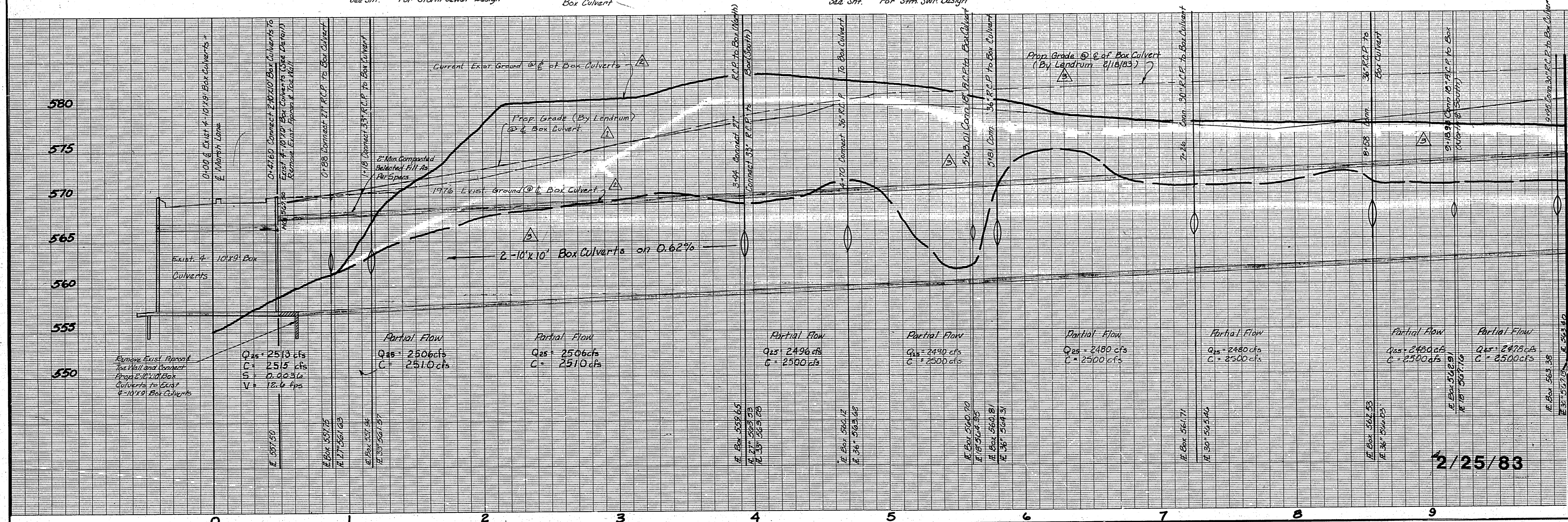


AS BUILT  
DATE 11/23/83



**Revisions**

- 11/11/82 Revised Prop. Ground 60' E of Box Culvert
- 11/15/82 Revised 14' to Exist. & Current Exist. Ground of Box Culvert. Added 20' L.F. 18" R.C.P. @ Sta. 7+34 Deleted 20' L.F. 18" R.C.P. @ Sta. 7+40 Revisions were made to conform with Lendrum's prop. grades.
- Revised Box Culvert Prop. Grade Line
- Revised Length of R.C.P. @ Sta. 7+12 to 7+13

Accepted for Construction By: \_\_\_\_\_ Date: \_\_\_\_\_  
 Designer: \_\_\_\_\_ Date: \_\_\_\_\_  
 Contractor: \_\_\_\_\_ Date: \_\_\_\_\_

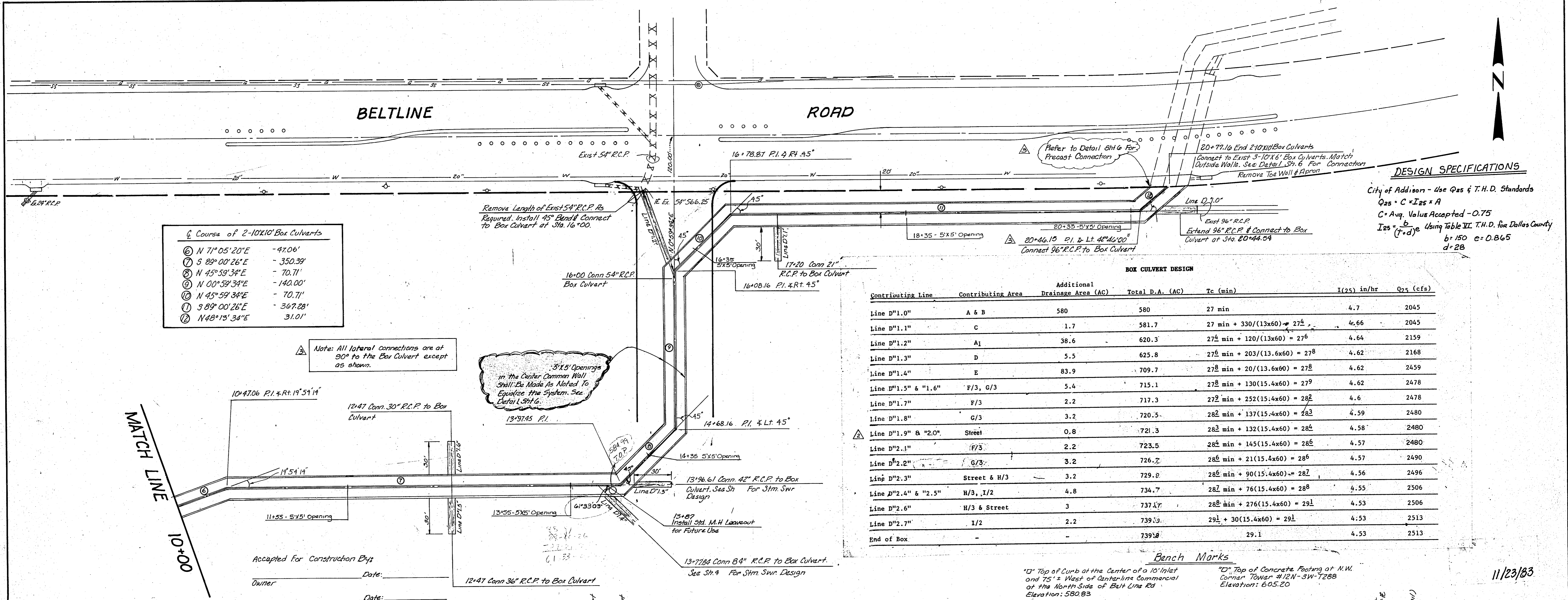
**BOX CULVERT DESIGN**  
**LES LACS PLAZA**

**CITY OF ADDISON, TEXAS**  
 RAYMOND L. GOODSON JR. INC., ENGINEERS

DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	NO.
R.L.G. INC.	R.L.G. INC.	FEB. 1983	1" = 40'H 1" = 6'V	R.L.G. INC.		

2/25/83

**CONSTRUCTION SET**



Course of 2-10'x10' Box Culverts

①	N 71° 05' 20" E	- 47.06'
②	S 89° 00' 26" E	- 350.39'
③	N 45° 59' 34" E	- 70.71'
④	N 00° 59' 34" E	- 140.00'
⑤	N 45° 59' 34" E	- 70.71'
⑥	S 89° 00' 26" E	- 367.28'
⑦	N 48° 15' 34" E	31.01'

**DESIGN SPECIFICATIONS**  
 City of Addison - Use Q<sub>25</sub> & T.H.D. Standards  
 Q<sub>25</sub> = C \* I<sub>25</sub> \* A  
 C = Avg. Value Accepted - 0.75  
 I<sub>25</sub> =  $\frac{b}{(F+d)^e}$  Using Table VI T.H.D. for Dallas County  
 b = 150 e = 0.865  
 d = 28

