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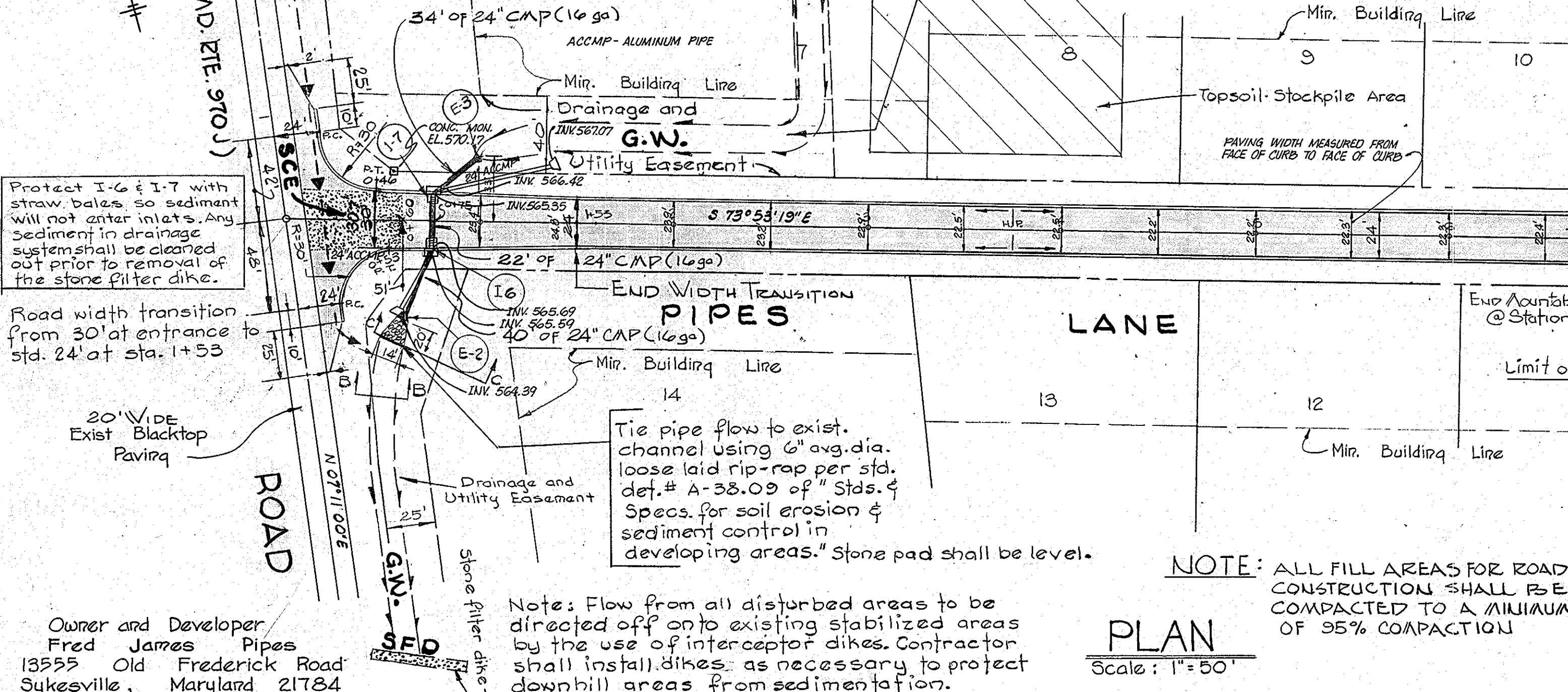
DEPARTMENT OF PUBLIC WORKS  
*Drewville W. McKeand* 4/26/77  
 CHIEF - BUREAU OF HIGHWAYS DATE

OFFICE OF PLANNING & ZONING  
*John M. ...* 4-15-77  
 CHIEF DIVISION OF LAND DEVELOPMENT DATE

STRUCTURE		SCHEDULE				
No.	Type	Size	Top Elev.	Invert In	Invert Out	Remarks
I-6	A-5	5.0'	568.96	565.39	565.28	* DWG 64A-P119A
I-7	A-5	5.0'	568.96	565.39	565.78	* DWG 64A-P119A
E-2	24"			566.66	564.48	** M.D. 370.01
E-3	24"					** M.D. 370.01

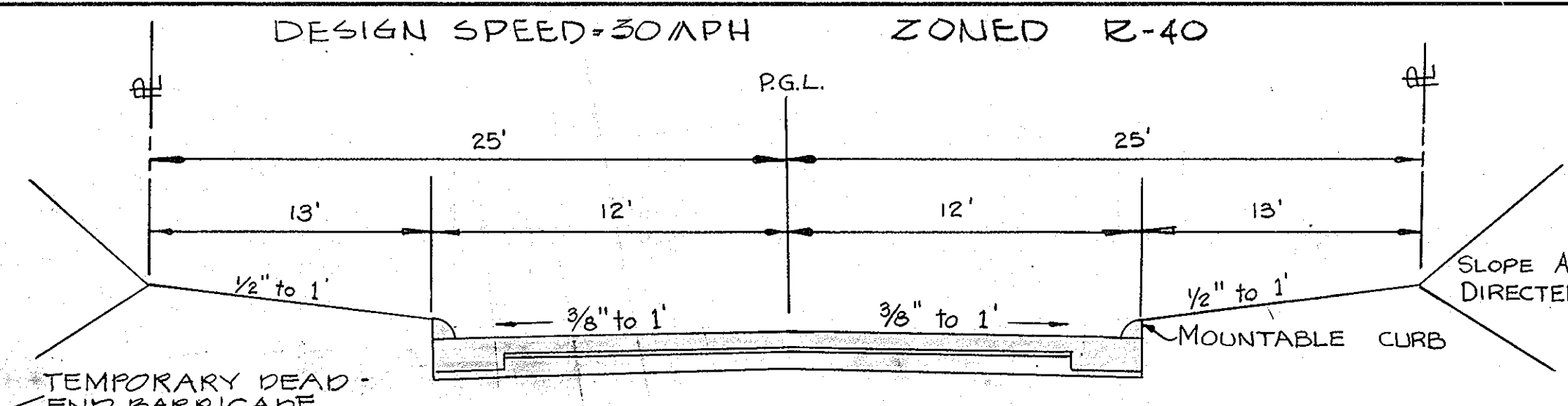
\* FROM ROAD CONSTRUCTION CODE & STANDARD SPECIFICATIONS - HOWARD COUNTY MARYLAND  
 \*\* FROM STATE HIGHWAY ADMINISTRATION'S BOOK OF STANDARD HIGHWAY AND INCIDENTAL STRUCTURES

Grassed parabolic waterway 14.0' wide x 2.8' deep x 780' long. Upper 150' to be stabilized with jute matting. See Dwg #2 of 2 for profile.

