

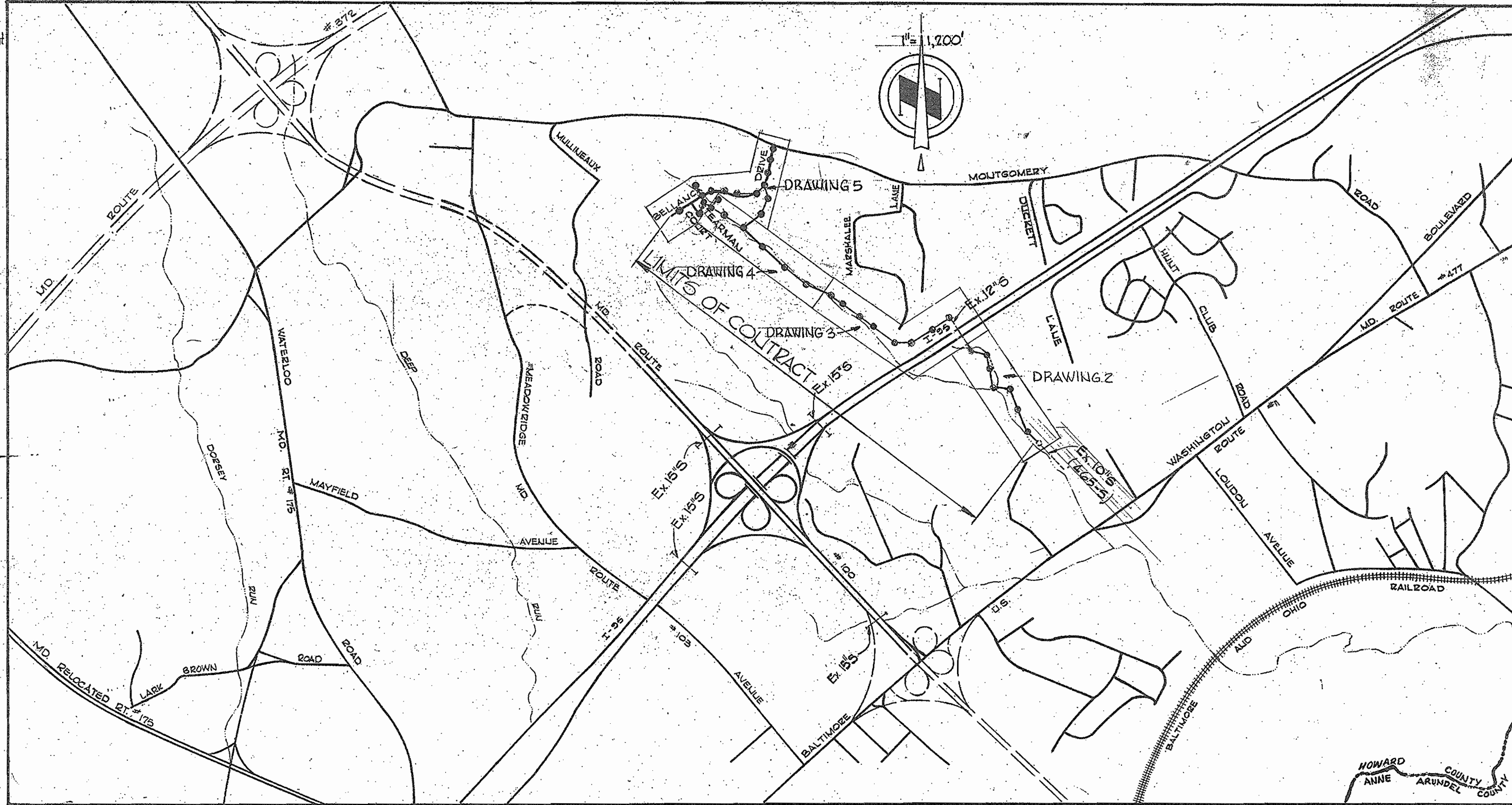
MARSHALEE DRIVE SEWER MAIN REPLACEMENT

All aspects of the work including materials, methods and timing shall be coordinated with and approved by the Department of Public Works prior to initiation. The Contractor shall be responsible for providing all equipment and materials required for the replacement of the existing sewer and bypass pumping operations, including ductile iron sewer pipe, pipe couplings, sewer plugs, sewerage pumps, bypass piping, generator, fuel, and other appurtenances. All materials, equipment, and subcontractors required to perform the work, including the standby pump supplier, shall be approved by the Department of Public Works prior to starting work on the Marshalee Drive sewer replacement.

Attached is a general sequence of work for the Marshalee Drive sewer main replacement. A detailed scope of work shall be developed by the Contractor and submitted to the County for review and approval prior to starting this item of work.

GENERAL SEQUENCE OF WORK

1. The Contractor shall provide a bypass pump capable of pumping 200 gallons per minute at 25 feet total dynamic head. The Contractor shall provide qualified personnel on-site at all times during the bypass pumping operations to monitor and correct all deficiencies that may arise during the operation.
2. The Contractor shall provide a standby pump of equal capacity. The standby pump shall remain on-site and operational during the entire time of the sewage bypass operations.
3. The Contractor shall perform investigations and test pits prior to the sewage bypass operation to insure that pipe sleeves, plugs, stops and other appurtenances are properly sized and on hand prior to the sewer being taken out of service.
4. Install bypass pump and bypass piping; insure pumps are operational and the suction and discharge pipes are watertight. The Contractor shall demonstrate that the sewage pump and standby pump are in working order prior to taking the existing sewer out of service.
5. Install bypass suction line into manhole 8567. Install bypass discharge line into manhole 8566. Block downstream sewer at suction manhole 8567. Block upstream sewer at discharge manhole 8566. Begin bypass pumping operation.
6. Work performed on the removal of the existing sewer and installation of the new sewer shall be completed between the hours of 10:00 P.M. and 5:00 A.M. In the event that the work spans multiple nights, the Contractor shall only remove as much sewer as can be replaced during the aforementioned time period, and shall tie back into the existing sewer with a watertight connection prior to the end of the shift. Temporary bypass pumping shall not be allowed during non-work periods on the sewer.
7. The Contractor shall remove existing 10-inch asbestos cement sewer and install 10-inch Class B2 D.I.P. sewer within the limits and on the line and grade shown on the approved plans. Transition from the new D.I.P. to the existing A.C.P. shall be by an approved transition coupling. All excavation, bedding and backfill shall be in accordance with the Standard Specifications and Details for Construction.
8. The newly installed sewer shall be on the same line and grade as the existing sewer and shall be free from either flat spots or obstructions that will impede flow. The completed sewer shall convey the wastewater at the same rate as the existing sewer and be free from surcharges in the upstream manhole. In the event that an increased level and reduced velocity is evident in the upstream manhole, the sewer shall be television inspected at the Contractor's expense, and repairs effected as required.
9. Following acceptance of the replacement sewer, remove downstream and upstream plugs from the sewer. All temporary bypass piping and pumps shall be disassembled and removed from the site. All asbestos cement pipe removed from the existing sewer shall be removed from the site and disposed of by the Contractor. The Contractor shall restore the site to a good condition.



