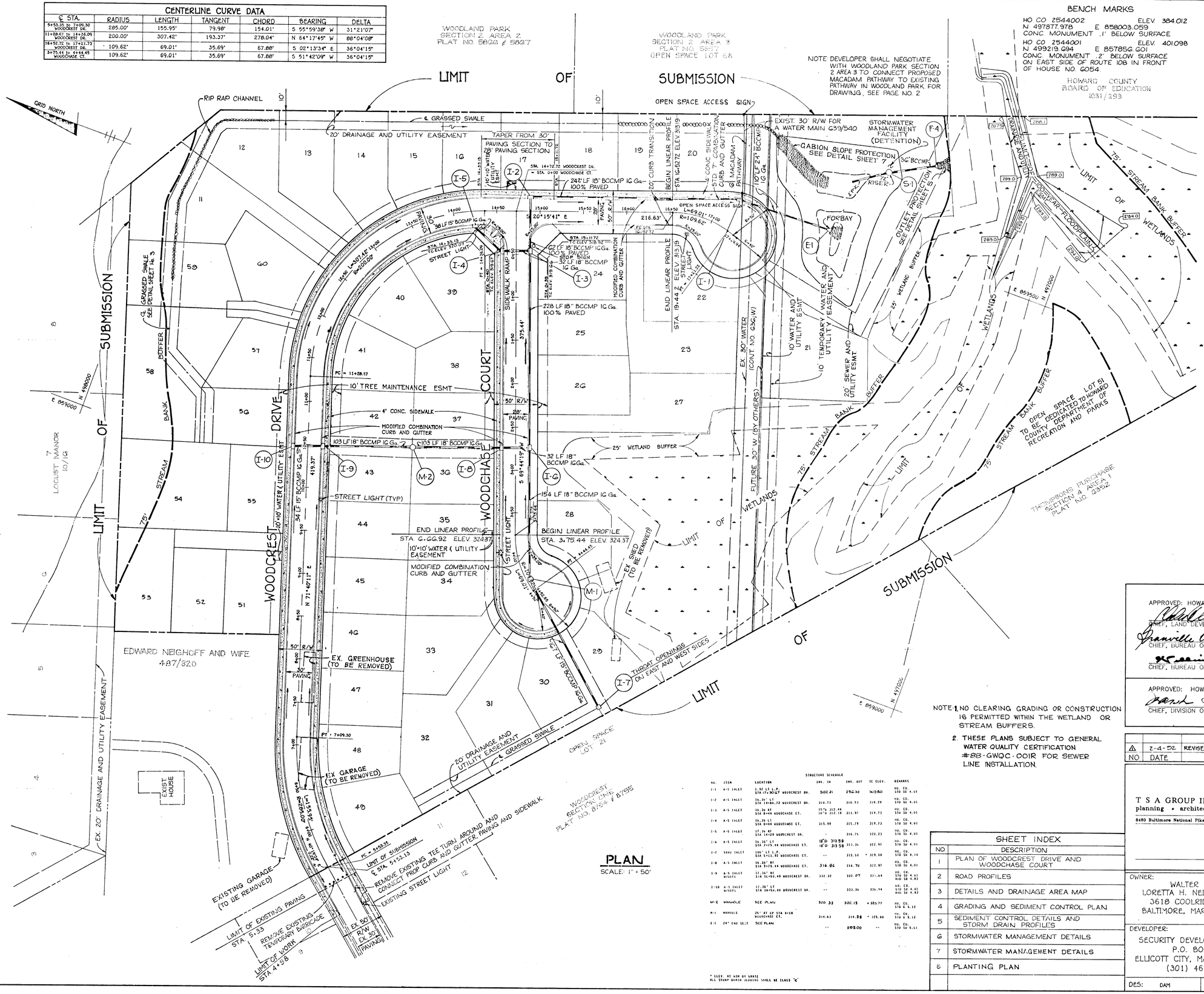
CENTERLINE CURVE DATA						
℄ STA.	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
5+53.33 to 7+09.30 WOODCREST DR.	285.00'	155.95'	79.98'	154.01'	S 65°59'38" W	31°21'07"
11+28.57 to 14+36.09 WOODCREST DR.	200.00'	307.42'	193.37'	278.04'	N 64°17'45" W	88°04'08"
16+52.72 to 17+62.73 WOODCREST DR.	109.62'	69.01'	35.69'	67.88'	S 02°13'34" E	36°04'15"
3+75.44 to 4+44.45 WOODCHASE CT.	109.62'	69.01'	35.69'	67.88'	S 51°42'09" W	36°04'15"



PLAN

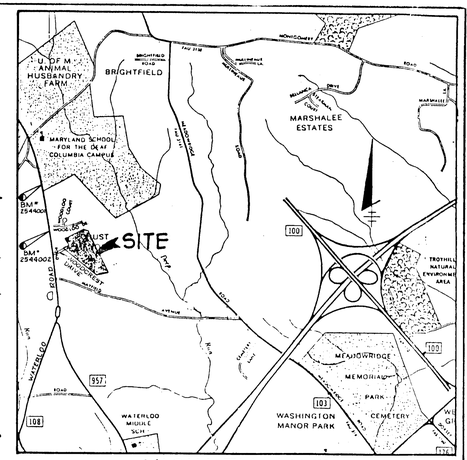
SCALE: 1" = 50'

BENCH MARKS

HO CO 2544002 ELEV. 384.012
N 497877.978 E 858003.059
CONC. MONUMENT .1' BELOW SURFACE

HO CO 2544001 ELEV. 401.098
N 499219.694 E 857856.601
CONC. MONUMENT .2' BELOW SURFACE
ON EAST SIDE OF ROUTE 108 IN FRONT OF HOUSE NO. 6054.

HOWARD COUNTY BOARD OF EDUCATION 1031/293



VICINITY MAP

SCALE: 1" = 2000'

GENERAL NOTES

1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR ROAD CONSTRUCTION.
2. APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
3. THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES, WHERE DIRECTED BY THE ENGINEER, A MINIMUM OF TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS.
4. CONTRACTOR TO NOTIFY THE FOLLOWING UTILITIES AT LEAST THREE DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.

BELL TELEPHONE SYSTEM	393-3649
LONG DISTANCE CABLE DIVISION	393-3553 OR 3556
BALTIMORE GAS AND ELECTRIC	539-8600 EXT. 691
HOWARD CO. BUREAU OF UTILITIES	313-4900
HOWARD CO. CONSTRUCTION INSPECTION SURVEY DIVISION	313-2417 OR 2418

5. ALL INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS.
6. ALL STREET CURB RETURNS SHALL HAVE 20.0' RADII UNLESS OTHERWISE NOTED.
7. STORM DRAIN TRENCHES WITHIN ROAD RIGHT OF WAY SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH HOWARD COUNTY ROAD CODE.
8. INSTALLATION OF TRAFFIC CONTROL DEVICES, MARKING AND SIGNING SHALL BE IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES 1988 EDITION.
9. PIPE SHALL NOT BE INSTALLED BY THE CONTRACTOR UNTIL THE LENGTH CALLED FOR AT EACH STATION HAS BEEN APPROVED BY THE ENGINEER IN THE FIELD.
10. DESIGNED TRAFFIC SPEED IN ACCORDANCE WITH THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIAL STANDARDS:

    ALL COLLECTOR-SAC DESIGNED FOR 30 MPH., ALL LOCAL STREETS DESIGNED FOR 30 MPH
    ALL MINOR COLLECTORS DESIGNED FOR 30 MPH, ALL MAJOR COLLECTORS FOR 40 MPH

11. ALL ELEVATIONS SHOWN ARE BASED ON U.S.C. AND G.S. MEAN SEA LEVEL DATUM 1929.
12. ALL FILL AREAS WITHIN ROADWAYS AND UNDER STRUCTURES TO BE COMPACTED TO A MINIMUM 95% OF MAXIMUM OBTAINABLE DENSITY DETERMINED BY MARSHALL PROCTOR.
13. ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
14. PROFILE STATIONS SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO PLAN DIMENSIONS.
15. SUBJECT PROPERTY ZONED R-SC PER 8/2/85 COMPREHENSIVE ZONING PLAN.
16. TOPO TAKEN FROM FIELD RUN SURVEY BY TRACY, SCHULTE & ASSOCIATES DATED APRIL 1989
17. NO CLEARING GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE WETLAND OR STREAM BUFFER

NOTE: 1. NO CLEARING GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE WETLAND OR STREAM BUFFERS.

2. THESE PLANS SUBJECT TO GENERAL WATER QUALITY CERTIFICATION #88-GWQC-001R FOR SEWER LINE INSTALLATION.

STRUCTURE SCHEDULE

NO.	ITEM	LOCATION	INV. IN	INV. OUT	TC ELEV.	REMARKS
I-1	A-5 INLET	3.92' LT L.P. STA 17+30.67 WOODCREST DR.	302.21	292.30	303.50	HO. CO. STD SD 4.01
I-2	A-5 INLET	16.36' LT STA 14+80.72 WOODCREST DR.	310.73	310.53	319.29	HO. CO. STD SD 4.01
I-3	A-5 INLET	16.36 RT STA 0+44 WOODCHASE CT.	15"U 312.44 18"U 312.19	311.97	319.73	HO. CO. STD SD 4.01
I-4	A-5 INLET	16.36 LT STA 0+44 WOODCHASE CT.	315.99	315.79	319.73	HO. CO. STD SD 4.01
I-5	A-5 INLET	17.36 RT STA 14+29 WOODCREST DR.	-	316.75	320.23	HO. CO. STD SD 4.01
I-6	A-5 INLET	16.36' LT STA 2+75.44 WOODCHASE CT.	18"D 313.58 18"D 313.58	313.36	322.97	HO. CO. STD SD 4.01
I-7	5X10 INLET	100' LT L.P. STA 5+13.92 WOODCHASE CT.	--	315.50	* 319.50	HO. CO. STD SD 4.14
I-8	A-5 INLET	16.36' RT STA 2+75.44 WOODCHASE CT.	316.96	316.76	322.97	HO. CO. STD SD 4.01
I-9	A-5 INLET W/DEFL	17.36' RT STA 10+50.49 WOODCREST DR.	332.32	332.07	336.44	HO. CO. STD SD 4.01 AND SD 4.83
I-10	A-5 INLET W/DEFL	17.36' LT STA 10+50.49 WOODCREST DR.	--	333.30	336.44	HO. CO. STD SD 4.01 AND SD 4.83
M-2	MANHOLE	SEE PLAN	320.33	320.15	* 325.77	HO. CO. STD D 5.12
M-1	MANHOLE	25' RT LP STA 4+18 WOODCHASE CT.	314.43	314.38	* 325.60	HO. CO. STD D 5.12
E-1	24" END SECT	SEE PLAN	--	292.00	--	HO. CO. STD SD 5.61

* ELEV. AT NEW GR GRADE
ALL STORM DRAIN JOINTS SHALL BE CLASS "C"

SHEET INDEX

NO	DESCRIPTION
1	PLAN OF WOODCREST DRIVE AND WOODCHASE COURT
2	ROAD PROFILES
3	DETAILS AND DRAINAGE AREA MAP
4	GRADING AND SEDIMENT CONTROL PLAN
5	SEDIMENT CONTROL DETAILS AND STORM DRAIN PROFILES
6	STORMWATER MANAGEMENT DETAILS
7	STORMWATER MANAGEMENT DETAILS
8	PLANTING PLAN

