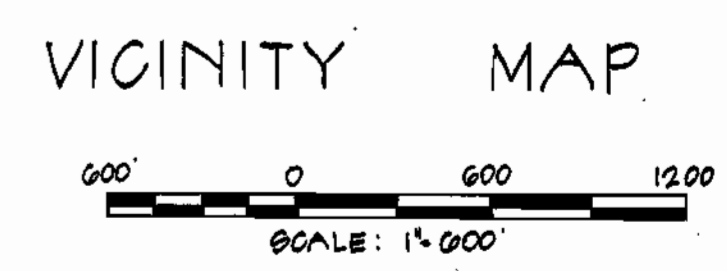


Reviewed for Howard County Soil Conservation District and meets technical requirements:  
 The plan is approved for erosion & sediment control by the Howard County Soil Conservation District.  
 Approved: W.T. Brown 9-28-82  
 Date: 9-28-82  
 U.S. Soil Conservation Service Date: 9-28-82  
 Date: 9-28-82  
 Howard Co. Soil Conservation District Date

HOWARD COUNTY SEWER CODE No. G440000



**GENERAL NOTES CON'T.**

- 19. Contractor shall notify the following utilities or agencies at least five (5) working days before starting work shown on these plans:  
 State Highway Administration - 531-5533  
 Baltimore Gas & Electric Company - Underground Gas & Electric Distribution Customer Service - 685-0123  
 Engineering - "Damage Control" - 234-5621  
 "Miss Utility" - 1-559-0100  
 Chesapeake & Potomac (C&P) Telephone Company - 725-9976  
 American Telephone and Telegraph - Cable Location Division - 393-3553  
 Colonial Pipeline Company - 781-4641  
 Bureau of Utilities Howard County - 992-2366
- 20. All excess material shall be disposed of site, at a location provided by the contractor, and at the Contractor's expense. All disposal sites must have a sediment control plan approved by the Howard Soil Conservation District.

**CAPITAL PROJECT A-0-6070**

**CONTRACT NO. 30-1001**

**MIDDLE PATUXENT INTERCEPTOR  
 U.S. ROUTE 29 TO STATE ROUTE 32  
 HOWARD COUNTY MARYLAND**

**DEPARTMENT OF PUBLIC WORKS**

**GENERAL NOTES**

- 1. The existing utilities and obstructions shown are from the best available records and shall be verified by the contractor to his own satisfaction before construction. The Howard County Department of Public Works or the owners do not warrant the completeness or the correctness of the information given.
- 2. The contractor shall take all necessary precautions to protect existing utilities and to maintain unimpeded service. Any damage incurred shall be repaired to the satisfaction of the engineer at the contractor's expense.
- 3. The contractor shall locate existing utilities a minimum of two weeks in advance of construction operations in vicinity of proposed utilities and at his own expense.
- 4. Place red flags, "New Work" and warning signs as required immediately with Howard County Highway Administration Bureau of Traffic Control at all highway construction and maintenance operations.
- 5. Clear all utilities by minimum of 2'-0" minimum on poles as required. Cost for trenching of existing poles shall be included in the unit price bid for sewer construction.
- 6. All pipe elevations shown are invert elevations unless otherwise noted.
- 7. No excavated trench material shall be stockpiled on the site adjacent to the sewer trench.
- 8. The contractor shall provide a pipe joint in each sewer manhole within 2'-0" to the exterior manhole.
- 9. For details not shown on the contract drawings see Howard County Standard Details.
- 10. Contractor shall remove flags, 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 construction.
- 11. All construction shall be based on Maryland State Coordinates.
- 12. All vertical control shall be based on U.S. Coast and Geodetic Survey Benchmarks.
- 13. Materials and construction methods use Howard County Standard Specifications.
- 14. The contractor shall be responsible for repairing or replacing any existing fences, driveways, or other structures during construction.
- 15. All manholes having a depth of 10' or greater shall be constructed with an intermediate landing as shown on Howard County Standard Details.
- 16. During pouring operations, the contractor shall be charged with the duty of protecting and maintaining any existing structures and shall be responsible for the discharge of any water into any existing manholes.
- 17. Manholes shall be constructed in accordance with Howard County Standard Details and covers. Standard Detail 602-2, where a light manhole frame and cover is used, set top of frame 1'-6" above finished grade. (See Detail, Sheet 2 of 10).
- 18. All manholes shall be Howard County Standard 5'-0" diameter, unless otherwise indicated on these plans.

LIST OF MATERIALS			
ITEM	BID QUANTITY	AS-BUILT QUANTITY	MATERIAL/SUPPLIER
30" SEWER	512.5	LF	
24" SEWER	3,022	LF	
24" SEWER	345	LF	
6" SEWER	13	LF	
MANHOLE	611	VE	

MIDDLE PATUXENT INTERCEPTOR  
 U.S. ROUTE 29 TO MD RTE 32  
 CAPITAL PROJECT A-0-6070  
 CONTRACT NO. 30-1001

"I 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."  
George F. Nemeyer 9/28/82  
 Date: 9/28/82  
 Director

"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."  
Steven G. Zahn 9/20/82  
 Date: 9/20/82  
 Professional Engineer



DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND  
James M. Lewis 9/28/82  
 DATE: 9/28/82  
 DIRECTOR OF PUBLIC WORKS  
Allen S. Brown 9/21/82  
 DATE: 9/21/82  
 CHIEF BUREAU OF UTILITIES  
 DATE: 9/21/82  
 CHIEF UTILITY DIVISION

DEPARTMENT OF PUBLIC WORKS  
 ENGINEERING ARCHITECTS PLANNERS - SURVEYORS  
 2594 Riva Road, Annapolis, Maryland 21401 (301) 841-6611

CONTRACT NO. 30-1001  
 CAPITAL PROJECT NO. A-0-6070

LOCATION MAP  
 OF SANITARY SEWERS

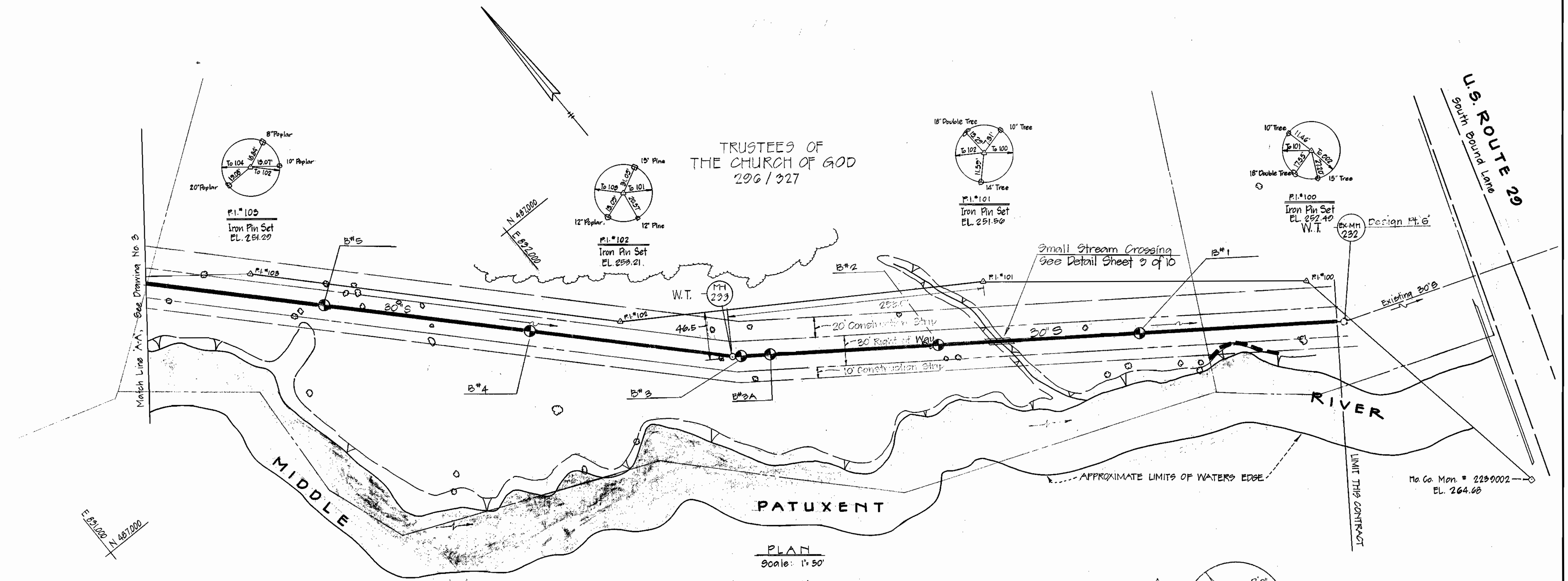
MIDDLE PATUXENT INTERCEPTOR  
 ELECTION DISTRICT NO. 5  
 HOWARD COUNTY, MARYLAND

DRAWING NO. 1 OF 10  
 SCALE AS SHOWN  
 DESIGNED BY  
 DRAFTED BY  
 CHECKED BY

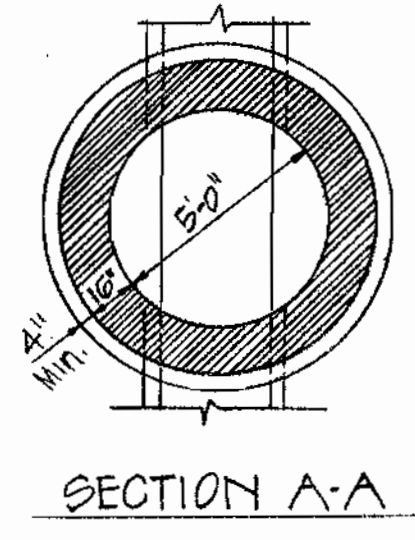
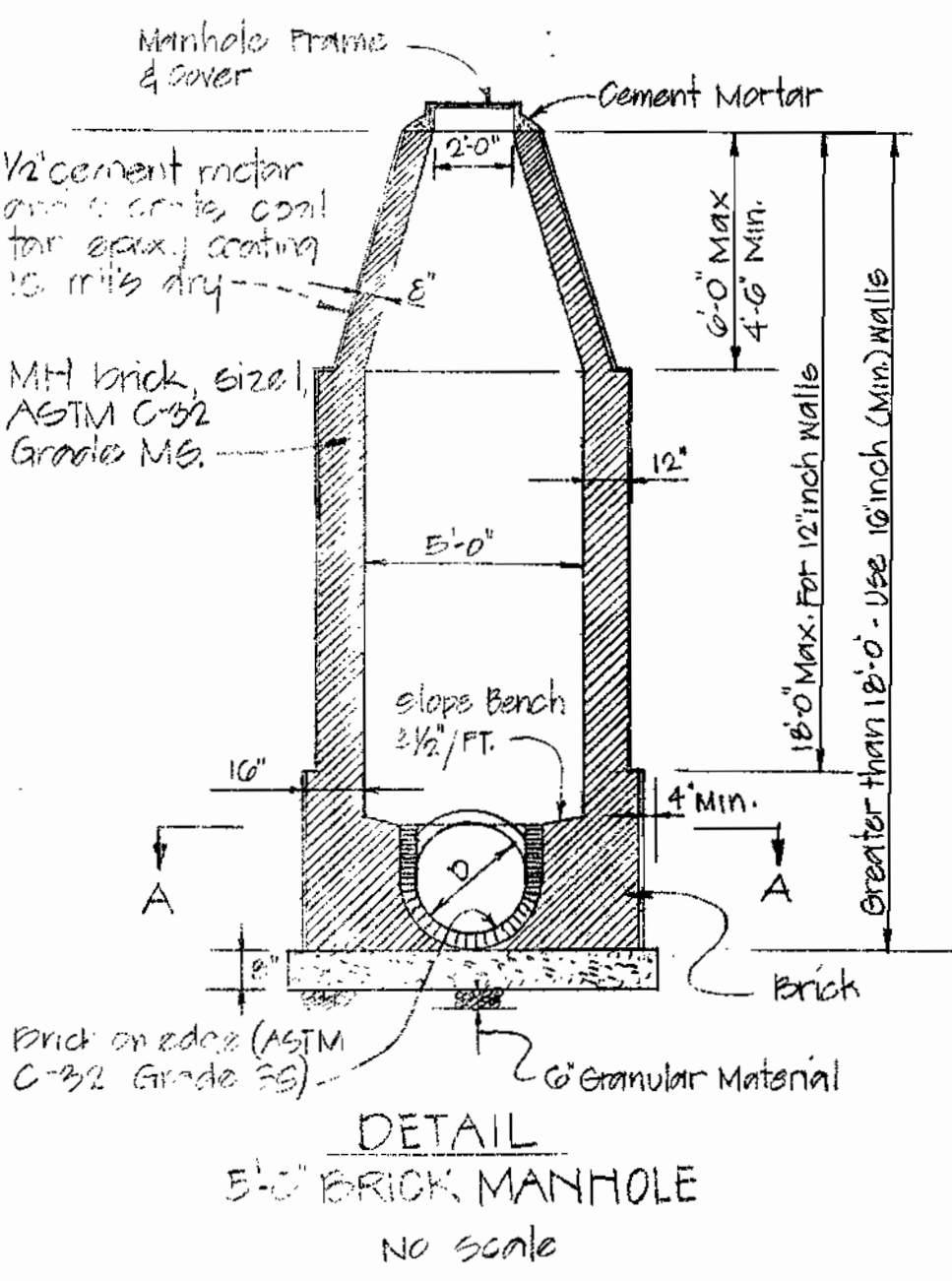
1001/101