PROJECT NO. S-4-6052

MARSHALEE

HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS

QUANTITIES		
ITEM	QUANTITY	
	Design	As-Built
8" Sewer (L.F.)	5610	5,615
10" Sewer (L.F.)	3770	3,702
12" Sewer (L.F.)	1775	1,774

MANHOLES - ATLANTIC PRECAST
PIPE - A.C. CERTAIN TEED

"AS-BUILT"
Stakeout FS 6323
Diary FS 6378



Marshalee
Project No. S-4-6052
Contract No. 6573

DATE	REVISIONS
5-17-04	Sewer Replacement See Shts. 1, 3 & 6 of 8

WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND P. J. Reardon 11-9-76 DIRECTOR OF PUBLIC WORKS - DATE	CONTRACT NO. 657-S PROJECT NO. S-4-6052 W. O. Libbert 11-3-76 CHIEF BUREAU OF ENGINEERING - DATE	LOCATION MAP	ELECTION DISTRICT ELKRIDGE NO. 1	DRAWING NO. 1 OF 8 SCALE 1" = 120'
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W. O. 6345

JULY 10, 1979

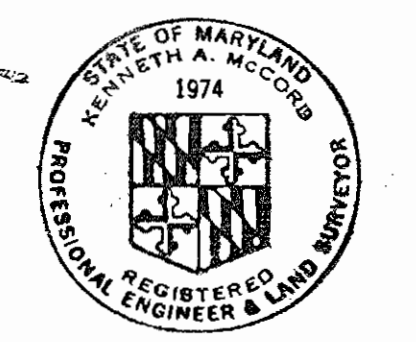
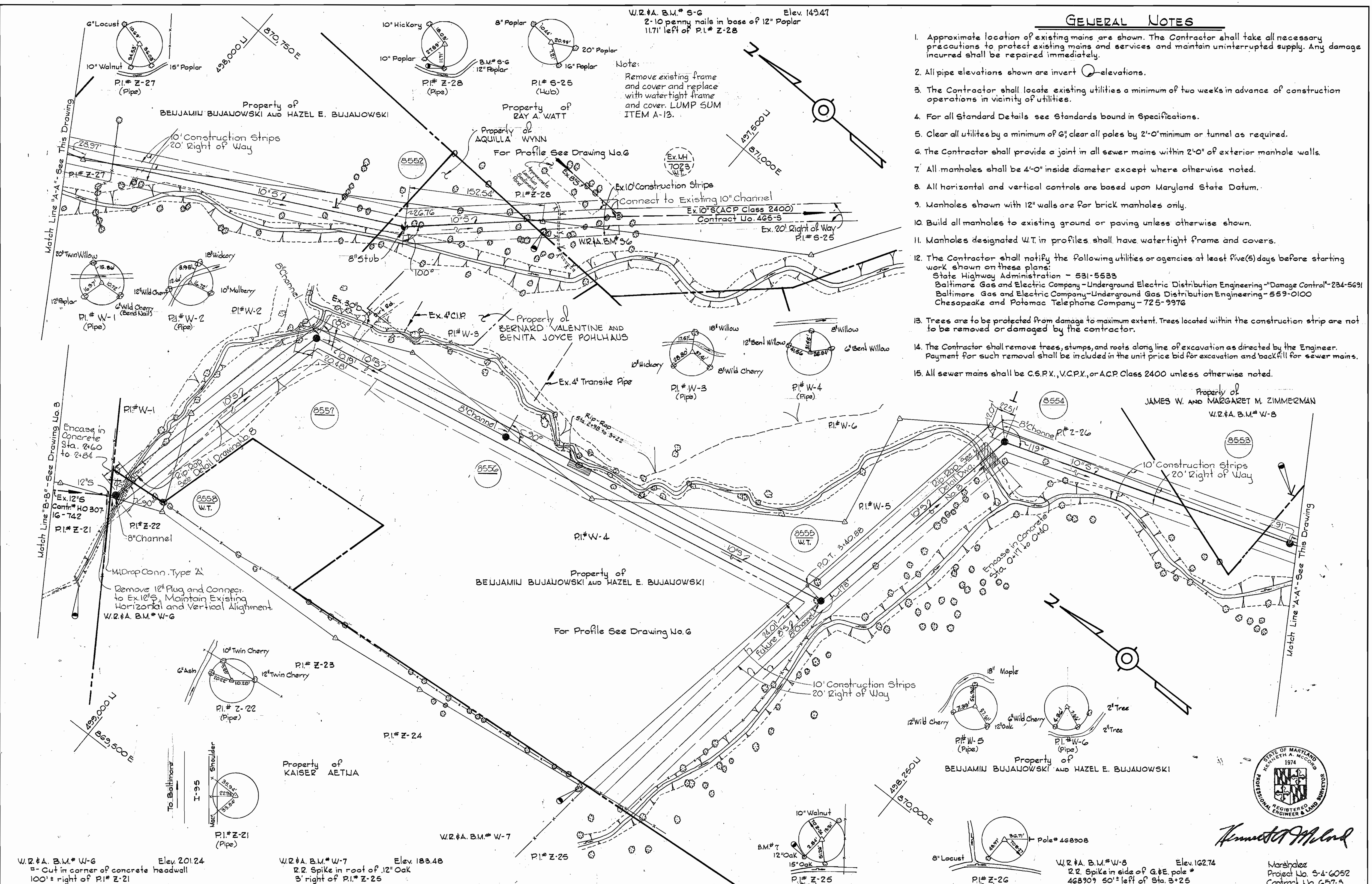
"As-Built" November 20, 1980

WS 657-S/1

BRINING 44510 1838Z

GENERAL NOTES

1. Approximate location of existing mains are shown. The Contractor shall take all necessary precautions to protect existing mains and services and maintain uninterrupted supply. Any damage incurred shall be repaired immediately.
2. All pipe elevations shown are invert elevations.
3. The Contractor shall locate existing utilities a minimum of two weeks in advance of construction operations in vicinity of utilities.
4. For all Standard Details see Standards bound in Specifications.
5. Clear all utilities by a minimum of 6'; clear all poles by 2'-0" minimum or tunnel as required.
6. The Contractor shall provide a joint in all sewer mains within 2'-0" of exterior manhole walls.
7. All manholes shall be 4'-0" inside diameter except where otherwise noted.
8. All horizontal and vertical controls are based upon Maryland State Datum.
9. Manholes shown with 12" walls are for brick manholes only.
10. Build all manholes to existing ground or paving unless otherwise shown.
11. Manholes designated W.T. in profiles shall have watertight frame and covers.
12. The Contractor shall notify the following utilities or agencies at least five(5) days before starting work shown on these plans:
State Highway Administration - 531-5533
Baltimore Gas and Electric Company - Underground Electric Distribution Engineering - "Damage Control" - 234-5691
Baltimore Gas and Electric Company - Underground Gas Distribution Engineering - 559-0100
Chesapeake and Potomac Telephone Company - 725-9976
13. 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.
14. The 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 excavation and backfill for sewer mains.
15. All sewer mains shall be C.S.P.X., V.C.P.X., or A.C.P. Class 2400 unless otherwise noted.



