

000000

SPECIALS FOREMAN
CONSTRUCTORS TRANS
RAY DAVIS
ENG. / EST.
SALES
CONTRACTOR
ENGINEER

CYL. FOREMAN
LINE/COAT FOREMAN
FIELD REP.
COTTON MEYER
LANCE REBSTOCK
QUALITY CONTROL
YARD FOREMAN
OTHER

U.S. PIPE & FOUNDRY COMPANY CONCRETE PIPE DIVISION

DALLAS, TEXAS

CONCRETE PRESSURE PIPE PROJECT

OWNER: CITY OF ADDISON

LOCATION: ADDISON, TEXAS

ENGINEER: RUSSELL BETTS & ASSOCIATES
5526 DYER
DALLAS, TEXAS 75206
ATTENTION: MR. RUSSELL BETTS

CONTRACTOR: LEONARD HAZEL, INC.
P. O. BOX 48098
WATAUGA, TEXAS 76148
ATTENTION: MR. LEONARD HAZEL

DESCRIPTION: 24" WATER LINE ADDITION IN
BELT LINE ROAD

PROJECT LOCATION
(NO SCALE)

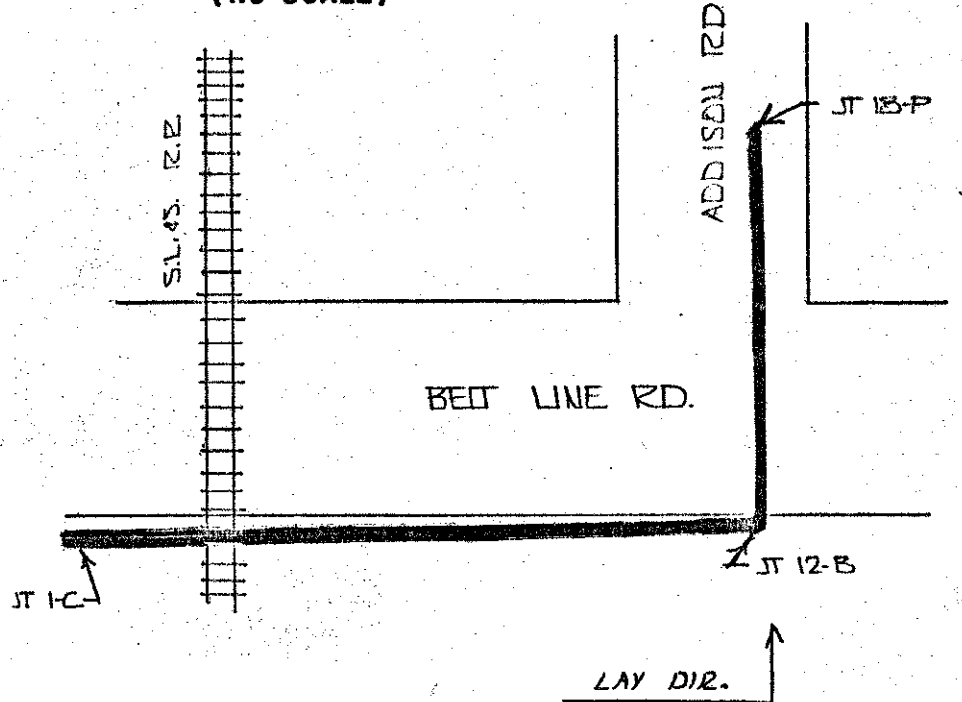


TABLE OF CONTENTS

- D-100 JOINT DETAIL
- L-1 THRU L- LINE LAYOUT
- D-101 THRU D-107 DETAILS

U.G.P.C. PERSONNEL (214) 638-6910

REFER TO JOB NO. 5281

SALES JOHN G. CASTER

ENGINEERING ROY E. STILWELL

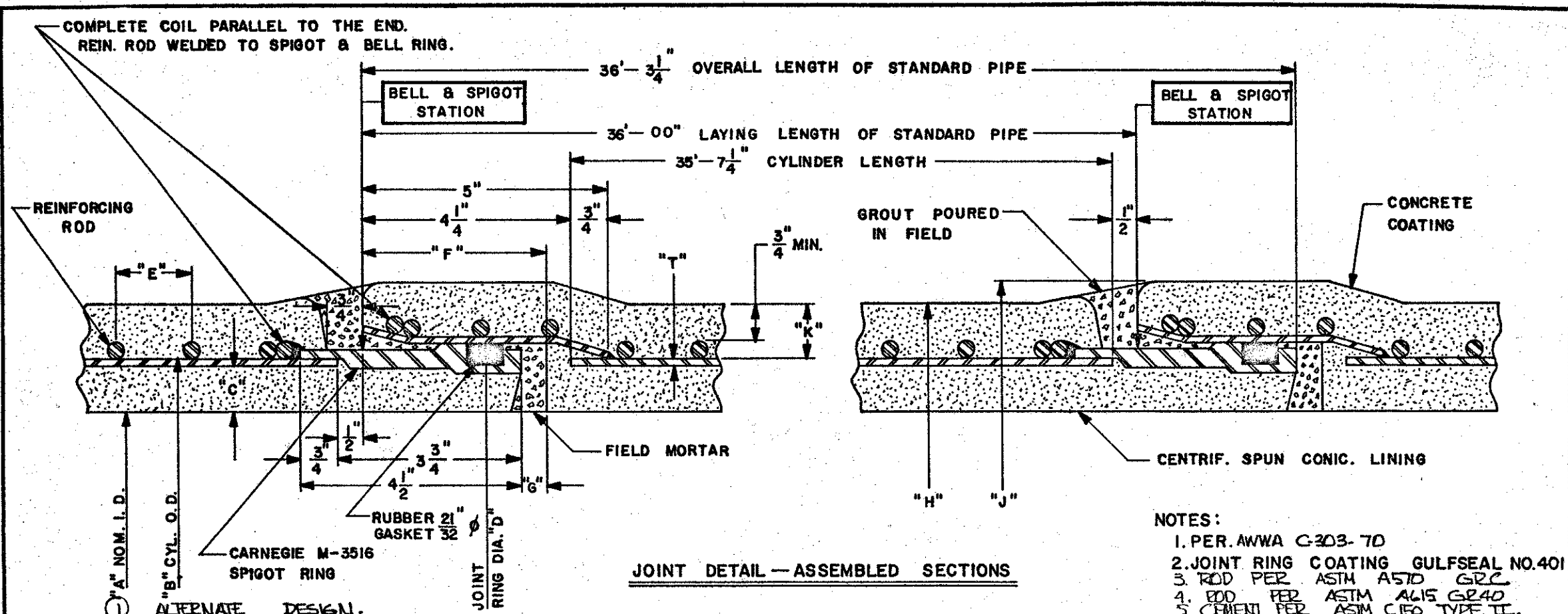
DELIVERY LANCE P. REBSTOCK

268 3642

PRELIMINARY DRAWINGS FOR
ENGINEER'S APPROVAL ONLY

Date 4-5-74 By BH

SPECIALS FOREMAN
 CONSTRUCTORS TRANS
 RAY DAVIS
 ENG. / EST.
 SALES
 CONTRACTOR
 ENGINEER
 CYL. FOREMAN
 LINE/COAT FOREMAN
 FIELD REP.
 COTTON MEYER
 LANCE REBSTOCK
 QUALITY CONTROL
 WARD FOREMAN
 OTHER



PRETENSIONED CONCRETE CYLINDER PIPE

QUANTITY OF PIPE, L.F.	I.D. OF PIPE "A"	DESIGN PRESSURE OR CLASS P.S.I.	TOTAL AREA SQ. IN./L.F.	STEEL CYLINDER				ROD REINFORCING				BELL RING THK.	JOINT RING DIA. "D"	LINING THK. "C"	COATING THK. "K"	"F"	"G"	"H"	"J"	MAX. PULL	JOINT DEF. IN 36"	WT. PER FT.		
				CYL. GAGE	OD. OF CYL. "B"	AS OF CYL. SQ. IN./L.F.	WT. OF CYL. LBS./L.F.	CYL. TEST PRESSURE PS=22,000	ROD DIA.	SPACING C TO C-IN.	A.S. OF ROD SQ. IN./L.F.												WT. OF ROD LBS./L.F.	WIRE TENSION LBS.
464.0'	24"	150	1,396	#4GA	25 3/4"	0.8916	22,44	129	5/16"	1.84	0.500	12.67	591	3/16"	26 1/4"	3/4"	1 1/16"	3 3/4"	4 2"	28"	29"	2 1/2"	16 5/8"	181
①									1/4"	1.18		12.64	378				1"							
①									7/32"	0.90		12.63	289				1"							

PRELIMINARY DRAWINGS FOR
 ENGINEER'S APPROVAL ONLY
 Date 4-8-74 By BH

NO.	DATE	BY	REVISION	DR. BY RS	A 5281	JOINT DETAIL PIPE DESIGN	U.S. PIPE & FOUNDRY CO. CONCRETE PIPE DIVISION
				CK. BY BH	DATE 4-4-74	ADDISON, TEXAS	JOB: 5281 SHT. D-100 OF REV.

PRELIM.
 4-5-74

00000000

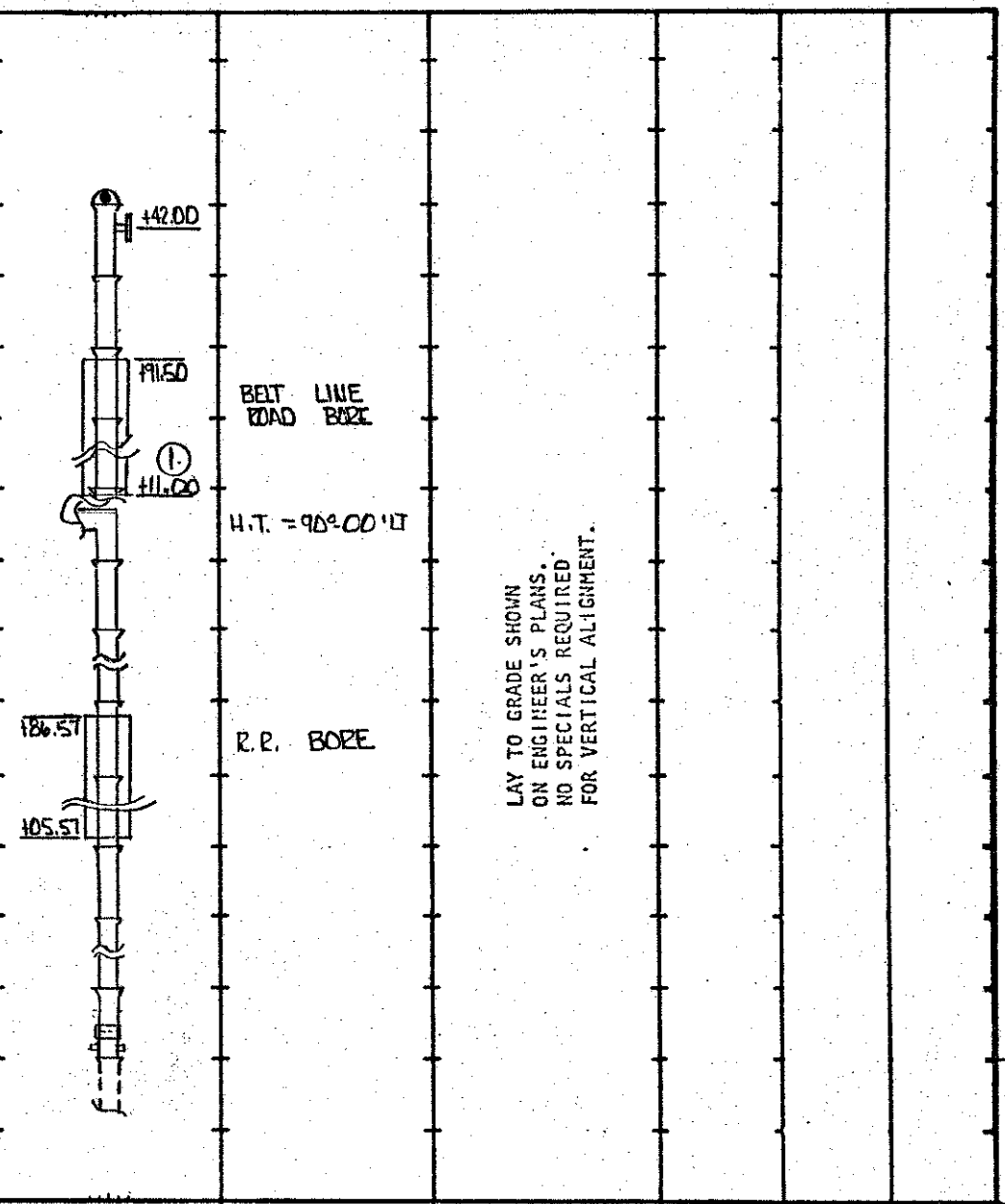
424.44 ITEM 1 (NOT INCL 1-C)
464.44 TOTAL