AS-BUILTS

FOR PROFILE SEE DRAWING NO. 2

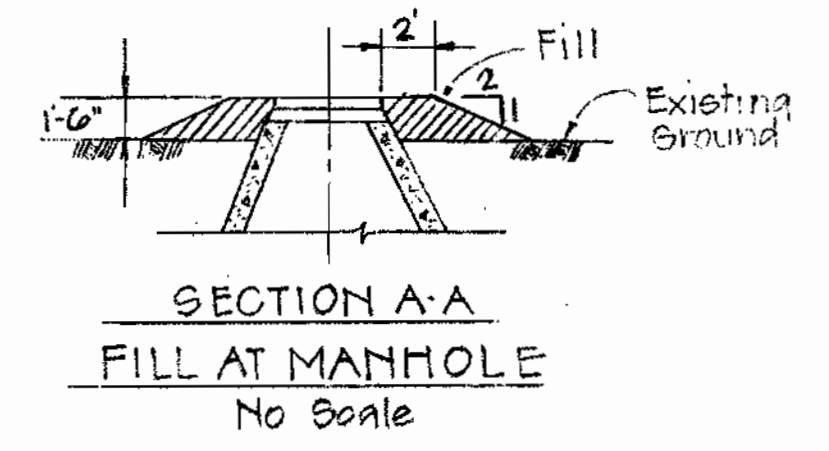
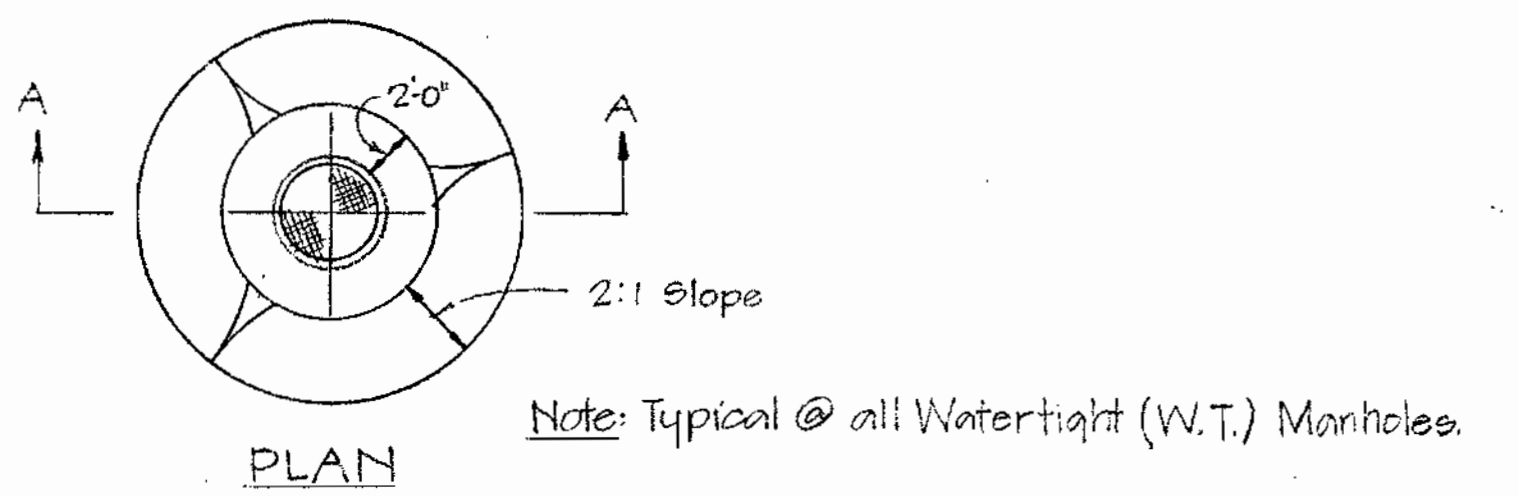


PLAN  
Scale: 1" = 50'



- Notes:
- See general notes applicable to all brick manholes on Howard County Standard detail G501 (omit standard note no. 5)
  - Precast concrete manhole (Howard County standard detail G512) may be used instead of the brick manhole detailed here with.

SEQUENCE OF OPERATIONS  
 1. EXISTING HERE SHOWN ON THE PLANS.  
 2. TO BE REMOVED AS NECESSARY FOR  
 3. TO BE REMOVED AS NECESSARY FOR  
 4. TO BE REMOVED AS NECESSARY FOR



DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

James M. Lewis, Director of Public Works  
 Allen J. Brown, Chief Bureau of Engineering  
 Robert M. Bennett, Chief Bureau of Utilities

DEPARTMENT OF DEWBERRY & DAVIS  
 ENGINEERS-ARCHITECTS-PLANNERS-SURVEYORS  
 2594 Riva Road, Annapolis, Maryland 21401 (301) 841-6811

