

# PAVING AND STORM DRAINAGE IMPROVEMENTS

## MARSH LANE

BROOKHAVEN CLUB DRIVE FROM TO BELT LINE ROAD

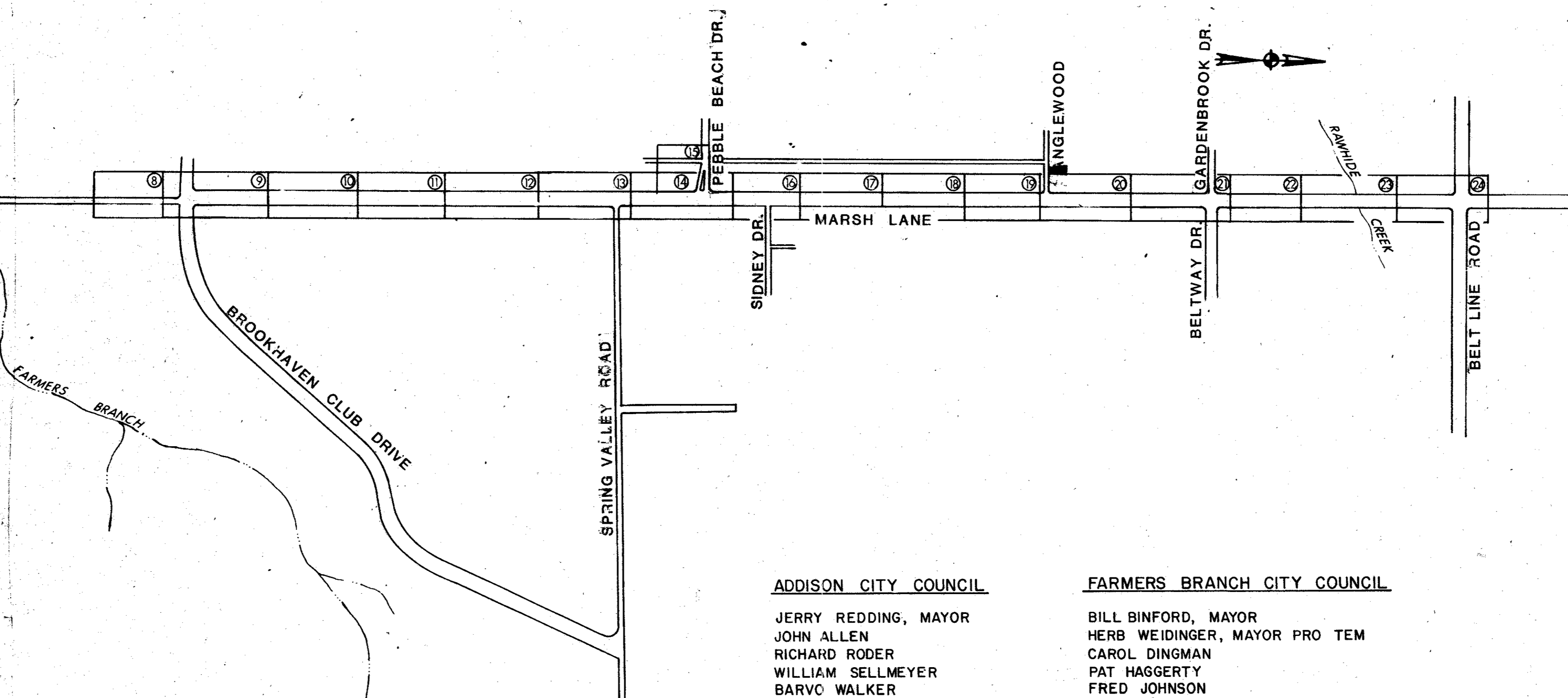
B14-2

### GENERAL NOTES

- Location of utilities shown on these plans were determined from records made available to the Engineer by the Cities of Addison and Farmers Branch and utility companies, by field survey, as-built plans and available proposed plans. It is the responsibility of the Contractor to locate and verify any utilities in conflict with his construction and notify the appropriate utility company. If necessary, dig test ditches to determine actual field conditions. Within two (2) working days prior to beginning construction in the vicinity of applicable underground facilities, notify the following, as appropriate:  
 City of Addison - Mr. Don Preece 214/233-1331  
 City of Farmers Branch - Mr. Lyman Goodnight 214/247-3131  
 Lone Star Gas Co. - Ms. Helen Crouch 214/931-3350  
 Southwestern Bell Telephone - Mr. Ward Hendrickson 214/247-6638  
 Texas Power & Light Co. - Mr. Tim Lowe 214/247-0175
- The Contractor must coordinate his work with the utility companies and must share the construction site with construction crews of the utility companies.
- Throughout the construction operation, at least two 10-foot minimum width vehicular travel lanes shall be provided for two-way traffic.
- Throughout the construction operations, a minimum of two lanes shall be provided on Marsh Lane and intersecting streets. Upon approval by the Engineer, temporary closure of driveways and streets may be permitted where alternate access is available. Temporary driveways will be required where alternate access is not available. Detours shall be provided by the Contractor as required. No measurement and payment shall be made for detours.
- If, at any time during the construction, the Contractor's proposed plan of operations results in unsafe traffic movement, the Contractor shall immediately change the unsatisfactory condition. The Contractor shall be required to keep existing traffic on Marsh Lane within the limits of the project to a level of service existing before construction.
- Pavement leave-outs shall be provided if directed by the Engineer. No direct payment will be made for work or materials required to provide the necessary pavement leave-outs as it will be considered subsidiary to the item "Concrete Pavement."
- Driveway locations shown are subject to change to suit actual field conditions at the time of construction and may be shifted as directed by the Engineer.
- All dimensions and station locations shown on the plans are to back of curb unless noted.
- Street intersection curb returns are 30-foot radii to back of curb unless noted.
- Driveway curb returns are 9-feet, 6-inches to back of curb unless noted.
- When storm sewers dead-end, they shall be plugged with a concrete plug of a thickness equal to 1-1/2 inches per foot of diameter with a minimum thickness of three inches. Cost of plugs shall be included in the unit price bid per foot of various sewer pipes.
- Existing regulatory signs and street designation signs within the construction limits shall be relocated by the Contractor as directed by the Engineer. Cost of relocation shall be subsidiary to Item 100, Preparing Right-of-Way.
- The Contractor shall provide, construct, and maintain barricades and signs in accordance with Barricades and Construction Standards BC(1-81) through BC(7-81) of the State Department of Highways and Public Transportation, and in accordance with the Texas Manual on Uniform Traffic Control Devices for Streets and Highways. In addition, he shall provide and maintain such other barricades and signs as deemed necessary by the Engineer and provide and maintain, between sunset and sunrise, a sufficient number of lights at barricades and points of danger for the protection of vehicular and pedestrian traffic. Barricades and signs shall be considered incidental work and will not be paid for as a separate pay item.
- Construction Plans were prepared from field survey work by others and furnished to Turner Collie & Braden Inc. by the Cities of Addison and Farmers Branch.
- The Contractor shall install 18-inch, white Thermoplastic Pavement Marking stop lines, according to Item 7301 and located as directed by the Engineer.
- Ready-mix concrete will be allowed on this Project.

**Turner Collie & Braden Inc.**  
**CONSULTING ENGINEERS**  
 1515 W. MOCKINGBIRD LANE SUITE 118  
 DALLAS TEXAS 75247

MARCH 1982



17. Steel Cylinder Reinforced Concrete Pressure Pipe shall be designed and manufactured to withstand a working pressure of 150 pounds per square inch, minimum, and it shall be approved for waterworks service by Underwriters' Laboratories and the Texas Fire Insurance Commission.

### ADDISON CITY COUNCIL

JERRY REDDING, MAYOR  
 JOHN ALLEN  
 RICHARD RODER  
 WILLIAM SELMEYER  
 BARVC WALKER  
 TERRY ROBERTS

### FARMERS BRANCH CITY COUNCIL

BILL BINFORD, MAYOR  
 HERB WEIDINGER, MAYOR PRO TEM  
 CAROL DINGMAN  
 PAT HAGGERTY  
 FRED JOHNSON  
 JOHN DODD

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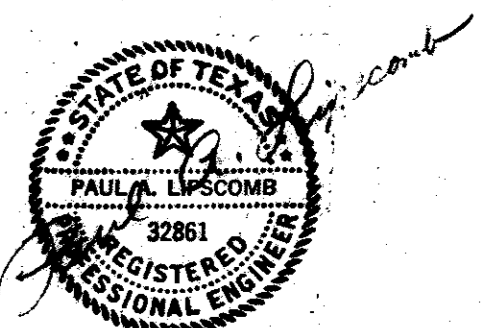
NO.	TITLE
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3	TYPICAL ROADWAY SECTIONS
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### CITY OF ADDISON

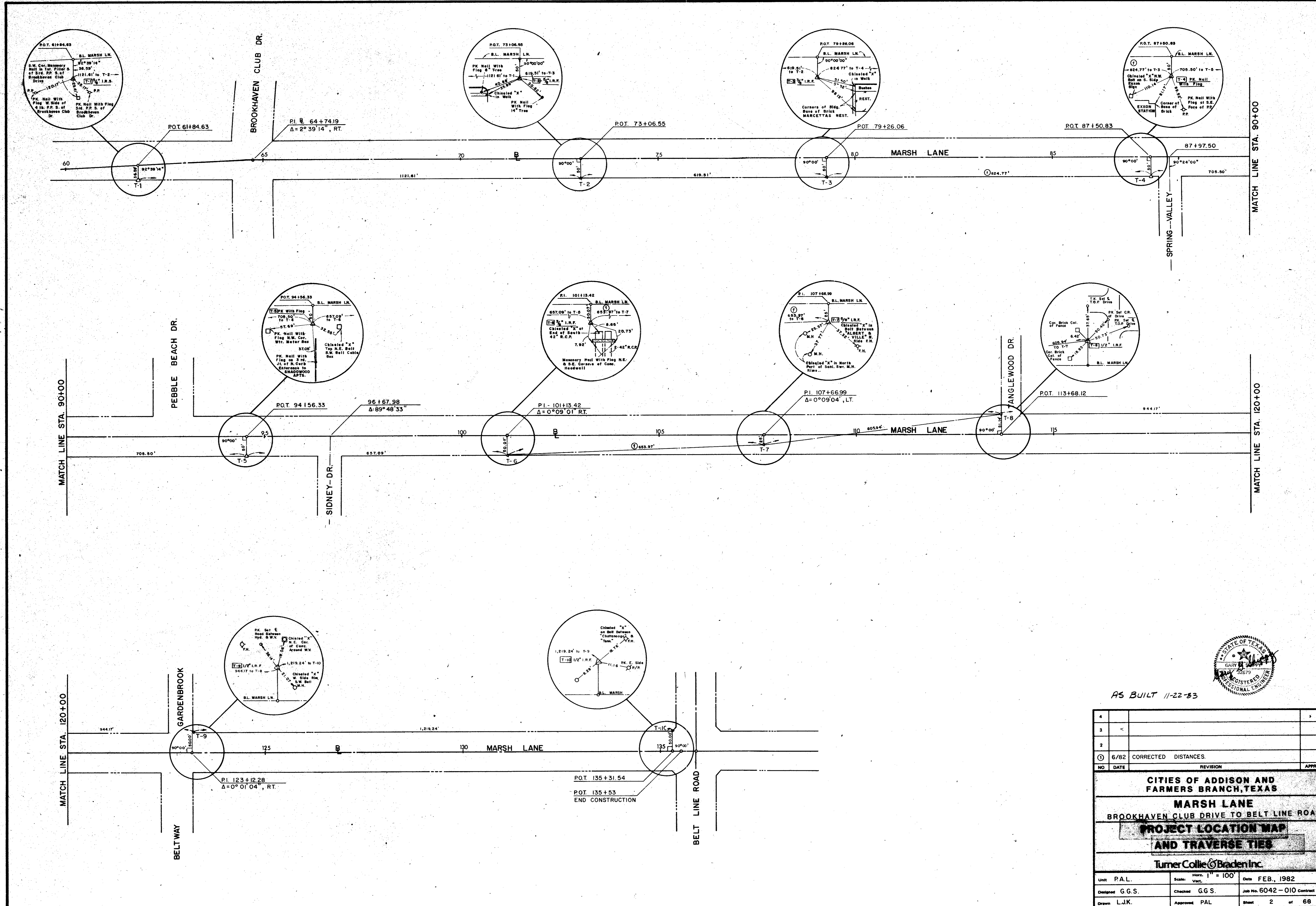
APPROVED *Jerry Redding*  
 JERRY REDDING, MAYOR  
 DATE: 8-23-82

### CITY OF FARMERS BRANCH

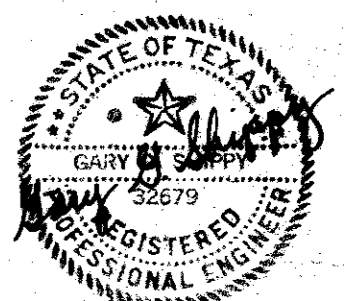
APPROVED *Bill Binford*  
 BILL BINFORD, MAYOR  
 DATE: 3-10-82



AS BUILT  
 11-22-83



AS BUILT 11-22-83

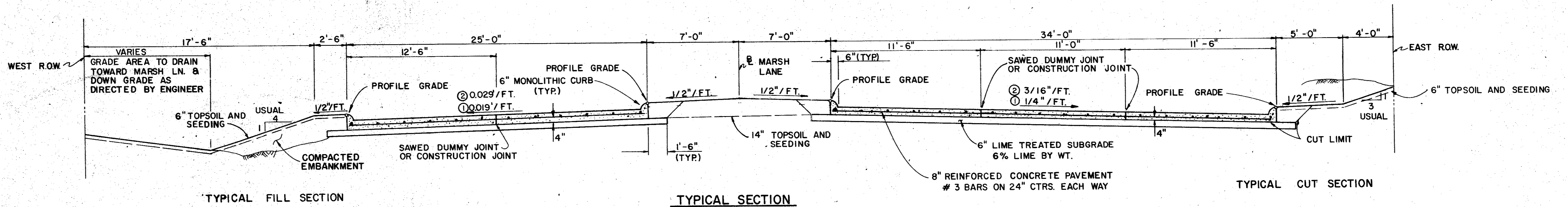


4			
3	<		
2			
①	6/82	CORRECTED DISTANCES	
NO	DATE	REVISION	APPROV.

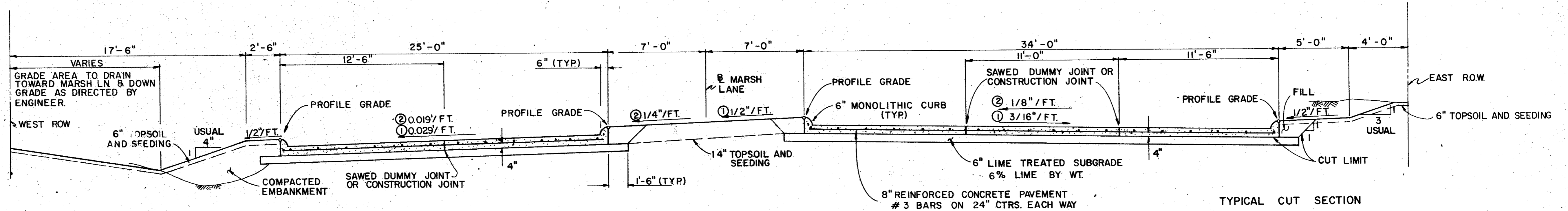
**CITIES OF ADDISON AND FARMERS BRANCH, TEXAS**  
**MARSH LANE**  
 BROOKHAVEN CLUB DRIVE TO BELT LINE ROAD  
**PROJECT LOCATION MAP**  
**AND TRAVERSE TIES**

Turner Collie Braden Inc.

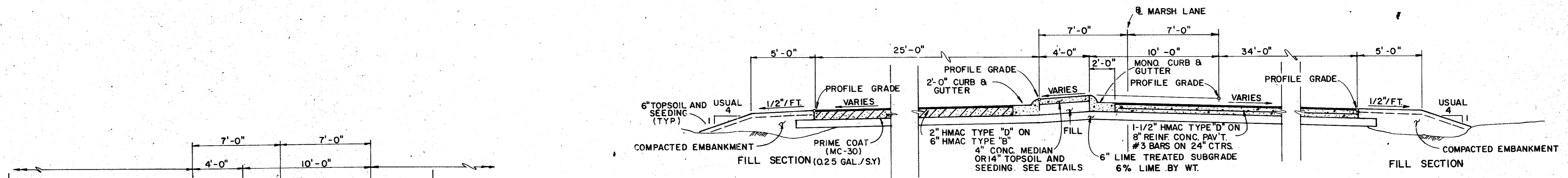
Unit	P.A.L.	Scale:	Horz. 1" = 100'	Date	FEB, 1982
Designed	G.G.S.	Checked	G.G.S.	Job No.	6042-010 contract
Drawn	L.J.K.	Approved	PAL	Sheet	2 of 68



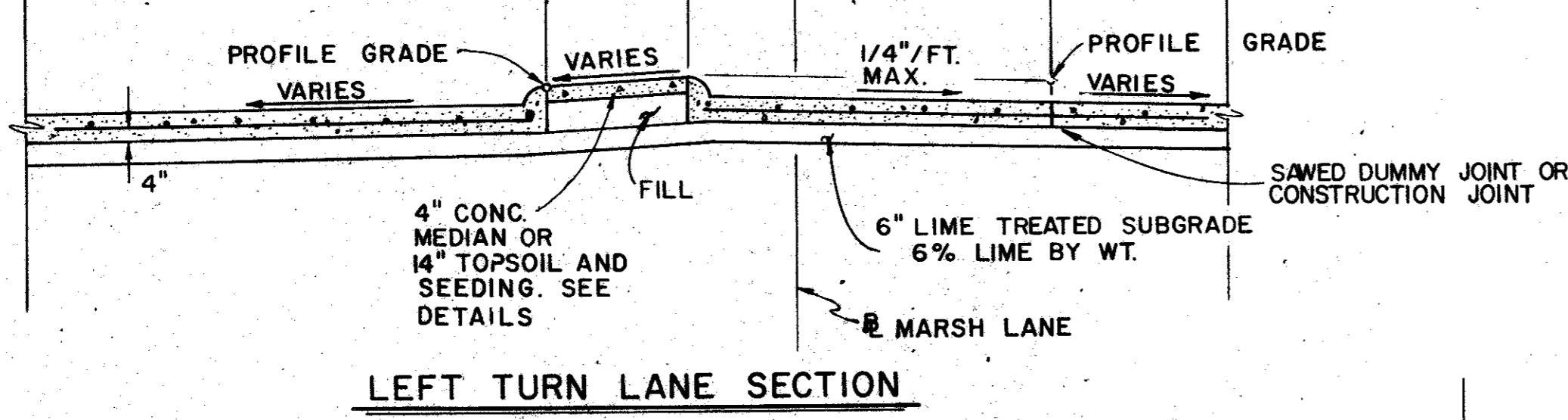
- TYPICAL SECTION**
- ① STA. 66+25 TO 83+00
  - STA. 91+75 TO 99+00
  - STA. 119+50 TO 122+75
  - ② STA. 112+00 TO 118+50



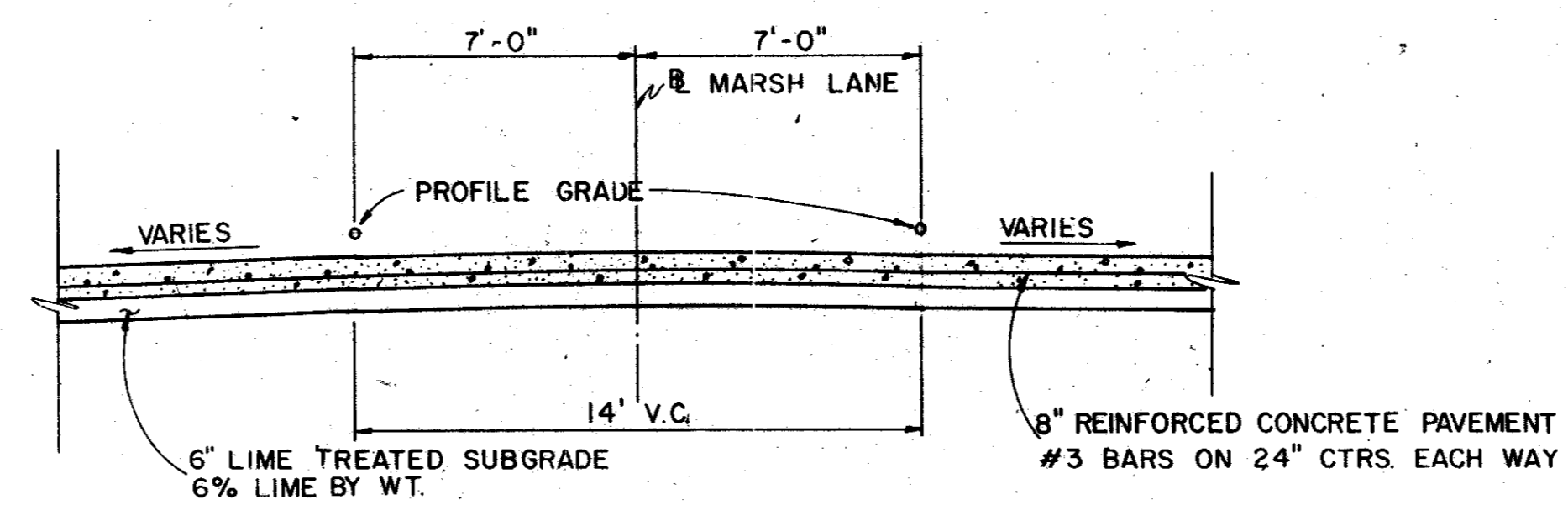
- TYPICAL SECTION**
- ① STA. 100+00 TO 111+00
  - ② STA. 86+00 TO 90+25



**TYPICAL SECTION**  
STA. 59+50 TO 63+94

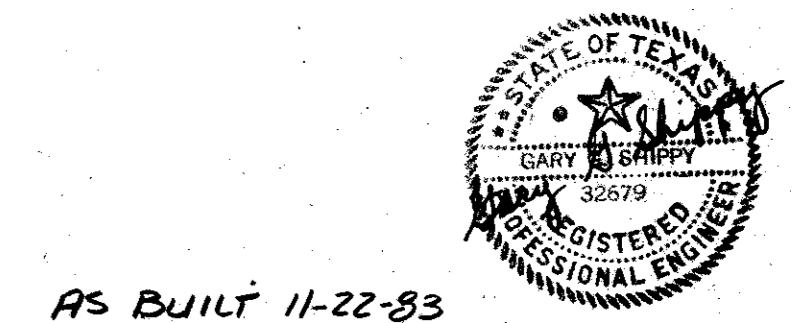


**LEFT TURN LANE SECTION**



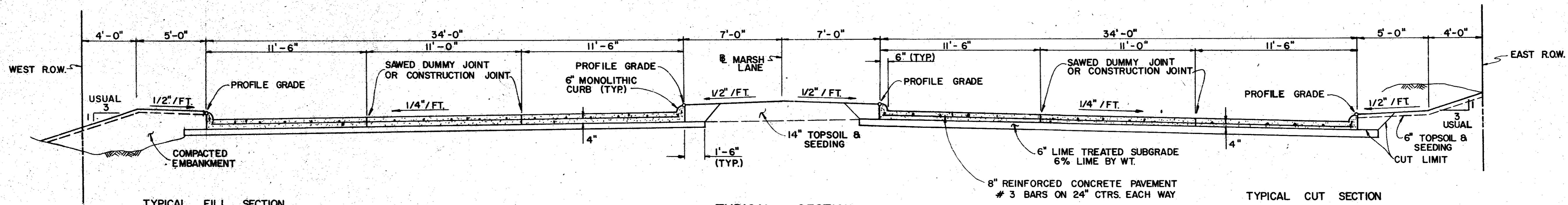
**MEDIAN OPENING SECTION**

NOTES:  
1) SECTIONS FOR STATIONS NOT INCLUDED IN THE ABOVE TYPICALS ARE IN TRANSITION.



AS BUILT 11-22-83

4			
3			
2	8/82	REVISED PER CHANGE ORDER NO. 1.	
1	5/82	AS ADDENDUM NO. 1, ART. 6	
NO	DATE	REVISION	APPROV.
<b>CITIES OF ADDISON AND FARMERS BRANCH, TEXAS</b>			
<b>MARSH LANE</b>			
BROOKHAVEN CLUB DRIVE TO BELT LINE ROAD			
<b>TYPICAL ROADWAY SECTIONS</b>			
Turner Collier & Braden Inc.			
Unit	PAL	Scale: 1" = 4'-0"	Date: FEB. 1982
Designed	GGG	Checked: GGS	Job No. 6042-010 Contract
Drawn	LJK	Approved: PAL	Sheet 3 of 66



TYPICAL FILL SECTION

TYPICAL SECTION

TYPICAL CUT SECTION

STA. 123+75 TO STA. 134+00

\* CROSS SLOPE VARIES FROM 0.019 FT./FT. TO 1/4" / FT. FROM STA. 122+75 TO STA. 123+75 RESPECTIVELY.

As BUILTS 11-22-83

4			
3			
2			
1	8 / 82	SHEET ADDED PER CHANGE ORDER NO. 1.	
NO	DATE	REVISION	APPROV.
<b>CITIES OF ADDISON AND FARMERS BRANCH, TEXAS</b>			
<b>MARSH LANE</b>			
BROOKHAVEN CLUB DRIVE TO BELT LINE ROAD			
<b>TYPICAL ROADWAY SECTIONS</b>			
Turner Collier & Braden Inc.			
Unit	PAL	Scale: 1" = 4'-0"	Date AUG. 1982
Designed	GGG	Checked GGS	Job No. 6042-012 Contract
Drawn	LJK	Approved PAL	Sheet 30 of 66

## ESTIMATED QUANTITIES

ITEM	DESCRIPTION	UNIT	PAVING PLANS																	DRAINAGE PLANS										
			8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	23a	24	DETOURS	26	27	28	29	30	31	32	33	34
100	Preparing Right-of-Way	Station	4.0	4.5	5.0	5.0	5.2	5.1	5.2	3.3	4.5	5.0	5.0	5.0	5.0	4.0	5.0		3.0											
104&S.P.	Remove Old Concrete (Curbs or Curbs & Gutters)	L.F.		390					100																					
108&S.P.	Remove Old Concrete (Pavement, Slope Protection & Sidewalk)	S.Y.		410				330	42		902				142	46														
110&S.P.	Unclassified Road Excavation (Density Control)	C.Y.	680	1,859	2,614	3,816	2,746	2,146	1,385			1,917	2,116	1,658	2,241	2,077	2,318	1,384	190											
120&S.P.	Unclassified Channel Excavation (Density Control)	C.Y.															260													
160&S.P.	Furnishing and Placing Topsoil (Sandy Loam)	C.Y.	380	322	429	595	571	410	362	83	383	523	571	496	326	303	341	448		249										
164&S.P.	Broadcast Seeding	S.Y.	2,080	1,950	940	1,830	2,100	1,880	1,700	650	2,140	2,240	2,350	2,160	1,650	1,670	1,470	2,360		1,400										
249	Flexible Base (Delivered-Type "A", Class 2, Grade 1 Density Control)	Ton																	190											
260	Lime Treated Subgrade (Density Control)	S.Y.	8,560	5,780	3,965	4,065	3,955	4,240	4,305	370	4,015	3,745	3,615	3,850	4,230	4,760	3,300	4,220		2,605										
264	Lime Slurry (Type A)	Ton	41	94	64	66	64	69	70	16	45	61	59	62	68	77	54	68		42										
310	Prime Coat (MC-30)	Gal.	183	305	20		21	26				41						343		340										
340&S.P.	Hot Mix Asphaltic Concrete Pavement (Class "A", Type "D")	Ton	201	279	11		23	29				36						151		150										
340&S.P.	Hot Mix Asphaltic Concrete Pavement (Class "A", Type "B")	Ton	291	215															300											
360&S.P.	8" Reinforced Concrete Pavement	S.Y.	1,550	4,620	3,660	5,730	3,625	3,930	3,935	865	3,715	3,405	3,280	3,505	3,940	4,435	3,025	3,870		2,370										
360&S.P.	6" Monolithic Concrete Curb	L.F.		1,613	1,741	1,854	1,927	1,738	1,976	630	1,708	1,983	1,989	1,975	1,693	1,754	1,491	1,805		1,211										
360&S.P.	6" Monolithic Concrete Curb and Gutter	L.F.	187	210																										
400&S.P.	Unclassified Structural Excavation (Box Culverts)	C.Y.										2686																		
400&S.P.	Cement Stabilized Backfill-Culverts and Channel	C.Y.											7924																	
421&S.P.	Class "A" Concrete for Structures (Box Culvert, Wingwalls & Aprons)	C.Y.																												
421&S.P.	Class "A" Concrete for Structures (Junction Box)	C.Y.																												
421&S.P.	Class "A" Concrete for Structures (Headwalls for Pipes)	C.Y.																												
432	Riprap (Class "B" Concrete)	C.Y.										9																		
440&S.P.	Reinforced Steel (Box Culverts, Headwalls, Wingwalls & Junction Box)	Lb.										109,953																		
450&S.P.	Pedestrian Handrail, Culvert Handrail (Aluminum)	L.F.																												
465&S.P.	18" Reinforced Concrete Pipe, Class III	L.F.																												
465&S.P.	21" Reinforced Concrete Pipe, Class III	L.F.																												
465&S.P.	24" Reinforced Concrete Pipe, Class III	L.F.																		77										
465&S.P.	27" Reinforced Concrete Pipe, Class III	L.F.																												
465&S.P.	30" Reinforced Concrete Pipe, Class III	L.F.																												
465&S.P.	33" Reinforced Concrete Pipe, Class III	L.F.																												
465&S.P.	36" Reinforced Concrete Pipe, Class III	L.F.																												
465&S.P.	39" Reinforced Concrete Pipe, Class III	L.F.																												
465&S.P.	42" Reinforced Concrete Pipe, Class III	L.F.																												
465&S.P.	48" Reinforced Concrete Pipe, Class III	L.F.																												
465&S.P.	54" Reinforced Concrete Pipe, Class III	L.F.																												
465&S.P.	60" Reinforced Concrete Pipe, Class III	L.F.																												
465&S.P.	66" Reinforced Concrete Pipe, Class III	L.F.																												
465&S.P.	72" Reinforced Concrete Pipe, Class III	L.F.																												
465&S.P.	78" Reinforced Concrete Pipe, Class III	L.F.																												
470&S.P.	6' Standard Inlet (4' Depth)	Each																												
470&S.P.	8' Standard Inlet (4' Depth)	Each																												
470&S.P.	10' Standard Inlet (4' Depth)	Each																												
470&S.P.	14' Standard Inlet (4' Depth)	Each																												
470&S.P.	20' Standard Inlet (4' Depth)	Each																												
470&S.P.	"x" Inlet (5'-3" Depth)	Each																												
470&S.P.	Extra Depth Inlet (All Types)	L.F.																												

AS BUILTS 11-22-83

CITIES OF ADDISON AND FARMERS BRANCH, TEXAS

**MARSH LANE**  
BROOKHAVEN CLUB DRIVE TO BELT LINE ROAD  
**ESTIMATE QUANTITY SUMMARY**

Turner Collier & Braden Inc.

Unit: PAL	Scale: Horiz. Vert.	Date: FEB 1982
Designed: GGS	Checked: GGS	Job No.: 6042-010 Contract
Drawn:	Approved: PAL	Sheet 4 of 66



5/82 CHANGED AS PER ADDENDUM NO 2, ART. 3.  
5/82 CHANGED AS PER ADDENDUM NO 1, ART. 7.

# ESTIMATED QUANTITIES

ITEM	DESCRIPTION	UNIT	DRAINAGE PLANS												PROJECT TOTAL		
			35	36	37	38	39	40	41	42	43	44	45	46			
100	Preparing Right-of-Way	Station															
104&S.P.	Remove Old Concrete (Curbs or Curbs & Gutters)	L.F.															78.8
104&S.P.	Remove Old Concrete (Pavement, Slope Protection & Sidewalk)	S.Y.															560
110&S.P.	Unclassified Road Excavation (Density Control)	C.Y.															3,229
120&S.P.	Unclassified Channel Excavation (Density Control)	C.Y.															22,322
																	260
160&S.P.	Furnishing and Placing Topsoil (Sandy Loam)	Sta.															6,792
164&S.P.	Broadcast Seeding	S.Y.															30,620
249	Flexible Base (Delivered-Type "A", Class 2, Grade 1 Density Control)	Ton															190
260	Lime Treated Subgrade (Density Control)	S.Y.															64,180
264	Lime Slurry (Type A)	Ton															1,040
310	Prime Coat (MC-30)	Gal.															1,474
340&S.P.	Hot Mix Asphaltic Concrete Pavement (Class "A", Type "D")	Ton															1,126
340&S.P.	Hot Mix Asphaltic Concrete Pavement (Class "A", Type "B")	Ton															1,387
360&S.P.	8" Reinforced Concrete Pavement	S.Y.															57,515
360&S.P.	6" Monolithic Concrete Curb	L.F.															27,168
360&S.P.	6" Monolithic Concrete Curb and Gutter	L.F.															397
400&S.P.	Unclassified Structural Excavation (Box Culverts)	C.Y.															3,128
400&S.P.	Cement Stabilized Backfill-Culverts and Channel	C.Y.														442	372
421&S.P.	Class "A" Concrete for Structures (Box Culvert, Wingwalls & Aprons)	C.Y.															464.0
421&S.P.	Class "A" Concrete for Structures (Junction Box)	C.Y.				18.4											1,234
421&S.P.	Class "A" Concrete for Structures (Headwalls for Pipes)	C.Y.		47						4.1							18.4
432	Riprap (Class "B" Concrete)	C.Y.															13.4
440&S.P.	Reinforced Steel (Box Culverts, Headwalls, Wingwalls & Junction Box)	Lb.		487	3,412					341						79	107
450&S.P.	Pedestrian Handrail, Culvert Handrail (Aluminum)	L.F.														64,041	178,541
465&S.P.	18" Reinforced Concrete Pipe, Class III	L.F.		101		68				22						163	163
465&S.P.	21" Reinforced Concrete Pipe, Class III	L.F.	9	54	21	178	165	42	348		70	22	49	71		134	603
465&S.P.	24" Reinforced Concrete Pipe, Class III	L.F.	89	75	76	53			252	26		300					1,471
465&S.P.	27" Reinforced Concrete Pipe, Class III	L.F.										160	82				1,119
465&S.P.	30" Reinforced Concrete Pipe, Class III	L.F.											240				242
465&S.P.	33" Reinforced Concrete Pipe, Class III	L.F.								15							299
465&S.P.	36" Reinforced Concrete Pipe, Class III	L.F.	339	77						8							15
465&S.P.	39" Reinforced Concrete Pipe, Class III	L.F.															501
465&S.P.	42" Reinforced Concrete Pipe, Class III	L.F.	164		27	98				10			18				543
465&S.P.	48" Reinforced Concrete Pipe, Class III	L.F.				30				111							449
465&S.P.	54" Reinforced Concrete Pipe, Class III	L.F.															606
465&S.P.	60" Reinforced Concrete Pipe, Class III	L.F.								446							225
465&S.P.	66" Reinforced Concrete Pipe, Class III	L.F.			673	289											1,513
465&S.P.	72" Reinforced Concrete Pipe, Class III	L.F.															362
465&S.P.	78" Reinforced Concrete Pipe, Class III	L.F.															306
470&S.P.	6' Standard Inlet (4' Depth)	Each				1		1					1				1,387
470&S.P.	8' Standard Inlet (4' Depth)	Each															8
470&S.P.	10' Standard Inlet (4' Depth)	Each	2	1						1				1			5
470&S.P.	14' Standard Inlet (4' Depth)	Each		1		1	1				1			1		2	17
470&S.P.	20' Standard Inlet (4' Depth)	Each			1									1			11
470&S.P.	*Y* Inlet (5'-3" Depth)	Each		1	3					1							11
470&S.P.	Extra Depth Inlet (All Types)	L.F.						1									6

AS BUILTS 11-22-83

**CITIES OF ADDISON AND FARMERS BRANCH, TEXAS**

**MARSH LANE**  
BROOKHAVEN CLUB DRIVE TO BELT LINE ROAD

**ESTIMATE QUANTITY SUMMARY**

Turner Collier & Braden Inc.

Unit: PAL	Scale: Horiz. Vert.	Date: FEB 1982
Designed: GGS	Checked: GGS	Job No. 6042-010 Contract
Drawn:	Approved: PAL	Sheet 5 of 66



5/82 CHANGED AS PER ADDENDUM # 2, ART. 3  
5/82 CHANGED AS PER ADDENDUM # 1, ART. 8 & 9.

# ESTIMATED QUANTITIES

ITEM	DESCRIPTION	UNIT	PAVING PLANS																	DRAINAGE PLANS										
			8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	23a	24	DETOURS	26	27	28	29	30	31	32	33	34
470&S.P.	Manhole, Type "M", (8' Depth)	Each																												
470&S.P.	Manhole, Type "M", (13' Depth)	Each																												
479	Manhole, Type "M" Adjustments	Each																												
496&S.P.	Remove Old Structure, Small (Headwalls, Wingwalls & Inlets)	Each	1	2	3	1	8					2	3					3												
496&S.P.	Remove Old Structure, Large (Rawhide Creek Bridge)	L.S.																												
496&S.P.	Remove Old Structure, Large(7"x4.5'Pebble Beach Culvert & Junction Box)	L.S.																												
522	Concrete Curb & Gutter	L.F.	186	595	397		20	40					69													57				
524	4" Concrete Sidewalk	S.Y.		29																						27				
524	Concrete Driveways (6")	S.Y.		38	70		583	104	109	67	51			58	60		109													
560&S.P.	Metal Beam Guard Fence (12 Gauge)	L.F.						100	100								200								300					
560&S.P.	Metal Beam Guard Fence (12 Gauge) Terminal Anchor Section	Each						2	2								2								5					
568&S.P.	Chain Link Barrier Fence Relocation (Gates & Accessories)(4-foot)	L.F.									80																			
568&S.P.	Chain Link Barrier Fence Relocation (Gates & Accessories)(6-foot)	L.F.																												
580&S.P.	Field Office (For Engineer)	L.S.																												
590	4" Concrete Median (2000 psi), Reinforced	S.Y.		6	6	4	4	5	4		4							2	7	9	4	3				2				
640&S.P.	Pull Boxes (Concrete)	Each		9	3	2	2	5	5		5		1		6	9	2	2									1			
640&S.P.	Conduit (4") Schedule 40 PVC	L.F.		163	196	123	133	145	143		134	30	30		233	282	124	171												
640&S.P.	Conduit (3") Schedule 40 PVC	L.F.		697	332	186	206	557	536		495				685	827	192	212									30			
640&S.P.	Conduit (2") Schedule 40 PVC	L.F.		618	696	1610	30	914	720		654	1268	1030	264	456	836	607	509									960			
752&S.P.	Pavement Markers (4-inch, White, Reflectorized)	Each	38	30	39	39	39	30	36		30	36	39	36	33	33	24	36									21			
752&S.P.	Traffic Barrier Buttons (6-inch, Reflectorized)	Each	9	38	13	22	7	17	23		13	7			12	8	21	22	32								19			
754&S.P.	Traffic Buttons, 4-inch, White (Non-reflectorized)	Each	190	152	192	192	195	153	171		144	186	189	186	145	156	120	180									105			
7301&SS	Thermo Plastic Pavement Markings (18-inch, White)	L.F.		143				88	24		18				18	54											43			
SS-1	6" Water Main Adjustment	L.F.																												
SS-2	8" Water Main Adjustment	L.F.																										28		
SS-3	12" Water Main Adjustment	L.F.																										28		
SS-4	16" Reinforced Concrete Cylinder Pipe Adjustment	L.F.												49																
SS-5	4" Force Main Adjustment	L.F.																												
SS-6	Adjust Water Valve Box	Each																												
SS-7	Install 6" Gate Valve	Each																												
SS-8	Relocate Water Meter ( )	Each																												
SS-9	Fire Hydrant Removal, Salvage, Relocation & Installation	Each																												
SS-10	Fire Hydrant Vertical Adjustment	Each																												
SS-11	6" Sanitary Sewer	L.F.																												
SS-12	Cleanouts	Each																												
SS-13	Miscellaneous Sanitary Sewer Adjustment	Each																												
SS-14	Sanitary Sewer Manhole (0-8' Depth)	Each																												
SS-15	24" Reinforced Concrete Cylinder Pipe Water Main	L.F.																												

