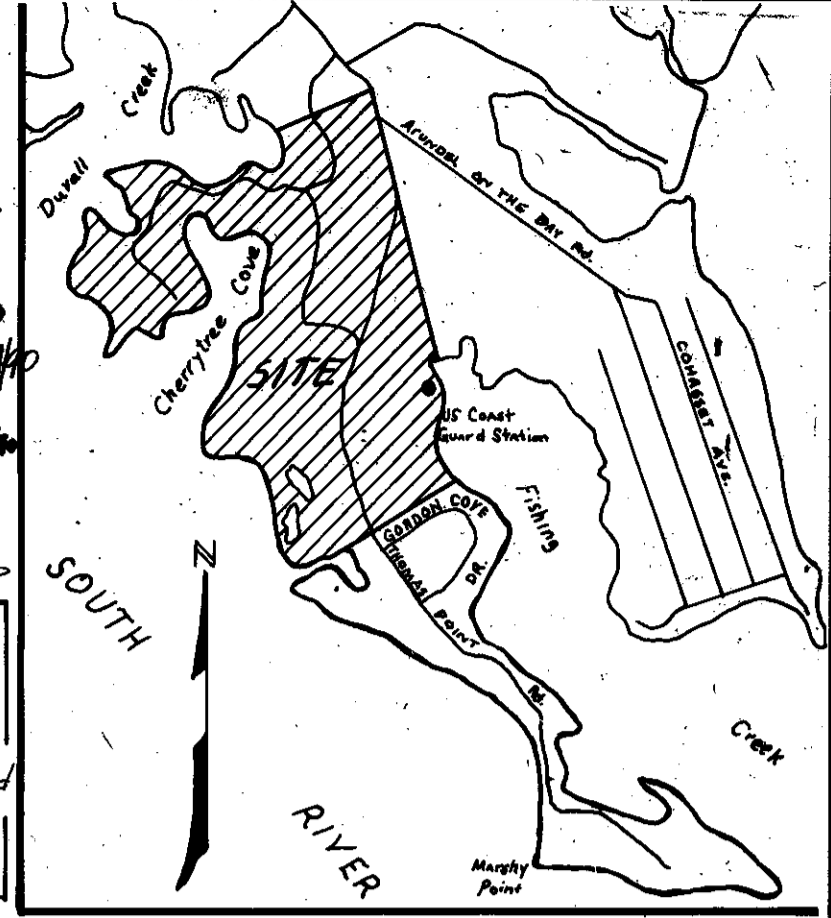


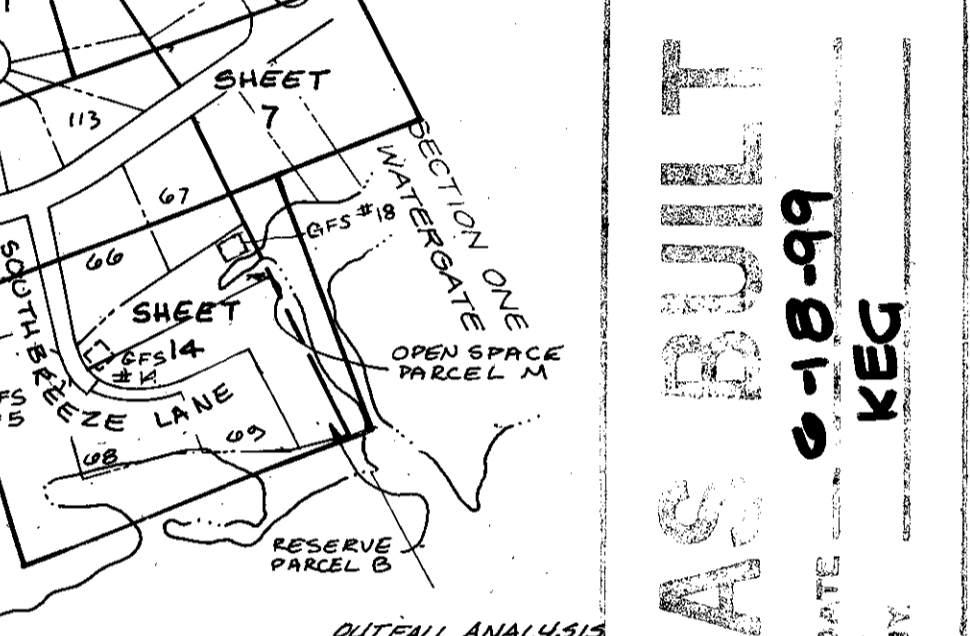
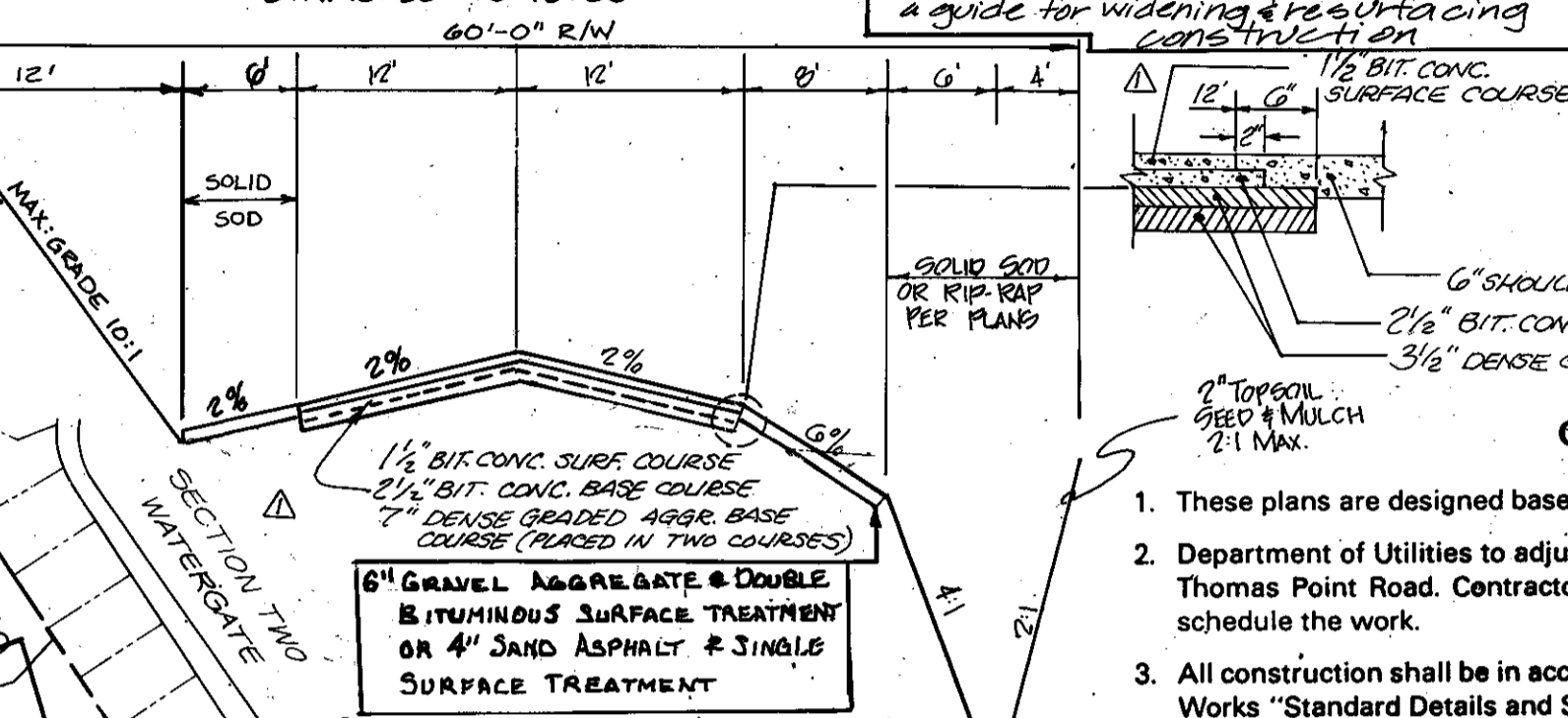
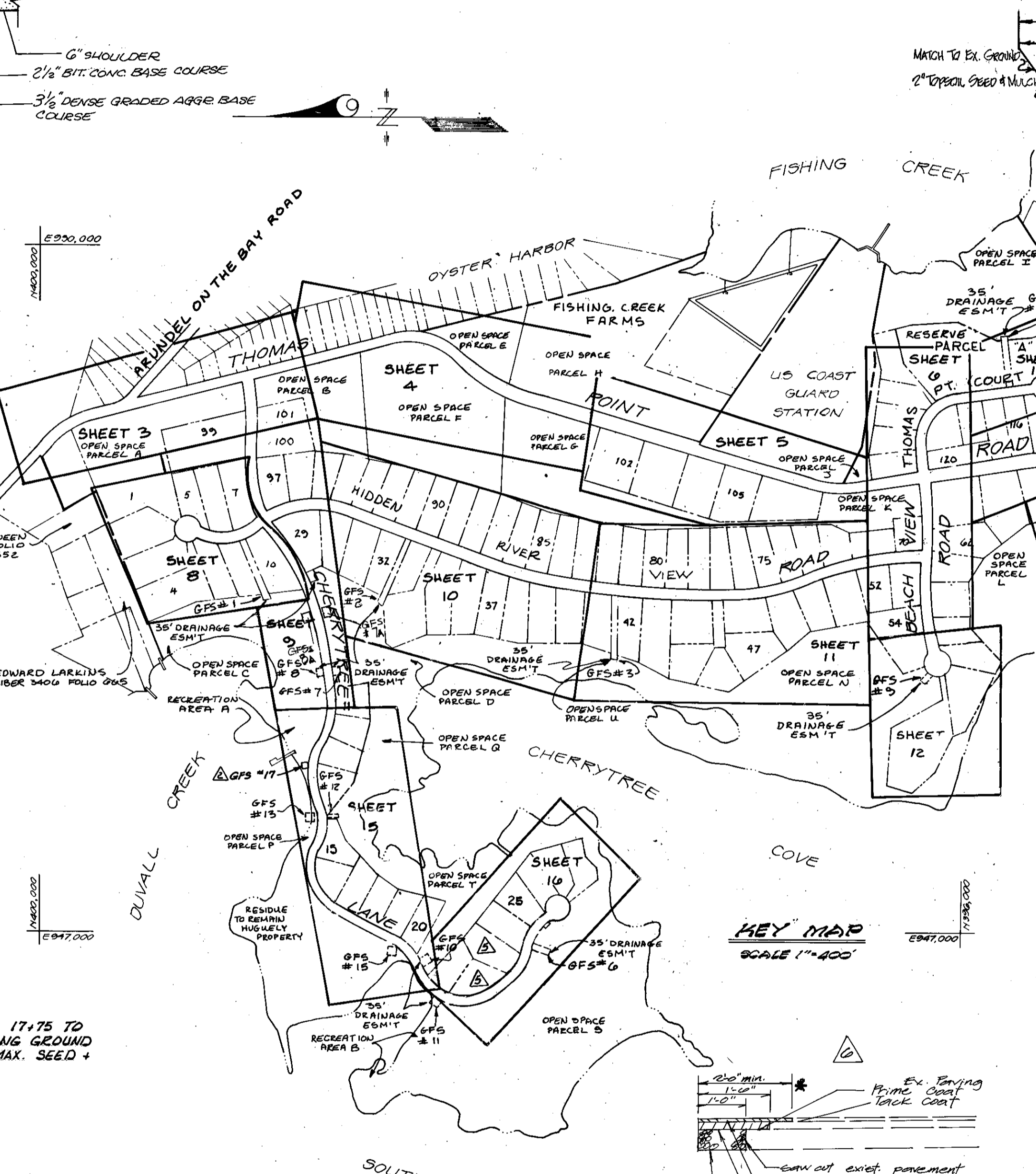
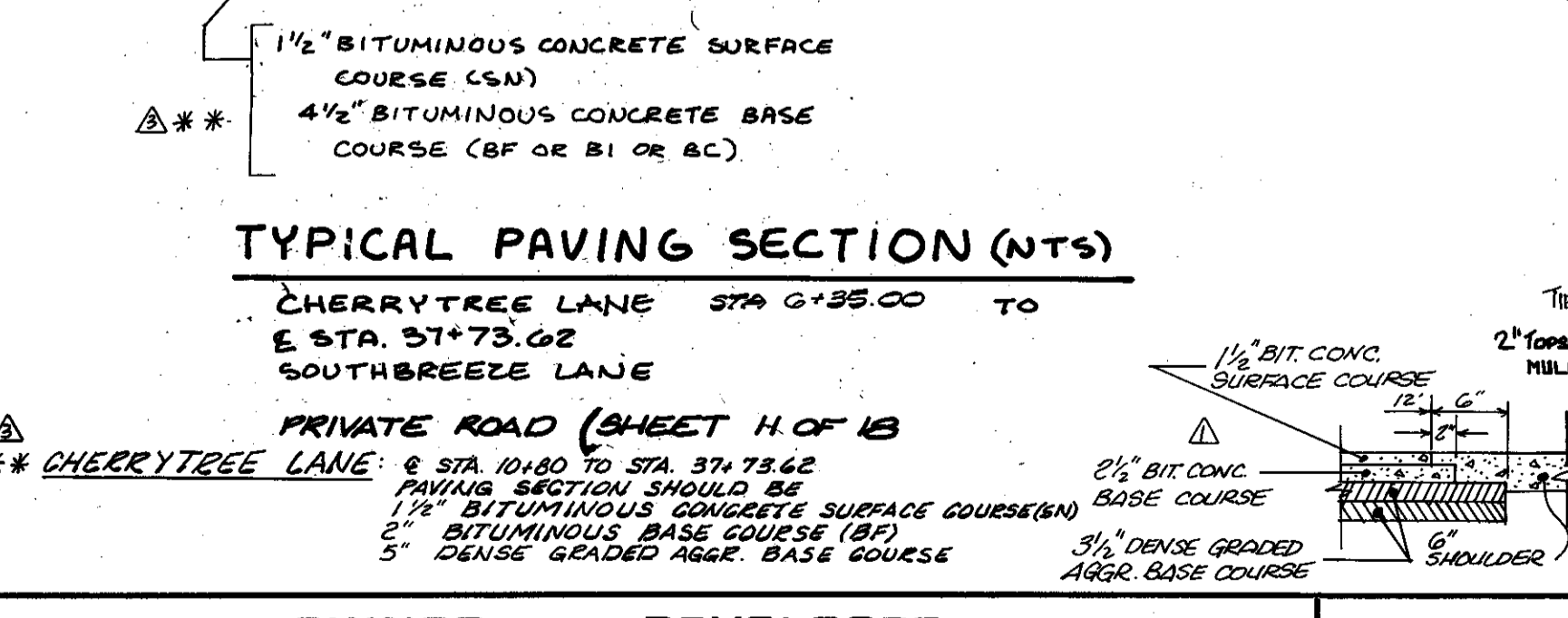
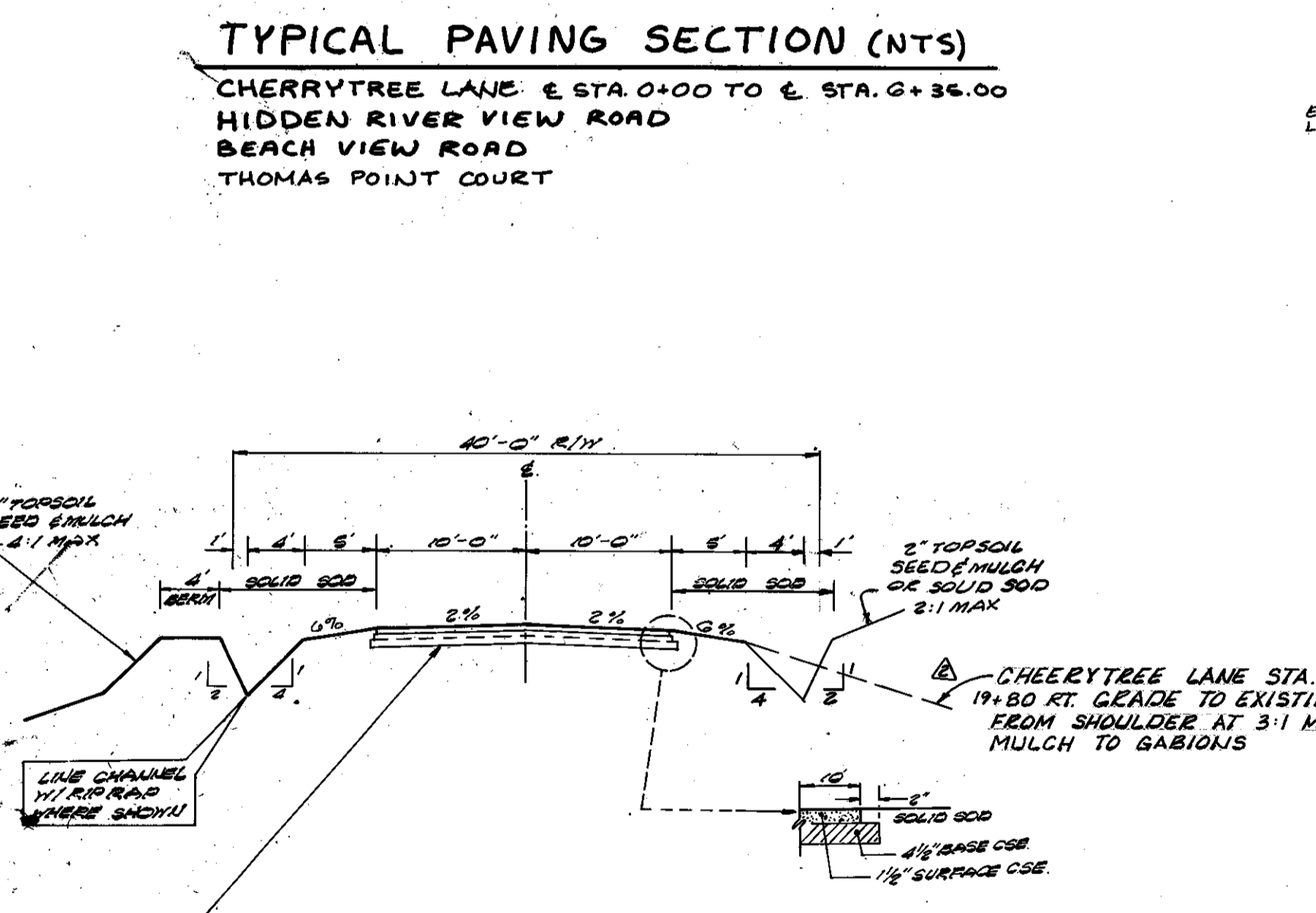
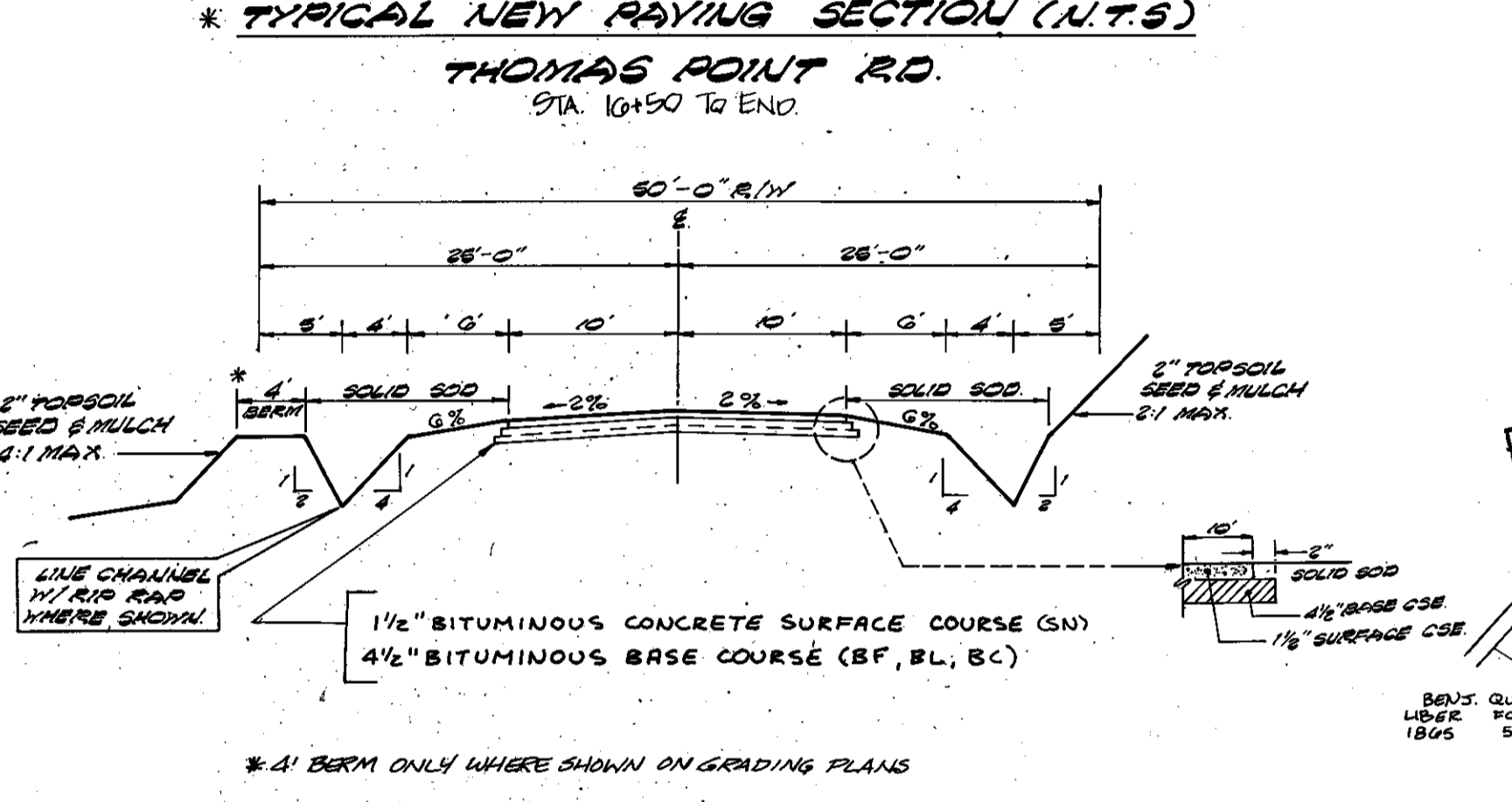
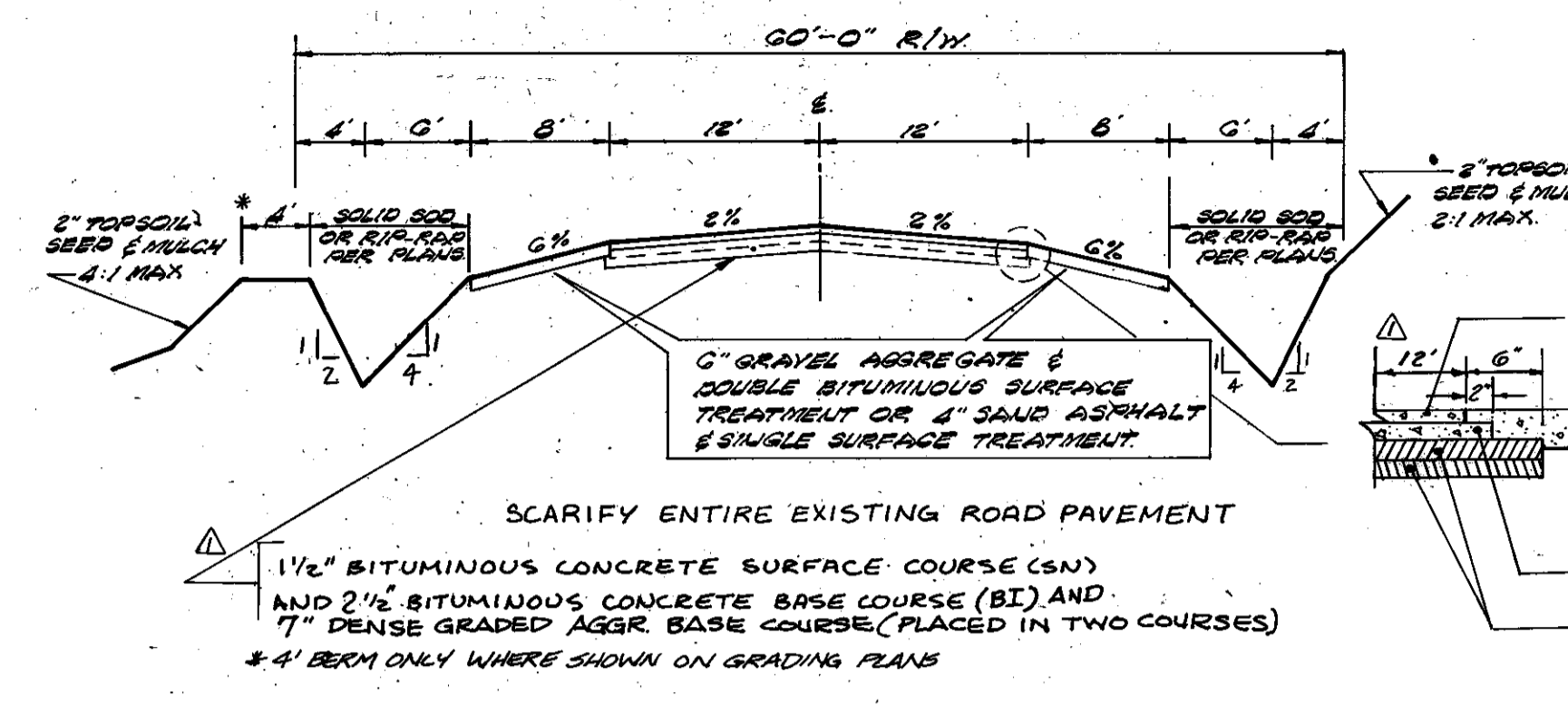
# FISHING CREEK FARM

## ROADS & STORM DRAIN PLANS

DATE	BY	DESCRIPTION	APPROVED
2-12-88	MLH	REVISED PAVING SECTION	MMD
12-20-88	MLH	REVISE SIDE DITCH	MMD
12-20-88	MLH	+ ADD GABION SECTION	MLH
12-20-88	MLH	REVISE PARALLEL SECTION	MLH
7-27-89	SRS	REVISE GPS #10	MMD
5-10-90	MMD	REVISE RESERVE PARCEL 10 TO STS 1121	MMD
11/14/90	MMD	REVISE RESERVE PARCEL 10 TO STS 1121	MMD



NOTE:  
\* FOR TRANSITION CROSS SECTION OF THOMAS POINT ROAD  
STA. 10+00 TO 12+50, 15+00 TO 16+50  
SEE SUPPLEMENTAL CROSS SECTIONS



OUTFALL ANALYSIS

THE GABION FLOW STRUCTURES LOCATED THROUGHOUT THE SITE WERE DESIGNED FOR THE PURPOSE OF STORMWATER MANAGEMENT AND TO PREVENT EROSION. THE STRUCTURES ARE DESIGNED TO CHANNEL AND CONTROL THE STORMWATER RUNOFF INTO SHEET FLOW. BELOW SOME GABION STRUCTURES IS A RIP RAP APRON TO FURTHER DISPERSE THE WATER AND PROVIDE EROSION CONTROL.

EACH GABION FLOW STRUCTURE WAS ANALYZED FOR VELOCITY OF DISCHARGE OVER THE GABIONS ASSUMING WEIR FLOW USING THE EQUATION:

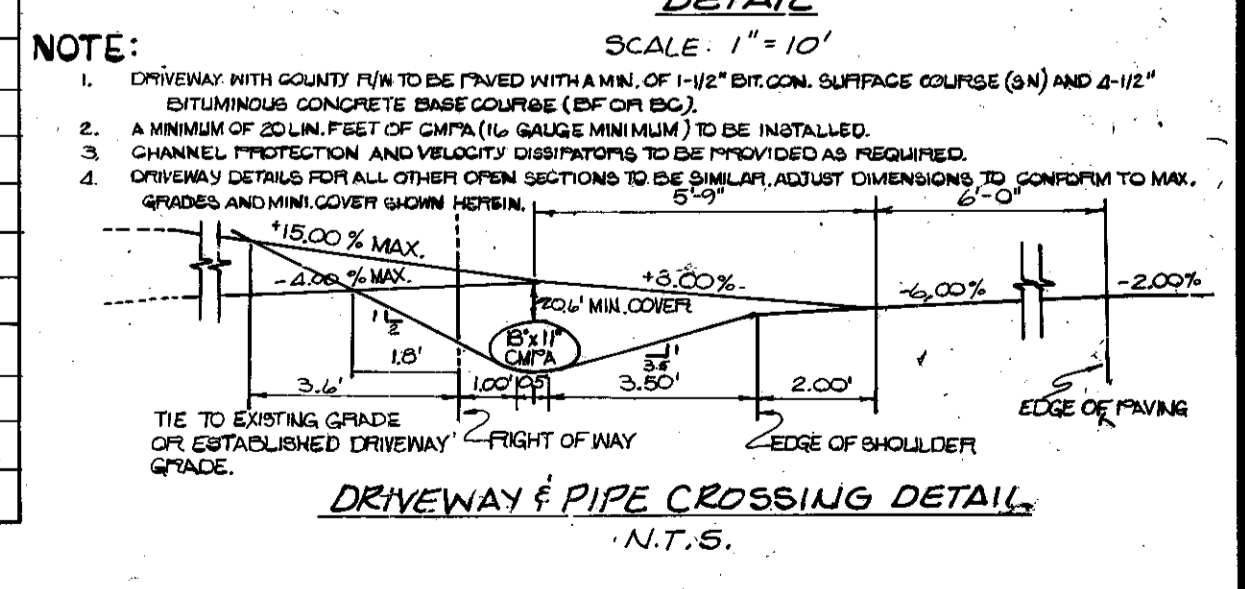
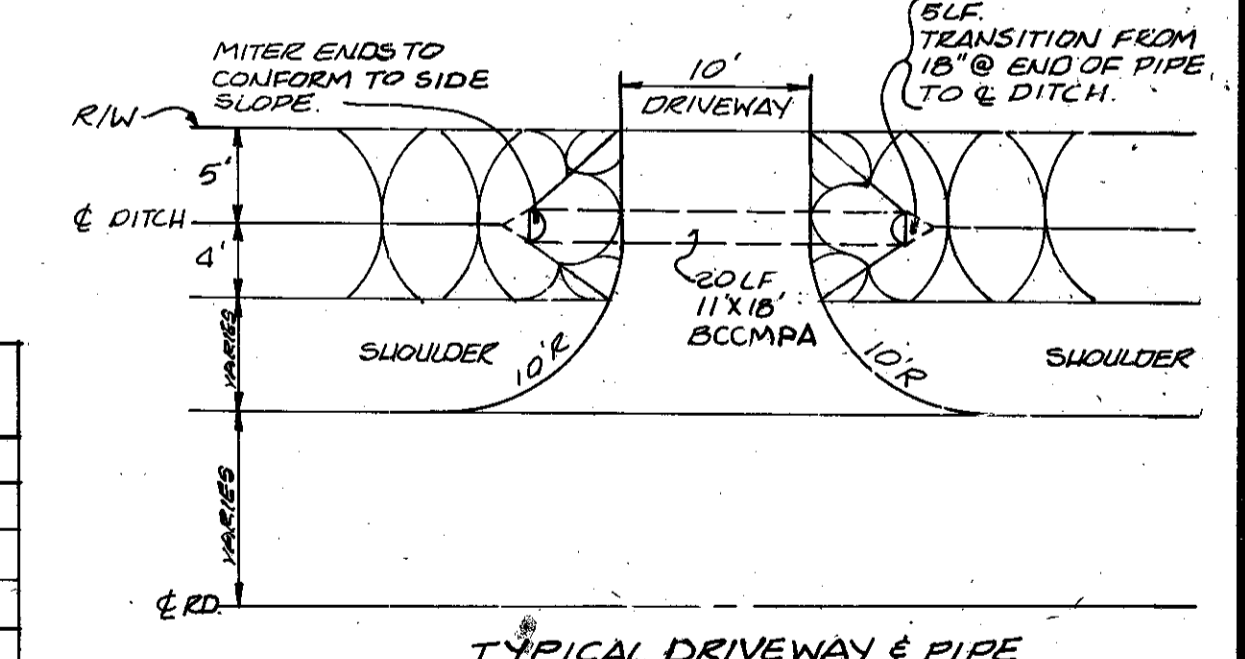
$$Q = CLH^{3/2}$$

WHERE Q = FLOW IN CFS  
C = COEFFICIENT = 5.0  
L = LENGTH OF WEIR  
H = DEPTH OF FLOW OVER WEIR

CALCULATION RESULTS ARE SHOWN WITH CORRESPONDING PROFILES FROM EACH OUTLET AND IN TABULAR FORM ON SHEET 2 OF 18.

COUNTY CONTROL MONUMENT	COORDINATES	ELEVATION
335	N 40°58'1.89" E 247.299.98	9.011
335 - A2	N 40°13'05.85" E 247.810.298	18.228
MON - 336	N 33°44'48.68" E 348.834.31	16.706
336 - A2	N 34°52'8.382" E 349.430.328	13.460

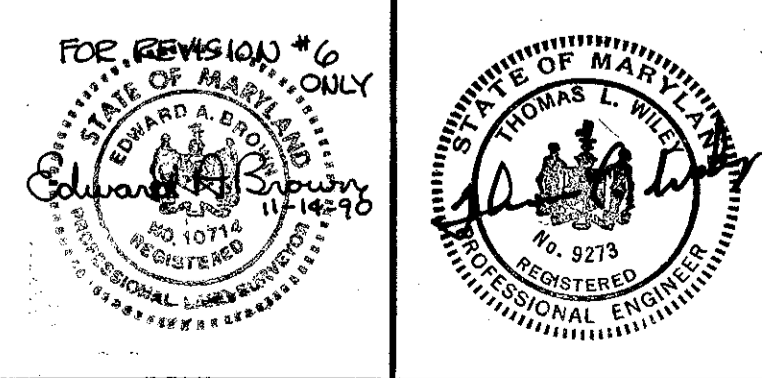
SHEET NO.	DESCRIPTION
1	COVER SHEET
2	PROLOGUE AREA MAP
3-7	PLAN & PROFILE - THOMAS POINT ROAD
8, 9, 10, 11	PLAN & PROFILE - HIDDEN RIVER VIEW ROAD
12, 13, 14, 15	PLAN & PROFILE - CHERRYTREE LANE
16	PLAN & PROFILE - BEACHVIEW ROAD
17	PLAN & PROFILE - THOMAS POINT COURT
18	UNDERGROUND STORAGE TANK
19	PLAN & PROFILE - SOUTHBREEZE LANE
20	STORM DRAINAGE DETAILS
21	OUTFALL STRUCTURE DETAILS



NOTE:  
1. DRIVEWAY WITH COUNTY R/W TO BE PAVED WITH A MIN. OF 1 1/2" BIT. CONC. SURFACE COURSE (SN) AND 2-1/2" BITUMINOUS CONCRETE BASE COURSE (BF OR BC).  
2. A MINIMUM OF 20' LIN. FEET OF CURB (1/2" GAUGE MINIMUM) TO BE INSTALLED.  
3. CHANNEL PROTECTION AND VELOCITY DISPARATORS TO BE PROVIDED AS REQUIRED.  
4. DRIVEWAY DETAILS FOR ALL OTHER OPEN SECTIONS TO BE SHOWN, ADJUST DIMENSIONS TO CONFIRM TO MAX. SPREADS AND MIN. COVER WHEN NECESSARY.

OWNER DEVELOPER  
MARK VOGEL COMPANIES  
600 NEW HAMPSHIRE AVENUE, N.W.  
SUITE 460  
WASHINGTON, D.C.

