

Note: 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.

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

DEPARTMENT OF PUBLIC WORKS CONTRACT NO. 44-3479

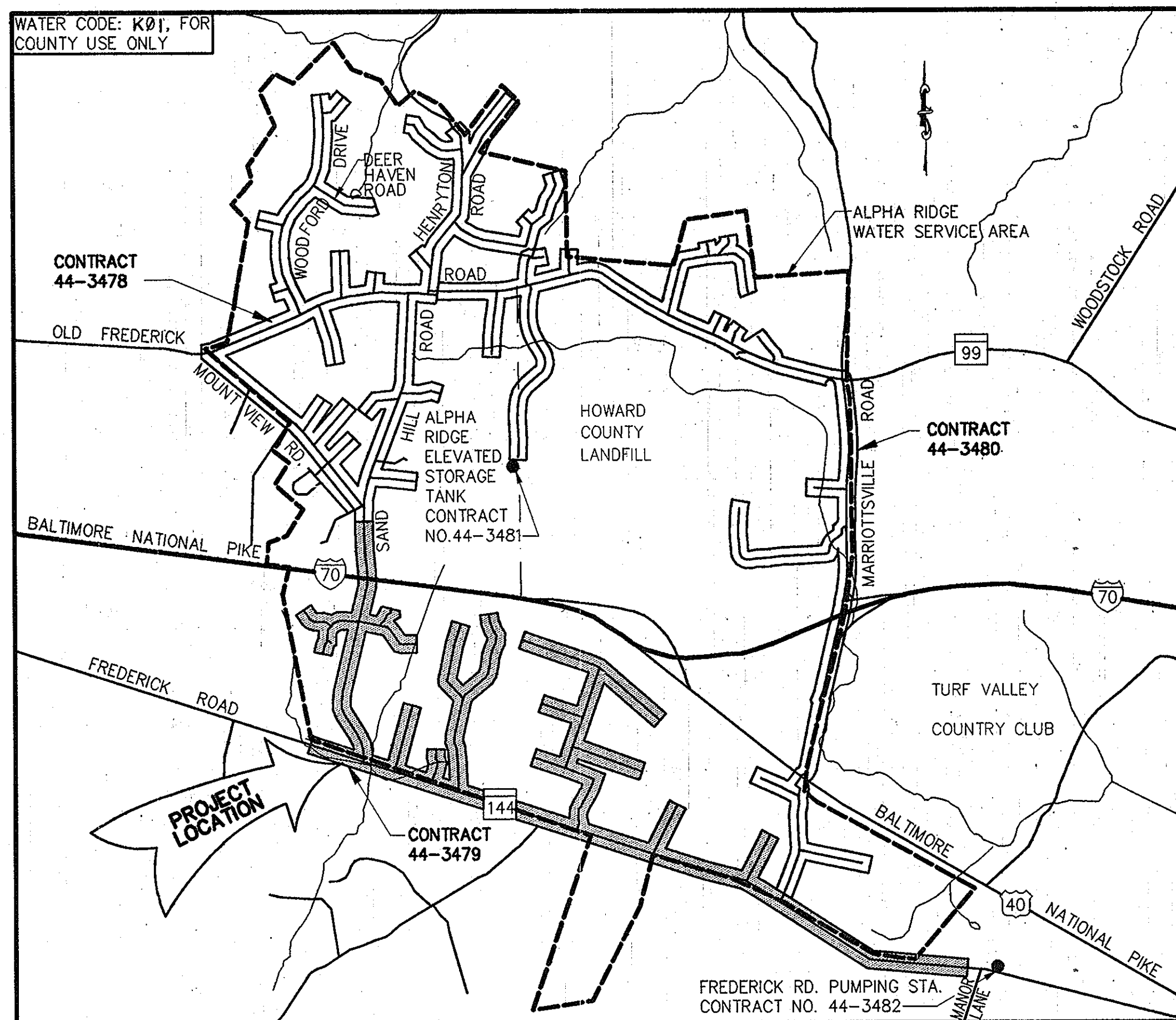
LIST OF MATERIALS

QUANTITIES				
ITEM	UNIT	ESTIMATE	AS-BUILT	MATERIAL SUPPLIER
4" Water Main	L.F.	10,800	10,900 L.F.	Griffin
6" Water Main	L.F.	680	680	"
8" Water Main	L.F.	8,125	8,282	"
12" Water Main	L.F.	17,190	17,483	"
Blow Off	Each	9	9 Ea.	
1" Air Release Valve & Manhole	Each	9	9 Ea.	
4" Valve	Each	9	19 Ea.	
6" Valve	Each	98	59 Ea.	
8" Valve	Each	11	11	
12" Valve	Each	28	29	
Fire Hydrant	Each	57	59	Mullers
12" Steel Casing	L.F.	90	167	
24" Steel Casing	L.F.	191	163	
30" Steel Casing	L.F.	238	283	
3/4" W.H.C.	L.F.	3,060	3,100	
1" W.H.C.	L.F.	2,165	2,185	
1 1/2" W.H.C.	L.F.	5,210	5,240	

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

Type Of Building: Residential, Institutional
Number Of Water House Connections: 118

LEGEND

Utility Pole (BGE Or CAP)	AS BUILT
Sign Post	
Mailbox	
Light Pole	
Paved Roads	
Buried Telephone Cable(s)	
Buried Electric Cable(s)	
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 - 1-800-251-TTTT
Bell Atlantic Telephone Co. - 547-2525
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 Trees Shall Be Strapped To Tree.
- 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: 4/18/96
NATURAL RESOURCE CONSERVATION SERVICE

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

Approved: *John R. Hunter* Date: 4/18/96
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.

Robert J. Kahl Date: 3-21-96
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.

BUREAU OF ENGINEERING
DEPARTMENT OF PUBLIC WORKS
DATE

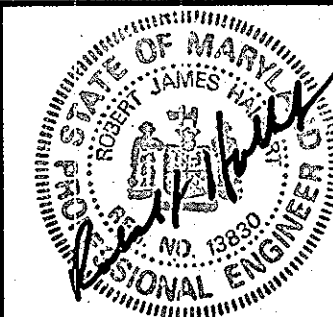
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

John R. Hunter 5/17/96
DIRECTOR OF PUBLIC WORKS
Robert J. Kahl 5-17-96
CHIEF, BUREAU OF UTILITIES

Robert J. Kahl 5/17/96
CHIEF, WATER AND SEWER DESIGN DIVISION

RK & K

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



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

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

600' SCALE MAP NO. 91015 & 16 BLOCK NO.

ALPHA RIDGE WATER SUPPLY
CAPITAL PROJECT W-8203
CONTRACT NO. 44-3479
ELECTION DISTRICT NO. 3
HOWARD COUNTY, MARYLAND

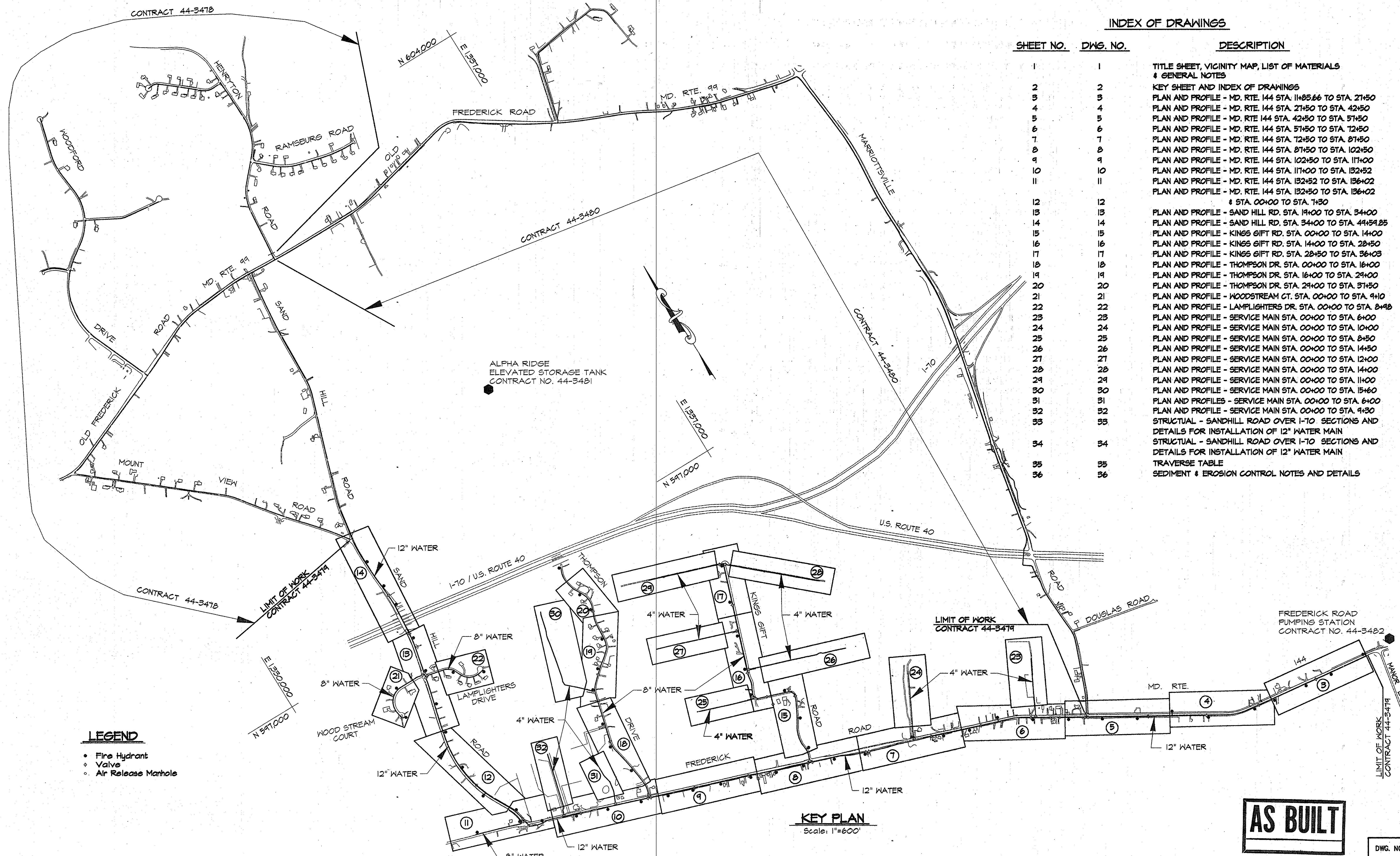
DWG. NO.

SCALE
AS
SHOWN

SHEET
1 OF 36

INDEX OF DRAWINGS

SHEET NO.	DWG. NO.	DESCRIPTION
1	1	TITLE SHEET, VICINITY MAP, LIST OF MATERIALS & GENERAL NOTES
2	2	KEY SHEET AND INDEX OF DRAWINGS
3	3	PLAN AND PROFILE - MD. RTE. 144 STA. 1185.66 TO STA. 21+50
4	4	PLAN AND PROFILE - MD. RTE. 144 STA. 21+50 TO STA. 42+50
5	5	PLAN AND PROFILE - MD. RTE. 144 STA. 42+50 TO STA. 51+50
6	6	PLAN AND PROFILE - MD. RTE. 144 STA. 51+50 TO STA. 72+50
7	7	PLAN AND PROFILE - MD. RTE. 144 STA. 72+50 TO STA. 81+50
8	8	PLAN AND PROFILE - MD. RTE. 144 STA. 81+50 TO STA. 102+50
9	9	PLAN AND PROFILE - MD. RTE. 144 STA. 102+50 TO STA. 117+00
10	10	PLAN AND PROFILE - MD. RTE. 144 STA. 117+00 TO STA. 132+52
11	11	PLAN AND PROFILE - MD. RTE. 144 STA. 132+52 TO STA. 136+02 & STA. 00+00 TO STA. 7+30
12	12	PLAN AND PROFILE - SAND HILL RD. STA. 19+00 TO STA. 34+00
13	13	PLAN AND PROFILE - SAND HILL RD. STA. 34+00 TO STA. 44+59.25
14	14	PLAN AND PROFILE - KINGS GIFT RD. STA. 00+00 TO STA. 14+00
15	15	PLAN AND PROFILE - KINGS GIFT RD. STA. 14+00 TO STA. 28+50
16	16	PLAN AND PROFILE - KINGS GIFT RD. STA. 28+50 TO STA. 36+03
17	17	PLAN AND PROFILE - THOMPSON DR. STA. 00+00 TO STA. 16+00
18	18	PLAN AND PROFILE - THOMPSON DR. STA. 16+00 TO STA. 24+00
19	19	PLAN AND PROFILE - THOMPSON DR. STA. 24+00 TO STA. 31+50
20	20	PLAN AND PROFILE - WOODSTREAM CT. STA. 00+00 TO STA. 9+10
21	21	PLAN AND PROFILE - LAMPLIGHTERS DR. STA. 00+00 TO STA. 8+48
22	22	PLAN AND PROFILE - SERVICE MAIN STA. 00+00 TO STA. 6+00
23	23	PLAN AND PROFILE - SERVICE MAIN STA. 00+00 TO STA. 10+00
24	24	PLAN AND PROFILE - SERVICE MAIN STA. 00+00 TO STA. 8+50
25	25	PLAN AND PROFILE - SERVICE MAIN STA. 00+00 TO STA. 14+50
26	26	PLAN AND PROFILE - SERVICE MAIN STA. 00+00 TO STA. 12+00
27	27	PLAN AND PROFILE - SERVICE MAIN STA. 00+00 TO STA. 14+00
28	28	PLAN AND PROFILE - SERVICE MAIN STA. 00+00 TO STA. 11+00
29	29	PLAN AND PROFILE - SERVICE MAIN STA. 00+00 TO STA. 15+60
30	30	PLAN AND PROFILE - SERVICE MAIN STA. 00+00 TO STA. 6+00
31	31	PLAN AND PROFILE - SERVICE MAIN STA. 00+00 TO STA. 9+30
32	32	STRUCTURAL - SANDHILL ROAD OVER I-70 SECTIONS AND DETAILS FOR INSTALLATION OF 12" WATER MAIN
33	33	STRUCTURAL - SANDHILL ROAD OVER I-70 SECTIONS AND DETAILS FOR INSTALLATION OF 12" WATER MAIN
34	34	TRAVERSE TABLE
35	35	SEDIMENT & EROSION CONTROL NOTES AND DETAILS
36	36	



LEGEND

- Fire Hydrant
- Valve
- Air Release Manhole

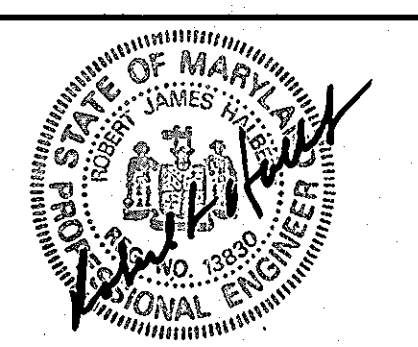
KEY PLAN
Scale: 1"=600'

AS BUILT

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DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 Director of Public Works: *[Signature]* 5/2/96
 Chief, Bureau of Engineering: *[Signature]* 5/17/96
 Chief, Water and Sewer Design Division: *[Signature]* 5-17-96

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

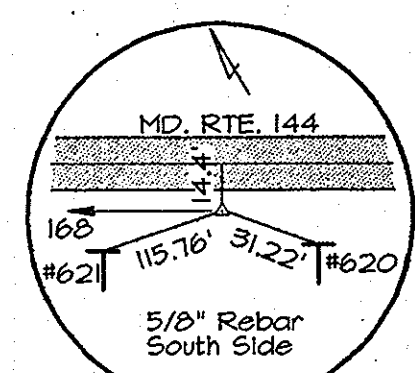


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CHK:	SRK				
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BY:		NO.		REVISION	

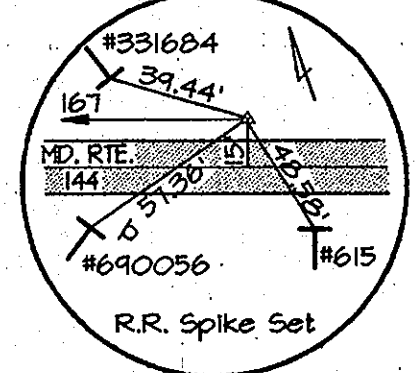
KEY PLAN AND
 INDEX OF DRAWINGS
 600' SCALE MAP NO. 91015 & 16 BLOCK NO.

ALPHA RIDGE WATER SUPPLY
 CAPITAL PROJECT W-8203
 CONTRACT NO. 44-3479
 ELECTION DISTRICT NO. 3
 HOWARD COUNTY, MARYLAND

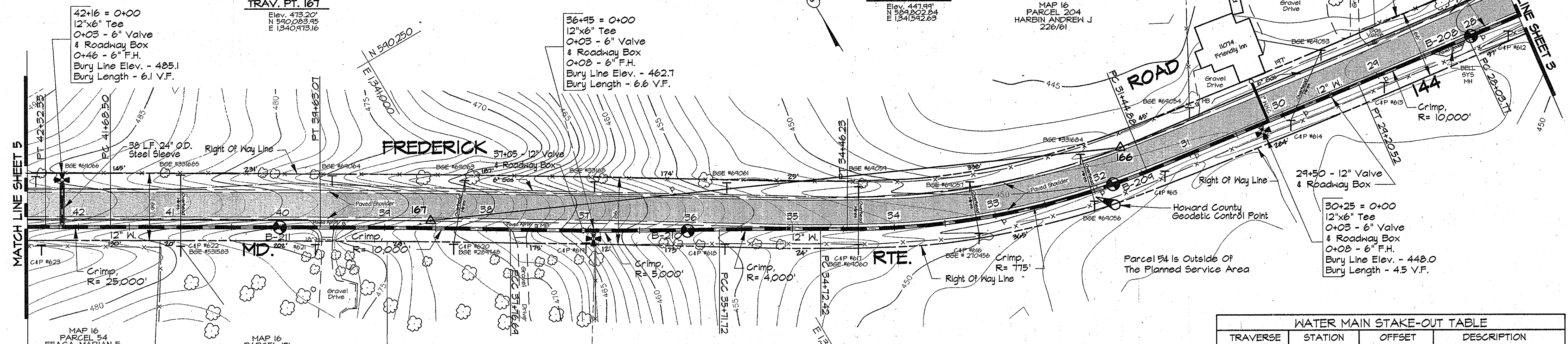
DWG. NO.
 SCALE
 AS SHOWN
 SHEET
 2 OF 36



TRAV. PT. 167
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N 540°28.35'
E 1340°13.16'



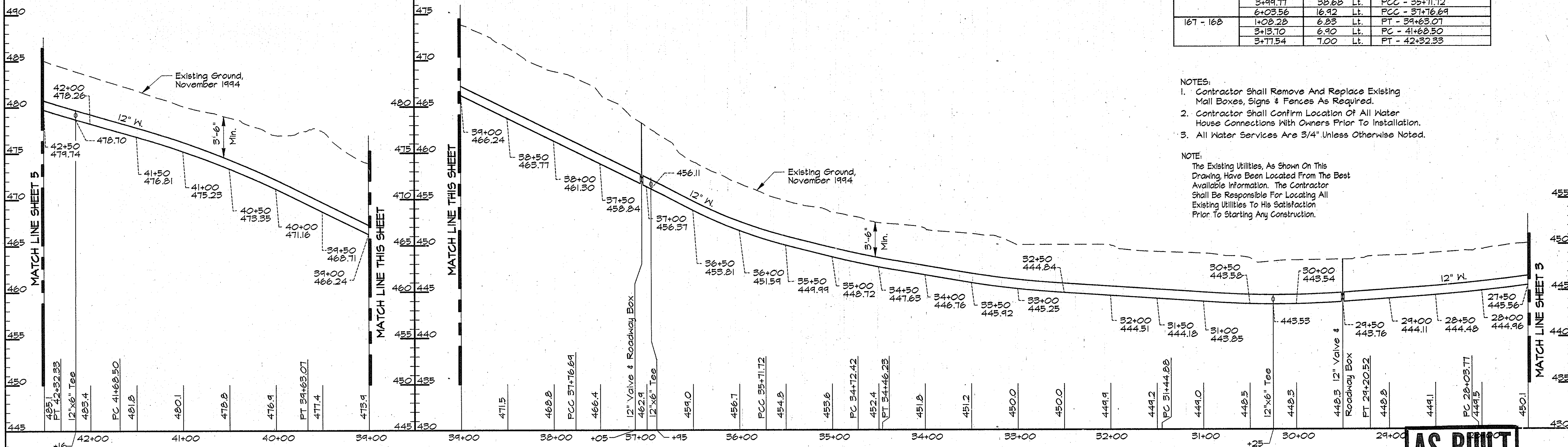
TRAV. PT. 166
Elev. 447.99'
N 331°20.84'
E 1341°542.63'



PLAN
Scale: 1"=50'

WATER MAIN STAKE-OUT TABLE			
TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
165 - 166	1+86.60	33.20 Lt.	PC - 28+03.77
	3+03.35	33.23 Lt.	PT - 29+20.52
	5+27.70	31.98 Lt.	PC - 31+44.88
166 - 167	2+74.92	51.32 Lt.	PT - 34+46.23
	3+00.95	48.43 Lt.	PC - 34+72.42
	3+99.77	38.68 Lt.	PCC - 35+71.72
	6+03.56	16.92 Lt.	PCC - 37+76.69
	1+08.28	6.83 Lt.	PT - 39+63.07
167 - 168	3+13.70	6.90 Lt.	PC - 41+68.50
	3+77.54	7.00 Lt.	PT - 42+32.33

- 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.



PROFILE - MD. RTE 144
Scale: Horiz. 1"=50'
Vert. 1"=5'

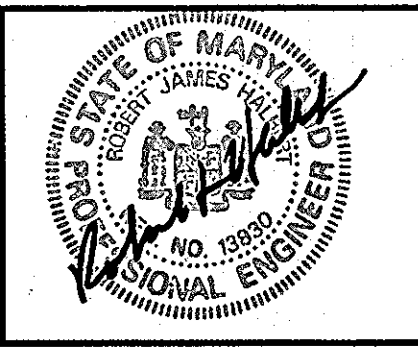
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DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works: *James A. Lewis* 5/17/96
Chief, Bureau of Engineering: *Robert J. Brown* 5/17/96
Chief, Bureau of Utilities: *Robert J. Brown* 5-17-96
Chief, Water and Sewer Design Division: *Robert J. Brown* 5-17-96

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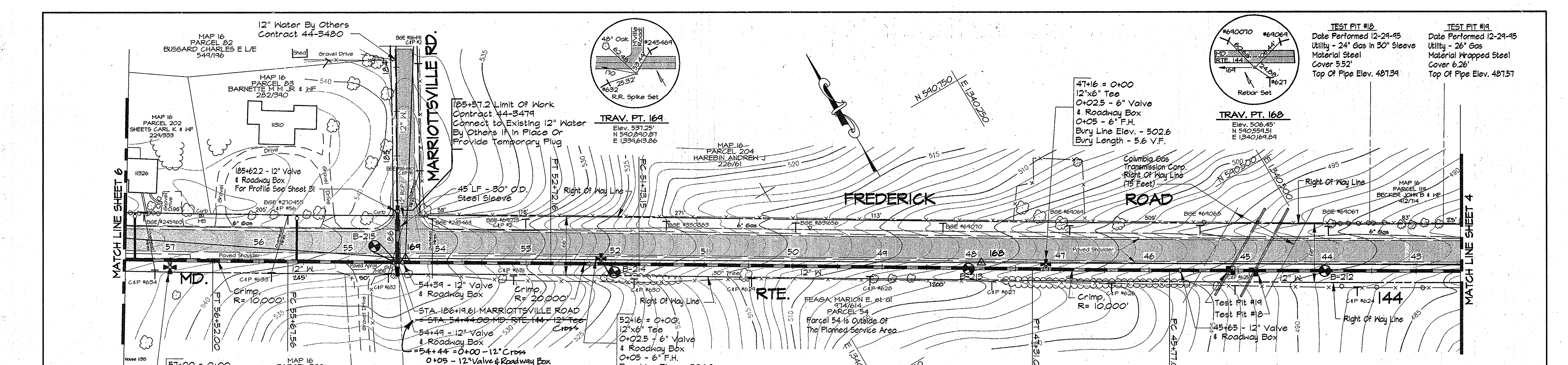
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BY:	NO.	REVISION	DATE	

PLAN AND PROFILE MD. RTE 144
STA. 27+50 TO STA. 42+50

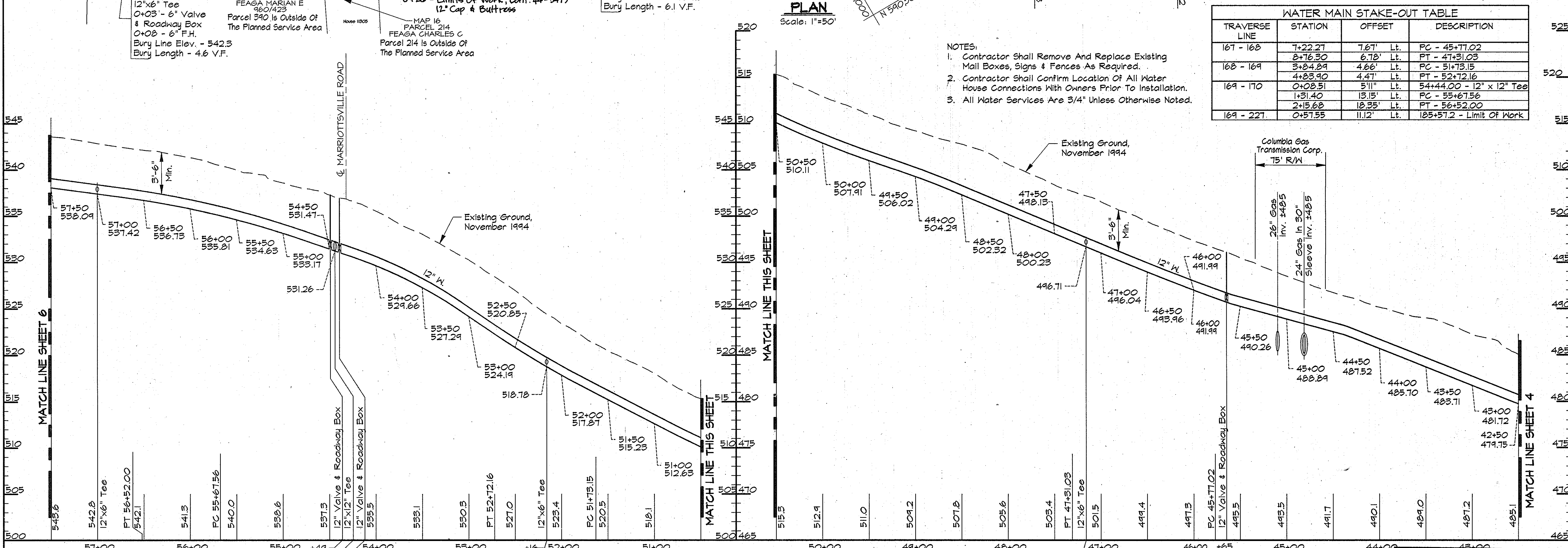
600' SCALE MAP NO. 16 BLOCK NO. 22

ALPHA RIDGE WATER SUPPLY
CAPITAL PROJECT W-8203
CONTRACT NO. 44-3479
ELECTION DISTRICT NO. 3
HOWARD COUNTY, MARYLAND

DWG. NO. _____
SCALE AS SHOWN
SHEET 4 OF 38



- 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. 144
Scale: Horiz. 1"=50'
Vert. 1"=5'

AS BUILT

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DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

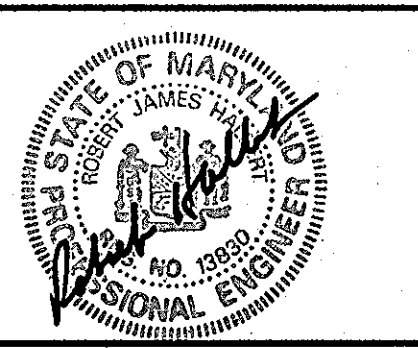
John J. Blum 5/17/26
DIRECTOR OF PUBLIC WORKS DATE

Robert W. Buehler 5-21-96
CHIEF, BUREAU OF UTILITIES DATE

Paul J. Ryan 5/17/26
CHIEF, BUREAU OF ENGINEERING DATE

Debra J. Quinn 5-17-96
CHIEF, WATER AND SEWER DESIGN DIVISION DATE

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



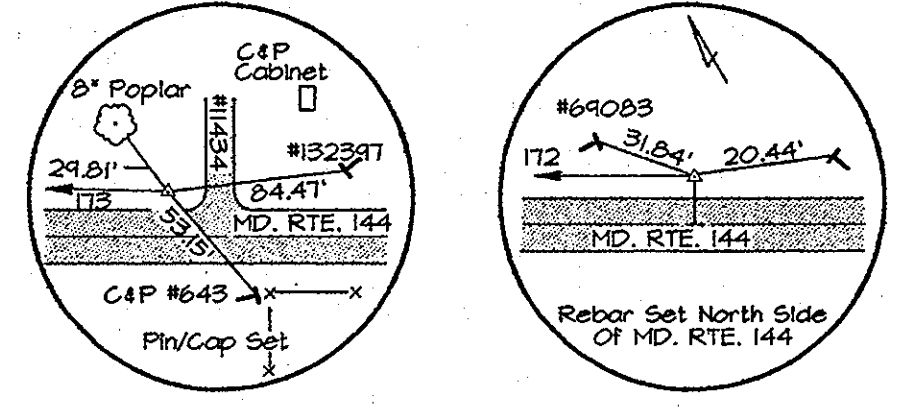
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BY:	NO.	REVISION	DATE

PLAN AND PROFILE MD. RTE. 144
STA. 42+50 TO STA. 57+50

600' SCALE MAP NO. 16 BLOCK NO. 22

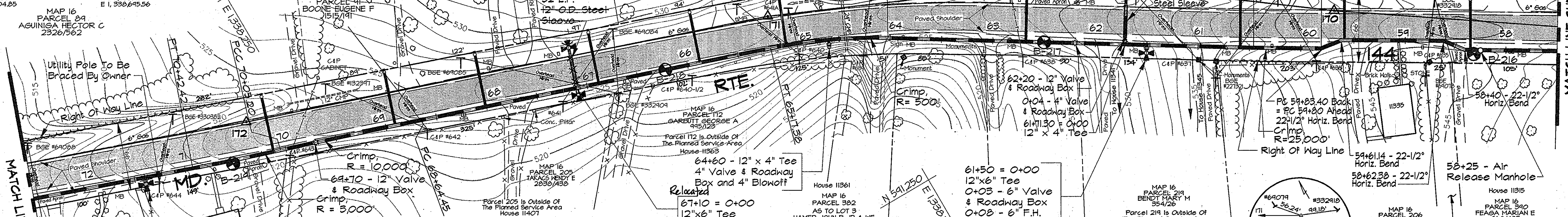
ALPHA RIDGE WATER SUPPLY
CAPITAL PROJECT W-8203
CONTRACT NO. 44-3479
ELECTION DISTRICT NO. 3
HOWARD COUNTY, MARYLAND

DWG. NO. _____
SCALE AS SHOWN
SHEET 5 OF 36



TRAV. PT. 172
Elev. 522.33'
N 541.634.05
E 1336.204.85

TRAV. PT. 171
Elev. 526.14'
N 541.466.96
E 1336.645.56



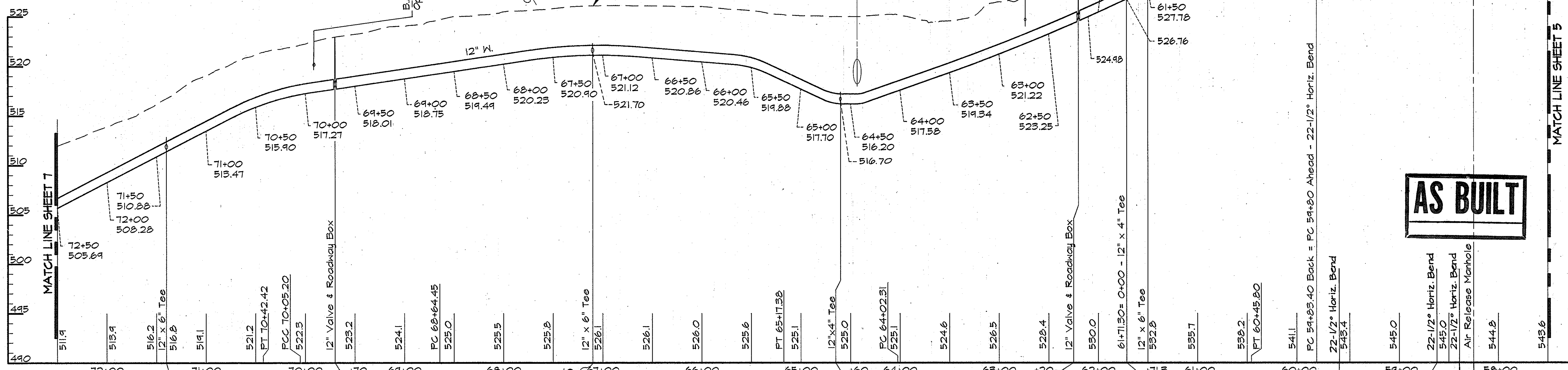
TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
169 - 170	4+03.37	29.15' Lt.	58+40 - 22-1/2° Horiz. Bend
	4+24.50	21.78' Lt.	58+62.38 - 22-1/2° Horiz. Bend
	5+23.06	28.13' Lt.	59+61.14 - 22-1/2° Horiz. Bend
170 - 171	0+08.33	38.19' Lt.	P.C. - 59+83.40 - 22-1/2° Horiz. Bend
	0+18.79	44.93' Lt.	P.T. - 60+45.80
171 - 172	1+98.80	55.84' Lt.	61+71.30 - 12' x 4' Tee
	1+86.66	34.51' Lt.	P.C. - 64+02.31
172 - 173	0+01.01	31.32' Lt.	P.T. - 65+17.38
	3+50.75	32.10' Lt.	P.C. - 68+64.45
	4+91.49	33.47' Lt.	P.C.C. - 70+05.20
173 - 174	0+59.53	34.58' Lt.	P.T. - 70+42.42
	0+52.71	16.21' Rt.	P.C.C. - 0+40.02
174 - 175	0+21.10	48.18' Rt.	P.C.C. - 0+77.90
	0+98.05	34.81' Rt.	P.T. - 1+58.02

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.

71+40 = 0+00
12" x 6" Tee
0+02.5 - 6" Valve & Roadway Box
0+05 - 6" F.H.
Bury Line Elev. - 516.9
Bury Length - 5.2 V.F.



PROFILE - MD. RTE. 144

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

AS BUILT

RK2\USR2\SOSKPROJ\CM9473\DWG\CONTR.-2 ALP-2--06.DWG 10.35

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

John A. Shaw 5/17/96
DIRECTOR OF PUBLIC WORKS DATE

Robert J. Span 5/17/96
CHIEF, BUREAU OF ENGINEERING DATE

Robert J. Span 5-21-96
CHIEF, BUREAU OF UTILITIES DATE

Debra L. Smith 5-17-96
CHIEF WATER AND SEWER DESIGN DIVISION DATE

RK & K
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81 MOSHER ST.
BALTIMORE, MARYLAND 21217

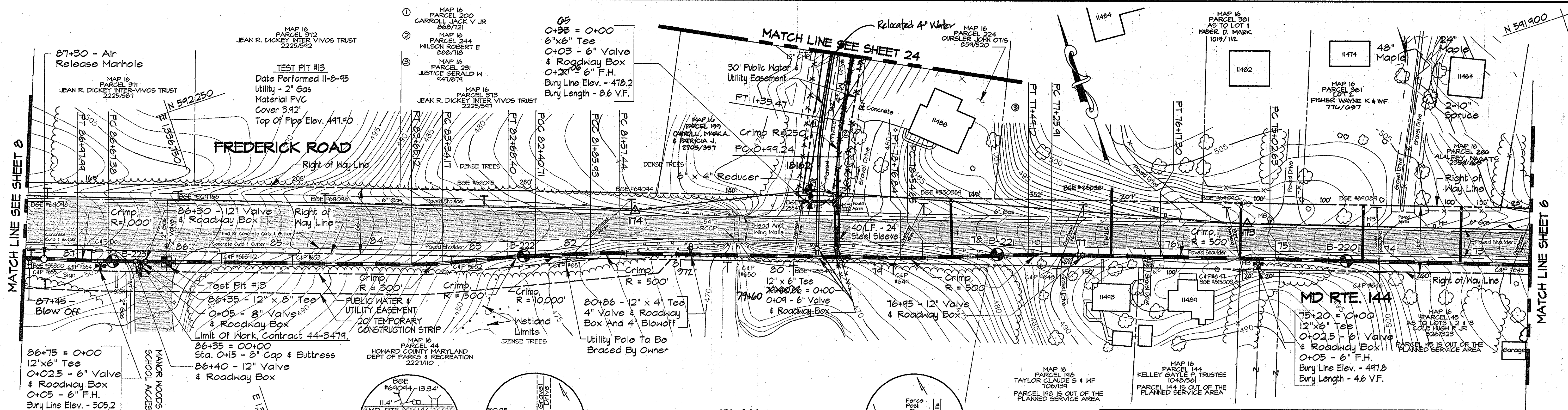
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DRN:	DCE/DWR				
CHK:	SRK				
DATE:	3/96				

PLAN AND PROFILE MD. RTE 144
STA. 57+50 TO STA. 72+50

600' SCALE MAP NO. 16 BLOCK NO. 15, 21, & 22

ALPHA RIDGE WATER SUPPLY
CAPITAL PROJECT W-8203
CONTRACT NO. 44-3479
ELECTION DISTRICT NO. 3
HOWARD COUNTY, MARYLAND

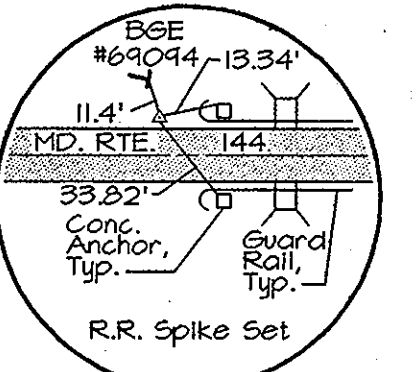
SCALE AS SHOWN
SHEET 6 OF 36



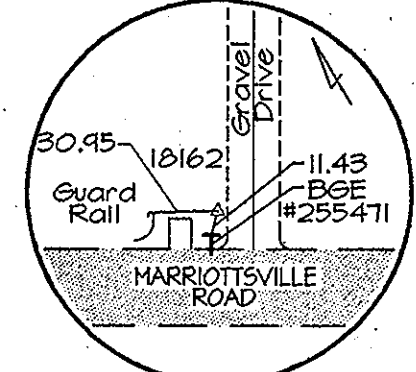
PLAN
Scale: 1"=50'

TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
172 - 173	4+69.69	34.70' Lt.	P.C. - 75+02.63
173 - 18162	0+83.75	39.36' Lt.	P.T. - 76+17.30
	1+92.18	45.53' Lt.	P.C. 77+25.91
	2+15.31	47.39' Lt.	P.T. 77+49.12
	3+20.28	58.27' Lt.	P.C. - 78+54.65
	3+42.39	60.07' Lt.	P.T. - 78+76.84
18162 - 18161	4+05.90	63.81' Lt.	79+40.66 - 12" x 6" Tee
	4+09.10	8.90' Lt.	0+55 - 6" x 6" Tee
	0+37.71	24.65' Rt.	P.C. - 0+49.24
	0+74.50	22.00' Rt.	P.T. - 1+35.47
	0+15.12	42.78' Lt.	P.C. - 81+57.44
18162 - 174	0+43.49	43.82' Lt.	P.C.C. - 81+85.93
	0+48.25	47.22' Lt.	P.C.C. - 82+40.71
	1+25.84	49.63' Lt.	P.T. - 82+68.40
	1+91.17	57.16' Lt.	P.C. - 83+34.17
	2+22.04	59.15' Lt.	P.T. - 83+65.12
	4+91.90	62.52' Lt.	86+35.00 - 12" x 8" Tee
	5+24.28	62.95' Lt.	P.C. - 86+67.38
	5+54.88	62.86' Lt.	P.T. - 86+97.99
	72+50	505.69	
	73+50	500.49	
74+00	497.89		
74+50	495.67		
75+00	493.70		
75+50	491.73		
76+00	489.59		
76+50	486.79		
77+00	483.31		
77+50	479.74		
78+00	476.18		
78+50	473.00		
79+00	470.24		
79+50	467.48		
80+00	464.93		
80+50	464.39		
81+00	464.44		
81+50	466.55		
82+00	472.73		
82+50	475.82		
83+00	478.71		
83+50	481.88		
84+00	481.88		

