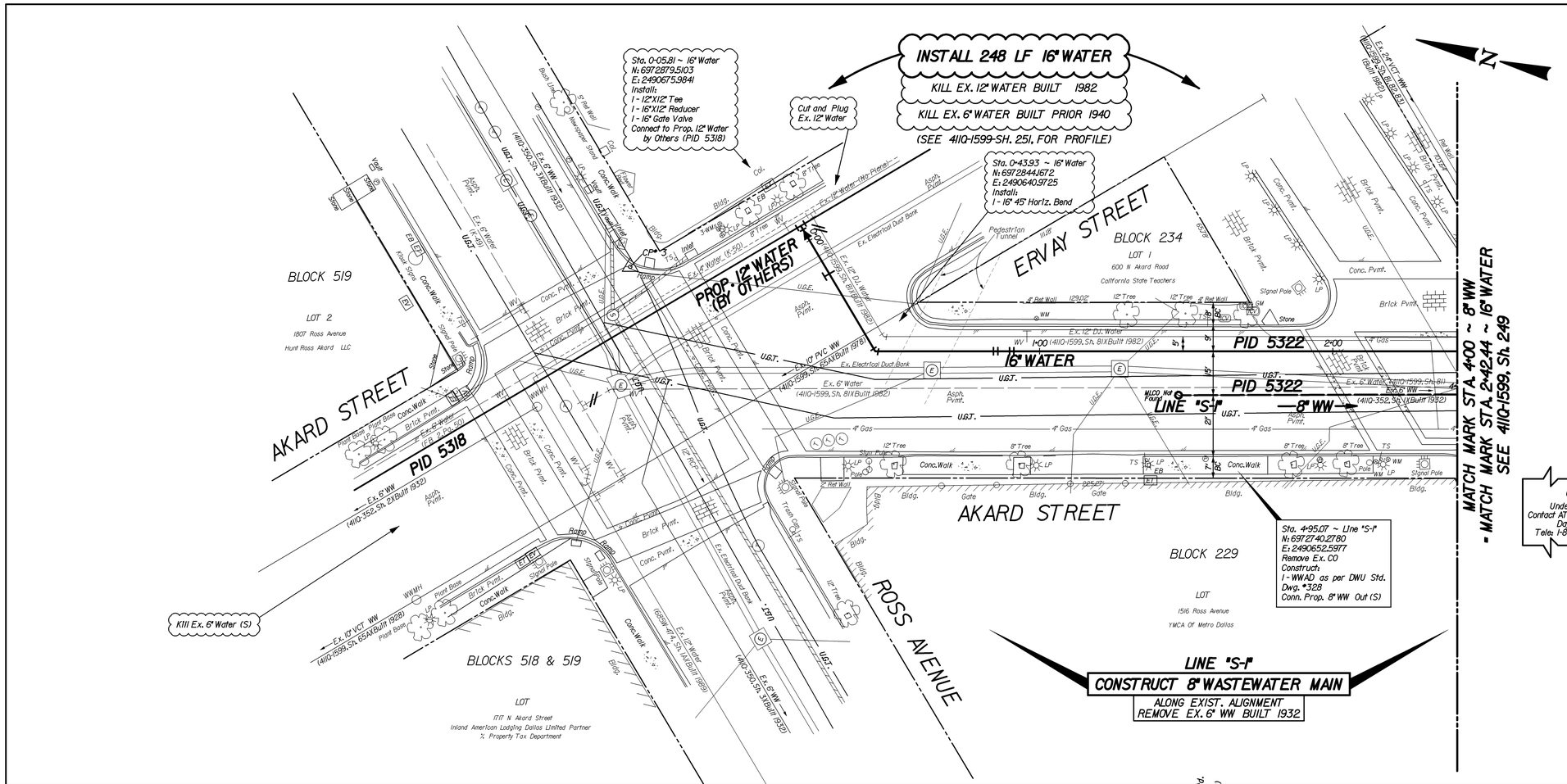
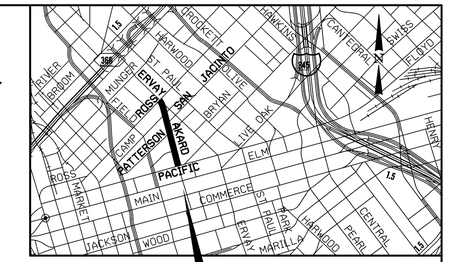




PROJECT LOCATION

CAUTION ~ TELEPHONE 1
Underground Telephone Cables In Area
Contact S.B.C. Two Working Days Prior To Construction.
Tele: 1-800-344-8377

CAUTION ~ POWER 1
Underground Electrical Cables In Area
Contact TXU Two Working Days Prior To Construction.
Tele: 1-800-344-8377

CAUTION ~ GAS 1
Underground Gas Main In Area
Contact ATMOS Energy Corp. Two Working Days Prior To Construction.
Tele: 1-800-344-8377 / 1-800-545-6005

CAUTION
Advanced Metering Infrastructure (AMI) Meters In Area
AMI Components Shall be Disconnected, Reconnected, Removed, or Installed by DWU Personnel ONLY.
Contact DWU Meter Reading Operations (MRO) 5 working days in advance.
Tel: 214-670-5537
Email: DWUMRO@dallascityhall.com

REVISIONS			
REV. NO.	DATE	DESCRIPTION	BY
1			
2			

BENCHMARKS & CONTROL POINTS

DWU BENCHMARK# 45-0-2

A CITY OF DALLAS BENCHMARK FOUND ON TOP OF A CONCRETE CURB AT THE SOUTHWEST CORNER OF A STORM SEWER DROP INLET AT THE SOUTHEAST CORNER OF THE INTERSECTION OF SAINT PAUL STREET AND YOUNG STREET.
ELEV = 442.70'

CONTROL POINT# 4

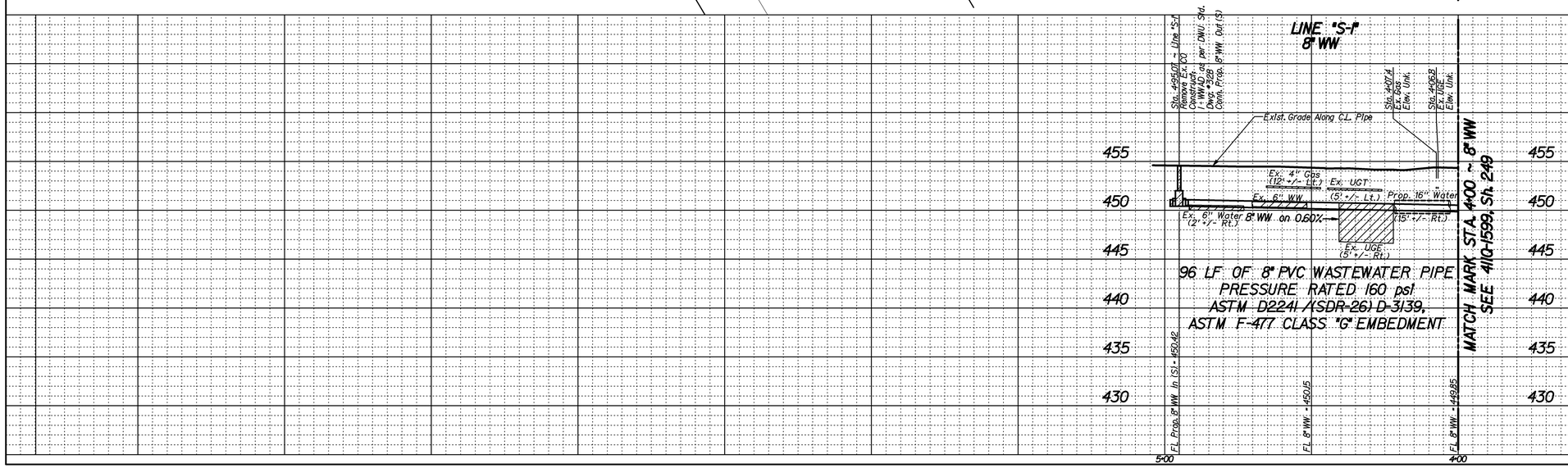
"X" CUT ON CONCRETE WALK AT THE NORTHWEST SIDE OF THE INTERSECTION OF AKARD STREET AND SAN JACINTO STREET.

N:6972641.9550; E:2490654.3370 ; ELEV = 453.95'

CONTROL POINT# 3

"X" CUT ON CONCRETE GUTTER AT THE EAST SIDE OF THE INTERSECTION OF AKARD STREET AND ROSS AVENUE.

N:6972932.2570; E:2490647.7700 ; ELEV = 454.88'



Horizontal Scale: 1" = 20'
0' 20' 40'
Vertical Scale: 1" = 6'
0' 6' 12'

REFERENCES

WATER
37-25W (C), 38-25W (A)

WASTEWATER
37-25S (C), 38-25S (A)

LIM & ASSOCIATES, INC.
F-3232
STATE OF TEXAS
GUILLERMO R. DARCE
96476
LICENSED
PROFESSIONAL ENGINEER
08-18-2021

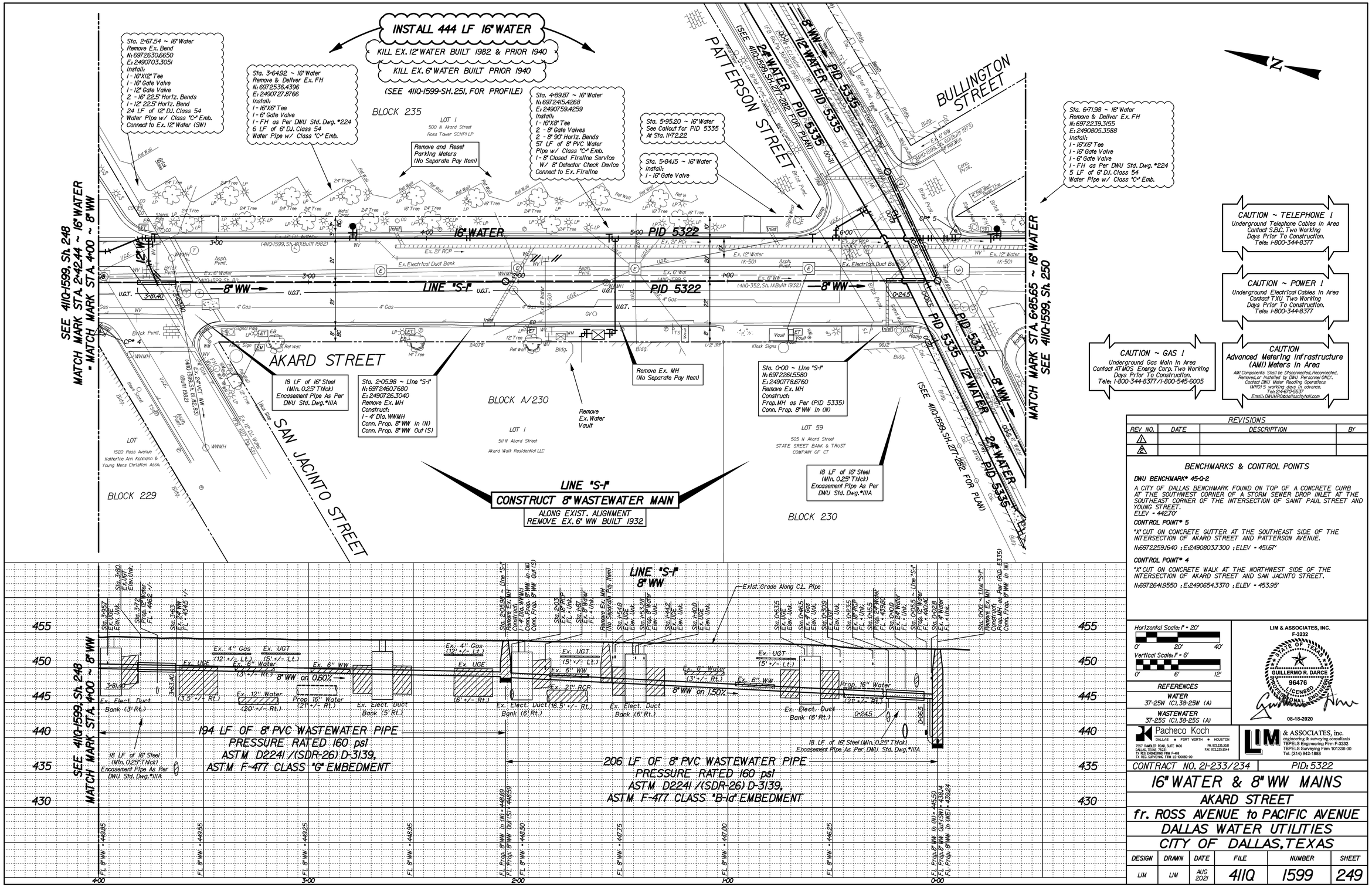
Pacheco Koch
DALLAS ★ FORT WORTH ★ HOUSTON
7557 RAMBLER ROAD, SUITE 1400
DALLAS, TEXAS 75231
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008800-00
PH. 972.235.3031
FAX. 972.235.9544

LIM & ASSOCIATES, inc.
engineering & surveying consultants
TBPELS Engineering Firm F-3232
TBPELS Surveying Firm 101236-00
Tel. (214) 942-1888

CONTRACT NO. 21-233/234 | PID: 5322

16" WATER & 8" WW MAINS
AKARD STREET
fr. ROSS AVENUE to PACIFIC AVENUE
DALLAS WATER UTILITIES
CITY OF DALLAS, TEXAS

DESIGN	DRAWN	DATE	FILE	NUMBER	SHEET
LJM	LJM	AUG 2021	411Q	1599	248



REVISIONS			
REV. NO.	DATE	DESCRIPTION	BY
1			
2			
3			

BENCHMARKS & CONTROL POINTS

DWU BENCHMARK# 45-0-2

A CITY OF DALLAS BENCHMARK FOUND ON TOP OF A CONCRETE CURB AT THE SOUTHWEST CORNER OF A STORM SEWER DROP INLET AT THE SOUTHEAST CORNER OF THE INTERSECTION OF SAINT PAUL STREET AND YOUNG STREET.
ELEV = 442.70'

CONTROL POINT# 5

"X" CUT ON CONCRETE GUTTER AT THE SOUTHEAST SIDE OF THE INTERSECTION OF AKARD STREET AND PATTERSON AVENUE.

N:6972259.1640 ; E:2490803.7300 ; ELEV = 451.67'

CONTROL POINT# 4

"X" CUT ON CONCRETE WALK AT THE NORTHWEST SIDE OF THE INTERSECTION OF AKARD STREET AND SAN JACINTO STREET.

N:6972641.9550 ; E:2490654.3370 ; ELEV = 453.95'

Horizontal Scale: 1" = 20'
0' 20' 40'
Vertical Scale: 1" = 6'
0' 6' 12'

REFERENCES

WATER
37-25W (C), 38-25W (A)

WASTEWATER
37-25S (C), 38-25S (A)

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F-3232
STATE OF TEXAS
GUILLERMO R. DARCE
96476
LICENSED
PROFESSIONAL ENGINEER
08-18-2020

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7557 RAMBLER ROAD, SUITE 1400
DALLAS, TEXAS 75231
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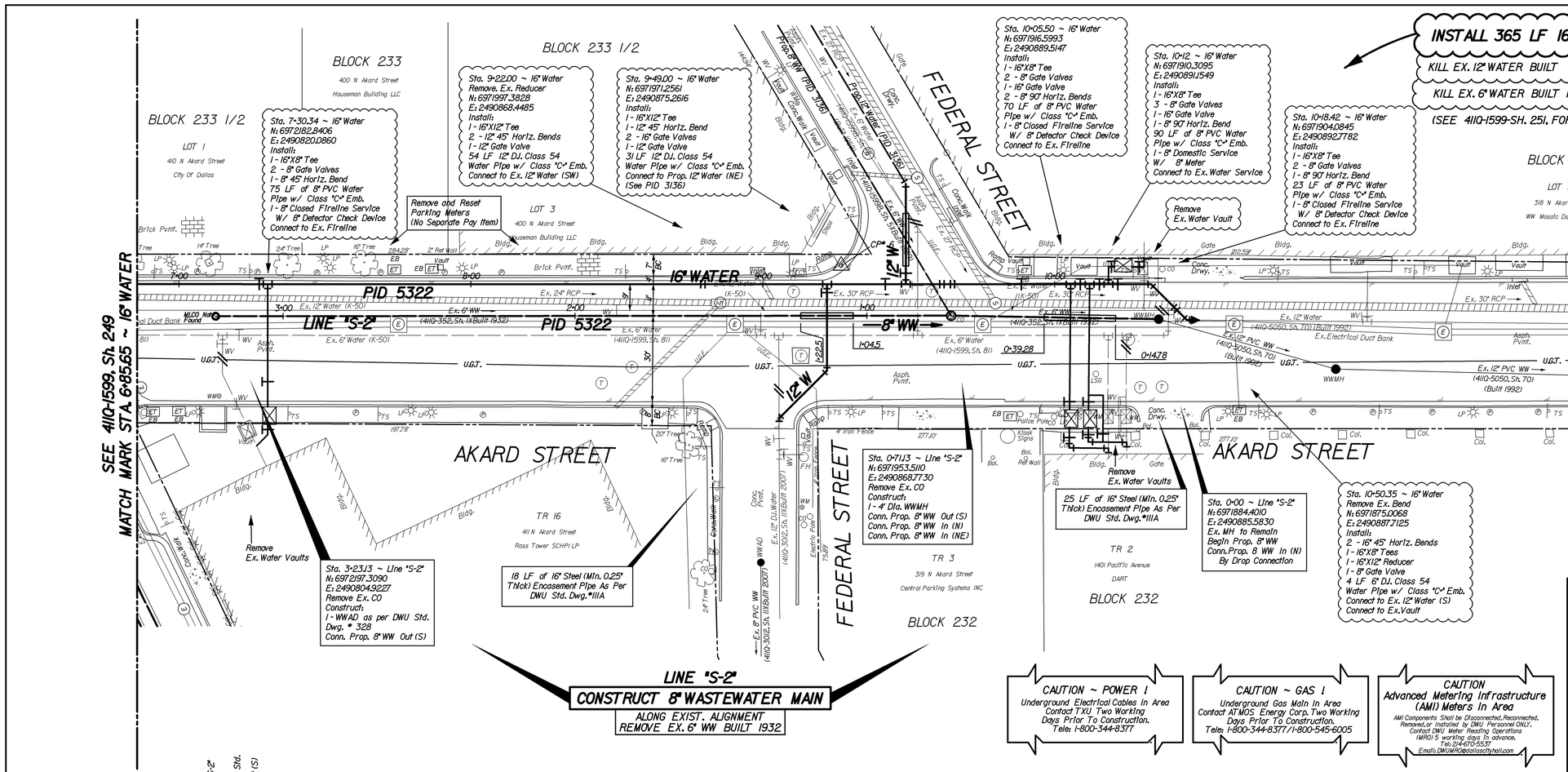
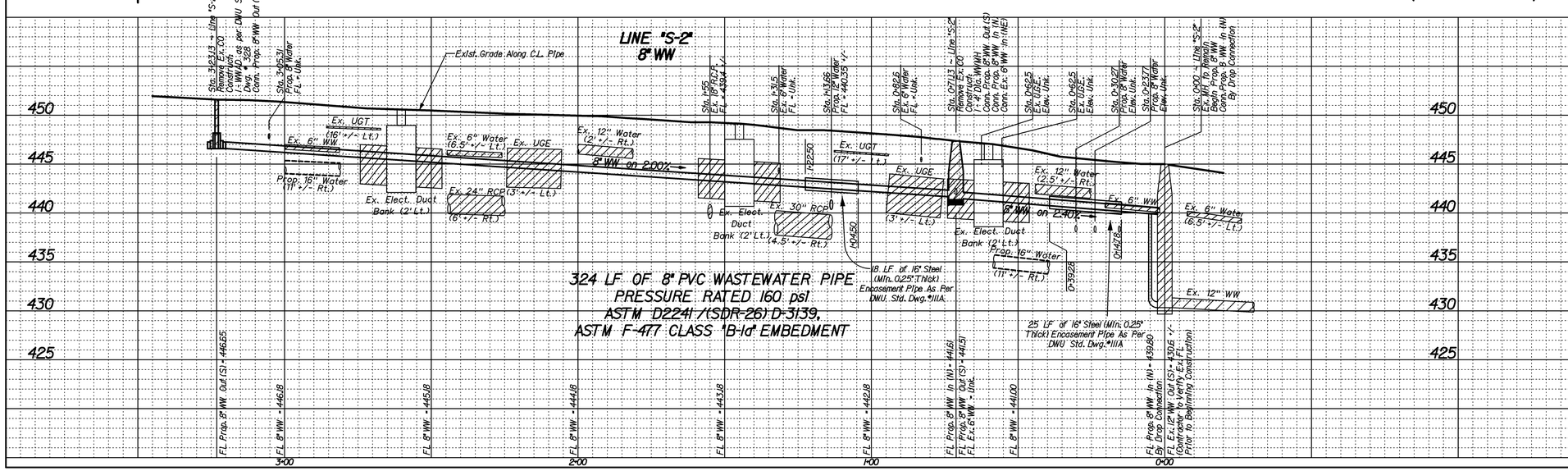
CONTRACT NO. 21-233/234 | PID: 5322

16" WATER & 8" WW MAINS
AKARD STREET
fr. ROSS AVENUE to PACIFIC AVENUE
DALLAS WATER UTILITIES
CITY OF DALLAS, TEXAS

DESIGN	DRAWN	DATE	FILE	NUMBER	SHEET
LJM	LJM	AUG 2021	411Q	1599	249





REVISIONS			
REV. NO.	DATE	DESCRIPTION	BY
1			
2			

BENCHMARKS & CONTROL POINTS

DWU BENCHMARK# 45-0-2
A CITY OF DALLAS BENCHMARK FOUND ON TOP OF A CONCRETE CURB AT THE SOUTHWEST CORNER OF A STORM SEWER DROP INLET AT THE SOUTHEAST CORNER OF THE INTERSECTION OF SAINT PAUL STREET AND YOUNG STREET.
ELEV = 442.70'

CONTROL POINT# 8
"X" CUT ON BRICK WALK AT THE EAST SIDE OF THE INTERSECTION OF AKARD STREET AND PACIFIC AVENUE.
N: 6971720.5660; E: 2490947.8230 ; ELEV = 439.39'

CONTROL POINT# 6
"X" CUT ON CONCRETE GUTTER AT THE NORTH SIDE OF THE INTERSECTION OF FEDERAL STREET AND AKARD STREET.
N: 6971994.2760 ; E: 6971994.2760 ; ELEV = 447.78'

Horizontal Scale: 1" = 20'
0' 20' 40'
Vertical Scale: 1" = 6'
0' 6' 12'

REFERENCES
WATER
37-25W (C), 38-25W (A)
WASTEWATER
37-25S (C), 38-25S (A)

LIM & ASSOCIATES, INC.
F-3232
STATE OF TEXAS
GUILLERMO R. DARCE
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08-18-2021

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TX REG. SURVEYING FIRM LS-10028801-00
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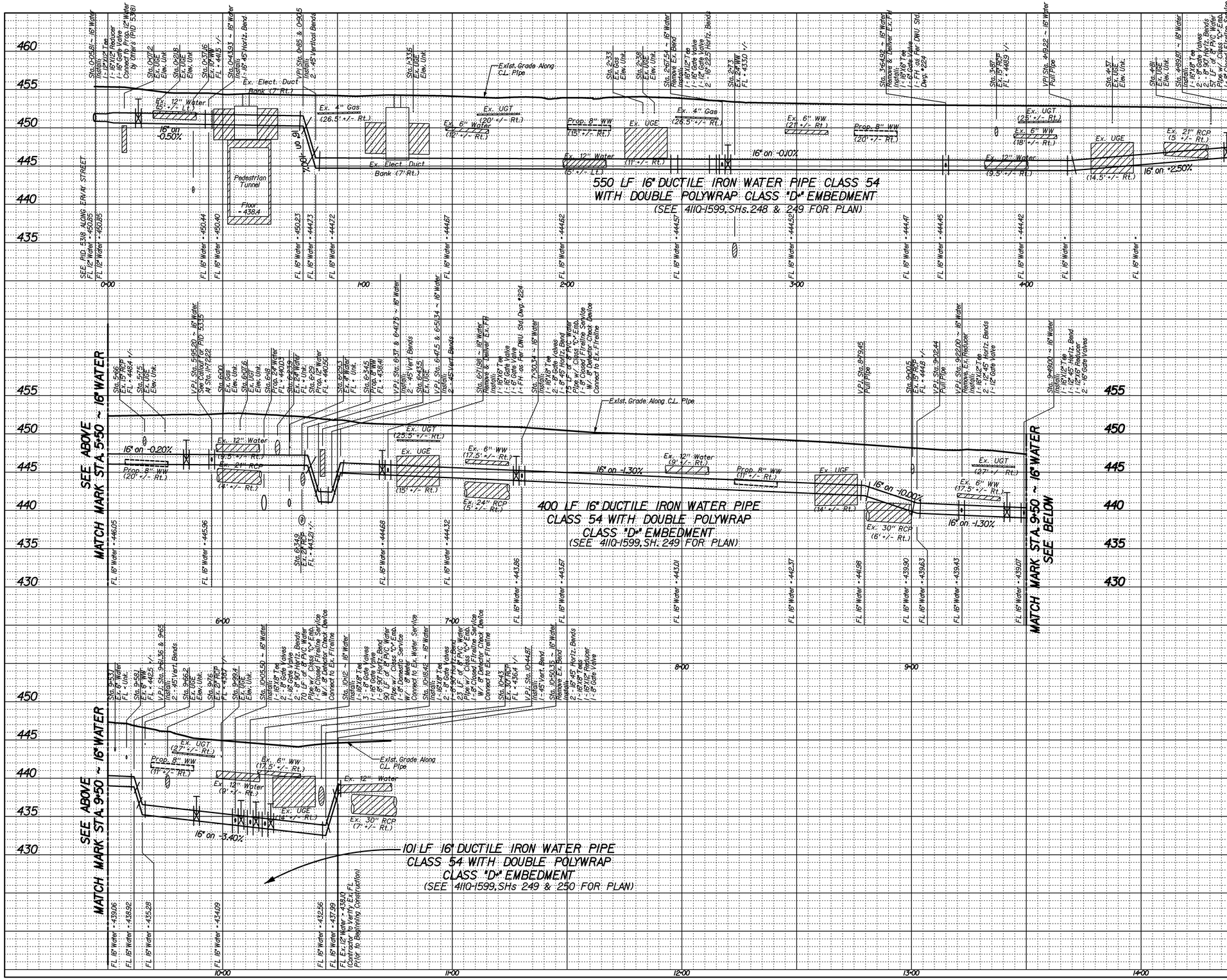
TBPELS Engineering Firm F-3232
TBPELS Surveying Firm 101236-00
Tel. (214) 942-1888

CONTRACT NO. 21-233/234 | PID: 5322

16" WATER & 8" WW MAINS
AKARD STREET
fr. ROSS AVENUE to PACIFIC AVENUE
DALLAS WATER UTILITIES
CITY OF DALLAS, TEXAS

DESIGN	DRAWN	DATE	FILE	NUMBER	SHEET
LIM	LIM	AUG 2021	411Q	1599	250



REVISIONS			
REV. NO.	DATE	DESCRIPTION	BY
1			
2			

BENCHMARKS & CONTROL POINTS

DWU BENCHMARK# 45-0-2

A CITY OF DALLAS BENCHMARK FOUND ON TOP OF A CONCRETE CURB AT THE SOUTHWEST CORNER OF A STORM SEWER DROP INLET AT THE SOUTHEAST CORNER OF THE INTERSECTION OF SAINT PAUL STREET AND YOUNG STREET.
ELEV = 442.70'

CONTROL POINT# 4

"X" CUT ON CONCRETE WALK AT THE NORTHWEST SIDE OF THE INTERSECTION OF AKARD STREET AND SAN JACINTO STREET.

N:6972641.9550; E:2490654.3370 ; ELEV = 453.95'

CONTROL POINT# 3

"X" CUT ON CONCRETE GUTTER AT THE EAST SIDE OF THE INTERSECTION OF AKARD STREET AND ROSS AVENUE.