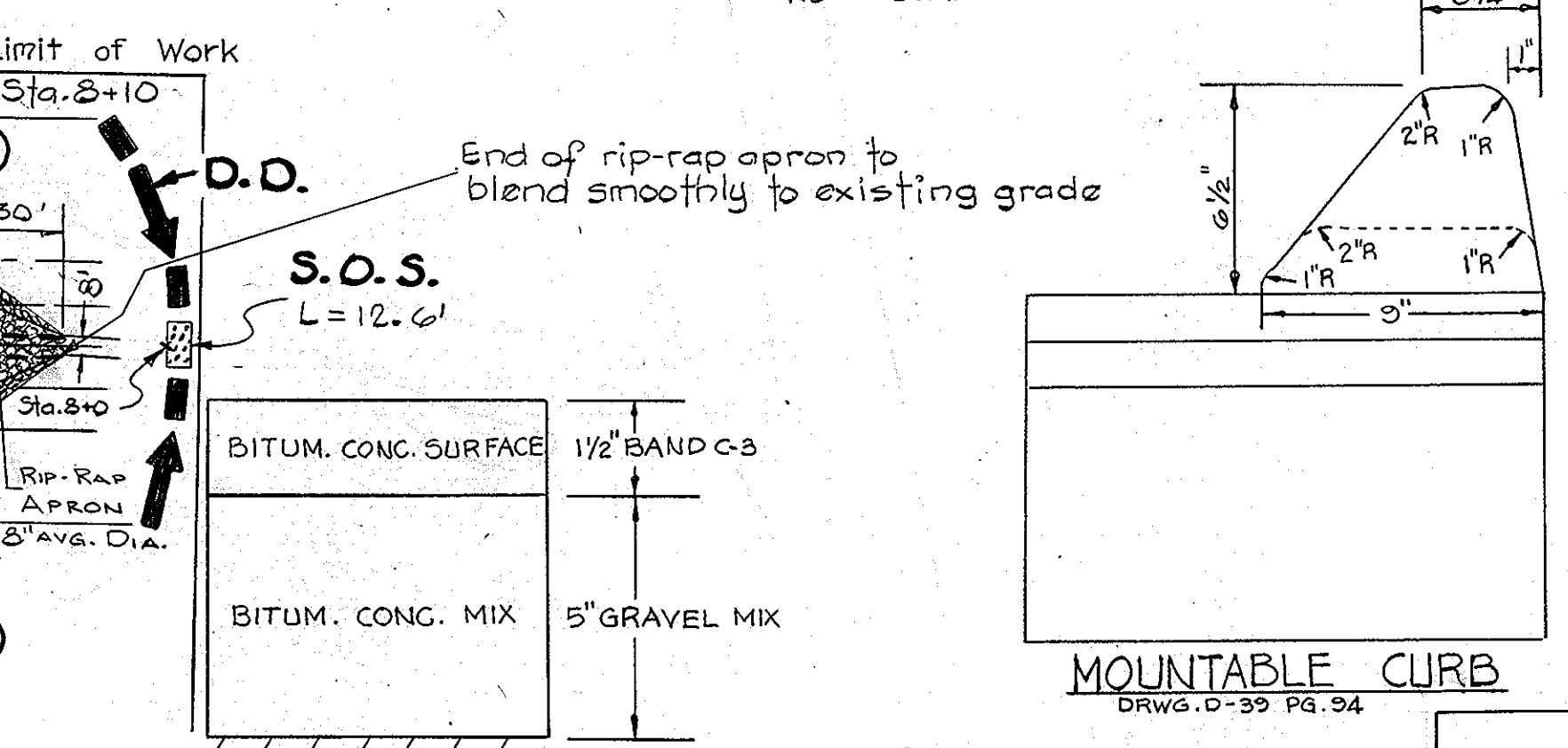


Owner and Developer:  
 Fred James Pipes  
 13555 Old Frederick Road  
 Sykesville, Maryland 21784

PLAN  
 Scale: 1" = 50'

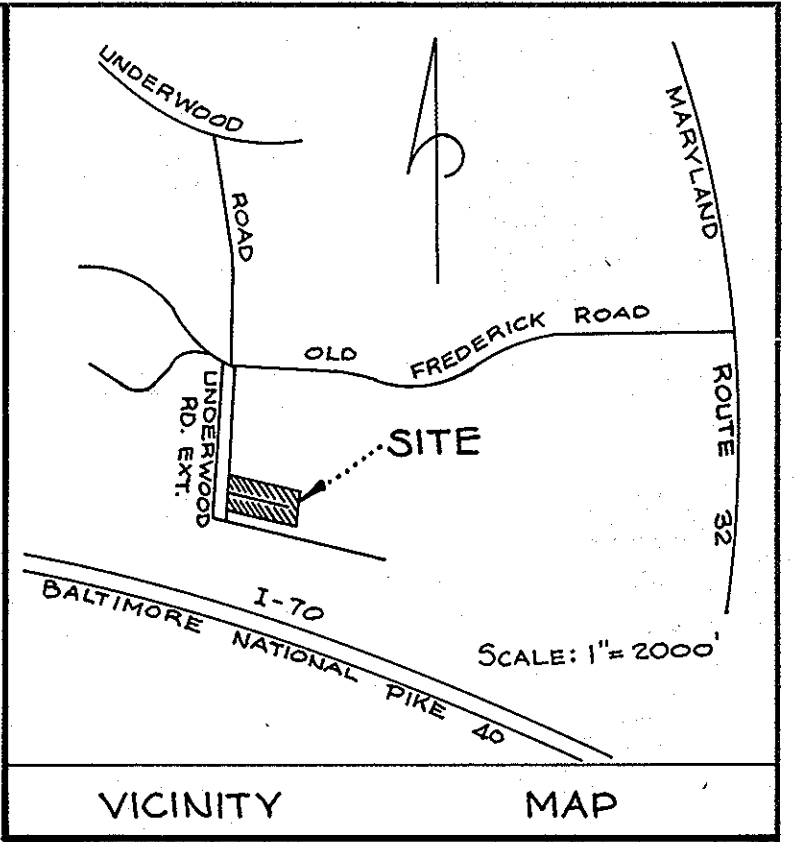


TYPICAL ROAD SECTION (DRWG. D-16 PG. 71)  
 PIPES LANE  
 NO SCALE



PAVING SPECIFICATION (DRWG. D-5 PG. 60)  
 USE ALTERNATE D-2 OR D4 Pgs 51, 55

- To be constructed in accordance with the Howard County Road Construction Code & Specification.
- Base will be primed in accordance with Section C-30-3 as provided in the Howard County Road Construction Code & Standard Specifications.
- Tack coat "B" required in accordance with Section C-31-4 of the Howard County Road Code and Standard Specifications.

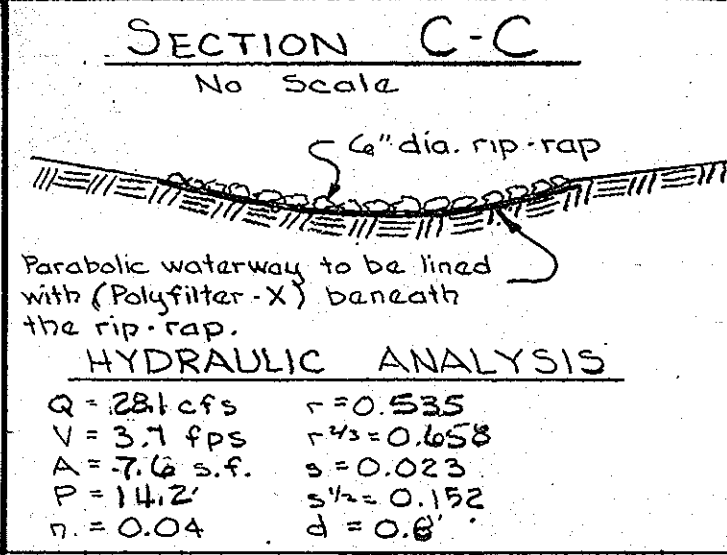


ROAD PLAN & PROFILE  
 PIPES LANE  
 ANNANDALE SECTION ONE  
 THIRD ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND  
 SCALE: AS SHOWN NOV. 10, 1976