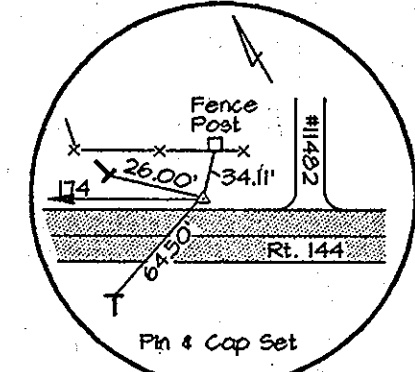
- NOTES:**
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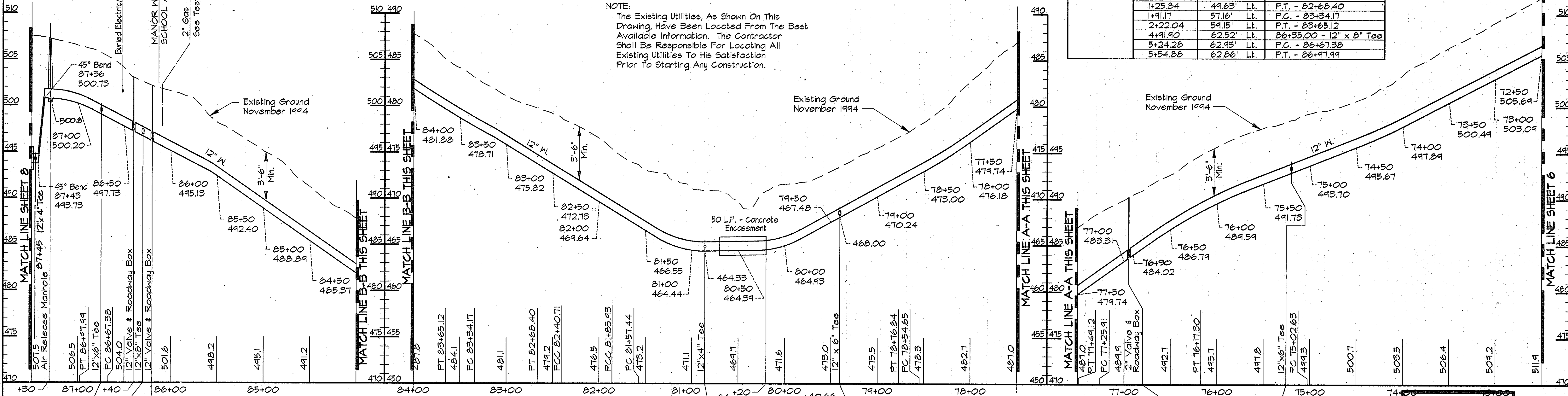
TRAV. PT. 174
Elev. 471.51'
N 592,004.64
E 1,337,160.92



TRAV. PT. 18162
Elev. 471.74'
N 591,914.23
E 1,337,330.25



TRAV. PT. 173
Elev. 448.86'
N 591,203.50
E 1,331,799.55



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

AS BUILT

RKK2\USR2:50SKPROJ\CM8473\DWG\CONTR_2 ALP-2-07.DWG 11:50

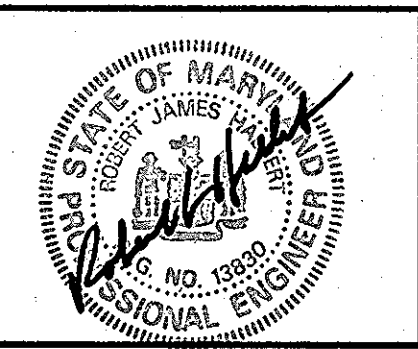
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James P. ... 5/17/96
DIRECTOR OF PUBLIC WORKS

Robert ... 5-21-96
CHIEF, BUREAU OF UTILITIES

... 5-17-96
CHIEF, WATER AND SEWER DESIGN DIVISION

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



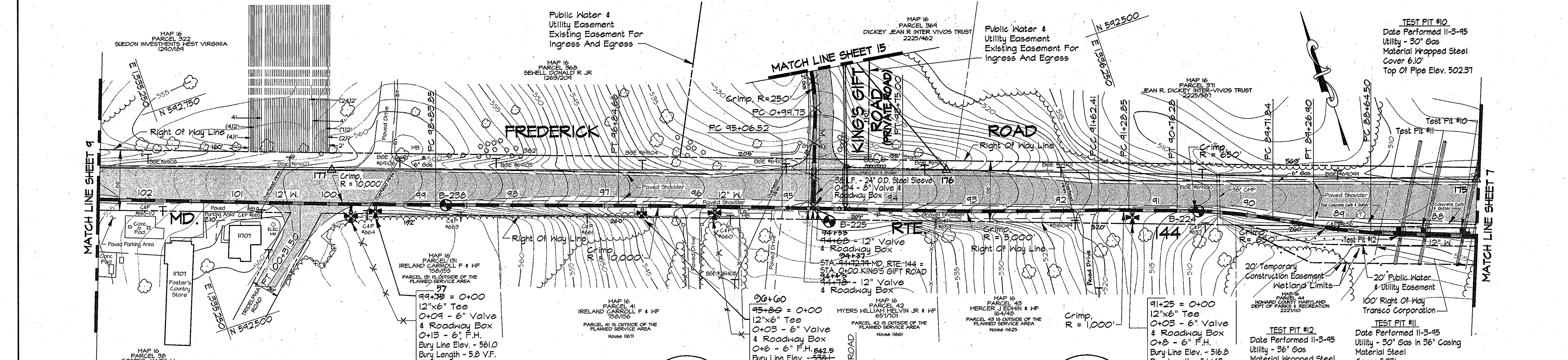
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DRN:	DCE/DWR				
CHK:	SRK				
DATE:	3/96				

PLAN AND PROFILE MD. RTE. 144
STA. 72+50 TO STA. 87+50

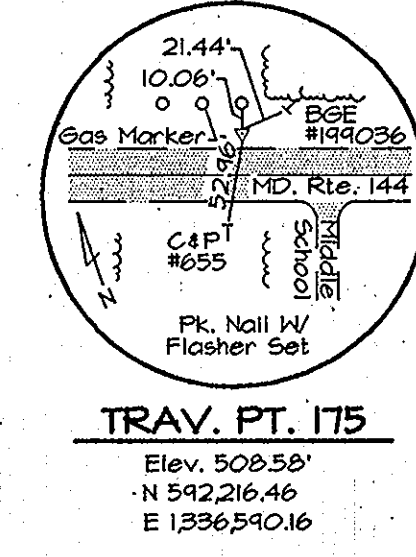
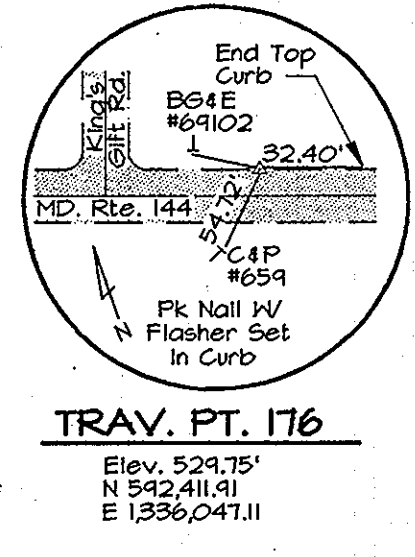
600 SCALE MAP NO. 16 BLOCK NO. 15

ALPHA RIDGE WATER SUPPLY
CAPITAL PROJECT W-8203
CONTRACT NO. 44-3479
ELECTION DISTRICT NO. 3
HOWARD COUNTY, MARYLAND

DWG. NO.
SCALE AS SHOWN
SHEET 7 OF 36

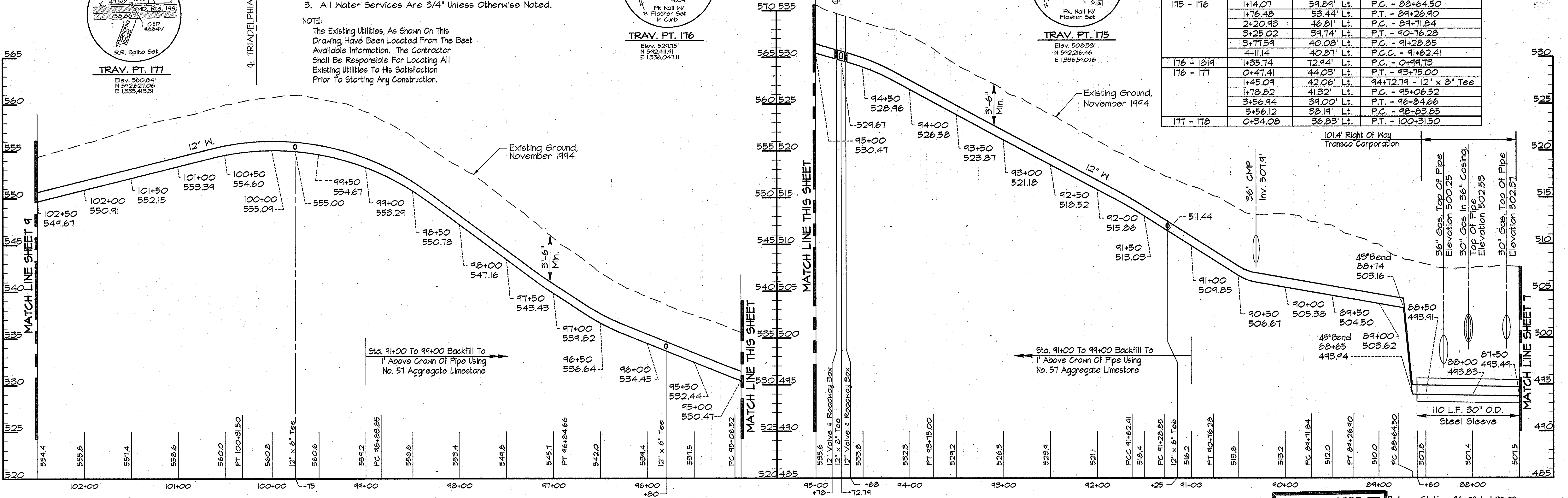
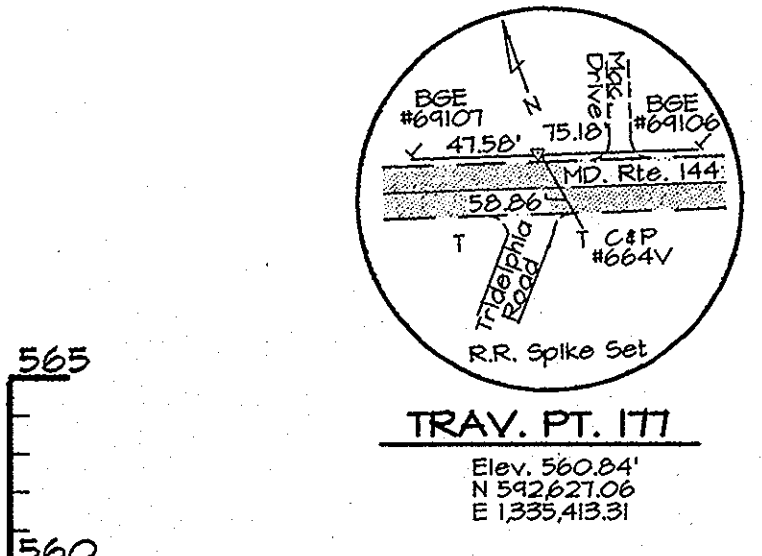


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WATER MAIN STAKE-OUT TABLE

TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
175 - 176	1+14.07	59.89' Lt.	P.C. - 88+64.50
	1+76.48	53.44' Lt.	P.T. - 89+26.90
	2+20.93	46.81' Lt.	P.C. - 89+71.84
	3+25.02	39.74' Lt.	P.T. - 90+76.28
	3+77.59	40.08' Lt.	P.C. - 91+28.25
176 - 177	4+11.14	40.87' Lt.	P.C.C. - 91+62.41
	1+35.74	72.94' Lt.	P.C. - 0+99.73
176 - 177	0+47.41	44.03' Lt.	P.T. - 93+75.00
	1+45.09	42.06' Lt.	94+72.74 - 12" x 8" Tee
	1+78.82	41.32' Lt.	P.C. - 95+06.52
	3+56.94	39.00' Lt.	P.T. - 96+24.66
	5+56.12	38.19' Lt.	P.C. - 98+23.85
177 - 178	0+34.08	36.23' Lt.	P.T. - 100+31.50



PROFILE - MD. RTE. 144
Scale: Horiz. 1"=50'
Vert. 1"=5'

AS BUILT Between Stations 86+00 And 90+00
Pipe Shall Be Restrained Joint

RK2 VUSR2:SDSKPROF:CM9473.DWG:CONTR.-2 ALP--2--08.DWG 12:17

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James J. Lee 5/12/96
DIRECTOR OF PUBLIC WORKS DATE

Robert J. Sporn 5/17/96
CHIEF, BUREAU OF ENGINEERING DATE

Robert J. Sporn 5-21-96
CHIEF, BUREAU OF UTILITIES DATE

Robert J. Sporn 5-17-96
CHIEF, WATER AND SEWER DESIGN DIVISION DATE

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

STATE OF MARYLAND
REGISTERED PROFESSIONAL ENGINEER
No. 10890
EXPIRES 12/31/97

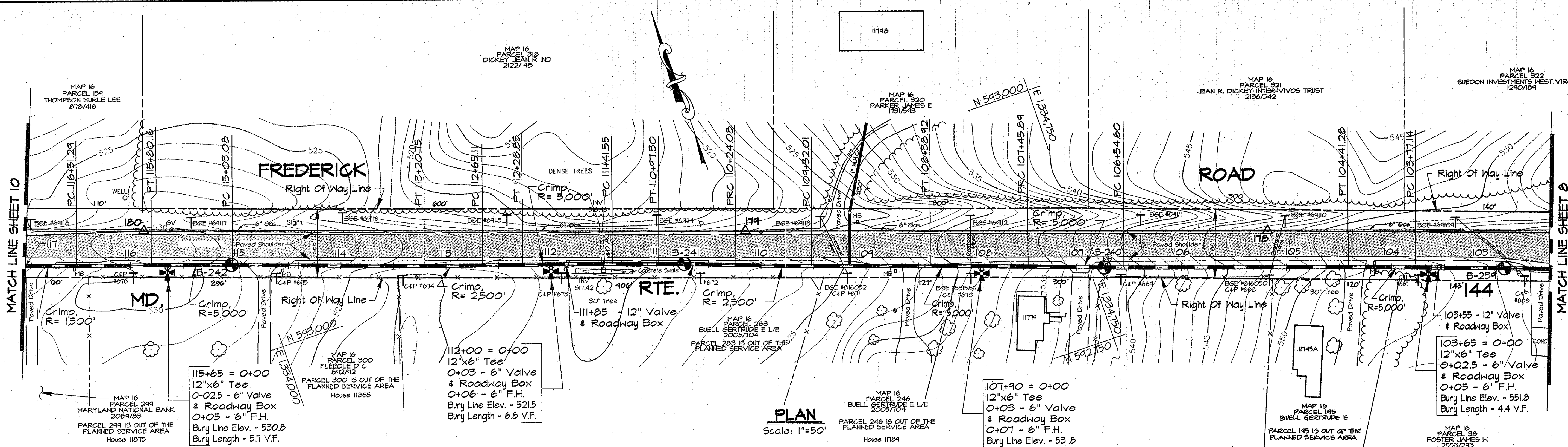
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DRN:	DCJ/DWR				
CHK:	SRK				
DATE:	3/96				

PLAN AND PROFILE MD. RTE. 144
STA. 87+50 TO STA. 102+50

600' SCALE MAP NO. 16 BLOCK NO. 14 & 15

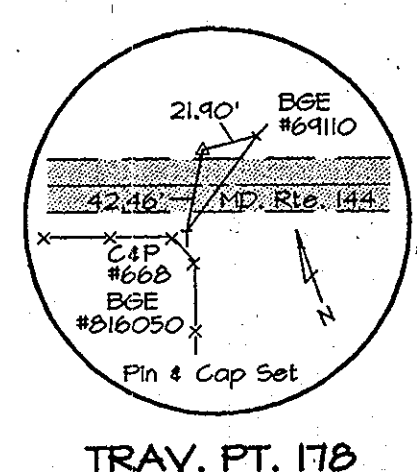
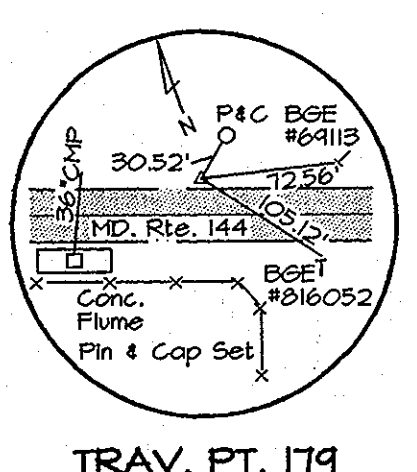
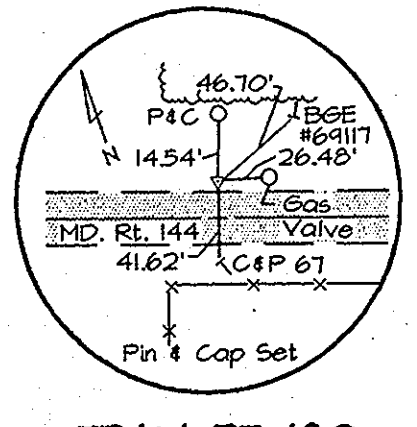
ALPHA RIDGE WATER SUPPLY
CAPITAL PROJECT W-8203
CONTRACT NO. 44-3479
ELECTION DISTRICT NO. 3
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 8 OF 38

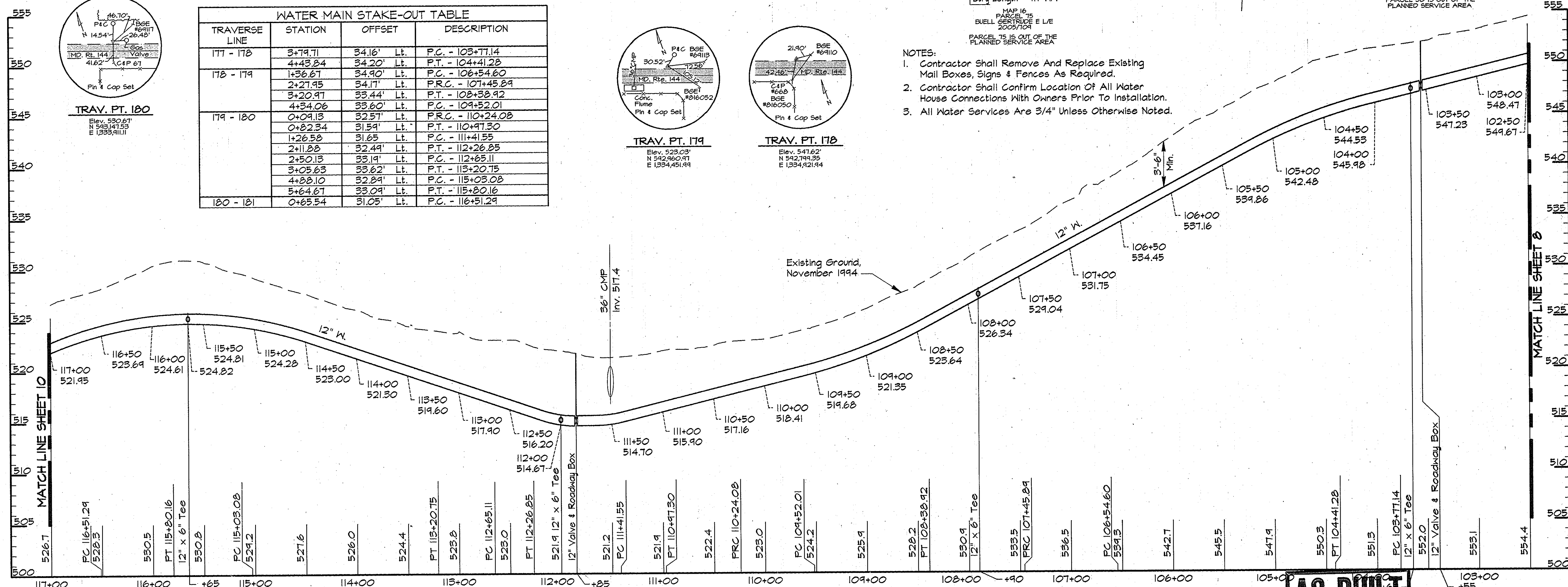


PLAN
Scale: 1"=50'

TRAVERSE LINE	STATION	OFFSET	DESCRIPTION	
177 - 178	3+79.71	34.16' Lt.	P.C. - 103+77.14	
	4+43.84	34.20' Lt.	P.T. - 104+41.28	
178 - 179	1+36.67	34.90' Lt.	P.C. - 106+54.60	
	2+27.95	34.17' Lt.	P.R.C. - 107+45.89	
	3+20.97	33.44' Lt.	P.T. - 108+38.92	
	4+34.06	33.80' Lt.	P.C. - 109+52.01	
179 - 180	0+09.13	32.57' Lt.	P.R.C. - 110+24.08	
	0+82.34	31.59' Lt.	P.T. - 110+97.30	
	1+26.58	31.65' Lt.	P.C. - 111+41.55	
	2+11.88	32.49' Lt.	P.T. - 112+26.85	
	2+50.13	33.19' Lt.	P.C. - 112+65.11	
	3+05.63	33.62' Lt.	P.T. - 113+20.75	
	4+88.10	33.89' Lt.	P.C. - 115+03.08	
	5+64.67	33.09' Lt.	P.T. - 115+80.16	
	180 - 181	0+65.54	31.05' Lt.	P.C. - 116+51.29



- NOTES:**
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PROFILE - MD. RTE. 144
Scale: Horiz. 1"=50'
Vert. 1"=5'

AS BUILT

RK&K V:\SR2\SDSK\PROJ\CM8473\DWG\CONTR_2 ALP-2-09.DWG 13:45

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James A. Shaw 5/17/96
DIRECTOR OF PUBLIC WORKS DATE

Richard E. Sporn 5/17/96
CHIEF, BUREAU OF ENGINEERING DATE

Robert J. Brown 5-21-96
CHIEF, BUREAU OF UTILITIES DATE

Ed DeLuca 5-17-96
CHIEF, WATER AND SEWER DESIGN DIVISION DATE

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

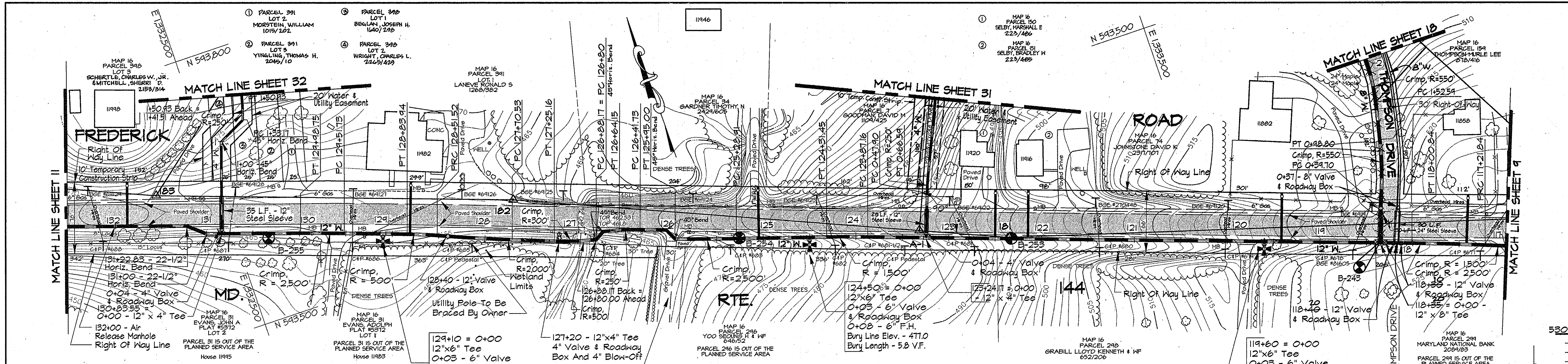
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DRN:	DCJ/DWR
CHK:	SRK
DATE:	3/96
BY:	NO.
REVISION:	
DATE:	

PLAN AND PROFILE MD. RTE. 144
STA. 102+50 TO STA. 117+00

600' SCALE MAP NO. 16 BLOCK NO. 14

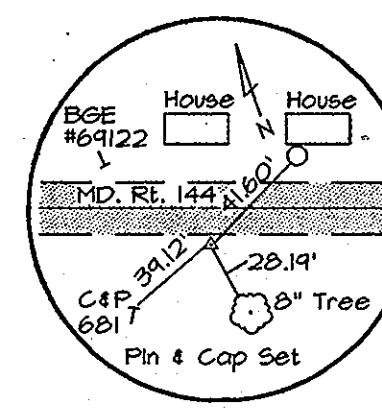
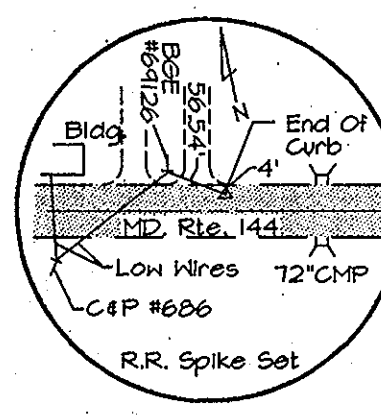
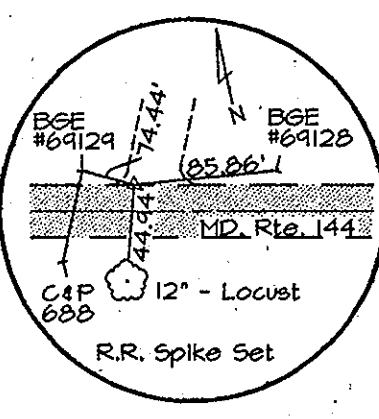
ALPHA RIDGE WATER SUPPLY
CAPITAL PROJECT W-8203
CONTRACT NO. 44-3479
ELECTION DISTRICT NO. 3
HOWARD COUNTY, MARYLAND

DWG. NO.
SCALE AS SHOWN
SHEET 9 OF 36



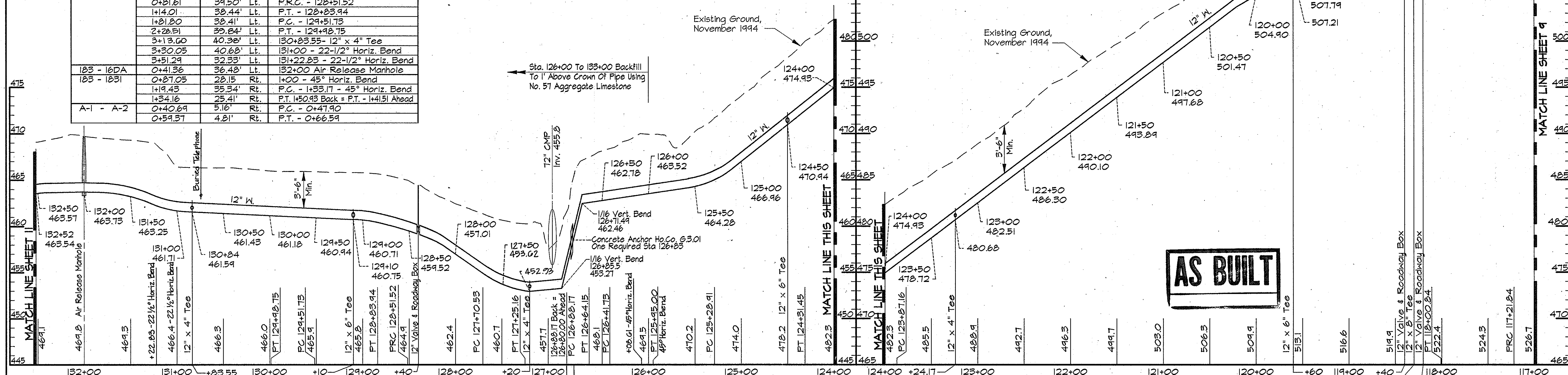
TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
180 - 181	1+35.97	27.11' Lt.	P.R.C. - 117+21.84
	2+14.80	22.08' Lt.	P.T. - 118+00.84
	2+48.91	20.45' Lt.	118+34.99 - 12" x 8" Tee
180 - 181	2+46.87	19.20' Rt.	P.C. - 0+39.70
	2+28.84	115.99' Lt.	P.T. - 0+98.80
180 - 1801	2+69.12	80.46' Lt.	P.C. - 1+52.59
	0+89.42	7.06' Lt.	123+24.17 - 12" x 4" Tee
181 - 182	1+52.26	11.11' Lt.	P.C. - 123+87.16
	1+96.41	14.62' Lt.	P.T. - 124+31.45
	2+93.44	23.76' Lt.	P.C. - 125+28.91
	3+59.31	29.09' Lt.	P.T. - 125+95.00 - 45° Horiz. Bend
	3+69.54	20.12' Lt.	126+08.61 - 45° Horiz. Bend
	3+97.61	21.87' Lt.	P.C. - 126+41.73
	4+19.90	24.26' Lt.	P.T. - 126+64.15
	4+37.05	26.89' Lt.	126+81.49 - 45° Horiz. Bend
	4+43.96	36.29' Lt.	P.C. - 126+88.17 = P.C. 126+80 - 45° Horiz. Bend
	0+00.71	43.15' Lt.	P.C. - 127+70.53
	0+21.61	34.50' Lt.	P.R.C. - 128+51.52
	1+14.01	38.44' Lt.	P.T. - 128+83.94
	1+21.80	38.41' Lt.	P.C. - 129+51.73
182 - 183	2+28.51	39.84' Lt.	P.T. - 129+98.75
	3+13.60	40.38' Lt.	130+83.55 - 12" x 4" Tee
	3+30.05	40.68' Lt.	131+00 - 22-1/2° Horiz. Bend
	3+51.29	32.33' Lt.	131+22.83 - 22-1/2° Horiz. Bend
	0+41.36	36.48' Lt.	132+00 Air Release Manhole
183 - 183A	0+87.05	28.15' Rt.	1+00 - 45° Horiz. Bend
	1+19.43	35.34' Rt.	P.C. - 1+83.17 - 45° Horiz. Bend
	1+34.16	25.41' Rt.	P.T. 1+50.93 Back = P.T. - 1+41.51 Ahead
A-1 - A-2	0+40.89	5.16' Rt.	P.C. - 0+47.90
	0+59.37	4.81' Rt.	P.T. - 0+66.59

129+10 = 0+00
12"x6" Tee
0+03 - 6" Valve & Roadway Box
0+08 - 6" F.H.
Bury Line Elev. - 465.2
Bury Length - 4.2 V.F.



PLAN
Scale: 1"=50'

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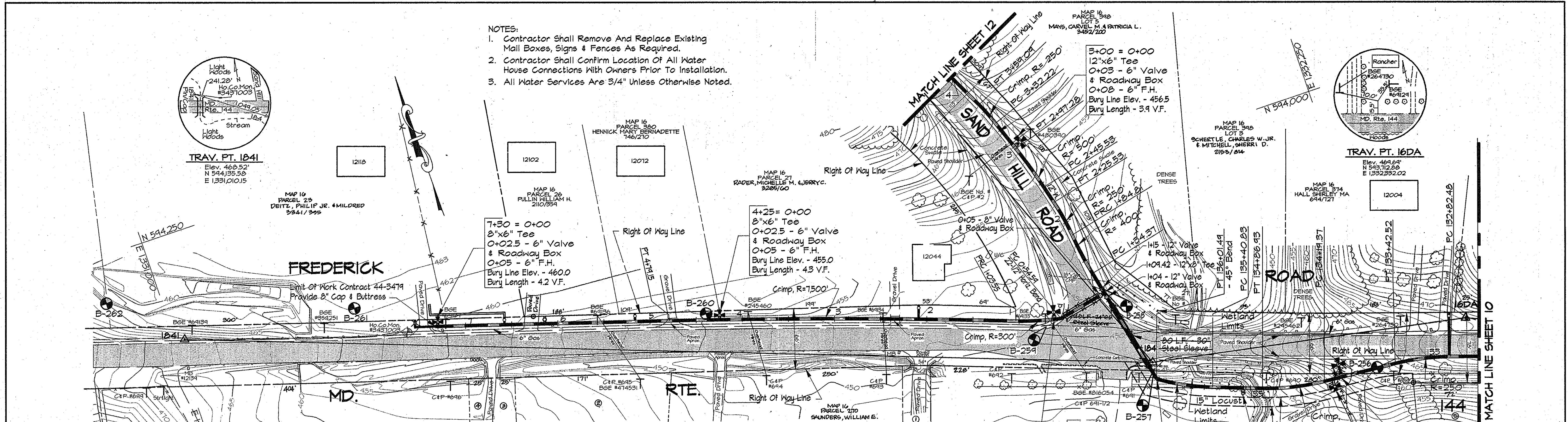
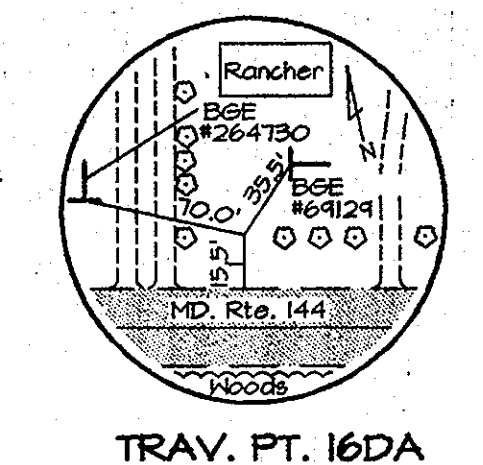
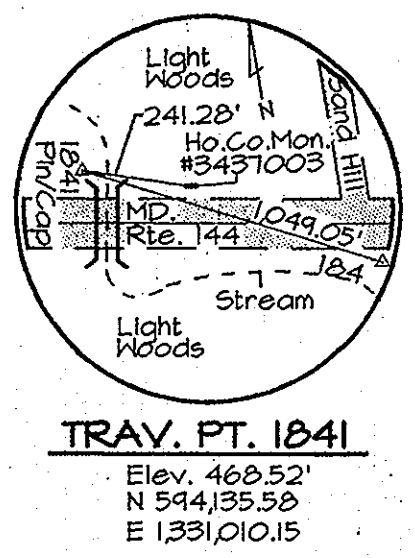
PROFILE - MD. RTE. 144
Scale: Horiz. 1"=50'
Vert. 1"=5'

AS BUILT

RKK2\USER2\SOSKPRON\C49473.DWG (CONTR.) 13:45 03/29/1996

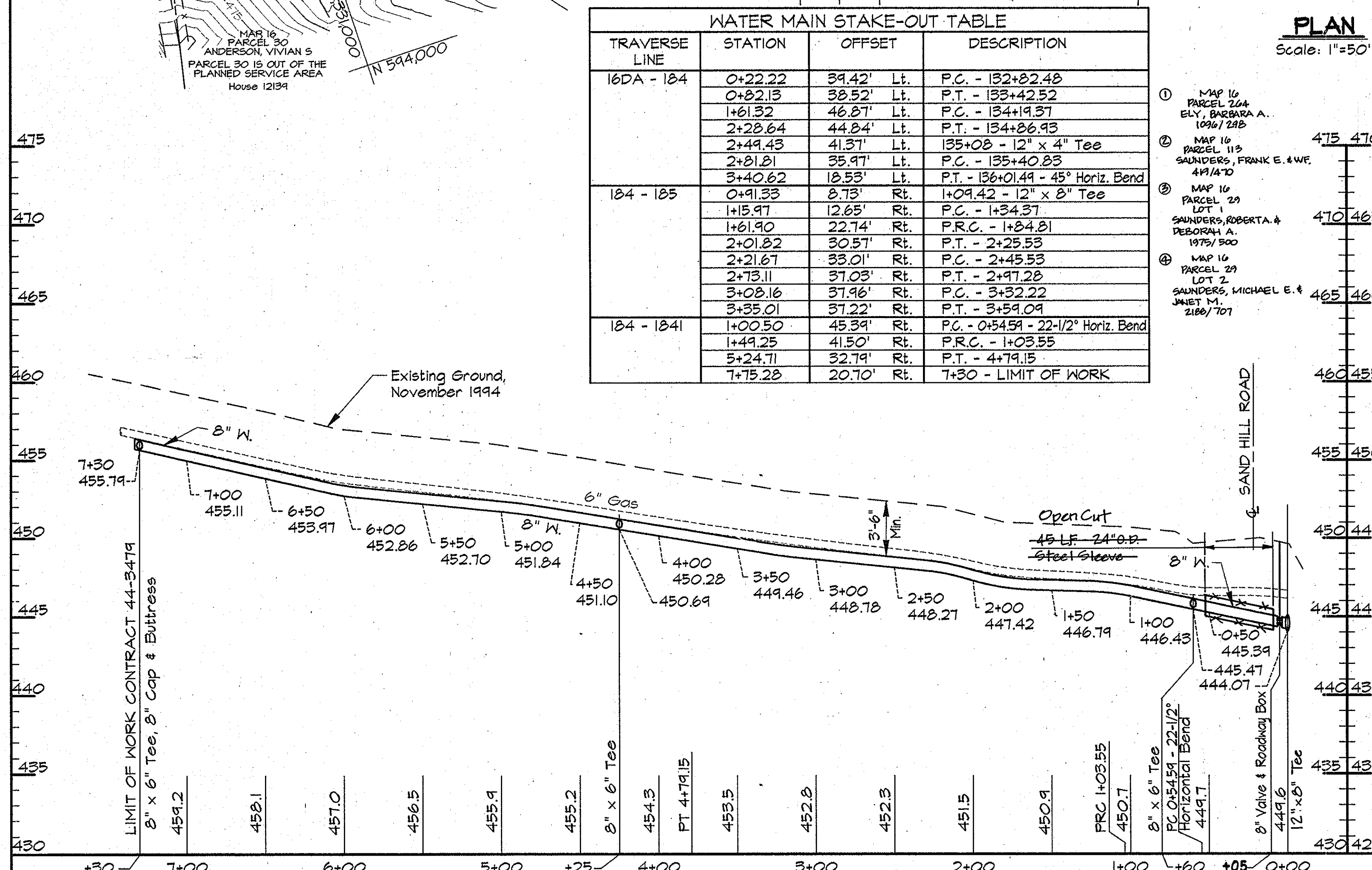
DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Director of Public Works: <i>Robert J. Brown</i> 5-21-96 Chief, Bureau of Engineering: <i>Robert J. Brown</i> 5-17-96 Chief, Water and Sewer Design Division: <i>Robert J. Brown</i> 5-17-96		RUMMEL, KLEPPER & KAHL CONSULTING ENGINEERS 81 MOSHER ST. BALTIMORE, MARYLAND 21217		DES: DWR DRN: DCJ/DWR CHK: SRK DATE: 3/96	PLAN AND PROFILE STA. 117+00 TO STA. 132+52	ALPHA RIDGE WATER SUPPLY CAPITAL PROJECT W-8203 CONTRACT NO. 44-3479 ELECTION DISTRICT NO. 3 HOWARD COUNTY, MARYLAND	DWG. NO. SCALE AS SHOWN SHEET 10 OF 38
--	--	---	--	--	--	--	--

- NOTES:
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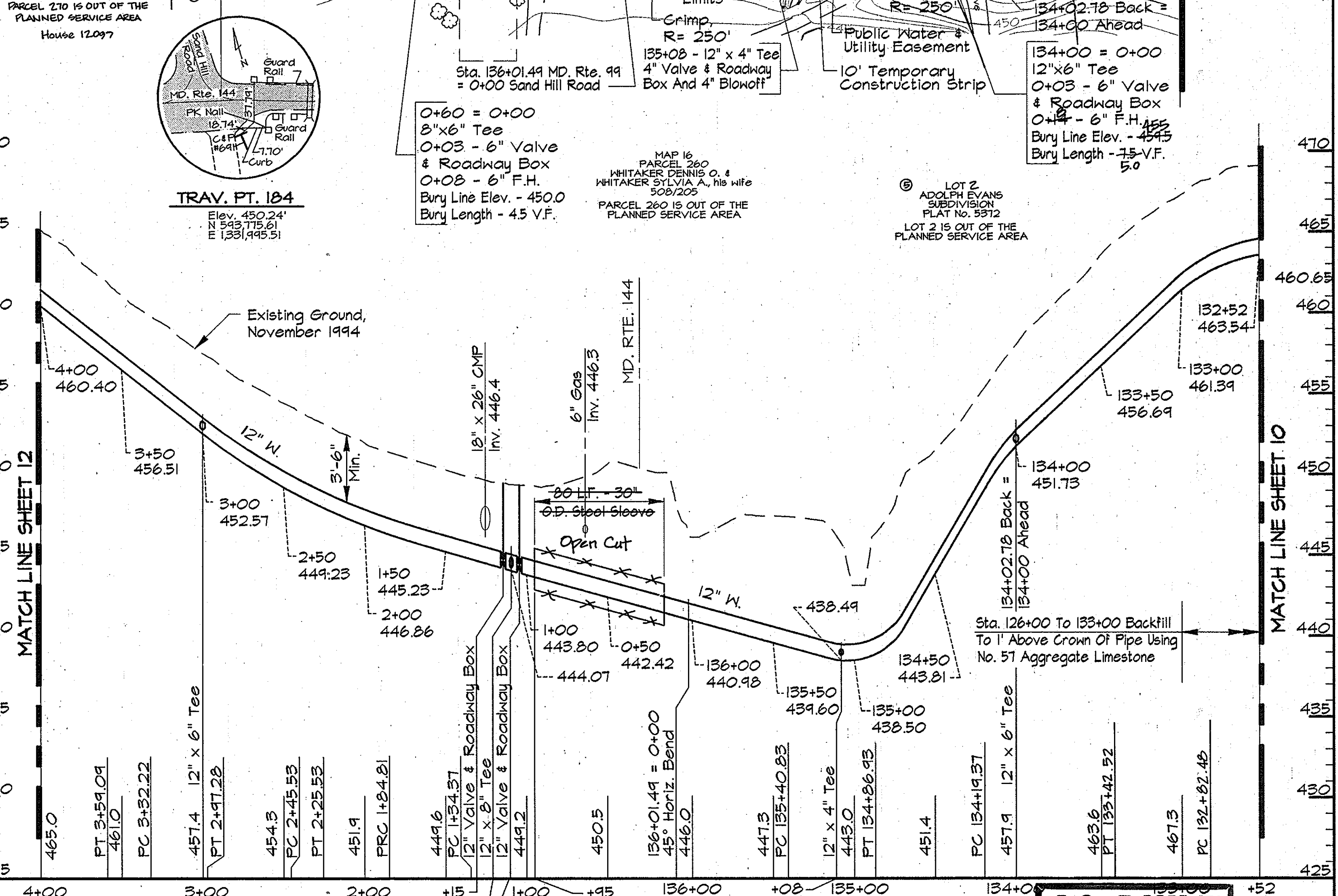


TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
16DA - 184	0+22.22	39.42' Lt.	P.C. - 132+82.48
	0+22.13	38.52' Lt.	P.T. - 133+42.52
	1+61.32	46.87' Lt.	P.C. - 134+19.37
	2+28.64	44.84' Lt.	P.T. - 134+26.93
	2+44.43	41.37' Lt.	135+08 - 12" x 4" Tee
184 - 185	2+81.81	35.97' Lt.	P.C. - 135+40.83
	3+40.62	18.53' Lt.	P.T. - 136+01.44 - 45° Horiz. Bend
	0+91.33	8.73' Rt.	1+09.42 - 12" x 8" Tee
	1+15.97	12.65' Rt.	P.C. - 1+34.37
	1+61.90	22.74' Rt.	P.R.C. - 1+84.81
	2+01.82	30.57' Rt.	P.T. - 2+25.53
	2+21.67	33.01' Rt.	P.C. - 2+45.53
	2+73.11	37.03' Rt.	P.T. - 2+97.28
	3+08.16	37.98' Rt.	P.C. - 3+32.22
	3+35.01	37.22' Rt.	P.T. - 3+59.09
184 - 184I	1+00.50	45.39' Rt.	P.C. - 0+54.59 - 22-1/2° Horiz. Bend
	1+49.25	41.50' Rt.	P.R.C. - 1+03.55
	5+24.71	32.79' Rt.	P.T. - 4+79.15
	7+75.28	20.70' Rt.	7+30 - LIMIT OF WORK

PLAN
Scale: 1"=50'



PROFILE - MD. RTE. 144
Scale: Horiz. 1"=50'
Vert. 1"=5'



PROFILE - MD. RTE. 144/SANDHILL ROAD
Scale: Horiz. 1"=50'
Vert. 1"=5'

AS BUILT

PK2\USER2\SDSK\PROJ\CM9473\DWG\CONTR_2 ALP-2-11.DWG 03/29/1996 14:05

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Paul D. Deppan 5/17/96
DATE

Paul D. Deppan 5-21-96
DATE

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

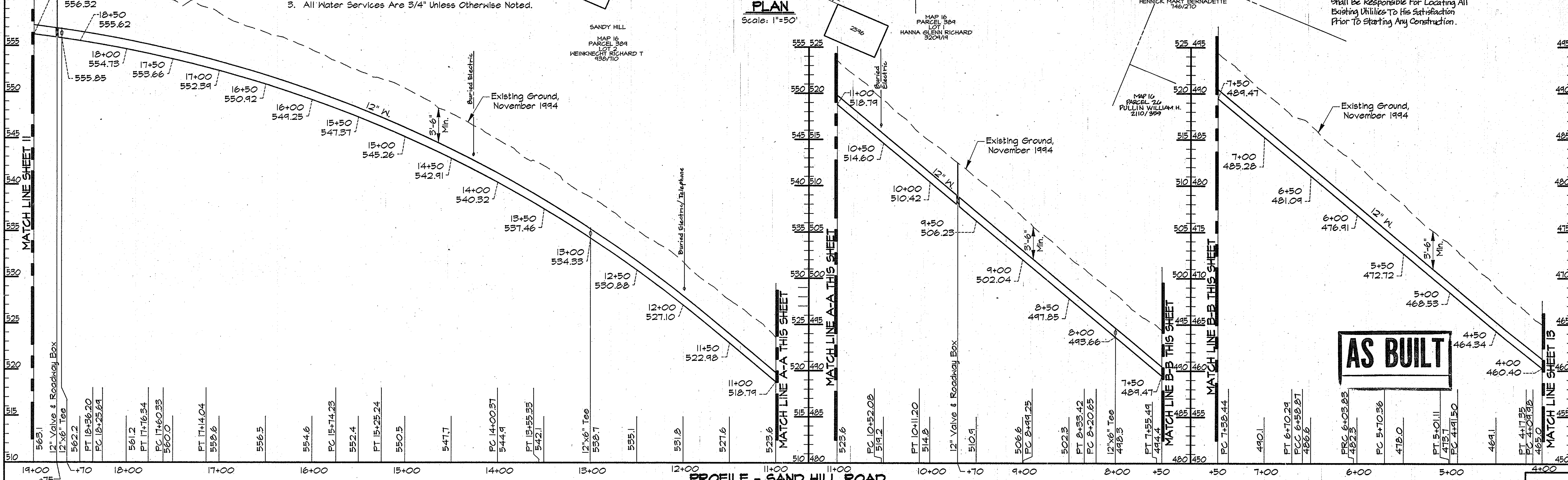
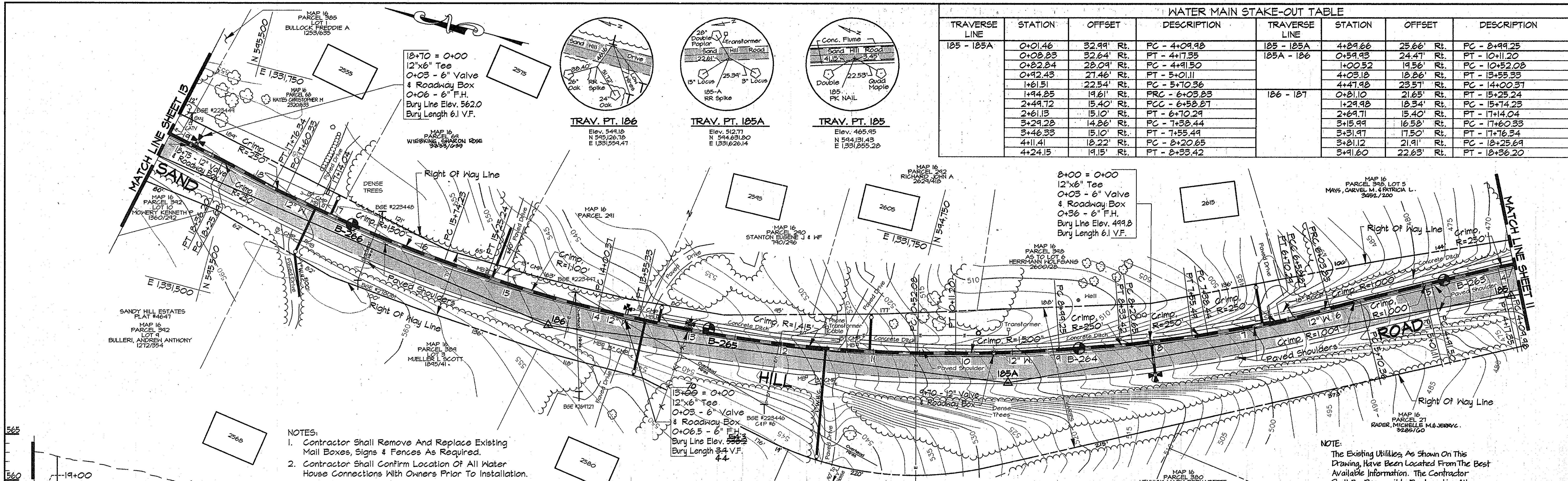
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CHK:	SRK		
DATE:	3/96		
BY:	NO.	REVISION	DATE

PLAN AND PROFILE - MD. RTE. 144
STA. 132+52 TO STA. 136+02 &
STA. 0+00 TO STA. 7+30

ALPHA RIDGE WATER SUPPLY
CAPITAL PROJECT W-8203
CONTRACT NO. 44-3479
ELECTION DISTRICT NO. 3
HOWARD COUNTY, MARYLAND

DWG. NO.
SCALE AS SHOWN
SHEET 11 OF 38

TRAVERSE LINE	STATION	OFFSET	DESCRIPTION	TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
185 - 185A	0+01.46	32.99' RT.	PC - 4+09.98	185 - 185A	4+89.66	25.66' RT.	PC - 8+99.25
	0+08.83	32.64' RT.	PT - 4+17.35	185A - 186	0+59.93	24.47' RT.	PT - 10+11.20
	0+82.84	28.09' RT.	PC - 4+91.50		1+00.52	19.56' RT.	PC - 10+52.08
	0+92.43	27.46' RT.	PT - 5+01.11		4+03.18	18.86' RT.	PT - 13+55.33
	1+61.51	22.54' RT.	PC - 5+01.36		4+47.98	23.57' RT.	PC - 14+00.37
	1+44.85	19.61' RT.	PRC - 6+03.83	186 - 187	0+81.10	21.65' RT.	PT - 15+25.24
	2+44.72	15.40' RT.	PCC - 6+58.87		1+29.98	18.34' RT.	PC - 15+74.23
	2+61.13	15.10' RT.	PT - 6+70.29		2+69.71	15.40' RT.	PT - 17+14.04
	3+24.28	14.86' RT.	PT - 7+58.44		3+15.99	16.58' RT.	PC - 17+60.33
	3+46.33	15.10' RT.	PT - 7+55.49		3+31.97	17.50' RT.	PT - 17+16.34
4+11.41	18.22' RT.	PC - 8+20.65		3+81.12	21.91' RT.	PC - 18+25.69	
4+24.15	19.15' RT.	PT - 8+33.42		3+91.60	22.63' RT.	PT - 18+36.20	



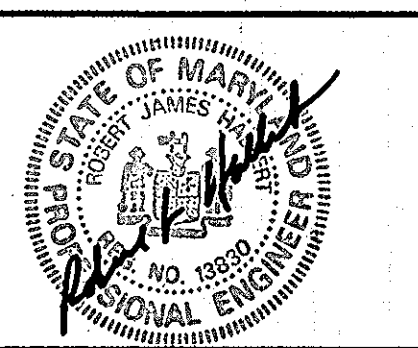
RKK2_VSR2:SDSKPROJ\CM9473\DWG\CONTR_2 ALP-2-12.DWG 10.44

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James P. ... 5/17/96
DIRECTOR OF PUBLIC WORKS DATE

Robert ... 5-21-96
CHIEF, BUREAU OF UTILITIES DATE

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

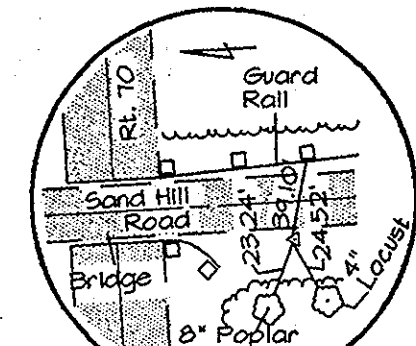


DES:	DWR				
DRN:	DCJ/DCE				
CHK:	SRK				
DATE:	3/96				
BY:	NO.	REVISION	DATE	600' SCALE MAP NO. 16	BLOCK NO. 7 & 13

PLAN AND PROFILE SAND HILL ROAD
STA. 4+00 TO STA. 19+00

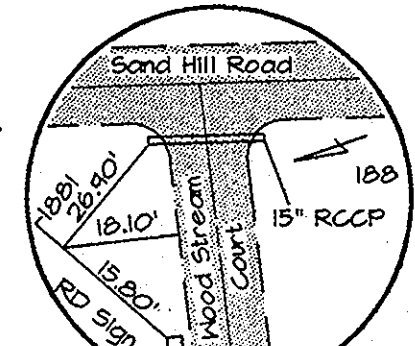
ALPHA RIDGE WATER SUPPLY
CAPITAL PROJECT W-8203
CONTRACT NO. 44-3479
ELECTION DISTRICT NO. 3
HOWARD COUNTY, MARYLAND

DWG. NO.
SCALE AS SHOWN
SHEET 12 OF 36



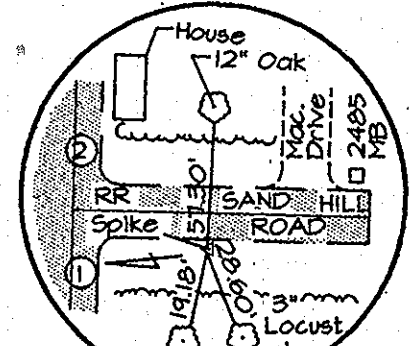
TRAV. PT. 189
Elev. 542.34
N 546.428.38
E 1331.411.88

MAP 16
PARCEL 402
LOT 9
HILLTOP DEVELOPMENT CORP.
1836/434



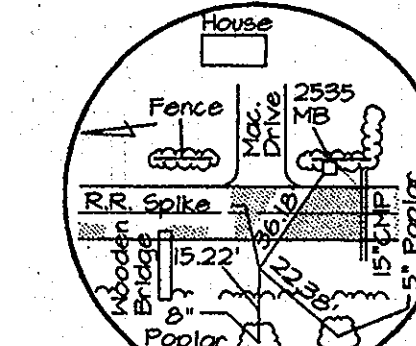
TRAV. PT. 188
Elev. 544.03
N 546.428.31
E 1331.180.41

MAP 16
PARCEL 284
LOT 15
FANCETT, JOHN G/S
1092/302



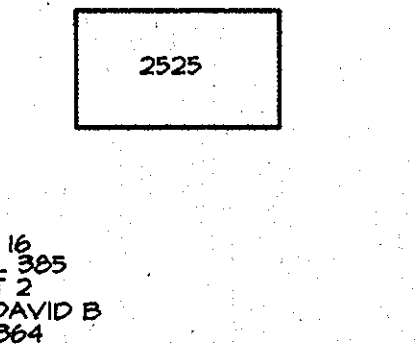
TRAV. PT. 187
Elev. 564.27
N 545.631.20
E 1331.636.71

MAP 16
PARCEL 284
LOT 15
JANSON, KEITH W
1241/274



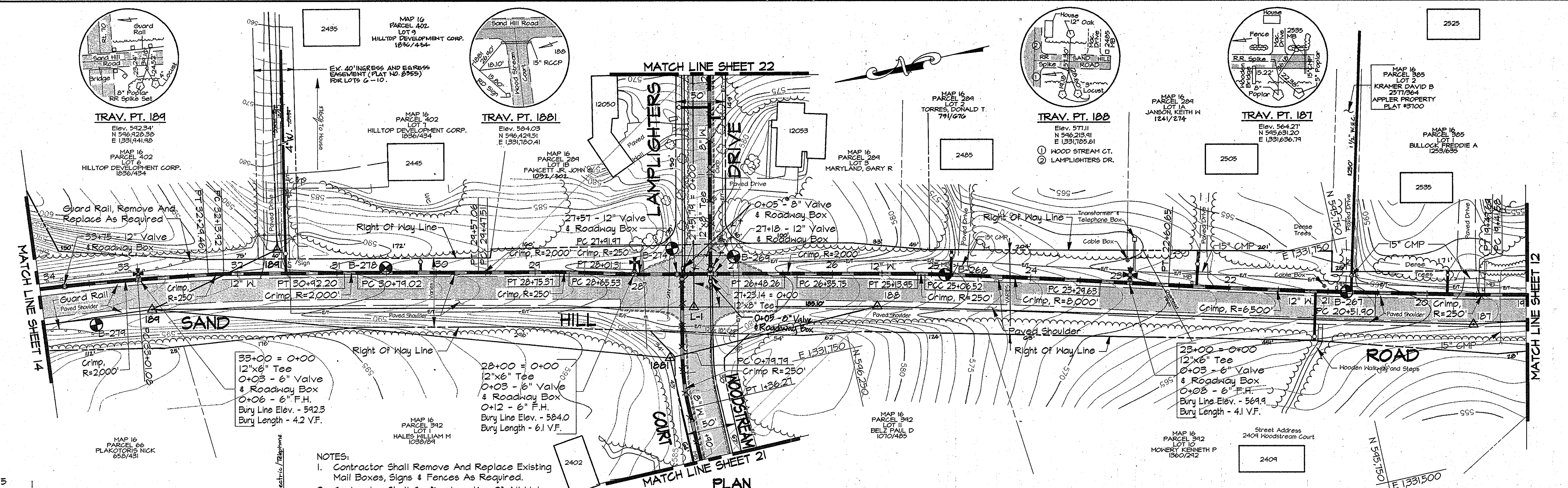
TRAV. PT. 186
Elev. 571.11
N 546.218.41
E 1331.765.61

MAP 16
PARCEL 284
LOT 15
TORRES, DONALD T
791/676



TRAV. PT. 185
Elev. 564.27
N 545.631.20
E 1331.636.71

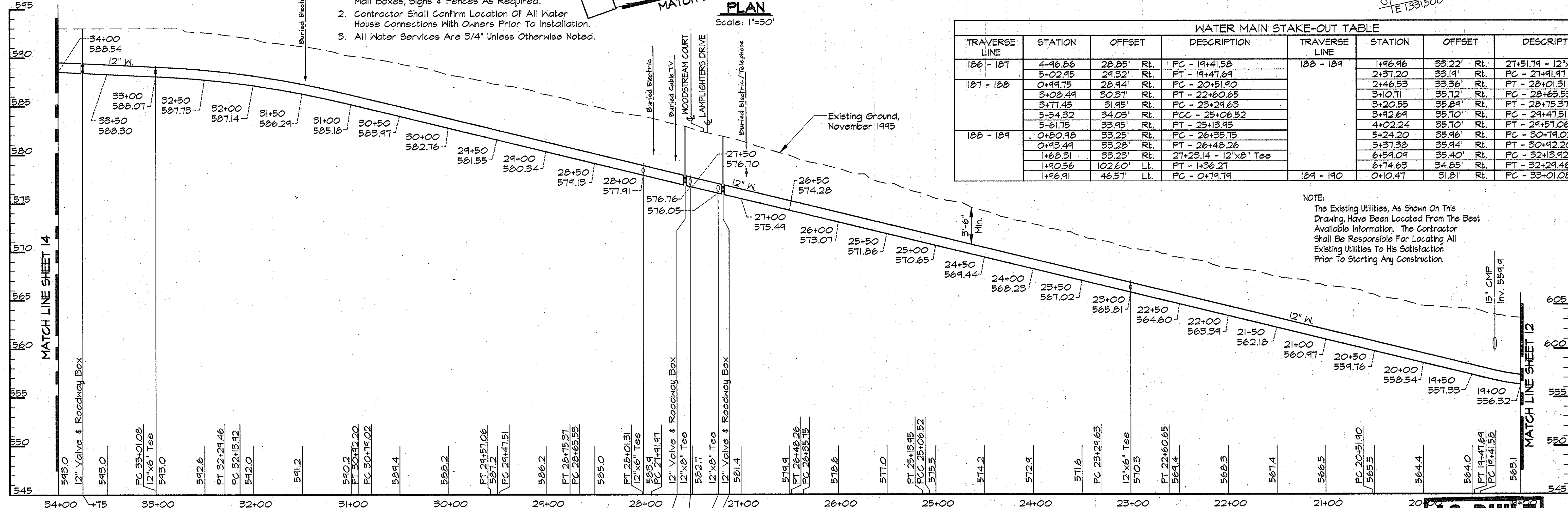
MAP 16
PARCEL 365
LOT 3
KRAMER, DAVID B
2571/364



- 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	TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
186 - 187	4+96.86	28.85' Rt.	PC - 19+41.58	188 - 189	1+96.96	33.22' Rt.	27+51.79 - 12"x8" Tee
	5+02.95	24.32' Rt.	PT - 19+47.69		2+37.20	33.19' Rt.	PC - 27+91.97
187 - 188	0+49.75	28.94' Rt.	PC - 20+51.90	2+46.53	33.36' Rt.	PT - 28+01.31	
	3+08.49	30.37' Rt.	PT - 22+60.65	3+10.71	35.72' Rt.	PC - 28+65.53	
	3+77.45	31.95' Rt.	PC - 23+29.63	3+20.55	35.84' Rt.	PT - 28+75.37	
	5+54.32	34.05' Rt.	PCC - 25+06.52	3+92.24	35.70' Rt.	PC - 29+47.51	
	5+61.75	33.95' Rt.	PT - 25+13.95	4+02.24	35.70' Rt.	PT - 29+57.06	
188 - 189	0+80.98	33.25' Rt.	PC - 26+35.75	5+24.20	35.96' Rt.	PC - 30+79.02	
	0+93.44	33.28' Rt.	PT - 26+48.26	5+37.38	35.94' Rt.	PT - 30+92.20	
	1+68.31	33.23' Rt.	27+23.14 - 12"x8" Tee	6+59.09	35.40' Rt.	PC - 32+13.92	
	1+90.56	102.60' Lt.	PT - 1+36.27	6+74.63	34.85' Rt.	PT - 32+29.46	
	1+96.91	46.57' Lt.	PC - 0+79.79	189 - 190	0+10.47	31.81' Rt.	PC - 33+01.08

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.



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

AS BUILT

BK2\USR2\SOSKPROJ\CM9473\DWG\CONTR_2_ALP-2-13.DWG 03/20/1996 10:46

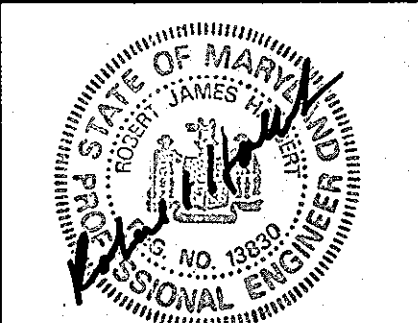
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James P. Lewis 5/17/96
DIRECTOR OF PUBLIC WORKS DATE

R. J. ... 5-21-96
CHIEF, BUREAU OF UTILITIES DATE

Paul D. ... 5-17-96
CHIEF, WATER AND SEWER DESIGN DIVISION DATE

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

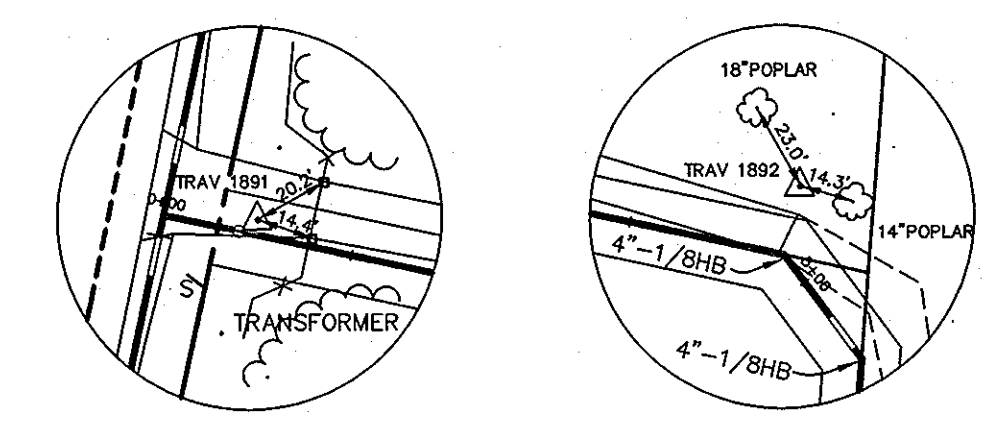
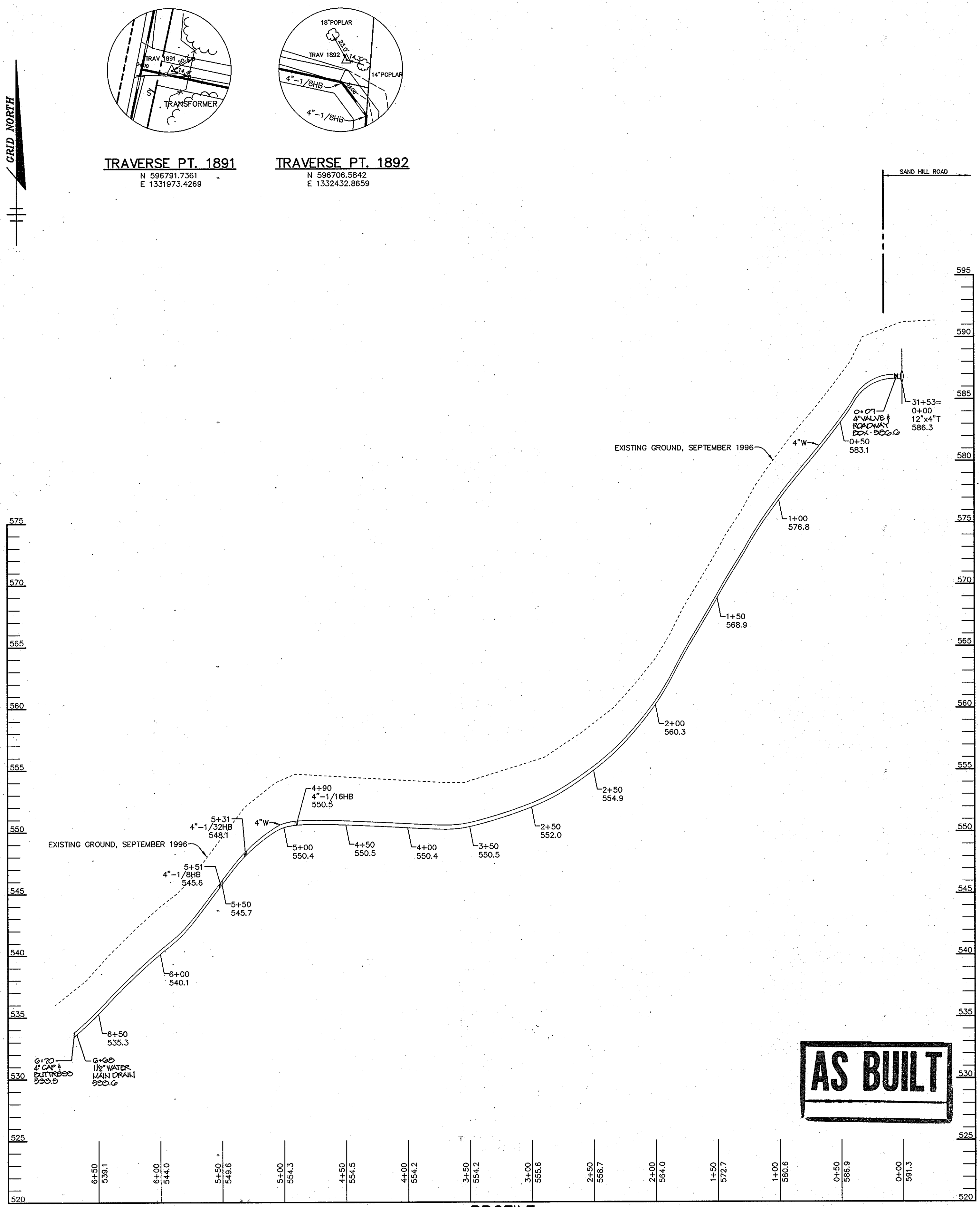


DES:	DWR				
DRN:	DCJ/DCE				
CHK:	SRK				
DATE:	3/96				
BY:	NO.	REVISION	DATE	600' SCALE MAP NO.	BLOCK NO.

PLAN AND PROFILE SAND HILL ROAD
STA. 19+00 TO STA. 34+00

ALPHA RIDGE WATER SUPPLY
CAPITAL PROJECT W-8203
CONTRACT NO. 44-3479
ELECTION DISTRICT NO. 3
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 13 OF 36



TRAVERSE PT. 1891
 N 596791.7361
 E 1331973.4269

TRAVERSE PT. 1892
 N 596706.5842
 E 1332432.8659

PROFILE
 SCALE:
 HOR. - 1" = 50'
 VERT. - 1" = 5'

AS BUILT

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

James J. ... 11/19/96
 DIRECTOR OF PUBLIC WORKS DATE

Paul D. ... 11/15/96
 CHIEF, BUREAU OF ENGINEERING DATE

John ... 11-18-96
 CHIEF, BUREAU OF UTILITIES DATE

Paul D. ... 11-15-96
 CHIEF, WATER AND SEWER DESIGN DIVISION DATE

RIEMER MUEGGE & ASSOCIATES, INC.
 ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
 8818 Centre Park Drive • Suite 200 • Columbia, MD 21045
 410-997-8900 FAX: 410-997-9282
 SURVEY/104000 44-3479.DWG

STATE OF MARYLAND
 PROFESSIONAL ENGINEER
 JAYKANT D. PAREKH # 19148

DES: DAM			
DRN: DAM			
CHK: C.J.R.			
DATE: 11/4/96	BY	NO.	REVISION

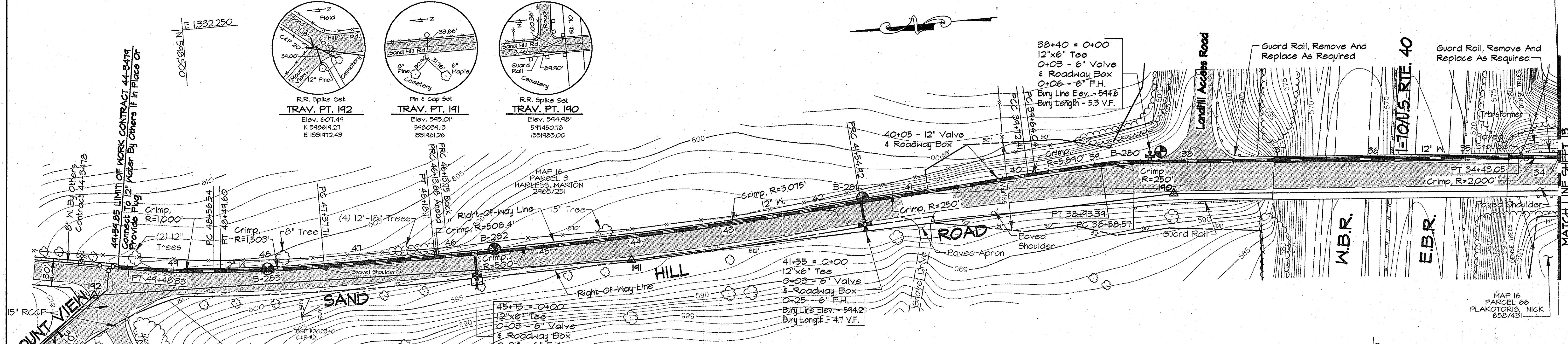
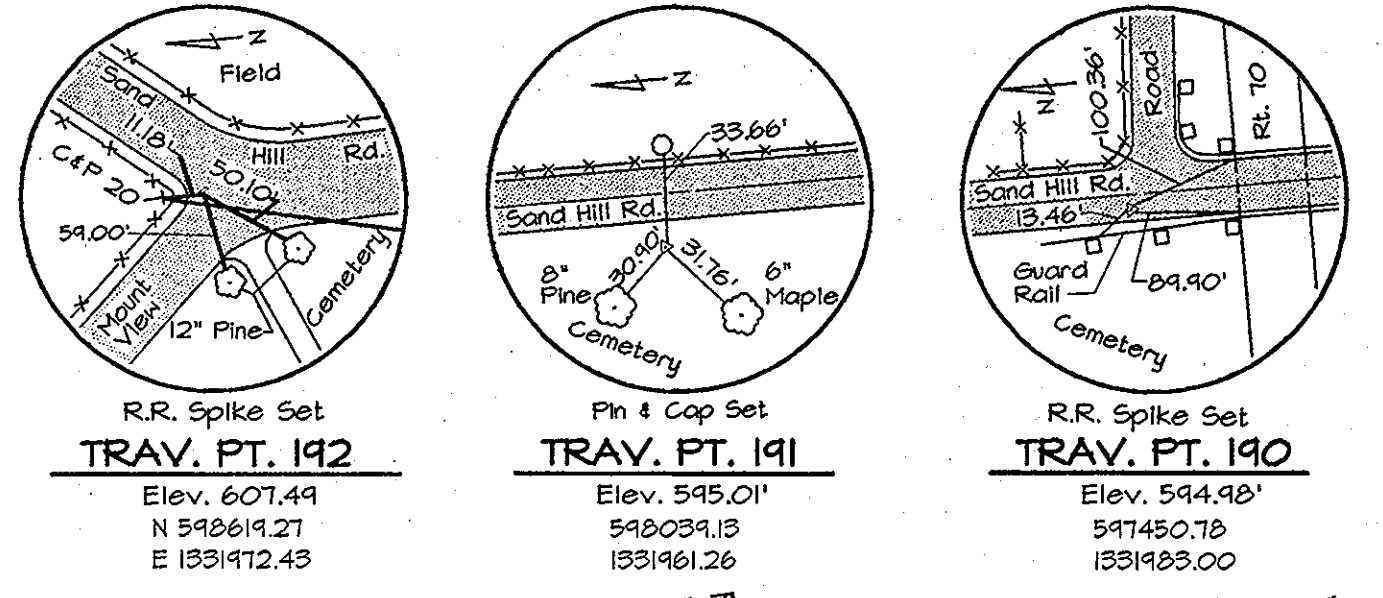
PLAN AND PROFILE OF A WATER MAIN

600' SCALE MAP NO. 16 BLOCK NO. 7

ALPHA RIDGE WATER SUPPLY
 CAPITAL PROJECT W-8203
 CONTRACT NO. 44-3479
 ELECTION DISTRICT NO.3
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 13A OF 36



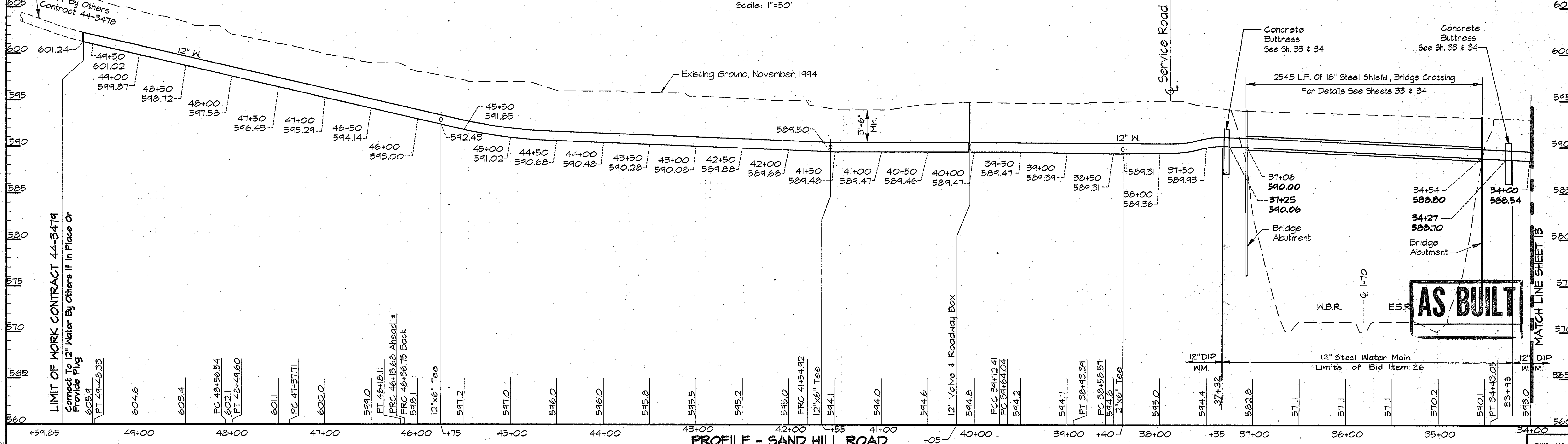
WATER MAIN STAKE-OUT TABLE

TRAVERSE LINE	STATION	OFFSET	DESCRIPTION	TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
189 - 190	1+52.32	36.77' RT.	PT - 34+43.05	191 - 192	2+06.88	17.08' RT.	PRC - 46+13.68 Ahead = PRC - 46+13.75 Back
190 - 191	0+39.55	39.34' RT.	PC - 38+58.57		2+11.31	16.92' RT.	PT - 46+18.11
	0+74.31	40.96' RT.	PT - 38+93.39		3+30.89	15.01' RT.	PC - 47+37.71
	1+44.93	39.23' RT.	PC - 39+64.04		4+42.75	17.40' RT.	PT - 48+49.60
	1+53.30	39.09' RT.	PCC - 39+72.41		4+49.66	17.30' RT.	PC - 48+56.54
	2+95.54	37.99' RT.	PC - 41+14.65		5+40.92	27.37' RT.	PT - 49+48.33
	3+35.68	32.25' RT.	PRC - 41+54.92		5+52.39	29.10' RT.	49+59.85 - LIMIT OF WORK

- NOTES:**
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 - 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.

PLAN
Scale: 1"=50'



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

PKK2\USR2\SDSKPROJ\CM8473\DWG\CONTR_2 ALP-2-14.DWG 13.52

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

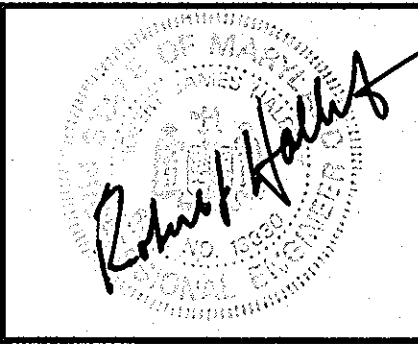
James J. Lewis 5/17/96
DIRECTOR OF PUBLIC WORKS DATE

Robert J. Brown 5-21-96
CHIEF, BUREAU OF UTILITIES DATE

Paul J. Johnson 5/17/96
CHIEF, BUREAU OF ENGINEERING DATE

Ch. De. V. ... 5-17-96
CHIEF, WATER AND SEWER DESIGN DIVISION DATE

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



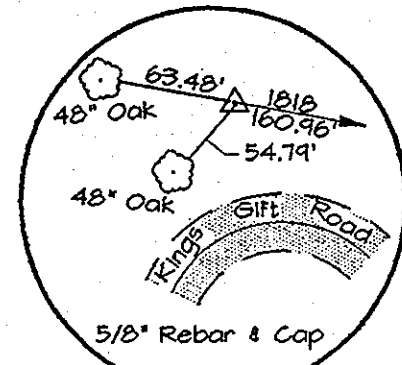
DES:	DWR				
DRN:	DWR/DCE				
CHK:	SRK				
DATE:	3/96				
BY:	NO.				
REVISION:					
DATE:					

PLAN AND PROFILE SAND HILL ROAD
STA. 34+00 TO STA. 49+59.85

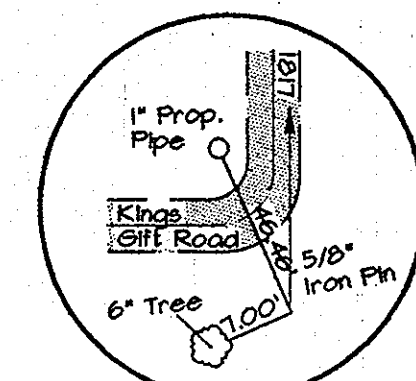
600' SCALE MAP NO. 16 BLOCK NO. 17

ALPHA RIDGE WATER SUPPLY
CAPITAL PROJECT W-8203
CONTRACT NO. 44-3479
ELECTION DISTRICT NO. 3
HOWARD COUNTY, MARYLAND

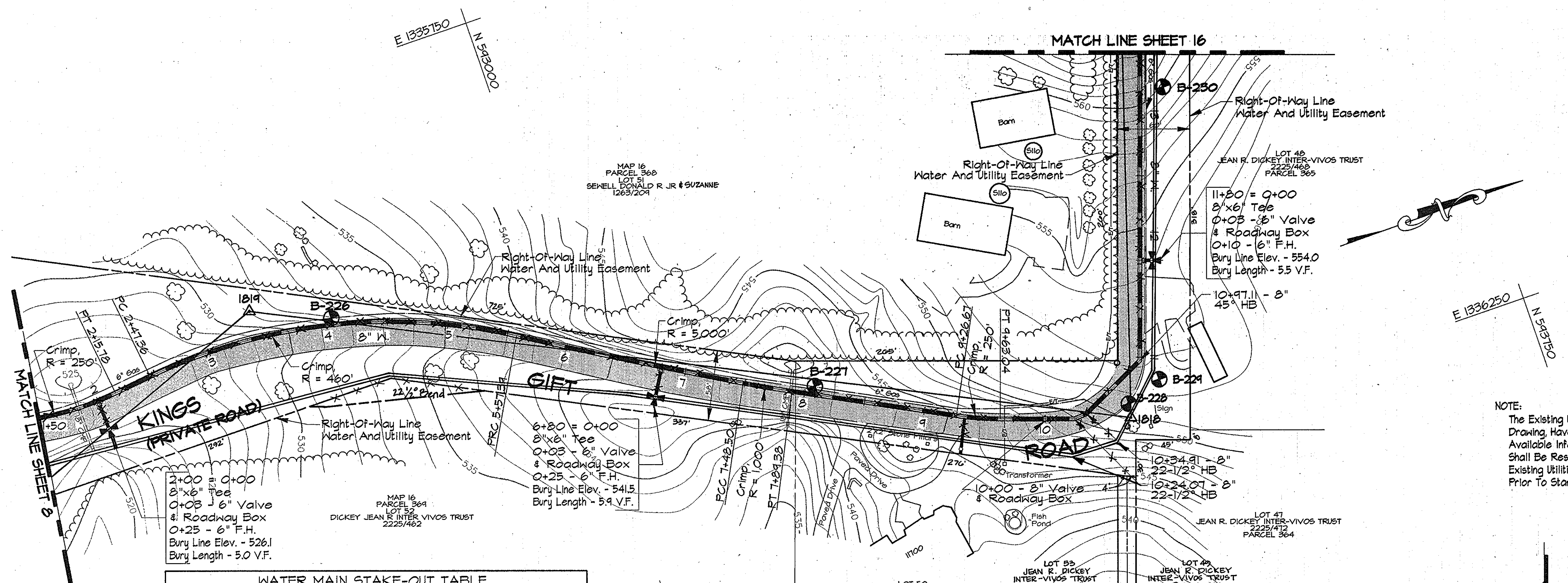
DWG. NO.
SCALE AS SHOWN
SHEET 14 OF 38



TRAV. PT. 1819
 Elev. 531.40
 N 542.753.12
 E 1335.915.95



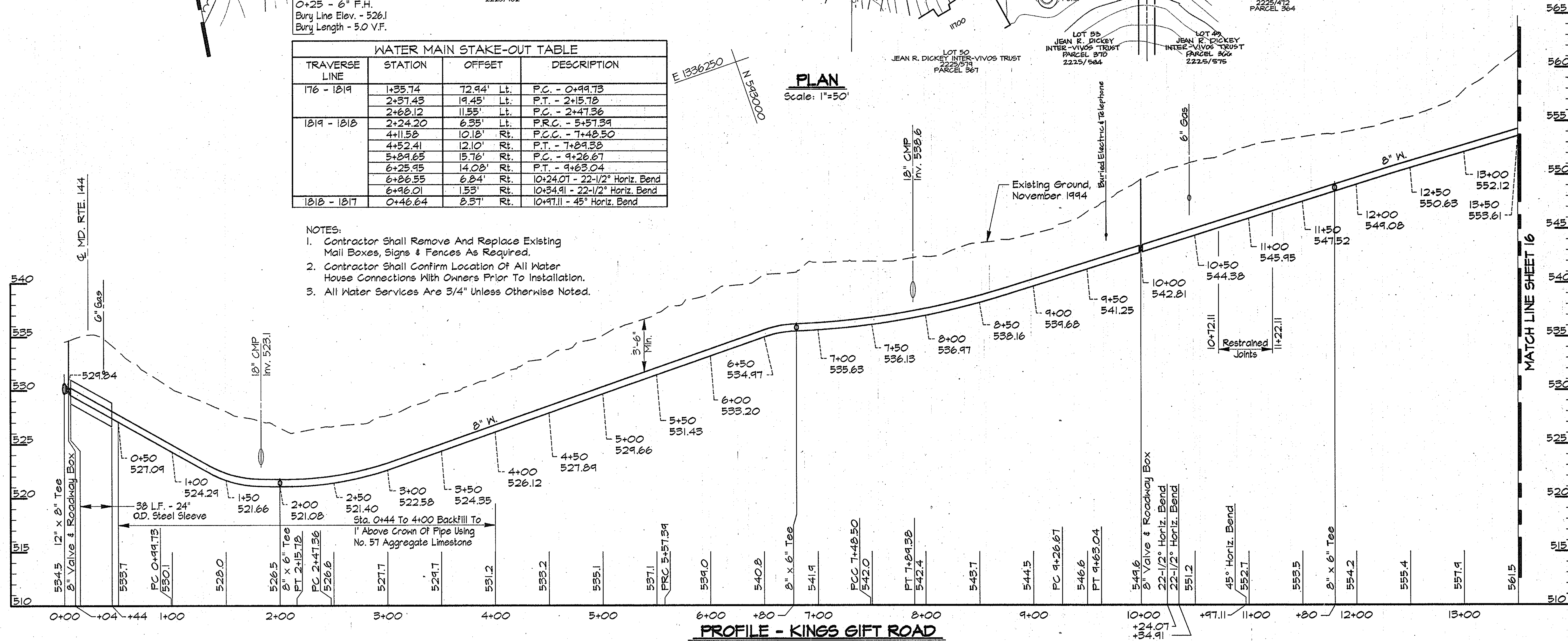
TRAV. PT. 1818
 Elev. 531.14
 N 543.411.91
 E 1336.236.78



2+00 = 0+00
 8" x 6" Tee
 0+05 - 6" Valve
 & Roadway Box
 0+25 - 6" F.H.
 Bury Line Elev. - 526.1
 Bury Length - 5.0 V.F.

TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
176 - 1819	1+35.74	72.94' Lt.	P.C. - 0+99.73
	2+37.43	19.45' Lt.	P.T. - 2+15.78
	2+68.12	11.55' Lt.	P.C. - 2+47.36
1819 - 1818	2+24.20	6.35' Lt.	P.R.C. - 5+57.39
	4+11.58	10.18' Rt.	P.C.C. - 7+48.50
	4+52.41	12.10' Rt.	P.T. - 7+89.38
	5+89.65	15.76' Rt.	P.C. - 9+26.67
	6+25.95	14.08' Rt.	P.T. - 9+63.04
	6+86.55	6.84' Rt.	10+24.01 - 22-1/2° Horiz. Bend
1818 - 1817	6+96.01	1.53' Rt.	10+34.91 - 22-1/2° Horiz. Bend
	0+46.64	8.37' Rt.	10+97.11 - 45° Horiz. Bend

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

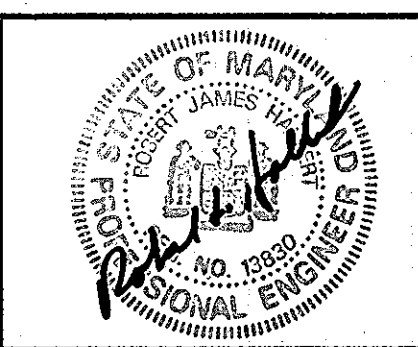
AS BUILT

USR2: \SOSKPROJ\CM9473\DWG\CONTR_2 ALP-2-15.DWG
 03/20/1996 ALPHA PGP 10:59

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

Director of Public Works: *[Signature]* DATE: 5/17/96
 Chief, Bureau of Engineering: *[Signature]* DATE: 5-17-96
 Chief, Bureau of Utilities: *[Signature]* DATE: 5-17-96
 Chief, Water and Sewer Design Division: *[Signature]* DATE: 5-17-96

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



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

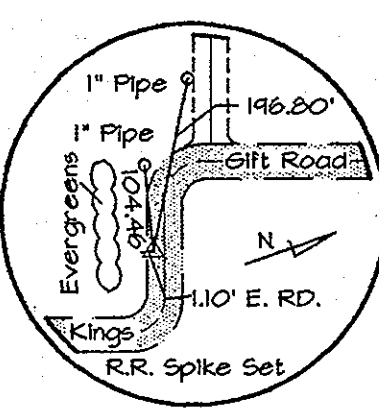
PLAN AND PROFILE KINGS GIFT ROAD
 STA. 0+00 TO STA. 14+00

600' SCALE MAP NO. 16 BLOCK NO. 14 & 15

ALPHA RIDGE WATER SUPPLY
 CAPITAL PROJECT W-8203
 CONTRACT NO. 44-3479
 ELECTION DISTRICT NO. 3
 HOWARD COUNTY, MARYLAND

DWG. NO.
 SCALE AS SHOWN
 SHEET 15 OF 36

MAP 16
PARCEL 320
LOT 6
SUDON INVESTMENTS
WEST VIRGINIA
1982/1984



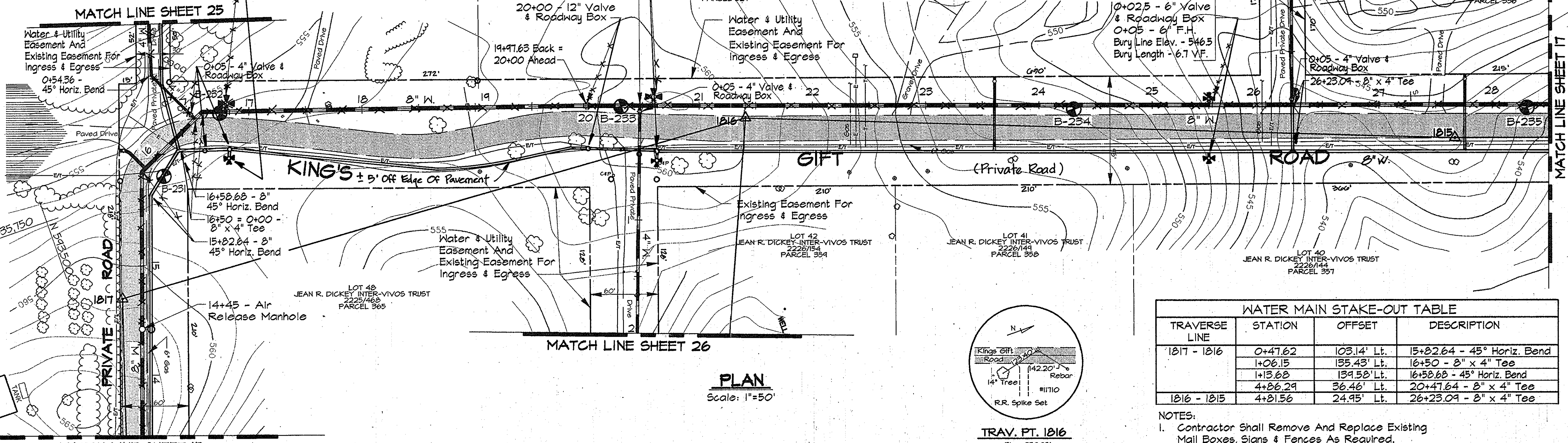
TRAV. PT. 1017
Elev. 560.83'
N 94°54'06"
E 1335°26.26

LOT 51
SEHELL, DONALD & SUZANNE
265/304
PARCEL 368

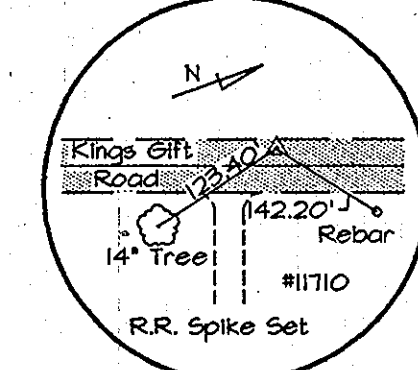
16+80 = 0+00
8"x6" Tee
0+03 - 6" Valve
& Roadway Box
0+08 - 6" F.H.
Bury Line Elev. - 558.0
Bury Length - 4.8 V.F.

20+60 = 0+00
8"x6" Tee
0+03 - 6" Valve
& Roadway Box
0+08 - 6" F.H.
Bury Line Elev. - 561.0
Bury Length - 5.1 V.F.

25+50 = 0+00
8"x6" Tee
0+02.5 - 6" Valve
& Roadway Box
0+05 - 6" F.H.
Bury Line Elev. - 546.5
Bury Length - 6.1 V.F.



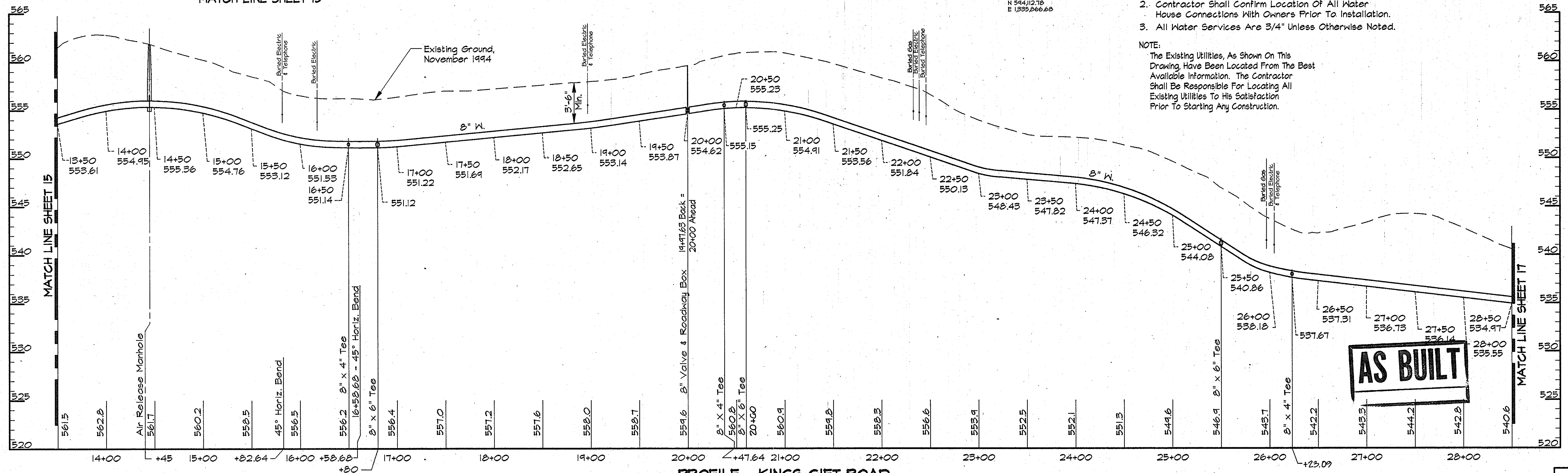
PLAN
Scale: 1"=50'



TRAV. PT. 1016
Elev. 559.92'
N 94°41'27.8"
E 1335°26.66

TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
1017 - 1016	0+47.62	103.14' Lt.	15+82.64 - 45° Horiz. Bend
	1+06.15	135.43' Lt.	16+50 - 8" x 4" Tee
	1+13.82	139.52' Lt.	16+58.68 - 45° Horiz. Bend
1016 - 1015	4+26.29	36.46' Lt.	20+47.64 - 8" x 4" Tee
	4+21.56	24.95' Lt.	26+23.09 - 8" x 4" Tee

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

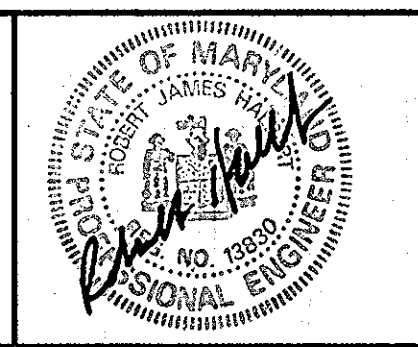
AS BUILT

USR2: S:\S\PROJ\049473\DWG\CONTR_2 ALP-2-16.DWG 03/20/1996 11:03

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works: *James P. Sullivan* 5/17/96
Chief, Bureau of Engineering: *Richard J. Sappan* 5/17/96
Chief, Bureau of Utilities: *Robert M. Berry* 5-21-96
Chief, Water and Sewer Design Division: *Oliver J. Quinn* 5-17-96

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



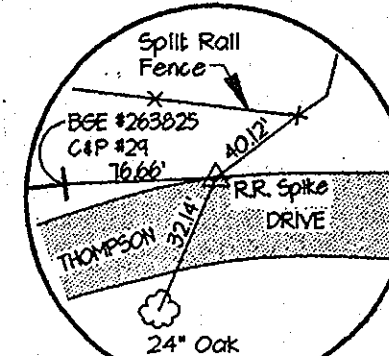
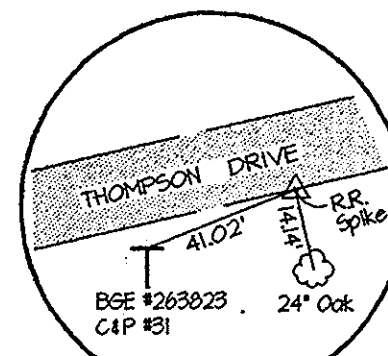
DES:	DWR		
DRN:	DCE/DWR		
CHK:	SRK		
DATE:	3/96		
BY:	NO.	REVISION	DATE

PLAN AND PROFILE KING'S GIFT ROAD
STA. 14+00 TO STA. 28+50

600' SCALE MAP NO. 16 BLOCK NO. 8 & 14

ALPHA RIDGE WATER SUPPLY
CAPITAL PROJECT W-8203
CONTRACT NO. 44-3479
ELECTION DISTRICT NO. 3
HOWARD COUNTY, MARYLAND

DWG. NO.
SCALE AS SHOWN
SHEET 16 OF 36



TRAV. PT. 1801
Elev. 447.60
N 543,485.35
E 1333,725.40

TRAV. PT. 1802
Elev. 503.15
N 544,044.70
E 1,333,602.71

4+80 = 0+00
8" x 6" Tee
0+03 - 6" Valve
& Roadway Box
0+08 - 6" F.H.
Bury Line Elev. - 482.0
Bury Length - 7.9 V.F.

12+70 = 0+00
8" x 6" Tee
0+03 - 6" Valve
& Roadway Box
0+08 - 6" F.H.
Bury Line Elev. - 521.2
Bury Length - 7.0 V.F.

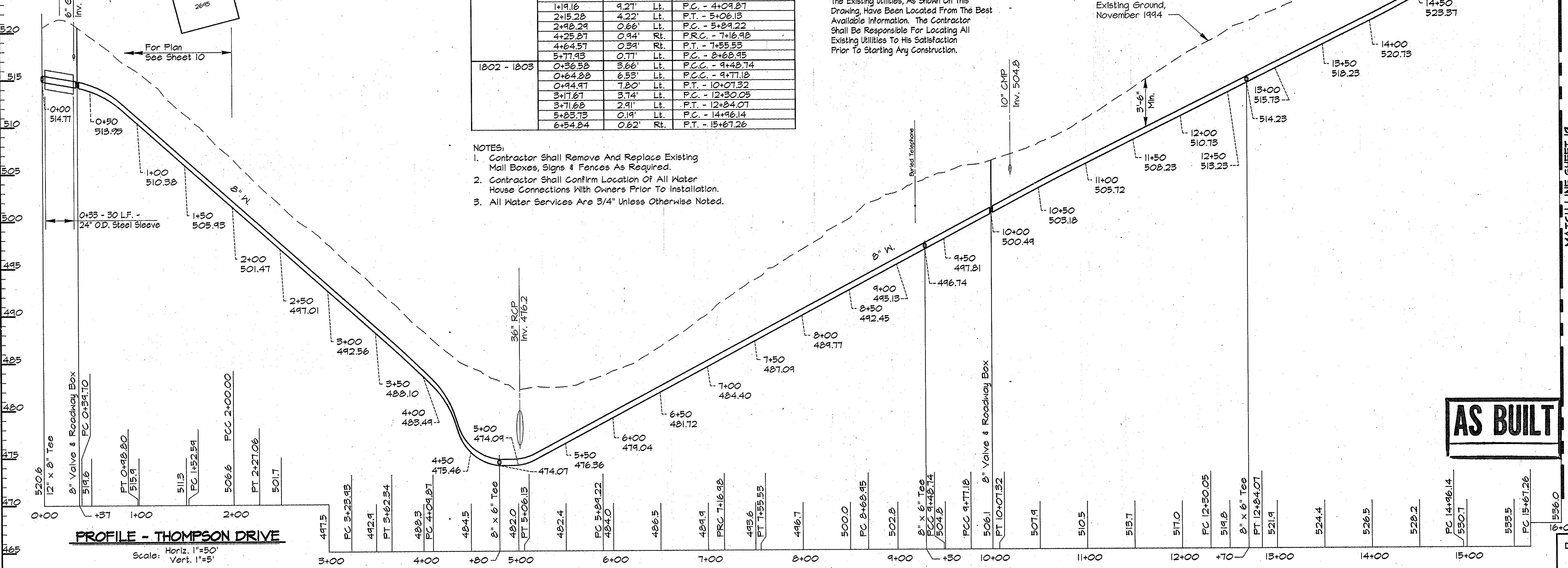
PLAN
Scale: 1"=50'

TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
180 - 1801	3+08.27	53.73' Lt.	P.C.C. - 2+00.00
	3+32.61	41.94' Lt.	P.T. - 2+21.06
	0+33.43	15.20' Lt.	P.C. - 3+23.93
	0+71.72	12.23' Lt.	P.T. - 3+62.34
	1+19.16	9.27' Lt.	P.C. - 4+09.87
1801 - 1802	2+15.28	4.22' Lt.	P.T. - 5+06.13
	2+48.29	0.66' Lt.	P.C. - 5+89.22
	4+25.87	0.94' Rt.	P.R.C. - 7+16.98
	4+64.57	0.39' Rt.	P.T. - 7+55.53
	5+77.93	0.77' Lt.	P.C. - 8+68.95
1802 - 1803	0+36.58	3.66' Lt.	P.C.C. - 9+48.74
	0+64.88	6.53' Lt.	P.C.C. - 9+77.18
	0+94.97	7.80' Lt.	P.T. - 10+07.32
	3+17.67	3.74' Lt.	P.C. - 12+30.05
	3+71.68	2.91' Lt.	P.T. - 12+84.07
	5+83.73	0.19' Lt.	P.C. - 14+96.14
	6+54.84	0.62' Rt.	P.T. - 15+67.26

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.
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 - All Water Services Are 3/4" Unless Otherwise Noted.

AS BUILT



PROFILE - THOMPSON DRIVE

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

US92\108\KPC\09\73\DWG\CONTR_2 14-40 ALP-2-18.DWG

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James P. ... 5/1/96
DIRECTOR OF PUBLIC WORKS

Robert J. ... 5/17/96
CHIEF, BUREAU OF ENGINEERING

Robert J. ... 5-21-96
CHIEF, BUREAU OF UTILITIES

... 5-17-96
CHIEF, WATER AND SEWER DESIGN DIVISION

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

DES: DWR
DRN: DCJ/DWR
CHK: SRK
DATE: 3/96

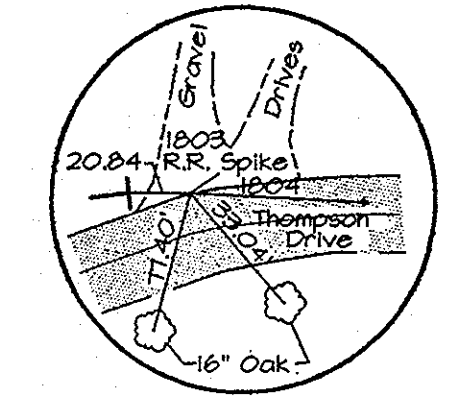
BY NO. REVISION DATE

PLAN AND PROFILE THOMPSON DRIVE
STA. 0+00 TO 16+00

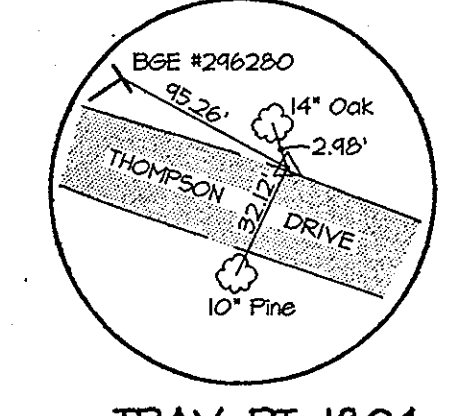
600' SCALE MAP NO. 16 BLOCK NO. 8 & 14

ALPHA RIDGE WATER SUPPLY
CAPITAL PROJECT W-8203
CONTRACT NO. 44-3479
ELECTION DISTRICT NO. 3
HOWARD COUNTY, MARYLAND

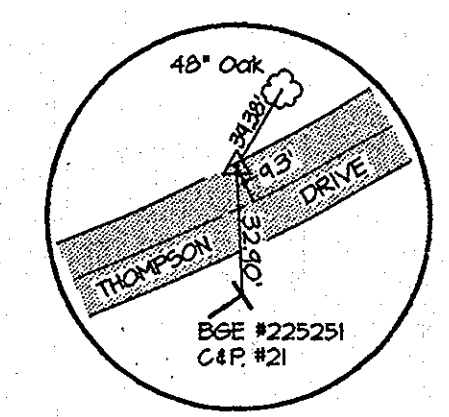
DWG. NO.
SCALE AS SHOWN
SHEET 18 OF 36



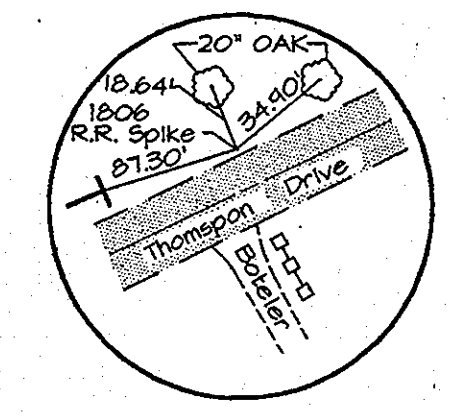
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N 544.084.63
E 1233.145.28



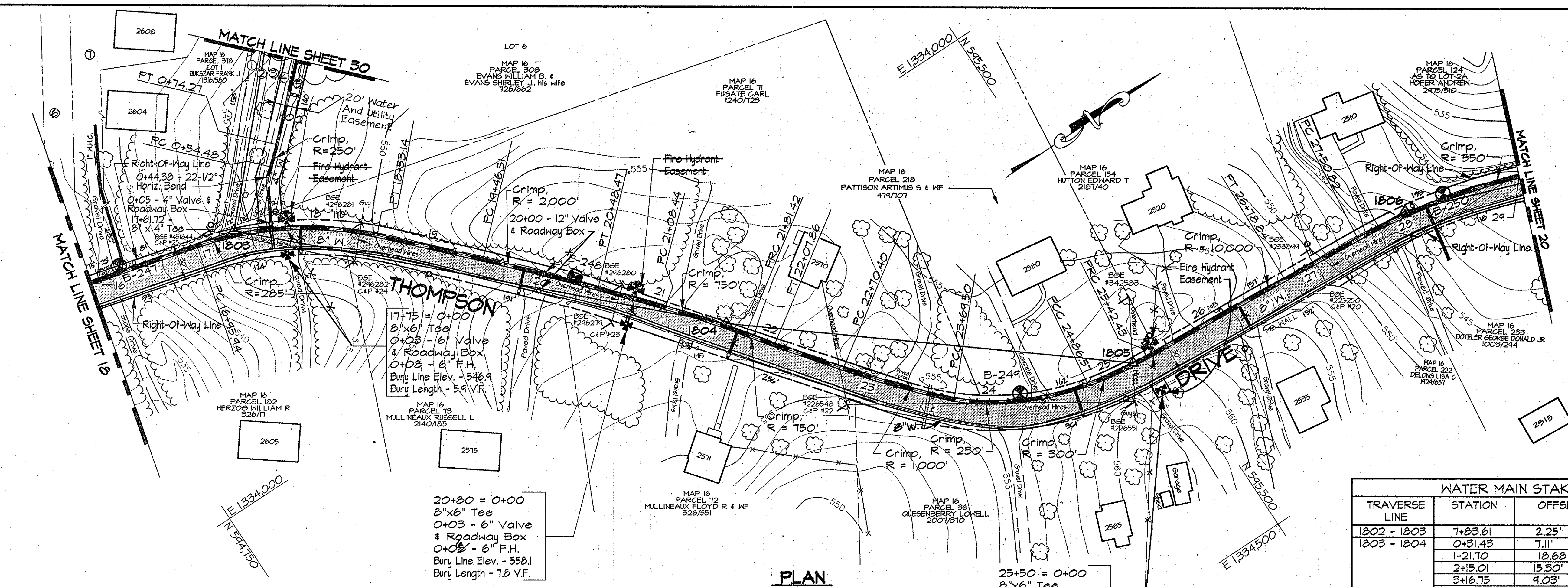
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Elev. 557.71
N 555.191.22
E 1234.014.81



TRAV. PT. 1805
Elev. 556.67
N 545.412.67
E 1234.515.50



TRAV. PT. 1806
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E 1234.534.88

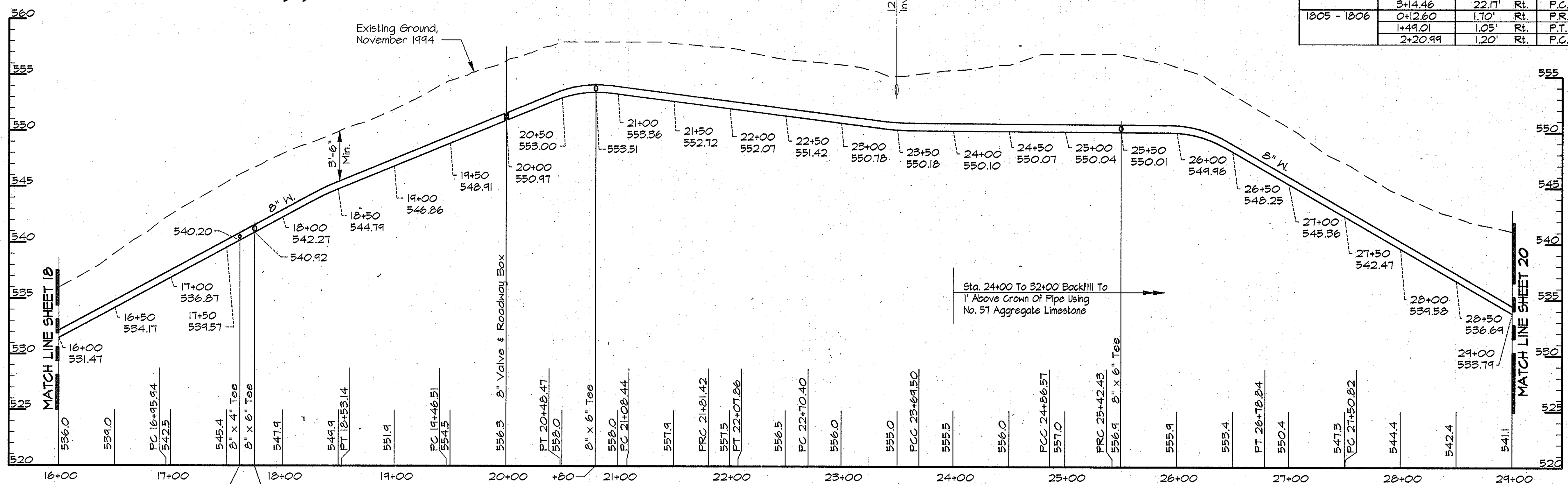


PLAN
Scale: 1"=50'

TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
1802 - 1803	7+03.61	2.25' Rt.	P.C. - 16+95.94
	0+31.43	7.11' Lt.	17+61.72 - 8" x 4" Tee
	1+21.70	18.68' Lt.	P.T. - 18+53.14
	2+5.01	15.30' Lt.	P.C. - 19+46.51
1803 - 1804	3+16.75	4.03' Lt.	P.T. - 20+48.47
	8+16.49	3.81' Lt.	P.C. - 21+08.44
	0+50.01	20.34' Rt.	0+44.38 - 22-1/2" Horiz. Bend
	0+00.35	22.00' Rt.	P.C. - 0+54.48
1804 - 1805	0+19.22	23.86' Rt.	P.T. - 0+14.27
	0+17.37	7.64' Rt.	P.R.C. - 21+01.42
	0+42.95	14.35' Rt.	P.T. - 22+07.86
	1+03.71	29.16' Rt.	P.C. - 22+70.40
1805 - 1806	2+01.24	46.51' Rt.	P.C.C. - 23+69.50
	3+14.46	22.17' Rt.	P.C.C. - 24+06.57
	0+12.60	1.70' Rt.	P.R.C. - 25+42.43
	1+49.01	1.05' Rt.	P.T. - 26+18.84
	2+20.99	1.20' Rt.	P.C. - 27+50.82

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:
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 - THOMPSON DRIVE

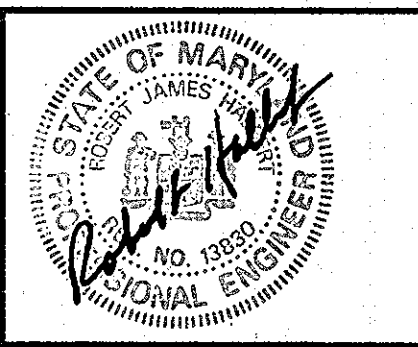
Scale: Horiz. 1"=50'
Vert. 1"=5'

AS BUILT

USP2: \SDSKPROJ\CM9473\DWGCONTR_2 ALP-2-19.DWG 03/20/1996 11:09

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
5/21/96
5/21/96

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

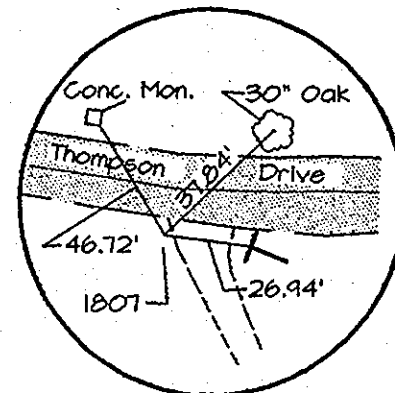


DES: DWR	
DRN: DCJ/DWR	
CHK: SRK	
DATE: 3/96	
BY: NO.	REVISION
DATE	600' SCALE MAP NO. 16 BLOCK NO. 8

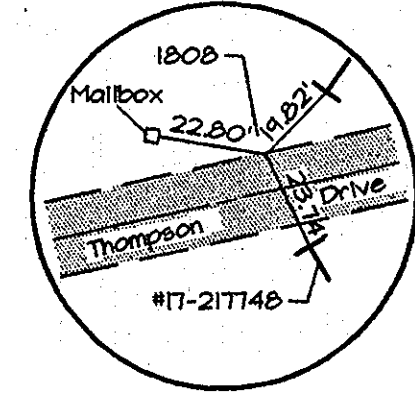
PLAN AND PROFILE THOMPSON DRIVE
STA. 16+00 TO STA. 29+00

ALPHA RIDGE WATER SUPPLY
CAPITAL PROJECT W-8203
CONTRACT NO. 44-3479
ELECTION DISTRICT NO. 3
HOWARD COUNTY, MARYLAND

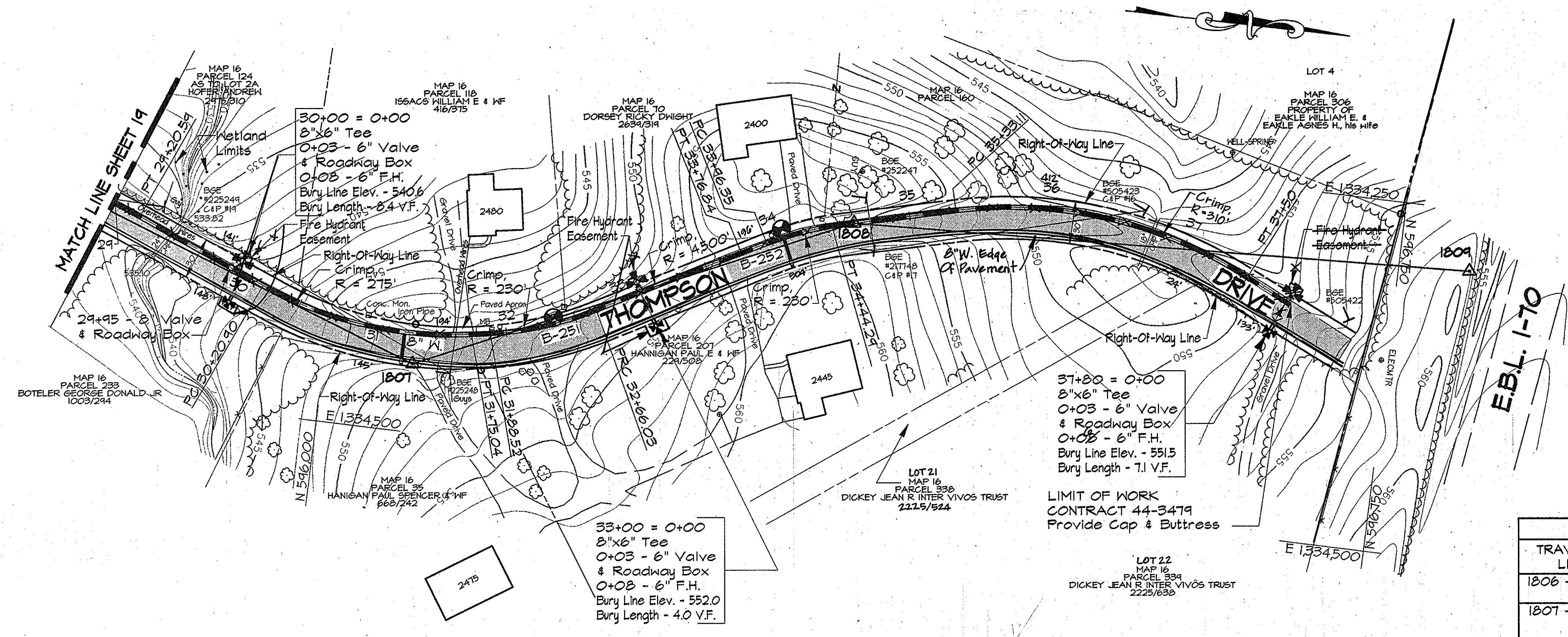
DWG. NO.
SCALE AS SHOWN
SHEET 19 OF 36



TRAV. PT. 1807
Elev. 541.70
N 546.062.96
E 1334.451.04



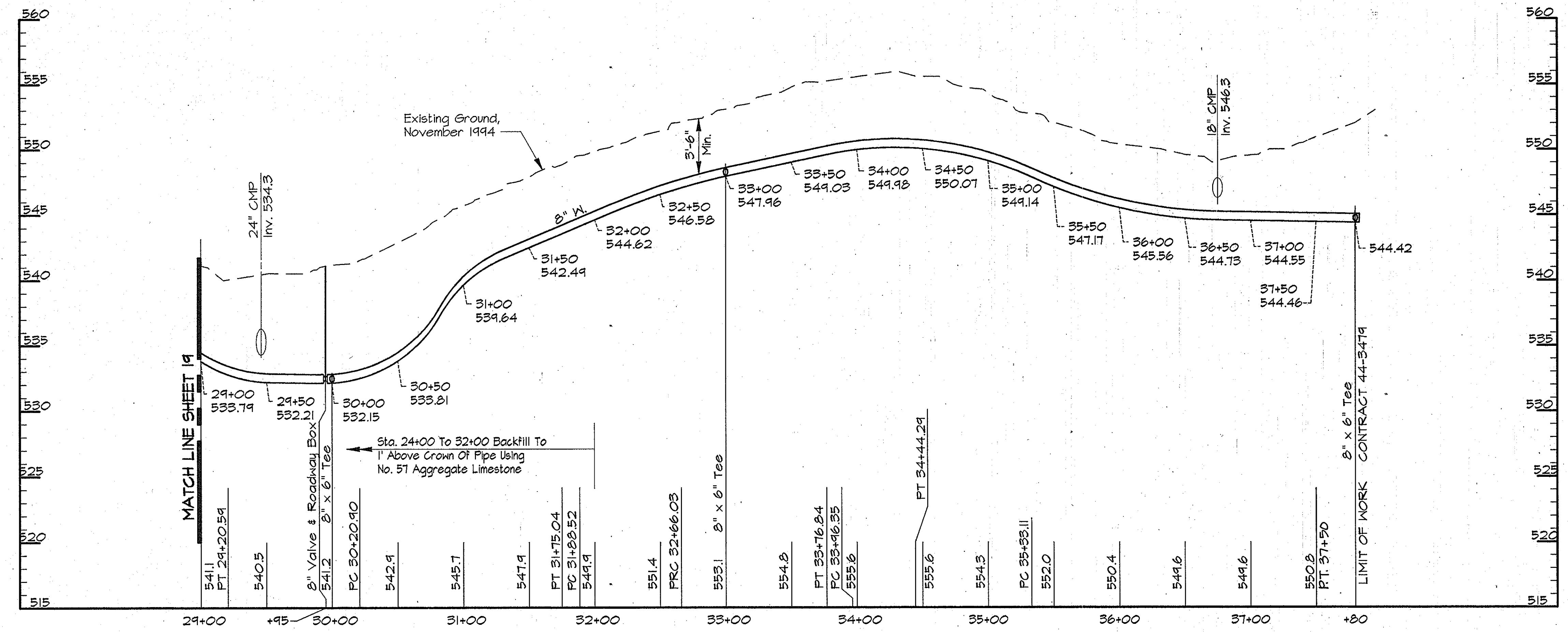
TRAV. PT. 1808
Elev. 555.15
N 546.362.17
E 1334.312.95



PLAN
Scale: 1"=50'

WATER MAIN STAKE-OUT TABLE			
TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
1806 - 1807	1+23.04	5.85' Lt.	P.T. - 29+20.59
	2+23.25	1.66' Lt.	P.C. - 30+20.90
1807 - 1808	0+46.13	7.03' Lt.	P.T. - 31+75.04
	0+59.16	3.85' Lt.	P.C. - 31+88.52
	1+35.99	3.14' Rt.	P.R.C. - 32+66.03
	2+46.56	4.10' Lt.	P.T. - 33+76.84
	2+66.04	5.14' Lt.	P.C. - 33+96.55
	3+09.53	3.32' Lt.	P.T. - 34+44.29
1808 - 1809	0+71.40	14.49' Lt.	P.C. - 35+33.11
	2+21.62	16.54' Rt.	P.T. - 37+50.00

- 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.



