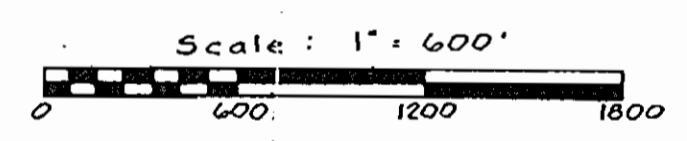




- General Notes:**
- 1) Approximate locations of existing mains are shown. The contractor shall take all necessary precautions to protect existing mains and services and maintain uninterrupted supply. Any damage incurred shall be repaired immediately.
 - 2) All horizontal controls are based on Maryland State coordinates.
 - 3) All vertical controls are based on U.S.G.S. Datum.
 - 4) All pipe elevations shown are invert elevations.
 - 5) Clear all utilities by a minimum of 6'. Clear all poles 2'-0" minimum or tunnel as required.
 - 6) For all standard details see standards bound in specifications.
 - 7) Contractor shall locate existing utilities in advance of construction operations in the vicinity of proposed utilities.
 - 8) Contractor shall notify the following utilities or agencies at least five (5) days before starting work shown on these plans:
 State Highway Administration - 501-5531
 Baltimore Gas and Electric Company - Underground Electrical Division Engineering - Damage Control - 796-8900 Ex. 281
 Baltimore Gas and Electric Company - Underground Gas Distribution Engineering - 507-0100
 Chesapeake and Potomac Telephone Co. - 725-4976
 American Telephone and Telegraph - Cable Location Division - 301-393-3553
 Colonial Pipeline Company - 781-4641
 - 9) 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.
 - 10) Bench marks, location and elevations are noted.
 - 11) 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 water and sewer mains.
 - 12) Place requisite "Men Working" and warning signs as required to comply with Maryland State Highway Administration Manual of Traffic Control for Highway Construction and Maintenance Operations.
 - 13) All sewer mains shall be C.S.P.X.V.C.P. Class 2400 unless otherwise noted.
 - 14) The contractor shall provide a joint in all sewer mains within 2'-0" of exterior manhole wall.
 - 15) All manholes shall be 4'-0" inside diameter, unless otherwise noted.
 - 16) Cost of Polyfilter X and rip rap to be included in the unit price bid for furnishing and laying of sewer mains.
 - 17) Gabions and Riprap Filters in low flow areas may be used in place of riprap, subject to high flows may be used in place of riprap.
 - 18) Sodding to be provided in areas of low flow.
 - 19) Watertight manhole frame and cover to be used where indicated on drawings. Standard detail 5-12 (RCR-63A). Where watertight manhole frame and cover is used, set top of frame 1'-6" above finished grade.



CONTRACT # 411-S
SEWER MAIN EXTENSION
PROJECT NO SP 6032
HOWARD COUNTY, MARYLAND
DEPARTMENT OF PUBLIC WORKS

QUANTITIES	
ITEMS	QUANTITY
21" Sewer	3650 LF.
8" Sewer	5827 LF.

NOTE: SEWER PIPES - 21" - CERTAIN-TEED - CLASS 4000 - ACP
 8" - CERTAIN-TEED - CLASS 2400 - ACP
 8" - CERTAIN-TEED - CLASS 2400 - ACP
 8" - FLINTKOTE - CLASS 3300 ACP

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 COLUMBIA, MARYLAND

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 DATE _____ CHIEF BUREAU OF ENGINEERING