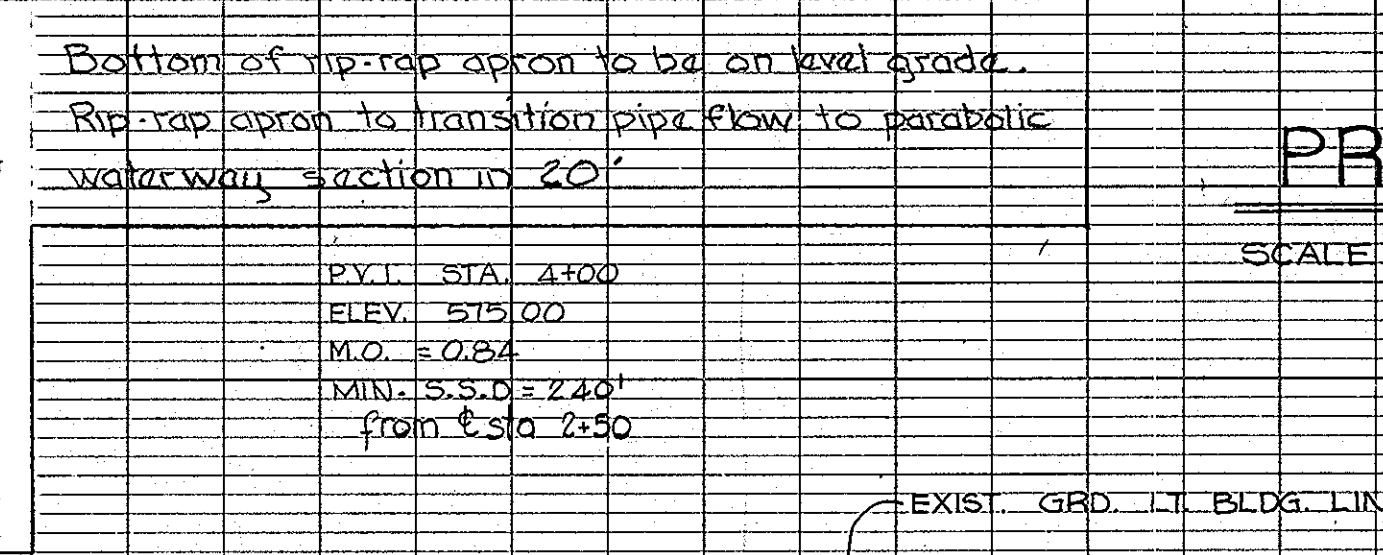
EVANS HAGAN & HOLDEFER, INC.  
 SURVEYORS & CIVIL ENGINEERS  
 111 JOHN STREET  
 WESTMINSTER, MD. 21157  
*J. Carroll Hagan*  
 DATE 11-10-76 SCALE 1" = 50'

DATE	REVISION	BY
1-20-77	Plans revised in acc. How. Co. Rd., Planning & S.C.S. comments	
	SURVEYED BY	
	COMPUTED BY	
	DRAWN BY	
	CHECKED BY	
	CHURCH	
	DRWG. NO. 1117A	

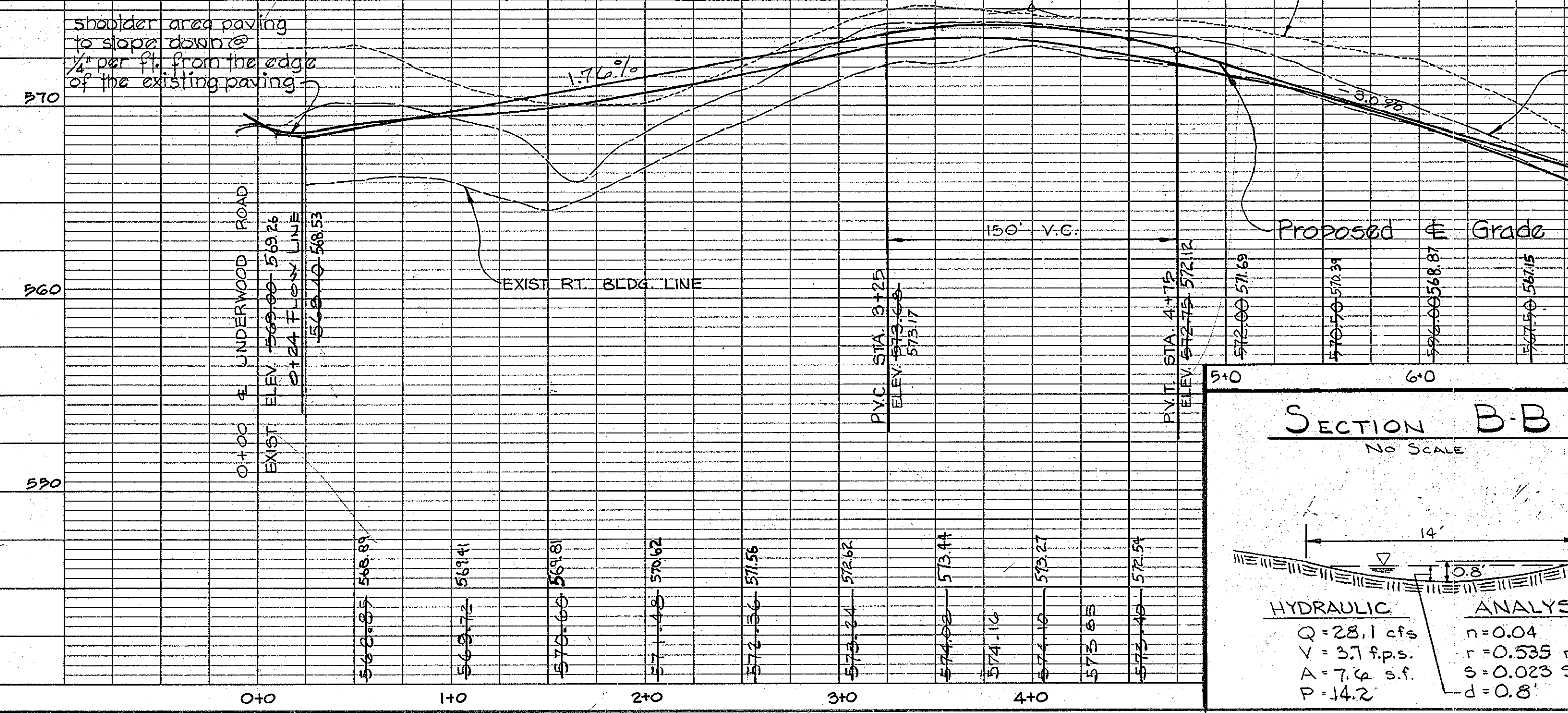
NOTE: OLD FREDERICK ROAD IS TO BE IMPROVED UNDER THE SECTION ONE CONTRACT. SEE DWG. # 2 OF 2 FOR CROSS-SECTION AND LIMITS.



