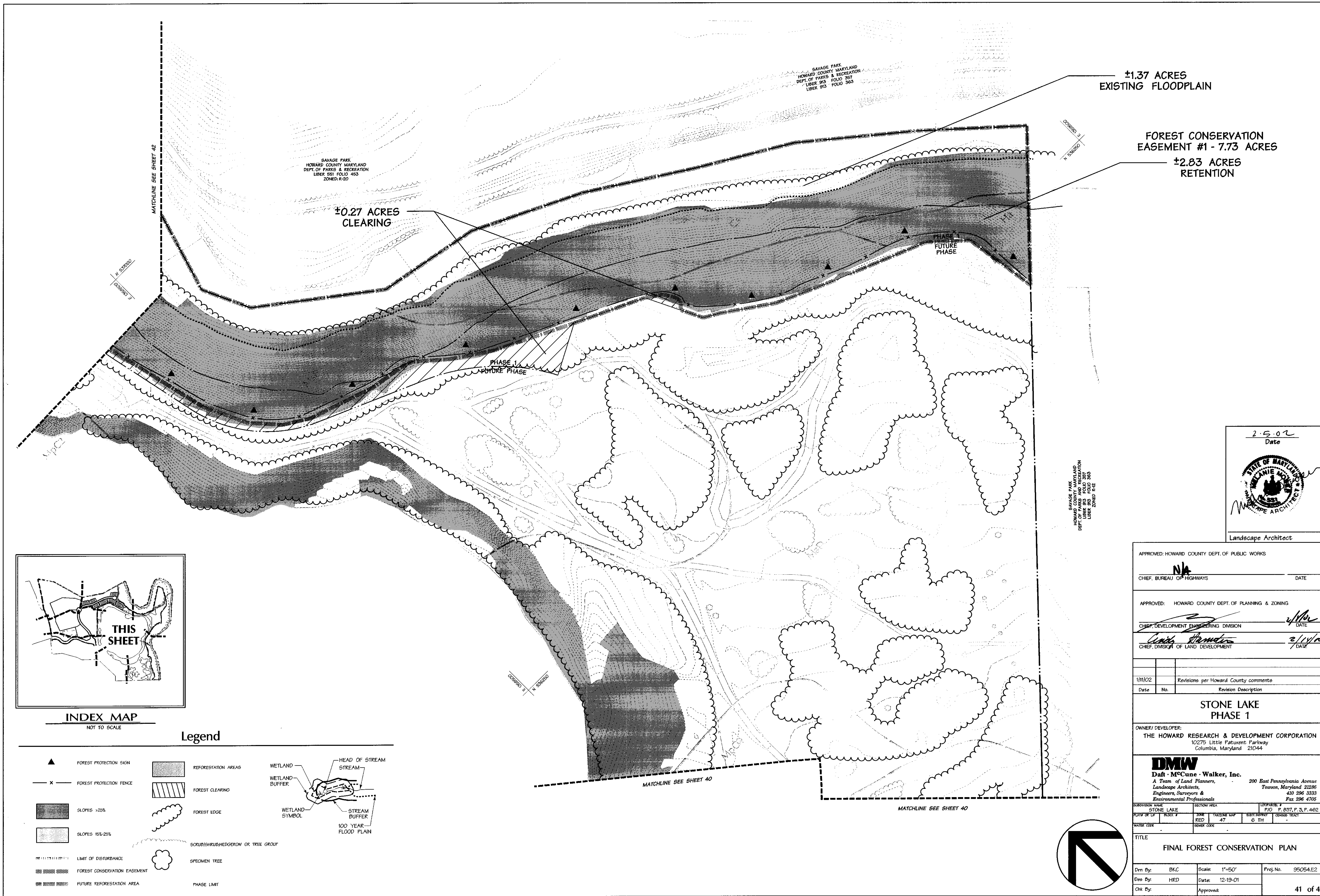
SUBDIVISION NAME STONE LAKE	SECTION AREA PLOT 47	LOFF NUMBER P. 837, P. 3, P. 462
PLAT OR LOT BLOCK #	ZONE RED	ELECT. SERVICE G TH
WATER CODE	SEWER CODE	CONSERV. TEXT

TITLE  
**FINAL FOREST CONSERVATION PLAN**

Des By: BKC	Scale: 1"=50'	Proj. No. 96054.E2
Des By: HRD	Date: 12-19-01	
Chk By:	Approved:	40 of 46

2-5-02  
 Date  
 [Seal: STATE OF MARYLAND, LANDSCAPE ARCHITECT]





MATCHLINE SEE SHEET 42

DESIGNED BY  
N 532000

DESIGNED BY  
N 532000

DESIGNED BY  
N 532000

MATCHLINE SEE SHEET 40

MATCHLINE SEE SHEET 40

SAVAGE PARK  
HOWARD COUNTY MARYLAND  
DEPT. OF PARKS & RECREATION  
LIBER 551 FOLIO 453  
ZONED R-20

SAVAGE PARK  
HOWARD COUNTY MARYLAND  
DEPT. OF PARKS & RECREATION  
LIBER 915 FOLIO 361  
LIBER 915 FOLIO 363

SAVAGE PARK  
HOWARD COUNTY MARYLAND  
DEPT. OF PARKS & RECREATION  
LIBER 915 FOLIO 361  
LIBER 915 FOLIO 363  
ZONED R-12

±1.37 ACRES  
EXISTING FLOODPLAIN

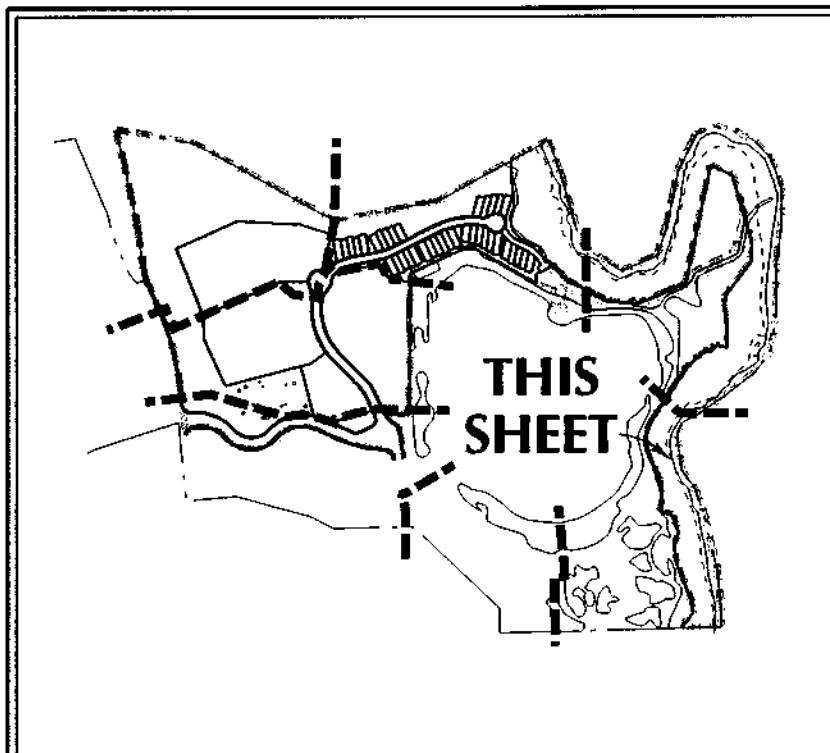
FOREST CONSERVATION  
EASEMENT #1 - 7.73 ACRES