CONTRACT NO. 411-S

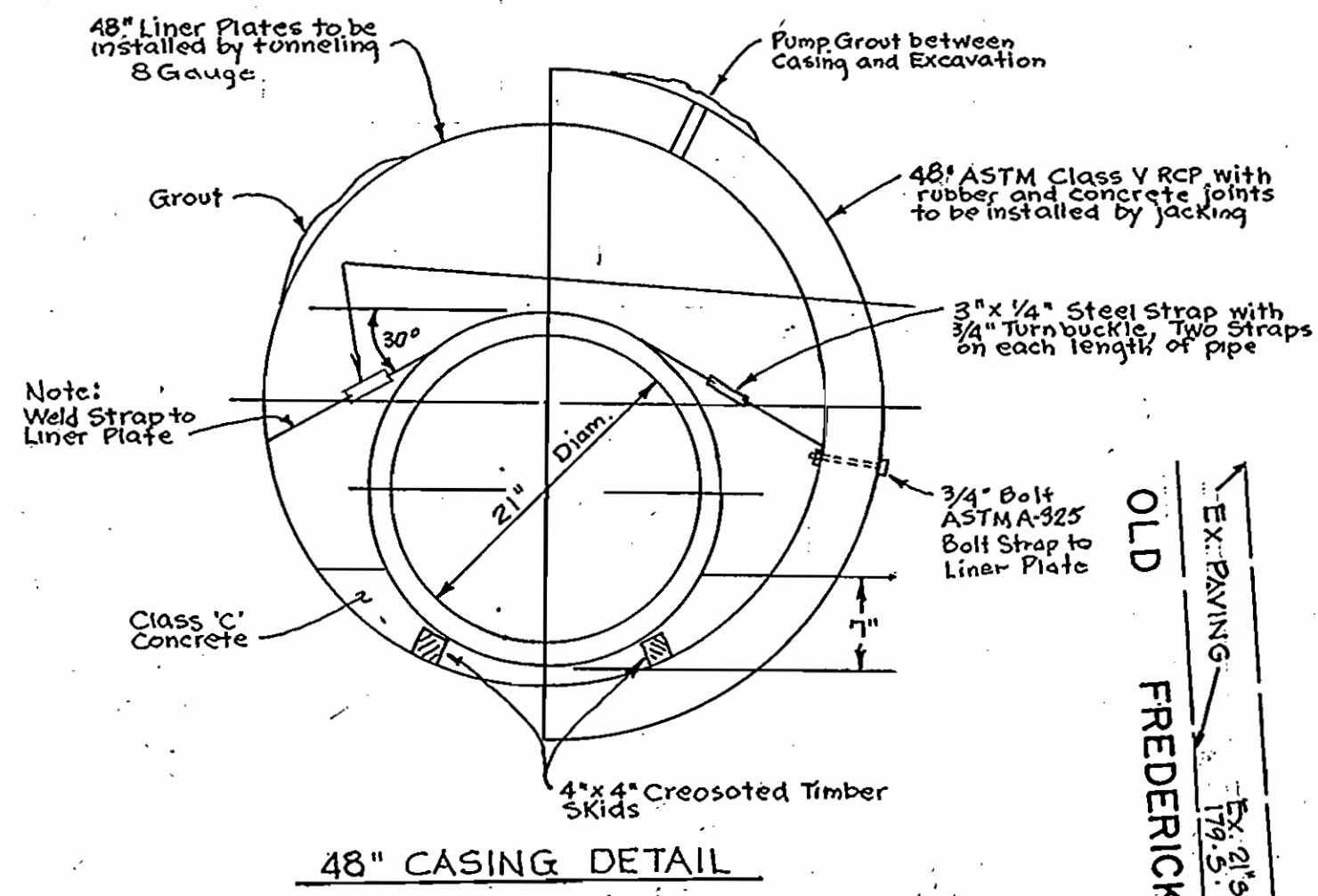
LOCATION MAP OF SEWER MAIN EXTENSIONS

SEWER EXTENSIONS
 LITTLE PATUXENT DRAINAGE AREA
 ELECTION DISTRICT NO. 2

NO. 1 OF 8

CONTRACT # 411-S
 PROJECT SP 6032
 DATE 11-17-75
 REVISION 11-17-75
 3200-411-S

NS 411/2

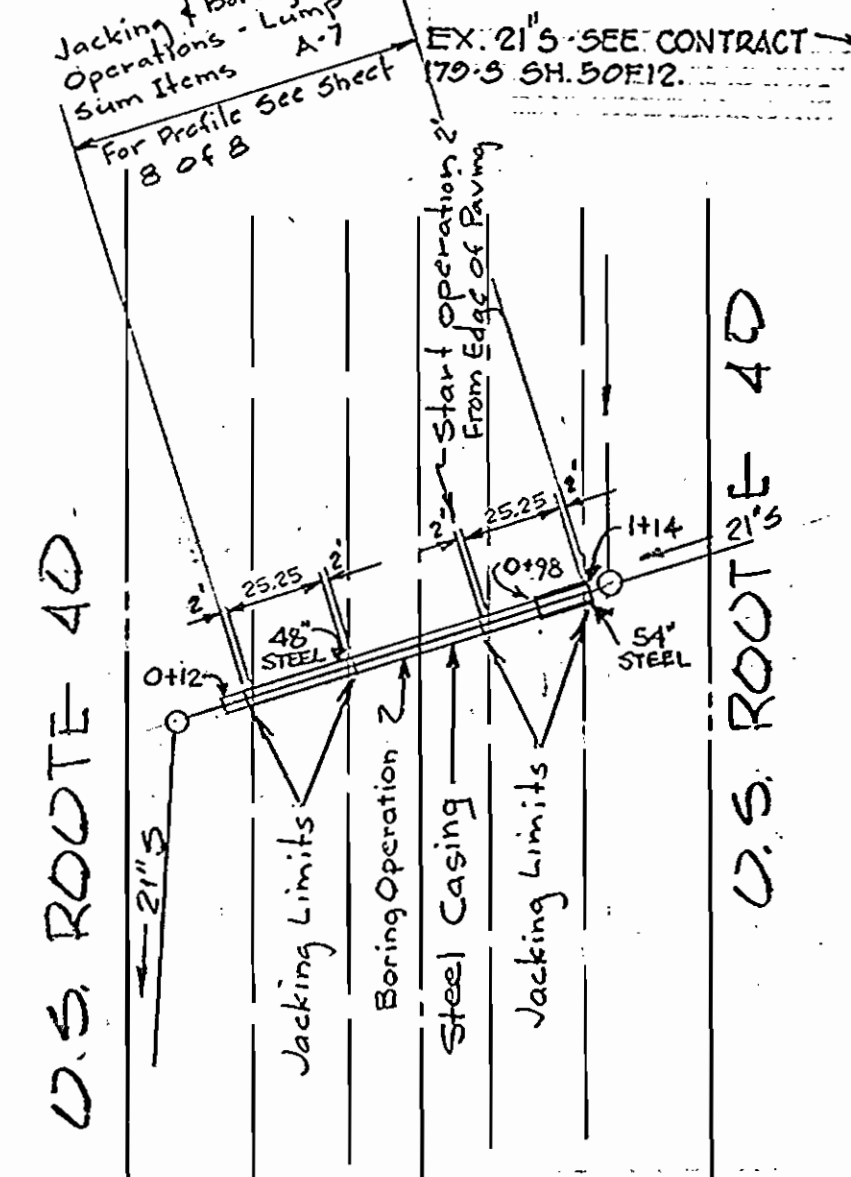


48" CASING DETAIL

See Casing Notes this Sheet

JACKING INSTALLATION
PIPE AND SLEEVE

No Scale



PLAN
JACKING INSTALLATION

Scale: 1" = 50'

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COLUMBIA, MARYLAND



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
7-19-73
DATE
W.D. Gilbert
CHIEF BUREAU OF ENGINEERING

CONTRACT NO. 411-S

PLAN OF
SANITARY SEWER MAINS

SEWER EXTENSIONS
LITTLE PATUXENT DRAINAGE AREA
ELECTION DISTRICT NO. 2

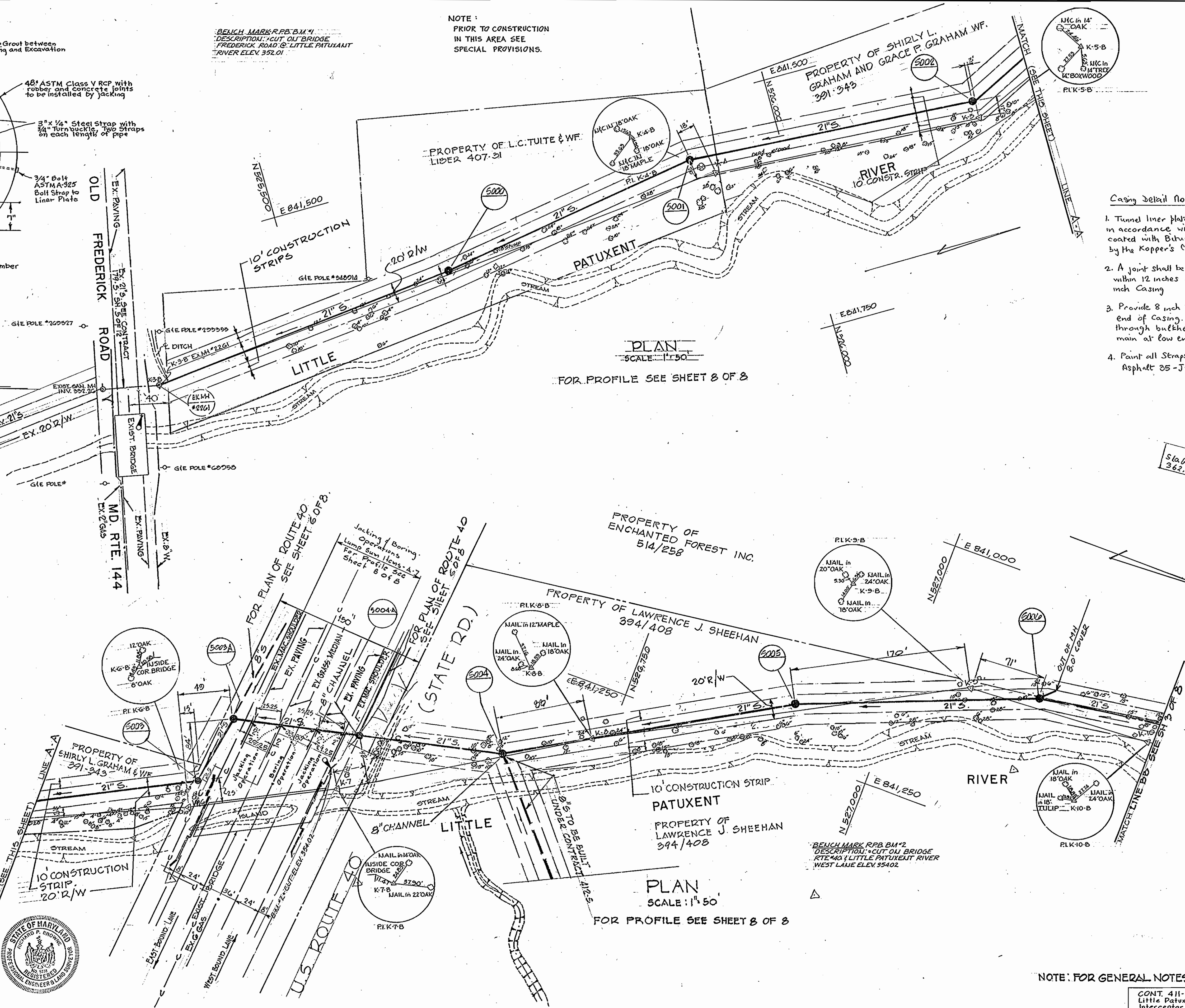
CONTRACT NO. 411-S PROJECT NO. SP 6032
Little Patuxent Drainage Area U.S. Rte. 40
Interceptor - Collector Sewer to Bethany Lane

DRAWING NO. 2 OF 8	SCALE AS SHOWN
CHK. J.C.H.	

Revised 1-17-75 AS BUILT
Revised 6-12-75 12-10-76
REVISED 7-2-75

BENCH MARK RPB BM #1
DESCRIPTION: CUT ON BRIDGE
FREDERICK ROAD @ LITTLE PATUXENT
RIVER ELEV. 352.01

NOTE:
PRIOR TO CONSTRUCTION
IN THIS AREA SEE
SPECIAL PROVISIONS.



PLAN
SCALE: 1" = 50'

FOR PROFILE SEE SHEET 8 OF 8

PROPERTY OF ENCHANTED FOREST INC.
514/258

PROPERTY OF LAWRENCE J. SHEEHAN
394/408

PLAN
SCALE: 1" = 50'