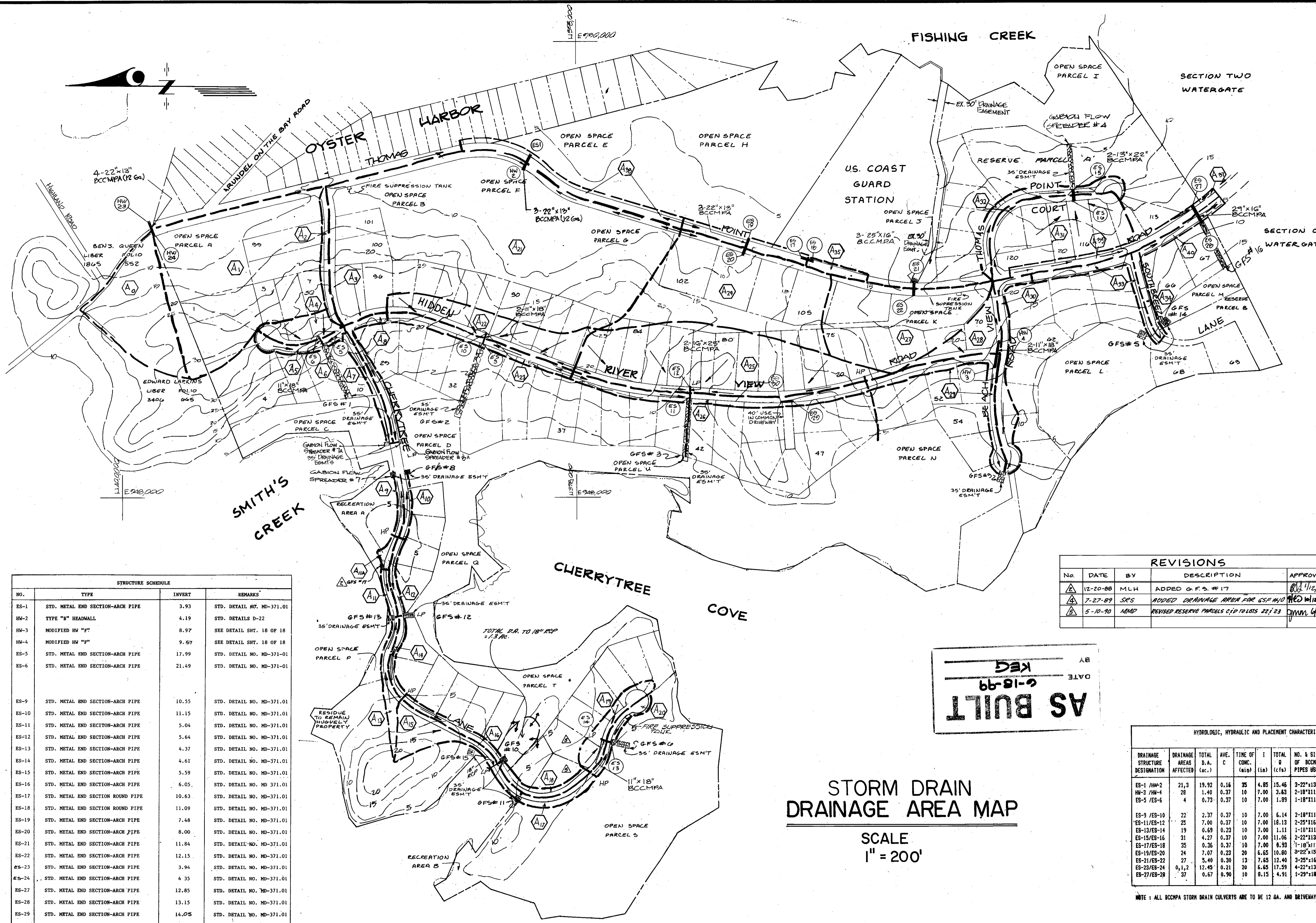
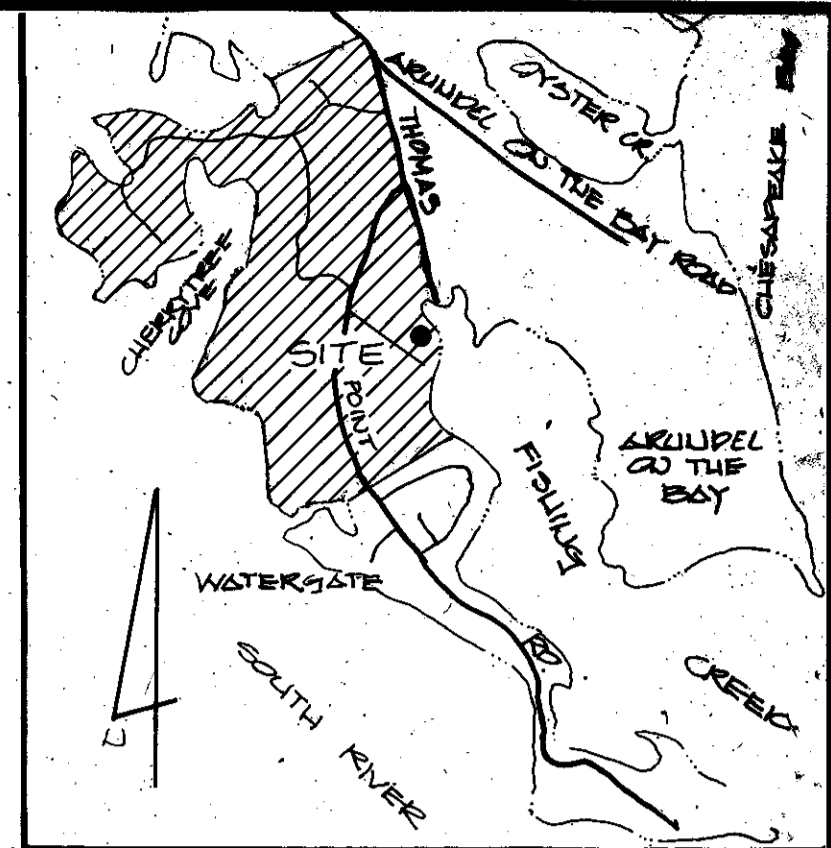
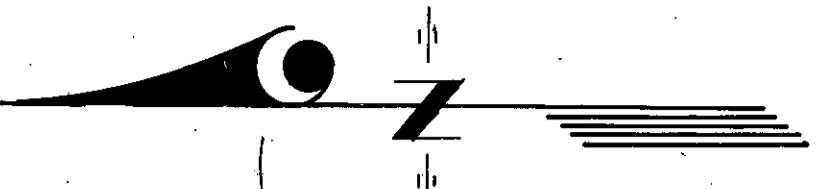
**Dewberry & Davis**  
ENGINEERS - ARCHITECTS - PLANNERS - SURVEYORS  
2594 Riva Road, Annapolis, Maryland 21401 (301) 841-6811



ANNE ARUNDEL COUNTY  
DEPARTMENT OF PUBLIC WORKS

ROAD & STORM DRAIN PLANS  
FISHING CREEK FARM  
A R-1/R-2 RESIDENTIAL CLUSTER SUBDIVISION  
2ND TAX DISTRICT TAX MAP 61 & 57  
BLOCKS 2,3,13,14,19 & 20 BLOCKS 117,121 & 132

REVISED DATE	BY	APPROVED	DRAWN BY	CHECKED BY	DATE	SCALE	SHEET NO.
1-28-87	MJP	Chief	D E D	J B K	1987	AS SHOWN	1 OF 18
4-27-87	MJP	Chief	D E D	J B K	1987	AS SHOWN	1 OF 18
8-11-87	MMD	Chief	D E D	J B K	1987	AS SHOWN	1 OF 18
12-20-88	MLH	Chief	D E D	J B K	1988	AS SHOWN	1 OF 18



VICINITY MAP  
SCALE 1" = 2000'

No.	Acres	Ave. C
A0	2.50	0.27
A1	3.46	0.17
A2	0.41	0.30
A3	0.56	0.30
A4	0.73	0.37
A5	0.26	0.30
A6	0.06	0.30
A7	0.36	0.30
A8	0.47	0.30
A9	0.15	0.30
A10	0.15	0.30
A11	0.24	0.64
A12	0.25	0.30
A13	0.50	0.40
A14	0.28	0.30
A15	1.15	0.38
A16	0.20	0.30
A17	0.17	0.30
A18	0.32	0.30
A19	0.63	0.23
A20	0.30	0.30
A21	19.36	0.16
A22	2.37	0.35
A23	0.49	0.30
A24	7.07	0.23
A25	7.00	0.33
A26	1.38	0.30
A27	5.40	0.30
A28	1.40	0.37
A29	1.01	0.30
A30	1.10	0.47
A31	4.20	0.37
A32	0.46	0.30
A33	0.32	0.30
A34	0.28	0.30
A35	0.36	0.37
A37	0.67	0.30
A38	1.07	0.30
A39	0.62	0.30
A40	0.24	0.30
A44	0.24	0.64

No.	DATE	BY	DESCRIPTION	APPROVED
1	12-20-88	MLH	ADDED G.F.S. #17	[Signature]
2	7-27-89	SRS	ADDED DRAINAGE AREA FOR GSF #10	[Signature]
3	5-10-90	NMD	REVISED RESERVE PARCELS C/D TO LOTS 22/23	[Signature]

AS BUILT  
 6-18-99  
 KEG

### STORM DRAIN DRAINAGE AREA MAP

SCALE  
1" = 200'

DRAINAGE STRUCTURE DESIGNATION	DRAINAGE AREAS AFFECTED	TOTAL (ac.)	AVE. C	TIME OF CONC. (min)	TOTAL I (cfs)	NO. & SIZE OF BCCMPA PIPES USED	LENGTH OF PIPE (ft)	SLOPE OF PIPE (C)	INLET INV. EL. (ft)	MAN. HOLEV. (ft)	OUTLET INV. EL. (ft)	OUTLET VEL. (fps)
ES-1 / HW-2	21,3	19.92	0.16	35	4.85	15,46 3-22"x13"	50	0.5	4.19	5.60	3.93	3.22
HW-3 / HW-4	28	1.40	0.37	10	7.00	3.63 2-18"x11"	60	1.0	9.57	10.19	8.97	3.70
ES-5 / ES-6	4	0.73	0.37	10	7.00	1.89 1-18"x11"	50	7.0	21.49	22.12	17.99	7.80
ES-9 / ES-10	22	2.37	0.37	10	7.00	6.14 2-18"x11"	50	1.3	11.15	12.02	10.51	4.70
ES-11/ES-12	25	7.90	0.37	10	7.00	18.13 2-25"x16"	50	1.2	5.64	7.21	5.04	5.60
ES-13/ES-14	19	0.69	0.23	10	7.00	1.11 1-18"x11"	42	0.5	4.92	5.40	4.41	2.80
ES-15/ES-16	31	4.27	0.37	10	7.00	11.06 2-22"x13"	46	1.0	6.45	7.31	5.59	4.70
ES-17/ES-18	35	0.36	0.37	10	7.00	0.93 1-18"x11"	46	0.75	11.89	12.44	11.54	3.20
ES-19/ES-20	24	7.07	0.23	20	6.65	10.80 3-22"x15"	52	1.0	6.00	8.75	7.46	4.00
ES-21/ES-22	27	5.40	0.30	13	7.65	12.40 3-25"x16"	52	0.6	12.15	13.03	11.84	4.00
ES-23/ES-24	0,1,2	12.45	0.21	20	6.65	17.39 4-22"x13"	92	0.8	4.35	5.41	2.94	4.10
ES-27/ES-28	37	0.67	0.30	10	8.15	4.91 1-25"x18"	32	0.6	13.15	13.90	12.85	3.90

NOTE: ALL BCCMPA STORM DRAIN CULVERTS ARE TO BE 12 GA. AND DRIVEWAY CULVERTS ARE TO BE 16 GA. UNLESS OTHERWISE NOTED.

NO.	TYPE	INVERT	REMARKS
ES-1	STD. METAL END SECTION-ARCH PIPE	3.93	STD. DETAIL NO. MD-371.01
HW-2	TYPE "B" HEADWALL	4.19	STD. DETAILS D-22
HW-3	MODIFIED HW "F"	8.97	SEE DETAIL SHT. 18 OF 18
HW-4	MODIFIED HW "F"	9.57	SEE DETAIL SHT. 18 OF 18
ES-5	STD. METAL END SECTION-ARCH PIPE	17.99	STD. DETAIL NO. MD-371.01
ES-6	STD. METAL END SECTION-ARCH PIPE	21.49	STD. DETAIL NO. MD-371.01
ES-9	STD. METAL END SECTION-ARCH PIPE	10.55	STD. DETAIL NO. MD-371.01
ES-10	STD. METAL END SECTION-ARCH PIPE	11.15	STD. DETAIL NO. MD-371.01
ES-11	STD. METAL END SECTION-ARCH PIPE	5.04	STD. DETAIL NO. MD-371.01
ES-12	STD. METAL END SECTION-ARCH PIPE	5.64	STD. DETAIL NO. MD-371.01
ES-13	STD. METAL END SECTION-ARCH PIPE	4.37	STD. DETAIL NO. MD-371.01
ES-14	STD. METAL END SECTION-ARCH PIPE	4.61	STD. DETAIL NO. MD-371.01
ES-15	STD. METAL END SECTION-ARCH PIPE	5.59	STD. DETAIL NO. MD-371.01
ES-16	STD. METAL END SECTION-ARCH PIPE	6.05	STD. DETAIL NO. MD-371.01
ES-17	STD. METAL END SECTION ROUND PIPE	10.63	STD. DETAIL NO. MD-371.01
ES-18	STD. METAL END SECTION ROUND PIPE	11.09	STD. DETAIL NO. MD-371.01
ES-19	STD. METAL END SECTION-ARCH PIPE	7.48	STD. DETAIL NO. MD-371.01
ES-20	STD. METAL END SECTION-ARCH PIPE	8.00	STD. DETAIL NO. MD-371.01
ES-21	STD. METAL END SECTION-ARCH PIPE	11.84	STD. DETAIL NO. MD-371.01
ES-22	STD. METAL END SECTION-ARCH PIPE	12.15	STD. DETAIL NO. MD-371.01
ES-23	STD. METAL END SECTION-ARCH PIPE	3.94	STD. DETAIL NO. MD-371.01
ES-24	STD. METAL END SECTION-ARCH PIPE	4.35	STD. DETAIL NO. MD-371.01
ES-27	STD. METAL END SECTION-ARCH PIPE	12.85	STD. DETAIL NO. MD-371.01
ES-28	STD. METAL END SECTION-ARCH PIPE	13.15	STD. DETAIL NO. MD-371.01
ES-29	STD. METAL END SECTION-ARCH PIPE	14.05	STD. DETAIL NO. MD-371.01
ES-30	STD. METAL END SECTION-ARCH PIPE	13.78	STD. DETAIL NO. MD-371.01

OWNER DEVELOPER

MARK VOGEL COMPANIES  
600 NEW HAMPSHIRE AVENUE, N.W.  
SUITE 460  
WASHINGTON, D.C.

## Dewberry & Davis

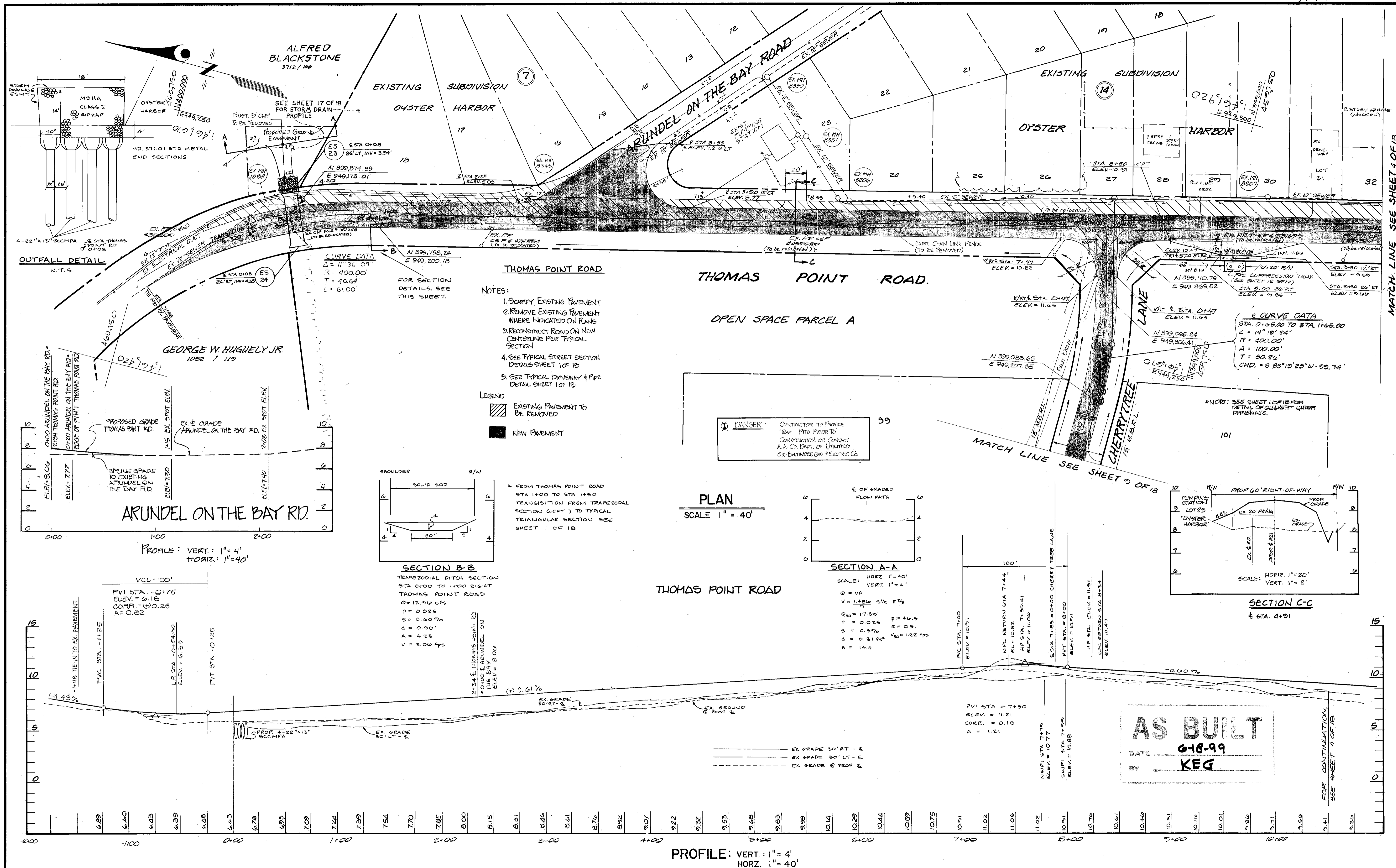
ENGINEERS - ARCHITECTS - PLANNERS - SURVEYORS  
2594 Riva Road, Annapolis, Maryland 21401 (301) 841-6811



ANNE ARUNDEL COUNTY  
DEPARTMENT OF PUBLIC WORKS

REVISED DATE BY	APPROVED [Signature]	DRAWN BY D & D	SCALE: AS SHOWN	ROAD & STORM DRAIN PLANS
1-28-87 MJP	CHIEF BUREAU OF WATERSHED PROGRAMS	CHECKED BY JWB	SHEET NO. 2 OF 18	FISHING CREEK FARM
4-27-87 MJP	DATE	DATE: SEPT. 1987	PROJECT NO.	A R-1/R-2 RESIDENTIAL CLUSTER SUBDIVISION
8-11-87 MMD	CHIEF OF DEVELOPMENT SERVICES	APPROVED [Signature]	ACCT. NO.	2ND TAX DISTRICT TAX MAP 61 & 57
12-20-88 MLH		REVIEW ENGINEER	PROPOSAL NO.	BLOCKS 2,13,14,19 & 20 BLOCKS 117,121 & 132

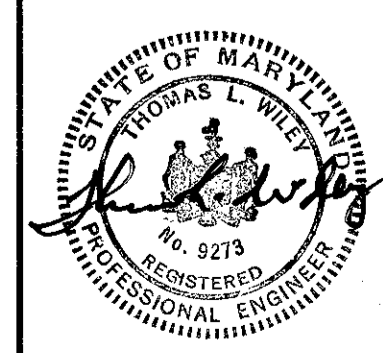
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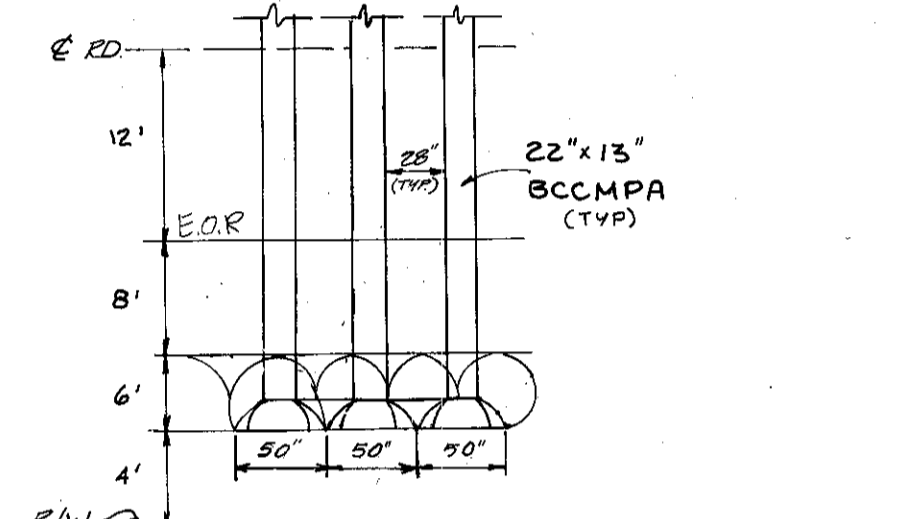
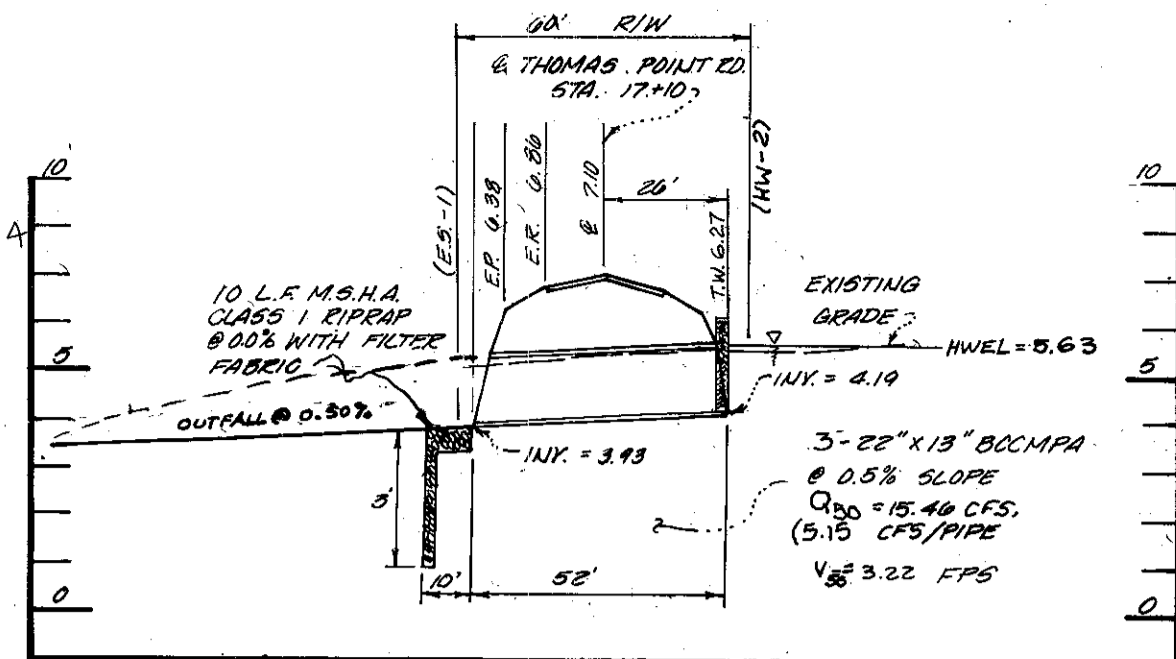
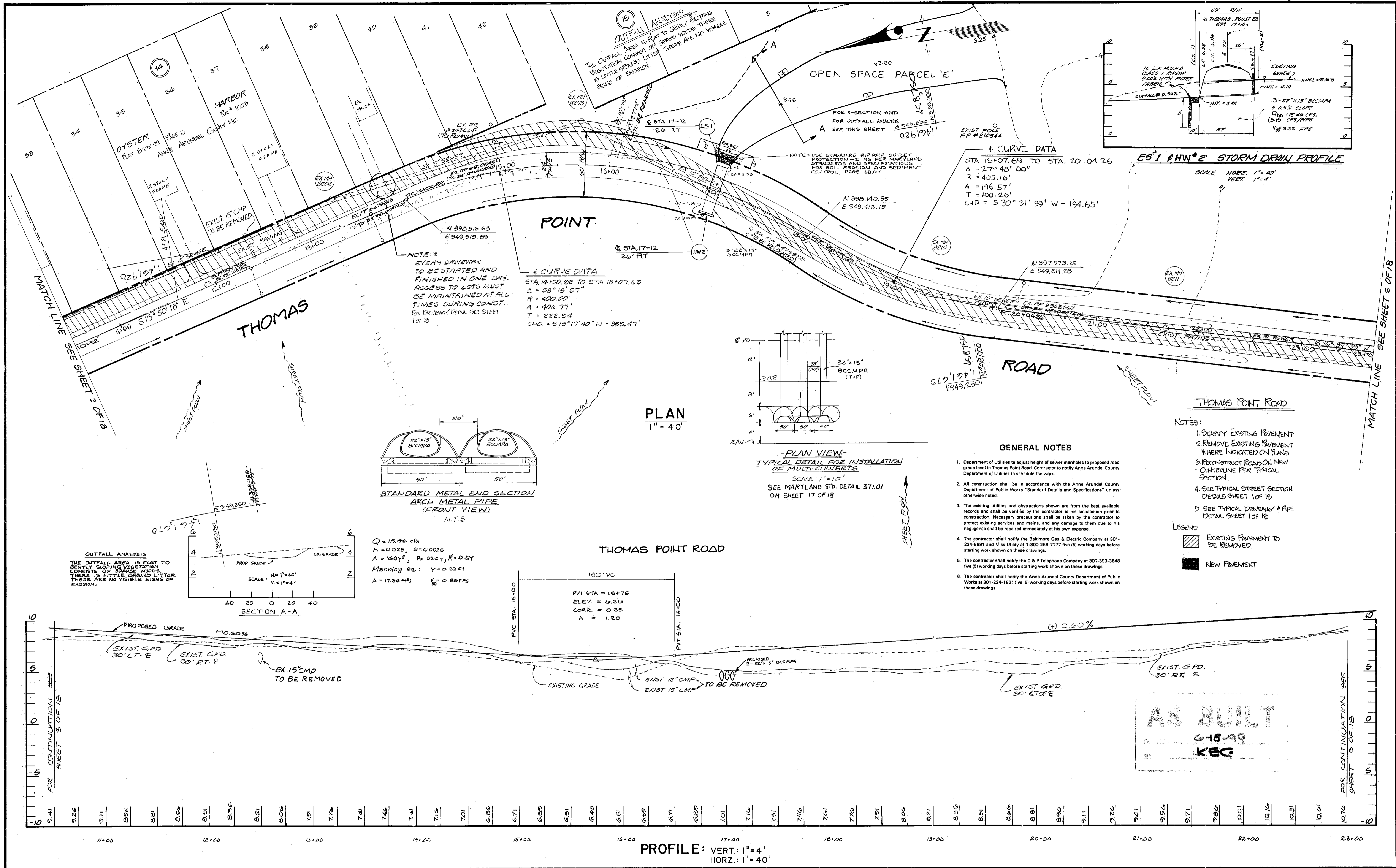
OWNER DEVELOPER

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600 NEW HAMPSHIRE AVENUE, N.W.  
SUITE 460  
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**Dewberry & Davis**  
ENGINEERS - ARCHITECTS - PLANNERS - SURVEYORS  
2594 Riva Road, Annapolis, Maryland 21401 (301) 841-6811



ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS			
REVISED	DATE	BY	APPROVED
1-28-87	1-28-87	MJP	THOMAS L. WILEY
4-27-87	4-27-87	MJP	THOMAS L. WILEY
8-11-87	8-11-87	MMD	THOMAS L. WILEY
DATE	DATE	DATE	DATE
10/27/99	11/11/99	11/11/99	11/11/99
CHIEF OF WATERSHED PROGRAMS	CHIEF OF DEVELOPMENT SERVICES	REVIEW ENGINEER	REVIEW ENGINEER
DRAWN BY D & D	CHECKED BY JBK	SCALE: AS SHOWN	ROAD & STORM DRAIN PLANS
DATE: SEPT. 1998	PROJECT NO.	SHEET NO. 3 OF 18	FISHING CREEK FARM
ACCT. NO.	PROPOSAL NO.	A R-1/R-2 RESIDENTIAL CLUSTER SUBDIVISION	
		2ND TAX DISTRICT TAX MAP 61 & 57	
		BLOCKS 2,3,13,14,19 & 20 BLOCKS 117,121 & 132	



**CURVE DATA**  
 STA 16+07.69 TO STA. 20+04.26  
 $\Delta = 27^\circ 48' 00''$   
 $R = 405.16'$   
 $A = 196.57'$   
 $T = 100.26'$   
 $CHD = S 30^\circ 31' 39'' W - 194.65'$

**CURVE DATA**  
 STA. 14+00.00 TO STA. 18+07.69  
 $\Delta = 58^\circ 15' 57''$   
 $R = 400.00'$   
 $A = 406.77'$   
 $T = 222.94'$   
 $CHD = S 15^\circ 17' 40'' W - 380.47'$

- GENERAL NOTES**
- Department of Utilities to adjust height of sewer manholes to proposed road grade level in Thomas Point Road. Contractor to notify Anne Arundel County Department of Utilities to schedule the work.
  - All construction shall be in accordance with the Anne Arundel County Department of Public Works "Standard Details and Specifications" unless otherwise noted.
  - The existing utilities and obstructions shown are from the best available records and shall be verified by the contractor to his satisfaction prior to construction. Necessary precautions shall be taken by the contractor to protect existing services and mains, and any damage to them due to his negligence shall be repaired immediately at his own expense.
  - The contractor shall notify the Baltimore Gas & Electric Company at 301-234-6891 and Miss Utility at 1-800-258-7177 five (5) working days before starting work shown on these drawings.
  - The contractor shall notify the C & P Telephone Company at 301-393-3648 five (5) working days before starting work shown on these drawings.
  - The contractor shall notify the Anne Arundel County Department of Public Works at 301-224-1821 five (5) working days before starting work shown on these drawings.

- NOTES:**
- CLARIFY EXISTING PAVEMENT
  - REMOVE EXISTING PAVEMENT WHERE INDICATED ON PLANS
  - RECONSTRUCT ROAD ON NEW CENTERLINE PER TYPICAL SECTION
  - SEE TYPICAL STREET SECTION DETAILS SHEET 1 OF 18
  - SEE TYPICAL DRIVEWAY & PIPE DETAIL SHEET 1 OF 18

**LEGEND**

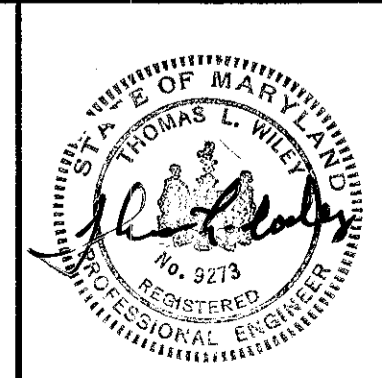
EXISTING PAVEMENT TO BE REMOVED

NEW PAVEMENT

**OWNER DEVELOPER**

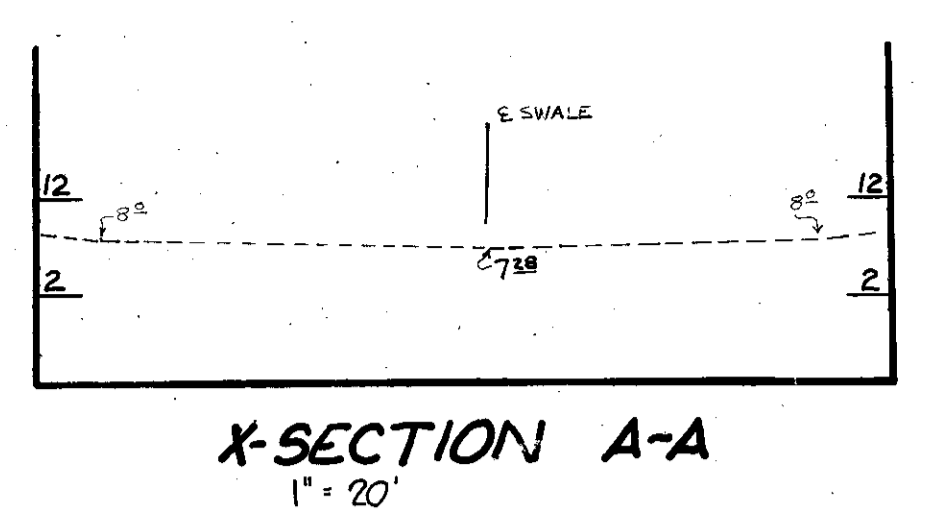
MARK VOGEL COMPANIES  
 600 NEW HAMPSHIRE AVENUE, N.W.  
 SUITE 400  
 WASHINGTON, D.C.

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 ENGINEERS - ARCHITECTS - PLANNERS - SURVEYORS  
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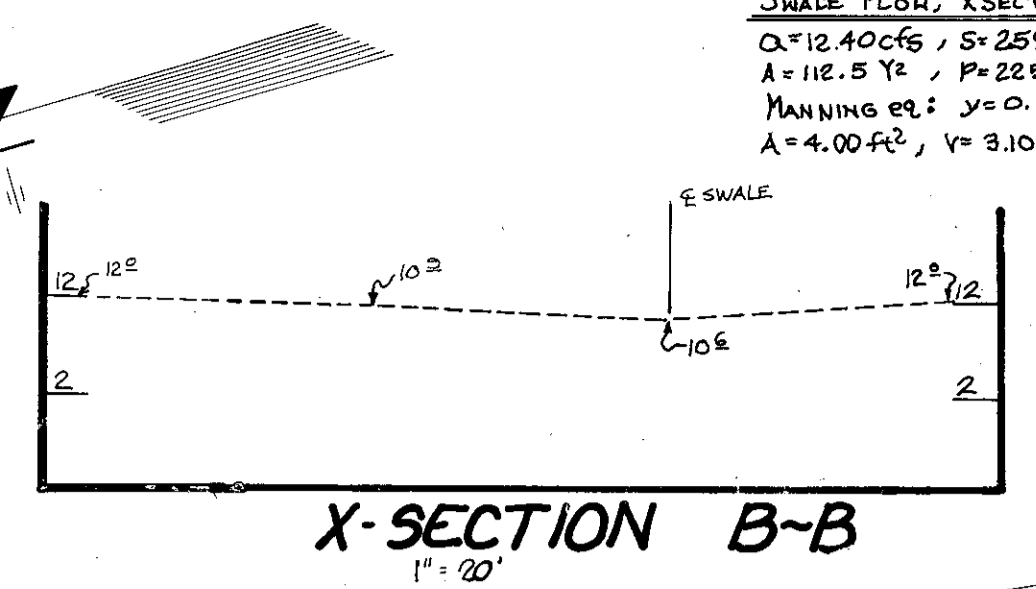
ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS			
REVISED DATE BY	APPROVED	DRAWN BY	SCALE: AS SHOWN
1-28-87 MJP	CHIEF BUREAU OF WATERSHED PROGRAMS	D & D	SHEET NO. 4 OF 18
4-27-87 MJP	DATE	CHECKED BY	JBK
8-11-87 HMD	1/14/88	DATE: SEPT. 1987	PROJECT NO.
	CHIEF OF DEVELOPMENT SERVICES	APPROVED: 1/14/88	ACCT. NO.
		REVIEW ENGINEER	PROPOSAL NO.

**ROAD & STORM DRAIN PLANS**  
**FISHING CREEK FARM**  
 A R-1/R-2 RESIDENTIAL CLUSTER SUBDIVISION  
 2ND TAX DISTRICT TAX MAP 61 & 57  
 BLOCKS 2, 13, 14, 19 & 20 LOTS 117, 121 & 132



**SWALE FLOW, X-SECTION A-A**  
 $Q = 10.80 \text{ cfs}$ ,  $S = 1.3\%$ ,  $n = 0.025$   
 $A = 05.56 \text{ ft}^2$ ,  $P = 111.13 \text{ ft}$ ,  $R = 0.87$   
 MANNING  $C_F = 1.49$   
 $A = 3.8 \text{ ft}^2$ ,  $V = 2.79 \text{ fps}$

**OUTFALL ANALYSIS**  
 THE AREA IS FLAT TO GENTLY SLOPING AND IS VEGETATED WITH SPARSE WOODS AND BRUSH WITH A MODERATE COVER OF GROUND LITTER. THE EXISTING DRAINAGE SWALE SHOWS NO VISIBLE SIGNS OF EROSION. PROPOSED FLOW VELOCITIES ARE NON-EROSIVE. (LESS THAN 4.0 FPS.)