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, LAND DEVELOPMENT DIVISION	DATE 7/2/91
CHIEF, BUREAU OF HIGHWAYS	DATE 6/19/91
CHIEF, BUREAU OF ENGINEERING	DATE 7.3.91

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT	DATE 7/12/91

NO	DATE	REVISION
1	2-4-92	REVISE LOTS 1-10 TO 51-60 AND REVISE GRASSED SWALE AT LOT 58

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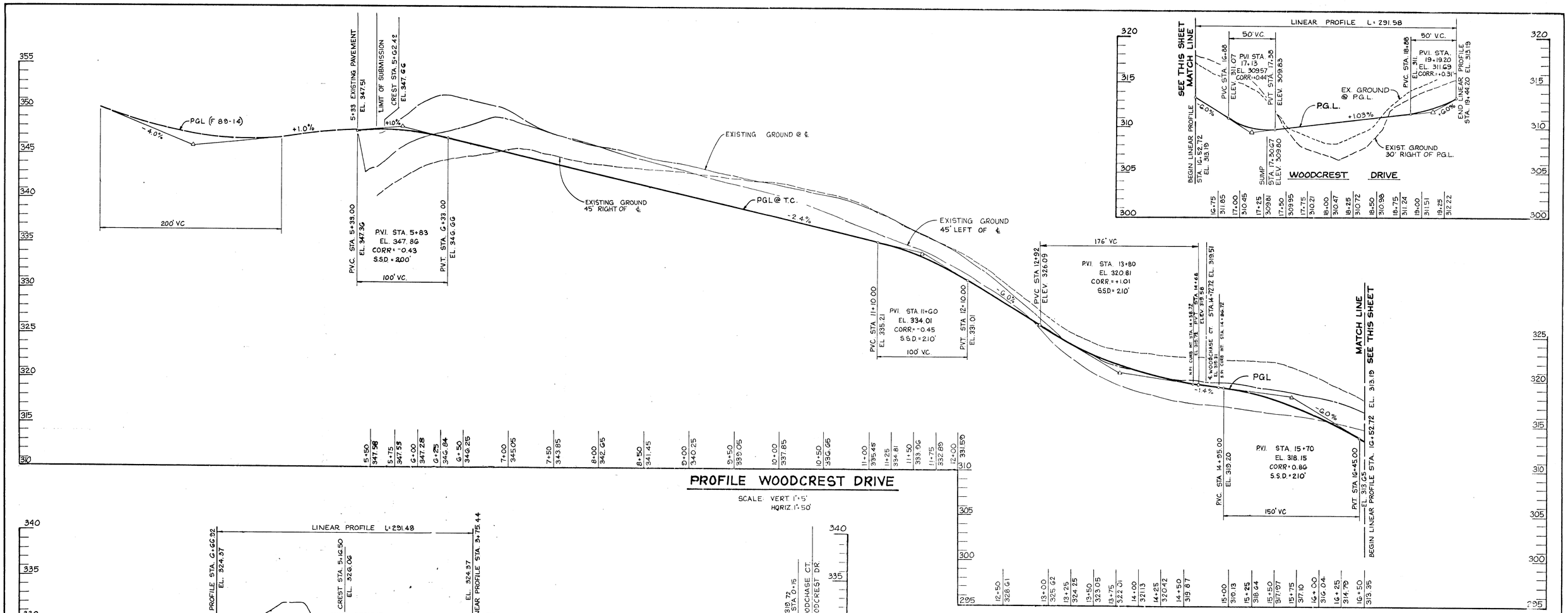
STATE OF MARYLAND — JOHN W. LEWIS — No. 10591 — PROFESSIONAL ENGINEER

OWNER: WALTER E. AND LORETTA H. NEIGHOFF, ET.AL. 3618 COOLRIDGE AVENUE BALTIMORE, MARYLAND 21229	PROJECT: WOODBROOK SECTION ONE, AREA ONE
DEVELOPER: SECURITY DEVELOPMENT CORP. P.O. BOX 417 ELLICOTT CITY, MARYLAND 21043 (301) 465-4244	LOCATION: TAX MAP 37-PARCELS 126,127,403,530,531,595 AND 596 1st ELECTION DISTRICT HOWARD COUNTY, MARYLAND
	TITLE: PLAN OF WOODCREST DRIVE AND WOODCHASE COURT S-89-71 WP 89-180 P 90-17
DES: DAM DRN: DRK	DATE: JUNE 27, 1990 MAY 07, 1991 PROJECT NO. 0164
	SCALE: 1" = 50' DRAWING 1 OF 8

F-91-02

1626



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, LAND DEVELOPMENT DIVISION — DATE 7/2/91

CHIEF, BUREAU OF HIGHWAYS — DATE 6/19/91

CHIEF, BUREAU OF ENGINEERING — DATE 7-3-91

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT — DATE 7/2/91

NO	DATE	REVISION

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STATE OF MARYLAND — WILLIAM E. DORSEY — No. 16661 — REGISTERED PROFESSIONAL ENGINEER

OWNER
WALTER E. AND LORETTA H. NEIGHOFF, ET AL.
3618. COOLRIDGE AVENUE
BALTIMORE, MARYLAND 21220

DEVELOPER
SECURITY DEVELOPMENT CORP.
P.O. BOX 417
ELLICOTT CITY, MARYLAND 21043
(301) 465-4244

DES. DAM — DRN. EJS

PROJECT
WOODBROOK
SECTION 1, AREA 1

LOCATION TAX MAP 37-PARCELS 126, 127, 488, 530, 531, 595, AND 596
1ST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

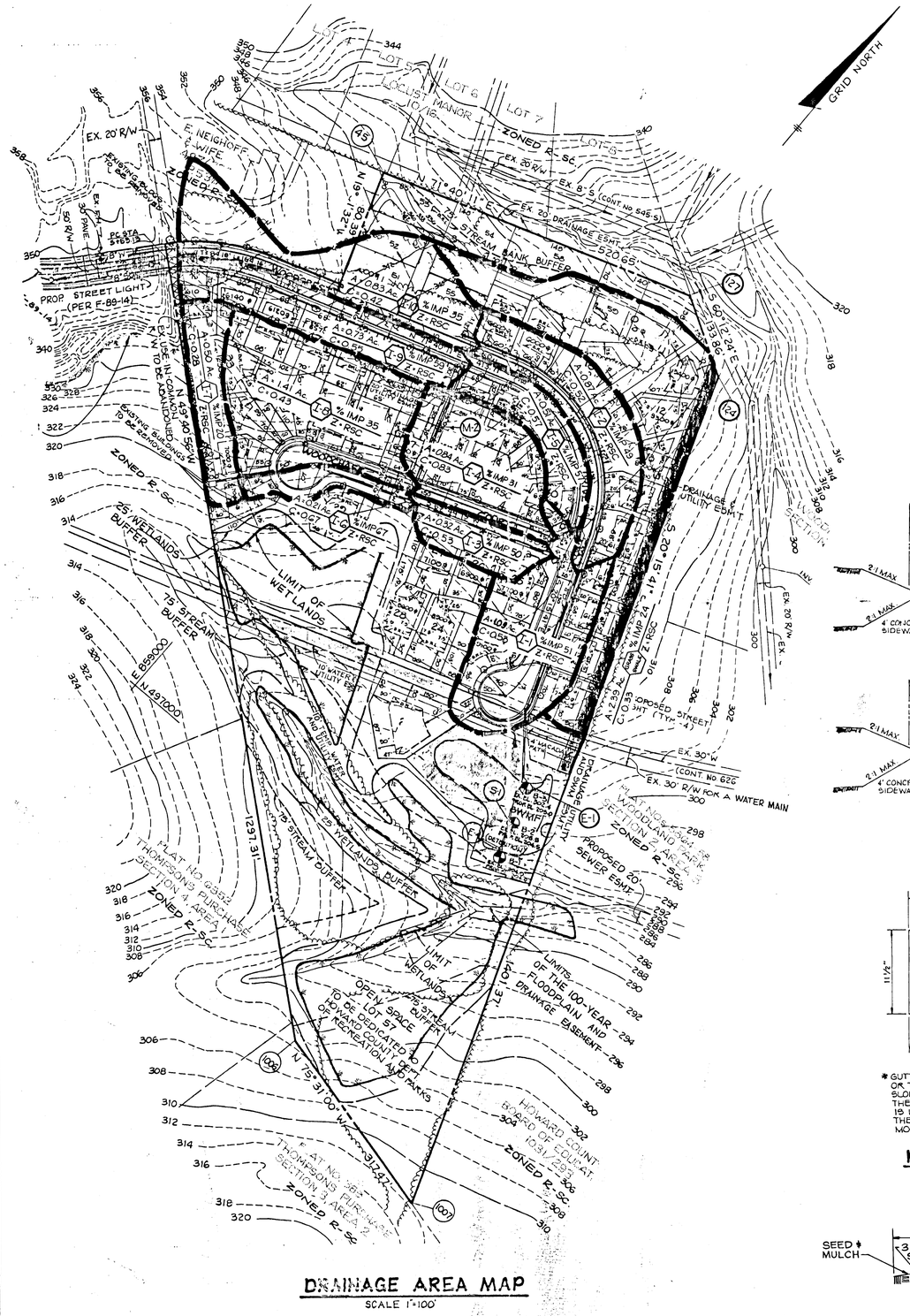
TITLE
ROAD PROFILES AND MACADAM PATHWAY PLAN

DATE: JUNE 27, 1990 / MAY 07, 1991 — PROJECT NO. 0164

SCALE: AS SHOWN — DRAWING 2 OF 8

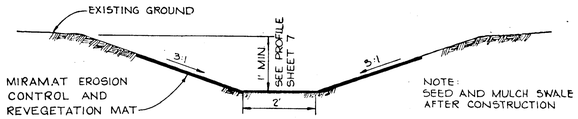
1626

F-91-02



DRAINAGE AREA MAP

SCALE 1"=100'



GRASSED SWALE

NO SCALE

BITUMINOUS CONCRETE SURFACE	1.5"
BITUMINOUS CONCRETE BASE	2.5"
* 8" CRUSHER RUN BASE COURSE (2 COURSES) OR 6" DENSE GRADED STABILIZED AGGREGATE BASE COURSE	*

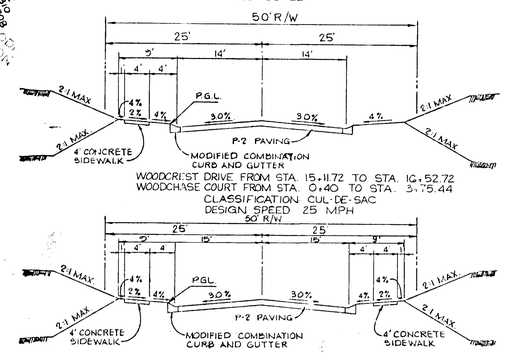
(ALTERNATE)

BITUMINOUS CONCRETE SURFACE	1.5"
BITUMINOUS CONCRETE BASE	5"

HOWARD COUNTY DESIGN MANUAL VOLUME IV STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (DRAWING R-7.01)

P-2 PAVING DETAIL

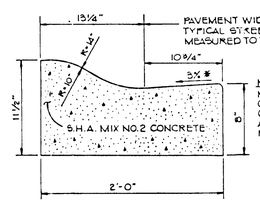
NO SCALE



TYPICAL SECTION

NO SCALE

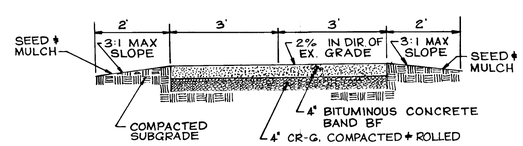
WOODCREST DRIVE FROM STA. 5+33 TO STA. 14+33.13
CLASSIFICATION: LOCAL ROAD
DESIGN SPEED 30 MPH



* GUTTER PAN AT THE MEDIAN EDGE OF INTERMEDIATE ARTERIALS OR THE HIGH SIDE OF SUPERELEVATED SECTIONS SHALL BE SLOPED AT THE SAME RATE AND IN THE SAME DIRECTION AS THE PAVEMENT. MATCH PAVEMENT CROSS SLOPE WHEN CURB IS LOCATED ON LOW SIDE OF SUPERELEVATED SECTION AND THE RATE OF SUPERELEVATION IS GREATER THAN 3% FOR MODIFIED CURB AND GUTTER.