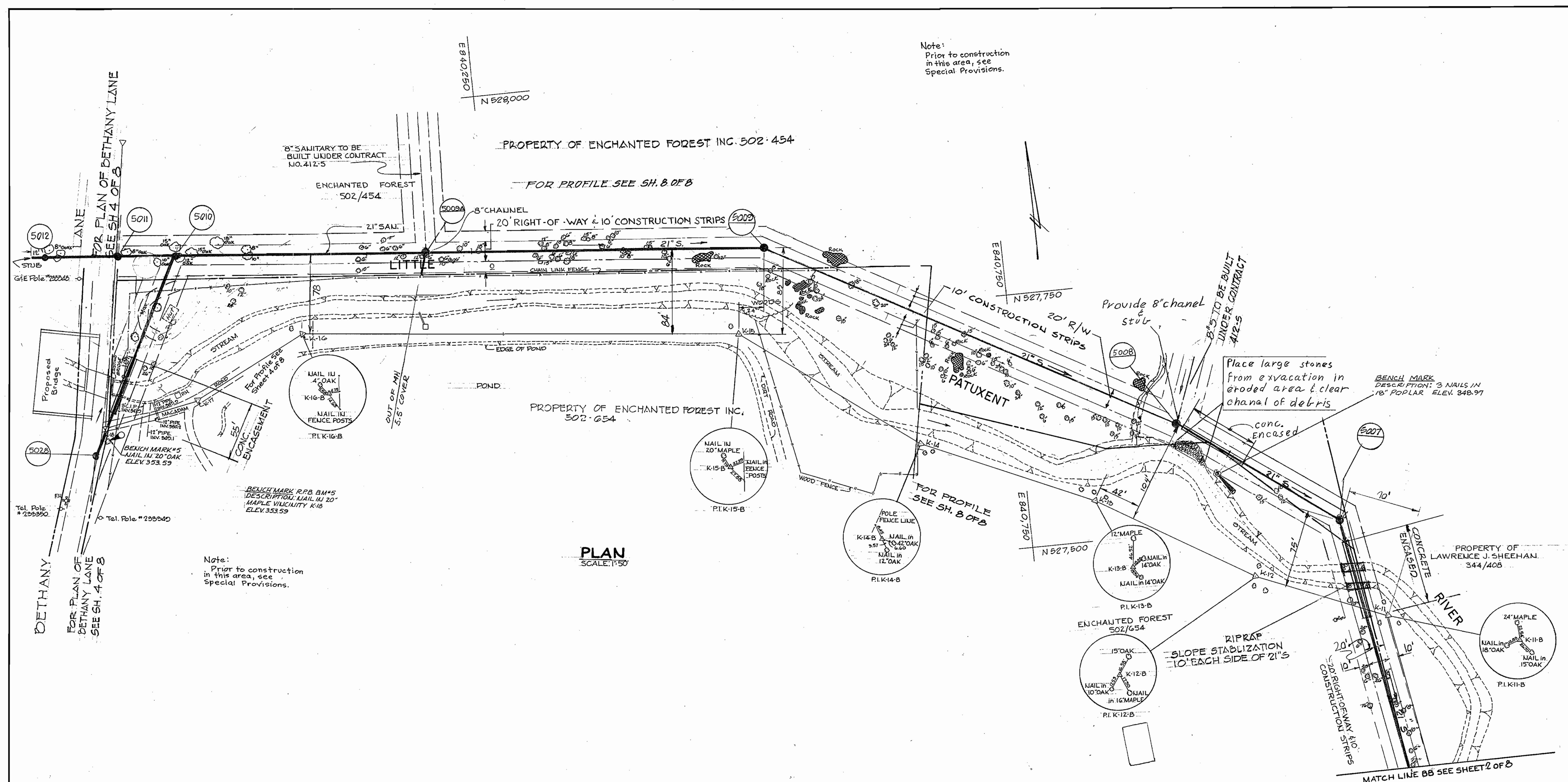
FOR PROFILE SEE SHEET 8 OF 8

- Casing Detail Notes
1. Tunnel liner plate to be hot dipped galvanized in accordance with ASTM A123 and coated with Bitumastic 50 as manufactured by the Koppers Co or approved equal
 2. A joint shall be provided in the sewer main within 12 inches of each outside end of 48" inch casing
 3. Provide 8 inch brick bulkhead at each end of casing. Provide drain pipes through bulkhead on each side of sewer main at low end of casing (2'-2" @)
 4. Paint all Straps with 2 coats Mobile Asphalt 35-J-11 or approved equal

NOTE: FOR GENERAL NOTES SEE DRWG. 1 OF 8

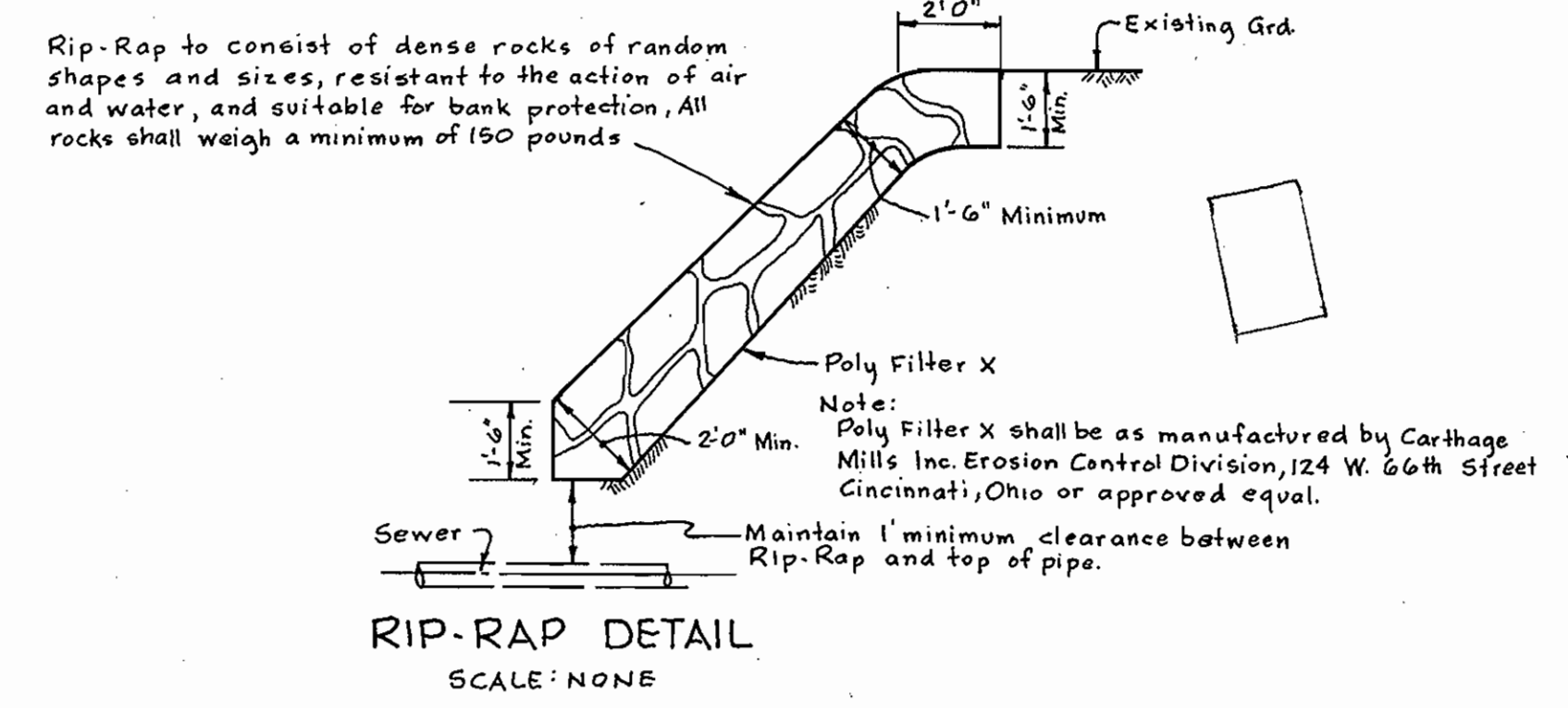
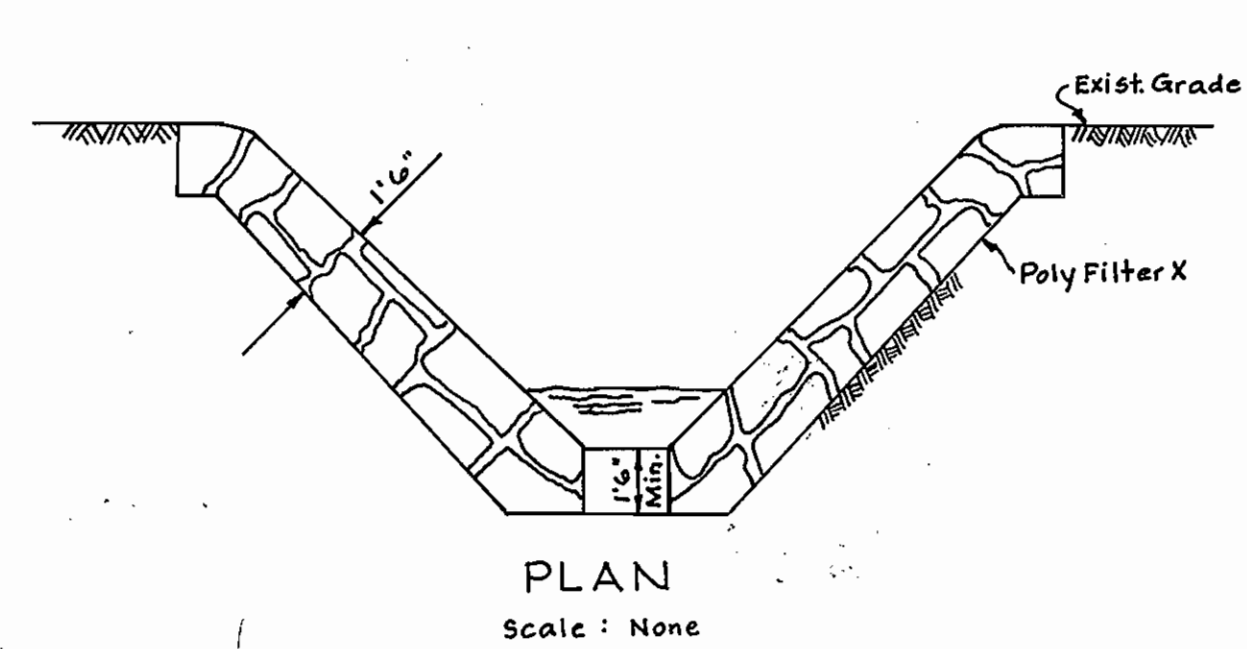
WS 411-S/2

Note:
Prior to construction
in this area, see
Special Provisions.