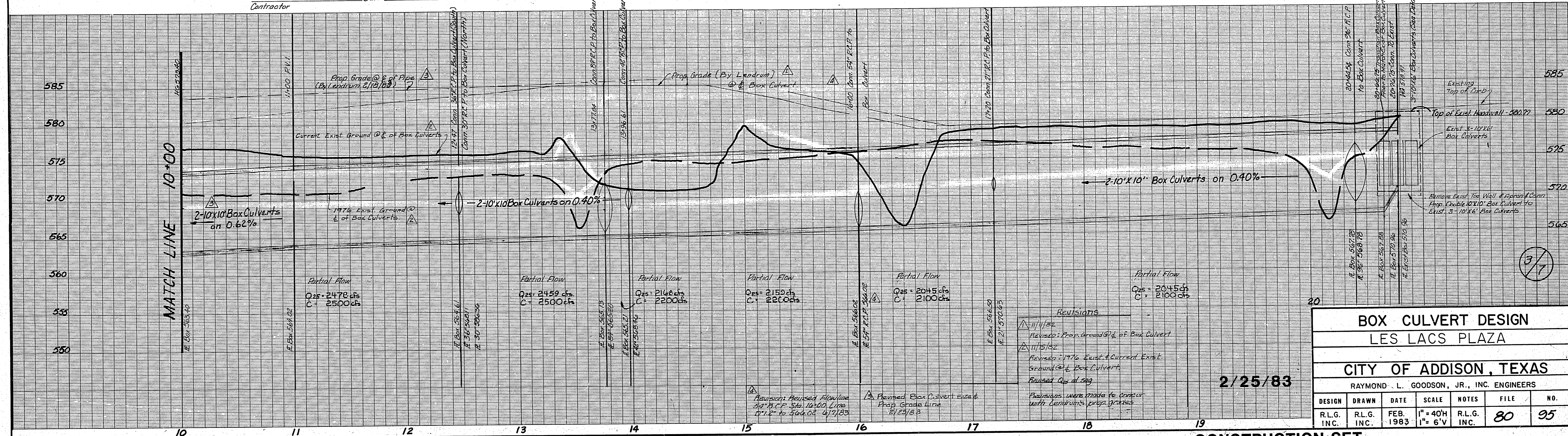
**BOX CULVERT DESIGN**

Contributing Line	Contributing Area	Additional Drainage Area (AC)	Total D.A. (AC)	Tc (min)	I(25) in/hr	Q <sub>25</sub> (cfs)
Line D'1.0"	A & B	580	580	27 min	4.7	2045
Line D'1.1"	C	1.7	581.7	27 min + 330/(13x60) = 27 $\frac{1}{2}$	4.66	2045
Line D'1.2"	A <sub>1</sub>	38.6	620.3	27 $\frac{1}{2}$ min + 120/(13.6x60) = 27 $\frac{3}{4}$	4.64	2159
Line D'1.3"	D	5.5	625.8	27 $\frac{3}{4}$ min + 203/(13.6x60) = 27 $\frac{3}{4}$	4.62	2168
Line D'1.4"	E	83.9	709.7	27 $\frac{3}{4}$ min + 20/(13.6x60) = 27 $\frac{3}{4}$	4.62	2459
Line D'1.5" & "1.6"	F/3, G/3	5.4	715.1	27 $\frac{3}{4}$ min + 130/(15.4x60) = 27 $\frac{3}{4}$	4.62	2478
Line D'1.7"	F/3	2.2	717.3	27 $\frac{3}{4}$ min + 252/(15.4x60) = 28 $\frac{1}{2}$	4.6	2478
Line D'1.8"	G/3	3.2	720.5	28 $\frac{1}{2}$ min + 137/(15.4x60) = 28 $\frac{1}{2}$	4.59	2480
Line D'1.9" & "2.0"	Street	0.8	721.3	28 $\frac{1}{2}$ min + 132/(15.4x60) = 28 $\frac{1}{2}$	4.58	2480
Line D'2.1"	F/3	2.2	723.5	28 $\frac{1}{2}$ min + 145/(15.4x60) = 28 $\frac{1}{2}$	4.57	2480
Line D'2.2"	G/3	3.2	726.7	28 $\frac{1}{2}$ min + 21/(15.4x60) = 28 $\frac{1}{2}$	4.57	2490
Line D'2.3"	Street & H/3	3.2	729.9	28 $\frac{1}{2}$ min + 90/(15.4x60) = 28 $\frac{1}{2}$	4.56	2496
Line D'2.4" & "2.5"	H/3, I/2	4.8	734.7	28 $\frac{1}{2}$ min + 76/(15.4x60) = 28 $\frac{1}{2}$	4.55	2506
Line D'2.6"	H/3 & Street	3	737.7	28 $\frac{1}{2}$ min + 276/(15.4x60) = 29 $\frac{1}{2}$	4.53	2506
Line D'2.7"	I/2	2.2	739.9	29 $\frac{1}{2}$ + 30/(15.4x60) = 29 $\frac{1}{2}$	4.53	2513
End of Box			739.8	29.1	4.53	2513

Note: All lateral connections are at 90° to the Box Culvert except as shown.

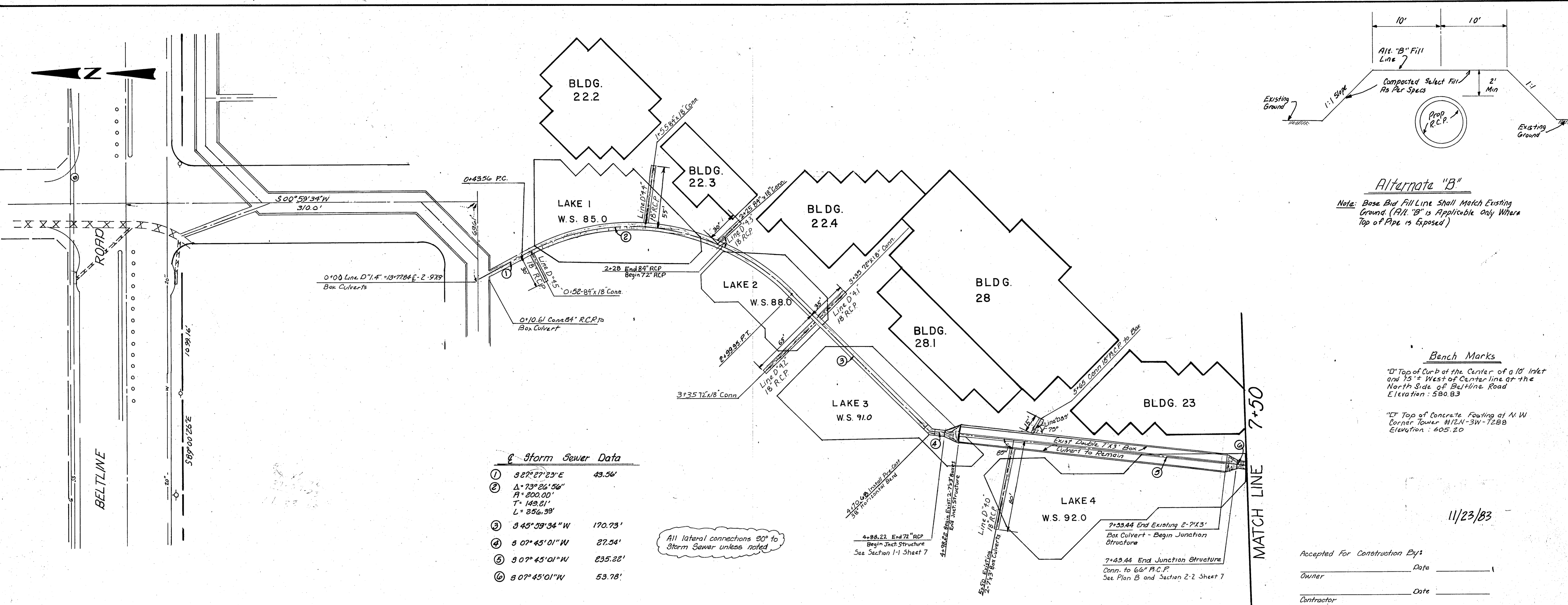
3'x5' Openings in the Center Common Wall Shall Be Made As Noted To Equalize the System. See Detail Sht. 6.

**Bench Marks**  
 "D" Top of Curb at the Center of a 10' Inlet and 75' ± West of Centerline Commercial at the North Side of Belt Line Rd. Elevation: 580.83  
 "D" Top of Concrete Footing at N.W. Corner Tower #12N-3W-7288 Elevation: 605.20



**BOX CULVERT DESIGN**  
**LES LACS PLAZA**  
**CITY OF ADDISON, TEXAS**  
 RAYMOND L. GOODSON, JR., INC. ENGINEERS

DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	NO.
R.L.G. INC.	R.L.G. INC.	FEB. 1983	1" = 40'H 1" = 6'V	R.L.G. INC.	80	95



**Storm Sewer Data**

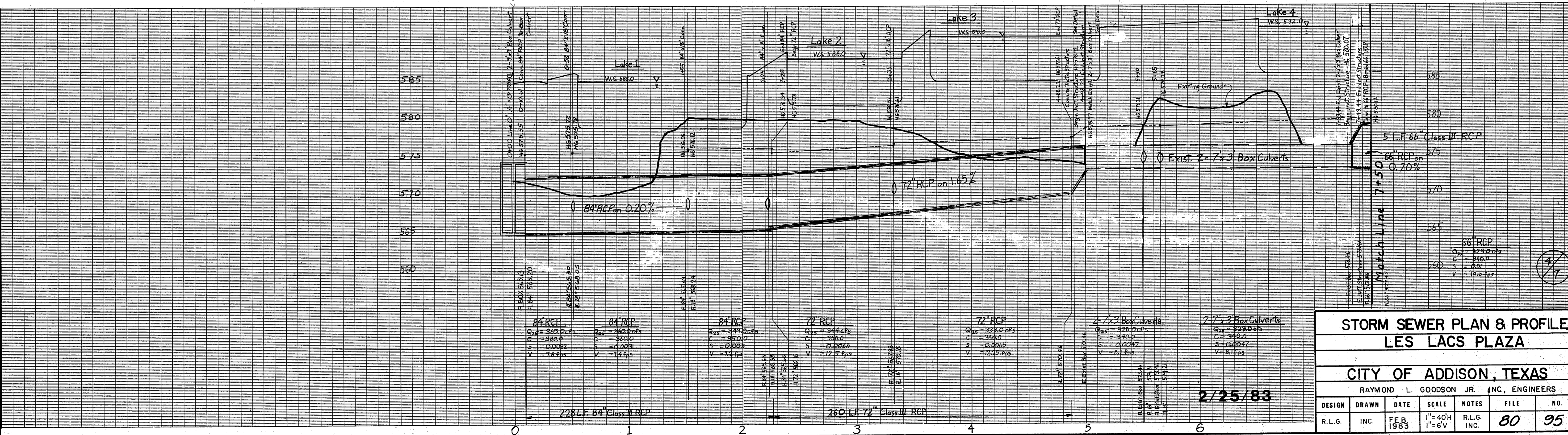
①	327° 27' 23" E	43.56'
②	Δ = 73° 26' 56"	
	R = 200.00'	
	T = 149.81'	
	L = 256.99'	
③	345° 59' 34" W	170.73'
④	307° 45' 01" W	27.54'
⑤	307° 45' 01" W	235.22'
⑥	307° 45' 01" W	53.78'

All lateral connections 90° to Storm Sewer unless noted

**Alternate "B"**  
 Note: Base Bid Fill Line Shall Match Existing Ground. (Alt. "B" is Applicable Only Where Top of Pipe is Exposed)

**Bench Marks**  
 "D" Top of Curb of the Center of a 10' Inlet and 10'± West of Centerline at the North Side of Beltline Road Elevation: 580.83  
 "E" Top of Concrete Footing at N.W. Corner Tower #12N-3W-72B Elevation: 605.20

11/23/83  
 Accepted For Construction By: \_\_\_\_\_ Date: \_\_\_\_\_  
 Owner: \_\_\_\_\_ Date: \_\_\_\_\_  
 Contractor: \_\_\_\_\_ Date: \_\_\_\_\_



**STORM SEWER PLAN & PROFILE**  
**LES LACS PLAZA**

**CITY OF ADDISON, TEXAS**  
 RAYMOND L. GOODSON JR., INC., ENGINEERS

2/25/83

DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	NO.
R.L.G.	INC.	FE 8, 1983	1" = 40' H 1" = 6' V	R.L.G. INC.	80	95

