

# ALPHA RIDGE WATER SUPPLY CAPITAL PROJECT NO. W-8203 HOWARD COUNTY, MARYLAND

## DEPARTMENT OF PUBLIC WORKS CONTRACT NO. 44-3480

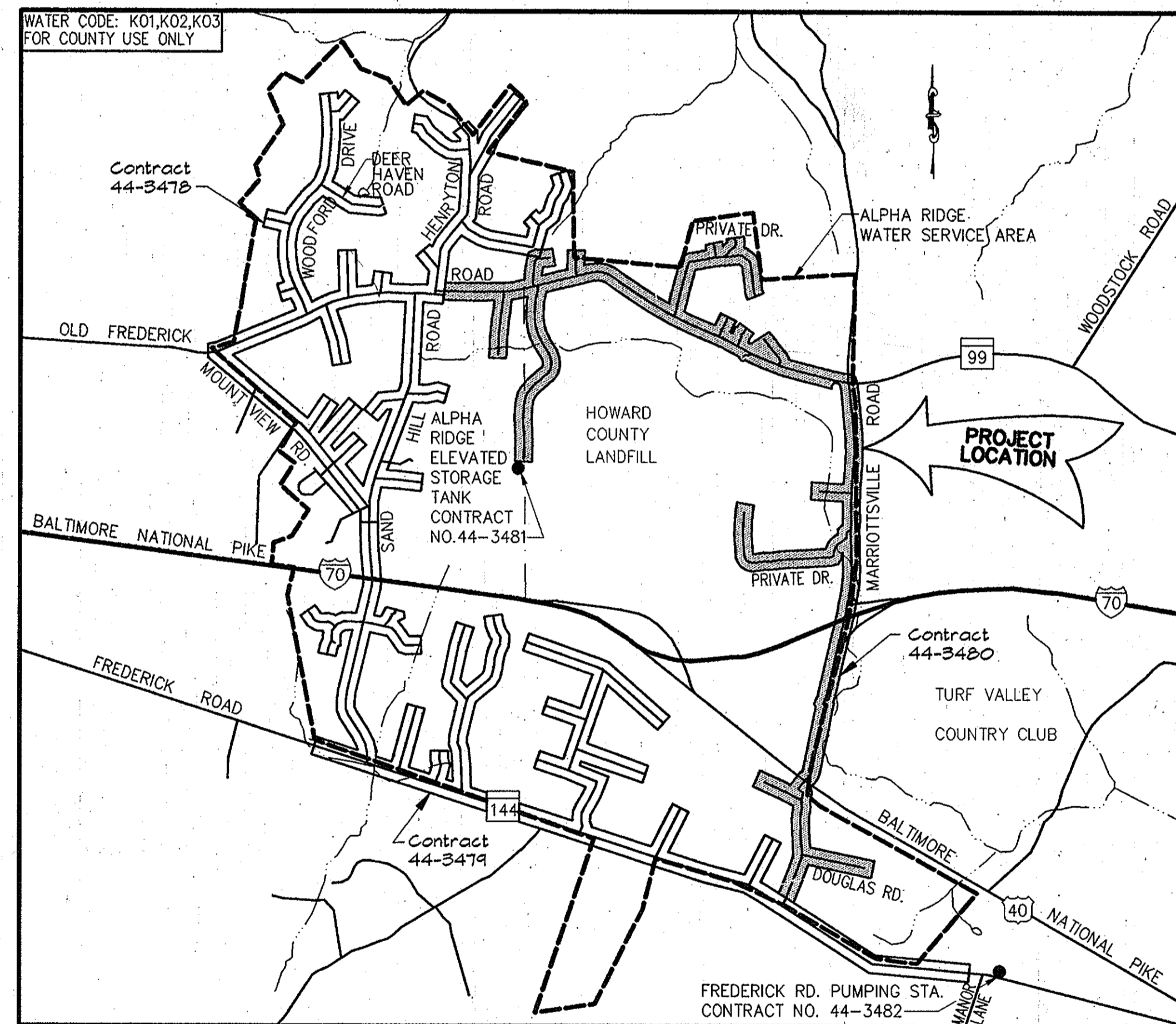
### LIST OF MATERIALS

ITEM	UNIT	QUANTITIES		MATERIAL SUPPLIER
		ESTIMATE	AS-BUILT	
4" Water Main	L.F.	2,800	2,832.0	
6" Water Main	L.F.	520	412.0	
8" Water Main	L.F.	3,890	3,707.0	
12" Water Main	L.F.	22,840	21,757.0	
Blow Off	Each	7	7.0	
1" Air Release Valve & Manhole	Each	4	4.0	
4" Valve	Each	11	8.0	
6" Valve	Each	41	42.0	
8" Valve	Each	6	7.0	
12" Valve	Each	23	24.0	
Fire Hydrant	Each	41	43.0	
12" Steel Casing	L.F.	75	0.0	
24" Steel Casing	L.F.	67	0.0	
30" Steel Casing	L.F.	200	200.0	
3/4" W.H.C.	L.F.	1,700	2,020.0	
1" W.H.C.	L.F.	3,940	797.0	
1-1/2" W.H.C.	L.F.	6,670	6,578.0	
2" W.H.C.	L.F.	3,370	4,389.0	
1-1/2" Water Main Drains	Each	1	1.0	

All Water House Connections Shall Be For, Outside Meter Setting

#### NOTES:

- Sediment Control Measures For This Contract Will Be Implemented In Accordance With Volume 4, Section 219 Of The Howard County Design Manual And This Plan And The 1994 Maryland Standards And Specifications For Soil Erosion And Sediment Control.
- Limit Of Disturbance Shall Be Held To The Trench.
- Spill From Trenches Shall Be Placed On The Uphill Side, Where Applicable.
- Trench Excavation Shall Be Held To That Which Can Be Backfilled And Stabilized.



#### VICINITY MAP

Scale: 1" = 2,000'

SEE SHEET 2 FOR 1"=600' MAP

AS BUILT

#### LEGEND

□	Utility Pole (BSE Or C&P)
□	Sign Post
□	Mailbox
□	Light Pole
▬	Paved Roads
— T —	Buried Telephone Cable(s)
— E —	Buried Electric Cable(s)
— E/T —	Buried Electric & Telephone Cables

#### GENERAL NOTES

- Approximate Location Of Existing Mains Are Shown. The Contractor Shall Take All Necessary Precautions To Protect Existing Mains And Services And To Maintain An Uninterrupted Water Supply. Any Damage Incurred Shall Be Repaired Immediately To The Satisfaction Of The Engineer At The Contractor's Expense.
- All Horizontal Controls Are Based On Maryland State Coordinates.
- All Vertical Controls Are Based On U.S.G.S. Data.
- All Pipe Elevations Shown Are Invert Elevations, Unless Otherwise Noted.
- Clear All Utilities By A Minimum Of 6". Clear All Poles By 2'-0" Minimum Or Tunnel As Required. The Owner Has Contacted The Utility Companies And Has Made Arrangements For Bracing Of Poles As Shown On The Drawings. In The Event The Contractor's Work Requires The Bracing Of Additional Poles, Any Cost Incurred By The Owner For The Bracing Of Additional Poles Or Damages Shall Be Deducted From Money Owed The Contractor. The Contractor Shall Coordinate With The Utility Companies To Schedule The Bracing Of The Poles.
- For Details Not Shown On The Drawings, And For Materials And Construction Methods, Use Howard County Design Manual, Volume IV, Standard Specifications And Details For Construction. The Contractor Shall Have A Copy Of Volume IV On The Job, At All Times.
- Where Test Pits Have Been Made On Existing Utilities, They Are Noted By The Symbol □ At The Location Of The Test Pit. A Note Or Notes Containing The Results Of The Test Pit Or Pits Is Included On The Drawings. Existing Utilities In The Vicinity Of The Proposed Work For Which Test Pits Have Not Been Performed Shall Be Located By The Contractor Two Weeks In Advance Of Construction Operations At His Own Expense.
- Contractor Shall Notify The Following Utility Companies Or Agencies At Least Five Working Days Before Starting Work Shown On These Plans:  
State Highway Administration - 531-5533  
Baltimore Gas And Electric - Contractor Services 850-4620  
Baltimore Gas And Electric - Underground Damage Control - 859-9004  
Miss Utility - 1-800-257-7777  
Bell Atlantic Telephone Co. - 597-8585  
Transcontinental Gas Pipeline Corp. - 1-410-465-0960  
Bureau Of Utilities, Howard County Department Of Public Works - 313-4900
- Trees And Shrubs Are To Be Protected From Damage To The Maximum Extent Possible. Trees And Shrubs Located Within The Construction Strip Are Not To Be Removed Or Damaged By The Contractor.
- Contractor Shall Remove Trees, Stumps And Roots Along Line Of Excavation. Payment For Such Removal Shall Be Included In The Unit Price Bid For Construction Of The Main.
- All Water Mains To Be D.I.P. Class 52, Unless Otherwise Noted.
- Top Of All Water Mains Shall Have A Minimum Of 3'-6" Of Cover Unless Otherwise Noted.
- Valves Adjacent To Tees Shall Be Strapped To Tee.
- All Fittings Shall Be Buttressed Or Anchored With Concrete In Accordance With The Standard Details. Soil Around The Fire Hydrant Shall Be Compacted In Accordance With Section 1000 Of The Standard Specifications.
- Fire Hydrant Shall Be Set To Bury Line Elevations Shown On The Drawings. All Fire Hydrants Shall Be Strapped And Buttressed With Concrete In Accordance With Standard Details. Soil Around The Fire Hydrant Shall Be Compacted In Accordance With Section 1000 Of The Standard Specifications.
- The Contractor Shall Not Operate Any Water Main Valves On The Existing Water System.
- Length Of Disturbance/Open Trench Must Be Limited To Three Pipe Sections Or To The Length Which Can Be Backfilled And Stabilized In One Working Day, Whichever Is Shorter.
- Trench Repair Shall Be In Accordance With Howard County Standard Details.
- All Work Shall Be In Accordance With Howard County Standards And Specifications For Soil Erosion And Sediment Control Section 219.
- In Addition To The General Requirements Noted On The Plans And In The Specifications, The Contractor Shall Also Adhere To The Following Requirements When Constructing The 4" Water Service Mains And Water House Connections Within Easements And On Private Property:  
A. The Contractor Shall Only Be Permitted To Work Between The Hours Of 9:00 am And 4:00 pm.  
B. During Construction The Contractor Shall Maintain Ingress And Egress For The Residents And For Emergency Vehicles At All Times.  
C. Trenches Will Not Be Permitted To Remain Open After Working Hours.  
D. Stored Materials Will Not Be Permitted Within Private Driveways, Easement Areas Or On Private Property.

Reviewed For Howard County S.C.D. and meets technical requirements.

*J.A. Warfield* Date: 4/1/96  
NATURAL RESOURCE CONSERVATION SERVICE

This development plan is approved for soil erosion and sediment control by The Howard County Soil Conservation District.

Approved: *John P. Robertson* Date: 4/1/96  
HOWARD COUNTY SCD

#### ENGINEER'S CERTIFICATION

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 County Soil Conservation District.

*Rummel, Klepper & Kahl* Date: 3-18-96

RUMMEL, KLEPPER & KAHL  
CONSULTING ENGINEERS  
81 MOSHER STREET BALTIMORE, MD. 21217

#### DEVELOPERS CERTIFICATION

"I/We 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 Certification Of Attendance At A Maryland Department Of Environment Approved Training Program For The Control Of Sediment And Erosion Before Beginning The Project.

*Paul J. Deegan* 3/29/96  
BUREAU OF ENGINEERING  
DEPARTMENT OF PUBLIC WORKS

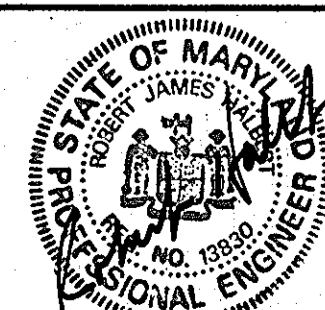
#### DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

*John M. Lewis* 4/3/96  
DIRECTOR OF PUBLIC WORKS  
*Robert B. Bennett* 4-1-96  
CHIEF, BUREAU OF UTILITIES

*Paul J. Deegan* 3/29/96  
CHIEF, BUREAU OF ENGINEERING  
*Paul J. Deegan* 3-29-96  
CHIEF, WATER AND SEWER DESIGN DIVISION



RUMMEL, KLEPPER & KAHL  
CONSULTING ENGINEERS  
81 MOSHER ST.  
BALTIMORE, MARYLAND 21217



DES: DCE  
DRN: MUS  
CHK: DCE  
DATE: 3/96

TITLE SHEET, VICINITY MAP,  
LIST OF MATERIALS & GENERAL NOTES

600' SCALE MAP NO. 910116 BLOCK NO.

ALPHA RIDGE WATER SUPPLY  
CAPITAL PROJECT W-8203  
CONTRACT NO. 44-3480  
ELECTION DISTRICT NO. 3  
HOWARD COUNTY, MARYLAND

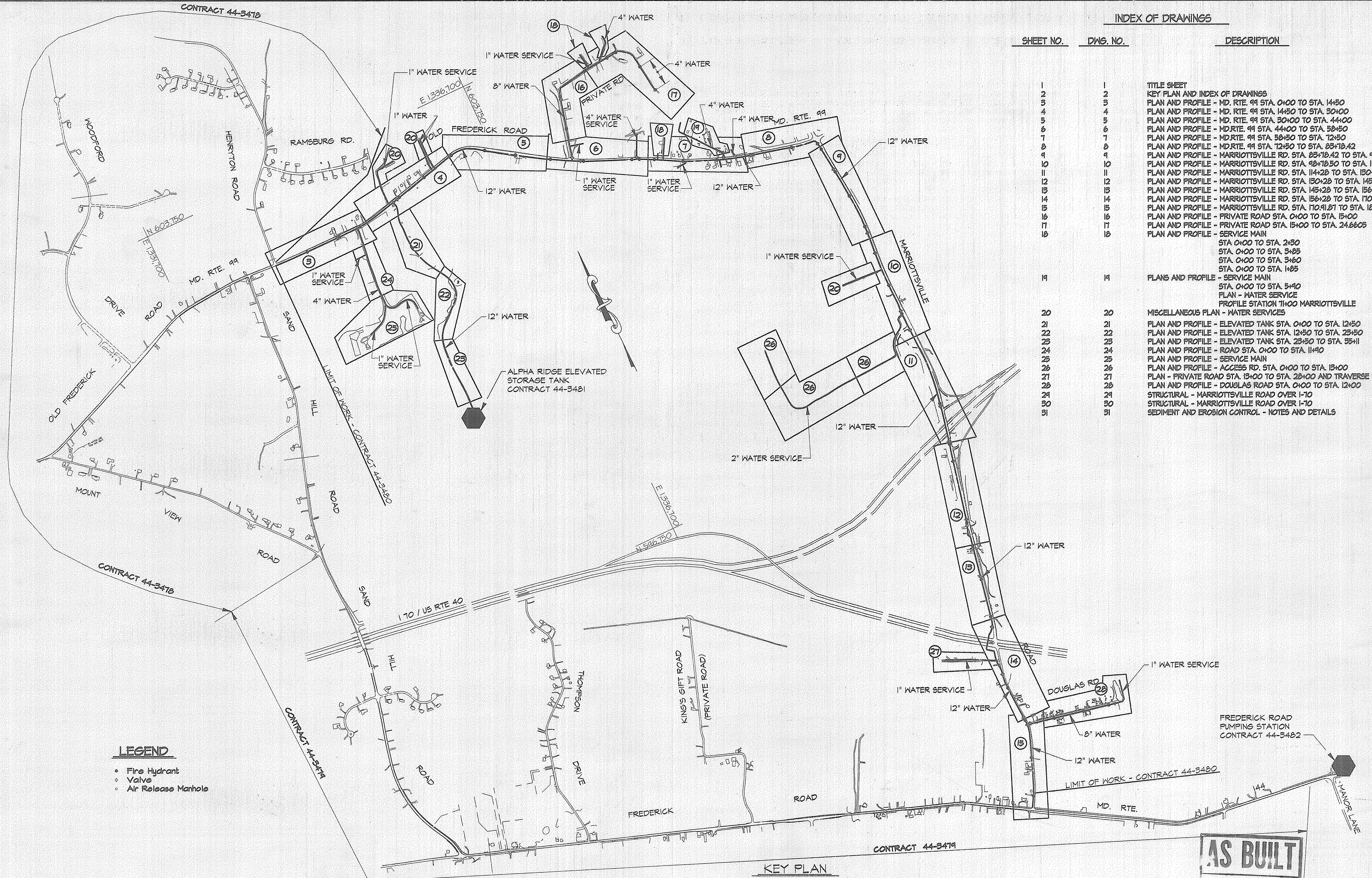
DWG. NO.

SCALE  
AS  
SHOWN

SHEET  
1 OF 31

INDEX OF DRAWINGS

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4	4	PLAN AND PROFILE - MD. RTE. 99 STA. 14+50 TO STA. 30+00
5	5	PLAN AND PROFILE - MD. RTE. 99 STA. 30+00 TO STA. 44+00
6	6	PLAN AND PROFILE - MD. RTE. 99 STA. 44+00 TO STA. 58+50
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27	27	PLAN - PRIVATE ROAD STA. 13+00 TO STA. 28+00 AND TRAVERSE TABLES
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- LEGEND**
- Fire Hydrant
  - Valve
  - Air Release Manhole

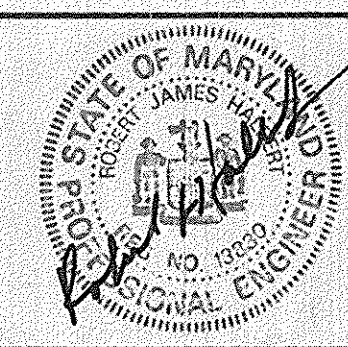
KEY PLAN  
Scale: 1"=600'

**AS BUILT**

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**DEPARTMENT OF PUBLIC WORKS**  
 HOWARD COUNTY, MARYLAND  
 Director of Public Works: *Robert A. Sawyer* 4/3/96  
 Chief, Bureau of Engineering: *Paul J. Capron* 3/29/96  
 Chief, Bureau of Utilities: *Robert A. Sawyer* 4-1-96  
 Chief, Water and Sewer Design Division: *Paul J. Capron* 3-29-96

**RK & K**  
**RUMMEL, KLEPPER & KAHL**  
 CONSULTING ENGINEERS  
 81 MOSHER ST.  
 BALTIMORE, MARYLAND 21217

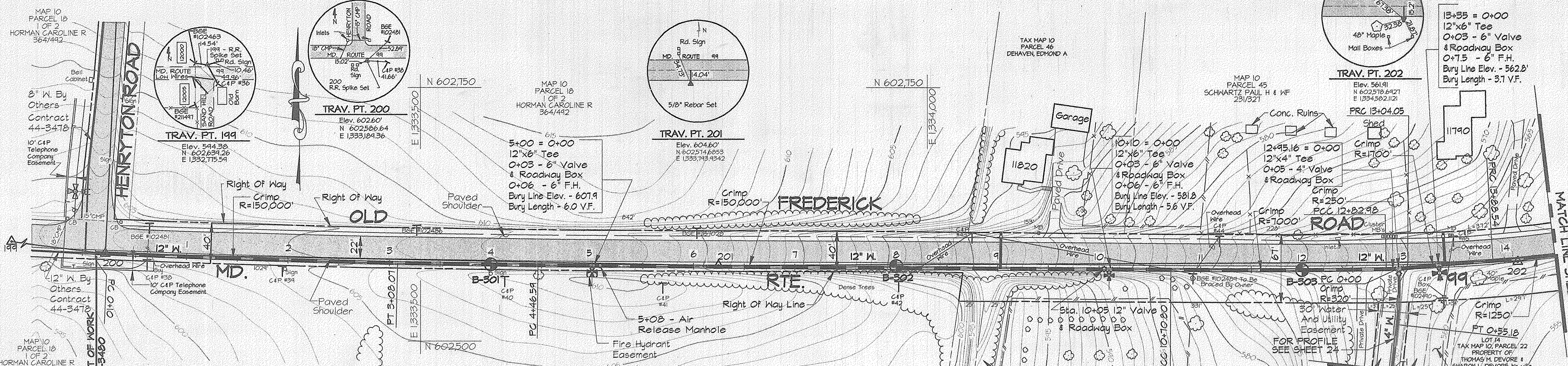


DES:	DCE			
DRN:	MJS			
CHK:	DCE			
DATE:	1/96			
BY:	NO.	REVISION	DATE	600' SCALE MAP NO. 9, 10, 15, 16 - BLOCK NO.

KEY PLAN AND INDEX OF DRAWINGS

ALPHA RIDGE WATER SUPPLY  
 CAPITAL PROJECT W-8203  
 CONTRACT NO. 44-3480  
 ELECTION DISTRICT NO. 3  
 HOWARD COUNTY, MARYLAND

DWG. NO.  
 SCALE AS SHOWN  
 SHEET 2 OF 31

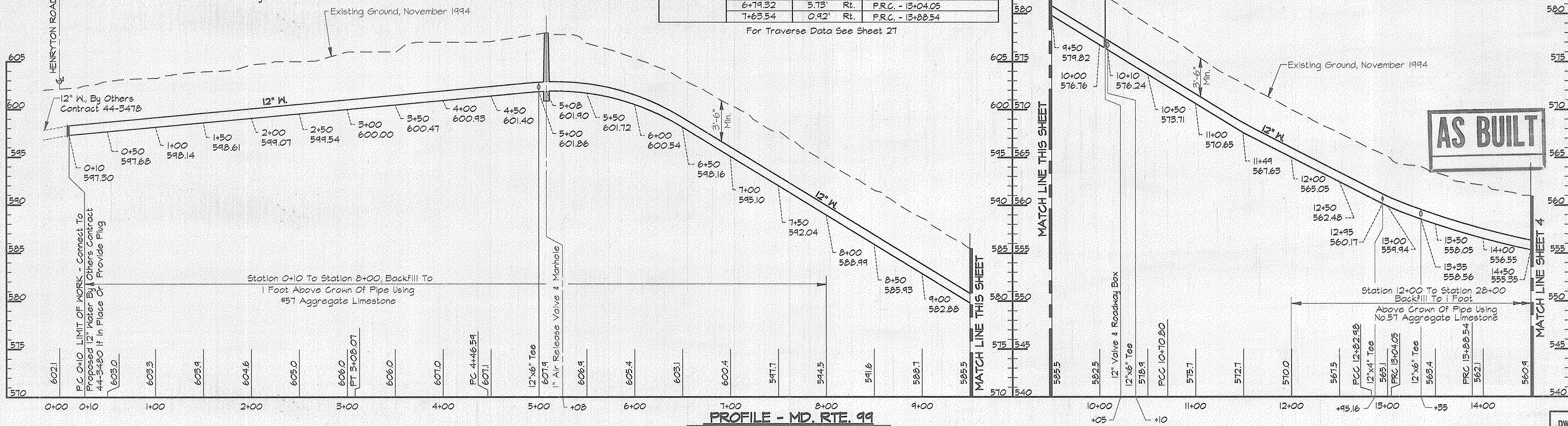


- NOTES:
- Contractor Shall Remove And Replace Existing Mail Boxes, Signs & Fences As Required.
  - Contractor Shall Confirm Location Of All Water House Connections With Owners Prior To Installation.
  - All Water Services Are 3/4" Unless Otherwise Noted.
  - The Contractor Shall Work Only From 9:00am To 4:00pm When Constructing The 4" Water Main And House Connections Within The Private Driveway At Sta. 12+95.
  - During Construction The Contractor Shall Maintain Ingress And Egress For The Residents And Emergency Vehicles At All Times.
  - Trenches Will Not Be Permitted To Remain Open After Working Hours Within The Private Driveway.
  - Stored Materials Will Not Be Permitted Within The Private Driveway Or Easement Area.

**WATER MAIN STAKE-OUT TABLE**

TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
199 - 200	4+07.27	0.66' Rt.	Limit Of Work - P.C. 0+10
200 - 201	2+88.14	3.70' Rt.	P.T. - 3+08.07
	4+26.65	3.03' Rt.	P.C. - 4+46.59
201 - 202	4+46.11	6.17' Rt.	P.C.C. - 10+70.80
	6+58.28	6.38' Rt.	P.C.C. - 12+82.98
	6+68.77	61.45' Rt.	P.T. - 0+55.18
	6+70.45	6.37' Rt.	12"x4" Tee - 12+95.16
	6+79.32	5.73' Rt.	P.R.C. - 13+04.05
	7+63.54	0.92' Rt.	P.R.C. - 13+88.54

For Traverse Data See Sheet 27



**PROFILE - MD. RTE. 99**  
Scale: Horiz. 1"=50'  
Vert. 1"=5'

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

*James J. Lewis* 4/3/96  
DIRECTOR OF PUBLIC WORKS DATE

*Robert J. Sawyer* 4-1-96  
CHIEF, BUREAU OF UTILITIES DATE

*Robert J. Sawyer* 3/29/96  
CHIEF, BUREAU OF ENGINEERING DATE

*Oliver D. Sawyer* 3-29-96  
CHIEF, WATER AND SEWER DESIGN DIVISION DATE

**RK & K**  
RUMMEL, KLEPPER & KAHL  
CONSULTING ENGINEERS  
81 MOSHER ST.  
BALTIMORE, MARYLAND 21217

REGISTERED PROFESSIONAL ENGINEER  
STATE OF MARYLAND  
NO. 10889

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CHK:	SRK			
DATE:	3/96			
BY:	NO.			
		REVISION		
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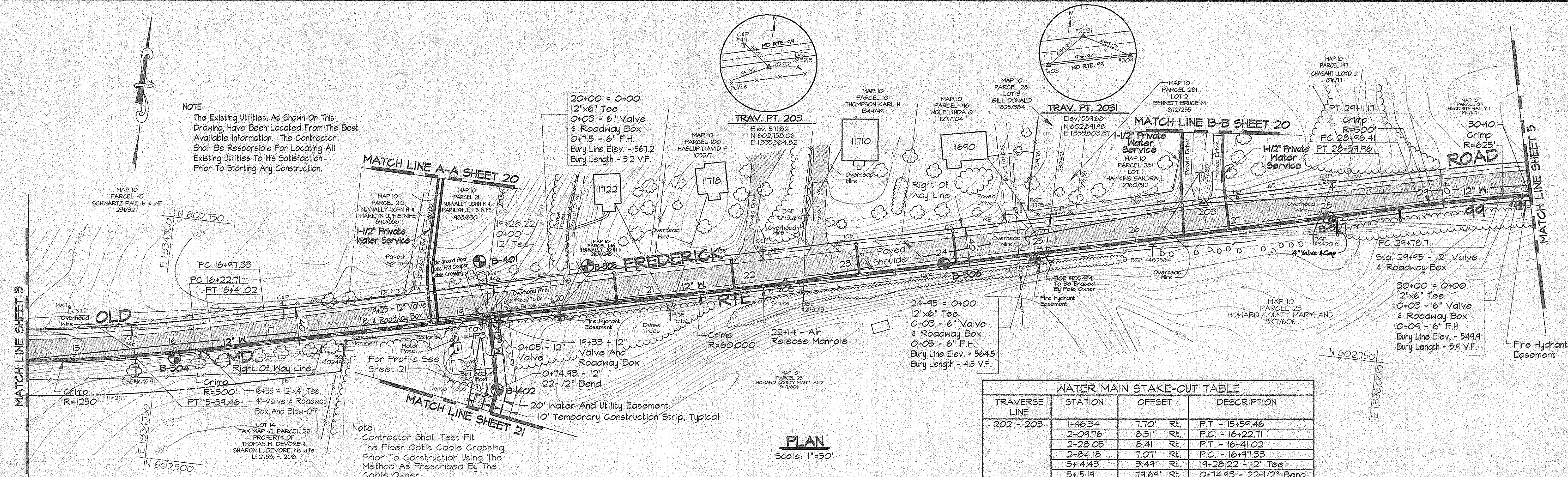
PLAN AND PROFILE - MD. RTE. 99  
STA. 0+10 TO STA. 14+50

600' SCALE MAP NO. 10 BLOCK NO. 19 & 20

ALPHA RIDGE WATER SUPPLY  
CAPITAL PROJECT W-8203  
CONTRACT NO. 44-3480  
ELECTION DISTRICT NO. 3  
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN  
SHEET 3 OF 31

NOTE:  
The Existing Utilities, As Shown On This Drawing, Have Been Located From The Best Available Information. The Contractor Shall Be Responsible For Locating All Existing Utilities To His Satisfaction Prior To Starting Any Construction.



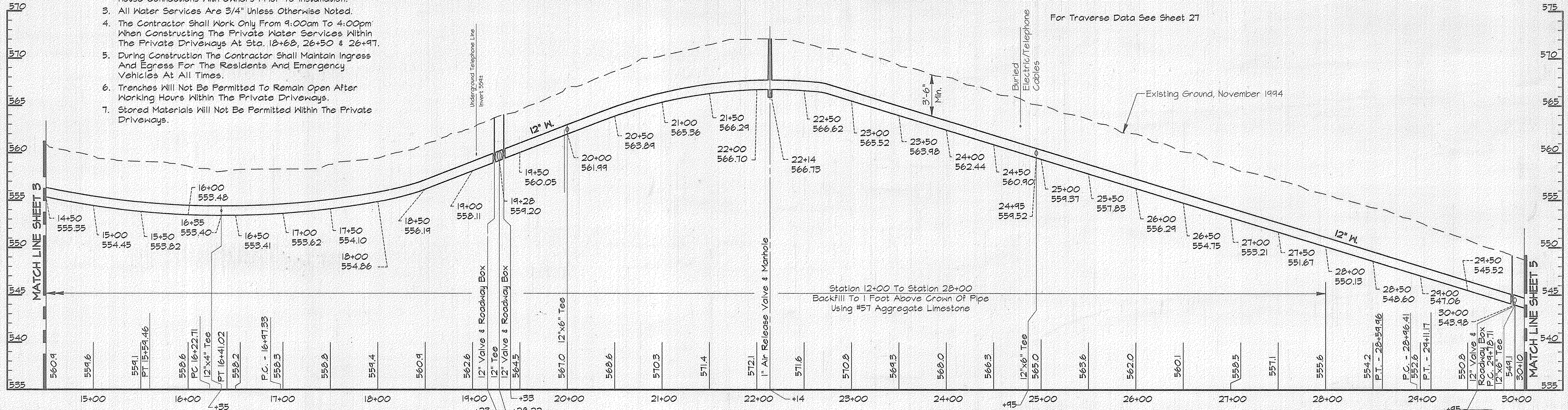
**WATER MAIN STAKE-OUT TABLE**

TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
202 - 203	1+46.34	7.70' Rt.	P.T. - 15+59.46
	2+09.76	8.51' Rt.	P.C. - 16+22.71
	2+28.05	8.41' Rt.	P.T. - 16+41.02
	2+84.18	7.07' Rt.	P.C. - 16+97.33
	5+14.43	3.49' Rt.	19+28.22 - 12" Tee
2031 - 204	5+15.19	79.69' Rt.	0+74.93 - 22-1/2° Bend
	1+89.92	17.44' Rt.	P.T. - 28+59.96
	2+23.28	14.76' Rt.	P.C. - 28+96.41
	2+38.01	13.89' Rt.	P.T. - 29+11.17
	3+05.48	10.90' Rt.	P.C. 29+78.71
	3+21.15	10.04' Rt.	29+95 - 12" Valve
	3+26.14	10.32' Rt.	30+00 - 12"x6" Tee

- NOTES:
- Contractor Shall Remove And Replace Existing Mail Boxes, Signs & Fences As Required.
  - Contractor Shall Confirm Location Of All Water House Connections With Owners Prior To Installation.
  - All Water Services Are 3/4" Unless Otherwise Noted.
  - The Contractor Shall Work Only From 9:00am To 4:00pm When Constructing The Private Water Services Within The Private Driveways At Sta. 18+68, 26+50 & 26+97.
  - During Construction The Contractor Shall Maintain Ingress And Egress For The Residents And Emergency Vehicles At All Times.
  - Trenches Will Not Be Permitted To Remain Open After Working Hours Within The Private Driveways.
  - Stored Materials Will Not Be Permitted Within The Private Driveways.

Note:  
Contractor Shall Test Pit The Fiber Optic Cable Crossing Prior To Construction Using The Method As Prescribed By The Cable Owner.

**PLAN**  
Scale: 1"=50'



**PROFILE - MD RTE 99**  
Scale: Horiz. 1"=50'  
Vert. 1"=5'

**AS BUILT**

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DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

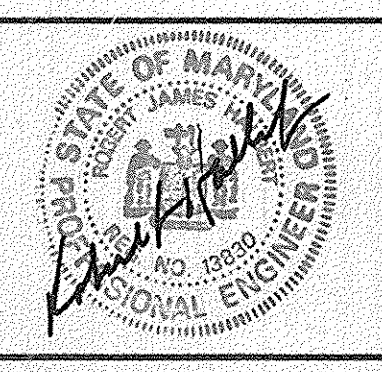
*Robert J. Sawyer* 4/3/96  
DIRECTOR OF PUBLIC WORKS DATE

*Robert J. Sawyer* 4-1-96  
CHIEF, BUREAU OF UTILITIES DATE

*Robert J. Sawyer* 3/29/96  
CHIEF, BUREAU OF ENGINEERING DATE

*Robert J. Sawyer* 3-29-96  
CHIEF, WATER AND SEWER DESIGN DIVISION DATE

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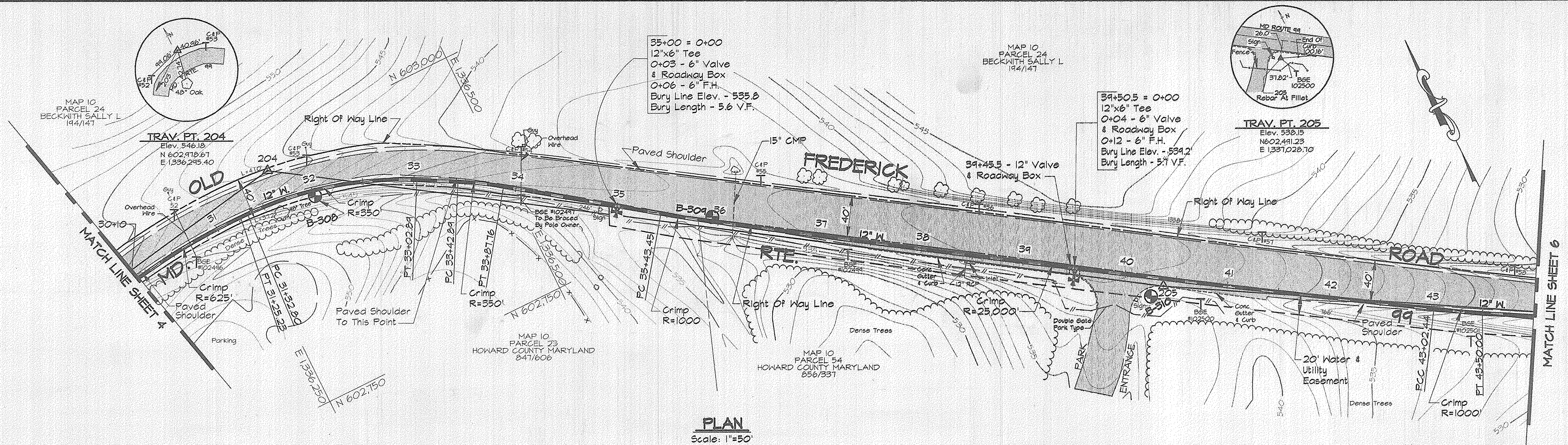
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DRN:	DCJ				
CHK:	SRK				
DATE:	3/96				
BY:	NO.	REVISION	DATE	600' SCALE MAP NO.	BLOCK NO.

PLAN AND PROFILE - MD RTE. 99  
STA. 14+50 TO 30+00

600' SCALE MAP NO. 10 BLOCK NO. 20

ALPHA RIDGE WATER SUPPLY  
CAPITAL PROJECT W-8203  
CONTRACT NO. 44-3480  
ELECTION DISTRICT NO. 3  
HOWARD COUNTY, MARYLAND

DWG. NO.  
SCALE AS SHOWN  
SHEET 4 OF 31

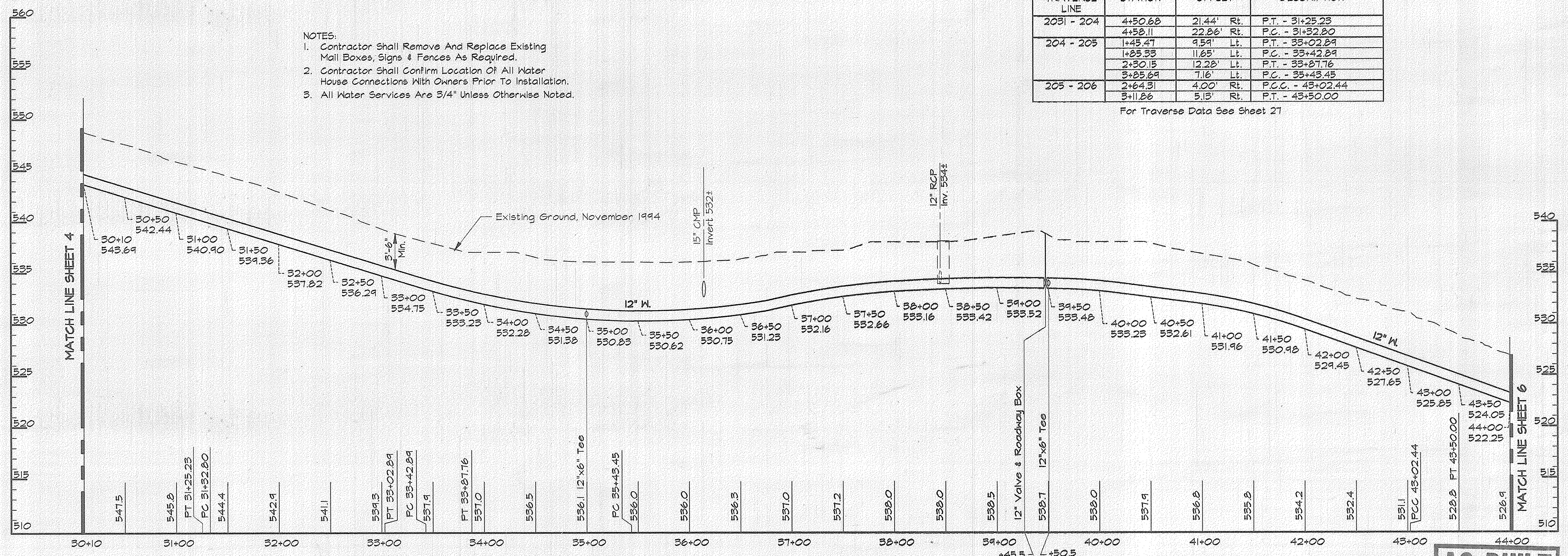


**PLAN**  
Scale: 1"=50'

TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
203 - 204	4+50.68	21.44' Rt.	P.T. - 31+25.23
	4+58.11	22.86' Rt.	P.C. - 31+32.80
204 - 205	1+45.47	9.59' Lt.	P.T. - 33+02.89
	1+85.33	11.65' Lt.	P.C. - 33+42.89
	2+30.15	12.28' Lt.	P.T. - 33+87.16
205 - 206	3+25.69	7.16' Lt.	P.C. - 35+43.45
	2+64.31	4.00' Rt.	P.C.C. - 43+02.44
	3+11.86	5.13' Rt.	P.T. - 43+50.00

For Traverse Data See Sheet 27

- NOTES:
- Contractor Shall Remove And Replace Existing Mail Boxes, Signs & Fences As Required.
  - Contractor Shall Confirm Location Of All Water House Connections With Owners Prior To Installation.
  - All Water Services Are 3/4" Unless Otherwise Noted.