N:6972932.2570; E:2490647.7700 ; ELEV = 454.88'

Horizontal Scale: 1" = 20'
0' 20' 40'

Vertical Scale: 1" = 6'
0' 6' 12'

REFERENCES

WATER
37-25W (C), 38-25W (A)

WASTEWATER
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STATE OF TEXAS
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08-18-2021

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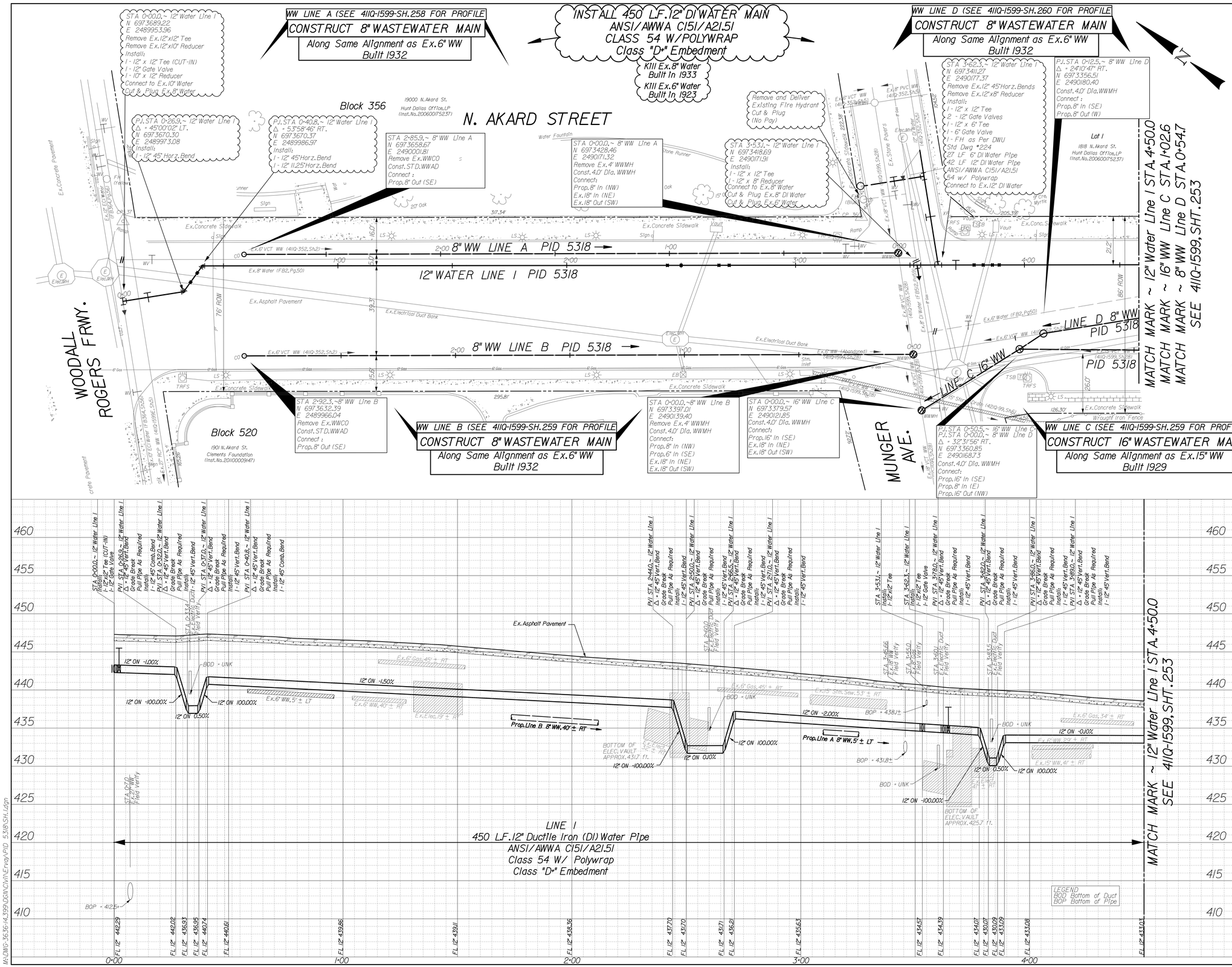
CONTRACT NO. 21-233/234 | PID: 5322

16" WATER MAIN
AKARD STREET
fr. ROSS AVENUE to PACIFIC AVENUE
DALLAS WATER UTILITIES
CITY OF DALLAS, TEXAS

DESIGN	DRAWN	DATE	FILE	NUMBER	SHEET
LJM	LJM	AUG 2021	4110	1599	251



REVISIONS			
REV NO.	DATE	DESCRIPTION	BY
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BENCHMARKS & CONTROL POINTS

DWU BENCHMARK 45-Q-3
ERVAY STREET AND WOOD STREET - A CITY OF DALLAS BENCH MARK SET ON TOP OF A CONCRETE CURB 20' SOUTH OF THE CENTERLINE OF ERVAY STREET.
ELEV = 443.33

DWU BENCHMARK 45-L-I
HARWOOD STREET AND LIVE OAK - A CITY OF DALLAS BENCH MARK SET ON TOP OF A CONCRETE CURB 20' FROM THE CENTERLINE OF HARWOOD STREET AND 15' FROM THE CENTERLINE OF LIVE OAK STREET, AT THE SOUTHWEST CORNER OF THE INTERSECTION.
ELEV = 464.16

Point	Northing	Easting	Elev.	Description
CP 30	697,1925.8134	2491647.4145	450.44	X CUT
CP 31	697,2114.2349	2491388.5532	450.10	X CUT
CP 32	697,2481.4653	2491021.3660	454.80	X CUT
CP 33	697,2761.9041	2490820.1720	455.72	X CUT
CP 34	697,2978.3742	2490593.4948	454.56	X CUT
CP 35	697,3253.3716	2490314.2604	437.81	X CUT
CP 36	697,3450.7771	2490174.5336	441.53	X CUT
CP 37	697,3709.9061	2489982.2309	448.36	X CUT

Horizontal Scale: 1" = 20'
0' 20' 40'
Vertical Scale: 1" = 6'
0' 6' 12'

STATE OF TEXAS
CLINT A. BISSETT
93845
LICENSED
PROFESSIONAL ENGINEER

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY CLINT A. BISSETT, P.E. 93845 ON 08/20/2021. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

REFERENCES

WATER
37-25W(A), 37-25W(C), 37-25W(D), & 38-25W(B)

WASTEWATER
37-25S(A), 37-25S(C), 37-25S(D), & 38-25S(B)

Pacheco Koch
7557 RAMBLER ROAD SUITE 1400
DALLAS, TX 75231 972.235.3031
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-100080-00

CONTRACT NO. 21-233/234 | PID: 5318

12" WATER, 8" WW, & 16" WW MAINS
AKARD/ERVAY STREET (CBD)
FROM WOODALL ROGERS FRWY TO PACIFIC AVE.
DALLAS WATER UTILITIES
CITY OF DALLAS, TEXAS

DESIGN	DRAWN	DATE	FILE	NUMBER	SHEET
CAB	ASR	AUG 2018	411Q	1599	252

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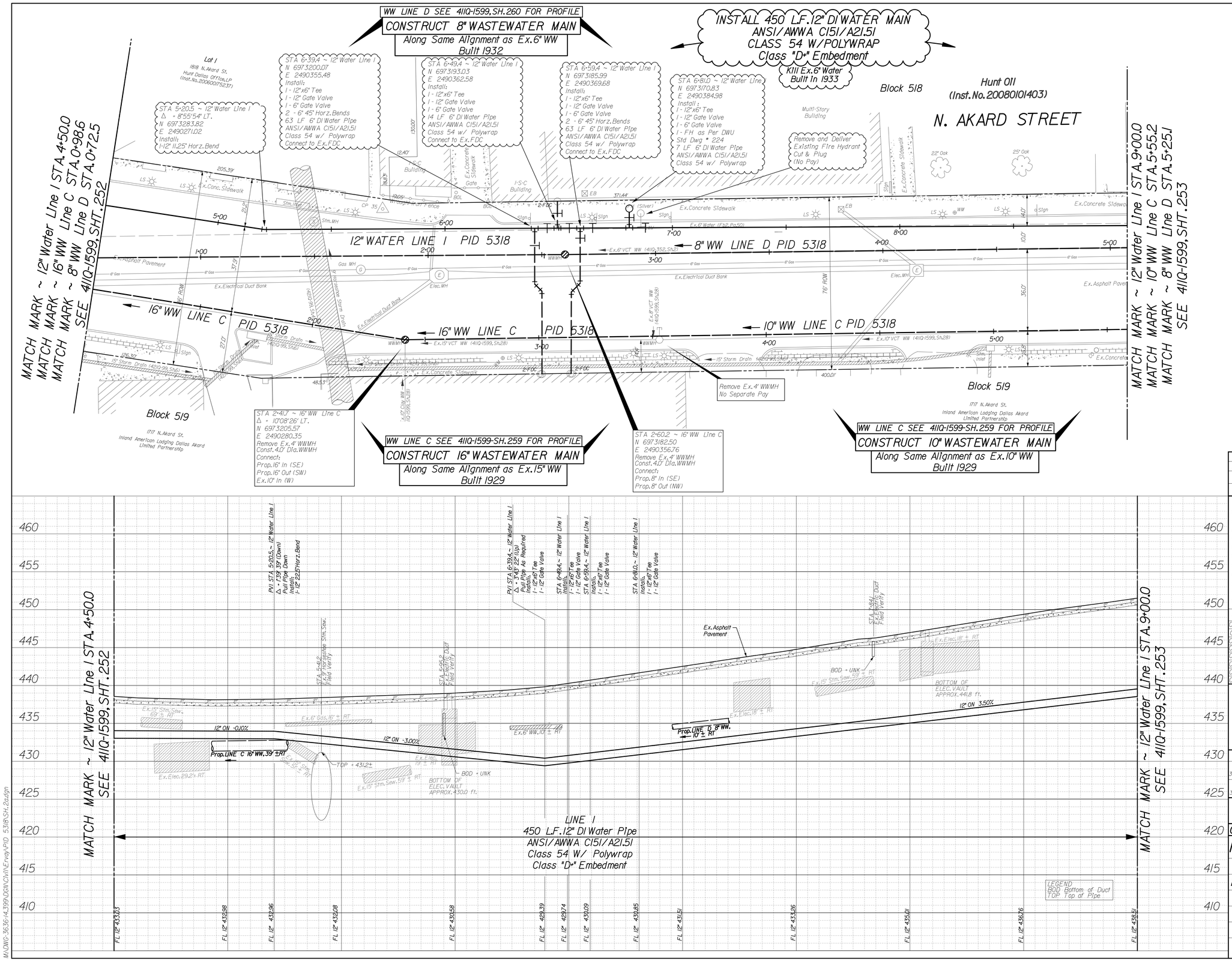

REVISIONS			
REV. NO.	DATE	DESCRIPTION	BY
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2			

BENCHMARKS & CONTROL POINTS

DWU BENCHMARK 45-Q-3
ERVAY STREET AND WOOD STREET - A CITY OF DALLAS BENCH MARK SET ON TOP OF A CONCRETE CURB 20' SOUTH OF THE CENTERLINE OF ERVAY STREET.
ELEV = 443.33

DWU BENCHMARK 45-L-1
HARWOOD STREET AND LIVE OAK - A CITY OF DALLAS BENCH MARK SET ON TOP OF A CONCRETE CURB 20' FROM THE CENTERLINE OF HARWOOD STREET AND 15' FROM THE CENTERLINE OF LIVE OAK STREET.AT THE SOUTHWEST CORNER OF THE INTERSECTION.
ELEV = 464.6

Point	Northing	Easting	Elev.	Description
CP 30	6971925.8134	2491647.4145	450.44	X CUT
CP 31	6972114.2349	2491388.5532	450.10	X CUT
CP 32	6972481.4653	2491021.3660	454.80	X CUT
CP 33	6972761.9041	2490820.1720	455.72	X CUT
CP 34	6972978.3742	2490593.4948	454.56	X CUT
CP 35	6973253.3716	2490314.2604	437.81	X CUT
CP 36	6973450.7771	2490174.5336	441.53	X CUT
CP 37	6973709.9061	2489982.2309	448.36	X CUT

Horizontal Scale: 1" = 20'
0' 20' 40'
Vertical Scale: 1" = 6'
0' 6' 12'

STATE OF TEXAS
CLINT A. BISSETT
93845
LICENSED
PROFESSIONAL ENGINEER

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REFERENCES
WATER
37-25W(A),37-25W(C),37-25W(D),& 38-25W(B)
WASTEWATER
37-25S(A),37-25S(C),37-25S(D),& 38-25S(B)

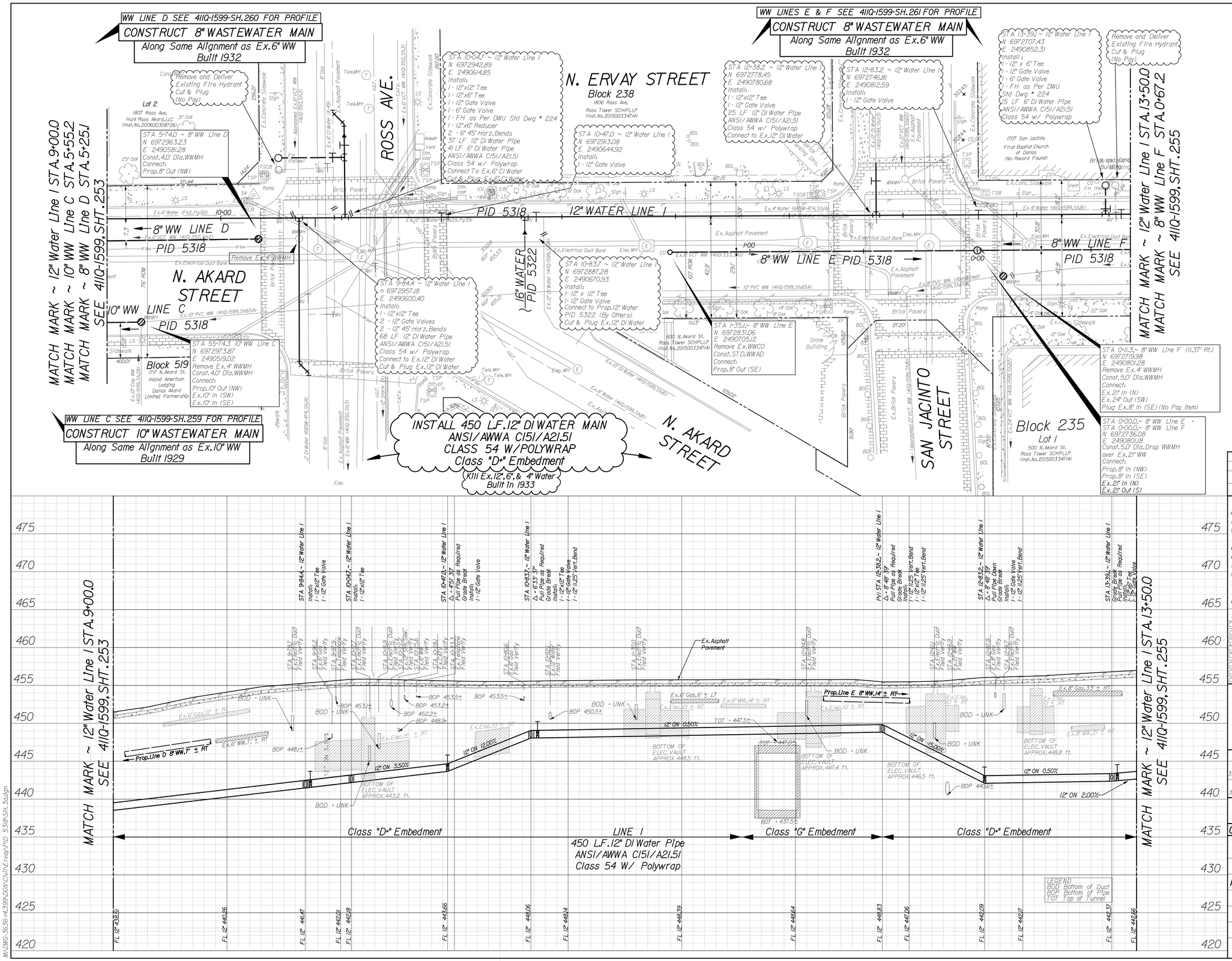
Pacheco Koch
7557 RAMBLER ROAD SUITE 1400
DALLAS, TX 75231 972.235.3031
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-100080-00

CONTRACT NO.21-233/234 | PID: 5318

12" WATER,16" WW,10" WW,& 8" WW MAINS
AKARD/ERVAY STREET (CBD)
FROM WOODALL ROGERS FRWY TO PACIFIC AVE.
DALLAS WATER UTILITIES
CITY OF DALLAS,TEXAS

DESIGN	DRAWN	DATE	FILE	NUMBER	SHEET
CAB	ASR	AUG 2018	411Q	1599	253

MA:DWG:3636-14.399\DGN\Civil\Ervay\PID 5318\SH.2.dgn



REVISIONS			
REV NO.	DATE	DESCRIPTION	BY
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2			

BENCHMARKS & CONTROL POINTS

DWU BENCHMARK 45-Q-3
ERVAY STREET AND WOOD STREET - A CITY OF DALLAS BENCH MARK SET ON TOP OF A CONCRETE CURB 20' SOUTH OF THE CENTERLINE OF ERVAY STREET.
ELEV = 443.33

DWU BENCHMARK 45-L-I
HARWOOD STREET AND LIVE OAK - A CITY OF DALLAS BENCH MARK SET ON TOP OF A CONCRETE CURB 20' FROM THE CENTERLINE OF HARWOOD STREET AND 15' FROM THE CENTERLINE OF LIVE OAK STREET.AT THE SOUTHWEST CORNER OF THE INTERSECTION.
ELEV = 464.16

Point	Northing	Easting	Elev.	Description
CP 30	6971925.8134	2491647.4145	450.44	X CUT
CP 31	6972114.2349	2491388.5532	450.10	X CUT
CP 32	6972481.4653	2491021.3660	454.80	X CUT
CP 33	6972761.9041	2490820.1720	455.72	X CUT
CP 34	6972978.3742	2490593.4948	454.56	X CUT
CP 35	6973253.3716	2490314.2604	437.81	X CUT
CP 36	6973450.7771	2490174.5336	441.53	X CUT
CP 37	6973709.9061	2489982.2309	448.36	X CUT

Horizontal Scale: 1" = 20'
0' 20' 40'
Vertical Scale: 1" = 6'
0' 6' 12'

STATE OF TEXAS
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LICENSED
PROFESSIONAL ENGINEER

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REFERENCES

WATER
37-25W(A),37-25W(C),37-25W(D),& 38-25W(B)

WASTEWATER
37-25S(A),37-25S(C),37-25S(D),& 38-25S(B)

Pacheco Koch
7557 RAMBLER ROAD SUITE 1400
DALLAS, TX 75231 972.235.3031
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-100080-00

CONTRACT NO.21-233/234 | PID: 5318

12" WATER, 10" WW, & 8" WW MAINS
AKARD/ERVAY STREET (CBD)
FROM WOODALL ROGERS FRWY TO PACIFIC AVE.
DALLAS WATER UTILITIES
CITY OF DALLAS, TEXAS

DESIGN	DRAWN	DATE	FILE	NUMBER	SHEET
CAB	ASR	AUG 2018	411Q	1599	254

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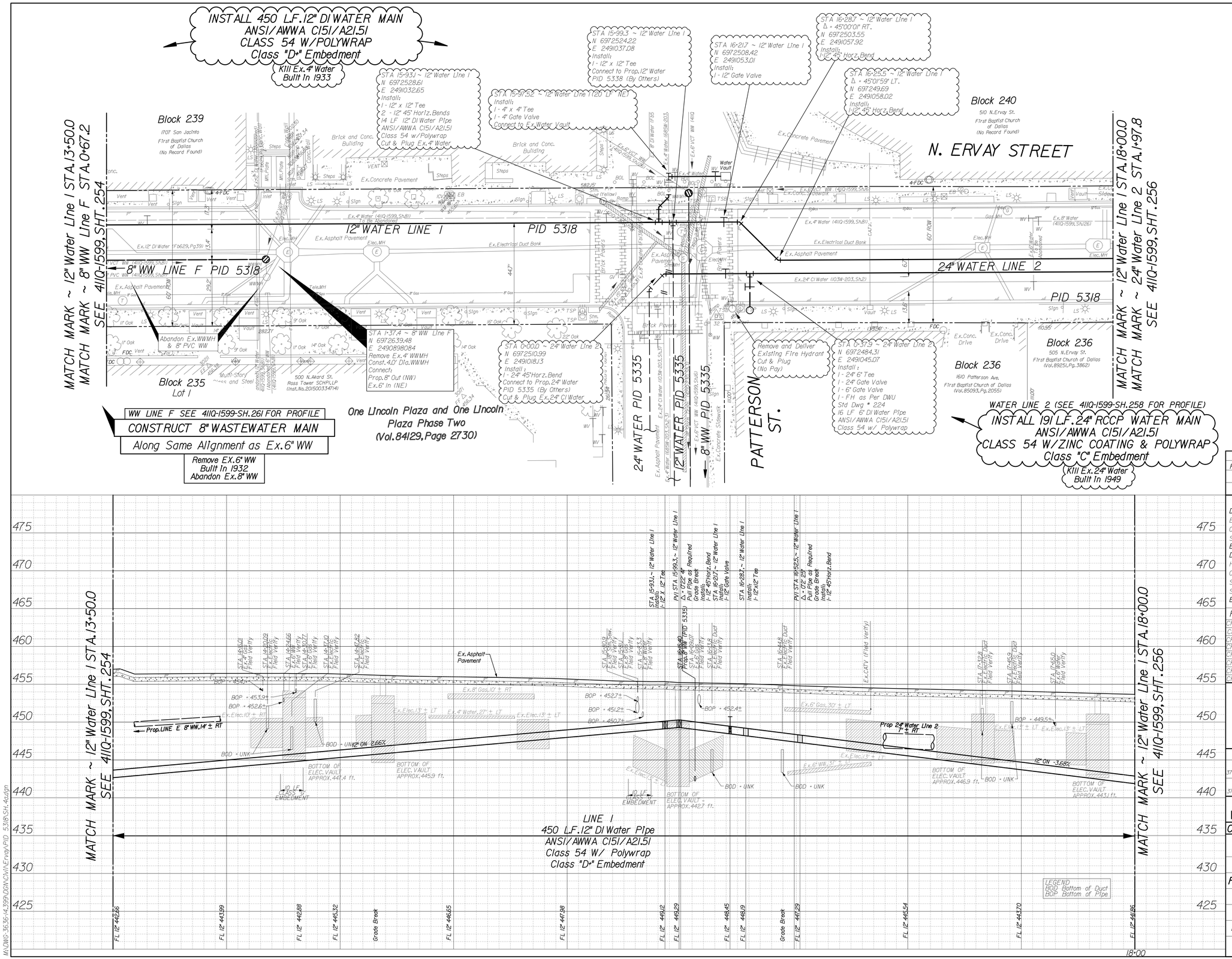

REVISIONS			
REV NO.	DATE	DESCRIPTION	BY
1			
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BENCHMARKS & CONTROL POINTS

DWU BENCHMARK 45-Q-3
ERVAY STREET AND WOOD STREET - A CITY OF DALLAS BENCH MARK SET ON TOP OF A CONCRETE CURB 20' SOUTH OF THE CENTERLINE OF ERVAY STREET.
ELEV = 443.33

DWU BENCHMARK 45-L-1
HARWOOD STREET AND LIVE OAK - A CITY OF DALLAS BENCH MARK SET ON TOP OF A CONCRETE CURB 20' FROM THE CENTERLINE OF HARWOOD STREET AND 15' FROM THE CENTERLINE OF LIVE OAK STREET. AT THE SOUTHWEST CORNER OF THE INTERSECTION.
ELEV = 464.16

Point	Northing	Easting	Elev.	Description
CP 30	6971925.8134	2491647.4145	450.44	X CUT
CP 31	6972114.2349	2491388.5532	450.10	X CUT
CP 32	6972481.4653	2491021.3660	454.80	X CUT
CP 33	6972761.9041	2490820.1720	455.72	X CUT
CP 34	6972978.3742	2490593.4948	454.56	X CUT
CP 35	6973253.3716	2490314.2604	437.81	X CUT
CP 36	6973450.7771	2490174.5336	441.53	X CUT
CP 37	6973709.9061	2489982.2309	448.36	X CUT

Horizontal Scale: 1" = 20'
0' 20' 40'

Vertical Scale: 1" = 6'
0' 6' 12'

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REFERENCES

WATER
37-25W(A), 37-25W(C), 37-25W(D), & 38-25W(B)

WASTEWATER
37-255(A), 37-255(C), 37-255(D), & 38-255(B)

Pacheco Koch
7557 RAMBLER ROAD SUITE 1400
DALLAS, TX 75231 972.235.3031
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-100080-00

CONTRACT NO. 21-233/234 | PID: 5318

8" WASTEWATER MAIN

AKARD/ERVAY STREET (CBD)

FROM WOODALL ROGERS FRWY TO PACIFIC AVE.

DALLAS WATER UTILITIES

CITY OF DALLAS, TEXAS

DESIGN	DRAWN	DATE	FILE	NUMBER	SHEET
CAB	ASR	AUG 2018	411Q	1599	255

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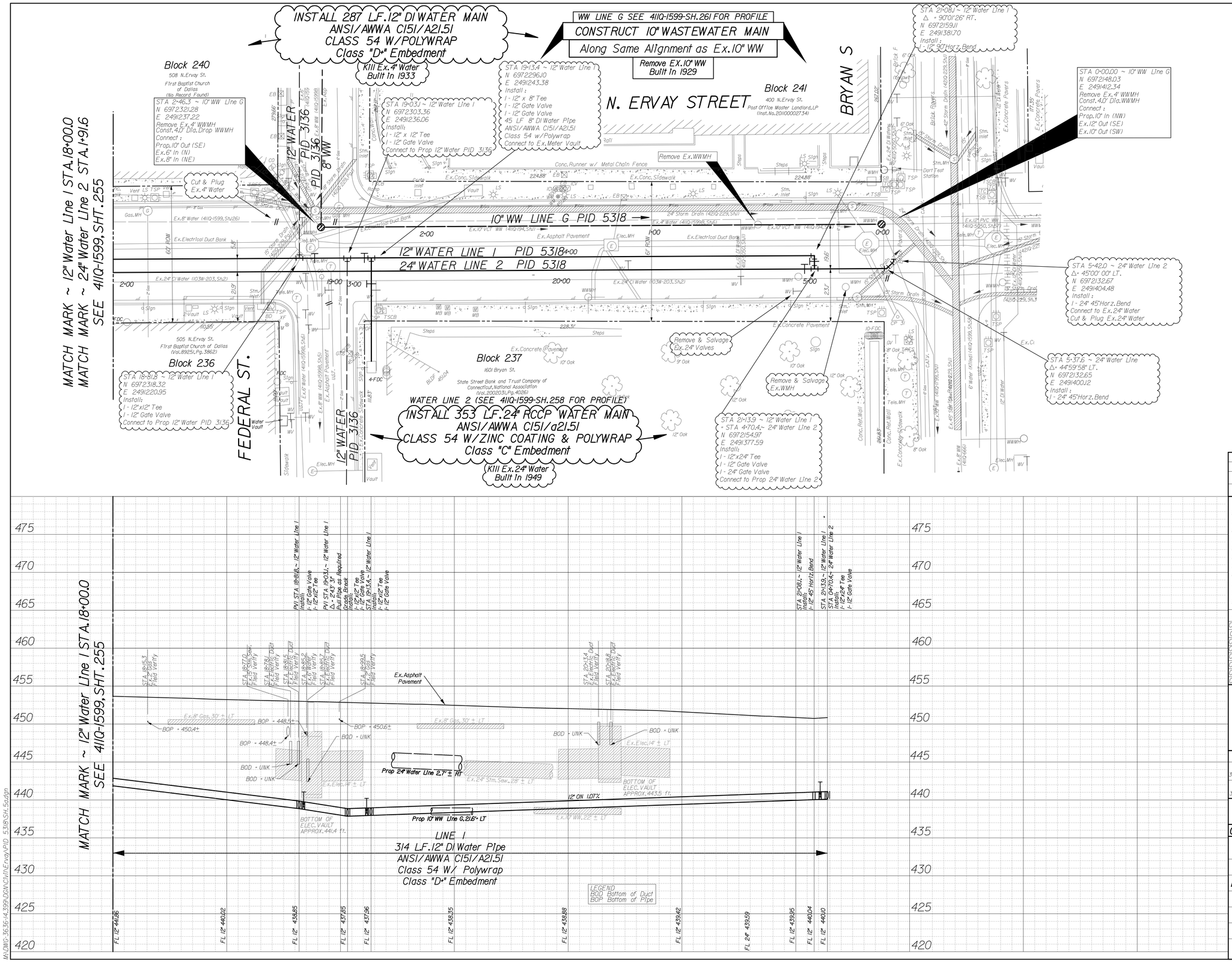

CAUTION ~ GAS !
Underground Gas Main In Area
Contact ATMOS Energy Corp. Two Working
Days Prior To Construction.
Tele: 1-800-344-8377/1-800-545-6005

CAUTION ~ POWER !
Underground Electrical Cables In Area
Contact TXU Two Working
Days Prior To Construction.
Tele: 1-800-344-8377

CAUTION ~ TELEPHONE !
Underground Telephone Cables In Area
Contact S.B.C. Two Working
Days Prior To Construction.
Tele: 1-800-344-8377

REVISIONS			
REV NO.	DATE	DESCRIPTION	BY
1			
2			

BENCHMARKS & CONTROL POINTS

DWU BENCHMARK 45-Q-3
ERVAY STREET AND WOOD STREET - A CITY OF DALLAS BENCH MARK SET ON TOP OF A CONCRETE CURB 20' SOUTH OF THE CENTERLINE OF ERVAY STREET.
ELEV = 443.33

DWU BENCHMARK 45-L-1
HARWOOD STREET AND LIVE OAK - A CITY OF DALLAS BENCH MARK SET ON TOP OF A CONCRETE CURB 20' FROM THE CENTERLINE OF HARWOOD STREET AND 15' FROM THE CENTERLINE OF LIVE OAK STREET.AT THE SOUTHWEST CORNER OF THE INTERSECTION.
ELEV = 464.16

Point	Northing	Easting	Elev.	Description
CP 30	6971925.8134	2491647.4145	450.44	X CUT
CP 31	6972114.2349	2491388.5532	450.10	X CUT
CP 32	6972481.4653	2491021.3660	454.80	X CUT
CP 33	6972761.9041	2490820.1720	455.72	X CUT
CP 34	6972978.3742	2490593.4948	454.56	X CUT
CP 35	6973253.3716	2490314.2604	437.81	X CUT
CP 36	6973450.7771	2490174.5336	441.53	X CUT
CP 37	6973709.9061	2489982.2309	448.36	X CUT

Horizontal Scale: 1" = 20'
0' 20' 40'
Vertical Scale: 1" = 6'
0' 6' 12'

STATE OF TEXAS
CLINT A. BISSETT
93845
LICENSED
PROFESSIONAL ENGINEER

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY CLINT A. BISSETT, P.E. 93845 ON 08/20/2021. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

REFERENCES
WATER
37-25W(A),37-25W(C),37-25W(D),& 38-25W(B)
WASTEWATER
37-25S(A),37-25S(C),37-25S(D),& 38-25S(B)

Pacheco Koch
7557 RAMBLER ROAD SUITE 1400
DALLAS, TX 75231 972.235.3031
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008800-00

CONTRACT NO.21-233/234 | PID: 5318

8" WASTEWATER MAIN

AKARD/ERVAY STREET (CBD)

FROM WOODALL ROGERS FRWY TO PACIFIC AVE.