PLAN
SCALE: 1"=50'

Note:
Prior to construction
in this area, see
Special Provisions.



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COLUMBIA, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
7-19-73
DATE
W. O. Falwell
CHIEF BUREAU OF ENGINEERING

CONTRACT NO. 411-5

PLAN OF
SANITARY SEWER MAINS

SEWER EXTENSIONS
LITTLE PATUXENT DRAINAGE AREA
ELECTION DISTRICT NO. 2

CONT. 411-5 PROJECT NO. SP6032
Little Patuxent Drainage Area
Interceptor Collector Sewer
U.S. Rte. 40 & Bethany Lane

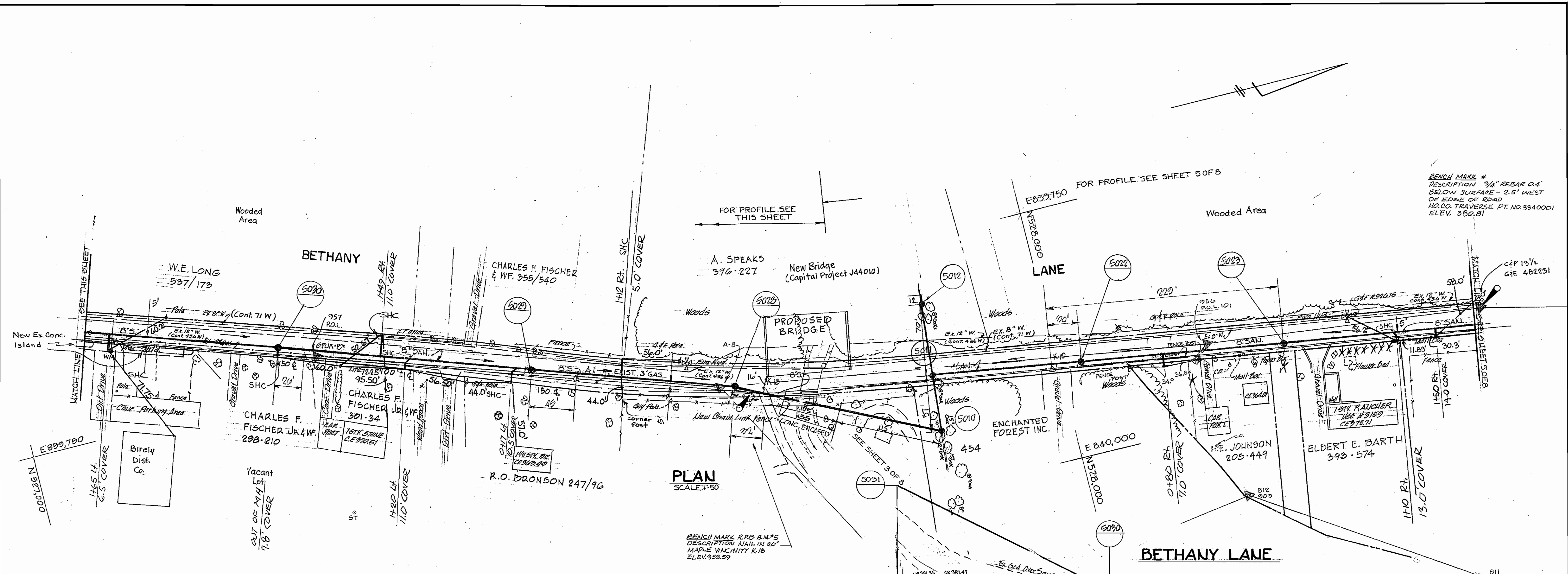
DRAWING NO. 3 OF 8	SCALE AS SHOWN
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CHK. P. B.