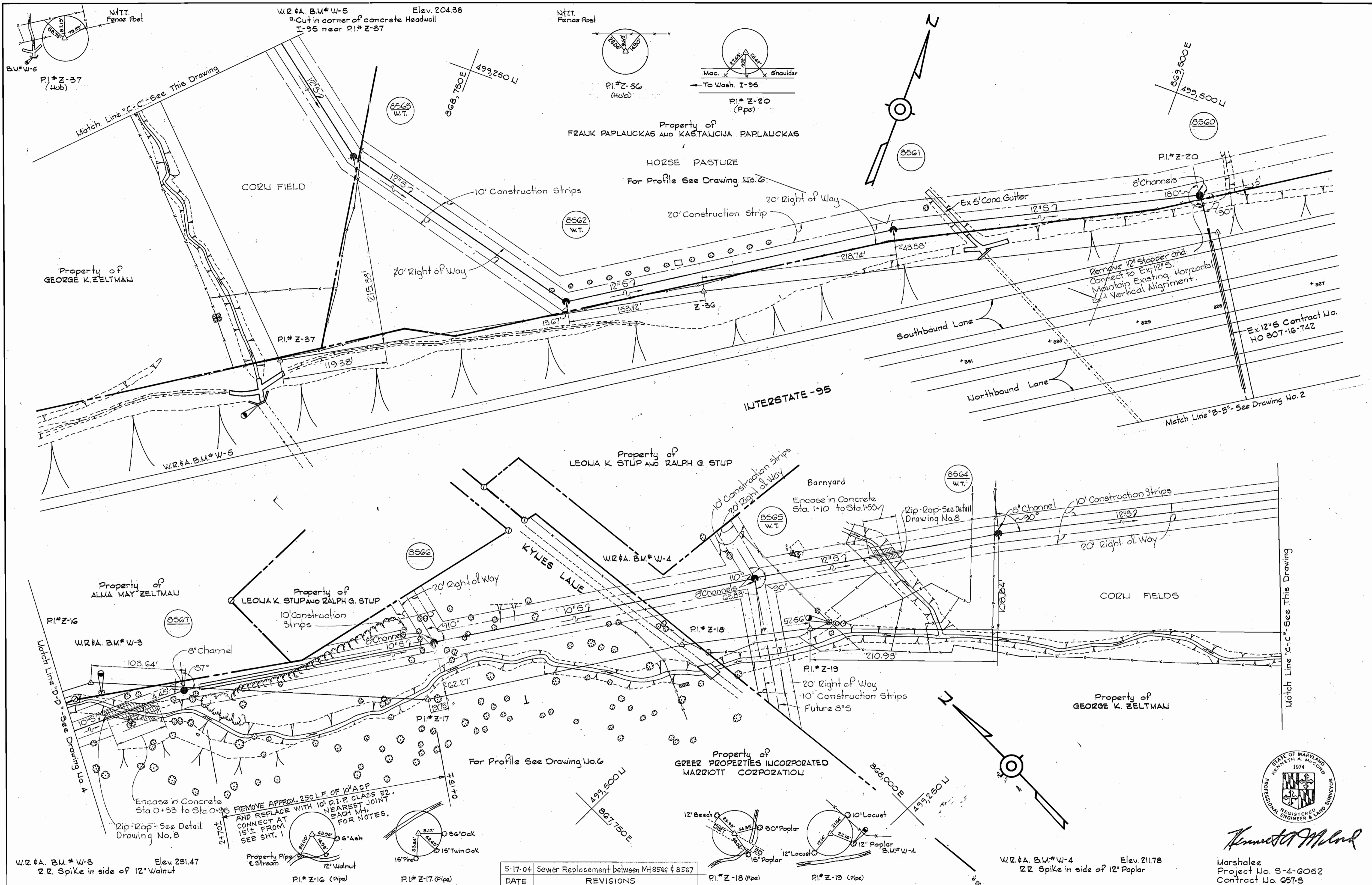
Kenneth A. McLeod

<p>WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND</p>	<p>DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND <i>P. J. Pagan</i> 11-9-76 DIRECTOR OF PUBLIC WORKS - DATE</p>	<p>CONTRACT NO. 657-S PROJECT NO. S-4-6052</p>	<p>PLAN OF SEWER MAINS</p>	<p>ELECTION DISTRICT ELKRIDGE NO. 1</p>	<p>DRAWING NO. 2 OF 8 SCALE 1"=50' 497-15 498-15 499-15</p>
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W.O. 6945
 FB# 57355722
 JULY 10, 1979
 As Built November, 201980

WS 657-S/2

BRUNING 44510 13392



Kenneth A. McLeod

Marshall Lee
Project No. S-4-2052
Contract No. 257-5

WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND <i>P. J. Regan</i> 11-9-76 DIRECTOR OF PUBLIC WORKS - DATE	DATE 5-17-04 REVISIONS Sewer Replacement between MH 8566 & 8567 <i>W. O. Libert</i> 11-8-76 CHIEF BUREAU OF ENGINEERING - DATE	CONTRACT NO. 657-S PROJECT NO. S-4-6052	PLAN OF SEWER MAINS	ELECTION DISTRICT EL KRIDGE NO. 1 DRAWING NO. 3 OF 8 SCALE 1" = 50'
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W. O. 6946

