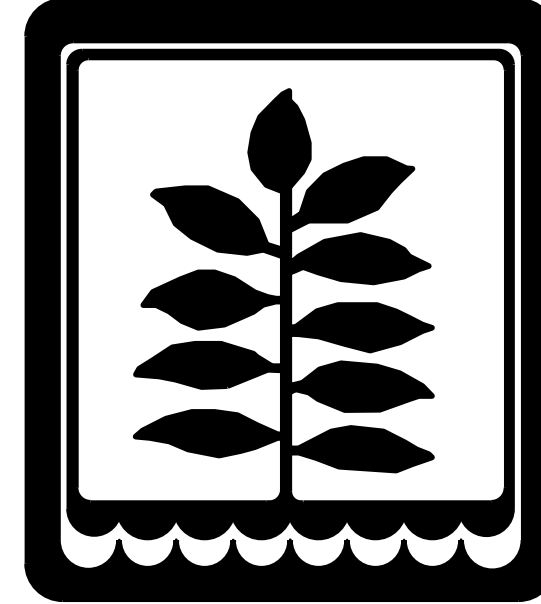


NORTH TEXAS MUNICIPAL WATER DISTRICT



LAKE TAWAKONI WATER SUPPLY PROJECT

WEST PIPELINE

PROJECT NO. WCF 05-10

CONTRACT NO. 5

OCTOBER 2006



Freese and Nichols

NTD05387

THE SEAL APPEARING ON THIS DOCUMENT WAS
AUTHORIZED BY JEFFREY A. PAYNE P.E.,
TEXAS NO. 80732 ON 10/06/06
ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER
NOTIFICATION OF THE RESPONSIBLE ENGINEER IS AN
OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT

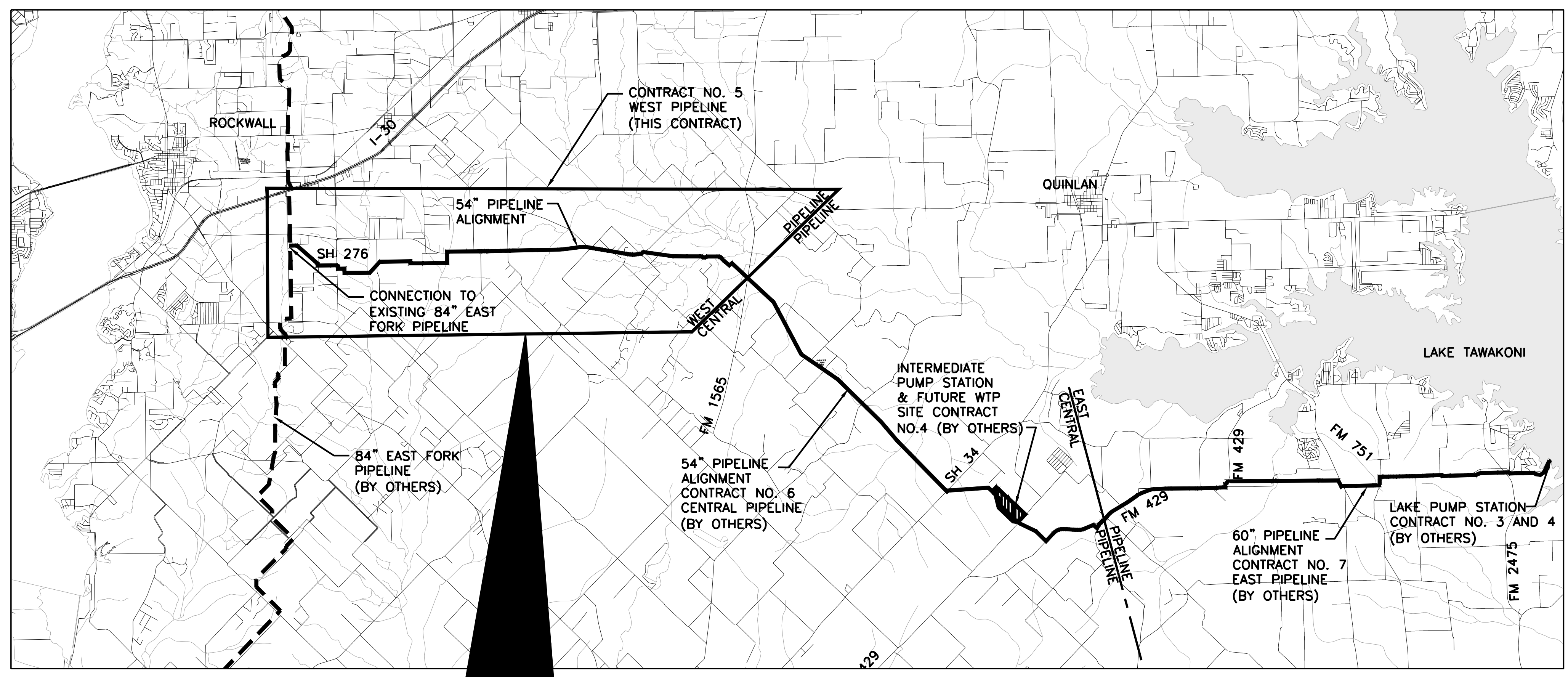
THE SEAL THAT ORIGINALLY APPEARED ON THIS DOCUMENT WAS
AUTHORIZED BY J. CARLETON SHERBER P.E.,
TEXAS NO. 97898 ON 10/06/06
ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER
NOTIFICATION OF THE RESPONSIBLE ENGINEER IS AN
OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT

Freese and Nichols, Inc.
Texas Registered Engineering Firm F-2144

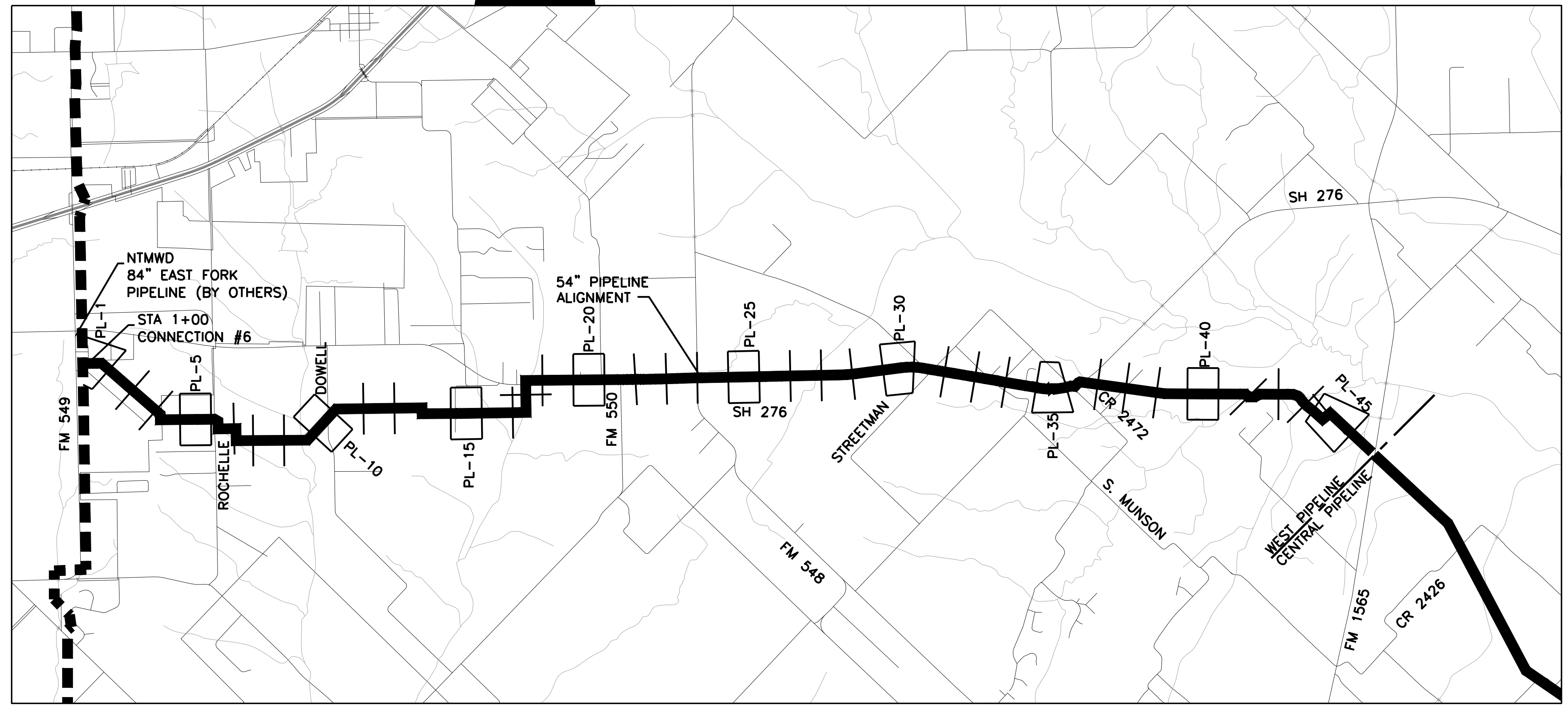
This Record Drawing is a combination of the
sealed engineering contract drawings for this
project, modified by information furnished
by the contractor reflecting changes in the
Project made during construction. The original
sealed drawings are on file at the offices of

FREESE AND NICHOLS, INC.
4055 INTERNATIONAL PLAZA, SUITE 200
FORT WORTH, TEXAS 76109-4895
(817) 735-7300
RECORD DRAWINGS PREPARED ON:
7/24/2009

ACAD Rel 16.2s (LMS Tech) User: JWV
 INTD05387\DRAWINGS\GN-ALL-INDEX.DWG LAYOUT: Layout1
 NOV 30, 2006 3:31:25 P.M. LTS: 1 PSLTS: 1
 5 REFERENCE FILES: 90179; N:\STANDARD\34BORDER; N:\WRX\BLOCKS\ALIGNMENTS; N:\WRX\BLOCKS\ROADS\ROAD-BASE; and N:\WRX\BLOCKS\WATER\WATER-BASE



VICINITY MAP
 1"=8000'



WEST PIPELINE PROJECT LOCATION MAP
 1"=3000'

INDEX OF DRAWINGS

SEQ. NO.	SHT. NO.	TITLE
		COVER SHEET
GENERAL		
1 OF 70	G-1	VICINITY MAP, PROJECT LOCATION MAP, AND INDEX OF DRAWINGS
2 OF 70	G-2	GENERAL NOTES AND LEGEND
3 OF 70	G-3	GENERAL NOTES
4 OF 70	G-4	HYDRAULIC GRADE LINE OVERALL PIPELINE
5 OF 70	G-5	HYDRAULIC GRADE LINE WEST PIPELINE
6 OF 70	G-6	PROJECT CONTROL PLAN
PIPELINE		
7 OF 70	PL-1	PLAN AND PROFILE STA 1+00 TO STA 13+00
8 OF 70	PL-2	PLAN AND PROFILE STA 13+00 TO STA 25+00
9 OF 70	PL-3	PLAN AND PROFILE STA 25+00 TO STA 37+00
10 OF 70	PL-4	PLAN AND PROFILE STA 37+00 TO STA 49+00
11 OF 70	PL-5	PLAN AND PROFILE STA 49+00 TO STA 61+00
12 OF 70	PL-6	PLAN AND PROFILE STA 61+00 TO STA 73+00
13 OF 70	PL-7	PLAN AND PROFILE STA 73+00 TO STA 85+00
14 OF 70	PL-8	PLAN AND PROFILE STA 85+00 TO STA 97+00
15 OF 70	PL-9	PLAN AND PROFILE STA 97+00 TO STA 109+00
16 OF 70	PL-10	PLAN AND PROFILE STA 109+00 TO STA 121+00
17 OF 70	PL-11	PLAN AND PROFILE STA 121+00 TO STA 133+00
18 OF 70	PL-12	PLAN AND PROFILE STA 133+00 TO STA 145+00
19 OF 70	PL-13	PLAN AND PROFILE STA 145+00 TO STA 157+00
20 OF 70	PL-14	PLAN AND PROFILE STA 157+00 TO STA 169+00
21 OF 70	PL-15	PLAN AND PROFILE STA 169+00 TO STA 181+00
22 OF 70	PL-16	PLAN AND PROFILE STA 181+00 TO STA 193+00
23 OF 70	PL-17	PLAN AND PROFILE STA 193+00 TO STA 205+00
24 OF 70	PL-18	PLAN AND PROFILE STA 205+00 TO STA 217+00
25 OF 70	PL-19	PLAN AND PROFILE STA 217+00 TO STA 229+00
26 OF 70	PL-20	PLAN AND PROFILE STA 229+00 TO STA 241+00
27 OF 70	PL-21	PLAN AND PROFILE STA 241+00 TO STA 253+00
28 OF 70	PL-22	PLAN AND PROFILE STA 253+00 TO STA 265+00
29 OF 70	PL-23	PLAN AND PROFILE STA 265+00 TO STA 277+00
30 OF 70	PL-24	PLAN AND PROFILE STA 277+00 TO STA 289+00
31 OF 70	PL-25	PLAN AND PROFILE STA 289+00 TO STA 301+00
32 OF 70	PL-26	PLAN AND PROFILE STA 301+00 TO STA 313+00
33 OF 70	PL-27	PLAN AND PROFILE STA 313+00 TO STA 325+00
34 OF 70	PL-28	PLAN AND PROFILE STA 325+00 TO STA 337+00
35 OF 70	PL-29	PLAN AND PROFILE STA 337+00 TO STA 349+00
36 OF 70	PL-30	PLAN AND PROFILE STA 349+00 TO STA 361+00
37 OF 70	PL-31	PLAN AND PROFILE STA 361+00 TO STA 373+00
38 OF 70	PL-32	PLAN AND PROFILE STA 373+00 TO STA 385+00
39 OF 70	PL-33	PLAN AND PROFILE STA 385+00 TO STA 397+00
40 OF 70	PL-34	PLAN AND PROFILE STA 397+00 TO STA 409+00
41 OF 70	PL-35	PLAN AND PROFILE STA 409+00 TO STA 421+00
42 OF 70	PL-36	PLAN AND PROFILE STA 421+00 TO STA 433+00
43 OF 70	PL-37	PLAN AND PROFILE STA 433+00 TO STA 445+00
44 OF 70	PL-38	PLAN AND PROFILE STA 445+00 TO STA 457+00
45 OF 70	PL-39	PLAN AND PROFILE STA 457+00 TO STA 469+00
46 OF 70	PL-40	PLAN AND PROFILE STA 469+00 TO STA 481+00
47 OF 70	PL-41	PLAN AND PROFILE STA 481+00 TO STA 493+00
48 OF 70	PL-42	PLAN AND PROFILE STA 493+00 TO STA 505+00
49 OF 70	PL-43	PLAN AND PROFILE STA 505+00 TO STA 517+00
50 OF 70	PL-44	PLAN AND PROFILE STA 517+00 TO STA 529+00
51 OF 70	PL-45	PLAN AND PROFILE STA 529+00 TO STA 541+00
52 OF 70	PL-46	PLAN AND PROFILE STA 541+00 TO END
STANDARD DETAILS		
53 OF 70	DT-1	TRENCH DETAILS
54 OF 70	DT-2	TRENCH DETAILS
55 OF 70	DT-3	STEEL PIPE DETAILS
56 OF 70	DT-4	BAR-WRAPPED PIPE DETAILS
57 OF 70	DT-5	PIPELINE APPURTENANCES
58 OF 70	DT-6	MISCELLANEOUS DETAILS
59 OF 70	DT-7	MISCELLANEOUS DETAILS
SPECIAL DETAILS		
60 OF 70	SP-1	CONNECTION DETAILS
61 OF 70	SP-2	CROSSING DETAILS
62 OF 70	SP-3	CROSSING DETAILS
63 OF 70	SP-4	PIG LAUNCHER DETAILS
64 OF 70	SP-5	PIG LAUNCHER DETAILS
STRUCTURAL DETAILS		
65 OF 70	S-1	PIG LAUNCHER VAULT PLANS AND SECTION
CATHODIC PROTECTION SYSTEM DETAILS		
66 OF 70	CP-1	CATHODIC PROTECTION SCHEDULES AND GENERAL NOTES
67 OF 70	CP-2	CATHODIC PROTECTION TEST STATION DETAILS
68 OF 70	CP-3	MISCELLANEOUS CATHODIC PROTECTION DETAILS
69 OF 70	CP-4	POLYURETHANE STEEL PIPE ALTERNATIVE GALVANIC ANODE
		CATHODIC PROTECTION
70 OF 70	CP-5	PRETENSIONED CCP ALTERNATIVE CATHODIC PROTECTION DETAILS

This Record Drawing is a combination of the sealed engineering contract drawings for this project, modified by information furnished by the contractor reflecting changes in the project. The contractor shall be responsible for the accuracy of the sealed drawings on file at the offices of
FRESE AND NICHOLS, INC.
 4055 INTERNATIONAL PLAZA, SUITE 200
 FORT WORTH, TEXAS 76109-4895
 RECORD DRAWINGS PREPARED ON: 7/24/2009

Frees and Nichols
 116 N. Tennessee, Suite 200
 McKinney, Texas 75069-4354
 Phone - (972) 548-2400
 Fax - (972) 548-1055
 Texas Registered Engineering Firm F-2144



NORTH TEXAS MUNICIPAL WATER DISTRICT
LAKE TAWAKONI WATER SUPPLY PROJECT
 PROJECT NO. WCF 05-10
 CONTRACT 5
 GENERAL
VICINITY MAP, PROJECT LOCATION MAP, AND INDEX OF DRAWINGS

NO.	ISSUE	BY	DATE	FOR JOB NO.	NTD05387
				DATE	NOV 2006
				DESIGNED	AAG
				DRAWN	CLL
				REVISION	
				FILE NAME	GN-ALL-INDEX.dwg
				CHECKED	JP
				DATE	7/24/09
				SCALE	As shown on original drawing, if not one inch on this sheet, adjust scale.
				RECORD DRAWINGS	
				VERIFY SCALE	0
SHEET	G-1				
SEQ.	1 OF 70				

LEGEND OF SYMBOLS

	AIR VALVE - PLAN VIEW	EM	EXISTING ELECTRIC METER
	AIR VALVE - PROFILE VIEW		POWER POLE
	BLOWOFF VALVE		GUY WIRE AND ANCHOR
	ACCESS MANHOLE		TELEPHONE PEDESTAL
	LIMITS OF TEMPORARY EASEMENT		SIGN
	LIMITS OF PERMANENT EASEMENT		TREE
	PROPERTY LINE AND / OR R.O.W.		BARBED WIRE FENCE
	CONTROL POINT		CHAIN LINK FENCE
	TEST HOLE		WOOD FENCE
	EXISTING WATER VALVE		CONCRETE PAVING
	WATER METER OR GAS METER		ASPHALT PAVING
	FIRE HYDRANT		BRUSH OR TREES
	IRON ROD (FOUND)		SLOPE
	BURIED PIPELINE		RAILROAD
	OVERHEAD ELECTRIC	EF — EF	ELECTRIC FENCE
	UNDERGROUND UTILITIES	W#	LANDOWNER PARCEL NUMBER
	ST LIGHT & POWER POLE		BURIED FIBER OPTIC CABLE
	EXISTING SPRINKLER VALVE		UNDERGROUND TELEPHONE
	EXISTING MAIL BOX	SH	SPRINKLER HEAD

EXISTING UTILITY OWNERS

NORTH TEXAS MUNICIPAL WATER DISTRICT	CLEAR CHANNEL DALLAS
KARA BYRNES (972) 442-5405	LOUIS SUTTON (214) 866-8000
JIM KELLY	
BLACKLAND WSC	
HEATH MCGEE (972) 771-6375	
CASH SUD	
CLAY HODGES (903) 883-2695	
COMCAST	
WARREN FYFFE (214) 320-5435	
KINDER-MORGAN	
ED McENTYRE (903) 249-8778	
ONEOK NGL PIPELINE, LP	
JERRY SELTER (214) 793-0739	
TXU	
SCOTT MURRAY (DISTRIBUTION) (972) 396-6328	
ARCHIE BROWN (TRANSMISSION) (972) 721-6321	
DOUG LOVERN (TRANSMISSION) (817) 215-6640	
TEPCO SEAWAY	
MALCOLM WASHBURN (972) 563-0258	
SBC/AT&T	
CAROLYN ANDERSON (903) 457-2092	
COSERV GAS	
PAUL KENNEDY (940) 321-7800	
COSERV ELECTRIC	
JIM WILLIAMS (940) 321-7800	
ATMOS ENERGY	
CHIP MERRIT (972) 485-6270	
DIANA WOOD (972) 485-6277	
CHARTER COMMUNICATIONS	
JIM O'CONNOR (972) 772-0348	
GRANDE COMMUNICATIONS	
CHRIS LANGSTON (940) 270-7016	
FARMERS ELECTRIC CO-OP	
STEPHEN GEIGER, ENGINEERING (903) 450-5678	
JON WHITE, FIELD INSPECTOR (903) 450-5623	
NRCS	
BRIAN WENBERG (254) 742-9916	
TxDOT	
MURRAY ALLEN (214) 320-6648	
TEXAS ONE CALL SYSTEM	
(800) 245-4545	
TEXAS EXCAVATION SAFETY SYSTEM	
(800) 344-8377	

GENERAL PROJECT NOTES (NO SEPARATE PAY ITEMS)

A. REGULATORY, PERMITTING AND SAFETY

- A1 CONTRACTOR SHALL ABIDE BY ALL APPLICABLE GOVERNMENTAL AND REGULATORY STANDARDS AND REQUIREMENTS AND OBTAIN ALL NECESSARY PERMITS AND APPROVALS FOR CONSTRUCTION OF THE PIPELINE FACILITIES SHOWN IN THE PLANS.
- A2 CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING GENERAL SAFETY AT AND ADJACENT TO THE PROJECT AREA, INCLUDING THE PERSONAL SAFETY OF THE CONSTRUCTION STAFF AND THE GENERAL PUBLIC, AND FOR THE SAFETY OF PUBLIC AND PRIVATE PROPERTY.
- A3 CONTRACTOR IS RESPONSIBLE FOR ALL TRENCH SAFETY. THE CONTRACTOR SHALL CONSTRUCT THE PROPOSED WORK UTILIZING A TRENCH SAFETY PLAN PREPARED BY A PROFESSIONAL ENGINEER FOR THIS PROJECT. THIS TRENCH SAFETY PLAN SHALL BE SUBMITTED PRIOR TO ANY WORK ACTIVITIES.
- A4 CONTRACTOR SHALL PROVIDE A STORM WATER POLLUTION PREVENTION PLAN AND PROVIDE ALL APPURTENANCES TO COMPLY WITH THE LATEST TCEQ STORM WATER POLLUTION PREVENTION REGULATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR FILING A NOTICE OF INTENT (NOI) AT THE START OF CONSTRUCTION WITH THE TCEQ AND A NOTICE OF TERMINATION (NOT) AT THE END, ALSO WITH THE TCEQ.
- A5 THE CONTRACTOR SHALL EMPLOY ADEQUATE METHODS TO MINIMIZE TURBIDITY IN WATERWAYS DURING ALL PHASES OF THE PROJECT. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE LAWS AND REGULATIONS CONCERNING WATER POLLUTION PREVENTION.
- A6 CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE MEASURES FOR PREVENTING STORM WATER RUNOFF FROM ENTERING THE TRENCH DURING CONSTRUCTION.
- A7 CONTRACTOR IS RESPONSIBLE FOR KEEPING ROADWAYS AND SIDEWALKS ADJACENT TO THE PROJECT FREE OF MUD, TRASH, AND CONSTRUCTION DEBRIS.
- A8 A RAILROAD INSPECTOR IS REQUIRED TO MONITOR ALL TUNNEL INSTALLATIONS WITHIN RAILROAD RIGHT-OF-WAYS. CONTRACTOR SHALL NOTIFY THE RAILROAD OF THE CONSTRUCTION SCHEDULE AND PAY THE INSPECTOR'S EXPENSES.
- A9 CONTRACTOR SHALL NOTIFY TXDOT OF THE CONSTRUCTION SCHEDULE OF ALL TUNNELS TO BE INSTALLED WITHIN STATE HIGHWAYS AND ROADWAYS. NOTIFY TXDOT AT LEAST 48 HOURS PRIOR TO STARTING CONSTRUCTION SO THAT TXDOT CAN HAVE A REPRESENTATIVE PRESENT. CONTRACTOR SHALL COMPLY WITH ALL OF THE REQUIREMENTS OF OF THE CROSSING PERMITS TO BE PROVIDED BY THE OWNER.

B. GENERAL AND CONSTRUCTION

- B1 CONSTRUCTION SURVEYING IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR INCLUDING BUT NOT LIMITED TO LIMITS OF PERMANENT EASEMENT, TEMPORARY EASEMENT, CENTERLINE, ETC. THE CONTRACTOR SHALL VERIFY ALL CONTROL MONUMENTATION PRIOR TO BEGINNING CONSTRUCTION.
- B2 CONTRACTOR SHALL INSTALL ALL PIPE ON GRADUAL VERTICAL CURVATURES, EXCEPT AS SHOWN ON PLANS TO PRECLUDE THE NECESSITY OF USING FITTINGS FOR VERTICAL BENDS. HOWEVER, PIPE JOINTS AND FITTINGS SHALL NOT BE DEFLECTED MORE THAN 75% OF THE MANUFACTURER'S ALLOWABLE DEFLECTION PER JOINT.
- B3 VALVE AND MANHOLE RIMS & LIDS SHALL BE INSTALLED NO LESS THAN 6 INCHES ABOVE FINAL GRADE OF TRENCH OR STRUCTURAL BACKFILL, AND BE OF SUFFICIENT DEPTH TO ACCOMMODATE VALVE ASSEMBLY WITH HEADROOM UNLESS OTHERWISE NOTED IN PLANS. REFER TO PIPELINE DETAILS FOR ADDITIONAL INFORMATION.
- B4 AIR-RELEASE VALVES SHALL BE INSTALLED AT HIGH POINTS ALONG THE PIPELINE AS SHOWN IN THE PLANS. MINOR STATION LOCATION ADJUSTMENTS MAY BE MADE WITH PRIOR APPROVAL OF THE ENGINEER.
- B5 CONTRACTOR SHALL PROVIDE THE OWNER AS-BUILT LOCATIONS AND ELEVATIONS OF APPURTENANCES, INCLUDING BUT NOT LIMITED TO AIR RELEASE, AIR/VACUUM, AND BLOW OFF VALVES, MANHOLE COVERS, IN-LINE VALVES, CORROSION TEST STATIONS, CONNECTIONS AND OUTLETS. CONTRACTOR SHALL ALSO PROVIDE AS-BUILT TOP-OF-PIPE SURVEY FOR EACH JOINT AND FITTING OF PIPE AS IT IS BEING LAID, INCLUDING STATION AND ELEVATION INFORMATION. AS-BUILT DATA SHALL BE SUBMITTED WITH THE REQUEST FOR PAYMENT FOR THESE ITEMS.
- B6 NO BLASTING WILL BE ALLOWED.
- B7 NO BURNING WILL BE ALLOWED. ALL BRUSH AND CONSTRUCTION DEBRIS SHALL BE REMOVED FROM THE SITE.
- B8 CLEARING AND GRUBBING MAY BEGIN NO SOONER THAN TWO WEEKS PRIOR TO PIPE TRENCHING OPERATIONS. EROSION CONTROL IN ACCORDANCE WITH THE CONTRACTOR'S STORM WATER POLLUTION PREVENTION PLAN SHALL BE INSTALLED PRIOR TO CLEARING. PIPE STRINGING SHALL BE NO MORE THAN TWO WEEKS PRIOR TO PIPE LAYING. BACKFILL, CLEANUP, AND SURFACE RESTORATION SHALL BE COMPLETED NO MORE THAN TWO WEEKS AFTER PIPE LAYING AND NO MORE THAN 500 FEET FROM PIPE LAYING OPERATIONS. THE SITE SHALL BE KEPT CLEAN OF TRASH AT ALL TIMES. FAILURE TO COMPLY WITH THESE REQUIREMENTS MAY RESULT IN WITHHOLDING SOME OR ALL PAYMENT TO THE CONTRACTOR.
- B9 NEW PIPE SHALL BE DESIGNED FOR THE OPERATING PRESSURES INDICATED ON THE HYDRAULIC GRADE LINE SHEET AND AS INDICATED ON THE PLANS. IN NO CASE SHALL PIPE BE DESIGNED FOR LESS THAN 150 PSI.
- B10 ALL OUTLETS ON THE WATERLINE SHALL BE FLANGED OUTLETS. ALL VALVES CONNECTED TO THE OUTLETS SHALL BE FLANGED. ALL FLANGE BOLTS SHALL BE STAINLESS STEEL.
- B11 CONTRACTOR SHALL BE REQUIRED TO INSTALL TEMPORARY TEST PLUGS FOR HYDROSTATIC TESTING AS NECESSARY AT NO ADDITIONAL COST TO THE OWNER.
- B12 ALL ABOVE GROUND METAL SHALL BE PAINTED OR COATED ACCORDING TO THE SPECIFICATIONS. CONTRACTOR SHALL COORDINATE THE COLORS WITH THE OWNER.
- B13 VARIOUS LOCATIONS OF THE WORK ARE SUBJECT TO FLOODING OR STANDING WATER DURING WET WEATHER PERIODS. CONTRACTOR SHALL PLAN THIS WORK FOR DRY WEATHER PERIODS OR PROVIDE DEWATERING AND OTHER WET WEATHER PROVISIONS AS INCIDENTAL WORK.
- B14 CONTRACTOR SHALL COORDINATE HIS PROPOSED CONSTRUCTION WITH OTHER CONTRACTORS IN THE EVENT THE OTHER CONTRACTORS ARE DOING WORK IN THE SAME AREA SIMULTANEOUSLY WITH HIS PROJECT. THIS INCLUDES, BUT IS NOT LIMITED TO, ALL CONNECTION POINTS OR OTHER SPECIAL ITEMS AS REQUIRED FOR TESTING.
- B15 THIS PROJECT IMPACTS SEVERAL WATER SUPPLY ENTITIES WHO MAY HAVE FACILITIES LOCATED IN THE PROJECT TEMPORARY AND PERMANENT EASEMENTS. PRIOR TO RECEIVING FINAL PAYMENT FROM NTMWD, THE CONTRACTOR SHALL PROVIDE A RELEASE TO NTMWD ON BEHALF OF EACH WATER SUPPLY ENTITY. THE LIST OF SUPPLIERS INCLUDES BUT IS NOT LIMITED TO BLACKLAND WSC OR CASH SUD.

This Record Drawing is a combination of the sealed engineering contract drawings for this project, modified by information furnished by the contractor during construction. The original project drawings are on file at the offices of FREENE AND NICHOLS, INC. 4055 INTERNATIONAL PLAZA, SUITE 200 FORT WORTH, TEXAS 76109-4895 RECORD DRAWINGS PREPARED ON: 7/24/2009

THIS DRAWING IS THE PROPERTY OF FREENE AND NICHOLS, INC. IT IS TO BE USED ONLY FOR THE PROJECT AND SITE SPECIFICALLY IDENTIFIED HEREON. ANY REUSE OR MODIFICATION OF THIS DRAWING WITHOUT THE WRITTEN PERMISSION OF FREENE AND NICHOLS, INC. IS STRICTLY PROHIBITED. FREENE AND NICHOLS, INC. IS AN EQUAL OPPORTUNITY EMPLOYER.

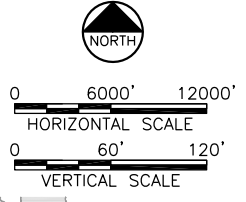
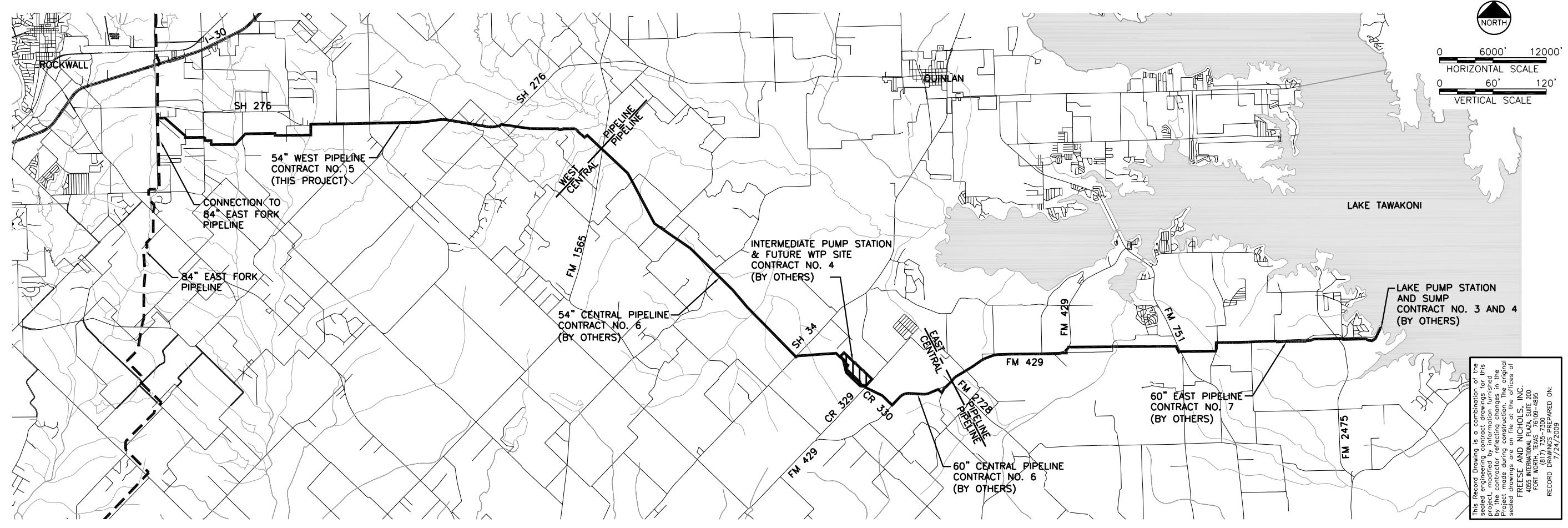
Freenne and Nichols
 116 N. Tennessee, Suite 200
 McKinney, Texas 75069-4354
 Phone - (972) 548-2400
 Fax - (972) 548-1055

NORTH TEXAS MUNICIPAL WATER DISTRICT
LAKE TAWAKONI WATER SUPPLY PROJECT
 WEST PIPELINE
 PROJECT NO. WCF 05-10
 CONTRACT 5
 GENERAL
GN-ALL-NOTES01 - GN-ALL-NOTES

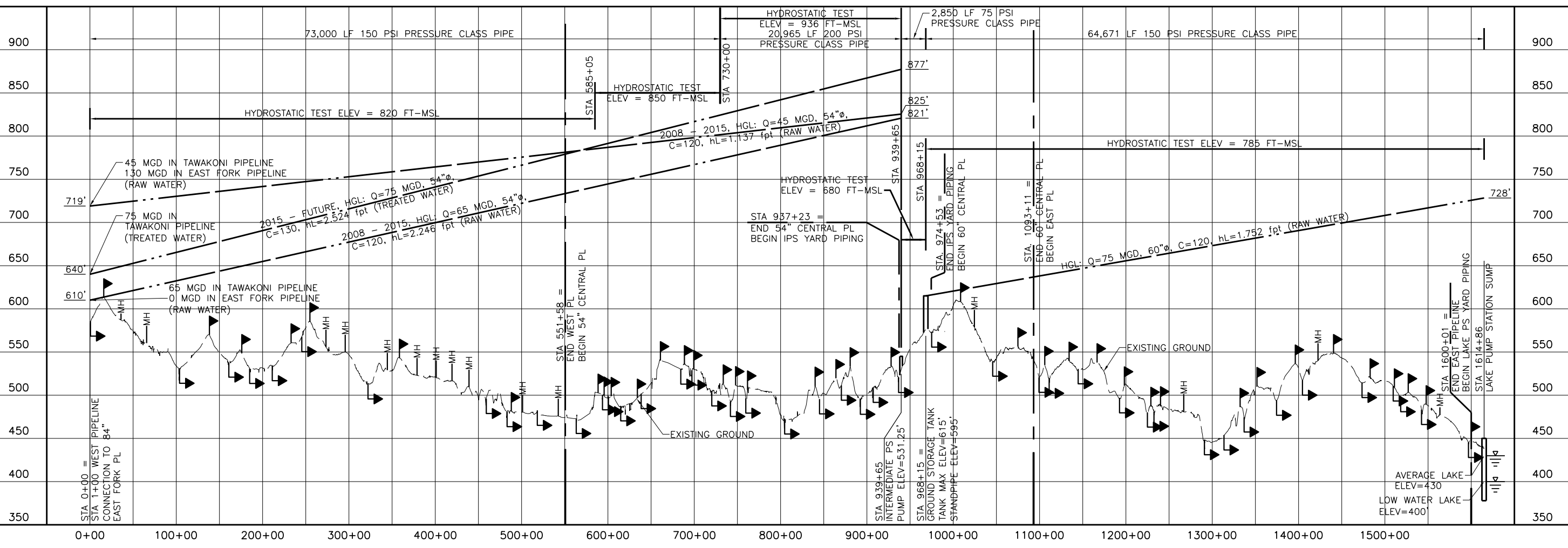
NO. ISSUE	DATE	BY	DATE	DESIGNED	DRAWN	CHECKED	FILE NAME
RECORD DRAWINGS		ADDENDUM NO. 1		VERIFY SCALE		Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.	
SHEET G-2							
SEQ. 2 OF 70							

User: JWW
 File: N:\wr\Drawings\GN-ALL-NOTES01.DWG
 Date: May 05, 2010 10:39am
 User: ec
 File: N:\wr\Drawings\GN-ALL-NOTES01.dwg

ACAD: Rel 16.2s (LMS Tech) User: DIB
 [NTD05387] [DALSRV2] [N:\WR\DRAWINGS\GN-ALL-HGL_NO.5.DWG] LAYOUT: Layout1
 OCT 02, 2006 10:11:07 A.M. LTS: 1.00 PSLTS: 1 TWIST: 0.0, 0.0
 6 REFERENCE FILES: 90179, L:\FORT WORTH\CAD\N\NTD05387\STANDARD\PIPELINE\348ORDER, N:\IMAGE\ROADS\ROAD_BASE, N:\IMAGE\WATER\WATER_BASE, N:\IMAGE\ALIGNMENT_060925-GRID, and N:\WR\BASE\HGL\CV-PP-PR-HGL



This Record Drawing is a combination of the sealed engineering contract drawings for this project, and the original drawings for the project made during construction. The original drawings are on file at the offices of FREENE AND NICHOLS, INC.
 4055 INTERNATIONAL PLAZA, SUITE 200
 FORT WORTH, TEXAS 76107-7300-7300
 RECORD DRAWINGS PREPARED ON: 7/24/2009



THIS DRAWING IS THE ORIGINAL PROPOSED RECORD DRAWING FOR THIS PROJECT. IT IS THE RESPONSIBILITY OF THE ENGINEER TO VERIFY THAT THE INFORMATION ON THIS DRAWING IS ACCURATE AND COMPLETE. FREENE AND NICHOLS, INC. IS AN EQUAL OPPORTUNITY EMPLOYER. TEXAS REGISTERED PROFESSIONAL ENGINEER. LICENSE NO. 10777. REGISTERED PROFESSIONAL ENGINEER. LICENSE NO. 10777. REGISTERED PROFESSIONAL ENGINEER. LICENSE NO. 10777. REGISTERED PROFESSIONAL ENGINEER. LICENSE NO. 10777.



NORTH TEXAS MUNICIPAL WATER DISTRICT
 LAKE TAWAKONI WATER SUPPLY PROJECT
 WEST PIPELINE
 PROJECT NO. WCF 05-10
 GENERAL
 HYDRAULIC GRADE LINE
 OVERALL PIPELINE
 CONTRACT 5

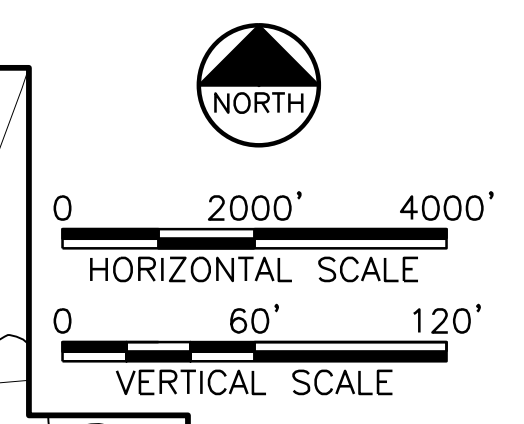
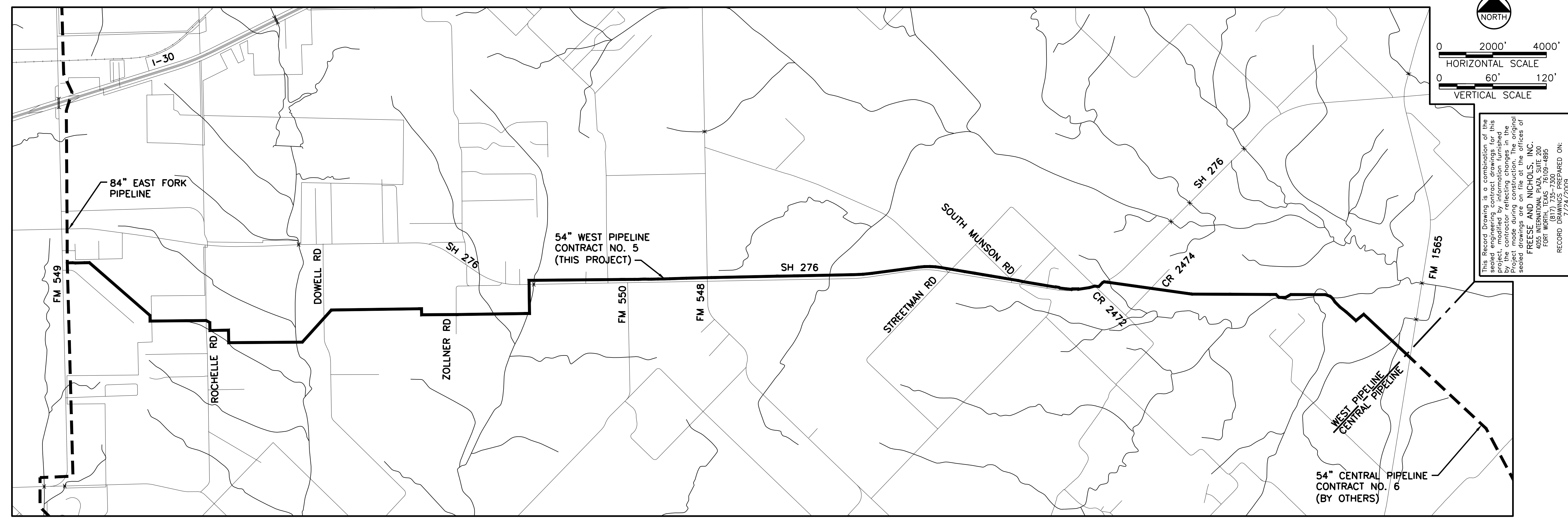
NO.	ISSUE	BY	DATE	REASON
1	ISSUED FOR CONSTRUCTION	RJR	7/24/09	DRAWN
2	ADDENDUM NO. 2	JCS	10/24/06	REVISED
3	RECORD DRAWINGS	RJR	7/24/09	DRAWN
4	ADDENDUM NO. 2	JCS	10/24/06	REVISED
5	VERIFY SCALE	JCS	10/24/06	CHECKED
6	FILE NAME	JCS	10/24/06	DESIGNED
7	BAR IS ONE INCH ON ORIGINAL DRAWING, IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE.	JCS	10/24/06	DITB
8	GN-ALL-HGL_NO.5.dwg	JCS	10/24/06	DITB

DATE: May 14, 2010 - 3:55pm User: ec File: N:\wr\Drawings\GN-ALL-HGL_NO.5.dwg

SHEET G-4

SEQ. 4 OF 70

ACAD Rel 16.2s (LMS Tech) User: DTB
 INTD053871DALSRV2\JN\WR\DRAWINGS\GN-ALL-HGL-WEST.DWG LAYOUT: Layout1
 NOV 30, 2006 11:23:5 A.M. LTS: 1 PLS: 0
 6 REFERENCE FILES: 90732; I:\MCKINNEY\CADD\NNTD053871\STANDARD\34BORDER; N:\IMAGE\ROADS\ROAD-BASE; N:\IMAGE\WATER\WATER-BASE; N:\WR\BASE\HGL\ALIGNMENT_060925-GRID; N:\WR\BASE\HGL\CV-PPL-PR-HGI

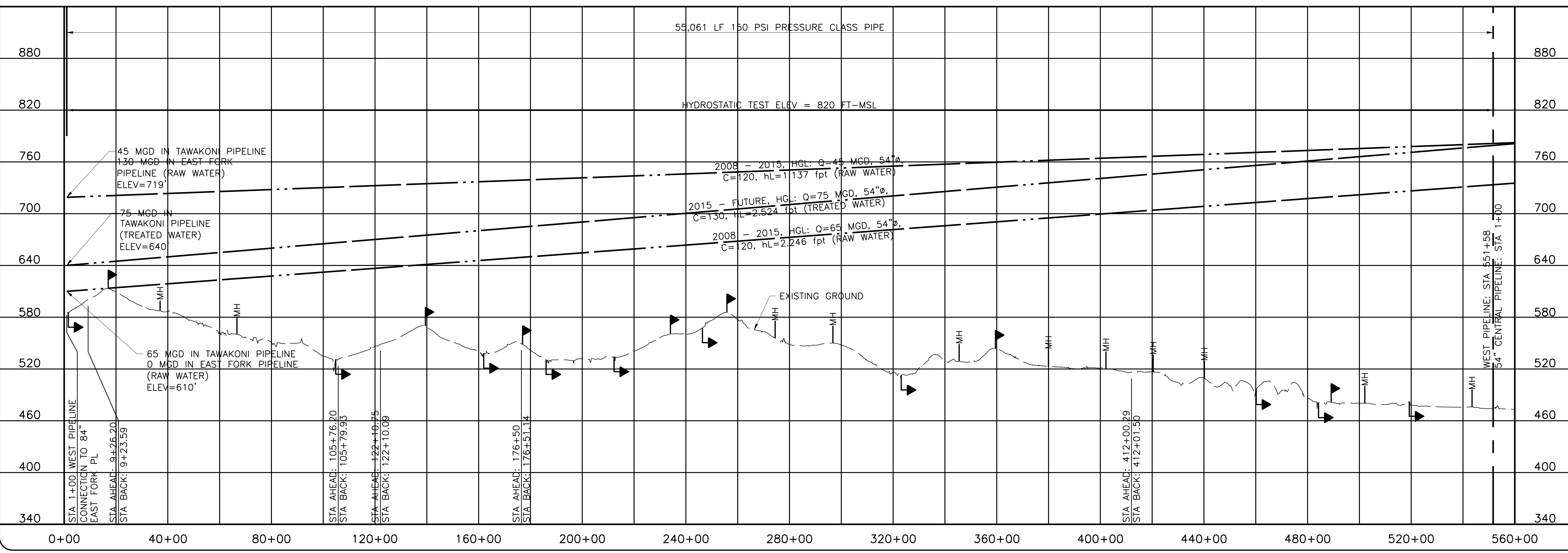


This Record Drawing is a combination of the sealed engineering contract drawings for this project, modified by information furnished. Project made during construction. The original sealed drawings are on file at the offices of FREESE AND NICHOLS, INC. 4055 INTERNATIONAL PLAZA, SUITE 200 FORT WORTH, TEXAS 76109-4695 (817) 735-2300 (817) 735-2300-4695 RECORD DRAWINGS PREPARED ON: 7/24/2009

THE SEAL, THE ORIGINAL APPROVED OR THIS DOCUMENT WAS
 TEXAS NO. 83888 EXPIRES ON 10/24/2009
 NOTIFICATION OF THE RESPONSIBLE ENGINEER IS AN
 OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT

Freese and Nichols
 116 N. Tennessee, Suite 200
 McKinney, Texas 75069-4354
 Phone - (972) 548-2400
 Fax - (972) 548-1055

NORTH TEXAS MUNICIPAL WATER DISTRICT
LAKE TAWAKONI WATER SUPPLY PROJECT
 WEST PIPELINE
 PROJECT NO. WCF 05-10
 GENERAL
HYDRAULIC GRADE LINE
WEST PIPELINE



NO.	ISSUE	BY	DATE	DESIGNED	DRAWN	CHECKED
NO.	ISSUE	BY	DATE	DESIGNED	DRAWN	CHECKED
1	RECORD DRAWINGS	RJR	7/24/09	DTB	DTB	
2	ADDENDUM NO. 2	JCS	10/24/06			
0	VERIFY SCALE					

Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.

SHEET **G-5**

SEQ. 5 OF 70

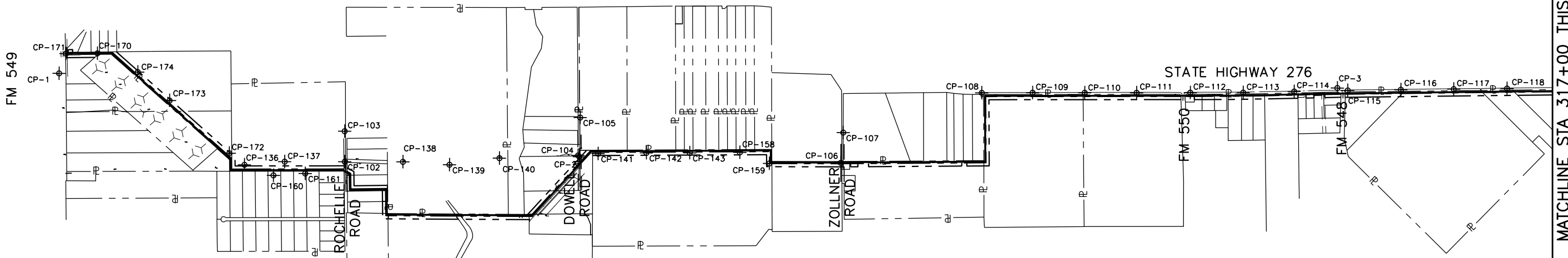
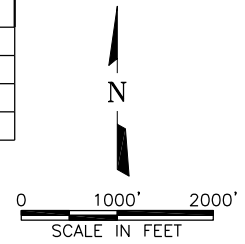
Freese and Nichols, Inc.
 Texas Registered Engineering Firm F-2144

CP #	NORTHING	EASTING	ELEV	DESCRIPTION
1	7,017,963.92	2,607,611.79	579.58	CP D APP1
2	7,016,482.96	2,617,391.16	545.65	CP D APP2
3	7,017,898.19	2,631,602.21	557.18	CP D APP3
4	7,014,582.01	2,646,314.00	518.22	CP D APP4
5	7,014,424.56	2,657,838.04	476.61	CP D APP5
102	7,016,351.94	2,612,986.39	565.6	CP D 5/8"CIRS
103	7,016,925.03	2,612,980.91	571.28	CP D 5/8"CIRS
104	7,016,508.98	2,617,363.88	544.52	CP D 5/8"CIRS

CP #	NORTHING	EASTING	ELEV	DESCRIPTION
105	7,017,220.39	2,617,398.63	545.47	CP D 5/8"CIRS
106	7,016,412.43	2,622,295.40	547.52	CP D 5/8"CIRS
107	7,016,980.89	2,622,337.00	554.1	CP D 5/8"CIRS
108	7,017,749.26	2,624,929.93	536.3	CP D 5/8"CIRS
109	7,017,760.09	2,625,884.16	541.2	CP D 5/8"CIRS
110	7,017,768.70	2,626,862.53	554.67	CP D 5/8"CIRS
111	7,017,775.97	2,627,836.31	560.73	CP D 5/8"CIRS
112	7,017,786.87	2,628,843.74	575.28	CP D 5/8"CIRS
113	7,017,797.31	2,629,835.91	579.54	CP D 5/8"CIRS
114	7,017,825.69	2,630,792.51	563.13	CP D 5/8"CIRS
115	7,017,854.57	2,631,797.67	553.33	CP D 5/8"CIRS

CP #	NORTHING	EASTING	ELEV	DESCRIPTION
116	7,017,876.19	2,632,794.81	548.23	CP D 5/8"CIRS
117	7,017,896.71	2,633,786.71	547.17	CP D 5/8"CIRS
118	7,017,916.32	2,634,786.96	532.05	CP D 5/8"CIRS
119	7,017,936.39	2,635,774.87	517.51	CP D 5/8"CIRS
120	7,017,955.90	2,636,766.95	518.51	CP D 5/8"CIRS
121	7,018,009.44	2,637,754.64	532.63	CP D 5/8"CIRS
122	7,018,133.34	2,638,705.65	528.04	CP D 5/8"CIRS
123	7,018,261.65	2,639,664.21	537.53	CP D 5/8"CIRS
124	7,018,171.61	2,640,693.29	531.82	CP D 5/8"CIRS
125	7,018,015.35	2,641,630.29	523.38	CP D 5/8"CIRS
126	7,017,852.35	2,642,606.93	522.63	CP D 5/8"CIRS

CP #	NORTHING	EASTING	ELEV	DESCRIPTION
127	7,017,691.45	2,643,560.29	521.47	CP D 5/8"CIRS
128	7,017,528.04	2,644,525.66	518.06	CP D 5/8"CIRS
129	7,017,430.15	2,645,432.19	517.99	CP D 5/8"CIRS
130	7,017,692.79	2,646,419.56	512.94	CP D 5/8"CIRS



MATCHLINE STA 317+00 THIS SHEET

CP #	NORTHING	EASTING	ELEV	DESCRIPTION
131	7,014,906.88	2,657,844.57	476.81	CP D 5/8"CIRS
132	7,015,777.51	2,658,000.32	476.52	CP D 5/8"CIRS
136	7,016,277.75	2,611,105.15	583.45	CP D 5/8"CIRS
137	7,016,343.50	2,611,859.81	574.71	CP D 5/8"CIRS
138	7,016,359.94	2,614,079.17	564.88	CP D 5/8"CIRS
139	7,016,312.95	2,614,952.80	558.36	CP D 5/8"CIRS
140	7,016,444.71	2,615,889.23	534.61	CP D 5/8"CIRS
141	7,016,544.78	2,617,739.87	550.18	CP D 5/8"CIRS
142	7,016,567.95	2,618,646.34	561.01	CP D 5/8"CIRS
143	7,016,575.27	2,619,459.87	568.18	CP D 5/8"CIRS
144	7,017,572.01	2,647,310.17	506.17	CP D 5/8"CIRS
145	7,017,461.11	2,648,076.67	502.25	CP D 5/8"CIRS
146	7,017,370.44	2,648,689.65	502.17	CP D 5/8"CIRS

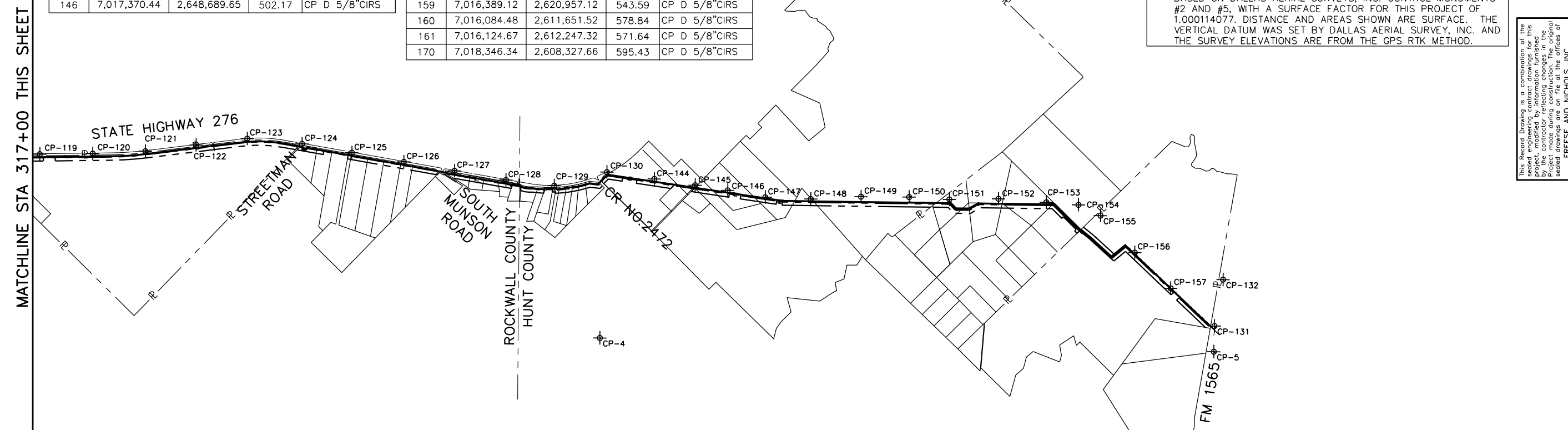
CP #	NORTHING	EASTING	ELEV	DESCRIPTION
147	7,017,248.37	2,649,395.46	504.68	CP D 5/8"CIRS
148	7,017,222.23	2,650,249.53	506.24	CP D 5/8"CIRS
149	7,017,272.62	2,651,192.46	506.76	CP D 5/8"CIRS
150	7,017,274.38	2,652,094.70	483.16	CP D 5/8"CIRS
151	7,017,236.56	2,652,850.19	480.63	CP D 5/8"CIRS
152	7,017,256.01	2,653,771.75	479.74	CP D 5/8"CIRS
153	7,017,198.78	2,654,670.19	478.54	CP D 5/8"CIRS
154	7,017,155.79	2,655,273.67	479.26	CP D 5/8"CIRS
155	7,016,957.25	2,655,688.97	482.38	CP D 5/8"CIRS
156	7,016,270.06	2,656,338.03	476.02	CP D 5/8"CIRS
157	7,015,606.14	2,657,017.03	475.89	CP D 5/8"CIRS
158	7,016,592.17	2,620,400.02	552	CP D 5/8"CIRS
159	7,016,389.12	2,620,957.12	543.59	CP D 5/8"CIRS
160	7,016,084.48	2,611,651.52	578.84	CP D 5/8"CIRS
161	7,016,124.67	2,612,247.32	571.64	CP D 5/8"CIRS
170	7,018,346.34	2,608,327.66	595.43	CP D 5/8"CIRS

CP #	NORTHING	EASTING	ELEV	DESCRIPTION
171	7,018,336.09	2,607,736.72	584.33	CP D 5/8"CIRS
172	7,016,492.72	2,610,818.14	585.76	CP D 5/8"CIRS
173	7,017,472.61	2,609,689.57	604.07	CP D 5/8"CIRS
174	7,018,001.76	2,609,088.17	612.92	CP D 5/8"CIRS

ABBREVIATIONS LIST	
APP	AERIAL PANEL POINT #
5/8" CIRS	5/8" IRON ROD SET WITH CAP STAMPED REFERENCE POINT

NOTE:
 1. ALL BEARINGS AND COORDINATES ARE REFERENCED TO THE TEXAS COORDINATE SYSTEM, NAD-83, THE NORTH CENTRAL ZONE, BASED ON DALLAS AERIAL SURVEYS, INC. CONTROL MONUMENTS #2 AND #5, WITH A SURFACE FACTOR FOR THIS PROJECT OF 1.000114077. DISTANCE AND AREAS SHOWN ARE SURFACE. THE VERTICAL DATUM WAS SET BY DALLAS AERIAL SURVEY, INC. AND THE SURVEY ELEVATIONS ARE FROM THE GPS RTK METHOD.

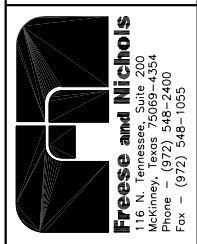
This Record Drawing is a combination of the sealed engineering contract drawings for this project, modified by information furnished by the contractor during construction. The original sealed drawings are on file at the offices of FREESE AND NICHOLS, INC. 4055 INTERNATIONAL PLAZA, SUITE 200 FORT WORTH, TEXAS 76109-4895 RECORD DRAWINGS PREPARED ON: 7/24/2009



MATCHLINE STA 317+00 THIS SHEET

THIS DRAWING IS A REPRESENTATION OF THE DOCUMENT WAS PREPARED BY THE ENGINEER OR ARCHITECT AND IS NOT TO BE USED FOR ANY OTHER PURPOSE WITHOUT THE WRITTEN PERMISSION OF THE ENGINEER OR ARCHITECT. FREESE AND NICHOLS, INC. IS AN ENGINEERING FIRM REGISTERED UNDER THE TEXAS ENGINEERING PRACTICE ACT.

Freeze and Nichols, Inc.
 Texas Registered Engineering Firm F-2144

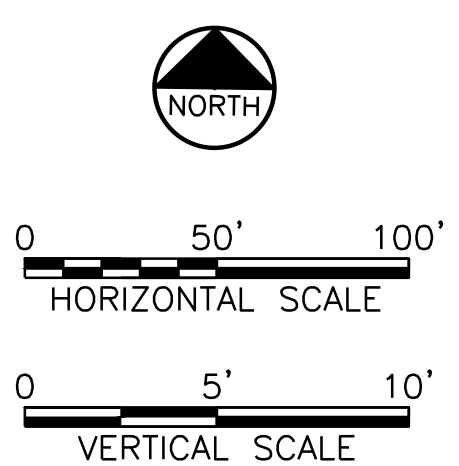
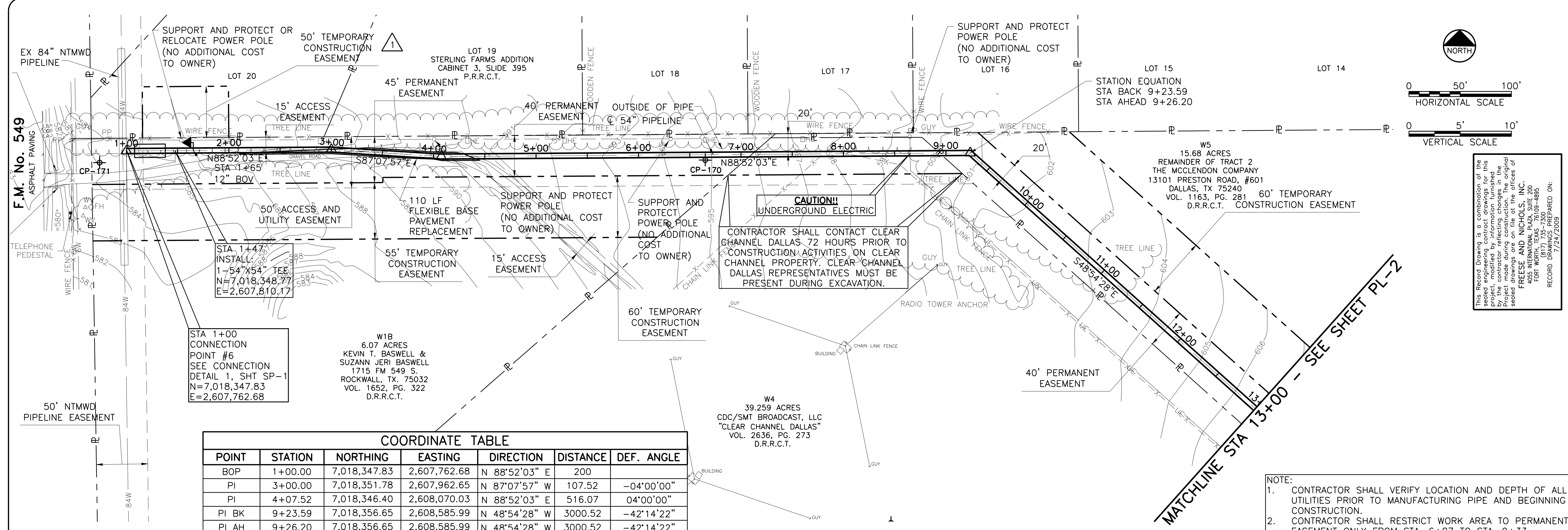


NORTH TEXAS MUNICIPAL WATER DISTRICT
LAKE TAWAKONI WATER SUPPLY PROJECT
 WEST PIPELINE
 CIVIL
 PROJECT NO. WCF 05-10
 CONTRACT 5

NO.	ISSUE	BY	DATE	TEAM JOB NO.	DATE	DESIGNED	DRAWN	REVISION	CHECKED	FILE NAME
				NTD05387	NOV 2006	AAG	CLL		JP	GN-ALL-PL-HORZ01.dwg
	RECORD DRAWINGS	RJR	7/24/09							
	VERIFY SCALE									
	Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.									

ACAD: Rel 18.0s (LMS Tech) User: ec Office: DALSRV1
 [NTD05387] [MCSRV2] N:\wr\Drawings\GN-ALL-PL-HORZ01.dwg LAYOUT: Layout1
 May 14, 2010 - 3:35pm LTS: 1 PLS: 1 TWST: DALSRV1
 REFERENCES: N:\wr\Bases\WR-ALL-PL-BASE01.dwg, N:\Standard\34BORDER.dwg

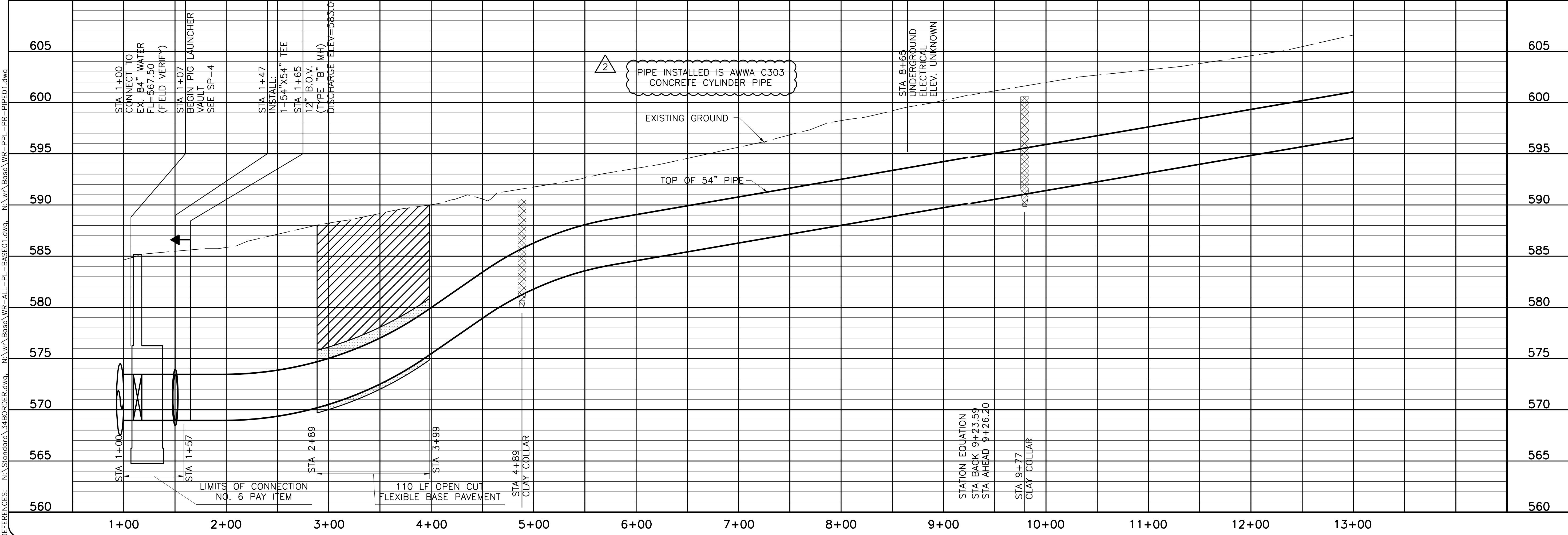
ACAD: Rel: 18.0s (LWS Tech) User: ec Office: MCSRV2
 [NTD05387] [MCSR2] N:\w\Drawings\WR-ALL-PP-PIPE01.dwg_LAYOUT: Layout1
 May 05, 2010 - 11:19am PLS: 1 TWT: MCSRV2
 REFERENCES: N:\Standard\3480RDR.dwg, N:\w\Bose\WR-ALL-PP-BASE01.dwg, N:\w\Bose\WR-PP-PR-PIPE01.dwg



COORDINATE TABLE

POINT	STATION	NORTHING	EASTING	DIRECTION	DISTANCE	DEF. ANGLE
BOP	1+00.00	7,018,347.83	2,607,762.68	N 88°52'03" E	200	
PI	3+00.00	7,018,351.78	2,607,962.65	N 87°07'57" W	107.52	-04°00'00"
PI	4+07.52	7,018,346.40	2,608,070.03	N 88°52'03" E	516.07	04°00'00"
PI BK	9+23.59	7,018,356.65	2,608,585.99	N 48°54'28" W	3000.52	-42°14'22"
PI AH	9+26.20	7,018,356.65	2,608,585.99	N 48°54'28" W	3000.52	-42°14'22"

NOTE:
 1. CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO MANUFACTURING PIPE AND BEGINNING CONSTRUCTION.
 2. CONTRACTOR SHALL RESTRICT WORK AREA TO PERMANENT EASEMENT ONLY FROM STA. 6+87 TO STA. 9+33.



This Record Drawing is a combination of the sealed engineering contract drawings for this project and the sealed drawings prepared by the contractor reflecting changes in the project made during construction. The original sealed drawings are on file at the offices of FREESE AND NICHOLS, INC. 4605 WILLOWDALE DRIVE, SUITE 200 FORT WORTH, TEXAS 76109-1695 (817) 735-7300 (817) 735-7300 7/24/2009

NTD05387
 DATE NOV 2006
 DESIGNED AAG
 DRAWN RJR
 CHECKED JCS
 FILE NAME WR-ALL-PP-PIPE01.dwg

RECORD DRAWINGS
 ADDENDUM NO. 1
 VERIFY SCALE
 Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.

PL-1

7 OF 70

PLAN AND PROFILE
 STA 1+00 TO STA 13+00

LAKE TAWAKONI WATER SUPPLY PROJECT
 WEST PIPELINE
 PROJECT NO. WCF 05-10

NORTH TEXAS MUNICIPAL WATER DISTRICT

CONTRACT 5

SEE SHEET PL-2

W5
 15.68 ACRES
 REMAINDER OF TRACT 2
 THE MCLENDON COMPANY
 13101 PRESTON ROAD, #601
 DALLAS, TX 75240
 VOL. 1163, PG. 281
 D.R.R.C.T.

W4
 39.259 ACRES
 CDC/SMT BROADCAST, LLC
 "CLEAR CHANNEL DALLAS"
 VOL. 2636, PG. 273
 D.R.R.C.T.

W1B
 6.07 ACRES
 KEVIN T. BASWELL &
 SUZANN JERI BASWELL
 1715 FM 549 S.
 ROCKWALL, TX. 75032
 VOL. 1652, PG. 322
 D.R.R.C.T.

W1
 15.68 ACRES
 REMAINDER OF TRACT 2
 THE MCLENDON COMPANY
 13101 PRESTON ROAD, #601
 DALLAS, TX 75240
 VOL. 1163, PG. 281
 D.R.R.C.T.

W2
 15.68 ACRES
 REMAINDER OF TRACT 2
 THE MCLENDON COMPANY
 13101 PRESTON ROAD, #601
 DALLAS, TX 75240
 VOL. 1163, PG. 281
 D.R.R.C.T.

W3
 15.68 ACRES
 REMAINDER OF TRACT 2
 THE MCLENDON COMPANY
 13101 PRESTON ROAD, #601
 DALLAS, TX 75240
 VOL. 1163, PG. 281
 D.R.R.C.T.

W4
 39.259 ACRES
 CDC/SMT BROADCAST, LLC
 "CLEAR CHANNEL DALLAS"
 VOL. 2636, PG. 273
 D.R.R.C.T.

W5
 15.68 ACRES
 REMAINDER OF TRACT 2
 THE MCLENDON COMPANY
 13101 PRESTON ROAD, #601
 DALLAS, TX 75240
 VOL. 1163, PG. 281
 D.R.R.C.T.

W6
 15.68 ACRES
 REMAINDER OF TRACT 2
 THE MCLENDON COMPANY
 13101 PRESTON ROAD, #601
 DALLAS, TX 75240
 VOL. 1163, PG. 281
 D.R.R.C.T.

W7
 15.68 ACRES
 REMAINDER OF TRACT 2
 THE MCLENDON COMPANY
 13101 PRESTON ROAD, #601
 DALLAS, TX 75240
 VOL. 1163, PG. 281
 D.R.R.C.T.

W8
 15.68 ACRES
 REMAINDER OF TRACT 2
 THE MCLENDON COMPANY
 13101 PRESTON ROAD, #601
 DALLAS, TX 75240
 VOL. 1163, PG. 281
 D.R.R.C.T.

W9
 15.68 ACRES
 REMAINDER OF TRACT 2
 THE MCLENDON COMPANY
 13101 PRESTON ROAD, #601
 DALLAS, TX 75240
 VOL. 1163, PG. 281
 D.R.R.C.T.

W10
 15.68 ACRES
 REMAINDER OF TRACT 2
 THE MCLENDON COMPANY
 13101 PRESTON ROAD, #601
 DALLAS, TX 75240
 VOL. 1163, PG. 281
 D.R.R.C.T.

W11
 15.68 ACRES
 REMAINDER OF TRACT 2
 THE MCLENDON COMPANY
 13101 PRESTON ROAD, #601
 DALLAS, TX 75240
 VOL. 1163, PG. 281
 D.R.R.C.T.

W12
 15.68 ACRES
 REMAINDER OF TRACT 2
 THE MCLENDON COMPANY
 13101 PRESTON ROAD, #601
 DALLAS, TX 75240
 VOL. 1163, PG. 281
 D.R.R.C.T.

W13
 15.68 ACRES
 REMAINDER OF TRACT 2
 THE MCLENDON COMPANY
 13101 PRESTON ROAD, #601
 DALLAS, TX 75240
 VOL. 1163, PG. 281
 D.R.R.C.T.

W14
 15.68 ACRES
 REMAINDER OF TRACT 2
 THE MCLENDON COMPANY
 13101 PRESTON ROAD, #601
 DALLAS, TX 75240
 VOL. 1163, PG. 281
 D.R.R.C.T.

W15
 15.68 ACRES
 REMAINDER OF TRACT 2
 THE MCLENDON COMPANY
 13101 PRESTON ROAD, #601
 DALLAS, TX 75240
 VOL. 1163, PG. 281
 D.R.R.C.T.

W16
 15.68 ACRES
 REMAINDER OF TRACT 2
 THE MCLENDON COMPANY
 13101 PRESTON ROAD, #601
 DALLAS, TX 75240
 VOL. 1163, PG. 281
 D.R.R.C.T.

W17
 15.68 ACRES
 REMAINDER OF TRACT 2
 THE MCLENDON COMPANY
 13101 PRESTON ROAD, #601
 DALLAS, TX 75240
 VOL. 1163, PG. 281
 D.R.R.C.T.

W18
 15.68 ACRES
 REMAINDER OF TRACT 2
 THE MCLENDON COMPANY
 13101 PRESTON ROAD, #601
 DALLAS, TX 75240
 VOL. 1163, PG. 281
 D.R.R.C.T.

W19
 15.68 ACRES
 REMAINDER OF TRACT 2
 THE MCLENDON COMPANY
 13101 PRESTON ROAD, #601
 DALLAS, TX 75240
 VOL. 1163, PG. 281
 D.R.R.C.T.

W20
 15.68 ACRES
 REMAINDER OF TRACT 2
 THE MCLENDON COMPANY
 13101 PRESTON ROAD, #601
 DALLAS, TX 75240
 VOL. 1163, PG. 281
 D.R.R.C.T.

NTD05387
 DATE NOV 2006
 DESIGNED AAG
 DRAWN RJR
 CHECKED JCS
 FILE NAME WR-ALL-PP-PIPE01.dwg

RECORD DRAWINGS
 ADDENDUM NO. 1
 VERIFY SCALE
 Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.

PL-1

7 OF 70

LAKE TAWAKONI WATER SUPPLY PROJECT
 WEST PIPELINE
 PROJECT NO. WCF 05-10

NORTH TEXAS MUNICIPAL WATER DISTRICT

CONTRACT 5

SEE SHEET PL-2

W5
 15.68 ACRES
 REMAINDER OF TRACT 2
 THE MCLENDON COMPANY
 13101 PRESTON ROAD, #601
 DALLAS, TX 75240
 VOL. 1163, PG. 281
 D.R.R.C.T.

W4
 39.259 ACRES
 CDC/SMT BROADCAST, LLC
 "CLEAR CHANNEL DALLAS"
 VOL. 2636, PG. 273
 D.R.R.C.T.

W1B
 6.07 ACRES
 KEVIN T. BASWELL &
 SUZANN JERI BASWELL
 1715 FM 549 S.
 ROCKWALL, TX. 75032
 VOL. 1652, PG. 322
 D.R.R.C.T.

W1
 15.68 ACRES
 REMAINDER OF TRACT 2
 THE MCLENDON COMPANY
 13101 PRESTON ROAD, #601
 DALLAS, TX 75240
 VOL. 1163, PG. 281
 D.R.R.C.T.

W2
 15.68 ACRES
 REMAINDER OF TRACT 2
 THE MCLENDON COMPANY
 13101 PRESTON ROAD, #601
 DALLAS, TX 75240
 VOL. 1163, PG. 281
 D.R.R.C.T.

W3
 15.68 ACRES
 REMAINDER OF TRACT 2
 THE MCLENDON COMPANY
 13101 PRESTON ROAD, #601
 DALLAS, TX 75240
 VOL. 1163, PG. 281
 D.R.R.C.T.

W4
 39.259 ACRES
 CDC/SMT BROADCAST, LLC
 "CLEAR CHANNEL DALLAS"
 VOL. 2636, PG. 273
 D.R.R.C.T.

W5
 15.68 ACRES
 REMAINDER OF TRACT 2
 THE MCLENDON COMPANY
 13101 PRESTON ROAD, #601
 DALLAS, TX 75240
 VOL. 1163, PG. 281
 D.R.R.C.T.

W6
 15.68 ACRES
 REMAINDER OF TRACT 2
 THE MCLENDON COMPANY
 13101 PRESTON ROAD, #601
 DALLAS, TX 75240
 VOL. 1163, PG. 281
 D.R.R.C.T.

W7
 15.68 ACRES
 REMAINDER OF TRACT 2
 THE MCLENDON COMPANY
 13101 PRESTON ROAD, #601
 DALLAS, TX 75240
 VOL. 1163, PG. 281
 D.R.R.C.T.

W8
 15.68 ACRES
 REMAINDER OF TRACT 2
 THE MCLENDON COMPANY
 13101 PRESTON ROAD, #601
 DALLAS, TX 75240
 VOL. 1163, PG. 281
 D.R.R.C.T.

W9
 15.68 ACRES
 REMAINDER OF TRACT 2
 THE MCLENDON COMPANY
 13101 PRESTON ROAD, #601
 DALLAS, TX 75240
 VOL. 1163, PG. 281
 D.R.R.C.T.

W10
 15.68 ACRES
 REMAINDER OF TRACT 2
 THE MCLENDON COMPANY
 13101 PRESTON ROAD, #601
 DALLAS, TX 75240
 VOL. 1163, PG. 281
 D.R.R.C.T.

W11
 15.68 ACRES
 REMAINDER OF TRACT 2
 THE MCLENDON COMPANY
 13101 PRESTON ROAD, #601
 DALLAS, TX 75240
 VOL. 1163, PG. 281
 D.R.R.C.T.

W12
 15.68 ACRES
 REMAINDER OF TRACT 2
 THE MCLENDON COMPANY
 13101 PRESTON ROAD, #601
 DALLAS, TX 75240
 VOL. 1163, PG. 281
 D.R.R.C.T.

W13
 15.68 ACRES
 REMAINDER OF TRACT 2
 THE MCLENDON COMPANY
 13101 PRESTON ROAD, #601
 DALLAS, TX 75240
 VOL. 1163, PG. 281
 D.R.R.C.T.

W14
 15.68 ACRES
 REMAINDER OF TRACT 2
 THE MCLENDON COMPANY
 13101 PRESTON ROAD, #601
 DALLAS, TX 75240
 VOL. 1163, PG. 281
 D.R.R.C.T.

W15
 15.68 ACRES
 REMAINDER OF TRACT 2
 THE MCLENDON COMPANY
 13101 PRESTON ROAD, #601
 DALLAS, TX 75240
 VOL. 1163, PG. 281
 D.R.R.C.T.

W16
 15.68 ACRES
 REMAINDER OF TRACT 2
 THE MCLENDON COMPANY
 13101 PRESTON ROAD, #601
 DALLAS, TX 75240
 VOL. 1163, PG. 281
 D.R.R.C.T.

W17
 15.68 ACRES
 REMAINDER OF TRACT 2
 THE MCLENDON COMPANY
 13101 PRESTON ROAD, #601
 DALLAS, TX 75240
 VOL. 1163, PG. 281
 D.R.R.C.T.

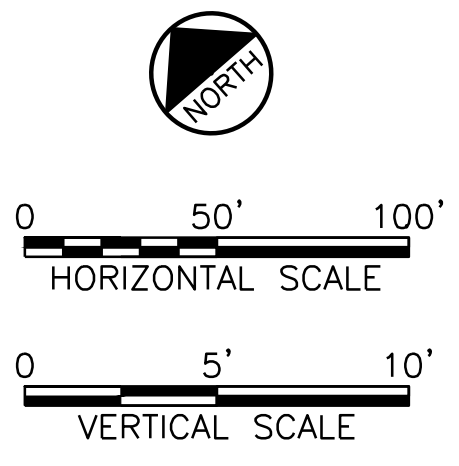
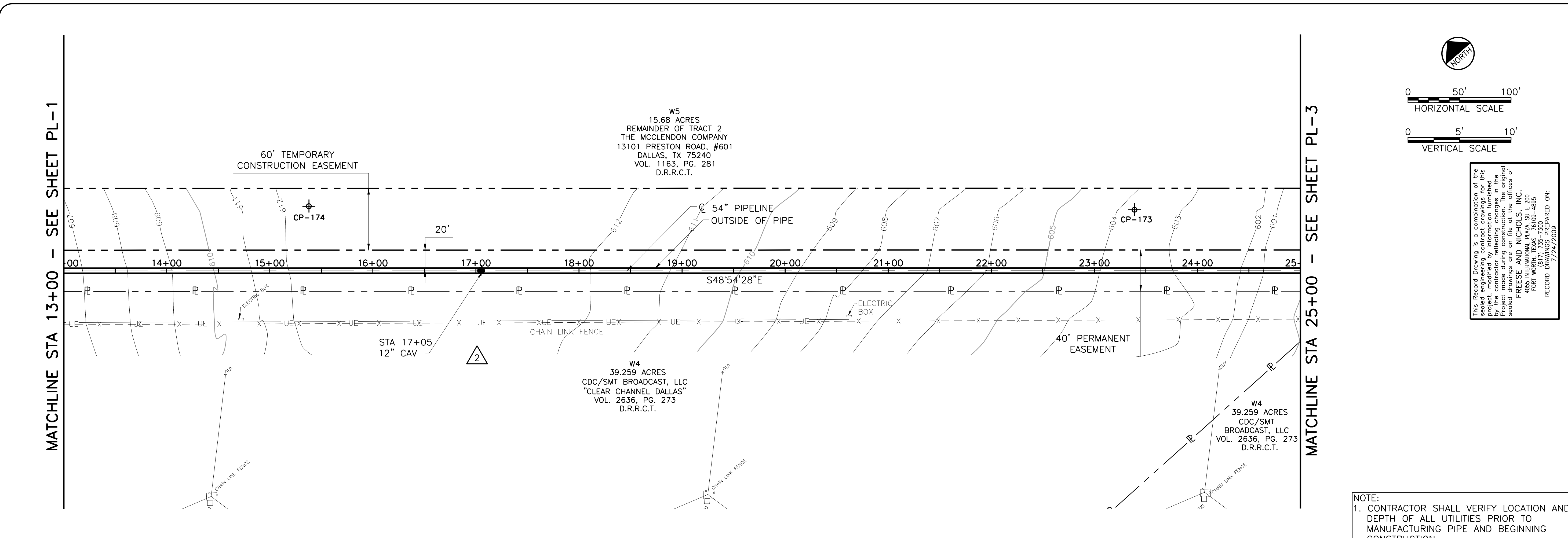
W18
 15.68 ACRES
 REMAINDER OF TRACT 2
 THE MCLENDON COMPANY
 13101 PRESTON ROAD, #601
 DALLAS, TX 75240
 VOL. 1163, PG. 281
 D.R.R.C.T.