±2.83 ACRES  
RETENTION

±0.27 ACRES  
CLEARING

PHASE 1  
FUTURE PHASE

PHASE 1  
FUTURE PHASE



INDEX MAP  
NOT TO SCALE

Legend

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- x — FOREST PROTECTION FENCE
- ▨ SLOPES >25%
- ▩ SLOPES 15%-25%
- ▤ LIMIT OF DISTURBANCE
- ▧ FOREST CONSERVATION EASEMENT
- ▨ FUTURE REFORESTATION AREA
- ▨ REFORESTATION AREAS
- ▨ FOREST CLEARING
- ▨ FOREST EDGE
- ▨ SCRUBBUSH/SHEDGEROW OR TREE GROUP
- ☁ WETLAND
- ☁ WETLAND BUFFER
- ☁ WETLAND SYMBOL
- ☁ HEAD OF STREAM
- ☁ STREAM
- ☁ STREAM BUFFER
- ☁ 100 YEAR FLOOD PLAIN
- ☁ SPECIMEN TREE
- ▬ PHASE LIMIT

2.5.02  
Date

LANDSCAPE ARCHITECT

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS  
 CHIEF, BUREAU OF HIGHWAYS  
 NA  
 DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE

Date	No.	Revision Description
1/11/02		Revisions per Howard County comments

STONE LAKE  
PHASE 1

OWNER/ DEVELOPER:  
 THE HOWARD RESEARCH & DEVELOPMENT CORPORATION  
 10275 Little Patuxent Parkway  
 Columbia, Maryland 21044

**DMW**  
 Daft · McCune · Walker, Inc.  
 A Team of Land Planners,  
 Landscape Architects,  
 Engineers, Surveyors &  
 Environmental Professionals

200 East Pennsylvania Avenue  
 Towson, Maryland 21286  
 410 296 4705  
 Fax 296 4705

SUBDIVISION NAME	SECTION AREA	TOWNSHIP
STONE LAKE		P. 037, P. 3, P. 462
PLAT OF LOT	BLOCK 7	ZONE RED 47
WATER CODE	SEWER CODE	ELECT. DISTRICT 0 TH
		CENSUS TRACT

TITLE  
**FINAL FOREST CONSERVATION PLAN**

Drn By: BKC Scale: 1"=50' Proj. No. 95054.E2  
 Des By: HRD Date: 12-19-01  
 Chk By: Approved: 41 of 46



SAVAGE PARK  
HOWARD COUNTY MARYLAND  
DEPT. OF PARKS & RECREATION  
LIBER 263 FOLIO 363  
ZONED R-20

SAVAGE PARK  
HOWARD COUNTY MARYLAND  
DEPT. OF PARKS & RECREATION  
LIBER 651 FOLIO 453  
ZONED R-20

±0.95 ACRES  
EX. SAN. SEW. EASEMENT  
±0.33 ACRES OUTSIDE FLOODPLAIN  
±0.62 ACRES INSIDE FLOODPLAIN

FOREST CONSERVATION  
EASEMENT #2 - 1.96 AC.

±4.93 ACRES  
EXISTING FLOODPLAIN

FOREST CONSERVATION  
EASEMENT #1  
(CONT.)  
±3.15 ACRES  
RETENTION

±0.16 ACRES  
CLEARING

PHASE 1  
FUTURE PHASE

FUTURE PHASE  
PHASE 1

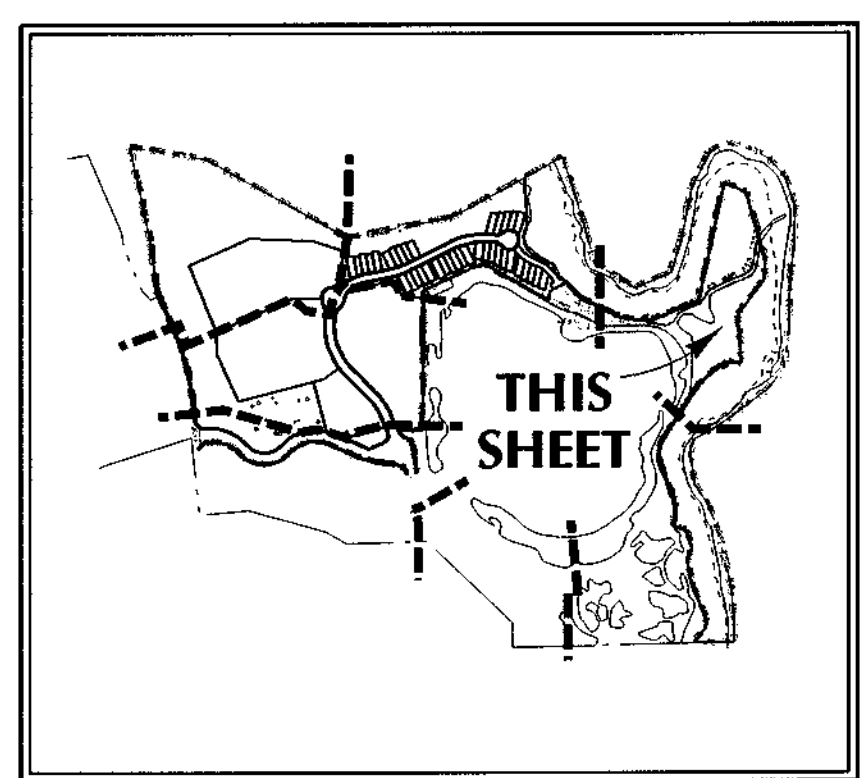
PHASE 1  
FUTURE PHASE

FUTURE PHASE  
PHASE 1

FOREST CONSERVATION  
EASEMENT #3 - 9.98 ACRES

±3.98 ACRES  
RETENTION

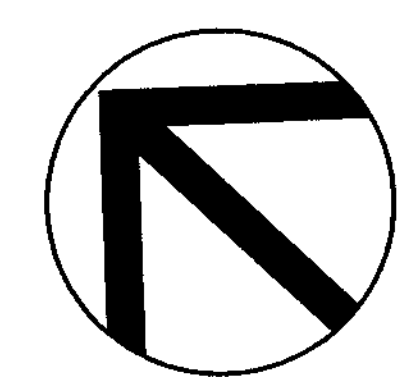
±0.33 ACRES  
CLEARING



INDEX MAP  
NOT TO SCALE

Legend

- ▲ FOREST PROTECTION SIGN
- x — FOREST PROTECTION FENCE
- ▨ SLOPES >25%
- ▩ SLOPES 15%-25%
- ▬ LIMIT OF DISTURBANCE
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- ▨ REFORESTATION AREAS
- ▨ FOREST CLEARING
- ▨ FOREST EDGE
- ▨ SCRUB/SHRUB/HEDGEROW OR TREE GROUP
- SPECIMEN TREE
- HEAD OF STREAM
- STREAM
- STREAM BUFFER
- 100 YEAR FLOOD PLAIN
- WETLAND BUFFER
- WETLAND SYMBOL
- PHASE LIMIT



2.5.02  
Date

LANDSCAPE ARCHITECT

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS  
 CHIEF, BUREAU OF HIGHWAYS  
 DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE

Date	No.	Revision Description
1/11/02		Revisions per Howard County comments

**STONE LAKE PHASE 1**

OWNER/DEVELOPER:  
 THE HOWARD RESEARCH & DEVELOPMENT CORPORATION  
 10275 Little Patuxent Parkway  
 Columbia, Maryland 21044

