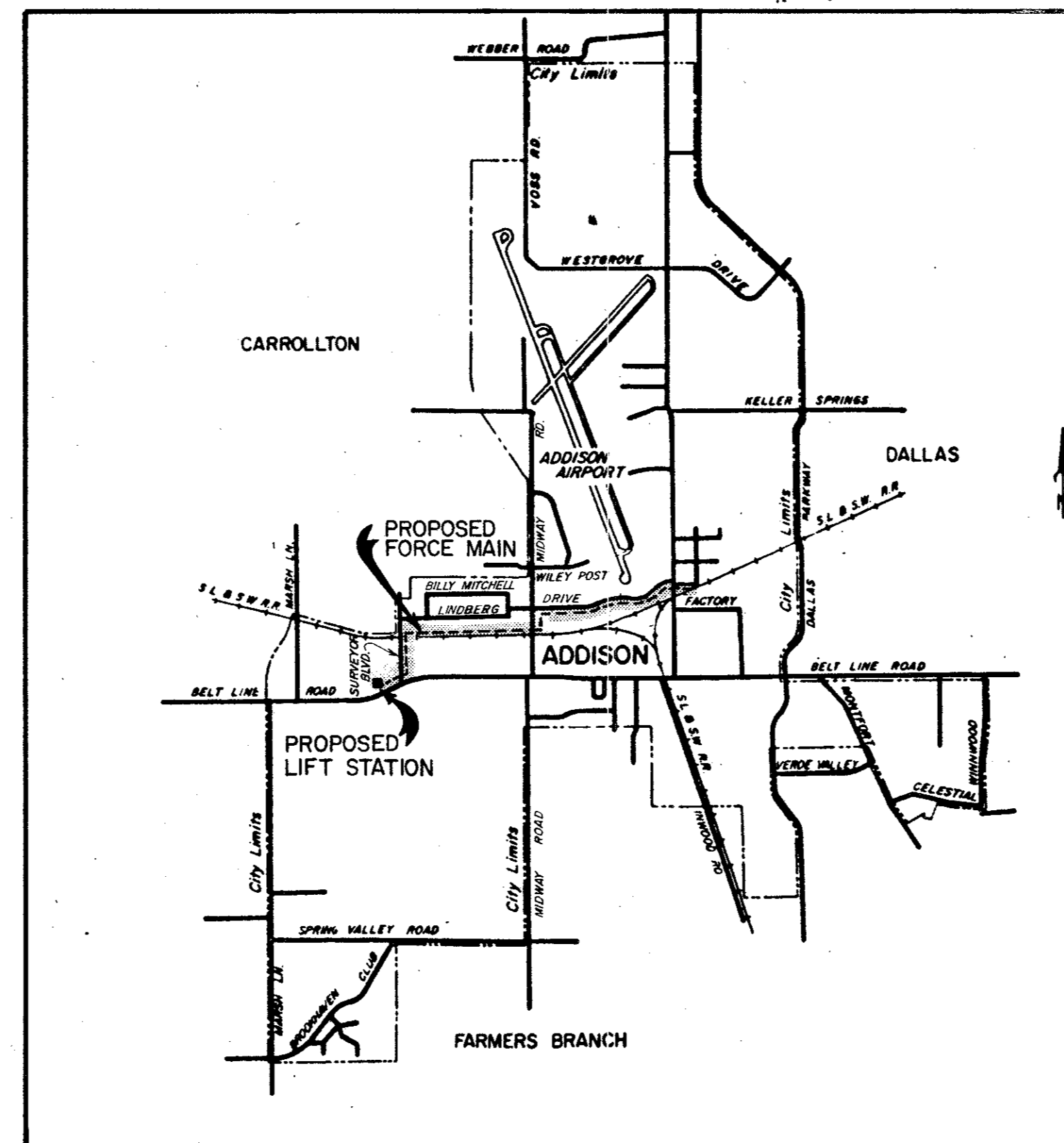


TOWN OF ADDISON DALLAS COUNTY, TEXAS

CONSTRUCTION PLANS FOR: RAWHIDE CREEK LIFT STATION AND FORCE MAIN



LOCATION MAP

AUGUST, 1992

SHEET INDEX

SHT. NO.	DESCRIPTION	STATIONING
1.	GENERAL NOTES	
2.	PLAN & PROFILE	STA. 1+10.00 TO STA. 10+10.00
3.	PLAN & PROFILE	STA. 10+10.00 TO STA. 20+30.00
4.	PLAN & PROFILE	STA. 20+30.00 TO STA. 30+35.00
5.	PLAN & PROFILE	STA. 30+35.00 TO STA. 39+40.00
6.	PLAN & PROFILE	STA. 39+40.00 TO STA. 48+50.00
7.	PLAN & PROFILE	STA. 48+50.00 TO STA. 60+00.00
8.	PLAN & PROFILE	STA. 60+00.00 TO STA. 70+40.00
9.	PLAN & PROFILE	STA. 70+40.00 TO STA. 79+19.50
10.	LIFT STATION DETAILS	
11.	SANITARY SEWER DETAILS	
12.	THRUST BLOCKING DETAILS	
13.	MISCELLANEOUS DETAILS	

MAYOR:
LYNN SPRUILL

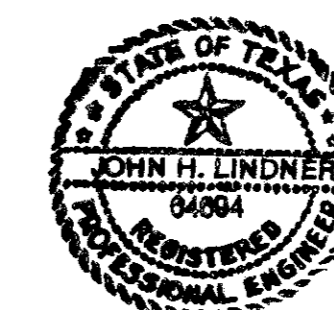
CITY COUNCIL:
RICH BECKERT
MARY DOLAN
SUSAN HALPERN
STEVEN V. MINSHEW
DICK WILKE

CITY ENGINEER:
JOHN BAUMGARTNER

DIRECTOR OF UTILITIES:
DON PREECE

AS BUILT

CARTER & BURGESS, INC.
ENGINEERS • PLANNERS • SURVEYORS
7950 ELMBROOK DRIVE / SUITE 250 / DALLAS, TEXAS 75247
(214) 638-0145 METRO (214) 263-2019



TOWN OF ADDISON

APPROVED BY: _____

DATE: _____

GENERAL NOTES

1. All sewer main construction shall conform to the minimum requirements of the Texas State Department of Health Rules and Regulations for public water and sewer systems.
2. All construction shall conform to the requirements as stated in the "Standard Specifications For Public Works Construction, North Central Texas Council of Governments" (latest edition).
3. All 8" force mains shall be Class 200, AWWA C900, P.V.C. pipe.
4. Depth of sewer line shall be adjusted as necessary to avoid conflicts with other underground utilities. No separate pay for use of vertical bends or additional depth of cut.
5. All mains shall be tested in accordance with City of Addison subdivision testing requirements as shown in the specifications. Force main shall be tested per water conduit requirements. Not a separate pay item.
6. All sanitary sewer pipe joints shall be SDR 35 PVC ASTM D3034 (green in color), unless otherwise noted.
7. The Contractor shall be required to provide and maintain all necessary warning and safety devices (flashing lights, barricades, signs, etc.) in accordance with Texas Manual on Uniform Traffic Control Devices to protect the public safety and health until all the work has been completed and accepted by the City. Not a separate pay item.
8. The locations of existing utilities indicated on these plans are taken from existing public records. The Contractor is solely responsible for verification of vertical and horizontal location of all utilities prior to construction. Additional utilities and services may be crossing proposed sanitary sewer line. Contractor shall notify all utility companies with facilities in project area 48 hours prior to construction. Contractor is responsible for repairing damage to existing utilities, whether shown or not shown on plans, at no additional cost to the City.
9. All expansion joints shall be subsidiary to pavement replacement.
10. All sawcuts are to be full depth unless otherwise indicated on plans.
11. All dimensions to curbline are referenced to the back of curb unless otherwise noted. Curb removal/replacement is subsidiary to pavement removal/replacement.
12. All trees shall be protected from damage unless specifically designated for removal on the plans.
13. All embedment and backfill to be included in the unit prices for installation of pipe.
14. The Contractor shall notify the following, five (5) days before starting work on the improvements shown on these plans.

a.	SW Bell Telephone	ENTERPRISE 9900
b.	GTE Telephone	(214) 318-3890
c.	TU Electric	(214) 323-8910
d.	Lone Star Gas	(214) 263-3444
e.	Storer Cable	(214) 840-2288
f.	Conoco Pipeline	(800) 833-6012
g.	Explorer Pipeline	(918) 493-5100
h.	Sprint	(800) 245-4545
15. The Contractor shall notify the following, five days before starting work on the improvements in order to coordinate construction, administration, and inspection activities.

a.	City of Addison-Construction Inspection	(214) 450-2847
----	---	----------------
16. The Contractor shall dispose of waste pavement, concrete, pipe, unacceptable soil, etc. in an approved offsite landfill. This shall be subsidiary to the unit price of pipe installation.
17. Unpaved areas disturbed by construction are to be hydromulched or sodded, fertilized and watered per MOCOG specifications. No separate payment for seeding, sodding, fertilizing, watering and related work. All costs for this work are considered incidental and are to be included in the unit prices for installation of pipe.
18. All sprinkler systems and related components of sprinkler systems and fences, signs, etc. disturbed by construction are to be restored to existing condition. No separate payment for this work. All costs are considered incidental and are to be included in the unit prices for installation of pipe.
19. Contractor, at his own expense, shall be responsible for the repair of any facility damaged, and immediate notice shall be given to property owner and repaired within four hours.
20. Unless otherwise noted, all materials will conform to the "Standard Specifications for Public Works Construction for North Central Texas", (latest edition) and the Town of Addison.
21. In the event an item is not covered in the Specifications, the City Engineer's decision will apply.
22. Where sanitary sewer pressure pipe parallels water a minimum clearance of 2.0' vertical and 4.0' horizontal shall be maintained. Where sewer line crosses existing water line a minimum of 6' clearance shall be maintained with one joint of sewer pipe centered on water line.
23. Trench excavation for trenches 5 feet or more in depth shall be in accordance with all provisions of Part 1926, Subpart P - Excavations, Trenching and Shoring of the Occupational Safety and Health's Standards and Interpretations. It shall be the responsibility of the Contractor to conform to the above provisions.
24. The Contractor shall maintain continuous mail service to all residences in the construction area. Should it become necessary to remove existing mail boxes the Contractor shall erect temporary facilities and coordinate delivery with the Postmaster. Following construction, the Contractor shall permanently replace all mail boxes in accordance with U.S. Postal regulations.

Maintaining continuous mail service, establishment of temporary facilities, and permanent replacement of mail boxes after construction are subsidiary to the item being installed.
25. If temporary sanitary sewer by-pass is required, the Contractor shall coordinate with the City of Addison Department of Public Works five (5) working days prior to anticipated shut-down. Prior to installing the by-pass lines, the Contractor shall have on site all men, materials and equipment necessary to complete the by-pass without delays. The by-pass assemblies shall be fully assembled and ready for installation prior to shut-down of the existing system. Any required temporary by-passing shall be considered incidental and not a separate pay item.


26. Thrust blocking required at all bends unless otherwise indicated on plans and shall be included in unit price of pipe installation.
27. A minimum of 2.5' of cover shall be maintained unless otherwise shown on plans.
28. All force main pipe shall be white in color.
29. Terra-Tape required the length of force main installed one (1) foot above main. Tape to read "Sanitary Sewer".
30. Contractor shall maintain access to properties and shall repair driveways within forty-eight (48) hours of pavement removal. For all pavement replacement use Type I cement with appropriate ASTM C494 admixtures.
31. Contractor shall obtain Fire Department and Street Cutting Permits.

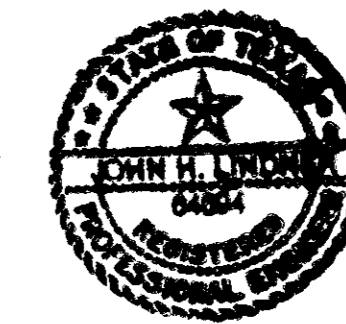
BENCH MARKS

- B.M. #1. CUT "I" ON FACE OF INLET ALONG WEST SIDE OF SURVEYOR BLVD. IN FRONT OF ADVANTAGE PRINTING AT 15107 SURVEYOR BLVD. ELEV. ~~609.56~~ 595.35 Δ
- B.M. #2. CUT "I" ON TOP OF CURB ALONG WEST SIDE OF MIDWAY RD. IN FRONT OF ILAMI FURNITURE AT 15203 MIDWAY RD. ELEV. ~~619.89~~ 618.90 Δ
- B.M. #3. CUT "I" ON TOP OF CURB AT NORTHWEST CORNER OF ADDISON RD. AND BROADWAY STREET. ELEV. ~~630.49~~ 631.67 Δ

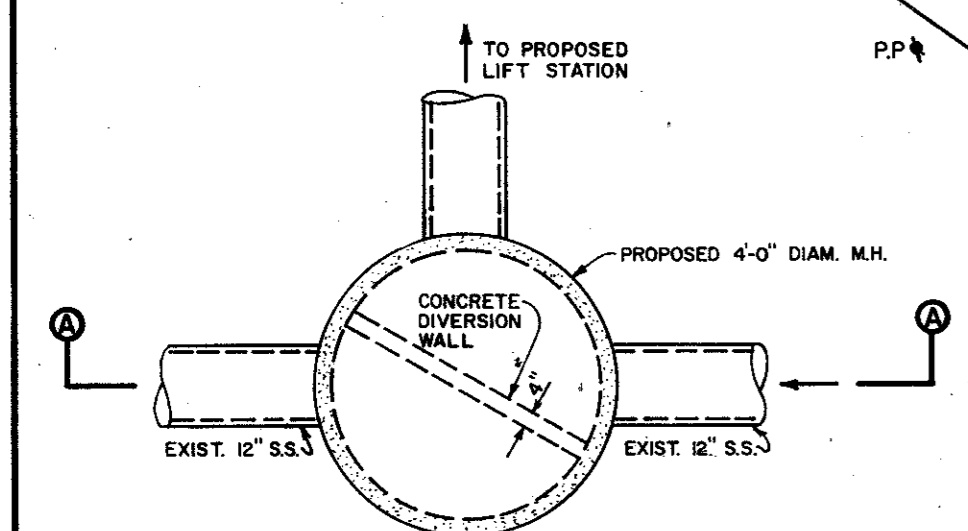
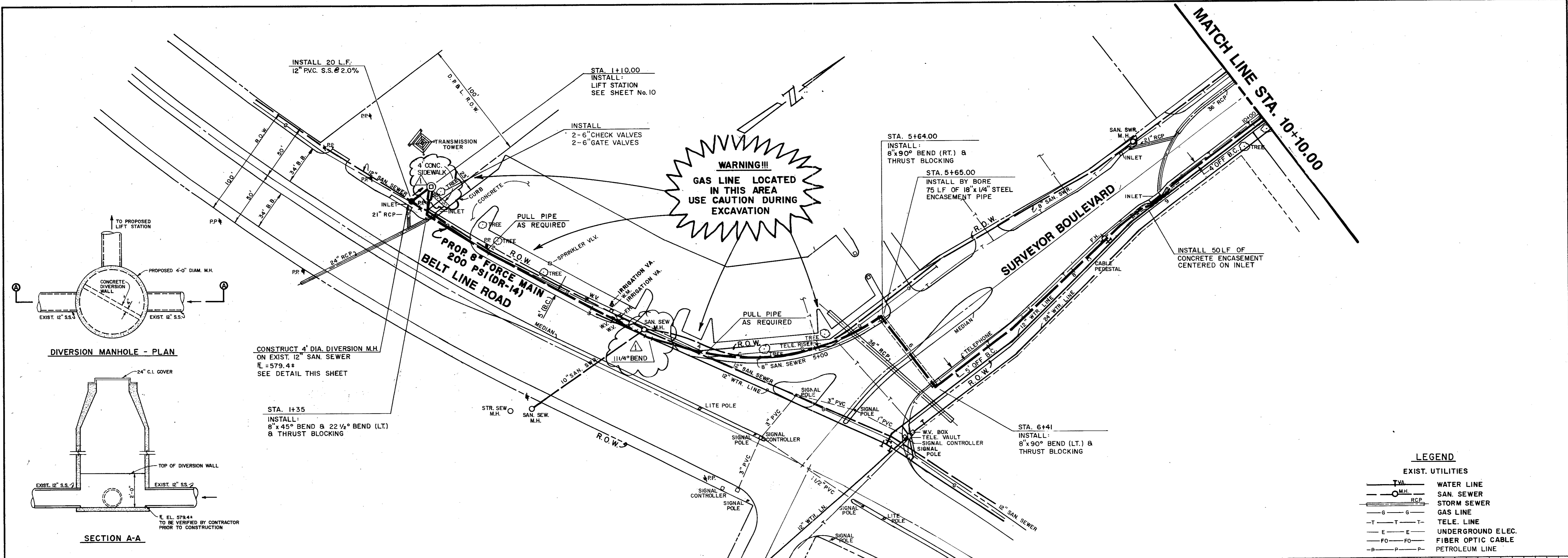
ESTIMATED QUANTITIES			
ITEM	DESCRIPTION	UNIT	QUANTITY
1	8" PVC (DR-14) FORCE MAIN INCLUDING EXCAVATION, EMBEDMENT, BACKFILL AND THRUST BLOCKING	LF	7671
2	CAST IRON FITTINGS	TON	1.95
3	CONCRETE ENCASEMENT	LF	50
4	12" PVC (SDR-35) SANITARY SEWER	LF	151
5	18" STEEL CASING PIPE BY BORE	LF	469
6	6" D.I.P. FORCE MAIN	LF	16
7	SUBMERSIBLE SEWAGE LIFT STATION INCLUDING WET WELL, 2-500 GPM PUMPS, CONTROL PANELS, ELECTRICAL CONDUIT, WIRING, INTERNAL PIPING, HATCHES, RAILS, ETC.	LS	1
8	6" GATE VALVE WITH BOX	EA	2
9	6" CHECK VALVE	EA	2
10	2" AIR RELEASE VALVE AND MANHOLE	EA	4
11	REMOVE AND REPLACE CONCRETE PAVEMENT INCLUDING CURB AND STABILIZED SUBGRADE	SY	1102
12	REMOVE AND REPLACE ASPHALT PAVEMENT INCLUDING CURB AND STABILIZED SUBGRADE	SY	452
13	INSTALL 4-FOOT DIAMETER MANHOLE	EA	2
14	CONNECT TO EXISTING MANHOLE	EA	1
15	SAW CUTTING PAVEMENT	LF	3757
16	FURNISH, INSTALL AND IMPLEMENT TRENCH SAFETY SYSTEM	LF	7361
17	FURNISH TRENCH SAFETY DESIGN	LS	1

AS BUILT

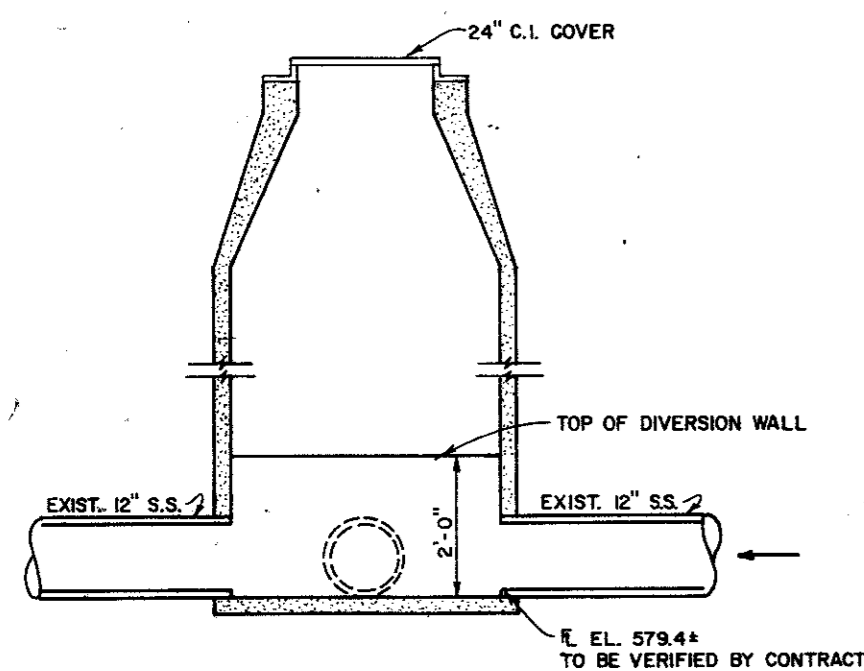
10-13-92	CORRECT B.M. ELEVATIONS	J.D.W.	D.L.M.	J.H.L.
DATE	REVISION	MADE	BY	APPD.
 CARTER & BURGESS, INC. ENGINEERS • PLANNERS • SURVEYORS DALLAS TEXAS				
RAWHIDE CREEK LIFT STATION AND FORCE MAIN GENERAL NOTES				
TOWN OF ADDISON, TEXAS				
DESIGN	DRAWN	CHKD.	SCALE	DATE
McFALL	BARR HALEN	LINDNER		AUG. 92
FILE	NO.			
01-14-57	1 of 13			



