

# HOWARD COUNTY MARYLAND

## DEPARTMENT OF PUBLIC WORKS

REVIEW FOR HOWARD COUNTY, S C D  
AND MEETS TECHNICAL REQUIREMENTS

DATE \_\_\_\_\_

U.S. SOIL CONSERVATION SERVICE

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

APPROVED: \_\_\_\_\_ DATE: \_\_\_\_\_  
HOWARD COUNTY S.C.S.

ENGINEER'S CERTIFICATION

I CERTIFY THAT THIS PLAN FOR SOIL 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 COUNTY SOIL CONSERVATION DISTRICT.

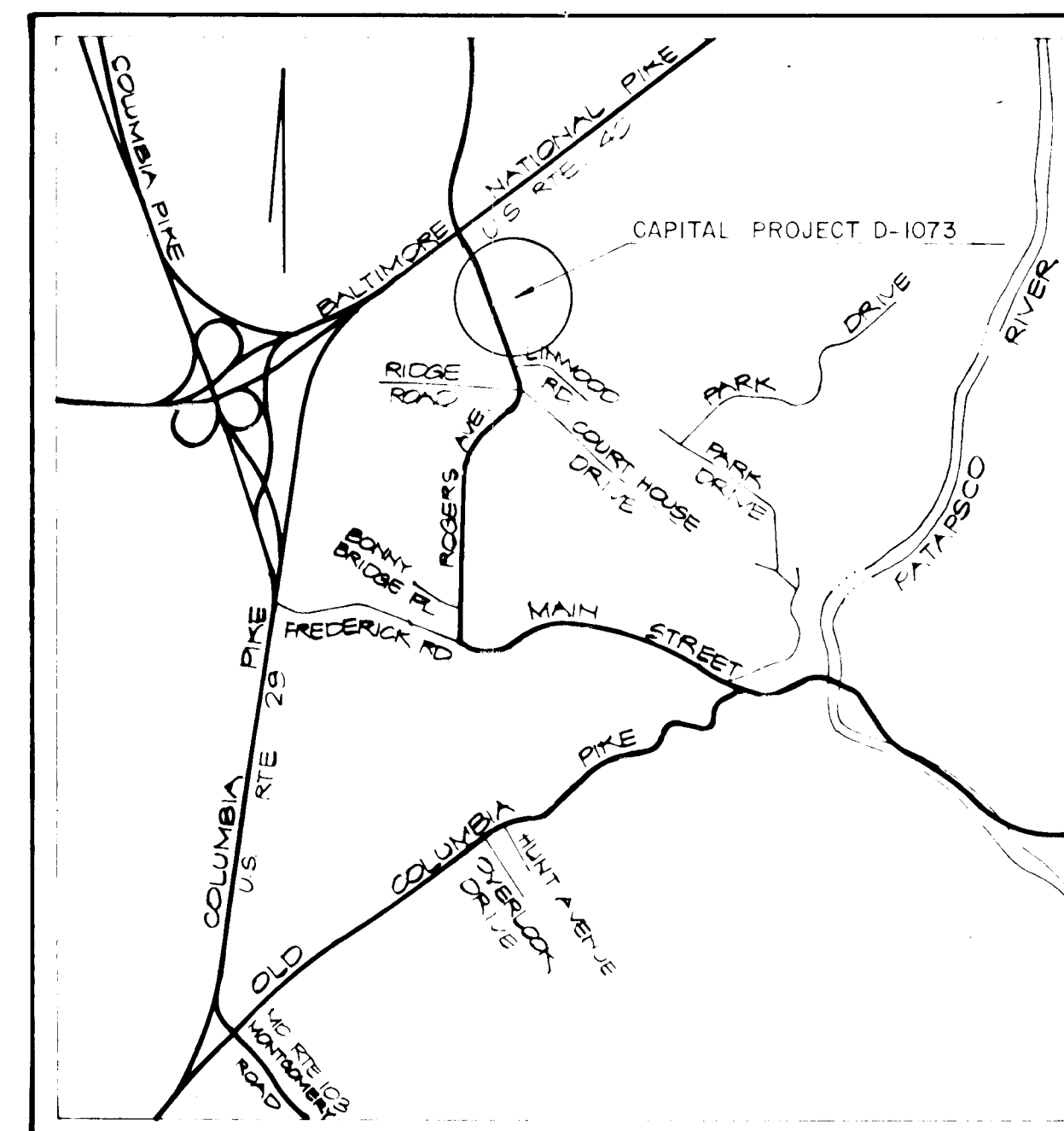
DATE: \_\_\_\_\_

HICKS ENGINEERING COMPANY, INC.  
200 EAST JOPPA ROAD - SUITE 402  
TOWSON, MD 21204

DEVELOPER'S CERTIFICATION

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR SOIL EROSION AND SEDIMENT CONTROL AND THAT ALL 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 OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY."

DATE: \_\_\_\_\_



VICINITY MAP  
SCALE: 1" = 2000'

INDEX OF SHEETS		
SHEET NO.	DESCRIPTION	LOCATION
1	TITLE SHEET	
2	STANDARD DETAILS	
3	DRAINAGE AREA MAP	
4	CAPITAL PROJECT D-1073	ROGERS AVE.- SOUTH OF U.S. ROUTE 40

# STORM DRAINAGE IMPROVEMENTS ELLICOTT CITY AREA ELECTION DISTRICT: ELLICOTT CITY NO. 2

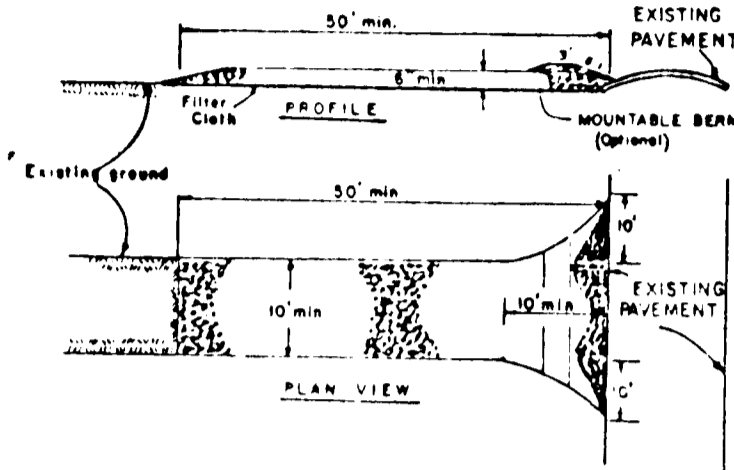
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DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND DIRECTOR OF PUBLIC WORKS _____ DATE _____ CHIEF, BUREAU OF ENGINEERING _____ DATE _____ CHIEF, DIVISION OF ROADS, BRIDGES AND STORM DRAINAGE _____ DATE 1/16/87	HICKS ENGINEERING COMPANY, INC. CIVIL ENGINEERS 200 EAST JOPPA ROAD SUITE 402 TOWSON, MD 21204	DES:		CAPITAL PROJECT D-1073: ROGERS AVENUE - SOUTH OF U.S. ROUTE 40	STORM DRAINAGE IMPROVEMENTS FOR ELLICOTT CITY AREA	SCALE AS SHOWN
		DRN:				SHEET 1 OF 4
		CHK:				
		DATE:				
		BY:				
		NO.:				
		REVISION:				
		DATE:				
		SCALE MAP NO.:				
		BLOCK NO.:				

JAN. 13, 1987

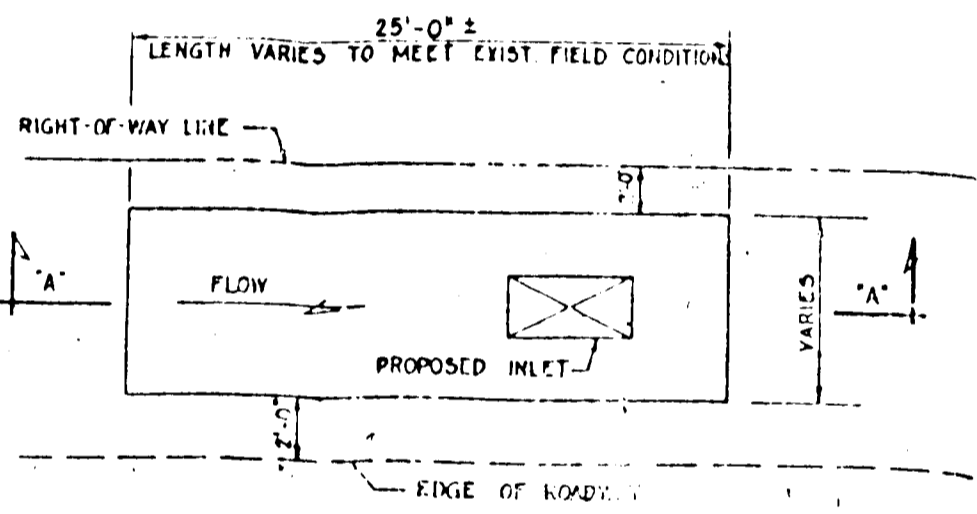
SOIL EROSION & SEDIMENT CONTROL NOTES

- SEDIMENT CONTROL TO BE PROVIDED IN ACCORDANCE WITH CHAPTER 1 OF THE HOWARD COUNTY DESIGN MANUAL, 1983 EDITION, AND SPECIFICATIONS FOR SEDIMENT AND EROSION CONTROL AND TRENCHING.
- THE CONTRACTOR SHALL INSTALL AND MAINTAIN ALL SEDIMENT CONTROL MEASURES AS SHOWN ON THE DRAWINGS. HOWEVER, ANY SEDIMENT CONTROL MEASURES NOT SHOWN ON THE DRAWINGS SHALL BE INSTALLED AS SHOWN ON THE DRAWINGS. ANY CHANGES TO THE DRAWINGS SHALL BE APPROVED BY THE ENGINEER. ANY CHANGES TO THE DRAWINGS SHALL BE MADE AT THE CONTRACTOR'S RISK AND WITHOUT ADDITIONAL COST TO THE OWNER.
- FOLLOW UP ON ALL SOIL DISTURBANCE OR RESTORATION. PAYMENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN (1) 7 CALENDAR DAYS FOR THE SURFACES OF ALL PERMANENT CONTROLLED SLOPES (DITCHES, DITCHES PER VETER SLOPES AND ALL SLOPES GREATER THAN 3:1 AND (2) 14 DAYS FOR ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.

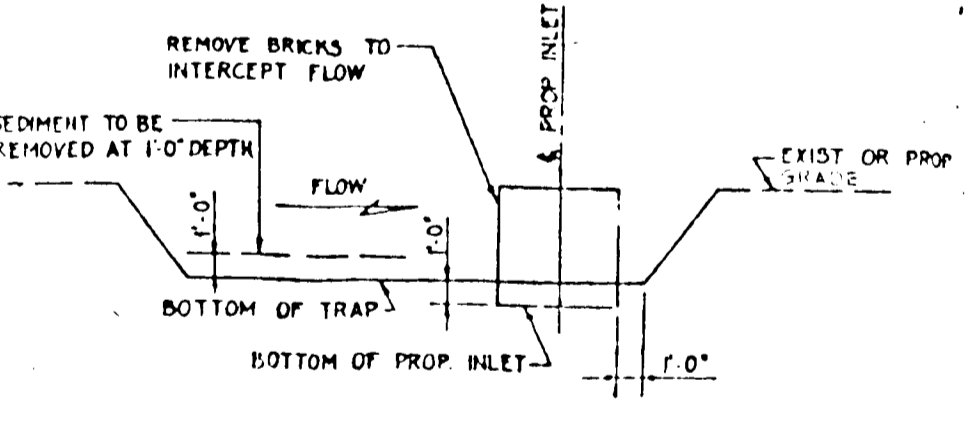


- CONSTRUCTION SPECIFICATIONS
- Stone Blank - Use 3" stone, or crushed or recycled concrete equivalent.
  - Length - As required, but not less than 18 feet (except on a single rest).
  - Thickness - Not less than 18 inches.
  - Height - The (1) foot width, but not less than the full width at points where increase of slope occurs.
  - Filter Cloth - Will be placed over the entire area prior to placing of stone. Filter will not be replaced on a single family residence lot.
  - Surface Water - All surface water flowing or directed toward construction entrance shall be piped across the entrance. If piping is impractical, a removable barrier with 18 inches will be provided.
  - Maintenance - The entrance shall be maintained in a condition which will prevent tracking or blowing of sediment onto public right-of-way. This may require periodic top dressing with additional stone as conditions demand and complete removal of any material used to trap sediment. All sediment applied, dropped, washed or tracked onto public right-of-way must be removed immediately.
  - Warning - Whole shall be cleared to remove sediment prior to entrance onto public right-of-way. When working is required, it shall be done on an area stabilized with stone and which drains into an approved sediment trap area.
  - Portable Inspection and maintenance shall be provided after each rain.

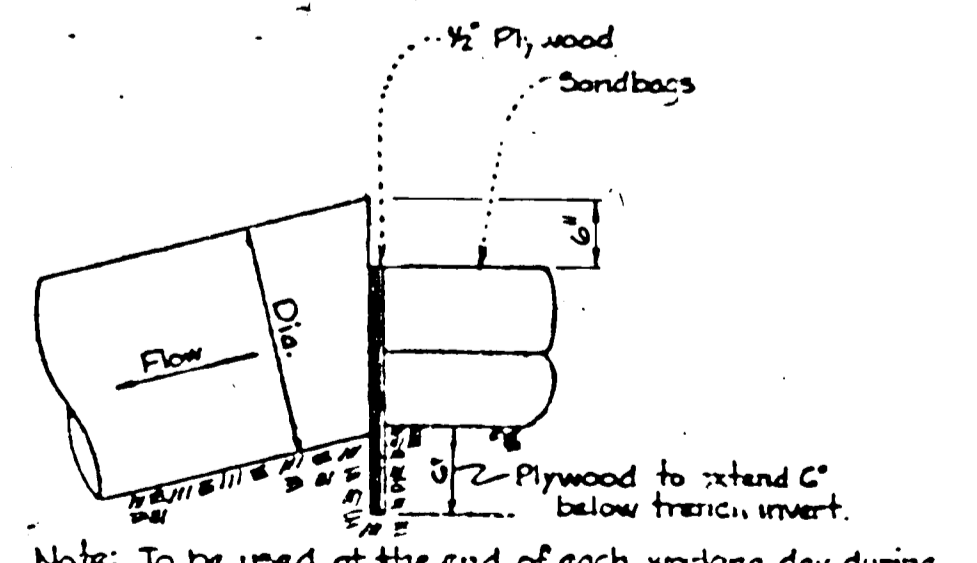
STABILIZED CONSTRUCTION ENTRANCE FOR STAGING AREA



TEMPORARY INLET SEDIMENT TRAP Not To Scale



SECTION A-A Not To Scale



Note: To be used at the end of each working day during storm drain construction. PIPE BLOCKING DETAIL No Scale

GENERAL NOTES (CONT.)