W19
 15.68 ACRES
 REMAINDER OF TRACT 2
 THE MCLENDON COMPANY
 13101 PRESTON ROAD, #601
 DALLAS, TX 75240
 VOL. 1163, PG. 281
 D.R.R.C.T.

W20
 15.68 ACRES
 REMAINDER OF TRACT 2
 THE MCLENDON COMPANY
 13101 PRESTON ROAD, #601
 DALLAS, TX 75240
 VOL. 1163, PG. 281
 D.R.R.C.T.

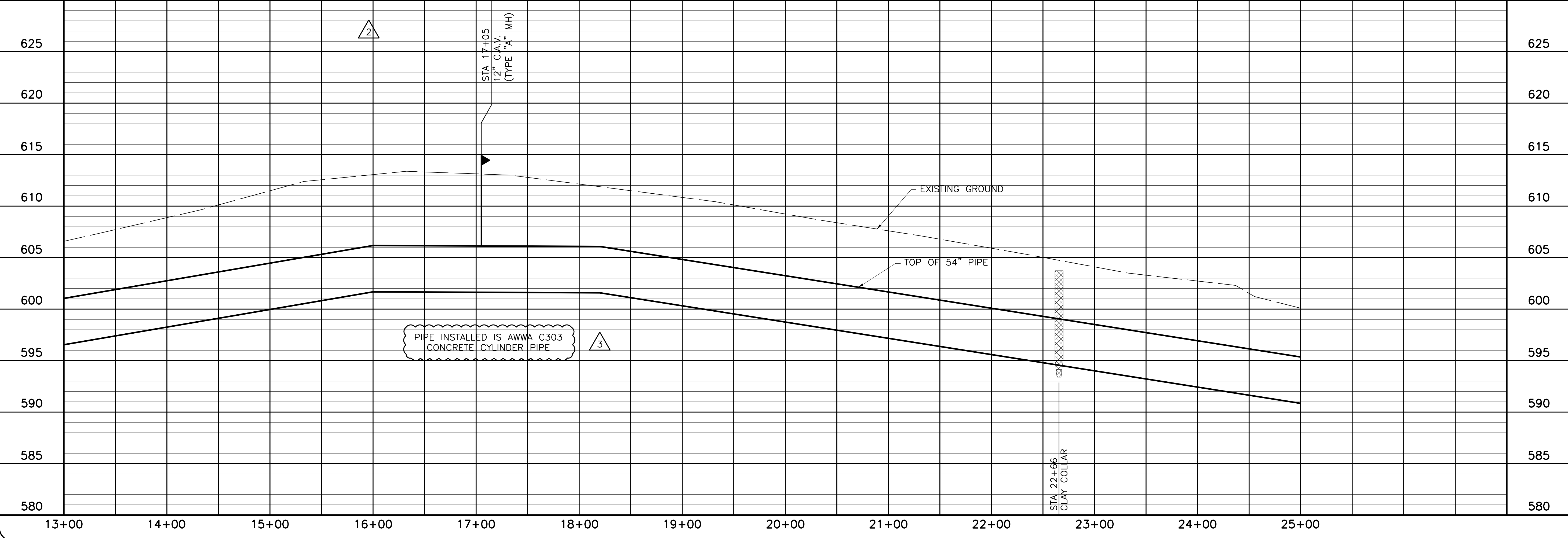
DATE: May 05, 2010 - 11:19am User: ec File: N:\w\Drawings\WR-ALL-PP-PIPE01.dwg

ACAD: Rel 18.0s (LWS Tech) User: ec Office: MCSRV2
 N:\wr\Drawings\WR-ALL-PP-PIPE02.dwg LAYOUT: Layout1
 May 05, 2010 - 11:20am LIS: 1 TWIST: MCSRV2
 REFERENCES: N:\Standard\3480RPER.dwg, N:\wr\Bose\WR-ALL-PL-BASE01.dwg, N:\wr\Bose\WR-EPI-PR-PIPE01.dwg



This Record Drawing is a combination of the original drawing and any amendments made to this project, modified by information furnished by the contractor reflecting changes in the project made during construction. The original drawing is the responsibility of the engineer. FRESSE AND NICHOLS, INC. 1055 INTERNATIONAL PLAZA, SUITE 200 FORT WORTH, TEXAS 76109-4895 (817) 735-7300 FAX (817) 735-7300 PREPARED ON: 7/24/2009

NOTE:
 1. CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO MANUFACTURING PIPE AND BEGINNING CONSTRUCTION.



NORTH TEXAS MUNICIPAL WATER DISTRICT
LAKE TAWAKONI WATER SUPPLY PROJECT
 WEST PIPELINE
 CONTRACT 5
 PROJECT NO. WCF 05-10
 PIPELINE
PLAN AND PROFILE
 STA 13+00 TO STA 25+00

NO. ISSUE	BY	DATE	DESIGNED	DRAWN	CHECKED	FILE NAME
0						
1	RJR	7/24/09	AAG	CLL	JP	WR-ALL-PP-PIPE02.dwg

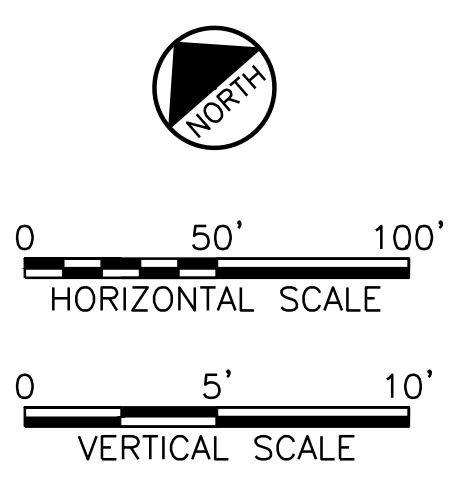
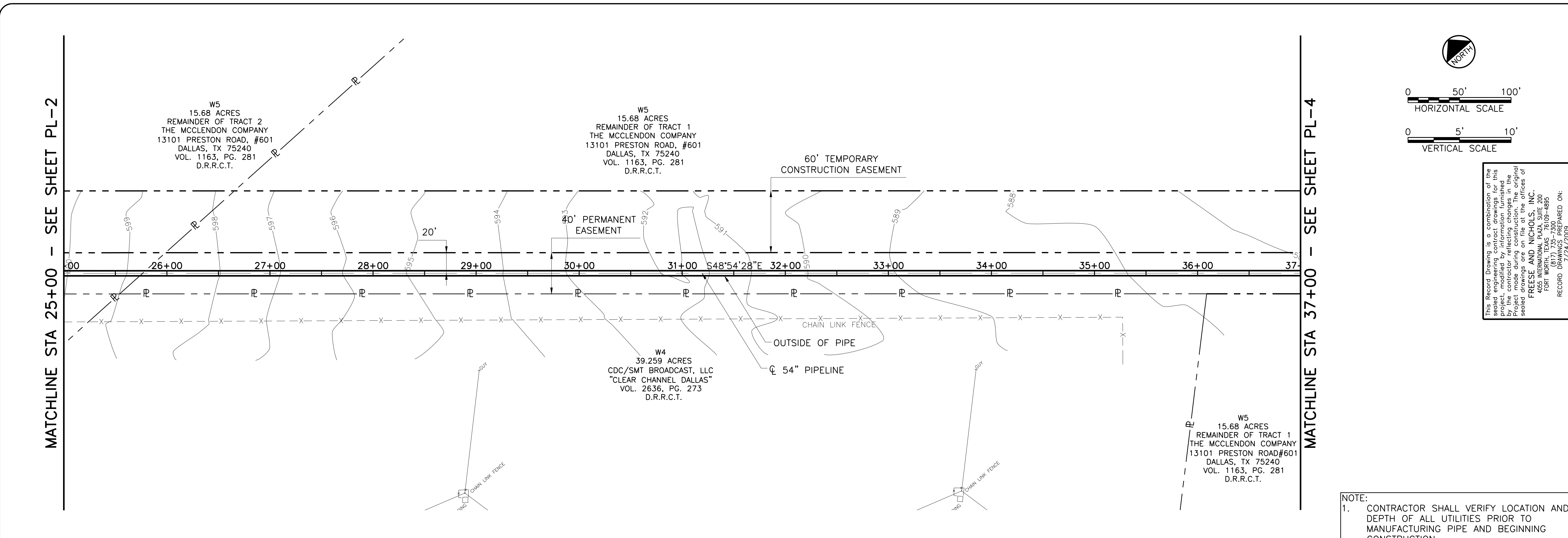
RECORD DRAWINGS
 ADDENDUM NO. 2
 VERIFY SCALE 1
 Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.

SHEET
PL-2
 SEQ. 8 OF 70

Fresse and Nichols
 116 N. Tennessee, Suite 200
 McKinney, Texas 75069-4354
 Phone - (972) 548-2400
 Fax - (972) 548-1055

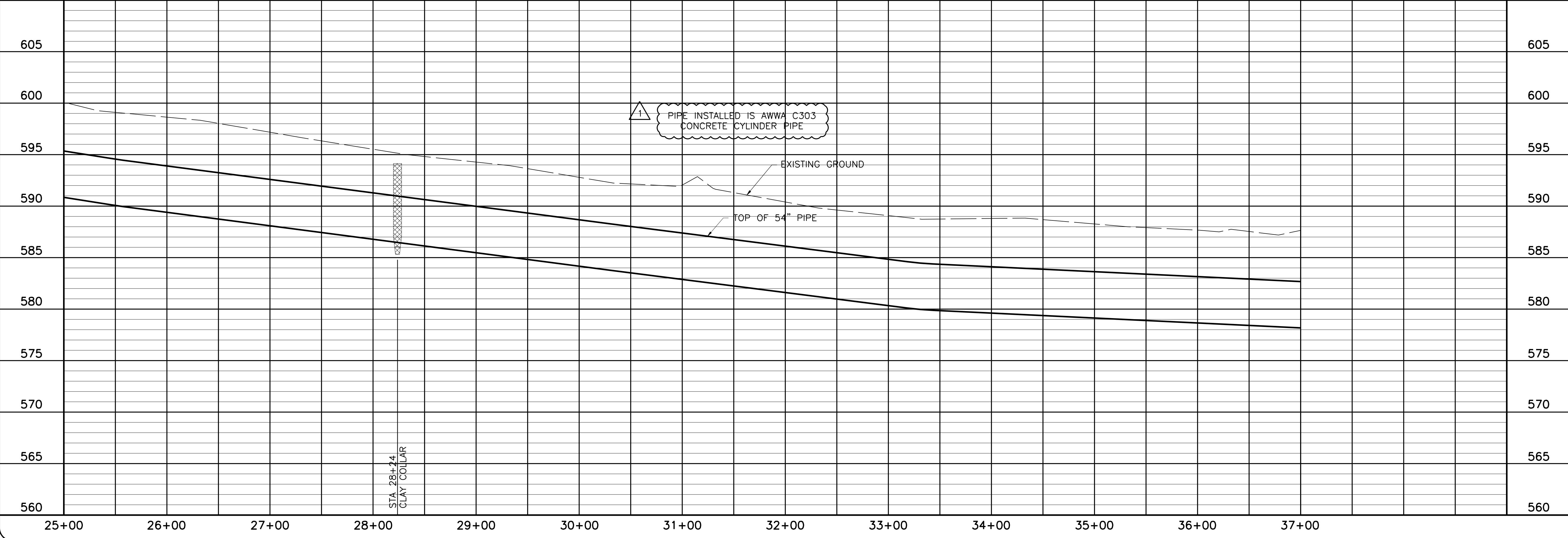
Texas Registered Engineering Firm F-2144

ACAD: Rel 18.0s (LWS Tech) User: ec Office: MCSRV2
 N:\wr\Drawings\WR-ALL-PP-PIPE03.dwg LAYOUT: Layout1
 May 05, 2010 - 11:21am PLS: 1 TWIST: MCSRV2
 REFERENCES: N:\Standard\3480RPER.dwg, N:\wr\Bose\WR-ALL-PL-BASE01.dwg, N:\wr\Bose\WR-EPI-PR-PIPE01.dwg



This Record Drawing is a combination of the sealed engineering contract drawings for this project and the contract addendum. The original sealed drawings are on file at the offices of FRESSE AND NICHOLS, INC.
 4055 INTERNATIONAL PLAZA, SUITE 200
 FORT WORTH, TEXAS 76109-4495
 (817) 735-7300
 RECORD DRAWINGS PREPARED ON: 7/24/2009

NOTE:
 1. CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO MANUFACTURING PIPE AND BEGINNING CONSTRUCTION.



NORTH TEXAS MUNICIPAL WATER DISTRICT
 LAKE TAWAKONI WATER SUPPLY PROJECT
 WEST PIPELINE
 PROJECT NO. WCF 05-10
 CONTRACT 5
 PIPELINE
 PLAN AND PROFILE
 STA 25+00 TO STA 37+00

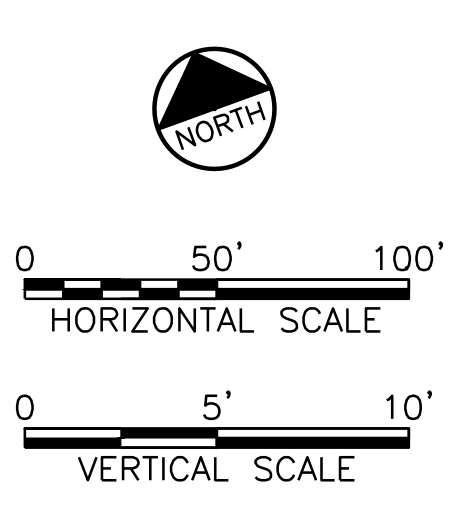
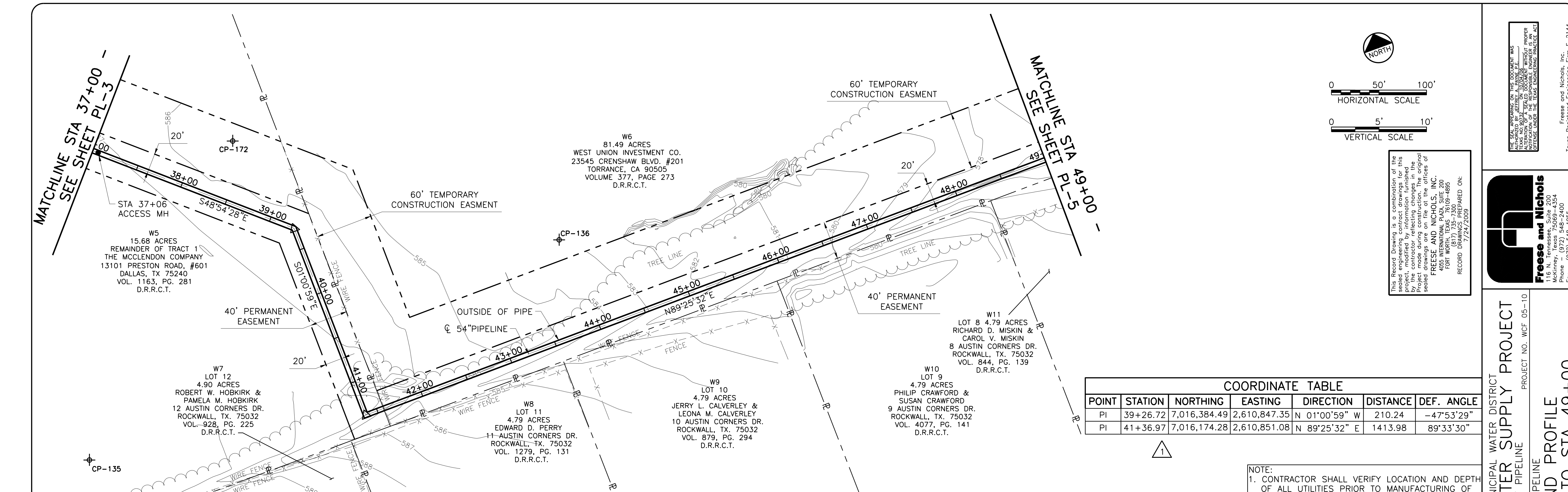
NO.	ISSUE	BY	DATE	DATE	DESIGNED	DRAWN	REVISION	FILE NAME
				NOV 2006	AAG	CLL		WR-ALL-PP-PIPE03.dwg
1	RECORD DRAWINGS	RJR	7/24/09					

Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.

PL-3

9 OF 70

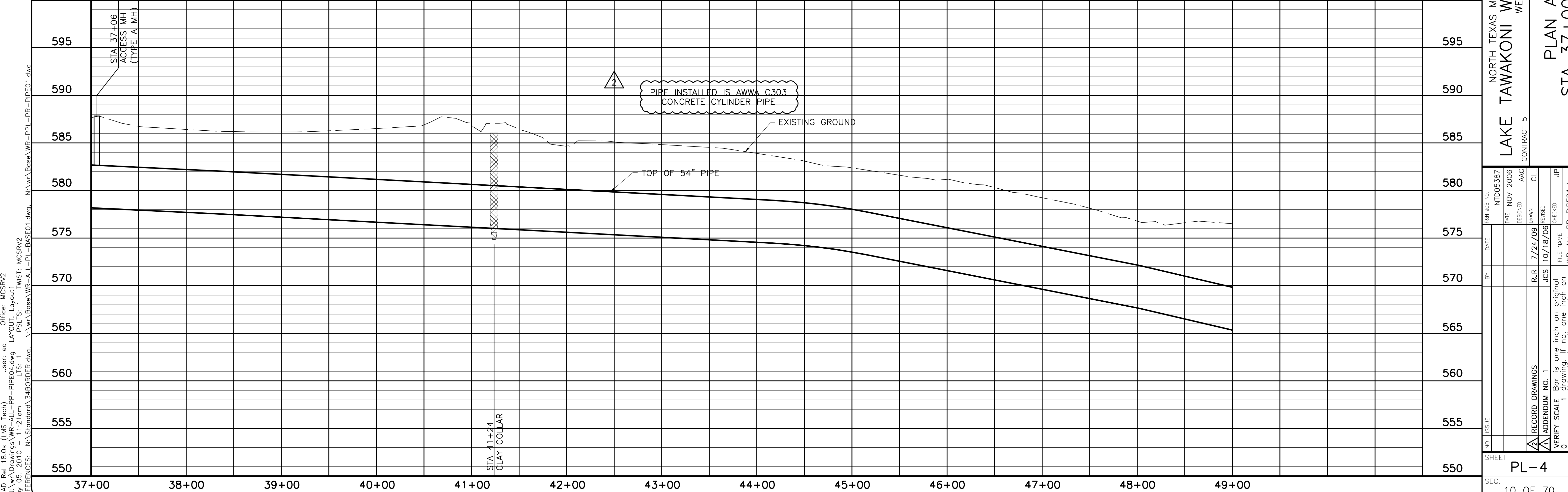
Fresse and Nichols, Inc.
 Texas Registered Engineering Firm F-2144



This Record Drawing is a combination of the original and modified drawings. The original drawings were prepared by the original designer, FRESSE AND NICHOLS, INC. The modified drawings were prepared by the contractor, reflecting changes in the project made during construction. The original designer, FRESSE AND NICHOLS, INC., is not responsible for any errors or omissions in this drawing. FRESSE AND NICHOLS, INC. FORT WORTH, TEXAS 76109-4895 (817) 735-7300 FAX (817) 735-7300 RECORD DRAWING PREPARED ON: 7/24/2009

POINT	STATION	NORTHING	EASTING	DIRECTION	DISTANCE	DEF. ANGLE
PI	39+26.72	7,016,384.49	2,610,847.35	N 01°00'59" W	210.24	-47°53'29"
PI	41+36.97	7,016,174.28	2,610,851.08	N 89°25'32" E	1413.98	89°33'30"

NOTE:
1. CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO MANUFACTURING OF PIPE AND BEGINNING OF CONSTRUCTION.



NORTH TEXAS MUNICIPAL WATER DISTRICT
 LAKE TAWAKONI WATER SUPPLY PROJECT
 WEST PIPELINE
 PROJECT NO. WCF 05-10
 CONTRACT 5
 PIPELINE
 PLAN AND PROFILE
 STA 37+00 TO STA 49+00

NO. ISSUE	DATE	BY	DESIGNED	DRAWN	CHECKED	FILE NAME
	NOV 2006		AAG	CLL	JP	WR-ALL-PP-PIPE04.dwg
RECORD DRAWINGS		RJR	7/24/09	10/18/06		
ADDENDUM NO. 1		JCS				
VERIFY SCALE						
0						
1						

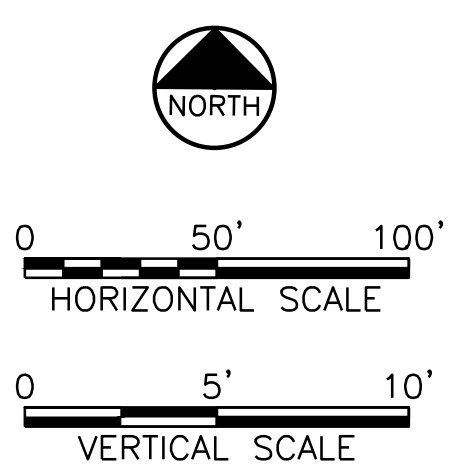
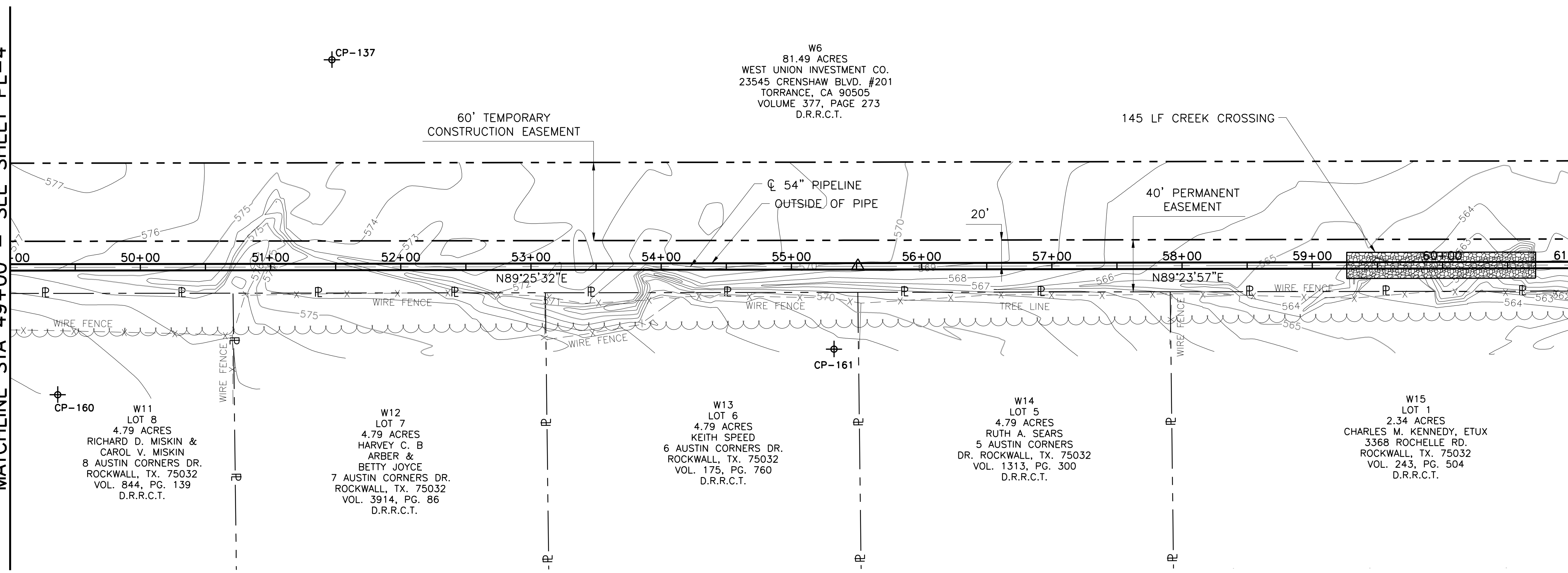
Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.

COORDINATE TABLE

POINT	STATION	NORTHING	EASTING	DIRECTION	DISTANCE	DEF. ANGLE
PI	55+50.95	7,016,188.46	2,612,264.99	N 89°23'57" E	679.68	00°01'34"

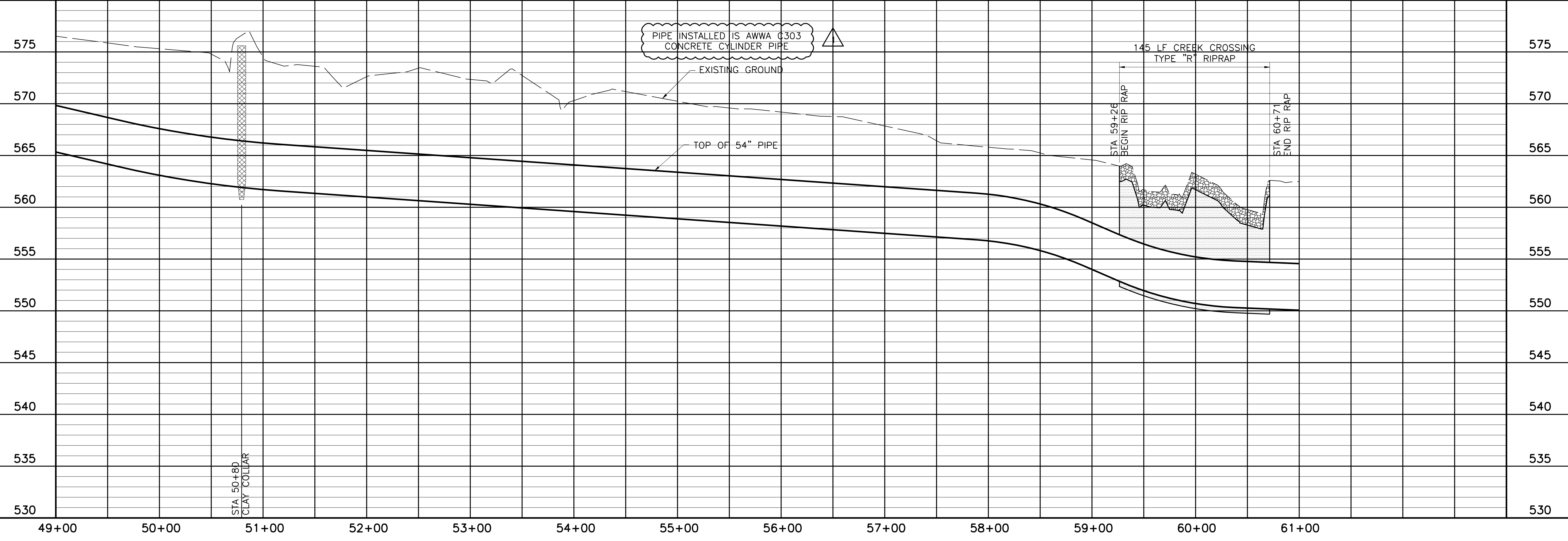
MATCHLINE STA 49+00 - SEE SHEET PL-4

MATCHLINE STA 61+00 - SEE SHEET PL-6



This Record Drawing is a combination of the sealed engineering contract drawings for this project, modified by information furnished to the project during construction. The original sealed drawings are on file at the offices of FRESSE AND NICHOLS, INC. 4055 INTERNATIONAL PLAZA, SUITE 200 FORT WORTH, TEXAS 76107-7300 (817) 735-7300 RECORD DRAWINGS PREPARED ON: 7/24/2009

NOTE:
1. CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO MANUFACTURING PIPE AND BEGINNING CONSTRUCTION.



FOR ANY REVISIONS TO THIS DOCUMENT, THE USER SHALL OBTAIN THE ORIGINAL DRAWING FROM THE PROJECT ARCHIVE. THIS DOCUMENT IS THE PROPERTY OF FRESSE AND NICHOLS, INC. AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT THE WRITTEN PERMISSION OF FRESSE AND NICHOLS, INC. FRESSE AND NICHOLS, INC. IS AN EQUAL OPPORTUNITY EMPLOYER.

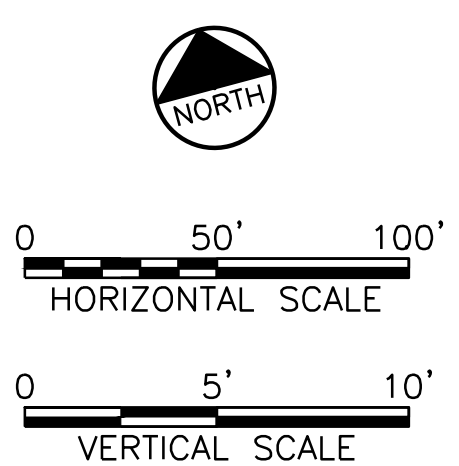
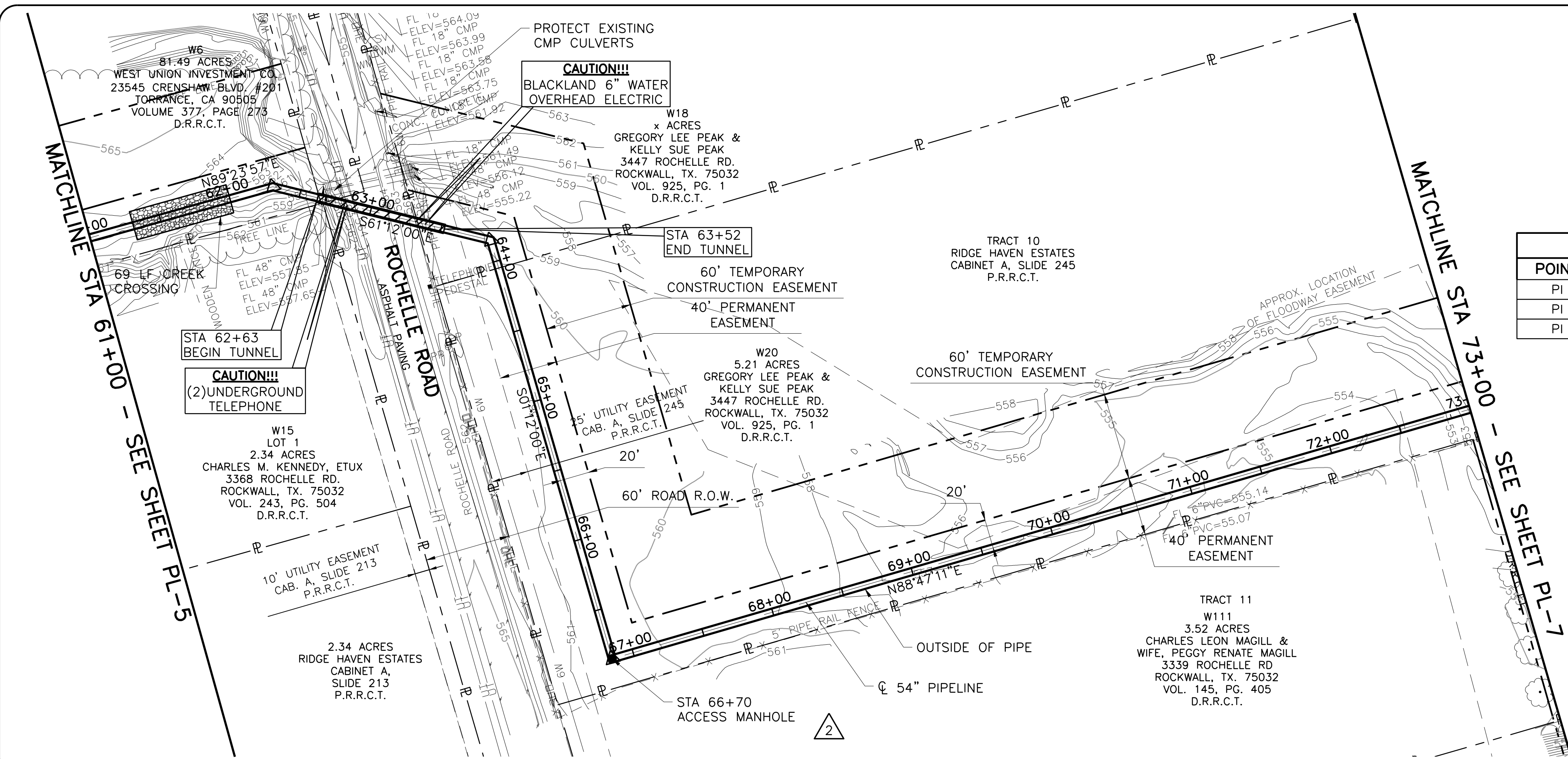
Fresse and Nichols
 116 N. Tennessee, Suite 200
 McKinney, Texas 75069-4354
 Phone - (972) 548-2400
 Fax - (972) 548-1055
 Texas Registered Engineering Firm F-2144

NORTH TEXAS MUNICIPAL WATER DISTRICT
LAKE TAWAKONI WATER SUPPLY PROJECT
 WEST PIPELINE
 PROJECT NO. WCF 05-10
 CONTRACT 5
PLAN AND PROFILE
 STA 49+00 TO STA 61+00

NO. ISSUE	DATE	BY	DESIGNED	DRAWN	CHECKED	REVISION
	NOV 2006		AAG	CLL	JP	
RECORD DRAWINGS	7/24/09	RJR				
VERIFY SCALE						
Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.						
SHEET	PL-5					
SEQ.	11 OF 70					

ACAD: Rel 18.0s (LWS Tech) User: ec Office: MCSRV2
 N:\w\Drawings\WR-ALL-PP-PIPE05.dwg LAYOUT: Layout1
 May 05, 2010 - 11:22am PLOT: 1
 REFERENCES: N:\Standard\3460RPER.dwg, N:\w\Bases\WR-ALL-PP-BASE01.dwg, N:\w\Bases\WR-EPI-PP-PIPE01.dwg

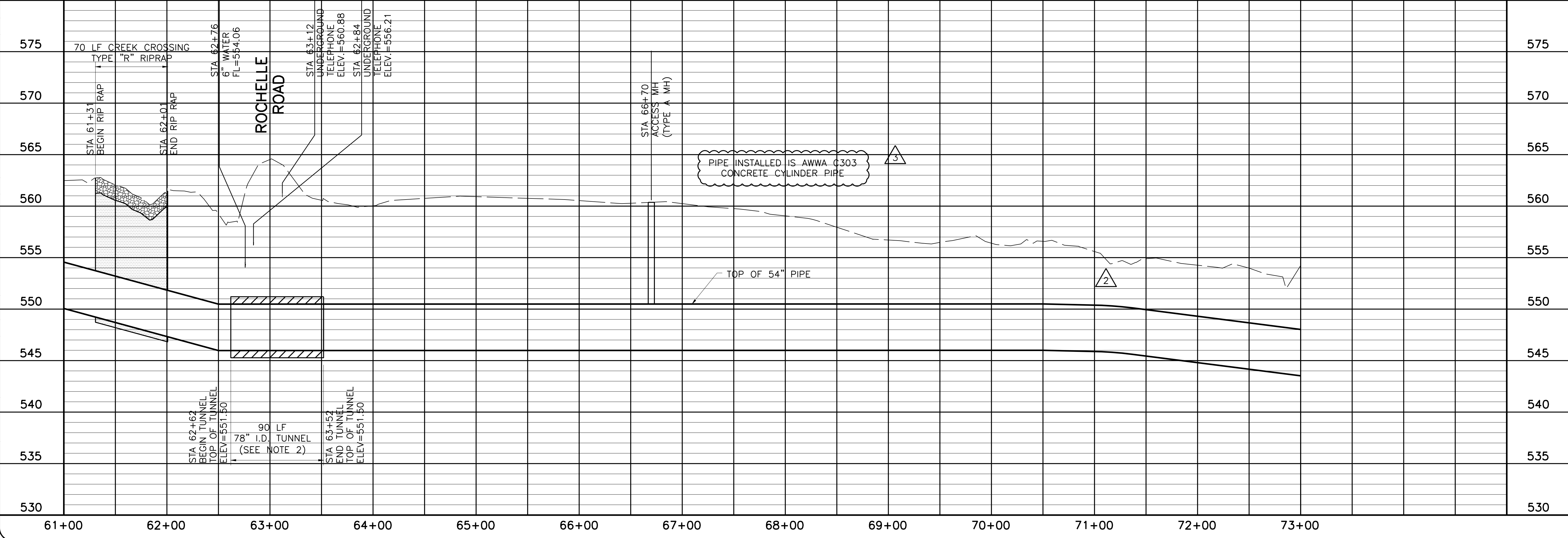
ACAD Rel 17.0s (LMS Tech) User: CLL
 INTD05387\MCSRV2\N:\WR\DRAWINGS\WR-ALL-PP-PIPE06.DWG LAYOUT: Layout1
 NOV 30, 2006 9:49:11 A.M. LTS: 1 PSLTS: 1 TWIST: 0, 15
 4 REFERENCE FILES: N:\STANDARD\34BORDER.N:\WR\BASE\WR-ALL-PL-AFERI.03.N:\WR\BASE\WR-ALL-PL-BASE01. and N:\WR\BASE\WR-EPI-PR-PIPE01



COORDINATE TABLE						
POINT	STATION	NORTHING	EASTING	DIRECTION	DISTANCE	DEF. ANGLE
PI	62+30.63	7,016,195.58	2,612,944.63	N 61°12'00" W	154.45	-29°24'03"
PI	63+85.08	7,016,121.18	2,613,079.97	N 01°12'00" W	299.87	-60°00'00"
PI	66+84.95	7,015,821.37	2,613,086.26	N 88°47'11" E	691.23	90°00'49"

This Record Drawing is a combination of the sealed engineering contract drawings for this project, modified by information furnished by the contractor reflecting changes in the field. The contractor shall be responsible for proper sealed drawings are on file at the offices of
FREESSE AND NICHOLS, INC.
 405 INTERNATIONAL PLAZA, SUITE 200
 FORT WORTH, TEXAS 76109-4885
 RECORD DRAWINGS PREPARED ON: 7/24/2009

NOTE:
 1. CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO MANUFACTURING PIPE AND BEGINNING CONSTRUCTION OR MOBILIZING FOR TUNNELING OPERATIONS.
 2. 78" I.D. TUNNEL SHOWN IS FOR BAR-WRAPPED OPTION. IF STEEL PIPE IS SELECTED, TUNNEL I.D. WILL BE 72"



NORTH TEXAS MUNICIPAL WATER DISTRICT
LAKE TAWAKONI WATER SUPPLY PROJECT
 WEST PIPELINE
 CONTRACT 5

Freese and Nichols
 116 N. Tennessee, Suite 200
 McKinney, Texas 75069-4354
 Phone - (972) 548-2400
 Fax - (972) 548-1055

PROJECT NO. WCF 05-10
 PIPELINE
PLAN AND PROFILE
 STA 61+00 TO STA 73+00

NO.	ISSUE	BY	DATE	DESIGNED	DRAWN	CHECKED	FILE NAME
1	RECORD DRAWINGS	RJR	7/24/09	AAG	BROWN	JCS	10/24/06
2	ADDENDUM NO. 2	JCS	10/24/06				
3	VERIFY SCALE						

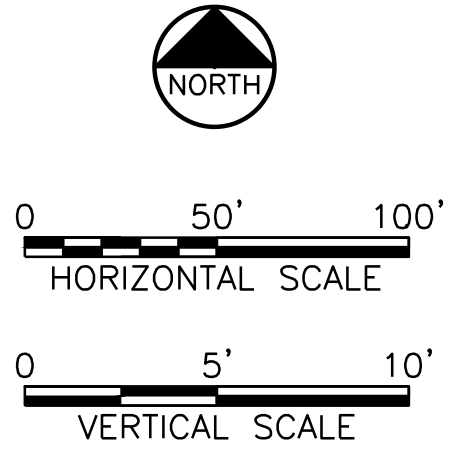
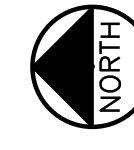
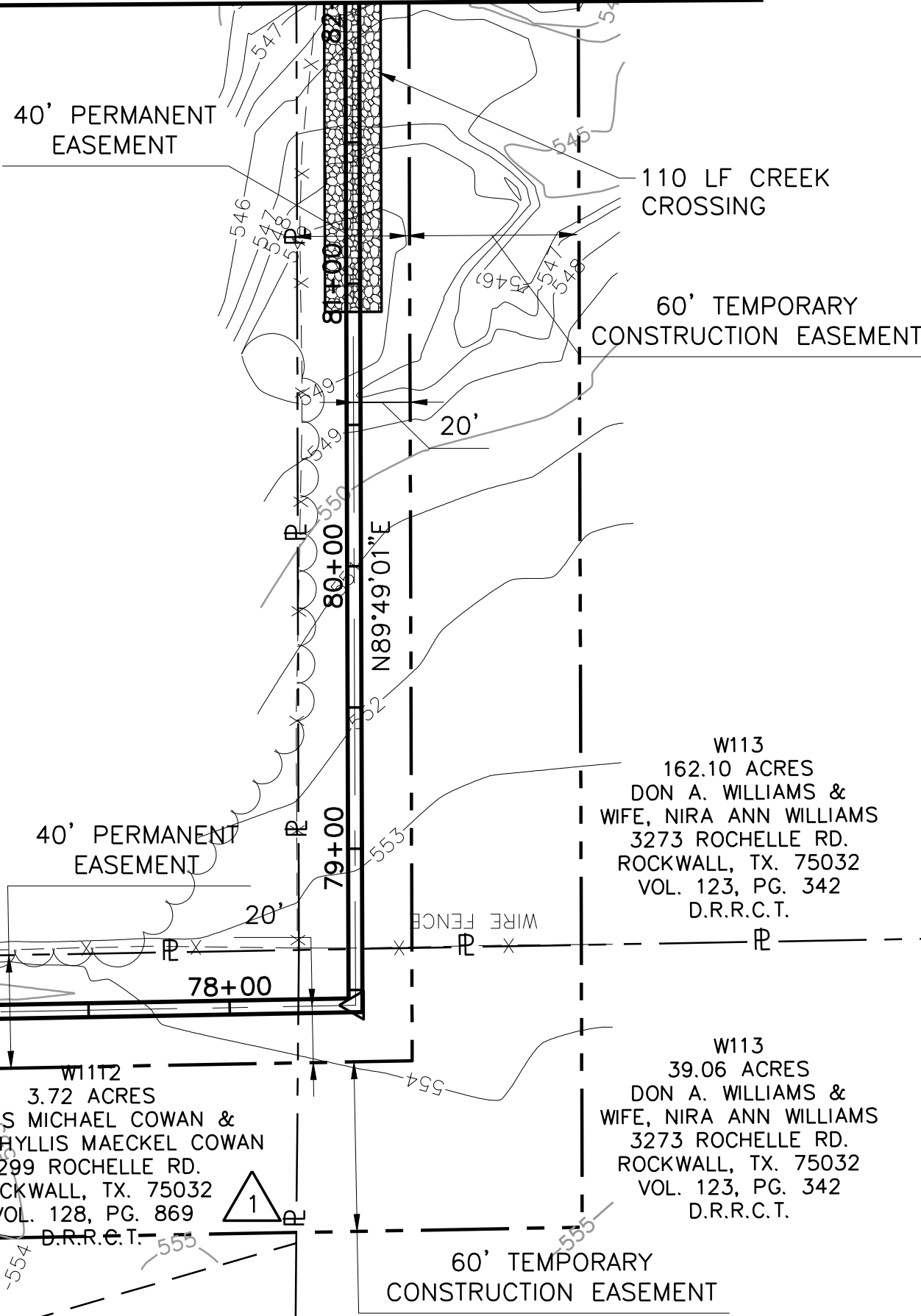
Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.

SHEET **PL-6**
 SEQ. 12 OF 70

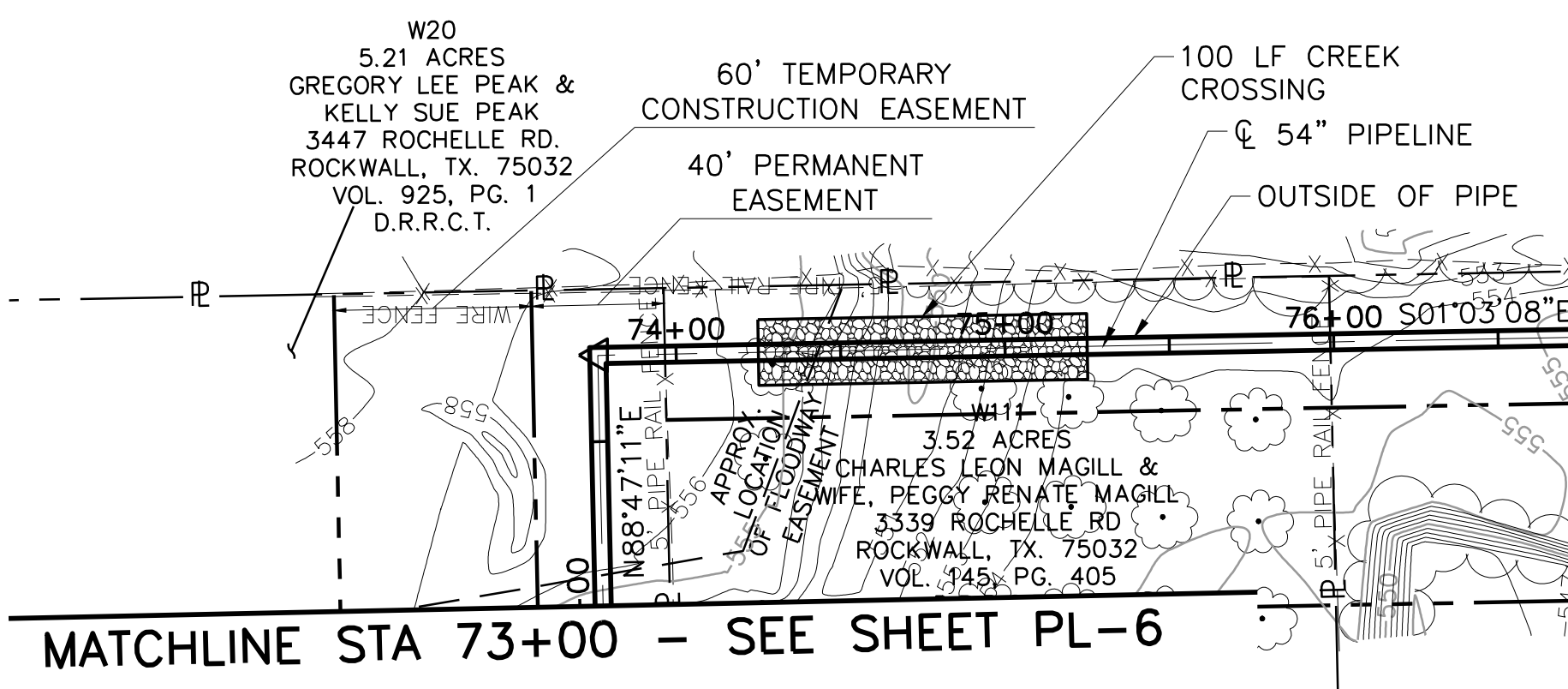
COORDINATE TABLE

POINT	STATION	NORTHING	EASTING	DIRECTION	DISTANCE	DEF. ANGLE
PI	73+76.18	7,015,836.01	2,613,777.33	N 01°03'08" W	468.37	-90°09'41"
PI	78+44.54	7,015,367.72	2,613,785.93	N 89°49'01" E	2735.39	89°07'51"

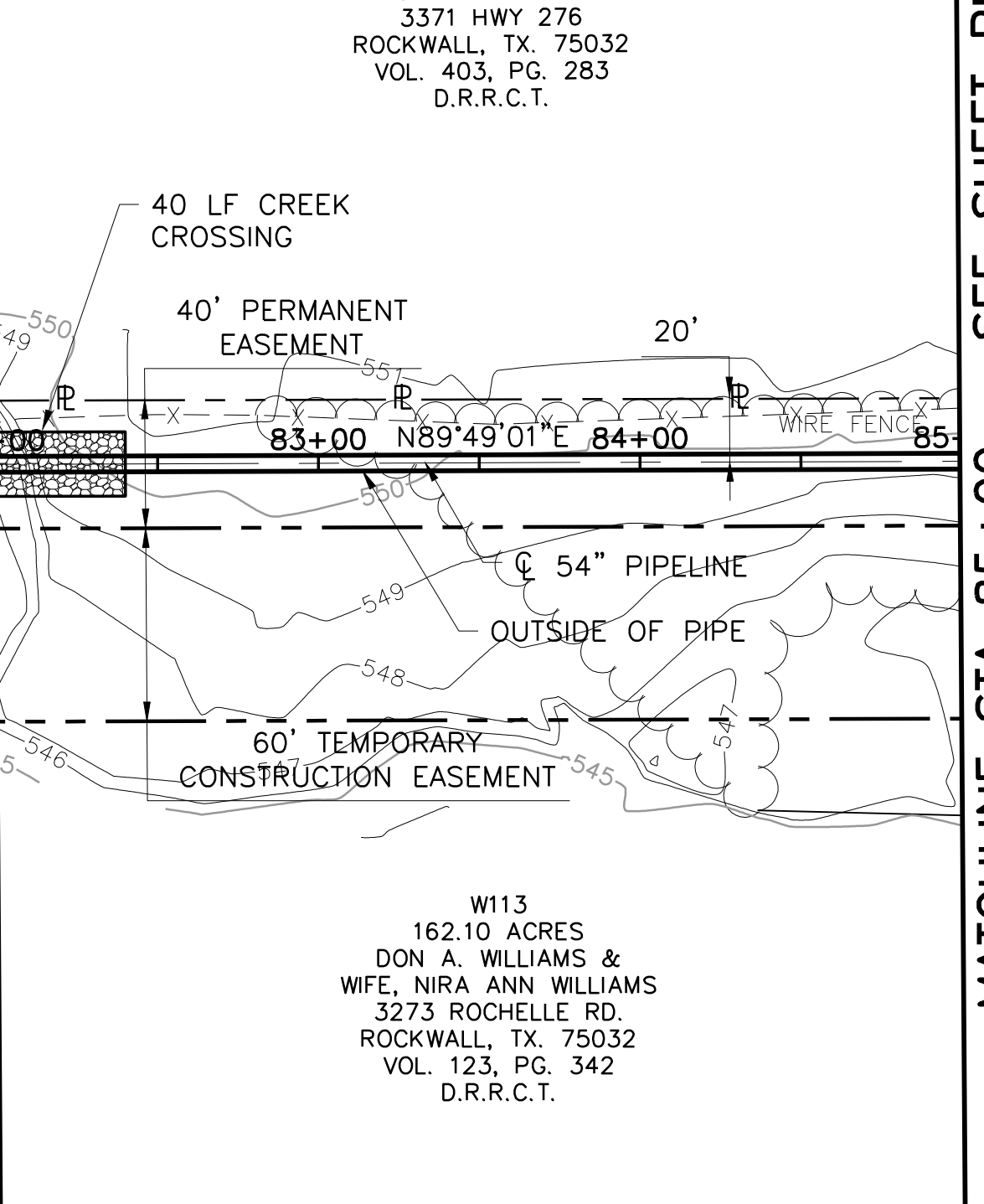
MATCHLINE STA 82+00 - THIS SHEET



This Record Drawing is a combination of the original and revised drawings of this project, modified by information furnished by the contractor reflecting changes in the field made during construction. The original and revised drawings are the property of FRESSE AND NICHOLS, INC., FORT WORTH, TEXAS 76109-4895. RECORD DRAWINGS PREPARED ON: 7/27/2009



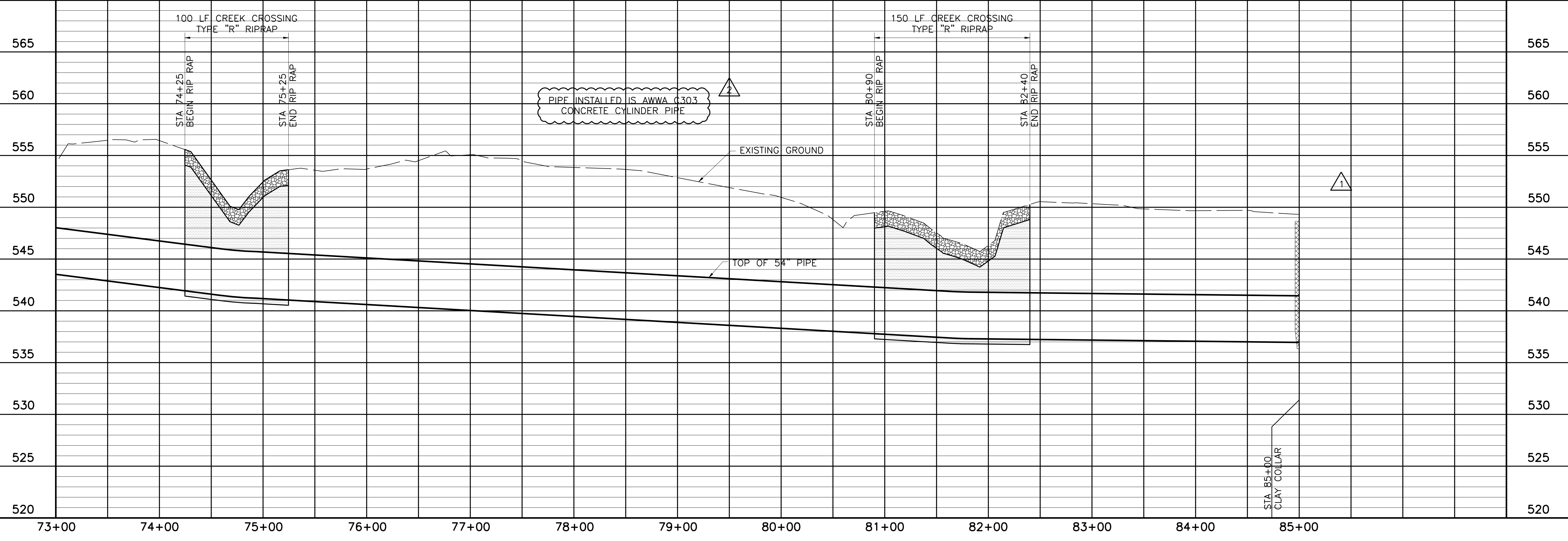
MATCHLINE STA 82+00 - THIS SHET



MATCHLINE STA 85+00 - SEE SHEET PL-8

NOTE:
1. CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO MANUFACTURING PIPE AND BEGINNING CONSTRUCTION.

MATCHLINE STA 73+00 - SEE SHEET PL-6



NORTH TEXAS MUNICIPAL WATER DISTRICT
LAKE TAWAKONI WATER SUPPLY PROJECT
WEST PIPELINE
PROJECT NO. WCF 05-10
CONTRACT 5
PIPELINE
PLAN AND PROFILE
STA 73+00 TO STA 85+00

NO. ISSUE	DATE	BY	DESIGNED	DRAWN	CHECKED	FILE NAME
1	NOV 2006	RJR	JCS	JCS	JCS	WR-ALL-PP-PIPE07.dwg

RECORD DRAWINGS
ADDENDUM NO. 1
VERIFY SCALE
Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.

SHEET PL-7

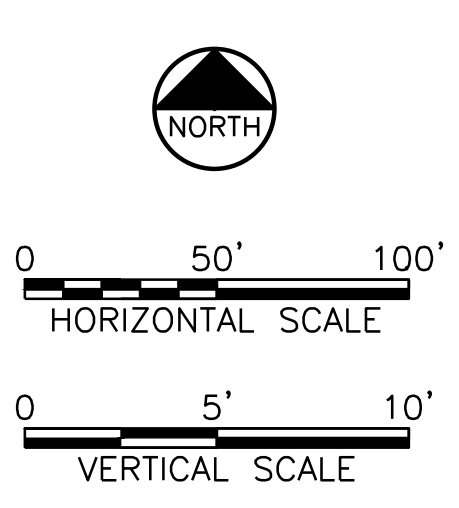
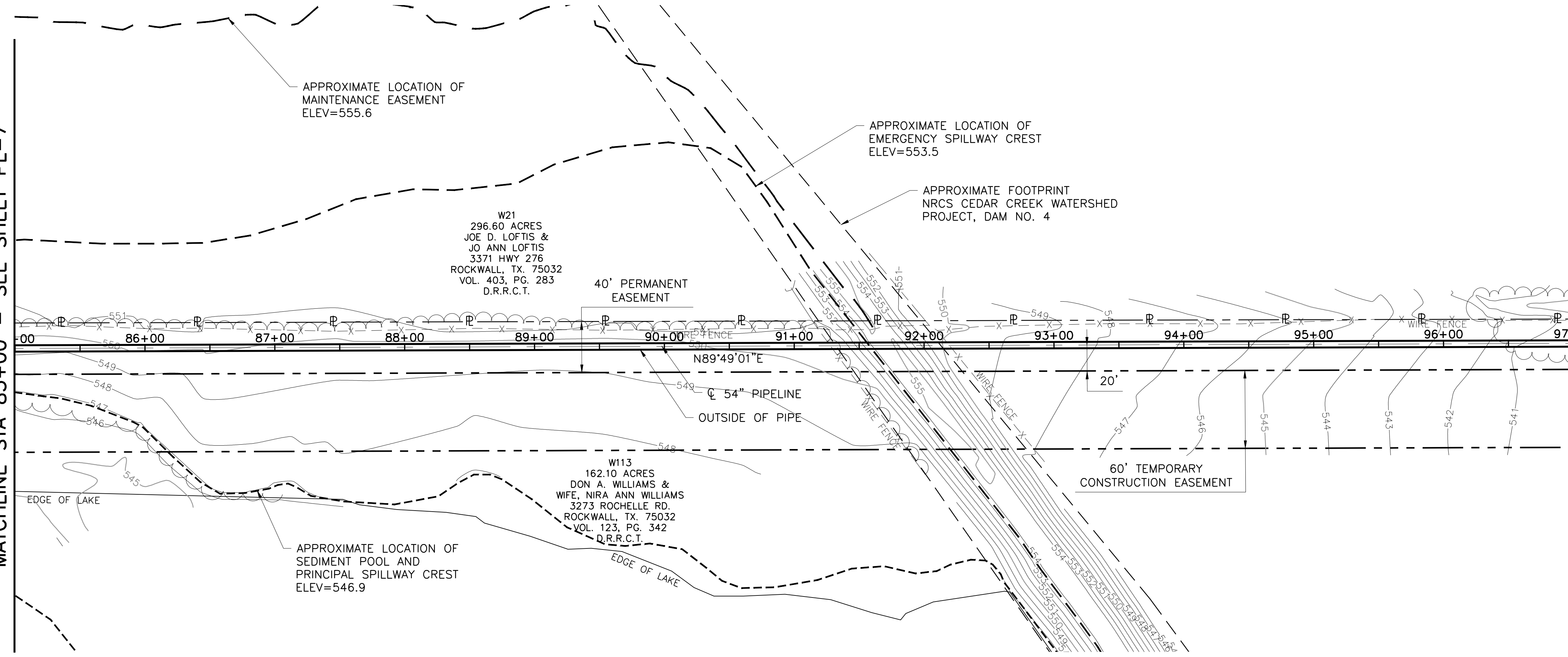
SEQ. 13 OF 70

Fresse and Nichols, Inc.
Texas Registered Engineering Firm F-2144
116 N. Tennessee, Suite 200
McKinney, Texas 75069-4354
Phone - (972) 548-2400
Fax - (972) 548-1055

ACAD: Rel 18.0s (LWS Tech) User: ec Office: MCSRV2
N:\w\Drawings\WR-ALL-PP-PIPE07.dwg LAYOUT: Layout1
May 05, 2010 - 11:23am PLS: 1 TWIST: MCSRV2
REFERENCES: N:\Standard\3460RPER.dwg, N:\w\Bose\WR-ALL-PP-BASE01.dwg, N:\w\Bose\WR-PPL-PP-PIPE01.dwg

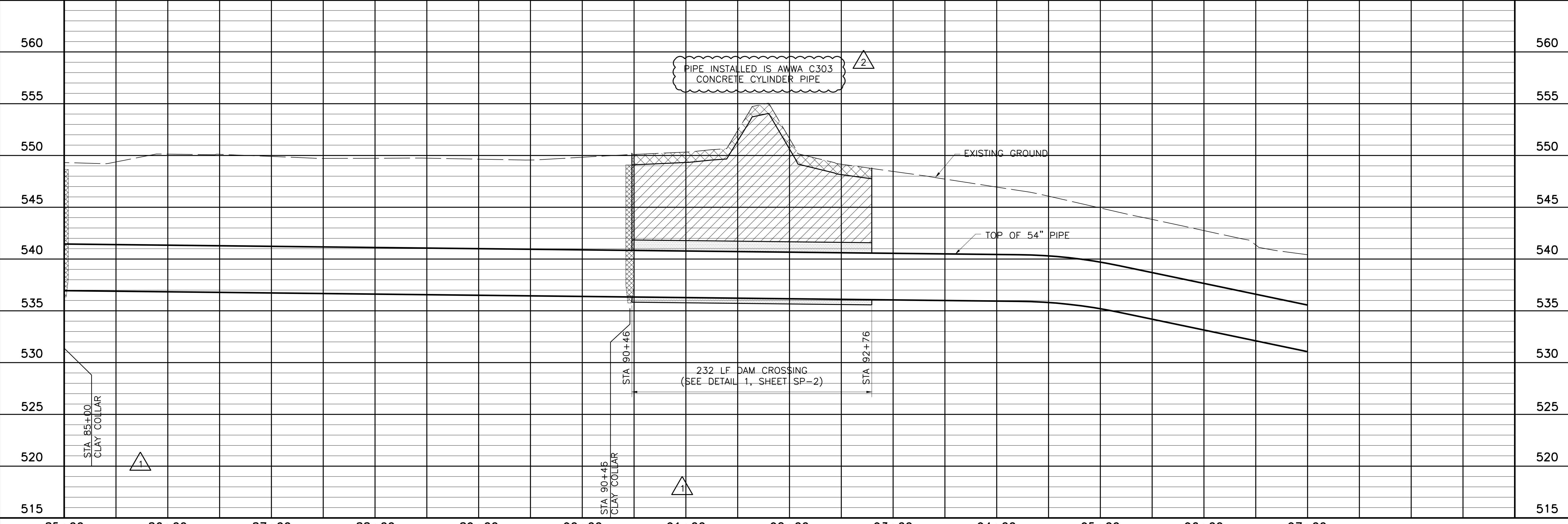
MATCHLINE STA 85+00 - SEE SHEET PL-7

MATCHLINE STA 97+00 - SEE SHEET PL-9



This Record Drawing is a combination of the original design and field data collected during the project, modified by information furnished by the contractor reflecting changes in the field made during construction. The original design is the responsibility of the Engineer. FREESSE AND NICHOLS, INC. 116 N. Tennessee, Suite 200, McKinney, Texas 75069-4354 (817) 735-7300 (817) 735-7300 FAX: (972) 548-2400 RECORD DRAWING PREPARED ON: 7/27/2009

NOTE:
 1. CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO MANUFACTURING PIPE AND BEGINNING CONSTRUCTION.



THIS DRAWING IS THE PROPERTY OF FREESSE AND NICHOLS, INC. IT IS TO BE USED ONLY FOR THE PROJECT AND SITE SPECIFICALLY IDENTIFIED HEREON. ANY REUSE OR MODIFICATION OF THIS DRAWING WITHOUT THE WRITTEN PERMISSION OF FREESSE AND NICHOLS, INC. IS PROHIBITED. FREESSE AND NICHOLS, INC. IS A REGISTERED PROFESSIONAL ENGINEERING FIRM UNDER THE TEXAS ENGINEERING PRACTICE ACT.

Freese and Nichols
 116 N. Tennessee, Suite 200
 McKinney, Texas 75069-4354
 Phone - (972) 548-2400
 Fax - (972) 548-1055
 Texas Registered Engineering Firm F-2144

NORTH TEXAS MUNICIPAL WATER DISTRICT
LAKE TAWAKONI WATER SUPPLY PROJECT
 WEST PIPELINE
 PROJECT NO. WCF 05-10
 CONTRACT 5
PLAN AND PROFILE
 STA 85+00 TO STA 97+00

NO. / ISSUE	DATE	BY	DESIGNED	DRAWN	CHECKED
0 / 1	NOV 2006	RJR	JCS	JCS	JP
RECORD DRAWINGS	DATE	BY	DESIGNED	DRAWN	CHECKED
ADDENDUM NO. 1	7/24/09	RJR	JCS	JCS	JP
VERIFY SCALE	10/18/06	RJR	JCS	JCS	JP

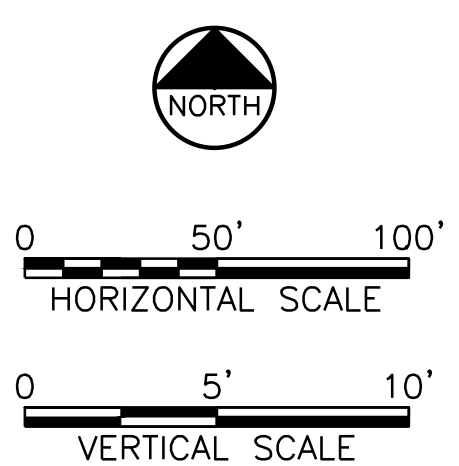
Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.

COORDINATE TABLE

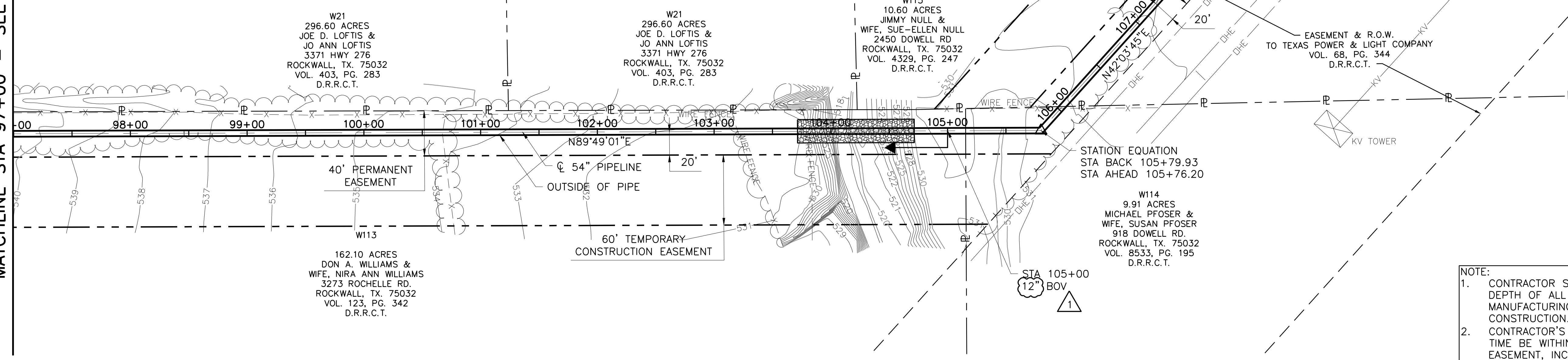
POINT	STATION	NORTHING	EASTING	DIRECTION	DISTANCE	DEF. ANGLE
PI BK	105+79.93	7,015,376.47	2,616,521.30	N 42°03'45" E	1633.89	47°45'15"
PI AH	105+76.20	7,015,376.47	2,616,521.30	N 42°03'45" E	1633.89	47°45'15"

MATCHLINE STA 97+00 - SEE SHEET PL-8

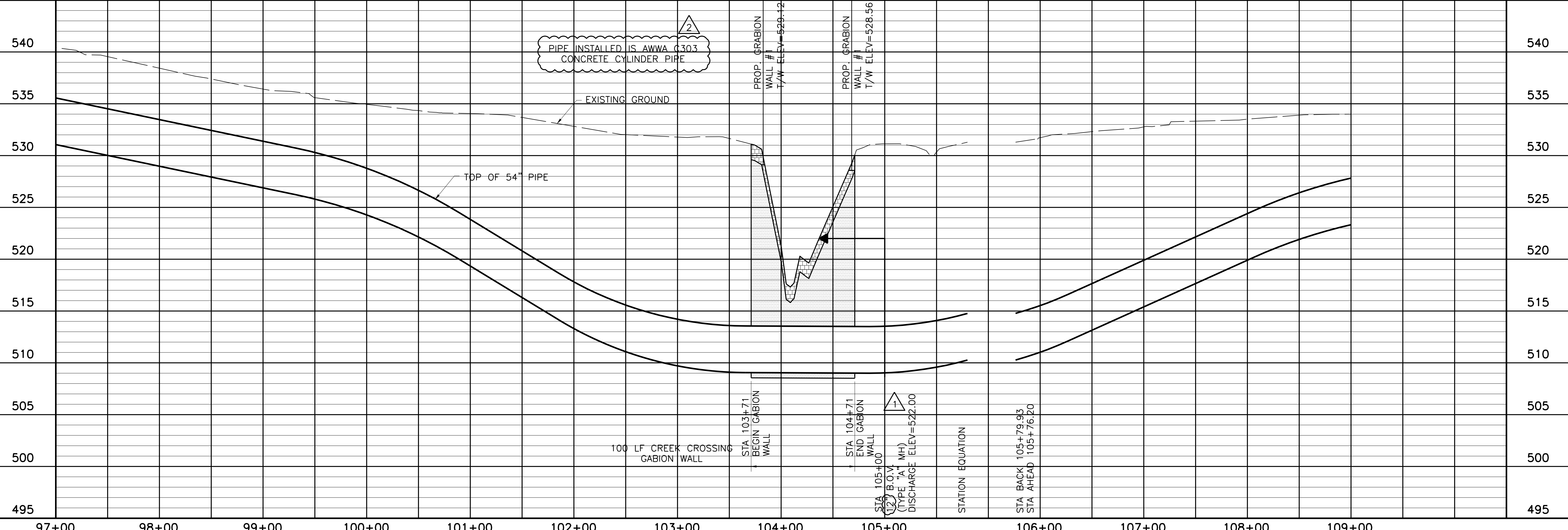
MATCHLINE STA 109+00 - SEE SHEET PL-10



This Record Drawing is a combination of the original and any subsequent revisions. The original project, modified by information furnished by the contractor reflecting changes in the field made during construction. The original design was prepared by the offices of FRESSE AND NICHOLS, INC., 116 N. Tennessee, Suite 200, McKinney, Texas 75069-4354. (817) 735-7300, (817) 735-7300, (817) 735-7300. RECORD DRAWING PREPARED ON: 7/27/2009



- NOTE:
- CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO MANUFACTURING PIPE AND BEGINNING CONSTRUCTION.
 - CONTRACTOR'S OPERATIONS SHALL AT NO TIME BE WITHIN TEXAS POWER AND LIGHT EASEMENT, INCLUDING STORING OR STOCKPILING MATERIALS AND/OR EQUIPMENT.



THIS DRAWING IS A COMBINATION OF THE ORIGINAL AND ANY SUBSEQUENT REVISIONS. THE ORIGINAL PROJECT, MODIFIED BY INFORMATION FURNISHED BY THE CONTRACTOR REFLECTING CHANGES IN THE FIELD MADE DURING CONSTRUCTION. THE ORIGINAL DESIGN WAS PREPARED BY THE OFFICES OF FRESSE AND NICHOLS, INC., 116 N. TENNESSEE, SUITE 200, MCKINNEY, TEXAS 75069-4354. (817) 735-7300, (817) 735-7300, (817) 735-7300. RECORD DRAWING PREPARED ON: 7/27/2009

Fresse and Nichols
116 N. Tennessee, Suite 200
McKinney, Texas 75069-4354
Phone - (972) 548-2400
Fax - (972) 548-1055

LAKE TAWAKONI WATER SUPPLY PROJECT

NORTH TEXAS MUNICIPAL WATER DISTRICT
WEST PIPELINE
CONTRACT 5

PROJECT NO. WCF 05-10
PIPELINE
PLAN AND PROFILE
STA 97+00 TO STA 109+00

NO. ISSUE	DATE	BY	DESIGNED	DRAWN	CHECKED
NTD05387	NOV 2006		AAG	CLL	JP
RECORD DRAWINGS	7/24/09	RJR	BROWN	REISED	FILE NAME
REF #001	1/12/07	RJR			WR-ALL-PP-PIPE09.dwg

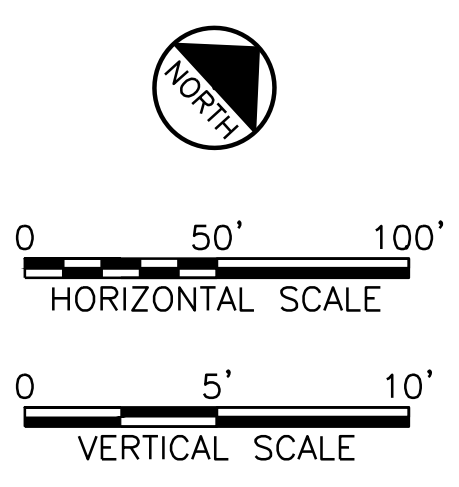
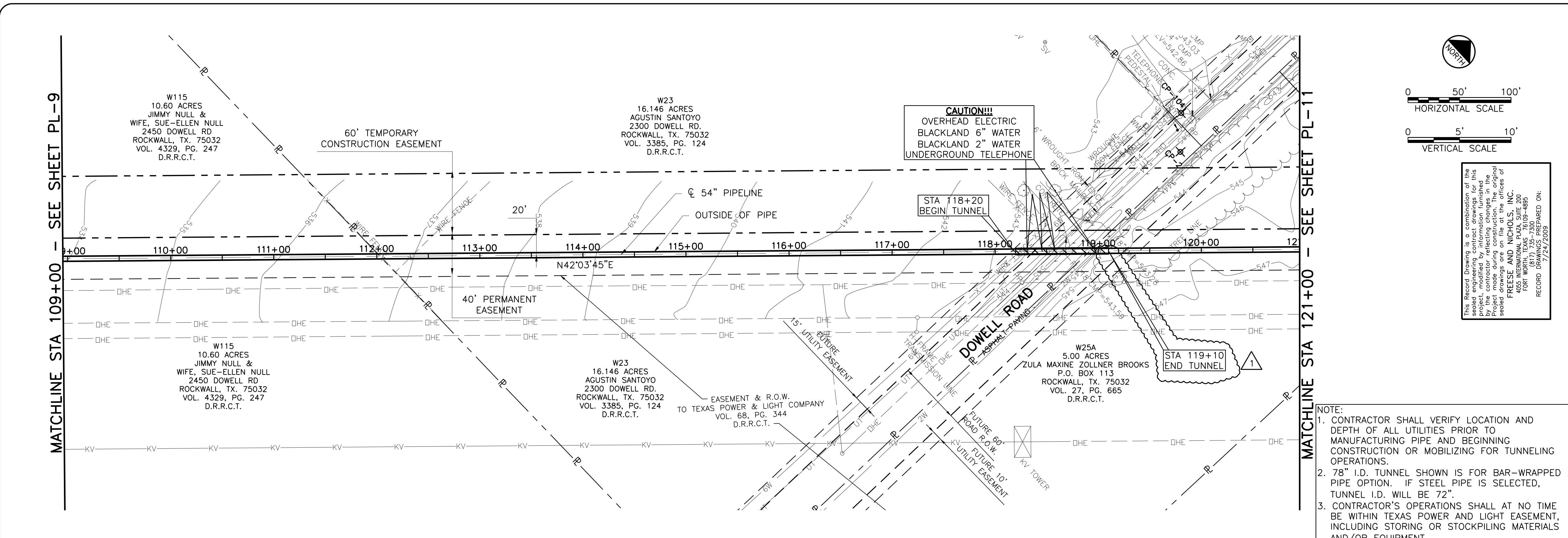
Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.

SHEET **PL-9**

SEQ. 15 OF 70

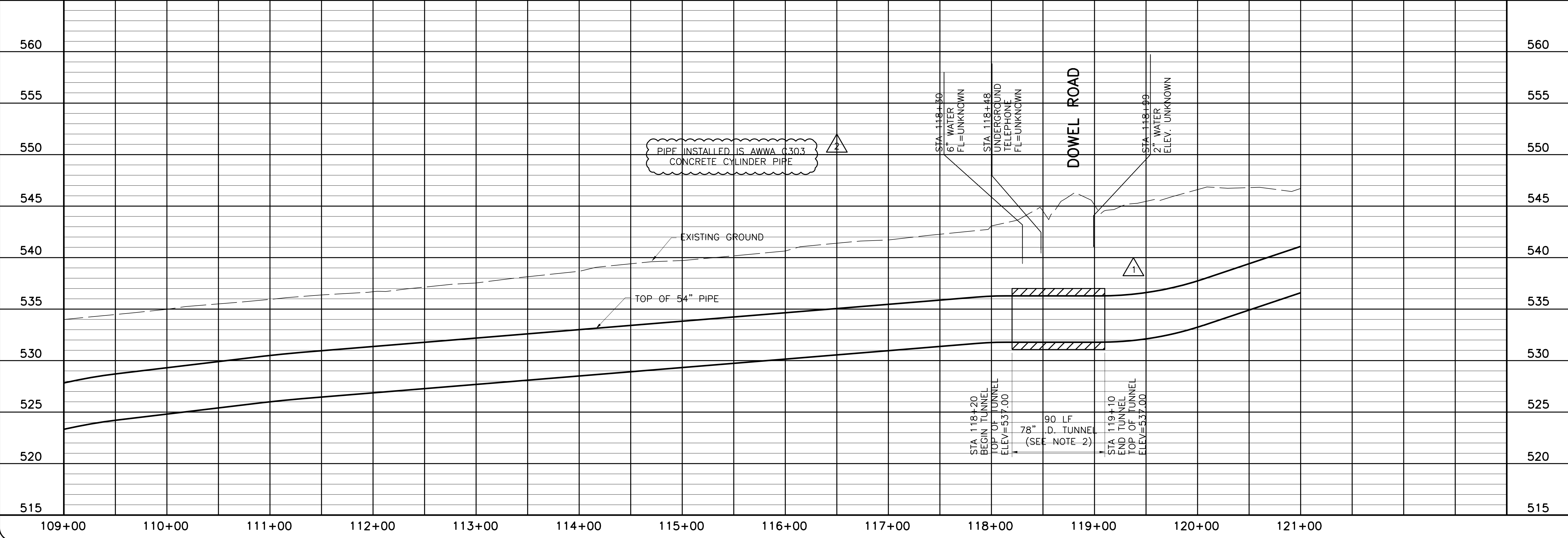
ACAD: Rel 18.0s (LWS Tech) User: ec Office: MCSRV2
 N:\w\Drawings\WR-ALL-PP-PIPE09.dwg LAYOUT: Layout1
 May 05, 2010 - 11:25am PLS: 1
 REFERENCES: N:\Standard\3460RPER.dwg, N:\w\Bose\WR-ALL-PP-BASE01.dwg, N:\w\Bose\WR-PP-PR-PIPE01.dwg

ACAD Rel 18.0s (LWS Tech) User: ec Office: MCSRV2
 N:\w\Drawings\WR-ALL-PP-PIPE10.dwg LAYOUT: Layout1
 May 05, 2010 - 11:26am PLOT: 1
 REFERENCES: N:\Standard\3460RPER.dwg, N:\w\Bose\WR-ALL-PP-BASE01.dwg, N:\w\Bose\WR-PP-PP-PIPE01.dwg



This Record Drawing is a combination of the original design and field data collected during construction. The original design was prepared by the responsible engineer and is subject to change without notice. The contractor shall verify the location and depth of all utilities prior to manufacturing pipe and beginning construction or mobilizing for tunneling operations. The original design is the responsibility of the responsible engineer. The contractor shall verify the location and depth of all utilities prior to manufacturing pipe and beginning construction or mobilizing for tunneling operations. The original design is the responsibility of the responsible engineer. The contractor shall verify the location and depth of all utilities prior to manufacturing pipe and beginning construction or mobilizing for tunneling operations.

- NOTE:
- CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO MANUFACTURING PIPE AND BEGINNING CONSTRUCTION OR MOBILIZING FOR TUNNELING OPERATIONS.
 - 78" I.D. TUNNEL SHOWN IS FOR BAR-WRAPPED PIPE OPTION. IF STEEL PIPE IS SELECTED, TUNNEL I.D. WILL BE 72".
 - CONTRACTOR'S OPERATIONS SHALL AT NO TIME BE WITHIN TEXAS POWER AND LIGHT EASEMENT, INCLUDING STORING OR STOCKPILING MATERIALS AND/OR EQUIPMENT.