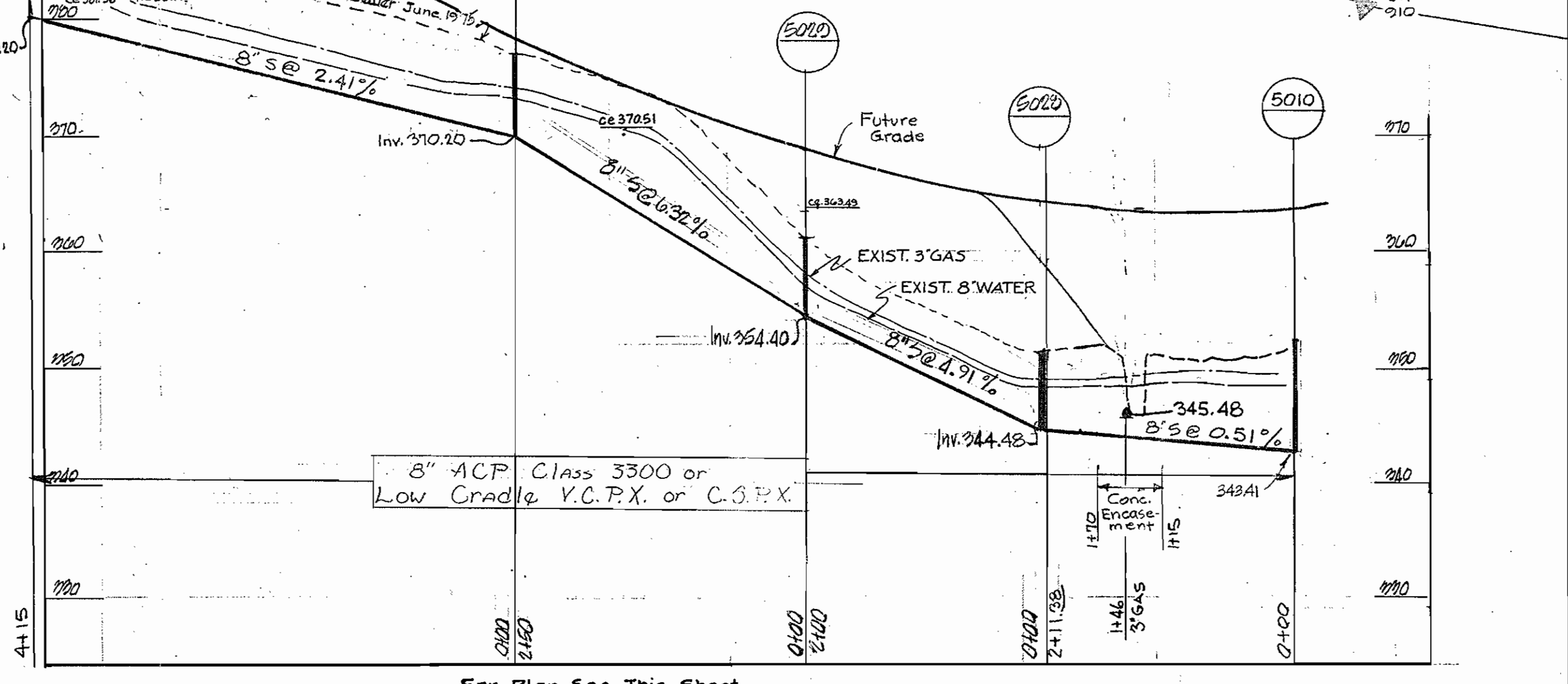
MA 5008 Revised 1/1/76

REVISED 1-17-75 AS BUILT
Revised 6-12-75 12-10-76

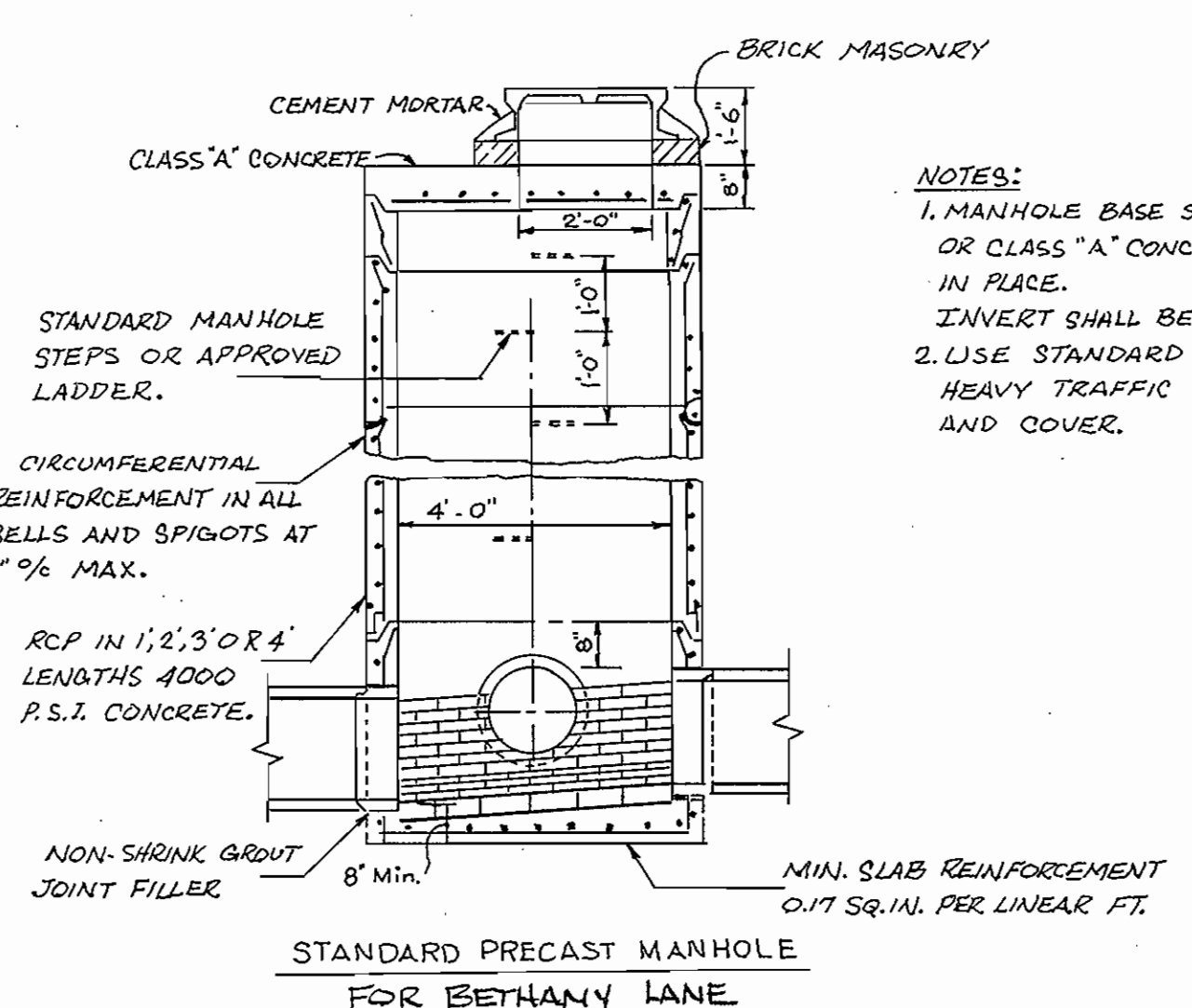
WS 411-S/3



PLAN SCALE: 1"=50'

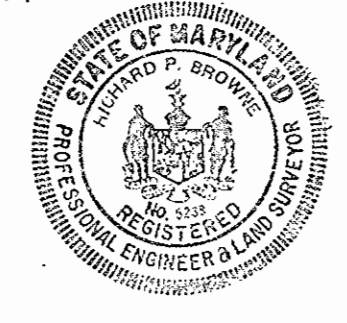


PROFILE BETHANY LANE SCALE: Hor: 1"=100' Vert: 1"=10'



- NOTES:
1. MANHOLE BASE SHALL BE PRECAST OR CLASS "A" CONCRETE POURED IN PLACE. INVERT SHALL BE BRICK ON EDGE.
 2. USE STANDARD SANITARY SEWER HEAVY TRAFFIC MANHOLE FRAME AND COVER.

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COLUMBIA, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
7-19-73
DATE

CONTRACT NO. 411-S
W. O. F. Albert
CHIEF BUREAU OF ENGINEERING

PLAN AND PROFILE
SANITARY SEWER MAINS

SEWER EXTENSIONS
LITTLE PATUXENT DRAINAGE AREA
ELECTION DISTRICT NO. 2

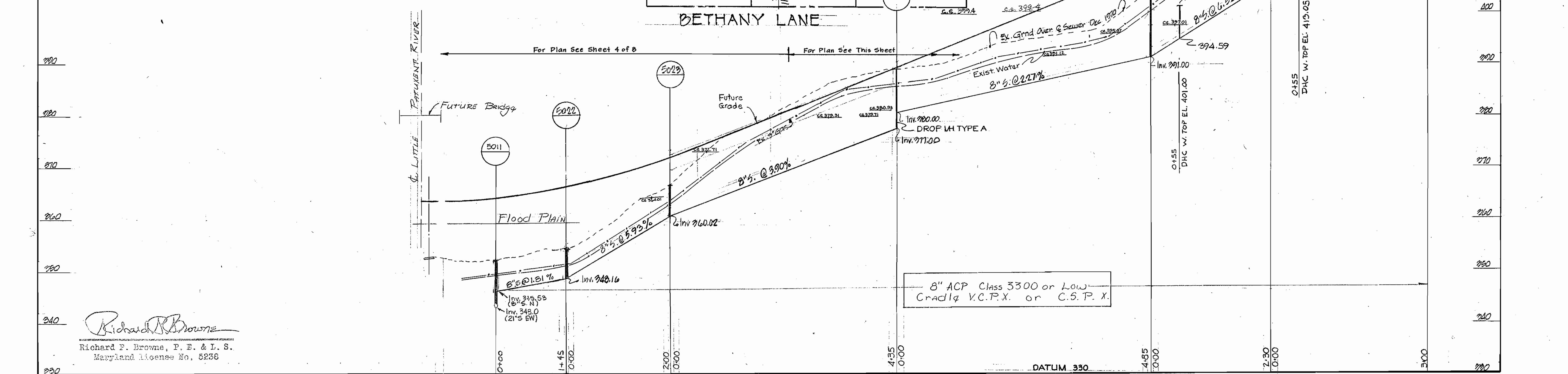
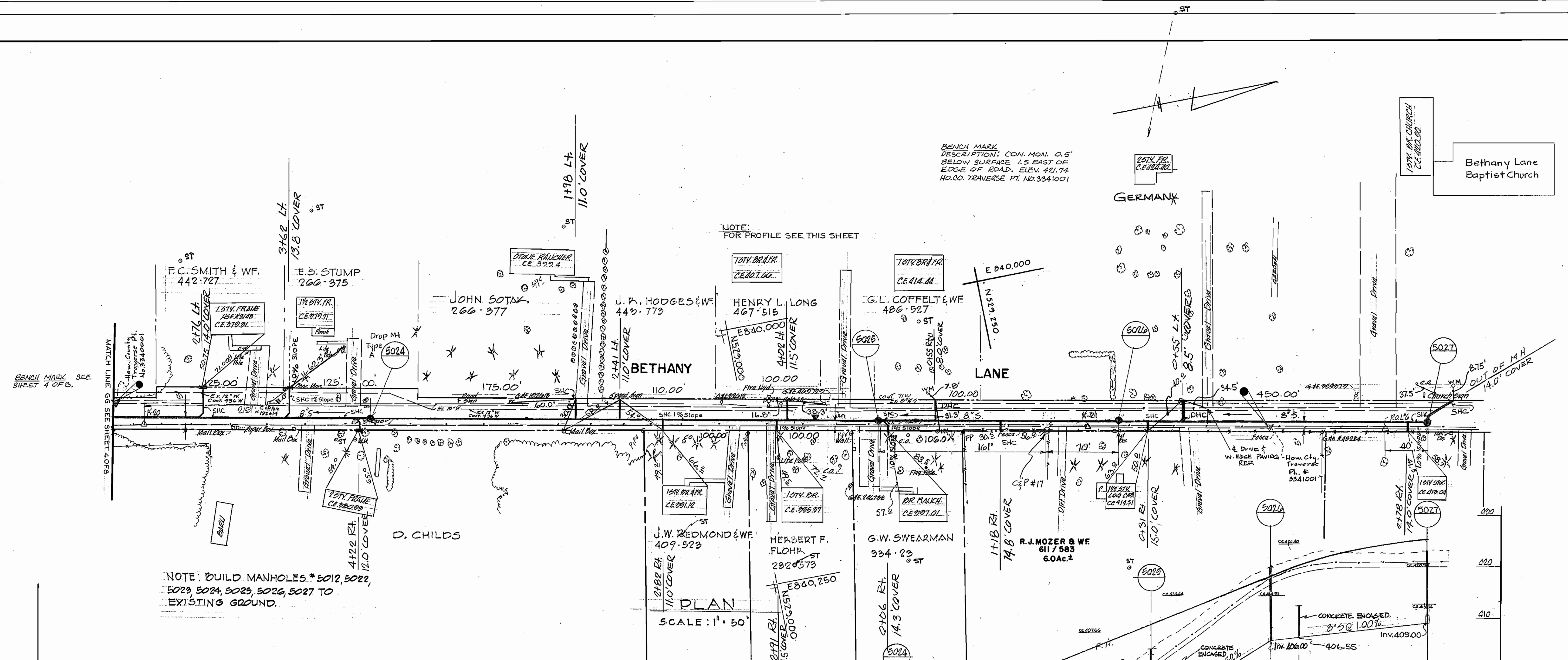
DRAWING NO. 4 OF 8
SCALE AS SHOWN