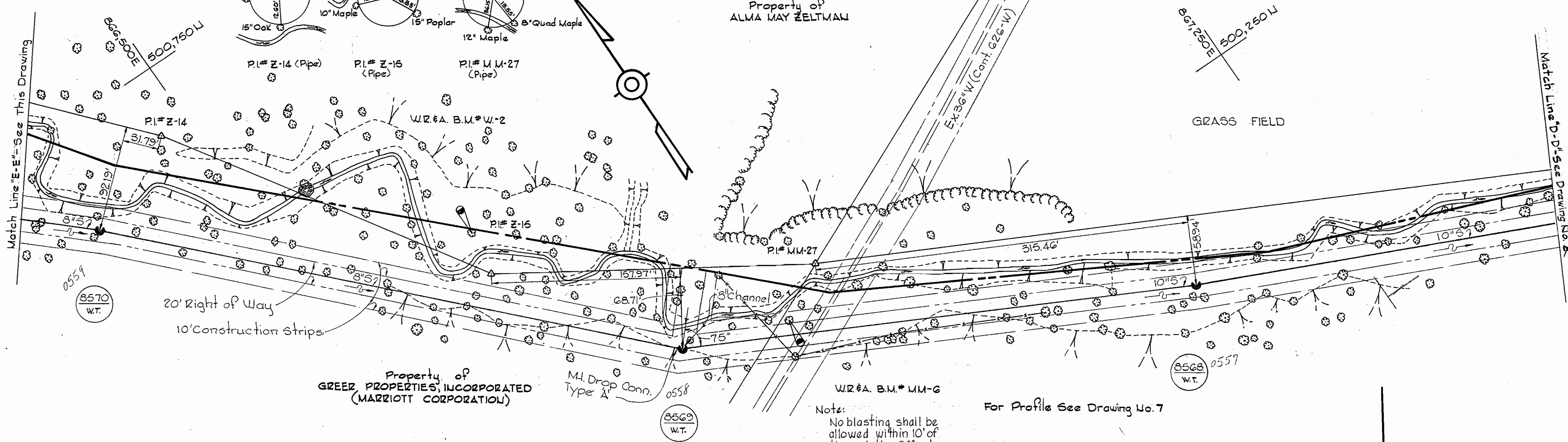
FB #15 5722, 5726, 5736, 4881, 4892
 JULY 10, 1973
 As Built November 20, 1980

WS 657-S/3

DRAWING 44-510 1832E

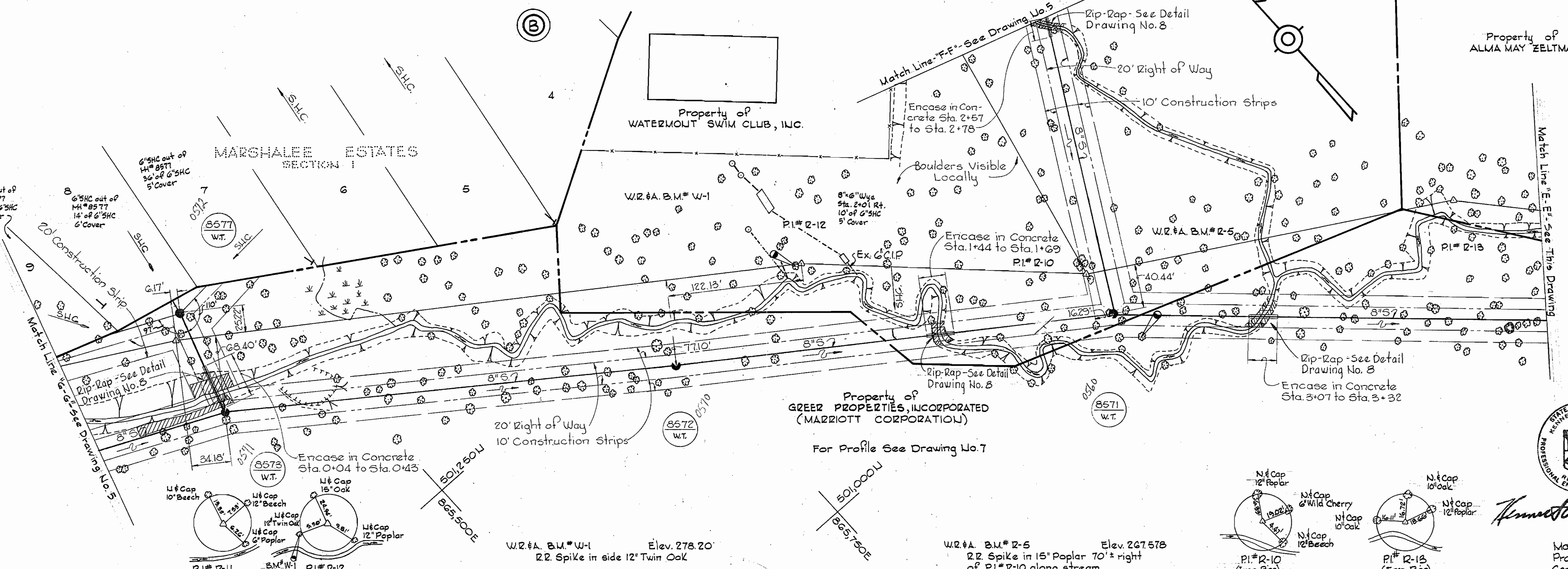
W.R. & A. B.M. # W-2 Elev. 247.85
 Z.R. Spike in root 18" Beech 30'
 Left of P.I. # Z-15

W.R. & A. B.M. # MM-6 Elev. 244.10
 Z.R. Spike in 16" Poplar 5'
 Right of traverse

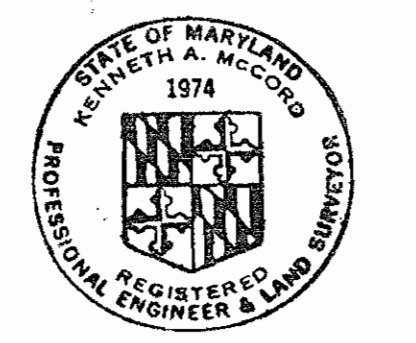


Note:
 No blasting shall be allowed within 10' of the existing 36" water main.

For Profile See Drawing No. 7



Property of GREER PROPERTIES, INCORPORATED (MARRIOTT CORPORATION)
 For Profile See Drawing No. 7



Kenneth A. McCord

Marshalee
 Project No. S-4-6052
 Contract No. G57-3

WHITMAN, REQUARDT & ASSOCIATES
 ENGINEERS
 1304 ST. PAUL ST.
 BALTIMORE, MARYLAND

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 11-9-76
 DIRECTOR OF PUBLIC WORKS - DATE

