

**Bench Marks**

Bench Mark 'F'  
x-cut in conc.  
base for traffic control  
Elev. = 3208.16

Bench Mark 'G'  
Nail in B.G. & E. Pole  
Elev. = 327.97

Note: Individual builders for Parcels A-51, A-52, A-53, & A-54 are required to provide landscaping in accordance w/ the requirements of the HCD Architectural Review Comm. This includes perimeter buffer requirements. Surety for the landscaping will be required at the SPP stage.



Contractor may use brick, cast in place or pre-cast concrete structures.

**Storm Drain Structure Schedule**

No.	Type	Top Elev.	Inv. in	Inv. out	Location	Std. Detail
E-1	A-10 Inlet	305.81	302.08	301.58	See notes	SD 4.41
E-6	End Section			300.00	From 1st	SD 5.51
M-2	Shallow 14" in sidewalk, 6" & cover in slab	300.39	301.30	301.05	5' 50" from face of curb	GS-13

For Continuation of Structure Schedule See Sheets 2 & 3 of 18

**Street Light Schedule**

Location	Lamp Type	Fixture	Pole Type
24+88.57 37' RT.	150 Watt HPSV	Cut-off	20' bronze aluminum
22+33.0 22.5' RT.	"	20" arm style	breakaway base

Relocate ex. street light sta. 22+46.35 RT. 21' to sta. 22+31.0 RT. 20'

Note: Sediment Control Measures will be implemented in accordance with Section 219 of the specifications and with Site Development Plans SDP-93-88 and these plans

Approved: Department of Public Works  
*Andrew M. Daniels* 2-11-95  
Chief, Bureau of Highways MS Date

Approved: Howard County Dept. of Planning & Zoning  
*Chris Swartz* 9/22/95  
Chief, Planning & Zoning Date

*Mike Cummins* 9/14/95  
Chief, Development Engineering Division MK Date

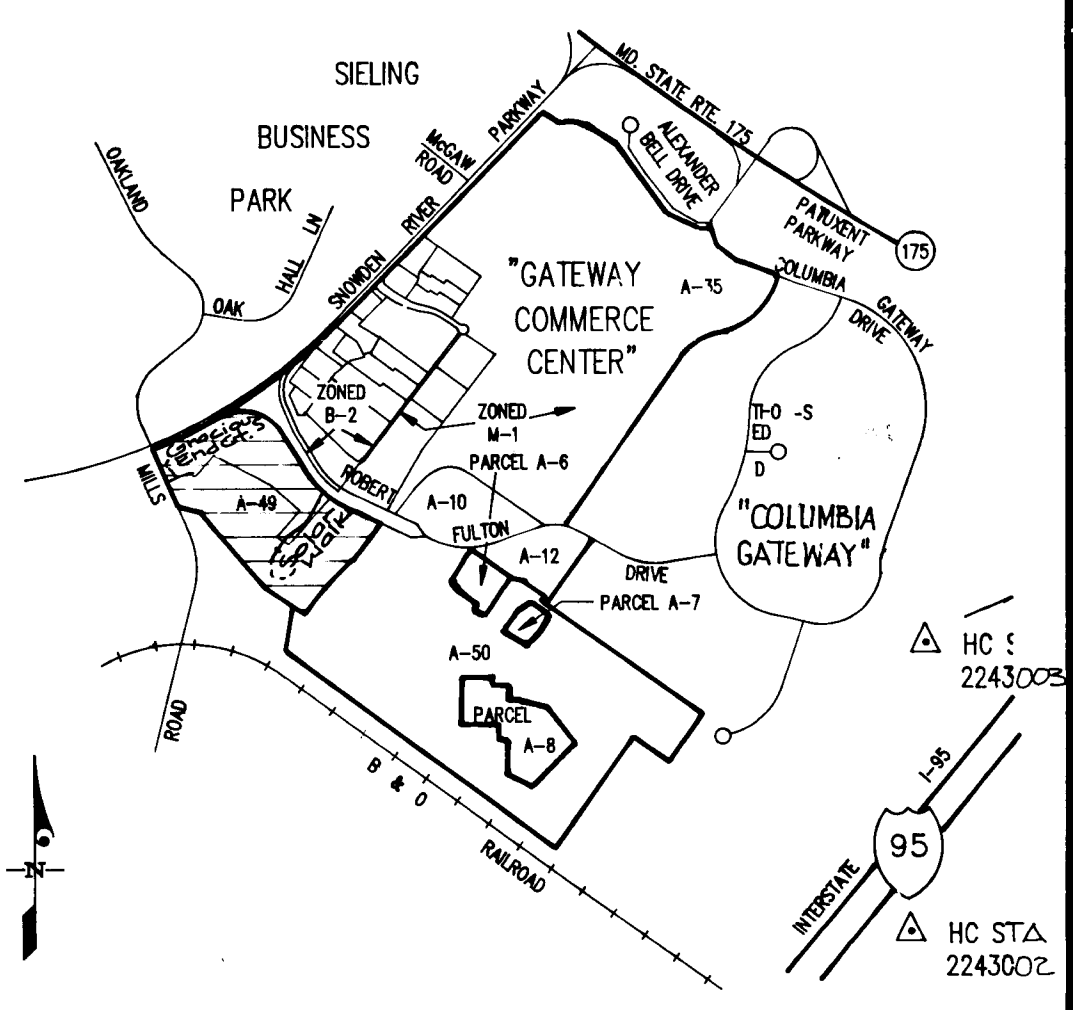
**G.W. GUTSCHICK LITTLE & WEBER, P.A.**  
CIVIL ENGINEERS, SURVEYORS, PLANNERS, LANDSCAPE ARCHITECTS  
3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK - BURTONSVILLE, MD. 20866  
TELEPHONE: (301)421-4024 NO. VA. (301)989-2524 BALTO. (301)880-1820 FAX (301)421-4186

**Construction Notes**

- Sta. 22+01.51 to Sta. 28+68.88 RT. Remove ex. curb & gutter
- Sta. 22+01.15 to Sta. 26+00 RT. Remove ex. curb & gutter
- Saw-cut & remove ex. paving Sta. 26+10 to Sta. 26+75 RT. Sta. 22+01.15 RT. 21.57 to Sta. 22+46.75 RT. 20.87
- Sta. 28+80.32 RT. 23' to 36' Remove ex. headwall & ex. 24" r.c.p. Sta. 28+80.32 RT. 23' to 29.22' install 24" r.c.p. Sta. 28+80.32 RT. 23.22' install A-10 inlet. Install 30" R.C.P. M2 & End Section. Contractor shall not disturb buttress on 12" 1/2 H.B. or the soil it bears upon.
- Exist. B.G. & E. pole to remain undisturbed (# 475526)
- Exist. traffic signal pole to remain undisturbed.
- Sta. 22+00 RT. 23' 25+50 RT. 31 and 21+42.24 relocate ex. B.G. & E. poles
- Sta. 24+28 RT. 24' and 27+78.28 RT. relocate ex. signs
- Sta. 28+88 RT. 35' relocate junction box
- Sta. 24+88.57 to Sta. 23+86.07 RT. 33' install curb fillets
- Sta. 23+86.07 RT. 33' to Sta. 22+42.55 RT. 17.22' install curb & gutter
- Sta. 28+68.88 RT. 21.01 to Sta. 22+46.75 RT. 20.87' install curb & gutter (island)
- Sta. 22+00.59 RT. to Sta. 22+46.75 RT. 20.87' install curb & gutter (island)
- Sta. 22+01.51 RT. to Sta. 24+88.57 RT. 33' install curb & gutter
- Nose down approach island curbs.
- Ex. sanitary manhole to remain undisturbed.
- Sta. 24+88.57 to Sta. 23+86.07 RT. install paving (Gracious End Ct.)
- Sta. 23+01.51 to Sta. 22+49.35 install paving (turnlane)
- Exist. Utility Box to be relocated

**Curb Elevation Table**

No.	Station	Offset	Flowline Elev.	Top of Curb Elev.	Gutter Type
1	22+07.91	41.50 RT.	301.00	301.00	Spill
2	22+16.81	40.75 RT.	303.22	303.02	Catch
3	22+86.01	33.00 RT.	307.44	307.04	Spill
4	22+02.59	33.00 RT.	307.71	307.31	Catch
5	22+32.60	33.87 RT.	306.07	306.07	
6	22+01.11	52.74 RT.	305.37	305.37	
7	22+22.69	20.82 RT.	306.00	306.00	
8	22+42.56	122.90 RT.	306.05	307.25	
9	22+07.52	24.90 RT.	306.02	307.22	Spill
10	22+08.82	40.10 RT.	305.98	306.58	
11	22+25.15	62.34 RT.	306.54	307.14	
12	22+46.79	80.87 RT.	307.05	307.65	
13	22+49.35	173.22 RT.	Match	Ex Pav.	Catch
14	24+88.57	33.00 RT.	302.11	302.21	Spill
15	24+05.50	23.00 RT.	304.54	305.14	
16	22+54.27	28.43 RT.	306.14	306.74	
17	22+00	22.00 RT.	304.69	305.29	Spill
18	27+25.67	33.00 RT.	311.27	311.87	Catch
19	22+48.02	22.50 RT.	Match	Ex Pav.	
20	22+57.83	82.50 RT.			
21	22+58.01	87.20 RT.			



VICINITY MAP  
1"=2000'

**General Notes**

- All construction shall be in accordance with the latest standards and specifications of Howard County plus MSHA standards and specifications, if applicable.
- The contractor shall notify the Department of Public Works/Bureau of Construction Inspection at 301-702-7272 at least five (5) working days prior to the start of work.
- The contractor shall notify "Miss Utility" at 1-800-257-7777 at least 48 hours prior to any excavation work.
- Project Background:  
ZB/BA ref: 10/15/93 Comprehensive Zoning Plan (amended by Zoning Board Case No. ZB-949 M)  
Total Tract Area: 54.00 Ac.  
No. of Proposed Lots: 7  
Preliminary Equivalent Sketch Plan: (SP 93-01) was Approved on Nov. 27, 1994
- See Department of Planning & Zoning File No.'s: S-84-44, S-85-25, F-88-01, F-87-02, F-85-25, VP-84-150, VP-85-34, F-90-175, VP-85-35, VP-86-01, VP-88-17, VP-88-03, VP-90-141, AA-91-15, ZB-91-5, S-92-210, SDP-92-10, F-92-10, F-92-15, F-92-57, VP-92-50, VP-92-113, F-92-130, F-92-140, VP-92-172, FBP-215, F-93-47 & ZB-949 M, SP 93-01, SDP 93-88
- Traffic control devices, markings, and signing shall be in accordance with latest edition of the Manual on Uniform Traffic Control Devices (MUTCD).
- Light poles and fixture for street lights shall be in accordance with the latest Howard County Design Manual, Volume III, Roads and Bridges.
- These plans are based upon the previously recorded plats for this subdivision, and relate to a boundary outline prepared by Century Engineering, Inc. (as amended by Gutschick, Little & Weber, P.A. - April, 1994). Bearings refer to true north.
- Coordinates based on Nad 27 Maryland Coordinate System as projected by Howard County Geodetic Control Stations No 2243002 and No 2243003.
- Water and sewer service for this project is public under contract No. 24-24000.
- Stormwater management provided by an existing regional facility (F-92-1001 DPW).
- Existing utilities were located from available records.
- A portion of these plans are the subject of jurisdictional determination of wetlands CENAB-OP-RF-93-0133, USACOE 401 permit 1995-0424 and wetland and buffer disturbances as necessary impacts in accordance with SP 93-01.
- A Forest Conservation easement has been established to fulfill the requirements of section 16.2a of the Howard County Code Forest Conservation Act. No clearing, grading or construction is permitted within the Forest Conservation Easement; however, forest management practices as defined in the Deed of Forest Conservation Easement are allowed.
- Note: No clearing, grading or construction is permitted within the required wetland buffer except areas permitted for disturbance by the Department of Natural Resources and Howard County Dept. of Planning & Zoning.
- A minimum spacing of 20' shall be maintained between any street light and any tree.
- Note: See record plat for the ZB/BA noise line.

**Legend**

- ④ Prop. Elevation
- Exist. curb & gutter
- Prop. curb & gutter
- Prop. reverse curb & gutter
- Exist. paving
- ④ Construction notes
- Exist. paving to be removed
- Exist. gas main
- Exist. telephone conduit
- OHW — Exist. overhead wires
- ⊙ Exist. Trees
- EX 12" W — Exist. watermain
- EX 8" S — Exist. Sanitary sewer
- Exist. woods line
- OMR Oakland Mills Road
- SRP Snowden River Parkway
- ★ Exist. Street Lights
- ✱ Prop. Street Lights
- TR To Remain
- TBR To Be Removed
- TBAP To Be Abandoned in place

**Sheet Index**

- Road Construction Plan (Oakland Mills Road)
- Road Construction Plan (Gracious End Ct.)
- Road Construction Plan (Solar Walk)
- Road Construction Details
- Storm Drain Profiles
- Storm Drain Profiles
- Grading, Sediment Control and D.A. Map
- Grading, Sediment Control and D.A. Map
- Sediment Control Details

Road Construction Plan  
Oakland Mills Road  
**Gateway Commerce Center**  
Guth Election District  
Howard County, Maryland

DES.	SCALE	ZONING	G.W. FILE NO.
not	As Shown	R-A-15	93-038
DRN.	DATE	TAX MAP NO.	SHEET
W.S.J.	January, 1995	42	1 of 18
CHK.	not		

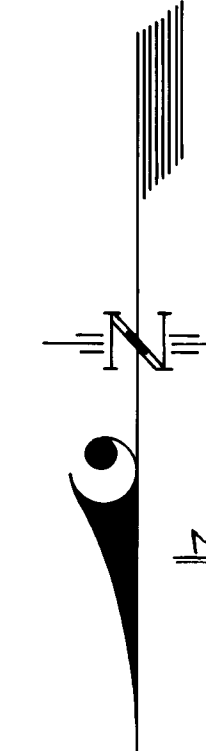
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10/22/93	SD Pav. (added M2)	KP	



No.	Station	Offset	Flowline Elev.	Top of Curb Elev.	Gutter Type
1	0+01.81	25' RT.	379.74	380.34	Catch
2	1+00	25' RT.	379.52	380.12	
3	1+40.58	20.70' RT.	379.20	379.80	
4	1+80.74 = 2+22.00 LCP	13.42' RT.	378.77	379.57	
5	2+58.92 LCP		378.62	379.22	Spill
6	2+51.92 LCP		378.35	378.95	Spill
7			378.70	379.20	Spill
8			378.27	378.77	Catch
9	2+10.27 LCP		377.75	378.55	
10	1+64.88 LCP		377.62	378.22	Spill
11			378.21	378.71	
12			377.75	378.45	Catch
13	1+31.62 LCP		377.20	377.80	
14	1+07.91 LCP		377.53	378.13	
15			377.77	378.47	
16			378.50	379.00	Spill
17	0+40.05 LCP		378.34	378.94	Spill
18	0+31.20 LCP		378.61	379.21	Spill
19	1+82.52 = 2+25.00 LCP	13.62' LT.	378.98	379.58	Catch
20	1+73.00	10.06' LT.	379.05	379.65	
21	1+00	25' LT.	379.32	380.12	
22	0+57.54	25' LT.	379.24	379.54	
23	0+44.51	9' RT.	380.31	380.91	Spill
24	1+00	9' RT.	380.04	380.64	
25	1+20.62	5.17' RT.	379.81	380.41	
26	1+20.43	1.23' RT.	379.93	380.53	
27	1+00	1' LT.	380.28	380.88	
28	0+44.51	1' LT.	379.90	380.51	

Location	Lamp type	Fixture	Pole type
By curb post # 14 see plan.	100 Watt HPSV	Traditionare	14' Bronze Fiberglass

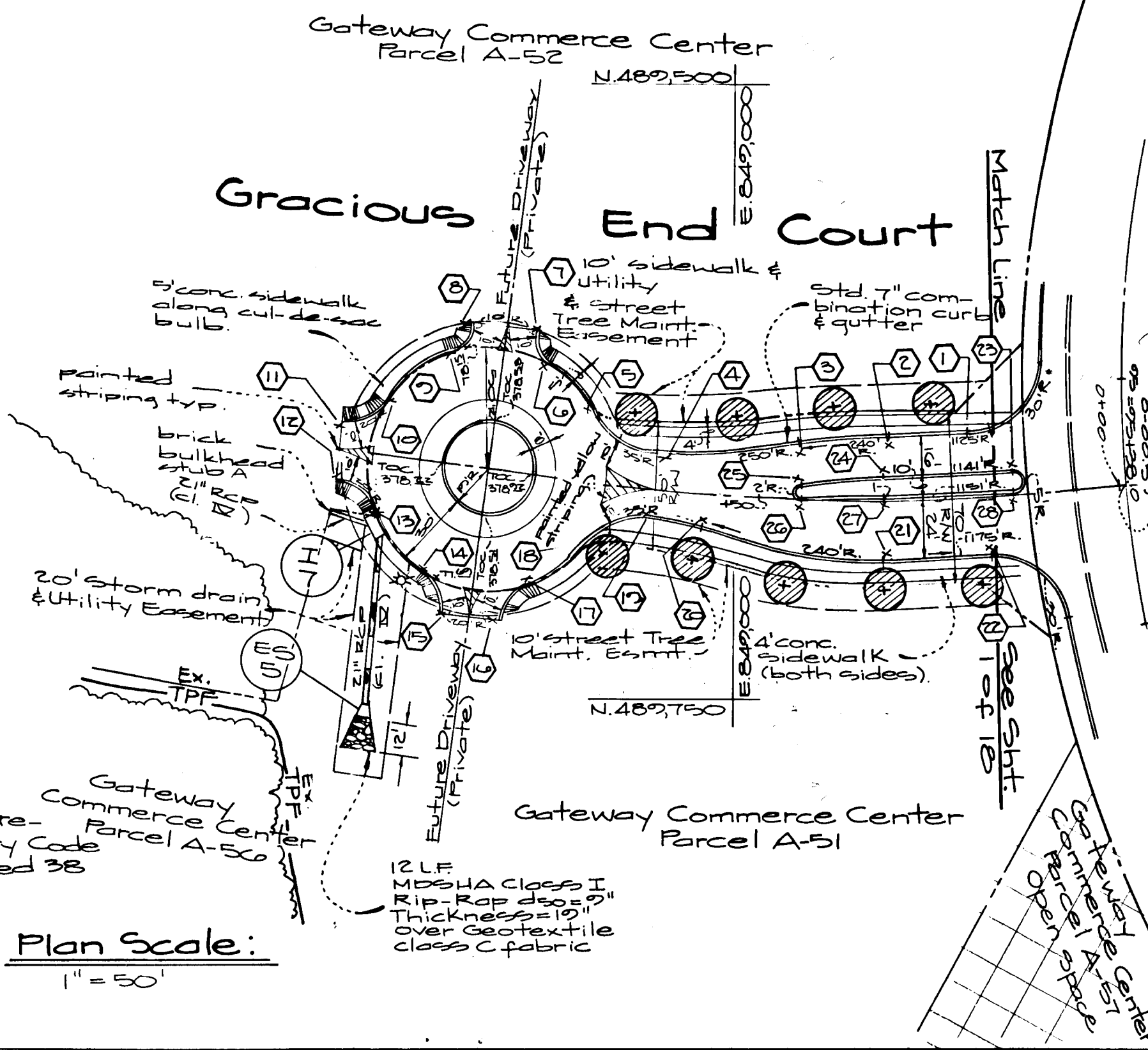
No.	Type	Top Elev.	Iny. (in)	Iny. (out)	Location	Std. Detail
59-9	End Section	---	---	372.88	3403.87 Lt. 118'	SD 5.51
I-7	A-B Inlet	377.84	373.91	373.64	Structure @ curb post # 13 see plan	SD 4.41



Note: A minimum spacing of 20' shall be maintained between any street light and any tree.  
Cul-de-sac island shall be 7" comb. conc. curb & gutter with spill type gutter.

**Tree Planting Notes**  
1. Contractor shall verify location of underground utilities prior to digging.  
2. Planting procedures shall comply with "Landscape Specifications for Baltimore Washington Areas."  
3. Street trees 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 builder Landscape program. Bond release is contingent upon Sect. 16.04 of the Howard County Code and Landscape Manual. Financial surety for the required 38 trees in the amount of \$38,000 shall be part of the Developers Agreement.

Quantity	Key Plant Name & Symbol	Size	Remarks
38	Acer Rubrum - October Glory Red Maple	2-2 1/2 Cal.	B&B Heavy heads



For Continuation of Structure Schedule See Sheet 3 of 10  
Note: For bench marks and legend see Sheet 1 of 10

Pc Sta.	Pt. Sta.	Arc Radius	Delta	Chord	
0+00	1+00	100.00'	115.0'	4°58'55.65"	N.86°34'19.90"E. 99.97'
1+00	2+11.79	111.79'	77.5'	8°15'51.13"	S.86°48'16.71"E. 111.60'

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

DESIGNED BY: *W.S.J.*  
DRAWN BY: *W.S.J.*  
CHECKED BY: *W.S.J.*  
DATE: March, 1995

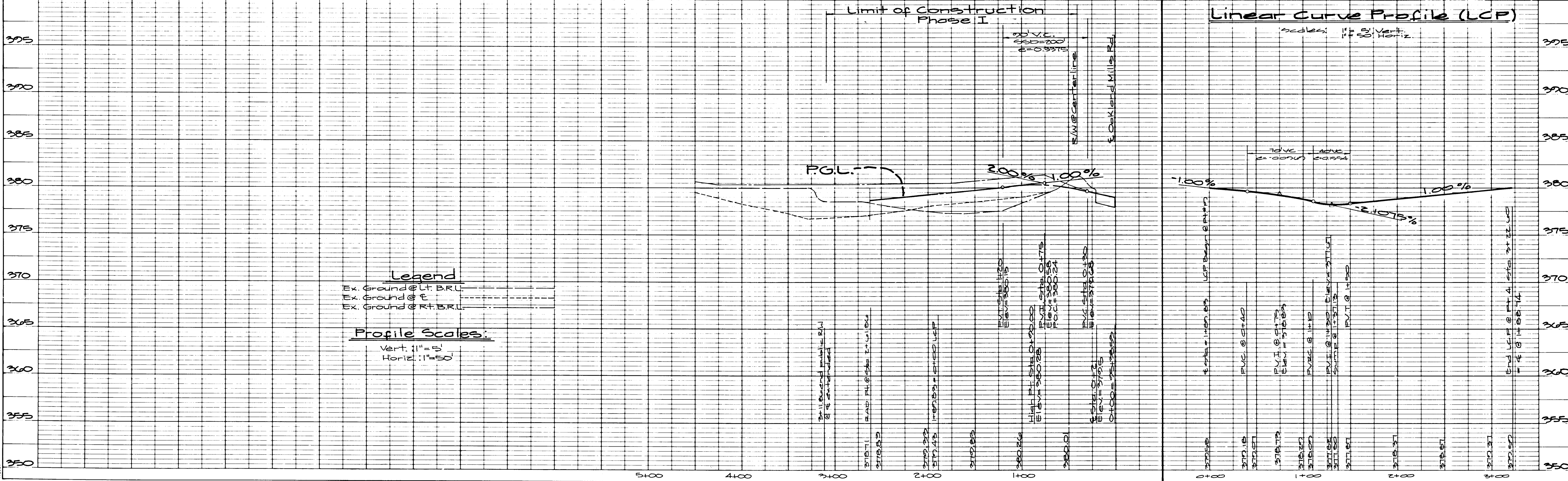
SCALE: 1" = 50'  
DRAWING: 2 of 10

PROJECT: Road Construction Plans (Phase I) Gracious End Court Station 0+21 to 2+85  
GATEWAY COMMERCE CENTER  
Co. Election Dist: Howard County, Maryland  
Owner & Developer: GEARTE II INC. c/o The Howard Research & Development Corp. 1025 Little Patuxent Pkwy. Columbia, Maryland 21044 (410) 992-6027

Approved: Department of Public Works  
*Andrew M. Decker*  
Chief, Bureau of Highways MS  
9-11-95  
Date

Approved: Howard County Dept. of Planning & Zoning  
*Anna Zuremanny*  
Chief, Div. of Land Development & Research MS  
*John J. ...*  
Chief, Development Engineering Division MK  
9/22/95  
Date

Plan Scale: 1" = 50'



**Legend**  
Ex. Ground @ Lt. B.R.L.  
Ex. Ground @ C  
Ex. Ground @ Rt. B.R.L.

**Profile Scales:**  
Vert: 1" = 5'  
Horiz: 1" = 50'

3511

Profile

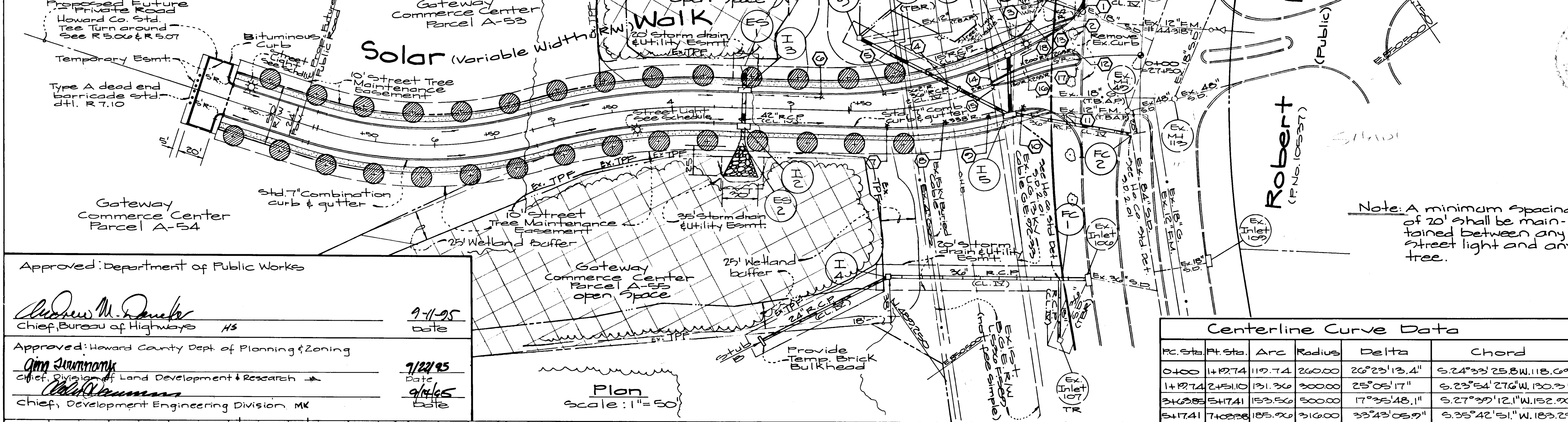


No.	Type	Top Elev.	Inv. (in)	Inv. (out)	Location	Std. Detail
R-1	Field Conn.	—	326.55	—	See Plan	SD 2.01
R-2	Field Conn.	—	312.74	—	"	"
ES-1	End Section	—	338.50	—	3454.29 Rt. 37'	SD 5.51
M-1	Manhole	339.33	331.52	331.08	See Plan	G 5.12
I-10	A-10 Inlet	match	—	331.93	See Plan	SD 4.41
I-2	A-10 Inlet	345.00	338.17	338.15	3439.29 Lt. 12'	SD 4.41
I-3	A-10 Inlet	345.00	338.35	338.33	3439.29 Rt. 12'	"
I-4	Type 'D' Inlet	332.70	—	332.03	See Plan	"
I-5	A-10 Inlet	341.00	336.53	331.13	1+23.24 Lt. 26.18	SD 4.39 *
I-6	A-5 Inlet	340.50	—	337.07	1+06.80 Rt. 16.70	"
I-7	Type 'D' Inlet	339.83	—	334.35	See Plan	SD 4.39 *

\* Provide openings all sides

**Bench Marks**  
B.M. 'D' F.H. x-cut bonnet bolt  
Elev. = 343.31

No.	Station	Offset	Flowline Elev.	Top of Curb Elev.	Gutter Type
1	0+43.87	Rt. 5'	339.37	339.97	Spill
2	0+61.42	Rt. 27.74'	339.57	340.17	Spill
3					
4	1+64.72	Rt. 16.93'	341.51	342.11	Spill
5	2+21.09	Rt. 15.49'	343.06	343.66	
6	2+75.79	Rt. 13'	344.67	345.27	
7	2+20.87	Lt. 14.60'	343.50	344.10	
8	1+80.18	Lt. 19.21'	342.17	342.77	
9	1+40.04	Lt. 23.94'	340.83	341.43	
10	1+11.03	Lt. 28.53'	339.88	340.48	
11	0+76.14	Lt. 46.00'	338.12	338.72	
12	0+55.40	Rt. 5'	339.03	339.63	Spill
13	0+78.09	Rt. 5'	340.44	341.04	
14	1+27.11	Rt. 3.30'	340.82	341.42	
15	1+27.39	Lt. 0.62'	341.00	341.60	
16	0+97.89	Lt. 5'	340.23	340.83	
17	0+55.40	Lt. 5'	338.67	339.27	
18	1+00	Rt. 5'	340.20	340.80	



Approved: Department of Public Works  
*Andrew M. Danks*  
Chief, Bureau of Highways HS 9-11-95 date

Approved: Howard County Dept. of Planning & Zoning  
*Ann Summons*  
Chief, Development Engineering Division MK 7/27/95 date  
9/14/95 date

Note: A minimum spacing of 20' shall be maintained between any street light and any tree.