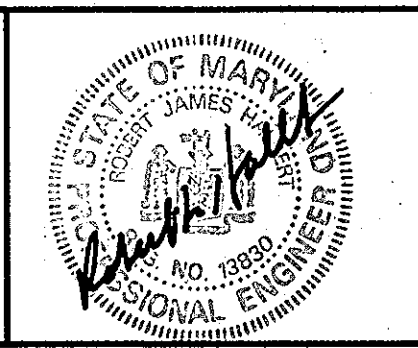
PROFILE - THOMPSON DRIVE
Scale: Horiz. 1"=50'
Vert. 1"=5'

AS BUILT

USR2: S:\S\PROJ\CM9473\DWG\CONTR_2 03/20/1996 13:33

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
DATE: 5-21-96
DATE: 5-17-96

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

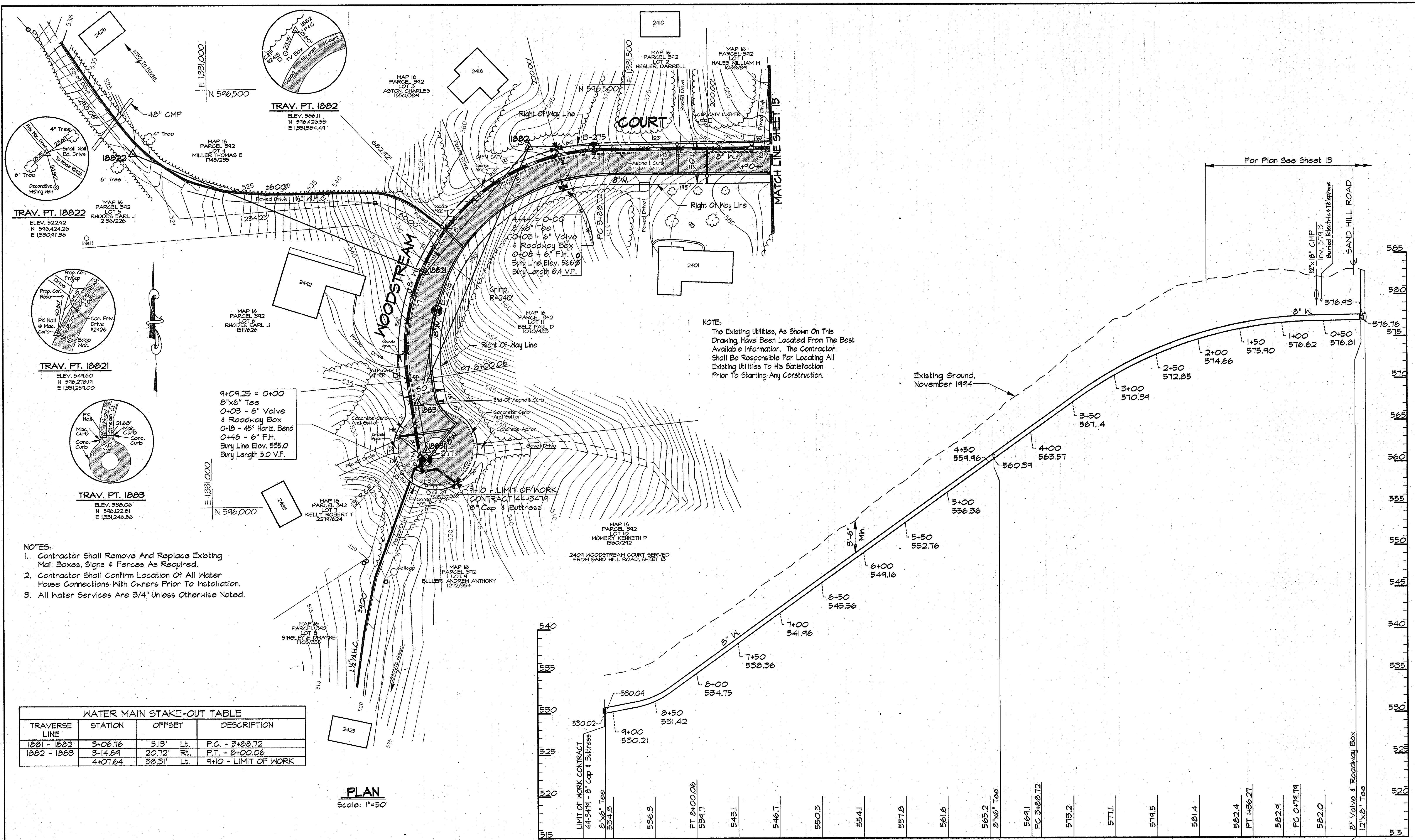


DES:	DWR				
DRN:	DCJ/DWR				
CHK:	SRK				
DATE:	3/96	BY:	NO.	REVISION	DATE

PLAN AND PROFILE THOMPSON DRIVE
STA. 29+00 TO STA. 37+50
600' SCALE MAP NO. 16 BLOCK NO. 2

ALPHA RIDGE WATER SUPPLY
CAPITAL PROJECT W-8203
CONTRACT NO. 44-3479
ELECTION DISTRICT NO. 3
HOWARD COUNTY, MARYLAND

DWG. NO.
SCALE AS SHOWN
SHEET 20 OF 38



TRAV. PT. 1882
 ELEV. 522.42
 N 546,424.26
 E 1330,411.36

TRAV. PT. 1882
 ELEV. 566.11
 N 546,426.58
 E 1331,364.44

TRAV. PT. 1881
 ELEV. 549.60
 N 546,278.19
 E 1331,259.00

TRAV. PT. 1883
 ELEV. 535.06
 N 546,222.91
 E 1331,246.86

- 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
1881 - 1882	3+06.76	5.13' Lt.	P.C. - 3+28.72
1882 - 1883	3+14.89	20.72' Rt.	P.T. - 8+00.06
	4+07.64	38.31' Lt.	9+10 - LIMIT OF WORK

PLAN
 Scale: 1"=50'

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

AS BUILT

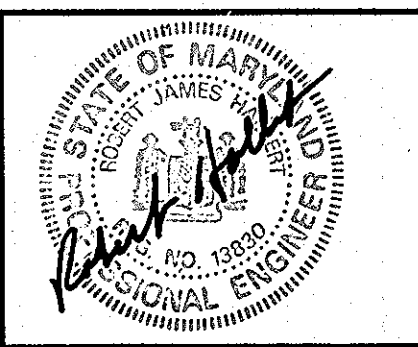
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DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

James J. ... 5/17/96
 DIRECTOR OF PUBLIC WORKS DATE

Richard ... 5-21-96
 CHIEF, BUREAU OF UTILITIES DATE

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



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

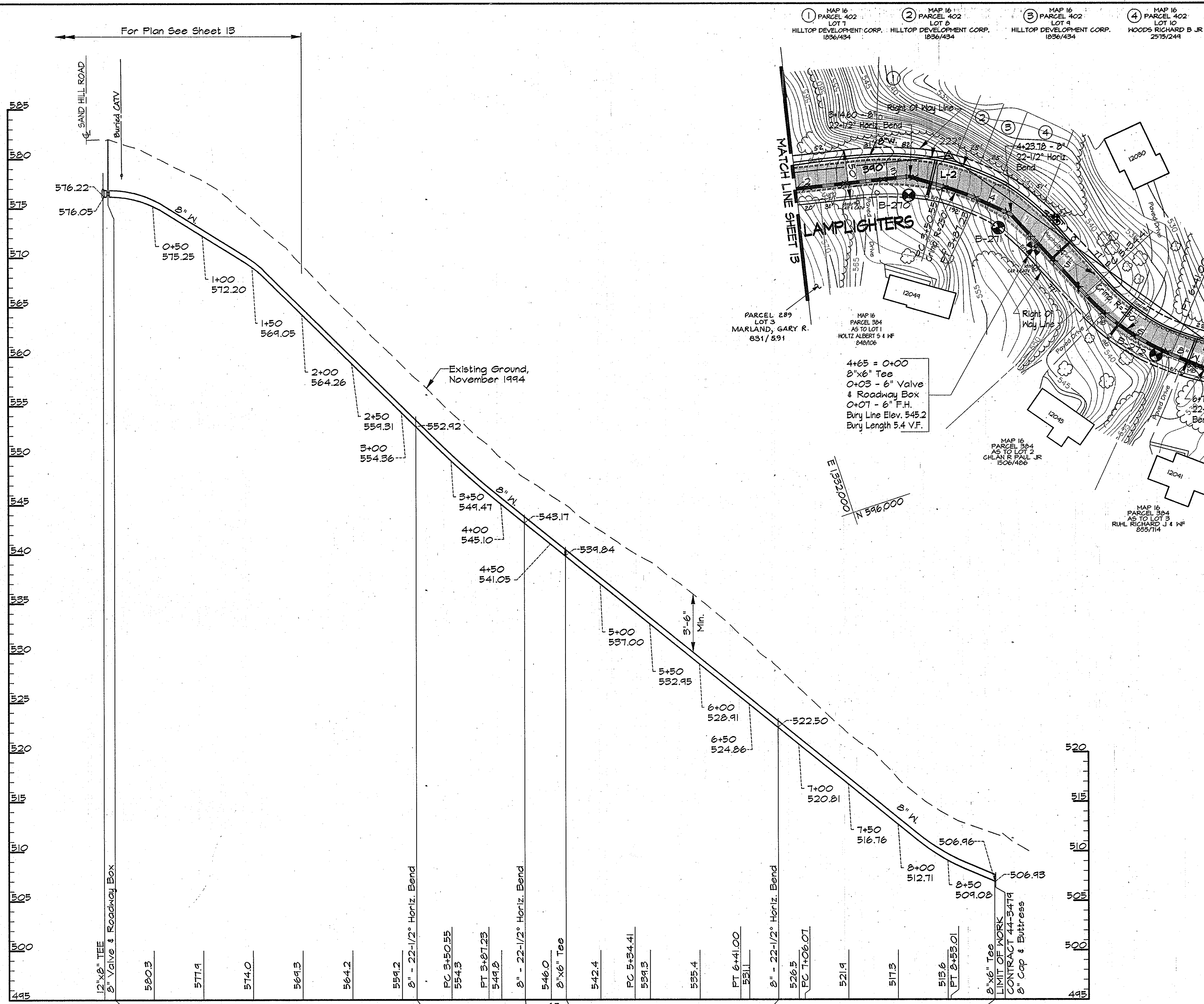
PLAN AND PROFILE WOOD STREAM COURT
 STA. 0+00 TO STA. 9+10

600' SCALE MAP NO. 16 BLOCK NO. 7

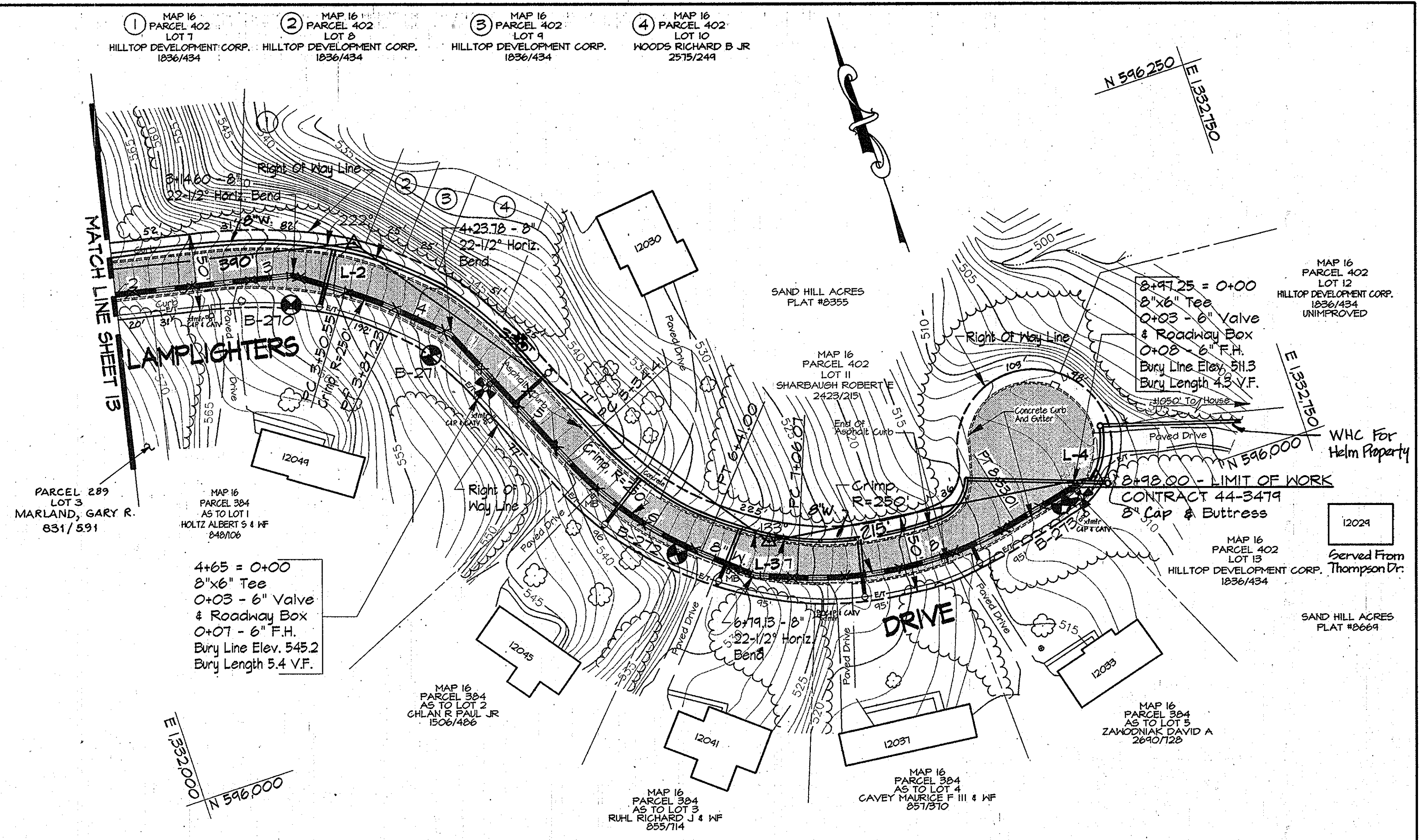
ALPHA RIDGE WATER SUPPLY
 CAPITAL PROJECT W-8203
 CONTRACT NO. 44-3479
 ELECTION DISTRICT NO. 3
 HOWARD COUNTY, MARYLAND

DWG. NO. _____
 SCALE AS SHOWN
 SHEET 21 OF 38

USPC: \SDSK\PROJ\CM9473\DWG\CONTR_2 ALP-2-22.DWG 03/20/1996 13:39



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



PLAN
Scale: 1"=50'

WATER MAIN STAKE-OUT TABLE			
TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
L-1 - L-2	3+47.83	16.40' Rt.	3+4.60 - 22-1/2° Horiz. Bend
	3+81.06	30.11' Rt.	FC - 3+50.55
L-2 - L-3	0+48.84	18.63' Rt.	PT - 3+87.23
	0+84.70	11.55' Rt.	4+23.78 - 22-1/2° Horiz. Bend
	1+93.17	33.26' Rt.	FC - 5+34.41
	2+98.94	31.60' Rt.	PT - 6+41.00
L-3 - L-4	3+36.08	22.95' Rt.	6+19.13 - 22-1/2° Horiz. Bend
	0+13.53	26.51' Rt.	FC - 7+06.07
	1+58.15	18.74' Rt.	PT - 8+53.01
	2+03.27	2.39' Rt.	8+98.00 - LIMIT OF WORK

- 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.

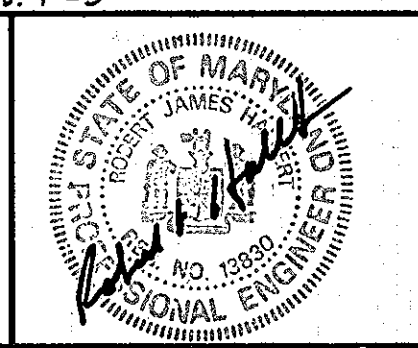
AS BUILT

DWG. NO.
SCALE AS SHOWN
SHEET 22 OF 36

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works: *James P. ...* 5/21/96
Chief, Bureau of Engineering: *Paul ...* 5/17/96
Chief, Bureau of Utilities: *...* 5-21-96
Chief, Water and Sewer Design Division: *...* 5-17-96

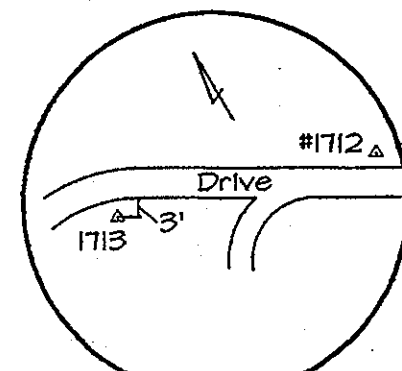
RK & K
RUMMEL, KLEPPER & KAHL
CONSULTING ENGINEERS
81 MOSHER ST.
BALTIMORE, MARYLAND 21217



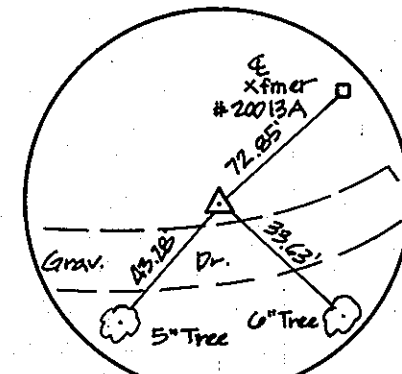
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DRN:	MJS/DCE				
CHK:	SRK				
DATE:	3/96				
BY:	NO.	REVISION	DATE	600' SCALE MAP NO.	BLOCK NO.

PLAN AND PROFILE LAMPLIGHTERS DR.
STA. 0+00 TO STA. 8+98

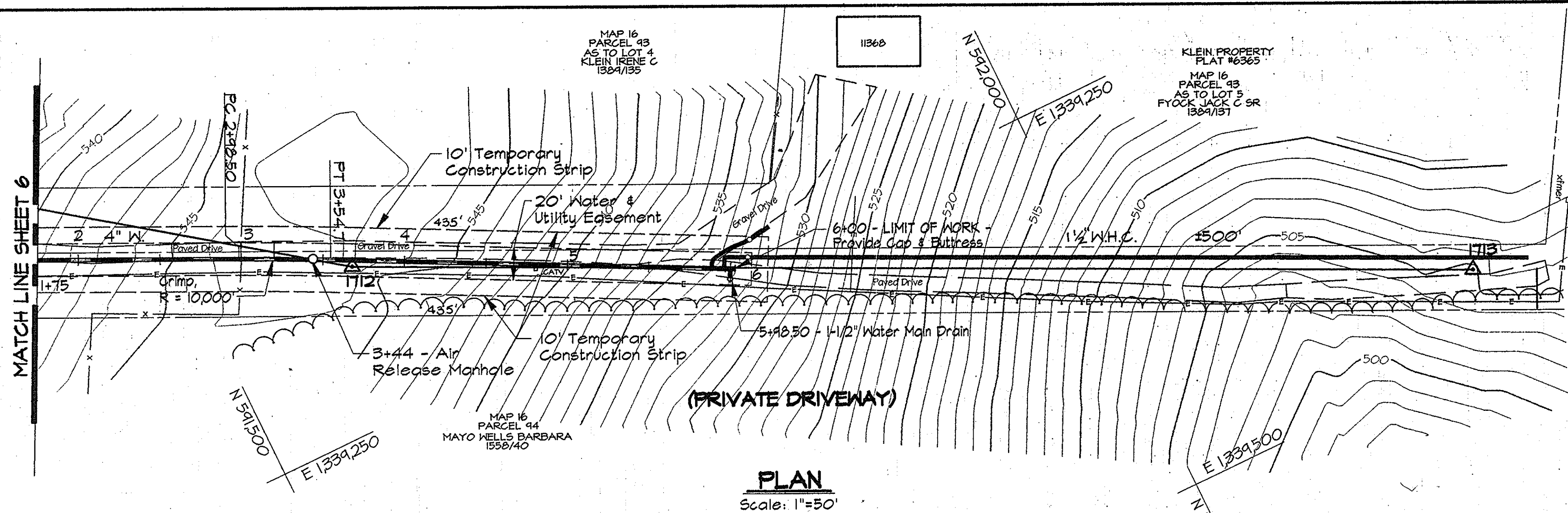
ALPHA RIDGE WATER SUPPLY
CAPITAL PROJECT W-8203
CONTRACT NO. 44-3479
ELECTION DISTRICT NO. 3
HOWARD COUNTY, MARYLAND



TRAV. PT. 1712
Elev. 545.44'
N 54°59'05"
E 1334.153.02



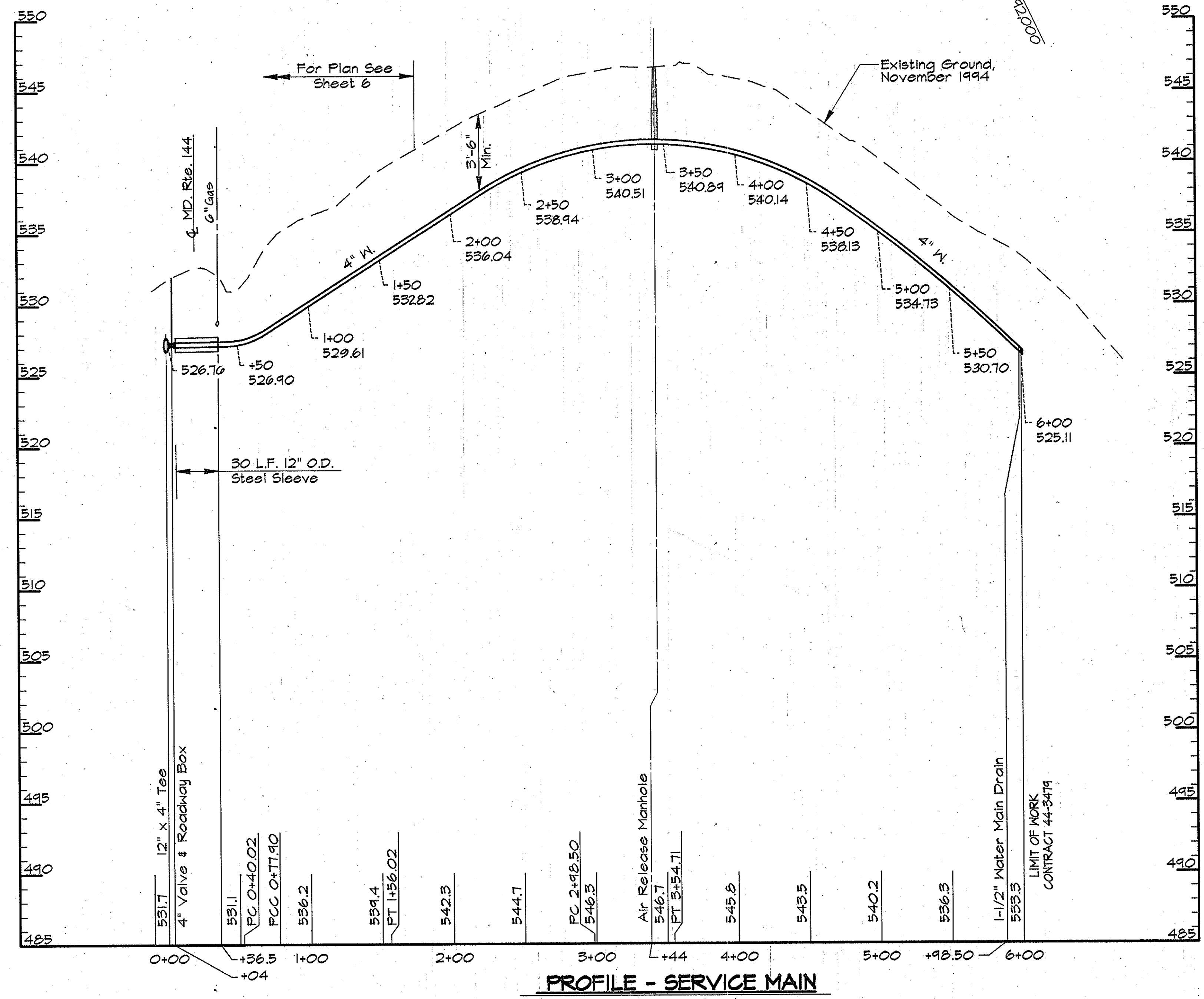
TRAV. PT. 1713
Elev. 504.61
N 99°22'21.0"
E 1397.455.2264



TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
1711 - 170	0+52.71	16.12' Rt.	P.C. - 0+40.02
1711 - 1712	0+21.10	48.18' Rt.	P.C.C. - 0+17.90
	0+48.05	34.81' Rt.	P.T. - 1+56.02
	2+57.98	8.02' Rt.	P.C. - 2+48.50
1712 - 1713	2+48.17	2.76' Lt.	P.T. - 3+54.71
	2+31.86	0.64' Rt.	LIMIT OF WORK

- 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

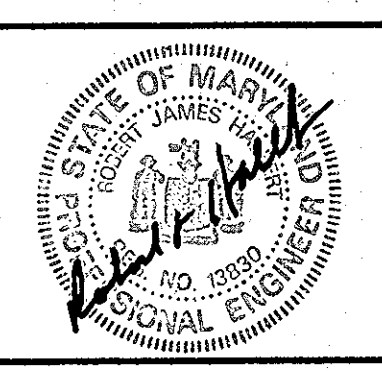
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DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Jamie A. ... 5/17/96
DIRECTOR OF PUBLIC WORKS

Richard ... 5-21-96
CHIEF, BUREAU OF UTILITIES

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



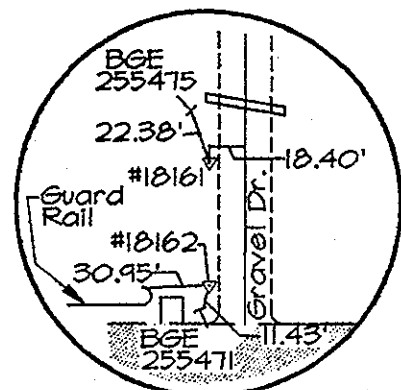
DES:	DWR				
DRN:	DWR				
CHK:	SRK				
DATE:	3/96	BY:	NO.	REVISION	DATE

PLAN AND PROFILE SERVICE MAIN
STA. 00+00 TO STA. 6+00

600' SCALE MAP NO. 16 BLOCK NO. 15, 16, & 21

ALPHA RIDGE WATER SUPPLY
CAPITAL PROJECT W-8203
CONTRACT NO. 44-3479
ELECTION DISTRICT NO. 3
HOWARD COUNTY, MARYLAND

DWG. NO.
SCALE AS SHOWN
SHEET 23 OF 36



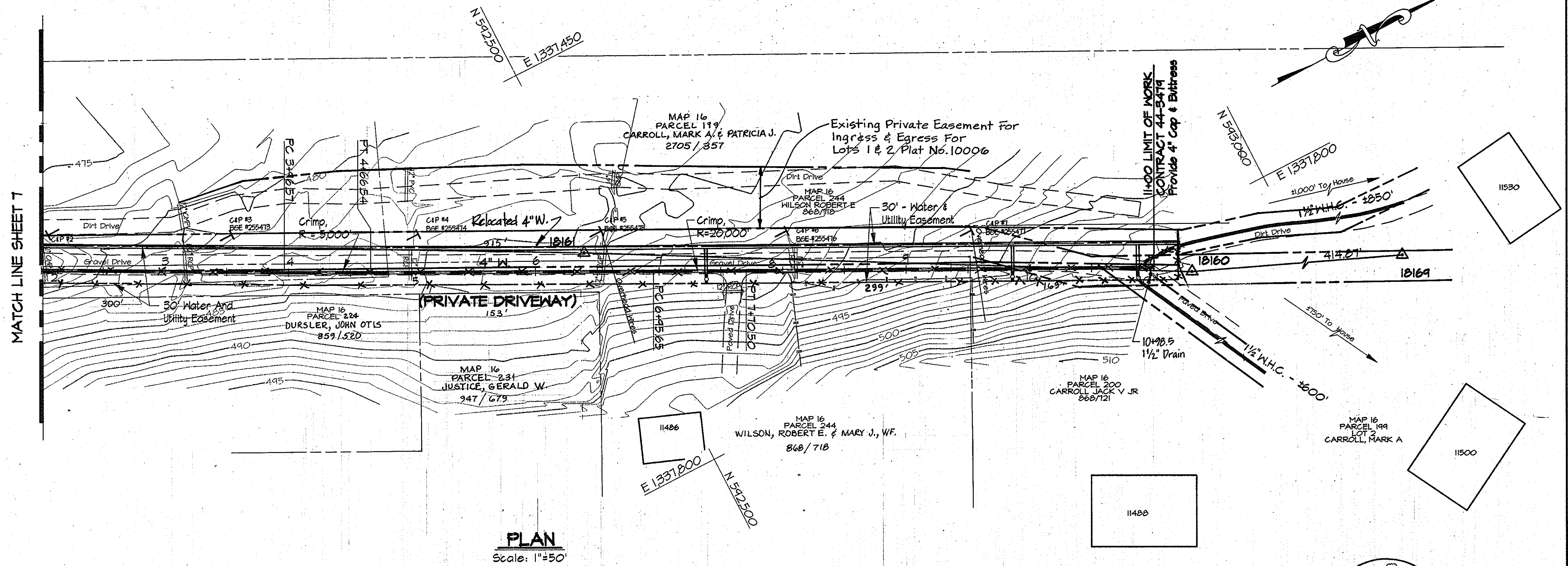
TRAV. PT. 18161

Elev. 486.77
N 542483.13
E 1337602.87

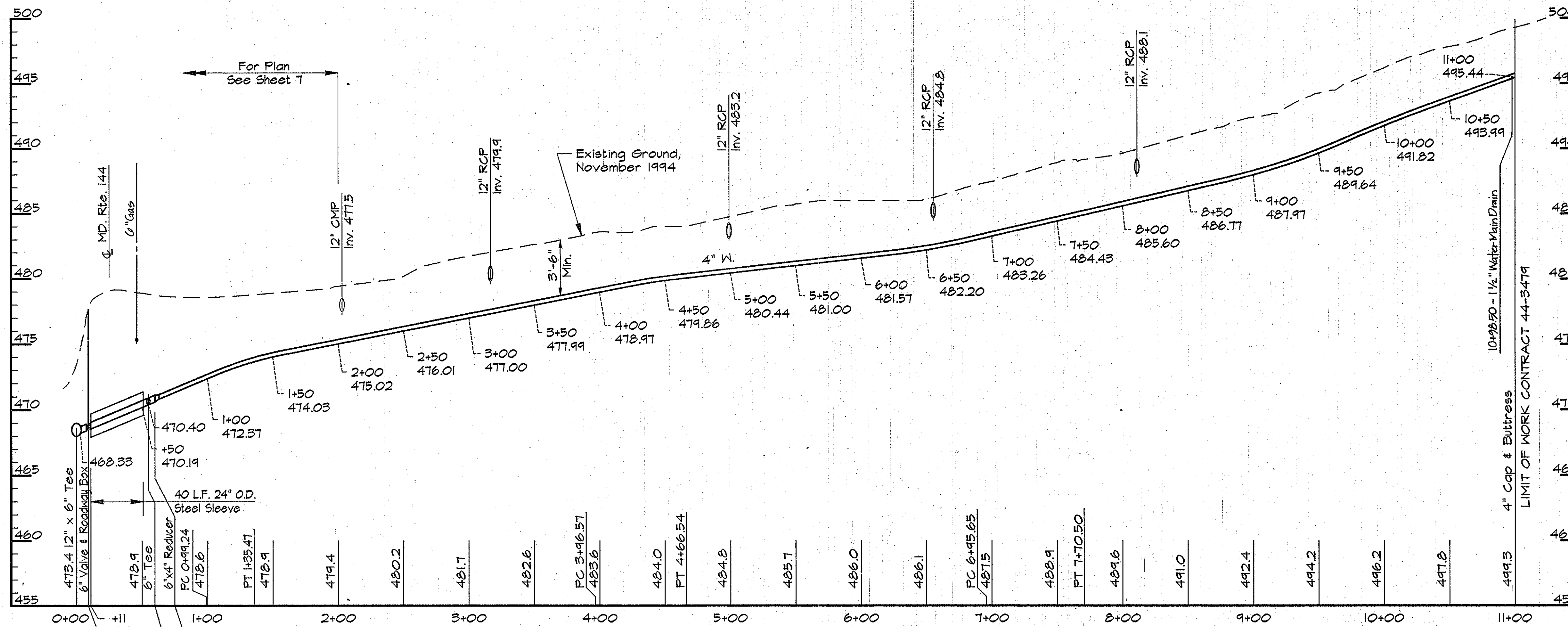
TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
18162 - 18161	0+37.71	24.65' Rt.	P.C. - 0+99.24
	0+73.79	21.78' Rt.	P.T. - 1+35.47
	3+34.88	19.93' Rt.	P.C. - 3+96.57
	4+04.84	18.95' Rt.	P.T. - 4+66.54
18161 - 18160	0+56.75	13.32' Rt.	P.C. - 6+95.65
	1+31.58	10.54' Rt.	P.T. - 7+70.50
	4+60.82	2.33' Lt.	LIMIT OF WORK

- 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.

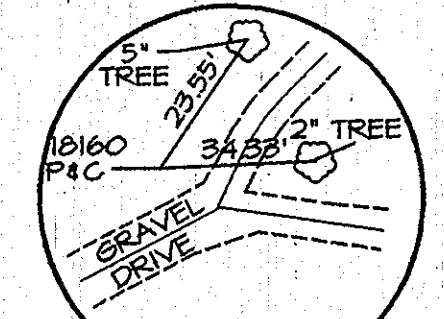
NOTE:
The Existing Utilities, As Shown On This Drawing, Have Been Located From The Best Available Information. The Contractor Shall Be Responsible For Locating All Existing Utilities To His Satisfaction Prior To Starting Any Construction.



PLAN
Scale: 1"=50'



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



TRAV. PT. 18160
Elev. 500.34
N 542483.66
E 1337641.47

AS BUILT

DWG. NO.

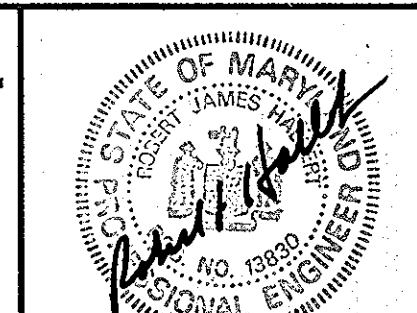
SCALE AS SHOWN

SHEET 24 OF 36

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works: *James J. ...* 5/17/96
Chief, Bureau of Engineering: *Robert ...* 5/17/96
Chief, Bureau of Utilities: *...* 5/21/96
Chief, Water and Sewer Design Division: *...* 5/17/96

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

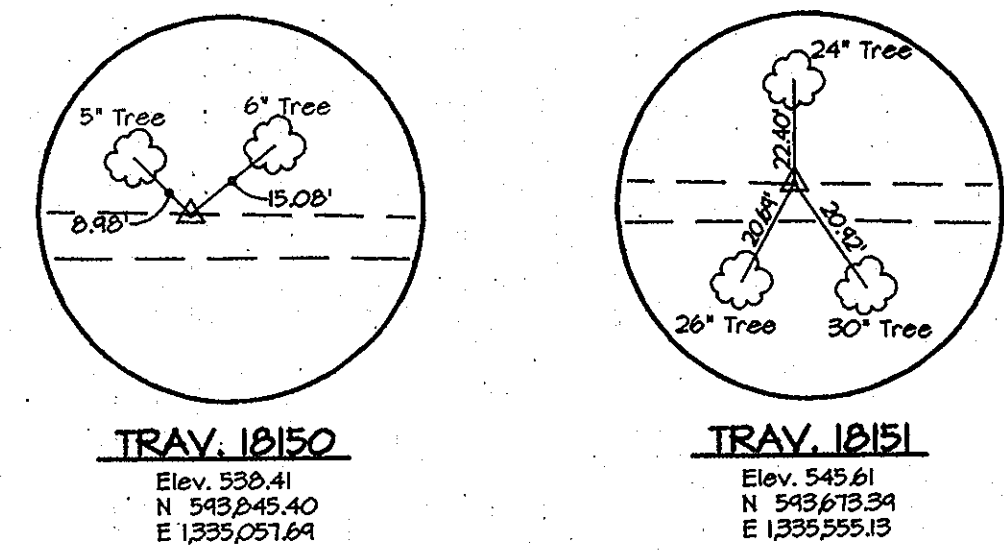
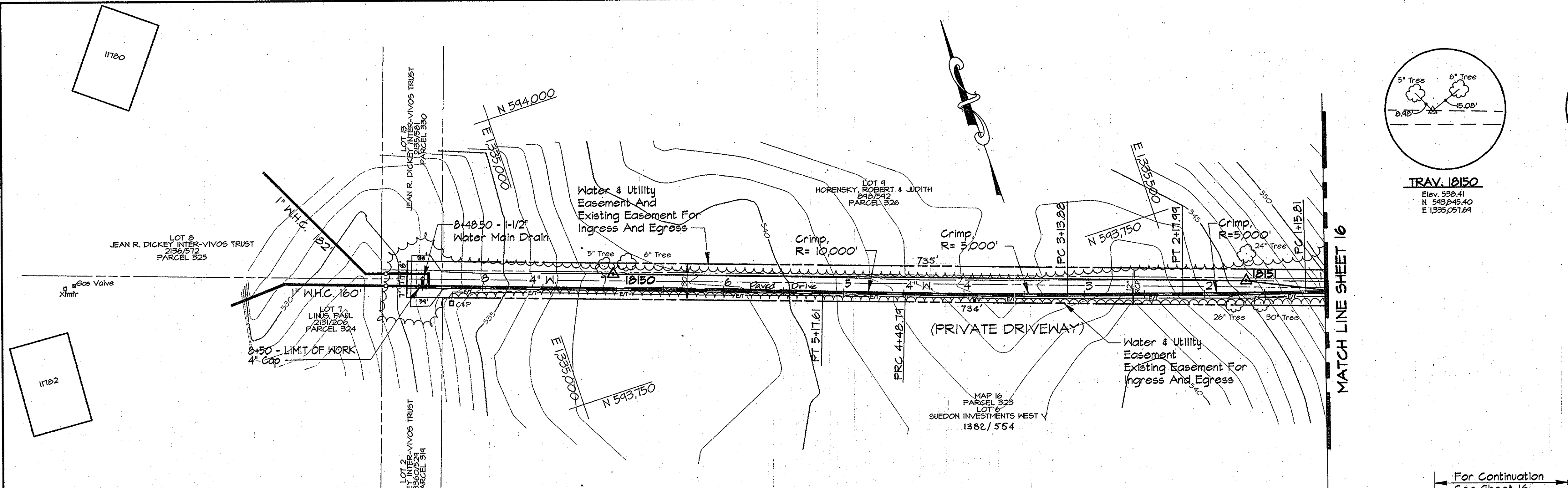


DES:	DWR				
DRN:	DWR				
CHK:	SRK				
DATE:	3/96				
BY:	NO.	REVISION	DATE	600' SCALE MAP NO. 16	BLOCK NO. 15

PLAN AND PROFILE SERVICE MAIN
STA. 00+00 TO STA. 11+00

ALPHA RIDGE WATER SUPPLY
CAPITAL PROJECT W-8203
CONTRACT NO. 44-3479
ELECTION DISTRICT NO. 3
HOWARD COUNTY, MARYLAND

RK2\USR2\SOSKPROJ\CM8473\DWG\CONTR_2 ALP-2-24.DWG 03/20/1996 13:42

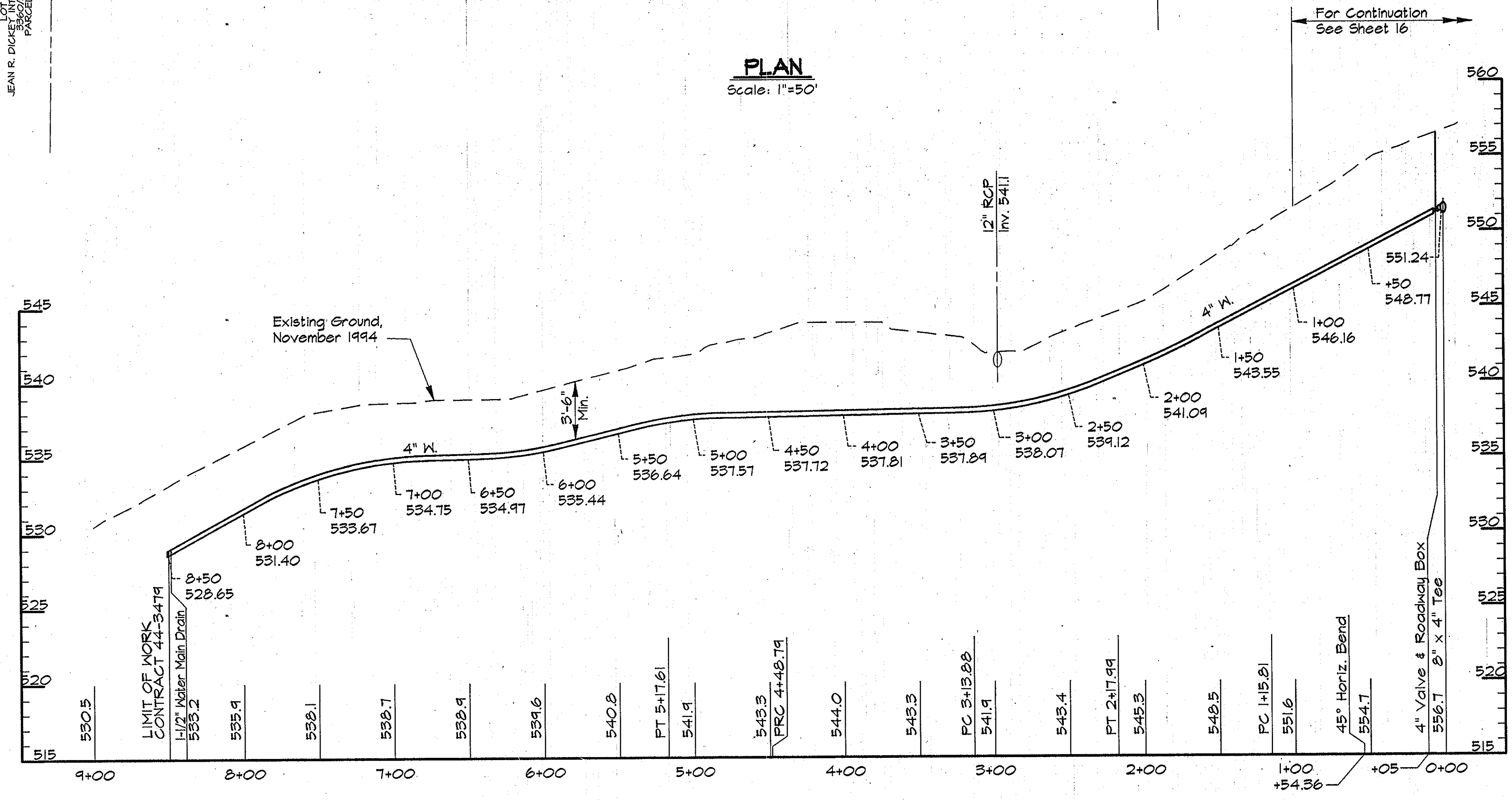


WATER MAIN STAKE-OUT TABLE			
TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
1017 - 10151	+65.45	47.27' Rt.	8" x 4" Tee - 0+00
	+99.64	5.00' Rt.	0+54.36 - 45° Horiz. Bend
	+260.45	3.70' Lt.	P.C. - 1+15.01
10151 - 10150	0+52.59	11.80' Lt.	P.T. - 2+17.99
	+40.47	13.35' Lt.	P.C. - 3+13.00
	+283.30	13.71' Lt.	P.R.C. - 4+40.79
	3+52.19	13.20' Lt.	P.T. - 5+17.61

- 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.
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PLAN
Scale: 1"=50'



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

AS BUILT

RK&K\USR2\SDSKPROJ\CM9473\DWG\CONTR_2 ALP-2-25.DWG 03/20/1996 13:45

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

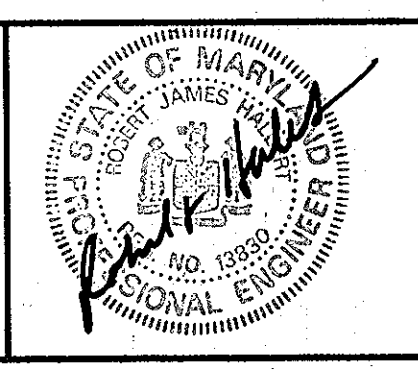
James P. Sloan 5/17/96
DIRECTOR OF PUBLIC WORKS DATE