As BUILTS 11-22-83

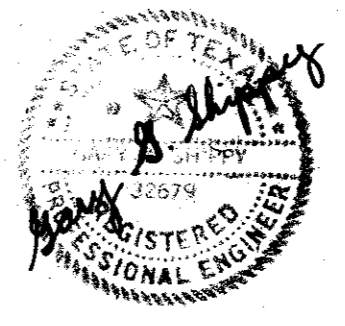
**CITIES OF ADDISON AND FARMERS BRANCH, TEXAS**

**MARSH LANE**  
BROOKHAVEN CLUB DRIVE TO BELT LINE ROAD

**ESTIMATE QUANTITY SUMMARY**

Turner Collier & Braden Inc.

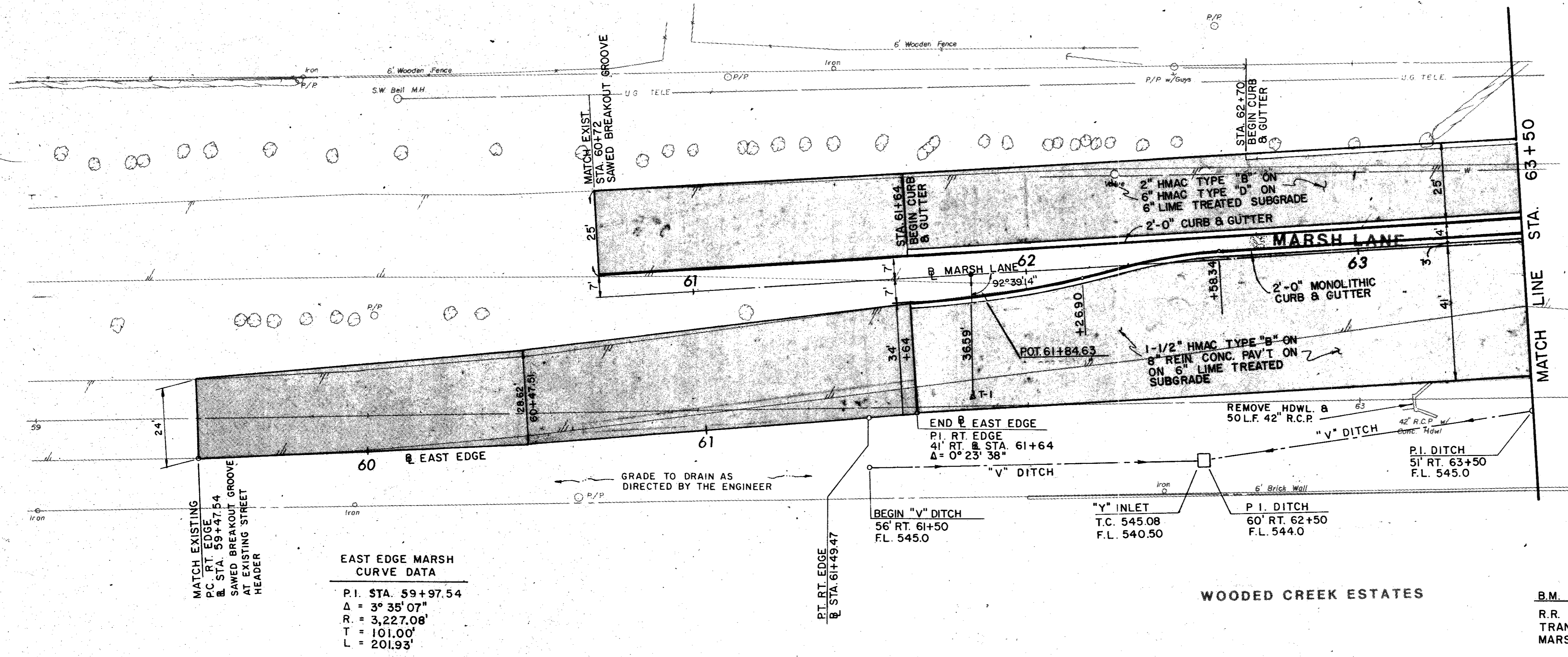
Unit PAL	Scale: Horiz. Vert.	Date FEB. 1982
Designed GGS	Checked GGS	Job No. 6042-010 Contract
Drawn	Approved PAL	Sheet 6 of 66







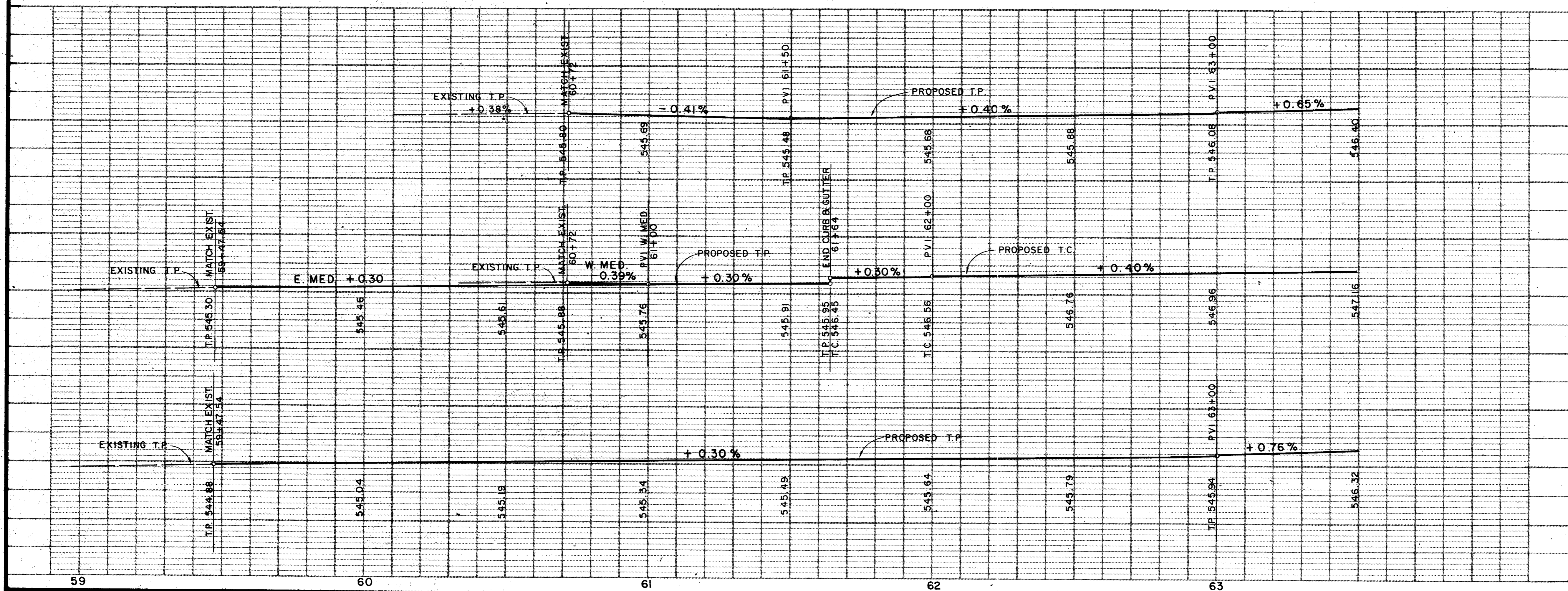
BROOKHAVEN ESTATES NO. 1



ITEM	DESCRIPTION	UNIT	QTY.
100	Preparing ROW	Sta	4.0
110&SP	Un.Road Excav. (Den Con)	C.Y.	680
160&SP	Furn & Plac Topsoil	C.Y.	380
164&SP	Broadcast Seeding	S.Y.	2,080
260	Lime Treated Subgrade	S.Y.	2,560
264	Lime Slurry (Type "A")	Ton	41
310	Prime Coat (MC-30)	Gal	183
340&SP	HMAL (Cl A Type B)	Ton	201
340&SP	HMAL (Cl A Type B)	Ton	241
360&SP	8" Rein. Conc Pavement	S.Y.	1,550
360&SP	6" Mono Curb & Gutter	L.F.	187
496&SP	Ren Old Struc, Small	Each	1
522	Conc. Curb & Gutter	L.F.	186
752&SP	Pvmt Mkrs (4"Wh, Ref)	Each	38
752&SP	Trf. Bar But (6" Ref)	Each	9
754&SP	Trf But (4" Non-Ref)	Each	100

**EAST EDGE MARSH CURVE DATA**  
 P.I. STA. 59+97.54  
 $\Delta = 3^\circ 35' 07''$   
 $R = 3,227.08'$   
 $T = 101.00'$   
 $L = 201.93'$

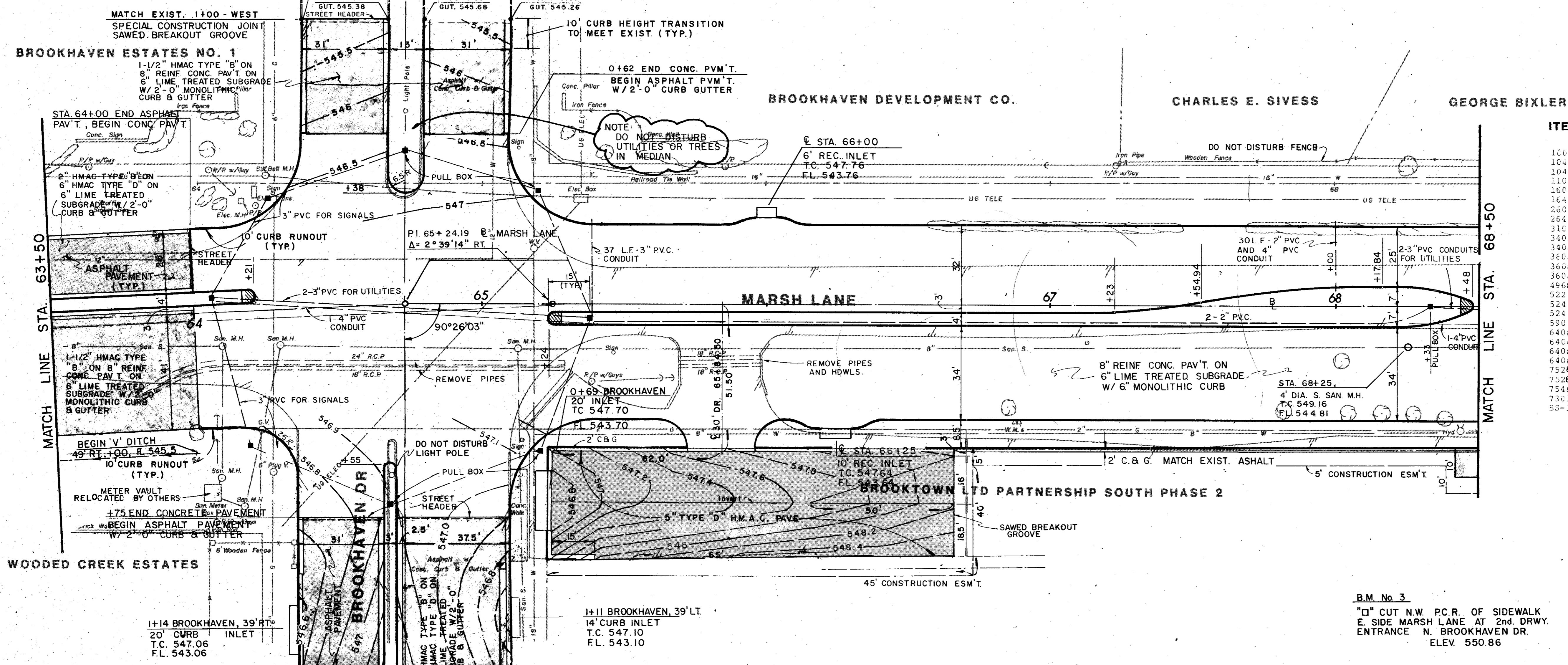
**B.M. No. 2**  
 R.R. SPIKE WEST FACE OF  
 TRANSFORMER POLE 50' EAST  
 MARSH LANE AT APPROX. 60+66  
 ELEV. 546.99



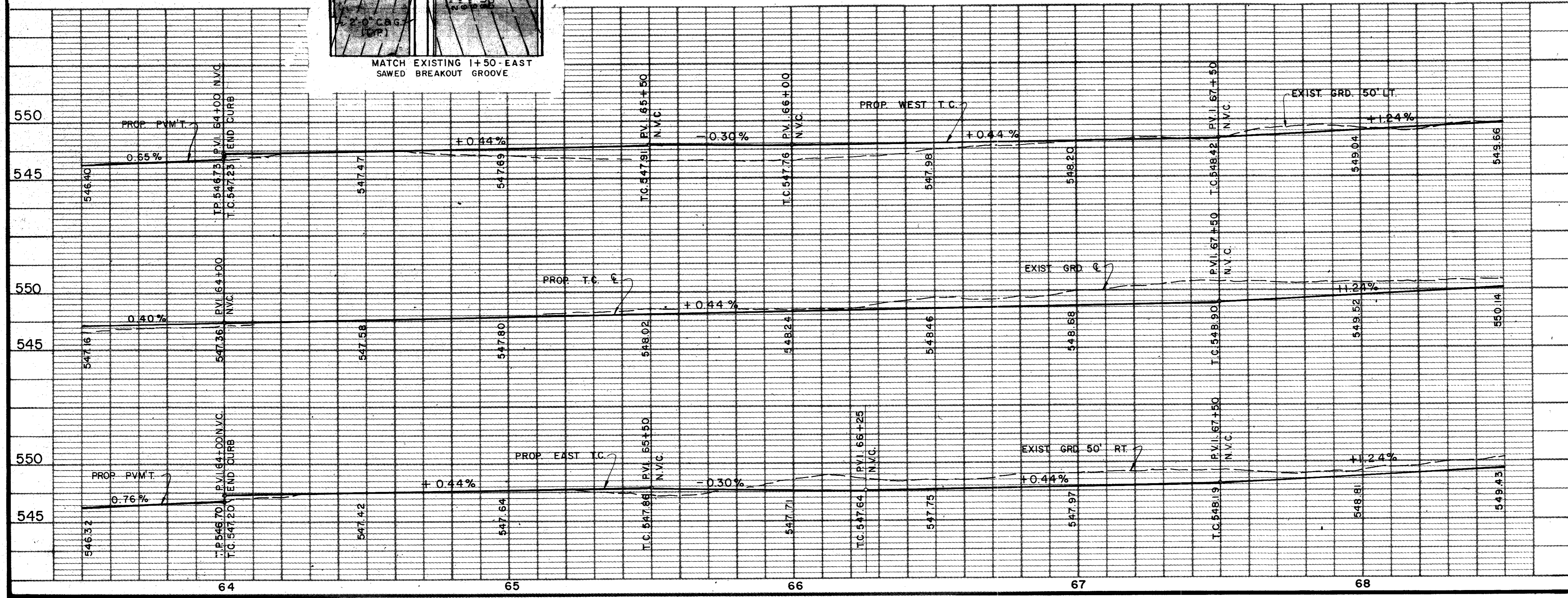
*Handwritten signature: Gary B. Slippy*

AS BUILTS 11-22-83

4			
3			
2	5/82	AS PER ADDENDUM NO. 2, ART. 3	
1	5/82	AS PER ADDENDUM NO. 1, ART. 7	
NO.	DATE	REVISION	APPROV.
<b>CITIES OF ADDISON AND FARMERS BRANCH, TEXAS</b>			
<b>MARSH LANE</b>			
BROOKHAVEN CLUB DRIVE TO BELT LINE ROAD			
<b>PAVING PLAN &amp; PROFILE</b>			
STA. 60+50 TO STA. 63+50			
Turner Collic & Braden Inc.			
Drawn	LJK	Scale: Horz. 1"=20' Vert. 1"=5'	Date FEB. 1982
Designed	GGG	Checked	GGG
Job No.	6042-010		Contract
Sheet	8	of 66	



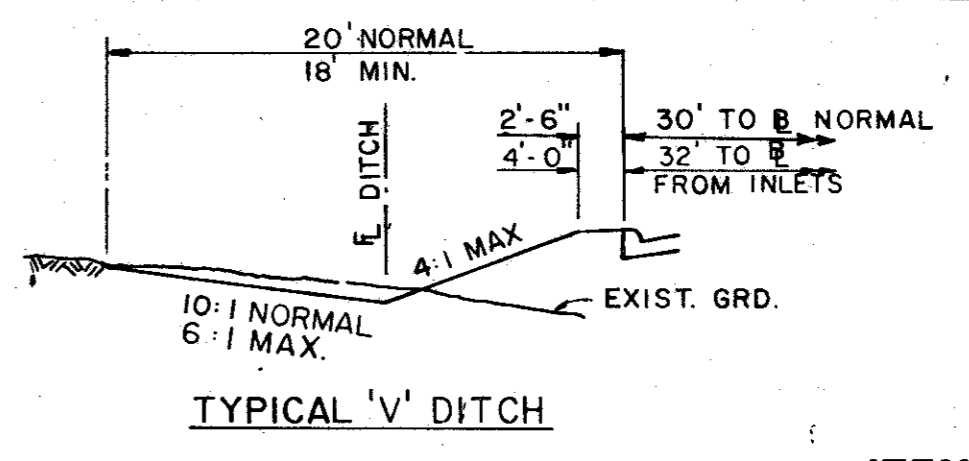
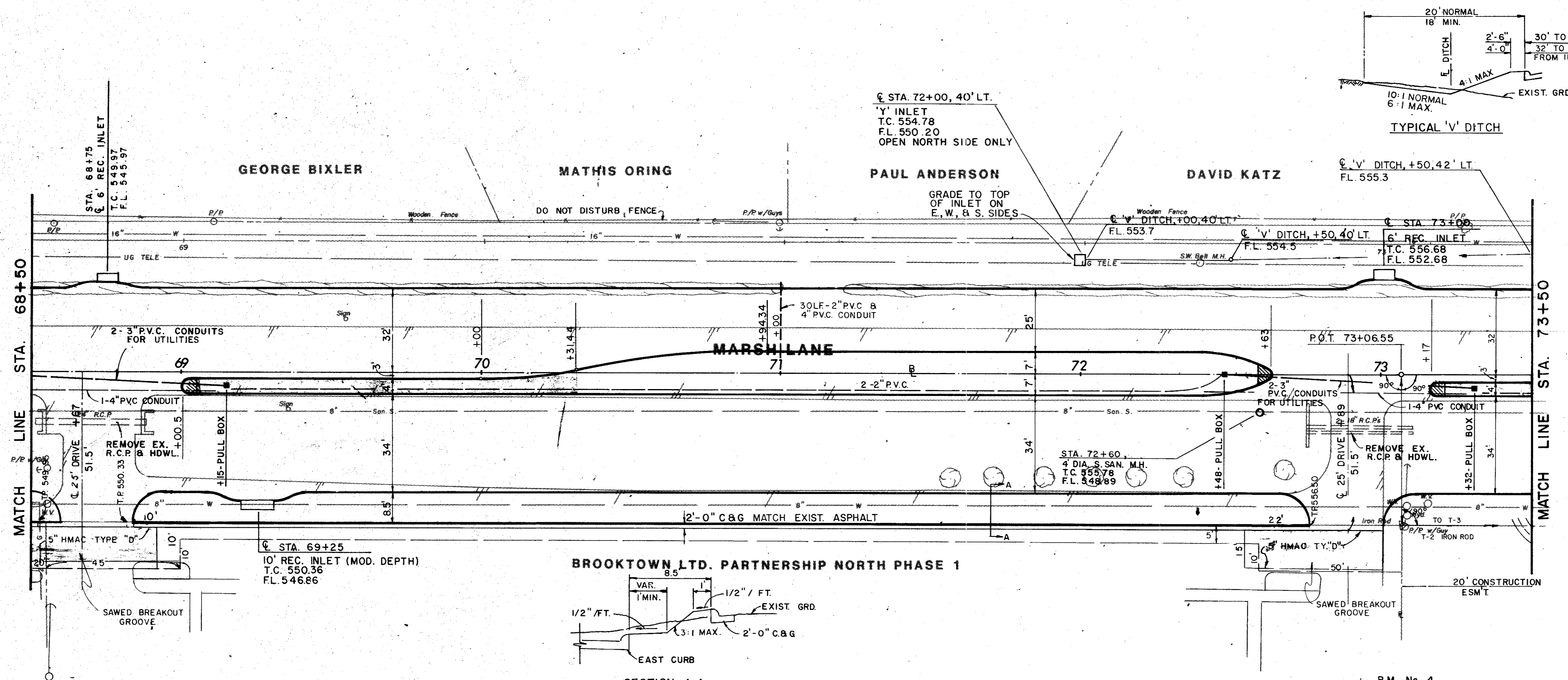
ITEM	DESCRIPTION	UNIT	QTY.
100	Preparing BGV	Sta	4.5
104&SP	Remove Old Conc (C&G)	L.F.	390
104&SP	Remove Old Conc (Pvmt)	S.Y.	410
110&SP	Unclns Rd Excu	C.Y.	1,859
160&SP	Furn & Pl Topsoil	C.Y.	322
164&SP	Broadcast Seeding	S.Y.	1,950
260	Lime Treated Subgrade	S.Y.	5,780
264	Lime Slurry	Ton	94
310	Prime Coat (PC-3)	Gal	335
340&SP	HMAC (Cl A Type D)	Ton	279
340&SP	HMAC (Cl A Type B)	Ton	215
360&SP	6" reinf. Conc Pavement	S.Y.	4,620
360&SP	6" Mono Curb	L.F.	1,613
360&SP	6" Mono Curb & Gutter	L.F.	213
496&SP	Rem Old Struct, Small	Dach	2
522	Concrete Curt & Gutter	L.F.	595
524	4" Conc Sidewalk	S.Y.	29
524	6" Conc Driveways	S.Y.	38
590	4" Conc Median	S.Y.	6
640&SP	Pull Boxes	Dach	9
640&SP	Conduit, 4"	L.F.	163
640&SP	Conduit, 3"	L.F.	697
640&SP	Conduit, 2"	L.F.	518
752&SP	Pvmt Mkrs (4"wh, Ref)	Each	30
752&SP	Trf Bar But(6" Ref)	Each	38
754&SP	Trf Buttor(4" Non-ref)	Each	152
7301	Thermoplastic Pnt Mkrs	L.F.	143
58-14	Sanitary Sewer Manhole	Each	1



B.M. No. 3  
 "D" CUT N.W. P.C.R. OF SIDEWALK  
 E. SIDE MARSH LANE AT 2nd DRWY.  
 ENTRANCE N. BROOKHAVEN DR.  
 ELEV. 550.86

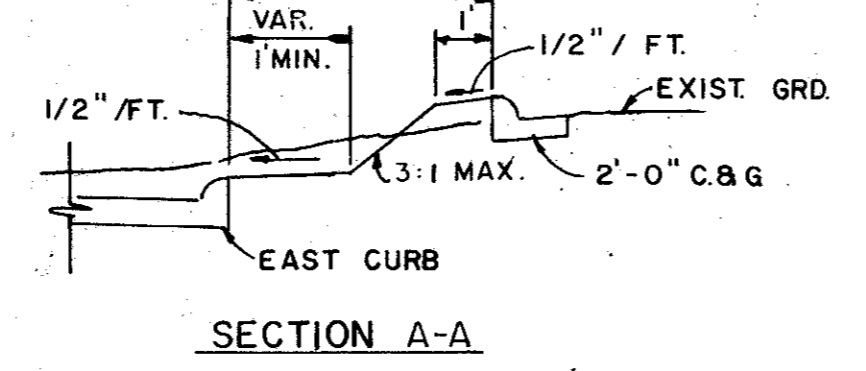


4			
3			
2	5/82	AS PER ADDENDUM NO 2, ART 3.	
1	5/82	AS PER ADDENDUM NO 1, ART 7	
NO.	DATE	REVISION	APPROV.
<b>CITIES OF ADDISON AND FARMERS BRANCH, TEXAS</b> <b>MARSH LANE</b> BROOKHAVEN CLUB DRIVE TO BELT LINE ROAD <b>PAVING PLAN &amp; PROFILE</b> STA. 63+50 TO STA. 68+50 Turner Collier Braden Inc.			
Unit	P.A.L.	Scale	Horz. 1" = 20', Vert. 1" = 5'
Designed	G.G.S.	Checked	G.G.S.
Drawn	L.J.K.	Approved	P.A.L.
Date	FEB. 1982	Job No.	6042-010 Contract
Sheet	9	of	66

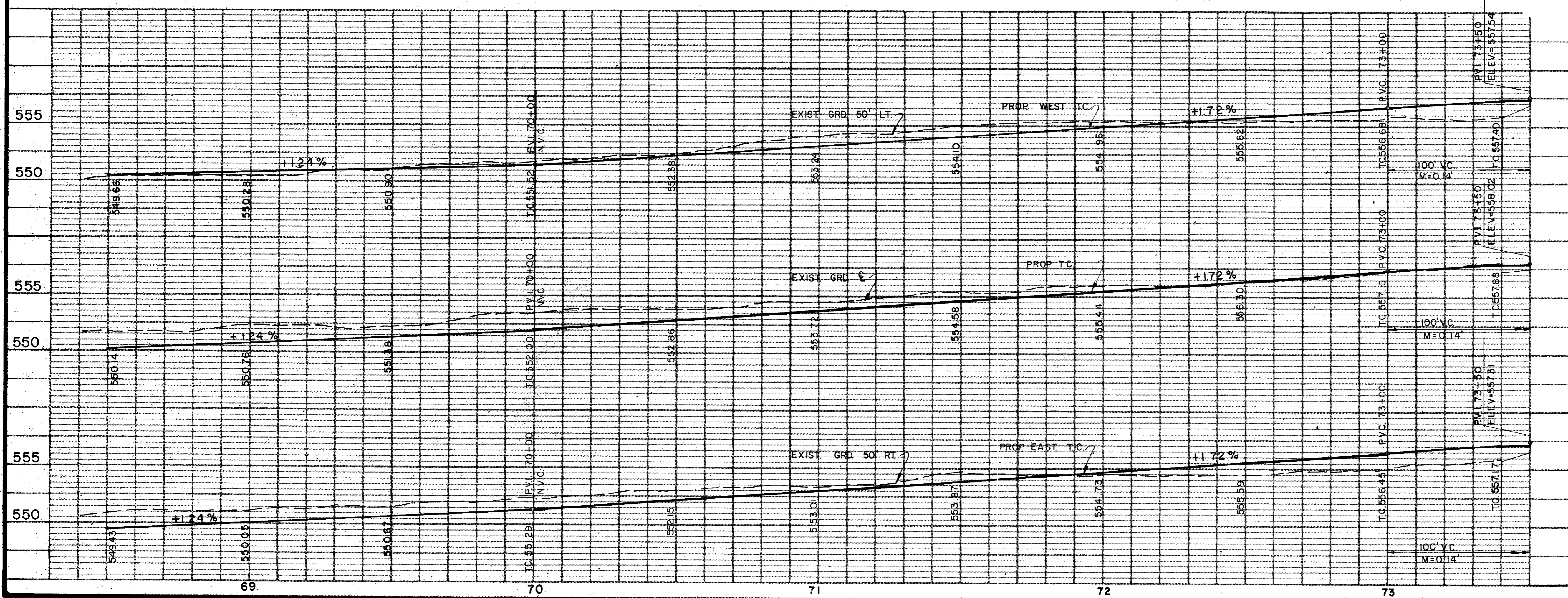


ITEM	DESCRIPTION	UNIT	QTY.
100	Preparing ROW	Sta	5.0
110&SP	Unc Road Excav	C.Y.	2,614
160&SP	Furn & Plac Topsoil	C.Y.	429
164&SP	Broadcast Seeding	S.Y.	940
260	Line Treated Subgrade	S.Y.	3,965
264	Line Slurry	Ton	64
310	Prime Coat (MC-30)	Gal	20
340&SP	EMAC (Cl A Ty D)	Ton	11
360&SP	8" Rein Conc Pavement	S.Y.	3,660
360&SP	6" Mono Curb	L.P.	1,741
46&SP	Ham Old Struc, Small	Each	3
522	Conc. Curb & Gutter	L.P.	397
524	6" Conc Driveway	S.Y.	70
590	4" Conc Median	S.Y.	6
640&SP	Pull Boxes	Each	3
640&SP	Conduit, 4"	L.P.	196
640&SP	Conduit, 3"	L.P.	332
640&SP	Conduit, 2"	L.P.	696
752&SP	Pavement Markers	Each	39
752&SP	Traffic Bar, Buttons	Each	13
754&SP	Traffic Buttons	Each	192
SS-14	Sanitary Sewer Manhole	Each	1

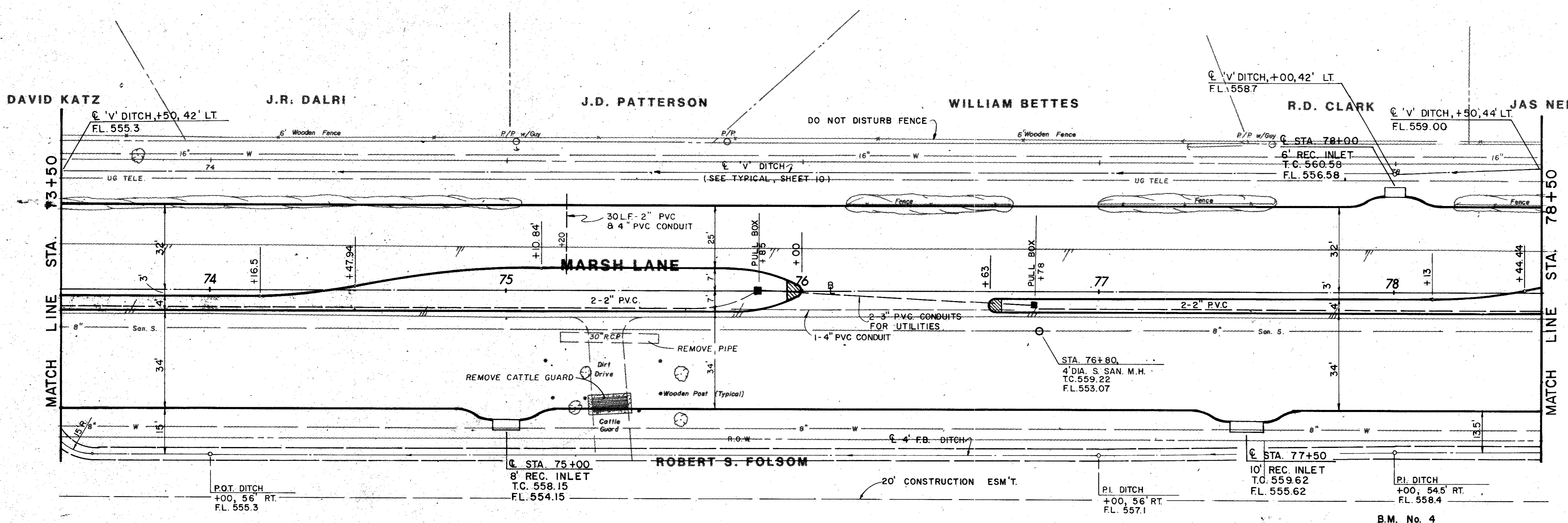
**BROOKTOWN LTD. PARTNERSHIP NORTH PHASE 1**



B.M. No. 4  
R.R. SPIKE EAST FACE TRANSFORMER  
POLE 50' WEST MARSH LANE  
APPROX. 75+75  
ELEV. 559.72

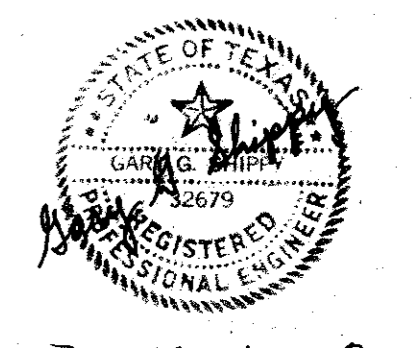
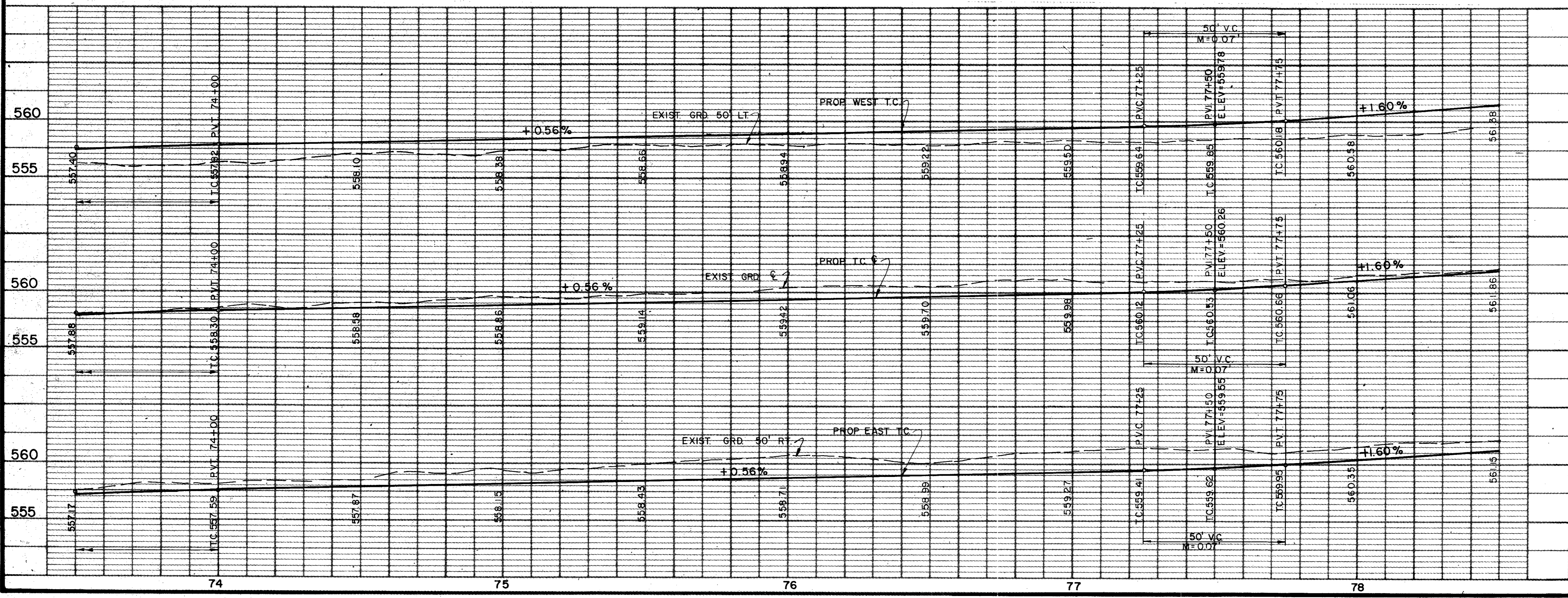


4			
3			
2			
1	5/82	AS PER ADDENDUM NO 2, ART 3.	
NO.	DATE	REVISION	APPROV.
<b>CITIES OF ADDISON AND FARMERS BRANCH, TEXAS</b> <b>MARSH LANE</b> BROOKHAVEN CLUB DRIVE TO BELT LINE ROAD <b>PAVING PLAN &amp; PROFILE</b> STA. 68+50 TO STA. 73+50 <b>Turner Collie &amp; Braden Inc.</b>			
Unit	PAL	Scale	Hor. 1" = 20' Vert. 1" = 5'
Designed	GGS	Checked	GGS
Drawn	LJK	Approved	PAL
Date	FEB. 1982	Job No.	6042-010
Sheet	10	of	66