NORTH TEXAS MUNICIPAL WATER DISTRICT
LAKE TAWAKONI WATER SUPPLY PROJECT
 WEST PIPELINE
 CONTRACT 5
 PROJECT NO. WCF 05-10
 PIPELINE
PLAN AND PROFILE
 STA 109+00 TO STA 121+00

NO. ISSUE	DATE	BY	DATE	BY	DATE	BY	DATE	BY
RECORD DRAWINGS	7/24/09	RJR	DESIGNED	AAG	CLL	CHECKED	JP	
CMR #001	4/10/07	RJR	REVISED			FILE NAME	WR-ALL-PP-PIPE10.dwg	

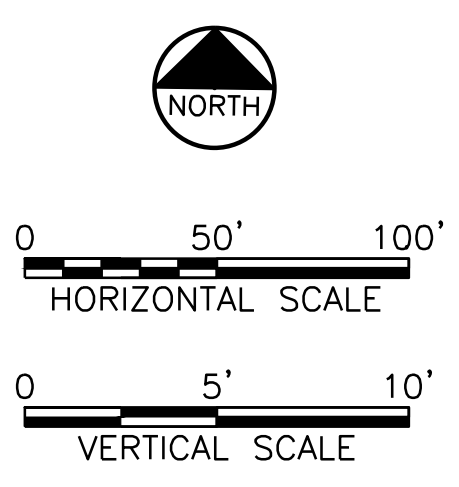
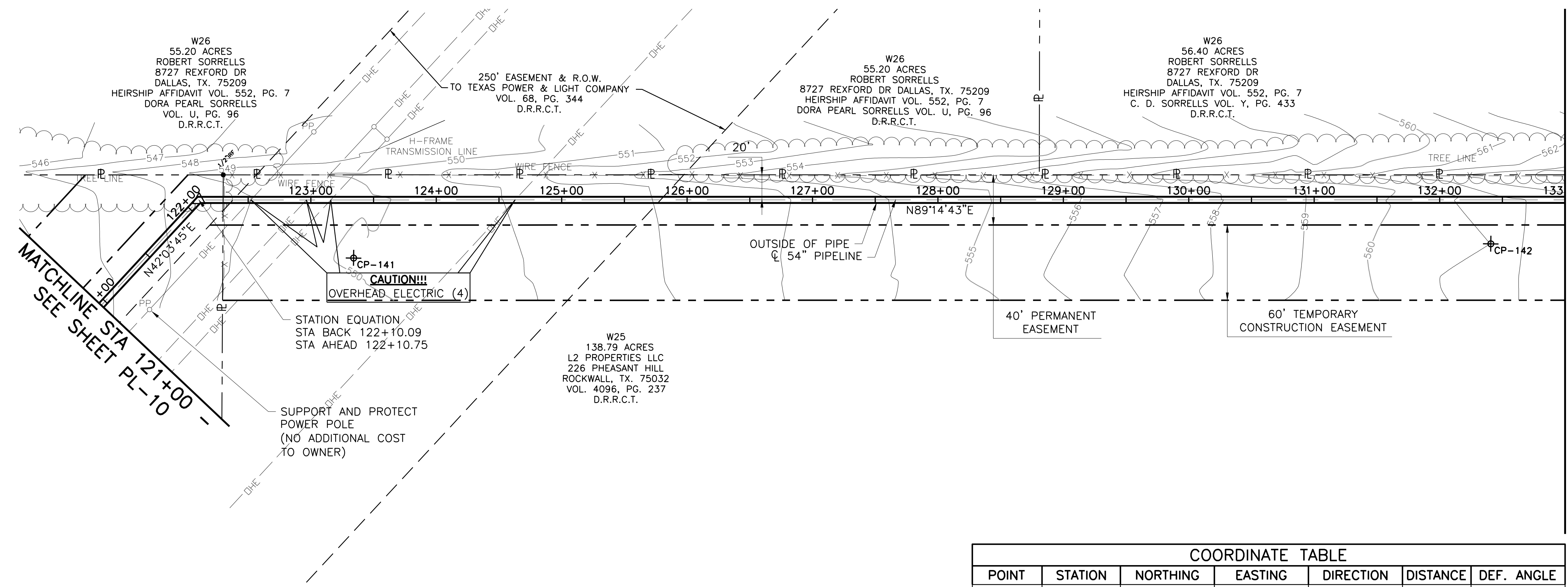
Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.

SHEET **PL-10**
 SEQ. 16 OF 70

THIS DRAWING IS THE PROPERTY OF FRESSE AND NICHOLS, INC. IT IS TO BE USED ONLY FOR THE PROJECT AND SITE SPECIFICALLY IDENTIFIED HEREON. ANY REUSE OR MODIFICATION OF THIS DRAWING WITHOUT THE WRITTEN CONSENT OF FRESSE AND NICHOLS, INC. IS PROHIBITED. THE ENGINEER'S RESPONSIBILITY IS LIMITED TO THE DESIGN AND CONSTRUCTION OF THE PROJECT DESCRIBED HEREON. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO CONSTRUCTION.

Fresse and Nichols, Inc.
 116 N. Tennessee, Suite 200
 McKinney, Texas 75069-4354
 Phone - (972) 548-2400
 Fax - (972) 548-1055
 Texas Registered Engineering Firm F-2144

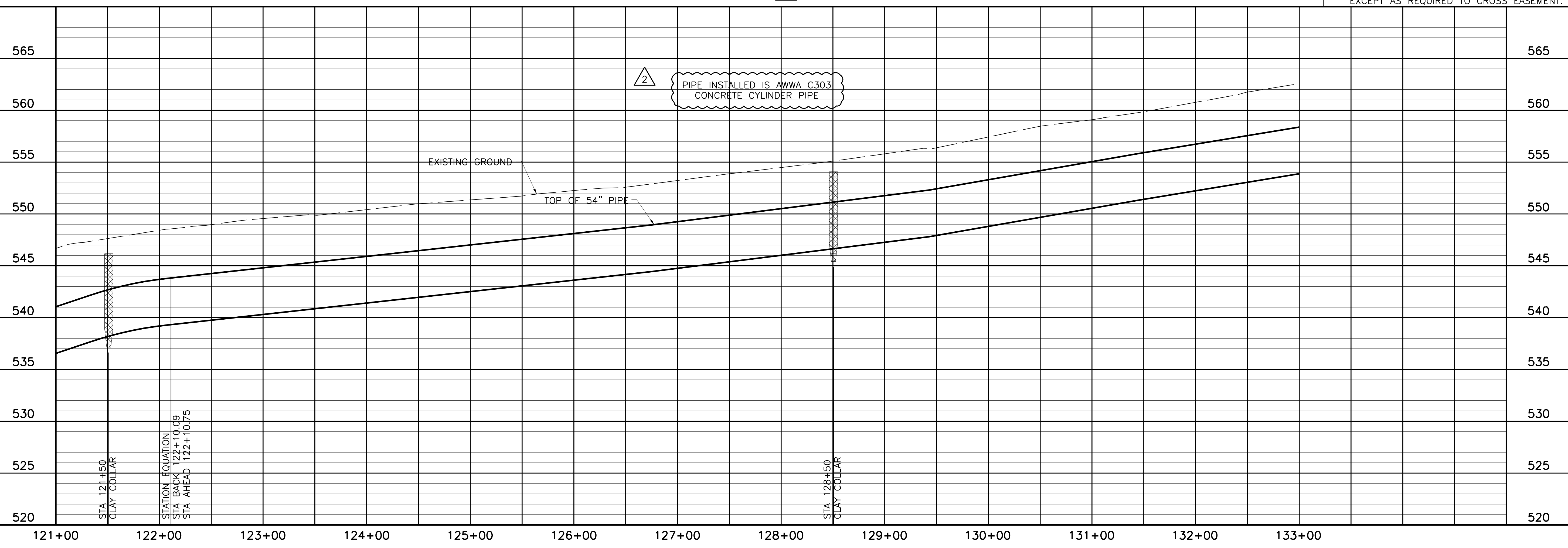
ACAD Rel 17.0s (LMS Tech) User: CLL
 INTD053871\MCSRV2\N:\WR\DRAWINGS\WR-ALL-PP-PIPE11.DWG LAYOUT: Layout1
 NOV 30, 2006 9:49:36 A.M. LTS: 1 PSLTS: 1 TWIST: 0, 359.2
 4 REFERENCE FILES: N:\STANDARD\34BORDER, N:\WR\BASE\WR-ALL-PL-PIPE11, N:\WR\BASE\WR-ALL-PL-PIPE11, N:\WR\BASE\WR-ALL-PL-PIPE11



This Record Drawing is a combination of the original design and field data furnished by the contractor reflecting changes in the project made during construction. The original design is the responsibility of the Engineer. FRESSE AND NICHOLS, INC. 408 INTERNATIONAL PLAZA, SUITE 200 FORT WORTH, TEXAS 76109-4895 (817) 735-7300 RECORD DRAWING PREPARED ON: 11/27/2009

COORDINATE TABLE						
POINT	STATION	NORTHING	EASTING	DIRECTION	DISTANCE	DEF. ANGLE
PI BK	122+10.09	7,016,589.49	2,617,615.91	N 89°14'43\" E	3363.74	-47°10'58\"
PI AH	122+10.75	7,016,589.49	2,617,615.91	N 89°14'43\" E	3363.74	

- NOTE:
- CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO MANUFACTURING PIPE AND BEGINNING CONSTRUCTION.
 - CONTRACTOR'S OPERATIONS SHALL AT NO TIME BE WITHIN TEXAS POWER AND LIGHT EASEMENT, INCLUDING STORING OR STOCKPILING MATERIALS AND/OR EQUIPMENT EXCEPT AS REQUIRED TO CROSS EASEMENT.



Fresse and Nichols
 116 N. Tennessee, Suite 200
 McKinney, Texas 75069-4354
 Phone - (972) 548-2400
 Fax - (972) 548-1055

NORTH TEXAS MUNICIPAL WATER DISTRICT
LAKE TAWAKONI WATER SUPPLY PROJECT
 WEST PIPELINE
 PROJECT NO. WCF 05-10
 CONTRACT 5

PLAN AND PROFILE
 STA 121+00 TO STA 133+00

NO. ISSUE	DATE	BY	DESIGNED	DRAWN	CHECKED
1	NOV 2006	RJR	AAG	JCS	JP

RECORD DRAWINGS
 ADDENDUM NO. 1
 VERIFY SCALE
 Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.

SHEET **PL-11**
 SEQ. 17 OF 70

ACAD Rel 18.0s (LWS Tech) User: ec Office: MCSRV2
 N:\wr\Drawings\WR-ALL-PP-PIPE12.dwg LAYOUT: Layout1
 May 05, 2010 11:27am PLS: 1 TWIST: MCSRV2
 REFERENCES: N:\Standard\34BORDER.dwg, N:\wr\Bases\WR-ALL-PP-BASE01.dwg, N:\wr\Bases\WR-PPL-PP-PIPE01.dwg

MATCHLINE STA 133+00 - SEE SHEET PL-11

W26
 56.40 ACRES
 ROBERT SORRELLS
 8727 REXFORD DR
 DALLAS, TX. 75209
 HEIRSHIP AFFIDAVIT
 VOL. 552, PG. 7
 C. D. SORRELLS
 VOL. Y, PG. 433
 D.R.R.C.T.

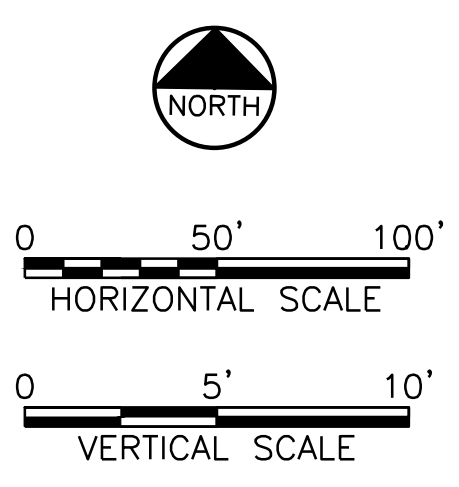
W27
 9.00 ACRES
 STEVE A. BOBALIK &
 ANN G. BOBALIK
 4521 HWY 276
 ROCKWALL, TX. 75032
 VOL. 567, PG. 177
 D.R.R.C.T.

W28
 10.02 ACRES
 RONALD HAWKINS &
 JENNIFER HAWKINS
 PO BOX 1813
 ROCKWALL, TX. 75032
 VOL. 1509, PG. 129
 D.R.R.C.T.

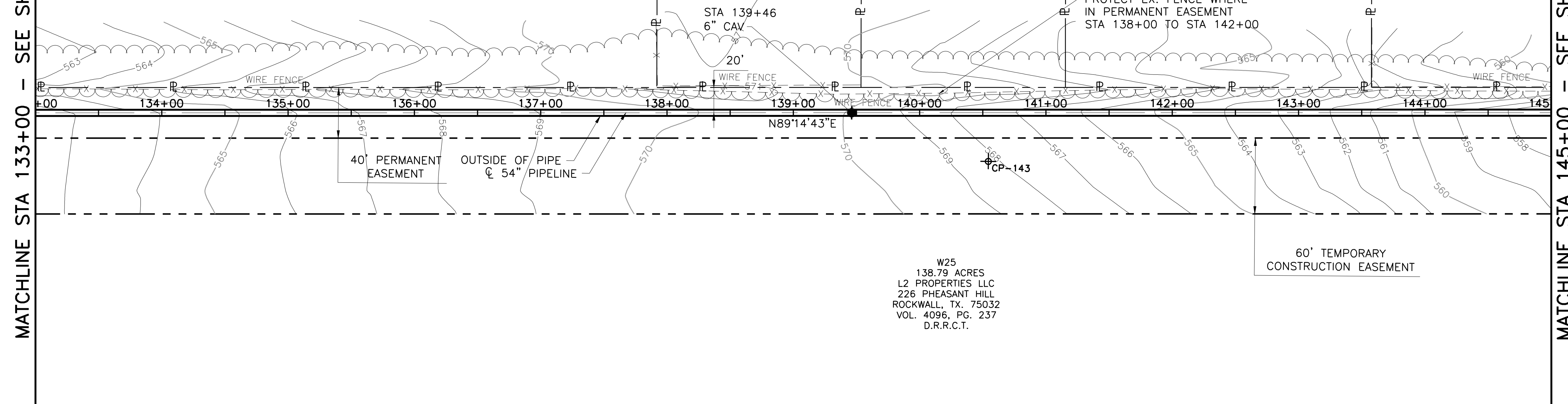
W29
 15.00 ACRES
 DARRELL SMITH
 400 HILLCREST WEST
 TAWAKONI, TX 75474
 VOL. 1509, PG. 129
 D.R.R.C.T.

W30
 15.00 ACRES
 GEORGE R. HEARD
 PO BOX 1273
 ROCKWALL, TX. 75087
 VOL. 1202, PG. 50
 D.R.R.C.T.

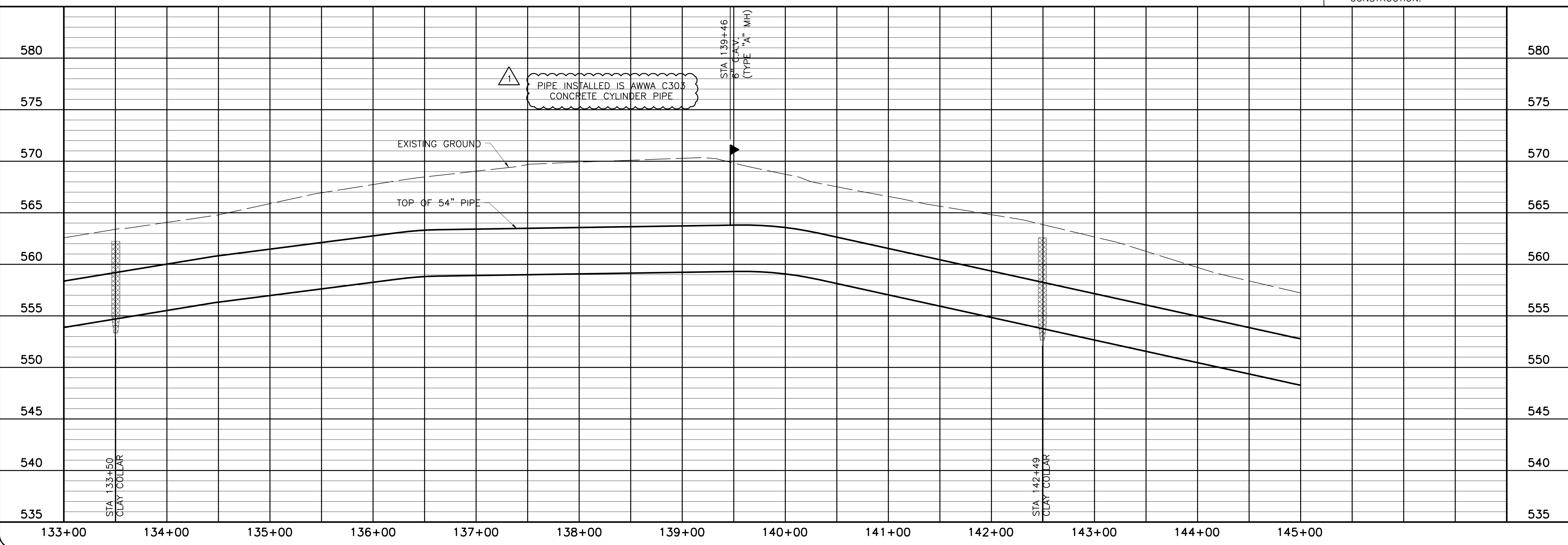
W25
 138.79 ACRES
 L2 PROPERTIES LLC
 226 PHEASANT HILL
 ROCKWALL, TX. 75032
 VOL. 4096, PG. 237
 D.R.R.C.T.



This Record Drawing is a combination of the original and revised drawings of this project, modified by information furnished by the contractor reflecting changes in the project made during construction. The original and revised drawings are the property of FRESSE AND NICHOLS, INC.
 FRESSE AND NICHOLS, INC.
 408 INTERNATIONAL PLAZA, SUITE 200
 FORT WORTH, TEXAS 76109-4895
 (817) 735-7300
 RECORD DRAWINGS PREPARED ON: 7/27/2009



NOTE:
 1. CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO MANUFACTURING PIPE AND BEGINNING CONSTRUCTION.



NORTH TEXAS MUNICIPAL WATER DISTRICT
 LAKE TAWAKONI WATER SUPPLY PROJECT
 WEST PIPELINE
 PROJECT NO. WCF 05-10
 CONTRACT 5
 PIPELINE
 PLAN AND PROFILE
 STA 133+00 TO STA 145+00

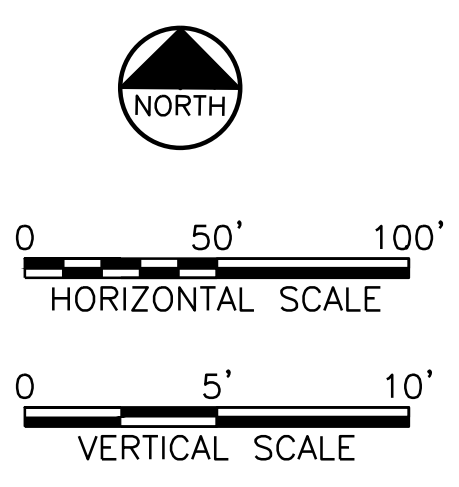
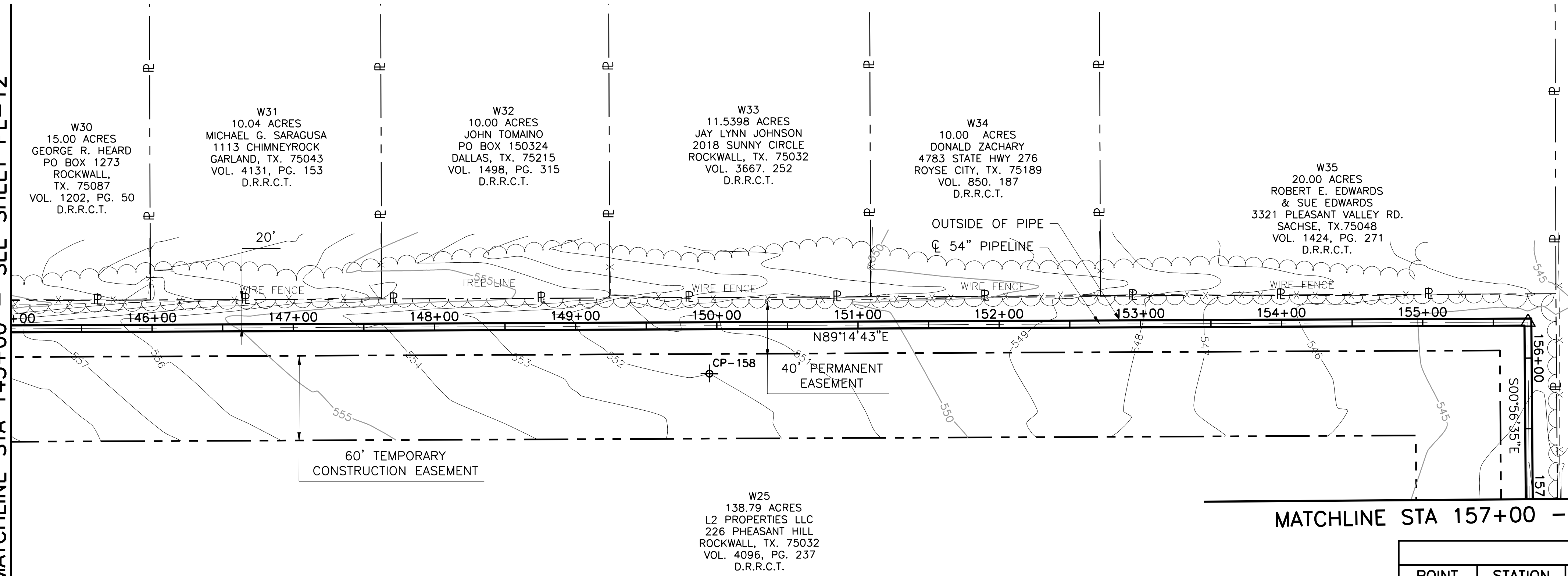
NO. ISSUE	BY	DATE	FOR JOB NO.	DATE	DESIGNED	DRAWN	REVISION	FILE NAME
			NTD05387	NOV 2006	AAG	CLL		WR-ALL-PP-PIPE12.dwg
RECORD DRAWINGS	RJR	7/24/09						
VERIFY SCALE								
0								
1								

SHEET PL-12
 SEQ. 18 OF 70

Fresse and Nichols
 116 N. Tennessee, Suite 200
 McKinney, Texas 75069-4354
 Phone - (972) 548-2400
 Fax - (972) 548-1055
 Texas Registered Engineering Firm F-2144

ACAD: Rel 18.0s (LWS Tech) User: ec Office: MCSRV2
 N:\wr\Drawings\WR-ALL-PP-PIPE13.dwg LAYOUT: Layout1
 May 05, 2010 - 11:30am LIS: 1 TWIST: MCSRV2
 REFERENCES: N:\Standard\3460RPER.dwg, N:\wr\Bose\WR-ALL-PL-BASE01.dwg, N:\wr\Bose\WR-PP-PR-PIPE01.dwg

MATCHLINE STA 145+00 - SEE SHEET PL-12

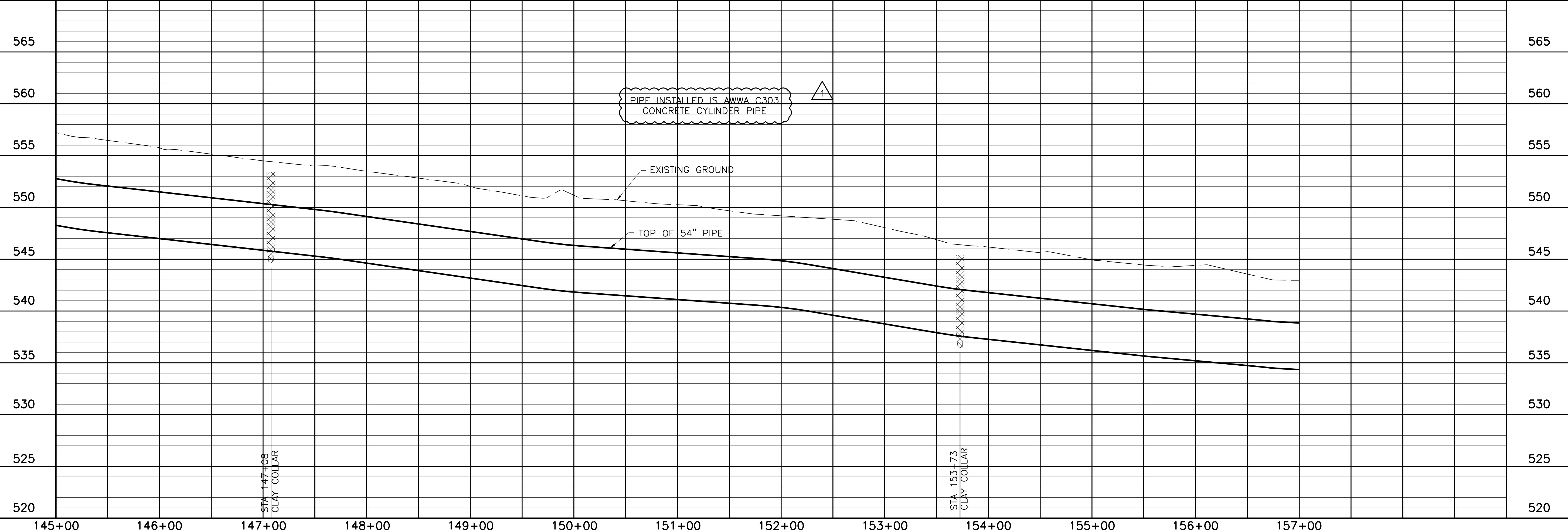


This Record Drawing is a combination of the original and modified information furnished by the contractor reflecting changes in the project made during construction. The original and modified information is the property of FRESSE AND NICHOLS, INC. FRESSE AND NICHOLS, INC. 400 WEST INTERNATIONAL PLAZA, SUITE 200 FORT WORTH, TEXAS 76109-4895 (817) 735-7300 (817) 735-7300 RECORD DRAWING PREPARED ON: 7/27/2009

MATCHLINE STA 157+00 - SEE SHEET PL-14

COORDINATE TABLE						
POINT	STATION	NORTHING	EASTING	DIRECTION	DISTANCE	DEF. ANGLE
PI	155+74.49	7,016,633.80	2,620,979.36	N 00°56'35" W	223.84	-89°48'42"

NOTE:
 1. CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO MANUFACTURING PIPE AND BEGINNING CONSTRUCTION.



NORTH TEXAS MUNICIPAL WATER DISTRICT
 LAKE TAWAKONI WATER SUPPLY PROJECT
 WEST PIPELINE
 PROJECT NO. WCF 05-10
 CONTRACT 5
 PIPELINE
 PLAN AND PROFILE
 STA 145+00 TO STA 157+00

NO.	ISSUE	BY	DATE	DESIGNED	DRAWN	REVISION	CHECKED
1	RECORD DRAWINGS	RJR	7/24/09	AAG	CLL	JP	JP
0	VERIFY SCALE						

Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.

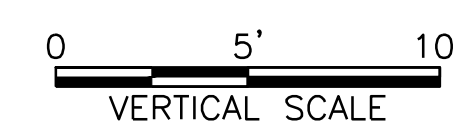
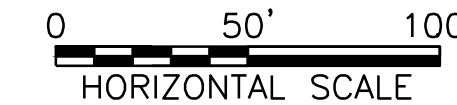
THIS DRAWING IS THE PROPERTY OF FRESSE AND NICHOLS, INC. IT IS TO BE USED ONLY FOR THE PROJECT AND SITE SPECIFICALLY IDENTIFIED HEREON. ANY REUSE OR MODIFICATION OF THIS DRAWING WITHOUT THE WRITTEN PERMISSION OF FRESSE AND NICHOLS, INC. IS PROHIBITED. FRESSE AND NICHOLS, INC. IS AN EQUAL OPPORTUNITY EMPLOYER.

Fresse and Nichols, Inc.
 Texas Registered Engineering Firm F-2144



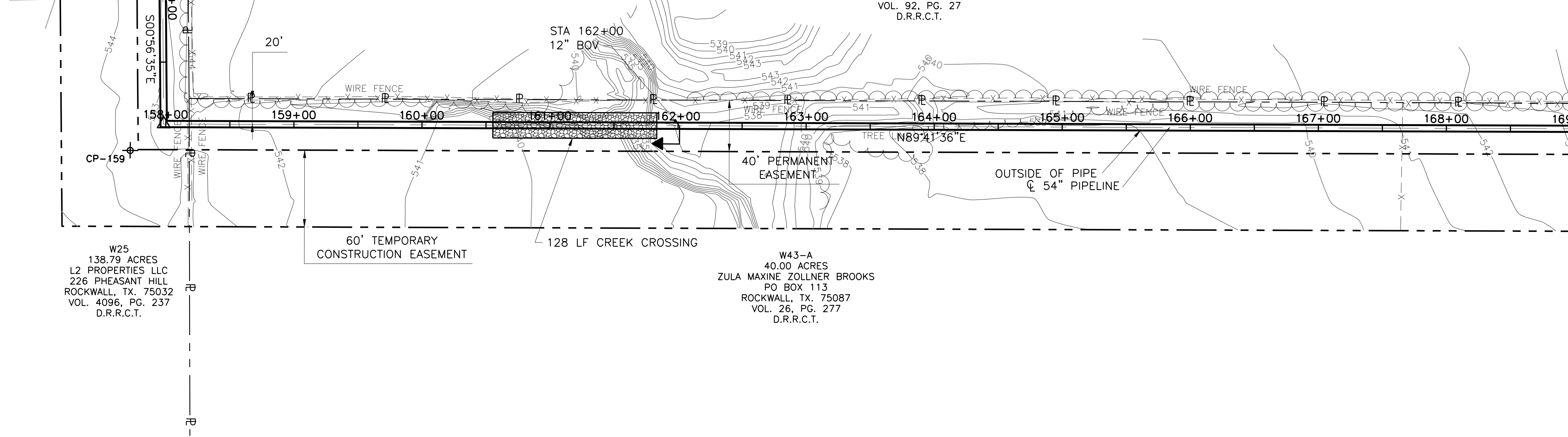
COORDINATE TABLE

POINT	STATION	NORTHING	EASTING	DIRECTION	DISTANCE	DEF. ANGLE
PI	157+98.32	7,016,409.99	2,620,983.04	N 89°41'36" E	1151.68	89°21'49"



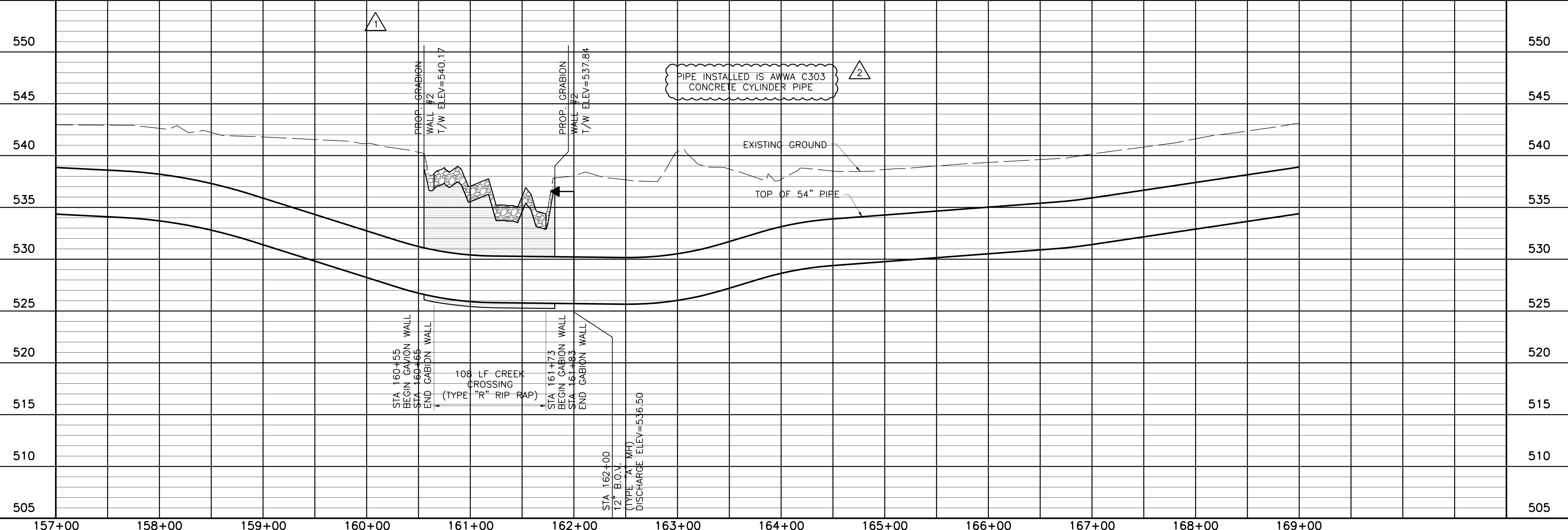
MATCHLINE STA 157+00 -
SEE SHEET PL-13

MATCHLINE STA 169+00 - SEE SHEET PL-15



This Record Drawing is a combination of the original drawing and any amendments made by the contractor reflecting changes in the project made during construction. The original drawing is the responsibility of the Engineer. FREESSE AND NICHOLS, INC. 4050 INTERNATIONAL PARKWAY, SUITE 200 FORT WORTH, TEXAS 76109-4895 (817) 735-7300 RECORD DRAWINGS PREPARED ON: 7/27/2009

NOTE:
1. CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO MANUFACTURING PIPE AND BEGINNING CONSTRUCTION.



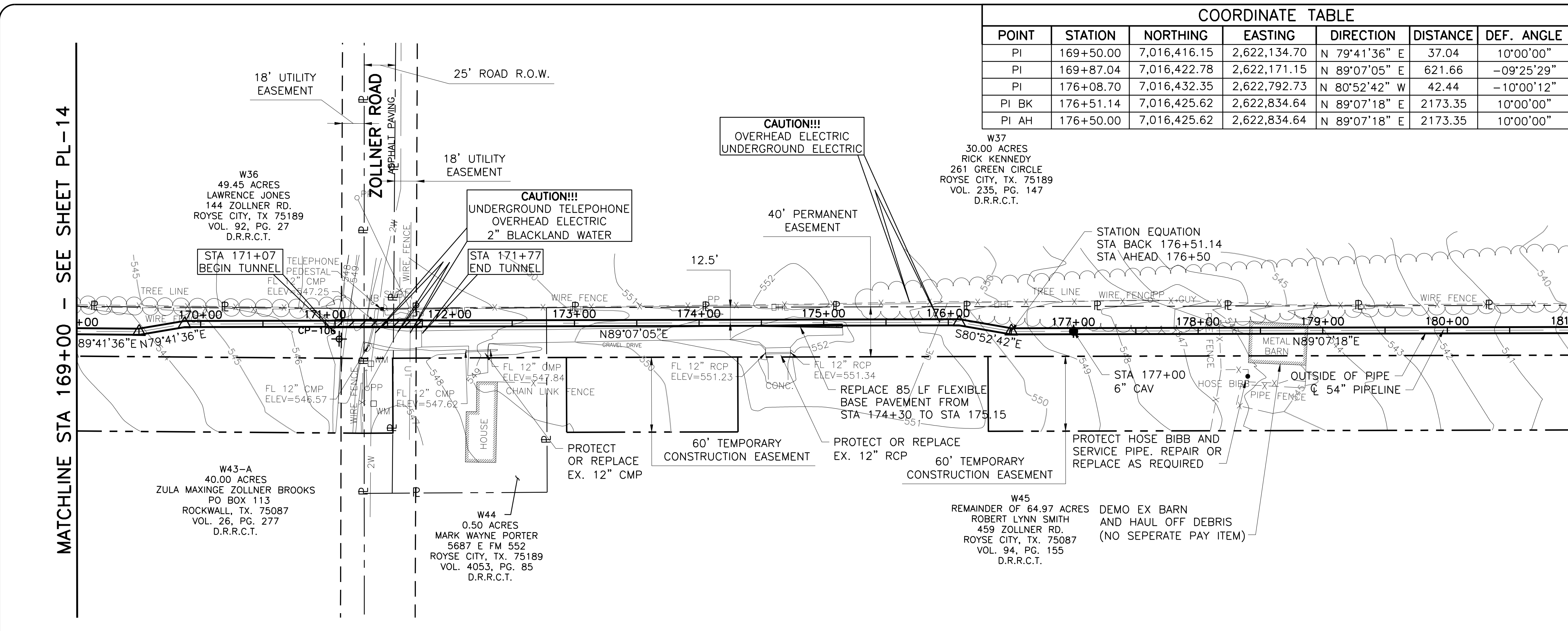
THIS DRAWING IS A REPRESENTATION OF THE ORIGINAL DRAWING AND ANY AMENDMENTS MADE BY THE CONTRACTOR REFLECTING CHANGES IN THE PROJECT MADE DURING CONSTRUCTION. THE ORIGINAL DRAWING IS THE RESPONSIBILITY OF THE ENGINEER. FREESSE AND NICHOLS, INC. 4050 INTERNATIONAL PARKWAY, SUITE 200 FORT WORTH, TEXAS 76109-4895 (817) 735-7300 RECORD DRAWINGS PREPARED ON: 7/27/2009

Freese and Nichols
116 N. Tennessee, Suite 200
McKinney, Texas 75069-4354
Phone - (972) 548-2400
Fax - (972) 548-1055

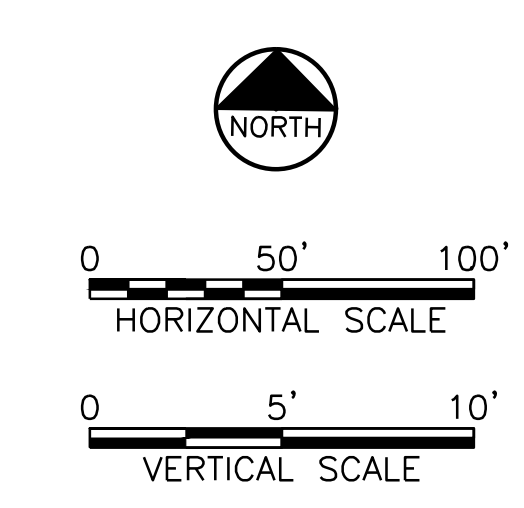
NORTH TEXAS MUNICIPAL WATER DISTRICT
LAKE TAWAKONI WATER SUPPLY PROJECT
WEST PIPELINE
PROJECT NO. WCF 05-10
CONTRACT 5
PIPELINE
PLAN AND PROFILE
STA 157+00 TO STA 169+00

NO. ISSUE	DATE	BY	DESIGNED	DRAWN	CHECKED	FILE NAME
0	NOV 2006	RJR	JCS	JCS	JCS	WR-ALL-PP-PIPE14.dwg
RECORD DRAWINGS						
ADDENDUM NO. 1						
VERIFY SCALE						
Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.						

ACAD: Rel 18.0s (LWS Tech) User: ec Office: MCSRV2
N:\wr\Drawings\WR-ALL-PP-PIPE14.dwg LAYOUT: Layout1
May 05, 2010 - 11:30am PLS: 1
REFERENCES: N:\Standard\3480RPER.dwg, N:\wr\Bose\WR-ALL-PP-BASE01.dwg, N:\wr\Bose\WR-PPL-PP-PIPE01.dwg

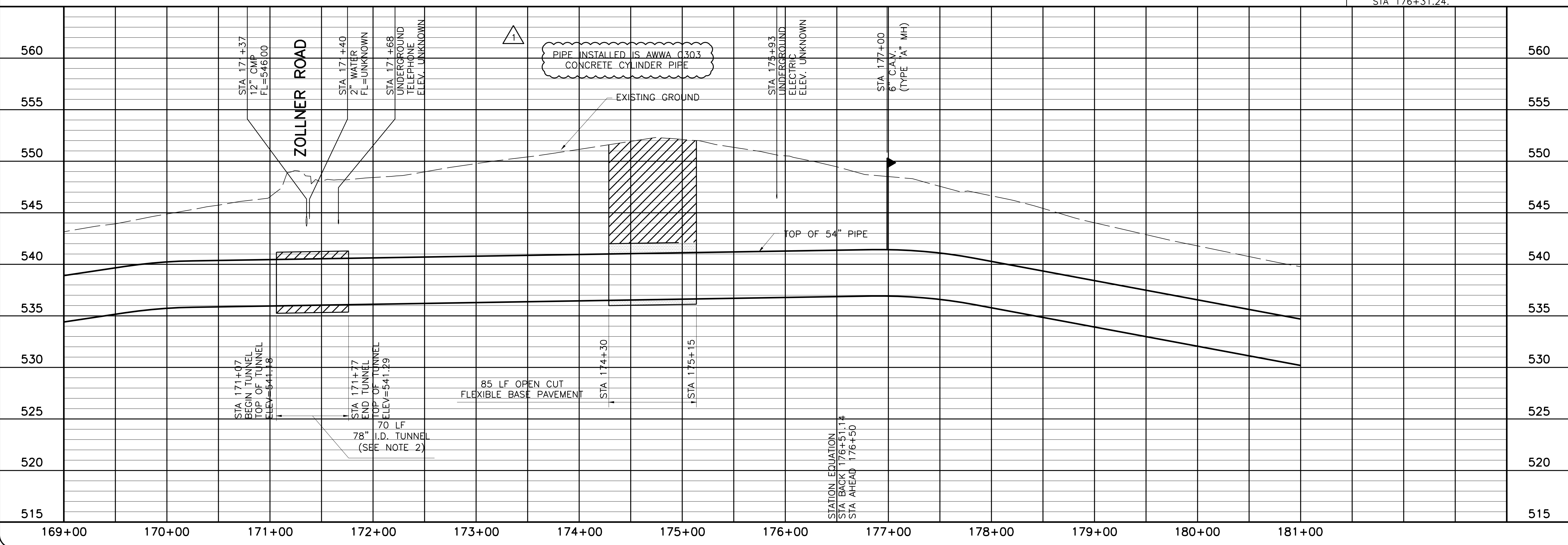


COORDINATE TABLE						
POINT	STATION	NORTHING	EASTING	DIRECTION	DISTANCE	DEF. ANGLE
PI	169+50.00	7,016,416.15	2,622,134.70	N 79°41'36" E	37.04	10°00'00"
PI	169+87.04	7,016,422.78	2,622,171.15	N 89°07'05" E	621.66	-09°25'29"
PI	176+08.70	7,016,432.35	2,622,792.73	N 80°52'42" W	42.44	-10°00'12"
PI BK	176+51.14	7,016,425.62	2,622,834.64	N 89°07'18" E	2173.35	10°00'00"
PI AH	176+50.00	7,016,425.62	2,622,834.64	N 89°07'18" E	2173.35	10°00'00"



This Record Drawing is a combination of the original drawing and the changes made by the contractor reflecting changes in the project made during construction. The original drawing is the responsibility of the engineer. FRESSE AND NICHOLS, INC. 408 SHERIDAN PLAZA, SUITE 200 FORT WORTH, TEXAS 76109-4895 (817) 735-7300 (817) 735-7300 FAX (817) 735-7300 RECORD DRAWING PREPARED ON: 7/27/2009

- NOTE:
- CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO MANUFACTURING PIPE AND BEGINNING CONSTRUCTION OR MOBILIZING FOR TUNNELING OPERATIONS.
 - 78" I.D. TUNNEL SHOWN IS FOR BAR-WRAPPED PIPE OPTION. IF STEEL PIPE IS SELECTED, TUNNEL I.D. WILL BE 72".
 - CONTRACTOR SHALL RESTRICT WORK AREA TO PERMANENT EASEMENT ONLY FROM STA 171+53.45 TO STA 172+92.88, AND STA 174+30.35 TO STA 176+31.24.



NORTH TEXAS MUNICIPAL WATER DISTRICT
LAKE TAWAKONI WATER SUPPLY PROJECT
 WEST PIPELINE
 PROJECT NO. WCF 05-10
 CONTRACT 5
 PIPELINE
PLAN AND PROFILE
 STA 169+00 TO STA 181+00

NO.	ISSUE	BY	DATE	DESIGNED	DRAWN	REVISION	CHECKED
0	RECORD DRAWINGS	RJR	7/24/09	AAG	CLL	JP	JP

VERIFY SCALE: Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.

SHEET **PL-15**
 SEQ. 21 OF 70

Fresse and Nichols, Inc. Texas Registered Engineering Firm F-2144
 116 N. Tennessee, Suite 200
 McKinney, Texas 75069-4354
 Phone - (972) 548-2400
 Fax - (972) 548-1055

ACAD: Rel 18.0s (LWS Tech) User: ec Office: MCSR2
 N:\w\Drawings\WR-ALL-PP-PIPE16.dwg LAYOUT: Layout1
 May 05, 2010 - 11:31am PLS: 1 TWIST: MCSR2
 REFERENCES: N:\Standard\34BORDER.dwg, N:\w\Bose\WR-ALL-PL-BASE01.dwg, N:\w\Bose\WR-PPL-PP-PIPE01.dwg

MATCHLINE STA 181+00 - SEE SHEET PL-15

MATCHLINE STA 193+00 - SEE SHEET PL-17

W37
 30.00 ACRES
 RICK KENNEDY
 261 GREEN CIRCLE
 ROYSE CITY, TX. 75189
 VOL. 235, PG. 147
 D.R.R.C.T.

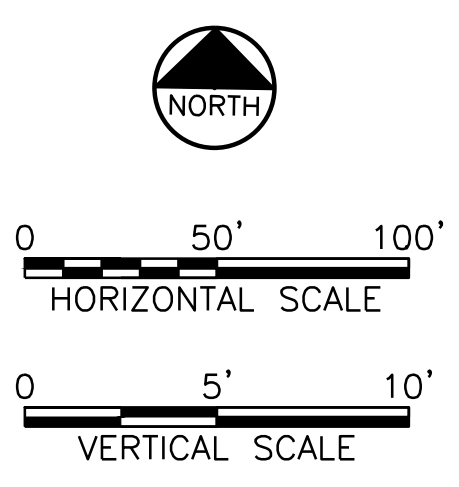
W38
 14.2063 ACRES
 DAVID PEOPLES
 466 GREEN LOOP
 ROYSE CITY, TX. 75189
 VOL. 1082, PG. 231
 D.R.R.C.T.

W39
 REMAINDER OF 47.100 ACRES
 MICHAEL L. PEOPLES &
 DONNIE B. PEOPLES
 PO BOX 41
 ROCKWALL, TX. 75087
 VOL. 1084, PG. 266
 D.R.R.C.T.

W40
 3.94 ACRES
 MICHAEL ASBURY &
 WIFE, LEANN ASBURY
 2091 FM 1139
 ROCKWALL, TX. 75032
 VOL. 1835, PG. 56
 D.R.R.C.T.

W41
 5.00 ACRES
 BOBBY D. WHITE & JANINA J. WHITE
 790 FM 550 ROCKWALL, TX. 75032
 VOL. 1652, PG. 150 D.R.R.C.T.

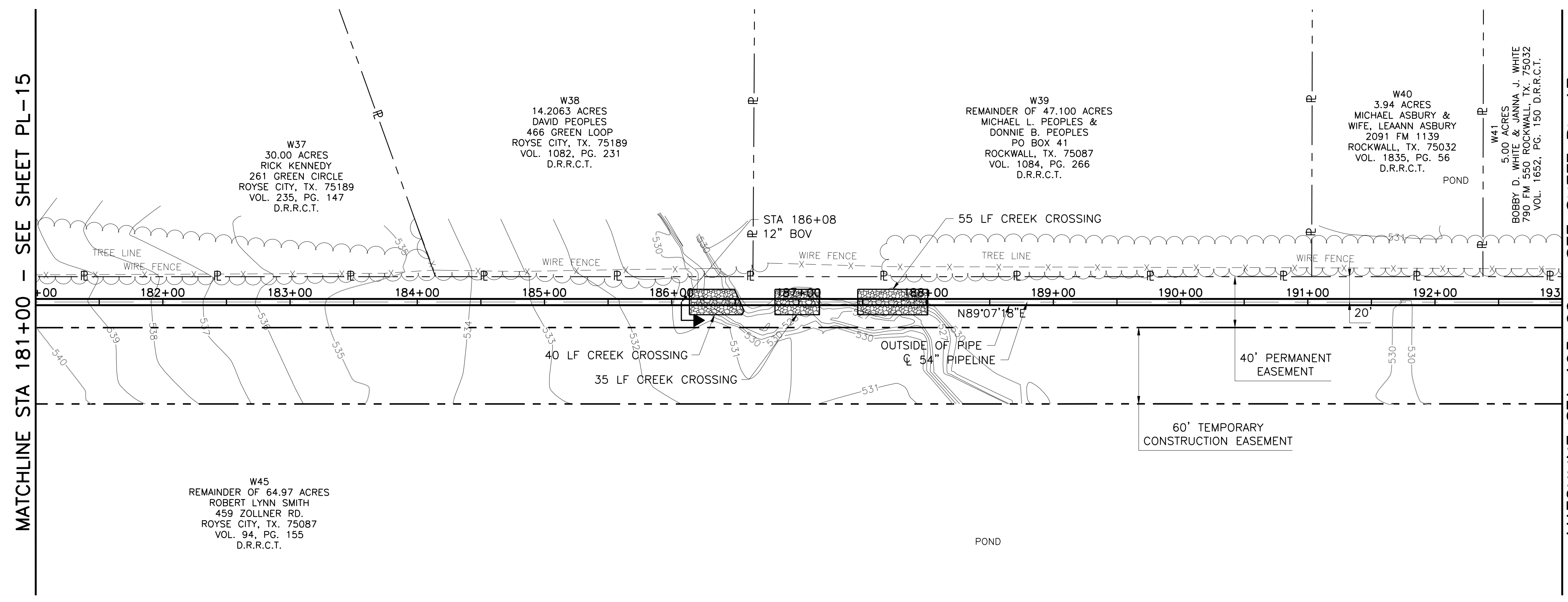
W45
 REMAINDER OF 64.97 ACRES
 ROBERT LYNN SMITH
 459 ZOLLNER RD.
 ROYSE CITY, TX. 75087
 VOL. 94, PG. 155
 D.R.R.C.T.



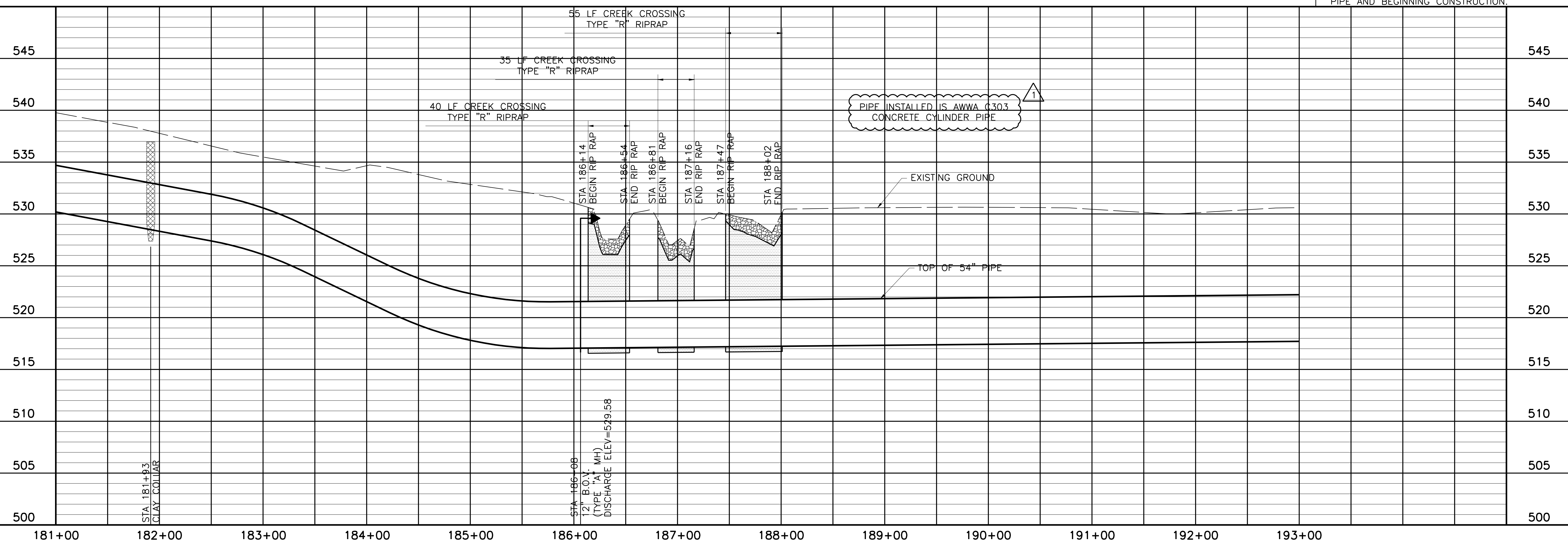
This Record Drawing is a combination of the original and revised drawings of this project, modified by information furnished by the contractor reflecting changes in the project made during construction. The original sealed drawings are on file in the offices of FRESSE AND NICHOLS, INC., 408 SHERIDAN BLVD., SUITE 200, FORT WORTH, TEXAS 76109-4895 (817) 735-7300. RECORD DRAWING PREPARED ON: 7/24/09



NORTH TEXAS MUNICIPAL WATER DISTRICT
LAKE TAWAKONI WATER SUPPLY PROJECT
 WEST PIPELINE
 PROJECT NO. WCF 05-10
 CONTRACT 5
PLAN AND PROFILE
 STA 181+00 TO STA 193+00



NOTE:
 1. CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO MANUFACTURING PIPE AND BEGINNING CONSTRUCTION.

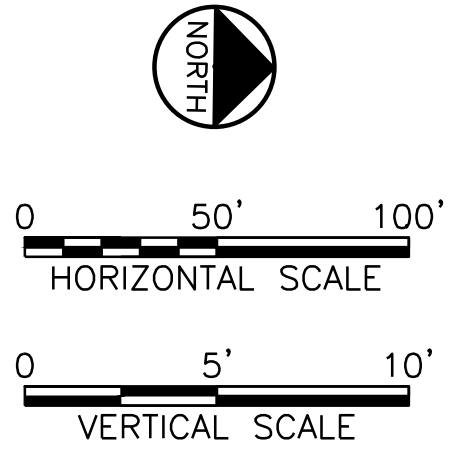
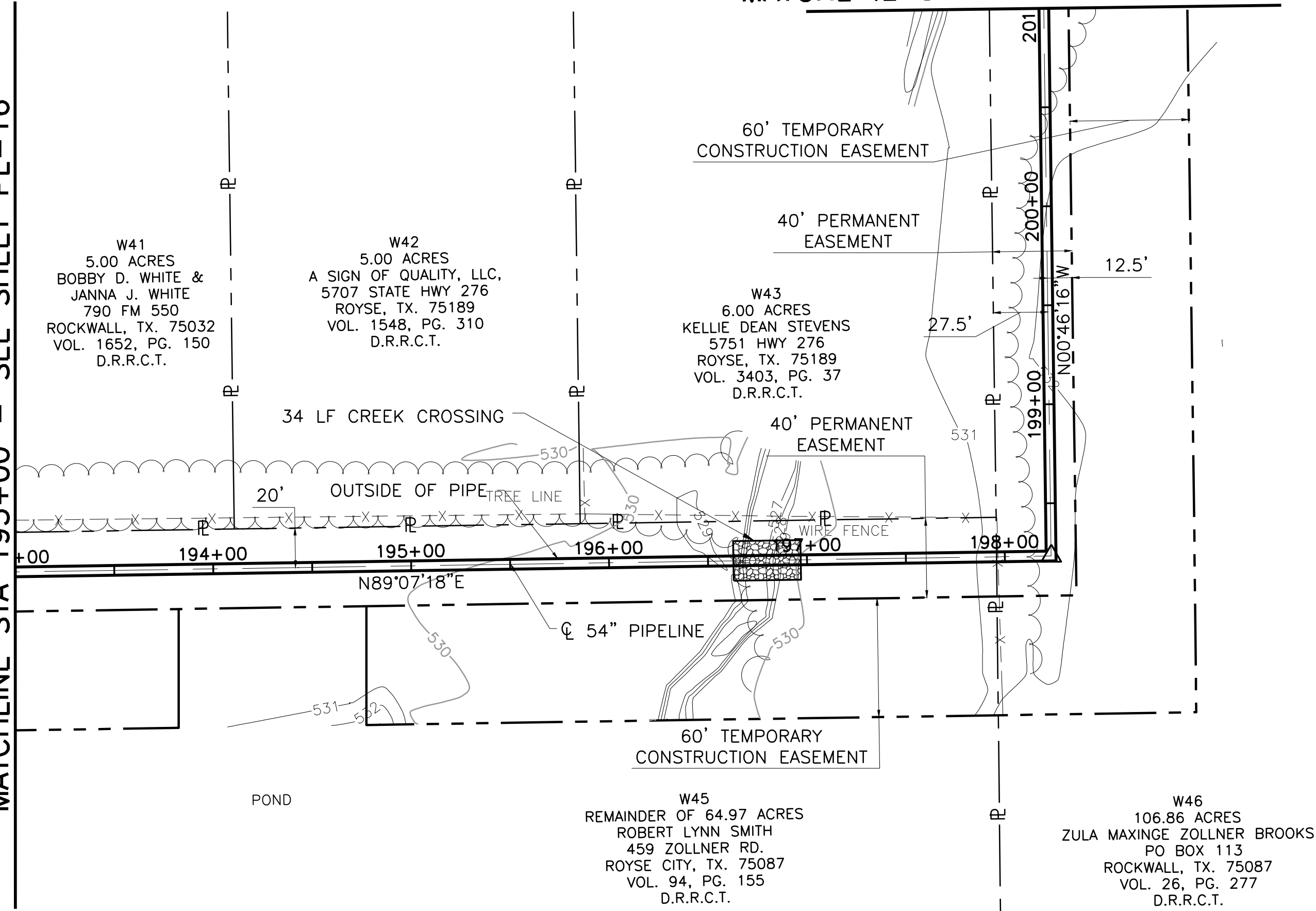


NO. ISSUE	BY	DATE	DATE	DESIGNED	DRAWN	CHECKED	FILE NAME
			NOV 2006	AAG	CLL		WR-ALL-PP-PIPE16.dwg
RECORD DRAWINGS	RJR	7/24/09					
VERIFY SCALE							
0							
1							

Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.

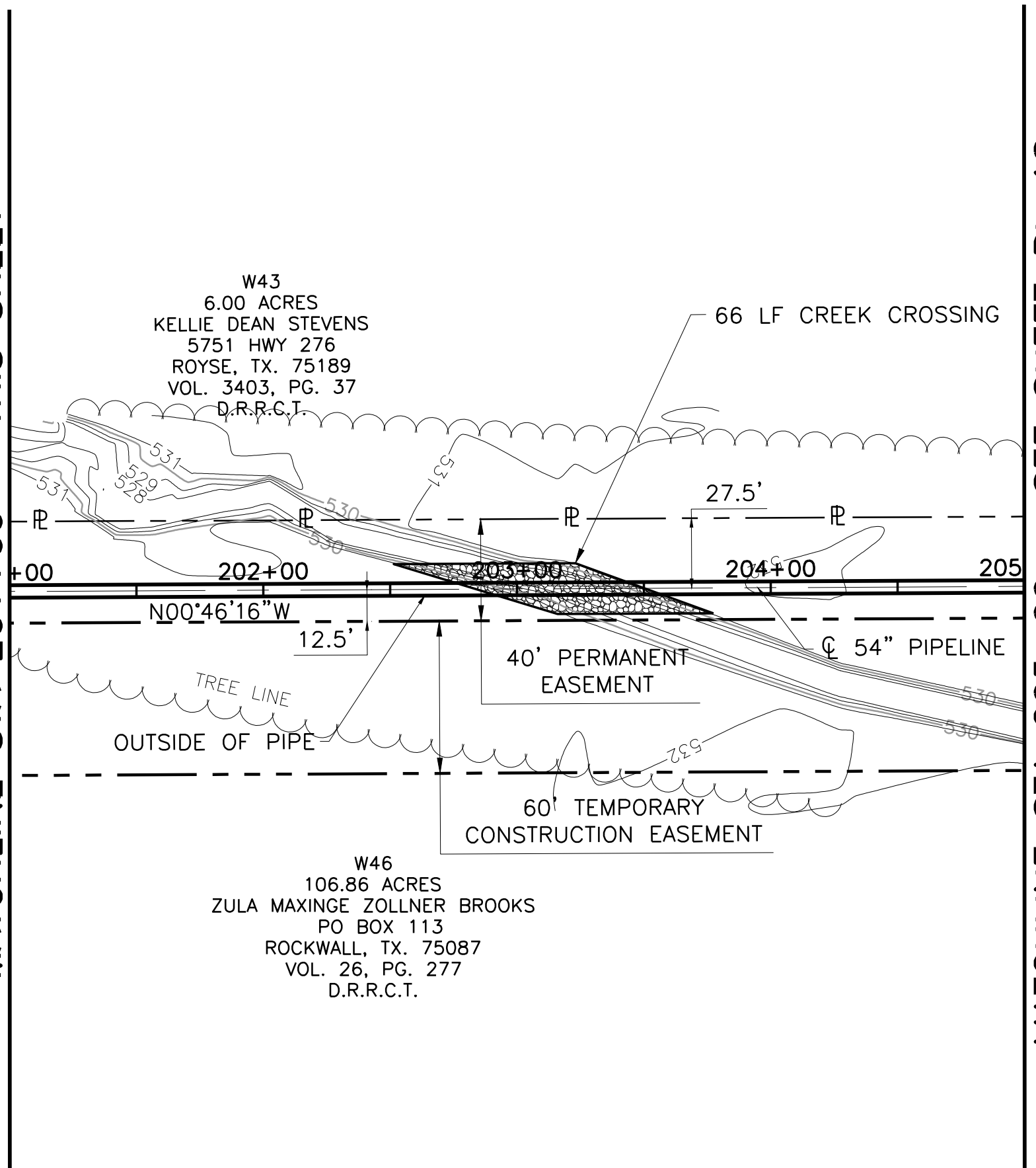
MATCHLINE STA 201+00 - THIS SHEET

MATCHLINE STA 193+00 - SEE SHEET PL-16



This Record Drawing is a combination of the original design and field data. It is the responsibility of the contractor to verify the location and depth of all utilities prior to construction. The original design is the responsibility of the engineer. The original design is the responsibility of the engineer. The original design is the responsibility of the engineer.

MATCHLINE STA 201+00 - THIS SHEET

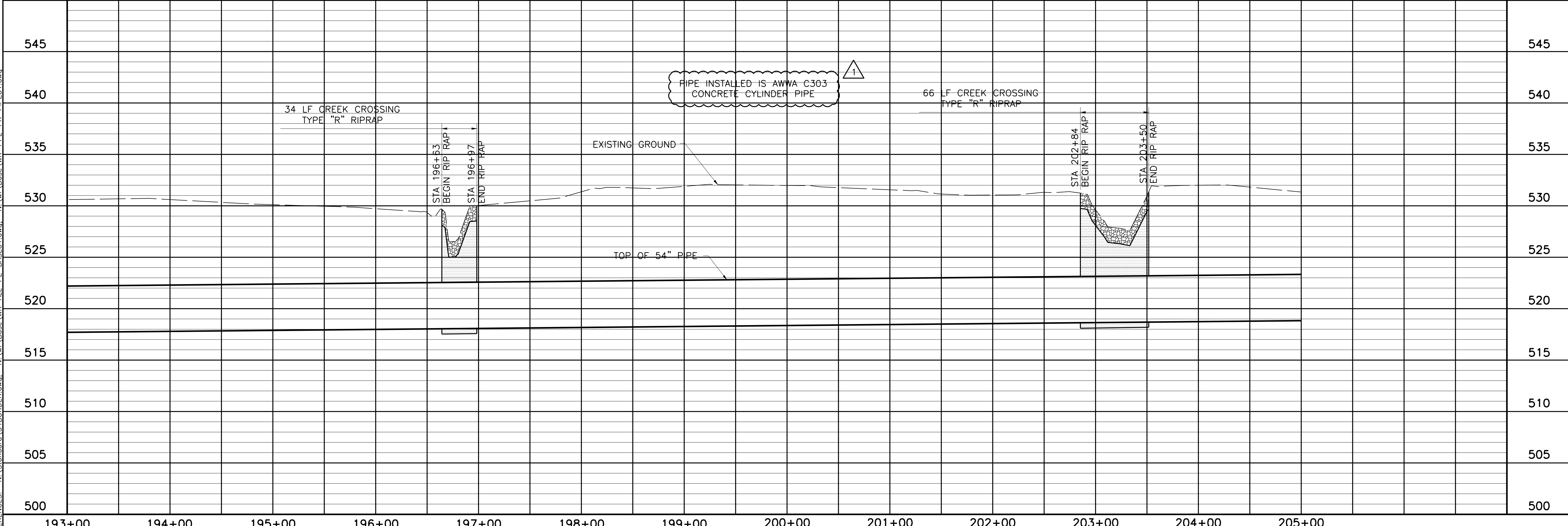


MATCHLINE STA 205+00 - SEE SHEET PL 18

- NOTE:
- CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO MANUFACTURING PIPE AND BEGINNING CONSTRUCTION.
 - CONTRACTOR SHALL RESTRICT WORK AREA TO PERMANENT EASEMENT ONLY FROM STA 193+82.55 TO STA 194+77.37

COORDINATE TABLE

POINT	STATION	NORTHING	EASTING	DIRECTION	DISTANCE	DEF. ANGLE
PI	198+23.35	7,016,458.94	2,625,007.73	N 00°46'16" W	1235.14	89°53'33"



NORTH TEXAS MUNICIPAL WATER DISTRICT
 LAKE TAWAKONI WATER SUPPLY PROJECT
 WEST PIPELINE
 PROJECT NO. WCF 05-10
 CONTRACT 5
 PIPELINE
 PLAN AND PROFILE
 STA 193+00 TO STA 205+00

NO.	ISSUE	BY	DATE	DESIGNED	DRAWN	CHECKED	REVISION
		RJR	7/24/09	AAG	CLL	JP	

RECORD DRAWINGS
 VERIFY SCALE
 Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.

ACAD: Rel 18.0s (LWS Tech) User: ec Office: MCSRV2
 N:\w\Drawings\WR-ALL-PP-PIPE17.dwg LAYOUT: Layout1
 May 05, 2010 - 11:33am PLS: 1
 REFERENCES: N:\Standard\34BORDER.dwg, N:\w\Bose\WR-ALL-PL-BASE01.dwg, N:\w\Bose\WR-EPI-PR-PIPE01.dwg

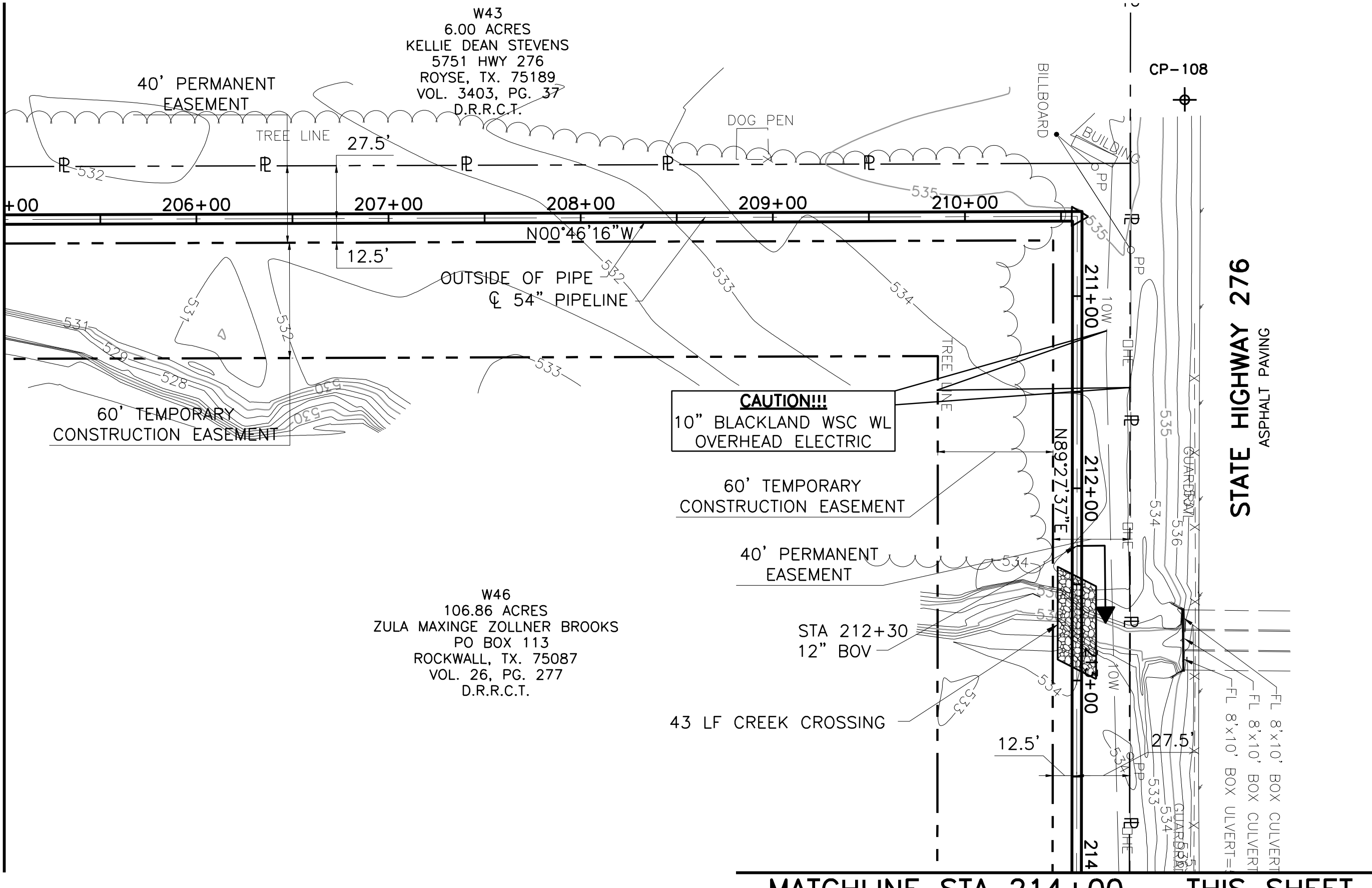
THIS DRAWING IS THE PROPERTY OF FRESSE AND NICHOLS, INC. IT IS TO BE USED ONLY FOR THE PROJECT AND SITE SPECIFICALLY IDENTIFIED HEREON. ANY REUSE OR MODIFICATION OF THIS DRAWING WITHOUT THE WRITTEN PERMISSION OF FRESSE AND NICHOLS, INC. IS PROHIBITED. FRESSE AND NICHOLS, INC. IS AN EQUAL OPPORTUNITY EMPLOYER.

Fresse and Nichols, Inc.
 Texas Registered Engineering Firm F-2144
 116 N. Tennessee, Suite 200
 McKinney, Texas 75069-4354
 Phone - (972) 548-2400
 Fax - (972) 548-1055

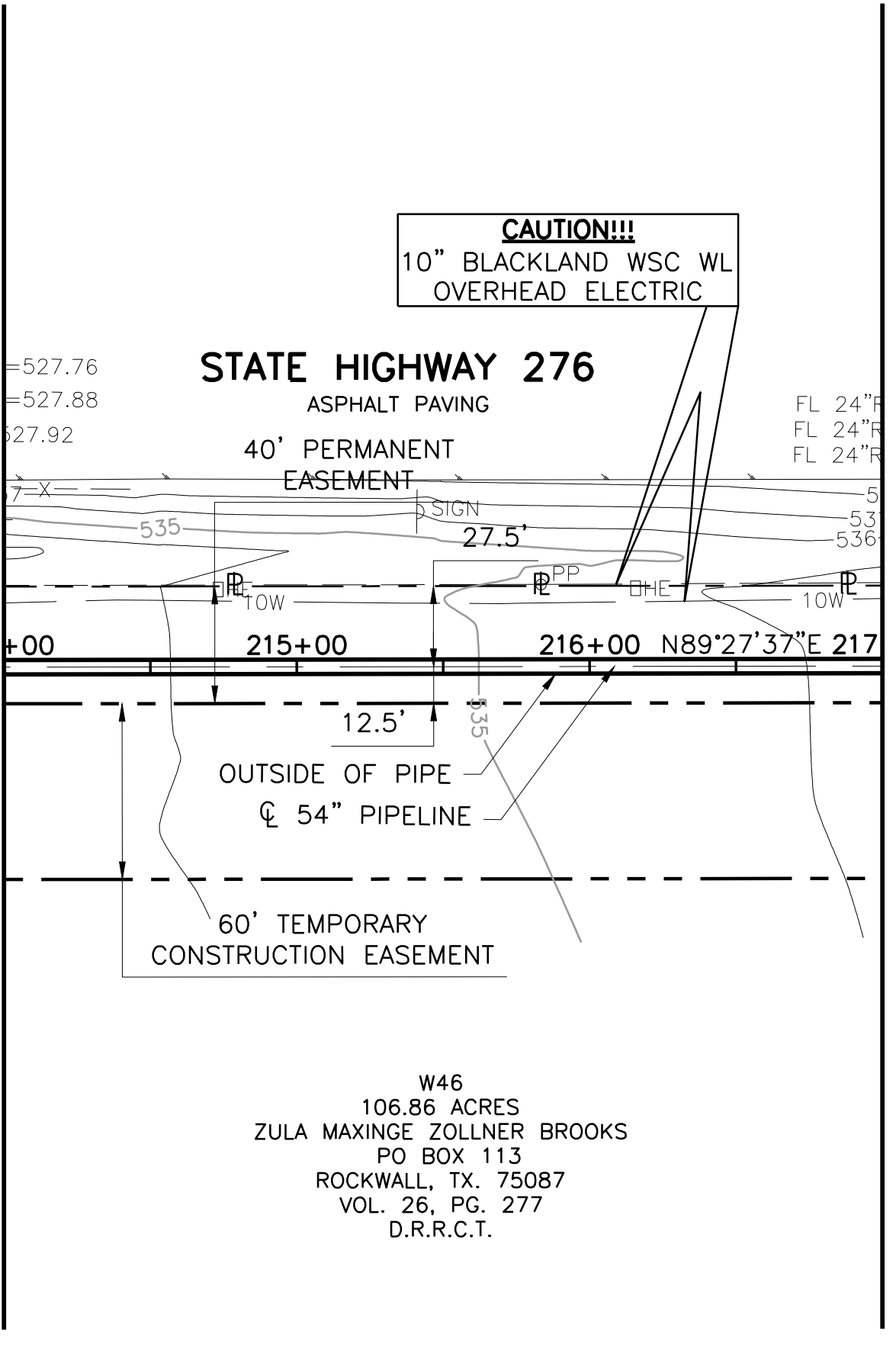
COORDINATE TABLE

POINT	STATION	NORTHING	EASTING	DIRECTION	DISTANCE	DEF. ANGLE
PI	210+58.49	7,017,693.97	2,624,991.11	N 89°27'37" E	3581.15	-90°13'52"

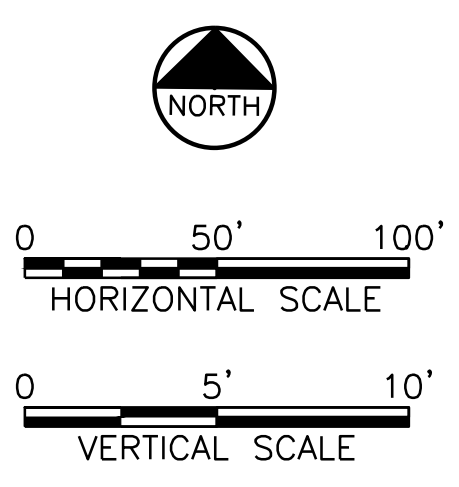
MATCHLINE STA 205+00 - SEE SHEET PL-17



MATCHLINE STA 214+00 - THIS SHEET

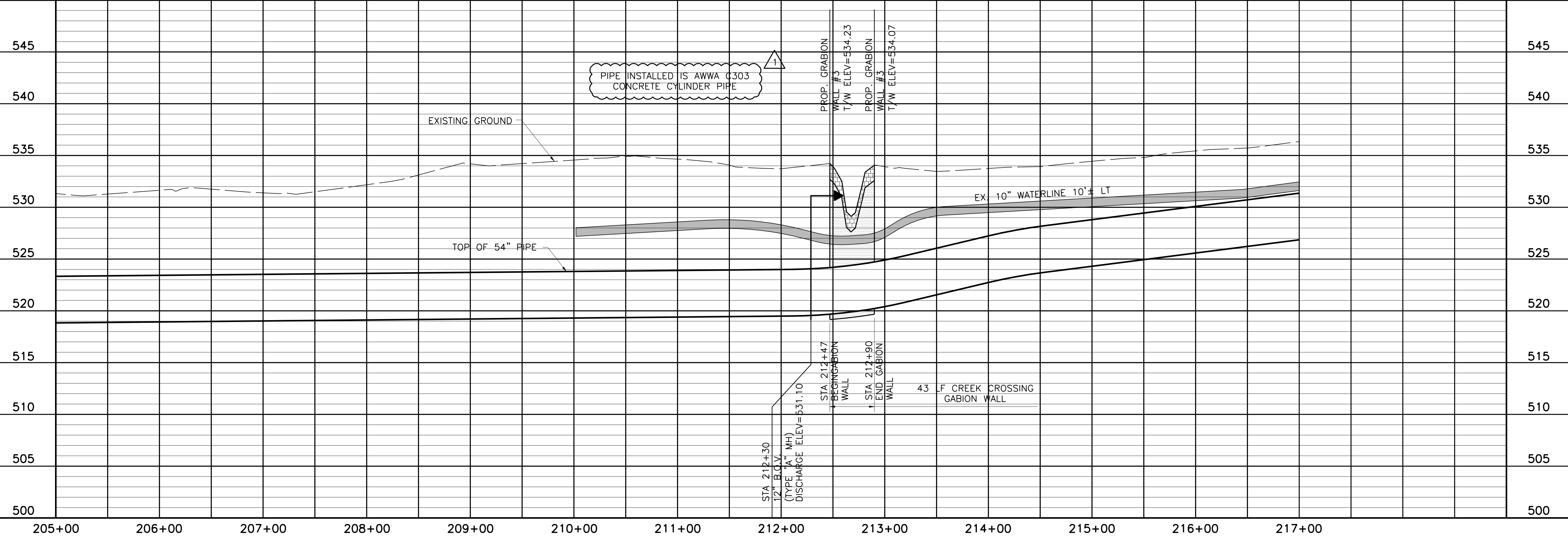


MATCHLINE STA 217+00 - SEE SHEET PL-19



This Record Drawing is a combination of the original design and field data furnished by the contractor reflecting changes in the project made during construction. The original design is the responsibility of the Engineer of Record, FRESSE AND NICHOLS, INC., 116 N. Tennessee, Suite 200, McKinney, Texas 75069-4354. (817) 735-7300. RECORD DRAWING PREPARED ON: 7/27/2009

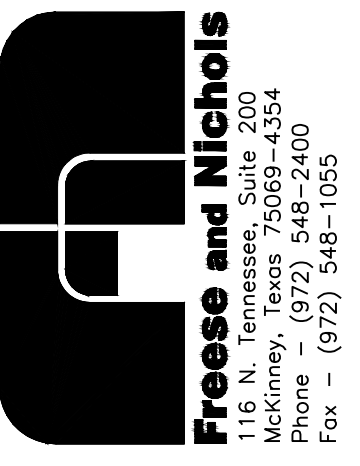
NOTE:
1. CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO MANUFACTURING PIPE AND BEGINNING CONSTRUCTION.



NORTH TEXAS MUNICIPAL WATER DISTRICT
LAKE TAWAKONI WATER SUPPLY PROJECT
WEST PIPELINE
PROJECT NO. WCF 05-10
CONTRACT 5
PIPELINE
PLAN AND PROFILE
STA 205+00 TO STA 217+00

NO. ISSUE	BY	DATE	FOR JOB NO.	DESIGNED	AAG	CLL	CHECKED	JP
			NTD05387					
			DATE NOV 2006	DESIGNED	AAG	CLL	CHECKED	JP
				DRAWN			REVISION	
							7/24/09	
							FILE NAME	
							WR-ALL-PP-PIPE18.dwg	

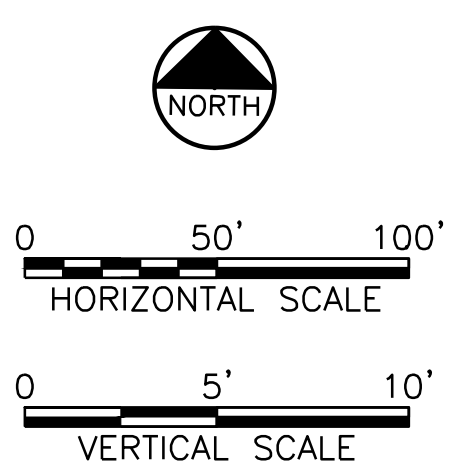
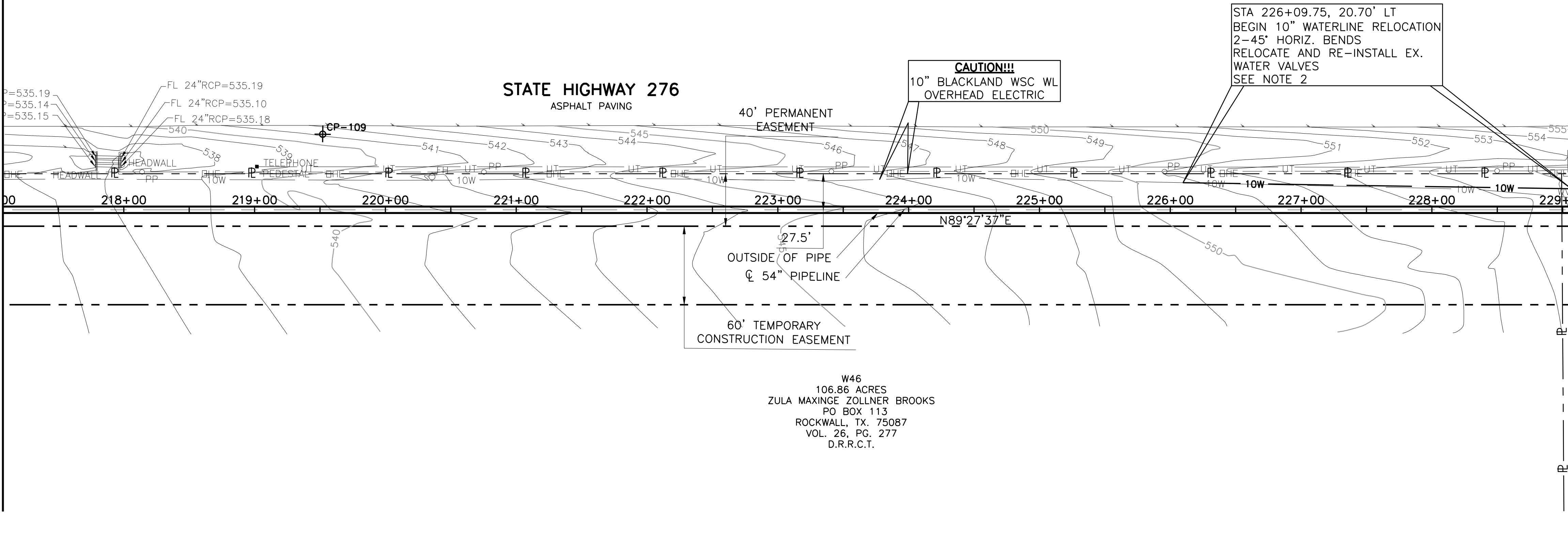
Fresse and Nichols, Inc.
Texas Registered Engineering Firm F-2144



ACAD: Rel 18.0s (LWS Tech) User: ec Office: MCSRV2
 N:\wr\Drawings\WR-ALL-PP-PIPE19.dwg LAYOUT: Layout1
 May 05, 2010 - 11:36am LIS: 1 TWIST: MCSRV2
 REFERENCES: N:\Standard\348ORDER.dwg, N:\wr\Bose\WR-ALL-PL-BASE01.dwg, N:\wr\Bose\WR-PPL-PR-PIPE01.dwg

MATCHLINE STA 217+00 - SEE SHEET PL-18

MATCHLINE STA 229+00 - SEE SHEET PL-20

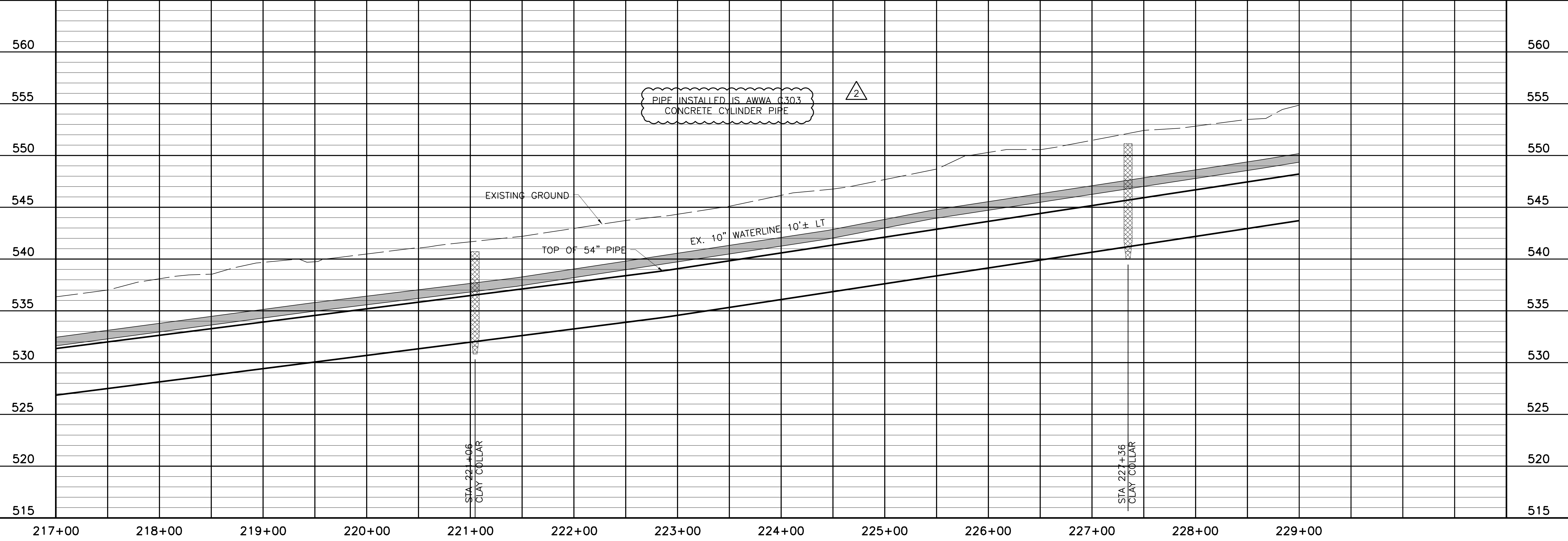


This Record Drawing is a combination of the original design and field data. It is the responsibility of the contractor to verify the location and depth of all utilities prior to construction. The original design is the responsibility of the engineer. The contractor shall be responsible for any errors or omissions in the field data. The original design is the responsibility of the engineer. The contractor shall be responsible for any errors or omissions in the field data.