DALLAS WATER UTILITIES

CITY OF DALLAS,TEXAS

DESIGN	DRAWN	DATE	FILE	NUMBER	SHEET
CAB	ASR	AUG 2018	411Q	1599	256

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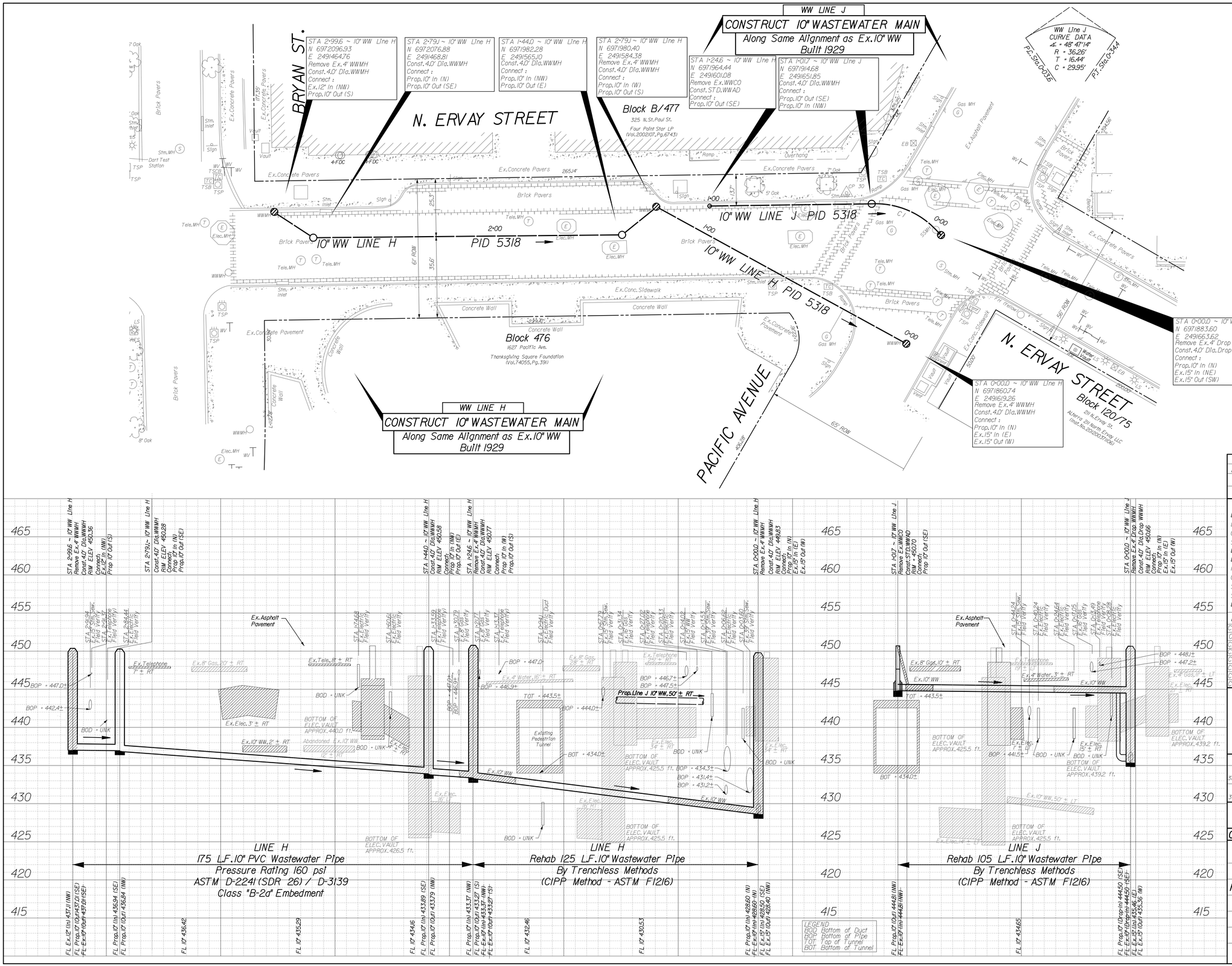

REVISIONS			
REV NO.	DATE	DESCRIPTION	BY
1			
2			

BENCHMARKS & CONTROL POINTS

DWU BENCHMARK 45-Q-3
ERVAY STREET AND WOOD STREET - A CITY OF DALLAS BENCH MARK SET ON TOP OF A CONCRETE CURB 20' SOUTH OF THE CENTERLINE OF ERVAY STREET.
ELEV = 443.33

DWU BENCHMARK 45-L-I
HARWOOD STREET AND LIVE OAK - A CITY OF DALLAS BENCH MARK SET ON TOP OF A CONCRETE CURB 20' FROM THE CENTERLINE OF HARWOOD STREET AND 15' FROM THE CENTERLINE OF LIVE OAK STREET.AT THE SOUTHWEST CORNER OF THE INTERSECTION.
ELEV = 464.16

Point	Northing	Easting	Elev.	Description
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CP 35	6973253.3716	2490314.2604	437.81	X CUT
CP 36	6973450.7771	2490174.5336	441.53	X CUT
CP 37	6973709.9061	2489982.2309	448.36	X CUT

Horizontal Scale: 1" = 20'
0' 20' 40'
Vertical Scale: 1" = 6'
0' 6' 12'

STATE OF TEXAS
CLINT A. BISSETT
93845
LICENSED
PROFESSIONAL ENGINEER

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REFERENCES
WATER
37-25W(A), 37-25W(C), 37-25W(D), & 38-25W(B)
WASTEWATER
37-25S(A), 37-25S(C), 37-25S(D), & 38-25S(B)

Pacheco Koch
7557 RAMBLER ROAD SUITE 1400
DALLAS, TX 75231 972.235.3031
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-100080-00

CONTRACT NO. 21-233/234 | PID: 5318

10" WASTEWATER MAINS
AKARD/ERVAY STREET (CBD)
FROM WOODALL ROGERS FRWY TO PACIFIC AVE.
DALLAS WATER UTILITIES
CITY OF DALLAS, TEXAS

DESIGN	DRAWN	DATE	FILE	NUMBER	SHEET
CAB	ASR	AUG 2018	411Q	1599	257

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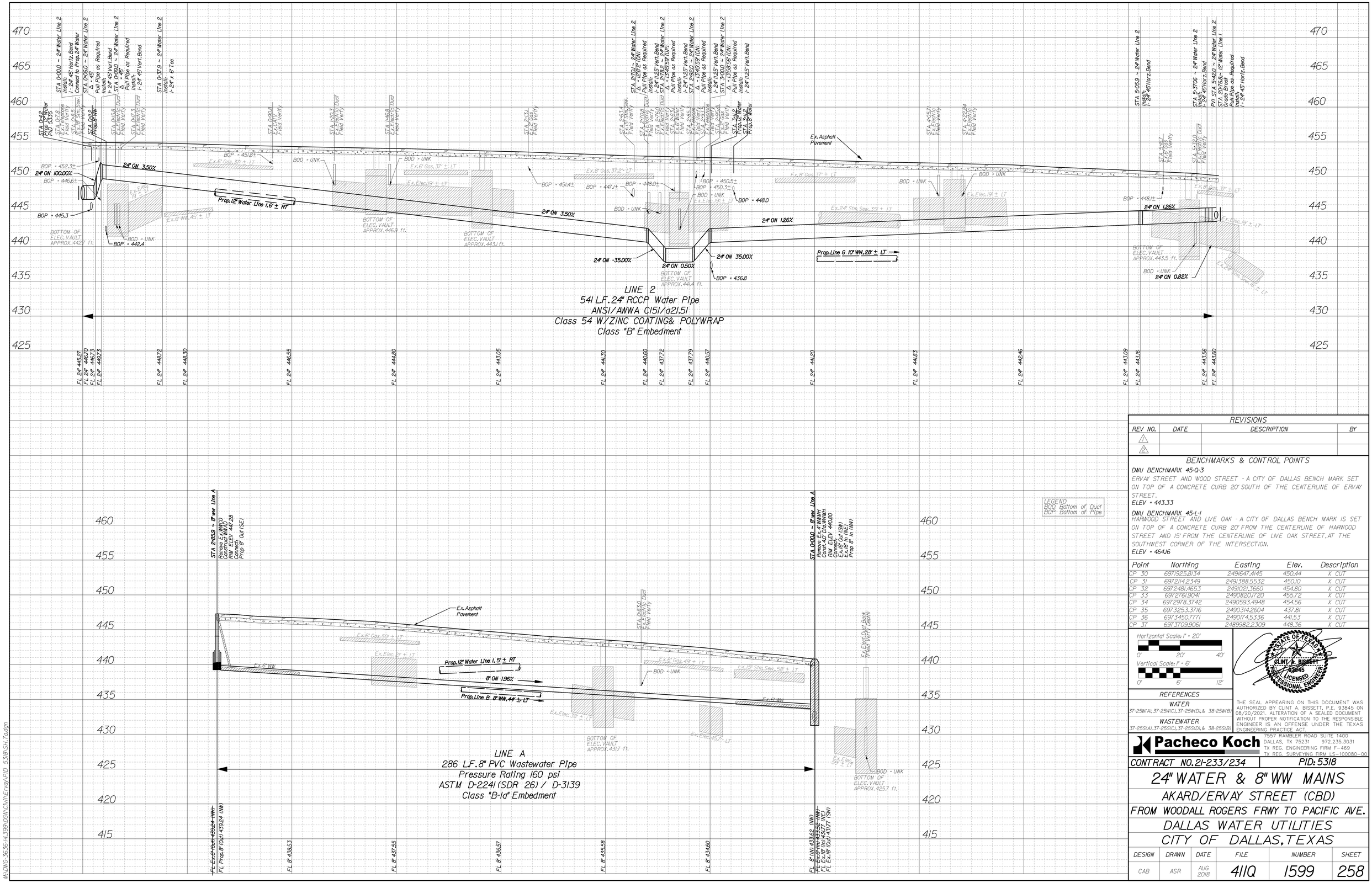

REVISIONS			
REV NO.	DATE	DESCRIPTION	BY
1			
2			

BENCHMARKS & CONTROL POINTS

DWU BENCHMARK 45-Q-3
ERVAY STREET AND WOOD STREET - A CITY OF DALLAS BENCH MARK SET ON TOP OF A CONCRETE CURB 20' SOUTH OF THE CENTERLINE OF ERVAY STREET.
ELEV = 443.33

DWU BENCHMARK 45-L-1
HARWOOD STREET AND LIVE OAK - A CITY OF DALLAS BENCH MARK IS SET ON TOP OF A CONCRETE CURB 20' FROM THE CENTERLINE OF HARWOOD STREET AND 15' FROM THE CENTERLINE OF LIVE OAK STREET.AT THE SOUTHWEST CORNER OF THE INTERSECTION.
ELEV = 464.16

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PROFESSIONAL ENGINEER

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Pacheco Koch
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DALLAS, TX 75231 972.235.3031
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-100080-00

CONTRACT NO.21-233/234 | PID: 5318

24" WATER & 8" WW MAINS
AKARD/ERVAY STREET (CBD)
FROM WOODALL ROGERS FRWY TO PACIFIC AVE.
DALLAS WATER UTILITIES
CITY OF DALLAS, TEXAS

DESIGN	DRAWN	DATE	FILE	NUMBER	SHEET
CAB	ASR	AUG 2018	411Q	1599	258

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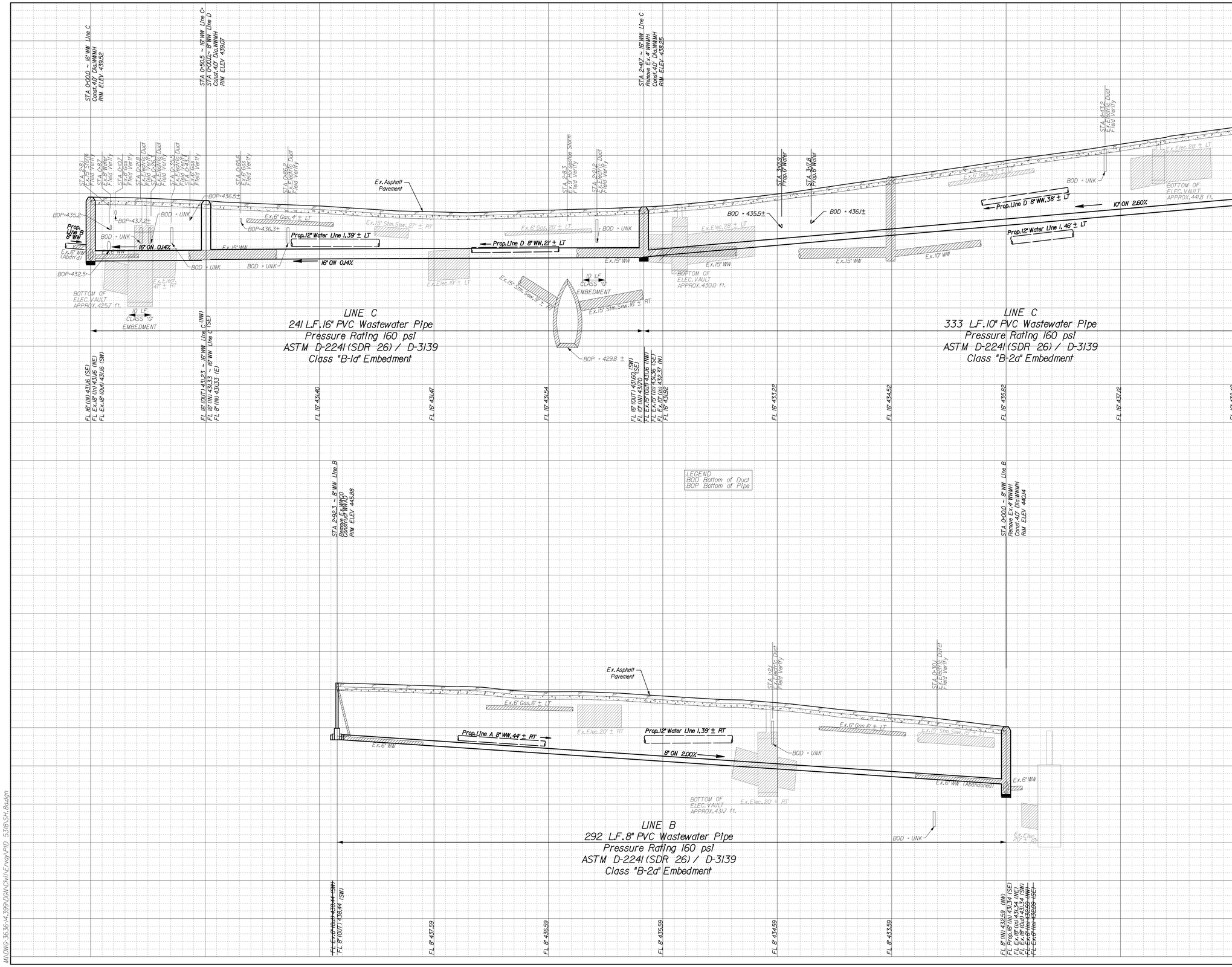

REVISIONS			
REV NO.	DATE	DESCRIPTION	BY
1			
2			

BENCHMARKS & CONTROL POINTS

DWU BENCHMARK 45-Q-3
ERVAY STREET AND WOOD STREET - A CITY OF DALLAS BENCH MARK SET ON TOP OF A CONCRETE CURB 20' SOUTH OF THE CENTERLINE OF ERVAY STREET.
ELEV = 443.33

DWU BENCHMARK 45-L-1
HARWOOD STREET AND LIVE OAK - A CITY OF DALLAS BENCH MARK IS SET ON TOP OF A CONCRETE CURB 20' FROM THE CENTERLINE OF HARWOOD STREET AND 15' FROM THE CENTERLINE OF LIVE OAK STREET, AT THE SOUTHWEST CORNER OF THE INTERSECTION.
ELEV = 464.16

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WASTEWATER
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Pacheco Koch
7557 RAMBLER ROAD SUITE 1400
DALLAS, TX 75231 972.235.3031
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-100080-00

CONTRACT NO. 21-233/234 | PID: 5318

16" WW, 10" WW, & 8" WW MAINS
AKARD/ERVAY STREET (CBD)
FROM WOODALL ROGERS FRWY TO PACIFIC AVE.
DALLAS WATER UTILITIES
CITY OF DALLAS, TEXAS

DESIGN	DRAWN	DATE	FILE	NUMBER	SHEET
CAB	ASR	AUG 2018	411Q	1599	259

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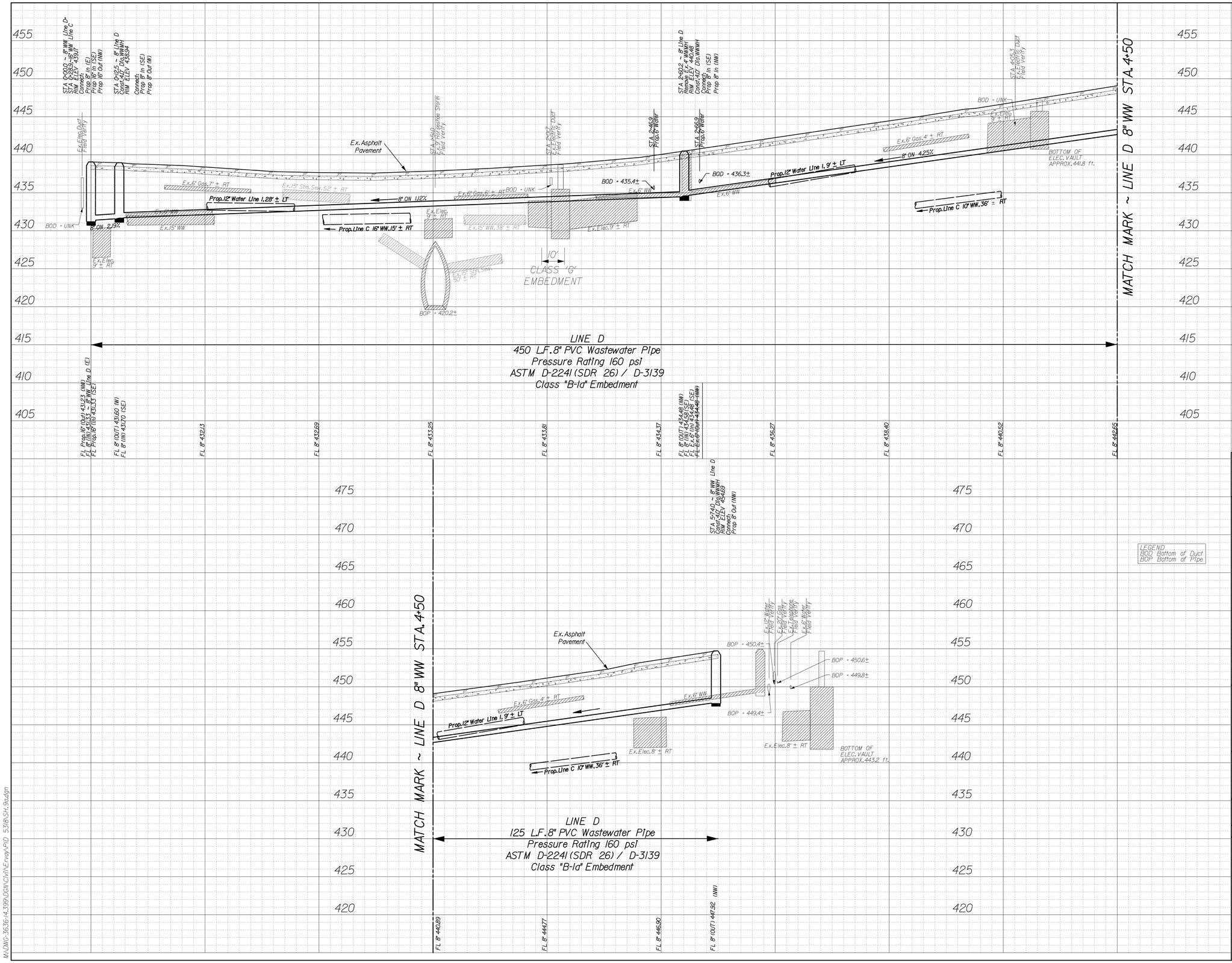

REVISIONS			
REV NO.	DATE	DESCRIPTION	BY
1			
2			

BENCHMARKS & CONTROL POINTS

DWU BENCHMARK 45-0-3
ERVAY STREET AND WOOD STREET - A CITY OF DALLAS BENCH MARK SET ON TOP OF A CONCRETE CURB 20' SOUTH OF THE CENTERLINE OF ERVAY STREET.
ELEV = 443.33

DWU BENCHMARK 45-L-1
HARWOOD STREET AND LIVE OAK - A CITY OF DALLAS BENCH MARK IS SET ON TOP OF A CONCRETE CURB 20' FROM THE CENTERLINE OF HARWOOD STREET AND 15' FROM THE CENTERLINE OF LIVE OAK STREET. AT THE SOUTHWEST CORNER OF THE INTERSECTION.
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Vertical Scale: 1" = 6'
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WASTEWATER
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Pacheco Koch
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DALLAS, TX 75231 972.235.3031
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-100080-00

CONTRACT NO. 21-233/234 | PID: 5318

8" WASTEWATER MAIN

AKARD/ERVAY STREET (CBD)

FROM WOODALL ROGERS FRWY TO PACIFIC AVE.

DALLAS WATER UTILITIES

CITY OF DALLAS, TEXAS

DESIGN	DRAWN	DATE	FILE	NUMBER	SHEET
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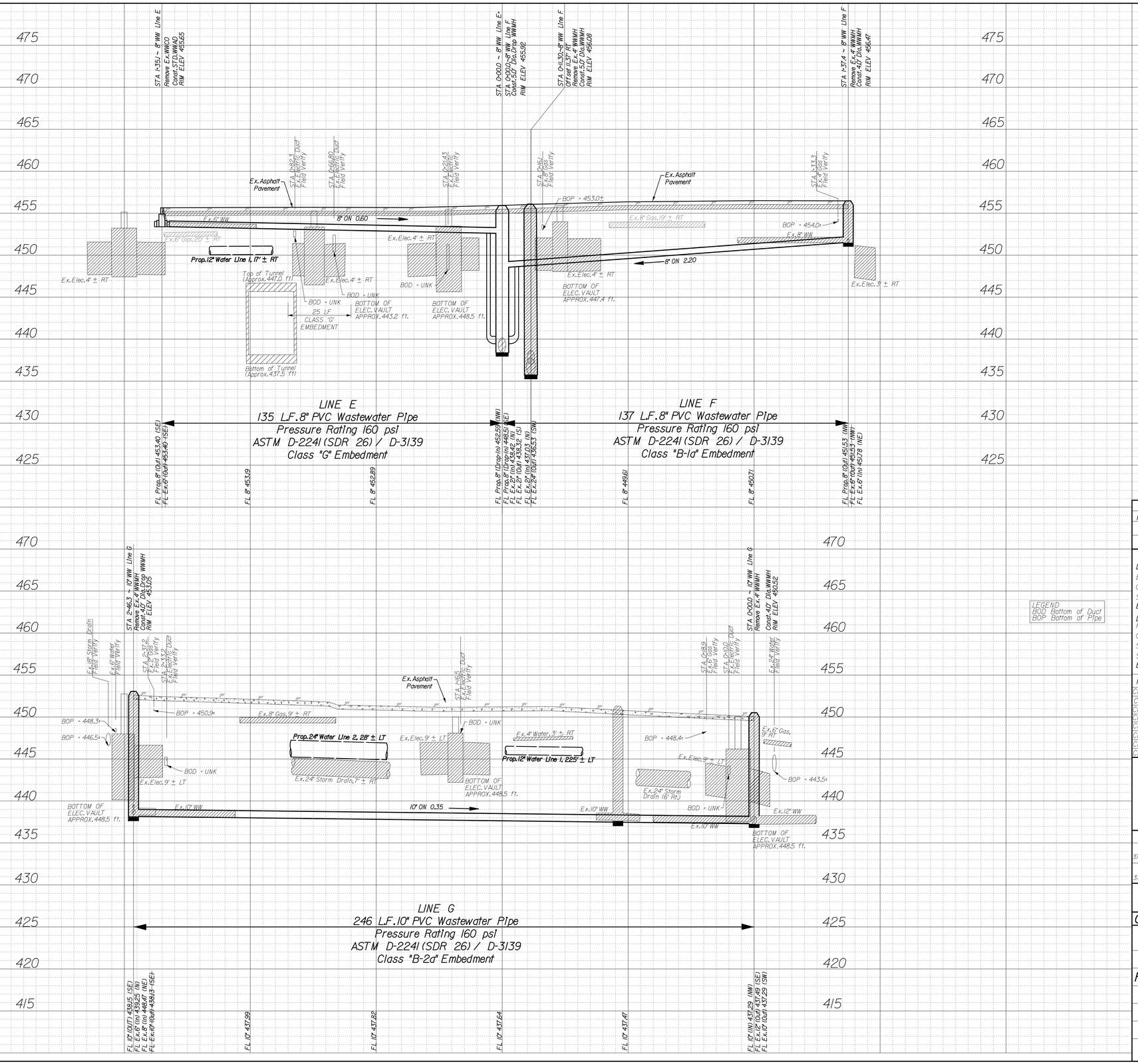

LEGEND
BOD Bottom of Duct
BOP Bottom of Pipe

REVISIONS			
REV NO.	DATE	DESCRIPTION	BY
1			
2			

BENCHMARKS & CONTROL POINTS

DWU BENCHMARK 45-Q-3
ERVAY STREET AND WOOD STREET - A CITY OF DALLAS BENCH MARK SET ON TOP OF A CONCRETE CURB 20' SOUTH OF THE CENTERLINE OF ERVAY STREET.
ELEV = 443.33

DWU BENCHMARK 45-L-1
HARWOOD STREET AND LIVE OAK - A CITY OF DALLAS BENCH MARK IS SET ON TOP OF A CONCRETE CURB 20' FROM THE CENTERLINE OF HARWOOD STREET AND 15' FROM THE CENTERLINE OF LIVE OAK STREET.AT THE SOUTHWEST CORNER OF THE INTERSECTION.
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CP 37	6973709.9061	2489982.2309	448.36	X CUT

Horizontal Scale: 1" = 20'
0' 20' 40'
Vertical Scale: 1" = 6'
0' 6' 12'

STATE OF TEXAS
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Pacheco Koch
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DALLAS, TX 75231 972.235.3031
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-100080-00

CONTRACT NO. 21-233/234 | PID: 5318

10" WW & 8" WW MAINS
AKARD/ERVAY STREET (CBD)
FROM WOODALL ROGERS FRWY TO PACIFIC AVE.
DALLAS WATER UTILITIES
CITY OF DALLAS, TEXAS

DESIGN	DRAWN	DATE	FILE	NUMBER	SHEET
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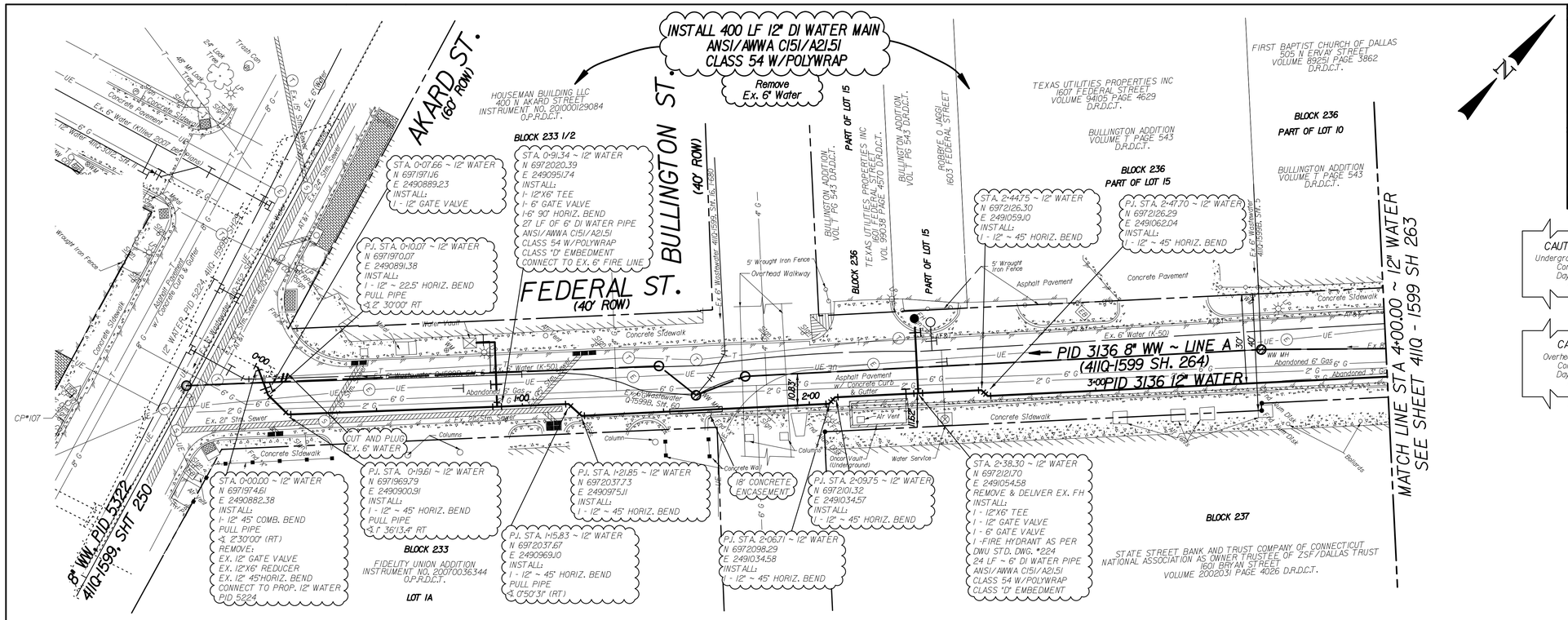
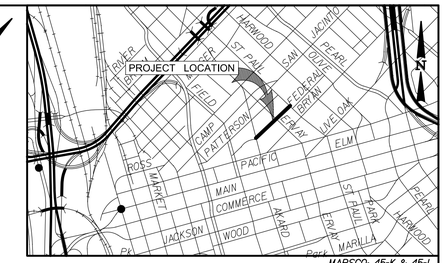