**PROFILE - MD. RT. 99**  
Scale: Horiz. 1"=50'  
Vert. 1"=5'

**AS BUILT**

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DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

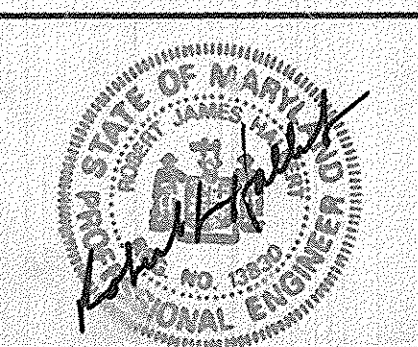
*James J. ...* 4/3/96  
DIRECTOR OF PUBLIC WORKS

*Robert W. ...* 4-1-96  
CHIEF, BUREAU OF UTILITIES

*Paul P. ...* 3/23/96  
CHIEF, BUREAU OF ENGINEERING

*...* 3-29-96  
CHIEF, WATER AND SEWER DESIGN DIVISION

**RK & K**  
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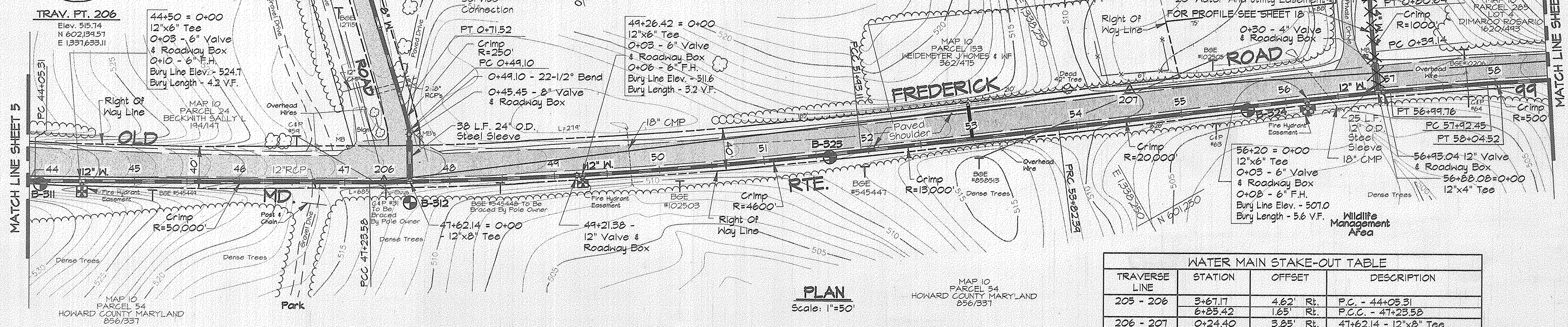
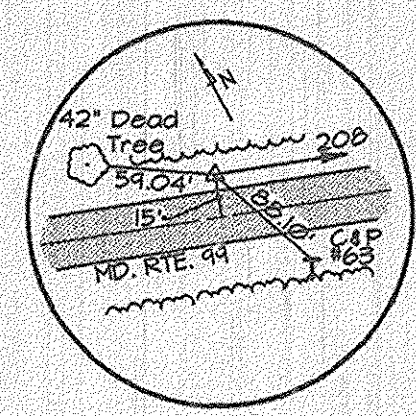
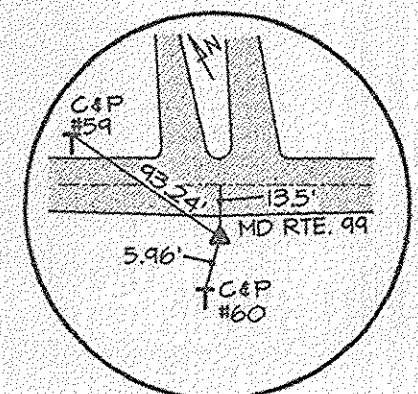
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BY:	NO.		
REVISION:			
DATE:			

PLAN AND PROFILE - MD RTE. 99  
STA. 30+00 TO 44+00

600' SCALE MAP NO. 10 BLOCK NO. 20 & 21

ALPHA RIDGE WATER SUPPLY  
CAPITAL PROJECT W-8203  
CONTRACT NO. 44-3480  
ELECTION DISTRICT NO. 3  
HOWARD COUNTY, MARYLAND

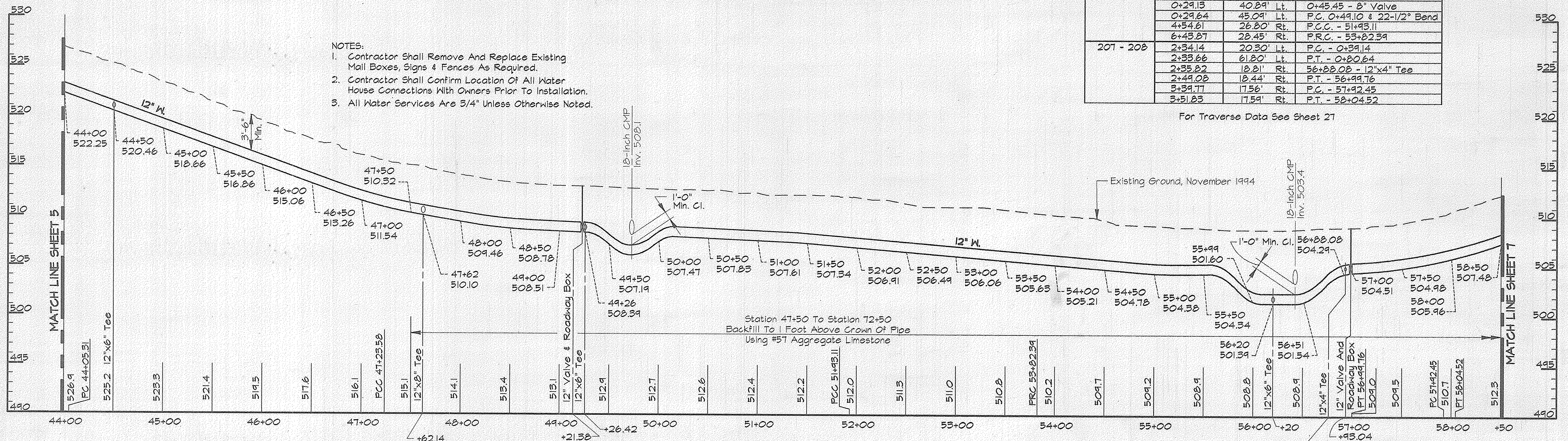
DWG. NO.  
SCALE AS SHOWN  
SHEET 5 OF 31



TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
205 - 206	3+67.17	4.62' Rt.	P.C. - 44+05.31
	6+85.42	1.65' Rt.	P.C.C. - 47+23.58
206 - 207	0+24.40	3.65' Rt.	47+62.14 - 12"x8" Tee
	0+26.83	67.21' Lt.	P.T. - 0+71.52
	0+29.13	40.89' Lt.	0+45.45 - 8" Valve
	0+29.64	45.09' Lt.	P.C. 0+49.10 & 22-1/2" Bend
	4+54.61	26.80' Rt.	P.C.C. - 51+93.11
	6+43.87	28.45' Rt.	P.R.C. - 53+82.39
207 - 208	2+34.14	20.30' Lt.	P.C. - 0+39.14
	2+33.66	61.80' Lt.	P.T. - 0+80.64
	2+35.82	18.81' Rt.	56+88.08 - 12"x4" Tee
	2+49.08	18.44' Rt.	P.T. - 56+99.76
	3+39.77	17.56' Rt.	P.C. - 57+92.45
	3+51.83	17.59' Rt.	P.T. - 58+04.52

For Traverse Data See Sheet 27

- NOTES:
- Contractor Shall Remove And Replace Existing Mail Boxes, Signs & Fences As Required.
  - Contractor Shall Confirm Location Of All Water House Connections With Owners Prior To Installation.
  - All Water Services Are 3/4" Unless Otherwise Noted.



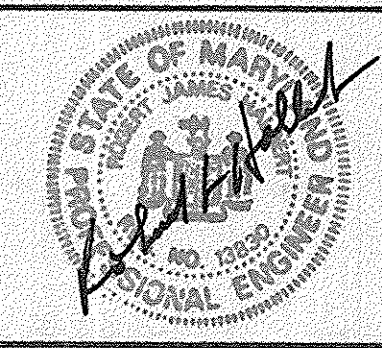
**PROFILE - MD RTE 99**  
Scale: Horiz. 1"=50'  
Vert. 1"=5'

**AS BUILT**

RKK2/USR2:SDSKPROJ/CMB9473/DWG ALP-3-06.DWG  
 03/15/1996 10:02

**DEPARTMENT OF PUBLIC WORKS**  
 HOWARD COUNTY, MARYLAND  
 Director of Public Works: *[Signature]* 4/3/96  
 Chief, Bureau of Engineering: *[Signature]* 3/23/96  
 Chief, Bureau of Utilities: *[Signature]* 4-1-96  
 Chief, Water and Sewer Design Division: *[Signature]* 3-29-96

**RK & K**  
**RUMMEL, KLEPPER & KAHL**  
 CONSULTING ENGINEERS  
 81 MOSHER ST.  
 BALTIMORE, MARYLAND 21217

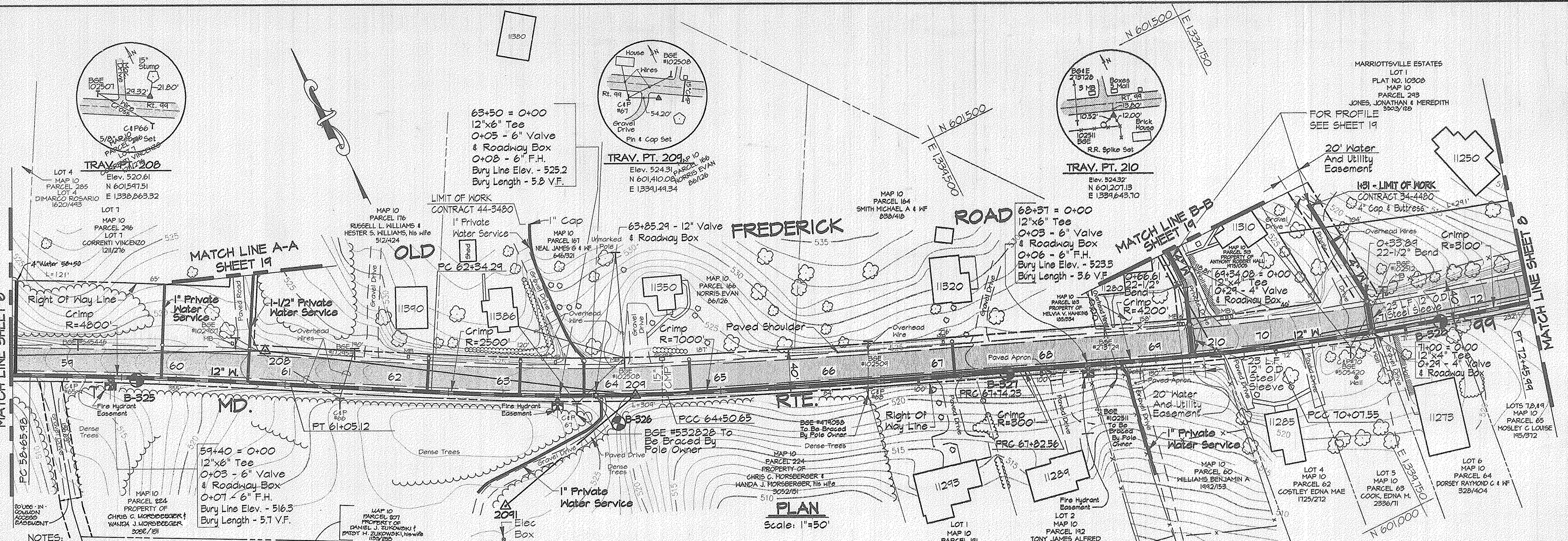


DES:	DCE				
DRN:	DCJ				
CHK:	SRK				
DATE:	3/96				
BY:	NO.	REVISION	DATE	600' SCALE MAP NO.	10
				BLOCK NO.	21

**PLAN AND PROFILE - MD. RTE. 99**  
 STA. 44+00 TO STA. 58+50

ALPHA RIDGE WATER SUPPLY  
 CAPITAL PROJECT W-8203  
 CONTRACT NO. 44-3480  
 ELECTION DISTRICT NO. 3  
 HOWARD COUNTY, MARYLAND

DWG. NO.  
 SCALE AS SHOWN  
 SHEET 6 OF 31



- NOTES:
- Contractor Shall Remove And Replace Existing Mail Boxes, Signs & Fences As Required.
  - Contractor Shall Confirm Location Of All Water House Connections With Owners Prior To Installation.
  - All Water Services Are 3/4" Unless Otherwise Noted.
  - The Contractor Shall Work Only From 9:00am To 4:00pm When Constructing The 4" Water Main And House Connections Within The Private Driveways At Sta. 69+34 & 71+00 And The Private Water Services Within The Private Driveways At Sta. 60+65.68, 63+75, 63+90 & 68+69
  - During Construction The Contractor Shall Maintain Ingress And Egress For The Residents And Emergency Vehicles At All Times.
  - Trenches Will Not Be Permitted To Remain Open After Working Hours Within The Private Driveways.
  - Stored Materials Will Not Be Permitted Within The Private Driveways Or Easement Area.

WATER MAIN STAKE-OUT TABLE			
TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
207 - 208	4+13.29	18.49' Rt.	P.C. - 58+65.98

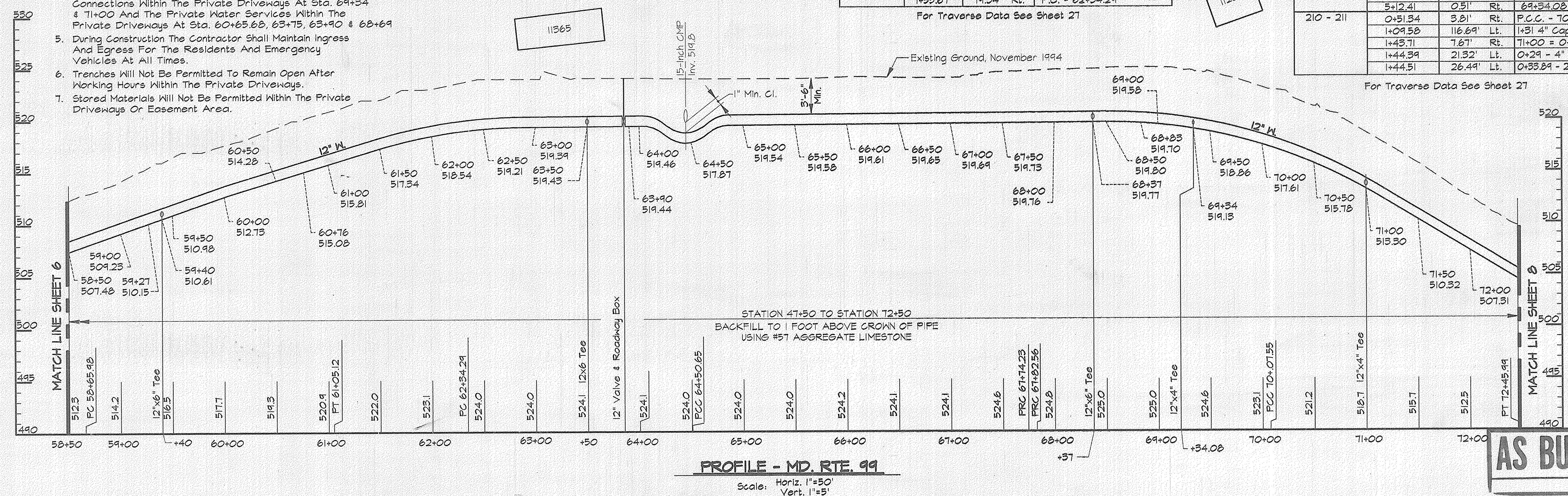
For Traverse Data See Sheet 27

WATER MAIN STAKE-OUT TABLE			
TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
208 - 209	0+26.81	28.27' Rt.	P.T. - 61+05.12
	+155.67	19.54' Rt.	P.C. - 62+34.29

For Traverse Data See Sheet 27

WATER MAIN STAKE-OUT TABLE			
TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
209 - 210	0+29.02	0.98' Rt.	P.C.C. - 64+50.65
	3+52.57	1.99' Rt.	P.R.C. - 67+74.25
	3+60.90	1.94' Rt.	P.R.C. - 67+82.56
210 - 211	5+10.24	66.06' Lt.	0+66.61 - 22-1/2" Horiz. Bend
	5+12.41	0.51' Rt.	69+34.08 - 12"x4" Tee
	0+51.34	3.81' Rt.	P.C.C. - 70+07.55
	+109.58	116.69' Lt.	+131 4" Cap & Buttress
	+143.71	7.67' Rt.	71+00 = 0+00 - 4" Tee
	+144.39	21.32' Lt.	0+29 - 4" Valve
	+144.51	26.49' Lt.	0+33.84 - 22-1/2" Horiz. Bend

For Traverse Data See Sheet 27



**PROFILE - MD. RTE. 99**  
Scale: Horiz. 1"=50' Vert. 1"=5'

**AS BUILT**

RKK2\USP2-SDSK\PROK\CM9473\DWG ALP-3-07.DWG 14:46

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*Robert A. Swain* 1/3/96  
DIRECTOR OF PUBLIC WORKS DATE

*Robert A. Swain* 4-1-96  
CHIEF, BUREAU OF UTILITIES DATE

*Paul H. Pappas* 3/23/96  
CHIEF, BUREAU OF ENGINEERS DATE

*Paul H. Pappas* 3-29-96  
CHIEF, WATER AND SEWER DESIGN DIVISION DATE

**RK & K**  
RUMMEL, KLEPPER & KAHL  
CONSULTING ENGINEERS  
81 MOSHER ST.  
BALTIMORE, MARYLAND 21217

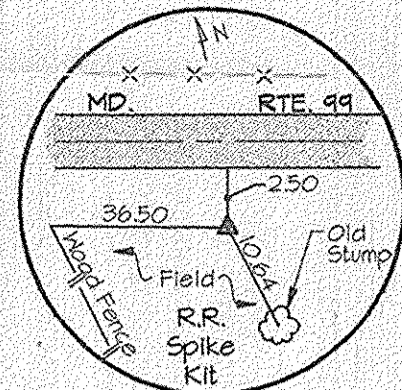
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DRN:	DCJ				
CHK:	SRK				
DATE:	3/96	BY:	NO.	REVISION	DATE

PLAN AND PROFILE - MD. RTE. 99  
STA. 58+50 TO STA. 72+45.99

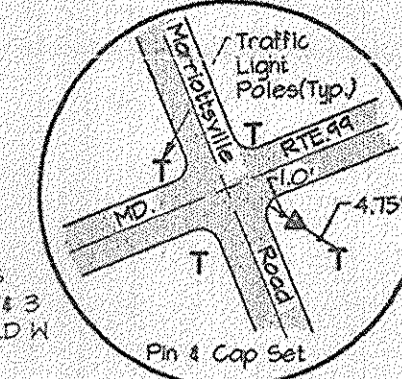
600' SCALE MAP NO. 10 BLOCK NO. 21 & 22

ALPHA RIDGE WATER SUPPLY  
CAPITAL PROJECT W-8203  
CONTRACT NO. 44-3480  
ELECTION DISTRICT NO. 3  
HOWARD COUNTY, MARYLAND

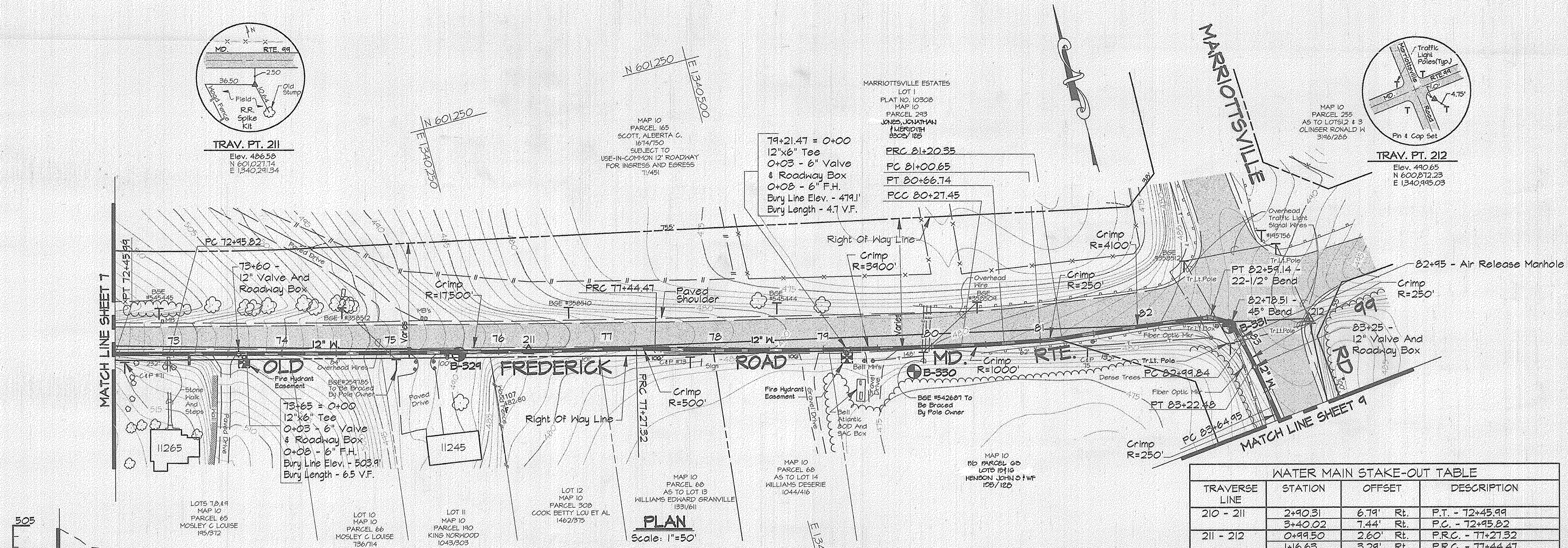
SCALE AS SHOWN  
SHEET 7 OF 31



TRAV. PT. 211  
Elev. 486.58  
N 601,221.74  
E 1340,241.54



TRAV. PT. 212  
Elev. 490.65  
N 600,872.23  
E 1340,945.03



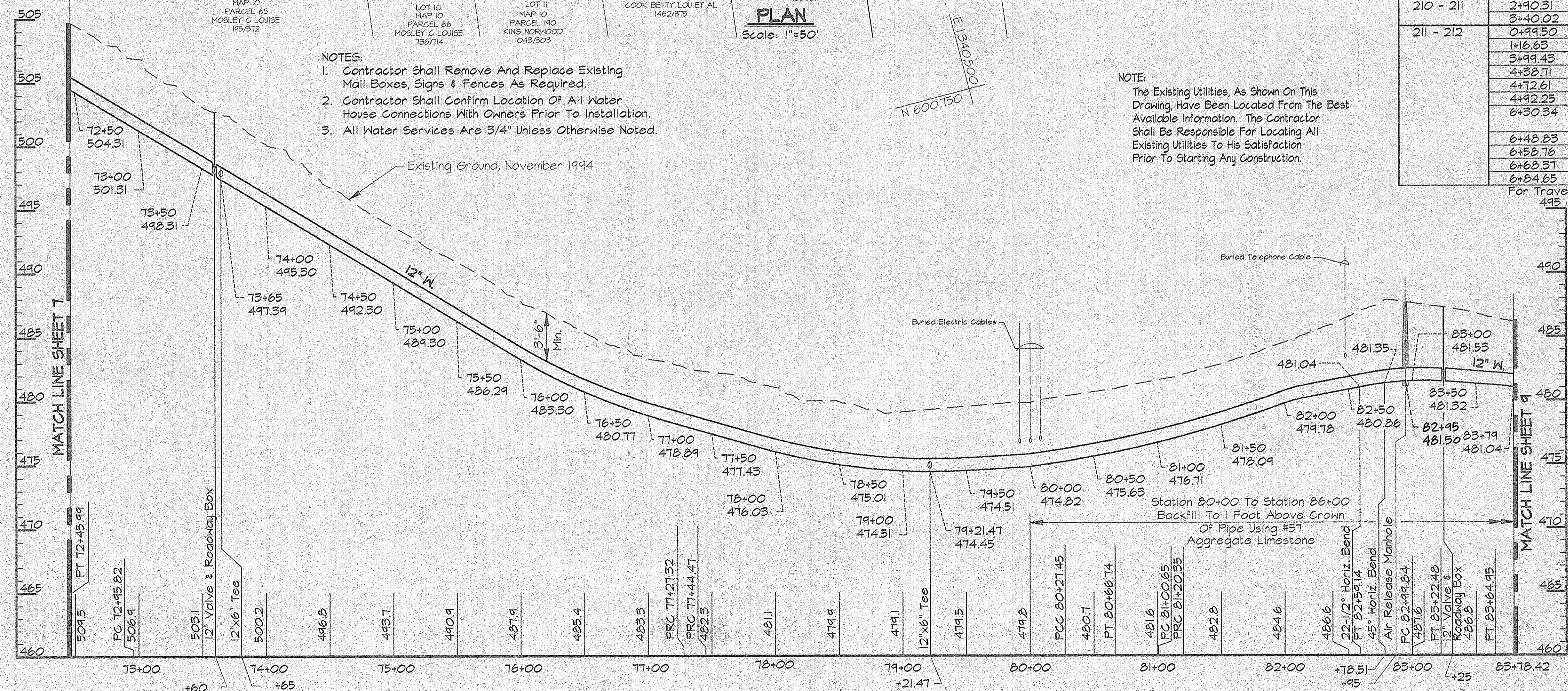
PLAN  
Scale: 1"=50'

- NOTES:
- Contractor Shall Remove And Replace Existing Mail Boxes, Signs & Fences As Required.
  - Contractor Shall Confirm Location Of All Water House Connections With Owners Prior To Installation.
  - All Water Services Are 3/4" Unless Otherwise Noted.

NOTE:  
The Existing Utilities, As Shown On This Drawing, Have Been Located From The Best Available Information. The Contractor Shall Be Responsible For Locating All Existing Utilities To His Satisfaction Prior To Starting Any Construction.

TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
210 - 211	2+90.31	6.79' Rt.	P.T. - 72+45.99
	3+40.02	7.44' Rt.	P.C. - 72+45.92
211 - 212	0+99.50	2.60' Rt.	P.R.C. - 77+27.32
	1+16.63	3.29' Rt.	P.R.C. - 77+44.47
	3+99.43	11.69' Rt.	P.C.C. - 80+27.45
	4+38.71	11.31' Rt.	P.T. - 80+66.74
	4+72.61	10.31' Rt.	P.C. - 81+00.65
	4+92.25	8.96' Rt.	P.R.C. - 81+20.35
	6+30.34	4.96' Lt.	22-1/2° Bend - 82+59.14 And P.T. - 82+59.14
	6+48.83	0.79' Lt.	45° Bend - 82+78.51
	6+58.76	19.68' Rt.	P.C. - 82+99.84
	6+68.37	40.17' Rt.	P.T. - 83+22.48
6+84.65	79.39' Rt.	P.C. - 83+64.95	

For Traverse Data See Sheet 27



PROFILE - MD RTE 99  
Scale: Horiz. 1"=50'  
Vert. 1"=5'

**AS BUILT**

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DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

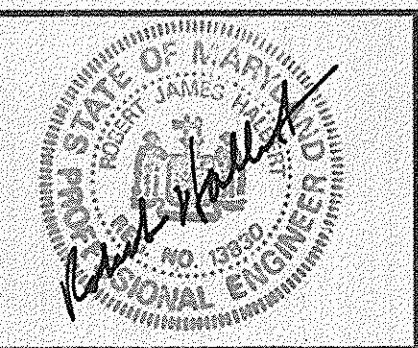
*James J. Lewis* 4/3/96  
DIRECTOR OF PUBLIC WORKS DATE

*Robert J. Spang* 3/29/96  
CHIEF, BUREAU OF ENGINEERING DATE

*Robert J. Spang* 4-1-96  
CHIEF, BUREAU OF UTILITIES DATE

*Robert J. Spang* 3-29-96  
CHIEF, WATER AND SEWER DESIGN DIVISION DATE

**RK & K**  
RUMMEL, KLEPPER & KAHL  
CONSULTING ENGINEERS  
81 MOSHER ST.  
BALTIMORE, MARYLAND 21217



DES:	DCE		
DRN:	DCJ		
CHK:	SRK		
DATE:	3/96	BY:	NO.
		REVISION	
		DATE	

PLAN AND PROFILE - MD. RTE. 99  
STA 72+45.99 TO 83+78.42

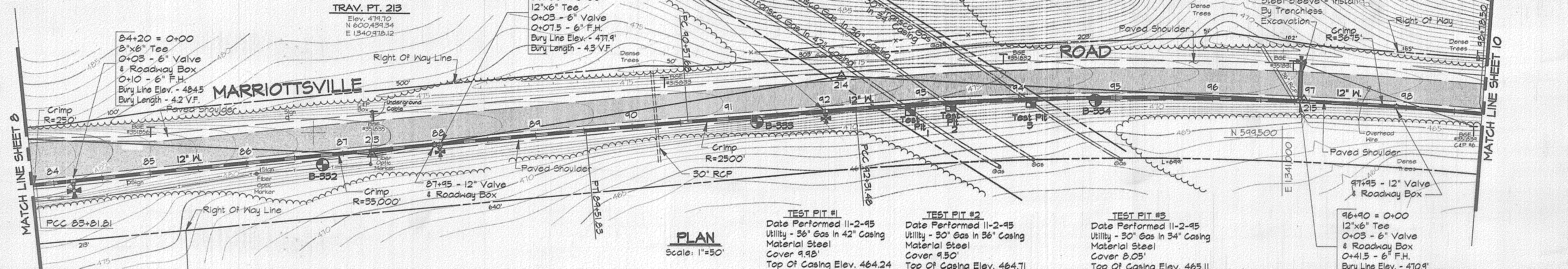
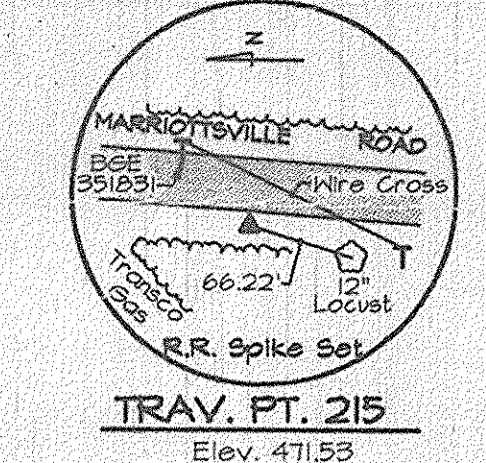
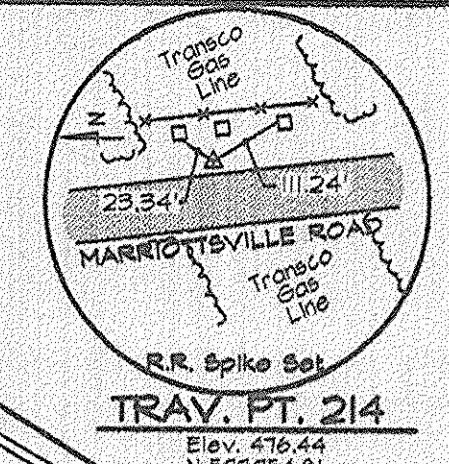
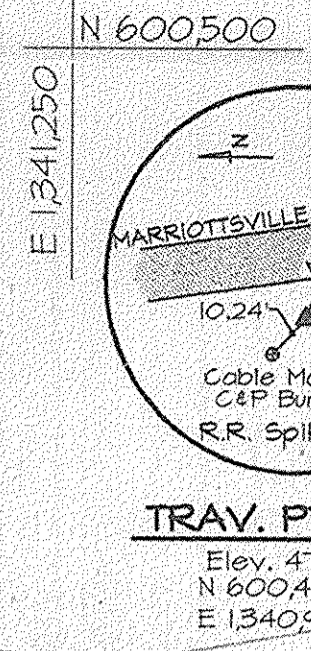
600' SCALE MAP NO. 10 BLOCK NO. 22

ALPHA RIDGE WATER SUPPLY  
CAPITAL PROJECT W-8203  
CONTRACT NO. 44-3480  
ELECTION DISTRICT NO. 3  
HOWARD COUNTY, MARYLAND

DWG. NO.  
SCALE AS SHOWN  
SHEET 8 OF 31



- NOTES:
- Contractor Shall Remove And Replace Existing Mail Boxes, Signs & Fences As Required.
  - Contractor Shall Confirm Location Of All Water House Connections With Owners Prior To Installation.
  - All Water Services Are 3/4" Unless Otherwise Noted.

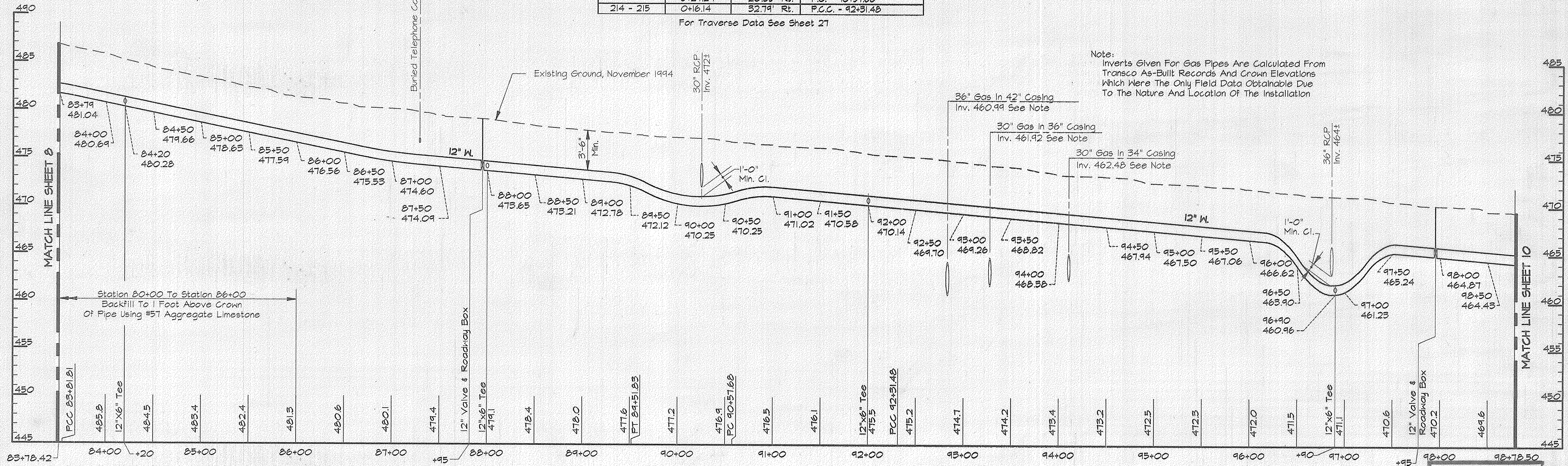


**WATER MAIN STAKE-OUT TABLE**

TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
212 - 213	0+88.32	46.51' Rt.	P.C.C. - 83+81.81
213 - 214	2+21.71	12.02' Rt.	P.T. - 89+51.83
	3+27.24	20.35' Rt.	P.C. - 90+51.68
214 - 215	0+16.14	32.79' Rt.	P.C.C. - 92+31.48

For Traverse Data See Sheet 27

NOTE:  
The Existing Utilities, As Shown On This Drawing, Have Been Located From The Best Available Information. The Contractor Shall Be Responsible For Locating All Existing Utilities To His Satisfaction Prior To Starting Any Construction.



**AS BUILT**

RK\2\1522-SOSKPRO\C19\073\DWG ALP-3-09.DWG 16.31  
 03/15/1996

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

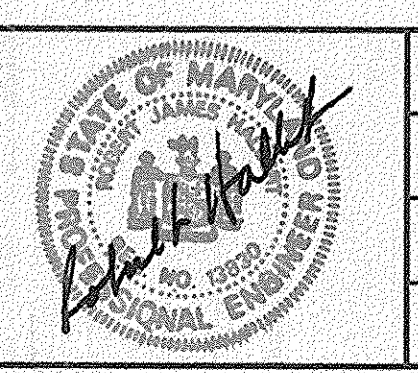
James P. Lewis 4-1-96  
DIRECTOR OF PUBLIC WORKS DATE

Paul J. Simpson 3/29/96  
CHIEF, BUREAU OF ENGINEERING DATE

Robert S. Berman 4-1-96  
CHIEF, BUREAU OF UTILITIES DATE

Oliver J. ... 3-29-96  
CHIEF, WATER AND SEWER DESIGN DIVISION DATE

**RK & K**  
RUMMEL, KLEPPER & KAHL  
CONSULTING ENGINEERS  
81 MOSHER ST.  
BALTIMORE, MARYLAND 21217



DES:	DCE				
DRN:	DCJ				
CHK:	SRK				
DATE:	3/96	BY:	NO.	REVISION	DATE

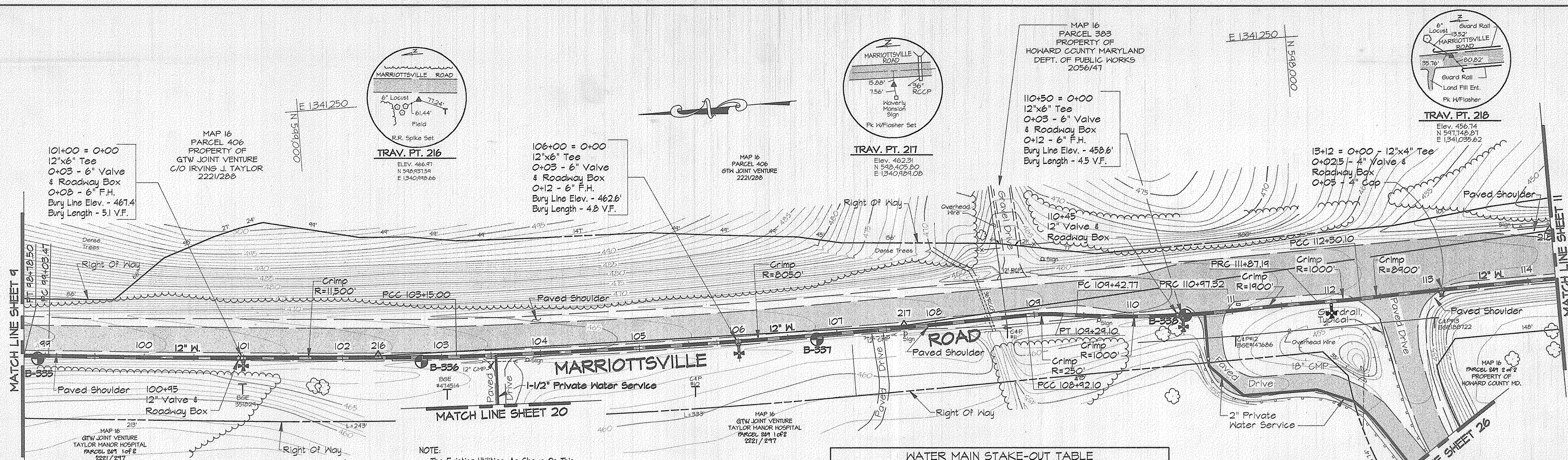
PLAN AND PROFILE - MARRIOTTVILLE RD.  
STA. 83+78.42 TO STA. 98+78.50

600' SCALE MAP NO. 10.16 BLOCK NO. 22.4

ALPHA RIDGE WATER SUPPLY  
CAPITAL PROJECT W-8203  
CONTRACT NO. 44-3480  
ELECTION DISTRICT NO. 3  
HOWARD COUNTY, MARYLAND

DWG. NO.  
SCALE AS SHOWN  
SHEET 9 OF 31

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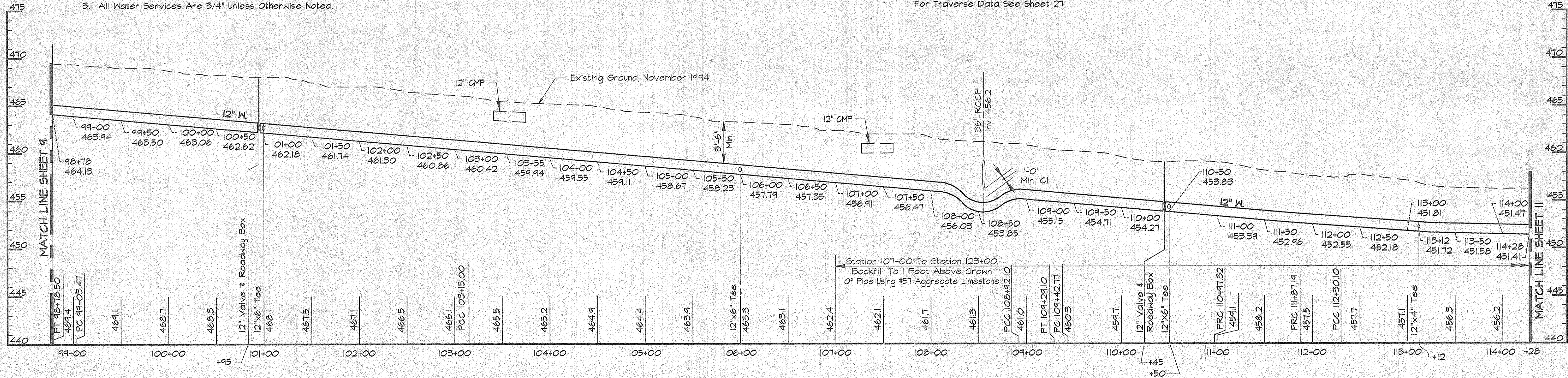
**WATER MAIN STAKE-OUT TABLE**

TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
215 - 216	1+24.22	0.45' Lt.	P.T. - 98+78.50
	2+09.18	0.46' Lt.	P.C. - 99+03.47
216 - 217	0+78.86	5.28' Rt.	P.C.C. - 103+15.00
	1+23.70	7.61' Rt.	P.C.C. - 108+92.10
217 - 218	1+60.39	12.15' Rt.	P.T. - 109+29.10
	1+75.80	14.23' Rt.	P.C. - 109+42.77
	3+27.09	33.30' Rt.	P.R.C. - 110+97.32
	4+16.84	37.61' Rt.	P.R.C. - 111+27.19
	4+59.66	40.20' Rt.	P.C.C. - 112+30.10

For Traverse Data See Sheet 21

**NOTE:**  
The Existing Utilities, As Shown On This Drawing, Have Been Located From The Best Available Information. The Contractor Shall Be Responsible For Locating All Existing Utilities To His Satisfaction Prior To Starting Any Construction.