FRESE AND NICHOLS, INC.
 116 N. Tennessee, Suite 200
 McKinney, Texas 75069-4354
 Phone - (972) 548-2400
 Fax - (972) 548-1055
 RECORD DRAWING PREPARED ON: 7/27/2009

- NOTE:
- CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO MANUFACTURING PIPE AND BEGINNING CONSTRUCTION.
 - INSTALL AND TEST NEW 10" WATERLINE PRIOR TO REMOVAL OR ABANDONMENT OF EXISTING 10" WATER. TEST AND DISINFECT PER SECTION 01656 AND 01680. COMPLETE CONNECTION AND SERVICE RECONNECTIONS AFTER TEST. CONTACT BLACKLAND WSC AND RESIDENTS AFFECTED 72 HOURS PRIOR TO START OF WORK. WATER SERVICE SHALL NOT BE DISCONNECTED MORE THAN 4 HOURS. ALLOWABLE TIMES ARE BETWEEN 9:00 A.M. AND 4:00 P.M.

W46
 106.86 ACRES
 ZULA MAXINGE ZOLLNER BROOKS
 PO BOX 113
 ROCKWALL, TX. 75087
 VOL. 26, PG. 277
 D.R.R.C.T.



NORTH TEXAS MUNICIPAL WATER DISTRICT
LAKE TAWAKONI WATER SUPPLY PROJECT
 WEST PIPELINE
 PROJECT NO. WCF 05-10
 CONTRACT 5
 PIPELINE
PLAN AND PROFILE
 STA 217+00 TO STA 229+00

NO. ISSUE	DATE	BY	DESIGNED	DRAWN	CHECKED
	NOV 2006		AAG	CLL	JP
RECORD DRAWINGS		RJR	7/24/09		
ADDENDUM NO. 1		JCS	10/18/06		
VERIFY SCALE					
0					

Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.

SHEET **PL-19**
 SEQ. 25 OF 70

THIS DRAWING IS THE PROPERTY OF FRESE AND NICHOLS, INC. IT IS TO BE USED ONLY FOR THE PROJECT AND SITE SPECIFICALLY IDENTIFIED HEREON. ANY REUSE OR MODIFICATION OF THIS DRAWING WITHOUT THE WRITTEN PERMISSION OF FRESE AND NICHOLS, INC. IS PROHIBITED.

Frese and Nichols
 116 N. Tennessee, Suite 200
 McKinney, Texas 75069-4354
 Phone - (972) 548-2400
 Fax - (972) 548-1055
 Texas Registered Engineering Firm F-2144

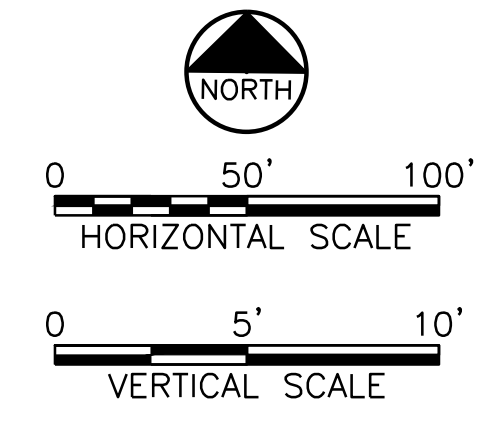
ACAD: Rel 18.0s (LWS Tech) User: ec
 N:\Drawings\WR-ALL-PP-PIPE20.dwg LAYOUT: Layout1
 May 05, 2010 - 11:37am
 REFERENCES: N:\Standard\3460RPER.dwg, N:\Bases\WR-ALL-PP-BASE01.dwg, N:\Bases\WR-PP-PP-PIPE01.dwg

MATCHLINE STA 229+00 - SEE SHEET PL-19

STA 230+29.84, 14.09' LT
 END 10" WATERLINE RELOCATION
 2-45' HORIZ. BENDS
 RELOCATE AND RE-INSTALL EX.
 WATER VALVES
 SEE NOTE 2

CAUTION!!!
 OVERHEAD ELECTRIC, HIGH TENSION GUY WIRES
 CONTRACTOR SHALL NOTIFY FARMERS
 ELECTRIC CO-OP 45 DAYS PRIOR TO
 COMMENCEMENT OF CONSTRUCTION
 ACTIVITIES FOR COORDINATION OF THE
 RELOCATION OF POWER POLES, GUY WIRES
 UNDERGROUND CONDUITS AND ANY OTHER
 FACILITIES. ANY COST ASSOCIATED WITH
 THE RELOCATION OF FACILITIES WILL BE
 AT NO ADDITIONAL COST TO THE OWNER.

CAUTION!!!
 10" BLACKLAND WSC WL
 OVERHEAD ELECTRIC

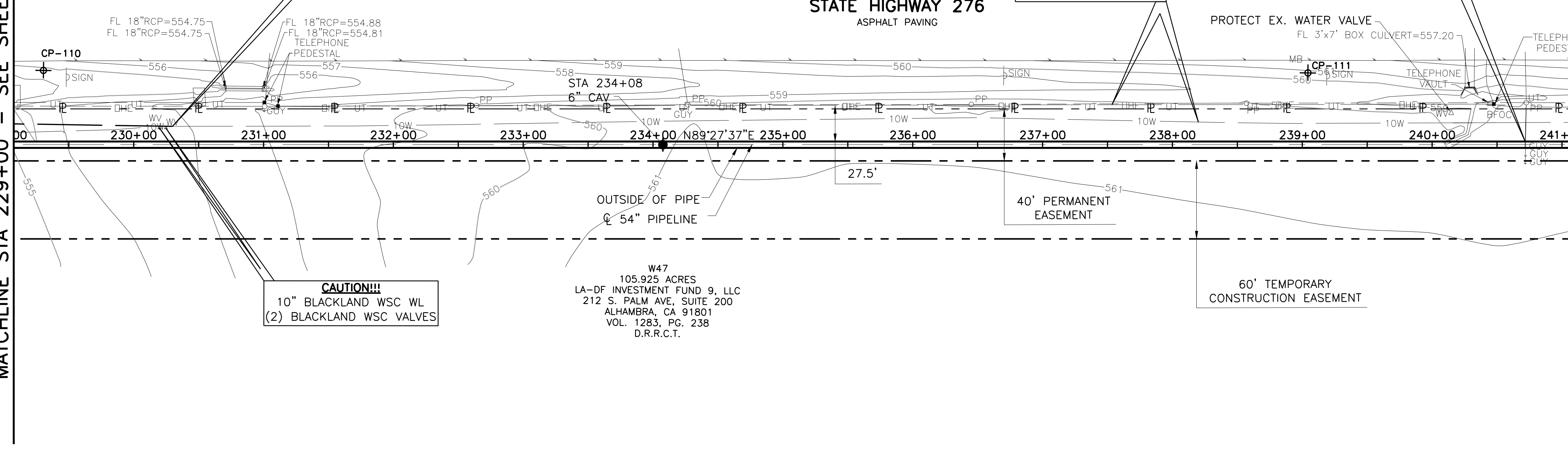


This Record Drawing is a combination of the original drawing and any changes made during construction. The original drawing was prepared by the responsible engineer or architect. The original drawing was prepared by the responsible engineer or architect. The original drawing was prepared by the responsible engineer or architect.

THIS DRAWING IS A COMBINATION OF THE ORIGINAL DRAWING AND ANY CHANGES MADE DURING CONSTRUCTION. THE ORIGINAL DRAWING WAS PREPARED BY THE RESPONSIBLE ENGINEER OR ARCHITECT. THE ORIGINAL DRAWING WAS PREPARED BY THE RESPONSIBLE ENGINEER OR ARCHITECT.

Freese and Nichols
 116 N. Tennessee, Suite 200
 McKinney, Texas 75069-4354
 Phone - (972) 548-2400
 Fax - (972) 548-1055

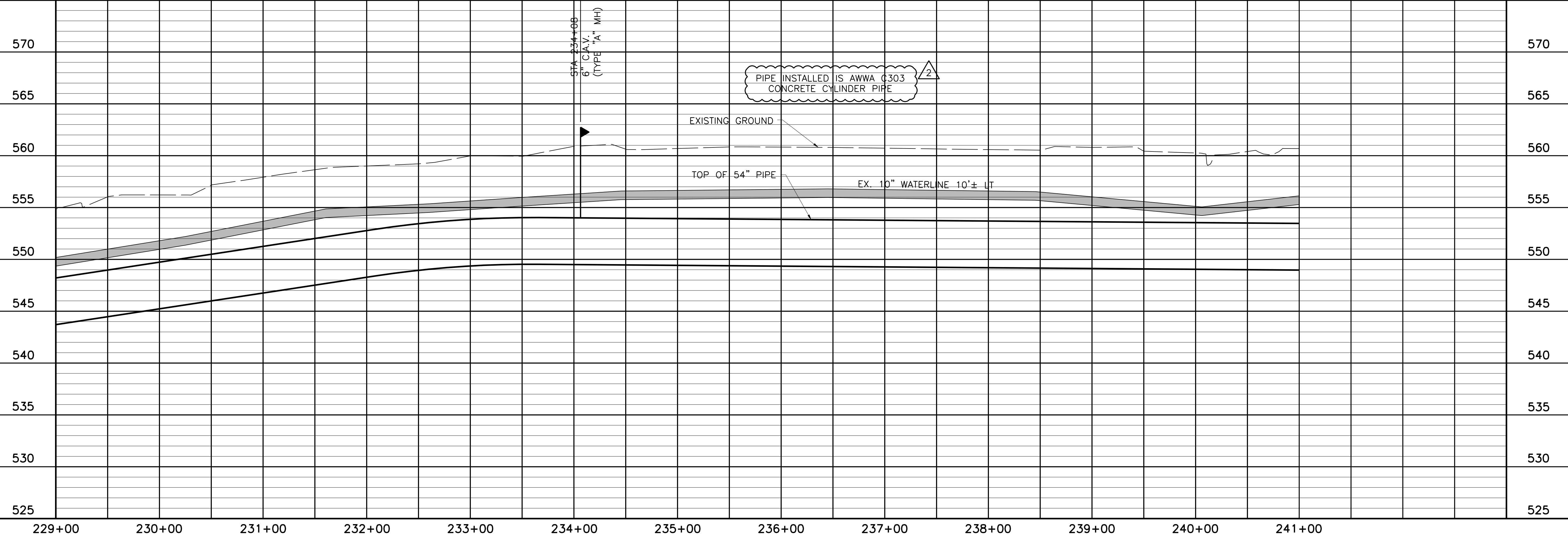
STATE HIGHWAY 276
 ASPHALT PAVING



- NOTE:
- CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO MANUFACTURING PIPE AND BEGINNING CONSTRUCTION.
 - INSTALL AND TEST NEW 10" WATERLINE PRIOR TO REMOVAL OR ABANDONMENT OF EXISTING 10" WATERLINE. TEST AND DISINFECT PER SECTION 01656 AND 01680. COMPLETE CONNECTION AND SERVICE RECONNECTIONS AFTER TEST. CONTACT BLACKLAND WSC AND RESIDENTS AFFECTED 72 HOURS PRIOR TO START OF WORK. WATER SERVICE SHALL NOT BE DISCONNECTED MORE THAN 4 HOURS. ALLOWABLE TIMES ARE BETWEEN 9:00 A.M. AND 4:00 P.M.

W47
 105.925 ACRES
 LA-DF INVESTMENT FUND 9, LLC
 212 S. PALM AVE, SUITE 200
 ALHAMBRA, CA 91801
 VOL. 1283, PG. 238
 D.R.R.C.T.

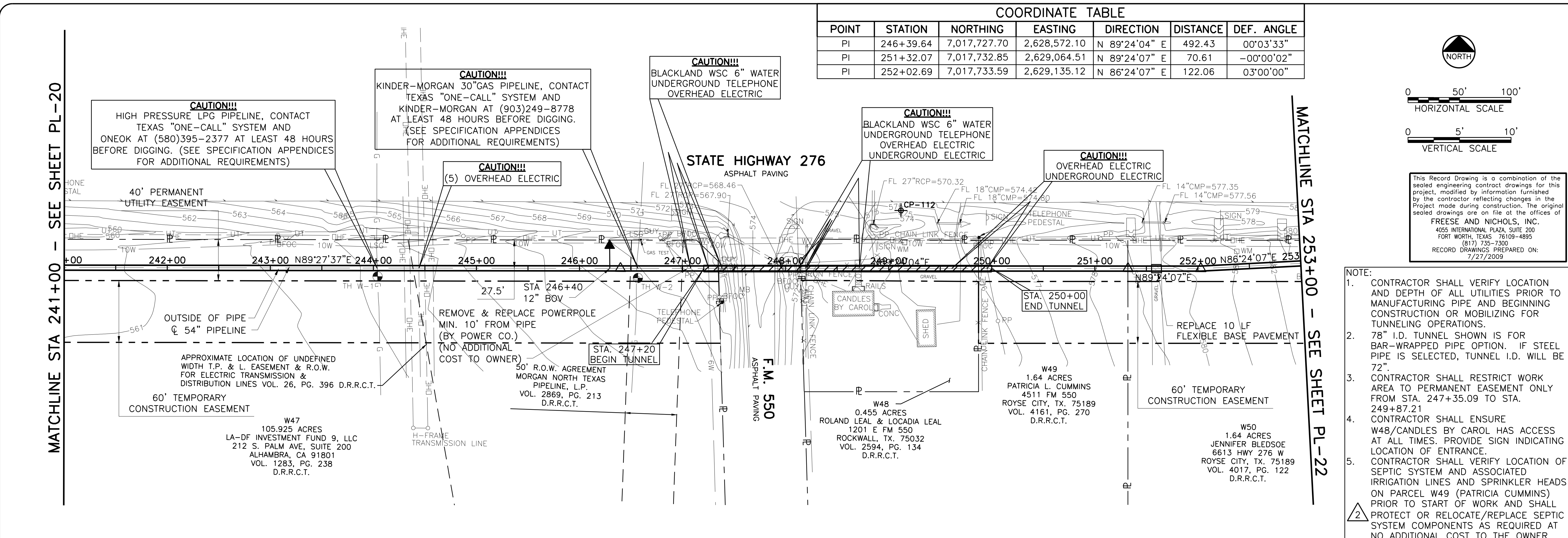
CAUTION!!!
 10" BLACKLAND WSC WL
 (2) BLACKLAND WSC VALVES



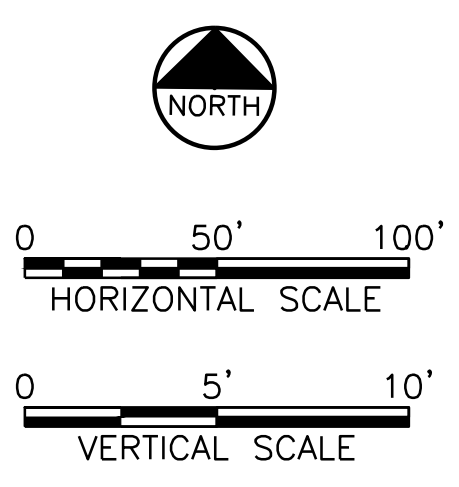
NORTH TEXAS MUNICIPAL WATER DISTRICT
LAKE TAWAKONI WATER SUPPLY PROJECT
 WEST PIPELINE
 PROJECT NO. WCF 05-10
 CONTRACT 5
PLAN AND PROFILE
 STA 229+00 TO STA 241+00

NO.	ISSUE	BY	DATE	DESIGNED	DRAWN	CHECKED	FILE NAME
		RJR	7/24/09	AAG	CLL	JCS	10/18/06
RECORD DRAWINGS							
ADDENDUM NO. 1							
VERIFY SCALE							
Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.							
SHEET PL-20							
SEQ. 26 OF 70							

ACAD Rel 18.0s (LWS Tech) Office: MCSRV2
 N:\w\Drawings\WR-ALL-PP-PIPE21.dwg LAYOUT: Layout1
 May 05, 2010 - 11:37am PLOT: 1
 REFERENCES: N:\Standard\3480RDR.dwg, N:\w\Bose\WR-ALL-PP-PIPE21.dwg, N:\w\Bose\WR-PP-PP-PIPE01.dwg

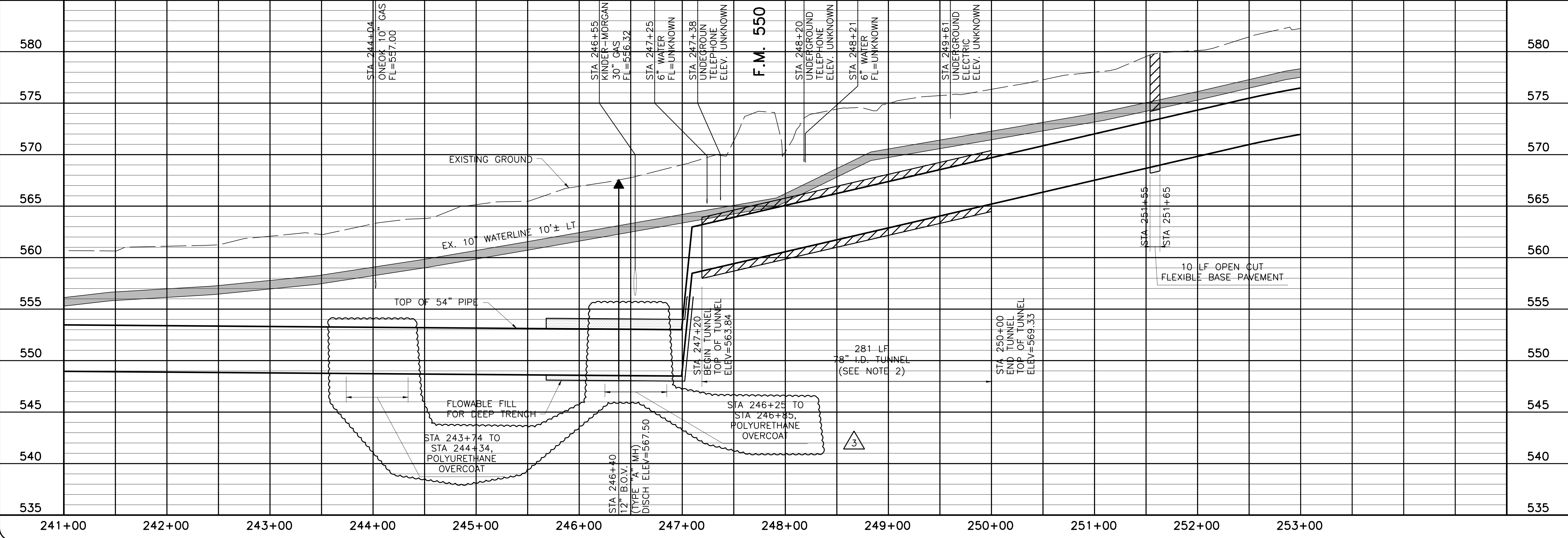


POINT	STATION	NORTHING	EASTING	DIRECTION	DISTANCE	DEF. ANGLE
PI	246+39.64	7,017,727.70	2,628,572.10	N 89°24'04" E	492.43	00°03'33"
PI	251+32.07	7,017,732.85	2,629,064.51	N 89°24'07" E	70.61	-00°00'02"
PI	252+02.69	7,017,733.59	2,629,135.12	N 86°24'07" E	122.06	03°00'00"



This Record Drawing is a combination of the sealed engineering contract drawings for this project, modified by information furnished by the contractor reflecting changes in the Project made during construction. The original sealed drawings are on file at the offices of
FRESE AND NICHOLS, INC.
 4655 INTERNATIONAL PLAZA, SUITE 200
 FORT WORTH, TEXAS 76109-4895
 (817) 735-7300
 RECORD DRAWINGS PREPARED ON:
 7/27/2009

- NOTE:
- CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO MANUFACTURING PIPE AND BEGINNING CONSTRUCTION OR MOBILIZING FOR TUNNELING OPERATIONS.
 - 78" I.D. TUNNEL SHOWN IS FOR BAR-WRAPPED PIPE OPTION. IF STEEL PIPE IS SELECTED, TUNNEL I.D. WILL BE 72".
 - CONTRACTOR SHALL RESTRICT WORK AREA TO PERMANENT EASEMENT ONLY FROM STA. 247+35.09 TO STA. 249+87.21
 - CONTRACTOR SHALL ENSURE W48/CANDLES BY CAROL HAS ACCESS AT ALL TIMES. PROVIDE SIGN INDICATING LOCATION OF ENTRANCE.
 - CONTRACTOR SHALL VERIFY LOCATION OF SEPTIC SYSTEM AND ASSOCIATED IRRIGATION LINES AND SPRINKLER HEADS ON PARCEL W49 (PATRICIA CUMMINS) PRIOR TO START OF WORK AND SHALL PROTECT OR RELOCATE/REPLACE SEPTIC SYSTEM COMPONENTS AS REQUIRED AT NO ADDITIONAL COST TO THE OWNER.



Freese and Nichols
 116 N. Tennessee, Suite 200
 McKinney, Texas 75069-4354
 Phone - (972) 548-2400
 Fax - (972) 548-1055

LAKE TAWAKONI WATER SUPPLY PROJECT
 NORTH TEXAS MUNICIPAL WATER DISTRICT
 WEST PIPELINE
 PROJECT NO. WCF 05-10
 CONTRACT 5

PLAN AND PROFILE
 STA 241+00 TO STA 253+00

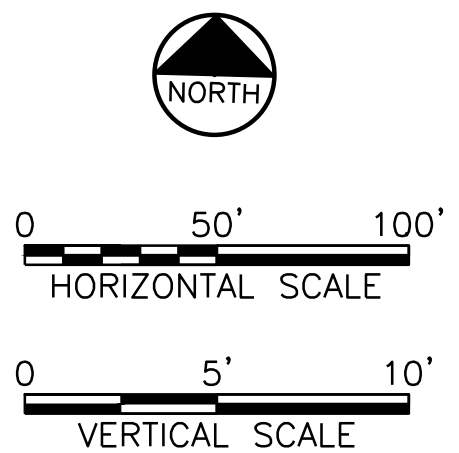
NO.	ISSUE	DATE	BY	DATE	BY	FILE NAME
1	RECORD DRAWINGS	NOV 2006	RJR	7/27/09	RJR	WR-ALL-PP-PIPE21.dwg
2	ADDENDUM NO. 2		JCS	10/24/06	JCS	

Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.

SHEET **PL-21**
 SEQ. 27 OF 70

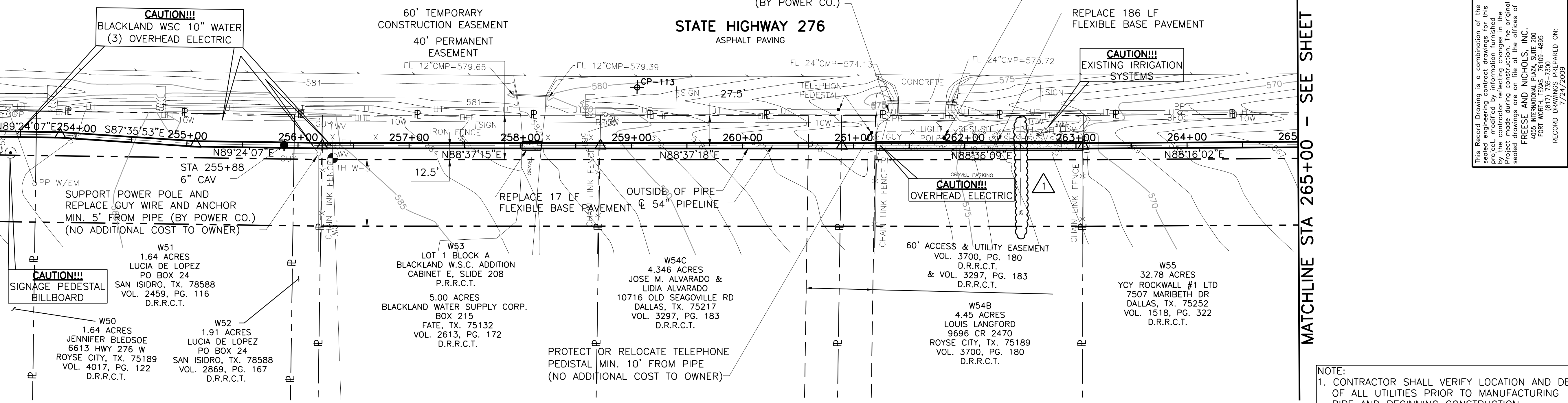
COORDINATE TABLE

POINT	STATION	NORTHING	EASTING	DIRECTION	DISTANCE	DEF. ANGLE
PI	253+24.75	7,017,741.25	2,629,256.94	N 89°24'07" E	61.03	-03°00'00"
PI	253+85.78	7,017,741.89	2,629,317.97	N 87°35'53" W	122.06	-03°00'00"
PI	255+07.84	7,017,736.77	2,629,439.92	N 89°24'07" E	113.9	03°00'00"
PI	256+21.74	7,017,737.96	2,629,553.81	N 88°37'15" E	250.37	00°46'52"
PI	258+72.11	7,017,743.99	2,629,804.11	N 88°37'18" E	217.18	-00°00'03"
PI	260+89.30	7,017,749.21	2,630,021.23	N 88°36'09" E	217.35	00°01'09"
PI	263+06.65	7,017,754.51	2,630,238.52	N 88°16'02" E	624.42	00°20'07"



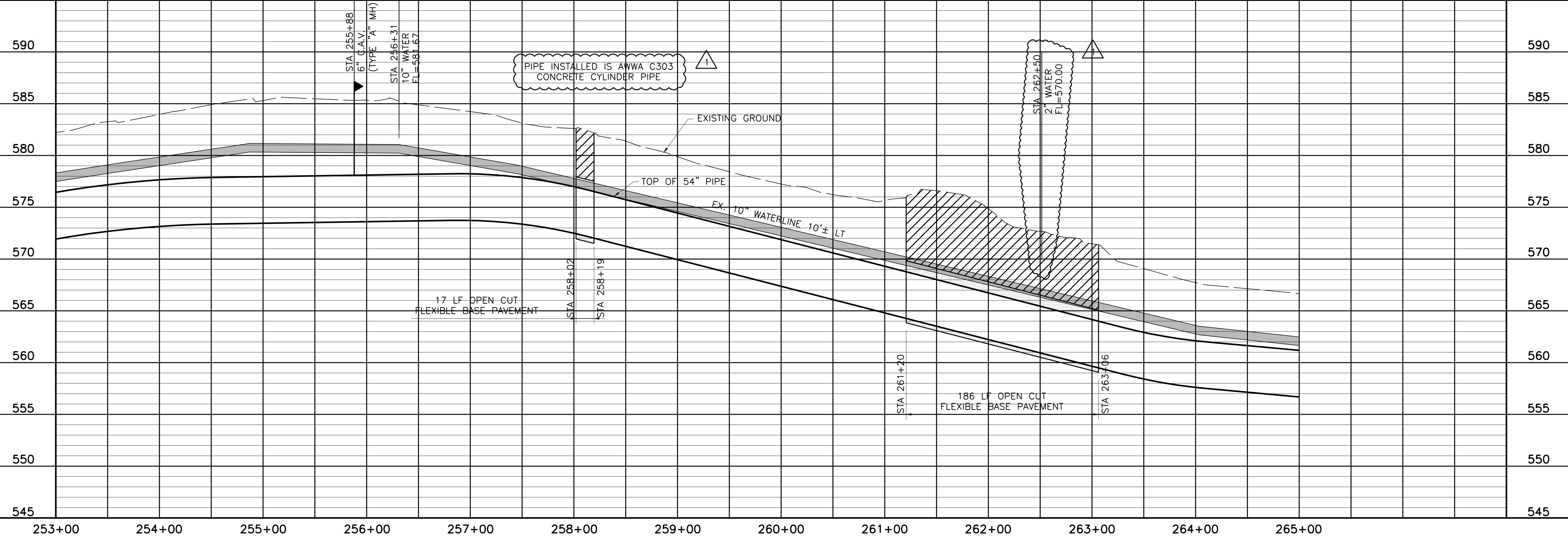
MATCHLINE STA 253+00 - SEE SHEET PL-21

MATCHLINE STA 265+00 - SEE SHEET PL-23



This Record Drawing is a combination of the original and any modifications made during construction. The original project, modified by information furnished by the contractor reflecting changes in the field, is the basis for this drawing. The original design is the responsibility of the Engineer. FRESSE AND NICHOLS, INC. 116 N. Tennessee, Suite 200 McKinney, Texas 75069-4354 Phone - (972) 548-2400 Fax - (972) 548-1055 RECORD DRAWING PREPARED ON: 7/27/2009

NOTE:
1. CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO MANUFACTURING PIPE AND BEGINNING CONSTRUCTION.



NORTH TEXAS MUNICIPAL WATER DISTRICT
LAKE TAWAKONI WATER SUPPLY PROJECT
 WEST PIPELINE
 PROJECT NO. WCF 05-10
 CONTRACT 5
PLAN AND PROFILE
 STA 253+00 TO STA 265+00

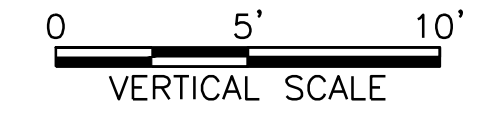
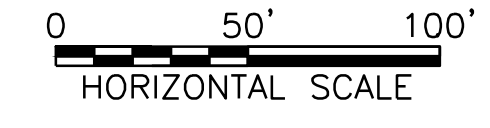
NO.	ISSUE	BY	DATE	DESCRIPTION
0	RECORD DRAWINGS	RJR	7/24/09	DESIGNED
1	VERIFY SCALE			DRAWN
2	Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.			CHECKED
				FILE NAME
				WR-ALL-PP-PIPE22.dwg

PL-22
28 OF 70

Fresse and Nichols
 116 N. Tennessee, Suite 200
 McKinney, Texas 75069-4354
 Phone - (972) 548-2400
 Fax - (972) 548-1055
 Texas Registered Engineering Firm F-2144

COORDINATE TABLE

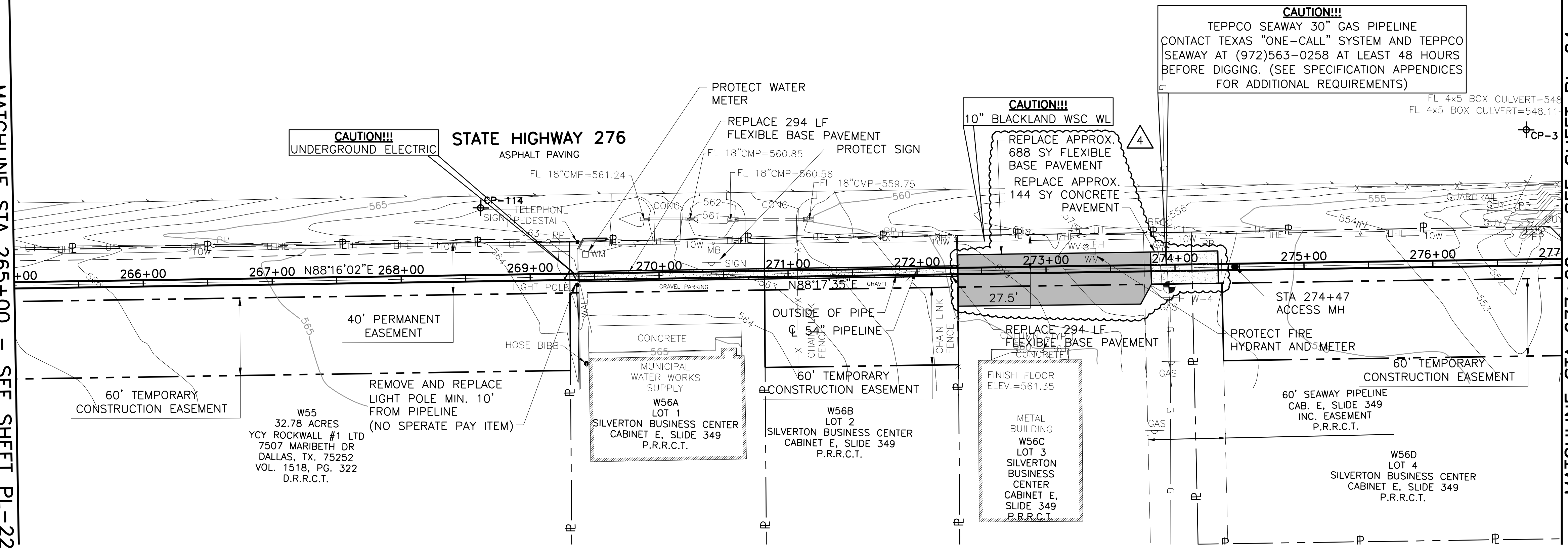
POINT	STATION	NORTHING	EASTING	DIRECTION	DISTANCE	DEF. ANGLE
PI	269+31.07	7,017,773.39	2,630,862.66	N 88°17'35" E	773.06	-00°01'33"



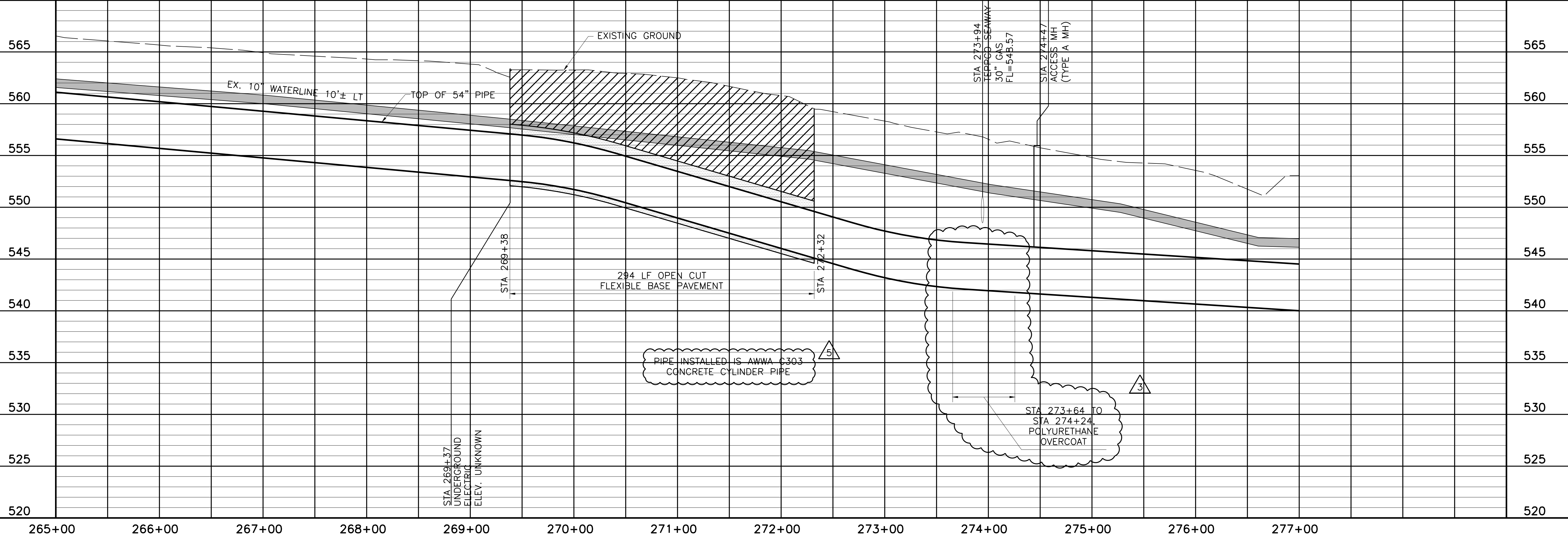
This Record Drawing is a combination of the sealed engineering contract drawings for this project, modified by information furnished by the contractor during construction. The original sealed drawings are on file at the offices of FRESSE AND NICHOLS, INC. 4055 INTERNATIONAL PLAZA, SUITE 200 FORT WORTH, TEXAS 76109-4895 RECORD DRAWINGS PREPARED ON: 7/24/2009

MATCHLINE STA 265+00 - SEE SHEET PL-22

MATCHLINE STA 277+00 - SEE SHEET PL-24



- NOTE:
- CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO MANUFACTURING PIPE AND BEGINNING CONSTRUCTION.
 - CONTRACTOR SHALL RESTRICT WORK AREA TO PERMANENT EASEMENT ONLY FROM STA. 269+30.82 TO STA. 270+81.72 AND STA 272+31.72 TO 274+36.14.
 - USE OF TEMPORARY EASEMENT ON PARCEL W56A SHALL IN NO WAY INTERFERE WITH OPERATION OF MUNICIPAL WATER WORKS SUPPLY.
 - CONTRACTOR SHALL PROVIDE LIME STABILIZATION (5% BY WEIGHT) FOR BOTTOM 8" OF THE 12" THICK FLEXIBLE BASE PAVEMENT TO BE REPLACED ON PARCELS W56A AND W56B (MUNICIPAL WATER WORKS SUPPLY), STA 269+38 TO STA 272+32.



NORTH TEXAS MUNICIPAL WATER DISTRICT
LAKE TAWAKONI WATER SUPPLY PROJECT
CONTRACT 5
PIPELINE
PLAN AND PROFILE
STA 265+00 TO STA 277+00

NO.	ISSUE	DATE	BY	DATE	BY	NO.	ISSUE	DATE	BY	DATE	BY
1	RECORD DRAWINGS	7/24/09	RJR	7/24/09	RJR	1	DESIGNED	NOV 2006	AAG		
2	PCM #005	7/24/09	RJR	7/24/09	RJR	2	DRAWN		CLL		
3	PCM #002	7/24/09	RJR	7/24/09	RJR	3	REVISION				
4	ADDENDUM NO. 2	10/24/06	JCS	10/24/06	JCS	4	CHECKED				
5	VERIFY SCALE					5	FILE NAME				

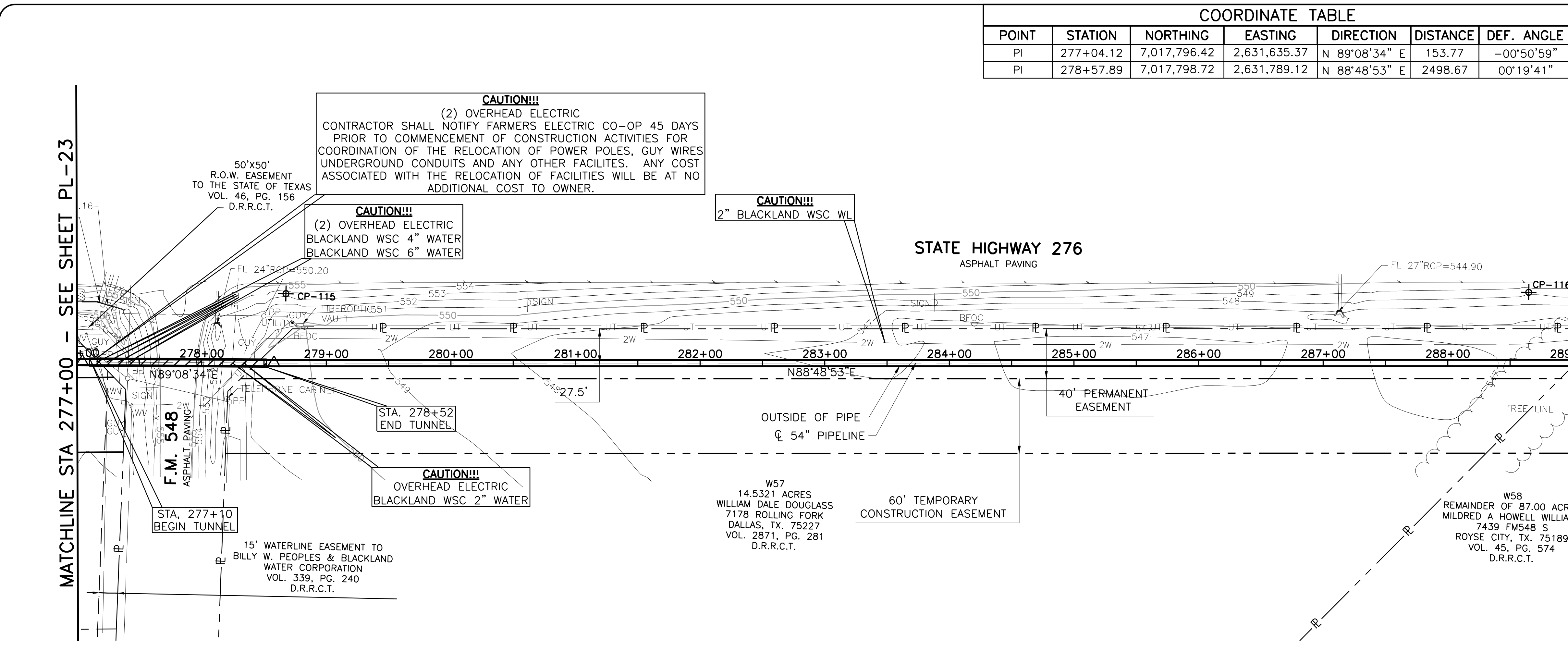
Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.

SHEET PL-23
29 OF 70

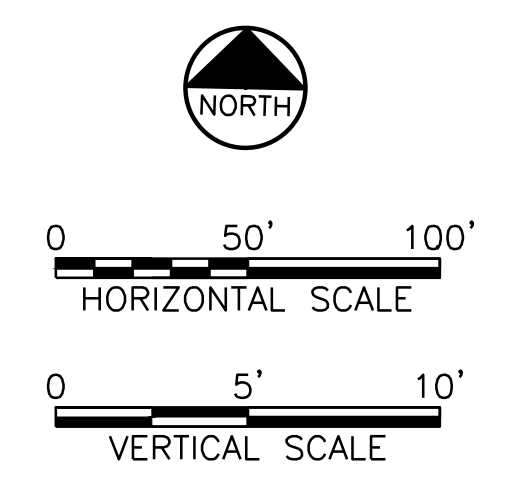
Fresse and Nichols, Inc.
Texas Registered Engineering Firm F-2144
116 N. Tennessee, Suite 200
McKinney, Texas 75069-4354
Phone - (972) 548-2400
Fax - (972) 548-1055

ACAD: Rel 18.0s (LWS Tech) User: ec Office: MCSRV2
N:\w\Drawings\WR-ALL-PP-PIPE23.dwg LAYOUT: Layout1
May 05, 2010 - 11:39am PLOT: 1
REFERENCES: N:\Standard\3460RDR.dwg, N:\w\Bose\WR-ALL-PP-PIPE01.dwg, N:\w\Bose\WR-PP-PP-PIPE01.dwg

ACAD: Rel 18.0s (LWS Tech) User: ec Office: MCSRV2
 N:\w\Drawings\WR-ALL-PP-PIPE24.dwg LAYOUT: Layout1
 May 05, 2010 - 11:40am PLS: 1 TWIST: MCSRV2
 REFERENCES: N:\Standard\3480RDR.dwg, N:\w\Bases\WR-ALL-PP-BASE01.dwg, N:\w\Bases\WR-PP-PP-PIPE01.dwg

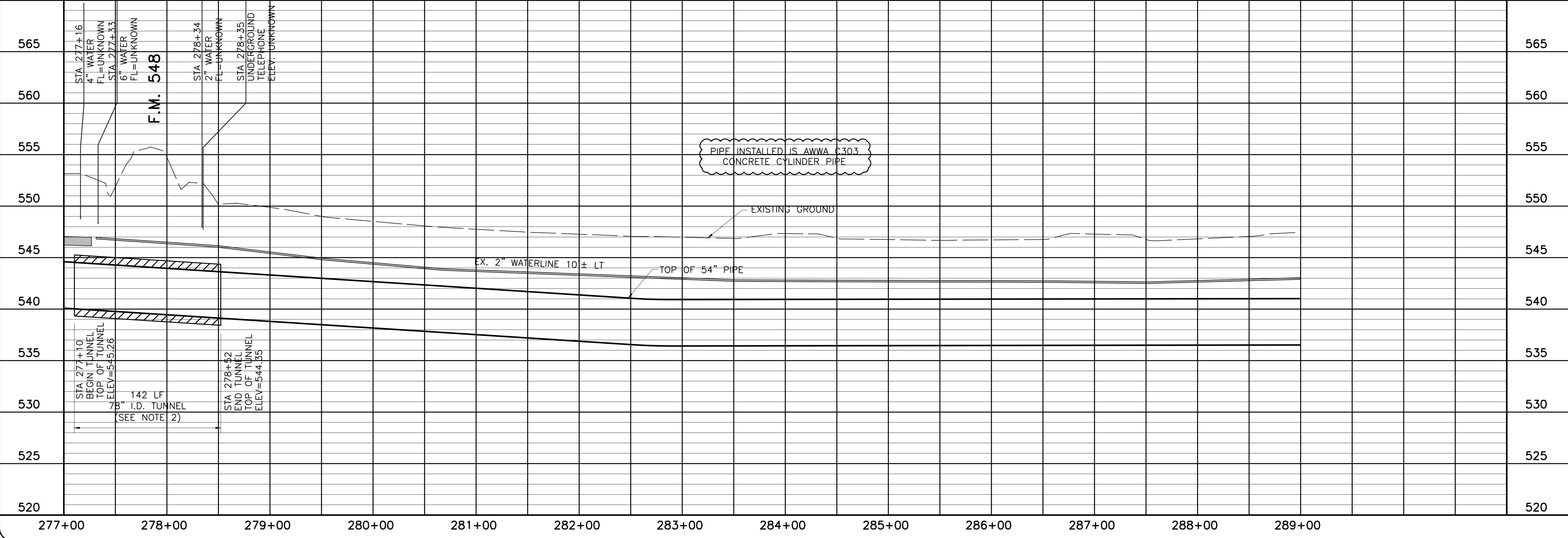


COORDINATE TABLE						
POINT	STATION	NORTHING	EASTING	DIRECTION	DISTANCE	DEF. ANGLE
PI	277+04.12	7,017,796.42	2,631,635.37	N 89°08'34" E	153.77	-00°50'59"
PI	278+57.89	7,017,798.72	2,631,789.12	N 88°48'53" E	2498.67	00°19'41"



This Record Drawing is a combination of the sealed engineering contract drawings for this project and the field notes prepared by the contractor reflecting changes in the project made during construction. The original sealed drawings are on file at the offices of
FRESE AND NICHOLS, INC.
 4055 WHEATLANDS PL, SUITE 200
 FORT WORTH, TEXAS 76107-4695
 (817) 735-7300
 RECORD DRAWINGS PREPARED ON: 7/24/2009

- NOTE:
- CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO MANUFACTURING PIPE AND BEGINNING CONSTRUCTION OR MOBILIZING FOR TUNNELING OPERATIONS.
 - 78" I.D. TUNNEL SHOWN IS FOR BAR-WRAPPED PIPE OPTION. IF STEEL PIPE IS SELECTED, TUNNEL I.D. WILL BE 72".



NORTH TEXAS MUNICIPAL WATER DISTRICT
LAKE TAWAKONI WATER SUPPLY PROJECT
 CONTRACT 5
 PROJECT NO. WCF 05-10
 PIPELINE
PLAN AND PROFILE
 STA 277+00 TO STA 289+00

NO.	ISSUE	BY	DATE	DESIGNED	AAG	CLL	CHECKED	JP
0	RECORD DRAWINGS	RJR	7/24/09					

Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.

30 OF 75

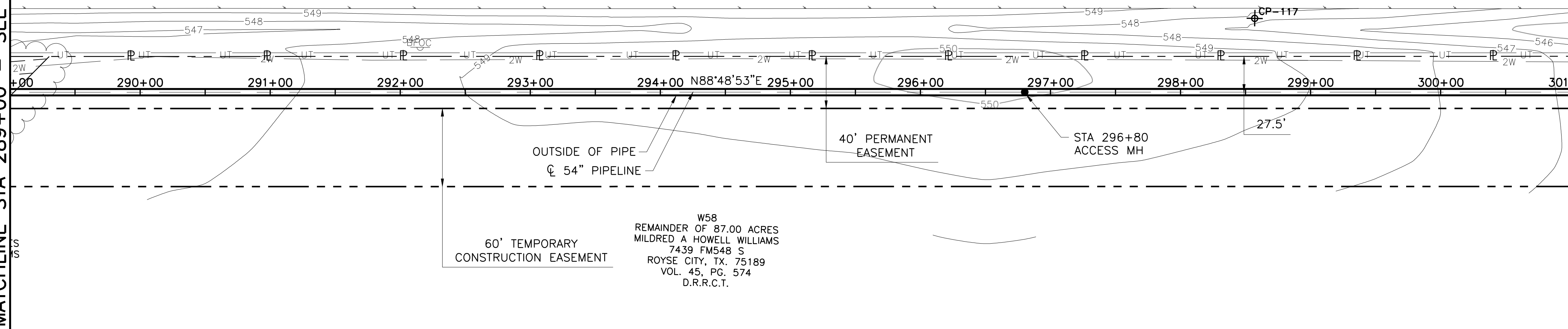
THIS DRAWING IS A PART OF A PROJECT AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT THE WRITTEN PERMISSION OF THE ENGINEER. THE ENGINEER IS NOT RESPONSIBLE FOR ANY ERRORS OR OMISSIONS IN THIS DRAWING OR FOR ANY DAMAGE TO PROPERTY OR PERSONS ARISING FROM THE USE OF THIS DRAWING.
Frese and Nichols, Inc.
 116 N. Tennessee, Suite 200
 McKinney, Texas 75069-4354
 Phone - (972) 548-2400
 Fax - (972) 548-1055
 Texas Registered Engineering Firm F-2144



MATCHLINE STA 289+00 - SEE SHEET PL-24

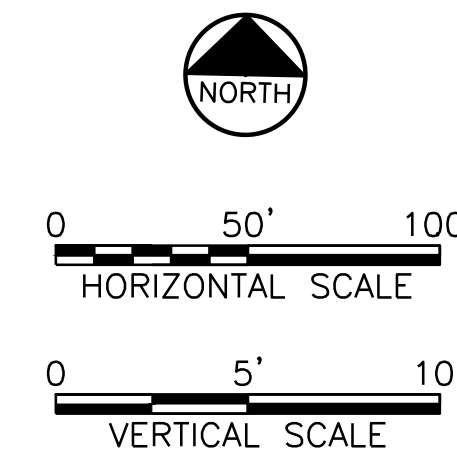
MATCHLINE STA 301+00 - SEE SHEET PL-26

STATE HIGHWAY 276
 ASPHALT PAVING



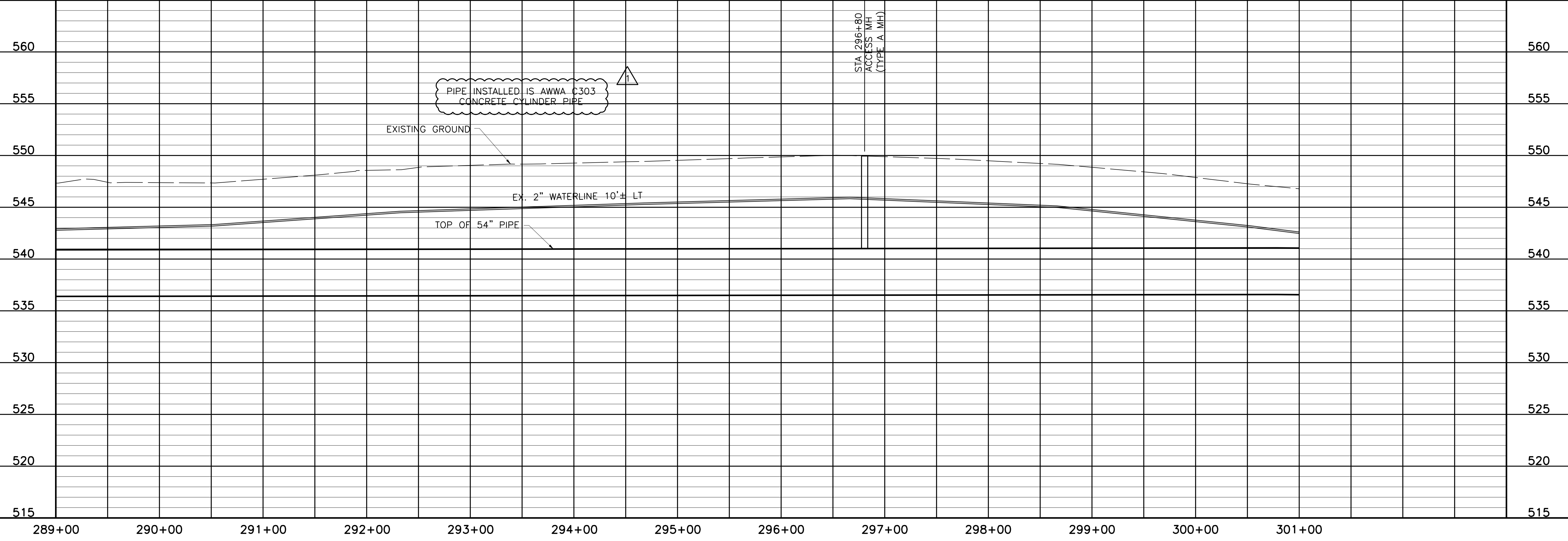
60' TEMPORARY
 CONSTRUCTION EASEMENT

W58
 REMAINDER OF 87.00 ACRES
 MILDRED A HOWELL WILLIAMS
 7439 FM548 S
 ROYSE CITY, TX. 75189
 VOL. 45, PG. 574
 D.R.R.C.T.



This Record Drawing is a combination of the sealed engineering contract drawings for this project and the field notes and other data furnished by the contractor reflecting changes in the Project made during construction. The original sealed drawings are on file at the offices of
FRESE AND NICHOLS, INC.
 4055 WINTERBURN PLAZA, SUITE 200
 FORT WORTH, TEXAS 76107-4695
 RECORD DRAWINGS PREPARED ON:
 7/24/2009

NOTE:
 1. CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO MANUFACTURING PIPE AND BEGINNING CONSTRUCTION.



NORTH TEXAS MUNICIPAL WATER DISTRICT
LAKE TAWAKONI WATER SUPPLY PROJECT
 WEST PIPELINE
 PROJECT NO. WCF 05-10
 CONTRACT 5
 PIPELINE
PLAN AND PROFILE
 STA 289+00 TO STA 301+00

NO. ISSUE	BY	DATE	DESCRIPTION	DESIGNED	DRAWN	CHECKED
				AAG	CLL	JP
	RJR	7/24/09				

RECORD DRAWINGS
 VERIFY SCALE
 Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.

FILE NAME: WR-ALL-PP-PIPE25.dwg

SHEET: **PL-25**

SEQ. 31 OF 70

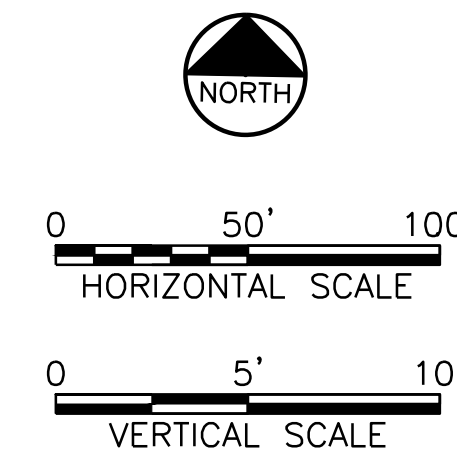
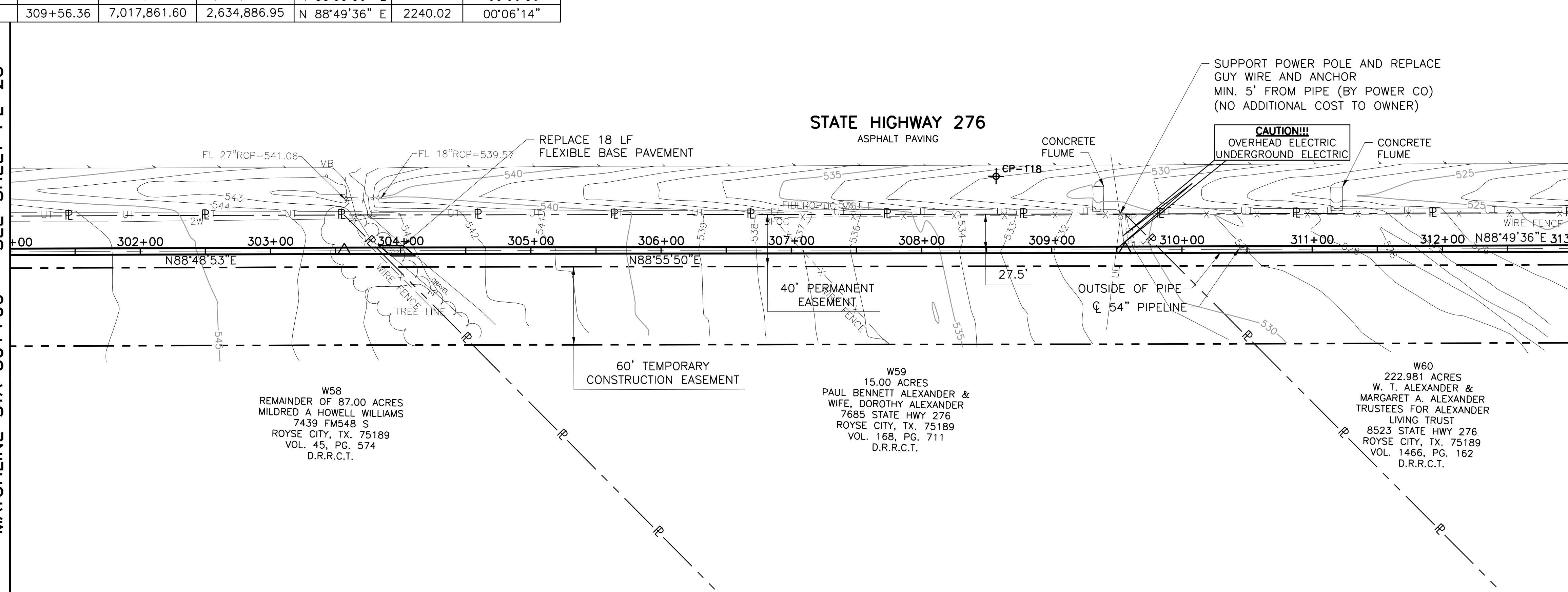
THIS DRAWING IS A COMBINATION OF THE SEALED ENGINEERING CONTRACT DRAWINGS FOR THIS PROJECT AND THE FIELD NOTES AND OTHER DATA FURNISHED BY THE CONTRACTOR REFLECTING CHANGES IN THE PROJECT MADE DURING CONSTRUCTION. THE ORIGINAL SEALED DRAWINGS ARE ON FILE AT THE OFFICES OF
FRESE AND NICHOLS, INC.
 4055 WINTERBURN PLAZA, SUITE 200
 FORT WORTH, TEXAS 76107-4695
 RECORD DRAWINGS PREPARED ON:
 7/24/2009

F
Freese and Nichols
 116 N. Tennessee, Suite 200
 McKinney, Texas 75069-4354
 Phone - (972) 548-2400
 Fax - (972) 548-1055
 Texas Registered Engineering Firm F-2144

COORDINATE TABLE

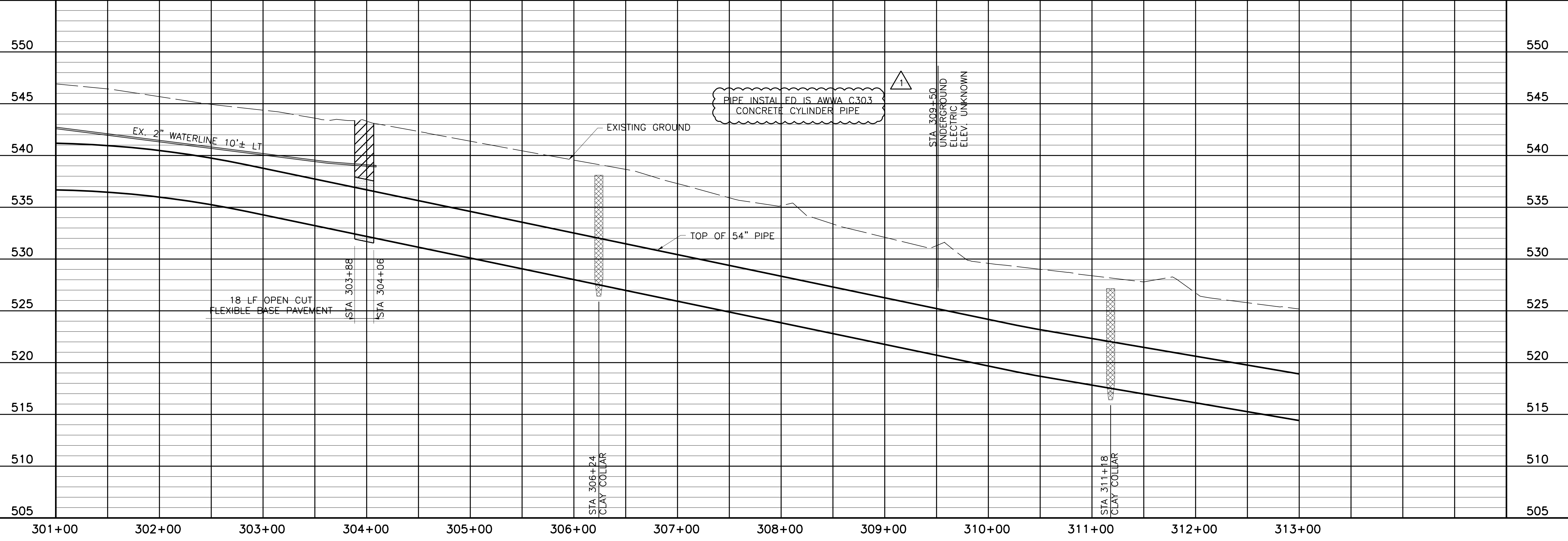
POINT	STATION	NORTHING	EASTING	DIRECTION	DISTANCE	DEF. ANGLE
PI	303+56.56	7,017,850.41	2,634,287.25	N 88°55'50" E	599.8	-00°06'56"
PI	309+56.36	7,017,861.60	2,634,886.95	N 88°49'36" E	2240.02	00°06'14"

MATCHLINE STA 301+00 - SEE SHEET PL-25



This Record Drawing is a combination of the sealed engineering contract drawings for this project and the sealed drawings prepared by the contractor reflecting changes in the Project made during construction. The original sealed drawings are on file at the offices of FRESSE AND NICHOLS, INC. 4055 WINTERMOUNT PLAZA, SUITE 200 FORT WORTH, TEXAS 76107-4695 (817) 735-7300-4695 RECORD DRAWINGS PREPARED ON: 7/24/2009

NOTE:
1. CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO MANUFACTURING PIPE AND BEGINNING CONSTRUCTION.



THIS DRAWING IS A COMBINATION OF THE SEALED CONTRACT DRAWINGS FOR THIS PROJECT AND THE SEALED DRAWINGS PREPARED BY THE CONTRACTOR REFLECTING CHANGES IN THE PROJECT MADE DURING CONSTRUCTION. THE ORIGINAL SEALED DRAWINGS ARE ON FILE AT THE OFFICES OF FRESSE AND NICHOLS, INC. 4055 WINTERMOUNT PLAZA, SUITE 200 FORT WORTH, TEXAS 76107-4695 (817) 735-7300-4695 RECORD DRAWINGS PREPARED ON: 7/24/2009

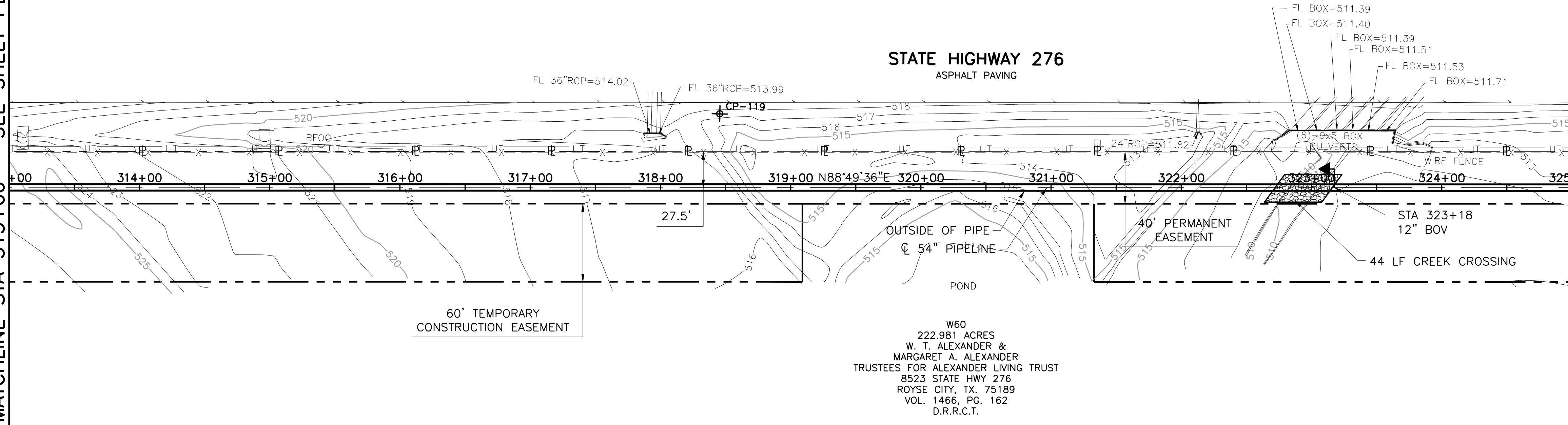
Fresse and Nichols
116 N. Tennessee, Suite 200
McKinney, Texas 75069-4354
Phone - (972) 548-2400
Fax - (972) 548-1055
Texas Registered Engineering Firm F-2144

NORTH TEXAS MUNICIPAL WATER DISTRICT
LAKE TAWAKONI WATER SUPPLY PROJECT
WEST PIPELINE
PROJECT NO. WCF 05-10
CONTRACT 5
PIPELINE
PLAN AND PROFILE
STA 301+00 TO STA 313+00

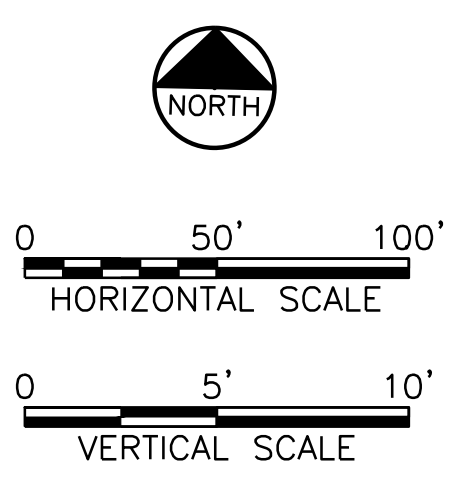
NO. ISSUE	DATE	BY	DESIGNED	DRAWN	CHECKED	REVISION
	NOV 2006		AAG	CLL	JP	
RECORD DRAWINGS	7/24/09	RJR				
VERIFY SCALE						
Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.						
SHEET						PL-26
SEQ.						32 OF 70

ACAD: Rel 18.0s (LWS Tech) User: ec Office: MCSRV2
N:\w\Drawings\WR-ALL-PP-PIPE26.dwg LAYOUT: Layout1
May 05, 2010 - 11:41am PLS: 1
REFERENCES: N:\Standard\3480RDER.dwg, N:\w\Bose\WR-ALL-PP-BASE01.dwg, N:\w\Bose\WR-PP-PP-PIPE01.dwg

MATCHLINE STA 313+00 - SEE SHEET PL-26



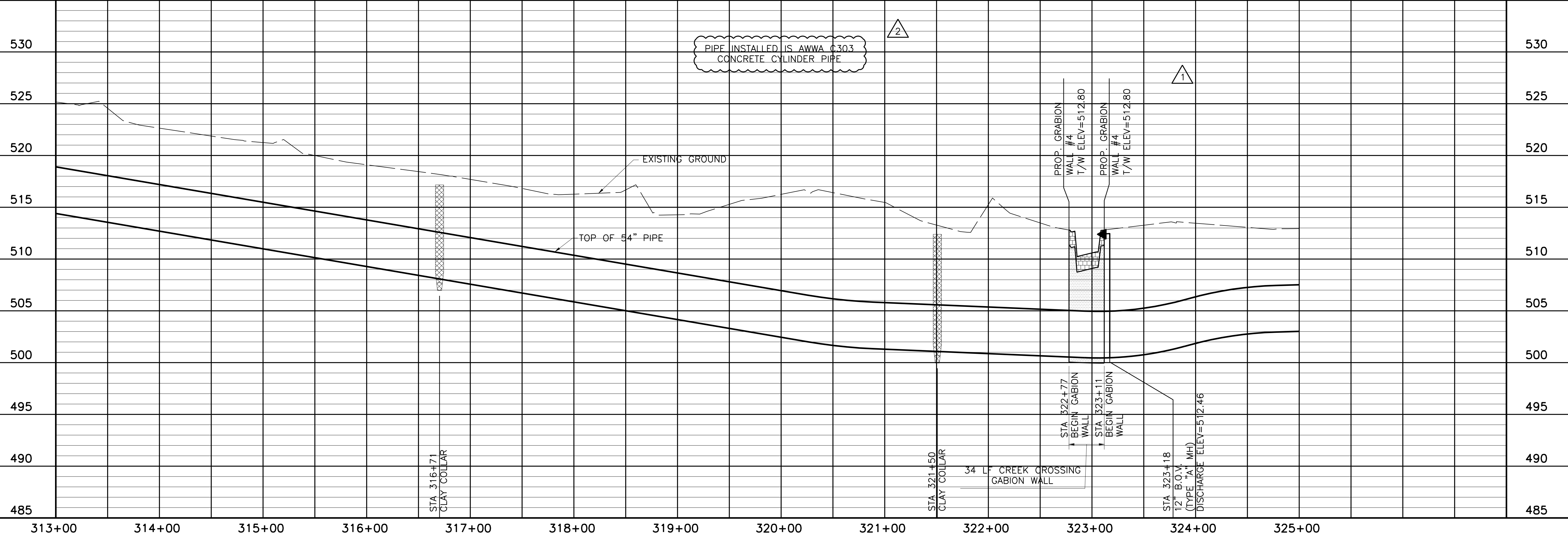
W60
 222.981 ACRES
 W. T. ALEXANDER &
 MARGARET A. ALEXANDER
 TRUSTEES FOR ALEXANDER LIVING TRUST
 8523 STATE HWY 276
 ROYSE CITY, TX. 75189
 VOL. 1466, PG. 162
 D.R.R.C.T.



THIS RECORD DRAWING IS A REPRESENTATION of the sealed engineering contract drawings for this project, modified by information furnished by the contractor reflecting changes in the field made during construction. It is the original sealed drawing for the project. The original sealed drawing is on file at the offices of FRESSE AND NICHOLS, INC., 4055 INTERNATIONAL BLVD, SUITE 200, FORT WORTH, TEXAS 76109-4895. (817) 257-7500. PREPARED ON: 7/24/2009

- NOTE:
1. CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO MANUFACTURING PIPE AND BEGINNING CONSTRUCTION.
 2. CONTRACTOR SHALL RESTRICT WORK AREA TO PERMANENT EASEMENT ONLY FROM STA. 319+09.03 TO STA. 321+32.99

MATCHLINE STA 325+00 - SEE SHEET PL-28



PIPE INSTALLED IS AWWA C303 CONCRETE CYLINDER PIPE

NORTH TEXAS MUNICIPAL WATER DISTRICT
 LAKE TAWAKONI WATER SUPPLY PROJECT
 WEST PIPELINE
 PROJECT NO. WCF 05-10
 CONTRACT 5
 PIPELINE
 PLAN AND PROFILE
 STA 313+00 TO STA 325+00

NO. / ISSUE	BY	DATE	FRM. JOB NO.	NTD05387
SHEET			DATE	NOV 2006
DESIGNED	AAG		DESIGNED	AAG
DRAWN	RJR	7/24/09	DRAWN	CLL
CHECKED	JCS	10/18/06	CHECKED	JP
FILE NAME			FILE NAME	WR-ALL-PP-PIPE27.dwg

RECORD DRAWINGS
 ADDENDUM NO. 1
 VERIFY SCALE
 Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.

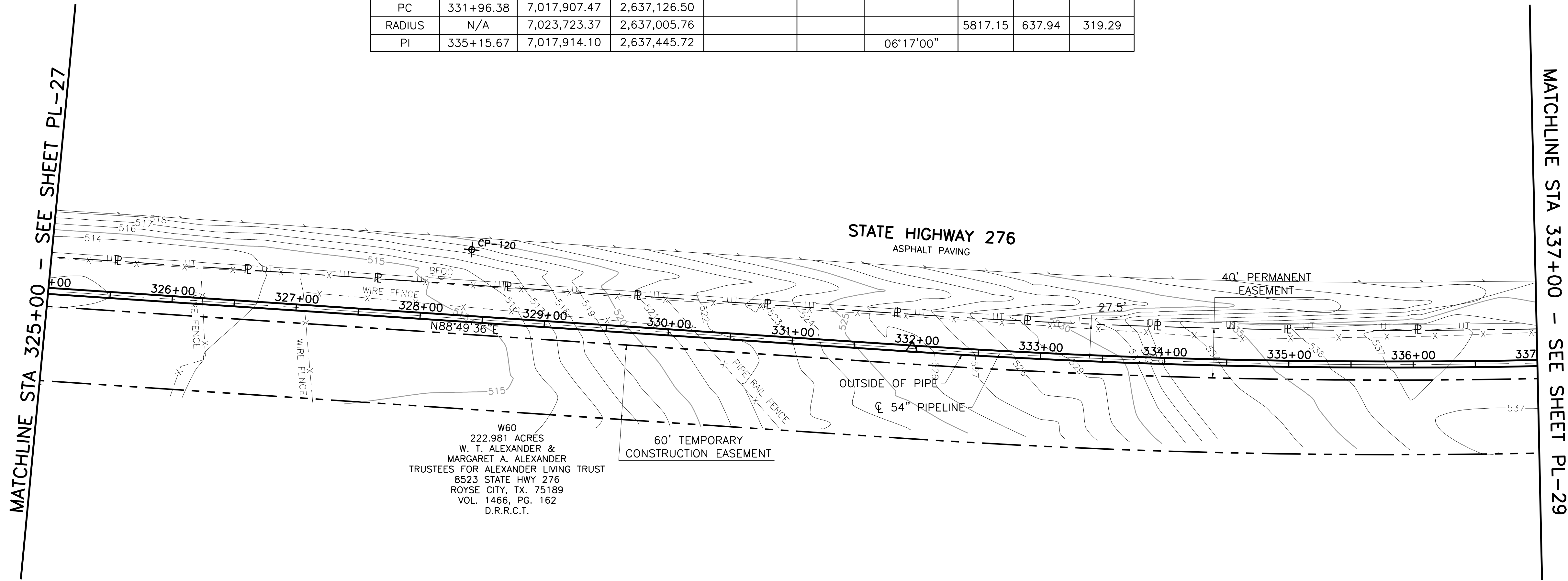
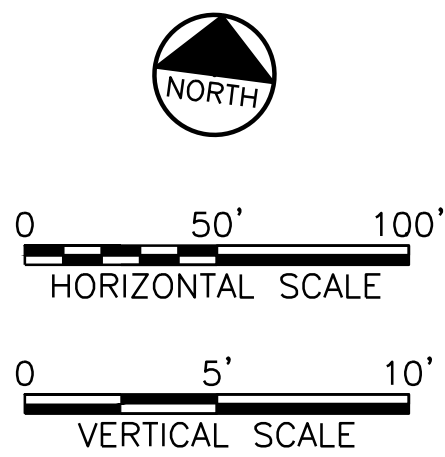
PL-27

33 OF 70

FRESSE AND NICHOLS, INC.
 REGISTERED PROFESSIONAL ENGINEER
 TEXAS NO. 90247
 REGISTERED PROFESSIONAL ENGINEER
 TEXAS NO. 90247
 FRESSE AND NICHOLS, INC.
 REGISTERED PROFESSIONAL ENGINEER
 TEXAS NO. 90247

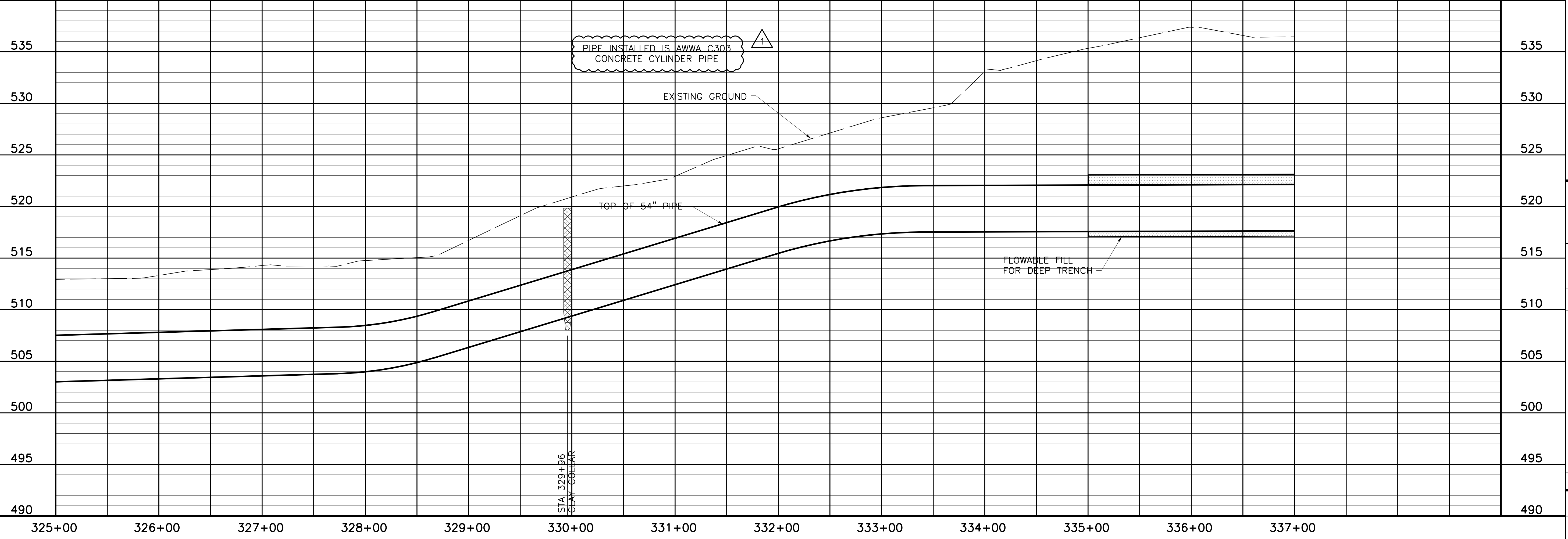
Fresse and Nichols, Inc.
 116 N. Tennessee, Suite 200
 McKinney, Texas 75069-4354
 Phone - (972) 548-2400
 Fax - (972) 548-1055
 Texas Registered Engineering Firm F-2144

COORDINATE TABLE									
POINT	STATION	NORTHING	EASTING	DIRECTION	DISTANCE	DEF. ANGLE	RADIUS	LENGTH	TANGENT
PC	331+96.38	7,017,907.47	2,637,126.50						
RADIUS	N/A	7,023,723.37	2,637,005.76				5817.15	637.94	319.29
PI	335+15.67	7,017,914.10	2,637,445.72			06°17'00"			



This Record Drawing is a combination of the sealed engineering contract drawings for this project and the field notes and other data prepared by the contractor reflecting changes in the Project made during construction. The original sealed drawings are on file at the offices of FRESSE AND NICHOLS, INC.
4055 WINTERMOUNTS PLACE, SUITE 200
FORT WORTH, TEXAS 76107-4695
FOR INFORMATION: (817) 735-7300
RECORD DRAWINGS PREPARED ON: 7/24/09

NOTE:
1. CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO MANUFACTURING PIPE AND BEGINNING CONSTRUCTION.



THIS DRAWING IS A REPRESENTATION OF THE DOCUMENT AND IS NOT TO BE USED FOR CONSTRUCTION OR AS EVIDENCE IN A COURT OF LAW WITHOUT THE WRITTEN PERMISSION OF THE ENGINEER. THE ENGINEER IS AN ENGINEER UNDER THE TEXAS ENGINEERING PRACTICE ACT.