Storm Sewer Design

\*Use C=0.75 Q<sub>15</sub> + 3.5 \* A

Contributing Line	Contributing Area	Additional Drainage Area (Ac)	Total D.A. (Ac)	Tc (min.)	I <sub>25</sub> ("/hr)	Q <sub>25</sub> (cfs)
Existing 2-7x3 Box Culv	E <sub>g</sub> (Offsite)	55.8	55.8	15	5.8	243
Line D "2.8"	E <sub>1/2</sub>	1.3	57.1	"	"	248
Line D "2.9"	E <sub>1/2</sub>	1.5	58.6	"	"	255
Line D "3.0"	E <sub>1/2</sub>	1.3	59.9	"	"	261
Line D "3.1"	E <sub>1/2</sub>	0.25	60.15	"	"	262
Line D "3.2"	E <sub>1/2</sub> , E <sub>s</sub> , E <sub>a</sub> , E <sub>1/10</sub> , E <sub>1/10</sub>	7.7	67.85	"	"	295
Line D "3.3"	E <sub>1/2</sub>	0.25	68.10	"	"	296
Line D "3.4"	E <sub>1/10</sub>	1.24	69.34	"	"	302
Line D "3.5"	E <sub>1/5</sub>	1.16	70.50	"	"	307
Line D "3.6"	E <sub>1/10</sub>	1.24	71.74	"	"	312
Line D "3.7"	E <sub>1/10</sub>	1.24	72.98	"	"	317
Line D "3.8"	E <sub>1/5</sub>	1.16	74.14	"	"	323
Line D "3.9"	E <sub>1/10</sub>	1.24	75.38	"	"	328
Line D "4.0"	E <sub>1/5</sub>	1.24	76.62	"	"	333
Line D "4.1" + D "4.2"	E <sub>1/10</sub> , E <sub>1/5</sub>	2.4	79.02	"	"	344
Line D "4.3"	E <sub>1/10</sub>	1.24	80.26	"	"	349
Line D "4.4"	E <sub>1/10</sub> , E <sub>1/10</sub>	2.48	82.74	"	"	360
Line D "4.5"	E <sub>1/5</sub>	1.16	83.9	"	"	365

Bench Marks

□ Top of Curb at the Center of a 10' Inlet and 75' West of Centerline Commercial at N. Side of Belt Line Road. Elevation: 580.83

□ Top of Concrete Footing at NW Corner, Tower # 12N-3W-T288 Elevation: 605.20

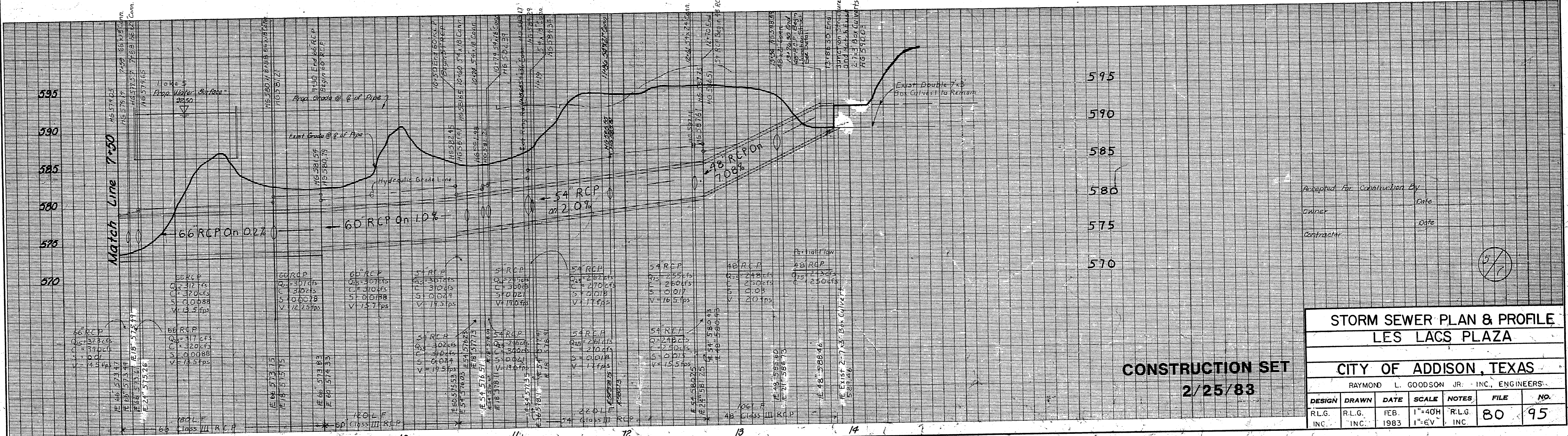
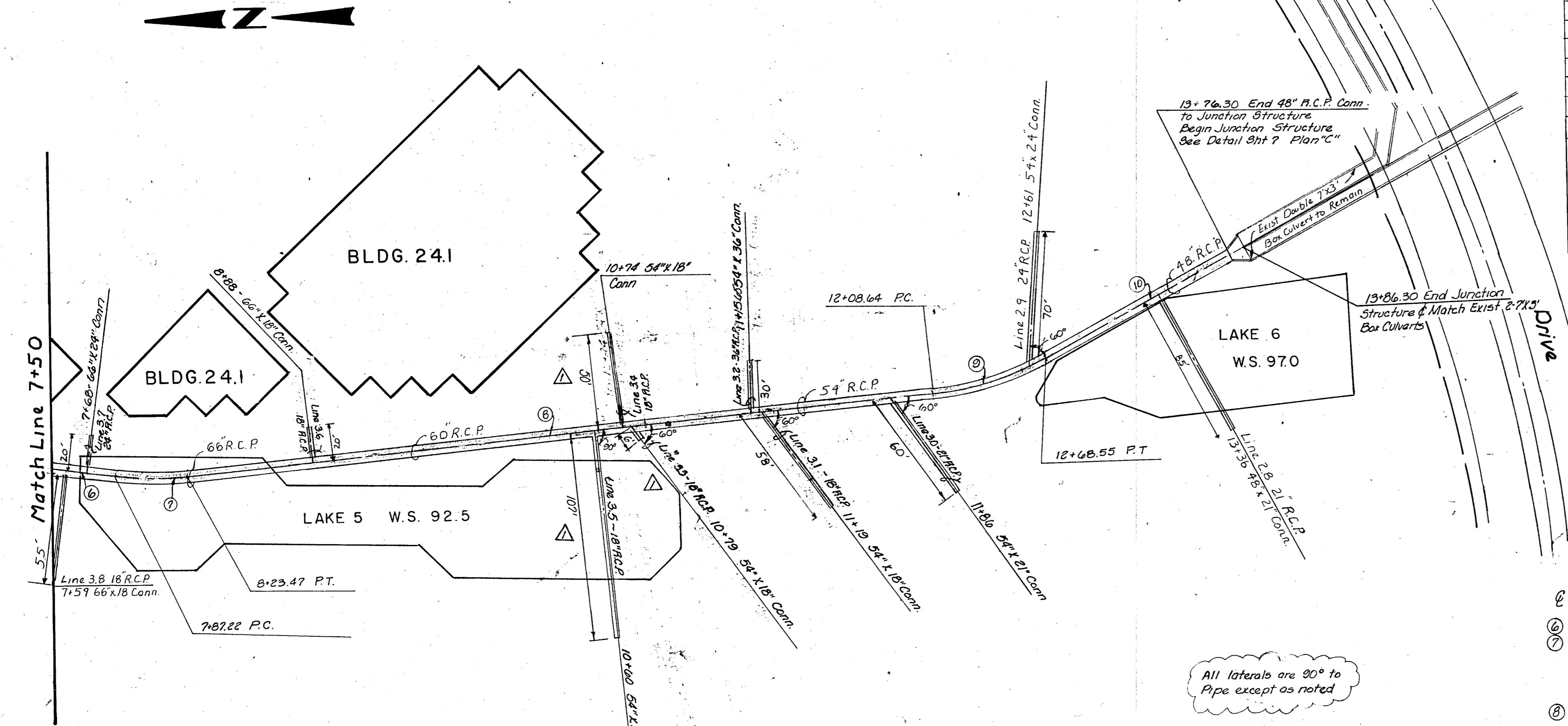
Storm Sewer Data

- ⑥ 90° 45' 01" W 53.78'
- ⑦ A = 13° 50' 40" P = 120.00' T = 18.21' L = 36.85'
- ⑧ 906° 05' 39" E 385.17'
- ⑨ A = 28° 53' 03" P = 150.00' T = 30.36' L = 59.91'
- ⑩ 628° 58' 42" E 117.75'

AS BUILT  
DATE 11/23/83

All laterals are 90° to Pipe except as noted

Revision 5/1/83 - Revised Lines "D3.3" "D3.4" & "D3.5" to Avoid Conflict w/ Bldg Road. No Change in 18" Piping Quantities.



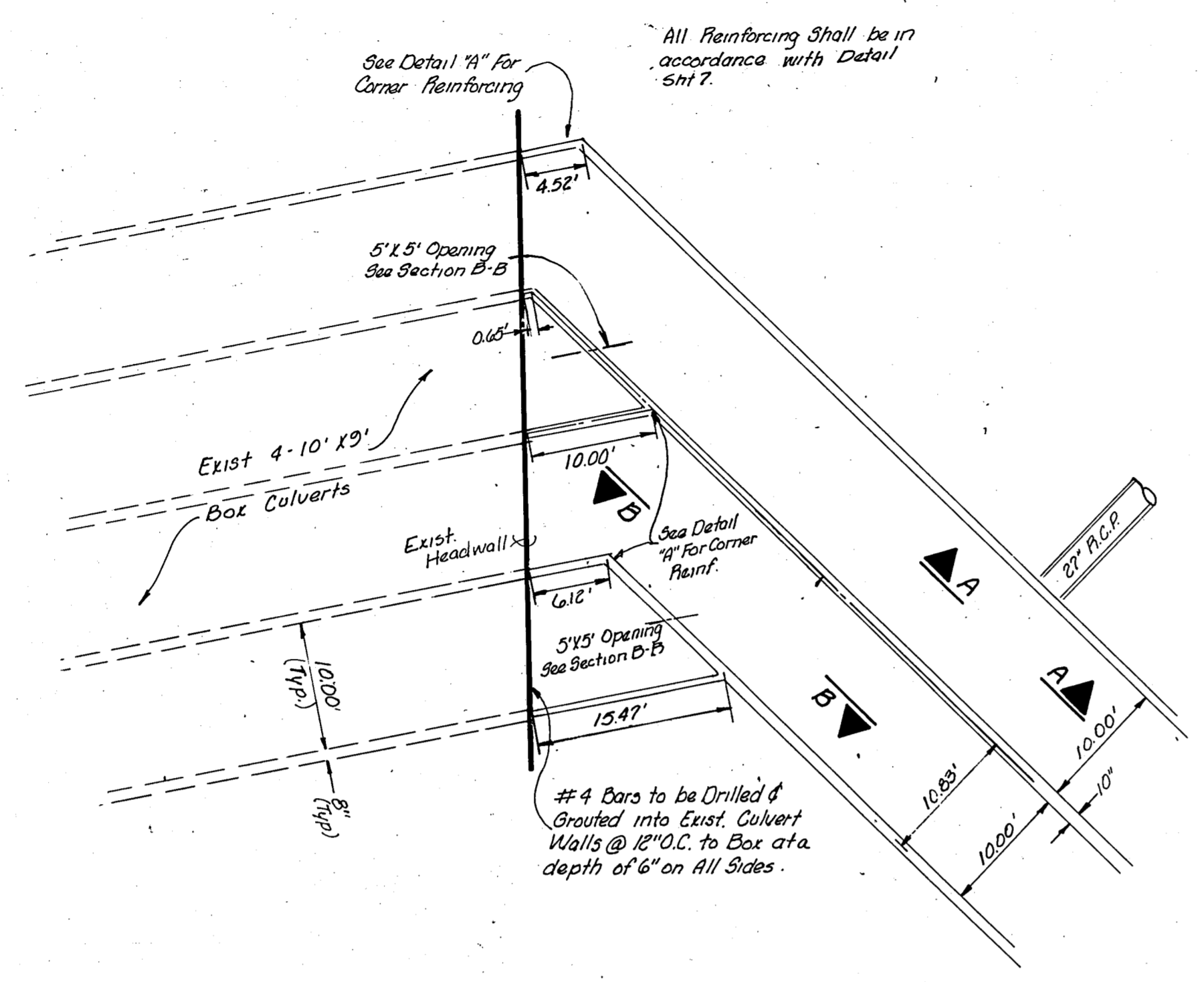
Accepted for Construction By  
Owner \_\_\_\_\_ Date \_\_\_\_\_  
Contractor \_\_\_\_\_ Date \_\_\_\_\_