- NOTES:**
- Contractor Shall Remove And Replace Existing Mail Boxes, Signs & Fences As Required.
  - Contractor Shall Confirm Location Of All Water House Connections With Owners Prior To Installation.
  - All Water Services Are 3/4" Unless Otherwise Noted.



**PROFILE - MARRIOTTVILLE ROAD**  
Scale: Horiz. 1"=50'  
Vert. 1"=5'

AS BUILT

DWG. NO.  
SCALE AS SHOWN  
SHEET 10 OF 31

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

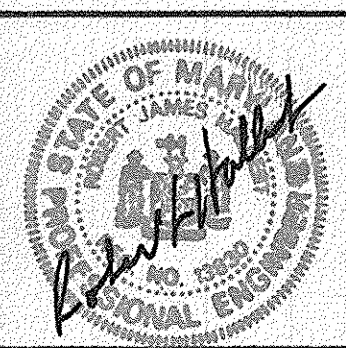
*James M. Lane* 4/3/96  
 DIRECTOR OF PUBLIC WORKS DATE

*Robert D. Bauman* 4-1-96  
 CHIEF, BUREAU OF UTILITIES DATE

*Paul J. Seaman* 3/23/96  
 CHIEF, BUREAU OF ENGINEERING DATE

*Dr. D. J. ...* 3-29-96  
 CHIEF, WATER AND SEWER DESIGN DIVISION DATE

**RIZ & K**  
RUMMEL, KLEPPER & KAHL  
CONSULTING ENGINEERS  
31 MOSHER ST.  
BALTIMORE, MARYLAND 21217

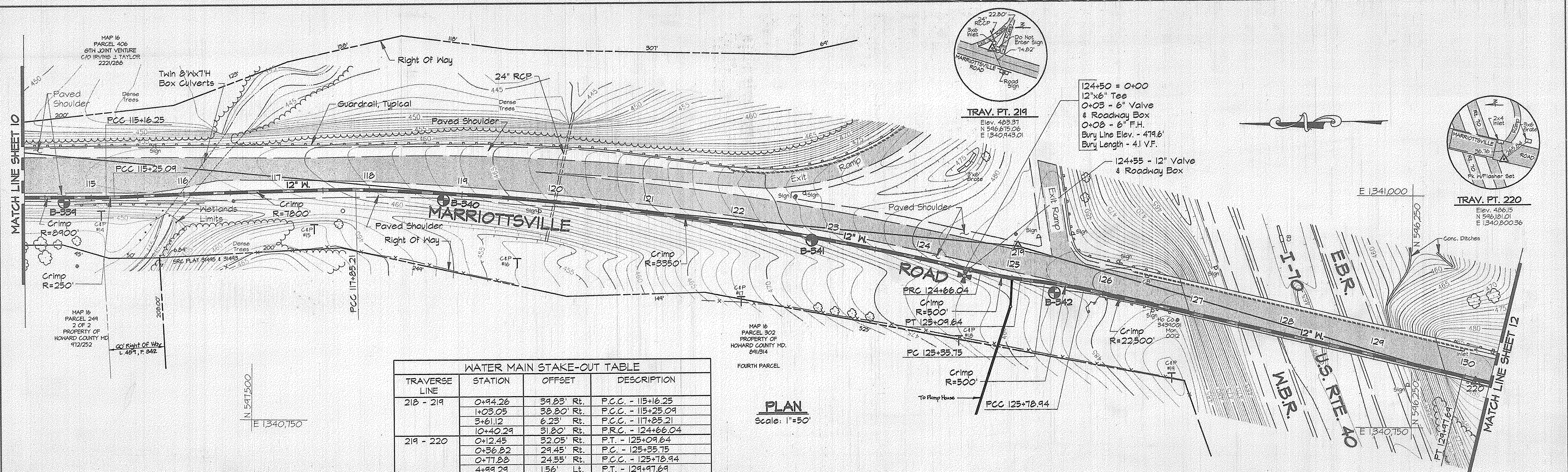


DES:	DWR		
DRN:	DCJ		
CHK:	SRK		
DATE:	3/96		
BY:	NO.	REVISION	DATE

**PLAN AND PROFILE - MARRIOTTVILLE RD.**  
STA 98+78.50 TO 114+28

600' SCALE MAP NO. 16 BLOCK NO. 4

ALPHA RIDGE WATER SUPPLY  
CAPITAL PROJECT W-8203  
CONTRACT NO. 44-3480  
ELECTION DISTRICT NO. 3  
HOWARD COUNTY, MARYLAND



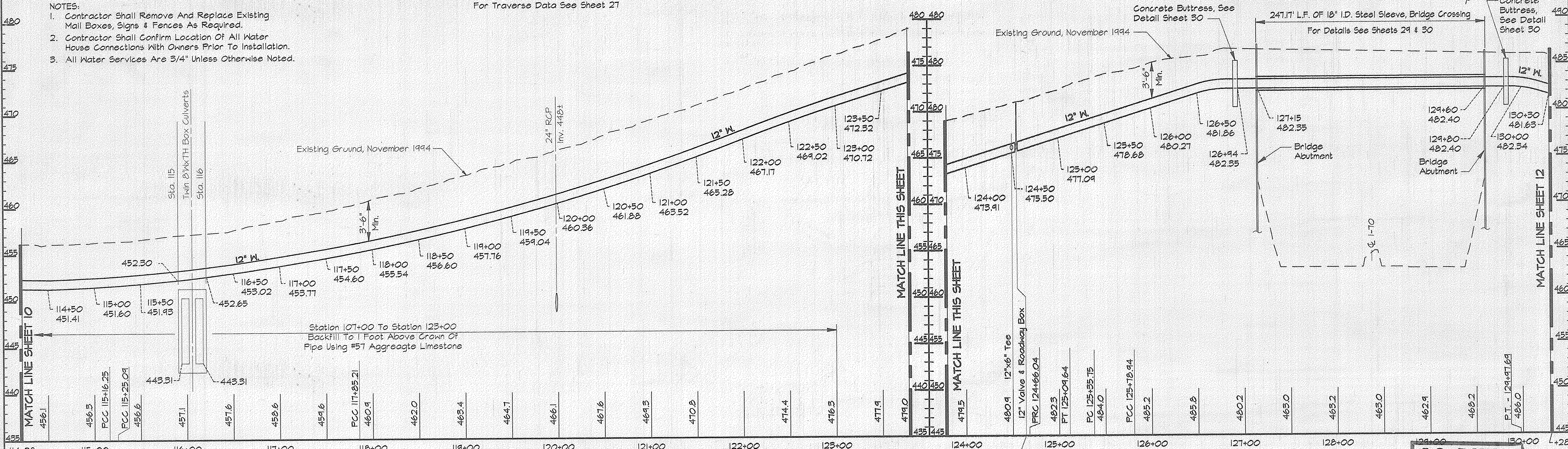
**WATER MAIN STAKE-OUT TABLE**

TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
218 - 219	0+94.26	59.85' Rt.	P.C.C. - 115+16.25
	1+03.05	38.20' Rt.	P.C.C. - 115+25.09
	3+61.12	6.23' Rt.	P.C.C. - 117+25.21
	10+40.29	31.80' Rt.	P.R.C. - 124+66.04
219 - 220	0+12.45	32.05' Rt.	P.T. - 125+09.64
	0+36.82	29.45' Rt.	P.C. - 125+35.75
	0+77.88	24.55' Rt.	P.C.C. - 125+78.94
	4+99.29	1.56' Lt.	P.T. - 129+97.69

For Traverse Data See Sheet 27

**PLAN**  
Scale: 1"=50'

- NOTES:**
- Contractor Shall Remove And Replace Existing Mail Boxes, Signs & Fences As Required.
  - Contractor Shall Confirm Location Of All Water House Connections With Owners Prior To Installation.
  - All Water Services Are 3/4" Unless Otherwise Noted.



**PROFILE - MARRIOTTVILLE ROAD**  
Scale: Horiz. 1"=50'  
Vert. 1"=5'

**AS BUILT**

R/K2/USR2:SDSKPROJ/CM9473/DWG/ALP-3-11.DWG 03/12/1996 07.49

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

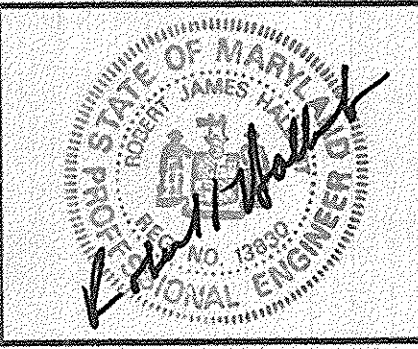
*James P. Lewis* 4/3/96  
DIRECTOR OF PUBLIC WORKS DATE

*Robert J. Davis* 4-1-96  
CHIEF, BUREAU OF UTILITIES DATE

*Paul J. Sporn* 3/29/96  
CHIEF, BUREAU OF ENGINEERING DATE

*Ch. J. Jones* 3-29-96  
CHIEF, WATER AND SEWER DESIGN DIVISION DATE

**R/K & K**  
RUMMEL, KLEPPER & KAHL  
CONSULTING ENGINEERS  
81 MOSHER ST.  
BALTIMORE, MARYLAND 21217



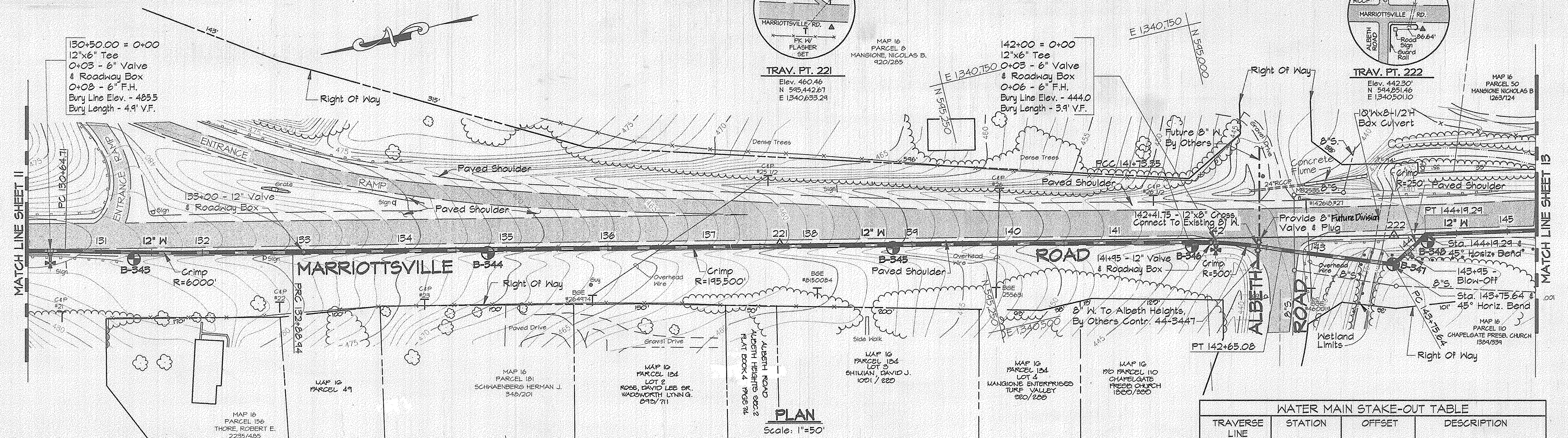
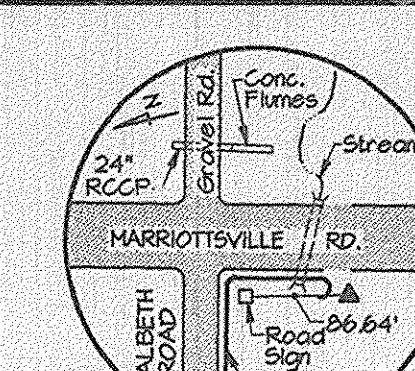
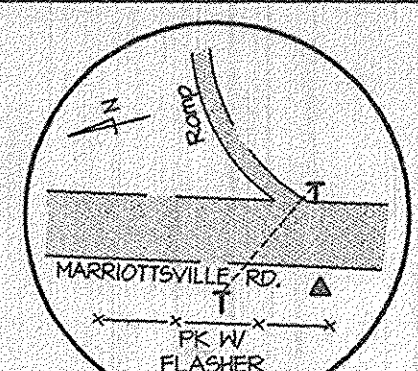
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DRN:	DCJ		
CHK:	SRK		
DATE:	3/96		
BY:	NO.	REVISION	DATE

**PLAN AND PROFILE - MARRIOTTVILLE RD.**  
STA. 114+28 TO STA. 130+28

600' SCALE MAP NO. 16 BLOCK NO. 4 & 10

ALPHA RIDGE WATER SUPPLY  
CAPITAL PROJECT W-8203  
CONTRACT NO. 44-3480  
ELECTION DISTRICT NO. 3  
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN  
SHEET 11 OF 31

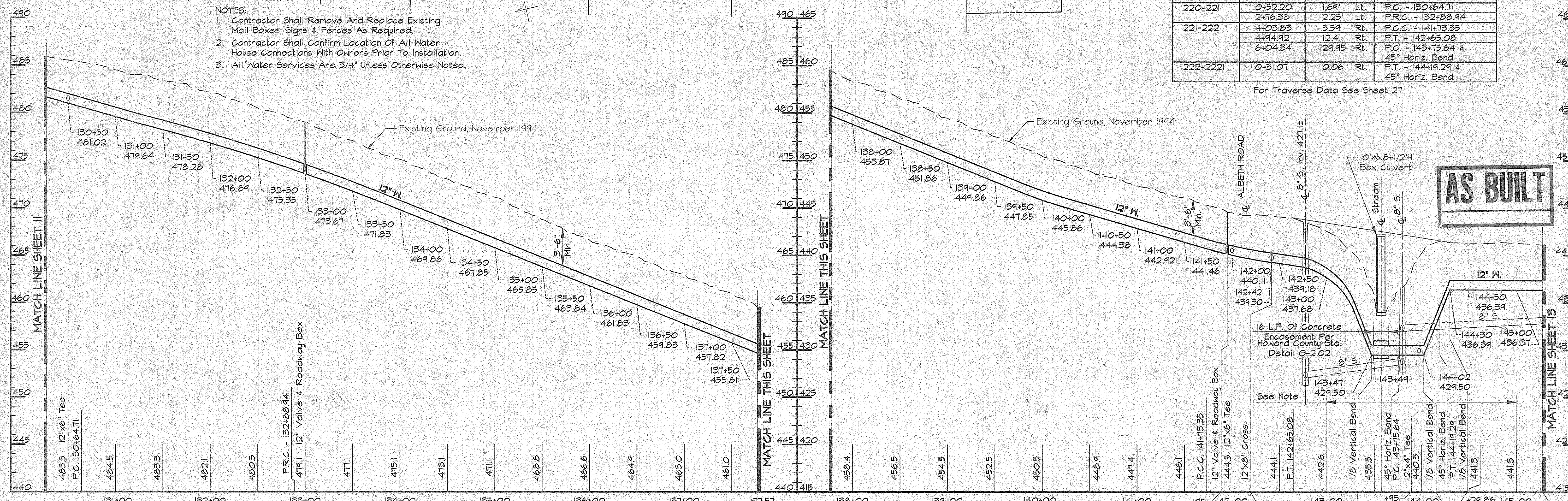


**PLAN**  
Scale: 1"=50'

- NOTES:**
- Contractor Shall Remove And Replace Existing Mail Boxes, Signs & Fences As Required.
  - Contractor Shall Confirm Location Of All Water House Connections With Owners Prior To Installation.
  - All Water Services Are 3/4" Unless Otherwise Noted.

TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
220-221	0+52.20	1.69' Lt.	P.C. - 130+64.71
	2+76.38	2.25' Lt.	P.R.C. - 132+88.94
221-222	4+03.83	3.59' Rt.	P.C.C. - 141+73.35
	4+44.92	12.41' Rt.	P.T. - 142+65.08
	6+04.34	24.95' Rt.	P.C. - 143+75.64 & 45° Horiz. Bend
222-2221	0+31.07	0.06' Rt.	P.T. - 144+19.29 & 45° Horiz. Bend

For Traverse Data See Sheet 21



**PROFILE - MARRIOTTVILLE ROAD**

Scale: Horiz. 1"=50'  
Vert. 1"=5'

Note:  
Restrain All Joints Between  
Stations 142+50 &  
Station 145+00

RJK2/US2:SDS:PROJ/CM9473/DWG/ ALP-3-12.DWG 16-36  
 03/15/1996

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

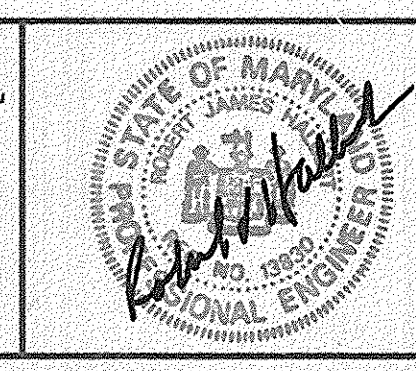
*James M. Lane* 4/3/96  
DIRECTOR OF PUBLIC WORKS DATE

*Robert J. Pappas* 3/23/96  
CHIEF, BUREAU OF ENGINEERING DATE

*Robert J. Pappas* 4-1-96  
CHIEF, BUREAU OF UTILITIES DATE

*John J. ...* 3-29-96  
CHIEF, WATER AND SEWER DESIGN DIVISION DATE

**RJK & K**  
RUMMEL, KLEPPER & KAHL  
CONSULTING ENGINEERS  
81 MOSHER ST.  
BALTIMORE, MARYLAND 21217



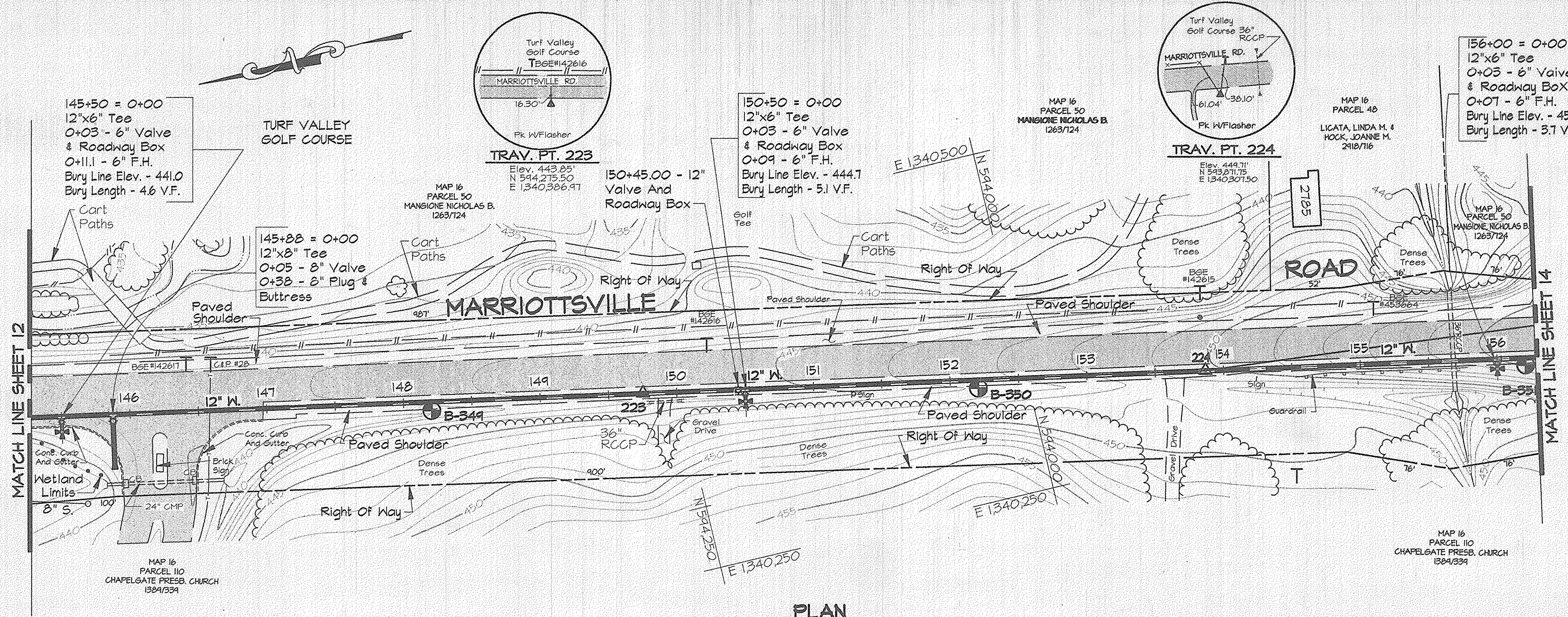
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DRN:	DCJ				
CHK:	SRK				
DATE:	3/96				
BY:	NO.				
REVISION:					
DATE:					

**PLAN AND PROFILE - MARRIOTTVILLE RD.**  
STA. 130+28 TO STA. 145+28

DATE: 600' SCALE MAP NO. 16 BLOCK NO. 10

**ALPHA RIDGE WATER SUPPLY**  
CAPITAL PROJECT W-8203  
CONTRACT NO. 44-3480  
ELECTION DISTRICT NO. 3  
HOWARD COUNTY, MARYLAND

DWG. NO.  
SCALE AS SHOWN  
SHEET 12 OF 31

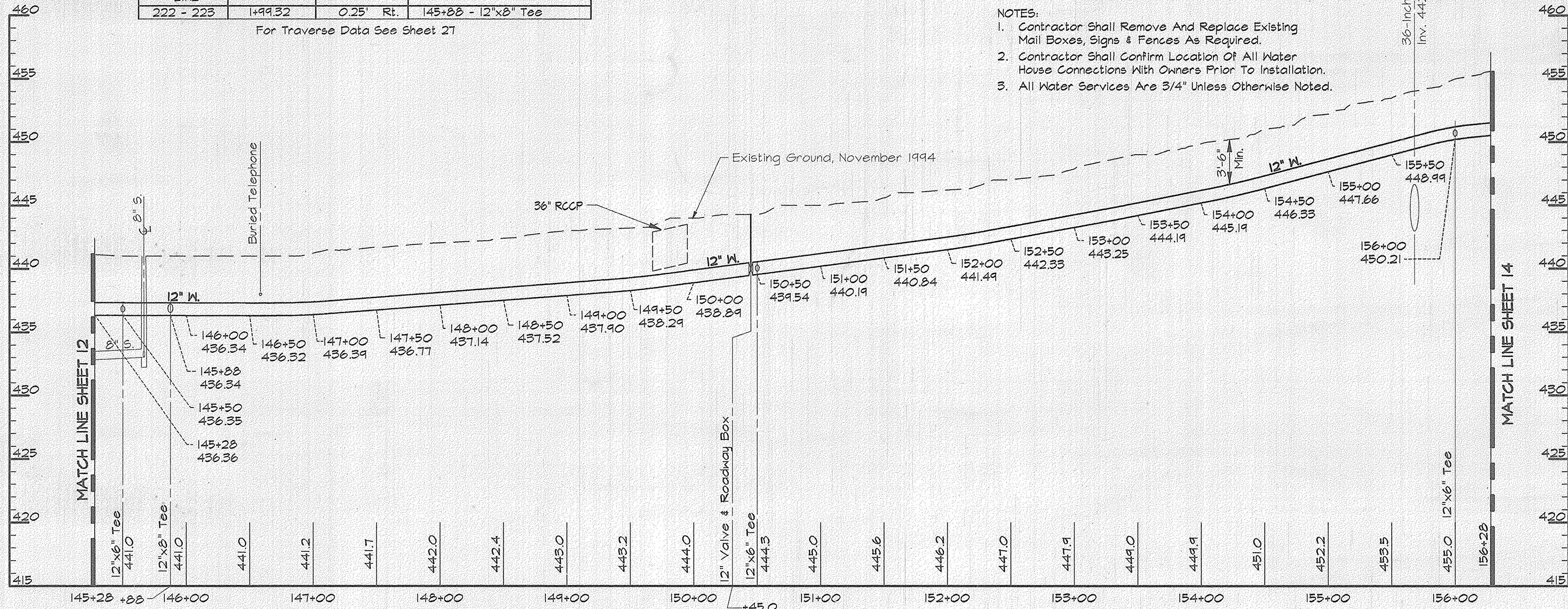


TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
222 - 223	1+99.32	0.25' Rt.	145+88 - 12"x8" Tee

For Traverse Data See Sheet 27

**PLAN**  
Scale: 1"=50'

- NOTES:
- Contractor Shall Remove And Replace Existing Mail Boxes, Signs & Fences As Required.
  - Contractor Shall Confirm Location Of All Water House Connections With Owners Prior To Installation.
  - All Water Services Are 3/4" Unless Otherwise Noted.



**PROFILE - MARROITTSVILLE ROAD**  
Scale: Horiz. 1"=50'  
Vert. 1"=5'

**AS BUILT**

RK&K/US2:SDSOPROJ/CN9473/DWG/ ALP-3-13.DWG 02/15/1996 16:43

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

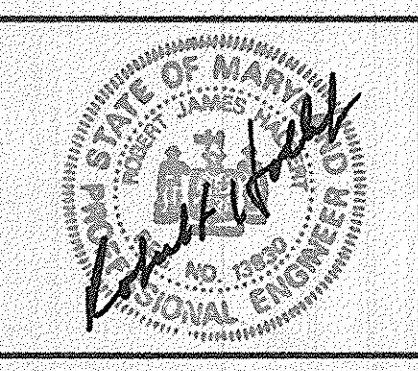
*James H. Linn* 4/3/96  
DIRECTOR OF PUBLIC WORKS DATE

*Paul P. Sporn* 3/29/96  
CHIEF, BUREAU OF ENGINEERING DATE

*John A. Switzer* 4-1-96  
CHIEF, BUREAU OF UTILITIES DATE

*Ol. Dan* 3-29-96  
CHIEF, WATER AND SEWER DESIGN DIVISION DATE

**RK & K**  
RUMMEL, KLEPPER & KAHL  
CONSULTING ENGINEERS  
81 MOSHER ST.  
BALTIMORE, MARYLAND 21217



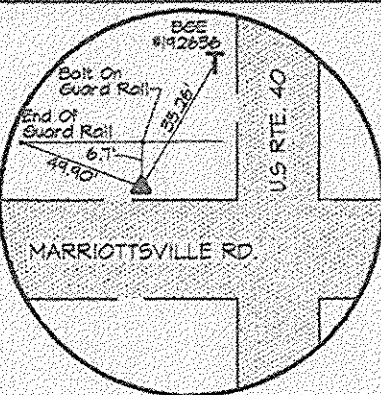
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DRN:	DCJ		
CHK:	BSH		
DATE:	3/96		
BY:	NO.	REVISION	DATE

PLAN AND PROFILE - MARROITTSVILLE RD.  
STA. 145+28 TO STA. 156+28

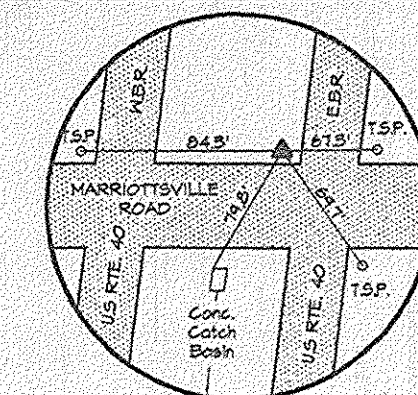
600' SCALE MAP NO. 16 BLOCK NO. 10 & 16

ALPHA RIDGE WATER SUPPLY  
CAPITAL PROJECT W-8203  
CONTRACT NO. 44-3480  
ELECTION DISTRICT NO. 3  
HOWARD COUNTY, MARYLAND

DWG. NO.  
SCALE AS SHOWN  
SHEET 13 OF 31



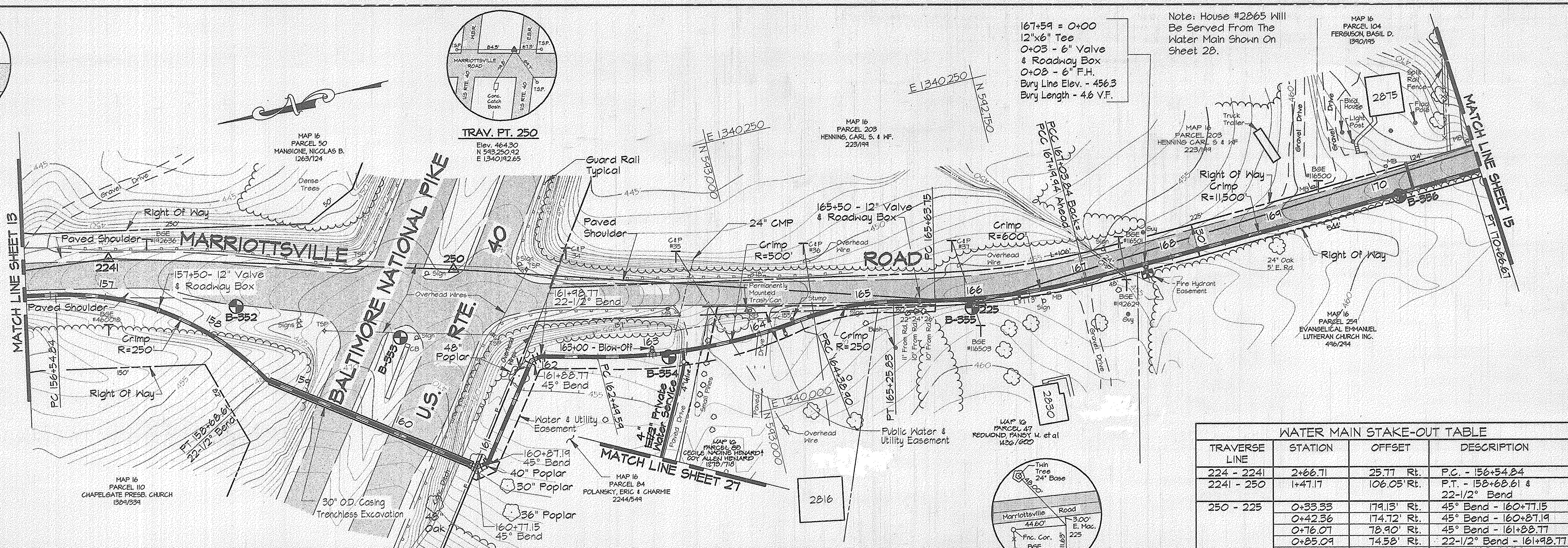
TRAV. PT. 2241  
Elev. 457.80'  
N 543.554.23  
E 1340.275.90



TRAV. PT. 250  
Elev. 464.30  
N 543.250.92  
E 1340.192.65

167+59 = 0+00  
12"x6" Tee  
0+03 - 6" Valve  
& Roadway Box  
0+08 - 6" F.H.  
Bury Line Elev. - 456.3  
Bury Length - 4.6 V.F.

Note: House #2865 Will  
Be Served From The  
Water Main Shown On  
Sheet 28.

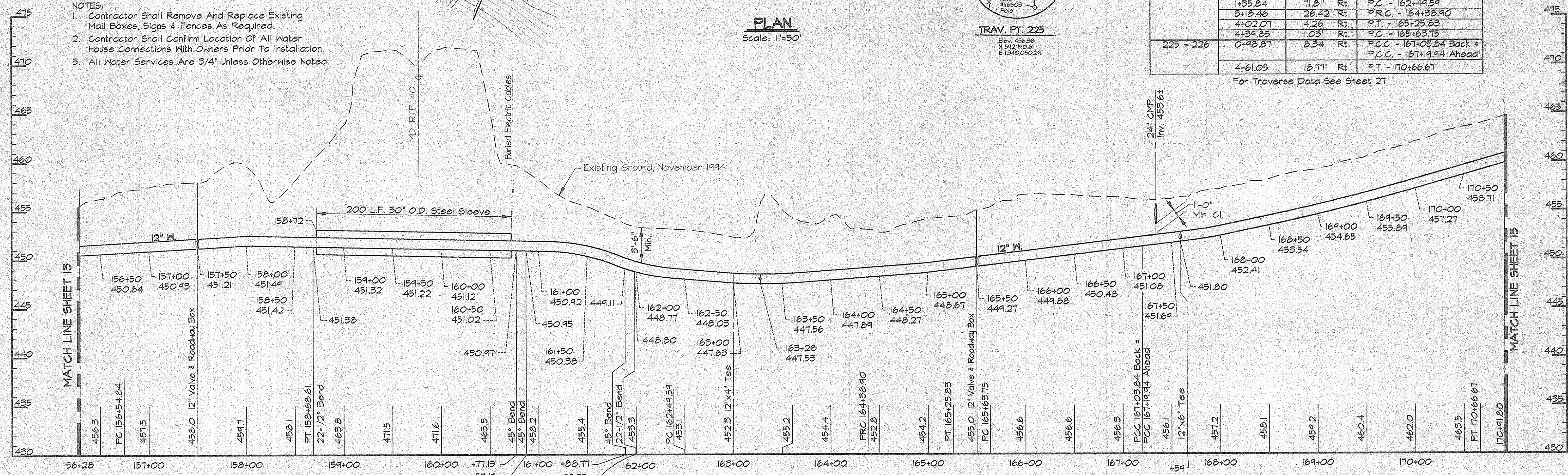


TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
224 - 2241	2+66.71	25.77 Rt.	P.C. - 156+54.84
2241 - 250	1+47.17	106.05 Rt.	P.T. - 158+68.61 & 22-1/2° Bend
250 - 225	0+33.33	174.13 Rt.	45° Bend - 160+77.15
	0+42.36	174.72 Rt.	45° Bend - 160+87.19
	0+76.07	78.90 Rt.	45° Bend - 161+88.77
	0+85.09	74.58 Rt.	22-1/2° Bend - 161+98.77
	1+35.84	71.81 Rt.	P.C. - 162+49.59
225 - 226	3+18.46	26.42 Rt.	P.R.C. - 164+38.90
	4+02.07	4.26 Rt.	P.T. - 165+25.83
	4+39.85	1.03 Rt.	P.C. - 165+63.75
	0+98.87	8.34 Rt.	P.C.C. - 167+03.84 Back = P.C.C. - 167+19.94 Ahead
	4+61.05	18.77 Rt.	P.T. - 170+66.67

For Traverse Data See Sheet 27

- NOTES:
- Contractor Shall Remove And Replace Existing Mail Boxes, Signs & Fences As Required.
  - Contractor Shall Confirm Location Of All Water House Connections With Owners Prior To Installation.
  - All Water Services Are 3/4" Unless Otherwise Noted.

PLAN  
Scale: 1"=50'



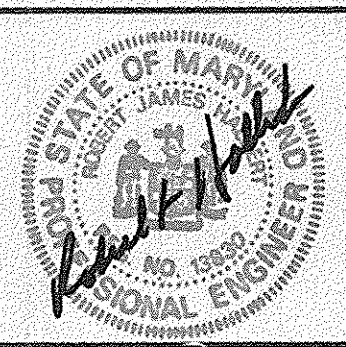
PROFILE - MARIOTTVILLE ROAD  
Scale: Horiz. 1"=50'  
Vert. 1"=5'

**AS BUILT**

RKK2/US22: /SDSKPROJ/DWG9473/DWG/ ALP-3-14.DWG 03/15/1996 16:55

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

**RK & K**  
RUMMEL, KLEPPER & KAHL  
CONSULTING ENGINEERS  
81 MOSHER ST.  
BALTIMORE, MARYLAND 21217

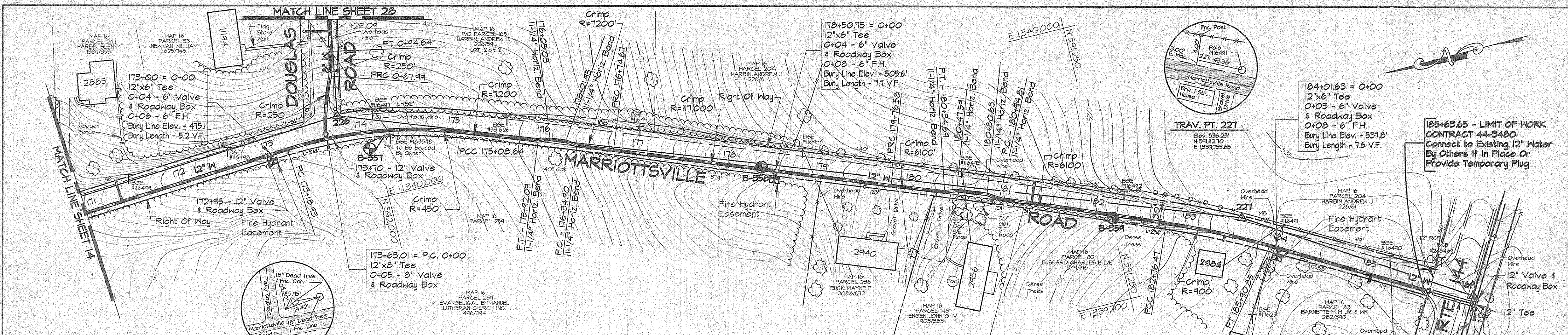


DES:	DWR			
DRN:	DCJ			
CHK:	SRK			
DATE:	3/96	BY:	NO.	REVISION

PLAN AND PROFILE - MARIOTTVILLE RD.  
STA. 156+28 TO STA. 170+92

ALPHA RIDGE WATER SUPPLY  
CAPITAL PROJECT W-8203  
CONTRACT NO. 44-3480  
ELECTION DISTRICT NO. 3  
HOWARD COUNTY, MARYLAND

DWG. NO.  
SCALE AS SHOWN  
SHEET 14 OF 31



**WATER MAIN STAKE-OUT TABLE**

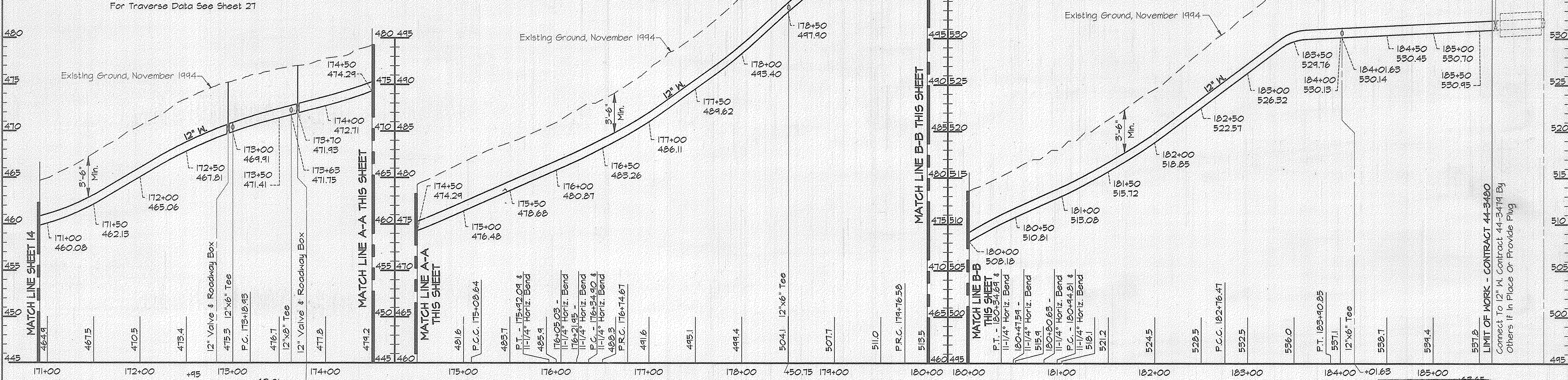
TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
226 - 227	1+34.87	2.37' Rt.	P.C.C. - 175+08.64
	2+18.33	2.35' Rt.	P.T. - 175+42.09
	2+30.94	0.57' Rt.	176+05.03 - 11-1/4° H. Bend
	2+47.86	0.43' Rt.	176+21.95 - 11-1/4° H. Bend
	2+60.42	2.71' Rt.	P.C. - 176+34.90
	3+00.18	3.28' Rt.	11-1/4° H. Bend
	6+02.05	7.94' Rt.	P.R.C. - 179+16.58
	6+60.17	8.17' Rt.	P.T. - 180+34.69
	6+72.73	5.26' Rt.	180+47.59 - 11-1/4° H. Bend
	7+05.77	5.54' Rt.	180+80.63 - 11-1/4° H. Bend
	7+19.52	8.98' Rt.	P.C. - 180+94.81
	9+01.08	15.04' Rt.	P.C.C. - 182+76.47
227 - 169	0+38.10	18.98' Rt.	P.T. - 183+90.85

**WATER MAIN STAKE-OUT TABLE**

TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
225 - 226	6+97.20	18.30' Rt.	P.C. - 173+18.93
	7+41.22	20.26' Rt.	173+63.01 - 12"x8" Tee = P.C. - 0+00
226 - 2261	0+43.13	4.64' Lt.	P.R.C. - 0+67.99
	0+69.68	2.47' Lt.	P.T. - 0+94.64

- NOTES:**
- Contractor Shall Remove And Replace Existing Mail Boxes, Signs & Fences As Required.
  - Contractor Shall Confirm Location Of All Water House Connections With Owners Prior To Installation.
  - All Water Services Are 3/4" Unless Otherwise Noted.