**DMW**  
 Daft · McCune · Walker, Inc.  
 A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

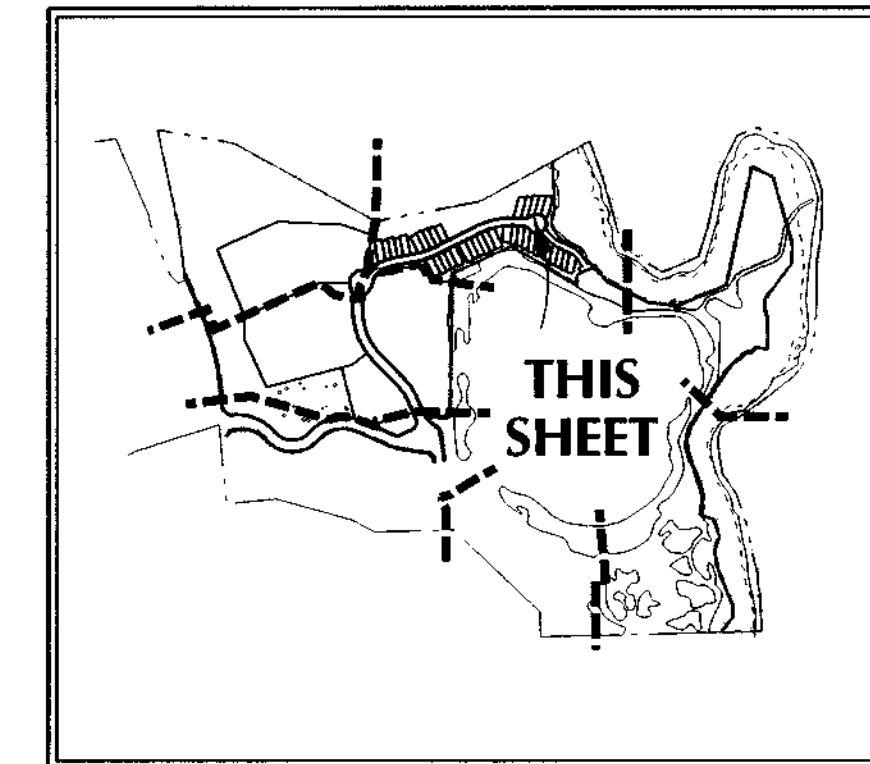
300 East Pennsylvania Avenue  
 Towson, Maryland 21286  
 410 296 3333  
 Fax 296 4705

SUBDIVISION NAME STONE LAKE	SECTION AREA	LOT/FACE #
PLAT OR L.P. RED	BOOK # 47	P. 537, P. 3, P. 462
WATER CODE	SEWER CODE	GEN. TRACT

TITLE  
**FINAL FOREST CONSERVATION PLAN**

Des By: BKC	Scale: 1"=50'	Proj. No. 96054.E2
Des By: HRD	Date: 12-19-01	
Chk By:	Approved:	42 of 46





INDEX MAP

NOT TO SCALE

FOREST CONSERVATION EASEMENT #3 (CONT.)  
±3.00 ACRES RETENTION

±0.86 ACRES EXISTING FLOODPLAIN

±0.01 ACRES CLEARING

±0.10 ACRES CLEARING

MATCHLINE SEE SHEET 44

MATCHLINE SEE SHEET 45

MATCHLINE SEE SHEET 45

MATCHLINE SEE SHEET 42

INTERSTATE ROUTE 95  
STATE ROADS COMMISSION

2-5-02  
Date  
STATE OF MARYLAND  
MELANIE MORTON  
LANDSCAPE ARCHITECT

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS  
NA  
CHIEF, BUREAU OF HIGHWAYS  
DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
[Signature]  
CHIEF, DEVELOPMENT-ENGINEERING DIVISION  
DATE

[Signature]  
CHIEF, DIVISION OF LAND DEVELOPMENT  
DATE

Date	No.	Revision Description
1/11/02		Revisions per Howard County comments

STONE LAKE PHASE 1

OWNER/DEVELOPER:  
THE HOWARD RESEARCH & DEVELOPMENT CORPORATION  
10275 Little Patuxent Parkway  
Columbia, Maryland 21044

**DMW**  
Daft · McCune · Walker, Inc.  
A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals  
300 East Pennsylvania Avenue  
Towson, Maryland 21286  
410 296 3333  
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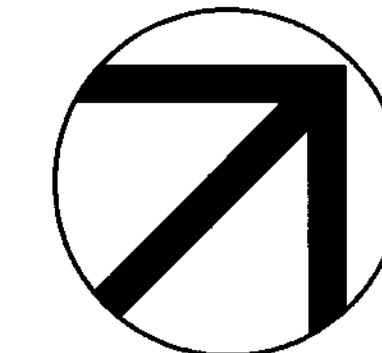
SUBMISSION NAME	STONE LAKE	SECTION AREA	LOT/PARCEL #
PLAN # OR PL #		ZONE	P/D P. 857, P. 3, P. 462
WATER CODE	RED	FAUNING MAP	47
SEWER CODE		SEWER DISTRICT	6 TH

TITLE  
FINAL FOREST CONSERVATION PLAN

Drn By: BKC Scale: 1"=50' Proj. No. 96054.E2  
Des By: HRD Date: 12-19-01  
Chk By: Approved: 43 of 46

Legend

	FOREST PROTECTION SIGN		REFORESTATION AREAS		WETLAND
	FOREST PROTECTION FENCE		FOREST CLEARING		WETLAND BUFFER
	SLOPES >25%		FOREST EDGE		STREAM BUFFER
	SLOPES 15%-25%		SCRUBSHRUBHEDGE/ROW OR TREE GROUP		100 YEAR FLOOD FLAIN
	LIMIT OF DISTURBANCE		SPECIMEN TREE		
	FOREST CONSERVATION EASEMENT				
	FUTURE REFORESTATION AREA				
	PHASE LIMIT				