STORM SEWER PLAN & PROFILE  
LES LACS PLAZA

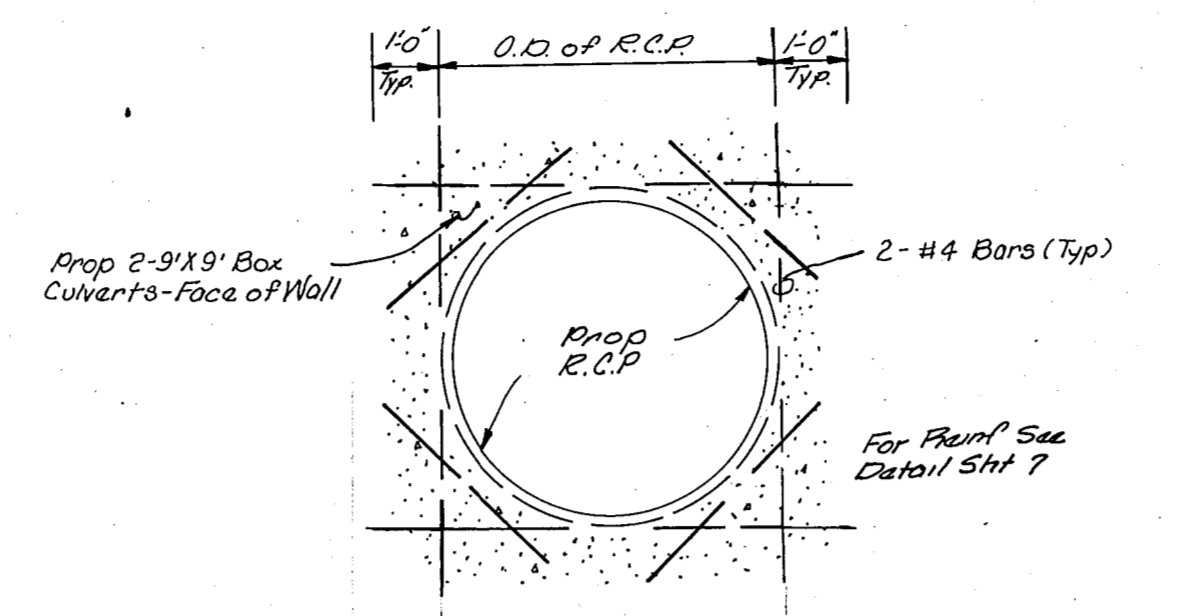
CONSTRUCTION SET  
2/25/83

CITY OF ADDISON, TEXAS  
RAYMOND L. GOODSON JR., INC., ENGINEERS

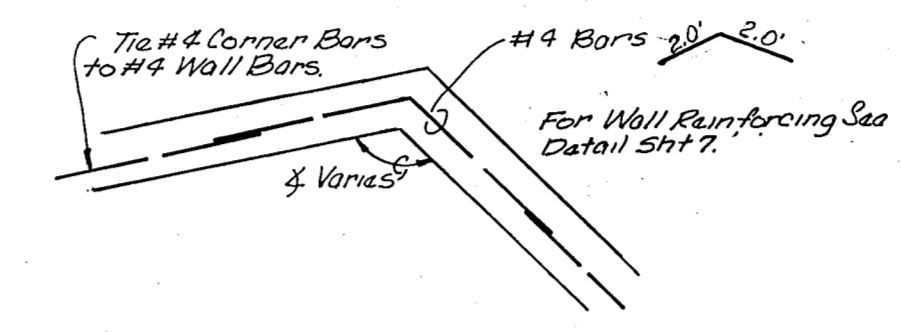
DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	NO.
RLG.	RLG.	FEB. 1983	1"=40'	RLG.	80	95
INC.	INC.		1"=6'	INC.		



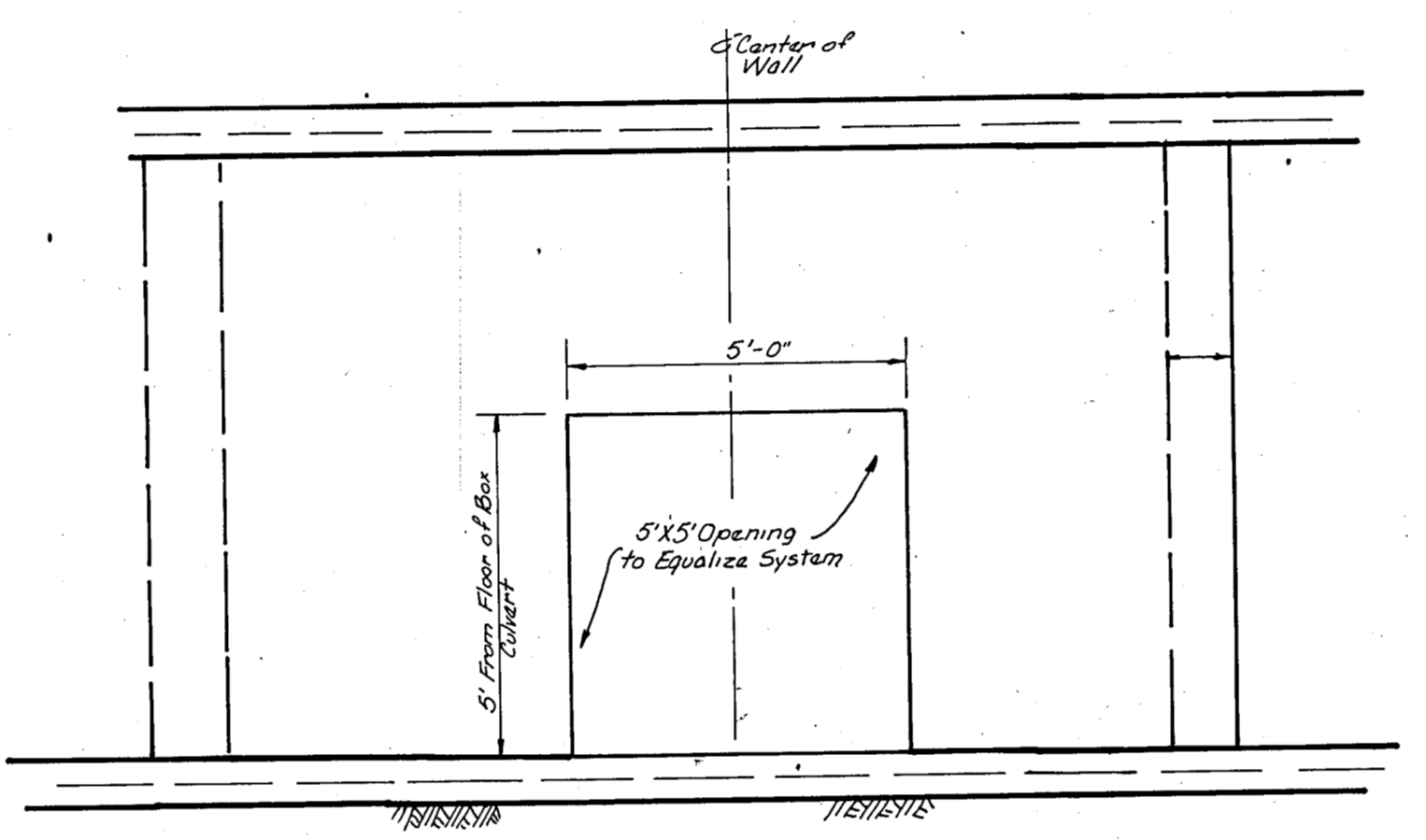
Alternate  
Plan View of  
Box Culvert Connection  
(Marsh Lane)  
Cast-In Place