MAPSCO: 45-K & 45-L

CAUTION ~ TELEPHONE !
Underground Telephone Cables In Area
Contact AT&T Two Working
Days Prior To Construction.
Tele: 1-800-344-8377

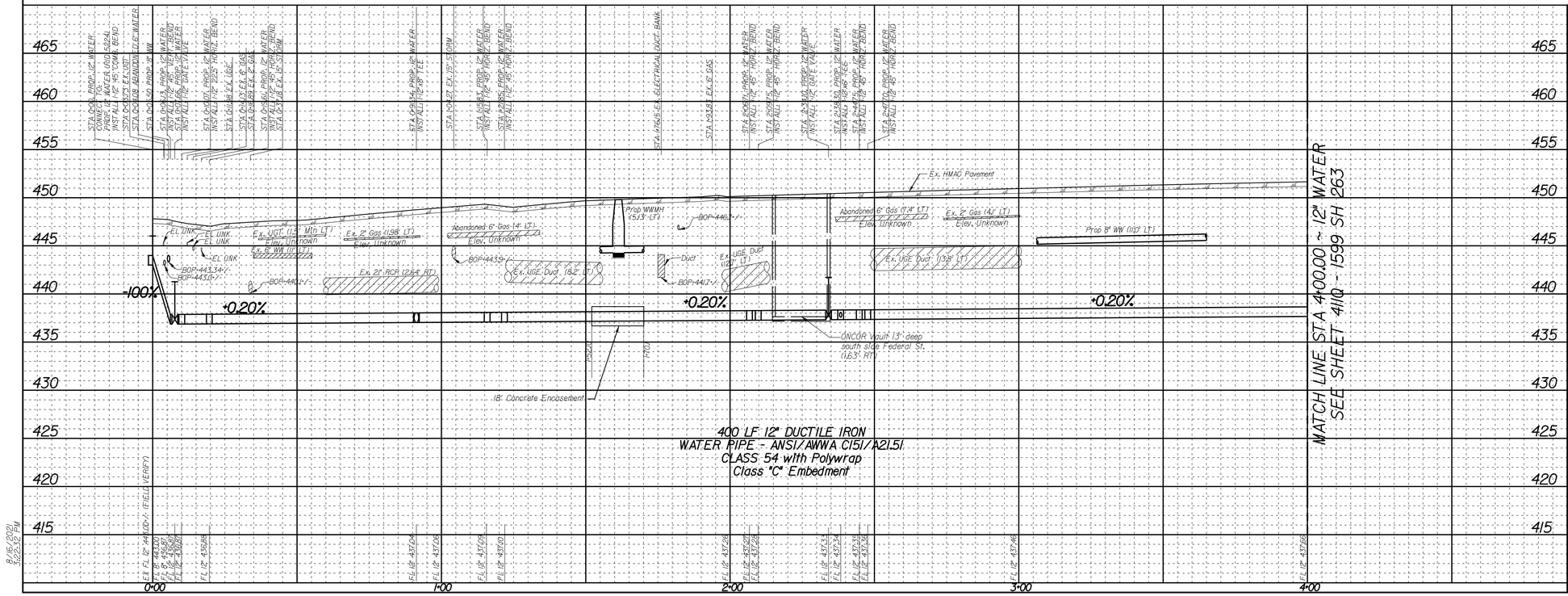
CAUTION ~ FIBER OPTIC !
Underground Fiber Optic Cables In Area
Contact Fiber Optic Co. Two Working
Days Prior To Constuction.
Tele: 1-800-344-8377

CAUTION ~ POWER !
Overhead Electrical Cables In Area
Contact Oncor Two Working
Days Prior To Construction.
Tele: 1-800-344-8377

CAUTION ~ GAS !
Underground Gas Main In Area
Contact ATMOS Energy Corp. Two Working
Days Prior To Construction.
Tele: 1-800-344-8377/1-800-545-6005

NOTES:

1. THE GROUND SURVEY WAS PERFORMED BY CRIADO & ASSOCIATES, INC. ON 3/01/16. THE DESIGN RELIES ON THE ASSUMPTIONS PROVIDED BY THE SURVEY. DESIGNED ON GRID COORDINATES.
2. ALL EXISTING UTILITY INFORMATION SHOWN IS APPROXIMATE. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES PRIOR TO ANY WORK BEGINNING AND CONTACT THE ENGINEER IF ANY UTILITY CONFLICTS ARISE.
3. CONTRACTOR TO COORDINATE ACTUAL LOCATION OF FIRE HYDRANTS WITH DIRECTLY AFFECTED CITIZEN(S) AND WITH DWU INSPECTOR AT LEAST 48 HOURS PRIOR TO PLACEMENT OF HYDRANT. NO SEPARATE PAY ITEM.
4. DUE TO THE LOCATION OF PROPOSED CONSTRUCTION TO MULTIPLE ENVIRONMENTAL AND MSD SITES, CONTRACTOR SHALL TEST ALL SOIL AND GROUND WATER ENCOUNTERED DURING CONSTRUCTION FOR CONTAMINATES. ALL CONTAMINATED SOIL MUST BE REPLACED WITH SELECT FILL AND ALL CONTAMINATED GROUND WATER MUST BE CAPTURED. BOTH SOIL AND GROUND WATER MUST BE DISPOSED OF ACCORDING TO TCEQ REQUIREMENTS. NOTIFY ENGINEER IMMEDIATELY IF CONTAMINATED SOILS ARE ENCOUNTERED FOR FURTHER EVALUATION OF INSTALLATION METHODS AND MATERIALS.



REVISIONS

REV NO.	DATE	DESCRIPTION	BY
1			
2			

BENCHMARKS & CONTROL POINTS

45-0-2
SAINT PAUL STREET - YOUNG STREET
A CITY OF DALLAS BENCH MARK IS SET ON TOP OF A CONCRETE CURB AT THE SOUTHWEST CORNER OF A STORM SEWER DROP INLET AT THE SOUTHEAST CORNER OF THE INTERSECTION.
ELEV = 442.696

46-S-15
GRAND AVE. - ATLANTA ST.
STD. WDBM ON CONCRETE CURB CENTER RADIUS SOUTHEAST CORNER OF INTERSECTION.
ELEV = 449.270

Point	Northing	Easting	Elev.	Description
CP-106	6972322.331	2491264.251	452.819	SET "X" CUT
CP-107	6971925.861	2490842.163	446.393	SET "X" CUT

Horizontal Scale: 1" = 20'
0' 20' 40'
Vertical Scale: 1" = 6'
0' 6' 12'

REFERENCES
WATER
37-25W (CD), 38-25W (A)
WASTEWATER
37-25S (CD), 38-25S (A)

STATE OF TEXAS
DAVID B. HAWKINS
55371
REGISTERED PROFESSIONAL ENGINEER
07.26.2021

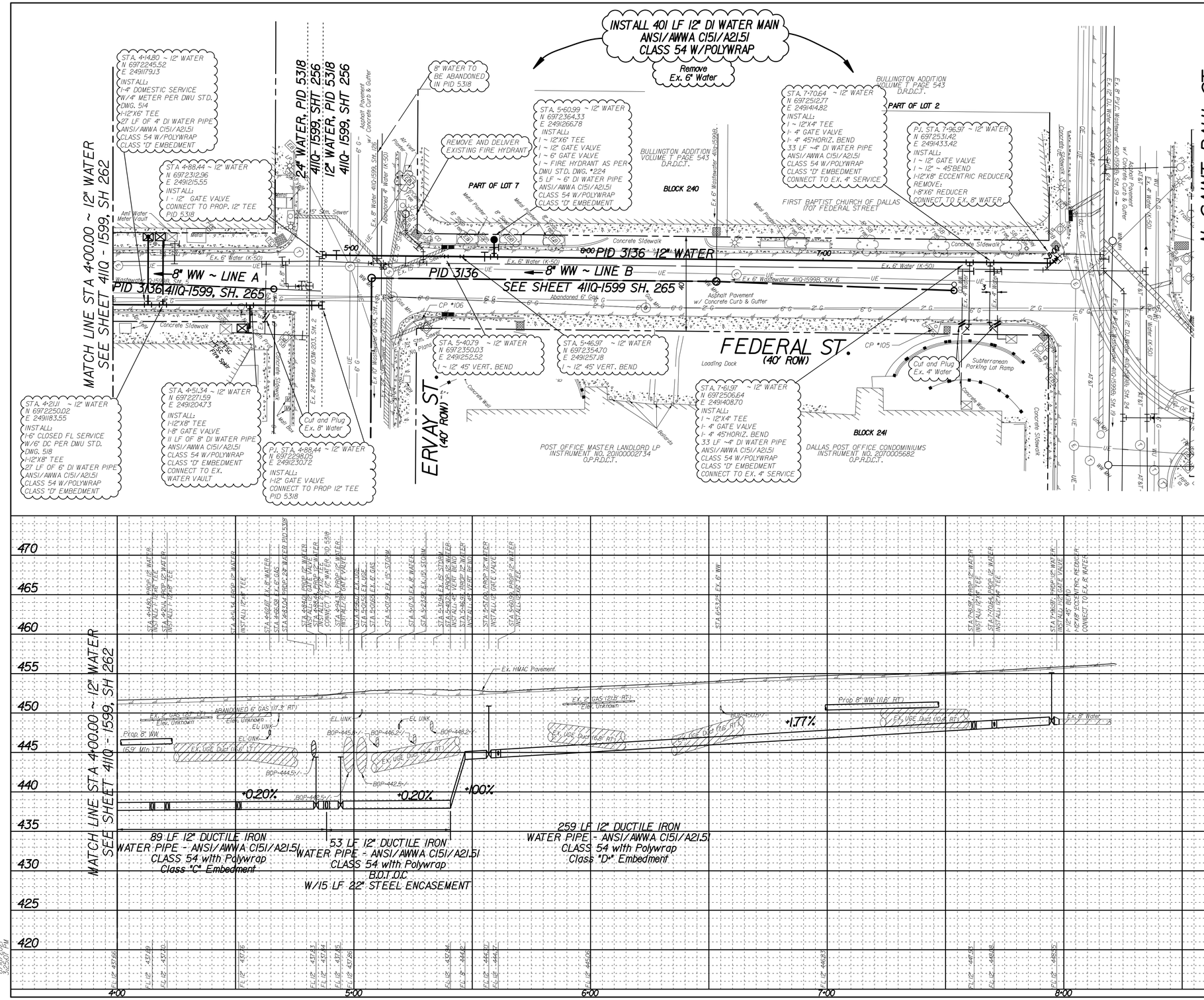
Pacheco Koch
7557 RAMBLER ROAD SUITE 1400
DALLAS, TX 75231 972.235.3031
TX REG. ENGINEERING FIRM F-1069
TX REG. SURVEYING FIRM LS-10018-00

CRIADO
4100 SPRING VALLEY RD. SUITE 1001 DALLAS, TX 75244
Tel 972.392.9192 Firm No. F-4373

CONTRACT NO. 21-233/234 | PID: 3136

12" WATER MAIN
FEDERAL STREET
FROM SAINT PAUL ST TO AKARD ST
DALLAS WATER UTILITIES
CITY OF DALLAS, TEXAS

DESIGN	DRAWN	DATE	FILE	NUMBER	SHEET
CRIADO	CRIADO	JULY 2021	41IQ	1599	262



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Contact AT&T Two Working
Days Prior To Construction.
Tele: 1-800-344-8377

CAUTION ~ FIBER OPTIC !
Underground Fiber Optic Cables In Area
Contact Fiber Optic Co. Two Working
Days Prior To Constuction.
Tele: 1-800-344-8377

CAUTION ~ POWER !
Overhead Electrical Cables In Area
Contact Oncor Two Working
Days Prior To Construction.
Tele: 1-800-344-8377

CAUTION ~ GAS !
Underground Gas Main In Area
Contact ATMOS Energy Corp. Two Working
Days Prior To Construction.
Tele: 1-800-344-8377/1-800-545-6005

NOTES:

1. THE GROUND SURVEY WAS PERFORMED BY CRIADO & ASSOCIATES, INC. ON 3/01/16. THE DESIGN RELIES ON THE ASSUMPTIONS PROVIDED BY THE SURVEY. DESIGNED ON GRID COORDINATES.
2. ALL EXISTING UTILITY INFORMATION SHOWN IS APPROXIMATE. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES PRIOR TO ANY WORK BEGINNING AND CONTACT THE ENGINEER IF ANY UTILITY CONFLICTS ARISE.
3. CONTRACTOR TO COORDINATE ACTUAL LOCATION OF FIRE HYDRANTS WITH DIRECTLY AFFECTED CITIZEN(S) AND WITH DWU INSPECTOR AT LEAST 48 HOURS PRIOR TO PLACEMENT OF HYDRANT. NO SEPARATE PAY ITEM.
4. DUE TO THE LOCATION OF PROPOSED CONSTRUCTION TO MULTIPLE ENVIRONMENTAL AND MSD SITES, CONTRACTOR SHALL TEST ALL SOIL AND GROUND WATER ENCOUNTERED DURING CONSTRUCTION FOR CONTAMINATES. ALL CONTAMINATED SOIL MUST BE REPLACED WITH SELECT FILL AND ALL CONTAMINATED GROUND WATER MUST BE CAPTURED, BOTH SOIL AND GROUND WATER MUST BE DISPOSED OF ACCORDING TO TCEQ REQUIREMENTS. NOTIFY ENGINEER IMMEDIATELY IF CONTAMINATED SOILS ARE ENCOUNTERED FOR FURTHER EVALUATION OF INSTALLATION METHODS AND MATERIALS.

REVISIONS

REV NO.	DATE	DESCRIPTION	BY
1			
2			

BENCHMARKS & CONTROL POINTS

45-0-2
SAINT PAUL STREET - YOUNG STREET
A CITY OF DALLAS BENCH MARK IS SET ON TOP OF A CONCRETE CURB AT THE SOUTHWEST CORNER OF A STORM SEWER DROP INLET AT THE SOUTHEAST CORNER OF THE INTERSECTION.
ELEV = 442.696

46-S-15
GRAND AVE. - ATLANTA ST.
STD. WDBM ON CONCRETE CURB CENTER RADIUS SOUTHEAST CORNER OF INTERSECTION.
ELEV = 449.270

Point	Northing	Easting	Elev.	Description
CP-106	6,972,322.331	2,491,264.251	452.819	SET "X" CUT
CP-105	6,972,477.468	2,491,418.134	455.202	SET "X" CUT

Horizontal Scale: 1" = 20'
0' 20' 40'
Vertical Scale: 1" = 6'
0' 6' 12'

STATE OF TEXAS
DAVID B. HAWKINS
55371
REGISTERED PROFESSIONAL ENGINEER
07.26.2021

REFERENCES
WATER
37-25W (CD), 38-25W (A)
WASTEWATER
37-25S (CD), 38-25S (A)

Pacheco Koch
7557 RAMBLER ROAD SUITE 1400
DALLAS, TX 75231 972.235.3031
TX REG. ENGINEERING FIRM F-1069
TX REG. SURVEYING FIRM LS-10018-00

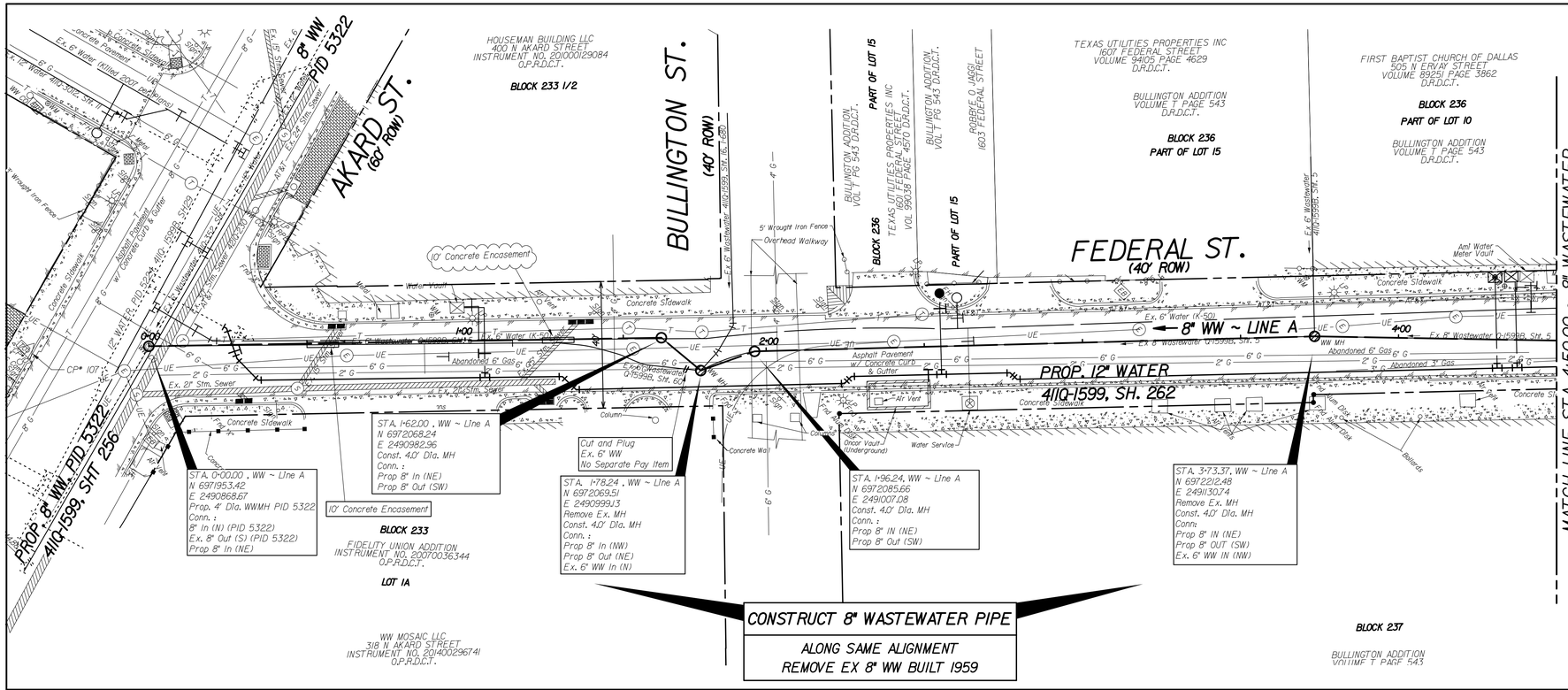
CRIADO
4100 SPRING VALLEY RD, SUITE 1001 DALLAS, TX 75244
Tel 972.392.9992 Firm No. F-4213

CONTRACT NO. 21-233/234 | **PID: 3136**

12" WATER MAIN
FEDERAL STREET
FROM SAINT PAUL ST TO AKARD ST
DALLAS WATER UTILITIES
CITY OF DALLAS, TEXAS

DESIGN	DRAWN	DATE	FILE	NUMBER	SHEET
CRIADO	CRIADO	JULY 2021	411Q	1599	263

8/16/2021
3:25:47 PM



NOTE A:

CONTRACTOR SHALL ADJUST MH LOCATION TO CLEAR EXISTING UTILITY IF REQUIRED (NO SEPARATE PAY ITEM)

CAUTION ~ TELEPHONE !
Underground Telephone Cables In Area
Contact AT&T Two Working
Days Prior To Construction.
Tele: 1-800-344-8377

CAUTION ~ FIBER OPTIC !
Underground Fiber Optic Cables In Area
Contact Fiber Optic Co. Two Working
Days Prior To Constuction.
Tele: 1-800-344-8377

CAUTION ~ POWER !
Overhead Electrical Cables In Area
Contact Oncor Two Working
Days Prior To Construction.
Tele: 1-800-344-8377

CAUTION ~ GAS !
Underground Gas Main In Area
Contact ATMOS Energy Corp. Two Working
Days Prior To Construction.
Tele: 1-800-344-8377/1-800-545-6005

NOTES:

1. THE GROUND SURVEY WAS PERFORMED BY CRIADO & ASSOCIATES, INC. ON 3/01/16. THE DESIGN RELIES ON THE ASSUMPTIONS PROVIDED BY THE SURVEY. DESIGNED ON GRID COORDINATES.
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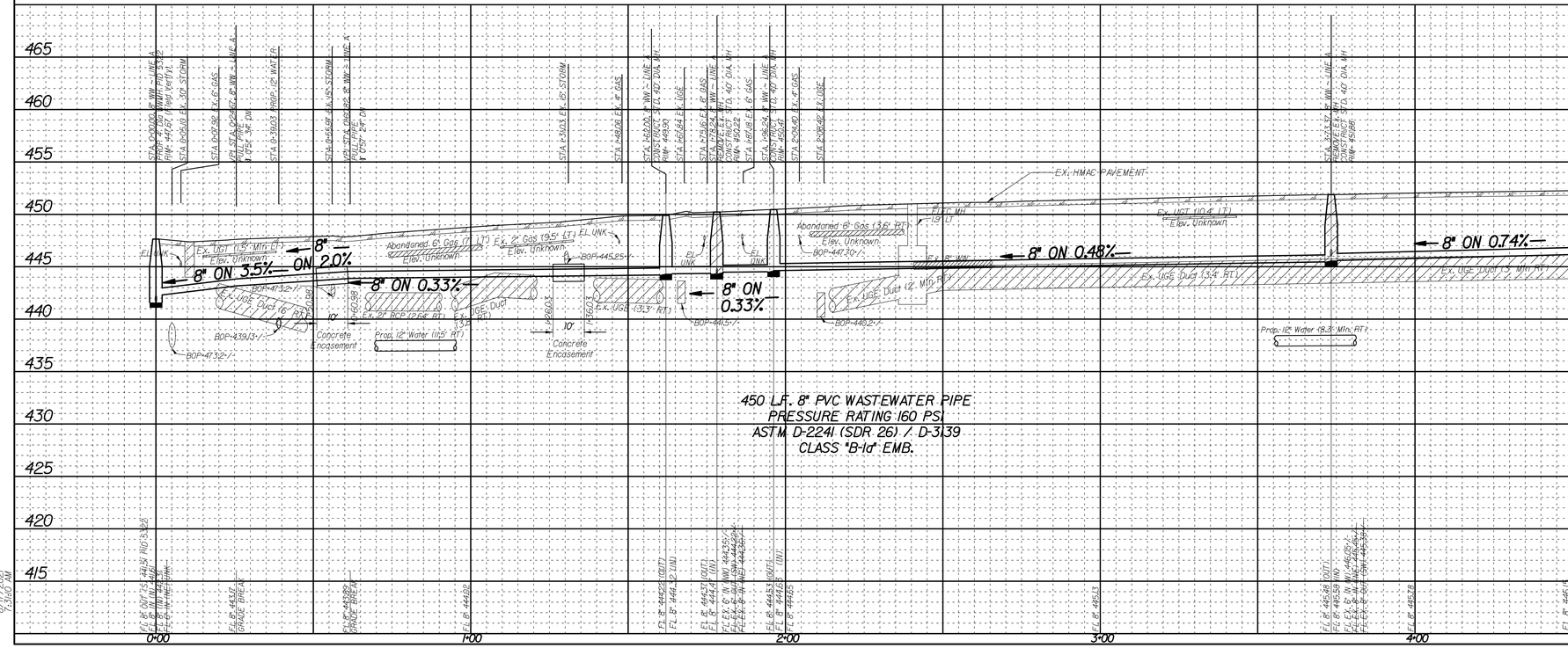


REVISIONS

REV NO.	DATE	DESCRIPTION	BY
1			
2			

BENCHMARKS & CONTROL POINTS

45-0-2
SAINT PAUL STREET - YOUNG STREET
A CITY OF DALLAS BENCH MARK IS SET ON TOP OF A CONCRETE CURB AT THE SOUTHWEST CORNER OF A STORM SEWER DROP INLET AT THE SOUTHEAST CORNER OF THE INTERSECTION.
ELEV = 442.696

46-S-IS
GRAND AVE. - ATLANTA ST.
STD. WDBM ON CONCRETE CURB CENTER RADIUS SOUTHEAST CORNER OF INTERSECTION.
ELEV = 449.270

Point	Northing	Easting	Elev.	Description
CP-106	6,972,322.331	2,491,264.251	452.819	SET "X" CUT
CP-107	6,971,925.861	2,490,842.163	446.393	SET "X" CUT

Horizontal Scale: 1" = 20'
0' 20' 40'
Vertical Scale: 1" = 6'
0' 6' 12'

REFERENCES
WATER
37-25W (CD), 38-25W (A)
WASTEWATER
37-25S (CD), 38-25S (A)

STATE OF TEXAS
DAVID B. HAWKINS
55371
REGISTERED PROFESSIONAL ENGINEER
07.26.2021

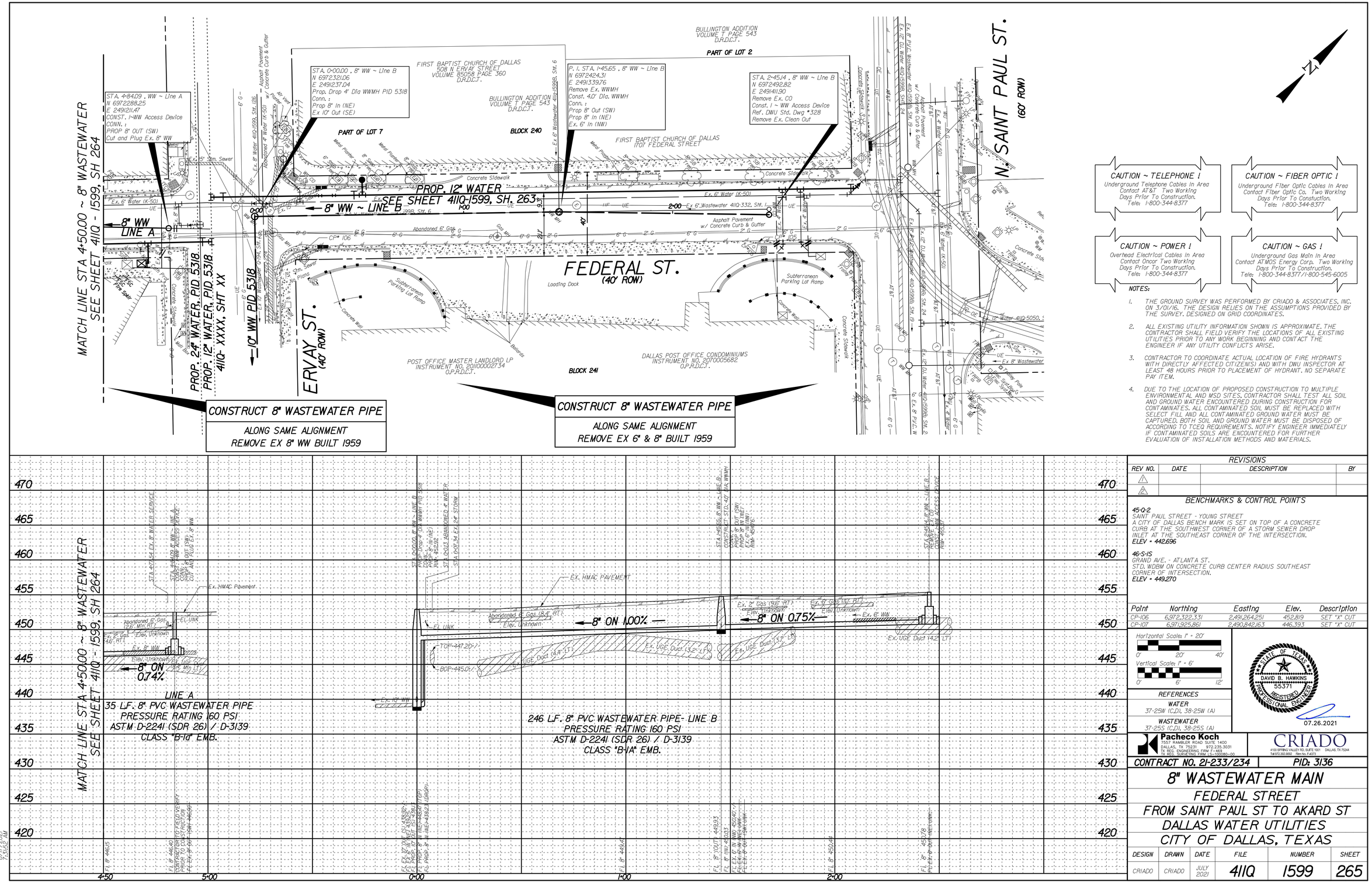
Pacheco Koch
7557 RAMBLER ROAD SUITE 1400
DALLAS, TX 75231 972.235.3031
TX REG. ENGINEERING FIRM F-1069
TX REG. SURVEYING FIRM LS-10018-00