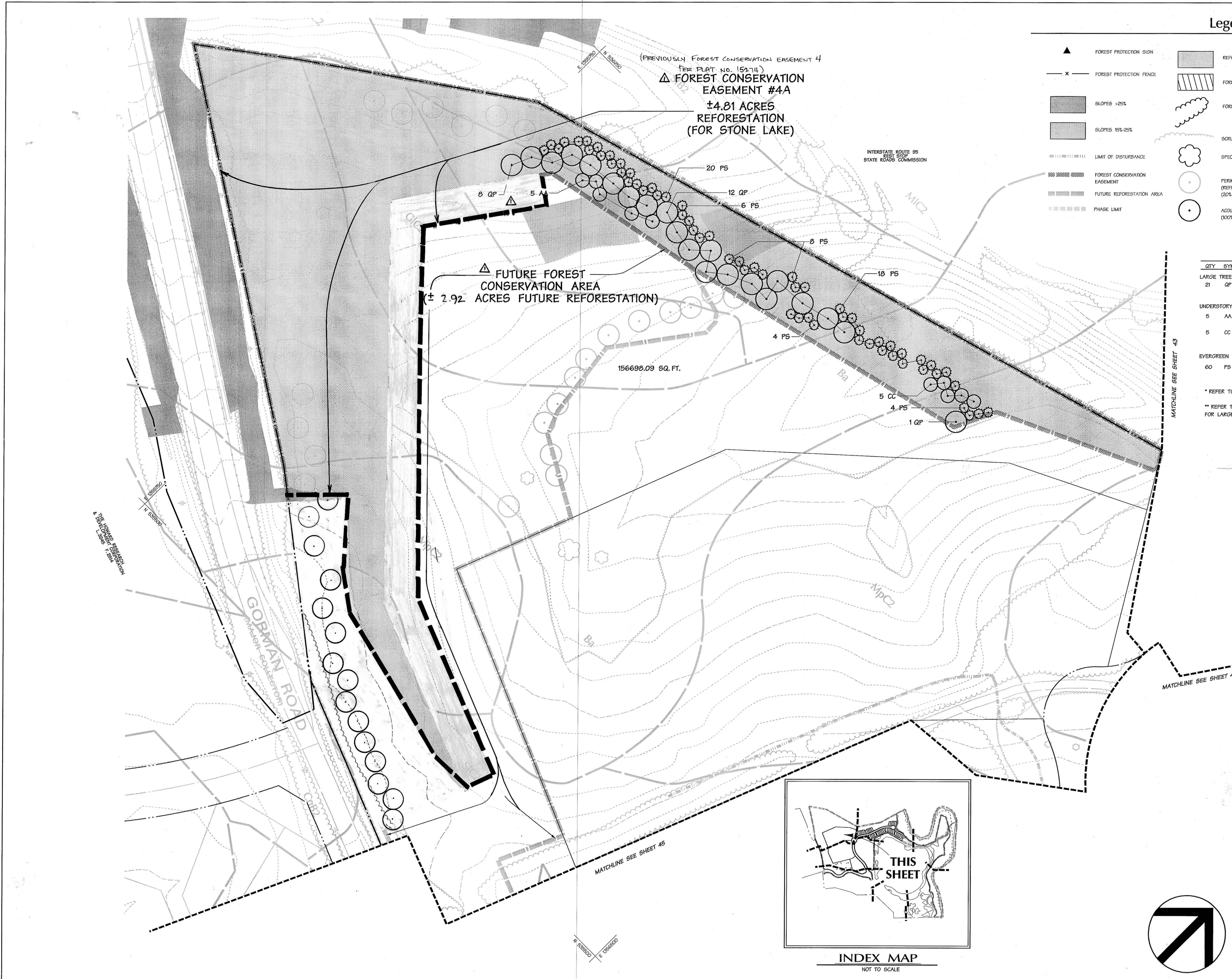
**Legend**

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- PHASE LIMIT
- REFORESTATION AREAS
- ▨ FOREST CLEARING
- FOREST EDGE
- SCRUBSHRUBBERIDGELOW OR TREE GROUP
- SPECIMEN TREE
- PERIMETER LANDSCAPE TREE (REFER TO GLW LANDSCAPE PLAN) (20% CREDIT TOWARDS REFORESTATION)
- ACOUSTICAL MOUND PLANTING (100% CREDIT TOWARDS REFORESTATION)
- WETLAND
- WETLAND BUFFER
- WETLAND SYMBOL
- HEAD OF STREAM
- STREAM
- STREAM BUFFER
- 100 YEAR FLOOD PLAIN

**LARGE CALIPER PLANT LIST\***

QTY	SYM	BOTANICAL NAME/COMMON NAME	SIZE	REMARKS
<b>LARGE TREES</b>				
21	QP	QUERCUS PALUSTRIS PIN OAK	2 1/2" - 3" CAL. 10-12' HT.	B & B**
<b>UNDERSTORY TREES</b>				
5	AA	AMELANCHIER ARBOREA SHADBLUSH	8'-10" HT.	B & B**
5	CC	CERCIS CANADENSIS EASTERN REDBUD	8'-10" HT.	B & B**
<b>EVERGREEN TREES</b>				
60	PS	PINUS STROBUS EASTERN WHITE PINE	6'-8" HT.	B & B** NATURAL

\* REFER TO SHEET 46 OF 46 FOR 1" CALIPER PLANT LIST  
 \*\* REFER TO LANDSCAPE PLANTING PLAN BY GUTSCHICK, LITTLE & WEBER FOR LARGE CALIPER TREE PLANTING SPECIFICATIONS AND DETAILS



FCE REVISION **Δ** ONLY 2-5-02  
Date

Landscape Architect

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS  
 CHIEF, BUREAU OF HIGHWAYS DATE

N/A

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION 2/11/02  
DATE

CHIEF, DIVISION OF LAND DEVELOPMENT 3/11/02  
DATE

Date	No.	Revision Description
5-27-04	Δ	FCE REVISIONS (SHEETS 8, 13 & 44 ONLY)
1/11/02		Revisions per Howard County comments

**STONE LAKE PHASE 1**

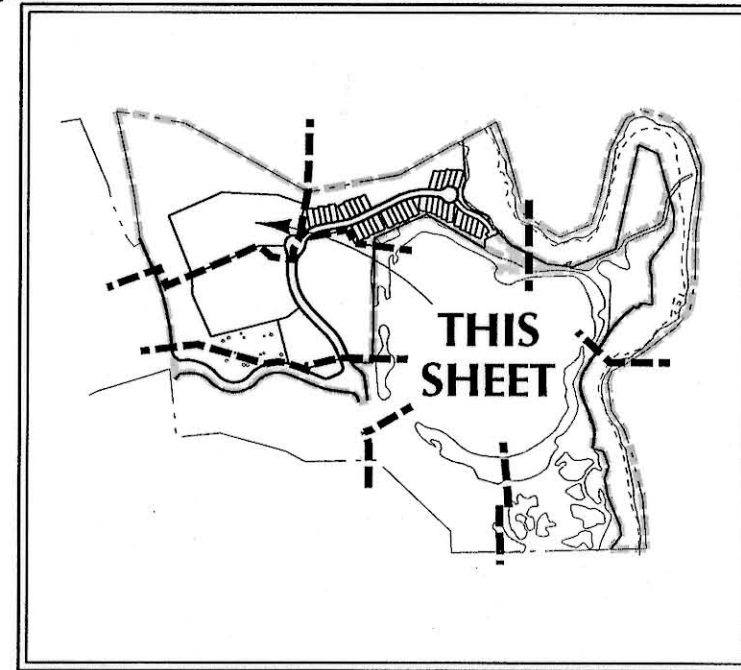
OWNER/DEVELOPER:  
 THE HOWARD RESEARCH & DEVELOPMENT CORPORATION  
 10275 Little Patuxent Parkway  
 Columbia, Maryland 21044

**DMW**  
 Daft - McCune - Walker, Inc.  
 A Team of Land Planners,  
 Landscape Architects,  
 Engineers, Surveyors &  
 Environmental Professionals

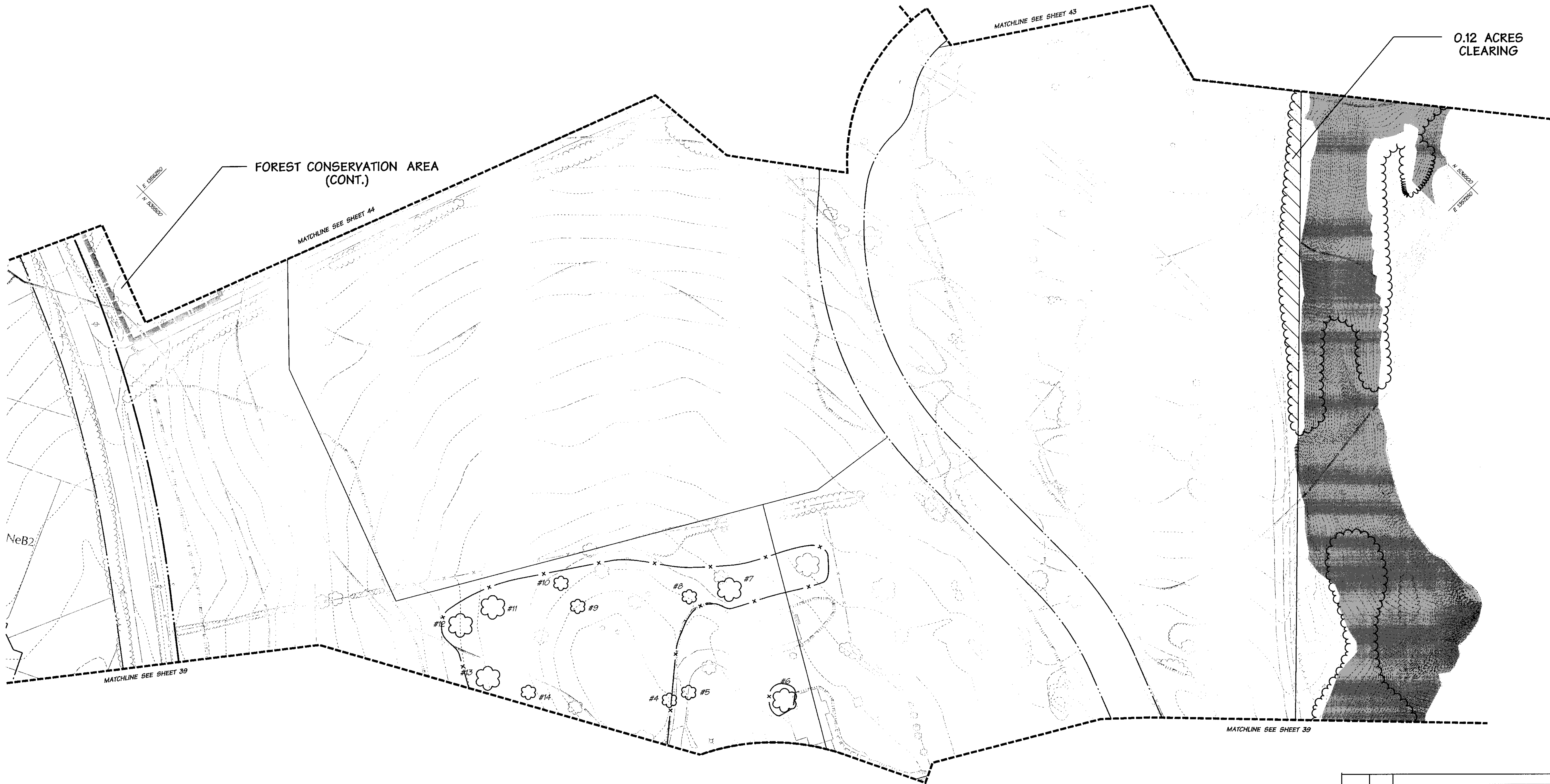
200 East Pennsylvania Avenue  
 Towson, Maryland 21286  
 410 296 8333  
 Fax 296 4705