Fresse and Nichols
116 N. Tennessee, Suite 200
McKinney, Texas 75069-4354
Phone - (972) 548-2400
Fax - (972) 548-1055

NORTH TEXAS MUNICIPAL WATER DISTRICT
LAKE TAWAKONI WATER SUPPLY PROJECT
WEST PIPELINE
CONTRACT 5
PROJECT NO. WCF 05-10
PIPELINE
PLAN AND PROFILE
STA 325+00 TO STA 337+00

NO. ISSUE	BY	DATE	FOR JOB NO.	DESIGNED	DRAWN	REVISION	CHECKED
			NTD05387	AAG	CLL		JP
			DATE NOV 2006				FILE NAME
							WR-ALL-PP-PIPE28.dwg
RECORD DRAWINGS							
Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.							
SHEET PL-28							
SEQ. 34 OF 70							

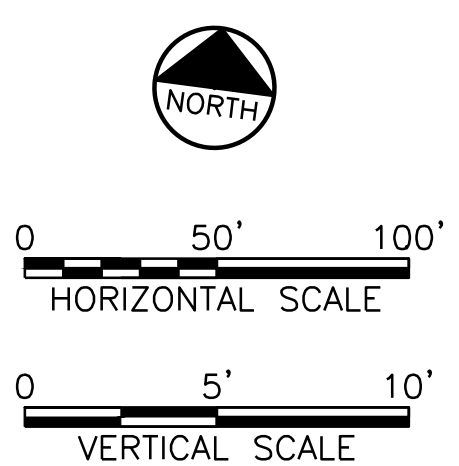
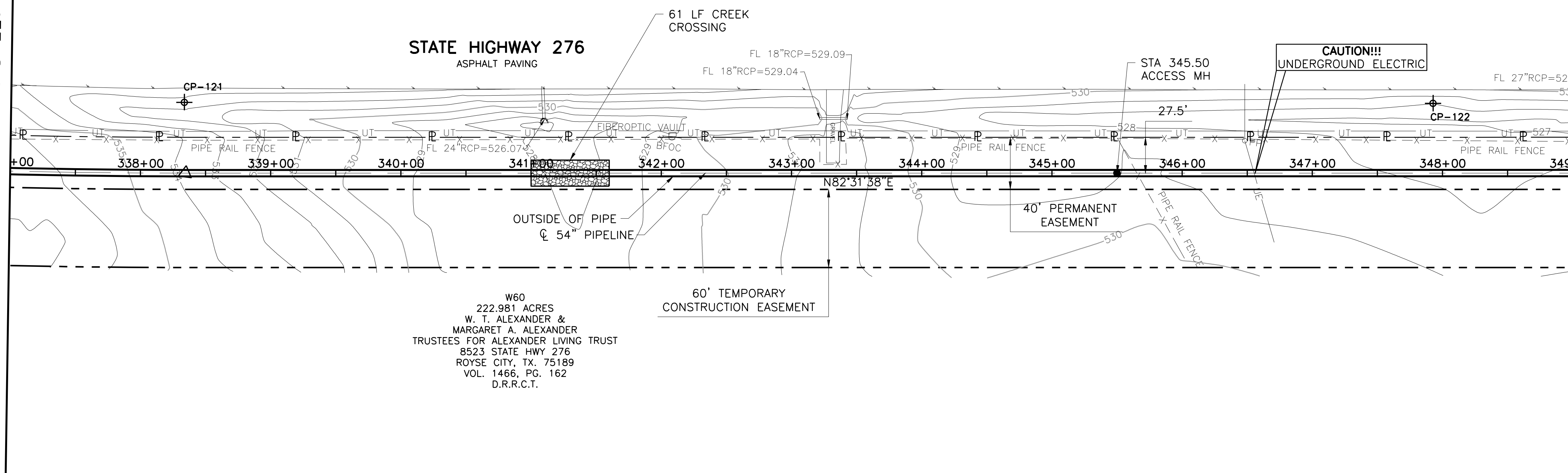
ACAD: Rel 18.0s (LWS Tech) User: ec Office: MCSRV2
N:\wr\Drawings\WR-ALL-PP-PIPE28.dwg LAYOUT: Layout1
May 05, 2010 - 11:43am LIS: 1 PLS: 1
REFERENCES: N:\Standard\34BORDER.dwg, N:\wr\Bose\WR-ALL-PP-BASE01.dwg, N:\wr\Bose\WR-PPL-PP-PIPE01.dwg

COORDINATE TABLE

POINT	STATION	NORTHING	EASTING	DIRECTION	DISTANCE	DEF. ANGLE
PT	338+34.32	7,017,955.63	2,637,762.30	N 82°31'38" E	1790.09	

MATCHLINE STA 337+00 - SEE SHEET PL-28

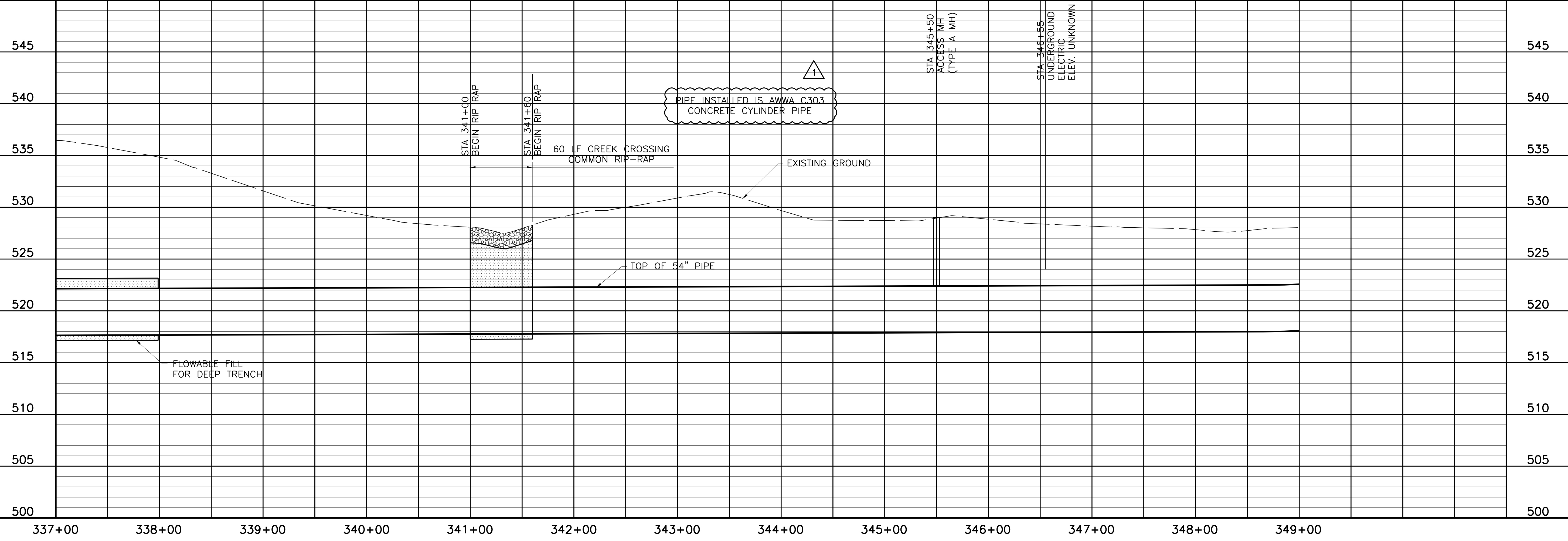
MATCHLINE STA 349+00 - SEE SHEET PL-30



This Record Drawing is a combination of the sealed engineering contract drawings for this project and the sealed drawings of the contractor reflecting changes in the Project made during construction. The original sealed drawings are on file at the offices of FREESE AND NICHOLS, INC. 4055 WINTERBURN PLAZA, SUITE 200 FORT WORTH, TEXAS 76107-4695 (817) 735-7300 (817) 735-4695 RECORD DRAWINGS PREPARED ON: 7/24/2009

W60
222.981 ACRES
W. T. ALEXANDER &
MARGARET A. ALEXANDER
TRUSTEES FOR ALEXANDER LIVING TRUST
8523 STATE HWY 276
ROYSE CITY, TX, 75189
VOL. 1466, PG. 162
D.R.R.C.T.

NOTE:
1. CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO MANUFACTURING PIPE AND BEGINNING CONSTRUCTION.



NORTH TEXAS MUNICIPAL WATER DISTRICT
LAKE TAWAKONI WATER SUPPLY PROJECT
WEST PIPELINE
CONTRACT 5
PROJECT NO. WCF 05-10
PIPELINE
PLAN AND PROFILE
STA 337+00 TO STA 349+00

NO.	ISSUE	BY	DATE	TRN. JOB NO.	DESIGNED	DRAWN	REVISION	CHECKED
				NTD05387	AAG	CLL		JP
			NOV 2006					
		RJR	7/24/09					
RECORD DRAWINGS								
Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.								
VERIFY SCALE								
FILE NAME: WR-ALL-PP-PIPE29.dwg								
SHEET PL-29								
SEQ. 35 OF 70								

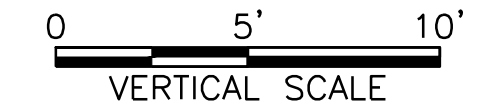
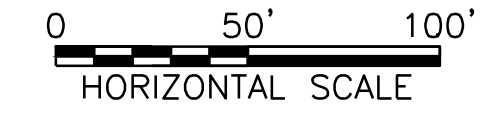
Freese and Nichols
116 N. Tennessee, Suite 200
McKinney, Texas 75069-4354
Phone - (972) 548-2400
Fax - (972) 548-1055
Texas Registered Engineering Firm F-2144

THIS DRAWING IS A COMBINATION OF THE SEALED CONTRACT DRAWINGS FOR THIS PROJECT AND THE SEALED DRAWINGS OF THE CONTRACTOR REFLECTING CHANGES IN THE PROJECT MADE DURING CONSTRUCTION. THE ORIGINAL SEALED DRAWINGS ARE ON FILE AT THE OFFICES OF FREESE AND NICHOLS, INC. 4055 WINTERBURN PLAZA, SUITE 200 FORT WORTH, TEXAS 76107-4695 (817) 735-7300 (817) 735-4695 RECORD DRAWINGS PREPARED ON: 7/24/2009

ACAD: Rel 18.0s (LWS Tech) User: ec Office: MCSRV2
N:\w\Drawings\WR-ALL-PP-PIPE29.dwg LAYOUT: Layout1
May 05, 2010 - 11:44am LIS: 1
REFERENCES: N:\Standard\34BORDER.dwg, N:\w\Bases\WR-ALL-PL-BASE01.dwg, N:\w\Bases\WR-PPL-PP-PIPE01.dwg

COORDINATE TABLE

POINT	STATION	NORTHING	EASTING	DIRECTION	DISTANCE	DEF. ANGLE	RADIUS	LENGTH	TANGENT
PC	356+24.41	7,018,188.43	2,639,537.18						
RADIUS	N/A	7,015,434.73	2,639,898.38				2777.29	824.82	415.47
PI	360+39.87	7,018,242.46	2,639,949.12			17°00'58"			

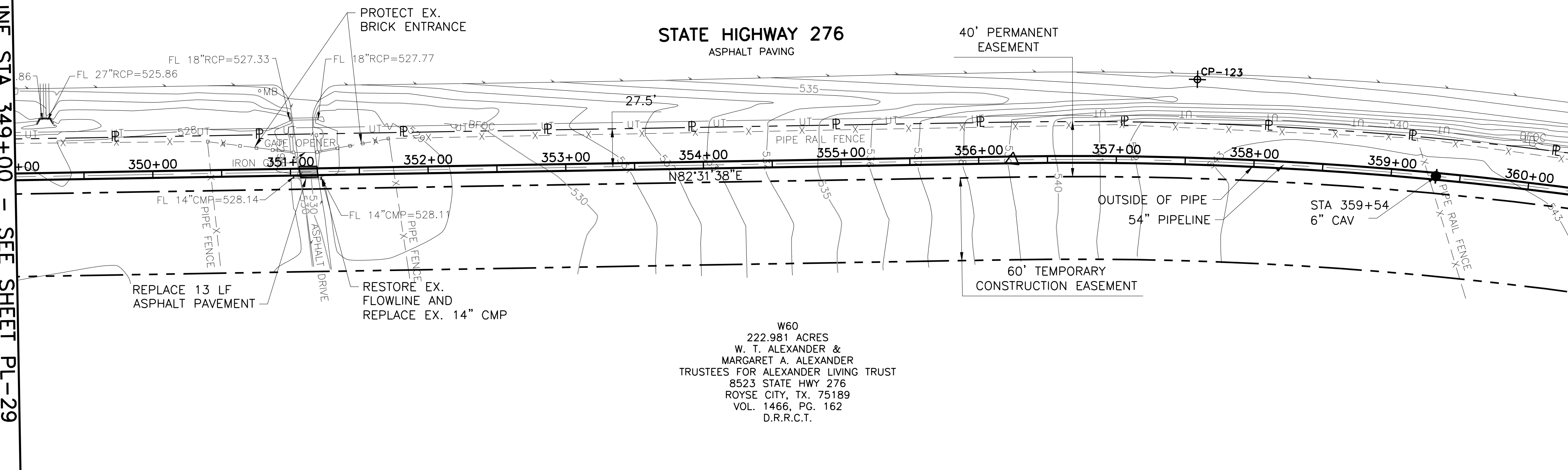


This Record Drawing is a combination of the sealed engineering contract drawings for this project and the field notes and data collected by the contractor reflecting changes in the Project made during construction. The original sealed drawings are on file at the offices of FRESSE AND NICHOLS, INC.
 4055 WINTERMOUNTS PLACE, SUITE 200
 FORT WORTH, TEXAS 76107-4695
 (817) 735-7300
 RECORD DRAWINGS PREPARED ON: 7/24/2009

MATCHLINE STA 349+00 - SEE SHEET PL-29

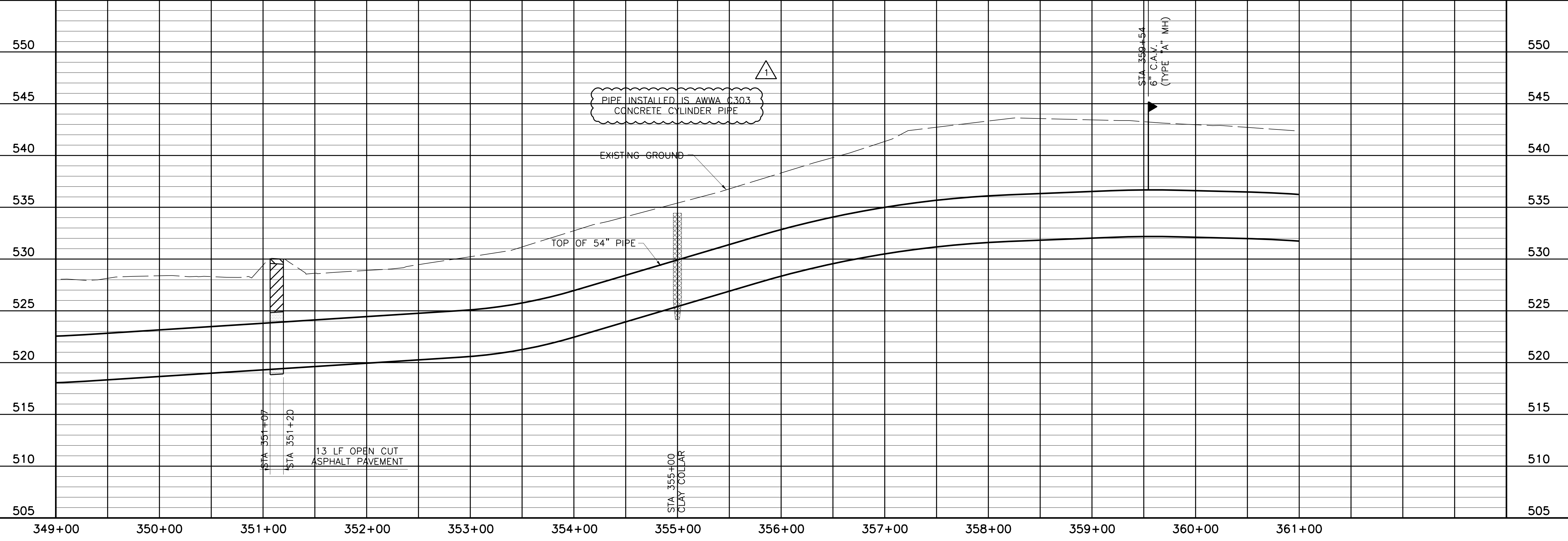
MATCHLINE STA 361+00 - SEE SHEET PL-31

STATE HIGHWAY 276
ASPHALT PAVING



W60
222.981 ACRES
W. T. ALEXANDER &
MARGARET A. ALEXANDER
TRUSTEES FOR ALEXANDER LIVING TRUST
8523 STATE HWY 276
ROYSE CITY, TX. 75189
VOL. 1466, PG. 162
D.R.R.C.T.

NOTE:
1. CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO MANUFACTURING PIPE AND BEGINNING CONSTRUCTION.



NORTH TEXAS MUNICIPAL WATER DISTRICT
LAKE TAWAKONI WATER SUPPLY PROJECT
CONTRACT 5
PIPELINE
PLAN AND PROFILE
STA 349+00 TO STA 361+00
PROJECT NO. WCF 05-10

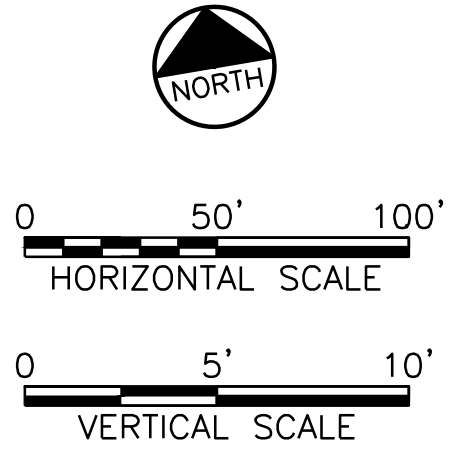
NO. ISSUE	DATE	BY	DESIGNED	DRAWN	CHECKED	REVISION
RECORD DRAWINGS			FILE NAME			
VERIFY SCALE			WR-ALL-PP-PIPE30.dwg			
Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.						
SHEET			PL-30			
SEQ.			36 OF 70			

Fresse and Nichols
Texas Registered Engineering Firm F-2144
116 N. Tennessee, Suite 200
McKinney, Texas 75069-4354
Phone - (972) 548-2400
Fax - (972) 548-1055

ACAD: Rel 18.0s (LWS Tech) User: ec Office: MCSRV2
N:\wr\Drawings\WR-ALL-PP-PIPE30.dwg LAYOUT: Layout1
May 05, 2010 - 11:45am PLS: 1
REFERENCES: N:\Standard\3460RPER.dwg, N:\wr\Bose\WR-ALL-PP-BASE01.dwg, N:\wr\Bose\WR-EPI-PP-PIPE01.dwg

COORDINATE TABLE

POINT	STATION	NORTHING	EASTING	DIRECTION	DISTANCE	DEF. ANGLE
PT	364+49.22	7,018,173.58	2,640,358.84	N 80°19'38" W	218.74	N/A
PI	366+67.97	7,018,136.83	2,640,574.47	N 80°23'49" W	125.51	00°04'11"
PI BK	367+93.48	7,018,115.89	2,640,698.23	N 23°19'42" W	46.90	-57°04'07"
PI AH	367+55.75	7,018,115.89	2,640,698.23	N 23°19'42" W	46.90	-57°04'07"
PI	368+02.65	7,018,072.82	2,640,716.80	N 80°25'40" W	31.42	57°05'58"
PI	368+34.07	7,018,067.60	2,640,747.79	S 54°34'20" W	55.69	45°00'00"
PI	368+89.76	7,018,099.88	2,640,793.17	N 80°25'40" W	182.58	-45°00'00"
PI	370+72.34	7,018,069.52	2,640,973.20	N 80°25'30" W	284.43	-00°00'10"



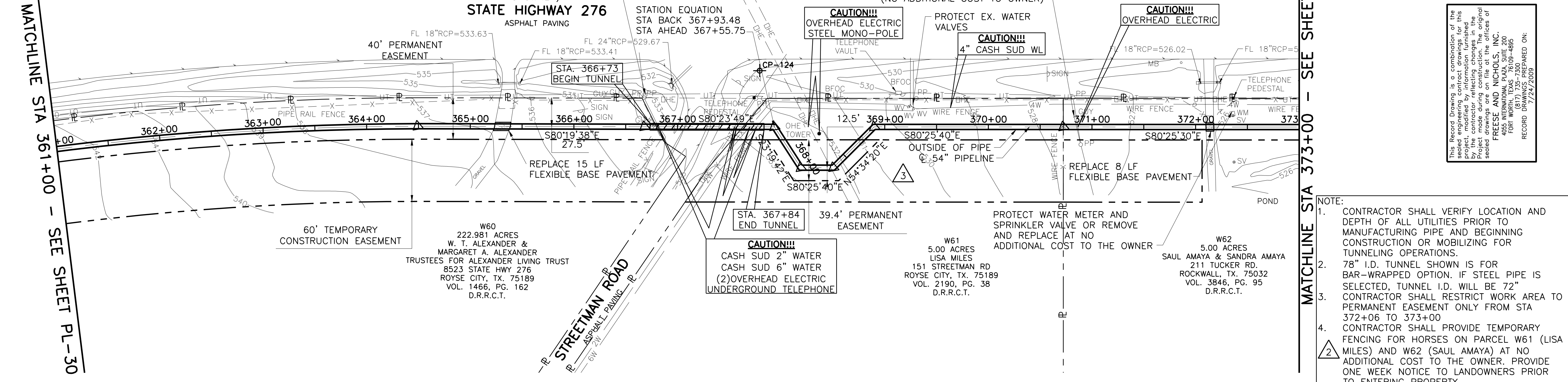
This Record Drawing is a combination of the sealed engineering contract drawings for this project, modified by information furnished by the contractor during construction. The original sealed drawings are on file at the offices of FRESSE AND NICHOLS, INC., 4055 INTERNATIONAL PLAZA, SUITE 200, FORT WORTH, TEXAS 76107. RECORD DRAWINGS PREPARED ON: 7/24/2009

THE SEAL, THE LICENSE NUMBER APPEARING ON THIS DOCUMENT AND THE TEXAS REGISTERED ENGINEERING PROFESSIONAL SEAL ARE THE PROPERTY OF FRESSE AND NICHOLS, INC. ANY REPRODUCTION OR USE OF THIS DOCUMENT WITHOUT THE WRITTEN PERMISSION OF FRESSE AND NICHOLS, INC. IS PROHIBITED.

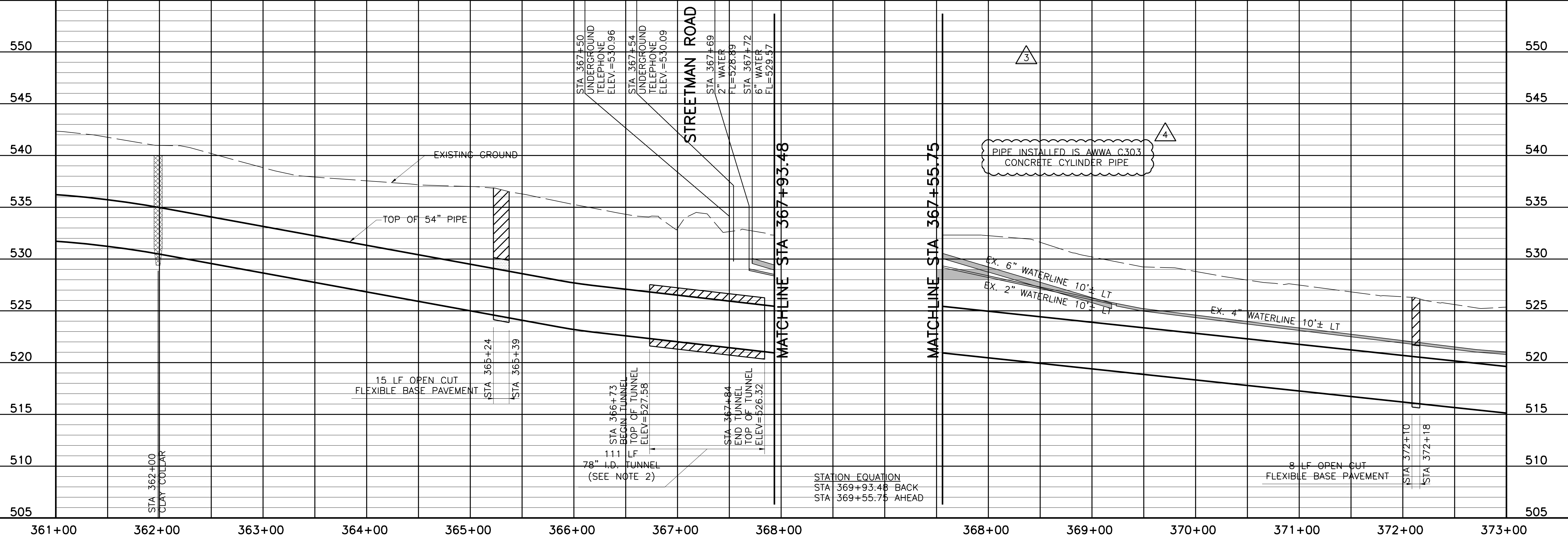
Fresse and Nichols
 116 N. Tennessee, Suite 200
 McKinney, Texas 75069-4354
 Phone - (972) 548-2400
 Fax - (972) 548-1055

MATCHLINE STA 361+00 - SEE SHEET PL-30

MATCHLINE STA 373+00 - SEE SHEET PL-32



- NOTE:
- CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO MANUFACTURING PIPE AND BEGINNING CONSTRUCTION OR MOBILIZING FOR TUNNELING OPERATIONS.
 - 78" I.D. TUNNEL SHOWN IS FOR BAR-WRAPPED OPTION. IF STEEL PIPE IS SELECTED, TUNNEL I.D. WILL BE 72"
 - CONTRACTOR SHALL RESTRICT WORK AREA TO PERMANENT EASEMENT ONLY FROM STA 372+06 TO 373+00
 - CONTRACTOR SHALL PROVIDE TEMPORARY FENCING FOR HORSES ON PARCEL W61 (LISA MILES) AND W62 (SAUL AMAYA) AT NO ADDITIONAL COST TO THE OWNER. PROVIDE ONE WEEK NOTICE TO LANDOWNERS PRIOR TO ENTERING PROPERTY.



NORTH TEXAS MUNICIPAL WATER DISTRICT
 LAKE TAWAKONI WATER SUPPLY PROJECT
 WEST PIPELINE
 PROJECT NO. WCF 05-10
 CONTRACT 5
 PIPELINE
 PLAN AND PROFILE
 STA 361+00 TO STA 373+00

NO.	ISSUE	BY	DATE	DESCRIPTION	FILE NAME
1	RECORD DRAWINGS	RJR	7/24/09	DESIGNED	PP-PIPE31.dwg
2	PCM #003	JPC	2/28/07	BROWN	
3	ADDENDUM NO. 2	JCS	10/24/06	REVISION	
4	VERIFY SCALE			CHECKED	
5				FILE NAME	

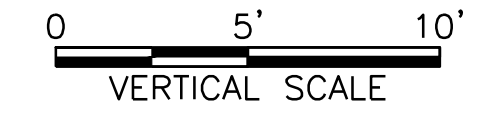
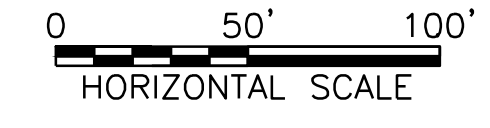
PL-31

37 OF 70

ACAD: Rel 18.0s (LWS Tech) User: ec Office: MCSRV2
 N:\w\Drawings\WR-ALL-PP-PIPE31.dwg LAYOUT: Layout1
 May 05, 2010 - 11:48am PLOT: 1
 REFERENCES: N:\Standard\348ORDER.dwg, N:\w\Bose\WR-ALL-PP-BASE01.dwg, N:\w\Bose\WR-PP-PP-PIPE01.dwg, I:\SEA\S\90732.dwg

COORDINATE TABLE

POINT	STATION	NORTHING	EASTING	DIRECTION	DISTANCE	DEF. ANGLE
PI	373+56.77	7,018,022.21	2,641,253.67	N 80°26'09" W	309.47	00°00'39"
PI	376+66.25	7,017,970.79	2,641,558.85	N 80°29'03" W	59.84	00°02'54"
PI	377+26.09	7,017,960.90	2,641,617.87	N 80°27'16" W	315.89	-00°01'47"
PI	380+41.98	7,017,908.51	2,641,929.38	N 80°25'39" W	304.64	-00°01'37"
PI	383+46.61	7,017,857.85	2,642,229.77	N 80°27'52" W	322.67	00°02'13"



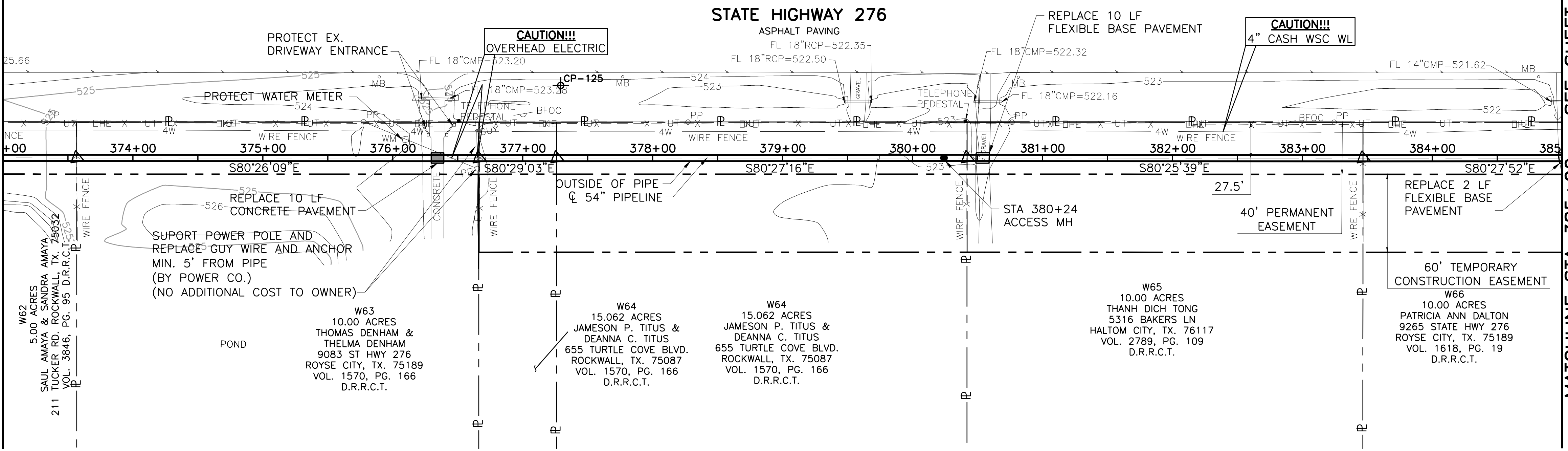
THIS RECORD DRAWING IS A REPRESENTATION OF THE sealed engineering contract drawings for this project, modified by information furnished by the contractor reflecting changes in the project made during construction. The original sealed drawings are on file at the offices of FRESSE AND NICHOLS, INC., 4055 INTERNATIONAL BLVD., SUITE 200, FORT WORTH, TEXAS 76109-4895. (817) 252-7800. PREPARED ON: 7/24/2009

THIS DRAWING IS A REPRESENTATION OF THE sealed engineering contract drawings for this project, modified by information furnished by the contractor reflecting changes in the project made during construction. The original sealed drawings are on file at the offices of FRESSE AND NICHOLS, INC., 4055 INTERNATIONAL BLVD., SUITE 200, FORT WORTH, TEXAS 76109-4895. (817) 252-7800. PREPARED ON: 7/24/2009

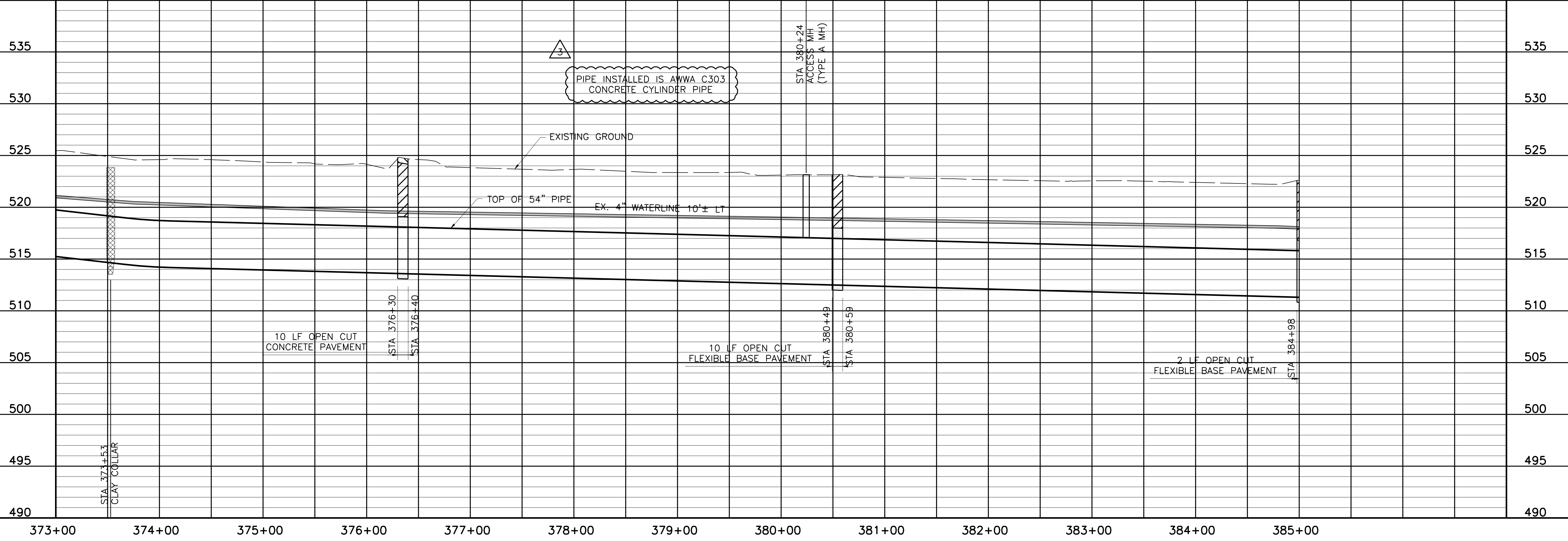
Fresse and Nichols
 116 N. Tennessee, Suite 200
 McKinney, Texas 75069-4354
 Phone - (972) 548-2400
 Fax - (972) 548-1055
 Texas Registered Engineering Firm F-2144

MATCHLINE STA 373+00 - SEE SHEET PL-32

MATCHLINE STA 385+00 - SEE SHEET PL-33



- NOTE:
- CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO MANUFACTURING PIPE AND BEGINNING CONSTRUCTION.
 - CONTRACTOR SHALL RESTRICT WORK AREA TO PERMANENT EASEMENT ONLY FROM STA. 373+00 TO STA. 376+66.24
 - CONTRACTOR SHALL PROVIDE TEMPORARY FENCING FOR HORSES ON PARCEL W62 (SAUL AMAYA) AT NO ADDITIONAL COST TO THE OWNER. PROVIDE ONE WEEK NOTICE TO LANDOWNERS PRIOR TO ENTERING PROPERTY.



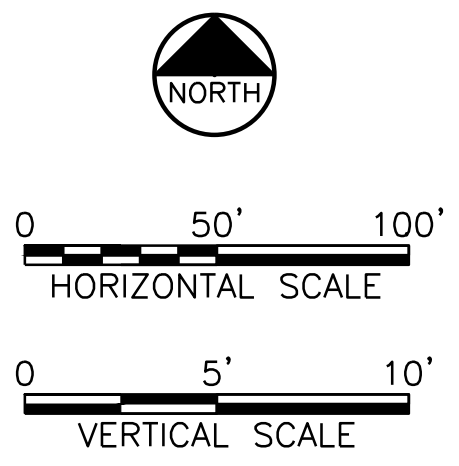
NORTH TEXAS MUNICIPAL WATER DISTRICT
LAKE TAWAKONI WATER SUPPLY PROJECT
 PROJECT NO. WCF 05-10
 PIPELINE CONTRACT 5
PLAN AND PROFILE
 STA 373+00 TO STA 385+00

NO. ISSUE	BY	DATE	FOR JOB NO.	DATE	DESIGNED	AAG	CLL	CHECKED	JP
			NTD05387	NOV 2006					
RECORD DRAWINGS	RJR	7/24/09							
ADDENDUM NO. 2	JCS	10/24/06							
VERIFY SCALE									
0									
1									

Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.

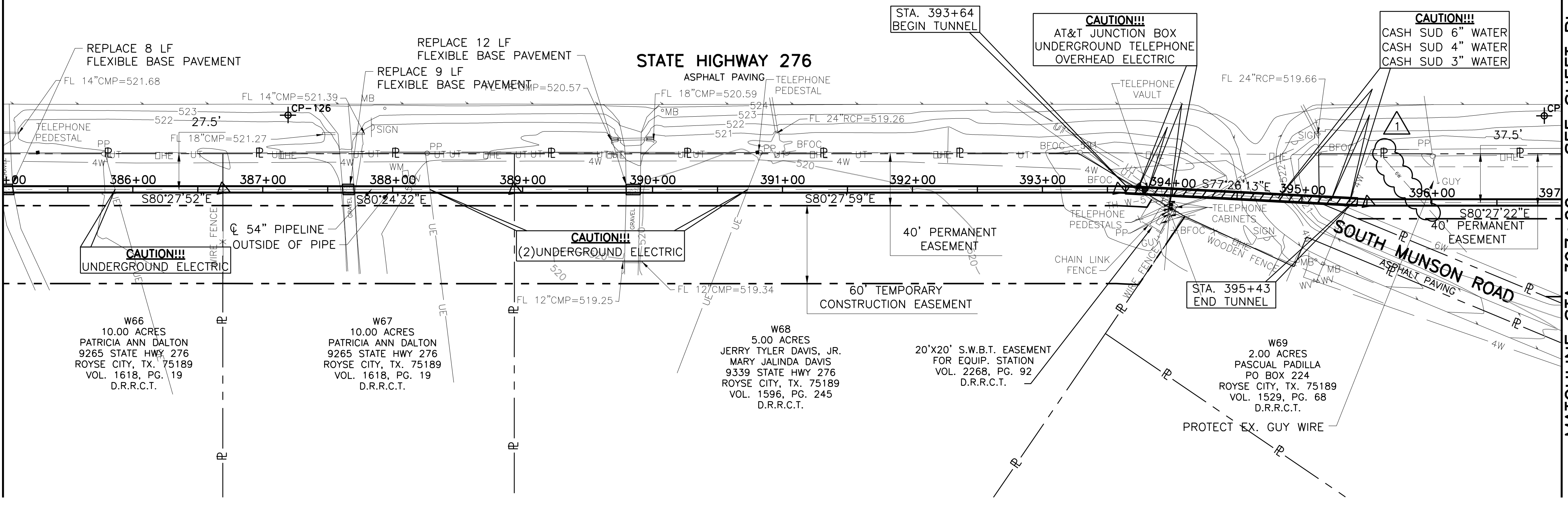
COORDINATE TABLE

POINT	STATION	NORTHING	EASTING	DIRECTION	DISTANCE	DEF. ANGLE
PI	386+69.29	7,017,804.40	2,642,547.99	N 80°24'32" W	224.38	-00°03'20"
PI	388+93.66	7,017,767.01	2,642,769.23	N 80°27'59" W	465.04	00°03'27"
PI	393+58.70	7,017,689.99	2,643,227.84	N 77°26'13" W	192.07	-03°01'45"
PI	395+50.76	7,017,648.21	2,643,415.31	N 80°27'22" W	703.36	03°01'09"



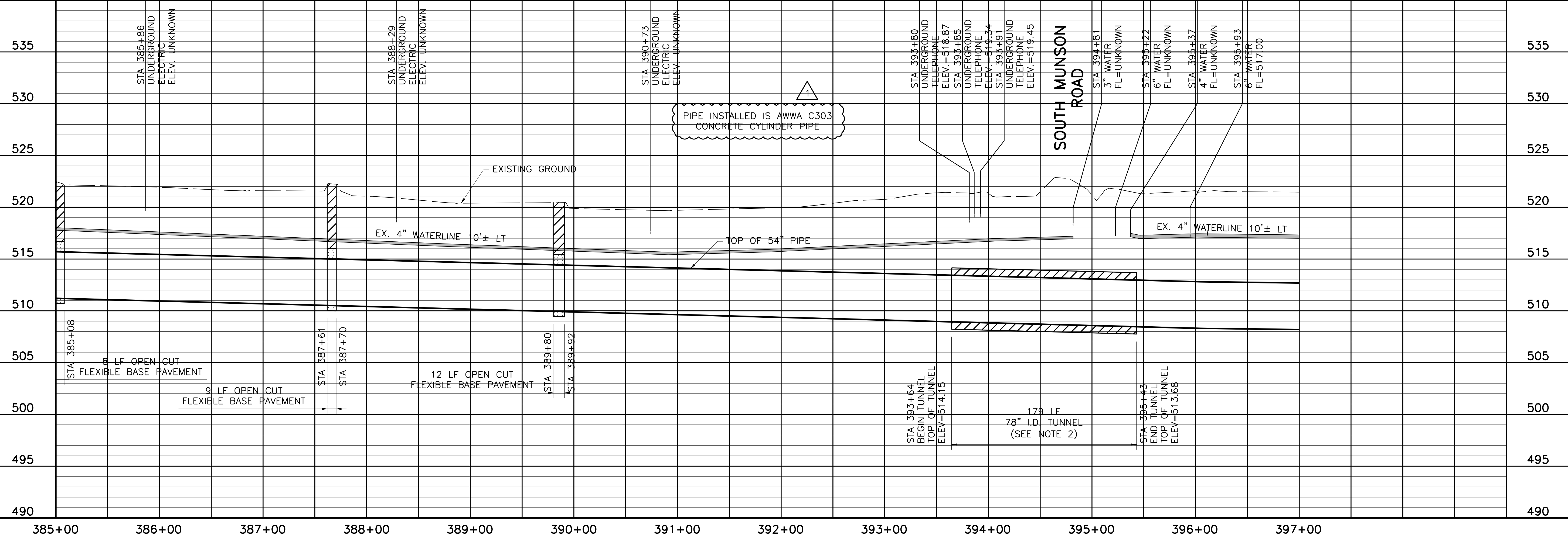
MATCHLINE STA 385+00 - SEE SHEET PL-32

MATCHLINE STA 397+00 - SEE SHEET PL-34



This Record Drawing is a combination of the sealed engineering contract drawings for this project and the field notes and other data furnished by the contractor reflecting changes in the project made during construction. The original sealed drawings are on file at the offices of FRESSE AND NICHOLS, INC. 4055 WINTERBURN DR., SUITE 200 FORT WORTH, TEXAS 76107-4695 (817) 735-7300 FAX: (817) 735-7300 RECORD DRAWINGS PREPARED ON: 7/24/2009

NOTE:
 1. CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO MANUFACTURING PIPE AND BEGINNING CONSTRUCTION OR MOBILIZING FOR TUNNELING OPERATIONS.
 2. 78" I.D. TUNNEL SHOWN IS FOR BAR-WRAPPED PIPE OPTION. IF STEEL PIPE IS SELECTED, TUNNEL I.D. WILL BE 72".



NORTH TEXAS MUNICIPAL WATER DISTRICT
 LAKE TAWAKONI WATER SUPPLY PROJECT
 PROJECT NO. WCF 05-10
 PIPELINE CONTRACT 5
 PLAN AND PROFILE
 STA 385+00 TO STA 397+00

NO. ISSUE	BY	DATE	DESCRIPTION	DESIGNED	DRAWN	CHECKED	REVISION
0	RJR	7/24/09	REVISION	AAG	CLL	JP	

RECORD DRAWINGS
 VERIFY SCALE
 Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.

SHEET
 PL-33
 SEQ. 39 OF 70

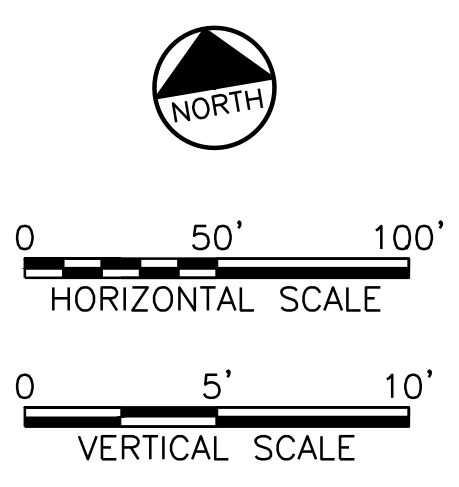
THIS DRAWING IS THE PROPERTY OF FRESSE AND NICHOLS, INC. IT IS TO BE USED ONLY FOR THE PROJECT AND SITE SPECIFICALLY IDENTIFIED HEREON. ANY REUSE OR MODIFICATION OF THIS DRAWING WITHOUT THE WRITTEN PERMISSION OF FRESSE AND NICHOLS, INC. IS STRICTLY PROHIBITED.

Fresse and Nichols, Inc.
 116 N. Tennessee, Suite 200
 McKinney, Texas 75069-4354
 Phone - (972) 548-2400
 Fax - (972) 548-1055
 Texas Registered Engineering Firm F-2144

ACAD Rel 18.0s (LWS Tech) User: ec Office: MCSRV2
 N:\w\Drawings\WR-ALL-PP-PIPE33.dwg LAYOUT: Layout1
 May 05, 2010 - 11:49am PLOT: 1
 REFERENCES: N:\Standard\3460RPER.dwg, N:\w\Bose\WR-ALL-PP-PIPE33.dwg, N:\w\Bose\WR-PP-PP-PIPE01.dwg

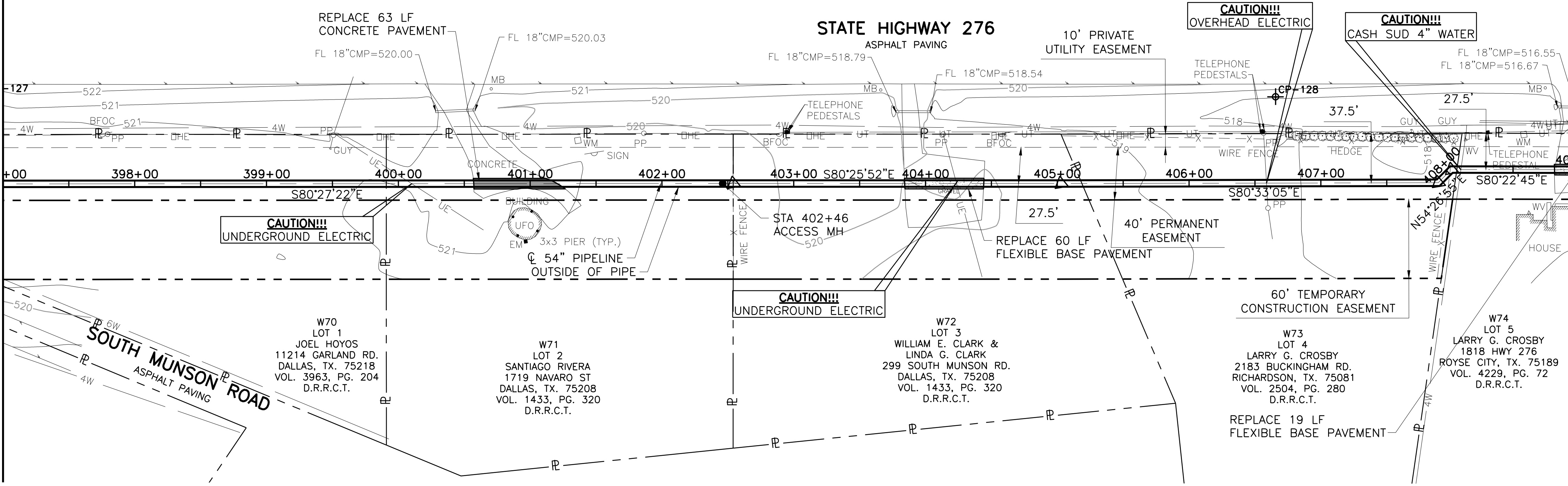
COORDINATE TABLE

POINT	STATION	NORTHING	EASTING	DIRECTION	DISTANCE	DEF. ANGLE
PI	402+54.13	7,017,531.60	2,644,108.94	N 80°25'52" W	248.66	-00°01'31"
PI	405+02.79	7,017,490.26	2,644,354.14	N 80°33'05" W	286.26	00°07'13"
PI	407+89.05	7,017,443.27	2,644,636.51	N 54°26'55" E	14.09	45°00'00"
PI	408+03.14	7,017,451.46	2,644,647.98	N 80°22'45" W	116.18	-45°10'20"



MATCHLINE STA 397+00 - SEE SHEET PL-33

MATCHLINE STA 409+00 - SEE SHEET PL-35



This Record Drawing is a combination of the sealed engineering contract drawings for this project and the sealed drawings prepared by the contractor reflecting changes in the Project made during construction. The original sealed drawings are on file at the offices of FRESSE AND NICHOLS, INC. 4055 WINTERBURN DR., SUITE 200 FORT WORTH, TEXAS 76107-4695 RECORD DRAWINGS PREPARED ON: 7/24/09

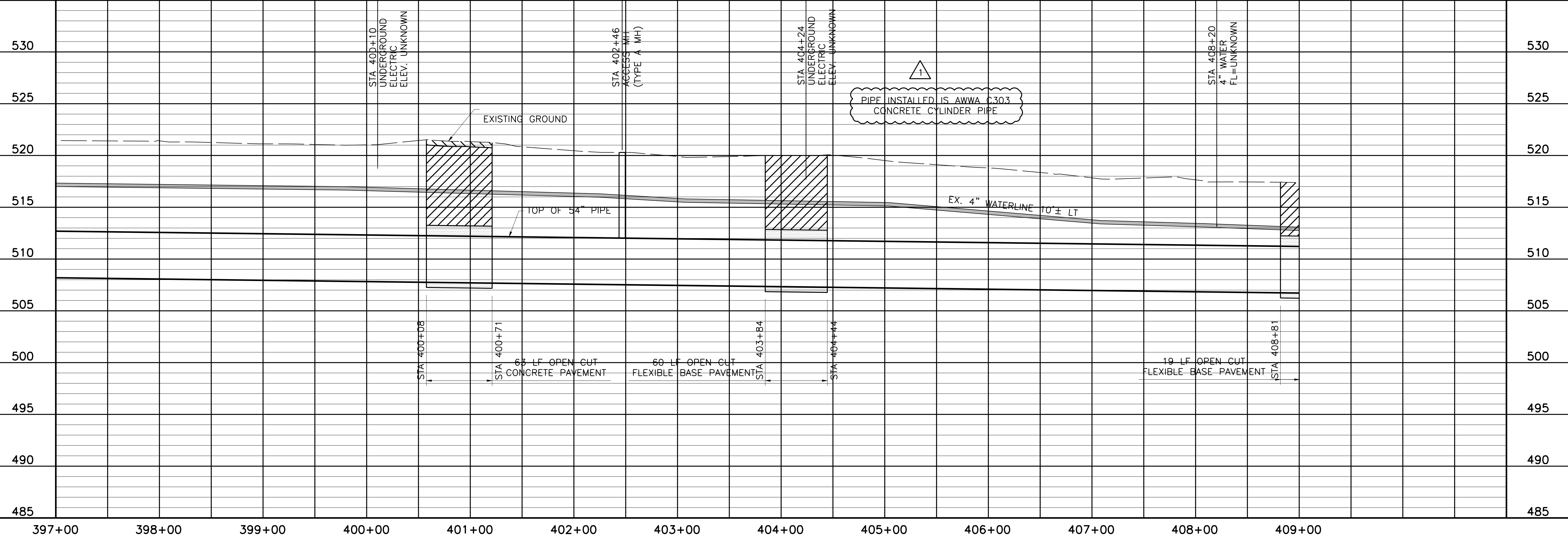
- NOTE:
- CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO MANUFACTURING PIPE AND BEGINNING CONSTRUCTION.
 - CONTRACTOR SHALL RESTRICT WORK AREA TO PERMANENT EASEMENT ONLY FROM STA. 408+07.35 TO STA 409+00

THIS DRAWING IS A REPRESENTATION OF THE PROJECT AS APPROVED BY THE ENGINEER. THE ENGINEER'S RESPONSIBILITY IS LIMITED TO THE DESIGN AND CONSTRUCTION OF THE PROJECT UNDER THE TEXAS ENGINEERING PRACTICE ACT.

Fresse and Nichols
 116 N. Tennessee, Suite 200
 McKinney, Texas 75069-4354
 Phone - (972) 548-2400
 Fax - (972) 548-1055
 Texas Registered Engineering Firm F-2144

NORTH TEXAS MUNICIPAL WATER DISTRICT
LAKE TAWAKONI WATER SUPPLY PROJECT
 WEST PIPELINE
 PROJECT NO. WCF 05-10
 CONTRACT 5

PLAN AND PROFILE
 STA 397+00 TO STA 409+00



NO. ISSUE	BY	DATE	DATE	DATE	DATE
0	RJR	7/24/09	NTD05387	NTD05387	NTD05387
DESIGNED	DRAWN	CHECKED	DESIGNED	DRAWN	CHECKED
AAG	CLL	JP	AAG	CLL	JP

RECORD DRAWINGS
 VERIFY SCALE
 Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.

SHEET **PL-34**
 SEQ. 40 OF 70

ACAD: Rel 18.0s (LWS Tech) User: ec Office: MCSRV2
 N:\w\Drawings\WR-ALL-PP-PIPE34.dwg LAYOUT: Layout1
 May 05, 2010 - 11:50am PLOT: 1
 REFERENCES: N:\Standard\34BORDER.dwg, N:\w\Bases\WR-ALL-PL-BASE01.dwg, N:\w\Bases\WR-PP-PR-PIPE01.dwg

COORDINATE TABLE

POINT	STATION	NORTHING	EASTING	DIRECTION	DISTANCE	DEF. ANGLE	RADIUS	LENGTH	TANGENT
PI	409+19.32	7,017,432.04	2,644,762.52	N 56°46'36" W	45.94	-23°36'10"			
PI	409+65.26	7,017,406.87	2,644,800.95	N 76°26'40" W	99.53	19°40'04"			
PI	410+64.79	7,017,383.54	2,644,897.71	N 84°56'11" W	63.5	08°29'31"			
PI	411+28.28	7,017,377.94	2,644,960.96	N 89°52'42" W	73.22	04°56'31"			
PC BK	412+01.50	7,017,377.78	2,645,034.18						
PC AH	412+00.29	7,017,377.78	2,645,034.18						
RADIUS	N/A	7,019,747.39	2,645,340.52				2389.33	203.4	101.76

COORDINATE TABLE

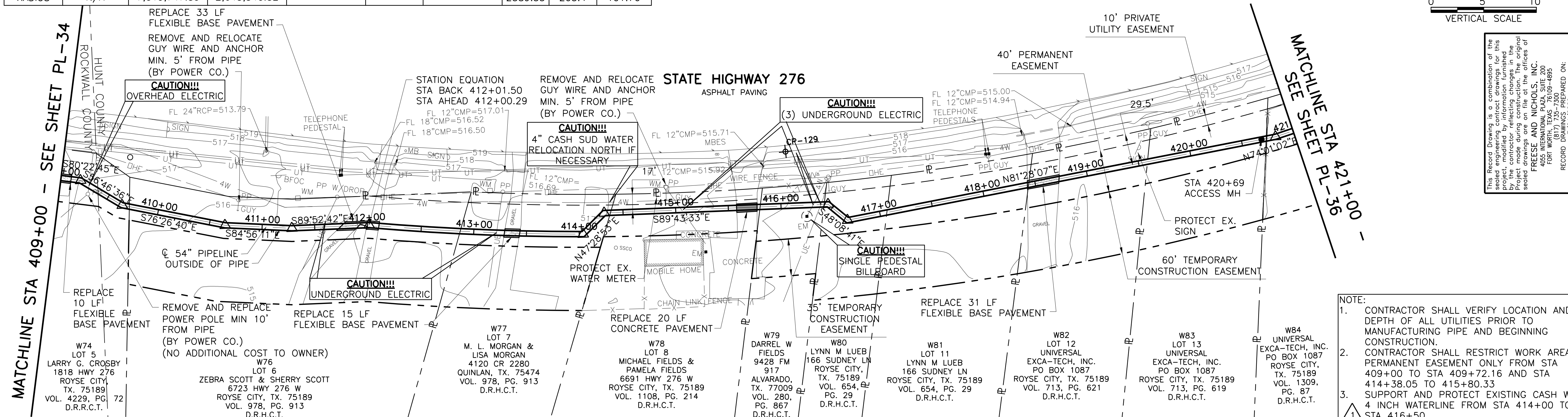
POINT	STATION	NORTHING	EASTING	DIRECTION	DISTANCE	DEF. ANGLE	RADIUS	LENGTH	TANGENT
PI	413+02.05	7,017,364.74	2,645,135.10			04°52'39"			
PT	414+03.69	7,017,360.32	2,645,236.77	N 47°28'53" E	28.4	N/A			
PI	414+32.09	7,017,379.51	2,645,257.70	N 89°43'33" W	212.66	-42°47'34"			
PI	416+44.75	7,017,378.49	2,645,470.35	N 48°08'41" W	23.82	-41°34'52"			
PI	416+68.56	7,017,362.60	2,645,488.09	N 81°28'07" E	413.82	50°23'12"			
PI	420+82.38	7,017,423.99	2,645,897.33	N 74°01'02" E	205.22	07°27'05"			



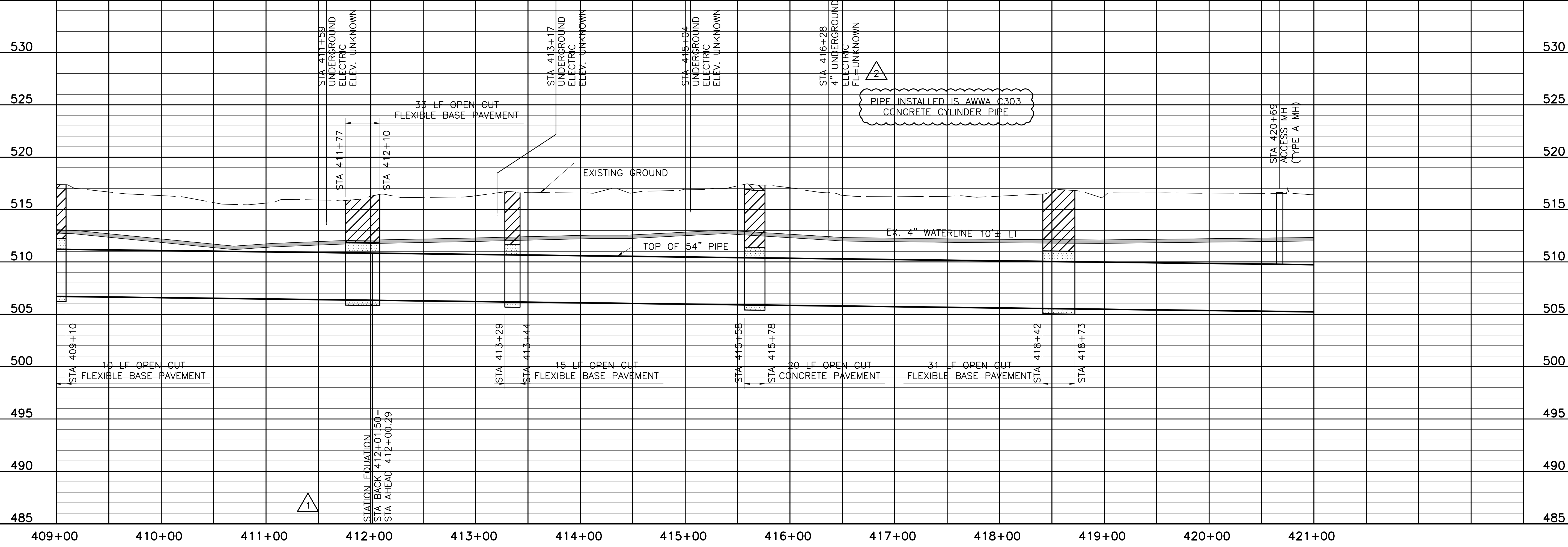
0 50' 100'
HORIZONTAL SCALE

0 5' 10'
VERTICAL SCALE

THIS DRAWING IS A REPRESENTATION OF THE sealed engineering contract drawings for this project, modified by information furnished by the contractor reflecting changes in the field during construction. The original sealed drawings are the legal reference of record. FRESSE AND NICHOLS, INC. 4055 INTERNATIONAL BLVD, SUITE 200 FORT WORTH, TEXAS 76109-4895 (817) 257-7800 RECORD DRAWING PREPARED ON: 7/24/2009



- NOTE:
- CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO MANUFACTURING PIPE AND BEGINNING CONSTRUCTION.
 - CONTRACTOR SHALL RESTRICT WORK AREA TO PERMANENT EASEMENT ONLY FROM STA 409+00 TO STA 409+72.16 AND STA 414+38.05 TO 415+80.33
 - SUPPORT AND PROTECT EXISTING CASH WSC 4 INCH WATERLINE FROM STA 414+00 TO STA 416+50.



NORTH TEXAS MUNICIPAL WATER DISTRICT
LAKE TAWAKONI WATER SUPPLY PROJECT
CONTRACT 5
PIPELINE
PLAN AND PROFILE
STA 409+00 TO STA 421+00
PROJECT NO. WCF 05-10

NO. ISSUE	DATE	BY	DESIGNED	DRAWN	CHECKED	FILE NAME
	NOV 2006		AAG	CLL	JP	WR-ALL-PP-PIPE35.dwg
RECORD DRAWINGS		RJR	7/24/09			
ADDENDUM NO. 1		JCS	10/18/06			
VERIFY SCALE						
Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.						

SHEET PL-35

SEQ. 41 OF 70

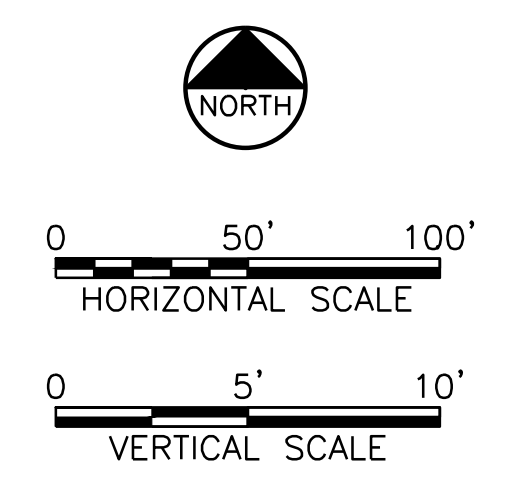
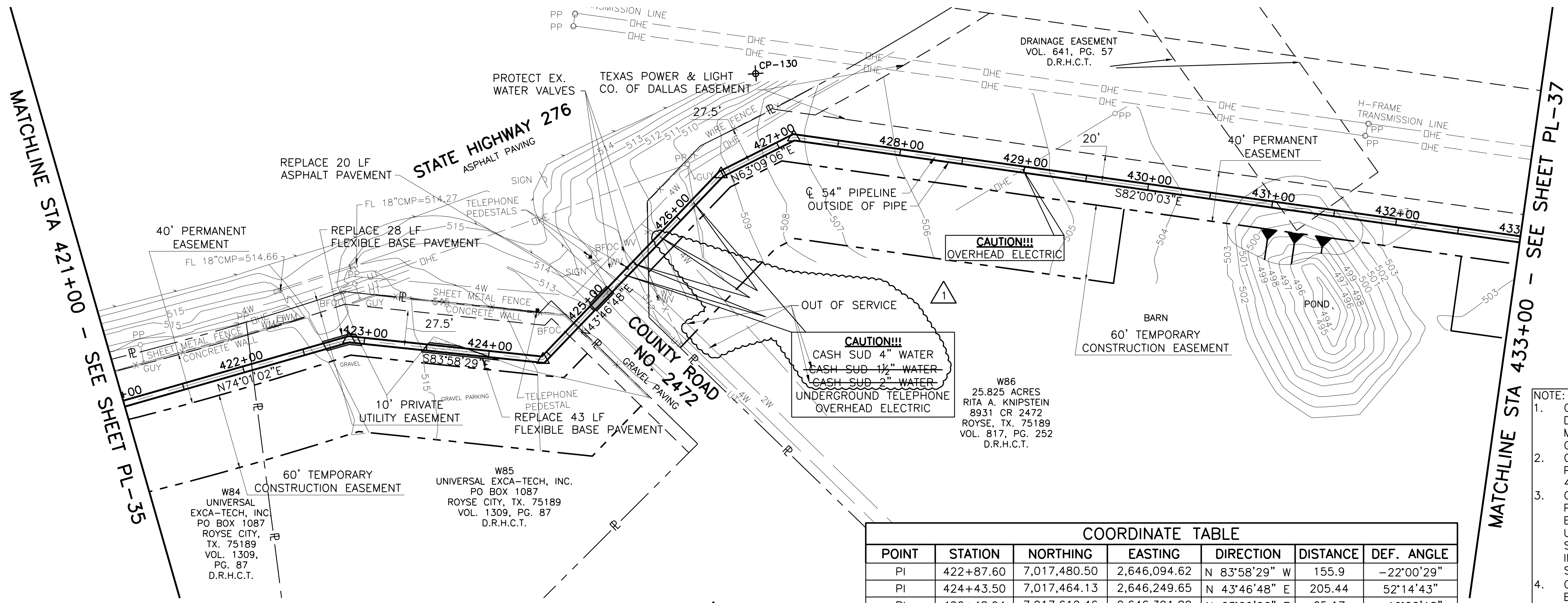
THIS DRAWING IS A REPRESENTATION OF THE sealed engineering contract drawings for this project, modified by information furnished by the contractor reflecting changes in the field during construction. The original sealed drawings are the legal reference of record. FRESSE AND NICHOLS, INC. 4055 INTERNATIONAL BLVD, SUITE 200 FORT WORTH, TEXAS 76109-4895 (817) 257-7800 RECORD DRAWING PREPARED ON: 7/24/2009



Fresse and Nichols, Inc.
116 N. Tennessee, Suite 200
McKinney, Texas 75069-4354
Phone - (972) 548-2400
Fax - (972) 548-1055

Texas Registered Engineering Firm F-2144

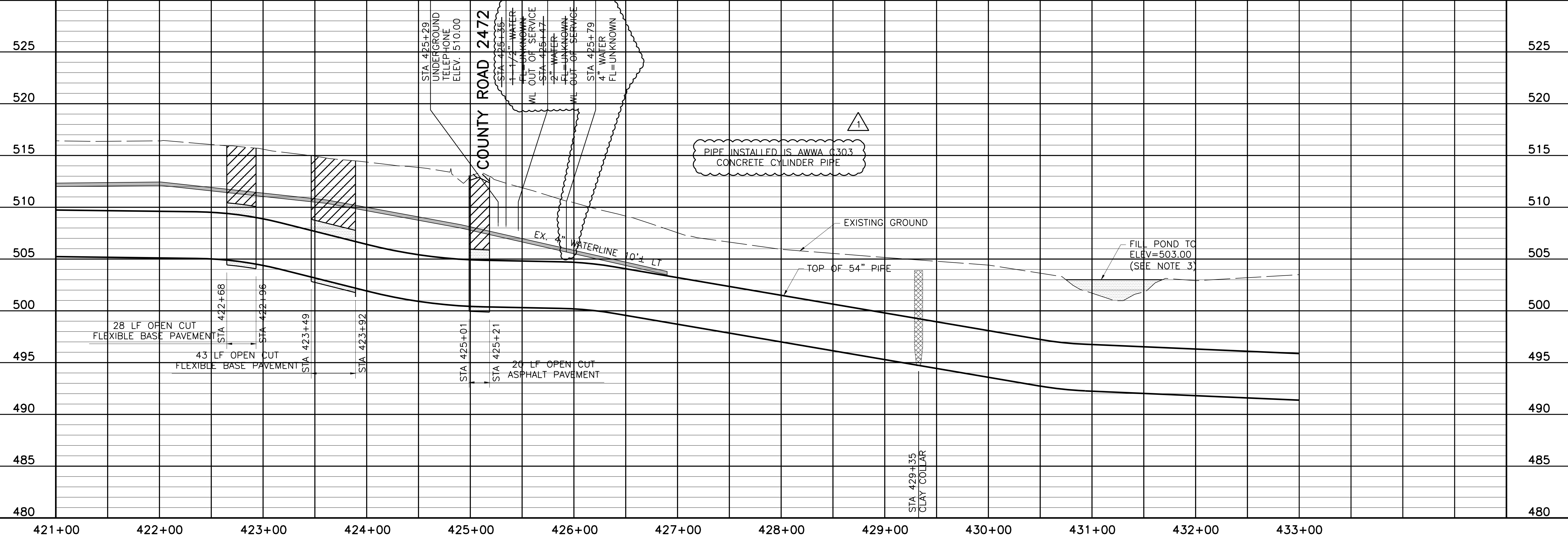
ACAD Rel 17.0s (LMS Tech) User: CLL
 INTD05387\IMC\SRV2\IN\WR\DRAWINGS\WR-ALL-PP-PIPE36.DWG LAYOUT: Layout1
 NOV 30, 2006 9:36:59 A.M. LTS: 1 PSLTS: 0
 4 REFERENCE FILES: N:\STANDARD\34BORDER.N\WR\BASE\WR-ALL-PL-PIPE01.DWG N:\WR\BASE\WR-ALL-PL-PIPE01.DWG N:\WR\BASE\WR-ALL-PL-PIPE01.DWG



This Record Drawing is a combination of the sealed engineering contract drawings for this project and the sealed drawings of the original project made during construction. The original sealed drawings are on file at the offices of FRESSE AND NICHOLS, INC. 4055 WILLOWDALE PLACE, SUITE 200 FORT WORTH, TEXAS 76107-4695 (817) 735-7300 (817) 735-4695 7/24/2009

COORDINATE TABLE						
POINT	STATION	NORTHING	EASTING	DIRECTION	DISTANCE	DEF. ANGLE
PI	422+87.60	7,017,480.50	2,646,094.62	N 83°58'29" W	155.9	-22°00'29"
PI	424+43.50	7,017,464.13	2,646,249.65	N 43°46'48" E	205.44	52°14'43"
PI	426+48.94	7,017,612.46	2,646,391.80	N 63°09'06" E	65.17	-19°22'18"
PI	427+14.11	7,017,641.90	2,646,449.94	N 82°00'03" W	3305.35	-34°50'50"

- NOTE:
- CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO MANUFACTURING PIPE AND BEGINNING CONSTRUCTION.
 - CONTRACTOR SHALL RESTRICT WORK AREA TO PERMANENT EASEMENT ONLY FROM STA. 429+83.31 TO STA. 432+55.49
 - CONTRACTOR SHALL BACKFILL POND ON PARCEL W86 WITHIN THE PERMANENT EASEMENT TO APPROXIMATE ELEVATION 503 USING TRENCH SPOILS COMPACTED TO 95% STANDARD PROCTOR DENSITY PRIOR TO INSTALLATION OF PIPELINE. MAXIMUM FILL SLOPE IN POND SHALL BE 3H:1V.
 - CONTRACTOR'S OPERATIONS SHALL AT NO TIME BE WITHIN TEXAS POWER AND LIGHT EASEMENT INCLUDING STORING AND STOCKPILING MATERIALS AND/OR EQUIPMENT.



NORTH TEXAS MUNICIPAL WATER DISTRICT
 LAKE TAWAKONI WATER SUPPLY PROJECT
 WEST PIPELINE
 PROJECT NO. WCF 05-10
 CONTRACT 5
 PLAN AND PROFILE
 STA 421+00 TO STA 433+00

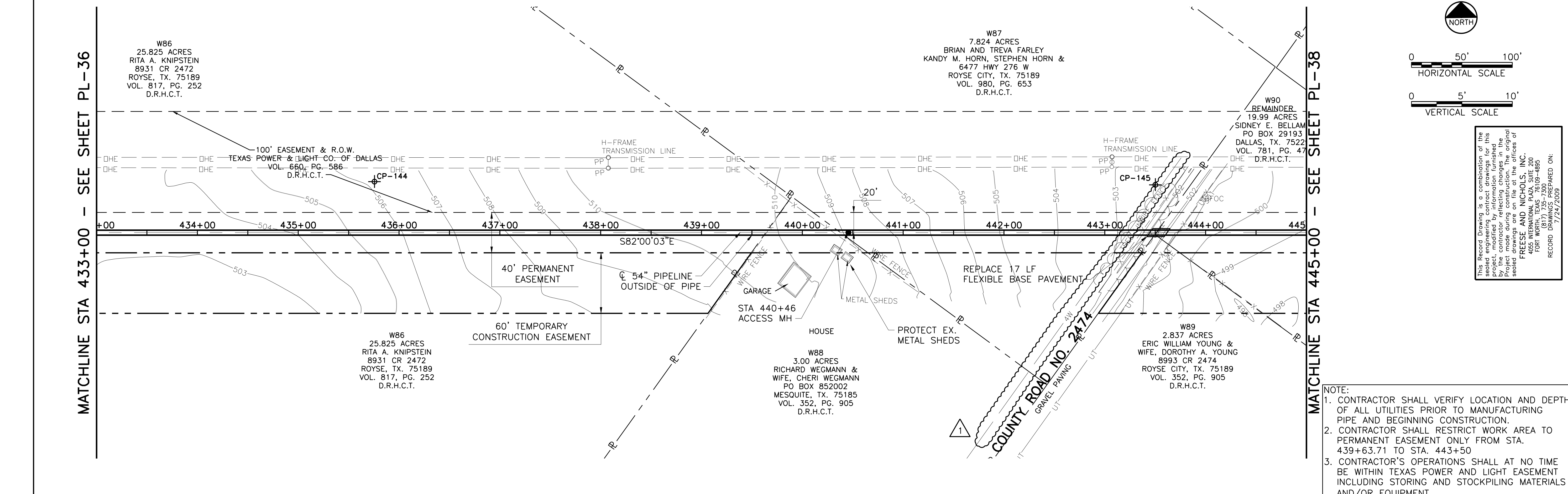
NO. ISSUE	BY	DATE	DESIGNED	DRAWN	CHECKED	REVISION
			AAG	CLL	JP	
	RJR	7/24/09				

RECORD DRAWINGS
 VERIFY SCALE
 Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.

SHEET
 PL-36
 SEQ. 42 OF 70

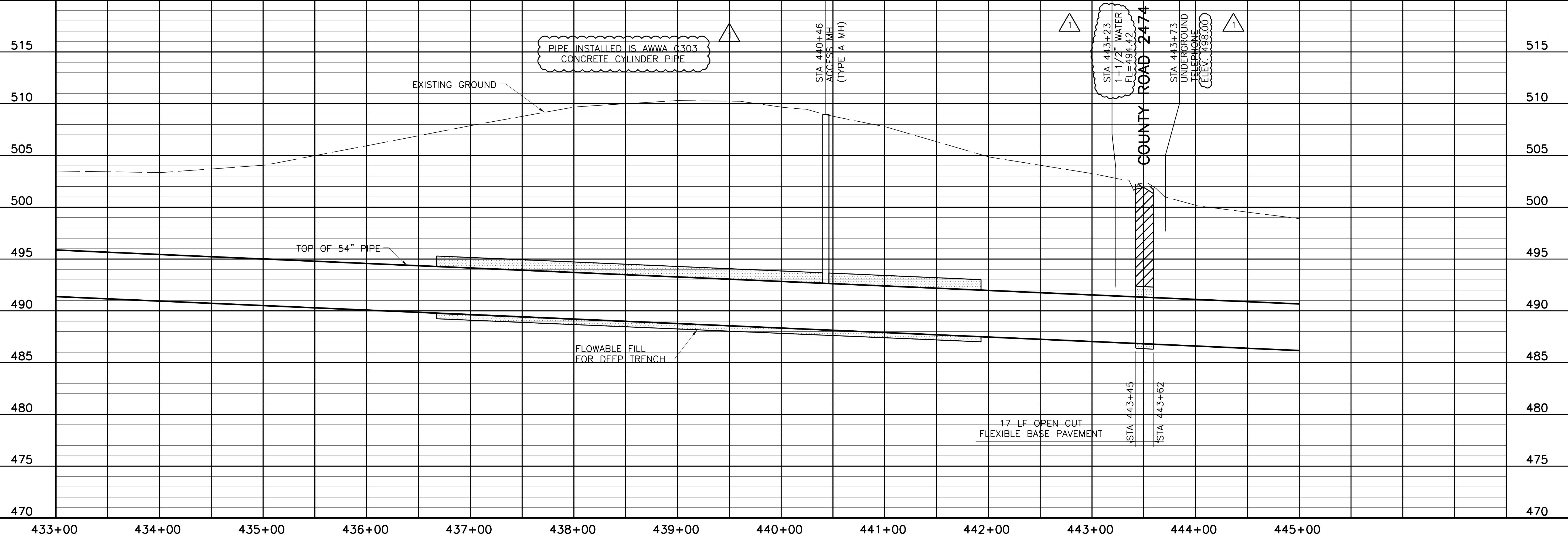
THIS DRAWING IS THE PROPERTY OF FRESSE AND NICHOLS, INC. IT IS TO BE USED ONLY FOR THE PROJECT AND SITE SPECIFICALLY IDENTIFIED HEREON. ANY REUSE OR MODIFICATION OF THIS DRAWING WITHOUT THE WRITTEN PERMISSION OF FRESSE AND NICHOLS, INC. IS STRICTLY PROHIBITED. FRESSE AND NICHOLS, INC. IS AN EQUAL OPPORTUNITY EMPLOYER.

Fresse and Nichols, Inc.
 Texas Registered Engineering Firm F-2144
 116 N. Tennessee, Suite 200
 McKinney, Texas 75069-4354
 Phone - (972) 548-2400
 Fax - (972) 548-1055



This Record Drawing is a combination of the sealed engineering contract drawings for this project and the field notes and other data provided by the contractor reflecting changes in the project made during construction. The original sealed drawings are on file at the offices of FRESSE AND NICHOLS, INC. 4055 WILLOWDALE PLAZA, SUITE 200 FORT WORTH, TEXAS 76107-4695 (817) 735-7300 (817) 735-4695 RECORD DRAWINGS PREPARED ON: 7/24/2009

- NOTE:
1. CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO MANUFACTURING PIPE AND BEGINNING CONSTRUCTION.
 2. CONTRACTOR SHALL RESTRICT WORK AREA TO PERMANENT EASEMENT ONLY FROM STA. 439+63.71 TO STA. 443+50
 3. CONTRACTOR'S OPERATIONS SHALL AT NO TIME BE WITHIN TEXAS POWER AND LIGHT EASEMENT INCLUDING STORING AND STOCKPILING MATERIALS AND/OR EQUIPMENT.



THIS DRAWING IS A REPRESENTATION OF THIS DOCUMENT AND IS NOT TO BE USED FOR CONSTRUCTION OR AS EVIDENCE OF THE RESPONSIBILITY OF THE ENGINEER. ANY MODIFICATION OF THE DRAWING WITHOUT THE SIGNATURE OF THE ENGINEER IS UNLAWFUL UNDER THE TEXAS ENGINEERING PRACTICE ACT.