**PLAN**  
Scale: 1"=50'



**PROFILE - MARIOTTVILLE ROAD**

Scale: Horiz. 1"=50'  
Vert. 1"=5'

AS BUILT

R:\2\1582-CMS\SKETCH\0419473.DWG ALP-3-15.DWG 17.13

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

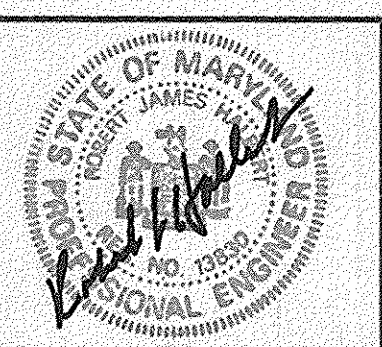
*James M. Lewis* 4/3/96  
DIRECTOR OF PUBLIC WORKS DATE

*Robert Rainey* 4-1-96  
CHIEF, BUREAU OF UTILITIES DATE

*Paul J. Spang* 3/29/96  
CHIEF, BUREAU OF ENGINEERING DATE

*O. J. ...* 3-29-96  
CHIEF WATER AND SEWER DESIGN DIVISION DATE

**RK&K**  
RUMMEL, KLEPPER & KAHL  
CONSULTING ENGINEERS  
91 MOSHER ST.  
BALTIMORE, MARYLAND 21217



DES:	DWR			
DRN:	DCJ			
CHK:	SRK			
DATE:	3/96			
BY:	NO.	REVISION	DATE	

PLAN AND PROFILE MARIOTTVILLE ROAD  
STA. 170+92 TO STA. 185+63.65

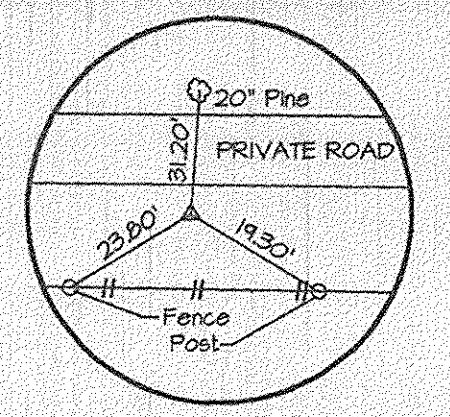
600' SCALE MAP NO. 16 BLOCK NO. 16 & 22

ALPHA RIDGE WATER SUPPLY  
CAPITAL PROJECT W-8203  
CONTRACT NO. 44-3480  
ELECTION DISTRICT NO. 3  
HOWARD COUNTY, MARYLAND

DWG. NO.  
SCALE AS SHOWN  
SHEET 15 OF 31

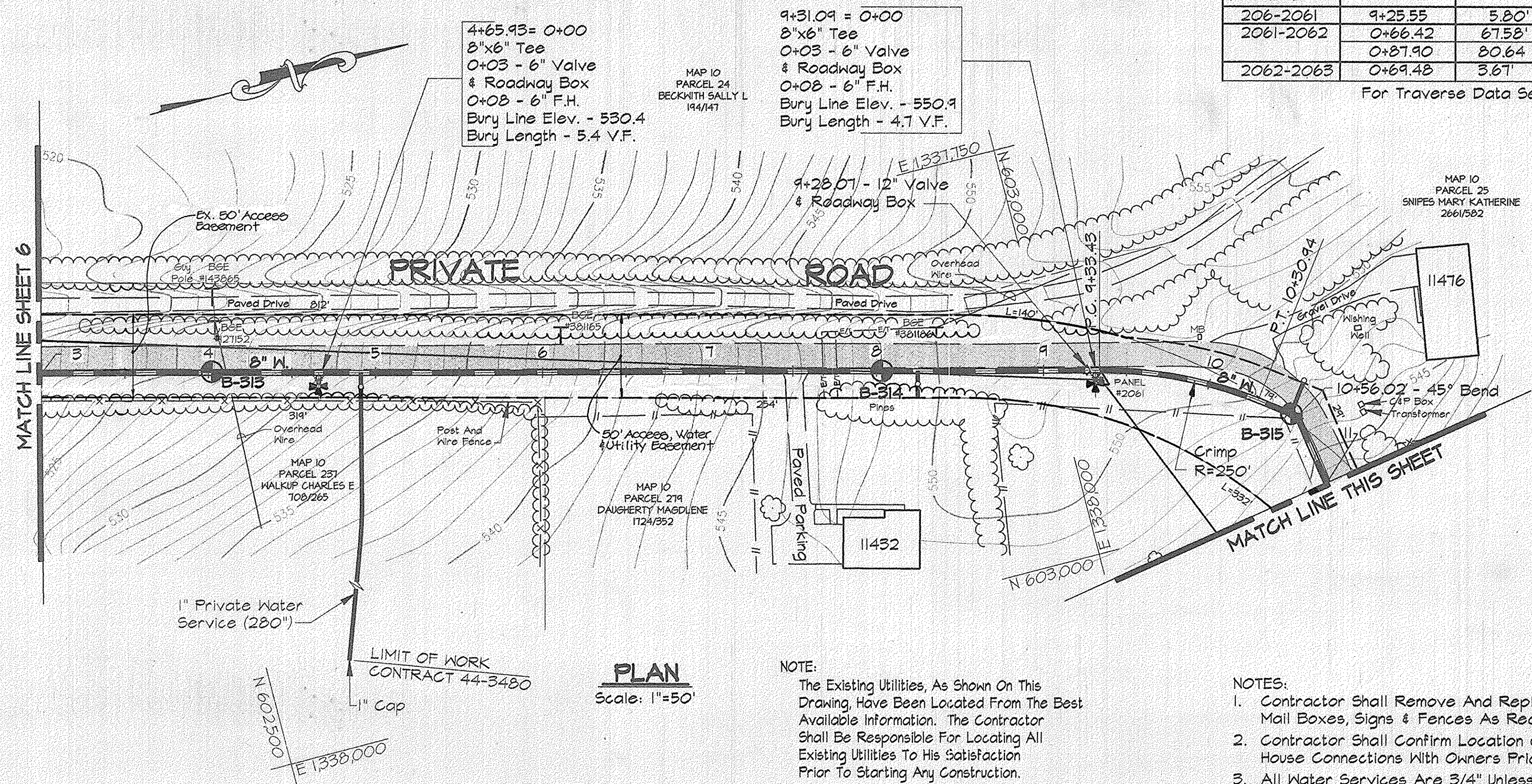
TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
206-2061	9+25.55	5.20' Lt.	P.C. - 9+33.43
2061-2062	0+66.42	67.58' Lt.	P.T. - 10+30.94
	0+87.90	80.64' Lt.	45° Bend 10+56.02
2062-2063	0+69.48	3.67' Lt.	P.C. - 14+86.33

For Traverse Data See Sheet 27



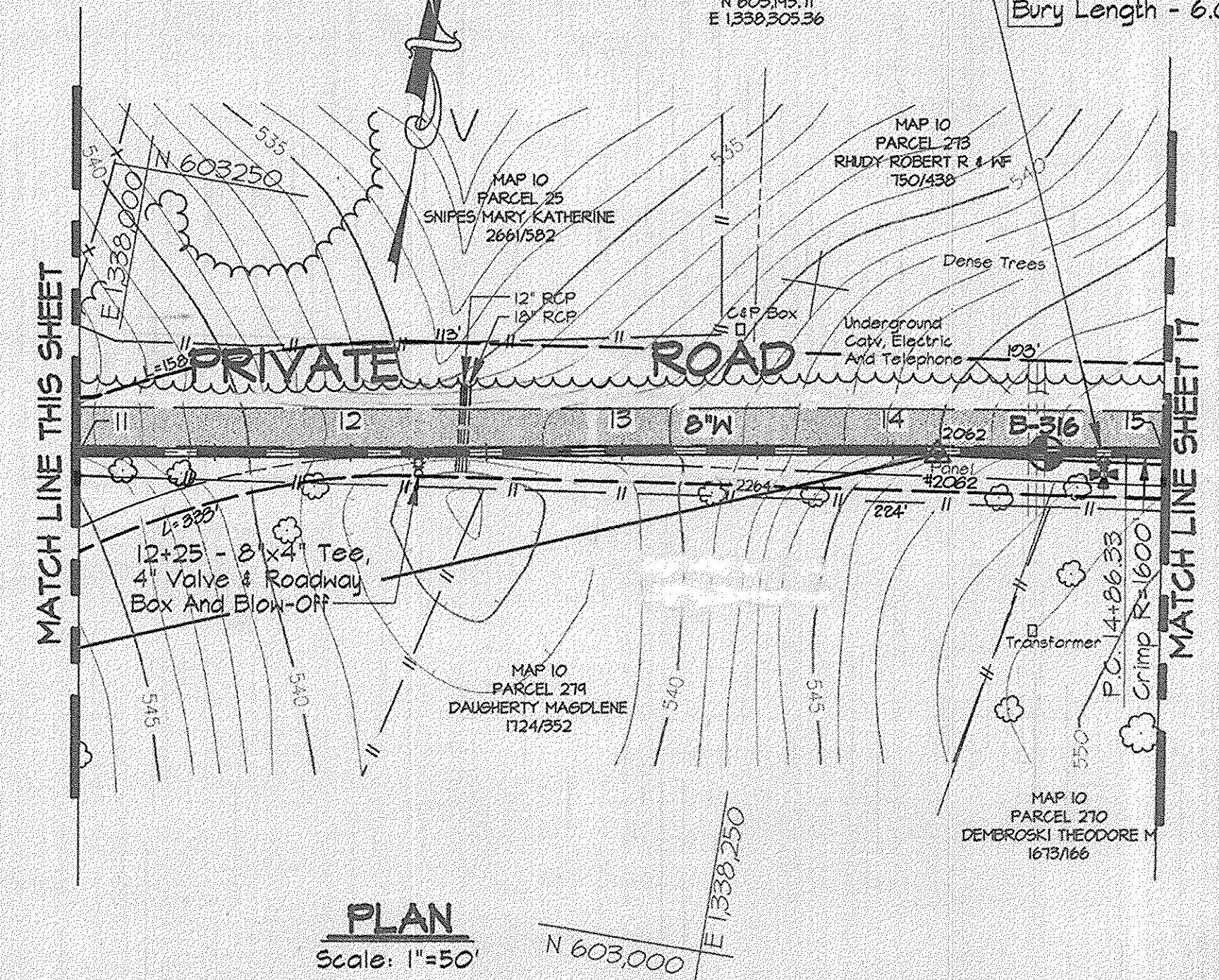
TRAV. PT. 2062  
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N 603,195.71  
E 1338,205.36

14+78.14 = 0+00  
8"x6" Tee  
0+03 - 6" Valve  
& Roadway Box  
0+08 - 6" F.H.  
Bury Line Elev. - 548.2  
Bury Length - 6.0 V.F.



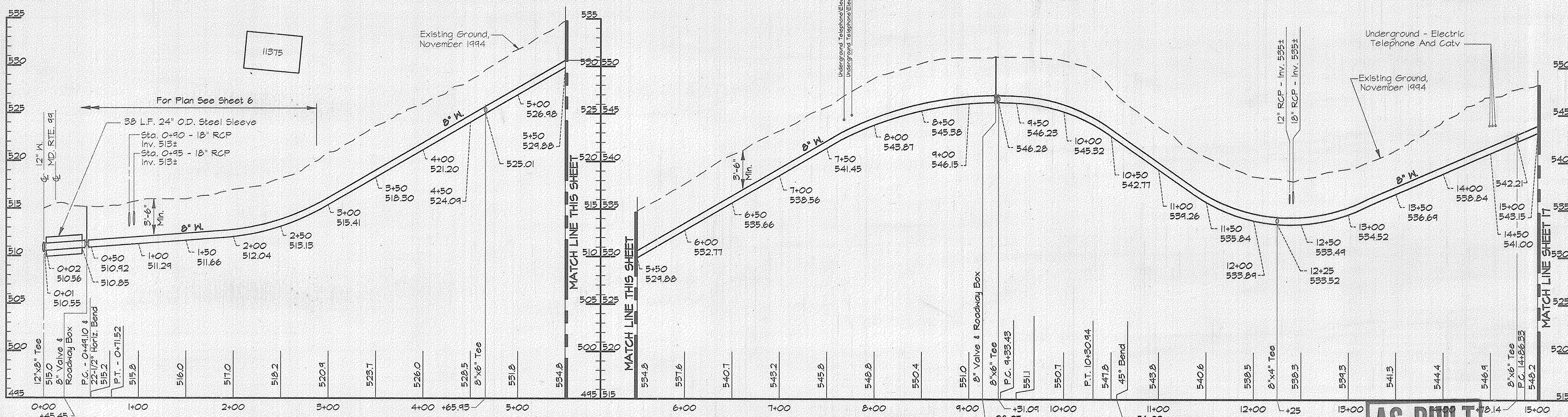
PLAN  
Scale: 1"=50'

NOTE:  
The Existing Utilities, As Shown On This Drawing, Have Been Located From The Best Available Information. The Contractor Shall Be Responsible For Locating All Existing Utilities To His Satisfaction Prior To Starting Any Construction.



PLAN  
Scale: 1"=50'

NOTES:  
1. Contractor Shall Remove And Replace Existing Mail Boxes, Signs & Fences As Required.  
2. Contractor Shall Confirm Location Of All Water House Connections With Owners Prior To Installation.  
3. All Water Services Are 3/4" Unless Otherwise Noted.



PROFILE - PRIVATE ROAD

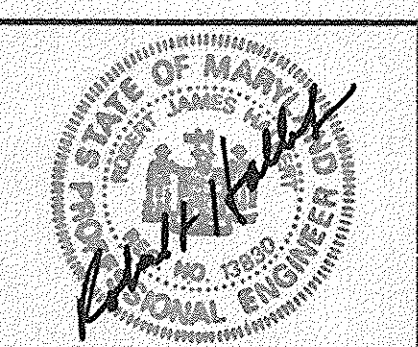
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Vert. 1"=5'

AS BUILT

RKK2\US2:SDSKPRO\CM9473.DWG ALP-3-16.DWG 03/15/1996 17.20

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND  
DATE: 4/3/96  
DATE: 4-1-96

RK & K  
RUMMEL, KLEPPER & KAHL  
CONSULTING ENGINEERS  
81 MOSHER ST.  
BALTIMORE, MARYLAND 21217

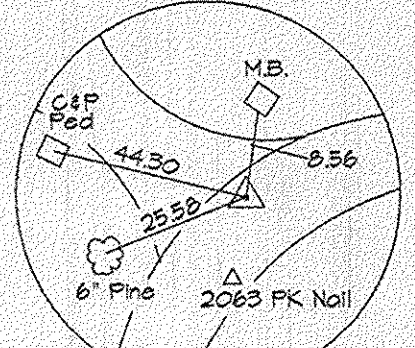


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DRN:	DCJ				
CHK:	SRK				
DATE:	3/96	BY:	NO.	REVISION	DATE

PLAN AND PROFILE - PRIVATE ROAD  
STA. 0+00 TO STA. 15+00  
600' SCALE MAP NO. 10 BLOCK NO. 2

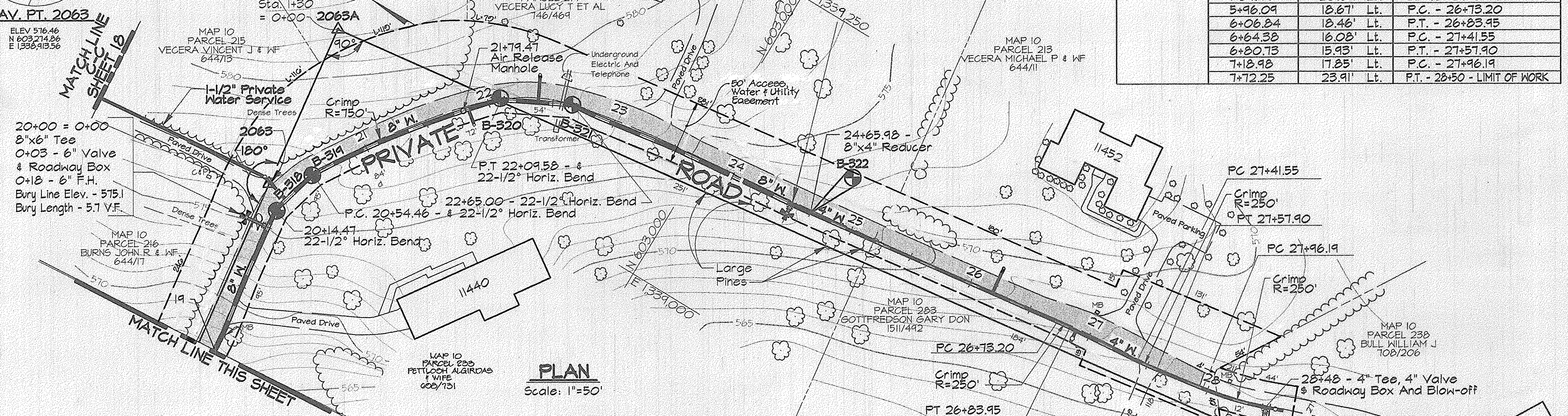
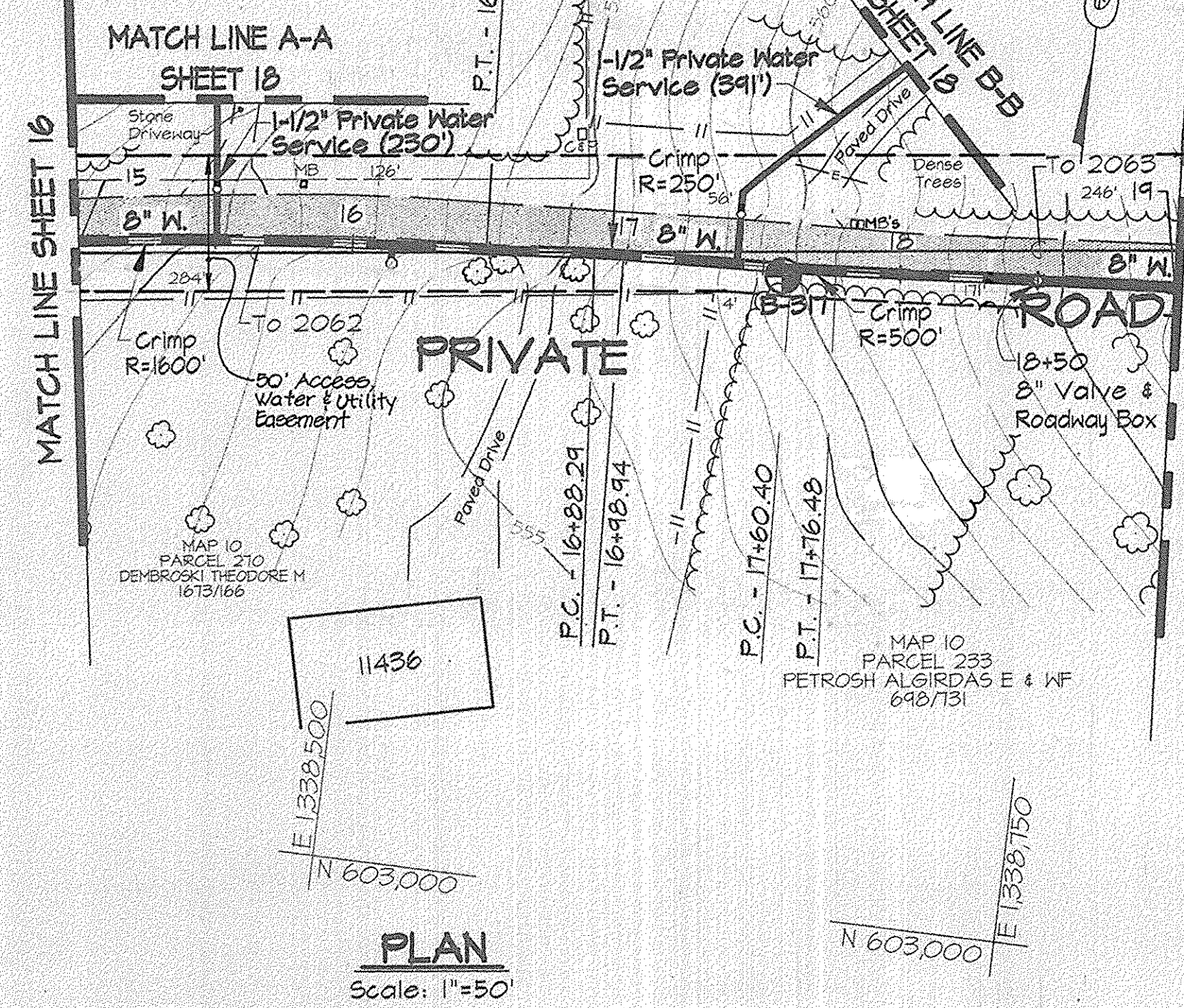
ALPHA RIDGE WATER SUPPLY  
CAPITAL PROJECT W-8203  
CONTRACT NO. 44-3480  
ELECTION DISTRICT NO. 3  
HOWARD COUNTY, MARYLAND  
SCALE AS SHOWN  
SHEET 16 OF 31





24+50 = 0+00  
 8"x6" Tee  
 0+04 - 6" Valve  
 & Roadway Box  
 0+08 - 6" F.H.  
 Bury Line Elev. - 512.2  
 Bury Length - 4.6 V.F.

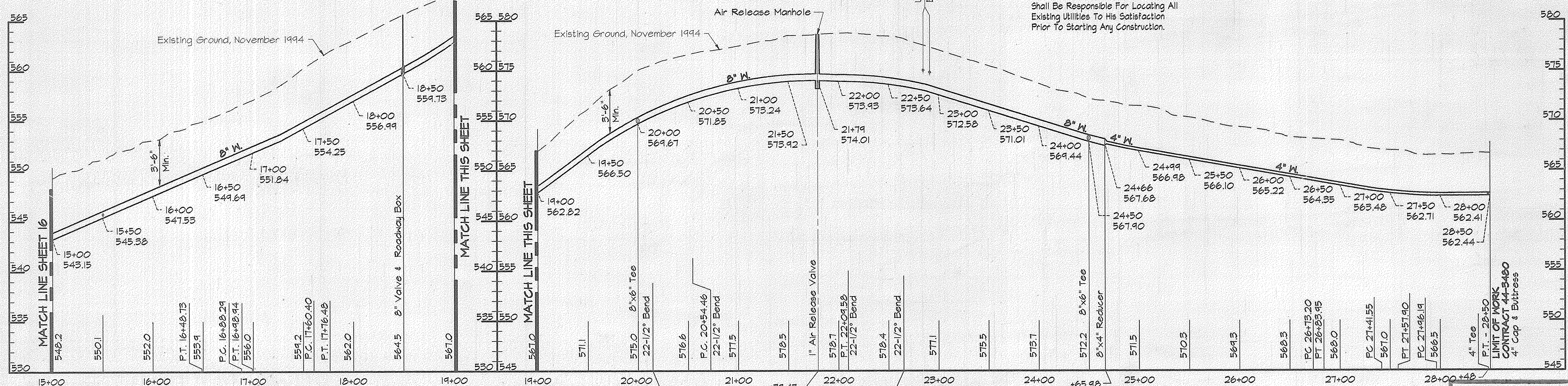
WATER MAIN STAKE-OUT TABLE			
TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
2063-2063A	0+21.21	26.71' RT.	P.C. - 20+54.46 & 22-1/2° Bend
2063A-2063B	1+35.79	1.35' Lt.	P.T. - 22+09.58 & 22-1/2° Bend
	1+87.94	20.09' Lt.	22-1/2° Bend - 22+65.00
	5+96.09	18.67' Lt.	P.C. - 26+73.20
	6+06.84	18.46' Lt.	P.T. - 26+83.95
	6+64.38	16.08' Lt.	P.C. - 27+41.55
	6+80.73	15.93' Lt.	P.T. - 27+51.90
	7+18.98	17.83' Lt.	P.C. - 27+96.19
	7+72.25	23.91' Lt.	P.T. - 28+50 - LIMIT OF WORK



WATER MAIN STAKE-OUT TABLE			
TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
2062-2063	1+33.53	4.57' Lt.	15+50.39 - Double Strap Service Connection
	2+31.78	0.84' Lt.	P.T. - 16+48.73
	2+71.32	0.68' Rt.	P.C. - 16+88.29
	2+81.94	1.32' Rt.	P.T. - 16+98.94
	3+23.22	4.68' Rt.	17+40.35 - Double Strap Service Connection
	3+43.20	6.30' Rt.	P.C. - 17+60.40
	3+59.25	7.35' Rt.	P.T. - 17+76.48
	5+96.10	14.47' Rt.	22-1/2° Bend - 20+14.47

- NOTES:
- Contractor Shall Remove And Replace Existing Mail Boxes, Signs & Fences As Required.
  - Contractor Shall Confirm Location Of All Water House Connections With Owners Prior To Installation.
  - All Water Services Are 3/4" Unless Otherwise Noted.

NOTE:  
 The Existing Utilities, As Shown On This Drawing, Have Been Located From The Best Available Information. The Contractor Shall Be Responsible For Locating All Existing Utilities To His Satisfaction Prior To Starting Any Construction.



**AS BUILT**

PRK2\US2:SDSKPRO\CM9472\DWG ALP-3-17.DWG 03/15/1996 17:21

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

*James M. Lane* 4/3/96  
 DIRECTOR OF PUBLIC WORKS DATE

*Robert J. Deane* 4-1-96  
 CHIEF, BUREAU OF UTILITIES DATE

*Robert J. Deane* 3/29/96  
 CHIEF, BUREAU OF ENGINEERING DATE

*Robert J. Deane* 3-29-96  
 CHIEF, WATER AND SEWER DESIGN DIVISION DATE

**RIZ & K**

RUMMEL, KLEPPER & KAHL  
 CONSULTING ENGINEERS  
 81 MOSHER ST.  
 BALTIMORE, MARYLAND 21217

DES:	DWR		
DRN:	DCJ		
CHK:	SRK		
DATE:	3/96		
BY:	NO.	REVISION	DATE

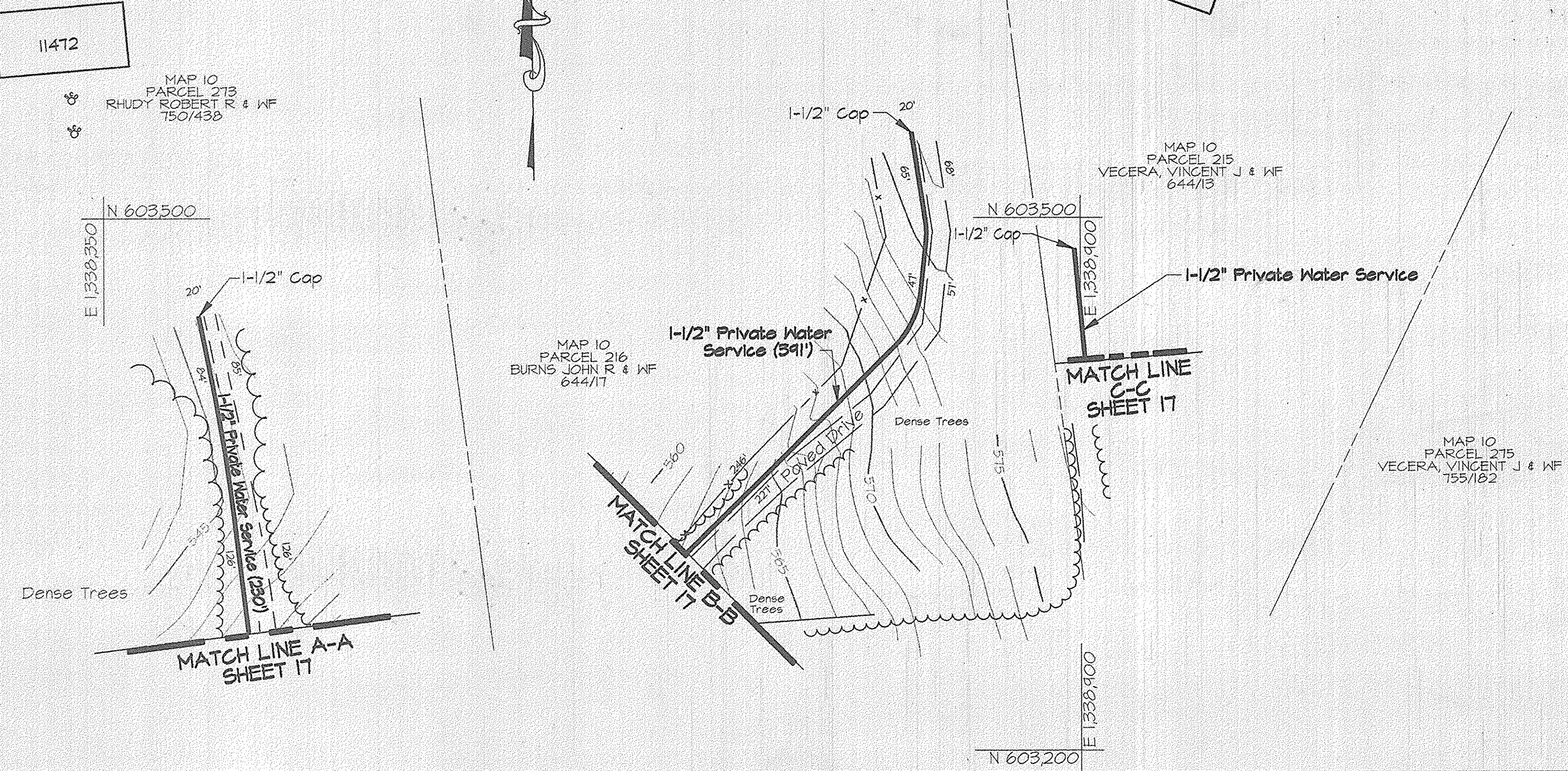
PLAN AND PROFILE - PRIVATE ROAD  
 STA. 15+00 TO STA. 28+50

600' SCALE MAP NO. 10 BLOCK NO. 21

ALPHA RIDGE WATER SUPPLY  
 CAPITAL PROJECT W-8203  
 CONTRACT NO. 44-3480  
 ELECTION DISTRICT NO. 3  
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 17 OF 31

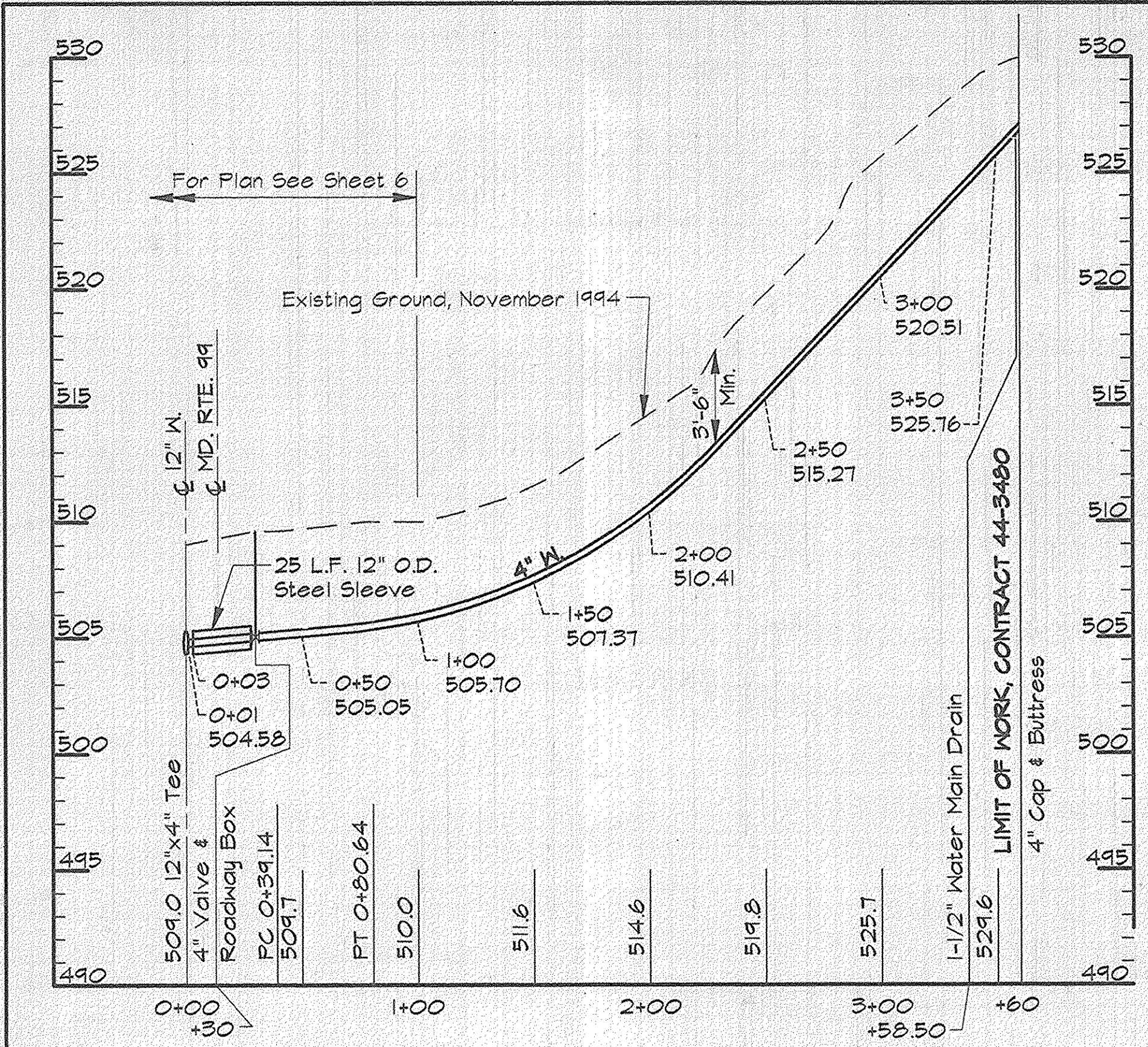


**PLAN A**  
Scale: 1"=50'

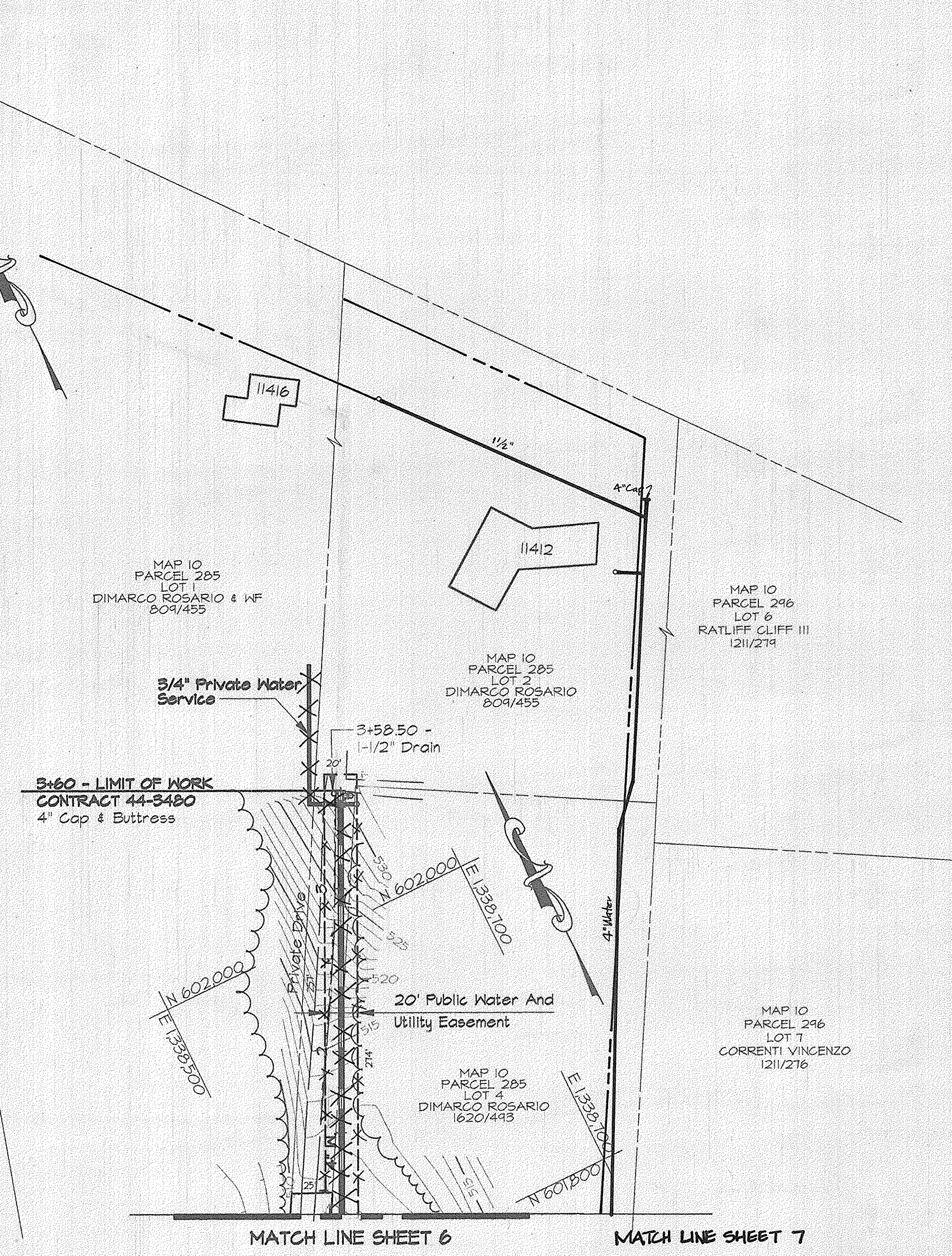
WATER MAIN STAKE-OUT TABLE			
TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
207-208	2+36.24	341.14' Lt.	3+60 - LIMIT OF WORK

For Traverse Data See Sheet 27

- NOTES:
- Contractor Shall Remove And Replace Existing Mail Boxes, Signs & Fences As Required.
  - Contractor Shall Confirm Location Of All Water House Connections With Owners Prior To Installation.
  - All Water Services Are 3/4" Unless Otherwise Noted.