CONTRACT NO. 30-1001  
 CAPITAL PROJECT NO. A-0-6070

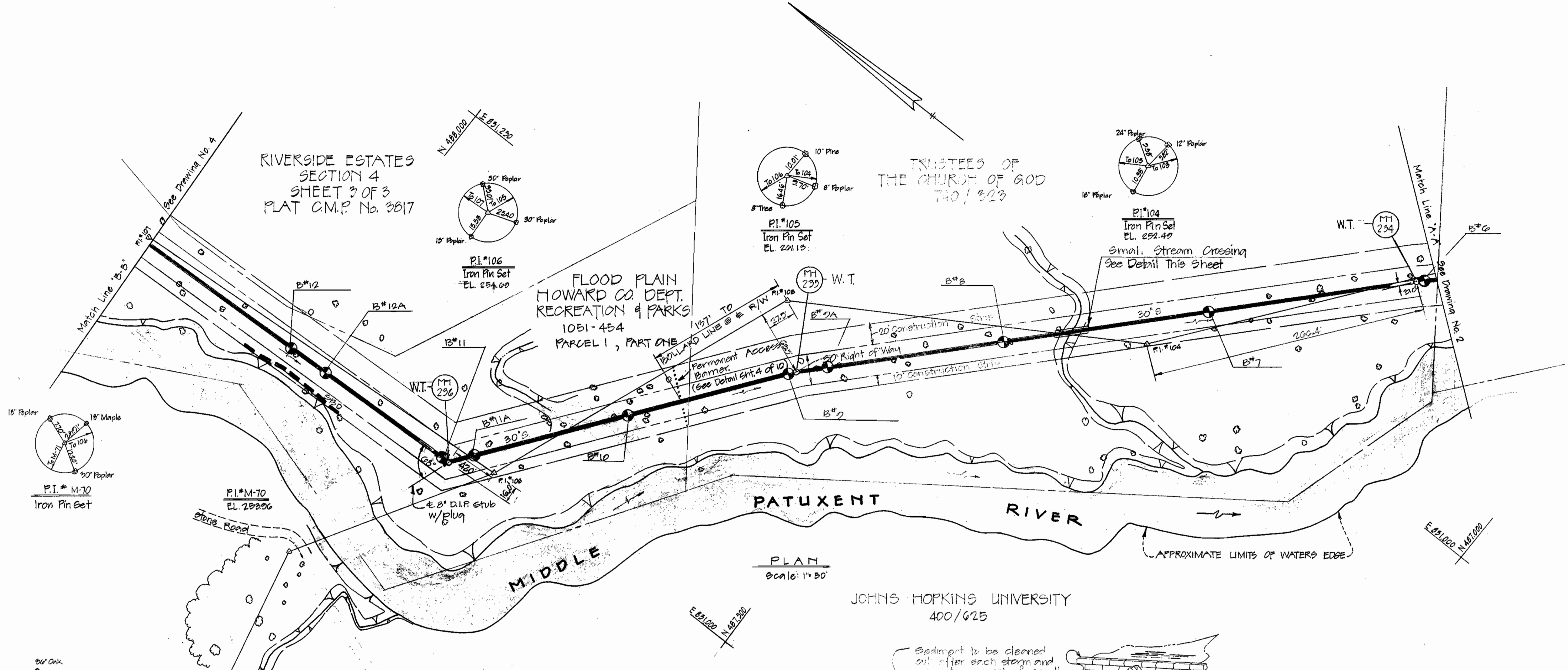
PLAN  
 OF SANITARY SEWERS

MIDDLE PATUXENT INTERCEPTOR  
 ELECTION DISTRICT NO. 5  
 HOWARD COUNTY, MARYLAND

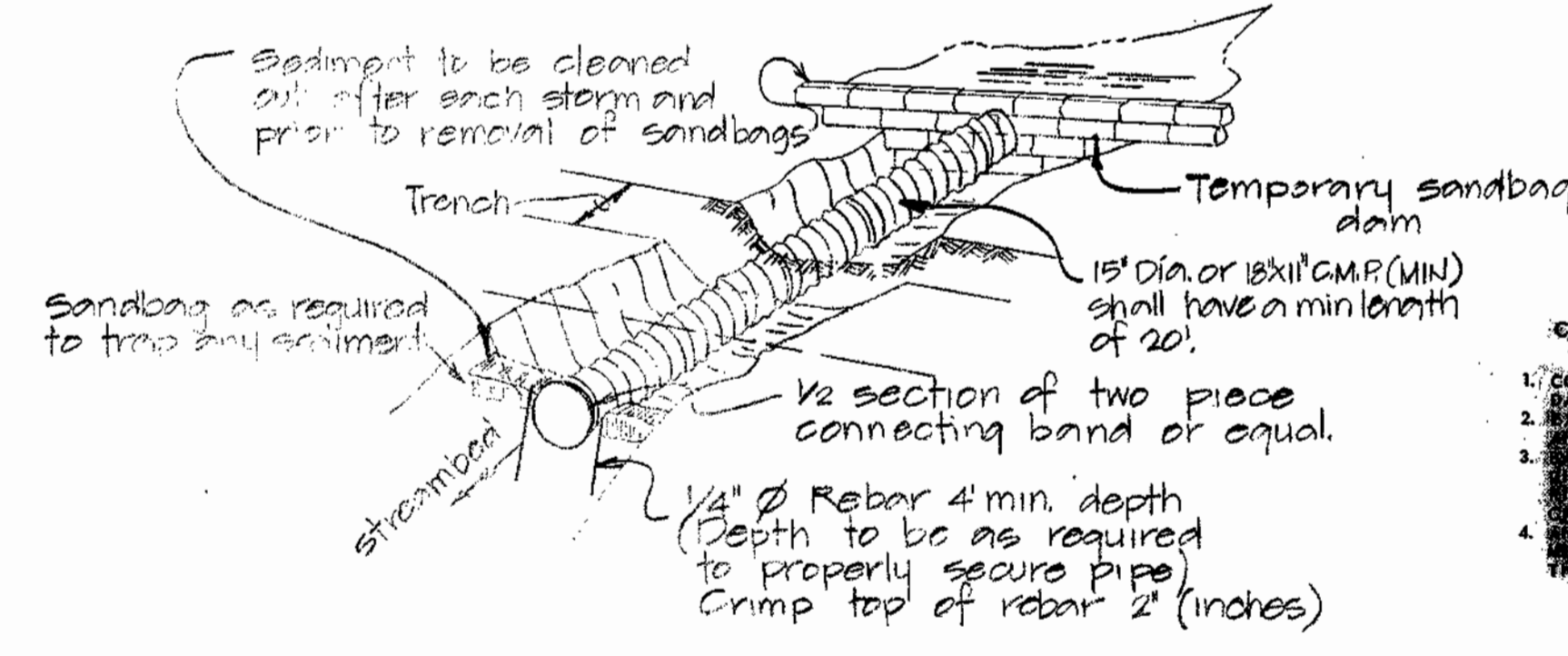
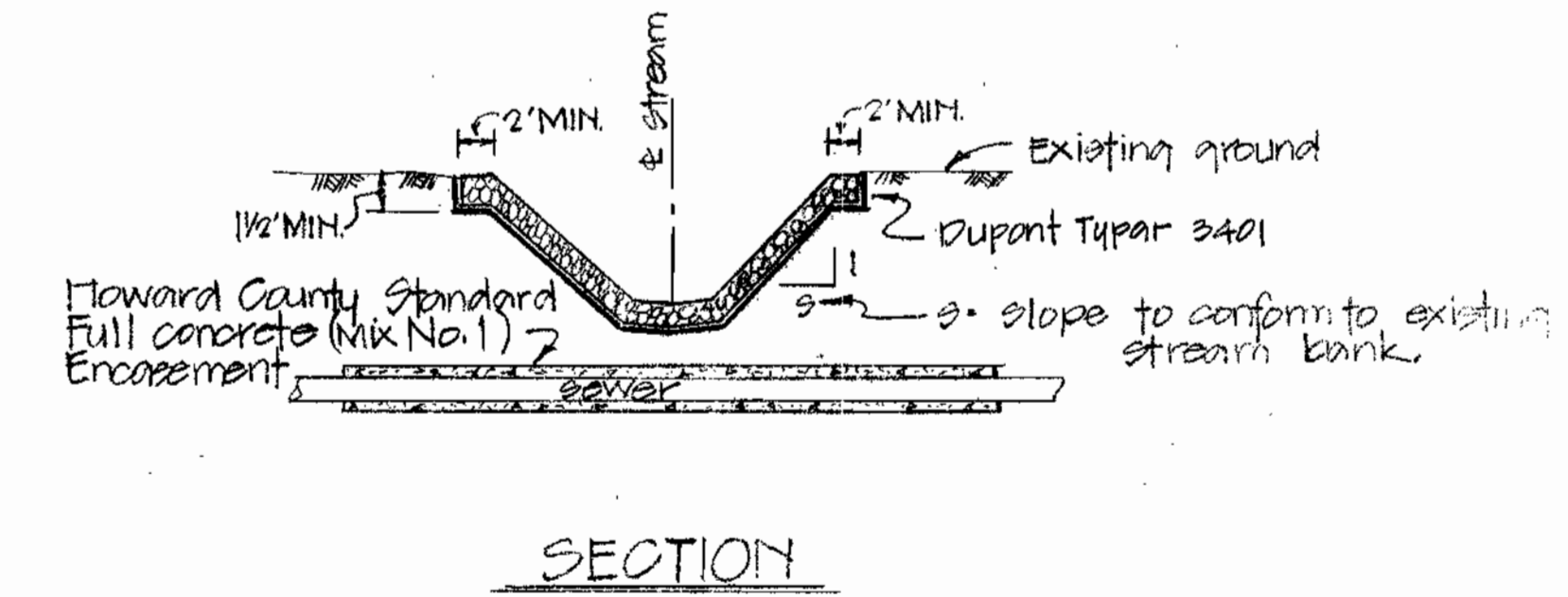
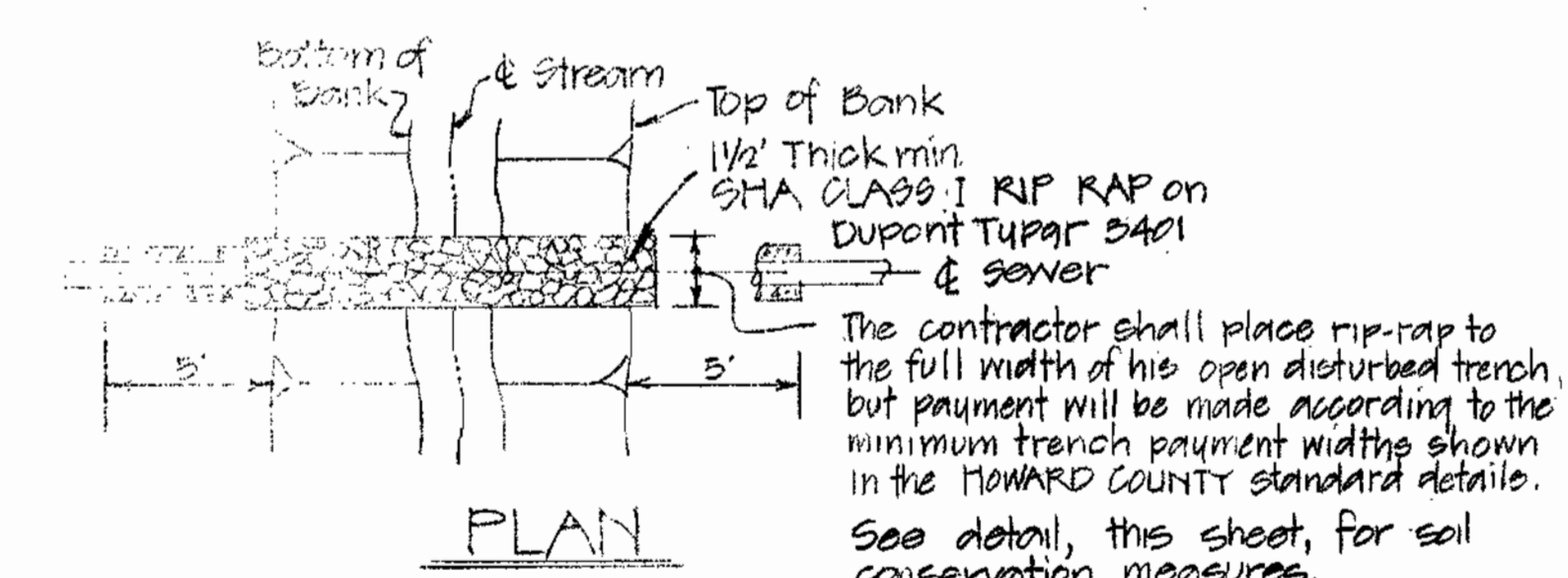
Rev.	Date	Remarks
		MIDDLE PATUXENT INTERCEPTOR U.S. RTE 20 TO MD. RTE 32 CAPITAL PROJECT A-0-6070 CONTRACT NO. 30-1001

DRAWING NO. 2 OF 10	SCALE AS SHOWN	DESIGNED BS DRAFTED BS CHECKED BS
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FOR PROFILE SEE DRAWING NO. 7



**DETAIL**  
**SMALL STREAM CROSSING**  
 no scale



**SOIL CONSERVATION MEASURES**  
**AT SMALL STREAM CROSSINGS**  
 No Scale

- CONSTRUCTION SEQUENCE**
1. CONSTRUCT TEMPORARY SANDBAG DAM
  2. EXCAVATE TRENCH ACROSS STREAM
  3. REINFORCE WITH SAND BAGS EXISTING
  4. INSTALL PIPE AND REBAR TO PROTECT STREAM
  5. REMOVE SANDBAG DAM AND CHANGE TO PERMANENT DRAINAGE PIPE



Rev	Date	Remarks
		MIDDLE PATUXENT INTERCEPTOR U.S. RTE 29 TO MD RTE 32 CAPITAL PROJECT A-O-6070 CONTRACT NO. 30-1001

**DEPARTMENT OF PUBLIC WORKS**  
 HOWARD COUNTY, MARYLAND

James M. Lewis 9/28/82, Allen S. Brown 9/21/82  
 DIRECTOR OF PUBLIC WORKS DATE CHIEF BUREAU OF ENGINEERING DATE  
 Robert M. Reisinger 9-27-82, Allen S. Brown 9/21/82  
 CHIEF BUREAU OF UTILITIES DATE CHIEF UTILITY DIVISION DATE

**DEWBERRY & DAVIS**  
 ENGINEERING - ARCHITECTS - PLANNERS - SURVEYORS  
 2594 Riva Road, Annapolis, Maryland 21401 (301) 841-6811