18

SPECIALS FOREMAN
CONSTRUCTORS TRANS
RAY DAVIS
ENG./ EST.
SALES
CONTRACTOR
ENGINEER

CYL. FOREMAN
LINE/COAT FOREMAN
FIELD REP.
COTTON MEYER
LANCE REBSTOCK
QUALITY CONTROL
YARD FOREMAN
OTHER

SIZE CLASS	FOOT	SPC.	NO. OF JOINTS	JT. NO. AND DESCRIPTION	DETAIL SHT. NO.	PIPELINE	HORIZ.	STATION
24" 5/8 CLASS 150				END 24" LINE				
	1	18-P		24" D.U. PLUG w/ 3/4" N.T.O. #P	106			4 + 64.44
	1	17-SP		SPC w/ 16" F.D.	105		36.00	4 + 28.44
	1	16		STD.			36.00	3 + 92.44
	1	155-SP		SHORT JOINT w/ H.C.B.	102		9.00	3 + 83.44
	2	14-SP 13-SP		SPC w/ H.C.B.	103		72.00	3 + 11.44
	1	12-B		24" GKT BEND (90° 00')	104		3.94 3.63	3 + 03.87
	1	11-S		24" SHORT JOINT	102		8.30	2 + 95.57
	3	B 9 10		STD.			108.00	1 + 87.57
	1	7-S-SP		24" SHORT JOINT w/ H.C.B.	102		11.00	1 + 76.57
	2	6-SP 5-SP		SPC. w/ H.C.B.	103		72.00	1 + 04.57
	1	4-S		24" SHORT JOINT	102		12.57	0 + 92.00
	2	2 3		STD.			72.00	0 + 20.00
	2	1-C		24" GKT CLOSURE w/ 2-6" H.H.	101		HOLD	0 + 00.00
				BEGIN LINE @ EXISTING 24" RCP PIPE. WET CONNECTION				



PRELIMINARY DRAWINGS FOR
ENGINEER'S APPROVAL ONLY

Date 4-8-74 By BH

NO.	BY	DATE	CHK.	REVISION	DR. P.E. STILWELL	DATE 4-4-74	CHK. BH	LINE LAYOUT	ADDISON, TEXAS	U.S. PIPE & FOUNDRY CO. CONCRETE PIPE DIVISION	JOB: 5281	SHT. L-1 OF	REV.
-----	----	------	------	----------	-------------------	-------------	---------	-------------	----------------	---	-----------	-------------	------

NOTE: READ UP
NOTE: BORE MUST BE CLEAR OF BEND RADIUS.

NO.	BY	DATE	CHK.	REVISION	DR. P.E. STILWELL	DATE 4-4-74	CHK. BH	LINE LAYOUT	ADDISON, TEXAS	U.S. PIPE & FOUNDRY CO. CONCRETE PIPE DIVISION	JOB: 5281	SHT. L-1 OF	REV.
-----	----	------	------	----------	-------------------	-------------	---------	-------------	----------------	---	-----------	-------------	------

JGPC/SW 100

PRELIMINARY
4-5-74

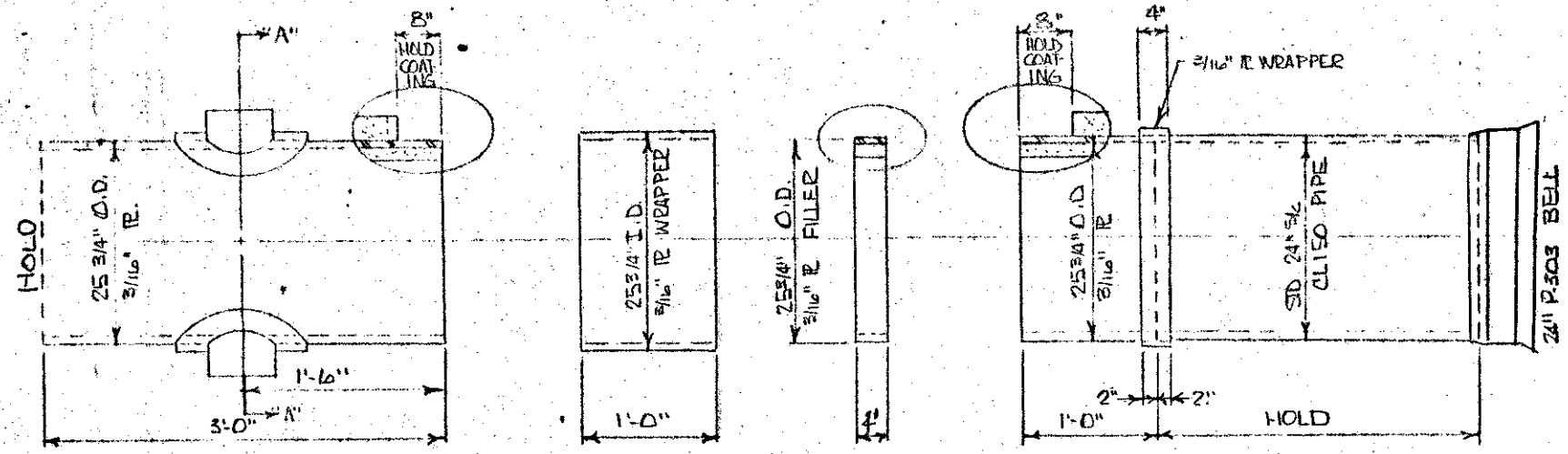
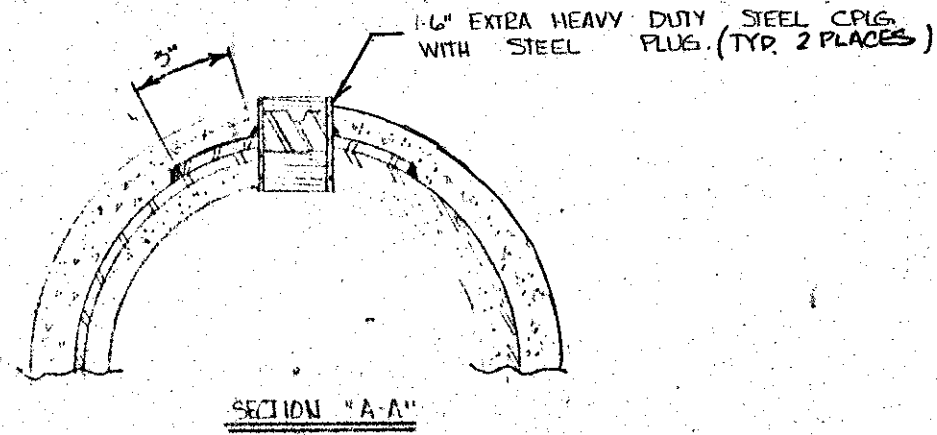
PRELIMINARY DRAWINGS FOR
ENGINEER'S APPROVAL ONLY

Date 4-8-74 By BH

SPECIALS FOREMAN
CONSTRUCTORS TRANS
RAY DAVIS
ENG./EST.
SALES
CONTRACTOR
ENGINEER

CYL. FOREMAN
LINE/COAT FOREMAN
FIELD REP.
COTTON MEYER
LANCE REBSTOCK
QUALITY CONTROL
YARD FOREMAN
OTHER

- NOTES:
1. 3/4" LININGS
 2. 1" COATING
 3. 2"x4" CURBA WIRE MESH REINFORCEMENT.



CLOSURE w/ 2 - 6" HAND HOLES
JOINT NO. 1-C

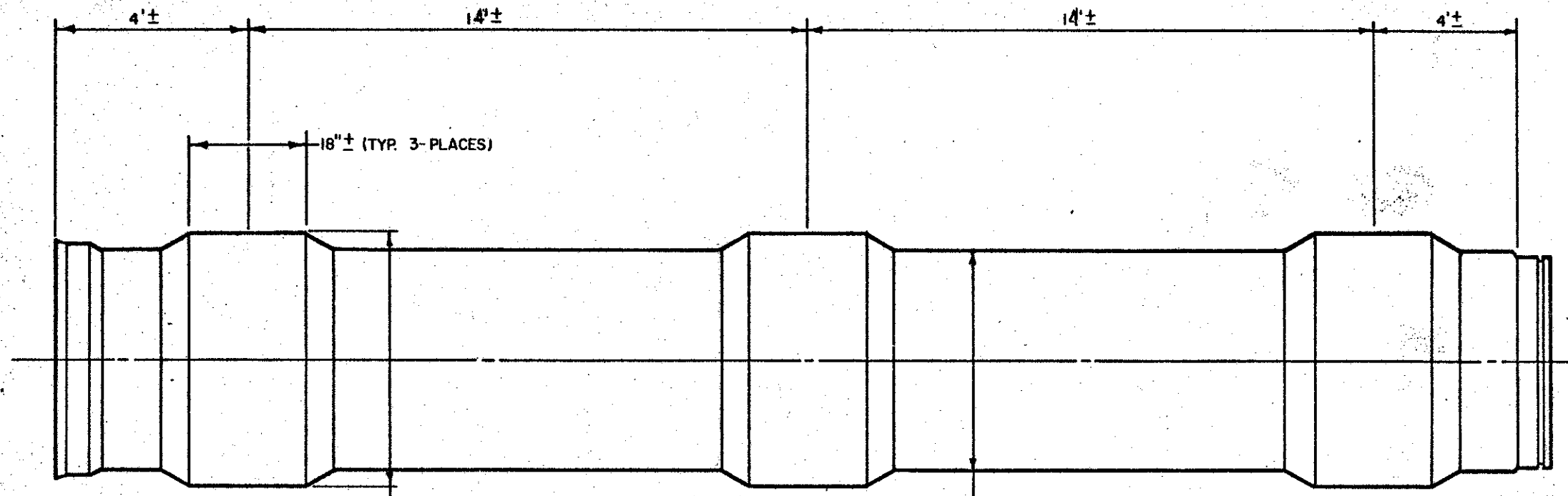
NO.	BY	DATE	CHK	REVISION	DR. R. STILLWELL	CLOSURE DETAIL	U.S. PIPE & FOUNDRY CO.
					DATE: 4-4-74	ADDISON TEX	CONCRETE PIPE DIVISION
					CHK: BH		JOB: 5281
							SHT. D-101 OF
							REV.

4-5-74

□□□□□□

SPECIALS FOREMAN
CONSTRUCTORS TRANS
RAY DAVIS
ENG./ EST.
SALES
CONTRACTOR
ENGINEER

CYL. FOREMAN
LINE/COAT FOREMAN
FIELD REP.
COTTON MEYER
LANCE REBSTOCK
QUALITY CONTROL
YARD FOREMAN
OTHER



O.D. OF BANDS TO BE LARGER THAN BELL O.D. AND REINFORCED WITH 2" X 4" X 13 GA. WIRE MESH.

STANDARD SHOT-COTE COATING. SEE JOINT DETAIL.

STD. JOINTS
 5-SP
 6-SP
 13-SP
 14-SP

SHORT JOINTS
 7-SP
 15-SP

PRELIMINARY DRAWINGS FOR ENGINEER'S APPROVAL ONLY

Date 4-6-74 By BH

NO	DATE	BY	REVISION

DR. BY *BS* A 5281
 CK. BY *BJ* DATE 4-4-74

HEAVY COATED PIPE
 ADDISON TEXAS

U.S. PIPE & FOUNDRY CO. CONCRETE PIPE DIVISION		
JOB: 5281	SHT. D-03 OF	REV.