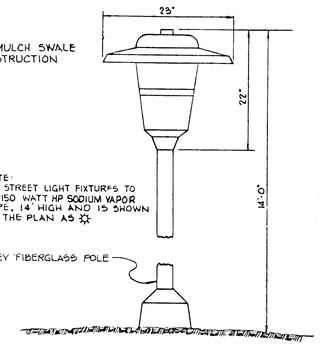
MODIFIED COMBINATION CURB AND GUTTER

NO SCALE



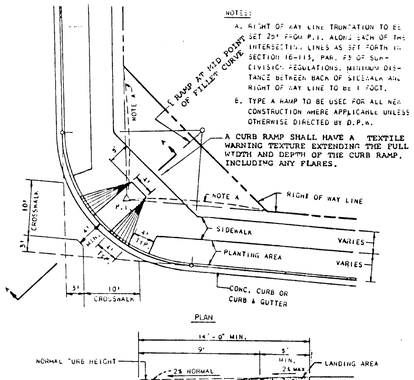
MACADAM PATHWAY DETAIL

NO SCALE



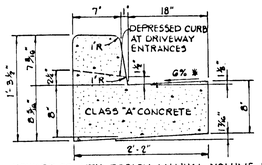
DETAIL - LIGHTING FIXTURE

NO SCALE



SIDEWALK RAMP

NO SCALE

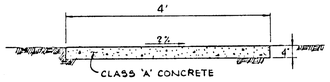


HOWARD COUNTY DESIGN MANUAL VOLUME IV STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (DRAWING R-3.01)

* GUTTER PAN AT THE MEDIAN EDGE OF INTERMEDIATE ARTERIALS OR THE HIGH SIDE OF SUPERELEVATED SECTIONS SHALL BE SLOPED AT THE SAME RATE AS THE PAVEMENT.

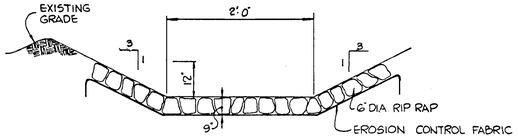
STANDARD 7" COMBINATION CURB AND GUTTER

NO SCALE



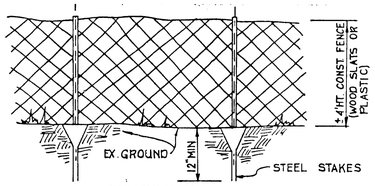
SIDEWALK DETAIL

NO SCALE

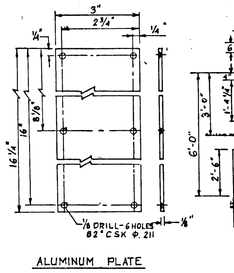


RIP RAP SWALE

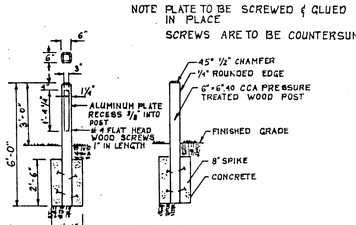
NOT TO SCALE



TEMPORARY
TYPICAL TREE PROTECTION FENCE
DETAIL



ALUMINUM PLATE



NOTE: BOLLARDS WILL BE PLACED AT THE FOUR CORNERS OF THE OPEN SPACE ACCESS STRIP. THE ALUMINUM PLATE WILL ONLY BE REQUIRED ON THE FRONT RIGHT BOLLARD DIRECTLY FACING THE ROAD

OPEN SPACE BOLLARD DETAIL

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, LAND DEVELOPMENT DIVISION	DATE 7/2/91
CHIEF, BUREAU OF HIGHWAYS	DATE 6/19/91
CHIEF, BUREAU OF ENGINEERING	DATE 7-3-91

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT	DATE 7/2/91

NO	DATE	REVISION
1	2-4-02	REVISE D.A. TO I-10

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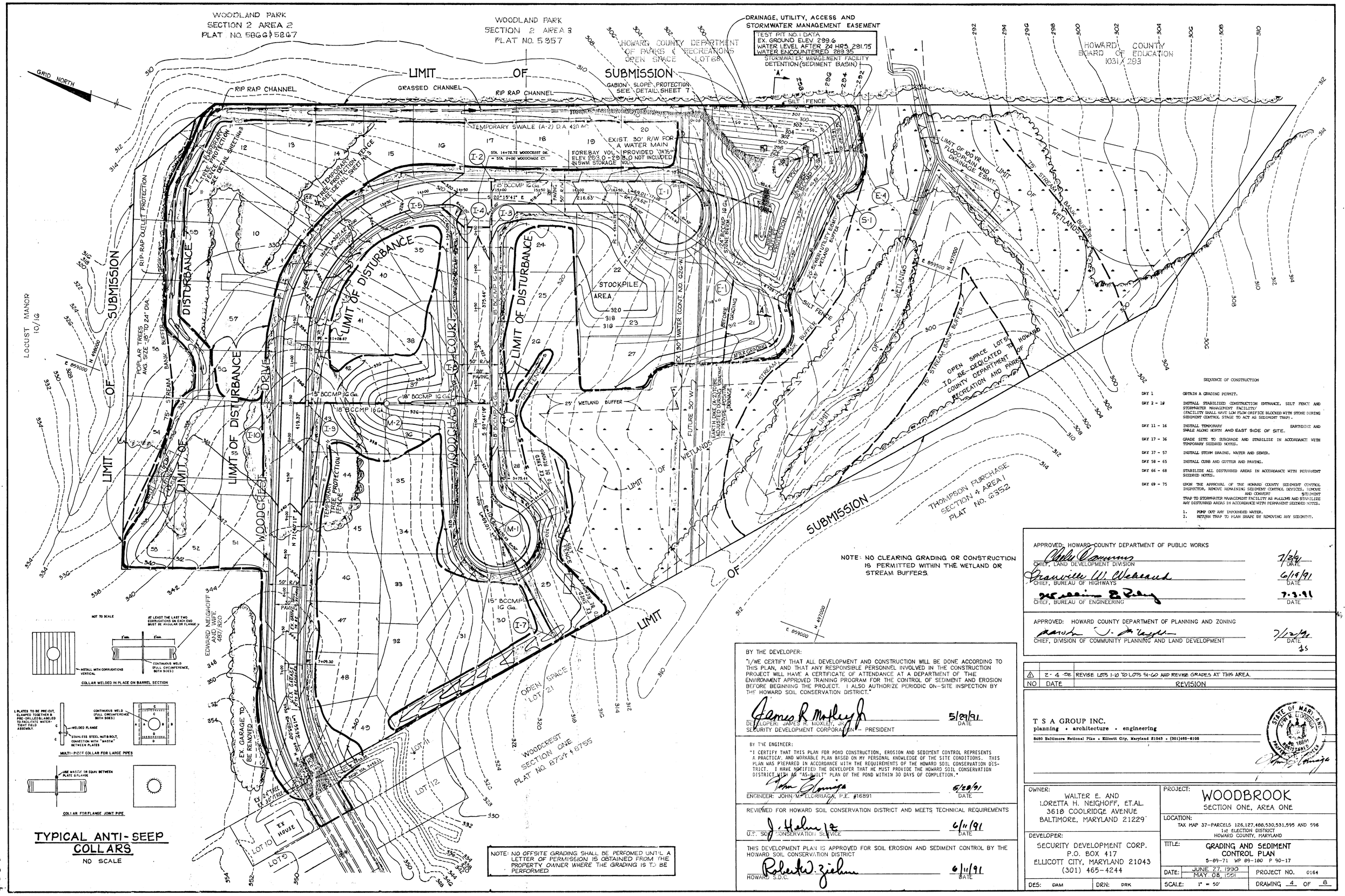
STATE OF MARYLAND — JOHN H. ELDRIDGE — No. 16891 — REGISTERED PROFESSIONAL ENGINEER

OWNER: WALTER E. AND LORRETTA H. NEIGHOFF, ET. AL. 3018, COOLRIDGE AVENUE BALTIMORE, MARYLAND 21229	PROJECT: WOODBROOK SECTION 1, AREA 1 — LOCATION TAX MAP 37 - PARCELS 126, 127, 488, 530, 531, 595 AND 596. 1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DEVELOPER: SECURITY DEVELOPMENT CORP. P.O. BOX 417 ELLICOTT CITY MARYLAND 21043 (301) 465-6105	TITLE: DETAILS AND DRAINAGE AREA MAP
DES. DAM — DRN. EJS	DATE: JUNE 27, 1990 / MAY 07, 1991 — PROJECT NO 01G4
	SCALE AS SHOWN — DRAWING 3 OF 8

F-91-02

16276



SEQUENCE OF CONSTRUCTION

DAY 1	OBTAIN A GRADING PERMIT.
DAY 2 - 10	INSTALL STABILIZED CONSTRUCTION ENTRANCE, SILT FENCE AND STORMWATER MANAGEMENT FACILITY (FACILITY SHALL HAVE LOW FLOW ORIFICE BLOCKED WITH STONE DURING SEDIMENT CONTROL STAGE TO ACT AS SEDIMENT TRAP).
DAY 11 - 16	INSTALL TEMPORARY EARTHDIKE AND SWALE ALONG NORTH AND EAST SIDE OF SITE.
DAY 17 - 36	GRADE SITE TO SUBGRADE AND STABILIZE IN ACCORDANCE WITH TEMPORARY SEEDING NOTES.
DAY 37 - 57	INSTALL STORM DRAINS, WATER AND SEWER.
DAY 58 - 65	INSTALL CURB AND GUTTER AND PAVING.
DAY 66 - 68	STABILIZE ALL DISTURBED AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES.
DAY 69 - 75	UPON THE APPROVAL OF THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE REMAINING SEDIMENT CONTROL DEVICES, REMOVE AND CONVERT SEDIMENT TRAP TO STORMWATER MANAGEMENT FACILITY AS FOLLOWS AND STABILIZE ANY DISTURBED AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES.

1. PUMP OUT ANY IMPOUNDED WATER.
2. RETURN TRAP TO PLAN SHAPE BY REMOVING ANY SEDIMENT.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, LAND DEVELOPMENT DIVISION	7/2/91 DATE
CHIEF, BUREAU OF HIGHWAYS	6/19/91 DATE
CHIEF, BUREAU OF ENGINEERING	7-3-91 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT	7/2/91 DATE

BY THE DEVELOPER:

"I/WE CERTIFY THAT ALL DEVELOPMENT AND 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 DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

DEVELOPER: JAMES R. MOXLEY, JR. SECURITY DEVELOPMENT CORPORATION - PRESIDENT	5/29/91 DATE

BY THE ENGINEER:

"I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION."