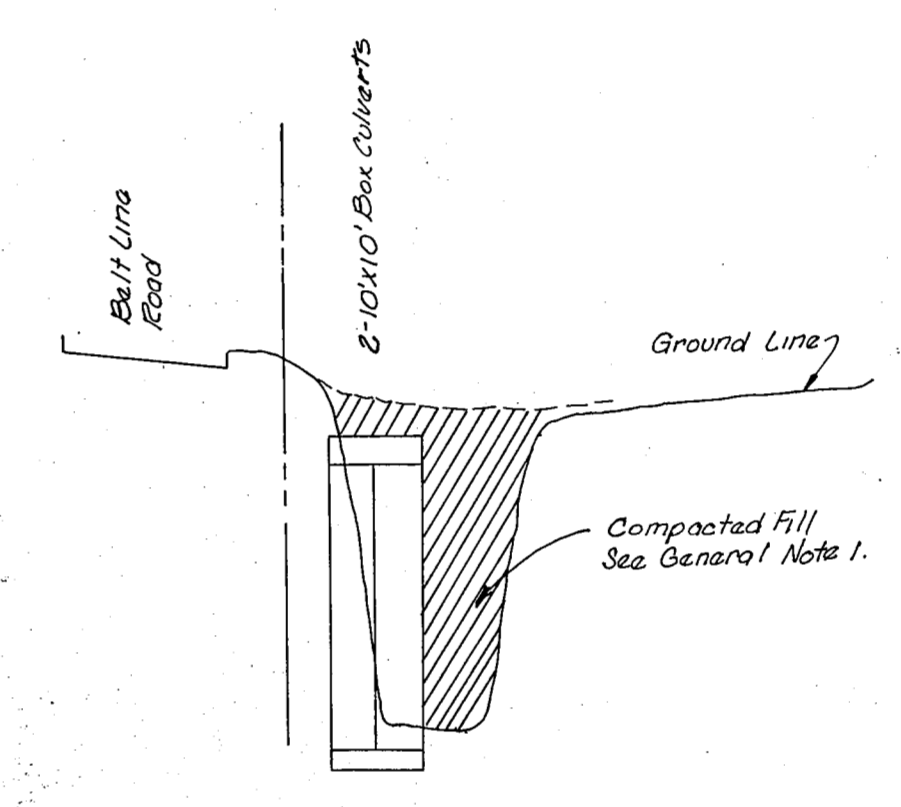
Section A-A (Typical)  
No Scale



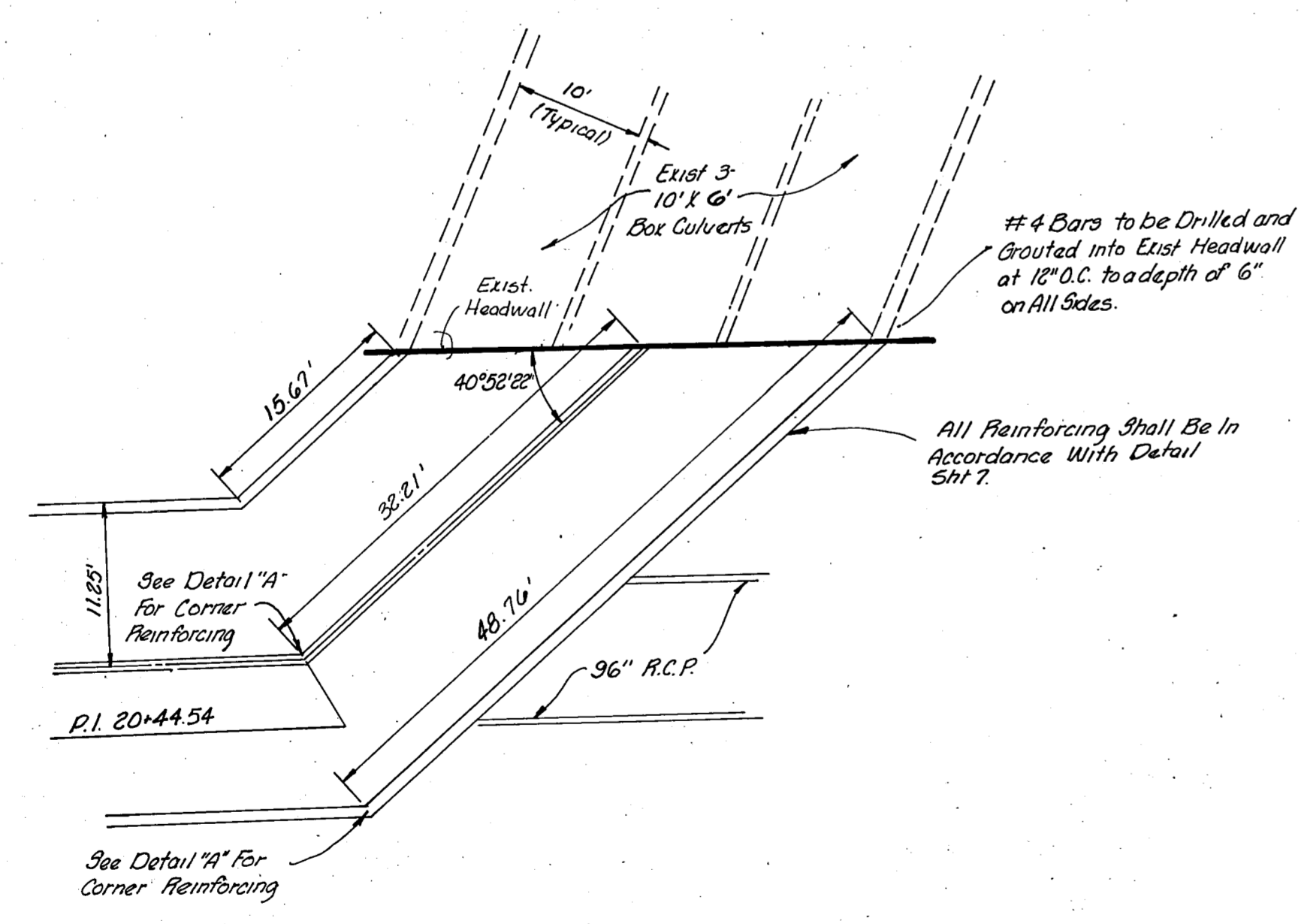
Detail A  
Corner Reinforcing Bars (Typical)  
No Scale