- THE CONTRACTOR SHALL LOCATE EXISTING UTILITIES A MINIMUM OF TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS IN VICINITY OF UTILITIES. COST SHALL BE INCLUDED IN THE UNIT PRICES BID FOR STORM DRAIN ITEMS.
- STANDARD DETAILS FOR THIS CONTRACT SHALL BE THE HOWARD COUNTY STANDARD DETAILS AS SUPPLEMENTED BY THE MARYLAND STATE HIGHWAY ADMINISTRATION STANDARD DETAILS.
- THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE (5) DAYS BEFORE STARTING WORK SHOWN HEREON: MISS UTILITY 1-800-257-7777; BALTIMORE GAS & ELECTRIC CO., UNDERGROUND ELECTRIC DISTRIBUTION ENGINEERING DAMAGE CONTROL 234-5591; BALTIMORE GAS & ELECTRIC CO., UNDERGROUND GAS DISTRIBUTION ENGINEERING 234-5533; CHESAPEAKE AND POTOMAC TELEPHONE CO. 725-9976; STATE HIGHWAY ADMINISTRATION 531-5533; COLONIAL PIPELINE COMPANY 781-4641; HOWARD COUNTY BUREAU OF UTILITIES 992-2366; CONSTRUCTION INSPECTION/SURVEYS DIVISION 992-2417.

FLUORANT 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, discing or other acceptable means before seeding.
- Soil Amendments: In lieu of soil test recommendations, use one of the following schedules:
- Preferred - Apply 2 tons per acre dolomitic limestone (92 lbs/1000 sq ft) and 400 lbs per acre 10-10-10 fertilizer (10 lbs/1000 sq ft) before seeding. Harrow or disc into upper three inches of soil. At time of seeding, apply 400 lbs per acre 30-0-0 ureaform fertilizer (9 lbs/1000 sq ft).
  - Acceptable - Apply 2 tons per acre dolomitic limestone (92 lbs/1000 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 (1.6 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 seed with 2 tons/acre well anchored straw.

Mulching - Apply 1 1/2 to 2 tons per acre (20 to 30 lbs/1000 sq ft) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool at 200 lbs/1000 sq ft of coal-tarred asphalt on flat areas. On slopes 8:1 or higher, use 300 gallons per acre (30 gal/1000 sq ft) for anchoring.

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

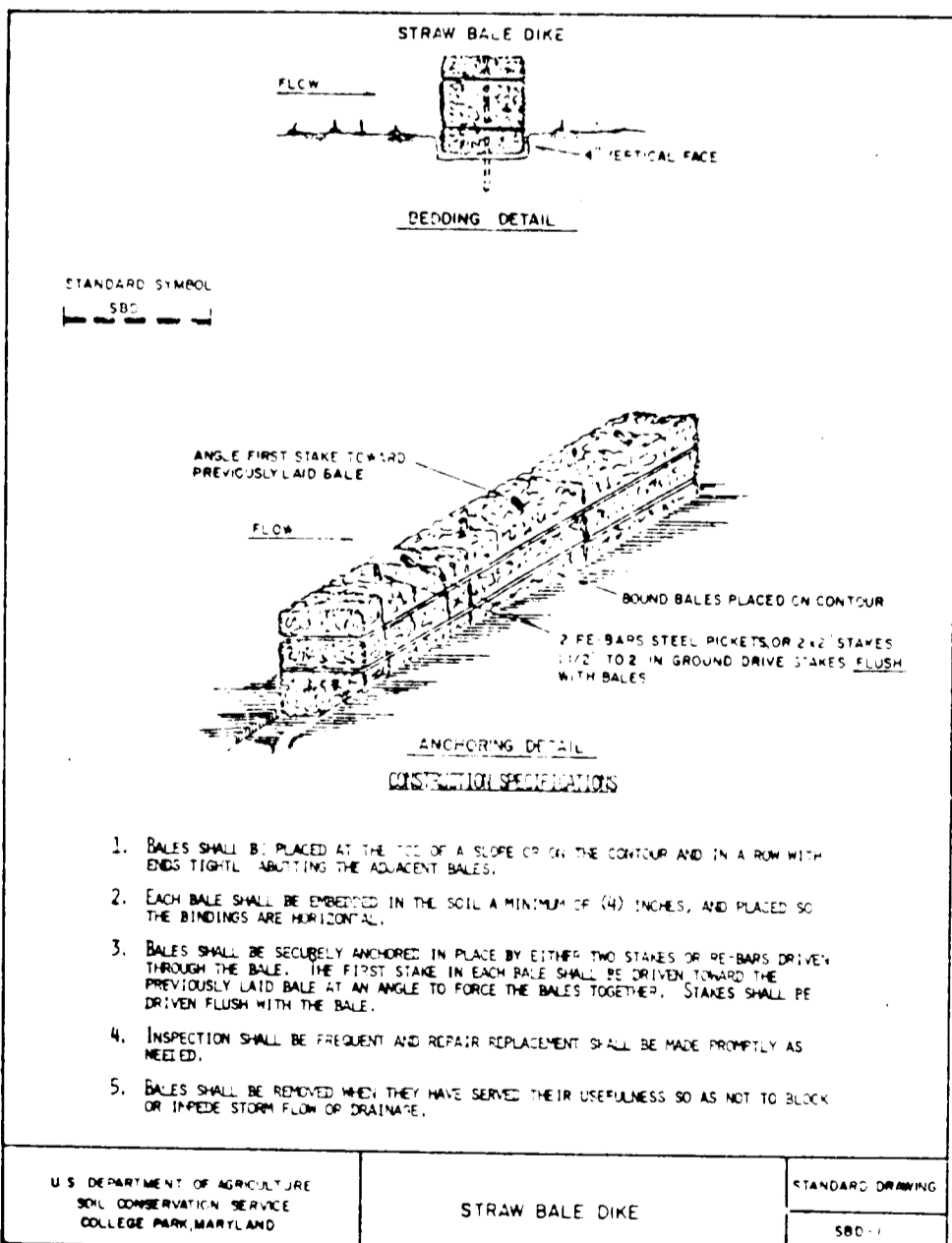
TEMPORARY SEEDING NOTES

- 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, discing or other acceptable means before seeding.
- Soil Amendments: Apply 600 lbs per acre 10-10-10 fertilizer (15 lbs/1000 sq ft).
- Seeding - For periods March 1 thru April 30 and August 1 thru November 15, seed with 2 1/2 bushel per acre of annual ryegrass (1.2 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 (20 to 30 lbs/1000 sq ft) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool at 200 lbs/1000 sq ft of coal-tarred asphalt on flat areas. On slopes 8:1 or higher, use 300 gal per acre (30 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.

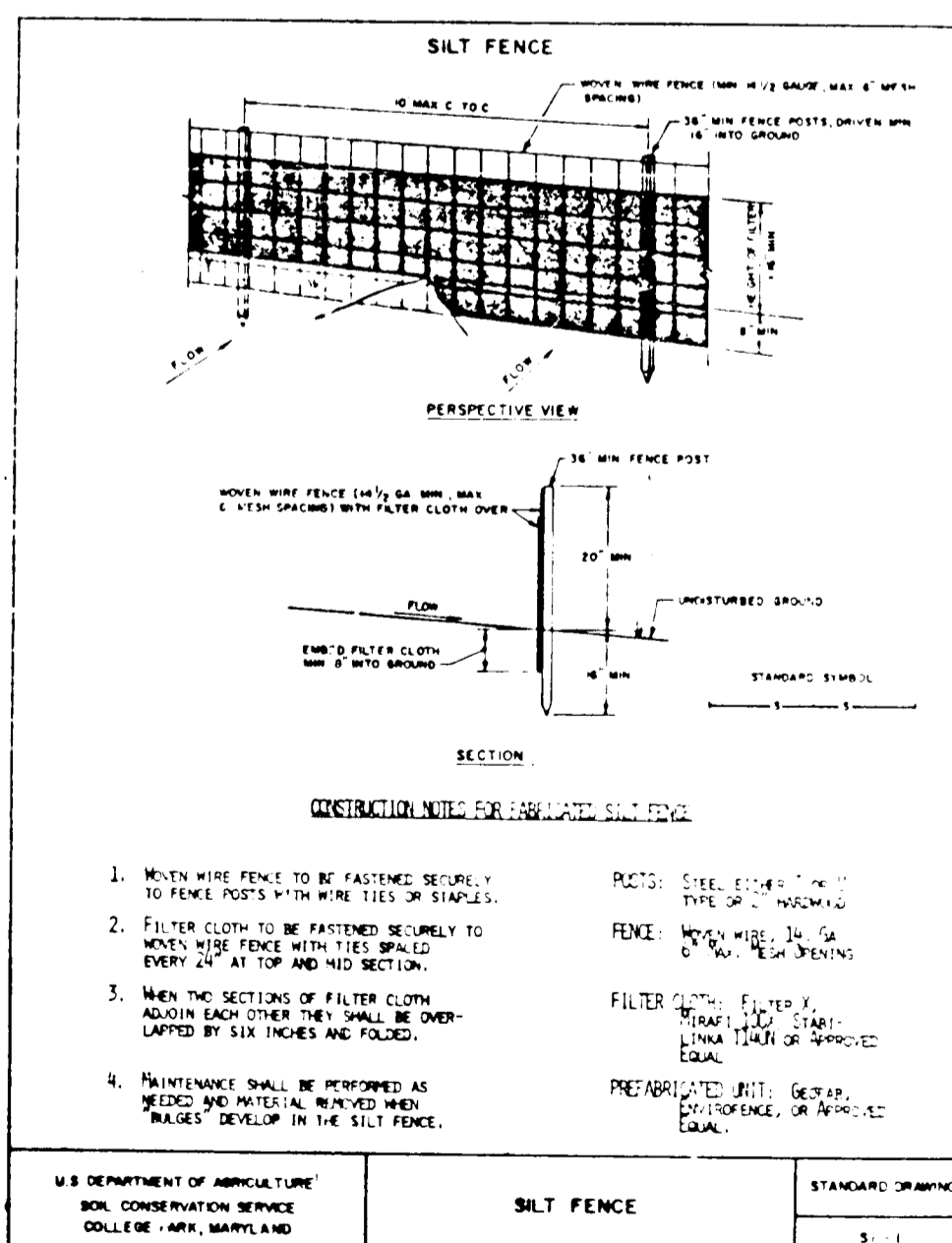
GENERAL NOTES

- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 FOR UNDERGROUND UTILITY LOCATIONS, AT LEAST FIVE DAYS PRIOR TO COMMENCING WORK SHOWN ON THE PLANS.
- ALL TOP ELEVATIONS FOR THE PROPOSED INLETS AND MANHOLES ARE APPROXIMATE, AND ARE TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR AND THE ENGINEER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE RESTORATION OF ALL EXISTING DRIVEWAYS DAMAGED DURING CONSTRUCTION. SEE MEASUREMENT AND PAYMENT IN SPECIAL PROVISIONS. EXISTING BITUMINOUS CONCRETE DRIVEWAYS SHALL BE RESTORED AS FOLLOWS:
  - 4-INCH DEPTH OF BITUMINOUS CONCRETE BASE COURSE
  - 1-INCH DEPTH OF BITUMINOUS CONCRETE SURFACE COURSE
- TREES ARE TO BE PROTECTED FROM DAMAGE TO MAXIMUM EXTENT. TREES LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
- CONTRACTOR TO GRADE AROUND THE TOP OF THE PROPOSED INLETS IN ORDER TO PROVIDE POSITIVE DRAINAGE TO THE INLETS. LINING SHALL BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
- COORDINATES ARE BASED ON THE MARYLAND STATE PLANE COORDINATE SYSTEM, 1957 DATUM, PROJECTED BY THE PLANNING AND ZONING COMMISSION OF HOWARD COUNTY, MARYLAND.
- THE EXISTING UTILITIES AND OBSTRUCTIONS SHOWN ON THE PLANS ARE FROM THE BEST AVAILABLE RECORDS AND SHALL BE VERIFIED BY THE CONTRACTOR TO HIS OWN SATISFACTION BEFORE STARTING CONSTRUCTION. NEITHER THE ENGINEER NOR THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS WARRANT OR GUARANTEE THE COMPLETENESS OR CORRECTNESS OF THE INFORMATION SHOWN.
- THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES. ANY DAMAGE DUE TO THE CONTRACTOR'S NEGLIGENCE SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE. CLEAR ALL UTILITIES BY A MINIMUM OF 6-INCHES.
- TEST PITS SHALL BE DUG AT ALL UTILITY CROSSINGS TO DETERMINE EXISTING HORIZONTAL AND VERTICAL ALIGNMENT OF UTILITIES. TEST PITS SHALL BE DUG A SUFFICIENT AMOUNT OF TIME IN ADVANCE OF THE CONSTRUCTION OR TRENCHING OPERATION, IN ORDER TO ALLOW FOR NECESSARY ADJUSTMENTS.
- WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL . THE RESULTS OF TEST PITS ARE INCLUDED ON THE STORM DRAIN PROFILES.
- ALL UTILITY POLES MUST BE CLEARED BY 2- FEET, OR THE PROPOSED STORM DRAIN SHALL BE PLACED BY TUNNELING. ALL COSTS FOR TUNNELING ARE TO BE INCLUDED IN THE UNIT PRICE BID FOR FURNISHING AND LAYING THE STORM DRAIN PIPE.
- ALL VERTICAL CONTROLS ARE BASED ON U.S.G.S. DATUM OF 1929.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG LINE OF EXCAVATION AS DIRECTED BY THE ENGINEER. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR FURNISHING AND LAYING STORM DRAIN PIPE.
- PLACE REGULATION "MEN WORKING" AND WARNING SIGNS AS REQUIRED TO COMPLY WITH MARYLAND STATE HIGHWAY ADMINISTRATION MANUAL OF TRAFFIC CONTROL FOR HIGHWAY CONSTRUCTION AND MAINTENANCE OPERATIONS.
- EXISTING WATER HOUSE SERVICES, THAT ARE IN CONFLICT WITH THE PROPOSED STORM DRAINAGE FACILITIES, SHALL BE ADJUSTED BY THE CONTRACTOR.
- FOR DETAILS NOT SHOWN ON THE DRAWINGS, AND FOR MATERIALS AND CONSTRUCTION METHODS, THE CONTRACTOR SHALL ABIDE BY THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, "STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION" AND THE SPECIAL PROVISIONS. IN THE EVENT OF ANY DISCREPANCY BETWEEN THESE TWO SOURCES, THE LATTER SHALL GOVERN.
- THE CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG THE LINE OF EXCAVATION AS DIRECTED BY THE ENGINEER. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR STORM DRAIN ITEMS.
- EXISTING FENCES, MAILBOXES, SIGNS AND SHRUBS DISTURBED BY THE WORK SHALL BE RECONSTRUCTED OR REPLACED IN KIND.
- ALL SLOPES AND/OR DISTURBED AREAS SHALL RECEIVE 2-INCH DEPTH OF TOPSOIL, SEED AND MULCH EXCEPT, WHERE OTHERWISE INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
- LOCATION POINTS FOR INLETS, MANHOLES AND STRUCTURES:

ITEM	HORIZONTAL LOC.	VERTICAL LOC.
CURB TYPE INLETS	CENTER FACE OF CURB	TOP OF CURB
GRATE TYPE INLETS	CENTER OF GRATE	TOP OF GRATE
MANHOLES	CENTER OF COVER	TOP OF COVER
ENDWALLS	CENTER OF WALL	TOP OF WALL



CONSTRUCTION SPECIFICATIONS



CONSTRUCTION SPECIFICATIONS

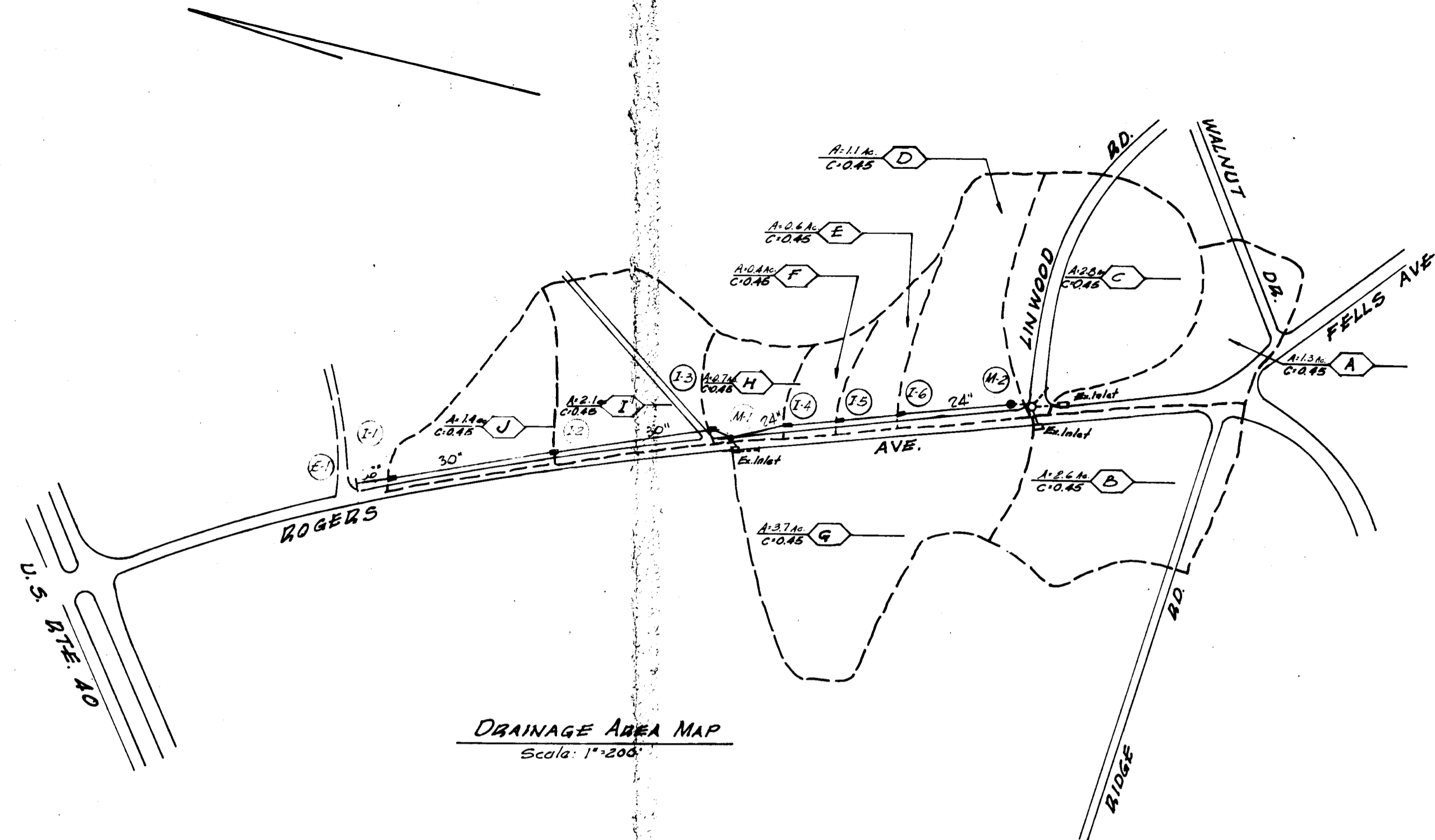
DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND  
DIRECTOR OF PUBLIC WORKS DATE: 11-6-87  
CHIEF, DIVISION OF ROADS, BRIDGES AND STORM DRAINAGE DATE: 4/16/87

HICKS ENGINEERING COMPANY, INC.  
200 EAST JOPPA ROAD  
SUITE 402  
TOWSON, MD 21204

DES:	
DRN:	
CHK:	
DATE:	
BY:	N.O.
REVISION:	

CAPITAL PROJECT D-1073  
ROGERS AVENUE - SOUTH OF U.S. ROUTE 40

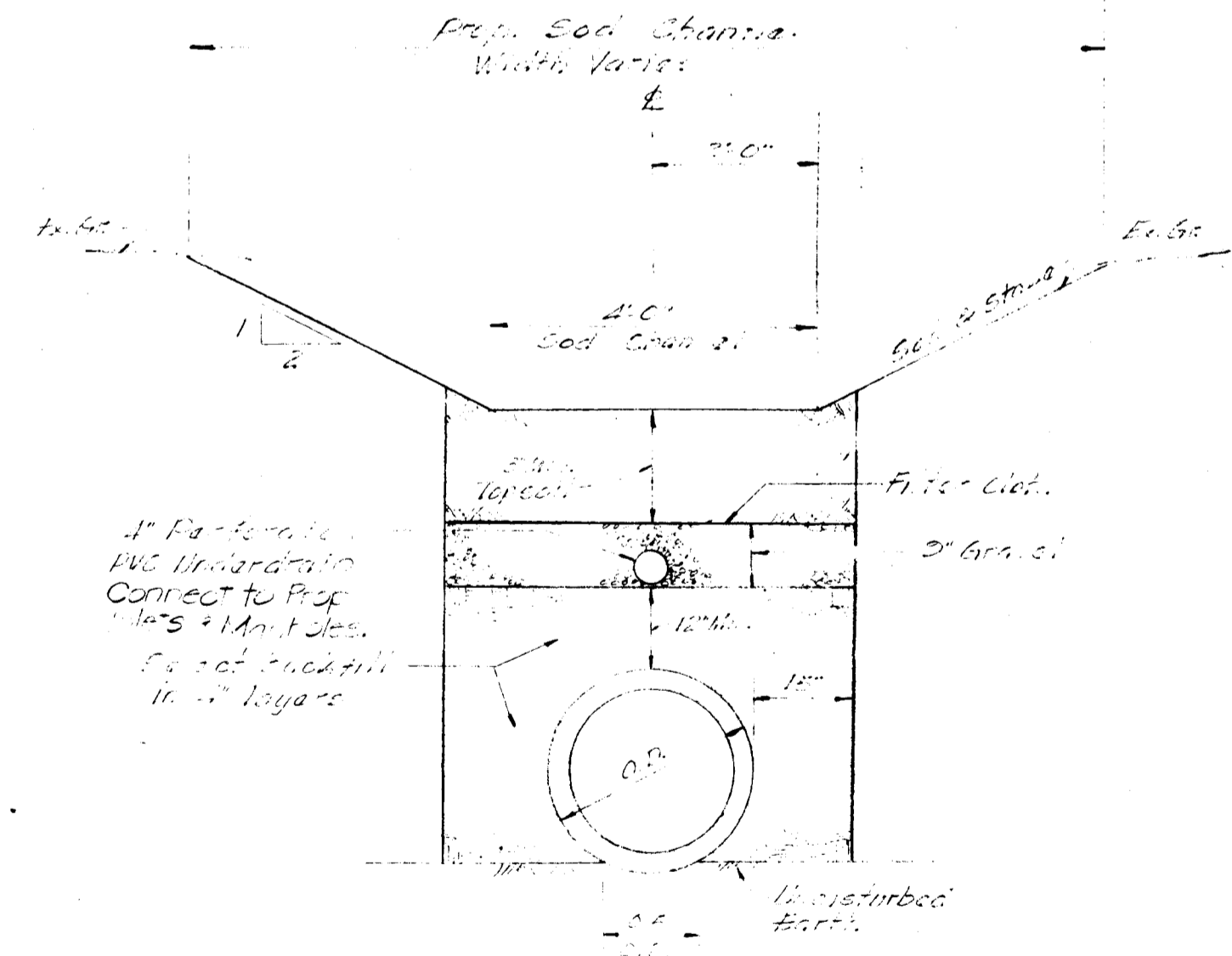
SCALE AS SHOWN  
SHEET 2 OF 4  
STORM DRAINAGE IMPROVEMENTS FOR ELLICOTT CITY AREA



**DRAINAGE AREA MAP**  
Scale: 1"=200'

STORM DRAIN DESIGN DATA																	
Area	Reach	Struct	Channel or Conduit			Drainage Area & Runoff						Drop Struct	Full			M	REMARKS
			Type	L	So	Elev	E.D.A.	C	E.C.A.	R <sub>10</sub>	I		Q	A	V		
A	E. Inlet	RCP	0.015			1.3	45	0.50	13.8	5.7	3.2	1.76	1.0	0.014			
B	E. Inlet	CMP	0.021			2.6	45	1.1	14.1	5.2	6.6	1.74	3.7	0.115			
C	E. Inlet	RCP	0.015			2.8	45	1.26	13.4	5.8	7.3	1.74	1.9	0.80			
D	E. Inlet	RCP	0.015			4.7	45	3.0	14.2	5.5	16.6	1.74	5.3	0.078			
E	E. Inlet	RCP	0.015			1.1	45	0.6	14.6	5.5	16.6	1.74	5.3	0.078			
F	E. Inlet	RCP	0.015			7.8	45	3.5	15.3	5.4	18.0	1.74	6.0	0.004			
G	E. Inlet	RCP	0.015			8.2	45	3.7	15.8	5.4	20.0	1.74	6.5	0.110			
H	E. Inlet	RCP	0.015			12.5	45	5.4	15.7	5.3	23.2	1.74	6.1	0.220			
I	E. Inlet	RCP	0.015			13.2	45	5.7	15.8	5.3	31.6	1.74	7.2	0.270			
J	E. Inlet	RCP	0.015			15.3	45	6.7	16.6	5.2	35.0	1.74	8.2	0.100			
K	E. Inlet	RCP	0.015			14.4	45	6.3	16.1	5.2	35.0	1.74	8.2	0.100			
L	E. Inlet	RCP	0.015			16.7	45	7.4	16.7	5.0	39.2	1.74	9.0	0.046			

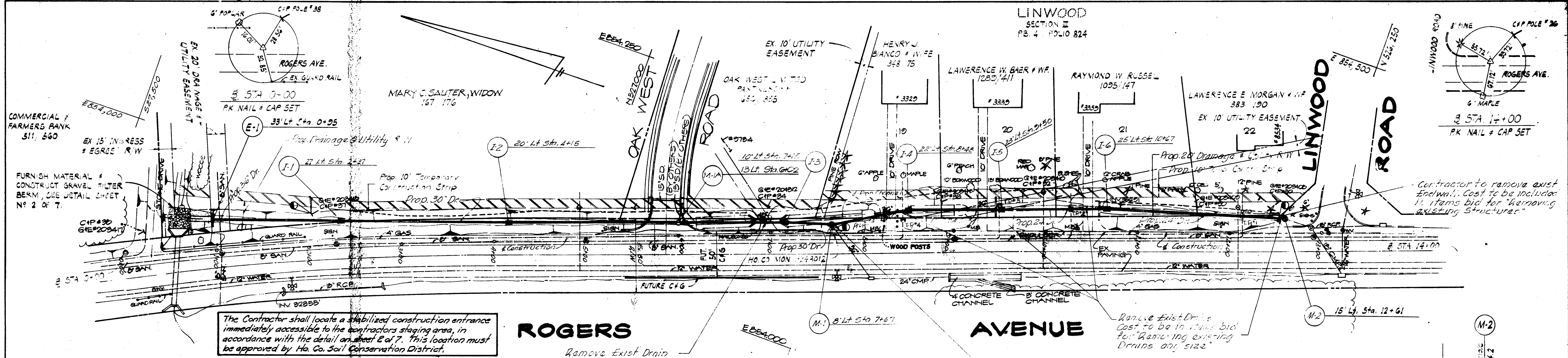
Inlet No	Remarks	T <sub>0</sub>	A	C	I	Q	Q <sub>10</sub>	Swale Slope	d	Spaced for	Type	Inlet Type	Cap cfs	Carry Over cfs
I-6	Gross Channel V=1.4	13.0	1.1	0.45	5.0	3.0	N.A.	.060	0.45	5.8'	Fig. 8.03	D-2 Side Opn.	18	N.A.
I-5	Gross Channel V=1.05	12.6	0.6	0.45	6.0	1.6	N.A.	.030	0.50	6.0'	"	D-2 Side Opn.	18	N.A.
I-4	Gross Channel V=1.05	12.1	0.4	0.45	6.1	1.1	N.A.	.060	0.40	5.6'	"	D-3 Side Opn.	18	N.A.
I-3	Gross Channel V=1.05	12.5	0.7	0.45	6.1	1.0	N.A.	.040	0.48	6.0'	"	D-3 Side Opn.	18	N.A.
I-2	Gross Channel V=1.0	13.6	2.1	0.45	5.8	5.5	N.A.	.042	0.57	6.3'	"	D-3 Side Opn.	18	N.A.
I-1	Gross Channel V=1.2	13.8	1.4	0.45	5.7	3.6	N.A.	.025	0.60	6.4'	"	K 16" dia	-	-



PROPOSED INLET AND CHANNEL  
SCALE: 12"=10'