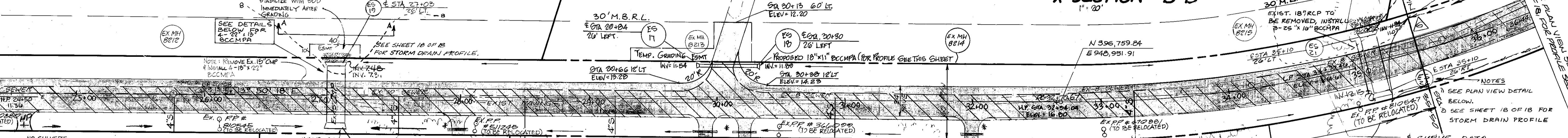


**SWALE FLOW, X-SECTION B-B**  
 $Q = 12.40 \text{ cfs}$ ,  $S = 25\% \text{ } n = 0.025$   
 $A = 112.5 \text{ ft}^2$ ,  $P = 225.0 \text{ ft}$ ,  $R = 0.57$   
 MANNING  $C_F = 1.49$   
 $A = 4.00 \text{ ft}^2$ ,  $V = 3.10 \text{ fps}$

SEE SHEET 4 OF 8

MATCH LINE

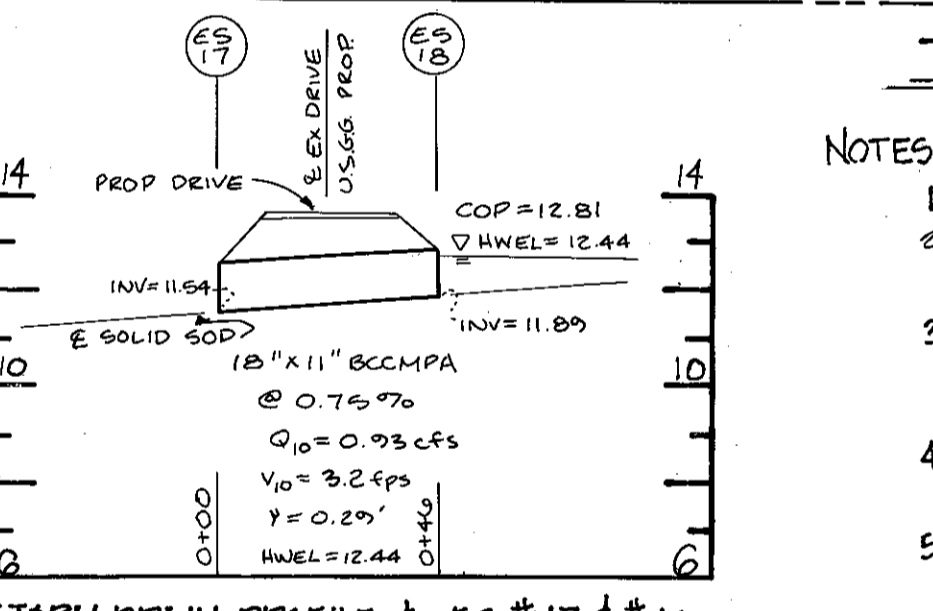
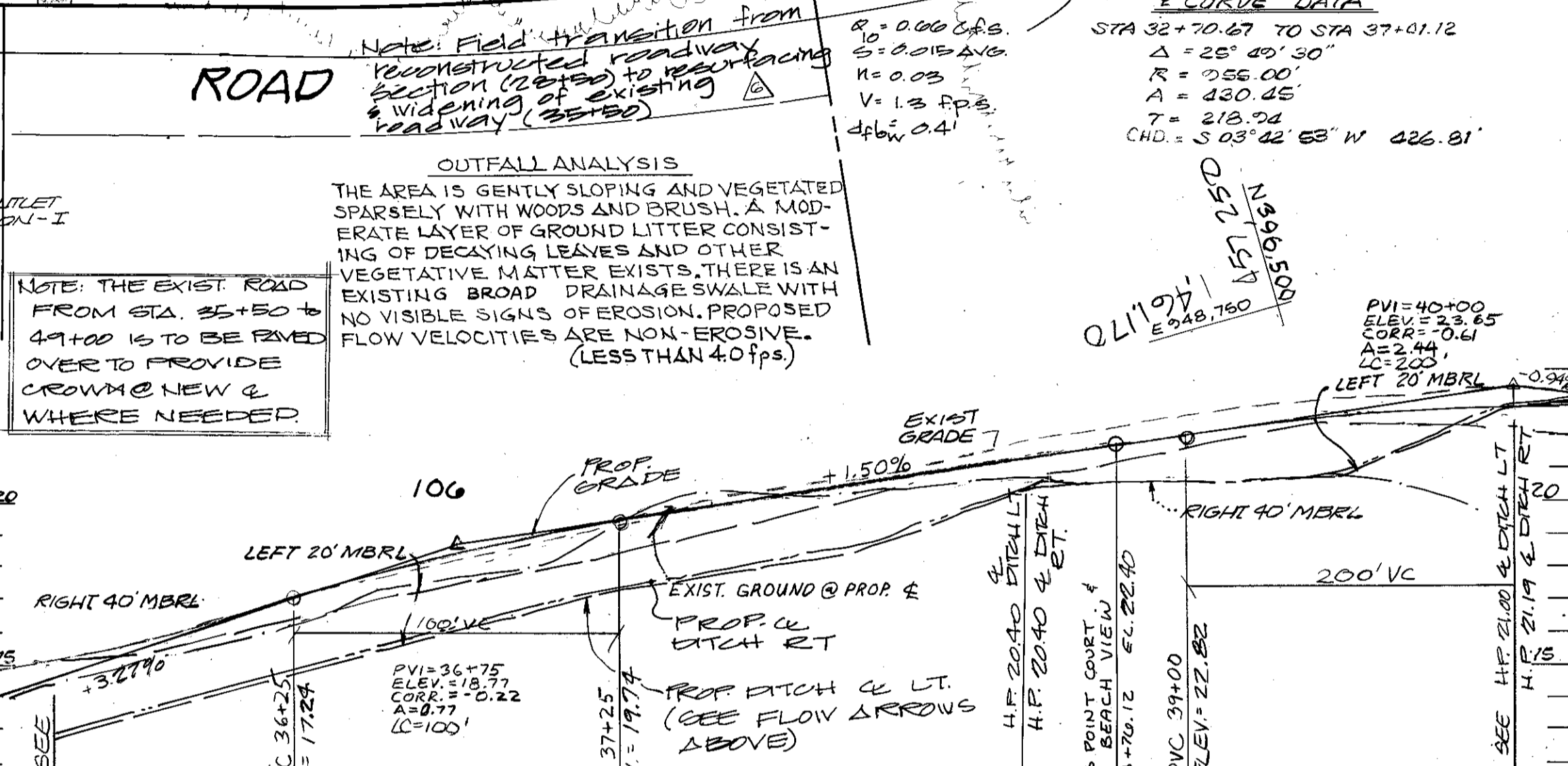
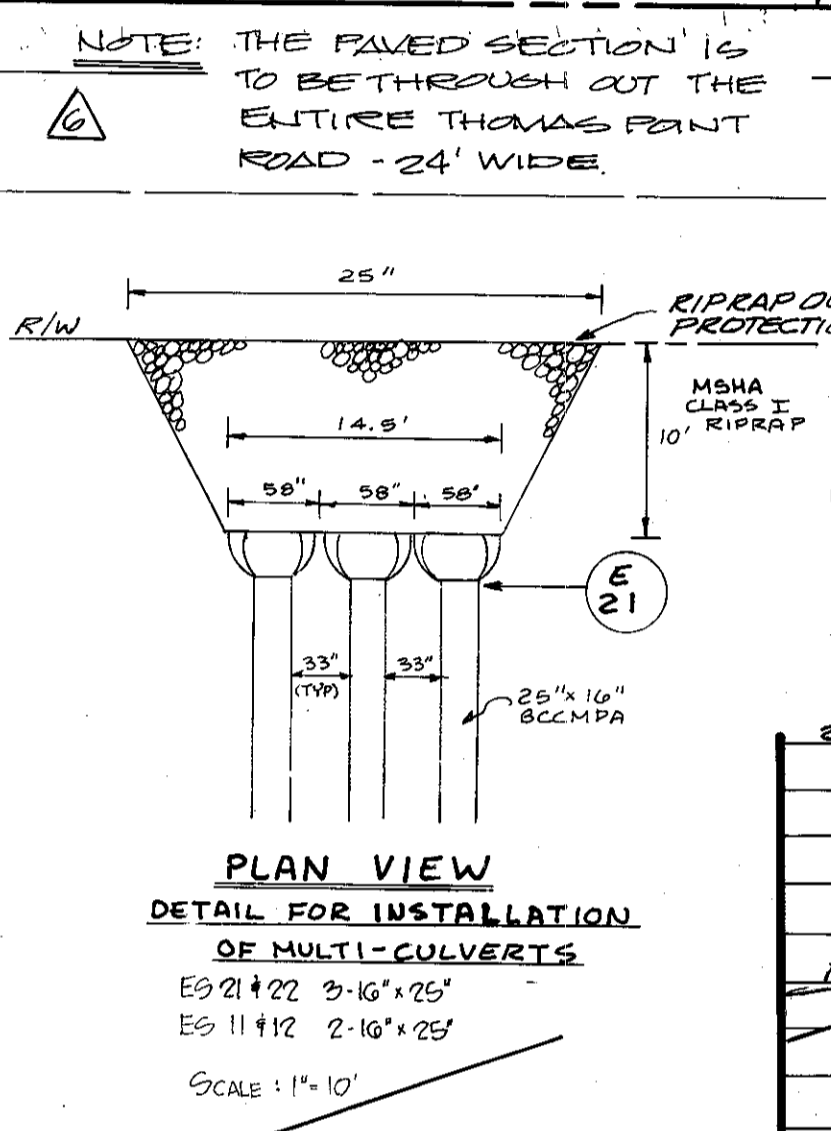
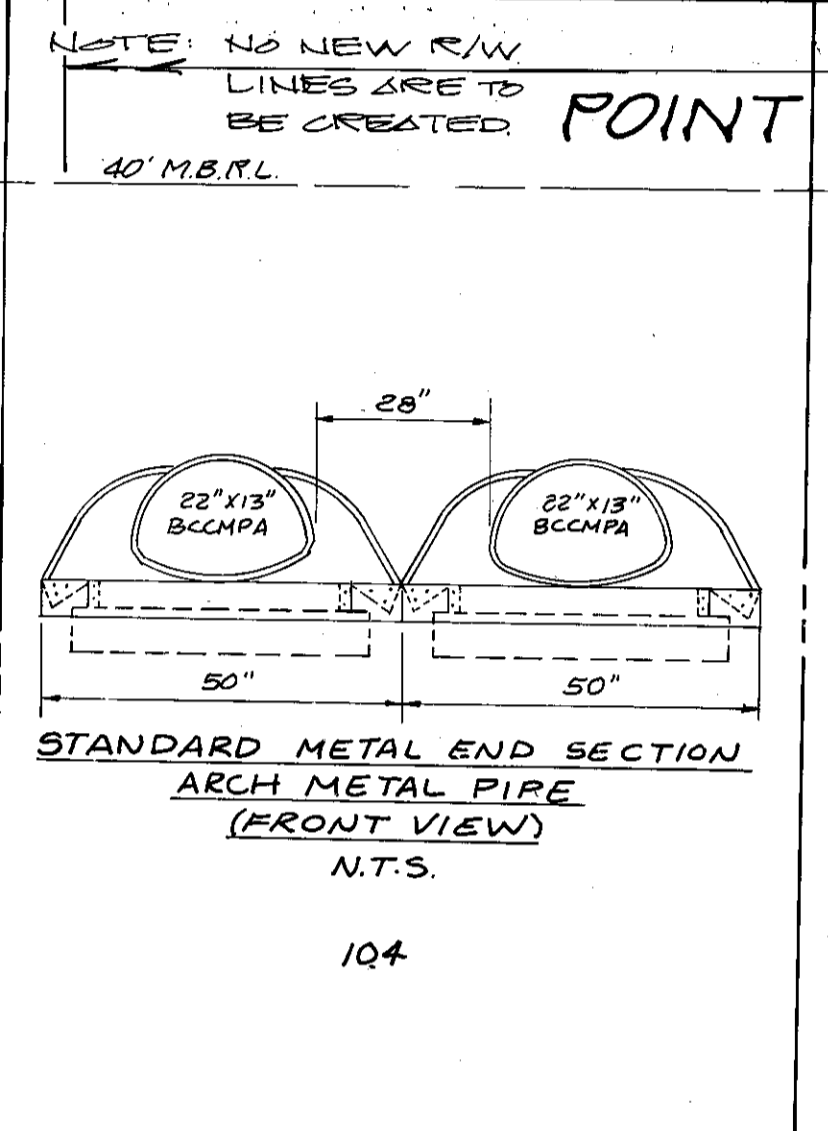
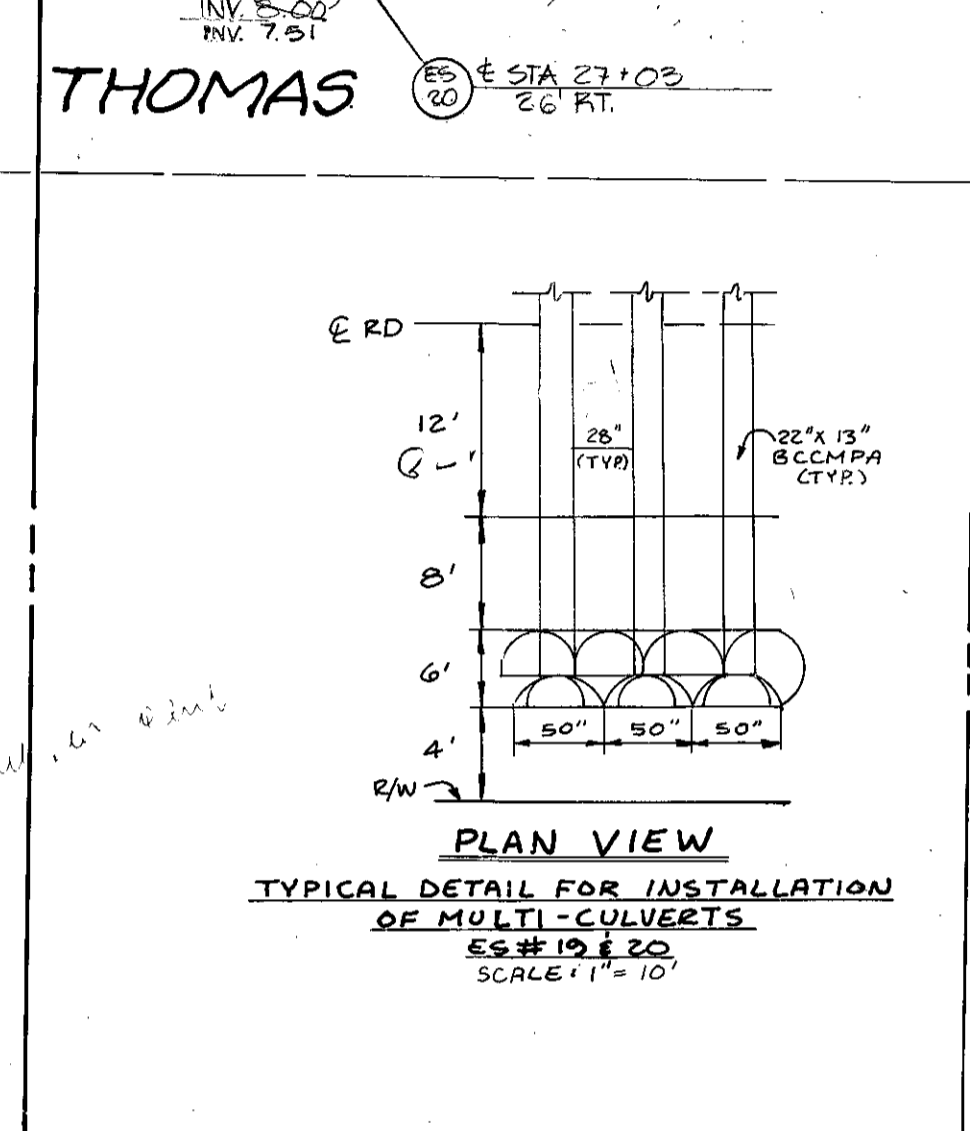
MATCH LINE



**GENERAL NOTES**

- Department of Utilities to adjust height of sewer manholes to proposed road grade level in Thomas Point Road. Contractor to notify Anne Arundel County Department of Utilities to schedule the work.
- All construction shall be in accordance with the Anne Arundel County Department of Public Works "Standard Details and Specifications" unless otherwise noted.
- The existing utilities and obstructions shown are from the best available records and shall be verified by the contractor to his satisfaction prior to construction. Necessary precautions shall be taken by the contractor to protect existing services and mains, and any damage to them due to his negligence shall be repaired immediately at his own expense.
- The contractor shall notify the Baltimore Gas & Electric Company at 301-234-5691 and Miss Utility at 1-800-258-7177 five (5) working days before starting work shown on these drawings.
- The contractor shall notify the C & P Telephone Company at 301-393-3648 five (5) working days before starting work shown on these drawings.
- The contractor shall notify the Anne Arundel County Department of Public Works at 301-224-1821 five (5) working days before starting work shown on these drawings.

SEE SHEET 1 OF 8 FOR DETAIL OF CULVERT UNDER DRIVEWAYS



**THOMAS POINT ROAD**

NOTES:

- SCAFFOLD EXISTING PAVEMENT
- OVERLAYMENT WILL BE PROVIDED IN AREAS WHERE EX. PAVING WILL BE UTILIZED
- RECONSTRUCT ROAD ON NEW CENTERLINE PER TYPICAL SECTION
- SEE TYPICAL STREET SECTION DETAILS SHEET 1 OF 18
- SEE TYPICAL DRAINWAY & PIPE DETAIL SHEET 1 OF 18

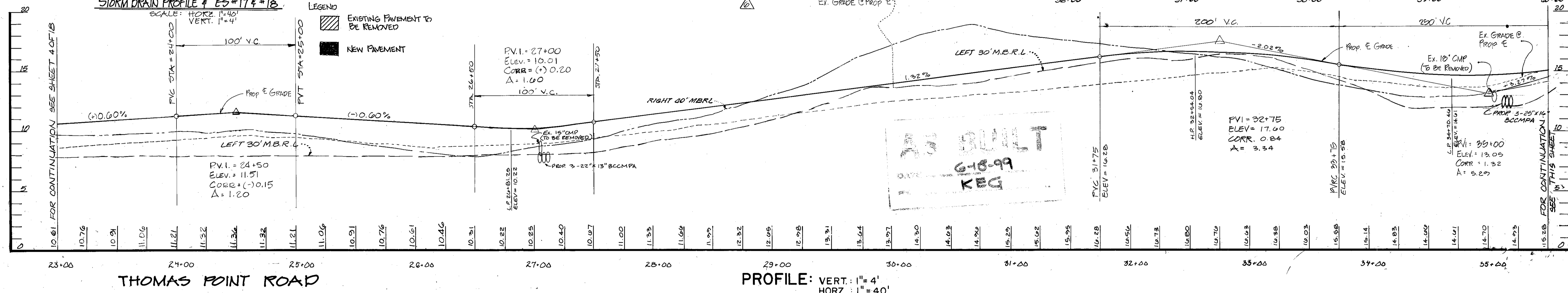
NOTE: ALL SIDE DITCHES ARE CONSTRUCTED TO DRAIN TO PROPOSED OUTFALLS

**PLAN**  
1" = 40'

NOTE: THE EXIST. ROAD FROM STA. 35+50 TO 41+00 IS TO BE FIRMED OVER TO PROVIDE CROWLME NEW & WHERE NEEDED

NOTE: THE FIRMED SECTION IS TO BE THROUGHOUT THE ENTIRE THOMAS POINT ROAD - 24' WIDE

NOTE: FIELD VERIFIED BY J.A. RICE INC. ON MARCH 23, 1987.



**OWNER DEVELOPER**

MARK VOGEL COMPANIES  
 600 NEW HAMPSHIRE AVENUE, N.W.  
 SUITE 460  
 WASHINGTON, D.C.

**Dewberry & Davis**  
 ENGINEERS - ARCHITECTS - PLANNERS - SURVEYORS  
 2594 Riva Road, Annapolis, Maryland 21401 (301) 841-6811

**ANNE ARUNDEL COUNTY**  
 DEPARTMENT OF PUBLIC WORKS

FOR REVISION ONLY

REVISED	DATE	BY	APPROVED
1-28-87		MJP	CHIEF BUREAU OF WATERSHED PROGRAMS
4-27-87		MJP	DATE
8-11-87		MMD	CHIEF OF DEVELOPMENT SERVICES

DATE: 1/14/88  
 DRAWN BY: D & D  
 CHECKED BY: JJBK  
 DATE: SEPT. 1987  
 APPROVED: 1/14/88  
 REVIEW ENGINEER: [Signature]

SCALE: AS SHOWN  
 SHEET NO. 5 OF 18  
 PROJECT NO.  
 ACCT. NO.  
 PROPOSAL NO.

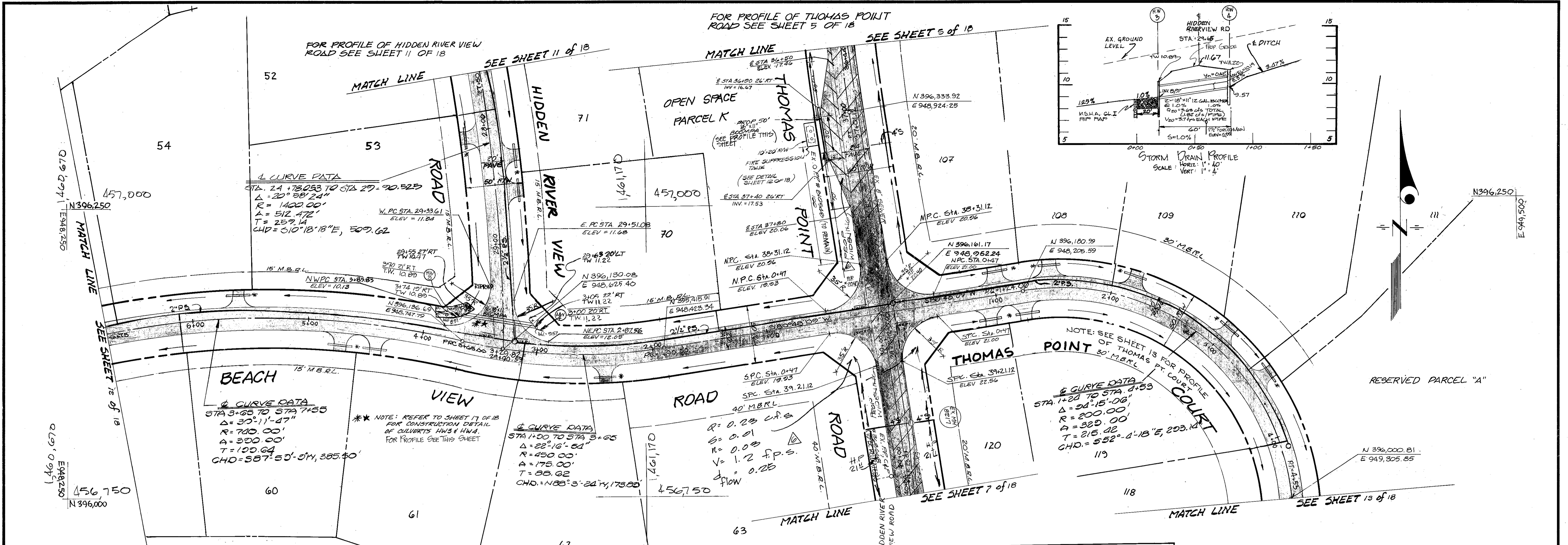
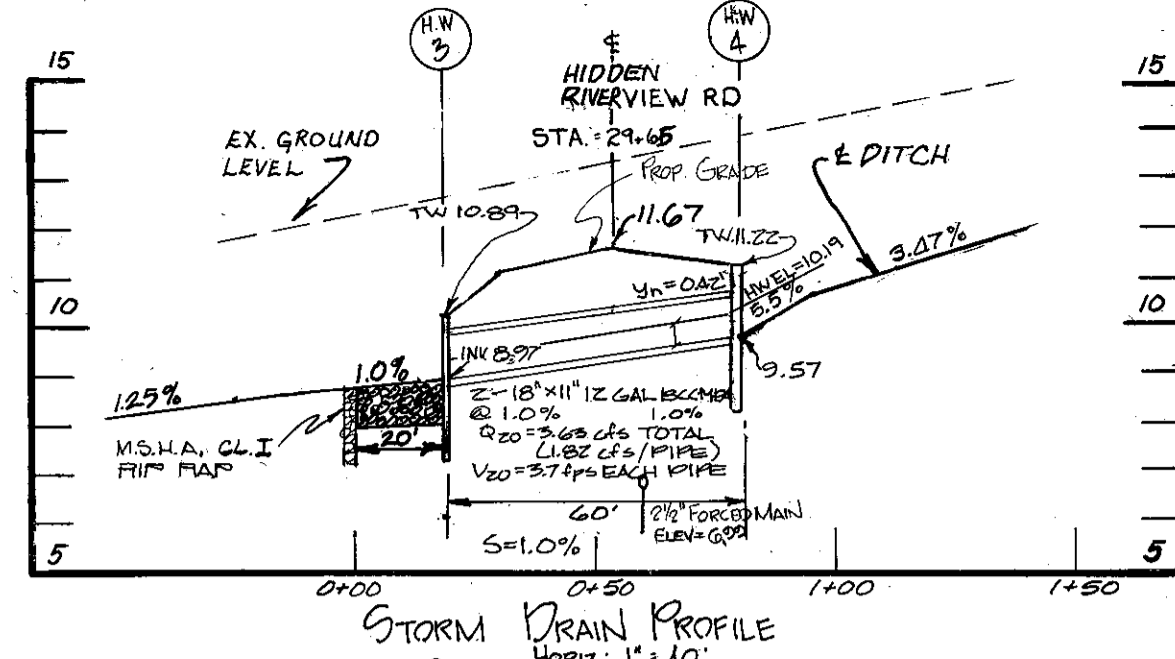
**ROAD & STORM DRAIN PLANS**

**FISHING CREEK FARM**  
 A R-1/R-2 RESIDENTIAL CLUSTER SUBDIVISION

2ND TAX DISTRICT TAX MAP 61 & 57  
 BLOCKS 2,13,14,19 & 20 BLOCKS 117,121 & 132

FOR PROFILE OF THOMAS POINT ROAD SEE SHEET 5 OF 18

FOR PROFILE OF HIDDEN RIVER VIEW ROAD SEE SHEET 11 OF 18



**CURVE DATA**  
 STA. 24+78.033 TO STA 29+70.525  
 $\Delta = 20^{\circ} 58' 24''$   
 $R = 1400.00'$   
 $A = 512.472'$   
 $T = 259.14'$   
 $CHD = S10^{\circ} 18' 18'' E, 509.62'$

**CURVE DATA**  
 STA 3+65 TO STA 7+55  
 $\Delta = 37^{\circ} 11' 47''$   
 $R = 700.00'$   
 $A = 300.00'$   
 $T = 100.64'$   
 $CHD = S57^{\circ} 53' 54'' W, 385.40'$

**CURVE DATA**  
 STA 1+00 TO STA 3+65  
 $\Delta = 22^{\circ} 16' 54''$   
 $R = 450.00'$   
 $A = 175.00'$   
 $T = 88.62'$   
 $CHD = N88^{\circ} 3' 24'' W, 178.00'$

**CURVE DATA**  
 STA 1+24 TO STA 4+53  
 $\Delta = 24^{\circ} 15' 08''$   
 $R = 200.00'$   
 $A = 329.02'$   
 $T = 215.02'$   
 $CHD = S52^{\circ} 4' 18'' E, 293.14'$

**PLAN**  
 1" = 40'

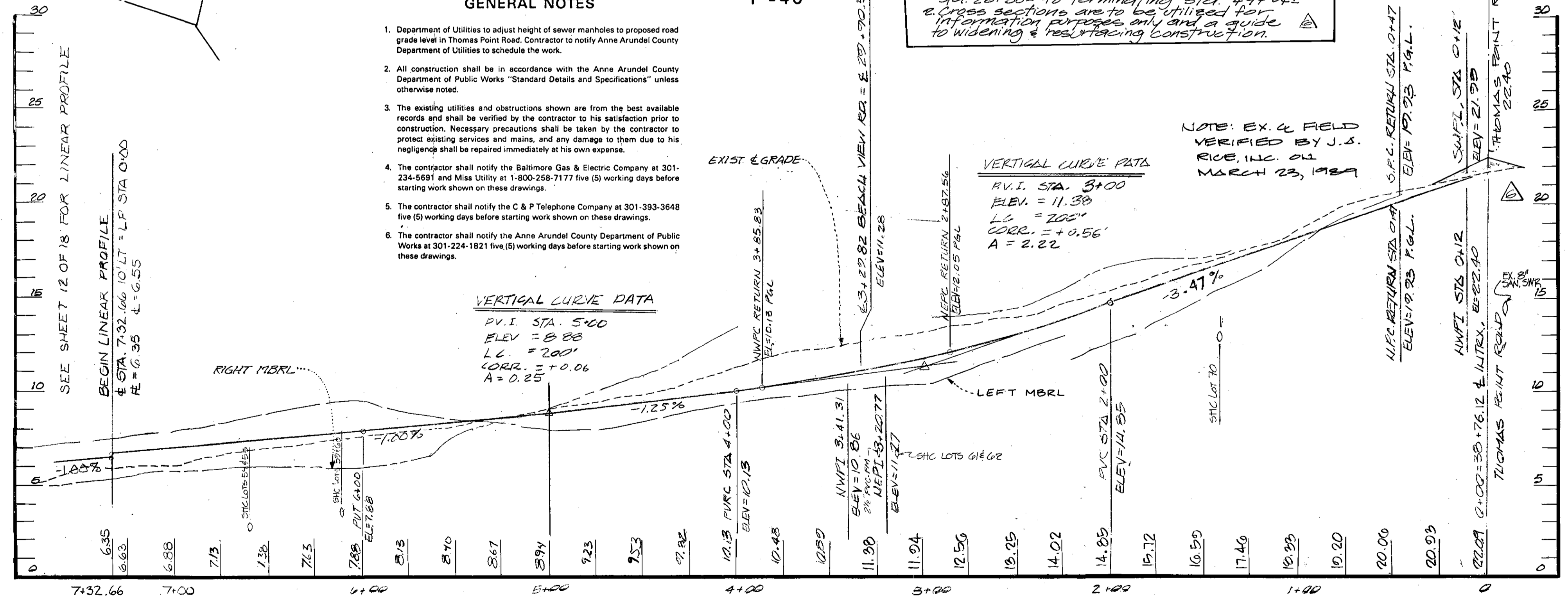
**GENERAL NOTES**

- Department of Utilities to adjust height of sewer manholes to proposed road grade level in Thomas Point Road. Contractor to notify Anne Arundel County Department of Utilities to schedule the work.
- All construction shall be in accordance with the Anne Arundel County Department of Public Works "Standard Details and Specifications" unless otherwise noted.
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- The contractor shall notify the Anne Arundel County Department of Public Works at 301-224-1821 five (5) working days before starting work shown on these drawings.

**VERTICAL CURVE DATA**  
 P.V.I. STA. 5+00  
 ELEV. = 8.88  
 $LC = 200'$   
 $CORR. = +0.06'$   
 $A = 0.25$

**Construction Sequence**  
 1. Widening & resurfacing existing Thomas Pt. Rd. STA 28+50 to terminating STA. 49+00  
 2. Cross sections are to be utilized for information purposes only and a guide to widening & resurfacing construction.

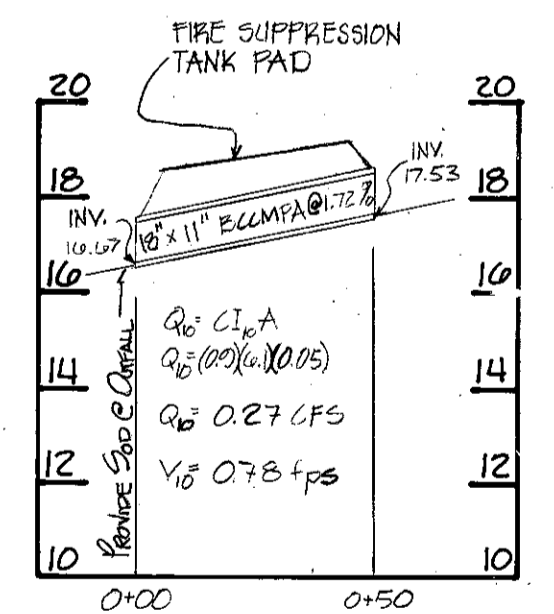
NOTE: EX. & FIELD VERIFIED BY J.S. RICE, ILL. OIL MARCH 23, 1989



**PROFILE: VERT. 1" = 4'**  
**HORIZ. 1" = 40'**

**BEACH VIEW ROAD**

- NOTES:**
- NO NEW R/W LINES ARE TO BE CREATED.
  - THE PAVED SECTION IS TO BE THROUGHOUT THE ENTIRE THOMAS POINT RD. "24" WIDE.
  - THE EXISTING ROAD IS TO BE REPAVED TO PROVIDE CROWN & NEW E.
  - ALL SIDE DITCHES ARE CONSTRUCTED TO DRAIN TO PROPOSED OUTFALLS.



**STORM DRAIN PROFILE**  
 SCALE: HORIZ. 1" = 40'  
 VERT. 1" = 4'  
 E STA. 34+20 THOMAS POINT ROAD

**THOMAS POINT ROAD**

- NOTES:**
- SCAFFRY EXISTING PAVEMENT
  - OVERLAYMENT WILL BE PROVIDED IN AREA WHERE EX. PAVING WILL BE UTILIZED
  - RECONSTRUCT ROAD ON NEW CENTERLINE PER TYPICAL SECTION
  - SEE TYPICAL STREET SECTION DETAILS SHEET 10F 18
  - SEE TYPICAL DRAINWAY & PIPE DETAIL SHEET 10F 18

**LEGEND**  

 EXISTING PAVEMENT TO BE REMOVED  
 NEW PAVEMENT

**AS BUILT**  
 DATE 6-18-99  
 BY KEG

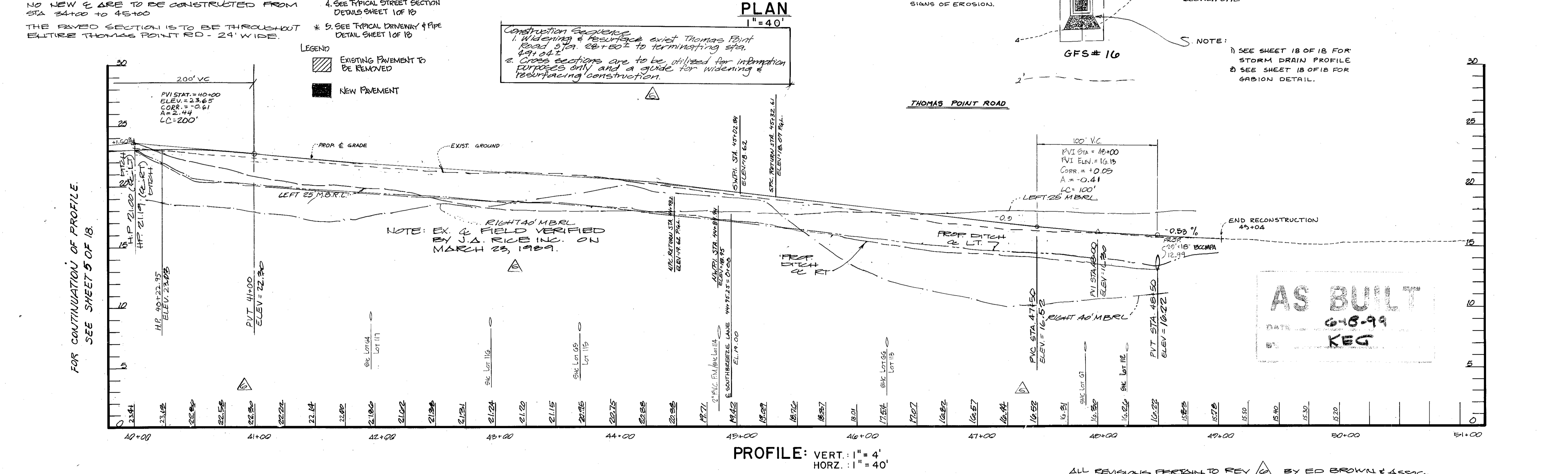
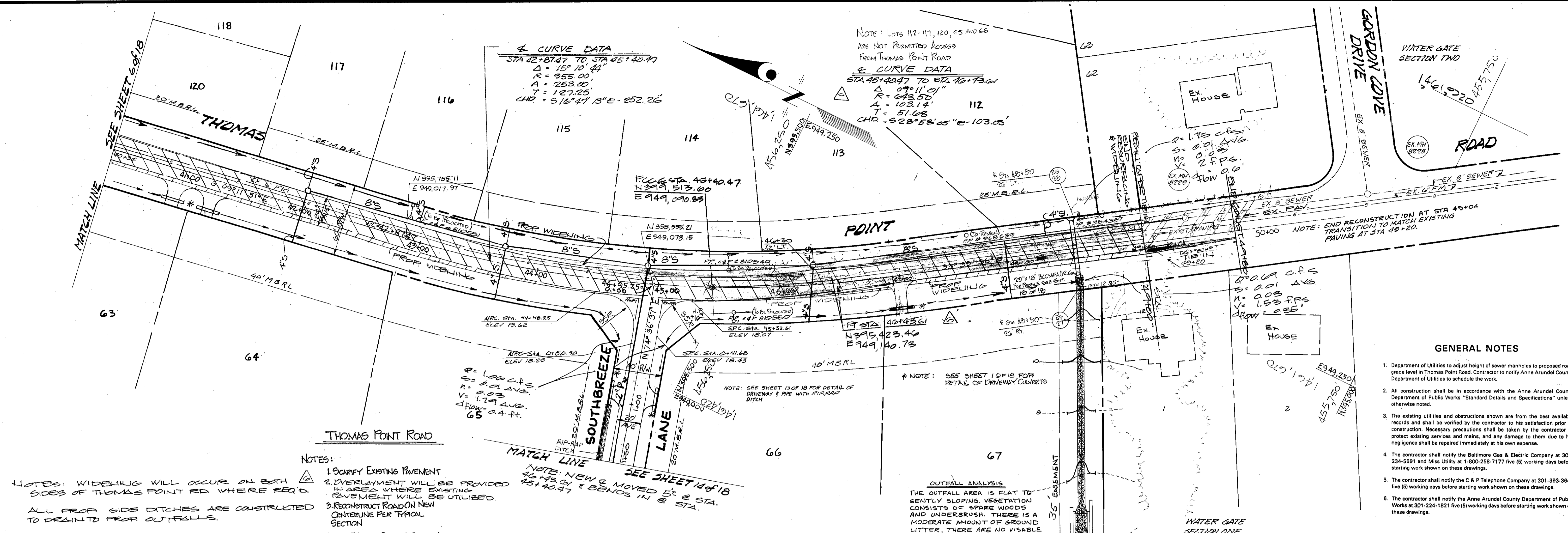
**OWNER DEVELOPER**  
 MARK VOGEL COMPANIES  
 600 NEW HAMPSHIRE AVENUE, N.W.  
 SUITE 460  
 WASHINGTON, D.C.

**Dewberry & Davis**  
 ENGINEERS - ARCHITECTS - PLANNERS - SURVEYORS  
 2594 Riva Road, Annapolis, Maryland 21401 (301) 841-6811

**ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS**

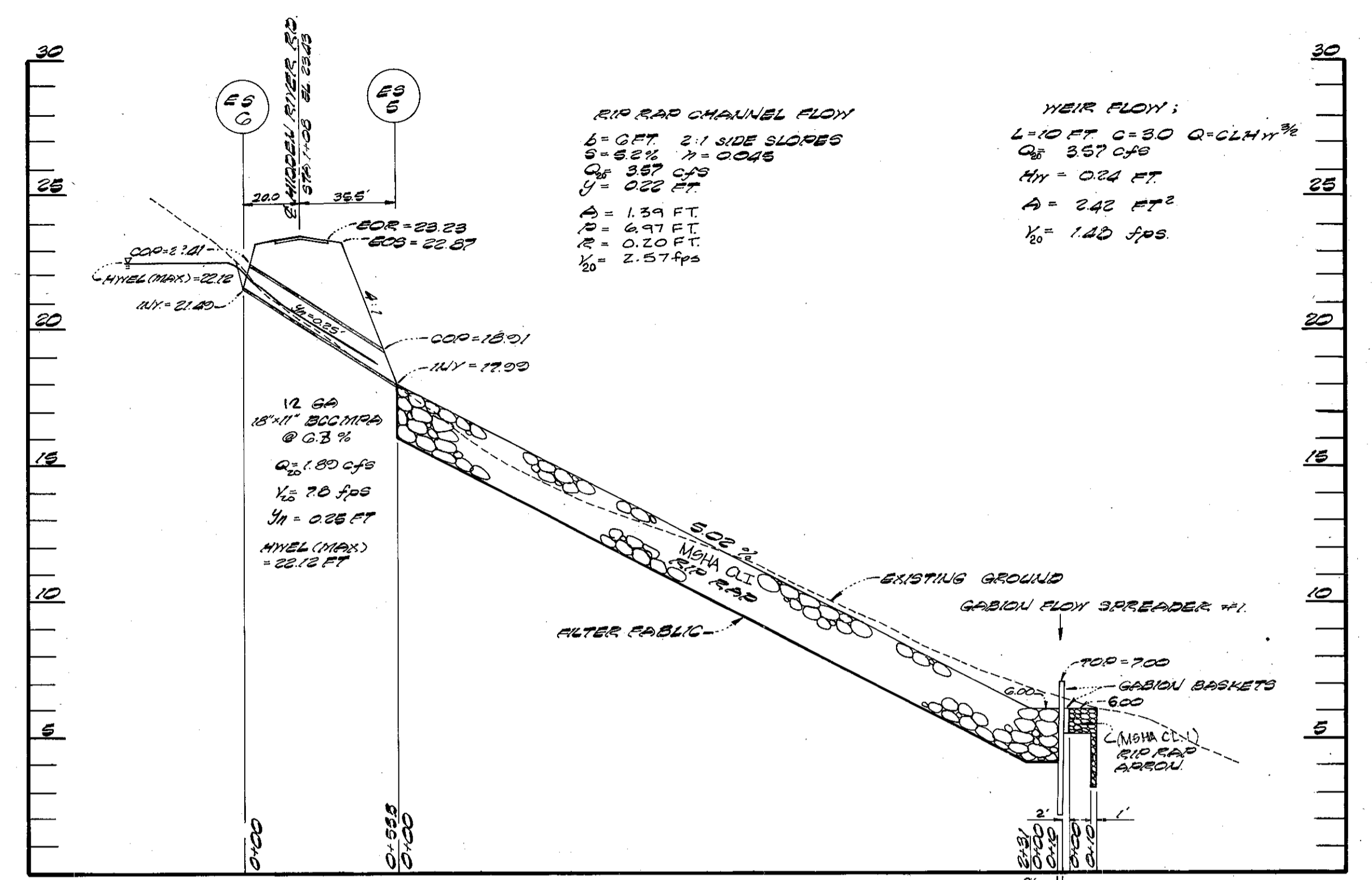
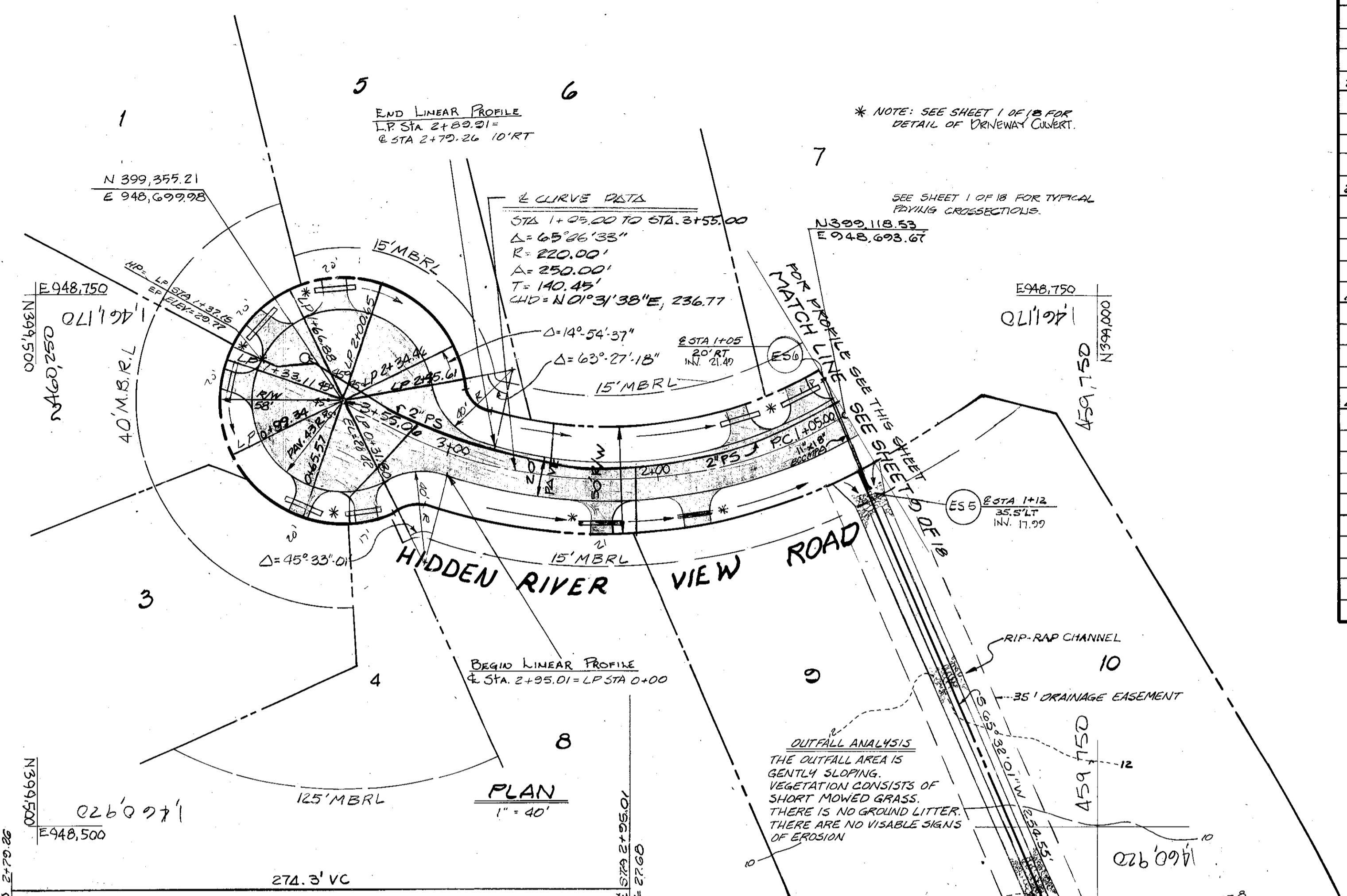
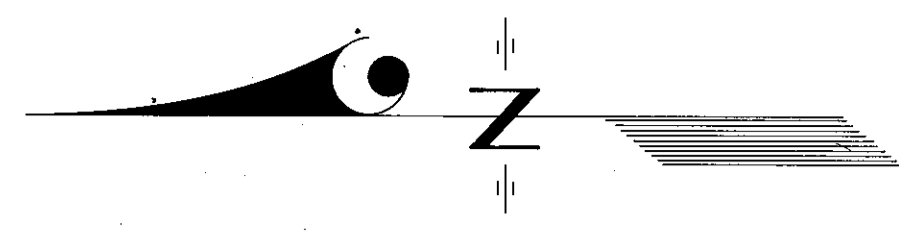
REVISED DATE	BY	APPROVED	DRAWN BY	SCALE	ROAD & STORM DRAIN PLANS
1-28-87	MJP	CHEF	D&D	AS SHOWN	FISHING CREEK FARM
4-27-87	MJP	DATE	CHECKED BY	SHEET NO.	A R-1/R-2 RESIDENTIAL CLUSTER SUBDIVISION
8-11-87	MMD	DATE	J&K	6 OF 18	
		CHIEF OF DEVELOPMENT SERVICES	DATE: SEPT. 1987	PROJECT NO.	
			APPROVED	ACCT. NO.	
			REVIEW ENGINEER	PROPOSAL NO.	