**PROFILE - DIRT ROAD (PLAN B)**  
Scale: Horiz. 1"=50'  
Vert. 1"=5'



**PLAN B**  
Scale: 1"=50'

**AS BUILT**

RKK2\USR2:5D\SKPROJ\CM8473\DWG ALP-3-18.DWG 09:44 03/12/1996

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*James J. Lewis* 4/2/96  
DIRECTOR OF PUBLIC WORKS DATE

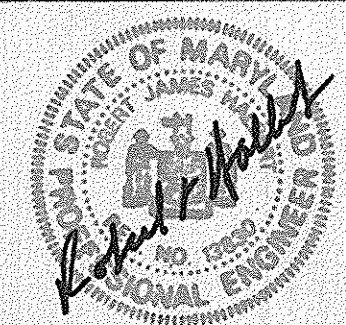
*Robert M. Bennett* 4-1-96  
CHIEF, BUREAU OF UTILITIES DATE

*Paul H. Sporn* 3/29/96  
CHIEF, BUREAU OF ENGINEERS DATE

*Ol. Dan. Dan* 3-29-96  
CHIEF, WATER AND SEWER DESIGN DIVISION DATE

**RK & K**

RUMMEL, KLEPPER & KAHL  
CONSULTING ENGINEERS  
81 MOSHER ST.  
BALTIMORE, MARYLAND 21217



DES:	DWR				
DRN:	DCJ				
CHK:	SRK				
DATE:	3/96				
BY:	NO.				
REVISION:					
DATE:					

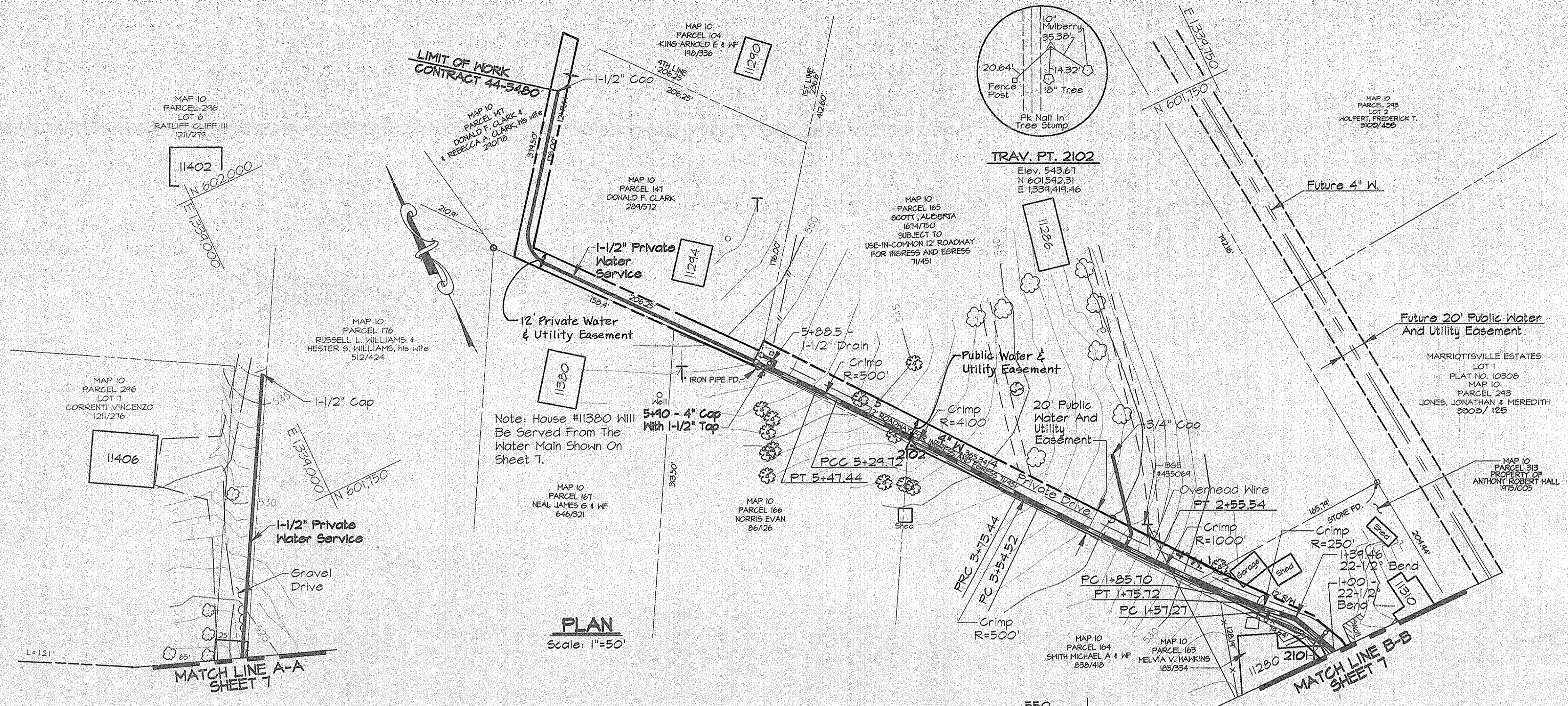
PLAN AND PROFILE - SERVICE MAIN  
STA. 0+00 TO STA. 3+60  
PLANS - WATER SERVICES

ALPHA RIDGE WATER SUPPLY  
CAPITAL PROJECT W-8203  
CONTRACT NO. 44-3480  
ELECTION DISTRICT NO. 3  
HOWARD COUNTY, MARYLAND

DWG. NO.

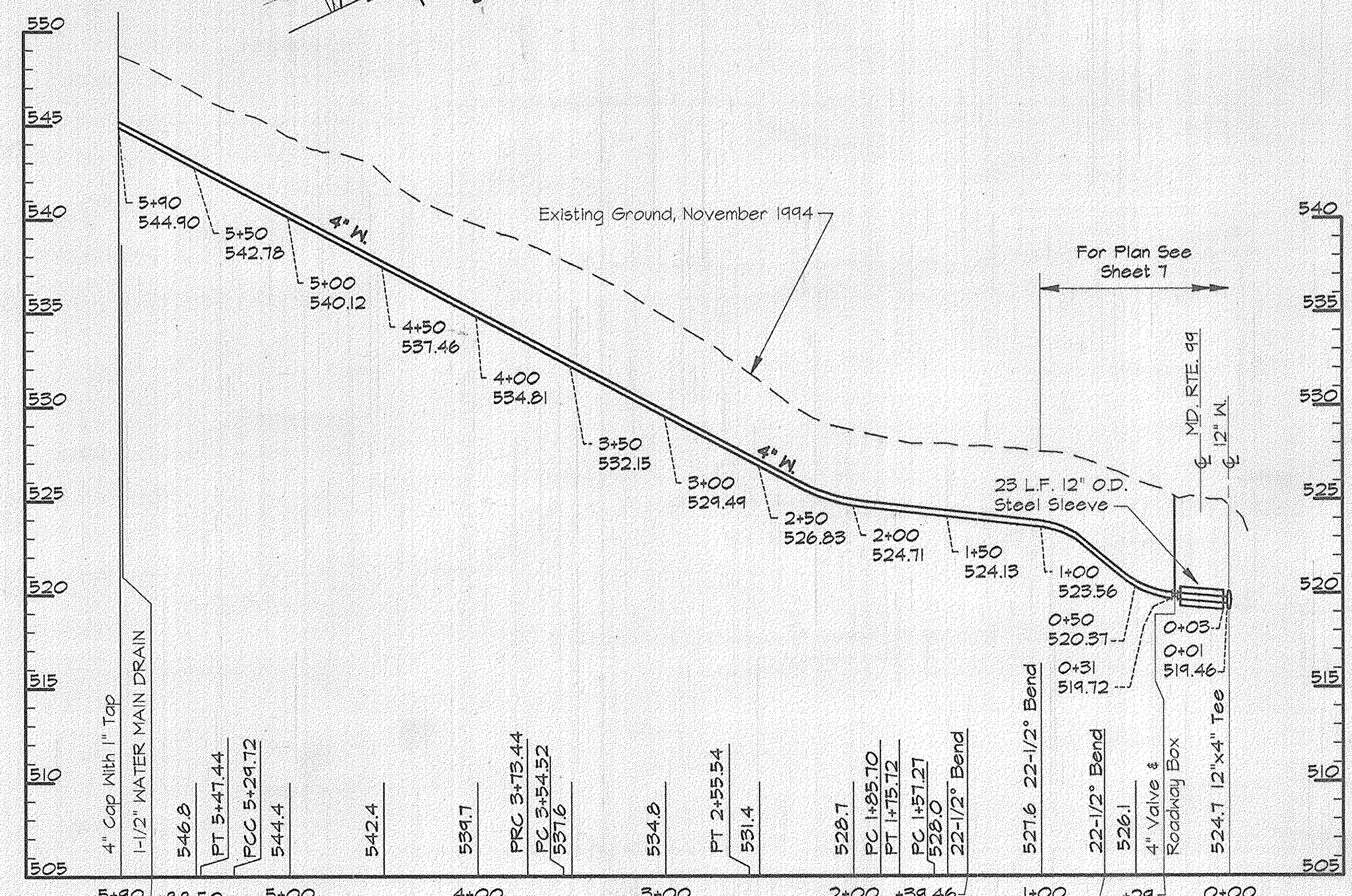
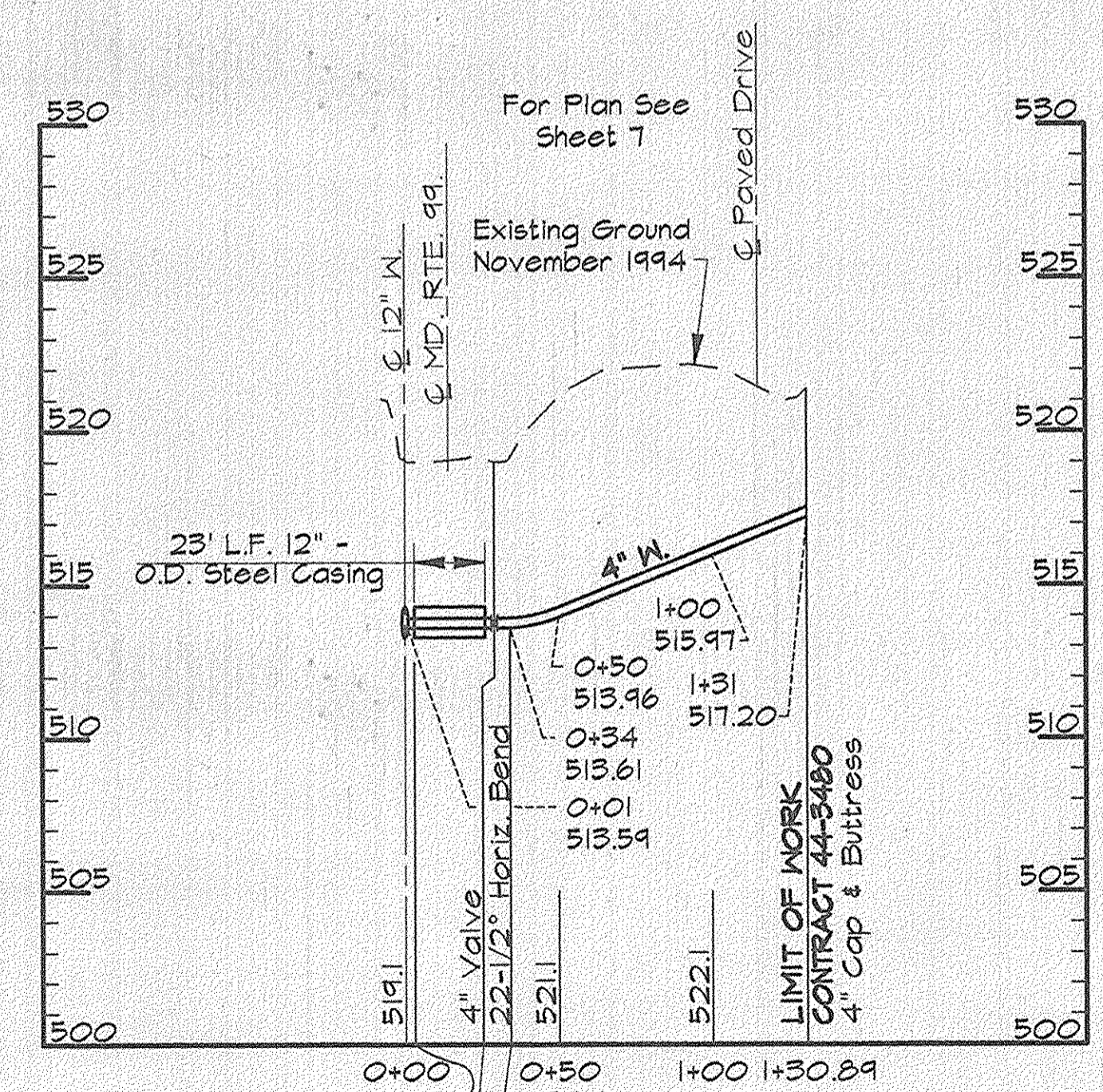
SCALE AS SHOWN

SHEET 18 OF 31



WATER MAIN STAKE-OUT TABLE			
TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
209 - 210	1+09.75	317.87' Lt.	P.T. - 5+47.44
	1+25.26	309.31' Lt.	P.C.C. - 5+29.72
	2+59.94	230.04' Lt.	P.R.C. - 3+73.44
	2+76.34	220.60' Lt.	P.C. - 3+54.52
	3+63.04	172.85' Lt.	P.T. - 2+55.54
	4+25.34	141.33' Lt.	P.C. - 1+85.70
	4+34.40	137.13' Lt.	P.T. - 1+75.72
	4+51.41	130.01' Lt.	P.C. - 1+57.27
	4+68.19	123.70' Lt.	22-1/2° Bend - 1+39.46
	4+96.49	96.37' Lt.	22-1/2° Bend - 1+00

For Traverse Data See Sheet 27

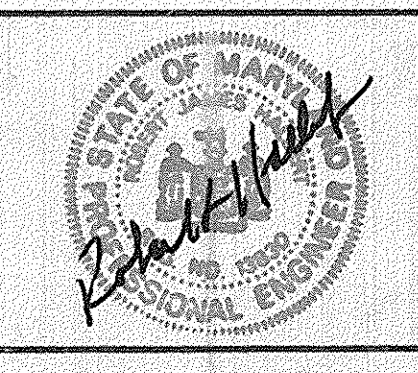


**AS BUILT**

R:\K2\USR2\SDSK\PROJ\CM9473\DWG ALP-3-19.DWG 03/12/1996 10:24

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND  
 Director of Public Works: *James H. Shaw* 4/3/96  
 Chief, Bureau of Utilities: *Robert A. Switzer* 4-1-96

**RK & K**  
 RUMMEL, KLEPPER & KAHL  
 CONSULTING ENGINEERS  
 81 MOSHER ST.  
 BALTIMORE, MARYLAND 21217



DES:	DWR		
DRN:	DCJ		
CHK:	SRK		
DATE:	3/96		
BY:	NO.	REVISION	DATE

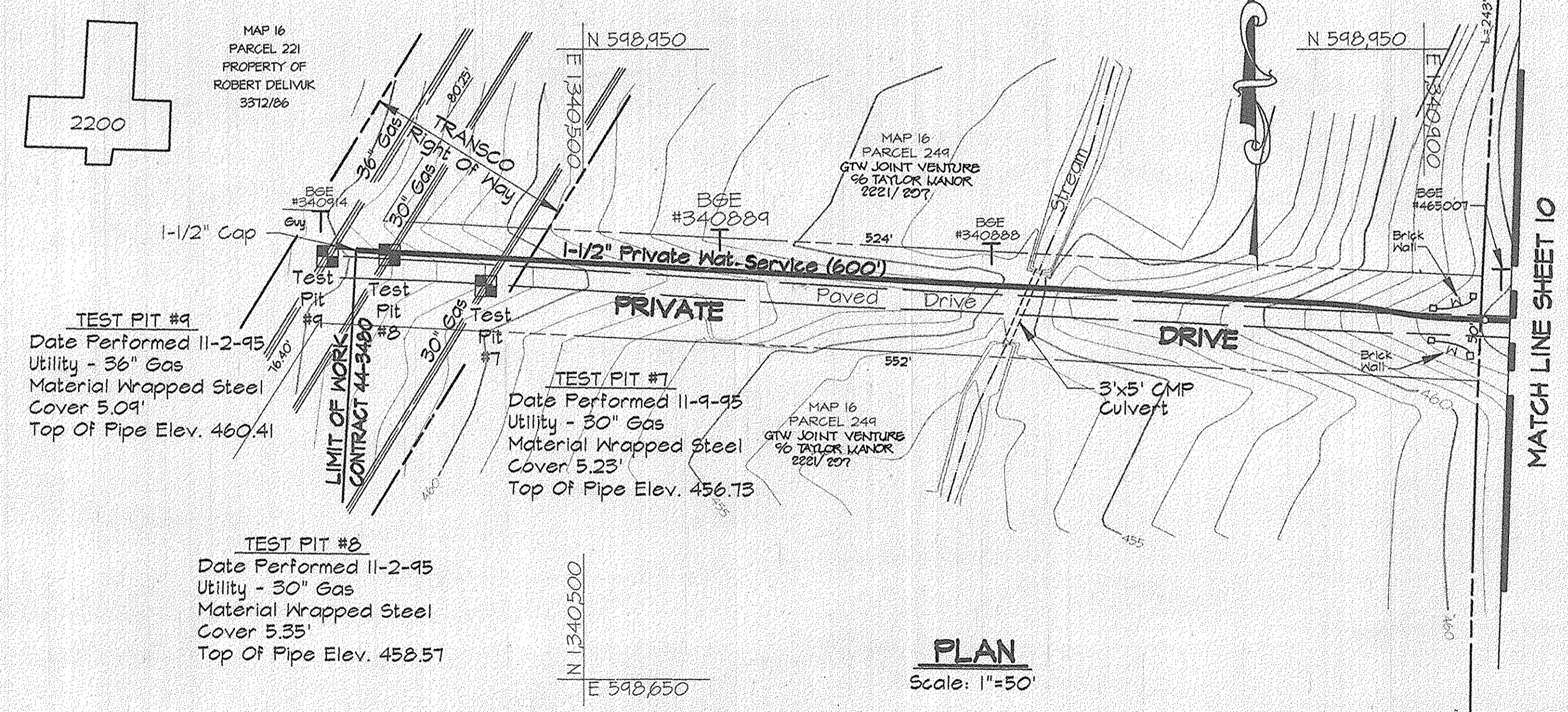
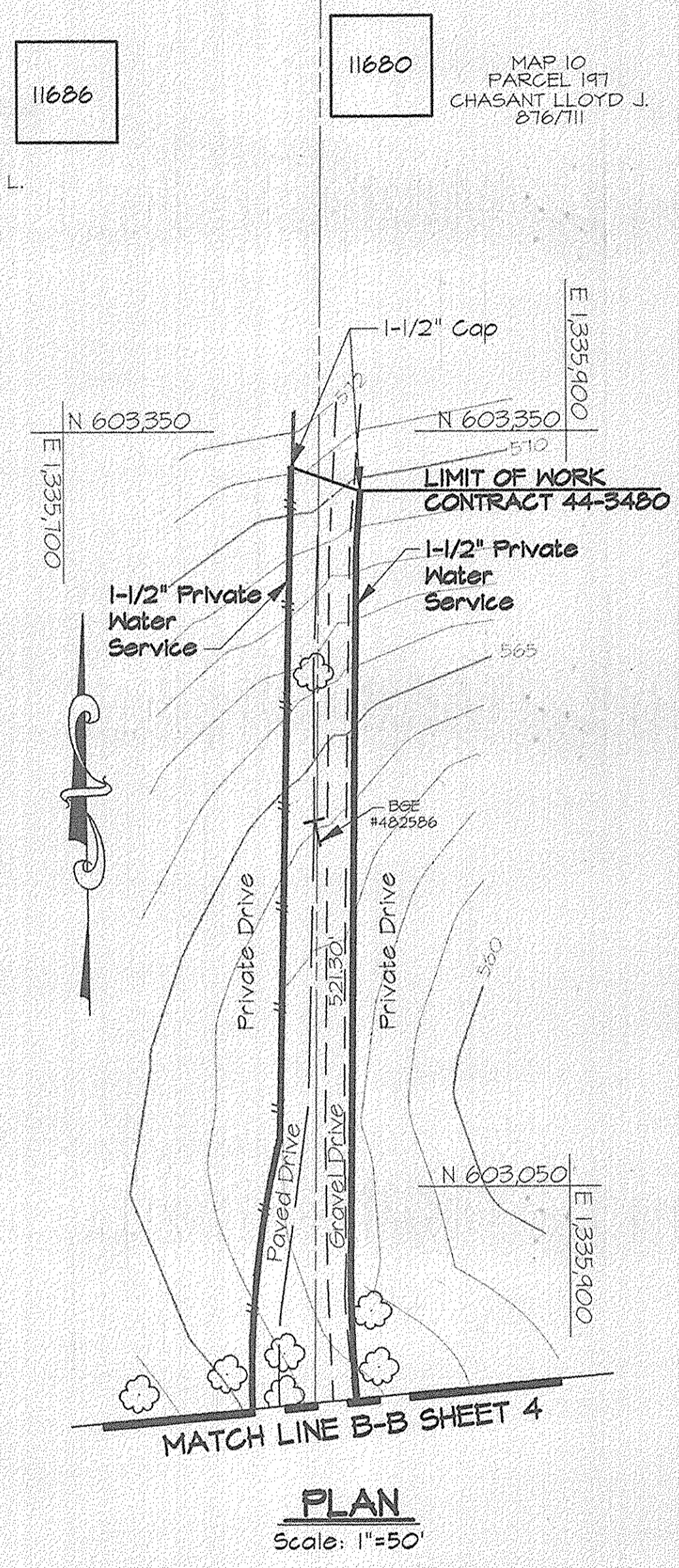
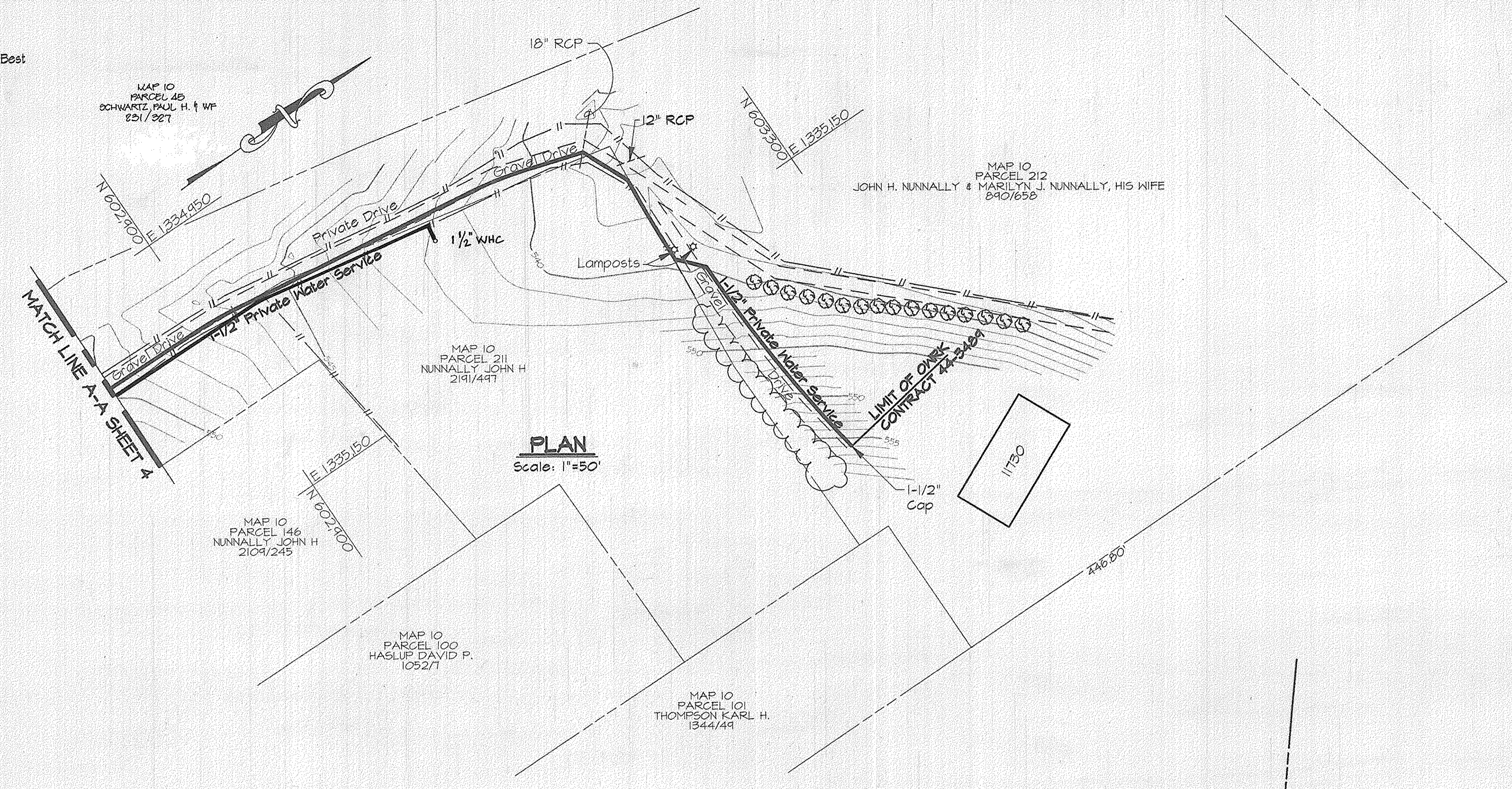
PLANS AND PROFILE - SEVICE MAIN  
 STA. 0+00 TO 5+90  
 PLAN - WATER SERVICE  
 PROFILE - STA. 71+00 MARRIOTTVILLE RD.

ALPHA RIDGE WATER SUPPLY  
 CAPITAL PROJECT W-8203  
 CONTRACT NO. 44-3480  
 ELECTION DISTRICT NO. 3  
 HOWARD COUNTY, MARYLAND

DWG. NO.  
 SCALE AS SHOWN  
 SHEET 19 OF 31

- NOTES:
- Contractor Shall Remove And Replace Existing Mail Boxes, Signs & Fences As Required.
  - Contractor Shall Confirm Location Of All Water House Connections With Owners Prior To Installation.
  - All Water Services Are 3/4" Unless Otherwise Noted.

NOTE:  
The Existing Utilities, As Shown On This Drawing, Have Been Located From The Best Available Information. The Contractor Shall Be Responsible For Locating All Existing Utilities To His Satisfaction Prior To Starting Any Construction.



**AS BUILT**

R:\K2\USER2\SDSK\PRO\GM9473\DWG\CONTR\_3\_ALP-3-20.DWG 03/18/1996 08:38

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

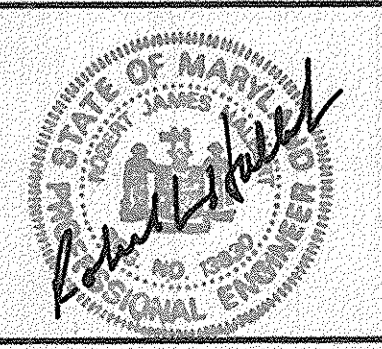
*James A. Linn* 4/3/96  
DIRECTOR OF PUBLIC WORKS DATE

*Robert J. Linn* 3/29/96  
CHIEF, BUREAU OF ENGINEERING DATE

*Robert J. Linn* 3/29/96  
CHIEF, BUREAU OF UTILITIES DATE

*Robert J. Linn* 3/29/96  
CHIEF, WATER AND SEWER DESIGN DIVISION DATE

**RK & K**  
RUMMEL, KLEPPER & KAHL  
CONSULTING ENGINEERS  
81 MOSHER ST.  
BALTIMORE, MARYLAND 21217



DES:	DWR				
DRN:	DCJ				
CHK:	SRK				
DATE:	3/96	BY:	NO.	REVISION	DATE

MISCELLANEOUS PLANS  
WATER SERVICES

600' SCALE MAP NO. 10 BLOCK NO. 20

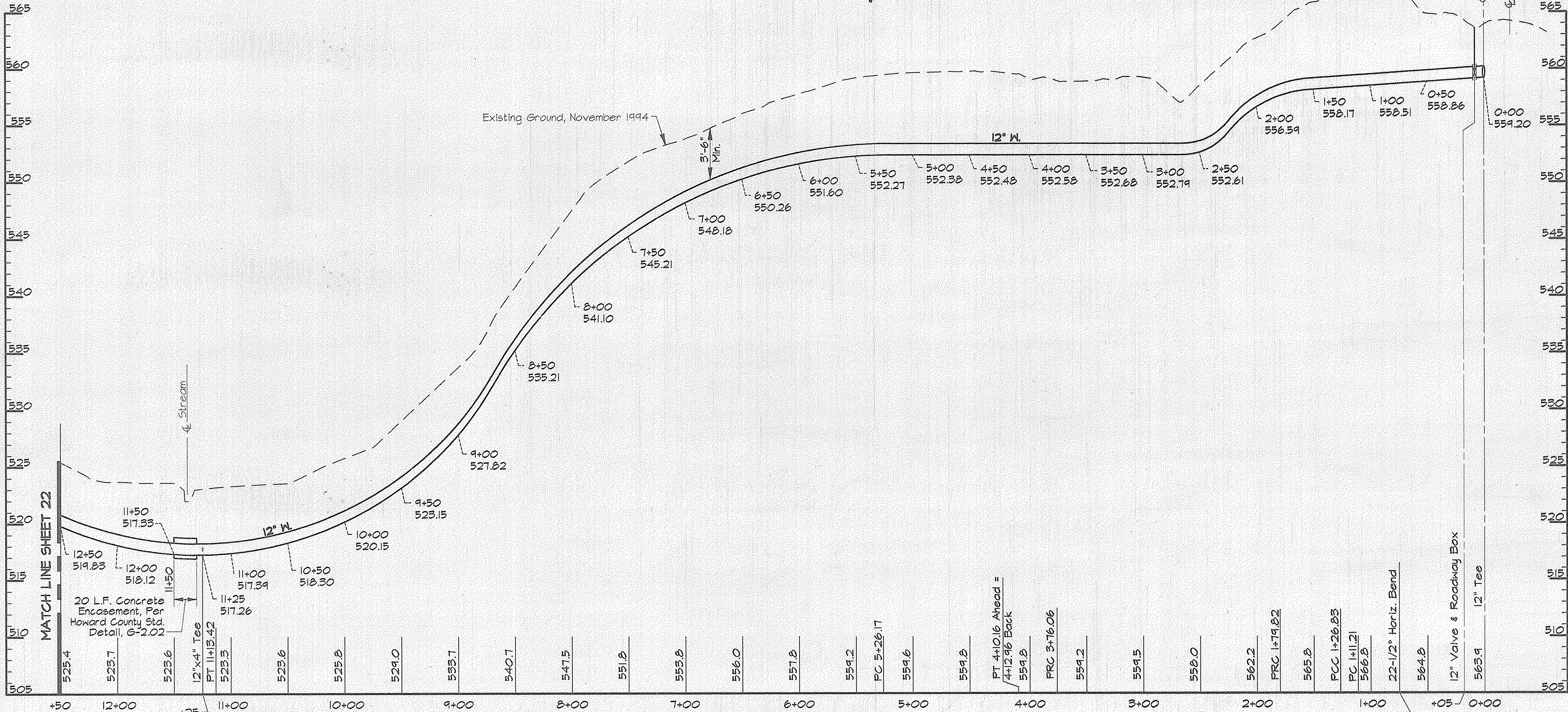
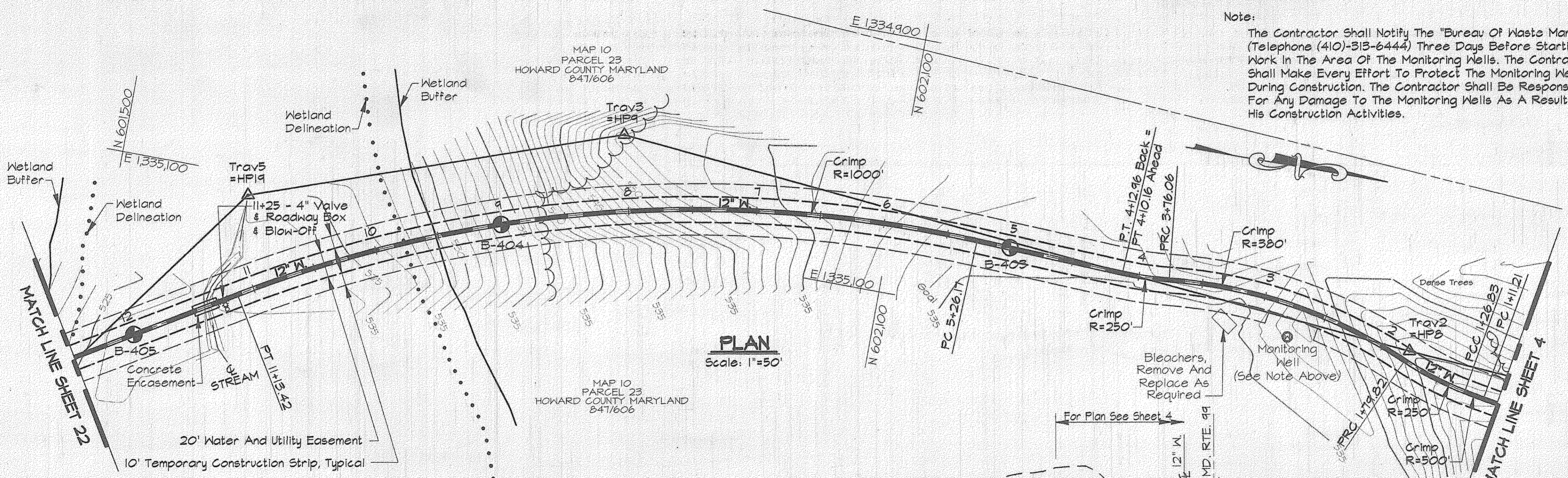
ALPHA RIDGE WATER SUPPLY  
CAPITAL PROJECT W-8203  
CONTRACT NO. 44-3480  
ELECTION DISTRICT NO. 3  
HOWARD COUNTY, MARYLAND

DWG. NO.  
SCALE AS SHOWN  
SHEET 20 OF 31

WATER MAIN STAKE-OUT TABLE			
TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
Trav1 - Trav2	1+04.73	22.78' Lt.	P.C. - 1+11.21
	1+20.23	20.86' Lt.	P.C.C. - 1+26.83
Trav2 - Trav3	0+02.27	9.46' Lt.	P.R.C. - 1+79.82
	1+95.49	3.97' Lt.	P.R.C. - 3+76.06
	2+32.09	0.54' Rt.	P.T. - 4+10.16 Ahead = 4+12.96 Back
Trav5 - Trav6	3+47.95	6.19' Lt.	P.C. - 5+26.17
	0+59.50	50.37' Lt.	P.T. - 11+13.42

For Traverse Data See Sheet 21

Note:  
The Contractor Shall Notify The "Bureau Of Waste Management" (Telephone (410)-313-6444) Three Days Before Starting Work In The Area Of The Monitoring Wells. The Contractor Shall Make Every Effort To Protect The Monitoring Wells During Construction. The Contractor Shall Be Responsible For Any Damage To The Monitoring Wells As A Result Of His Construction Activities.



