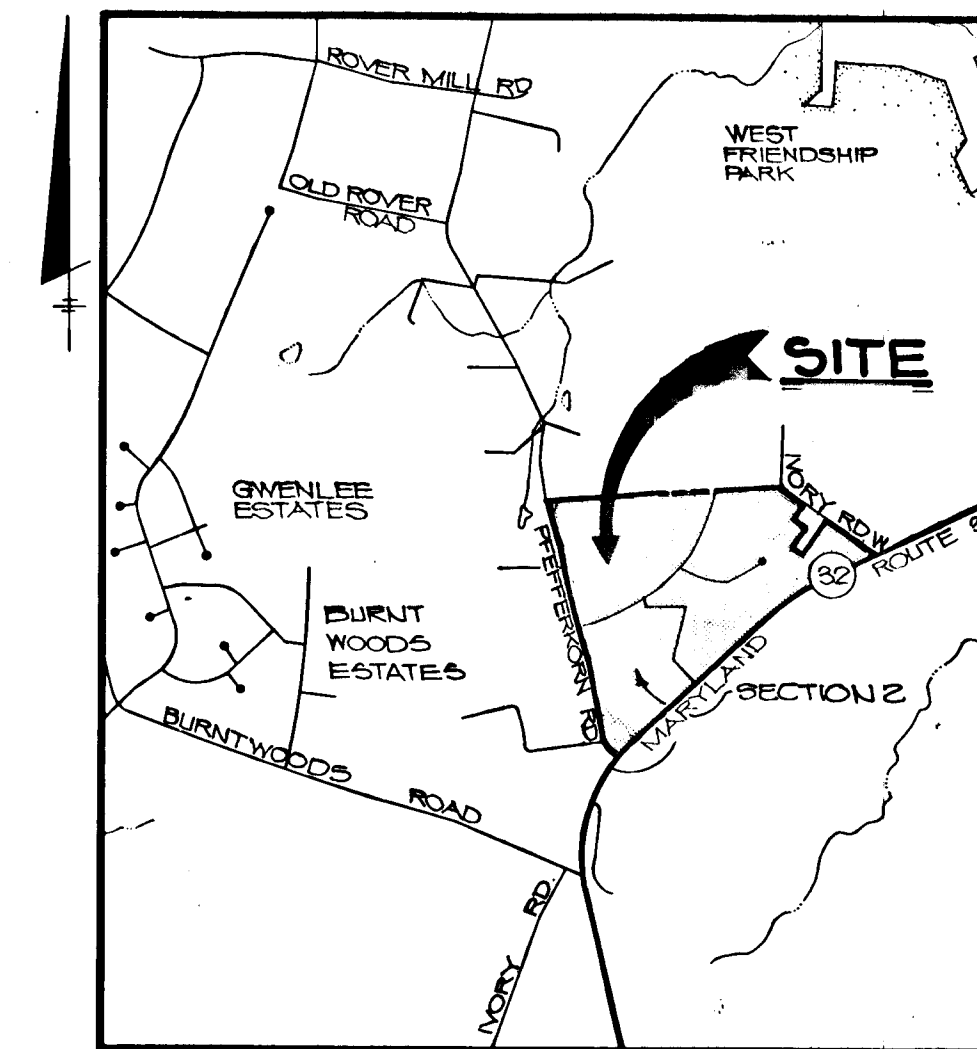


INDEX OF SHEETS

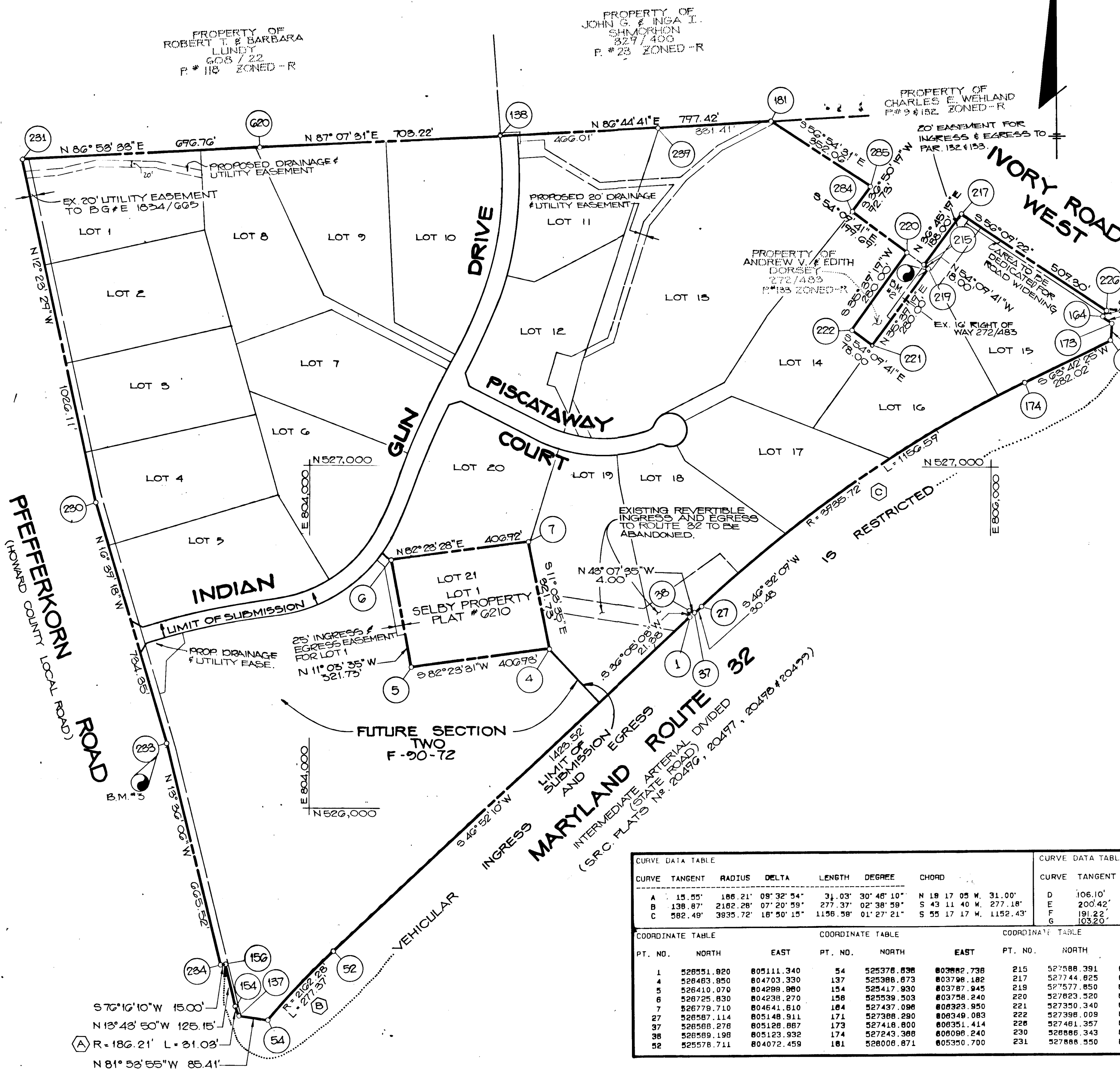
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	PLAN & PROFILE - PFEFFERKORN ROAD (STA. 0+00 TO 10+00)
3	PLAN & PROFILE - PFEFFERKORN ROAD (STA. 10+00 TO 16+41)
4	PLAN & PROFILE - IVORY ROAD WEST
5	PLAN & PROFILE - INDIAN GUN DRIVE (STA. 0+00 TO 11+05.28)
6	PLAN & PROFILE - INDIAN GUN DRIVE (STA. 11+05.28 TO 20+76.56)
7	PLAN & PROFILE - PISCATAWAY COURT
8	GRADING, SEDIMENT CONTROL PLAN AND DETAILS
9	GRADING, SEDIMENT CONTROL PLAN
10	GRADING, SEDIMENT CONTROL PLAN AND DETAILS
11	DRAINAGE AREA MAP & GRADING PLAN
12	STORM DRAIN PROFILES & DETAILS

# ROADWAYS AND STORM DRAINS WEST FRIENDSHIP ESTATES SECTION ONE 3RD ELECTION DISTRICT HOWARD COUNTY, MARYLAND



VICINITY MAP  
SCALE: 1" = 2000'

- GENERAL NOTES**
- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOL. IV, I.E., STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION, 1995 AMENDMENTS.
  - 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.
  - THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES AT LEAST FIVE (5) DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS TO VERIFY THEIR LOCATION AND ELEVATION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IF LOCATION OF UTILITIES IS OTHER THAN SHOWN.
  - CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES AT LEAST FIVE (5) DAYS BEFORE STARTING WORK IN THESE DRAWINGS:
    - MISS UTILITY 1-800-257-7777
    - CAP TELEPHONE COMPANY 725-9976
    - AT&T CABLE LOCATION DIVISION 393-3553
    - BALTIMORE GAS AND ELECTRIC COMPANY 685-0123
    - STATE HIGHWAY ADMINISTRATION 531-5533
    - HOWARD COUNTY CONSTRUCTION/INSPECTION SURVEY DIVISION (24 HOURS NOTICE PRIOR TO COMMENCEMENT OF WORK) 792-7272
  - ALL INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL, VOL. IV, I.E., STANDARD SPECIFICATIONS AND DETAILS, 1995 AMENDMENTS.
  - STORM DRAIN BACKFILL WITHIN ROADWAYS, UNDER STRUCTURES AND FOR STORM DRAIN TRENCHES SHALL BE COMPACTED TO A MINIMUM OF 95% COMPACTION OF MAXIMUM DRY DENSITY AS DETERMINED BY ASTM 1557.
  - NO PIPE SHALL BE LAID UNTIL LINES OF EXCAVATION HAVE BEEN BROUGHT WITHIN 6" OF FINISHED GRADE.
  - ALL STORM DRAIN PIPE BEDDING SHALL BE AS SHOWN IN DETAIL G2.01 (TRENCH IN ROCK OR TRENCH IN EARTH AS DETERMINED BY FIELD CONDITIONS) IN VOL. IV OF HOWARD COUNTY DESIGN MANUAL UNLESS OTHERWISE DIRECTED BY THE ENGINEER OR AS SHOWN ON THE DRAWINGS.
  - ALL STREET CURB RETURNS SHALL HAVE 25' RADII UNLESS OTHERWISE NOTED.
  - ALL ELEVATIONS SHOWN ARE BASED ON U.S.C.S. MEAN SEA LEVEL DATUM, 1929.
  - ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
  - TOP DATA FROM FIELD RUN SURVEY DATED OCTOBER 1, 1990, BY RIEMER, MUEGGE AND ASSOC., INC.
  - SUBJECT PROPERTY ZONED - R AS PER 8.2.85 COMPREHENSIVE ZONING PLAN.
  - INSTALLATION OF TRAFFIC CONTROL DEVICES, MARKING, AND SIGNING SHALL BE IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES 1985 EDITION.
  - DESIGNED TRAFFIC SPEED IN ACCORDANCE WITH THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIAL STANDARDS:
    - ALL 50' RIGHT OF WAYS 50 M.P.H.
    - LOTS NO. 5 AND 6 SHALL HAVE DRIVEWAY CULVERTS AS FOLLOWS:
      - LOT 5 15' DCCMP 14 GA.
      - LOT 6 15' DCCMP 14 GA.



**BENCH MARKS**

B.M. #1 ELEV 550.95  
 IRON SPIKE SET IN ASPHALT SW. SIDE OF IVORY ROAD WEST AT INTERSECTION WITH RT. 32

B.M. #2 ELEV 577.86  
 IRON PIN SET ALONG S.E. SIDE OF IVORY ROAD WEST (PROP. CORNER NO. 219)

B.M. #3 ELEV 601.54  
 NAIL SET IN 8" G.F. POLE APPROX. 355' S.E. OF INTERSECTION OF PFEFFERKORN ROAD AND INDIAN'S GUN DRIVE.

CURVE DATA TABLE						CURVE DATA TABLE							
CURVE	TANGENT	RADIUS	DELTA	LENGTH	DEGREE	CHORD	CURVE	TANGENT	RADIUS	DELTA	LENGTH	DEGREE	CHORD
A	15.55'	106.21'	09°32'54"	31.03'	30°48'10"	N 19 17 05 W 31.00'	D	106.10'	1825.00'	6°33'17"	211.97'	3°02'22"	N77°52'31"E 211.85'
B	138.87'	2182.28'	07°29'59"	277.37'	02°38'59"	S 43 11 40 W 277.18'	E	200.42'	400.00'	45°13'25"	371.59'	14°19'26"	S54°35'25"E 350.37'
C	582.48'	3835.72'	16°50'15"	1156.58'	01°27'21"	S 55 17 17 W 1152.43'	F	191.22'	450.00'	45°02'42"	411.74'	12°43'57"	N59°10'46"E 351.95'
							G	103.20'	1775.00'	6°34'17"	208.16'	3°15'11"	N77°52'31"E 208.04'

COORDINATE TABLE			COORDINATE TABLE			COORDINATE TABLE			COORDINATE TABLE		
PT. NO.	NORTH	EAST	PT. NO.	NORTH	EAST	PT. NO.	NORTH	EAST	PT. NO.	NORTH	EAST
1	526551.820	805111.340	54	526376.838	803982.738	215	527088.391	805800.579	233	526182.801	803587.159
4	526483.850	804703.330	137	526388.873	803798.182	217	527744.825	805817.287	234	525535.843	803743.888
5	526410.070	804289.980	154	526417.930	803787.945	218	527577.850	805815.174	235	526518.117	803488.842
6	526725.830	804238.270	158	526539.303	803758.240	220	527823.520	805751.842	239	527088.052	805019.823
7	526778.710	804641.610	164	527437.086	803823.950	221	527350.340	805651.859	284	527700.438	805580.080
27	526887.114	805148.911	171	527388.280	803849.083	222	527388.009	805588.727	285	527814.853	805645.657
37	526588.278	805128.887	173	527418.800	803851.414	226	527481.357	805340.111	520	527826.328	805852.232
38	526588.108	805123.838	174	527240.388	803808.240	230	526866.343	803376.883	180	527751.871	804554.526
52	525578.711	804072.458	181	526808.871	805350.700	231	527888.550	803156.492			

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 DATE: 5/24/90  
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 DATE: 5/2/90  
 CHIEF, LAND DEVELOPMENT DIVISION

APPROVED: 4/30/90  
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: DATE: DATE  
 CHIEF, BUREAU OF ENGINEERING

OWNER / DEVELOPER  
 WEST FRIENDSHIP ESTATES PARTNERSHIP  
 LAND DESIGN DEVELOPMENT  
 8027 MAIN ST  
 ELICOTT CITY, MD 21043

PROJECT: A SUBDIVISION OF PARCEL B AND A RESUBDIVISION OF LOT 1 OF THE SELBY PROPERTY WEST FRIENDSHIP ESTATES (SEC I)  
 REF: F-88-49, VP 89-23, VP 81-79, F-90-72, P-89-21, F-88-84

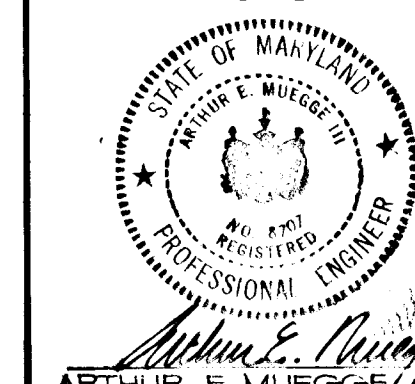
AREA: TAX MAP 22; PARCEL B ZONED R  
 3RD ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

TITLE: TITLE SHEET

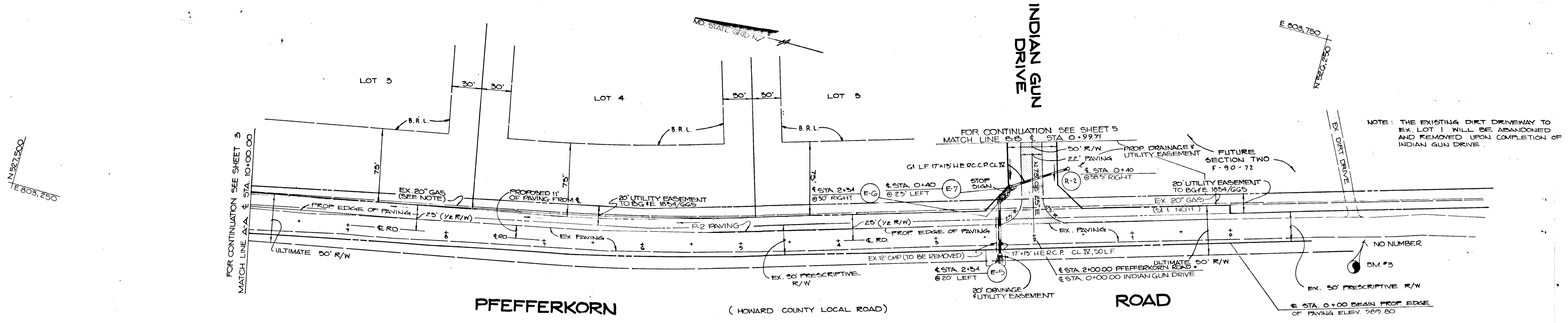
RIEMER MUEGGE & ASSOCIATES, INC.  
 A Land Planning, Engineering and Consulting Firm  
 3105 North Ridge Road Ellicott City, Maryland 21043  
 301-461-2690 FAX: 301-750-3176

DATE: 2.21.90

DESIGNED BY: D.B.S.  
 DRAWN BY: D.O.S.  
 PROJECT NO: 12404  
 DATE: JUNE 23, 1989  
 SCALE: AS SHOWN  
 DRAWING NO: 1 OF 12

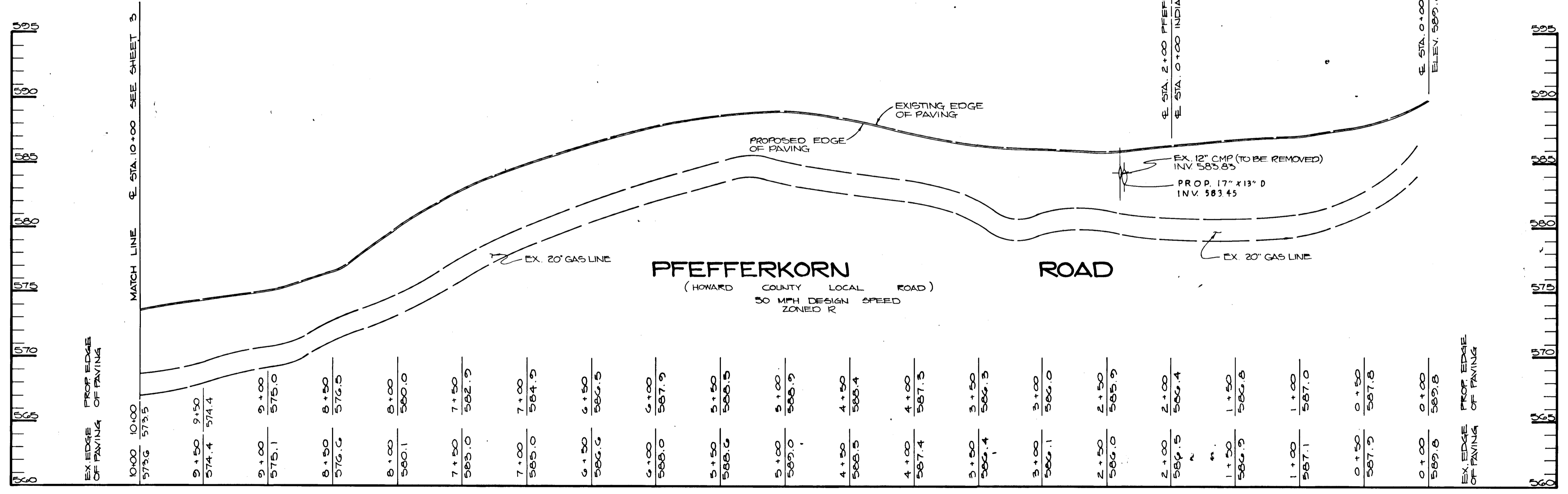


PLAN  
 SCALE: 1" = 200'



**PLAN**  
SCALE: 1" = 50'

**BENCH MARK**  
B.M. #3 ELEV. 501.54  
NAIL SET IN 2x4x6 POLE APPROX. 355' SE OF INTERSECTION OF PFEFFERKORN ROAD AND INDIAN'S GUN DRIVE.