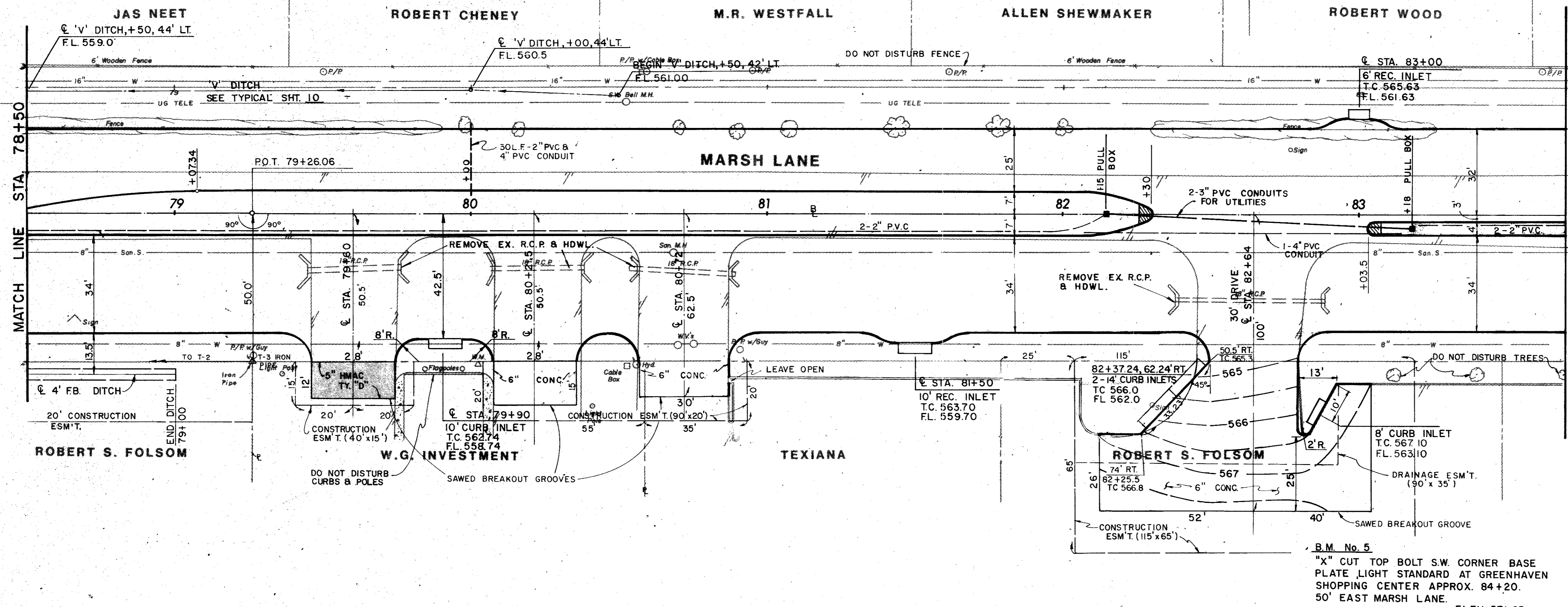
ITEM	DESCRIPTION	UNIT	QTY.
100	Preparing ROW	Sta	5.0
110	Unclass Road Excav	C.Y.	3,816
160	Purn & Placing Topsoil	C.Y.	595
164	broadcast Seeding	S.Y.	1,930
260	lime Treated Subgrade	S.Y.	4,065
264	lime Slurry	Ton	66
360	8\"	S.Y.	3,730
360	6\"	L.F.	1,854
496	Remove Old Struc, Small	Each	1
550	4\"	S.Y.	4
640	Pull Boxes	Each	2
640	Conduit, 4\"	L.F.	123
640	Conduit, 3\"	L.F.	186
640	Conduit, 2\"	L.F.	1,610
752	Pavement Markers	Each	39
752	Traffic Bar Buttons	Each	22
754	Traffic Button	Each	192
SS-14	Sanitary Sewer Manhole	Each	1

**B.M. No. 4**  
 R.R. SPIKE EAST FACE TRANSFORMER  
 POLE 50' WEST MARSH LANE  
 APPROX. 75+75  
 ELEV. 559.72



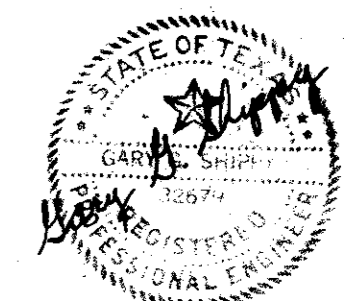
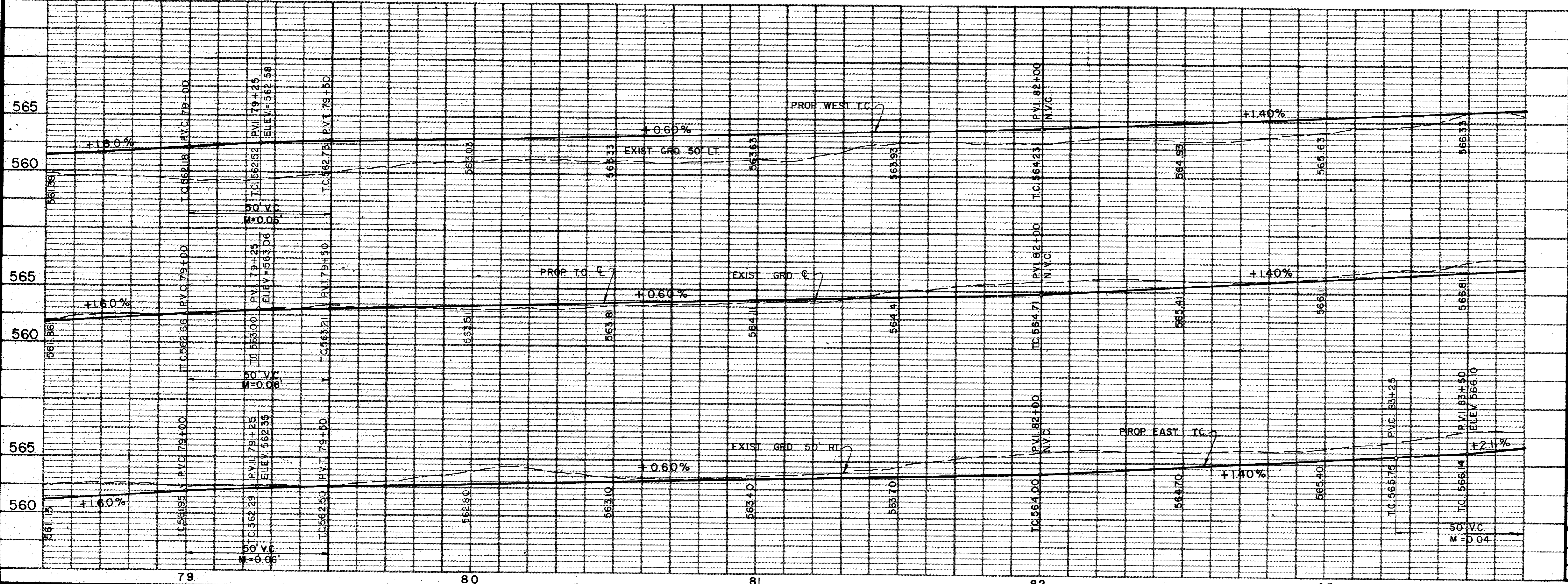
AS BUILTS 11-22-83

4			
3			
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1	5/82	AS PER ADDENDUM NO 2, ART. 3.	
NO.	DATE	REVISION	APPROV.
<b>CITIES OF ADDISON AND FARMERS BRANCH, TEXAS</b> <b>MARSH LANE</b> BROOKHAVEN CLUB DRIVE TO BELT LINE ROAD <b>PAVING PLAN &amp; PROFILE</b> STA. 73+50 TO STA. 78+50 Turner Collier & Braden Inc.			
UNIT	PAL	Scale: Horiz. 1" = 20' Vert. 1" = 5'	Date FEB. 1982
Designed	GGG	Checked	GGG
Drawn	LJK	Approved	PAL
		Job No. 6042-010	Sheet II of 66



ITEM	DESCRIPTION	UNIT	QTY.
100	Preparing RCW	Sta	5.2
104&SP	Remove Old Con (Fvnt)	S.Y.	330
110&SP	Unclad Road Excav	C.Y.	2,746
160&SP	Furn & Plac Topsoil	C.Y.	571
164&SP	Broadcast Seeding	S.Y.	2,100
250	Line Treated Subgrade	S.Y.	3,955
264	Line Slurry	Ton	64
310	Prime Coat (MC-30)	Gal	21
340&SP	RMC (Cl A Type D)	Ton	23
360&SP	8\" Reinf Conc Pavment	S.Y.	3,625
360&SP	6\" Mono Curb	L.F.	1,927
496&SP	Remove Old Struc, Small	Each	8
522	Conc Curb & Gutter	L.F.	20
524	6\" Conc Driveways	S.Y.	583
590	4\" Conc Median	S.Y.	4
640&SP	Pull Boxes	Each	2
640&SP	Conduit, 4\"	L.F.	133
640&SP	Conduit, 3\"	L.F.	206
640&SP	Conduit, 2\"	L.F.	30
752&SP	Pavement Markers	Each	39
752&SP	Traffic Bar Buttons	Each	7
754&SP	Traffic Buttons	Each	195

B.M. No. 5  
 "X" CUT TOP BOLT SW CORNER BASE  
 PLATE LIGHT STANDARD AT GREENHAVEN  
 SHOPPING CENTER APPROX. 84+20.  
 50' EAST MARSH LANE. ELEV. 571.95



FS BUILTS 11-22-83

4			
3			
2			
1	5/82	AS PER ADDENDUM NO 2, ART. 3.	
NO.	DATE	REVISION	APPROV.
<b>CITIES OF ADDISON AND FARMERS BRANCH, TEXAS</b> <b>MARSH LANE</b> BROOKHAVEN CLUB DRIVE TO BELT LINE ROAD <b>PAVING PLAN &amp; PROFILE</b> STA. 78+50 TO STA. 83+70 Turner Collier & Braden Inc.			
Unit	PAL	Scale: Horiz. 1"=20' Vert. 1"=5'	Date FEB. 1982
Designed	GGG	Checked	GGG
Drawn	LJK	Approved	PAL
		Job No. 6042-010	Contract
		Sheet 12	of 66

A.T. HINGLE

DAVID R. MURRY

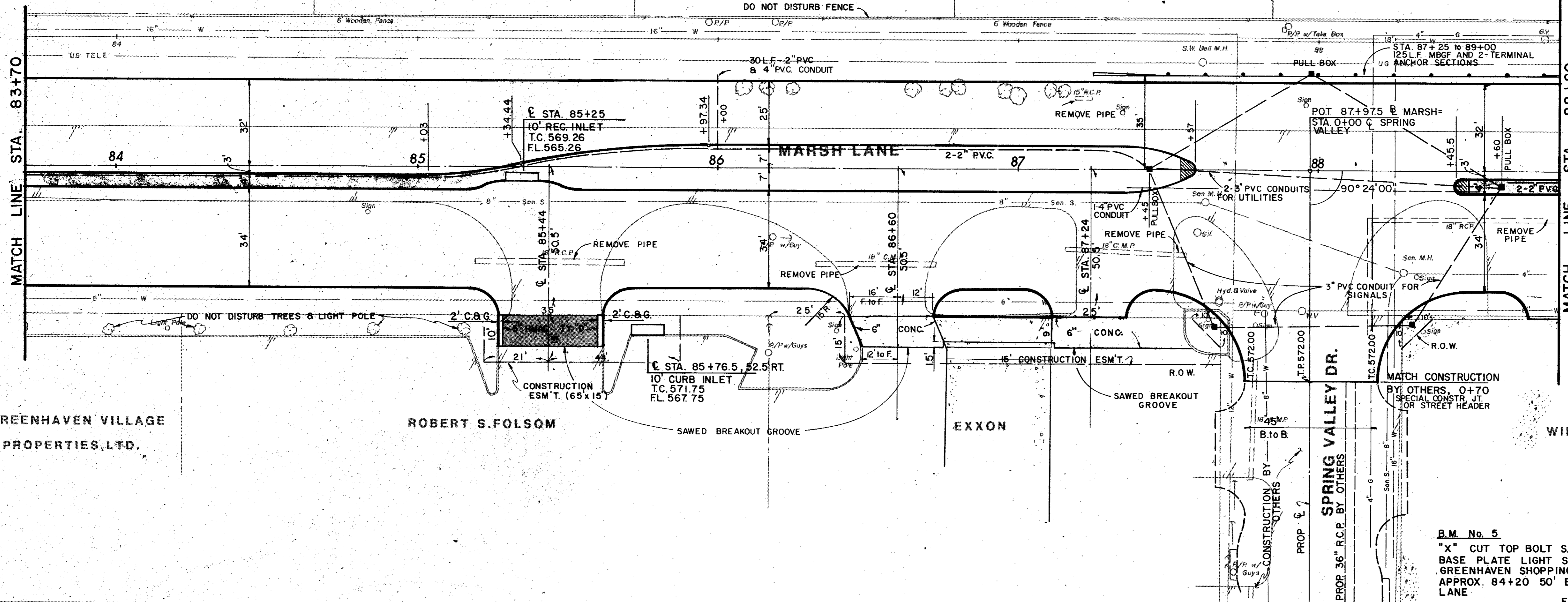
DAVID L. SMART

DAVID GAUGER

LOYD CAMPBELL



NOTE: SLOPE IN AREA OF MBGF TO BE 36' LT.



ITEM	DESCRIPTION	UNIT	QTY.
100	Preparing ROW	Sta	5.1
104&SP	Remove Old Conc (C&G)	L.F.	100
104&SP	Remove Old Conc (Pvt)	S.Y.	42
110&SP	Un. Road Ex	C.Y.	2,146
160&SP	Furn & Plac Topsoil	C.Y.	410
164&SP	Broadcast Seeding	S.Y.	1,880
260	Lime Treated Subgrade	S.Y.	4,240
264	Lime Slurry	Ton	69
310	Prime Coat (MC-30)	Gal	26
340&SP	HM&C (Cl A Type D)	Ton	29
360&SP	8" Reinf Conc Pmnt	S.Y.	3,930
360&SP	6" Mono Curb	L.F.	1,738
522	Concrete Curb & Gutter	L.F.	40
524	6" Conc Driveways	S.Y.	104
560&SP	Metal Beam Guard Fence	L.F.	100
560&SP	Terminal Anchor Sec.	Each	2
590	4" Concrete Median	S.Y.	5
640&SP	Pull Boxes	Each	5
640&SP	Conduit, 4"	L.F.	145
640&SP	Conduit, 3"	L.F.	557
640&SP	Conduit, 2"	L.F.	914
752&SP	Pavement Markers	Each	30
752&SP	Traffic Bar. Buttons	Each	17
754&SP	Traffic Buttons	Each	153
7301	Thermoplastic Pvt Mkrs	L.F.	88

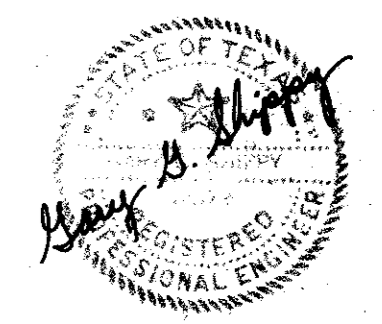
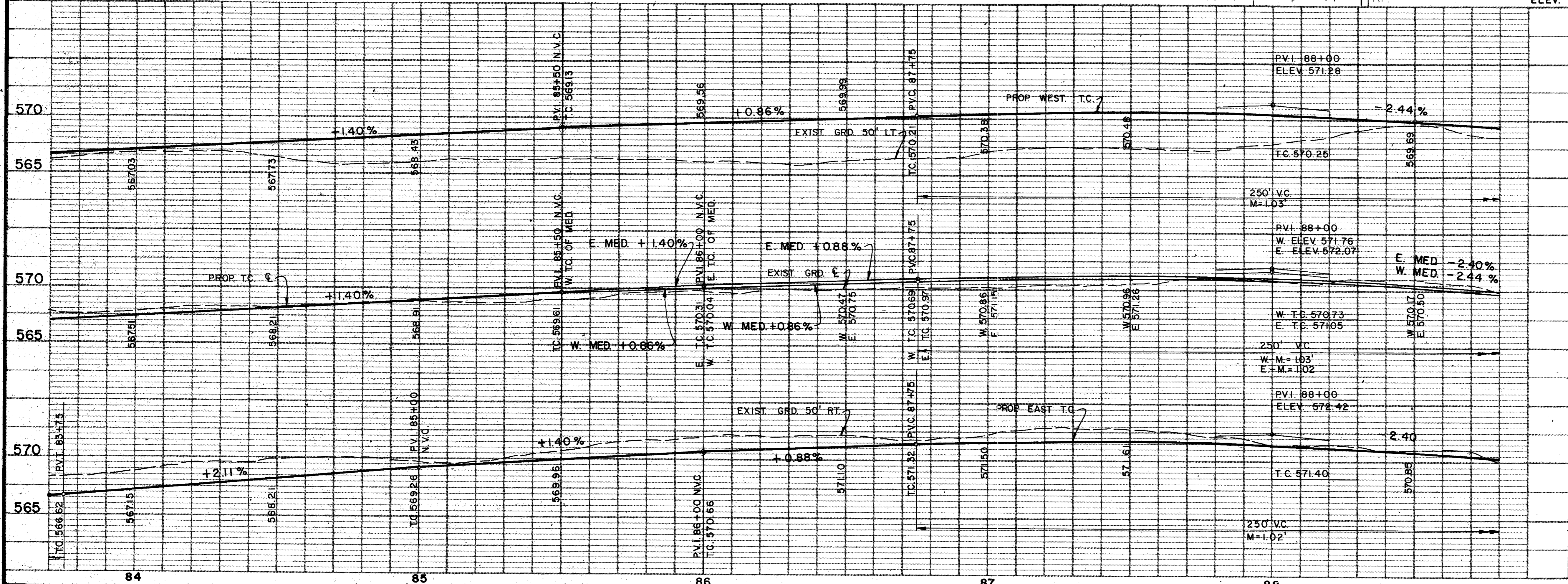
GREENHAVEN VILLAGE PROPERTIES, LTD.

ROBERT S. FOLSOM

EXXON

WILLIAM J. HARRELL

B.M. No. 5  
 "X" CUT TOP BOLT S.W. CORNER  
 BASE PLATE LIGHT STANDARD AT  
 GREENHAVEN SHOPPING CENTER  
 APPROX. 84+20 50' EAST MARSH  
 LANE  
 ELEV. 571.95



AS BUILT 11-22-83

NO.	DATE	REVISION	APPROV.
1	5/82	AS PER ADDENDUM NO 2, ART. 3.	

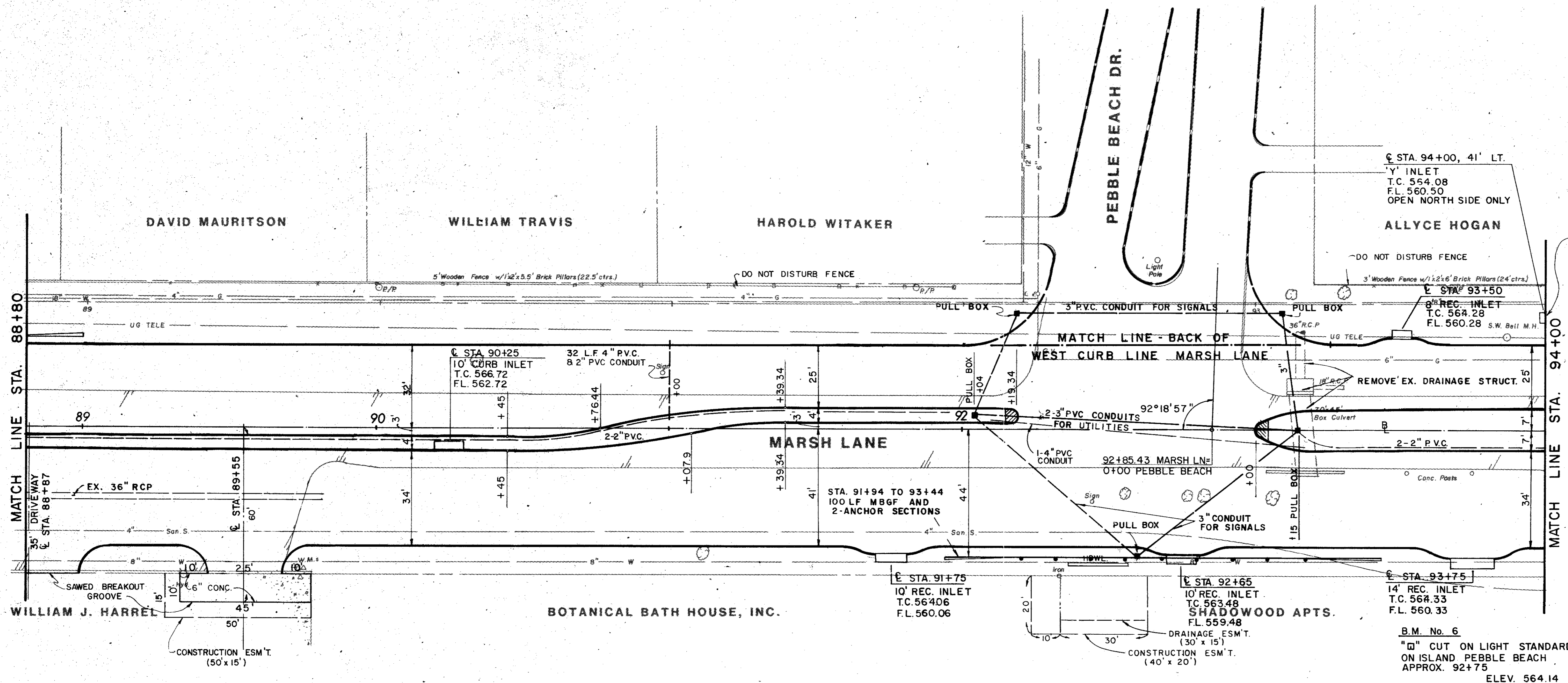
**CITIES OF ADDISON AND FARMERS BRANCH, TEXAS**

**MARSH LANE**  
 BROOKHAVEN CLUB DRIVE TO BELT LINE ROAD

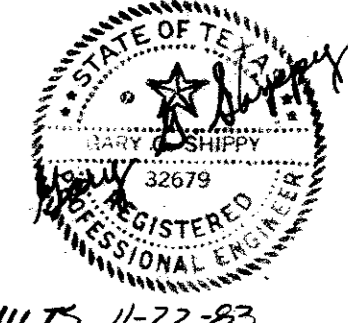
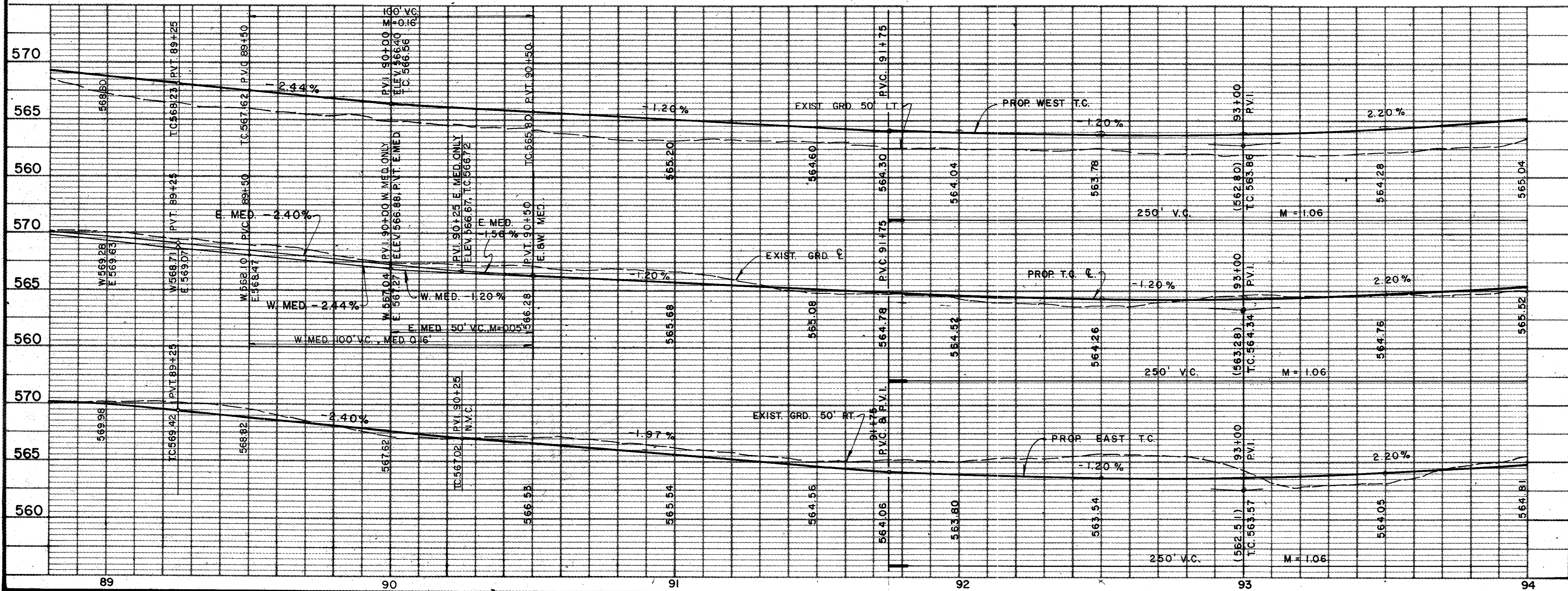
**PAVING PLAN & PROFILE**  
 STA. 83+70 TO STA. 88+80

Turner Collier & Braden Inc.

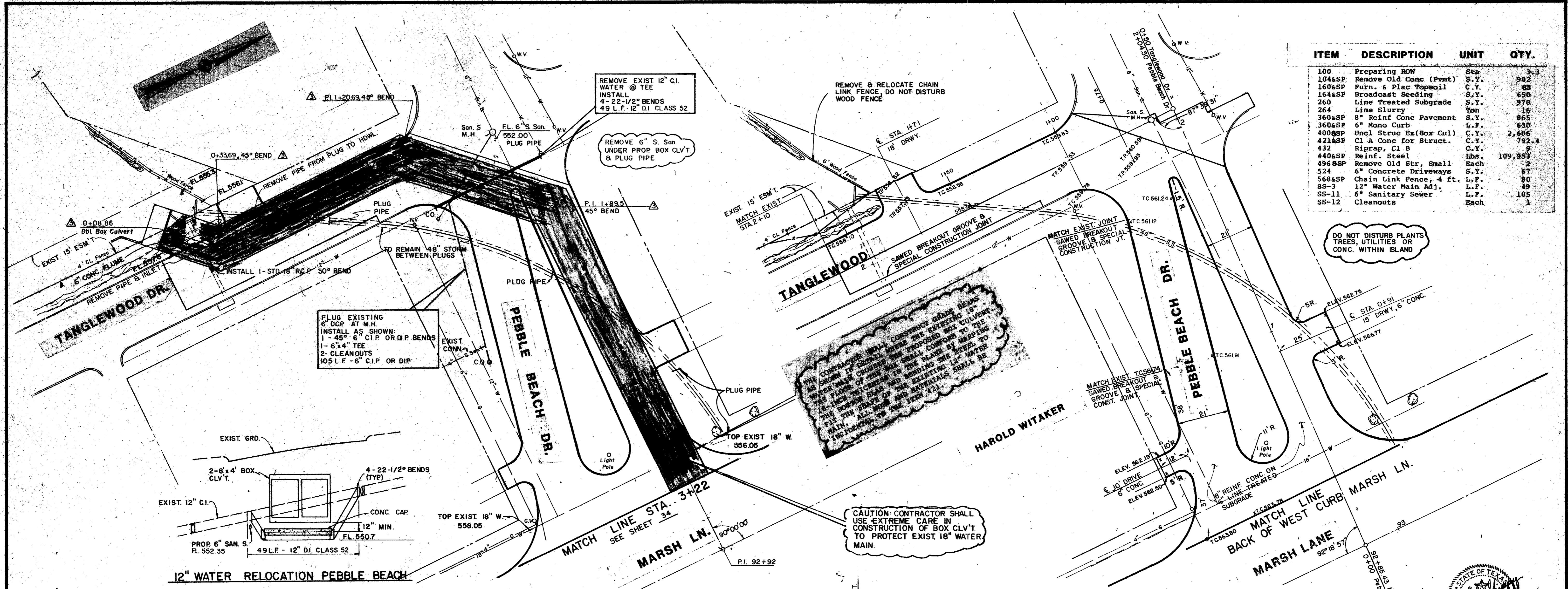
Unit	PAL	Scale: Horiz. 1" = 20'	Date	FEB. 1982
Designed	GGG	Checked	GGG	Job No. 6042-010
Drawn	LJK	Approved	PAL	Sheet 13 of 66



ITEM	DESCRIPTION	UNIT	QTY.
100	Preparing ROW	Sta	5.2
104&SP	Remove Old Conc (Pvmt)	S.Y.	102
110&SP	Un. Road Excav	C.Y.	1,385
160&SP	Furn & Place Topsoil	C.Y.	362
164&SP	Broadcast Seeding	S.Y.	1,700
260	Line Treated Subgrade	S.Y.	4,305
264	Line Slurry	Ton	70
360&SP	8" Reinf Conc Pavement	S.Y.	3,935
360&SP	6" Mono Curb	L.F.	1,976
524	6" Concrete Driveways	S.Y.	109
550&SP	Metal Beam Guard Fence	L.F.	100
560&SP	Terminal Anchor Sect	Each	2
590	4" Concrete Median	S.Y.	4
640&SP	Pull Boxes	Each	5
640&SP	Conduit, 4"	L.F.	143
640&SP	Conduit, 3"	L.F.	536
640&SP	Conduit, 2"	L.F.	720
752&SP	Pavement Markers	Each	36
752&SP	Traffic Bar. Buttons	Each	23
754&SP	Traffic Buttons	Each	171
7301	Thermoplastic Pvt Mkr	L.F.	24



4			
3			
2			
1	5/82	AS PER ADDENDUM No 2, ART. 3.	
NO.	DATE	REVISION	APPROV.
<b>CITIES OF ADDISON AND FARMERS BRANCH, TEXAS</b> <b>MARSH LANE</b> BROOKHAVEN CLUB DRIVE TO BELT LINE ROAD <b>PAVING PLAN &amp; PROFILE</b> STA. 88+80 TO STA. 94+00 Turner Collier & Braden Inc.			
Unit	PAL	Scale	Hor. 1"=20' Vert. 1"=5'
Drawn	GGG	Checked	GGG
Design	LJK	Approved	PAL
Date	FEB. 1982	Job No.	6042-010
Sheet	14	of	66

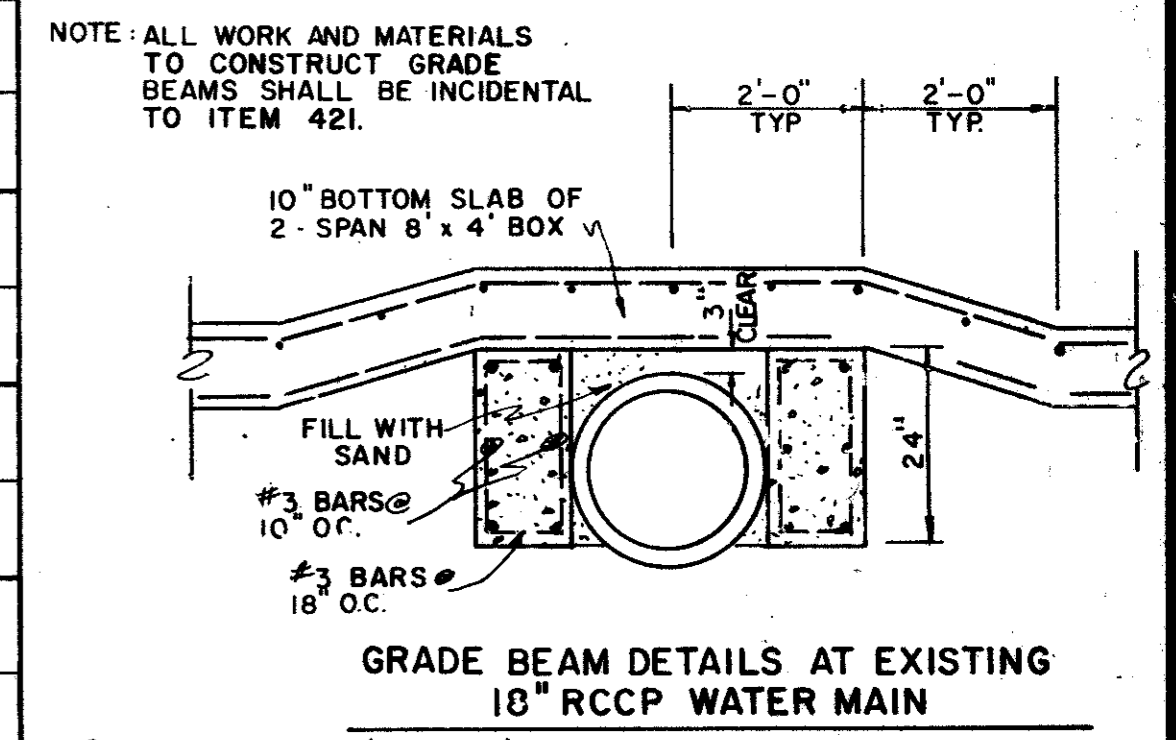
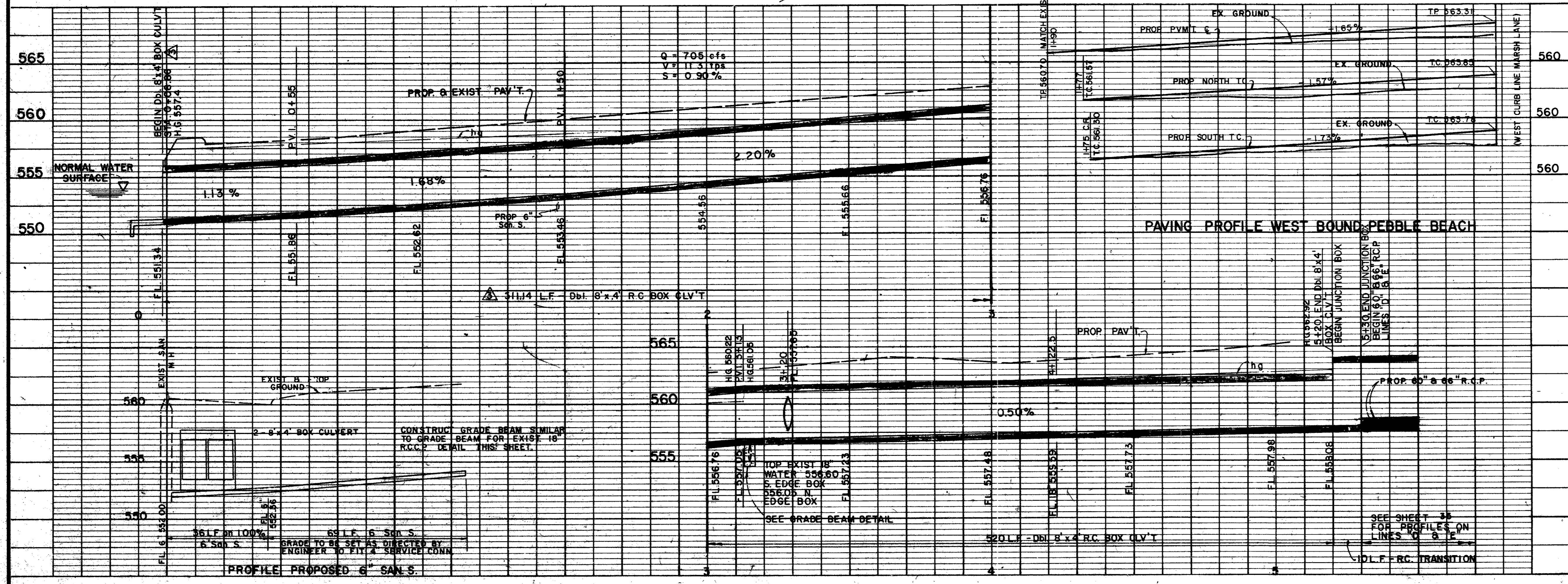
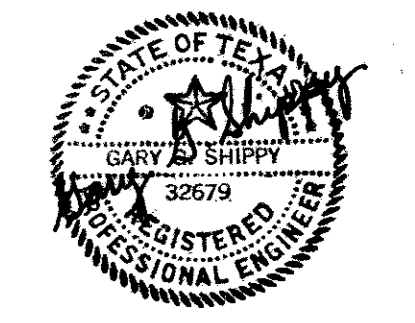


ITEM	DESCRIPTION	UNIT	QTY.
100	Preparing ROW	Sta	3.3
104SP	Remove Old Conc (Pvmt)	S.Y.	902
160SP	Furn. & Plac Topsoil	C.Y.	85
164SP	Broadcast Seeding	S.Y.	650
260	Lime Treated Subgrade	S.Y.	970
264	Lime Slurry	ton	16
360SP	8" Reinf Conc Pavement	S.Y.	865
360SP	6" Mono Curb	L.F.	630
400SP	Uncl Struc Ex (Box Cul)	C.Y.	2,686
421SP	Cl A Conc for Struct.	C.Y.	792.4
432	Riprap, Cl B	C.Y.	9
440SP	Reinf. Steel	Lbs.	109,953
496SP	Remove Old Str, Small	Each	2
524	6" Concrete Driveways	S.Y.	67
568SP	Chain Link Fence, 4 ft.	L.F.	80
SS-3	12" Water Main Adj.	L.F.	49
SS-11	6" Sanitary Sewer	L.F.	105
SS-12	Cleanouts	Each	1

CONTRACTOR SHALL CONSTRUCT GRADE BEAMS AS SHOWN IN DETAIL WHERE THE EXISTING 18" WATER MAIN CROSSING THE PROPOSED BOX CULVERT. THE FLOOR OF THE BOX CULVERT SHALL BE MADE TO THE 8" BELOW THE TOP OF THE EXISTING 12" WATER MAIN. ALL SOIL AND MATERIALS SHALL BE INCIDENTAL TO THE ITEM LIST.

CAUTION CONTRACTOR SHALL USE EXTREME CARE IN CONSTRUCTION OF BOX CLV'T TO PROTECT EXIST 18" WATER MAIN.

DO NOT DISTURB PLANTS TREES, UTILITIES OR CONC. WITHIN ISLAND



**REVISIONS**

NO.	DATE	REVISION	APPROV.
4			
9/82		REVISED ALIGNMENT 2-SPAN 8'x4' R.C. BOX CULVERT	
2	8/82	REVISED PER CHANGE ORDER NO. 2.	
1	5/82	AS PER ADDENDUM NO. 2, ART. 3.	