**AS BUILT**

RRK2\USKZ\SDSKPROJ\CM8473\DWG\CONTR\_3 ALP\_3--21.DWG 03/18/1996 08:41

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

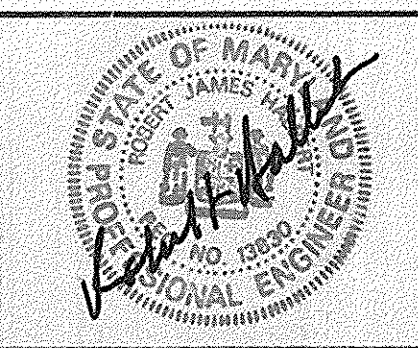
*James P. Lewis* 4/3/96  
DIRECTOR OF PUBLIC WORKS DATE

*John J. Spon* 3/29/96  
CHIEF, BUREAU OF ENGINEERING DATE

*Robert R. Rainey* 4-1-96  
CHIEF, BUREAU OF UTILITIES DATE

*Debra J. Rainey* 3-29-96  
CHIEF, WATER AND SEWER DESIGN DIVISION DATE

**RRK & K**  
RUMMEL, KLEPPER & KAHL  
CONSULTING ENGINEERS  
81 MOSHER ST.  
BALTIMORE, MARYLAND 21217



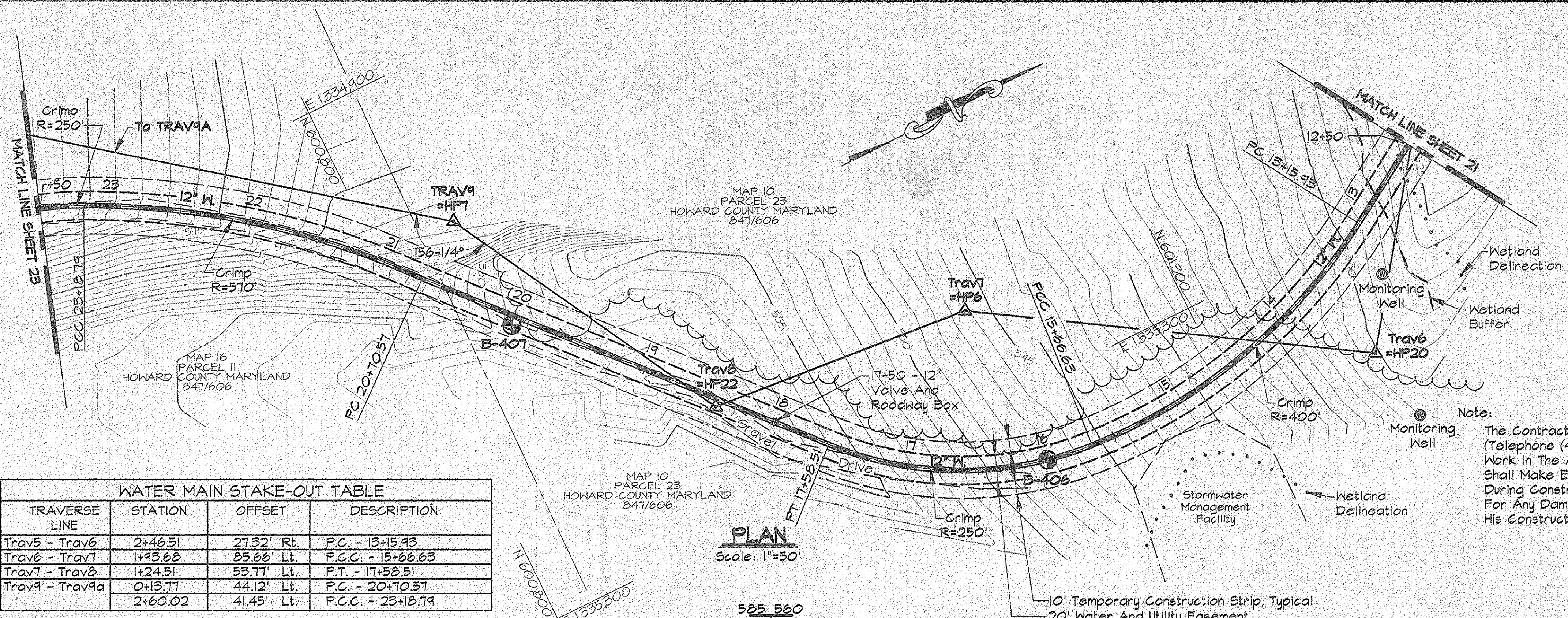
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DRN:	DCJ				
CHK:	SJR				
DATE:	3/96				
BY:	NO.				
REVISION:					
DATE:					

PLAN AND PROFILE  
ELEVATED TANK MAIN  
STA. 0+00 TO STA. 12+50

600' SCALE MAP NO. 10 BLOCK NO. 20

ALPHA RIDGE WATER SUPPLY  
CAPITAL PROJECT W-8203  
CONTRACT NO. 44-3480  
ELECTION DISTRICT NO. 3  
HOWARD COUNTY, MARYLAND

DWG. NO.  
SCALE AS SHOWN  
SHEET 21 OF 31

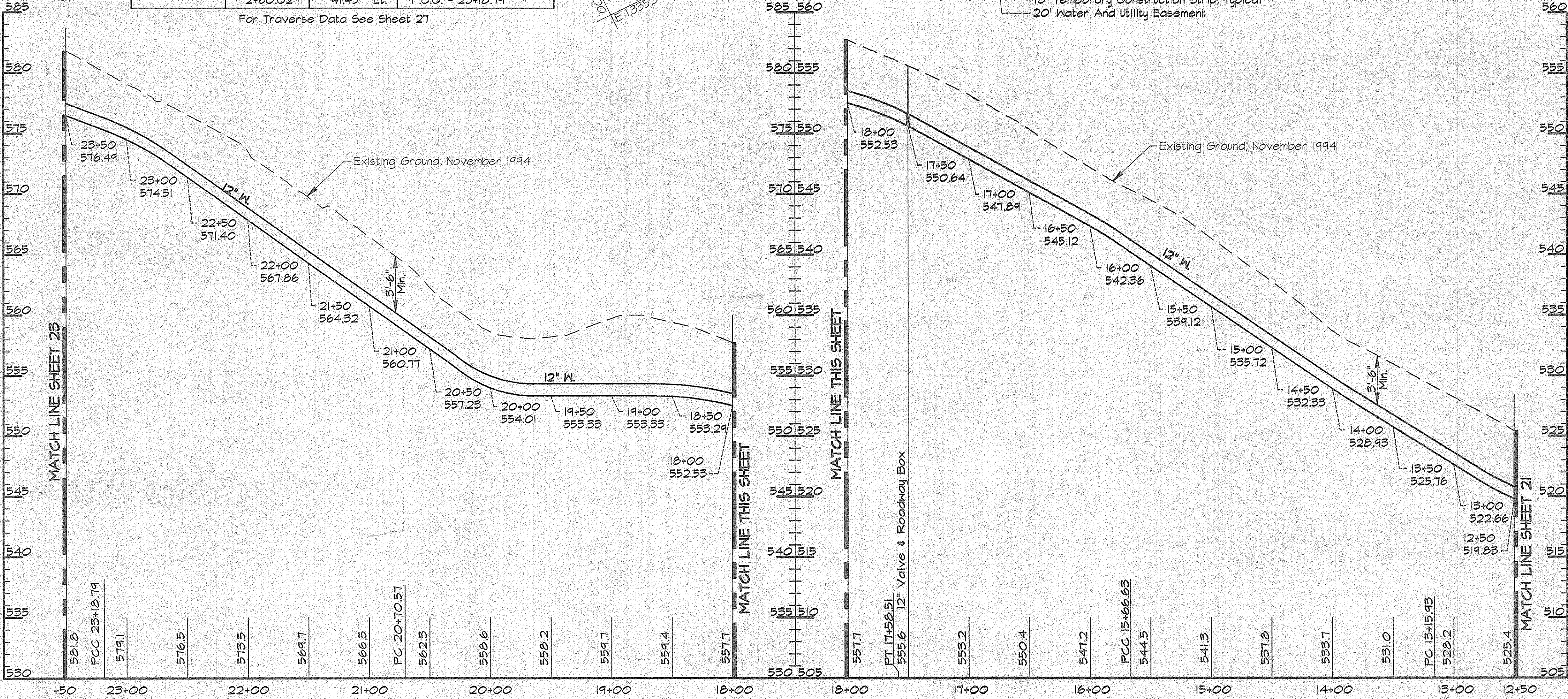


**WATER MAIN STAKE-OUT TABLE**

TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
Trav5 - Trav6	2+46.51	27.32' Rt.	P.C. - 13+15.93
Trav6 - Trav7	1+93.68	85.66' Lt.	P.C.C. - 15+06.63
Trav7 - Trav8	1+24.51	53.77' Lt.	P.T. - 17+58.51
Trav9 - Trav9a	0+15.77	44.12' Lt.	P.C. - 20+70.57
	2+60.02	41.45' Lt.	P.C.C. - 23+18.79

For Traverse Data See Sheet 21

Note:  
The Contractor Shall Notify The "Bureau Of Waste Management" (Telephone (410)-315-6444) Three Days Before Starting Work In The Area Of The Monitoring Wells. The Contractor Shall Make Every Effort To Protect The Monitoring Wells During Construction. The Contractor Shall Be Responsible For Any Damage To The Monitoring Wells As A Result Of His Construction Activities.

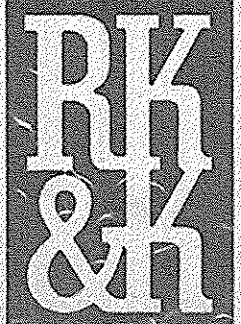


**PROFILE - ELEVATED TANK MAIN**  
Scale: Horiz. 1"=50'  
Vert. 1"=5'

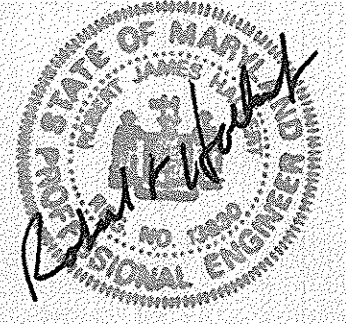
AS BUILT

RK&K\USK2\SUBS\PROJ\CM9473\DWG\CONTR\_3 ALP-3-22.DWG 08:42

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND



RUMMEL, KLEPPER & KAHL  
CONSULTING ENGINEERS  
81 MOSHER ST.  
BALTIMORE, MARYLAND 21217



DES:	DWR		
DRN:	DCJ		
CHK:	SRK		
DATE:	3/96		
BY:	NO.	REVISION	DATE

PLAN AND PROFILE - ELEVATED TANK  
STA. 12+50 TO 23+50

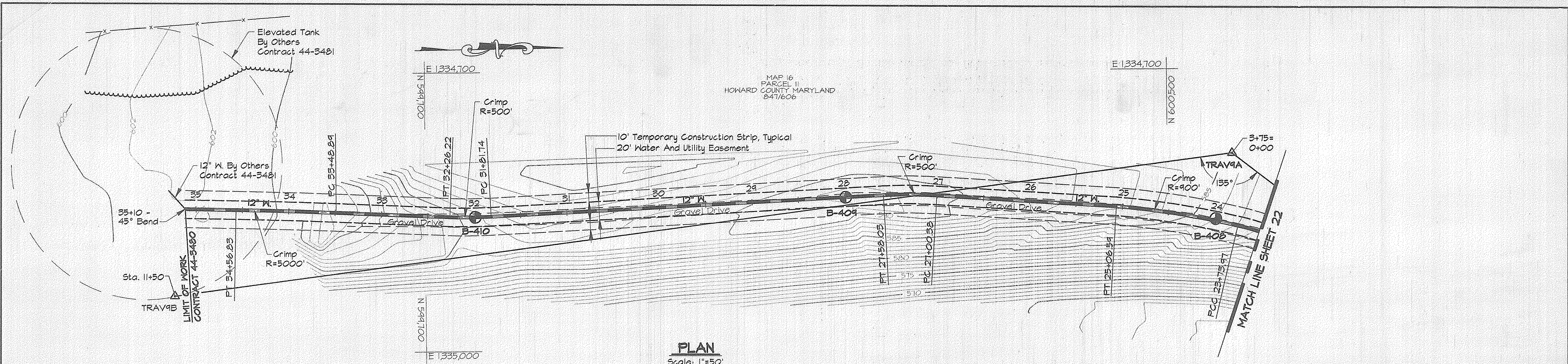
ALPHA RIDGE WATER SUPPLY  
CAPITAL PROJECT W-8203  
CONTRACT NO. 44-3480  
ELECTION DISTRICT NO. 3  
HOWARD COUNTY, MARYLAND

DWG. NO.  
SCALE AS SHOWN  
SHEET 22 OF 31

*James M. Lane* 4/3/96  
DIRECTOR OF PUBLIC WORKS  
*Robert J. Seaman* 4-1-96  
CHIEF, BUREAU OF UTILITIES

*Robert J. Seaman* 3/27/96  
CHIEF, BUREAU OF ENGINEERING  
*Oliver J. Seaman* 3-29-96  
CHIEF, WATER AND SEWER DESIGN DIVISION

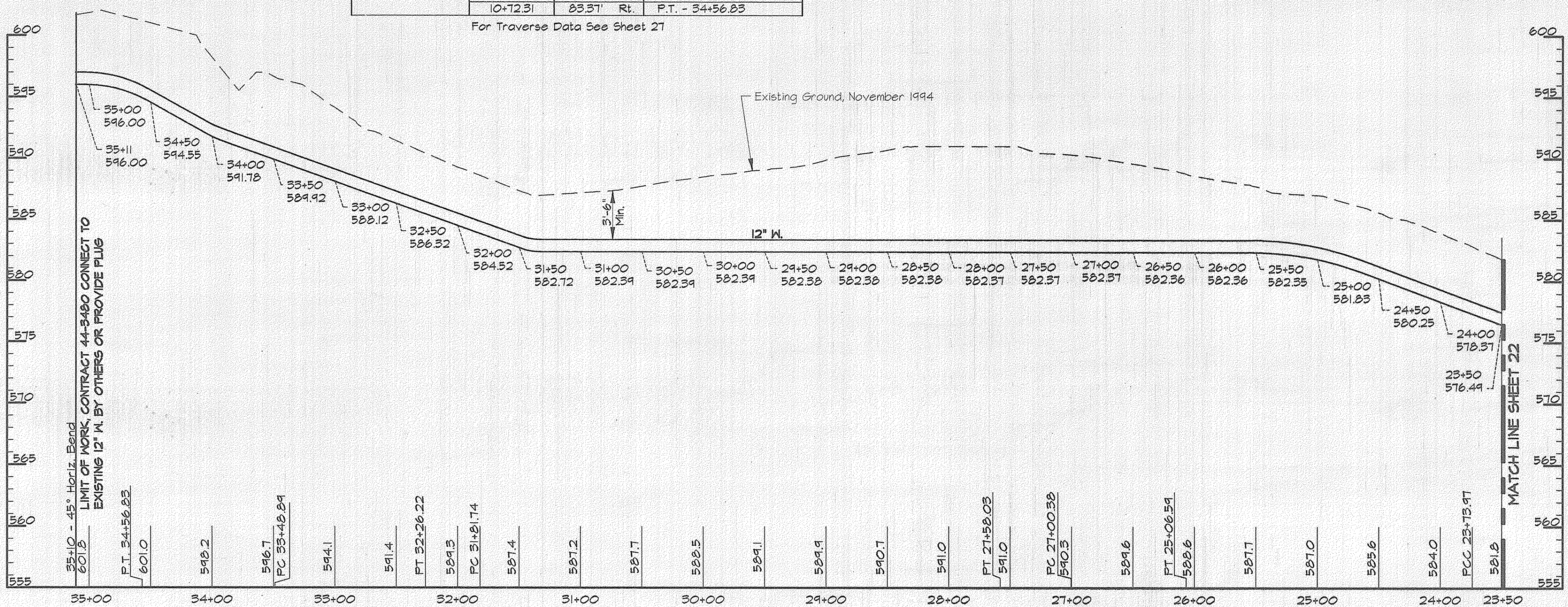
600' SCALE MAP NO. 10.16 BLOCK NO. 20.2



**PLAN**  
Scale: 1"=50'

TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
Trav9 - Trav9A	3+12.34	58.62' Lt.	P.C.C. - 23+73.97
Trav9A - Trav9B	1+31.32	40.19' Lt.	P.T. - 25+06.59
	3+21.43	2.61' Lt.	P.C. - 27+00.38
	3+78.51	5.28' Rt.	P.T. - 27+58.03
	8+00.86	39.06' Rt.	P.C. - 31+81.74
	8+44.94	44.57' Rt.	P.T. - 32+26.22
	9+85.20	65.82' Rt.	P.C. - 33+48.89
	10+72.31	83.37' Rt.	P.T. - 34+56.83

For Traverse Data See Sheet 27



**PROFILE - ELEVATED TANK MAIN**

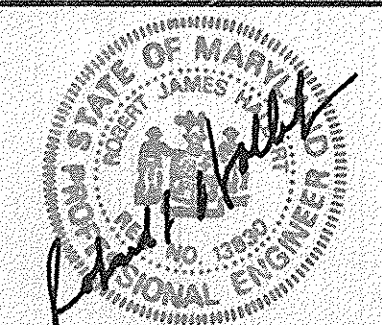
Scale: Horiz. 1"=50'  
Vert. 1"=5'

**AS BUILT**

R462 US22 SDKSPROJ\CM0473\DWG\CONTR\_3 ALP-3-23.DWG 08:43

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

**RK & K**  
RUMMEL, KLEPPER & KAHL  
CONSULTING ENGINEERS  
81 MOSHER ST.  
BALTIMORE, MARYLAND 21217



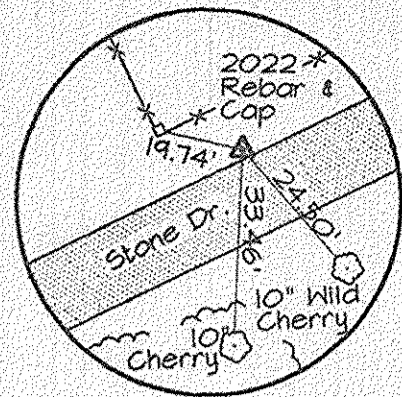
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CHK:	SRK			
DATE:	3/96			
BY:	NO.	REVISION	DATE	

PLAN AND PROFILE - ELEVATED TANK  
STA. 23+50 TO STA 35+11.26

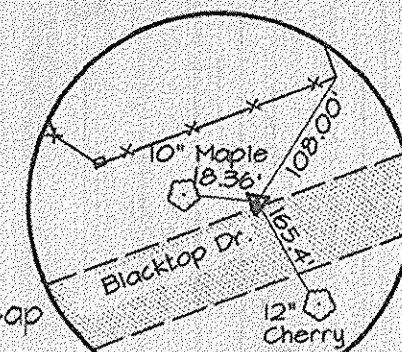
600' SCALE MAP NO. 16 BLOCK NO. 2

ALPHA RIDGE WATER SUPPLY  
CAPITAL PROJECT W-8203  
CONTRACT NO. 44-3480  
ELECTION DISTRICT NO. 3  
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN  
SHEET 23 OF 31



TRAV. PT. 2022  
Elev. N 601.745.21  
E 1334.362.25



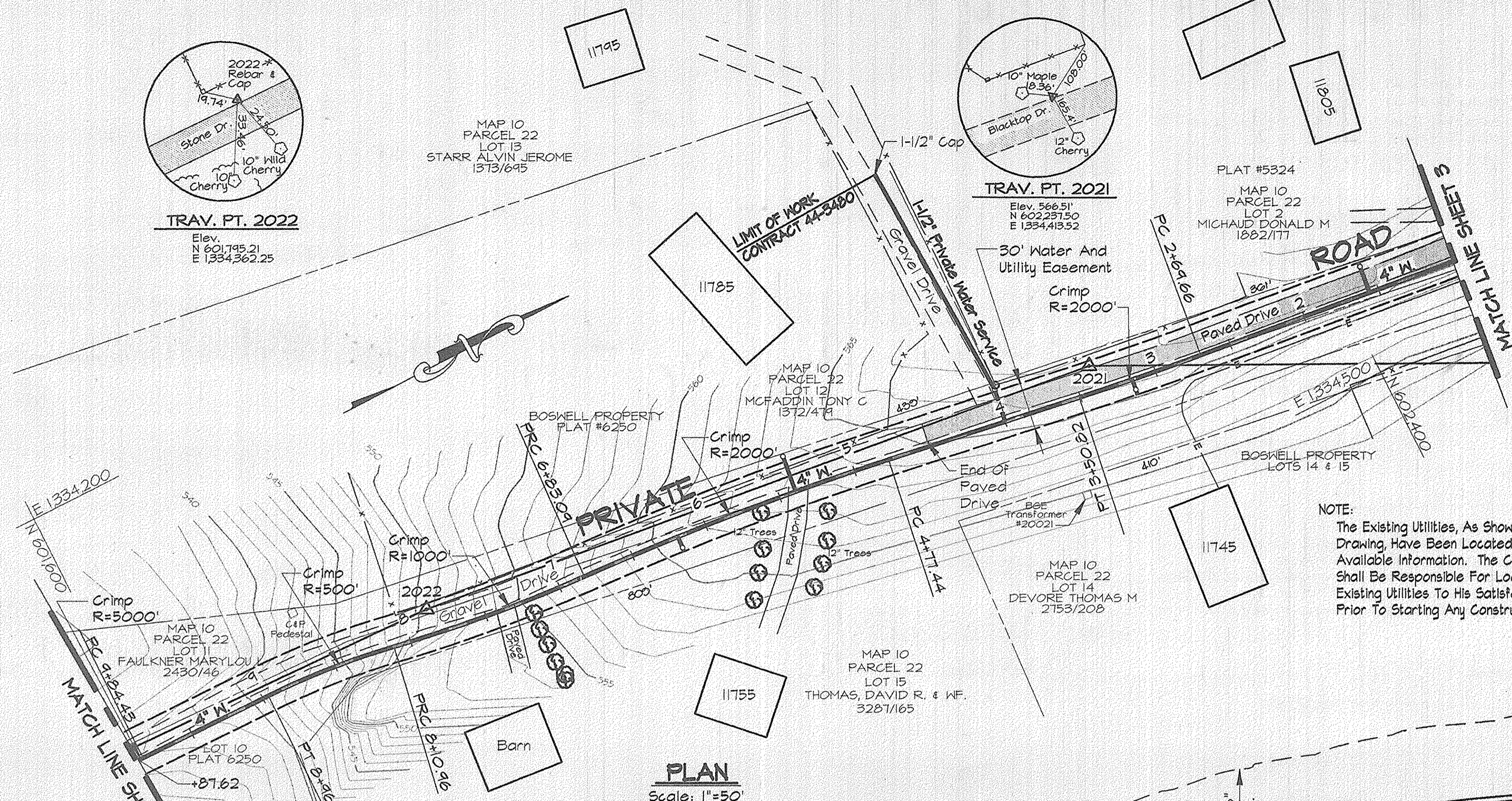
TRAV. PT. 2021  
Elev. 566.51  
N 602.231.50  
E 1334.413.52

- NOTES:
- Contractor Shall Remove And Replace Existing Mail Boxes, Signs & Fences As Required.
  - Contractor Shall Confirm Location Of All Water House Connections With Owners Prior To Installation.
  - All Water Services Are 3/4" Unless Otherwise Noted.

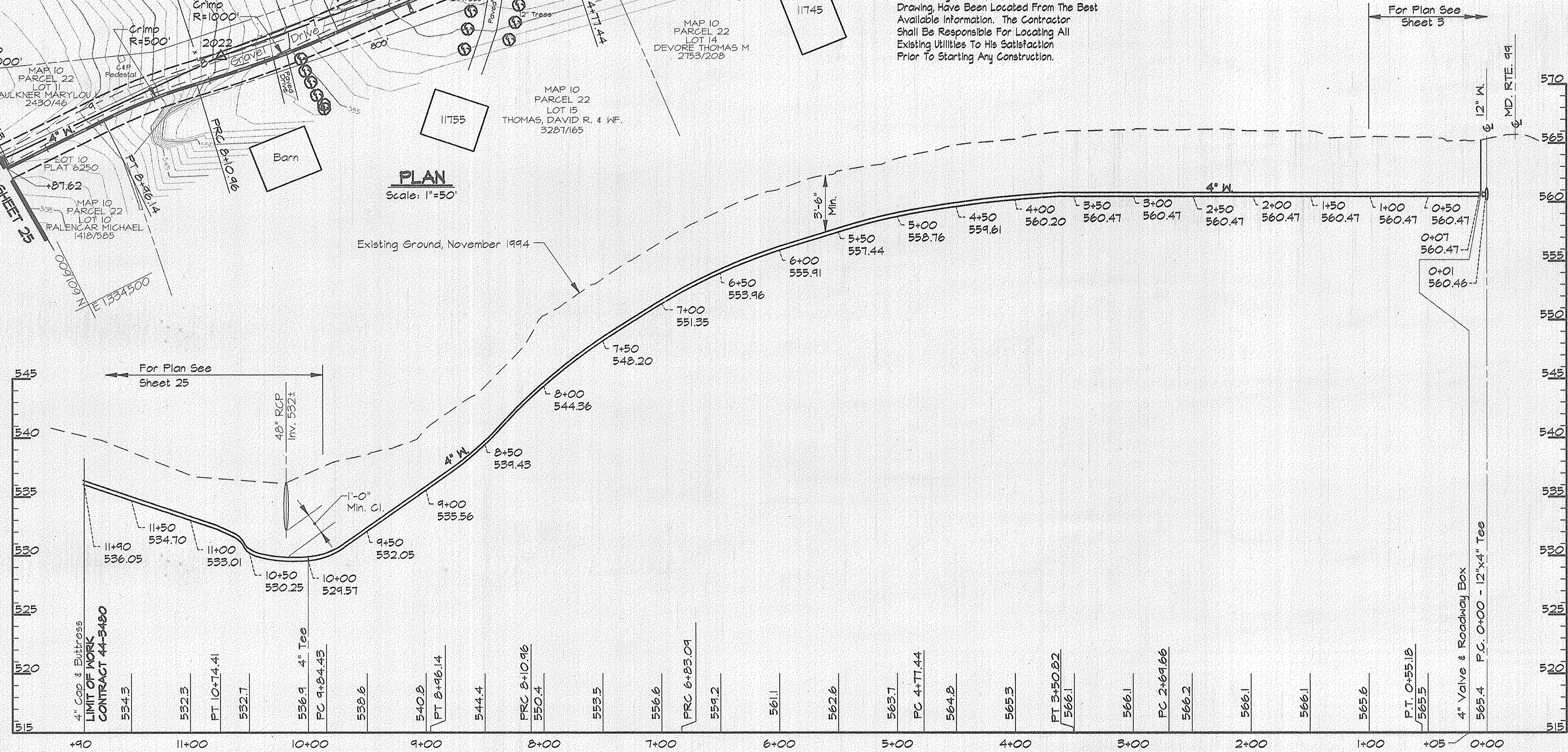
WATER MAIN STAKE-OUT TABLE			
TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
202 - 2021	3+10.07	6.28' Rt.	P.C. - 2+69.66
2021 - 2022	0+12.65	16.44' Lt.	P.T. - 3+50.82
	1+39.19	11.84' Lt.	P.C. - 4+77.44
2022 - 2023	3+44.73	14.84' Lt.	P.R.C. - 6+83.09
	0+28.51	12.59' Lt.	P.R.C. - 8+10.96
	1+13.39	6.88' Lt.	P.T. - 8+96.14
	2+01.67	8.47' Lt.	P.C. - 9+84.43

For Traverse Data See Sheet 27

NOTE:  
The Existing Utilities, As Shown On This Drawing, Have Been Located From The Best Available Information. The Contractor Shall Be Responsible For Locating All Existing Utilities To His Satisfaction Prior To Starting Any Construction.



PLAN  
Scale: 1"=50'



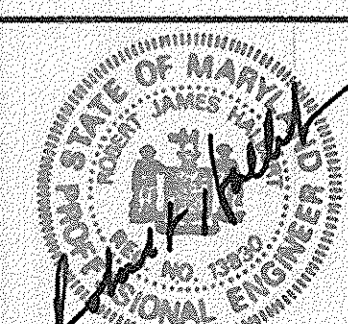
PROFILE - ROAD  
Scale: Horiz. 1"=50'  
Vert. 1"=5'

**AS BUILT**

RK\2\USK2\SDSK\PROJ\GM473\DWG\CONTR\_3 ALP-3-24.DWG 08.45

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

**RK & K**  
RUMMEL, KLEPPER & KAHL  
CONSULTING ENGINEERS  
81 MOSHER ST.  
BALTIMORE, MARYLAND 21217



DES:	DWR				
DRN:	DCJ				
CHK:	SRK				
DATE:	3/96				
BY:		NO.		REVISION	

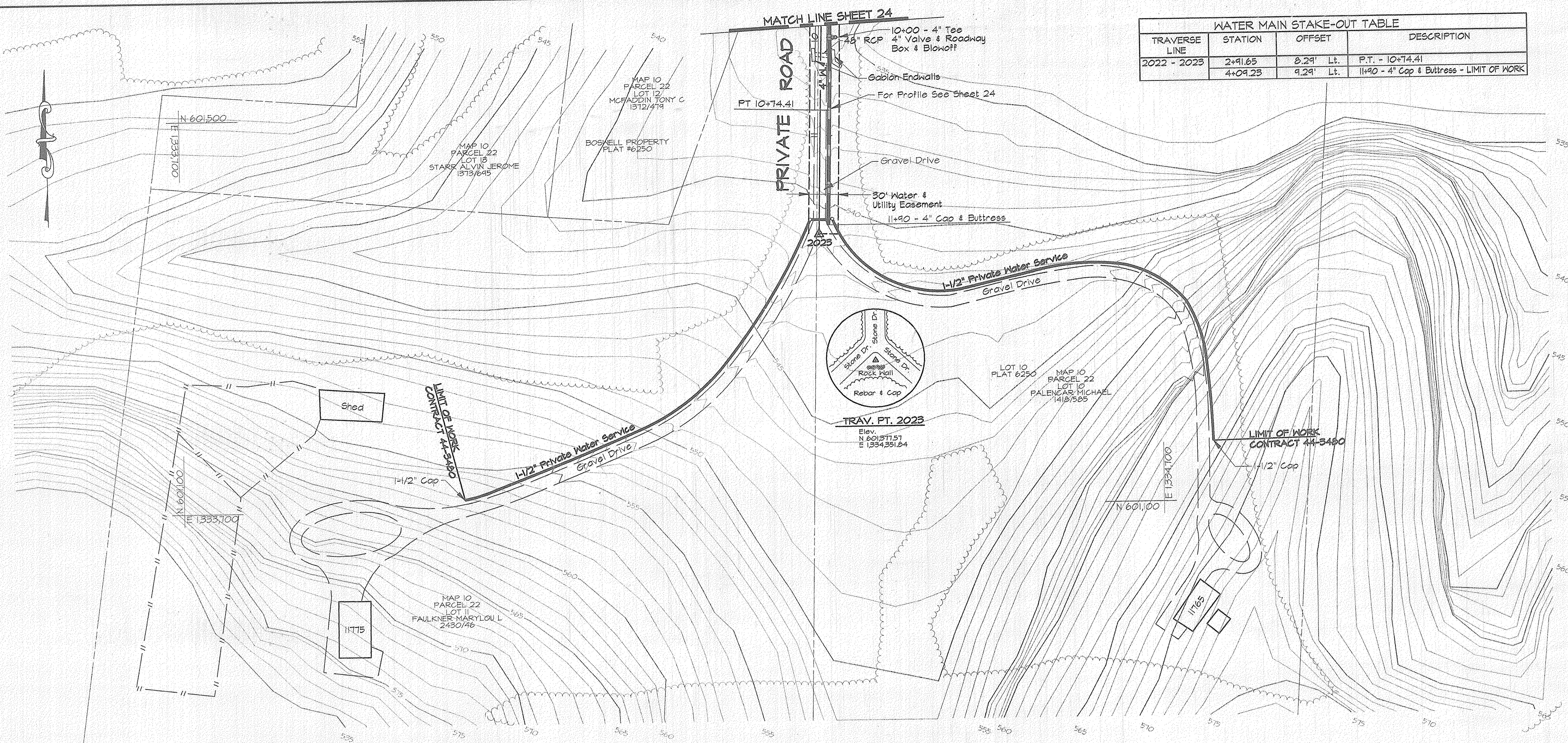
PLAN AND PROFILE - SERVICE MAIN  
STA. 0+00 TO STA. 11+90

ALPHA RIDGE WATER SUPPLY  
CAPITAL PROJECT W-8203  
CONTRACT NO. 44-3480  
ELECTION DISTRICT NO. 3  
HOWARD COUNTY, MARYLAND

DWG. NO.  
SCALE AS SHOWN  
SHEET 24 OF 31



WATER MAIN STAKE-OUT TABLE			
TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
2022 - 2023	2+91.65	8.29' Lt.	P.T. - 10+74.41
	4+09.23	9.29' Lt.	11+90 - 4" Cap & Buttress - LIMIT OF WORK



**PLAN**  
Scale: 1"=50'

**NOTE:**  
The Existing Utilities, As Shown On This Drawing, Have Been Located From The Best Available Information. The Contractor Shall Be Responsible For Locating All Existing Utilities To His Satisfaction Prior To Starting Any Construction.

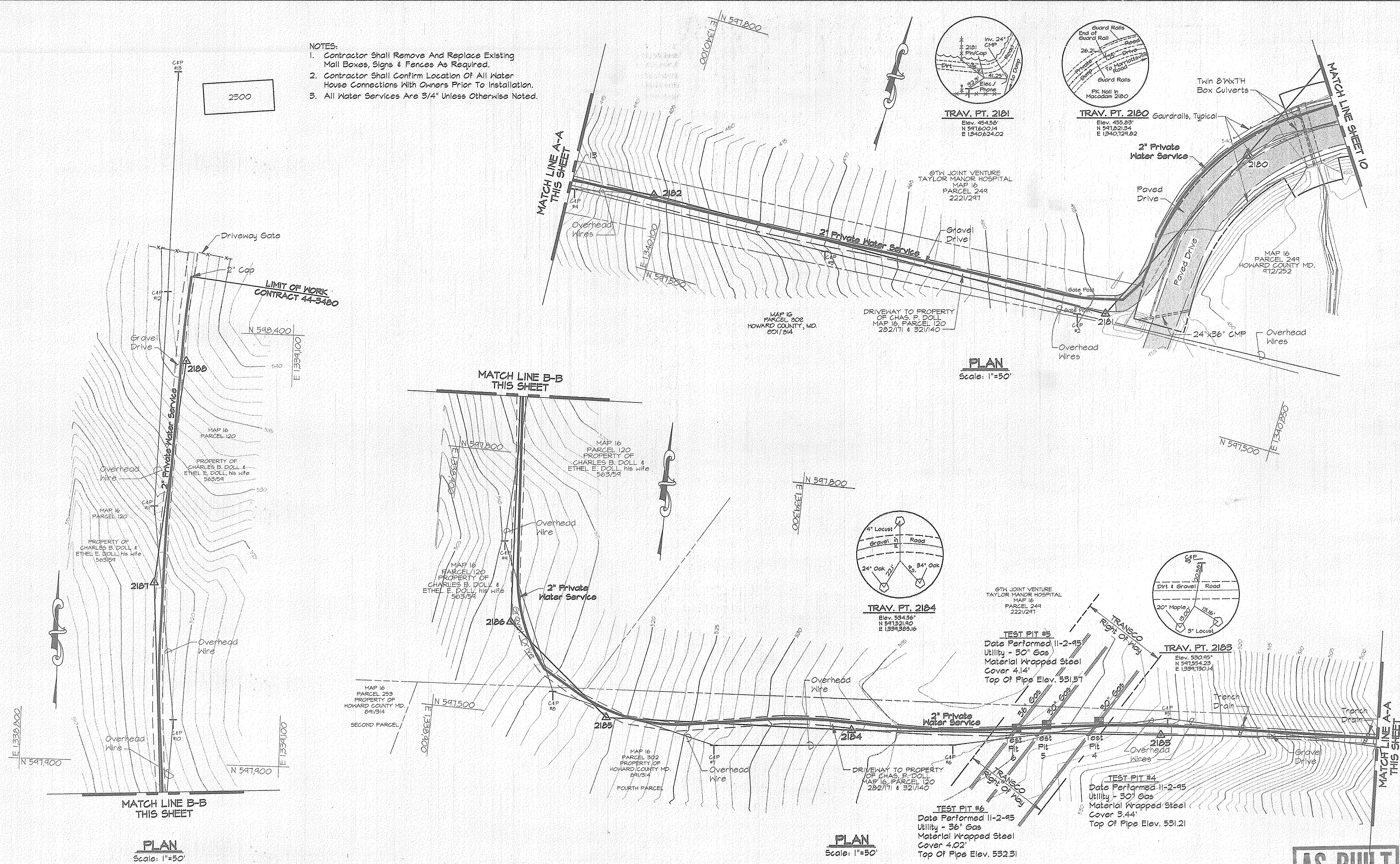
- NOTES:**
- Contractor Shall Remove And Replace Existing Mail Boxes, Signs & Fences As Required.
  - Contractor Shall Confirm Location Of All Water House Connections With Owners Prior To Installation.
  - All Water Services Are 3/4" Unless Otherwise Noted.

**AS BUILT**

RKK2\USR2\SDSKPROJ\CM9473\DWG\CONTR\_3 ALP\_3-25.DWG 11:36

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND <i>James J. Lewis</i> 4/2/96 DIRECTOR OF PUBLIC WORKS <i>Robert W. Baizer</i> 4-1-96 CHIEF, BUREAU OF UTILITIES		<b>RK &amp; K</b> RUMMEL, KLEPPER & KAHL CONSULTING ENGINEERS 81 MOSHER ST. BALTIMORE, MARYLAND 21217 		DES: DWR DRN: DCJ CHK: SRK DATE: 3/96	PLAN - SERVICE MAIN STA. 9+87.62 TO STA. 11+90 600' SCALE MAP NO. 10 BLOCK NO. 20	ALPHA RIDGE WATER SUPPLY CAPITAL PROJECT W-8203 CONTRACT NO. 44-3480 ELECTION DISTRICT NO. 3 HOWARD COUNTY, MARYLAND	DWG. NO. SCALE AS SHOWN SHEET 25 OF 31
---	--	---	--	--	---	--	--

- NOTES:
- Contractor Shall Remove And Replace Existing Mail Boxes, Signs & Fences As Required.
  - Contractor Shall Confirm Location Of All Water House Connections With Owners Prior To Installation.
  - All Water Services Are 3/4" Unless Otherwise Noted.



PLAN  
Scale: 1"=50'

PLAN  
Scale: 1"=50'

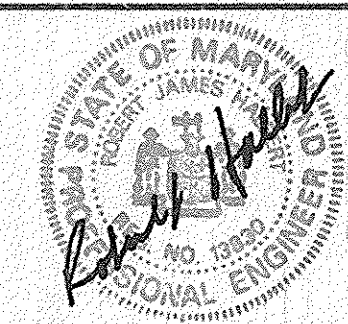
**AS BUILT**

02/21/1986  
 13:56  
 26-7-B.DWC  
 04/21/1986  
 13:56  
 02/21/1986

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*James J. Cline* 4/3/96  
 DIRECTOR OF PUBLIC WORKS DATE  
*Richard J. Sapon* 3/29/96  
 CHIEF, BUREAU OF ENGINEERING DATE  
*Robert W. Beaman* 4-1-96  
 CHIEF, BUREAU OF UTILITIES DATE  
*Clifford J. Sapon* 3-29-96  
 CHIEF WATER AND SEWER DESIGN DIVISION DATE

**RK & K**  
 RUMMEL, KLEPPER & KAHL  
 CONSULTING ENGINEERS  
 81 MOSHER ST.  
 BALTIMORE, MARYLAND 21217



DES:	DWR			
DRN:	DCJ			
CHK:	SRK			
DATE:	3/96			
BY:	NO.	REVISION	DATE	

PLAN AND PROFILE - ACCESS ROAD  
STA. 0+00 TO STA. 13+00

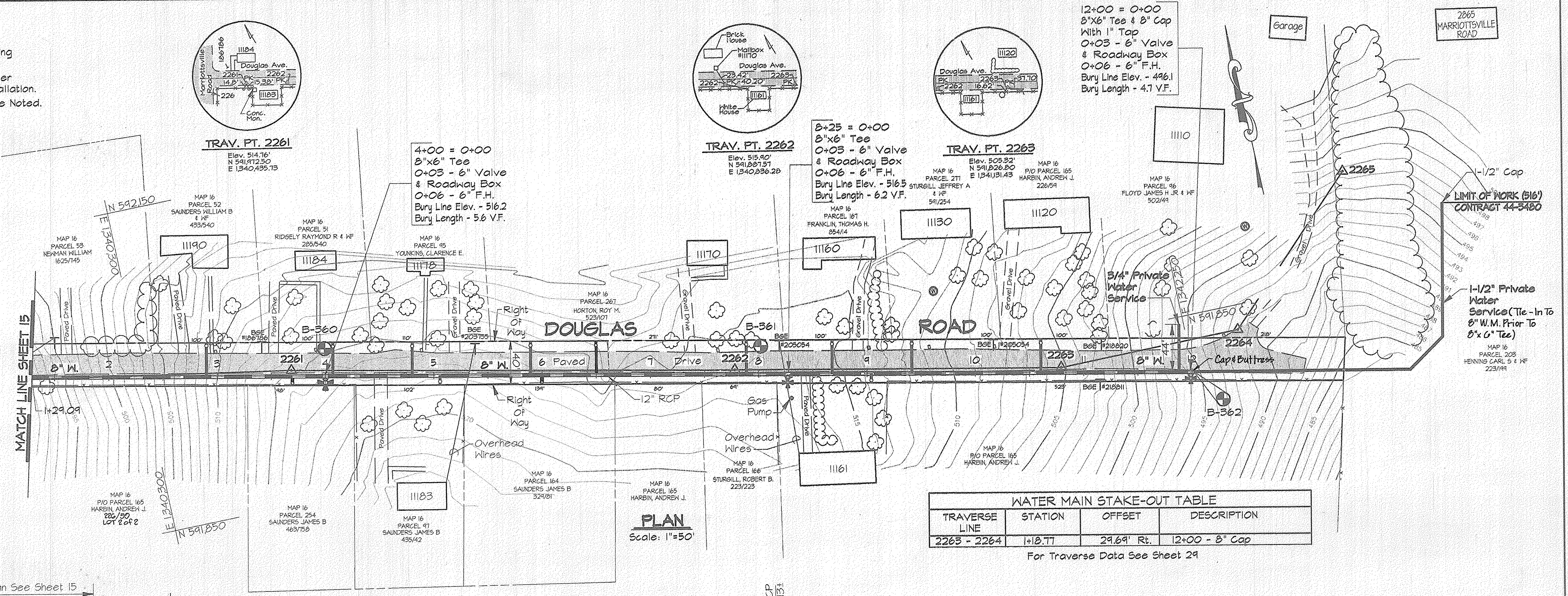
600' SCALE MAP NO. 16 BLOCK NO. 4 & 10

ALPHA RIDGE WATER SUPPLY  
 CAPITAL PROJECT W-8203  
 CONTRACT NO. 44-3480  
 ELECTION DISTRICT NO. 3  
 HOWARD COUNTY, MARYLAND

DWG. NO.  
 SCALE AS SHOWN  
 SHEET 26 OF 31



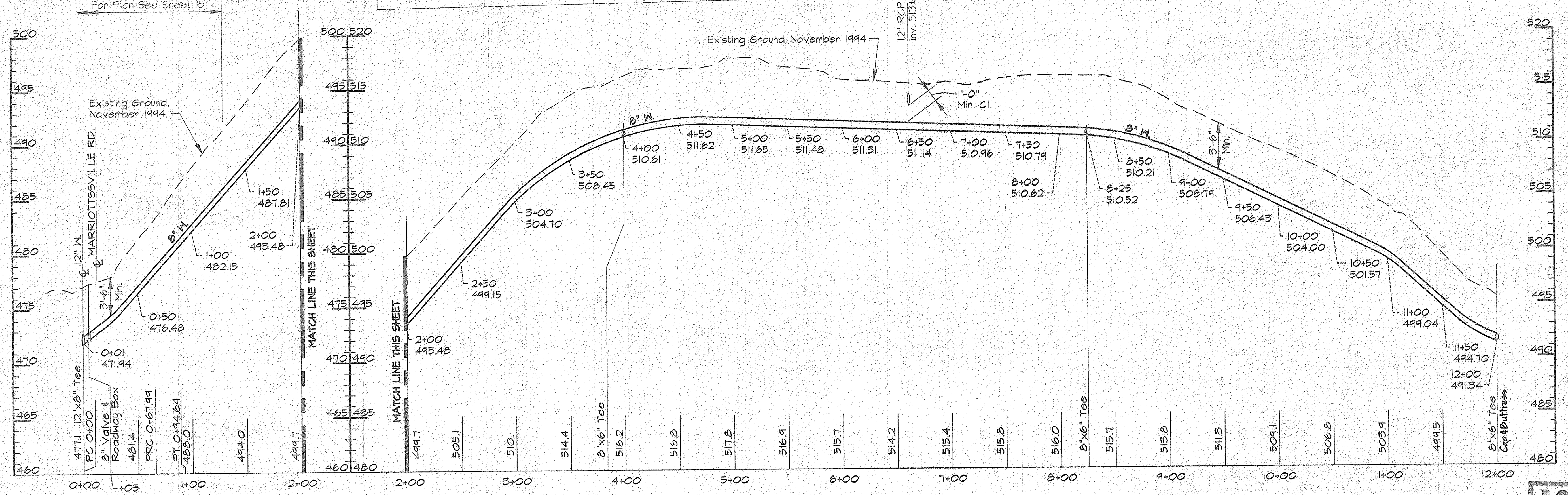
- NOTES:
- Contractor Shall Remove And Replace Existing Mail Boxes, Signs & Fences As Required.
  - Contractor Shall Confirm Location Of All Water House Connections With Owners Prior To Installation.
  - All Water Services Are 3/4" Unless Otherwise Noted.