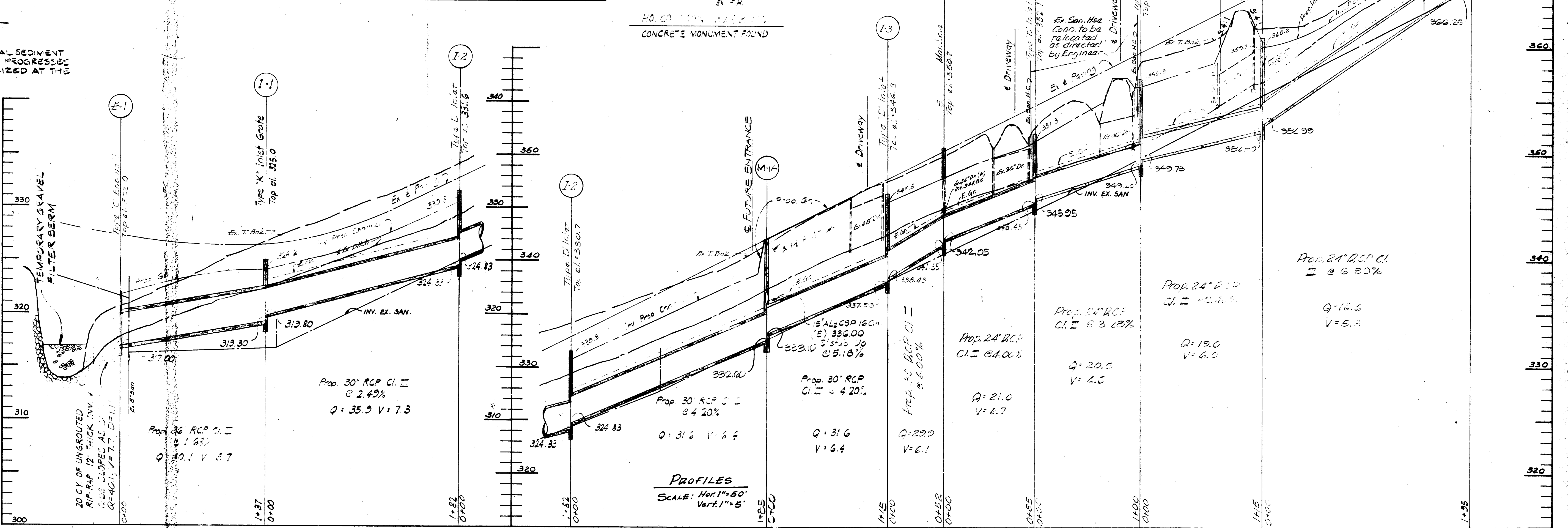
DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND DIRECTOR OF PUBLIC WORKS: <i>[Signature]</i> CHIEF, DIVISION OF ROADS, BRIDGES AND STORM DRAINAGE: <i>[Signature]</i>	HICKS ENGINEERING COMPANY, INC. 200 EAST JOPPA ROAD SUITE 402 TOWSON, MD 21204 <i>[Signature]</i>	DES: JEG				CAPITAL PROJECT D-1073: ROGERS AVENUE - SOUTH OF U.S. ROUTE 40 600' SCALE MAP NO. _____ BLOCK NO. _____	STORM DRAINAGE IMPROVEMENTS <b>DRAINAGE AREA MAP</b> ELECTION DISTRICT: ELLICOTT CITY NO. 2	SCALE AS SHOWN
		DRN: JEG						SHEET 3 OF 4
		CHK: DEH						
		DATE:	BY:	NO.	REVISION			DATE

JAN. 13, 1987



STRUCTURE SCHEDULE						CHANNEL SCHEDULE						
No	TYPE	LOCATION	Inv In	Inv Out	Top Elevation	REMARKS	STATION	OFFSET LEFT	CHANNEL INV.	STATION	OFFSET LEFT	CHANNEL INV.
E-1	C-Entr	3314 St. 0+95	324.0	324.0	324.0	Std. Drng. SD 5.21	2+50	27'	324.6	7+50	8'	347.1
E-2	K-Entr	27 Lt. Sta. 2+21	324.0	324.0	324.0	Std. Drng. SD 4.13	3+00	25'	325.8	8+00	13'	349.3
I-2	D-Inlet	20 Lt. Sta. 1+15	324.0	324.0	324.0	SD 4.11	3+50	22'	327.7	8+50	13'	351.0
M-1A	Precast Manhole	15 Lt. Sta. 0+22	324.0	324.0	324.0	SD 4.11	4+00	21'	330.0	9+00	24'	354.0
I-3	D-Inlet	10 Lt. Sta. 7+17	324.0	324.0	324.0	SD 4.11	4+50	19'	332.4	9+50	24'	356.5
M-1	Standard Manhole	8 Lt. Sta. 7+67	324.0	324.0	324.0	Std. Drng. SD 5.11	5+00	18'	334.5	10+00	24'	358.0
I-4	D-Inlet	22 Lt. Sta. 8+48	324.0	324.0	324.0	SD 4.11	5+50	16'	337.1	11+00	24'	361.0
I-5	D-Inlet	23 Lt. Sta. 0+23	324.0	324.0	324.0	SD 4.11	6+00	14'	339.1	11+50	21'	363.8
I-6	D-Inlet	25 Lt. Sta. 10+27	324.0	324.0	324.0	SD 4.11	6+50	12'	341.1	12+00	19'	366.8
M-2	Standard Manhole	15 Lt. Sta. 12+61	324.0	324.0	324.0	Std. Drng. G 5.11						

- CONSTRUCTION SEQUENCE**
- OBTAIN CONSTRUCTION PERMIT.
  - INSTALL GRAVEL FILTER BERM; PLACE ADDITIONAL SEDIMENT CONTROL DEVICES AS PIPE LAYING OPERATION PROGRESSES UP-GRADE. BLOCKING DETAIL MUST BE UTILIZED AT THE END OF EACH WORK DAY.
  - PLACE PROPOSED FILL TO A DEPTH OF 2'-0" ABOVE TOP OF PLANNED STORM DRAIN PIPE BETWEEN PROPOSED DRAINAGE STRUCTURES WHERE EXISTING GRADE IS APPROXIMATELY 2' ABOVE PIPE. FILL MATERIAL WILL NOT BE REQUIRED. EXCAVATE FOR AND INSTALL PROPOSED STORM DRAIN PIPE AND FACILITIES. POSITIVE GRADE MUST BE MAINTAINED TO THE STORM WATER INLETS AS THEY ARE CONSTRUCTED, AND SED. TRAPS CONSTRUCTED FOR EACH INLET.
  - INGRESS AND EGRESS SHALL BE MAINTAINED TO ALL RESIDENCES FOR OVERNIGHT, WEEKENDS AND HOLIDAYS.
  - COMPLETE GRADING, RESTORE DRIVEWAYS AND STABILIZE AREAS DISTURBED BY THE CONTRACTOR'S OPERATIONS.
  - REMOVE SEDIMENT CONTROL DEVICES. OBTAIN PROPER AUTHORIZATION FROM SEDIMENT CONTROL INSPECTOR, AND RESTORE ALL AREAS THAT MAY REQUIRE STABILIZATION.



DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

Director of Public Works: *Charles Anderson*  
Chief, Bureau of Engineering: *Robert J. Ray*  
Date: *1/16/87*

HICKS ENGINEERING COMPANY, INC.  
200 EAST JOPPA ROAD  
SUITE 402  
TOWSON, MD 21204

DES: JEG					
DRN: JEG					
CHK: DEH					
DATE:	BY:	NO.	REVISION	DATE	

CAPITAL PROJECT D-1073  
ROGERS AVENUE - SOUTH OF U.S. ROUTE 40

600' SCALE MAP NO. \_\_\_\_\_ BLOCK NO. \_\_\_\_\_

STORM DRAINAGE IMPROVEMENTS  
**ROGERS AVENUE**  
SOUTH OF U.S. ROUTE 40  
ELECTION DISTRICT - ELLICOTT CITY NO. 2

SCALE AS SHOWN  
SHEET 4 OF 4

# HOWARD COUNTY MARYLAND

## DEPARTMENT OF PUBLIC WORKS

REVIEW FOR HOWARD COUNTY, S. C. L.  
AND MEETS TECHNICAL REQUIREMENTS

DATE: \_\_\_\_\_  
U.S. SOIL CONSERVATION SERVICE

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

APPROVED: \_\_\_\_\_ DATE: \_\_\_\_\_  
HOWARD COUNTY S.C.S.

ENGINEER'S CERTIFICATION

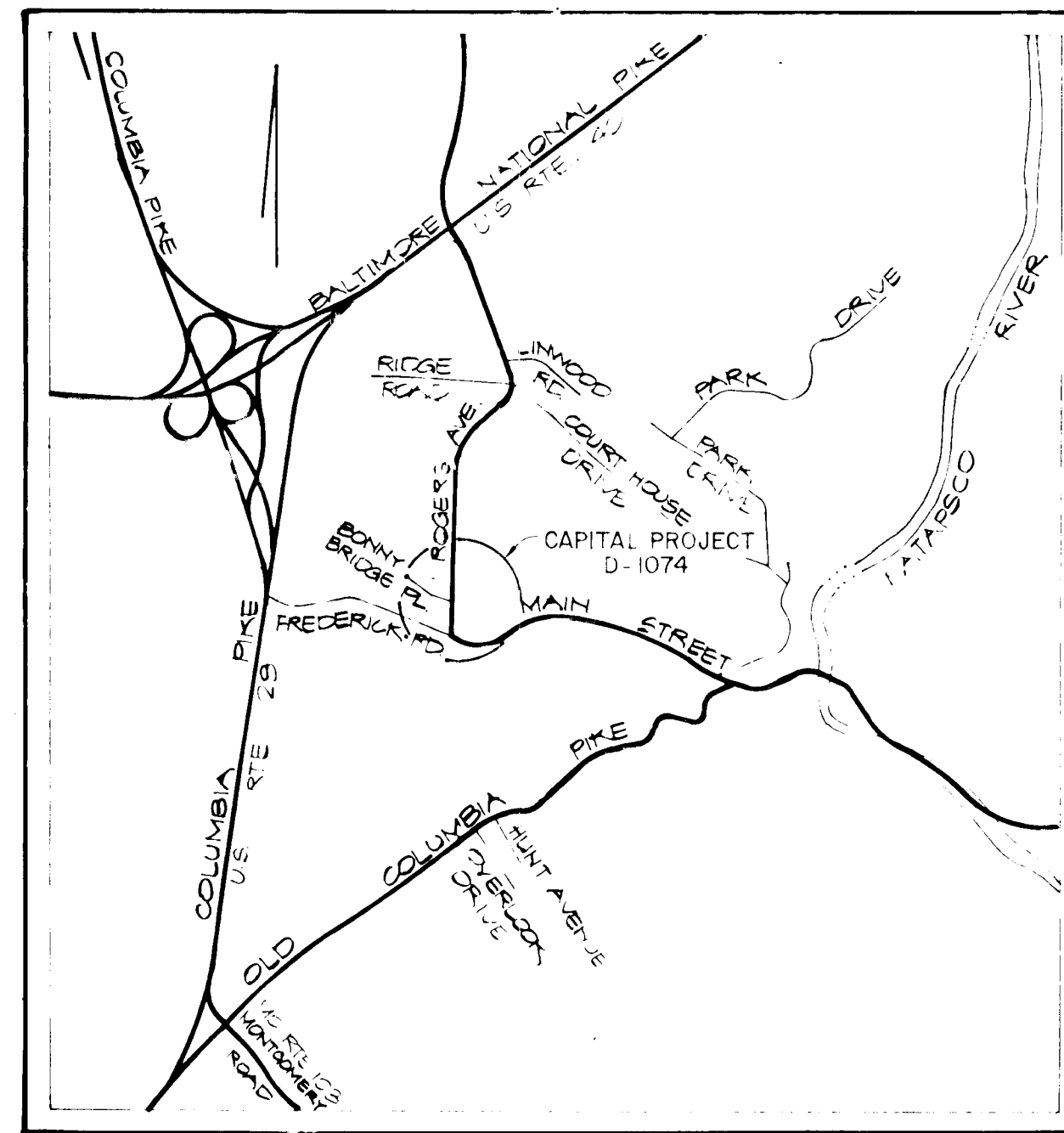
I CERTIFY THAT THIS PLAN FOR SOIL EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

DATE: \_\_\_\_\_  
HICKS ENGINEERING COMPANY, INC.  
200 EAST JOPPA ROAD - SUITE 402  
TOWSON, MD 21204

DEVELOPER'S CERTIFICATION

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR SOIL EROSION AND SEDIMENT CONTROL AND THAT ALL 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 OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY."

DATE: \_\_\_\_\_



VICINITY MAP  
SCALE: 1" = 2000'

INDEX OF SHEETS		
CHEET NO.	DESCRIPTION	LOCATION
1	TITLE SHEET	
2	STANDARD DETAILS	
3	DRAINAGE AREA MAP	
4	CAPITAL PROJECT D-1074	ROGERS AVE.- NORTH OF FREDERICK RD.

# STORM DRAINAGE IMPROVEMENTS ELLICOTT CITY AREA ELECTION DISTRICT: ELLICOTT CITY NO. 2

*Give print to [unclear] [unclear]*

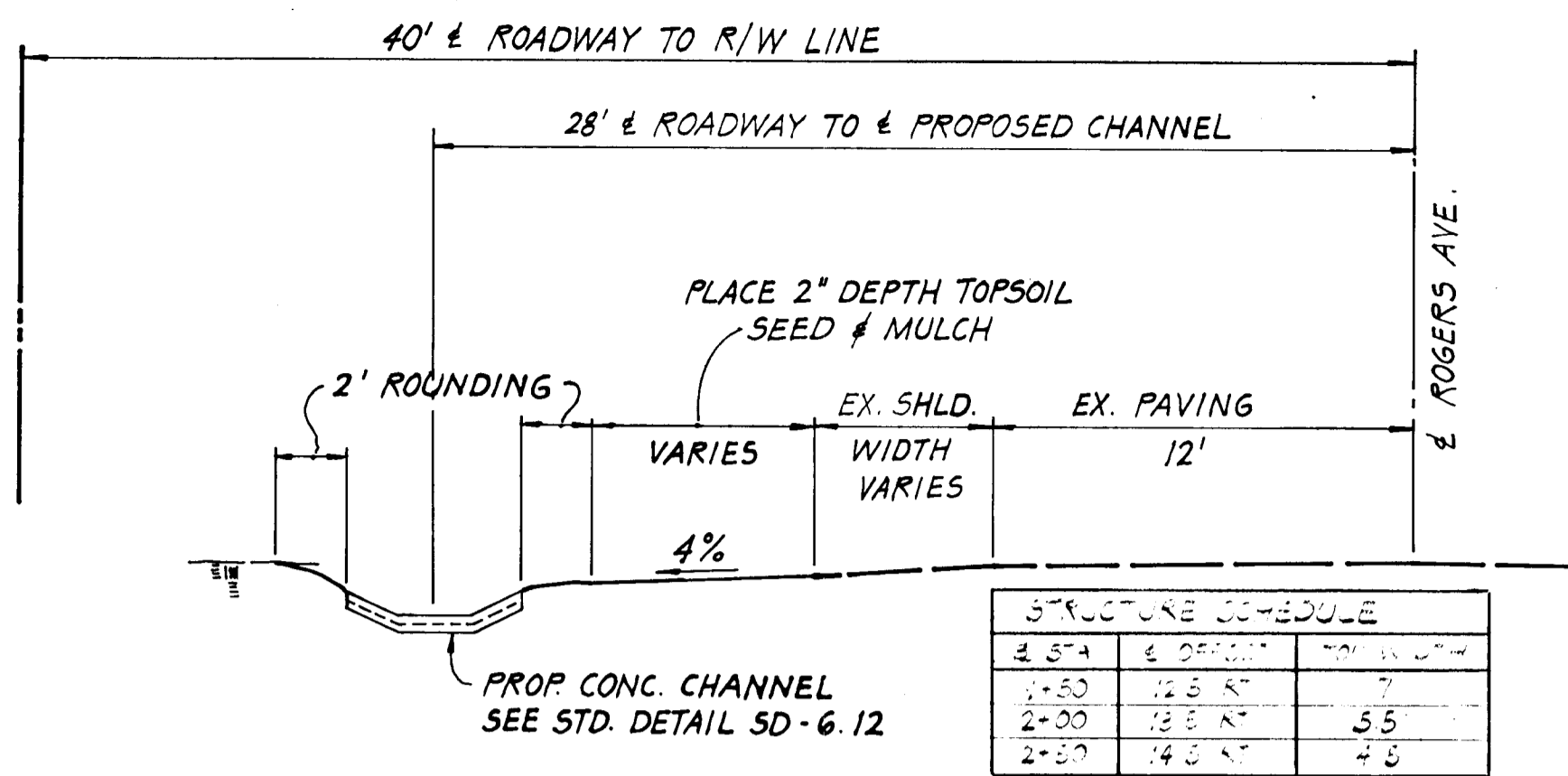
SAVE  
C1312 D#1

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND DIRECTOR OF PUBLIC WORKS DATE _____ CHIEF, BUREAU OF ENGINEERING DATE _____ <i>[Signature]</i> 11/6/88 CHIEF, DIVISION OF ROADS, BRIDGES AND STORM DRAINAGE DATE _____		HICKS ENGINEERING COMPANY, INC. CIVIL ENGINEERS 200 EAST JOPPA ROAD SUITE 402 TOWSON, MD 21204		DES: _____ DRN: _____ CHK: _____ DATE: _____		CAPITAL PROJECT D-1074: ROGERS AVENUE - NORTH OF FREDERICK ROAD 600' SCALE MAP NO. _____ BLOCK NO. _____		STORM DRAINAGE IMPROVEMENTS FOR ELLICOTT CITY AREA		SCALE AS SHOWN SHEET 1 OF 4
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SOIL EROSION & SEDIMENT CONTROL NOTES

GENERAL NOTES (CONT.)