Location	Lamp Type	Fixture	Pole Type
4+30 Lt. 16'	100 Watt HPSV	Traditional	4" Bronze Fiberglass
0+90 Rt. 22'	"	"	"
7+00 Rt. 16'	"	"	"

**G.W. GUTSCHICK, LITTLE & WEBER, P.A.**  
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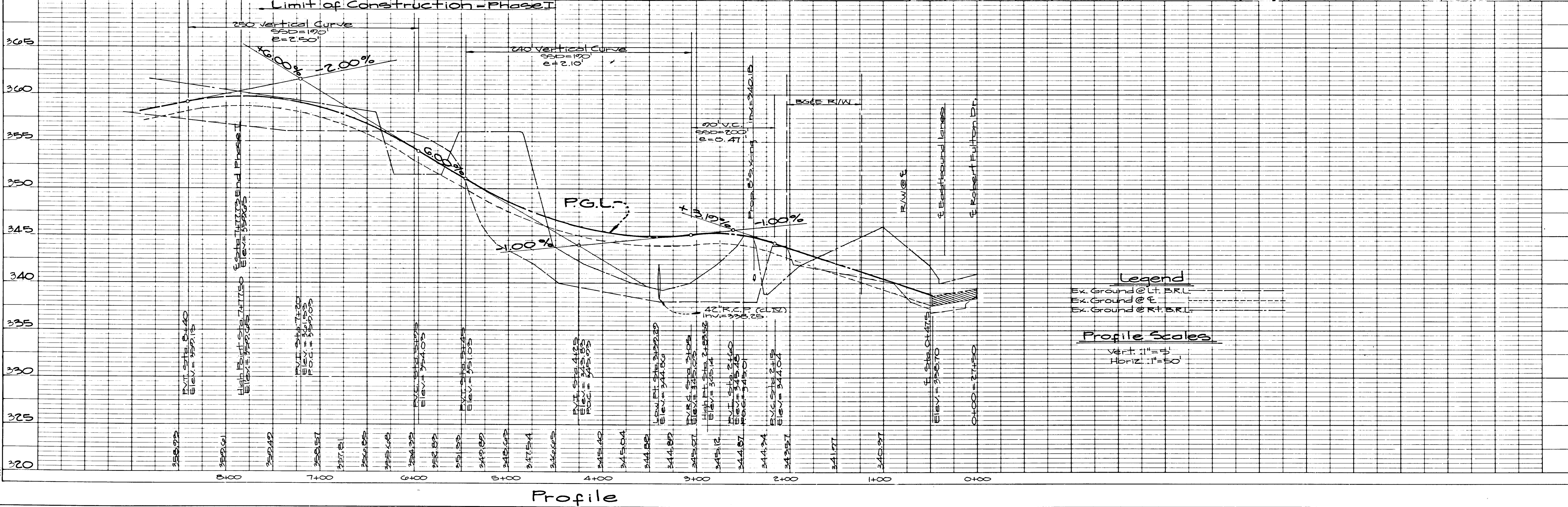
DESIGNED: *not*  
DRAWN: W.S.J.  
CHECKED: *not*  
DATE: March 1995

**Road Construction Plans (Phase I)**  
**Solar Walk**  
Station 0+475.0 to 7+77.73

**Gateway Commerce Center**  
6th Election Dist. Howard County, Maryland  
Owner & Developer: GEARPE II INC., c/o The Howard Research & Development Corp.  
10275 Little Patuxent Parkway, Columbia, Maryland 21044 (410) 292-6067

SCALE: 1"=50'  
DRAWING: 3 of 16  
JOB NO: 93-038

P.C. Sta.	P.T. Sta.	Arc	Radius	Delta	Chord
0+400	1+197.4	119.74	26000	26°23'13.4"	5.24°33'25.8"W. 118.69'
1+197.4	2+511.0	131.36	30000	25°05'17"	5.23°54'27.6"W. 130.31'
2+511.0	3+474.1	153.50	50000	17°35'48.1"	5.27°37'12.1"W. 152.96'
3+474.1	7+000.0	185.96	31600	33°23'05.9"	5.35°42'51.1"W. 183.29'

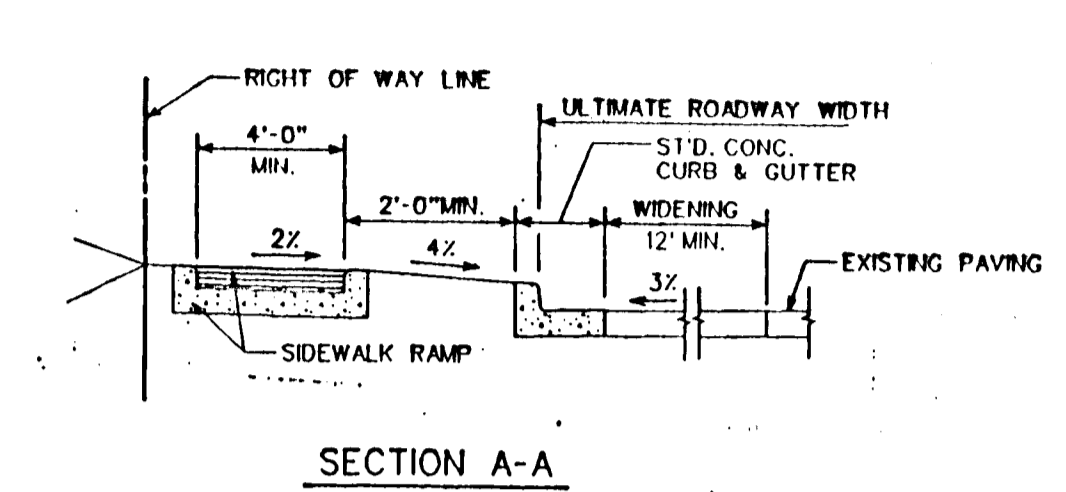
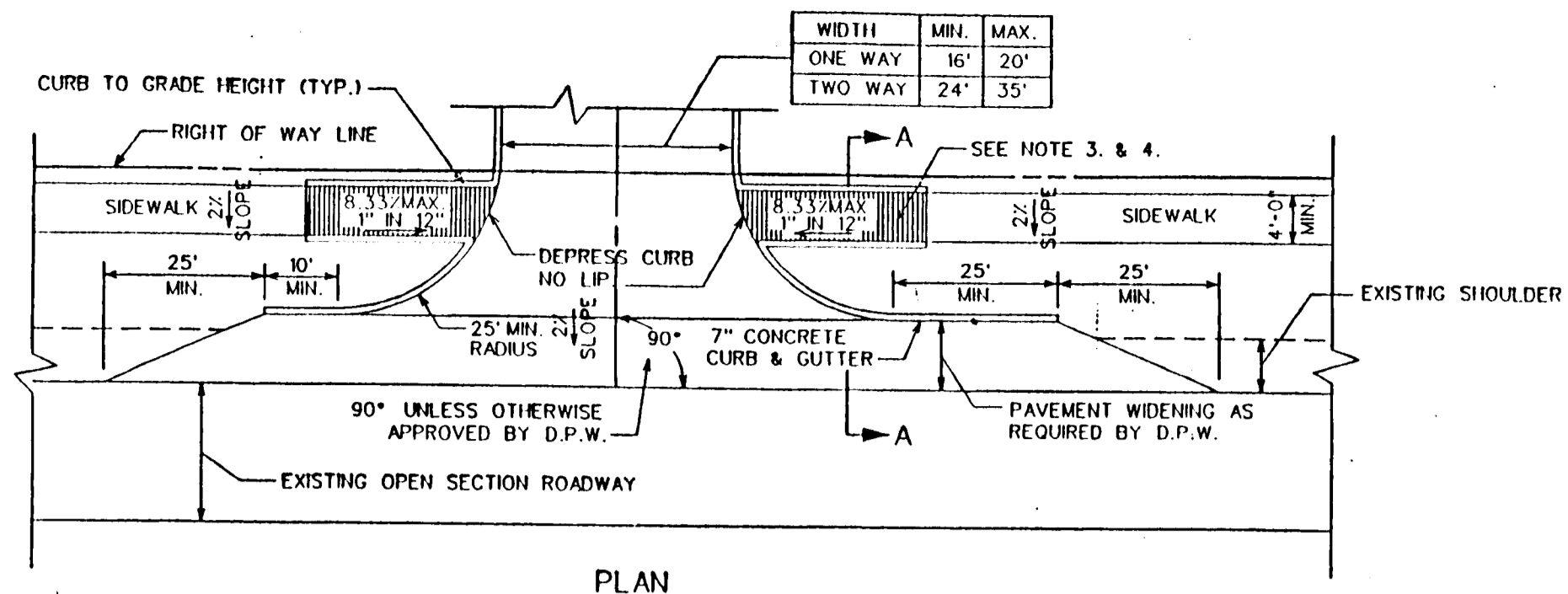


**Legend**  
Ex. Ground @ Lt. B.R.L.  
Ex. Ground @ E.  
Ex. Ground @ Rt. B.R.L.

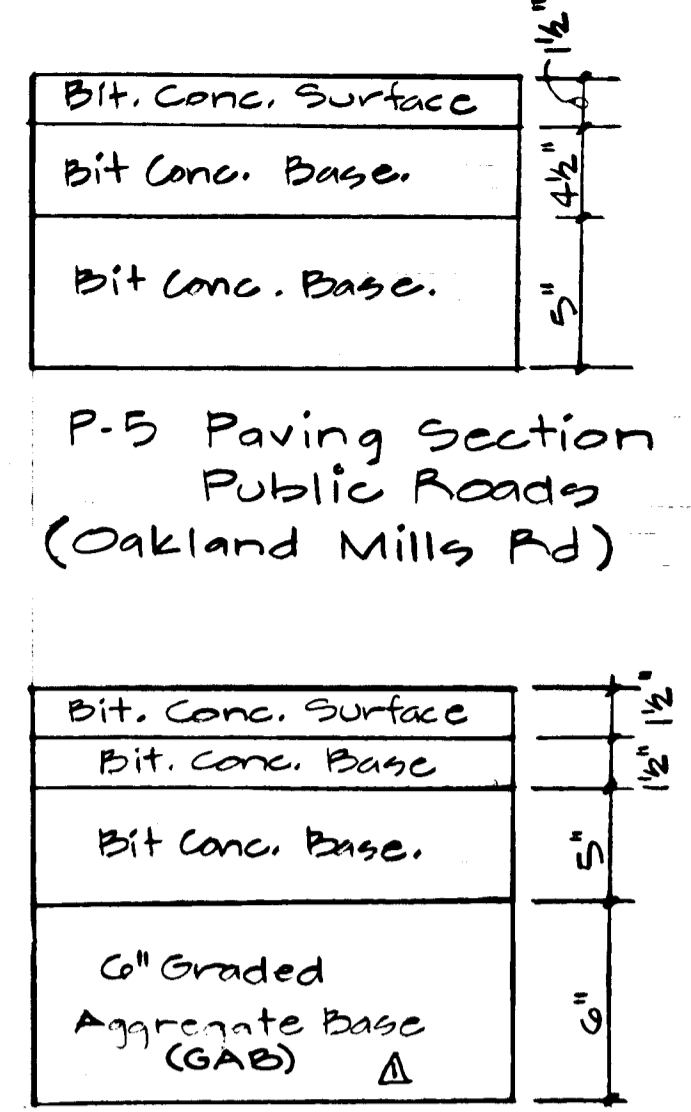
**Profile Scales**  
Vert.: 1"=5'  
Horiz.: 1"=50'

115B

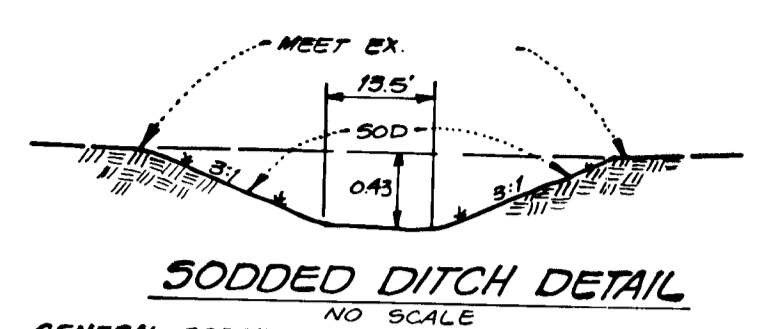




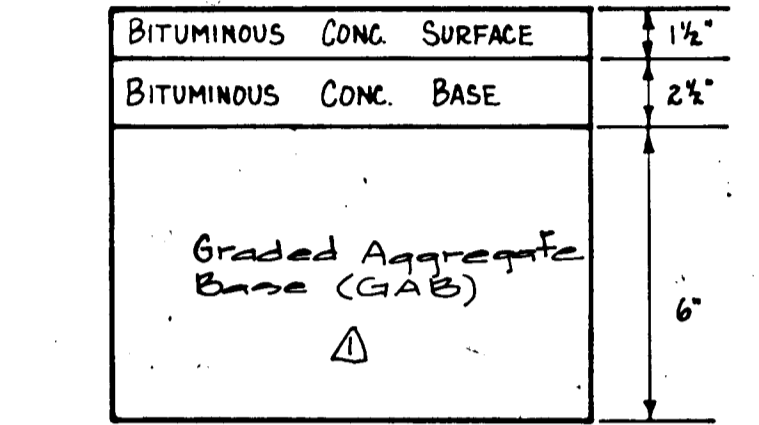
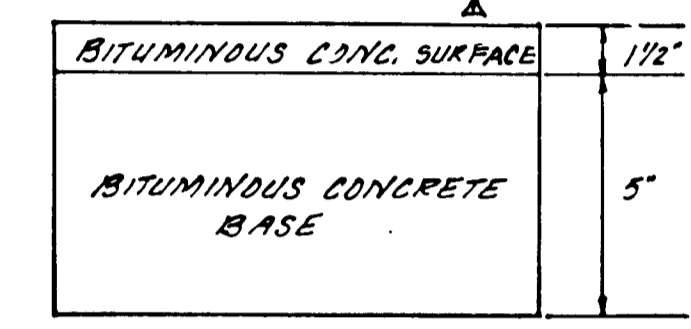
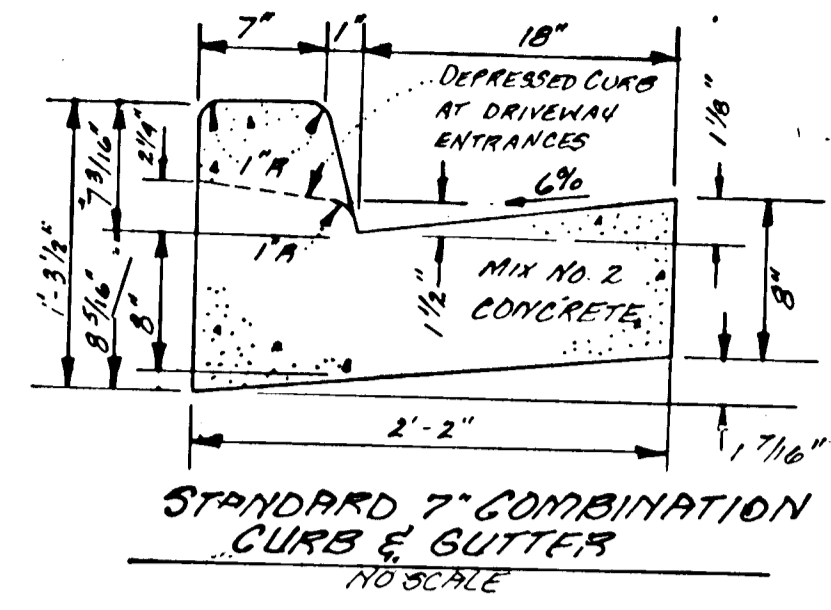
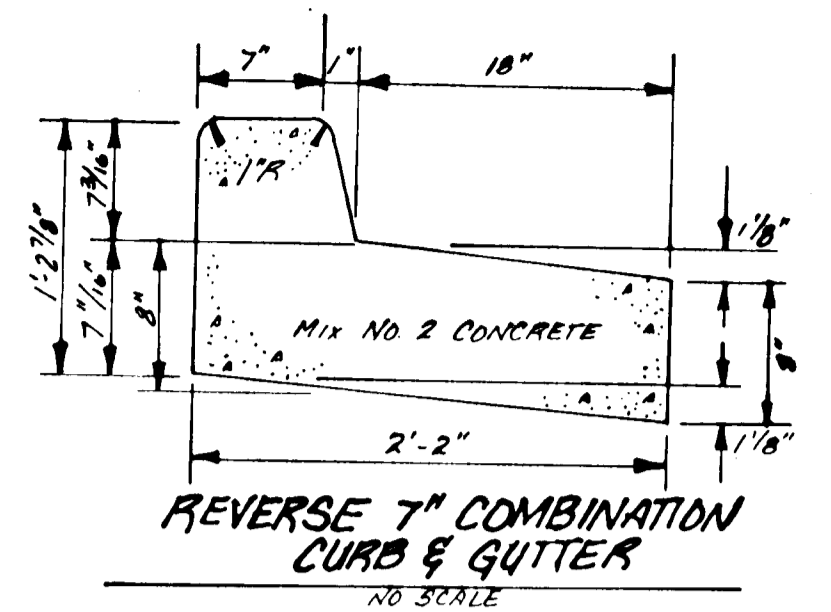
- NOTES:**
- ENTRANCE TO BE USED ONLY IF AUXILIARY LANES ARE NOT REQUIRED IN ACCORDANCE WITH SECTION 2.5.2-4.1 AND SECTION 2.6.7.
  - PAVING SECTION FOR ENTRANCE WITHIN THE PUBLIC RIGHT OF WAY WILL BE AS REQUIRED FOR PUBLIC ROAD.
  - CONSTRUCT SIDEWALK AND OR DEPRESS CURB FOR SIDEWALK RAMP.
  - ALL RAMPS SHALL HAVE A TEXTILE WARNING TEXTURE EXTENDING THE FULL WIDTH AND DEPTH OF THE RAMP.



Alternate Paving Section (P-5) for Public Roads (Oakland Mills Rd)

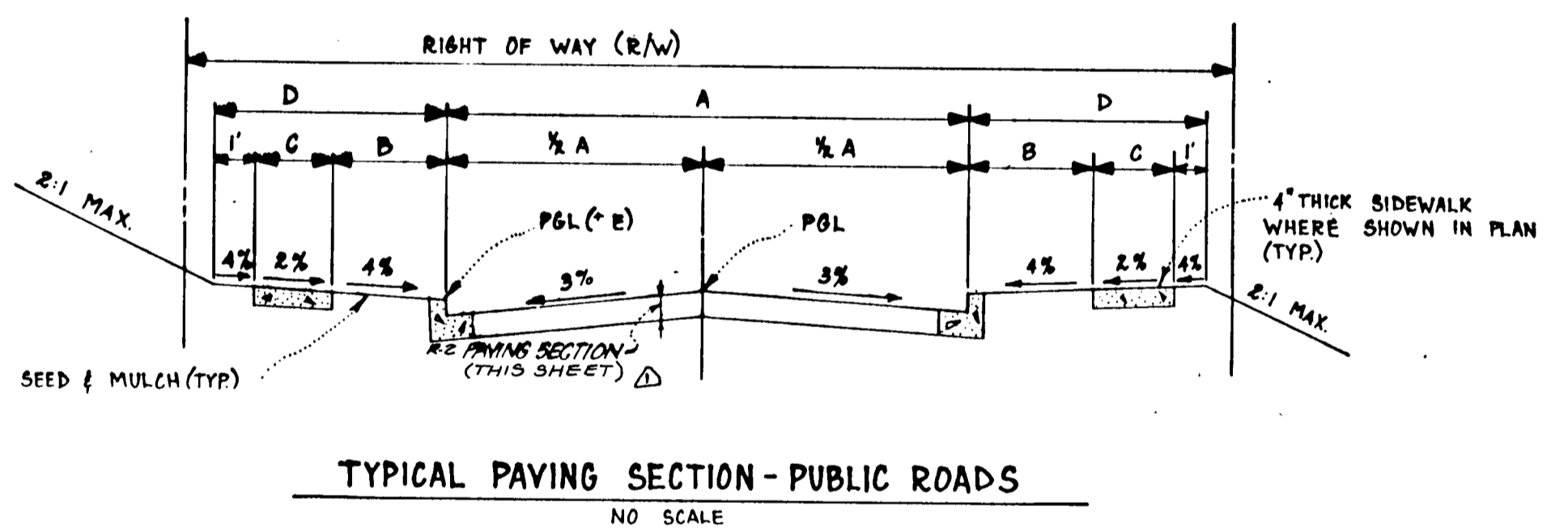
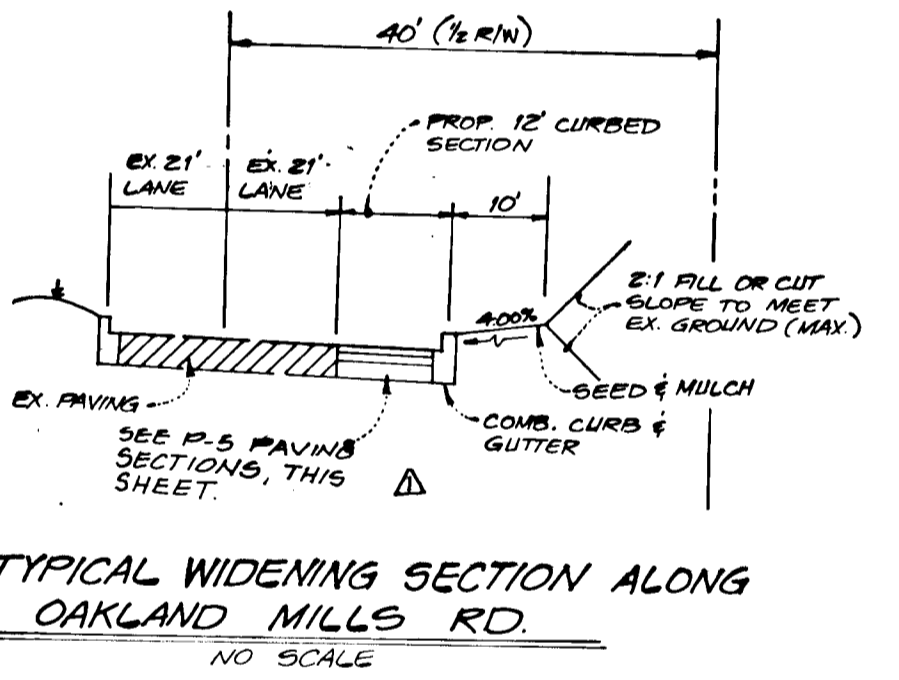
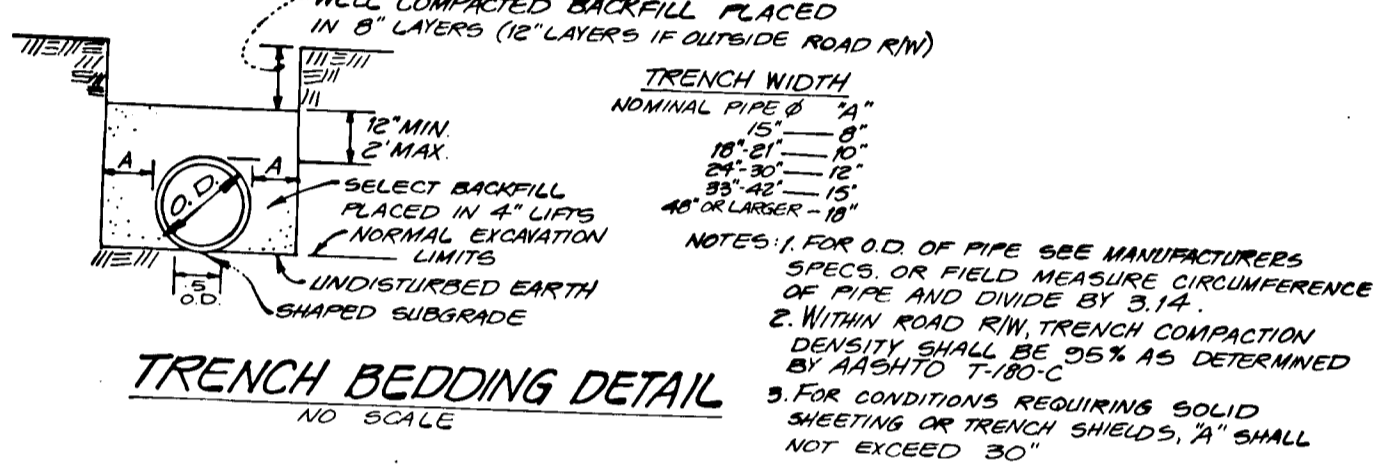
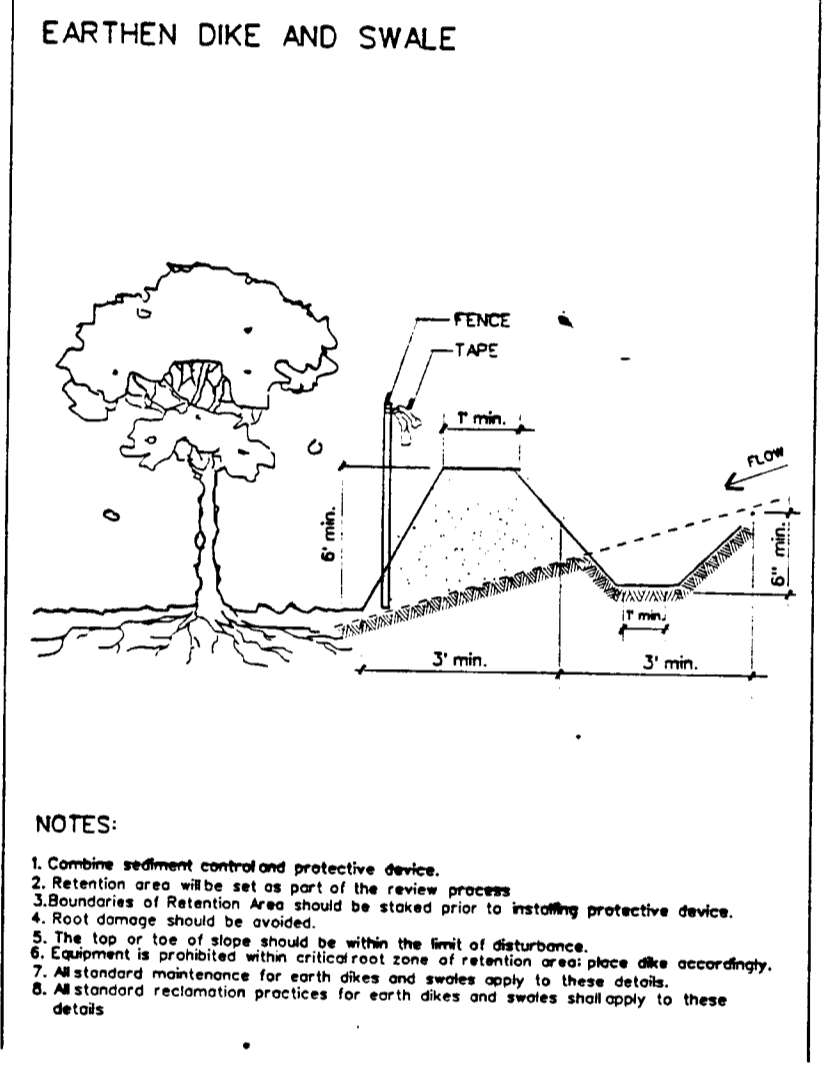