HYDRAULIC ANALYSIS  
 Q = 281 cfs  
 V = 3.7 fps  
 A = 7.6 s.f.  
 P = 14.2  
 n = 0.04



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

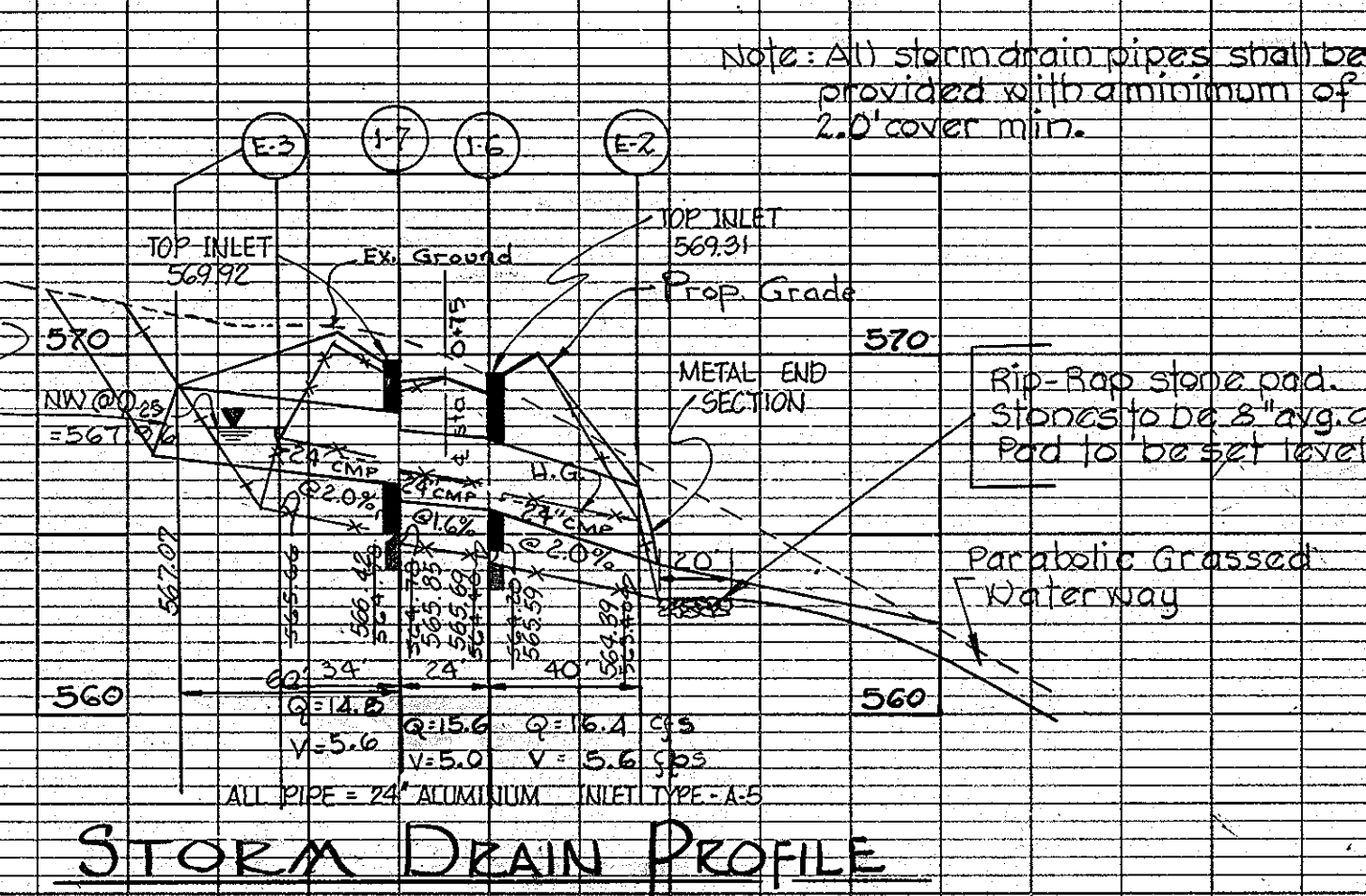


SECTION B-B  
 No Scale

HYDRAULIC ANALYSIS  
 Q = 28.1 cfs  
 V = 3.7 f.p.s.  
 A = 7.6 s.f.  
 P = 14.2

SECTION A-A  
 No Scale

HYDRAULIC ANALYSIS  
 n = 0.04  
 r = 0.535 r<sup>2</sup> = 0.658  
 s = 0.023 s<sup>2</sup> = 0.192  
 d = 0.8'



STORM DRAIN PROFILE  
 SCALE: HOR. 1" = 50'  
 VER. 1" = 5'

ENGINEER-I Certify That This Plan Of Sediment Control Is Designed With My Personal Knowledge Of The Site Conditions And Has Been Designed To The S.D. And approved by District C.D. ENGINEER 1-21-77 DATE

I CERTIFY THAT THIS PLAN OF SEDIMENT CONTROL WILL BE IMPLEMENTED TO THE FULLEST EXTENT AND ALL STRUCTURES WILL BE INSTALLED TO THE DESIGN AND SPECIFICATIONS STIPULATED IN THIS PLAN. I AUTHORIZE PERIODIC ON-SITE EVALUATION BY THE HOWARD SOIL CONSERVATION DISTRICT PERSONNEL AND COOPERATING AGENCIES.

*Fred James Pipes* 11/19/76  
 OWNER/DEVELOPER DATE

SOIL CONSERVATION DISTRICT CERTIFICATION

The Development Plan is Approved For Soil Erosion And Sediment Control By The Howard Soil Conservation Dist.

Approved *John D. ...* 4-7-77  
 HOWARD SCD DATE

SOIL CONSERVATION SERVICE CERTIFICATION

Reviewed For *HOWARD SCD*  
 And Meets Technical Reqs. *Eric L. ...*  
 Signature Date 4/27/77

NOTE: All storm drain pipes shall be gauged and be provided with a minimum of 2.0' cover min.

NOTE: ALL SEDIMENT CONTROL DETAILS REFERRED TO ON THESE PLANS ARE TAKEN FROM THE "STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL IN DEVELOPING AREAS" DATED JULY, 1975.

Standard Detail Numbers

S.C.E.	pg 16.03
D.O.	pg 10.03
S.O.S.	pg 17.03
Stone filter dike same section as S.O.S.	pg. 17.03
G.W.	pg. 36.05

all grassed waterways to be parabolic.