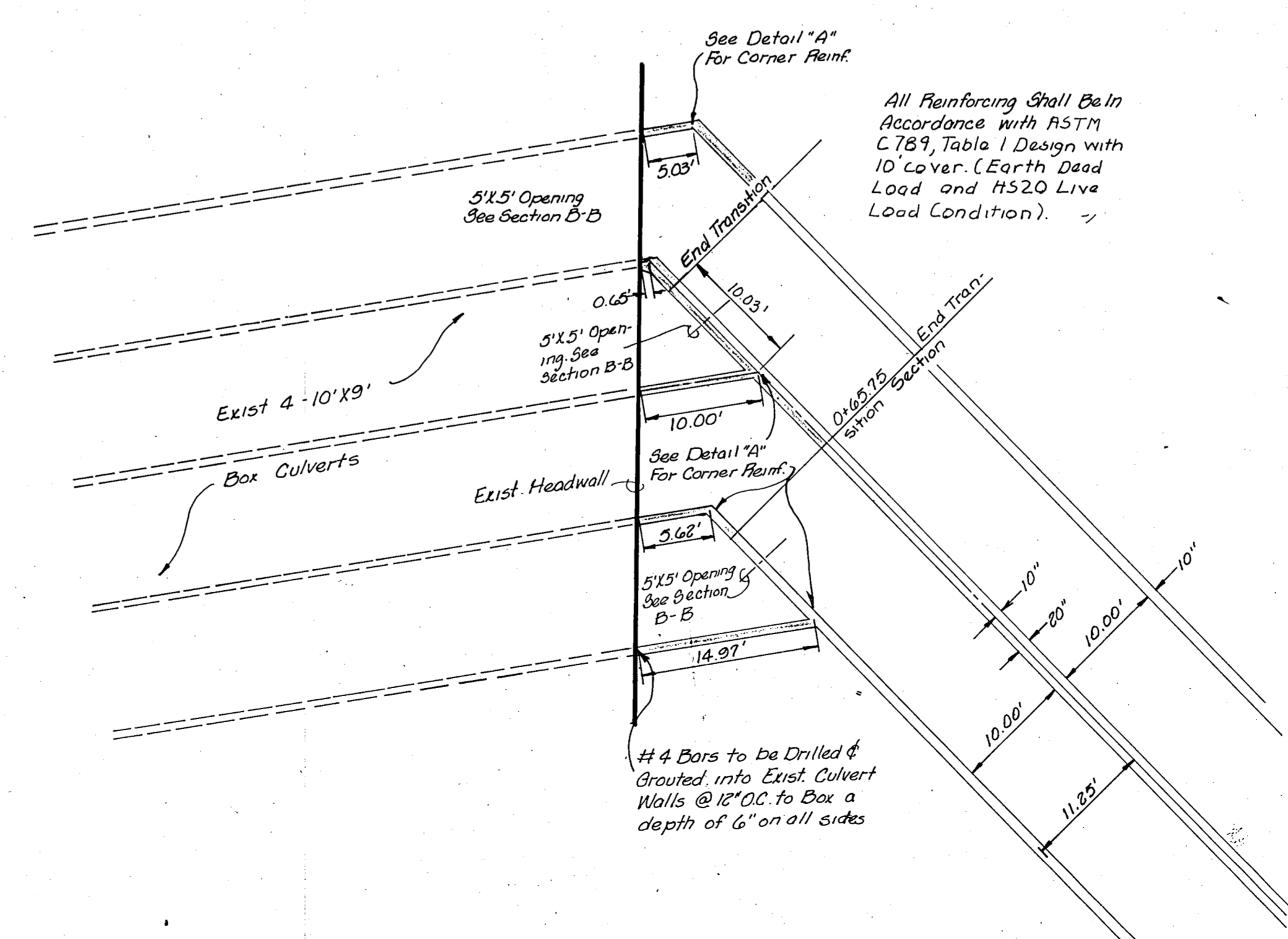
Section B-B (Typical)  
No Scale



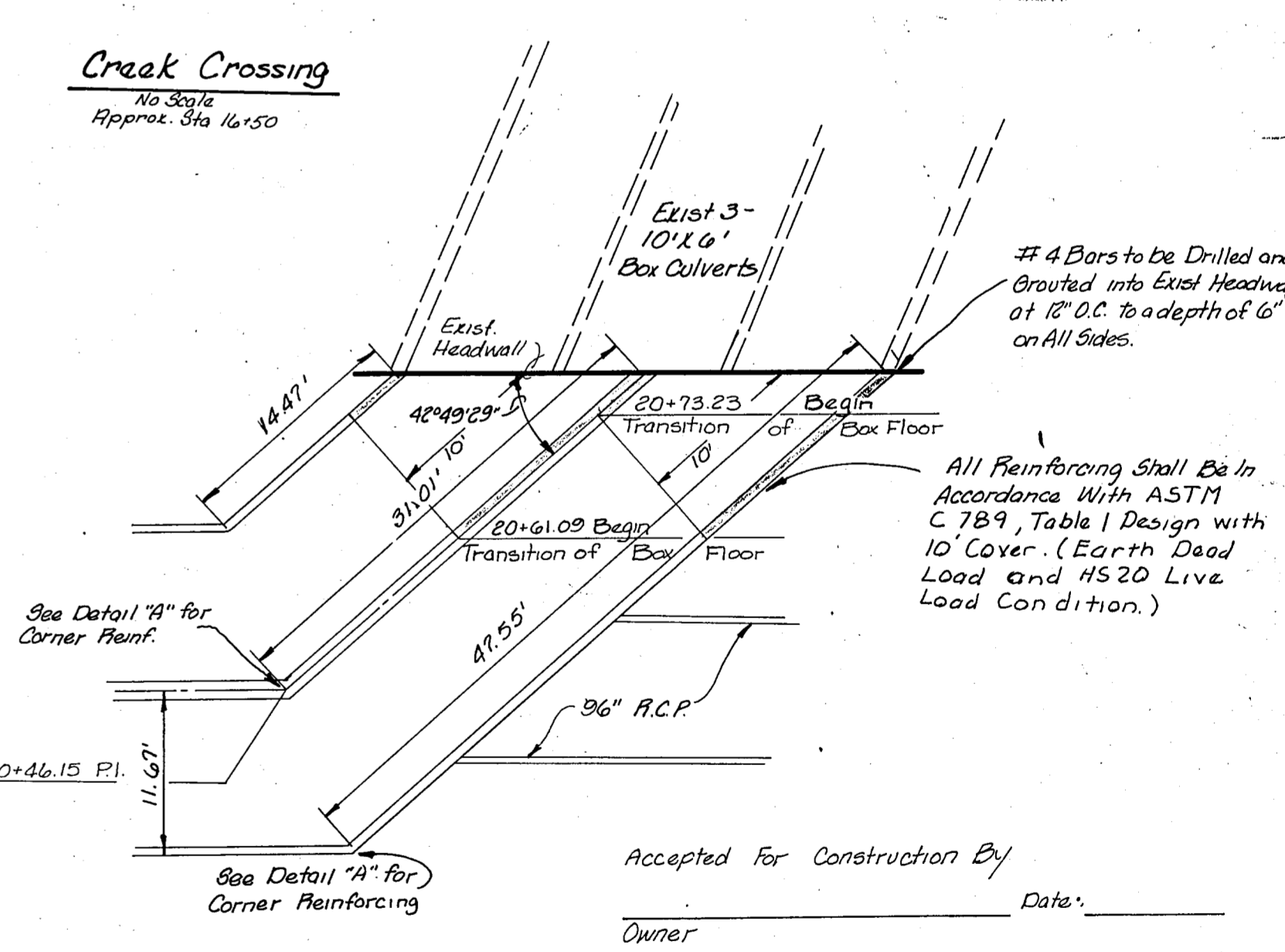
AS BUILT  
DATE 11/23/83



Alternate  
Plan View of  
Box Culvert Connection  
(Belt Line Road)  
Cast-In Place



Plan View of  
Box Culvert Connection  
Marsh Lane  
Pre-Cast Type



Plan View of  
Box Culvert Connection  
Beltline Road  
Pre-Cast Type

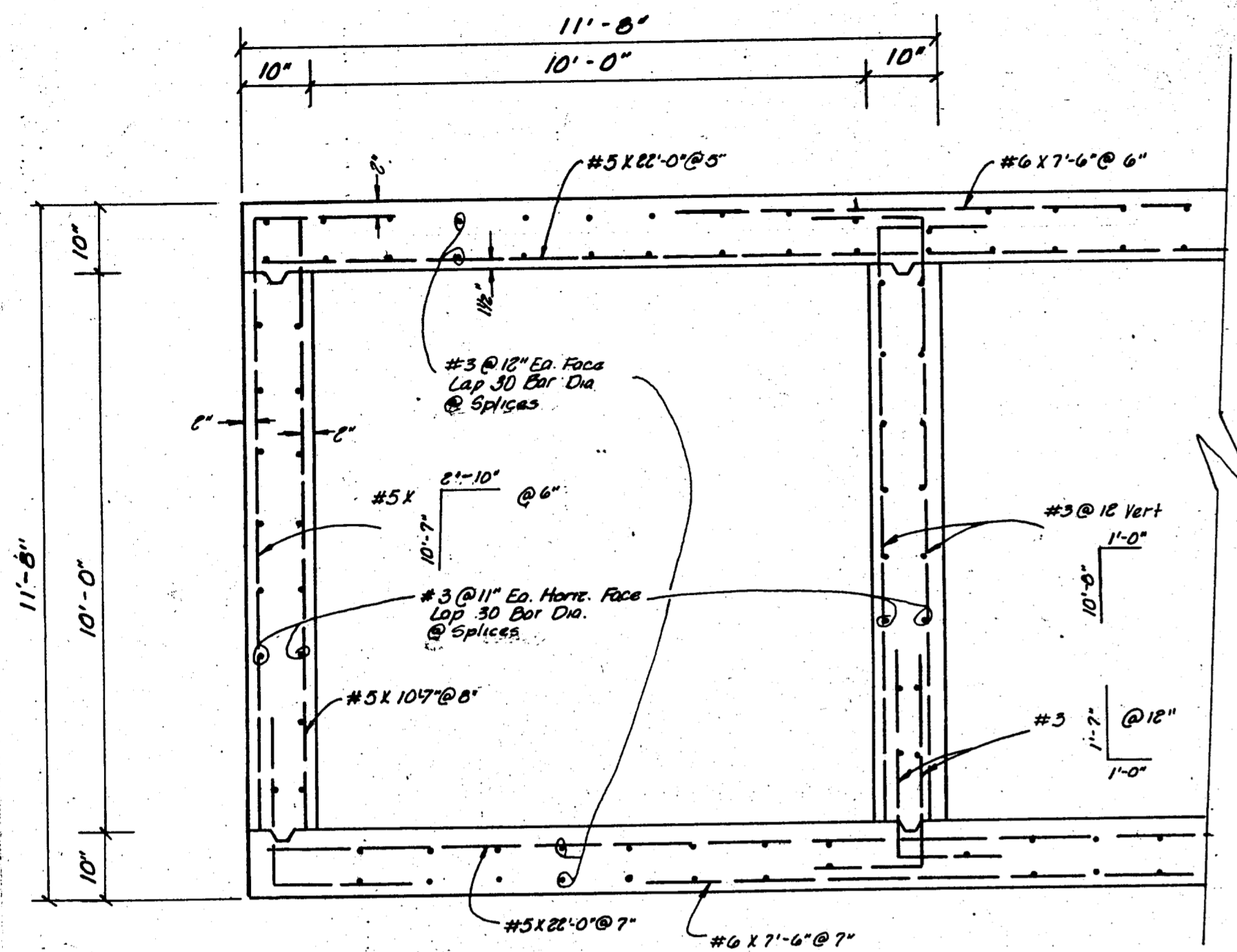
Accepted For Construction By \_\_\_\_\_ Date: \_\_\_\_\_  
Owner \_\_\_\_\_ Date: \_\_\_\_\_  
Contractor \_\_\_\_\_ Date: \_\_\_\_\_

6/7

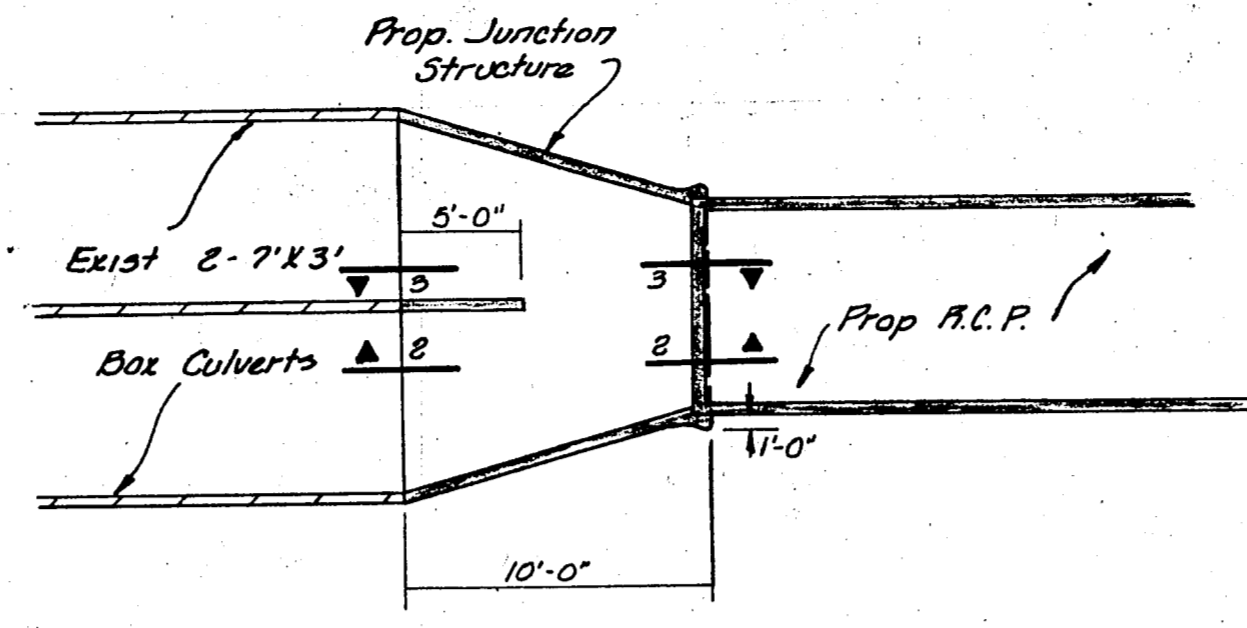
- General Notes**
- All areas to receive fill shall be scarified to a depth of 6 inches and compacted to a density of 95% Standard Proctor Density. All fill shall be placed in horizontal layers not exceeding 6 inches (loose depth) and compacted to a density of 95% Standard Proctor with the moisture content within 4% of optimum.
  - The Contractor shall be entirely responsible for damage to existing utilities, streets, curbs, sidewalks and other structures of any kind during the execution of this work and shall be liable for damage to public or private property resulting therefrom.
  - All materials and workmanship shall conform to the City of Addison Standards and Specifications, and to the Contract Specifications and documents.
  - Contractor shall be solely responsible for the location and protection during construction, of any existing utilities or structures whatsoever. Those utilities shown herein are for general information only and do not necessarily represent the location, nature or type of existing utilities or structures that may be found on the field.