- GENERAL SODDING NOTES:**
- APPLY 10-10-10 FERTILIZER @ 1000#/ACRE (25\"/>

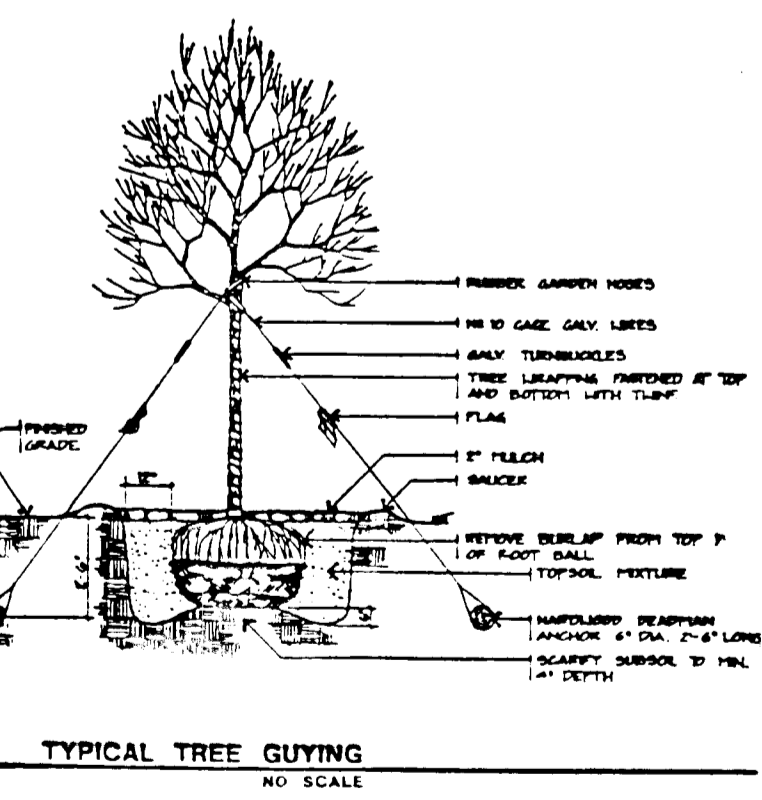
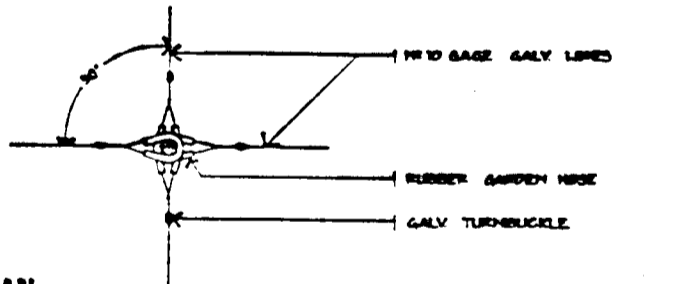
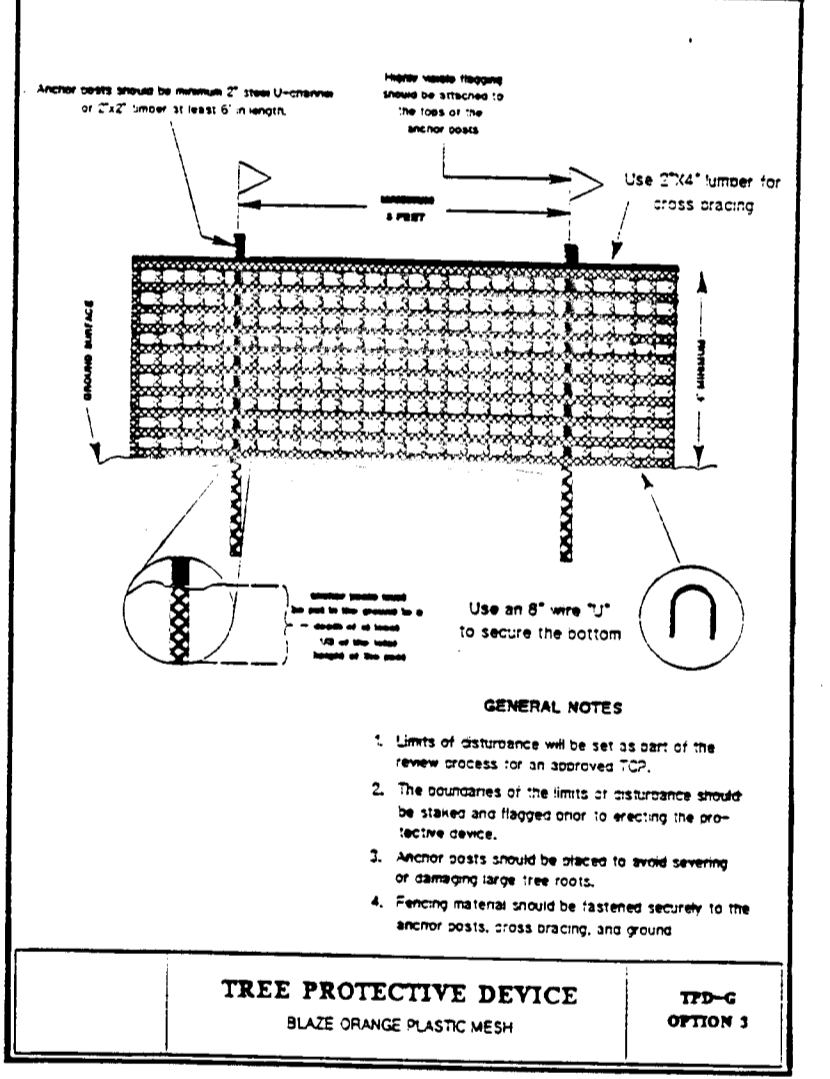
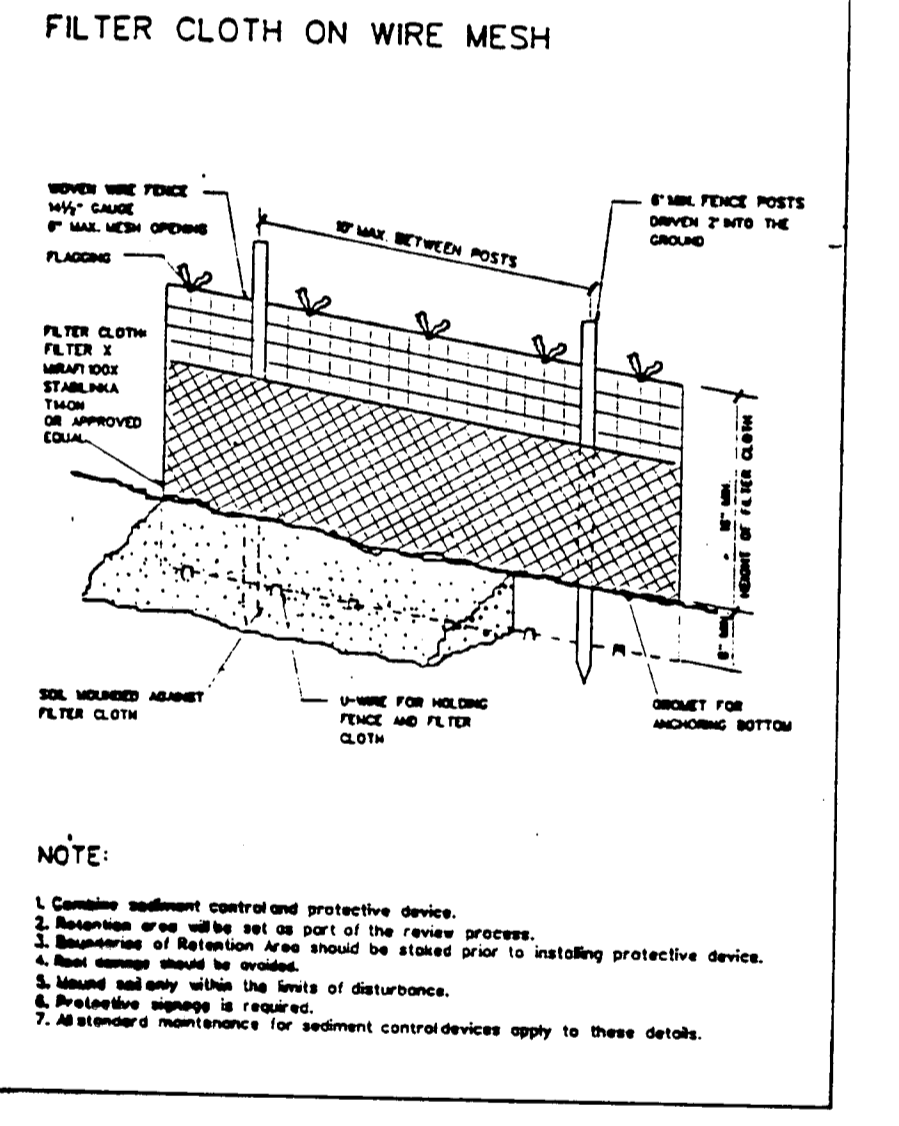


HOWARD COUNTY, MARYLAND DEPARTMENT OF PUBLIC WORKS  
 Approved: *[Signature]* Chief - Bureau of Engineering Date  
 COMMERCIAL INDUSTRIAL APARTMENT \* ENTRANCE ON OPEN SECTION ROADWAY (TRAFFIC VOLUME LESS THAN 100 V.P.H.)  
 DWN.: Y.P.  
 CHK.: W.M.H.  
 HO SCALE  
 R - 6.08

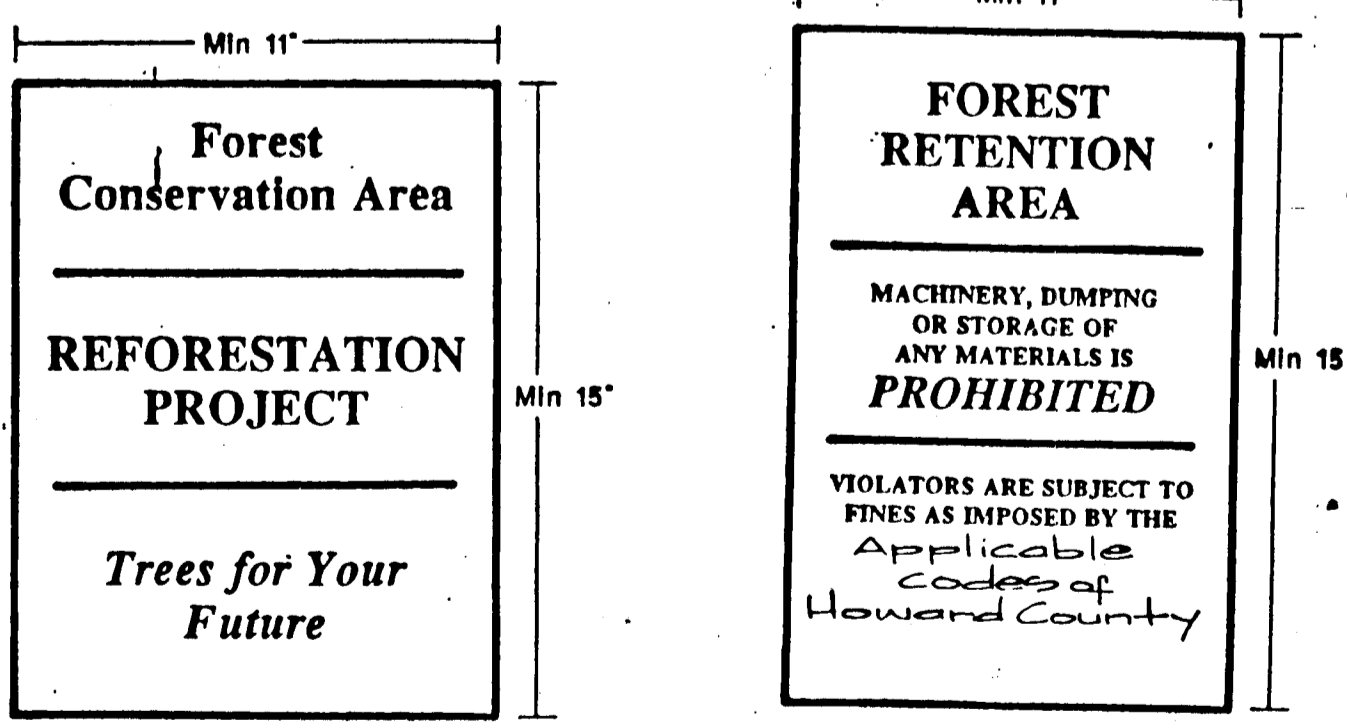
**TREE PROTECTION AND SEDIMENT CONTROL (2)**



**TREE PROTECTION AND SEDIMENT CONTROL (3)**



**Reforestation and Afforestation Area Protection Signage**



- Notes:**
- Signs to be placed every 50' along edge of reforestation & tree protection area.
  - Attachment of signs to trees is prohibited.
  - Avoid injury to roots when placing post for the signs.

Street Name & Station	Type of Traffic	A	B	C	D	R/W	Zoning	E	Design Speed	Paving Section
GRACIOUS END COURT STA 0+21 TO STA 2+24.88	LOCAL ROAD	—	—	—	—	VARIABLE	R-A-15	—	30	P-2
GRACIOUS END COURT STA 2+24.88 TO STA 3+08.88	LOCAL ROAD	24'	5'	4'	10'	50'	R-A-15	—	30	P-2
SOLAR WALK STA 0+75 TO STA 2+75.79	LOCAL ROAD	—	—	—	—	VARIABLE	R-A-15	—	30	P-2
SOLAR WALK STA 2+75.79 TO STA 7+77.73	LOCAL ROAD	24'	5'	4'	10'	50'	R-A-15	—	30	P-2

Approved: Department of Public Works  
*Andrew M. Daniels* 9-11-95  
 Chief, Bureau of Highways  
 Approved: Howard County Dept of Planning & Zoning  
*Anna Summerville* 9/22/95  
 Chief, Division of Land Development & Research  
*John Cummings* 9/14/95  
 Chief, Development Engineering Division MK

**GW GUTSCHICK LITTLE & WEBER, P.A.**  
 CIVIL ENGINEERS, SURVEYORS, PLANNERS, LANDSCAPE ARCHITECTS  
 3909 NATIONAL DRIVE - SUITE 250 BURTONSVILLE OFFICE PARK BURTONSVILLE, MD 20886  
 TELEPHONE (301)421-4024 NO VA (301)989-2524 BALTO (301)880-1820 FAX (301)421-4186

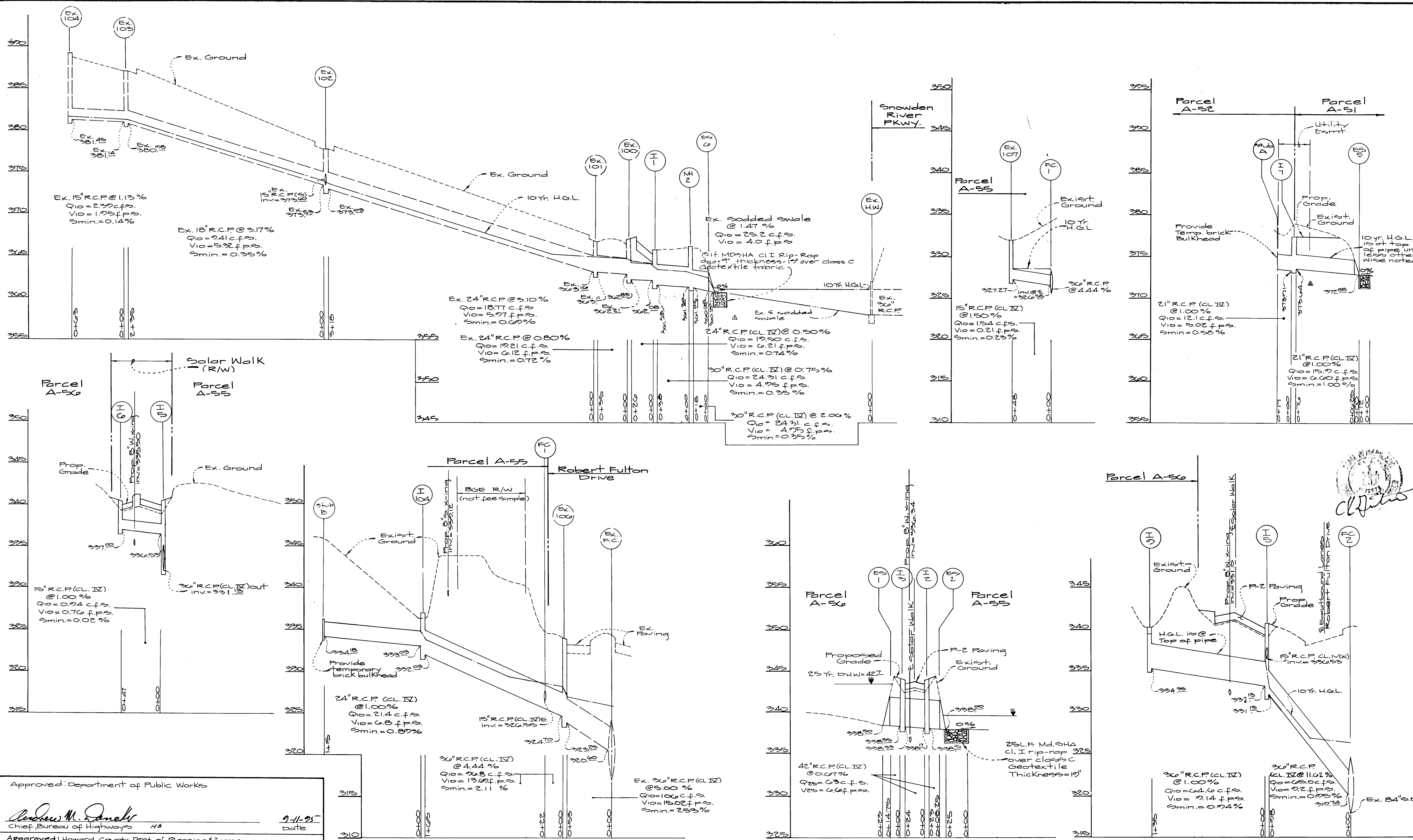
DATE	REVISION	BY	APP'R.
10/22/95	Misc Corrections		

Owner/Developer:  
 GEAFE II, INC. c/o  
 The Howard Research &  
 Development Corporation  
 10275 LITTLE ESTIMATE PLAZA  
 Columbia, Maryland 21044  
 Attn: Al Edwards  
 (410) 992-6027

**ROAD CONSTRUCTION DETAILS**  
 Various Roads  
**Gateway Commerce Center**  
 6th Election District  
 Howard County, Maryland

DES.:	SCALE:	ZONING:	G.L.W. FILE NO.:
rot.		R-A-15	93-038
DRN.:	DATE:	TAX MAP No.:	SHEET:
W.S.J.	MARCH 1995	42	4 OF 18

1153



Approved: Department of Public Works  
*Andrew M. Daniels*  
 Chief, Bureau of Highways HS  
 9/11/95  
 date

Approved: Howard County Dept. of Planning & Zoning  
*Gina Sammons*  
 Chief, Division of Land Development & Research  
 9/22/95  
 date

*M. Cammin*  
 Chief, Development Engineering Division MK  
 9/14/95  
 date

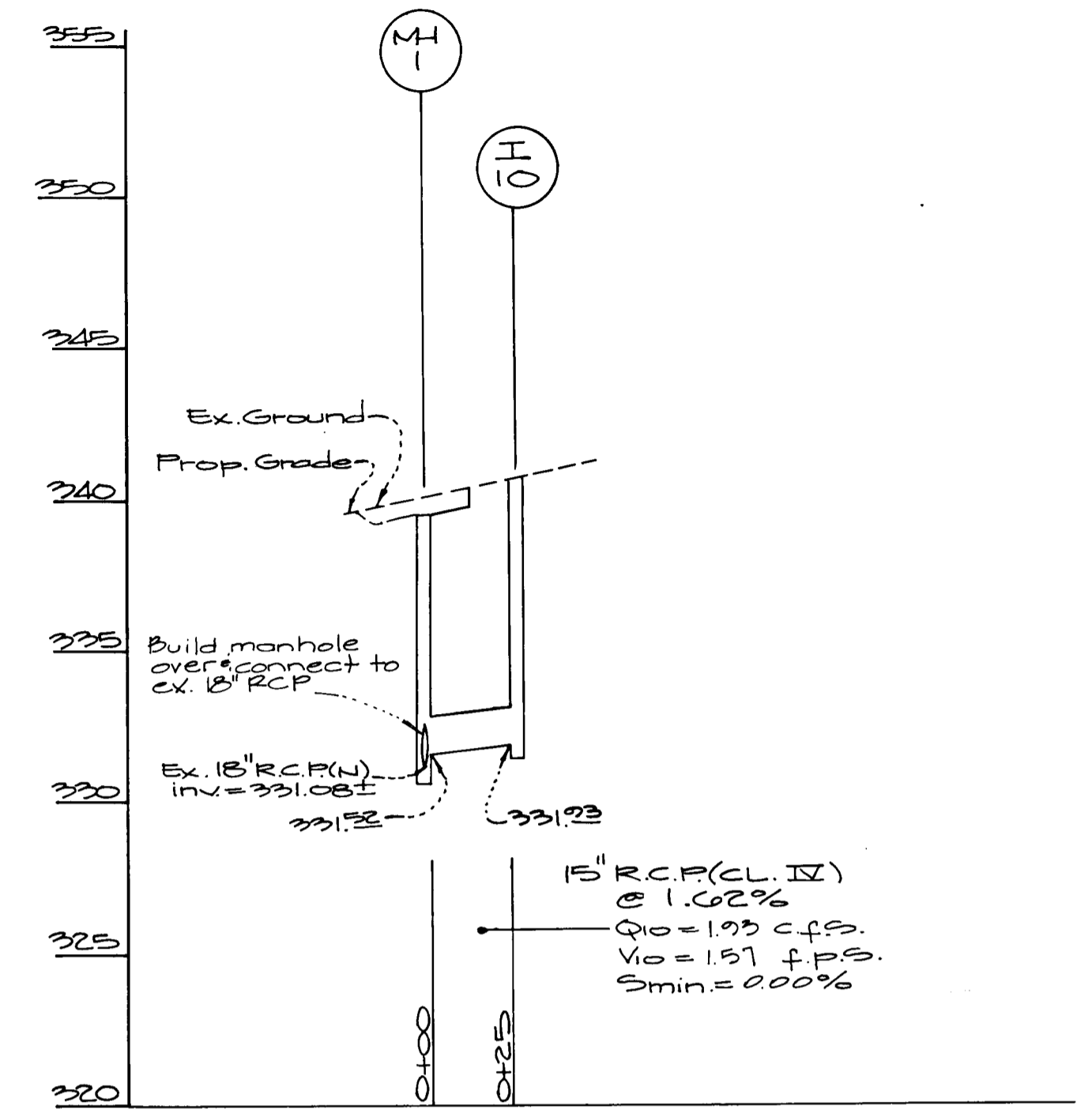
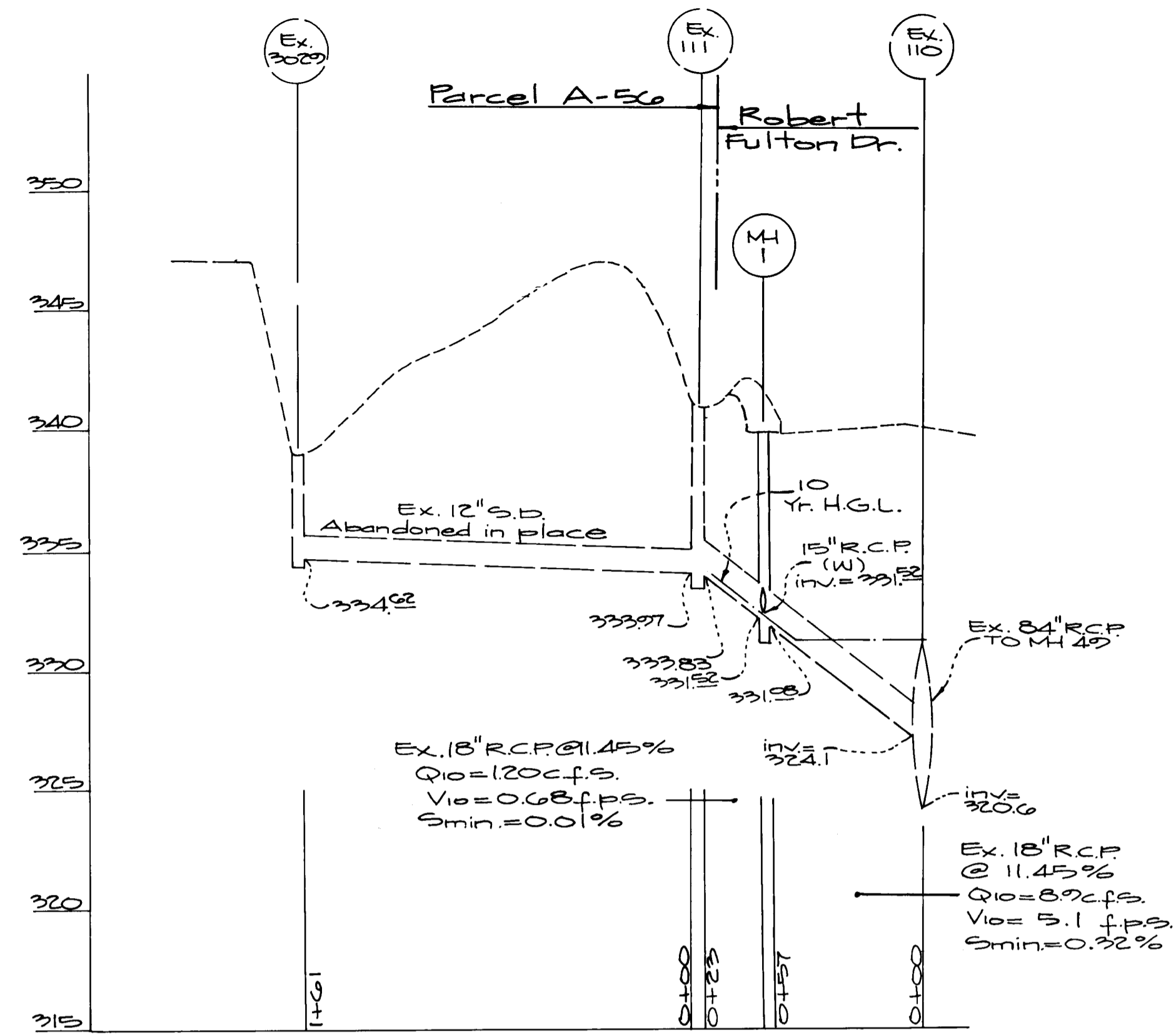
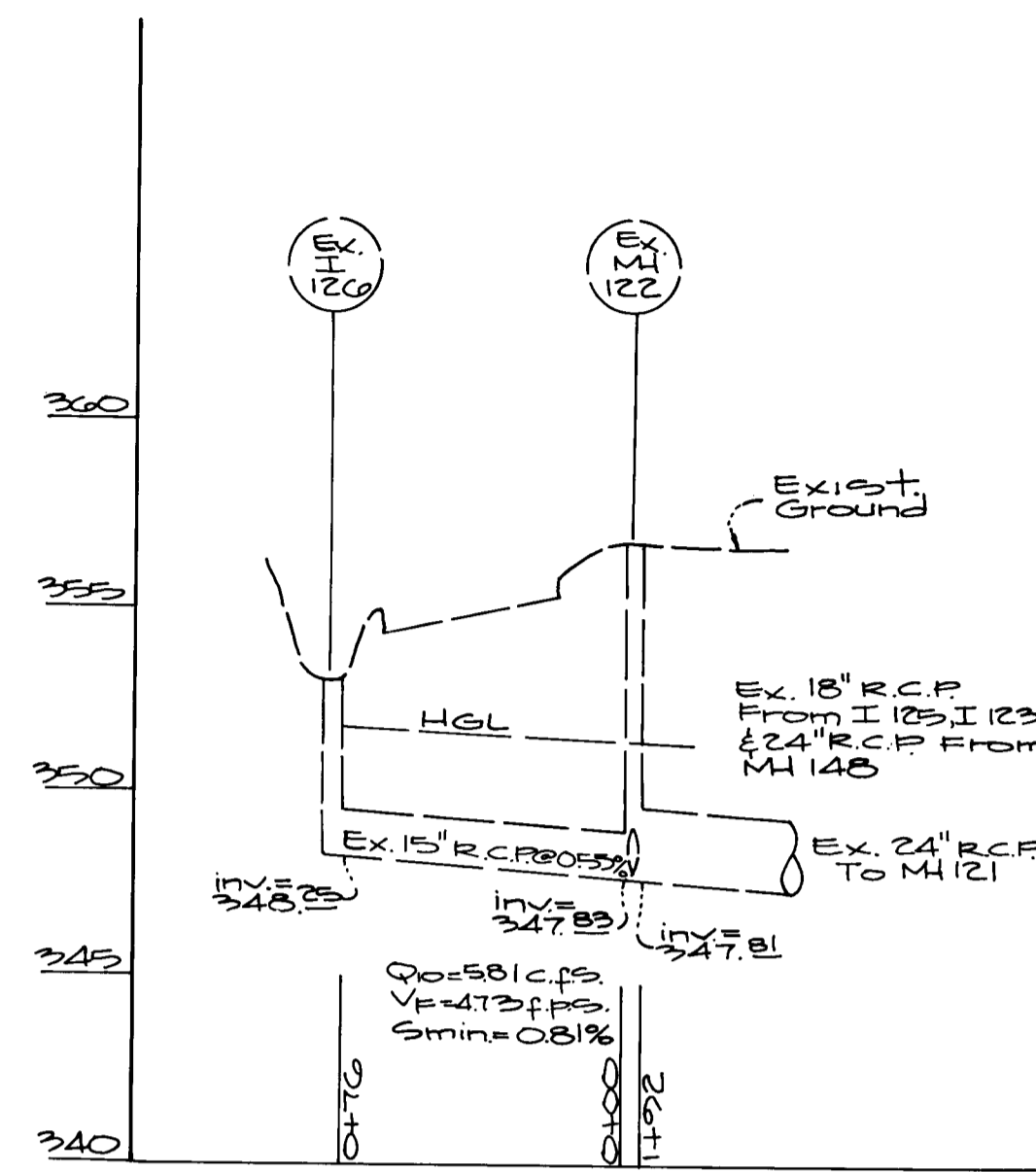
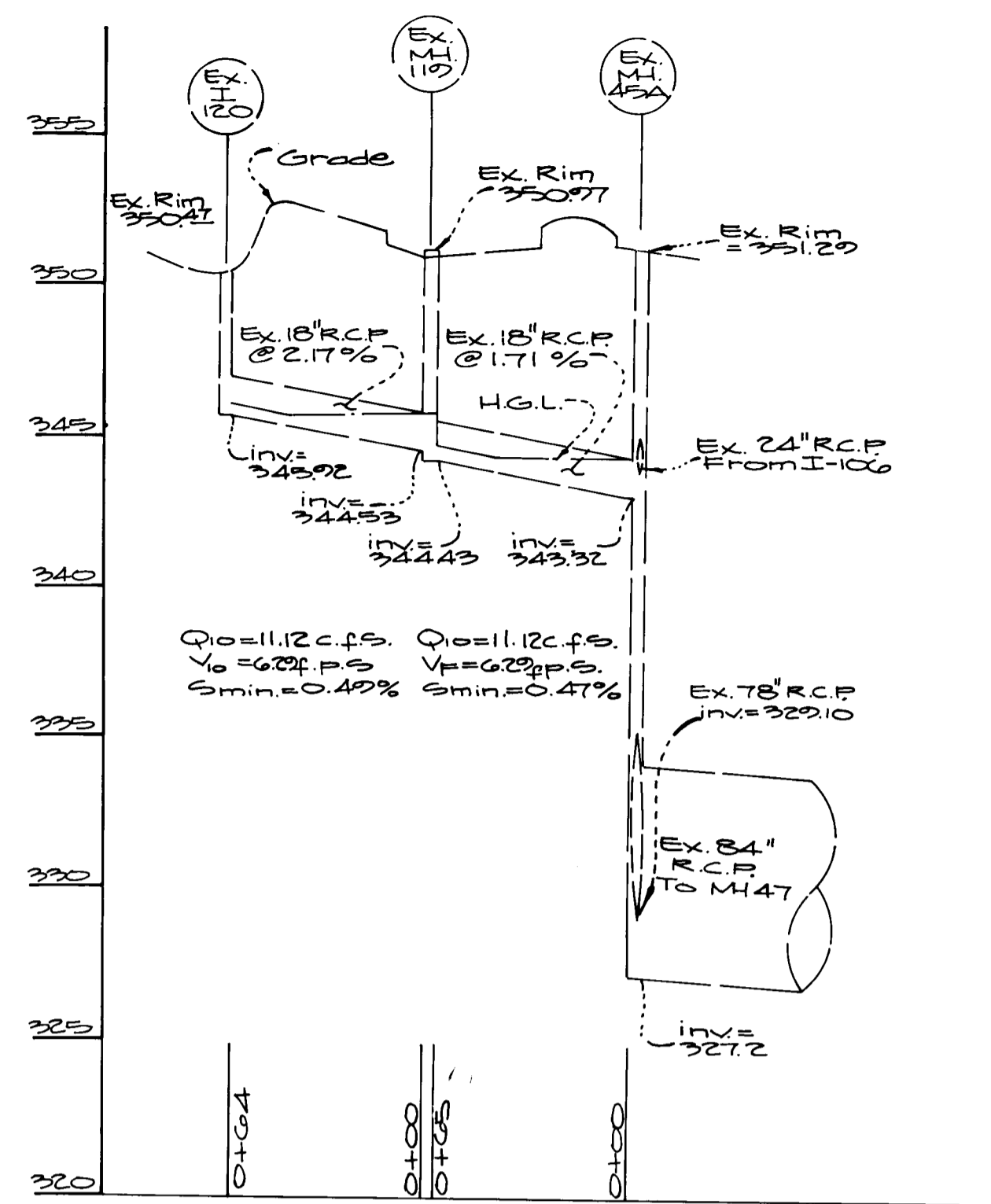
**GTW GUTSCHICK LITTLE & WEBER, P.A.**  
 CIVIL ENGINEERS, SURVEYORS, PLANNERS, LANDSCAPE ARCHITECTS  
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK - BURTONSVILLE, MD 20886  
 TELEPHONE: (301)421-4024 NO. VA. (301)989-2524 BALTO. (301)880-1820 FAX (301)421-4186