CONTRACT NO. 30-1001  
 CAPITAL PROJECT NO. A-O-6070

PLAN  
 OF SANITARY SEWERS

MIDDLE PATUXENT INTERCEPTOR  
 ELECTION DISTRICT NO. 5  
 HOWARD COUNTY, MARYLAND

**DRAWING**  
 NO. 3  
 OF 10

**SCALE**  
 AS SHOWN

DESIGNED SZ  
 DRAFTED BS  
 CHECKED SZ

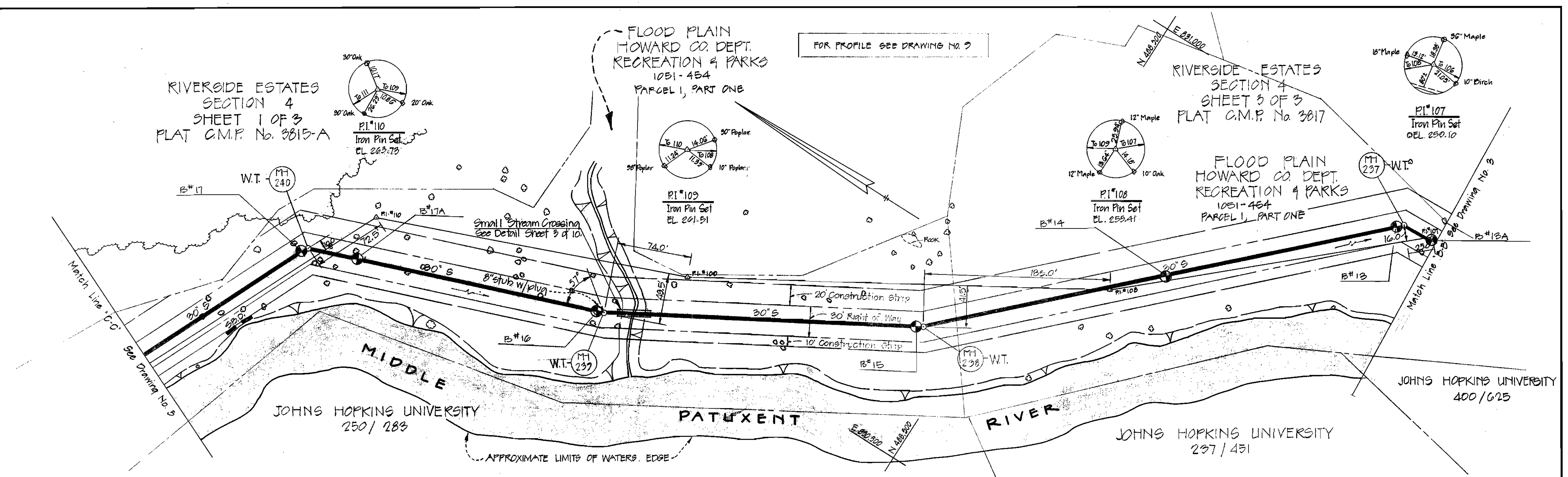
1001/3 S

RIVERIDE ESTATES  
SECTION 4  
SHEET 1 OF 3  
PLAT C.M.P. No. 3815-A

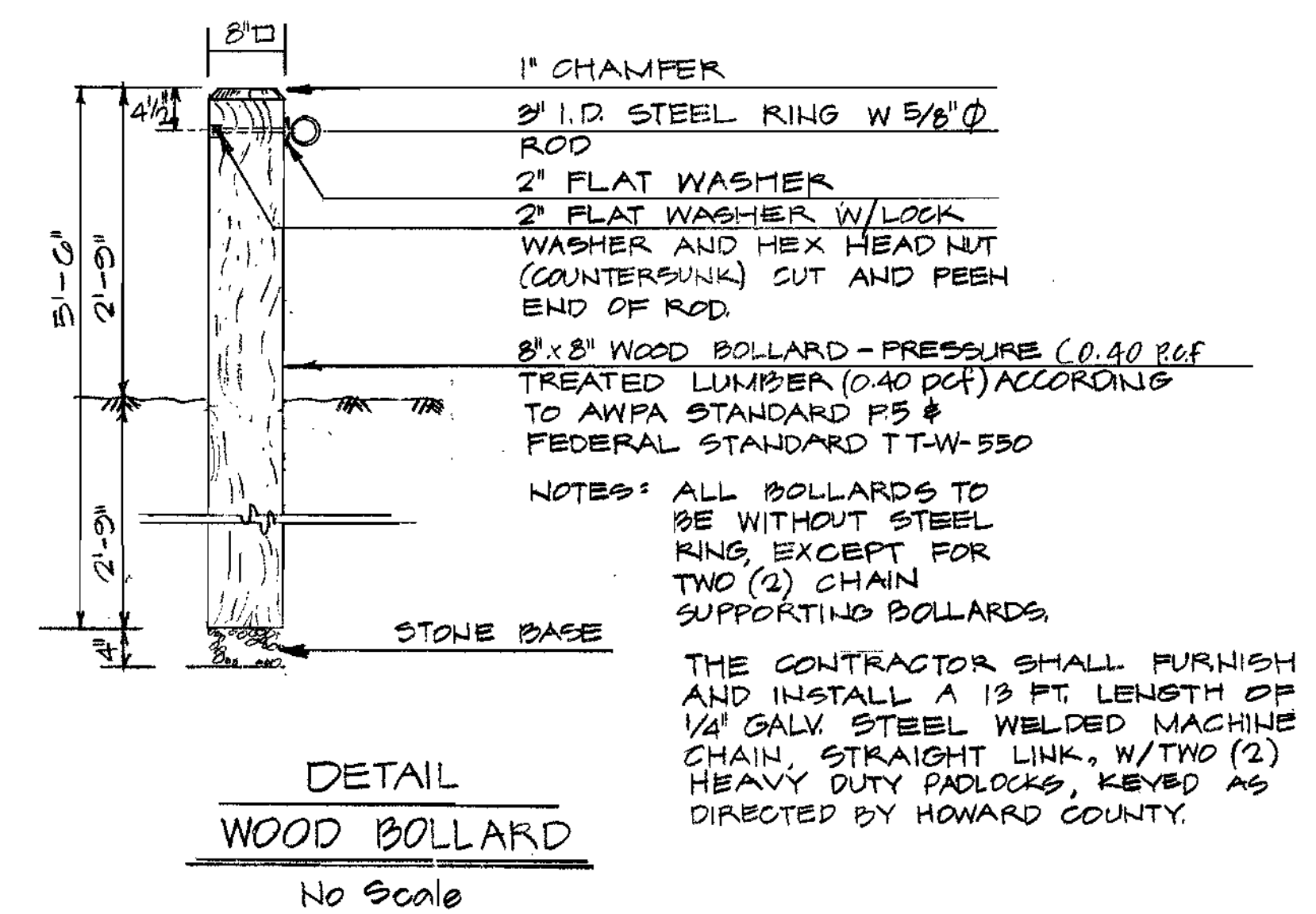
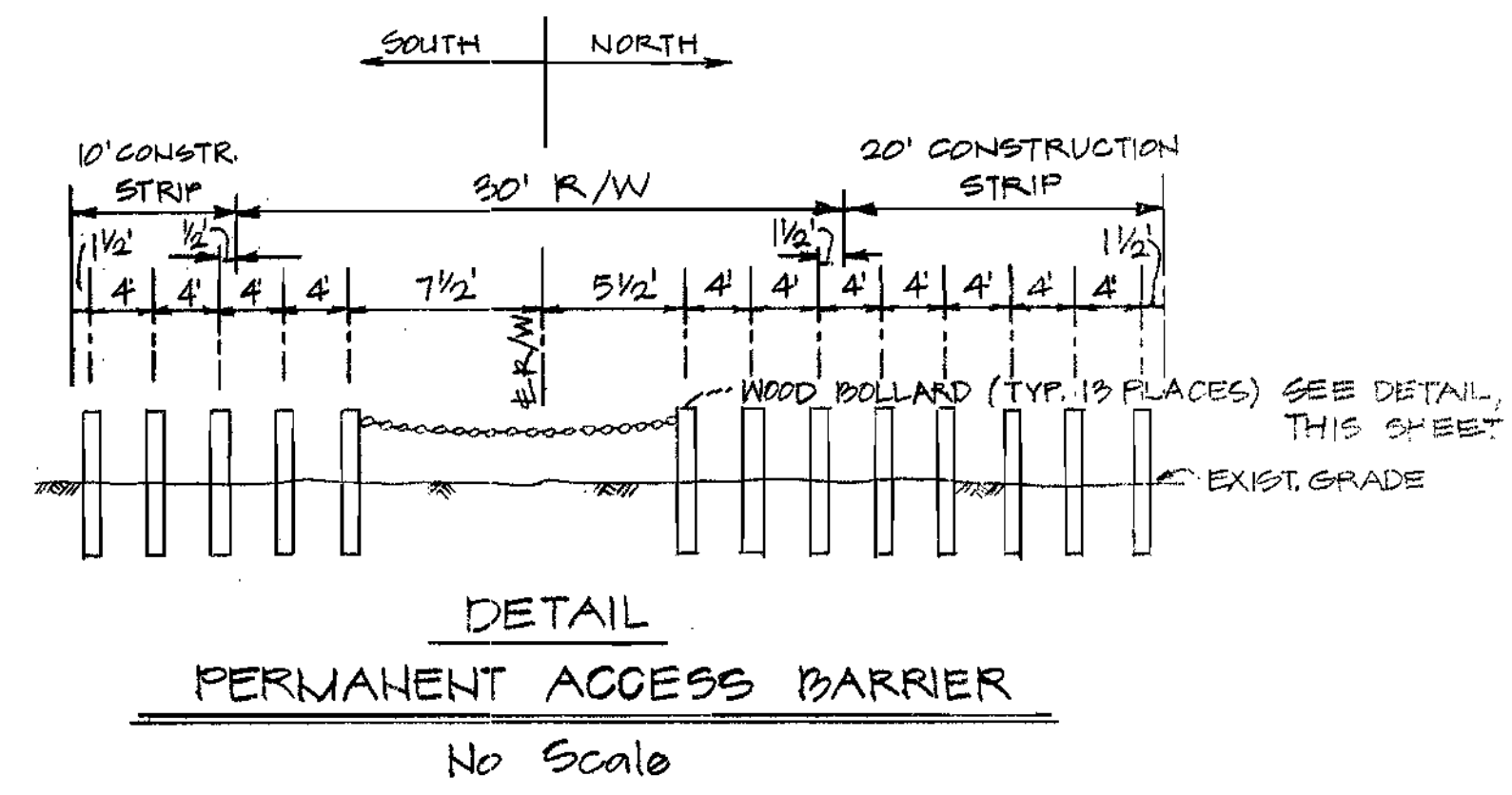
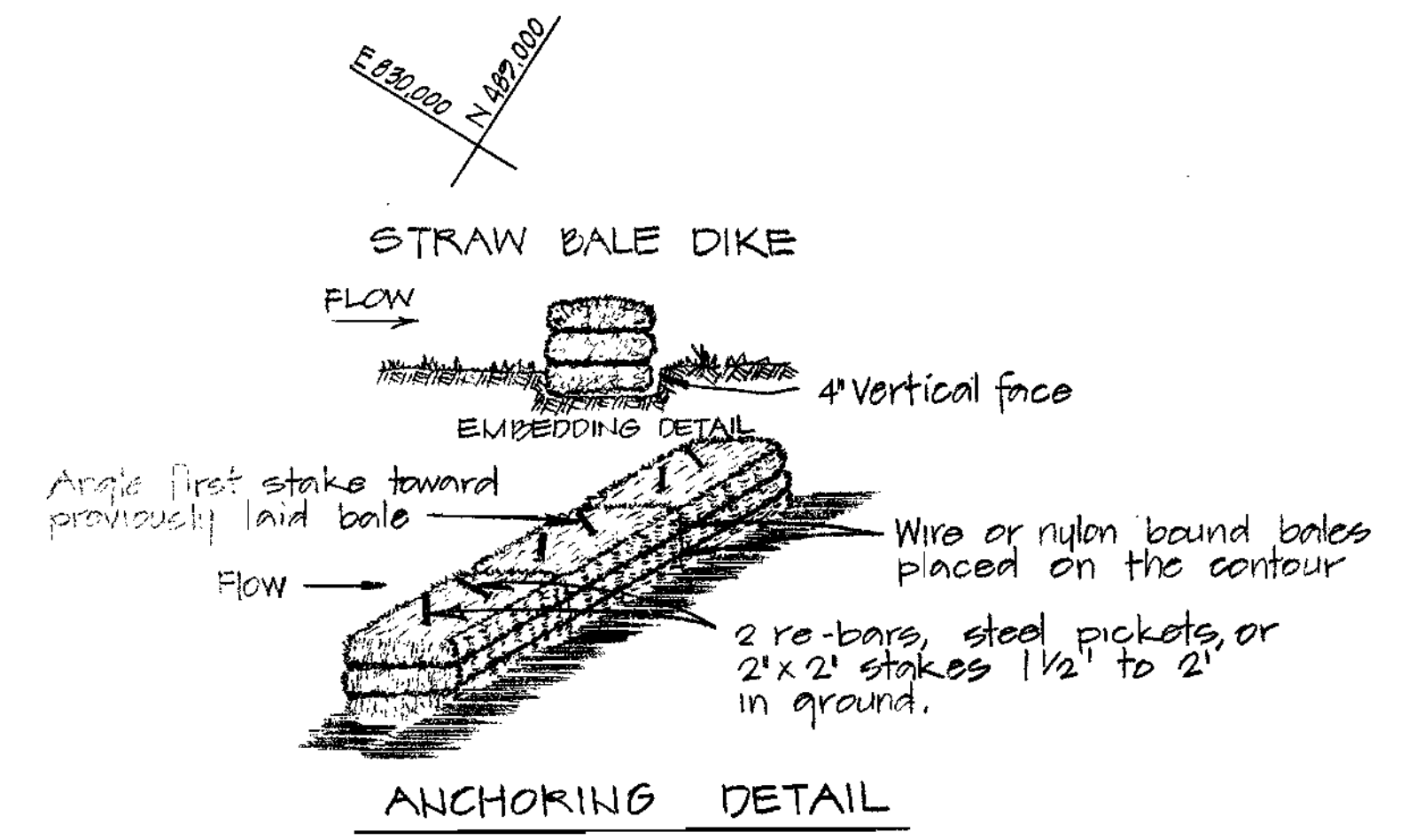
FLOOD PLAIN  
HOWARD CO. DEPT.  
RECREATION & PARKS  
1051-454  
PARCEL 1, PART ONE

RIVERSIDE ESTATES  
SECTION 4  
SHEET 3 OF 3  
PLAT C.M.P. No. 3817

FLOOD PLAIN  
HOWARD CO. DEPT.  
RECREATION & PARKS  
1051-454  
PARCEL 1, PART ONE



PLAN  
Scale: 1"=50'



- CONSTRUCTION SPECIFICATIONS
- BALES SHALL BE PLACED IN A ROW WITH ENDS SLIGHTLY ABUTTING THE ADJACENT BALE.
  - BALES SHALL BE PLACED ON A FOUNDATION OF STAKES OR PICKETS.
  - BALES SHALL BE PLACED ON A FOUNDATION OF STAKES OR PICKETS.
  - ANCHORS SHALL BE PLACED ON THE CONTOUR OF THE BALE.
  - ANCHORS SHALL BE PLACED ON THE CONTOUR OF THE BALE.
- STANDARD SYMBOL
- DRAINAGE AREA LESS THAN 1/2 ACRE.



Rev.	Date	Remarks
		MIDDLE PATUXENT INTERCEPTOR U.S. RTE. 29 TO MD. RTE. 32 CAPITAL PROJECT A-0-6070 CONTRACT NO. 30-1001

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

James M. Lewis 9/28/82, Allen S. Brown 9/21/82  
DIRECTOR OF PUBLIC WORKS DATE, CHIEF BUREAU OF ENGINEERING DATE  
Robert M. Beaman 9-27-82, Allen S. Brown 9/21/82  
CHIEF BUREAU OF UTILITIES DATE, CHIEF UTILITY DIVISION DATE

DEWBERRY & DAVIS  
ENGINEERING - ARCHITECTS - PLANNERS - SURVEYORS  
2594 Riva Road, Annapolis, Maryland 21401 (301) 841-6811