CONSTRUCTION SET  
2/25/83

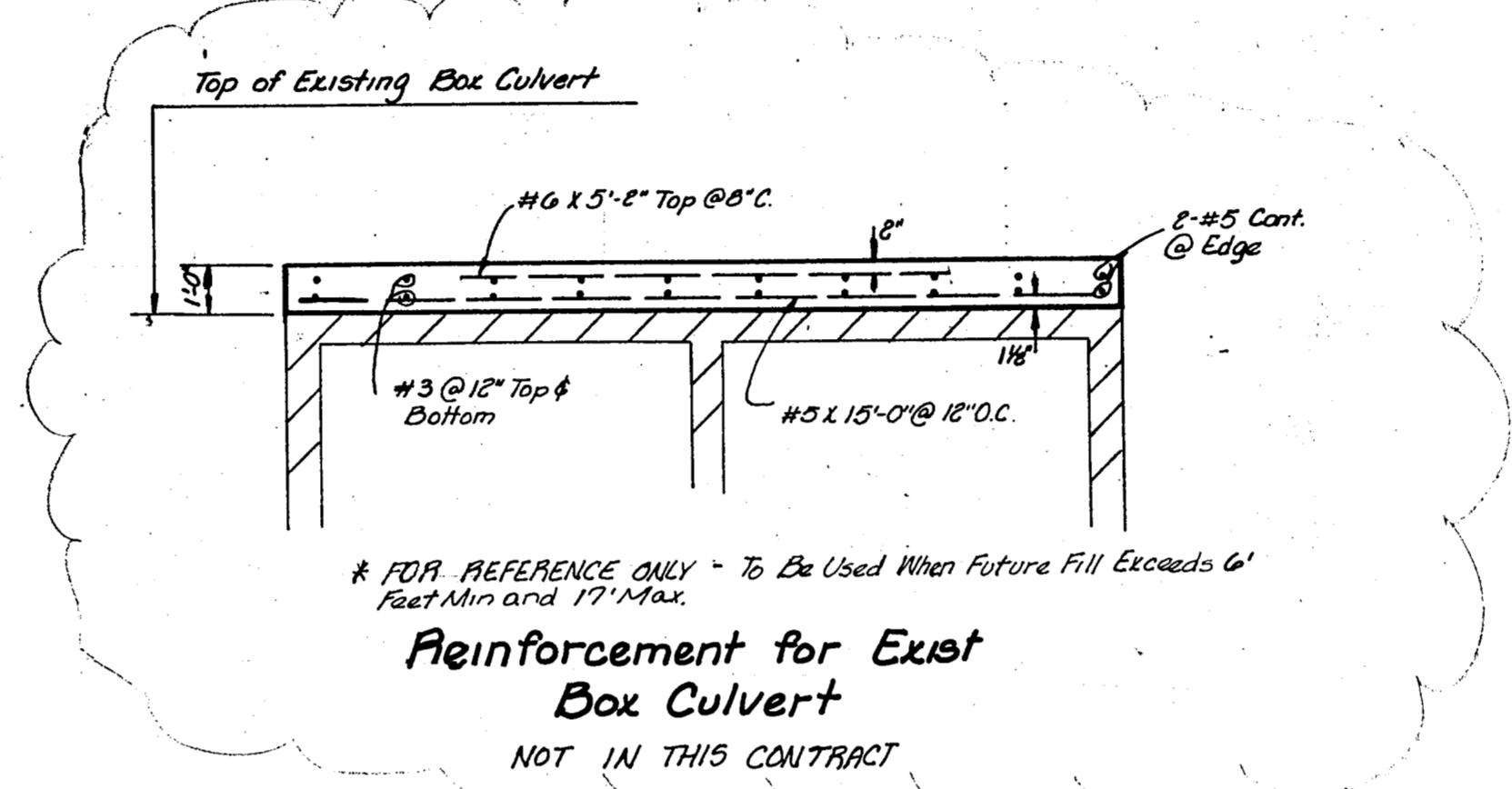
BOX CULVERT DETAILS						
LES LACS PLAZA						
CITY OF ADDISON, TEXAS						
RAYMOND L. GOODSON JR. INC., ENGINEERS						
DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	NO.
RLG INC.	RLG INC.	FEB 1983		RLG INC.		



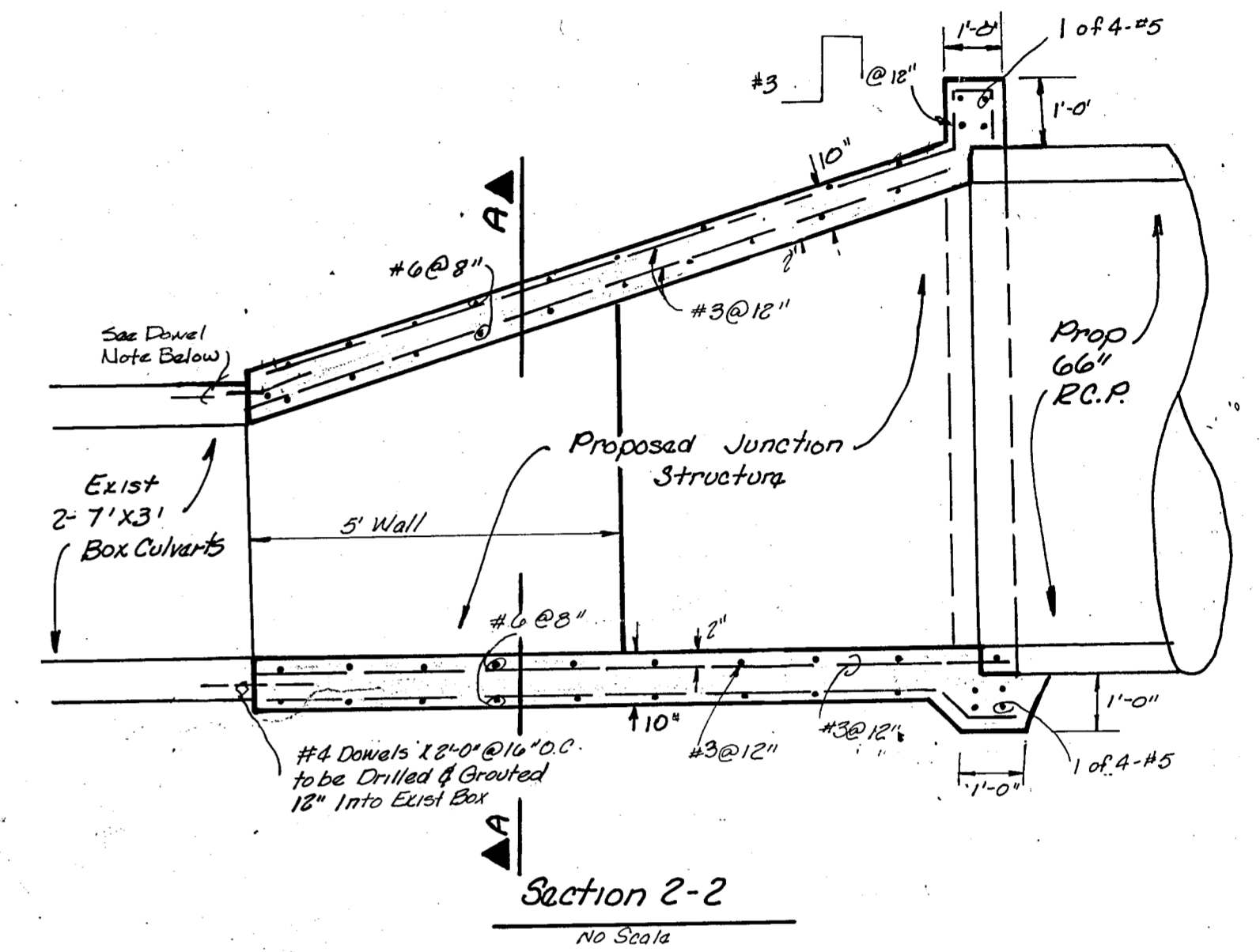
**Alternate  
2 - 10'X10' Box Culverts Design**