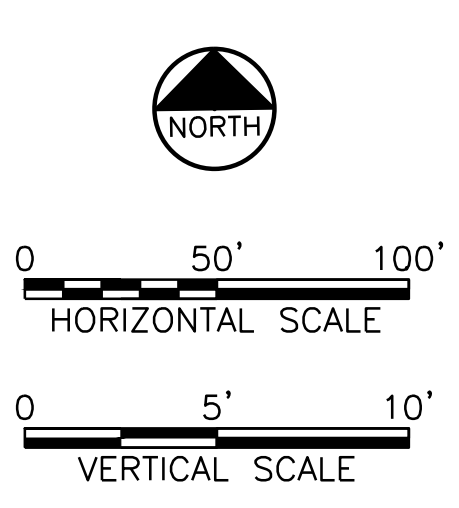
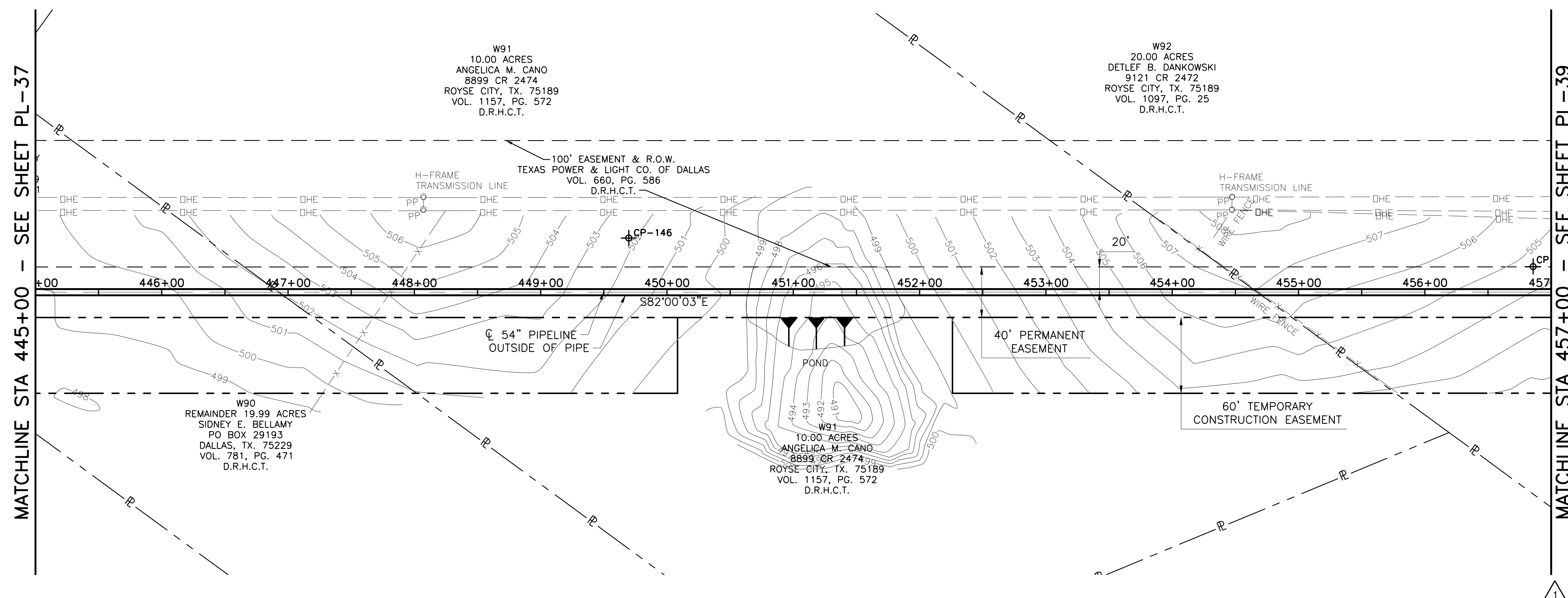
Fresse and Nichols
 116 N. Tennessee, Suite 200
 McKinney, Texas 75069-4354
 Phone - (972) 548-2400
 Fax - (972) 548-1055

NORTH TEXAS MUNICIPAL WATER DISTRICT
LAKE TAWAKONI WATER SUPPLY PROJECT
 WEST PIPELINE
 PROJECT NO. WCF 05-10
 CONTRACT 5
 PIPELINE
PLAN AND PROFILE
STA 433+00 TO STA 445+00

NO. ISSUE	BY	DATE	DESCRIPTION	DESIGNED	AAG	CLL	CHECKED	JP
	RJR	7/24/09	REVISION					
RECORD DRAWINGS								
Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.								
VERIFY SCALE								
SHEET								
PL-37								
SEQ. 43 OF 70								

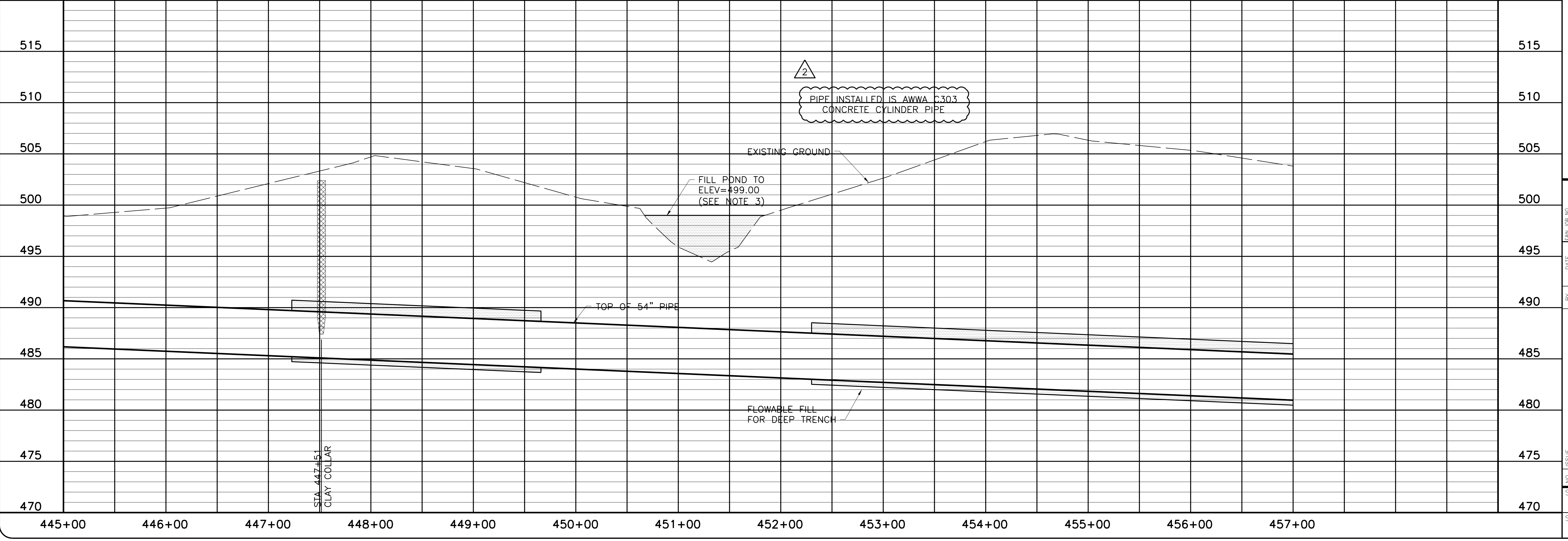
ACAD: Rel 18.0s (LWS Tech) User: ec Office: MCSRV2
 N:\w\Drawings\WR-ALL-PP-PIPE37.dwg LAYOUT: Layout1
 May 05, 2010 - 11:53am PLOT: 1
 REFERENCES: N:\Standard\3460RDER.dwg, N:\w\Bases\WR-ALL-PL-BASE01.dwg, N:\w\Bases\WR-PP-PP-PIPE01.dwg

ACAD Rel 17.0s (LMS Tech) User: CLL
 INTD05387\IMCSRV2\N:\WR\DRAWINGS\WR-ALL-PP-PIPE38.DWG LAYOUT: Layout1
 NOV 30, 2006 9:42:21 A.M. LTS: 1 PSLTS: 1 TWIST: 0
 4 REFERENCE FILES: N:\STANDARD\34BORDER.N\WR\BASE\WR-ALL-PL-AFERI.03.N\WR\BASE\WR-ALL-PL-BASE01_and_N\WR\BASE\WR-EPI-PP-PIPE01



THIS RECORD DRAWING IS A REPRESENTATION of the sealed engineering contract drawings for this project, modified by information furnished by the contractor reflecting changes in the field made during construction. The original sealed drawings are the legal reference of record. FREESE AND NICHOLS, INC. 4058 INTERNATIONAL BLVD, SUITE 200 FORT WORTH, TEXAS 76109-4895 (817) 257-7500 FAX (817) 257-7500 PREPARED ON: 7/24/2009

- NOTE:
- CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO MANUFACTURING PIPE AND BEGINNING CONSTRUCTION.
 - CONTRACTOR SHALL RESTRICT WORK AREA TO PERMANENT EASEMENT ONLY FROM STA. 450+08.33 TO STA. 452+26.02
 - CONTRACTOR SHALL BACKFILL POND ON PARCEL W91 WITHIN THE PERMANENT EASEMENT TO APPROXIMATE ELEVATION 499 USING TRENCH SPOILS COMPACTED TO 95% STANDARD PROCTOR DENSITY PRIOR TO INSTALLATION OF PIPELINE. MAXIMUM FILL SLOPE IN POND SHALL BE 3H:1V.
 - CONTRACTOR'S OPERATIONS SHALL AT NO TIME BE WITHIN TEXAS POWER AND LIGHT EASEMENT INCLUDING STORING AND STOCKPILING MATERIALS AND/OR EQUIPMENT.
 - CONTRACTOR SHALL COORDINATE WITH LAND OWNER FOR REMOVAL OF CORRUGATED METAL AND PIPE TWO (2) WEEKS PRIOR TO START OF WORK ON PARCEL W91.

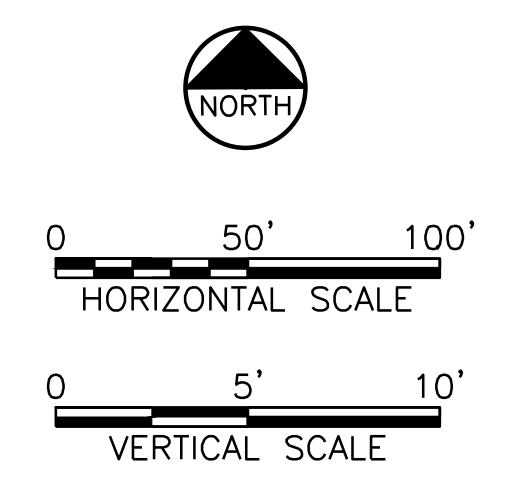
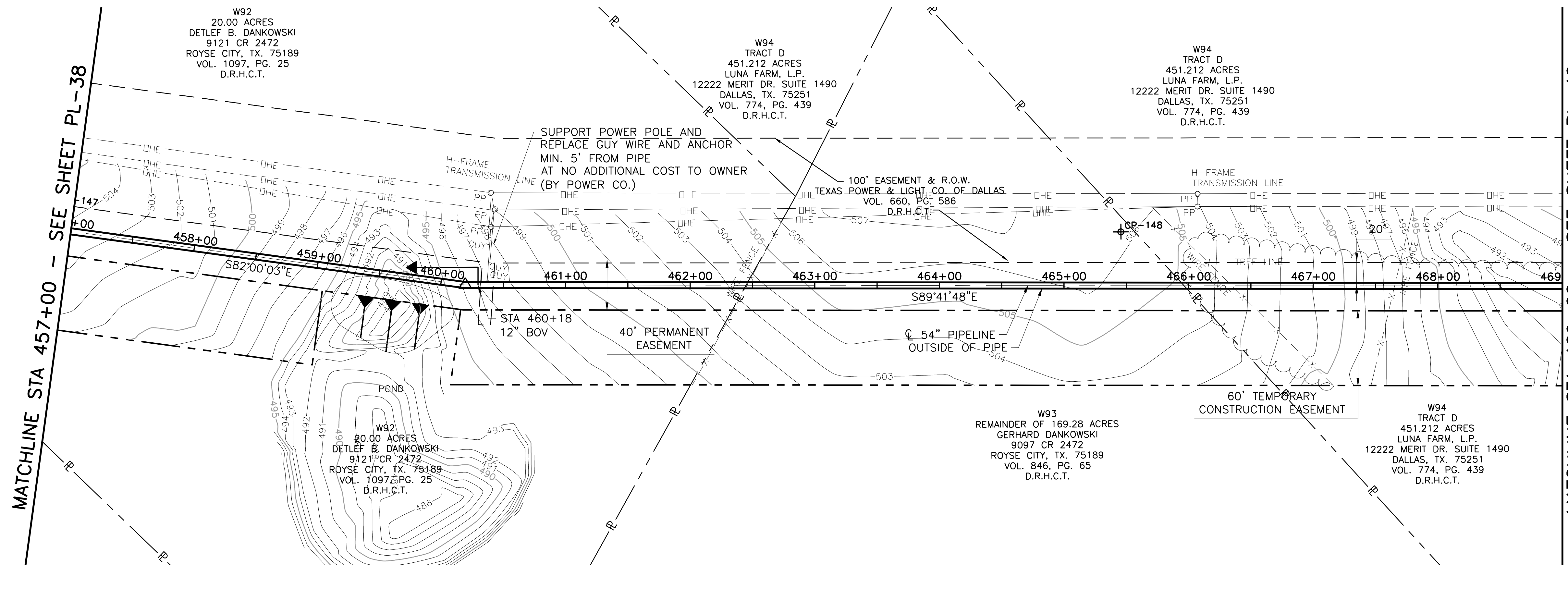


NORTH TEXAS MUNICIPAL WATER DISTRICT
 LAKE TAWAKONI WATER SUPPLY PROJECT
 WEST PIPELINE
 PROJECT NO. WCF 05-10
 CONTRACT 5
 PLAN AND PROFILE
 STA 445+00 TO STA 457+00

NO. / ISSUE	BY	DATE	FOR JOB NO.	NTD05387
			DATE	NOV 2006
			DESIGNED	AAG
			DRAWN	CLL
			DATE	7/24/09
			REVISION	JCS 10/18/06
			CHECKED	JP
			FILE NAME	WR-ALL-PP-PIPE38.dwg
			RECORD DRAWINGS	
			ADDENDUM NO.	1
			VERIFY SCALE	0
			Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.	

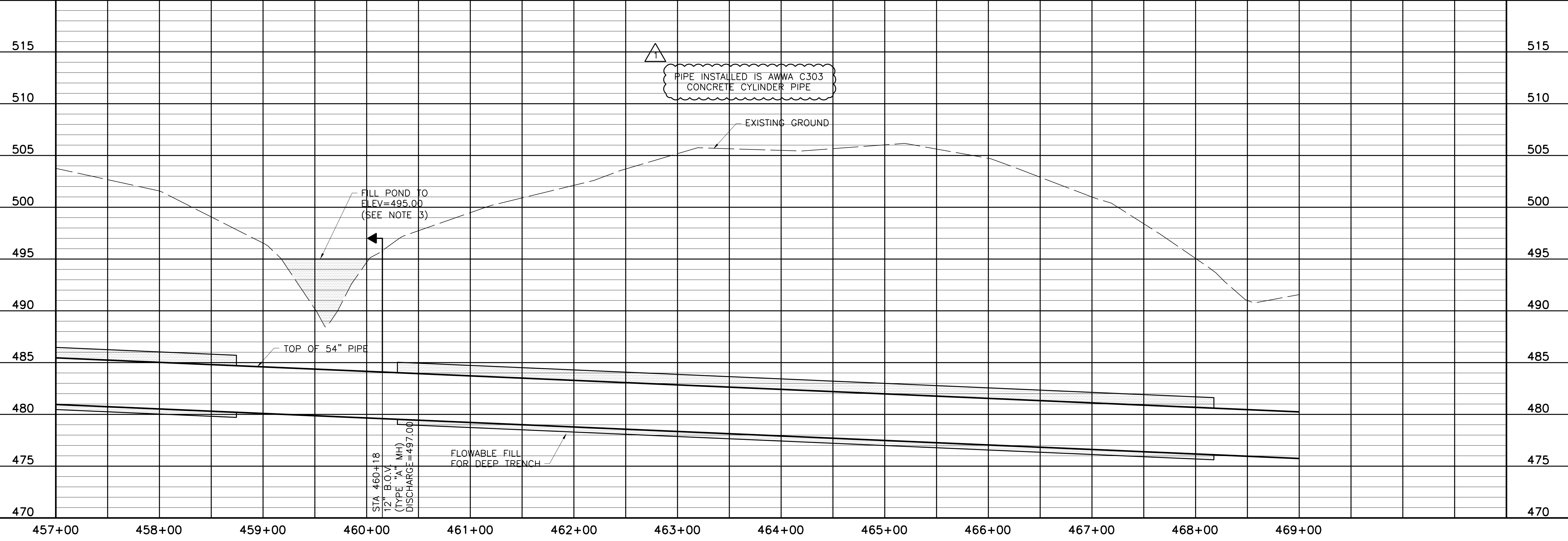
Freese and Nichols, Inc.
 Texas Registered Engineering Firm F-2144
 116 N. Tennessee, Suite 200
 McKinney, Texas 75069-4354
 Phone - (972) 548-2400
 Fax - (972) 548-1055

COORDINATE TABLE						
POINT	STATION	NORTHING	EASTING	DIRECTION	DISTANCE	DEF. ANGLE
PI	460+19.46	7,017,181.93	2,649,723.14	N 89°41'48" W	1464.91	07°41'44"



This Record Drawing is a combination of the sealed engineering contract drawings for this project and the field notes and other data furnished by the contractor reflecting changes in the project made during construction. The original sealed drawings are on file at the offices of FRESSE AND NICHOLS, INC. 4055 WINTERBURN DR., SUITE 200 FORT WORTH, TEXAS 76107-7300 (817) 735-7300 (817) 735-4695 RECORD DRAWINGS PREPARED ON: 7/27/2009

- NOTE:
- CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO MANUFACTURING PIPE AND BEGINNING CONSTRUCTION.
 - CONTRACTOR SHALL RESTRICT WORK AREA TO PERMANENT EASEMENT ONLY FROM STA. 458+98.85 TO STA. 460+10.98.
 - CONTRACTOR SHALL BACKFILL POND ON PARCEL W92 WITHIN THE PERMANENT EASEMENT TO APPROXIMATE ELEVATION 495 USING TRENCH SPOILS COMPACTED TO 95% STANDARD PROCTOR DENSITY PRIOR TO INSTALLATION OF PIPELINE. MAXIMUM FILL SLOPE IN TEMPORARY EASEMENT SHALL BE 3H:1V.
 - CONTRACTOR'S OPERATIONS SHALL AT NO TIME BE WITHIN TEXAS POWER AND LIGHT EASEMENT INCLUDING STORING AND STOCKPILING MATERIALS AND/OR EQUIPMENT.



NORTH TEXAS MUNICIPAL WATER DISTRICT
LAKE TAWAKONI WATER SUPPLY PROJECT
 WEST PIPELINE
 PROJECT NO. WCF 05-10
 CONTRACT 5
PLAN AND PROFILE
 STA 457+00 TO STA 469+00

NO. ISSUE	BY	DATE	DESCRIPTION	DESIGNED	DRAWN	CHECKED	REVISION
	RJR	7/27/09	REVISION				
RECORD DRAWINGS VERIFY SCALE Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.							
FILE NAME: WR-ALL-PP-PIPE39.dwg							
SHEET: PL-39							
SEQ. 45 OF 70							

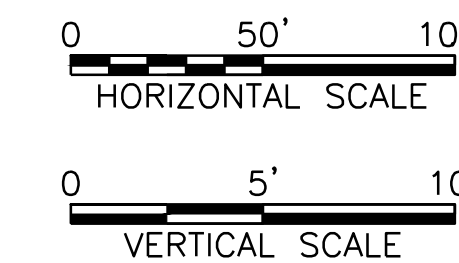
THIS DRAWING IS THE PROPERTY OF FRESSE AND NICHOLS, INC. IT IS TO BE USED ONLY FOR THE PROJECT AND SITE SPECIFICALLY IDENTIFIED HEREON. ANY REUSE OR MODIFICATION OF THIS DRAWING WITHOUT THE WRITTEN PERMISSION OF FRESSE AND NICHOLS, INC. IS STRICTLY PROHIBITED.

Fresse and Nichols
 116 N. Tennessee, Suite 200
 McKinney, Texas 75069-4354
 Phone - (972) 548-2400
 Fax - (972) 548-1055
 Texas Registered Engineering Firm F-2144

ACAD: Rel 18.0s (LWS Tech) User: ec Office: MCSRV2
 N:\wr\Drawings\WR-ALL-PP-PIPE39.dwg LAYOUT: Layout1
 May 05, 2010 - 11:56am PLOT: 1
 REFERENCES: N:\Standard\3460RDR.dwg, N:\wr\Bose\WR-ALL-PP-BASE01.dwg, N:\wr\Bose\WR-PP-PP-PIPE01.dwg

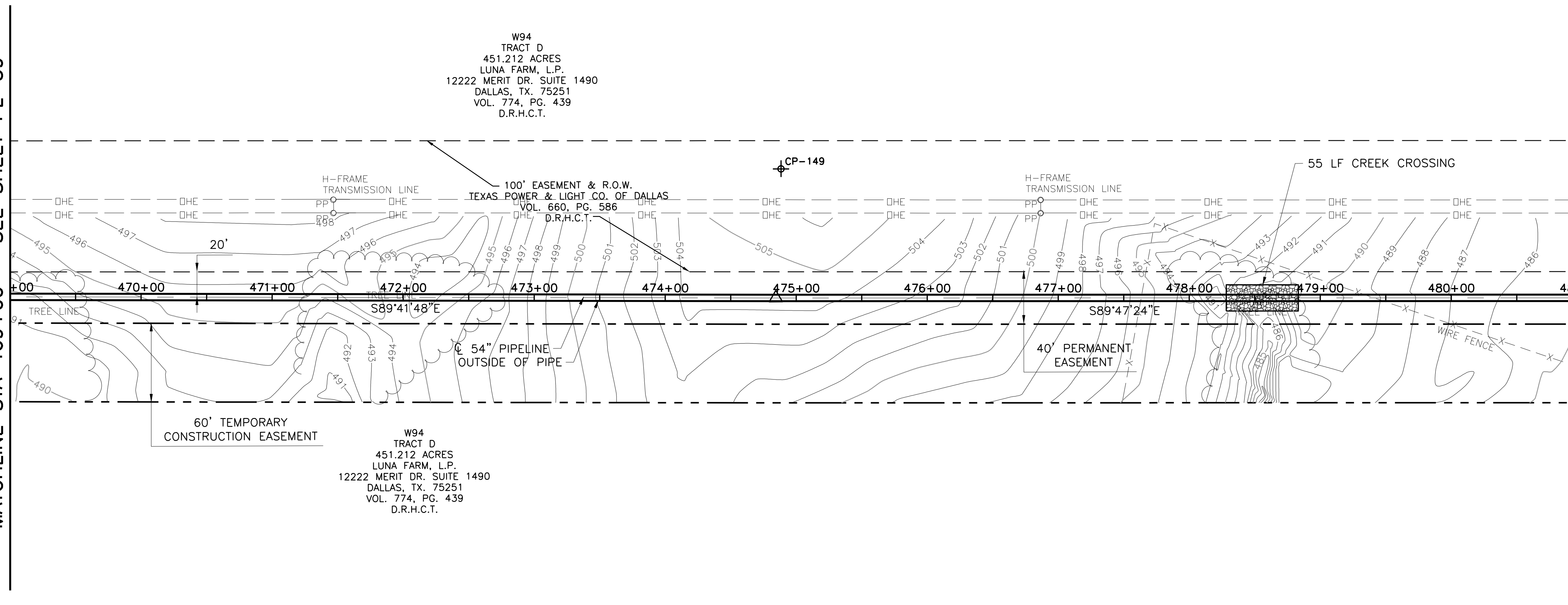
COORDINATE TABLE

POINT	STATION	NORTHING	EASTING	DIRECTION	DISTANCE	DEF. ANGLE
PI	474+84.38	7,017,174.18	2,651,188.03	N 89°47'24" W	1453.71	00°05'36"



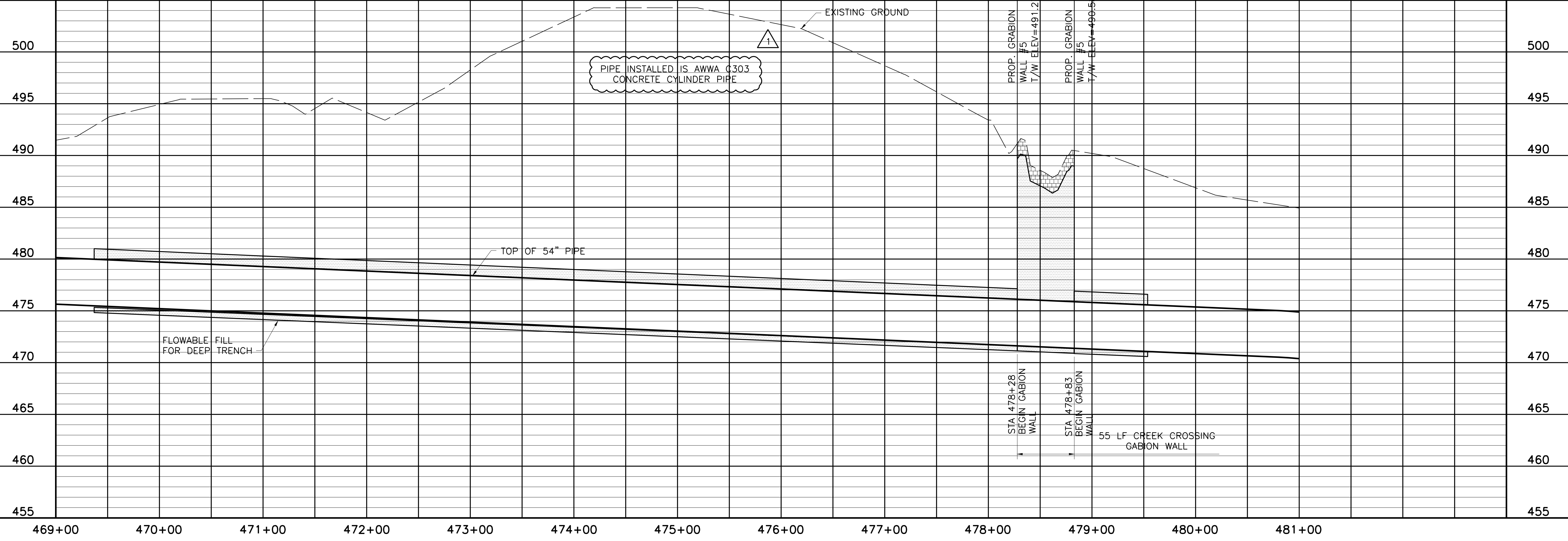
MATCHLINE STA 469+00 - SEE SHEET PL-39

MATCHLINE STA 481+00 - SEE SHEET PL-41



This Record Drawing is a combination of the sealed engineering contract drawings for this project and the field notes and other data furnished by the contractor reflecting changes in the Project made during construction. The original sealed drawings are on file at the offices of
FRESE AND NICHOLS, INC.
 4055 WINTERBURN PLAZA, SUITE 200
 FORT WORTH, TEXAS 76107-4695
 RECORD DRAWINGS PREPARED ON: 7/27/2009

- NOTE:
- CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO MANUFACTURING PIPE AND BEGINNING CONSTRUCTION.
 - CONTRACTOR'S OPERATIONS SHALL AT NO TIME BE WITHIN TEXAS POWER AND LIGHT EASEMENT INCLUDING STORING AND STOCKPILING MATERIALS AND/OR EQUIPMENT.



Office: MCSR2
 User: ec
 N:\w\Drawings\WR-ALL-PP-PIPE40.dwg LAYOUT: Layout1
 May 05, 2010 - 11:57am
 PSLT: 1
 TWIST: MCSR2
 N:\w\Bases\WR-ALL-PP-BASE01.dwg
 N:\w\Bases\WR-ALL-PP-PIPE01.dwg

DATE: NOV 2006
 DESIGNED: AAG
 DRAWN: CLL
 REVISION: 7/27/09
 FILE NAME: WR-ALL-PP-PIPE40.dwg

NO. ISSUE: 0
 SHEET: PL-40
 SEQ. 46 OF 70

NTD05387
 NOV 2006
 AAG
 CLL

RECORD DRAWINGS
 Bar is one inch on original
 drawing, if not one inch on
 this sheet, adjust scale.

PROJECT NO. WCF 05-10

CONTRACT 5

NORTH TEXAS MUNICIPAL WATER DISTRICT
 LAKE TAWAKONI WATER SUPPLY PROJECT
 WEST PIPELINE

PIPELINE
 PLAN AND PROFILE
 STA 469+00 TO STA 481+00

116 N. Tennessee, Suite 200
 McKinney, Texas 75069-4354
 Phone - (972) 548-2400
 Fax - (972) 548-1055

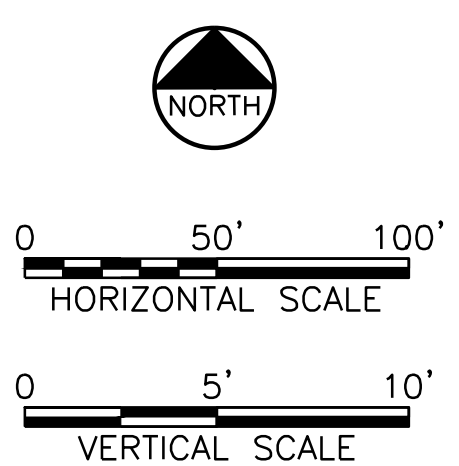
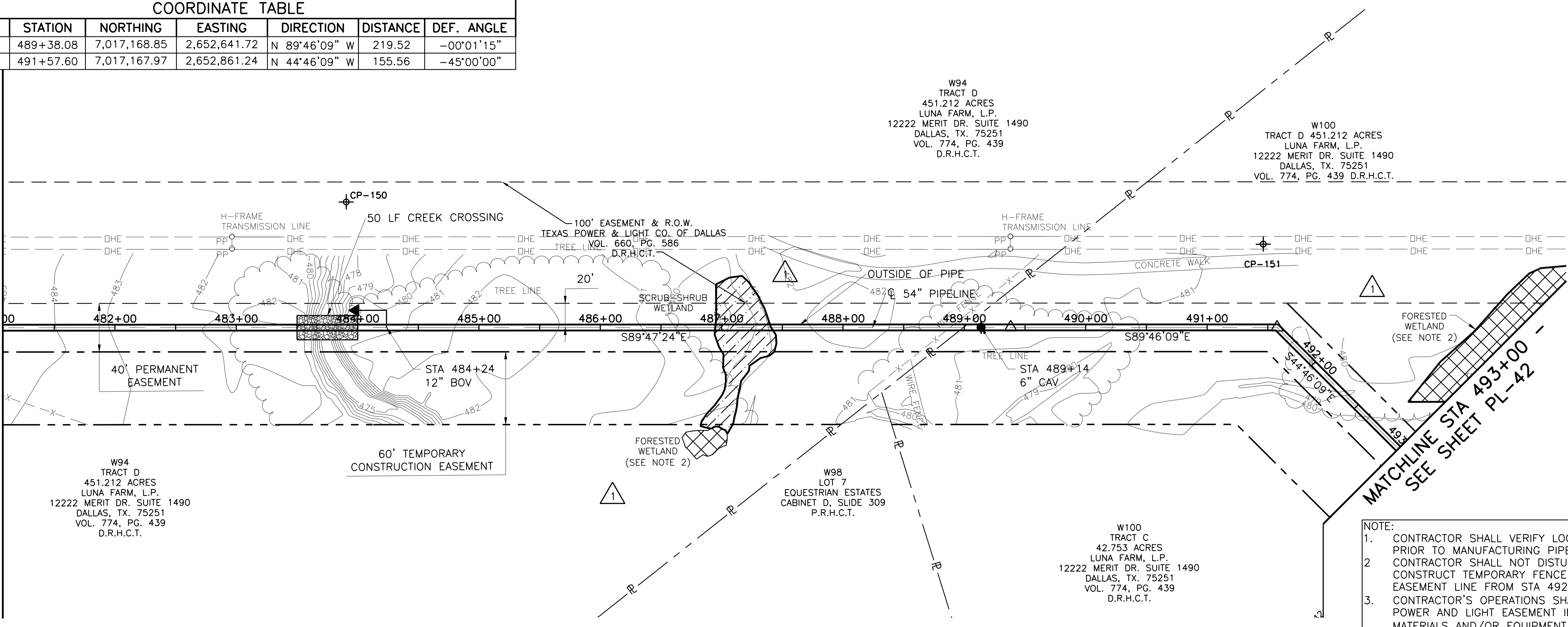
Freese and Nichols, Inc.
 Texas Registered Engineering Firm F-2144

ACAD: Rel 18.0s (LWS Tech)
 User: ec
 Office: MCSR2
 N:\w\Drawings\WR-ALL-PP-PIPE40.dwg LAYOUT: Layout1
 May 05, 2010 - 11:57am
 PSLT: 1
 TWIST: MCSR2
 N:\w\Bases\WR-ALL-PP-BASE01.dwg
 N:\w\Bases\WR-ALL-PP-PIPE01.dwg

COORDINATE TABLE

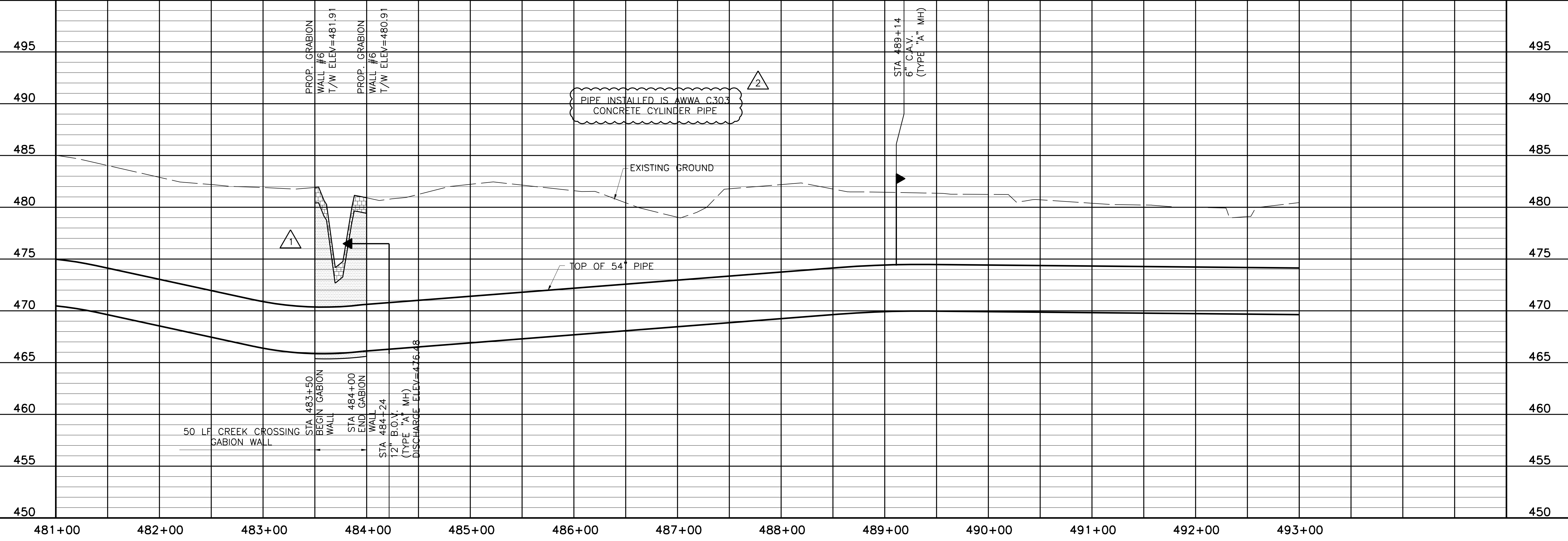
POINT	STATION	NORTHING	EASTING	DIRECTION	DISTANCE	DEF. ANGLE
PI	489+38.08	7,017,168.85	2,652,641.72	N 89°46'09" W	219.52	-00°01'15"
PI	491+57.60	7,017,167.97	2,652,861.24	N 44°46'09" W	155.56	-45°00'00"

MATCHLINE STA 481+00 - SEE SHEET PL-40



THIS RECORD DRAWING IS A REPRESENTATION OF THE sealed engineering contract drawings for this project, modified by information furnished by the contractor during construction. The original sealed drawings are on file at the office of FRESSE AND NICHOLS, INC. 4055 INTERNATIONAL PLAZA, SUITE 200 FORT WORTH, TEXAS 76109-4895 (817) 257-7800 RECORD NO. 01727/2009 PREPARED ON: 7/27/2009

- NOTE:
- CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO MANUFACTURING PIPE AND BEGINNING CONSTRUCTION.
 - CONTRACTOR SHALL NOT DISTURB FORESTED WETLAND AREAS. CONSTRUCT TEMPORARY FENCE ALONG NORTH PERMANENT EASEMENT LINE FROM STA 492+80 TO STA 493+00.
 - CONTRACTOR'S OPERATIONS SHALL AT NO TIME BE WITHIN TEXAS POWER AND LIGHT EASEMENT INCLUDING STORING AND STOCKPILING MATERIALS AND/OR EQUIPMENT.



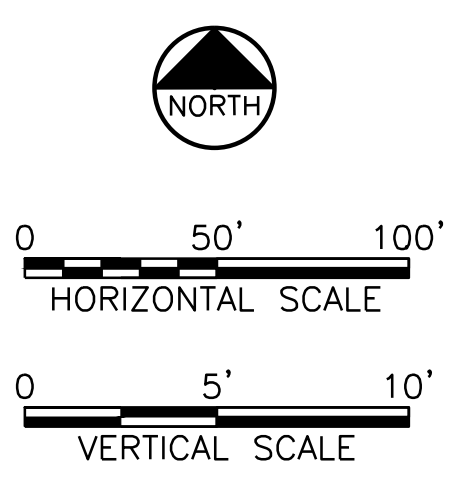
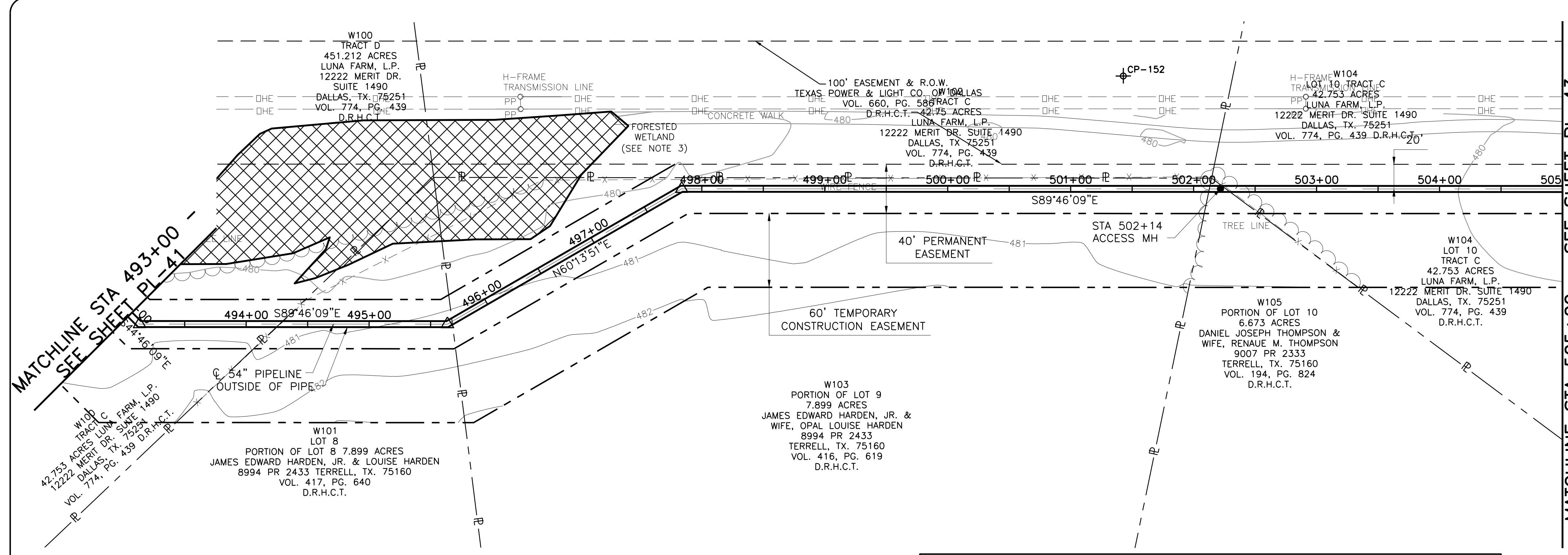
NORTH TEXAS MUNICIPAL WATER DISTRICT
LAKE TAWAKONI WATER SUPPLY PROJECT
 PIPELINE
 WEST PIPELINE
 PROJECT NO. WCF 05-10
 CONTRACT 5
PLAN AND PROFILE
 STA 481+00 TO STA 493+00

NO. ISSUE	BY	DATE	FOR JOB NO.	NTD05387
			DATE	NOV 2006
			DESIGNED	AAG
			DRAWN	CLL
			REVISION	
			FILE NAME	JP
			WR-ALL-PP-PIPE41.dwg	
RECORD DRAWINGS ADDENDUM NO. 1 VERIFY SCALE Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.				
PL-41				
SEQ. 47 OF 70				

Fresse and Nichols, Inc.
 Texas Registered Engineering Firm F-2144
 116 N. Tennessee, Suite 200
 McKinney, Texas 75069-4354
 Phone - (972) 548-2400
 Fax - (972) 548-1055

ACAD: Rel 18.0s (LWS Tech) Office: MCSRV2
 N:\wr\Drawings\WR-ALL-PP-PIPE41.dwg LAYOUT: Layout1
 May 05, 2010 - 11:58am PLS: 1
 REFERENCES: N:\Standard\3460RPER.dwg, N:\wr\Bose\WR-ALL-PL-BASE01.dwg, N:\wr\Bose\WR-PP-PR-PIPE01.dwg

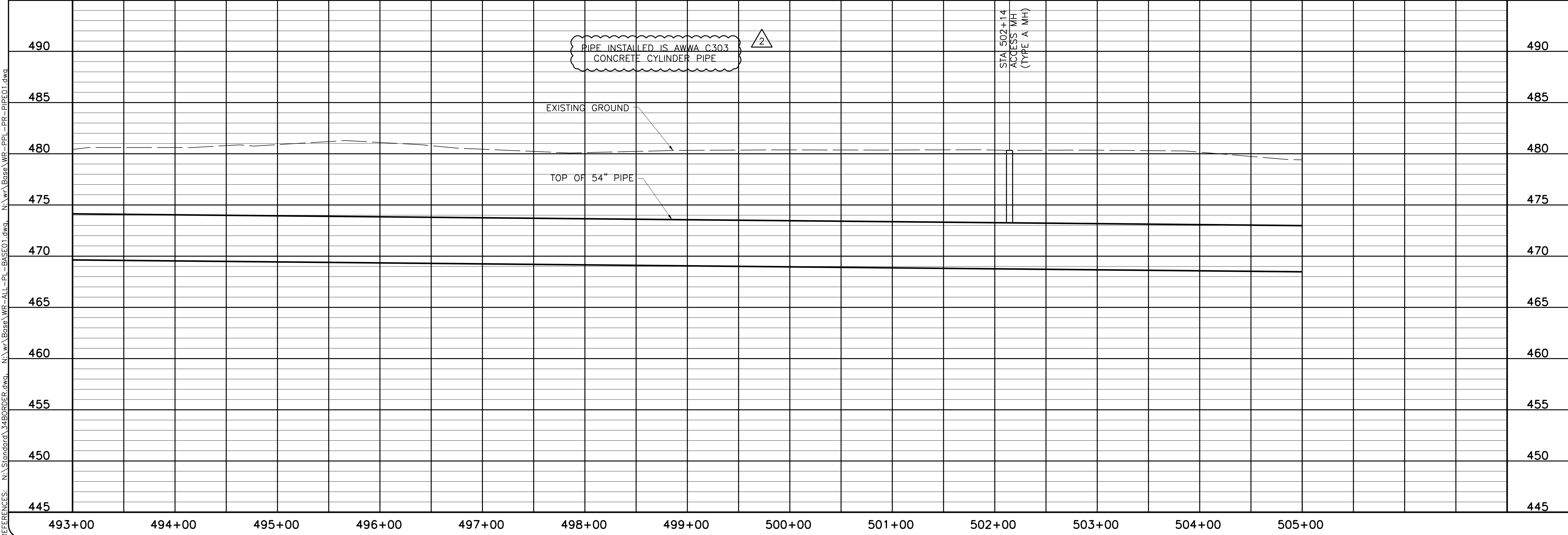
ACAD Rel 18.0s (LWS Tech) User: ec Office: MCSRV2
 N:\w\Drawings\WR-ALL-PP-PIPE42.dwg LAYOUT: Layout1
 May 05, 2010 - 11:58am LIS: 1 TWIST: MCSRV2
 REFERENCES: N:\Standard\3460RPER.dwg, N:\w\Bose\WR-ALL-PP-PIPE42.dwg, N:\w\Bose\WR-PP-PP-PIPE01.dwg



THIS RECORD DRAWING IS A REPRESENTATION OF THE sealed engineering contract drawings for this project, modified by information furnished by the contractor reflecting changes in the field during construction. The original sealed drawings are the only legal evidence of the project. FREESE AND NICHOLS, INC. 4055 INTERNATIONAL BLVD, SUITE 200 FORT WORTH, TEXAS 76109-4895 (817) 257-7800 FAX: (817) 257-7800 PREPARED ON: 7/27/2009

- NOTE:
- CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO MANUFACTURING PIPE AND BEGINNING CONSTRUCTION.
 - CONTRACTOR SHALL CONSTRUCT AND MAINTAIN ROADWAYS AND DRIVEWAYS AS REQUIRED SUCH THAT ACCESS TO ALL PROPERTIES IS MAINTAINED AT ALL TIMES. ALL DRIVEWAYS AND ROADWAYS SHALL BE REPLACED WITH LIKE MATERIALS WITHIN 72 HOURS OF COMPLETION OF PIPELINE CONSTRUCTION IN THIS AREA.
 - CONTRACTOR SHALL NOT DISTURB FORESTED WETLAND AREAS. CONSTRUCT TEMPORARY FENCE ALONG NORTH PERMANENT EASEMENT LINE FROM STA 493+00 TO STA 497+72.
 - CONTRACTOR'S OPERATIONS SHALL AT NO TIME BE WITHIN TEXAS POWER AND LIGHT EASEMENT INCLUDING STORING AND STOCKPILING MATERIALS AND/OR EQUIPMENT.

COORDINATE TABLE						
POINT	STATION	NORTHING	EASTING	DIRECTION	DISTANCE	DEF. ANGLE
PI	493+13.16	7,017,057.53	2,652,970.79	N 89°46'09" W	250.42	45°00'00"
PI	495+63.58	7,017,056.52	2,653,221.21	N 60°13'51" E	220	30°00'00"
PI	497+83.58	7,017,165.75	2,653,412.18	N 89°46'09" W	1,399.16	-30°00'00"



NORTH TEXAS MUNICIPAL WATER DISTRICT
LAKE TAWAKONI WATER SUPPLY PROJECT
 WEST PIPELINE
 PROJECT NO. WCF 05-10
 CONTRACT 5

PLAN AND PROFILE
 STA 493+00 TO STA 505+00

NO. ISSUE	DATE	BY	DESIGNED	CHECKED
	NOV 2006		AAG	JP
RECORD DRAWINGS	DATE	BY	DESIGNED	CHECKED
ADDENDUM NO. 1	7/27/09	RJR	AAG	JP
VERIFY SCALE	10/18/06	JCS	AAG	JP

Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.

SHEET
PL-42
 SEQ. 48 OF 70

Freese and Nichols, Inc.
 Texas Registered Engineering Firm F-2144
 116 N. Tennessee, Suite 200
 McKinney, Texas 75069-4354
 Phone - (972) 548-2400
 Fax - (972) 548-1055

COORDINATE TABLE

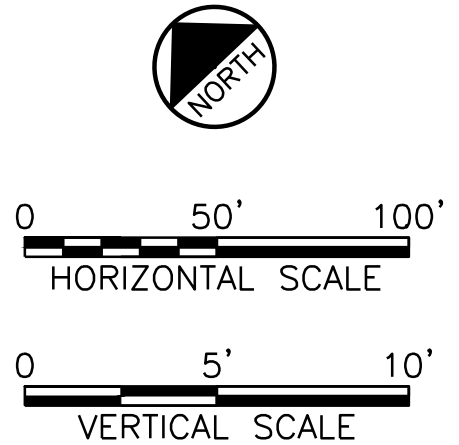
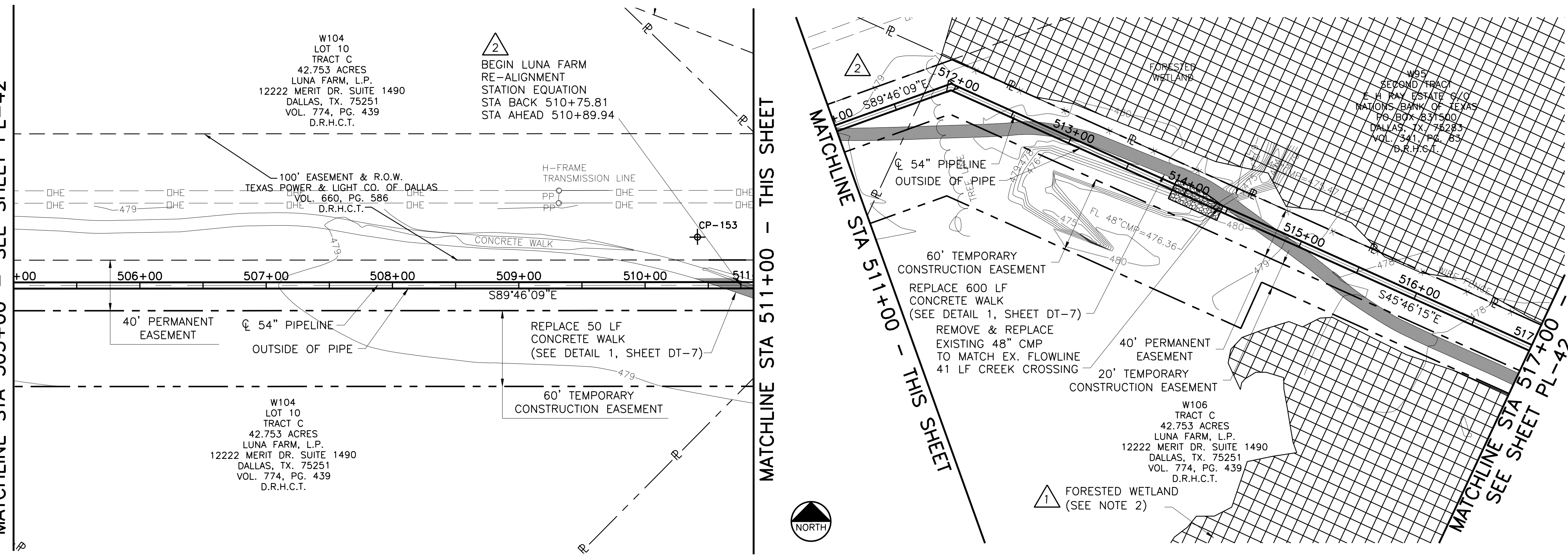
POINT	STATION	NORTHING	EASTING	DIRECTION	DISTANCE	DEF. ANGLE
PI	511+96.86	7,017,160.11	2,654,811.32	N 45°46'15" W	628.28	-43°59'54"



MATCHLINE STA 505+00 - SEE SHEET PL-42

MATCHLINE STA 511+00 - THIS SHEET

MATCHLINE STA 517+00 - SEE SHEET PL-42



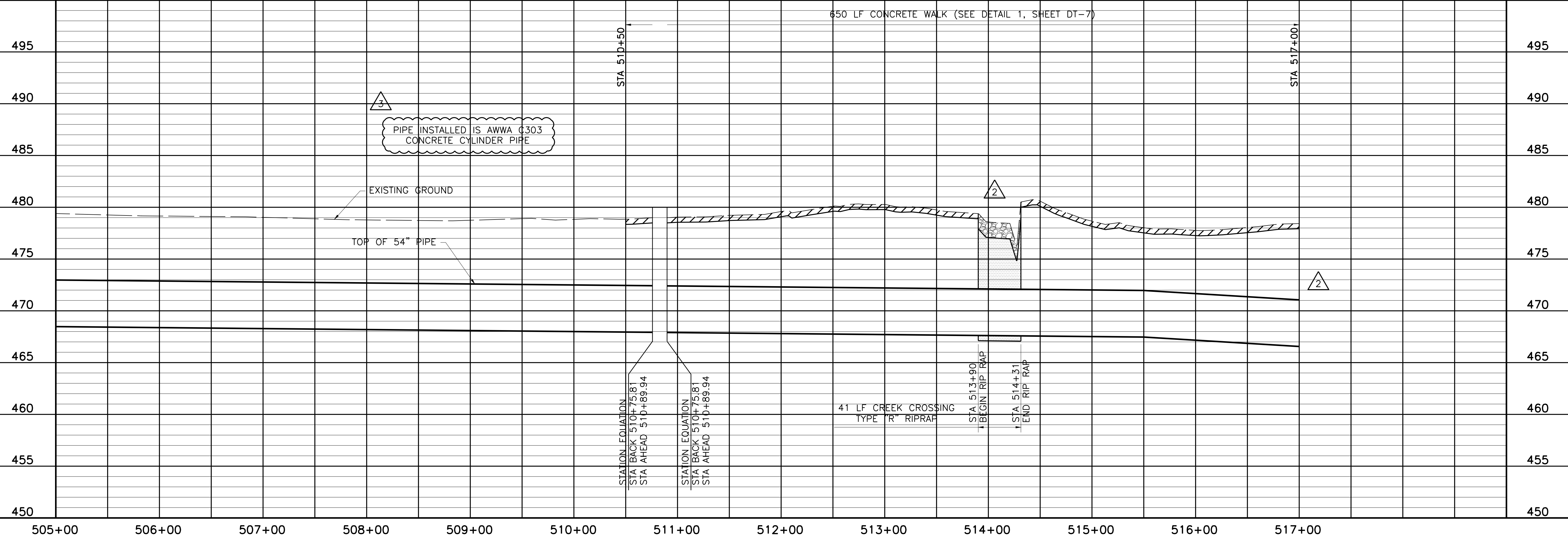
This Record Drawing is a combination of the sealed engineering contract drawings for this project, modified by information furnished by the contractor during construction. The original sealed drawings are on file at the offices of FRESSE AND NICHOLS, INC., 4055 INTERNATIONAL PLAZA, SUITE 200, FORT WORTH, TEXAS 76109-094895. (817) 735-7300. RECORD DRAWINGS PREPARED ON: 7/27/2009

- NOTE:
- CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO MANUFACTURING PIPE AND BEGINNING CONSTRUCTION.
 - CONTRACTOR SHALL NOT DISTURB FORESTED WETLAND AREAS. CONSTRUCT TEMPORARY FENCE ALONG NORTH PERMANENT EASEMENT LINE FROM STA 511+58 TO STA 517+00 AND ALONG SOUTH TEMPORARY EASEMENT LINE FROM STA 515+00 TO STA 517+00.
 - CONTRACTOR'S OPERATIONS SHALL AT NO TIME BE WITHIN TEXAS POWER AND LIGHT EASEMENT INCLUDING STORING AND STOCKPILING MATERIALS AND/OR EQUIPMENT.
 - CONTRACTOR SHALL ENSURE LANDOWNER HAS ACCESS THROUGH WORK AREA AT ALL TIMES AND FARM OPERATIONS IN THE AREA ARE NOT INTERRUPTED.

NORTH TEXAS MUNICIPAL WATER DISTRICT
LAKE TAWAKONI WATER SUPPLY PROJECT
 WEST PIPELINE
 PROJECT NO. WCF 05-10
 CONTRACT 5
PLAN AND PROFILE
STA 505+00 TO STA 517+00

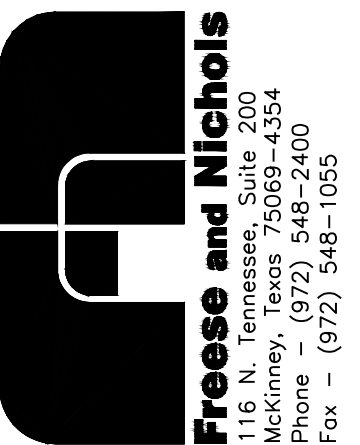
NO. ISSUE	BY	DATE	FOR JOB NO.
1	RJR	7/27/09	NTD05387
DESIGNED	JP	2/12/07	NOV 2006
DRAWN	JP	12/05/06	AAG
CHECKED	JP		CLL
FILE NAME			JP
WR-ALL-PP-PIPE43.dwg			

SHEET **PL-43**
SEQ. 49 OF 70



ACAD: Rel 18.0s (LWS Tech) User: ec Office: MCSRV2
 N:\wr\Drawings\WR-ALL-PP-PIPE43.dwg LAYOUT: Layout1
 May 05, 2010 - 11:59am PLS: 1
 REFERENCES: N:\Standard\3480RDR.dwg, N:\wr\Bose\WR-ALL-PP-PIPE43.dwg, N:\wr\Bose\WR-PP-PIPE43.dwg

THIS SEAL, THE COMPANY'S APPEARANCE, OR THIS DOCUMENT MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT PERMISSION IN WRITING FROM FRESSE AND NICHOLS, INC. FRESSE AND NICHOLS, INC. IS AN EQUAL OPPORTUNITY EMPLOYER.

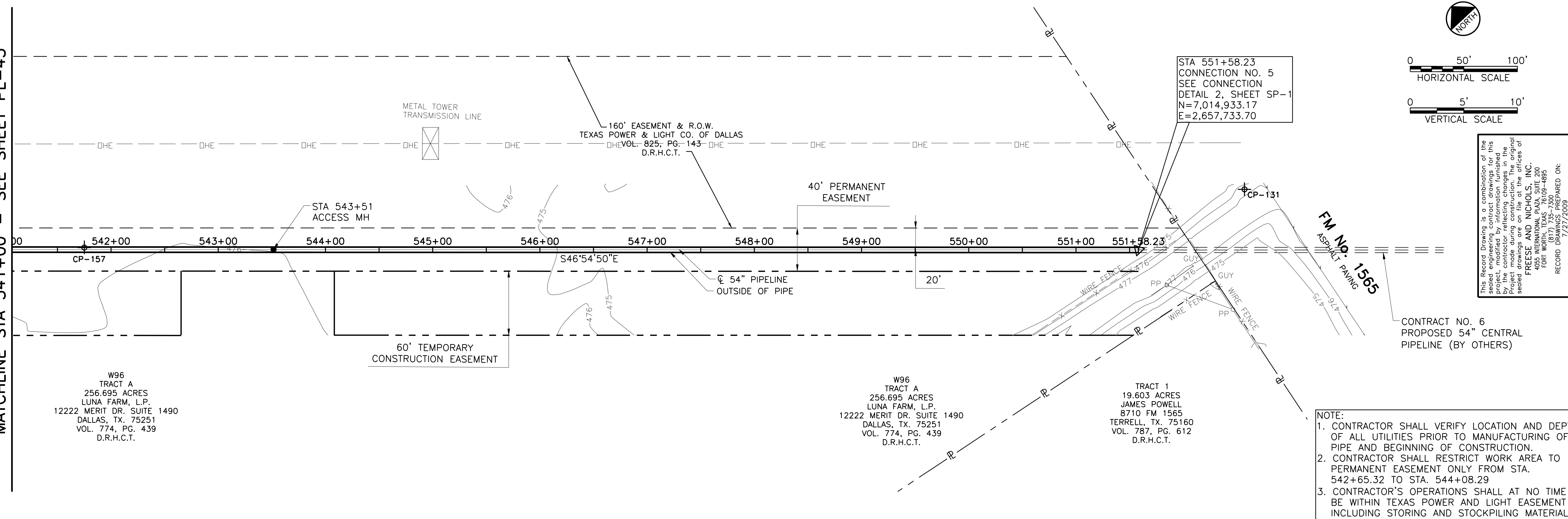


Fresse and Nichols, Inc.
 116 N. Tennessee, Suite 200
 McKinney, Texas 75069-4354
 Phone - (972) 548-2400
 Fax - (972) 548-1055

Texas Registered Engineering Firm F-2144

ACAD Rel 18.0s (LWS Tech) User: ec Office: MCSRV2
 N:\wr\Drawings\WR-ALL-PP-PIPE46.dwg LAYOUT: Layout1
 May 05, 2010 - 12:01pm PLS: 1 TWIST: MCSRV2
 REFERENCES: N:\Standard\3460RPER.dwg, N:\wr\Bose\WR-ALL-PP-BASE01.dwg, N:\wr\Bose\WR-EPI-PP-PIPE01.dwg

MATCHLINE STA 541+00 - SEE SHEET PL-45



This Record Drawing is a combination of the sealed engineering contract drawings for this project and the original drawings prepared by the contractor reflecting changes in the Project made during construction. The original sealed drawings are on file at the offices of FRESSE AND NICHOLS, INC. 4055 WINTERBURN LANE, SUITE 200 FORT WORTH, TEXAS 76107-4695 (817) 735-7300 (817) 735-7300-4695 RECORD DRAWINGS PREPARED ON: 7/27/2009

- NOTE:
- CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO MANUFACTURING OF PIPE AND BEGINNING OF CONSTRUCTION.
 - CONTRACTOR SHALL RESTRICT WORK AREA TO PERMANENT EASEMENT ONLY FROM STA. 542+65.32 TO STA. 544+08.29
 - CONTRACTOR'S OPERATIONS SHALL AT NO TIME BE WITHIN TEXAS POWER AND LIGHT EASEMENT INCLUDING STORING AND STOCKPILING MATERIALS AND/OR EQUIPMENT.

NO.	ISSUE	BY	DATE	DESCRIPTION	NO.
0	RECORD DRAWINGS	RJR	7/27/09	REVISION	445
1	VERIFY SCALE			CHECKED	450
2	Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.			FILE NAME	455
				WR-ALL-PP-PIPE46.dwg	460
					465
					470
					475
					480
					485

PIPE INSTALLED IS AWWA C303 CONCRETE CYLINDER PIPE

EXISTING GROUND

TOP OF 54" PIPE

STA 551+58.23
 END WEST PIPELINE
 CONNECTION NO. 5
 (SEE DETAIL 2, SHEET SP-1)

CONTRACT NO. 6
 PROPOSED 54"
 CENTRAL PIPELINE
 (BY OTHERS)

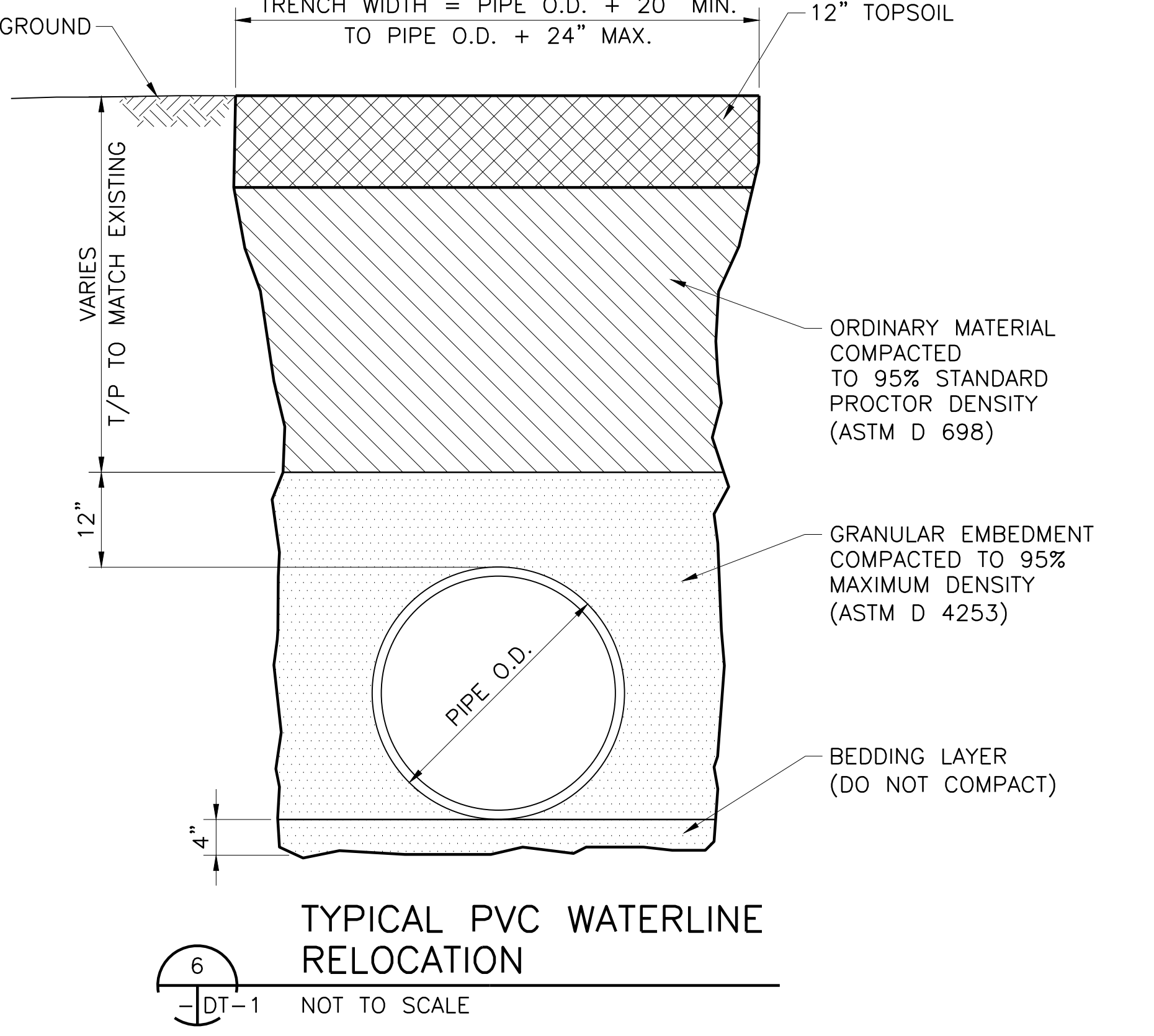
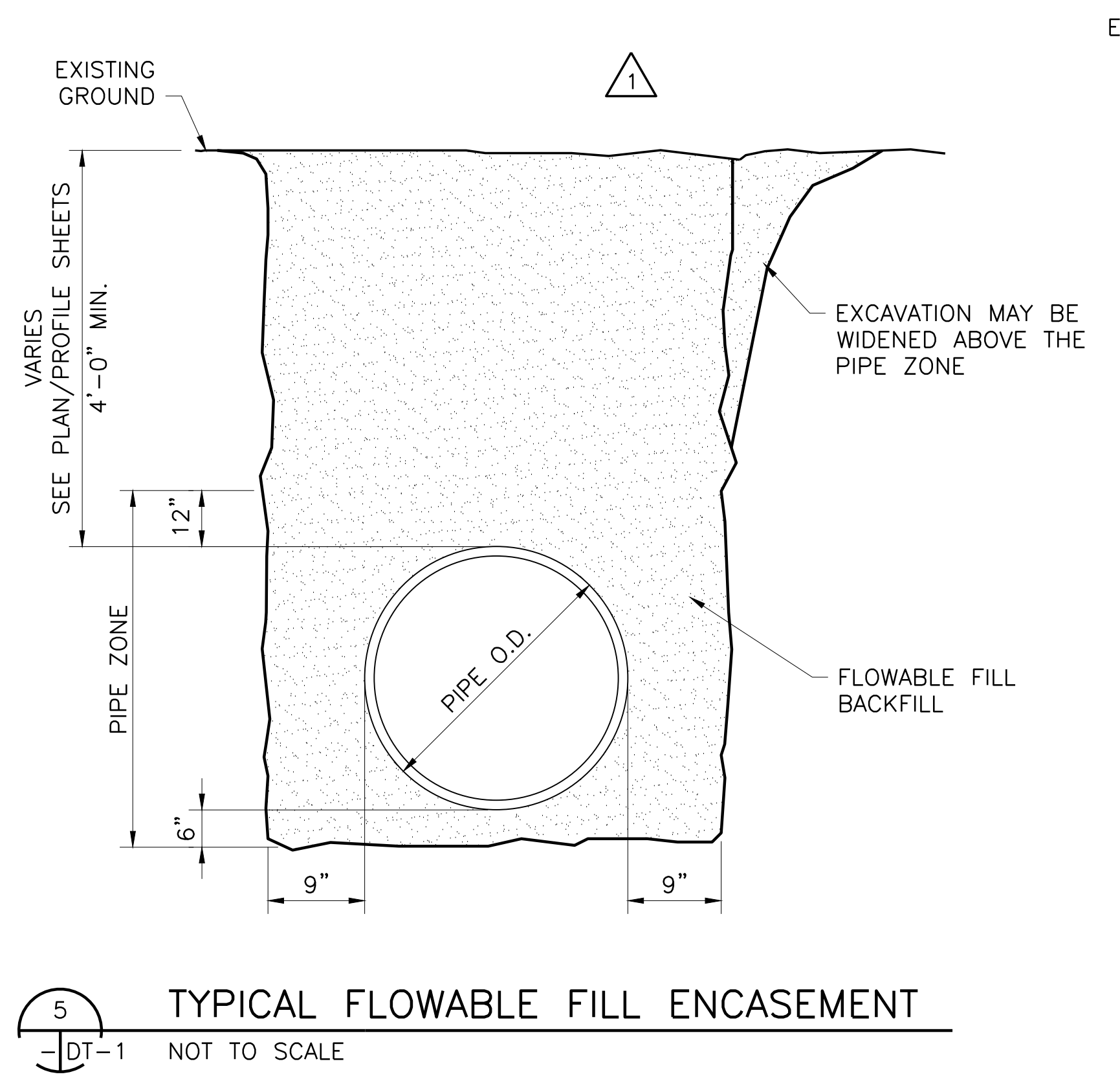
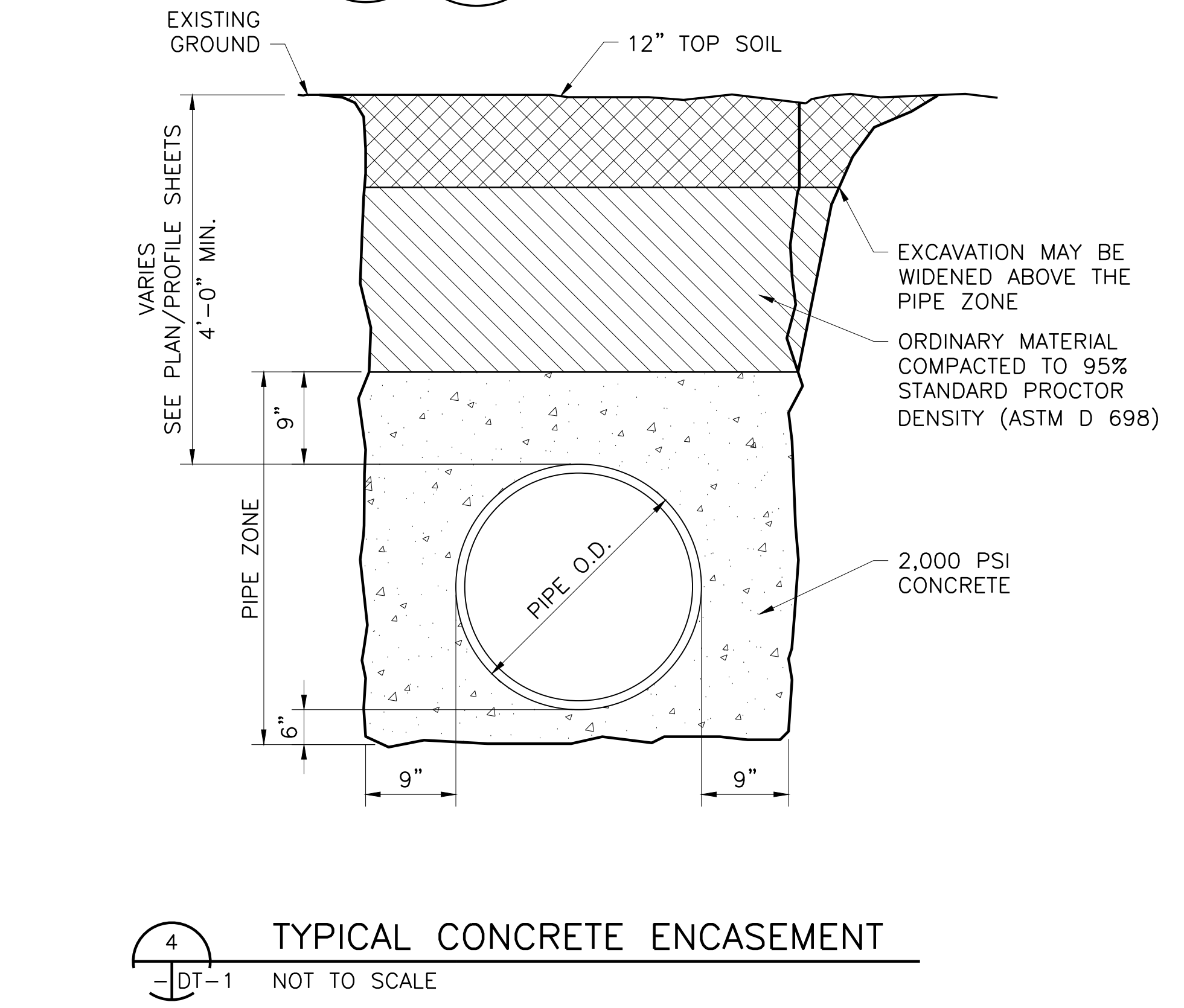
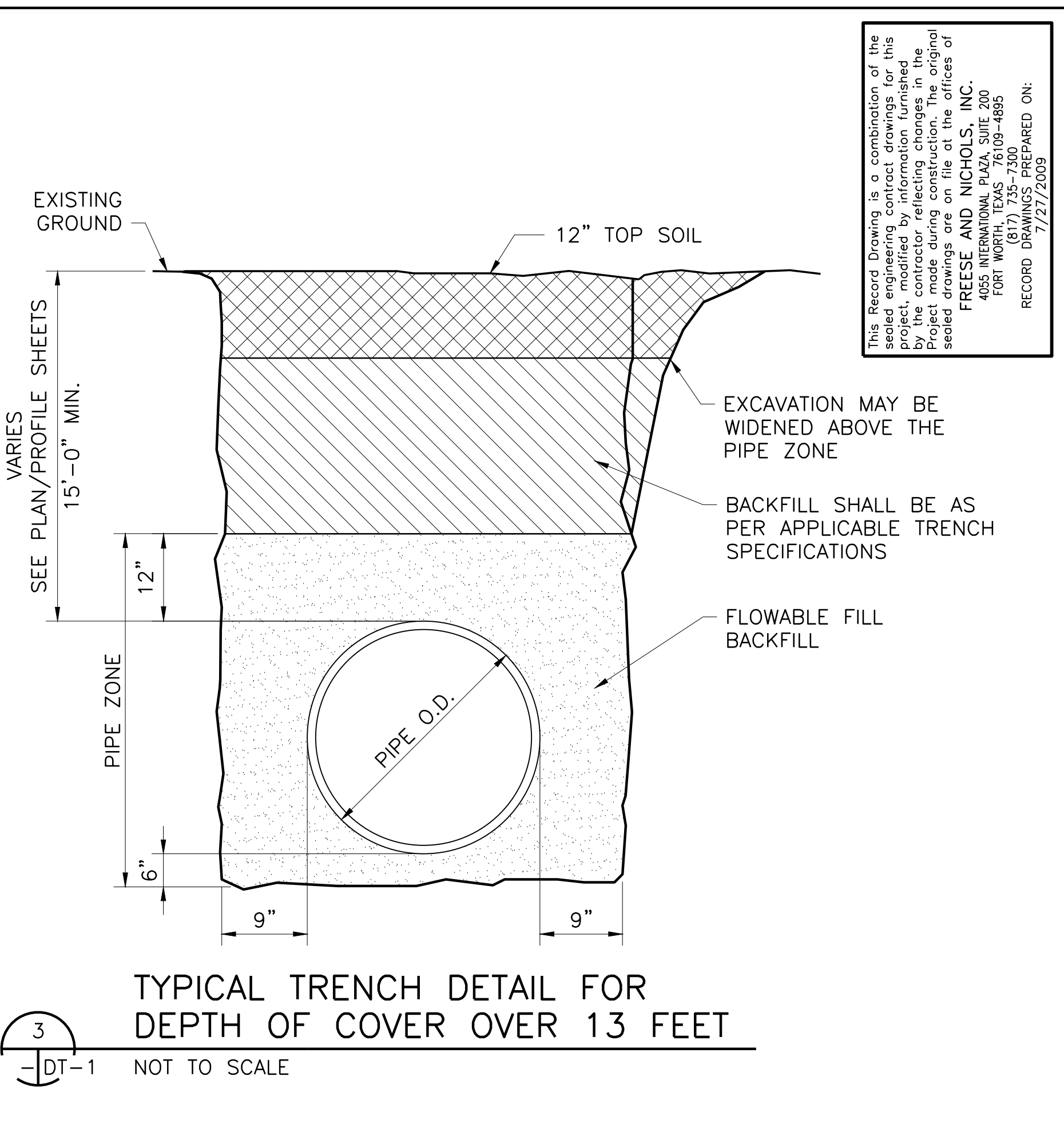
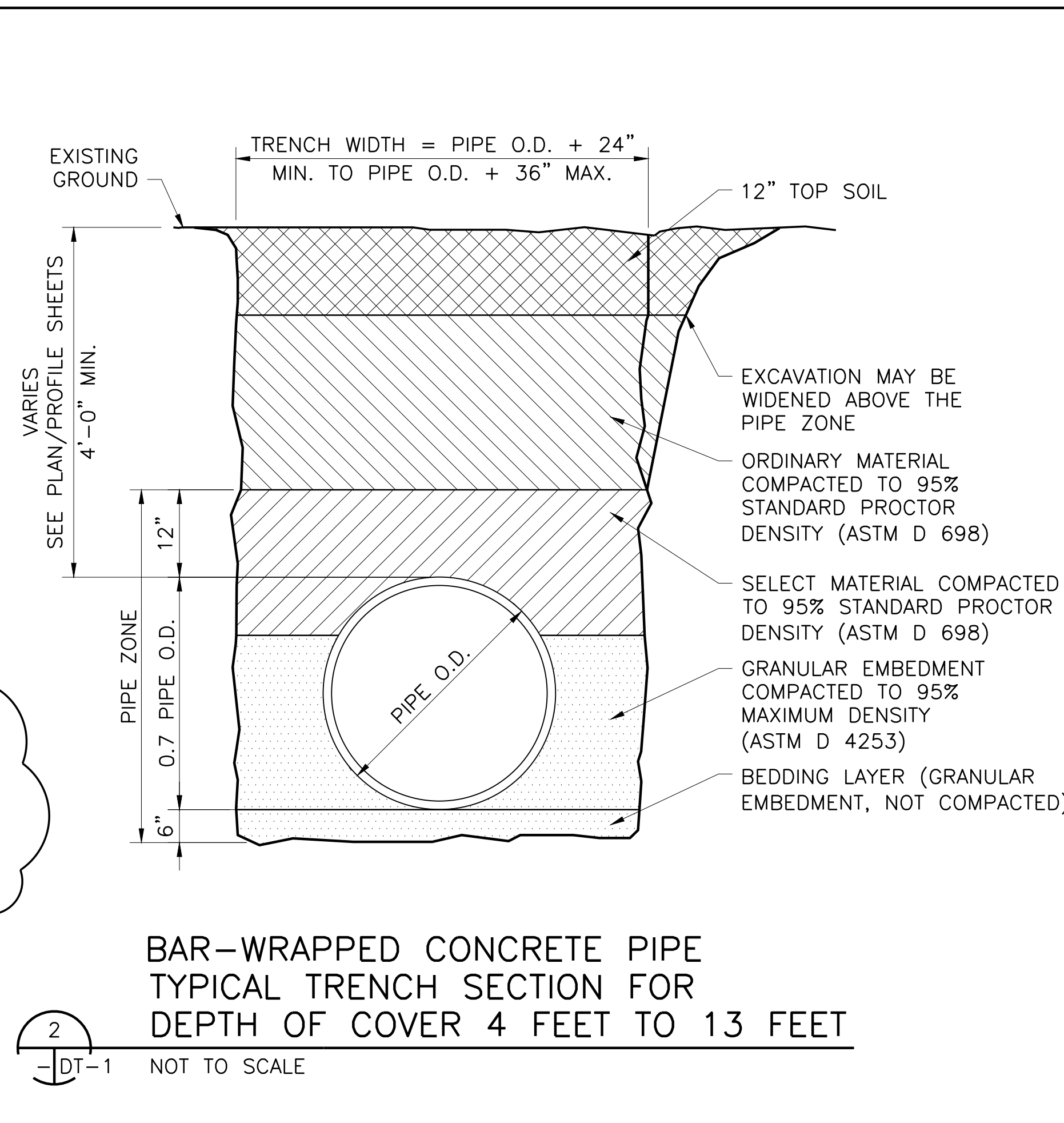
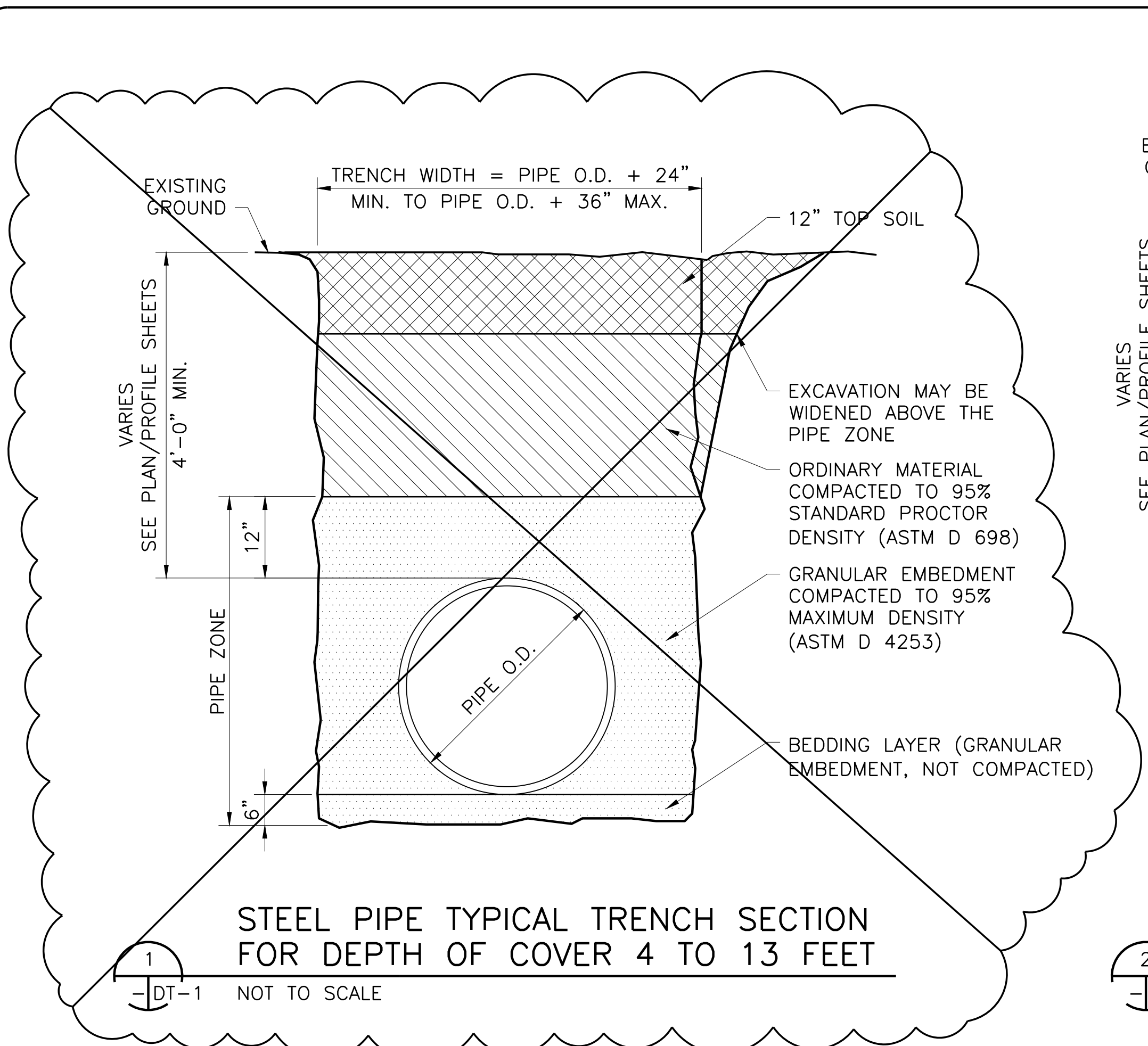
NORTH TEXAS MUNICIPAL WATER DISTRICT
 LAKE TAWAKONI WATER SUPPLY PROJECT
 WEST PIPELINE
 PROJECT NO. WCF 05-10
 CONTRACT 5
 PIPELINE
 PLAN AND PROFILE
 STA 541+00 TO END

NO. 0
 SHEET PL-46
 SEQ. 52 OF 70

THIS DRAWING IS A REPRESENTATION OF THE DOCUMENT AND IS NOT TO BE USED FOR CONSTRUCTION WITHOUT PROPER NOTIFICATION OF THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT

Fresse and Nichols, Inc.
 Texas Registered Engineering Firm F-2144
 116 N. Tennessee, Suite 200
 McKinney, Texas 75069-4354
 Phone - (972) 548-2400
 Fax - (972) 548-1055

ACAD R17.2s (LMS Tech) User: VCB
 [MCSR\2\IN\WR\DRAWINGS\CV-ALL-DT-TRCH01.DWG LAYOUT: TRENCH DETAILS
 JAN 20, 2010 10:42:30 A.M. LTS: 1.00 PSLTS: 0 TWIST: 0.0
 REFERENCE FILE: N:\STANDARD\34BORDER



This Record Drawing is a combination of the sealed engineering contract drawings for this project and the sealed engineering contract drawings for this project reflecting changes in the Project made during construction. The original sealed drawings are on file at the offices of FREENE AND NICHOLS, INC.
 4055 INTERNATIONAL PLAZA, SUITE 200
 FORT WORTH, TEXAS 76109-4695
 (817) 735-7300
 RECORD DRAWINGS PREPARED ON: 7/27/2009

Texas Registered Engineering Firm F-2144

Freese and Nichols
 116 N. Tennessee, Suite 200
 McKinney, Texas 75069-4354
 Phone - (972) 548-2400
 Fax - (972) 548-1055

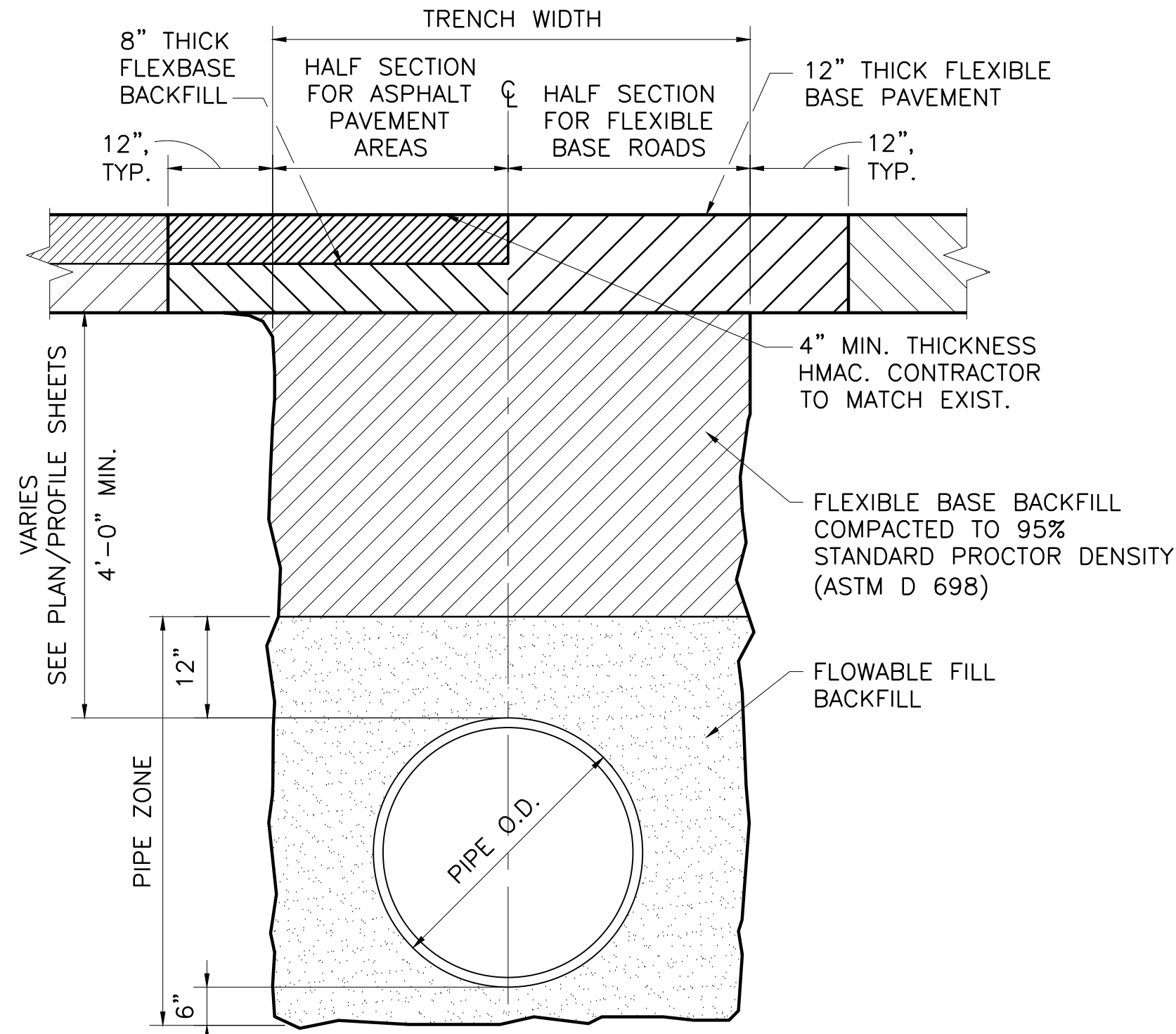
NORTH TEXAS MUNICIPAL WATER DISTRICT
LAKE TAWAKONI WATER SUPPLY PROJECT
 WEST PIPELINE
 PROJECT NO. WCF 05-10
 CONTRACT 5
 STANDARD DETAILS
TRENCH DETAILS

NO.	ISSUE	BY	DATE	FOR JOB NO.	NTD05387
				DATE	NOV 2006
				DESIGNED	DTB
				DRAWN	CAM
				REVISION	JCS
				CHECKED	JCS
				FILE NAME	CV-ALL-DT-TRCH01.dwg

RECORD DRAWINGS
 ADDENDUM NO. 1
 VERIFY SCALE
 Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.