DATE	REVISION	BY	APP'R.
1/3/95	Revised profile	KP	
10/25/95	Profile rev & (added MH 2)	KP	

Owner/Developer:  
 GEAPE II, Inc. c/o  
 The Howard Research &  
 Development Corporation  
 10275 Little Patuxent Pkwy.  
 Columbia, Maryland 21044  
 Attn: Al Edwards  
 (410) 992-6027

Storm Drain Profiles  
 Various Roads  
**Gateway Commerce Center**  
 6th Election District  
 Howard County, Maryland

DES: <b>mt</b>	SCALE: Horz.: 1"=50' Vert.: 1"=5'	ZONING: R-A-15	G.L.W. FILE NO.: 93-038
DRN: <b>W.S.J.</b>	DATE: March 1995	TAX MAP NO.: 42	SHEET: 5 of 10
CHK: <b>mt</b>			



Pipe Schedule		
Size	Type	Length
15"	R.C.P. (CL. IX)	120 L.F.
21"	R.C.P. (CL. IX)	87 L.F.
24"	R.C.P. (CL. IX)	141 L.F.
30"	R.C.P. (CL. IX)	50 L.F.
36"	R.C.P. (CL. IX)	328 L.F.
42"	R.C.P. (CL. IX)	49 L.F.



Approved: Department of Public Works  
*Andrew M. Danek* 9-11-95  
 Chief, Bureau of Highways HS date

Approved: Howard County Dept of Planning & Zoning  
*Gina Surrammaji* 9/24/95  
 Chief, Division of Land Development & Research JS Date

*Al Edwards* 9/14/95  
 Chief, Development Engineering Division MK Date

**GLW GUTSCHICK LITTLE & WEBER, P.A.**  
 CIVIL ENGINEERS, SURVEYORS, PLANNERS, LANDSCAPE ARCHITECTS  
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK - BURTONSVILLE, MD 20866  
 TELEPHONE: (301)421-4024 NO. VA. (301)989-2524 BALTO. (301)880-1820 FAX (301)421-4186

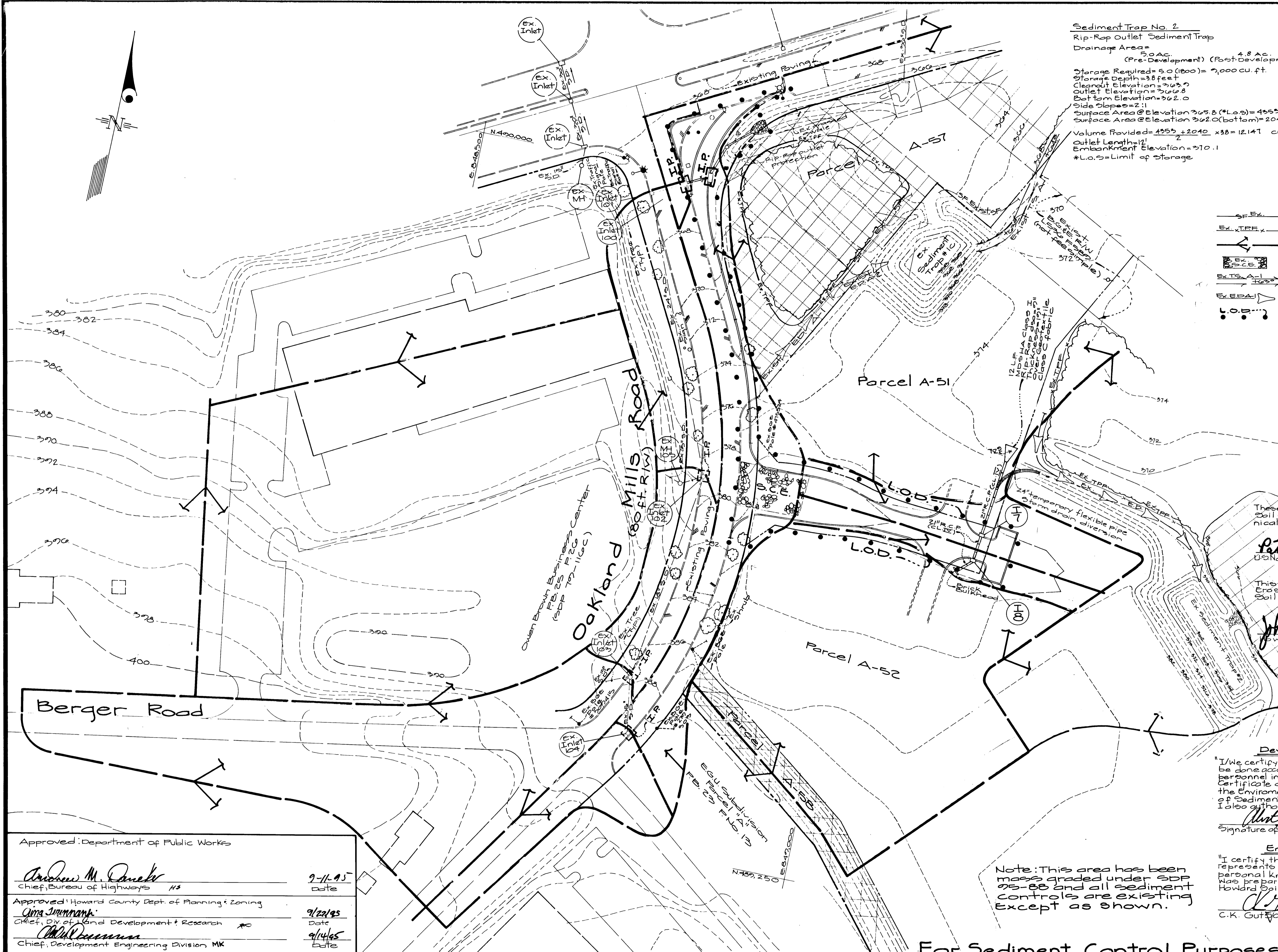
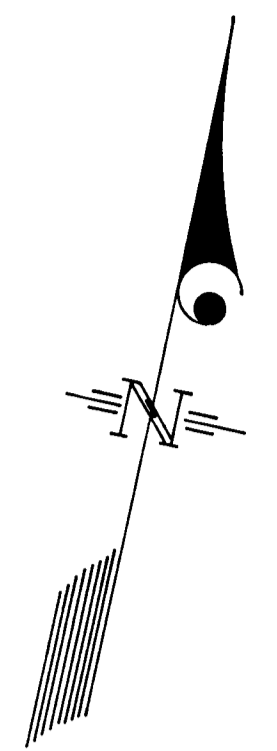
DATE	REVISION	BY	APP'R.
1/3/90	Δ Pipe schedule rev.	KP	
10/23/95	Δ Pipe schedule rev.	KP	

Owner/Developer:  
 GEARIE II, Inc. c/o  
 The Howard Research &  
 Development Corporation  
 10275 Little Patuxent Pkwy.  
 Columbia, Maryland 21044  
 Attn: Al Edwards  
 (410) 992-6027

Existing Storm Drain Profiles  
**Various Roads**  
**Gateway Commerce Center**  
 6th Election District  
 Howard County, Maryland

DES.:	SCALE	ZONING	G.L.W. FILE NO.
nt	Horz.: 1"=50' Vert.: 1"=5'	R-A-15	03-038
DRN.:	DATE	TAX MAP NO.	SHEET
W.S.J.	March, 1995	42	6 of 10
CHK.:	nt		





**Sediment Trap No. 2**  
 Rip-Rap Outlet Sediment Trap  
 Drainage Area = 5.0 AC. (Pre-Development) 4.8 AC. (Post-Development)  
 Storage Required = 5.0 (1800) = 9,000 cu. ft.  
 Storage Depth = 3.8 feet  
 Cleanout Elevation = 363.7  
 Outlet Elevation = 366.8  
 Bottom Elevation = 362.0  
 Side Slopes = 2:1  
 Surface Area @ Elevation 365.8 (#L.O.S) = 4955 sq. ft.  
 Surface Area @ Elevation 362.0 (bottom) = 2040 sq. ft.  
 Volume Provided = 4955 + 2040 x 3.8 = 12,147 cu. ft.  
 Outlet Length = 12'  
 Embankment Elevation = 370.1  
 #L.O.S = Limit of Storage

- Legend**
- SF EX — Existing silt Fence
  - EX TPE X — Existing tree protection fence
  - Existing Drainage Divide
  - EX STC — Existing stabilized construction Entr.
  - EX TSA — Existing temporary swale
  - EX EDA — Existing earth dike
  - Limit of Disturbance

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

*Patricia Engler/JM* 6/27/95  
 U.S. Natural Resources Conservation Service Date

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

*John R. Robertson* 6/27/95  
 Howard S.C.D. Date



**Developer/Builder 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."

*Antel Edred* 4-3-95  
 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 and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

*C.K. Gutshick* 4/3/95  
 Signature of Engineer Date

Note: This area has been mass graded under SDP 95-88 and all sediment controls are existing except as shown.

Approved: Department of Public Works

*Andrew M. Daniels* 9-11-95  
 Chief, Bureau of Highways #3 Date

Approved: Howard County Dept. of Planning & Zoning  
*Gina Summerhays* 9/27/95  
 Chief, Div. of Land Development & Research #0 Date

*Michael Cassman* 9/14/95  
 Chief, Development Engineering Division MK Date

**GIW GUTSCHICK LITTLE & WEBER, P.A.**  
 CIVIL ENGINEERS, SURVEYORS, PLANNERS, LANDSCAPE ARCHITECTS  
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK - BURTONSVILLE, MD 20866

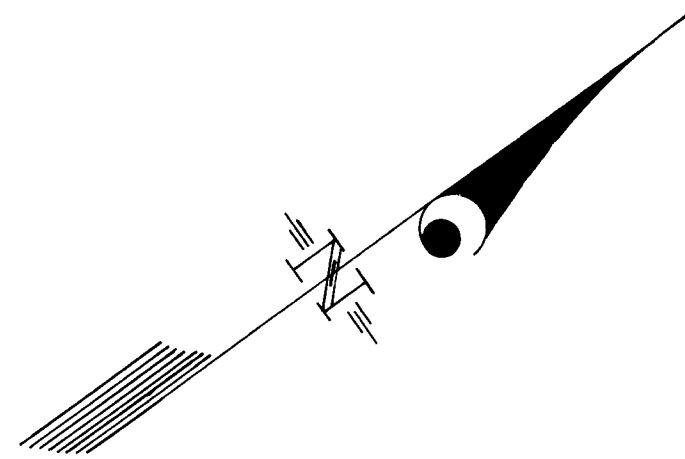
DATE	REVISION	BY	APPR.
10/25/95	Storm Drain rev. Δ	KP	

Owner/Developer  
 GEAPE II, Inc.  
 The Howard Research & Development Corporation  
 10275 Little Patuxent Pkwy.  
 Columbia, Maryland 21044  
 Attn: Al Edwards  
 (410) 992-6027

**For Sediment Control Purposes Only!**

Grading, Sediment Control & D.A. Map		DES: not	SCALE: 1"=50'	ZONING: R-A-15	G.L.W. FILE NO.: 93-038
Gracious End Court Gateway Commerce Center		D.N.: G.T.	DATE: March, 1995	TAX MAP NO.: 42	SHEET: 7 of 18
6th Election District		CHK: not			
Howard County, Maryland					





**Ex. Sediment Trap No. 3B**

Rip-Rap Outlet Sediment Trap

Drainage Area =  
 1.6 AC. (Pre-Development) 4.6 AC. (Post-Development)

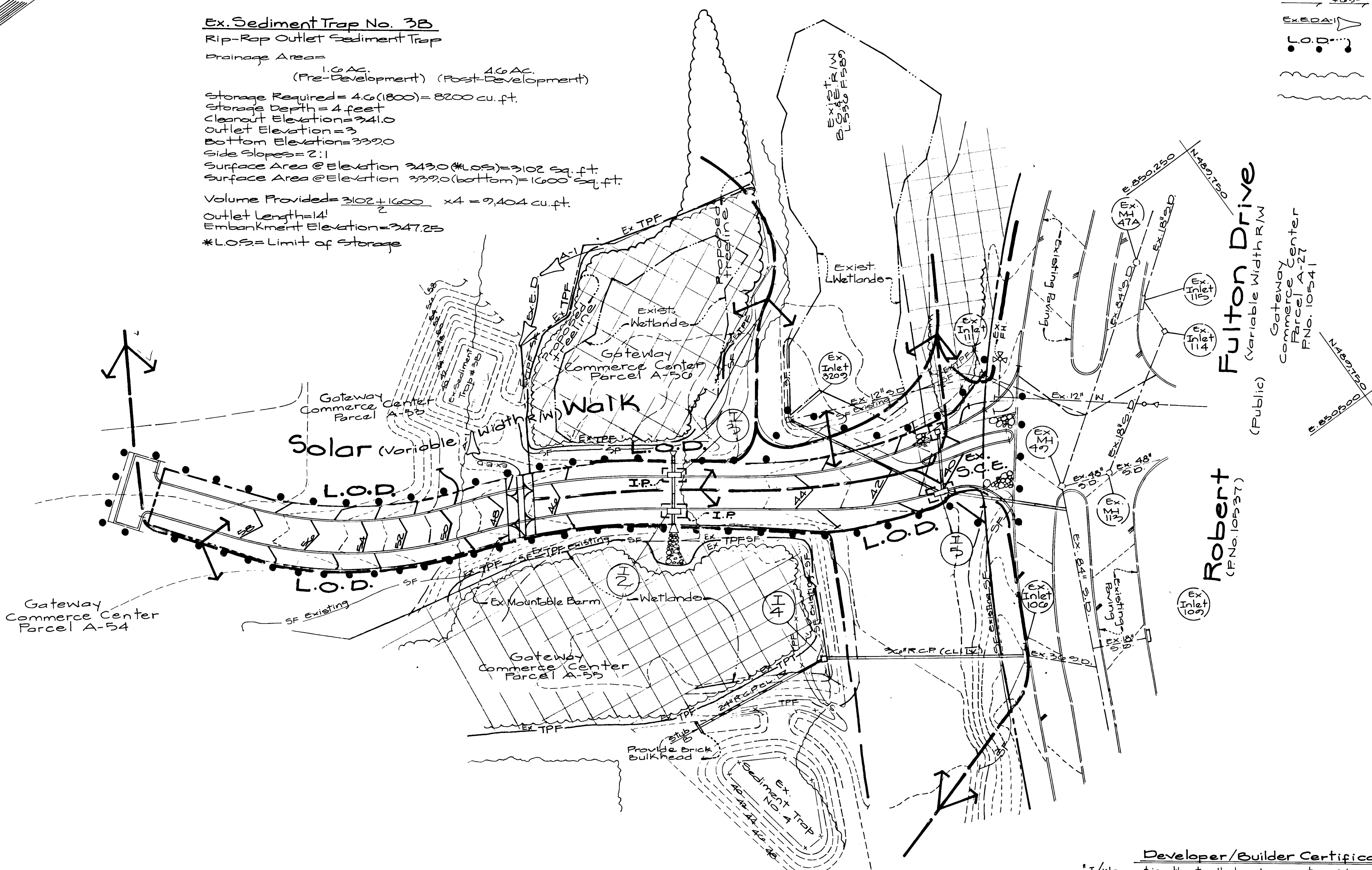
Storage Required = 4.6(1800) = 8280 cu. ft.  
 Storage Depth = 4 feet  
 Cleanout Elevation = 341.0  
 Outlet Elevation = 3  
 Bottom Elevation = 339.0  
 Side Slopes = 2:1  
 Surface Area @ Elevation 343.0 (LOS) = 3102 sq. ft.  
 Surface Area @ Elevation 339.0 (bottom) = 1600 sq. ft.

Volume Provided =  $3102 \times \frac{1600}{2} \times 4 = 9,404$  cu. ft.

Outlet Length = 14'  
 Embankment Elevation = 347.25

\*LOS = Limit of Storage

- Legend**
- sf, Ex.— Existing silt Fence
  - Ex, IRPF x— Existing tree protection fence
  - >— Existing Drainage Divide
  - [ ]— Existing Stabilized construction Entr.
  - [ ]— Existing temporary Swale
  - [ ]— Existing earth dike
  - [ ]— Limit of Disturbance
  - [ ]— Proposed treeline
  - [ ]— Existing treeline



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

*Patricia Engle* / JPM 6/27/95  
 U.S. Natural Resources Conservation Service Date

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

*John R. Robertson* 6/27/95  
 Howard S.C.D. Date

Note: This area has been mass graded under SDP 9B-88 and all sediment controls are existing except as shown.

**For Sediment Control Purposes Only!**

**Developer/Builder 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."

*Albert Edul* 4-3-95  
 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 and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

*C.K. Gutschick* 4/3/95  
 C.K. Gutschick Date

Approved: Department of Public Works	
<i>Andrew M. Pancher</i> Chief, Bureau of Highways HS	9/1/95 Date
Approved: Howard County Dept. of Planning & Zoning	
<i>Aimee Surimany</i> Chief, Division of Land Development & Research	9/22/95 Date
<i>Mark Stammers</i> Chief, Development Engineering Division MK	9/14/95 Date

**GIW GUTSCHICK LITTLE & WEBER, P.A.**  
 CIVIL ENGINEERS, SURVEYORS, PLANNERS, LANDSCAPE ARCHITECTS  
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK - BURTONSVILLE, MD 20866  
 TELEPHONE (301)421-4024 NO. VA. (301)989-2524 BALTO. (301)880-1820 FAX (301)421-4186