METHOD OF SOIL STABILIZATION

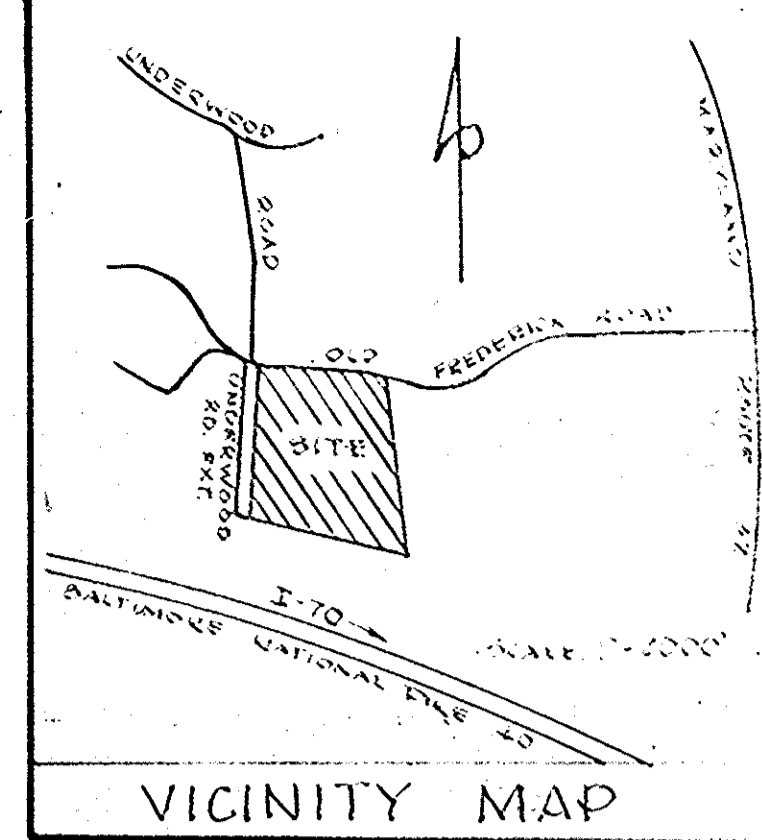
- Respread stockpiled topsoil over the disturbed areas.
- Spread seedbed preparation consisting of:
  - 10-10-10 fertilizer @ 500 lbs. per acre
  - Dolomitic Limestone @ 2 tons per acre
 Seed using mixture specified below
- Mulch using unfrosted small grain straw at the rate of 1/2 to 2 tons per acre.
- Secure mulch using emulsified asphalt at the rate of 200 gal./ac. on flat slopes and 348 gal./acre on slope areas.

TYPE	SEEDING RATE	
	Lbs./Acre	Lbs./1000 Sq. Ft.
Mennon Kentucky Bluegrass	40	.92
Common Kentucky Bluegrass	40	.92
Penlawn	20	.46

NOTE: Items 2 Thru 5 in This Method Are Suggested Only Alternate Or Substitute Methods May Be Used Upon Approval Of S.C.S. 465-5000

**GENERAL NOTES**

1. See final construction drawings for any information not presented on this drawing.
2. The entire area shown hereon is zoned R-40.
3. Proposed finished grades shown thus  $\frac{55}{50}$
4. Existing grades shown thus:
  - 2' intervals
  - 10' intervals
5. Construction, drainage, grading and supporting sediment control measures to be done for Section One ONLY at this time.
6. Shaded Areas are Drainage and Utility Easements which require grading to accomplish the drainage patterns.



**BENCH MARKS**

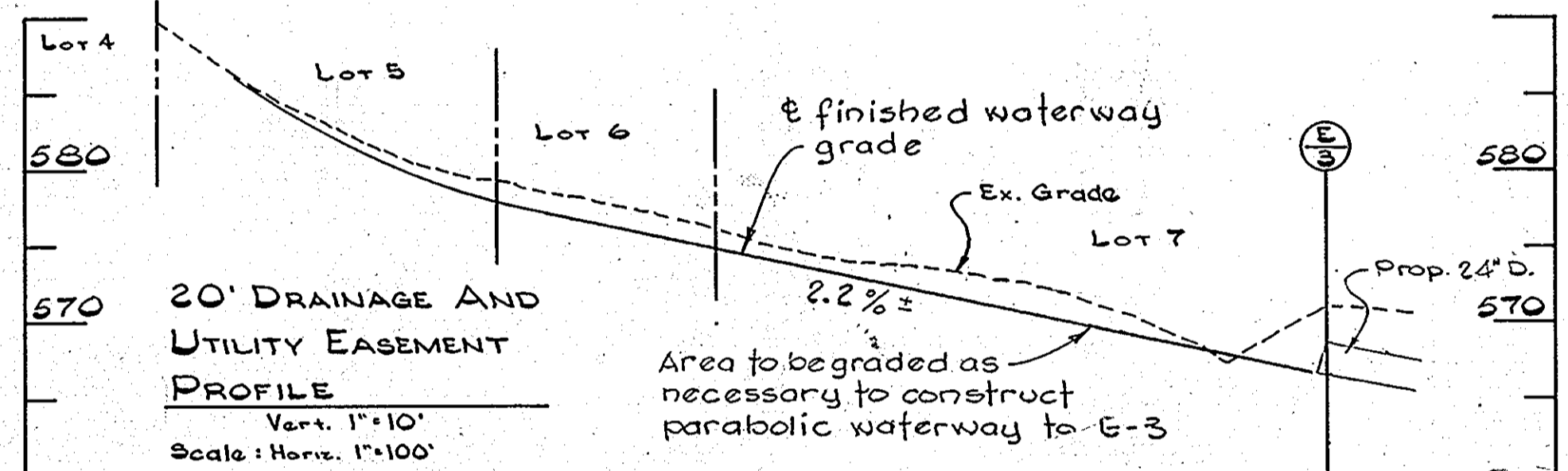
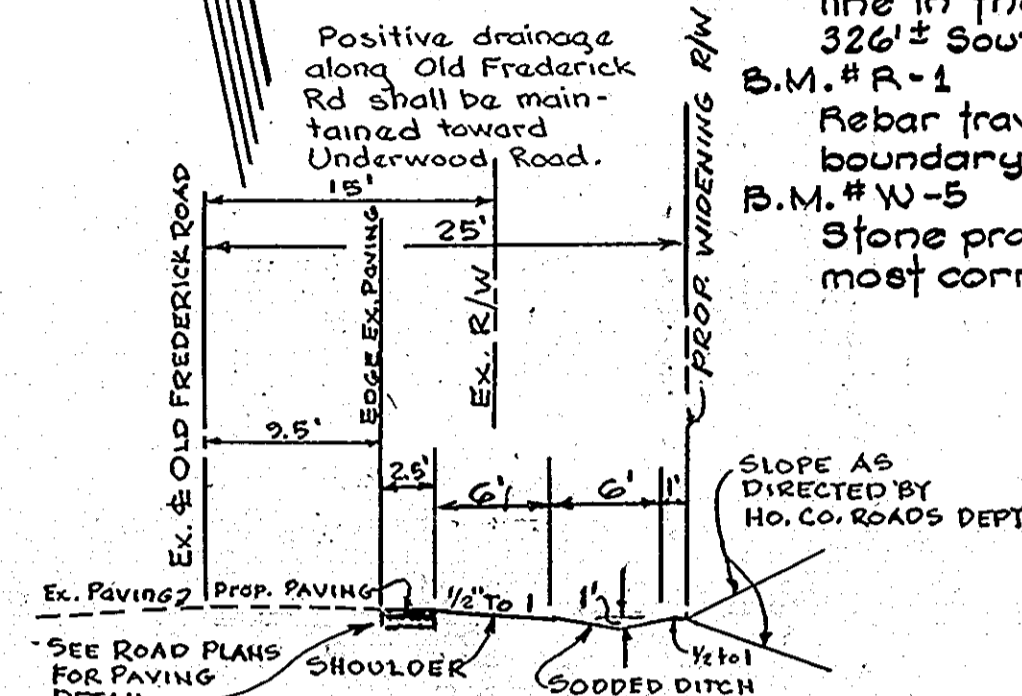
- B.M. "SPIKE" Elev. 558.22  
R.R. spike set on southernmost boundary line in the center of Underwood Rd. 320' ± South of 0+00.
- B.M. #R-1 Elev. 571.75  
Rebar traverse point #R-1 set on southernmost boundary line 400' ± east of Underwood Rd.
- B.M. #W-5 Elev. 543.58  
Stone property marker of the southeastern-most corner of the tract.