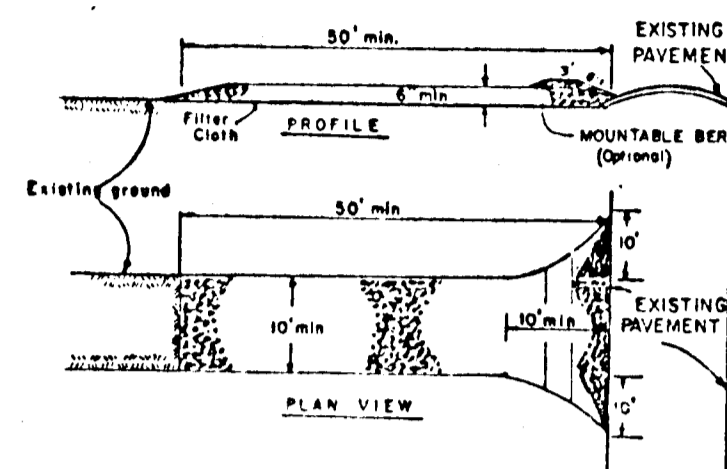
GENERAL NOTES



TYPICAL SECTION - CONCRETE CHANNEL WEST SIDE OF ROGERS AVENUE - CAPITAL PROJECT D-1074

SCALE: 1" = 5'

1. SEDIMENT CONTROL TO BE PROVIDED IN ACCORDANCE WITH CHAPTER 12 OF THE HOWARD COUNTY DESIGN MANUAL, 1982 STANDARD AND SPECIFICATIONS FOR SEDIMENT AND EROSION CONTROL, AND THIS PLAN.
2. THE CONTRACTOR SHALL INSTALL AND MAINTAIN ALL TEMPORARY SEDIMENT CONTROL MEASURES AS SHOWN ON THE DRAWINGS. HOWEVER, ANY SEDIMENT CONTROL MEASURES NOT SPECIFICALLY CALLED OUT IN THE CONTRACT DOCUMENTS, BUT REQUIRED AS A RESULT OF THE CONTRACTOR'S EXCAVATIONS OR ACTIVITIES SHALL NOT BE CAUSE FOR EXTRA PAYMENT.
3. FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN (1) 7 CALENDAR DAYS FOR THE SURFACE OF ALL PERMETER CONTROLS, DITCHES, SWALES, DITCHES PERMETER SLOPES, AND ALL SLOPES GREATER THAN 3:1 AND (2) 14 DAYS FOR ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.



CONSTRUCTION SPECIFICATIONS

1. Stone Size - One (1) size of stone, or crushed or recycled concrete equivalent.
2. Length - As required, but not less than 30 feet (except on a single cast, three 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 increase or decrease occurs.
5. Filter Cloth - Will be placed over the entire area prior to placing of stone. Filter will not be replaced on a single family residence lot.
6. Surface Water - All surface water flowing or directed toward construction entrance shall be piped across the entrance. If piping is impractical, a mountable berm with 3:1 slope will be provided.
7. Maintenance - The entrance shall be maintained in a condition which will prevent tracking or firing of sediment onto public right-of-way. This may require periodic top dressing with additional stone as conditions demand and regular removal of any material used to trap sediment. All sediment spilled, dropped, washed or tracked onto public right-of-way must be removed immediately.
8. Warning - Signs shall be placed to advise motorists prior to entrance onto public right-of-way. When warning is required, it shall be done on an area stabilized with stone and which drains into an approved sediment trapping device.
9. Routine inspection and needed maintenance shall be provided after each rain.

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.

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

- 1) Preferred - Apply 2 tons per acre dolomitic limestone (92 lbs/1000 square 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/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 disc into upper three inches of soil.

Seeding - For the periods March 1 thru April 30, and August 1 thru October 15, seed with 60 lbs per acre (1.4 lbs/1000 sq ft) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 60 lbs Kentucky 31 Tall Fescue per acre and 2 lbs per acre (.05 lbs/1000 sq ft) of creeping 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 (30 to 90 lbs/1000 sq ft) of untreated 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 8:1 or higher, use 368 gal 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 redistributed 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.

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

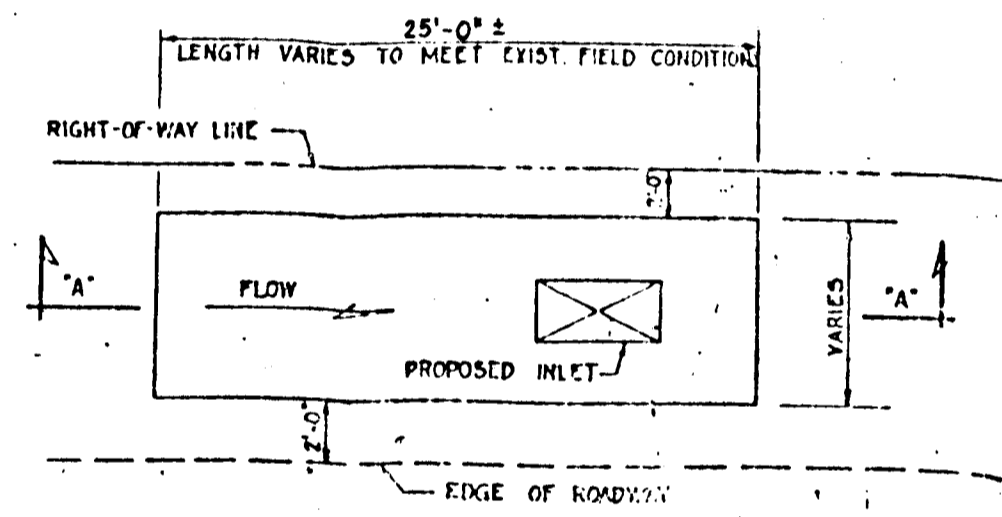
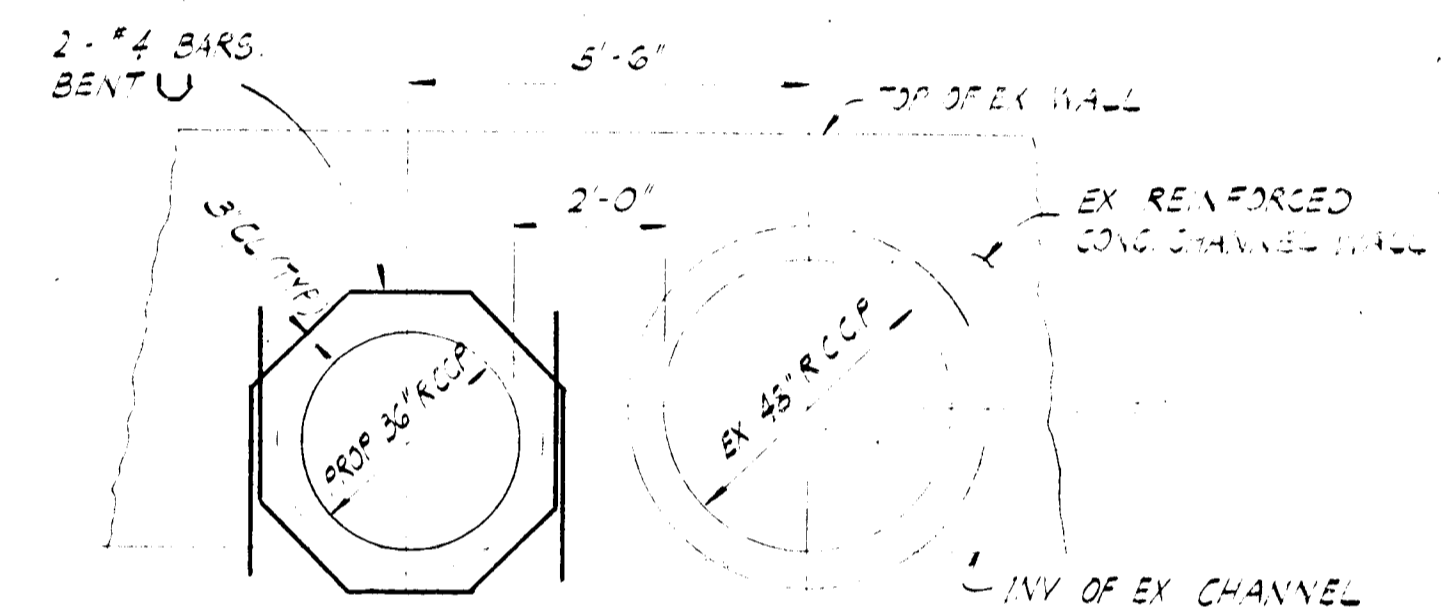
Seeding: For periods March 1 thru April 30 and from August 15 thru November 15, seed with 2 1/2 bushel per acre of annual ryegrass (3.2 lbs/1000 sq ft). For the period May 1 thru August 14, seed with 3 lbs per acre of creeping lovegrass (.07 lbs/1000 sq ft). For the period November 16 thru February 28, 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 (30 to 90 lbs/1000 sq ft) of untreated 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 8:1 or higher, use 328 gal per acre (8 gal/1000 sq ft) for anchoring.

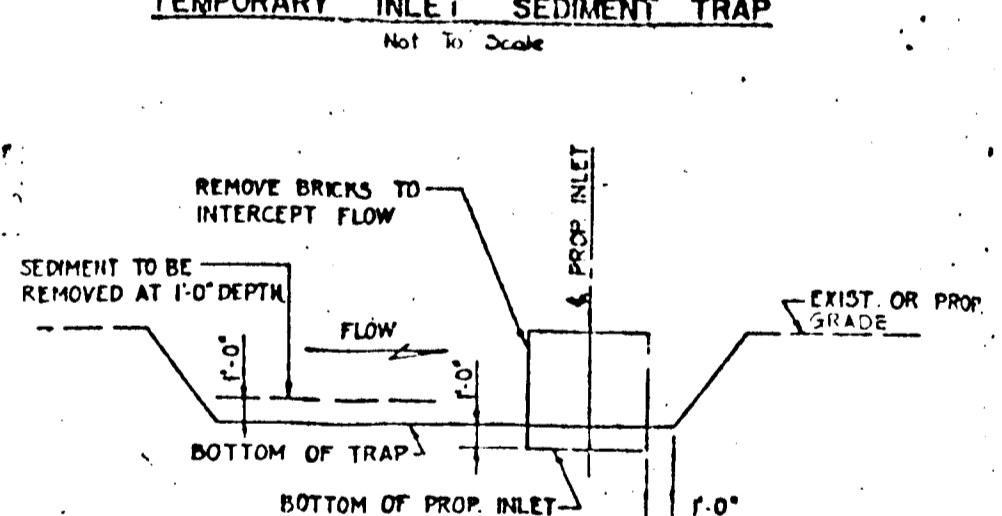
Refer to the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for rate and methods not covered.

NOTES:

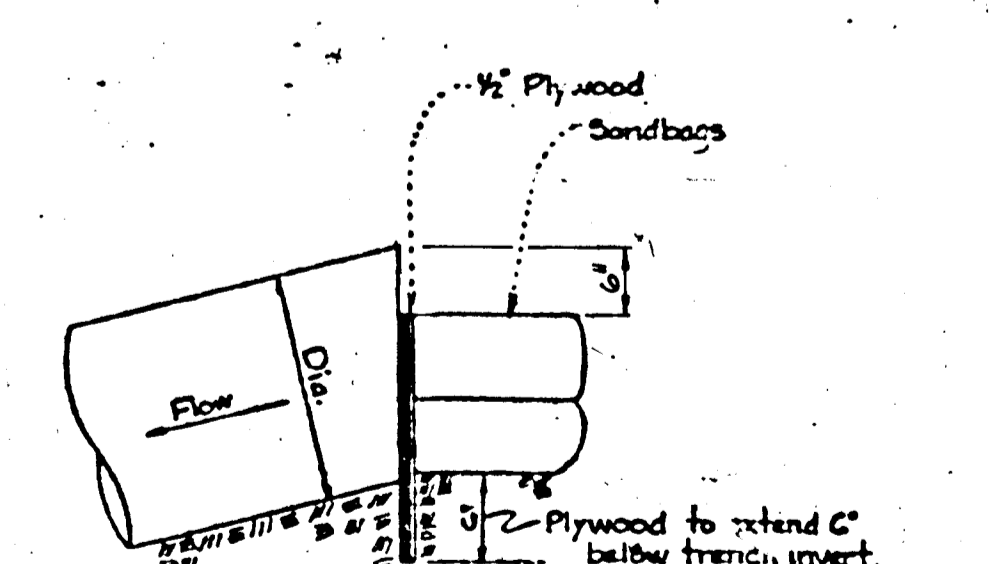
- PREPARE OPENING IN EXISTING CHANNEL WALL
- SPACE BETWEEN OPENING AND O.D. OF 36" R.C.C.P. SHALL BE RE-CONSTRUCTED USING NON-SHRINK GROUT.
- THE PROP REBARS TO EXISTING REINFORCEMENT