ENGINEER: JOHN M. ELORRIAGA, P.E. #16891	5/29/91 DATE

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS

U.S. SOIL CONSERVATION SERVICE	6/11/91 DATE

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

HOWARD S.D.C.	6/11/91 DATE

NO	DATE	REVISION
1	2-4-92	REVISE LOTS 1-10 TO LOTS 51-60 AND REVISE GRADES AT THIS AREA.

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STATE OF MARYLAND JOHN M. ELORRIAGA No. 16891 PROFESSIONAL ENGINEER

OWNER:
WALTER E. AND LORETTA H. NEIGHOFF, ET.AL.
3618 COOLRIDGE AVENUE
BALTIMORE, MARYLAND 21229

DEVELOPER:
SECURITY DEVELOPMENT CORP.
P.O. BOX 417
ELLICOTT CITY, MARYLAND 21043
(301) 465-4244

PROJECT: WOODBROOK
SECTION ONE, AREA ONE

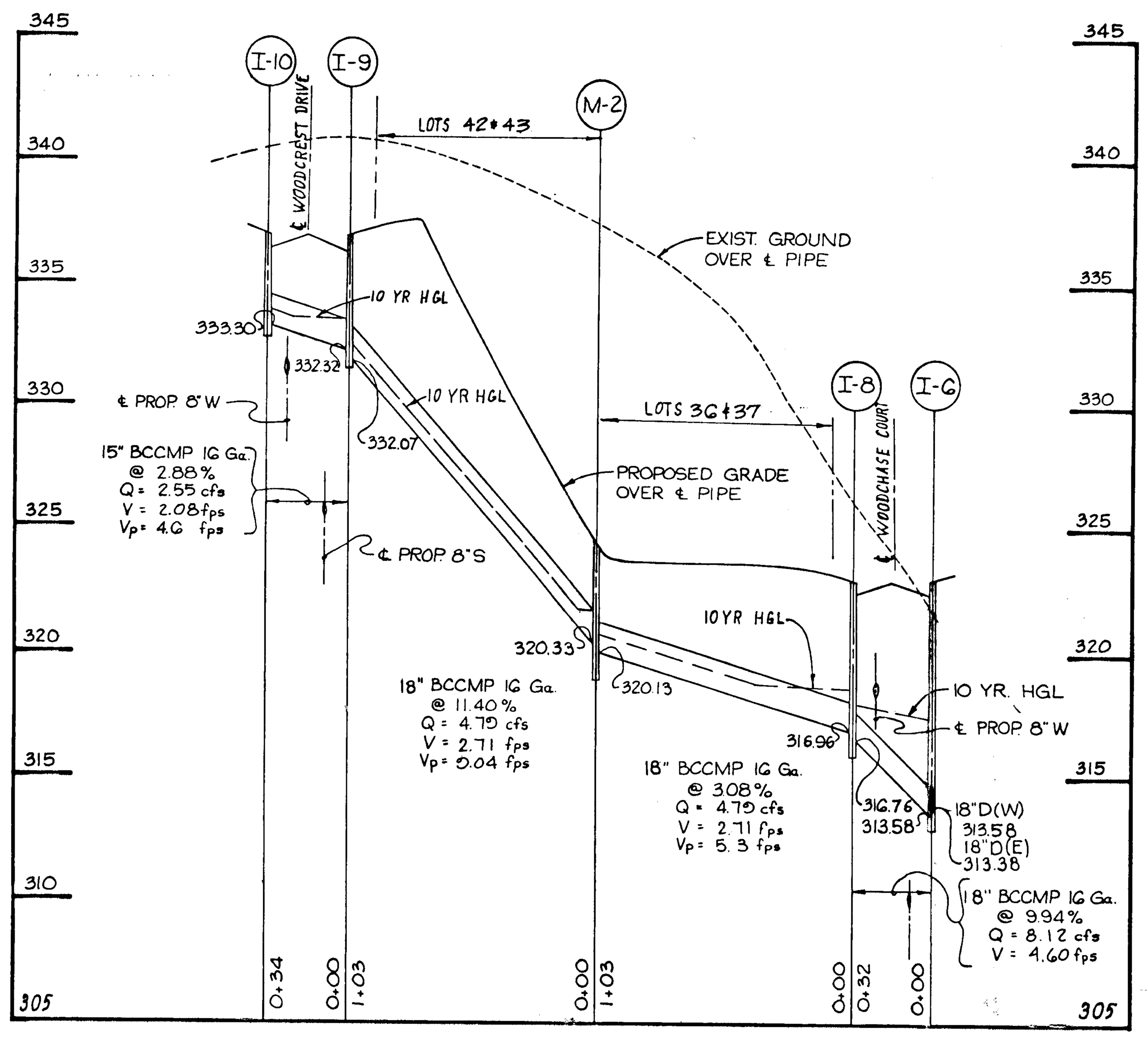
LOCATION:
TAX MAP 37-PARCELS 126,127,480,530,531,595 AND 596
1st ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

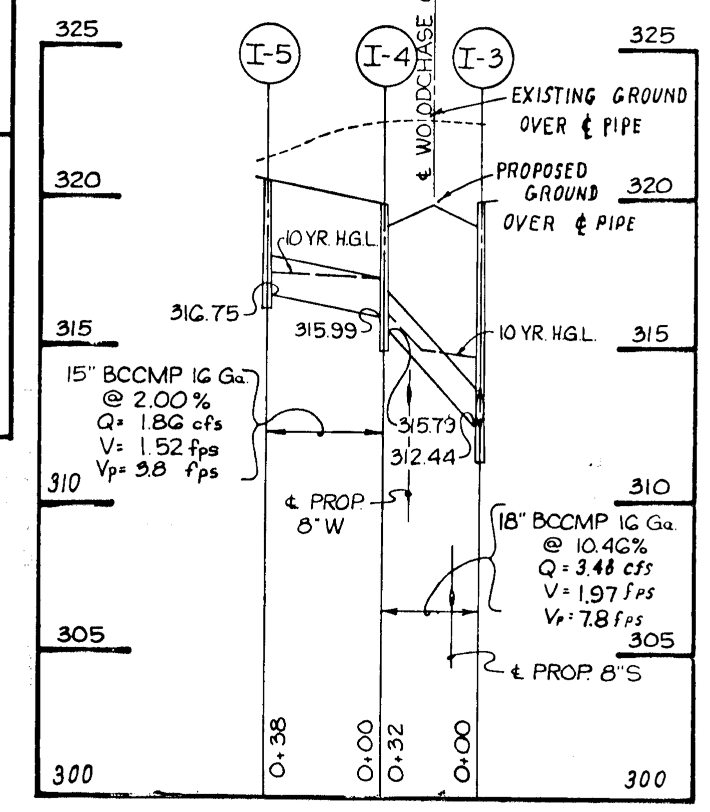
TITLE: GRADING AND SEDIMENT CONTROL PLAN
5-89-71 WP 89-180 P 90-17

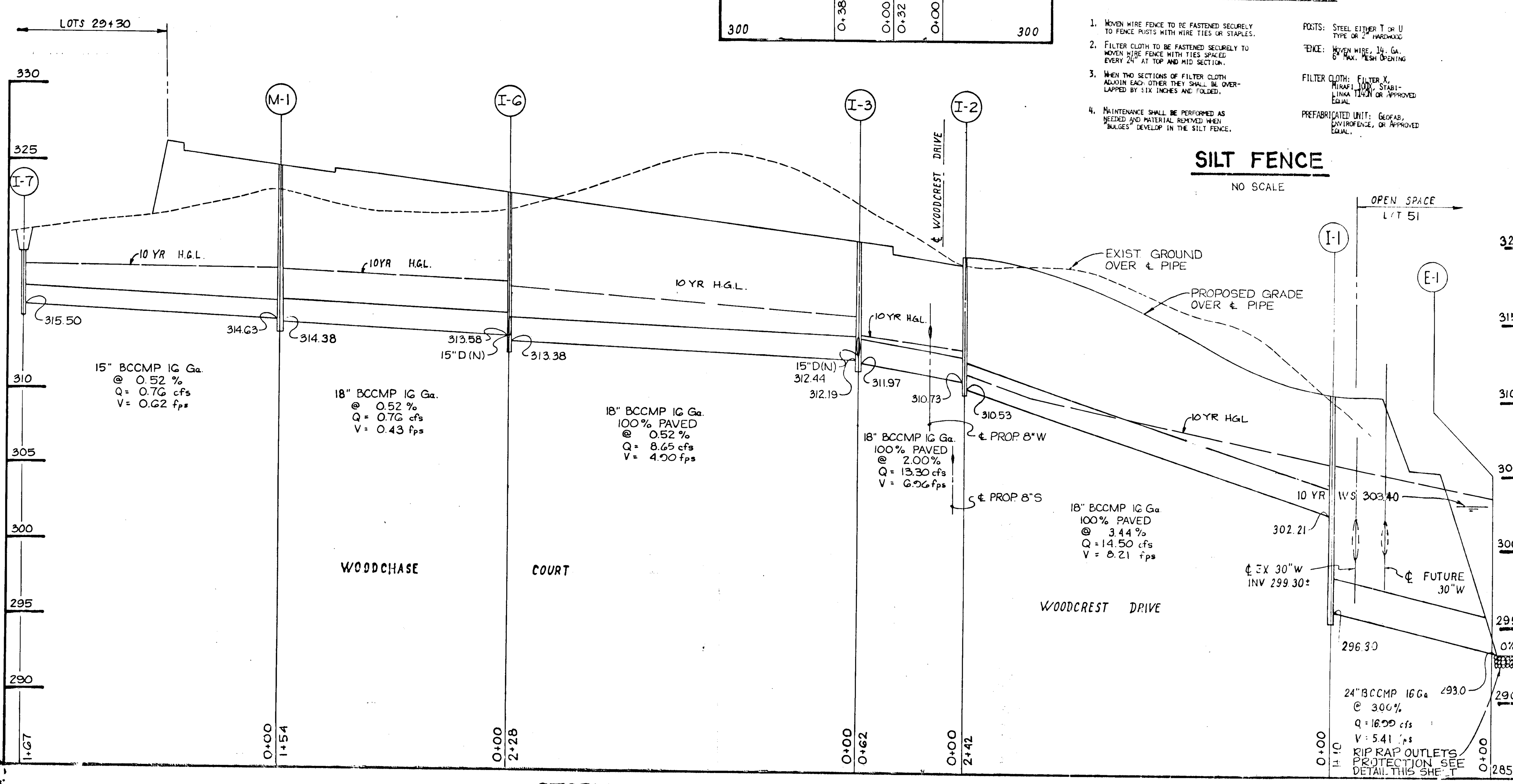
DES: DAM	DRN: DRK	DATE: JUNE 27, 1990 / MAY 08, 1991	PROJECT NO. 0164
		SCALE: 1" = 50'	DRAWING 4 OF 8