John H. Lindner
8/17/92



DIVERSION MANHOLE - PLAN



SECTION A-A

CONSTRUCT 4' DIA. DIVERSION M.H. ON EXIST. 12" SAN. SEWER
 E = 579.4±
 SEE DETAIL THIS SHEET

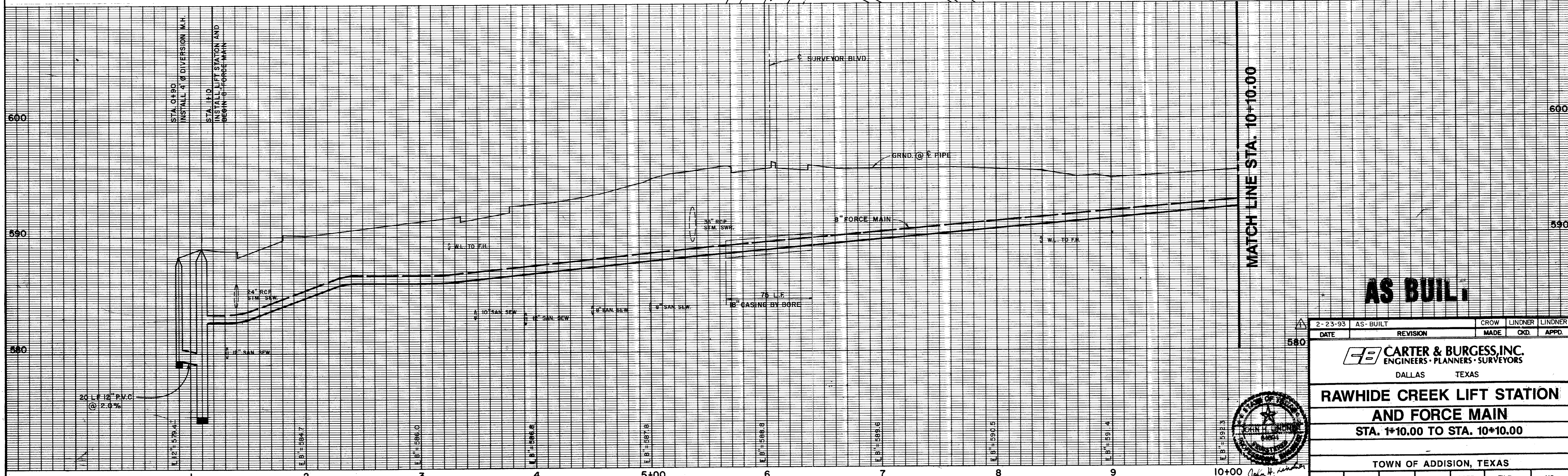
STA. 1+35
 INSTALL:
 8"x45° BEND & 22 1/2° BEND (LT.) & THRUST BLOCKING

WARNING!!!
 GAS LINE LOCATED IN THIS AREA USE CAUTION DURING EXCAVATION

LEGEND

EXIST. UTILITIES

— W —	WATER LINE
— S —	SAN. SEWER
— RCP —	STORM SEWER
— G —	GAS LINE
— T —	TELE. LINE
— E —	UNDERGROUND ELEC.
— FO —	FIBER OPTIC CABLE
— P —	PETROLEUM LINE



AS BUILT

2-23-93	AS-BUILT	CROW	LINDNER	LINDNER
DATE	REVISION	MADE	CKD.	APPD.
RAWHIDE CREEK LIFT STATION AND FORCE MAIN STA. 1+10.00 TO STA. 10+10.00				
TOWN OF ADDISON, TEXAS				
DESIGN	DRAWN	CKD.	SCALE	DATE
McFALL	BARR HULEN	LINDNER	1"=40' H. 1"=4' V.	AUG., 92
FILE	NO.			
01-1457	2 of 13			

MATCH LINE STA. 10+10.00

MATCH LINE STA. 20+30.00

WARNING!!!
PETROLEUM LINES LOCATED
IN THIS AREA
USE CAUTION DURING
EXCAVATION

WARNING!!!
GAS & FIBER OPTIC LINES
LOCATED IN THIS AREA
USE CAUTION DURING
EXCAVATION

WARNING!!!
UNDERGROUND ELECTRIC
LOCATED IN THIS AREA
USE CAUTION DURING
EXCAVATION

ST. LOUIS & SOUTHWESTERN
RAILROAD

ST. LOUIS & SOUTHWESTERN RAILROAD

SURVEYOR BOULEVARD

PROP 8" FORCE MAIN
200 PSI (DR-14)

CITY OF ADDISON
WATER PUMP STATION

MATCH LINE STA. 16+05.00

MATCH LINE STA. 16+05.00

- LEGEND**
- EXIST. UTILITIES
- W— WATER LINE
 - S— SAN SEWER
 - R— STORM SEWER
 - G— GAS LINE
 - T— TELE. LINE
 - E— UNDERGROUND ELEC.
 - FO— FIBER OPTIC CABLE
 - P— PETROLEUM LINE

STA. 14+74
INSTALL BY BORE 100 L.F.
OF 18" x 1/4" STEEL ENCASMENT
PIPE.

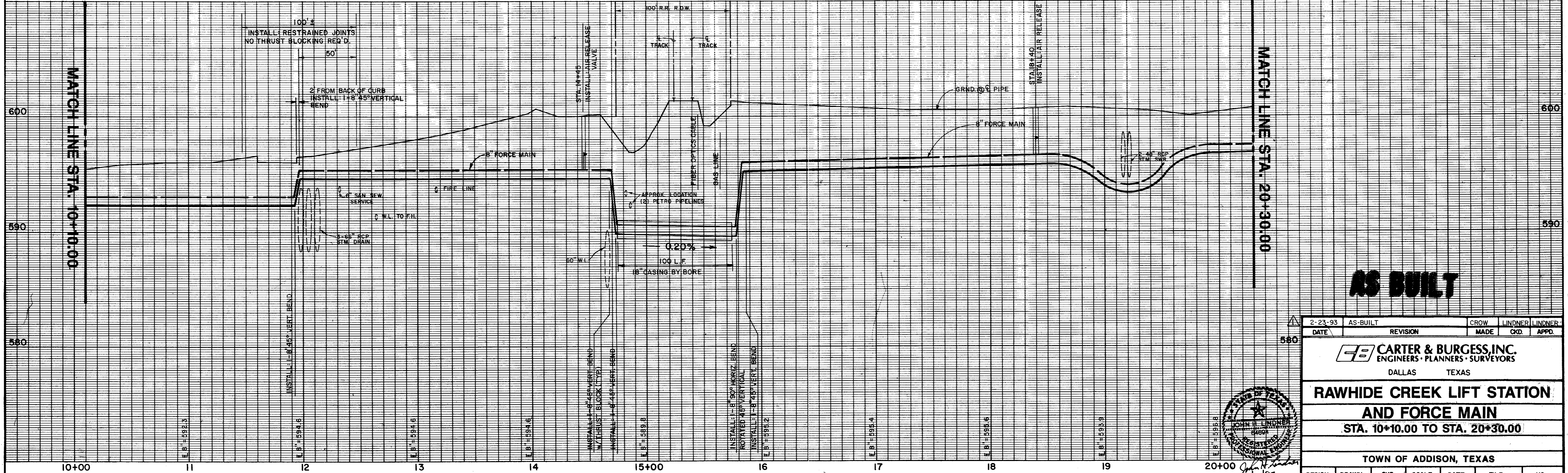
STA. 14+39
INSTALL:
8" x 90° BEND (LT.) &
THRUST BLOCKING

STA. 14+04
INSTALL: 1- 8" x 90° BEND (RT.)
AND THRUST BLOCKING

STA. 15+77
INSTALL: 1- 8" x 90° BEND (RT.)
AND THRUST BLOCKING

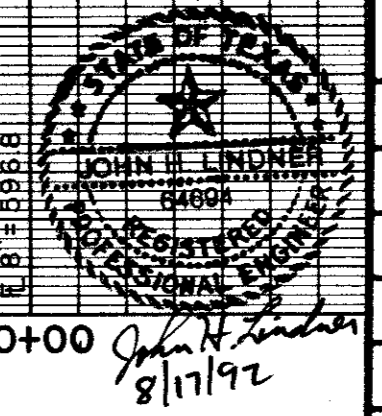
STA. 18+40
INSTALL: AIR RELEASE
VALVE

50' DRAINAGE EASEMENT

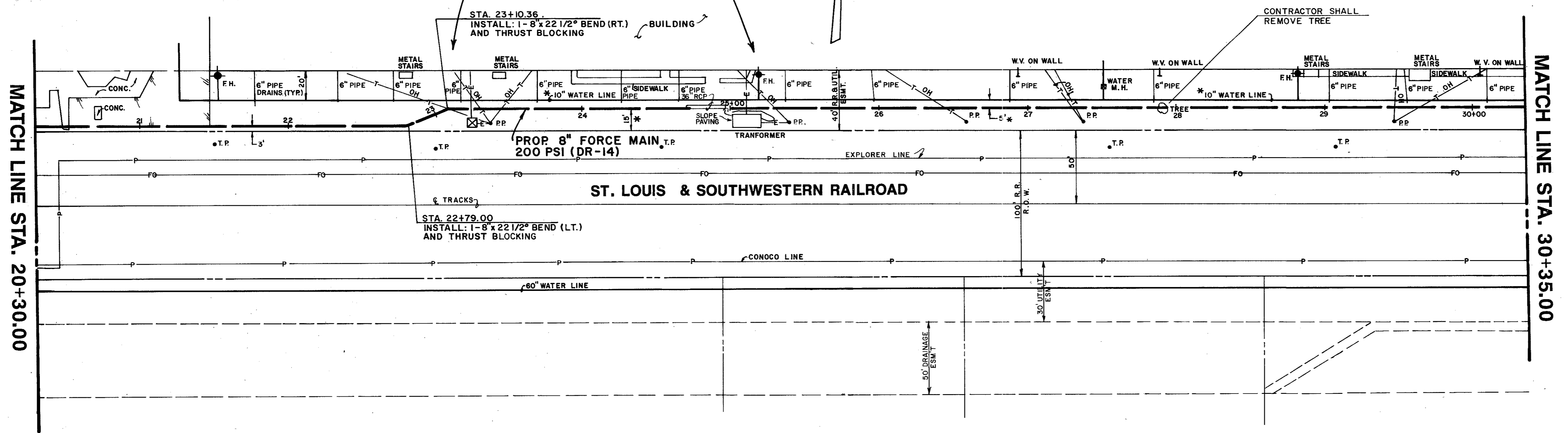


AS BUILT

2-23-93	AS-BUILT	CROW	LINDNER	LINDNER
DATE	REVISION	MADE	CKD.	APPD.
CARTER & BURGESS, INC. ENGINEERS · PLANNERS · SURVEYORS DALLAS TEXAS				
RAWHIDE CREEK LIFT STATION AND FORCE MAIN STA. 10+10.00 TO STA. 20+30.00				
TOWN OF ADDISON, TEXAS				
DESIGN	DRAWN	CKD.	SCALE	DATE
McFALL	BARR HULEN	LINDNER	1"=40'H. 1/4"=1' V.	AUG. 92
FILE	NO.			
01-1457	3 of 33			



WARNING!!!
 UNDERGROUND ELECTRIC
 LOCATED IN THIS AREA
 USE CAUTION DURING
 EXCAVATION

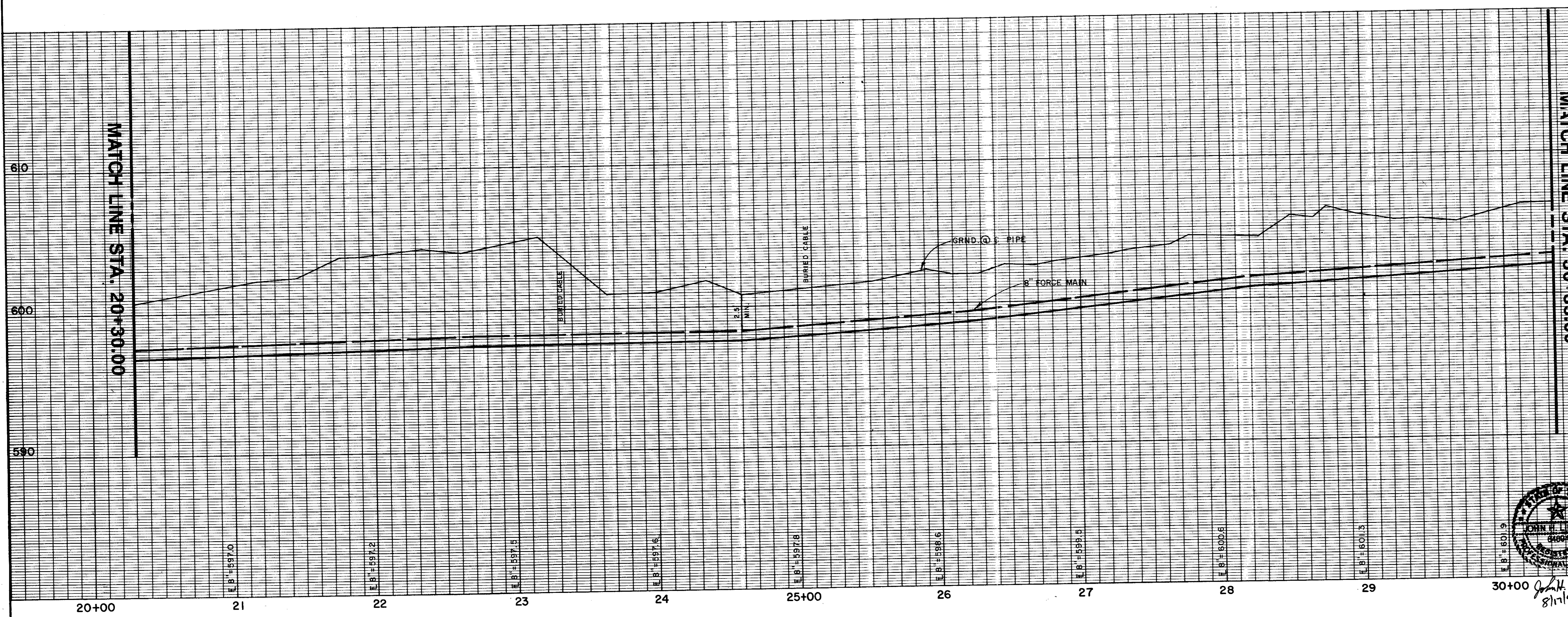


LEGEND

EXIST. UTILITIES

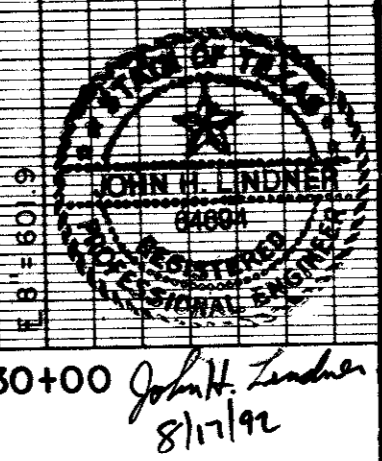
—TW—	WATER LINE
—OM—	SAN. SEWER
—RCP—	STORM SEWER
—G—G—	GAS LINE
—T—T—T—	TELE. LINE
—E—E—	UNDERGROUND ELEC.
—FO—FO—	FIBER OPTIC CABLE
—P—P—P—	PETROLEUM LINE

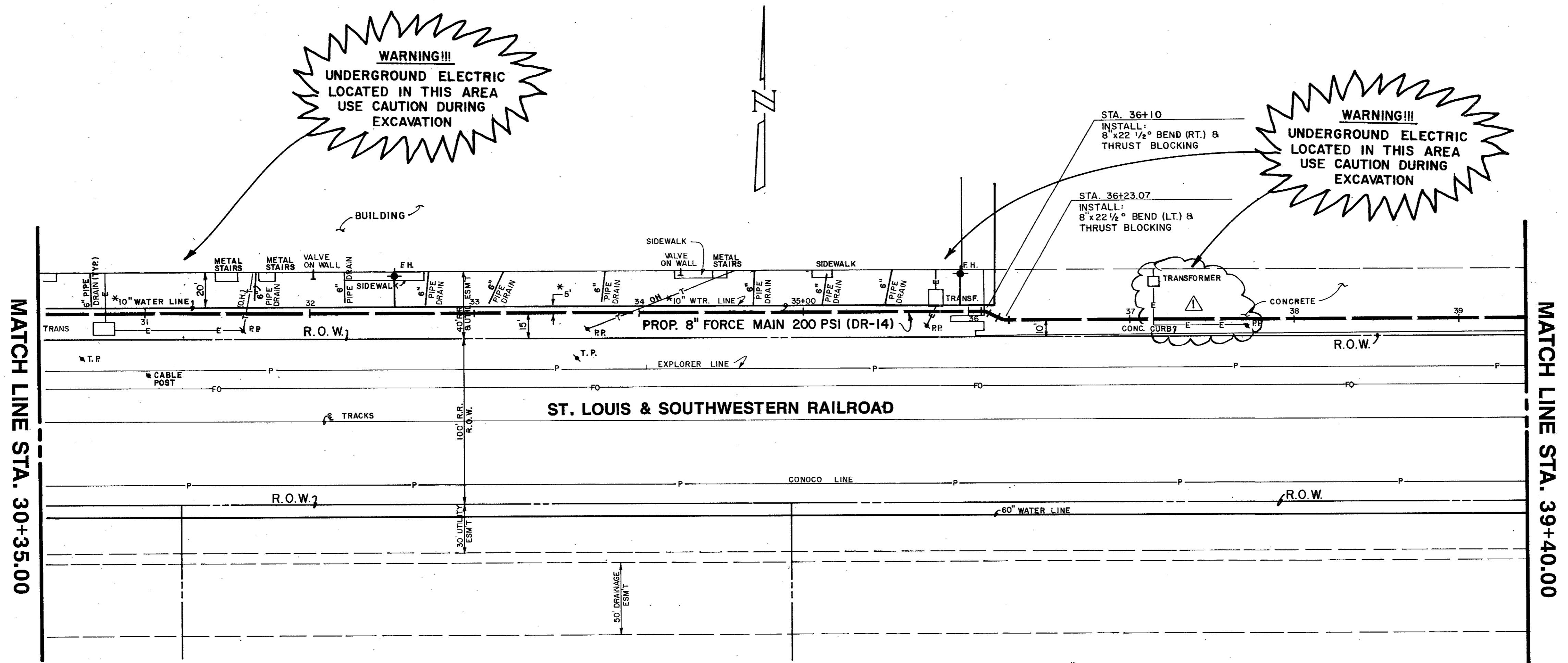
* CONTRACTOR TO LOCATE EXISTING 10" W.L. AND MAINTAIN A MINIMUM OF 4' CLEARANCE.



AS BUILT

DATE	REVISION	MADE	CKD.	APPD.		
RAWHIDE CREEK LIFT STATION AND FORCE MAIN STA. 20+30.00 TO STA. 30+35.00						
TOWN OF ADDISON, TEXAS						
DESIGN	DRAWN	CKD.	SCALE	DATE	FILE	NO.
McFALL	BARR HULEN	LINDNER	1"=40'H, 1"=4'V.	AUG., 92	01-1457	4 of 13





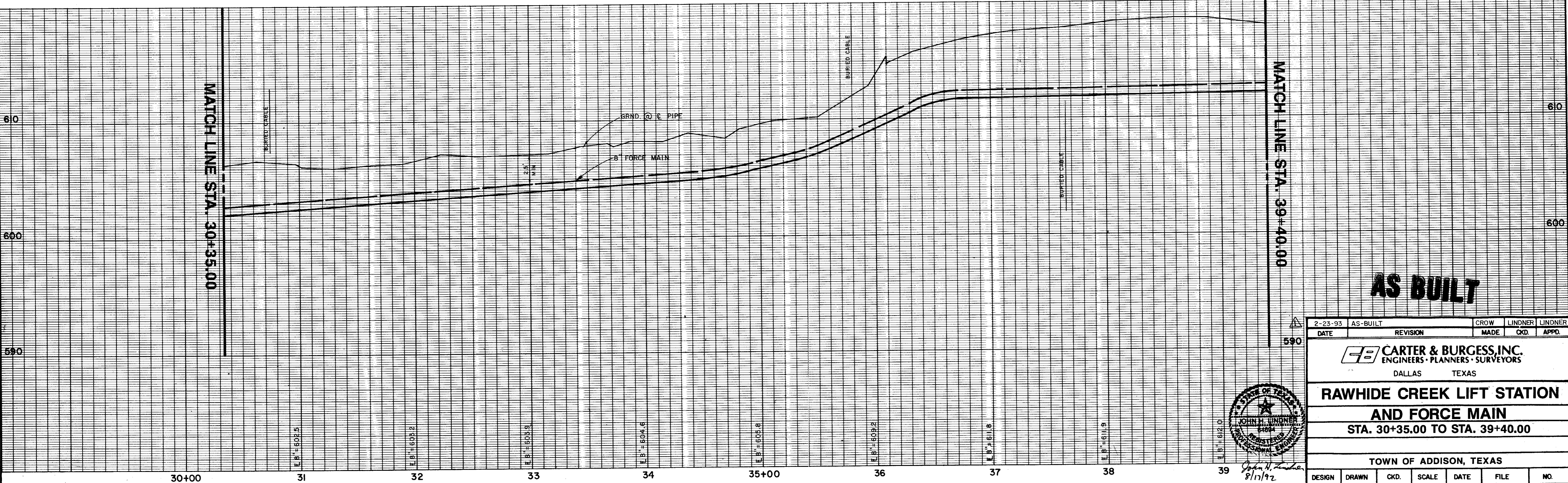
WARNING!!!
 UNDERGROUND ELECTRIC
 LOCATED IN THIS AREA
 USE CAUTION DURING
 EXCAVATION

WARNING!!!
 UNDERGROUND ELECTRIC
 LOCATED IN THIS AREA
 USE CAUTION DURING
 EXCAVATION

LEGEND
 EXIST. UTILITIES

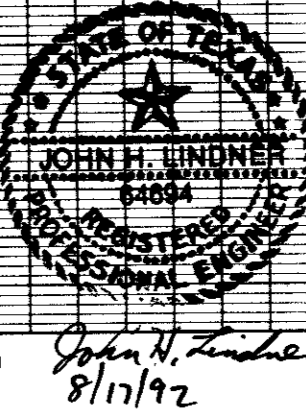
— TWA —	WATER LINE
— S —	SAN SEWER
— RCP —	STORM SEWER
— G —	GAS LINE
— T —	TELE. LINE
— E —	UNDERGROUND ELEC.
— FO —	FIBER OPTIC CABLE
— P —	PETROLEUM LINE

* CONTRACTOR TO LOCATE EXISTING 10" W.L.
 AND MAINTAIN A MINIMUM OF 4' CLEARANCE.