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

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 Chief, Division of Community Planning and Land Development  
 DATE: 5/26/90

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 Chief, Land Development Division DATE: 5/21/90  
 Chief, Bureau of Highways DATE: 4/13/90  
 Chief, Bureau of Engineering DATE: 5-2-90

DATE	NO.	REVISION

OWNER/DEVELOPER: WEST FRIENDSHIP ESTATES PARTNERSHIP  
 LAND DESIGN DEVELOPMENT  
 8807 WAIN ST  
 ELLICOTT CITY, MD 21043  
 DONALD R. FEUMER JR.  
 ELLICOTT CITY, MD 21043

PROJECT: A SUBDIVISION OF PARCEL 8 AND A RESUBDIVISION OF LOT 1 OF THE SELBY PROPERTY WEST FRIENDSHIP ESTATES (SEC I)  
 REF: F-88-49, V.P. 85-95, V.P. 87-72, F-20-72, P-20-71, 5-05-84

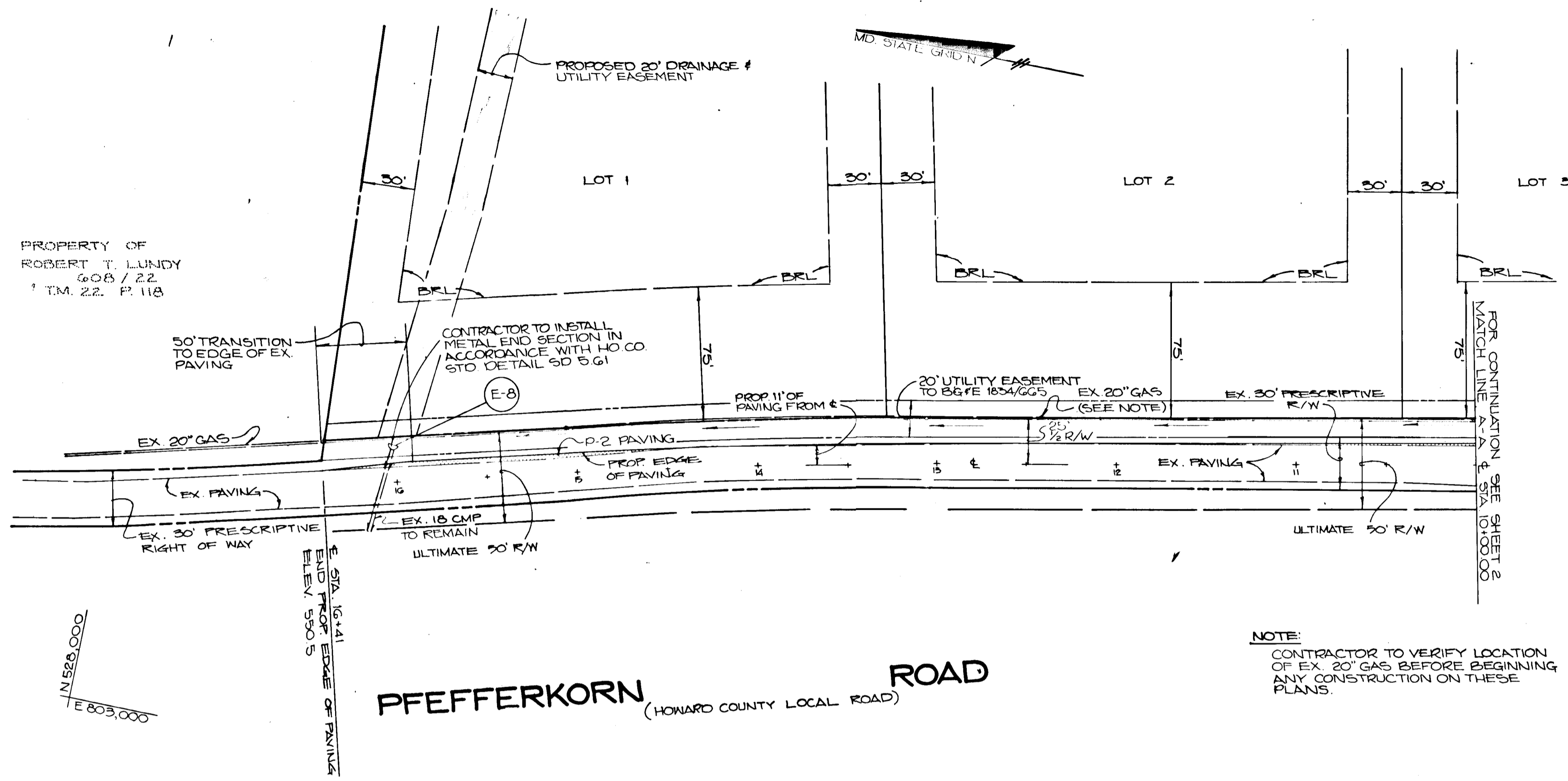
AREA: TAX MAP 22 PARCEL 8 ZONED R  
 3RD ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

TITLE: PLAN AND PROFILE PFEFFERKORN ROAD  
 (STA. 0+00.00 TO STA. 10+00.00)

RIEMER MUEGGE & ASSOCIATES, INC.  
 A Land Planning, Engineering and Consulting Firm  
 3105 North Ridge Road Ellicott City, Maryland 21043  
 301-461-2690 FAX: 301-750-3176

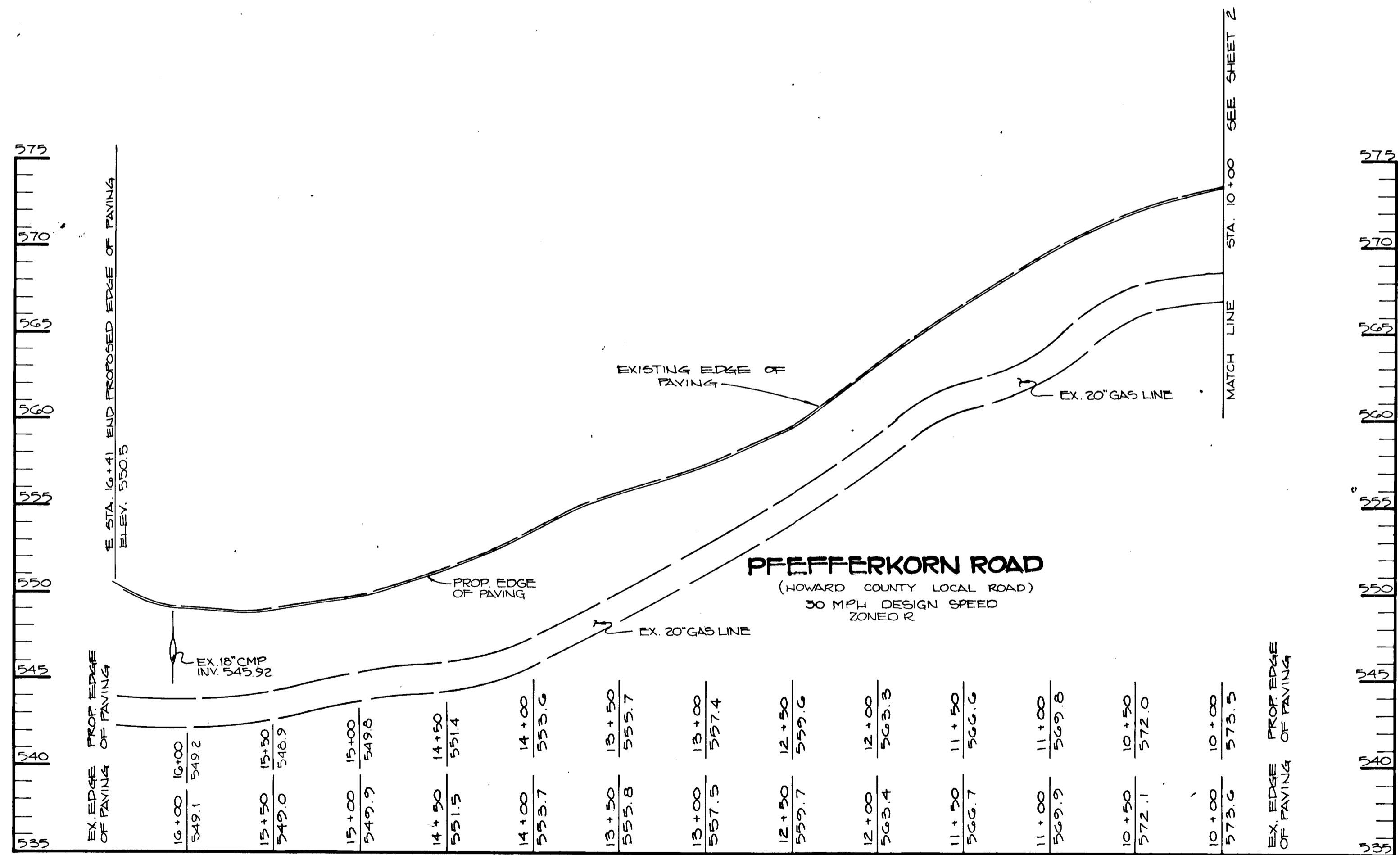
DATE: 2-21-90  
 DESIGNED BY: DDB  
 DRAWN BY: RAW/DOS  
 PROJECT NO: 12404  
 DATE: JUNE 23, 1989  
 SCALE: AS SHOWN  
 DRAWING NO. 2 OF 12

4106



**PFEFFERKORN ROAD**  
(HOWARD COUNTY LOCAL ROAD)

**PLAN**  
SCALE: 1" = 50'



**PROFILE**  
SCALE: HORZ. 1" = 50'  
VERT. 1" = 5'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
*[Signature]* 5/12/90  
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*[Signature]* 5/2/90  
 CHIEF, LAND REDEVELOPMENT DIVISION

*[Signature]* 4/30/90  
 CHIEF, BUREAU OF HIGHWAYS

*[Signature]* 5-3-90  
 CHIEF, BUREAU OF ENGINEERING

DATE	NO.	REVISION

OWNER/DEVELOPER  
 WEST FRIENDSHIP ESTATES PARTNERSHIP  
 C/O LAND DESIGN DEVELOPMENT  
 ELLICOTT CITY, MD. 21043  
 DONALD R. REUWER JR.  
 ELLICOTT CITY, MD. 21043

PROJECT: A SUBDIVISION OF PARCEL B AND A RESUBDIVISION OF LOT 1 OF THE SELBY PROPERTY  
**WEST FRIENDSHIP ESTATES (SEC I)**  
 REF: F-88-49, V.P. 85-93, V.P. 87-79, F-90-72, P-00-31, 0-88-84

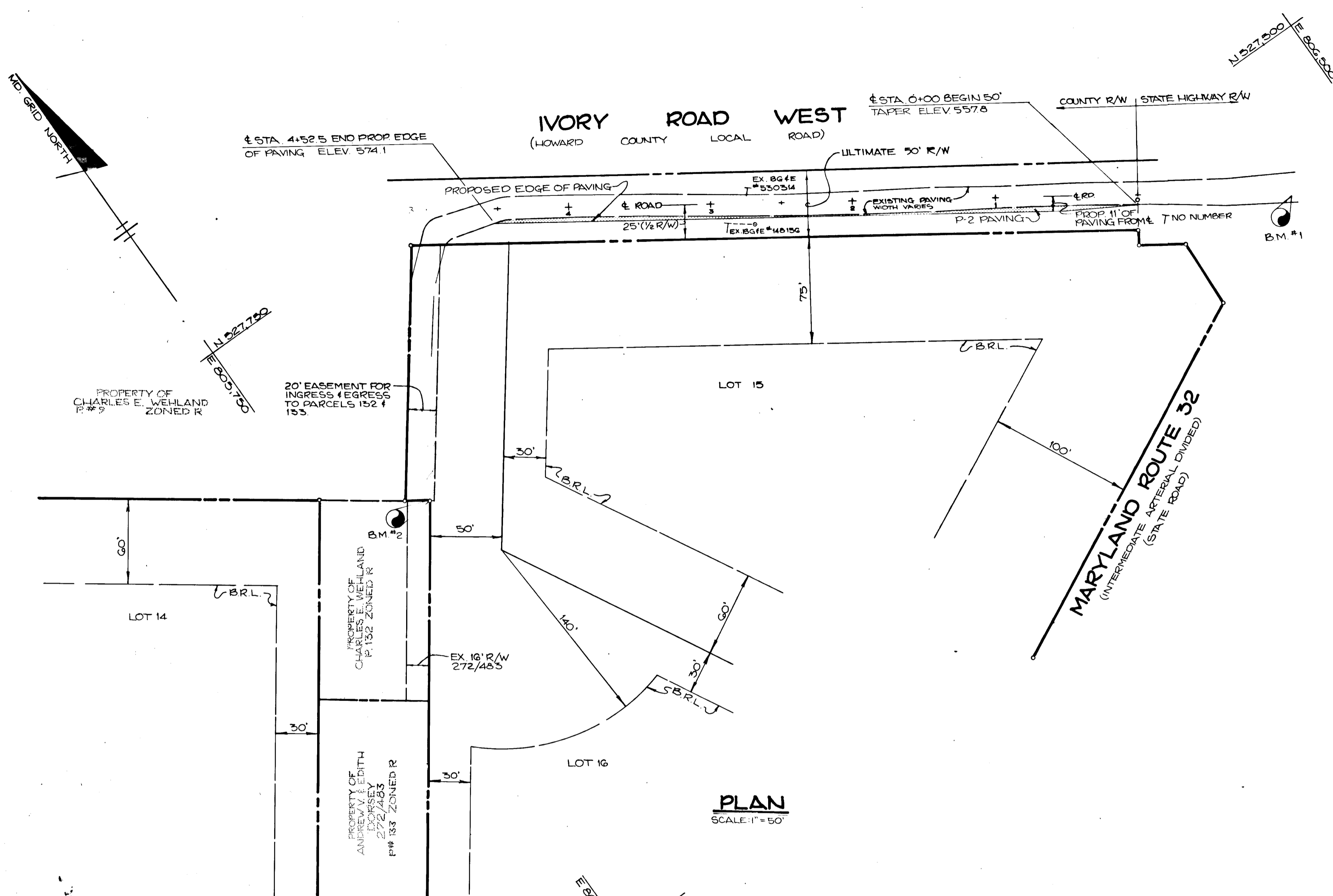
AREA: TAX MAP 22, PARCEL B, ZONED R  
 3RD ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

TITLE: **PLAN AND PROFILE PFEFFERKORN ROAD**  
 STA. 10+00.00 TO STA. 16+41

**RIEMER MUEGGE & ASSOCIATES, INC.**  
 A Land Planning, Engineering and Consulting Firm  
 3105 North Ridge Road, Ellicott City, Maryland 21043  
 301-461-2690 FAX: 301-750-3176

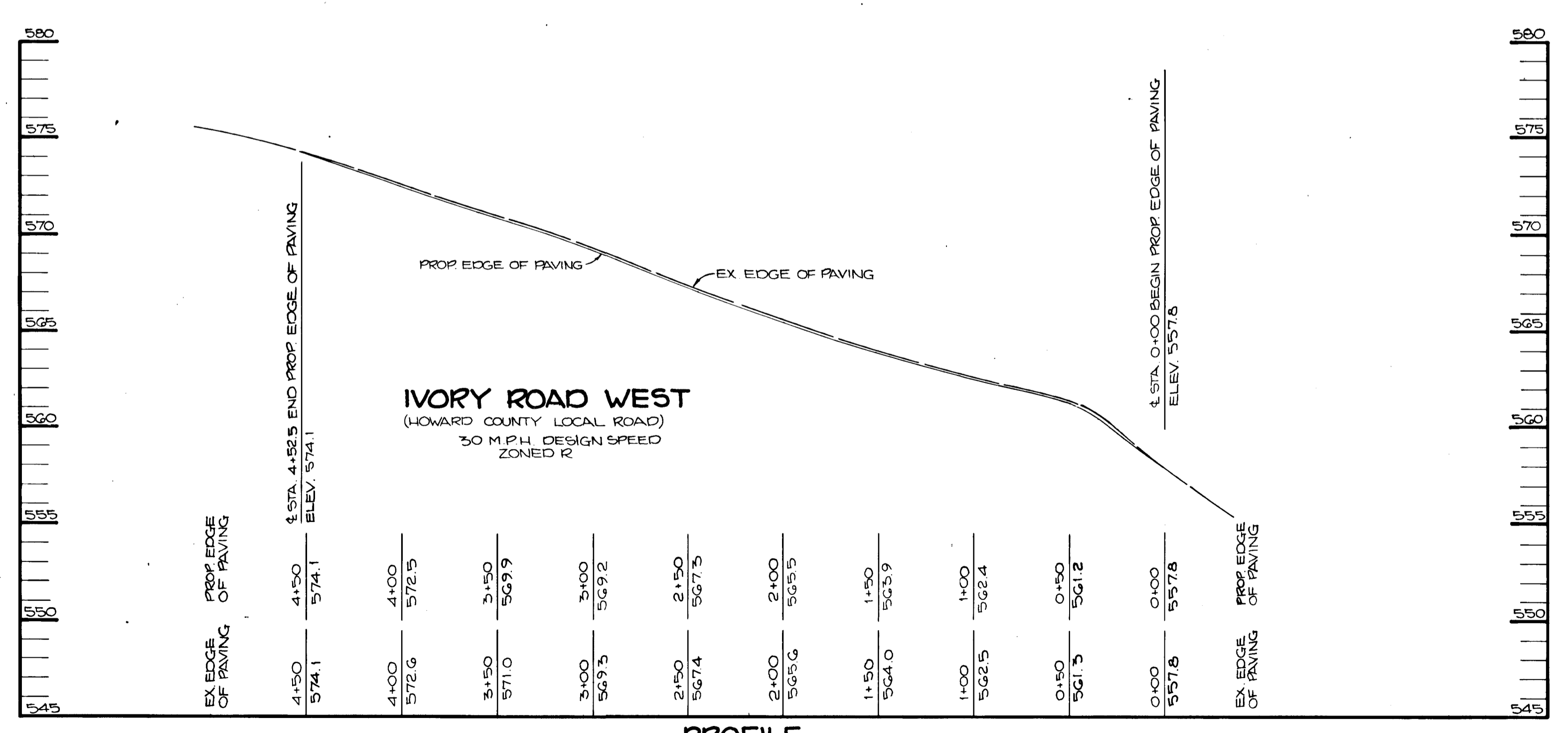
4-21-90  
 DATE  
 DESIGNED BY: D.B.S.  
 DRAWN BY: R.A.W./D.O.S.  
 PROJECT NO: 12404  
 DATE: JUNE 23 1989  
 SCALE: AS SHOWN  
 DRAWING NO. 3 OF 12