NOTE: The Bench Marks used on this project are based on an assumed datum.

**SECTION ONE SITE ANALYSIS**

1. Total Area of Section One . . . . . 17.0 ac. ±
2. Total Area Disturbed . . . . . 2.1 ac. ±
3. Total Area of Roofs and Paving . . . . . 1.9 ac. ±
4. Total Area to be Restabilized . . . . . 1.7 ac. ±

**TYPICAL ROAD SECTION IMPROVEMENT-OLD FREDERICK ROAD**



**CONSTRUCTION SEQUENCE**

1. Install temporary sediment control measures i.e. stone filter dikes, sediment traps, diversion dike & stone filter at end of road and the stabilized construction entrance, and all sediment traps as shown hereon.
2. Strip and stockpile topsoil. Stockpile location is shown on this drawing. This step may be done simultaneously with step #1.
3. Install storm drains.
4. Perform the necessary grading to accomplish the following:
  - a) Roadway construction,
  - b) Grading of roadway slopes smoothly into adjacent lots,
  - c) Relocate swale through lots 5, 6 & 7 to flow within the 20' wide drainage and utility easement,
  - d) Construct swale southerly along Underwood Road from E-2 to the sediment trap
  - e) Grade the swale between lots 2 & 3,
  - f) Grading of lot 14 as shown on this drawing.
5. Stabilize the swales noted in C, D & E of step #5, these are to be grassed parabolic waterways constructed and stabilized per detail on pg. 36.05.
6. Complete the road grading and construction.
7. Stabilize all graded areas, not being paved, as noted in "Method of Soil Restabilization" on the road construction plan for PIPES LANE.
8. Remove all temporary sediment control measures and restabilize the area as noted in "Method.....".

**STONE FILTER DIKE**  
Placed so that no sediment enters the existing drain. See dwg. #3 of 3 for details.

**SECTION ONE**

FRED JAMES PIPES & WIFE  
170/446A

**SEDIMENT TRAP N#1**  
See Dwg. # 3 of 3 for details

**Parabolic Waterway Information**  
All waterways in Sect. One are designed to handle the maximum  $Q_{10}$  discharge from the combined areas F, G & H (16.4 c.f.s.)  
Top width = 14.0', depth = 0.8', avg. slope = 4%,  
avg. velocity = 3.5 f.p.s. See std. dwg. #G.W.-1 pg. 36.05 Limits of waterway constr. shown thus  $\frac{3}{3}$

DEPARTMENT OF PUBLIC WORKS  
*Drayville M. McNeil* 4/26/77  
CHIEF BUREAU OF HIGHWAYS DATE  
*William M. Shaw* 7-15-77  
CHIEF DIVISION OF LAND DEVELOPMENT DATE

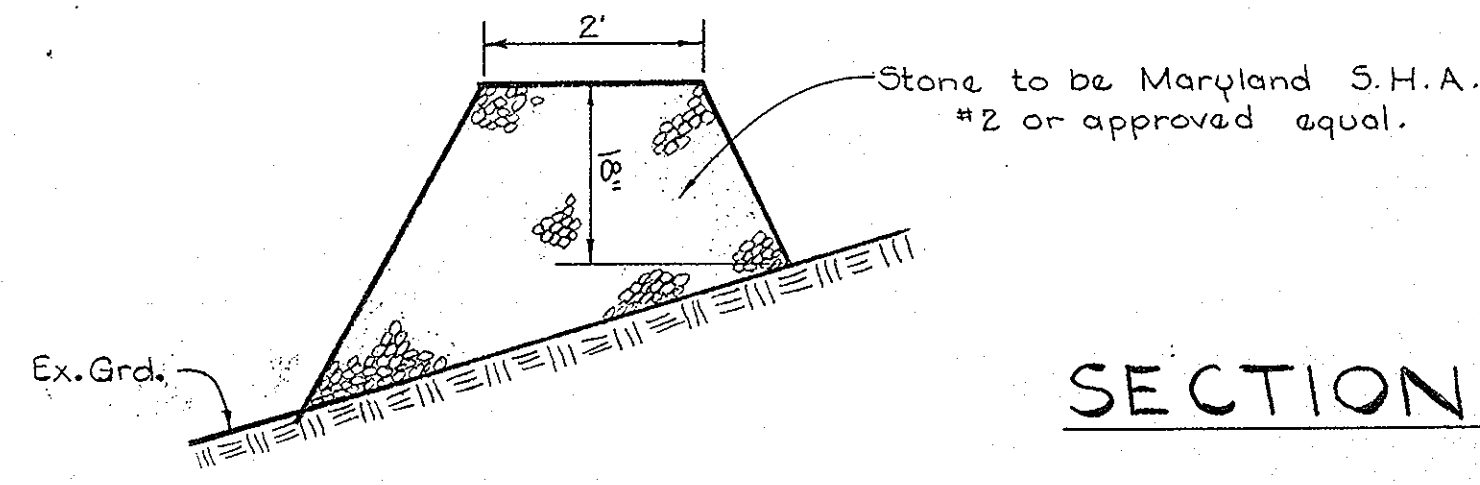
NOTE: ALL SEDIMENT CONTROL DETAILS REFERRED TO ON THESE PLANS ARE TAKEN FROM THE "STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL IN DEVELOPING AREAS" DATED JULY, 1975.

**ANNANDALE**  
3rd. Election District  
Howard County, Maryland

**EVANS, HAGAN & HOLDEFER, INC.**  
SURVEYORS AND CIVIL ENGINEERS  
111 JOHN STREET, WESTMINSTER, MD. (301) 876-2017 848-1790  
5015 BELAIR RD., BALTO., MD. 21254 (301) 428-1501  
535 ROPLER ST., CAMBRIDGE, MD. 21613 (301) 228-9300  
13 E. WASHINGTON STREET, EASTON, MD. 21601 (301) 822-5435