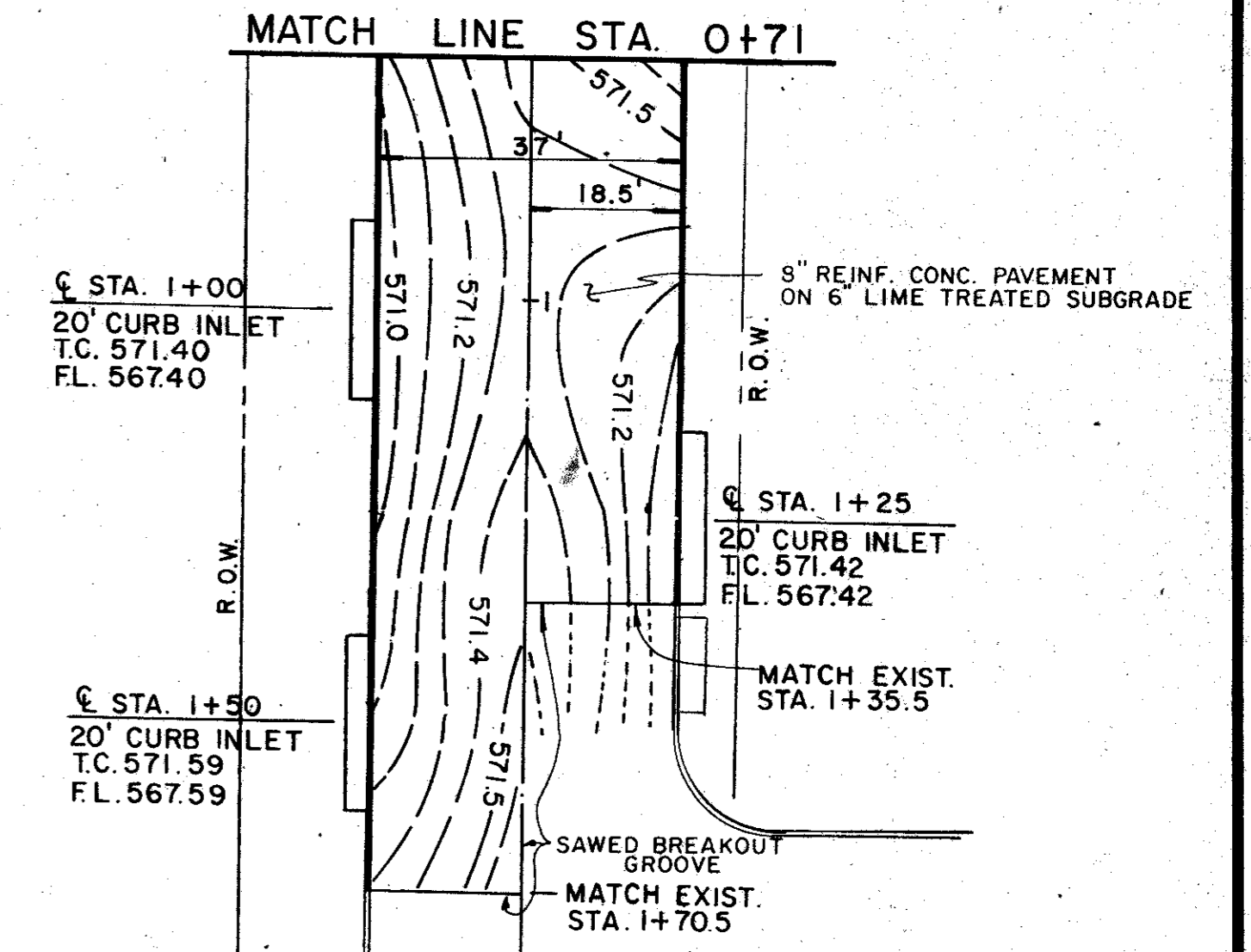
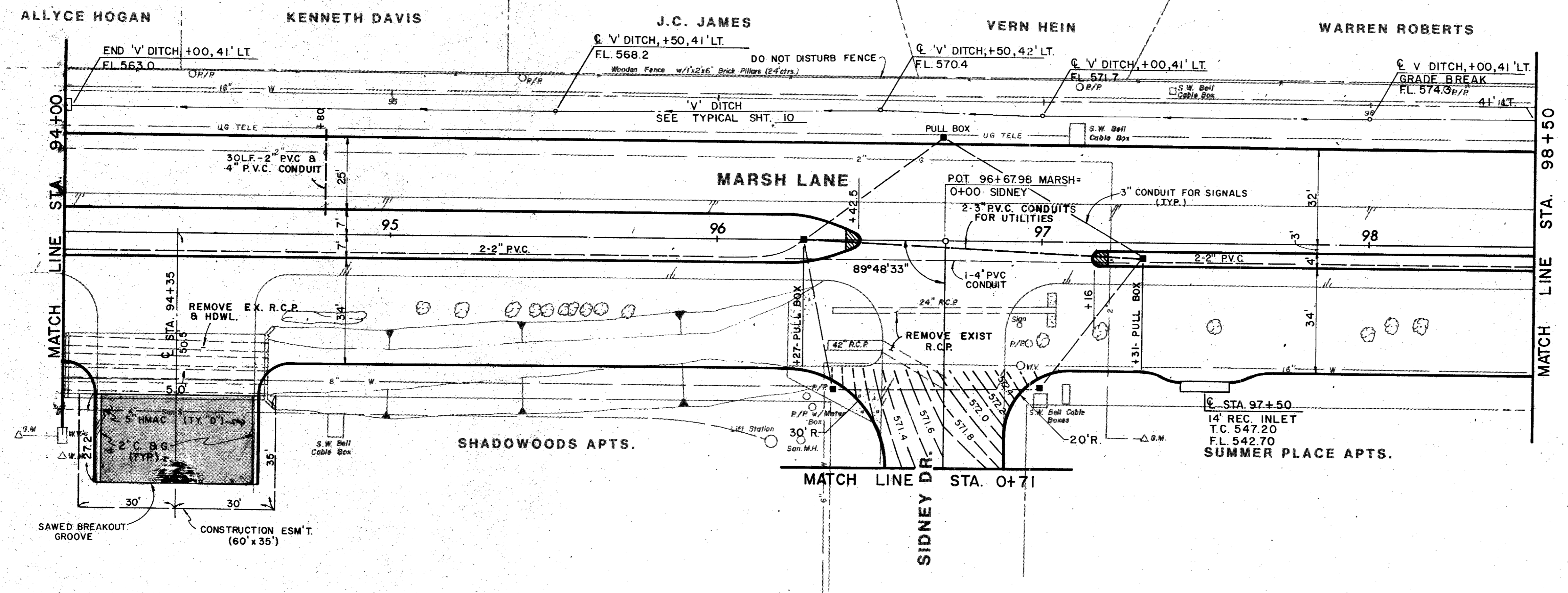
**CITIES OF ADDISON AND FARMERS BRANCH, TEXAS**

**MARSH LANE**  
BROOKHAVEN CLUB DRIVE TO BELT LINE ROAD

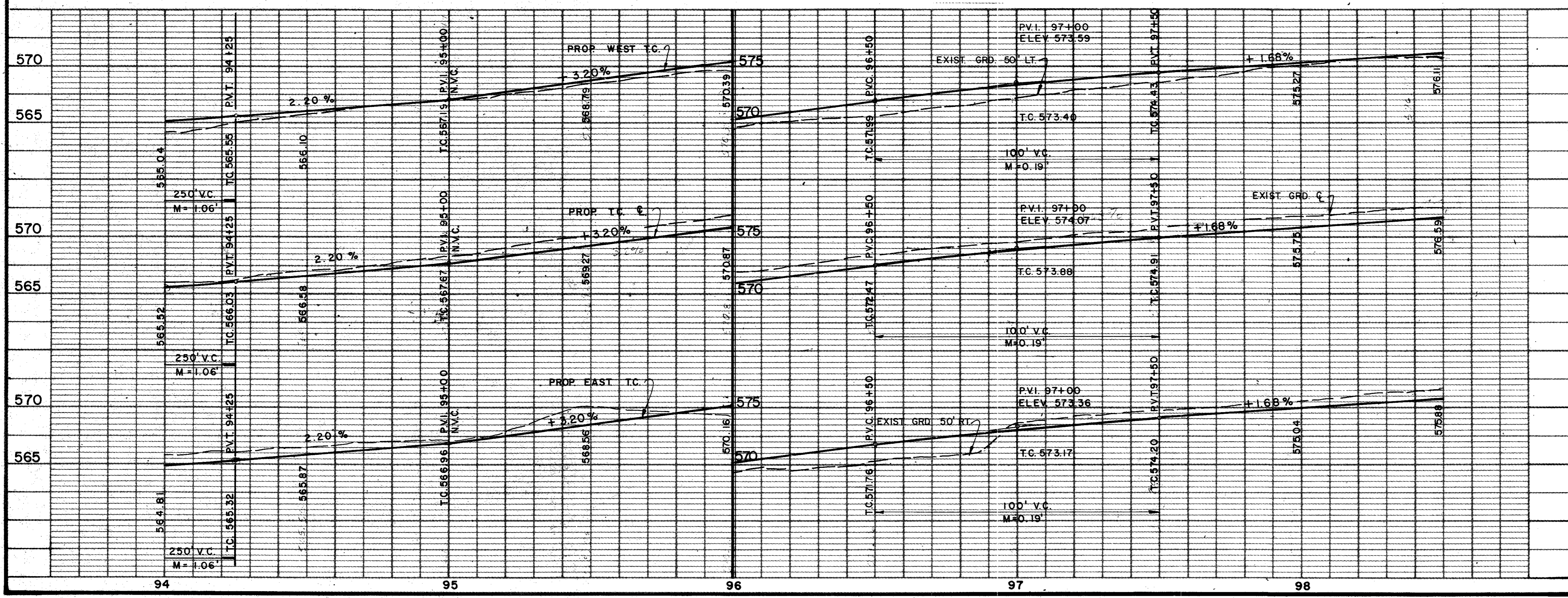
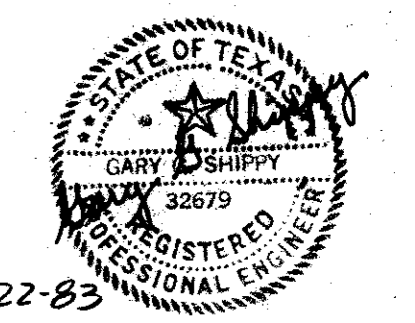
**Turner Collier Braden Inc.**

Unit	PAL	Scale:	Horz. 1" = 20' Vert. 1" = 5'	Date	FEB 1982
Designed	GGG	Checked	GGG	Job No.	6042-010
Drawn	MAB	Approved	PAL	Contract	
				Sheet	15 of 66





B.M. No. 7  
 N.W. CORNER CONC. WATER BOX N.  
 SIDE SIDNEY ST. 50' E. MARSH  
 LANE APPROX. 96+75  
 ELEV. 574.98



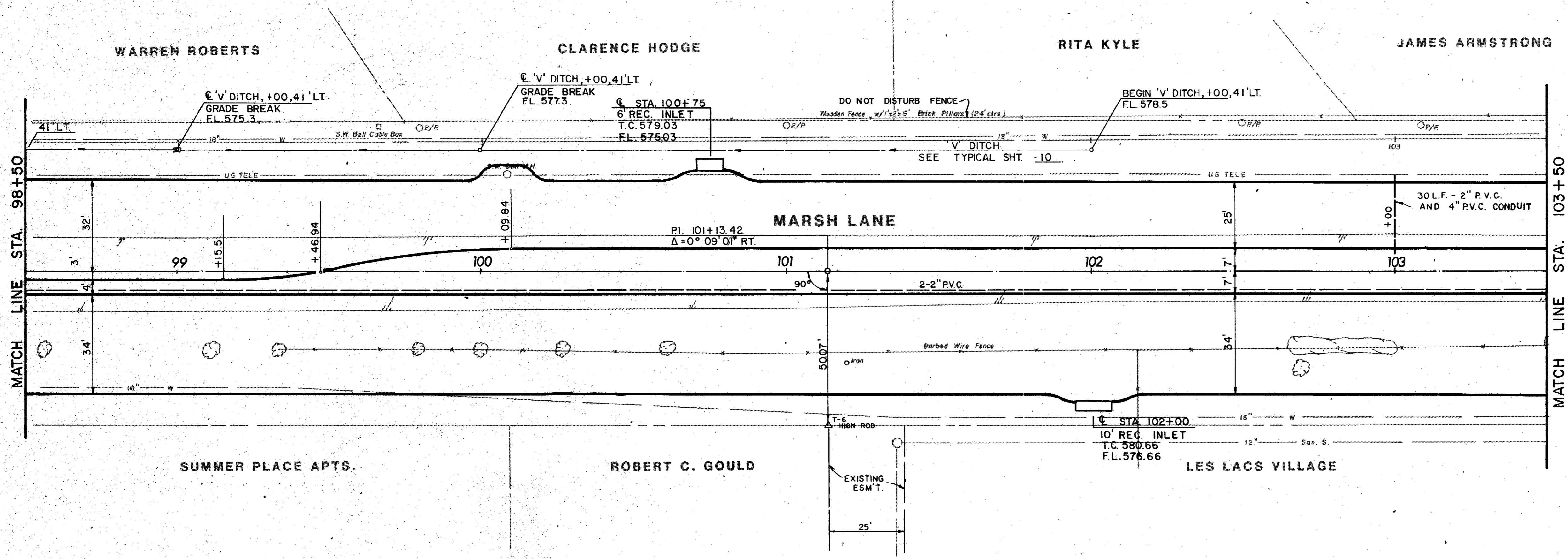
ITEM	DESCRIPTION	UNIT	QTY.
100	Preparing ROW	Sta	4.5
104&SP	Remove Old Str (C&G)	L.F.	70
104&SP	Remove Old Conc (Pvmt)	S.Y.	525
110&SP	Unclass Road Excav	C.Y.	1,917
160&SP	Furn & Plac Topsoil	C.Y.	383
164&SP	Broadcast Seeding	S.Y.	2,140
250	Line Treated Subgrade	S.Y.	4,015
264	Line Slurry	Ton	65
310	Prime Coat (MC-30)	Gal	41
340&SP	HMAC (Cl A Ty B)	Ton	36
360&SP	8" Reinf Conc Pavement	S.Y.	3,715
360&SP	6" Mono Curb	L.F.	1,708
496&SP	Remove Old Stru, Small	Each	3
522	Concrete Curb & Gutter	L.F.	69
524	6" Conc Driveways	S.Y.	51
590	4" Concrete Median	S.Y.	4
640&SP	Pull Boxes	Each	5
640&SP	Conduit, 4"	L.F.	134
640&SP	Conduit, 3"	L.F.	495
640&SP	Conduit, 2"	L.F.	654
752&SP	Pavement Markers	Each	30
752&SP	Traffic Bar. Buttons	Each	13
754&SP	Traffic Buttons	Each	144
7301&SS	Thermoplastic Pvt Mkrs	L.F.	18

NO.	DATE	REVISION	APPROV.
1	5/82	AS PER ADDENDUM # 2, ART. 3.	

CITIES OF ADDISON AND FARMERS BRANCH, TEXAS  
**MARSH LANE**  
 BROOKHAVEN CLUB DRIVE TO BELT LINE ROAD  
**PAVING PLAN & PROFILE**  
 STA. 94+00 TO STA. 98+50

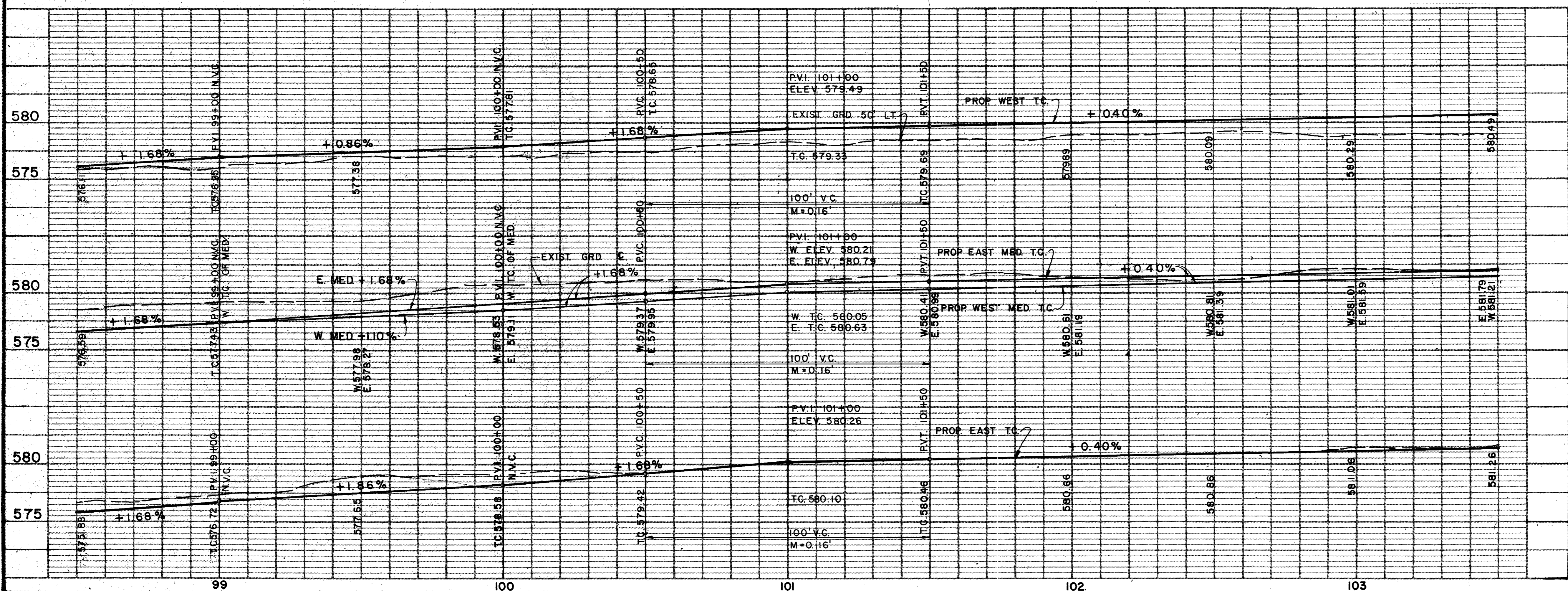
Turner Collier & Braden Inc.

UN: PAL	Scale: Horz. 1" = 20' Vert. 1" = 5'	Date: FEB. 1982
Designed: GGS	Checked: GGS	Job No. 6024-010 Contract
Drawn: LJK	Approved: PAL	Sheet 16 of



ITEM	DESCRIPTION	UNIT	QTY.
100	Preparing ROW	Sta	5.0
110&SP	Uncl. Road Excav.	C.Y.	2,116
160&SP	Furn & Plac. Topsoil	C.Y.	523
164&SP	Broadcast Seeding	S.Y.	2,240
260	Lime Treated Subgrade	S.Y.	3,745
264	Lime Slurry	Ton	61
360&SP	8" Rein. Conc Pmnt	S.Y.	3,405
360&SP	6" Mono Curb	L.F.	1,983
640&SP	Conduit, 4"	L.F.	30
640&SP	Conduit, 2"	L.F.	1,268
752&SP	Pavement Markers	Each	36
752&SP	Traf. Bar. Buttons	Each	7
754&SP	Traffic Buttons	Each	186

B.M. No. 8  
 R.R. SPIKE EAST FACE P/P  
 50' WEST MARSH LANE  
 APPROX. 103+08  
 ELEV. 580.69



AS BUILTS 11-22-83

4			
3			
2			
1	5/82	AS PER ADDENDUM # 2, ART. 3.	
NO.	DATE	REVISION	APPROV.
<b>CITIES OF ADDISON AND FARMERS BRANCH, TEXAS</b> <b>MARSH LANE</b> BROOKHAVEN CLUB DRIVE TO BELT LINE ROAD <b>PAVING PLAN &amp; PROFILE</b> STA. 98+50 TO STA. 103+50 <b>Turner Collic &amp; Braden Inc.</b>			
Unit	PAL	Scale: Horiz. 1"=20', Vert. 1"=6'	Date FEB. 1982
Designed	GGG	Checked	GGG
Drawn	LJK	Approved	PAL
		Job No. 6042-010	Contract
		Sheet 17	of 66

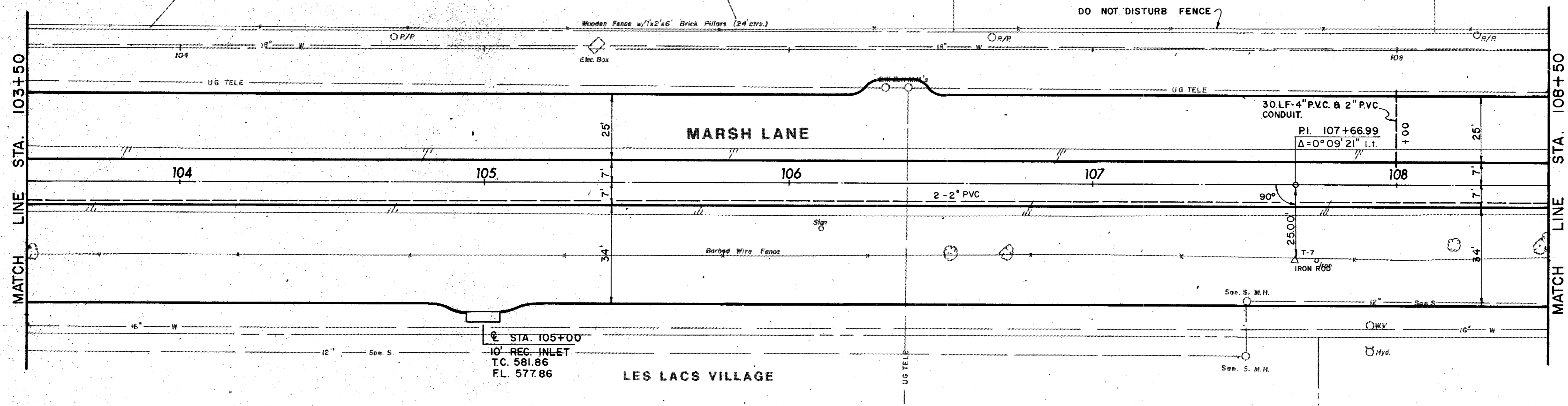


JAMES ARMSTRONG

CHARLES NIVEN

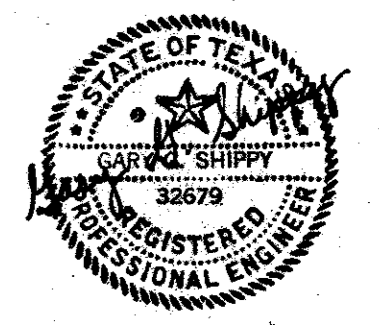
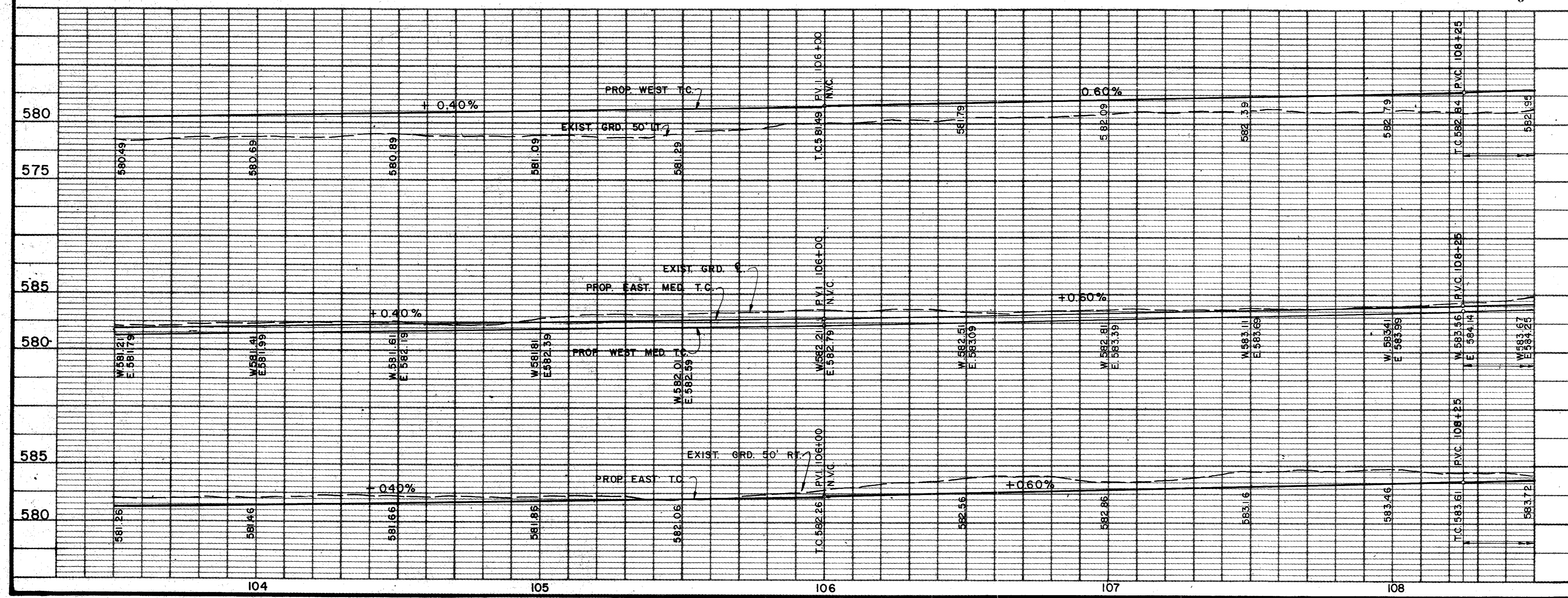
N.E. LEWIN

CHARLES WARREN



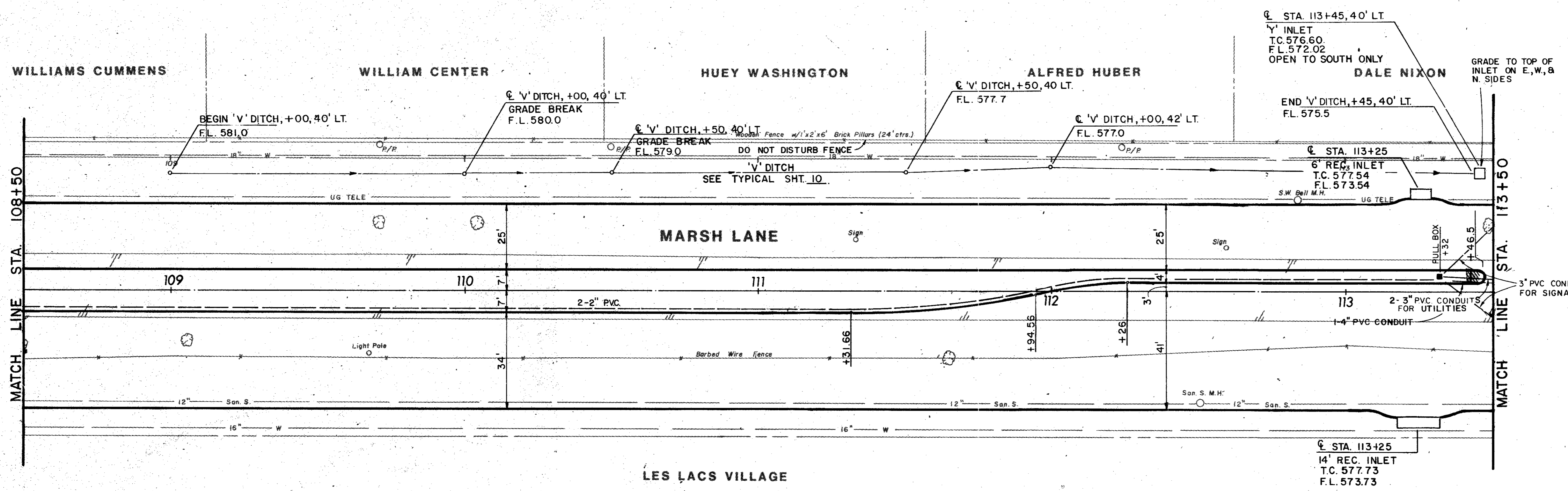
ITEM	DESCRIPTION	UNIT	QTY.
100	Preparing ROW	Sta	5.0
110&SP	Uncl. Road Excav.	C.Y.	1,658
160&SP	Furn & Plac Topsoil	C.Y.	571
164&SP	Broadcast Seeding	S.Y.	2,350
260	Lime Treated Subgrade	S.Y.	3,615
360&SP	Lime Slurry	Ton	59
360&SP	6" Reinf. Conc Pavnt	S.Y.	3,280
360&SP	6" Mono Curt	L.F.	1,989
640&SF	Pull Boxes	Each	1
640&SF	Conduit, 4"	L.F.	30
640&SF	Conduit, 2"	L.F.	1,030
752&SP	Pavement Markers	Each	39
754&SP	Traffic Buttons	Each	189

B.M. No. 9  
R.R. SPIKE EAST FACE P/P. 50'  
WEST MARSH LANE APPROX. 109+70.  
ELEV. 583.03



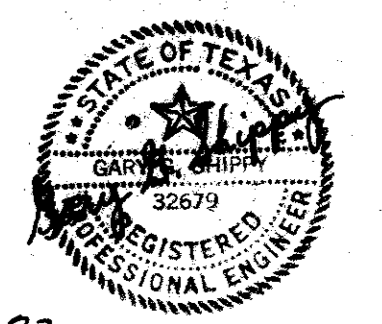
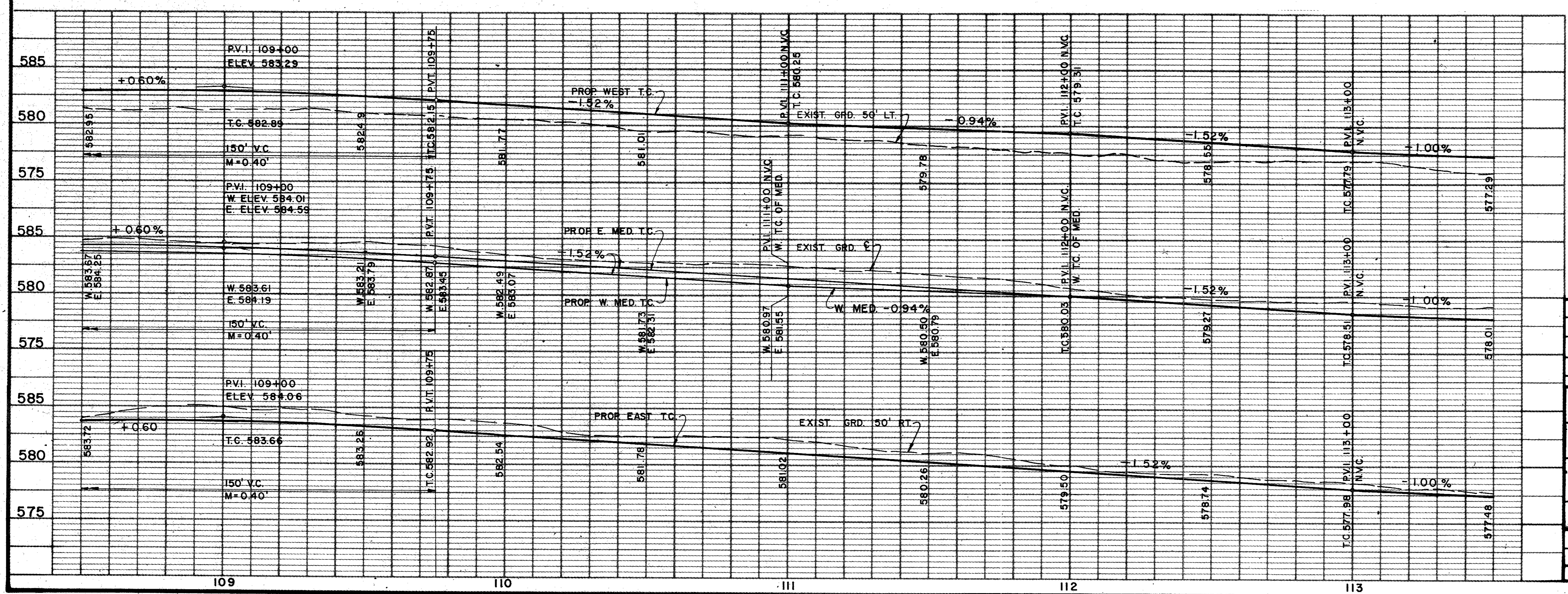
AS BUILTS 11-22-83

4			
3			
2			
1	5/82	AS PER ADDENDUM # 2, ART. 3.	
NO.	DATE	REVISION	APPROV.
<b>CITIES OF ADDISON AND FARMERS BRANCH, TEXAS</b> <b>MARSH LANE</b> BROOKHAVEN CLUB DRIVE TO BELT LINE ROAD <b>PAVING PLAN &amp; PROFILE</b> STA. 103+50 TO STA. 108+50 Turner Collier & Braden Inc.			
Unit	PAL	Scale: Horiz. 1"=20', Vert. 1"=5'	Date FEB. 1982
Designed	GGG	Checked	GGG
Drawn	LJK	Approved	PAL
		Job No. 6024-010	Contract
		Sheet 18	of 66



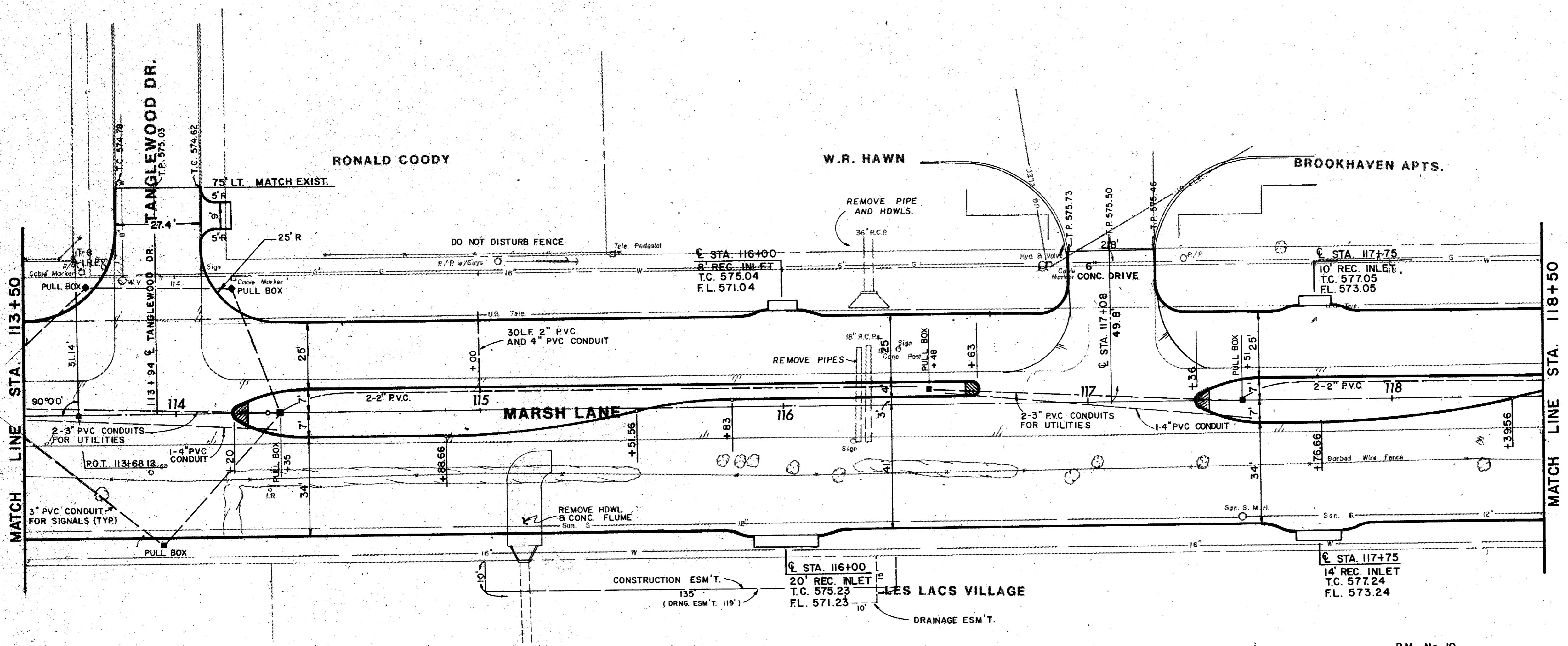
ITEM	DESCRIPTION	UNIT	QTY.
100	Preparing ROW	Sta	5.0
110&SP	Uncl. Road Excav	C.Y.	2,241
160&SP	Furn & Plac. Topsoil	C.Y.	496
164&SP	Broadcast Seeding	S.Y.	2,160
260	Lime Treated Subgrade	S.Y.	3,850
264	Lime Slurry	Ton	62
360&SP	8" Reinf Conc Pvmnt	S.Y.	3,505
368&SP	6" Mono Curb	L.F.	1,975
590	4" Conc Median	S.Y.	2
640&SP	Conduit, 2"	L.P.	964
752&SP	Pavement Markers	Each	36
752&SP	Traf. Barr. Buttons	Each	12
754&SP	Traffic Buttons	Each	186

B.M. No. 9  
 R.R. SPIKE EAST FACE P/R  
 50' WEST MARSH LANE  
 APPROX. 109+70  
 ELEV. 583.03



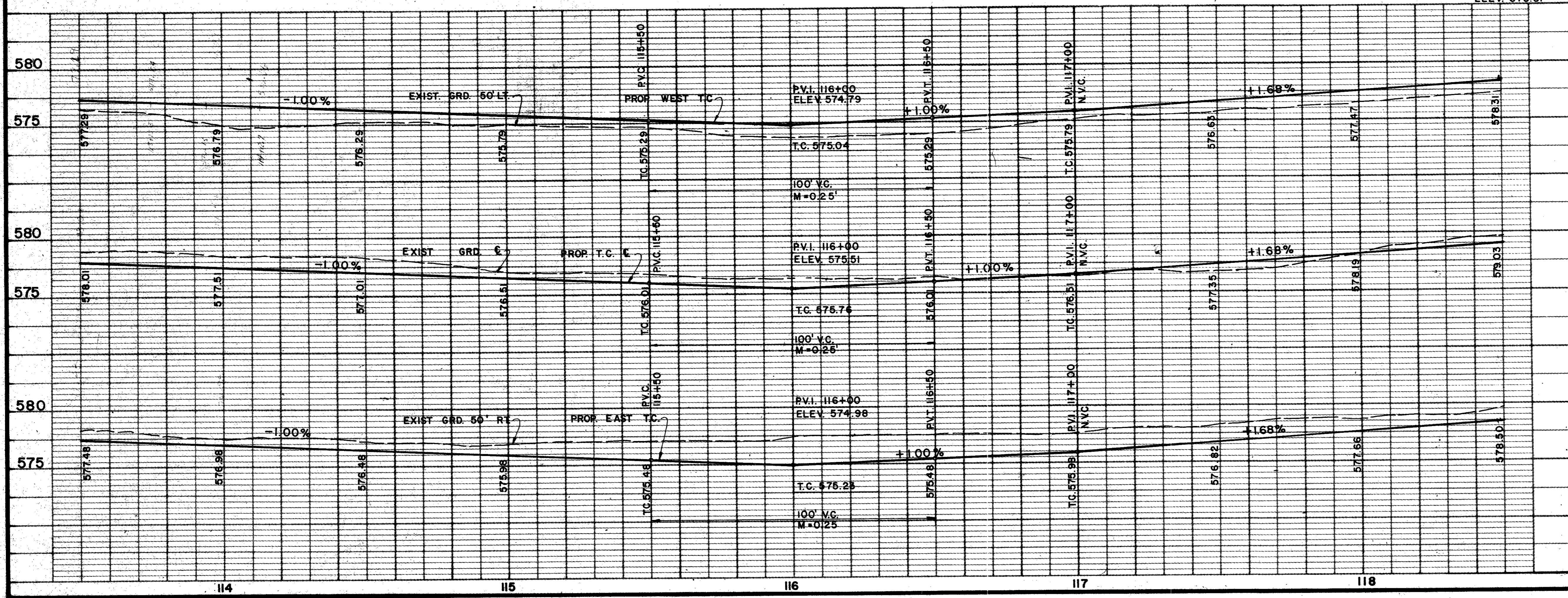
AS BUILTS 11-22-83

4			
3			
2			
1	5/82	AS PER ADDENDUM NO 2, ART. 3.	
NO.	DATE	REVISION	APPROV.
<b>CITIES OF ADDISON AND FARMERS BRANCH, TEXAS</b> <b>MARSH LANE</b> BROOKHAVEN CLUB DRIVE TO BELT LINE ROAD <b>PAVING PLAN &amp; PROFILE</b> <b>STA. 108+50 TO STA. 113+50</b> Turner Collie Braden Inc.			
Unit	PAL	Scale	Hor. 1" = 20', Vert. 1" = 5'
Drawn	GGS	Checked	GGS
Sheet	LJK	Approval	PAL
Date	FEB. 1982	Job No.	6024-010 Contract
Sheet	19	of	66