SUBDIVISION NAME	SECTION AREA	LOT/FACIL #
STONE LAKE		
PLAT OR L.P.	BLOCK #	ZONE
		TAZZONE MAP
		BLK DISTRICT
		6 TH
		CURVED TRACT
		POWER CODE

TITLE			
FINAL FOREST CONSERVATION PLAN			
Des By:	BKC	Scale:	1"=50'
Chk By:	HRD	Date:	12-19-01
Proj. No.:	95054.E2		
Approved:			44 of 46

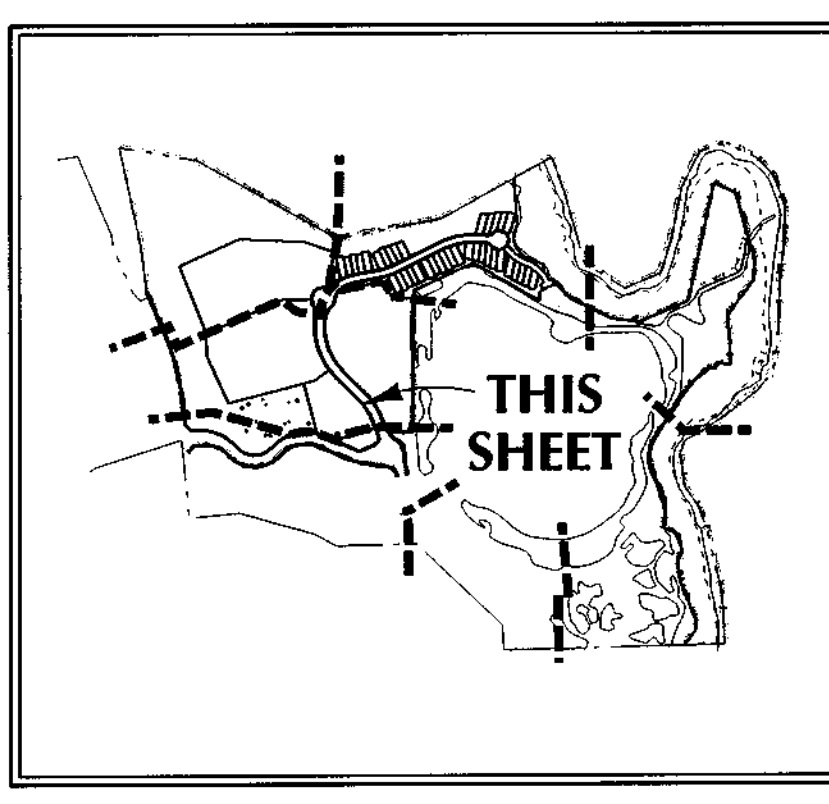






**Legend**

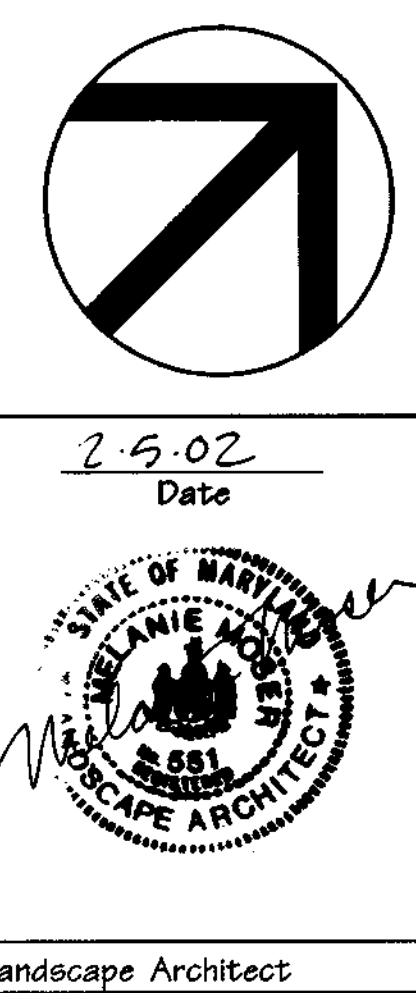
	FOREST PROTECTION SIGN		REFORESTATION AREAS		WETLAND		HEAD OF STREAM
	FOREST PROTECTION FENCE		FOREST CLEARING		WETLAND BUFFER		STREAM BUFFER
	SLOPES >25%		FOREST EDGE		WETLAND SYMBOL		STREAM BUFFER
	SLOPES 15%-25%		SCRUB/SHRUB/HEDGE/ROW OR TREE GROUP		100 YEAR FLOOD PLAIN		
	LIMIT OF DISTURBANCE		SPECIMEN TREE				
	FOREST CONSERVATION EASEMENT						
	FUTURE REFORESTATION AREA						
	PHASE LIMIT						



APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS  
 CHIEF, BUREAU OF HIGHWAYS  
 DATE: N/A