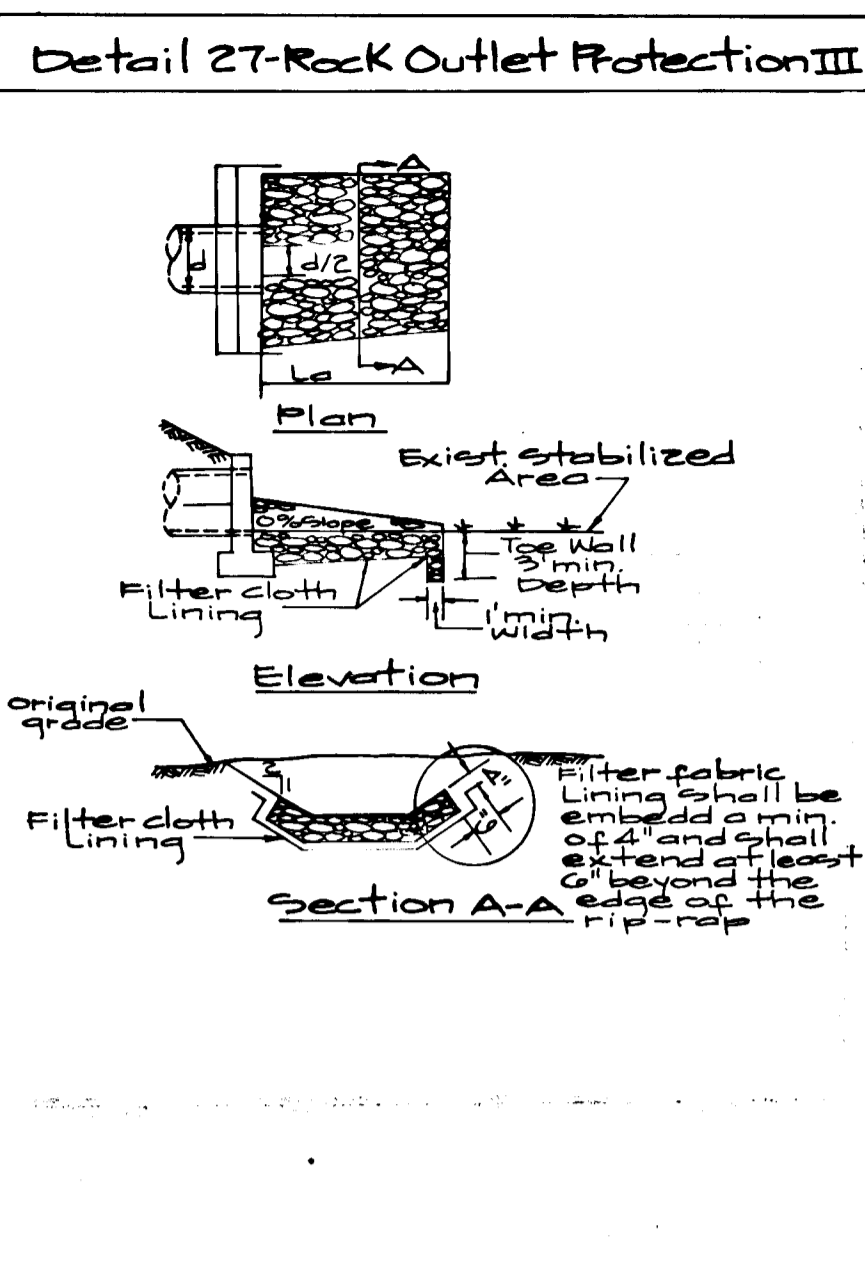
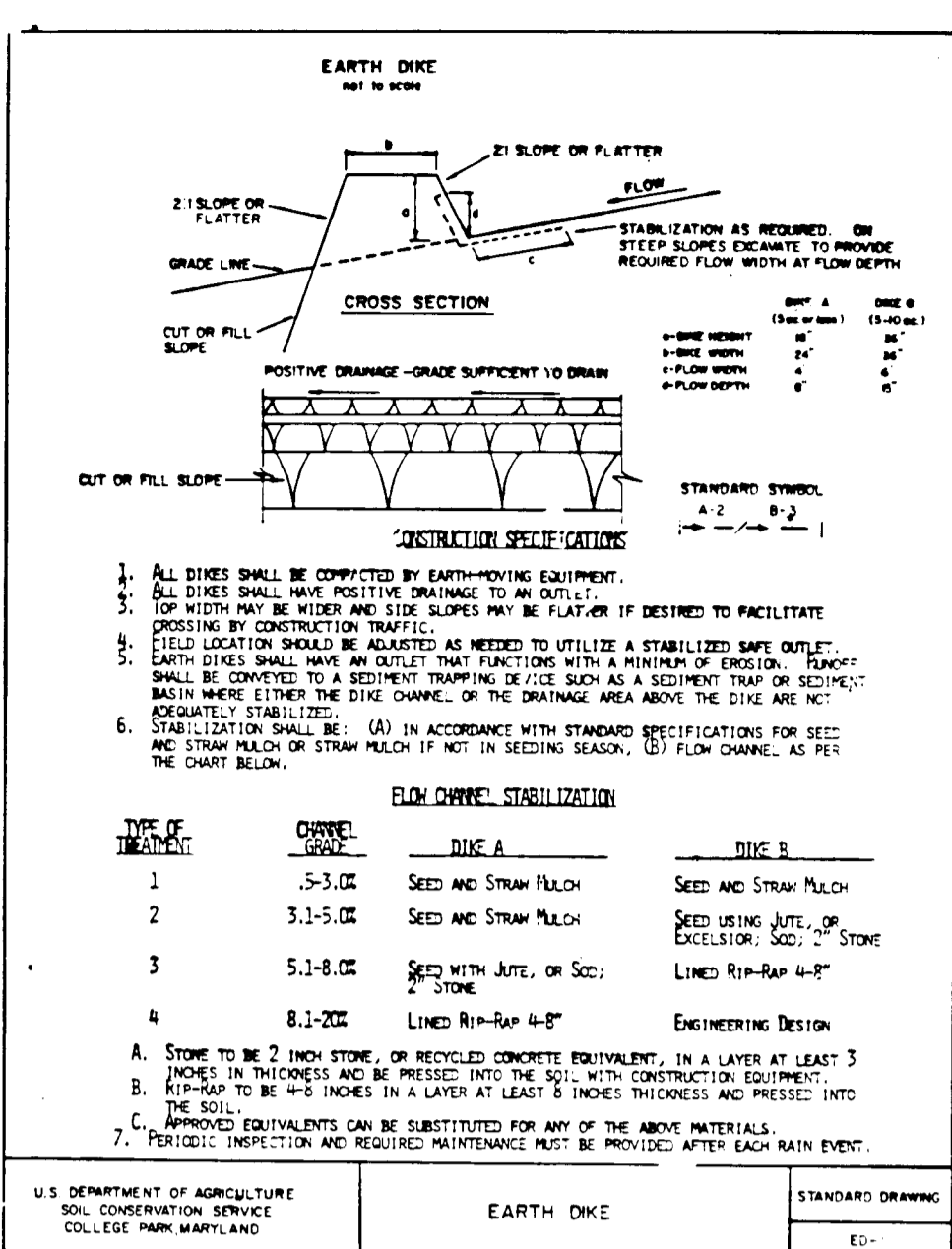
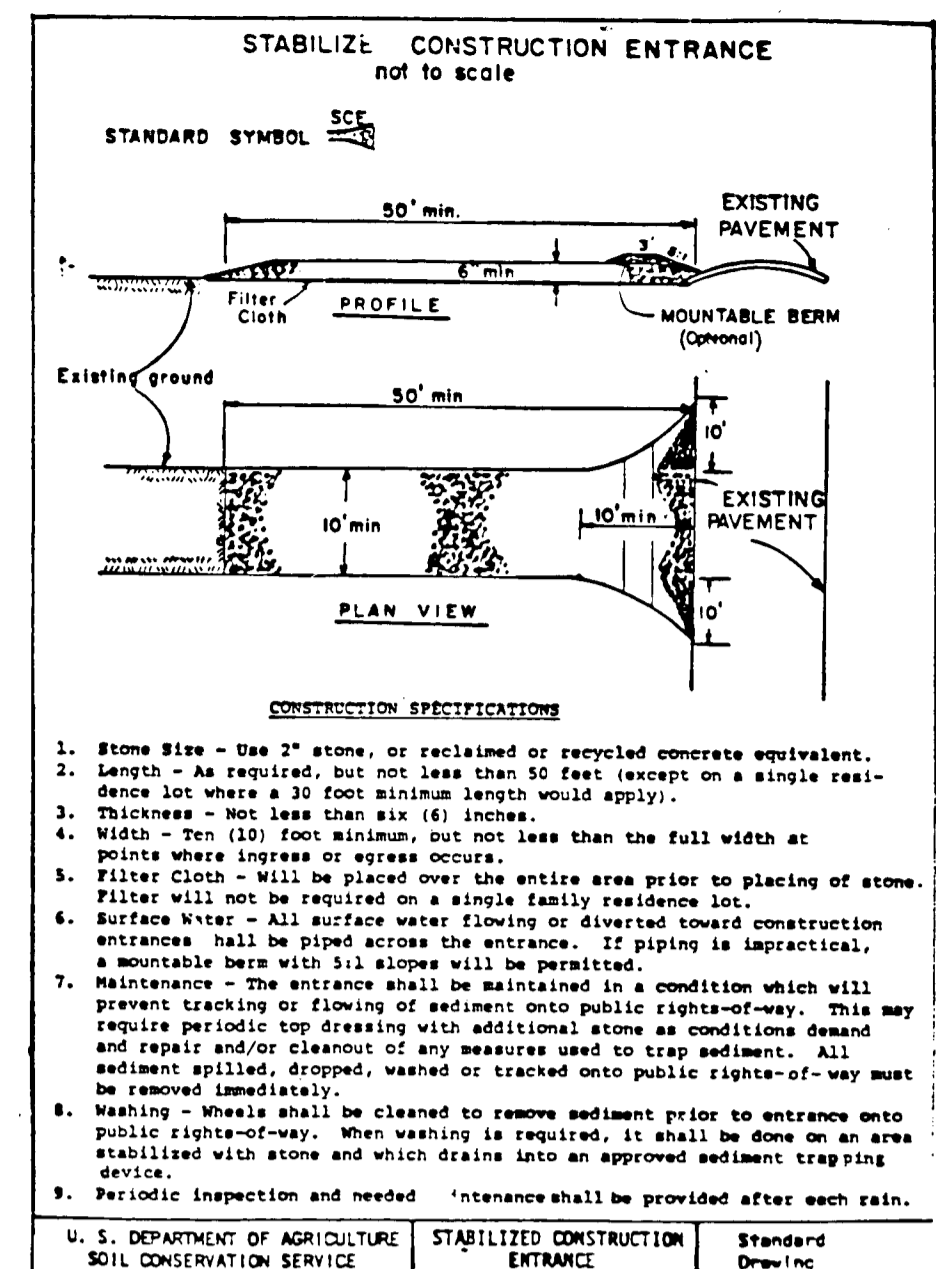
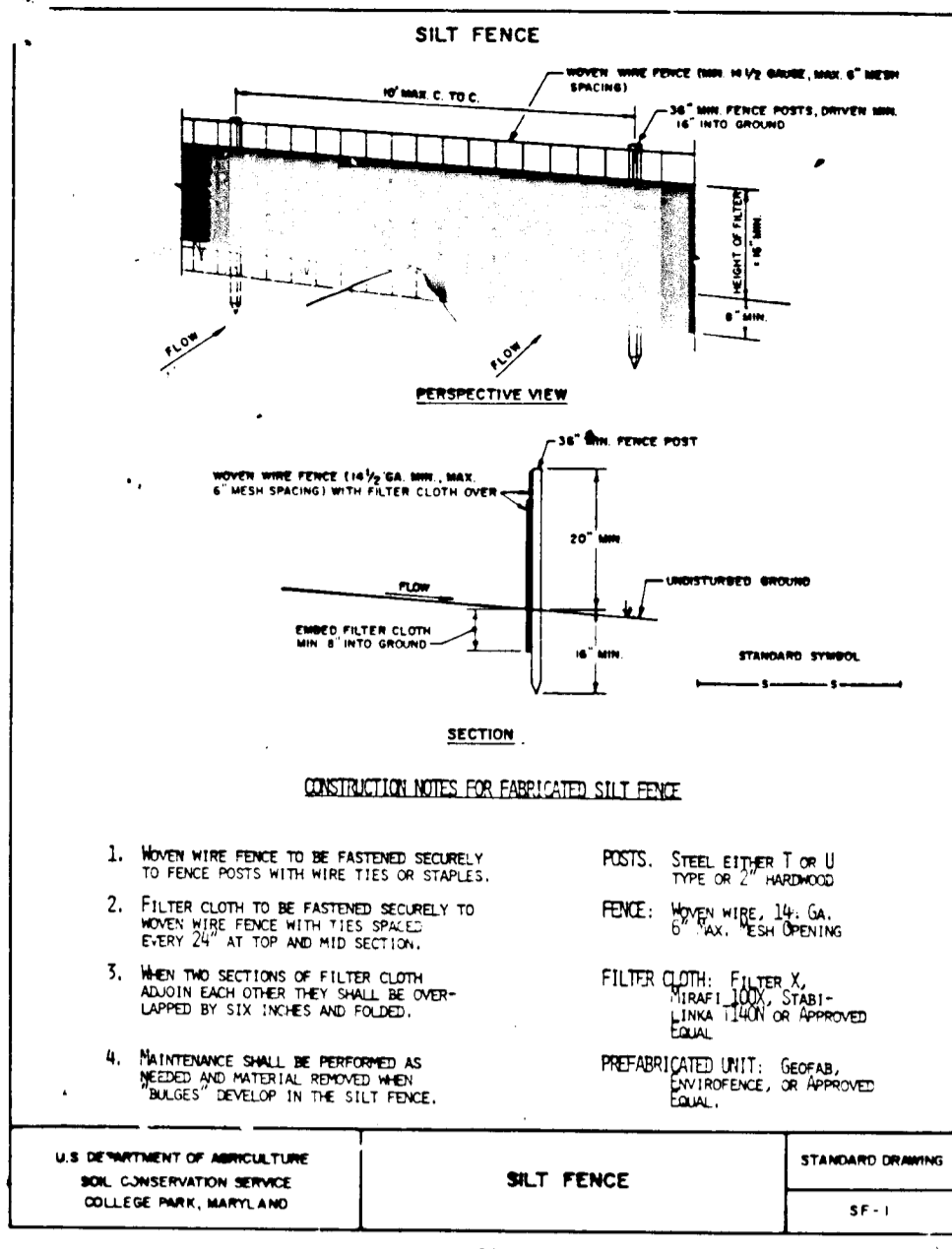
DATE	REVISION	BY	APP'R.

Owner/Developer  
 GEARTE III, Inc. c/o  
 The Howard Research &  
 Development Corporation  
 10275 Little Patuxent Pkwy.  
 Columbia, Maryland 21044  
 Attn: Al Edwards  
 (410) 992-6027

Grading, Sediment Control & D.A. Map  
**Solar Walk**  
**Gateway Commerce Center**  
 6th Election District  
 Howard County, Maryland

DES.: hot	SCALE 1"=50'	ZONING R-A-15	G.L.W. FILE NO. 93-038
DRN.: W.S.J.	DATE March, 1995	TAX MAP NO. 42	SHEET 8 of 18
CHK.: hot			





**SEDIMENT CONTROL NOTES**

- A minimum of 24 hours notice must be given to the Howard County Office of Inspection and Permits prior to the start of any construction. (301) 992-2437
- All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
- 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.
- 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.
- All disturbed areas must be stabilized within the time period specified above in accordance with the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seedings (Sec. 51), sod (Sec. 54), temporary seedings (Sec. 50) and mulching (Sec. 52). Temporary stabilization, with mulch alone, can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
- All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.
- Site Analysis:
 

Total Area of Site	: 1.0 Acres
Area Disturbed	: 1.0 Acres
Area to be roofed or paved	: 0.70 Acres
Area to be vegetatively stabilized	: 0.83 Acres
Total Cut	: 0 Cu. Yds. *
Total Fill	: 0 Cu. Yds. *
Off-site waste/borrow area location:	N/A *THIS AREA HAS BEEN MASS GRADED UNDER SDP 25-88
- Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
- Additional sediment control must be provided, if deemed necessary by the Howard County DPW Sediment Control Inspector.
- On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made.

**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
- 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. Harrow or disc into upper three inches of soil. At time of seeding, apply 400 lbs per acre 30-0-0 ureaform fertilizer (9 lbs/1000 sq ft).
  - Acceptable - 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. Harrow or disc into upper three inches of soil.

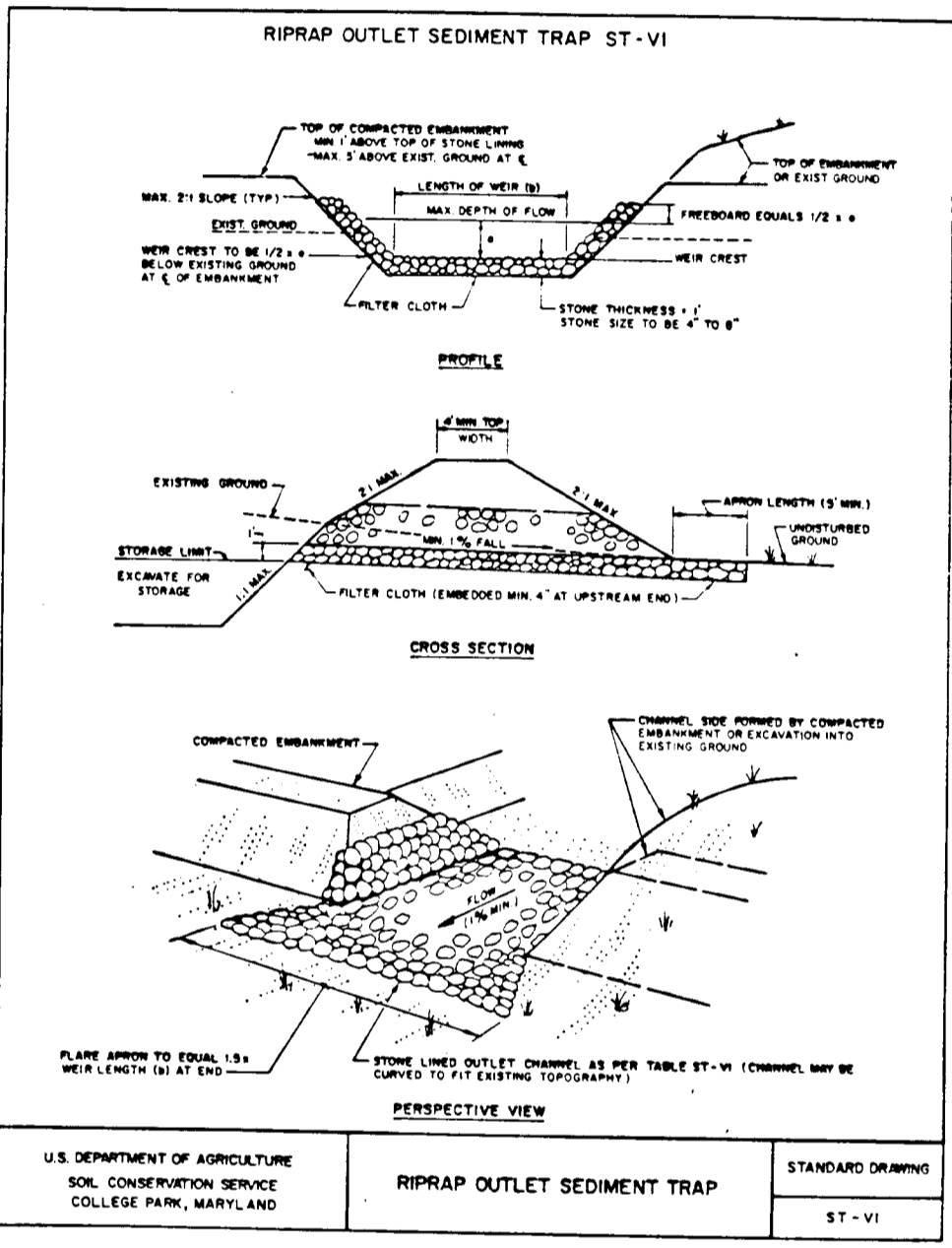
Seeding: For the periods March 1 thru April 30, and August 1 thru October 15, seed with 60 lbs per acre (1.4 lbs/1000 sq ft) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 60 lbs Kentucky 31 Tall Fescue per acre and 2 lbs per acre (.05 lbs/1000 sq ft) of weeping lovegrass. During the period of October 16 thru February 28, protect site by Option (1) 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring. Option (2) Use sod. Option (3) Seed with 60 lbs/acre Kentucky 31 Tall Fescue and mulch with 2 tons/acre well anchored straw.

Mulching: Apply 1-1/2 to 2 tons per acre (70 to 90 lbs/1000 sq ft) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal per acre (5 gal/1000 sq ft) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000 sq ft) for anchoring.

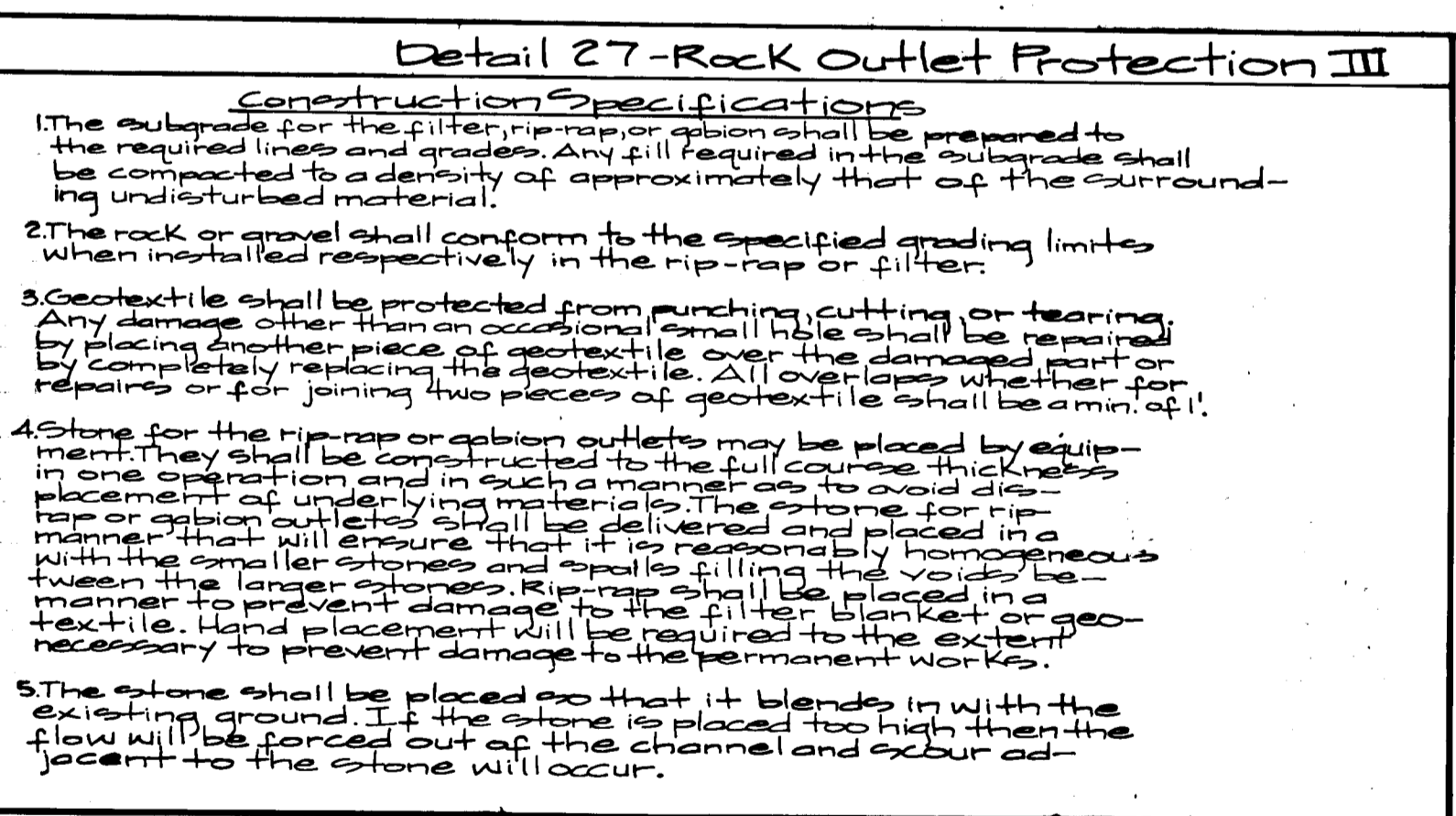
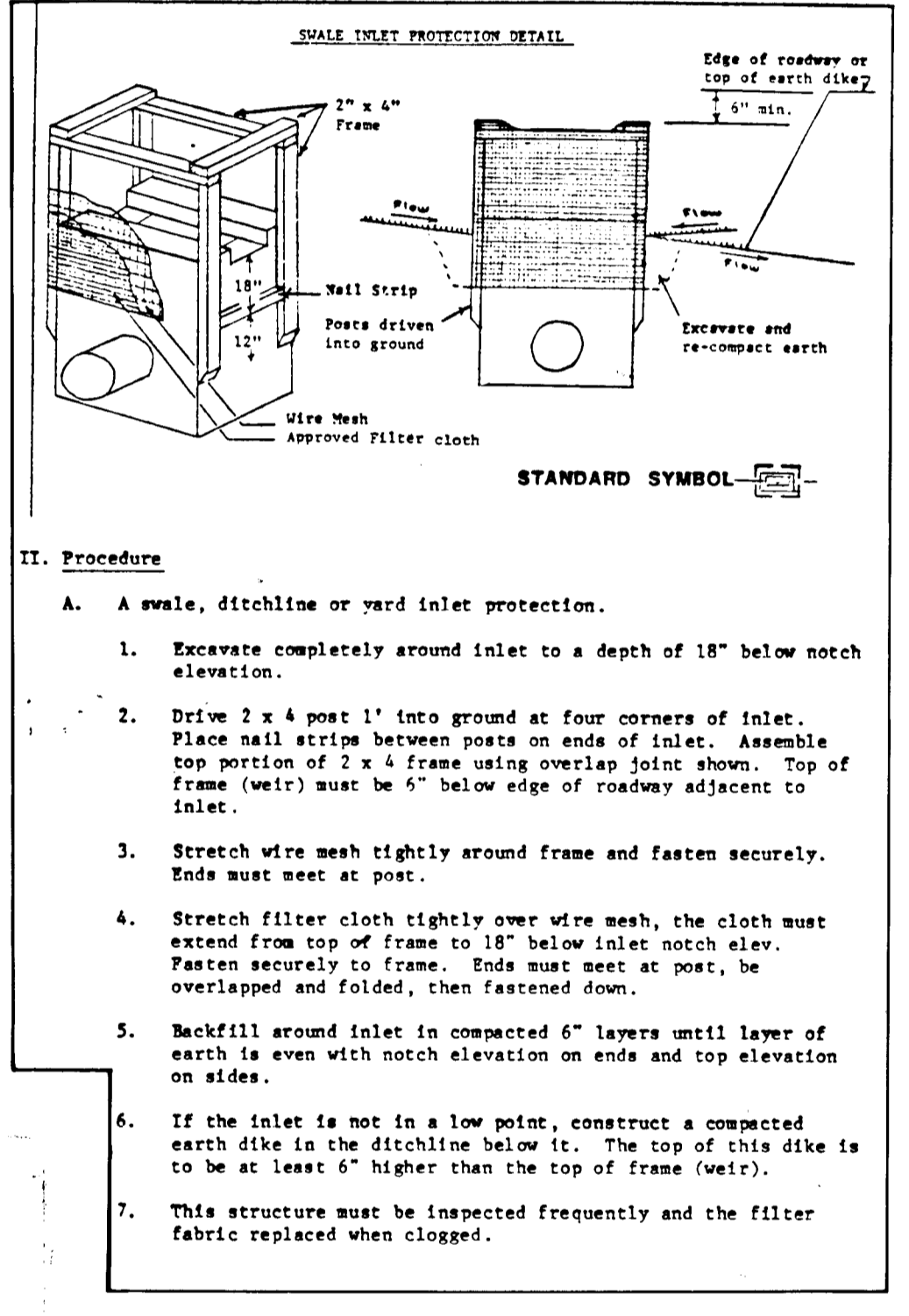
Maintenance: Inspect all seeded areas and make needed repairs, replacements and reseeding.

**TEMPORARY SEEDING NOTES**

- Apply to graded or cleared areas likely to be redistributed where a short-term vegetative cover is needed.
- Seeded Preparation: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding (unless previously loosened).
- Soil Amendments: Apply 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sq ft).
- Seeding: For periods March 1 thru April 30 and from August 15 thru November 15, seed with 2-1/2 bushel per acre of annual rye (3.2 lbs./1000 sq ft.). For the period May 1 thru August 14, seed with 3 lbs per acre of weeping lovegrass (.07 lbs/1000 sq ft). For the period November 16 thru February 28, protect site by applying 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.
- Mulching: Apply 1-1/2 to 2 tons per acre (70 to 90 lbs/1000 sq ft) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal per acre (5 gal/1000 sq ft) of emulsified asphalt on flat areas. On slopes, 8 ft or higher, use 348 gal per acre (8 gal/1000 sq ft) for anchoring.
- Refer to the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for rate and methods not covered.



- CONSTRUCTION SPECIFICATIONS FOR ST-VI**
- The area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.
  - The fill material for the embankment shall be free of roots or other woody vegetation as well as oversized stones, rocks, organic material or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed. Maximum height of embankment shall be five (5) feet, measured at centerline of embankment.
  - All fill slopes shall be 2:1 or flatter; cut slopes 1:1 or flatter.
  - Elevation of the top of any dike directing water into trap must equal or exceed the height of embankment.
  - Storage area provided shall be figured by computing the volume available behind the outlet channel up to an elevation of one (1) foot below the level weir crest.
  - Filter cloth shall be placed over the bottom and sides of the outlet channel prior to placement of stone. Sections of fabric must overlap at least one (1) foot with section nearest the entrance placed on top. Fabric shall be embedded at least six (6) inches into existing ground at entrance of outlet channel.
  - Stone used in the outlet channel shall be four (4) to eight (8) inches (riprap). To provide a filtering effect, a layer of filter cloth shall be embedded one (1) foot back into the upstream face of the outlet stone or a one (1) foot thick layer of two (2) inch or finer aggregate shall be placed on the upstream face of the outlet.
  - Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to 1/2 the design depth of the trap. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.
  - The structure shall be inspected after each rain and repaired as needed.
  - Construction operations shall be carried out in such a manner that erosion and water pollution are minimized.
  - The structure shall be removed and the area stabilized when the drainage area has been properly stabilized.
  - Drainage area for this practice is limited to 15 acres or less.



Approved: Department of Public Works

*Andrew M. Danaher*  
Chief, Bureau of Highways  
9/11/95  
Date

Approved: Howard County Dept. of Planning & Zoning

*Ana Suranjan*  
Chief, Division of Land Development & Research  
9/22/95  
Date

*Michael S. ...*  
Chief, Development Engineering Division, MK  
9/14/95  
Date

**DEVELOPER/BUILDER'S CERTIFICATE**

I 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.

*Neil L. Edl*  
Signature of Developer/Builder  
4-3-95  
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 and that it was prepared in accordance with the requirements of the Howard Soil Conservation District.

*Ch...*  
Signature of Engineer  
4/12/95  
Date

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

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

*Patricia ...*  
Signature of District Engineer  
4/27/95  
Date

*John P. ...*  
Signature of District Engineer  
4/27/95  
Date

**G W GUTSCHICK LITTLE & WEBER, P.A.**  
CIVIL ENGINEERS, SURVEYORS, PLANNERS, LANDSCAPE ARCHITECTS  
3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK - BURTONSVILLE, MARYLAND 20866  
TEL: (301) 421-4024 NO. VA.: (301) 989-2524 BALTO: (410) 880-1820 FAX: (301) 421-4186

DES.	DRN.	CHK.	DATE	REVISION	BY	APPR.