406



**BENCH MARKS**  
 B.M.#1 ELEV 550.95  
 RR SPIKE SET IN ASPHALT  
 S.W. SIDE OF W IVORY ROAD  
 B.M.#2 ELEV 577.86  
 IRON PIN (PROPERTY CORNER  
 NO 219)

**PLAN**  
 SCALE: 1" = 50'



**PROFILE**  
 SCALE: HOR. 1" = 50'  
 VERT. 1" = 5'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
*Charles E. Wehland* 5/1/90  
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Donald R. Selwer* 5/2/90  
 CHIEF, LAND DEVELOPMENT DIVISION  
*Francis W. Wehland* 4/30/90  
 CHIEF, BUREAU OF HIGHWAYS  
*William E. Reilly* 5/2/90  
 CHIEF, BUREAU OF ENGINEERING

DATE	NO.	REVISION

OWNER/DEVELOPER  
 WEST FRIENDSHIP ESTATES PARTNERSHIP  
 1500 FOSTER ROAD  
 CO. LAND DESIGN DEVELOPMENT  
 ELLICOTT CITY, MD 21043  
 DONALD R. SELWER JR.  
 ELLICOTT CITY, MD 21043

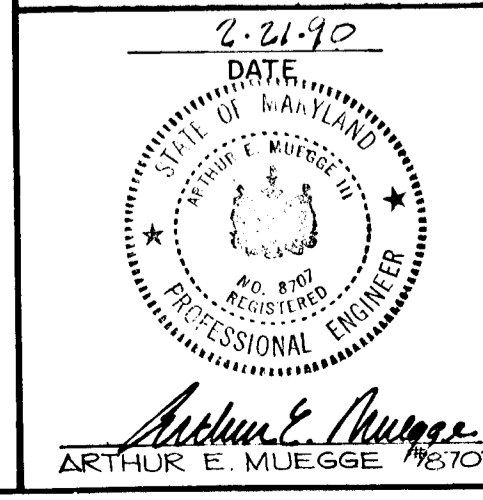
PROJECT: A SUBDIVISION OF PARCEL 8 AND A RESUBDIVISION OF LOT 1 OF THE SELBY PROPERTY  
**WEST FRIENDSHIP ESTATES (SEC I)**  
 REF: P 88-49, VP 85-95, VP 87-79, P 87-72, P 87-31, S 88-84

AREA: TAX MAP 22, PARCEL 8 ZONED R  
 3RD ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

TITLE: **PLAN AND PROFILE**  
**IVORY ROAD WEST**

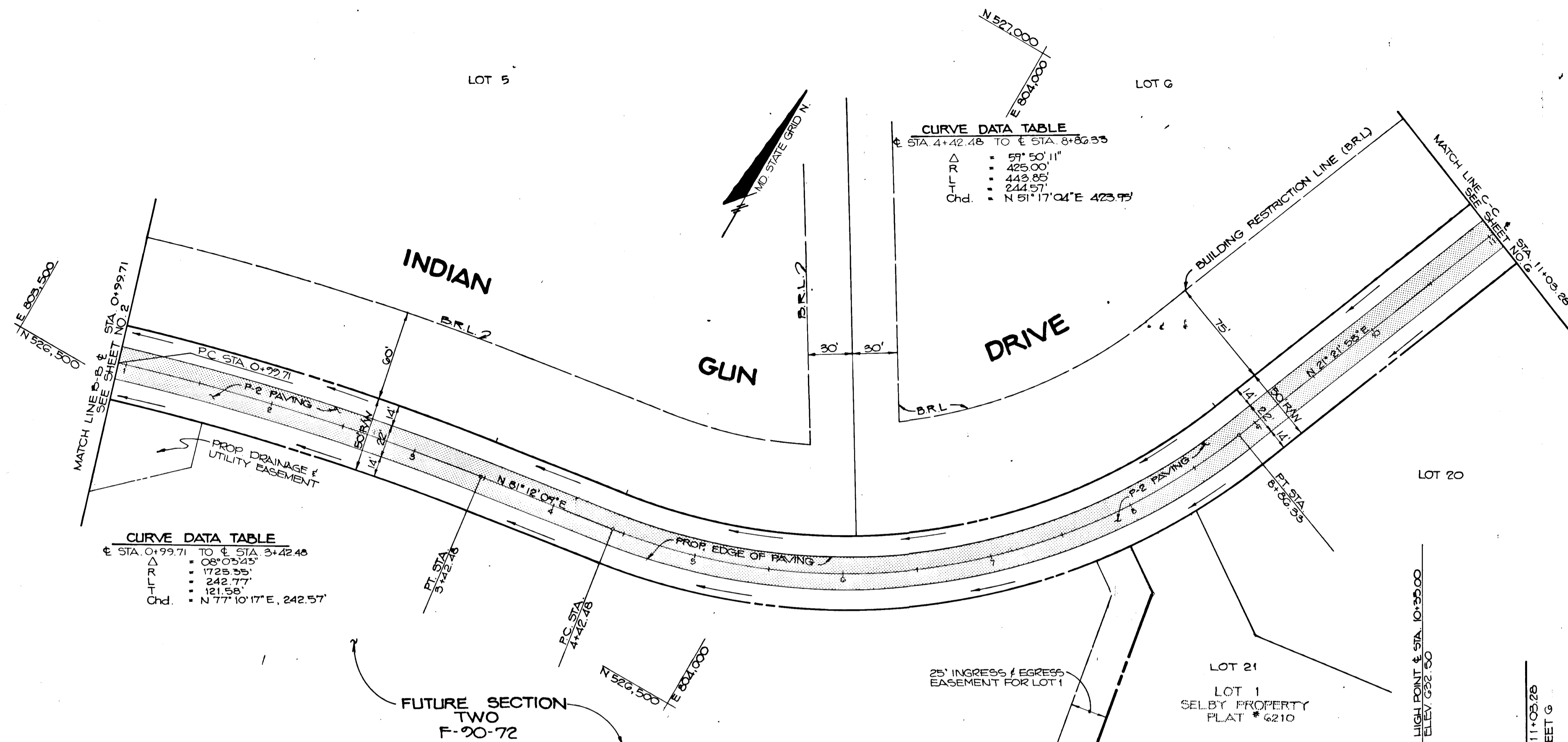
**RIEMER MUEGGE & ASSOCIATES, INC.**  
 A Land Planning, Engineering and Consulting Firm  
 3105 North Ridge Road Ellicott City, Maryland 21043  
 301-461-2690 FAX: 301-750-3176

DATE: 4-21-90  
 DESIGNED BY: C.B.  
 DRAWN BY: C.B.  
 PROJECT NO: 12404  
 DATE: JUNE 25, 1989  
 SCALE: AS SHOWN  
 DRAWING NO: 4 OF 12

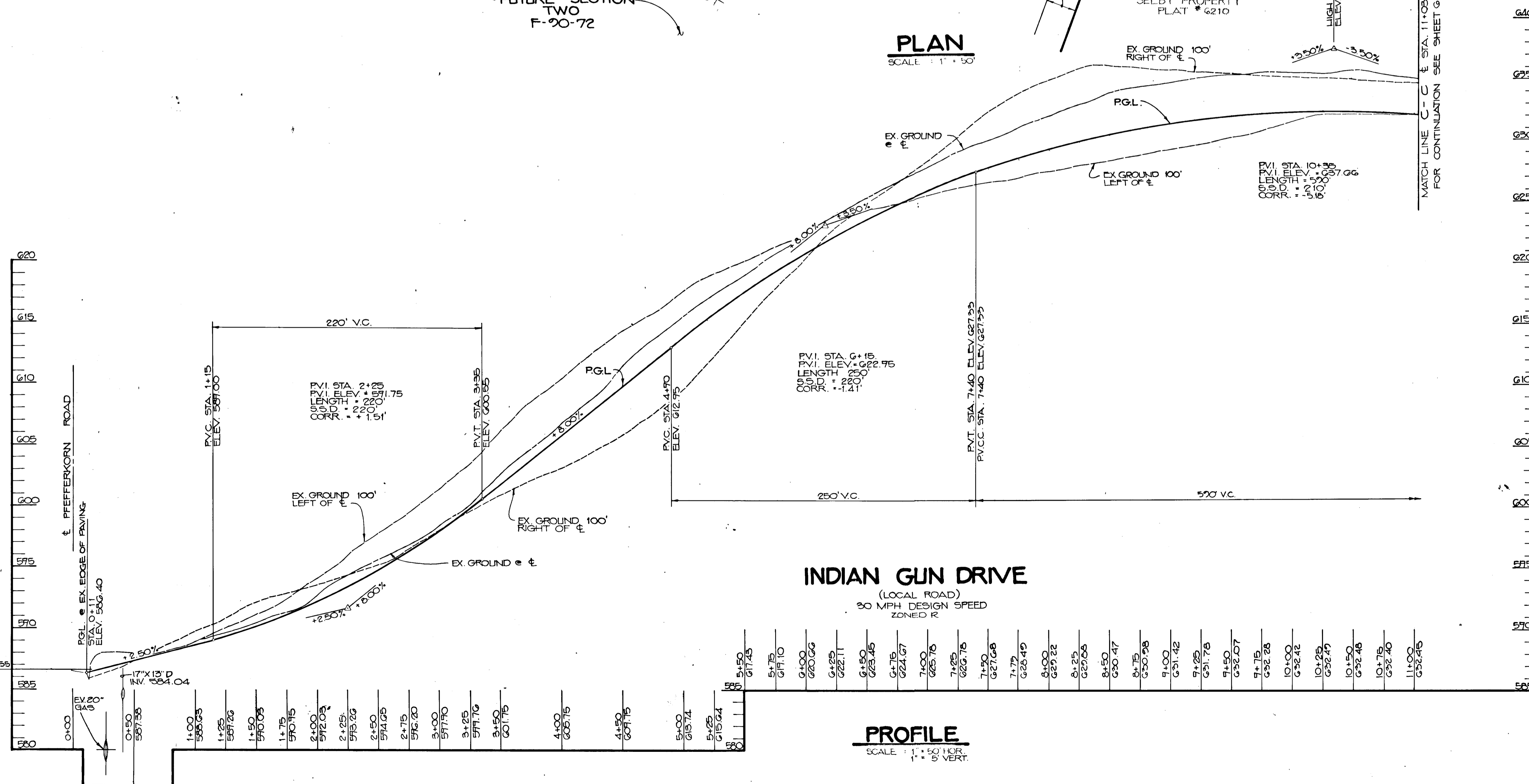


406

MARYLAND BLUEPRINT CO. INC. N8082



**PLAN**  
 SCALE: 1" = 50'



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT  
 DATE: 5/16/90

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 CHIEF, LAND DEVELOPMENT DIVISION  
 DATE: 5/2/90

APPROVED: BUREAU OF HIGHWAYS  
 CHIEF, BUREAU OF HIGHWAYS  
 DATE: 4/30/90

APPROVED: BUREAU OF ENGINEERING  
 CHIEF, BUREAU OF ENGINEERING  
 DATE: 5/2/90

DATE	NO	REVISION

OWNER/DEVELOPER: WEST FRIENDSHIP ESTATES PARTNERSHIP  
 5000 WEST FRIENDSHIP ROAD  
 ELICOTT CITY, MD 21043

PROJECT: A SUBDIVISION OF PARCEL 8 AND A RESUBDIVISION OF LOT 1 OF THE SELBY PROPERTY  
 WEST FRIENDSHIP ESTATES (SEC I)  
 REF: F-88-49, V.P. 85-73, V.P. 87-79, F-90-72, R-90-31, 2-88-84

AREA: TAX MAP 22, PARCEL 8, ZONED - R  
 3RD ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

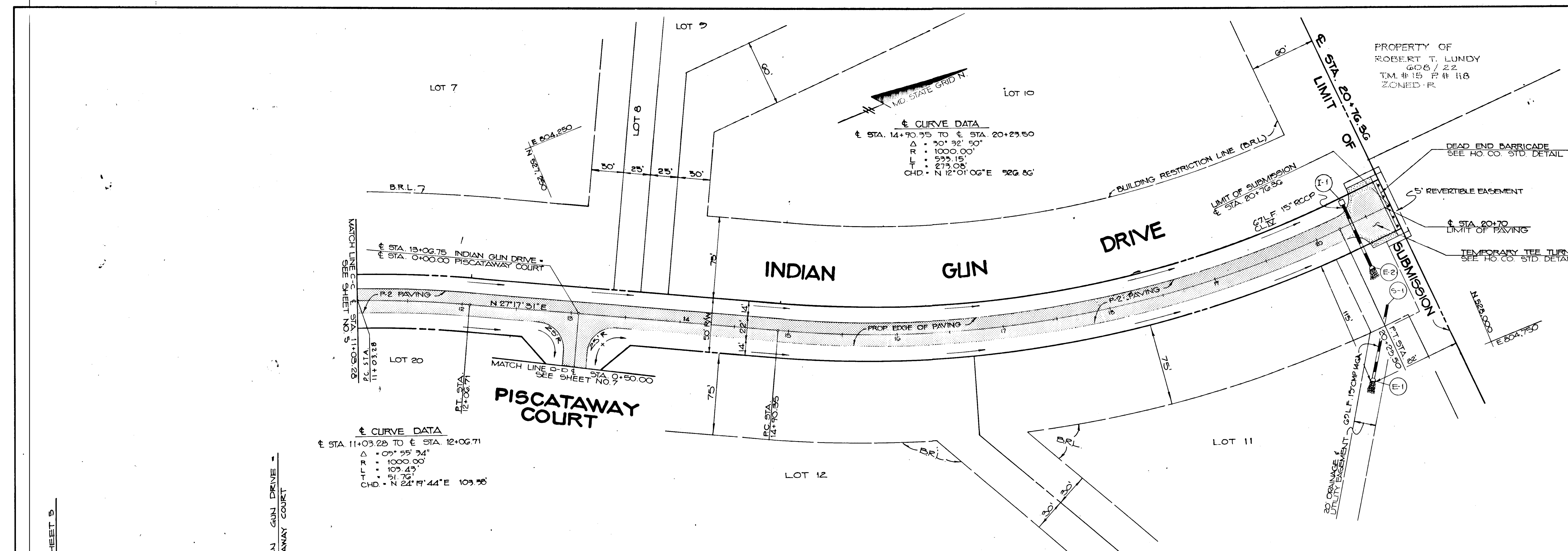
TITLE: **PLAN & PROFILE**  
**INDIAN GUN DRIVE**  
 STA. 0+99.71 TO STA. 11+03.28

RIEMER MUEGGE & ASSOCIATES, INC.  
 A Land Planning, Engineering and Consulting Firm  
 3105 North Ridge Road - Ellicott City, Maryland 21043  
 301-461-2690 FAX: 301-750-3176

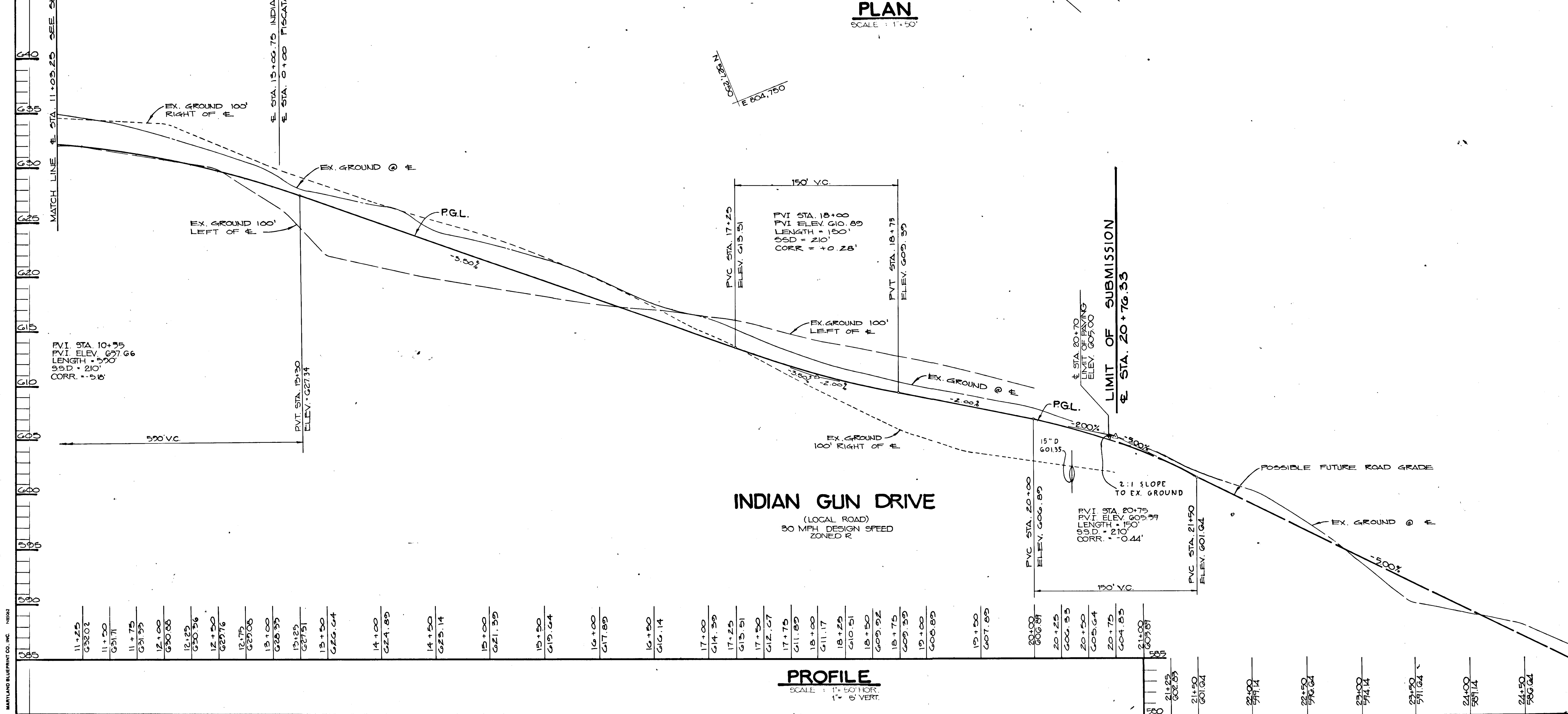
DATE: 6-21-90  
 DESIGNED BY: D.B.S.  
 DRAWN BY: R.A.W.  
 PROJECT NO: 12404  
 DATE: JUNE 23, 1989  
 SCALE: AS SHOWN  
 DRAWING NO. 5 OF 12