2ND TAX DISTRICT TAX MAP 61 & 57  
 BLOCKS 2,13,14,19 & 20 BLOCKS 117,121 & 132



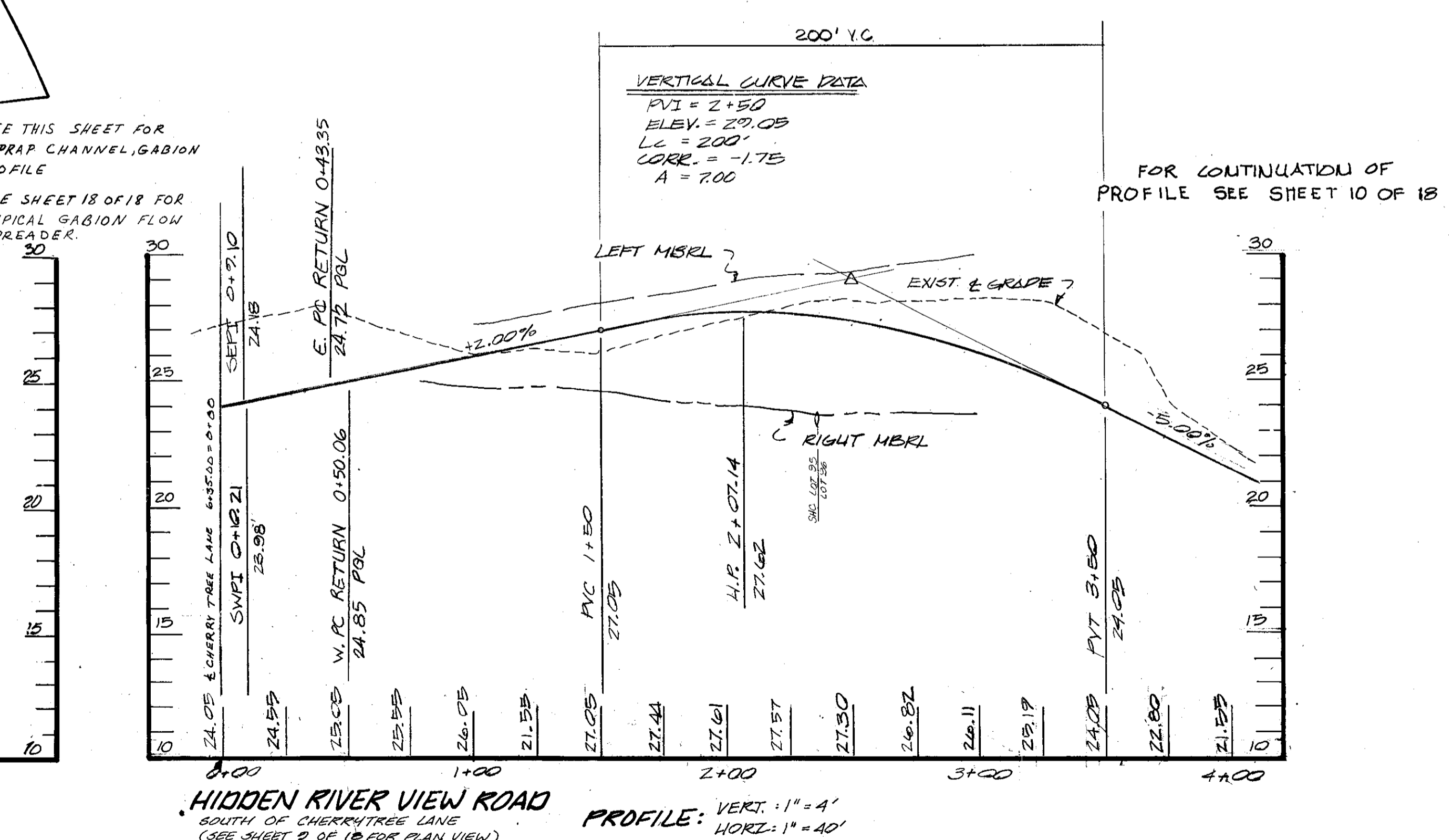
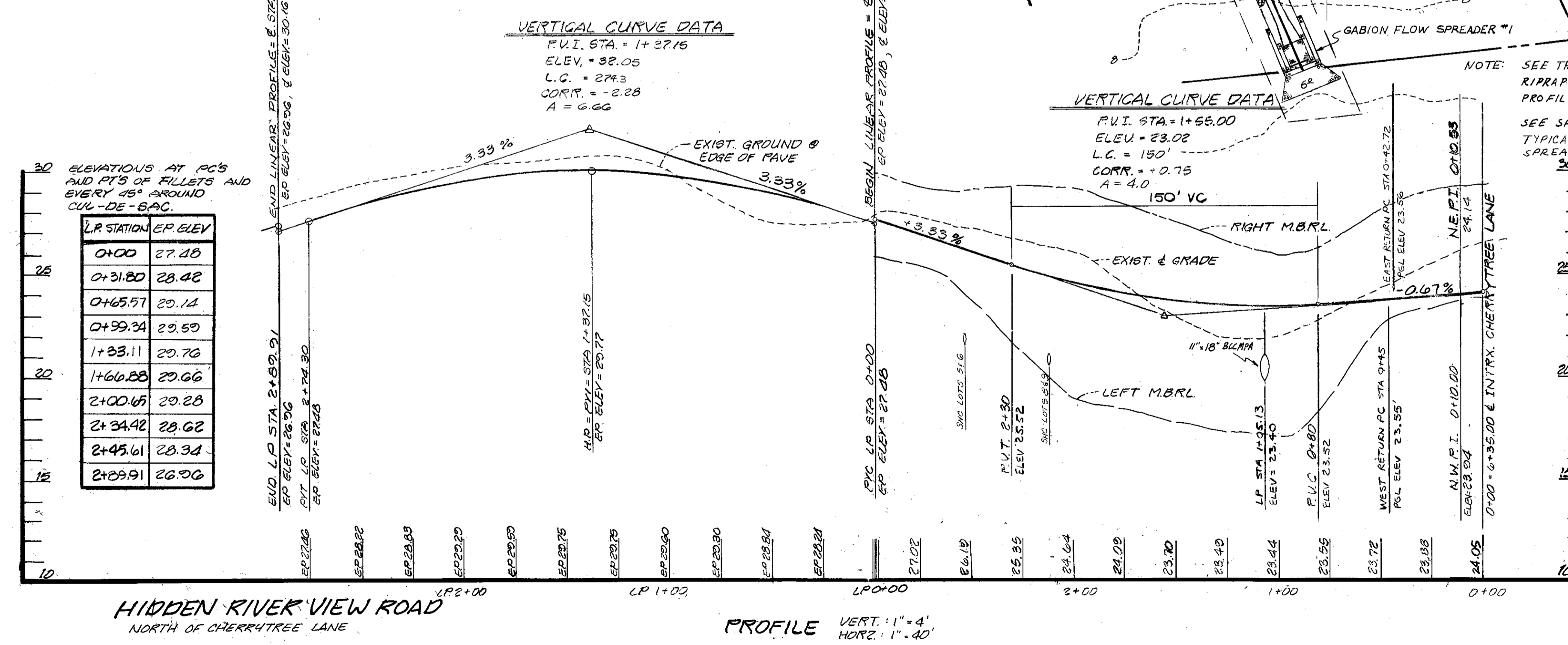
- GENERAL NOTES**
- Department of Utilities to adjust height of sewer manholes to proposed road grade level in Thomas Point Road. Contractor to notify Anne Arundel County Department of Utilities to schedule the work.
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  - The contractor shall notify the Anne Arundel County Department of Public Works at 301-224-1821 five (5) working days before starting work shown on these drawings.

<b>OWNER DEVELOPER</b> MARK VOGEL COMPANIES 600 NEW HAMPSHIRE AVENUE, N.W. SUITE 460 WASHINGTON, D.C.		<b>Dewberry &amp; Davis</b> ENGINEERS - ARCHITECTS - PLANNERS - SURVEYORS 2594 Riva Road, Annapolis, Maryland 21401 (301) 841-6811		ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS ROAD & STORM DRAIN PLANS FISHING CREEK FARM A R-1/R-2 RESIDENTIAL CLUSTER SUBDIVISION 2ND TAX DISTRICT TAX MAP 61 & 57 BLOCKS 2, 3, 13, 14, 19 & 20 BLOCKS 117, 121 & 132	
REVISIONS: 1-28-87 MJP 4-27-87 MJP 8-11-87 MMD		APPROVED: [Signature] DATE: SEPT. 1987 REVIEW ENGINEER: [Signature]		DRAWN BY: D & D CHECKED BY: JBK DATE: SEPT. 1987 ACCT. NO. PROPOSAL NO.	



ES 5,6 STORM DRAIN PROFILE & GFS #1  
 VERTICAL: 1" = 4'  
 HORIZONTAL: 1" = 40'

**AS BUILT**  
 DATE: 6-13-99  
 BY: KEG

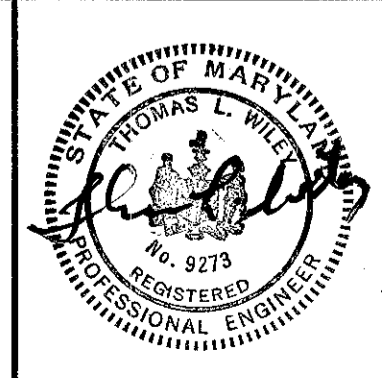


HIDDEN RIVER VIEW ROAD  
 NORTH OF CHERRYTREE LANE  
 PROFILE VERT.: 1" = 4'  
 HORIZ.: 1" = 40'

HIDDEN RIVER VIEW ROAD  
 SOUTH OF CHERRYTREE LANE  
 (SEE SHEET 9 OF 18 FOR PLAN VIEW)  
 PROFILE: VERT.: 1" = 4'  
 HORIZ.: 1" = 40'

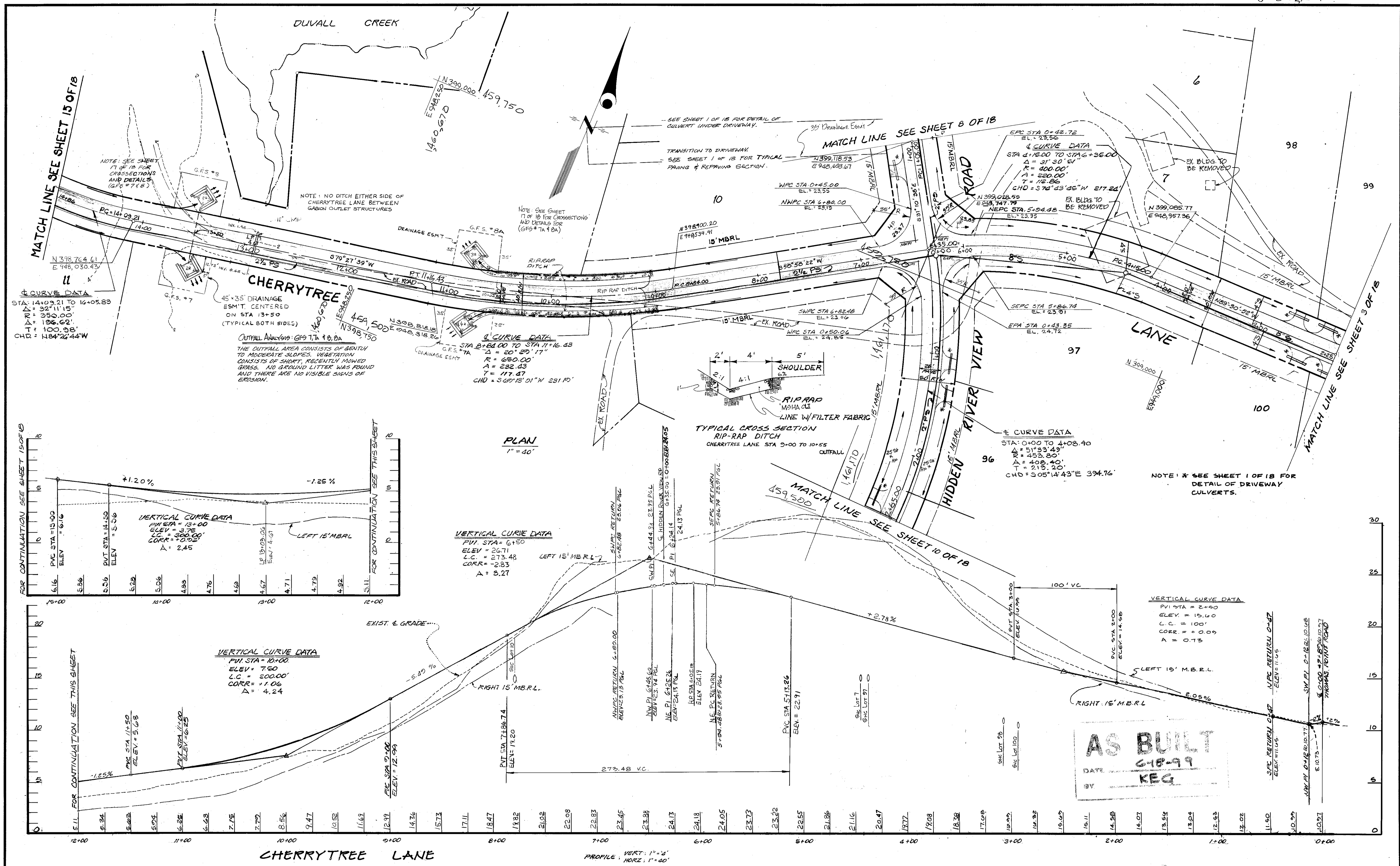
**OWNER** MARK VOGEL COMPANIES  
 600 NEW HAMPSHIRE AVENUE, N.W.  
 SUITE 460  
 WASHINGTON, D.C.

**Dewberry & Davis**  
 ENGINEERS - ARCHITECTS - PLANNERS - SURVEYORS  
 2594 Riva Road, Annapolis, Maryland 21401 (301) 841-6811



ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS			
REVISED DATE	BY	APPROVED	DRAWN BY
1-28-87	MJP	Chief of Watershed Programs	D & D
4-27-87	MJP	Chief of Development Services	JBK
8-11-87	MMD	Chief of Development Services	D & D
DATE: SEPT. 1987		DATE: 11/17/88	SCALE: AS SHOWN
PROJECT NO.		REVIEW ENGINEER	ROAD & STORM DRAIN PLANS
ACCT. NO.			FISHING CREEK FARM
PROPOSAL NO.			A R-1/R-2 RESIDENTIAL CLUSTER SUBDIVISION
			2ND TAX DISTRICT TAX MAP 61 & 57
			BLOCKS 2,3,13,14,19 & 20 BLOCKS 117,121 & 132





**OWNER** MARK VOGEL COMPANIES  
600 NEW HAMPSHIRE AVENUE, N.W.  
SUITE 460  
WASHINGTON, D.C.

**DEVELOPER**

**Dewberry & Davis**  
ENGINEERS - ARCHITECTS - PLANNERS - SURVEYORS  
2594 Riva Road, Annapolis, Maryland 21401 (301) 841-6811

**ANNE ARUNDEL COUNTY**  
**DEPARTMENT OF PUBLIC WORKS**

**ROAD & STORM DRAIN PLANS**

**FISHING CREEK FARM**  
A R-1/R-2 RESIDENTIAL CLUSTER SUBDIVISION  
2ND TAX DISTRICT TAX MAP 61 & 57  
BLOCKS 2,3,13,14,19 & 20 BLOCKS 117,121 & 132

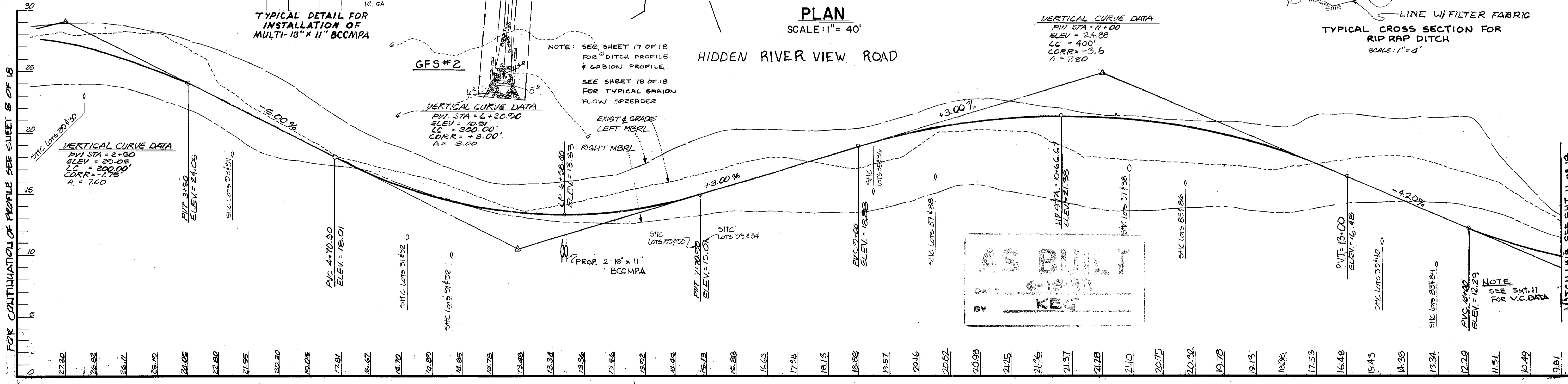
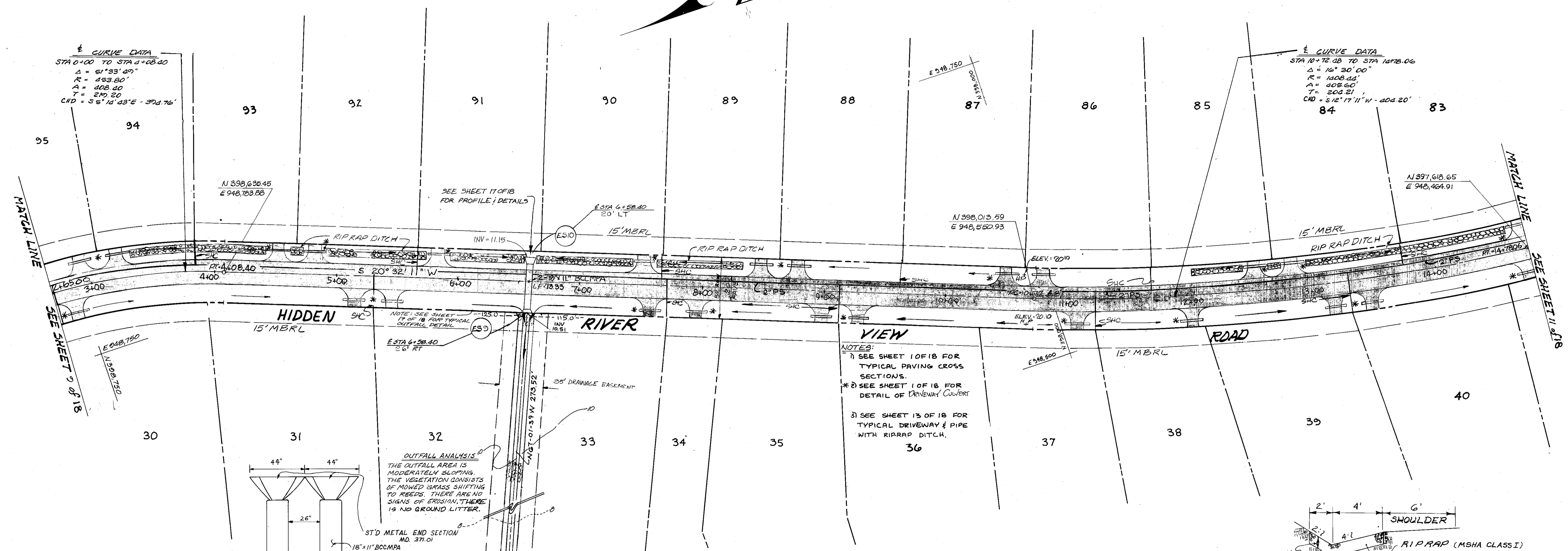
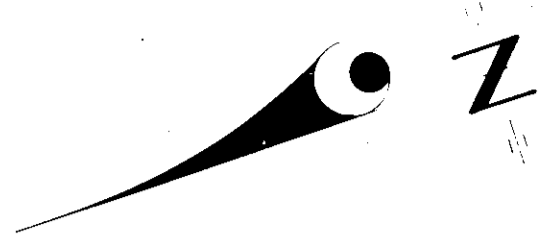
DATE: 1/14/98  
DATE: SEPT. 1987  
DATE: 1/14/98

APPROVED: [Signature]  
CHIEF OF DEVELOPMENT SERVICES

APPROVED: [Signature]  
REVIEW ENGINEER

DRAWN BY: D & D  
CHECKED BY: JBK  
DATE: SEPT. 1987

SCALE: AS SHOWN  
SHEET NO. 9 OF 18  
PROJECT NO.  
ACCT. NO.  
PROPOSAL NO.

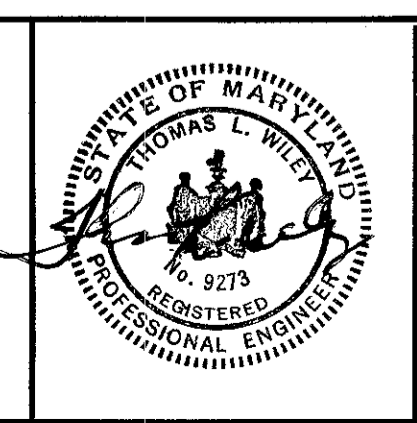


PROFILE: VERT. 1" = 4'  
HORZ. 1" = 40'

**OWNER**      **DEVELOPER**

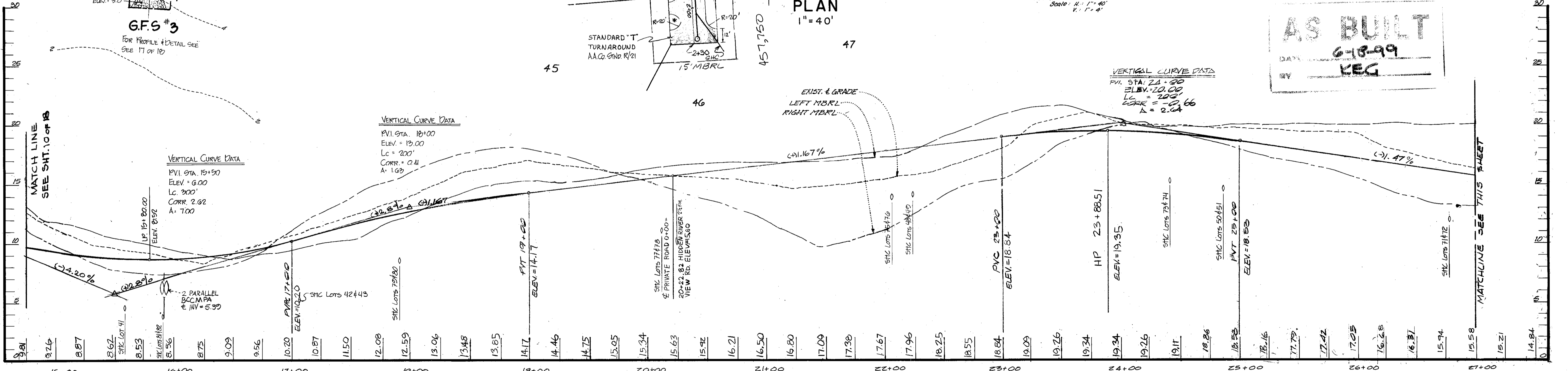
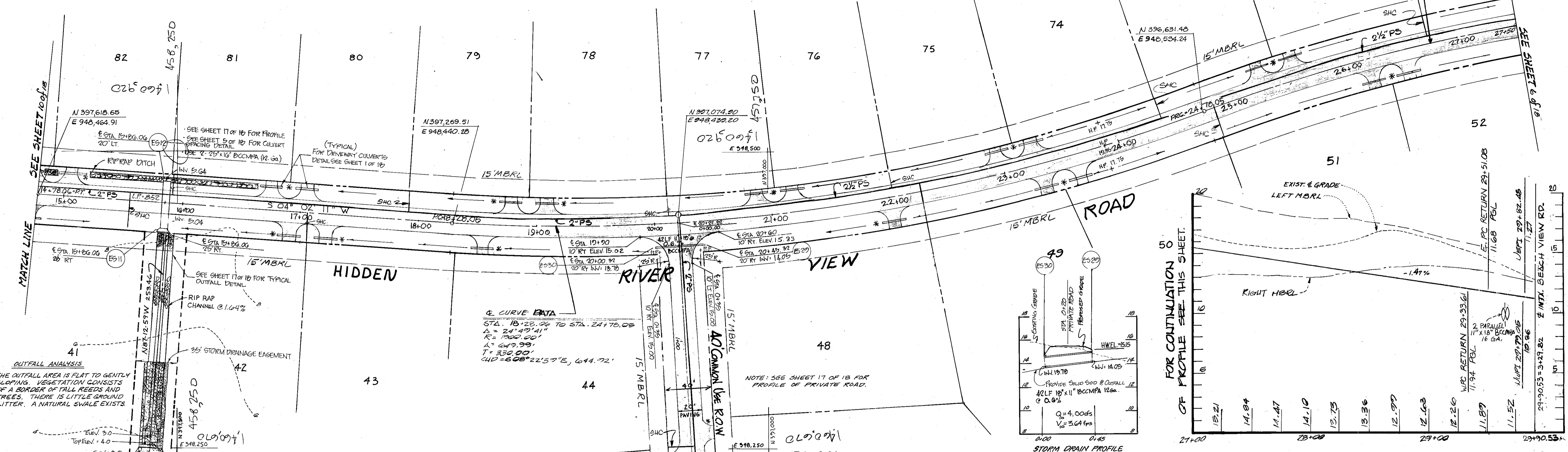
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ENGINEERS - ARCHITECTS - PLANNERS - SURVEYORS  
2594 Riva Road, Annapolis, Maryland 21401 (301) 841-6811



ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS				ROAD & STORM DRAIN PLANS	
REVISED DATE	BY	APPROVED	DRAWN BY	SCALE:	SHEET NO.
1-28-87	MJP	<i>[Signature]</i>	D & D	AS SHOWN	10 OF 18
4-27-87	MJP	CHIEF BUREAU OF WATERSHED PROGRAMS	CHECKED BY	DATE:	PROJECT NO.
8-11-87	MMD	CHIEF OF DEVELOPMENT SERVICES	JBK	SEPT. 1987	
			APPROVED	ACCT. NO.	2ND TAX DISTRICT TAX MAP 61 & 57
			REVIEW ENGINEER	PROPOSAL NO.	BLOCKS 2, 3, 13, 14, 19 & 20 BLOCKS 117, 121 & 132

- NOTE: 1. USE TYPICAL RIP RAP DITCH FROM STA. 12+00 TO STA. 16+00 ET.
- \* 2. SEE SHEET 1 OF 18 FOR DETAIL OF CULVERTS UNDER DRIVEWAYS.
3. SEE SHEET 17 OF 18 FOR CULVERT/DITCH DETAIL.
- 4) SEE SHEET 1 OF 18 FOR TYPICAL FINISH CROSSSECTIONS.
- 5) SEE SHEET 13 OF 18 FOR TYPICAL DRIVEWAY & FIFE WITH GRANULATED RIP RAP DITCH.

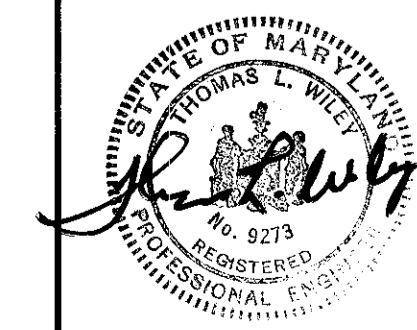


HIDDEN RIVER VIEW ROAD

**OWNER DEVELOPER**

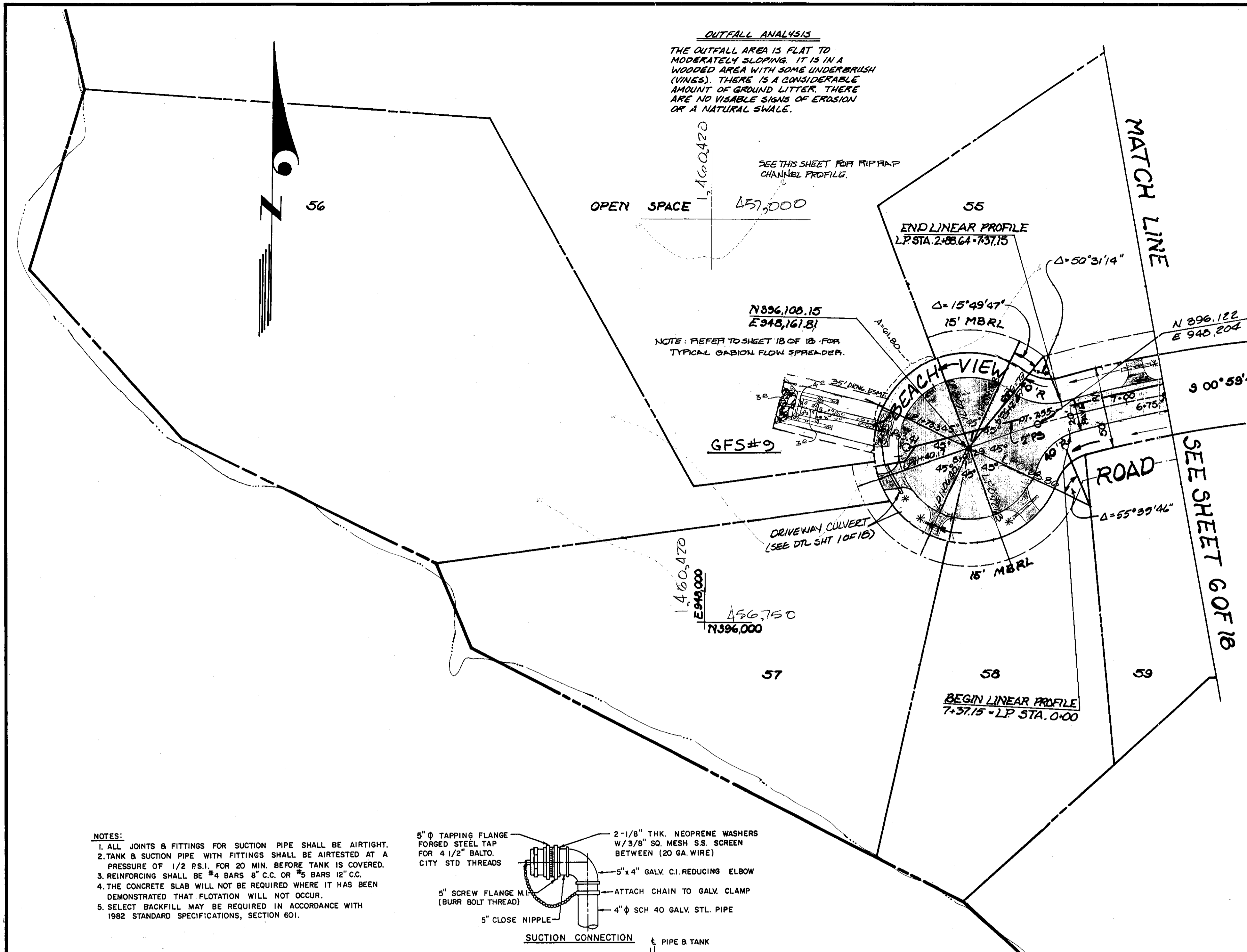
MARK VOGEL COMPANIES  
600 NEW HAMPSHIRE AVENUE, N.W.  
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ENGINEERS - ARCHITECTS - PLANNERS - SURVEYORS  
2594 Riva Road, Annapolis, Maryland 21401 (301) 841-6811



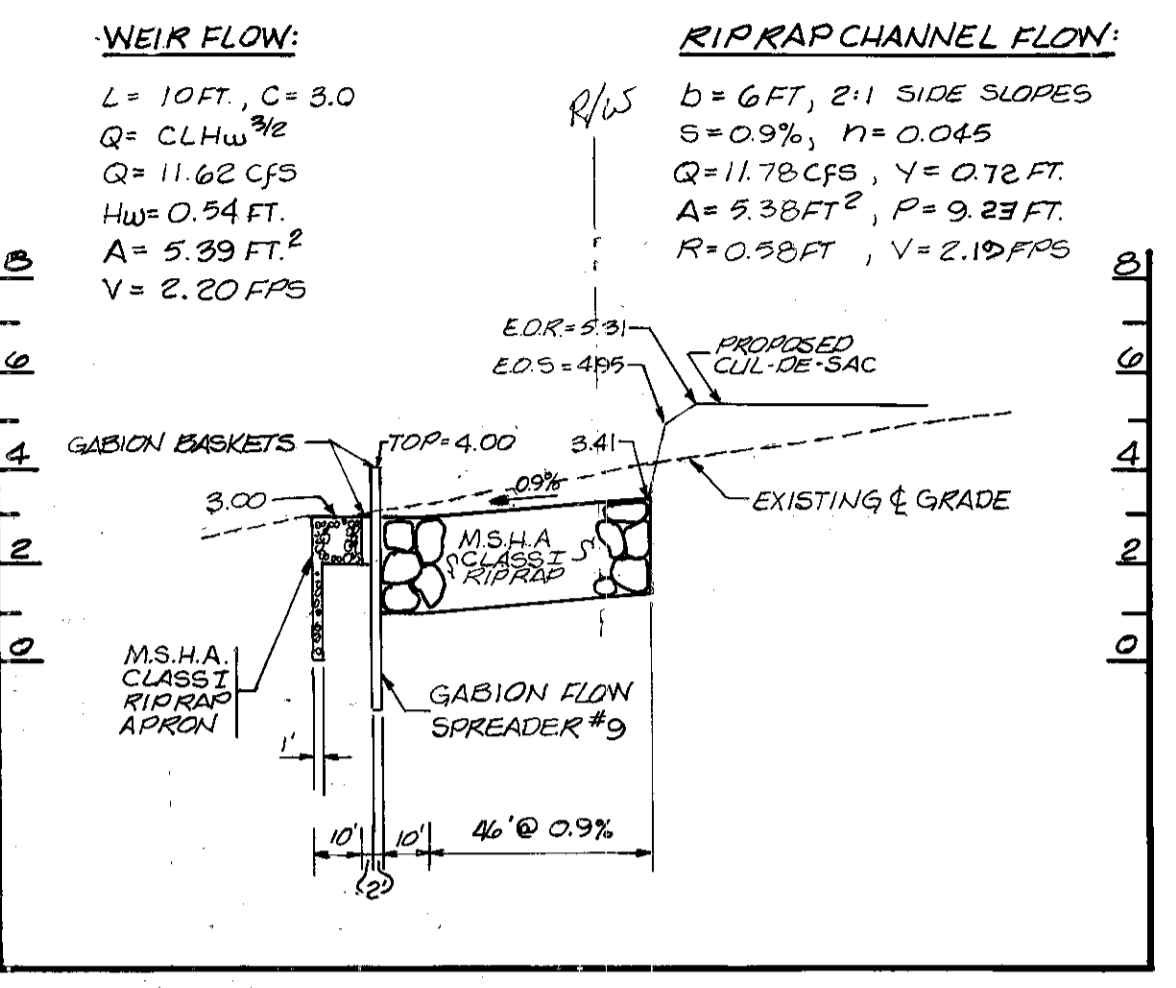
ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS			
REVISED DATE	BY	APPROVED	DRAWN BY
1-28-87	MJP	<i>William [Signature]</i>	D E D
4-27-87	MJP	CHIEF BUREAU OF WATERSHED PROGRAMS	CHECKED BY
8-11-87	MMD	DATE	J B K
		APPROVED	DATE
		<i>Richard [Signature]</i>	11/11/88
		CHIEF OF DEVELOPMENT SERVICES	REVIEW ENGINEER
			SCALE: AS SHOWN
			SHEET NO. 11 OF 18
			PROJECT NO.
			ACCT. NO.
			PROPOSAL NO.
			ROAD & STORM DRAIN PLANS
			FISHING CREEK FARM
			A R-1/R-2 RESIDENTIAL CLUSTER SUBDIVISION
			2ND TAX DISTRICT TAX MAP 61 & 57
			BLOCKS 2,3,13,14 & 20 BLOCKS 117,121 & 132

REVISIONS				
No.	DATE	BY	DESCRIPTION	APPROVED



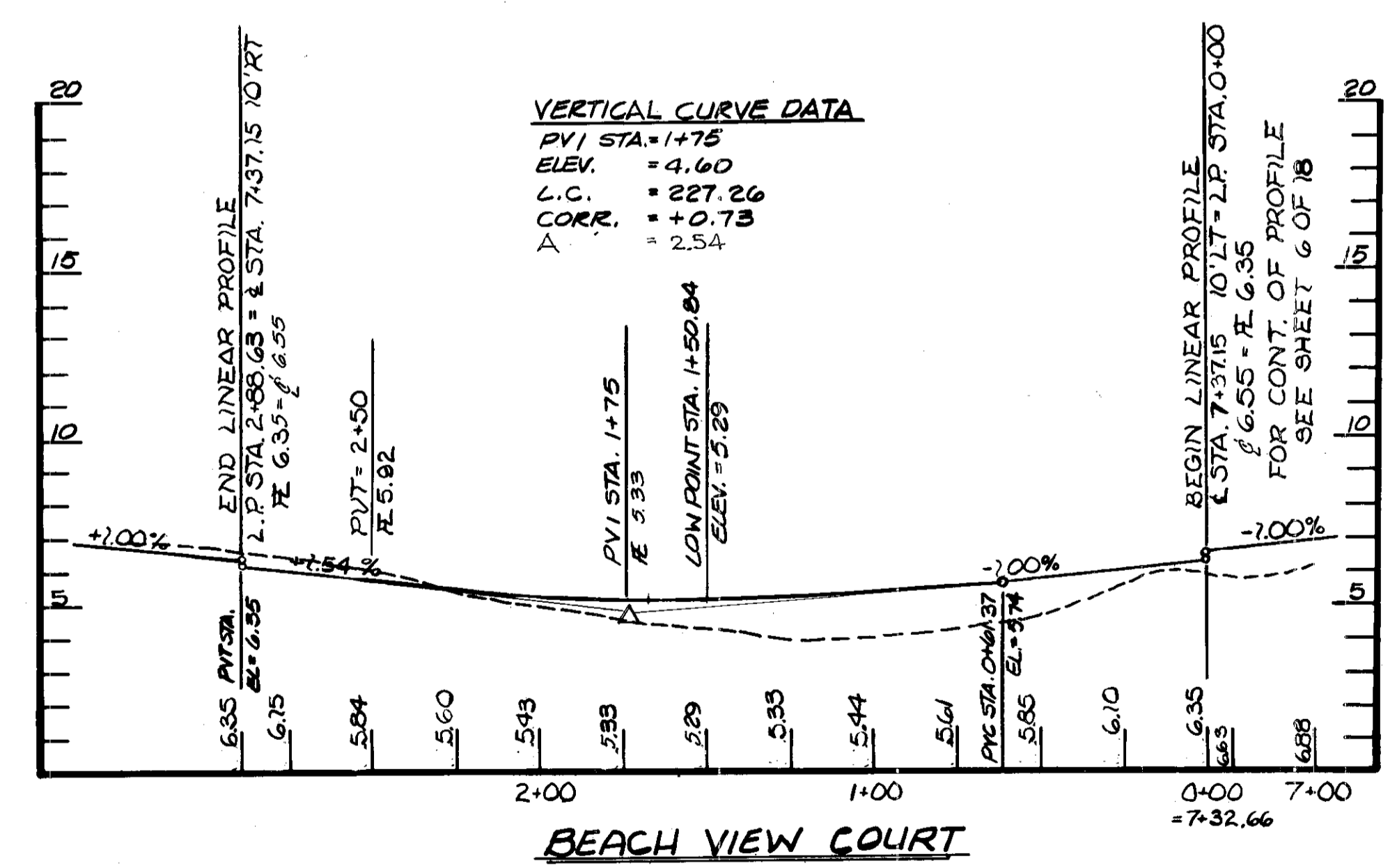
**NOTE**  
 \* 1) SEE SHEET 18 OF 18 FOR DETAIL OF DRIVEWAY CULVERT.  
 2) SEE SHEET 1 OF 18 FOR TYPICAL PAVING CROSS SECTIONS.