PRELIM.
4-5-74

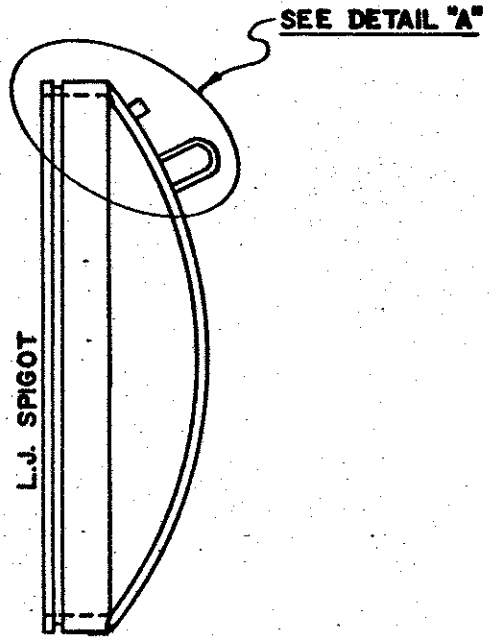
00000000

SPECIALS FOREMAN
CONSTRUCTORS TRANS
RAY DAVIS
ENG. / EST.
SALES
CONTRACTOR
ENGINEER

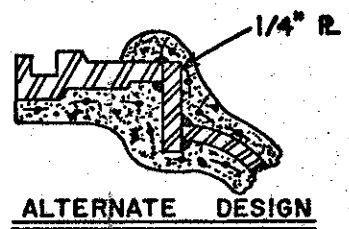
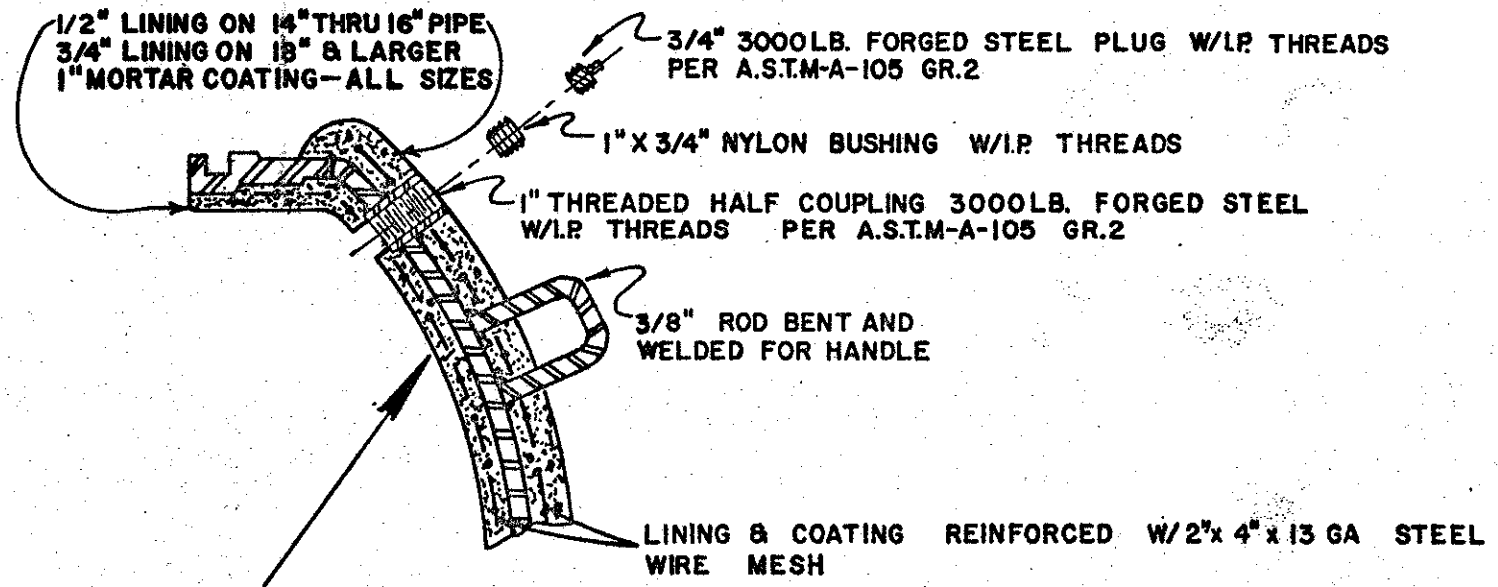
CYL. FOREMAN
LINE/COAT FOREMAN
FIELD REP.
COTTON MEYER
LANCE REBSTOCK
QUALITY CONTROL
WARD FOREMAN
OTHER

PRELIMINARY DRAWINGS FOR
ENGINEER'S APPROVAL ONLY

Date 4-8-74 By BH



DISHED HEAD PLUG



ALTERNATE DESIGN

TABLE FOR DISHED HEAD PLUG					
PIECE MARK	NO REQ'D	NOM SIZE	UNCUT DISHED HEAD OD.	L.J. SPIGOT O.D.	DISHED R. THK.
		14"	16"	15-3/4"	3/16"
		16"	18"	17-7/8"	3/16"
		18"	21"	20-9/32"	3/16"
		20"	23"	22-9/32"	3/16"
		21"	24"	23-9/32"	3/16"
18-P	1	24"	27"	26-1/4"	3/16"
		27"	30"	29-9/32"	3/16"
		30"	33"	32-3/8"	3/16"
		33"	36"	35-3/8"	3/16"
		36"	39"	38-3/8"	3/16"
		42"	45"	44-3/8"	1/4"
		48"	51"	50-3/8"	1/4"

NO	DATE	BY	REVISION

DR BY RS JOB 5281
CK BY BH DATE 4-4-74

DISHED HEAD PLUG
ADDISON, TEXAS

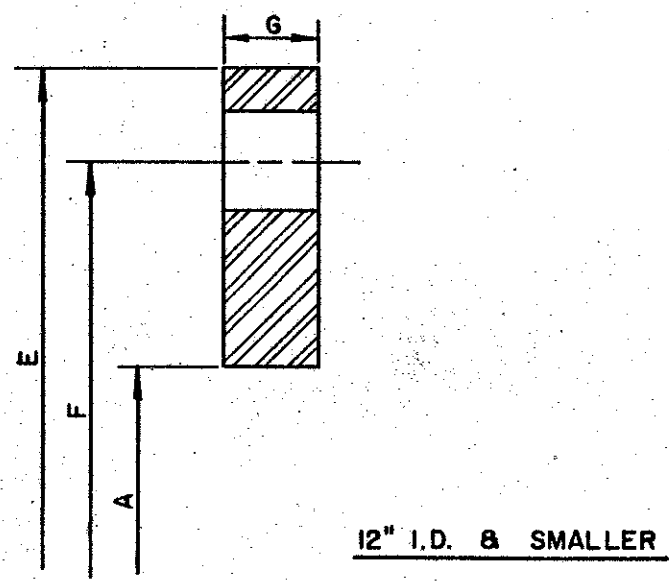
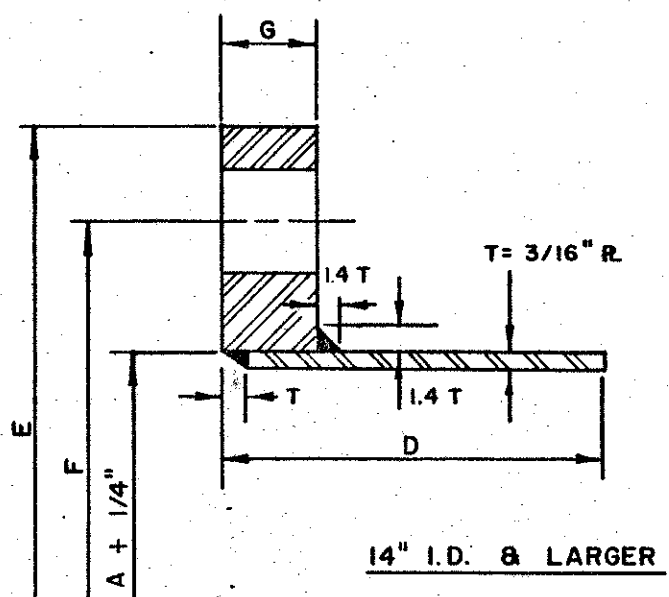
U.S. PIPE & FOUNDRY CO.
CONCRETE PIPE DIVISION
JOB: 5281 SHT. 106 OF REV.

FILED 4-5-74

000000

SPECIALS FOREMAN
CONSTRUCTORS TRANS
RAY DAVIS
ENG./EST.
SALES
CONTRACTOR
ENGINEER

CYL. FOREMAN
LINE/COAT FOREMAN
FIELD REP.
COTTON MEYER
LANCE REBSTOCK
QUALITY CONTROL
WARD FOREMAN
OTHER



RING FLANGE SCHEDULE

NOM. SIZE	NO. OF FLANGES REQ'D	I.D. OF OPENING "A"	LGT. OF NOZZLE "D"	O.D. OF FLANGE "E"	B.C. OF FLANGE "F"	THK. OF FLANGE "G"	NO. OF BOLT HOLES	DIA. OF BOLT HOLES	CLASS
2"		2-3/8"		6"	4-3/4"	3/4"	4	3/4"	
4"		4-1/2"		9"	7-1/2"	15/16"	8	3/4"	
6"		6-5/8"		11"	9-1/2"	1"	8	7/8"	
8"		8-5/8"		13-1/2"	11-3/4"	1-1/8"	8	7/8"	
10"		10-3/4"		16"	14-1/4"	1-3/16"	12	1"	
12"		12-3/4"		19"	17"	1-1/4"	12	1"	
14"		15-1/4"	18"	21"	18-3/4"	15/16"	12	1-1/8"	
16"	1	17-3/8"	18"	23-1/2"	21-1/4"	1"	16	1-1/8"	D
18"		19-25/32"	18"	25"	22-3/4"	1-1/16"	16	1-1/4"	
20"		21-25/32"	18"	27-1/2"	25"	1-1/8"	20	1-1/4"	
24"		25-3/4"	18"	32"	29-1/2"	1-1/4"	20	1-3/8"	
30"		31-7/8"	18"	38-3/4"	36"	1-3/8"	28	1-3/8"	
36"		37-7/8"	18"	46"	42-3/4"	1-5/8"	32	1-5/8"	
48"		49-7/8"	18"	59-1/2"	56"	1-3/4"	44	1-5/8"	

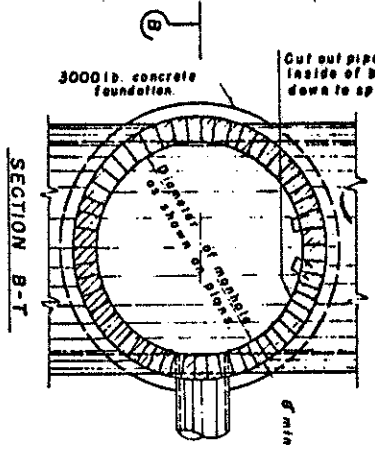
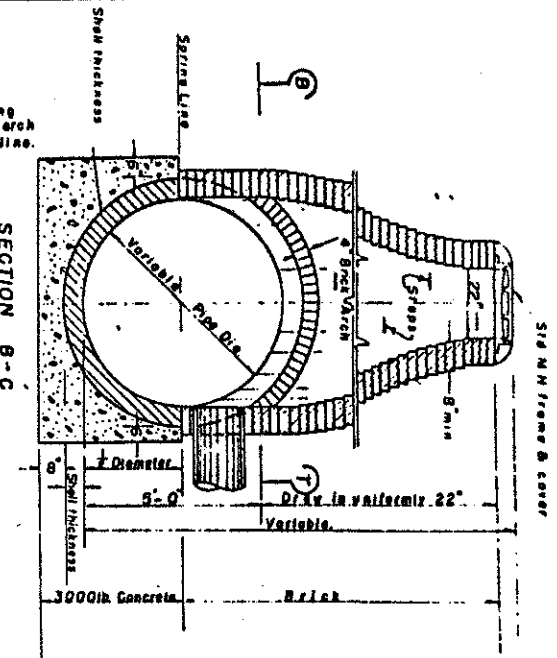
- NOTES.**
1. ALL FLANGES TO BE FLAT-FACED
 2. RAW MATERIAL THICKNESS OF FLANGES TO BE "G" + 1/8"
 3. ALL FLANGES TO BE SPOT-FACED AT BOLT HOLES ON BACK SIDE
 4. FLANGE MATERIAL TO BE ASTM A-283 GR "B" OR "C" FOR 6" THRU 48" & ASTM A-181 GR. 1 FOR 2" THRU 4"
 5. ALL RING FLANGES IN ACCORDANCE WITH AWWA SPEC. C207-55 175 P.S.I. ON 12" & SMALLER — 150 P.S.I. ON 14" & LARGER TABLE 1, CLASS D (APPLICABLE TO 6" THRU 48")
 6. 12" & SMALLER FLANGES PER A.S.A. 150# S.O. FLAT-FACED FORGED STEEL
 7. FLANGE TO BE FACED & BOLT HOLES DRILLED, AFTER ATTACHMENT TO NOZZLE, ON AWWA SPEC. C207-55 FLANGE.

RELIMINARY DRAWINGS FOR
ENGINEER'S APPROVAL ONLY

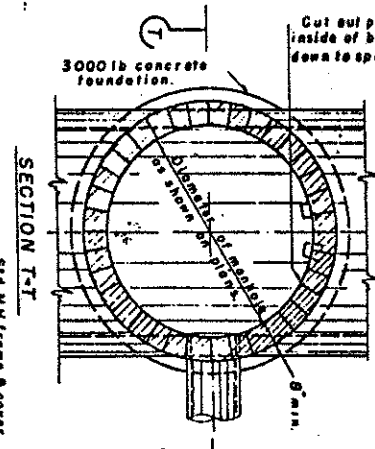
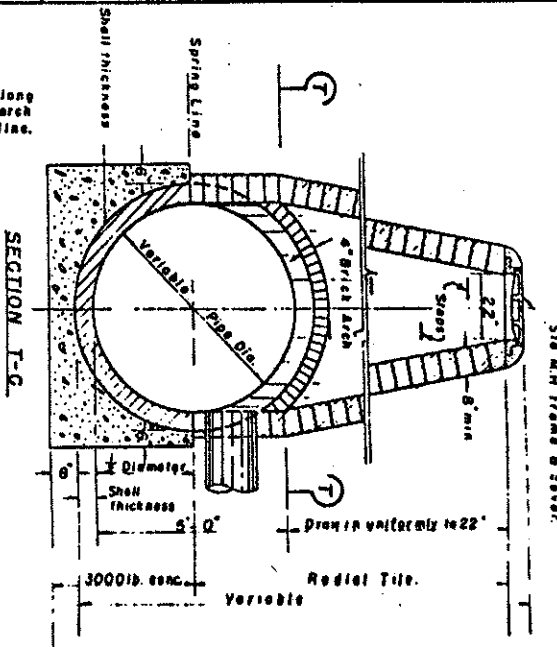
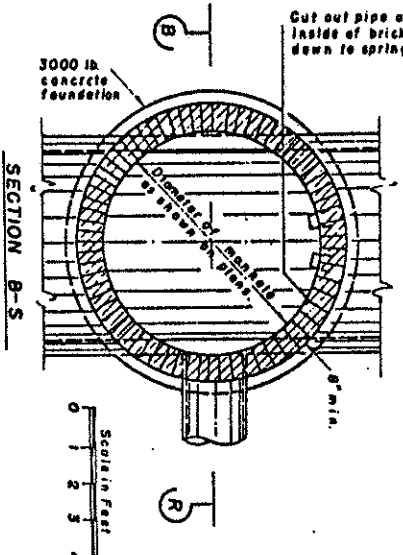
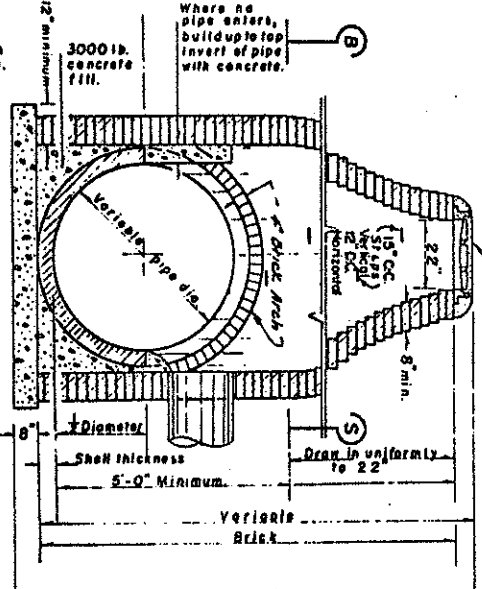
Date 4-8-74 By B.H.