Paul R. Repan 5/17/96
CHIEF, BUREAU OF ENGINEERING DATE

John R. ... 5-21-96
CHIEF, BUREAU OF UTILITIES DATE

... 5-17-96
CHIEF, WATER AND SEWER DESIGN DIVISION DATE

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



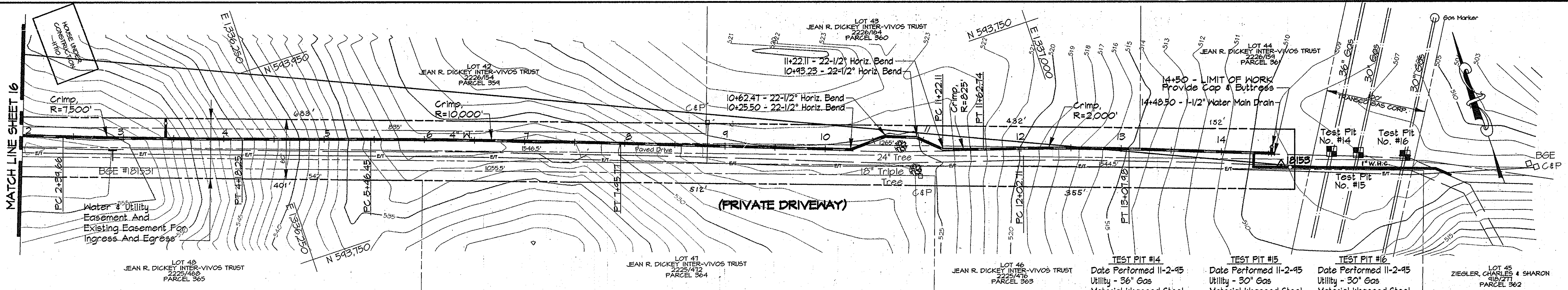
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DRN:	DCJ/DWR				
CHK:	BSH				
DATE:	3/96	BY:	NO.	REVISION	DATE

PLAN AND PROFILE - SERVICE MAIN
STA. 0+00 TO STA. 8+50

600' SCALE MAP NO. _____ BLOCK NO. _____

ALPHA RIDGE WATER SUPPLY
CAPITAL PROJECT W-8203
CONTRACT NO. 44-3479
ELECTION DISTRICT NO. 3
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 25 OF 36



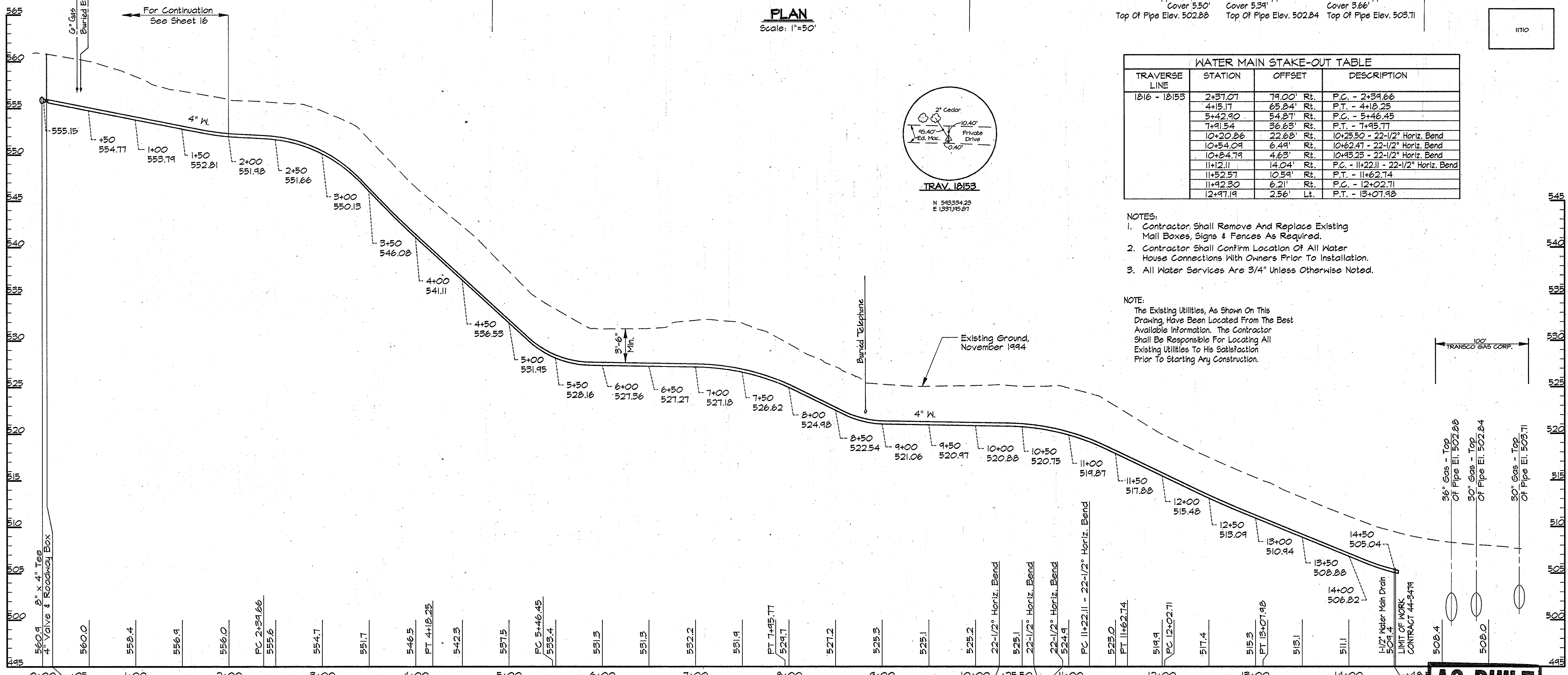
PLAN
Scale: 1"=50'

TEST PIT #	Date Performed	Utility	Material	Cover	Top Of Pipe Elev.
TEST PIT #14	11-2-95	36" Gas	Material Wrapped Steel	5.50'	502.88
TEST PIT #15	11-2-95	30" Gas	Material Wrapped Steel	5.34'	502.84
TEST PIT #16	11-2-95	30" Gas	Material Wrapped Steel	3.66'	503.71

TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
1816 - 18153	2+37.07	74.00' Rt.	P.C. - 2+39.66
	4+15.17	65.84' Rt.	P.T. - 4+18.25
	5+42.90	54.87' Rt.	P.C. - 5+46.45
	7+91.54	36.63' Rt.	P.T. - 7+95.77
	10+20.86	22.68' Rt.	10+25.50 - 22-1/2° Horiz. Bend
	10+54.09	6.49' Rt.	10+62.41 - 22-1/2° Horiz. Bend
	10+84.79	4.63' Rt.	10+93.23 - 22-1/2° Horiz. Bend
	11+12.11	14.04' Rt.	P.C. - 11+22.11 - 22-1/2° Horiz. Bend
	11+52.57	10.59' Rt.	P.T. - 11+62.74
	11+92.30	6.21' Rt.	P.C. - 12+02.71
12+97.19	2.56' Lt.	P.T. - 13+07.98	

- 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.



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

AS BUILT

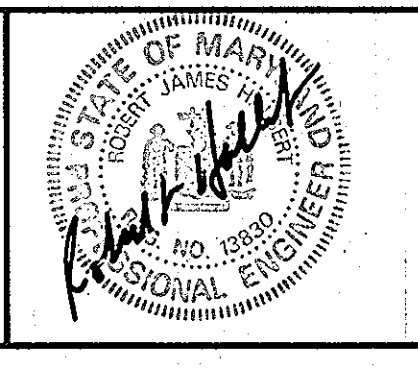
PRK2\US2\SOSKPRO\CM9473.DWG CONTR. 2 ALP-2-26.DWG 13:46 03/20/1996

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Robert P. Johnson 5/17/96
DIRECTOR OF PUBLIC WORKS DATE

John P. Johnson 5-17-96
CHIEF, BUREAU OF UTILITIES DATE

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



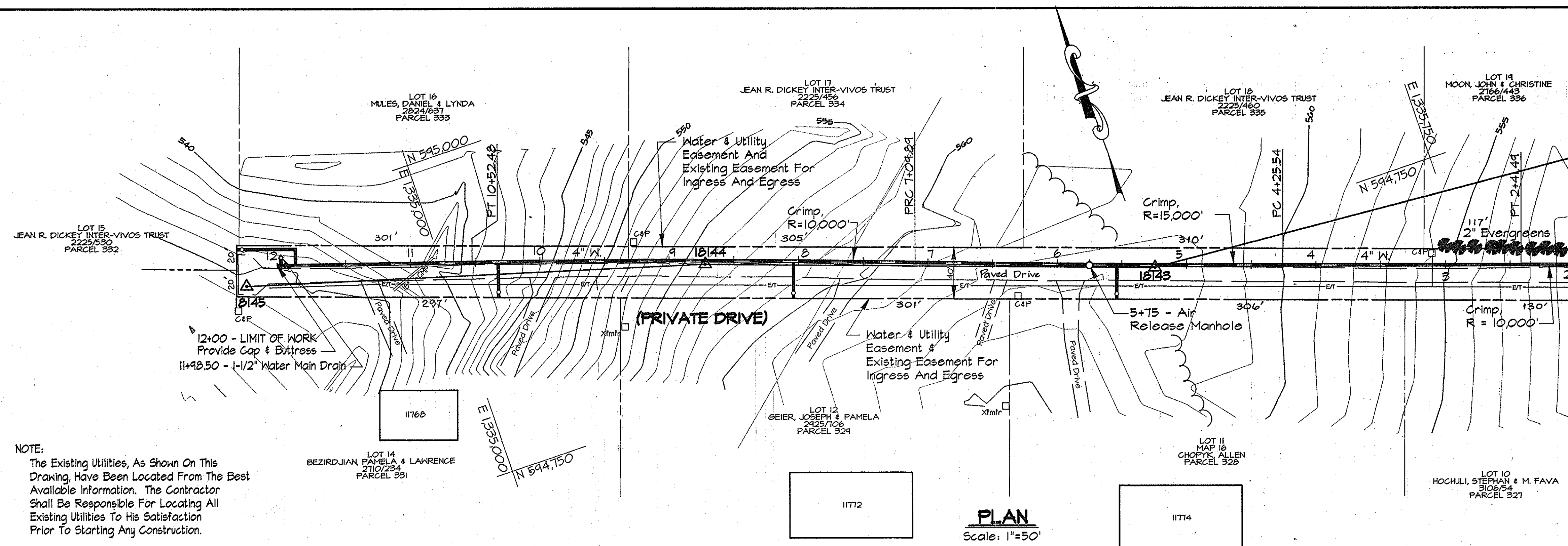
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DRN:	DCJ/DWR			
CHK:	SJR			
DATE:	3/96			
BY:		NO.		
REVISION:				
DATE:				

PLAN AND PROFILE - SERVICE MAIN
STA. 0+00 TO STA. 14+50

600' SCALE MAP NO. 16 BLOCK NO. 15

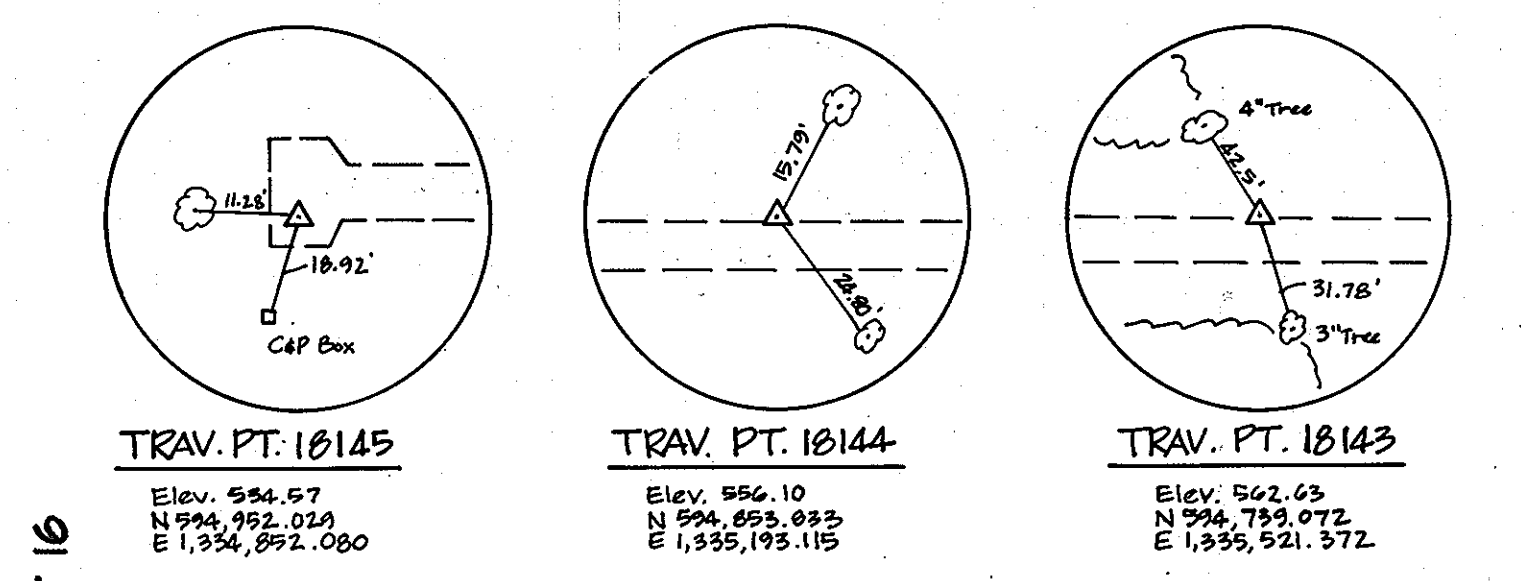
ALPHA RIDGE WATER SUPPLY
CAPITAL PROJECT W-8203
CONTRACT NO. 44-3479
ELECTION DISTRICT NO. 3
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 26 OF 36



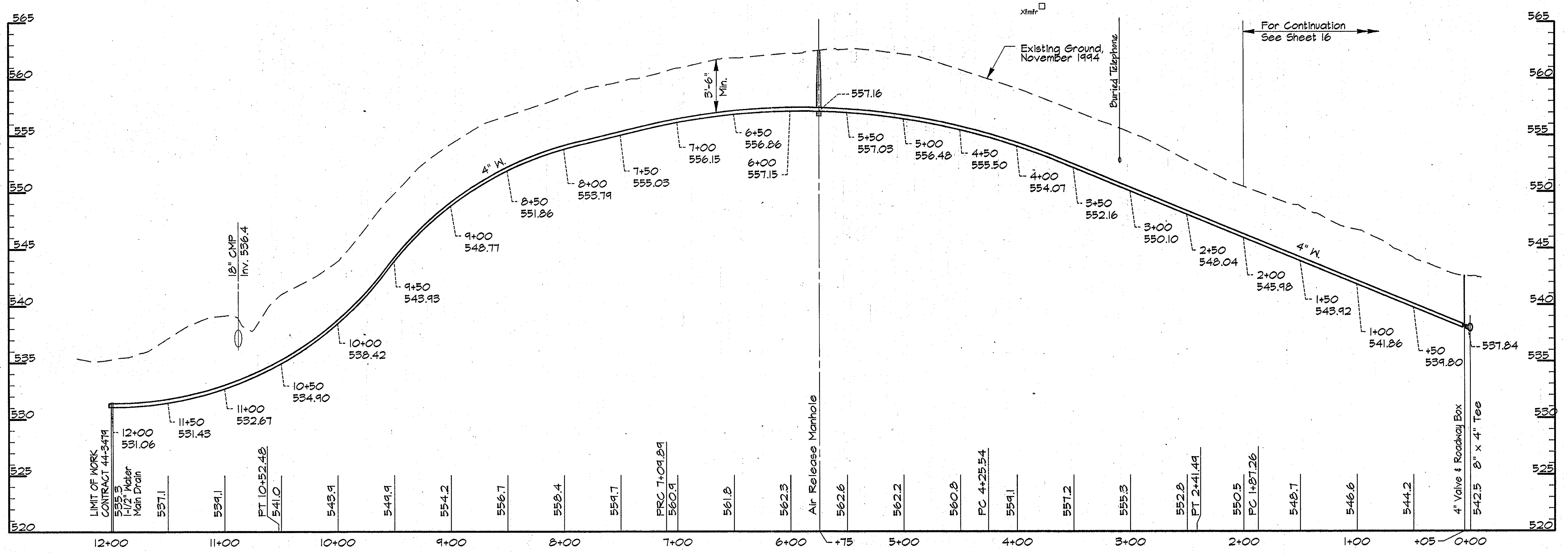
NOTE:
The Existing Utilities, As Shown On This Drawing, Have Been Located From The Best Available Information. The Contractor Shall Be Responsible For Locating All Existing Utilities To His Satisfaction Prior To Starting Any Construction.

PLAN
Scale: 1"=50'



WATER MAIN STAKE-OUT TABLE			
TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
1815 - 18143	2+43.94	83.76' Lt.	P.C. - 1+27.26
	2+46.37	69.91' Lt.	P.T. - 2+41.49
	4+74.45	23.40' Lt.	P.C. - 4+25.54
1813 - 18144	1+25.54	2.61' Rt.	P.R.C. - 7+09.89
1814 - 18145	1+20.22	10.19' Rt.	P.T. - 10+52.48
	3+27.57	14.83' Rt.	12+00
	3+27.57	14.83' Rt.	LIMIT OF WORK

- NOTES:
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PROFILE - KING'S GIFT ROAD
Scale: Horiz. 1"=50'
Vert. 1"=5'

AS BUILT

RRK2\US2:SDSKPRO\CH9473.DWG\CONTR_2 03/20/1996 13:47

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

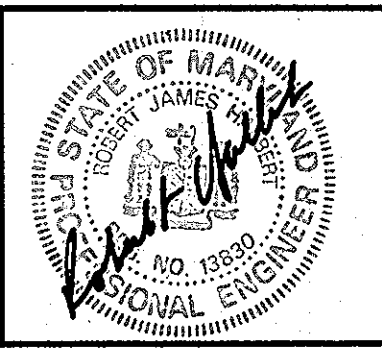
James J. Lane 5/17/96
DIRECTOR OF PUBLIC WORKS DATE

Paul J. Eason 5/17/96
CHIEF, BUREAU OF ENGINEERS DATE

John R. Ryan 5-21-96
CHIEF, BUREAU OF UTILITIES DATE

Debra J. Quinn 5-17-96
CHIEF, WATER AND SEWER DESIGN DIVISION DATE

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



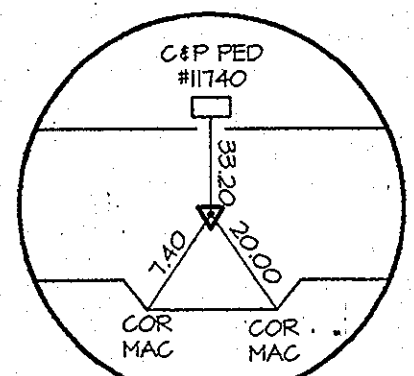
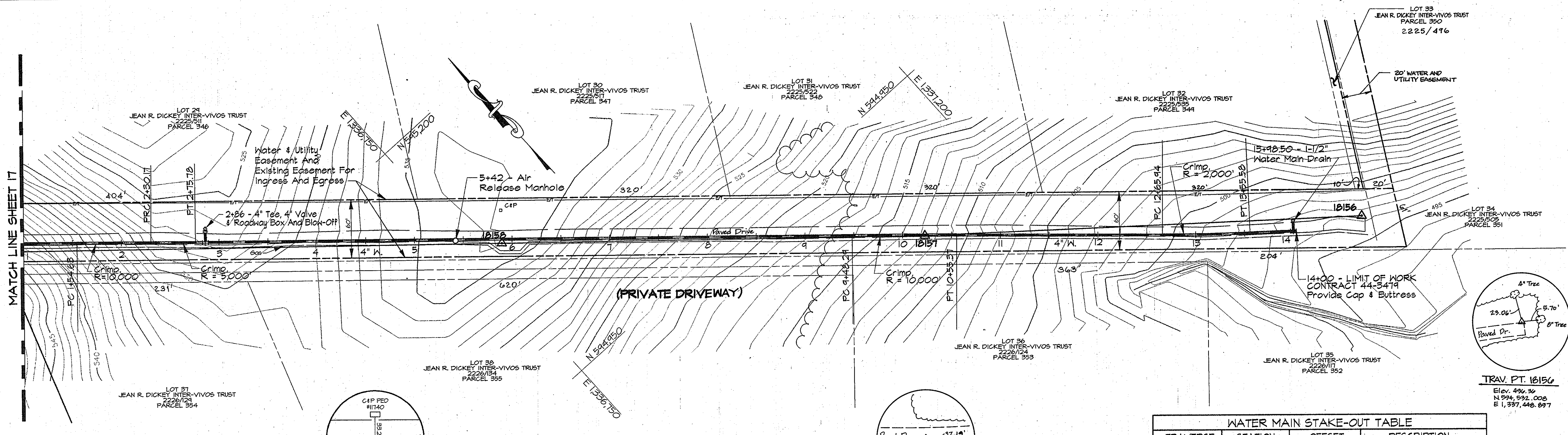
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DRN:	DCJ/DWR				
CHK:	SRJ				
DATE:	3/96	BY:	NO.	REVISION	DATE

PLAN AND PROFILE - SERVICE MAIN
STA. 0+00 TO STA. 12+00

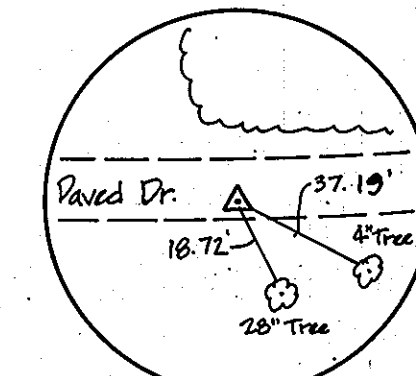
'600' SCALE MAP NO. 16 BLOCK NO. 2 & 14

ALPHA RIDGE WATER SUPPLY
CAPITAL PROJECT W-8203
CONTRACT NO. 44-3479
ELECTION DISTRICT NO. 3
HOWARD COUNTY, MARYLAND

DWG. NO. _____
SCALE AS SHOWN
SHEET 27 OF 38



TRAV. PT. 10150
N 544,641.76
E 1336,040.42



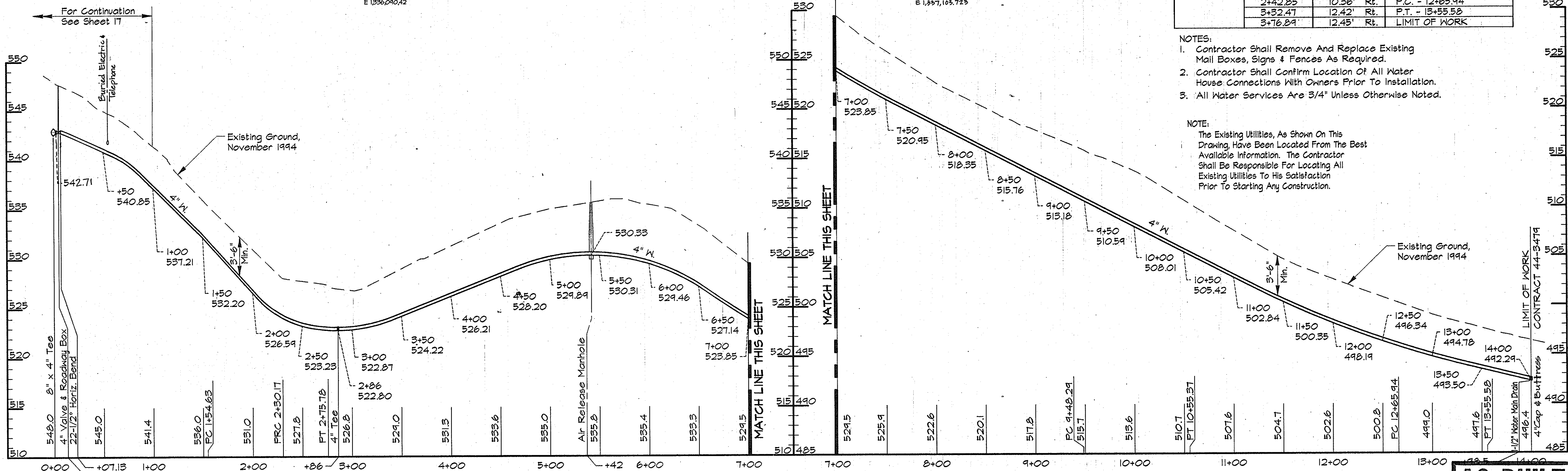
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Elev. 512.77
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E 1,337, 103, 723

PLAN
Scale: 1"=50'

TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
1014 - 1014	0+22.69	17.41' Rt.	0+07.13 - 45° Horiz. Bend
1014 - 10150	+20.40	7.90' Lt.	P.C. - 1+54.63
	+45.94	6.96' Lt.	P.R.C. - 2+30.17
	+41.56	6.43' Lt.	P.T. - 2+75.78
10150 - 10157	3+50.70	1.48' Lt.	P.C. - 9+42.29
10157 - 10156	0+32.51	0.79' Rt.	P.T. - 10+55.37
	+242.85	10.36' Rt.	P.C. - 12+65.94
	+332.47	12.42' Rt.	P.T. - 13+55.58
	+376.84	12.45' Rt.	LIMIT OF WORK

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

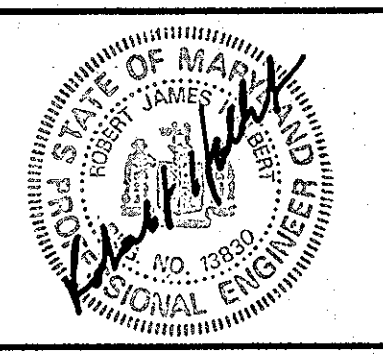
AS BUILT

PKY:\US2\SDSK\FROA\049473\DWG\CONTR_2 ALP-2-28.DWG 13:46 03/20/1996

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works: *James P. Lewis* 5/21/96
Chief, Bureau of Engineering: *Robert P. Sporn* 5/12/96
Chief, Bureau of Utilities: *John P. Runyon* 5-21-96
Chief, Water and Sewer Design Division: *Clayton J. Spivey* 5-17-96

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



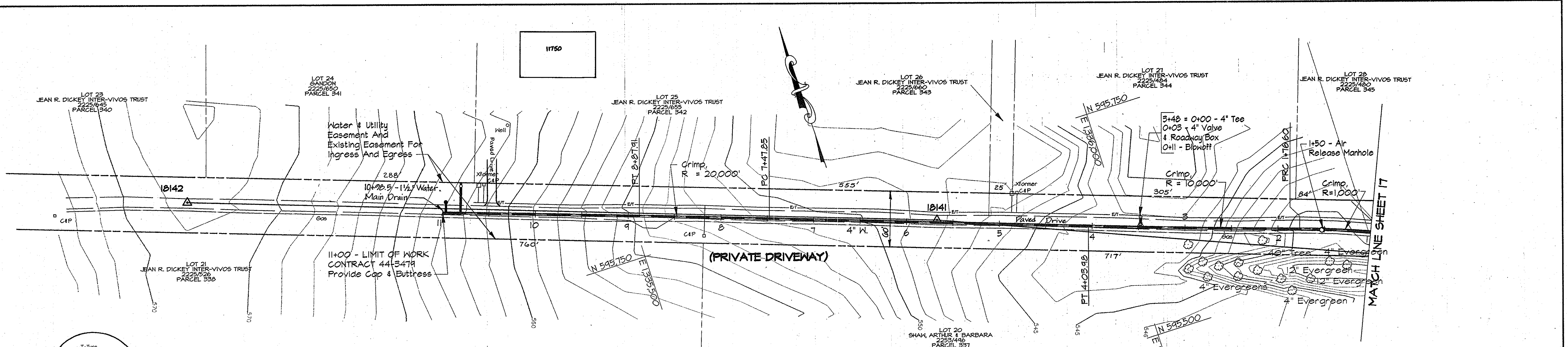
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DRN:	DWR				
CHK:	SRK				
DATE:	3/96	BY:	NO.	REVISION	DATE

PLAN AND PROFILE - SERVICE MAIN
STA. 00+00 TO STA. 14+00

600' SCALE MAP NO. _____ BLOCK NO. _____

ALPHA RIDGE WATER SUPPLY
CAPITAL PROJECT W-8203
CONTRACT NO. 44-3479
ELECTION DISTRICT NO. 3
HOWARD COUNTY, MARYLAND

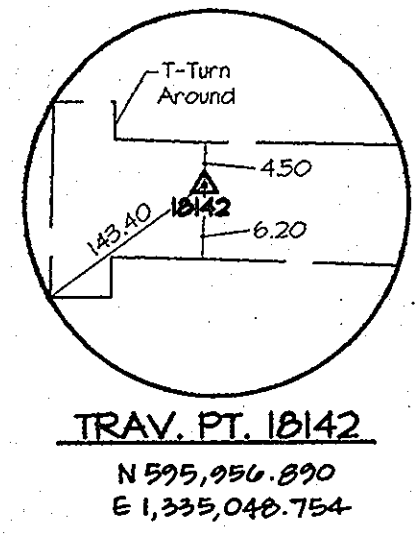
DWG. NO.
SCALE AS SHOWN
SHEET 28 OF 36



WATER MAIN STAKE-OUT TABLE

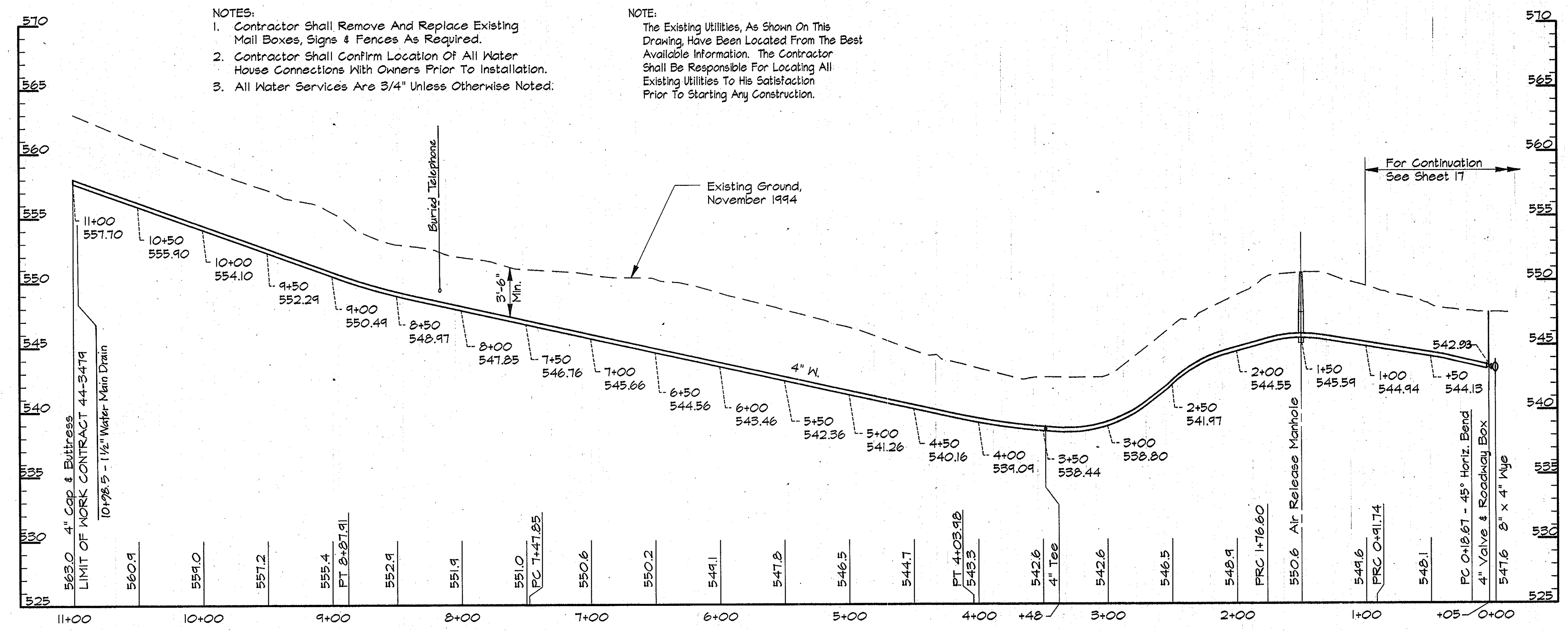
TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
1014 - 10141	0+43.45	24.93' Rt.	P.C. - 0+10.67 - 45° Horiz. Bend
	1+16.49	23.34' Rt.	P.R.C. - 0+91.74
	2+01.28	20.59' Rt.	P.R.C. - 1+76.60
	3+72.30	9.23' Rt.	3+48 - 4" Tee
4+28.20	6.16' Rt.	P.T. - 4+03.98	
10141 - 10142	1+80.68	2.71' Lt.	P.C. - 7+47.85
	3+20.73	3.19' Lt.	P.T. - 8+27.91

PLAN
Scale: 1"=50'



- NOTES:**
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PROFILE - SERVICE MAIN
Scale: Horiz. 1"=50'
Vert. 1"=5'

AS BUILT

RKK2\USR2:SDSKPROJ\CM9473\DWG\CONTR_2 ALP-2-29.DWG 03/20/1996 13:50

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works: *[Signature]* 5/2/96
 Chief, Bureau of Engineering: *[Signature]* 5/17/96
 Chief, Bureau of Utilities: *[Signature]* 5-21-96
 Chief, Water and Sewer Design Division: *[Signature]* 5-17-96

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



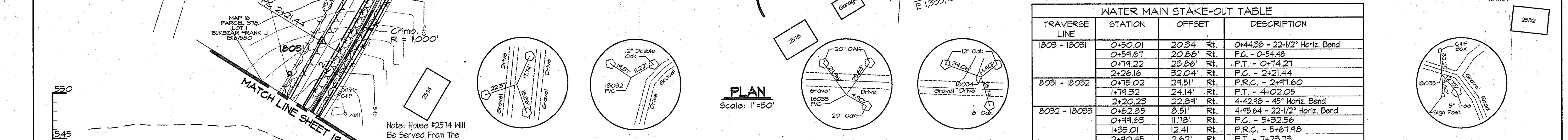
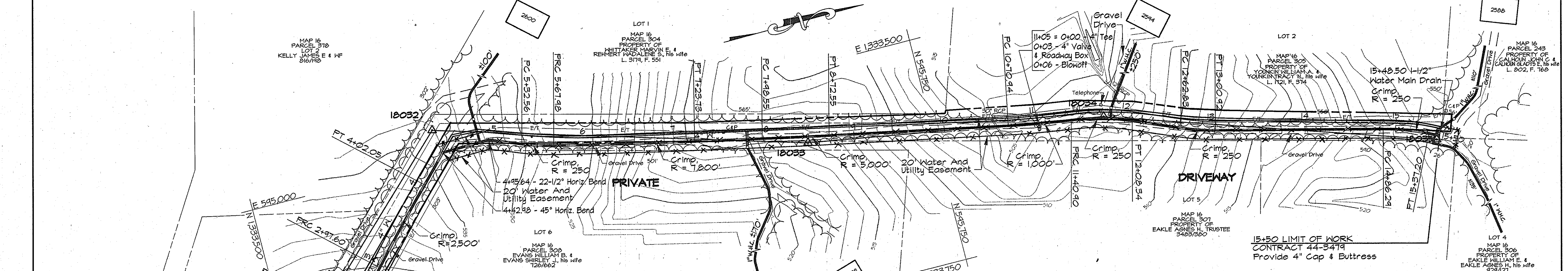
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CHK:	SRK				
DATE:	3/96	BY:	NO.	REVISION	DATE

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

600' SCALE MAP NO. _____ BLOCK NO. _____

ALPHA RIDGE WATER SUPPLY
CAPITAL PROJECT W-8203
CONTRACT NO. 44-3479
ELECTION DISTRICT NO. 3
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 29 OF 38

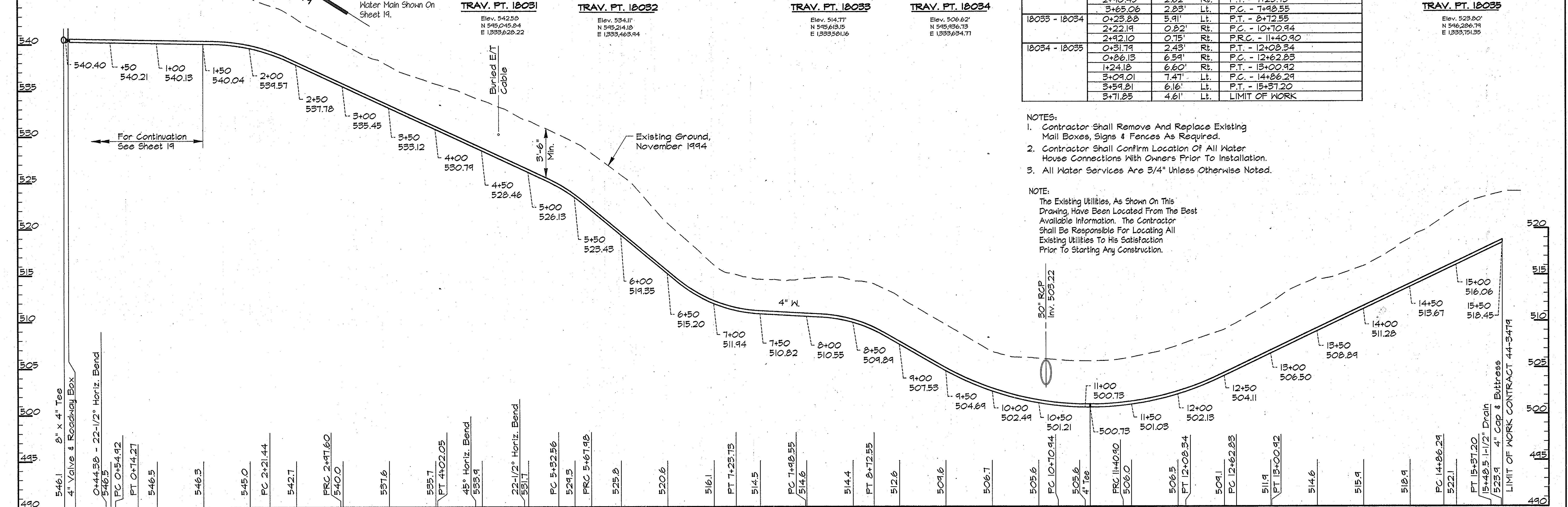


WATER MAIN STAKE-OUT TABLE

TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
1803 - 18031	0+50.01	20.54' Rt.	0+44.38 - 22-1/2° Horiz. Bend
	0+59.67	20.88' Rt.	P.C. - 0+54.48
	0+79.22	23.86' Rt.	P.T. - 0+74.27
	2+26.16	32.04' Rt.	P.C. - 2+21.44
18031 - 18032	0+75.02	29.51' Rt.	P.R.C. - 2+97.60
	1+79.32	24.14' Rt.	P.T. - 4+02.05
	2+20.23	22.89' Rt.	4+42.98 - 45° Horiz. Bend
18032 - 18033	0+62.85	8.51' Rt.	4+45.64 - 22-1/2° Horiz. Bend
	0+99.63	11.78' Rt.	P.C. - 5+32.56
	1+53.01	12.41' Rt.	P.R.C. - 5+67.98
	2+90.45	2.62' Lt.	P.T. - 7+23.75
18033 - 18034	3+65.06	2.83' Lt.	P.C. - 7+98.55
	0+23.88	5.91' Lt.	P.T. - 8+72.55
	2+22.19	0.82' Lt.	P.C. - 10+70.94
	2+92.10	0.75' Lt.	P.R.C. - 11+40.90
18034 - 18035	0+31.79	2.43' Rt.	P.T. - 12+08.34
	0+86.13	6.59' Rt.	P.C. - 12+62.83
	1+24.18	6.60' Rt.	P.T. - 13+00.92
	3+09.01	7.47' Lt.	P.C. - 14+86.29
	3+59.81	6.16' Lt.	P.T. - 15+37.20
	3+71.83	4.61' Lt.	LIMIT OF WORK

- NOTES:**
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PROFILE - SERVICE MAIN
Scale: Horiz. 1"=50'
Vert. 1"=5'

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James P. Lewis 5/17/96
DIRECTOR OF PUBLIC WORKS

Robert J. Deppa 5/17/96
CHIEF, BUREAU OF ENGINEERING

Robert J. Deppa 5-21-96
CHIEF, BUREAU OF UTILITIES

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

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

PLAN AND PROFILE - SERVICE MAIN
STA. 00+00 TO STA. 15+50

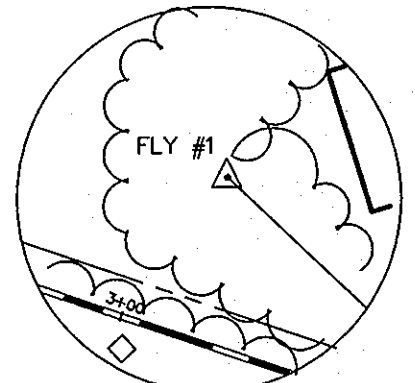
600' SCALE MAP NO. 16 BLOCK NO. 7 & 8

AS BUILT

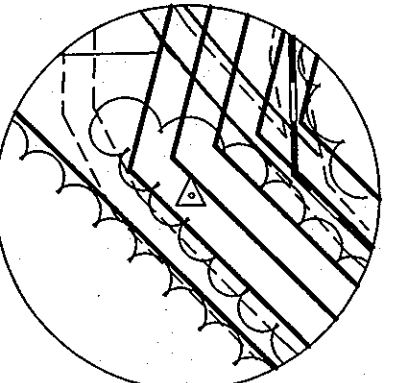
ALPHA RIDGE WATER SUPPLY
CAPITAL PROJECT W-8203
CONTRACT NO. 44-3479
ELECTION DISTRICT NO. 3
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 30 OF 36