TEMPORARY INLET SEDIMENT TRAP



SECTION A-A



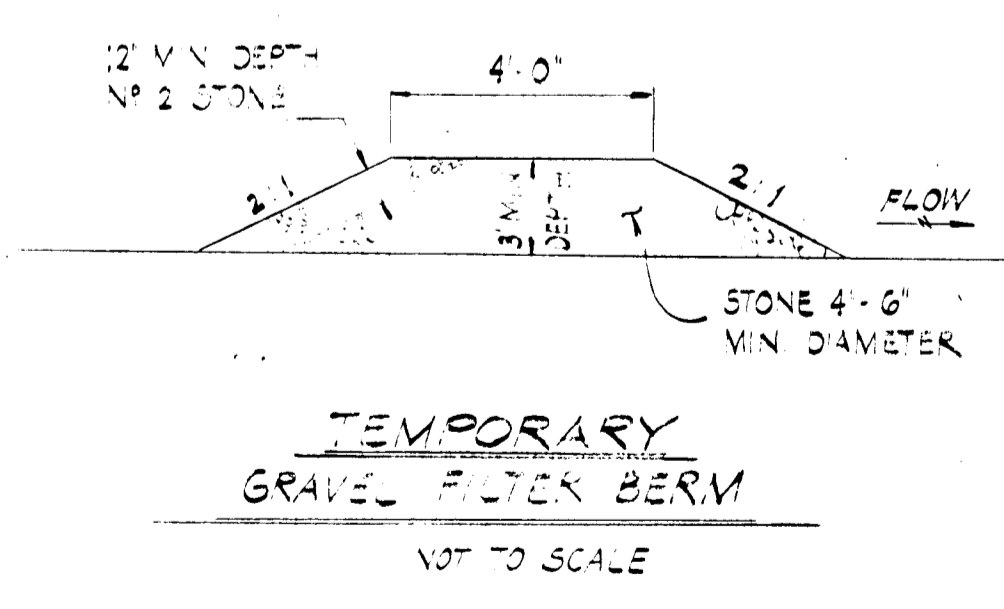
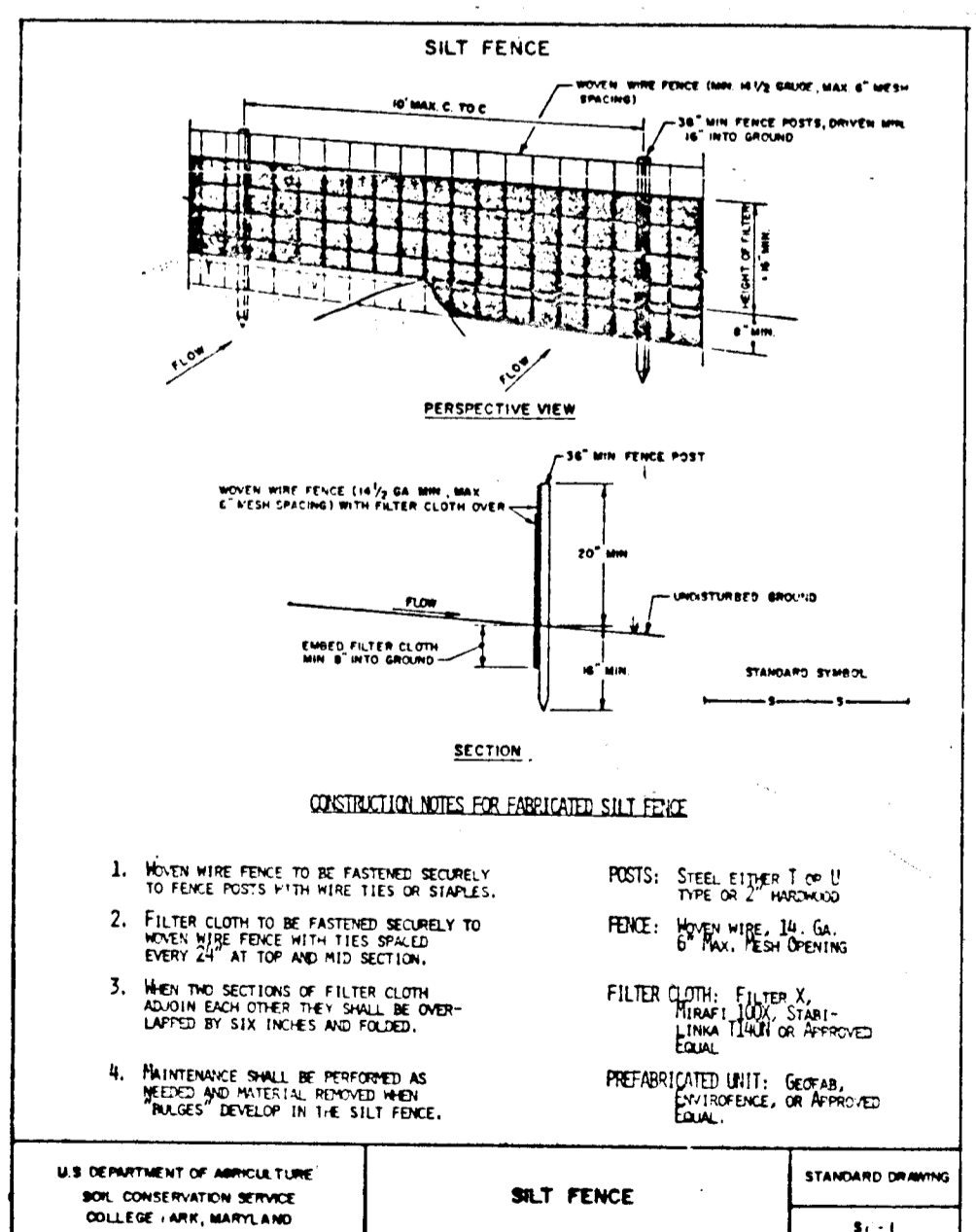
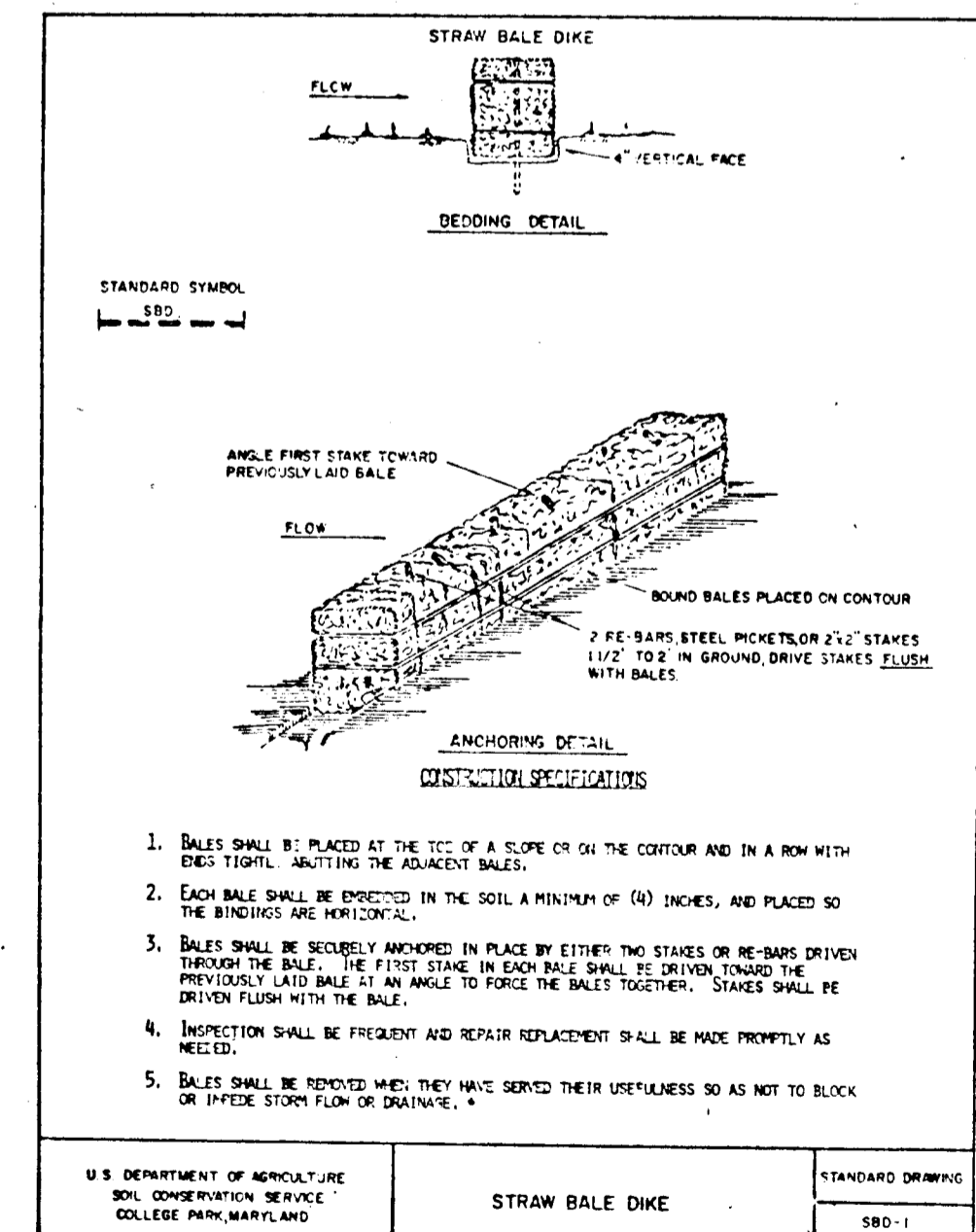
Note: To be used at the end of each working day during storm drain construction.

PIPE BLOCKING DETAIL

No Scale

INSTALLATION OF PROPOSED 36" DRAIN AT EXISTING CONCRETE WALL CAPITAL PROJECT D-1074

SCALE: 3/8" = 1'-0"



1. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 FOR UNDERGROUND UTILITY LOCATIONS, AT LEAST FIVE DAYS PRIOR TO COMMENCING WORK SHOWN ON THE PLANS.
  2. ALL TOP ELEVATIONS FOR THE PROPOSED INLETS AND MANHOLES ARE APPROXIMATE, AND ARE TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR AND THE ENGINEER.
  3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE RESTORATION OF ALL EXISTING DRIVEWAYS DAMAGED DURING CONSTRUCTION. SEE MEASUREMENT AND PAYMENT IN SPECIAL PROVISIONS. EXISTING BITUMINOUS CONCRETE DRIVEWAYS SHALL BE RESTORED AS FOLLOWS:
    - 1.) 4-INCH DEPTH OF BITUMINOUS CONCRETE BASE COURSE
    - 2.) 1-INCH DEPTH OF BITUMINOUS CONCRETE SURFACE COURSE
  4. TREES ARE TO BE PROTECTED FROM DAMAGE TO MAXIMUM EXTENT. TREES LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
  5. CONTRACTOR TO GRADE AROUND THE TOP OF THE PROPOSED INLETS IN ORDER TO PROVIDE POSITIVE DRAINAGE TO THE INLETS. LINING SHALL BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
  6. COORDINATES ARE BASED ON THE MARYLAND STATE PLANE COORDINATE SYSTEM, 1957 DATUM, PROJECTED BY THE PLANNING AND ZONING COMMISSION OF HOWARD COUNTY, MARYLAND.
  7. THE EXISTING UTILITIES AND OBSTRUCTIONS SHOWN ON THE PLANS ARE FROM THE BEST AVAILABLE RECORDS AND SHALL BE VERIFIED BY THE CONTRACTOR TO HIS OWN SATISFACTION BEFORE STARTING CONSTRUCTION. NEITHER THE ENGINEER NOR THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS WARRANT OR GUARANTEE THE COMPLETENESS OR CORRECTNESS OF THE INFORMATION SHOWN.
  8. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES. ANY DAMAGE DUE TO THE CONTRACTOR'S NEGLIGENCE SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE. CLEAR ALL UTILITIES BY A MINIMUM OF 6-INCHES.
  9. TEST PITS SHALL BE DUG AT ALL UTILITY CROSSINGS TO DETERMINE EXISTING HORIZONTAL AND VERTICAL ALIGNMENT OF UTILITIES. TEST PITS SHALL BE DUG A SUFFICIENT AMOUNT OF TIME IN ADVANCE OF THE CONSTRUCTION OR TRENCHING OPERATION, IN ORDER TO ALLOW FOR NECESSARY ADJUSTMENTS.
  10. WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL [Symbol]. THE RESULTS OF TEST PITS ARE INCLUDED ON THE STORM DRAIN PROFILES.
  11. ALL UTILITY POLES MUST BE CLEARED BY 2- FEET, OR THE PROPOSED STORM DRAIN SHALL BE PLACED BY TUNNELING. ALL COSTS FOR TUNNELING ARE TO BE INCLUDED IN THE UNIT PRICE BID FOR FURNISHING AND LAYING THE STORM DRAIN PIPE.
  12. ALL VERTICAL CONTROLS ARE BASED ON U.S.G.S. DATUM OF 1929.
  13. ALL PIPE ELEVATIONS SHOWN ARE INVERT (I) ELEVATIONS.
  14. CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG LINE OF EXCAVATION AS DIRECTED BY THE ENGINEER. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR FURNISHING AND LAYING STORM DRAIN PIPE.
  15. PLACE REGULATION "MEN WORKING" AND WARNING SIGNS AS REQUIRED TO COMPLY WITH MARYLAND STATE HIGHWAY ADMINISTRATION MANUAL OF TRAFFIC CONTROL FOR HIGHWAY CONSTRUCTION AND MAINTENANCE OPERATIONS.
  16. EXISTING WATER HOUSE SERVICES, THAT ARE IN CONFLICT WITH THE PROPOSED STORM DRAINAGE FACILITIES, SHALL BE ADJUSTED BY THE CONTRACTOR.
  17. FOR DETAILS NOT SHOWN ON THE DRAWINGS, AND FOR MATERIALS AND CONSTRUCTION METHODS, THE CONTRACTOR SHALL ABIDE BY THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, "STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION", AND THE SPECIAL PROVISIONS. IN THE EVENT OF ANY DISCREPANCY BETWEEN THESE TWO SOURCES, THE LATTER SHALL GOVERN.
  18. THE CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG THE LINE OF EXCAVATION AS DIRECTED BY THE ENGINEER. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR STORM DRAIN ITEMS.
  19. EXISTING FENCES, MAILBOXES, SIGNS AND SHRUBS DISTURBED BY THE WORK SHALL BE RECONSTRUCTED OR REPLACED IN KIND.
  20. ALL SLOPES AND/OR DISTURBED AREAS SHALL RECEIVE 2-INCH DEPTH OF TOPSOIL, SEED AND MULCH EXCEPT, WHERE OTHERWISE INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
  21. LOCATION POINTS FOR INLETS, MANHOLES AND STRUCTURES:
- | ITEM              | HORIZONTAL LOC.     | VERTICAL LOC. |
|-------------------|---------------------|---------------|
| CURB TYPE INLETS  | CENTER FACE OF CURB | TOP OF CURB   |
| GRATE TYPE INLETS | CENTER OF GRATE     | TOP OF GRATE  |
| MANHOLES          | CENTER OF COVER     | TOP OF COVER  |
| ENDWALLS          | CENTER OF WALL      | TOP OF WALL   |

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*Don K. Nutter* 11-7-82  
DIRECTOR OF PUBLIC WORKS DATE

*William B. Riley* 11-8-82  
CHIEF, BUREAU OF ENGINEERING DATE

*Elizabeth Anderson* 11/6/82  
CHIEF, DIVISION OF ROADS, BRIDGES AND STORM DRAINAGE DATE

HICKS ENGINEERING COMPANY, INC.