RSTILLWELL	5281	RING FLANGE SCHEDULE ADDISON TEXAS	U.S. PIPE & FOUNDRY CO. CONCRETE PIPE DIVISION		
B.H.	4-8-74		JOB: 5281	SHT. 7 OF 7	REV.

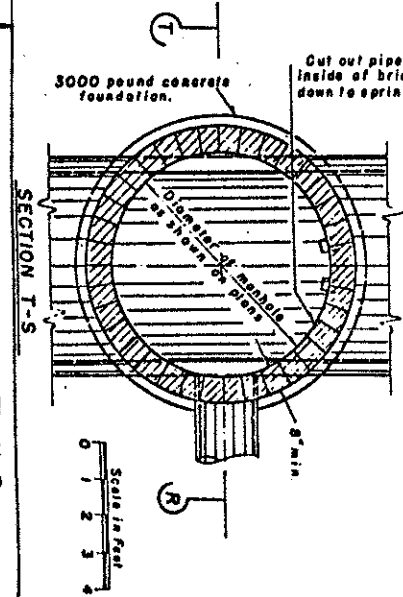
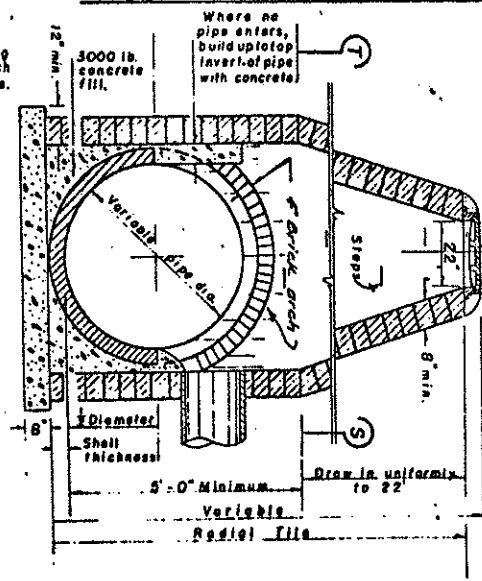
FILED
4-5-74



BRICK MANHOLE—DIAMETER SHOWN ON PLANS



TILE MANHOLE—DIAMETER SHOWN ON PLANS



STANDARD DETAILS
MANHOLES AND FITTINGS

DEPT. OF PUBLIC WORKS
CITY OF DALLAS, TEXAS

DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	NO.
C.T. BAEN	F. C.	JUNE 22	SHOWN	NONE	4240	8

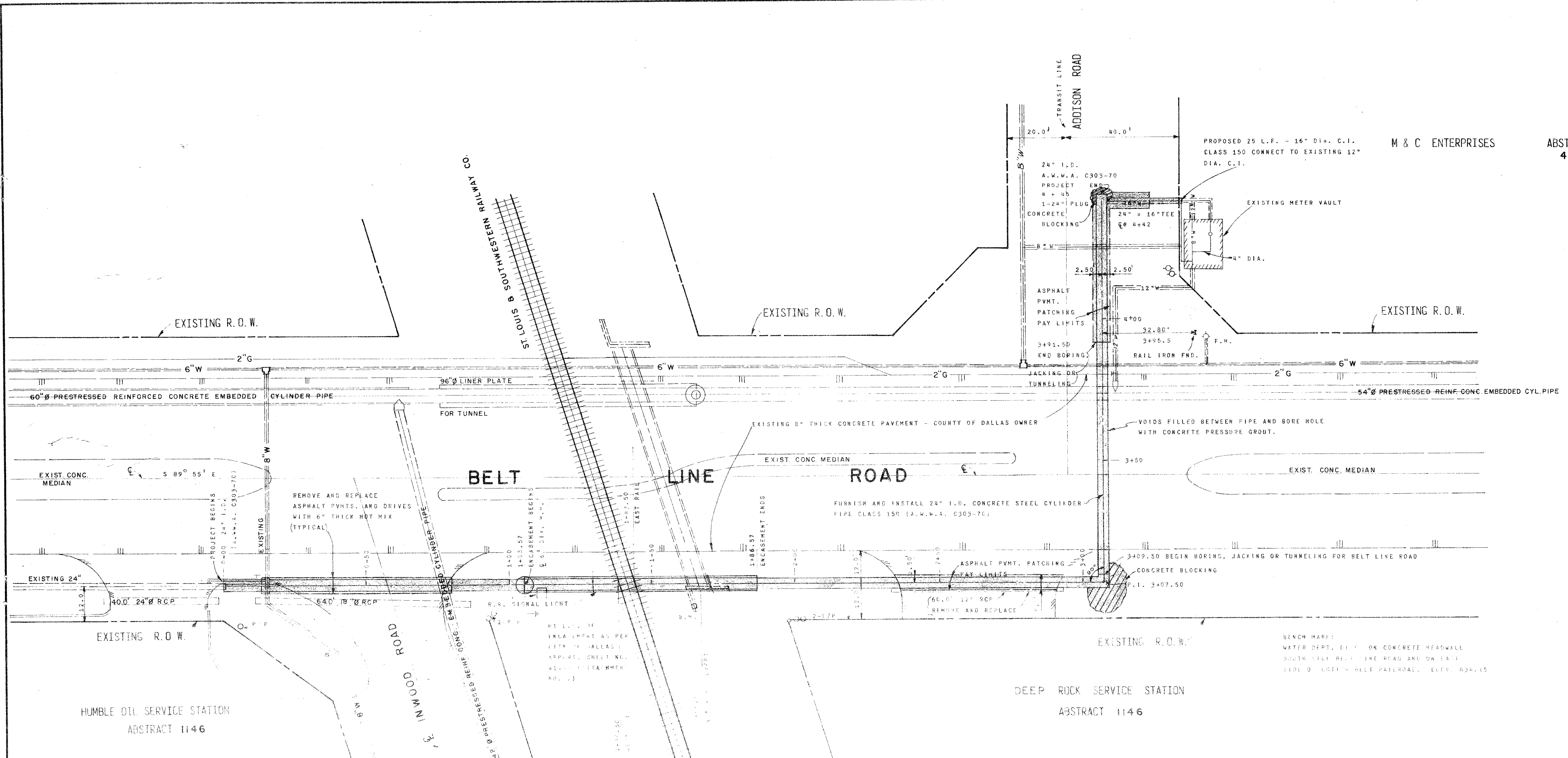
Traced for Preston Road Project
from Dept. of Public Works, City of
Dallas, Original drawing

NOTES APPLICABLE TO ALL MANHOLES:

1. Concrete shall have a minimum compressive strength of 3000 lbs. per sq. in. at 28 days.
2. Manholes shall be built on the main sewer line, lateral pipes may enter manholes at any location.
3. Reinforcing, casting, brick and radial tile shall conform to the specifications.
4. Diameter of concrete base shall not be less than inside dia. of manhole - 2 feet.
5. Manholes will be measured & paid for at the contract unit price per each, regardless of depth of manhole.
6. Manholes, except for horsehoe sewers, where designated as dia., means the inside dia. of the manhole, exclusive of draw in.

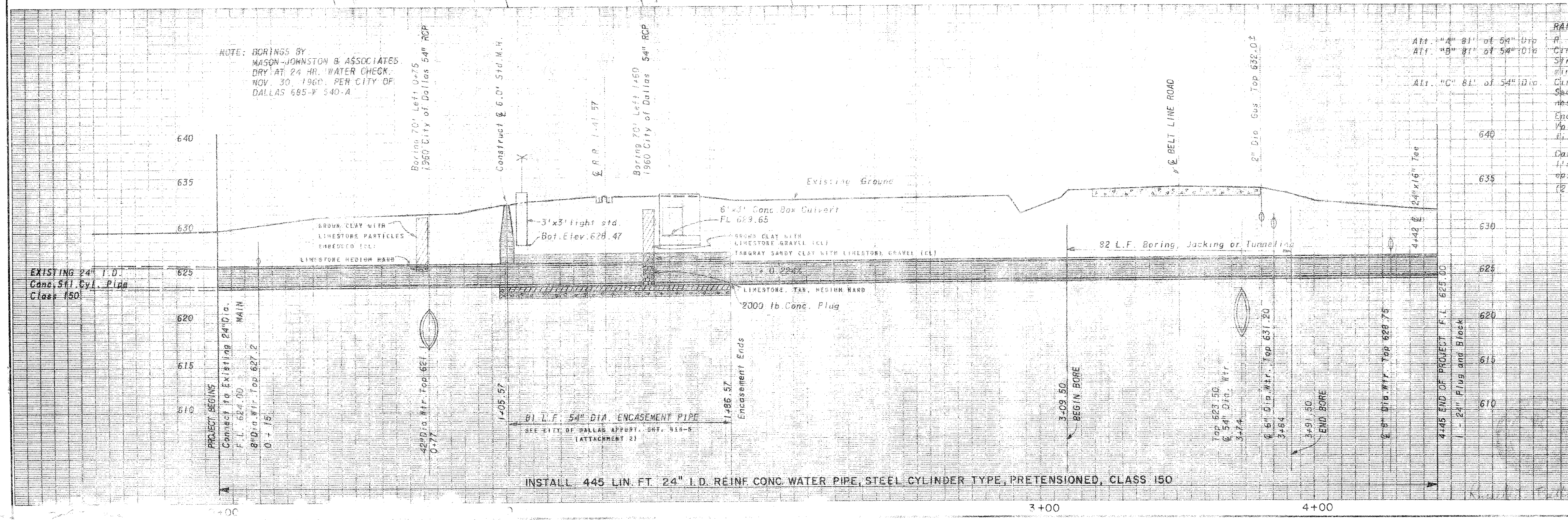
80-5

QUAN.	UNIT	DESCRIPTION
363	L.F.	24" I.D. (A.W.W.A. C303-70) Conc. Stl. Cyl. Prestensioned Pipe.
25	L.F.	16" Cast Iron Class 150 Pipe.
2	Each	Closure Connections.
1000	Lbs.	Cast Iron Fittings.
81	L.F.	54" Dia. Encasement Pipe for Railroad Crossing.
82	L.F.	24" I.D. (A.W.W.A. C303-70) installed by Boring, Jacking or Tunneling.
1	Each	6.0' Dia. Manhole, City of Dallas Std.
20	Cu.Yd.	2000 Lb. Concrete for backing or blocking.
21	Tons	Replacement of Asphalt Conc. Pavement.