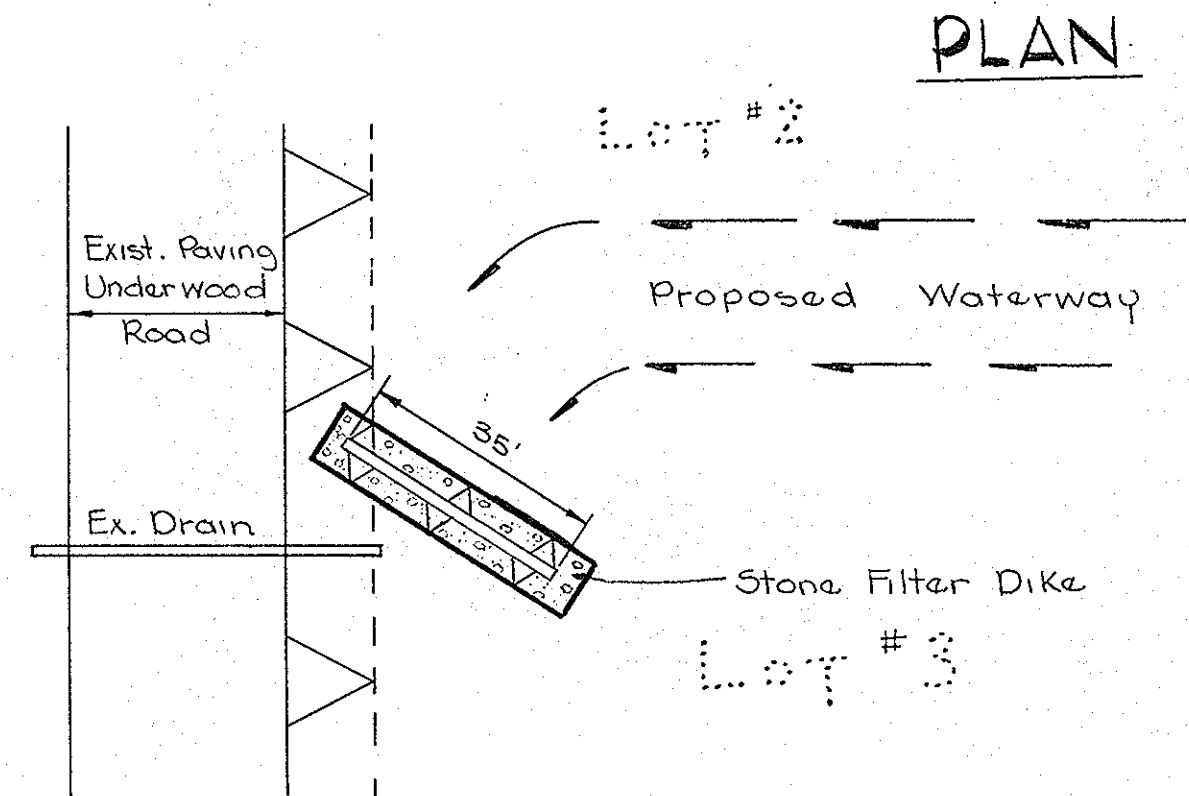
*J. C. Hagan*  
DATE MAY 20, 1976 SCALE 1"=100'

SCALE 1"=100'



SECTION

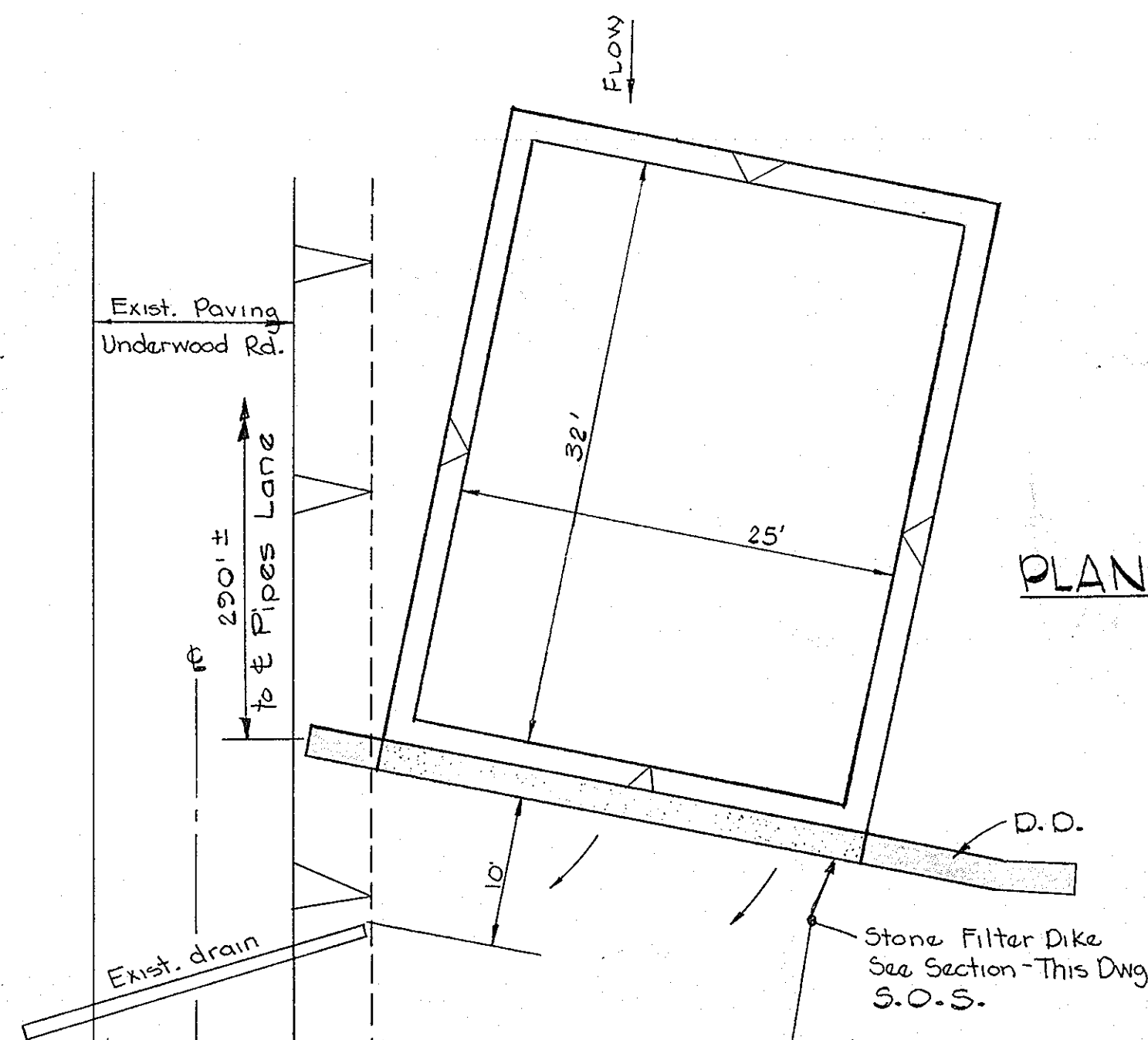
Stone Filter Dike to be Placed so that no Sediment From Waterway Construction Between Lots #2 and #3 Existing Drain Under Underwood Rd.



PLAN

STONE FILTER DIKE

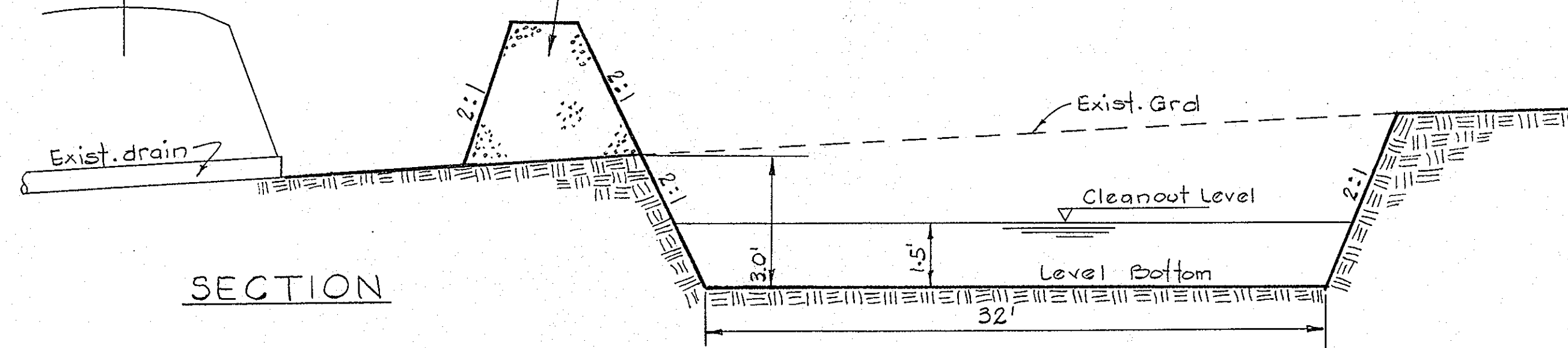
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PLAN