F-91-02

1626



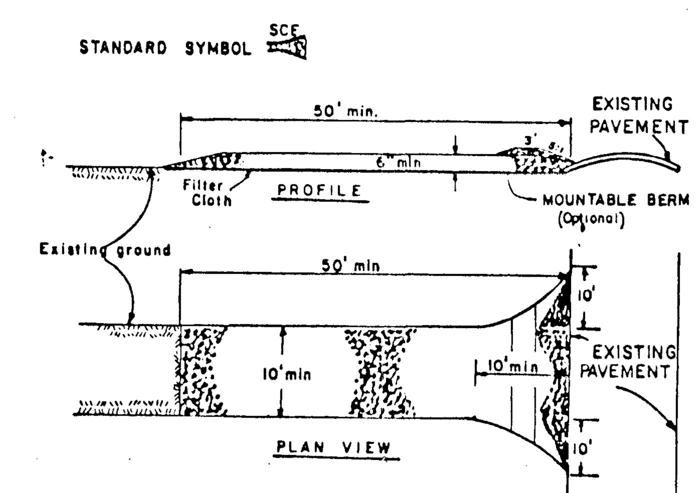




STORM DRAIN PROFILES

SCALE: HOR. - 1" = 50'
VER. - 1" = 5'

STABILIZED CONSTRUCTION ENTRANCE
not to scale

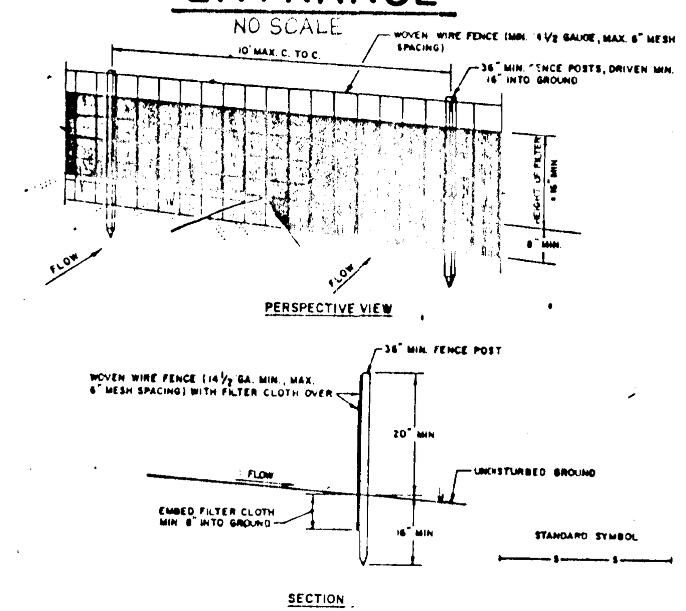


CONSTRUCTION SPECIFICATIONS

1. Stone Size - Use 2" stone, or reclaimed or recycled concrete equivalent.
2. Length - As required, but not less than 50 feet (except on a single residence lot where a 30 foot minimum length would apply).
3. Thickness - Not less than six (6) inches.
4. Width - Ten (10) foot minimum, but not less than the full width at points where ingress or egress occurs.
5. Filter Cloth - Will be placed over the entire area prior to placing of stone. Filter will not be required on a single family residence lot.
6. Surface Water - All surface water flowing or diverted toward construction entrances shall be piped across the entrance. If piping is impractical, a mountable berm with 5:1 slopes will be permitted.
7. Maintenance - The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public rights-of-way must be removed immediately.
8. Washing - Wheels shall be cleaned to remove sediment prior to entrance onto public rights-of-way. When washing is required, it shall be done on an area stabilized with stone and which drains into an approved sediment trapping device.
9. Periodic inspection and needed maintenance shall be provided after each rain.

STABILIZED CONSTRUCTION ENTRANCE

NO SCALE



CONSTRUCTION NOTES FOR FABRICATED SILT FENCE

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

POSTS: STEEL EITHER T OR U TYPE OR 2" HARDWOOD

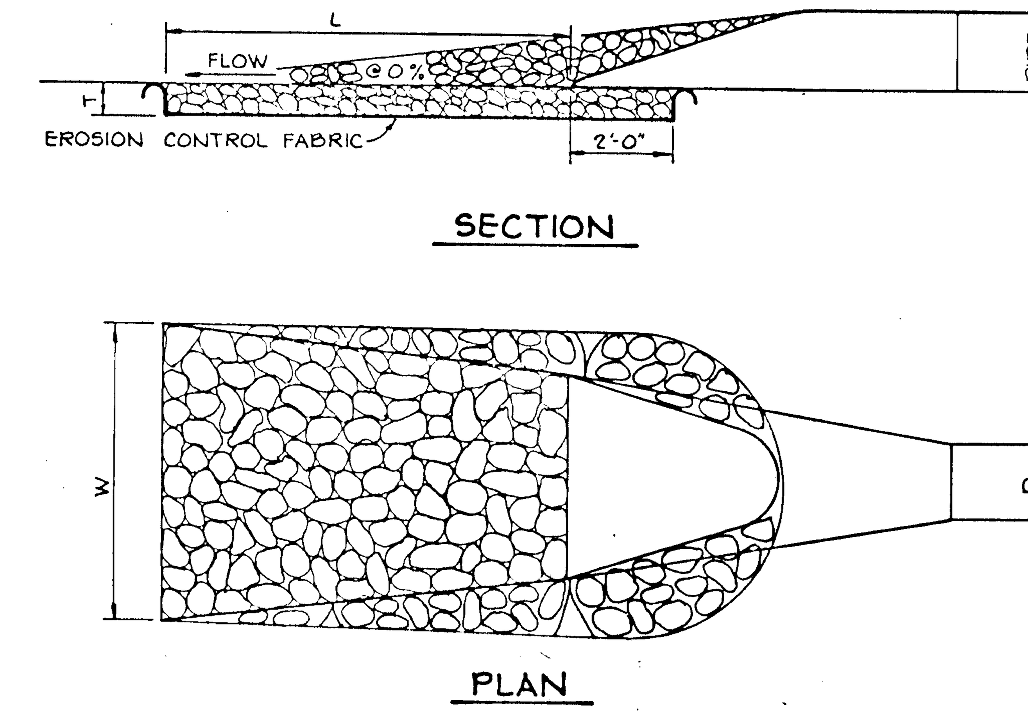
FENCE: WOVEN WIRE, 14 GA. 6" MAX. MESH OPENING

FILTER CLOTH: FILTER X, MIRAFI 100X, STABILINKA T140N OR APPROVED EQUAL

PREFABRICATED UNIT: GEOFAB, ENVIROFENCE, OR APPROVED EQUAL.

SILT FENCE

NO SCALE



STRUCTURE	d - 50	LENGTH (L)	WIDTH (W)	THICKNESS (T)
E-1	0.5'	10'	10'	1.13'

OUTLET PROTECTION DETAIL

NO SCALE

PERMANENT SEEDBED PREPARATION

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

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

1) PREFERRED - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 lbs/1000 sq ft) AND 600 lbs PER ACRE 10-10-10 FERTILIZER (14 lbs/1000 sq ft) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL. AT TIME OF SEEDING, APPLY 400 LBS PER ACRE 30-0-0 UREAFORM FERTILIZER (9 lbs/10000 sq ft)

2) ACCEPTABLE - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 lbs/1000 sq ft) AND 1000 LBS PER ACRE 10-10-10 FERTILIZER (23 lbs/1000 sq ft) BEFORE SEEDING. HARROW OR 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 OF 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 PER ACRE OF KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS PER ACRE OF WELL ANCHORED STRAW.

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

MAINTENANCE: INSPECT ALL SEEDED AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

TEMPORARY SEEDBED PREPARATION

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED.

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

SOIL AMENDMENTS: APPLY 600 LBS PER ACRE 10-10-10 FERTILIZER (14 lbs/1000 sq ft).

SEEDING: FOR PERIODS MARCH 1 THRU APRIL 30 AND FROM AUGUST 15 THRU NOVEMBER 15, SEED WITH 2-1/2 BUSHELS 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 GALLONS PER ACRE (5 gal/1000 sq ft) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES, 8 FT. OR HIGHER, USE 348 GALLONS 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.

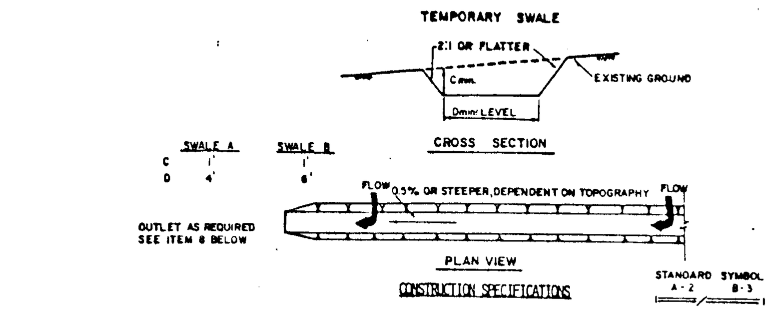
SEDIMENT CONTROL NOTES

1) A MINIMUM OF 24 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY OFFICE OF INSPECTIONS AND PERMITS PRIOR TO THE START OF ANY CONSTRUCTION (992-2437).
2) ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
3) FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: a) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1, b) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
4) ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
5) 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 SEEDING (Sec. 50) AND MULCHING (Sec. 52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
6) ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
7) SITE ANALYSIS:

TOTAL AREA OF SITE	18.46	ACRES
AREA DISTURBED	6.5	ACRES
AREA TO BE ROOFED OR PAVED	1.4	ACRES
AREA TO BE VEGETATIVELY STABILIZED	5.1	ACRES
TOTAL CUT	14033	CU.YDS.
TOTAL FILL	14033	CU.YDS.
OFFSITE WASTE/BORROW AREA LOCATION	ON SITE	

8) ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
9) ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY DPW SEDIMENT CONTROL INSPECTOR.
10) ALL SEDIMENT TRAPS 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.

TEMPORARY SWALE



CONSTRUCTION SPECIFICATIONS

1. ALL TEMPORARY SWALES SHALL HAVE UNINTERRUPTED POSITIVE GRADE TO AN OUTLET.
2. DIVERTED RUNOFF FROM A DISTURBED AREA SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE.
3. DIVERTED RUNOFF FROM AN UNDISTURBED AREA SHALL OUTLET DIRECTLY INTO AN UNDISTURBED STABILIZED AREA AT NON-EROSIVE VELOCITY.
4. ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS, AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED AND DISPOSED OF SO AS NOT TO INTERFERE WITH THE PROPER FUNCTIONING OF THE SWALE.
5. THE SWALE SHALL BE EXCAVATED OR SHAPED TO LINE, GRADE, AND CROSS SECTION AS REQUIRED TO MEET THE CRITERIA SPECIFIED HEREIN AND BE FREE OF BANK PROJECTIONS OR OTHER IRREGULARITIES WHICH WILL IMPEDE NORMAL FLOW.
6. FILLS SHALL BE COMPACTED BY EARTH MOVING EQUIPMENT.
7. ALL EARTH REMOVED AND NOT NEEDED ON CONSTRUCTION SHALL BE PLACED SO THAT IT WILL NOT INTERFERE WITH THE FUNCTIONING OF THE SWALE.
8. STABILIZATION SHALL BE AS PER THE CHART BELOW:

FLOW CHANNEL STABILIZATION

TYPE OF TREATMENT	CHANNEL GRADE	A (5 AC OR LESS)	B (5 AC - 10 AC)
1	0.5-3.0%	SEED AND STRAW MULCH	SEED AND STRAW MULCH
2	3.1-5.0%	SEED AND STRAW MULCH	SEED USING JUTE OR EXCELSIOR
3	5.1-8.0%	SEED WITH JUTE OR EXCELSIOR; SOD	LINED RIP-RAP 4-8" RECYCLED CONCRETE EQUIVALENT
4	8.1-20%	LINED 4-8" RIP-RAP	ENGINEERED DESIGN

9. PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.

TEMPORARY SWALE

NO SCALE

BY THE ENGINEER:

"I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION."