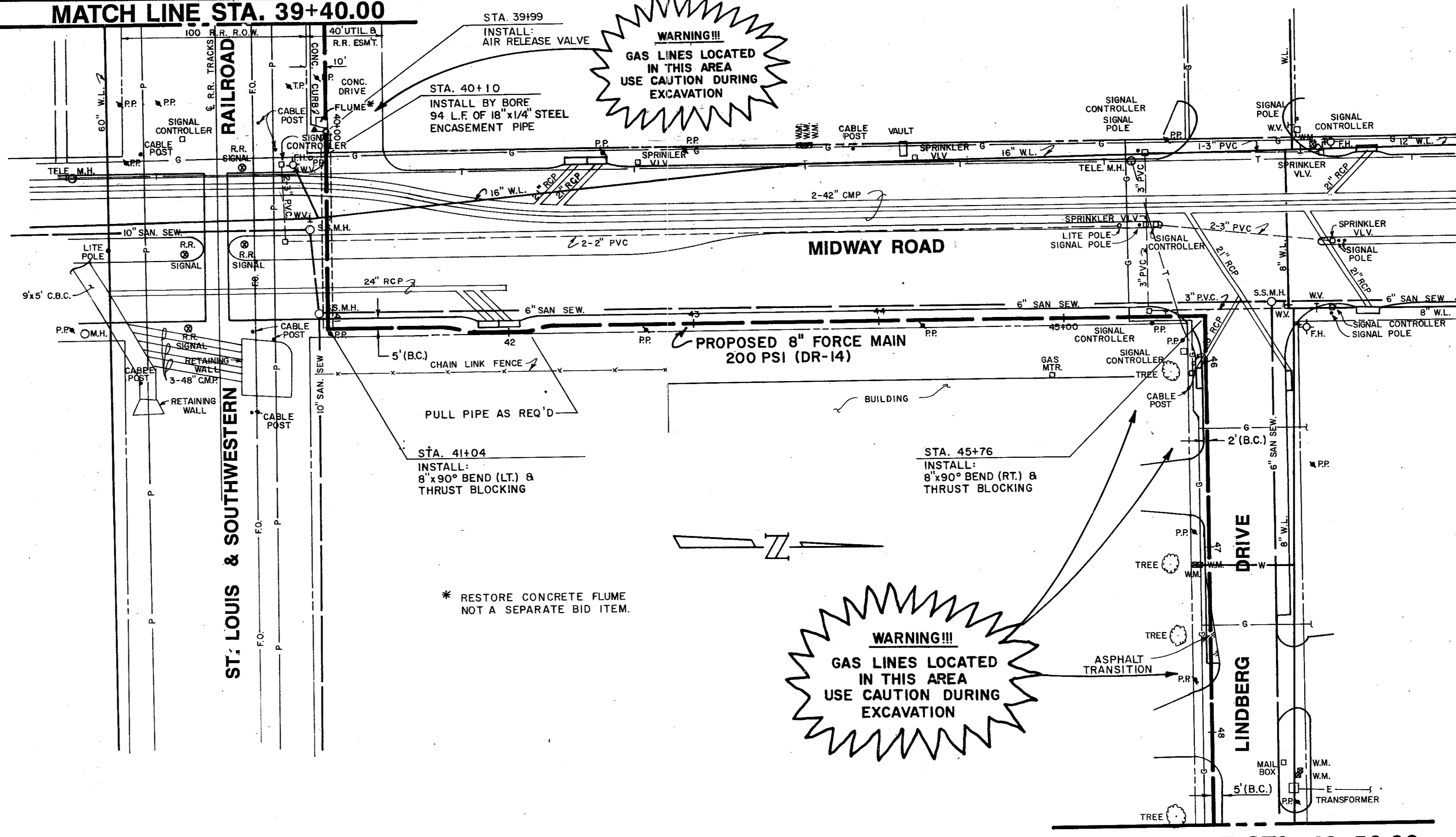


AS BUILT

2-23-93	AS-BUILT	CROW	LINDNER	LINDNER
DATE	REVISION	MADE	CHKD.	APPD.
RAWHIDE CREEK LIFT STATION AND FORCE MAIN STA. 30+35.00 TO STA. 39+40.00				
TOWN OF ADDISON, TEXAS				
DESIGN	DRAWN	CKD.	SCALE	DATE
McFALL	BARR HULEN	LINDNER	1"=40'H. 1"=4'V.	AUG., 92
FILE	NO.			
01-1457	5 of 13			



MATCH LINE STA. 39+40.00

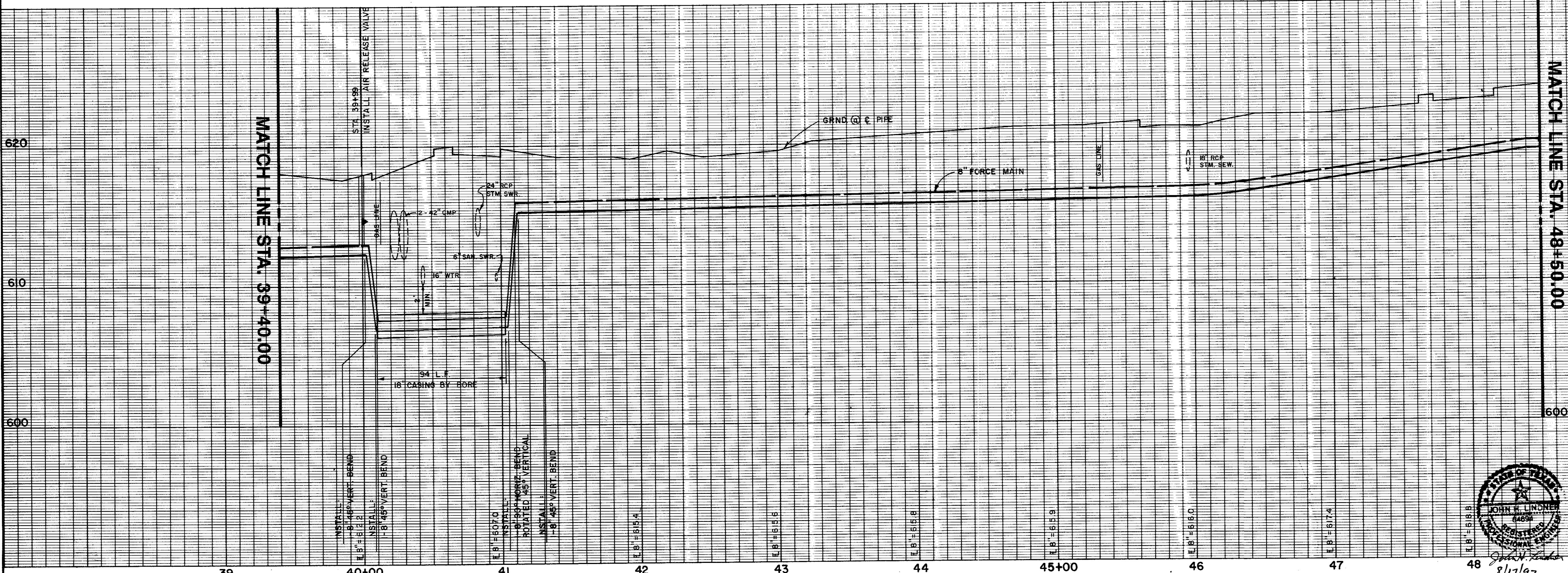


MATCH LINE STA. 48+50.00

LEGEND

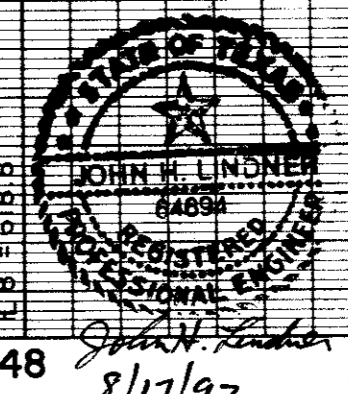
EXIST. UTILITIES

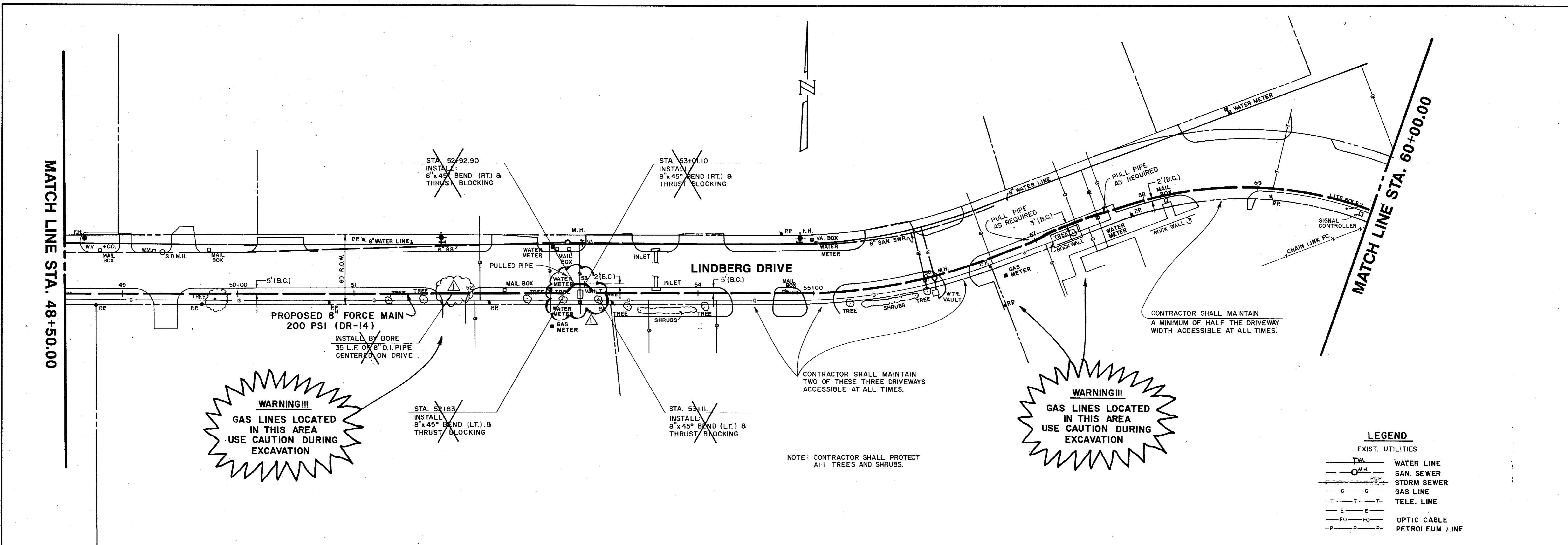
—	WATER LINE
—	SAN. SEWER
—	STORM SEWER
—	GAS LINE
—	TELE. LINE
—	UNDERGROUND ELEC.
—	FIBER OPTIC CABLE
—	PETROLEUM LINE



AS BUILT

DATE	REVISION	MADE	CHKD.	APPD.		
RAWHIDE CREEK LIFT STATION AND FORCE MAIN STA. 39+40.00 TO STA. 48+50.00						
TOWN OF ADDISON, TEXAS						
DESIGN	DRAWN	CHKD.	SCALE	DATE	FILE	NO.
McFALL	BARR HULEN	LINDNER	1"=40'H. 1"=4'V.	AUG. 92	01-1457	6 OF 13





WARNING!!!
 GAS LINES LOCATED
 IN THIS AREA
 USE CAUTION DURING
 EXCAVATION

WARNING!!!
 GAS LINES LOCATED
 IN THIS AREA
 USE CAUTION DURING
 EXCAVATION

LEGEND

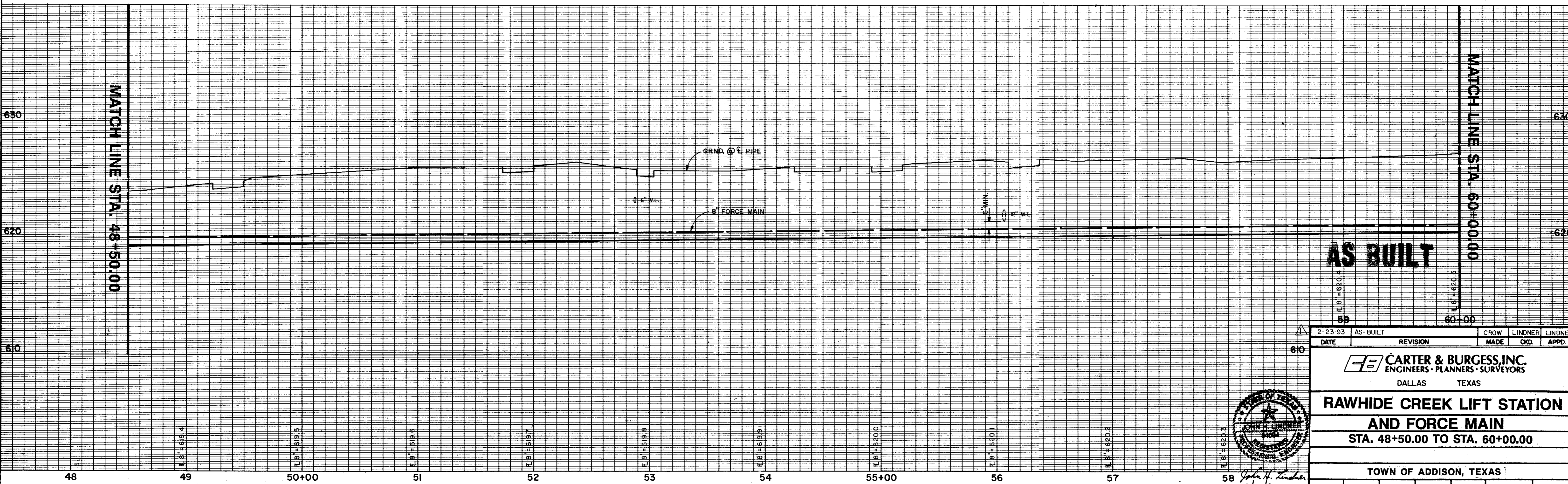
EXIST. UTILITIES

—TVA—	WATER LINE
—M.H.—	SAN. SEWER
—RCP—	STORM SEWER
—G—G—	GAS LINE
—T—T—	TELE. LINE
—E—E—	OPTIC CABLE
—FO—FO—	PETROLEUM LINE

NOTE: CONTRACTOR SHALL PROTECT ALL TREES AND SHRUBS.

CONTRACTOR SHALL MAINTAIN A MINIMUM OF HALF THE DRIVEWAY WIDTH ACCESSIBLE AT ALL TIMES.

CONTRACTOR SHALL MAINTAIN TWO OF THESE THREE DRIVEWAYS ACCESSIBLE AT ALL TIMES.



AS BUILT

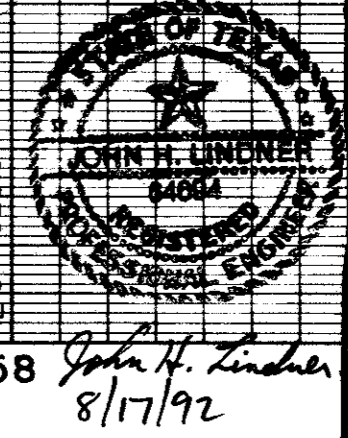
DATE	AS-BUILT	REVISION	CROW	LINDNER	LINDNER
MADE	CKD.	APPD.			

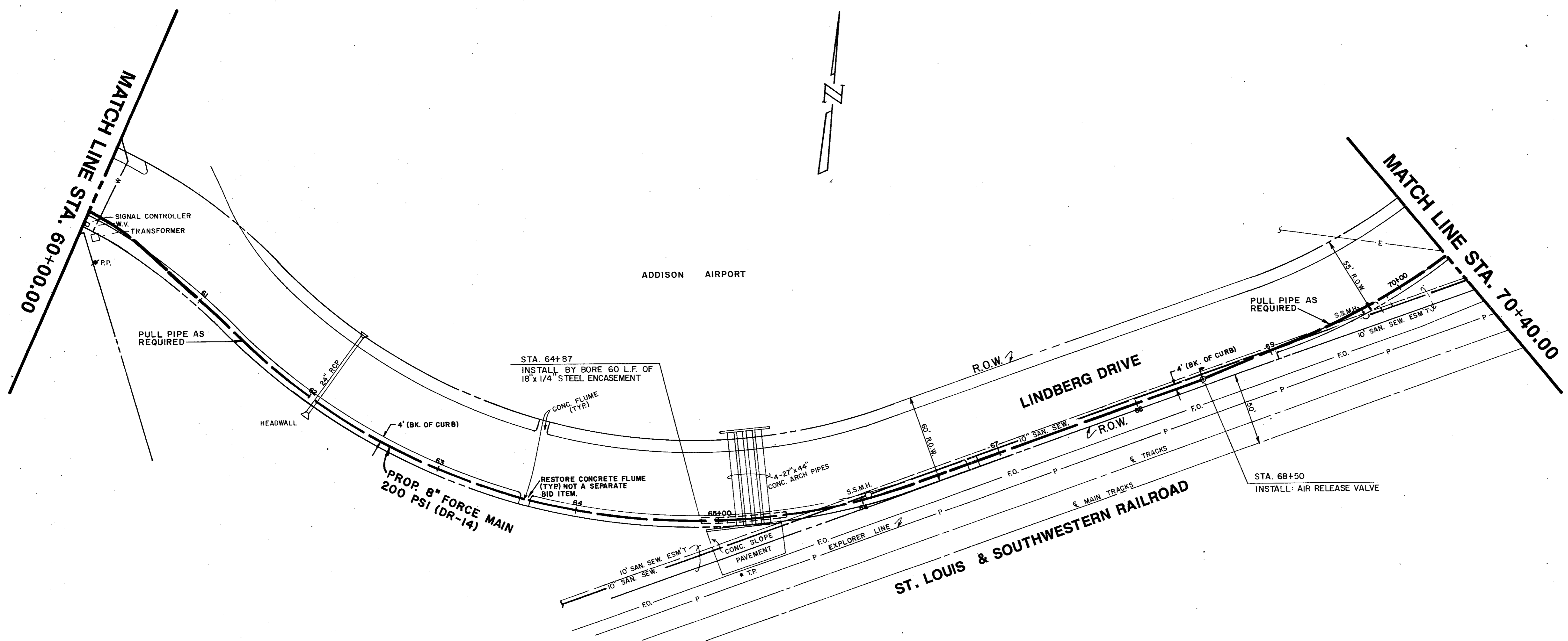
CARTER & BURGESS, INC.
 ENGINEERS · PLANNERS · SURVEYORS
 DALLAS TEXAS