CONTRACT NO. 30-1001  
CAPITAL PROJECT NO. A-0-6070

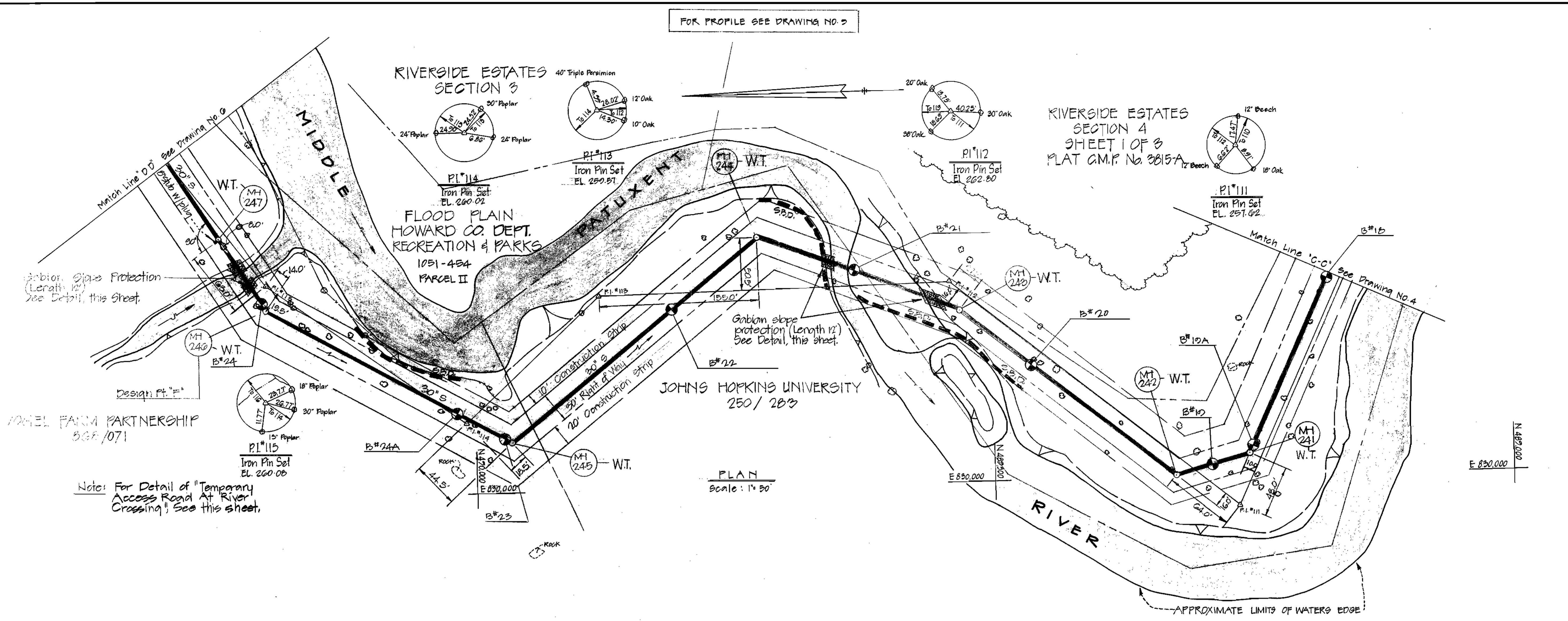
PLAN  
OF SANITARY SEWERS

MIDDLE PATUXENT INTERCEPTOR  
ELECTION DISTRICT NO. 5  
HOWARD COUNTY, MARYLAND

DRAWING NO.	SCALE	DESIGNED	DRAFTED	CHECKED
4 OF 10	AS SHOWN	SZ	BS	SZ

1001/4 S

FOR PROFILE SEE DRAWING NO. 3

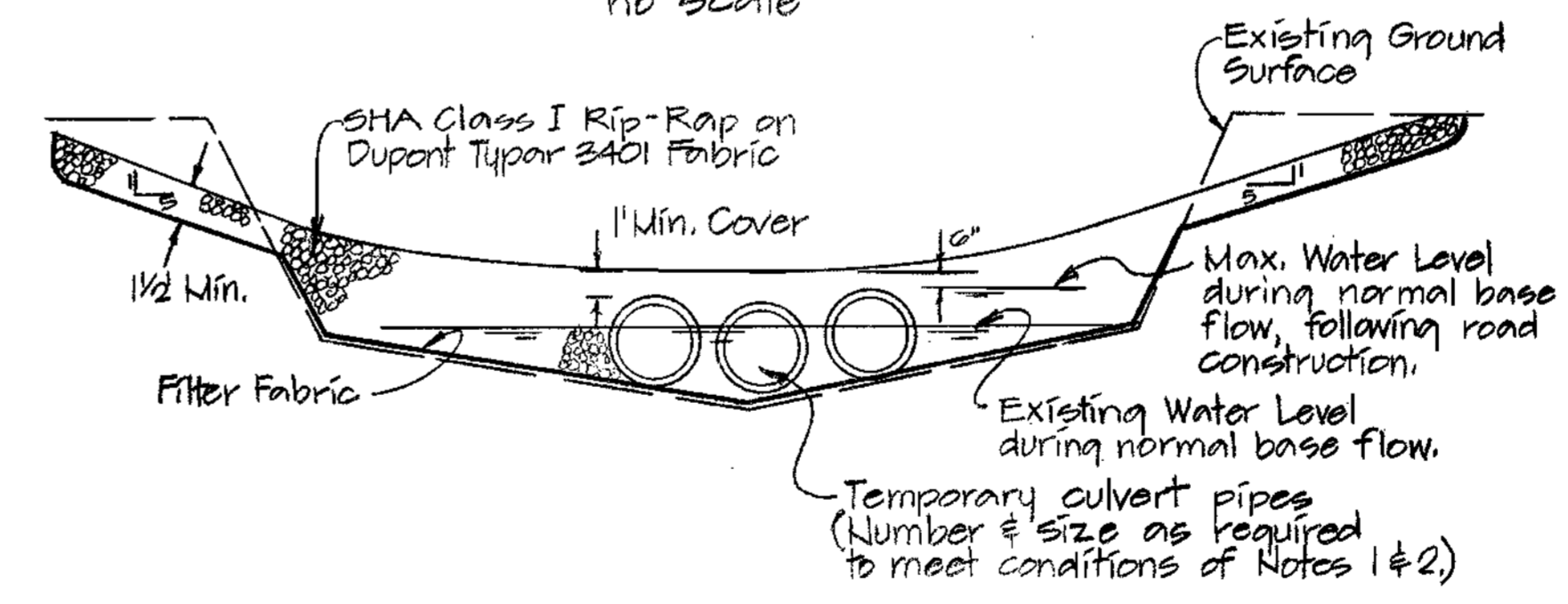


PLAN  
Scale: 1" = 50'

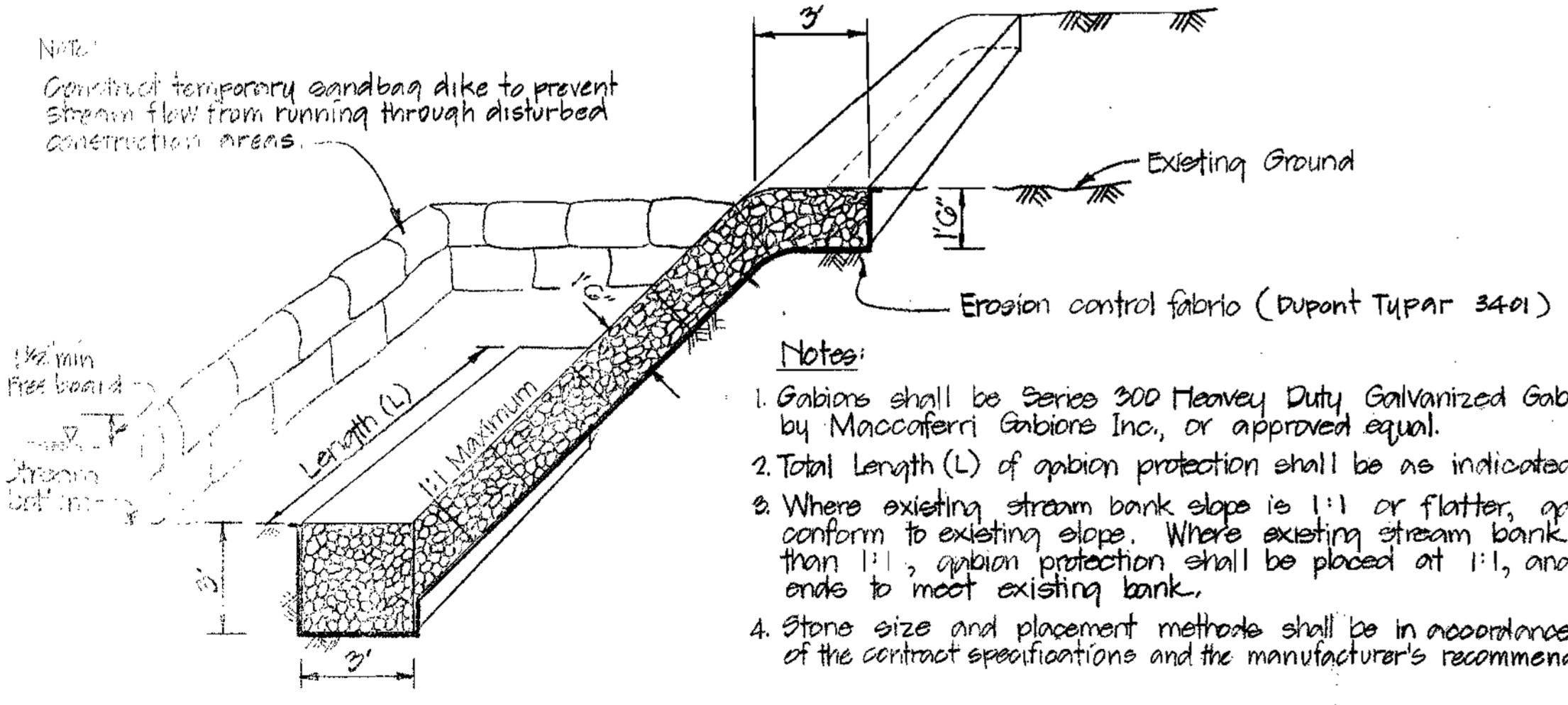
Station, Slope Protection (Length 12') See Detail, this sheet.

Note: For Detail of "Temporary Access Road At River Crossing", See this sheet.

TEMPORARY ACCESS ROAD AT RIVER CROSSING  
no scale



1. CULVERT PIPES SHALL BE SUFFICIENT TO CARRY THE NORMAL BASE FLOW.
2. THE TOP OF THE RIP-RAP SHALL BE AT LEAST 18" ABOVE THE NORMAL WATER LEVEL.
3. THE RIP-RAP SHALL BE PLACED ON A BED OF SAND OR GRAVEL.
4. THE RIP-RAP SHALL BE PLACED ON A BED OF SAND OR GRAVEL.
5. THE RIP-RAP SHALL BE PLACED ON A BED OF SAND OR GRAVEL.
6. THE RIP-RAP SHALL BE PLACED ON A BED OF SAND OR GRAVEL.
7. THE RIP-RAP SHALL BE PLACED ON A BED OF SAND OR GRAVEL.
8. THE RIP-RAP SHALL BE PLACED ON A BED OF SAND OR GRAVEL.
9. THE RIP-RAP SHALL BE PLACED ON A BED OF SAND OR GRAVEL.



- Notes:
1. Gabions shall be Series 300 Heavy Duty Galvanized Gabions as manufactured by Maccaferri Gabions Inc., or approved equal.
  2. Total Length (L) of gabion protection shall be as indicated on the plans.
  3. Where existing stream bank slope is 1:1 or flatter, gabion protection shall conform to existing slope. Where existing stream bank slope is steeper than 1:1, gabion protection shall be placed at 1:1, and transition made at ends to meet existing bank.
  4. Stone size and placement methods shall be in accordance with the special provisions of the contract specifications and the manufacturer's recommended specifications.

GABION SLOPE PROTECTION  
no scale



Rev.	Date	Remarks

MIDDLE PATUXENT INTERCEPTOR  
US RTE. 20 TO MD RTE 72  
CAPITAL PROJECT A-0-6070  
CONTRACT NO. 30-1001

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*Robert M. Brown* 9/27/81 *Allen L. Brown* 9/21/81  
DIRECTOR OF PUBLIC WORKS DATE CHIEF BUREAU OF ENGINEERING DATE  
CHIEF BUREAU OF UTILITIES DATE CHIEF UTILITY DIVISION DATE

DEWBERRY & DAVIS WORKS  
ENGINEERING ARCHITECTS PLANNERS - SURVEYORS  
2594 Riva Road, Annapolis, Maryland 21401 (301) 841-6811