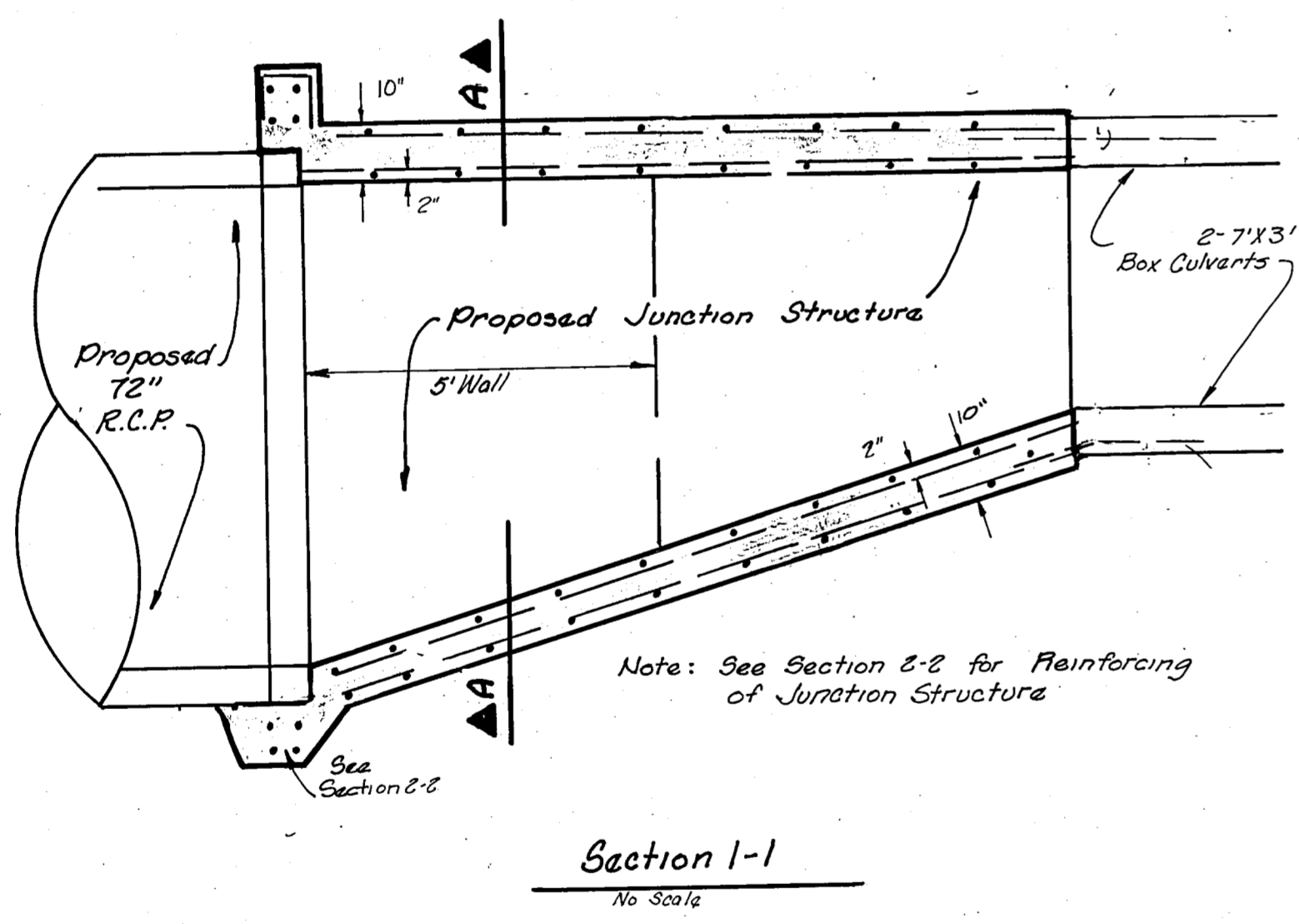
**Plan B  
Plan C - (Opposite Hand)**



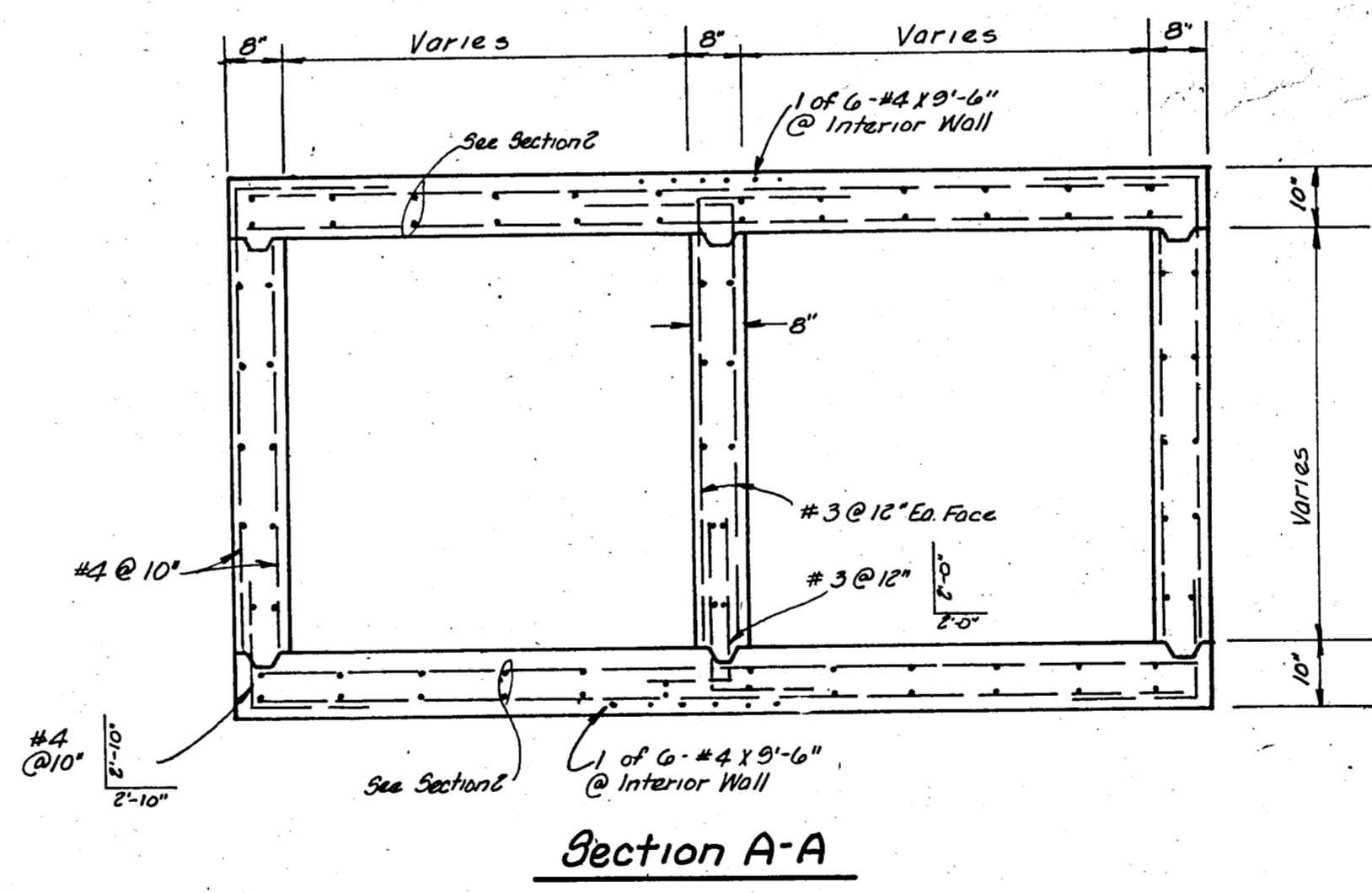
**Reinforcement for Exist  
Box Culvert  
NOT IN THIS CONTRACT**



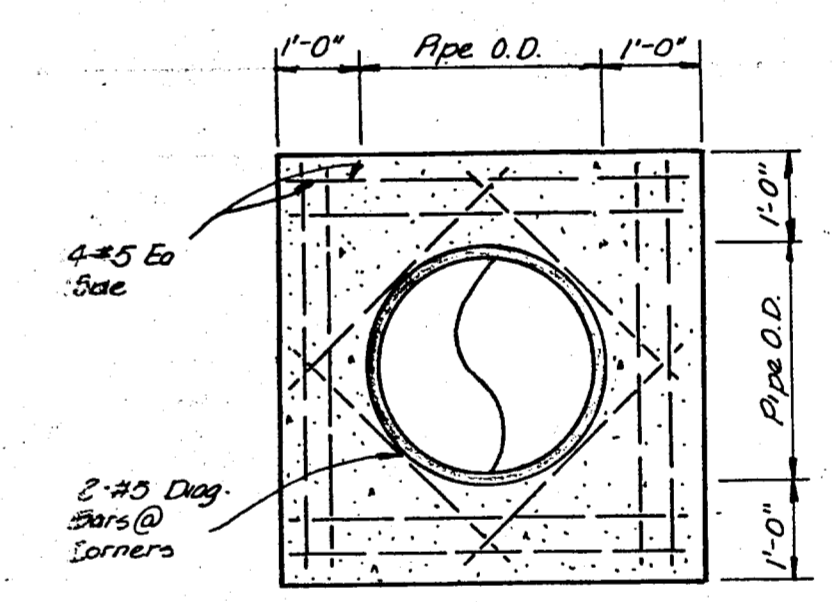
**Section 2-2  
No Scale**



**Section 1-1  
No Scale**

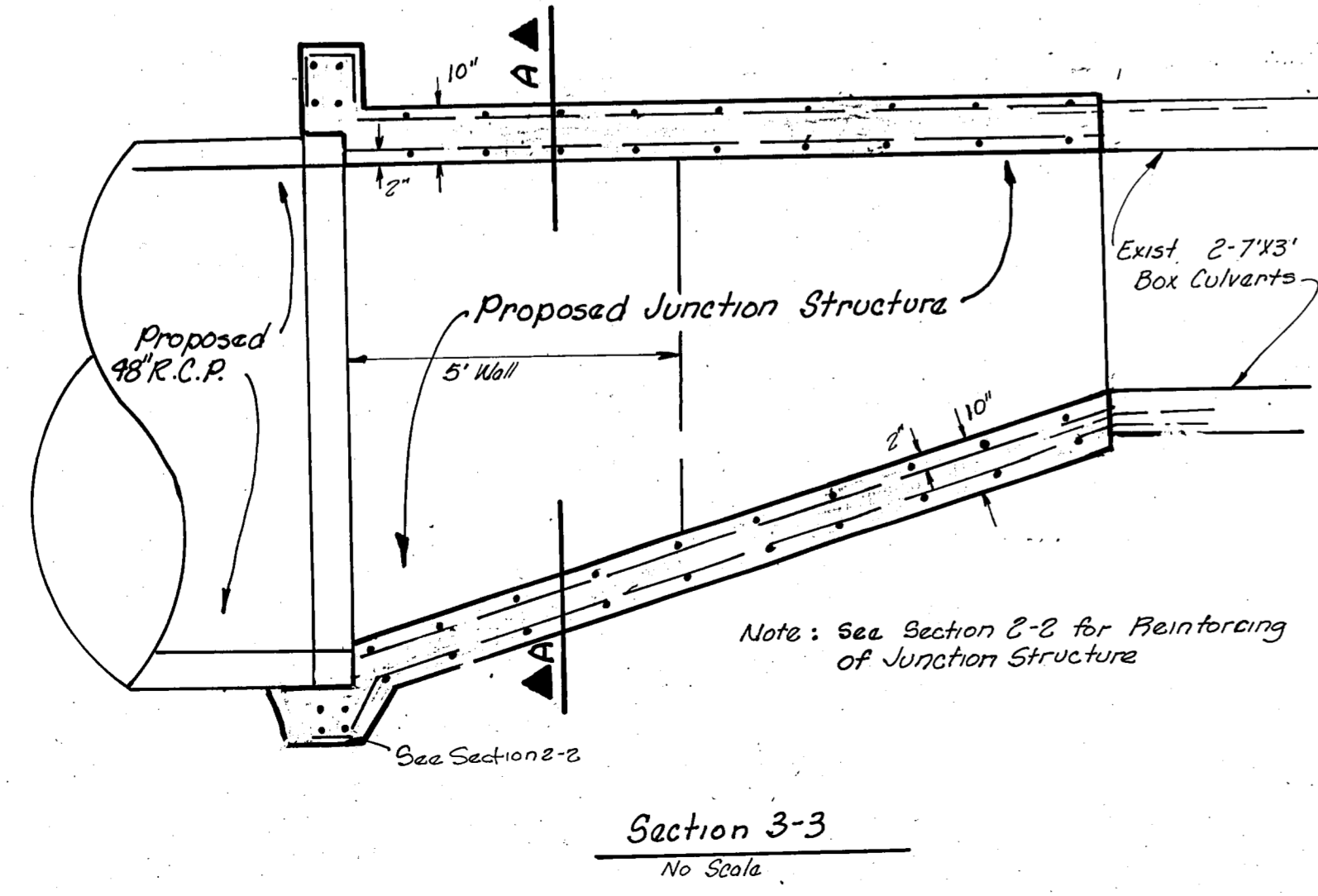


**Section A-A**



**Reinforcing @ R.C.P. &  
Junction Structure  
Connection**

**AS BUILT  
DATE 11/23/83**



**Section 3-3  
No Scale**

Accepted for Construction By: \_\_\_\_\_ Date: \_\_\_\_\_  
Owner: \_\_\_\_\_ Date: \_\_\_\_\_  
Contractor: \_\_\_\_\_

**CONSTRUCTION SET  
2/25/83**

BOX CULVERTS DETAILS						
LES LACS PLAZA						
CITY OF ADDISON, TEXAS						
RAYMOND L. GOODSON JR. INC., ENGINEERS						
DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	NO.
RLG INC.	RLG INC.	FEB. 1983		RLG INC.		