CONTRACT NO. 657-S
 PROJECT NO. S-4-6052

PLAN OF SEWER MAINS

ELECTION DISTRICT ELKRIDGE NO. 1

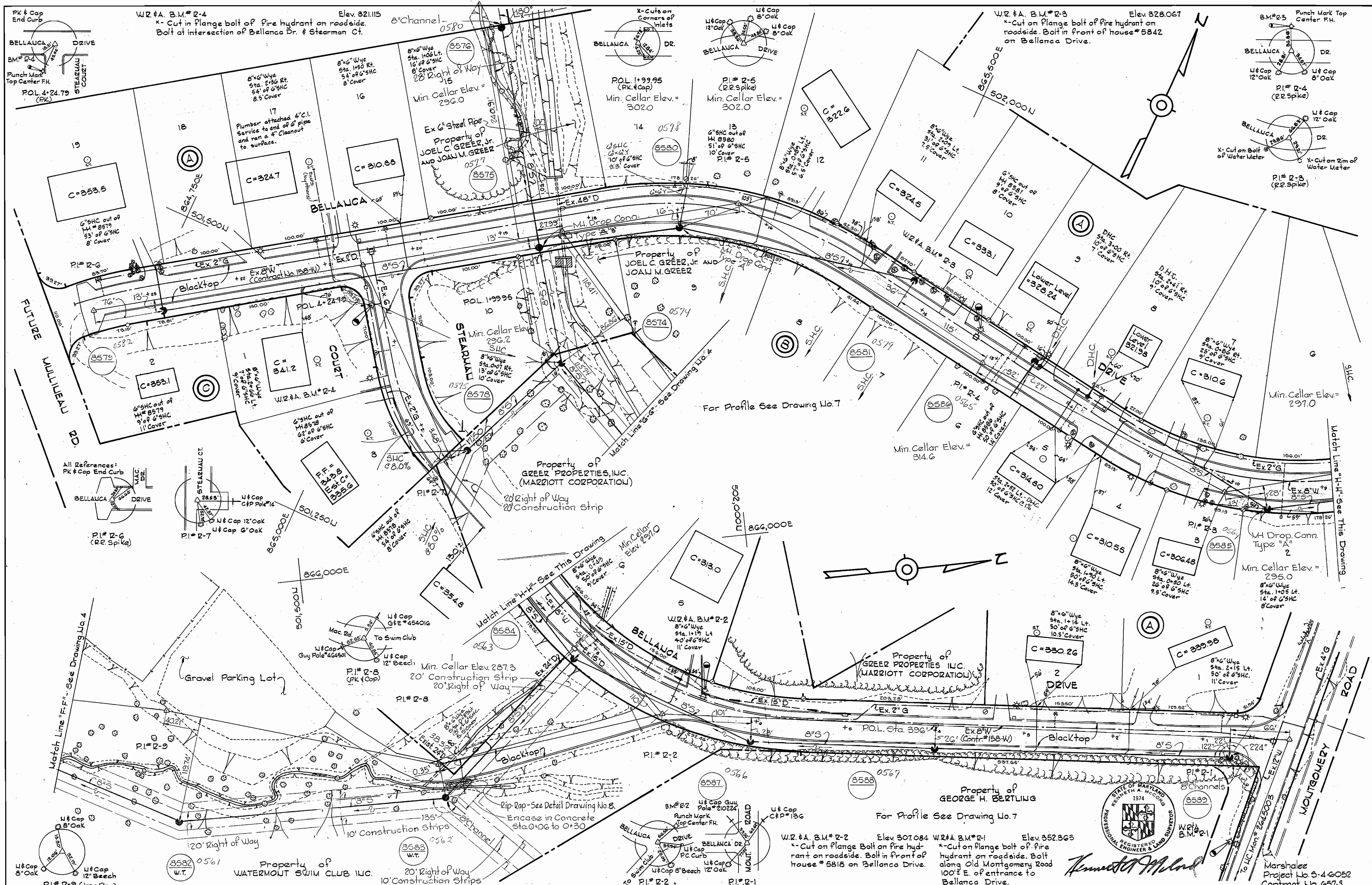
DRAWING NO. 4 OF 8	SCALE	500-12
		500-13
		501-12
	1" = 50'	

FE#s 5721, 5722, 5726, 5735, 5730
 JULY 10, 1973
 As-Built - November 20, 1980

WS 657-S/4

BRUNING 6457-1332

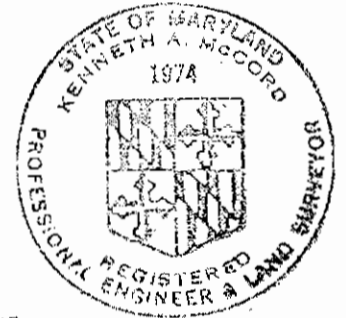
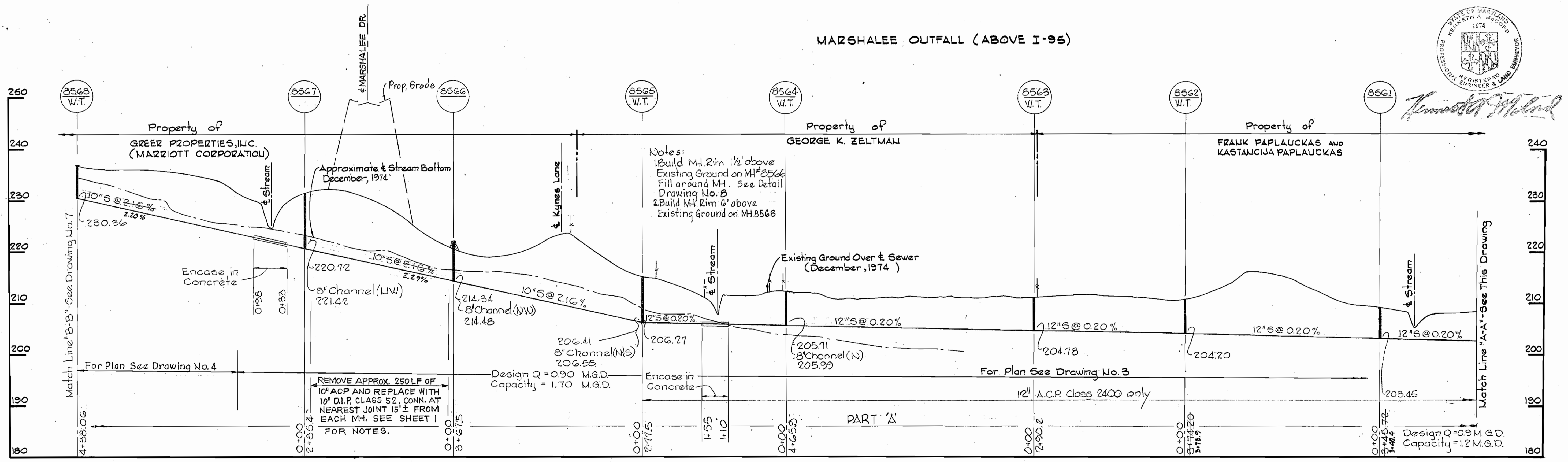
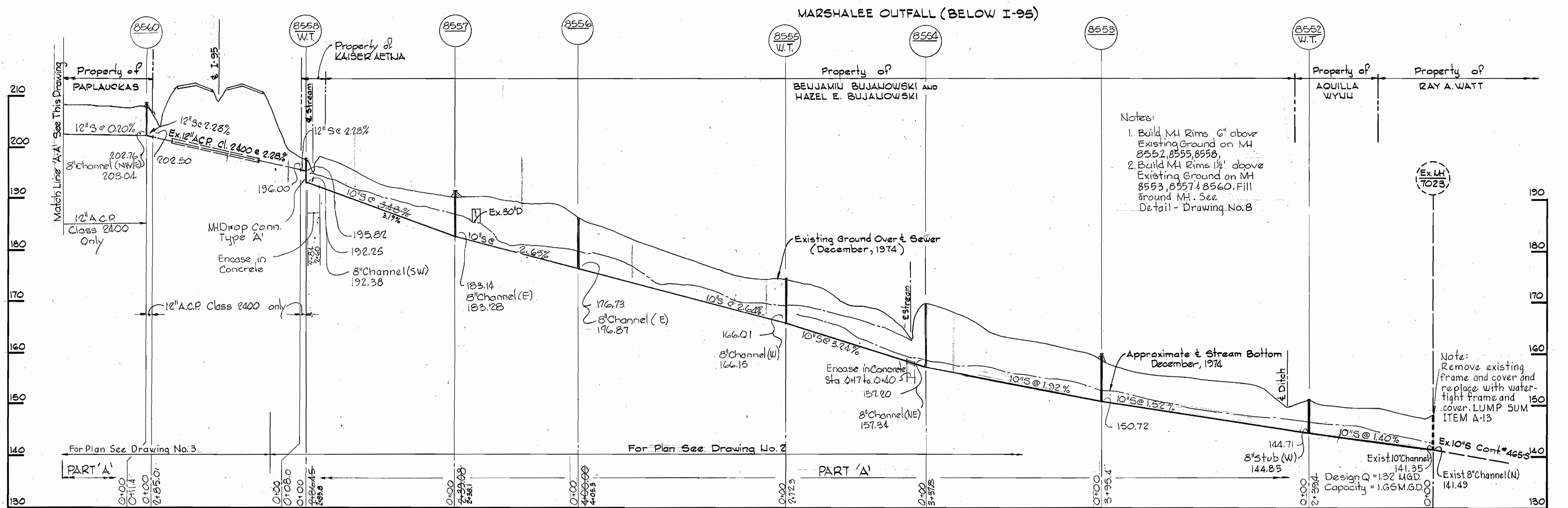
W. O. 0245



WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND <i>R.D. Regard</i> 11-9-76 DIRECTOR OF PUBLIC WORKS - DATE	CONTRACT NO. 657-S PROJECT NO. S-4-6052	PLAN OF SEWER MAINS	ELECTION DISTRICT ELKRIDGE NO. 1	DRAWING NO. 5 OF 8 SCALE 1"=50'
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WS 657-5/6

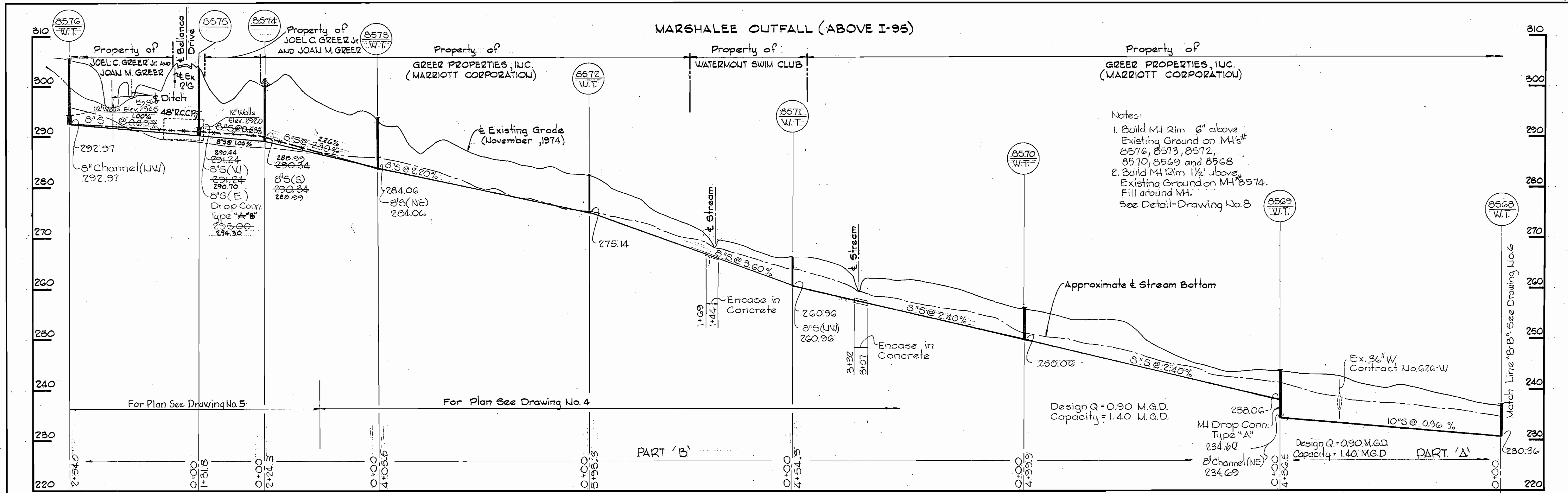
BRUNING 44510 18392



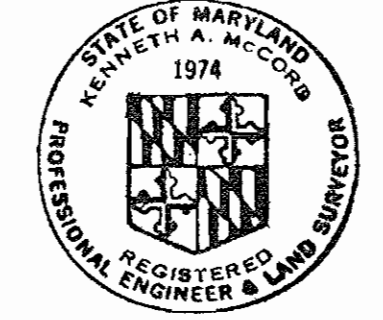
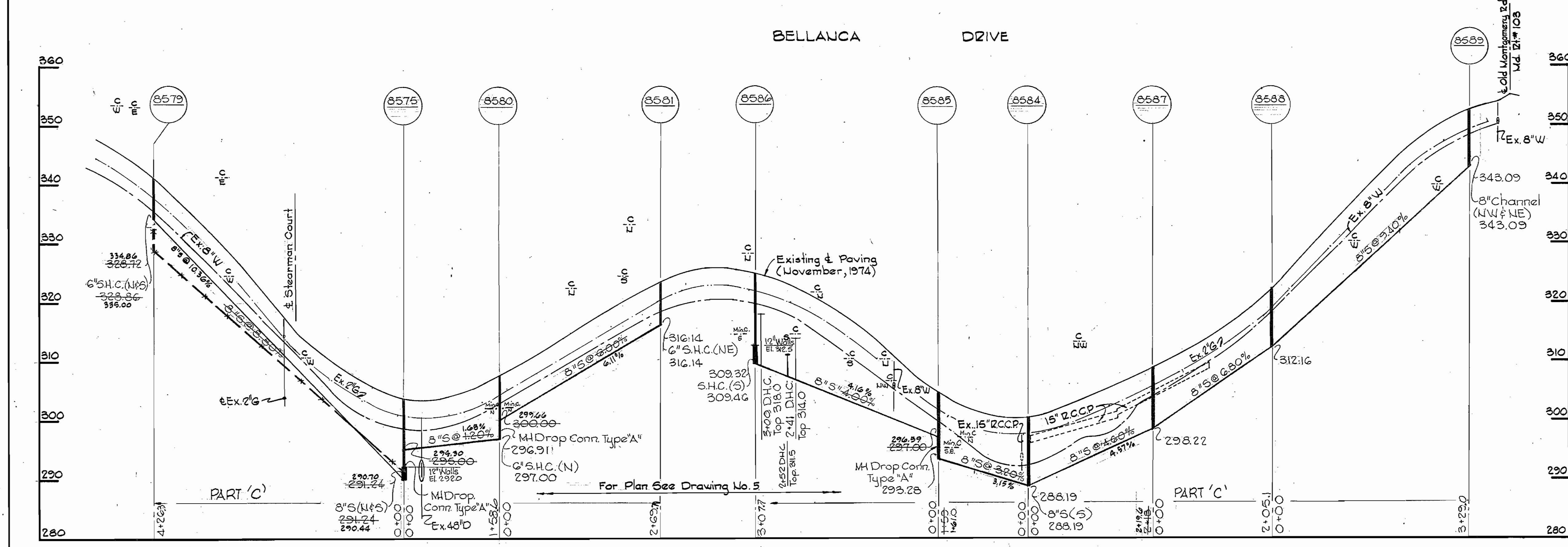
Kenneth M. Wood

5-17-04	Sewer Replacement between MH8566 & 8567
DATE	REVISIONS

WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND <i>P.J. Beatty</i> 11-9-76 DIRECTOR OF PUBLIC WORKS - DATE	CONTRACT NO. <u>657-S</u> PROJECT NO. <u>S-4-6052</u>	PROFILES OF SEWER MAINS	ELECTION DISTRICT ELKDRIDGE NO.1	DRAWING NO. <u>6</u> OF <u>8</u>	SCALE H: 1"=100' V: 1"=10'