ENGINEER: JOHN M. ELORRIAGA PE #16891 — 5/28/91 DATE

BY THE DEVELOPER:

"I/WE CERTIFY THAT ALL DEVELOPMENT AND 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 DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

DEVELOPER: JAMES R. MOXLEY, JR.
SECURITY DEVELOPMENT CORPORATION PRESIDENT — 5/29/91 DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

U.S. SOIL CONSERVATION SERVICE — 6/11/91 DATE

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

APPROVED Robert W. Ziehm HOWARD S.C.D. — 6/11/91 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, LAND DEVELOPMENT DIVISION — 7/2/91 DATE
Granville W. Wehland
CHIEF, BUREAU OF HIGHWAYS — 6/19/91 DATE
CHIEF, BUREAU OF ENGINEERING — 7-3-91 DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING

CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT - DATE 7/12/91

NO	DATE	REVISION
1	2-4-92	REVISE H.G.L.

T S A GROUP INC.
planning • architecture • engineering

8480 Baltimore National Pike • Ellicott City, Maryland 21043 • (301) 465-6105

STATE OF MARYLAND JOHN M. ELORRIAGA No. 16891 REGISTERED PROFESSIONAL ENGINEER

OWNER: WALTER E. AND LORETTA H. NEIGHOFF, ET AL, 3618, COOLRIDGE AVENUE, BALTIMORE, MARYLAND 21229	PROJECT: WOOD BROOK SECTION 1 AREA 1
	LOCATION: TAX MAP 37 PARCELS 126, 127, 483, 530, 531, 595 AND 596, 1ST ELECTION DISTRICT, HOWARD COUNTY MARYLAND
DEVELOPER: SECURITY DEVELOPMENT CORP. P.O. BOX 417 ELLICOTT CITY, MARYLAND 21043	TITLE: SEDIMENT CONTROL DETAILS AND STORM DRAIN PROFILES
	DATE: JUNE 27, 1990 / MAY 08, 1991 — PROJECT NO. 0164
DES. DAM — DRN. JLM	SCALE: AS SHOWN — DRAWING 5 OF 8

F-91-02

I. 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. Channel banks and sharp breaks shall be sloped to no steeper than 1:1.

Areas to be covered by the pond or reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material unless otherwise designated on the plans. Trees, brush and stumps shall be cut approximately level with the ground surface.

All cleared and grubbed material shall be disposed of outside and below the limits of the dam and reservoir as directed by the owner or his representative. When specified, a sufficient quantity of topsoil will be stockpiled in a suitable location for use on the embankment and other designated areas.

II. EARTH FILL

The fill material shall be taken from approved designated borrow area or areas. It shall be free of roots, stumps, wood, rubbish, oversize stones, frozen or other objectionable materials. The embankment shall be constructed to an elevation which provides for anticipated settlement to the design elevation. The fill height all along the length of the embankment shall be increased above the design elevation (including freeboard) as shown on the plans.

Placement

Areas on which fill to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in 8-inch maximum thickness (before compaction) layers which are to be continuous over the entire length of the fill. The most porous borrow material shall be placed in the downstream portions of the embankment.

Compaction

The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed by not less than one tread track of the equipment or compaction shall be achieved by a minimum of four complete passes of a sheepsfoot, rubber tired or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction can be obtained with the equipment used.

Where a minimum required density is specified, each layer of fill shall be compacted as necessary to obtain that density and is to be certified by the Engineer.

Cutoff Trench

Where specified, a cutoff trench shall be excavated along or parallel to the centerline of the embankment as shown on the plans. The bottom width of the trench shall be as shown on the drawings, with the minimum width being four feet. The depth shall be at least four feet or as shown on the plans. The side slopes of the trench shall be 1 to 1 or flatter. The backfill material for the cut-off trench shall be the most impervious material available and shall be compacted with equipment or rollers to assure maximum density and minimum permeability.

III. STRUCTURAL BACKFILL

Backfill material 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 compaction equipment. The material needs to fill the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe unless there is a compacted fill of twenty-four inches or greater over the structure or pipe.

IV. PIPE CONDUITS

All pipes shall be circular in cross section.

A. Corrugated Metal Pipe

1. Materials - (Steel Pipe) - This pipe and its appurtenances shall be galvanized and fully bituminous coated and shall conform to the requirements of AASHTO Specifications M-190 Type A with watertight coupling bands. Any bituminous coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound.

   Steel pipes with polymeric coatings shall have a minimum coating thickness of 0.01 inch (10 mil) on both sides of the pipe. The following coatings are commercially available: Nexcn, Plasti-Cote, Blac-Klad, and Beth-Cu-Loy. Coated corrugated steel pipe shall meet the requirements of AASHTO M-245 and M-246.

   Materials - (Aluminized Steel Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-274-791 with watertight coupling bands or flanges.

   Materials - (Aluminum Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-196 or M-211 with watertight coupling bands or flanges. Coupling bands, anti-seep collars, end sections, etc. must be composed of the same material as the pipe. Metals must be insulated from dissimilar materials with use of rubber or plastic insulating materials at least 24 mils in thickness. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer. Hot dip galvanized bolts may be used for connections. The pH of the surrounding soils shall be less than 9 and greater than 4.

2. Connections - All connections with pipes must be completely watertight. The drain pipe or barrel connection to the riser shall be welded all around when the pipe and riser are metal. Watertight coupling bands or flanges shall be used at all joints. Anti-seep collars shall be connected to the pipe in such a manner as to the completely watertight. Dimple bands are not considered to be watertight.

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

4. Laying pipe - The pipe shall be placed with inside circumferential laps pointing downstream and with the longitudinal laps at the sides.

5. Backfilling shall conform to structural backfill as shown above.

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

B. Reinforced Concrete Pipe

1. Materials - Reinforced concrete pipe shall have a rubber gasket joint and shall equal or exceed ASTM Specification C-361. An approved equivalent is AWWA Specification C-301.

2. Bedding - All reinforced concrete pipe conduits shall be laid in a concrete bedding for their entire length. This bedding shall consist of high slump concrete placed under the pipe and up the sides of the pipe at least 1/3 of its outside diameter with a minimum thickness of 3", or as shown on the drawings.

3. Laying pipe - Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed for the entire line, the bedding shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe.

4. Backfilling shall conform to structural backfill as shown above.

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

C. For pipes of other materials, specific specifications shall be shown on the drawings.

V. CONCRETE

1. Materials

   a. Cement - Normal Portland cement shall conform to the latest ASTM Specification C-150.

   b. Water - The water used in concrete shall be clean, free from oil, acid, alkali, scales, organic matter or other objectionable substances.

   c. Sand - The sand used in concrete shall be clean, hard, strong and durable, and shall be well graded with 100 percent passing a one-quarter inch sieve. Limestone sand shall not be used.

   d. Coarse Aggregate - The coarse aggregate shall be clean, hard, strong and durable, and free from clay or dirt. It shall be well graded with a maximum size of one and one-half (1-½) inches.

   e. Reinforcing Steel - The reinforcing steel shall be deformed bars of intermediate grade billet steel conforming to ASTM Specification A-615.

2. Design Mix - The concrete shall be mixed in the following proportions, measured by weight. The water-cement ratio shall be 5-½ to 6 U.S. Gallons of water per 94 pound bag of cement. The proportion of materials for the trial mix shall be 1:2:3-½. The combination of aggregates may be adjusted to produce a plastic and workable mix that will not produce harshness in placing or honeycombing in the structure.

3. Mixing - The concrete ingredients shall be mixed in batch mixers until the mixture is homogeneous and of uniform consistency. The mixing of each batch shall continue for not less than one and one-half minutes after all the ingredients, except the full amount of water, are in the mixer. The minimum mixing time is predicted on proper control of the speed of rotation of the mixer and of the introduction of the materials, including water, into the mixer. Water shall be added prior to, during, and following the mixer-charging operations. Excessive overmixing requiring the addition of water to preserve the required concrete consistency shall not be permitted. Truck mixing will be allowed provided that the use of this method shall cause no violation of any applicable provisions of the specifications given here.

4. Forms - The forms shall have sufficient strength and rigidity to hold the concrete and to withstand the necessary pressure, tamping, and vibration without deflection from the prescribed lines. They shall be mortar-tight and constructed so that they can be removed without hammering or prying against the concrete.

   The inside of forms shall be oiled with a non-staining mineral oil or thoroughly wetted before concrete is placed.

   Forms may be removed 24 hours after the placement of concrete. All wire ties and other devices used shall be recessed from the surface of the concrete.

5. Reinforcing Steel - All reinforcing material shall be free of dirt, rust, scale, oil, paint or any other coatings. The steel shall be accurately placed and securely tied and blocked into position so that no movement of the steel will occur during placement of concrete.

6. Consolidating - Concrete shall be consolidated with internal type mechanical vibrators. Vibration shall be suplemented by spading and hand tamping as necessary to insure smooth and dense concrete along form surfaces, in corners, and around embedded items.

7. Finishing - Defective concrete, honeycombed areas, voids left by the removal of tie rods, ridges on all concrete surfaces permanently exposed to view or exposed to water on the finished structure, shall be repaired immediately after the removal of forms. All voids shall be reamed and completely filled with dry-patching mortar.

8. Protection and Curing - Exposed surfaces of concrete shall be protected from the direct rays of the sun for at least the first three (3) days. All concrete shall be kept continuously moist for at least ten (10) days after being placed. Moisture may be applied by spraying or sprinkling as necessary to prevent the concrete from drying. Concrete shall not be exposed to freezing during the curing period. Curing compounds may also be used.

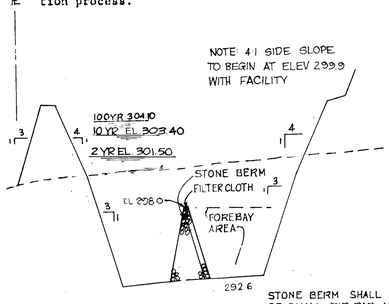
9. Placing Temperature - Concrete may not be placed at temperatures below 37°F with the temperature falling, or 34° with the temperature rising.

VI. STABILIZATION

All borrow areas shall be graded to provide proper drainage and left in a sightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and berms shall be stabilized by seeding, liming, fertilizing and mulching (if required) in accordance with the vegetative treatment specifications or as shown on the accompanying drawings.

VII. EROSION AND SEDIMENT CONTROL

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



STONE BERM SHALL CONSIST OF SMALL RIP RAP MATERIAL 4"-8" WITH A 1" THICKNESS OF 2" AGGREGATE PLACED OVER FILTER CLOTH ON THE UP-GRADE SIDE.