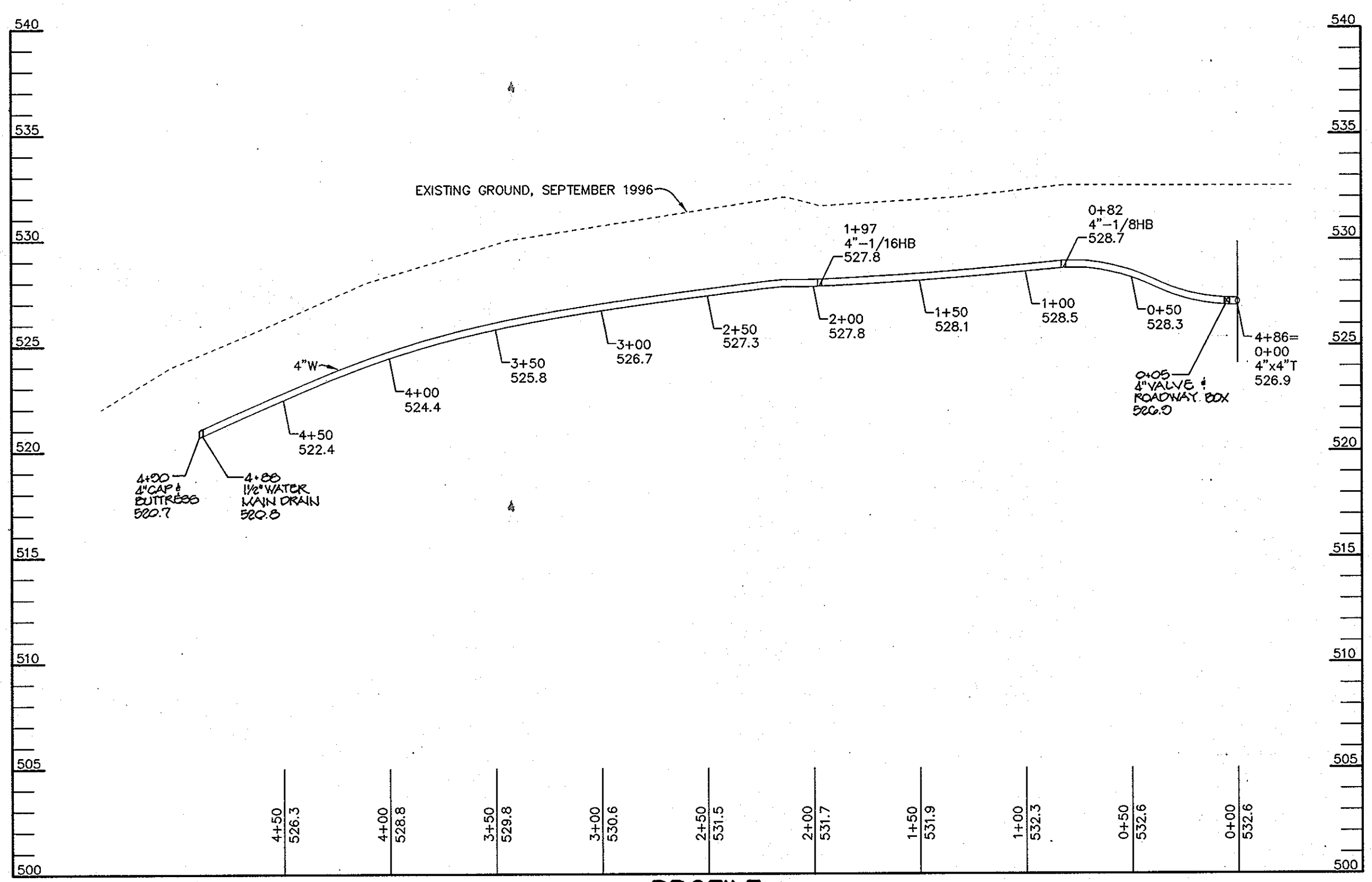
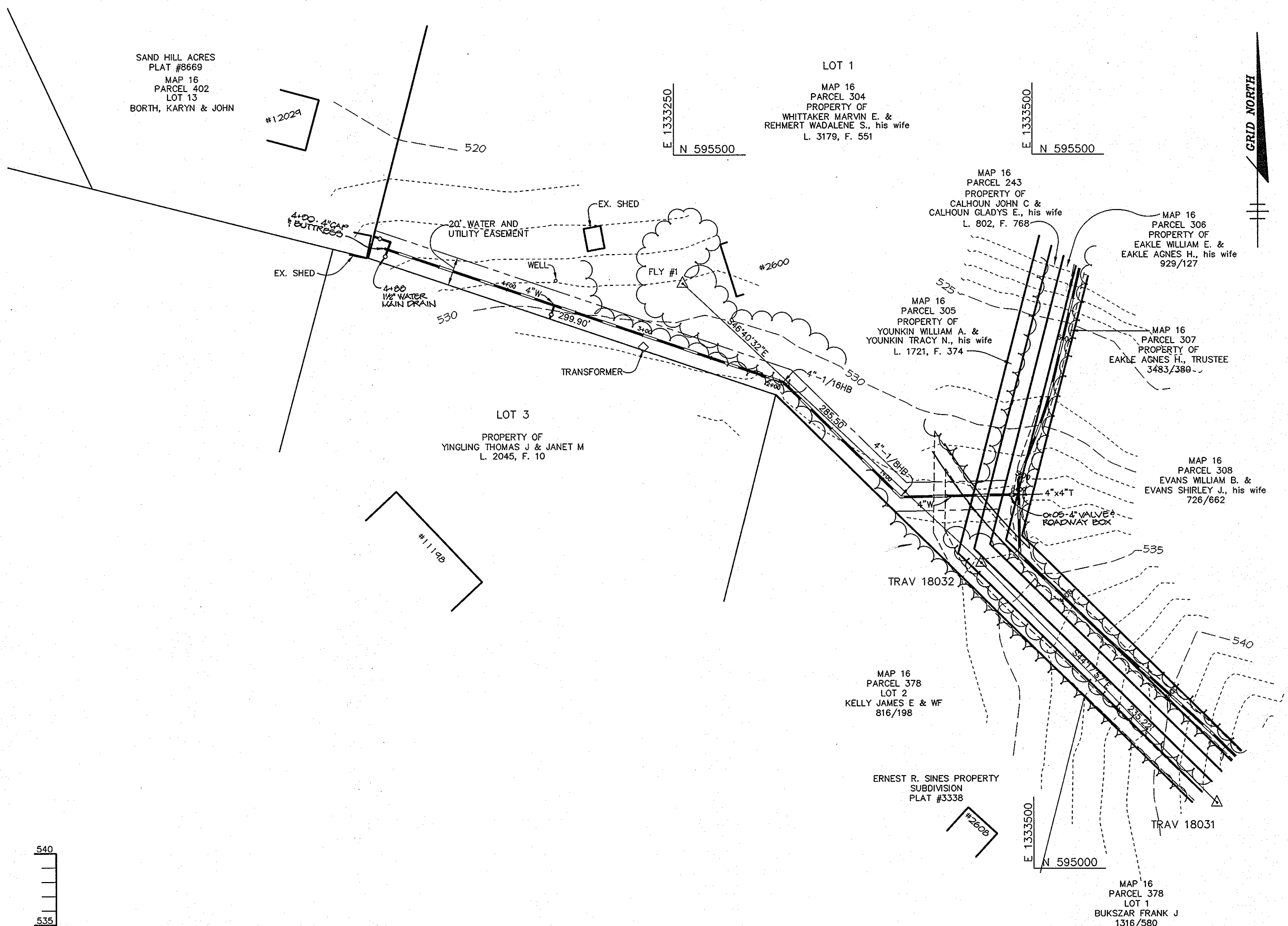
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TRAVERSE PT. FLY #1
N 595410.0754
E 1333296.2514



TRAVERSE PT. 18032
N 595214.1856
E 1333463.9470



PROFILE
SCALE:
HOR. - 1"=50'
VERT. - 1"=5'

AS BUILT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

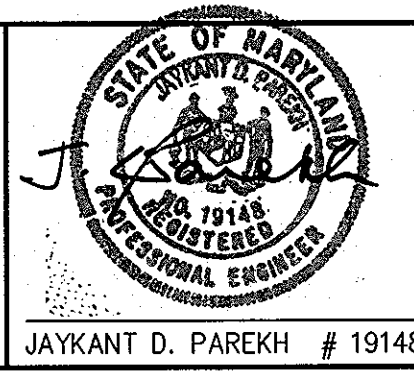
James M. Shaw 11/18/96
DIRECTOR OF PUBLIC WORKS DATE

Robert J. Segan 11/15/96
CHIEF, BUREAU OF ENGINEERING DATE

Robert J. Segan 11-18-96
CHIEF, BUREAU OF UTILITIES DATE

Oliver D. Segan 11-15-96
CHIEF WATER AND SEWER DESIGN DIVISION DATE

RIEMER MUEGGE & ASSOCIATES, INC.
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8818 Centre Park Drive • Suite 200 • Columbia, MD 21046
410-997-8900 FAX: 410-997-9282
SURVEY/104000 44-3479A.DWG



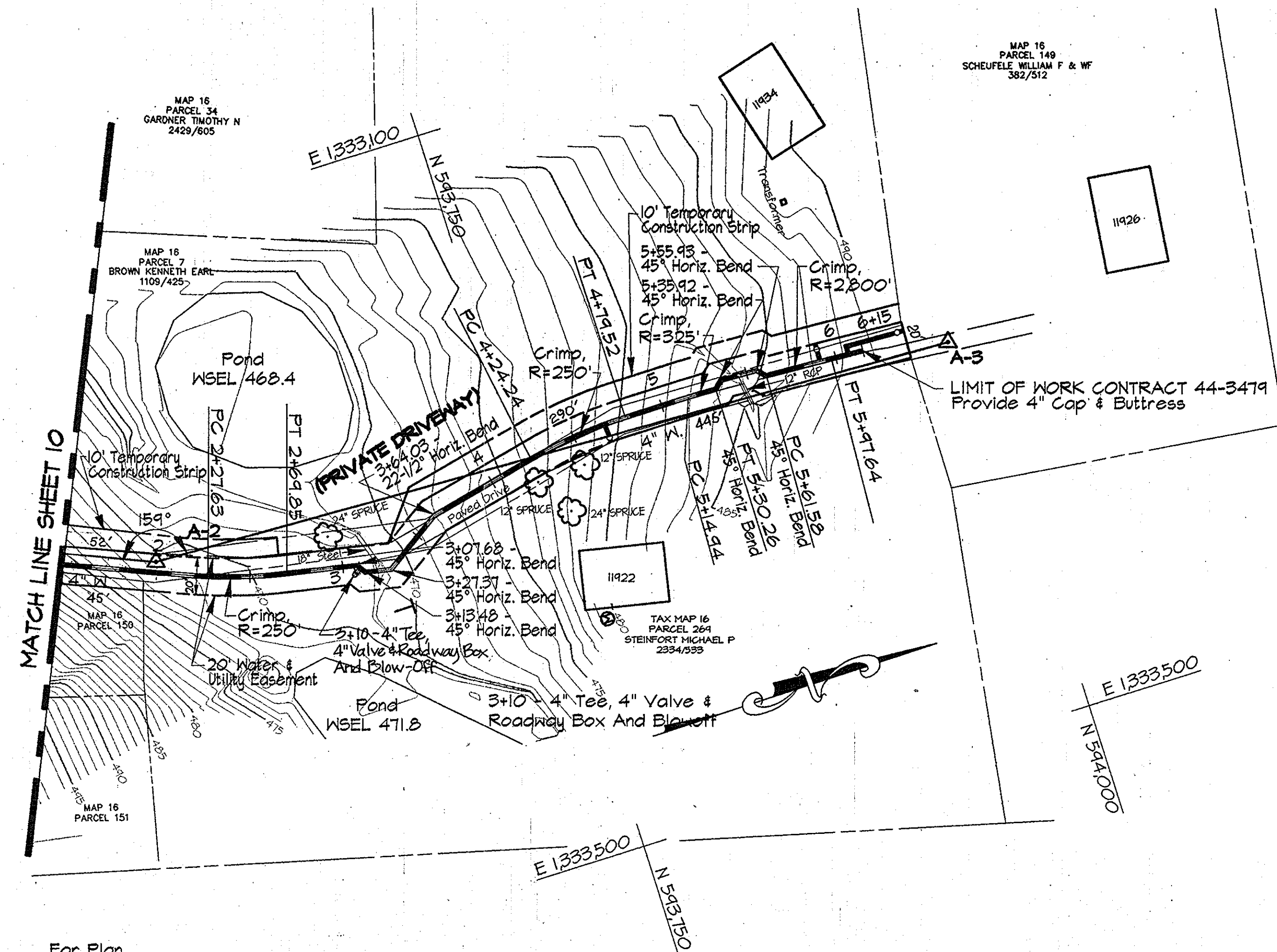
DES: DAM					
DRN: DAM					
CHK: C.J.R.					
DATE: 11/4/96	BY	NO.	REVISION	DATE	

PLAN AND PROFILE
OF A WATER MAIN

600' SCALE MAP NO. 16 BLOCK NO. 7

ALPHA RIDGE WATER SUPPLY
CAPITAL PROJECT W-8203
CONTRACT NO. 44-3479
ELECTION DISTRICT NO.3
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 30A OF 36

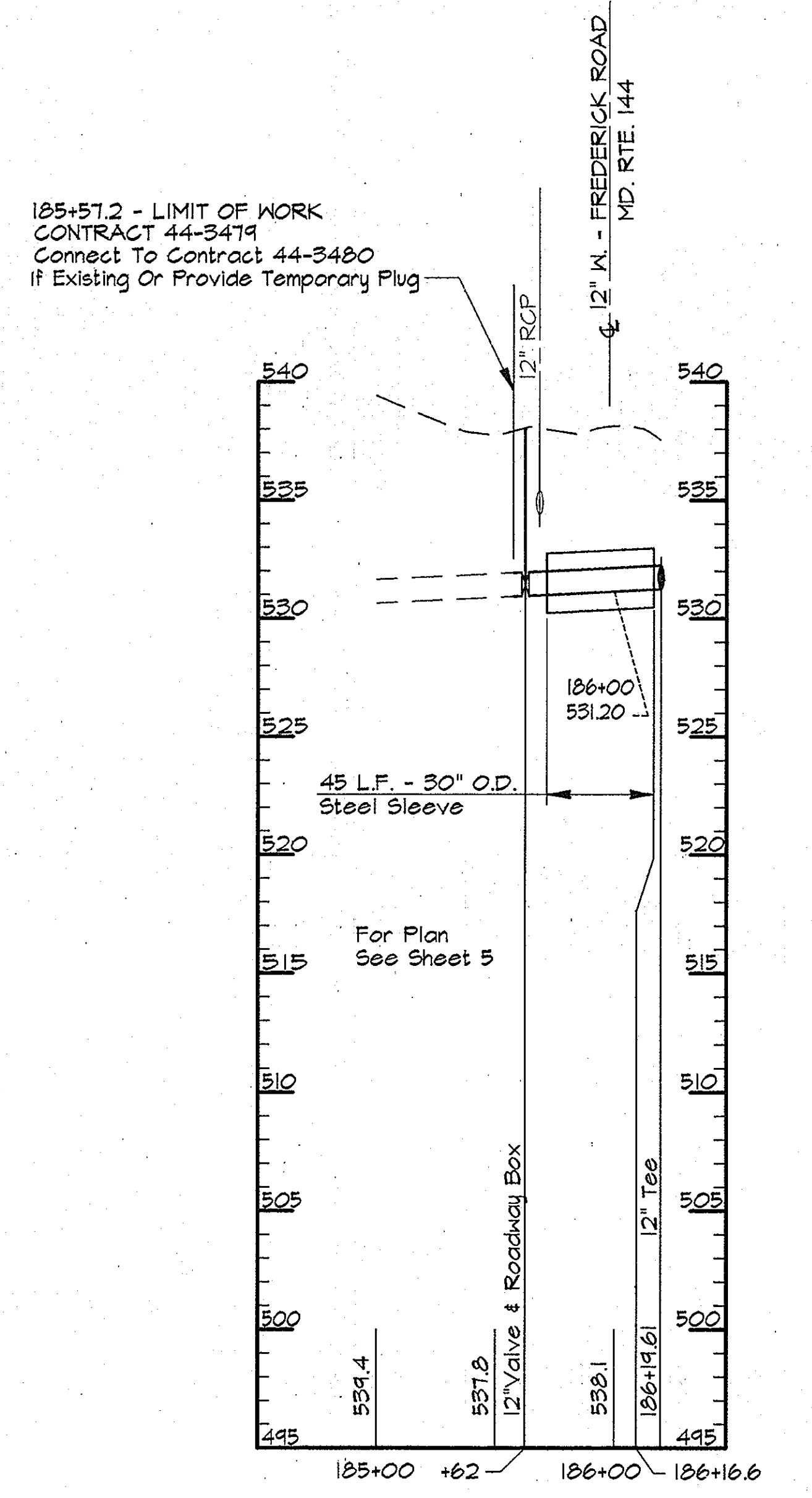


WATER MAIN STAKE-OUT TABLE			
TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
A-2 - A-3	0+24.75	14.94' Rt.	P.C. - 2+27.63
	0+65.72	24.87' Rt.	P.T. - 2+69.85
	1+03.11	30.64' Rt.	3+07.68 - 45° Horiz. Bend
	1+06.50	35.35' Rt.	3+13.48 - 45° Horiz. Bend
	1+20.20	37.60' Rt.	3+27.31 - 45° Horiz. Bend
	1+49.46	16.20' Rt.	22-1/2° Horiz. Bend
	2+08.17	0.80' Rt.	P.C. - 4+24.24
	2+62.74	7.33' Lt.	P.T. - 4+79.52
	2+98.14	8.86' Lt.	P.C. - 5+14.94
	3+13.45	8.87' Lt.	P.T. - 5+30.26 - 45° Horiz. Bend
	3+17.49	12.84' Lt.	45° Horiz. Bend
	3+37.49	12.66' Lt.	45° Horiz. Bend
	3+41.39	8.63' Lt.	P.C. - 5+61.58 - 45° Horiz. Bend
	3+77.52	8.09' Lt.	P.T. - 5+97.64
	3+94.87	7.72' Lt.	LIMIT OF WORK

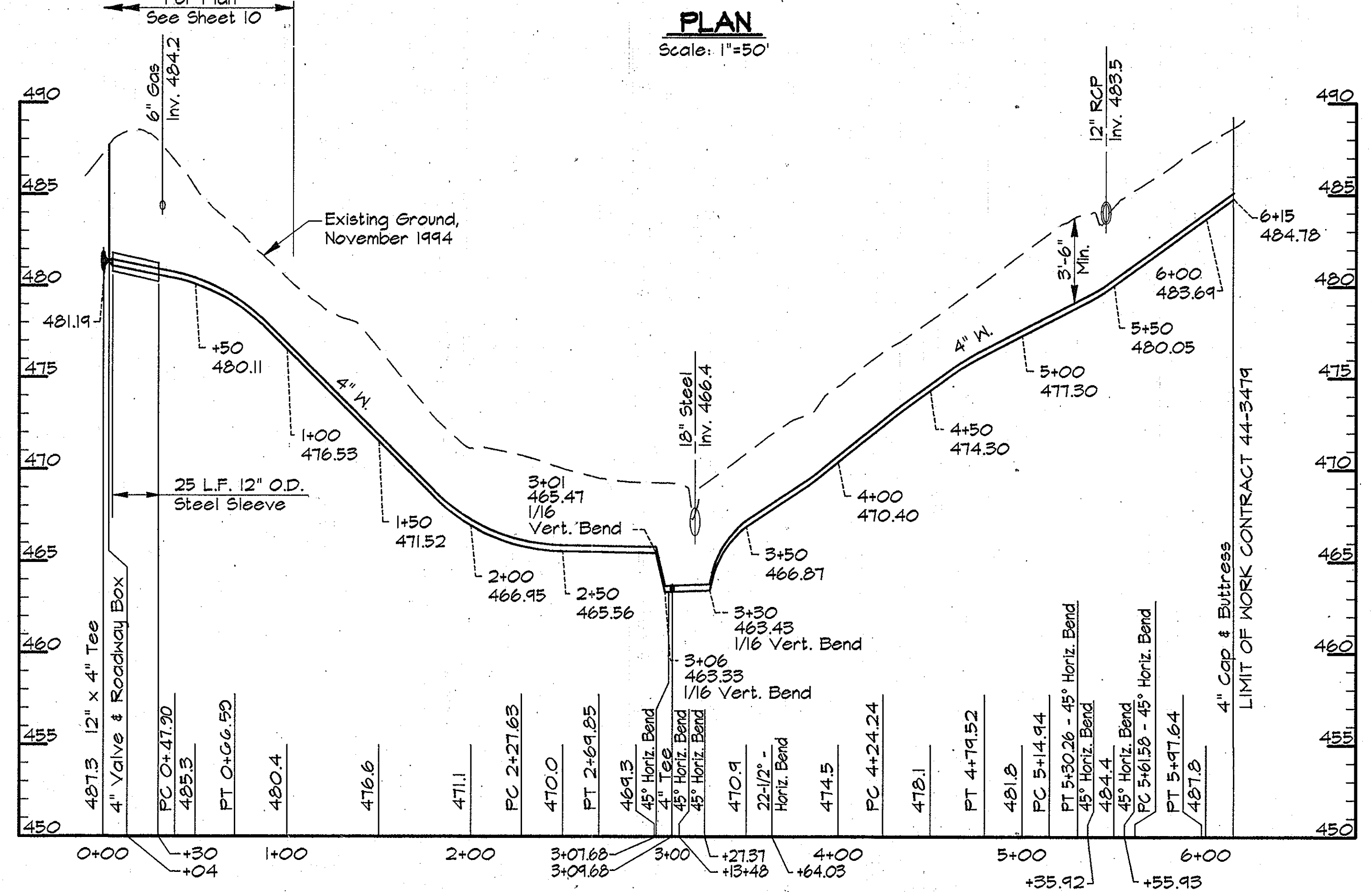
NOTES:

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



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

AS BUILT

RKK2_USR2_SDSKPROJ\CM9473\DWG\CONTR_2 ALP-2-31.DWG 03/29/1996 14.46

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James P. ... 5/17/96
DIRECTOR OF PUBLIC WORKS DATE

Robert ... 5-21-96
CHIEF, BUREAU OF UTILITIES DATE

Oliver ... 5-17-96
CHIEF WATER AND SEWER DESIGN DIVISION DATE

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

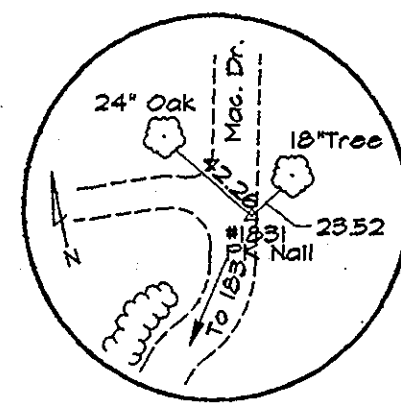
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DRN:	DWR				
CHK:	SRK				
DATE:	3/96				
BY:		NO.		REVISION	DATE

PLAN AND PROFILE SERVICE MAIN
STA. 0+00 TO STA. 6+15

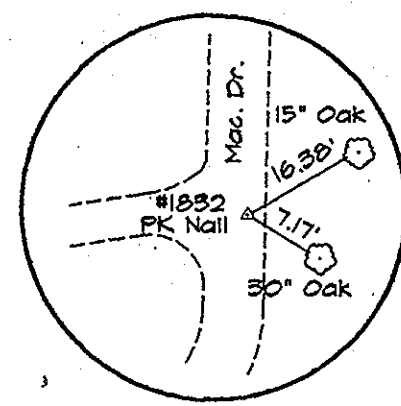
600' SCALE MAP NO. 16 BLOCK NO. 7 & 13

ALPHA RIDGE WATER SUPPLY
CAPITAL PROJECT W-8203
CONTRACT NO. 44-3479
ELECTION DISTRICT NO. 3
HOWARD COUNTY, MARYLAND

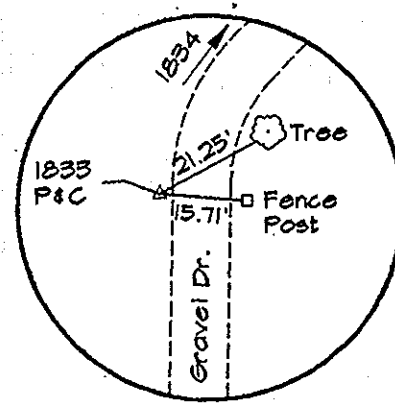
DWG. NO.
SCALE AS SHOWN
SHEET 31 OF 38



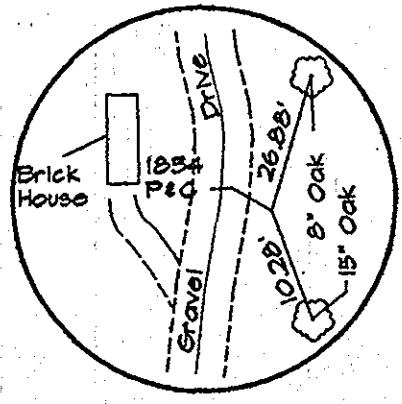
TRAV. PT. 1831
Elev. 477.44'
N 545.710.22
E 1392.956.42



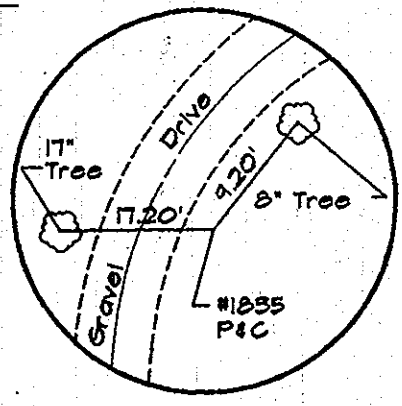
TRAV. PT. 1832
Elev. 449.15'
N 544.255.14
E 1392.621.84



TRAV. PT. 1833
Elev. 512.45'
N 544.271.965
E 1392.621.64



TRAV. PT. 1834
Elev. 520.49'
N 544.567.11
E 1392.212.24

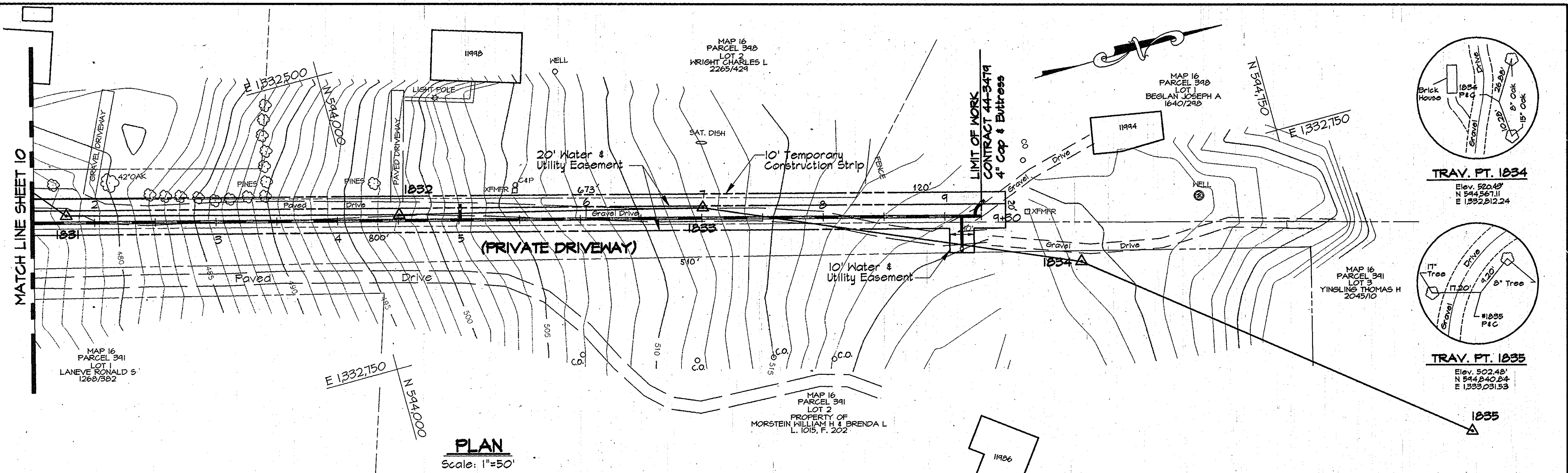


TRAV. PT. 1835
Elev. 502.48'
N 544.840.34
E 1393.291.53

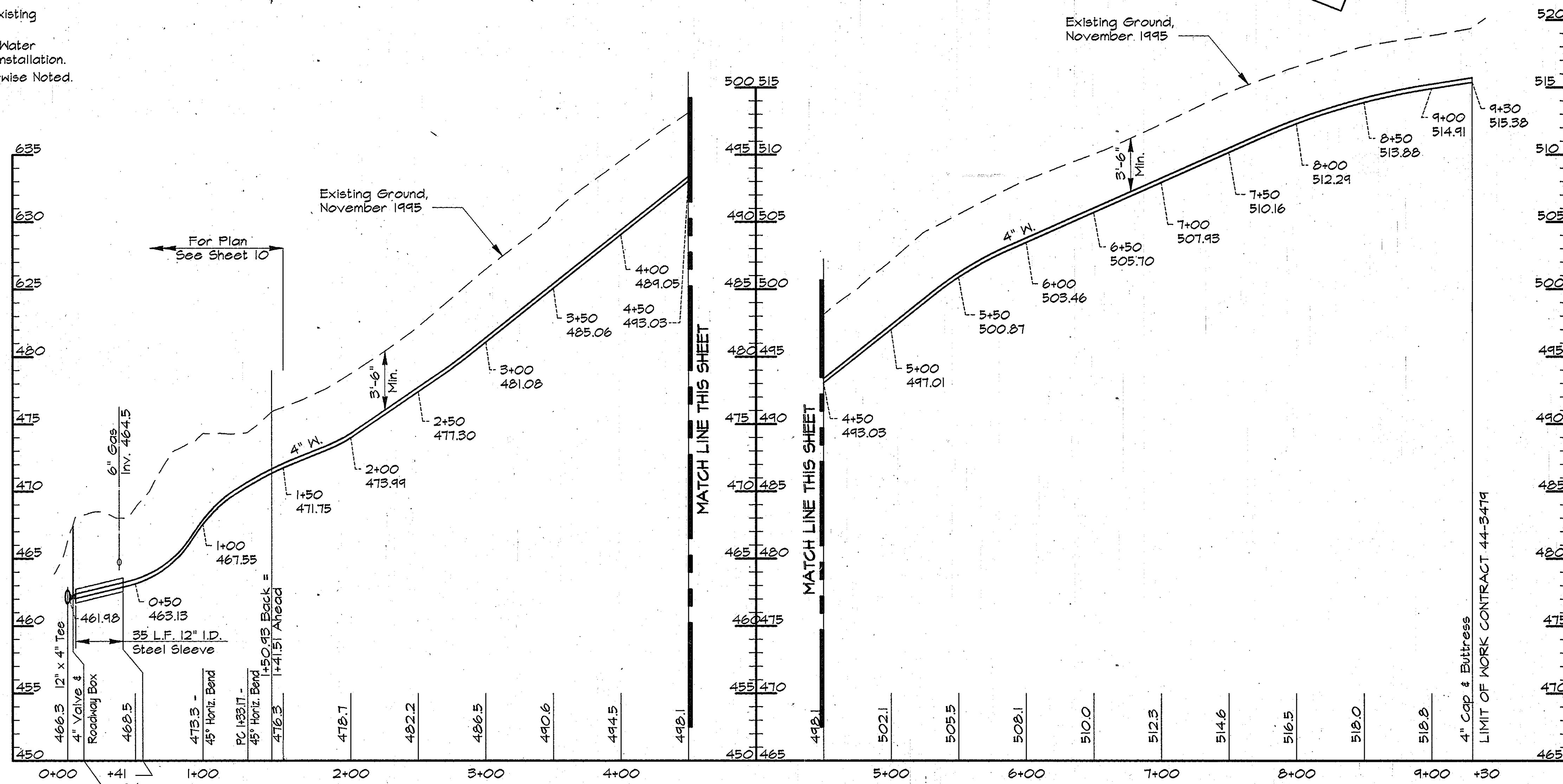
WATER MAIN STAKE-OUT TABLE			
TRAVERSE LINE	STATION	OFFSET	DESCRIPTION
1833 - 1834	2+27.83	25.52' Lt.	LIMIT OF WORK

- 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.



PLAN
Scale: 1"=50'



PROFILE - SERVICE MAIN

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

AS BUILT

RKK2 USR2:SDSKPROJ\CM9473\DWG\CONTR.-2 ALP-2-32.DWG 15.35 05/29/1996

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works: *James H. ...* 5/17/96
Chief, Bureau of Engineering: *Paul J. ...* 5/17/96
Chief, Bureau of Utilities: *R. ...* 5-21-96
Chief, Water and Sewer Design Division: *...* 5-17-96