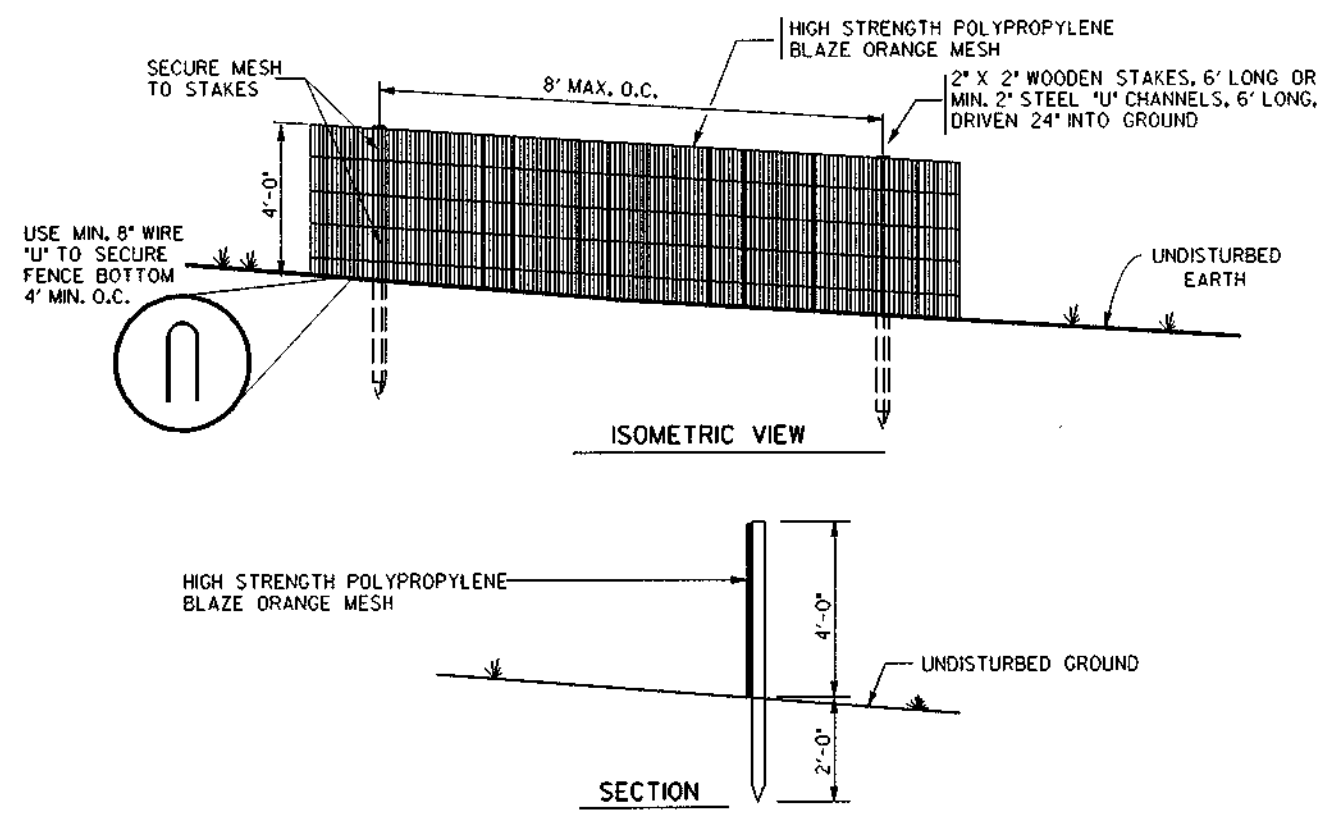
APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
 CHIEF, DEVELOPMENT/ENGINEERING DIVISION  
 DATE: 2/16/02

CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE: 2/16/02



1/11/02	Revisions per Howard County comments
Date	No. Revision Description
<b>STONE LAKE PHASE 1</b>	
OWNER/DEVELOPER: <b>THE HOWARD RESEARCH &amp; DEVELOPMENT CORPORATION</b> 10275 Little Patuxent Parkway Columbia, Maryland 21044	
<b>DMW</b> Daft - McCune - Walker, Inc. A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals 200 East Pennsylvania Avenue Towson, Maryland 21286 410 296 3333 410 296 4705	
DISCIPLINE: STONE LAKE	SECTION AREA: 47
DATE: 2/16/02	PROJECT: P. 637, P. 3, P. 462
<b>FINAL FOREST CONSERVATION PLAN</b>	
Drawn By: BKC	Scale: 1"=50'
Design By: HRD	Date: 12-19-01
Checked By:	Approved:
45 of 46	



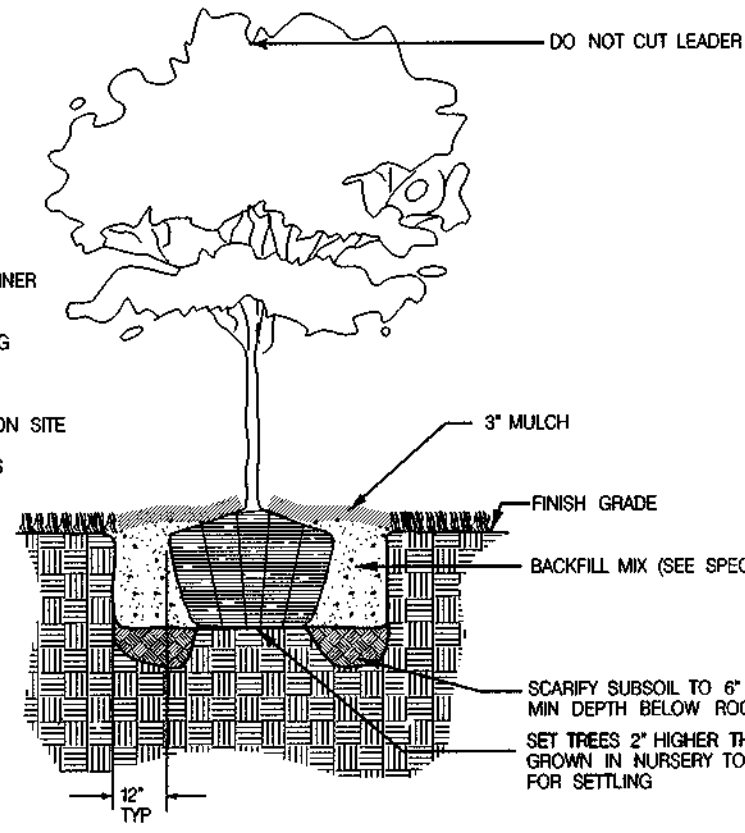


- NOTES:
- THIS DETAIL IS FOR FOREST PROTECTION DEVICE ONLY
  - FOREST RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS
  - BOUNDARIES OF FOREST RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING THE DEVICE
  - ROOT DAMAGE SHALL BE AVOIDED
  - PROTECTION SIGNAGE MAY ALSO BE USED
  - FOREST PROTECTION FENCE SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION

### Forest Protection Fence

Not To Scale

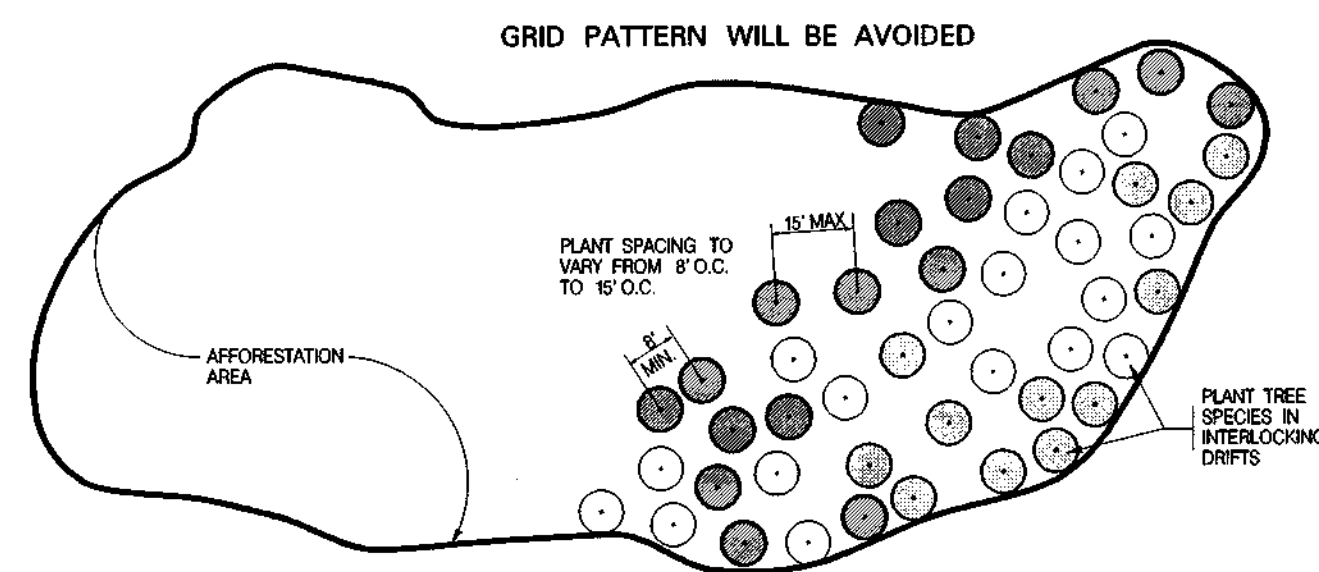
\* WHERE SUPER SILT FENCE (S.S.F.) IS TO BE INSTALLED ADJACENT TO FOREST RETENTION AREAS, ATTACH HIGH VISIBILITY TAPE OR FLAGGING TO THE TOP EDGE OF S.S.F. AT 6' INTERVALS AND USE S.S.F. IN LIEU OF BLAZE ORANGE FENCE. TEMPORARY FOREST PROTECTION SIGNAGE MAY BE ATTACHED TO S.S.F.