ABSTRACT 482

M & C ENTERPRISES



RAILROAD CROSSING
 Alt. "A" 81' of 54" Dia
 Alt. "B" 81' of 54" Dia
 Alt. "C" 81' of 54" Dia
 R.C. Culvert Pipe, Class III, H.A.S.T.M. C-76-52Z
 Corrugated Galvanized Metal Pipe, 18 Gage, Galvanized,
 Strutted with a Bed Spd. of 0.165 in. 2 in. of width and
 minimum thickness.
 Curved Tunnel Liner Plate 8 Gage Galvanized, with a
 Sec. Mod. of 0.478 in. of width and minimum thick-
 ness of 1/16 in.
 Encasement Pipe shall be placed by jacking or tunneling.
 Voids between Encasement Pipe and Earth or Rock shall be
 filled with grout.
 Carrier Pipe shall be supported on Conc. blocks, approx
 11x21x24 every 4' with sufficient clearance to permit
 easy access to all joints. There shall be a min. of two
 (2) Hold Down Jacks per joint. As per Appurt. Set. 4A4D-11

24" I.D. WATER MAIN EXTENSION IN BELT LINE ROAD INWOOD ROAD to ADDISON ROAD DEPARTMENT OF PUBLIC WORKS CITY OF ADDISON, TEXAS						
DESIGN	DRAWN	DATE	SCALE	NOTES	ATTACHMNT	SHEET
RUSSELL L. BETTS AND ASSOC.		MAR. 1974	V1" = 6' H:1" = 20'	RLB	3	1 of 1

INSTALL 445 LIN. FT. 24" I.D. REINF CONC WATER PIPE, STEEL CYLINDER TYPE, PRETENSIONED, CLASS 150

SPECIFICATIONS

RAILROAD CROSSINGS

See General Provisions And Requirements, Section W-7.55-7

Water Or Sewer Pipe Lines 12" And Under Crossing A Railroad Right Of Way Will Be Placed In An Encasement Pipe Whose Diameter Shall Be At Least 2 Inches Greater Than The Largest Outside Diameter Of The Carrier Pipe But Shall Not Exceed 42" Inside Diameter. The Encasement Pipe Will Be Of Corrugated Metal Or Class II Wall B Reinforced Concrete Culvert Pipe, A.S.T.M. C-76-59 The Corrugated Pipe Shall Be 14 Gauge Metal Up To And Including 42" Diameter 24", 30" & 36" Shall Be 12" Gauge And 42" Pipe Shall Be 10 Gauge. The Encasement Pipe Will Be On A Minimum Of 0.025 Slope, And The Top Of Same Shall Be A Minimum Of 4'-6" Below The Base Of The Rails. The Length Of Encasement Pipe Shall Extend Each Side From The Center Line Of The Outside Track, Measured At Right Angles, A Minimum Distance Of 11 Feet Plus 18 Or 5 Feet (Where "D" Equals The Depth Of The Bottom Of The Casing Below Sub-Grade) The Encasement Pipe Will Be Tightly Jointed To Prevent Leakage. The Ends Of The Encasement Pipe Shall Be Plugged With A Clay Core To Prevent Entrance Of Excessive Ground Water But Would Allow Water To Leak Out In Case Of Pressure Leak In Carrier Pipe.

The Encasement Pipe May Be Installed By Boring, Jacking, Or Tunneling Regardless Of The Method Used. The Encasement Pipe Will Be Installed With Even Bearing Throughout Its Length And All Voids Between The Pipe And The Earth Or Rock Shall Be Filled With Pea Gravel Or Grout. Timber Support Will Not Be Permitted Where The Railroad Right Of Way Carries A Minor Volume Of Traffic And Permission Is Granted By The Railroad Company. Open Cut Method May Be Used To Install Encasement Pipe. The Backfill Shall Be Of Sand For Full Length Of Encasement Pipe To Natural Ground Level Or To Sub-Grade Of Railroad, Jettied Until All Settlement Causes Sub-Grade Material Will Be Replaced Thoroughly Compacted. Open Cut Will Normally Terminate 10 Feet From Center Line Of Outer Pair Of Rails.

The Carrier Pipe Shall Be Class 200 Cast Iron Water Pipe, Or Kind And Class Of Pipe Designed To Carry The Water And Sanitary Sewer With Joints Made Up In Place In The Encasement Pipe (If Same Or Sufficient Size) Or Made Up Outside And Pushed Through From The End If Insufficient Room Is Available. The A.T.&P.F. Ry. Co. Requires A.S.T.M. C-76 Class V Wall B Reinforced Concrete Pipe In Lieu Of Class II Wall B. Minimum Depth Below Base Of Rail To Top Of Casing 5 Feet 6 Inches. Pipes Larger Than 12" Will Require A Special Design Along The Same General Method As Above.

STATE HIGHWAY CROSSINGS

All Excavations Within The Right Of Way And Not Under Surfacing Shall Be Backfilled By Tamping In Six (6) Inch Horizontal Layers. All Surplus Material Shall Be Removed From The Right Of Way And The Excavation Finish Flush With Surrounding Natural Ground. Where Siding Is Disturbed By Excavation Or Backfilling Operations, Such Areas Shall Be Replaced By Mutch Sodding On All Slopes Of Two (2%) Per-Cent Or Less All Slopes Over Two (2%) Percent Shall Be Replaced By Block Sodding.

Highway Crossings Of Water And Sewer Lines Under Surfaced Roads And Under Surfaced Cross Roads Within The Right Of Way May Be Placed By Open Cut, Boring, Tunneling, Or Jacking. A Combination May Be Specified On The Plans.

Primary Highway Or Expressway Crossings Will Require An Encasement Pipe At Least Two (2) Inches Greater Than The Largest Outside Diameter Of The Carrier Pipe For Sewer Pipes 12" And Under The Encasement Pipe Will Be Corrugated Metal Or Class II Wall B Reinforced Concrete Culvert Pipe A.S.T.M. C-76-59 The Corrugated Pipe Shall Be 14 Gauge Metal Up To And Including 30" Diameter 36" And 42" Corrugated Pipe Shall Be 12 Gauge. Larger Encasement Pipes Or Tubes Shall Be Specially Designed To Withstand 4-20 Loading Plus Dead Load. The Tubes Will Be Of Corrugated Metal Pipe, Sectional Corrugated Plate Line Pipe Or Reinforced Concrete To Suit Conditions Of Crossing. The Encasement Pipe Will Be On A Minimum Of 0.025 Slope With A Length Sufficient To Clear Each Paving Strip By 10 Feet. Pipes Over 42" In Size Shall Be Plugged With Concrete With Manhole For Entrance. Encasement Pipes Will Be Plugged With A Clay Core To Prevent Entrance Of Excessive Ground Water But Which Will Allow Water To Leak Out In Case Of Pressure Leak In Carrier Pipe Where Conditions Are Favorable A Drain Will Lead Out Of The Encasement Pipe Or Tube To A Free Outfall Regardless Of The Method Used In Installing The Encasement Pipe Or Tube, It Will Be Installed With Even Bearing Throughout Its Length And All Voids Between The Pipe And The Earth Or Rock Shall Be Filled With Pea Gravel Or Grout. Timber Supports Will Not Be Permitted. Open Cut Ditch Will Normally Terminate Ten (10) Feet From Edge Of Paving. The Carrier Pipe Will Be The Kind And Class Of Pipe Designed To Carry The Sewer Or Water.

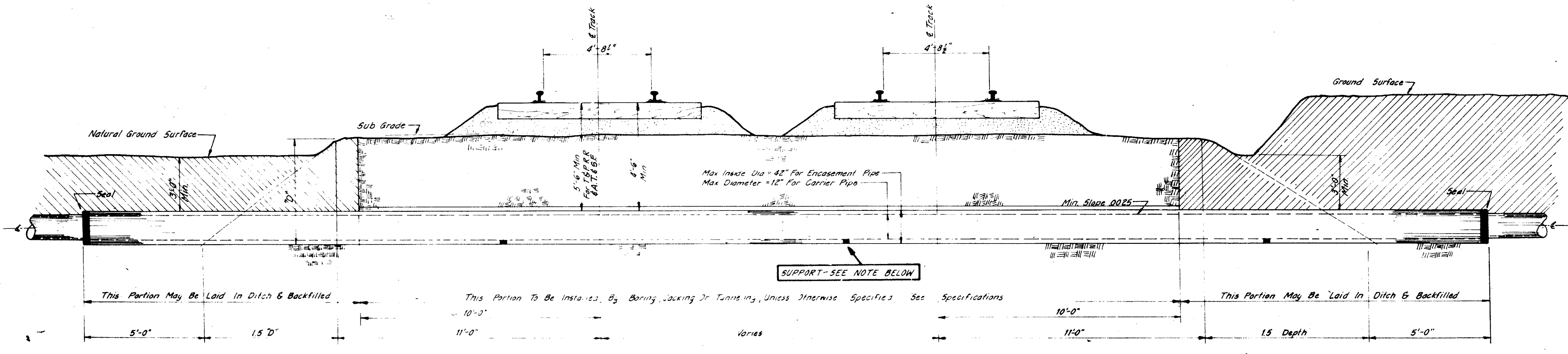
Secondary Highway Crossings Will Not Require An Encasement Pipe. But It Will Be Used If Jacking Or Tunneling Methods Are Used To Cross All Or Any Portion Of The Highway. If The Carrier Pipe Is Other Than Cast Iron It Must Be Wrapped With 2000# Concrete Equivalent In Design To Class G Embedment, And Must Extend From Ditch Line To Ditch Line. In The Event Of An Open Cut The Following Conditions Will Govern.

(a) CONCRETE PAVEMENT

Backfill Shall Be Stabilized By The Addition Of Two (2) Sacks Of Cement Per Cubic Yard Of Material. The Backfill Material May Be 4 1/2" Run Gravel Or Sandy Soil Free From Lumps Or Clods All Material Shall Be Mixed With Cement In A Concrete Mixer Or Transit Mix. Backfill May Be Mechanically Tamped In A Moist Condition Or Water Added To Provide A Free Flowing Mixture. Backfill Shall Be Brought Up To A Level Six (6) Inches Below The Bottom Of The Pavement. The Pavement Shall Be Cut Back A Distance Of Twelve (12) Inches On Each Side Of The Edge Of The Excavation And The Area From The Top Of The Backfill To Finished Pavement Gravel In Those Cases Where There Is An Asphalt Surface On Top Of The Concrete. The concrete base shall be finished off only to the top of the concrete, and the asphalt replaced and finished off to provide a smooth riding surface.

(b) ASPHALT SURFACING

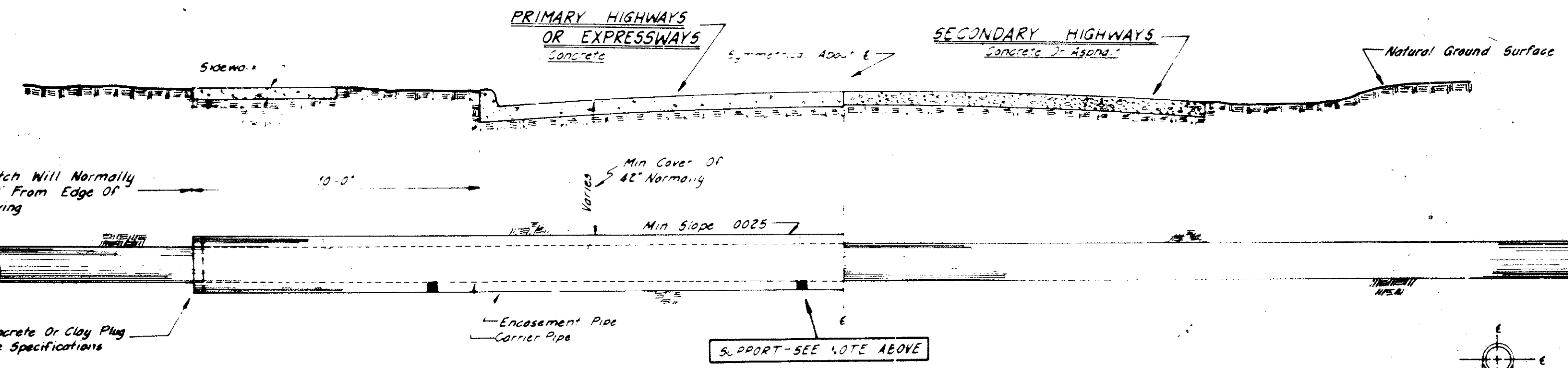
Excavation Shall Be Backfilled As Specified Above For Concrete Pavement Except That Backfill Shall Be Finished Off At The Bottom Of The Asphalt Surfacing. Asphalt Shall Be Cut Back Twelve (12) Inches From The Edge Of The Excavation And Replaced To Form A Smooth Finished Surface.



TYPICAL DETAILS FOR WATER & SEWER LINES 12" & UNDER CROSSING A RAILROAD R.O.W.