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CONSULTING ENGINEERS
81 MOSHER ST.
BALTIMORE, MARYLAND 21217

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

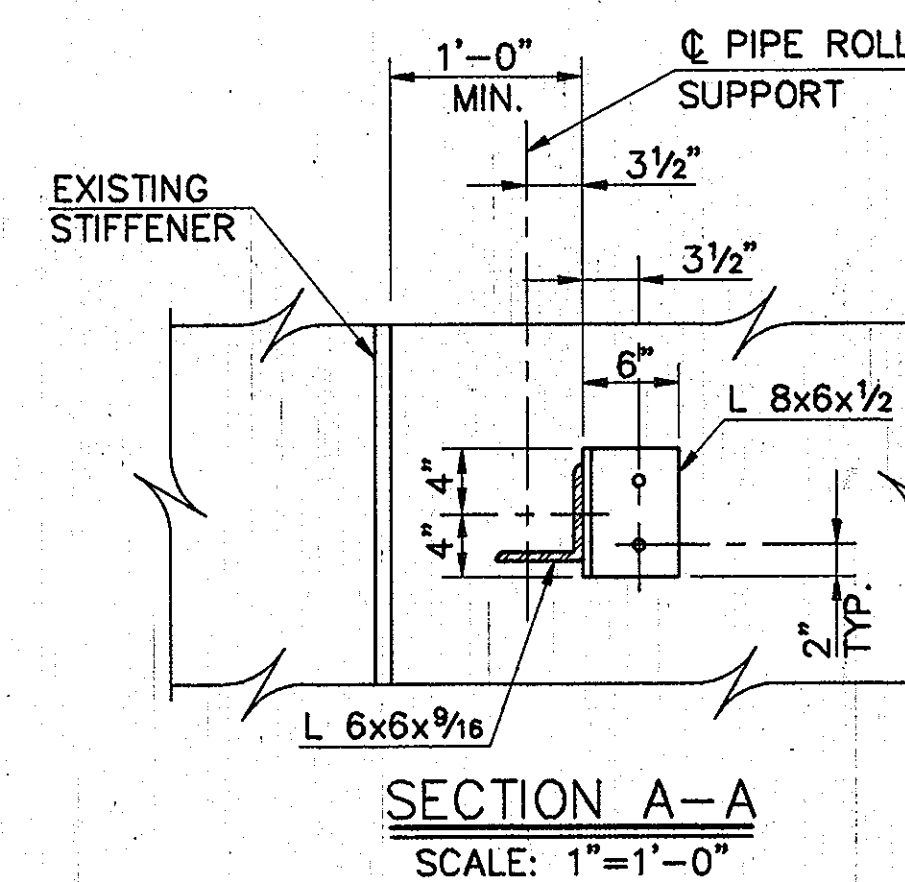
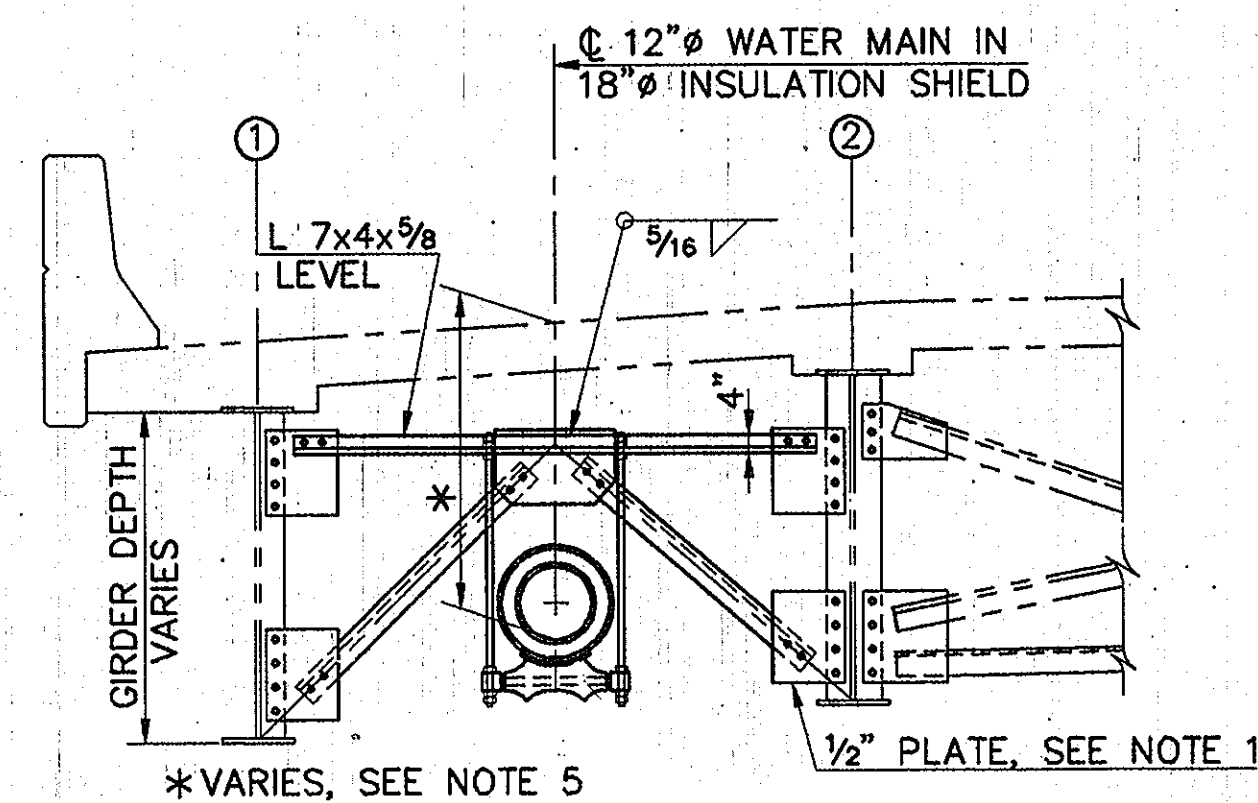
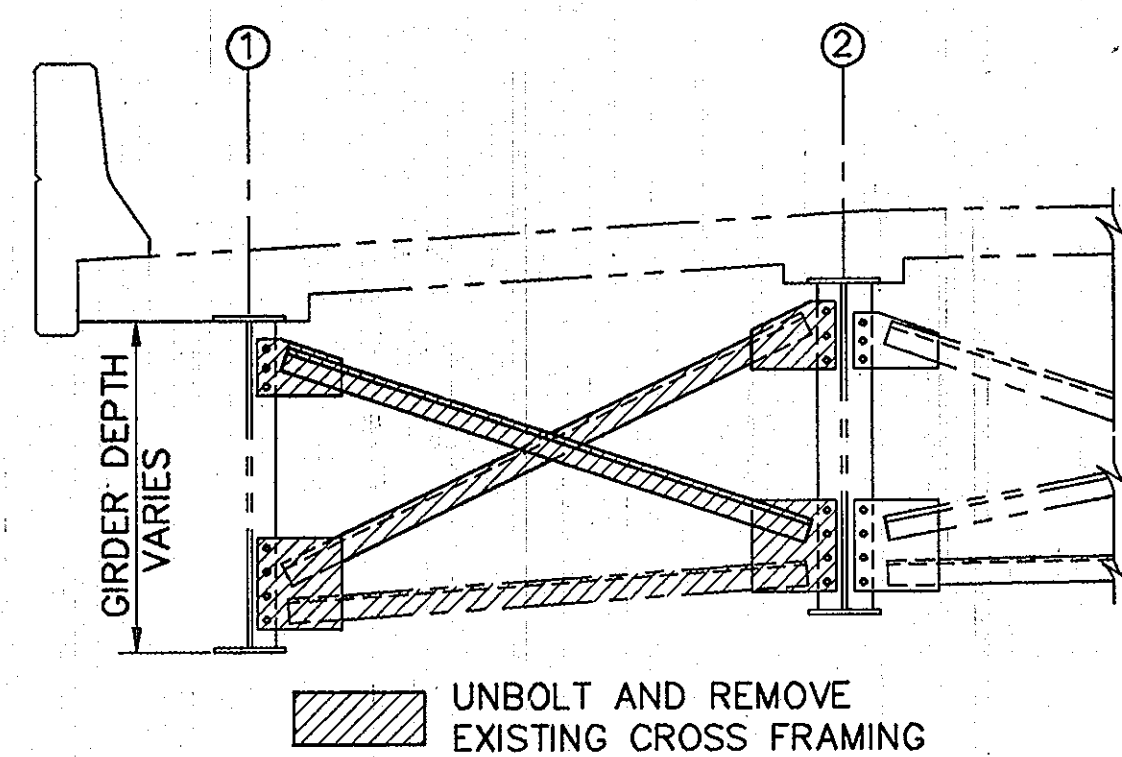
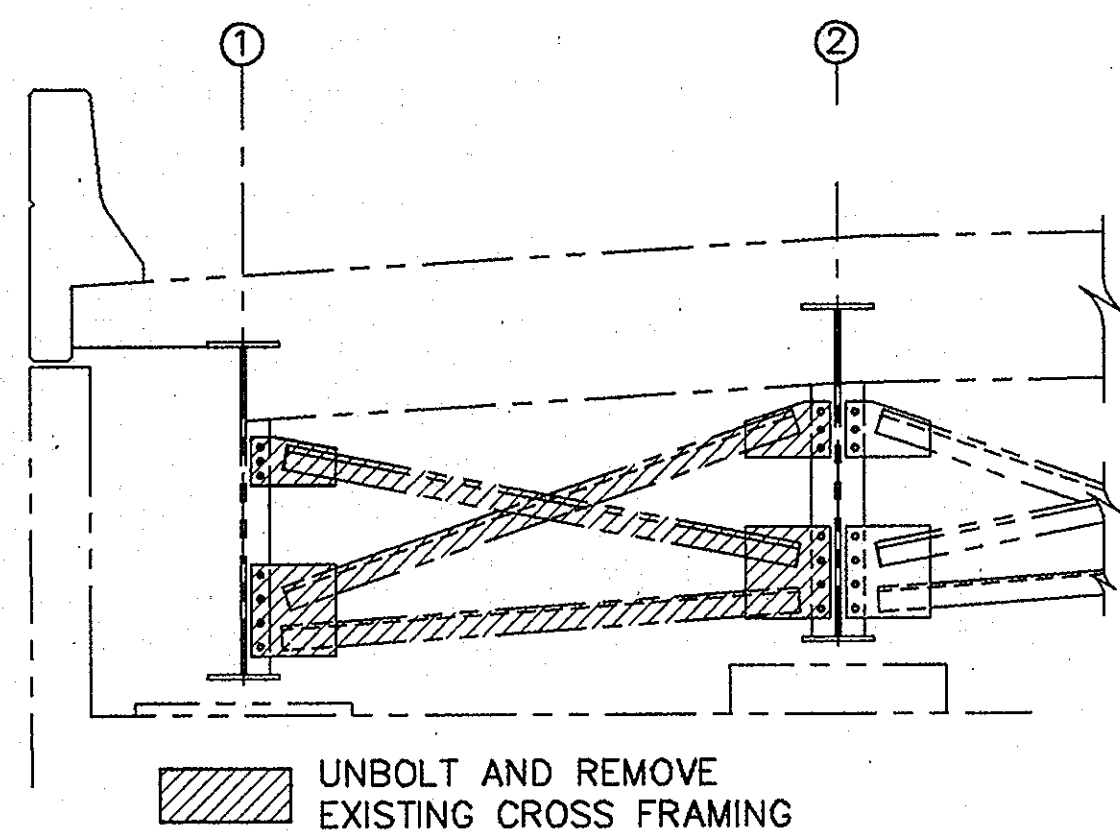
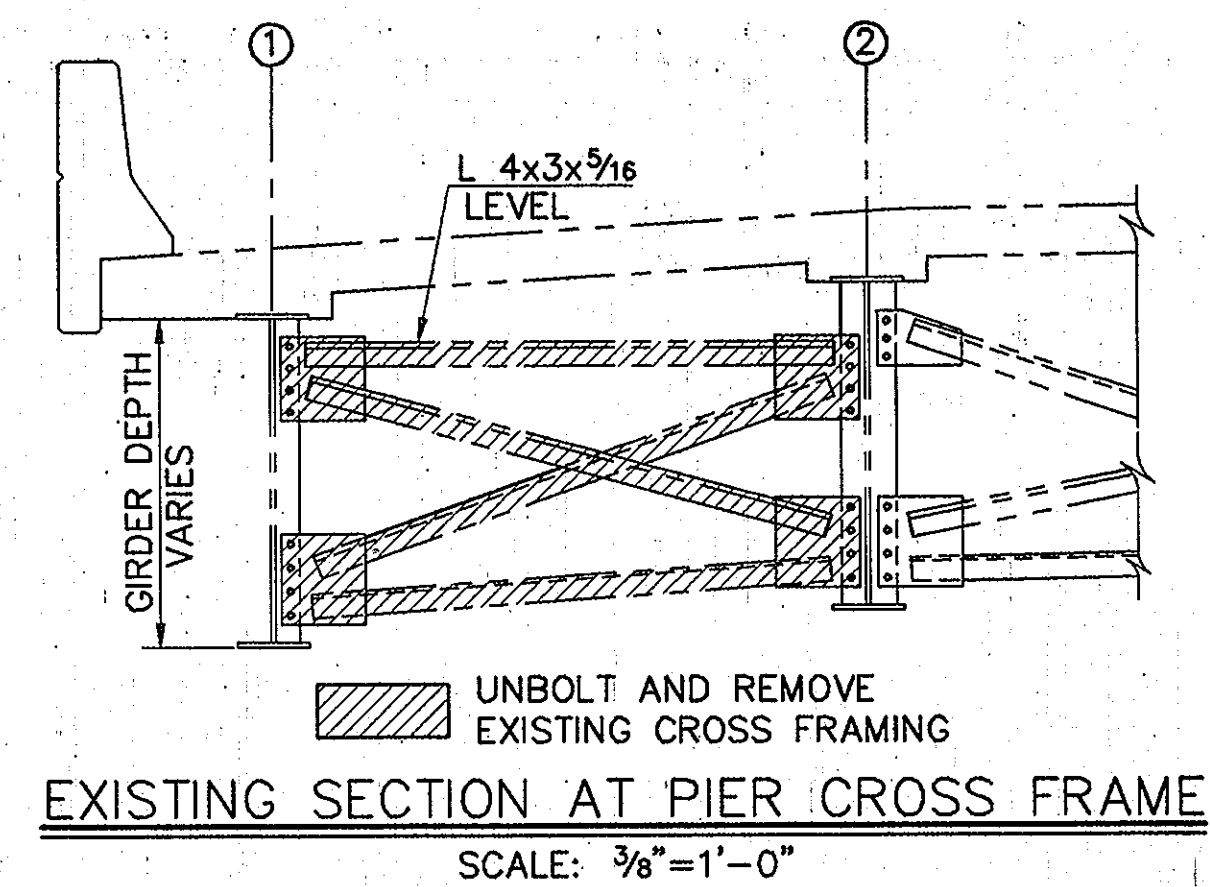
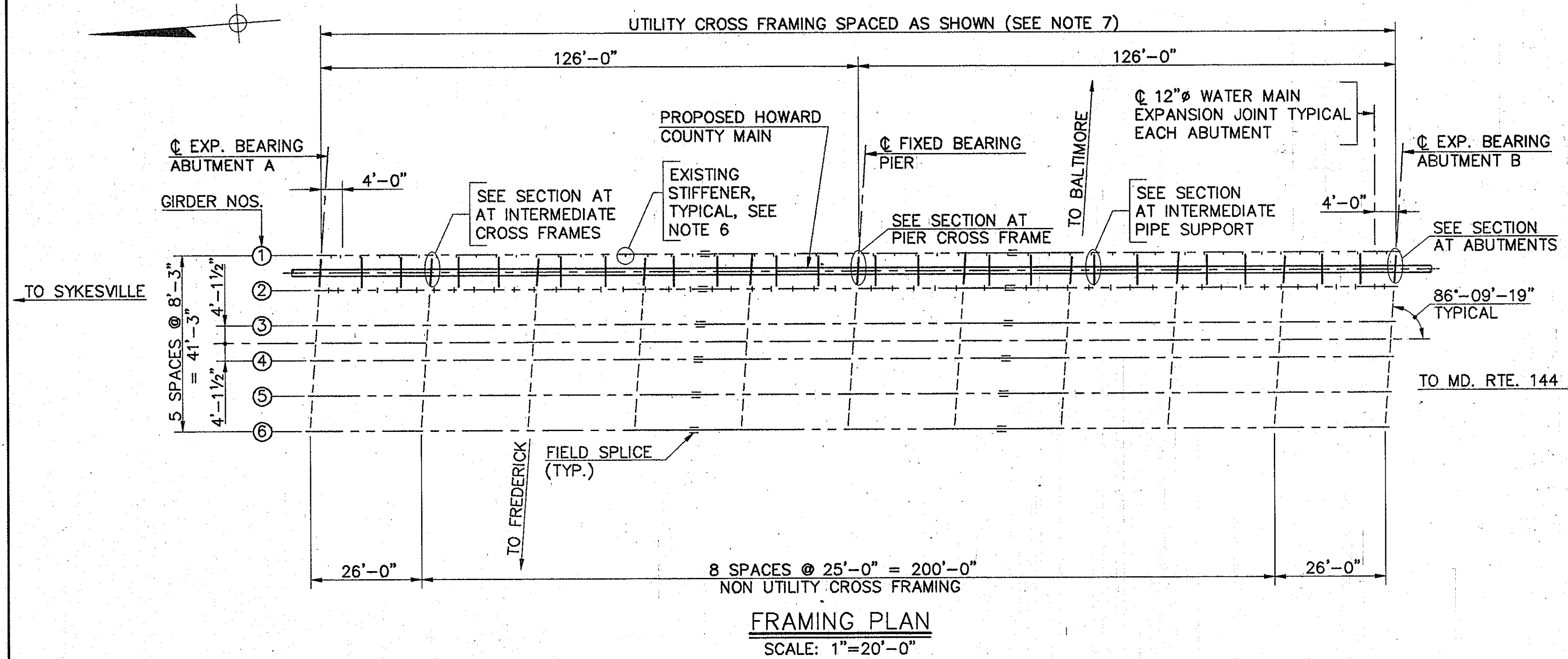
PLAN AND PROFILE SERVICE MAIN
STA. 00+00 TO STA. 9+30

ALPHA RIDGE WATER SUPPLY
CAPITAL PROJECT W-8203
CONTRACT NO. 44-3479
ELECTION DISTRICT NO. 3
HOWARD COUNTY, MARYLAND

DWG. NO.

SCALE
AS
SHOWN

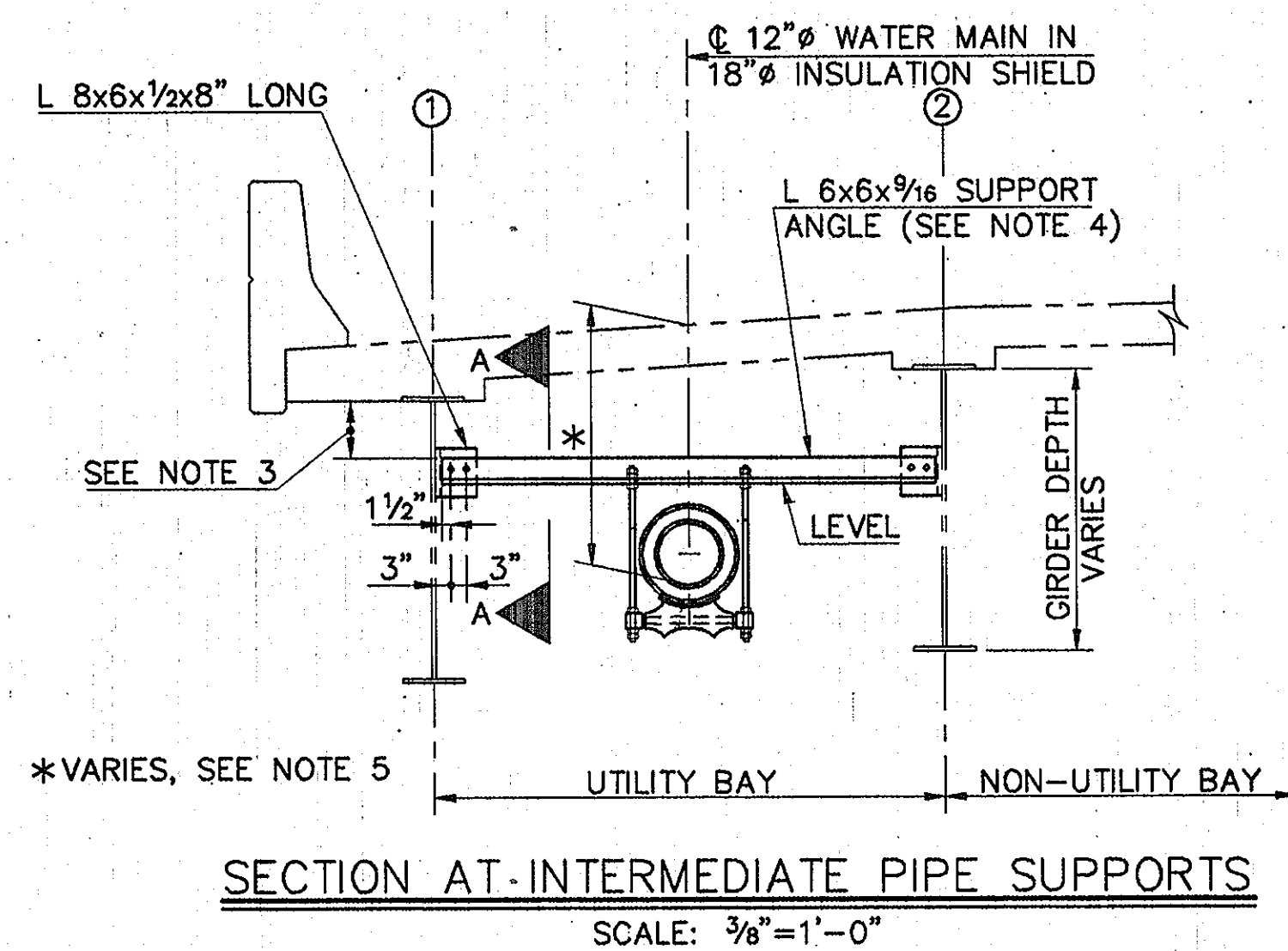
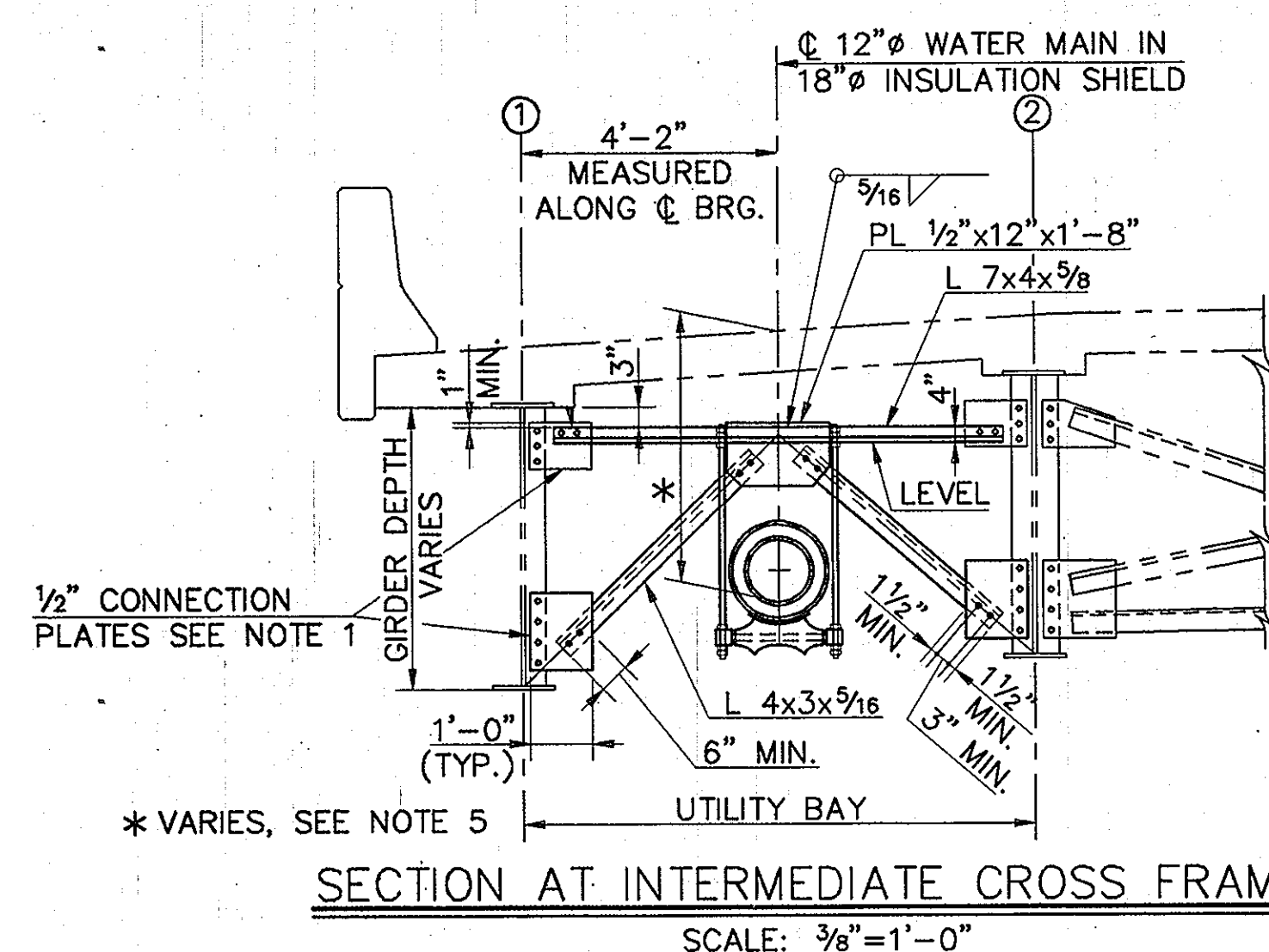
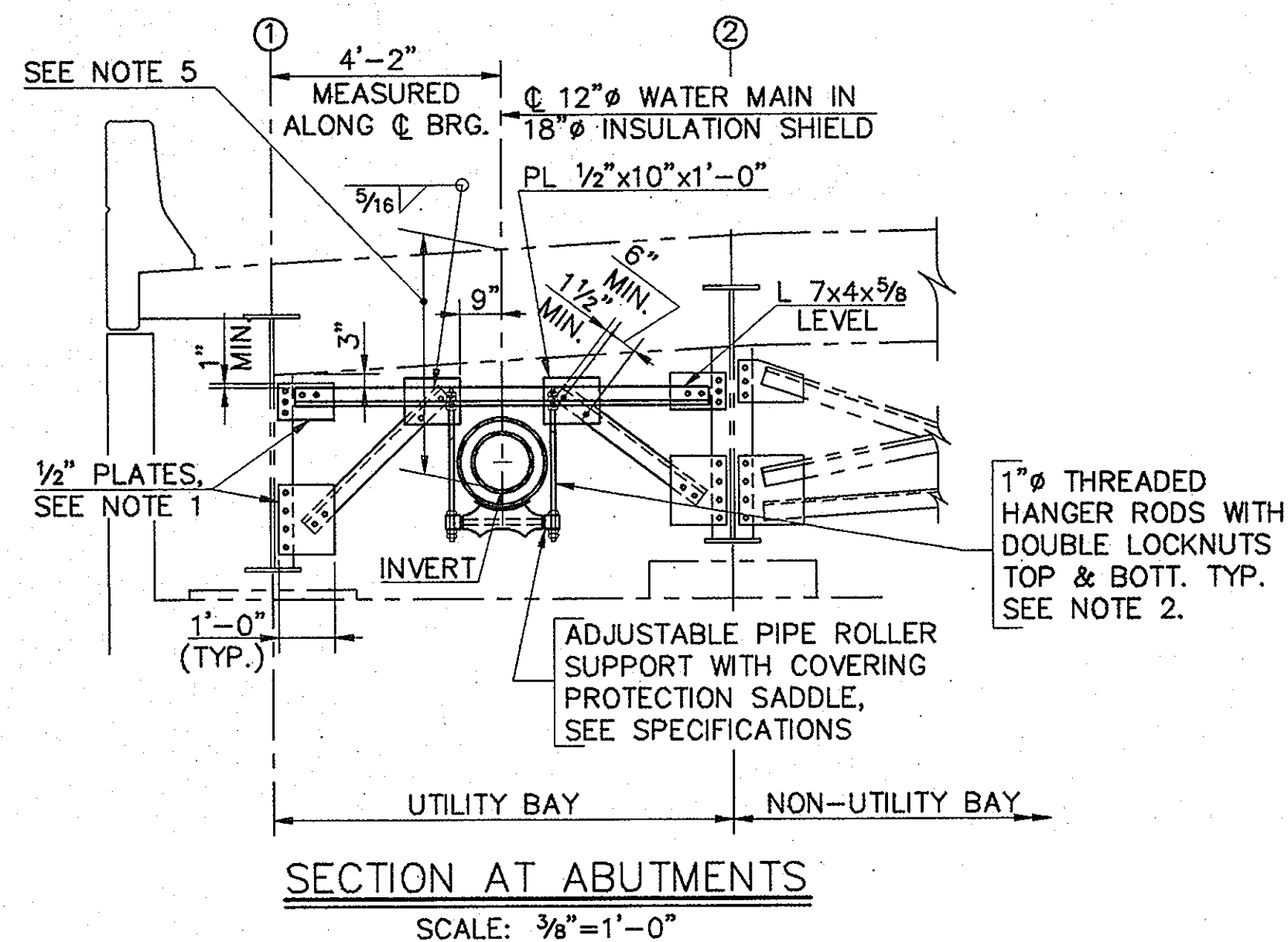
SHEET
32 OF 36



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

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

SECTION AT PIER CROSS FRAME
SCALE: 3/8"=1'-0"



- NOTES:
1. NEW PLATES SHALL BE FABRICATED WITH HOLES IDENTICAL IN SIZE AND LOCATION TO EXISTING. BOLTS SHALL BE A-325N HIGH STRENGTH AND SHALL BE THE SAME SIZE AS THE EXISTING BOLTS. CONTRACTOR SHALL VERIFY EXISTING HOLE LOCATIONS, AND BOLT SIZES PRIOR TO FABRICATION OF PARTS.
 2. HANGER RODS SHALL BE STAGGERED ON HORIZONTAL LEG OF L 7x4x9/8 SUCH THAT ROLLER SUPPORT IS PERPENDICULAR TO AXIS OF PIPE. MAXIMUM GAGE IN HORIZONTAL ANGLE LEG SHALL BE 5/2".
 3. HOLD 1'-0" OR AS MAY BE ACCESSIBLE TO DRILL HOLES IN GIRDER WEB.
 4. ANGLE 6"x6"x9/16" SHALL BE ORIENTED NORMAL TO GIRDER LONGITUDINAL AXIS.
 5. SEE TYPICAL SECTION THRU ABUTMENTS, SHEET 34 OF 36.
 6. EXISTING STIFFENER PLATES SHOWN ONLY ON GIRDER NOS. ① AND ②.
 7. INSTALLATION OF TEN (10) FOOT PIPE LENGTHS SHALL BE COORDINATED WITH CROSS FRAME SPACING.
 8. ALL BOLTS FOR ANGLE AND PLATE CONNECTIONS SHALL BE A-325N HIGH STRENGTH.
 9. NUMBER OF BOLTS REQUIRED PER CONNECTION ARE SHOWN IN THE CROSS FRAME DETAILS.
 10. PLACE 3/8" LAYER OF SPONGE RUBBER MATERIAL BETWEEN 18" INSULATION SHIELD AND BACKWALL.
 11. APPROXIMATE WEIGHT OF DUCTILE IRON WATER MAIN AND INSULATION SYSTEM INCLUDING 20 GAGE STEEL SHIELD= 130

AS BUILT

DWG. NO. _____
SCALE AS SHOWN
SHEET 33 OF 36

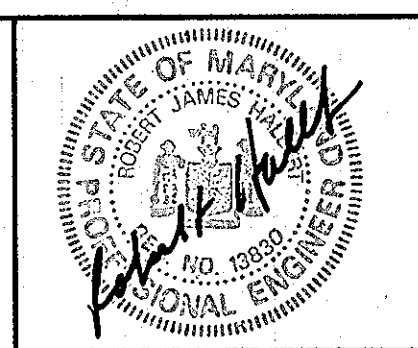
13-57
03/20/1996
ALP-2-33

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

5/21/96
5-21-96

5/17/96
5-17-96

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81 MOSHER ST.
BALTIMORE, MARYLAND 21217

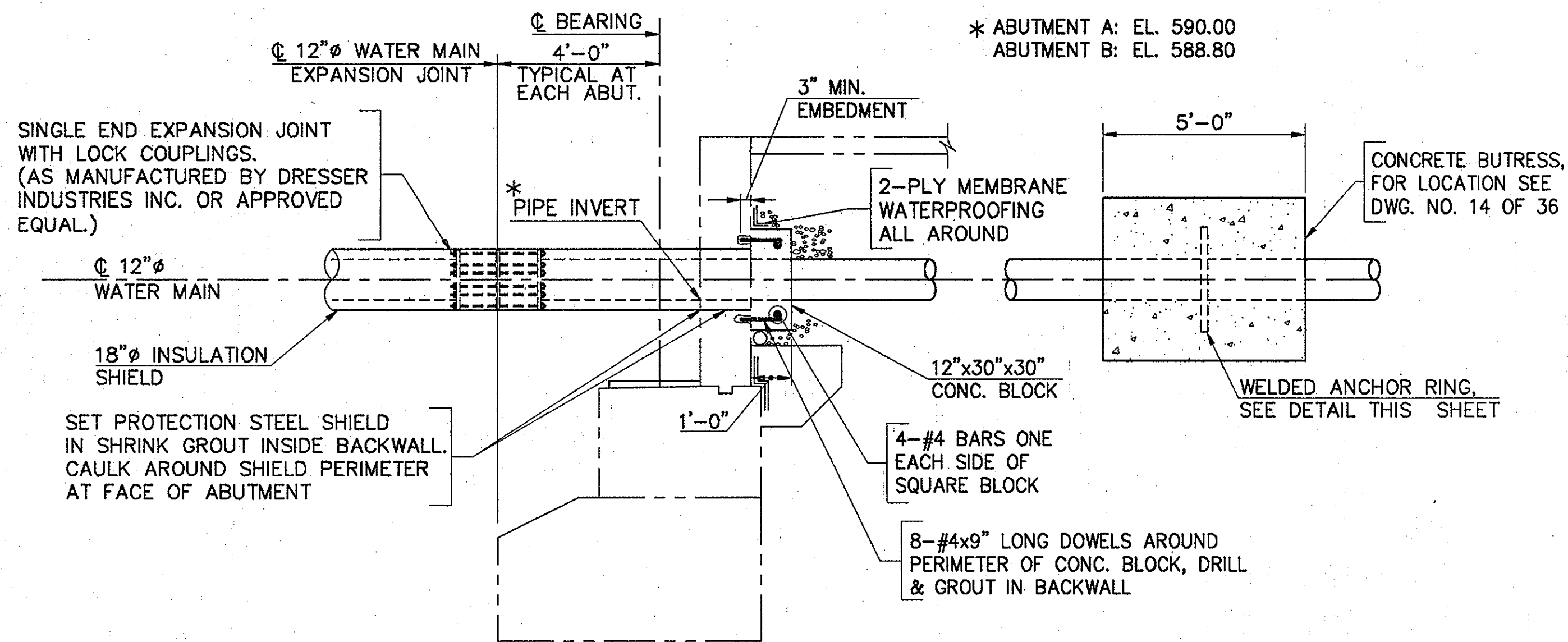


DES:	NJC	BY:	NO.
DRN:	AGS	REVISION	
CHK:	CME	DATE	3/96

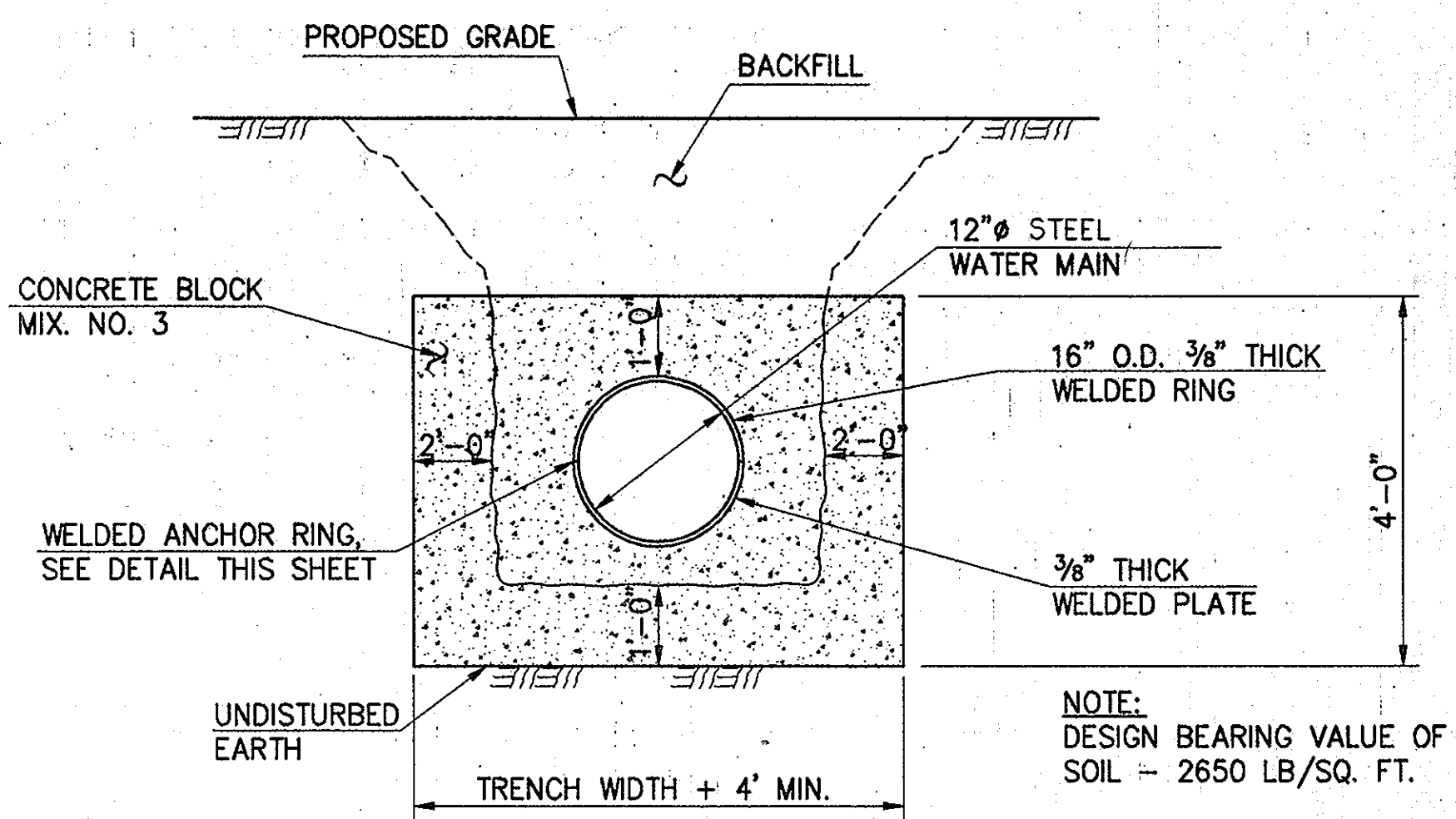
SANDHILL ROAD OVER I-70
SECTIONS AND DETAILS
FOR INSTALLATION OF 12" WATER MAIN

600' SCALE MAP NO. _____ BLOCK NO. _____

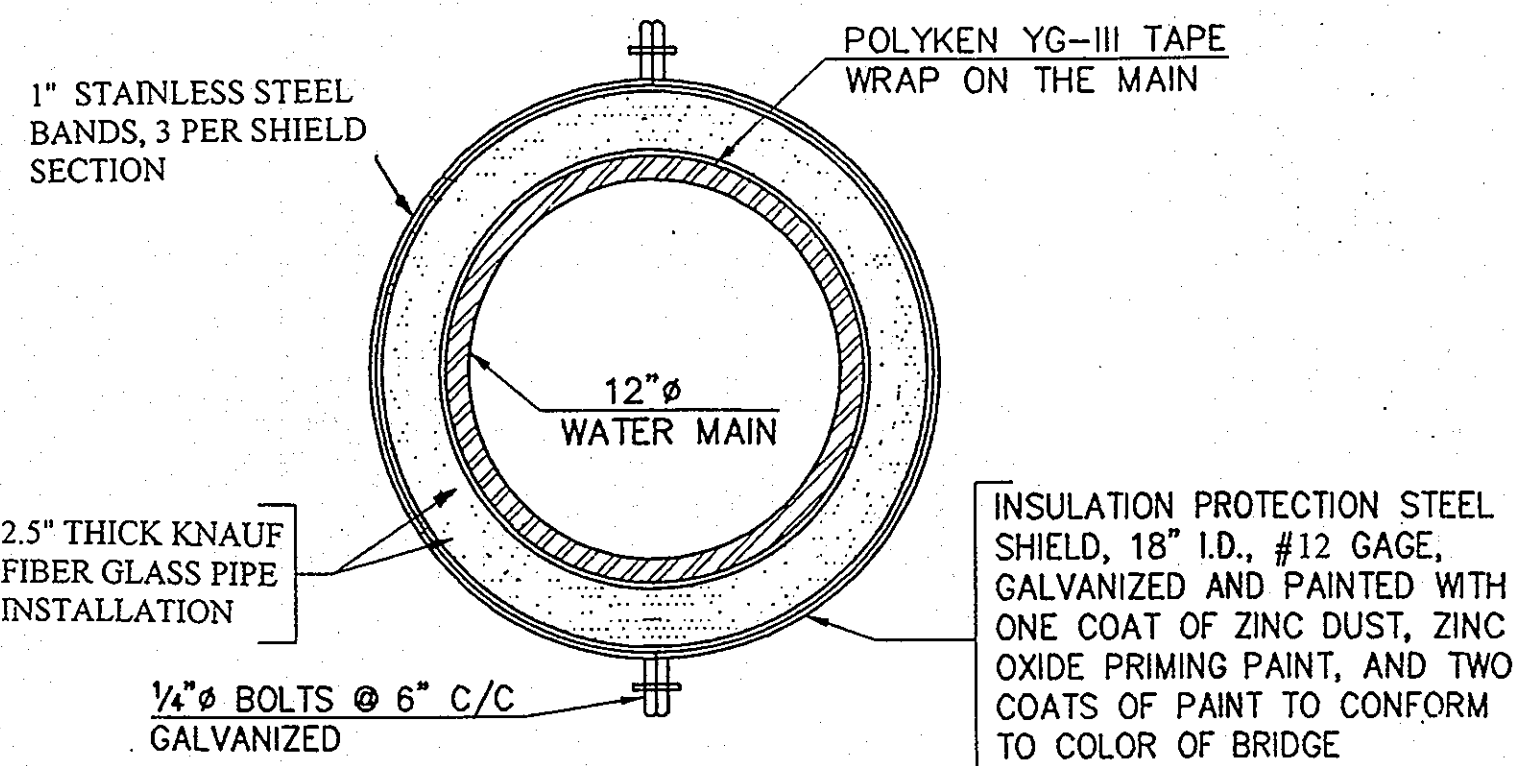
ALPHA RIDGE WATER SUPPLY
CAPITOL PROJECT W-8203
CONTRACT NO. 24-3479
ELECTION DISTRICT NO. 3
HOWARD COUNTY, MARYLAND



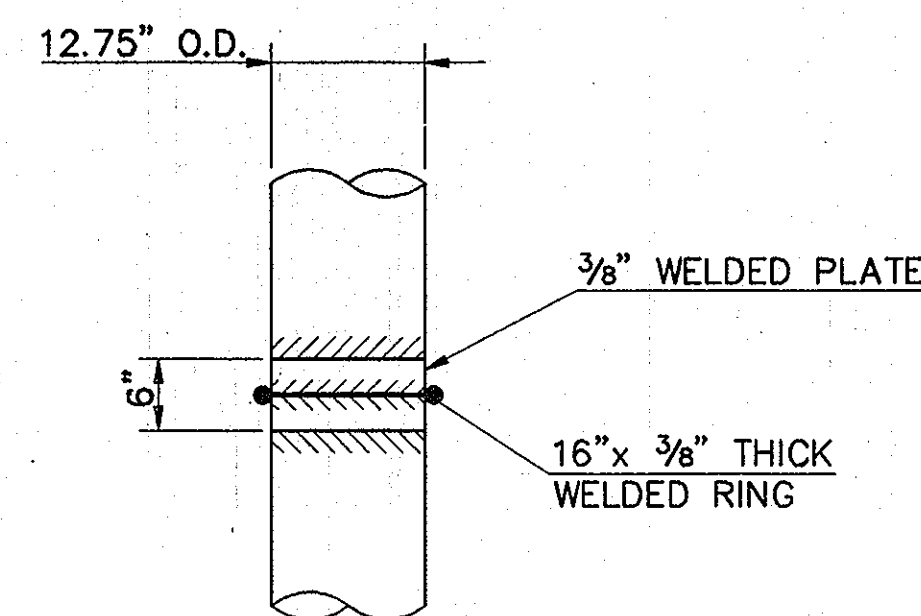
TYPICAL SECTION THRU ABUTMENT AT WATER MAIN
SCALE: 3/8" = 1'-0"



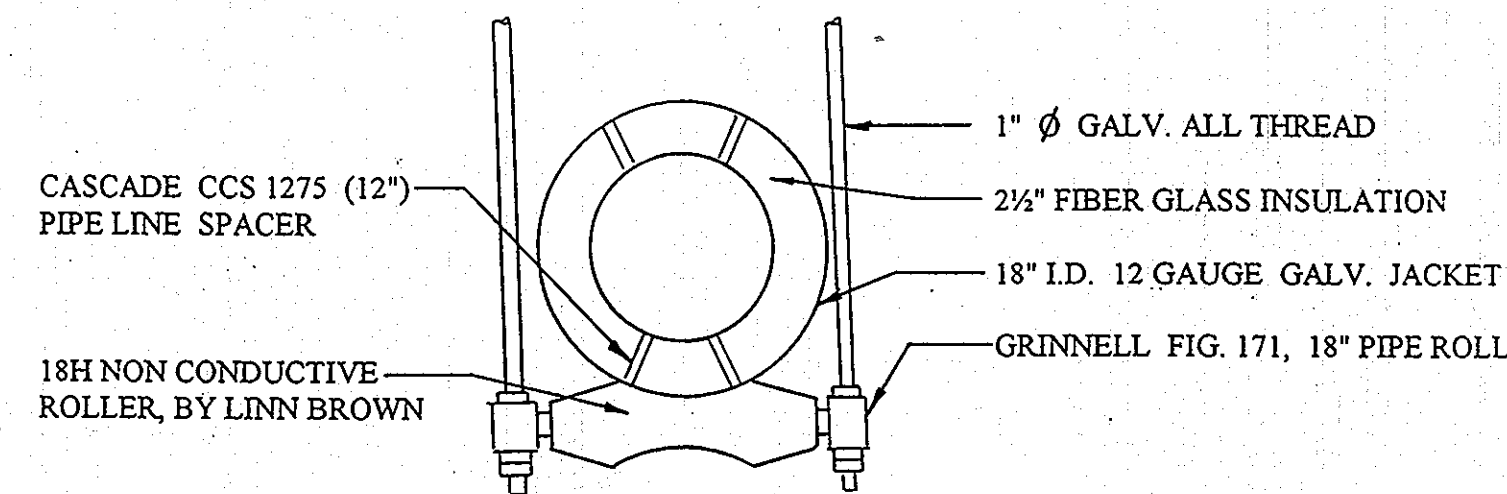
TYPICAL SECTION THRU CONCRETE BUTTRESS
NOT TO SCALE



INSULATION SHIELD DETAIL
N.T.S.



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



HANGER DETAIL
NO SCALE

GENERAL NOTES:

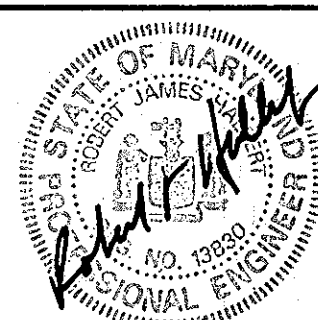
- The 12" steel water pipe shall have a minimum wall thickness of 1/2 inch, meeting the requirements of ASTM A-139 GR C and shall be electric resistance welded (ERW).
- The steel water pipe shall have beveled ends for field welding per AWWA C-206, Standard for Field Welding of Steel Water Pipe.
- The steel water pipe shall be cement-mortar lined per AWWA C-205, Standard for Cement-Mortar Protective Lining and Coating for Steel Water Pipe-Shop Applied.
- The exterior of the steel water pipe shall be tape coated with Polyken YG-III tape coating system per AWWA C-214, Tape Coating Systems for the Exterior of Steel Water Pipelines.
- Hangers shall be placed at a maximum of 10' spacing.
- Provide Cascade CCS-1275 (12") pipeline spacers at each hanger location.
- After the installation of the pipeline on the bridge, the Contractor shall provide access for County personnel to inspect the tape coating system. Any damage to the tape coating system shall be repaired by the Contractor to the satisfaction of the Engineer prior to the Contractor installing the pipe fiberglass insulation system and shield. The Contractor shall provide access to the steel pipeline for inspection purposes until the acceptance of the tape coating and insulation system.
- The fiberglass insulation between the 12" steel water main and the 18" diameter 24" long shield shall be Knauf Fiber Glass Pipe Insulation.
- Three stainless steel bands (3/4" x 0.03") as manufactured by Noland Company shall be provided to secure each section of 18" diameter shield.
- The expansion joint shall be Dresser Style 63 Type 3 Single-End Expansion Joint.
- The steel pipe to ductile iron pipe adaptor shall be Dresser Style 39-62 Insulating-Reducing Coupling.

AS BUILT

14-00
03/20/1996
ALP-2-34

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
5/17/96
5-21-96
5-17-96

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81 MOSHER ST.
BALTIMORE, MARYLAND 21217



DES: NJC
DRN: AGS
CHK: CME
DATE: 9/29/95
BY: NO.
REVISION
DATE

SANDHILL 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. 24-3479
ELECTION DISTRICT NO. 3
HOWARD COUNTY, MARYLAND

DWG. NO.
SCALE AS SHOWN
SHEET 34 OF 36