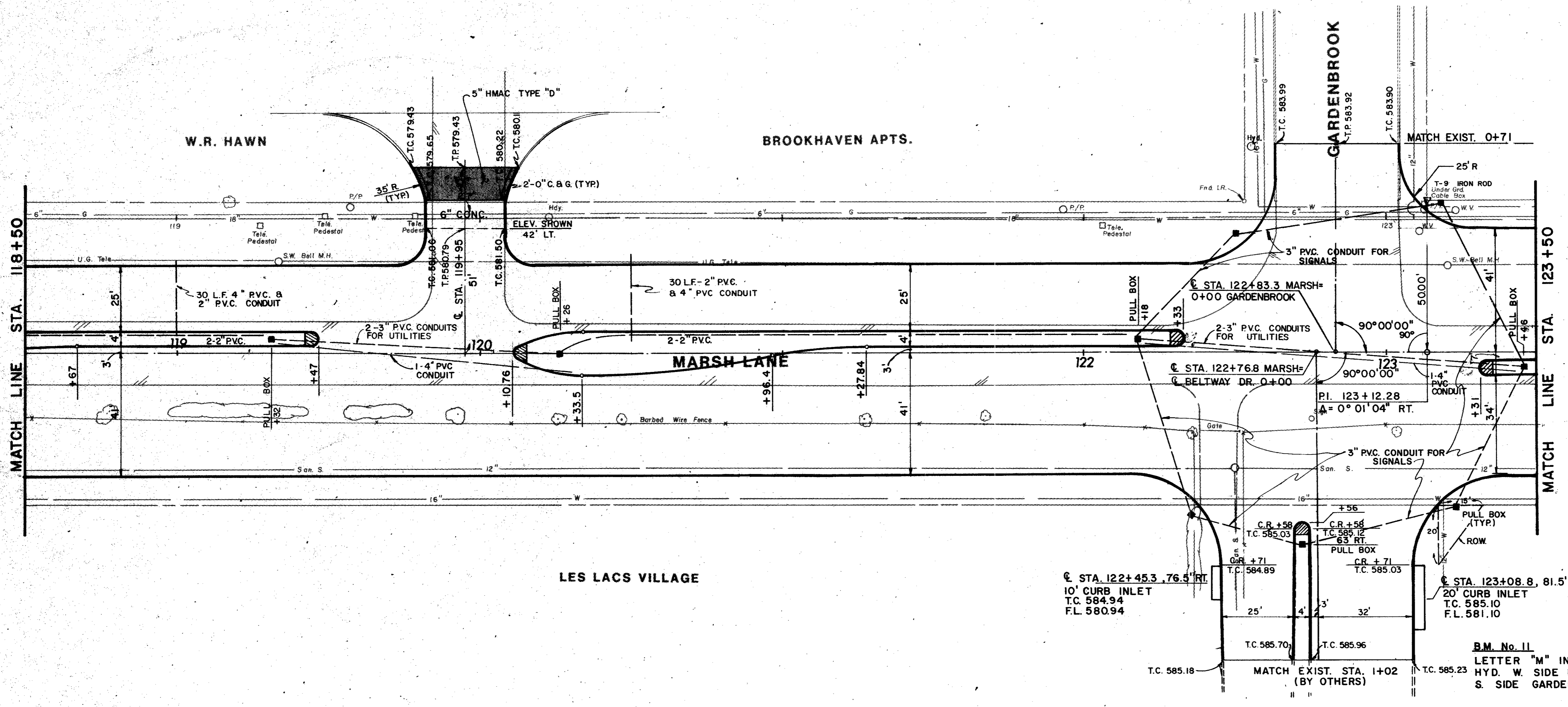
ITEM	DESCRIPTION	UNIT	QTY.
100	Preparing ROW	Sta	5.0
104&SP	Remove Old Conc (Pvmt)	S.Y.	142
110&SP	Uncl. Road Excav	C.Y.	2,077
160&SP	Furn & Plac Topsoil	C.Y.	326
164&SP	Broadcast Seeding	S.Y.	1,650
260	Lime Treated Subgrade	S.Y.	4,230
264	Lime Slurry	Ton	68
360&SP	8" Reinf. Conc Pvmt	S.Y.	3,940
360&SP	6" Mono Curb	L.F.	1,693
496&SP	Remov Old Struc, Small	Each	3
524	6" Conc. Driveways	S.Y.	58
590	4" Conc. Median	S.Y.	7
640&SP	Pull Boxes	Each	6
640&SP	Conduit, 4"	L.F.	233
640&SP	Conduit, 3"	L.F.	685
640&SP	Conduit, 2"	L.F.	456
752&SP	Pavement Markers	Each	33
752&SP	Traf. Barrier Buttons	Each	8
754&SP	Traffic Buttons	Each	165
7301&SP	Thermoplastic Pvmt Mk	L.F.	18

**B.M. No. 10**  
 CHISLED "D" NOSE OF CONC. ISLAND  
 IN FIRST ENTRANCE TO BROOKHAVEN  
 APTS. NORTH OF TANGLEWOOD DR.  
 60' WEST MARSH LANE APPROX.  
 117+10 ELEV. 575.51

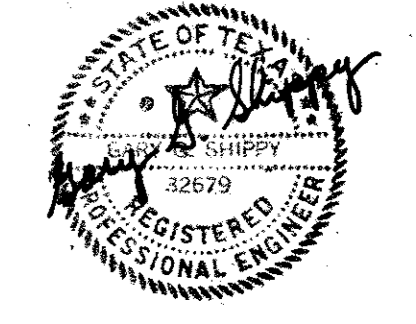
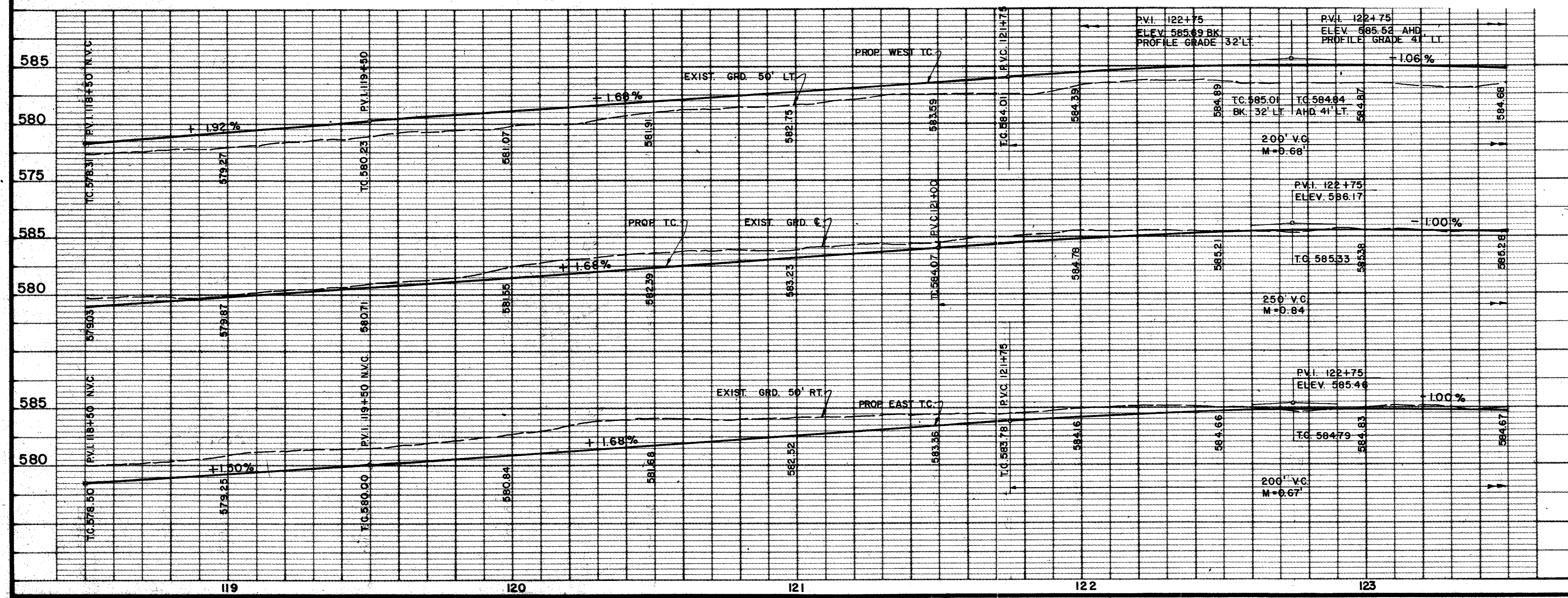


AS BUILT 11-22-83

4			
3			
2			
1	5/82	AS PER ADDENDUM # 2, ART. 3.	
NO.	DATE	REVISION	APPROV.
<b>CITIES OF ADDISON AND FARMERS BRANCH, TEXAS</b> <b>MARSH LANE</b> BROOKHAVEN CLUB DRIVE TO BELT LINE ROAD <b>PAVING PLAN &amp; PROFILE</b> STA. 113+50 TO STA. 118+50 <b>Turner Collier &amp; Braden Inc.</b>			
Unit	PAL	Scale: Horiz. 1" = 20', Vert. 1" = 5'	Date FEB. 1982
Designed	GGG	Checked	GGG
Drawn	LJK	Approved	PAL
		Job No. 6042-010	Contract
		Sheet 20	of 66



ITEM	DESCRIPTION	UNIT	QTY.
100	Preparing ROW	Sta	5.0
104&SP	Remove Old Conc (Pvmt)	S.Y.	46
110&SP	Uncl. Road Excav	S.Y.	2,318
160&SP	Furn & Plac Topsoil	C.Y.	303
164&SP	Broadcast Seeding	S.Y.	1,670
260	Lime Treated Subgrade	S.Y.	4,760
264	Lime Slurry	Ton	77
360&SP	8" Reinf Conc Pvmt	S.Y.	4,435
360&SP	6" Mono Curb	L.F.	1,754
524	6" Conc Driveways	S.Y.	60
590	4" Conc Median	S.Y.	9
640&SP	Pull Boxes	Each	9
640&SP	Conduit, 4"	L.F.	282
640&SP	Conduit, 3"	L.F.	827
640&SP	Conduit, 2"	L.F.	836
752&SP	Pavement Markers	Each	33
752&SP	Traf. Barr. Buttons	Each	21
754&SP	Traffic Buttons	Each	156
7301&SS	Thermoplastic Pvt Mks	L.F.	54



AS BUILTS 11-22-83

NO.	DATE	REVISION	APPROV.
4			
3			
2	8/82	REVISED PER CHANGE ORDER NO 1.	
1	5/82	AS PER ADDENDUM NO 2, ART. 3.	

**CITIES OF ADDISON AND FARMERS BRANCH, TEXAS**

**MARSH LANE**  
BROOKHAVEN CLUB DRIVE TO BELT LINE ROAD

**PAVING PLAN & PROFILE**  
STA. 118+50 TO STA. 123+50

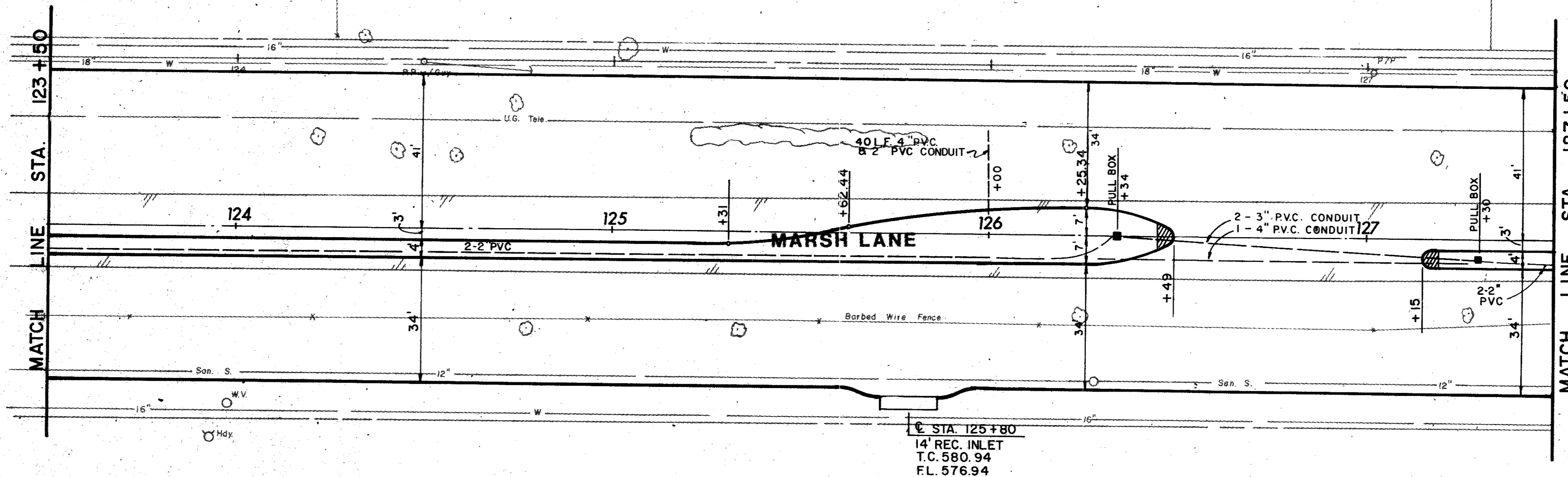
Turner Collier & Braden, Inc.

Drawn: PAL	Scale: 1" = 20'	Check: PEB
Checked: GGS	Ver. 1" = 5'	Job No. 6042-010
Drawn: LJK	Approved: PAL	Sheet 21 of 66

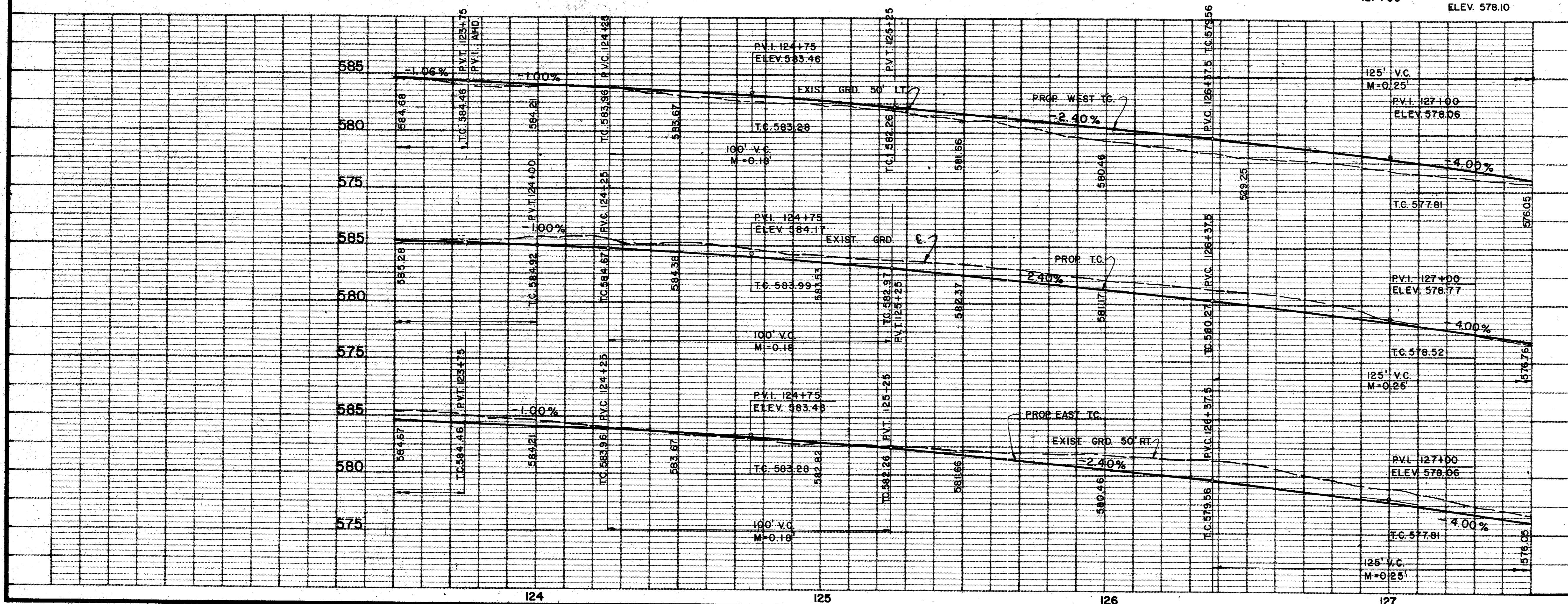


CYTREN CONSTRUCTION CORP.

ITEM	DESCRIPTION	UNIT	QTY.
100	Preparing ROW	Sta	4.0
110&SP	Unclass Road Excav	C.Y.	1,384
120&SP	Unclass Chan Excav	C.Y.	260
160&SP	Furn & Plac Topsoil	C.Y.	341
164&SP	Broadcast Seeding	S.Y.	1,470
260	Lime Treated Subgrade	S.Y.	3300
264	Lime Slurry	Ton	54
360&SP	8" Reinf Conc Pvmnt	S.Y.	3,025
360&SP	6" Mono Curb	L.P.	1,491
590	4" Conc Median	S.Y.	4
640&SP	Pull boxes	Each	2
640&SP	Conduit, 4"	L.P.	124
640&SP	Conduit, 3"	L.P.	192
640&SP	Conduit, 2"	L.P.	607
752&SP	Pavement Markers	Each	24
752&SP	Traf. Barrier Buttons	Each	22
754&SP	Traffic Buttons	Each	120



B.M. No. 12  
 R.R. SPIKE N.W. FACE P/P. 50'  
 WEST MARSH LANE 415' N. OF  
 GARDENBROOK DR. APPROX.  
 127+00 ELEV. 578.10



AS BUILT 11-22-83

NO.	DATE	REVISION	APPROV.
4			
3			
2	8/82	REVISED PER CHANGE ORDER NO. 1.	
1	5/82	AS PER ADDENDUM NO. 2, ART. 3.	

**CITIES OF ADDISON AND FARMERS BRANCH, TEXAS**  
**MARSH LANE**  
 BROOKHAVEN CLUB DRIVE TO BELT LINE ROAD  
**PAVING PLAN & PROFILE**  
 STA. 123+50 TO STA. 127+50

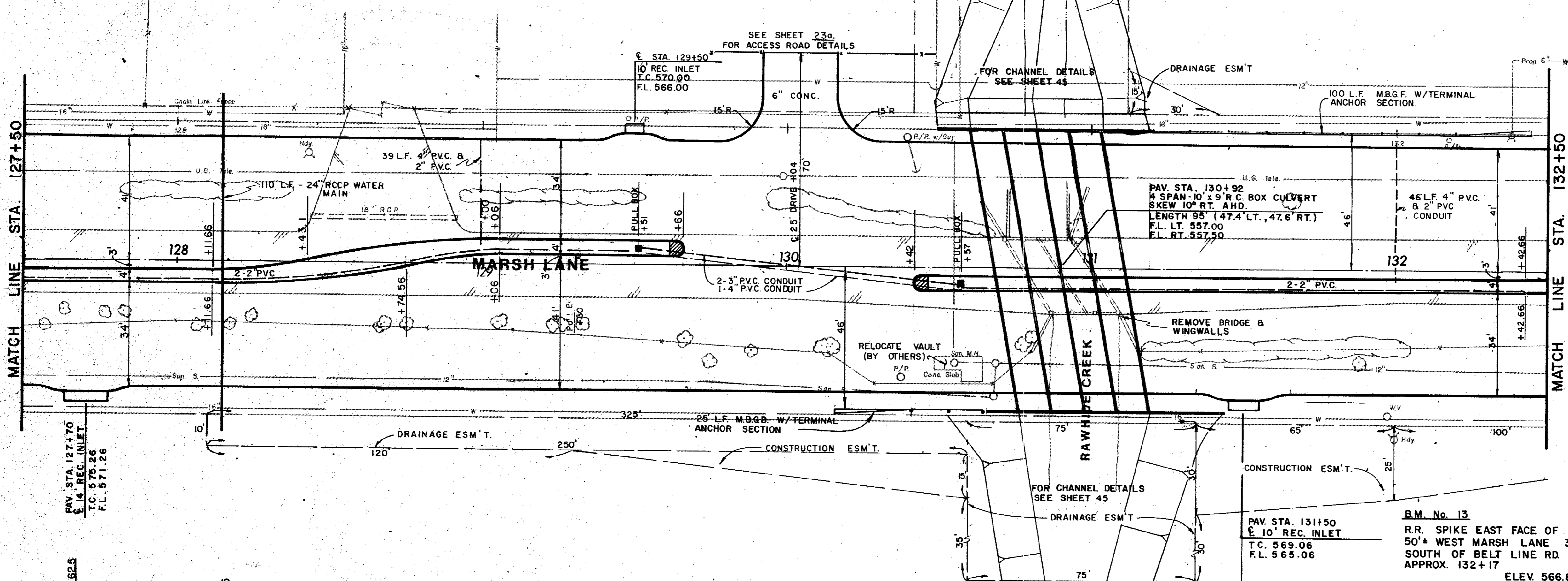
Turner Collier & Braden Inc.			
Unit PAL	Scale: Horiz. 1"=20' Vert. 1"=5'	Date FEB 1982	
Designed GGS	Checked GGS	Job No. 6042-010	Contract
Drawn LJK	Approved PAL	Sheet 22	of 66



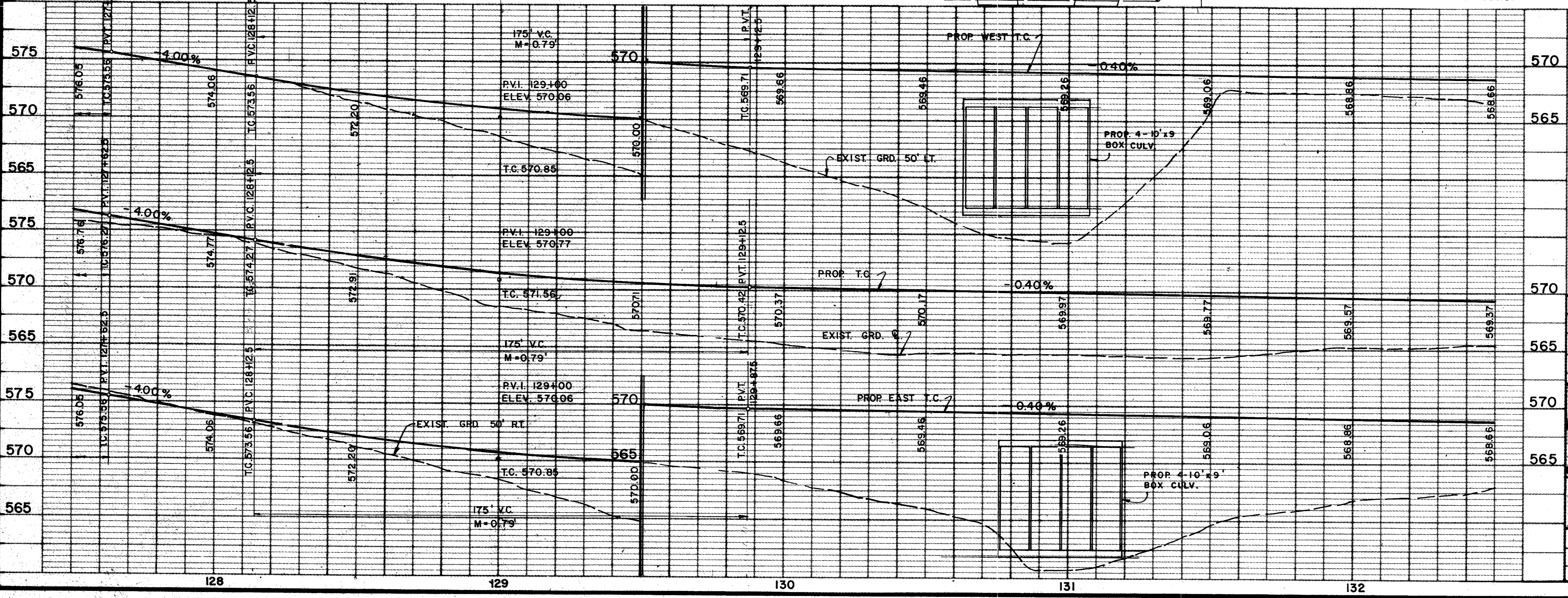
CITY OF FARMERS BRANCH

DRAINAGE ESM'T

F.L.C./J.S.L. PARTNERSHIP



ITEM	DESCRIPTION	UNIT	QTY.
100	Preparing ROW	Sta	5.0
104&SP	Remove Old Conc (Pvmt)	S.Y.	360
110&SP	Unclas Road Excav	C.Y.	190
160&SP	Furn & Plac Topsoil	C.Y.	448
164&SP	Broadcast Seeding	S.Y.	2,360
260	Lime Treated Subgrade	S.Y.	4,220
264	Lime Slurry	Ton	68
360&SP	3" Reinf Conc Pvmt	S.Y.	3,870
360&SP	6" Homo Curb	L.F.	1,805
524	6" Conc Driveway	S.Y.	109
560&SP	Metal Beam Guard Fence	L.F.	200
560&SP	Terminal Anchor Sect.	Each	2
590	4" Conc Median	S.Y.	3
640&SP	Pull Boxes	Each	2
640&SP	Conduit, 4"	L.F.	171
640&SP	Conduit, 3"	L.F.	212
640&SP	Conduit, 2"	L.F.	509
752&SP	Pavement Markers	Each	36
752&SP	Traf Barrier Buttons	Each	32
754&SP	Traffic Buttons	Each	180



B.M. No. 13  
 R.R. SPIKE EAST FACE OF P/P  
 50'± WEST MARSH LANE 300'±  
 SOUTH OF BELT LINE RD.  
 APPROX. 132+17  
 ELEV 566.87



AS BUILTS 11-22-83

NO.	DATE	REVISION	APPROV.
2	8/82	REVISED PER CHANGE ORDER NO. 1.	
1	5/82	AS PER ADDENDUM NO. 2, ART. 3.	

**CITIES OF ADDISON AND FARMERS BRANCH, TEXAS**

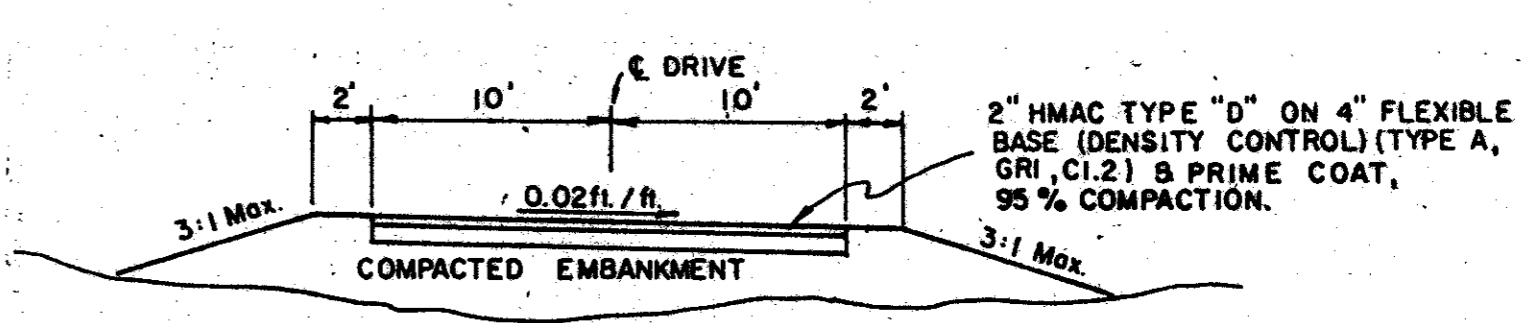
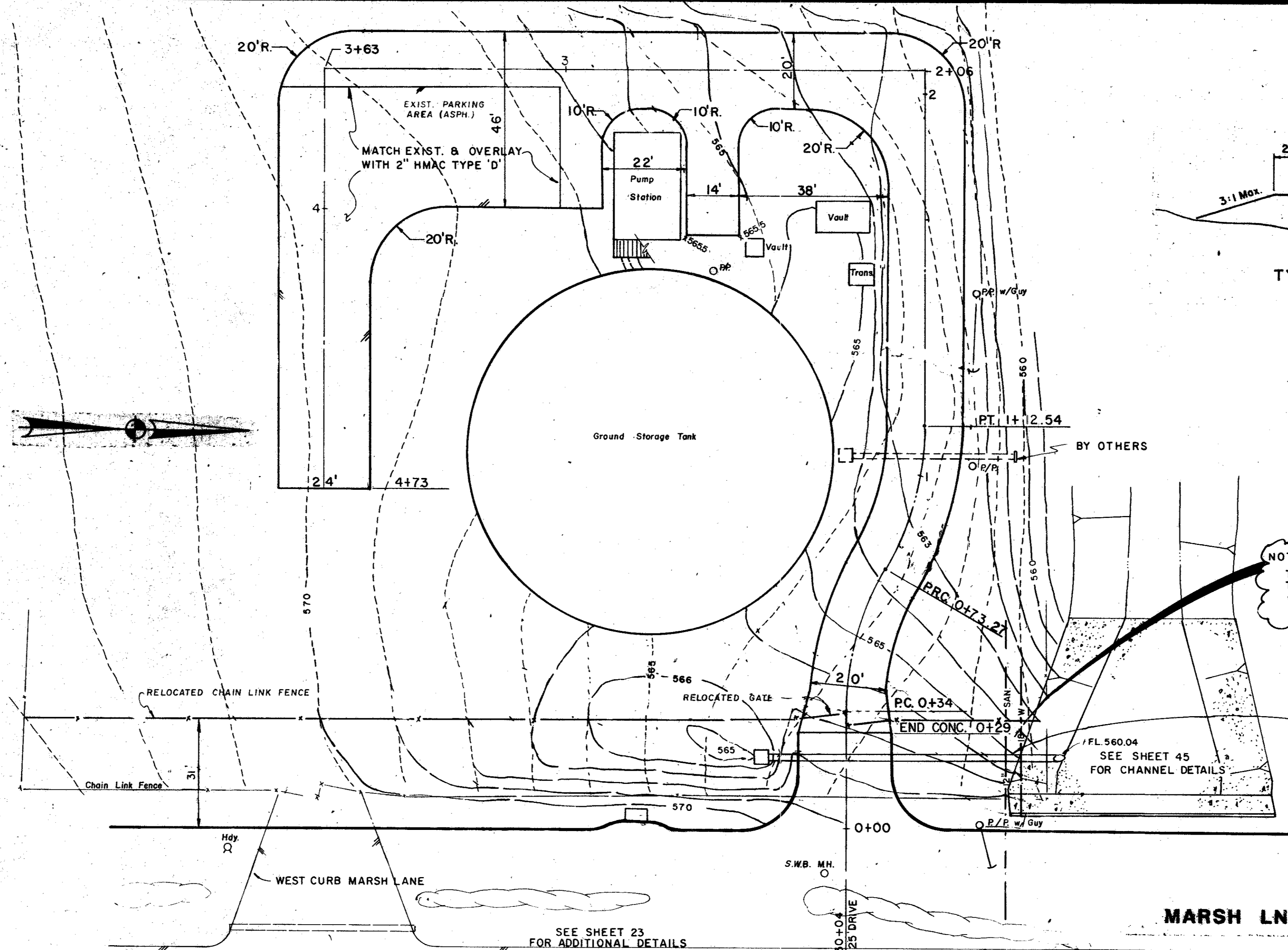
**MARSH LANE**  
 BROOKHAVEN CLUB DRIVE TO BELT LINE ROAD

**PAVING PLAN & PROFILE**  
 STA. 127+50 TO STA. 132+50

Turner Collier & Braden Inc.

Unit	PAL	Scale	Horz. 1" = 20' Vert. 1" = 5'	Date	FEB. 1982
Designed	GGG	Checked	GGG	Job No.	6024-010 Contract
Drawn	LJK	Approved	PAL	Sheet	23 of 66





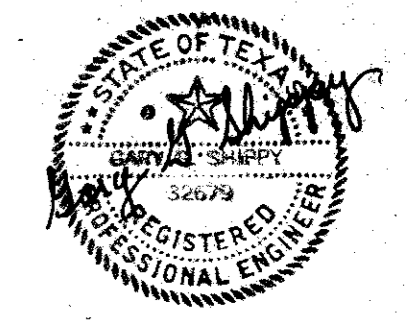
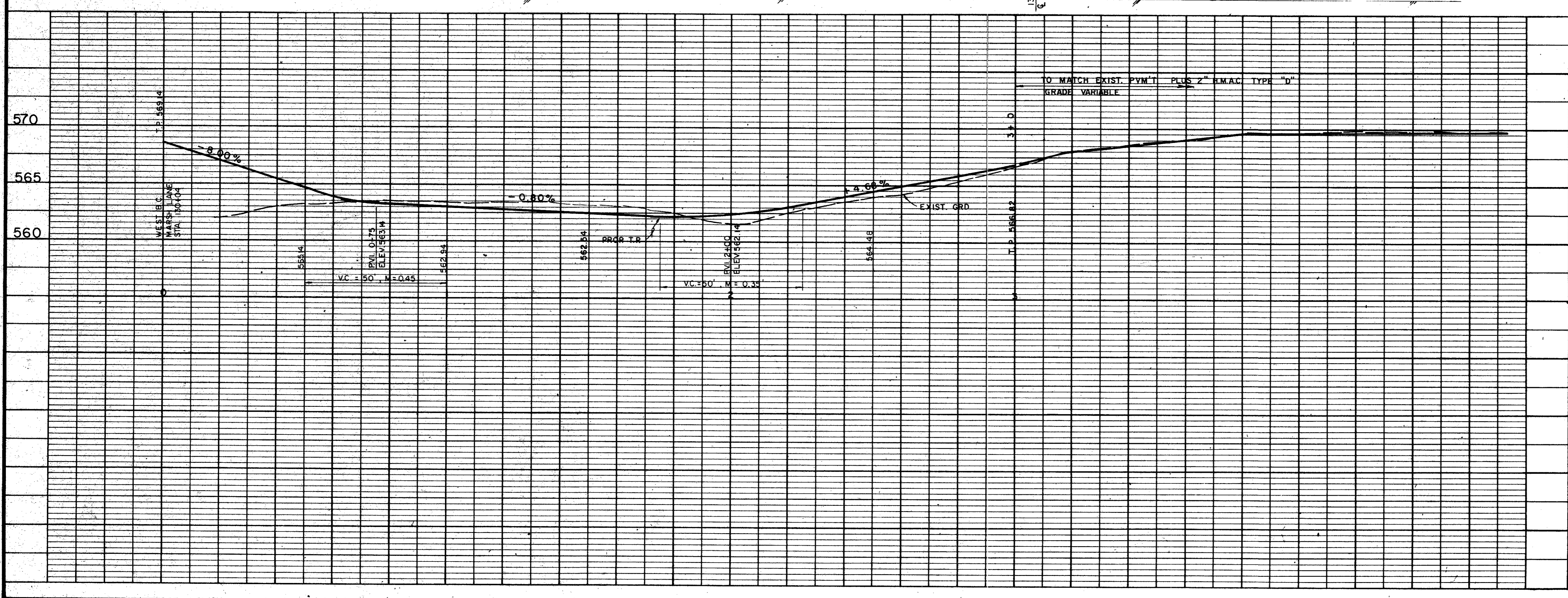
FLEX BASE - 140 LBS/CY  
HMAC - 110 LBS/SY./IN.  
PRIME - 0.25 GAL/SY.