**RAWHIDE CREEK LIFT STATION
 AND FORCE MAIN
 STA. 48+50.00 TO STA. 60+00.00**

TOWN OF ADDISON, TEXAS

DESIGN	DRAWN	CKD.	SCALE	DATE	FILE	NO.
McFALL	BARR HULEN	LINDNER	1"=40'H, 1"=4'V.	AUG. 92	01-1457	7 of 13

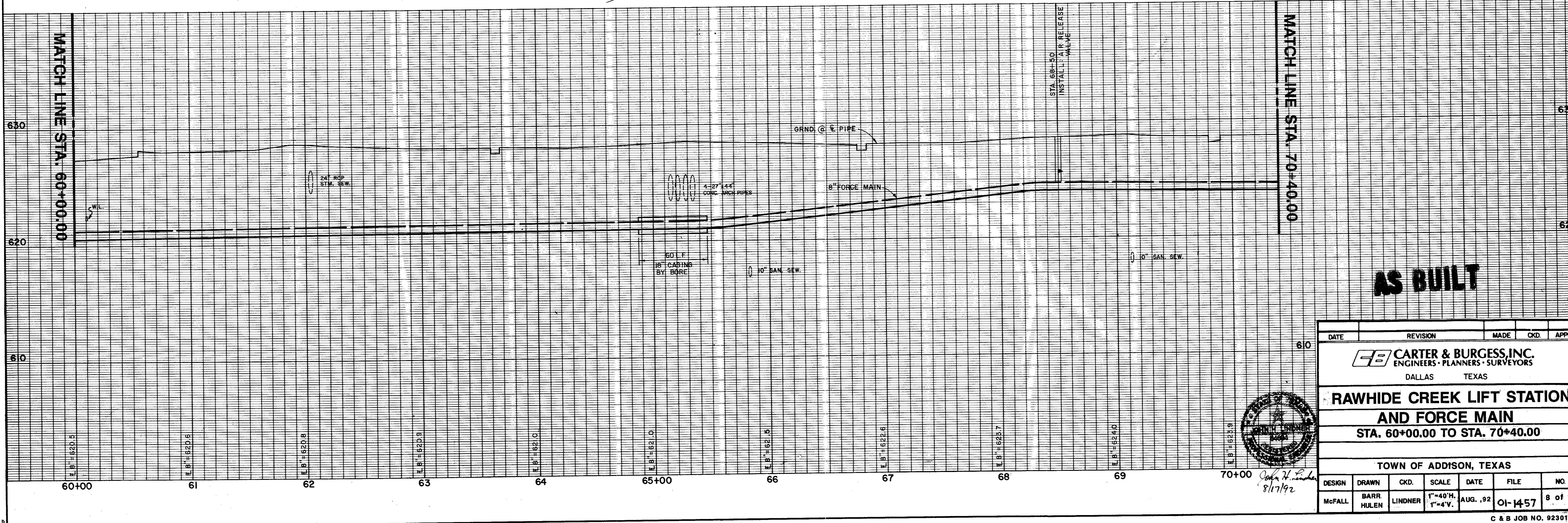




LEGEND

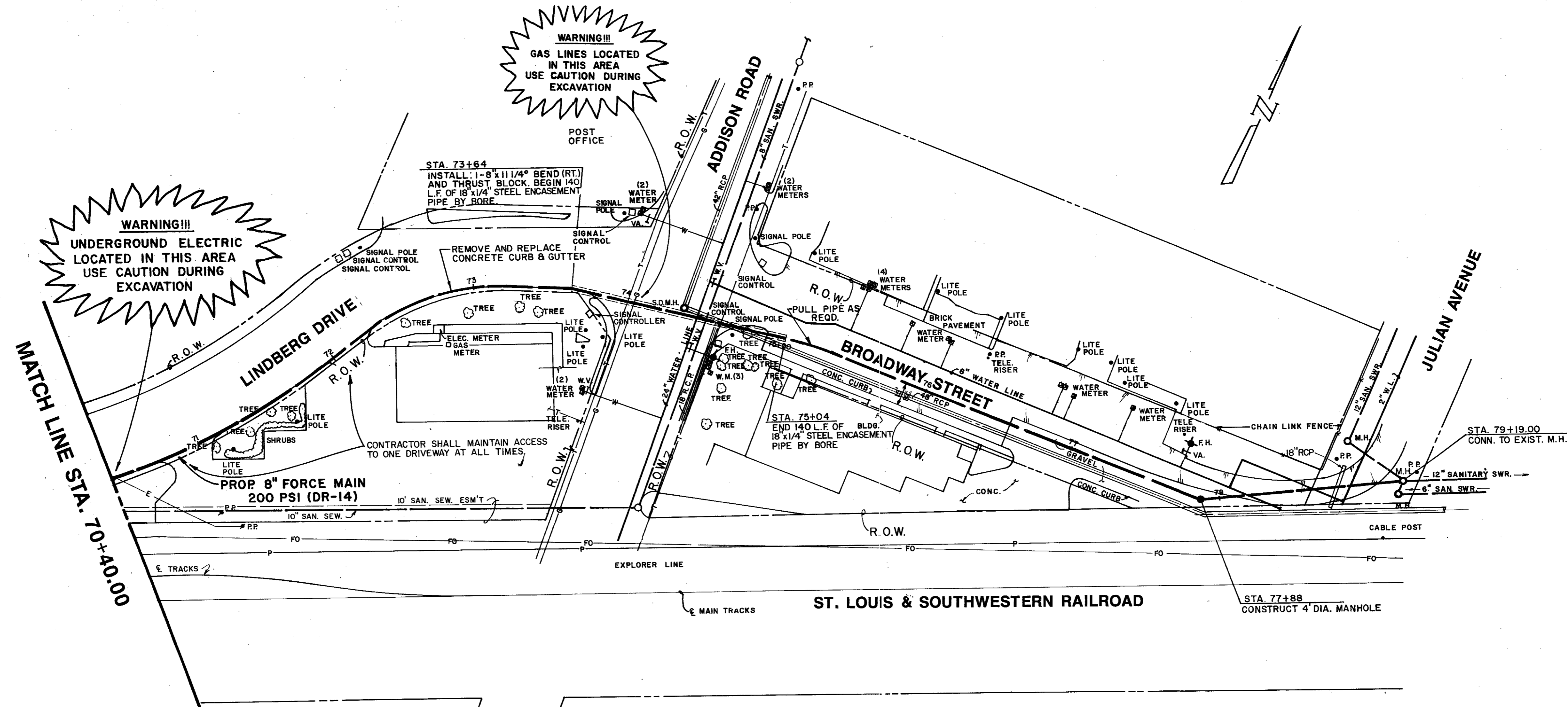
EXIST. UTILITIES

—TVA—	WATER LINE
—MH—	SAN. SEWER
—RCP—	STORM SEWER
—G—G—	GAS LINE
—T—T—	TELE. LINE
—E—E—	UNDERGROUND ELEC.
—FO—FO—	FIBER OPTIC CABLE
—P—P—	PETROLEUM LINE



AS BUILT

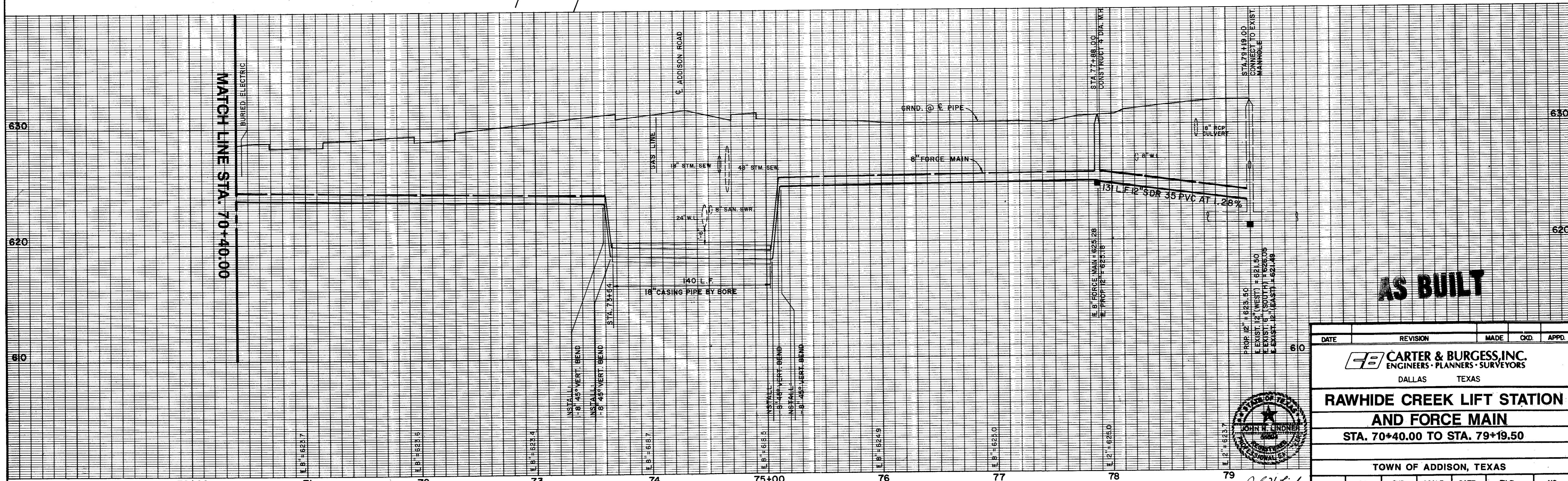
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RAWHIDE CREEK LIFT STATION AND FORCE MAIN STA. 60+00.00 TO STA. 70+40.00				
TOWN OF ADDISON, TEXAS				
DESIGN	DRAWN	CKD.	SCALE	DATE
McFALL	BARR HULEN	LINDNER	1"=40'H, 1"=4'V.	AUG. 92
FILE	NO.			
01-1457	8 of 13			



LEGEND

EXIST. UTILITIES

—TVA—	WATER LINE
—S—	SAN. SEWER
—RCP—	STORM SEWER
—G—	GAS LINE
—T—T—T—	TELE. LINE
—E—E—E—	UNDERGROUND ELEC.
—FO—FO—	FIBER OPTIC CABLE
—P—P—P—	PETROLEUM LINE

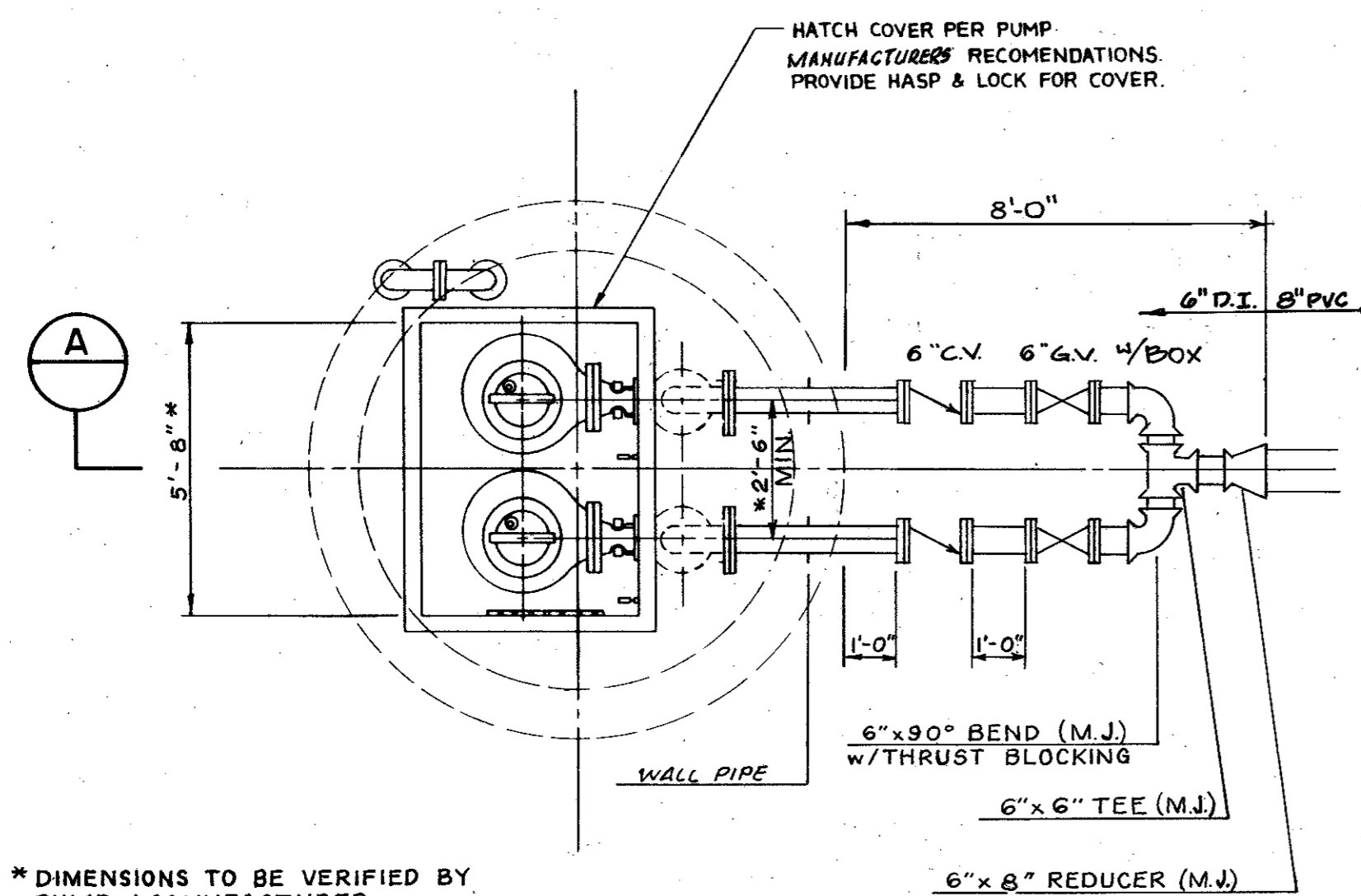


AS BUILT

DATE	REVISION	MADE	CKD.	APPD.
RAWHIDE CREEK LIFT STATION AND FORCE MAIN				
STA. 70+40.00 TO STA. 79+19.50				
TOWN OF ADDISON, TEXAS				
DESIGN	DRAWN	CKD.	SCALE	DATE
McFALL	BARR HULEN	LINDNER	1"=40'H. 1"=4'V.	AUG., '92
FILE	NO.			
01-1457	9 of 13			

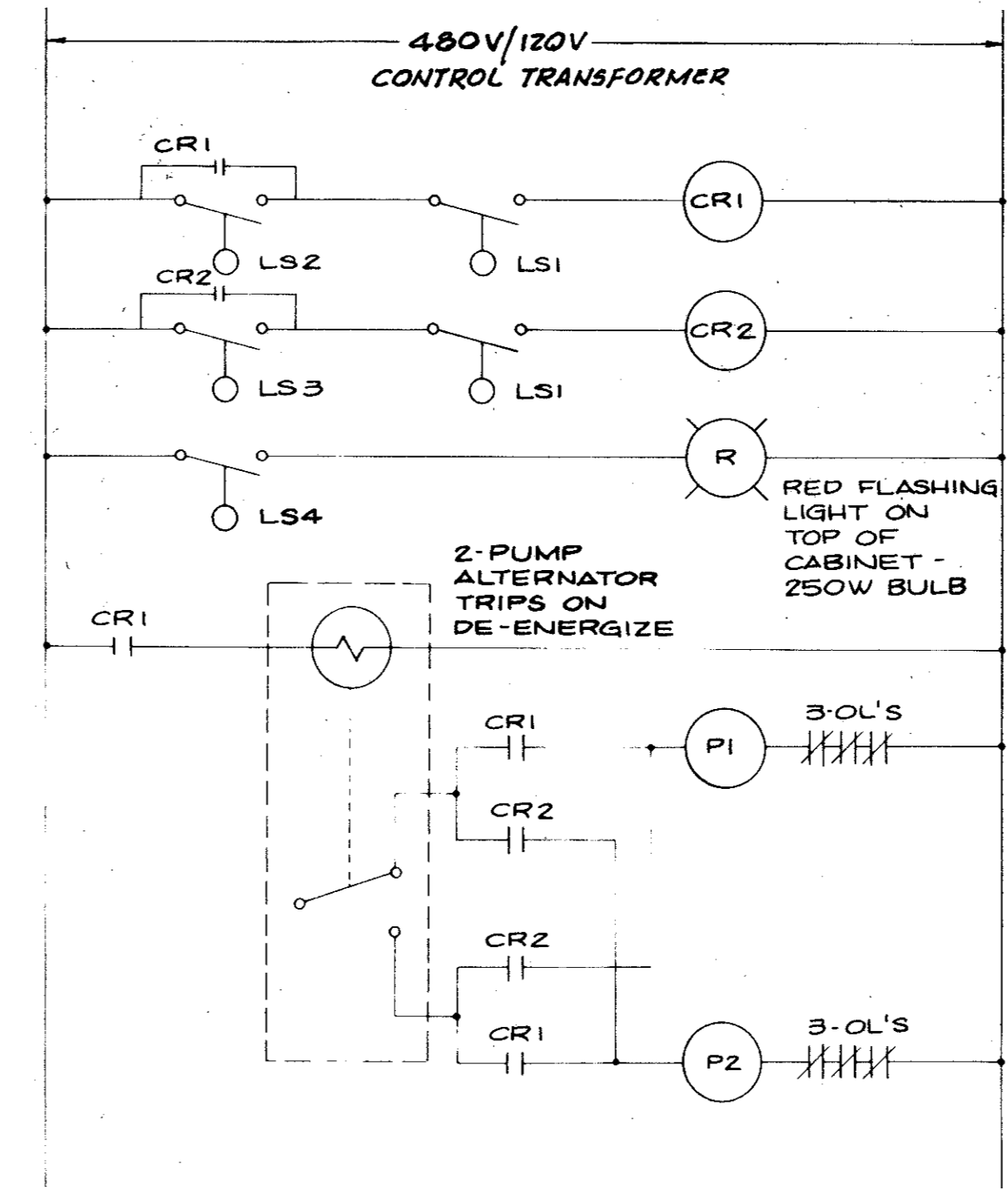


John H. Lindner
8/17/92

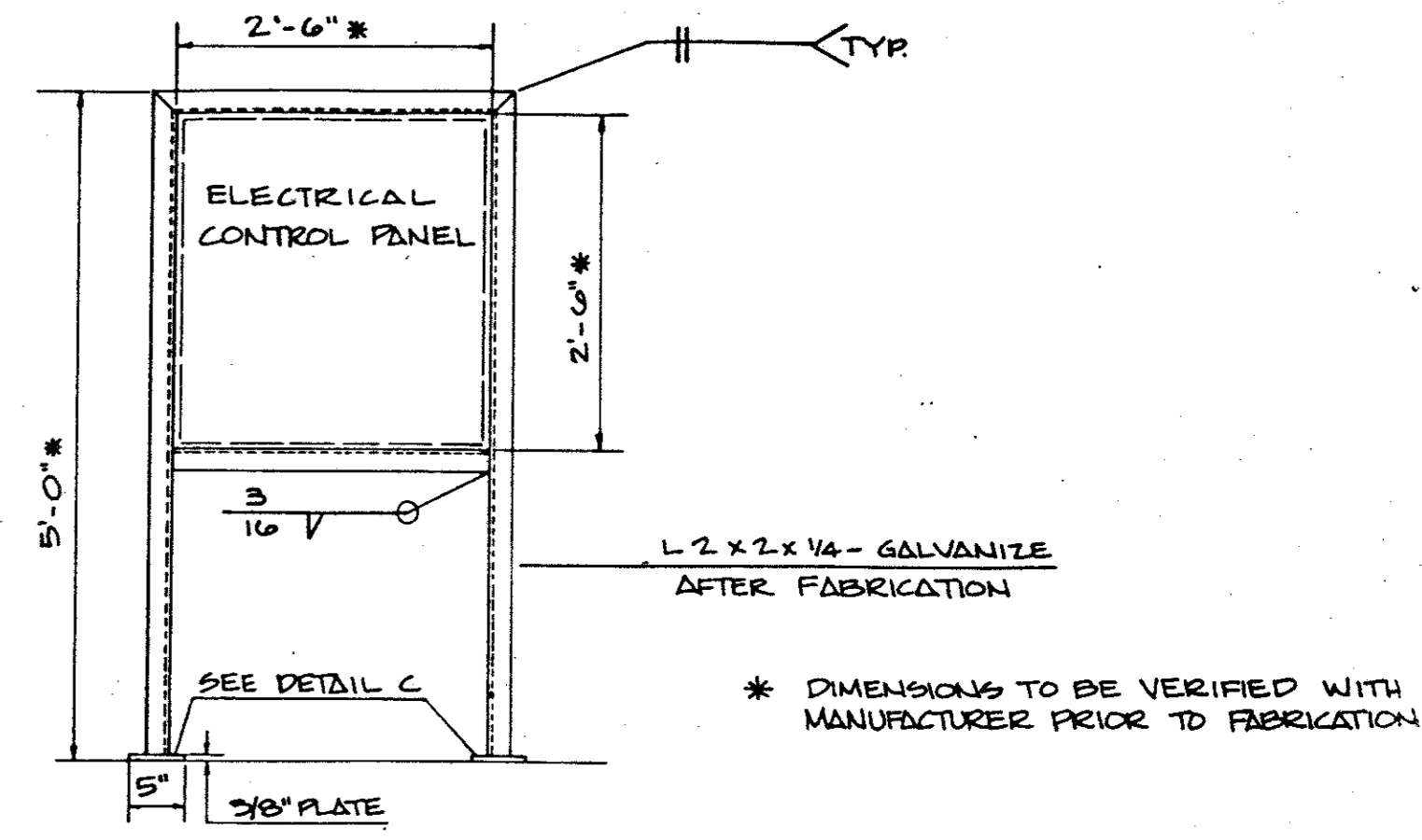


PLAN
SCALE: NONE

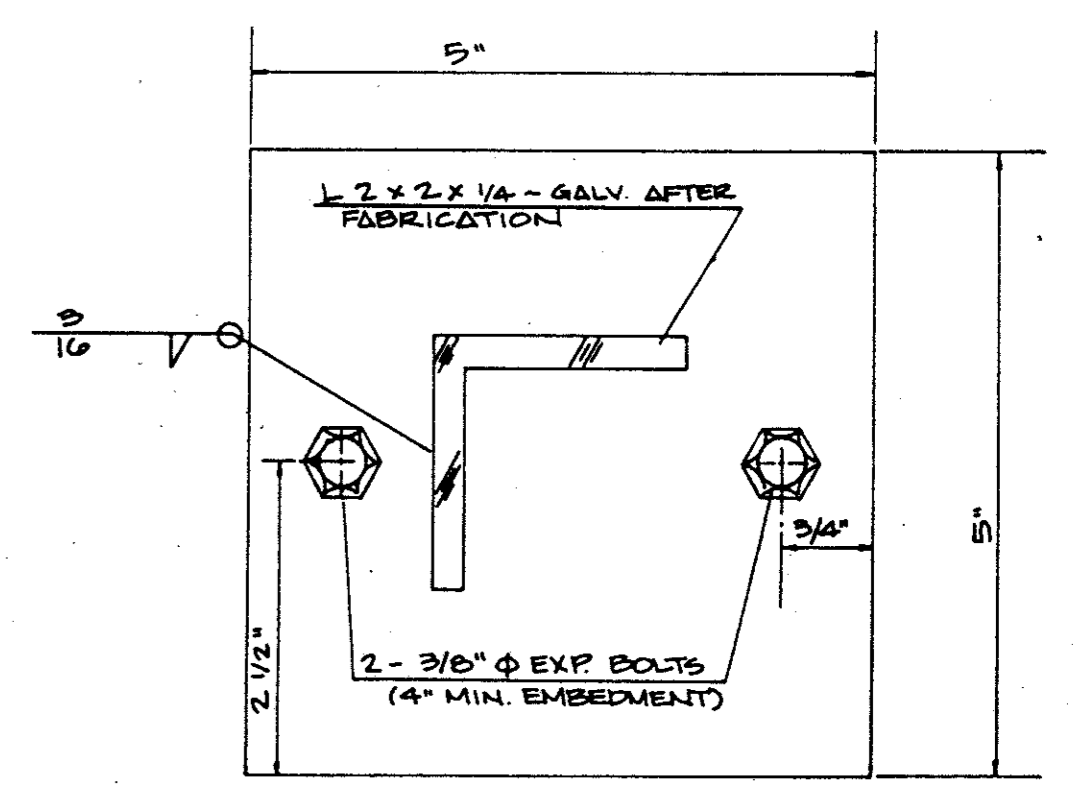
PANEL 'A' SCHEDULE		VOLTS		3 PHASE		4 WIRE		14,000 A/C	
NO.	DESCRIPTION	BRK	A	B	C	BRK	MOUNTING SURFACE OR RECESSED	NO.	DESCRIPTION
4	PUMP 1	300	200	200	200	100		1	PUMP 2
5								2	
6								3	
7								4	
8								5	
9								6	
10								7	
11								8	
12								9	
13								10	
14								11	
15								12	
16								13	
17								14	
18								15	
19								16	
20								17	
21								18	
22								19	
23								20	
24								21	
25								22	
26								23	
27								24	
28								25	
29								26	
30								27	
31								28	
32								29	
33								30	
34								31	
35								32	
36								33	
37								34	
38								35	
39								36	
40								37	
41								38	
42								39	
43								40	
44								41	
45								42	
46								43	
47								44	
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51								48	
52								49	
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54								51	
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57								54	
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61								58	
62								59	
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67								64	
68								65	
69								66	
70								67	
71								68	
72								69	
73								70	
74								71	
75								72	
76								73	
77								74	
78								75	
79								76	
80								77	
81								78	
82								79	
83								80	
84								81	
85								82	
86								83	
87								84	
88								85	
89								86	
90								87	
91								88	
92								89	
93								90	
94								91	
95								92	
96								93	
97								94	
98								95	
99								96	
100								97	