**CURVE DATA**  
 STA 3+65 TO STA 7+55  
 $\Delta = 30^\circ 11' 47''$   
 $R = 740.00'$   
 $A = 300.00'$   
 $T = 190.64'$   
 $CHD = N88^\circ 31' 24'' W, 173.80'$

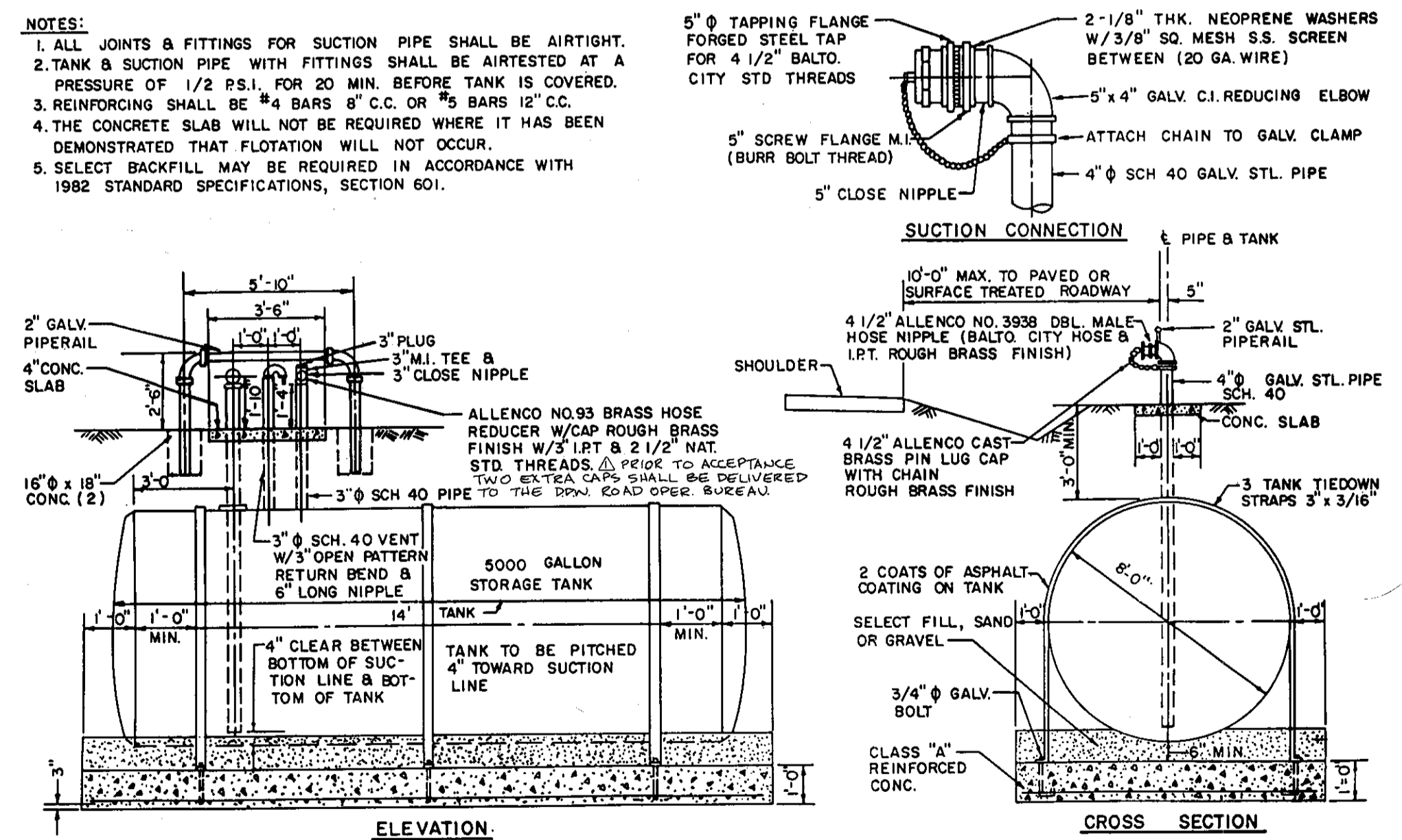


**PROFILE GFS #9**  
 HORIZONTAL: 1"=40'  
 VERTICAL: 1"=4'

LP STATION	ELEVATION
0+00	6.35
0+38.26	5.96
0+72.63	5.63
1+06.40	5.40
1+40.17	5.30
1+78.93	5.32
2+07.71	5.47
2+41.48	5.75
2+53.36	5.88
2+88.63	6.35



**VERTICAL CURVE DATA**  
 PVI STA = 1+75  
 ELEV. = 4.60  
 L.C. = 227.26  
 CORR. = +0.73  
 $A = 2.54$



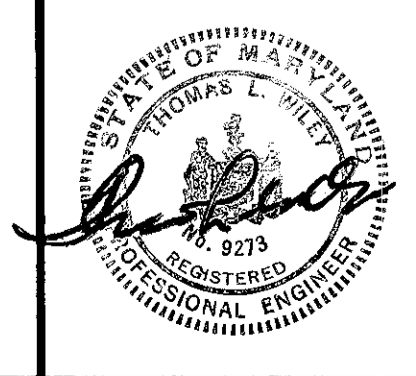
**NOTES:**  
 1. ALL JOINTS & FITTINGS FOR SUCTION PIPE SHALL BE AIRTIGHT.  
 2. TANK & SUCTION PIPE WITH FITTINGS SHALL BE AIRTESTED AT A PRESSURE OF 1/2 P.S.I. FOR 20 MIN. BEFORE TANK IS COVERED.  
 3. REINFORCING SHALL BE #4 BARS 8" C.C. OR #5 BARS 12" C.C.  
 4. THE CONCRETE SLAB WILL NOT BE REQUIRED WHERE IT HAS BEEN DEMONSTRATED THAT FLOTATION WILL NOT OCCUR.  
 5. SELECT BACKFILL MAY BE REQUIRED IN ACCORDANCE WITH 1982 STANDARD SPECIFICATIONS, SECTION 601.

**NOTES (CONT)**  
 6. THE FOLLOWING ITEMS SHALL BE PAINTED WITH TWO (2) COATS OF:  
 (a) INDUSTRIAL ENAMEL 854 SERIES Y27 LEAD FREE SAFETY YELLOW (MANUFACTURED BY SHERWIN-WILLIAMS) OR APPROVED EQUAL. (g) SUCTION CONNECTION, (b) VENT PIPE, (c) FILL PIPE.  
 (d) PAINTING SHALL BE IN ACCORDANCE W/STANDARD SPECIFICATIONS.

**AS BUILT**

**CONTRACT PURCHASER**  
 MARK VOGEL COMPANIES  
 600 NEW HAMPSHIRE AVENUE, N.W.  
 SUITE 460  
 WASHINGTON, D.C.

**Dewberry & Davis**  
 ENGINEERS — ARCHITECTS — PLANNERS — SURVEYORS  
 2594 Riva Road, Annapolis, Maryland 21401  
 8411 Arlington Boulevard, Fairfax, Virginia 22030  
 18201 Montgomery Village Ave., Gaithersburg, Md. 20760

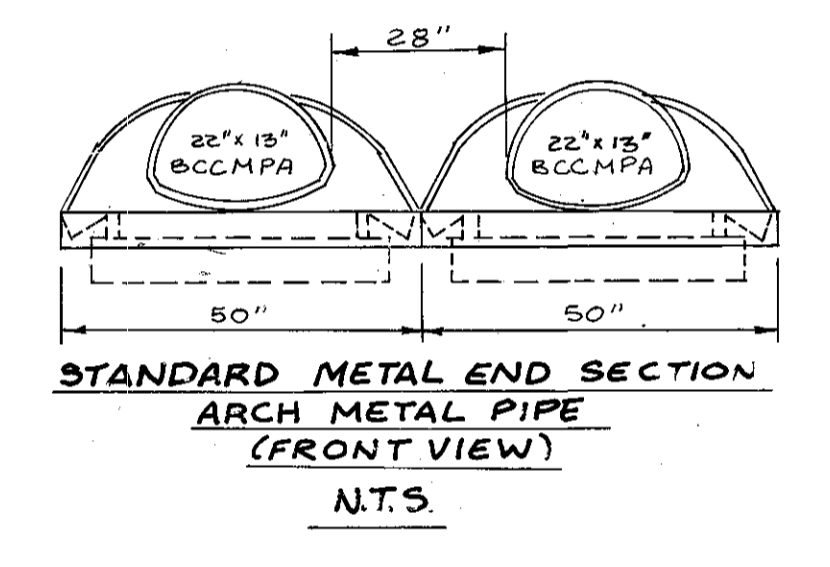
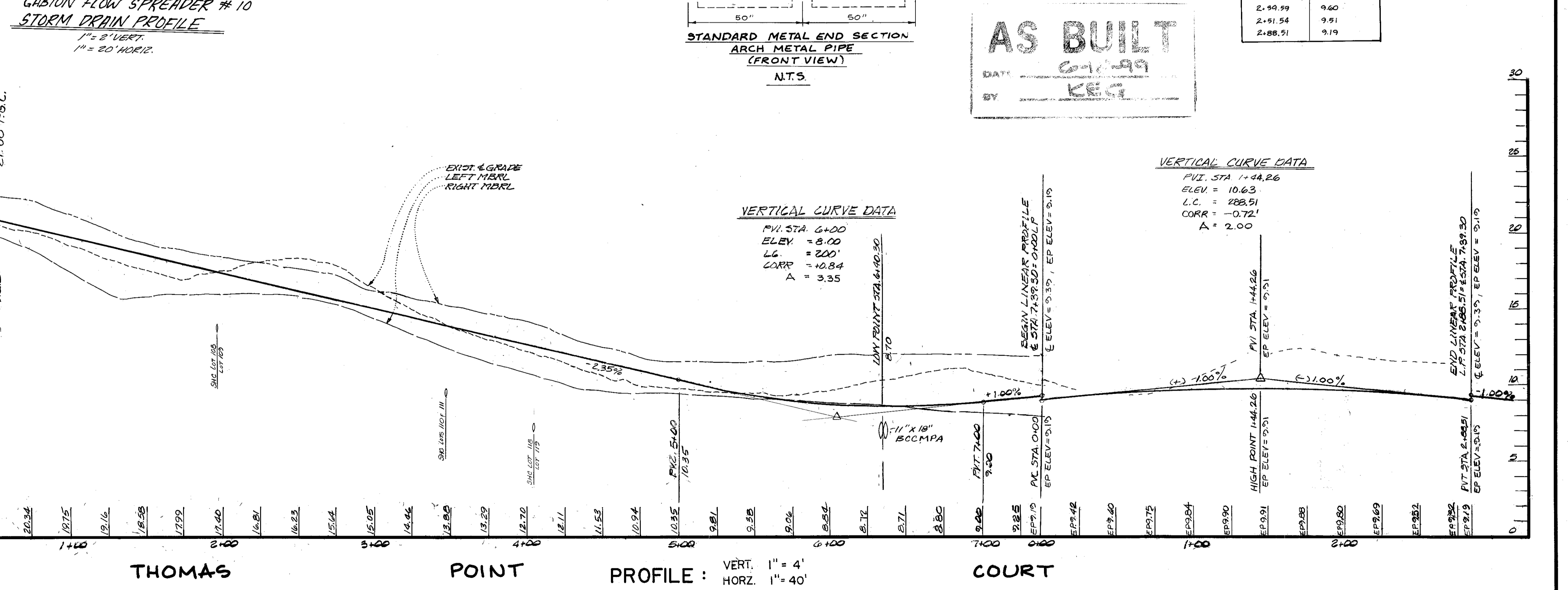
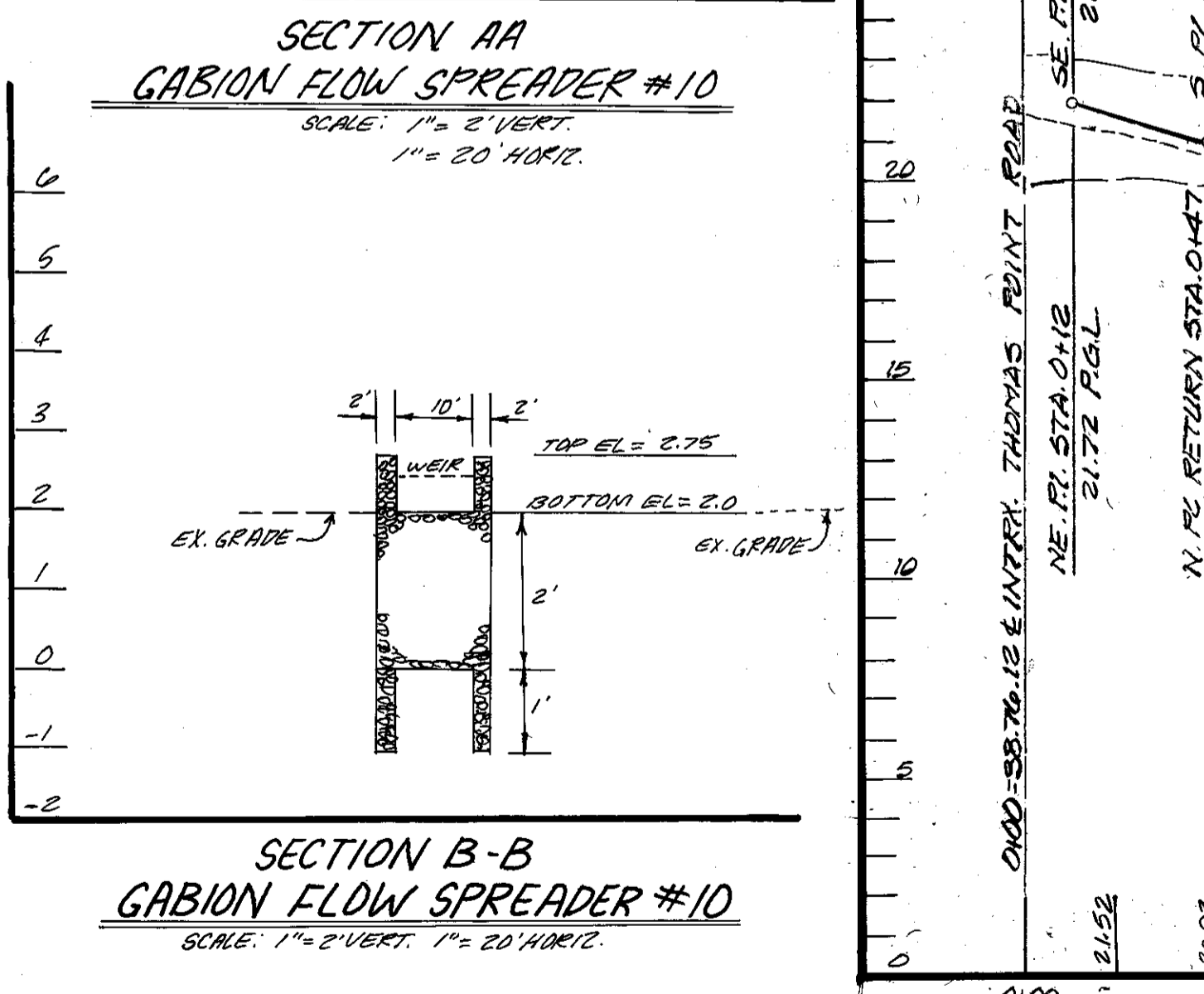
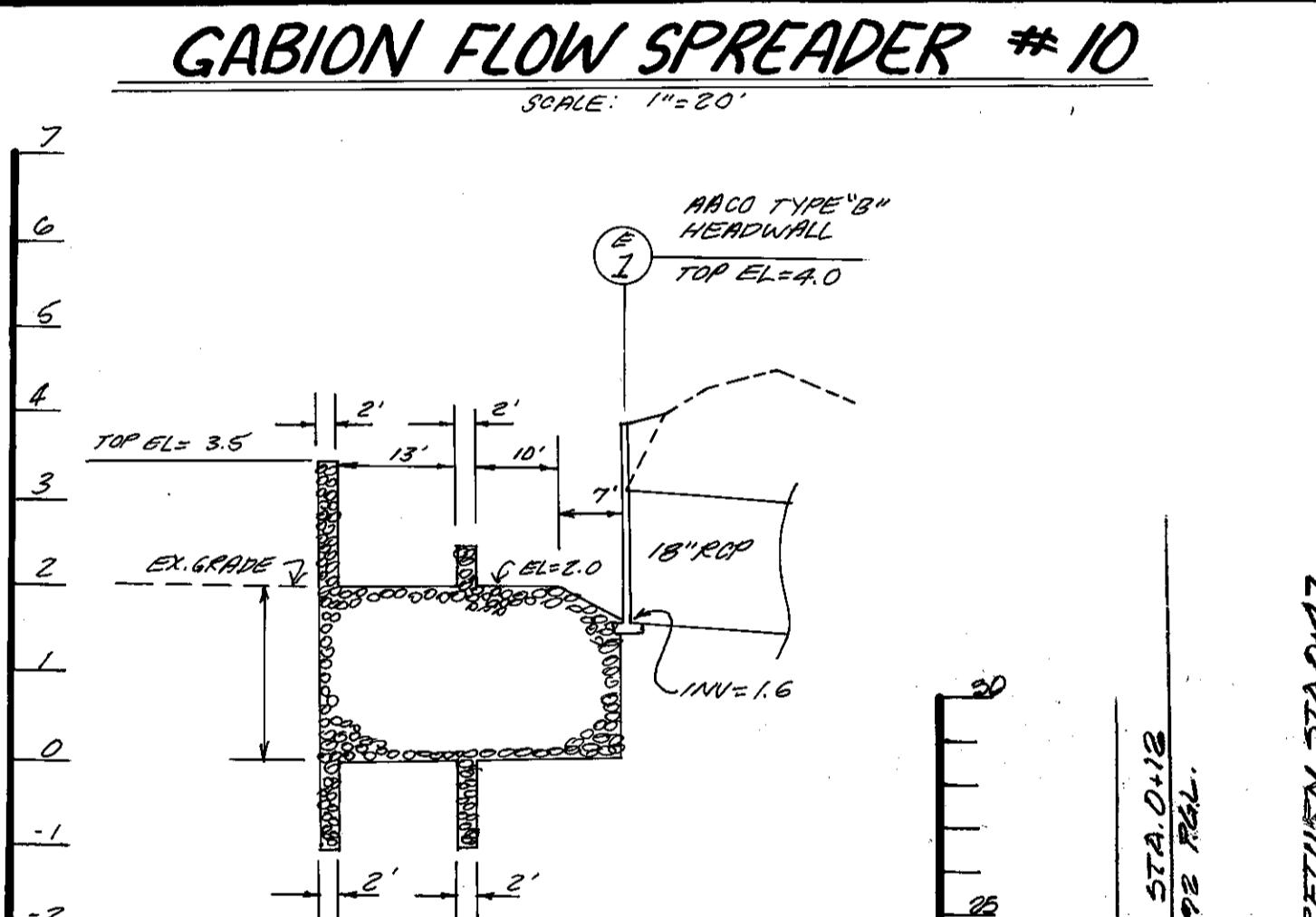
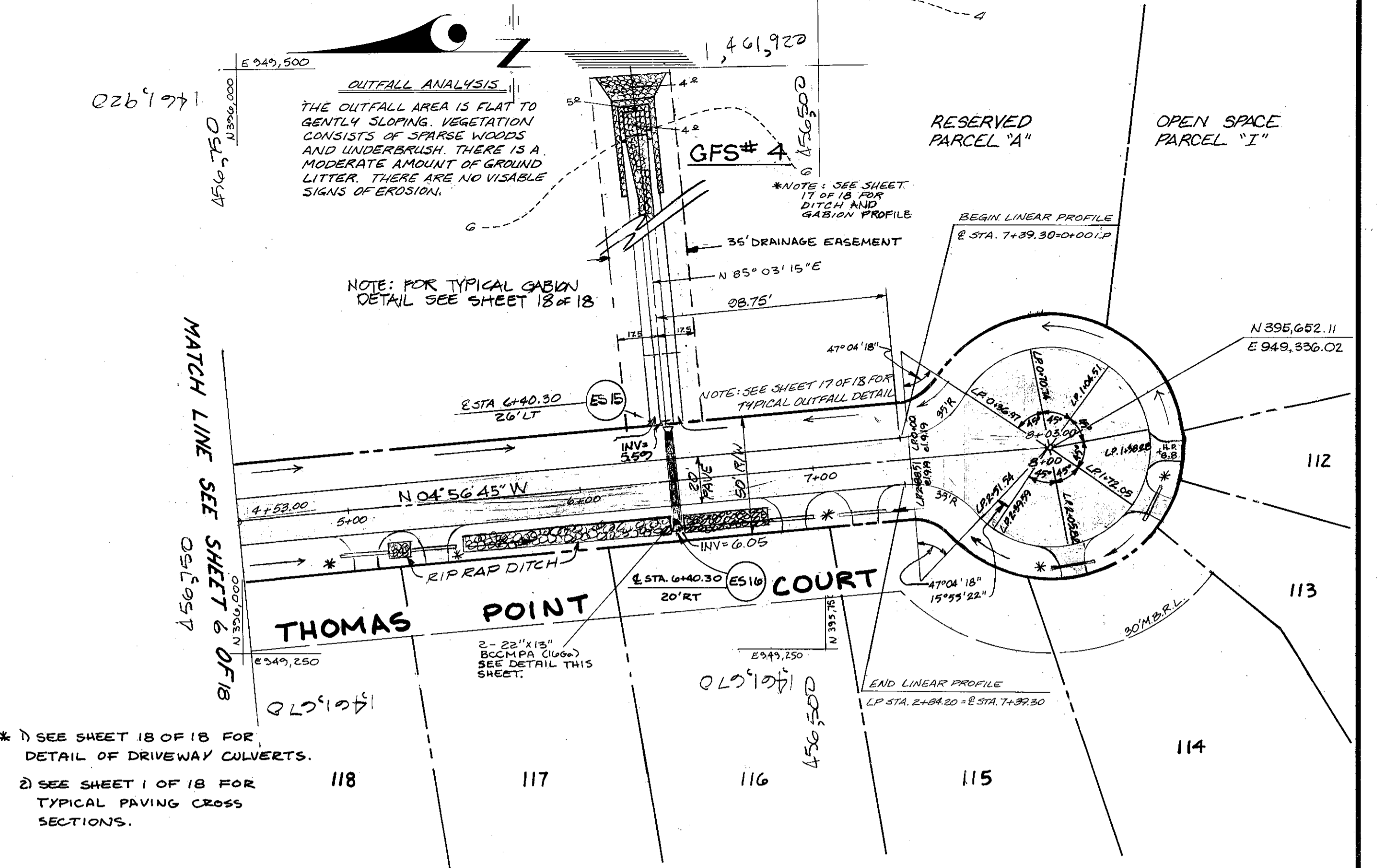
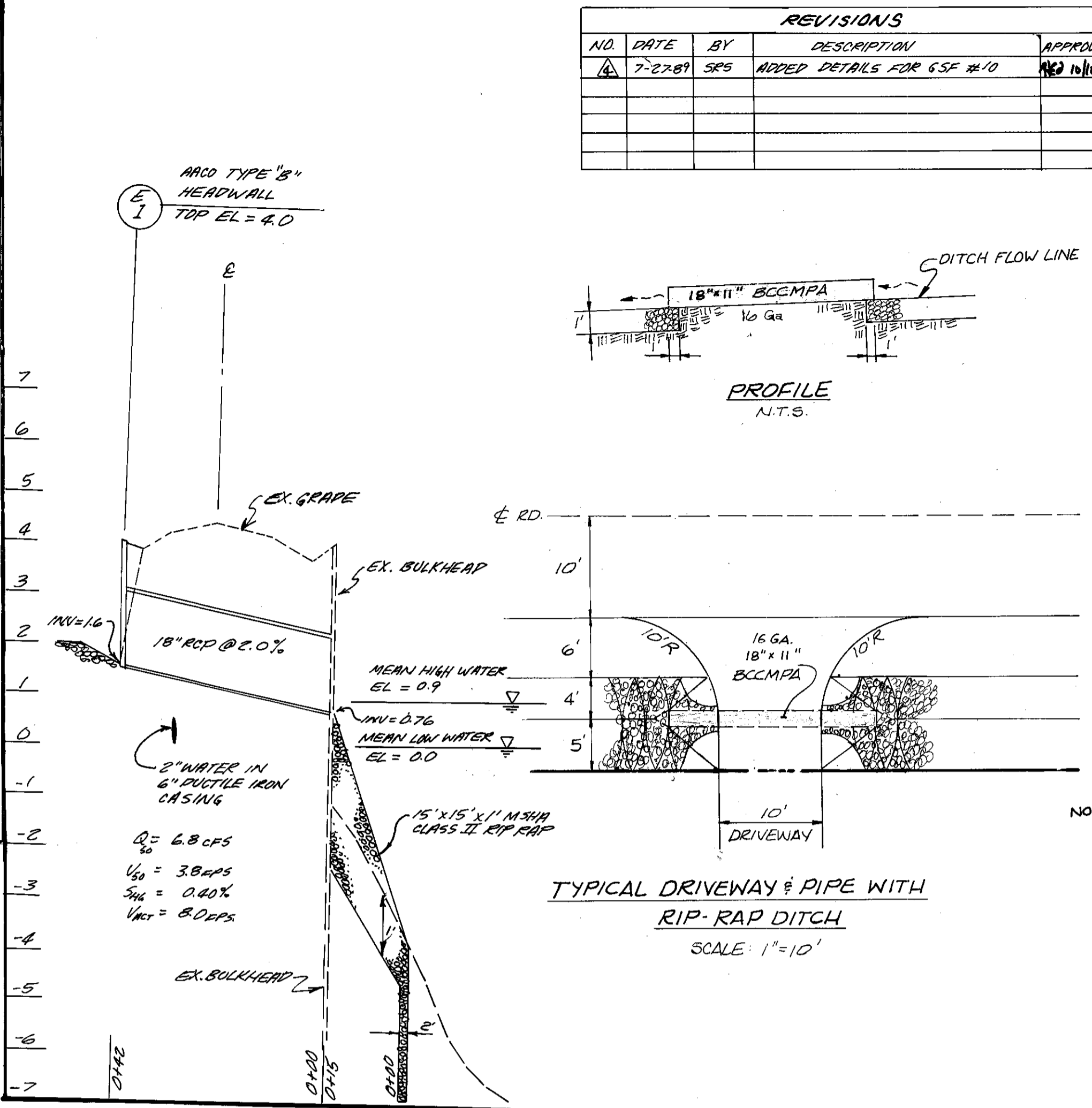
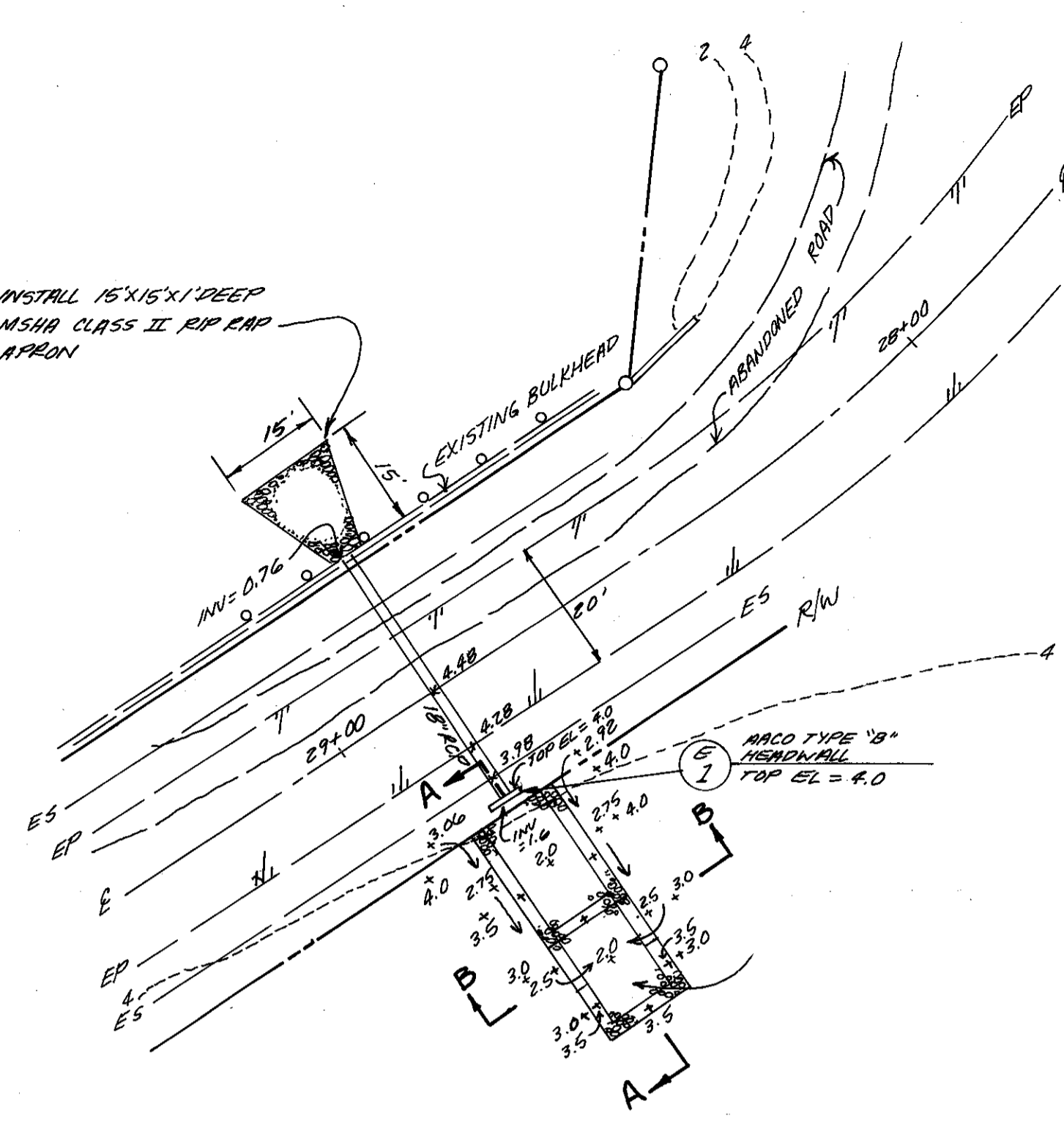


**ANNE ARUNDEL COUNTY**  
 DEPARTMENT OF PUBLIC WORKS

REVISOR	DATE	BY	APPROVED	DATE	DRAWN BY	SCALE: AS SHOWN	CHECKED BY	DATE
1-28-87	MP		CHIEF BUREAU OF WATERSHED PROGRAMS				JDK	SEPT 1987
4-27-87	MJP		APPROVED					
8-11-87	MMD		APPROVED	11/1/88				
12-20-88	MLV		CHIEF OF DEVELOPMENT SERVICES				REVIEW ENGINEER	

ROAD & STORM DRAIN PLANS  
**FISHING CREEK FARM**  
 A R-1/R-2 RESIDENTIAL CLUSTER SUBDIVISION  
 2ND TAX DISTRICT TAX MAP 61 & 57  
 BLOCKS 2.3, 13, 14, 19 & 20 BLOCKS 117, 121 & 132

REVISIONS				
NO	DATE	BY	DESCRIPTION	APPROVED
1	7-27-87	SFS	ADDED DETAILS FOR GSF #10	[Signature]



AS BUILT

DATE: 6-1-89

BY: KEG

OWNER DEVELOPER

MARK VOGEL COMPANIES  
600 NEW HAMPSHIRE AVENUE, N.W.  
SUITE 460  
WASHINGTON, D.C.