**CURVE DATA**  
 R = 75.00'  
 Δ = 30° 00' 00"  
 L = 39.27'  
 T = 20.10'

ITEM	DESCRIPTION	UNIT	QTY.
249	Flex Base, Ty A, CI 2	Ton	190
310	Prime Coat (MC-30)	Gal	343
340&SP	HMAC, CI A Type D	Ton	151
465&SP	24" Rein Conc Pipe	L.F.	73
470&SP	24" Inlet	Each	1
568&SP	Chain Link Fence, 6-ft	L.F.	275

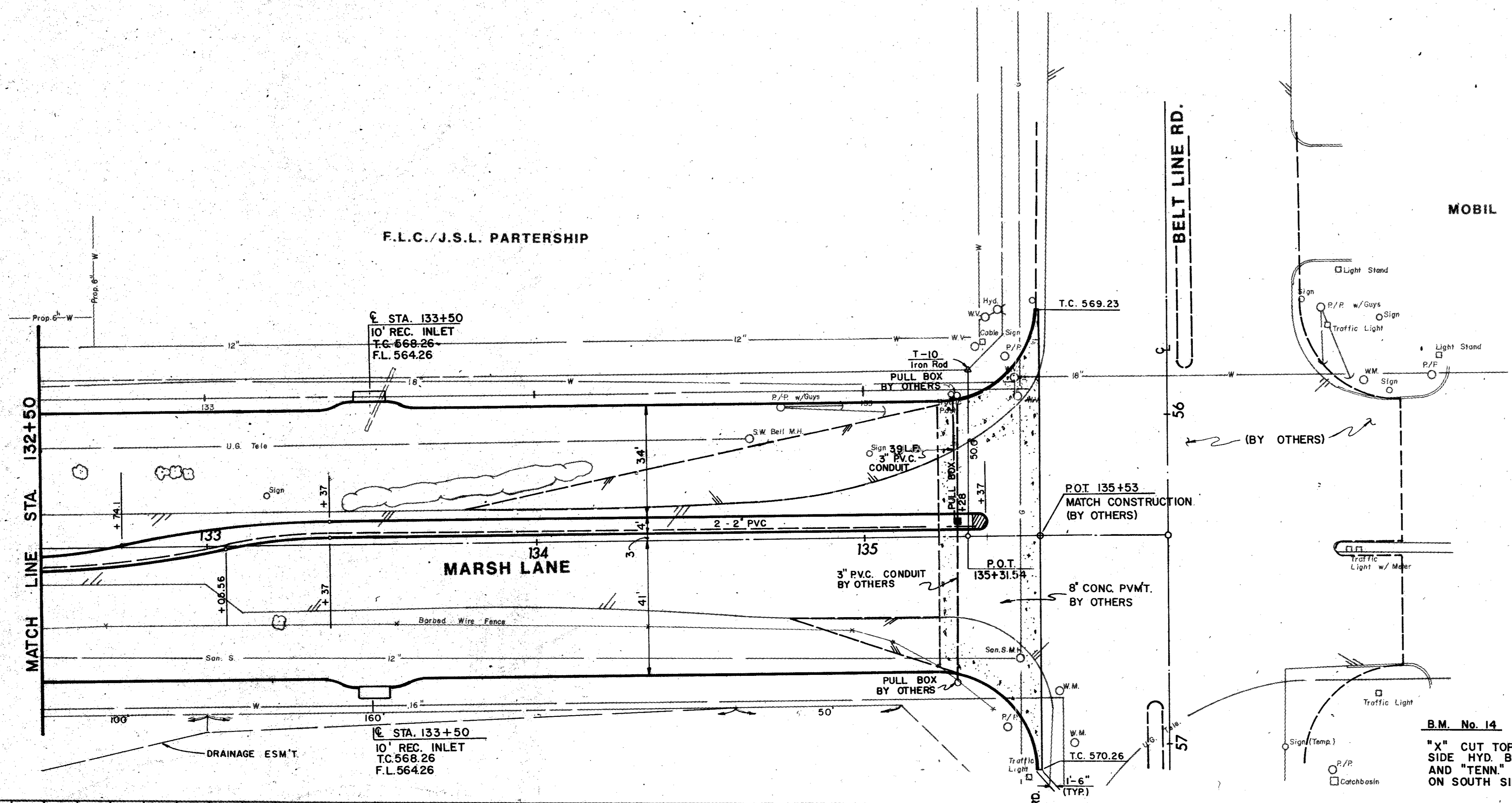
NOTE:  
 TOP 18" WATER ±554.0 } FROM EXIST. PLANS  
 TOP 12" SAN.S. ±554.0 }  
 VERIFY EXACT LOCATION IN FIELD  
 PRIOR TO INSTALLATION OF 24" STORM

T.C. 566.08  
 'Y' INLET  
 F.L. (OPENING) 565.00  
 F.L. 561.50  
 73 L.F. - 24" R.C.P. on 2.00%



AS BUILTS 11-22-83

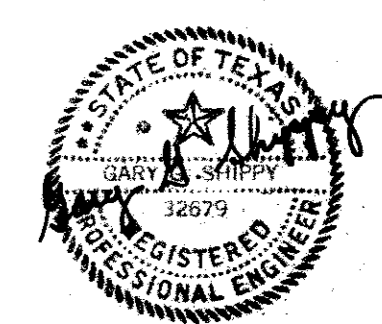
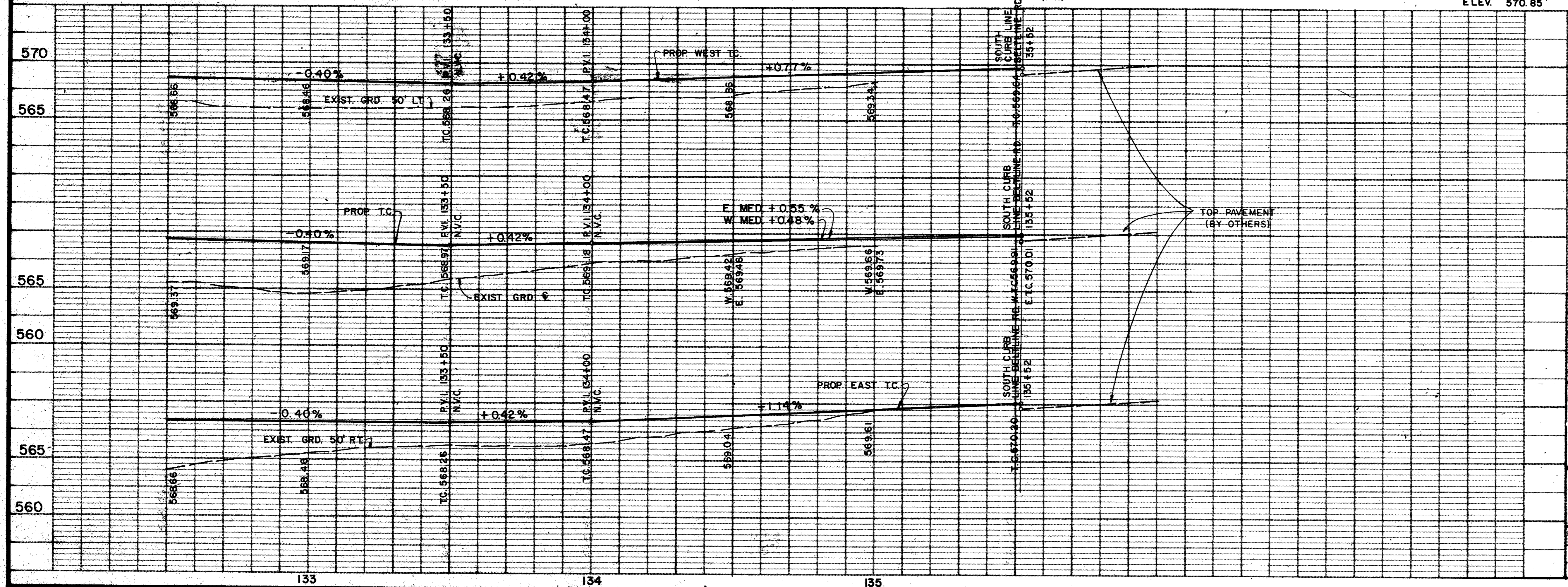
4			
3			
2			
1			
NO.	DATE	REVISION	APPROV.
<b>CITIES OF ADDISON AND FARMERS BRANCH, TEXAS</b> <b>MARSH LANE</b> BROOKHAVEN CLUB DRIVE TO BELT LINE ROAD ACCESS ROAD TO BELT - MARSH. PUMP STATION Turner Collier & Braden Inc.			
Unit	PAL	Scale: Horiz. 1" = 20' Vert. 1" = 5'	Date FEB. 1982
Designed	GGG	Checked	GGG
Drawn	LJK	Approved	PAL
		Job No. 6042-011	Contract
		Sheet 23 a	of 66



MOBIL

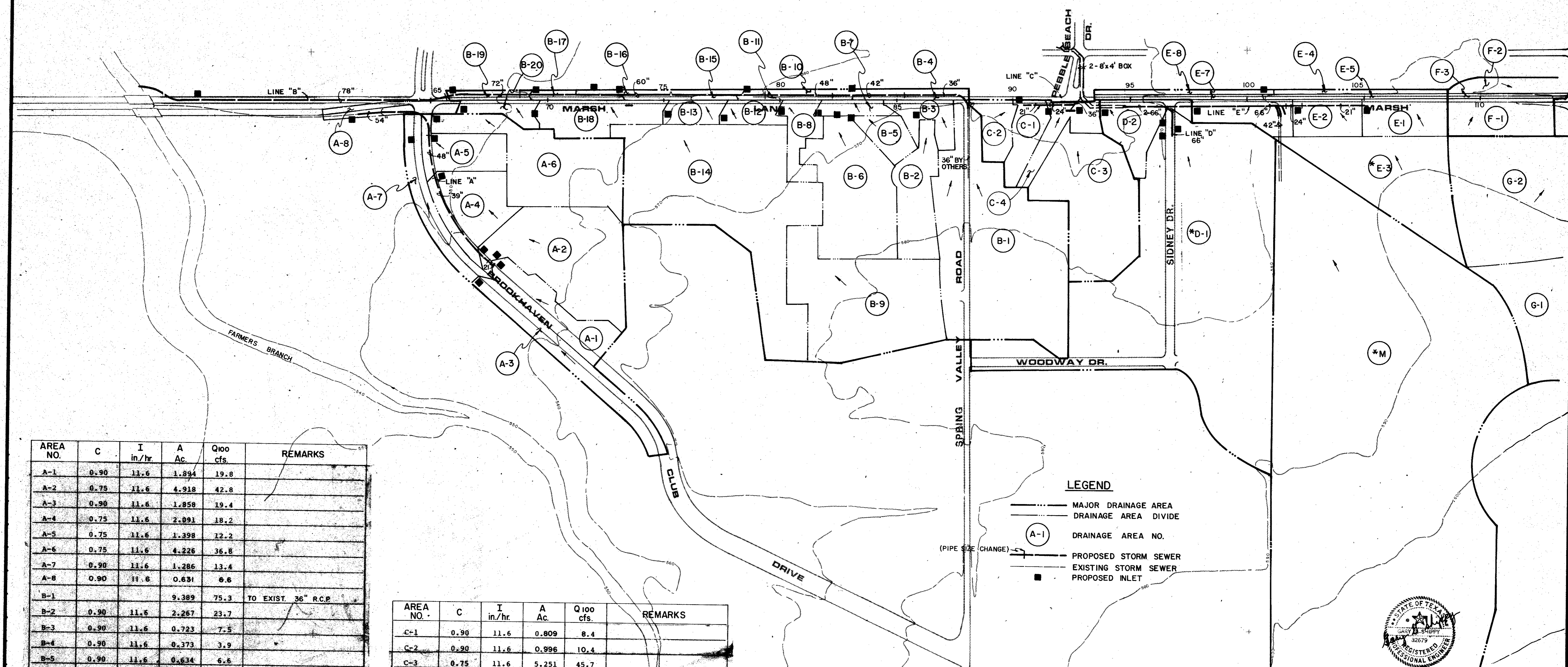
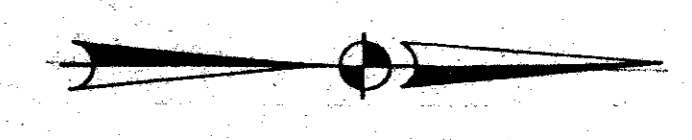
ITEM	DESCRIPTION	UNIT	QTY.
100	Preparing ROW	Sta	3.0
104&SP	Remove Old Conc (Pvmt)	S.Y.	370
110&SP	Unclas Road Excav	C.Y.	175
160&SP	Furn & Plac Topsoil	C.Y.	249
164&SP	Broadcast Seeding	S.Y.	1,450
260	Lime Treated Subgrade	S.Y.	2,605
264	Lime Slurry	Ton	42
360&SP	8" Reinf Conc Pvmt	S.Y.	2,370
360&SP	6" Mono Curb	L.F.	1,211
590	4" Conc Median	S.Y.	1,211
640&SP	Pull Boxes	Each	1
640&SP	Conduit, 3"	L.F.	30
640&SP	Conduit, 2"	L.F.	960
752&SP	Pavement Markers	Each	21
752&SP	Traf. Barrier Buttons	Each	19
754&SP	Traffic Buttons	Each	105
730&SS	Thermoplastic Pvmt Mk	L.F.	43

B.M. No. 14  
 "X" CUT TOP FLANGE BOLT EAST SIDE HYD. BETWEEN "CHATTANOOGA" AND "TENN" 60' W. OF MARSH ON SOUTH SIDE BELT LINE ROAD.  
 ELEV. 570.85



AS BUILTS 11-22-83

4		
3		
2	8/82	REVISED PER CHANGE ORDER NO. 1.
1	5/82	AS PER ADDENDUM NO. 2, ART. 3.
NO.	DATE	REVISION
<b>CITIES OF ADDISON AND FARMERS BRANCH, TEXAS</b> <b>MARSH LANE</b> BROOKHAVEN CLUB DRIVE TO BELT LINE ROAD <b>PAVING PLAN &amp; PROFILE</b> STA. 132+50 TO BELTLINE RD. <b>Turner Collier &amp; Braden Inc.</b>		
Unit	PAL	Date FEB. 1982
Designed	GGG	Checked GGS
Drawn	LJK	Approved PAL
Job No. 6042-010		Contract
Sheet 24		of 66

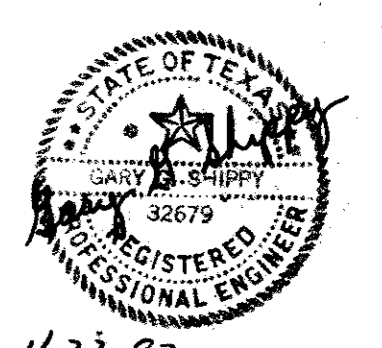


AREA NO.	C	I in./hr.	A Ac.	Q100 cfs.	REMARKS
A-1	0.90	11.6	1.894	19.8	
A-2	0.75	11.6	4.918	42.8	
A-3	0.90	11.6	1.858	19.4	
A-4	0.75	11.6	2.091	18.2	
A-5	0.75	11.6	1.398	12.2	
A-6	0.75	11.6	4.226	36.8	
A-7	0.90	11.6	1.286	13.4	
A-8	0.90	11.6	0.631	6.6	
B-1			9.309	75.3	TO EXIST 36" R.C.P.
B-2	0.90	11.6	2.267	23.7	
B-3	0.90	11.6	0.723	7.5	
B-4	0.90	11.6	0.373	3.9	
B-5	0.90	11.6	0.634	6.6	
B-6	0.90	11.6	4.260	44.5	
B-7	0.90	11.6	0.442	4.6	
B-8	0.90	11.6	0.867	9.1	
B-9	0.75	11.6	2.850	59.2	
	0.90		3.300		
B-10	0.75	11.6	0.382	3.5	AREA TO B-16
B-11	0.90	11.6	0.373	3.9	
B-12	0.90	11.6	0.623	6.5	
B-13	0.90	11.6	0.974	6.0	
B-14	0.75	11.6	2.660	27.9	
	0.90		0.600		
B-15	0.90	11.6	0.373	3.9	
B-16	0.75	11.6	0.683	6.1	INCLUDE AREA B-10
B-17	0.90	11.6	0.379	4.0	
B-18	0.90	11.6	1.670	17.4	
B-19	0.90	11.6	0.323	3.4	
B-20	0.90	11.6	0.389	5.1	

AREA NO.	C	I in./hr.	A Ac.	Q100 cfs.	REMARKS
C-1	0.90	11.6	0.809	8.4	
C-2	0.90	11.6	0.996	10.4	
C-3	0.75	11.6	5.251	45.7	
C-4	0.90	11.6	0.898	9.4	
*D-1	0.75	9.7	38.840	283.0	18.59 Ac. from Area M
D-2	0.90	11.6	1.515	15.8	
E-1	0.75	11.6	1.282	11.2	
E-2	0.75	11.6	1.007	8.8	
*E-3	0.75	9.7	46.213	336.0	41.22 Ac from Area M
E-4	0.75	11.6	0.344	3.0	AREA TO E-8
E-5	0.90	11.6	0.551	5.8	
E-6	0.75	11.6	1.070	9.3	
E-7	0.90	11.6	0.503	5.3	
E-8	0.75	11.6	0.697	6.1	INCLUDE AREA E-4
*M	0.75	9.7	59.770	435.0	41.22 Ac to Area E-3 18.55 Ac to Area D-1

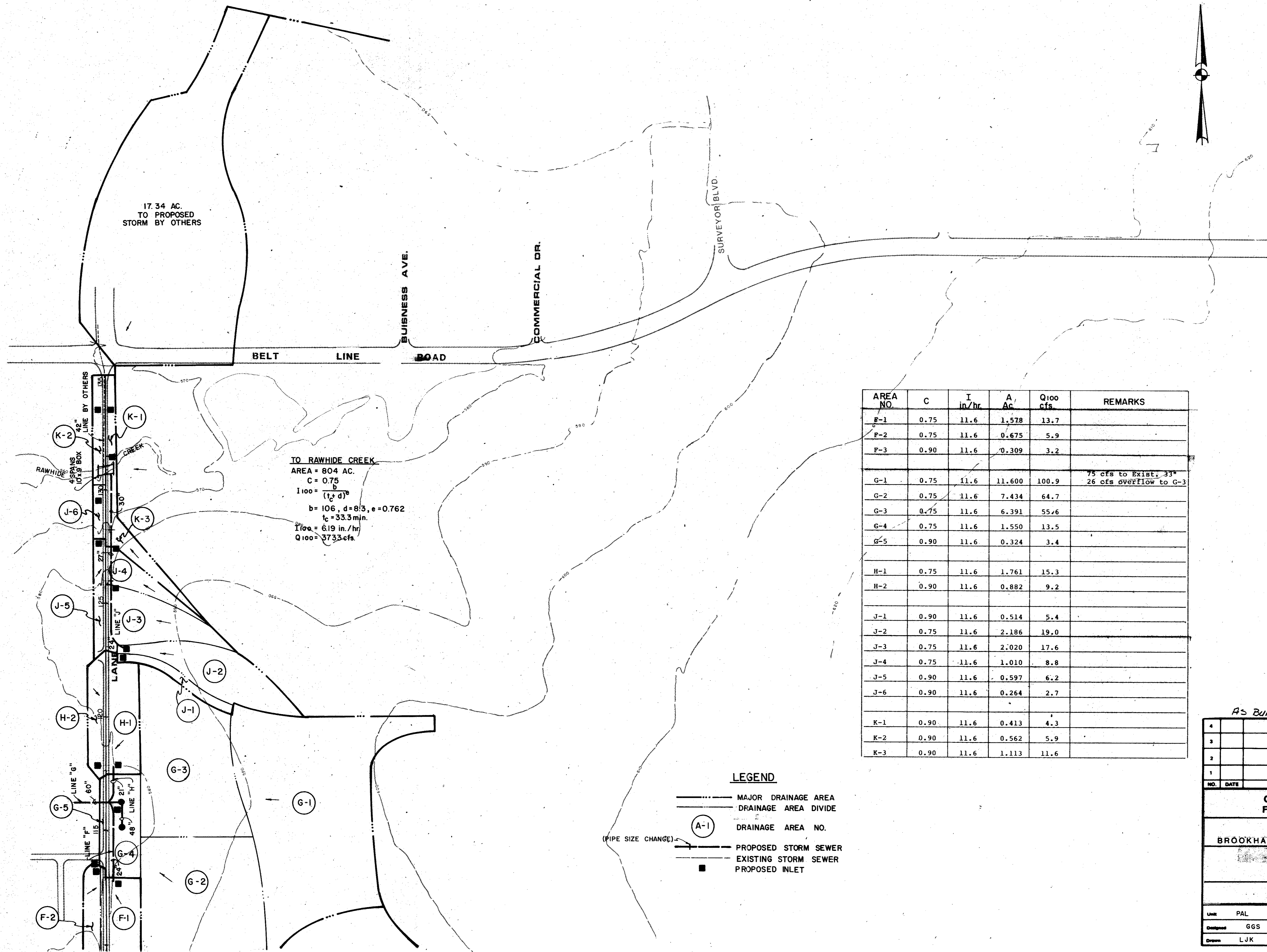
**LEGEND**

- MAJOR DRAINAGE AREA
- DRAINAGE AREA DIVIDE
- (A-1) DRAINAGE AREA NO.
- PROPOSED STORM SEWER
- EXISTING STORM SEWER
- PROPOSED INLET



AS BUILT 11-22-83

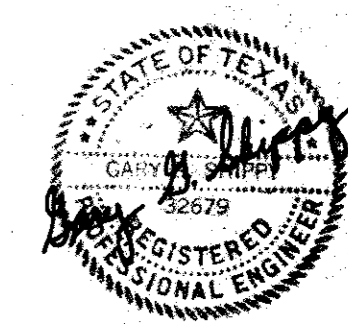
4			
3			
2			
1			
NO.	DATE	REVISION	APPROV.
<b>CITIES OF ADDISON AND FARMERS BRANCH, TEXAS</b> <b>MARSH LANE</b> BROOKHAVEN CLUB DRIVE TO BELT LINE ROAD <b>DRAINAGE AREA MAP</b>			
Turner Collier & Braden Inc.			
Drawn	PAL	Scale: 1" = 200'	Date: JAN. 1982
Designed	GGG	Checked	GGG
Drawn	LJK	Approved	PAL
		Job No. 6042-010	Contract
		Sheet 25	of 66



TO RAWHIDE CREEK  
 AREA = 804 AC.  
 C = 0.75  
 $I_{100} = \frac{b}{(1+d)^n}$   
 b = 106, d = 8/3, n = 0.762  
 $I_c = 33.3 \text{ min.}$   
 $I_{100} = 6.19 \text{ in./hr.}$   
 $Q_{100} = 3733 \text{ cfs.}$

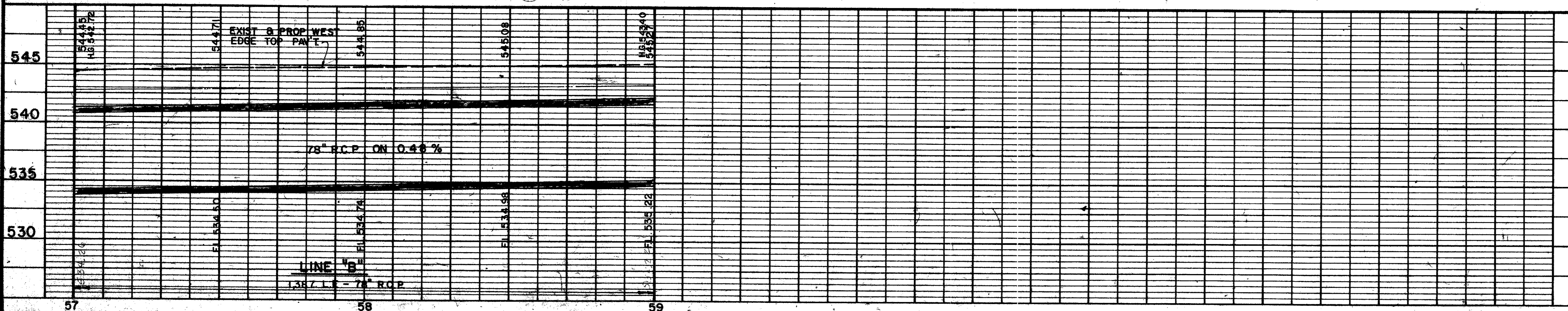
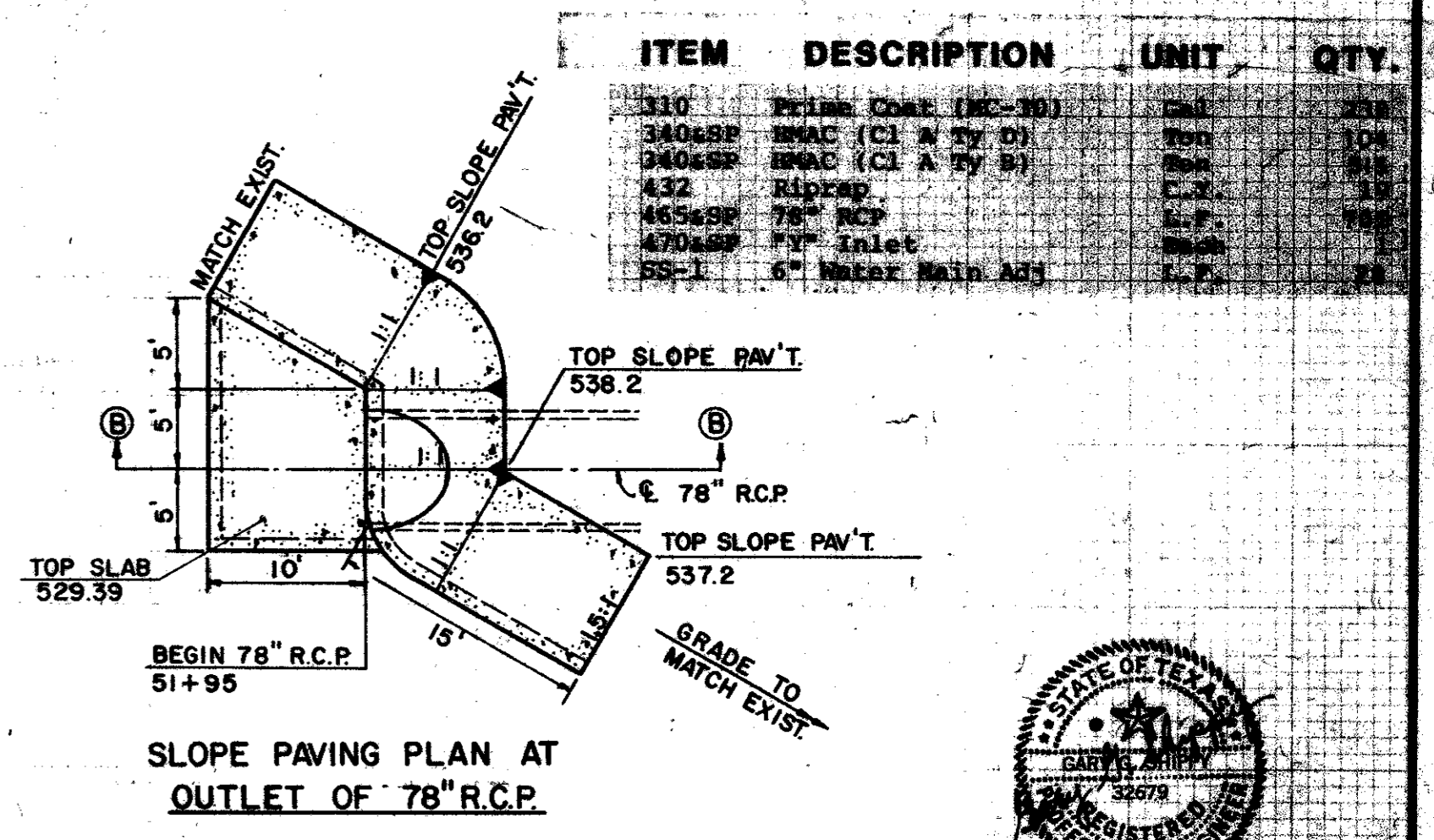
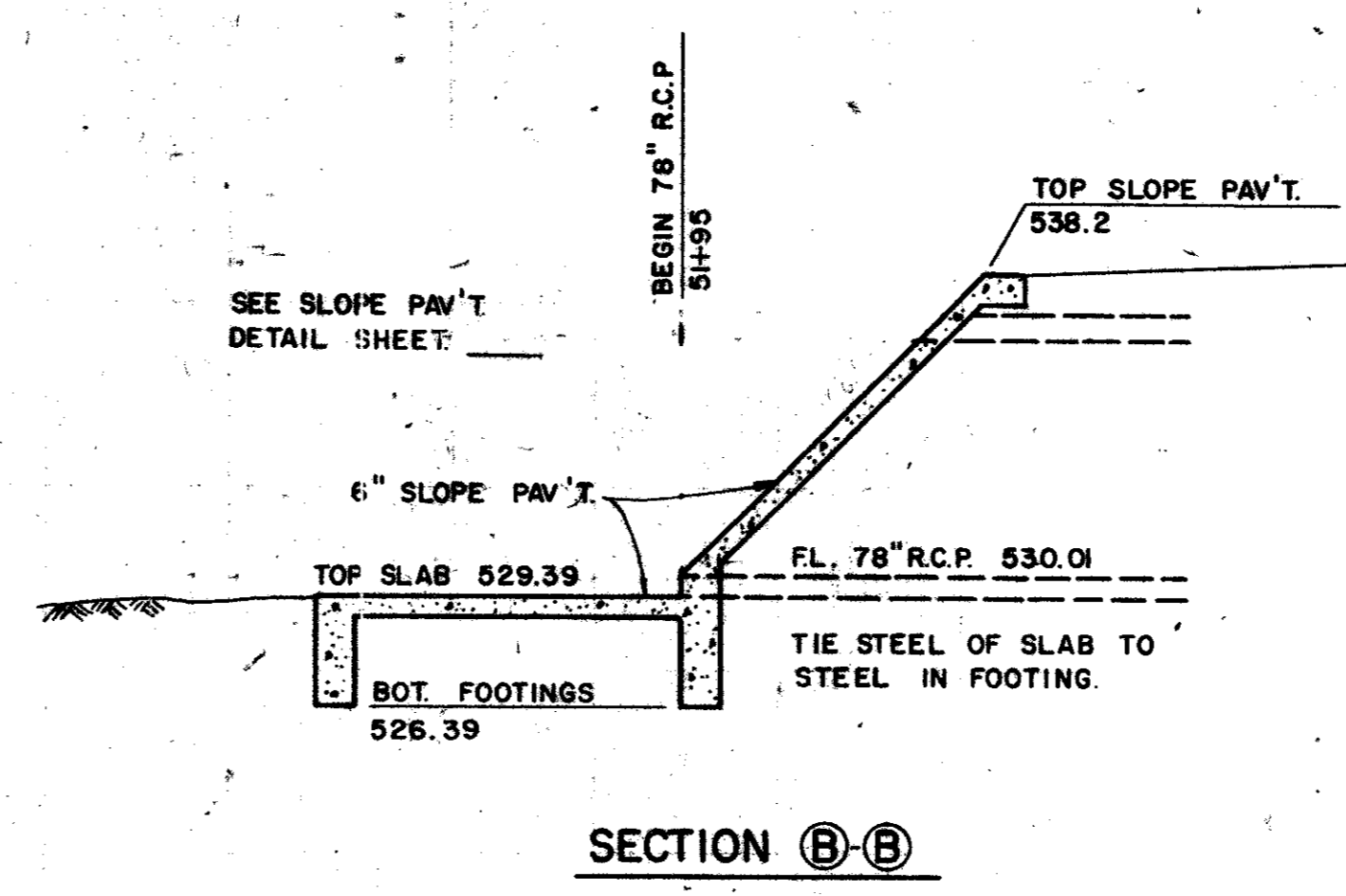
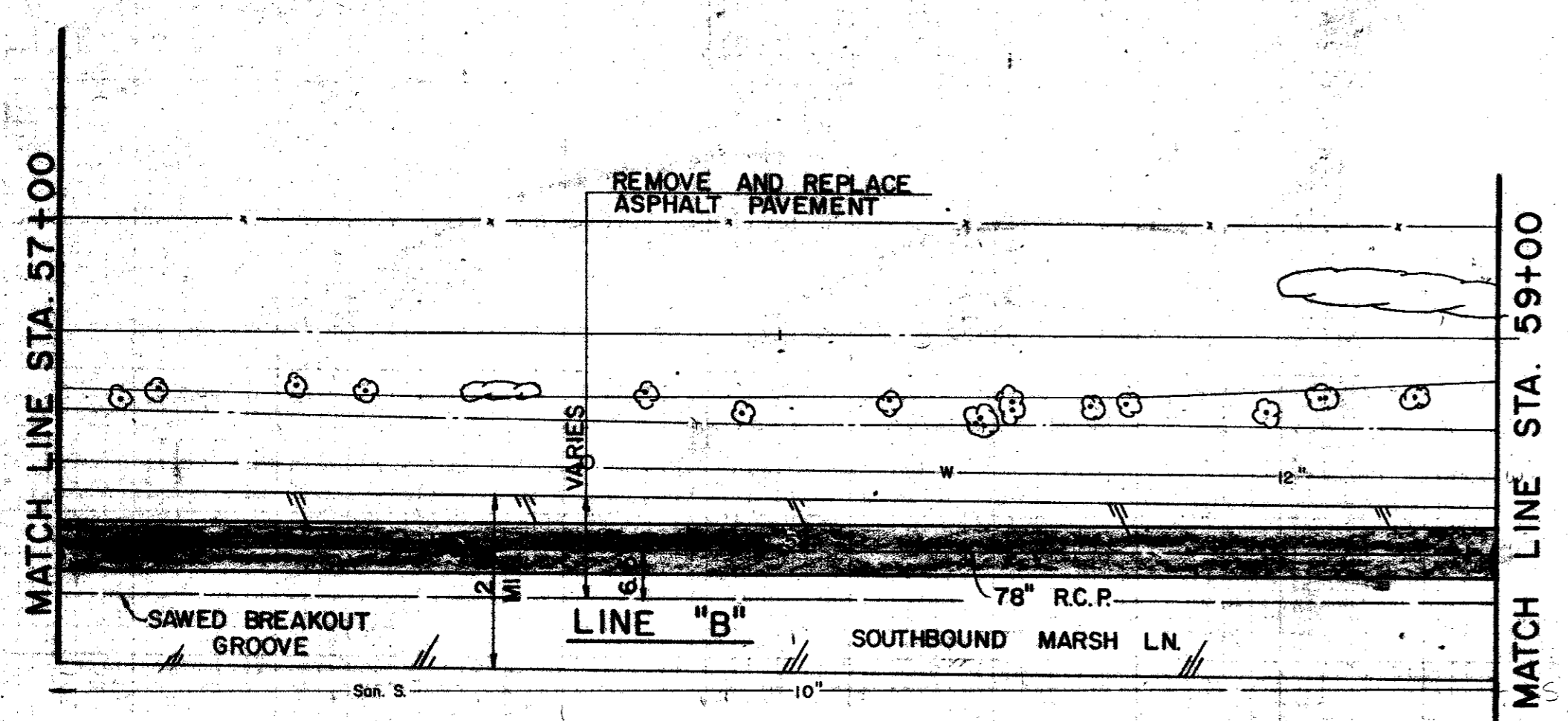
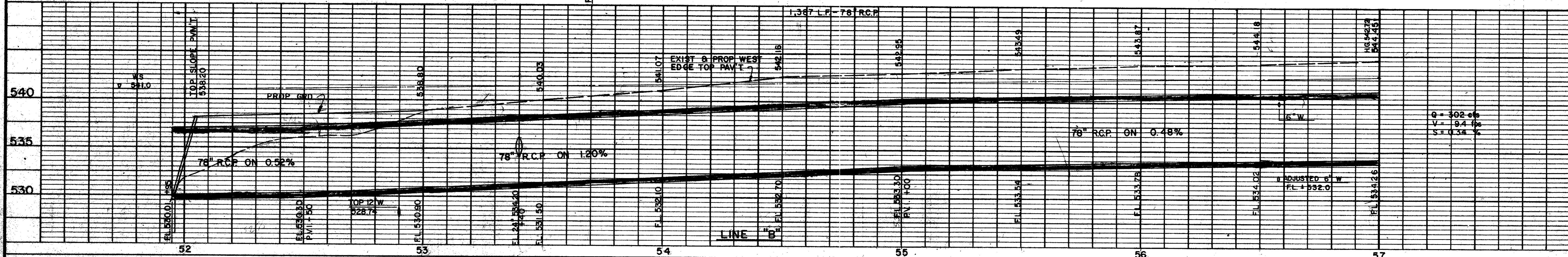
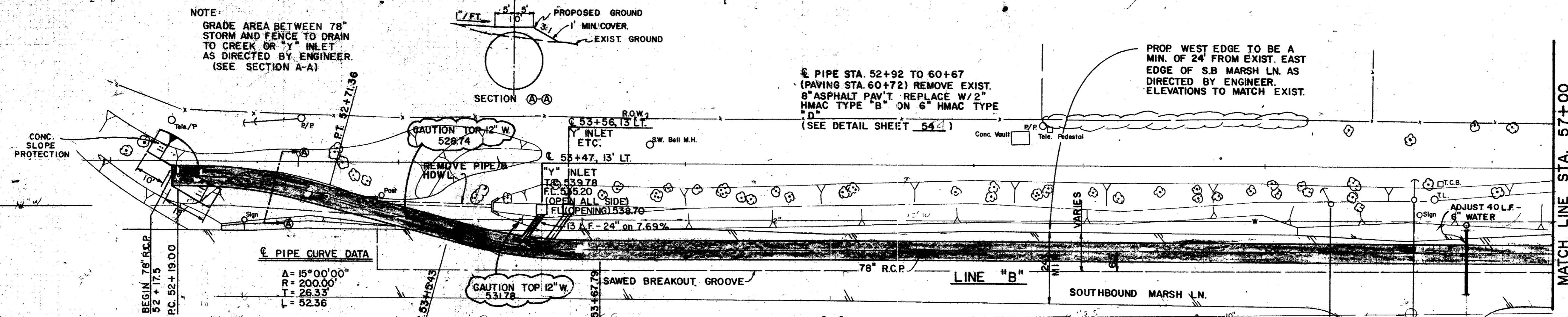
AREA NO.	C	I in/hr	A, Ac	Q <sub>100</sub> cfs	REMARKS
F-1	0.75	11.6	1,578	13.7	
F-2	0.75	11.6	0.675	5.9	
F-3	0.90	11.6	0.309	3.2	
G-1	0.75	11.6	11,600	100.9	75 cfs to Exist, 33* 26 cfs overflow to G-3
G-2	0.75	11.6	7,434	64.7	
G-3	0.75	11.6	6,391	55.6	
G-4	0.75	11.6	1,550	13.5	
G-5	0.90	11.6	0.324	3.4	
H-1	0.75	11.6	1,761	15.3	
H-2	0.90	11.6	0.882	9.2	
J-1	0.90	11.6	0.514	5.4	
J-2	0.75	11.6	2,186	19.0	
J-3	0.75	11.6	2,020	17.6	
J-4	0.75	11.6	1,010	8.8	
J-5	0.90	11.6	0.597	6.2	
J-6	0.90	11.6	0.264	2.7	
K-1	0.90	11.6	0.413	4.3	
K-2	0.90	11.6	0.562	5.9	
K-3	0.90	11.6	1,113	11.6	

- LEGEND**
- MAJOR DRAINAGE AREA
  - DRAINAGE AREA DIVIDE
  - (A-1) DRAINAGE AREA NO.
  - PROPOSED STORM SEWER
  - EXISTING STORM SEWER
  - PROPOSED INLET
- (PIPE SIZE CHANGE)



AS BUILT 11-22-83

4			
3			
2			
1			
NO.	DATE	REVISION	APPROV.
<b>CITIES OF ADDISON AND FARMERS BRANCH, TEXAS</b> <b>MARSH LANE</b> BROOKHAVEN CLUB DRIVE TO BELT LINE ROAD <b>DRAINAGE AREA MAP</b>			
Turner Collier & Braden Inc.			
Unit	PAL	Scale	1" = 200'
Design	GGS	Checked	GGS
Drawn	LJK	Approved	PAL
Date	JAN. 1982	Job No.	6042-010
Sheet	26	Contract	
			of 66



AS BUILTS 11-22-83

NO.	DATE	REVISION	APPROV.
1	5/82	AS PER ADDENDUM NO 1, ART. 7, 10 & 12	

**CITIES OF ADDISON AND FARMERS BRANCH, TEXAS**

**MARSH LANE**

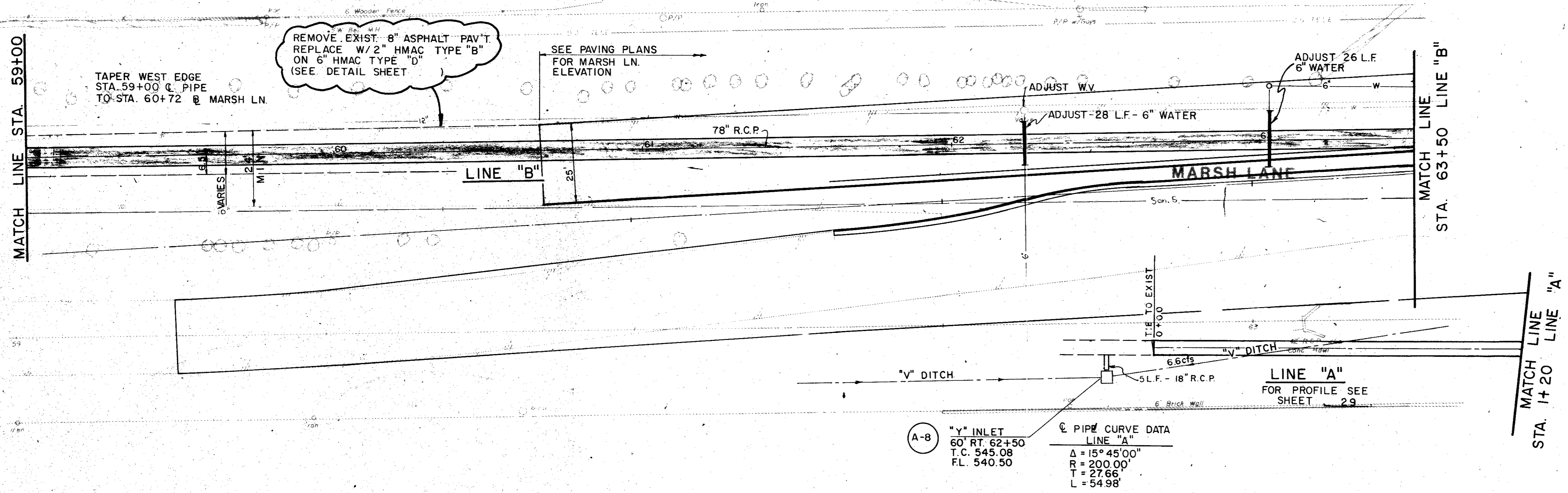
BROOKHAVEN CLUB DRIVE TO BELT LINE ROAD

Turner Collins & Braden, Inc.