CRIADO
4100 SPRING VALLEY RD. SUITE 1001 DALLAS, TX 75244
Tel 972.392.9002 Firm No. F-4373

CONTRACT NO. 21-233/234 | PID: 3136

8" WASTEWATER MAIN
FEDERAL STREET
FROM SAINT PAUL ST TO AKARD ST
DALLAS WATER UTILITIES
CITY OF DALLAS, TEXAS

DESIGN	DRAWN	DATE	FILE	NUMBER	SHEET
CRIADO	CRIADO	JULY 2021	4110	1599	264



CAUTION ~ TELEPHONE !
Underground Telephone Cables In Area
Contact AT&T Two Working
Days Prior To Construction.
Tele: 1-800-344-8377

CAUTION ~ FIBER OPTIC !
Underground Fiber Optic Cables In Area
Contact Fiber Optic Co. Two Working
Days Prior To Constuction.
Tele: 1-800-344-8377

CAUTION ~ POWER !
Overhead Electrical Cables In Area
Contact Oncor Two Working
Days Prior To Construction.
Tele: 1-800-344-8377

CAUTION ~ GAS !
Underground Gas Main In Area
Contact ATMOS Energy Corp. Two Working
Days Prior To Construction.
Tele: 1-800-344-8377/1-800-545-6005

NOTES:

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REVISIONS

REV NO.	DATE	DESCRIPTION	BY
1			
2			

BENCHMARKS & CONTROL POINTS

45-0-2
SAINT PAUL STREET - YOUNG STREET
A CITY OF DALLAS BENCH MARK IS SET ON TOP OF A CONCRETE CURB AT THE SOUTHWEST CORNER OF A STORM SEWER DROP INLET AT THE SOUTHEAST CORNER OF THE INTERSECTION.
ELEV - 442.696

46-S-IS
GRAND AVE. - ATLANTA ST.
STD. WDBM ON CONCRETE CURB CENTER RADIUS SOUTHEAST CORNER OF INTERSECTION.
ELEV - 449.270

Point	Northing	Easting	Elev.	Description
CP-106	6,972,322.331	2,491,264.251	452.819	SET "X" CUT
CP-107	6,971,925.861	2,490,842.163	446.393	SET "X" CUT

Horizontal Scale: 1" = 20'
0' 20' 40'
Vertical Scale: 1" = 6'
0' 6' 12'

STATE OF TEXAS
DAVID B. HAWKINS
55371
REGISTERED PROFESSIONAL ENGINEER
07.26.2021

REFERENCES
WATER
37-25W (CD), 38-25W (A)
WASTEWATER
37-25S (CD), 38-25S (A)

Pacheco Koch
7557 RAMBLER ROAD SUITE 1400
DALLAS, TX 75231 972.235.3031
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10018-00

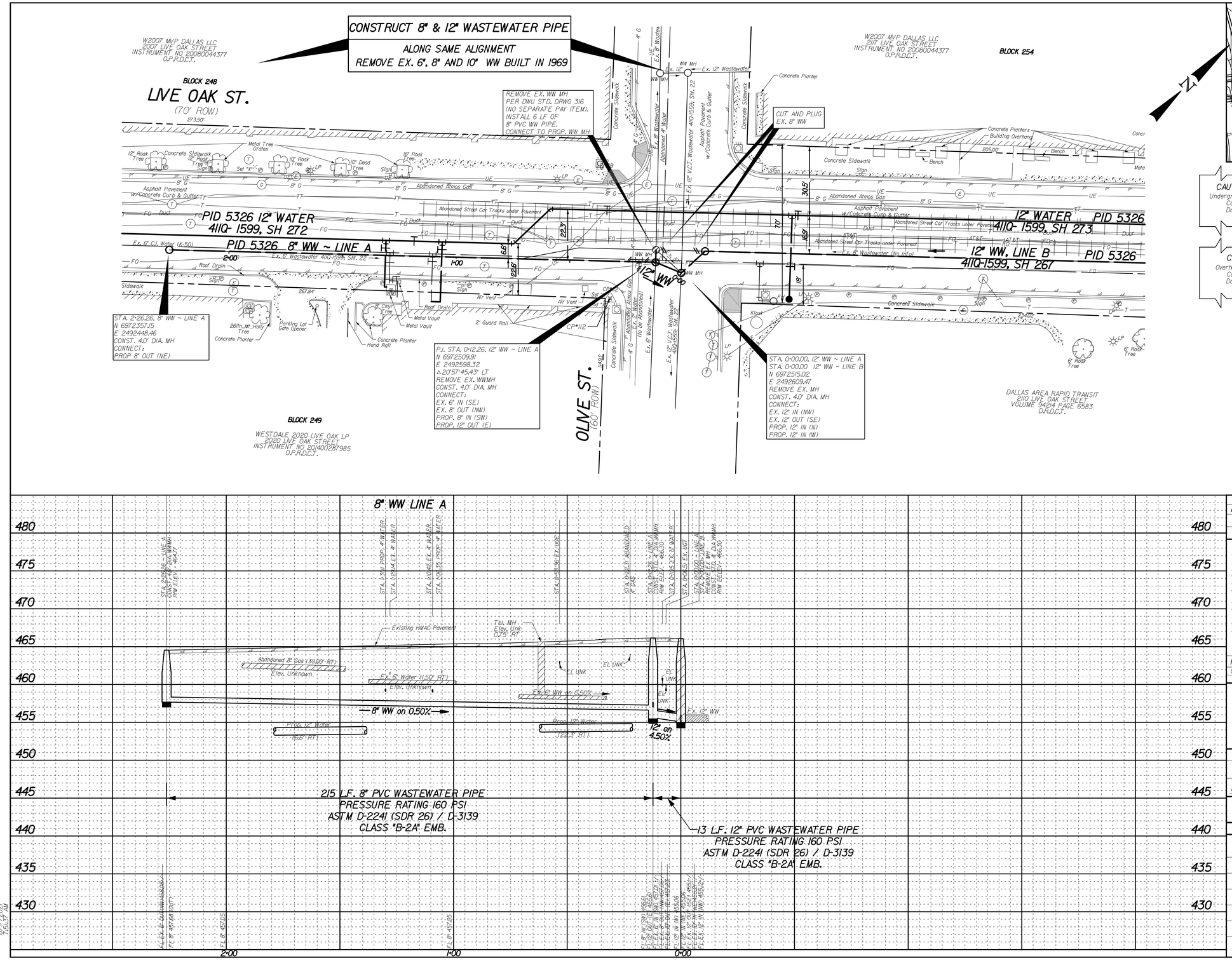
CRIADO
4100 SPRING VALLEY RD, SUITE 1001 DALLAS, TX 75244
Tel 972.392.9192 Firm No. F-4213

CONTRACT NO. 21-233/234 | PID: 3136

8" WASTEWATER MAIN
FEDERAL STREET
FROM SAINT PAUL ST TO AKARD ST
DALLAS WATER UTILITIES
CITY OF DALLAS, TEXAS

DESIGN	DRAWN	DATE	FILE	NUMBER	SHEET
CRIADO	CRIADO	JULY 2021	411Q	1599	265

8/17/2021
7:31:52 AM



CAUTION ~ TELEPHONE !
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Tele: 1-800-344-8377

CAUTION ~ FIBER OPTIC !
Underground Fiber Optic Cables In Area
Contact Fiber Optic Co. Two Working
Days Prior To Constuction.
Tele: 1-800-344-8377

CAUTION ~ POWER !
Overhead Electrical Cables In Area
Contact Oncor Two Working
Days Prior To Construction.
Tele: 1-800-344-8377

CAUTION ~ GAS !
Underground Gas Main In Area
Contact ATMOS Energy Corp. Two Working
Days Prior To Construction.
Tele: 1-800-344-8377/1-800-545-6005

NOTES:

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5. LOCATION OF ALL STREET CAR TRACKS SHOWN ON PLANS ARE APPROXIMATE. CONTRACTOR TO FIELD VERIFY AND REMOVE.

REVISIONS

REV NO.	DATE	DESCRIPTION	BY
1			
2			

BENCHMARKS & CONTROL POINTS

45-Q-2
SAINT PAUL STREET - YOUNG STREET
A CITY OF DALLAS BENCH MARK IS SET ON TOP OF A CONCRETE CURB AT THE SOUTHWEST CORNER OF A STORM SEWER DROP INLET AT THE SOUTHEAST CORNER OF THE INTERSECTION.
ELEV = 442.696

46-S-15
GRAND AVE. - ATLANTA ST.
STD. WDBM ON CONCRETE CURB CENTER RADIUS SOUTHEAST CORNER OF INTERSECTION.
ELEV = 449.270

Point	Northing	Easting	Elev.	Description
CP-112	6,972,484.43	2,492,596.24	466.08	SET "X" CUT

Horizontal Scale: 1" = 20'
0' 20' 40'
Vertical Scale: 1" = 6'
0' 6' 12'

STATE OF TEXAS
DAVID B. HAWKINS
55371
REGISTERED PROFESSIONAL ENGINEER
07.26.2021

REFERENCES
WATER
37-25W (D), 37-26 W, 38-25W (A)
WASTEWATER
37-25S (D), 37-26S (A), 38-25S (A)

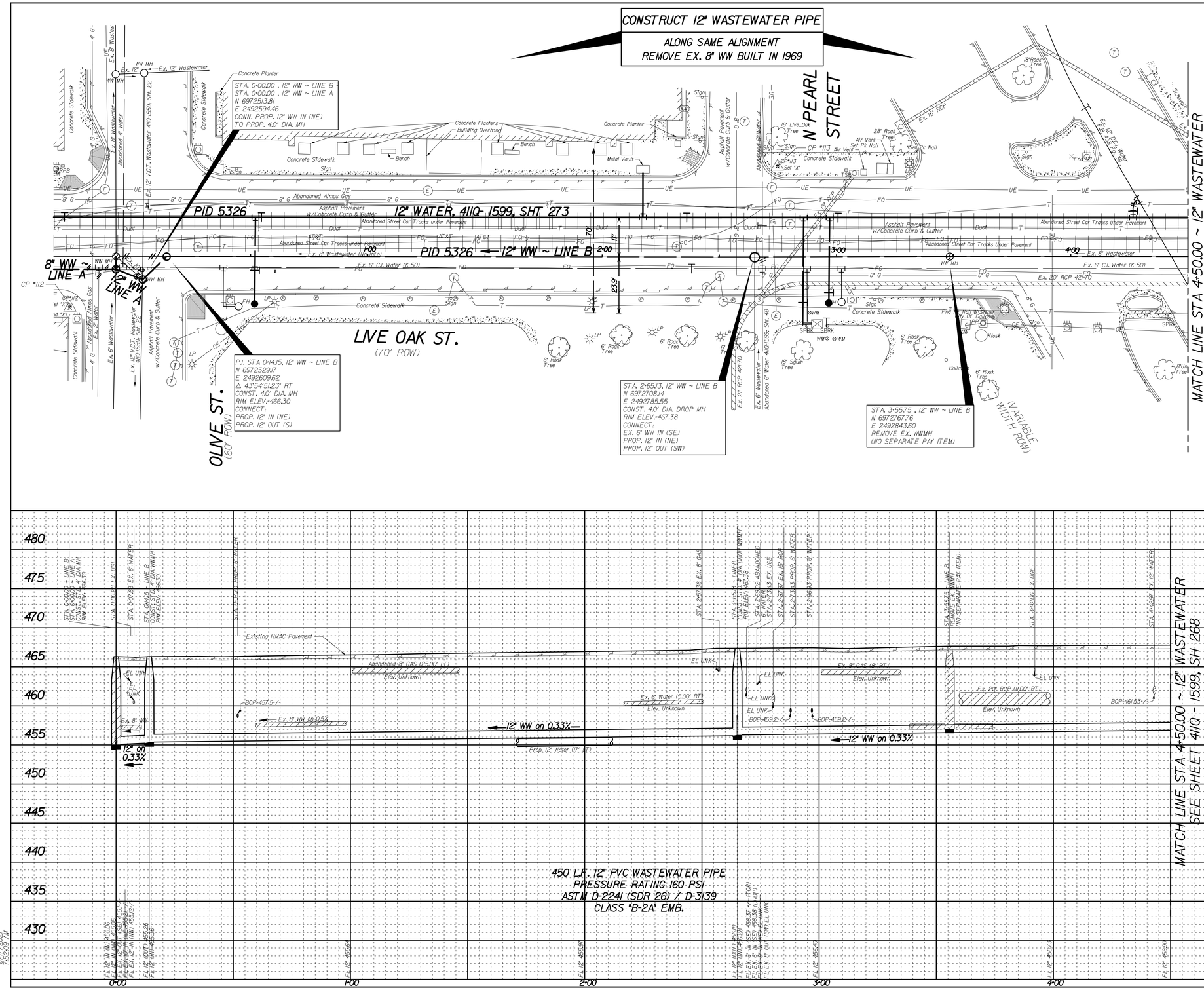
Pacheco Koch
7557 RAMBLER ROAD SUITE 1400
DALLAS, TX 75231 972.235.3031
TX REG. ENGINEERING FIRM F-1069
TX REG. SURVEYING FIRM LS-10029-00

CRIADO
4100 SPRING VALLEY RD, SUITE 1001 DALLAS, TX 75244
Tel 972.392.9690 Fim No. F-4073

CONTRACT NO. 21-233/234 | **PID: 5326**

8" & 12" WASTEWATER MAIN
LIVE OAK STREET
FROM SAINT PAUL ST TO HAWKINS ST
DALLAS WATER UTILITIES
CITY OF DALLAS, TEXAS

DESIGN	DRAWN	DATE	FILE	NUMBER	SHEET
CRIADO	CRIADO	JULY 2021	411Q	1599	266



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CAUTION ~ FIBER OPTIC !
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Contact Fiber Optic Co. Two Working
Days Prior To Constuction.
Tele: 1-800-344-8377

CAUTION ~ POWER !
Overhead Electrical Cables In Area
Contact Oncor Two Working
Days Prior To Construction.
Tele: 1-800-344-8377

CAUTION ~ GAS !
Underground Gas Main In Area
Contact ATMOS Energy Corp. Two Working
Days Prior To Construction.
Tele: 1-800-344-8377/1-800-545-6005

NOTES:

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REVISIONS

REV NO.	DATE	DESCRIPTION	BY
1			
2			

BENCHMARKS & CONTROL POINTS

45-0-2
SAINT PAUL STREET - YOUNG STREET
A CITY OF DALLAS BENCH MARK IS SET ON TOP OF A CONCRETE CURB AT THE SOUTHWEST CORNER OF A STORM SEWER DROP INLET AT THE SOUTHEAST CORNER OF THE INTERSECTION.
ELEV = 442.696

46-S-15
GRAND AVE. - ATLANTA ST.
STD. WDBM ON CONCRETE CURB CENTER RADIUS SOUTHEAST CORNER OF INTERSECTION.
ELEV = 449.270

Point	Northing	Easting	Elev.	Description
CP-112	6,972,484.43	2,492,596.24	466.08	SET "X" CUT
CP-113	6,972,742.24	2,492,764.71	467.90	SET "X" CUT

Horizontal Scale: 1" = 20'
0' 20' 40'
Vertical Scale: 1" = 6'
0' 6' 12'

STATE OF TEXAS
DAVID B. HAWKINS
55371
REGISTERED PROFESSIONAL ENGINEER
07.26.2021

REFERENCES
WATER
37-25W (D), 37-26 W, 38-25W (A)
WASTEWATER
37-25S (D), 37-26S (A), 38-25S (A)

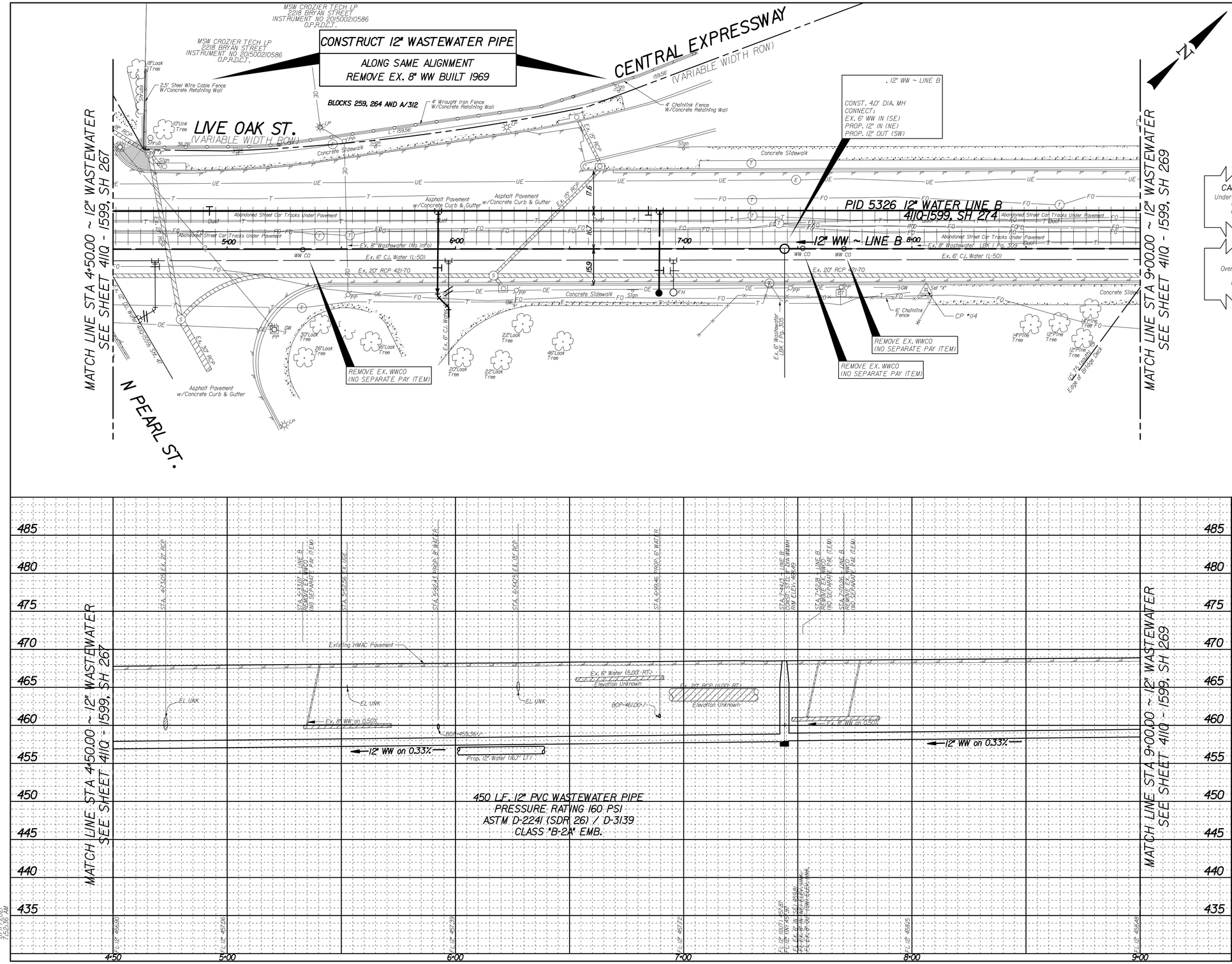
Pacheco Koch
7557 RAMBLER ROAD SUITE 1400
DALLAS, TX 75231 972.235.3031
TX REG. ENGINEERING FIRM F-1759
TX REG. SURVEYING FIRM LS-10018-00

CRIADO
4100 SPRING VALLEY RD. SUITE 1001 DALLAS, TX 75244
Tel 972.392.9690 Firm No. F-4073

CONTRACT NO. 21-233/234 | **PID: 5326**

12" WASTEWATER MAIN
LIVE OAK STREET
FROM SAINT PAUL ST TO HAWKINS ST
DALLAS WATER UTILITIES
CITY OF DALLAS, TEXAS

DESIGN	DRAWN	DATE	FILE	NUMBER	SHEET
CRIADO	CRIADO	JULY 2021	411Q	1599	267



CAUTION ~ TELEPHONE !
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CAUTION ~ FIBER OPTIC !
Underground Fiber Optic Cables In Area
Contact Fiber Optic Co. Two Working
Days Prior To Constuction.
Tele: 1-800-344-8377

CAUTION ~ POWER !
Overhead Electrical Cables In Area
Contact Oncor Two Working
Days Prior To Construction.
Tele: 1-800-344-8377

CAUTION ~ GAS !
Underground Gas Main In Area
Contact ATMOS Energy Corp. Two Working
Days Prior To Construction.
Tele: 1-800-344-8377/1-800-545-6005

NOTES:

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8/17/2021
7:52:36 AM

REVISIONS			
REV NO.	DATE	DESCRIPTION	BY
1			
2			

BENCHMARKS & CONTROL POINTS

45-0-2
SAINT PAUL STREET - YOUNG STREET
A CITY OF DALLAS BENCH MARK IS SET ON TOP OF A CONCRETE CURB AT THE SOUTHWEST CORNER OF A STORM SEWER DROP INLET AT THE SOUTHEAST CORNER OF THE INTERSECTION.
ELEV = 442.696

46-S-IS
GRAND AVE. - ATLANTA ST.
STD. WDBM ON CONCRETE CURB CENTER RADIUS SOUTHEAST CORNER OF INTERSECTION.
ELEV = 449.270

Point	Northing	Easting	Elev.	Description
CP-114	6,972,742.24	2,493,177.25	468.67	SET "X" CUT
CP-116	6,973,562.79	2,493,566.26	473.42	SET "X" CUT

Horizontal Scale: 1" = 20'
0' 20' 40'
Vertical Scale: 1" = 6'
0' 6' 12'

REFERENCES
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37-25W (D), 37-26 W, 38-25W (A)
WASTEWATER
37-25S (D), 37-26S (A), 38-25S (A)

STATE OF TEXAS
DAVID B. HAWKINS
55371
REGISTERED PROFESSIONAL ENGINEER
07.26.2021

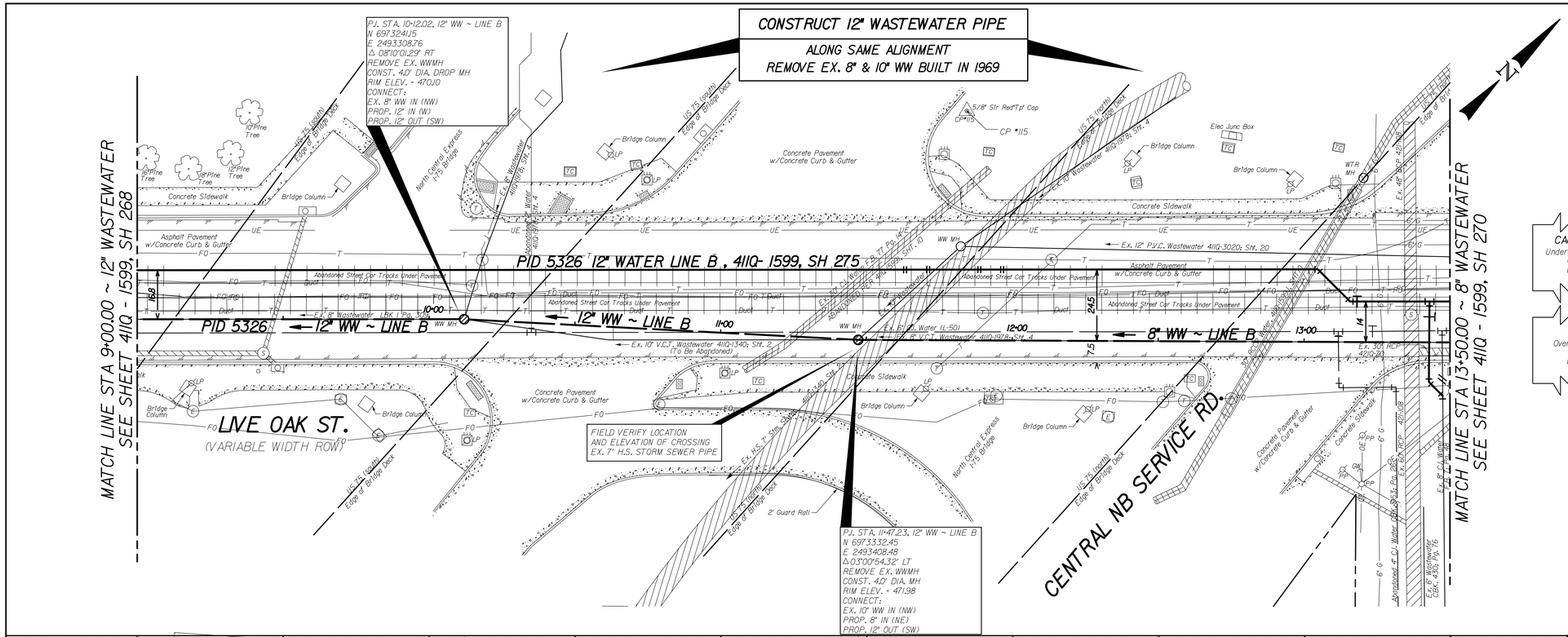
Pacheco Koch
7557 RAMBLER ROAD SUITE 1400
DALLAS, TX 75231 972.235.3031
TX REG. ENGINEERING FIRM F-1759
TX REG. SURVEYING FIRM LS-10018-00

CRIADO
4100 SPRING VALLEY RD. SUITE 1001 DALLAS, TX 75244
Tel 972.392.9690 Firm No. F-4073

CONTRACT NO. 21-233/234 | **PID: 5326**

12" WASTEWATER MAIN
LIVE OAK STREET
FROM SAINT PAUL ST TO HAWKINS ST
DALLAS WATER UTILITIES
CITY OF DALLAS, TEXAS

DESIGN	DRAWN	DATE	FILE	NUMBER	SHEET
CRIADO	CRIADO	JULY 2021	4110	1599	268



NOTES:

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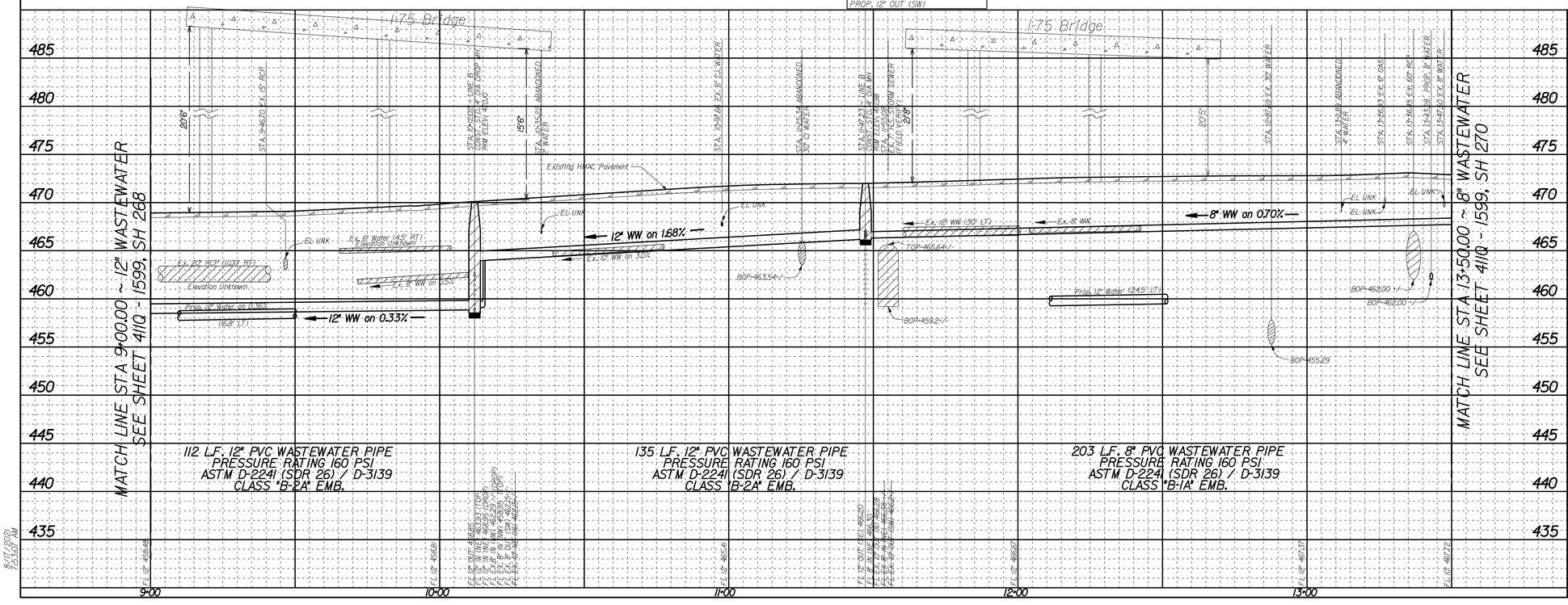


REVISIONS

REV NO.	DATE	DESCRIPTION	BY
1			
2			

BENCHMARKS & CONTROL POINTS

45-Q-2
SAINT PAUL STREET - YOUNG STREET
A CITY OF DALLAS BENCH MARK IS SET ON TOP OF A CONCRETE CURB AT THE SOUTHWEST CORNER OF A STORM SEWER DROP INLET AT THE SOUTHEAST CORNER OF THE INTERSECTION.
ELEV = 442.696

46-S-IS
GRAND AVE. - ATLANTA ST.
STD. WDBM ON CONCRETE CURB CENTER RADIUS SOUTHEAST CORNER OF INTERSECTION.
ELEV = 449.270

Point	Northing	Easting	Elev.	Description
CP-115	6,973,414.02	2,493,378.63	413.77	SET W/RED TP CAP
CP-116	6,973,562.79	2,493,566.26	413.42	SET "X" CUT

Horizontal Scale: 1" = 20'
0' 20' 40'
Vertical Scale: 1" = 6'
0' 6' 12'

REFERENCES
WATER
37-25W (D), 37-26 W, 38-25W (A)
WASTEWATER
37-25S (D), 37-26S (A), 38-25S (A)