406

406



**PLAN**  
SCALE: 1" = 50'



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
*Mark S. J. [Signature]* 5/15/90  
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Donald [Signature]* 5/2/90  
 CHIEF, LAND DEVELOPMENT DIVISION

*Francis W. [Signature]* 4/30/90  
 CHIEF, BUREAU OF HIGHWAYS

*[Signature]* [Date]  
 CHIEF, BUREAU OF ENGINEERING

DATE	NO.	REVISION

OWNER/DEVELOPER  
 WEST FRIENDSHIP ESTATES PARTNERSHIP  
 11500 TECH ROAD  
 LAND DESIGN DEVELOPMENT  
 ELLICOTT CITY, MD 21043  
 DONALD R. BEUWER JR.  
 ELLICOTT CITY, MD 21043

PROJECT  
 A SUBDIVISION OF PARCEL B AND A RESUBDIVISION OF LOT 1 OF THE SELEY PROPERTY  
**WEST FRIENDSHIP ESTATES (P&CI)**  
 REF: 88-49, NR 85-93, NR 87-79, F-90-72, P&C 31, 5-00-04

AREA  
 TAX MAP 22 PARCEL 8 ZONED R  
 3RD ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

TITLE  
**PLAN & PROFILE**  
**INDIAN GUN DRIVE**  
 STA. 11+03.28 TO STA. 20+76.36

RIEMER MUEGGE & ASSOCIATES, INC.  
 A Land Planning, Engineering and Consulting Firm  
 3105 North Ridge Road, Ellicott City, Maryland 21043  
 301-461-2690 FAX: 301-750-3176

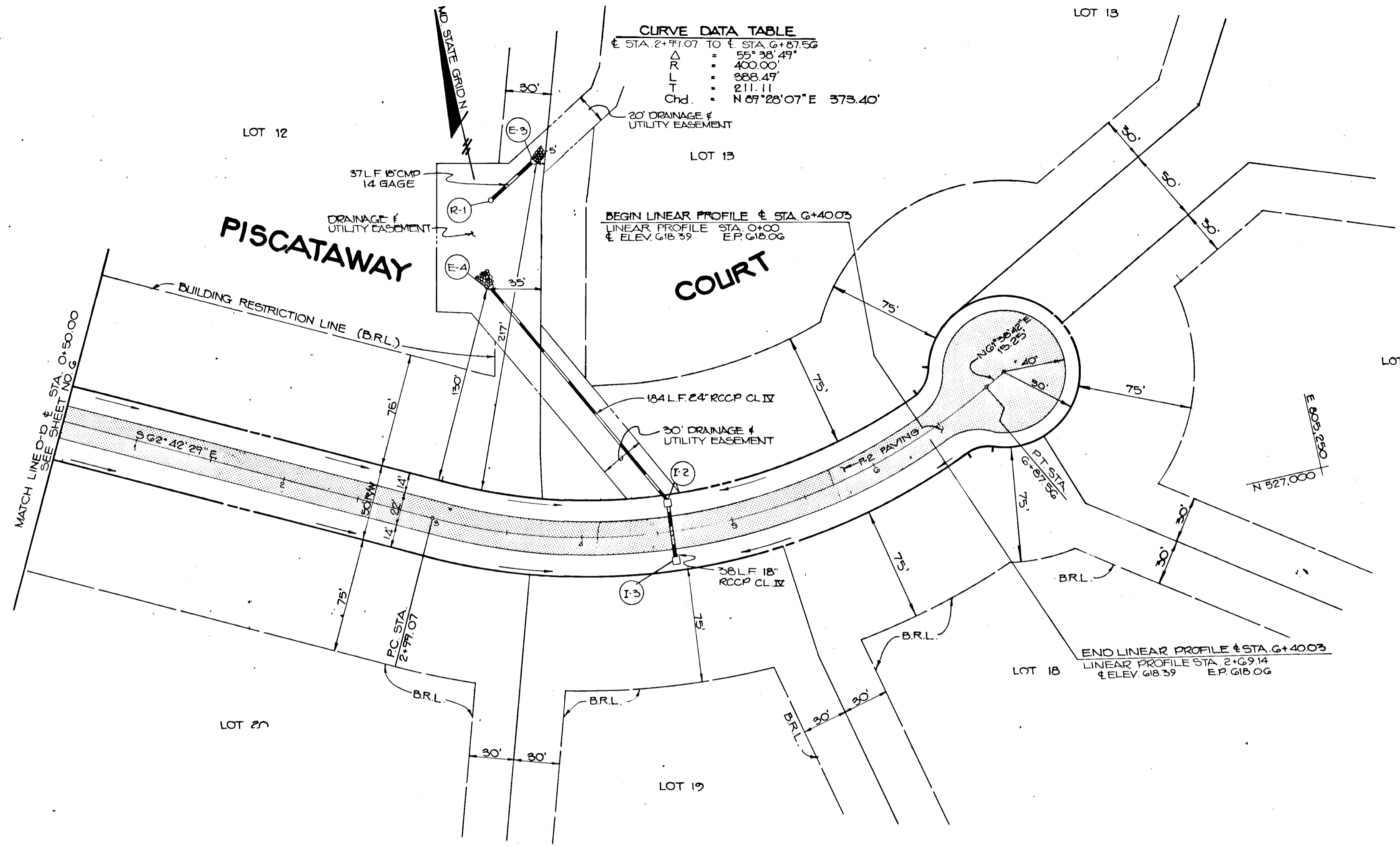
DATE: 2-6-90  
 DESIGNED BY: D.B.S.  
 DRAWN BY: R.A.W./D.O.S.  
 PROJECT NO.: 12404  
 DATE: JUNE 23, 1989  
 SCALE: AS SHOWN  
 DRAWING NO.: 6 OF 12

ARTHUR E. MUEGGE  
 PROFESSIONAL ENGINEER  
 LICENSE NO. 17670

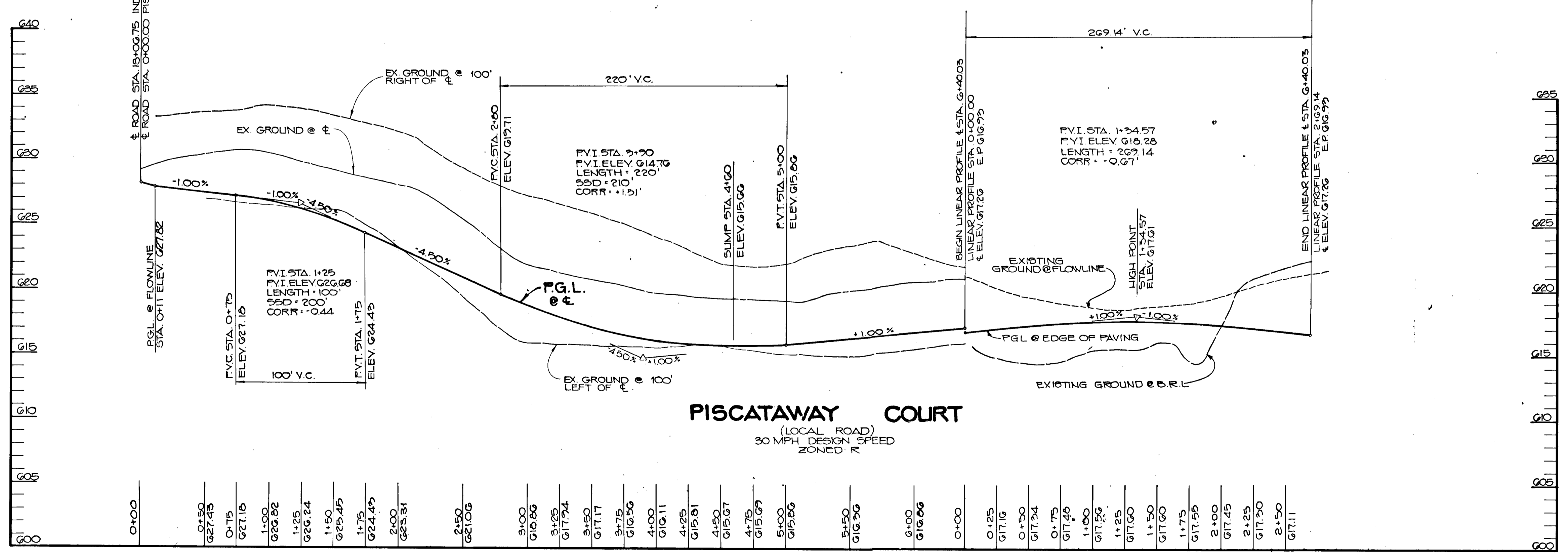
N 527,500  
E 604,750

**CURVE DATA TABLE**

Sta. 2+91.07 TO Sta. 6+87.56	
R	400.00'
L	25° 30' 49"
T	388.49'
Chd.	211.11'
	N 09° 28' 07" E 573.40'



**PLAN**  
SCALE: 1" = 50'



**PROFILE**  
SCALE: 1" = 50' HOR  
1" = 5' VERT

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
*Frank J. Anglin* 5/2/92  
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Donald R. Reuwer* 5/2/92  
CHIEF, BUREAU OF HIGHWAYS  
*Donald R. Reuwer Jr.* 5/2/92  
CHIEF, BUREAU OF ENGINEERING

DATE	NO	REVISION

OWNER/DEVELOPER  
WEST FRIENDSHIP ESTATES PARTNERSHIP  
11520 TECH ROAD  
C/O LAND DESIGN DEVELOPMENT  
ELLICOTT CITY, MD. 21043  
DONALD R. REUWER JR.  
ELLICOTT CITY, MD. 21043

PROJECT  
A SUBDIVISION OF PARCELS 5 AND A RESUBDIVISION OF LOT 1 OF THE SELBY PROPERTY  
**WEST FRIENDSHIP ESTATES (SEC 1)**  
REF: 88-47, V.P. 87-25, V.P. 87-72, F. 87-72, P. 87-51, 5-08-84

AREA  
TAX MAP 22 PARCEL 6 ZONED R  
3RD ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

TITLE:  
**PLAN & PROFILE  
PISCATAWAY COURT**

RIEMER MUEGGE & ASSOCIATES, INC.  
A Land Planning, Engineering and Consulting Firm  
3105 North Ridge Road Ellicott City, Maryland 21043  
301-461-2690 FAX: 301-750-3176

DATE: 5/2/92  
DESIGNED BY: D.B.S.  
DRAWN BY: R.A.W.  
PROJECT NO: 12404  
DATE: JUNE 23, 1989  
SCALE: AS SHOWN  
DRAWING NO. 7 OF 12

ARTHUR E. MUEGGE JR. PROFESSIONAL ENGINEER

406

MARYLAND BLUEPRINT CO., INC. 1989

**PERMANENT SEEDING NOTES**

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

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

**Soil Amendments:** In lieu of soil test recommendations, use 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 disk 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).
- 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 disk 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 gallons per acre (5 gal./1000 sq. ft.) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal./1000 sq. ft.) for anchoring.

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

**TEMPORARY SEEDING NOTES**

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

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

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

**Seeding:** For periods March 1 thru April 30 and from August 15 thru November 15, seed with 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.

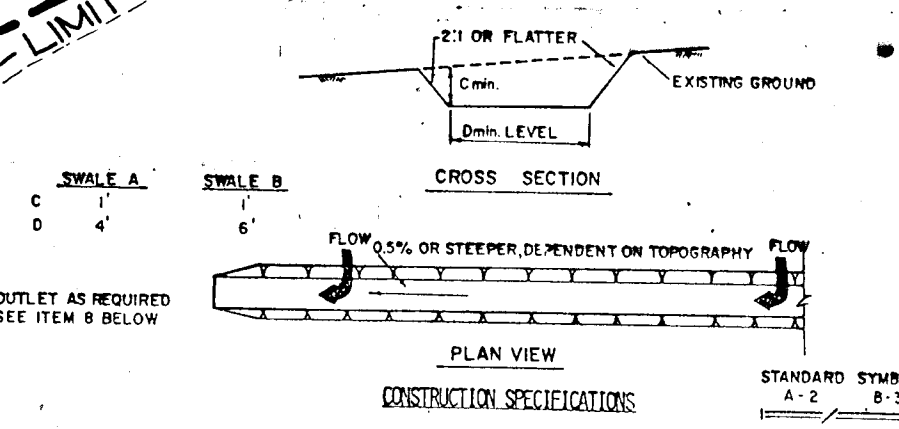
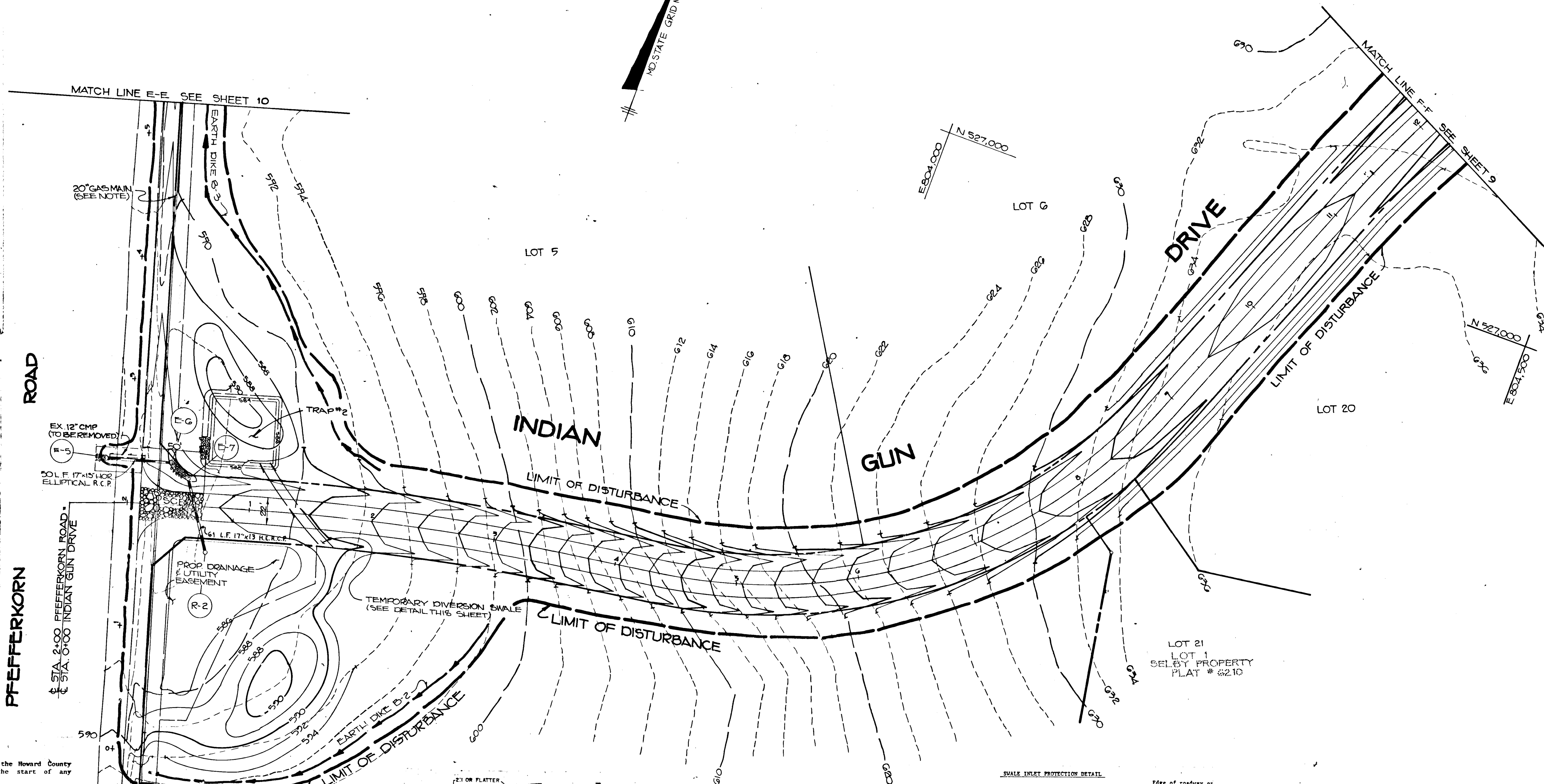
Refer to the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for rate and methods not covered.