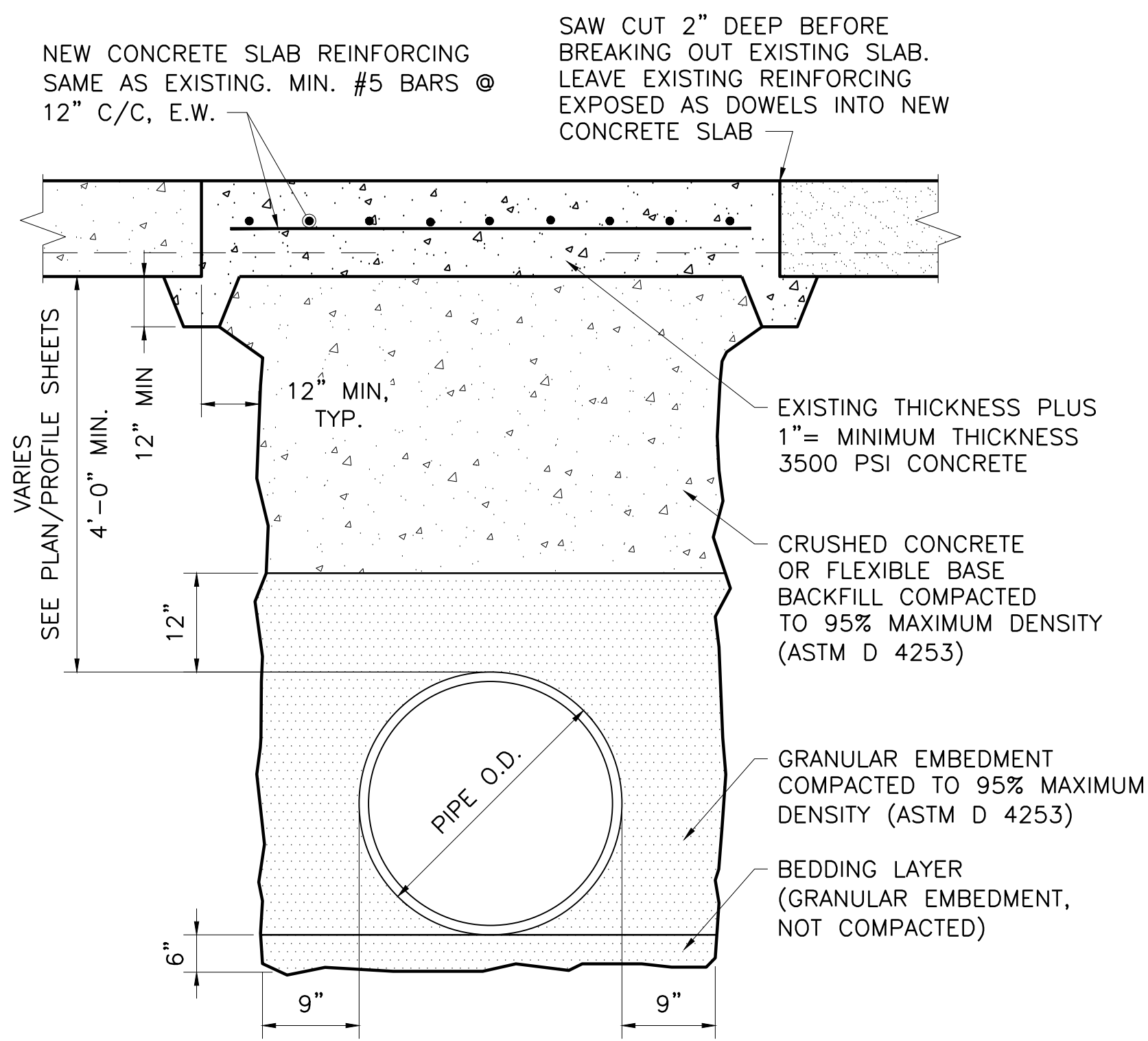
SHEET
DT-1

SEQ.
 53 OF 70



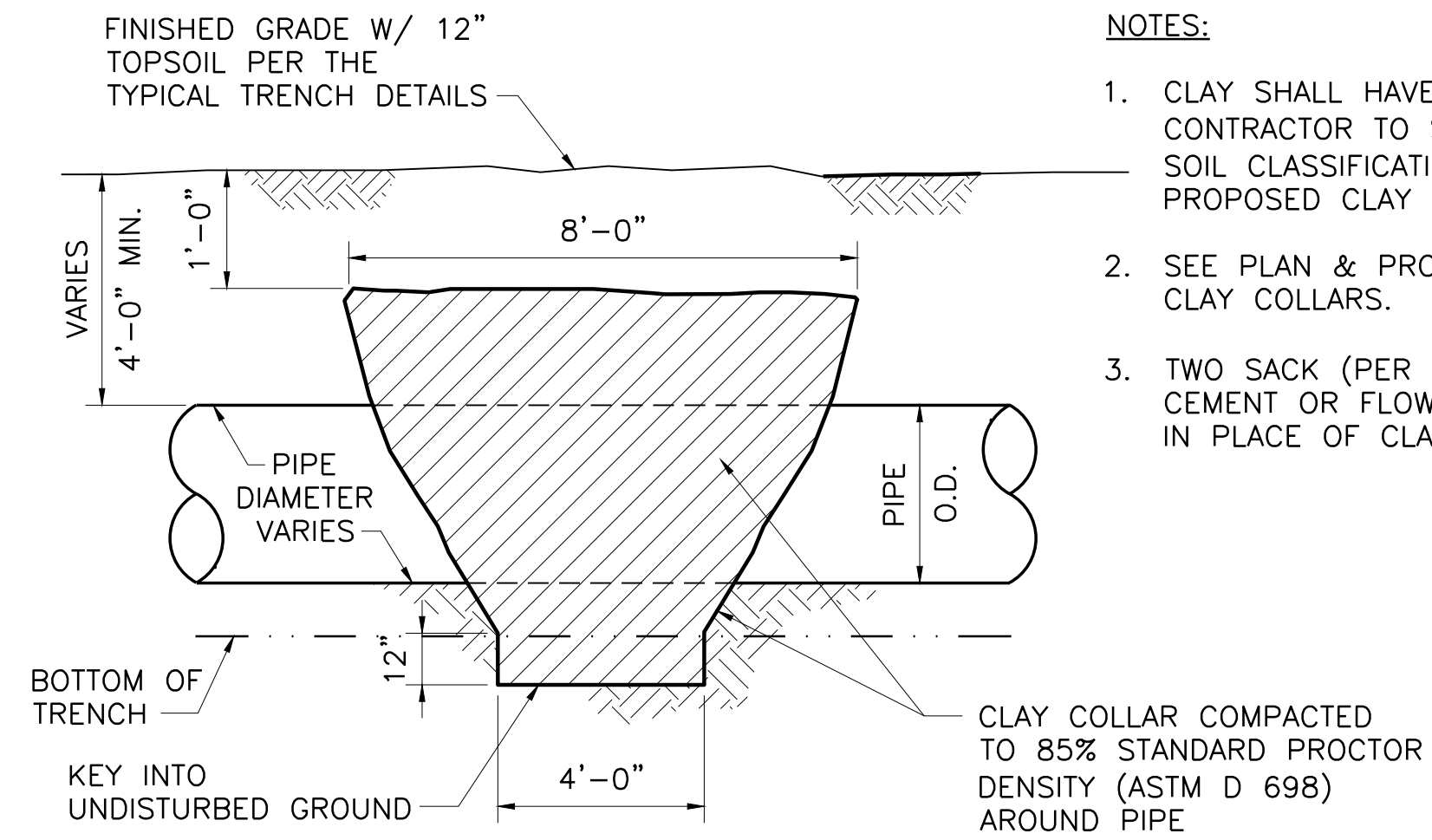
TYPICAL TRENCH SECTION FOR OPEN CUT FLEXBASE ROADS, DRIVES, AND ASPHALT PAVEMENT AREAS

1
DT-2 NOT TO SCALE



TYPICAL TRENCH SECTION FOR OPEN CUT CONCRETE ROADS

2
DT-2 NOT TO SCALE



3 CLAY COLLAR DETAIL

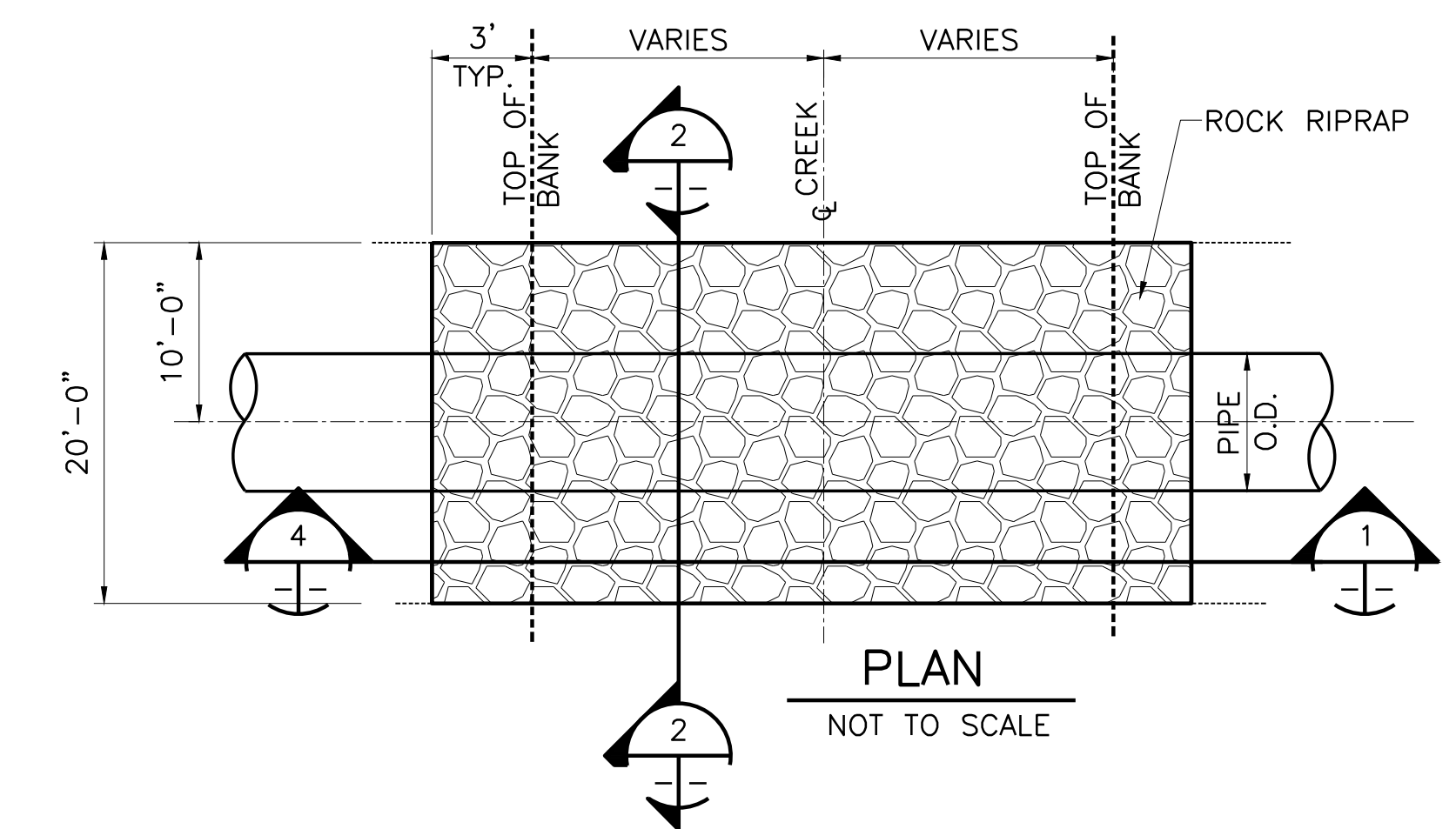
DT-2 NOT TO SCALE

NOTES:

1. CLAY SHALL HAVE P.I. NOT LESS THAN 18. CONTRACTOR TO SUBMIT LABORATORY DATA (BASIC SOIL CLASSIFICATION AND ATTERBERG LIMITS) FOR PROPOSED CLAY MATERIAL.
2. SEE PLAN & PROFILE SHEETS FOR LOCATION OF CLAY COLLARS.
3. TWO SACK (PER CUBIC YARD) FIELD-MIXED SOIL CEMENT OR FLOWABLE FILL BACKFILL MAY BE USED IN PLACE OF CLAY.

This Record Drawing is a representation of the sealed engineering contract drawings for this project, modified by information furnished by the contractor reflecting changes in the project scope during construction. The original seal date is 7/27/09. The seal of the professional engineer is an indication of the responsible engineer is an engineer under the Texas Engineering Practice Act.

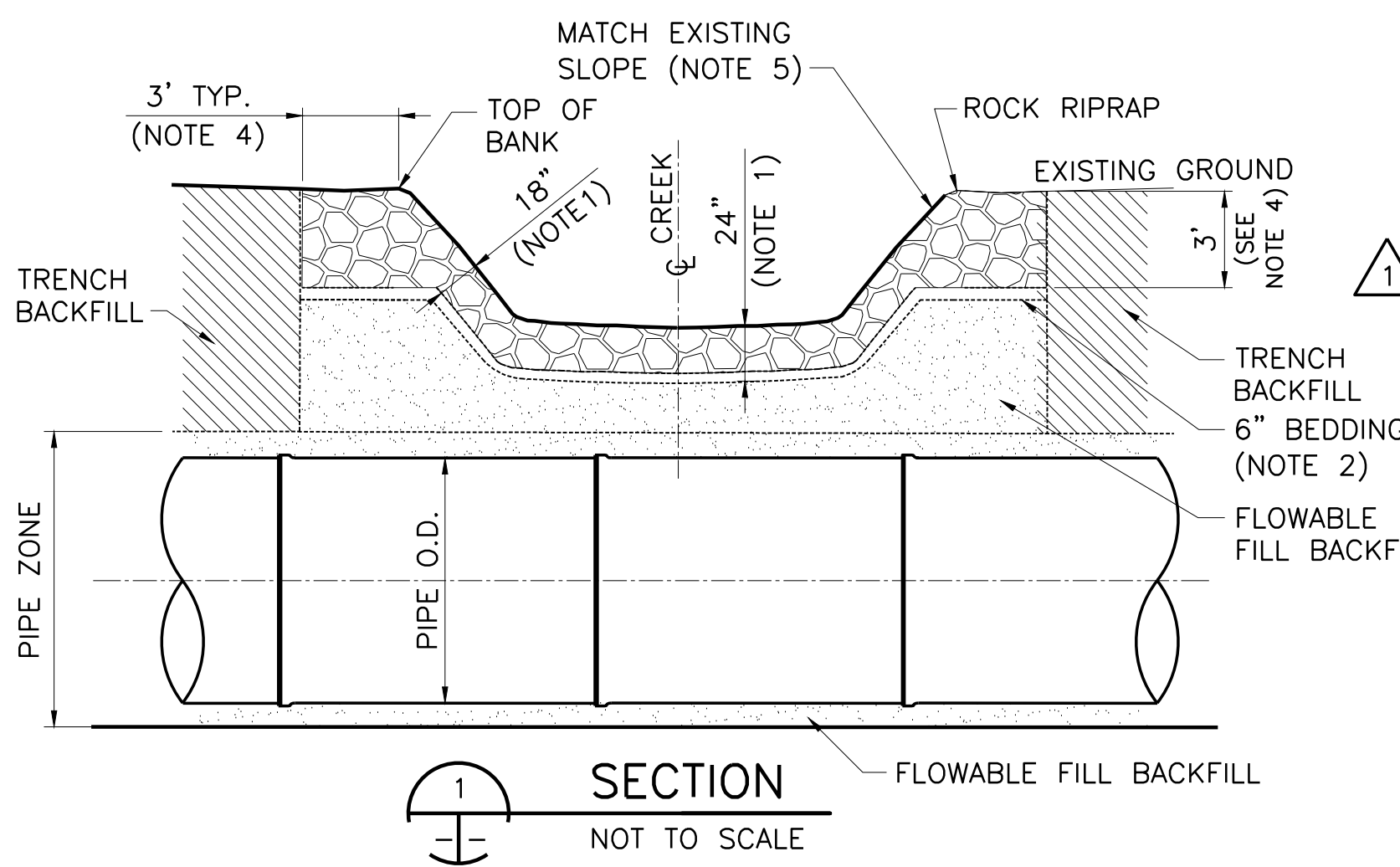
FREESSE AND NICHOLS, INC.
4055 INTERNATIONAL PLAZA, SUITE 200
FORT WORTH, TEXAS 76109-4895
(817) 735-7300
RECORD DRAWING PREPARED ON: 7/27/2009



PLAN

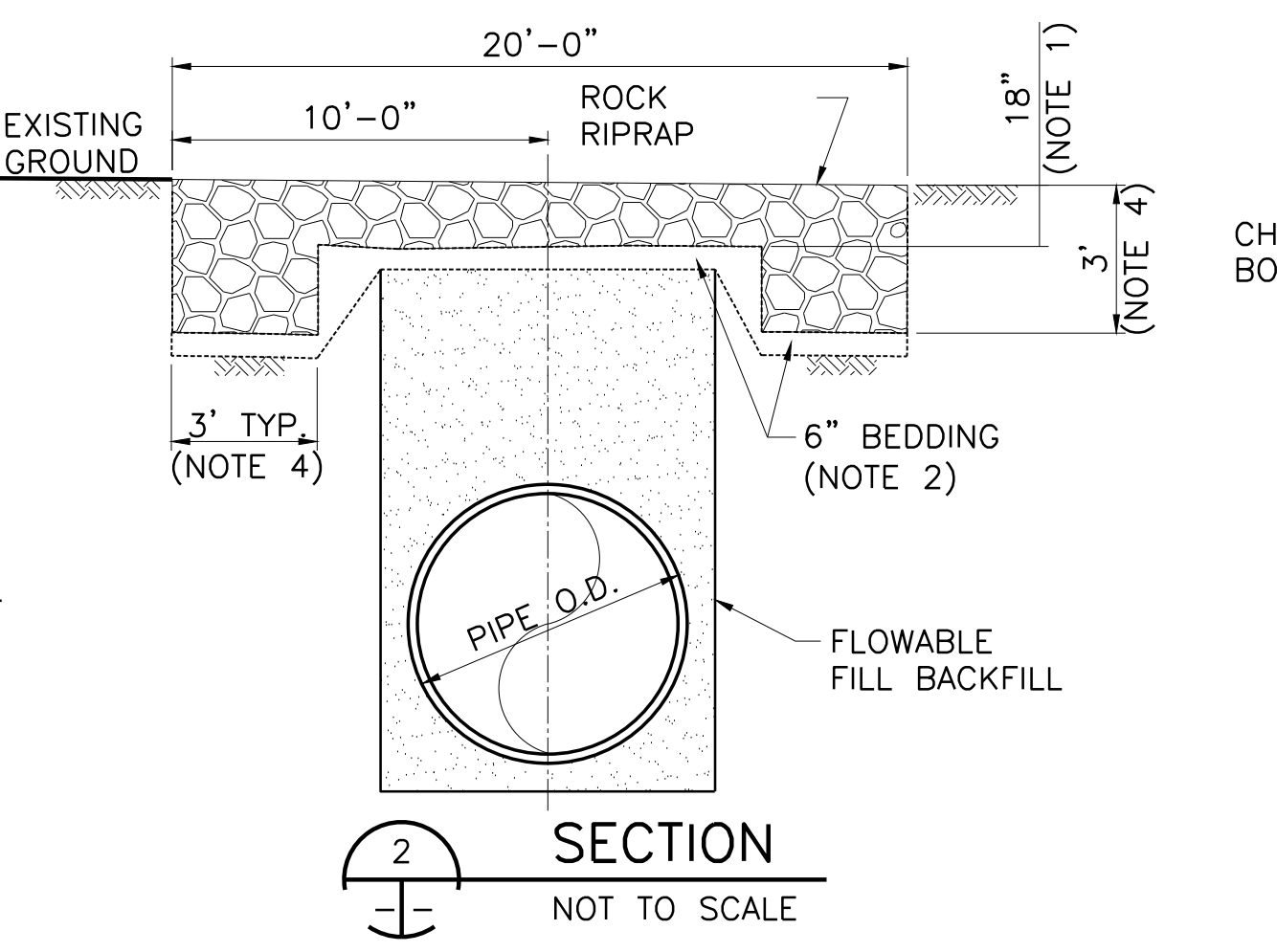
NOT TO SCALE

- NOTES:**
1. ROCK RIPRAP SHALL BE INSTALLED AT A MINIMUM THICKNESS OF 18" ON SLOPE AND 24" ON BOTTOM. THICKNESS AND STONE SIZE/GRADE VARIES PER CREEK CROSSING. STANDARD GRADATIONS ARE IN SECTION 02271, TYPE REQUIRED AT EACH CROSSING SHOWN ON PLANS.
 2. BEDDING SHALL BE INSTALLED AT A MINIMUM THICKNESS OF 6". GEOTEXTILE FABRIC MAY BE USED IN PLACE OF BEDDING WITH OWNER APPROVAL.
 3. THE ROCK RIPRAP SHALL BE CONSTRUCTED WITHIN THE LIMITS OF THE PERMANENT EASEMENT AND AS SHOWN ON THE PLANS.
 4. THE ROCK RIPRAP SHALL BE CONTINUOUS, EXTENDING DOWN BOTH BANKS OF THE CREEK TO THE CENTER OF THE CREEK. A TOE WILL BE CONSTRUCTED ALONG THE SIDES OF THE RIPRAP. THE RIPRAP TOE WILL HAVE A MINIMUM DEPTH AND WIDTH OF 2 TIMES THE MINIMUM THICKNESS OF THE RIPRAP SPECIFIED. THE RIPRAP SHALL EXTEND 3 FEET FROM THE TOP OF BANK. THE FINISHED SURFACE OF THE RIPRAP SHALL NOT EXTEND ABOVE PRE CONSTRUCTION GRADE.
 5. RIPRAP SHALL BE PLACED ON THE NATURAL SLOPE EXCEPT WHEN SLOPE EXCEEDS 2:1. SEE DETAIL 5 FOR SLOPES STEEPER THAN 2:1



SECTION

NOT TO SCALE

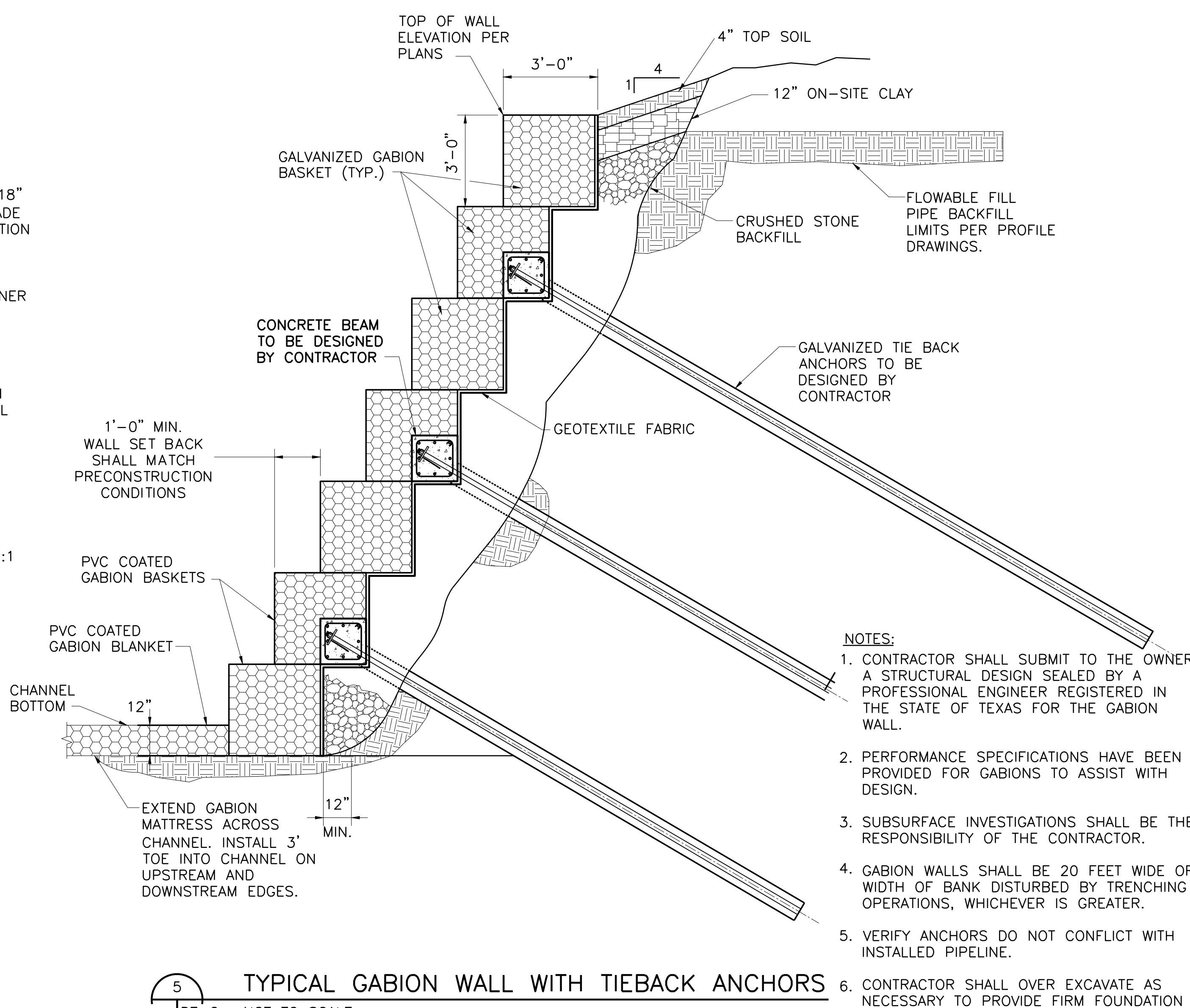


SECTION

NOT TO SCALE

4 TYPICAL CREEK CROSSING

DT-2 NOT TO SCALE



5 TYPICAL GABION WALL WITH TIEBACK ANCHORS

DT-2 NOT TO SCALE

NOTES:

1. CONTRACTOR SHALL SUBMIT TO THE OWNER A STRUCTURAL DESIGN SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF TEXAS FOR THE GABION WALL.
2. PERFORMANCE SPECIFICATIONS HAVE BEEN PROVIDED FOR GABIONS TO ASSIST WITH DESIGN.
3. SUBSURFACE INVESTIGATIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
4. GABION WALLS SHALL BE 20 FEET WIDE OR WIDTH OF BANK DISTURBED BY TRENCHING OPERATIONS, WHICHEVER IS GREATER.
5. VERIFY ANCHORS DO NOT CONFLICT WITH INSTALLED PIPELINE.
6. CONTRACTOR SHALL OVER EXCAVATE AS NECESSARY TO PROVIDE FIRM FOUNDATION FOR GABIONS. OVER-EXCAVATED AREAS SHALL BE BACKFILLED WITH FLOWABLE FILL.

ACAD: Rel 17.2s (LMS Tech) User: VCB
MCSRV2\IN\WR\DRAWINGS\CV-ALL-DT-TRCH02.DWG LAYOUT: TRENCH DETAILS
JAN 20, 2010 10:12:54 A.M. LTS: 1.00 PSLTS: 0 TWST: 0.0, 0.0, 0.0
REFERENCE FILE: N:\STANDARD\34BORDER

North Texas Municipal Water District
LAKE TAWAKONI WATER SUPPLY PROJECT
WEST PIPELINE
PROJECT NO. WCF 05-10
CONTRACT 5
STANDARD DETAILS
TRENCH DETAILS

NO. ISSUE DATE BY
1 NOV 2006 DTB
2 7/27/09 BROWN
3 10/18/06
4
5

RECORD DRAWINGS
ADDENDUM NO. 1
VERIFY SCALE
0

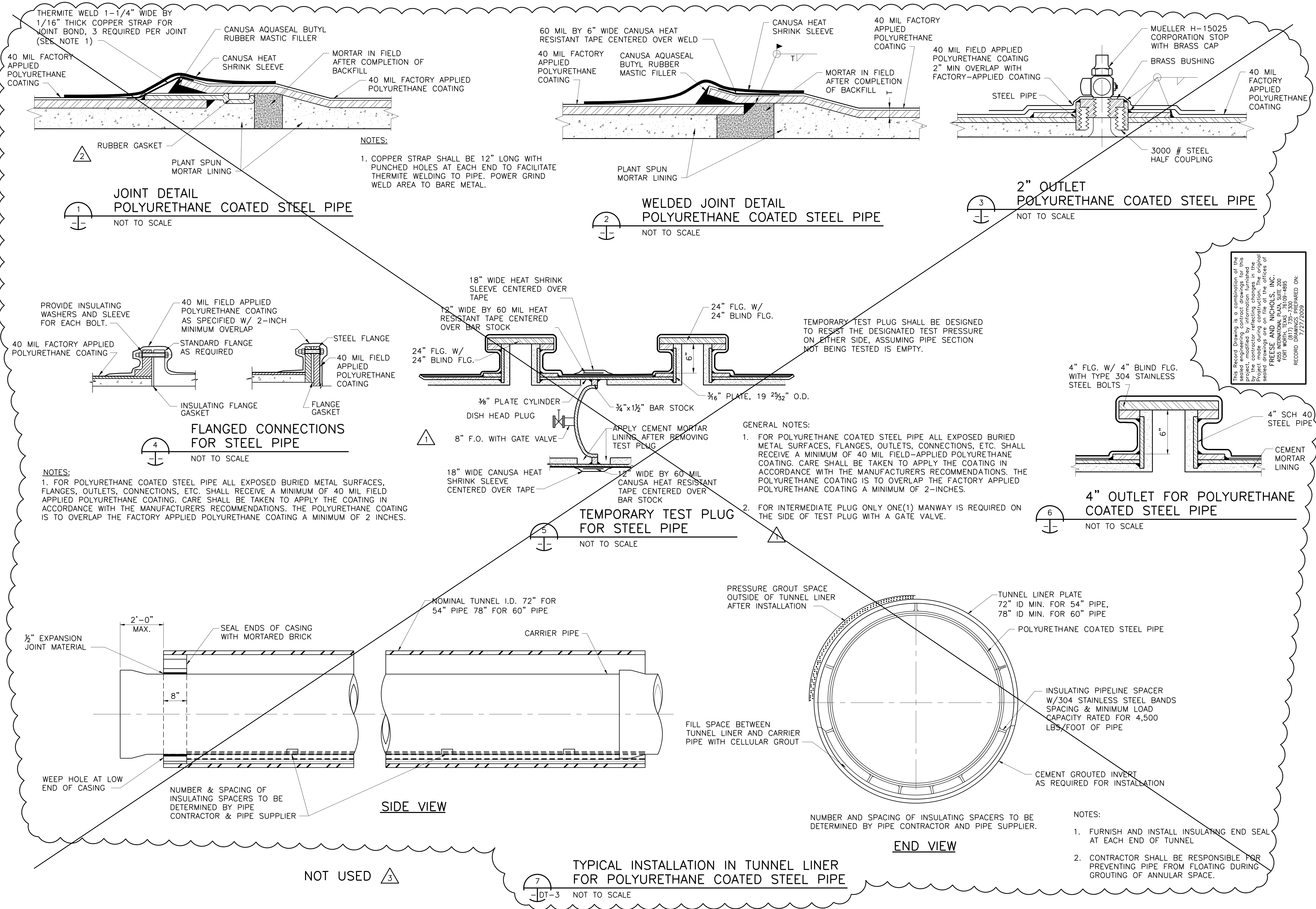
FILE NAME
CV-ALL-DT-TRCH02.dwg

NO. SHEET
DT-2

SEQ. 54 OF 70

Freese and Nichols, Inc.
Texas Registered Engineering Firm F-2144
116 N. Tennessee, Suite 200
McKinney, Texas 75069-4354
Phone - (972) 548-2400
Fax - (972) 548-1055

ACAD Rel 17.0s (LMS Tech) User: NBB
 INTD05387\FWCAD\JN:WR\CENTRAL PIPELINE\CV-PPL-DT-JNTG01.DWG LAYOUT: STEEL PIPE DETAILS
 AUG 30, 2006 12:22:28 P.M. LTS: 1.00 PSLTS: 0 TWIST: 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0
 6 REFERENCE FILES: 82128, 87888, 90179, 90732, 94677 and N:\STANDARD\34BORDER



This Record Drawing is a combination of the sealed engineering contract drawings for this project, modified by information furnished by the contractor for reflecting changes in the project. The contractor shall be responsible for providing sealed drawings on file at the offices of FREESE AND NICHOLS, INC. 4055 INTERNATIONAL PLAZA, SUITE 200 FORT WORTH, TEXAS 76109-4895 RECORD DRAWINGS PREPARED ON: 7/27/2009

Freese and Nichols
 116 N. Tennessee, Suite 200
 McKinney, Texas 75069-4354
 Phone - (972) 548-2400
 Fax - (972) 548-1055

LAKE TAWAKONI WATER SUPPLY PROJECT
 NORTH TEXAS MUNICIPAL WATER DISTRICT
 WEST PIPELINE
 PROJECT NO. WCF 05-10
 CONTRACT 5

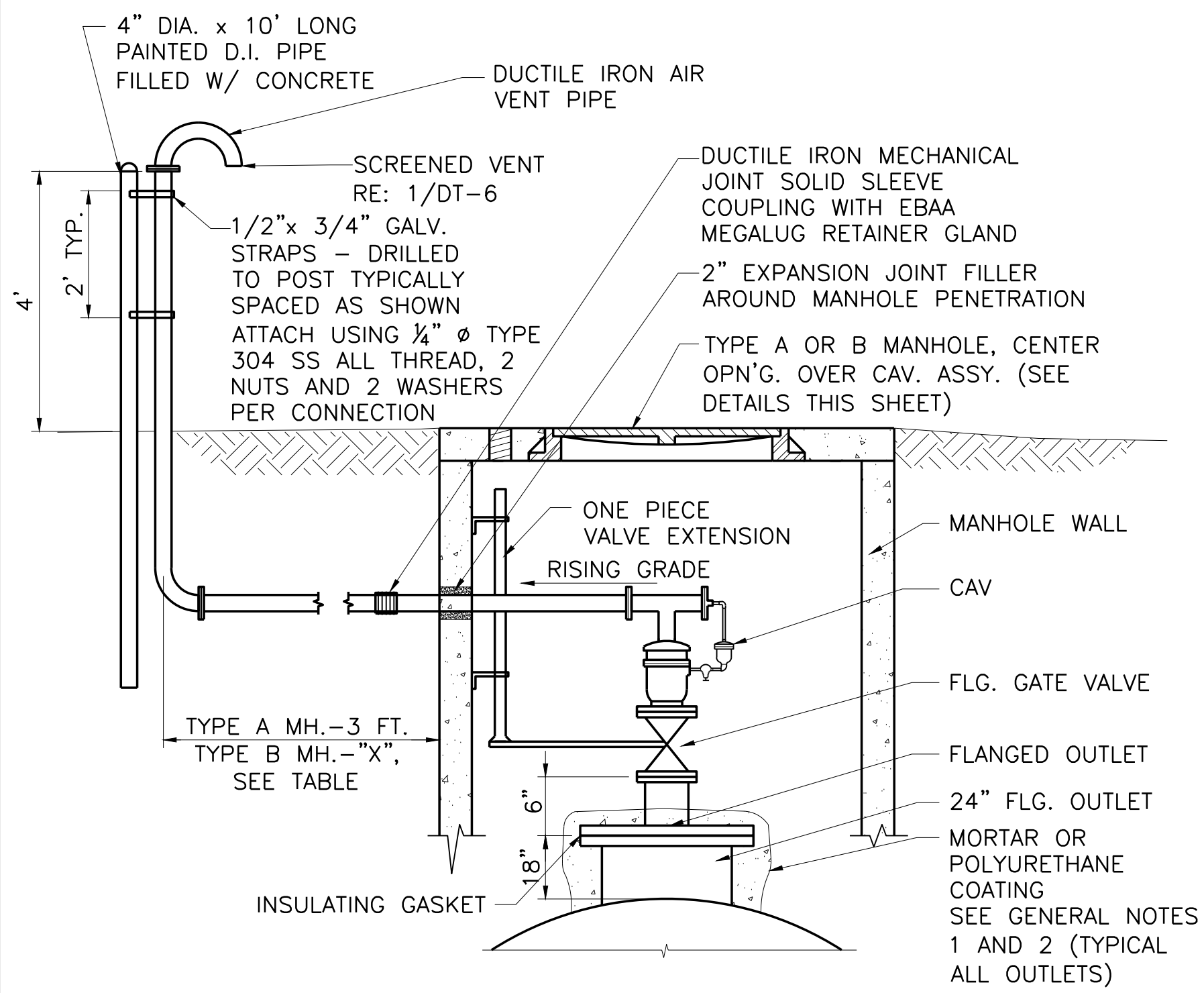
STANDARD DETAILS
STEEL PIPE DETAILS

NO.	ISSUE	BY	DATE	REV. NO.	DATE	DESIGNED	DRAWN	CHECKED	FILE NAME
1	RECORD DRAWINGS	RJR	7/27/09	1	10/24/06	DTB	CAM	JCS	CV-PPL-DT-JNTG01.DWG
2	ADDENDUM NO. 2	JCS	10/24/06	2	10/18/06				
3	ADDENDUM NO. 1	JCS	10/18/06	3					

Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.

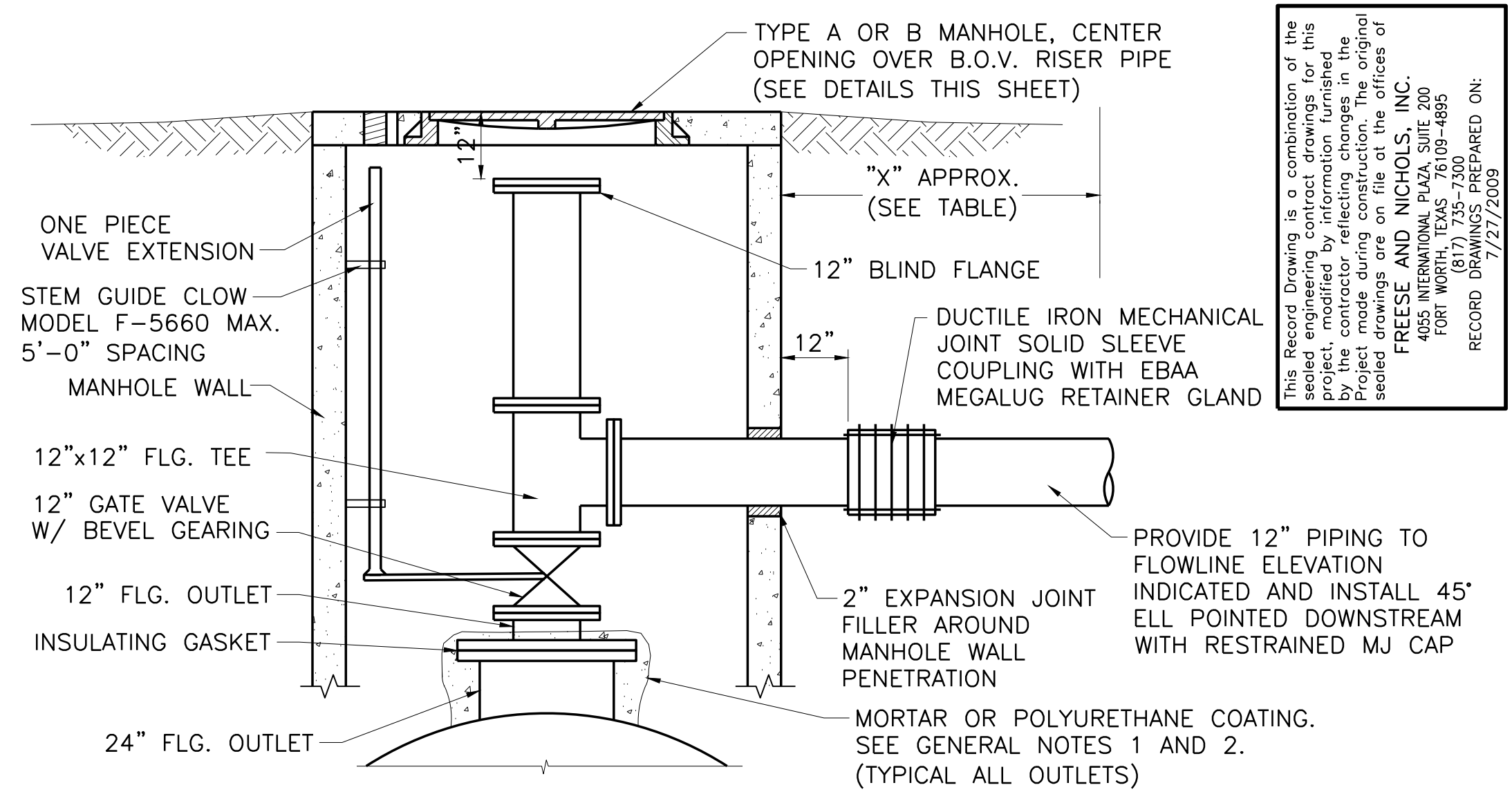
SHEET **DT-3**

SEQ. 55 OF 70



1 CAV FOR 54" PIPELINE
DT-5 NOT TO SCALE

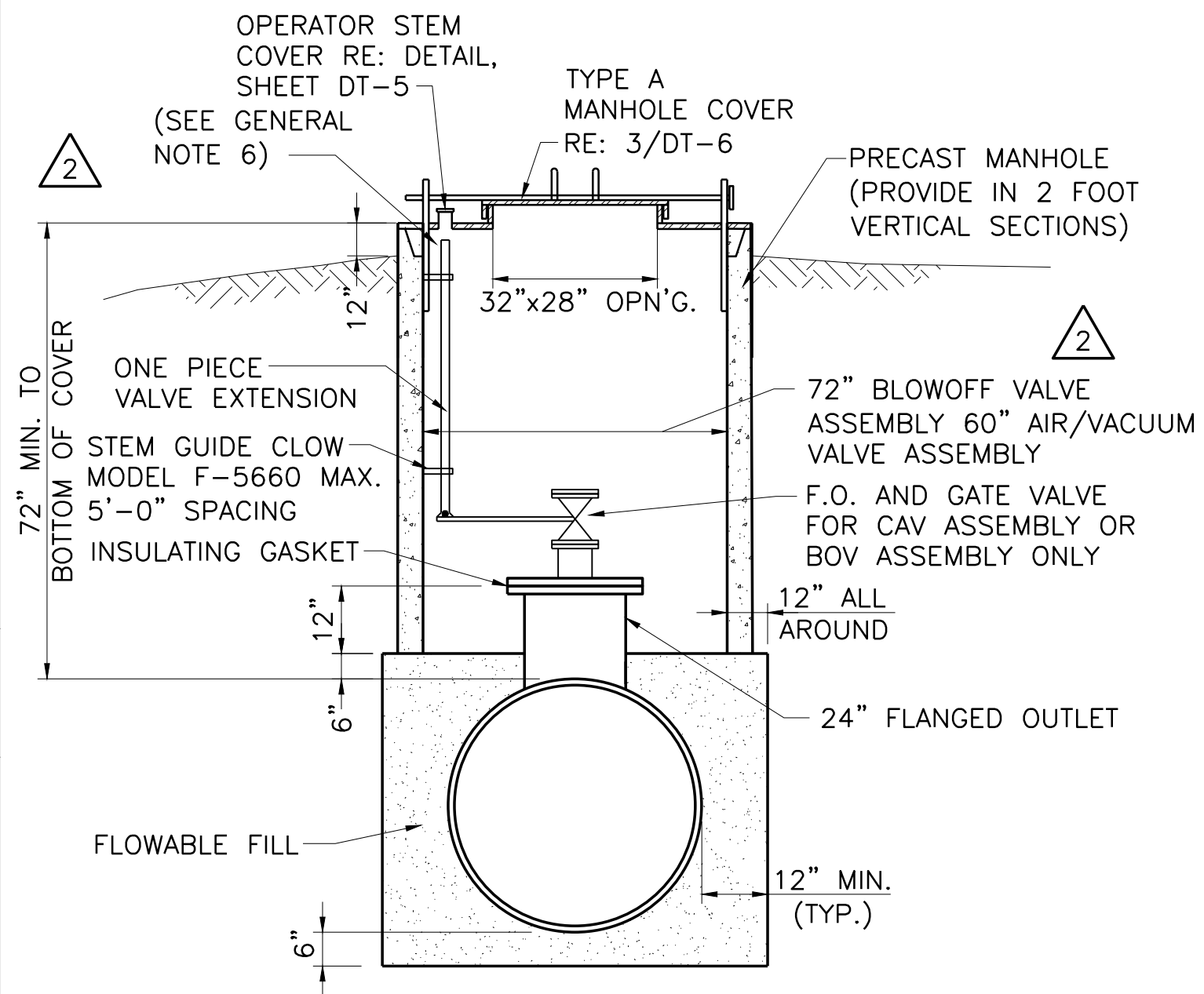
2 NOT USED



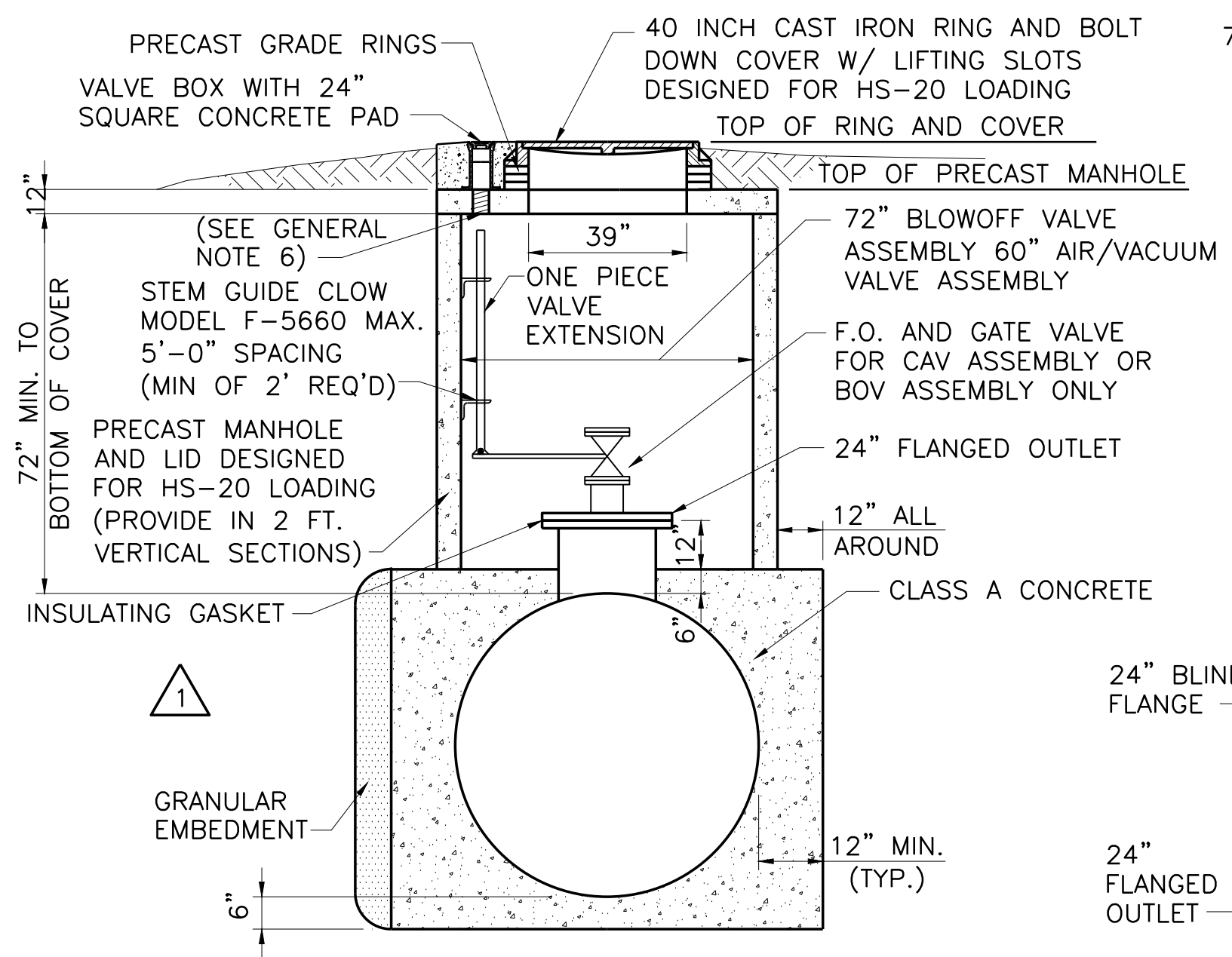
3 BLOW OFF VALVE ASSEMBLY
DT-5 NOT TO SCALE

SHEET GENERAL NOTES:

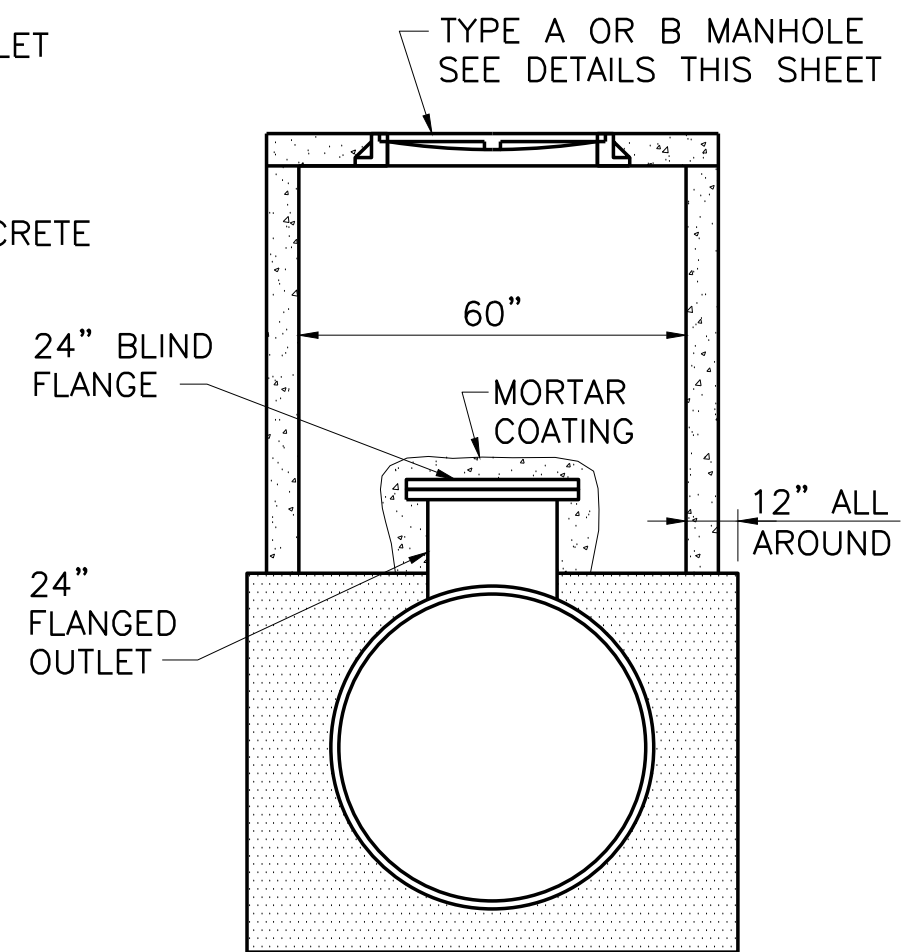
- FOR POLYURETHANE COATED STEEL PIPE, ALL EXPOSED BURIED METAL SURFACES, FLANGES, OUTLETS, CONNECTIONS, ETC. SHALL RECEIVE A MINIMUM OF 40 MIL FIELD-APPLIED POLYURETHANE COATING. CARE SHALL BE TAKEN TO APPLY THE COATING IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS. THE POLYURETHANE COATING IS TO OVERLAP THE FACTORY APPLIED POLYURETHANE COATING A MINIMUM OF 6 INCHES.
- FOR BAR-WRAPPED PIPE, ALL EXPOSED BURIED METAL SURFACES, FLANGES, OUTLETS, CONNECTIONS, ETC. SHALL RECEIVE A MINIMUM OF 1" THICK MORTAR COATING. THE CEMENT MORTAR SHALL CONSIST OF ONE PART PORTLAND CEMENT TO TWO AND ONE HALF PARTS IF FINE, SHARP (PLASTER) SAND. WHERE NECESSARY, OR AS DIRECTED BY THE ENGINEER, COATING IS TO BE REINFORCED WITH WIRE MESH. THE FIELD APPLIED MORTAR COATING IS TO OVERLAP THE FACTORY APPLIED COATING A MINIMUM OF 6 INCHES.
- ALL METAL SURFACES INSIDE OF MANHOLES SHALL RECEIVE A MINIMUM OF TWO (2) COATS OF BITUMASTIC COATING (KOPPERS 50 OR APPROVED EQUAL). CARE SHALL BE TAKEN TO APPLY THE COATING IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS.
- ALL FLANGE BOLTS FOR APPURTENANCES SHALL BE TYPE 304 STAINLESS STEEL AND COATED WITH ANTI-SEIZE COMPOUND.
- ALL AIR/VACUUM VALVE AND BLOWOFF VALVE ASSEMBLIES SHALL INCLUDE THREADED OUTLETS WITH PLUGS INSTALLED.
- THE VALVE EXTENSION SHALL BE ONE PIECE AND POSITIONED INSIDE THE MANHOLE SUCH THAT THE VALVE CAN BE OPERATED FROM GROUND LEVEL THROUGH THE MANHOLE TOP. THE VALVE EXTENSION SHALL EXTEND TO WITHIN 4" OF THE MANHOLE TOP. ACCESS TO VALVE EXTENSION SHALL NOT BE THROUGH MANHOLE COVER.
- ALL BLOW OFF AND AIR VALVE PIPING SHALL BE CLASS 53 DUCTILE IRON PIPE WITH FLANGED JOINTS. PIPING INSIDE MANHOLE AND BURIED PIPE SHOWN HAVE FACTORY APPLIED STANDARD COATING. ABOVE-GROUND PIPING SHALL BE FACTORY-PRIMED AND PAINTED SILVER.



4 TYPE "A" MANHOLE LOCATIONS NOT IN PAVEMENT
DT-5 NOT TO SCALE



5 TYPE "B" MANHOLE TRAFFIC RATED
DT-5 NOT TO SCALE



6 ACCESS MANWAY
DT-5 NOT TO SCALE

TOP OF PRECAST MANHOLE AND RING COVER ELEVATIONS FOR MANHOLES					
STATION	MH TYPE	APPURTENANCE	TOP OF PRECAST MANHOLE ELEVATION	TOP OF RING AND COVER ELEVATION	"X"
1+65	B	B.O.V.	584.62	585.62	8
17+05	A	C.A.V.	614.12	-	3
37+06	A	A.M.H.	588.82	-	-
66+70	A	A.M.H.	561.40	-	-
105+00	A	B.O.V.	532.13	-	14
139+46	A	C.A.V.	570.90	-	3
162+00	A	B.O.V.	539.05	-	14
177+00	A	C.A.V.	549.52	-	3
186+08	A	B.O.V.	531.85	-	14
212+30	A	B.O.V.	535.02	-	14
234+08	A	C.A.V.	561.92	-	3
246+40	A	B.O.V.	568.54	-	28
255+88	A	C.A.V.	586.33	-	3
274+47	A	A.M.H.	556.89	-	-
296+80	A	A.M.H.	551.07	-	-
323+18	A	B.O.V.	513.87	-	14
345+50	A	A.M.H.	529.95	-	-
359+54	A	C.A.V.	544.23	-	3
380+24	A	A.M.H.	524.04	-	-
402+46	A	A.M.H.	521.29	-	-
420+69	A	A.M.H.	517.54	-	-
440+46	A	A.M.H.	509.97	-	-
460+18	A	B.O.V.	496.82	-	14
484+24	A	B.O.V.	481.78	-	14
489+14	A	C.A.V.	482.43	-	3
502+14	A	A.M.H.	481.33	-	-
519+86	A	B.O.V.	478.64	-	14
543+51	A	A.M.H.	476.99	-	-

This Record Drawing is a combination of the sealed engineering contract drawings for this project, modified by information furnished by the contractor reflecting changes in the field. The contractor shall be responsible for providing sealed drawings on file at the offices of FREENE AND NICHOLS, INC. 4055 INTERNATIONAL PLAZA, SUITE 200 FORT WORTH, TEXAS 76109-4895 RECORD DRAWINGS PREPARED ON: 7/27/2009

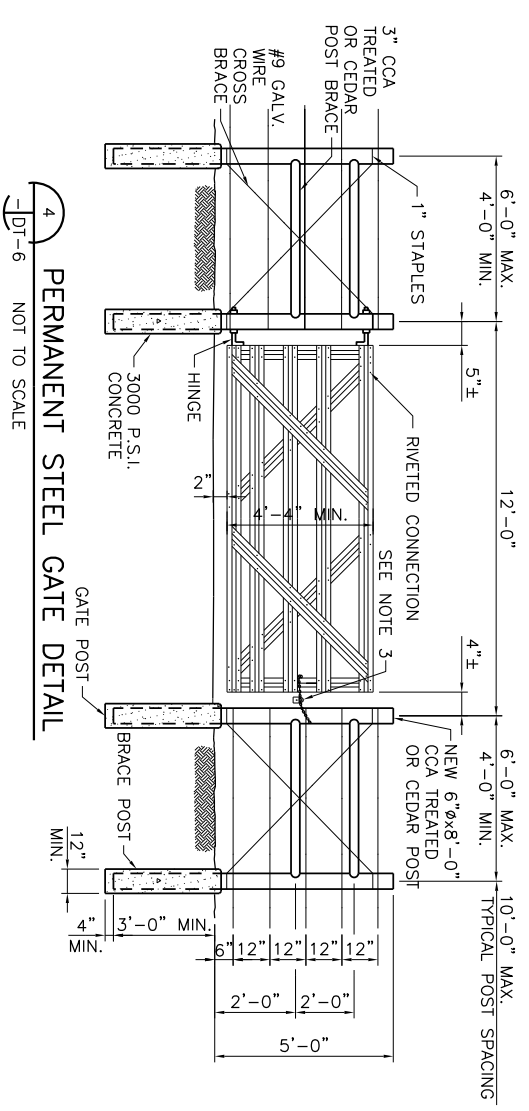
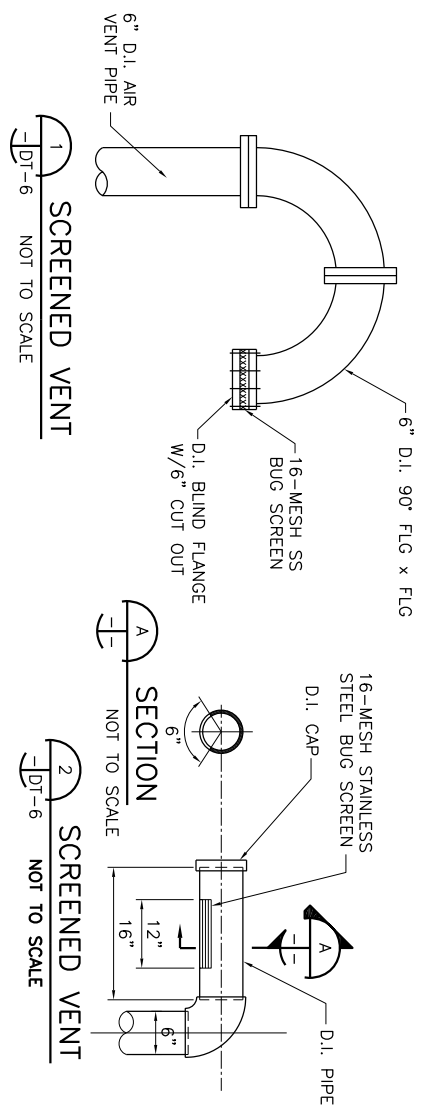
Frees and Nichols
116 N. Tennessee, Suite 200
McKinney, Texas 75069-4354
Phone - (972) 548-2400
Fax - (972) 548-1055

NORTH TEXAS MUNICIPAL WATER DISTRICT
LAKE TAWAKONI WATER SUPPLY PROJECT
WEST PIPELINE
PROJECT NO. WCF 05-10
CONTRACT 5
STANDARD DETAILS
PIPELINE APPURTENANCES

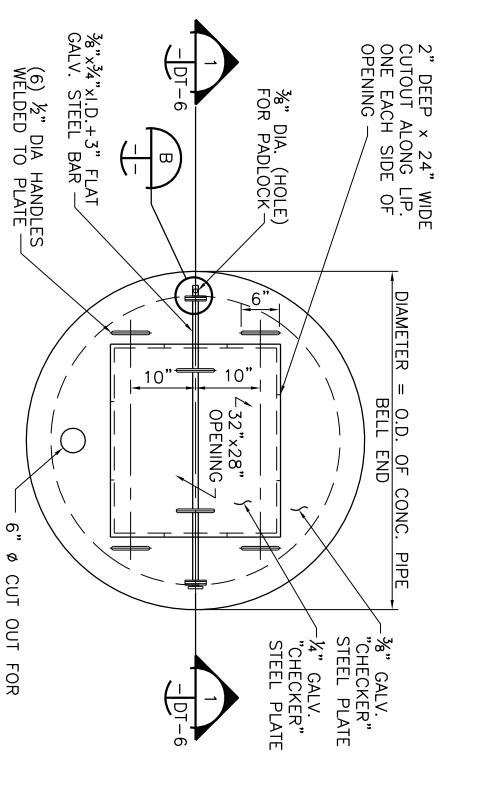
NO.	ISSUE	BY	DATE	FROM JOB NO.	DATE	DESIGNED	DRAWN	CHECKED	FILE NAME
1	RECORD DRAWINGS	RJR	7/27/09	NTD05387	NOV 2006	DTB	CAM	JCS	CV-PPL-DT-VALV02.DWG
2	FIELD ORDER #004	RJR	8/30/07						
3	PCM #001	RJR	2/12/07						
4	ADDENDUM NO. 2	JCS	10/24/06						
5	ADDENDUM NO. 1	JCS	10/18/06						

Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.

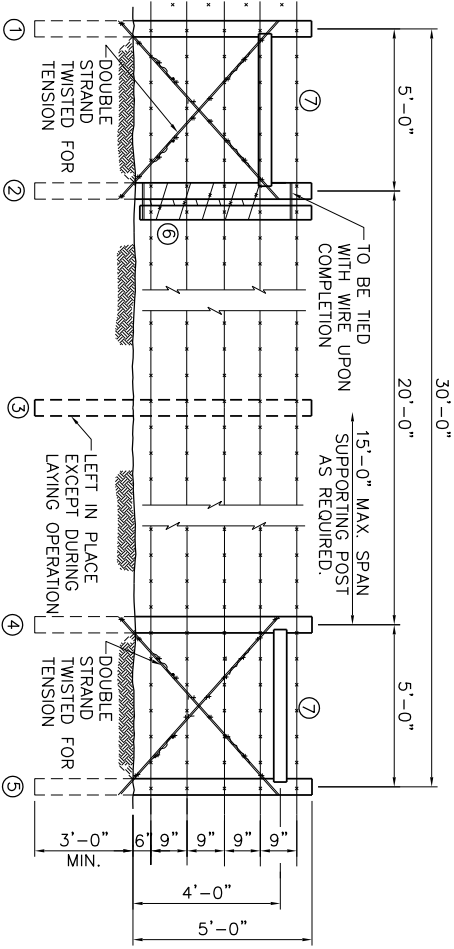
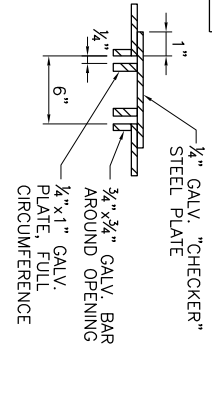
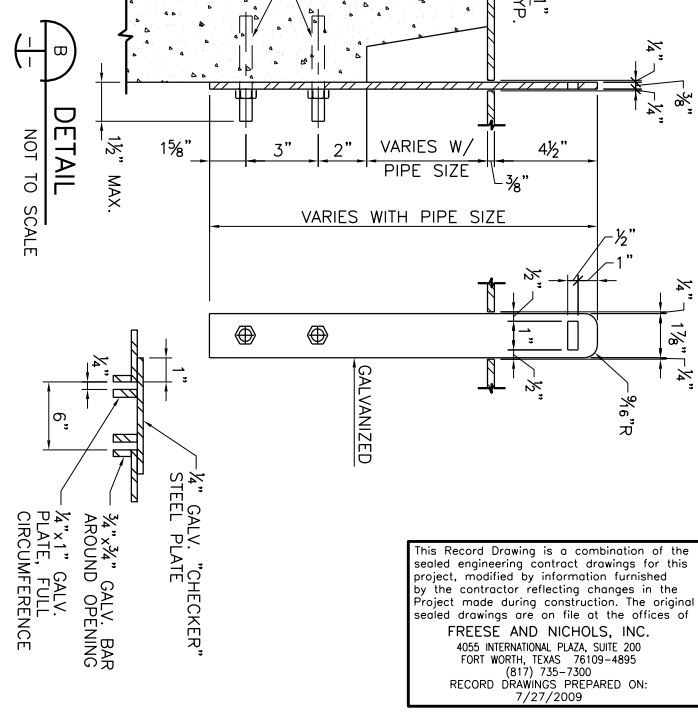
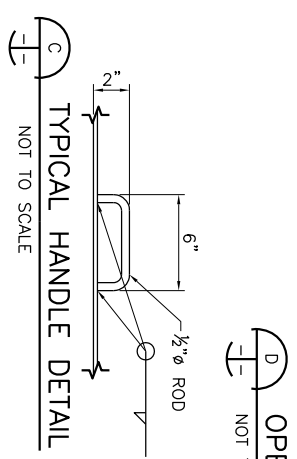
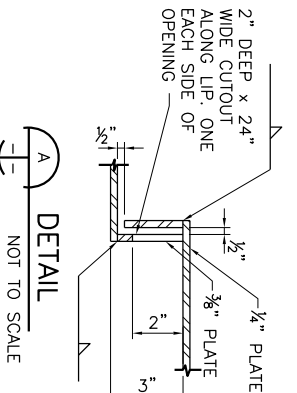
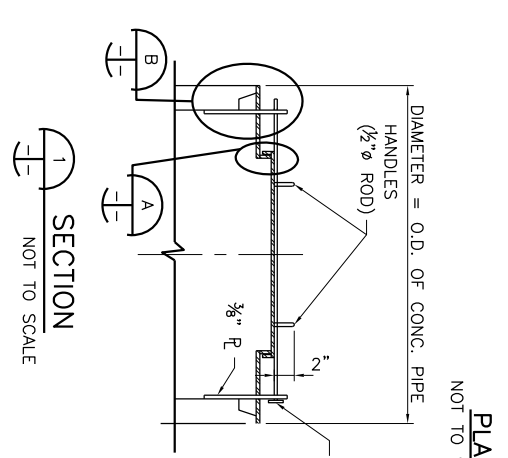
ACAD Rel 17.0s (LMS Tech) User: NBB
INTD05387\FWCAD\JN:WR\CENTRAL PIPELINE\CV-PPL-DT-VALV02.DWG LAYOUT: PIPELINE APPURTENANCES
NOV 30, 2006 9:24:38 A.M. PLS: 0.50 TMS: 0.0
6 REFERENCE FILES: 82128, 87888, 90179, 90732, 94677 and N:\STANDARD\34BORDER



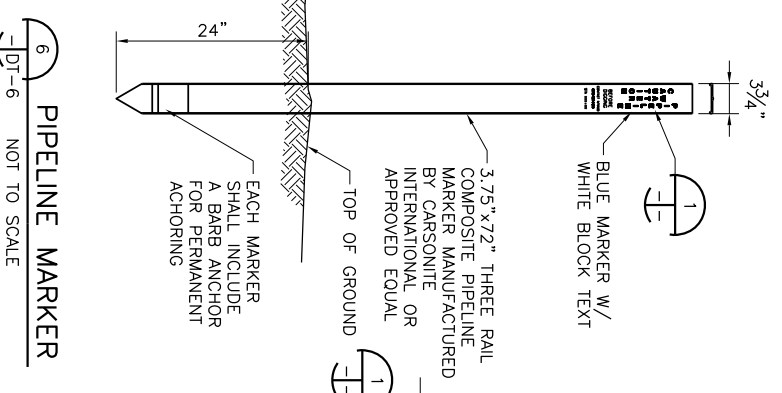
- NOTES FOR STEEL GATE:
- GATE MANUFACTURER SHALL FURNISH GALVANIZED HINGES AND HINGE BOLTS.
 - GATE MANUFACTURER SHALL FURNISH GALVANIZED SLIDING LATCHES FOR GATES LOCATED IN FIELD FENCES.
 - CONTRACTOR SHALL FURNISH GALVANIZED CHAIN AND PADLOCK FOR GATES. LOCKS SHALL BE IDENTICAL FOR ALL GATES. MASTER KEY SHALL BE GIVEN TO THE NORTH TEXAS MUNICIPAL WATER DISTRICT. USE MASTER LOCK NUMBER SPECIFIED BY NITMWD.
 - WHERE EXISTING ADJACENT POST IS MORE THAN 6'-0" FROM NEW GATE POST, CONTRACTOR SHALL INSTALL NEW LINE POST 6'-0" MAX. FROM GATE POST.
 - WHERE NEW FENCE IS REQUIRED THE POSTS SHALL BE SPACED AT A MAXIMUM DISTANCE OF 10'-0". SHALL BE 6" MIN. AT TOP, 8'-0" LONG, SET A MINIMUM OF 3'-0" BELOW GROUND AND THOROUGHLY TAMPED IN PLACE.



- NOTE:
- PROVIDE ONE PADLOCK WITH EACH COVER. PADLOCK SHALL BE KEYS TO MATCH OWNER'S LOCKS.



- MATERIAL DESCRIPTION
- NO. 1, 2, 3, 4, 5 6" TIP x 8' CCA TREATED OR CEDAR POST
 - NO. 6 5" x 5" x 4'-9" CCA TREATED OR CEDAR POST
 - NO. 7 5" x 5" x 5' CCA TREATED OR CEDAR POST
 - 12 1/2 GAGE-4 POINT GALV. BARBED WIRE



- NOTES:
- MARKER SHALL BE LOCATED ON BOTH SIDES OF ALL ROADS AND RAILROADS, AT ALL MAINLINE VALVES, AIR VALVES, AND BLOWOFF VALVES, AND AT ALL HORIZONTAL BENDS.
 - EACH MARKER SHALL HAVE A STICKER WITH THE FOLLOWING INFORMATION "CAUTION WATER PIPELINE CONTACT NITMWD (972) 442-5405, STA. XX+XX"

This Record Drawing is a combination of the sealed engineering contract drawings for this project, modified by information furnished by the contractor reflecting changes in the Project made during construction. The original sealed drawings are on file at the offices of
FREESSE AND NICHOLS, INC.
 4055 INTERNATIONAL PLAZA, SUITE 200
 FORT WORTH, TEXAS 76109-4895
 (817) 735-7300
 RECORD DRAWINGS PREPARED ON:
 7/27/2009

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY JEFFREY A. PAVINE, P.E. TEXAS NO. 90732 ON 10/24/06. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION OF THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.
 Freesse and Nichols, Inc.
 Texas Registered Engineering Firm F-2144

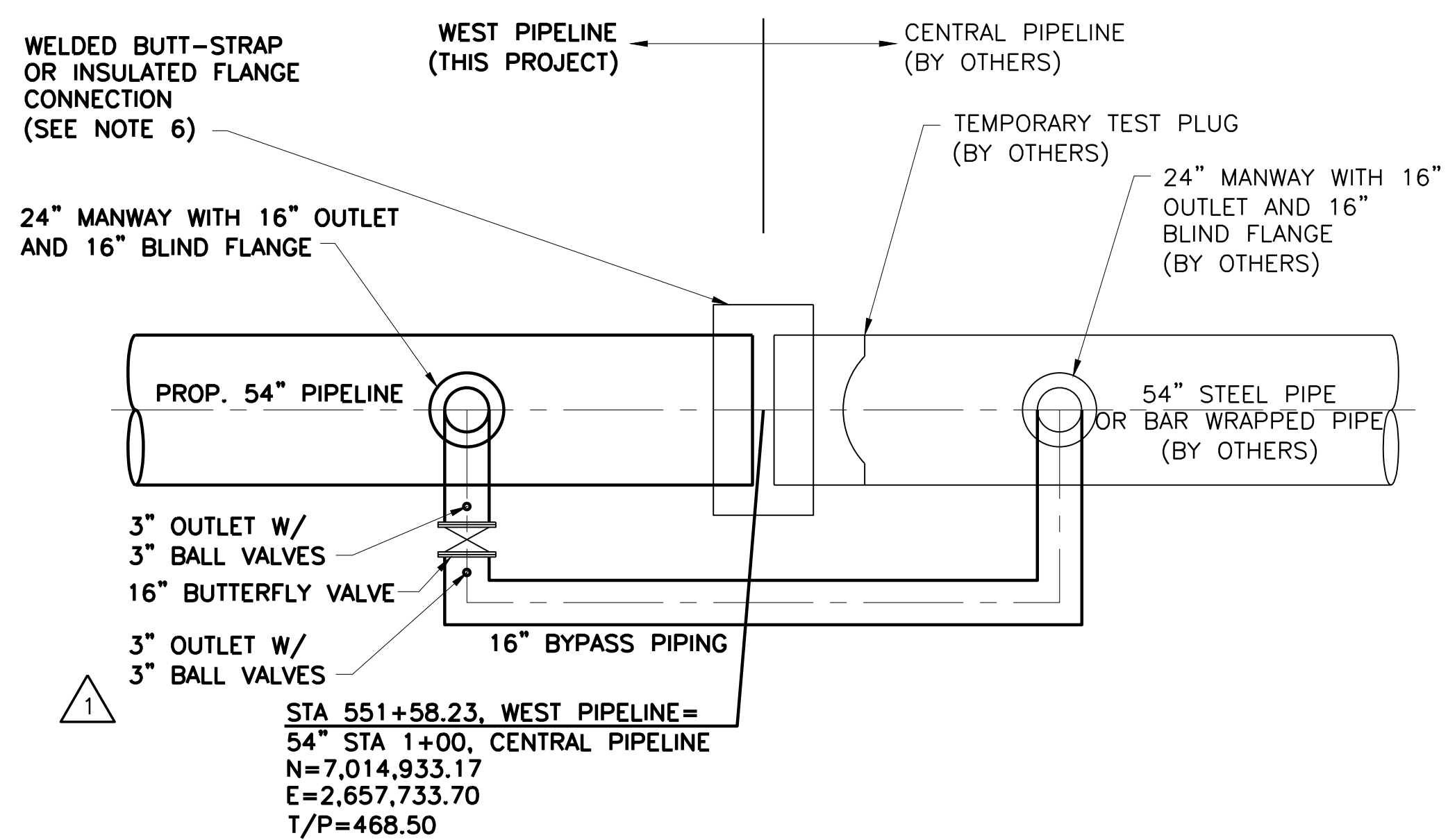
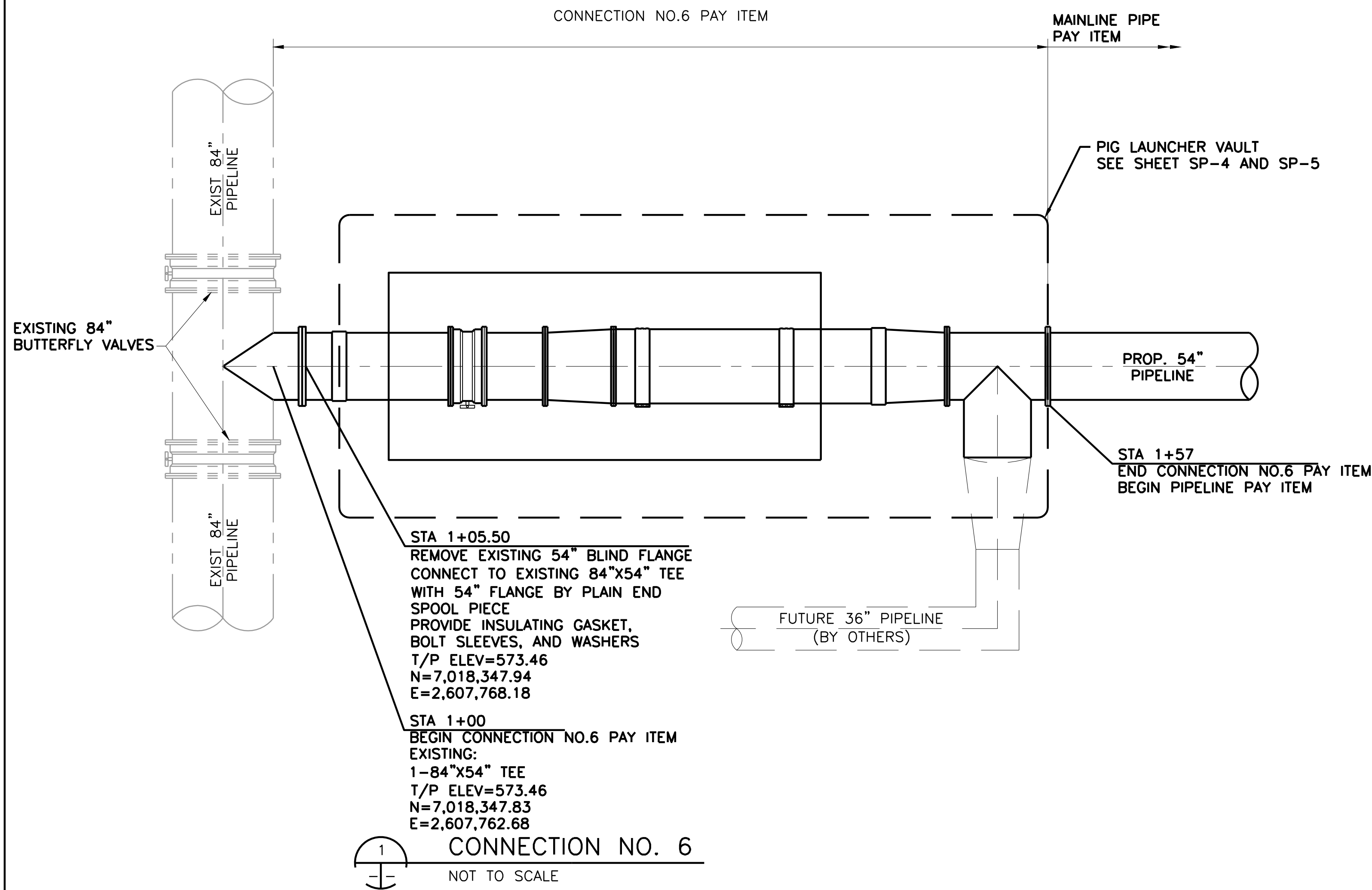
NORTH TEXAS MUNICIPAL WATER DISTRICT
LAKE TAWAKONI WATER SUPPLY PROJECT
 WEST PIPELINE PROJECT NO. WCF 05-10
 STANDARD DETAILS
MISCELLANEOUS DETAILS

Freese and Nichols
 116 N. Tennessee, Suite 200
 McKinney, Texas 75069-4354
 Phone - (972) 548-2400
 Fax - (972) 548-1055

NO.	ISSUE	BY	DATE	F&N JOB NO.
1	RECORD DRAWINGS	RJR	7/27/09	NTD05387
0	VERIFY SCALE			NOV 2006

Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.