SECTION "A" A THROUGH SWMF

SCALE HORIZ 1"=50' VERT 1"=5'

ELEV.	MATERIAL DESCRIPTION	STRUC. DEPTH	DEPTH SCALE	SAMPLE DATA NO.	BLOWS/6"	TYPE	REC.	NOTES
	Light brown and grey, moist, medium dense, Clayey SAND (SC), trace Gravel	0-	0-	1	4 5-10	DS	10	Topsoil: 1 ft. Water on rod: 5.0'
	Sandy Loam	3.0	-					
	Light brown and grey, moist Dense, Clayey SAND (SC), some Gravel		5-	2	24 25-10	DS	10	Completion: Water: 5.0' from surface
	Gravelly Sandy Loam	5.5						Proposed Grade: El 294
	Greenish to greenish-brown, moist, stiff, Micaceous SILT (ML-OH), little Clay and Sand, trace Gravel	8.0	-	3	5 5-9	DS	12	
	Silty Clay Loam			4	8 10-10	DS	10	
	Terminated at 10 ft	10.0	10-	5	4 6-10	DS	10	

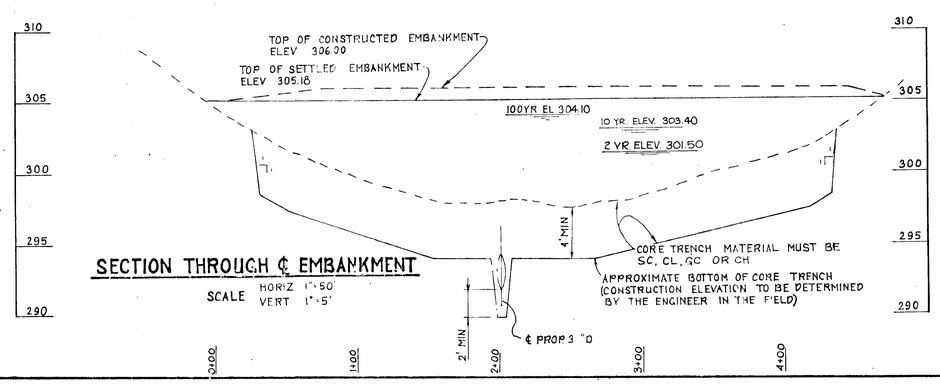
BORING LOG B-1

ELEV.	MATERIAL DESCRIPTION	STRUC. DEPTH	DEPTH SCALE	SAMPLE DATA NO.	BLOWS/6"	TYPE	REC.	NOTES
	Light brown, moist, very loose, Clayey SAND (SC), little Gravel (Sandy Loam)	0-	0-	1	3 3-2	DS	10	Topsoil: 1 ft. Water on rod: 5.5'
	Greenish-light brown, very moist to moist, soft to very stiff, SILT (ML), little to some Clay, trace to little Sand			2	8 9-14	DS	10	Completion: Water: 4.5' from surface
	Silty Clay Loam (Multi-colored, moist, very stiff, SILT (ML), little Sand and Clay	5.5	5-	3	5 6-11	DS	10	Proposed Grade El 294.5
	Silty Clay Loam			4	5 5-12	DS	10	
	Greenish-brown, moist, very stiff, SILT (ML), little Sand and Clay	11.0	10-	5	7 8-9	DS	10	
	Silty Clay Loam							
	Terminated at 15 ft	15.0	15-					

BORING LOG B-2

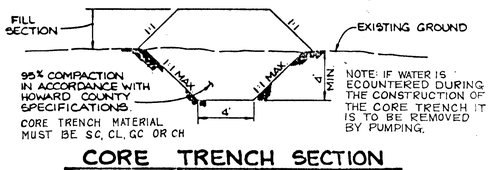
ELEV.	MATERIAL DESCRIPTION	STRUC. DEPTH	DEPTH SCALE	SAMPLE DATA NO.	BLOWS/6"	TYPE	REC.	NOTES
	Light brown and light grey, moist, medium dense, Clayey SAND (SC), little Gravel, trace Roots (Sandy Loam)	0-	0-	1	3 8-10	DS	10	Topsoil: 1 ft. Water on rod: Dry
		3.0						Completion: Water: Dry
	Orange and white to light grey, moist, very stiff Silty Clay (CL), trace Sand, trace to little Gravel		5-	2	7 8-14	DS	15	Proposed Grade El. 295
	Silty Clay Loam			3	5 7-12	DS	10	
			10-	4	3 4-12	DS	10	
	Multi colored, moist, dense, Micaceous Clayey SAND (SC)	11.0						
	Sandy Loam			5	8 17-23	DS	10	
	Terminated at 15 ft	15.0	15-					

BORING LOG B-3



SECTION THROUGH ℄ EMBANKMENT

SCALE HORIZ 1"=50' VERT 1"=5'



CORE TRENCH SECTION

NO SCALE

BY THE ENGINEER:

"I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION."

ENGINEER JOHN M. ELORRIAGA P.E. # 16891 — DATE 5/28/91

BY THE DEVELOPER:

"I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

DEVELOPER: JAMES R. MOXLEY JR. — DATE 5-29-91
SECURITY DEVELOPMENT CORPORATION - PRESIDENT

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

U.S. SOIL CONSERVATION SERVICE — DATE 6/11/91

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

APPROVED HOWARD SCD. — DATE 6/11/91

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT — DATE 7/12/91

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
CHIEF, LAND DEVELOPMENT DIVISION — DATE 7/2/91
CHIEF, BUREAU OF HIGHWAYS — DATE 6/19/91
CHIEF, BUREAU OF ENGINEERING — DATE 7-3-91

NO	DATE	REVISION

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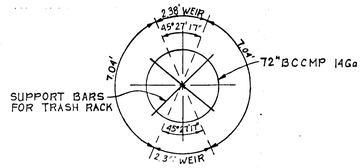
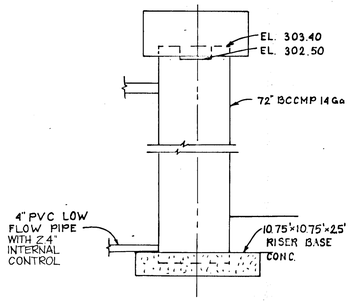
STATE OF MARYLAND — JOHN M. ELORRIAGA — No. 16891 — REGISTERED PROFESSIONAL ENGINEER

OWNER: WALTER E. AND LORETTA H. NEIGHOFF, ET. AL. 3618 COOLRIDGE AVENUE BALTIMORE, MARYLAND 21229	PROJECT: WOODBROOK — SECTION ONE, AREA ONE
	LOCATION: TAX MAP 37- PARCELS 126, 127, 488, 530, 531, 595 AND 596; 1st ELECTION DISTRICT; HOWARD COUNTY, MARYLAND
DEVELOPER: SECURITY DEVELOPMENT CORP. P.O. BOX 417 ELLICOTT CITY, MARYLAND 21043 (301) 465-4244	TITLE: STORMWATER MANAGEMENT DETAILS — 5-89-71 WP 89-180 P 90-17
	DATE: JUNE 27, 1990; MAY 08, 1991 — PROJECT NO.: 0164
DES.: D A M — DRN.: I P	SCALE: AS SHOWN — DRAWING 6 OF 8

1686

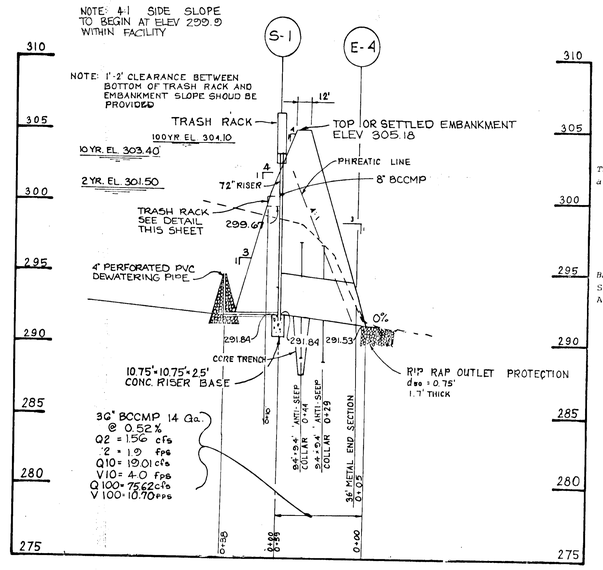
F-91-02





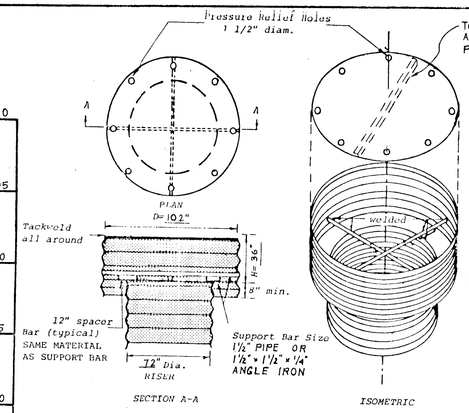
RISER DETAIL

NO SCALE



PROFILE OF PRINCIPLE SPILLWAY

SCALE HOR 1"=50'
VER 1"=5'

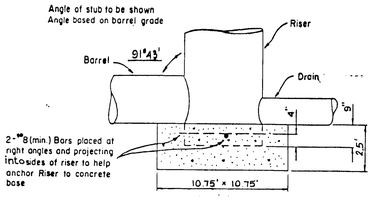


Top is 8 gage corrugated metal or 1/8" steel plate. Pressure relief holes may be ommitted, if ends of corrugations are left fully open when corrugated top is welded to cylinder.

Cylinder is 10 gage corrugated metal pipe or fabricated from 1/8" steel plate.

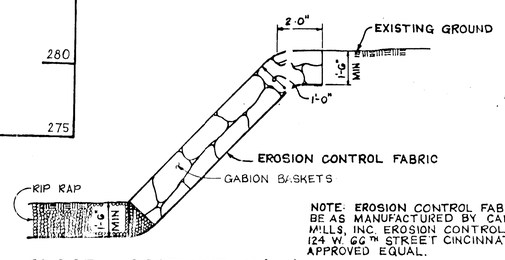
Notes:
1) The cylinder must be firmly fastened to the top of the riser.
2) Support bars are welded to the top of the riser or attached by straps bolted to top of riser.

CONCENTRIC TRASH RACK AND ANTI-VORTEX DEVICE
(not to scale)



RISER BASE DETAIL

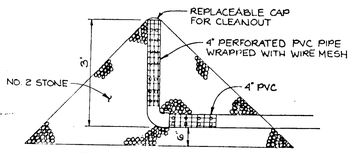
NOTES:
1. The concrete base shall be poured in such a manner to insure that the concrete fills the bottom of the riser to the invert of the outlet pipe to prevent the riser from breaking away from the base.
2. With aluminum or aluminized pipe, the embedded section must be painted with zinc chromate or equivalent.
3. Riser base may be sized as computed using floatation with a factor of safety of 1.2.