**SEDIMENT CONTROL NOTES**

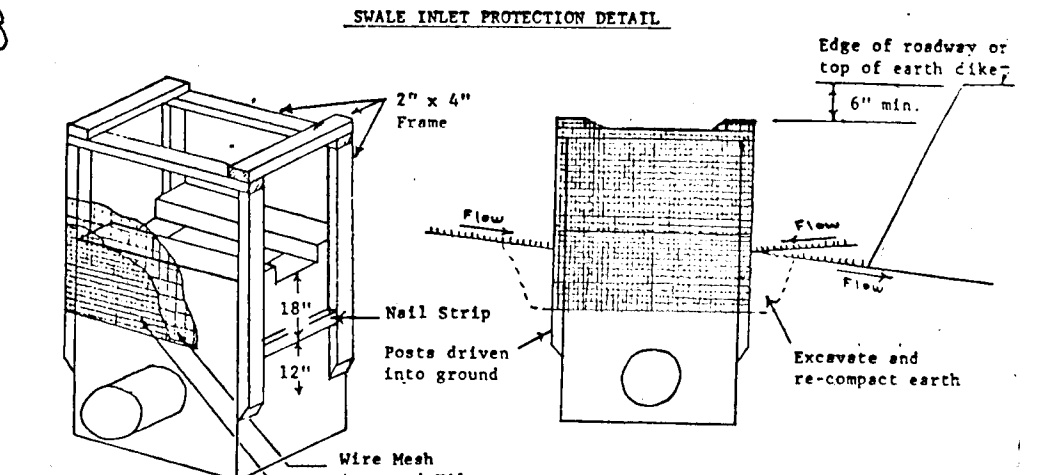
1. A minimum of 24 hours notice must be given to the Howard County Office of Inspections and Permits prior to the start of any construction (992-2437).
2. All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 1983 MARYLAND 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 12500 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. 21) and (Sec. 24), temporary seedings (Sec. 20) and mulching (Sec. 22). 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	80.65 acres
Area Disturbed	7.50 acres
Area to be roofed or paved	1.41 acres
Area to be vegetatively stabilized	8.68 acres
Total Cut	14,000 Cu. yds.
Total Fill	1,000 Cu. yds.
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 Department of Public Works Sediment Control Inspector.
10. Site grading will begin only after all perimeter sediment control measures have been installed and are in a functioning condition.
11. Sediment will be removed from traps when its depth reaches the clean out elevation shown on the plans.
12. Cut and fill quantities provided under site analysis do not represent final quantities. These quantities do not distinguish between topsoil, structural fill or embankment material, nor do they reflect consideration of undercutting or removal of unsuitable material. The contractor shall familiarize himself with site conditions which may affect the work.

TYPE OF TRAP	TRAP NUMBER	DRAINAGE AREA	STORAGE VOLUME REQ'D (CF)	STORAGE VOLUME PRV. (CF)	CREST ELEV.	CREST WIDTH (FT)	BOTTOM ELEV.	BOTTOM DIMENS.	CLEANOUT ELEV.	SIDE SLOPES	DEPTH OF TRAP
PURE OUTLET	1	2.00 ac. ±	3600	5200	64.5	—	609.0	64'x24'	60.5	3:1	2.5'
STONE OUTLET	2	4.30 ac. ±	7140	8300	58.7	18"	586	30'x50'	58.3	1:1	5'
STONE OUTLET	3	2.50 ac. ±	4500	4900	60.5	10"	600	35'x35'	60.5	1:1	3'



**PLAN**  
SCALE: 1" = 50'



- STANDARD SYMBOL** S.F.I.P.
1. A swale, ditchline or yard inlet protection.
  1. Excavate completely around inlet to a depth of 18" below notch elevation.
  2. Drive 2 x 4 post 1' into ground at four corners of inlet. Place nail strips between posts on ends of inlet. Assemble top portion of 2 x 4 frame using overlap joint shown. Top of frame (weir) must be 6" below edge of roadway adjacent to inlet.
  3. Stretch wire mesh tightly around frame and fasten securely. Ends must meet at post.
  4. Stretch filter cloth tightly over wire mesh, the cloth must extend from top of frame to 18" below inlet notch elev. Fasten securely to frame. Ends must meet at post, be overlapped and folded, then fastened down.
  5. Backfill around inlet in compacted 4" layers until layer of earth is even with notch elevation on side and top elevation on ends.
  6. If the inlet is not in a low point, construct a compacted earth dike in the ditchline below it. The top of this dike is to be at least 6" higher than the top of frame (weir).
  7. This structure must be inspected frequently and the filter fabric replaced when clogged.

**CONSTRUCTION SPECIFICATIONS**

1. All temporary swales shall have uninterrupted positive grade to an outlet.
2. DIVERGED RUNOFF FROM A DISTURBED AREA SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE.
3. DIVERGED 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 SHIPPED TO LINE, GRADE, AND CROSS SECTION AS REQUIRED TO MEET THE CRITERIA SPECIFIED HEREIN AND BE FREE OF SOAK PROTECTIONS OR OTHER UNSUITABLES WHICH WILL IMPAIR 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:

TYPE OF DISTURBANCE	CHANNEL SIZE	A (5 AC OR LESS)	B (5 AC - 10 AC)
1	0.5-3.0'	SEED AND STRAW MULCH	SEED USING ATE OR CECILS/RYE
2	3.1-5.0'	SEED AND STRAW MULCH	SEED USING ATE OR CECILS/RYE
3	5.1-8.0'	SEED WITH ATE OR EXCELLESTOR 500	LINED RIP-RAP 4-8"
4	8.1-20'	LINED 4-8" RIP-RAP	ENGINEERED DESIGN

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

**TEMPORARY DIVERSION SWALE**  
NO SCALE

**NOTE:** CONTRACTOR TO VERIFY LOCATION OF EX. 20" GAS MAIN BEFORE BEGINNING ANY CONSTRUCTION ON THESE PLANS.

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 NATURAL RESOURCES 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."  
 George Jones, V. pres. DEVELOPER DATE 2/22/90

BY THE ENGINEER:  
 "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."  
 Arthur E. Muegge, ENGINEER DATE 2/21/90

REVIEWED FOR HOWARD COUNTY S.C.D. AND MEETS TECHNICAL REQUIREMENTS  
 James M. Johnson, SOIL CONSERVATION DISTRICT DATE 3/9/91

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
 John R. Robinson, HOWARD S.C.D. DATE 3/9/91

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 David S. Spitzer, CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE 5/14/90

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 Donald R. Keuwer Jr., CHIEF, BUREAU OF HIGHWAYS DATE 5/2/90  
 Donald R. Keuwer Jr., CHIEF, BUREAU OF ENGINEERING DATE 4/30/90

DATE	NO.	REVISION

**OWNER/DEVELOPER**  
 WEST FRIENDSHIP ESTATES PARTNERSHIP  
 11500 TECH ROAD  
 LAND DESIGN DEVELOPMENT  
 ELLICOTT CITY, MD 21043  
 DONALD R. KEUWER JR.  
 ELLICOTT CITY, MD 21043

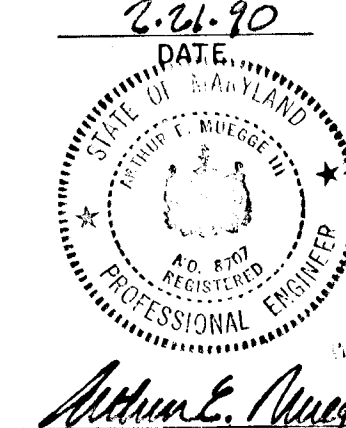
**PROJECT:** A SUBDIVISION OF PARCEL 8 AND A RESUBDIVISION OF LOT 1 OF THE SELBY PROPERTY WEST FRIENDSHIP ESTATES (SEC 1)  
 REF: F-68-49, V.P. 65-75, V.P. 81-79, F-90-72, P. 80-91, 92-88-84

**AREA:** TAX MAP 22 PARCEL 8 ZONED R  
 3RD ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

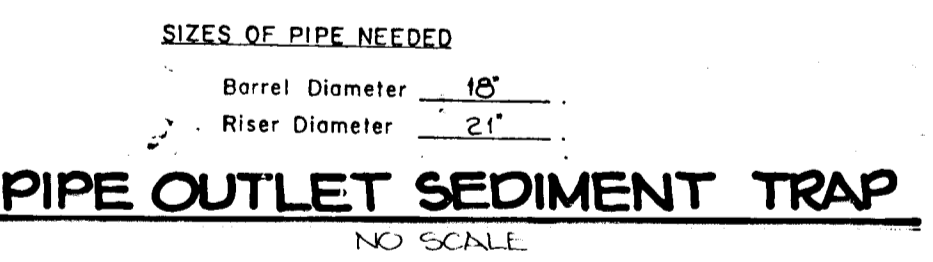
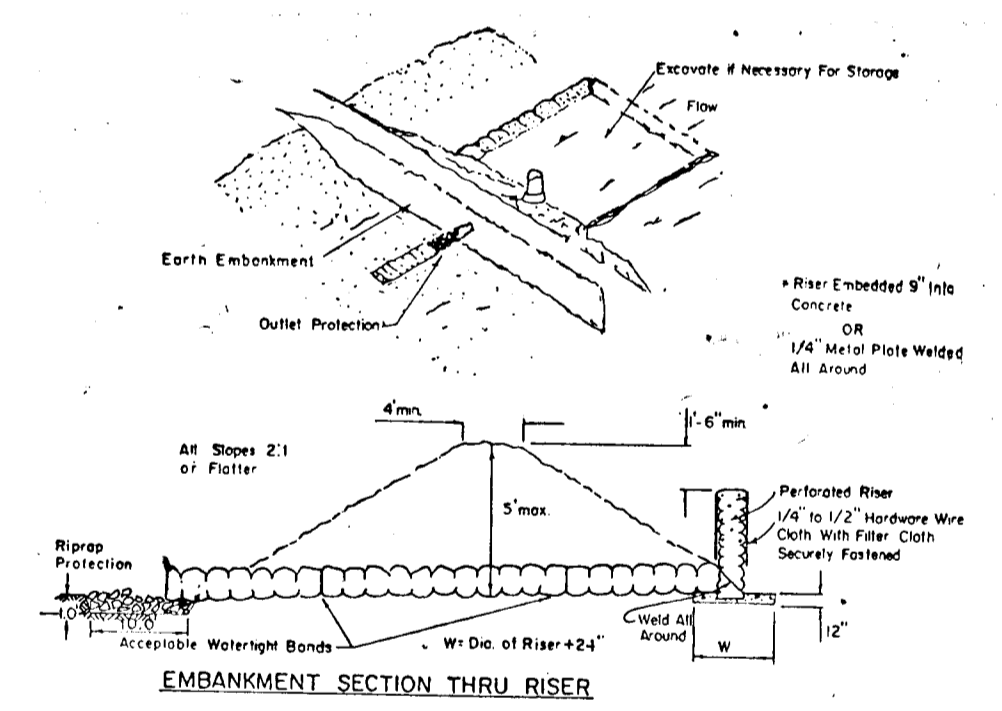
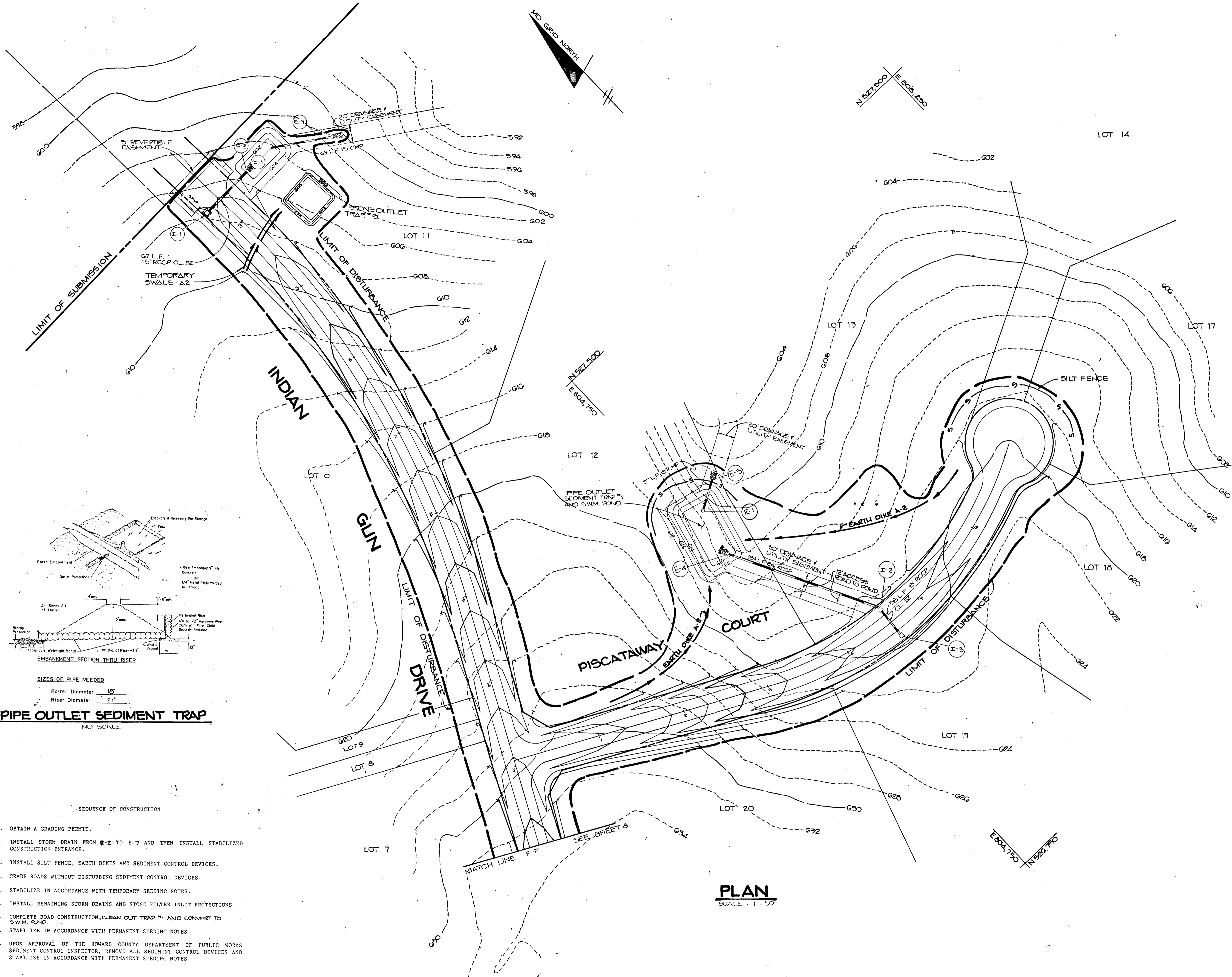
**TITLE GRADING, SEDIMENT CONTROL PLAN & DETAILS**

**RIEMER MUEGGE & ASSOCIATES, INC.**  
 A Land Planning, Engineering and Consulting Firm  
 3105 North Ridge Road Ellieott City, Maryland 21043  
 301-461-2690 FAX: 301-750-3176

DATE 2-21-90  
 DESIGNED BY: D.B.S.  
 DRAWN BY: M.G.Y. & D.O.S.  
 PROJECT NO: 12404  
 DATE: JUNE 23, 1989  
 SCALE: AS SHOWN  
 DRAWING NO. 6 OF 12







- SEQUENCE OF CONSTRUCTION
- OBTAIN A GRADING PERMIT.
  - INSTALL STORM DRAIN FROM #2 TO E-7 AND THEN INSTALL STABILIZED CONSTRUCTION ENTRANCE.
  - INSTALL SILT FENCE, EARTH DIKES AND SEDIMENT CONTROL DEVICES.
  - GRADE ROADS WITHOUT DISTURBING SEDIMENT CONTROL DEVICES.
  - STABILIZE IN ACCORDANCE WITH TEMPORARY SEEDING NOTES.
  - INSTALL REMAINING STORM DRAINS AND STONE FILTER INLET PROTECTIONS.
  - COMPLETE ROAD CONSTRUCTION, CLEAN OUT TRAP #1 AND CONVERT TO SWIM POND.
  - STABILIZE IN ACCORDANCE WITH PERMANENT SEEDING NOTES.
  - UPON APPROVAL OF THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS SEDIMENT CONTROL INSPECTOR, REMOVE ALL SEDIMENT CONTROL DEVICES AND STABILIZE IN ACCORDANCE WITH PERMANENT SEEDING NOTES.

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 NATURAL RESOURCES 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."  
 George J. Jones, V. Pres. 2/22/90  
 DEVELOPER DATE

BY THE ENGINEER:  
 "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."  
 Arthur E. Muegge 2-21-90  
 ENGINEER DATE

REVIEWED FOR Howard NAME S.C.D.  
 AND MEETS TECHNICAL REQUIREMENTS  
 James M. Alden/PAK 3/9/91  
 DIST. SOIL CONSERVATION SERVICES DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
 John R. Roberts 3/19/91  
 HOWARD S.C.D. DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 Marshall S. J. Langley 5/15/91  
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 Donald D. Reuser 5/2/90  
 CHIEF, LAND DEVELOPMENT DIVISION DATE  
 Donald D. Reuser 4/30/90  
 CHIEF, BUREAU OF HIGHWAYS DATE  
 Donald D. Reuser 5-15-91  
 CHIEF, BUREAU OF ENGINEERING DATE

DATE	NO.	REVISION

OWNER / DEVELOPER  
 WEST FRIENDSHIP ESTATES PARTNERSHIP  
 1500 FEIN ROAD  
 LAND DESIGN DEVELOPMENT  
 ELLICOTT CITY, MD 21043  
 DONALD D. REUSER JR.  
 ELLICOTT CITY, MD 21043

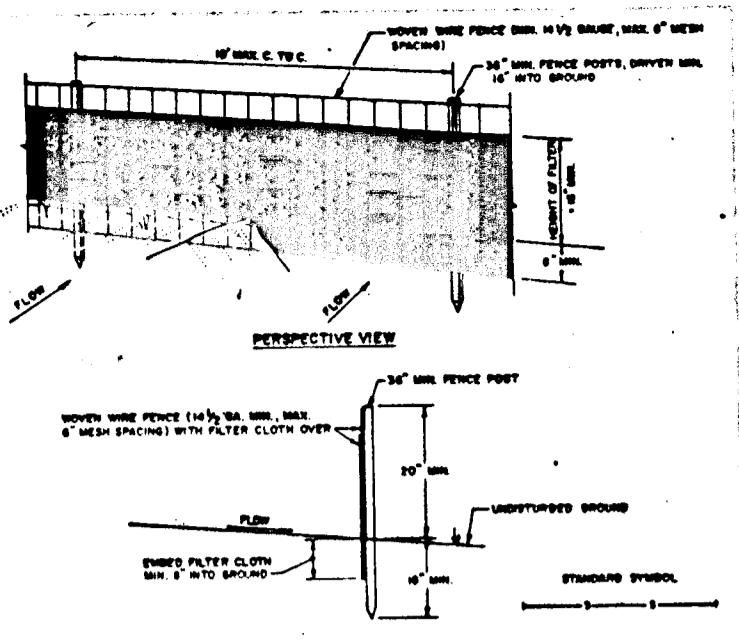
PROJECT  
 A SUBDIVISION OF PARCEL 8 AND A RESUBDIVISION OF LOT 1 OF THE SELBY PROPERTY  
 WEST FRIENDSHIP ESTATES (SEC I)  
 REF: F-88-49, V.P. 85-93, V.P. 87-79, F-90-72, P. 89-31, S-88-84

AREA  
 TAX MAP 22 PARCEL 8 ZONED R  
 3RD ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

TITLE: **GRADING, SEDIMENT CONTROL PLAN**  
 RIEMER MUEGGE & ASSOCIATES, INC.  
 A Land Planning, Engineering and Consulting Firm  
 3105 North Ridge Road Ellicott City, Maryland 21043  
 301-461-2690 FAX: 301-750-3176