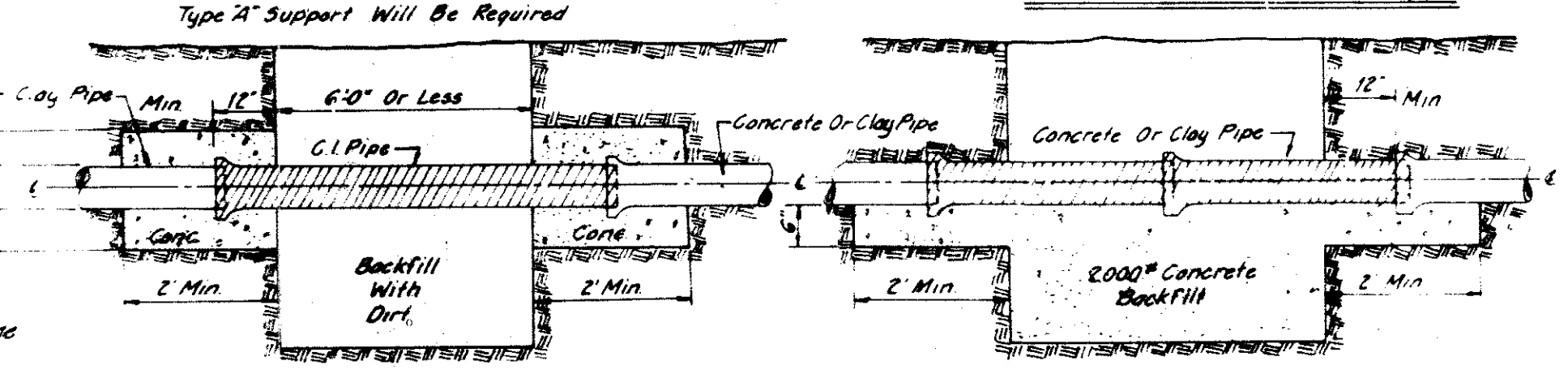
WATER AND SANITARY SEWER ENCASEMENT REQUIREMENTS

- NOTE! Support Will Vary With Method Of Installation And With Type Of Carrier Pipe Used Where An Encasement Pipe Is Placed By Boring, The Carrier Pipe Will Be Made Up And Pushed Thru With Bells Of Pipe Resting On The Encasement Pipe Where Standards Pipe Is Made Up Inside A Large Encasement Pipe. The Carrier Pipe Shall Be Laid To Grade On A 2000# Concrete Embankment Which Shall Extend To The 1/2 Point Of The Carrier Pipe When A Mechanical Joint Pipe Is Used As A Carrier Pipe To Facilitate Its Removal. As A Unit Precast Concrete Bricks Will Be Placed Back Of Each Bell Each Block Will Be A Minimum Of 3" Thick, Sufficient Height To Clear Bells From Flange Of Encasement Pipe And Boring Carrier Pipe To Grass And Shall Be At Least 28 1/2" In Breadth Where 2' Is The External Diameter Of The Carrier Pipe.
- Where Carrier Pipe Consists Of Concrete, Clay, Or Reinforced Concrete, The Pipe Shall Be Placed On Shuts Prior To Being Pushed Thru To Prevent Damage To Bells.
 - In Placing Encasement Pipe By Boring, Jacking Or Tunneling, All Voids Between The Encasement Pipe And Earth Or Rock Shall Be Filled With 17 Grout, Including 5% To 40% Air Entrained.
 - For Sanitary Sewer Mains, The Space Between The Encasement Pipe And The Carrier Pipe Shall Be Filled With 17 Grout Including 5% To 40% Air Entrained.
 - For Sanitary Sewer Mains 12" And Smaller Prior To Placing Grout, The Carrier Pipe Shall Be Filled With Water To Prevent The Carrier Pipe From Floating. Other Methods To Prevent Floating May Be Used If Approved By Construction Engineer.
 - For Sanitary Sewer Mains 15" & Larger Prior To Placing Grout, The Carrier Pipe Shall Be Backed Down Or Held In Place By Flotation In A Manner To Be Approved By The Construction Engineer.
 - The Ends Of All Of Grout Spots, Shall Be By Pressure Injection, Unless Otherwise Approved By The Construction Engineer.
 - The Encasement Pipe For Water Mains Shall Be Plugged At The Joint End With Concrete & The Sewer End With A Clay Plug.



TYPICAL DETAILS FOR WATER & SEWER LINES CROSSING UNDER STATE HIGHWAYS

ALTERNATE-CLAY OR CONCRETE PIPE HOUSE LATERALS



TYPE "D" SUPPORT

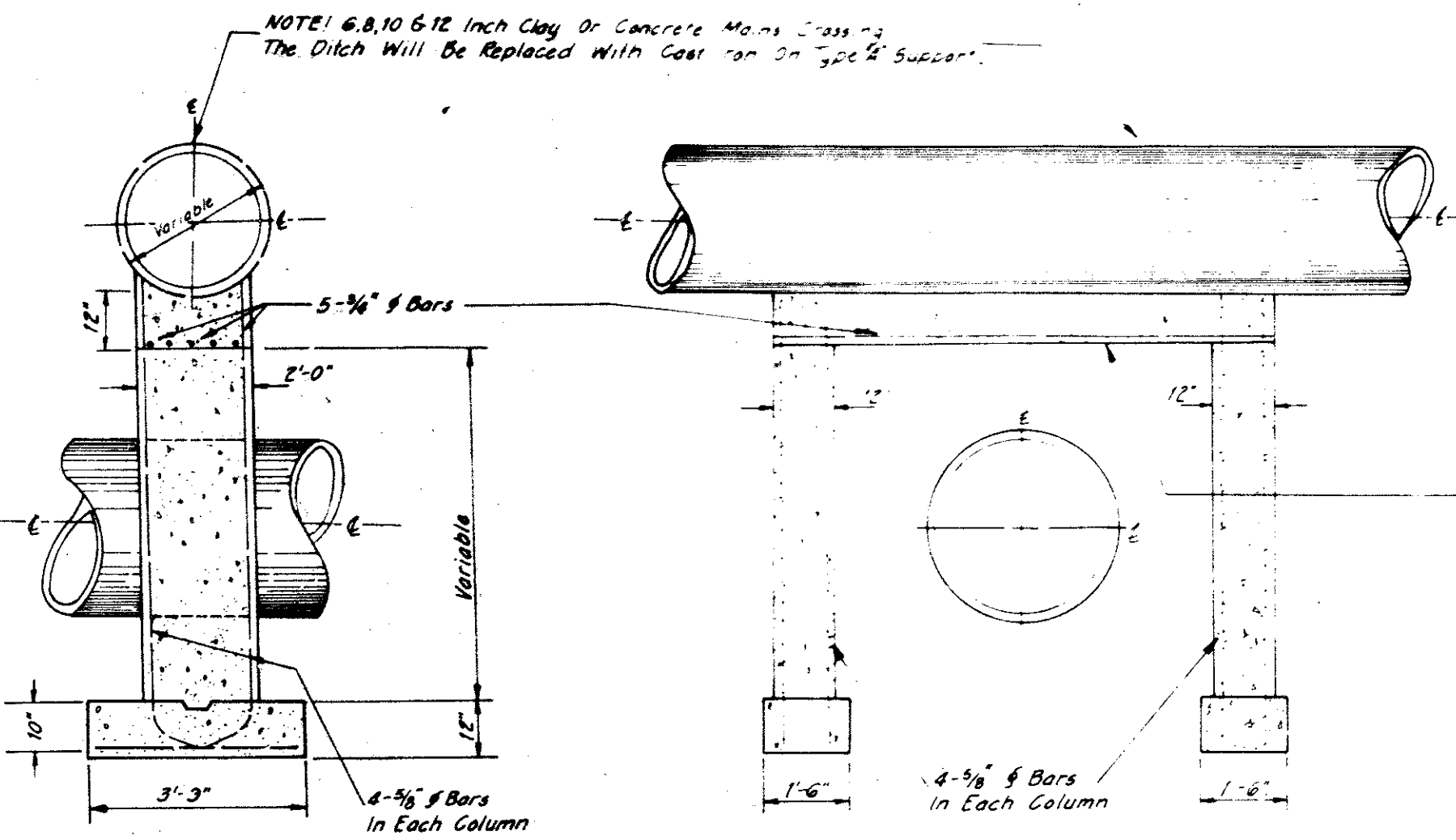
NOTE! Where B & S C.I. Pipe Is Used, The Bell Shall Be Filled With Clay Or Conc. Pipe And The Spigot Shall Be Filled With A Conc. Or Clay Bell. The Joint Shall Be Made With Mortar And Then Wrapped In 2000# Concrete For A Distance Of 12" Each Side Of The Joint. Where S & S C.I. Pipe Is Used, A Solid C.I. Sleeve Shall Be Used On Point Where Bell Is Needed On The C.I. Pipe, And Joints Made As Above. Where Bell Will Not Fit Over The Conc. Or Clay Pipe, A Block Of 2000# Conc. Core Be Placed Around The Joint After Careful Alignment The Block Shall Be A Min Of 24" In Length Centered At The Joint And Shall Be At Least 12" Thick Around The Pipe.

TYPE "E" SUPPORT

NOTE! As An Alternative 6" & 8" Joints Can Be Used With Concrete Or Clay Pipe Using Premixed Joints Or The Use Of Sliding Plastic Couplings With Stainless Steel Bands. The Replaced Pipe And Couplings Shall Be Laid In 2000# Conc. Backfill In Ditch And 24" On Each Side Of Ditch For A Depth Of 6".

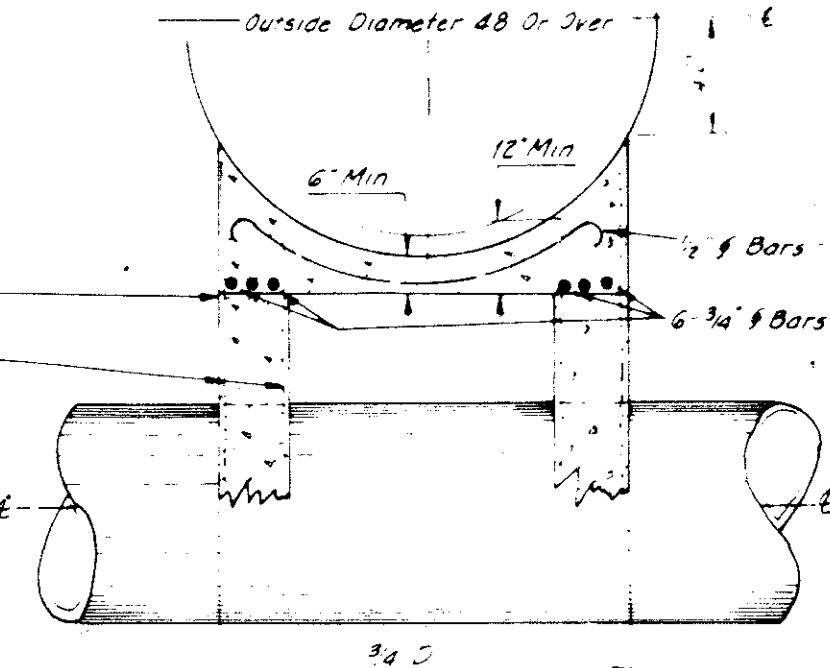
3000# CONCRETE REQUIRED FOR TYPICAL TYPE "A" SUPPORT

PARTS	CU YDS	EXTRA FOR 1 FT DEPTH	EXTRA FOR 1 FT WIDTH
2 Footings	416		
2 Piers Each 3' Long	445	148	
1 Beam 6 Ft Long	445		074
Total	1,306		