200 EAST JOPPA ROAD  
SUITE 402  
TOWSON, MD 21204

*Edward S. Hicks*

DES:					
DRN:					
CHK:					
DATE:	BY	NO.	REVISION	DATE	
			CAPITAL PROJECT D-1074	ROGERS AVENUE - NORTH OF FREDERICK ROAD	
			600' SCALE MAP NO.	BLOCK NO.	

STORM DRAINAGE IMPROVEMENTS

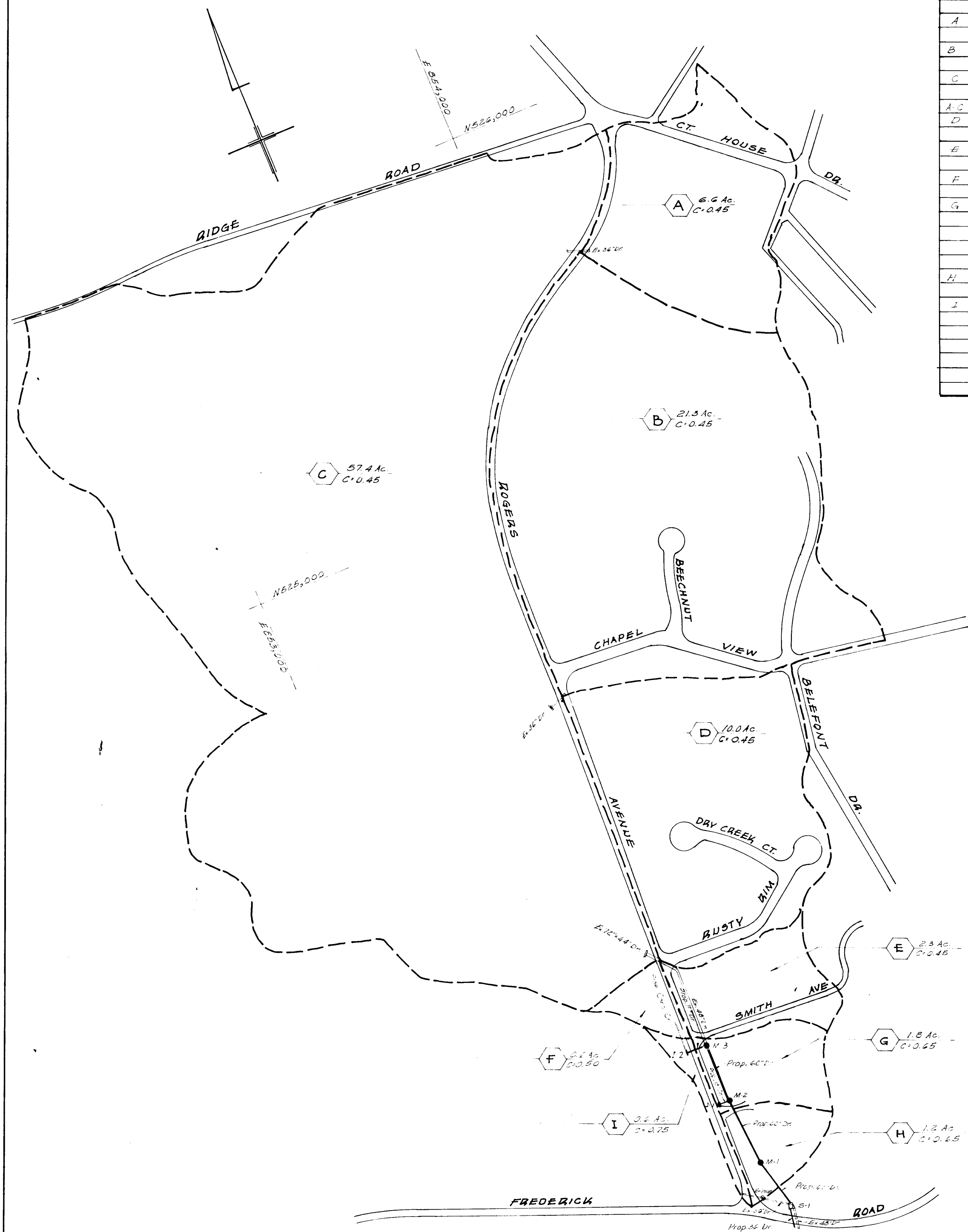
FOR

ELLCOTT CITY AREA

SCALE AS SHOWN

SHEET 2 OF 4

STORM DRAIN DESIGN DATA																	
Area	Reach	Struct	Channel or Conduit			Drainage Area & Runoff						Drop Struct Loss	Full			H Hollow	Remarks
			Type	D	Ground	S	Elev	S.D.A.	C	S.D.A.	Q		1	2	A		
			Flow	L	Elev	So	to DA	to CA	to	to	to	to	to	to	to	to	
A	Ex. Dr.	36"	RCP				6.6	0.45	2.07	14.1	5.6	16.6					
B	Ex. Dr.	36"	RCP				21.3	0.45	5.50	18.1	4.0	47.0					
C	Ex. Dr.	72"x44"	CMP				27.0		12.54								
							57.4	0.45	22.83	2.7	4.8	116.2					
A.C.	Ex. Dr.	72"x44"					35.3		38.30	21.7	4.8	172.8					
D							10.2	0.45	4.80	2.2							
							56.3		42.80	2.2	4.7	150.0					
E							2.0	0.45	1.17	0.3							
							43.03		31.0	4.4	123.3						
F	M-3	C.M.	60"	0.015	276.1	2.1	202.7	0.7	1.00	1.7	1.0	10.64	5.5	0.45	278.60		
	M-2	C.M.	48"	0.015	260.0	2.0	202.7	0.6	44.20	2.4	124.6		1.5	1.65	276.00		
G	"	C.M.	60"	0.015	"	0.005	250.0	1.5	1.17	0.2	N.D.		10.17	0.005	266.80		
	M-1	C.M.	48"	0.015	245.25	"	247.81	1.0	45.40	1.5	1.4	120.8		1.61	1.26	264.70	
	"	C.M.	48"	0.015	"	0.005	237.31	"	"	"	"			1.61	0.005	264.70	
	S-1	Manhole	60"	1.17	245.4		256.35	12.0						1.61	0.04	2.250	
H	Ex. Dr.						1.2	0.45	0.51								
	S-1						101.2		46.18	22.2	4.3	200.0					
I	S-1						256.21	0.6	0.7			1.60	10.42				
	Conduit						42.43	0.5	260.5	0.018	254.50	10.2	42.4	2.4	1.17	24.7	1.70



Drainage Area Map  
Scale: 1"=200'

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS: \_\_\_\_\_ DATE: \_\_\_\_\_  
 CHIEF, BUREAU OF ENGINEERING: \_\_\_\_\_ DATE: \_\_\_\_\_

*Eustell C. Calk*  
 CHIEF, DIVISION OF ROADS, BRIDGES AND STORM DRAINAGE  
 DATE: 11/6/86

HICKS ENGINEERING  
COMPANY, INC.

200 EAST JOPPA ROAD  
SUITE 402  
TOWSON, MD 21204

*Michael J. Hicks*

DES: JEG				
DRN: JEG/LAW				
CHK: DEH				
DATE:	BY	NO.	REVISION	DATE

ELLICOTT CITY  
CAPITAL PROJECT D-1074

600' SCALE MAP NO. \_\_\_\_\_ BLOCK NO. \_\_\_\_\_

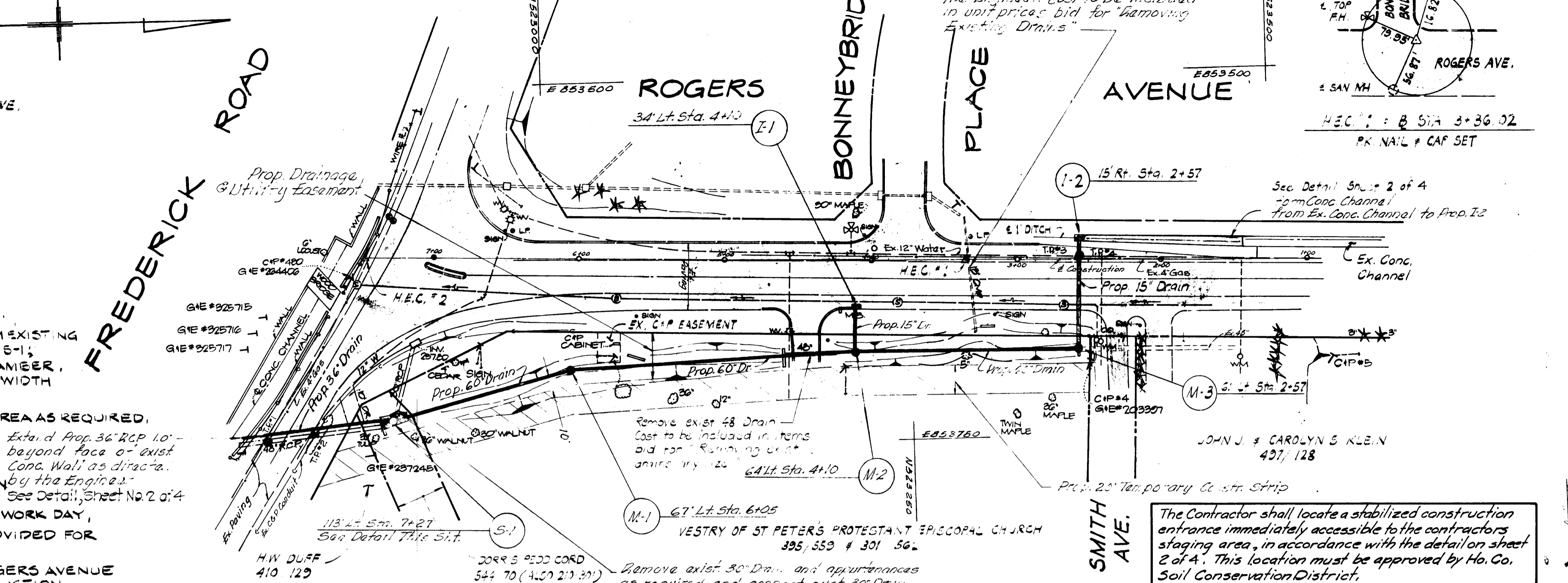
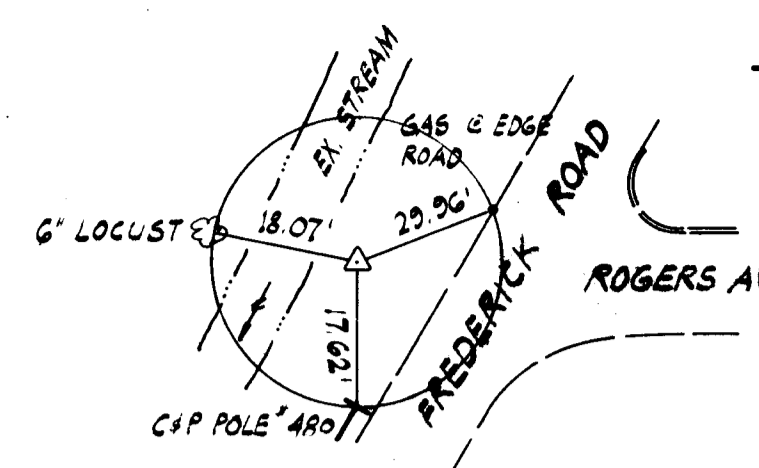
STORM DRAINAGE IMPROVEMENTS  
DRAINAGE AREA MAP

ELECTION DISTRICT: ELLICOTT CITY NO. 2

SCALE AS SHOWN

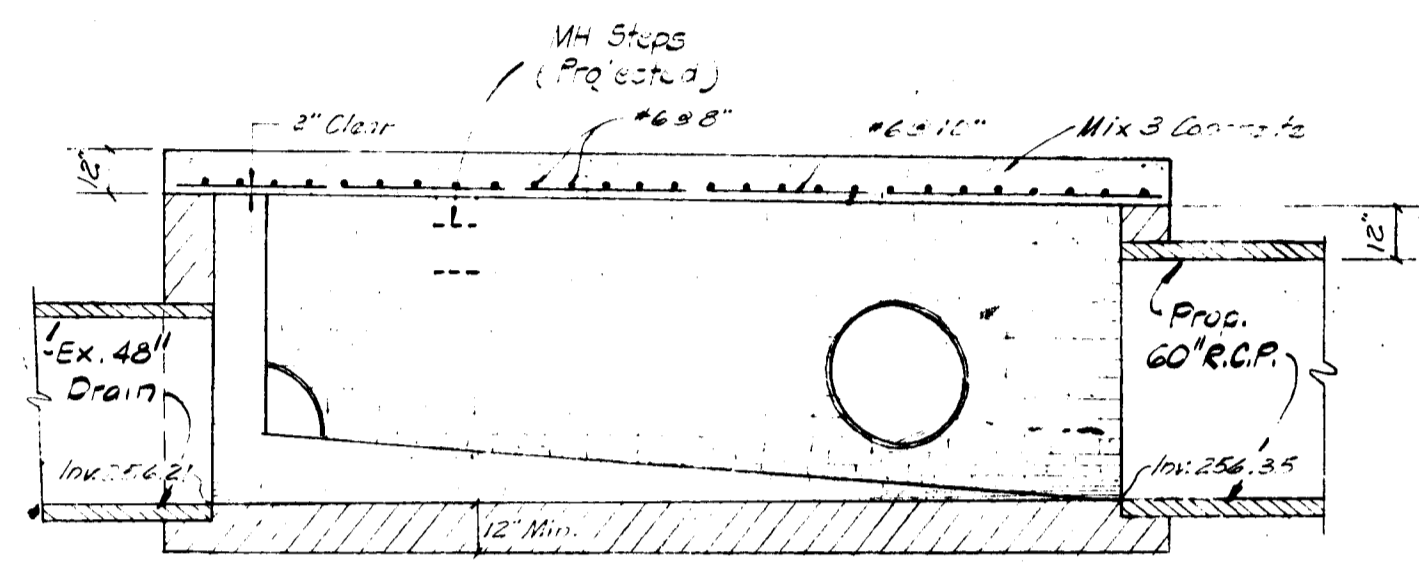
SHEET 3 OF 4

FOR SEDIMENT CONTROL NOTES  
SEE SHEET NO 2 OF 4.