- PLANTING PROCEDURES FOR ALL CONTAINER GROWN TREES AND SHRUBS:
- REMOVE THE PLANT EITHER BY CUTTING OR INVERTING THE CONTAINER
  - GENTLY LOOSEN ROOTS FROM SOILS. ROOTS MAY NOT BE CUT OR TRIMMED ON SITE
  - PLANT SHRUB OR TREE 1 TO 2 INCHES ABOVE THE EXISTING GRADE
  - APPLY 2 TO 3 INCH THICK LAYER OF SHREDDED HARDWOOD MULCH

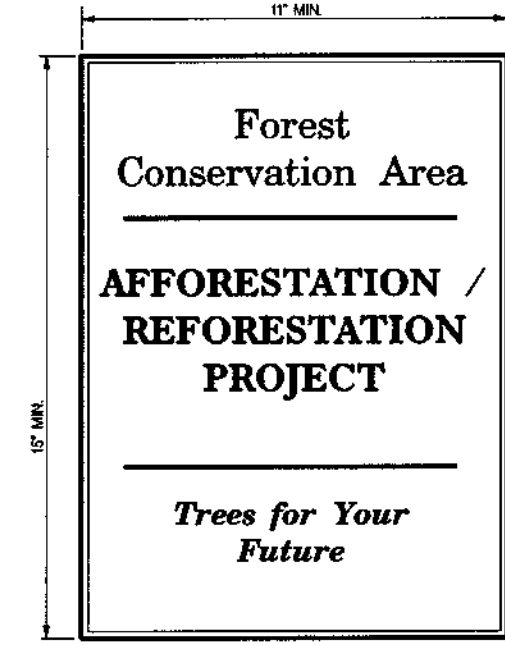
### Typical Tree Planting (For container grown)

Not To Scale



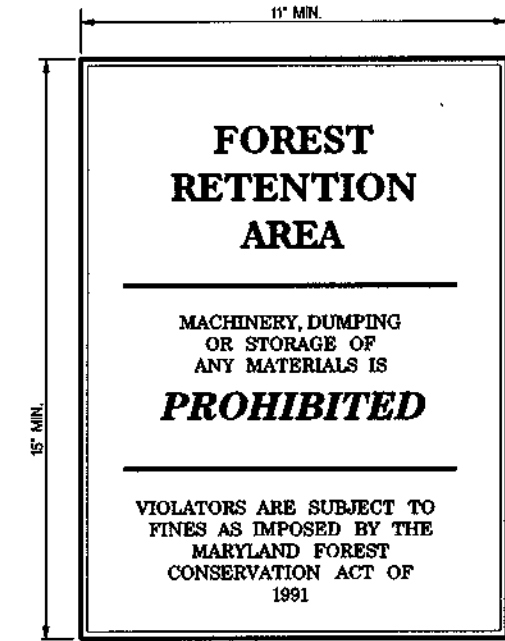
### Planting Design Schematic

Not To Scale (FOR 1" CALIPER STOCK)



### Permanent Signage

Not To Scale



### Temporary Signage

Not To Scale

#### FOREST RETENTION

The reforestation/retention areas will be delineated with temporary signage as appropriate. See Temporary Signage Detail prior to the beginning of any construction activity. Attachment of signs to trees is prohibited. Forest protection fencing and retention area signage to be installed during later phases of construction where grading has not been indicated.

#### PRECONSTRUCTION MEETING/CONSTRUCTION PERIOD PRACTICES

Before construction begins a required preconstruction meeting shall be held. The principle contractor, engineer, Howard County Inspectors and a qualified forest professional familiar with the plan shall be present. All items pertaining to forest retention, tree preservation, and construction period practices shall be discussed. Any changes to the plan due to on-site conditions must be approved by the Howard County Department of Planning and Zoning. No grading, excavation, utility placement, sediment and erosion control activities, or vehicle traffic will occur within forest retention areas. Storage of equipment and materials shall not be permitted in the forest retention areas. There will be no burial or disposal of discarded material on-site within the retention area. There will be no open burning within 100 feet of woodlands. Temporary structures including, but not limited to construction trailers, sanitary facilities, etc. shall not be placed within the forest retention areas. Employee parking shall be permitted in the forest retention areas. POST CONSTRUCTION MANAGEMENT/MAINTENANCE BY CONTRACTOR All dead trees or tree limbs which pose an immediate safety hazard will be listed. Trees dropped within the forest retention area will not be removed. All temporary forest protection structures will be removed after construction and permanent signage will be placed where indicated on the plan. A 2-year Contractor's Maintenance and Monitoring Period shall begin at mobilization. Seventy five percent survivorship must be guaranteed for this period. The site shall be inspected at the end of the two year period to ascertain survivorship and provide for replacement if necessary. The Contractor's maintenance of new planting shall consist of watering, cultivating, weeding, and mulching as necessary to insure survival. Contractor shall protect planting areas and plants at all times against damage of all kinds for duration of maintenance period. Maintenance includes temporary protection barriers and signs as required for protection. If any plants become damaged or injured because sufficient protection was not provided, treat or replace as directed by Landscape Architect at no additional cost to Owner.

#### ALL FOREST RETENTION & REFORESTATION AREAS SHOWN ON THIS PLAN TO BE PLACED IN FOREST CONSERVATION EASEMENT (POTENTIAL REFORESTATION AREA NOT INCLUDED)

#### STANDARDS AND SPECIFICATIONS FOR PLANTING

- PLANT MATERIAL SELECTION**  
A. Nursery grown plant materials greater than 1" caliper should meet or exceed the requirements of the American Nurserymen Specifications, i.e. should be typical of the species and variety, have a normal habit of growth, be first quality, stout, vigorous, well-branched, have healthy, well furnished root systems, and be free of disease, insect pests and mechanical injuries.  
B. Planting stock less than 1" caliper should meet the following standards:  
Seedlings/shrubs:  
Hardwoods - 14" to 12" caliper with roots not less than 8" long  
Shrubs - 16" or larger caliper with 8" root system.
- PLANTING SITE PREPARATION**  
Soils shall not be disturbed outside the area necessary for planting individual specimens and the removal of exotic invasive plant material. These areas should be stabilized as shown on the temporary seeding notes on sheet 6.
- PLANTING PERIOD**  
All material shall be planted between September 15 and May 31. Material shall not be installed when ground is frozen.
- PLANT MATERIAL STORAGE**  
Plants should be planted within 24 hours of delivery if possible. Plant material which are left unplanted for more than 24 hours shall be protected from direct sun and weather and kept moist. Nursery stock should not be left unplanted for more than two weeks.
- ON-SITE INSPECTION**  
Prior to planting, planting stock shall be inspected by the landscape architect or other qualified professional familiar with this plan. Plant material not conforming to standard nurserymen specifications for size, form, vigor, roots, bark wounds, insects and disease should be replaced.
- TOPSOIL FOR PLANTING SOIL**  
A. On-site material or imported from same source as topsoil used on site for finish grading.  
1. Uniform composition, free of subsoil, clay lumps, stones, stumps, roots or similar objects larger than 1 inch.  
2. Topsoil must be free of plants or plant parts of bermudagrass, quackgrass, Johnsongrass, nutgrass, poison ivy, Canada thistle, or others as specified.  
3. Topsoil shall be tested by a recognized laboratory for pH and soluble salts. A pH of 4.5 to 7.5 is required. Soluble salts shall not be higher than 500 parts per million.  
4. Topsoil shall be tested by a recognized laboratory for pH and soluble salts. A pH of 4.5 to 7.5 is required. Soluble salts shall not be higher than 500 parts per million.
- ADDITIVE FOR BACKFILL MIX**  
A. Wood Residuals:  
1. Source shall be well composted, not chemically treated.  
2. Physical properties -- grading:  