DESIGN DATA

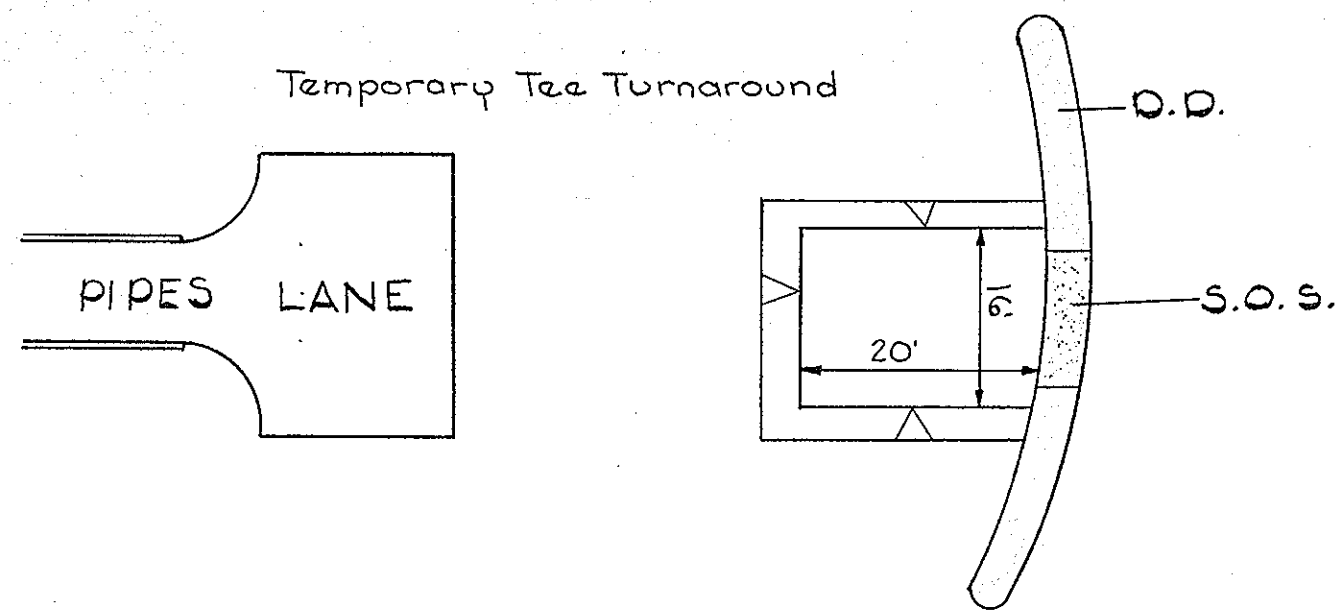
1. Total Drainage Area ..... 8.8 ac.±
2. Total Disturbed Area .... 1.3 ac.±
3. Required Volume  
67 c.y./ac x 1.3 ac ..... 87.1 c.y.
4. Volume Provided  
25 x 32 x 3 ÷ 27 ..... 88.8 c.y.



SECTION

SEDIMENT TRAP N<sup>o</sup> 2

NO SCALE



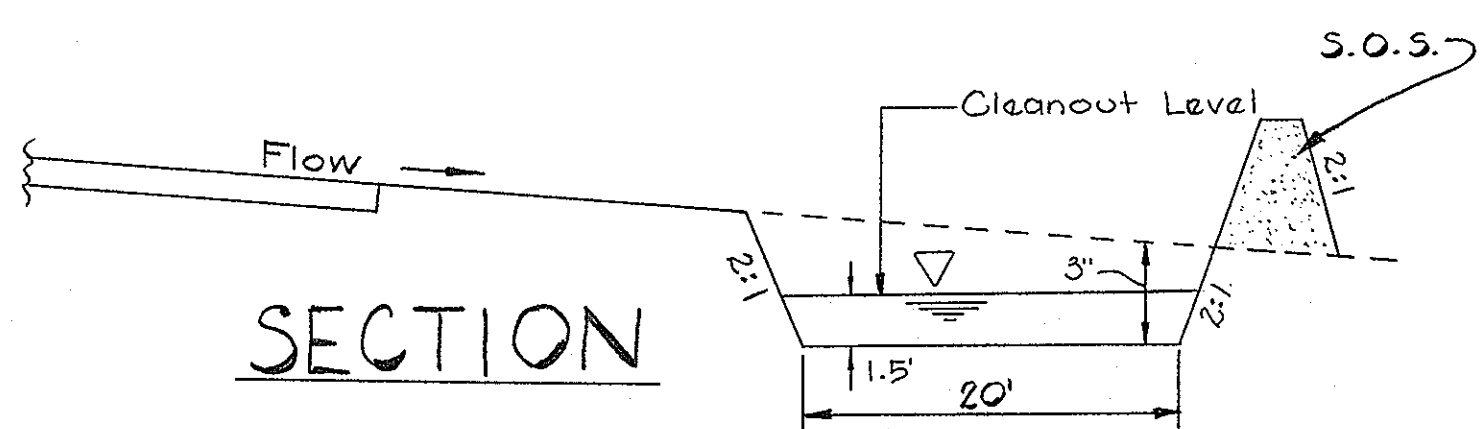
PLAN

DESIGN DATA

1. Total Drainage Area ..... 4:1 Ac.±
2. Total Disturbed Area ..... 0.5 Ac.±
3. Required Volume ..... 67 x 0.5 = 33.5 c.y. or 305 c.f.
4. Trap To Be 20' x 16' w x 3' d.
5. Volume Provided ..... 360 c.f.

GENERAL NOTES

1. For Any Additional Details Refer To "Standards And Specifications For Soil Erosion And Sediment Control In Developing Areas"



SECTION

SEDIMENT TRAP N<sup>o</sup> 2

NO SCALE

SEDIMENT CONTROL DETAILS

FOR

ANNANDALE

3rd Election District  
Tax Map 9 Parcel 98  
Howard County, Maryland

DEPARTMENT OF PUBLIC WORKS  
*Franklin W. McLeod* 4-15-77  
CHIEF - BUREAU OF HIGHWAYS DATE

OFFICE OF PLANNING & ZONING  
*John W. McLeod* 4-15-77  
CHIEF DIVISION OF LAND DEVELOPMENT & TRANSPORTATION DATE  
PLANNING

EVANS, HAGAN & HOLDEFER, INC.  
SURVEYORS AND CIVIL ENGINEERS  
111 JOHN ST./WESTMINSTER MD.  
(301) 876-2017 848-1700

DATE: APRIL 4, 1977 SCALE AS SHOWN

DATE: APRIL 4, 1977 SCALE AS SHOWN

#243