CONT. 411-S PROJECT NO. SP6032
Little Patuxent Drainage Area
Interceptor - Collector Sewer
U.S. Rte. 40 & Bethany Lane

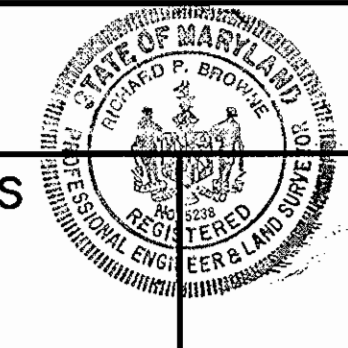
REVISED 1-17-75 AS BUILT
Revised 6-12-75 12-10-76

WS 411-S/4

WS 411-S/5



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DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
CONTRACT NO. 411-S
DATE 7-19-73
W. O. Gilbert
CHIEF BUREAU OF ENGINEERING

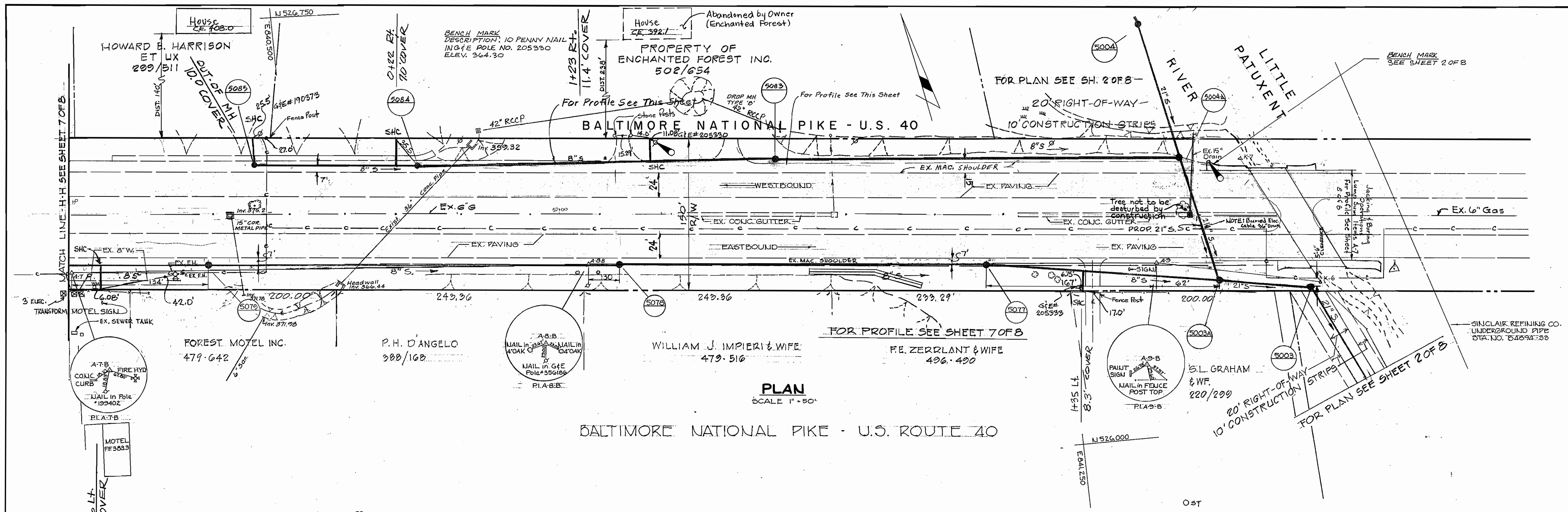
PLAN AND PROFILE
SANITARY SEWER MAINS

SEWER EXTENSIONS
LITTLE PATUXENT DRAINAGE AREA
ELECTION DISTRICT NO. 2

DRAWING NO. 5 OF 8
SCALE AS SHOWN

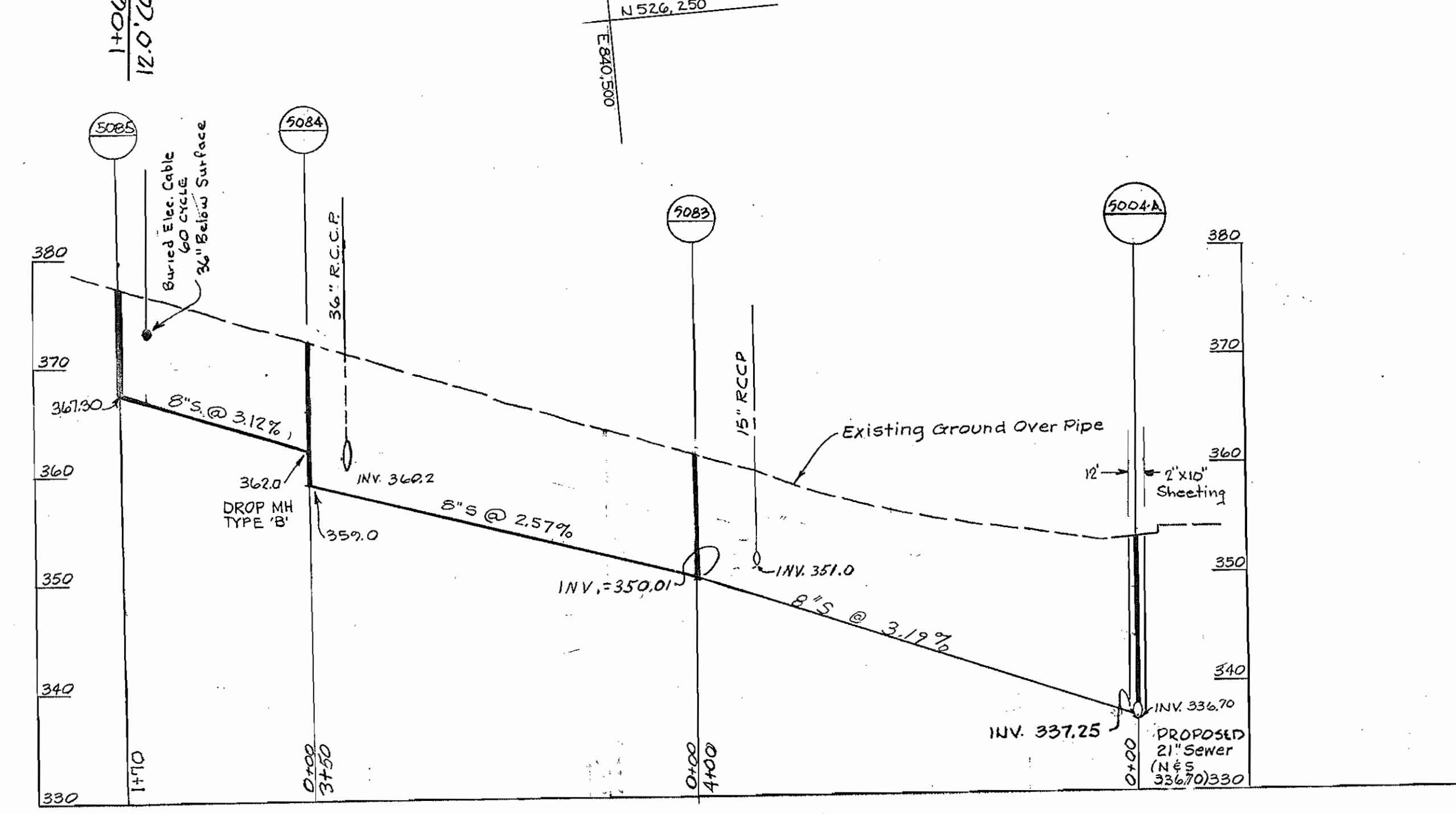
CONT. 411-S PROJECT NO. 596032
Little Patuxent Drainage Area
Interceptor - Collector Sewer
U.S. Ric. 40 4 Bethany Lane

Revised: 1-17-75
Revised 6-12-75
AS BUILT
12-10-76



PLAN
SCALE 1" = 50'

BALTIMORE NATIONAL PIKE - U.S. ROUTE 40



PROFILE
SCALE HORIZ. 1" = 100'
VERT. 1" = 10'

NOTE:
BUILD M.H.'s 5004A, 5083, 5084, & 5085
TO EXISTING GROUND.