CONTRACT NO. 30-1001  
CAPITAL PROJECT NO. A-0-6070

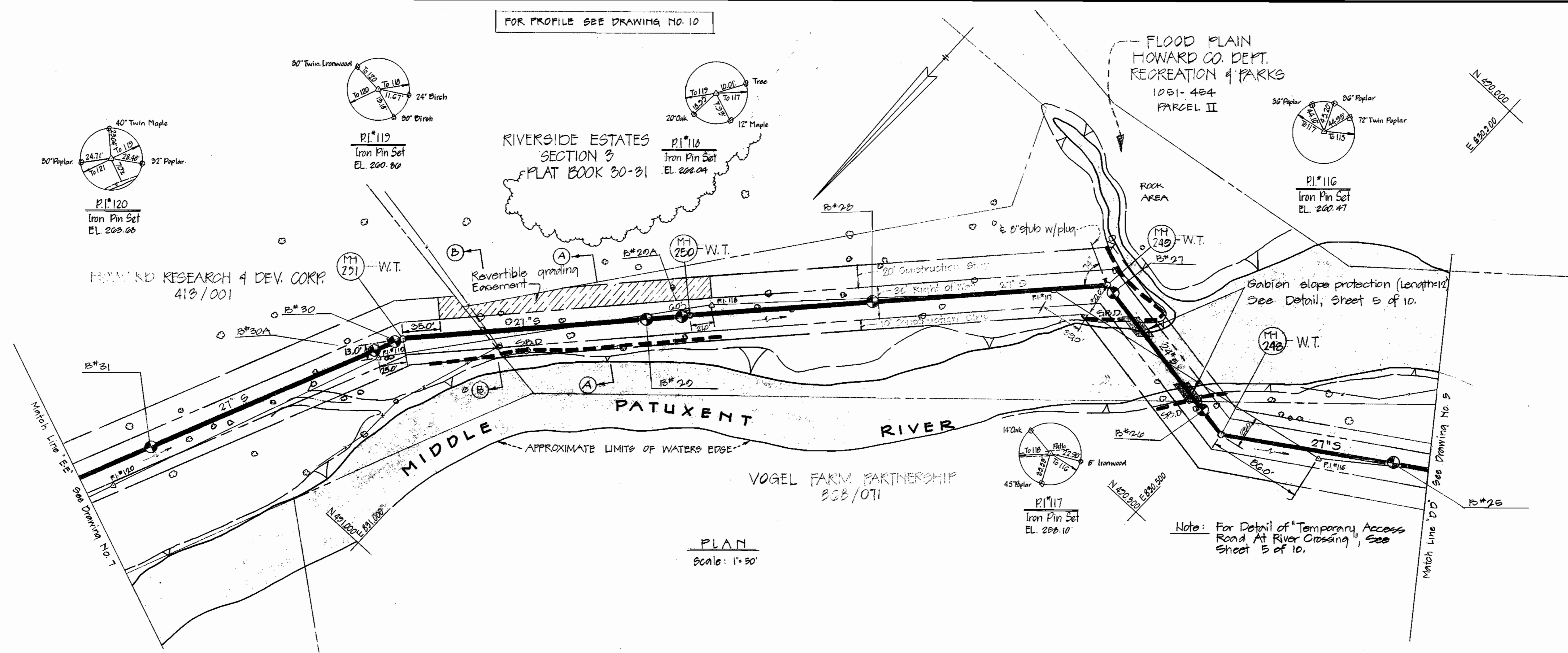
PLAN  
OF SANITARY SEWERS

MIDDLE PATUXENT INTERCEPTOR  
ELECTION DISTRICT NO. 5  
HOWARD COUNTY, MARYLAND

DRAWING NO.	SCALE	DESIGNED	DRAFTED	CHECKED
OF 10	AS SHOWN	SZ	BS	SZ

1001/5 S

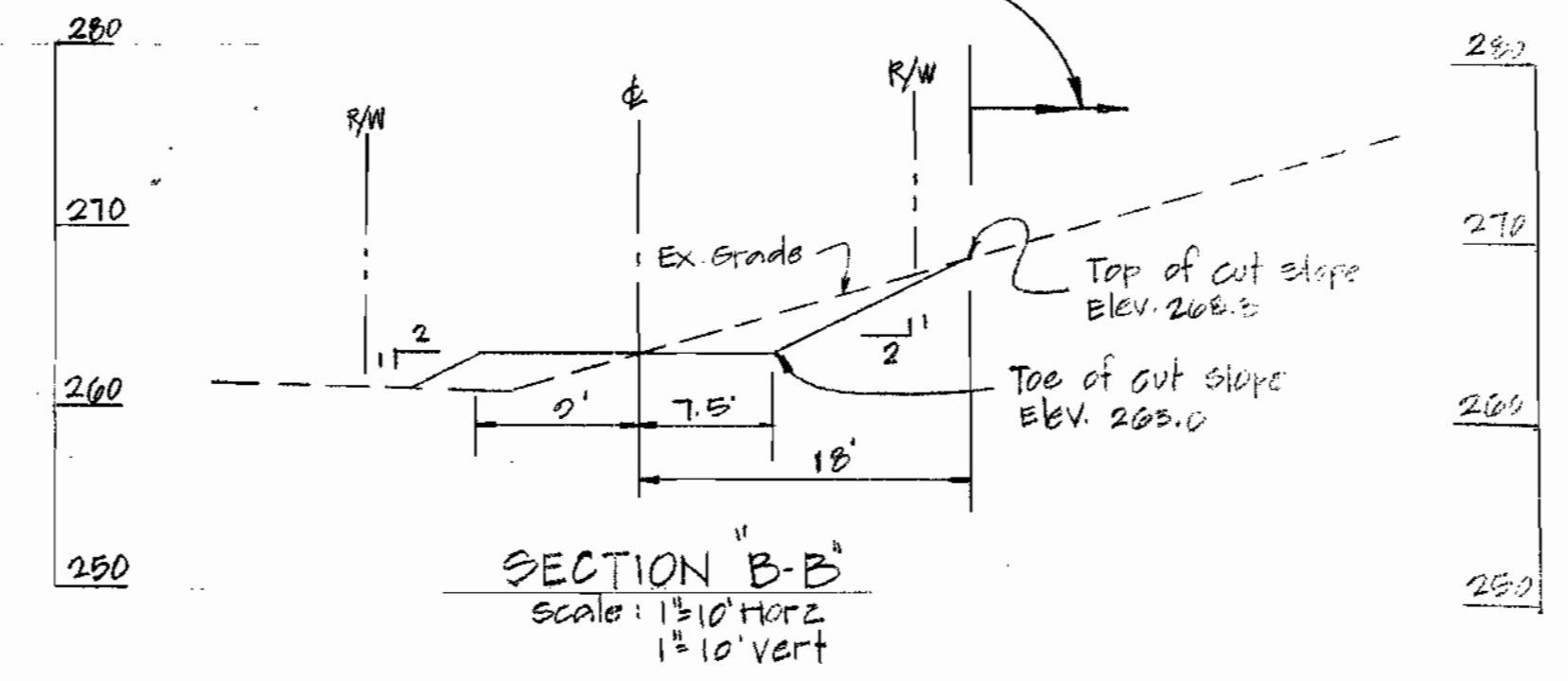
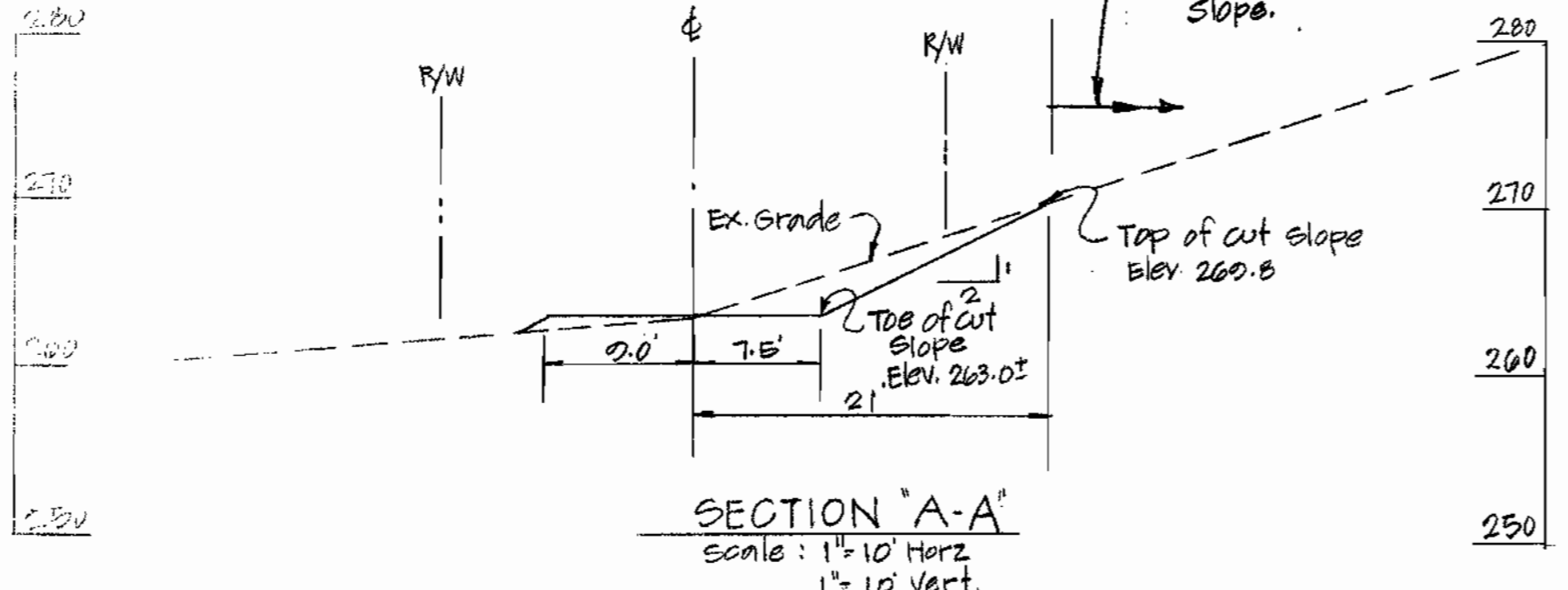
FOR PROFILE SEE DRAWING NO. 10



PLAN  
Scale: 1" = 50'

Note: For Detail of "Temporary Access Road At River Crossing", See Sheet 5 of 10.

No clearing of trees shall be allowed in the area uphill from the top of the proposed cut slope.



*Steven G. Lane*

Rev.	Date	Remarks

MIDDLE PATUXENT INTERCEPTOR  
U.S. RTE 29 TO MD RTE 32  
CAPITAL PROJECT A-0-0070  
CONTRACT NO. 30-1001

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*James M. Lewis* 9/28/82  
DIRECTOR OF PUBLIC WORKS DATE

*Allen S. Brown* 9/18/82  
CHIEF BUREAU OF ENGINEERING DATE

*Robert M. Bennett* 9-27-82  
CHIEF BUREAU OF UTILITIES DATE

*Allen S. Brown* 9/18/82  
CHIEF UTILITY DIVISION DATE

DEPARTMENT OF DEWBERRY & DAVIS  
ENGINEERING - ARCHITECTS - PLANNERS - SURVEYORS

2594 Riva Road, Annapolis, Maryland 21401 (301) 841-6811

CONTRACT NO. 30-1001  
CAPITAL PROJECT NO. A-0-0070

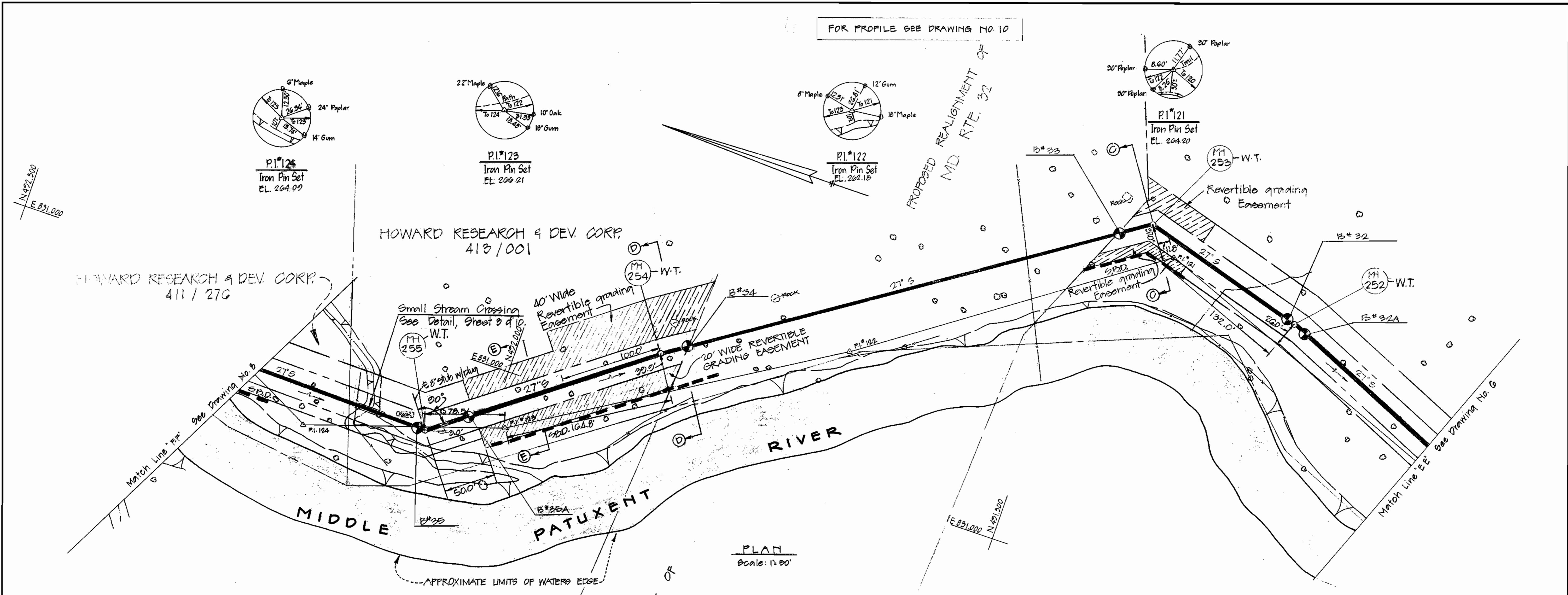
PLAN  
OF SANITARY SEWERS

MIDDLE PATUXENT INTERCEPTOR  
ELECTION DISTRICT NO. 5  
HOWARD COUNTY, MARYLAND

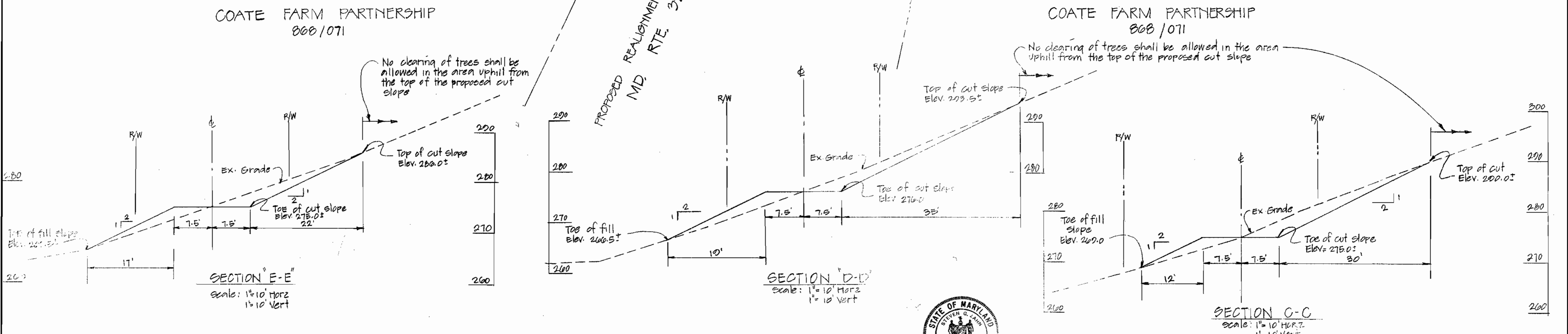
DRAWING NO. 6 OF 10  
SCALE AS SHOWN  
DESIGNED SZ  
DRAFTED BS  
CHECKED SZ