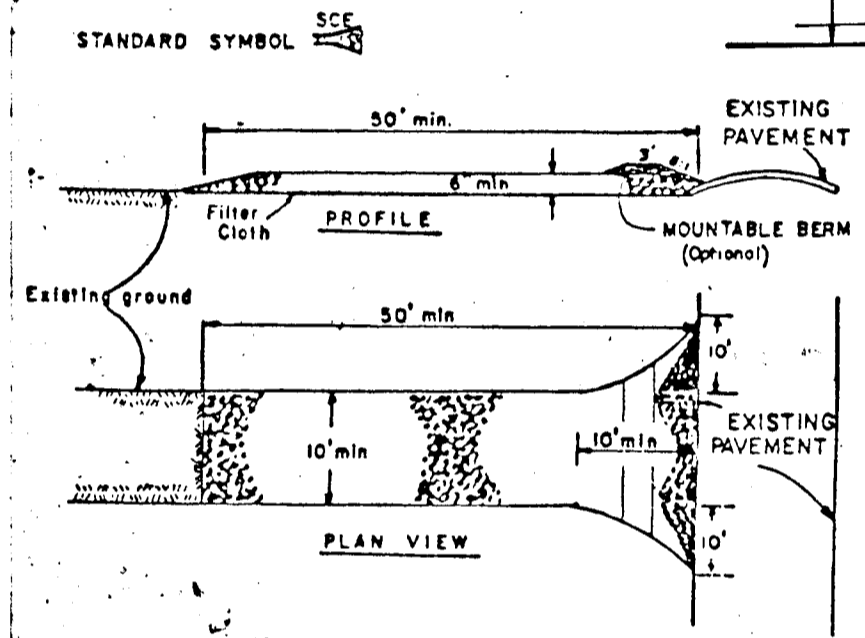
DATE: 2-21-90  
 DESIGNED BY: D.B.S.  
 DRAWN BY: M.G.Y., R.A.W.  
 PROJECT NO: 12404  
 DATE: JUNE 23, 1989  
 SCALE: AS SHOWN  
 DRAWING NO. 9 OF 12

406



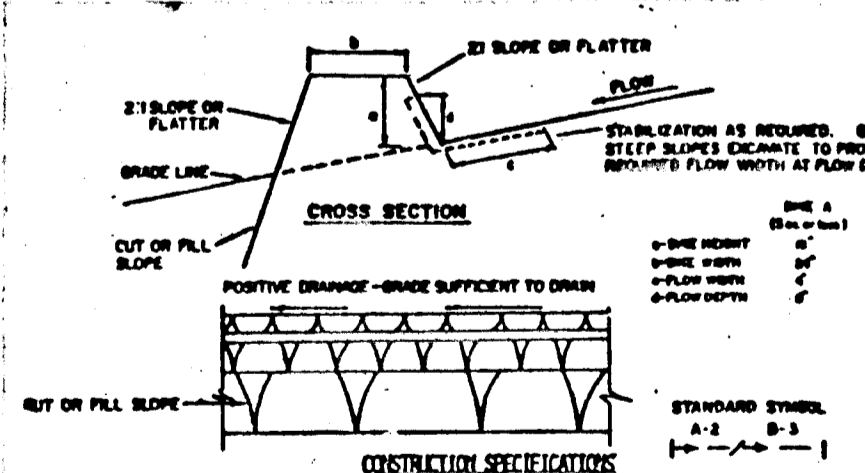
- CONSTRUCTION NOTES FOR FABRICATED SILT FENCE:**
1. MONY WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
  2. FILTER CLOTH TO BE FASTENED SECURELY TO MONY WIRE FENCE WITH TIES SPACED EVERY 2' AT TOP AND BOTTOM.
  3. MONY WIRE SECTIONS OF FILTER CLOTH MUST BE OVERLAPPED BY SIX INCHES AND POLYESTER REINFORCED BY SIX INCHES AND POLYESTER.
  4. MAINTENANCE SHALL BE PERFORMED AS NOTED AND MATERIAL REMOVED WHEN NECESSARY TO MAINTAIN PROPER FLOW.

**SILT FENCE**  
NO 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 realty fence lot where a 30 foot minimum length would apply).
  3. Thickness - Not less than six (6) inches.
  4. Width - Two (2) feet 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 beam with 3/4" 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/or cleaning 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



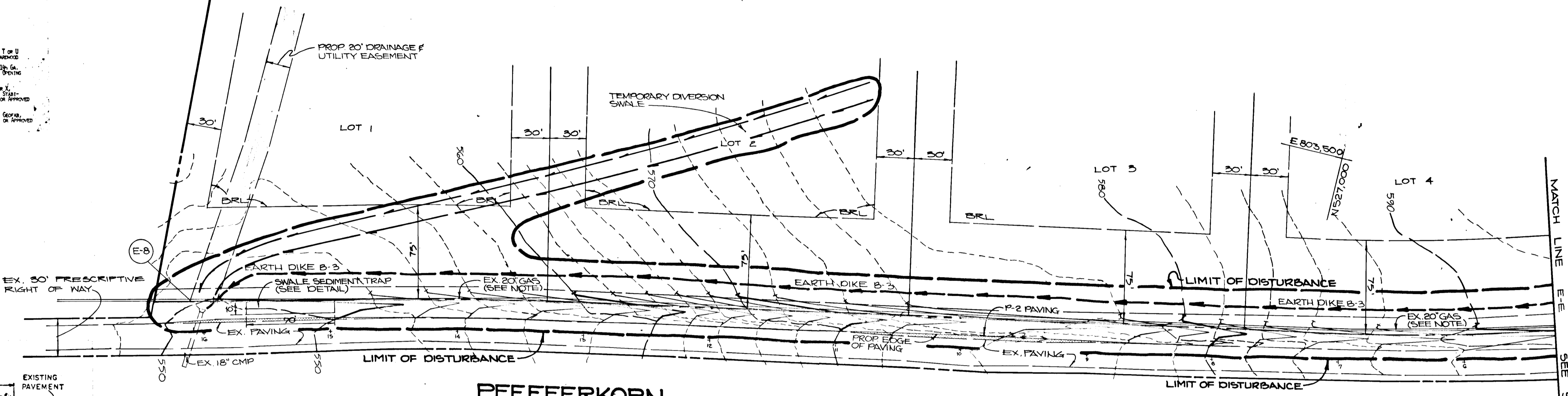
- CONSTRUCTION SPECIFICATIONS:**
1. ALL DIKES SHALL BE CONSTRUCTED BY EARTH-MOVING EQUIPMENT.
  2. ALL DIKES SHALL HAVE POSITIVE DRAINAGE TO AN OUTLET.
  3. TOP SURFACE SHALL BE WIDER AND SLOPE SHALL BE FLATTER IF DESIRED TO FACILITATE PASSING BY CONSTRUCTION TRAFFIC.
  4. FIELD LOCATION SHOULD BE ADJUSTED AS NEEDED TO UTILIZE A STABILIZED SAFE ROUTE.
  5. EARTH DIKES SHALL HAVE AN OUTLET THAT FUNCTIONS WITH A MINIMUM OF EROSION. EARTH DIKES SHALL BE CONSTRUCTED TO A MINIMUM THICKNESS OF 2' AND A MINIMUM OF 2' BATTERY BATH WHEN EITHER THE DIKE CHURNS OR THE DIVERSION AREA ABOVE THE DIKE ARE NOT SEPARATELY STABILIZED.
  6. STABILIZATION SHALL BE: (A) IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR SEED AND STRAW MULCH OR STRAW MULCH IF NOT IN BIDDING MANUAL; (B) PLUM CHANNEL, AS PER THE DRAWING BELOW.

TYPE OF MULCH	COVER	DIKE A	DIKE B
1	5-3.0E	SEED AND STRAW MULCH	SEED AND STRAW MULCH
2	3.1-5.0E	SEED AND STRAW MULCH	SEED MULCH ONLY, OR EXCLUSION, 500' 2" STONE
3	5.1-8.0E	SEED WITH JUTE, OR SOO, 2" STONE	LINED RIP-RAP 4-8"
4	8.1-20E	LINED RIP-RAP 4-8"	ENGINEERING DESIGN

A. Stone to be 2" clean stone, or recycled concrete equivalent, in a layer at least 3 inches in thickness and as placed into the soil with construction equipment.  
B. Rip-rap to be 4-8 inches in a layer at least 8 inches thick and placed into the soil.  
7. PERIODIC INSPECTION AND REQUIRED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN EVENT.

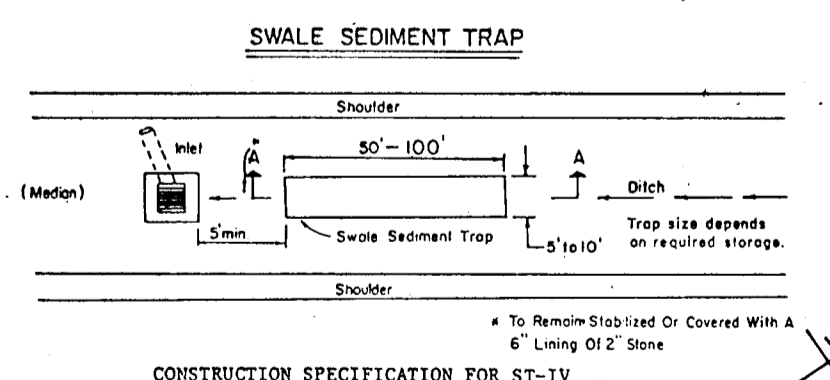
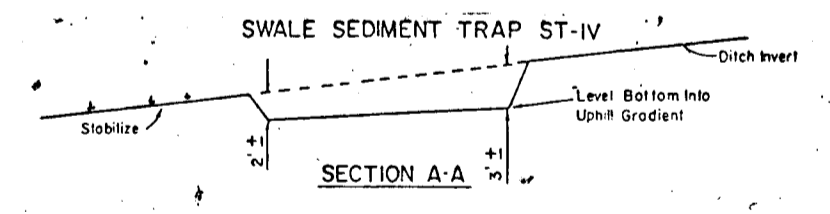
**EARTH DIKE**  
NO SCALE

PROPERTY OF ROBERT T. LUNDY



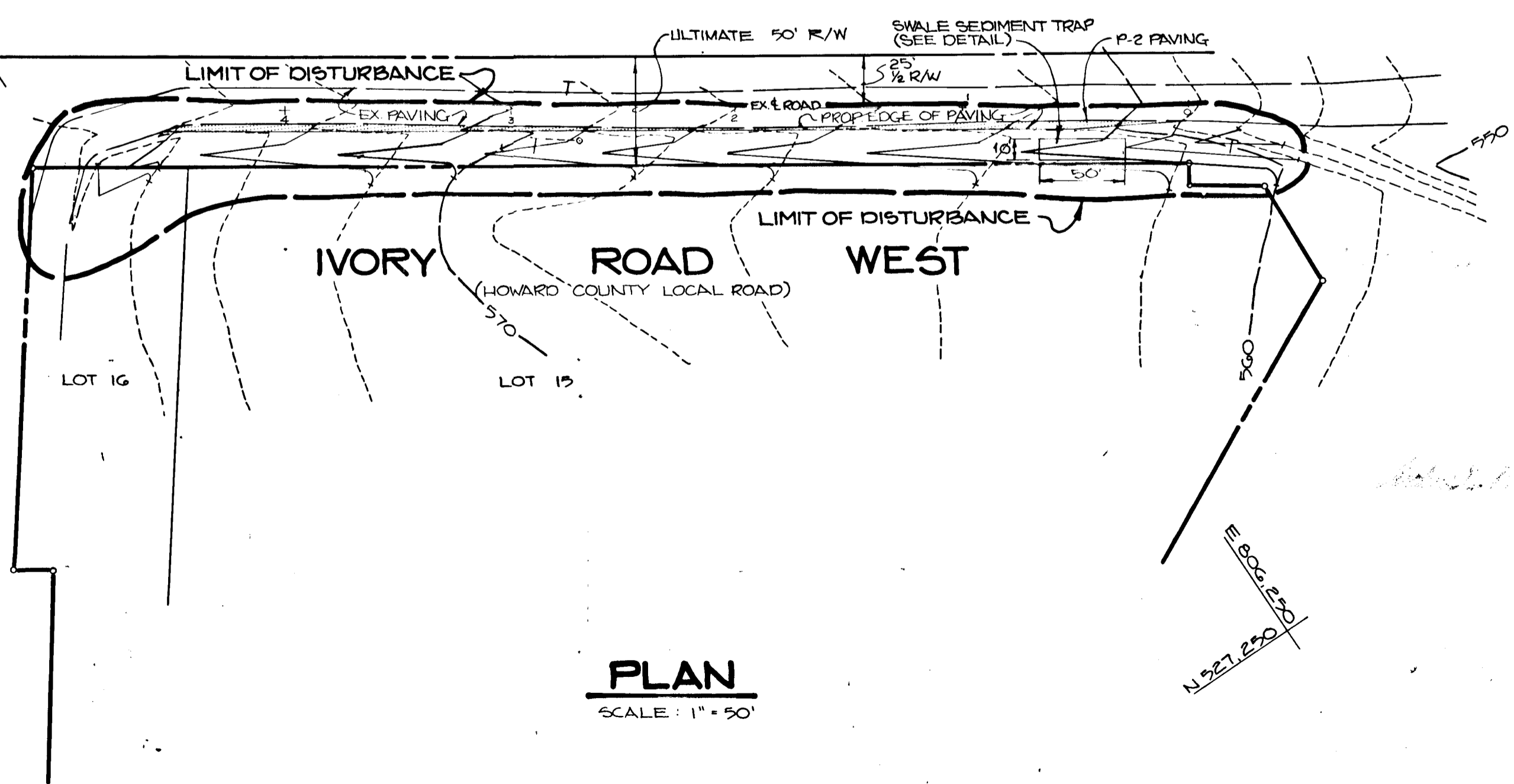
**PFEFFERKORN ROAD**  
(HOWARD COUNTY LOCAL ROAD)

**PLAN**  
SCALE: 1" = 50'



- CONSTRUCTION SPECIFICATION FOR ST-1V:**
1. The swale sediment trap shall be constructed in accordance with the dimensions provided on the design drawings or sized to provide the minimum storage necessary 1800 cubic feet of storage for each acre of drainage area.
  2. 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.
  3. The structure shall be inspected after each rain and repairs made as needed.
  4. Construction operations shall be carried out in such a manner that erosion and water pollution shall be minimized.
  5. The sediment trap shall be removed and area stabilized when the contributory drainage area has been properly stabilized.
  6. The swale sediment trap will be properly backfilled and the swale or ditch reconstructed.

**SWALE SEDIMENT TRAP**  
NO SCALE



**IVORY ROAD WEST**  
(HOWARD COUNTY LOCAL ROAD)

**PLAN**  
SCALE: 1" = 50'

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 NATURAL RESOURCES 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."  
George J. V. Pros. 2/22/90  
DEVELOPER DATE

BY THE ENGINEER:  
"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."  
Arthur E. Muegge 2-21-90  
ENGINEER DATE

REVIEWED FOR: Howard NAME S.C.D.  
AND MEETS TECHNICAL REQUIREMENTS  
James M. Helm / JMH 3/9/90  
SOIL CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
John L. Rothermel 3/9/90  
HOWARD S.C.D. DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
Dorinda V. Taylor 5/14/90  
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
Paul H. Spon 5/2/90  
CHIEF, LAND DEVELOPMENT DIVISION DATE

Francis M. Weisand 4/30/90  
CHIEF, BUREAU OF HIGHWAYS DATE

DATE	NO	REVISION

OWNER / DEVELOPER  
WEST FRIENDSHIP ESTATES PARTNERSHIP  
1500 TECH ROAD  
C/O LAND DESIGN DEVELOPMENT  
ELICOTT CITY, MD. 21043  
DONALD R. BEUWER JR.  
ELICOTT CITY, MD. 21043

PROJECT: A SUBDIVISION OF PARCEL 8 AND A RESUBDIVISION OF LOT 1 OF THE SELBY PROPERTY WEST FRIENDSHIP ESTATES (SEC I)  
REF: F 88-49 VP 85-95 VP 87-79 F-20-72 P-09-31 S-88-84

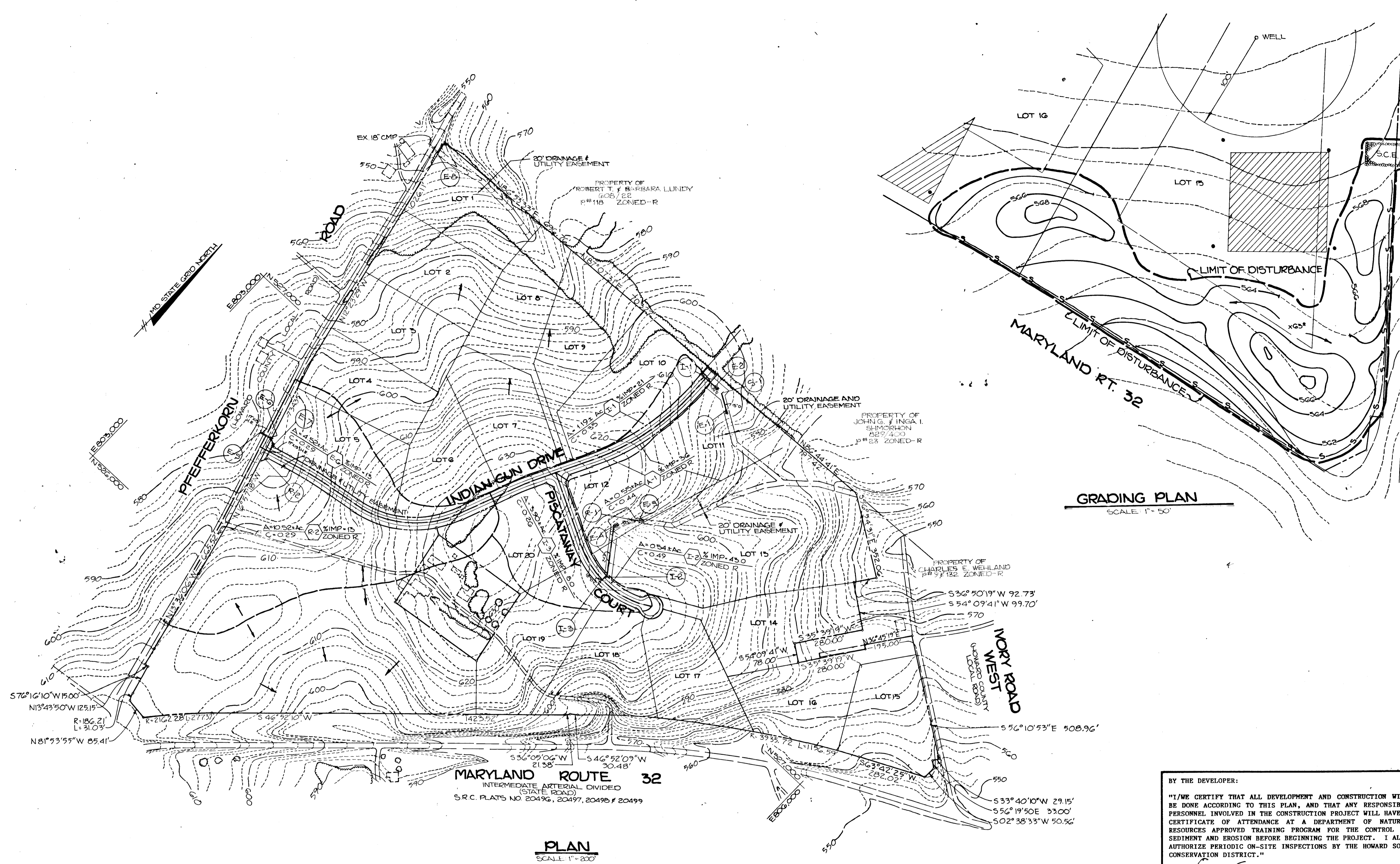
AREA TAX MAP 22 PARCEL 8 ZONE R  
3 RD. ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