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DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
CONTRACT NO. 411-S
DATE 7-19-73
W.D. Falbert
CHIEF BUREAU OF ENGINEERING

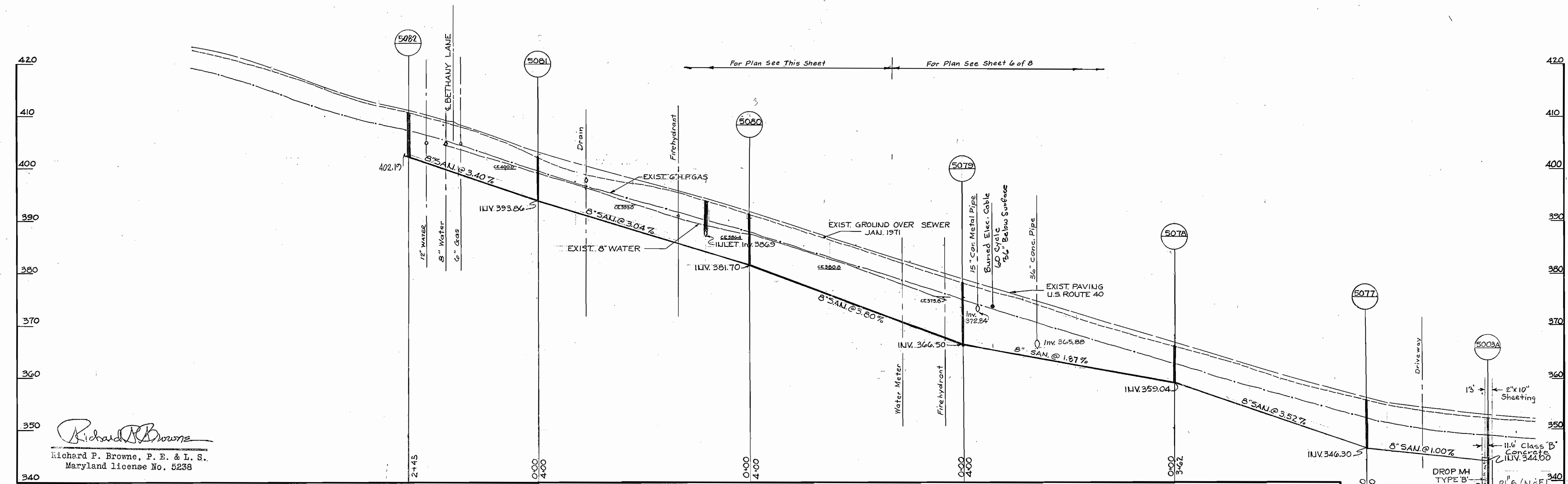
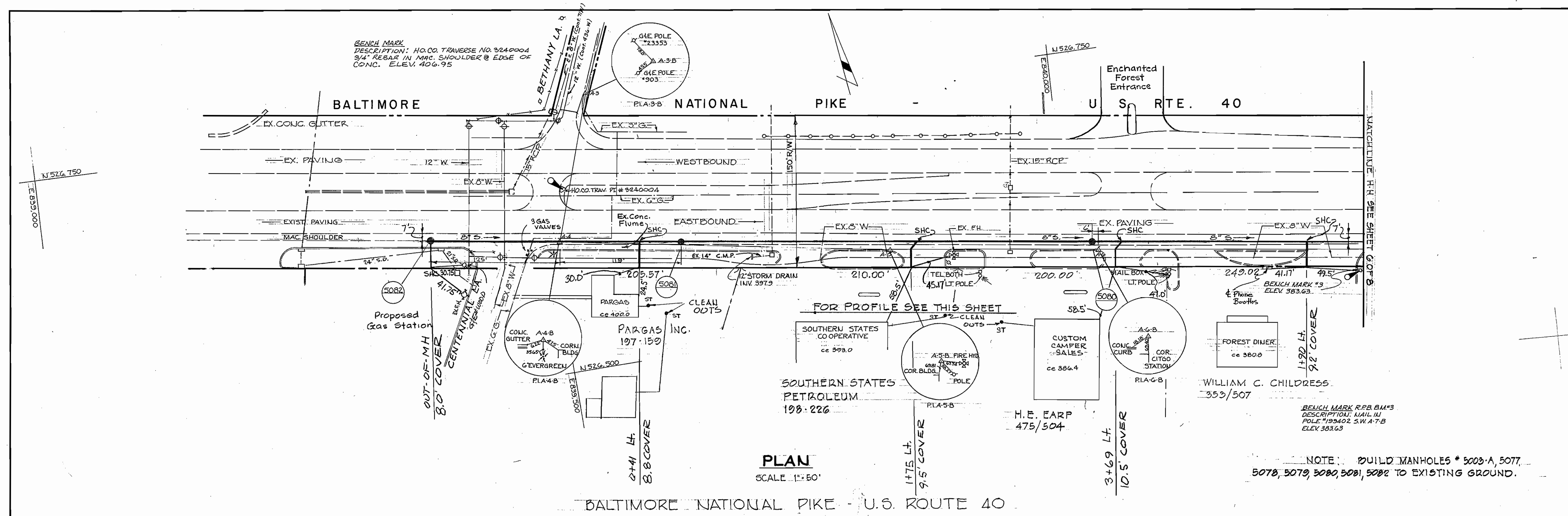
PLAN AND PROFILE OF
SANITARY SEWER MAINS

SEWER EXTENSIONS
LITTLE PATUXENT DRAINAGE AREA
ELECTION DISTRICT NO. 2

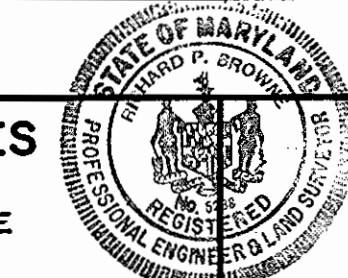
CONT. 411-S PROJECT NO. SP6032	DRAWING NO. 6 OF 8	SCALE AS SHOWN
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REVISOR 1-17-75 AS BUILT
REVISOR 6-12-75
REVISOR 7-2-75
12-10-76

WS 411-5/6



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COLUMBIA, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
7-19-73
DATE

W. C. Libbert
W. C. Libbert
CHIEF BUREAU OF ENGINEERING

CONTRACT NO. 411-S

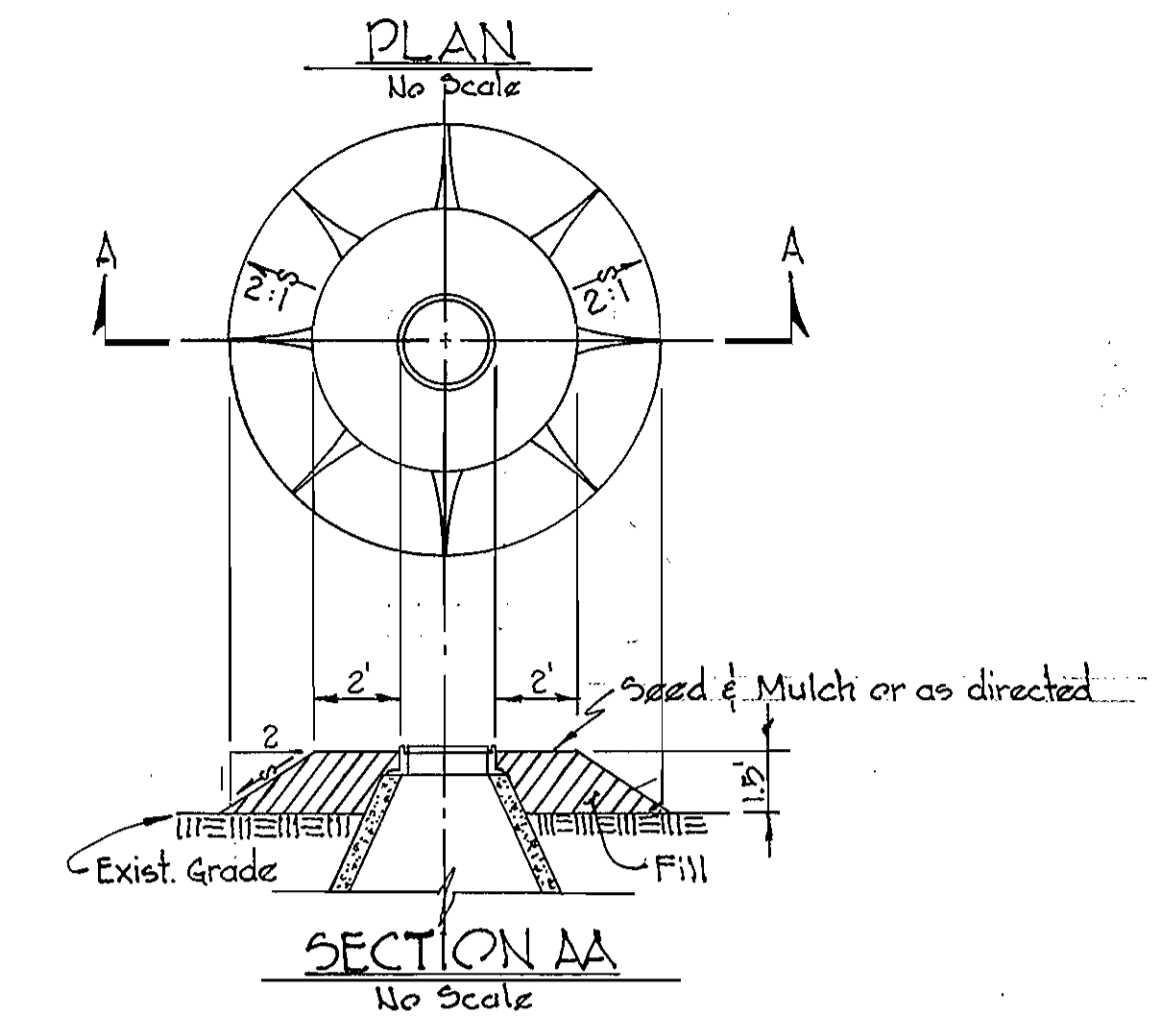
PLAN AND PROFILE OF
SANITARY SEWER MAINS