ACAD: Rel 16.2s (LMS Tech) User: JAD
 INTD05387\DALSRV\JN\VF\DRAWINGS\CV-ALL-DT-CONN01.DWG LAYOUT: TRENCH DETAILS
 AUG 30, 2006 3:33:49 P.M. LTS: 1.00 PSLTS: 0 TWIST: 0.0
 REFERENCE FILE: N:\STANDARD\34BORDER



1
2

GENERAL CONNECTION NOTES:

- CONTRACTOR SHALL UNCOVER AND FIELD VERIFY HORIZONTAL AND VERTICAL DIMENSIONS AND EXISTING JOINT LOCATIONS FOR CONNECTION TIE-INS PRIOR TO MANUFACTURING OF NEW PIPE AND CONSTRUCTION. NORTHING, EASTING, AND PIPE CROWN ELEVATION SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO CREATION OF LAYING DRAWINGS.
- CONTRACTOR SHALL SUPPORT AND PROTECT ALL EXISTING MANHOLES AND PIPING.
- THE CONTRACTOR SHALL INSTALL TEMPORARY TEST PLUGS TO TEST THE PIPELINE. TEST PLUGS SHALL BE DESIGNED FOR HYDROSTATIC TESTING OF EACH PIPELINE SEGMENT INDEPENDENTLY.
- AT CONNECTION NO. 5 THE CENTRAL PIPELINE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION OF THE TEMPORARY TEST PLUG AND MANWAY WITH 16" BLIND FLANGE. THE WEST PIPELINE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION OF 16" BYPASS PIPING, 16" BUTTERFLY VALVE, BUTT-STRAP OR FLANGED CONNECTION TO EXISTING 54" PIPE. REMOVAL OF TEST PLUG AND BYPASS PIPING FOLLOWING SUCCESSFUL TESTING OF THE CENTRAL AND WEST PIPELINE SEGMENTS AND REPLACING BLIND FLANGES PER PROJECT DETAILS.
- TEMPORARY PIPING REMOVED BY THE CONTRACTOR SHALL BE SALVAGED AND DELIVERED TO OWNER'S FACILITY IN WYLIE, TEXAS.
- BUTT STRAP CONNECTION SHALL BE USED IF PIPE MATERIALS FOR WEST AND CENTRAL PIPELINE ARE THE SAME (BOTH STEEL OR BOTH BAR-WRAPPED CCP). IF MATERIALS ARE DIFFERENT, CONNECTION SHALL BE MADE WITH A FLG X PE SPOOL TO MATCH CENTRAL PIPELINE MATERIAL WITH BUTT STRAP TO CENTRAL PIPELINE AND INSULATING GASKET, BOLT SLEEVES AND WASHERS.

This Record Drawing is a combination of the sealed engineering contract drawings for this project, modified by information furnished by the contractor reflecting changes in the project. The contractor shall verify that the sealed drawings are on file at the office of
FREESE AND NICHOLS, INC.
 4055 INTERNATIONAL PLAZA, SUITE 200
 FORT WORTH, TEXAS 76109-4895
 (817) 451-1111
 RECORD DRAWINGS PREPARED ON: 7/27/2009

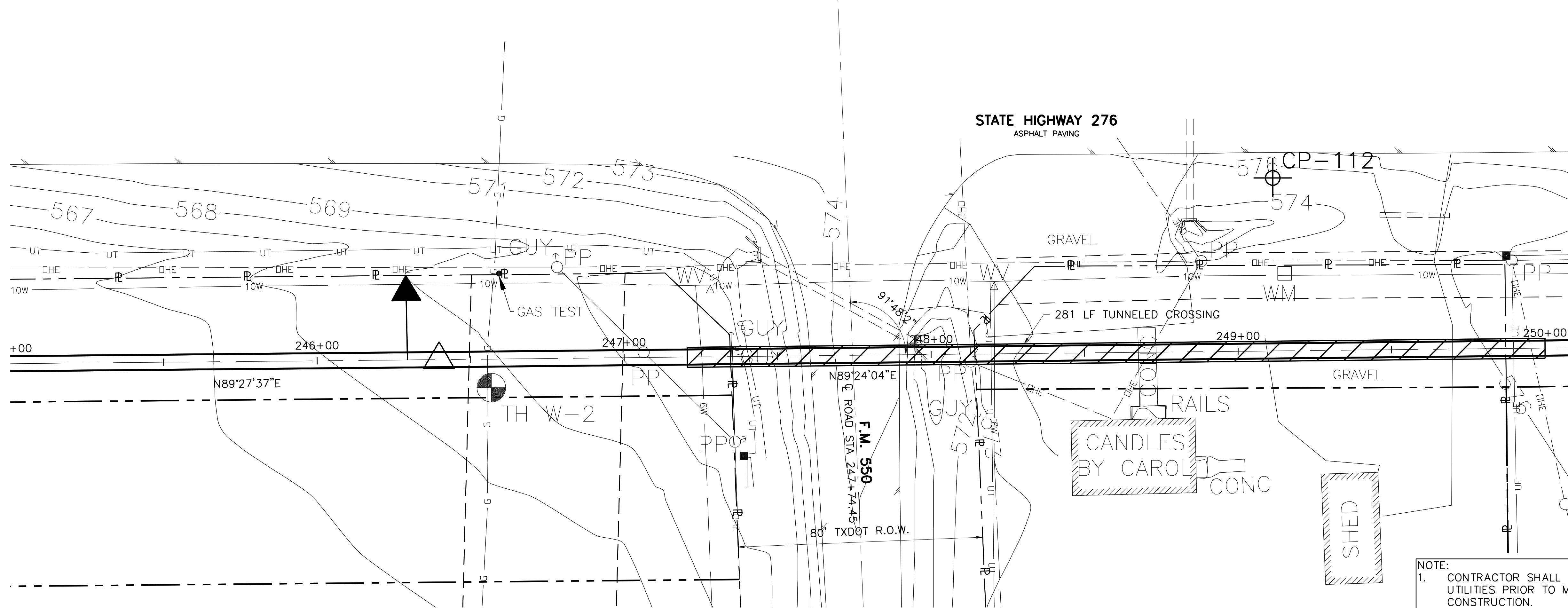
THIS DRAWING IS A PART OF THE CONTRACT DOCUMENTS FOR THIS PROJECT. IT IS TO BE USED ONLY FOR THE PROJECT AND SHALL NOT BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT THE WRITTEN PERMISSION OF THE ENGINEER. THE ENGINEER IS NOT RESPONSIBLE FOR ANY ERRORS OR OMISSIONS IN THIS DRAWING.
Freesee and Nichols
 116 N. Tennessee, Suite 200
 McKinney, Texas 75069-4354
 Phone - (972) 548-2400
 Fax - (972) 548-1055
 Texas Registered Engineering Firm F-2144



NORTH TEXAS MUNICIPAL WATER DISTRICT
LAKE TAWAKONI WATER SUPPLY PROJECT
 WEST PIPELINE
 PROJECT NO. WCF 05-10
 CONTRACT 5
 SPECIAL DETAILS
CONNECTION DETAILS

NO.	ISSUE	BY	DATE	DATE	DATE	DATE	DATE	DATE	DATE
1	RECORD DRAWINGS	RJR	7/27/09	DESIGNED	AAG	7/27/09	DRAWN	CLL	7/27/09
2	ADDENDUM NO. 2	JCS	10/24/06	REVISION					
3	ADDENDUM NO. 1	JCS	10/18/06	REVISION					
4	VERIFY SCALE								
5	0								

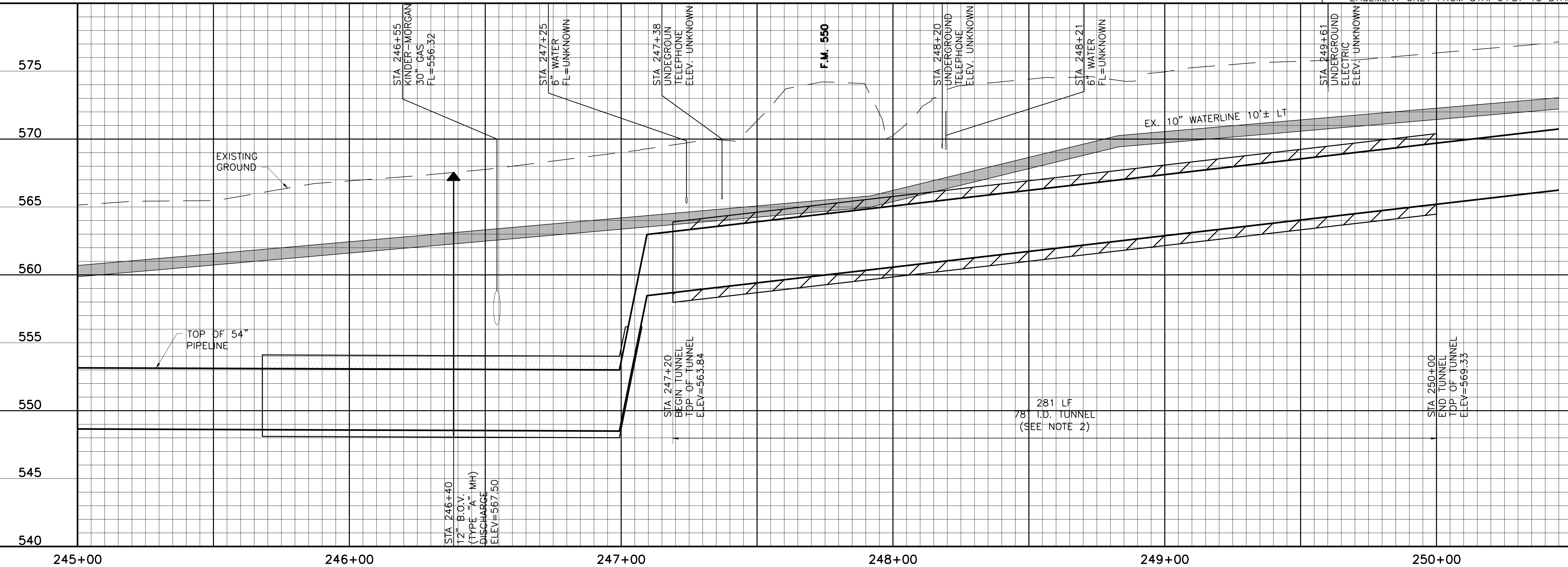
Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.



This Record Drawing is a combination of the sealed engineering contract drawings for this project and the sealed drawings reflecting changes in the Project made during construction. The original sealed drawings are on file at the offices of
FREES AND NICHOLS, INC.
 4055 WINTERBURN DR. PLAZA, SUITE 200
 FORT WORTH, TEXAS 76107-4695
 (817) 735-7300
 RECORD DRAWINGS PREPARED ON:
 7/27/2009

THIS DRAWING IS A PRELIMINARY DESIGN DOCUMENT. THE USER SHALL BE RESPONSIBLE FOR VERIFYING THE ACCURACY OF THE INFORMATION PROVIDED HEREON. THE ENGINEER IS NOT RESPONSIBLE FOR THE USER'S FAILURE TO PROPERLY INTERPRET OR APPLY THE INFORMATION PROVIDED HEREON. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS UNDER THE TEXAS ENGINEERING PRACTICE ACT.

Freese and Nichols
 116 N. Tennessee, Suite 200
 McKinney, Texas 75069-4354
 Phone - (972) 548-2400
 Fax - (972) 548-1055
 Texas Registered Engineering Firm F-2144



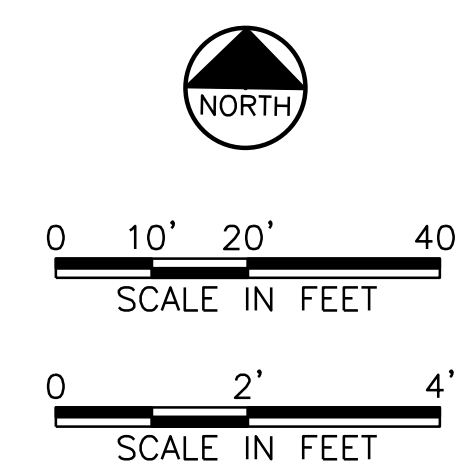
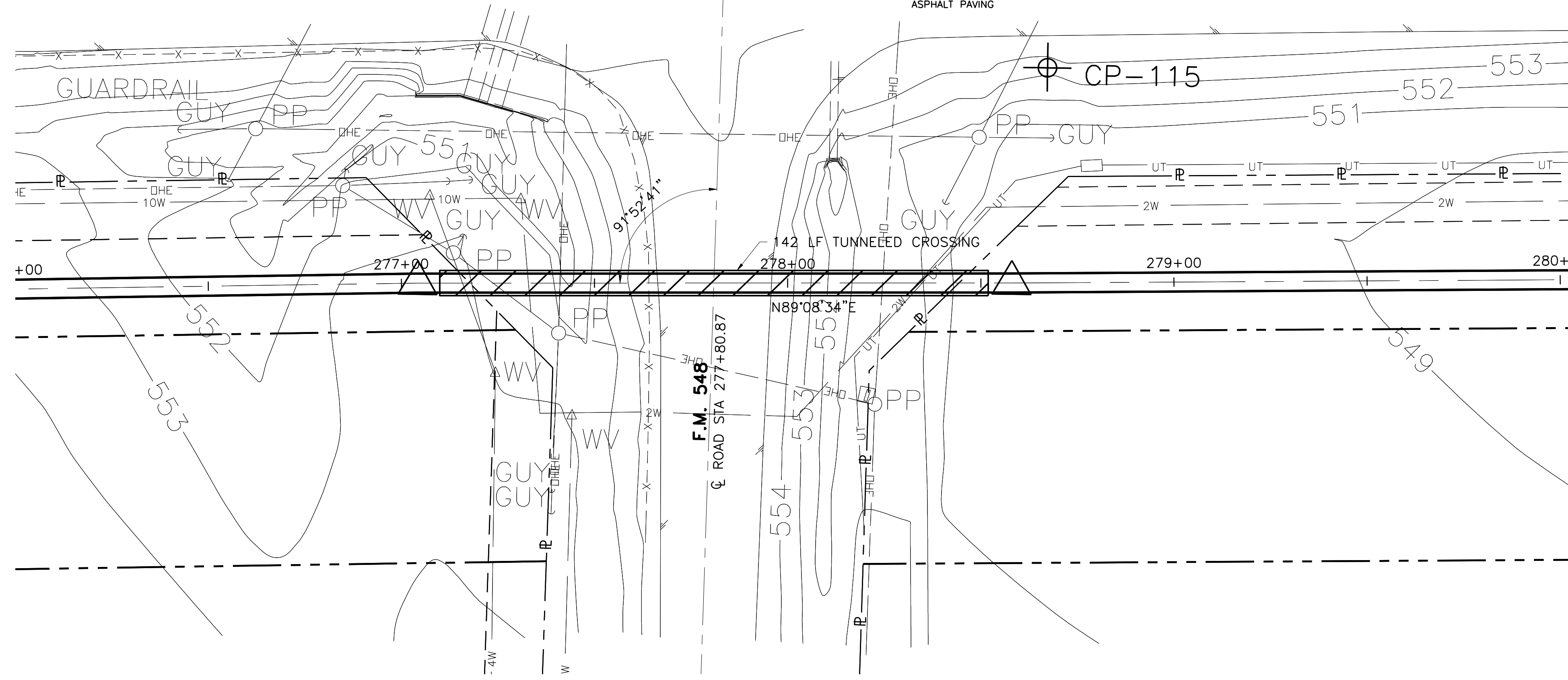
NORTH TEXAS MUNICIPAL WATER DISTRICT
LAKE TAWAKONI WATER SUPPLY PROJECT
 WEST PIPELINE
 PROJECT NO. WCF 05-10
 CONTRACT 5
 PIPELINE
CROSSING DETAIL
TUNNEL CROSSINGS, F.M. 550

NO.	ISSUE	BY	DATE	DATE	DESIGNED	DRAWN	CHECKED	REVISION
				NOV 2006	AAG	CLL	JP	
0	RECORD DRAWINGS	RJR	7/27/09					
1	VERIFY SCALE							

Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.

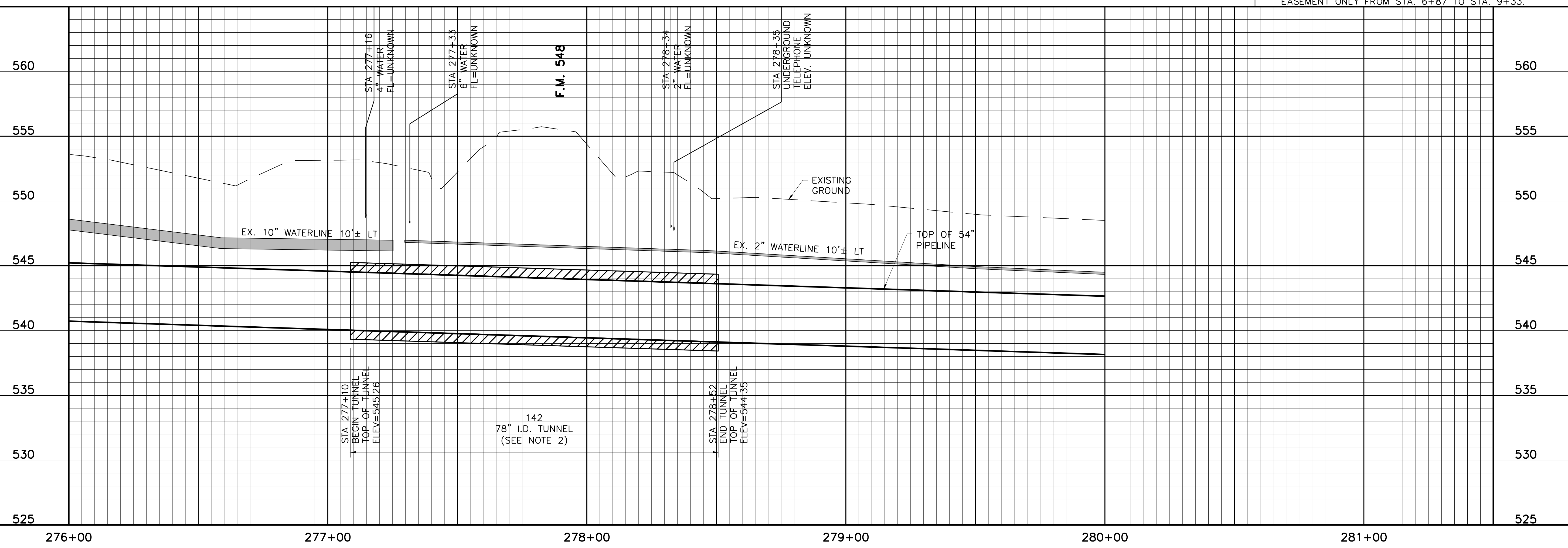
SHEET **SP-2**
 SEQ. 61 OF 70

STATE HIGHWAY 276
ASPHALT PAVING

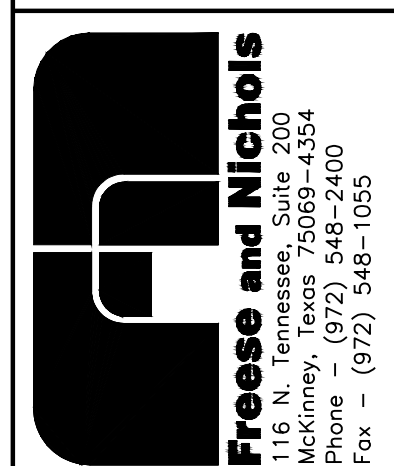


This Record Drawing is a combination of the sealed engineering contract drawings for this project and the sealed drawings for the project made during construction. The original sealed drawings are on file at the offices of
FRESE AND NICHOLS, INC.
4055 WINTERBURN PLACE, SUITE 200
FORT WORTH, TEXAS 76107-4695
FOR INFORMATION CALL (817) 735-7300
RECORD DRAWINGS PREPARED ON:
7/27/2009

- NOTE:
- CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO MANUFACTURING PIPE AND BEGINNING CONSTRUCTION.
 - CONTRACTOR SHALL RESTRICT WORK AREA TO PERMANENT EASEMENT ONLY FROM STA. 6+87 TO STA. 9+33.



THIS DRAWING IS A COMBINATION OF THE SEALED ENGINEERING CONTRACT DRAWINGS FOR THIS PROJECT AND THE SEALED DRAWINGS FOR THE PROJECT MADE DURING CONSTRUCTION. THE ORIGINAL SEALED DRAWINGS ARE ON FILE AT THE OFFICES OF
FRESE AND NICHOLS, INC.
116 N. TENNESSEE, SUITE 200
MCKINNEY, TEXAS 75069-4354
PHONE - (972) 548-2400
FAX - (972) 548-1055
Texas Registered Engineering Firm F-2144



NORTH TEXAS MUNICIPAL WATER DISTRICT
LAKE TAWAKONI WATER SUPPLY PROJECT
WEST PIPELINE
PROJECT NO. WCF 05-10
CONTRACT 5
PIPELINE
CROSSING DETAIL
TUNNEL CROSSINGS, F.M. 548

NO.	ISSUE	BY	DATE	DATE	DESIGNED	DRAWN	REVISION	CHECKED	FILE NAME
				NOV 2006	AAG	CLL			WR-ALL-PP-CROS02.dwg
0	RECORD DRAWINGS	RJR	7/27/09						
Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.									
SHEET SP-3									
SEQ. 62 OF 70									

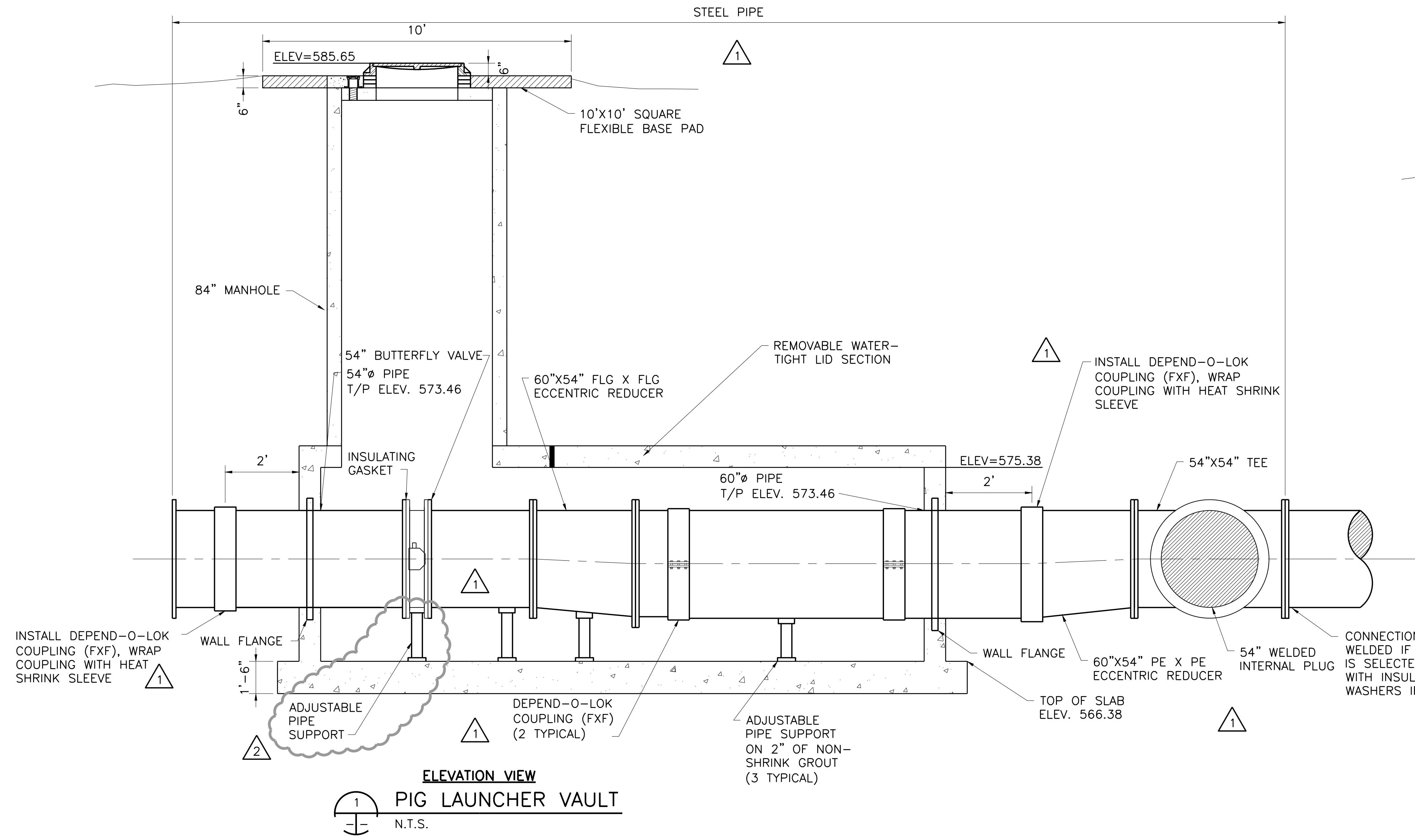
ACAD: Rel 18.0s (LWS Tech) User: ec Office: MCSRV2
N:\wr\Drawings\WR-ALL-PP-CROS02.dwg LAYOUT: Layout1
May 05, 2010 - 11:52am LIS: 1 PSL'S: 1 TWIST: MCSRV2
REFERENCES: N:\Standard\3480RDER.dwg, N:\wr\Bases\WR-ALL-PL-BASE01.dwg

This Record Drawing is a combination of the original design and any changes made to this project, modified by information furnished by the contractor reflecting changes in the Project made during construction. The original sealed drawings are on file at the offices of FREENE AND NICHOLS, INC. 116 N. Tennessee, Suite 200 McKinney, Texas 75069-4354 FORT WORTH, TEXAS 76109-4895 (817) 735-7300 (817) 735-7300 RECORD DRAWINGS PREPARED ON: 7/25/2009

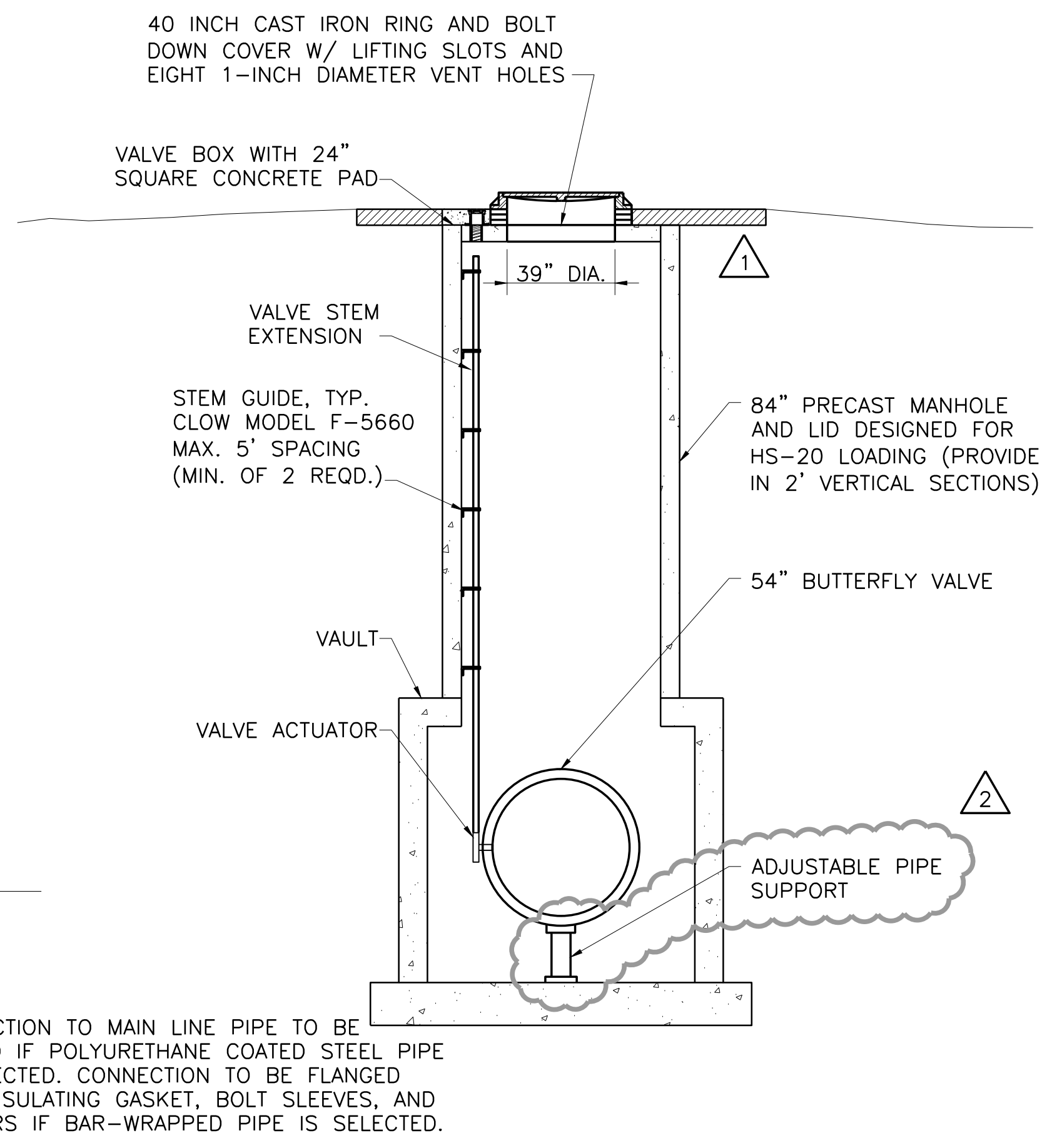
THIS DRAWING IS THE PROPERTY OF FREENE AND NICHOLS, INC. IT IS TO BE USED ONLY FOR THE PROJECT AND SITE SPECIFICALLY IDENTIFIED HEREON. ANY REUSE OR REPRODUCTION OF THIS DRAWING WITHOUT THE WRITTEN PERMISSION OF FREENE AND NICHOLS, INC. IS STRICTLY PROHIBITED. FREENE AND NICHOLS, INC. IS AN ENGINEERING FIRM REGISTERED UNDER THE TEXAS ENGINEERING PRACTICE ACT.

Freenne and Nichols
 116 N. Tennessee, Suite 200
 McKinney, Texas 75069-4354
 Phone - (972) 548-2400
 Fax - (972) 548-1055

NORTH TEXAS MUNICIPAL WATER DISTRICT
LAKE TAWAKONI WATER SUPPLY PROJECT
 WEST PIPELINE
 PROJECT NO. WCF 05-10
 CONTRACT 5
 DETAILS
PIG LAUNCHER DETAILS



ELEVATION VIEW
PIG LAUNCHER VAULT
 N.T.S.



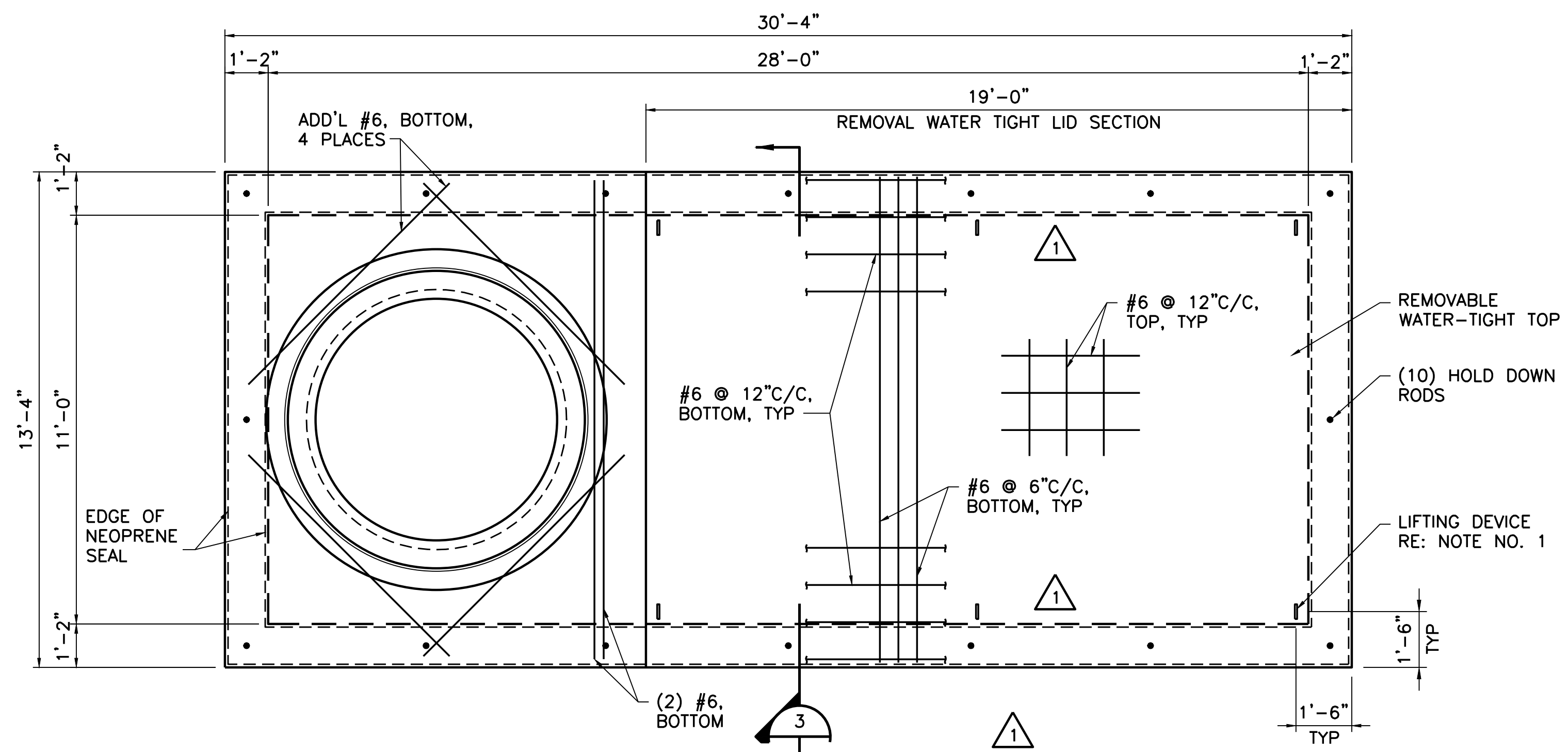
TYPE "B" TRAFFIC RATED
MANHOLE FOR PIG LAUNCHER VAULT
 N.T.S.

- SHEET GENERAL NOTES:**
- ALL METAL SURFACES INSIDE OF MANHOLES SHALL RECEIVE A MINIMUM OF TWO (2) COATS OF BITUMASTIC COATING (KOPPERS 50 OR APPROVED EQUAL). CARE SHALL BE TAKEN TO APPLY THE COATING IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
 - ALL FLANGE BOLTS FOR APPURTENANCES SHALL BE STAINLESS STEEL AND COATED WITH ANTI-SEIZE COMPOUND.
 - THE VALVE EXTENSION SHALL BE POSITIONED INSIDE THE MANHOLE SUCH THAT THE VALVE CAN BE OPERATED FROM GROUND LEVEL THROUGH THE MANHOLE COVER OR MANHOLE TOP. THE VALVE EXTENSION SHALL EXTEND TO WITHIN 4" OF THE MANHOLE COVER. CORE HOLE THROUGH MANHOLE TOP AND PROVIDE COVER FOR OPENING IF VALVE IS TO OPERATED THROUGH MANHOLE TOP AND NOT MANHOLE COVER.

ACAD Rel 18.0s (LMS Tech) User: ec Office: MCSRV2
 N:\w\Drawings\SPECIAL DETAILS\CV-PPL-DT-LNCH02.dwg LAYOUT: Layout1
 May 05, 2010 - 11:53am LIS: 1 PSLTS: 1 TWST: MCSRV2
 REFERENCES: N:\Standard\34BORDER.dwg, 90179.dwg, N:\Standard\34BORDER.dwg

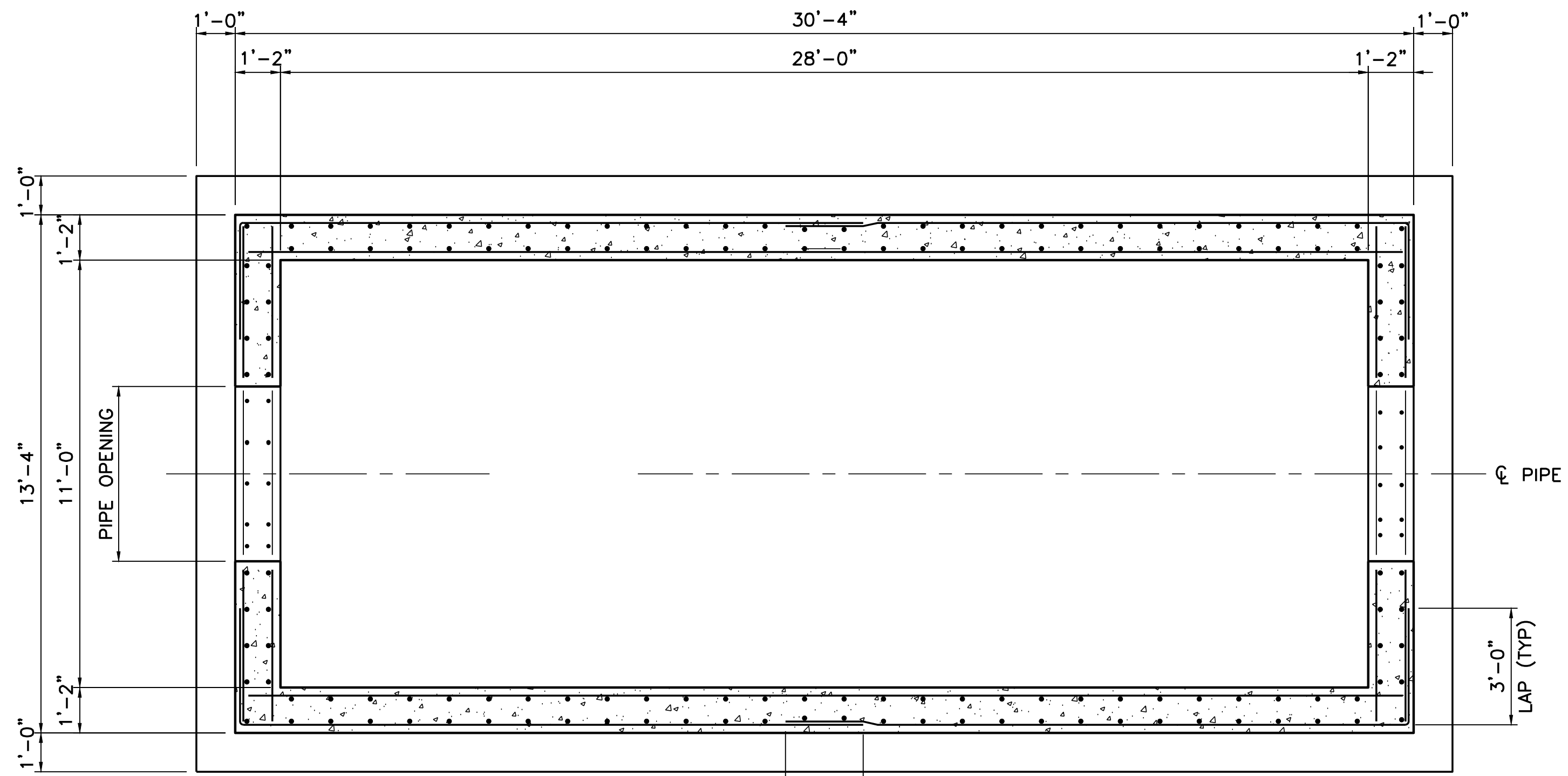
NO.	ISSUE	BY	DATE	DATE	NO.	ISSUE	BY	DATE
1	RECORD DRAWINGS	RJR	7/30/09	DESIGNED	AAG	7/30/09	DATE	NOV 2006
2	FIELD ORDER NO. 3	JP	4/19/07	BROWN	CLL	4/19/07	DATE	NOV 2006
3	ADDENDUM NO. 1	JCS	10/18/06	REVISION			DATE	NOV 2006
4	VERIFY SCALE			CHECKED	JP	10/18/06	DATE	NOV 2006
5	Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.			FILE NAME	CV-PPL-DT-LNCH02.dwg		DATE	NOV 2006

ALCAD: hel 18.05 (LMS tech) User: JAW
 [FWCAD]IN:\ST\PIPELINE\ST-WEST-PL-PIGL.DWG LAYOUT: ST-WEST-PL-PIGL
 MAY 07, 2010 7:37:09 A.M. LTS: 1.00 PSLTS: 1 TWST: 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0
 4 REFERENCE FILES: 32713_90732_NAST\PIPELINE\ST-WEST-PL-PIGBASE and N:\STANDARD\34WBORDER

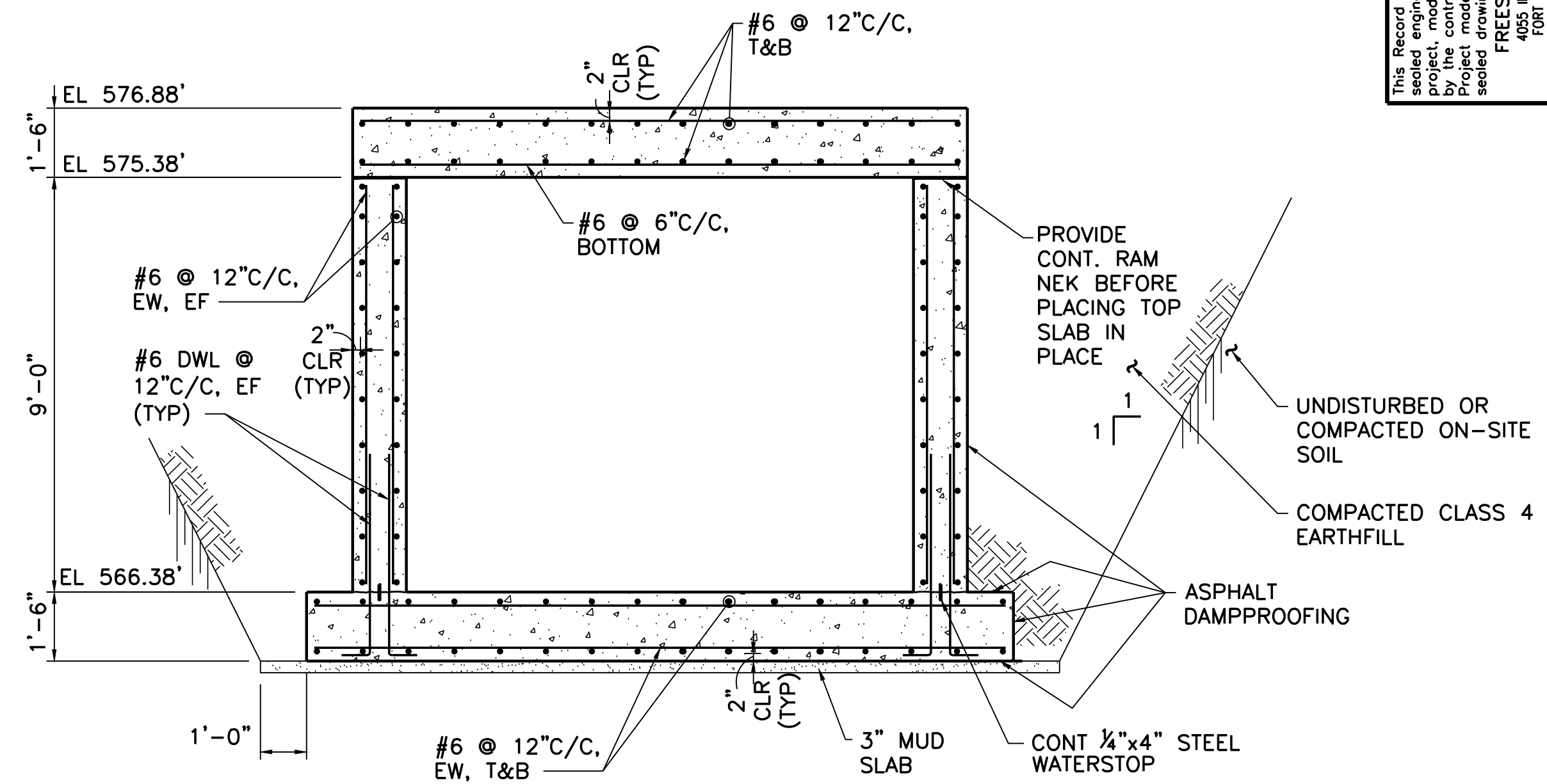


1 TOP PLAN
 3/8"=1'-0"

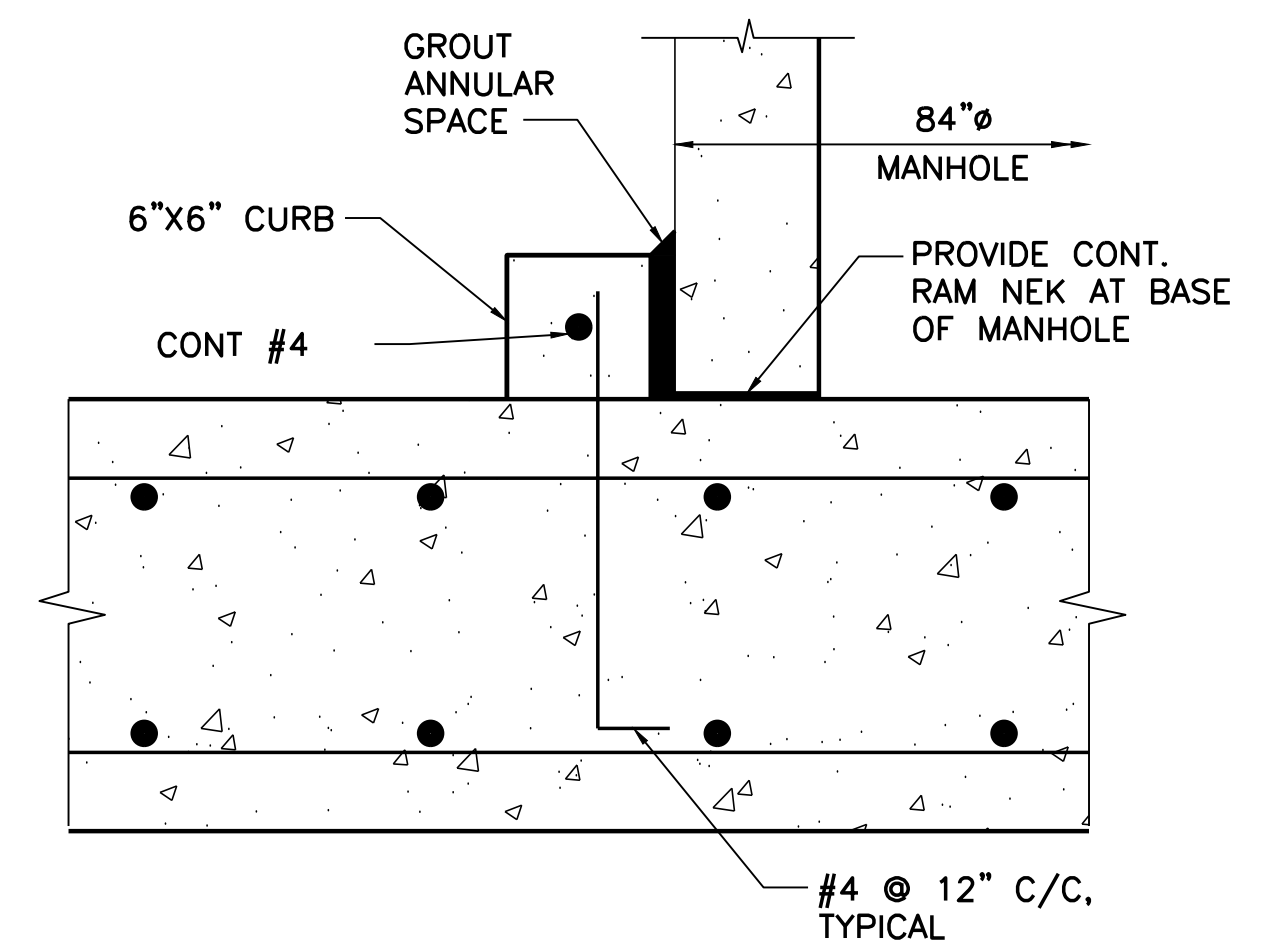
PLAN NOTES:
 1. LIFTING DEVICE SHALL BE DAYTON SUPERIOR T26 1 1/4" Ø DOUBLE SWING LIFTING PLATE WITH F58 INSERT AND COIL BOLT B14, 1 1/4" Ø x 6" LONG. INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. PLUG INSERTS AFTER LIFTING. PLUGS SHALL BE GREASED DAYTON SUPERIOR 1 1/4" Ø T-7-S SLOTTED SETTING PLUGS (GALV).



2 SECTIONAL PLAN
 3/8"=1'-0"



3 SECTION
 3/8"=1'-0"



4 DETAIL
 1 1/2"=1'-0"

FIG LAUNCH VAULT NOTES:
 1. REFER TO SHEET SP-5 AND SP-6.

This Record Drawing is a combination of the selected engineering contract drawings for this project, modified by information furnished by the contractor during construction. The original project drawings are on file at the offices of FREESE AND NICHOLS, INC. 4055 INTERNATIONAL PLAZA, SUITE 200 FORT WORTH, TEXAS 76109-4685 (817) 745-2300 (817) 745-2309-4685 RECORD DRAWINGS PREPARED ON: 5/7/2010

THE SEAL AND ORIGINAL SIGNATURE OF THE REGISTERED PROFESSIONAL ENGINEER IS AN INDISPENSIBLE PART OF THESE DRAWINGS. ANY REVISIONS OR CHANGES TO THESE DRAWINGS MUST BE MADE BY THE REGISTERED PROFESSIONAL ENGINEER UNDER THE TEXAS ENGINEERING PRACTICE ACT.

Freese and Nichols
 116 N. Tennessee, Suite 200
 McKinney, Texas 75069-4354
 Phone - (972) 546-2400
 Fax - (972) 546-1055

NORTH TEXAS MUNICIPAL WATER DISTRICT
LAKE TAWAKONI WATER SUPPLY PROJECT
 WEST PIPELINE
 CONTRACT 1
 STRUCTURAL
PIG LAUNCHER PLANS AND SECTION
 PROJECT NO. WCF 05-10

NO.	ISSUE	BY	DATE	FOR JOB NO.
1	ISSUED FOR CONSTRUCTION	AD	05/07/10	NTD05387
2	ADDENDUM #2	AD	12/06/06	DESIGNED AD
3	VERIFY SCALE	JCS	10/24/06	DRAWN MLP
4	Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.	JCS	10/24/06	REVISIONS
				CHECKED AD
				FILE NAME
				ST-West-PL-PIGL.dwg

SHEET **S-1**

SEQ. **65 OF 70**

PRETENSIONED CCP TEST STATION SCHEDULE

STA.	STYLE	LOCATION/FEATURE	LATITUDE	LONGITUDE
1+40	T	54" TEE	32.902363	96.417815
8+90	T	CPS NO. 1	32.902372	96.415424
9+00	T		32.902349	96.415286
17+00	T	CAV	32.900865	96.413345
30+00	T		32.897855	96.409527
41+37	T	PI	32.896172	96.407924
54+00	T		32.896152	96.403620
62+52	C	ROCHELLE ROAD	32.896073	96.401059
63+52	C	ROCHELLE ROAD	32.895992	96.400855
73+75	T	PI	32.895105	96.398437
78+45	T	PI	32.893903	96.398411
93+00	T		----	----
106+05	T	PI	32.893733	96.389423
118+20	C	DOWELL ROAD	32.896164	96.386759
119+05	C	DOWELL ROAD	32.896366	96.386573
131+50	T		32.896976	96.382870
144+00	T		32.896965	96.378797
155+75	T	PI	32.896879	96.374927
162+05	T	BOV	32.896311	96.373572
170+86	C	CPS NO. 2	32.896294	96.370698
171+77	C	ZOLLNER ROAD	32.896241	96.370480
186+00	T		32.896279	96.365853
198+25	T	PI	32.896218	96.361883
210+60	T	PI	32.899597	96.361813
222+00	T		32.899610	96.358053
234+15	T	CAV	32.899568	96.354161
244+04	F	10" ONECK GAS	32.899523	96.350911
246+55	F	30" KINDER MORGAN GAS	32.899529	96.350089
247+20	C	FM 550	32.899453	96.349879
250+00	C	FM 550	32.899442	96.348948
261+20	T	FENCE	32.899465	96.345339
273+94	F	10" TEPPCO GAS	32.899521	96.341211
277+10	C	FM 548	32.899469	96.340134
278+52	C	FM 548	32.899476	96.339730
289+00	T		32.899537	96.336243
303+75	T	FENCE	32.899503	96.331523
313+50	T		32.899590	96.328361
323+25	T	BOV	32.899565	96.325062
330+19	T		32.899567	96.322936
343+50	T	ACCESS MH	32.899796	96.318548
351+75	T	FENCE	32.900069	96.315861
360+00	T	CPS NO. 3	32.900252	96.313173
363+50	T		----	----
367+84	C	STREETMAN ROAD	32.899891	96.311013
368+87	C	STREETMAN ROAD	32.899877	96.310705
380+30	T	ACCESS MH	32.899303	96.306660
393+00	C	SOUTH MUNSON ROAD	32.898607	96.302449
395+43	C	SOUTH MUNSON ROAD	32.898510	96.301923
408+00	T	FENCE	32.897857	96.297803
421+00	T	FENCE	32.897734	96.293688
425+65	T	FENCE	32.898013	96.292357
435+00	T		32.897931	96.289448
443+70	T	FENCE	32.897552	96.286554
454+70	T	FENCE	32.897135	96.283090
466+30	T	FENCE	32.896859	96.279402
477+80	T	FENCE	32.896733	96.275649
488+90	T	FENCE	32.896598	96.271945
499+00	T	OFFSET TO FENCE	32.896541	96.268817
510+75	T	PI	32.896501	96.265051
525+90	T	PI	32.893803	96.261376
540+00	T		32.892296	96.257922
551+50	T	CPS NO. 4	32.890174	96.255365
551+58	T	AT CPS NO. 4	32.890180	96.255350

PRETENSIONED CCP IMPRESSED CURRENT CATHODIC PROTECTION STATION SCHEDULE

CPS NO.	PIPELINE	1	2	3	4
STATION	RECTIFIER	8+90	170+86	360+00	551+50
VOLTAGE	RECTIFIER	60 VOLTS	60 VOLTS	60 VOLTS	60 VOLTS
AMPS	AC POWER	20 AMPS	20 AMPS	20 AMPS	20 AMPS
SERVICE	CASING	120/240 VAC	120/240 VAC	120/240 VAC	120/240 VAC
LENGTH	CASING	40 FT	40 FT	40 FT	40 FT
DIAMETER	INACTIVE	8 IN	8 IN	8 IN	8 IN
LENGTH	ANODE	115 FT	115 FT	115 FT	115 FT
SPACING	NO. OF	10 FT	10 FT	10 FT	10 FT
ANODES	ACTIVE	20 EA	20 EA	20 EA	20 EA
LENGTH	TOTAL	220 FT	220 FT	220 FT	220 FT
LENGTH		335 FT	335 FT	335 FT	335 FT

POLYURETHANE STEEL PIPE GALVANIC ANODE AND TEST STATION SCHEDULE

STA.	STYLE	LOCATION/FEATURE
1+40	T	54" TEE
13+50	A	
17+00	T	CAV
30+00	T	
41+37	A	PI
54+00	C	
63+52	T	ROCHELLE ROAD
66+84	A	PI
73+75	T	PI
78+45	T	PI
93+00	A	
106+05	T	PI
112+20	A	
118+89	C	DOWELL ROAD
133+50	T	
146+50	A	PI
155+75	T	BOV
162+05	T	ZOLLNER ROAD
171+77	C	
172+00	A	
186+00	T	
198+25	A	PI
210+60	T	PI
222+00	T	
226+50	A	
234+15	T	CAV
244+04	F	10" ONECK GAS
246+55	F	30" KINDER MORGAN GAS
247+20	C	FM 550
249+57	C	FM 550
261+20	A	FENCE
273+94	F	10" TEPPCO GAS
277+10	C	FM 548
278+52	C	FM 548
279+50	A	
289+00	T	FENCE
303+75	A	FENCE
313+50	T	
323+25	T	BOV
330+25	A	
343+55	T	ACCESS MH
351+75	T	FENCE
356+50	A	
363+50	T	
367+84	C	STREETMAN ROAD
380+30	T	ACCESS MH
383+50	A	
395+43	C	SOUTH MUNSON ROAD
408+00	A	FENCE
420+75	T	FENCE
425+65	T	FENCE
435+00	A	
443+70	T	FENCE
454+70	T	FENCE
460+80	A	BOV
466+30	T	FENCE
477+60	T	FENCE
488+90	A	FENCE
499+00	T	OFFSET TO FENCE
510+75	T	PI
514+50	A	
525+90	T	PI
540+00	A	
551+58	I	INSULATING FLANGE

GENERAL NOTES

TEST STATIONS:

- SEE TEST STATION SCHEDULE FOR LOCATIONS, TYPE, AND STYLE OF TEST STATIONS, SEE DETAILS 1 THROUGH 4, DWG CP-2 FOR TEST STATION TYPES, SEE DETAILS 5 THROUGH 7, DWG CP-2 FOR TEST STATION STYLES.
- TEST STATIONS SHALL BE POST MOUNTED TEST STATIONS UNLESS OTHERWISE INDICATED.
- POST MOUNTED TEST STATIONS SHALL BE PLASTIC STYLE AS SHOWN IN DETAIL 5, DWG CP-2.
- FOR FLUSH MOUNTED TEST BOX SEE DETAIL 8, DWG CP-2
- TEST WIRE CONNECTIONS TO FOREIGN PIPELINES SHALL BE PERFORMED BY THE CONTRACTOR, UNLESS OWNER OF FOREIGN PIPELINE REQUIRES OTHERWISE.

ELECTRICAL CONTINUITY:

- ALL BURIED AND VAULT JOINTS SHALL BE BONDED FOR ELECTRICAL CONTINUITY, EXCEPT WELDED OR INSULATED JOINTS.
- PROVIDE TWO BONDS ON EACH JOINT UNLESS SHOWN OTHERWISE.
- FLEXIBLE COUPLINGS, FLANGE COUPLING ADAPTERS, OR DEPEND-O-LOCK JOINTS SHALL BE BONDED SIMILAR TO FLEXIBLE JOINT, SEE DETAIL 2, SHEET CP-3
- COATED STEEL PIPE JOINTS SHALL BE BONDED AS SHOWN IN DETAIL 1, SHEET CP-3
- PRETENSIONED CONCRETE CYLINDER PIPE SHALL BE BONDED AS SHOWN IN DETAIL 3, SHEET CP-3
- DUCTILE IRON PIPE JOINTS SHALL BE BONDED AS SHOWN IN DETAIL 3, SHEET CP-3

ELECTRICAL ISOLATION:

- PROVIDE INSULATING JOINTS IN PIPELINE WHERE INDICATED ON THE DRAWINGS OR AT CONNECTIONS TO PIPE INSTALLED BY OTHERS UNDER OTHER CONTRACTS.
- TEST ALL INSULATING JOINTS FOR ELECTRICAL ISOLATION AS SPECIFIED.

CASED CROSSING ISOLATION:

- ALL CASED CROSSINGS WITH METALLIC CASINGS SHALL BE TESTED FOR ELECTRICAL ISOLATION BETWEEN THE CARRIER PIPE AND CASING BY A CATHODIC PROTECTION SPECIALIST
- ISOLATION TESTING SHALL BE CONDUCTED BEFORE AND AFTER FILLING CASING.
- CATHODIC PROTECTION SPECIALIST TO PERFORM ISOLATION TEST USING PROCEDURE APPROVED BY ENGINEER.
- ELECTRICAL CONTACTS BETWEEN THE CARRIER PIPE AND CASING SHALL BE REMOVED BY THE CONTRACTOR.

GALVANIC ANODES:

- GALVANIC ANODE CATHODIC PROTECTION SHALL BE PROVIDED WITH THE POLYURETHANE COATED STEEL PIPE ALTERNATIVE.
- SEE GALVANIC ANODE AND TEST STATION SCHEDULE, THIS SHEET, FOR LOCATIONS.
- PIPELINE STATIONING IS FOR TYPE A TEST STATIONS AS SHOWN IN THE TYPICAL GALVANIC ANODE INSTALLATION PLAN, SHEET CP-4.
- TEST STATION AND GALVANIC ANODE GROUNDBEDS FOR STEEL PIPE CAN BE VARIED UP TO 100 FEET IN EITHER DIRECTION.
- GALVANIC ANODES SHALL BE BURIED IN NATIVE SOIL OR SAND, EMBEDMENT IN CLSM OR CONCRETE ENCASUREMENT WILL NOT BE PERMITTED.

IMPRESSED CURRENT CATHODIC PROTECTION

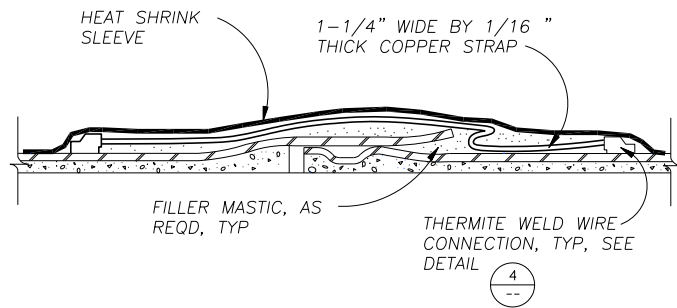
- IMPRESSED CURRENT CATHODIC PROTECTION SYSTEMS SHALL BE PROVIDED WITH THE PRETENSIONED CONCRETE CYLINDER PIPE ALTERNATIVE.
- CPS LOCATIONS ARE SHOWN IN THE IMPRESSED CURRENT CATHODIC PROTECTION SCHEDULE, THIS SHEET.
- CPS LOCATIONS SHALL BE MODIFIED BY THE ENGINEER DEPENDING ON THE PIPE MATERIAL SELECTED FOR PIPELINE INSTALLED UNDER OTHER CONTRACTS AT NO ADDITIONAL COST TO THE OWNER.
- CONTRACTOR SHALL COORDINATE AC POWER SERVICE WITH LOCAL ELECTRICAL UTILITY, UTILITY SERVICE INSTALLATION COSTS TO BE PAID BY OWNER.
- CONTRACTOR TO PROVIDE ALL EXCAVATION, BACKFILL, CONDUIT AND PULL STRING FOR UNDERGROUND AC POWER SERVICE TO METER PEDESTAL, UTILITY TO PROVIDE AND INSTALL CONDUCTORS, SPLICES, AND CONNECTIONS TO METER BASE.
- DRILLING MUD, WATER AND CUTTINGS SHALL BE FULL CONTAINED ON THE PROJECT SITE AND SHALL NOT BE PERMITTED TO FLOW OVER THE GROUND SURFACE, ANY SPILLAGE OR LEAKAGE OF DRILLING MUD AND CUTTINGS SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR AND THE SITE RESTORED TO ORIGINAL CONDITION.
- CONCRETE WORK SHALL BE OF THE HIGHEST QUALITY, FORMS SHALL BE SET LEVEL AND SQUARE, CONCRETE FINISH SHALL BE TROWELLED SURFACE AND RADIUSED EDGES, ALL FORM WORK SHALL BE REMOVED FROM THE CONCRETE AFTER CURING IS COMPLETED.
- RECTIFIER SHALL BE ORIENTED AND LOCATED AS APPROVED BY THE ENGINEER.

This Record Drawing is a combination of the original drawings and any modifications made by the contractor reflecting changes in the project made during construction. The original project drawings are on file at the offices of FRESSE AND NICHOLS, INC. 4001 W. WYATT, SUITE 200, FORT WORTH, TEXAS 76109-4695 (817) 735-7300 (817) 735-7300 RECORD DRAWINGS PREPARED ON: 2/9/2009

Fresse and Nichols
 116 N. Tennessee, Suite 200
 McKinney, Texas 75069-4354
 Phone - (972) 548-2400
 Fax - (972) 548-1055

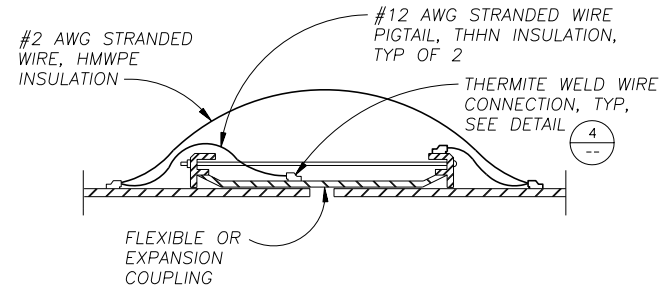
NORTH TEXAS MUNICIPAL WATER DISTRICT
LAKE TAWAKONI WATER SUPPLY PROJECT
 WEST PIPELINE PROJECT NO. WCF 05-10
 CONTRACT 5
 GENERAL
CATHODIC PROTECTION SCHEDULES AND GENERAL NOTES

NO.	ISSUE	DATE	BY	RECORD DRAWINGS	DESIGNED	DRAWN	REVISION	CHECKED	FILE NAME
1		3/23/10	JLM	JLM	JLM	JLM	JLM	JLM	CONTR 5 CP1
2		2/12/07	JLM	JLM	JLM	JLM	JLM	JLM	CONTR 5 CP1
3		11/30/06	JLM	JLM	JLM	JLM	JLM	JLM	CONTR 5 CP1



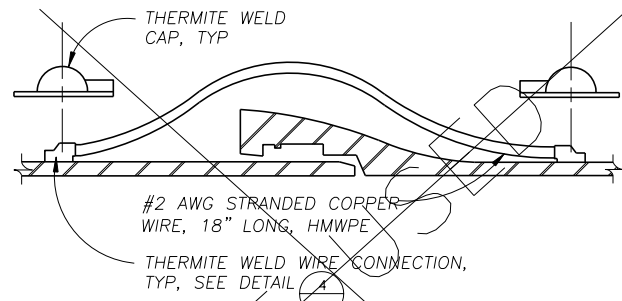
COATED STEEL PIPE STRAP JOINT BOND

NTS



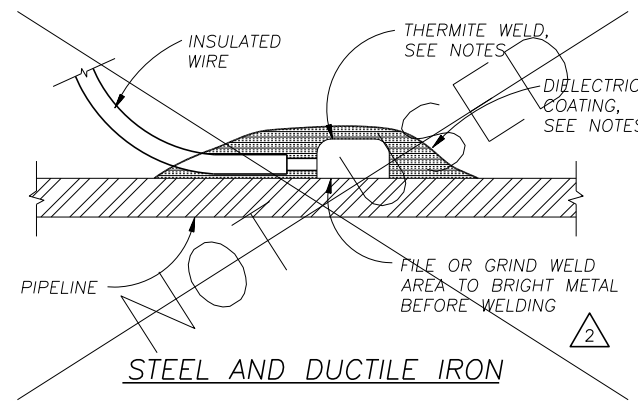
FLEXIBLE JOINT BOND

NTS



DUCTILE IRON JOINT BOND

NTS

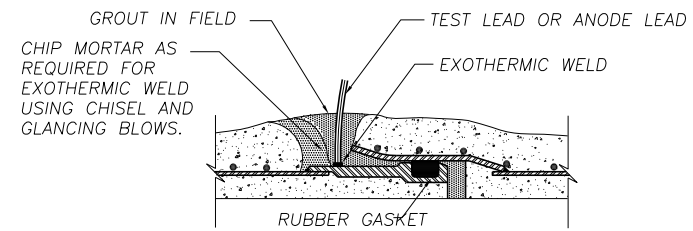


NOTES:

1. MAKE WIRE CONNECTION TO PIPE AT FIELD JOINT WHERE HOLDBACK OCCURS ON PIPELINE COATING.
2. MAINTAIN SEPARATION BETWEEN MULTIPLE TEST WIRE CONNECTIONS OF ONE PIPE DIA OR 24", WHICHEVER IS LESS.
3. COPPER SLEEVE REQUIRED FOR #2 AWG JOINT BONDS OR FOR #12 AWG OR SMALLER TEST WIRES.
4. WELDER AND CARTRIDGE SIZE VARIES ACCORDING TO PIPE SIZE AND PIPE MATERIAL, CONSULT WELDER MANUFACTURER FOR RECOMMENDED WELDER AND CARTRIDGE
5. COAT COMPLETED CONNECTIONS WITH FAST CURE EPOXY COATING OR AS SPECIFIED.
6. PIPELINE JOINT COATING NOT SHOWN ON STEEL AND DUCTILE IRON PIPE FOR CLARITY.

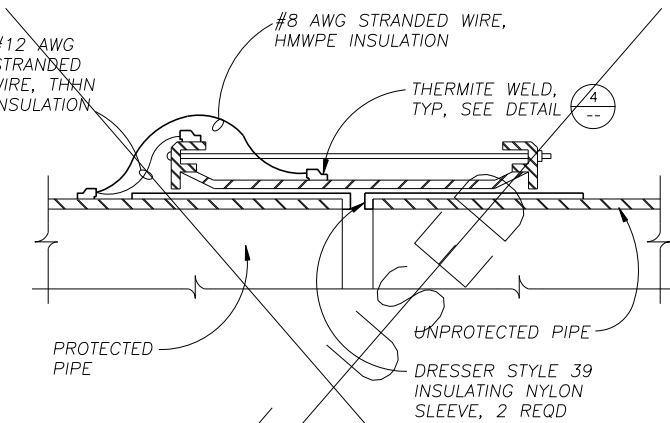
PIPELINE WIRE CONNECTIONS

NTS



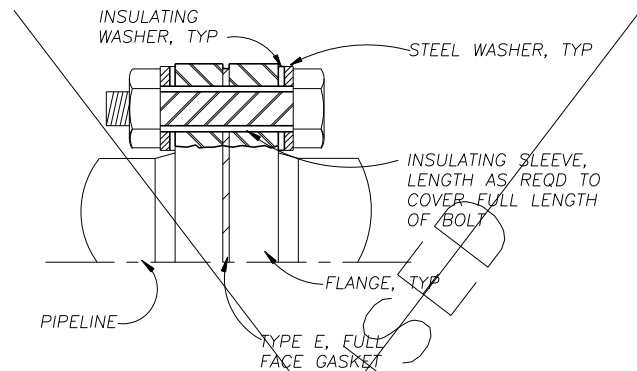
MLC STEEL OR PCCP PIPE JOINT BOND DETAIL

NTS



INSULATED FLEXIBLE COUPLING

NTS

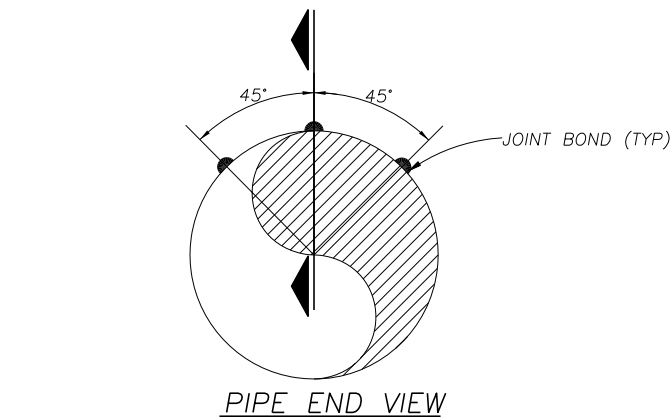


INSULATING FLANGE

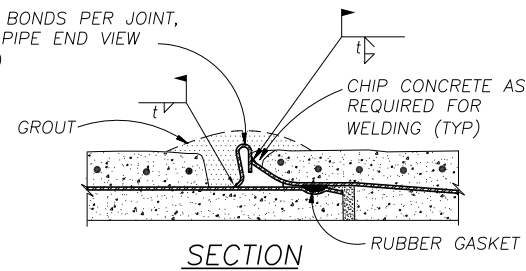
NTS

NOTES:

1. DOUBLE INSULATING WASHERS SHOWN FOR NON-BURIED INSULATING FLANGE INSTALLATIONS.
2. FOR BURIED OR SUBMERGED INSULATING FLANGE INSTALLATION USE SINGLE INSULATING WASHER ON UNPROTECTED SIDE OF INSULATING FLANGE.
3. COAT INTERIOR OF MORTAR LINED PIPE FOR TWO PIPE DIAMETERS WITH NSF APPROVED EPOXY AT 20 MILS DFT.
4. COAT BURIED OR IMMERSSED INSULATING FLANGES WITH SPECIFIED PIPELINE DIELECTRIC JOINT COATING OR HEAT SHRINK SLEEVE WITH MORTAR OVERCOAT ON MLC STEEL PIPE.
5. TEST COMPLETED JOINT FOR ELECTRICAL ISOLATION AND REPAIR AS REQUIRED.



3 - BONDS PER JOINT, SEE PIPE END VIEW (TYP)



- NOTE:
1. JOINT BONDING IS REQUIRED AT ALL RUBBER GASKETED JOINTS EXCEPT FIELD WELDED JOINTS.
 2. COAT BONDING CLIPS AND WELDS WITH FAST CURE EPOXY AT 15 MILS DRY FILM THICKNESS AFTER INSTALLATION.

MLC STEEL OR PCCP PIPE JOINT BOND DETAIL

NTS

This Record Drawing is a combination of the original design and any changes made during construction. The original design is the responsibility of the designer. The original design is the responsibility of the designer. The original design is the responsibility of the designer.

NOTES: THIS DRAWING IS THE PROPERTY OF THE DESIGNER AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM. WITHOUT THE WRITTEN PERMISSION OF THE DESIGNER, NO PART OF THIS DRAWING IS TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM.

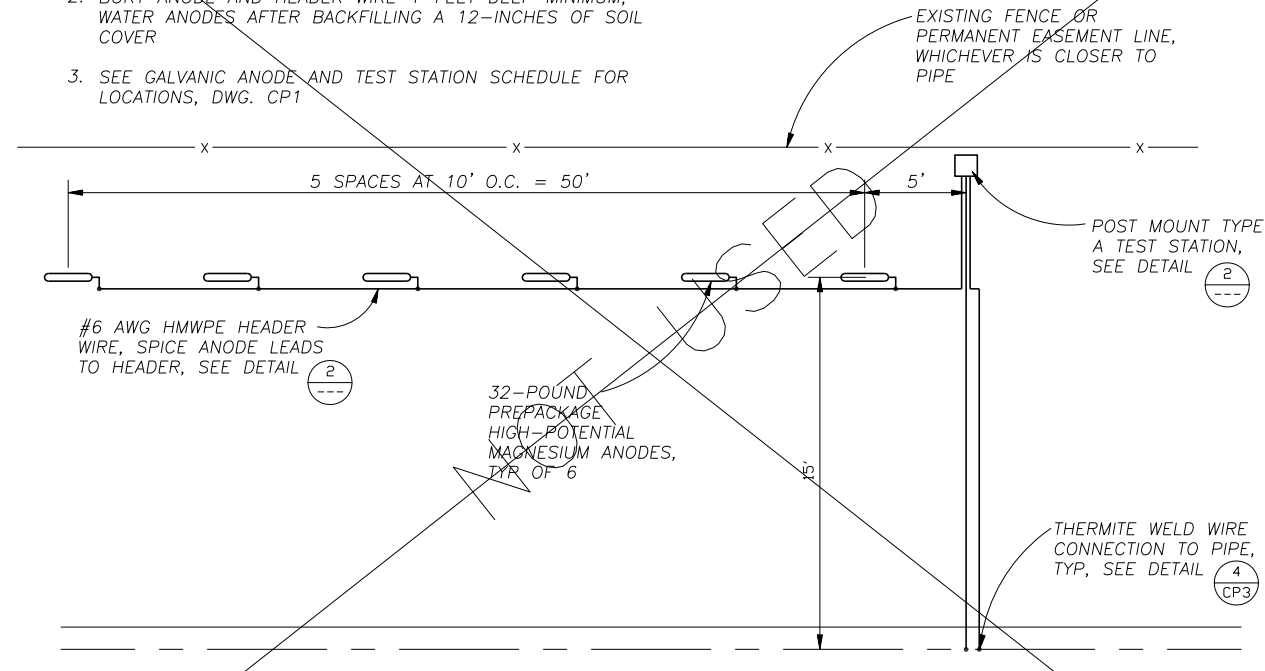
Freese and Nichols
116 N. Tennessee, Suite 200
McKinney, Texas 75069-4354
Phone - (972) 548-2400
Fax - (972) 548-1055

NORTH TEXAS MUNICIPAL WATER DISTRICT
LAKE TAWAKONI WATER SUPPLY PROJECT
WEST PIPELINE
PROJECT NO. WCF 05-10
CONTRACT 5
GENERAL
MISCELLANEOUS
CATHODIC PROTECTION DETAILS

TEAM JOB NO.	NTD05387	DATE	OCT 2006	DESIGNED	JLM	DRAWN	JLM	REVISION	FILE NAME	CONTR 5 CP3 Record.dwg
BY		DATE		DESIGNED	JLM	DRAWN	JLM	REVISION	FILE NAME	CONTR 5 CP3 Record.dwg
NO. ISSUE		DATE		DESIGNED	JLM	DRAWN	JLM	REVISION	FILE NAME	CONTR 5 CP3 Record.dwg
SHEET		DATE		DESIGNED	JLM	DRAWN	JLM	REVISION	FILE NAME	CONTR 5 CP3 Record.dwg
SEQ.		DATE		DESIGNED	JLM	DRAWN	JLM	REVISION	FILE NAME	CONTR 5 CP3 Record.dwg

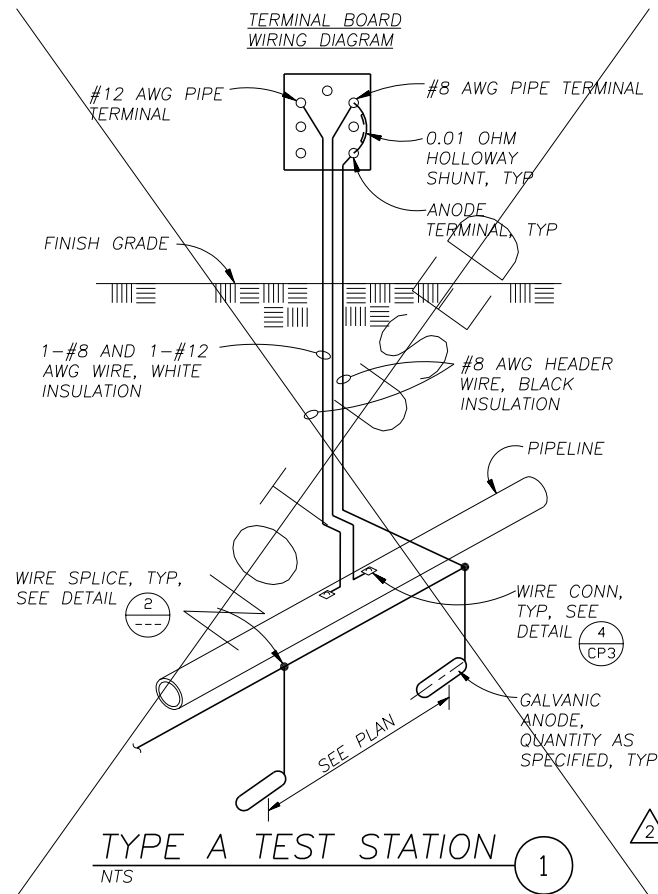
NOTES:

1. OFFSET TEST STATION TO EXISTING FENCE IF PRESENT, IF NO FENCE, PLACE TEST STATION OVER CENTERLINE OF PIPELINE.
2. BURY ANODE AND HEADER WIRE 4- FEET DEEP MINIMUM, WATER ANODES AFTER BACKFILLING A 12-INCHES OF SOIL COVER
3. SEE GALVANIC ANODE AND TEST STATION SCHEDULE FOR LOCATIONS, DWG. CP1



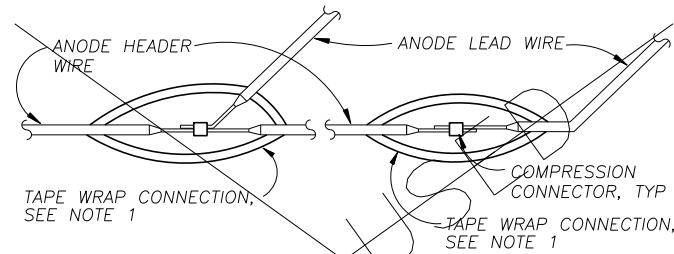
TYPICAL GALVANIC ANODE GROUNDBED INSTALLATION PLAN

NTS



TYPE A TEST STATION

NTS



NOTES:

1. FILL VOID AND SMOOTH IRREGULARITIES WITH INSULATING PUTTY. WRAP ENTIRE CONNECTION WITH TWO LAYERS OF SCOTCH 130C SELF VULCANIZING RUBBER TAPE. THEN WRAP WITH TWO LAYERS OF VINYL ELECTRICAL TAPE, SCOTCH 88.
2. DETAILSIMILAR FOR ANODE HEADER WIRE SPLICES, SIZE COMPRESSION CONNECTORS AS REQUIRED.

WIRE SPLICE

NTS



This Record Drawing is a combination of the original design and any changes made to this project, modified by information furnished by the contractor reflecting changes in the Project made during construction. The original sealed drawings are on file at the offices of FRESSE AND NICHOLS, INC. 408 W. WASHINGTON ST. FORT WORTH, TEXAS 76102-4695 (817) 735-7300 RECORD DRAWINGS PREPARED ON: 2/9/2009

NO SEAL THIS DRAWING APPEARED ON THIS DOCUMENT WAS IN THE ORIGINAL DESIGN OR AS A REVISION. THE SEAL OF THE ENGINEER IS AN INDICATION OF THE RESPONSIBILITY OF THE ENGINEER UNDER THE TEXAS ENGINEERING PRACTICE ACT.

Fresse and Nichols
 116 N. Tennessee, Suite 200
 McKinney, Texas 75069-4354
 Phone - (972) 548-2400
 Fax - (972) 548-1055

NORTH TEXAS MUNICIPAL WATER DISTRICT
LAKE TAWAKONI WATER SUPPLY PROJECT
 WEST PIPELINE
 PROJECT NO. WCF 05-10
 CONTRACT 5
 GENERAL
POLYURETHANE STEEL PIPE ALTERNATIVE
GALVANIC ANODE CATHODIC PROTECTION

NO. / SHEET	ISSUE	BY	DATE	TEAM JOB NO.	DESIGNED	DRAWN	REVISION	CHECKED	FILE NAME
CP-4				NTD05387	JLM	JLM		JLM	Contr 5 CP4
SEQ.				DATE	DATE	DATE	DATE	DATE	
0				OCT 2006	OCT 2006	3/23/10	11/30/06		
1	RECORD DRAWINGS	ECN							
2	ISSUED FOR CONSTRUCTION	JLM							
3	VERIFY SCALE								
4	Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.								