STATE OF TEXAS
DAVID B. HAWKINS
55371
REGISTERED
PROFESSIONAL ENGINEER
07.26.2021

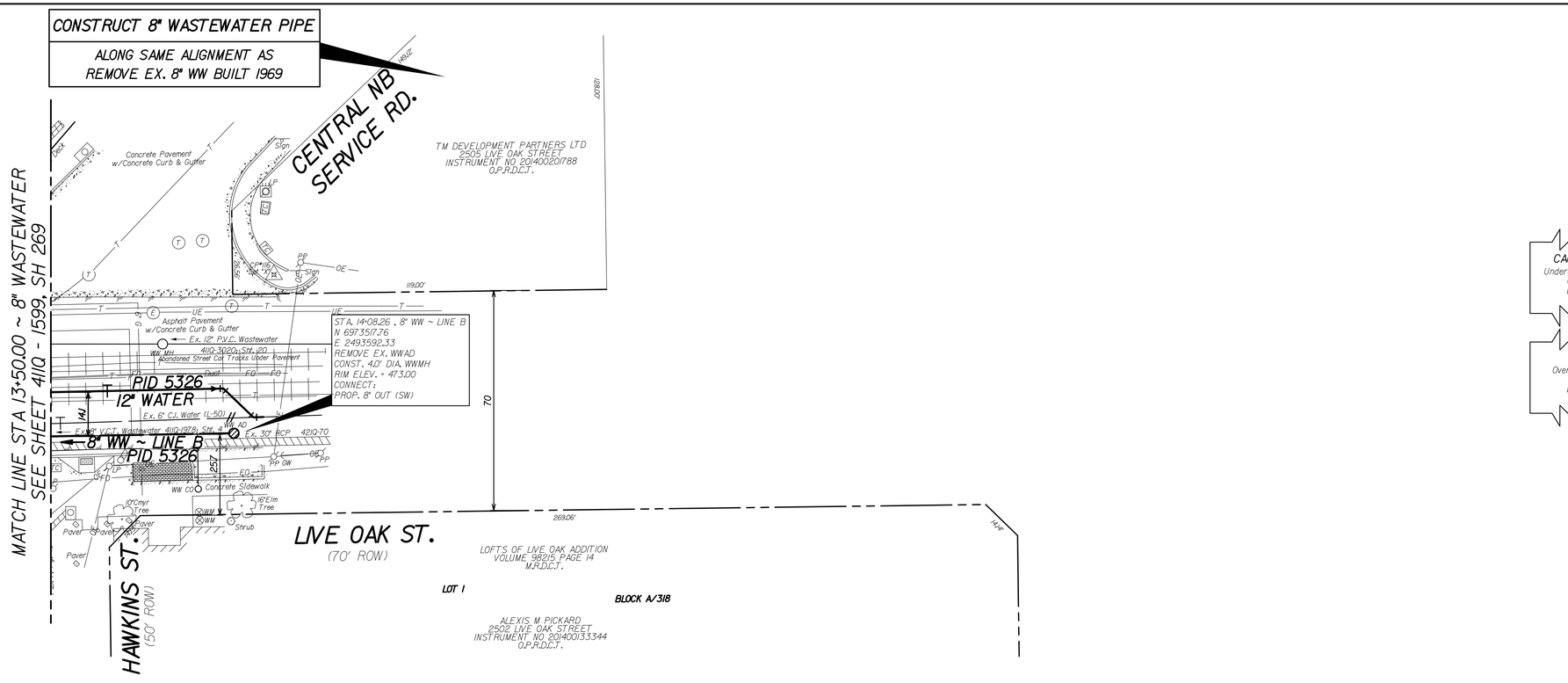
Pacheco Koch
7557 RAMBLER ROAD SUITE 1400
DALLAS, TX 75231 972.235.3031
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008800-00

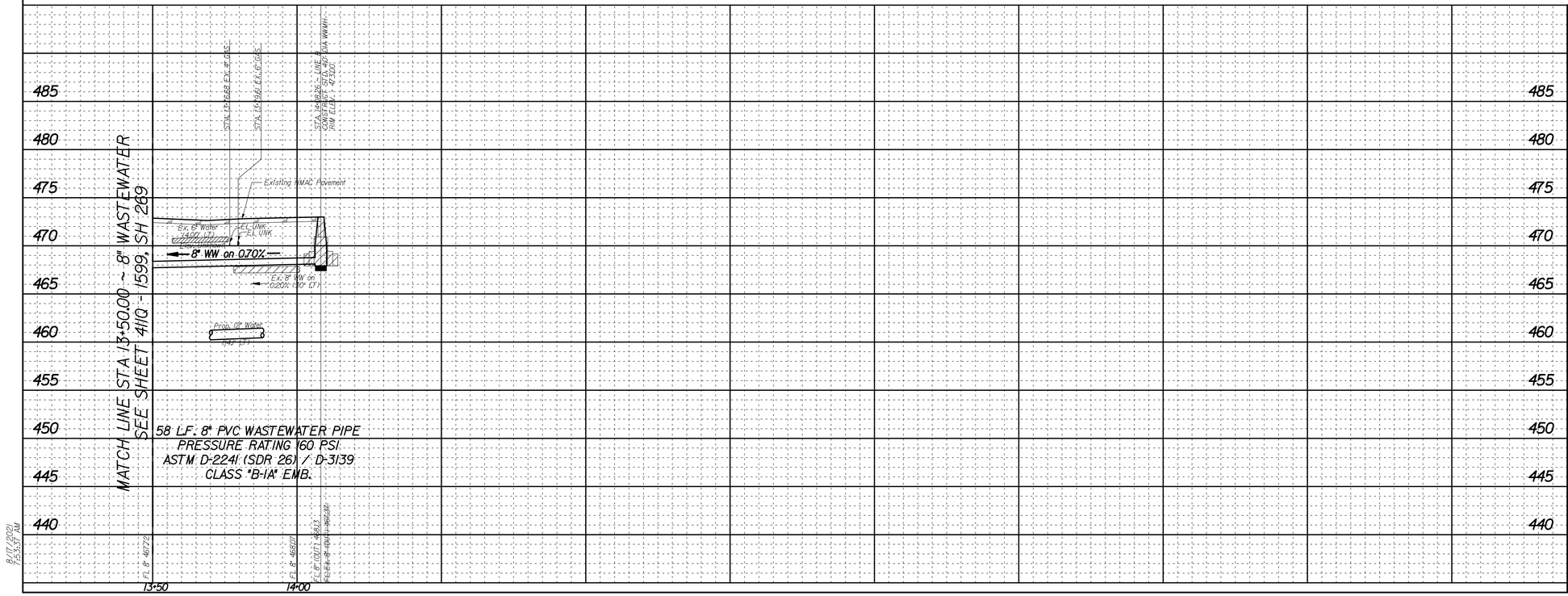
CRIADO
4100 SPRING VALLEY RD. SUITE 1001 DALLAS, TX 75244
Tel 972.392.0692 Firm No. F-4373

CONTRACT NO. 21-233/234 | PID: 5326

8" & 12" WASTEWATER MAIN
LIVE OAK STREET
FROM SAINT PAUL ST TO HAWKINS ST
DALLAS WATER UTILITIES
CITY OF DALLAS, TEXAS

DESIGN	DRAWN	DATE	FILE	NUMBER	SHEET
CRIADO	CRIADO	JULY 2021	411Q	1599	269





CAUTION ~ TELEPHONE !
Underground Telephone Cables In Area
Contact AT&T Two Working
Days Prior To Construction.
Tele: 1-800-344-8377

CAUTION ~ FIBER OPTIC !
Underground Fiber Optic Cables In Area
Contact Fiber Optic Co. Two Working
Days Prior To Consuction.
Tele: 1-800-344-8377

CAUTION ~ POWER !
Overhead Electrical Cables In Area
Contact Oncor Two Working
Days Prior To Construction.
Tele: 1-800-344-8377

CAUTION ~ GAS !
Underground Gas Main In Area
Contact ATMOS Energy Corp. Two Working
Days Prior To Construction.
Tele: 1-800-344-8377/1-800-545-6005

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BENCHMARKS & CONTROL POINTS

45-Q-2
SAINT PAUL STREET - YOUNG STREET
A CITY OF DALLAS BENCH MARK IS SET ON TOP OF A CONCRETE CURB AT THE SOUTHWEST CORNER OF A STORM SEWER DROP INLET AT THE SOUTHEAST CORNER OF THE INTERSECTION.
ELEV = 442.696

46-S-15
GRAND AVE. - ATLANTA ST.
STD. WDBM ON CONCRETE CURB CENTER RADIUS SOUTHEAST CORNER OF INTERSECTION.
ELEV = 449.270

Point	Northing	Easting	Elev.	Description
CP-110	6,972,305.29	2,491,666.43	454.50	SET "X" CUT
CP-116	6,973,562.79	2,493,566.26	473.42	SET "X" CUT

Horizontal Scale: 1" = 20'
0' 20' 40'
Vertical Scale: 1" = 6'
0' 6' 12'

REFERENCES
WATER
37-25W (D), 37-26 W, 38-25W (A)
WASTEWATER
37-25S (D), 37-26S (A), 38-25S (A)

STATE OF TEXAS
DAVID B. HAWKINS
55371
REGISTERED PROFESSIONAL ENGINEER
07.26.2021

Pacheco Koch
7557 RAMBLER ROAD SUITE 1400
DALLAS, TX 75231 972.235.3031
TX REG. ENGINEERING FIRM F-1759
TX REG. SURVEYING FIRM LS-10029-00

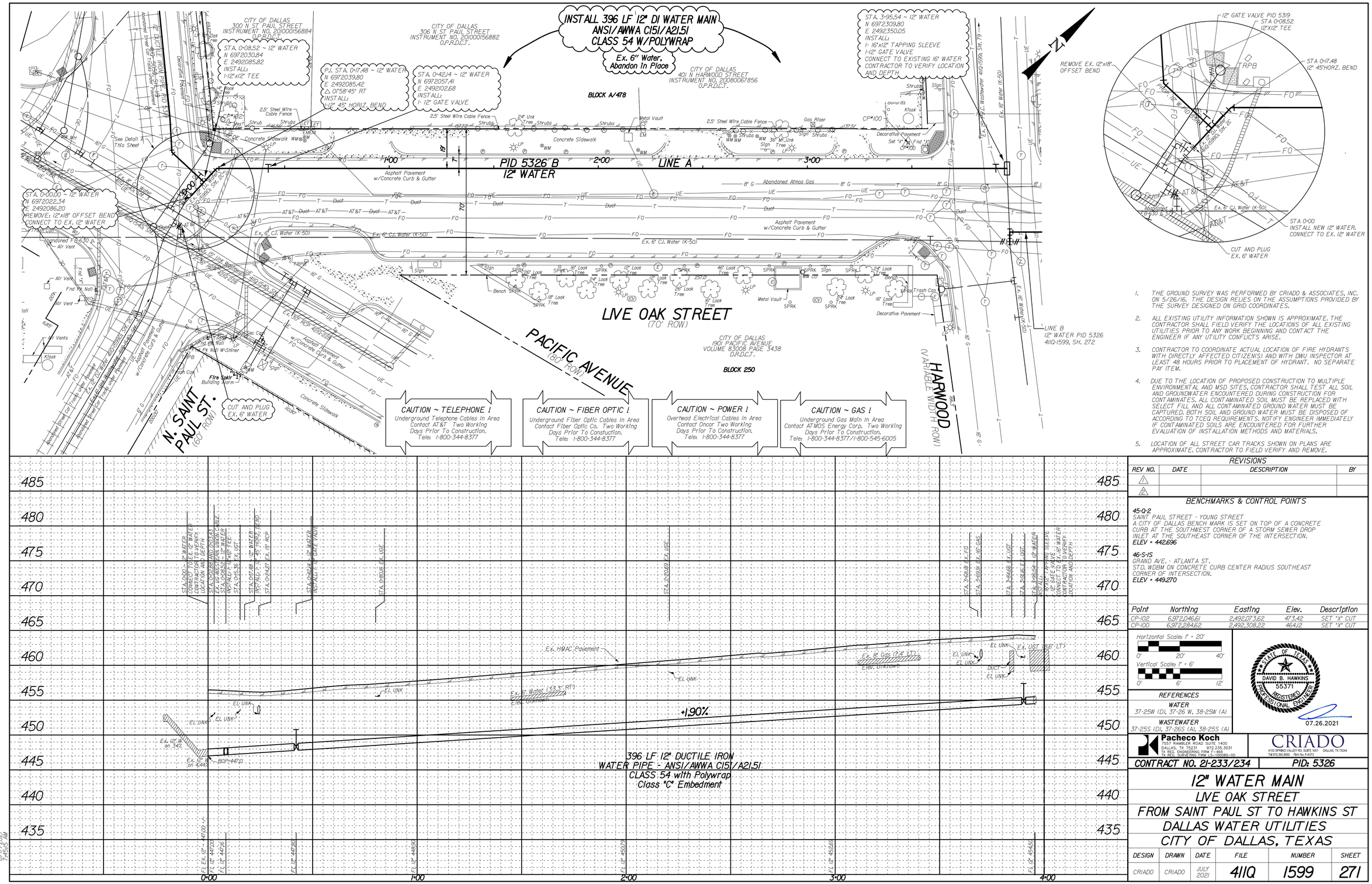
CRIADO
4100 SPRING VALLEY RD. SUITE 1001 DALLAS, TX 75244
Tel 972.392.9690 Firm No. F-4073

CONTRACT NO. 21-233/234 | **PID: 5326**

8" WASTEWATER MAIN
LIVE OAK STREET
FROM SAINT PAUL ST TO HAWKINS ST
DALLAS WATER UTILITIES
CITY OF DALLAS, TEXAS

DESIGN	DRAWN	DATE	FILE	NUMBER	SHEET
CRIADO	CRIADO	JULY 2021	411Q	1599	270

8/17/2021
7:53:57 AM



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BENCHMARKS & CONTROL POINTS

45-0-2
SAINT PAUL STREET - YOUNG STREET
A CITY OF DALLAS BENCH MARK IS SET ON TOP OF A CONCRETE CURB AT THE SOUTHWEST CORNER OF A STORM SEWER DROP INLET AT THE SOUTHEAST CORNER OF THE INTERSECTION.
ELEV = 442.696

46-S-15
GRAND AVE. - ATLANTA ST.
STD. WDBM ON CONCRETE CURB CENTER RADIUS SOUTHEAST CORNER OF INTERSECTION.
ELEV = 449.270

Point	Northing	Easting	Elev.	Description
CP-102	6,972,046.61	2,492,073.62	473.42	SET "X" CUT
CP-100	6,972,284.62	2,492,308.22	464.12	SET "X" CUT

Horizontal Scale: 1" = 20'
0' 20' 40'
Vertical Scale: 1" = 6'
0' 6' 12'

REFERENCES
WATER
37-25W (D), 37-26 W, 38-25W (A)
WASTEWATER
37-25S (D), 37-26S (A), 38-25S (A)

STATE OF TEXAS
DAVID B. HAWKINS
55371
REGISTERED PROFESSIONAL ENGINEER
07.26.2021

Pacheco Koch
7557 RAMBLER ROAD SUITE 1400
DALLAS, TX 75231 972.235.3031
TX REG. ENGINEERING FIRM F-1069
TX REG. SURVEYING FIRM LS-10018-00

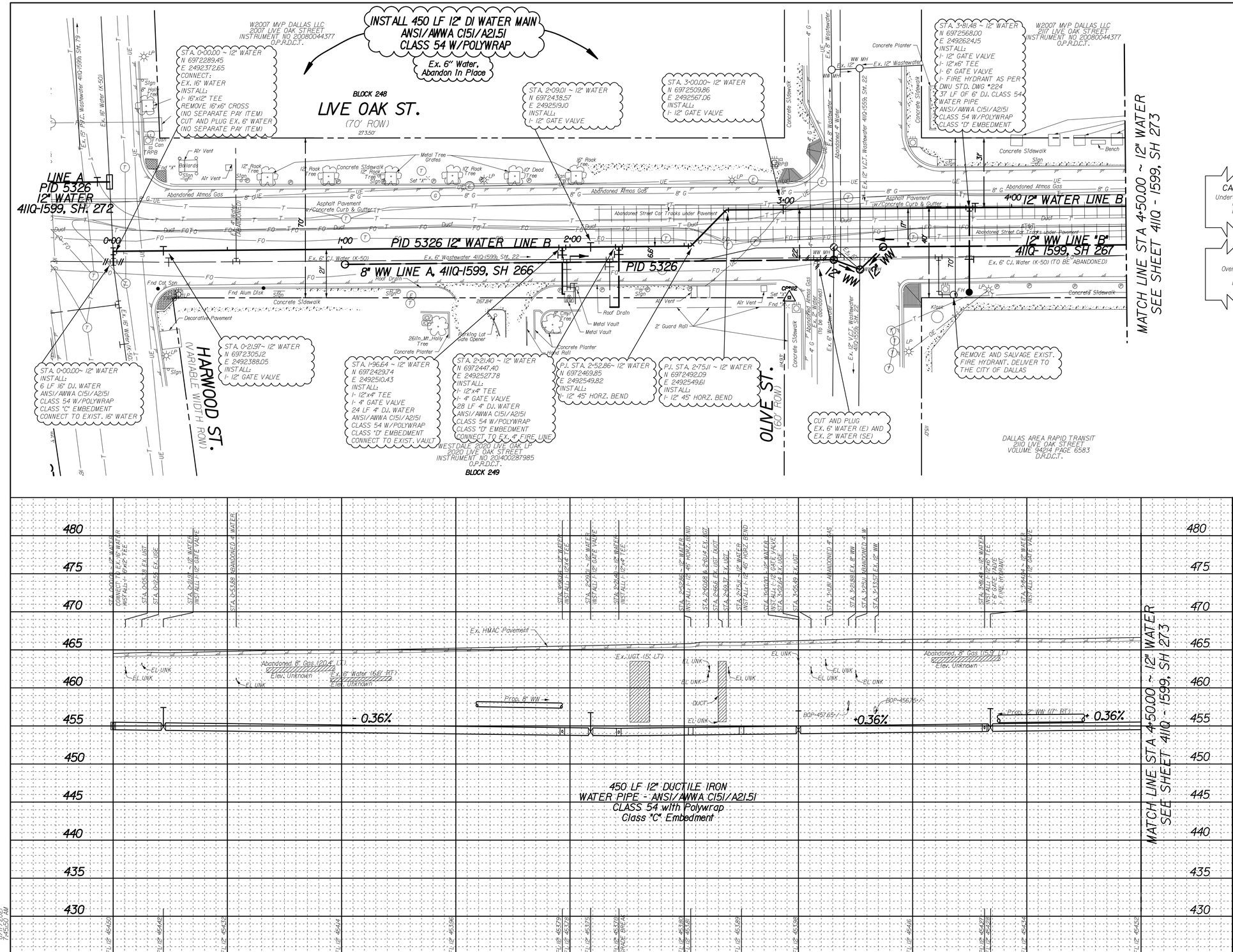
CRIADO
4100 SPRING VALLEY RD, SUITE 1001 DALLAS, TX 75244
Tel 972.392.9690 Firm No. F-4073

CONTRACT NO. 21-233/234 | PID: 5326

12" WATER MAIN
LIVE OAK STREET
FROM SAINT PAUL ST TO HAWKINS ST
DALLAS WATER UTILITIES
CITY OF DALLAS, TEXAS

DESIGN	DRAWN	DATE	FILE	NUMBER	SHEET
CRIADO	CRIADO	JULY 2021	411Q	1599	271

8/17/2021
9:45:15 AM



CAUTION ~ TELEPHONE !
Underground Telephone Cables In Area
Contact AT&T Two Working
Days Prior To Construction.
Tele: 1-800-344-8377

CAUTION ~ FIBER OPTIC !
Underground Fiber Optic Cables In Area
Contact Fiber Optic Co. Two Working
Days Prior To Constuction.
Tele: 1-800-344-8377

CAUTION ~ POWER !
Overhead Electrical Cables In Area
Contact Oncor Two Working
Days Prior To Construction.
Tele: 1-800-344-8377

CAUTION ~ GAS !
Underground Gas Main In Area
Contact ATMOS Energy Corp. Two Working
Days Prior To Construction.
Tele: 1-800-344-8377/1-800-545-6005

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BENCHMARKS & CONTROL POINTS

45-0-2
SAINT PAUL STREET - YOUNG STREET
A CITY OF DALLAS BENCH MARK IS SET ON TOP OF A CONCRETE CURB AT THE SOUTHWEST CORNER OF A STORM SEWER DROP INLET AT THE SOUTHEAST CORNER OF THE INTERSECTION.
ELEV = 442.696

46-S-1S
GRAND AVE. - ATLANTA ST.
STD. WDBM ON CONCRETE CURB CENTER RADIUS SOUTHEAST CORNER OF INTERSECTION.
ELEV = 449.270

Point	Northing	Easting	Elev.	Description
CP-112	6,972,484.43	2,492,596.24	466.08	SET "X" CUT
CP-113	6,972,742.24	2,492,764.71	467.90	SET "X" CUT

Horizontal Scale: 1" = 20'
0' 20' 40'
Vertical Scale: 1" = 6'
0' 6' 12'

REFERENCES
WATER
37-25W (D), 37-26 W, 38-25W (A)
WASTEWATER
37-25S (D), 37-26S (A), 38-25S (A)

STATE OF TEXAS
DAVID B. HAWKINS
55371
REGISTERED PROFESSIONAL ENGINEER
07.26.2021

Pacheco Koch
7557 RAMBLER ROAD SUITE 1400
DALLAS, TX 75231 972.235.3031
TX REG. ENGINEERING FIRM F-1759
TX REG. SURVEYING FIRM LS-10018-00

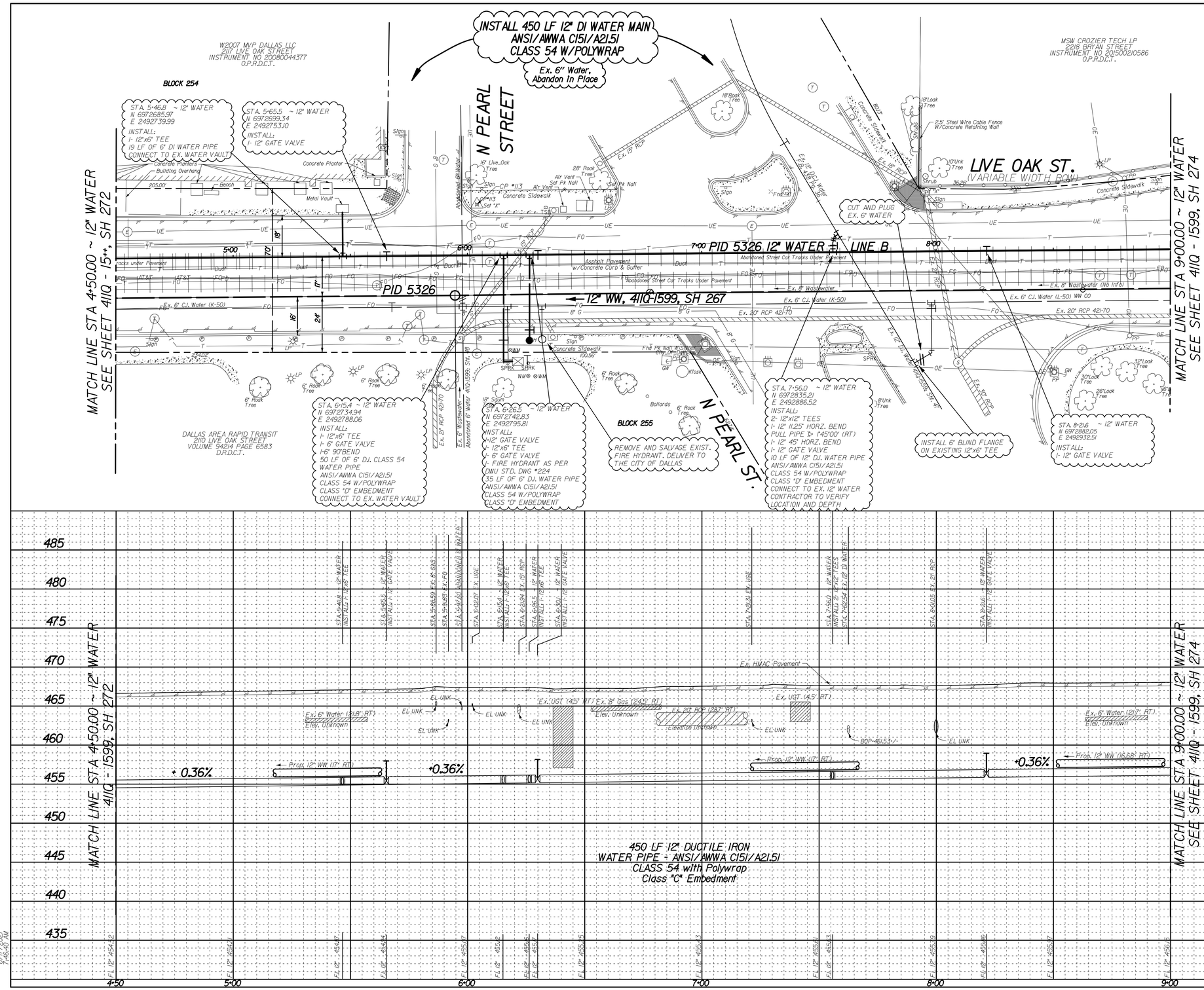
CRIADO
4100 SPRING VALLEY RD, SUITE 1001 DALLAS, TX 75244
Tel 972.392.9690 Firm No. F-4073

CONTRACT NO. 21-233/234 | PID: 5326

12" WATER MAIN
LIVE OAK STREET
FROM SAINT PAUL ST TO HAWKINS ST
DALLAS WATER UTILITIES
CITY OF DALLAS, TEXAS

DESIGN	DRAWN	DATE	FILE	NUMBER	SHEET
CRIADO	CRIADO	JULY 2021	411Q	1599	272

8/17/2021
7:45:50 AM



CAUTION ~ TELEPHONE !
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CAUTION ~ FIBER OPTIC !
Underground Fiber Optic Cables In Area
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Tele: 1-800-344-8377

CAUTION ~ POWER !
Overhead Electrical Cables In Area
Contact Oncor Two Working Days Prior To Construction.
Tele: 1-800-344-8377

CAUTION ~ GAS !
Underground Gas Main In Area
Contact ATMOS Energy Corp. Two Working Days Prior To Construction.
Tele: 1-800-344-8377/1-800-545-6005

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BENCHMARKS & CONTROL POINTS

45-0-2
SAINT PAUL STREET - YOUNG STREET
A CITY OF DALLAS BENCH MARK IS SET ON TOP OF A CONCRETE CURB AT THE SOUTHWEST CORNER OF A STORM SEWER DROP INLET AT THE SOUTHEAST CORNER OF THE INTERSECTION.
ELEV = 442.696

46-S-IS
GRAND AVE. - ATLANTA ST.
STD. WDBM ON CONCRETE CURB CENTER RADIUS SOUTHEAST CORNER OF INTERSECTION.
ELEV = 449.270

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Pacheco Koch
7557 RAMBLER ROAD SUITE 1400
DALLAS, TX 75231 972.235.3031
TX REG. ENGINEERING FIRM F-439
TX REG. SURVEYING FIRM LS-10028601-00

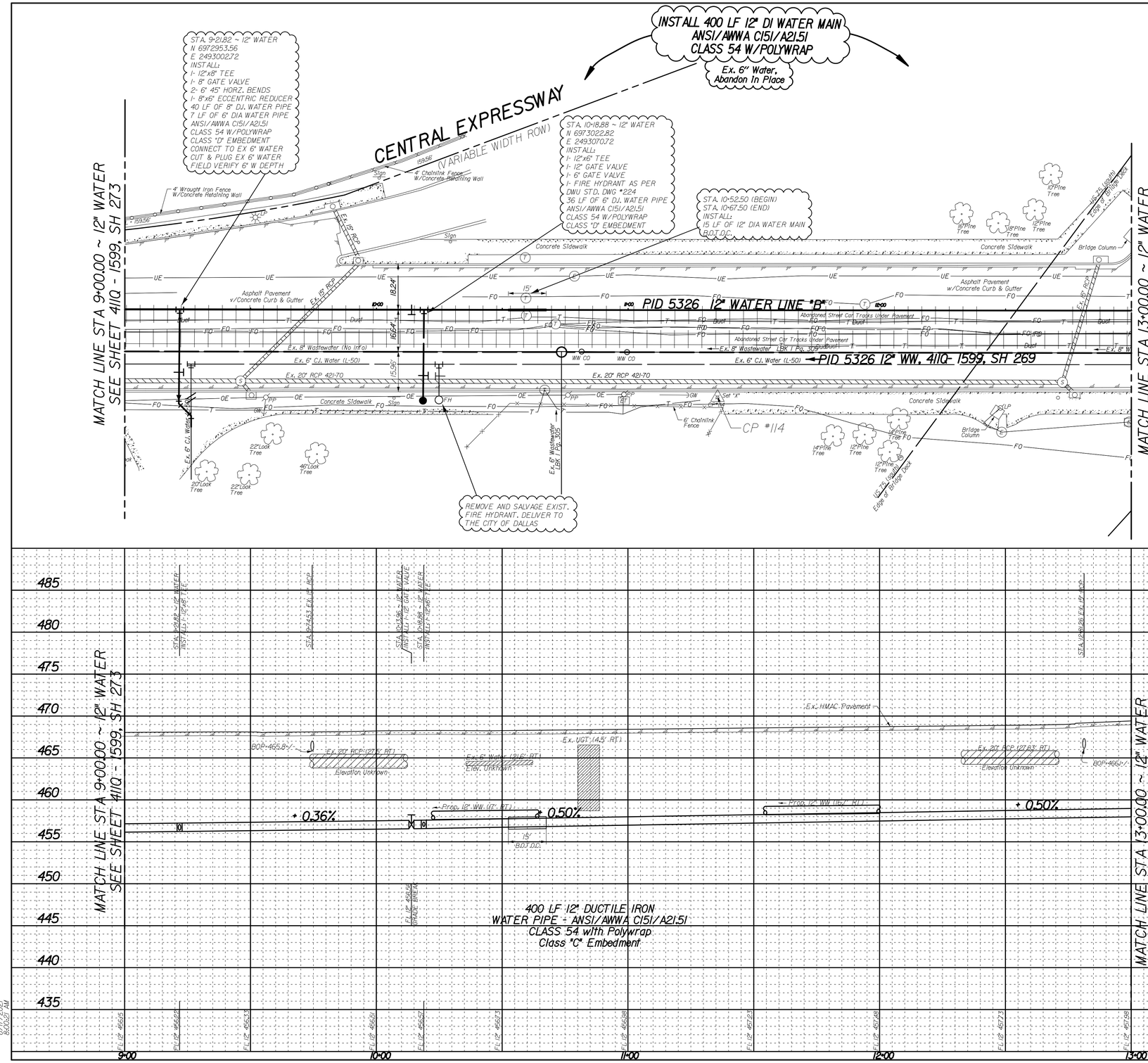
CRIADO
4100 SPRING VALLEY RD, SUITE 1001 DALLAS, TX 75244
Tel 972.392.9692 Fim No. F-4373