**TITLE: GRADING, SEDIMENT CONTROL PLAN AND DETAILS**

RIEMER MUEGGE & ASSOCIATES, INC.  
A Land Planning, Engineering and Consulting Firm  
3105 North Ridge Road Elicott City, Maryland 21043  
301-461-2690 FAX: 301-750-3176

2-21-90 DATE  
DESIGNED BY: D.B.S.  
DRAWN BY: M.G.Y., R.A.W.  
PROJECT NO: 12404  
DATE: JUNE 23, 1989  
SCALE: AS SHOWN  
DRAWING NO. 10 OF 12

Arthur E. Muegge 18707



**GRADING PLAN**  
SCALE: 1" = 50'

**MARYLAND ROUTE 32**  
INTERMEDIATE ARTERIAL DIVIDED  
(STATE ROAD)  
S.R.C. PLATS NO. 20496, 20497, 20498 & 20499

**PLAN**  
SCALE: 1" = 200'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
*Mark J. ...* 5/1/90  
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Paul J. ...* 5/2/90  
CHIEF, LAND DEVELOPMENT DIVISION  
*Donna W. ...* 4/13/90  
CHIEF, BUREAU OF HIGHWAYS  
*...* 5/1/90  
CHIEF, BUREAU OF ENGINEERING

DATE	NO.	REVISION

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 NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."  
*...* 2/22/90  
DEVELOPER

BY THE ENGINEER:  
"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."  
*Arthur E. Muegge* 2-21-90  
ENGINEER

REVIEWED FOR: *Howard* NAME: \_\_\_\_\_ S.C.D.  
AND MEETS TECHNICAL REQUIREMENTS

*James M. ...* 3/9/90  
DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
*John C. ...* 3/9/90  
HOWARD S.C.D. DATE

OWNER / DEVELOPER  
WEST FRIENDSHIP ESTATES PARTNERSHIP  
1500 TECH ROAD  
C/O LAND DESIGN DEVELOPMENT  
BELLCOFF CITY, MD. 21043  
DONALD R. SEWLER JR.  
BELLCOFF CITY, MD. 21043  
PROJECT: A SUBDIVISION OF PARCEL B AND A RESUBDIVISION OF LOT 1 OF THE SELBY PROPERTY  
**WEST FRIENDSHIP ESTATES (SEC I)**  
REF: F 88-49, VP 85-93, VP 87-79, F-20-72, P89-31, S-88-84  
AREA TAX MAP 22 PARCEL B ZONED R  
3RD ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

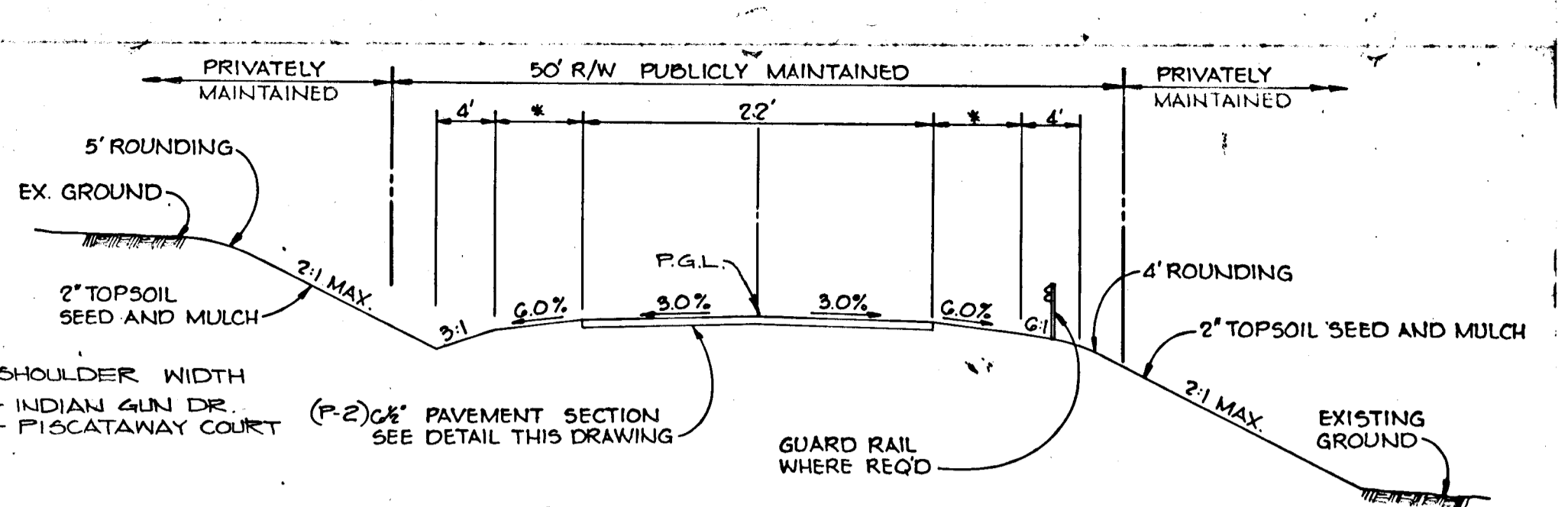
TITLE  
**DRAINAGE AREA MAP AND GRADING PLAN**  
RIEMER MUEGGE & ASSOCIATES, INC.  
A Land Planning, Engineering and Consulting Firm  
3105 North Ridge Road Ellicott City, Maryland 21043  
301-461-2690 FAX: 301-750-3176

DATE: 2-21-90  
DESIGNED BY: D.B.S.  
DRAWN BY: M.G.Y.  
PROJECT NO: 12404  
DATE: JUNE 23, 1989  
SCALE: AS SHOWN  
DRAWING NO. 11 OF 12

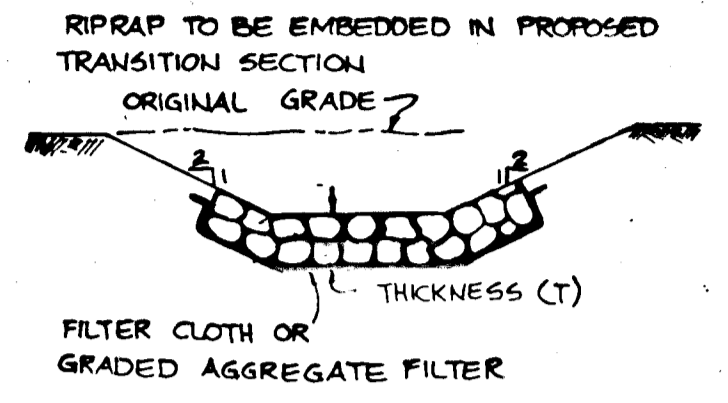


406

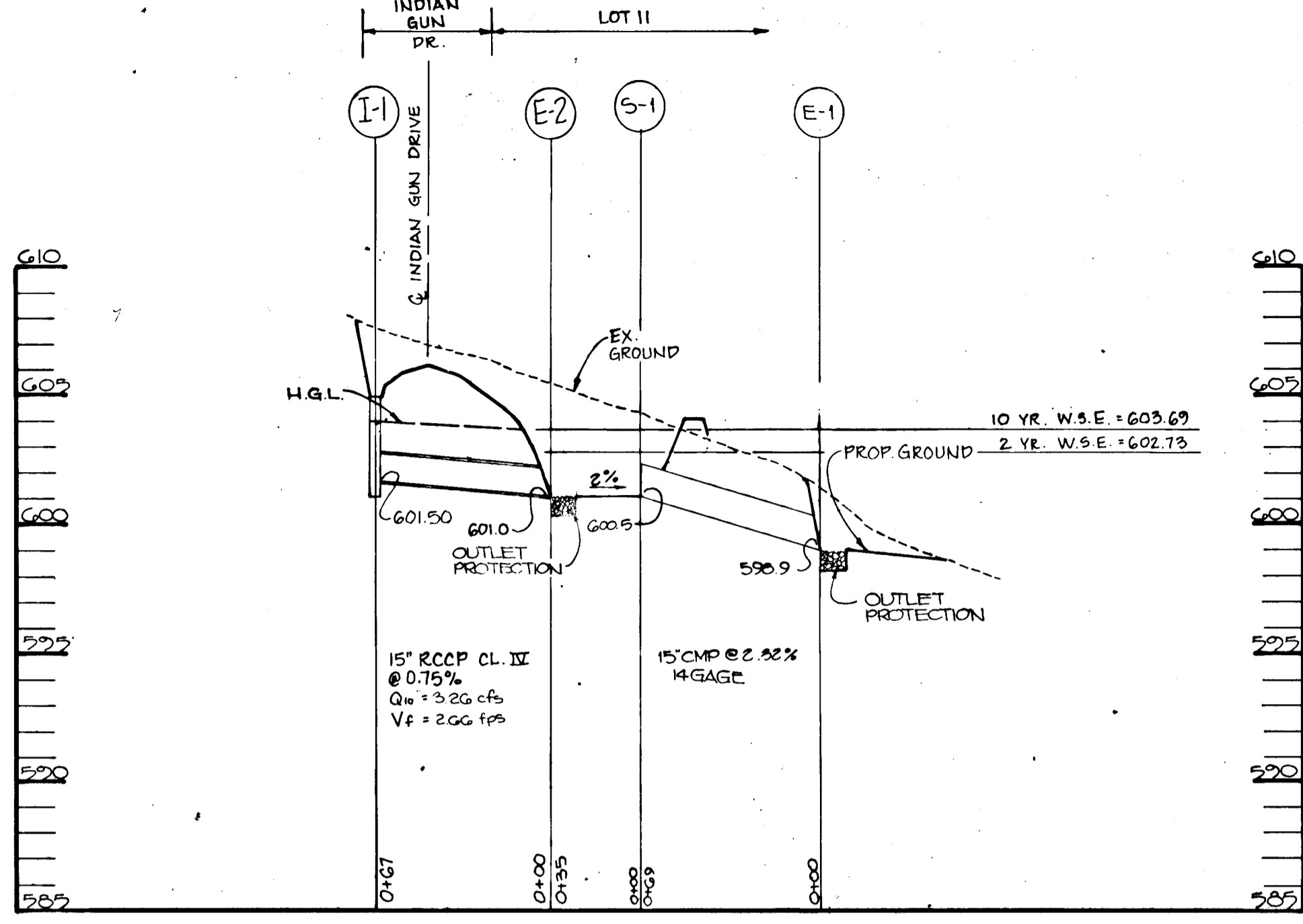
MARYLAND BLUEPRINT CO. INC. 11802



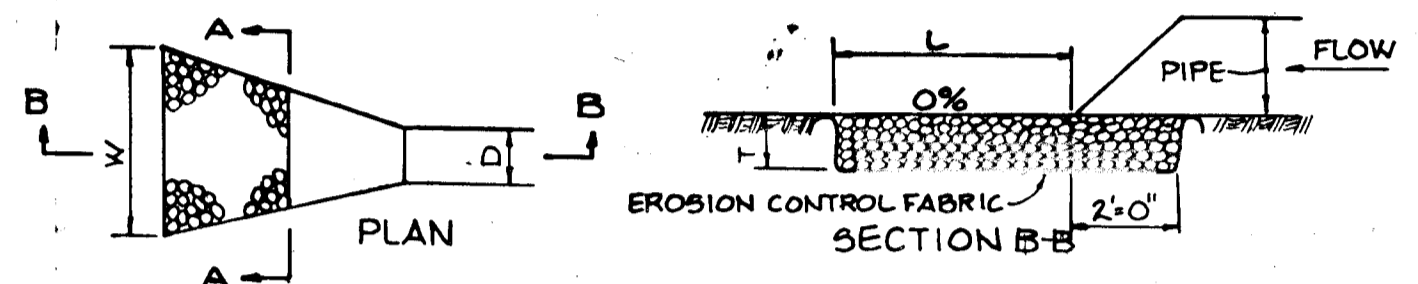
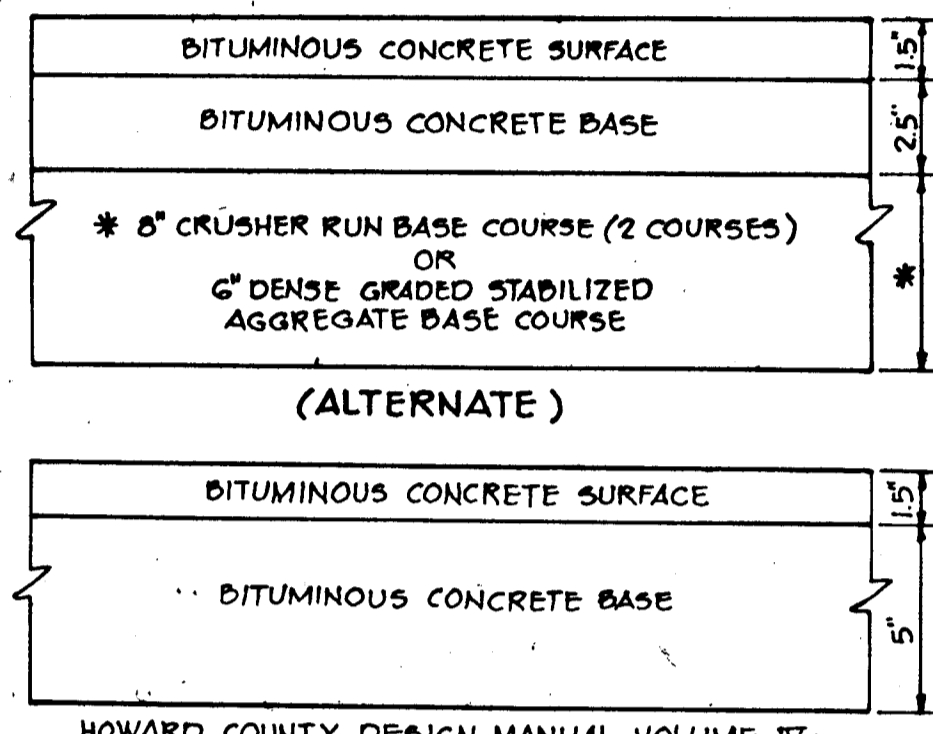
**TYPICAL ROAD SECTION**  
NO SCALE  
DESIGN SPEED 30MPH ZONED R LOCAL ROAD  
INDIAN GUN DRIVE STA. 0+11 TO STA. 20+74.35  
PISCATAWAY COURT STA. 0+11 TO STA. 7+05.57



**SECTION A-A**

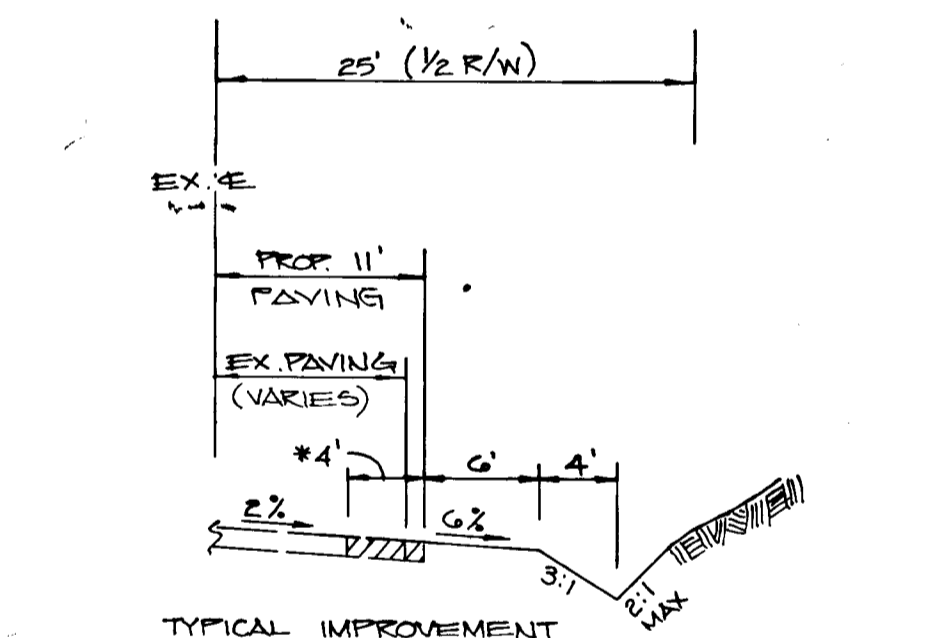


**PROFILE**  
SCALE: HOR. 1"=50' VERT. 1"=5'

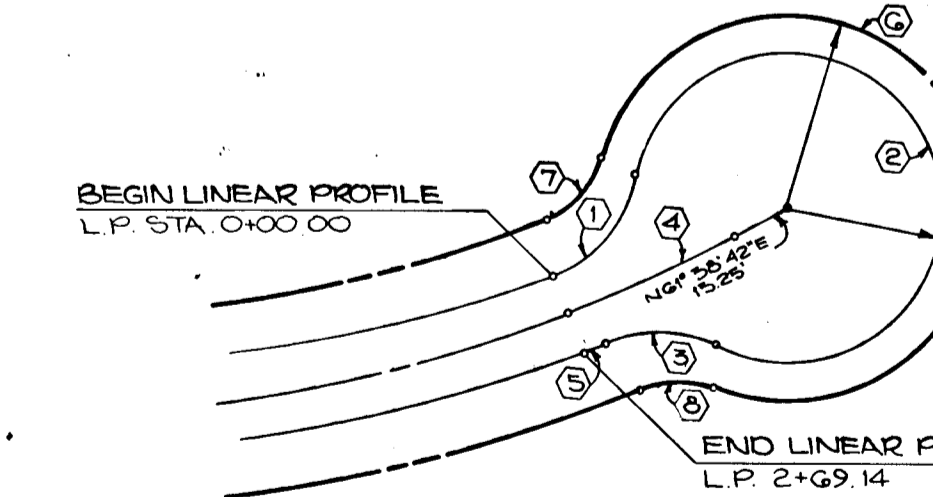


STRUCTURE	MEDIUM STONE DIA.	LENGTH (L)	WIDTH (W)	THICKNESS (T)
E-1	4"	10'	11.25'	3"
E-2	4"	10'	11.25'	3"
E-3	4"	10'	11.5'	3"
E-4	6"	15'	15'	3"
E-7 TO E-6	6"	20'	15'	3"
E-5	6"	10'	11.25'	3"