**Dewberry & Davis**  
ENGINEERS - ARCHITECTS - PLANNERS - SURVEYORS  
2594 Riva Road, Annapolis, Maryland 21401 (301) 841-6811

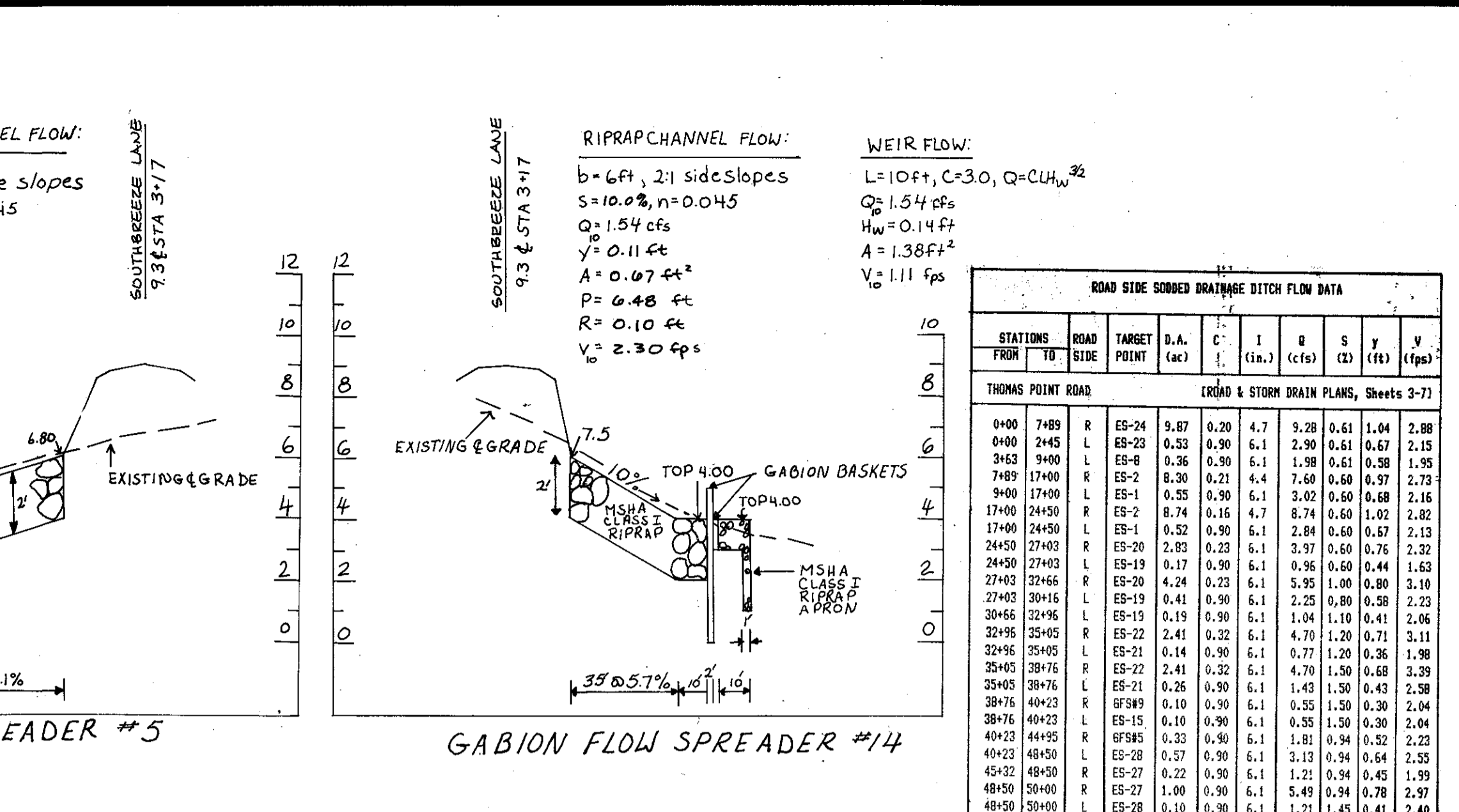
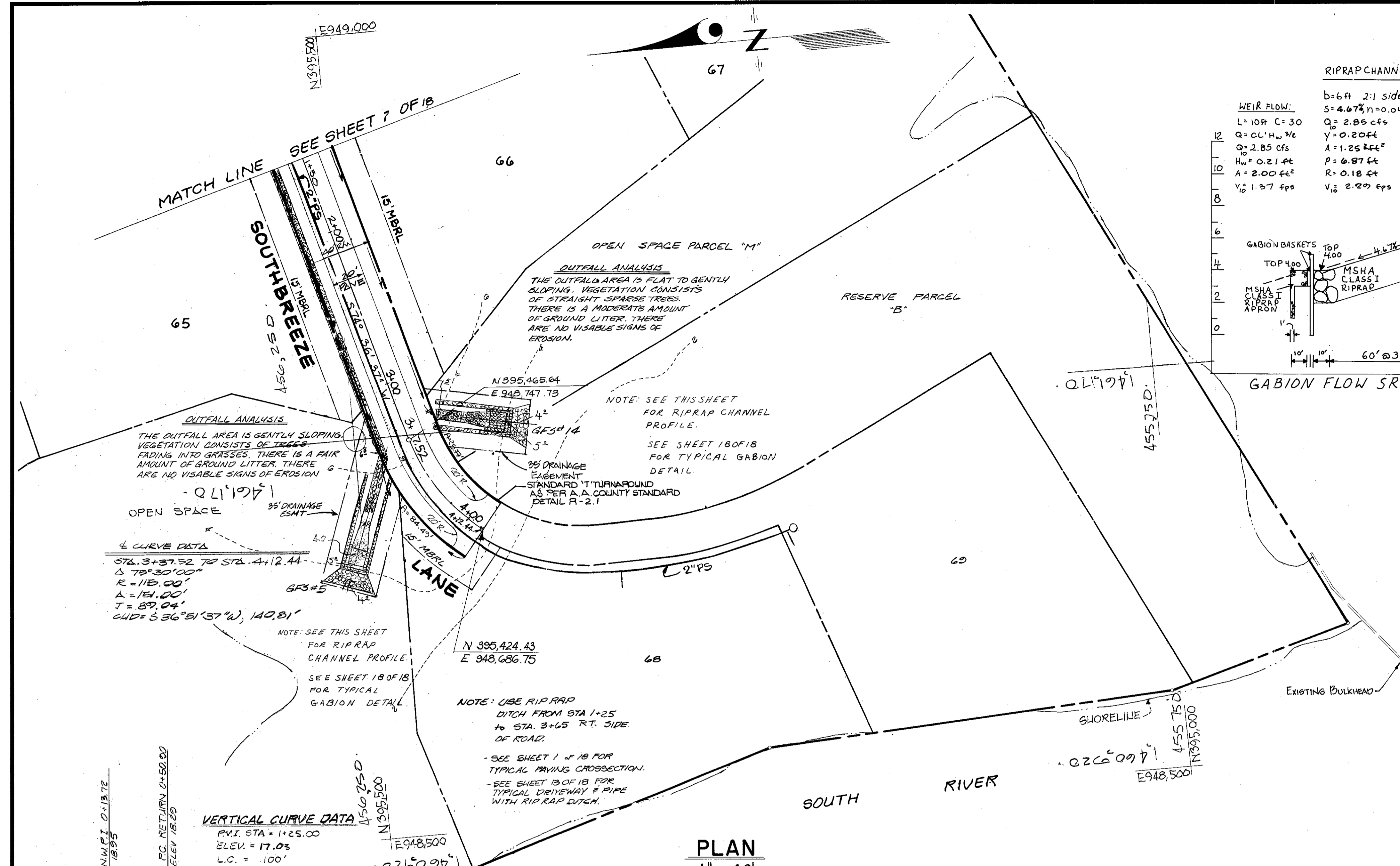
ANNE ARUNDEL COUNTY  
DEPARTMENT OF PUBLIC WORKS

ROAD & STORM DRAIN PLANS  
FISHING CREEK FARM  
A R-1/R-2 RESIDENTIAL CLUSTER SUBDIVISION  
2ND TAX DISTRICT TAX MAP 61 & 57  
BLOCKS 2, 3, 13, 14, 19 & 20 BLOCKS 117, 121 & 132

REVISOR: [Signature]  
DATE: 1-28-87  
BY: MJP  
APPROVED: [Signature]  
DATE: 4-27-87  
BY: MJP  
APPROVED: [Signature]  
DATE: 8-11-87  
BY: MMD  
APPROVED: [Signature]  
DATE: 7-27-87  
BY: SFS  
APPROVED: [Signature]

DRAWN BY: D & D  
CHECKED BY: JBK  
DATE: SEPT. 1987  
REVIEW ENGINEER: [Signature]

SCALE: AS SHOWN  
SHEET NO. 13 OF 18  
PROJECT NO.  
ACCT. NO.  
PROPOSAL NO.



**ROAD SIDE RIPRAP LINED DRAINAGE DITCH FLOW DATA**

STATIONS FROM TO	ROAD SIDE	TARGET POINT	D.A. (ac)	C	L (in.)	Q (cfs)	S	y (ft)	V (fps)
0+00 2+45	R	ES-24	9.87	0.20	6.1	2.12	2.10	0.47	3.17
0+00 2+50	L	ES-24	0.26	0.90	6.1	2.07	2.10	0.54	2.51
3+63 9+00	L	ES-24	0.74	0.20	6.1	3.90	2.78	0.37	2.84
2+50 6+35	L	ES-2	0.30	6.1	2.31	2.78	0.46	2.64	
6+35 10+50	R	ES-24	0.36	0.90	6.1	1.98	5.49	0.48	2.87
6+35 10+50	L	ES-24	0.47	0.90	6.1	2.58	5.49	0.53	3.07

**CHERRYTREE LANE** (ROAD & STORM DRAIN PLANS, Sheets 3, 9, 15, 16)

**HIDDEN RIVER VIEW ROAD** (ROAD & STORM DRAIN PLANS, Sheets 6, 8-11)

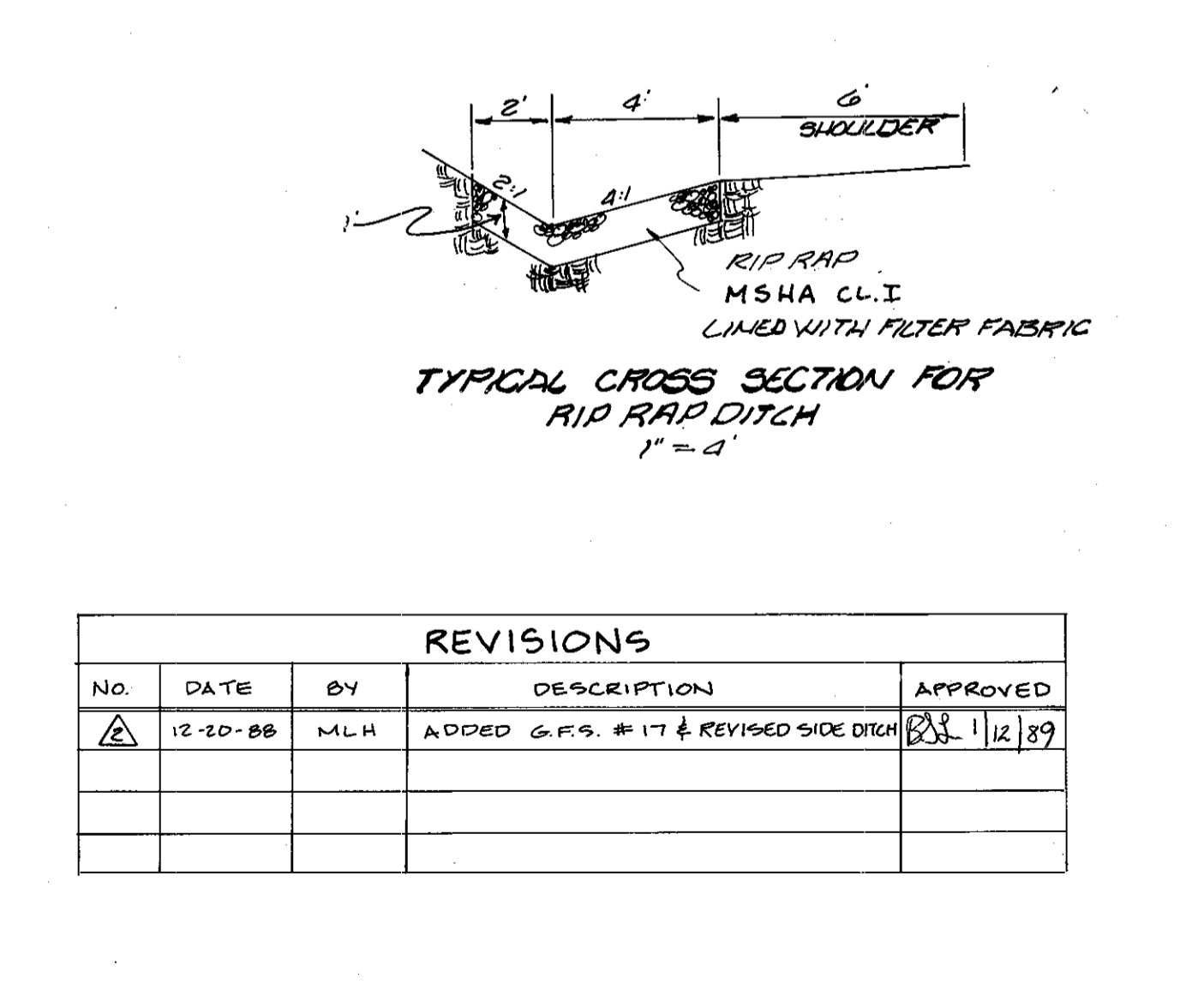
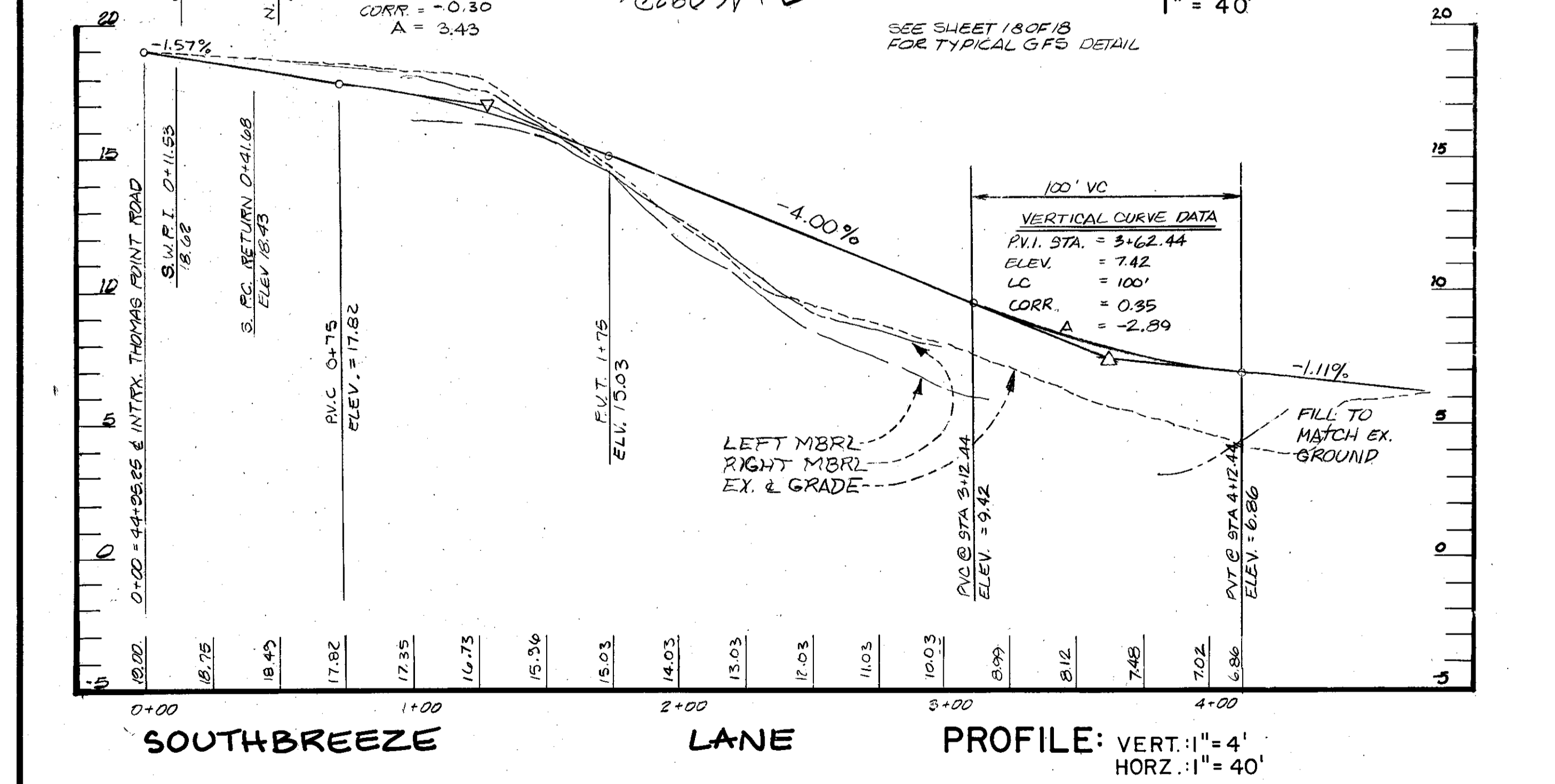
**THOMAS POINT COURT** (ROAD & STORM DRAIN PLANS, Sheets 6, 13)

**SOUTHBREEZE LANE** (ROAD & STORM DRAIN PLANS, Sheets 7, 14)

**BEACH VIEW ROAD** (ROAD & STORM DRAIN PLANS, Sheets 6, 12)

**THOMAS POINT COURT** (ROAD & STORM DRAIN PLANS, Sheets 6, 13)

**SOUTHBREEZE LANE** (ROAD & STORM DRAIN PLANS, Sheets 7, 14)



**REVISIONS**

NO.	DATE	BY	DESCRIPTION	APPROVED
1	12-20-88	MLH	ADDED G.F.S. #17 & REVISED SIDE DITCH	[Signature]

**GABION FLOW SPREADER (GFS) RIPRAP CHANNEL AND WEIR OVERFLOW HYDRAULIC CHARACTERISTICS**

TYPICAL CHANNEL CROSS SECTION: Weir, B=6.0 ft; S.S., 2(1):1(1); Manning coeff., n=0.045 (riprap), n=0.025 (sod)  
TYPICAL WEIR CONSTANTS : Weir Coefficient, CW=3.0; Weir crest length, LW=10 ft; C = CW x L x (HW)<sup>1/2</sup>

GABION FLOW SPREADER	DRAINAGE AREAS AFFECTED	TOTAL CONC. (min)	AVER. CONC. (in)	TIME OF TRAVEL (min)	TOTAL Q (cfs)	AVER. SLOPE (ft)	NORMAL FLOW DEPTH (ft)	FLOW AREA (sq-ft)	WETTED PERIMETER (ft)	HYDRAULIC RADIUS (ft)	VELOCITY (fps)	WEIR DEPTH (ft)	WEIR VELOCITY (fps)	
GFS #1	4,5.5	1.05	0.53	10	6.1	3.57	5.20	0.22	1.39	6.97	0.20	2.57	0.24	1.48
GFS #2	22,23	2.86	0.46	10	6.1	8.04	2.60	0.43	2.93	7.91	0.37	2.75	0.42	1.42
GFS #3	25,26	6.36	0.42	10	6.1	21.31	1.20	0.93	7.32	10.17	0.72	2.91	0.80	2.68
GFS #4	31,32	4.73	0.40	10	6.1	11.54	0.94	0.71	5.23	9.16	0.57	2.20	0.21	1.18
GFS #5	33	0.52	0.90	10	6.1	2.85	4.67	0.20	1.25	6.87	0.18	2.29	0.21	1.37
GFS #6	19,20	0.99	0.43	10	6.1	2.62	1.80	0.25	1.50	7.10	0.23	1.64	0.20	1.23
GFS #7	9	0.15	0.90	10	6.1	0.82	5.00	0.06	0.39	6.29	0.06	2.09	0.09	3.30
GFS #7A	7	0.26	0.90	10	6.1	1.98	8.80	0.13	0.81	6.58	0.12	2.42	0.16	1.21
GFS #8	10	0.15	0.90	10	6.1	0.82	5.00	0.06	0.39	6.29	0.06	2.09	0.09	3.30
GFS #8A	8	0.47	0.90	10	6.1	2.58	5.50	0.18	1.11	6.78	0.16	2.32	0.19	1.32
GFS #9	28,29,30	2.51	0.55	10	6.1	11.78	0.90	0.72	5.38	9.23	0.58	2.19	0.24	2.20
GFS #10	16,19	0.22	0.90	10	6.1	2.85	1.20	0.28	1.87	7.27	0.26	1.52	0.21	1.37
GFS #11	15,17	1.32	0.45	10	6.1	3.32	7.80	0.19	1.23	6.86	0.18	2.94	0.24	1.48
GFS #12	12,14	0.53	0.90	10	6.1	2.91	2.59	0.24	1.52	7.05	0.22	1.91	0.21	1.38
GFS #13	11,13	0.60	0.47	10	6.1	2.25	7.10	0.16	0.60	6.99	0.11	1.89	0.20	1.09
GFS #14	24	0.26	0.90	10	6.1	1.94	10.00	0.11	0.57	6.48	0.10	2.20	0.14	1.11
GFS #15	15	1.15	0.38	10	6.1	2.67	9.10	0.15	0.97	6.69	0.15	2.75	0.20	1.24
GFS #16	37,39,40	1.53	0.90	10	6.1	8.41	4.70	0.37	2.49	7.65	0.33	3.38	0.43	1.96
GFS #17	41	0.24	0.64	10	6.1	2.34	10.0	0.28	0.93	6.36	0.08	1.97	0.10	0.94

**OWNER DEVELOPER**  
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WASHINGTON, D.C.

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

**ANNE ARUNDEL COUNTY**  
DEPARTMENT OF PUBLIC WORKS

**REVISIONS**  
DATE BY APPROVED  
1-28-87 MJP  
4-27-87 MJP  
8-11-87 MMD  
12-20-88 MLH

**APPROVED**  
[Signature]  
DATE 1/14/87  
DATE 1/11/88  
DATE 1/14/88

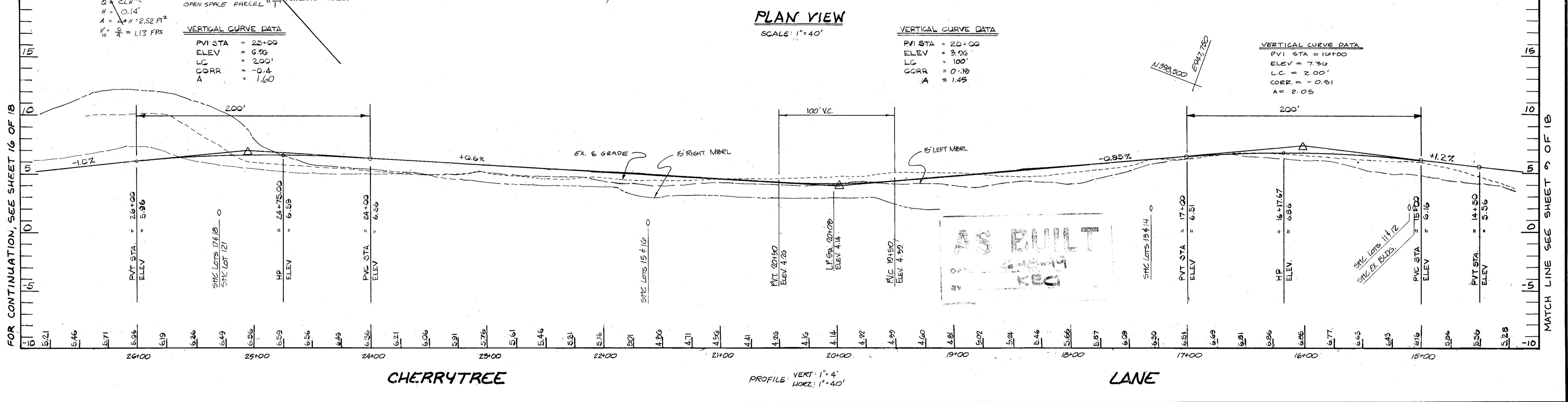
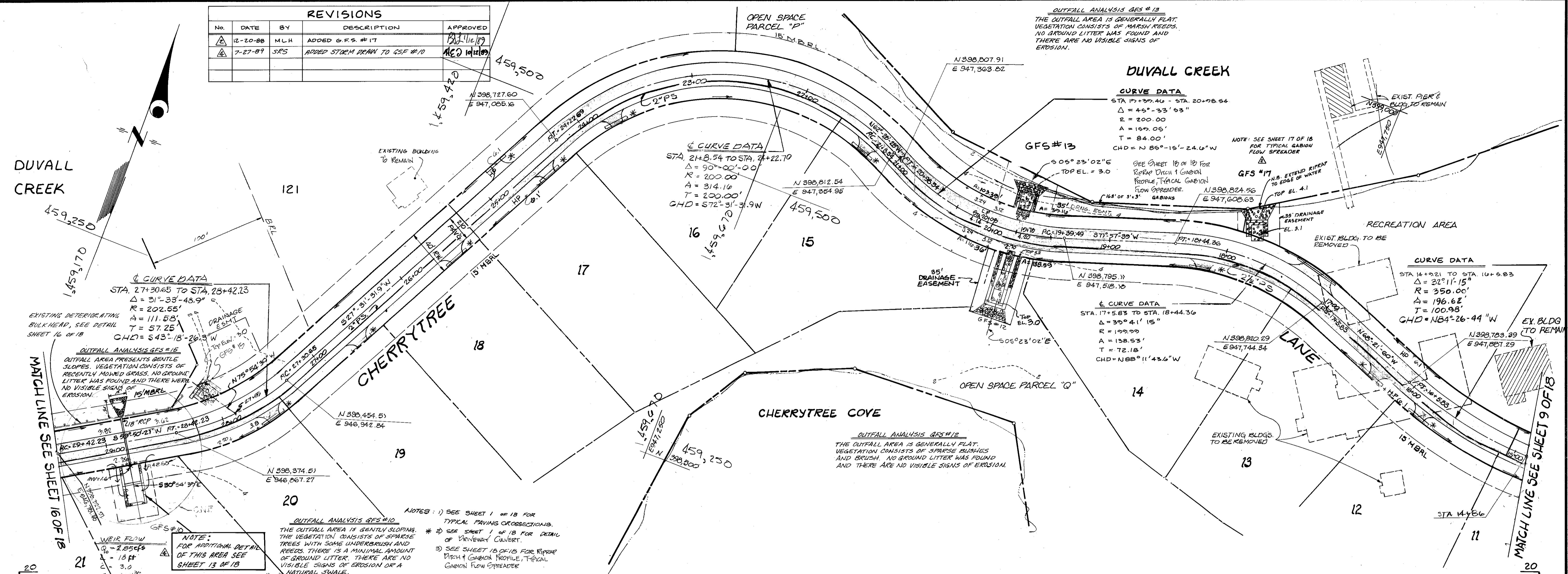
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CHECKED BY JBK  
DATE: SEPT. 1987  
APPROVED: [Signature]  
REVIEW ENGINEER

**SCALE: AS SHOWN**  
SHEET NO. 14 OF 18  
PROJECT NO.  
ACCT. NO.  
PROPOSAL NO.

**ROAD & STORM DRAIN PLANS**  
**FISHING CREEK FARM**  
A R-1/R-2 RESIDENTIAL CLUSTER SUBDIVISION  
2ND TAX DISTRICT TAX MAP 61 & 57  
BLOCKS 2,3,13,14,19 & 20 BLOCKS 117,121 & 132

**30,761**

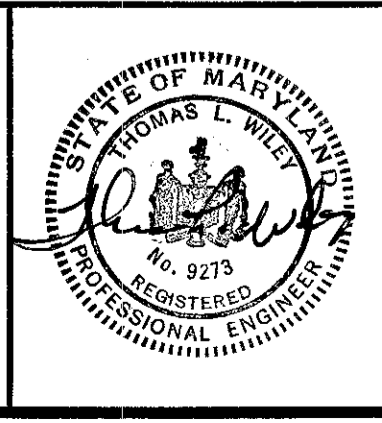
REVISIONS				
No.	DATE	BY	DESCRIPTION	APPROVED
12-20-88	MLH	ADDED G.F.S. #17		MLH 11/16/89
7-27-89	SRS	ADDED STORM DRAIN TO GSF #10		MLH 10/12/89



**OWNER**  
MARK VOGEL COMPANIES  
600 NEW HAMPSHIRE AVENUE, N.W.  
SUITE 460  
WASHINGTON, D.C.

**DEVELOPER**

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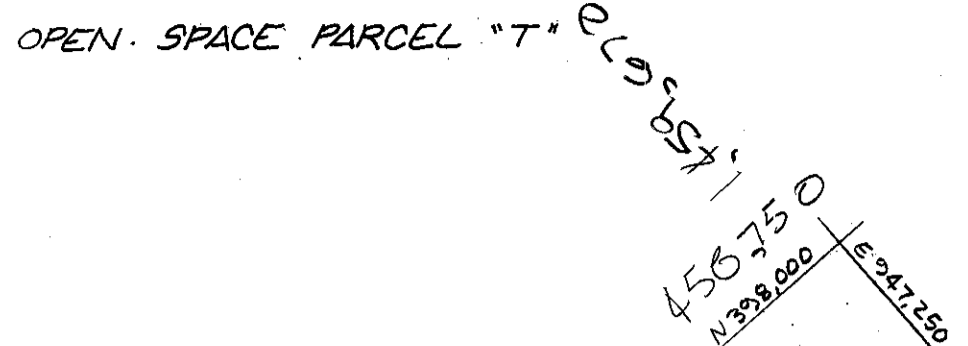
ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS			
REVISED DATE	BY	APPROVED	SCALE: AS SHOWN
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4-27-87	MJP	DATE	PROJECT NO.
8-11-87	MMD	APPROVED	ACCT. NO.
12-20-88	MLH	CHIEF OF DEVELOPMENT SERVICES	PROPOSAL NO.
2-27-89			

**ROAD & STORM DRAIN PLANS**

**FISHING CREEK FARM**  
A R-1/R-2 RESIDENTIAL CLUSTER SUBDIVISION  
2ND TAX DISTRICT TAX MAP 61 & 57  
BLOCKS 2,13,14,19 & 20 BLOCKS 117,121 & 132

REVISIONS				
NO.	DATE	BY	DESCRIPTION	APPROVED
A	7-27-87	SFS	ADDED S.P. CROSSING FROM GSF #10	MED
B	5-10-70	MMP	REVISED RESERVE PARCELS C/P TO LOTS 23, 24	MED

DUVALL CREEK



- NOTES:
- SEE SHEET 1 OF 18 FOR TYPICAL PAVING CROSSSECTIONS.
  - SEE SHEET 1 OF 18 FOR CULVERT LINER DRIVEWAY.
  - SEE SHEET 18 OF 18 FOR OUTFALL STRUCTURES DETAILS.
  - SEE SHEET 17 OF 18 FOR STORM DRAIN & RIPRAP CHANNEL PROFILES.

**OUTFALL ANALYSIS**  
 OUTFALL AREA IS GENERALLY FLAT VEGETATION CONSISTS OF MARSH, CATTAILS AND SPARSE TREES, LITTLE GROUND LITTER WAS FOUND, WITH NO VISIBLE SIGNS OF EROSION.

EXISTING DETERIORATING TIMBER BULKHEAD TO BE IMPROVED, SEE DETAIL THIS SHEET.

NOTE: FOR STORM DRAIN PROFILE SEE SHEET 18 OF 18

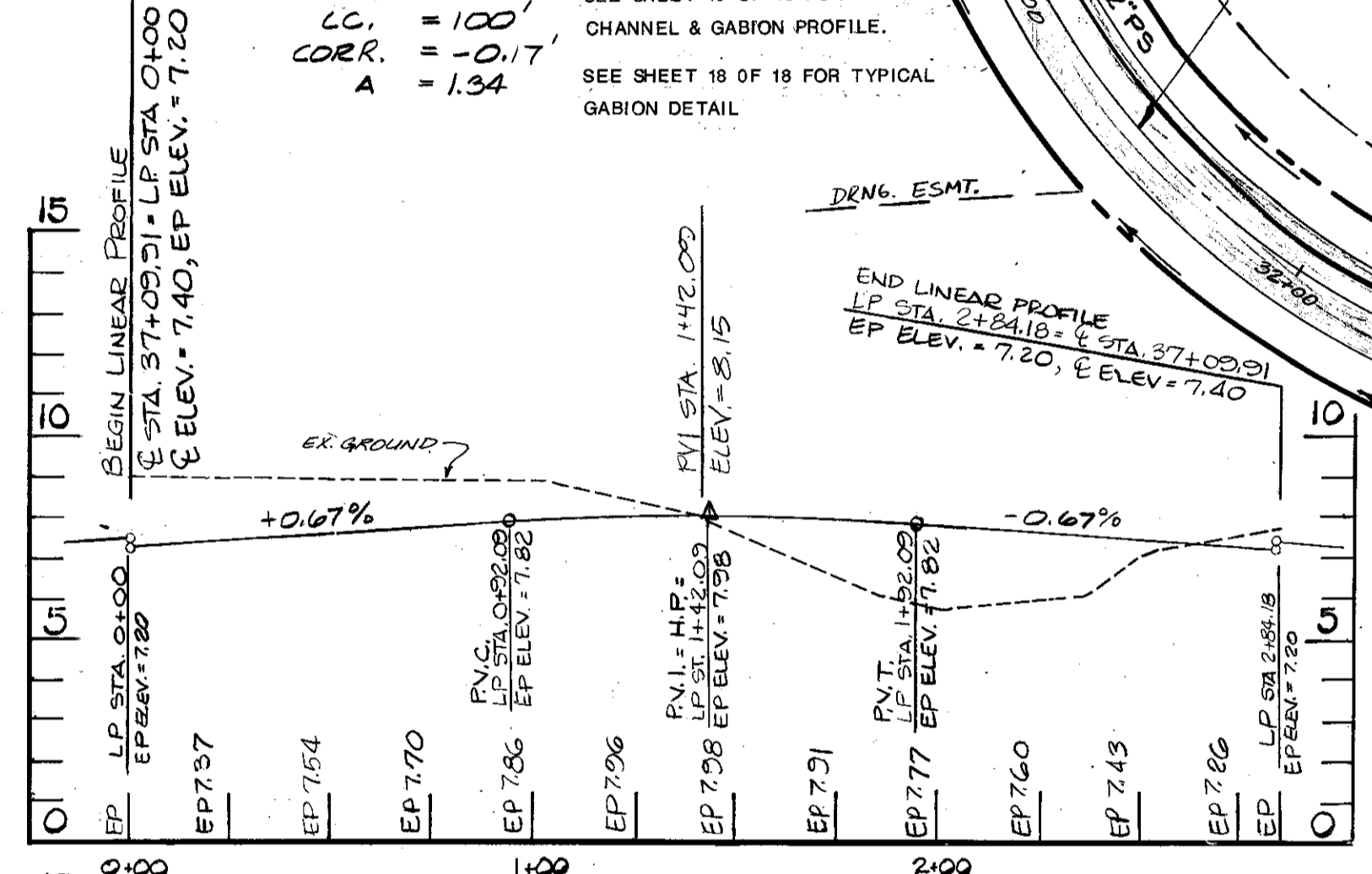
**VERTICAL CURVE DATA**

PVI STA. = 1+42.10  
 ELEV. = 8.15  
 LC = 100'  
 CORR. = -0.17'  
 A = 1.34

NOTE:  
 SEE SHEET 18 OF 18 FOR RIPRAP CHANNEL & GABION PROFILE.  
 SEE SHEET 18 OF 18 FOR TYPICAL GABION DETAIL

**CURVE DATA**

STA. 29+42.23 TO STA. 32+89.34  
 $\Delta = 99^\circ 26' 25''$   
 $R = 200.00'$   
 $A = 347.11'$   
 $T = 236.00'$   
 $GHD = 09^\circ 22' 08''$



**CHERRYTREE**

**PLAN VIEW**

1" = 40'

OPEN SPACE PARCEL "S"

NOTE: SEE SHEET 18 OF 18 FOR STORM DRAIN PROFILE.

**CURVE DATA**

STA. 33+89.34 TO STA. 35+10.76  
 $\Delta = 34^\circ 47' 2''$   
 $R = 100.00$   
 $T = 62.65$   
 $GHD = 55^\circ 44' 35'' E$

**OUTFALL ANALYSIS**

THE OUTFALL AREA IS FLAT TO GENTLY SLOPING. VEGETATION CONSISTS OF TREES AND SPARSE UNDERBRUSH. THERE IS A MINIMAL AMOUNT OF GROUND LITTER. THERE ARE NO VISIBLE SIGNS OF EROSION.

**VERTICAL CURVE DATA**

STA. = 33+80  
 ELEV. = 7.48  
 LC = 160'  
 CORR. = -0.28'  
 A = 1.20

**VERTICAL CURVE DATA**

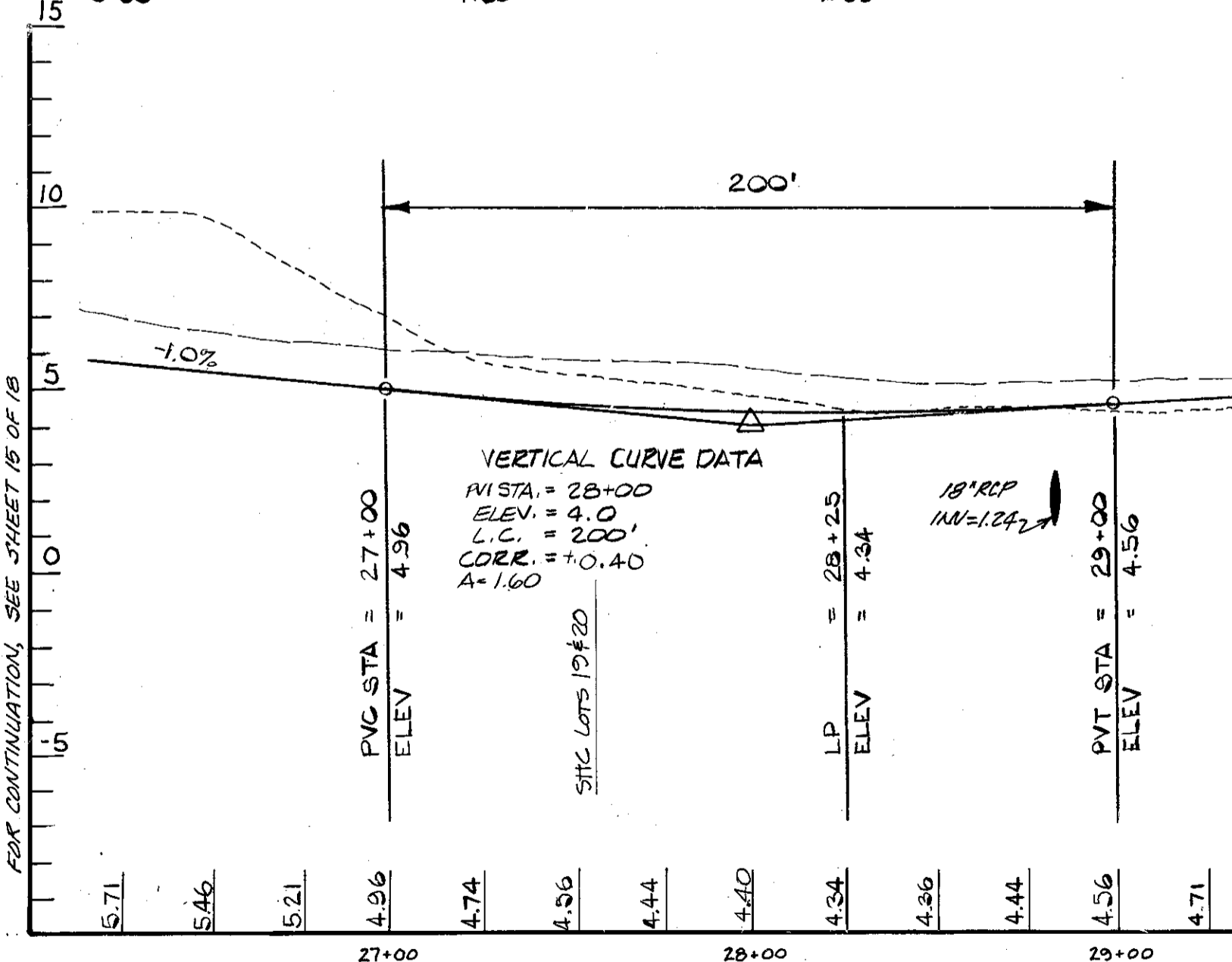
LP STA	ELEVATION
0+33.45	7.20
0+67.22	7.42
1+00.99	7.65
1+34.76	7.87
1+68.53	7.94
2+02.30	7.75
2+36.07	7.53
2+69.73	7.42
3+03.48	7.20

**CROSS SECTION OF PROPOSED REPLACEMENT BULKHEAD**

(CHERRY TREE LANE)  
 APPROX. STA. 28+30 TO 30+25  
 N.T.S.

(LINEAR PROFILE CONTINUED ABOVE LEFT)

**AS BUILT**  
 DATE: 6-18-89  
 BY: KEG



**CHERRYTREE**

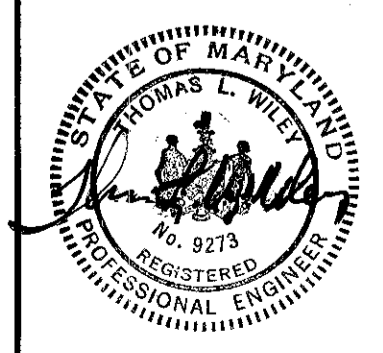
**LANE**

OWNER DEVELOPER

MARK VOGEL COMPANIES  
 600 NEW HAMPSHIRE AVENUE, N.W.  
 SUITE 460  
 WASHINGTON, D.C.