Unit PAL	Scale: Horz. 1" = 20' Vert. 1" = 5'	Date FEB. 1982
Designed GGS	Checked GGS	Job No. 6042-010 Contract
Drawn LJK	Approved PAL	Sheet 27 of 66

BROOKHAVEN ESTATES NO. 1

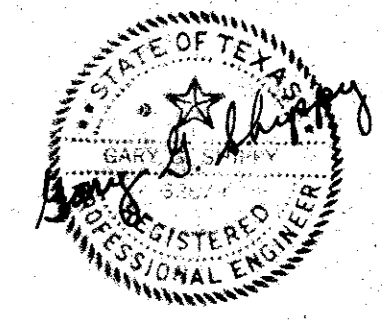
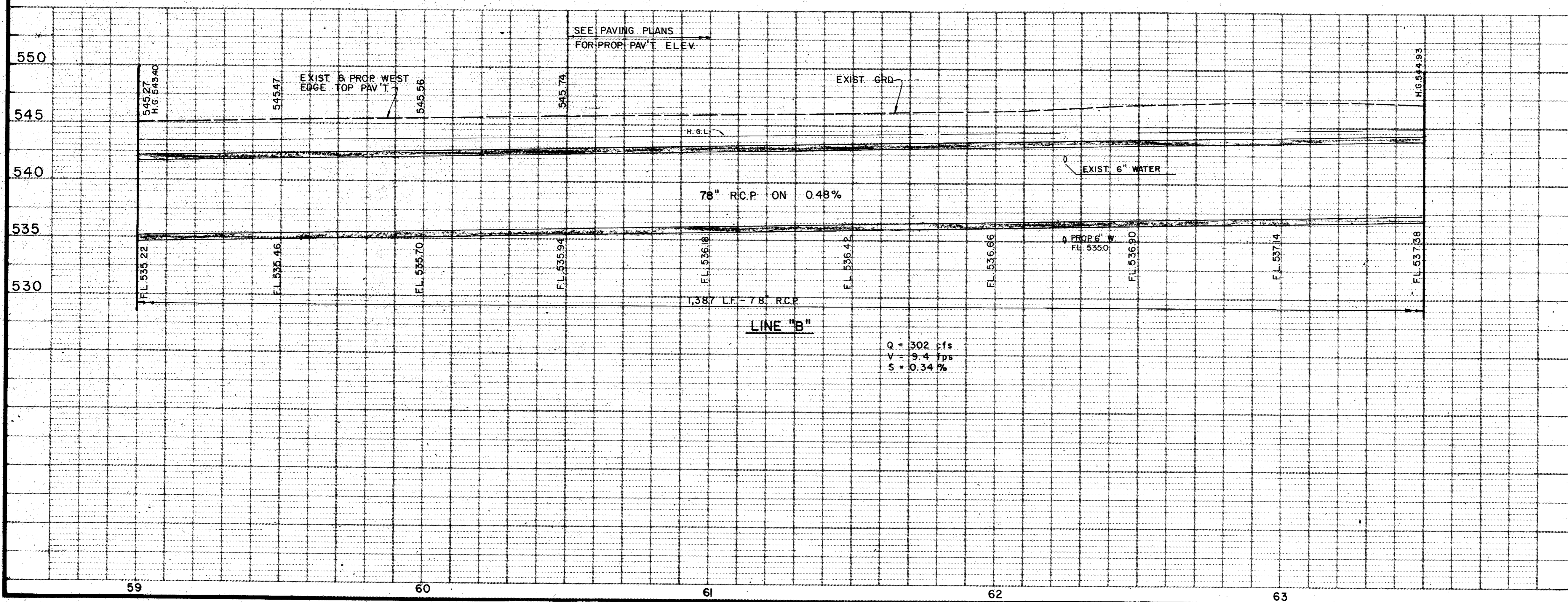
NOTE:  
PROPOSED 78" R.C.P. FROM  
STA. 53+67.79 TO STA. 65+21.77  
IS 5.0' LEFT OF B. MARSH LANE  
PAVING, NORTH OF BROOKHAVEN CLUB DR.



ITEM	DESCRIPTION	UNIT	QTY.
310	Prime Coat (MC-30)	Gal	67
340&SP	HMAC (C1 A Ty D)	Ton	30
340&SP	HMAC (C1 A Ty B)	Ton	91
465&SP	18" RCP	L.F.	6
465&SP	54" RCP	L.F.	120
465&SP	78" RCP	L.F.	450
470&SP	"Y" Inlet	Each	1
SS-1	6" Water Main Adj	L.F.	28
SS-6	Adj Water Valve Box	Each	1

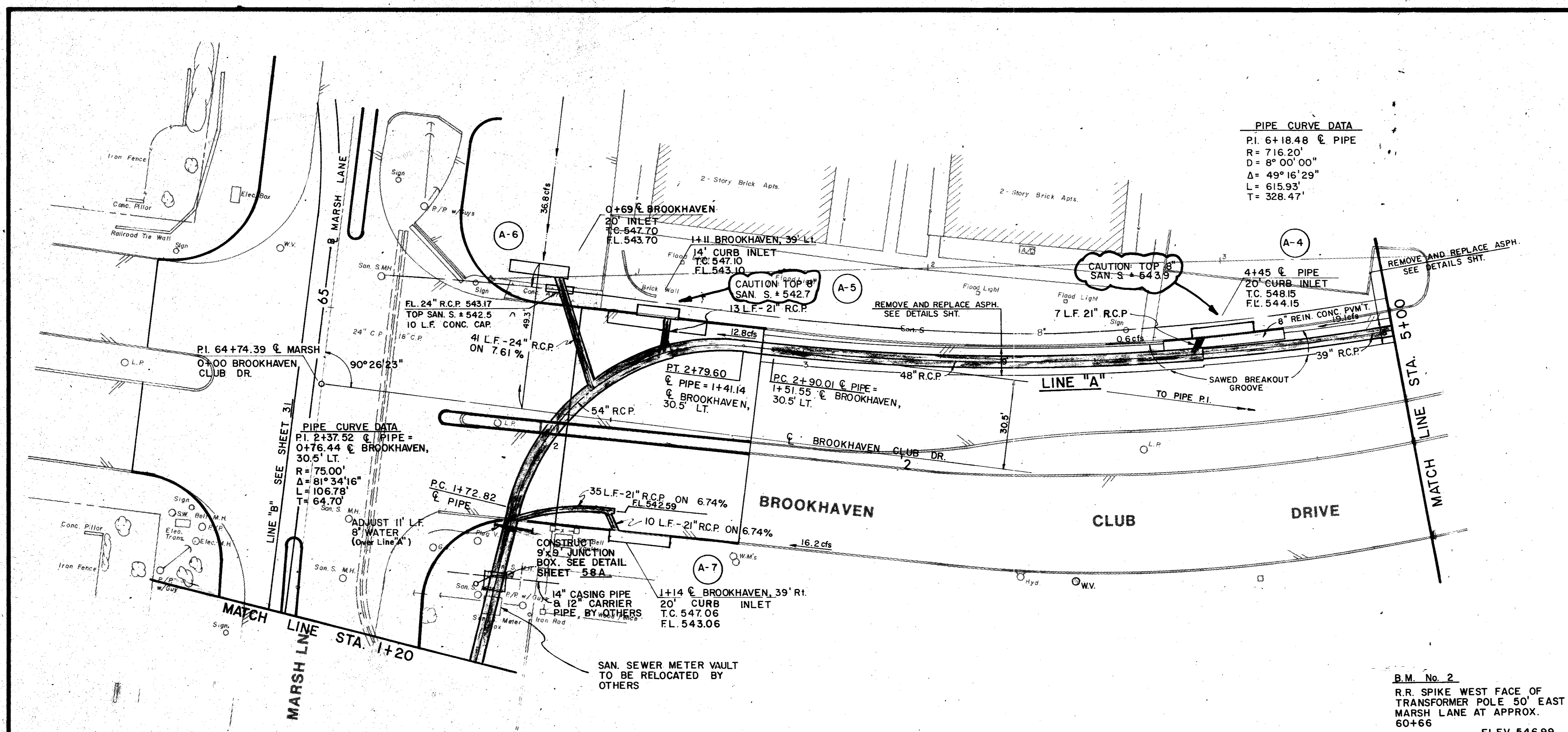
WOODED CREEK ESTATES

B.M. No. 2  
R.R. SPIKE WEST FACE OF  
TRANSFORMER POLE 50' EAST  
MARSH LANE AT APPROX. 60+66  
ELEV. 546.99



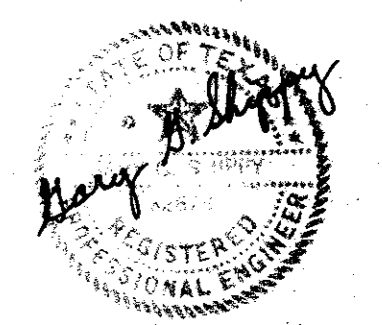
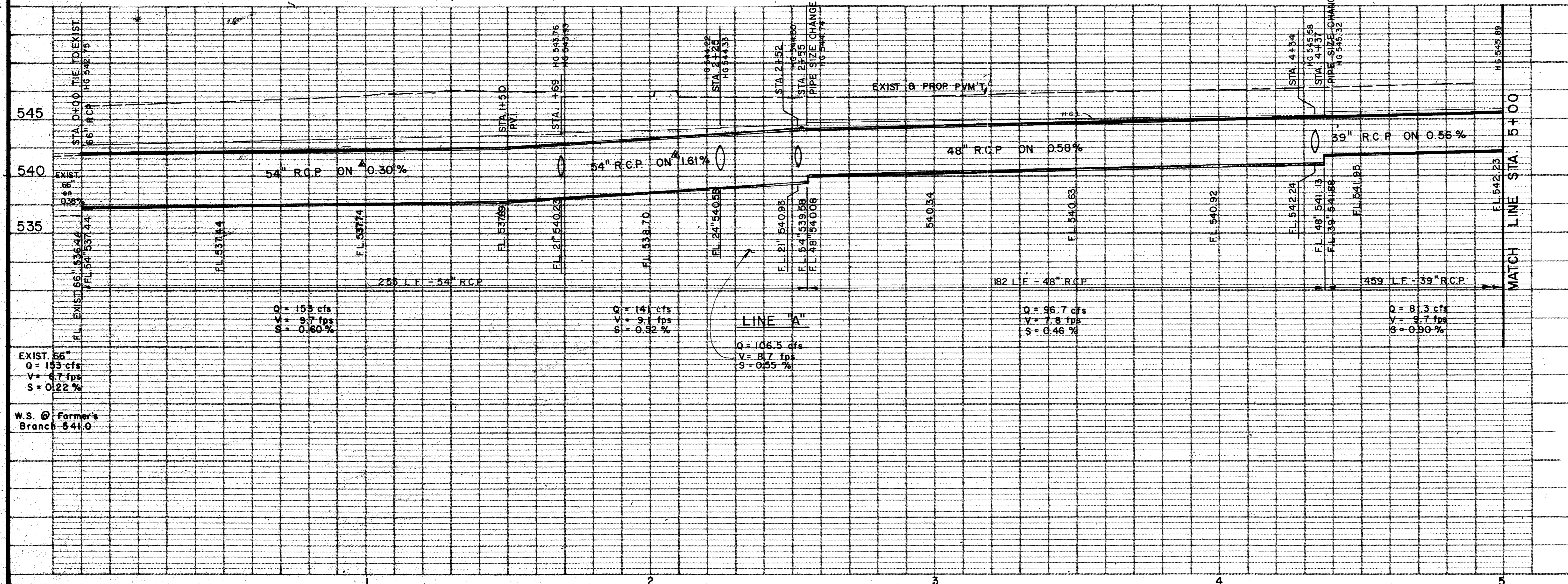
AS BUILTS 11-22-83

4			
3			
2			
1	5/82	AS PER ADDENDUM NO. 1, ART. 7 & 13	
NO.	DATE	REVISION	APPROV.
<b>CITIES OF ADDISON AND FARMERS BRANCH, TEXAS</b>			
<b>MARSH LANE</b>			
BROOKHAVEN CLUB DRIVE TO BELT LINE ROAD			
<b>DRAINAGE PLAN - LINES "A" &amp; "B"</b>			
STA. 0+00 TO 1+20 LINE "A" STA. 59+00 TO STA. 63+50 LINE "B"			
Turner Collie & Braden Inc.			
Unit	PAL	Scale: Horz. 1" = 20' Vert. 1" = 5'	Date FEB. 1982
Designer	GGG	Checked	GGG
Drawn	LJK	Approved	PAL
		Job No. 6042-010	Contract
		Sheet 28	of 66



ITEM	DESCRIPTION	UNIT	QTY.
310	Prime Coat (MC-30)	Gal	54
340&SP	HMAC (C1 A Ty D)	Ton	24
340&SP	HMAC (C1 A Ty B)	Ton	71
360&SP	8" Reinf Conc Pmnt	S.Y.	20
360&SP	6" Mono Curb	L.F.	20
465&SP	21" RCP	L.F.	65
465&SP	24" RCP	L.F.	41
465&SP	39" RCP	L.F.	63
465&SP	48" RCP	L.F.	182
465&SP	54" RCP	L.F.	135
470&SP	14" Std Inlet	Each	1
470&SP	20" Std Inlet	Each	3

B.M. No. 2  
 R.R. SPIKE WEST FACE OF  
 TRANSFORMER POLE 50' EAST  
 MARSH LANE AT APPROX.  
 60+66  
 ELEV. 546.99



As BUILT 11-22-83

NO.	DATE	REVISION	APPROV.
4			
3	8/82	AS PER CHANGE ORDER NO. 4.	
2	7/82	SLOPE ON 54" R.C.P.	
1	5/82	AS PER APPENDUM NO. 1, ART. 7.	

**CITIES OF ADDISON AND FARMERS BRANCH, TEXAS**

**MARSH LANE**  
 BROOKHAVEN CLUB DRIVE TO BELT LINE ROAD

**DRAINAGE PLAN - LINE "A"**  
 STA. 1+20 TO STA. 5+00

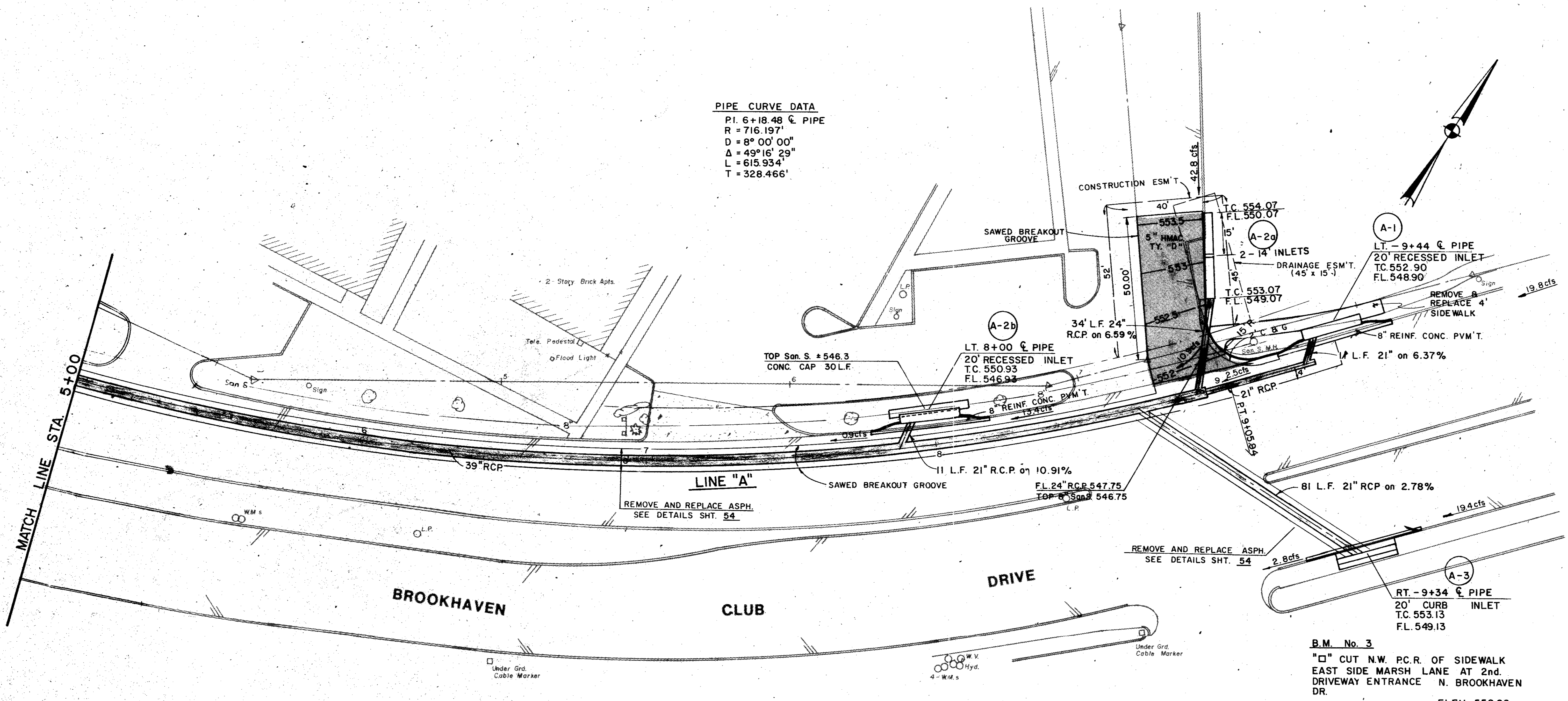
**Turner Collier & Braden Inc.**

UNN PAL	Scale: Horiz. 1" = 20' Vert. 1" = 5'	Date FEB. 1982
Design: GGS	Checked: GGS	Job No. 6042-010 Contract
Drawn: LJK	Approved: PAL	Sheet 29 of 66

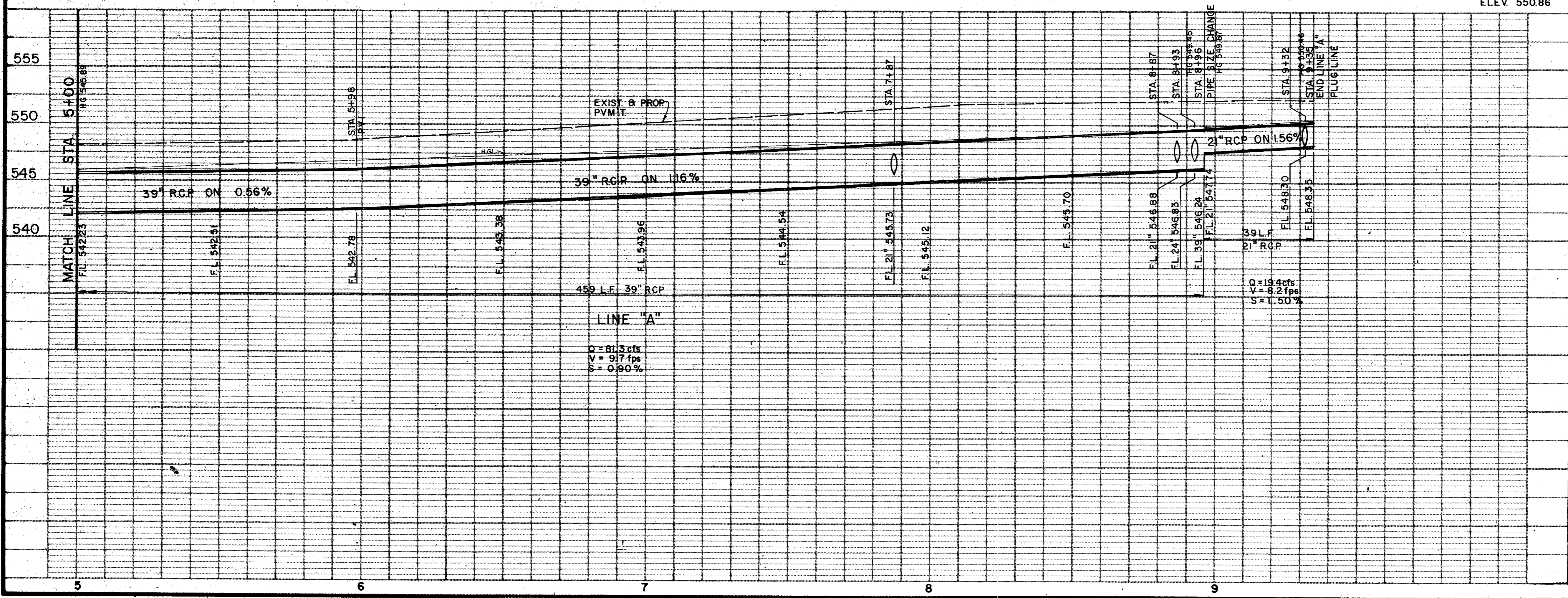
**PIPE CURVE DATA**  
 P.I. 6+18.48 C PIPE  
 R = 716.197'  
 D = 8° 00' 00"  
 Δ = 49° 16' 29"  
 L = 615.934'  
 T = 328.466'

ITEM	DESCRIPTION	UNIT	QTY.
310	Prime Coat (MC-30)	Gal	152
340&SP	HMAC (C1 A Ty D)	Ton	88
340&SP	HMAC (C1 A Ty B)	Ton	156
360&SP	8" Rein Conc Pvmt	S.Y.	35
360&SP	6" Mono Curb	L.F.	60
465&SP	21" RCP	L.F.	143
465&SP	24" RCP	L.F.	34
465&SP	39" RCP	L.F.	396
470&SP	14" Std Inlet	Each	2
470&SP	20" Std Inlet	Each	3
522	Conc Curb & Gutter	L.F.	57
524	4" Conc Sidewalk	S.Y.	27
SS-13	Misc. San. Sewer Adj.	Each	1

**NOTE:**  
 PAVEMENT REPLACEMENT ON BROOKHAVEN CLUB DR. TO BE 2" HMAC TYPE 'B' ON 6" HMAC TYPE 'D' AND ON DRIVE TO BE 5" HMAC TYPE 'D'.  
 INLET RECEPTION TO BE 8" REINF CONC PVM'T. WITH 6" MONOLITHIC CURB AS PER DETAILS.



**B.M. No. 3**  
 "C" CUT NW. P.C.R. OF SIDEWALK EAST SIDE MARSH LANE AT 2nd DRIVEWAY ENTRANCE N. BROOKHAVEN DR.  
 ELEV. 550.86



AS BUILTS 11-22-83

4			
3			
2			
1	5/82	AS PER ADDENDUM NO. 1, ART. 7.	
NO.	DATE	REVISION	APPROV.

**CITIES OF ADDISON AND FARMERS BRANCH, TEXAS**

**MARSH LANE**  
 BROOKHAVEN CLUB DRIVE TO BELT LINE ROAD

**DRAINAGE PLAN - LINE "A"**  
 STA. 5+00 TO END LINE "A"

**TurnerCollie & Braden Inc.**

Unit: PAL	Scale: Horiz. 1" = 20' Vert. 1" = 5'	Date: FEB. 1982
Designed: GGS	Checked: GGS	Job No. 6042-010 Contract
Drawn: LJK	Approved: PAL	Sheet 30 of 66



BROOKHAVEN ESTATES NO. 1

LINE 'B' CURVE DATA

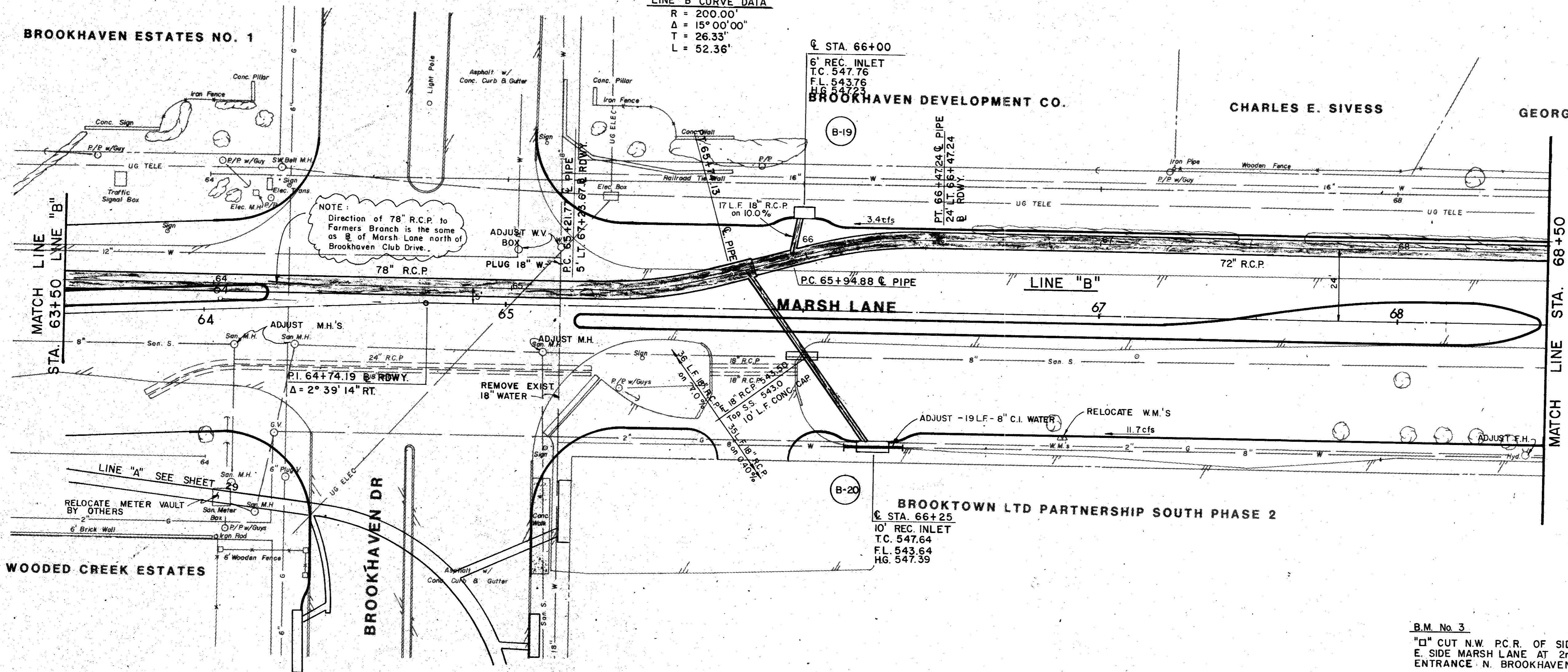
R = 200.00'  
 Δ = 15° 00' 00"  
 T = 26.33'  
 L = 52.36'

☉ STA. 66+00  
 6' REC. INLET  
 T.C. 547.76  
 F.L. 543.76  
 H.G. 547.23  
 BROOKHAVEN DEVELOPMENT CO.

CHARLES E. SIVESS

GEORGE BIXLER

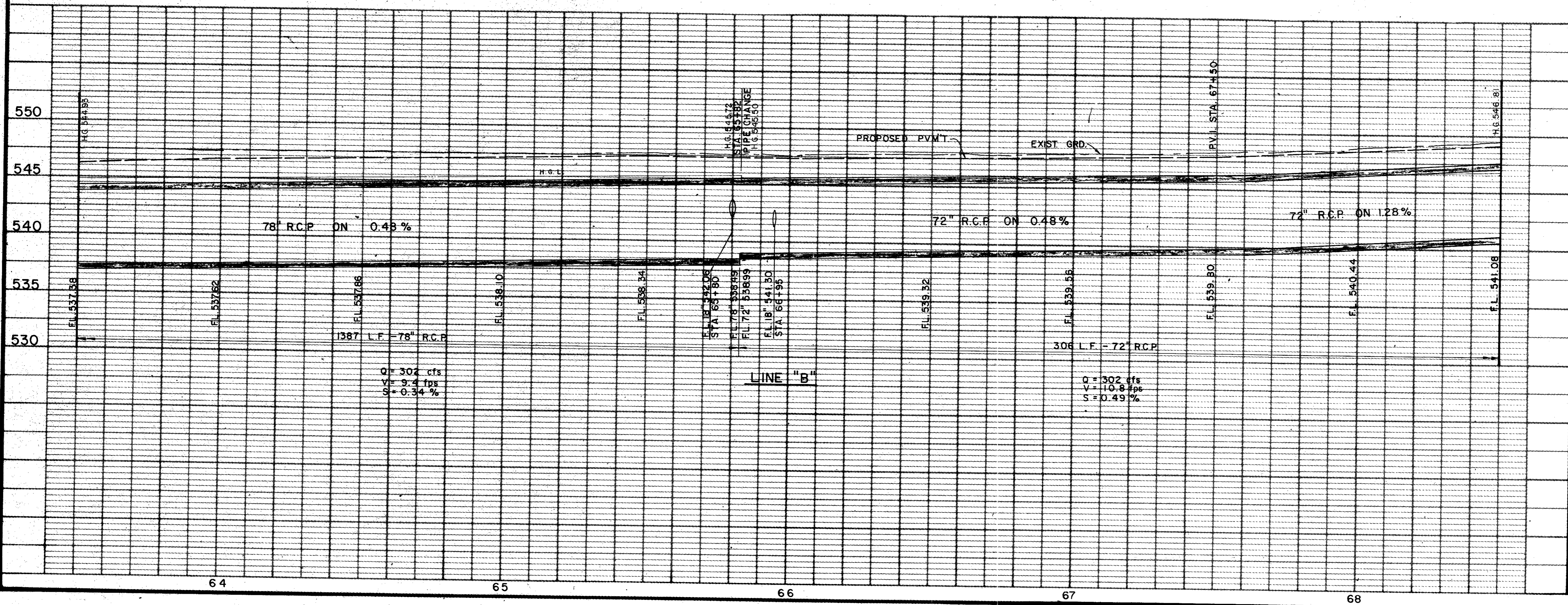
ITEM	DESCRIPTION	UNIT	QTY.
465&SP	18" RCP	L.F.	88
465&SP	72" RCP	L.F.	268
465&SP	78" RCP	L.F.	232
470&SP	6" Std Inlet	Each	1
470&SP	10" Std Inlet	Each	1
SS-2	8" Water Main Adj.	L.F.	19
SS-6	Adj Water Valve Box	Each	2
SS-8	Relocate Water Main	Each	2
SS-10	Fire Hydrant Vert Adj	Each	1
SS-13	Misc. San Sewer Adj	Each	3



NOTE: Direction of 78" R.C.P. to Farmers Branch is the same as of Marsh Lane north of Brookhaven Club Drive.

☉ STA. 66+25  
 10' REC. INLET  
 T.C. 547.64  
 F.L. 543.64  
 H.G. 547.39  
 BROOKTOWN LTD PARTNERSHIP SOUTH PHASE 2

B.M. No. 3  
 "□" CUT N.W. P.C.R. OF SIDEWALK  
 E. SIDE MARSH LANE AT 2nd. DRWY.  
 ENTRANCE N. BROOKHAVEN DR.  
 ELEV. 550.86



As BUILTS 11-22-83

NO.	DATE	REVISION	APPROV.
4			
3			
2			
1			

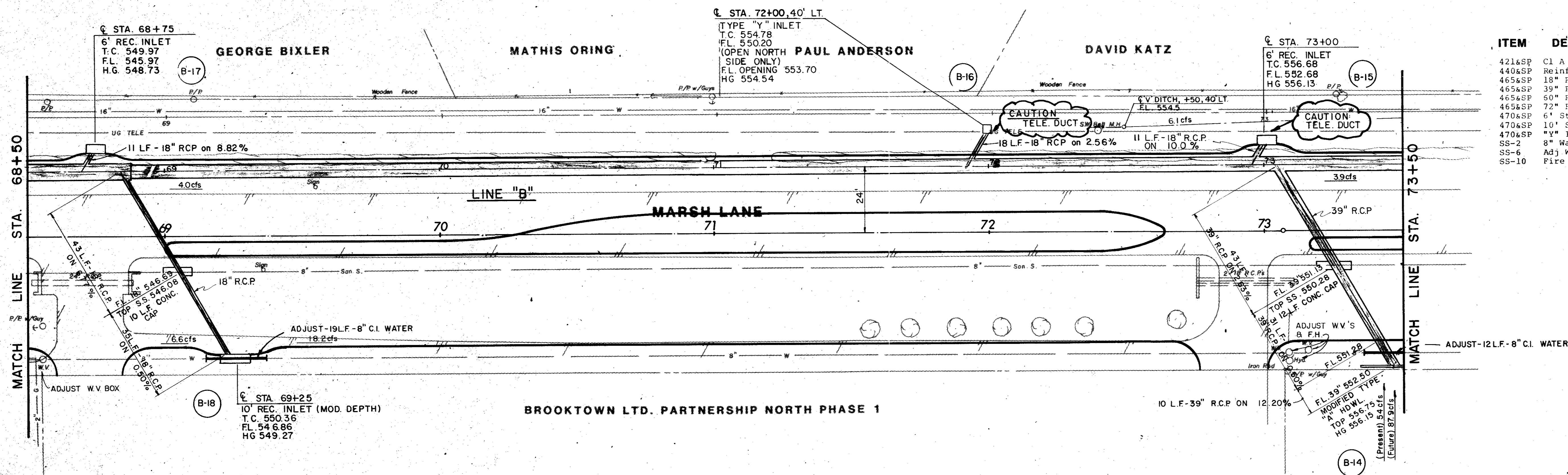
**CITIES OF ADDISON AND FARMERS BRANCH, TEXAS**

**MARSH LANE**  
 BROOKHAVEN CLUB DRIVE TO BELT LINE ROAD

**DRAINAGE PLAN - LINE "B"**  
 STA. 63+50 TO STA. 68+50

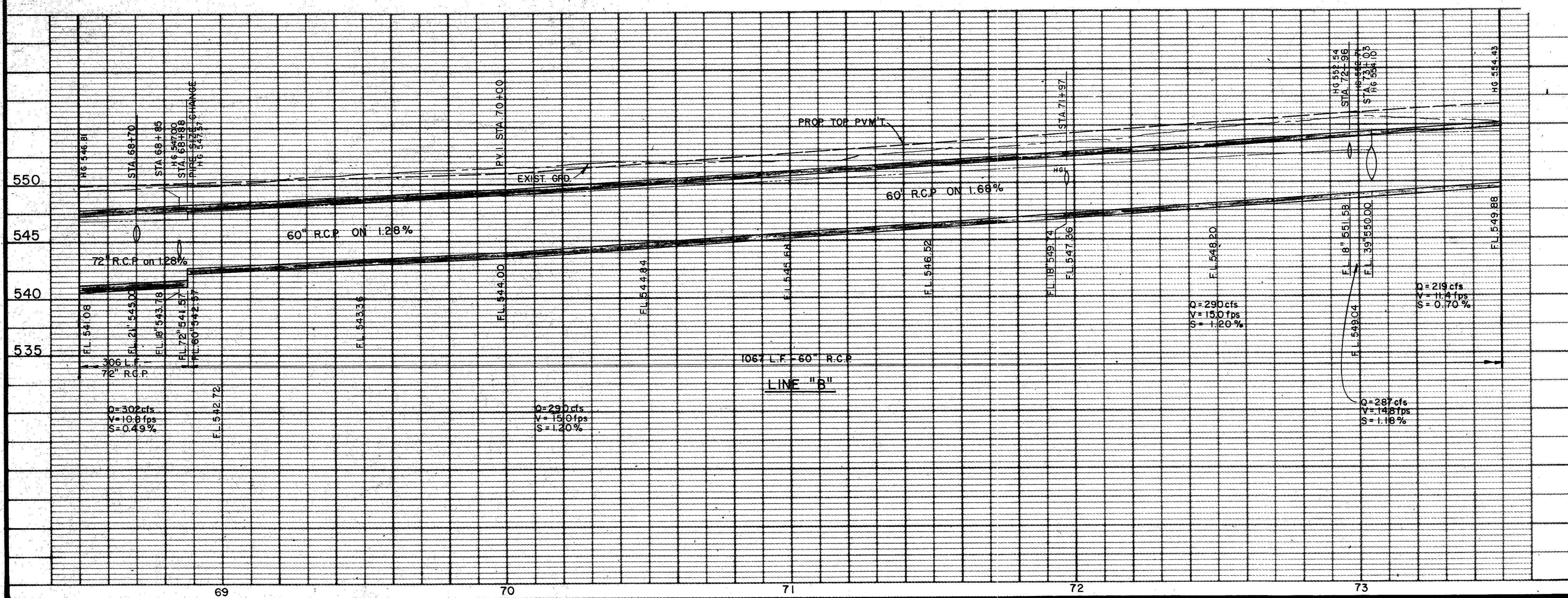
Turner Collier & Braden Inc.

Unit	PAL	Scale	Horz. 1" = 20' Vert. 1" = 5'	Date	FEB. 1982
Design	GG5	Checked	GG5	Job No.	6042-010
Drawn	LJK	Approved	PAL	Sheet	31 of 66



ITEM	DESCRIPTION	UNIT	QTY.
421&SP	C1 A Conc(Headwalls)	C.Y.	4.6
440&SP	Reinf Steel	Lbs.	370
465&SP	18" RCP	L.F.	116
465&SP	39" RCP	L.F.	84
465&SP	50" RCP	L.F.	462
465&SP	72" RCP	L.F.	38
470&SP	6" Std Inlet	Each	1
470&SP	10" Std Inlet	Each	1
470&SP	"Y" Inlet	Each	1
SS-2	8" Water Main Adj	L.F.	1
SS-6	Adj Water Valve Box	Each	2
SS-10	Fire Hydrant Vert Adj	Each	1

B.M. No. 4  
 R.R. SPIKE EAST FACE TRANSFORMER  
 POLE 50' WEST MARSH LANE  
 APPROX. 75+75  
 ELEV. 559.72



*As BUILTS 1/22-83*

NO.	DATE	REVISION	APPROV.