					W.O. 6945	JULY 10, 1979 As-Built November, 20, 1980



Notes:
 1. Build MH Rim 6" above Existing Ground on MH's # 8576, 8573, 8572, 8570, 8569 and 8568.
 2. Build MH Rim 1 1/2" above Existing Ground on MH #8574. Fill around MH.
 See Detail-Drawing No. 8



Kenneth A. McCoors

Marshalee
 Project No. S-4-6052
 Contract No. 657-3

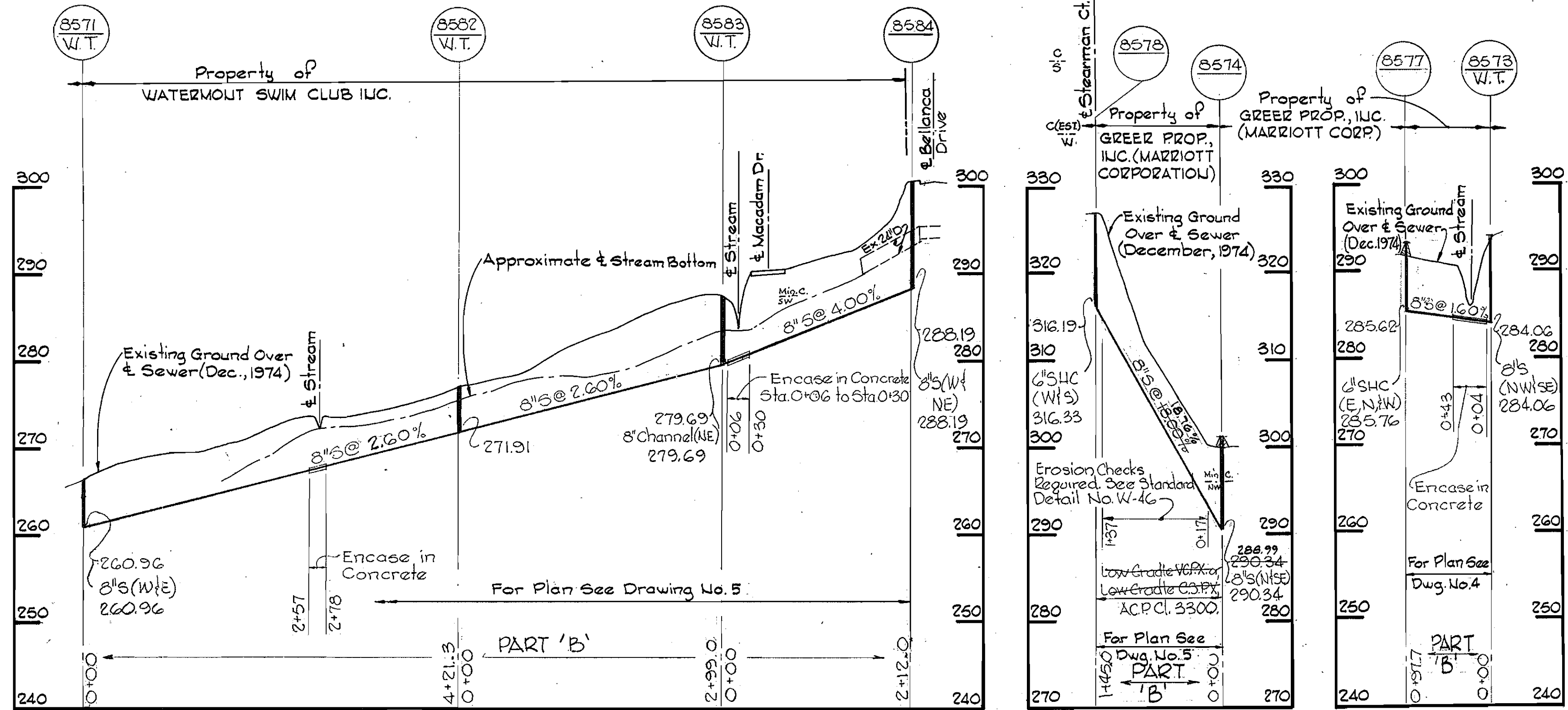
WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND P. J. Reardon 11-9-76 DIRECTOR OF PUBLIC WORKS - DATE	CONTRACT NO. 657-S PROJECT NO. S-4-6052 W. O. Gilbert 11-8-76 CHIEF-BUREAU OF ENGINEERING - DATE	PROFILES OF SEWER MAINS	ELECTION DISTRICT ELKRIDGE NO. 1	DRAWING NO. 7 OF 8 SCALE H:1"=100' V:1"=10'
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W. O. 6945