TYPE "A" SUPPORT

As Detailed Above



TYPE "B" SUPPORT

Beam As Designed & Columns 12" x 12" & Footings 1'-6" x 3'-3" x 12" Deep

TYPE "C" SUPPORT

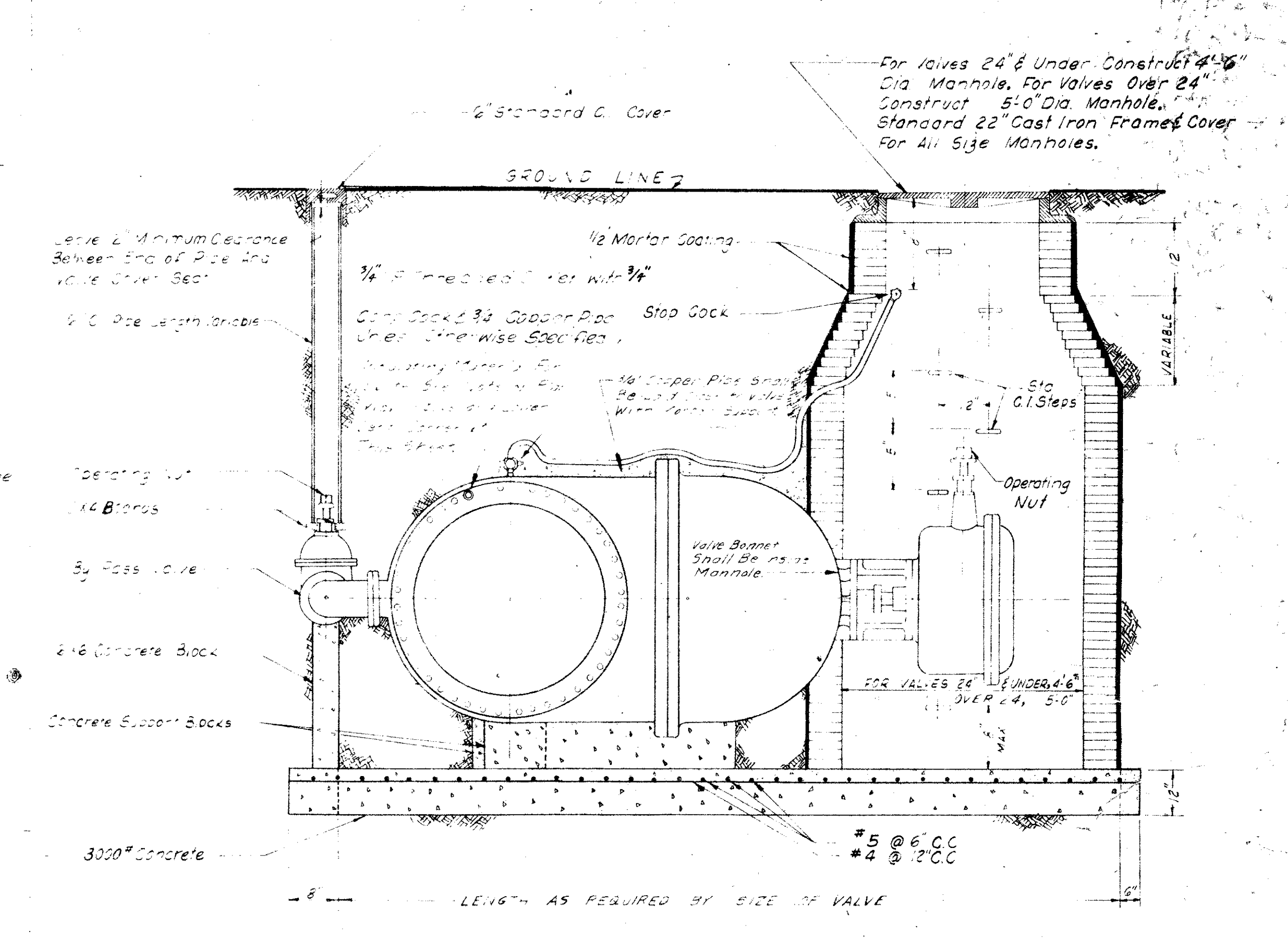
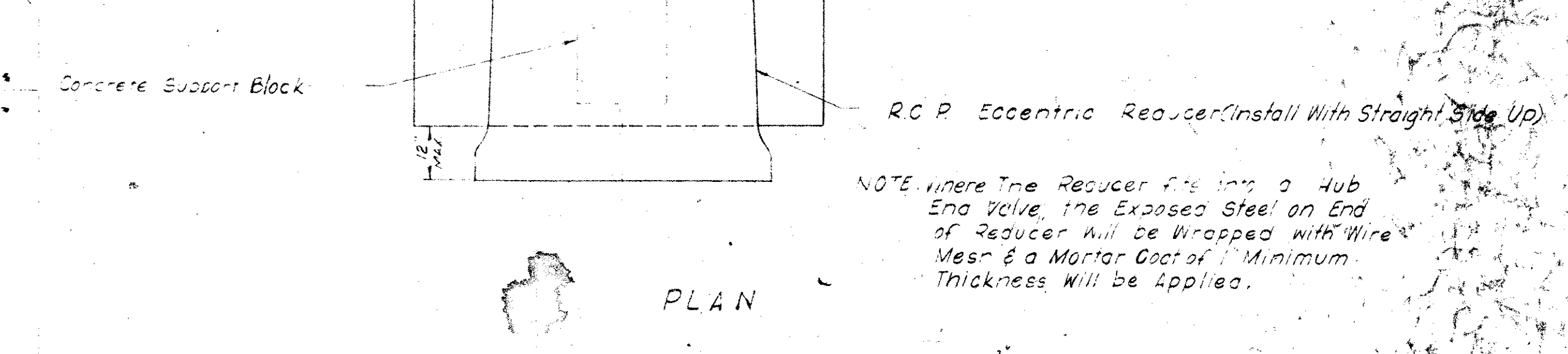
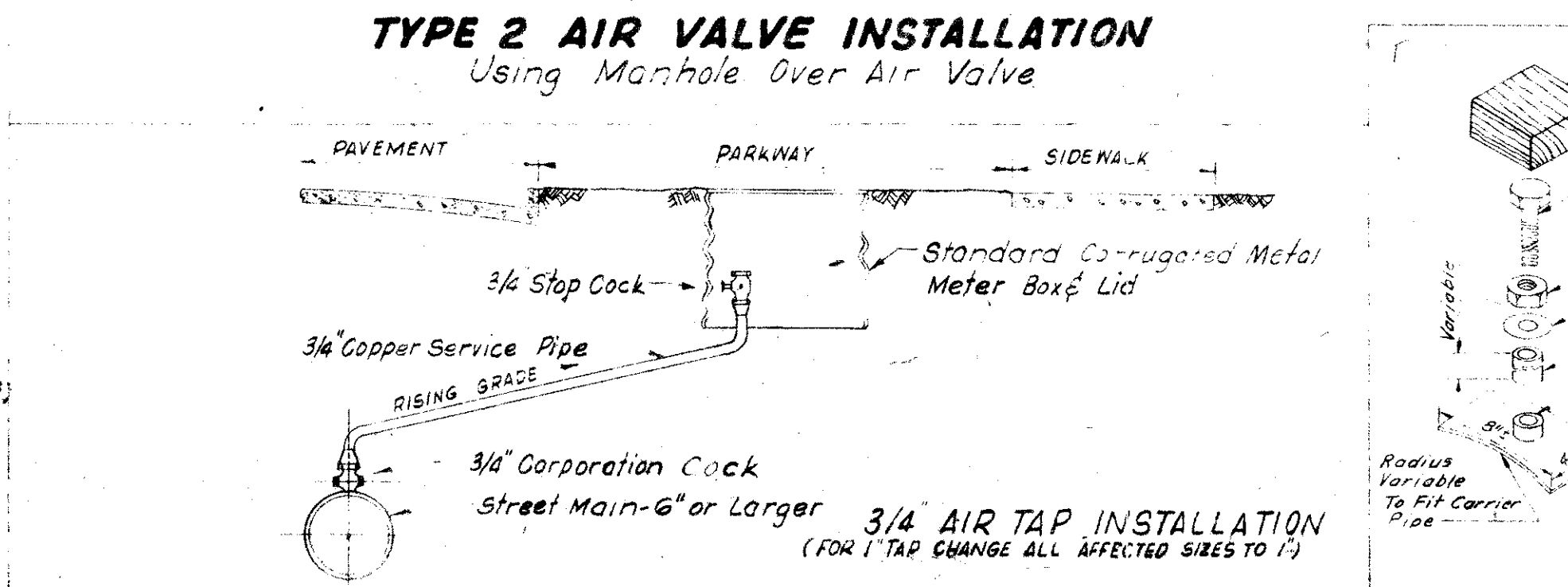
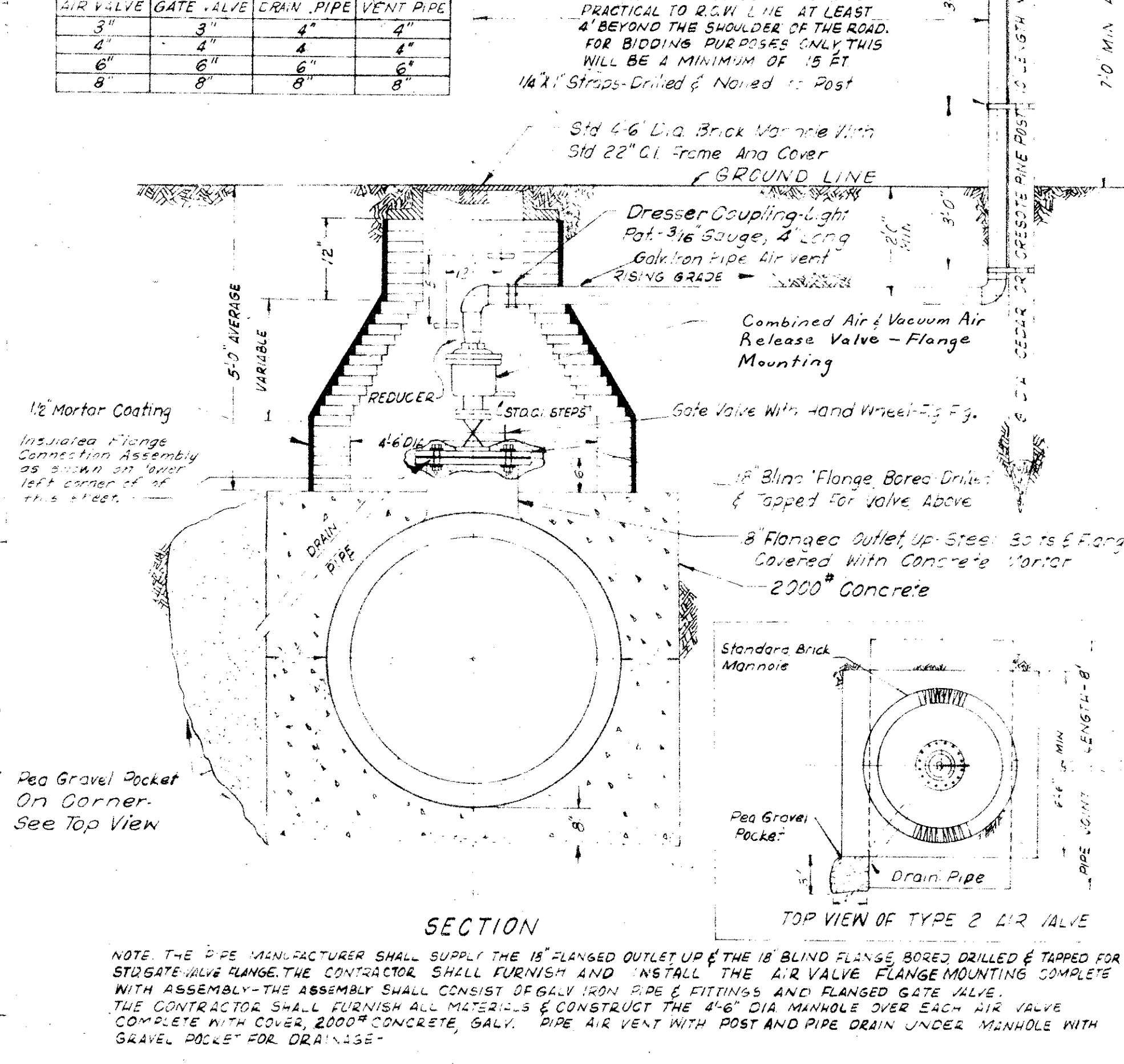
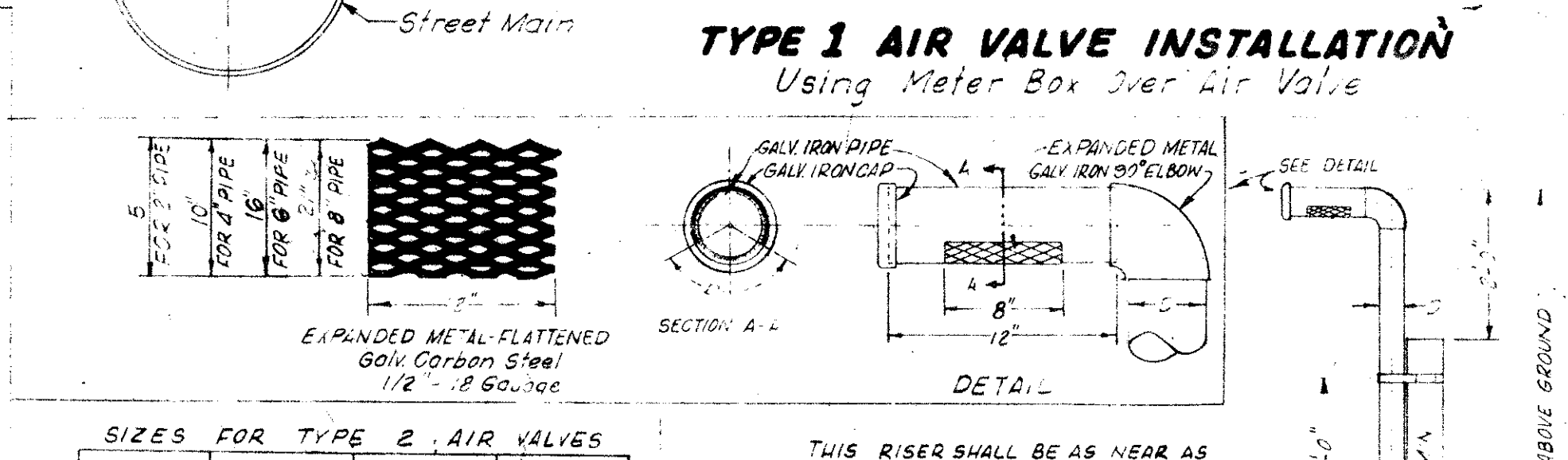
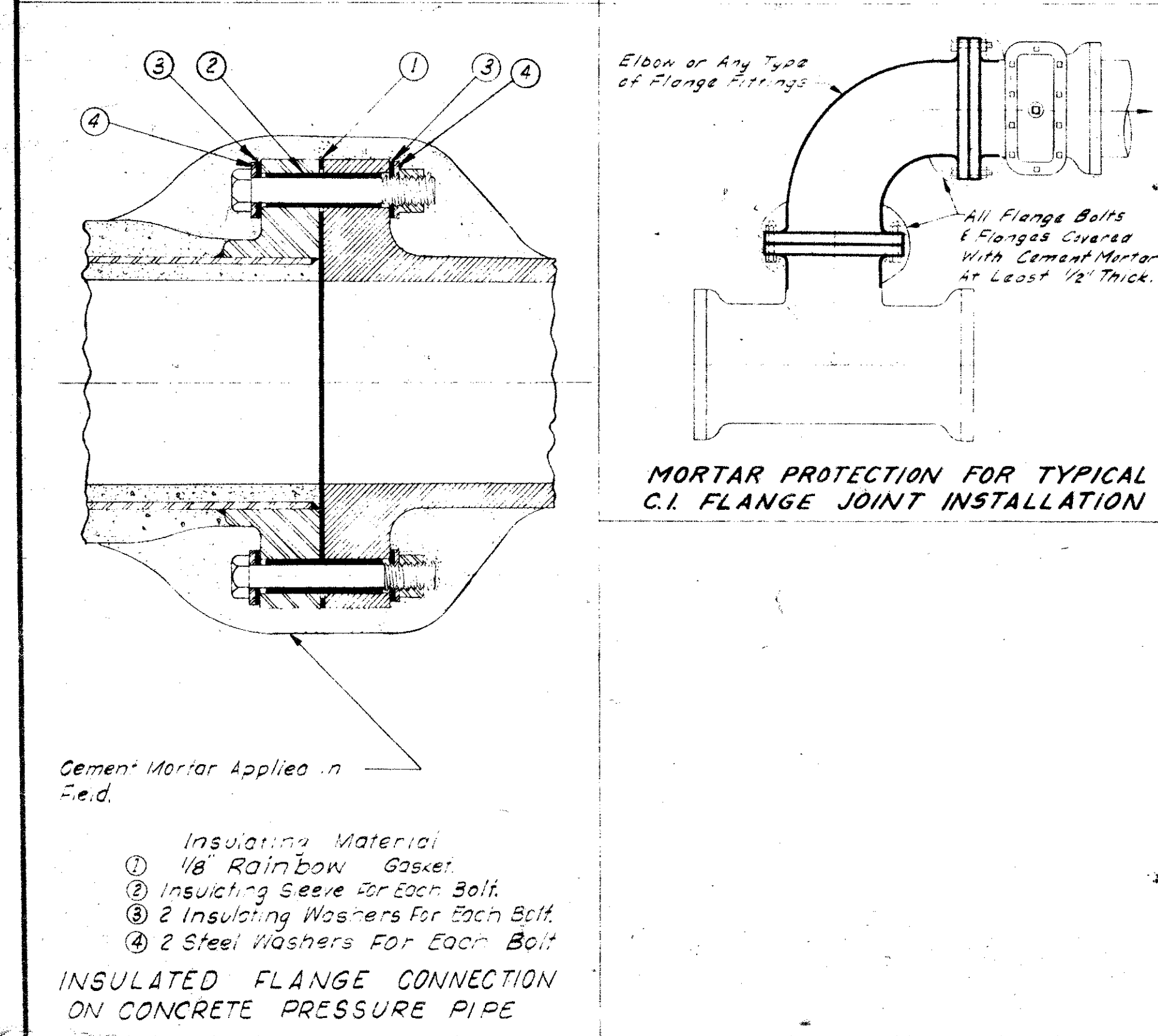
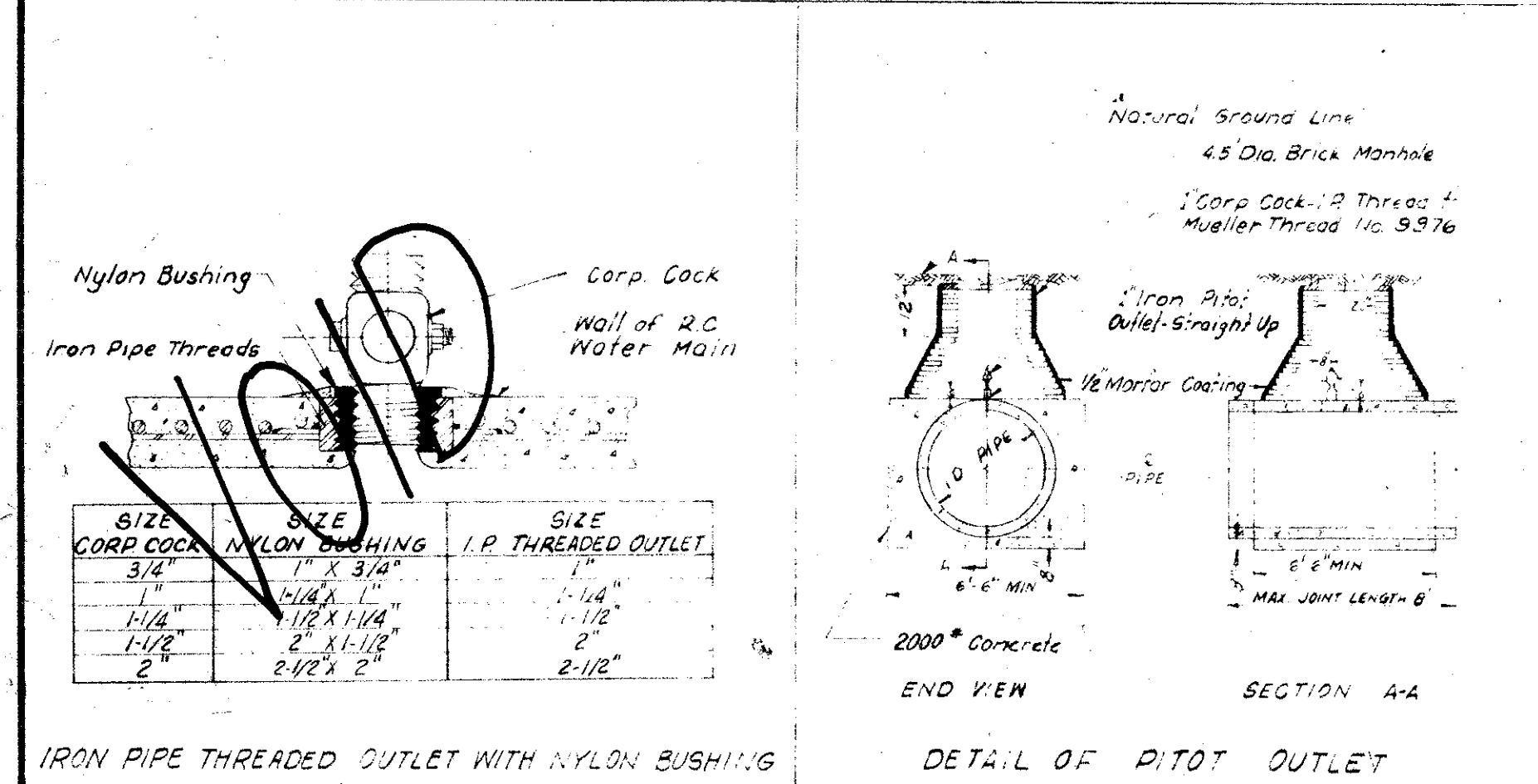
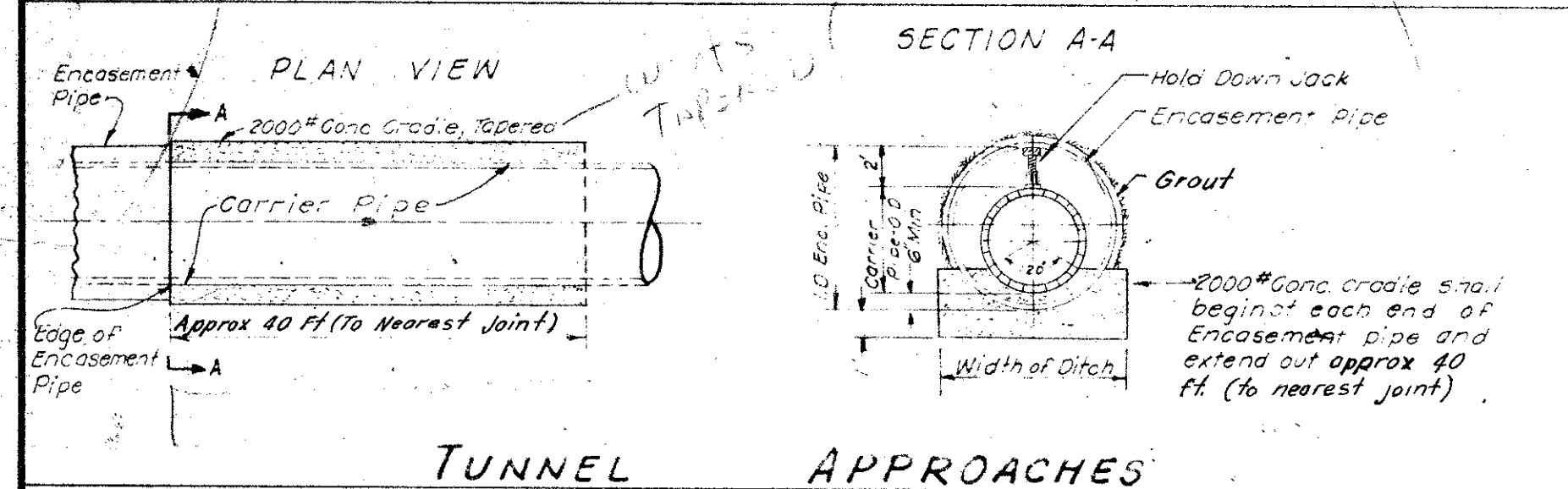
No Beam Required & Columns - 12" x 12" & Footings 1'-6" x 3'-3" x 12" Deep