1001/6 S

FOR PROFILE SEE DRAWING NO. 10



PLAN  
Scale: 1" = 50'



SECTION E-E  
Scale: 1" = 10' Horiz  
1" = 10' Vert

SECTION D-D  
Scale: 1" = 10' Horiz  
1" = 10' Vert

SECTION C-C  
Scale: 1" = 10' Horiz  
1" = 10' Vert



Rev.	Date	Remarks
		MIDDLE PATUXENT INTERCEPTOR U.S. RTE 22 TO MD RTE 32 CAPITAL PROJECT A-O-6070 CONTRACT NO. 30-1001

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

James McSwain  
DIRECTOR OF PUBLIC WORKS  
DATE 9/21/82  
CHIEF BUREAU OF UTILITIES

Allen S. Brown  
DATE 9/21/82  
CHIEF BUREAU OF ENGINEERING

DEPARTMENT OF PUBLIC WORKS  
ENGINEERING-ARCHITECTS-PLANNERS-SURVEYORS

STEVEN G. DAVIS  
2594 Riva Road, Annapolis, Maryland, 21401 (301) 841-6811

CONTRACT NO. 30-1001  
CAPITAL PROJECT NO. A-O-6070

PLAN  
OF SANITARY SEWERS

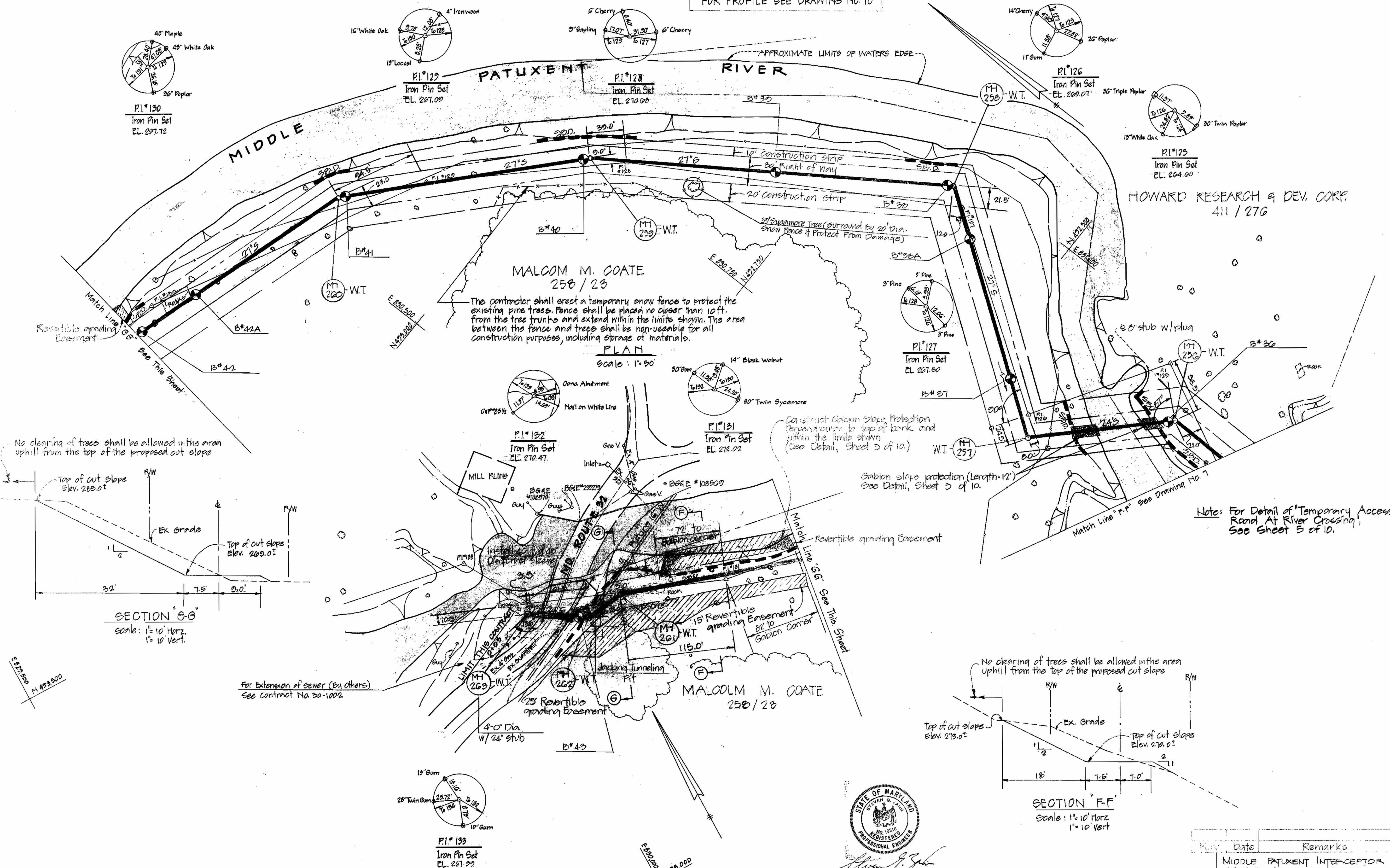
MIDDLE PATUXENT INTERCEPTOR  
ELECTION DISTRICT NO. 5  
HOWARD COUNTY, MARYLAND

DRAWING NO. 7 OF 10  
SCALE AS SHOWN  
DESIGNED SZ  
DRAFTED BS  
CHECKED SZ

1001/7 S

1001/8 S

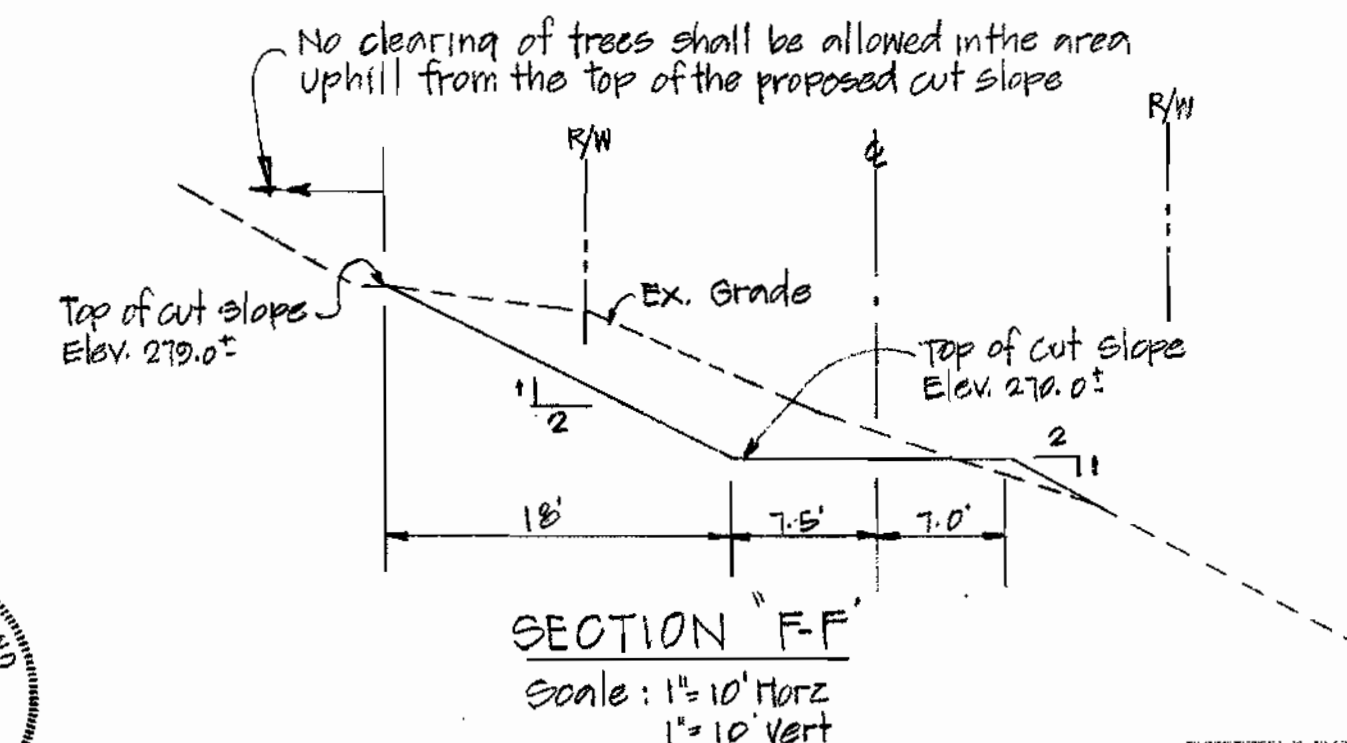
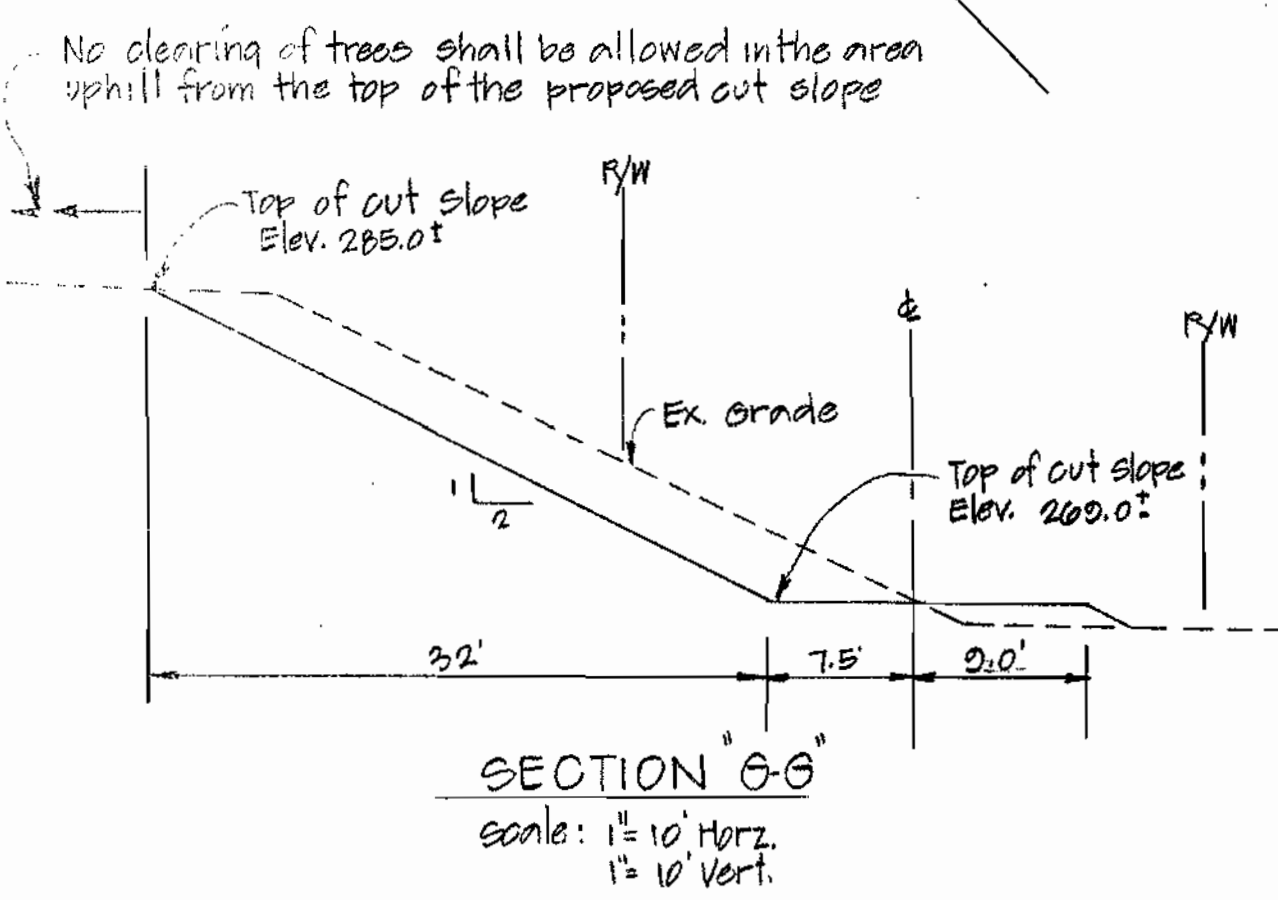
FOR PROFILE SEE DRAWING NO. 10



MALCOLM M. COATE  
258 / 23

The contractor shall erect a temporary snow fence to protect the existing pine trees. Fence shall be placed no closer than 10 ft. from the tree trunks and extend within the limits shown. The area between the fence and trees shall be non-usable for all construction purposes, including storage of materials.

PLAN  
SCALE: 1" = 50'



Note: For Detail of "Temporary Access Road At River Crossing", See Sheet 5 of 10.



DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*James M. Lewis* Director of Public Works  
*Allen L. Brown* Chief, Bureau of Engineering  
*Robert Beinger* Chief, Bureau of Utilities

DEPARTMENT OF PUBLIC WORKS  
ENGINEERS-ARCHITECTS-PLANNERS-SURVEYORS

*Allen L. Brown*  
2594 Riva Road, Annapolis, Maryland, 21401 (301) 841-6811

CONTRACT NO. 30-1001  
CAPITAL PROJECT NO. A-0-6070

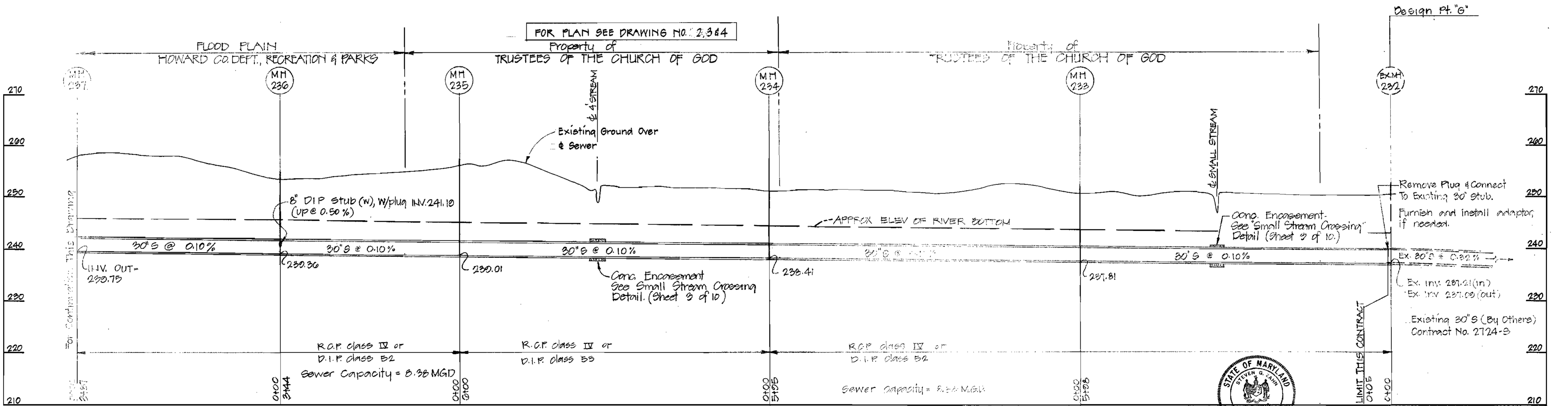
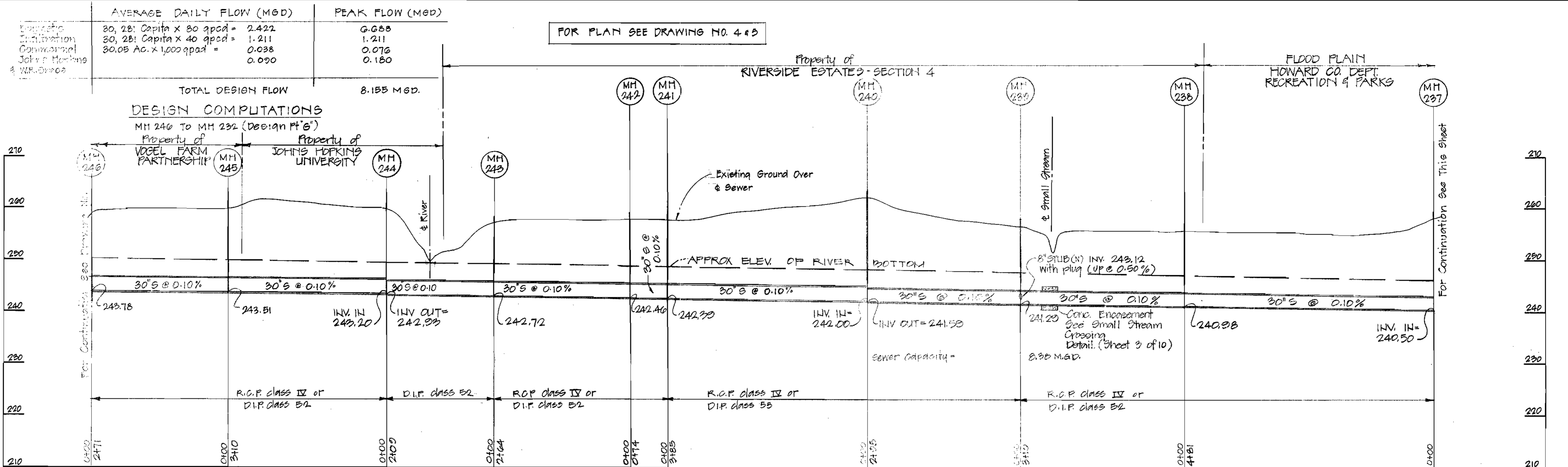
PLAN  
OF SANITARY SEWERS

MIDDLE PATUXENT INTERCEPTOR  
ELECTION DISTRICT NO. 5  
HOWARD COUNTY, MARYLAND

Date	Remarks
	MIDDLE PATUXENT INTERCEPTOR U.S. RTE 23 TO MD RTE 32 CAPITAL PROJECT A-0-6070 CONTRACT NO. 30-1001

DRAWING NO. OF	SCALE AS SHOWN	DESIGNED BY	DRAFTED BY	CHECKED BY
8				
10				





DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

<i>James M. Lewis</i>	9/28/82	<i>Allen S. Brown</i>	9/21/82
DIRECTOR OF PUBLIC WORKS	DATE	CHIEF BUREAU OF ENGINEERING	DATE
<i>Robert M. Bassinger</i>	9-27-82	<i>Allen S. Brown</i>	9/11/82
CHIEF BUREAU OF UTILITIES	DATE	CHIEF UTILITY DIVISION	DATE

DEWBERRY & DAVIS  
ENGINEERING - ARCHITECTS - PLANNERS - SURVEYORS  
2594 Riva Road, Annapolis, Maryland 21401 (301) 841-6811

CONTRACT NO. 30-1001  
CAPITAL PROJECT NO. A-Q-6070

PROFILE  
OF SANITARY SEWERS

MIDDLE PATUXENT INTERCEPTOR  
ELECTION DISTRICT NO. 5  
HOWARD COUNTY, MARYLAND

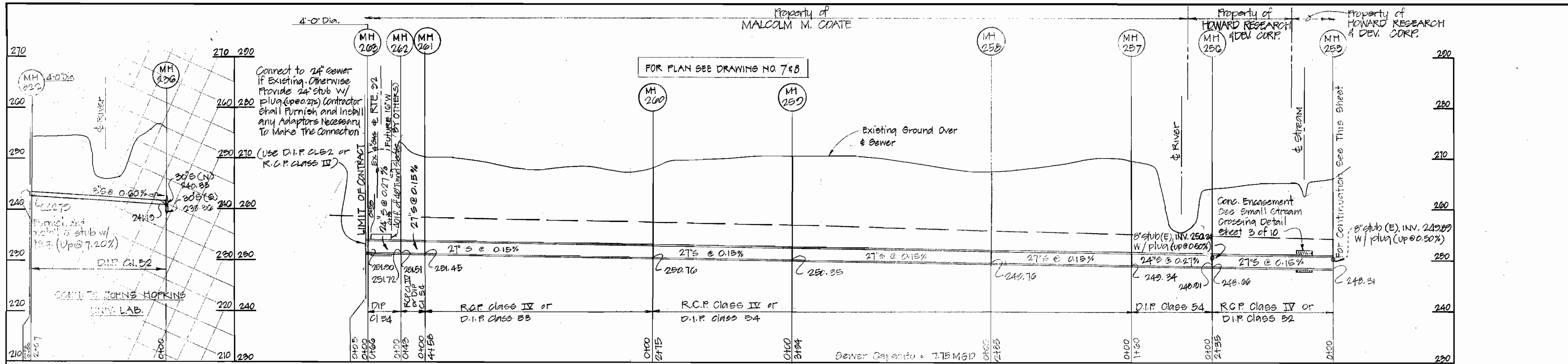
DRAWING NO. 9 OF 10  
SCALE AS SHOWN

DESIGNED SZ
DRAFTED AB
CHECKED SZ

MIDDLE PATUXENT INTERCEPTOR  
U.S. RTE 29 TO MD RTE 32  
CAPITAL PROJECT A-Q-6070  
CONTRACT NO. 30-1001



1001/9 S



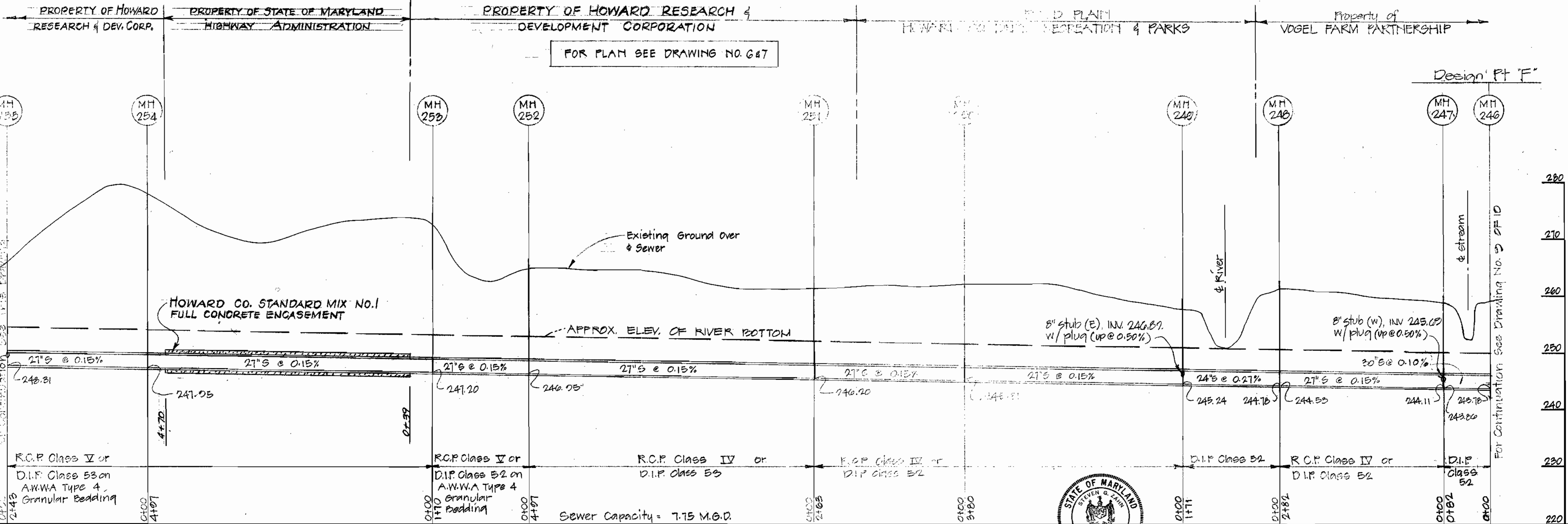
	AVERAGE DAILY FLOW (MGD)	PEAK FLOW (MGD)
Population	25,557 Capita x 80 gpcd = 2.045	0.276
Commercial	25,557 Capita x 40 gpcd = 1.022	1.143
Industrial	34.32 Ac. x 1,000 gpcd = 0.034	0.069
Storm		0.040
W.R. Storage		
<b>TOTAL DESIGN FLOW</b>	<b>7.625 MGD</b>	

PROFILE  
 Horiz: 1"=100'  
 Vert: 1"=10'

NOTE:  
 30" D.I.P. may be used (with possible invert adjustment) in lieu of 27" R.C.P. Payment will be made at the unit cost bid for 27" pipe.

**DESIGN COMPUTATIONS**

MH 209 TO MH 240 (Design Pt. "F")



PROFILE  
 Horiz: 1"=100'  
 Vert: 1"=10'

MIDDLE PATUXENT INTERCEPTOR  
 U.S. RTE 29 TO MD RTE 92  
 CAPITAL PROJECT A-0-6070  
 CONTRACT NO. 30-1001



DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

James M. Brown, Director of Public Works  
 Robert M. Brown, Chief Bureau of Utilities  
 Allen L. Brown, Chief Utility Division  
 Dates: 9/21/82, 9/27/82, 9/28/82

DEWBERRY & DAVIS  
 ENGINEERING - ARCHITECTS - PLANNERS - SURVEYORS  
 2594 Riva Road, Annapolis, Maryland 21401 (301) 841-6811

CONTRACT NO. 30-1001  
 CAPITAL PROJECT NO. A-0-6070

PROFILE  
 OF SANITARY SEWERS

MIDDLE PATUXENT INTERCEPTOR  
 ELECTION DISTRICT NO. 5  
 HOWARD COUNTY, MARYLAND

DRAWING NO. 10 OF 10  
 SCALE AS SHOWN

DESIGNED SZ  
 DRAFTED AB  
 CHECKED SZ

1001/10 S