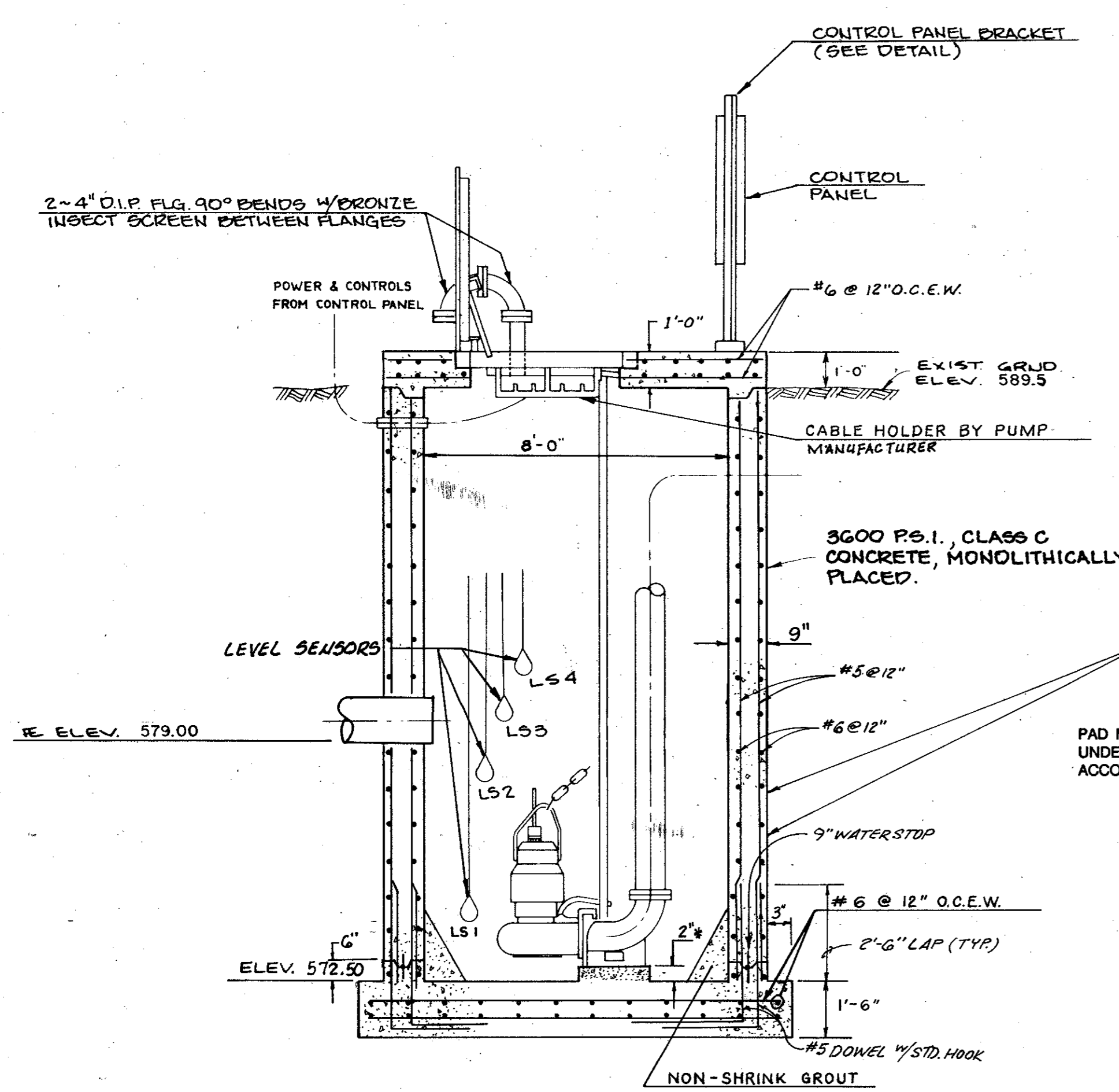
CONTROL SCHEMATIC
N.T.S.



CONTROL PANEL BRACKET
N.T.S.

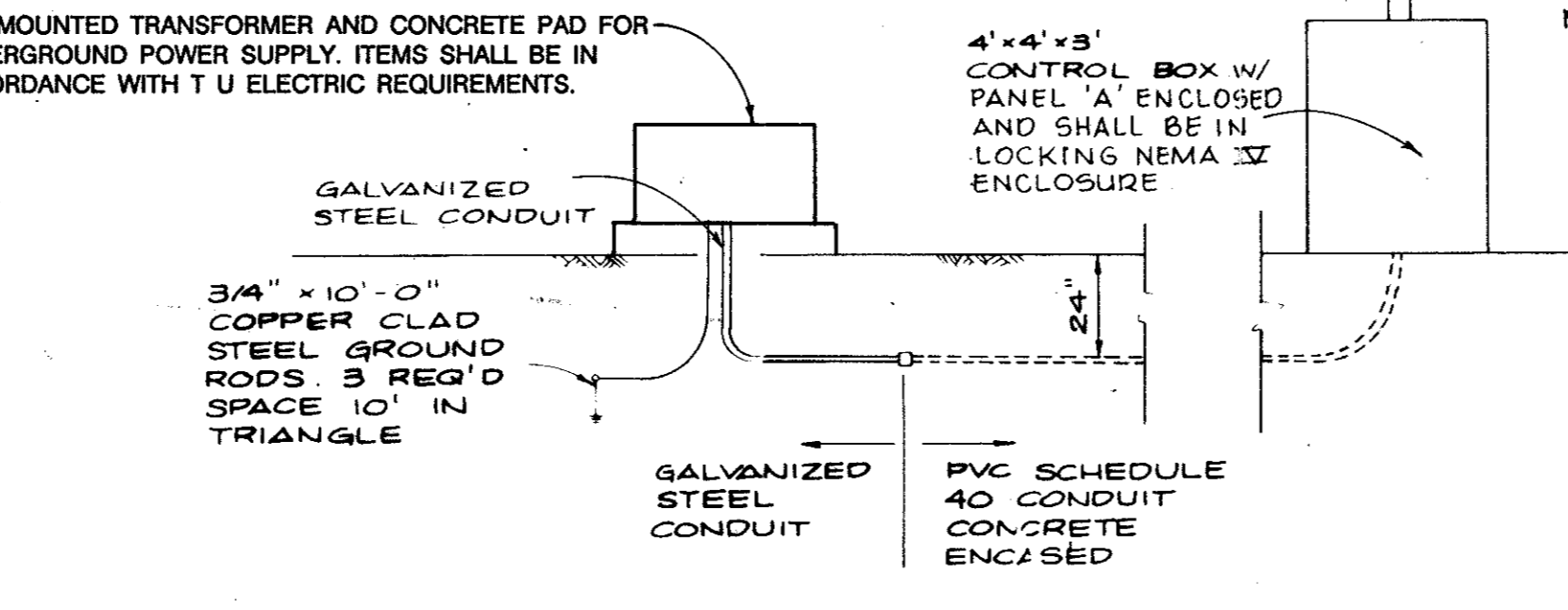


CONTROL PANEL BASE PLATE
N.T.S.



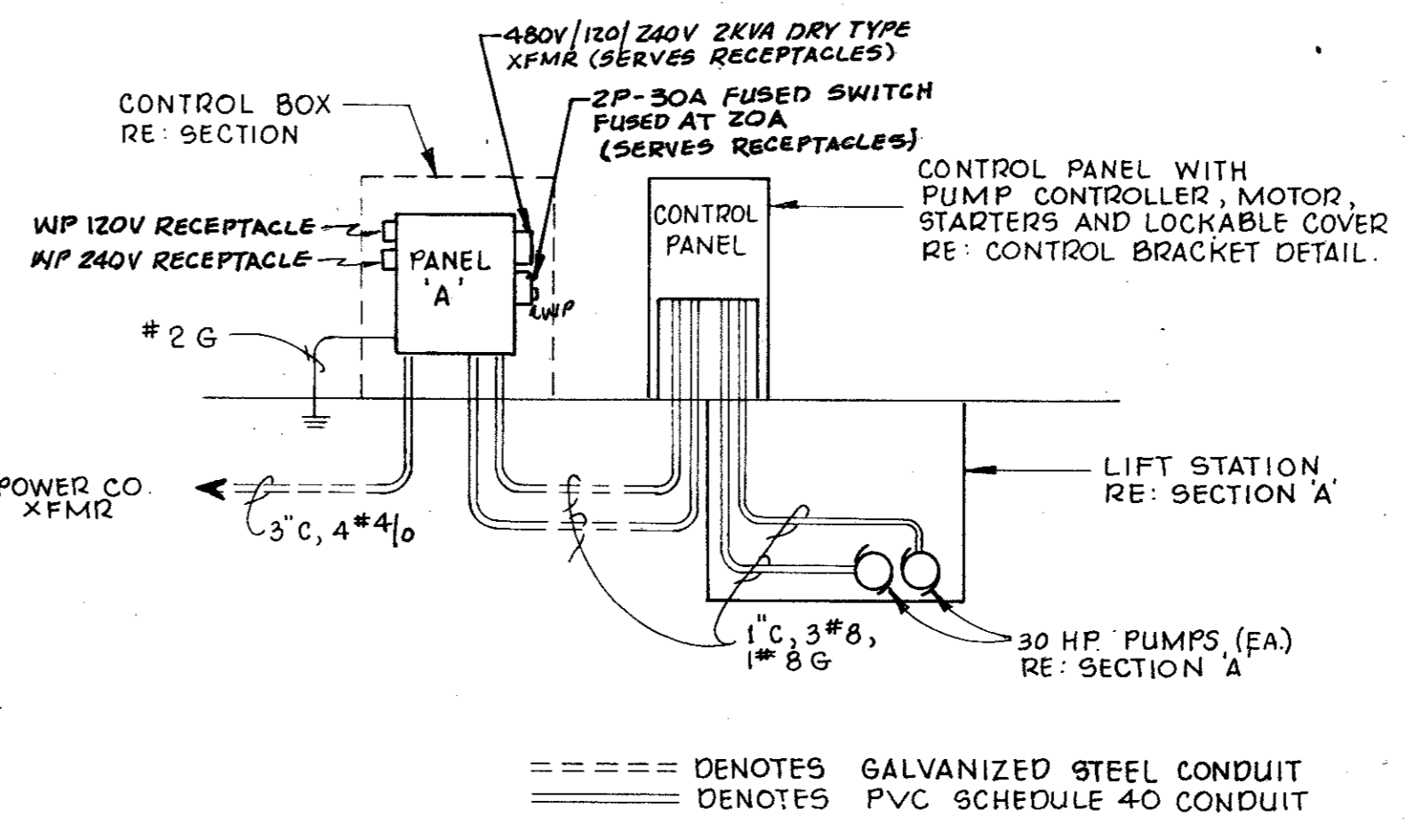
SECTION A
SCALE: NONE

SENSOR	ELEV.	ACTION
LS1	574.00	ALL PUMPS OFF - ALTERNATE LEAD/LAG SEQUENCE
LS2	579.00	LEAD PUMP ON
LS3	580.00	LAG PUMP ON
LS4	581.00	ALARM SIGNAL ON



SECTION INCOMING POWER

CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH T U ELECTRIC AND ALL CHARGES ASSOCIATED WITH PROVIDING POWER SUPPLY, TRANSFORMER, METER, AND OTHER ASSOCIATED ITEMS.



ONE LINE DIAGRAM
N.T.S.

NOTE: THE PUMPS SHALL BE SUBMERSIBLE SEWAGE PUMPS WITH THE FOLLOWING PERFORMANCE REQUIREMENTS FOR EACH PUMP:
CAPACITY 500 G.P.M. EA.
DESIGN T.D.H. 94 FT.
MAXIMUM SPEED 1750 R.P.M.
MIN. MOTOR EFFICIENCY 78%

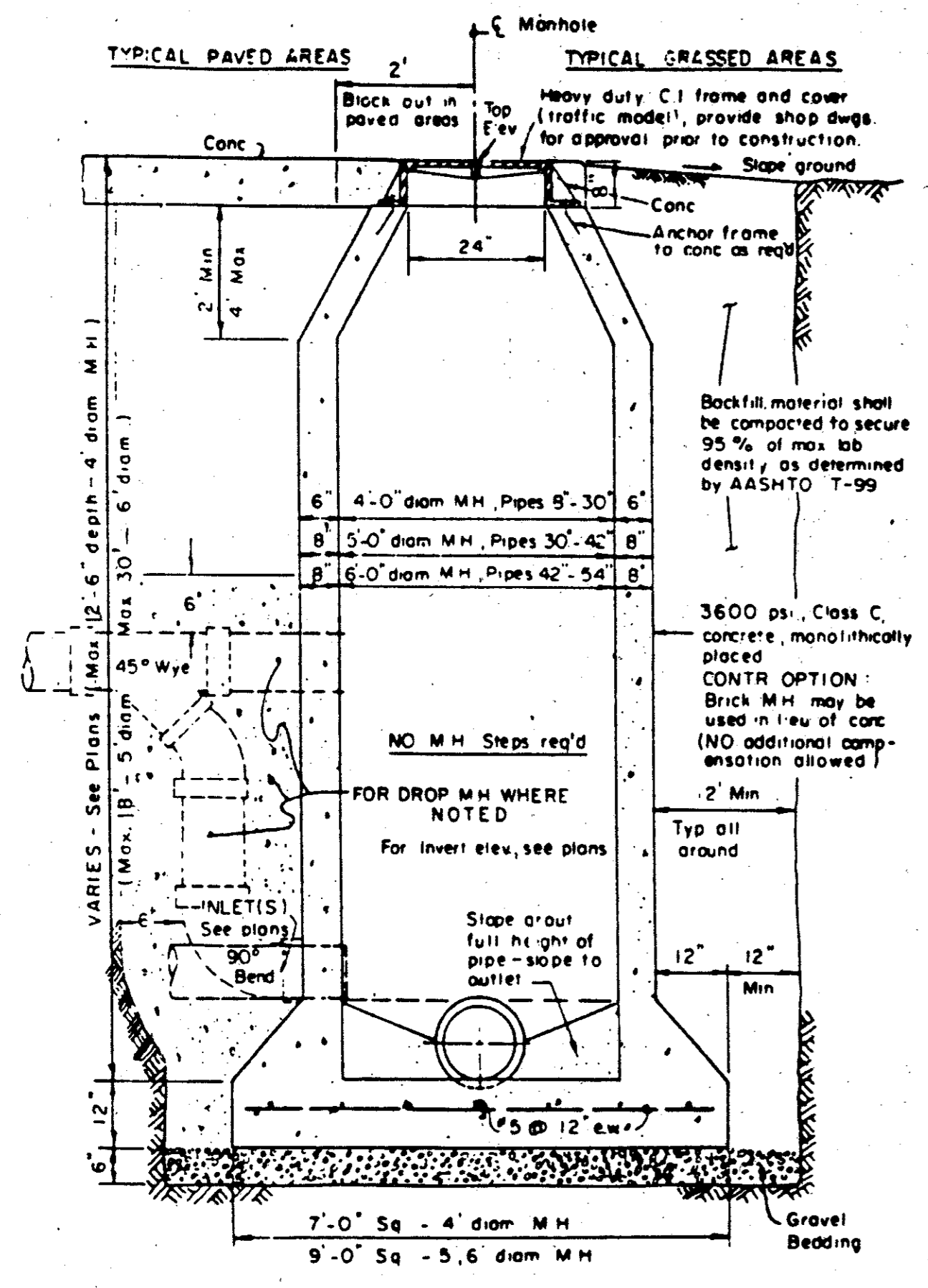
AS BUILT

DATE	REVISION	MADE	CHKD	APPD		
CARTER & BURGESS, INC. ENGINEERS - PLANNERS - SURVEYORS DALLAS TEXAS						
RAWHIDE CREEK LIFT STATION AND FORCE MAIN LIFT STATION DETAILS						
TOWN OF ADDISON, TEXAS						
DESIGN	DRAWN	CKD.	SCALE	DATE	FILE	NO.
LINDNER	BARR HULEN	LINDNER	AS NOTED	AUG. '92	01-1457	10 of 13



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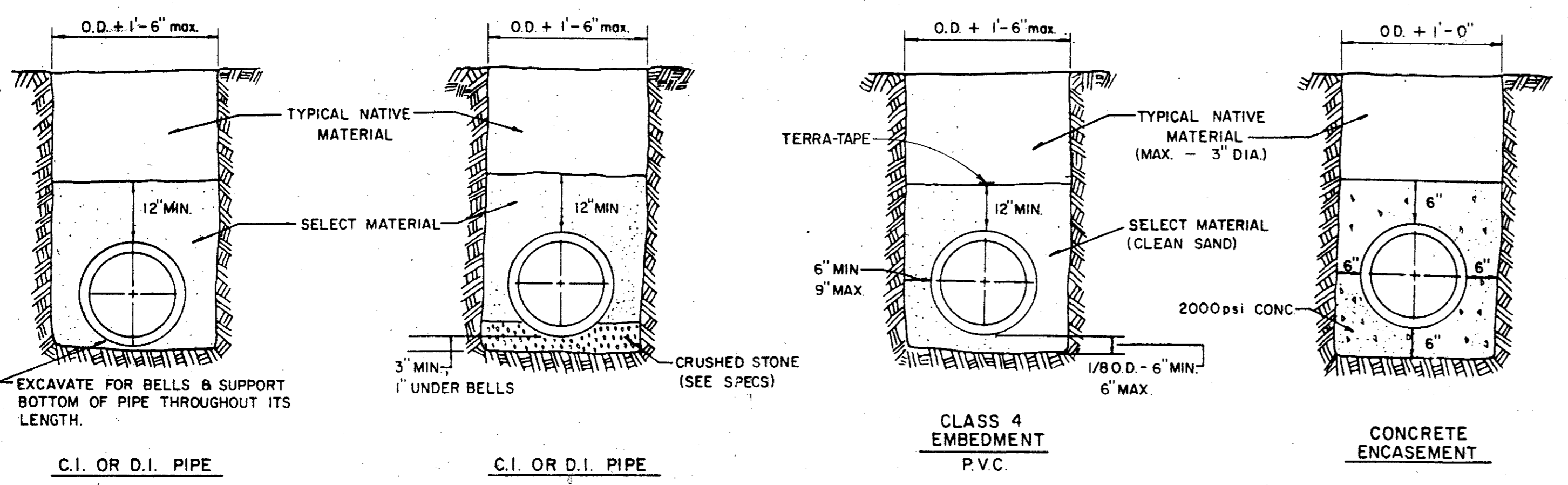
8/17/92



CAST IN PLACE MANHOLE

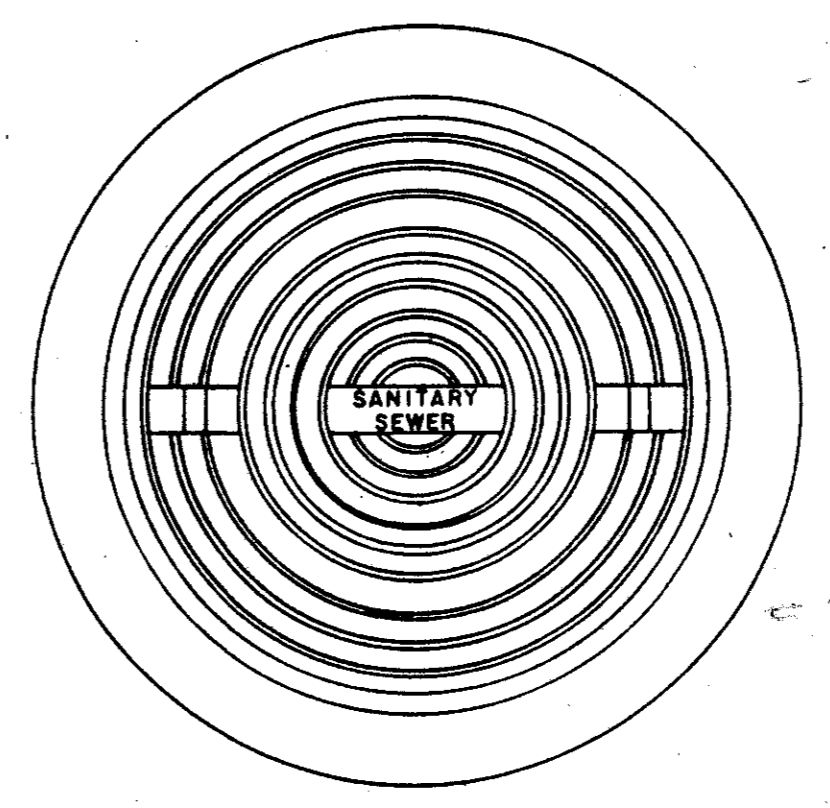
WHERE DROP M.H. IS REQUIRED, USE INSIDE DROP CONNECTION AS PER TOWN OF ADDISON STANDARDS.