**Dewberry & Davis**

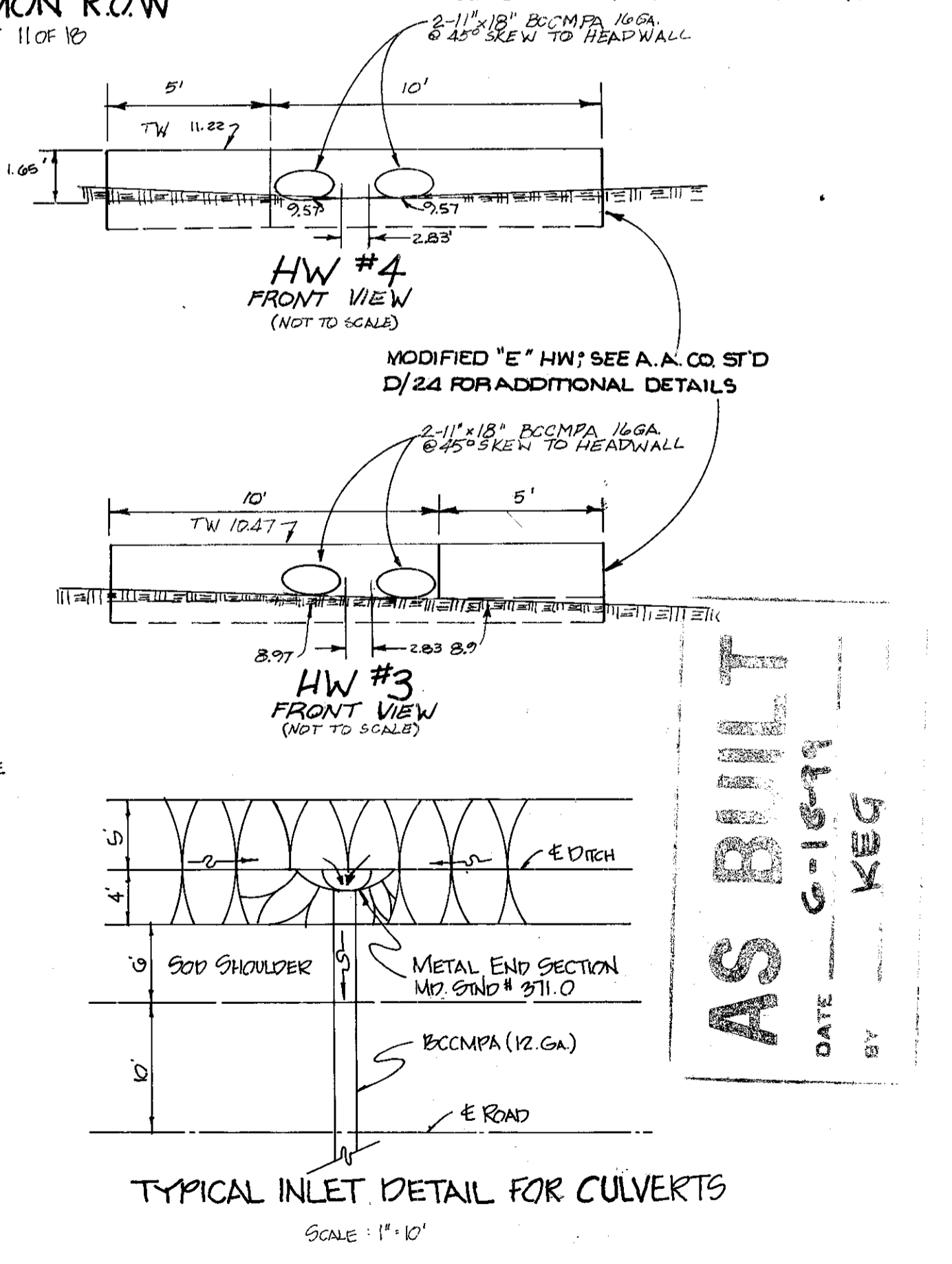
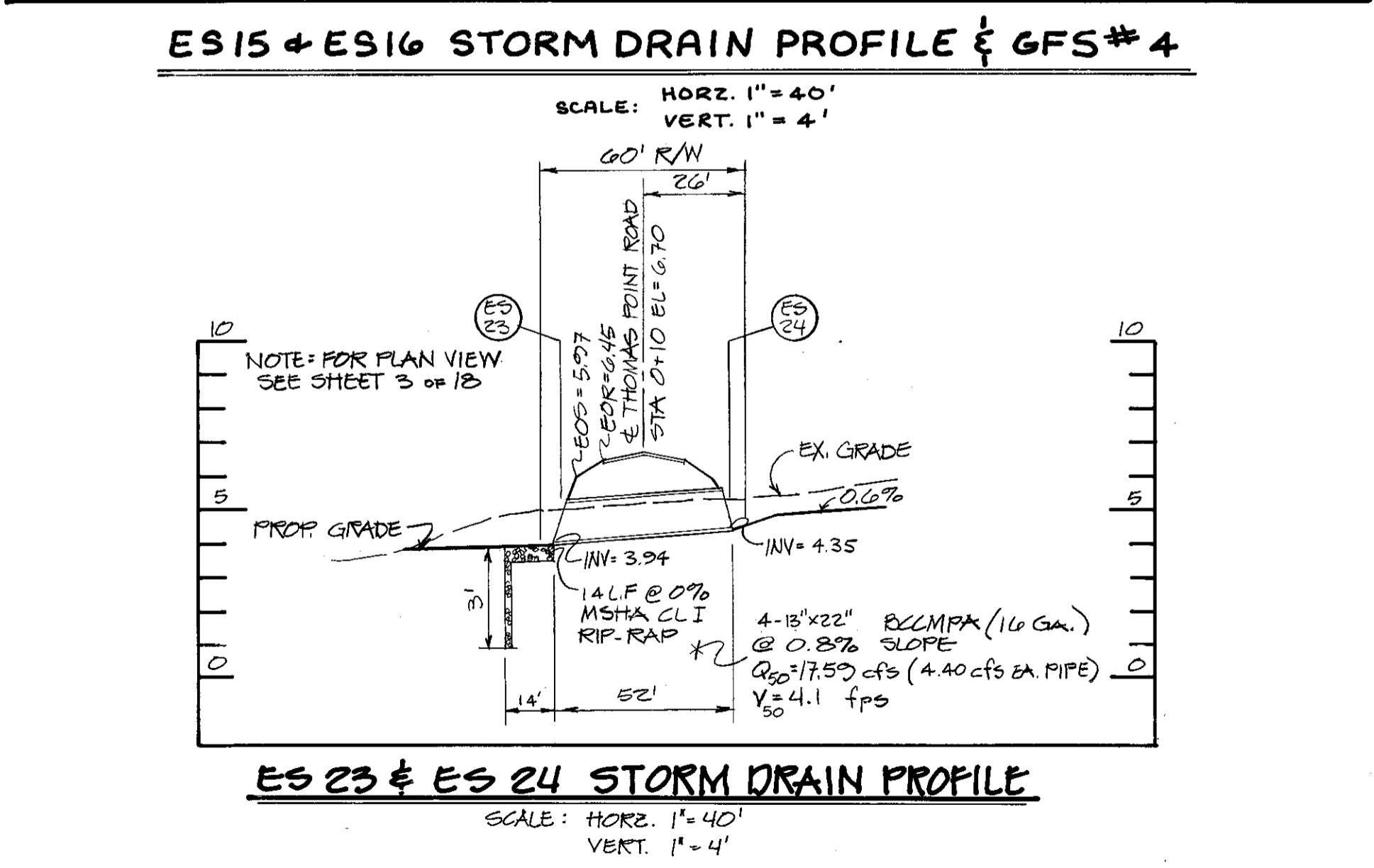
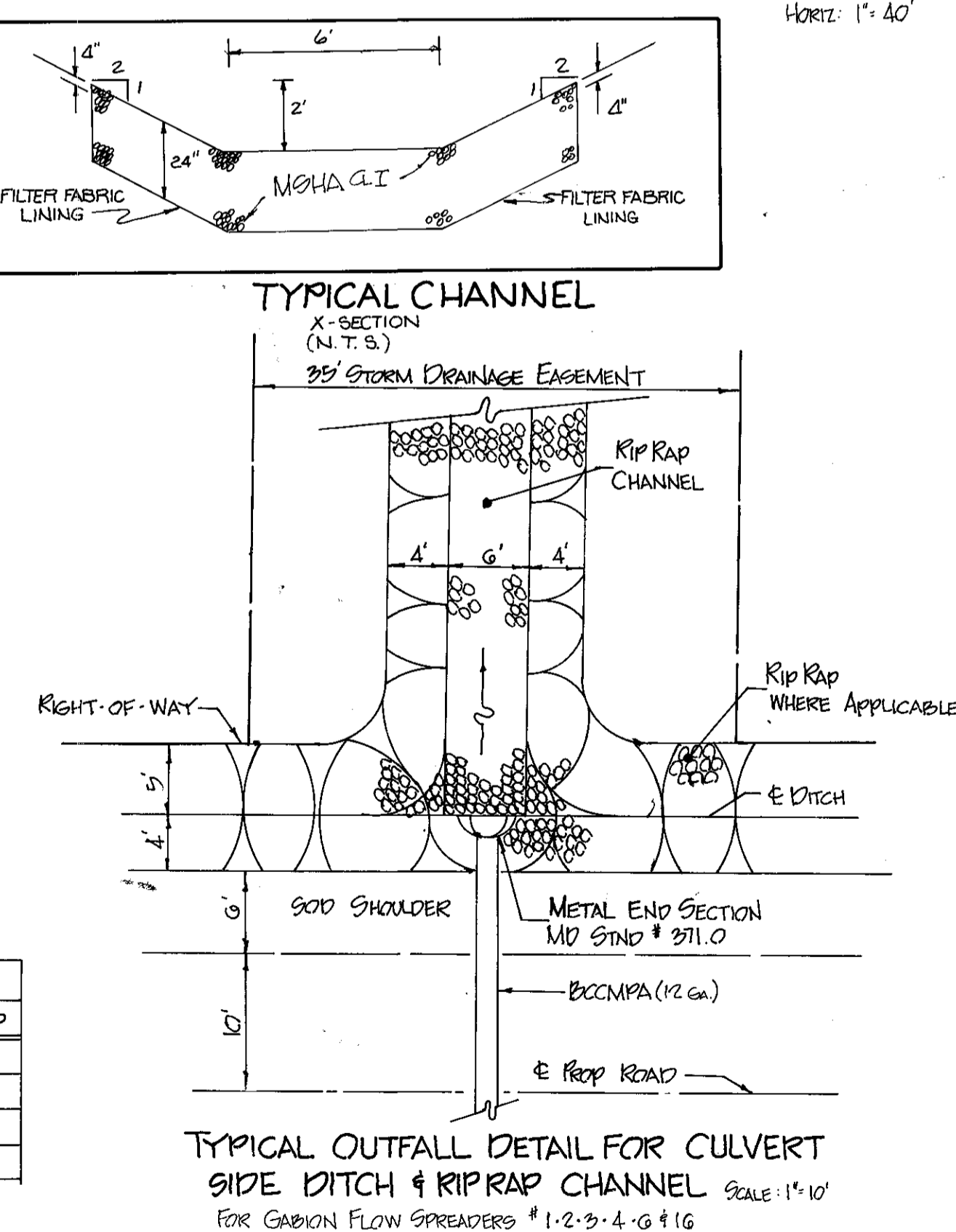
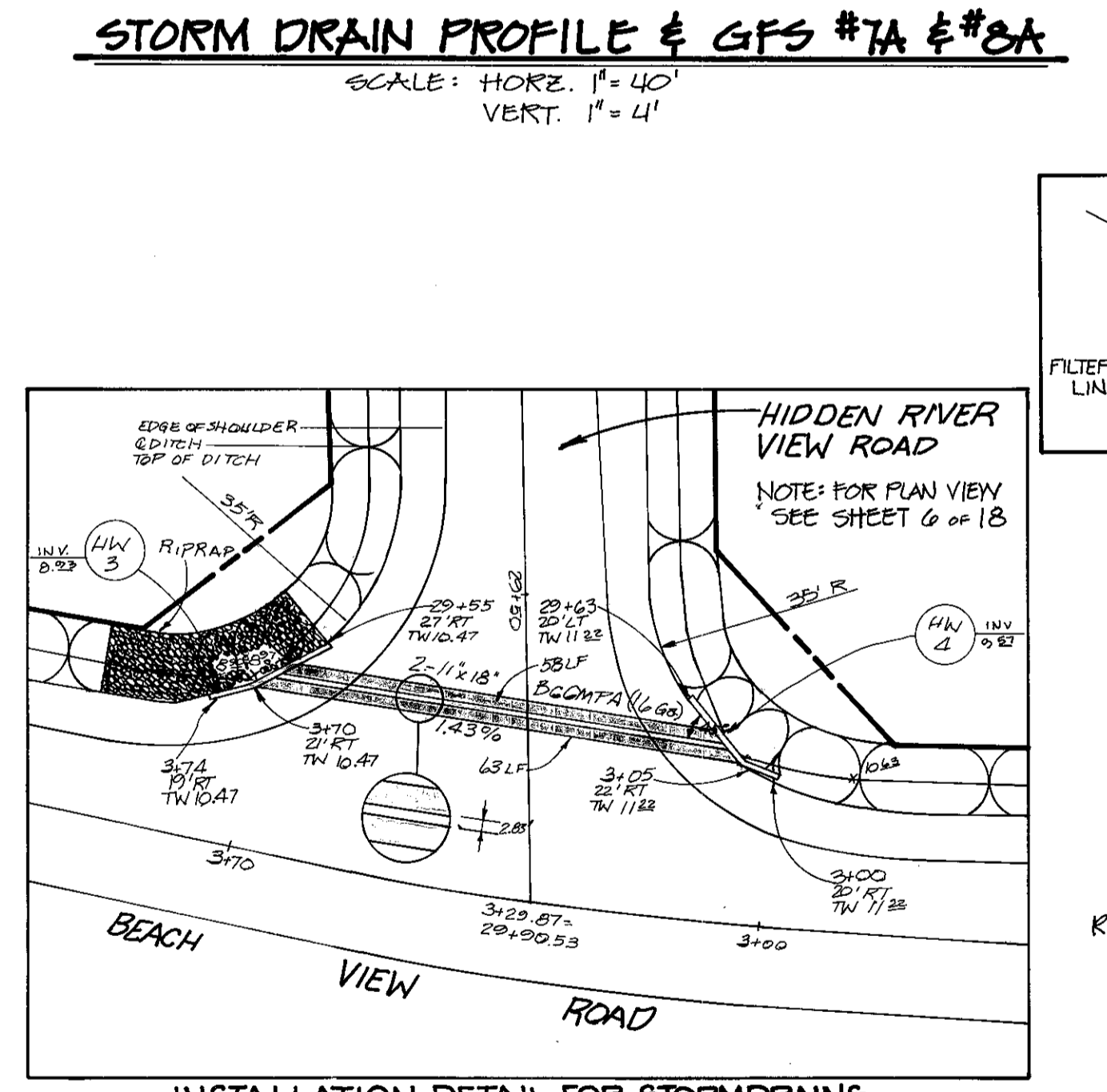
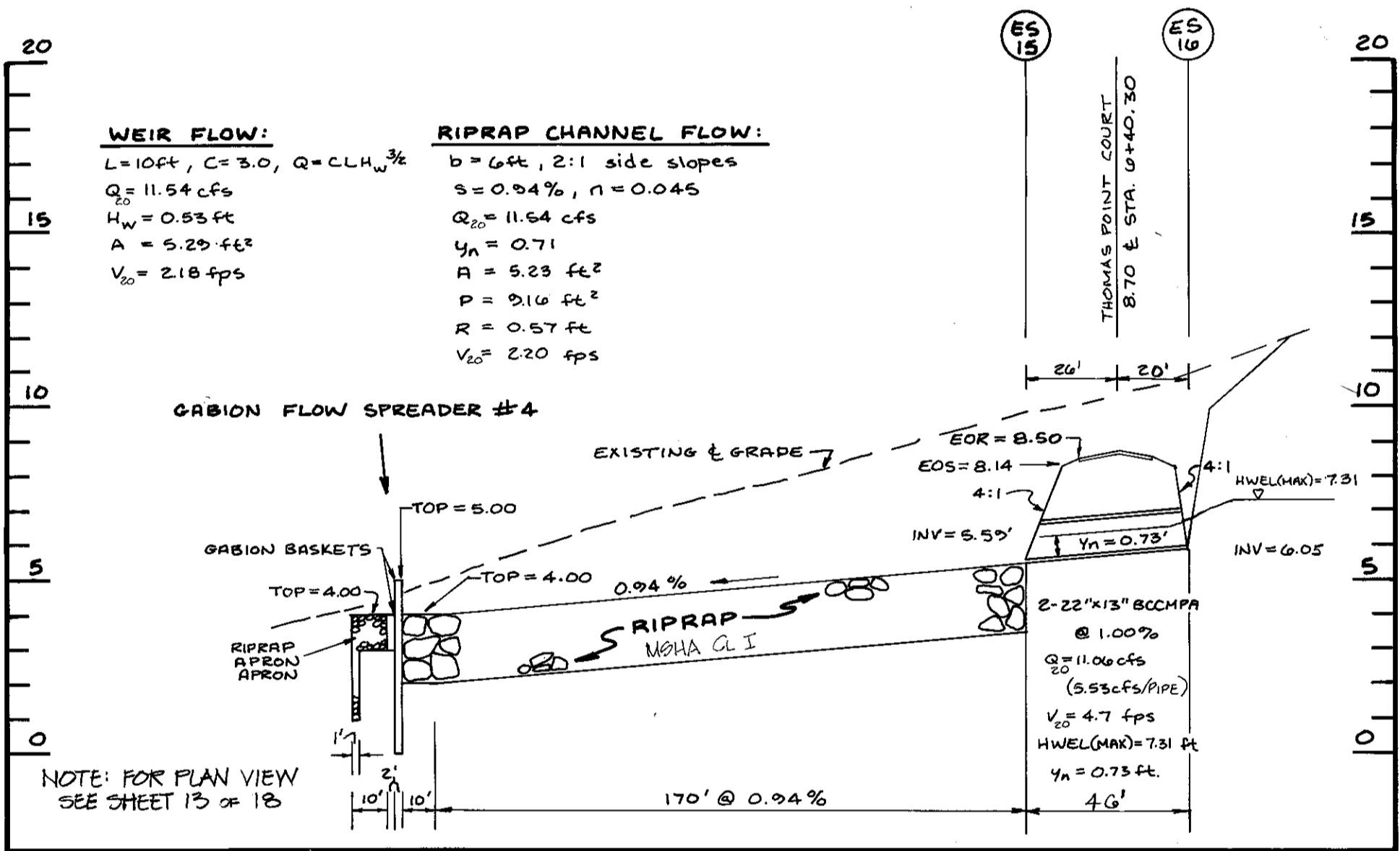
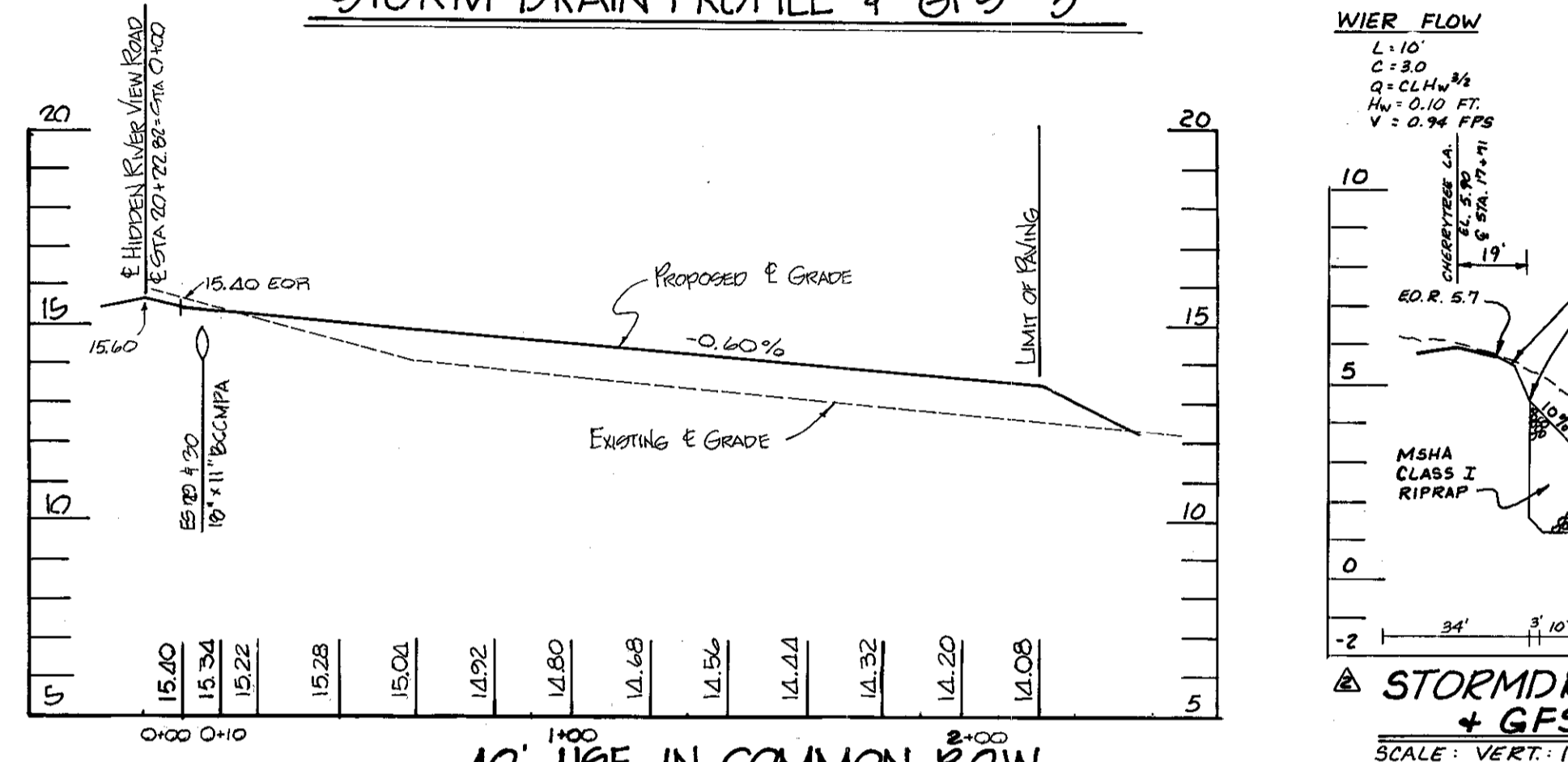
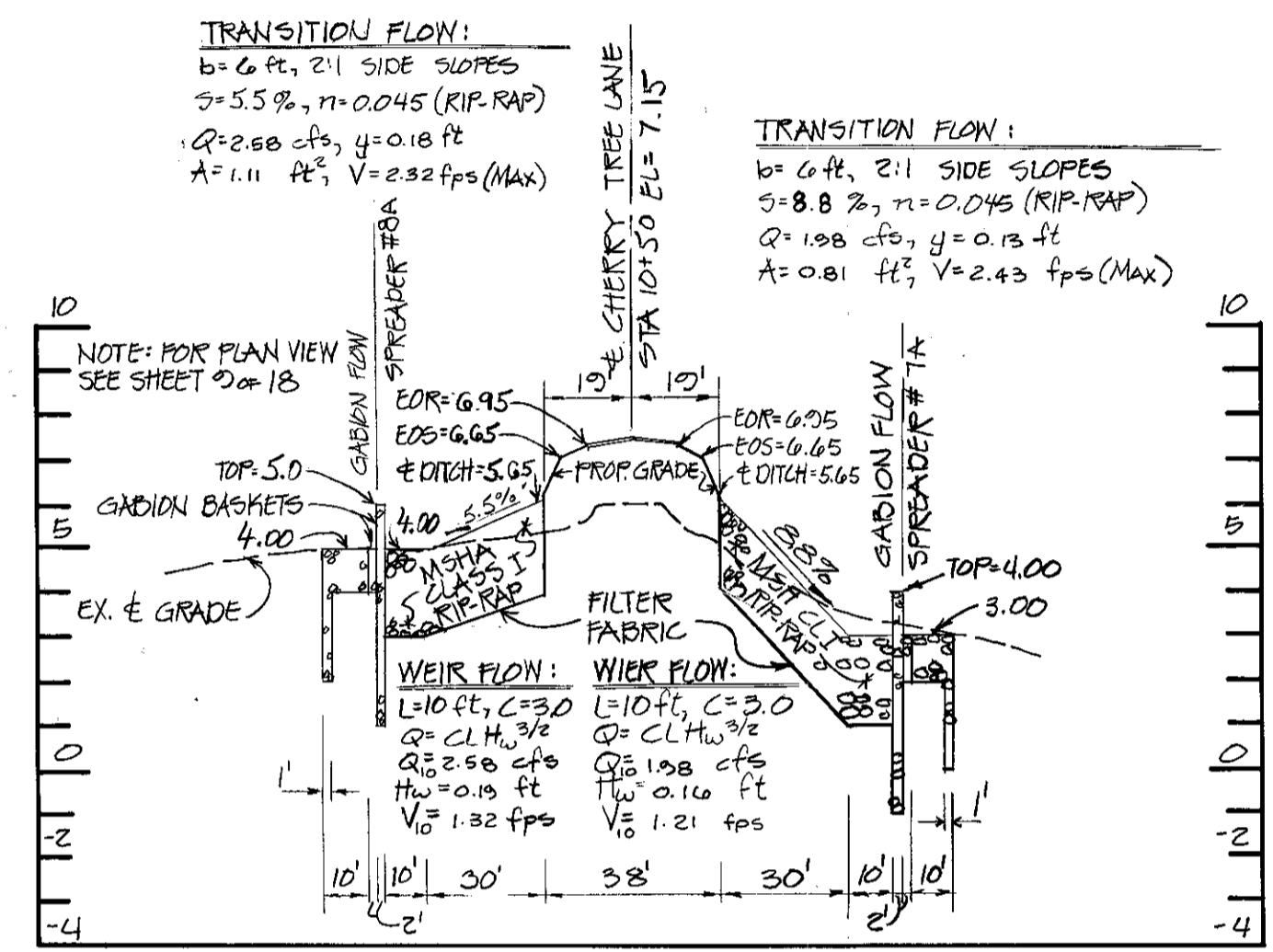
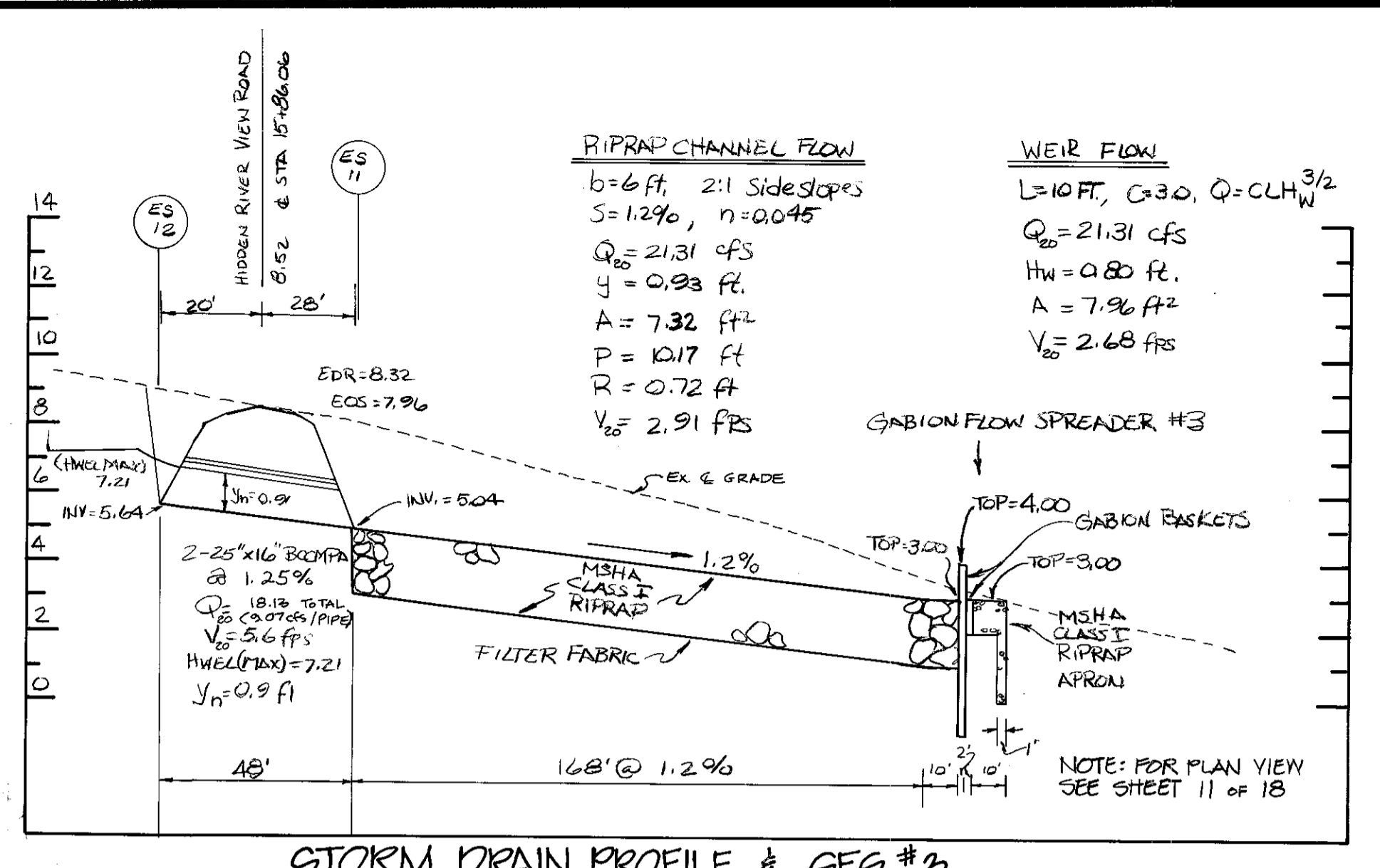
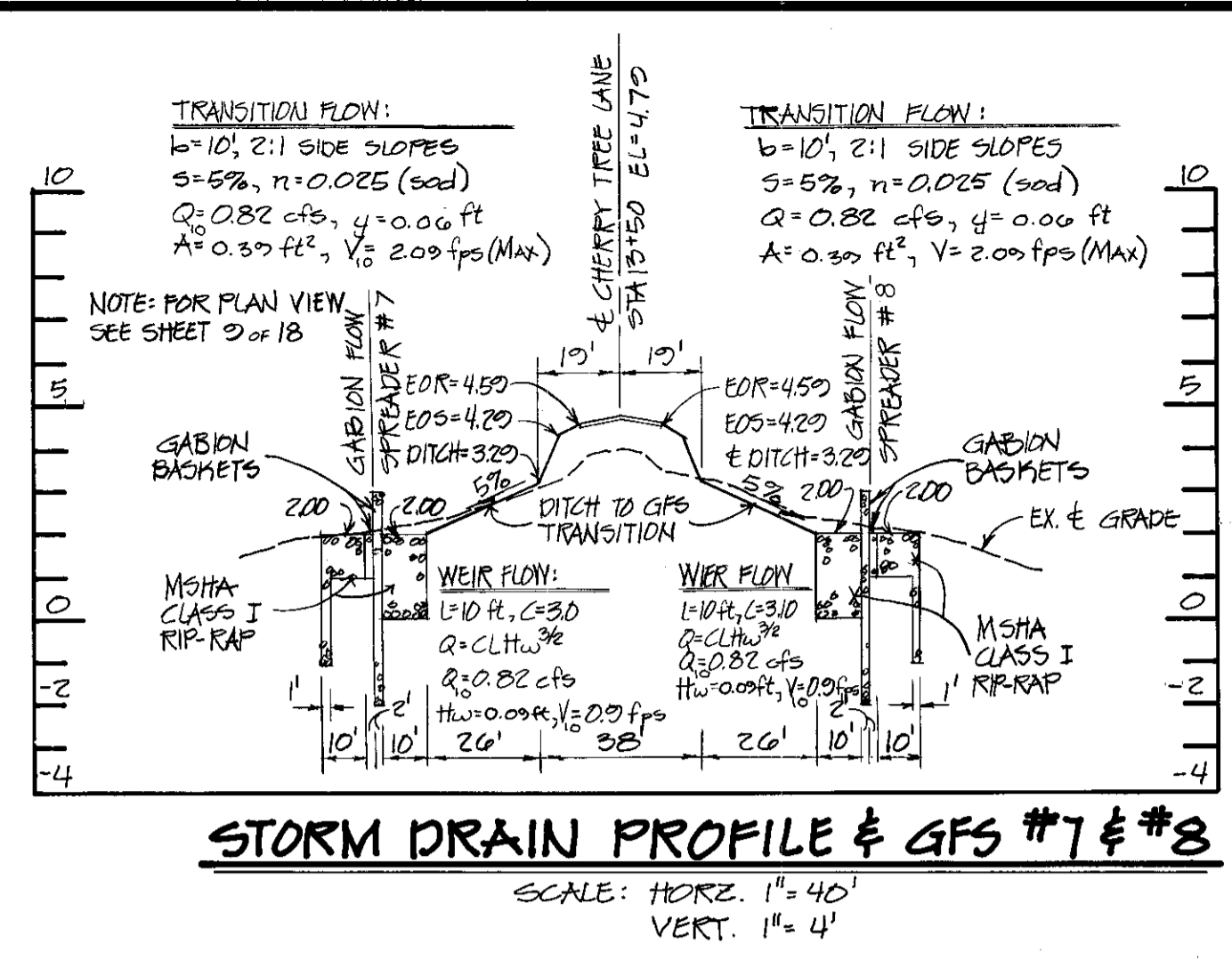
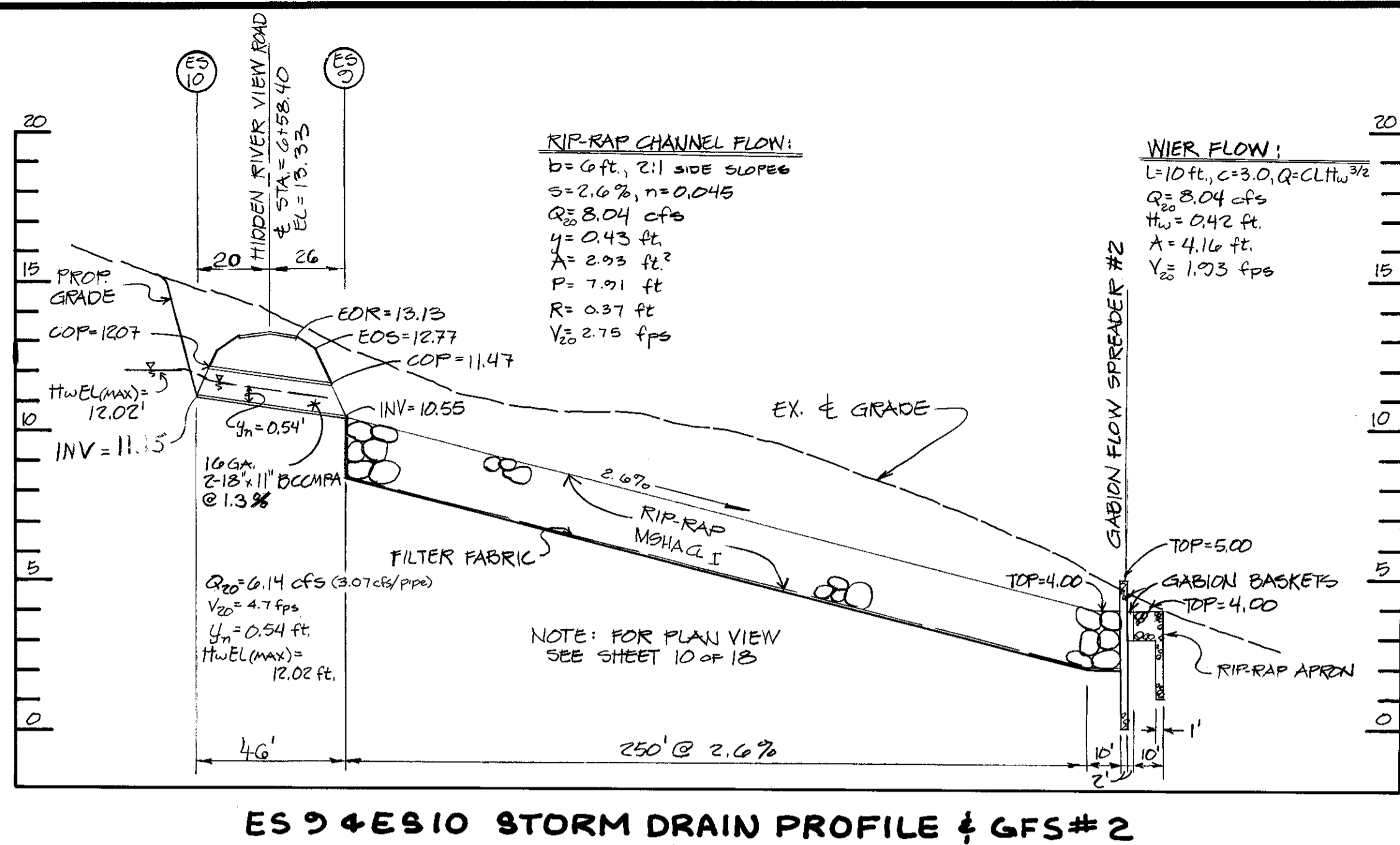
ENGINEERS - ARCHITECTS - PLANNERS - SURVEYORS  
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**ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS**

REVISED DATE	BY	APPROVED	DRAWN BY	SCALE	ROAD & STORM DRAIN PLANS
1-28-87	MJP			AS SHOWN	FISHING CREEK FARM
4-27-87	MJP				A R-1/R-2 RESIDENTIAL CLUSTER SUBDIVISION
8-11-87	MMD				2ND TAX DISTRICT TAX MAP 61 & 57
7-27-87	SFS				BLOCKS 2,13,14,19 & 20 BLOCKS 117,121 & 132



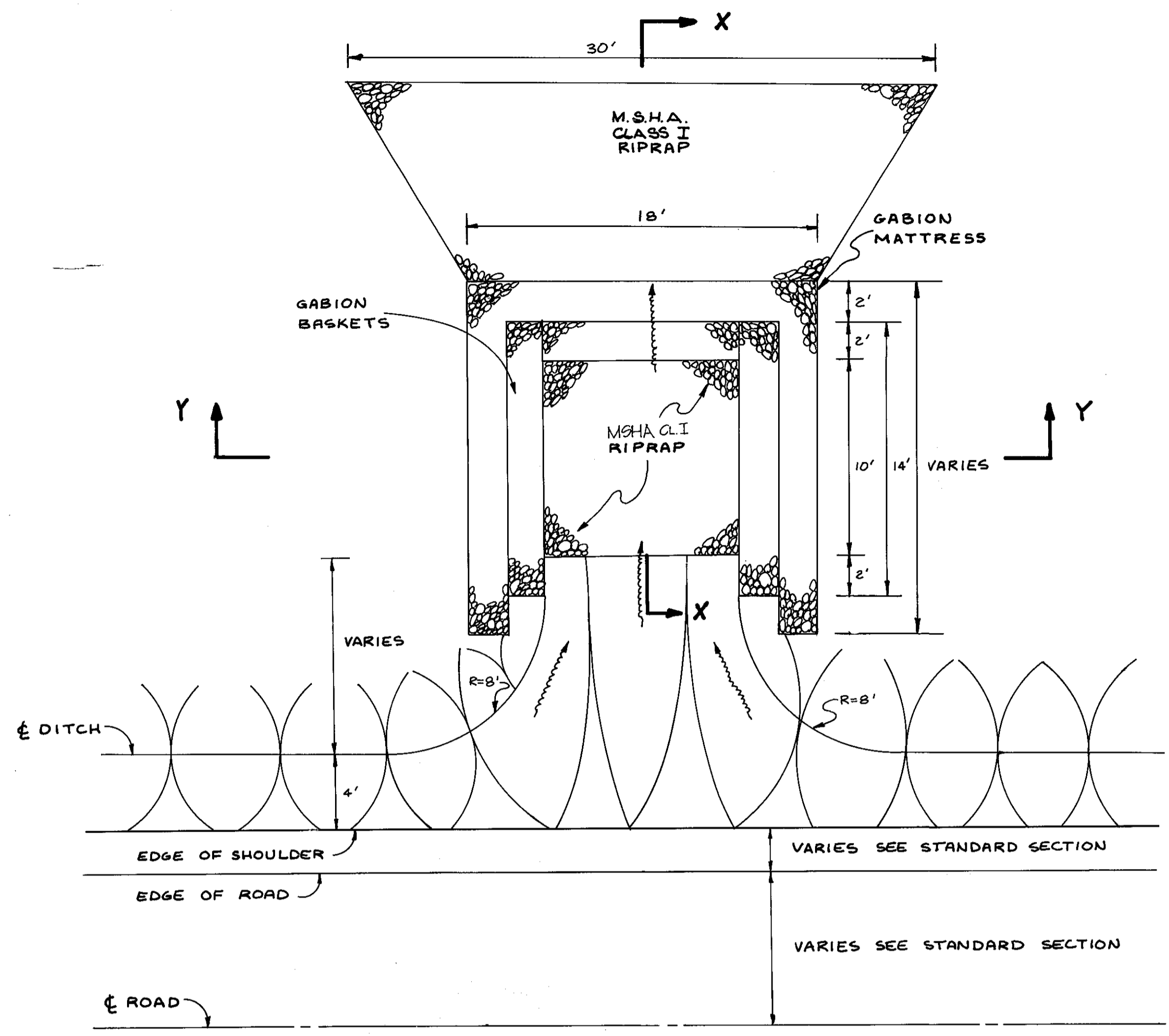


CONTRACT PURCHASER  
 MARK VOGEL COMPANIES  
 600 NEW HAMPSHIRE AVENUE, N.W.  
 SUITE 460  
 WASHINGTON, D.C.