**WATER MAIN STAKE-OUT TABLE**

TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
2263 - 2264	+18.77	29.69' Rt.	12+00 - 8" Cap

For Traverse Data See Sheet 29



**AS BUILT**

R1K2 USR2: DSDKPROJ\CMP9473\DWG\CONTR\_3 ALP-3-30.DWG 03/18/1996 09:28

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*James M. Law* 4/3/96  
DIRECTOR OF PUBLIC WORKS DATE

*Paul J. Ryan* 3/29/96  
CHIEF, BUREAU OF ENGINEERING DATE

*John D. Dwyer* 4-1-96  
CHIEF, BUREAU OF UTILITIES DATE

*O. J. Dwyer* 3-29-96  
CHIEF, WATER AND SEWER DESIGN DIVISION DATE

**RK & K**  
RUMMEL, KLEPPER & KAHL  
CONSULTING ENGINEERS  
81 MOSHER ST.  
BALTIMORE, MARYLAND 21217

*Paul J. Ryan*  
REGISTERED PROFESSIONAL ENGINEER

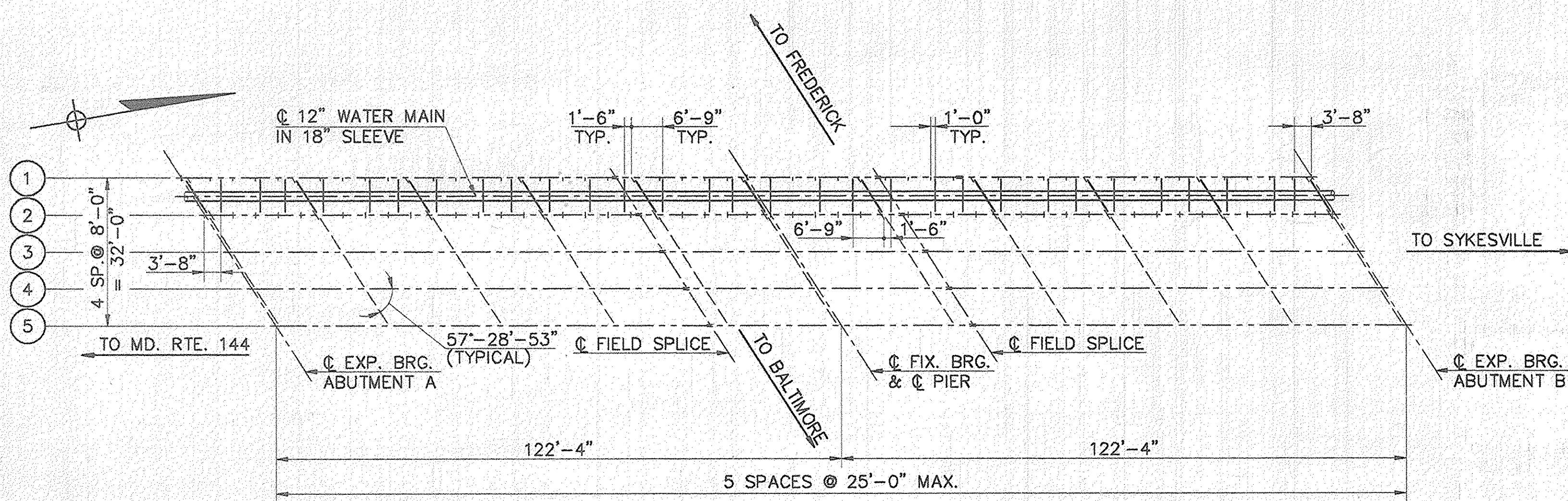
DES:	DWR			
DRN:	DCJ			
CHK:	SRK			
DATE:	3/96	BY:	NO.	REVISION

PLAN AND PROFILE - DOUGLAS ROAD  
STA. 0+00 TO STA. 12+00

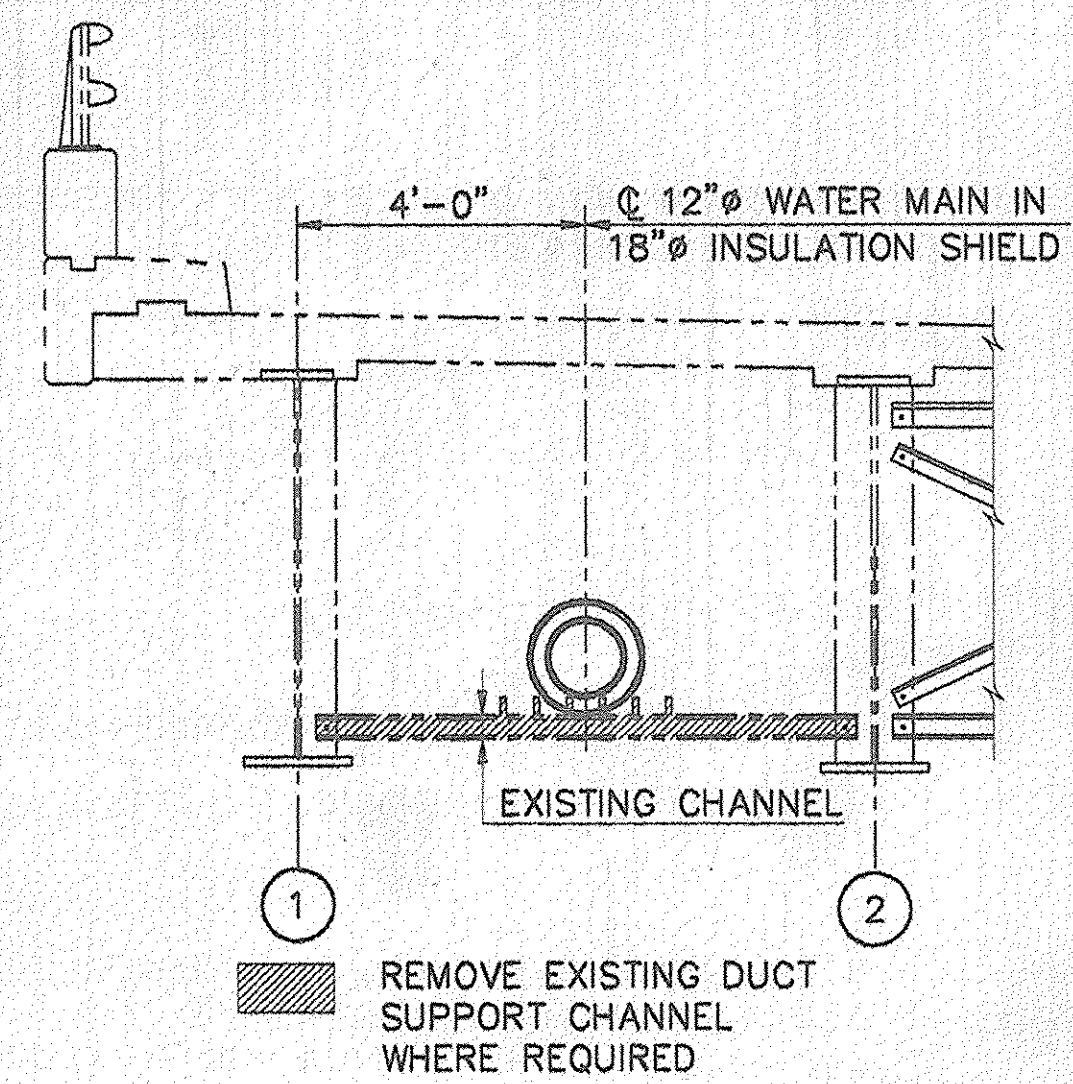
DATE: 600' SCALE MAP NO. 16 BLOCK NO. 16

ALPHA RIDGE WATER SUPPLY  
CAPITAL PROJECT W-8203  
CONTRACT NO. 44-3480  
ELECTION DISTRICT NO. 3  
HOWARD COUNTY, MARYLAND

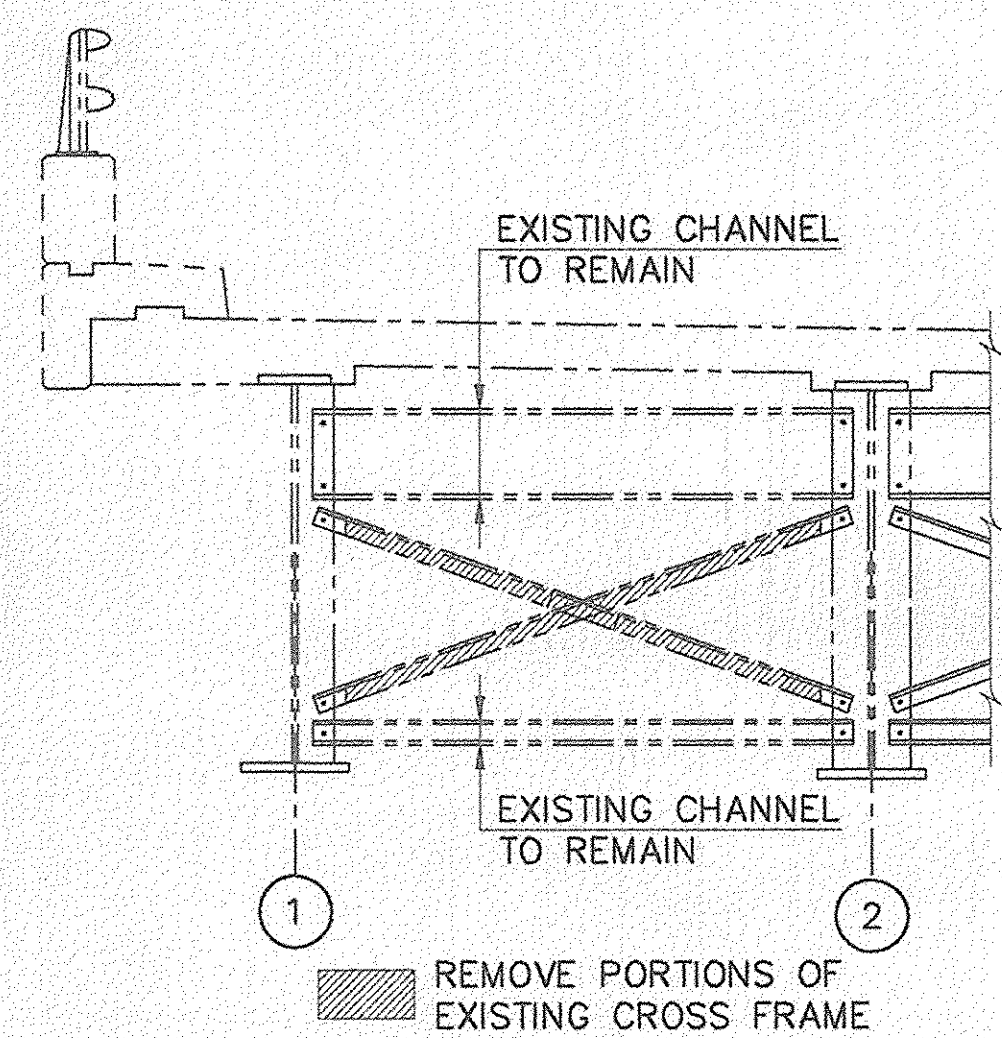
DWG. NO.  
SCALE AS SHOWN  
SHEET 28 OF 31



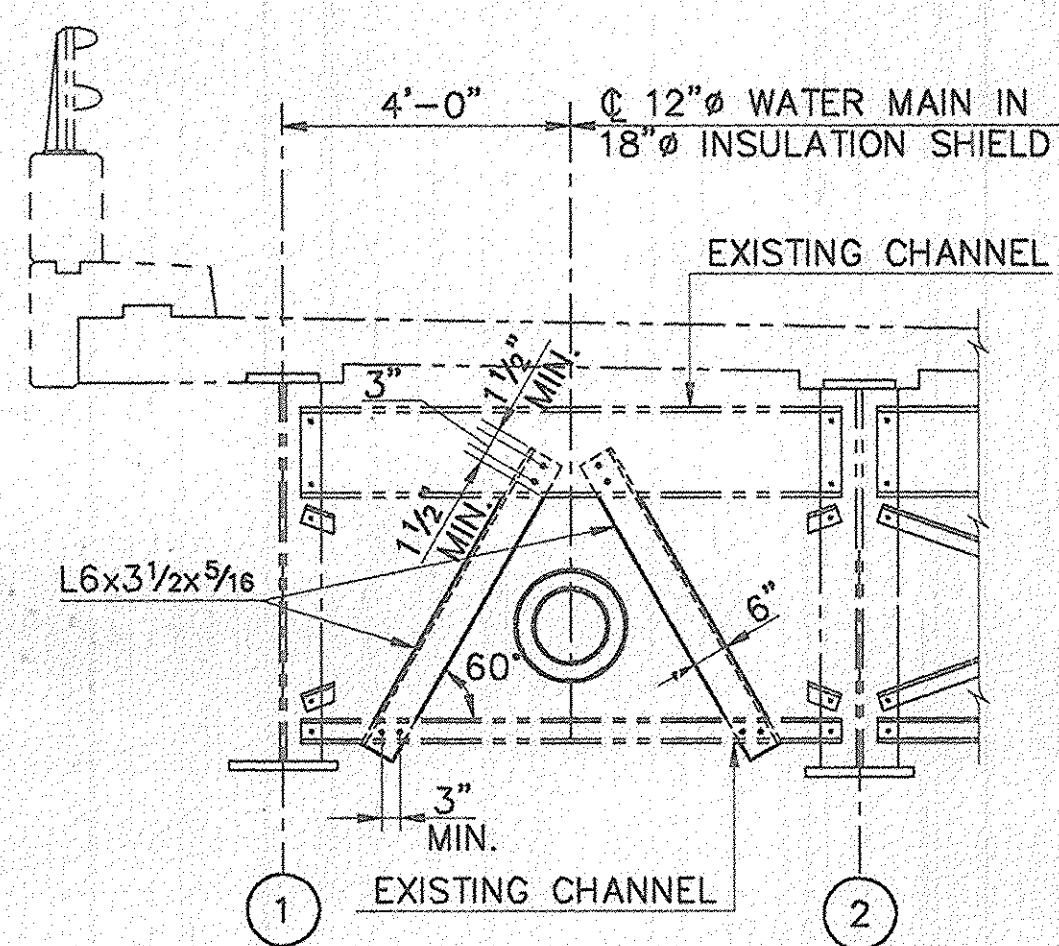
**FRAMING PLAN**  
SCALE: 1"=20'



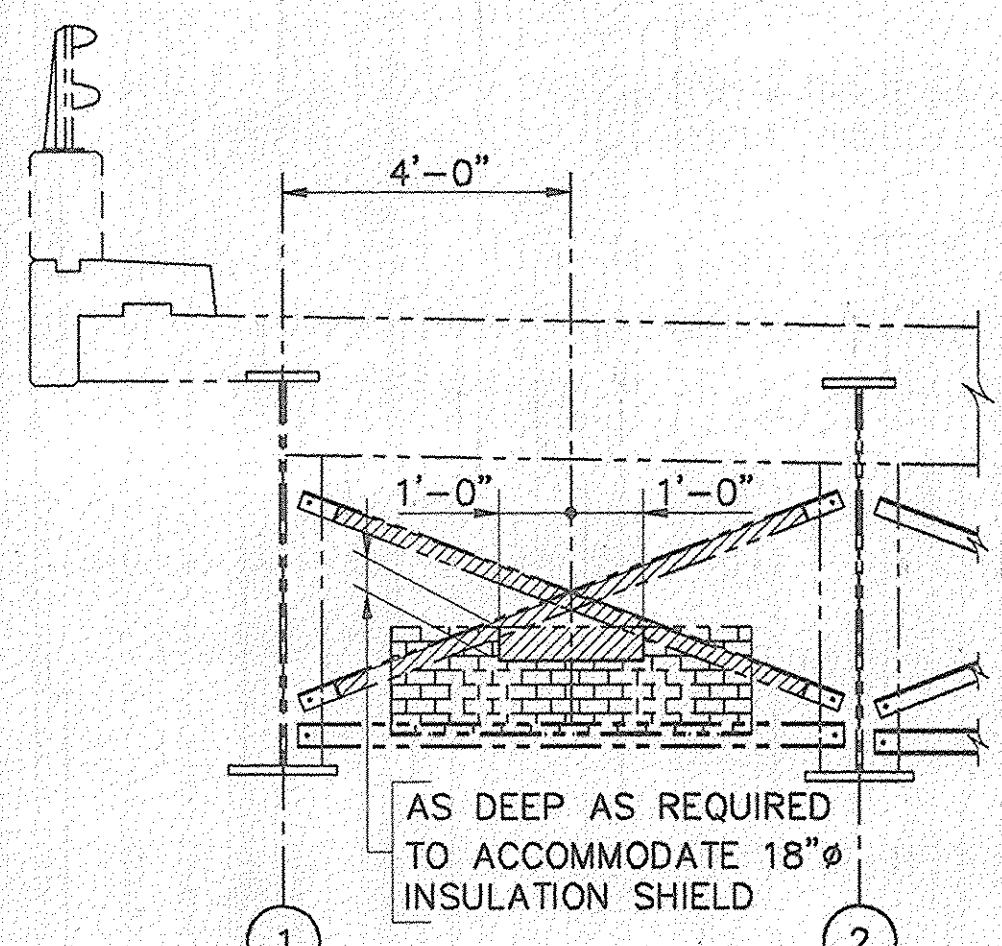
**EXISTING SECTION AT INTERMEDIATE CROSS FRAME**  
SCALE: 3/8"=1'-0"



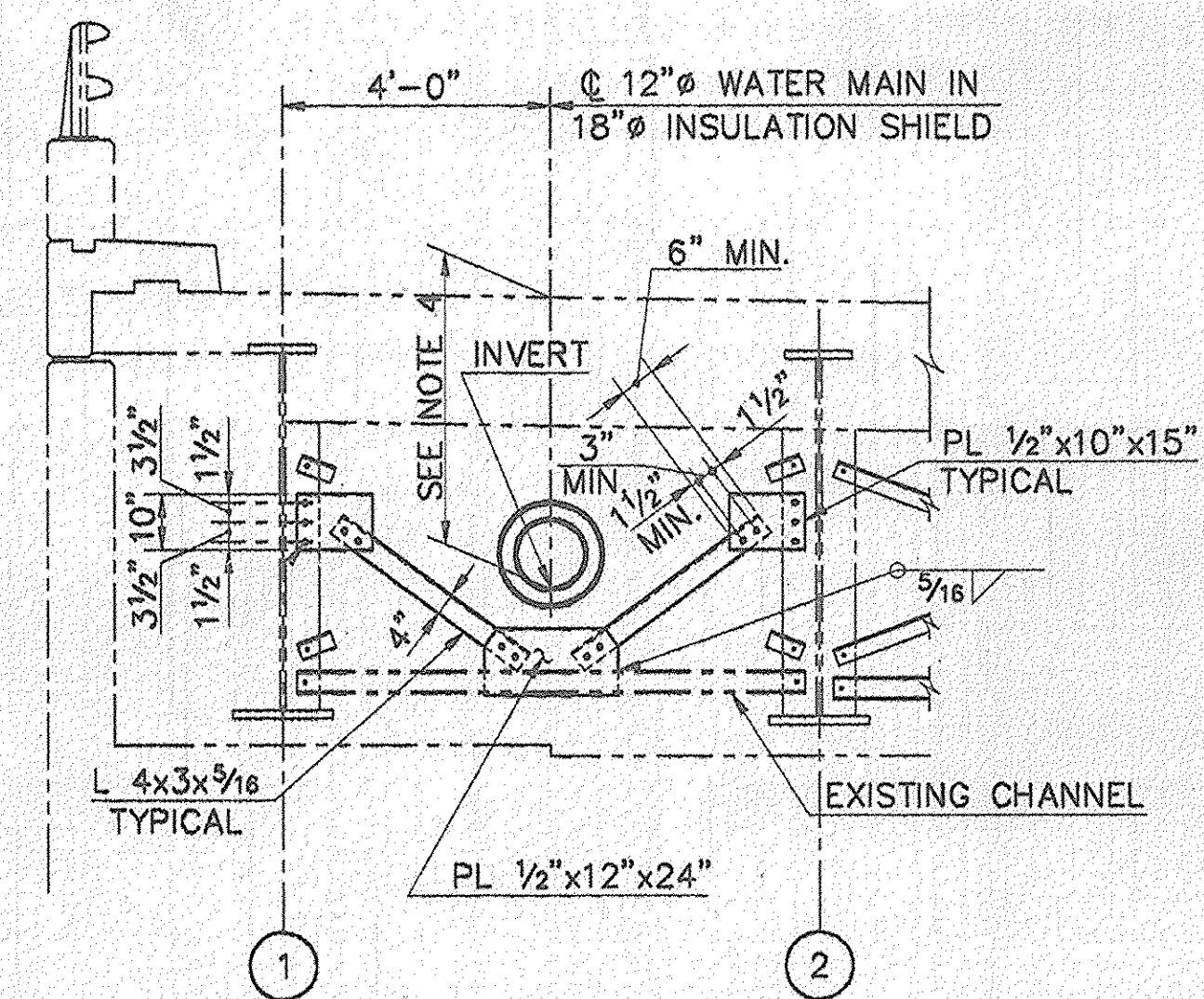
**EXISTING SECTION AT PIER**  
SCALE: 3/8"=1'-0"



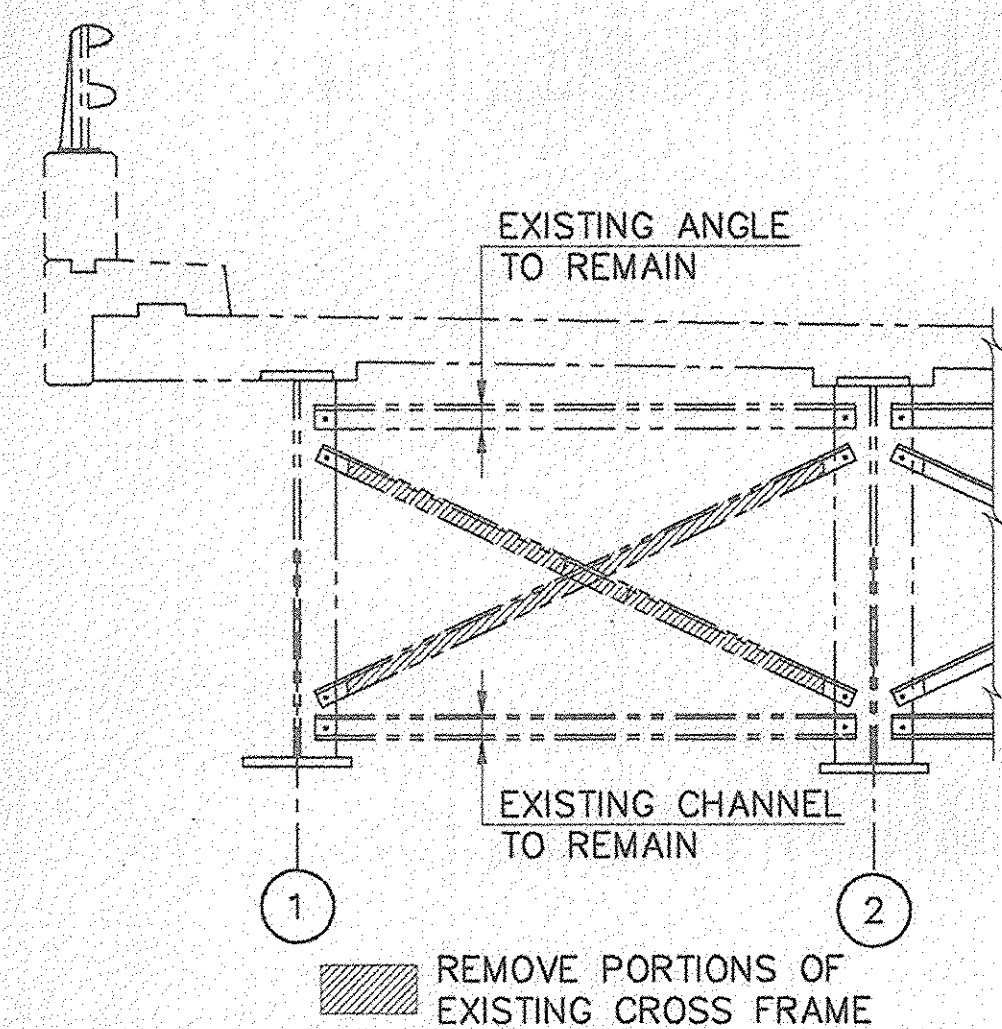
**PROPOSED SECTION AT PIER**  
SCALE: 3/8"=1'-0"



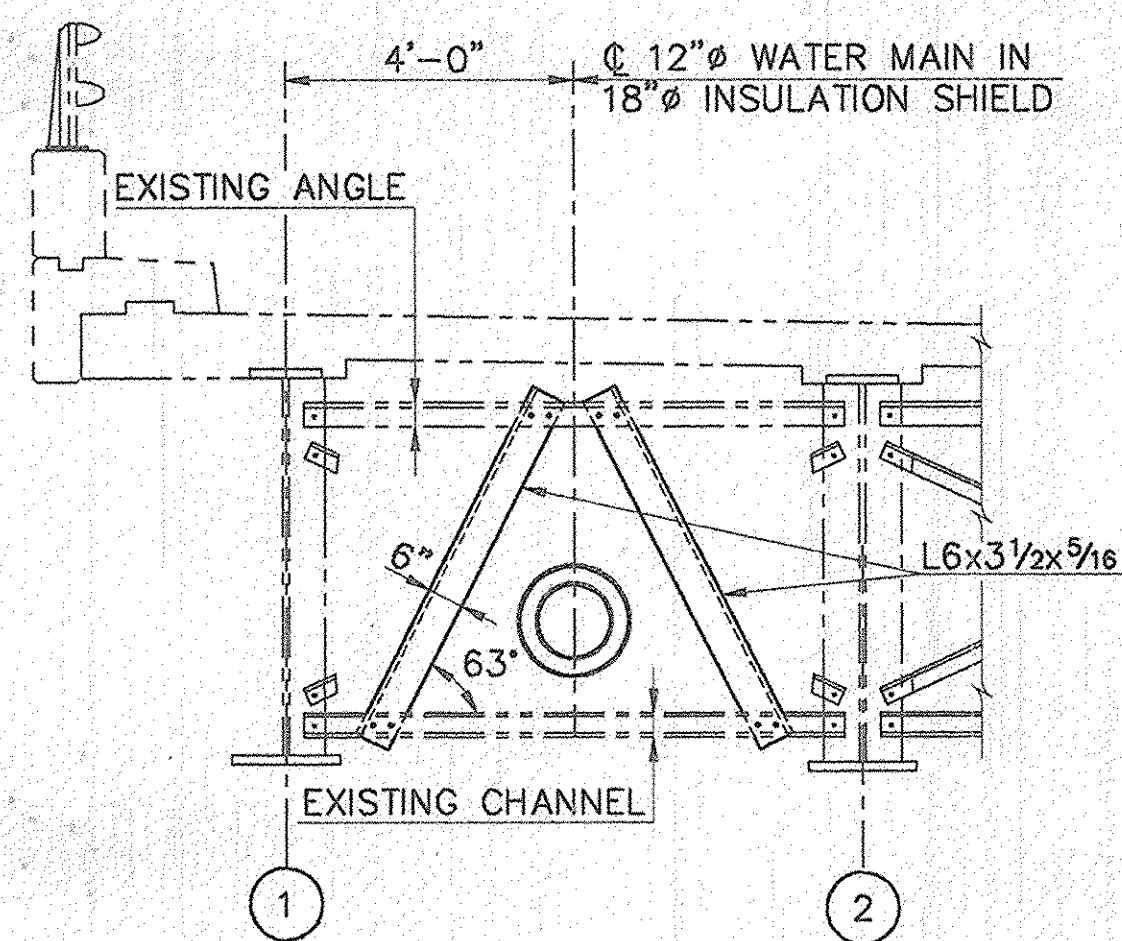
**EXISTING SECTION AT ABUTMENTS**  
SCALE: 3/8"=1'-0"



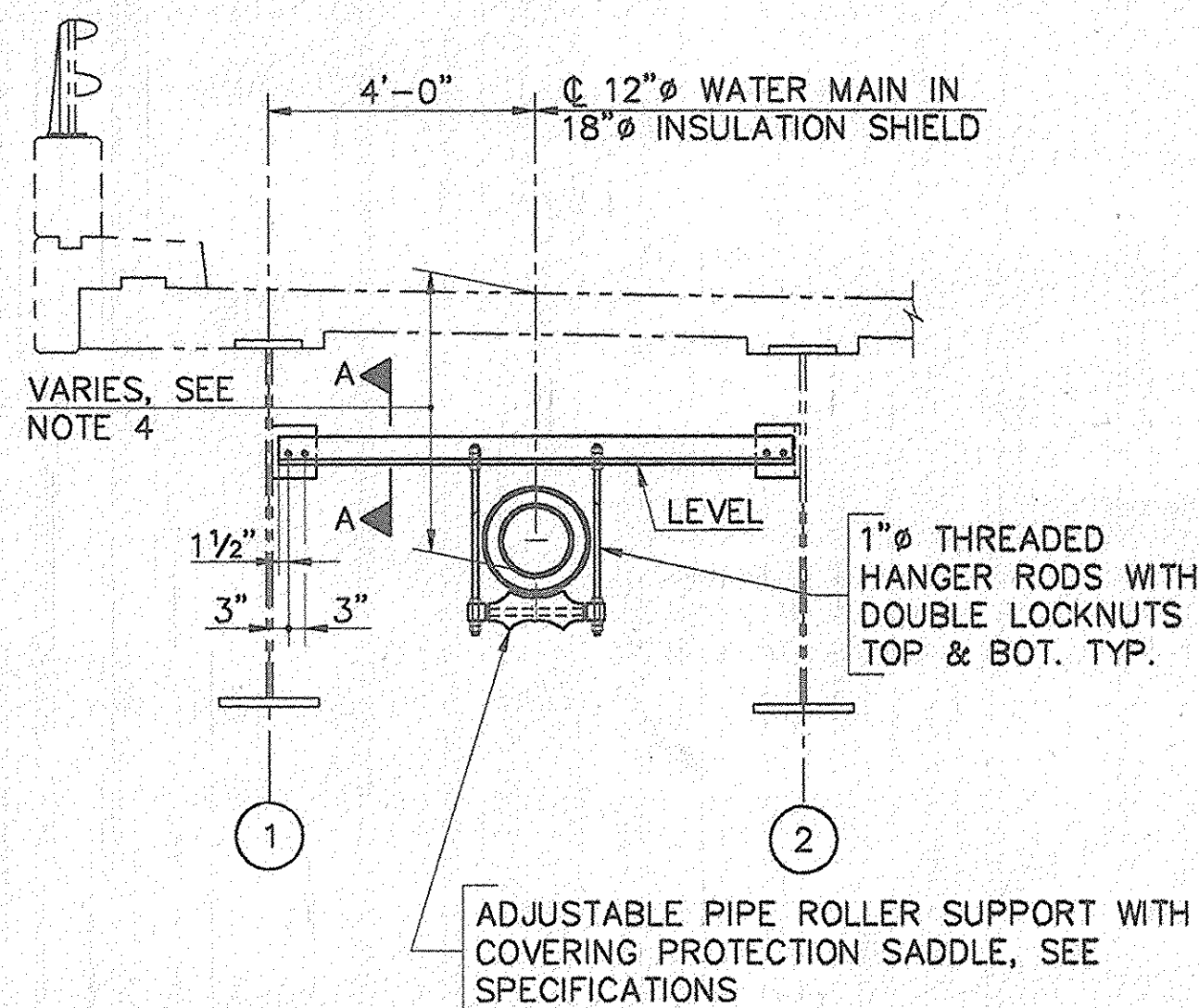
**PROPOSED SECTION AT ABUTMENTS**  
SCALE: 3/8"=1'-0"



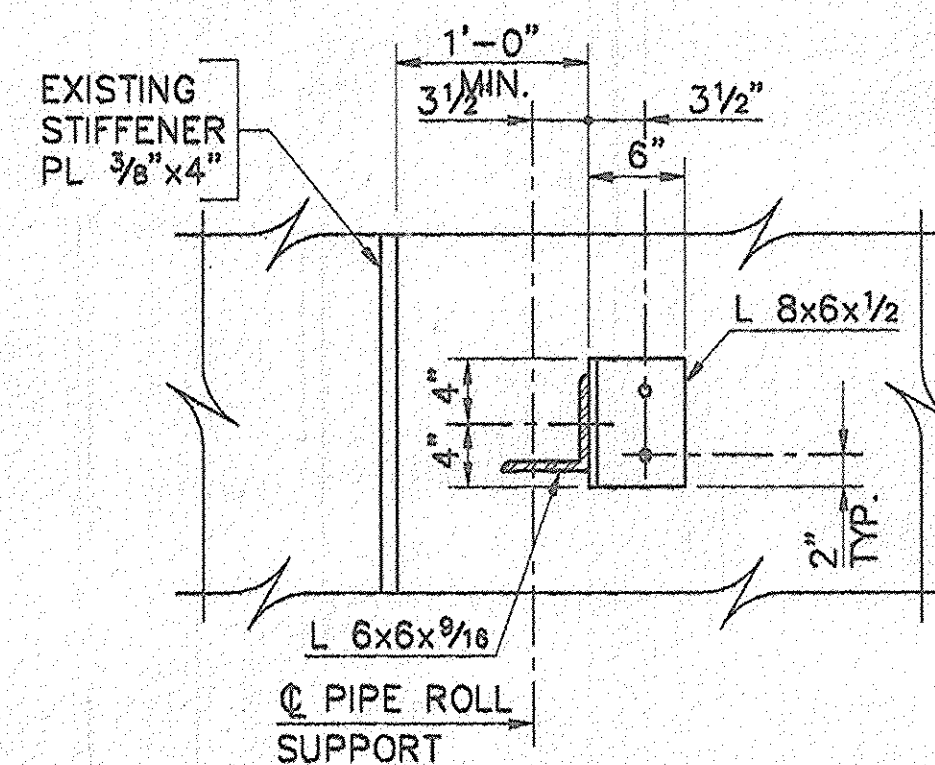
**EXISTING SECTION AT INTERMEDIATE CROSS FRAME**  
SCALE: 3/8"=1'-0"



**PROPOSED SECTION AT INTERMEDIATE CROSS FRAME**  
SCALE: 3/8"=1'-0"



**TYPICAL SECTION AT INTERMEDIATE PIPE SUPPORT**  
SCALE: 3/8"=1'-0"



**SECTION A-A**  
SCALE: 1"=1'-0"

- NOTES:**
1. ALL CONNECTION BOLTS SHALL BE A-325N HIGH STRENGTH.
  2. FIELD DRILLING IN EXISTING CROSS FRAME MEMBERS SHALL BE CARRIED OUT AS REQUIRED. AFFECTED AREA SHALL BE CLEANED WITH METAL WIRE BRUSH, ZINC COATED AND PAINTED TO MATCH EXISTING BRIDGE COLOR BEFORE INSTALLATION.
  3. ALL BOLT HOLES IN EXISTING STEEL SHALL BE DRILLED NOT BURNED.
  4. SEE TYPICAL SECTION THRU ABUTMENT, SHEET 30 OF 31.
  5. NUMBER OF BOLTS REQUIRED PER CONNECTION ARE SHOWN IN THE CROSS FRAME DETAILS.
  6. PLACE 3/8" LAYER OF SPONGE RUBBER MATERIAL BETWEEN 18" INSULATION SHIELD AND NEW BRICK.
  7. APPROXIMATE WEIGHT OF DUCTILE IRON WATER MAIN AND INSULATION SYSTEM INCLUDING 20 GAGE STEEL SHIELD= 130 PL

**AS BUILT**

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HOWARD COUNTY, MARYLAND

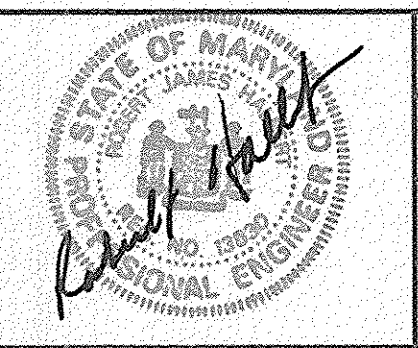
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DIRECTOR OF PUBLIC WORKS DATE