Typical native material compacted to:
 95% Optimum moisture 0 to ± 3% under pavement
 95% Optimum moisture 0 to ± 3% outside curb lines
 Jettling is not allowed
 Backfill to be compacted in 6" ± lifts

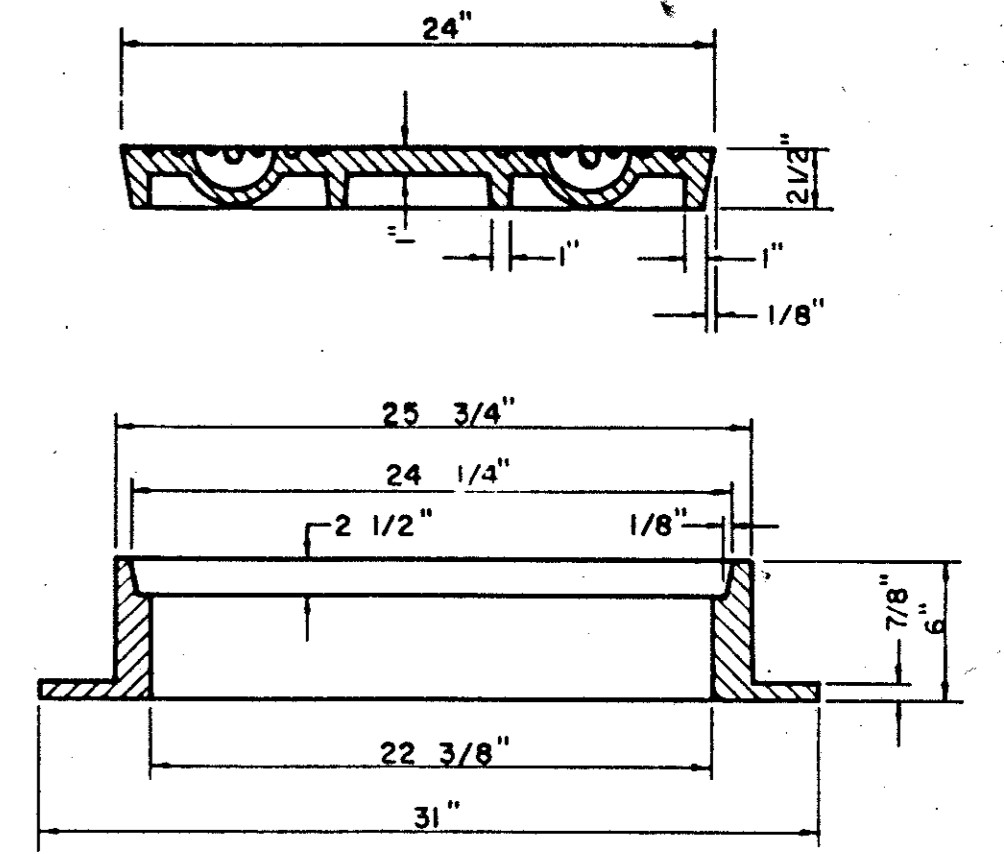


EMBEDMENT DETAILS FOR FORCE MAIN

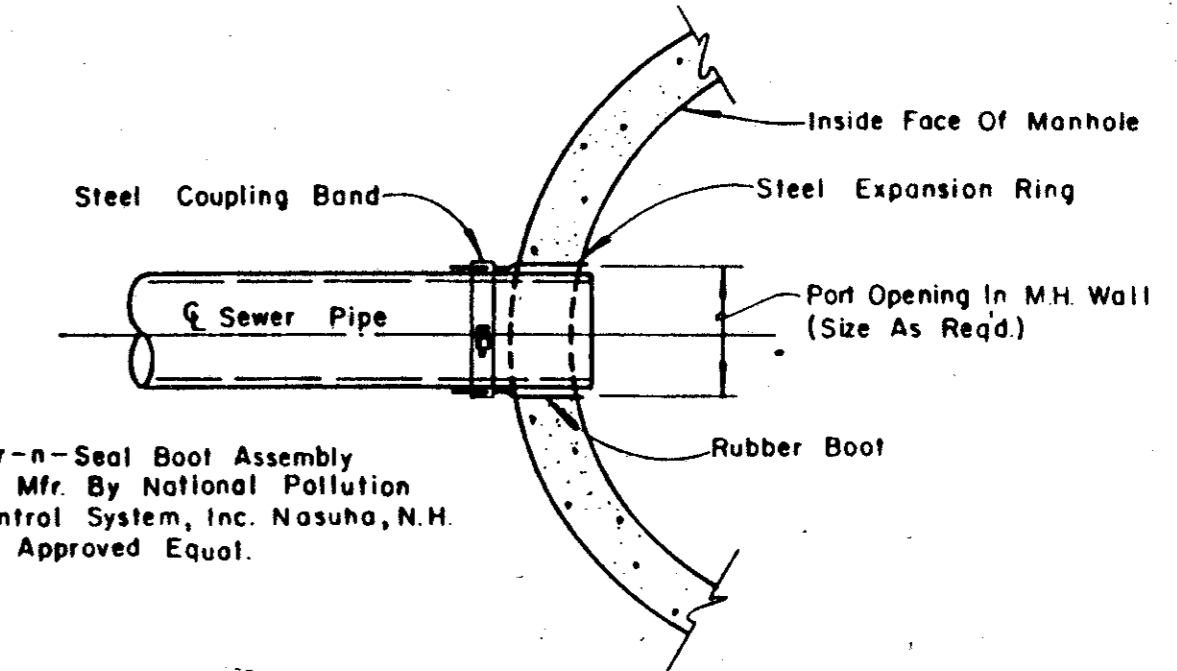
NOTE:
 ALL FORCE MAIN, THIS PROJECT, SHALL HAVE CLASS 4 EMBEDMENT AS SHOWN ABOVE UNLESS OTHERWISE SHOWN ON PLANS.



APPROX WEIGHT RING AND COVER 385 LBS.



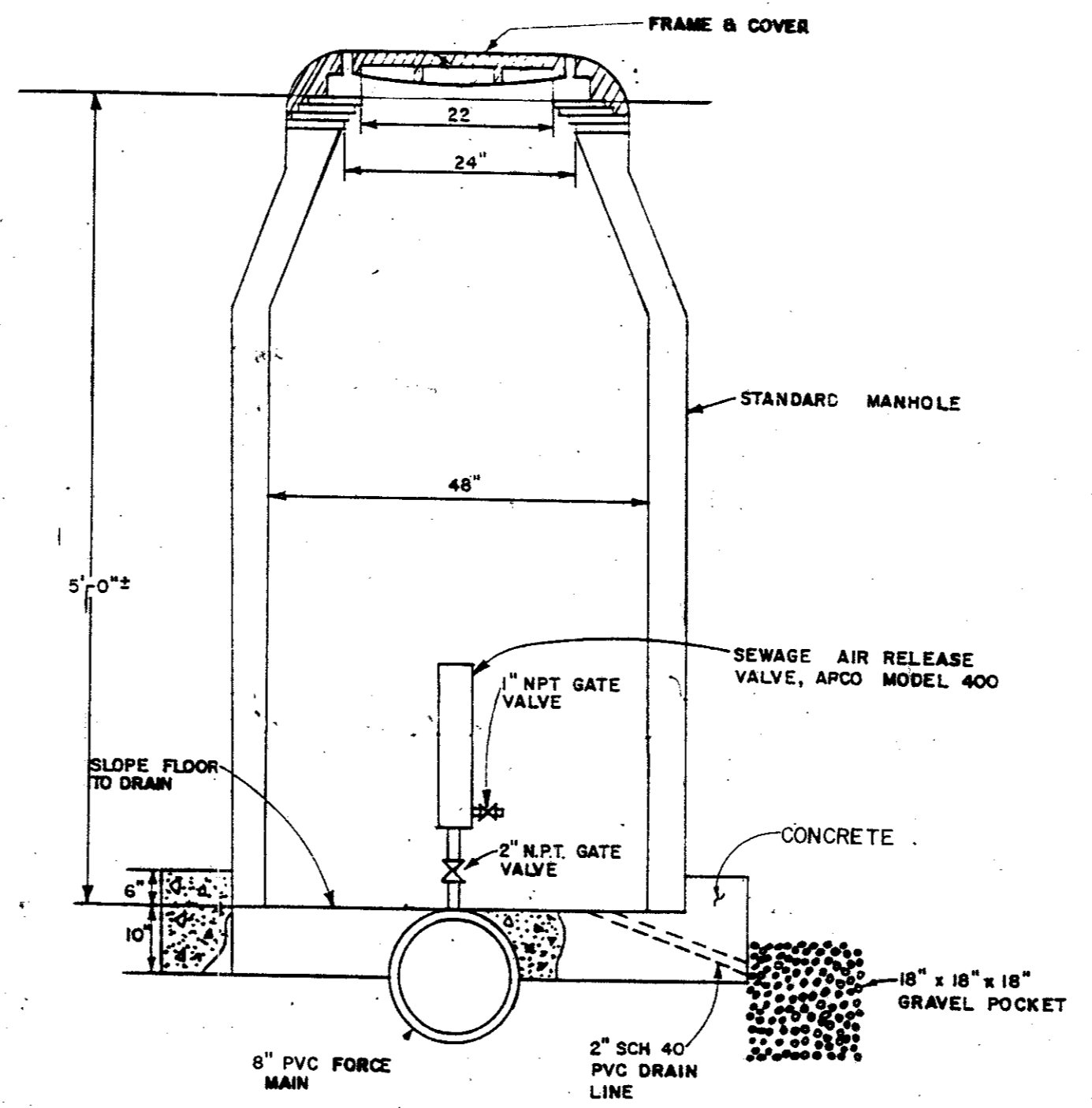
CAST IRON GRATE AND FRAME DETAIL



Kor-n-Seal Boot Assembly As Mfr. By National Pollution Control System, Inc. Nashua, N.H. Or Approved Equal.

NOTE:
 Contractor To Install Kor-n-Seal Boot Assembly Per Mfr. Recommendations In A Neat And Workman-Like Manner

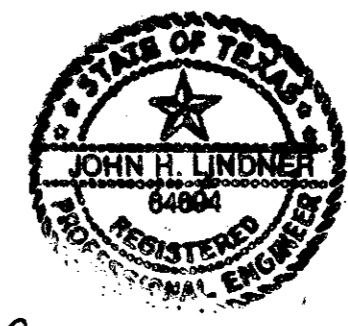
TYPICAL SEWER CONNECTION AT MANHOLE



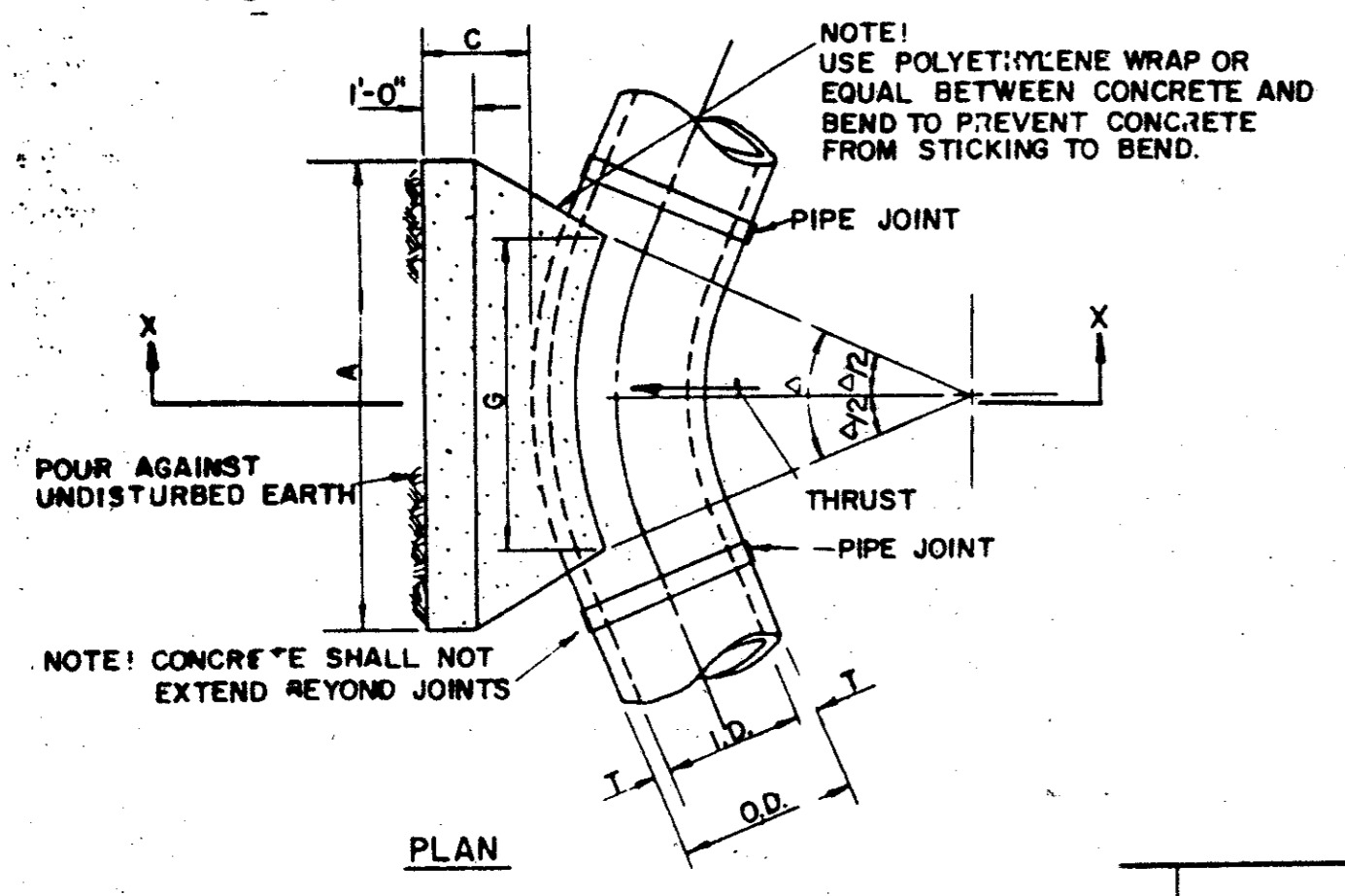
AIR RELEASE VALVE STRUCTURE

AS BUILT

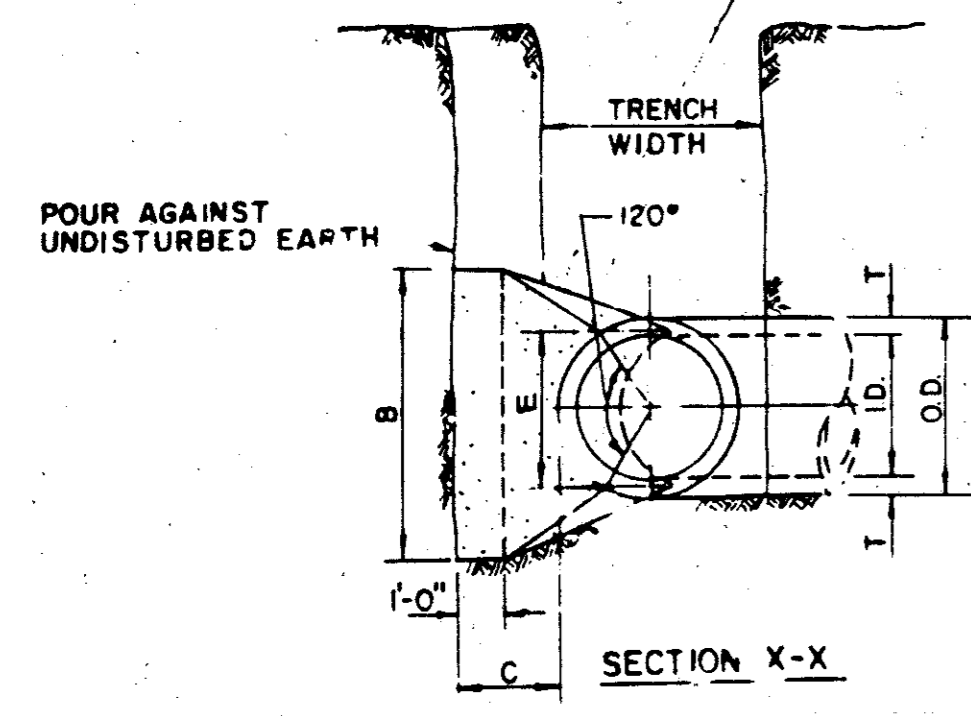
DATE	REVISION	MADE	CHKD.	APPD.		
CARTER & BURGESS, INC. ENGINEERS - PLANNERS - SURVEYORS DALLAS TEXAS						
RAWHIDE CREEK LIFT STATION AND FORCE MAIN SANITARY SEWER DETAILS						
TOWN OF ADDISON, TEXAS						
DESIGN	DRAWN	CHKD.	SCALE	DATE	FILE	NO.
McFALL	BARR HULEN	LINDNER	AS SHOWN	AUG. 92	01-1457	11 of 13



John H. Lindner
 8/17/92



I.D. (IN.)	T (IN.)	C (FT.)	11.25° (VOL. C.Y.)	22.50° (VOL. C.Y.)	30° (VOL. C.Y.)	45° (VOL. C.Y.)	60° (VOL. C.Y.)	75° (VOL. C.Y.)	90° (VOL. C.Y.)
4.6.8	0.4	1.5	1.5	1.5	1.5	1.5	1.5	1.5	0.9
10.12	0.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.2
16.18	0.6	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.6
20	0.7	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.8
24	0.9	1.5	1.5	1.5	1.5	1.5	1.5	1.5	2.1
30	2.9	1.5	1.5	1.5	1.5	1.5	1.5	1.5	2.6
36	4.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	3.3
42	5.0	1.8	2.6	3.6	4.8	6.0	7.2	8.4	3.8
48	5.5	2.0	3.0	4.0	5.0	6.0	7.0	8.0	4.3
54	6.0	2.3	3.4	4.8	6.0	7.2	8.4	9.6	4.8
60	6.5	2.5	3.8	5.0	6.0	7.2	8.4	9.6	5.3
66	6.8	2.8	4.1	5.5	6.6	7.7	8.8	9.9	5.7
72	7.5	3.0	4.5	6.0	7.2	8.4	9.6	10.8	6.3
78	7.5	3.5	4.9	6.6	7.7	8.8	9.9	11.0	6.9
84	8.0	3.5	5.3	7.2	8.4	9.6	10.8	12.0	7.2
90	8.5	3.8	5.6	7.7	8.8	9.9	11.0	12.0	7.7
96	9.0	4.0	6.0	8.2	9.3	10.4	11.5	12.6	8.2