DETAILS FOR UTILITY SUPPORTS

11-6-70 TYPE "E" SUPPORT Halcomb

DATE	REVISION	BY
STANDARD APPURTENANCE SHEET		
WATER & SEWER CROSSINGS FOR RAILROADS AND STATE HIGHWAYS		
DALLAS WATER UTILITIES DEPARTMENT		
CITY OF DALLAS, TEXAS		
DESIGN	RE. MORRIS	CONTRACT NO.
DRAWN	JON A. MALLEY JR. (Redrawn)	FILE NO.
TRACED	J.D. CAMPBELL & J.L. ROGERS	414D-5
CHECKED		SEPTEMBER 9, 1970
DATE		

SHEET NO. **Attch**
2 OF



VALVE INSTALLATIONS DALLAS CITY WATERWORKS CITY OF DALLAS, TEXAS

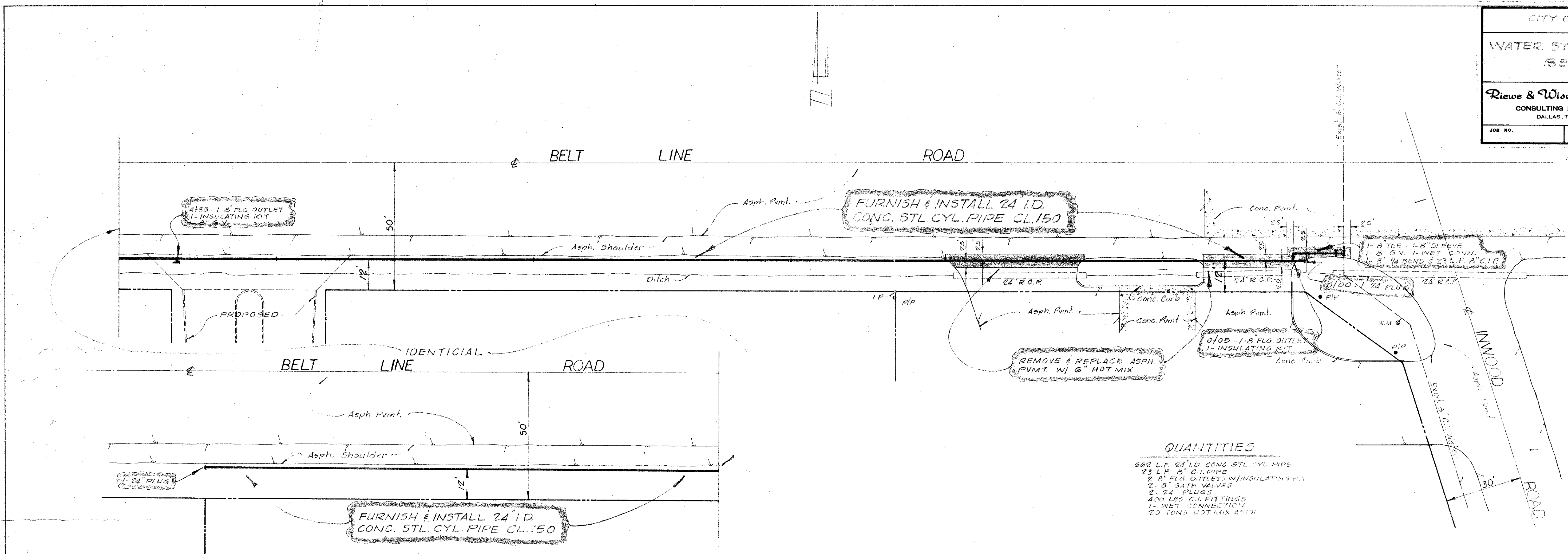
DESIGN	DRAWN	DATE	SCALE	FILE	NO.
REV	LOVE	1-61	NONE	414-D	11

Attach 3

ADDENDUM # 1

PLAN
 SURVEYED BY: DATE:
 PLOTTED BY: DATE:
 NOTE BOOK NO. OF WAY CHECKED:
 STRUCTURE NOTATIONS CHECKED:

PROFILE
 SURVEYED BY: DATE:
 PLOTTED BY: DATE:
 NOTE BOOK NO. OF WAY CHECKED:
 STRUCTURE NOTATIONS CHECKED:



QUANTITIES

- 662 L.F. 24" I.D. CONC. STL. CYL. PIPE
- 23 L.F. 8" C.I. PIPE
- 2 8" FLS. O. TLETS W/ INSULATING KIT
- 2 8" GATE VALVES
- 2 24" PLUGS
- 400 LBS. C.I. FITTINGS
- 1 WET CONNECTICN
- 20 TONS HOT MIX ASPH.