Owner/Developer  
CREATES II, Inc. c/o  
The Howard Research & Development Corporation  
10275 Little Patuxent Pkwy.  
Columbia, Maryland 21044  
Attn: A. Edwards  
(410) 992-6027

Sediment Control Detail Sheet

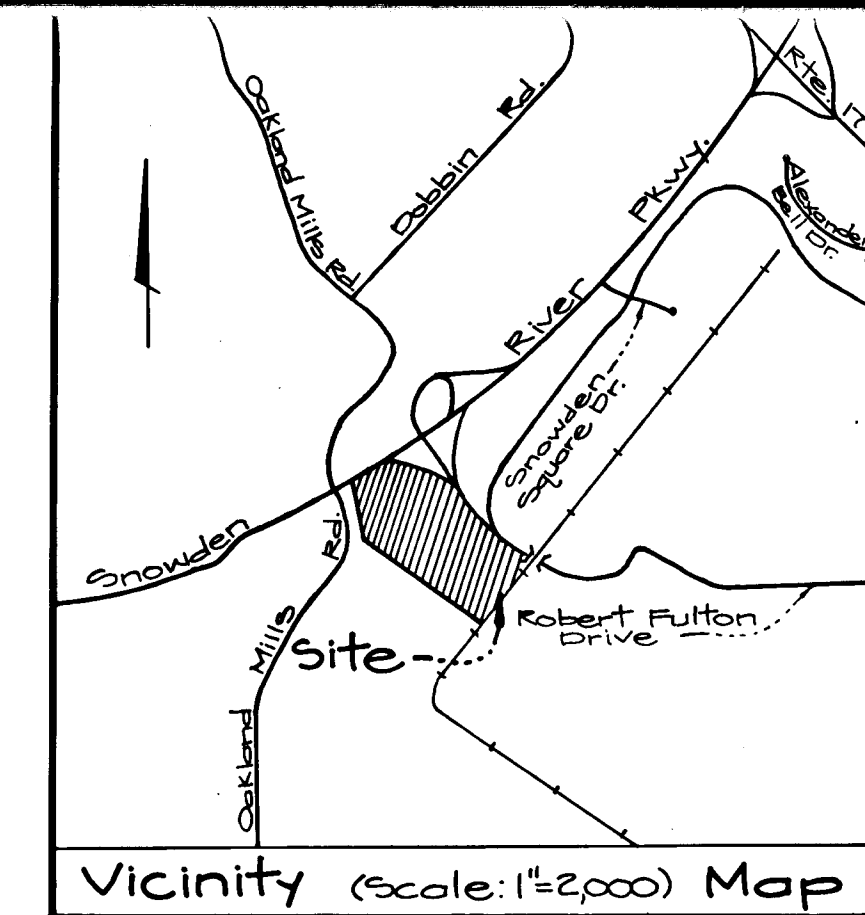
Various Roads

**Gateway Commerce Center**

Coth Election District  
Howard County, Maryland

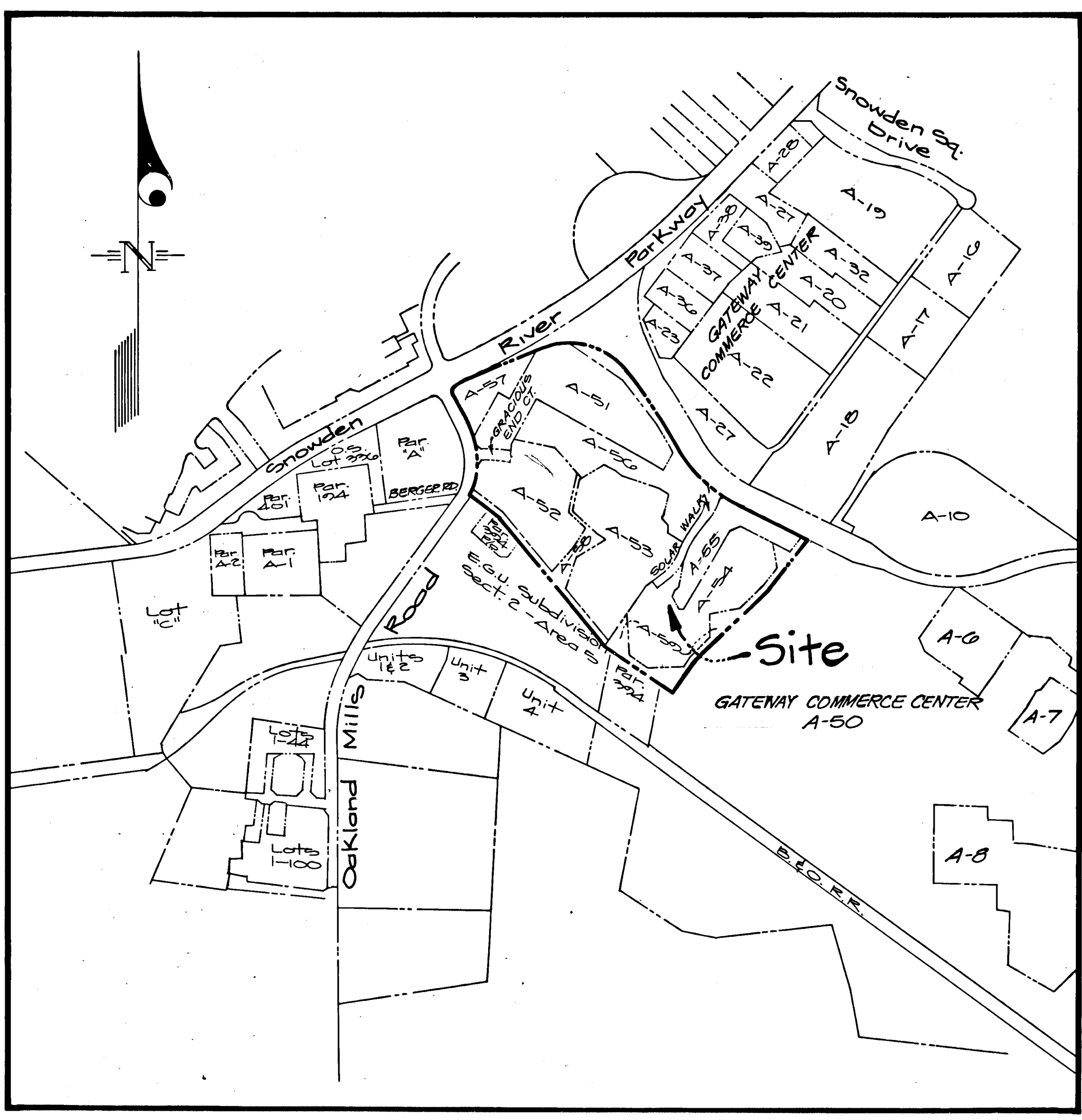
SCALE	ZONING	G. L. W. FILE No.
1"=50'	R-A-15	93-038
DATE	TAX MAP No.	SHEET
March 1995	42	2 of 10





**FOREST CONSERVATION WORKSHEET**

<b>I. BASIC SITE DATA</b>		ACRES (1/10 acre)
GROSS SITE AREA	541A	
AREA WITHIN 100 YEAR FLOODPLAIN	N/A	
AREA WITHIN AGRICULTURAL USE OR PRESERVATION PARCEL (IF APPLICABLE)	N/A	
NET TRACT AREA	300AC*	
LAND USE CATEGORY (R-RLD, R-RMD, R-S, C1/O, I)		
*Gross Area Minus B.G. & E. R/W		
<b>II. INFORMATION FOR CALCULATIONS</b>		
A. NET TRACT AREA	500A	ACRES (1/10 acre)
B. REFORESTATION THRESHOLD (20% x A)	100	
C. AFFORESTATION MINIMUM (15% x A)	75	
D. EXISTING FOREST ON NET TRACT AREA	236	
E. FOREST AREAS TO BE CLEARED	105	
F. FOREST AREAS TO BE RETAINED	41	
<b>IV. REFORESTATION CALCULATIONS</b>		
A. NET TRACT AREA	500	
B. REFORESTATION THRESHOLD (20% x A)	100	
D. EXISTING FOREST ON NET TRACT AREA	236	
E. FOREST AREAS TO BE CLEARED	105	
F. FOREST AREAS TO BE RETAINED	41	
G. FOREST AREAS CLEARED ABOVE REFORESTATION THRESHOLD (D - F, if F equals or is greater than B, Alternate 1) (D - B, if F is less than B, Alternate 2)	59	
H. FOREST AREAS CLEARED BELOW REFORESTATION THRESHOLD (B - F, if applicable)	N/A	
I. FOREST AREAS RETAINED ABOVE REFORESTATION THRESHOLD (F - B, Retention Credit, if applicable)		
<b>2. Clearing below the threshold</b>		
If forest areas to be retained are less than the reforestation threshold (if F is less than B), the following calculations apply:		
REFORESTATION FOR CLEARING ABOVE THRESHOLD (G x 1/4)	34	
REFORESTATION FOR CLEARING BELOW THRESHOLD (H x 2)	118	
TOTAL REFORESTATION REQUIRED (G x 1/4) + (H x 2)	152	
Since clearing occurs below the threshold, no forest retention credit is possible.		



Area	Acreage
OSR-1	1.10
OSR-2	2.34
OSR-3	1.89
OSR-4	3.59
OSR-5	0.90
Total Off-site	9.88
Total On-site	5.38
Total Reforestation	15.26

Note: Surety Requirements. All perimeter Landscaping will be bonded as part of the Forest Conservation plans.

**Key Map**

Scale: 1" = 600'

**Legend**

- Existing Tree Save Areas
- 350 Whips/Acre (11' x 11' Spacing)
- Evergreen Trees (on-site)
- Shade Trees (on-site)
- Ornamental Trees (on-site)
- Shrubs (on-site)

For on-site plant list see sheet 10 of 10.

Approved: For Public Water & Public Sewerage Systems, Howard County Health Dept.  
 County Health Officer \_\_\_\_\_ Date \_\_\_\_\_

Approved: Howard County Dept. of Planning & Zoning  
 Director \_\_\_\_\_ Date 9/22/95  
 Chief Division of Land Development and Research

Approved: For Public Water & Public Sewerage, Storm Drainage Systems & Public Roads, Howard County Dept. of Public Works  
 Director \_\_\_\_\_ Date \_\_\_\_\_  
 Chief, Bureau of Engineering

**GLW GUTSCHICK LITTLE & WEBER, P.A.**

CIVIL ENGINEERS, SURVEYORS, PLANNERS, LANDSCAPE ARCHITECTS  
 3909 NATIONAL DRIVE SUITE 250 BURTONSVILLE OFFICE PARK BURTONSVILLE, MD 20866  
 TELEPHONE (301)421-4024 NO VA (301)989-2524 BAL TO (301)880-1820 FAX (301)421-4186

OWNER/DEVELOPER  
**GEAPE II, INC.**  
 The Howard Research & Development Corporation  
 10275 Little Patuxent Pkwy.  
 Columbia, Maryland 21044  
 Attn.: Al Edwards  
 (410)992-6027

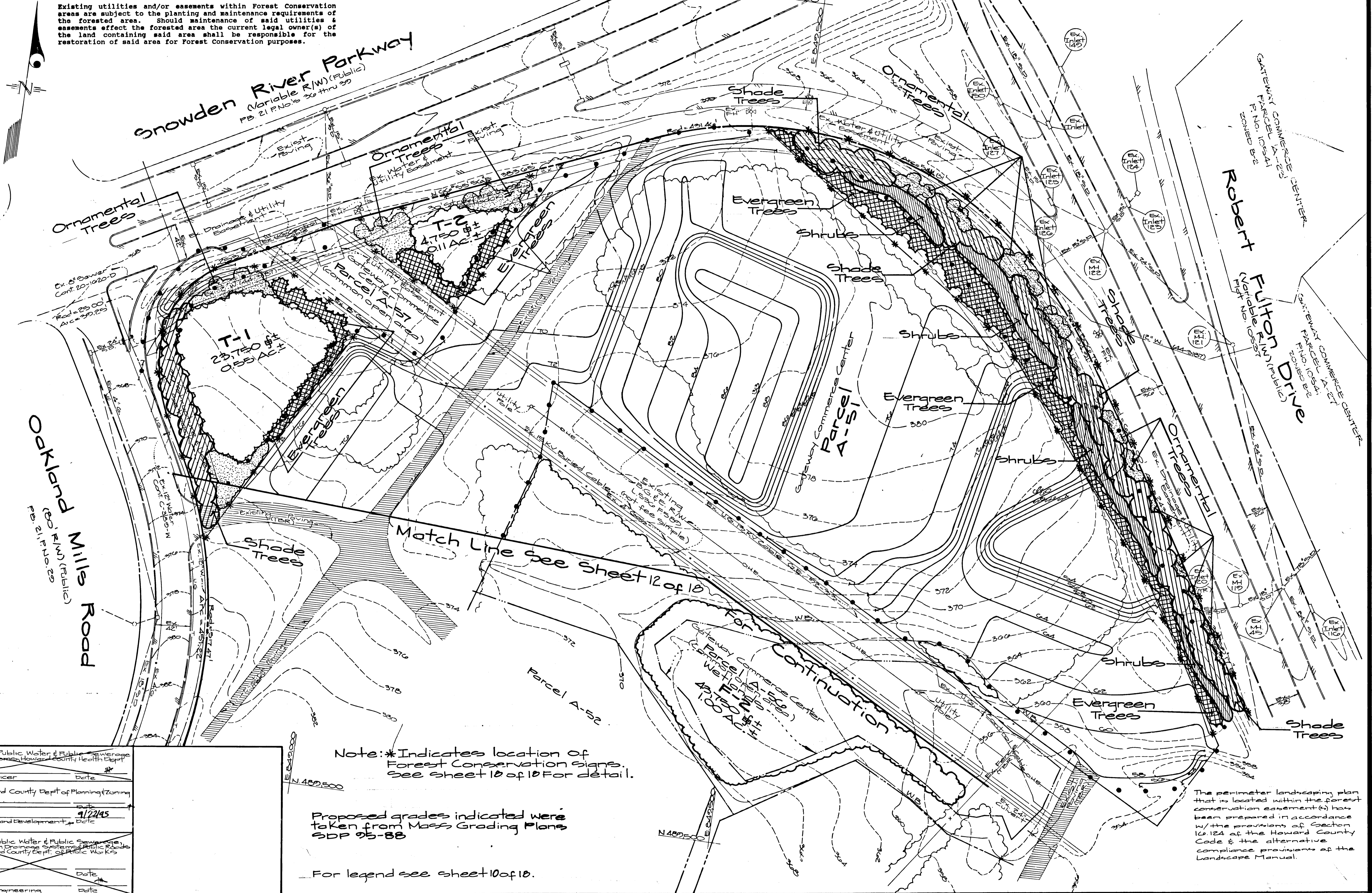
Cover Sheet

**Gateway Commerce Center**  
 Parcels A-51 thru A-59  
 (A Resubdivision of Parcel A-49)  
 6th Election District  
 Howard County, Maryland

DES.:	SCALE	ZONING	G.L.W. FILE NO.
DRN.:	As Shown	R-A-15	93-038
W.S.J.:	DATE	TAX MAP NO.	SHEET
CHK.:	May 1995	42	10 of 10



Existing utilities and/or easements within Forest Conservation areas are subject to the planting and maintenance requirements of the forested area. Should maintenance of said utilities & easements affect the forested area the current legal owner(s) of the land containing said area shall be responsible for the restoration of said area for Forest Conservation purposes.



Note: \* Indicates location of Forest Conservation signs. See sheet 10 of 18 for detail.

Proposed grades indicated were taken from Mass Grading Plans SDP 95-88

For legend see sheet 10 of 18.

The perimeter landscaping plan that is located within the forest conservation easement(s) has been prepared in accordance w/ the provisions of Section 16.124 of the Howard County Code & the alternative compliance provisions of the Landscape Manual.

Approved For Public Water & Public Sewerage Systems, Howard County Health Dept.  
 County Health Officer \_\_\_\_\_ Date \_\_\_\_\_

Approved: Howard County Dept of Planning & Zoning  
 \_\_\_\_\_ Date 9/22/95  
 Chief Division of Land Development, Planning and Research

Approved For Public Water & Public Sewerage, Storm Drainage Systems, Public Roads  
 Howard County Dept. of Public Works  
 Director \_\_\_\_\_ Date \_\_\_\_\_  
 Chief, Bureau of Engineering \_\_\_\_\_ Date \_\_\_\_\_

**GW GUTSCHICK LITTLE & WEBER, P.A.**  
 CIVIL ENGINEERS, SURVEYORS, PLANNERS, LANDSCAPE ARCHITECTS  
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK - BURTONSVILLE, MD. 20868  
 TELEPHONE (301)421-4024 NO. VA. (301)989-2524 BALTO. (301)880-1820 FAX (301)421-4186

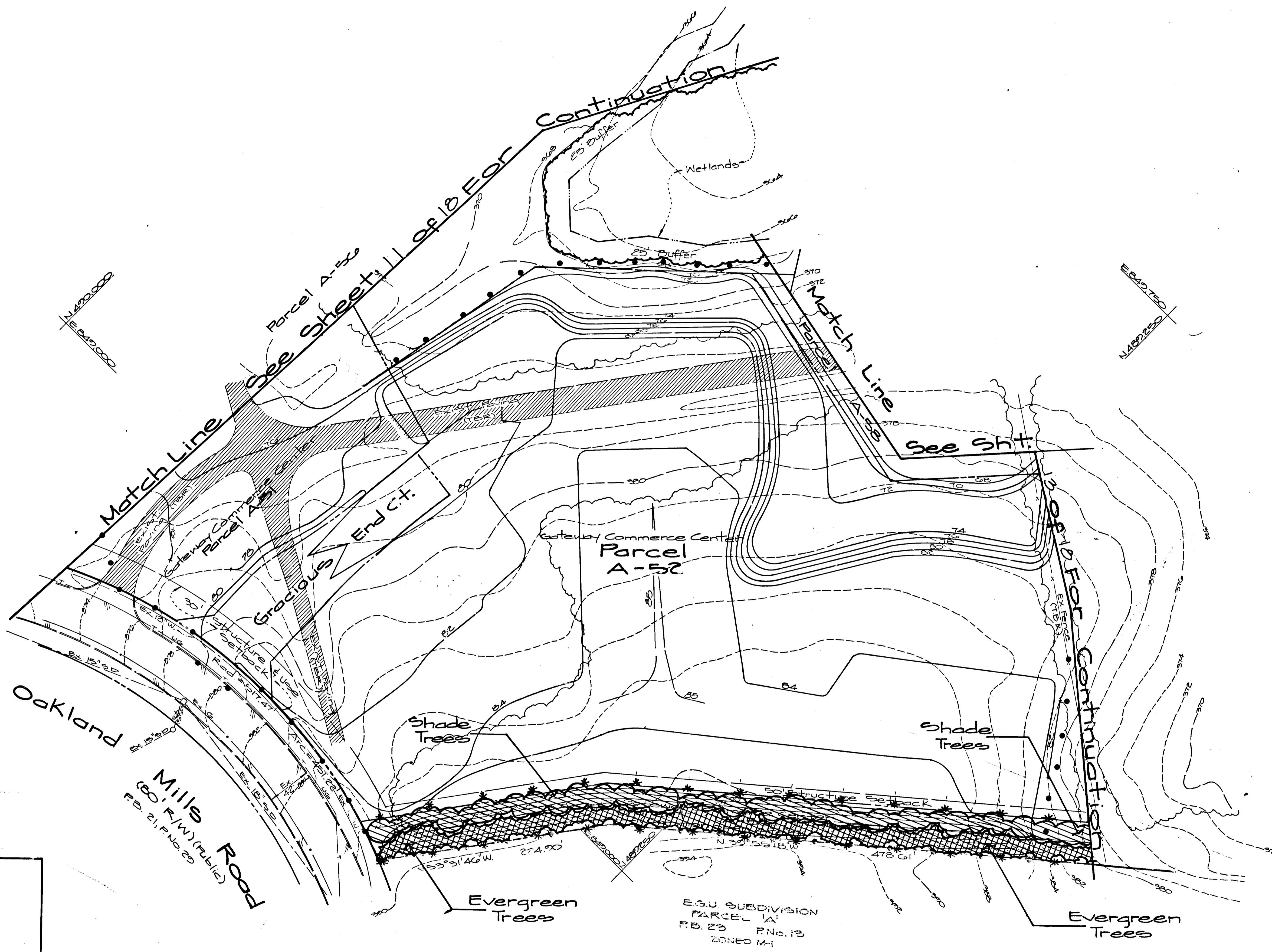
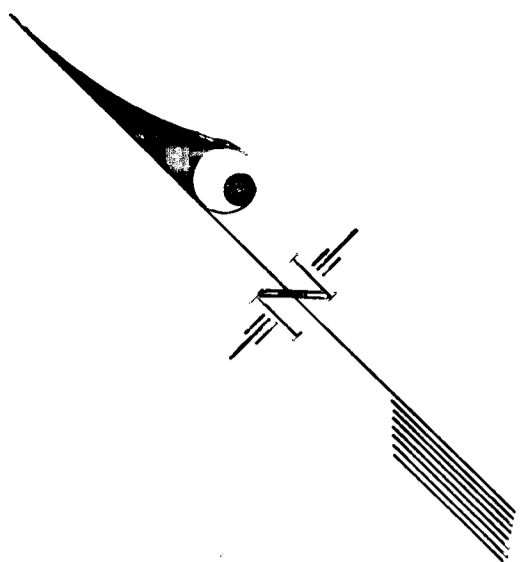
DATE	REVISION	BY	APP'R.

Owner/Developer  
 GEARIE II, Inc. c/o  
 The Howard Research &  
 Development Corporation  
 10275 Little Patuxent Pkwy.  
 Columbia, Maryland 21044  
 Attn: Al Edwards  
 (410)992-6027

Forest Conservation Plan  
**Gateway Commerce Center**  
 Parcel A-51 thru 53  
 (A Resubdivision of Parcel A-49)  
 6th Election District  
 Howard County, Maryland

DES.:	SCALE	ZONING	G.L.W. FILE NO.
DRN.:	1"=50'	R-A-15	93-030
W.S.J.:	DATE	TAX MAP No.	SHEET
CHK.:	May 1995	42	11 of 18





Note: \* Indicates location of Forest Conservation signs. See sheet 10 of 10 for detail.

For legend see sheet 10 of 10

Proposed grades indicated were taken from Mass Grading Plans SDP 95-88

Existing utilities and/or easements within Forest Conservation areas are subject to the planting and maintenance requirements of the forested area. Should maintenance of said utilities & easements effect the forested area the current legal owner(s) of the land containing said area shall be responsible for the restoration of said area for Forest Conservation purposes.

Approved For Public Water & Public Sewerage Systems Howard County Health Dept.	_____	_____
Sanitary Health Officer	_____	_____
Approved: Howard County Dept. of Planning & Zoning	_____	_____
Chief Division of Land Development and Research	_____	9/21/95
Approved For Public Water & Public Sewerage Storm Drainage Systems & Public Roads Howard County Dept. of Public Works	_____	_____
Director	_____	_____
Chief Bureau of Engineering	_____	_____

**GLW GUTSCHICK LITTLE & WEBER, P.A.**  
 CIVIL ENGINEERS, SURVEYORS, PLANNERS, LANDSCAPE ARCHITECTS  
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK - BURTONSVILLE, MD 20866  
 TELEPHONE (301)421-4024 NO. VA. (301)989-2524 BALTO. (301)880-1820 FAX (301)421-4186

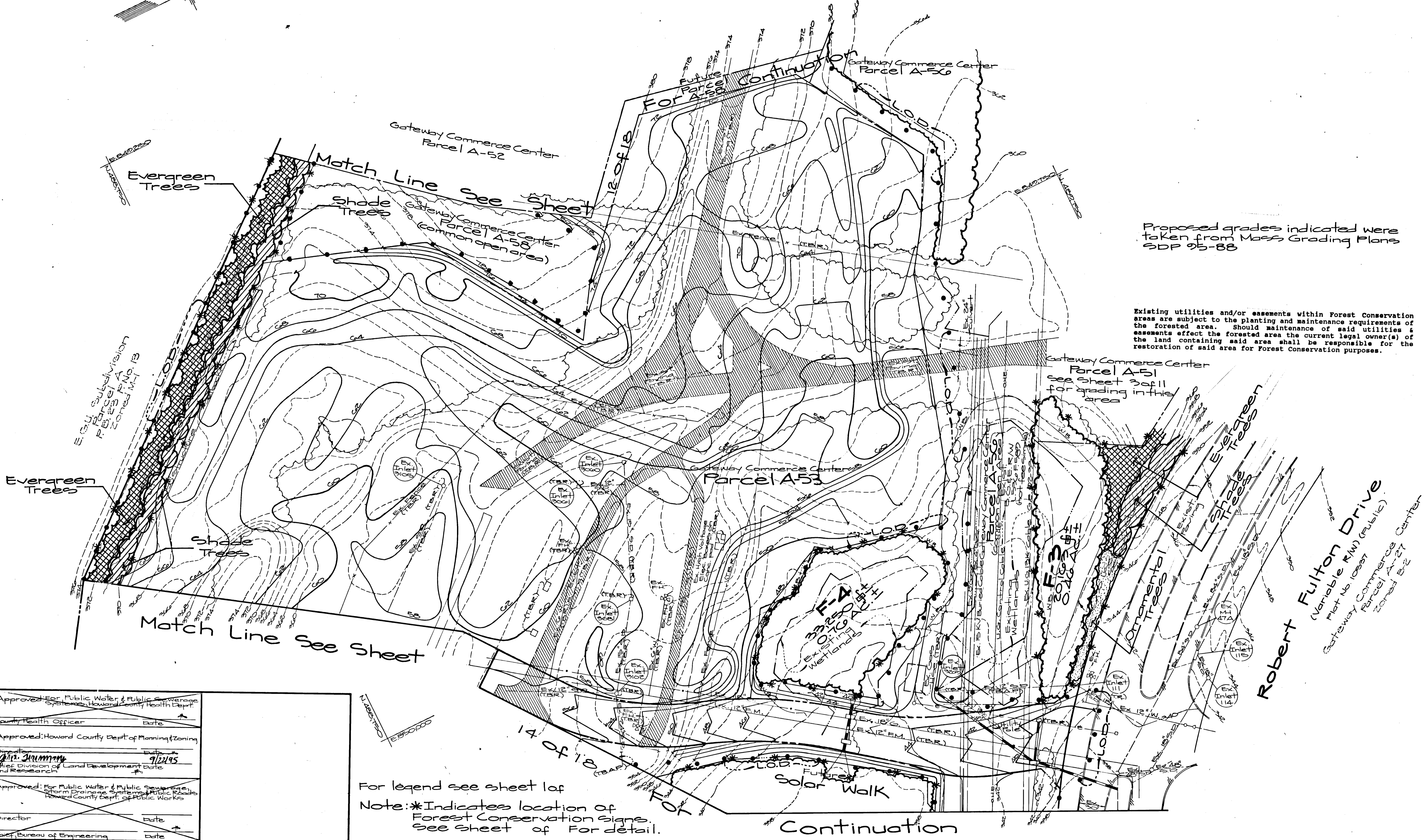
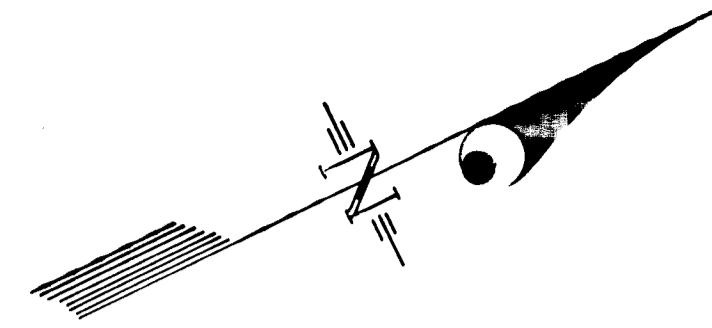
DATE	REVISION	BY	APP'R.

Owner/Developer  
 GEAPE II, Inc. c/o  
 The Howard Research &  
 Development Corporation  
 10275 Little Patuxent Pkwy.  
 Columbia, Maryland 21044  
 Attn: Al Edwards  
 (410) 992-6027

Forest Conservation Plan  
**Gateway Commerce Center**  
 Parcels A-51 thru A-59  
 (A Resubdivision of Parcel A-49)  
 6th Election District  
 Howard County, Maryland

DES.:	SCALE	ZONING	G.L.W. FILE NO.
DRN.:	1" = 50'	R-4-15	93-038
W.S.J.:	DATE	TAX MAP NO.	SHEET
CHK.:	May 1995	42	12 of 10





Proposed grades indicated were taken from Mass Grading Plans SDP 95-88

Existing utilities and/or easements within Forest Conservation areas are subject to the planting and maintenance requirements of the forested area. Should maintenance of said utilities & easements affect the forested area the current legal owner(s) of the land containing said area shall be responsible for the restoration of said area for Forest Conservation purposes.

Robert Fulton Drive  
 (Variable R/W) (Sub 15)  
 Plat No. 10997  
 Gateway Commerce Center  
 Parcel A-27  
 Zoned B-2

For legend see sheet 14 of 18  
 Note: \* Indicates location of Forest Conservation Signs. See sheet of For detail.