CONTRACT NO. 21-233/234 | PID: 5326

12" WATER MAIN
LIVE OAK STREET
FROM SAINT PAUL ST TO HAWKINS ST
DALLAS WATER UTILITIES
CITY OF DALLAS, TEXAS

DESIGN	DRAWN	DATE	FILE	NUMBER	SHEET
CRIADO	CRIADO	JULY 2021	411Q	1599	273

B.JT (2021)
P:46-40 AW



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BENCHMARKS & CONTROL POINTS

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STD. WDBM ON CONCRETE CURB CENTER RADIUS SOUTHEAST CORNER OF INTERSECTION.
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REGISTERED PROFESSIONAL ENGINEER
07.26.2021

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TX REG. ENGINEERING FIRM F-1759
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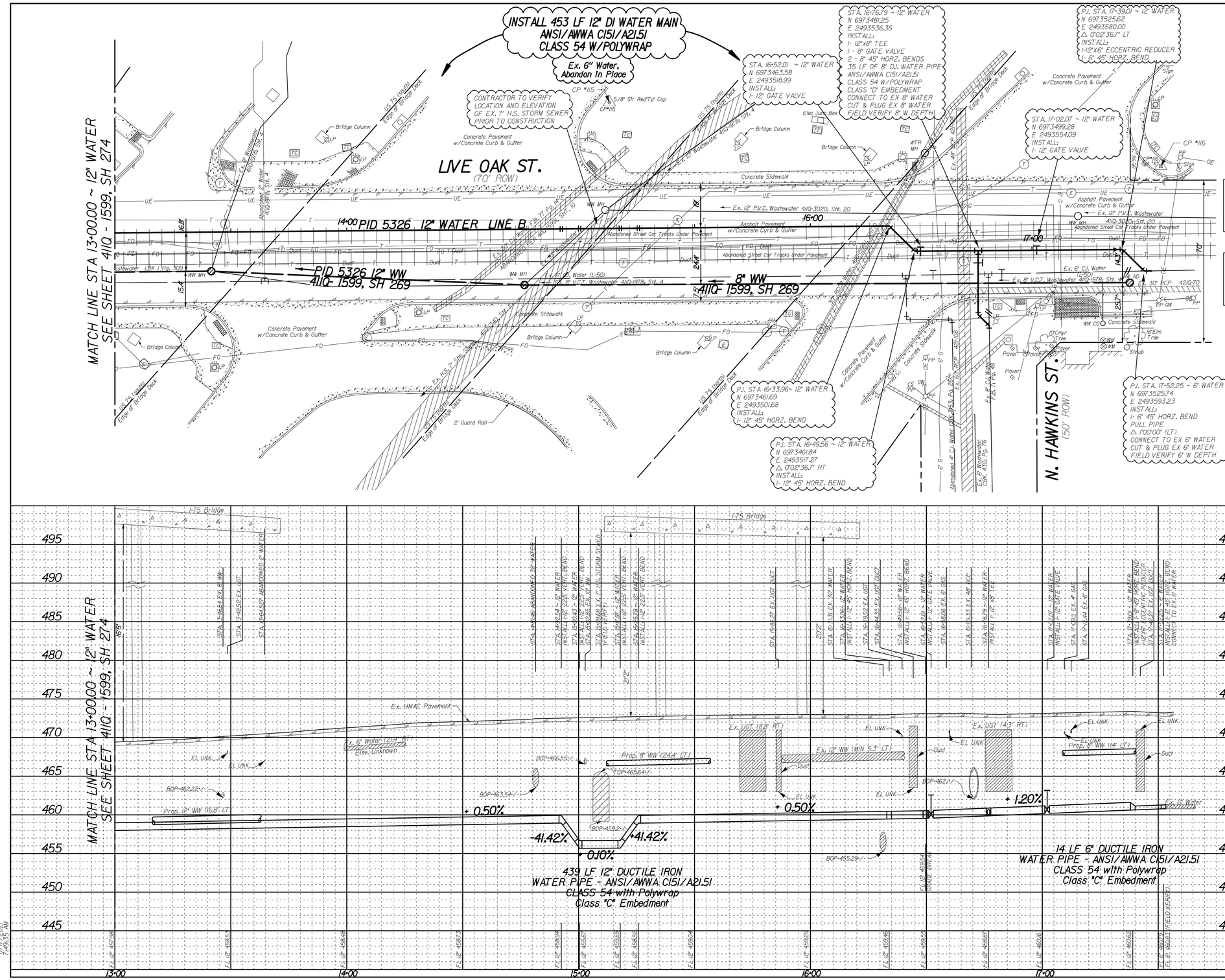
CRIADO
4100 SPRING VALLEY RD, SUITE 1001 DALLAS, TX 75244
Tel 972.392.9690 Firm No. F-4073

CONTRACT NO. 21-233/234 | PID: 5326

12" WATER MAIN
LIVE OAK STREET
FROM SAINT PAUL ST TO HAWKINS ST
DALLAS WATER UTILITIES
CITY OF DALLAS, TEXAS

DESIGN	DRAWN	DATE	FILE	NUMBER	SHEET
CRIADO	CRIADO	JULY 2021	411Q	1599	274

8/17/2021
8:00:25 AM



CAUTION ~ TELEPHONE !
Underground Telephone Cables In Area
Contact AT&T Two Working
Days Prior To Construction.
Tele: 1-800-344-8377

CAUTION ~ FIBER OPTIC !
Underground Fiber Optic Cables In Area
Contact Fiber Optic Co. Two Working
Days Prior To Constuction.
Tele: 1-800-344-8377

CAUTION ~ POWER !
Overhead Electrical Cables In Area
Contact Oncor Two Working
Days Prior To Construction.
Tele: 1-800-344-8377

CAUTION ~ GAS !
Underground Gas Main In Area
Contact ATMOS Energy Corp. Two Working
Days Prior To Construction.
Tele: 1-800-344-8377/1-800-545-6005

NOTES:

1. THE GROUND SURVEY WAS PERFORMED BY CRIADO & ASSOCIATES, INC. ON 5/26/16. THE DESIGN RELIES ON THE ASSUMPTIONS PROVIDED BY THE SURVEY DESIGNED ON GRID COORDINATES.
2. ALL EXISTING UTILITY INFORMATION SHOWN IS APPROXIMATE. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES PRIOR TO ANY WORK BEGINNING AND CONTACT THE ENGINEER IF ANY UTILITY CONFLICTS ARISE.
3. CONTRACTOR TO COORDINATE ACTUAL LOCATION OF FIRE HYDRANTS WITH DIRECTLY AFFECTED CITIZEN(S) AND WITH DWU INSPECTOR AT LEAST 48 HOURS PRIOR TO PLACEMENT OF HYDRANT. NO SEPARATE PAY ITEM.
4. DUE TO THE LOCATION OF PROPOSED CONSTRUCTION TO MULTIPLE ENVIRONMENTAL AND MSD SITES, CONTRACTOR SHALL TEST ALL SOIL AND GROUNDWATER ENCOUNTERED DURING CONSTRUCTION FOR CONTAMINATES. ALL CONTAMINATED SOIL MUST BE REPLACED WITH SELECT FILL AND ALL CONTAMINATED GROUND WATER MUST BE CAPTURED. BOTH SOIL AND GROUND WATER MUST BE DISPOSED OF ACCORDING TO TCEQ REQUIREMENTS. NOTIFY ENGINEER IMMEDIATELY IF CONTAMINATED SOILS ARE ENCOUNTERED FOR FURTHER EVALUATION OF INSTALLATION METHODS AND MATERIALS.
5. LOCATION OF ALL STREET CAR TRACKS SHOWN ON PLANS ARE APPROXIMATE. CONTRACTOR TO FIELD VERIFY AND REMOVE.

REVISIONS

REV NO.	DATE	DESCRIPTION	BY
1			
2			

BENCHMARKS & CONTROL POINTS

45-0-2
SAINT PAUL STREET - YOUNG STREET
A CITY OF DALLAS BENCH MARK IS SET ON TOP OF A CONCRETE CURB AT THE SOUTHWEST CORNER OF A STORM SEWER DROP INLET AT THE SOUTHEAST CORNER OF THE INTERSECTION.
ELEV - 442.696

46-S-1S
GRAND AVE. - ATLANTA ST.
STD. WDBM ON CONCRETE CURB CENTER RADIUS SOUTHEAST CORNER OF INTERSECTION.
ELEV - 449.270

Point	Northing	Easting	Elev.	Description
CP-115	6,973,414.02	2,493,378.63	473.78	SET W/RED TP CAP
CP-116	6,973,562.79	2,493,566.26	473.42	SET "X" CUT

Horizontal Scale: 1" = 20'
0' 20' 40'
Vertical Scale: 1" = 6'
0' 6' 12'

REFERENCES
WATER
37-25W (D), 37-26 W, 38-25W (A)
WASTEWATER
37-25S (D), 37-26S (A), 38-25S (A)

STATE OF TEXAS
DAVID B. HAWKINS
5537
REGISTERED PROFESSIONAL ENGINEER
07.26.2021

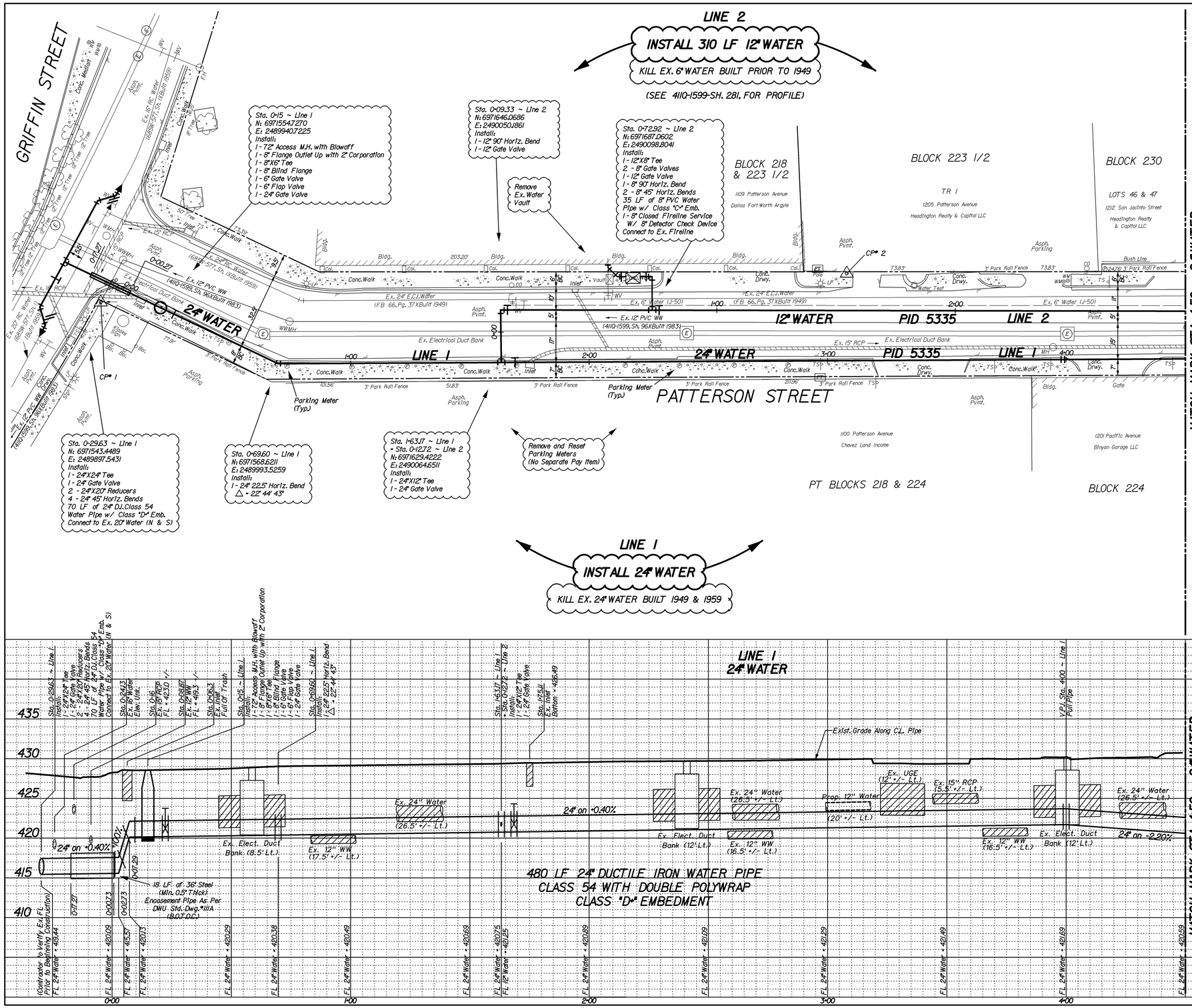
Pacheco Koch
7557 RAMBLER ROAD SUITE 1400
DALLAS, TX 75231 972.235.3031
TX REG. ENGINEERING FIRM F-1759
TX REG. SURVEYING FIRM LS-10018-00

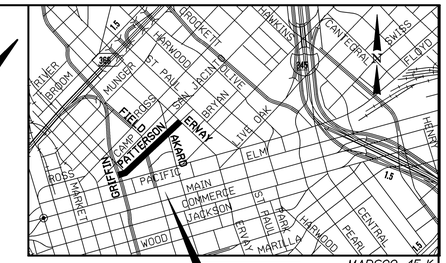
CRIADO
4100 SPRING VALLEY RD. SUITE 1001 DALLAS, TX 75244
Tel 972.392.9690 Firm No. F-4073

CONTRACT NO. 21-233/234 | **PID: 5326**

12" WATER MAIN
LIVE OAK STREET
FROM SAINT PAUL ST TO HAWKINS ST
DALLAS WATER UTILITIES
CITY OF DALLAS, TEXAS

DESIGN	DRAWN	DATE	FILE	NUMBER	SHEET
CRIADO	CRIADO	JULY 2021	411Q	1599	275





CAUTION ~ TELEPHONE 1
Underground Telephone Cables In Area
Contact S.B.C. Two Working Days Prior To Construction.
Tele: 1-800-344-8377

CAUTION ~ GAS 1
Underground Gas Main In Area
Contact ATMOS Energy Corp. Two Working Days Prior To Construction.
Tele: 1-800-344-8377 / 1-800-545-6005

CAUTION ~ POWER 1
Underground Electrical Cables In Area
Contact TXU Two Working Days Prior To Construction.
Tele: 1-800-344-8377

CAUTION
Advanced Metering Infrastructure (AMI) Meters In Area
AMI Components Shall be Disconnected, Reconnected, Removed, or Installed by DWU Personnel ONLY.
Contact DWU Meter Reading Operations (MRO) 5 working days in advance.
Tel: 214-670-5537
Email: DWUMROoperationsfy@all.com

REVISIONS			
REV. NO.	DATE	DESCRIPTION	BY
1			
2			

BENCHMARKS & CONTROL POINTS

DWU BENCHMARK# 45-0-2

A CITY OF DALLAS BENCHMARK FOUND ON TOP OF A CONCRETE CURB AT THE SOUTHWEST CORNER OF A STORM SEWER DROP INLET AT THE SOUTHEAST CORNER OF THE INTERSECTION OF SAINT PAUL STREET AND YOUNG STREET.
ELEV = 442.70'

CONTROL POINT# 1

"X" CUT ON CONCRETE WALK ON THE SOUTHEAST CORNER OF THE INTERSECTION OF PATTERSON AVENUE AND GRIFFIN STREET.

N: 6971540.2920; E: 2489920.1580; ELEV = 428.05'

CONTROL POINT# 2

"X" CUT ON CONCRETE WALK ON THE NORTH SIDE OF PATTERSON AVENUE. IN FRONT OF PARKING AREA AT 1205 PATTERSON AVENUE. APPROX. 260 FEET SOUTHWEST OF THE INTERSECTION OF PATTERSON AVENUE AND FIELD STREET.

N: 6971751.4600; E: 2490151.2220; ELEV = 429.56'

REFERENCES	
WATER	37-25W (C), 38-25W (A)
WASTEWATER	37-25S (C), 38-25S (A)

LIM & ASSOCIATES, INC.
F-3232
STATE OF TEXAS
GUILLERMO R. DARCE
96476
LICENSED
PROFESSIONAL ENGINEER
08-18-2021

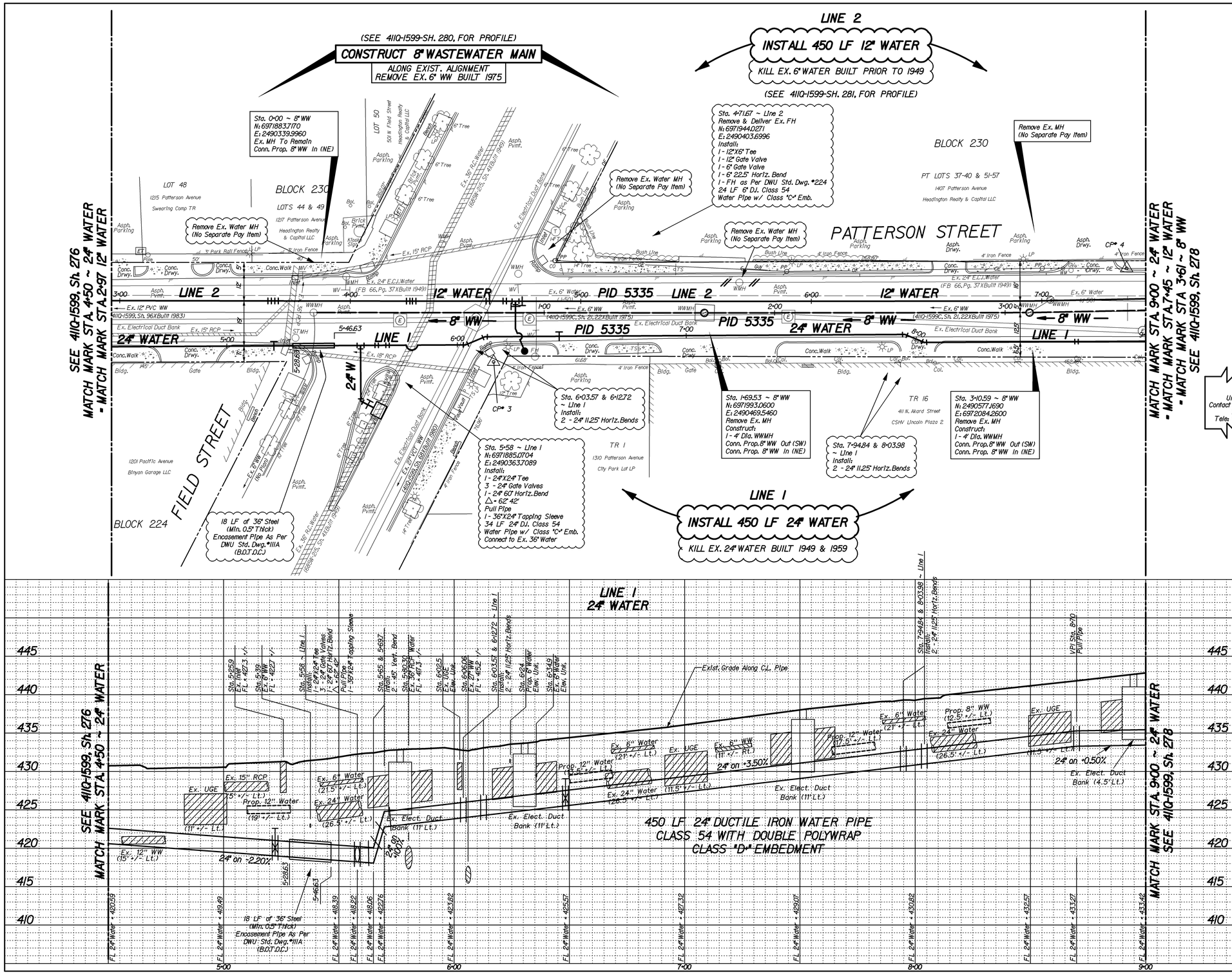
Pacheco Koch
DALLAS • FORT WORTH • HOUSTON
7557 RAMBLER ROAD, SUITE 1400
DALLAS, TEXAS 75231
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-100060-00
PH. 972.235.3031
FAX 972.235.9544

LIM & ASSOCIATES, inc.
engineering & surveying consultants
TBPELS Engineering Firm F-3232
TBPELS Surveying Firm 101236-00
Tel. (214) 942-1888

CONTRACT NO. 21-233/234 | PID: 5335

12" & 24" WATER MAINS
PATTERSON STREET
fr. GRIFFIN STREET to N. ERVAY ST.
DALLAS WATER UTILITIES
CITY OF DALLAS, TEXAS

DESIGN	DRAWN	DATE	FILE	NUMBER	SHEET
LIM	LIM	AUG 2021	411Q	1599	276



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CAUTION ~ POWER 1
Underground Electrical Cables In Area
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Days Prior To Construction.
Tele: 1-800-344-8377

CAUTION ~ GAS 1
Underground Gas Main In Area
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Days Prior To Construction.
Tele: 1-800-344-8377 / 1-800-545-6005

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(AMI) Meters In Area
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(MRO) 5 working days in advance.
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Email: DWUMRO@dallascityhall.com

REVISIONS			
REV. NO.	DATE	DESCRIPTION	BY
1			
2			

BENCHMARKS & CONTROL POINTS

DWU BENCHMARK# 45-0-2

A CITY OF DALLAS BENCHMARK FOUND ON TOP OF A CONCRETE CURB AT THE SOUTHWEST CORNER OF A STORM SEWER DROP INLET AT THE SOUTHEAST CORNER OF THE INTERSECTION OF SAINT PAUL STREET AND YOUNG STREET.
ELEV = 442.70'

CONTROL POINT# 3

"X" CUT ON CONCRETE WALK AT THE SOUTHEAST CORNER OF THE INTERSECTION OF PATTERSON AVENUE AND FIELD STREET.

N: 6971917.8150; E: 2490413.5020; ELEV = 432.91'

CONTROL POINT# 4

"X" CUT ON CONCRETE WALK AT THE NORTH SIDE OF PATTERSON AVENUE, APPROX. 150 FEET NORTHEAST OF THE INTERSECTION OF PATTERSON AVENUE AND FIELD STREET.
N: 6972126.1450; E: 2490596.9690; ELEV = 442.54'

Horizontal Scale: 1" = 20'
0' 20' 40'
Vertical Scale: 1" = 6'
0' 6' 12'

REFERENCES

WATER
37-25W (C), 38-25W (A)

WASTEWATER
37-25S (C), 38-25S (A)

LIM & ASSOCIATES, INC.
F-3232
STATE OF TEXAS
GUILLERMO R. DARCE
96476
LICENSED
PROFESSIONAL ENGINEER
08-18-2021

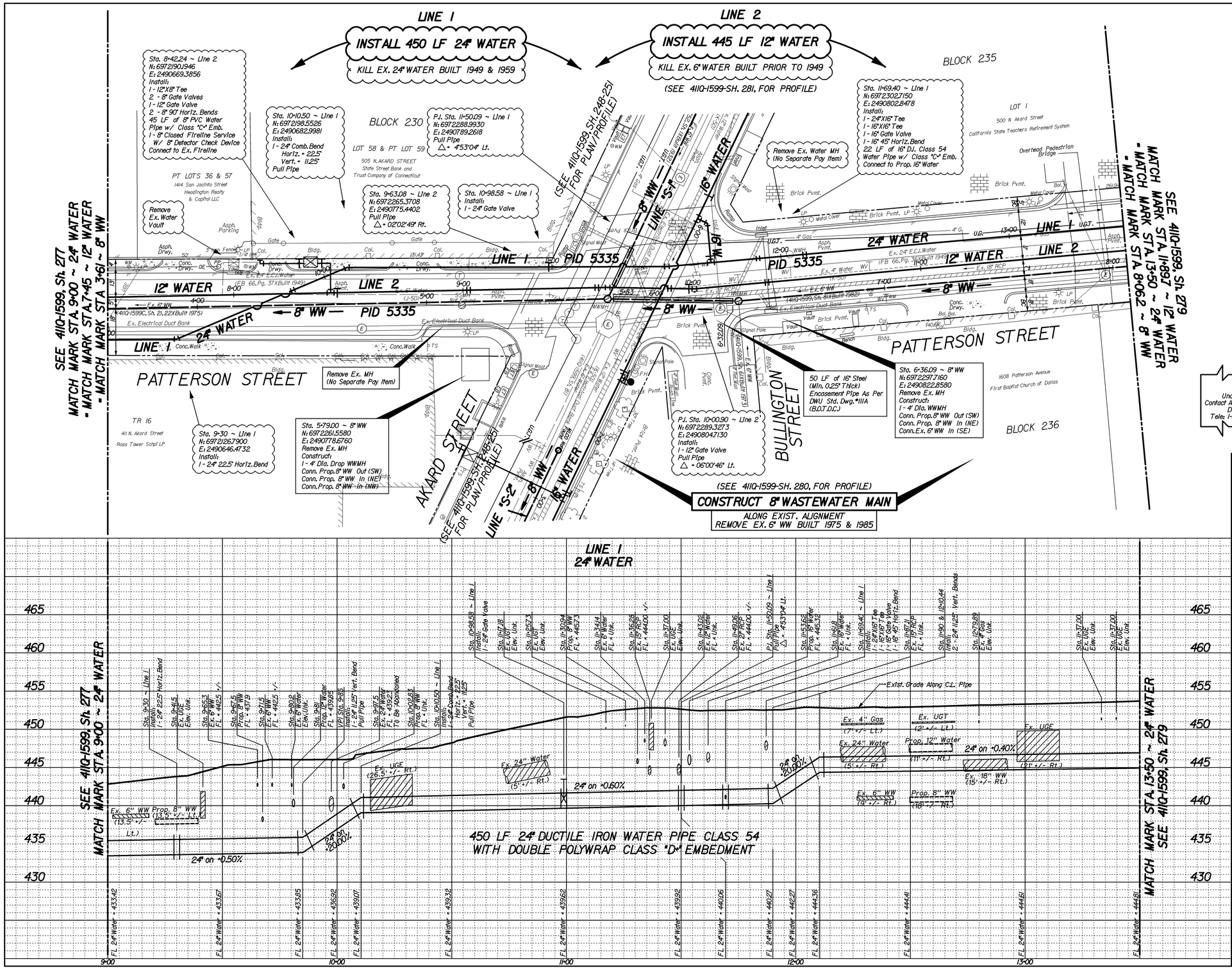
Pacheco Koch
DALLAS ◆ FORT WORTH ◆ HOUSTON
7557 RAMBLER ROAD, SUITE 1400
DALLAS, TEXAS 75231
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10028G-00
PH. 972.235.3031
FAX 972.235.8944

LIM & ASSOCIATES, inc.
engineering & surveying consultants
TBPELS Engineering Firm F-3232
TBPELS Surveying Firm 1012236-00
Tel. (214) 942-1888

CONTRACT NO. 21-233/234 | PID: 5335

12" & 24" WATER MAINS
PATTERSON STREET
fr. GRIFFIN STREET to N. ERVAY ST.
DALLAS WATER UTILITIES
CITY OF DALLAS, TEXAS

DESIGN	DRAWN	DATE	FILE	NUMBER	SHEET
LIM	LIM	AUG 2021	411Q	1599	277



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CAUTION ~ POWER 1
Underground Electrical Cables In Area
Contact TXU Two Working Days Prior To Construction.
Tele: 1-800-344-8377

CAUTION ~ GAS 1
Underground Gas Main In Area
Contact ATMOS Energy Corp. Two Working Days Prior To Construction.
Tele: 1-800-344-8377 / 1-800-545-6005

CAUTION
Advanced Metering Infrastructure (AMI) Meters In Area
AMI Components Shall be Disconnected, Reconnected, Removed, or Installed by DWU Personnel ONLY.
Contact DWU Meter Reading Operations (MRO) 5 working days in advance.
Tel: 214-673-5537
Email: DWUMRO@dallascityhall.com

REVISIONS

REV. NO.	DATE	DESCRIPTION	BY
1			
2			

BENCHMARKS & CONTROL POINTS

DWU BENCHMARK# 45-0-2

A CITY OF DALLAS BENCHMARK FOUND ON TOP OF A CONCRETE CURB AT THE SOUTHWEST CORNER OF A STORM SEWER DROP INLET AT THE SOUTHEAST CORNER OF THE INTERSECTION OF SAINT PAUL STREET AND YOUNG STREET.
ELEV = 442.70'

CONTROL POINT# 4

"X" CUT ON CONCRETE WALK AT THE NORTH SIDE OF PATTERSON AVENUE. APPROX. 150 FEET NORTHEAST OF THE INTERSECTION OF PATTERSON AVENUE AND FIELD STREET.
N: 6972126.1450; E: 2490596.9690; ELEV = 442.54'

CONTROL POINT# 5

"X" CUT ON CONCRETE GUTTER AT THE SOUTHEAST SIDE OF THE INTERSECTION OF AKARD STREET AND PATTERSON AVENUE.