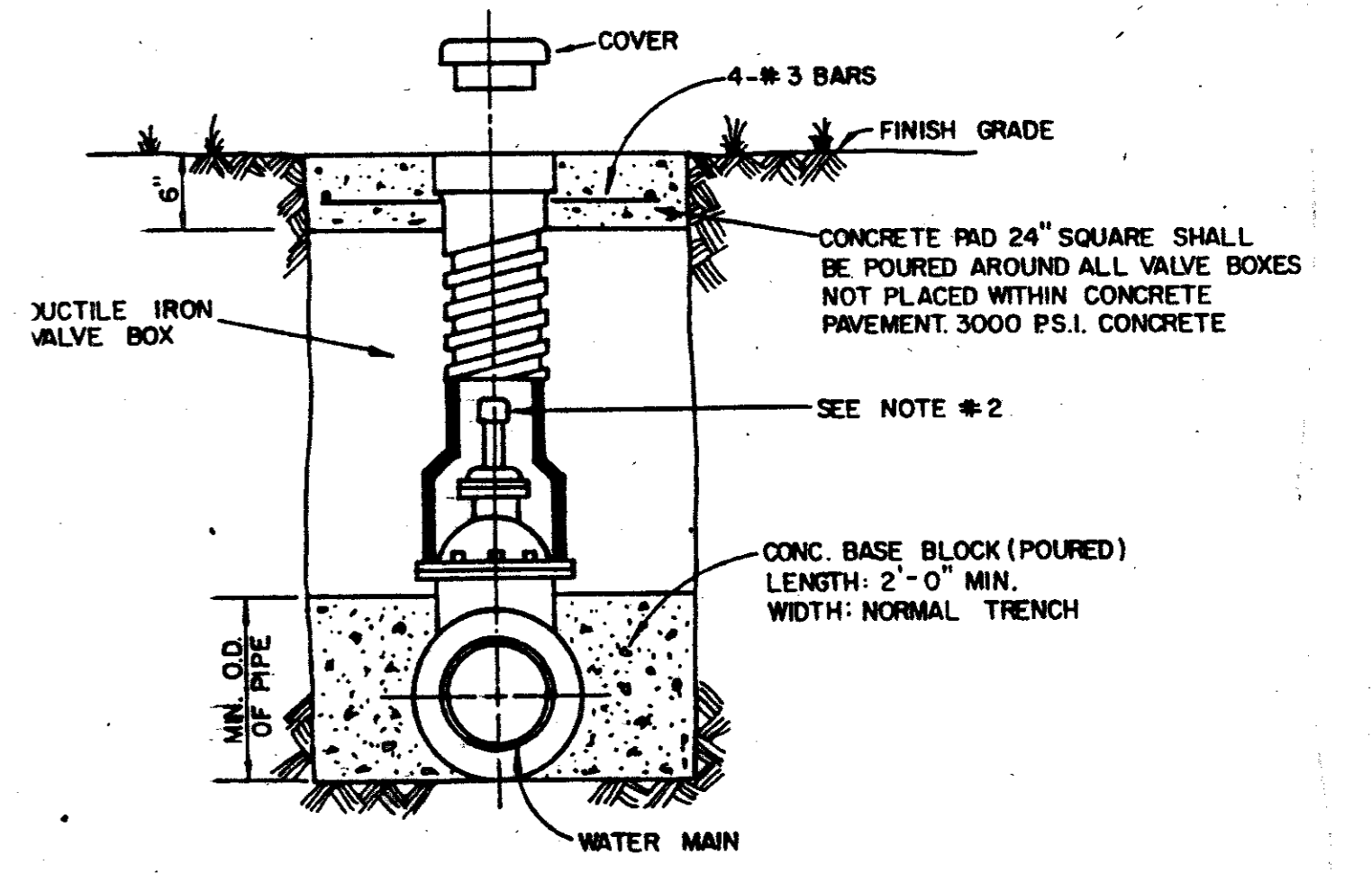


I.D. (IN.)	T (FT.)	EARTH			ROCK			I.D. (IN.)	T (FT.)	EARTH			ROCK		
		THRUST (TONS)	FT.	FT.	FT.	THRUST (TONS)	FT.			FT.	FT.	THRUST (TONS)	FT.	FT.	FT.
4.6.8	0.4	1.0	1.0	1.3	0.1	1.0	1.0	4.6.8	0.8	2.0	1.5	1.5	0.1	1.0	1.0
10.12	0.6	2.2	1.5	1.5	0.1	1.0	1.5	10.12	1.1	4.4	2.0	2.5	0.3	1.5	1.5
16.18	0.8	5.0	2.0	2.5	0.3	1.5	2.0	16.18	1.6	9.9	3.0	3.5	0.6	2.0	2.5
20	0.9	6.2	2.0	3.5	0.4	1.5	3.0	20	1.8	12.3	3.5	3.5	0.7	2.0	3.5
24	1.1	8.9	3.0	3.0	0.5	1.5	3.0	24	2.2	17.7	4.0	4.5	1.0	3.0	3.0
30	1.4	10.4	3.0	3.5	0.6	2.0	3.5	30	2.7	20.7	5.0	4.5	1.5	3.0	4.0
36	1.7	15.0	3.5	4.5	0.9	2.0	4.0	36	3.3	29.8	5.5	5.5	2.3	4.0	4.0
42	1.9	20.4	4.5	5.0	1.5	2.5	5.0	42	3.8	40.5	7.0	6.0	3.9	4.5	5.0
48	2.2	26.6	4.5	6.0	2.0	2.5	6.0	48	4.4	52.9	8.0	7.0	5.7	4.8	6.0
54	2.5	33.7	5.0	6.0	3.0	3.0	6.0	54	4.9	67.0	9.0	8.0	6.0	6.0	6.0
60	2.7	41.6	6.0	7.0	3.8	3.0	7.0	60	5.5	82.7	9.5	9.0	10.6	6.0	7.0
66	3.0	50.3	6.5	8.0	3.1	3.5	8.0	66	6.0	100.1	10.5	10.0	14.1	6.5	8.0
72	3.3	59.9	7.5	8.0	6.3	4.0	8.0	72	6.6	119.1	11.0	11.0	17.6	7.5	9.0
78	3.6	70.2	8.0	9.0	6.1	4.0	9.0	78	7.1	139.8	12.0	12.0	22.5	8.0	11.7
84	3.8	81.5	8.5	10.0	10.3	4.5	10.0	84	7.6	162.1	13.0	12.5	27.2	8.5	10.0
90	4.1	93.5	9.5	10.0	12.2	5.0	10.0	90	8.2	186.1	14.0	13.5	33.7	9.5	10.0
96	4.4	106.4	10.0	11.0	15.0	5.0	11.0	96	8.7	211.7	15.0	14.5	41.2	10.0	12.6

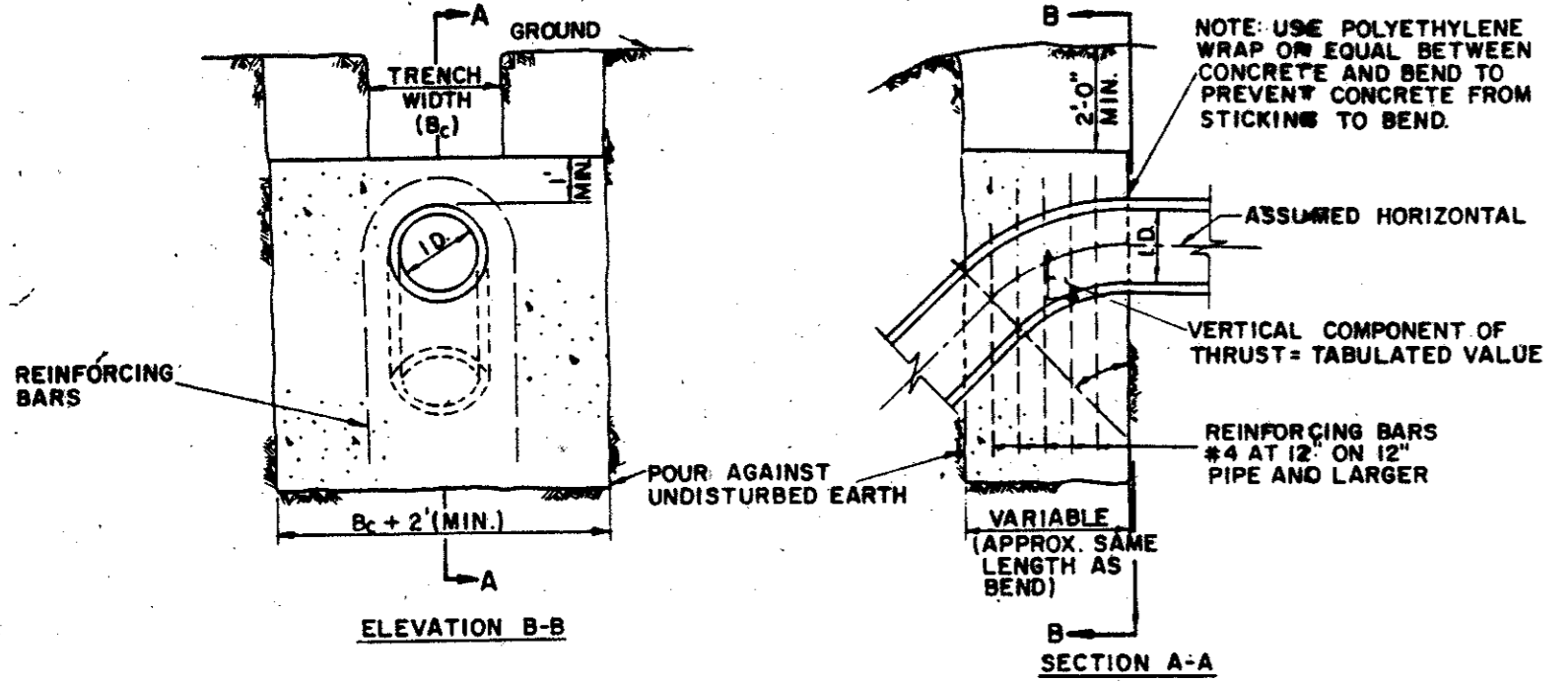
HORIZONTAL BEND THRUST BLOCK

I.D. (IN.)	T (FT.)	EARTH			ROCK			I.D. (IN.)	T (FT.)	EARTH			ROCK		
		THRUST (TONS)	FT.	FT.	FT.	THRUST (TONS)	FT.			FT.	FT.	THRUST (TONS)	FT.	FT.	FT.
4.6.8	1.0	2.8	2.0	1.5	0.2	1.0	1.8	0.1	4.6.8	1.5	3.9	2.0	2.0	0.2	1.5
10.12	1.5	5.9	2.5	2.5	0.3	2.0	1.8	0.2	10.12	2.2	6.7	3.5	2.5	0.9	2.0
16.18	2.2	13.2	3.5	4.0	0.8	2.5	3.0	0.8	16.18	3.2	19.5	4.5	4.5	1.2	3.0
20	2.4	16.3	4.5	4.0	1.0	3.0	3.0	0.9	20	3.6	24.1	5.5	4.8	1.5	3.5
24	2.9	25.4	6.0	4.0	1.4	3.5	3.5	0.7	24	4.3	34.6	8.0	4.5	2.3	4.0
30	3.6	27.5	6.5	5.0	1.9	3.8	4.0	0.9	30	5.4	40.6	8.5	5.0	3.2	5.0
36	4.4	39.3	7.0	6.0	3.4	4.5	4.5	1.6	36	6.5	56.5	10.0	6.0	5.3	6.5
42	5.1	53.8	8.0	7.0	5.1	5.5	5.0	2.5	42	7.5	79.6	11.5	7.0	8.1	8.0
48	5.8	70.3	9.0	8.0	7.4	6.0	6.0	3.7	48	8.6	104.0	13.0	8.0	11.9	9.0
54	6.3	89.0	10.0	9.0	10.3	7.0	6.5	5.3	54	9.7	131.5	15.0	9.0	17.1	10.5
60	7.3	110.0	11.0	10.0	13.9	7.5	7.5	7.3	60	10.7	162.4	16.5	10.0	23.1	11.0
66	8.0	132.9	12.5	11.0	18.9	8.5	8.0	9.6	66	11.8	196.9	18.0	11.0	30.1	12.0
72	8.7	158.2	13.5	12.0	24.0	9.0	9.0	12.3	72	12.9	235.9	19.5	12.0	38.6	14.0
78	9.4	185.6	14.5	13.0	30.0	10.0	9.5	15.6	78	13.9	274.5	21.5	13.0	49.6	15.5
84	10.1	215.3	15.5	14.0	37.1	10.5	10.5	19.5	84	15.0	318.4	23.0	14.0	61.2	15.5
90	10.9	247.1	16.5	15.0	45.0	11.5	11.0	23.9	90	16.1	368.5	24.5	15.0	74.5	17.5
96	11.6	281.2	18.0	16.0	55.3	12.5	11.5	28.9	96	17.1	415.6	26.0	16.0	89.5	18.5

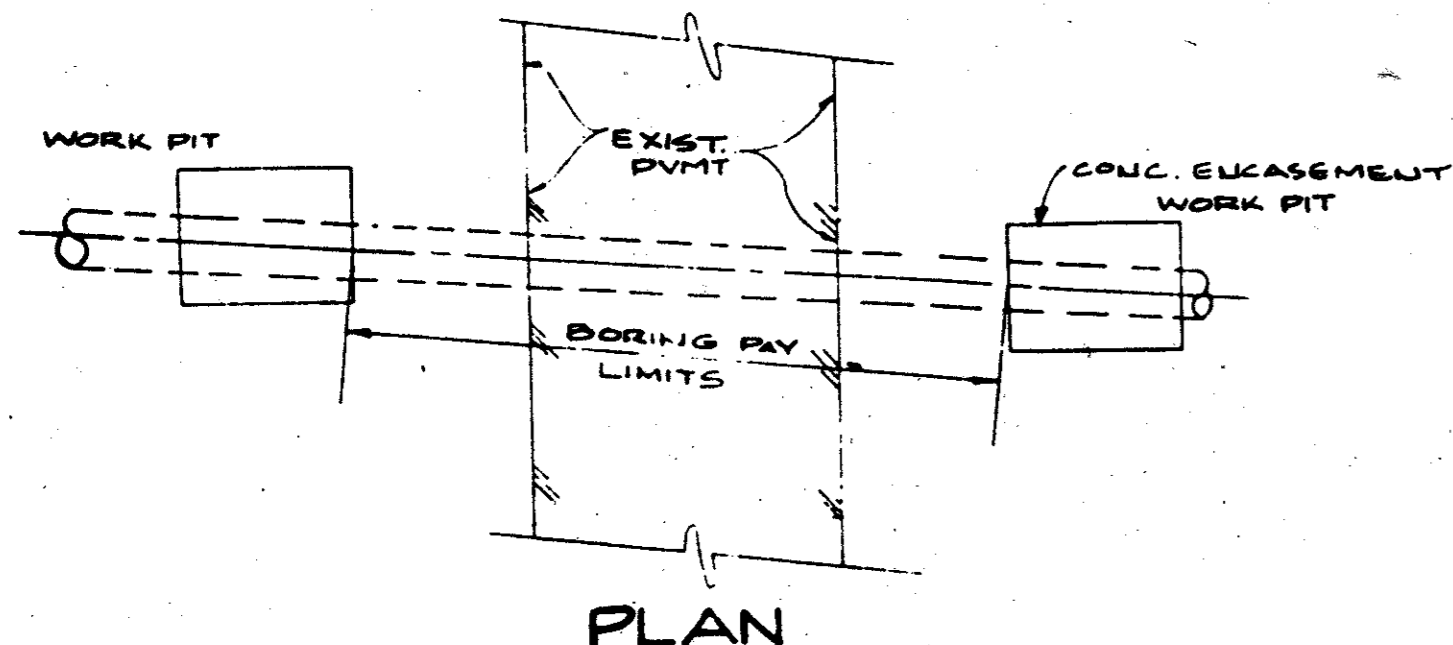
I.D. (IN.)	T (FT.)	EARTH			ROCK			I.D. (IN.)	T (FT.)	EARTH			ROCK		
		THRUST (TONS)	FT.	FT.	FT.	THRUST (TONS)	FT.			FT.	FT.	THRUST (TONS)	FT.	FT.	FT.
4.6.8	2.1	5.6	3.0	2.0	0.3	2.0	1.5	0.2	4.6.8	2.7	7.1	3.0	1.5	0.4	2.0
10.12	3.1	12.6	5.5	2.5	0.8	3.5	2.0	0.4	10.12	4.0	16.0	5.5	2.5	1.0	3.0
16.18	4.7	26.3	7.5	4.0	1.9	6.0	3.0	0.9	16.18	6.0	36.0	8.0	4.0	2.4	4.0
20	5.2	34.9	9.0	4.0	2.3	5.5	3.5	1.2	20	6.8	44.4	10.0	4.5	3.1	6.0
24	6.2	50.3	11.5	4.5	3.5	6.5	4.0	1.6	24	7.9	64.0	14.5	4.5	5.0	8.0
30	7.8	66.9	12.0	5.0	4.8	7.5	4.0	2.2	30	9.9	78.0	15.0	5.0	6.7	10.0
36	9.4	84.9	14.5	6.0	6.2	9.5	4.5	3.8	36	11.9	108.0	18.0	6.0	11.4	12.0
42	10.9	115.5	17.0	7.0	12.8	11.0	5.5	6.3	42	13.9	147.0	21.0	7.0	17.6	14.0
48	12.9	150.9	19.0	8.0	18.4	13.0	6.0	9.2	48	15.9	192.0	24.0	8.0	25.2	16.0
54	14.0	191.0	21.5	9.0	26.0	15.0	6.5	12.9	54	17.9	243.0	27.0	9.0	36.9	18.0
60	15.8	235.8	24.0	10.0	36.6	16.0	7.5	17.6	60	19.9	299.8	30.0	10.0	50.3	20.0
66	17.1	285.3	26.0	11.0	46.0	18.0	8.0	23.0	66	21.8	362.8	33.0	11.0	64.2	22.0
72	18.7	339.9	28.5	12.0	57.8	19.0	9.0	28.4	72	23.8	431.8	36.0	12.0	85.4	24.0
78	20.2	398.5	31.0	13.0	73.7	21.0	9.5	37.4	78	25.7	508.7	39.0	13.0	108.2	26.0
84	21.8	462.7	33.5	14.0	94.7	22.0	10.5	48.5	84	27.7	587.7	42.0	14.0	134.4	28.0
90	23.3	530.5	35.5	15.0	114.4	24.5	11.0	62.2	90	29.0	674.6	45.0	15.0	164.3	30.0
96	24.9	603.6	38.0	16.0	138.9	25.5	12.0	79.0	96	31.6	773.5	48.0	16.0	199.0	32.0



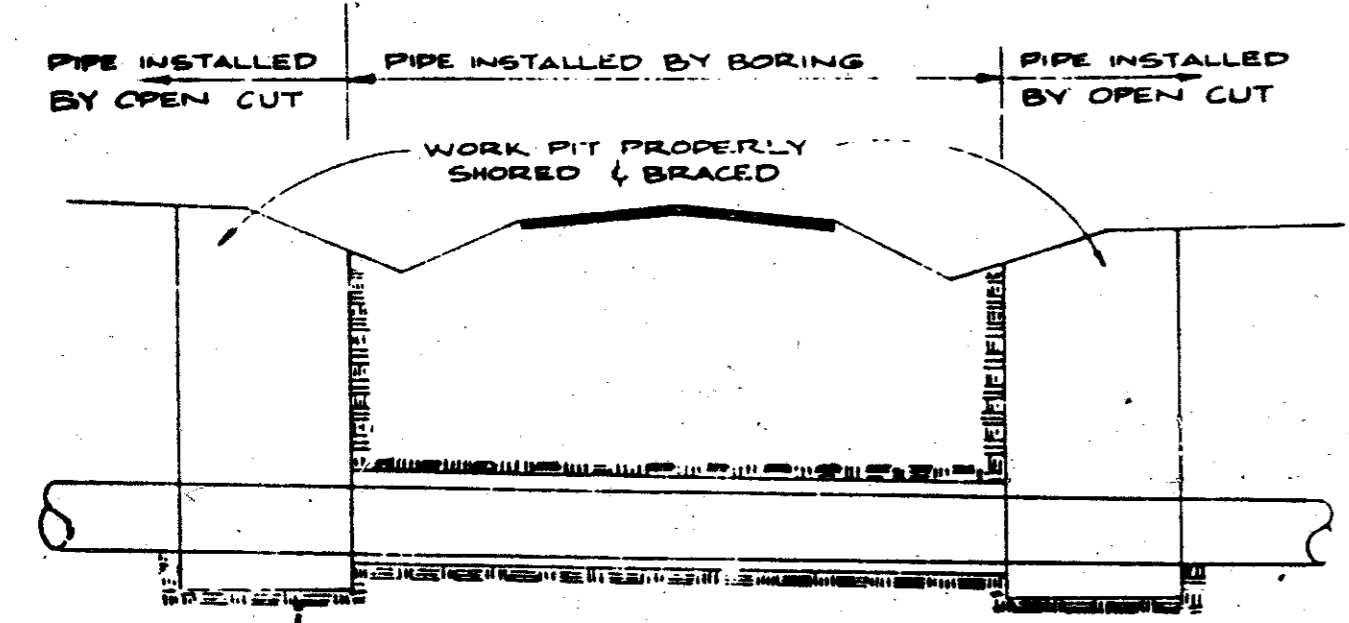
- NOTE:
- GATE VALVES SHALL BE IN ACCORDANCE WITH ANNA STANDARD C-509-80 OR LATEST THEREOF. ALL VALVES SHALL BE "MULLER" OR APPROVED EQUAL.
 - A PERMANENTLY ATTACHED VALVE EXTENSION STEM SHALL BE REQUIRED FOR ANY VALVE THATS OPERATING NUT IS LOCATED IN EXCESS OF 4 FEET BELOW THE TOP OF VALVE BOX. THIS EXTENSION SHALL BE OF SUFFICIENT LENGTH TO INSURE THAT ITS TOP IS WITHIN 4" OF VALVE BOX LID. MANUFACTURED VALVE-STACK DUCTILE IRON PIPE TO BE USED FOR EXTENSION GREATER THAN 4"-O. BELL END OF STACK TO BE FITTED OVER VALVE. VALVE AND VALVE STACK IS TO BE POLY WRAPPED.
 - VALVES SHALL BE OF DUCTILE IRON W/RUBBER ENCAPSULATED DISK BODY BOLTS SHALL BE STAINLESS STEEL OF SAME SIZE ON EACH VALVE.
- TYPICAL VALVE SETTING AND BOX**