Approved: For Public Water & Public Sewerage Systems, Howard County Health Dept.	Date
County Health Officer	
Approved: Howard County Dept. of Planning & Zoning	Date
Director <i>Ann Summy</i>	9/22/95
Chief, Division of Land Development and Research	
Approved: For Public Water & Public Sewerage Storm Drainage Systems, Public Roads, Howard County Dept. of Public Works	Date
Director	
Chief, Bureau of Engineering	Date

**GLW GUTSCHICK LITTLE & WEBER, P.A.**  
 CIVIL ENGINEERS, SURVEYORS, PLANNERS, LANDSCAPE ARCHITECTS  
 3909 NATIONAL DRIVE SUITE 250 BURTONSVILLE OFFICE PARK BURTONSVILLE, MD 20866  
 TELEPHONE: (301)421-4024 NO VA (301)989-2524 BALTO (301)880-1820 FAX (301)421-4186

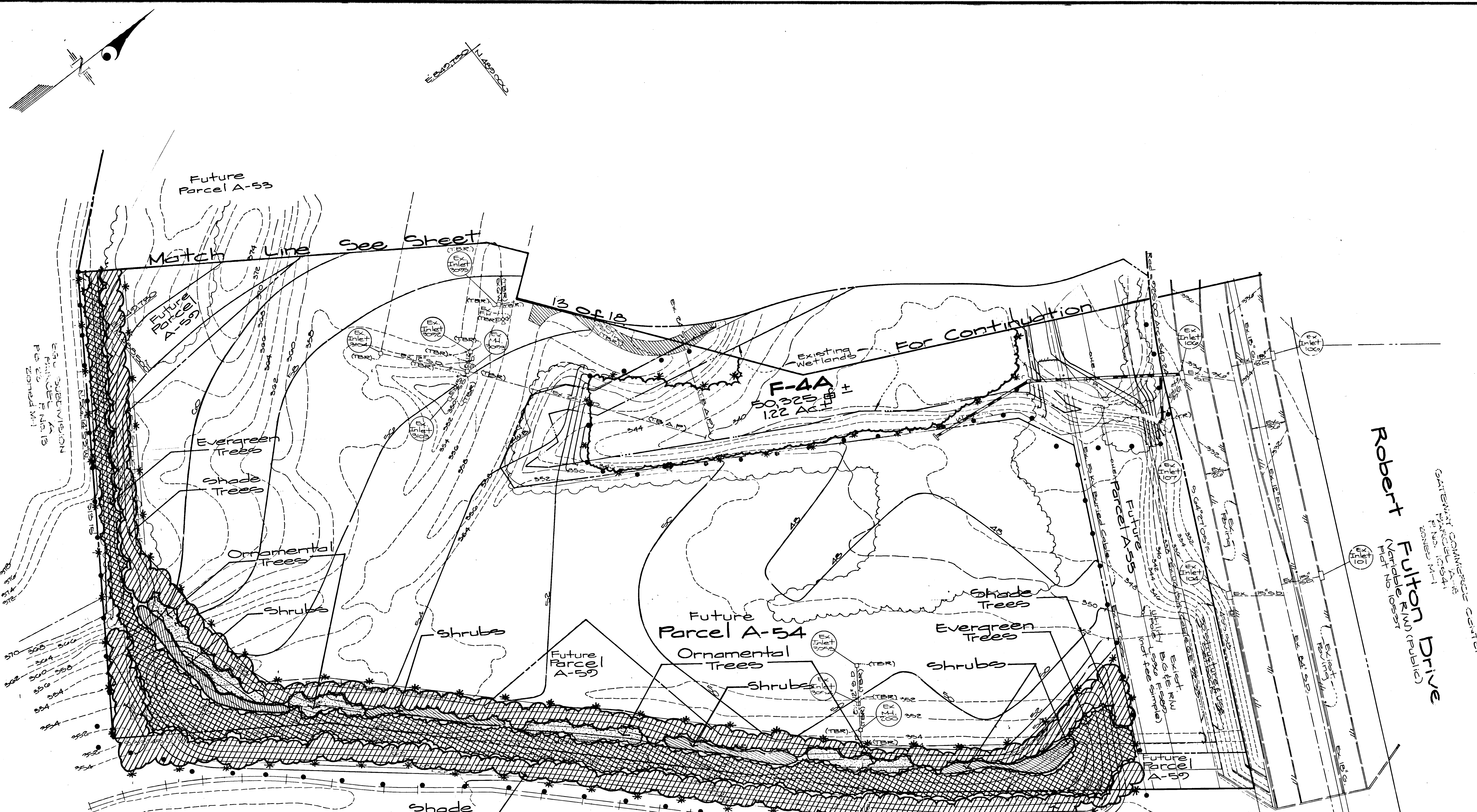
DATE	REVISION	BY	APP'R.

Forest Conservation Plan  
**Gateway Commerce Center**  
 Parcels A-51 thru A-59  
 (A Resubdivision of Parcel A-49)  
 6th Election District  
 Howard County, Maryland

DES:	SCALE	ZONING	G.L.W. FILE NO.
DRN: W.S.J.	1" = 50'	R-A-15	95-038
CHK:	DATE	TAX MAP NO.	SHEET
	May, 1995	42	13 of 18

0511





Robert  
Fulton Drive  
(Vehicle R/W) (Public)  
H&T No. 10527

GATEWAY COMMERCE CENTER  
PARCELS A-51  
THRU A-59  
Zoned MH-1

Approved: For Public Water & Public Sewerage Systems, Howard County Health Dept.  
County Health Officer \_\_\_\_\_ Date \_\_\_\_\_

Approved: Howard County Dept. of Planning & Zoning  
Director \_\_\_\_\_ Date \_\_\_\_\_

Approved: For Public Water & Public Sewerage, Storm Drainage Systems & Public Roads, Howard County Dept. of Public Works  
Director \_\_\_\_\_ Date \_\_\_\_\_

Chief, Bureau of Engineering \_\_\_\_\_ Date \_\_\_\_\_

Proposed grades indicated were taken from Mass Grading Plans SDP 95-88

GATEWAY COMMERCE CENTER  
PARCEL A-50  
F No. 11344  
Zoned MH-1

Note: \* Indicates location of Forest Conservation Signs. For detail see sheet 10 of 18.

For legend see sheet 10 of 18

Existing utilities and/or easements within Forest Conservation areas are subject to the planting and maintenance requirements of the forested area. Should maintenance of said utilities & easements affect the forested area the current legal owner(s) of the land containing said area shall be responsible for the restoration of said area for Forest Conservation purposes.

Owner/Developer  
GEAPE II, Inc. c/o  
The Howard Research &  
Development Corporation  
10275 Little Patuxent Pkwy.  
Columbia, Maryland 21044  
Attn: Al Edwards  
(410) 992-6027

**GLW** GUTSCHICK LITTLE & WEBER, P.A.  
CIVIL ENGINEERS, SURVEYORS, PLANNERS, LANDSCAPE ARCHITECTS  
3909 NATIONAL DRIVE SUITE 250 BURTONSVILLE OFFICE PARK BURTONSVILLE, MD 20886

TELEPHONE: (301) 421-4024 NO VA (301) 989-2524 BALTO (301) 880-1820 FAX (301) 421-4186

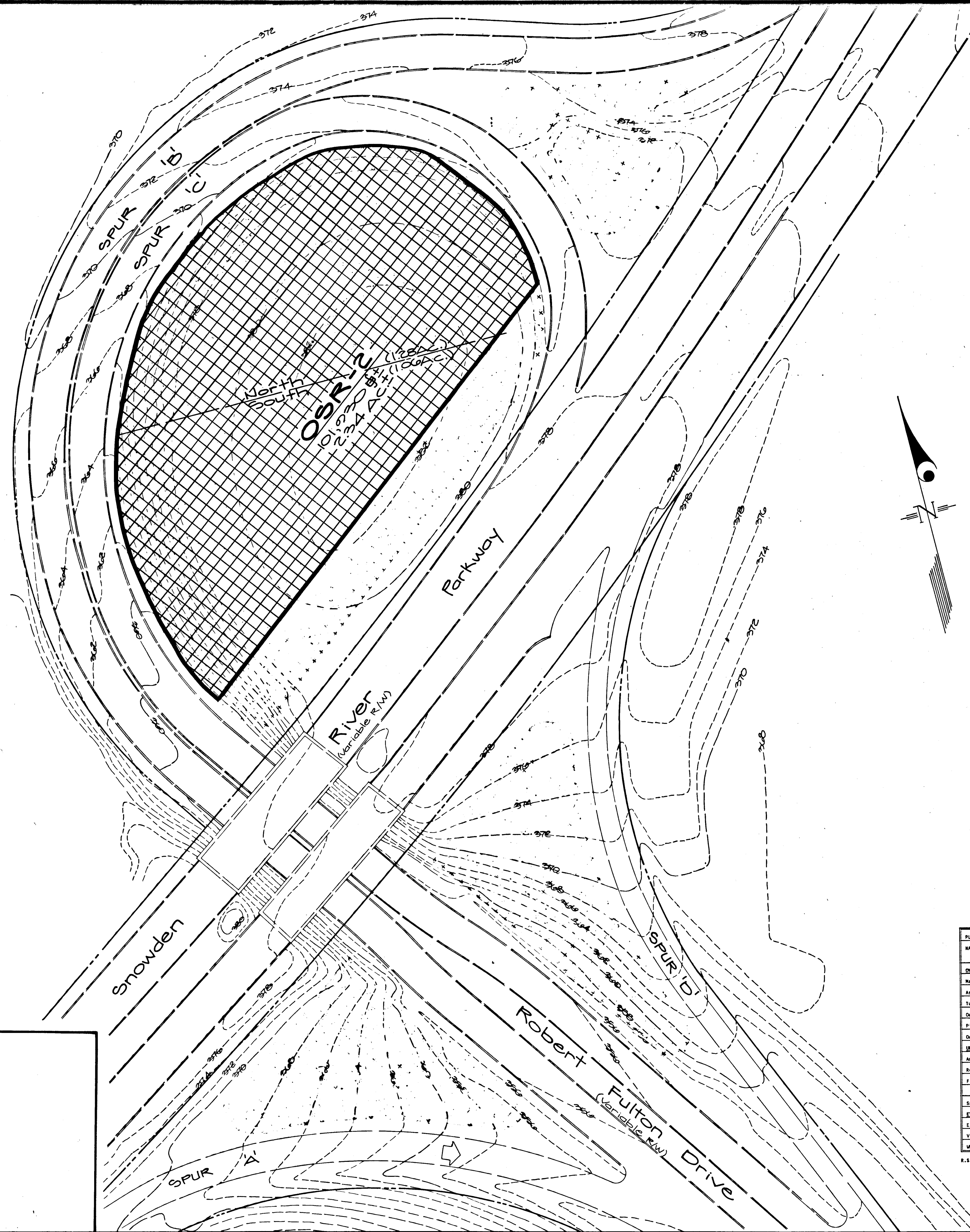
DATE	REVISION	BY	APP'R.

Forest Conservation Plan  
**Gateway Commerce Center**  
Parcels A-51 thru A-59  
(A Resubdivision of Parcel A-49)  
4th Election District  
Howard County, Maryland

DES.: W.S.J.	SCALE: 1"=50'	ZONING: R-A-15	G.L.W. FILE No.: 93-058
CHK.: May, 1995	DATE: May, 1995	TAX MAP No.: 42	SHEET: 14 of 18

1511





PLANT LIST NAME (COMMON/BOTANICAL)	QUANTITY		SIZE	CONDITION	SPACING
	NORTHSIDE	SOUTHSIDE			
<b>OVERSTORY</b>					
Noble, Red (Acer rubrum)	45	—	Whip (24")	Tube or Container	11' x 8.5'
Ash, Green (Fraxinus pennsylvanica)	45	—	Whip (24")	Tube or Container	11' x 8.5'
Tulip Poplar (Liriodendron tulipifera)	—	60	Whip (24")	Tube or Container	11' x 8.5'
Oak, White (Quercus alba)	—	70	Whip (24")	Tube or Container	11' x 8.5'
Pin Oak (Quercus palustris)	67	91	Whip (24")	Tube or Container	11' x 8.5'
Oak, Red (Quercus rubra)	67	—	Whip (24")	Tube or Container	11' x 8.5'
<b>UNDERSTORY</b>					
American Hornbeam (Carpinus caroliniana)	27	37	Whip (24")	Tube or Container	11' x 8.5'
Buckthorn (Cercis canadensis)	40	—	Whip (24")	Tube or Container	11' x 8.5'
Flowering Dogwood (Cornus florida)	41	62	Whip (24")	Tube or Container	11' x 8.5'
Sassafras (Sassafras albidum)	27	37	Whip (24")	Tube or Container	11' x 8.5'
<b>EVERGREENS</b>					
E. Red Cedar (Juniperus virginiana)	18	12	Whip (24")	Tube or Container	11' x 8.5'
Virginia Pine (Pinus virginiana)	14	13	Whip (24")	Tube or Container	11' x 8.5'
White Pine (Pinus strobus)	13	17	Whip (24")	Tube or Container	11' x 8.5'

R.S. - Random Spacing, do not plant in grid pattern.

Approved: For Public Water & Public Sewerage Systems, Howard County Health Dept.  
 County Health Officer \_\_\_\_\_ Date \_\_\_\_\_

Approved: Howard County Dept. of Planning & Zoning  
 Director \_\_\_\_\_ Date \_\_\_\_\_

Approved: For Public Water & Public Sewerage, Storm Drainage Systems & Public Roads, Howard County Dept. of Public Works  
 Director \_\_\_\_\_ Date \_\_\_\_\_

Chief, Bureau of Engineering \_\_\_\_\_ Date \_\_\_\_\_

**GW GUTSCHICK LITTLE & WEBER, P.A.**  
 CIVIL ENGINEERS, SURVEYORS, PLANNERS, LANDSCAPE ARCHITECTS  
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK - BURTONSVILLE, MD 20886  
 TELEPHONE (301)421-4024 NO. VA. (301)989-2524 BALTO. (301)880-1820 FAX (301)421-4186

DATE	REVISION	BY	APP'R.

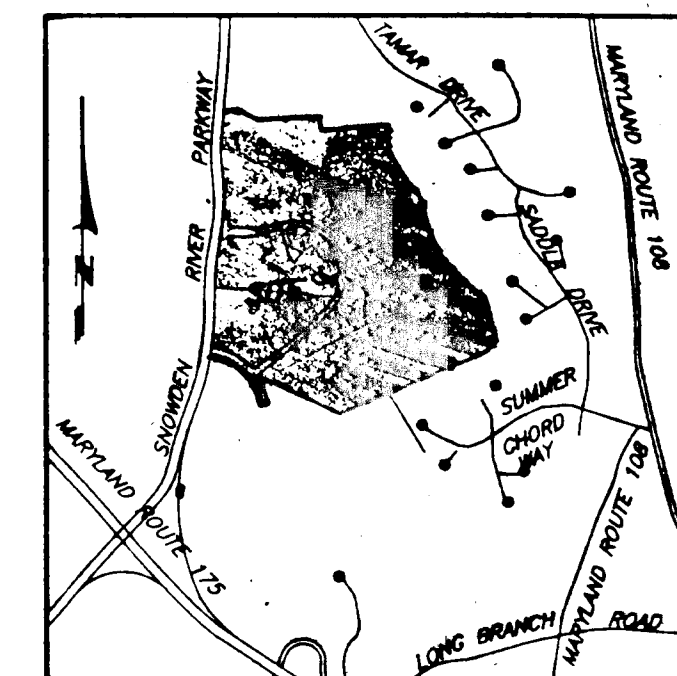
OWNER/DEVELOPER  
**GEAPE II INC.**  
 The Howard Research & Development Corporation  
 10275 Little Patuxent Pkwy.  
 Columbia, Maryland 21044  
 Attn: J. A. Edwards  
 (410)992-6027

OFF-SITE FOREST CONSERVATION PLAN  
**Gateway Commerce Center**  
 Parcels A-51 thru A-59  
 (A Resubdivision of Parcel A-49)  
 4th Election District  
 Howard County, Maryland

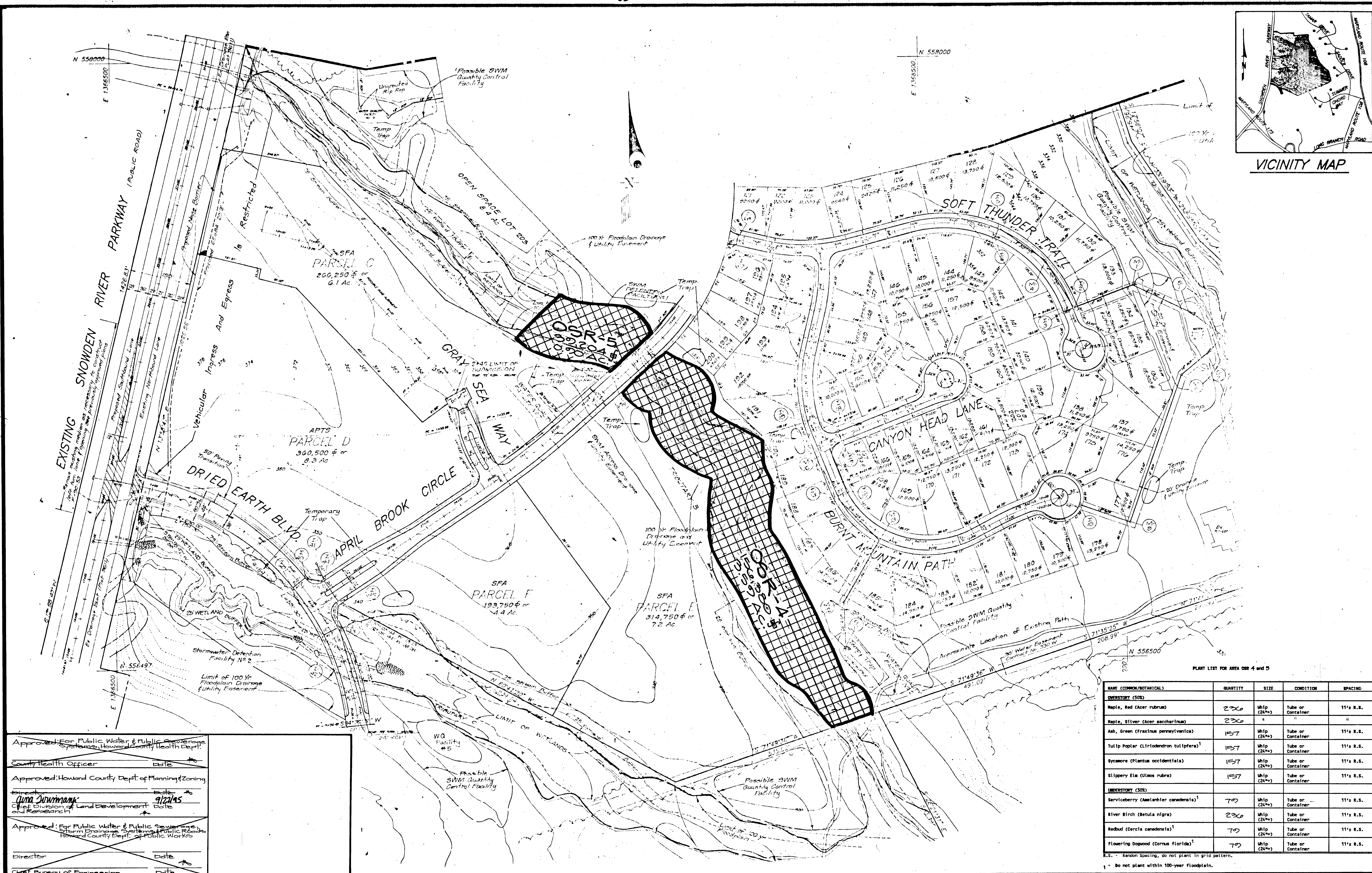
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DRN.:	1"=50'	R-A-15	93-038
CHK.:	DATE	TAX MAP No.	SHEET
	May, 1995	42	15 of 18

1158





VICINITY MAP



Approved For Public Water & Public Sewerage Systems, Howard County Health Dept.  
 County Health Officer \_\_\_\_\_ date \_\_\_\_\_

Approved: Howard County Dept. of Planning & Zoning  
 \_\_\_\_\_ date \_\_\_\_\_

Approved: Chief Division of Land Development and Research  
 Gina Surwinski 9/22/05

Approved: For Public Water & Public Sewerage, Storm Drainage Systems & Public Roads  
 Howard County Dept. of Public Works  
 Director \_\_\_\_\_ date \_\_\_\_\_  
 Chief, Bureau of Engineering \_\_\_\_\_ date \_\_\_\_\_

PLANT LIST FOR AREA OSR 4 and 5

NAME (COMMON/BOTANICAL)	QUANTITY	SIZE	CONDITION	SPACING
<b>OVERSTORY (50%)</b>				
Maple, Red ( <i>Acer rubrum</i> )	230	Whip (24")	Tube or Container	1 1/2 R.S.
Maple, Silver ( <i>Acer saccharinum</i> )	230	"	"	"
Ash, Green ( <i>Fraxinus pennsylvanica</i> )	157	Whip (24")	Tube or Container	1 1/2 R.S.
Tulip Poplar ( <i>Liriodendron tulipifera</i> ) <sup>1</sup>	157	Whip (24")	Tube or Container	1 1/2 R.S.
Sycamore ( <i>Platanus occidentalis</i> )	157	Whip (24")	Tube or Container	1 1/2 R.S.
Slippery Elm ( <i>Ulmus rubra</i> )	157	Whip (24")	Tube or Container	1 1/2 R.S.
<b>UNDERSTORY (30%)</b>				
Serviceberry ( <i>Aamelanier canadensis</i> ) <sup>1</sup>	70	Whip (24")	Tube or Container	1 1/2 R.S.
River Birch ( <i>Betula nigra</i> )	230	Whip (24")	Tube or Container	1 1/2 R.S.
Redbud ( <i>Cercis canadensis</i> ) <sup>1</sup>	70	Whip (24")	Tube or Container	1 1/2 R.S.
Flowering Dogwood ( <i>Cornus florida</i> ) <sup>1</sup>	70	Whip (24")	Tube or Container	1 1/2 R.S.

R.S. - Random Spacing, do not plant in grid pattern.  
 1 - Do not plant within 100-year floodplain.

**GW GUTSCHICK LITTLE & WEBER, P.A.**  
 CIVIL ENGINEERS, SURVEYORS, PLANNERS, LANDSCAPE ARCHITECTS  
 3909 NATIONAL DRIVE SUITE 250 BURTONSVILLE OFFICE PARK BURTONSVILLE, MD 20866  
 TELEPHONE (301)427-4024 FAX (301)427-4024

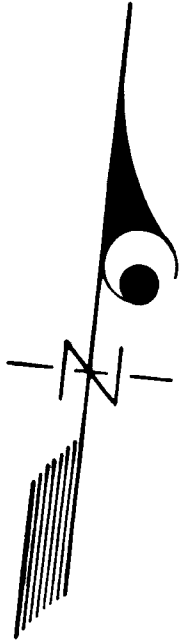
DATE	REVISION	BY	APP'R.

OWNER/DEVELOPER  
 GEAPE II  
 5616 The Howard Research & Development Corporation  
 10275 Little Patuxent Pkwy.  
 Columbia, Maryland 21044  
 Attn: Al Edwards  
 (410)992-6027

OFF-SITE FOREST CONSERVATION PLAN  
**Gateway Commerce Center**  
 Parcels A-51 thru A-59  
 (A Resubdivision of Parcel A-49)  
 6th Election District  
 Howard County, Maryland

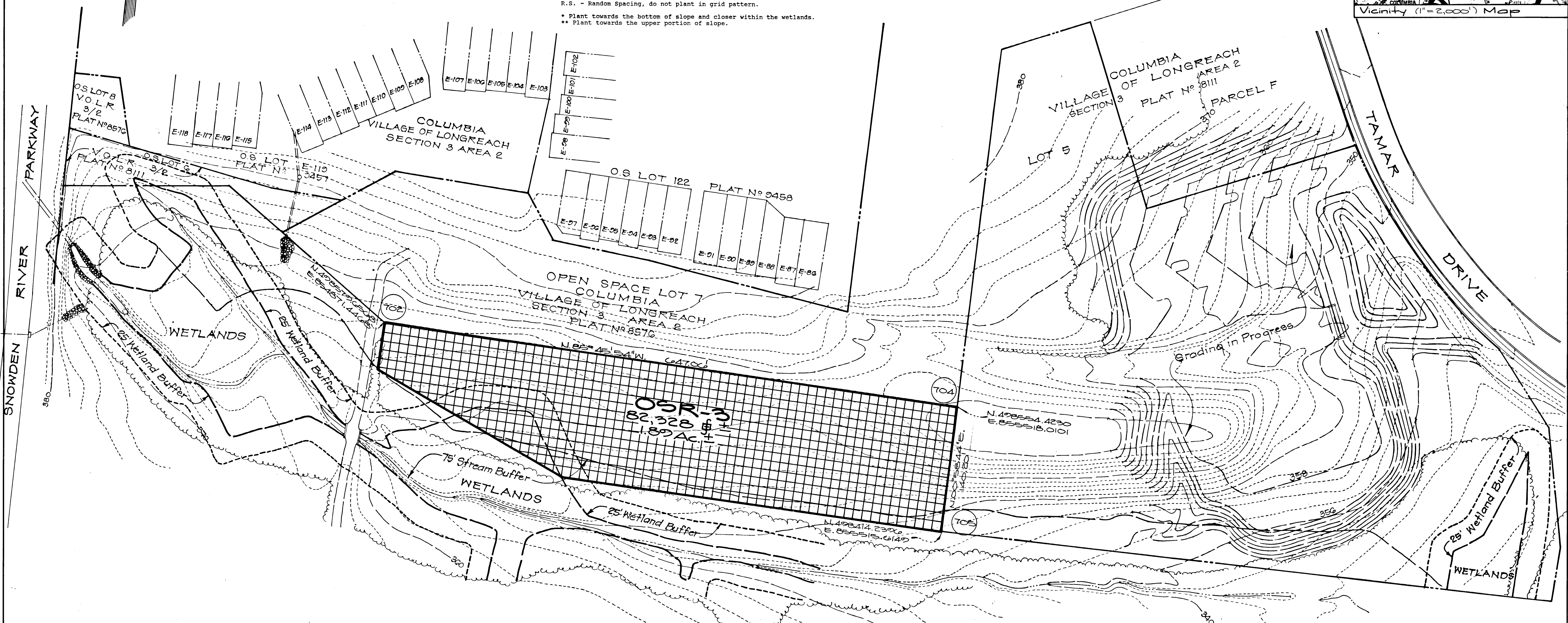
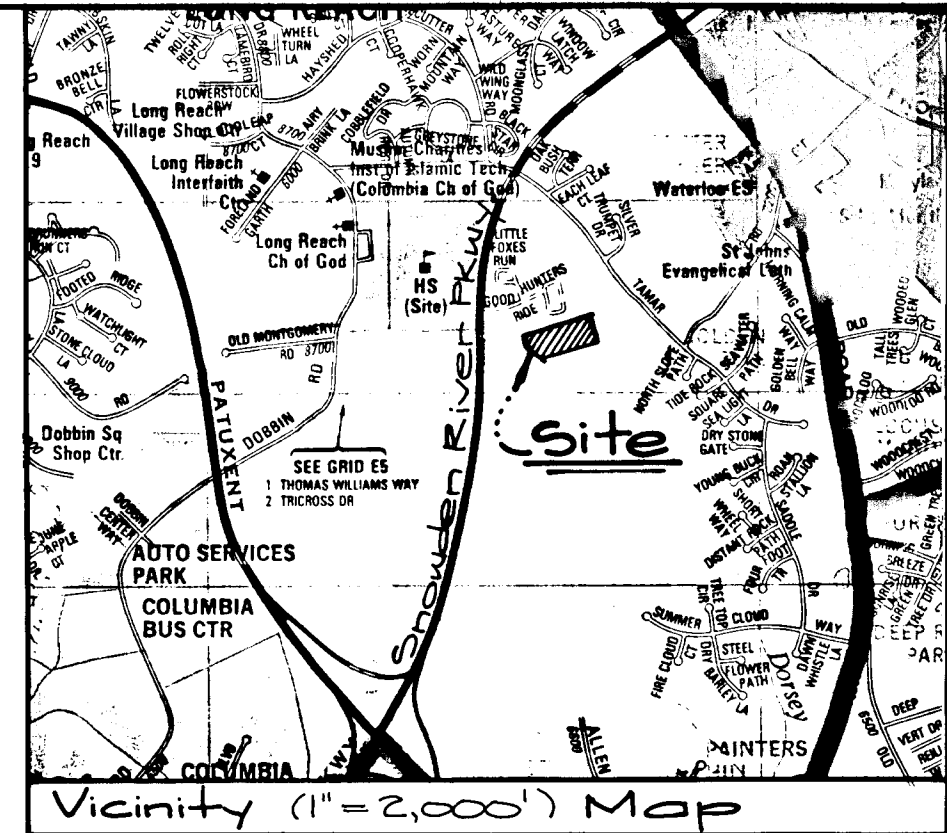
DES.	SCALE	CLINING	GLW FILE NO.
W.S.J.	1"=100'	R-A-15	93-038
CHK.	DATE	TAX MAP NO.	SHEET
	May, 1995	42	16 of 18





Plant List OSR-3				
NAME (COMMON/BOTANICAL)	QUANTITY	SIZE	CONDITION	SPACING
<b>OVERSTORY</b>				
Maple, Red (Acer rubrum)*	67	Whip (24"*)	Tube or Container	11' ± R.S.
Ash, Green (Fraxinus pennsylvanica)	66	Whip (24"*)	Tube or Container	11' ± R.S.
Tulip Poplar (Liriodendron tulipifera)	66	Whip (24"*)	Tube or Container	11' ± R.S.
Oak, White (Quercus alba)**	99	Whip (24"*)	Tube or Container	11' ± R.S.
Pin Oak (Quercus palustris)**	99	Whip (24"*)	Tube or Container	11' ± R.S.
Oak, Red (Quercus rubra)	67	Whip (24"*)	Tube or Container	11' ± R.S.
<b>UNDERSTORY</b>				
American Hornbeam (Carpinus caroliniana)	33	Whip (24"*)	Tube or Container	11' ± R.S.
Redbud (Cercis canadensis)*	72	Whip (24"*)	Tube or Container	11' ± R.S.
Flowering Dogwood (Cornus florida)	79	Whip (24"*)	Tube or Container	11' ± R.S.
Sassafras (Sassafras albidum)	33	Whip (24"*)	Tube or Container	11' ± R.S.