No.	TYPE	LOCATION	INV. IN	INV. OUT	TOP EL.	REMARKS
J-1	S. Chamber	34' Lt. Sta. 4+10	-	265.13	268.8	Drawg. S.D. 4-22
J-2	K-W Grate	13' Lt. Sta. 1+75	-	265.35	272.45	Drawg. G 4-11
M-1	5' Manhole	67' Lt. Sta. 6+05	257.81	257.81	265.25	Drawg. G 5-03
M-2	5' Manhole	64' Lt. Sta. 4+10	259.87	259.87	269.0	"
M-3	5' Manhole	62' Lt. Sta. 1+75	262.00	265.75	272.35	"
S-1	Jet Chamber	113' Lt. Sta. 7+27	264.35	264.21	263.4	See Detail

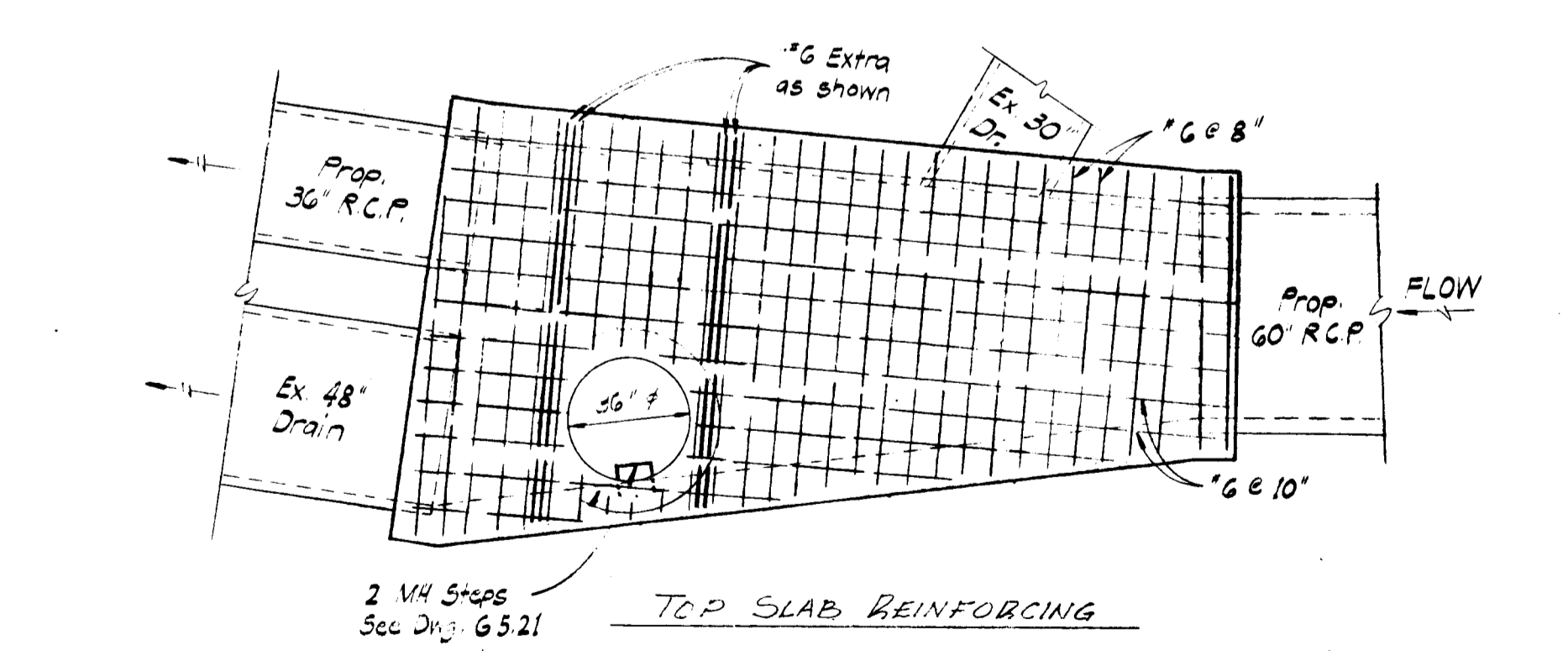
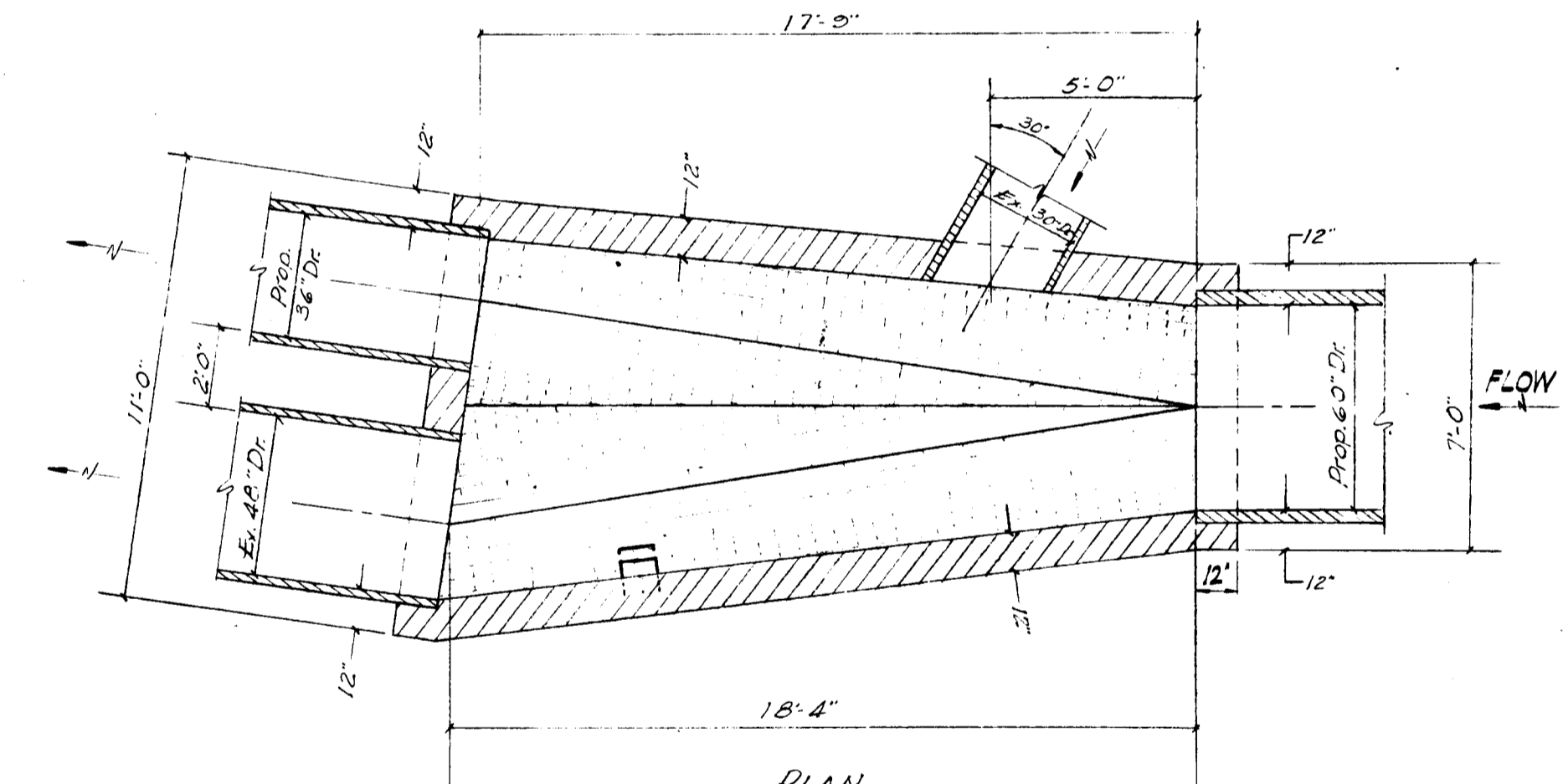
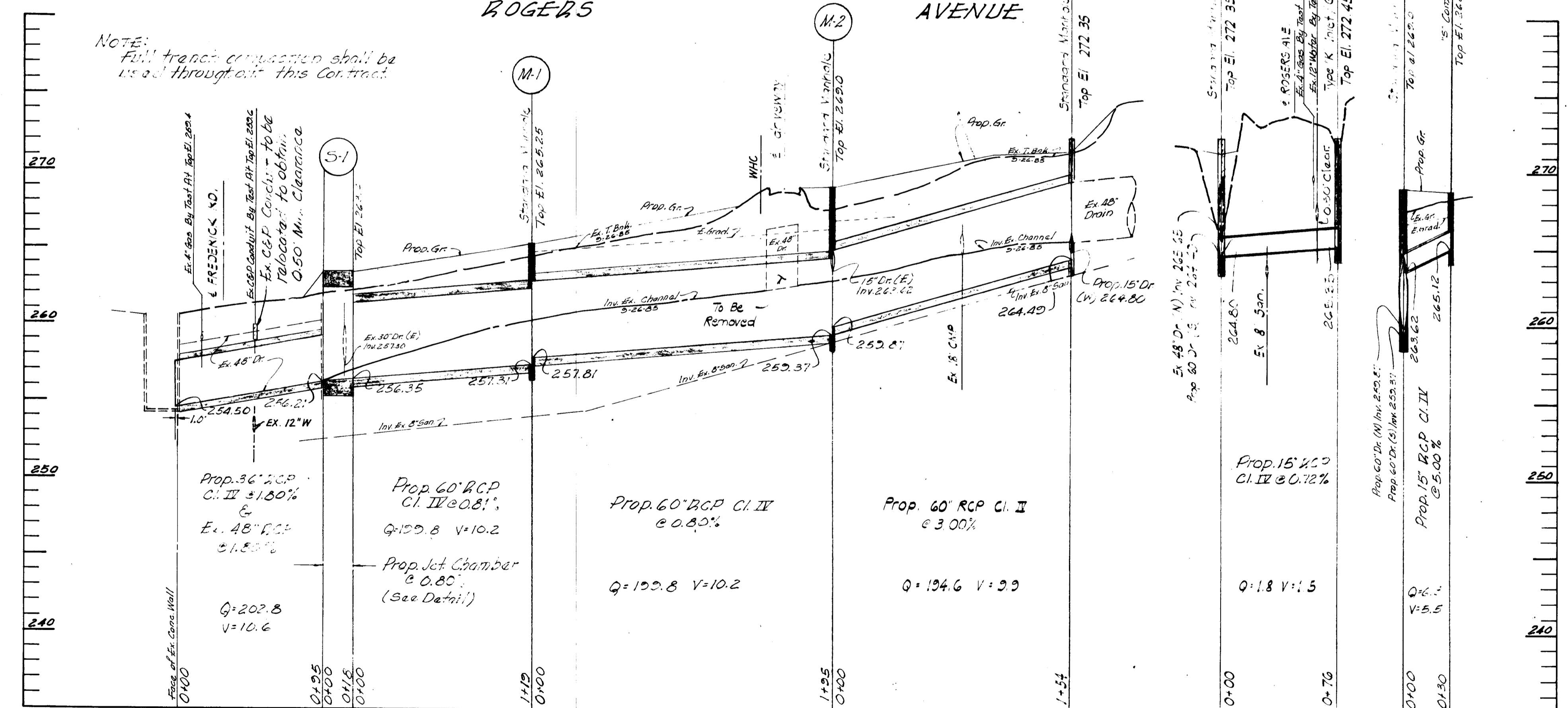
No.	Area	Coef	To	I <sub>10</sub>	Q	Q <sub>T</sub>	Inlet TYPE	Cap.	Carry Over
J-1	1.8	0.65	13.0	5.8	6.8	-	S-Grate	-	-
J-2	0.6	0.50	12.0	5.0	1.8	-	K-Grate	3.0	-



- SEQUENCE OF CONSTRUCTION**
- OBTAIN CONSTRUCTION PERMIT.
  - PLACE SEDIMENT CONTROL DEVICES.
  - INSTALL 36" INCH STORM DRAIN FROM EXISTING CONCRETE CHANNEL TO STRUCTURE S-1; CONSTRUCT PROPOSED JUNCTION CHAMBER, MAINTAIN TRAFFIC ON ONE-HALF WIDTH OF FREDERICK ROAD.
  - PLACE FILL MATERIAL AND GRADE AREA AS REQUIRED.
  - INSTALL PROPOSED STORM DRAIN PIPE AND FACILITIES, PLACE ADDITIONAL SEDIMENT CONTROL DEVICES AS PIPE LAYING OPERATIONS PROGRESS, INCLUDING PIPE BLOCKING AT THE END ON EACH WORK DAY.
  - A SEDIMENT TRAP SHALL BE PROVIDED FOR EACH INLET.
  - LAY STORM DRAIN PIPE ACROSS ROGERS AVENUE USING ONE-HALF WIDTH CONSTRUCTION.
  - RESTORE ROADWAY/ENTRANCE PAVING
  - STABILIZE ALL AREAS DISTURBED BY THE CONTRACTORS OPERATIONS.
  - AFTER RECEIVING PROPER AUTHORIZATION FROM THE SEDIMENT CONTROL REPRESENTATIVE, REMOVE SEDIMENT CONTROL DEVICES, RESTORE AREAS AS NECESSARY, THAT REQUIRE ADDITIONAL STABILIZATION.

**NOTE**  
The Contractor shall connect all existing drains encountered during construction into proposed drains as directed by the Engineer.

The Contractor shall locate a stabilized construction entrance immediately accessible to the contractors staging area, in accordance with the detail on sheet 2 of 4. This location must be approved by Ho. Co. Soil Conservation District.



Inlet No.	Type	Ex. Grading	Cover	Top Elev.
TP #1	Ex. 4" GGE	261.4	1.0	265.5
TP #2	Ex. CIP Conc.	261.4	1.8	259.6
TP #3	Ex. 12" Water	273.3	4.0	268.4
TP #4	Ex. 4" GGE	273.5	3.1	270.5

**PROFILES**  
Scale: Hor. 1"=50'  
Vert. 1"=5'

**PROP. JUNCTION CHAMBER**  
Scale: 1/4"=1'-0"

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND  
DIRECTOR OF PUBLIC WORKS: [Signature]  
DATE: 11/6/88  
CHIEF, BUREAU OF ENGINEERING: [Signature]

HICKS ENGINEERING COMPANY, INC.  
200 EAST JOPPA ROAD  
SUITE 402  
TOWSON, MD 21204

DES: JEG  
DRN: JEG/LAW  
CHK: DEH  
DATE: \_\_\_\_\_  
BY NO. \_\_\_\_\_ REVISION \_\_\_\_\_ DATE \_\_\_\_\_

ELLICOTT CITY  
CAPITAL PROJECT D-1074  
600 SCALE MAP NO. \_\_\_\_\_ BLOCK NO. \_\_\_\_\_

STORM DRAINAGE IMPROVEMENTS  
ROGERS AVENUE  
NORTH OF FREDERICK ROAD  
ELECTION DISTRICT: ELLICOTT CITY NO. 2

SCALE AS SHOWN  
SHEET 4 OF 4

NOVEMBER 6, 1988