JULY 10, 1979
 As Built November, 20, 1980

WS 657-S/7

BRUNING 44623 10392



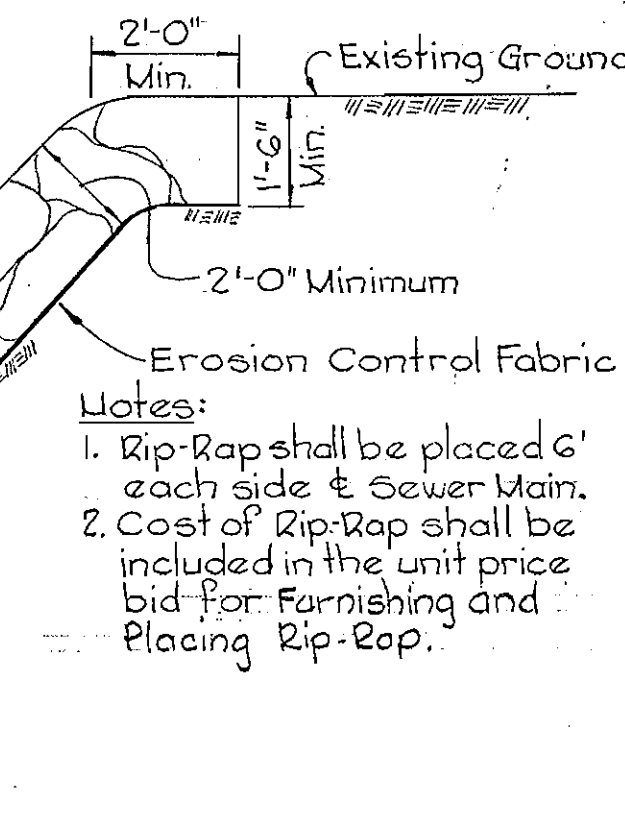
Notes:
 1. Build MH Rim 6" above Existing Ground on MH# 8573.
 2. Build MH Rim 1 1/2" above Existing Ground on MH# 8577 and 8574. Fill around MH. See Detail - This Drawing.

PROFILES
 Scale: H: 1" = 100'
 V: 1" = 10'

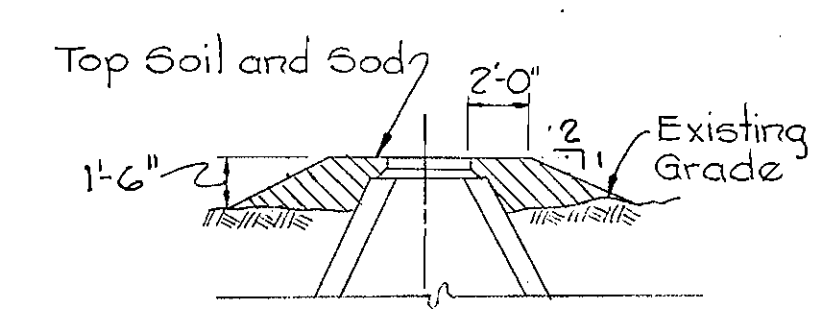
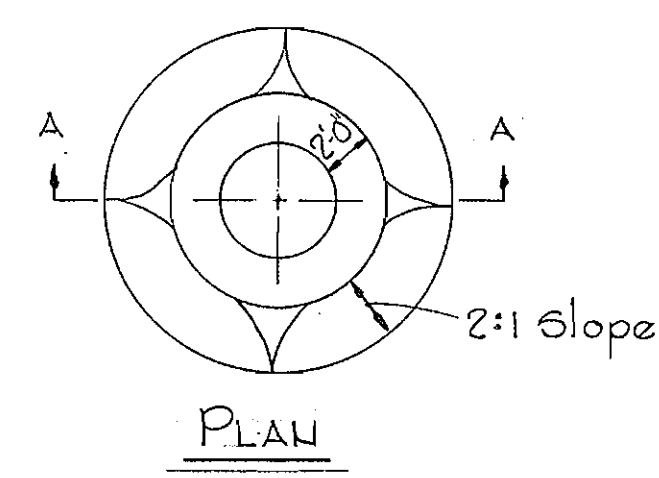
Note:
 Erosion Control Fabric shall be Poly Filter X as manufactured by Carthage Mills, Inc., Erosion Control Division, 124 W. 66th Street, Cincinnati, Ohio; Laurel Erosion Control Cloth as manufactured by Laurel Plastics, Inc., Madison, Maine, or approved equal, used - Staff Permealiner Fabric - M-1195

Rip-Rap shall consist of dense rocks of random shapes and sizes, resistant to the action of air and water and suitable for bank protection. All rocks shall weigh a minimum of 150 pounds.

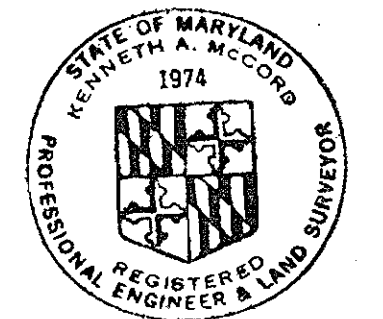
Maintain 1" minimum clearance between Rip-Rap and top of pipe.



RIP RAP DETAIL
 Scale: 3/8" = 1'-0"



SECTION "A-A"
 FILL AROUND MANHOLE NUMBERS
 8553, 8557, 8560, 8566, 8574 AND 8577
 Scale: 7/8" = 1'-0"



Kenneth A. McCord

Marshal
 Project No. S-4-6052
 Contract No. 657-S

WHITMAN, REQUARDT & ASSOCIATES
 ENGINEERS
 1304 ST. PAUL ST.
 BALTIMORE, MARYLAND

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 11-9-76
 W. O. Pubert 11-8-76
 DIRECTOR OF PUBLIC WORKS - DATE CHIEF BUREAU OF ENGINEERING - DATE

CONTRACT NO. 657-S
 PROJECT NO. S-4-6052

PROFILES AND DETAILS
 OF SEWER MAINS

ELECTION DISTRICT
 ELKRIDGE NO. 1

DRAWING NO. 8 OF 8
 SCALE AS SHOWN

W. O. 6945

JULY 10, 1973
 As Built November 20, 1980

W. 657-S/8

BRUNING 4" STD. 18392