U.S. Sieve	Dry Weight Percent Passing
No. 4	100
No. 10	95 - 100
No. 30	80 - 100
No. 35	65 - 100
No. 60	0 - 50
No. 100	0 - 20
No. 200	0 - 7

  
3. Organic content by ash analysis: 90 - 100 percent dry weight  
4. Chemistry:  
a. Saturation Extract Conductivity (EC) ————— Nil - 3.5  
b. Reaction (pH) ————— 3.0 - 5.5  
5. Salinity: Maximum saturation extract conductivity 1.0 millimhos per cm at 25 degrees centigrade.  
B. Sand  

U.S. Sieve	Dry Weight Percent Passing
No. 4	100
No. 10	95 - 100
No. 30	80 - 100
No. 35	65 - 100
No. 60	0 - 50
No. 100	0 - 20
No. 200	0 - 7

  
2. Chemistry:  
Saturation Extract Conductivity (EC) ————— Nil - 3.0  
Sodium Absorption Ratio (SAR) ————— Nil - 6.0  
Boron - ppm in saturation extract solution ————— Nil - 1.0  
Reaction (pH) ————— 6.0 - 7.5  
Availability calcium - sodium acetate extractable - ppm — Nil - 2000 dry weight.
- Treble Superphosphate:** Commercial product containing 19 to 20 percent available phosphoric acid.
- MULCH**  
A. Shredded long fiber hardwood.  
B. Mulch shall have been shredded within the last six (6) months.
- PLANTING MIX**  
A. Planting mix shall be prepared at approved on-site staging area using approved on-site existing soil. Mix minimum quantities of 20 cubic yards or sufficient mix for entire job if less than 20 cubic yards is required.  
B. Thoroughly mixed in the following proportions for tree and shrub planting mix:  
  - 5 cu of existing soil
  - 2 cu of Shred sand
  - 3 cu of Wood residuals
  - 4.5 lbs. Treble superphosphate
  - 5 lbs. Dolomite limestone (eliminate for acid loving plants)

#### 10. LAYOUT AND EXCAVATION OF PLANTING AREAS

- A. Plants shall be placed in each zone at random locations shown as indicated on the plan.  
B. The Landscape Architect or qualified professional will check location of plants in the field and shall adjust to exact position before planting begins.  
C. Subsoil shall not be worked when moisture content is so great that excessive compaction will occur, nor when it is so dry that clods will not readily break. Water shall be applied, if necessary, to bring soil to an optimum moisture content before tilling and planting.  
D. Tree pits shall not be excavated more than 24 hours in advance of planting operation. Tree pits shall be excavated to the following dimensions:
- | Excavation for        | Width         | Depth                             |
|-----------------------|---------------|-----------------------------------|
| Container Trees       | Can + 12 in.  | Can + 4 in.                       |
| B&B Trees             | Ball + 12 in. | Ball + 4 in.                      |
| Excavation for Shrubs | Can + 8 in.   | Can + 4 in., not less than 12 in. |

#### 11. PREPARING PLANT MATERIALS FOR PLANTING

- A. Container stock shall be removed carefully after cans have been cut on two sides with approved cutter. Do not use spade to cut cans. Do not lift or handle container plants by tops, stems or burls at any time.  
B. Do not bind or handle any plant with wire or rope at any time so as to damage bark or break branches. Lift and handle plants only from bottom of ball.  
C. Balled and burlapped (B&B) plants shall have firm balls of earth. Plants moved with a ball will not be accepted if the ball is cracked or broken before or during planting operations. B&B material shall be dug only when dormant. Pre-dug stored B&B material shall be inspected and approved at the storage site.  
D. Do not force roots for bare rooted trees into excavated pits - custom dig pits to receive roots without deformation.

#### 12. MIXING

- A. Mix soil base, amendments and chemical additives by mechanical means.  
B. Soil and sand bases shall be completely pulverized and free of lumps or aggregated material. Moisture content of base materials shall not be such that chemical granular or pelletized additives become dissolved during the mixing process.  
C. Mix media in quantities of not less than 20 cubic yards or mix total quantity required if less than 50 cubic yards. The Contractor shall be responsible for continuity between batches.  
D. Contaminating backfill mix with unripened soft backfill mixing lots shall be avoided.

#### 13. INSTALLATION OF PLANT MATERIAL

- A. Soak the walls and bottom of all plant pits immediately prior to the placement of plant and backfill mix. The Contractor shall remove all glazing of soil caused by an auger or mechanical hole digger.  
B. Wells around trees and shrubs, after planting is complete, form a soil well 3 inches high around each plant, extending to the outer limit of the plant pit in accordance with planting details shown on the Drawings.  
C. Smooth planted areas to conform to specified grades after full settlement as occurred. Contractor shall bear final responsibility for proper surface drainage of planted areas. Any discrepancy in the drawings or specifications, obstructions on the site or prior work done by another party, which Contractor feels precludes establishing proper drainage, shall be brought to the attention of the Landscape Architect in writing.  
D. Water all plants immediately again after planting.  
E. Spread mulch in required areas to the compacted depth of 2 inches.

#### GUARANTEE:

A MINIMUM SURVIVAL RATE OF 75% IS TO BE GUARANTEED BY THE CONTRACTOR AT THE END OF THE TWO YEAR MAINTENANCE PERIOD.

#### Reforestation Area Planting Plan\* (1" Caliper Stock)

780 - 1" trees required

Species	Size	Spacing	Quantity	Tolerance	Remarks
<i>Liriodendron tulipifera</i>	1" Caliper B.Root/Cont. Crown	1.5" o.c./ndm	200	I	FACU
<i>Acer rubrum</i>	1" Caliper B.Root/Cont. Crown	1.5" o.c./ndm	150	I-VT	FAC
<i>Fraxinus pennsylvanicum</i>	1" Caliper B.Root/Cont. Crown	1.5" o.c./ndm	150	I-MT	FACW
<i>Quercus alba</i>	1" Caliper B.Root/Cont. Crown	1.5" o.c./ndm	180	I	FAC
<i>Nyssa sylvatica</i>	1" Caliper B.Root/Cont. Crown	1.5" o.c./ndm	100	T	FAC
<b>TOTALS</b>			<b>780</b>		

\* REFER TO SHEET 44 OF 46 FOR LARGE CALIPER PLANT LIST

#### NOTE:

- THE PRECISE LOCATION OF PLANT MASSINGS WILL BE LOCATED IN THE FIELD BY LANDSCAPE ARCHITECT.
- GRID PATTERNS WILL BE AVOIDED
- PLANT MATERIAL MAY BE GROUPED IN CLUSTERS OF NO MORE THAN 5 TO 7 WHIPS OF THE SAME PLANT. PLANTS WILL BE INSTALLED IN A RANDOM FASHION.

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS  
 N/A  
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
 2/5/02  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

CHIEF, DIVISION OF LAND DEVELOPMENT  
 Cindy Harmon  
 DATE

Date	No.	Revision Description
1/11/02		Revisions per Howard County comments

**STONE LAKE PHASE 1**

OWNER/DEVELOPER:  
**THE HOWARD RESEARCH & DEVELOPMENT CORPORATION**  
 10275 Little Patuxent Parkway  
 Columbia, Maryland 21044

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SURVEYOR NAME	SECTION AREA	LOT/FACILITY #
STONE LAKE		P/O P. 837, P. 3, P. 462
PLAT/OF LF	BLK #	JUNE
WATER CODE	SEWER CODE	TRAILER

TITLE  
**FINAL FOREST CONSERVATION PLAN**

Drn. By: BKC Scale: 1"=50' Proj. No. 95054-E2  
 Des. By: HRD Date: 12-19-01  
 Chk. By: Approved: 46 of 46