HOWARD COUNTY DESIGN MANUAL VOLUME IV - STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (DRAWING R-2.01)  
**(6" PAVING, P-2)**

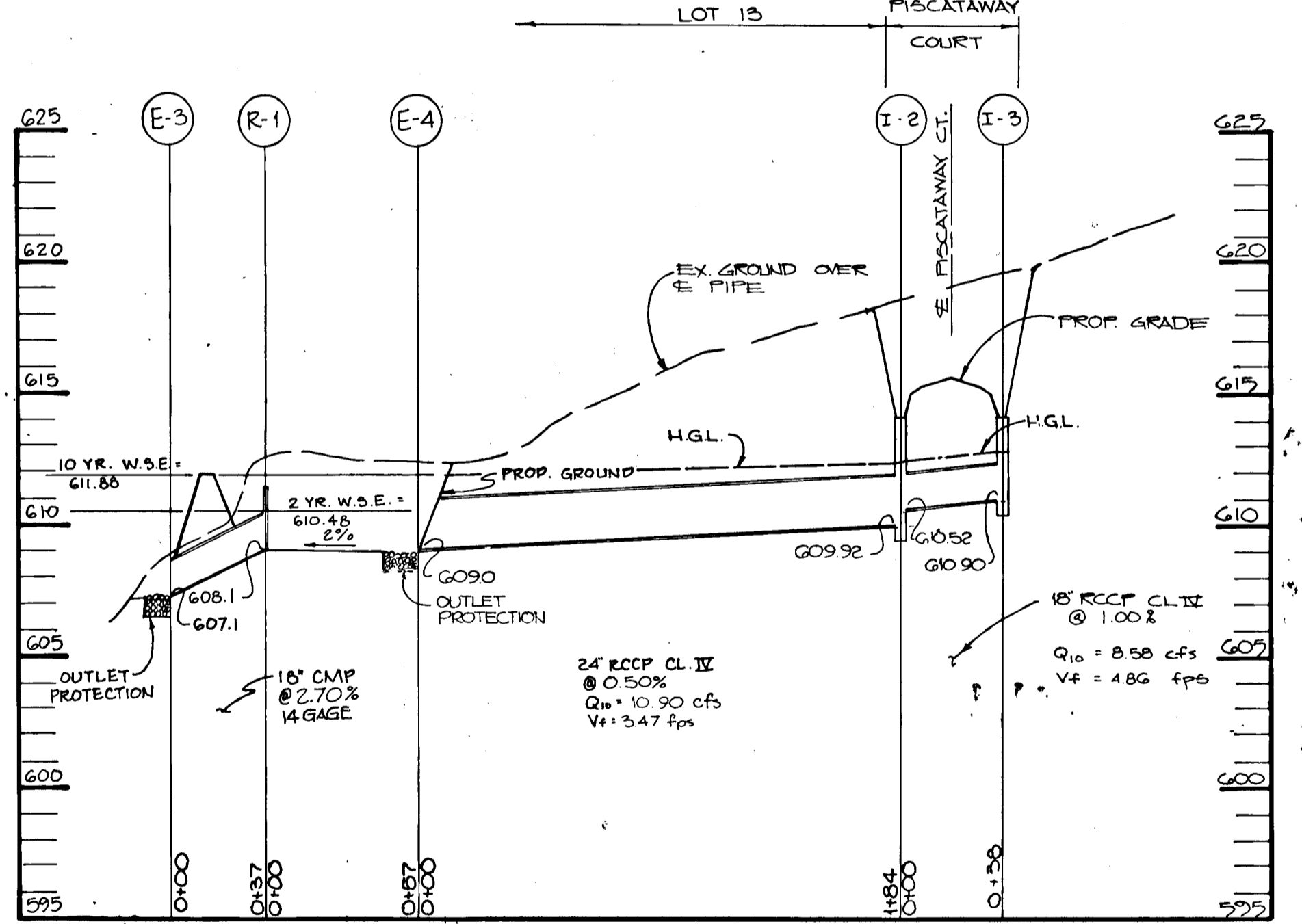


**PFEFFERKORN ROAD & IVORY ROAD WEST WIDENING DETAIL**  
NO SCALE



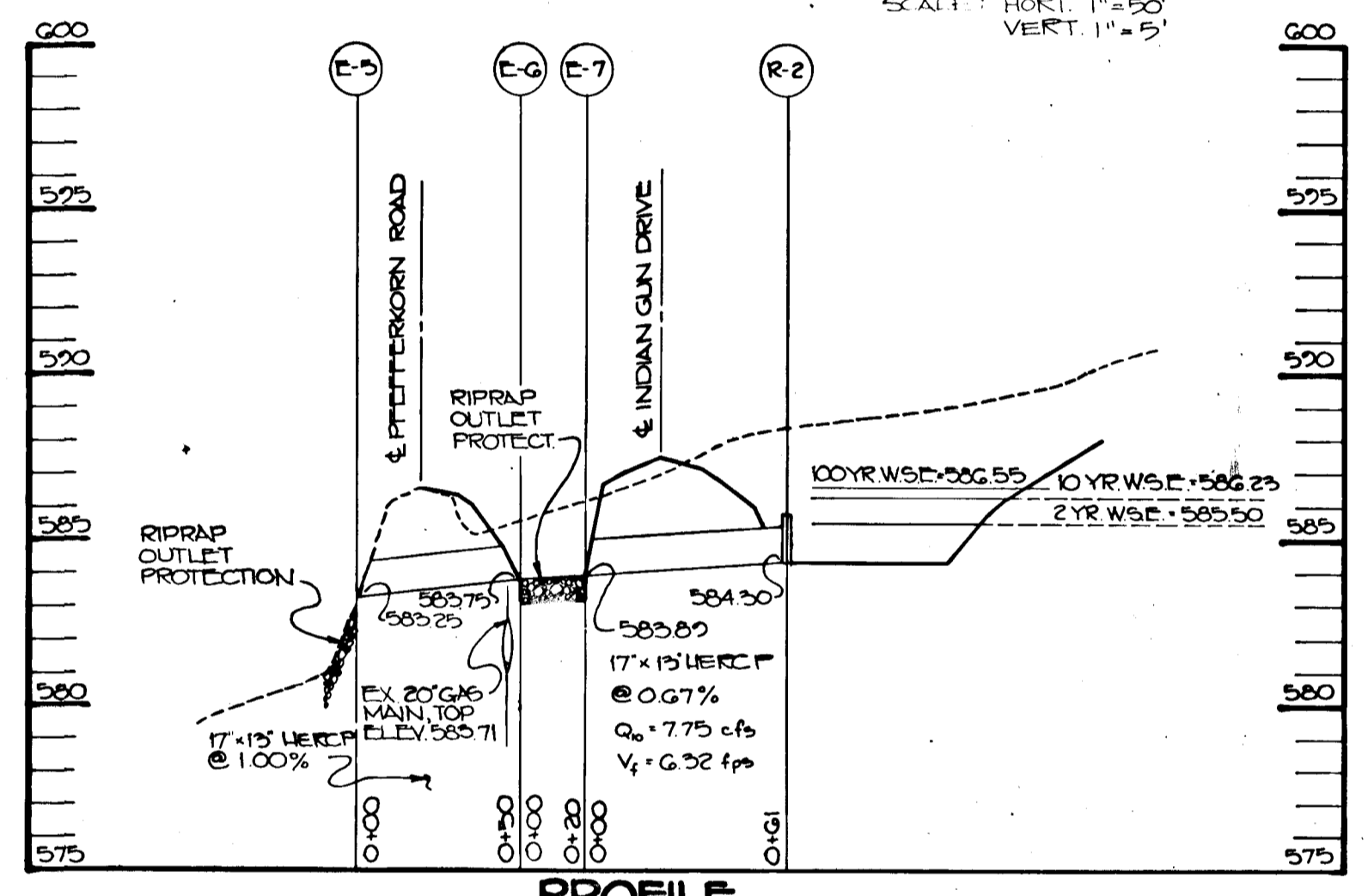
NO.	RAD.	Δ	ARC	TAN	CH	L.C.B.
1	3500'	56°31'16"	34.53'	18.81'	33.14'	N40°11'31"E
2	4000'	284°07'26"	198.36'	49.19'	526°00'24"E	
3	5500'	48°31'26"	29.64'	15.78'	N68°12'24"W	
4	4000'	06°28'27"	47.53'	23.79'	N65°02'56"E	
5	4110'	00°55'16"	6.61'	3.30'	S67°59'51"W	
6	5000'	276°09'47"	241.00'	49.03'	S41°44'57"W	
7	2500'	52°17'48"	22.82'	12.27'	N41°50'17"E	
8	2500'	44°48'16"	19.55'	10.31'	S89°27'03"W	

**CUL-DE-SAC DETAIL**  
NO SCALE

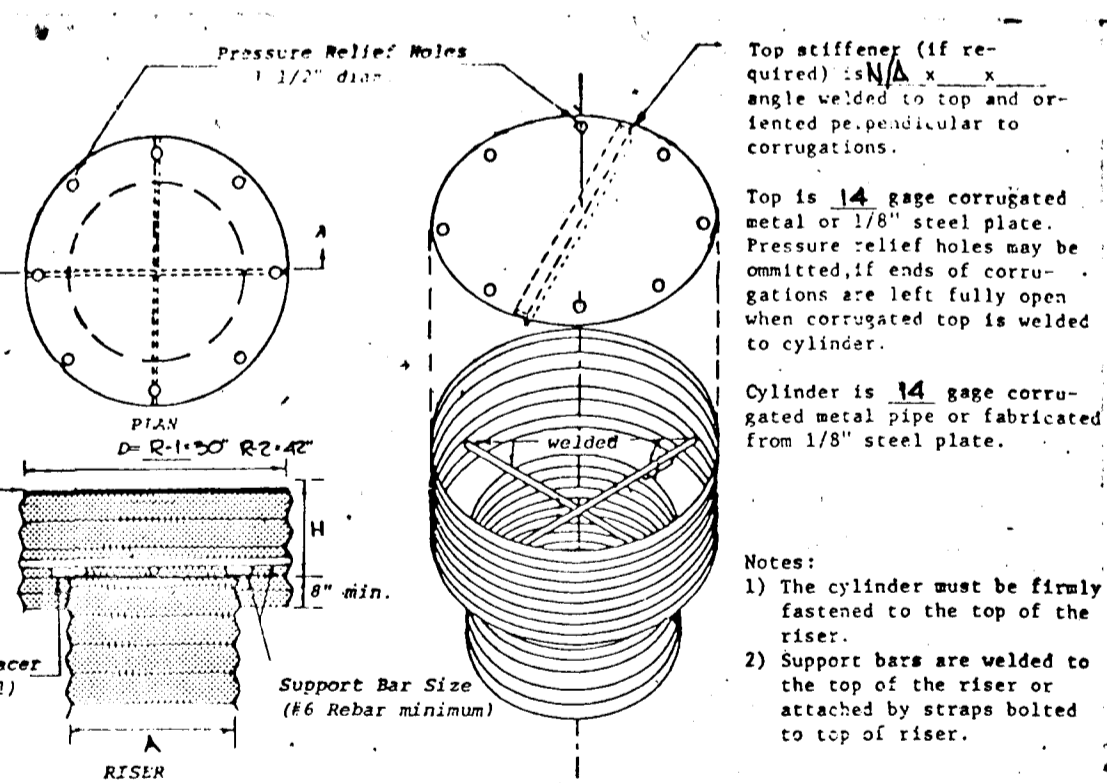


**PROFILE**  
SCALE: HOR. 1"=50' VERT. 1"=5'

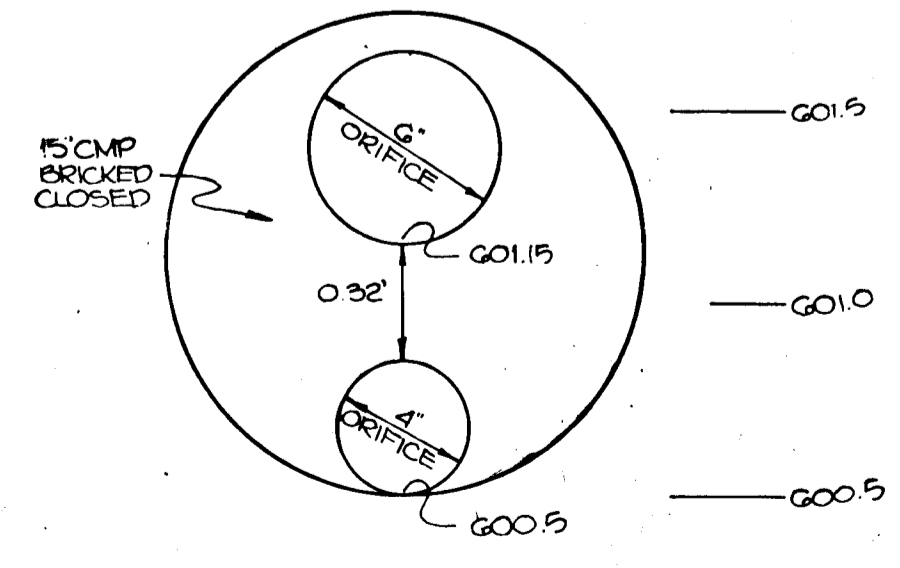
NO.	TYPE	LOCATION	TOP SURF.	INV. IN.	INV. OUT.	REMARKS
1-1	TYPE 'K'	C/L LEFT 20 + 33 INDIAN GUN DRIVE	605.28	—	601.50	NO. CO. STD. DETAIL SD 4.12
1-2	TYPE 'K'	10' LEFT C/L STA. 4 + 60 PISCATAWAY COURT	614.89	610.62	609.92	NO. CO. STD. DETAIL SD 4.12
1-3	TYPE 'K'	10' RIGHT C/L STA. 4 + 60 PISCATAWAY COURT	614.89	—	610.90	NO. CO. STD. DETAIL SD 4.12
E-1	15" METAL END SECTION	SEE PLAN	—	—	598.9	NO. CO. STD. DETAIL SD 5.61
E-2	15" CONC. END SECTION	C/L STA. 20 + 35 INDIAN GUN DRIVE RIGHT 48'	—	—	601.00	NO. CO. STD. DETAIL SD 5.52
E-3	18" METAL END SECTION	SEE PLAN	—	—	607.10	NO. CO. STD. DETAIL SD 5.61
E-4	E-4 CONC. END SECTION	SEE PLAN	—	—	609.0	NO. CO. STD. DETAIL SD 5.52
E-5	TYPE 'O' HEADWALL	C/L STA. 2 + 36 PFEFFERKORN ROAD LEFT 20'	—	—	583.25	NO. CO. STD. DETAIL SD 5.42
E-6	TYPE 'O' HEADWALL	C/L STA. 2 + 36 PFEFFERKORN ROAD RIGHT 30'	—	—	585.75	NO. CO. STD. DETAIL SD 5.42
E-7	TYPE 'O' HEADWALL	C/L STA. 0+40 INDIAN GUN DRIVE LEFT 25'	—	—	600.80	NO. CO. STD. DETAIL SD 5.42
E-8	18" METAL END SECTION	SEE PLAN	—	—	545.92	NO. CO. STD. DETAIL SD 5.61



**PROFILE**  
SCALE: HOR. 1"=50' VERT. 1"=5'



**TRASH RACK DETAIL**  
NO SCALE



**STRUCTURE S-1 DETAIL**  
NO SCALE

RISER BASE DETAIL

**RISER BASE DETAIL**  
NO SCALE

RISER NO.	A	B	C	D (min)	H
R-1	2'0"MP	10"MP	5"	3'-6"	11'
R-2	27"MP	17"X15"HE.	6"	2'-10"	15'

RISER NO.	CREST ELEVATION
R-1	611.20
R-2	585.75

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 NATURAL RESOURCES 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."  
*George J. V. Pross* DEVELOPER DATE **2/22/90**

BY THE ENGINEER:  
"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."  
*Arthur E. Muegge* ENGINEER DATE **2-21-90**

REVIEWED FOR *Howard* NAME S.C.D.  
AND MEETS TECHNICAL REQUIREMENTS  
*James M. Helms* DATE **3/9/90**  
S.O. CONSERVATION SERVICE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
*John L. Kohler* DATE **3/9/90**  
HOWARD S.C.D.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
*Frank J. Taylor* DATE **5/16/90**  
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Donald J. Egan* DATE **5/2/90**  
CHIEF, LAND DEVELOPMENT DIVISION  
*Frank W. Ueland* DATE **4/30/90**  
CHIEF, BUREAU OF HIGHWAYS  
*William E. Egan* DATE **5/16/90**  
CHIEF, BUREAU OF ENGINEERING

OWNER / DEVELOPER  
WEST FRIENDSHIP ESTATES PARTNERSHIP  
11500 TECH ROAD  
CB LAND DESIGN DEVELOPMENT  
ELLICOTT CITY, MD 21043  
DONALD R. BEUWER JR.  
ELLICOTT CITY, MD 21043

PROJECT: A SUBDIVISION OF PARCELS AND A RESUBDIVISION OF LOT 1 OF THE SELBY PROPERTY  
WEST FRIENDSHIP ESTATES (SEC 1)  
REF: F 88-49, VP 85-95, VP 87-79, F-20-72, P-89-31, S-88-84

AREA: TAX MAP 22 PARCEL 8 ZONED-R  
3 RD ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

TITLE: **STORM DRAIN PROFILES & DETAILS**  
RIEMER MUEGGE & ASSOCIATES, INC.  
A Land Planning, Engineering and Consulting Firm  
3105 North Ridge Road Ellicott City, Maryland 21043  
301-461-2690 FAX: 301-750-3176

DATE **2-21-90**  
DESIGNED BY: **D.B.S.**  
DRAWN BY: **D.O.S.**  
PROJECT NO: **12.404**  
DATE: **JUNE 23, 1989**  
SCALE: **A3 SHOWN**  
DRAWING NO. **12 OF 12**