*Robert J. Seaman* 3/29/96  
CHIEF, BUREAU OF ENGINEERING DATE

*Robert J. Seaman* 4-1-96  
CHIEF, BUREAU OF UTILITIES DATE

*Robert J. Seaman* 3-29-96  
CHIEF, WATER AND SEWER DESIGN DIVISION DATE

**RK & K**  
RUMMEL, KLEPPER & KAHL  
CONSULTING ENGINEERS  
81 MOSHER ST.  
BALTIMORE, MARYLAND 21217



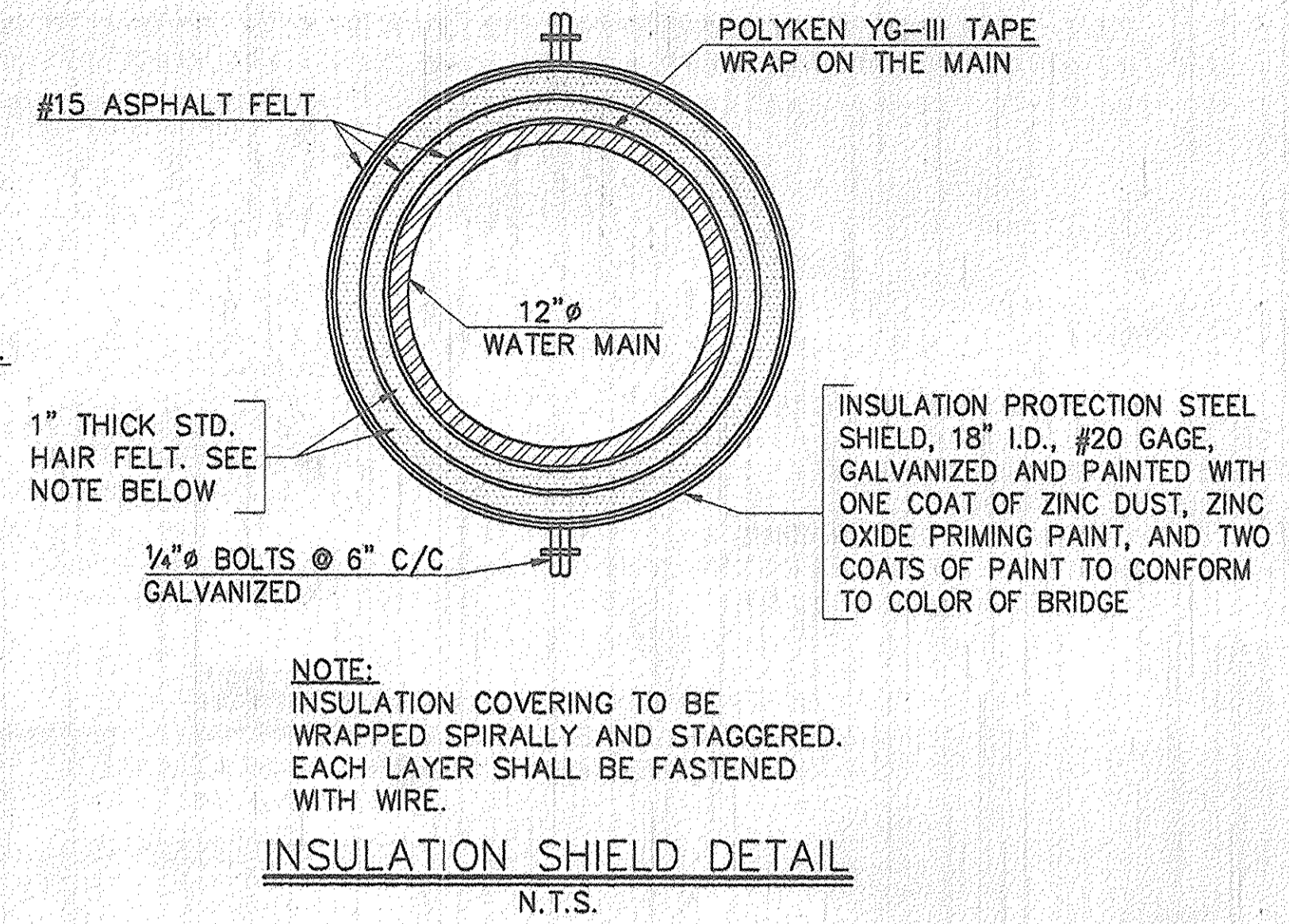
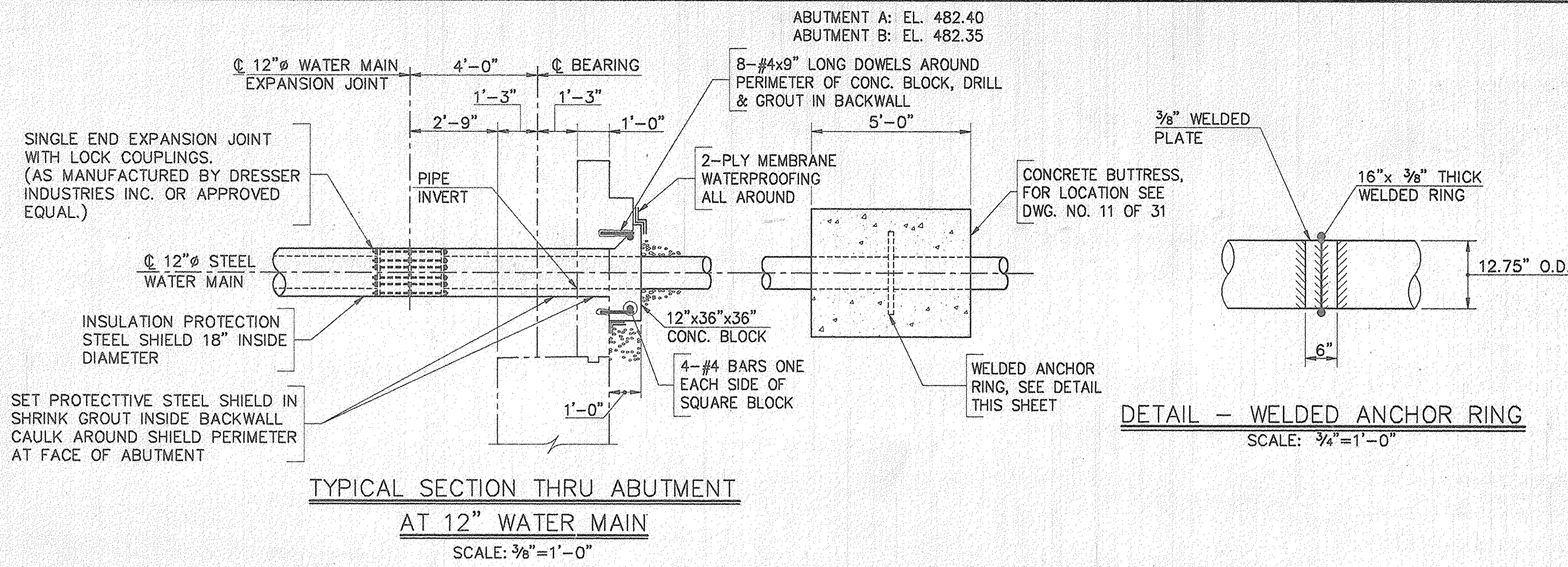
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DRN:	J.C.E.			
CHK:	C.M.E.			
DATE:	3/86	BY:	NO.	
		REVISION		
		DATE		

MARRIOTTVILLE ROAD OVER I-70  
SECTIONS AND DETAILS  
FOR INSTALLATION OF 12" WATER MAIN

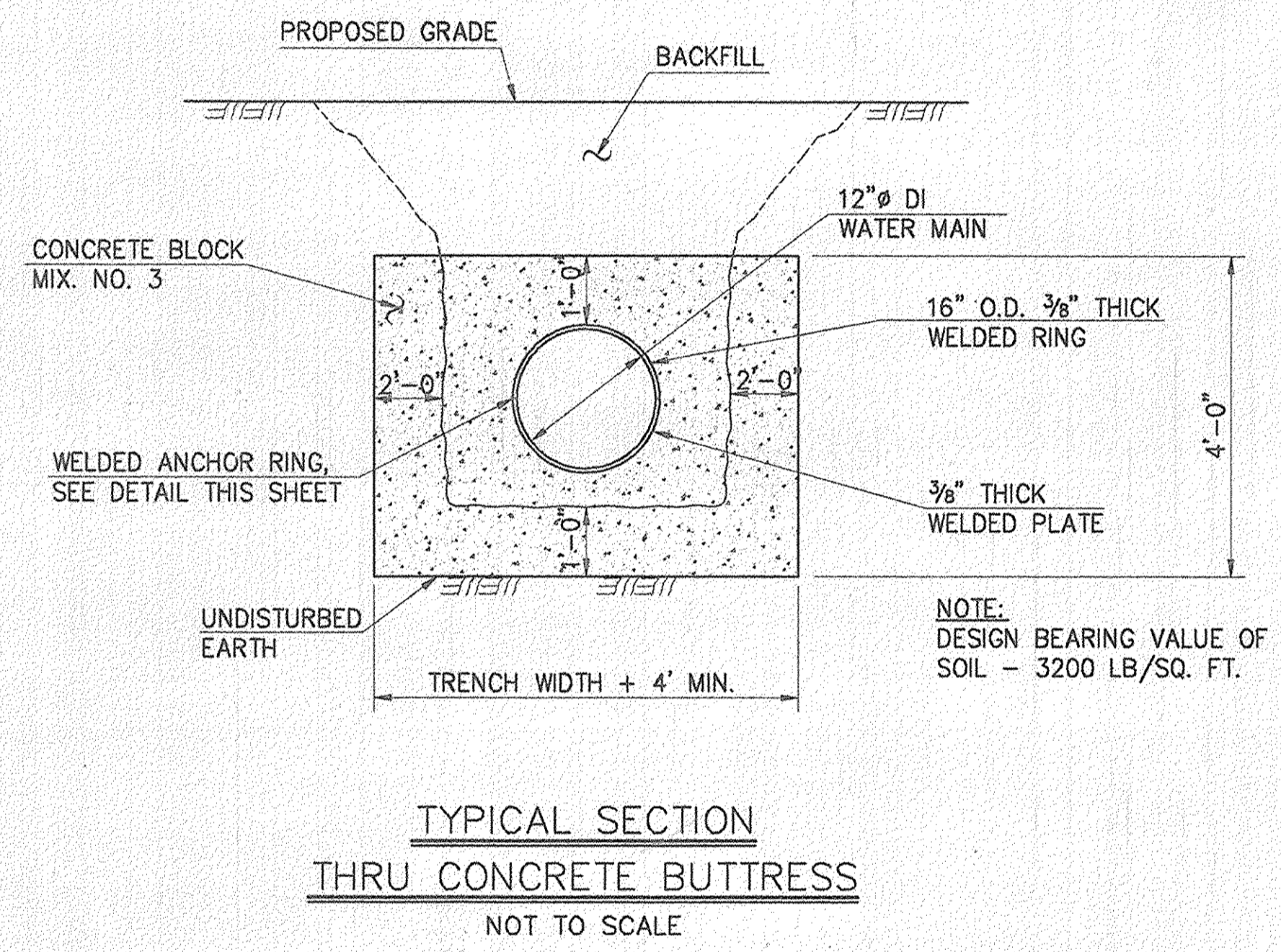
600' SCALE MAP NO. \_\_\_\_\_ BLOCK NO. \_\_\_\_\_

ALPHA RIDGE WATER SUPPLY  
CAPITOL PROJECT W-8203  
CONTRACT NO. 24-3480  
ELECTION DISTRICT NO. 3  
HOWARD COUNTY, MARYLAND

DWG. NO. \_\_\_\_\_  
SCALE AS SHOWN  
SHEET 29 OF 31



**DETAIL - WELDED ANCHOR RING**  
SCALE: 3/4"=1'-0"



**AS BUILT**

ALP-3-32  
02/12/1986 12:15  
PENSUP-NORM

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

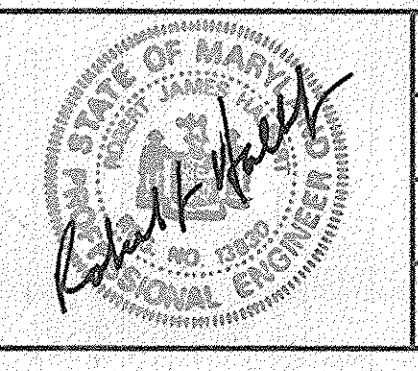
*James M. Lewis* 4-13-96  
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*John J. Szymon* 4-1-96  
CHIEF, BUREAU OF UTILITIES DATE

*Debra A. Szymon* 3-29-96  
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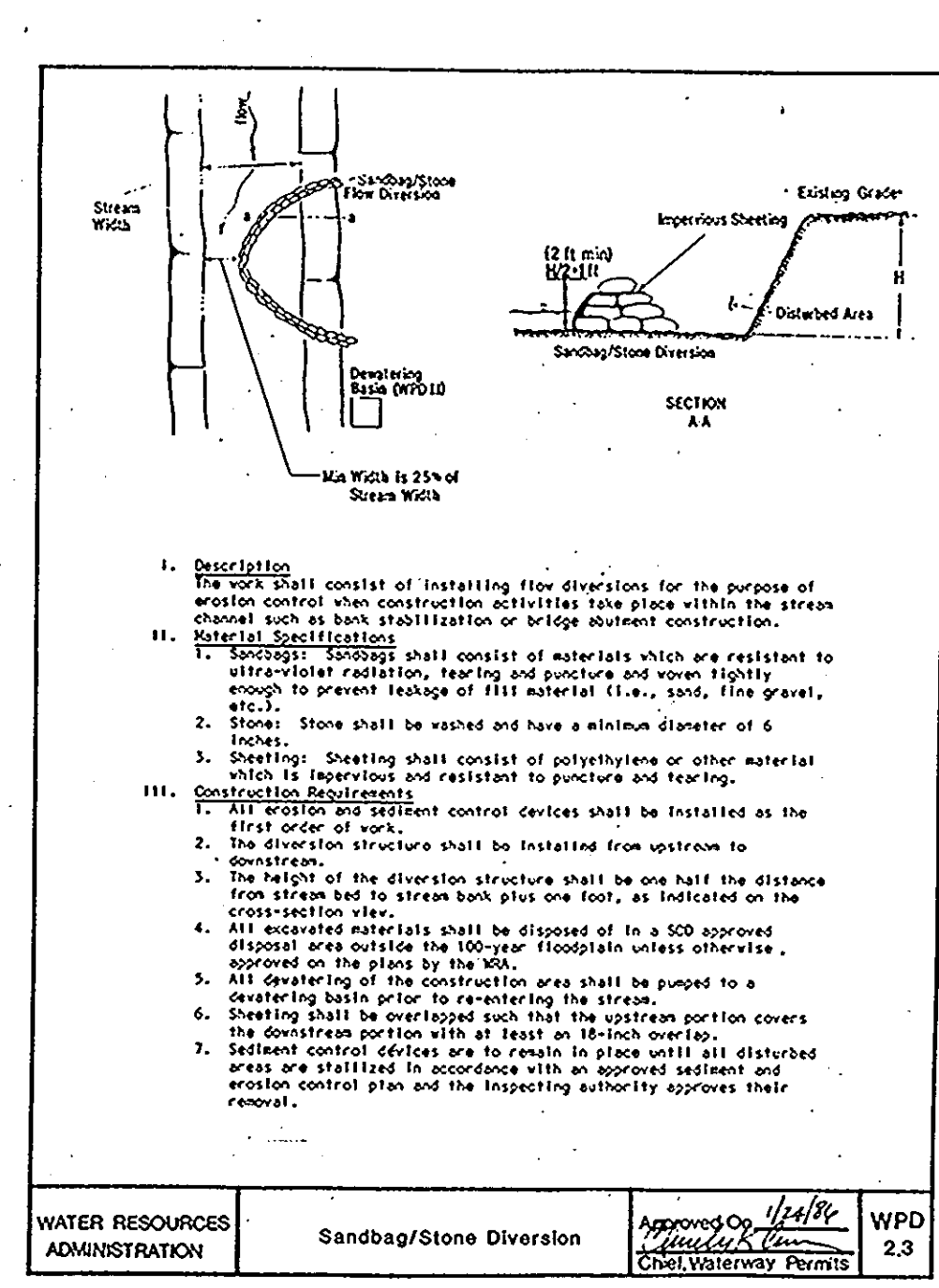
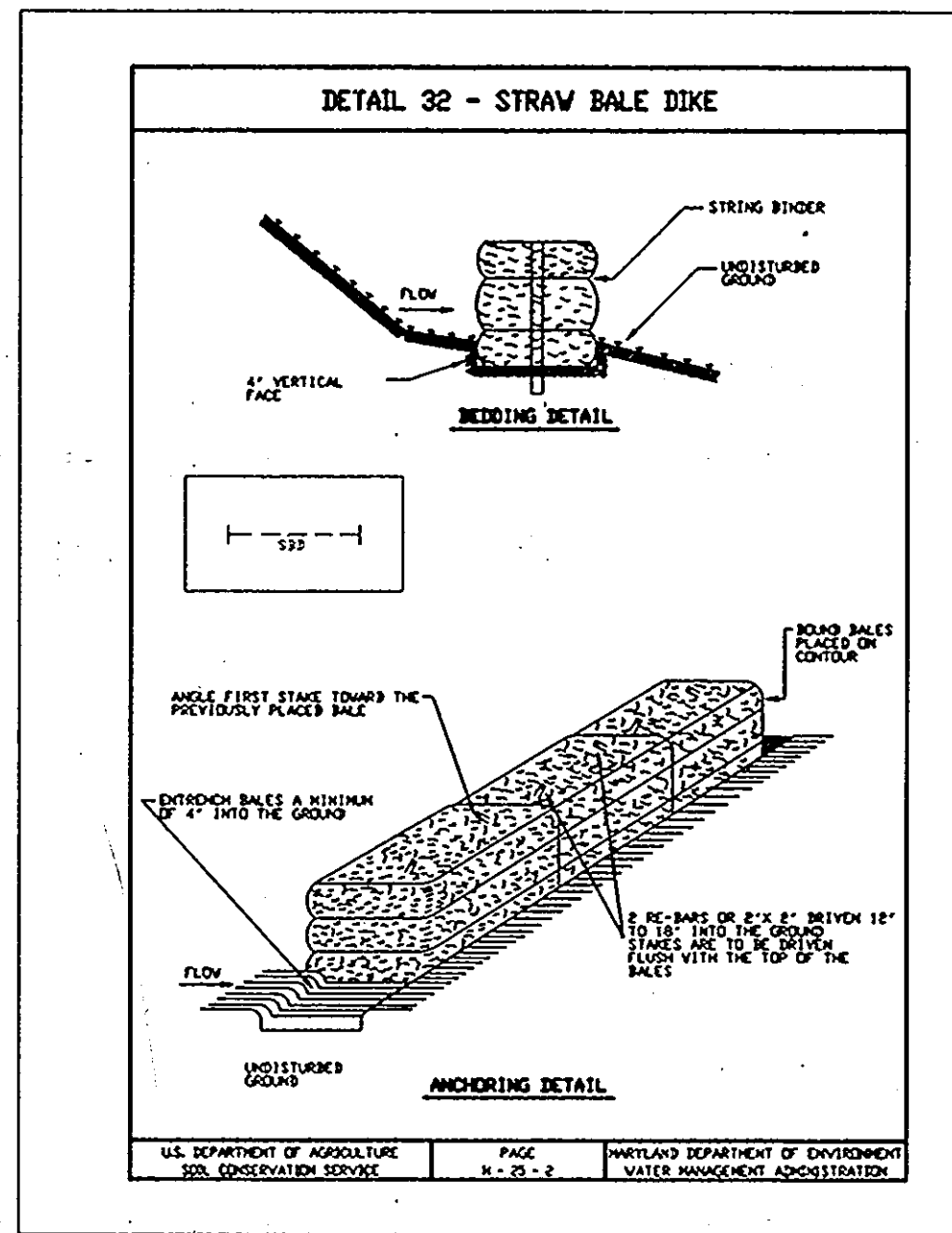
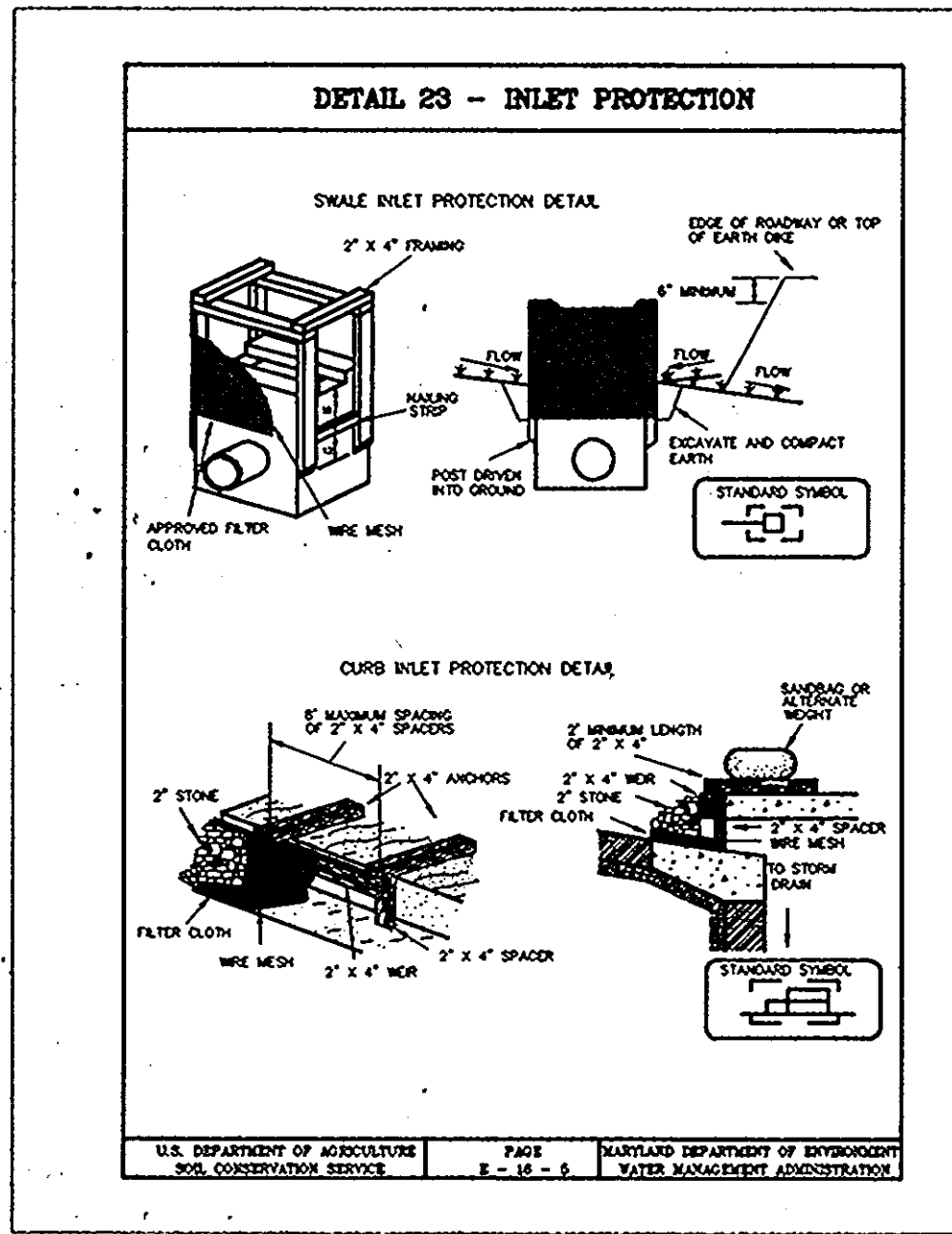
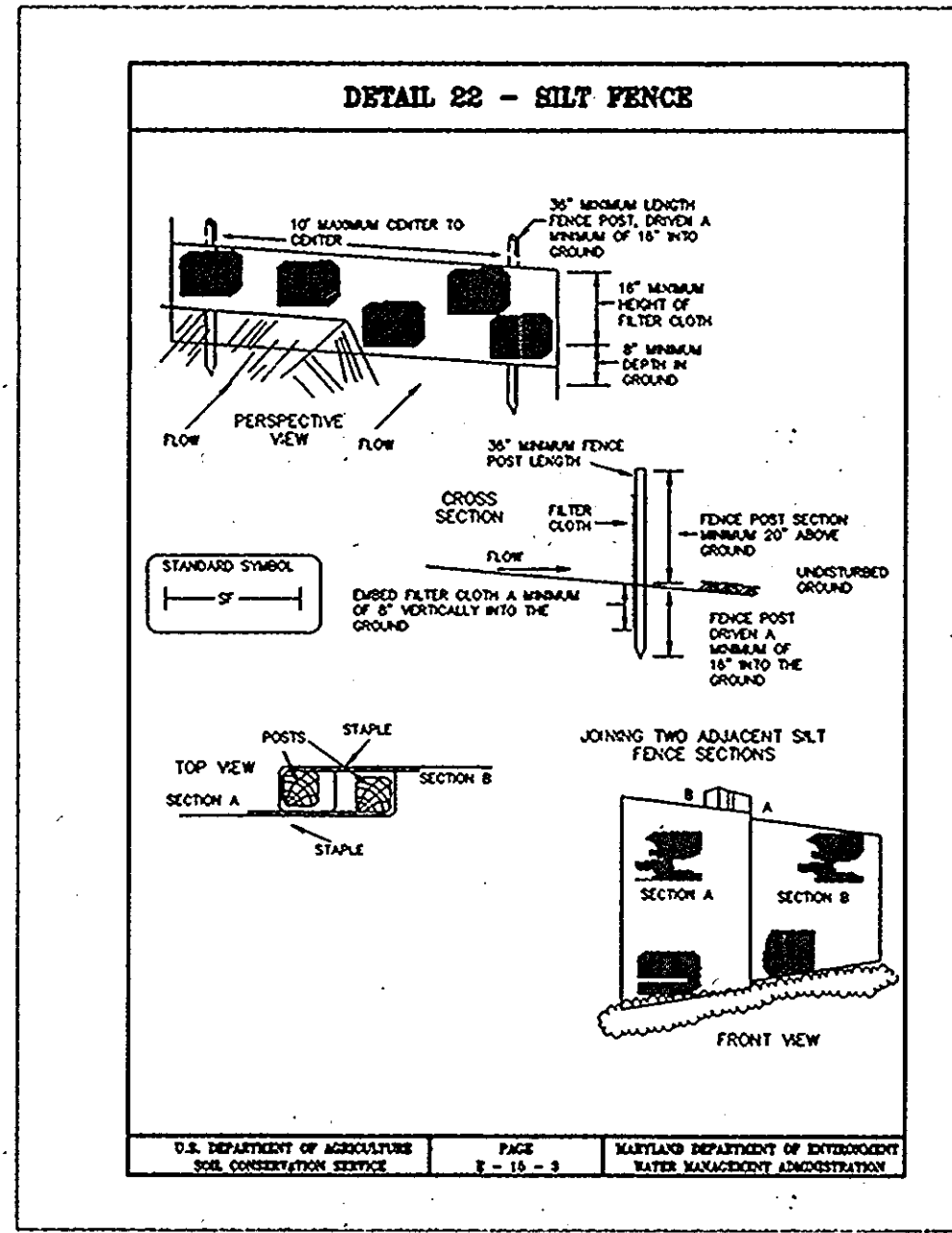


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CHK:	SAM				
DATE:	3/96	BY	NO.	REVISION	DATE

MARRIOTTVILLE ROAD OVER I-70  
SECTIONS AND DETAILS  
FOR INSTALLATION OF 12" WATER MAIN

ALPHA RIDGE WATER SUPPLY  
CAPITOL PROJECT W-8203  
CONTRACT NO. 24-3480  
ELECTION DISTRICT NO. 3  
HOWARD COUNTY, MARYLAND

DWG. NO. \_\_\_\_\_  
SCALE AS SHOWN  
SHEET 30 OF 31



**SEDIMENT CONTROL NOTES**

- A MINIMUM OF 24 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY OFFICE OF INSPECTION AND PERMITS PRIOR TO THE START OF ANY CONSTRUCTION. (880-3450)
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISION OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH SEC. 219 OF THE HOWARD COUNTY STANDARDS AND SPECIFICATIONS.
- FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: a) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURE, DIKES, PERIMETER SLOPE AND ALL SLOPES GREATER THAN 3:1, b) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE "1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" FOR PERMANENT SEEDINGS (SEC. 51) SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50) AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MUCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

**SITE ANALYSIS:**

TOTAL AREA OF SITE	ACRES	
AREA DISTURBED	2.0	ACRES
AREA TO BE ROOFED OR PAVED	0.0	ACRES
AREA TO BE VEGETATIVELY STABILIZED	2.0	ACRES
TOTAL CUT	16,300	CU. YDS.
TOTAL FILL	16,300	CU. YDS.
OFFSITE WASTE/BORROW AREA LOCATION		

- CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS.
- CONTRACTOR SHALL CONTACT HOWARD COUNTY DEPARTMENT OF INSPECTIONS AND PERMITS (313-1810) PRIOR TO STARTING WORK.
- CONTRACTOR SHALL NOTIFY THE RESIDENTS IN THE CONSTRUCTION AREA AT LEAST 10 DAYS PRIOR TO START OF CONSTRUCTION.
- INSTALL ALL SEDIMENT AND EROSION CONTROLS IN ACCORDANCE WITH THE SECTION 219 OF THE HOWARD COUNTY DESIGN MANUAL VOLUME IV.
- NO TRENCHES ARE TO BE LEFT OPEN OVER NIGHT. JACKING PITS MUST BE COVERED WITH STEEL PLATES AND BARRICADED. TRENCHES LEFT OPEN DURING PERIODS WHEN THE CONTRACTOR'S FORCES ARE NOT PRESENT SHALL BE SO PROTECTED OR ENCLOSED AND MARKED AS TO CAUSE NO DANGER TO THE PUBLIC OR OTHERS. SILT FENCE IS TO BE PLACED DOWNSTREAM OF THE AREA TO BE WORKED, ON A DAILY BASIS.
- WHEN WORKING AT STREAM CROSSINGS THE CONTRACTOR SHALL DIVERT STREAMS USING SANDBAG DIVERSION.
- DURING CONSTRUCTION, AND AFTER EACH RAINFALL, THE CONTRACTOR SHALL INSPECT AND PROVIDE THE NECESSARY MAINTENANCE ON SEDIMENT AND EROSION CONTROL STRUCTURES.
- UPON PERMISSION FROM THE HOWARD COUNTY SEDIMENT AND EROSION CONTROL INSPECTOR, REMOVE SEDIMENT CONTROL DEVICES.

**SEQUENCE OF CONSTRUCTION**

NOTE: DOES NOT PRECLUDE CONCURRENT CONSTRUCTION OF ITEMS. PRIOR APPROVAL OF ENGINEER IS REQUIRED.

- CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS.
- CONTRACTOR SHALL CONTACT HOWARD COUNTY DEPARTMENT OF INSPECTIONS AND PERMITS (313-1810) PRIOR TO STARTING WORK.
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- UPON PERMISSION FROM THE HOWARD COUNTY SEDIMENT AND EROSION CONTROL INSPECTOR, REMOVE SEDIMENT CONTROL DEVICES.

**SILT FENCE**

Construction Specifications

- A detail of the silt fence shall be shown on the plan, and contain the following minimum requirements:
  - The type, size, and spacing of fabric posts.
  - The type of filter cloth used.
  - The method of fastening the filter cloth to the fabric posts.
  - Appropriate sediment must be removed when it reaches 50% of the height of the fabric.
- Where ends of filter cloth come together, they shall be overlapped, folded and secured to prevent sediment bypass.
- Design computations are not required.
- All silt fences shall be placed as close to the contour as possible.
- The area below the fence must be undisturbed or stabilized.
- Silt fence fabric: The fabric shall meet the filter fabric specifications listed in Table 27.
- Fabric Posts (for fabrications only): The length shall be a minimum of 36 inches long. Wood posts, 2" x 2", with a minimum cross-sectional area of 3.0 square inches and all fabric posts shall be hardwood. Steel posts will be standard I or U section weighing not less than 100 pound per linear foot.

Silt Fence Design Criteria

Slope Steepness	(Minimum) Slope Length	(Maximum) Silt Fence Length
Flatter than 5:1	undefined	undefined
5:1 to 10:1	125 feet	1000 feet
10:1 to 5:1	100 feet	750 feet
5:1 to 3:1	60 feet	500 feet
3:1 to 2:1	40 feet	250 feet
2:1 and steeper	20 feet	125 feet

Note: In areas of less than 2% slope and sandy soils (0.075 general classification system and Class A) maximum slope length and all fence length will be unlimited. In these areas a silt fence may be the only perimeter control measure.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 8 - 15 - 34 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

**STRAW BALE DIKE**

Construction Specifications

- Materials
  - Wooden frame to be constructed of 2" x 4" construction grade lumber.
  - Wire mesh size must be of sufficient strength to support filter fabric and straw for each hole with water fully impounded against it.
  - Filter cloth must be of a type approved for this purpose, resistant to ultraviolet light with an equivalent quantity size 40 - 60 mesh, to allow sufficient passage of water and prevent of sediment.
  - Washed stone 3/4" to 1 1/2" in size to be used.
- Procedure
  - Seeds, fertilizer or weed treat protection.
    - Excavate completely around the hole to a depth of 18 inches below the notch opening.
    - Place the 2" x 4" posts 1' into the ground at each corner of the hole. Place soil ridge between the posts on the ends of the hole. Assemble top portion of the 2" x 4" frame using the existing frame portion of the hole. The top of the frame (web) must be 8" below the edge of the roadway, adjacent to the hole.
    - Stretch the 1/2" x 1/2" wire mesh tightly around the frame and secure securely. The ends must meet and overlap at a point.
    - Stretch the filter cloth tightly over the wire mesh, the cloth must extend from the top of the curb to 12" below the notch opening. Fasten the cloth firmly to the frame. The ends of the filter cloth must meet at a point, be overlapped and folded, then fastened down.
    - Secure around the hole in compacted 8" layers until the top of each 8" layer with the notch opening ends and top elevation on the slope.
  - Securely add the 2" x 4" web to a 6" long vertical support to be located between the web and the hole face (max. 8" apart).
  - Place the assembly against the hole throat and not (minimum 2" lengths of 2" x 4" to the top of the web at lower horizontal).
  - From the 1/2" x 1/2" wire mesh and the filter cloth to the concrete gutter and against the face of the curb on both sides of the hole. Place stone 2" stones over the wire mesh and filter cloth in both a manner to prevent water from entering the hole under or around the filter cloth.
  - That type of protection must be inspected frequently and the filter cloth and stone replaced when clogged with sediment.
  - Assure that storm flow does not bypass the hole by holding a temporary earth or support due to direct flow to the hole.

**STRAW BALE DIKE**

Construction Specifications

- Bales shall be placed on the toe of a slope, on the contour, and in a row with the ends of each bale tightly abutting the adjacent bales.
- Each bale shall be entrenched in the soil a minimum of 4" and stored on the bedding or horizontal.
- Bales shall be securely anchored in place by either two stakes or rebar driven through the bale 12" to 18" into the ground. The first stake or rebar shall be driven toward the primary flow side at an angle to force the bales together. Stakes shall be driven flush with the top of the bale.
- Stow bale dikes shall be inspected frequently and after each rain event and maintenance performed as necessary.
- All bales shall be removed when the site has been stabilized. The trench where the bales were located shall be graded flush and stockpiled.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 8 - 15 - 34 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

**PERMANENT SEEDING NOTES**

APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-LIVED VEGETATIVE COVER IS NEEDED.

SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISKING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING SCHEDULES:

PREFERRED - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS./1000 SQ. FT.) AND 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS./1000 SQ. FT.) BEFORE SEEDING. HARROW OR DISK INTO UPPER THREE INCHES OF SOIL. AT THE TIME OF SEEDING, APPLY 400 LBS. PER ACRE 30-0-0 UREAFORM FERTILIZER (9 LBS./1000 SQ. FT.).

ACCEPTABLE - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS./1000 SQ. FT.) AND 1000 LBS. PER ACRE 10-10-10 FERTILIZER (23 LBS./1000 SQ. FT.) BEFORE SEEDING. HARROW OR DISK INTO UPPER THREE INCHES OF SOIL.

SEEDING - FOR THE PERIODS MARCH 1 THRU APRIL 30, AND AUGUST 1 THRU OCTOBER 15, SEED WITH 60 LBS. PER ACRE (1.4 LBS./1000 SQ. FT.) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THROUGH JULY 31, SEED WITH 60 LBS. KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THRU JULY 31, SEED WITH 60 LBS. KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS. PER ACRE (0.05 LBS./1000 SQ. FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THRU FEBRUARY 28, PROTECT SITE BY: OPTION (1) 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION (2) USE SOD. OPTION (3) SEED WITH 60 LBS./ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS/ACRE WELL ANCHORED STRAW.

MULCHING - APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS./1000 SQ. FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL./1000 SQ. FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL./1000 SQ. FT.) FOR ANCHORING.

MAINTENANCE - INSPECT ALL SEEDED AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

**TEMPORARY SEEDING NOTES**

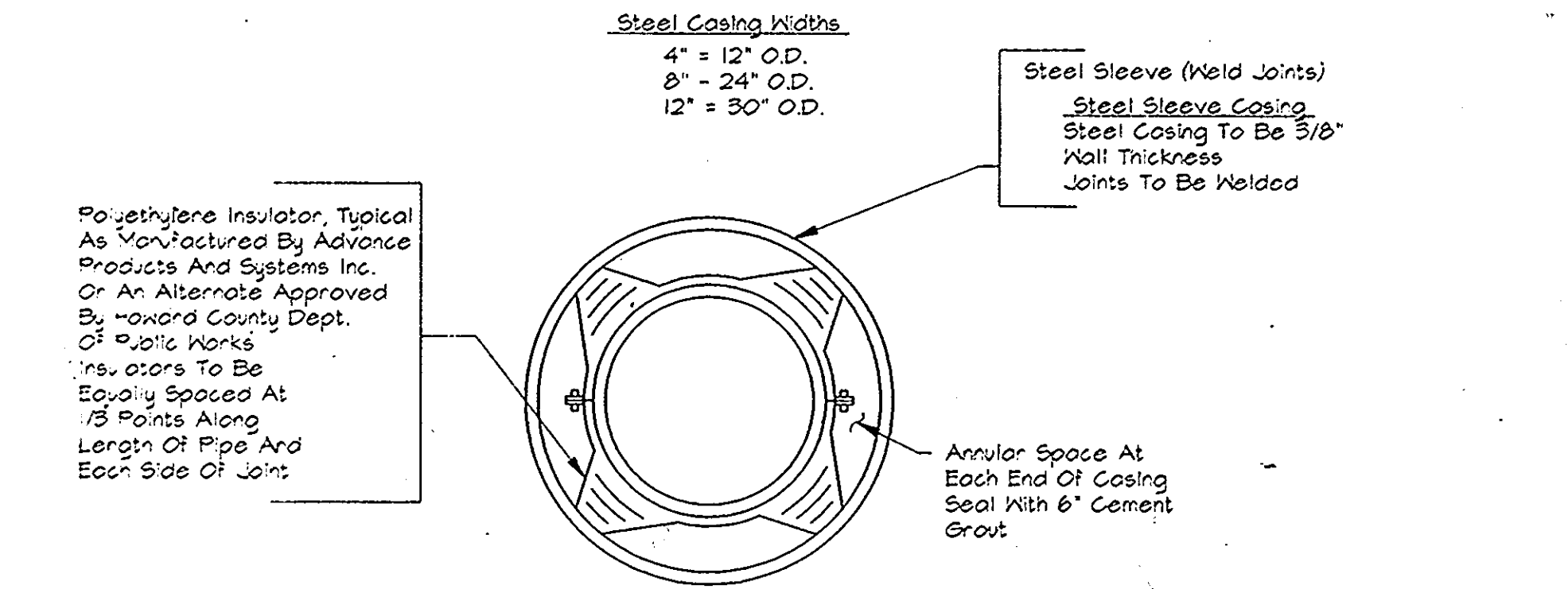
APPLY TO GRADED AREAS LIKELY TO BE REDISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED.

SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISKING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS: APPLY 60 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS./1000 SQ. FT.) SEEDING: FOR PERIODS MARCH 1 THRU APRIL 30 AND FROM AUGUST 15 THRU OCTOBER 15, SEED WITH 2-1/2 BUSHEL PER ACRE ANNUAL RYE (3.2 LBS./1000 SQ. FT.) FOR THE PERIOD MAY 1 THRU AUGUST 14, SEED WITH 3 LBS. PER ACRE OF WEEPING LOVEGRASS (.07 LBS./1000 SQ. FT.) FOR THE PERIOD NOVEMBER 16 THRU FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOD.

MULCHING: APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS./1000 SQ. FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING, ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GAL. PER ACRE (5 GAL./1000 SQ. FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPE 58 FT. OR HIGHER, USE 348 GAL. PER ACRE (8 GAL./1000 SQ. FT.) FOR ANCHORING.

REFER TO THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.



DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

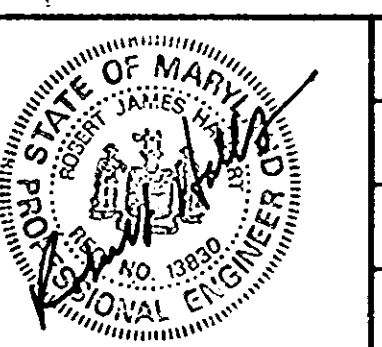
*James M. ...* 4/3/96  
DIRECTOR OF PUBLIC WORKS DATE

*Paul ...* 3/29/96  
CHIEF, BUREAU OF ENGINEERING DATE

*John ...* 4-1-96  
CHIEF, BUREAU OF UTILITIES DATE

*John ...* 3-29-96  
CHIEF, WATER AND SEWER DESIGN DIVISION DATE

**RK & K**  
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81 MOSHER ST.  
BALTIMORE, MARYLAND 21217



DES: S.R.K.			
DRN: A.G.A.			
CHK: S.R.K.			
DATE: 3/96			
BY: NO.		REVISION	DATE

SEDIMENT AND EROSION CONTROL  
NOTES AND DETAILS

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

ALPHA RIDGE WATER SUPPLY  
CAPITAL PROJECT W-8203  
CONTRACT NO. 44-3480  
ELECTION DISTRICT NO. 3  
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN  
SHEET 31 OF 31

**AS BUILT**

DWG. NO.