SEWER EXTENSIONS
LITTLE PATUXENT DRAINAGE AREA
ELECTION DISTRICT NO. 2

DRAWING NO. 7 OF 8
SCALE AS SHOWN
CHK JEH

REVISED 1-17-75 AS BUILT 12-10-76
REVISED 6-12-75
REVISED 7-2-75

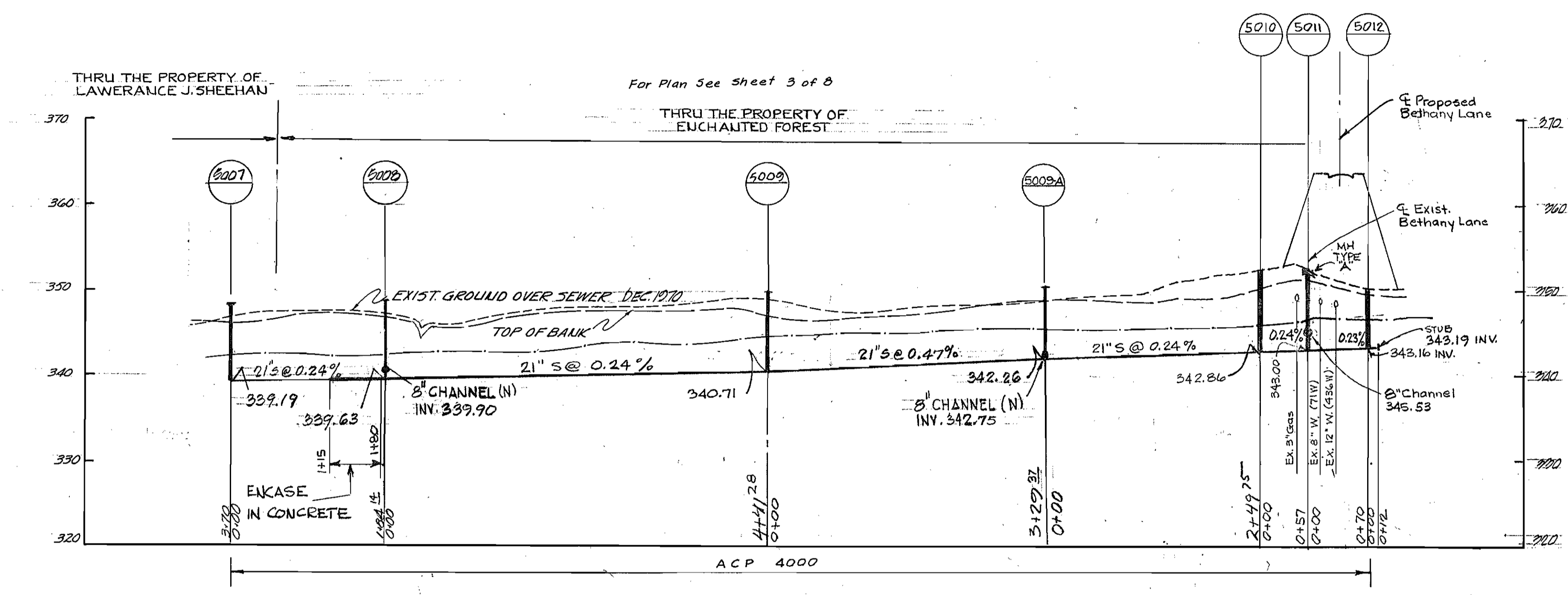
WS 411-S/7



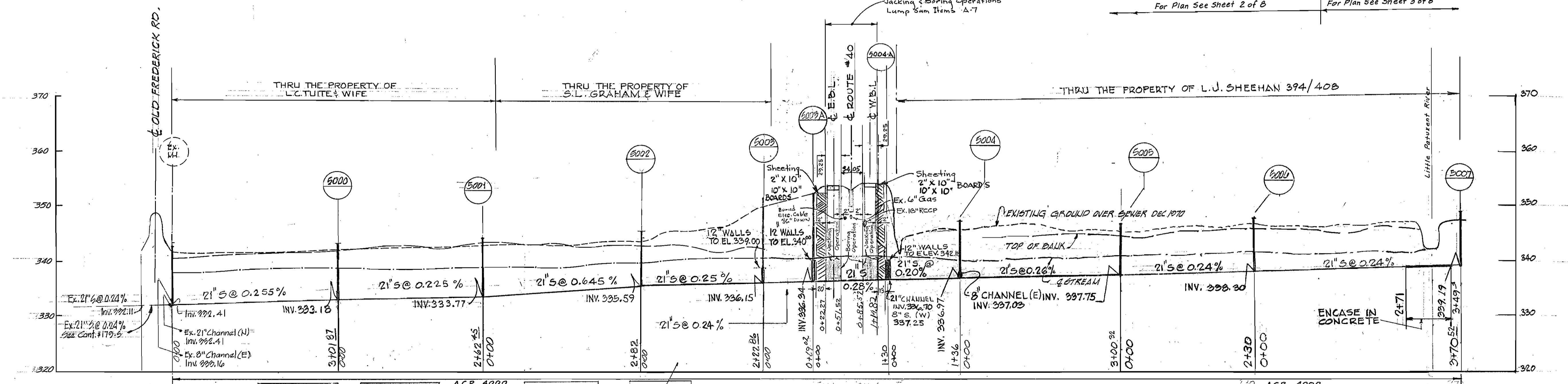
FURNISHING AND PLACING
SPECIAL BACKFILL AT MANHOLES

NOTE: BUILD MANHOLES # 5000, 5001, 5002, 5003, 5004, 5005, 5006, 5007, 5008, 5009, 5009-A, 5010, 5011, 5012-A, 1'-6" ABOVE EXISTING GROUND. (SEE DETAIL ABOVE)

NOTE: BUILD M.H.'S 5003-A, 5004-A & 5012 TO EXISTING GROUND.

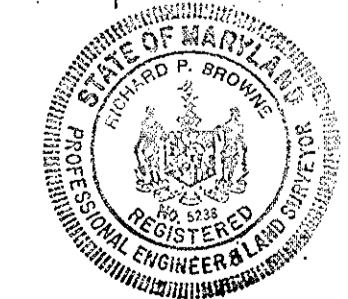


Q=6.4 mgd C=6.5 mgd V=4.2 fps	Q=6.4 mgd C=8.4 mgd V=4.2 fps	Q=6.4 cfs C=6.5 mgd V=4.1 fps	Q=6.4 mgd C=6.5 mgd V=4.1 fps	Q=6.4 mgd C=6.5 mgd V=4.1 fps	Q=7.8 cfs C=7.0 mgd V=4.1 fps
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Q=6.4 mgs C=11.0 mgd V=7.0 fps	Q=6.4 mgd C=6.5 mgd V=4.1 fps	Q=6.4 mgd C=6.5 mgd V=4.1 fps	Q=6.4 mgd C=6.5 mgd V=4.1 fps	Q=6.4 mgd C=6.5 mgd V=4.1 fps	Q=6.4 mgd C=6.5 mgd V=4.1 fps	Q=6.4 mgd C=6.5 mgd V=4.1 fps	Q=6.4 mgd C=6.5 mgd V=4.1 fps	Q=6.4 mgd C=6.5 mgd V=4.1 fps
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PROFILE
SCALE: HOR. 1"=100'
VERT. 1"=10'

FOR PLAN SEE DRWG. 2 OF 8, & 3 OF 8.

CONT. 411-S PROJECT NO. 5P6032
Little Patuxent Drainage Area
Interceptor-Collector Sewer
U.S. Rd. 40 & Bethany Lane

8/S-114-S/8

RICHARD P. BROWNE ASSOCIATES CONSULTING ENGINEERS - PLANNERS THE AMERICAN CITY BUILDING, WINCOPIN CIRCLE COLUMBIA, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 7-19-73 DATE	CONTRACT NO. 411-S W O Falbert CHIEF BUREAU OF ENGINEERING	PROFILES OF SANITARY SEWER MAINS	SEWER EXTENSIONS LITTLE PATUXENT DRAINAGE AREA ELECTION DISTRICT NO. 2	DRAWING NO. 8 OF 8	SCALE AS SHOWN	CHK/EST
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Revised For Computed PIPE lengths 10-29-75 JCH
Revised 1-7-76
Revised 6-12-75

AS BUILT 12-10-76
3200-411S-8