N: 6972259.1640 ; E: 2490803.7300 ; ELEV = 451.67'

Horizontal Scale: 1" = 20'
0' 20' 40'
Vertical Scale: 1" = 6'
0' 6' 12'

REFERENCES
WATER
37-25W (C), 38-25W (A)
WASTEWATER
37-25S (C), 38-25S (A)

LIM & ASSOCIATES, INC.
F-3232
STATE OF TEXAS
GUILLERMO R. DARCE
96476
LICENSED
PROFESSIONAL ENGINEER
08-18-2021

Pacheco Koch
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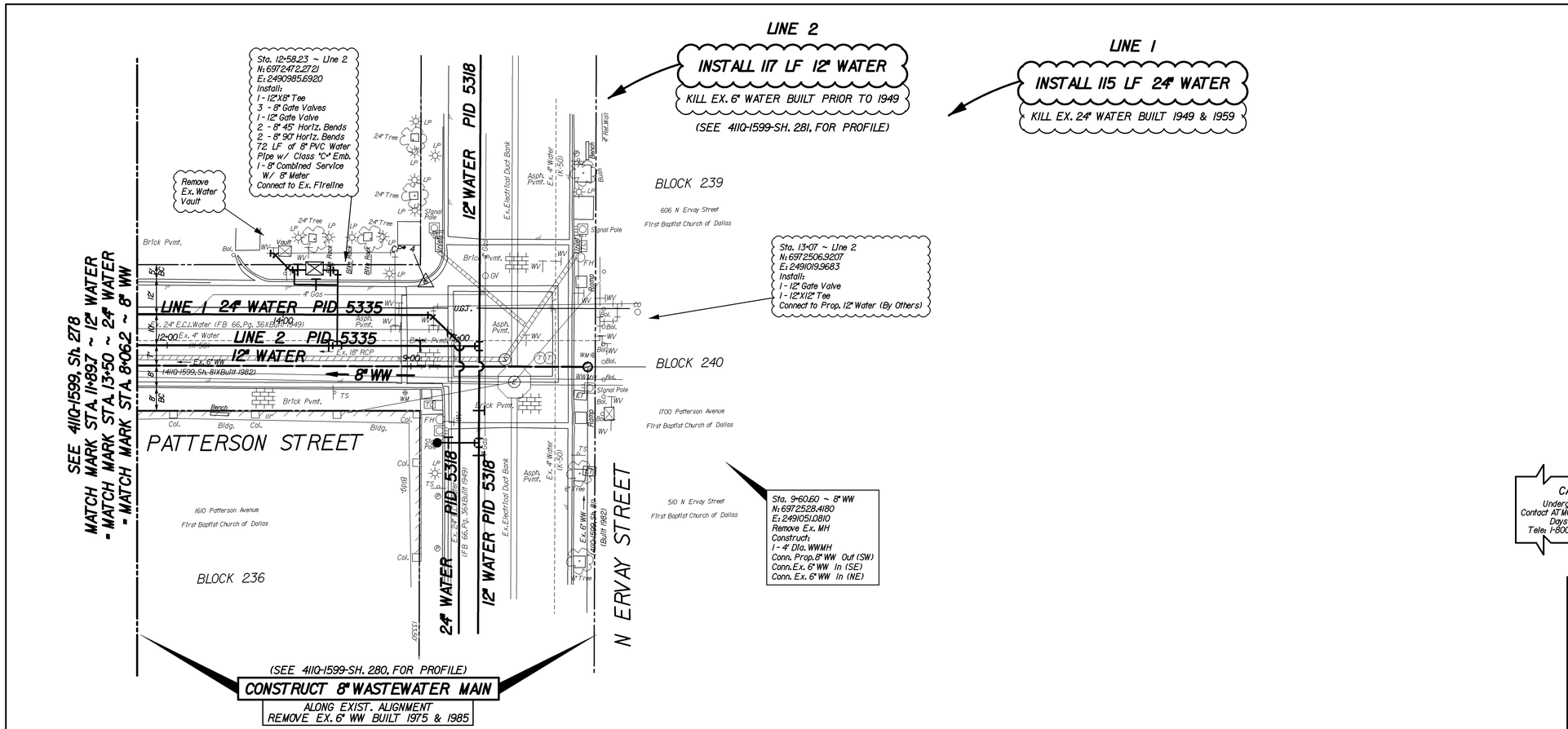
7557 RAMBLER ROAD, SUITE 1400
DALLAS, TEXAS 75231
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008b-00
PH. 972.235.3031
FAX 972.235.9544

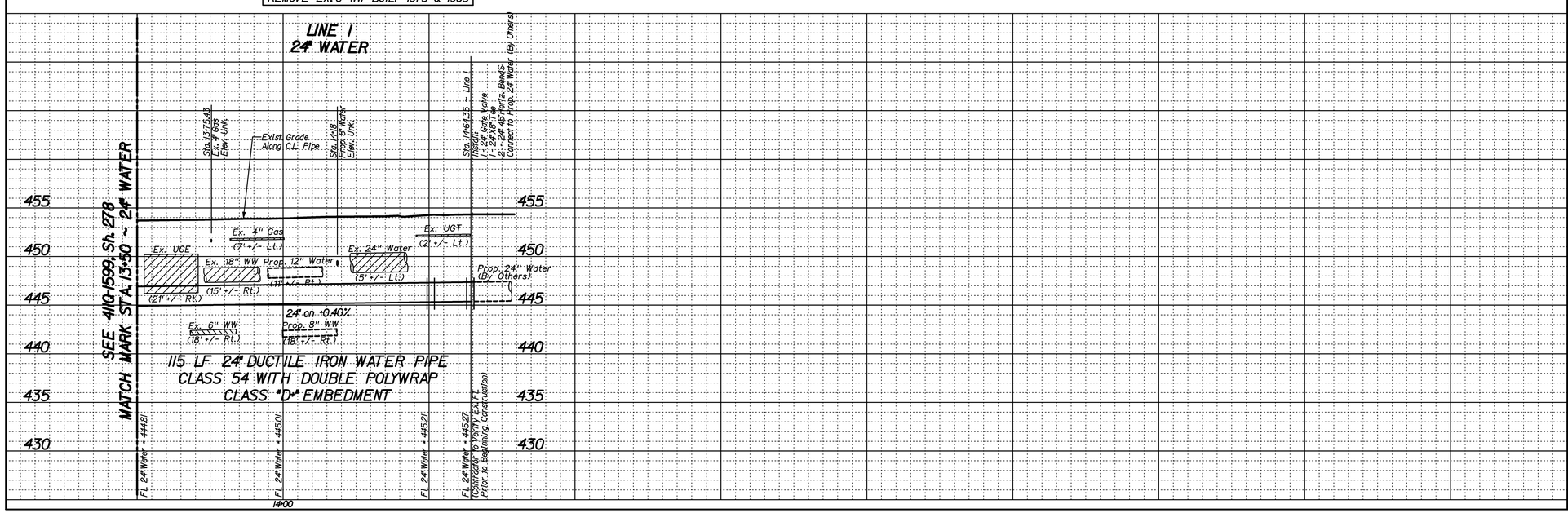
LIM & ASSOCIATES, inc.
engineering & surveying consultants
TBPELS Engineering Firm F-3232
TBPELS Surveying Firm 1012136-00
Tel. (214) 942-1888

CONTRACT NO. 21-233/234 | PID: 5335

12" & 24" WATER & 8" WW MAINS
PATTERSON STREET
fr. GRIFFIN STREET to N. ERVAY ST.
DALLAS WATER UTILITIES
CITY OF DALLAS, TEXAS

DESIGN	DRAWN	DATE	FILE	NUMBER	SHEET
LIM	LIM	AUG 2021	411Q	1599	278





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CAUTION ~ POWER 1
Underground Electrical Cables In Area
Contact TXU Two Working Days Prior To Construction.
Tele: 1-800-344-8377

CAUTION ~ GAS 1
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Contact ATMOS Energy Corp. Two Working Days Prior To Construction.
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Email: DWUMRO@dallascityhall.com

REVISIONS			
REV. NO.	DATE	DESCRIPTION	BY
1			
2			

BENCHMARKS & CONTROL POINTS

DWU BENCHMARK# 45-0-2

A CITY OF DALLAS BENCHMARK FOUND ON TOP OF A CONCRETE CURB AT THE SOUTHWEST CORNER OF A STORM SEWER DROP INLET AT THE SOUTHEAST CORNER OF THE INTERSECTION OF SAINT PAUL STREET AND YOUNG STREET.
ELEV = 442.70'

CONTROL POINT# 5

"X" CUT ON CONCRETE GUTTER AT THE SOUTHEAST SIDE OF THE INTERSECTION OF AKARD STREET AND PATTERSON AVENUE.

N:6972259.1640 ; E:2490803.7300 ; ELEV = 451.67'

CONTROL POINT# 6

"X" CUT ON CONCRETE GUTTER AT THE NORTHWEST SIDE OF THE INTERSECTION OF PATTERSON AVENUE AND ERVAY STREET.

N: 6972509.2230; E: 2490991.5000; ELEV = 453.90'

Horizontal Scale: 1" = 20'
0' 20' 40'
Vertical Scale: 1" = 6'
0' 6' 12'

REFERENCES

WATER
37-25W (C), 38-25W (A)

WASTEWATER
37-25S (C), 38-25S (A)

LIM & ASSOCIATES, INC
F-3232
STATE OF TEXAS
GUILLERMO R. DARCE
96476
LICENSED PROFESSIONAL ENGINEER
08-18-2021

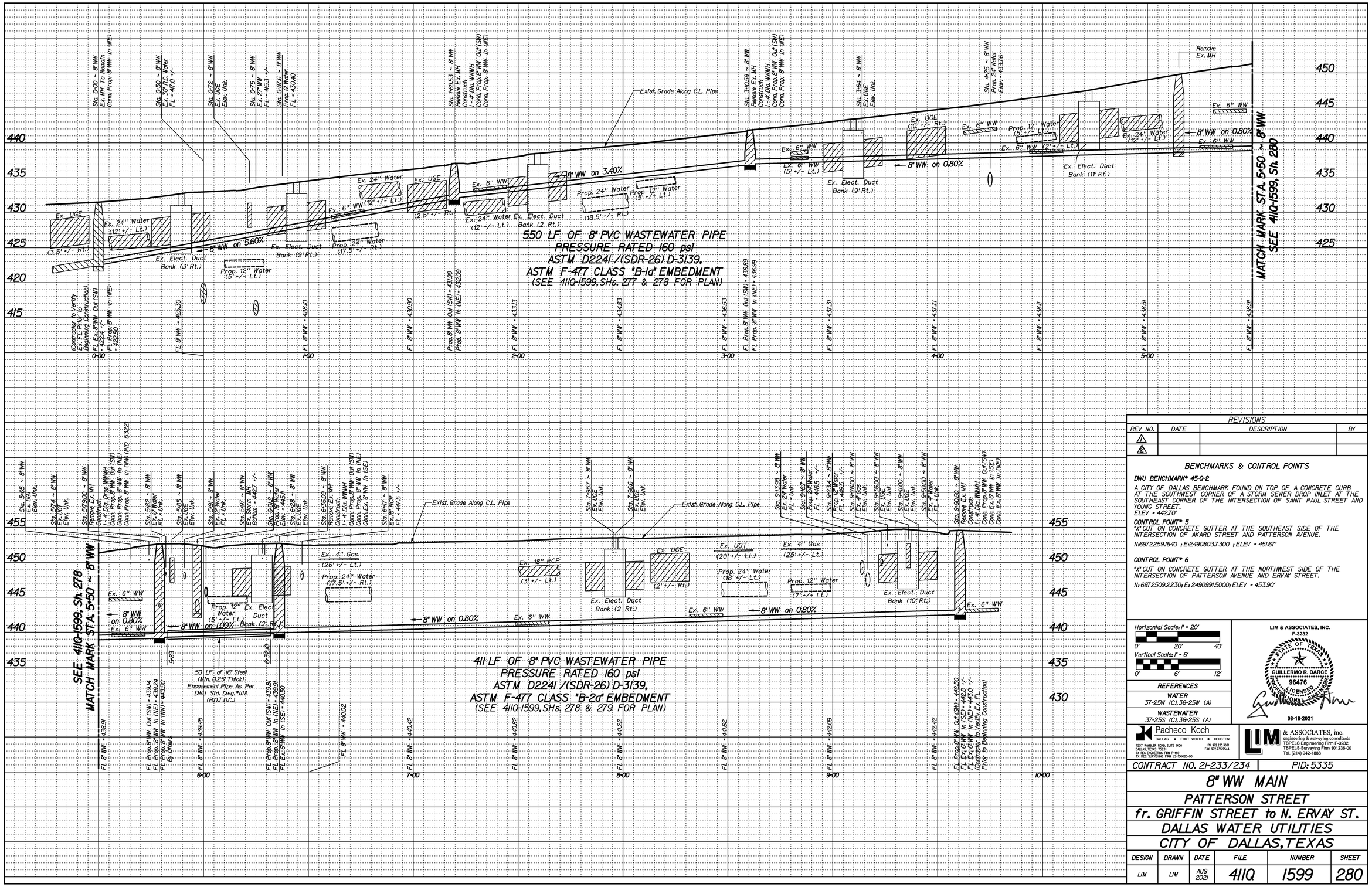
Pacheco Koch
DALLAS • FORT WORTH • HOUSTON
7557 RAMBLER ROAD, SUITE 1400
DALLAS, TEXAS 75231
PH. 972.235.3031
FAX 972.235.8544
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-100080-00

LIM & ASSOCIATES, inc.
engineering & surveying consultants
TBPELS Engineering Firm F-3232
TBPELS Surveying Firm 10123-00
Tel. (214) 942-1888

CONTRACT NO. 21-233/234 | PID: 5335

12" & 24" WATER & 8" WW MAINS
PATTERSON STREET
fr. GRIFFIN STREET to N. ERVAY ST.
DALLAS WATER UTILITIES
CITY OF DALLAS, TEXAS

DESIGN	DRAWN	DATE	FILE	NUMBER	SHEET
LJM	LJM	AUG 2021	411Q	1599	279



REVISIONS			
REV NO.	DATE	DESCRIPTION	BY
1			
2			

BENCHMARKS & CONTROL POINTS

DWU BENCHMARK# 45-0-2

A CITY OF DALLAS BENCHMARK FOUND ON TOP OF A CONCRETE CURB AT THE SOUTHWEST CORNER OF A STORM SEWER DROP INLET AT THE SOUTHEAST CORNER OF THE INTERSECTION OF SAINT PAUL STREET AND YOUNG STREET.
ELEV = 442.70'

CONTROL POINT# 5

"X" CUT ON CONCRETE GUTTER AT THE SOUTHEAST SIDE OF THE INTERSECTION OF AKARD STREET AND PATTERSON AVENUE.

N:6972259.1640 ; E:2490803.7300 ; ELEV = 451.67'

CONTROL POINT# 6

"X" CUT ON CONCRETE GUTTER AT THE NORTHWEST SIDE OF THE INTERSECTION OF PATTERSON AVENUE AND ERVAY STREET.

N: 6972509.2230; E: 2490991.5000; ELEV = 453.90'

Horizontal Scale: 1" = 20'
0' 20' 40'
Vertical Scale: 1" = 6'
0' 6' 12'

REFERENCES

WATER
37-25W (C), 38-25W (A)

WASTEWATER
37-25S (C), 38-25S (A)

LIM & ASSOCIATES, INC.
F-3232
STATE OF TEXAS
GUILLERMO R. DARCE
96476
LICENSED PROFESSIONAL ENGINEER
08-18-2021

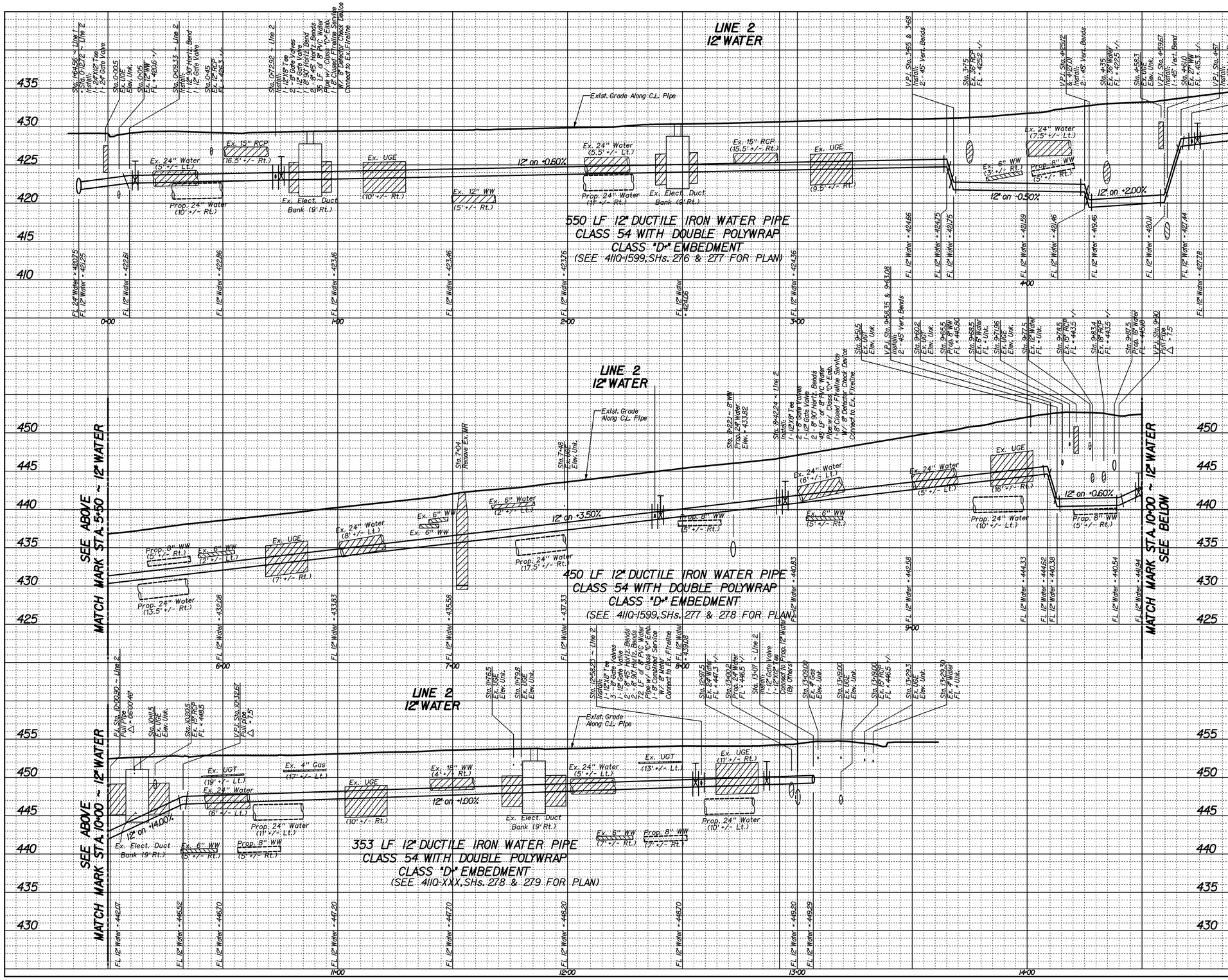
Pacheco Koch
DALLAS ■ FORT WORTH ■ HOUSTON
7557 RAMBLER ROAD, SUITE 1400
DALLAS, TEXAS 75231
PH. 972.235.3031
FAX 972.235.9544
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-100080-00

LIM & ASSOCIATES, inc.
engineering & surveying consultants
TBPELS Engineering Firm F-3232
TBPELS Surveying Firm 101236-00
Tel. (214) 942-1888

CONTRACT NO. 21-233/234 | PID: 5335

8" WW MAIN
PATTERSON STREET
fr. GRIFFIN STREET to N. ERVAY ST.
DALLAS WATER UTILITIES
CITY OF DALLAS, TEXAS

DESIGN	DRAWN	DATE	FILE	NUMBER	SHEET
LJM	LJM	AUG 2021	411Q	1599	280



REVISIONS			
REV. NO.	DATE	DESCRIPTION	BY
1			
2			

BENCHMARKS & CONTROL POINTS

DWU BENCHMARK# 45-0-2

A CITY OF DALLAS BENCHMARK FOUND ON TOP OF A CONCRETE CURB AT THE SOUTHWEST CORNER OF A STORM SEWER DROP INLET AT THE SOUTHEAST CORNER OF THE INTERSECTION OF SAINT PAUL STREET AND YOUNG STREET.
ELEV = 442.70'

CONTROL POINT# 5

"X" CUT ON CONCRETE GUTTER AT THE SOUTHEAST SIDE OF THE INTERSECTION OF AKARD STREET AND PATTERSON AVENUE.

N:6972259.1640 ; E:2490803.7300 ; ELEV = 451.67'

CONTROL POINT# 6

"X" CUT ON CONCRETE GUTTER AT THE NORTHWEST SIDE OF THE INTERSECTION OF PATTERSON AVENUE AND ERVAY STREET.

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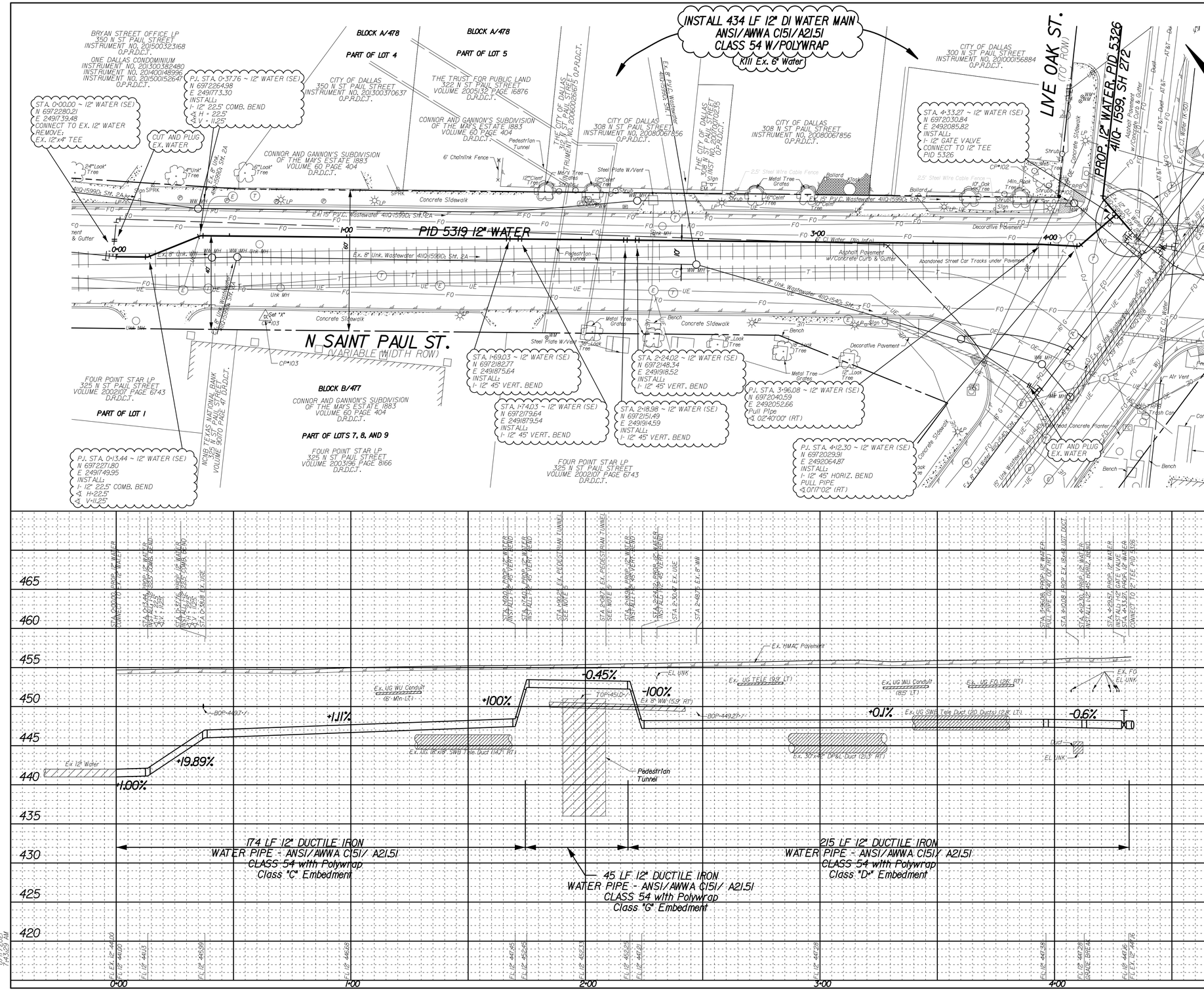
CONTRACT NO. 21-233/234 | PID: 5335

12" WATER MAIN
PATTERSON STREET
fr. GRIFFIN STREET to N. ERVAY ST.
DALLAS WATER UTILITIES
CITY OF DALLAS, TEXAS

DESIGN	DRAWN	DATE	FILE	NUMBER	SHEET
LIM	LIM	AUG 2021	4110	1599	281



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CAUTION ~ FIBER OPTIC !
Underground Fiber Optic Cables In Area
Contact Fiber Optic Co. Two Working
Days Prior To Construction.
Tele: 1-800-344-8377

CAUTION ~ POWER !
Overhead Electrical Cables In Area
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CAUTION ~ GAS !
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Tele: 1-800-344-8377 / 1-800-545-6005

NOTES:

1. THE GROUND SURVEY WAS PERFORMED BY CRIADO & ASSOCIATES, INC. ON 1/28/16. THE DESIGN RELIES ON THE ASSUMPTIONS PROVIDED BY THE SURVEY. DESIGNED ON GRID COORDINATES.
2. ALL EXISTING UTILITY INFORMATION SHOWN IS APPROXIMATE. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES PRIOR TO ANY WORK BEGINNING AND CONTACT THE ENGINEER IF ANY UTILITY CONFLICTS ARISE.
3. DUE TO THE LOCATION OF PROPOSED CONSTRUCTION TO MULTIPLE ENVIRONMENTAL AND MSD SITES, CONTRACTOR SHALL TEST ALL SOIL AND GROUNDWATER ENCOUNTERED DURING CONSTRUCTION FOR CONTAMINATES. ALL CONTAMINATED SOIL MUST BE REPLACED WITH SELECT FILL AND ALL CONTAMINATED GROUND WATER MUST BE CAPTURED. BOTH SOIL AND GROUND WATER MUST BE DISPOSED OF ACCORDING TO TCEQ REQUIREMENTS. NOTIFY ENGINEER IMMEDIATELY IF CONTAMINATED SOILS ARE ENCOUNTERED FOR FURTHER EVALUATION OF INSTALLATION METHODS AND MATERIALS.
4. LOCATION OF ALL STREET CAR TRACKS SHOWN ON PLANS ARE APPROXIMATE. CONTRACTOR TO FIELD VERIFY AND REMOVE.
5. CONTRACTOR TO FIELD VERIFY LOCATION AND DEPTH OF PEDESTRIAN TUNNEL. NOTIFY ENGINEER OF ANY DISCREPENCES PRIOR TO MATERIAL ORDER.

REVISIONS

REV NO.	DATE	DESCRIPTION	BY
1			
2			

BENCHMARKS & CONTROL POINTS

45-0-2
SAINT PAUL STREET - YOUNG STREET
A CITY OF DALLAS BENCH MARK IS SET ON TOP OF A CONCRETE CURB AT THE SOUTHWEST CORNER OF A STORM SEWER DROP INLET AT THE SOUTHEAST CORNER OF THE INTERSECTION.
ELEV = 442.696

46-S-15
GRAND AVE. - ATLANTA ST.
STD. WDBM ON CONCRETE CURB CENTER RADIUS SOUTHEAST CORNER OF INTERSECTION.
ELEV = 449.270

Point	Northing	Easting	Elev.	Description
CP-103	6,972,220.807	2,491,773.648	455.038	SET "X" CUT
CP-102	6,972,046.610	2,492,073.615	456.196	SET "X" CUT

Horizontal Scale: 1" = 20'
0' 20' 40'
Vertical Scale: 1" = 6'
0' 6' 12'

REFERENCES
WATER
37-25W (D), 38-25W (B)
WASTEWATER

STATE OF TEXAS
DAVID B. HAWKINS
55371
REGISTERED
PROFESSIONAL ENGINEER
07.26.2021

Pacheco Koch
7557 RAMBLER ROAD SUITE 1400
DALLAS, TX 75231 972.235.3031
TX REG. ENGINEERING FIRM F-1069
TX REG. SURVEYING FIRM LS-10018-00

CRIADO
4100 SPRING VALLEY RD, SUITE 1001 DALLAS, TX 75244
Tel 972.385.9092 Firm No. F-4313

CONTRACT NO. 21-233/234 | PID: 5319

12" WATER MAIN
SAINT PAUL STREET
FROM FEDERAL ST TO LIVE OAK ST
DALLAS WATER UTILITIES
CITY OF DALLAS, TEXAS

DESIGN	DRAWN	DATE	FILE	NUMBER	SHEET
CRIADO	CRIADO	JULY 2021	411Q	5050	119

8/17/2021
7:43:29 AM