SLOPE PROTECTION

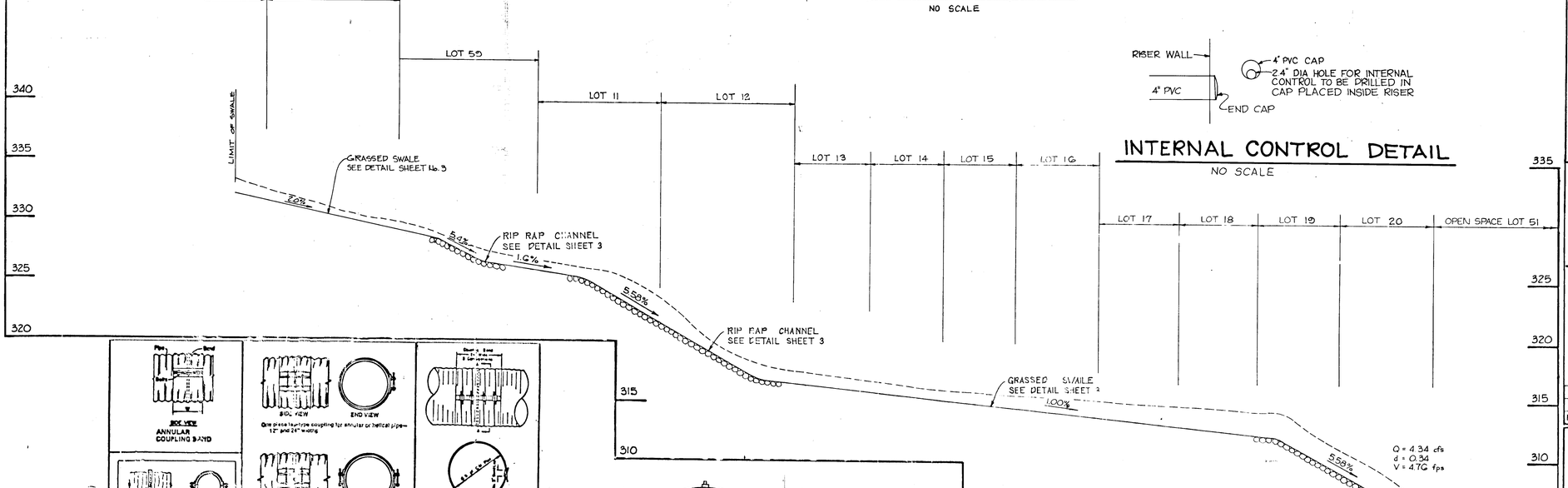
NO SCALE

NOTE: EROSION CONTROL FABRIC SHALL BE AS MANUFACTURED BY CARTHAGE MILLS, INC. EROSION CONTROL DIVISION, 124 W. 66TH STREET CINCINNATI, OHIO OR APPROVED EQUAL.



DEWATERING PIPE DETAIL

NO SCALE

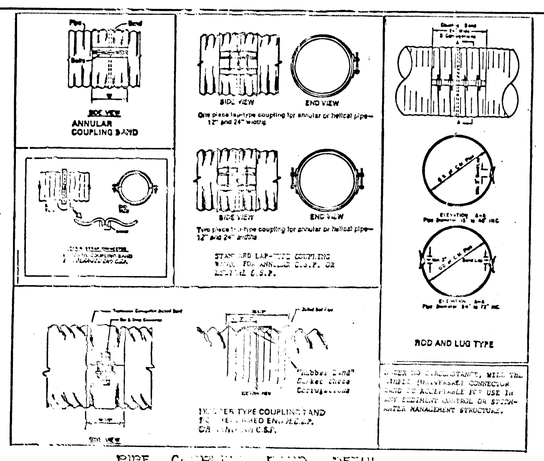


PROFILE SWALE LOT 2 TO SWMF AND PROFILE E-3 TO E-2

SCALE: HORIZ. 1"=50'
VERT. 1"=5'

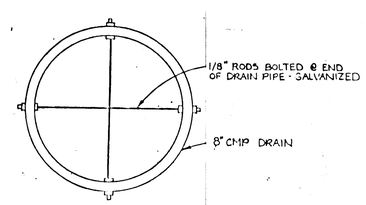
INTERNAL CONTROL DETAIL

NO SCALE



PIPE COUPLING BAND DETAIL

NO SCALE



LOW FLOW DRAIN TRASH RACK

NO SCALE

BY THE ENGINEER:

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ENGINEER: JOHN M. ELORRIAGA PE # 16891 — DATE 5/28/91

BY THE DEVELOPER:

"I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

DEVELOPER: James R. Mosley Jr. — DATE 5-29-91

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

U.S. SOIL CONSERVATION SERVICE — DATE 6-11-91

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

APPROVED Robert W. Ziehm, HOWARD S.C.D. — DATE 6-11-91

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, LAND DEVELOPMENT DIVISION — DATE 7/2/91
CHIEF, BUREAU OF HIGHWAYS — DATE 6/19/91
CHIEF, BUREAU OF ENGINEERING — DATE 7-3-91

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT — DATE 7/12/91

NO	DATE	REVISION
1	2-4-92	REVISE PROFILE OF GRASSED SWALE AND REMOVE E-2 TO E-3

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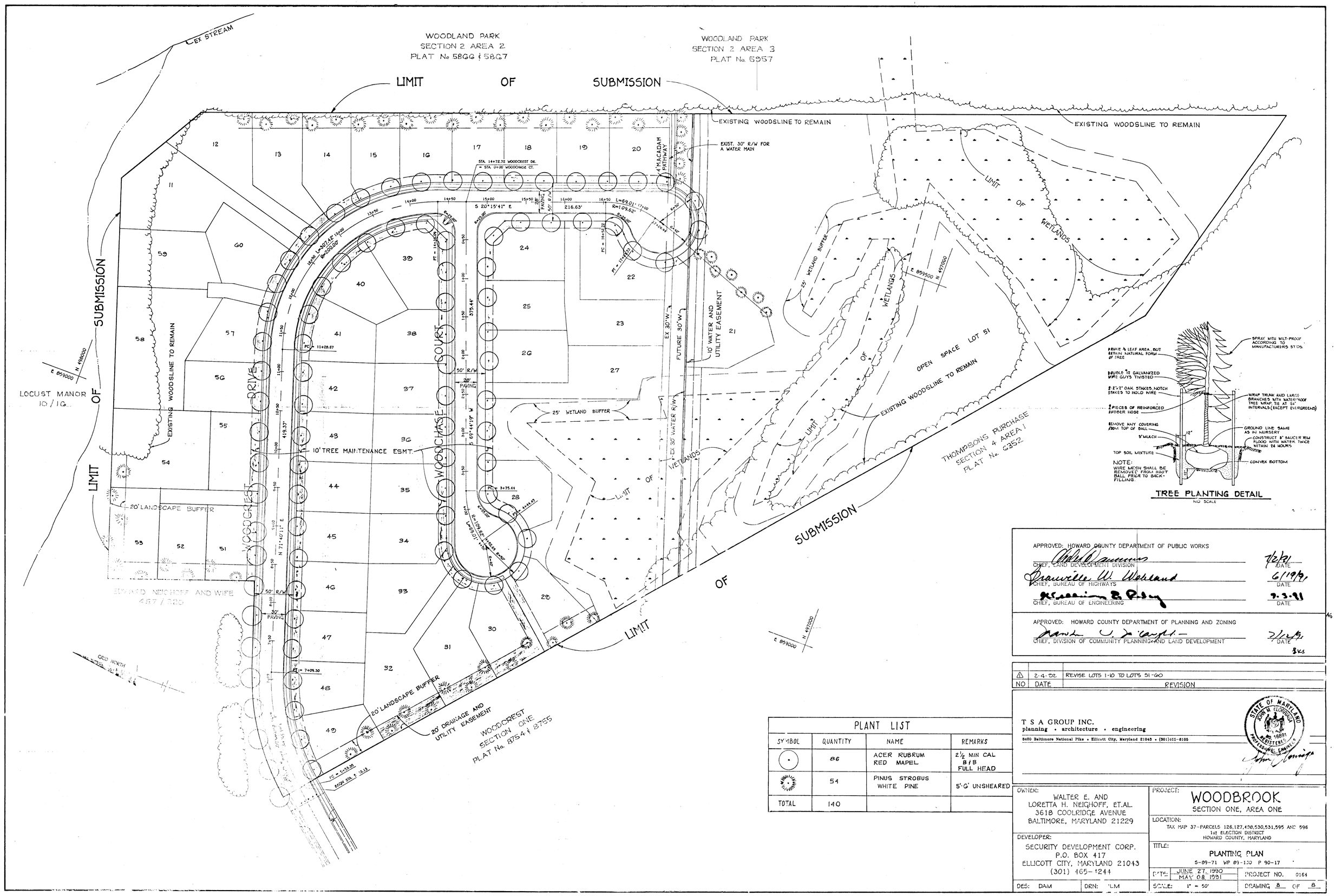
STATE OF MARYLAND — JOHN M. ELORRIAGA — No. 16891 — REGISTERED PROFESSIONAL ENGINEER

OWNER: WALTER E. AND LORETTA H. NEIGHOFF, ET AL, 3618 COOLRIDGE AVENUE, BALTIMORE, MARYLAND 21229	PROJECT: WOODBROOK, SECTION 1, AREA 1
	LOCATION: TAX MAP 37 PARCELS 126, 127, 488, 530, 531, 595, AND 596; 1ST ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
DEVELOPER: SECURITY DEVELOPMENT CORP., P.O. BOX 417, ELLICOTT CITY, MARYLAND 21043, (301) 465-6105	TITLE: STORMWATER MANAGEMENT DETAILS
	DATE: JUNE 27, 1990; MAY 08, 1991 — PROJECT NO. 0164
DES. DAM — DRN. JLM	SCALE AS SHOWN — DRAWING 7 OF 8

F-91-02

1026



PRUNE A LEAF AREA, BUT RETAIN NATURAL FORM OF TREE

DOUBLE 12 GALVANIZED WIRE GUYS TWISTED

2-2"x2" OAK STAKES, NOTCH STAKES TO HOLD WIRE

2 PIECES OF REINFORCED RUBBER HOSE

REMOVE ANY COVERING FROM TOP OF BALL

5" MULCH

TOP SOIL MIXTURE

SPRAY WITH WILT-PROOF ACCORDING TO MANUFACTURERS STDS.

WRAP TRUNK AND LARGE BRANCHES WITH WATERPROOF TREE WRAP TIE AT 24" INTERVALS (EXCEPT EVERGREENS)

GROUND LINE SAME AS IN NURSERY

CONSTRUCT 5" SAUCER RIM FLOOD WITH WATER TWICE WITHIN 24 HOURS

CONVEX BOTTOM

12"

NOTE:
WIRE MESH SHALL BE REMOVED FROM ROOT BALL PRIOR TO BACK-FILLING.

TREE PLANTING DETAIL
NO SCALE

PLANT LIST

SYMBOL	QUANTITY	NAME	REMARKS
•	86	ACER RUBRUM RED MAPEL	2½ MIN CAL B&B FULL HEAD
✳	54	PINUS STROBUS WHITE PINE	5'-6' UNSHEARED
TOTAL	140		

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, LAND DEVELOPMENT DIVISION — DATE 7/2/91

CHIEF, BUREAU OF HIGHWAYS — DATE 6/19/91

CHIEF, BUREAU OF ENGINEERING — DATE 7.3.91

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT — DATE 7/2/91

NO	DATE	REVISION
1	2-4-92	REVISE LOTS 1-10 TO LOTS 51-60

T S A GROUP INC.
planning • architecture • engineering
8480 Baltimore National Pike • Ellicott City, Maryland 21043 • (301)465-8105

OWNER:
WALTER E. AND LORETTA H. NEIGHOFF, ET.AL.
3618 COOLRIDGE AVENUE
BALTIMORE, MARYLAND 21229

DEVELOPER:
SECURITY DEVELOPMENT CORP.
P.O. BOX 417
ELLICOTT CITY, MARYLAND 21043
(301) 465-1244

PROJECT:
WOODBROOK
SECTION ONE, AREA ONE

LOCATION:
TAX MAP 37-PARCELS 126,127,438,530,531,595 AND 596
1st ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE:
PLANTING PLAN
S-89-71 WP 89-130 P 90-17

DATE: JUNE 27, 1990 / MAY 08, 1991
PROJECT NO. 0164
DES: DAM DRN: TLM
SCALE: 1" = 50'
DRAWING 8 OF 8

F-91-02

1686