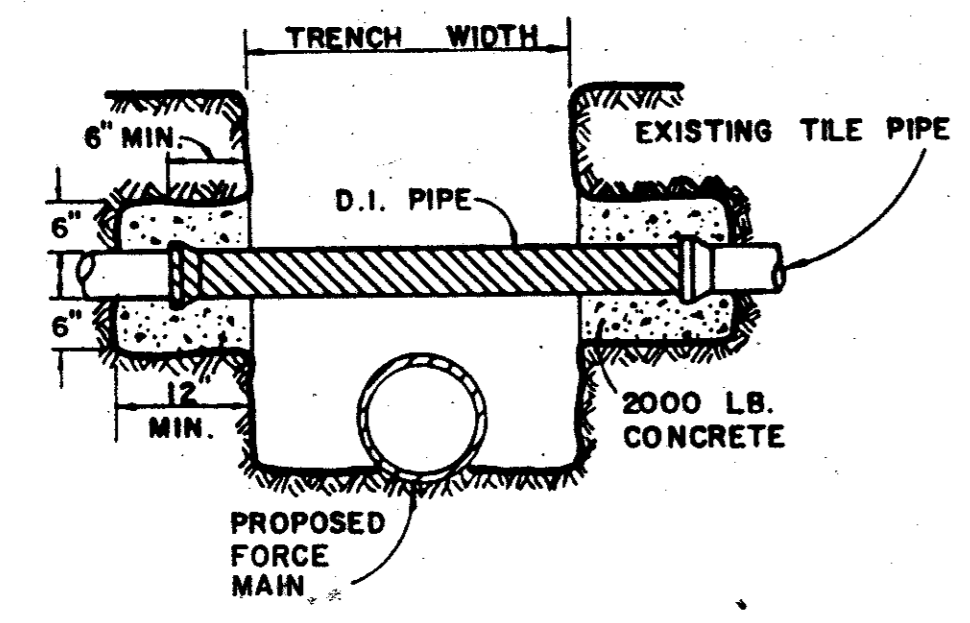
A	11.25°	22.50°	30°	45°	60°	75°	90°	A	
I.D. (IN.)	4.6.8	10.12	16.18	20	24	30	36	I.D. (IN.)	4.6.8
THRUST (TONS)	1.0	2.3	4.4	6.4	8.4	11.8	15.8	THRUST (TONS)	1.0
VOL. (C.Y.)	0.3	0.7	1.2	1.8	2.4	3.3	4.2	VOL. (C.Y.)	0.3
THRUST (TONS)	2.0	4.5	8.9	12.7	16.4	22.5	29.5	THRUST (TONS)	2.0
VOL. (C.Y.)	0.5	1.1	2.2	3.2	4.2	5.7	7.5	VOL. (C.Y.)	0.5
THRUST (TONS)	3.0	6.8	13.6	19.1	25.6	35.0	45.5	THRUST (TONS)	3.0
VOL. (C.Y.)	0.7	1.5	3.0	4.2	5.6	7.5	9.9	VOL. (C.Y.)	0.7
THRUST (TONS)	4.0	9.0	18.0	25.5	34.0	46.0	59.0	THRUST (TONS)	4.0
VOL. (C.Y.)	1.0	2.2	4.4	6.4	8.4	11.8	15.8	VOL. (C.Y.)	1.0
THRUST (TONS)	5.0	11.1	22.1	31.1	41.1	54.1	70.1	THRUST (TONS)	5.0
VOL. (C.Y.)	1.3	2.8	5.6	7.8	10.4	14.0	18.6	VOL. (C.Y.)	1.3
THRUST (TONS)	6.0	13.2	26.3	37.3	49.3	64.3	83.3	THRUST (TONS)	6.0
VOL. (C.Y.)	1.6	3.5	7.0	9.6	12.8	17.2	22.8	VOL. (C.Y.)	1.6
THRUST (TONS)	7.0	15.4	30.7	43.5	57.3	74.3	95.3	THRUST (TONS)	7.0
VOL. (C.Y.)	2.0	4.4	8.8	12.2	16.4	21.6	28.4	VOL. (C.Y.)	2.0
THRUST (TONS)	8.0	17.4	34.7	48.5	63.3	82.3	105.3	THRUST (TONS)	8.0
VOL. (C.Y.)	2.3	5.1	10.2	14.0	18.4	24.4	31.8	VOL. (C.Y.)	2.3
THRUST (TONS)	9.0	19.4	38.7	53.5	70.5	91.5	117.5	THRUST (TONS)	9.0
VOL. (C.Y.)	2.6	5.7	11.3	15.6	20.8	27.6	36.4	VOL. (C.Y.)	2.6
THRUST (TONS)	10.0	21.4	42.8	58.9	77.3	100.3	128.3	THRUST (TONS)	10.0
VOL. (C.Y.)	2.9	6.2	12.4	17.2	22.8	30.4	39.6	VOL. (C.Y.)	2.9



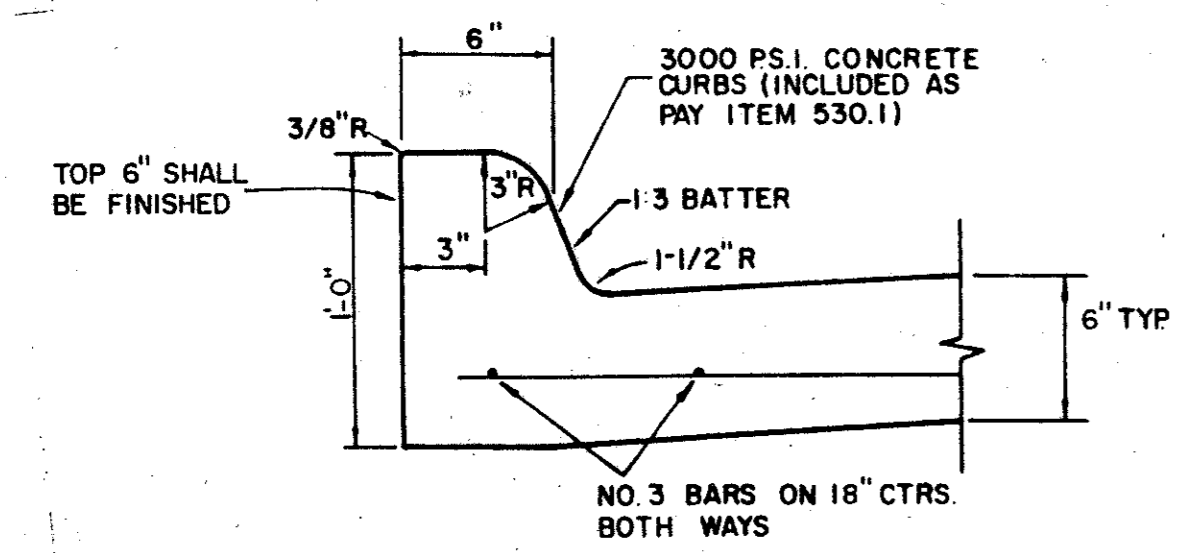
PLAN



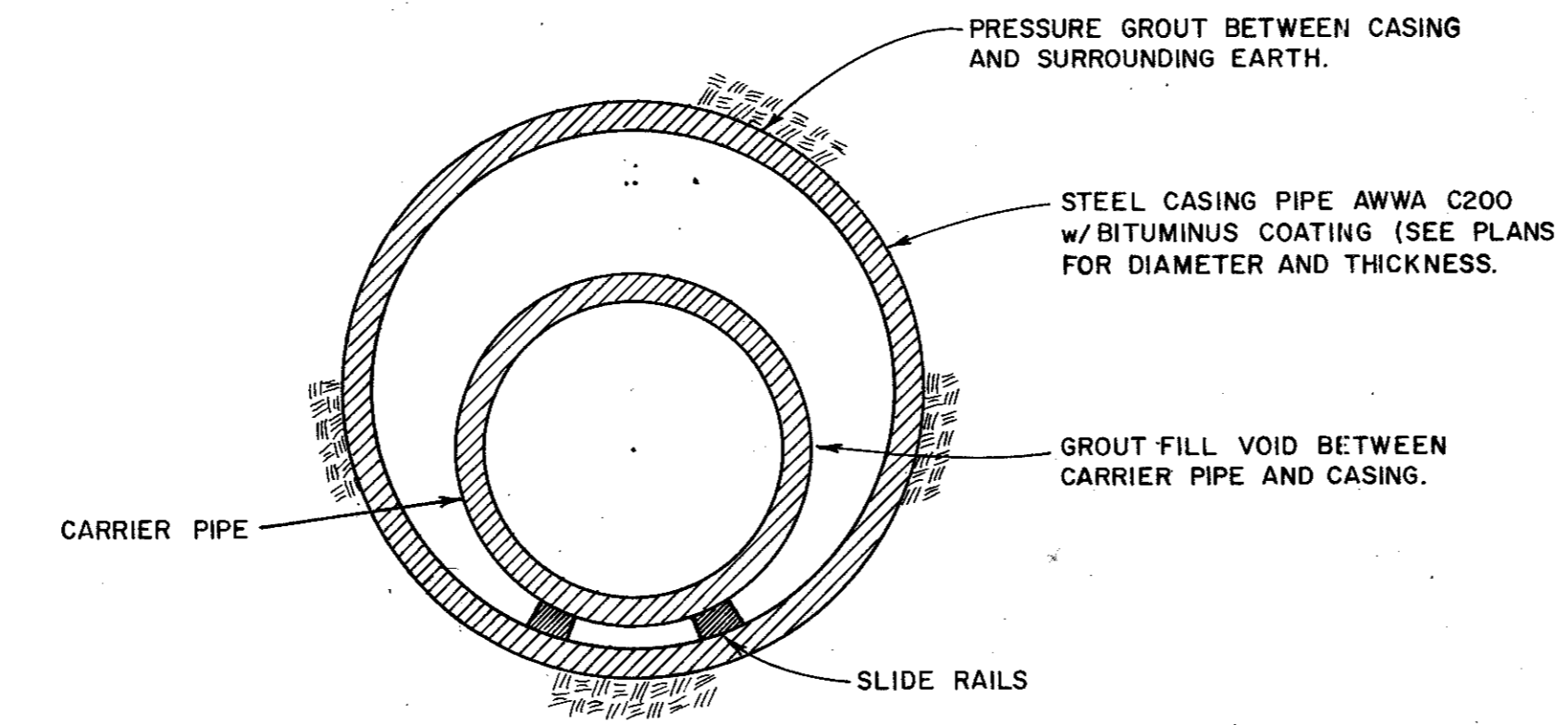
BORING DETAILS
NOT TO SCALE



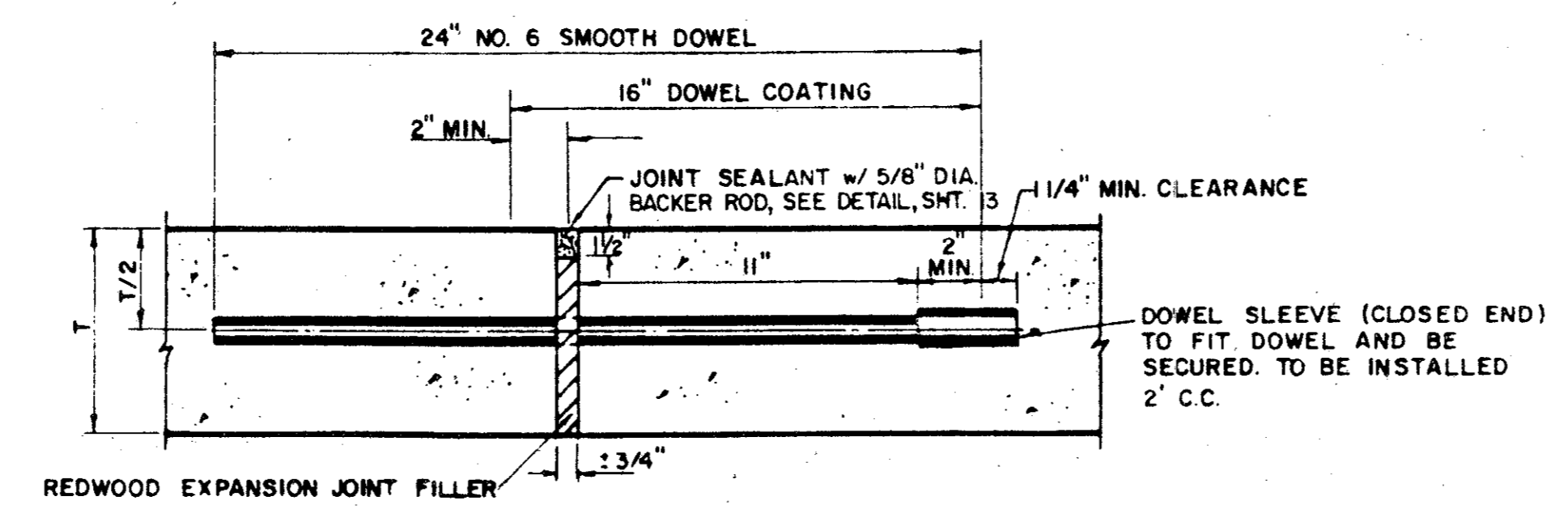
DETAIL OF UTILITY SUPPORT



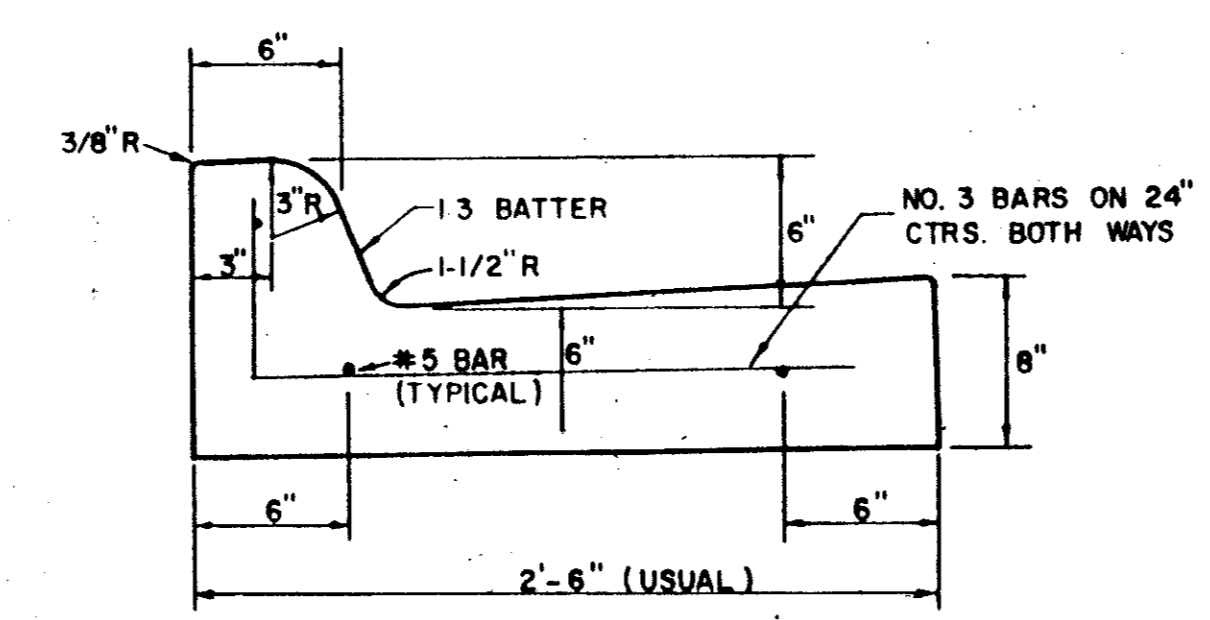
STANDARD CURB



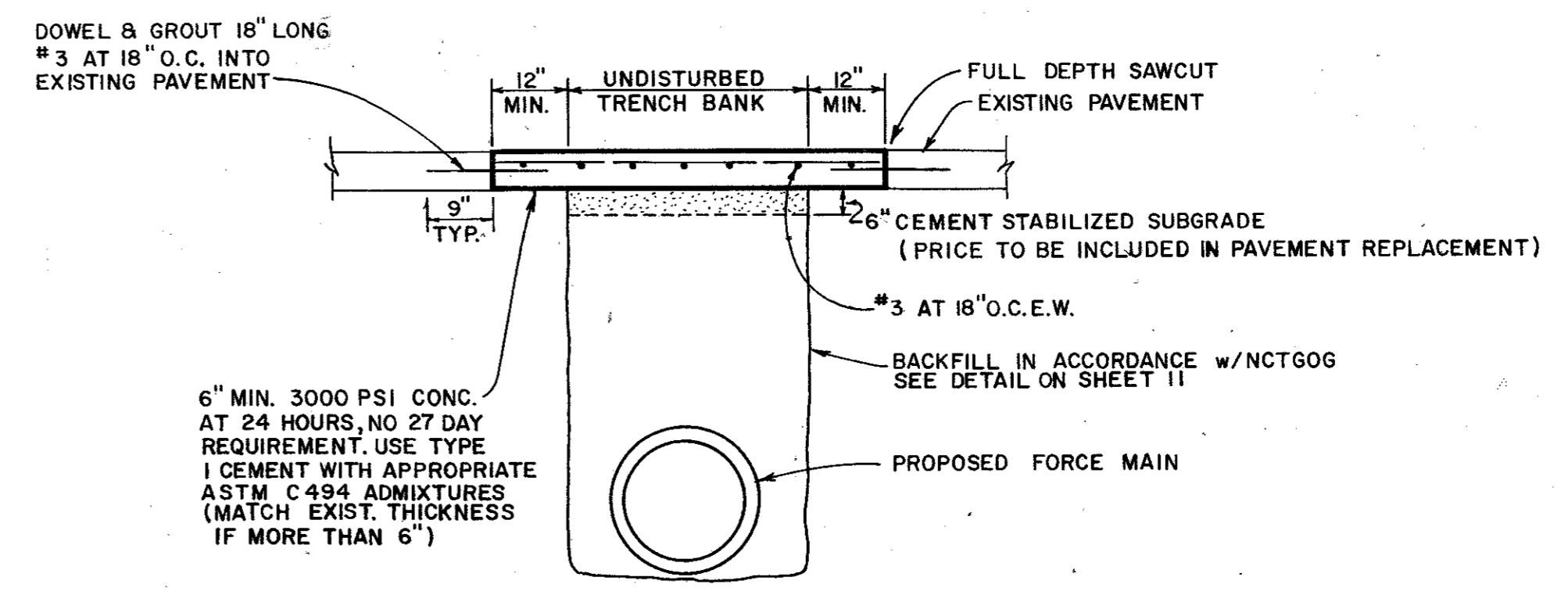
BORED SECTION
NOT TO SCALE



TRANSVERSE EXPANSION JOINT
N.T.S.

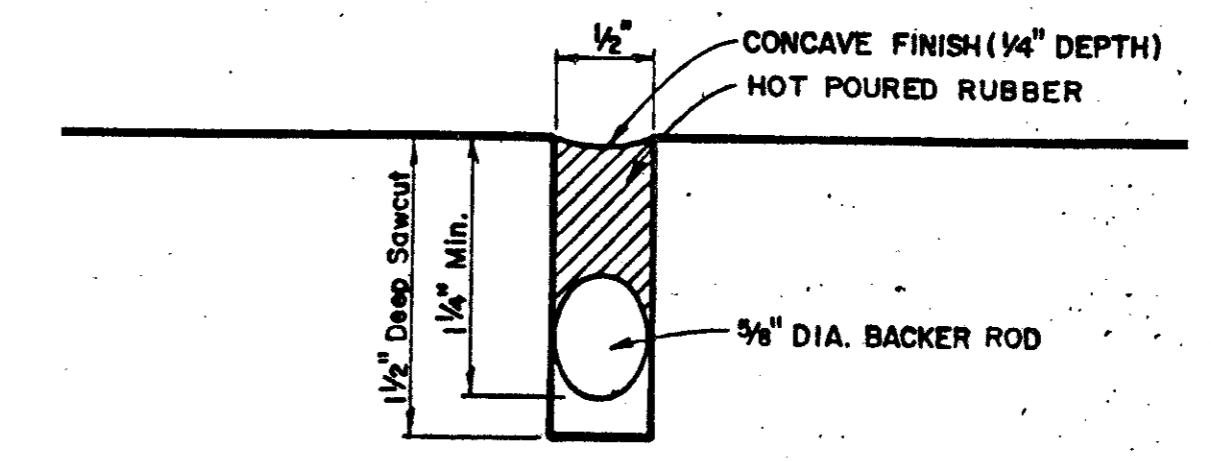


SEPERATE CURB AND GUTTER

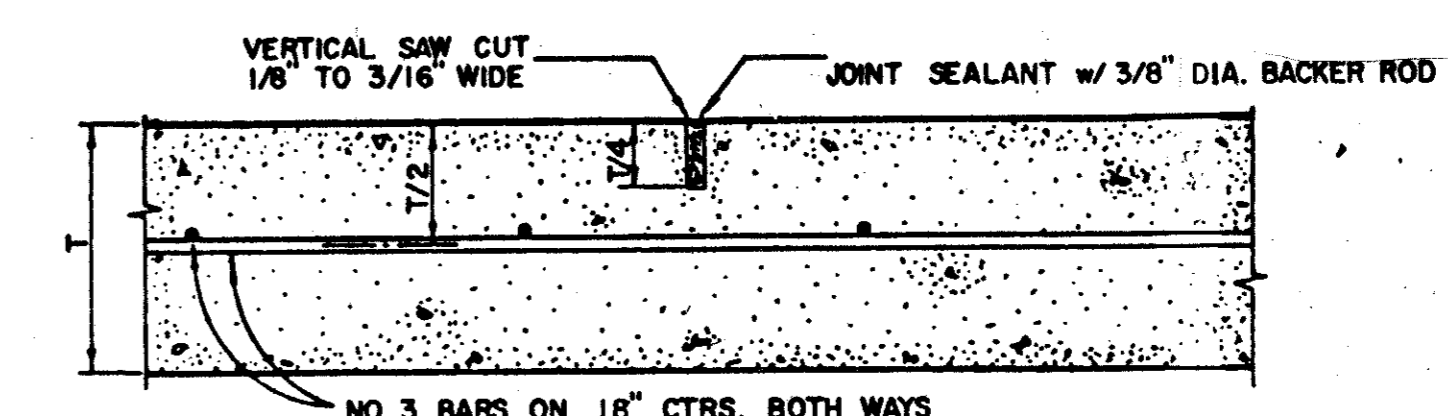


PAVEMENT REPLACEMENT DETAIL
NOT TO SCALE

NOTES:
ALL ASPHALT SHALL BE A MINIMUM OF 2\"/>



TYPICAL JOINT DETAIL
N.T.S.



SAWED DUMMY JOINT
N.T.S.

AS BUILT

DATE	REVISION	MADE	CHKD.	APPD.		
CARTER & BURGESS, INC. ENGINEERS - PLANNERS - SURVEYORS DALLAS TEXAS						
RAWHIDE CREEK LIFT STATION AND FORCE MAIN MISCELLANEOUS DETAILS						
TOWN OF ADDISON, TEXAS						
DESIGN	DRAWN	CHKD.	SCALE	DATE	FILE	NO.
McFALL	BARR MULLEN	LINDNER	AS SHOWN	AUG. 92	01-1457	13 of 13



John H. Lindner
8/17/92