**Dewberry & Davis**  
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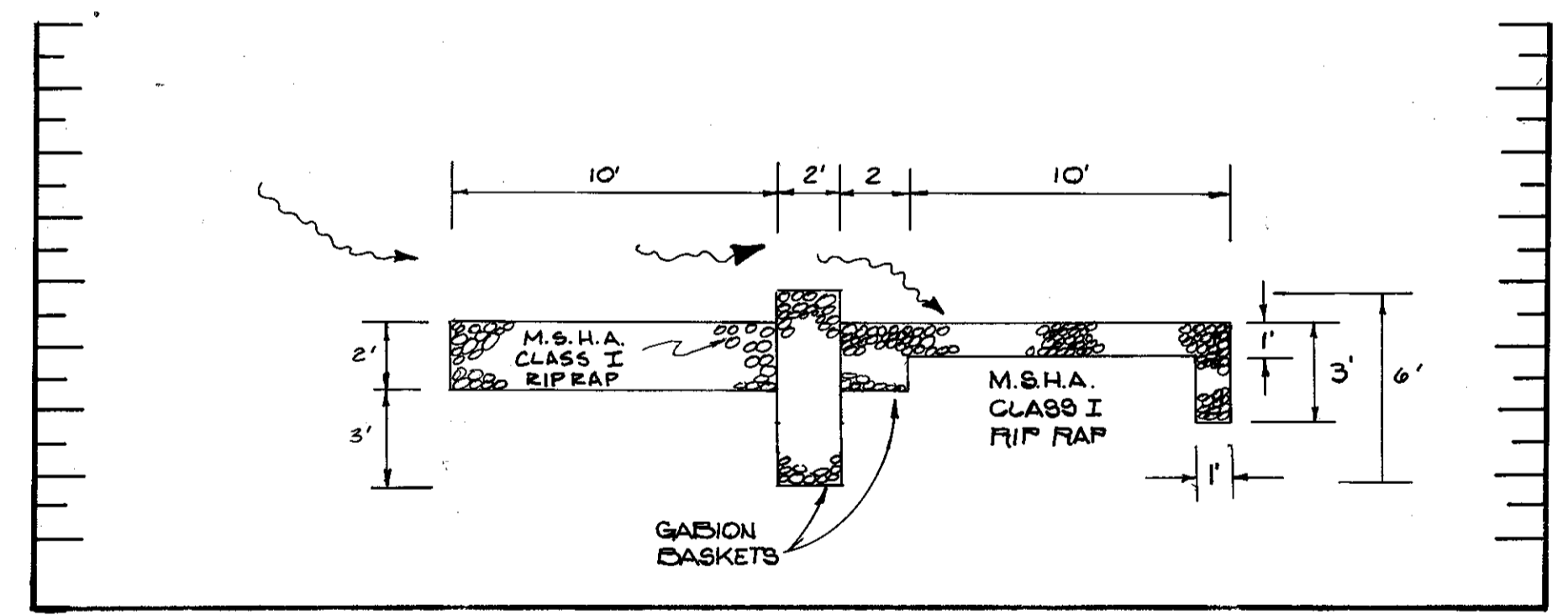
ANNE ARUNDEL COUNTY  
 DEPARTMENT OF PUBLIC WORKS

REVISED DATE: 12-20-87 BY: MJP	APPROVED DATE: 1/18/88 BY: [Signature]	DRAWN BY: DND	SCALE: AS NOTED	ROADS & STORM DRAIN PLANS
DATE: 4-27-87 BY: MJP	DATE: 1/18/88 BY: [Signature]	CHECKED BY: JSK	SHEET NO. 17 OF 18	<b>FISHING CREEK FARM</b>
DATE: 8-11-87 BY: MMD	DATE: 1/18/88 BY: [Signature]	DATE: SEPT, 1987	PROJECT NO.	A R-1/R-2 RESIDENTIAL CLUSTER SUBDIVISION
DATE: 12-20-88 BY: MLH	DATE: 1/18/88 BY: [Signature]	APPROVED REVIEW ENGINEER	ACCT. NO.	2ND TAX DISTRICT TAX MAP 51 & 67 BLOCKS 2,3,13,14,19 & 20 BLOCKS 117,121 & 132



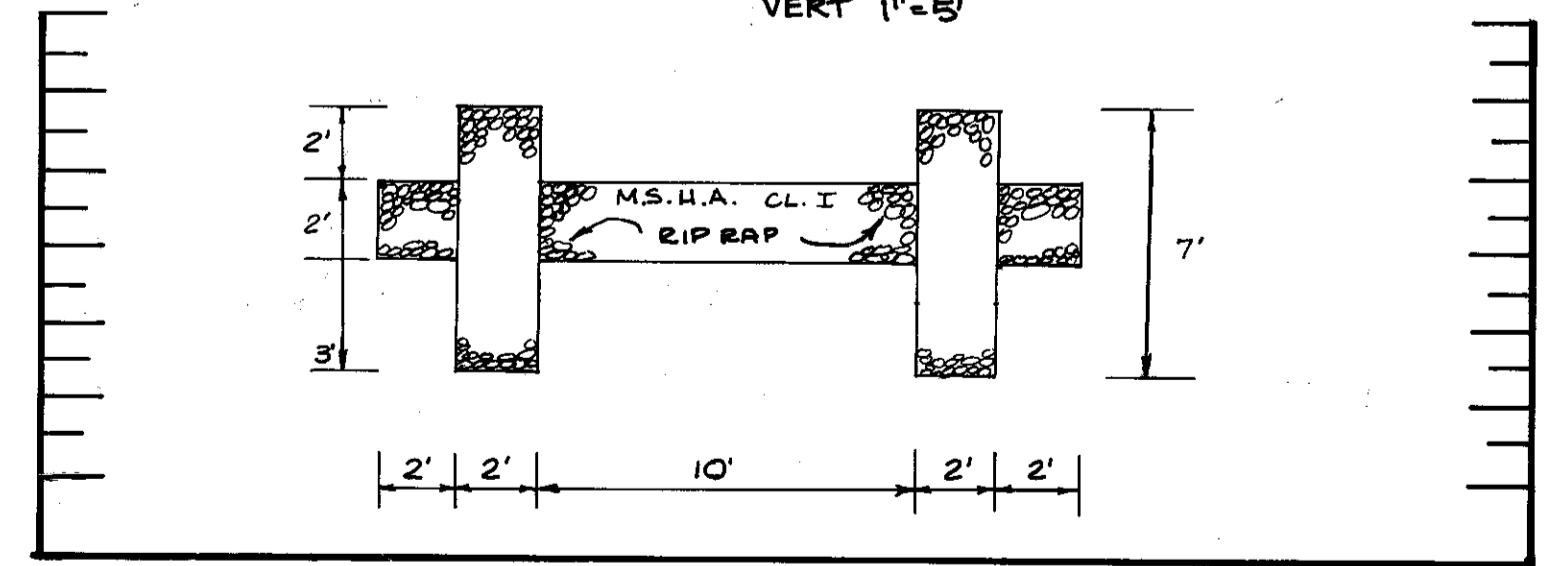
**TYPICAL GABION FLOW SPREADER**

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



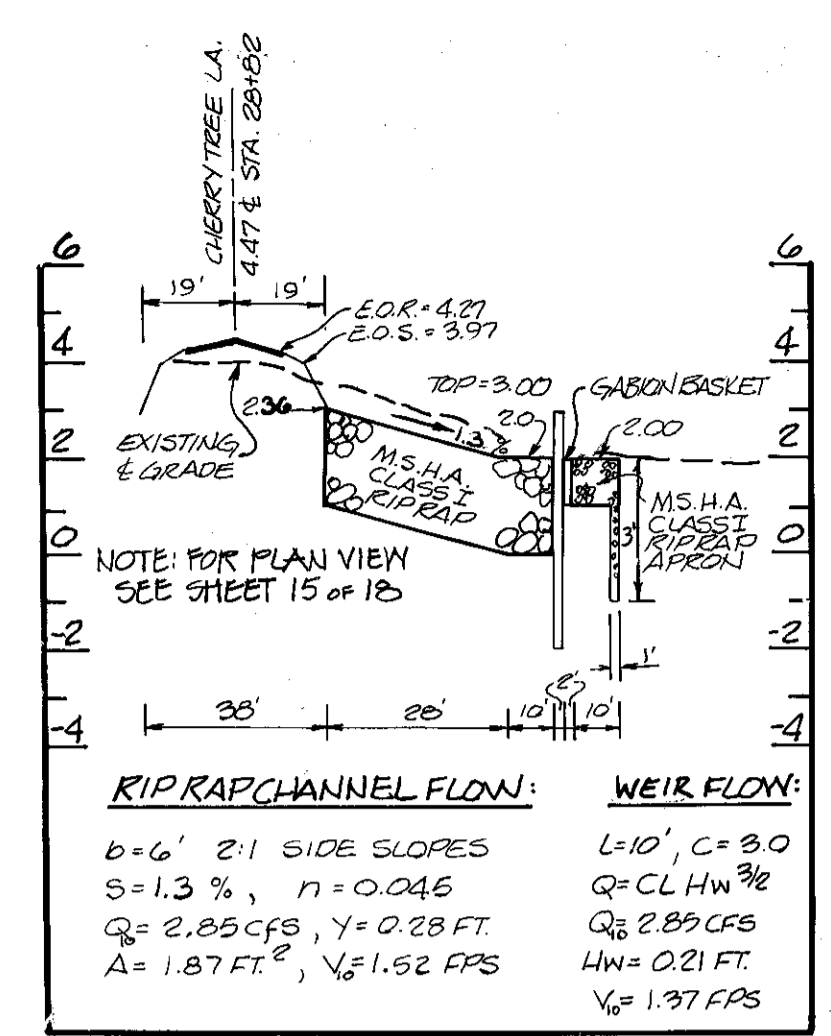
**TYPICAL X-X SECTION (SEE PLAN VIEW ABOVE)**

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

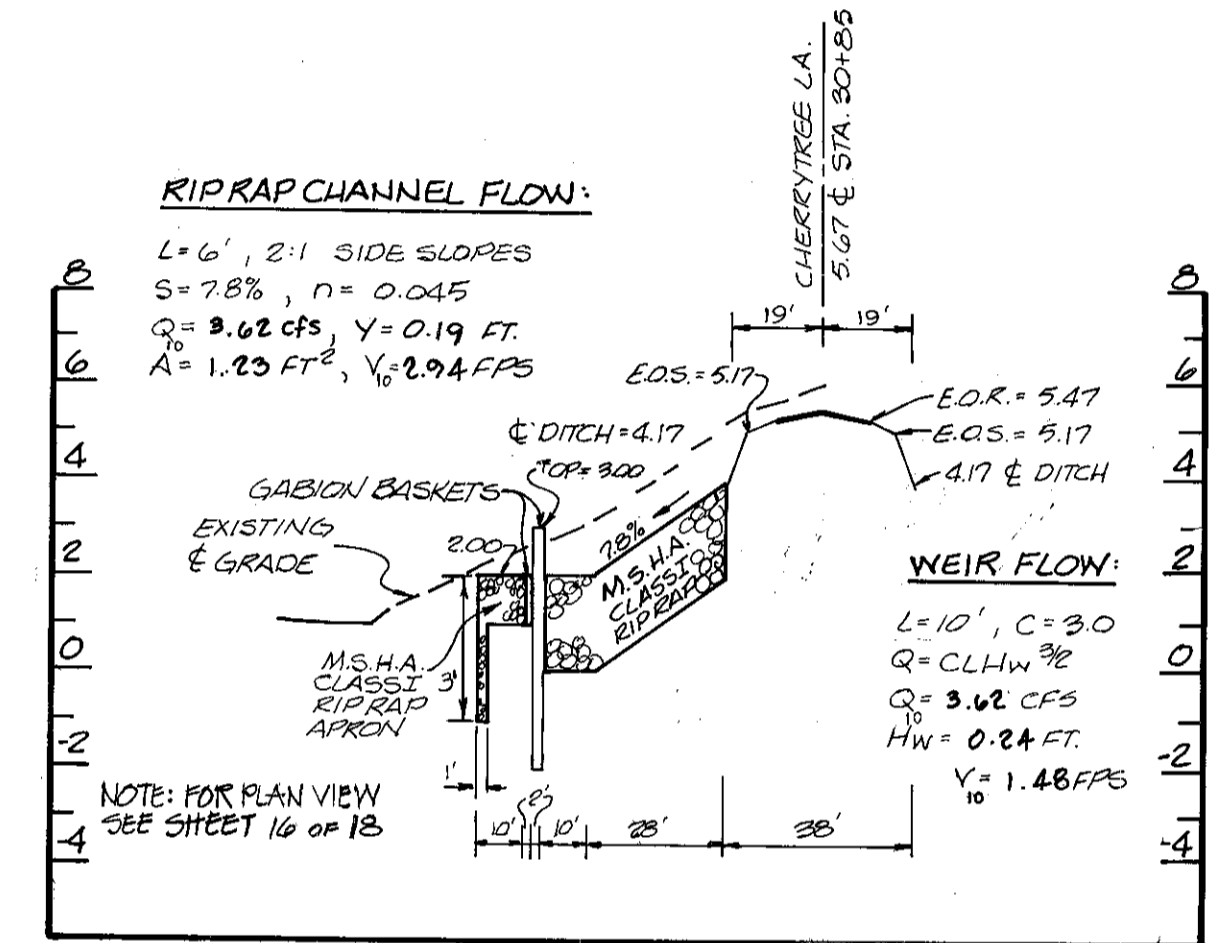


**TYPICAL Y-Y SECTION (SEE PLAN VIEW ABOVE)**

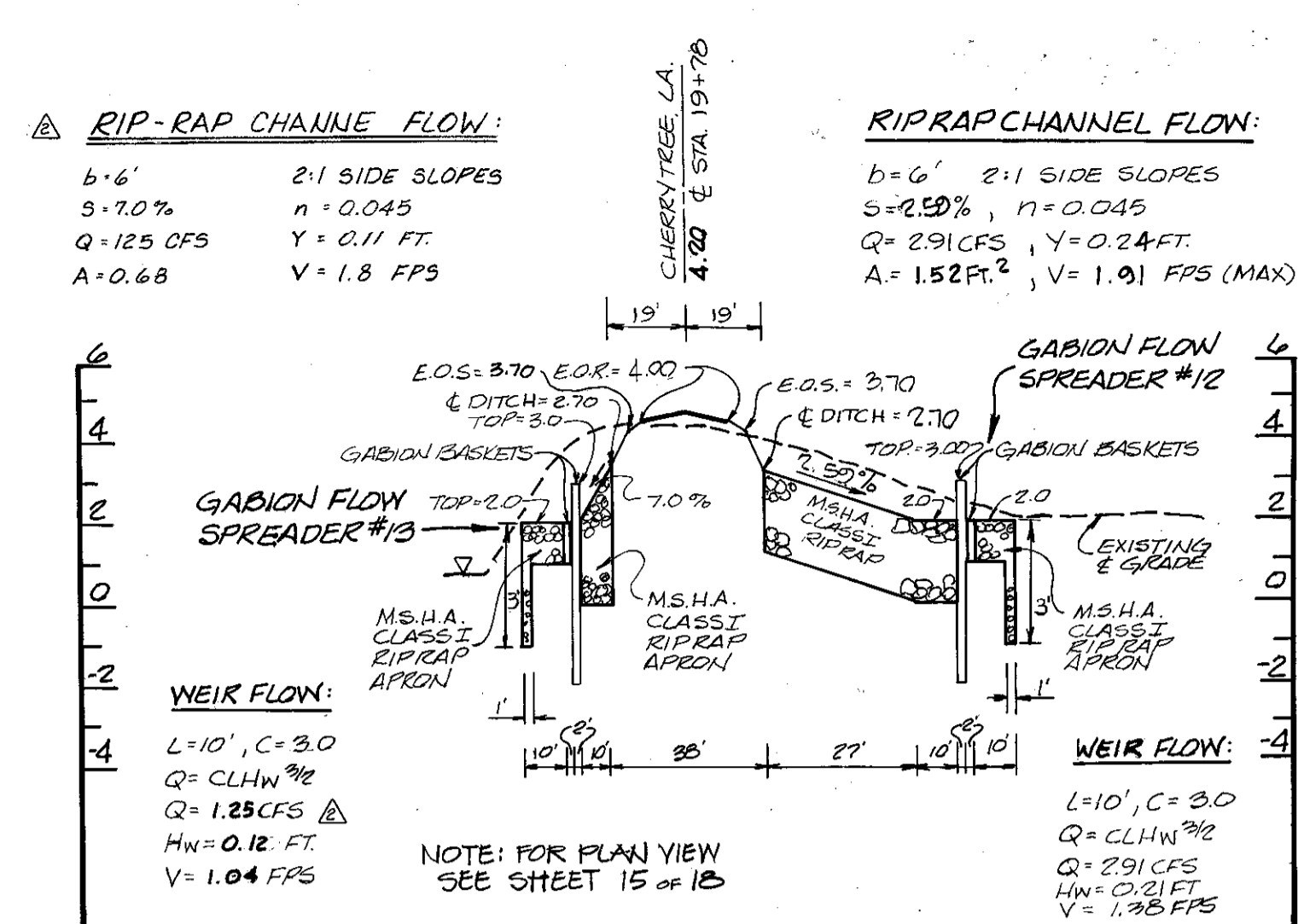
SCALE: HORIZ. 1" = 5'  
VERT. 1" = 5'



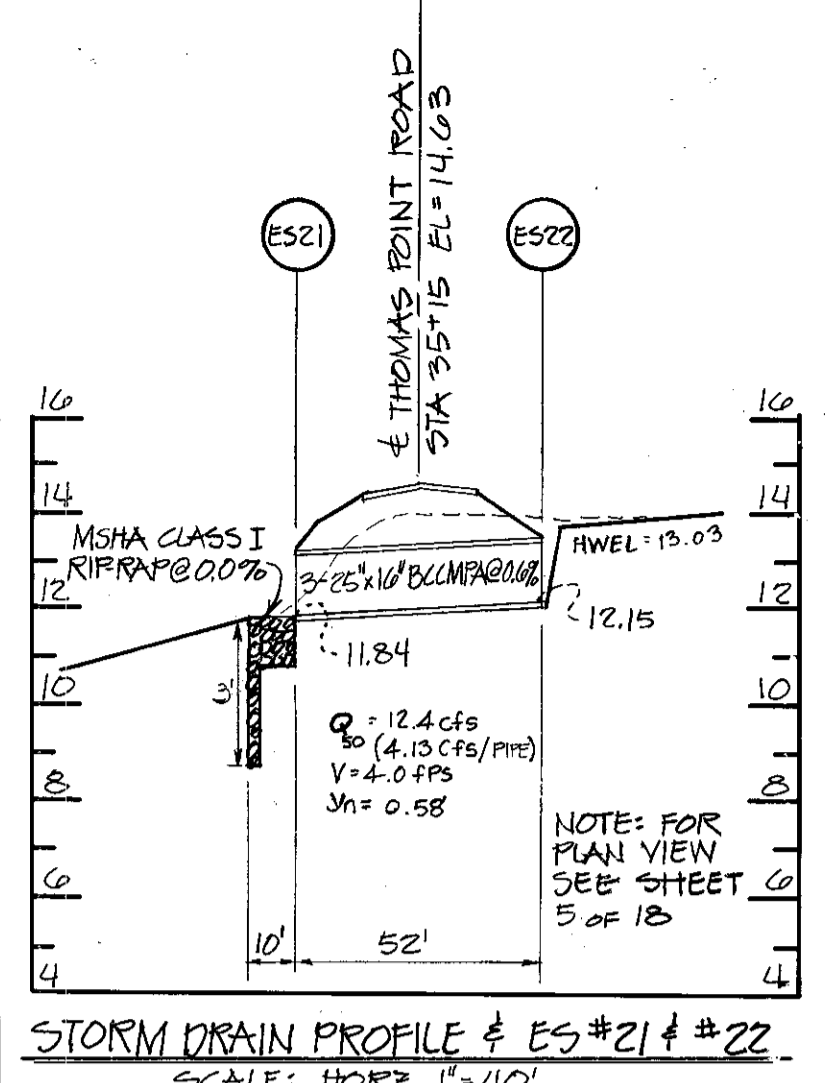
**STORM DRAIN PROFILE & GFS #10**  
SCALE: HORIZ. 1" = 40'  
VERT. 1" = 4'



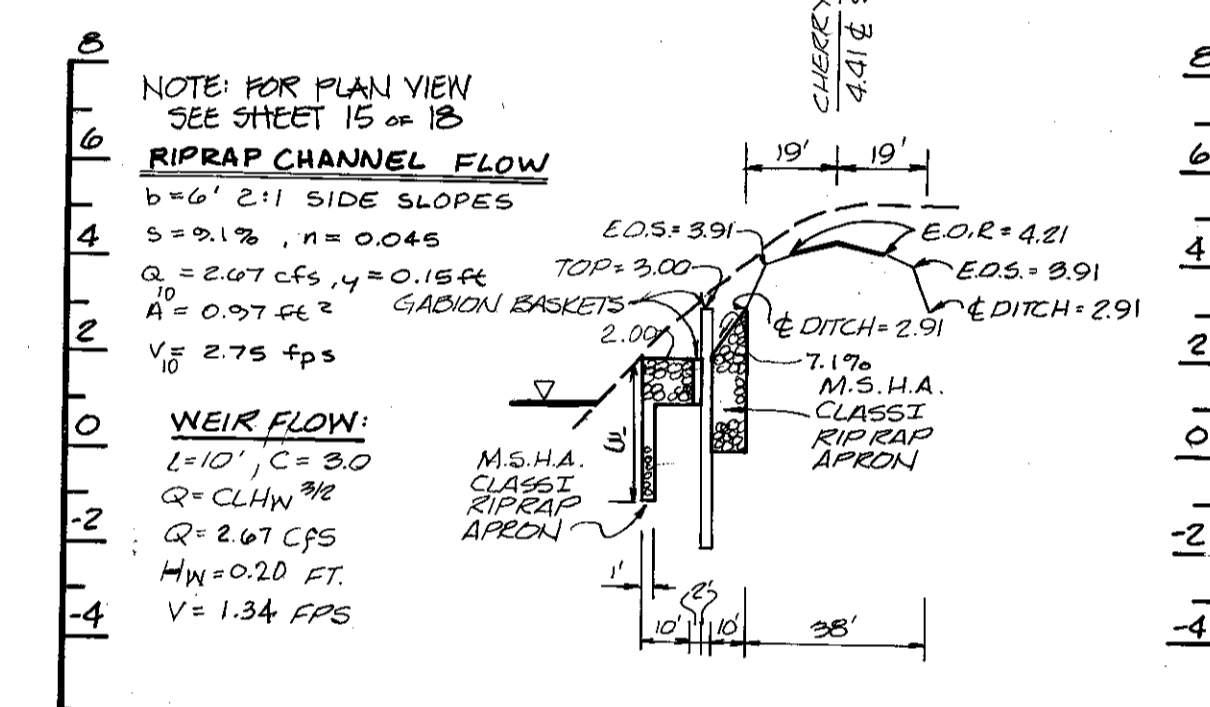
**STORM DRAIN PROFILE & GFS #11**  
SCALE: HORIZ. 1" = 40'  
VERT. 1" = 4'



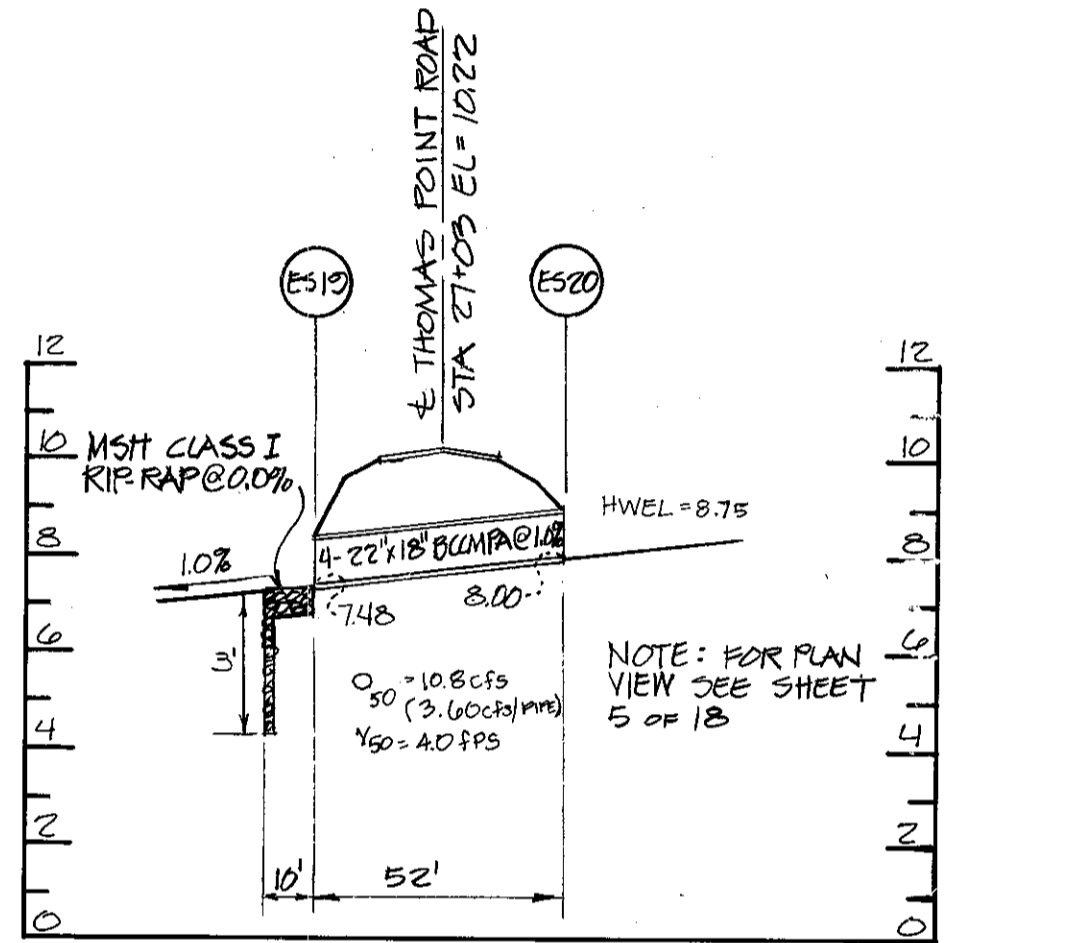
**STORM DRAIN PROFILE & GFS #12, #13**  
SCALE: HORIZ. 1" = 40'  
VERT. 1" = 4'



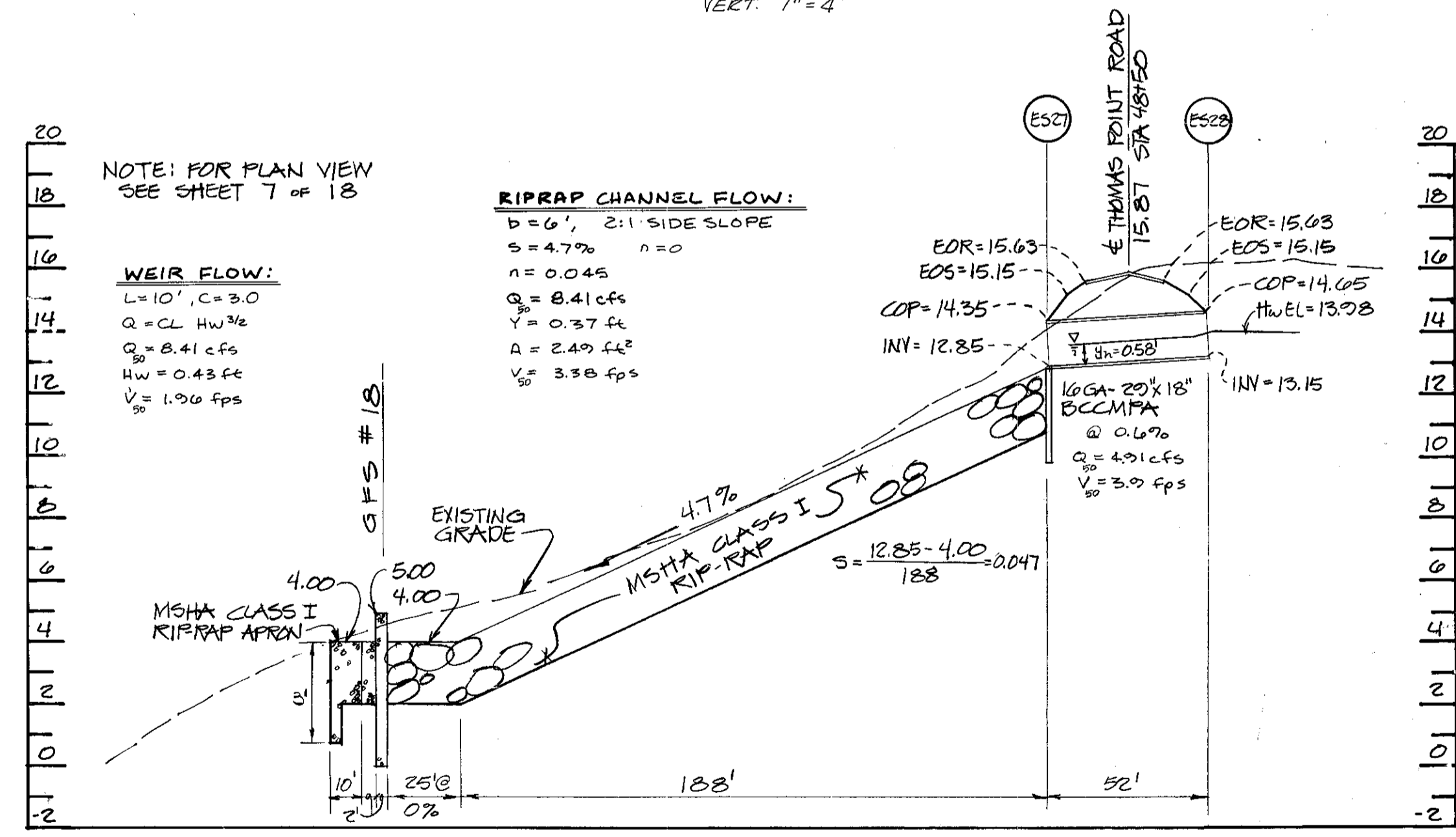
**STORM DRAIN PROFILE & GFS #21 & #22**  
SCALE: HORIZ. 1" = 40'  
VERT. 1" = 4'



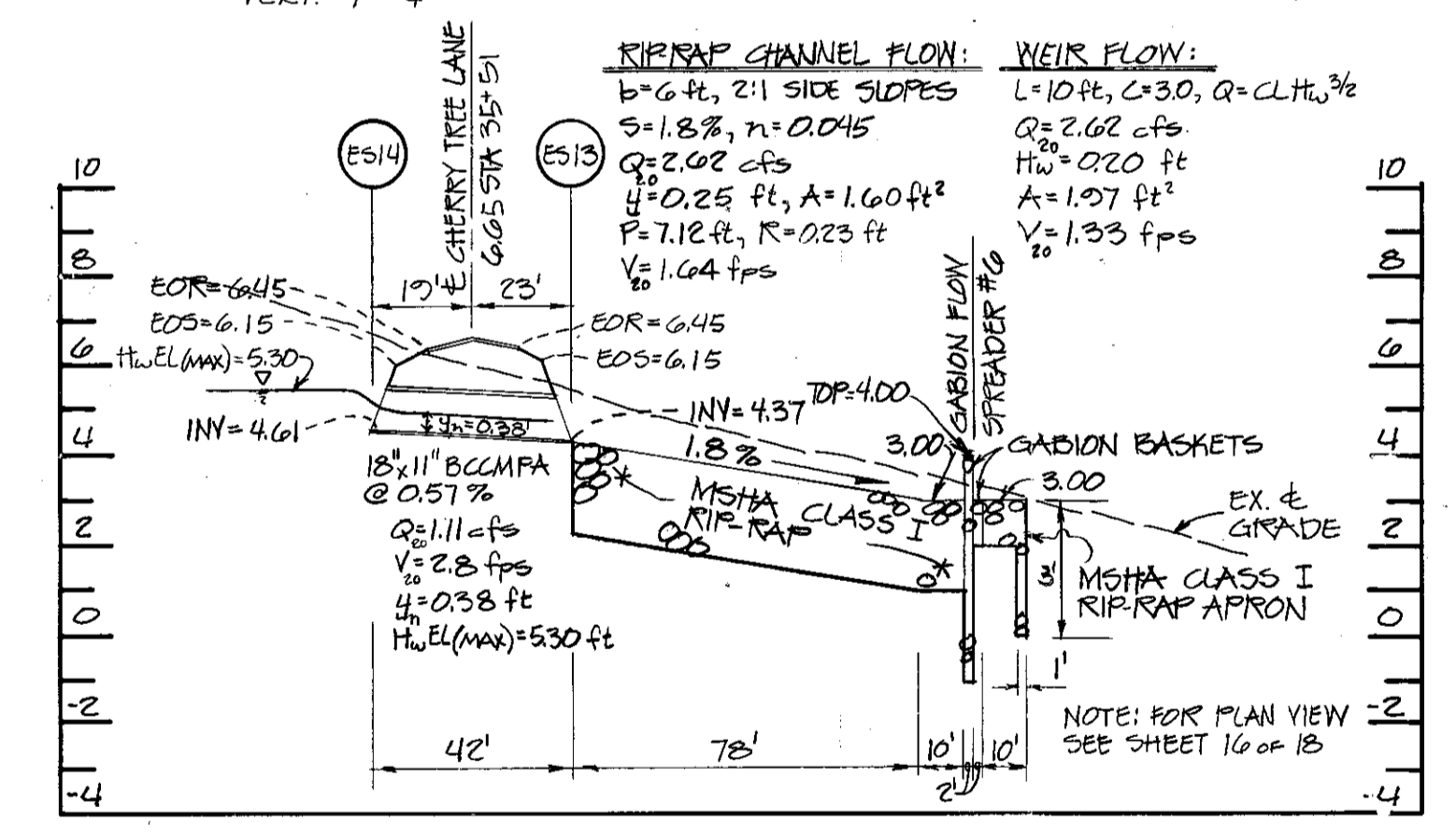
**STORM DRAIN PROFILE & GFS #15**  
SCALE: HORIZ. 1" = 40'  
VERT. 1" = 4'



**STORM DRAIN PROFILE & GFS #19 & #20**  
SCALE: HORIZ. 1" = 40'  
VERT. 1" = 4'



**STORM DRAIN PROFILE & GFS #16**  
SCALE: HORIZ. 1" = 40'  
VERT. 1" = 4'



**STORM DRAIN PROFILE & GFS #6**  
SCALE: HORIZ. 1" = 40'  
VERT. 1" = 4'

REVISIONS				
NO.	DATE	BY	DESCRIPTION	APPROVED
1	12-20-88	MLH	ADDED G.F.S. #17 & REVISED COMPS	MLH 1/2/89

**OWNER DEVELOPER**  
CONTRACT PURCHASER  
MARK VOGEL COMPANIES  
600 NEW HAMPSHIRE AVENUE, N.W.  
SUITE 460  
WASHINGTON, D.C.

**Dewberry & Davis**  
ENGINEERS - ARCHITECTS - PLANNERS - SURVEYORS  
2594 Riva Road, Annapolis, Maryland 21401 (301) 841-6811



ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS					
REVISED DATE	BY	APPROVED	DRAWN BY	SCALE	SHEET NO. 18 OF 18
1-28-87	MVP	CHIEF BUREAU OF WATERSHED PROGRAMS	DATE: SEPT, 1987	AS SHOWN	ROADS & STORM DRAIN PLANS
4-27-87	MVP	BUREAU OF WATERSHED PROGRAMS	DATE: SEPT, 1987		FISHING CREEK FARM
8-11-87	MMD	CHIEF OF DEVELOPMENT SERVICES	REVIEW ENGINEER		A R-1/R-2 RESIDENTIAL CLUSTER SUBDIVISION
12-20-88	MLH				2ND TAX DISTRICT TAX MAP 51 & 67. BLOCKS 2,3,13,14,19 & 20 BLOCKS 117,121 & 132