R.S. - Random Spacing, do not plant in grid pattern.  
 \* Plant towards the bottom of slope and closer within the wetlands.  
 \*\* Plant towards the upper portion of slope.



Approved: For Public Water & Public Sewerage Systems, Howard County Health Dept.  
 County Health Officer \_\_\_\_\_ Date \_\_\_\_\_

Approved: Howard County Dept. of Planning & Zoning  
 Director \_\_\_\_\_ Date 9/22/95  
 Chief, Division of Land Development and Research

Approved: For Public Water & Public Sewerage, Storm Drainage Systems, Public Roads, Howard County Dept. of Public Works  
 Director \_\_\_\_\_ Date \_\_\_\_\_  
 Chief, Bureau of Engineering

**GHW GUTSCHICK LITTLE & WEBER, P.A.**  
 CIVIL ENGINEERS, SURVEYORS, PLANNERS, LANDSCAPE ARCHITECTS  
 3309 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK - BURTONSVILLE, MD 20866  
 TELEPHONE: (301)421-4024 NO. VA. (301)989-2524 BALTO. (301)880-1820 FAX (301)421-4186

DATE	REVISION	BY	APPR.

Owner/Developer  
 GEARS II, INC. c/o  
 The Howard Research &  
 Development Corporation  
 10275 Little Patuxent Pkwy.  
 Columbia, Maryland 21044  
 Attn: Al Edwards  
 (410) 992-6027

Forest Conservation Plan  
**Gateway Commerce Center**  
 Parcel A-49  
 6th Election District  
 Howard County, Maryland

DES.:	SCALE	ZONING	G.L.W. FILE NO.
DRN.:	1"=50'	R-A-15	93-030
W.S.:	DATE	TAX MAP NO.	SHEET
CHK.:	May 1995	42	17 of 18



GENERAL NOTES

1. Ref. Preliminary Forest Conservation Plan SP-95-01.
2. This reforestation plan is provided in accordance with the requirements of Subtitle 12 "Forest Conservation" of the Howard County Code. The preparation of this plan, the notes and details were done using the guidelines of the Howard County Forest Conservation Manual and Maryland State Forest Conservation Manual.
3. Implementation of this plan must be performed by a contractor that is knowledgeable and experienced in afforestation/reforestation techniques and practices.
4. The survival rate for afforestation and reforestation areas shall be a minimum of 100 trees per acre or at least 75% of the total number of trees planted per acre (whichever is greater) in order for the release of financial security at the end of the two year maintenance period.
5. A signed agreement for the two-year maintenance period, detailing post-construction activities necessary to ensure survival and growth of the reforestation plantings shall be submitted for approval as part of the developers agreement for this project.
6. Should this development be phased... a separate two-year agreement for each phase can be used, as long as completed Forest Conservation measures for prior phases will not be affected by construction activities for subsequent phases.
7. To minimize soil erosion, all reforestation planting areas shall be in a stabilized condition. This plan document does not cover necessary refer to the Sediment and Erosion Control Plans for seeding specifications.
8. The contractor is responsible for the location of any existing utilities. The repair of any utilities damaged by the contractor shall be at the contractor's expense.

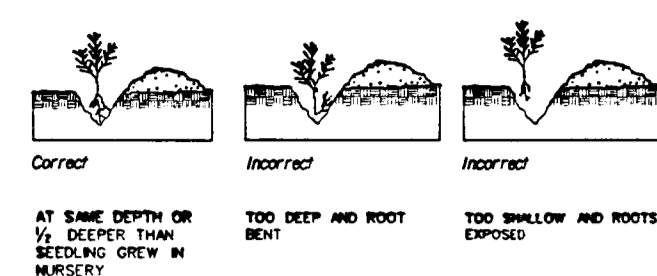
CONSTRUCTION PERIOD PROTECTION PROGRAM

1. The limit of disturbance and areas of forest retention and reforestation shall be staked and flagged. Field adjustments of the edge of surviving forest stand shall be done by detail labeled "Field Edge Determination".
2. A pre-construction meeting at the site should be held to verify the limits of clearing and disturbance specified on the approved plan. The meeting should include the owner or the owner's representative, the on-site foreman in charge of land disturbance, the environmental consultant and the appropriate Howard County inspectors.
3. For each phase of the project, forest protection devices and signs (see details) shall be installed prior to any clearing or grading. The protection devices and signs shall be maintained during the entire construction period. None of the devices shall be in any way anchored or attached to the trees to be saved.
4. Equipment, vehicles and building materials shall not be allowed within the protected area. During the construction period, activities strictly to implement reforestation planting and maintenance (i.e. watering, fertilizing, thinning, pruning, removal of dead or diseased trees etc.) in the conservation area are permitted. Clearing for the purpose of sodding or planting grass is not permitted within the forest conservation area.
5. At the end of the construction period, the designated qualified professional shall convey to the administrator of the Howard County Forest Conservation Program certification that all forest retention areas have been preserved, all reforestation and/or afforestation plantings have been installed as required by the forest conservation plan, and that all protection measures required for the post-construction period have been put in place.

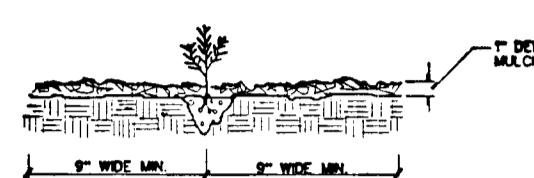
Upon review of the final certification document for completeness and accuracy, the program coordinator will notify the developer of release from all construction period obligations.

HANDLING AND PLANTING OF SEEDLING(4)

C. CORRECT AND INCORRECT PLANTING DEPTH



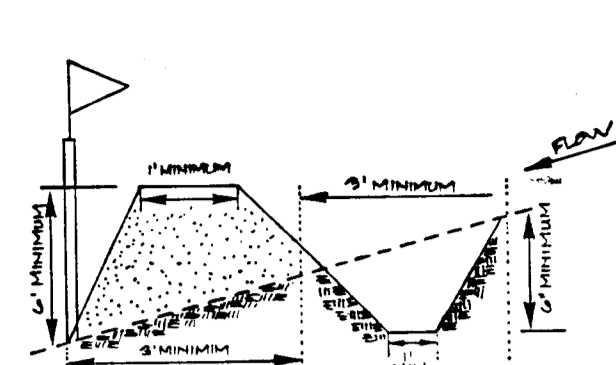
SEEDLING AND WHIP PLANTING SPECIFICATION



NOTE:  
Mulching newly planted seedlings helps the retention moisture and it protects the seedling from compaction and stem injuries.

SOURCE: ADAPTED FROM HOWARD COUNTY FOREST CONSERVATION MANUAL.

Figure J-10 Earthen Dike and Swale

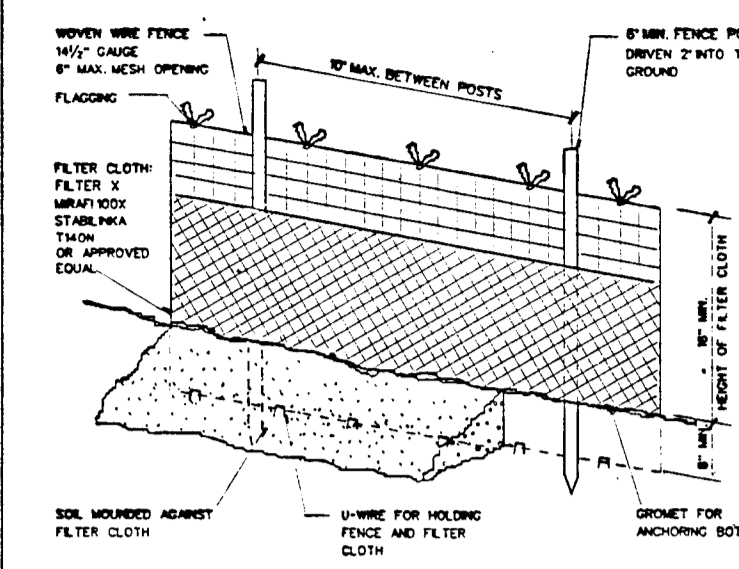


- NOTE:
1. Construction retention control and protective device
  2. Retention area will be set as part of the review process
  3. Boundaries of Retention Area should be staked and flagged prior to installing protective device
  4. Slope erosion should be avoided
  5. The top of dike should be within the limit of disturbance
  6. Equipment is prohibited within dike root zone of retention area, place one accordingly
  7. All standard maintenance for earthen dikes and swales apply to these details
  8. All standard reforestation practices for earthen dikes and swales that apply to these details

SOURCE: HOWARD COUNTY FOREST CONSERVATION MANUAL

TREE PROTECTION AND SEDIMENT CONTROL (3)

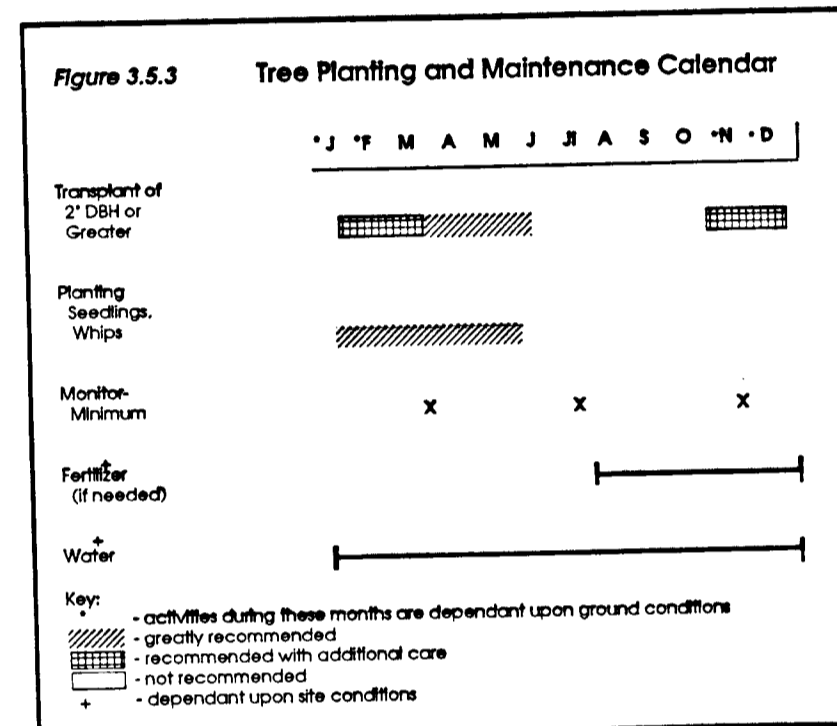
FILTER CLOTH ON WIRE MESH



- NOTE:
1. Combine sediment control and protective device
  2. Retention area will be set as part of the review process
  3. Boundaries of Retention Area should be staked and flagged prior to installing protective device
  4. Slope erosion should be avoided
  5. Mulch soil only within the limits of disturbance
  6. Protective signage is required
  7. All standard maintenance for sediment control devices apply to these details

SPECIFICATIONS

1. **Undisturbed Sites:** Soils disturbance should be limited to the planting field for each plant. A planting field with a radius of 5 x diameter of the root ball is recommended. On steep slopes or erodible soils, soil disturbance should be limited to the planting field whose radius is equal to 2.5 diameter of the root ball.
2. **Disturbed Areas:** Soils shall be treated by incorporating natural mulch within the top 12 inches or by amendments as determined by soils analysis. Soil amendments, by definition, include modifications of soils to improve such structural characteristics as bulk density or porosity. On developed sites, the common use of fill materials may increase the need for such amendments. Natural amendments such as organic mulch or leaf mold compost are preferred. When fill material is used at the planting site, it should be clean fill topped with 12 inches of native soil. Stockpiling of native top soils must be done in such a way that the height of the pile does not damage the seed bank.
3. **Planting Period:** Planting windows are the time during the year when planting is recommended. Depending on the size of stock being used, planting windows differ. Recommended planting windows are as detailed by "Tree Planting and Maintenance Calendar."
4. **Plant Material Storage:** Planting shall occur within 24 hours of delivery to the site. Plant materials left unattended for more than 24 hours shall be protected from direct sun and weather and kept moist. Nursery stock should be planted within two weeks.
5. **On Site Inspection:** Planting stock shall be inspected prior to planting. Plants not conforming to standard nurseryman specifications for size, form, vigor, roots, trunk wounds, insects, and disease shall be rejected.
6. **Plant Size:** Nursery grown plant materials greater than 1" caliper shall meet or exceed the requirements of American Association of Nurserymen specifications, i.e. should be typical of the species and variety, have normal habit of growth, be first quality, round, vigorous, well-branched, have healthy, well furnished root systems, and be free of disease, insect pests and mechanical injuries.



The planting and care of trees is most successful when coordinated with the local climatic conditions. This calendar summarizes some of the recommended time frames for basic reforestation and stress reduction activities.

Planting stock less than 1" caliper shall meet the following standards:

- Seedlings/whips: 1/4" to 1/2" caliper with roots no less than 8" long, tube or container grown.
- Conifers: 1/8" to 1/4" caliper with roots no less than 8" long and tube or container grown, top height of 6" more.

9) **Planting:** Small stock, such as seedlings and whips, and ball and burlap stock up to 2" caliper, can be planted by manual methods of planting using shovels, planting or dibble bars, and mattocks (see detail). Trees greater than 2" caliper may be planted with mechanical equipment. The planting field should be prepared and native stockpiled soils should be used to backfill the planting field. Rake soils evenly over the planting field and mulch as detailed. Use watering to settle soil backfilled around trees. Amendments are not recommended in the planting field.

Approved: For Public Water & Public Sewerage Systems, Howard County Health Dept.  
County Health Officer \_\_\_\_\_ Date \_\_\_\_\_

Approved: Howard County Dept. of Planning & Zoning  
Director \_\_\_\_\_ Date 9/27/15  
Chief, Division of Land Development and Research

Approved: For Public Water & Public Sewerage System Drainage Systems & Public Roads, Howard County Dept. of Public Works  
Director \_\_\_\_\_ Date \_\_\_\_\_  
Chief, Bureau of Engineering

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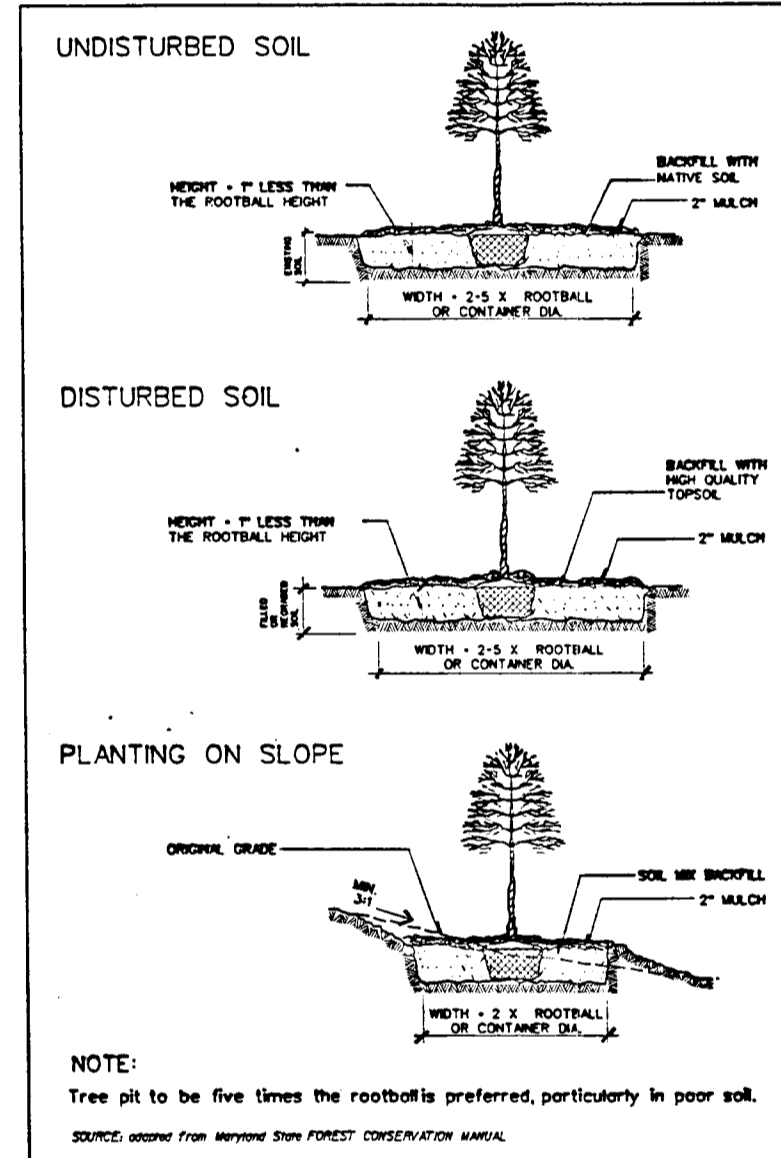
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Forest Conservation Plan  
**Gateway Commerce Center**  
Parcels A-51 thru A-54  
(A Resubdivision of Parcel A-49)  
with Election District  
Howard County, Maryland

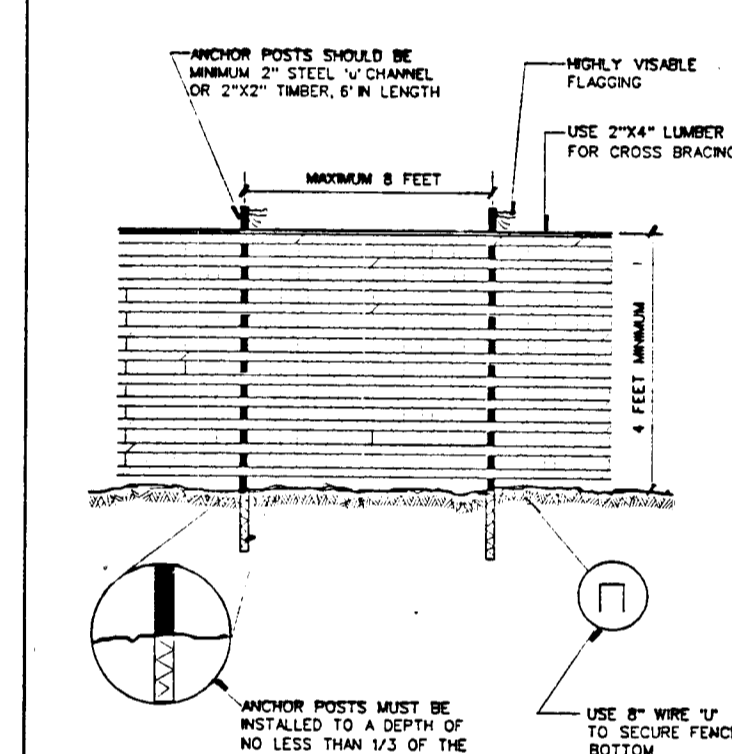
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CONTAINER GROWN AND BALLED AND BURLAPPED STOCK



TREE PROTECTION FENCING(2)

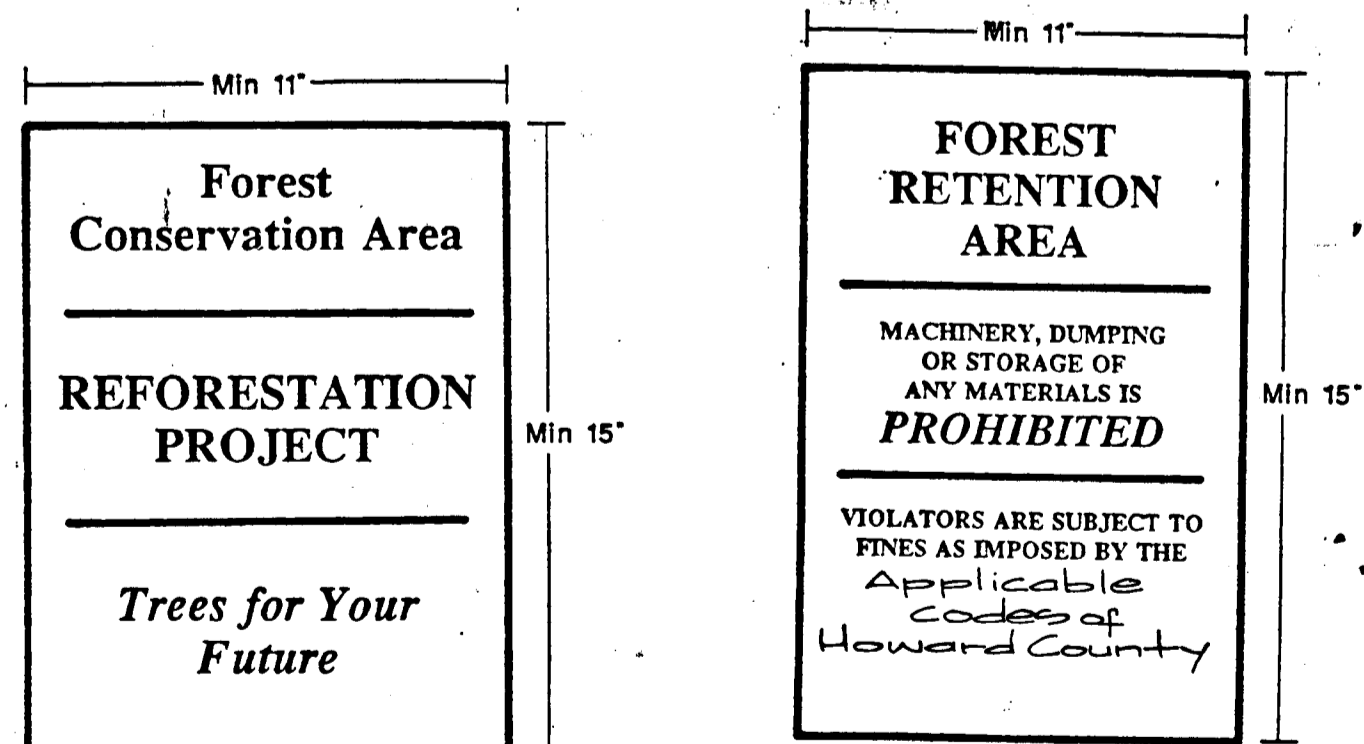
BLAZE ORANGE PLASTIC MESH



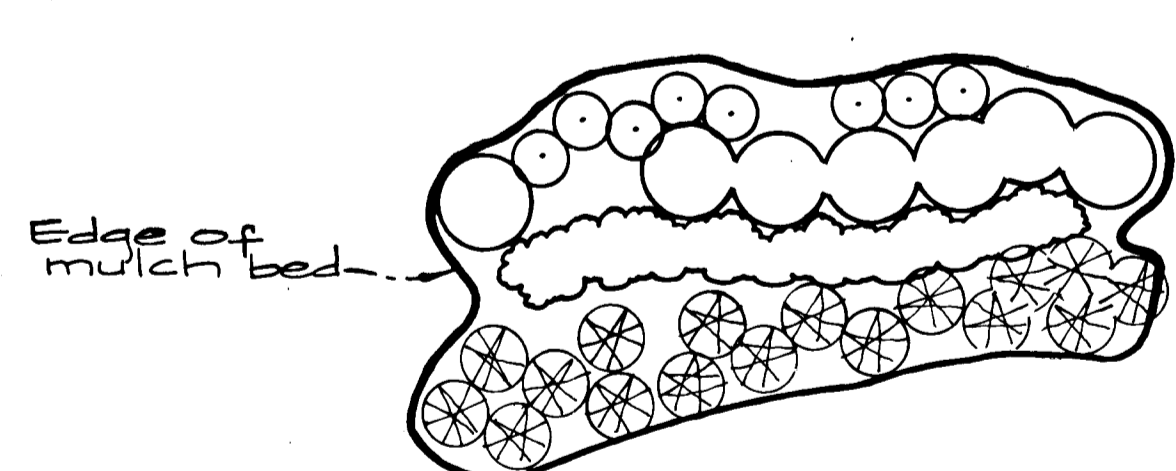
- NOTE:
1. Forest protection device only.
  2. Retention area will be set as part of the review process.
  3. Boundaries of Retention Area should be staked and flagged prior to installing device.
  4. Root storage should be avoided.
  5. Protective signage is required.
  6. Device should be maintained throughout construction.

Note: See Sediment Control Plan for placement, SDR-95-88

Reforestation and Afforestation Area Protection Signage



- Notes:
1. Signs to be placed every 50' along edge of reforestation & tree protection area.
  2. Attachment of signs to trees is prohibited.
  3. Avoid injury to roots when placing post for the signs.



- Notes:
1. Trees to be grouped in mulch beds.
  2. Lawn seed mix around mulch beds.
  3. Exact tree groupings & placement to be provided in the field.

Name (Botanical/Common)	Quantity	Size	Condition	Spacing
<b>Shade Trees - Overstory</b>				
Acer rubrum 'October Glory'/'October Glory' Red Maple	57	1 1/2" Cal.	Cont.	18'± R.S.
Platanus acerifolia 'Bloodgood' London Planetree	56	1 1/2" Cal.	Cont.	18'± R.S.
Tilia cordata 'Greenspire'/'Greenspire Linden	38	1 1/2" Cal.	Cont.	18'± R.S.
Zelkova serrata 'Green Vase'/'Green Vase Zelkova	38	1 1/2" Cal.	Cont.	18'± R.S.
<b>Flowering Trees - Understory</b>				
Cercis canadensis/'Eastern Redbud	29	6-8' Ht.	Cont.	11'± R.S.
Cornus florida/'Flowering Dogwood	29	6-8' Ht.	Cont.	11'± R.S.
Prunus Yedoensis/'Yoshino Cherry	29	6-8' Ht.	Cont.	11'± R.S.
<b>Evergreen Trees</b>				
Picea abies/'Norway Spruce	118	2" Cal. 6-8" Ht.	B&B	20'± R.S.
Pinus strobus/'Eastern White Pine	276	2" Cal. 6-8" Ht.	B&B	20'± R.S.
<b>Shrubs</b>				
Forsythia intermedia/'Forsythia Var.	385	---	BR	2 1/2' O.C.
Lonicera fragrantissima/'Winter Honeysuckle	577	---	BR	2 1/2' O.C.
Cornus racemosa/'Gray Dogwood	385	---	BR	"
Viburnum dentatum/'Arrowwood	384	---	BR	"

R.S. = Random Spacing, do not plant in grid pattern.