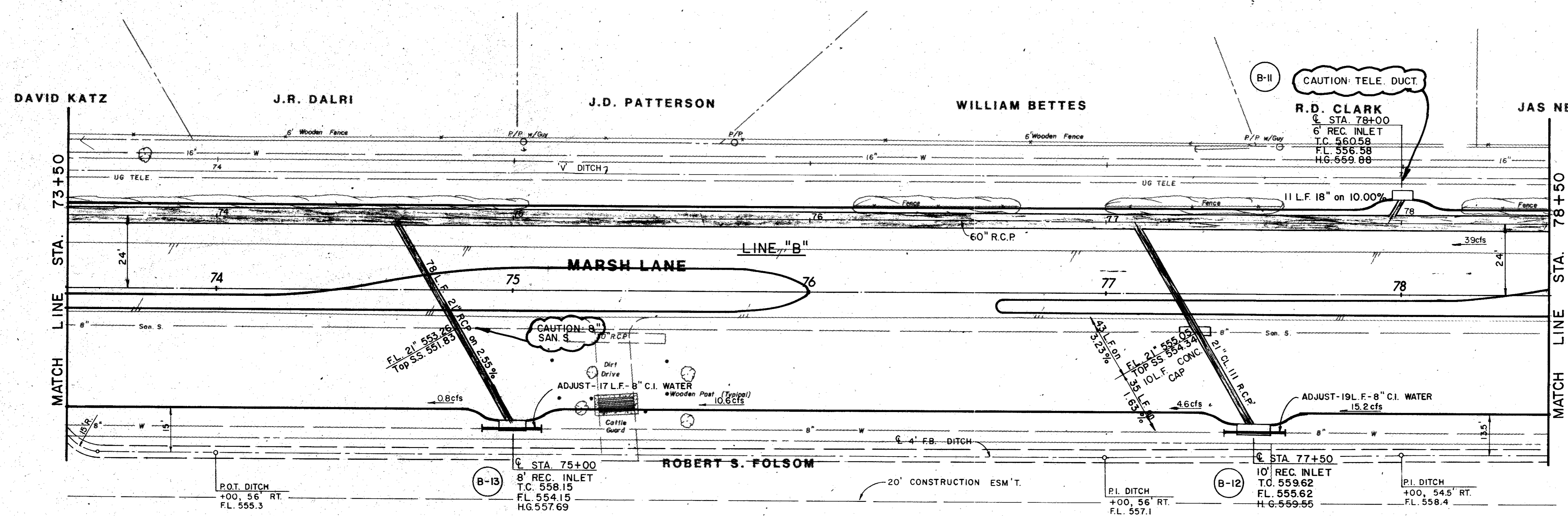
**CITIES OF ADDISON AND FARMERS BRANCH, TEXAS**

**MARSH LANE**  
 BROOKHAVEN CLUB DRIVE TO BELT LINE ROAD

**DRAINAGE PLAN - LINE "B"**  
 STA. 68+50 TO STA. 73+50

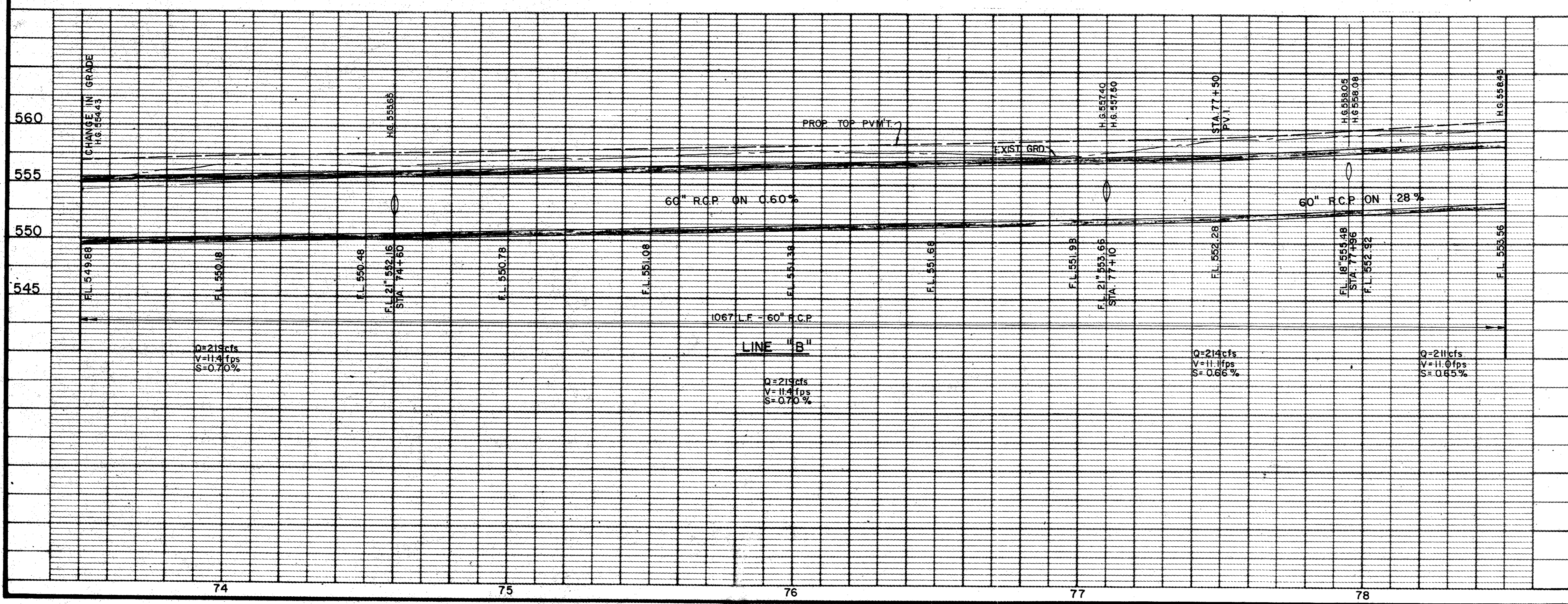
Turner Collier & Braden Inc.

Unit	PAL	Scale	As Sh.	Date	FEB. 1982
Designer	GGG	Checked	GGG	Job No.	6042-010
Drawn	LJK	Approved	PAL	Sheet	32 of 66



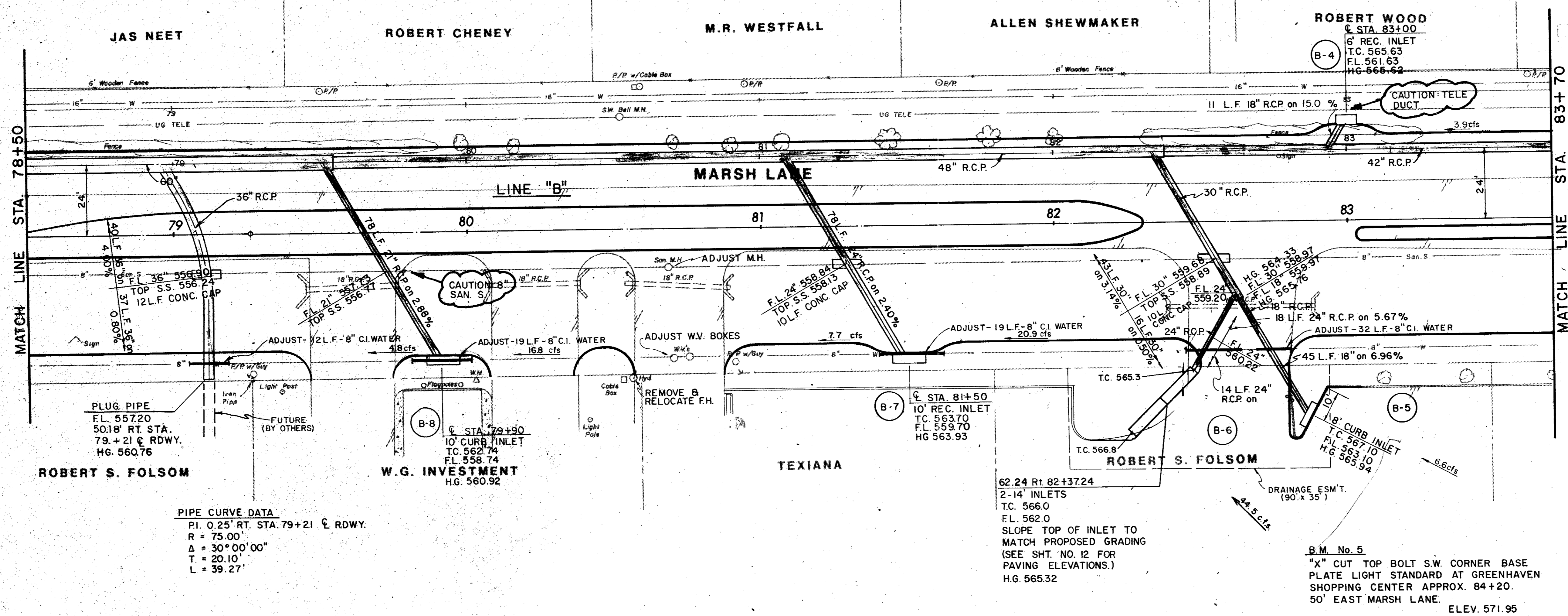
ITEM	DESCRIPTION	UNIT	QTY.
465&SP	18" RCP	L.F.	11
465&SP	21" RCP	L.F.	156
465&SP	60" RCP	L.F.	500
470&SP	6" Std Inlet	Each	1
470&SP	8" Std Inlet	Each	1
470&SP	10" Std Inlet	Each	1
SS-2	8" Water Main Adj.	L.F.	36

**B.M. No. 4**  
 R.R. SPIKE EAST FACE TRANSFORMER  
 POLE 50' WEST MARSH LANE  
 APPROX. 75+75  
 ELEV. 559.72



As BUILT 11-22-83

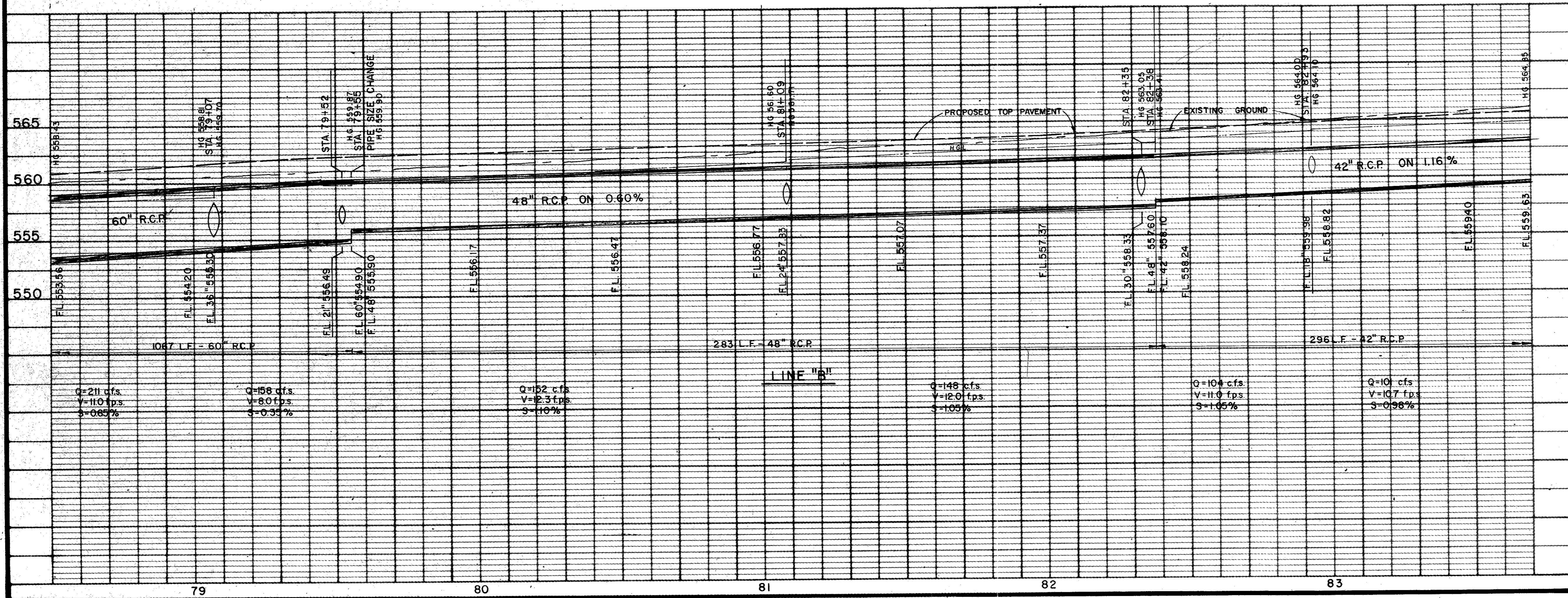
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NO.	DATE	REVISION	APPROV.
<b>CITIES OF ADDISON AND FARMERS BRANCH, TEXAS</b> <b>MARSH LANE</b> BROOKHAVEN CLUB DRIVE TO BELT LINE ROAD <b>DRAINAGE PLAN - LINE "B"</b> STA. 73+50 TO STA. 78+50 Turner Collie & Braden Inc.			
Unit	PAL	Scale	Horz. 1"=20' Vert. 1"=5'
Design	GGG	Checked	GGG
Drawn	LJK	Approved	PAL
Date	FEB. 1982	Job No.	6042-010
		Sheet	33 of 66



ITEM	DESCRIPTION	UNIT	QTY.
465&SP	18" RCP	L.F.	58
465&SP	21" RCP	L.F.	78
465&SP	24" RCP	L.F.	96
465&SP	30" RCP	L.F.	59
465&SP	36" RCP	L.F.	77
465&SP	42" RCP	L.F.	132
465&SP	48" RCP	L.F.	283
465&SP	60" RCP	L.F.	105
470&SP	6" Std Inlet	Each	1
470&SP	8" Std Inlet	Each	1
470&SP	10" Std Inlet	Each	2
470&SP	14" Std Inlet	Each	2
SS-2	8" Water Main Adj	L.F.	82
SS-6	Adj Water Valve Box	Each	2
SS-10	Fire Hydrant Vert Adj	Each	1
SS-13	Misc San Sewer Adj	Each	1

PIPE CURVE DATA  
 PI. 0.25' RT. STA. 79+21 C.R.D.WY.  
 R = 75.00'  
 Δ = 30°00'00"  
 T = 20.10'  
 L = 39.27'

B.M. No. 5  
 "X" CUT TOP BOLT S.W. CORNER BASE PLATE LIGHT STANDARD AT GREENHAVEN SHOPPING CENTER APPROX. 84+20. 50' EAST MARSH LANE. ELEV. 571.95



AS BUILTS 11-22-83

NO.	DATE	REVISION	APPROV.
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CITIES OF ADDISON AND FARMERS BRANCH, TEXAS

**MARSH LANE**  
 BROOKHAVEN CLUB DRIVE TO BELT LINE ROAD

**DRAINAGE PLAN - LINE "B"**  
 STA. 78-50 TO STA. 83-70

Turner Collie & Braden Inc.

Unit: PAL	Scale: Horiz. Vert.	Date: FEB. 1982
Designed: GGS	Checked: GGS	Job No. 6042-010
Drawn: LJK	Approved: PAL	Sheet 34 of 66

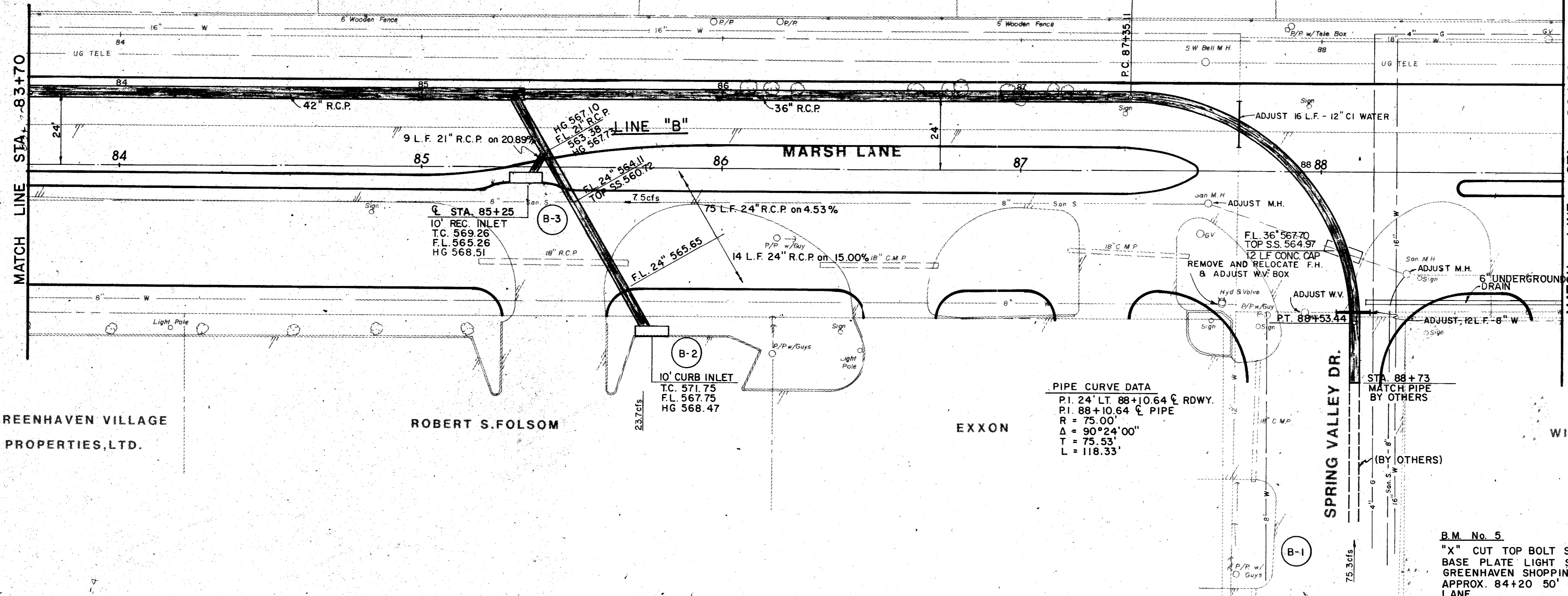
A.T. HINGLE

DAVID R. MURRY

DAVID L. SMART

DAVID GAUGER

LOYD CAMPBELL



ITEM	DESCRIPTION	UNIT	QTY.
465&SP	21" RCP	L.F.	9
465&SP	24" RCP	L.F.	89
465&SP	36" RCP	L.F.	183
470&SP	10' Std Inlet	Each	2
SS-2	8" Water Main Adj	L.F.	12
SS-3	12" Water Main Adj	L.F.	16
SS-6	Adj Water Valve Box	Each	2
SS-9	Fire Hydrant Removal	Each	1
SS-13	Misc. San Sewer Adj	Each	2

GREENHAVEN VILLAGE PROPERTIES, LTD.

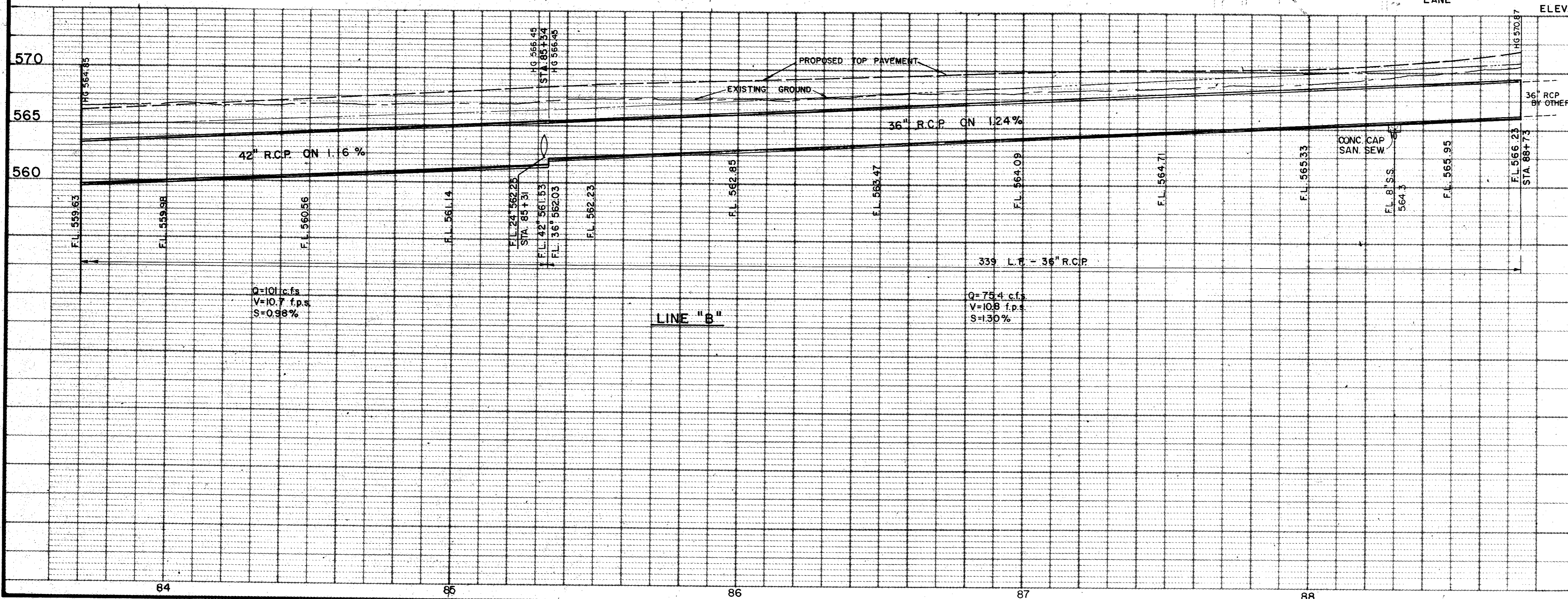
ROBERT S. FOLSOM

EXXON

WILLIAM J. HARRELL

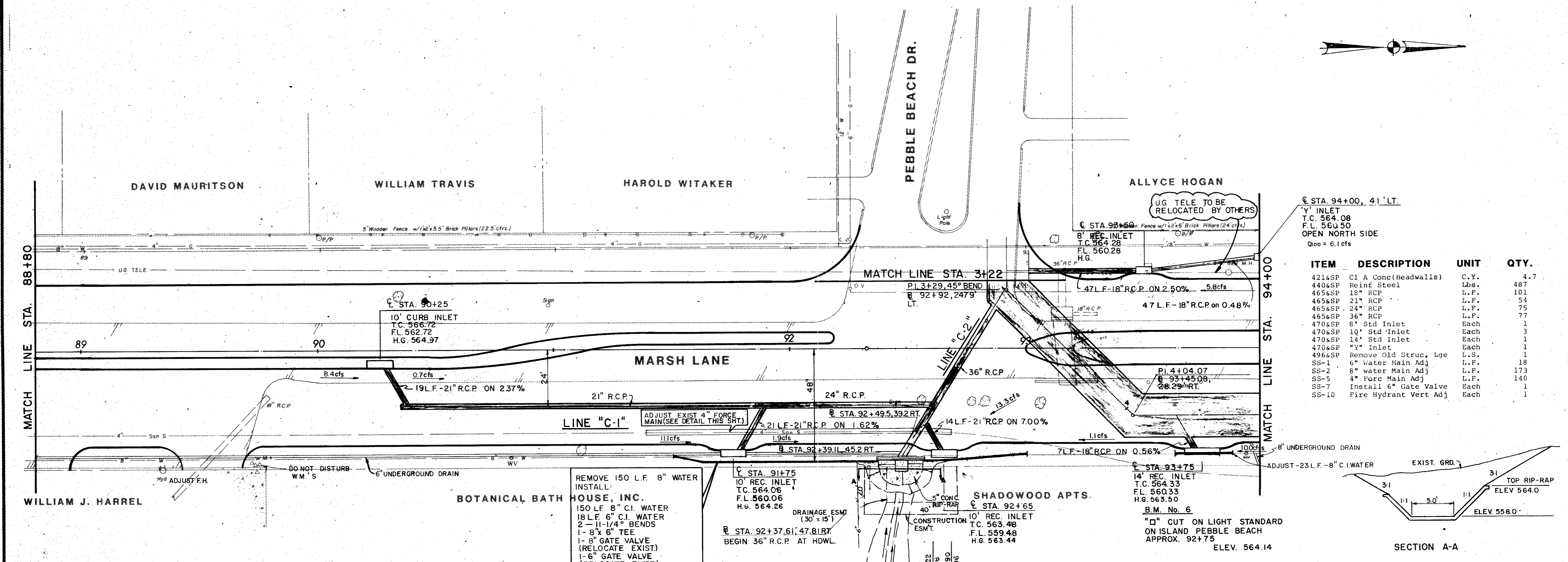
PIPE CURVE DATA  
 P.I. 24' LT 88+10.64 C RDWY.  
 P.I. 88+10.64 C PIPE  
 R = 75.00'  
 Δ = 90°24'00"  
 T = 75.53'  
 L = 118.33'

B.M. No. 5  
 "X" CUT TOP BOLT SW CORNER  
 BASE PLATE LIGHT STANDARD AT  
 GREENHAVEN SHOPPING CENTER  
 APPROX. 84+20 50' EAST MARSH  
 LANE  
 ELEV. 571.95



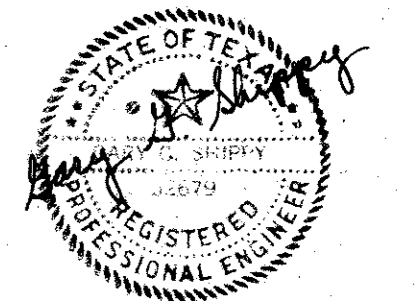
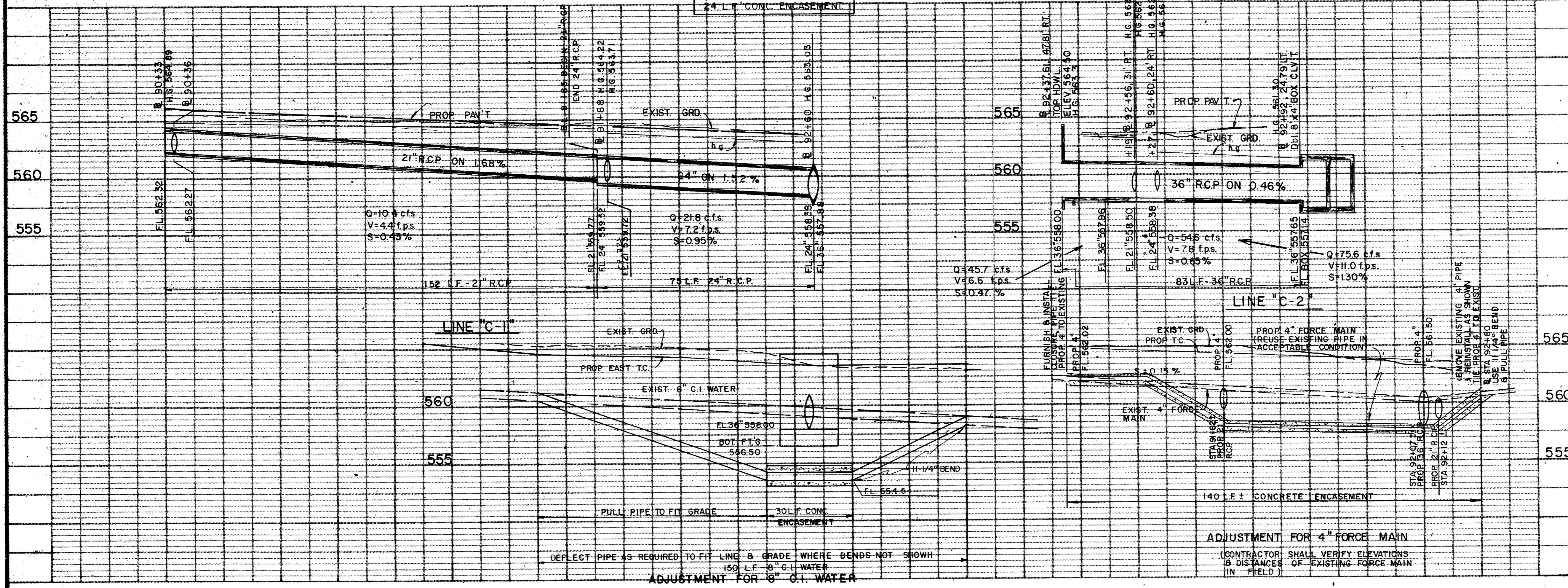
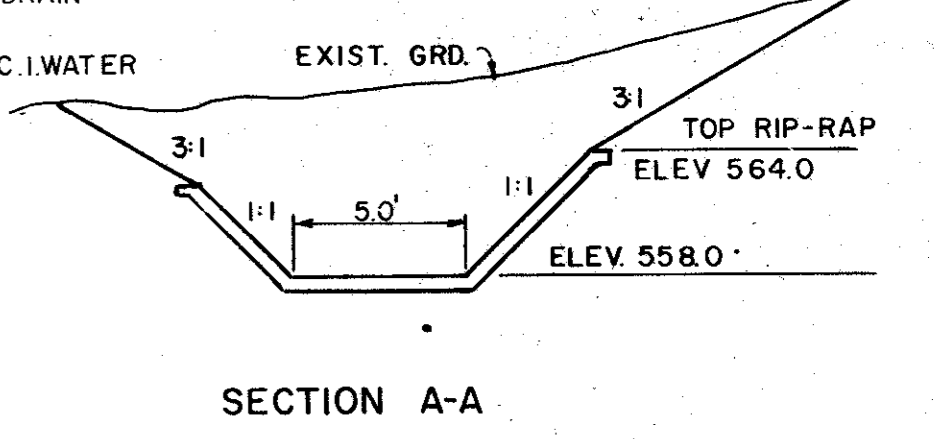
AS BUILTS 11-22-83

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NO.	DATE	REVISION	APPROV.
<b>CITIES OF ADDISON AND FARMERS BRANCH, TEXAS</b> <b>MARSH LANE</b> BROOKHAVEN CLUB DRIVE TO BELT LINE ROAD <b>DRAINAGE PLAN - LINE "B"</b> STA. 83+70 TO STA. 88+73 Turner Collier & Braden Inc.			
UNR PAL	Scale: Horz. 1"=20' Vert. 1"=5'	Date FEB. 1982	
Design GGS	Checked GGS	Job No. 6042-010	Contract
Drawn LJK	Approved PAL	Sheet 35	of 66



ITEM	DESCRIPTION	UNIT	QTY.
421&SP	Cl A Conc(Headwalls)	C.Y.	4.7
440&SP	Reinf Steel	Lbs.	487
465&SP	18" RCP	L.F.	101
465&SP	21" RCP	L.F.	54
465&SP	24" RCP	L.F.	75
465&SP	36" RCP	L.F.	77
470&SP	8" Std Inlet	Each	1
470&SP	10" Std Inlet	Each	3
470&SP	14" Std Inlet	Each	1
470&SP	"y" Inlet	Each	1
496&SP	Remove Old Struc, Lge	L.S.	1
SS-1	6" Water Main Adj	L.F.	18
SS-2	8" Water Main Adj	L.F.	173
SS-5	4" Forc Main Adj	L.F.	140
SS-7	Install 6" Gate Valve	Each	1
SS-10	Fire Hydrant Vert Adj	Each	1

REMOVE 150 L.F. 8" WATER  
INSTALL:  
150 L.F. 8" C.I. WATER  
18 L.F. 6" C.I. WATER  
2 - 11-1/4" BENDS  
1 - 8" X 6" TEE  
1 - 8" GATE VALVE  
(RELOCATE EXIST.)  
1 - 6" GATE VALVE  
(RELOCATE EXIST.)  
24 L.F. CONC. ENCASEMENT



As BUILTS 11-22-83

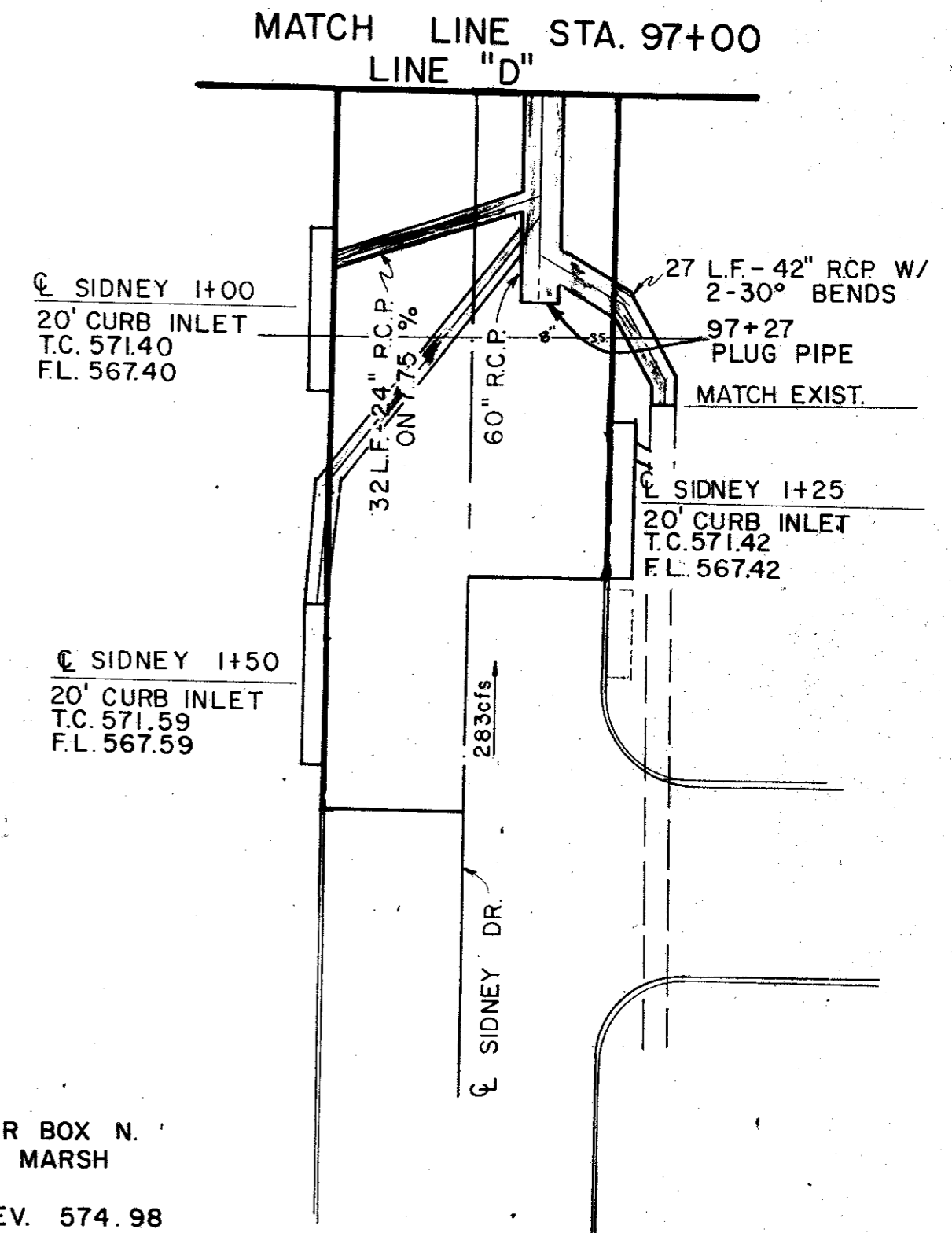
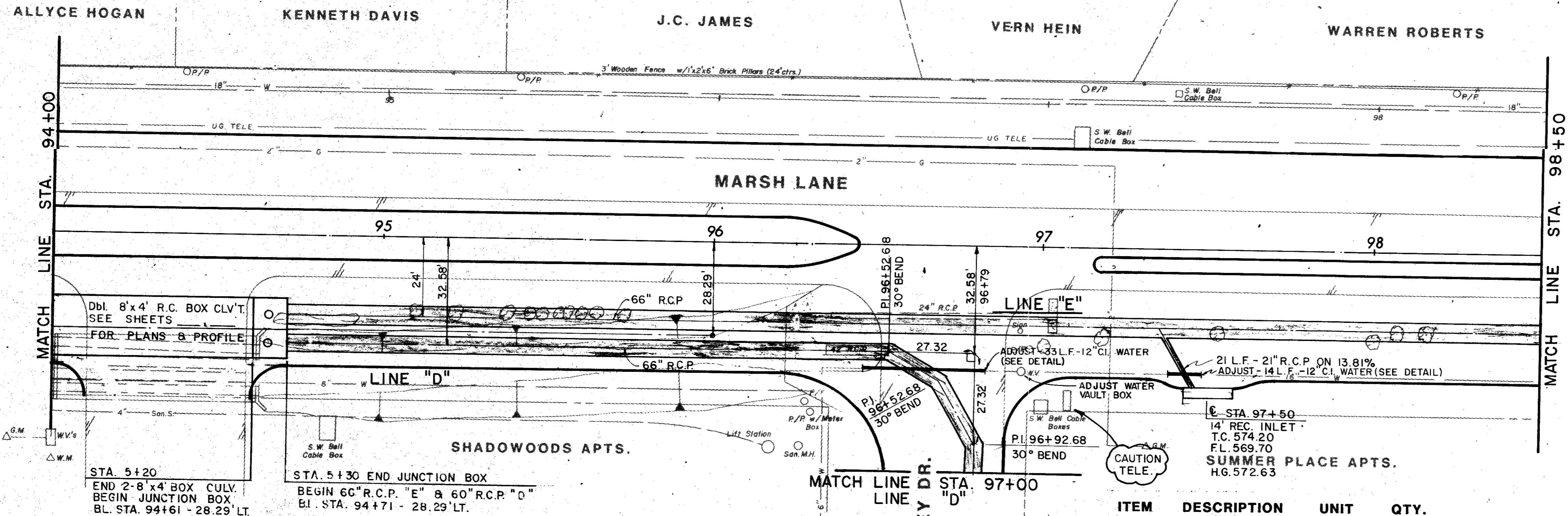
NO.	DATE	REVISION	APPROV.
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1	11-19-82	RE-ALIGNMENT STORM SEWER LINE "C-2"	G.G.S.

CITIES OF ADDISON AND FARMERS BRANCH, TEXAS  
**MARSH LANE**  
BROOKHAVEN CLUB DRIVE TO BELT LINE ROAD  
**DRAINAGE PLAN**

Turner Collier & Braden Inc.

Unit PAL	Scale: Horiz. 1" = 20' Vert. 1" = 5'	Date FEB. 1982
Checked GGS	Checked GGS	Job No. 6042-010 Contract
Drawn LJK	Approved PAL	Sheet 36 of 66

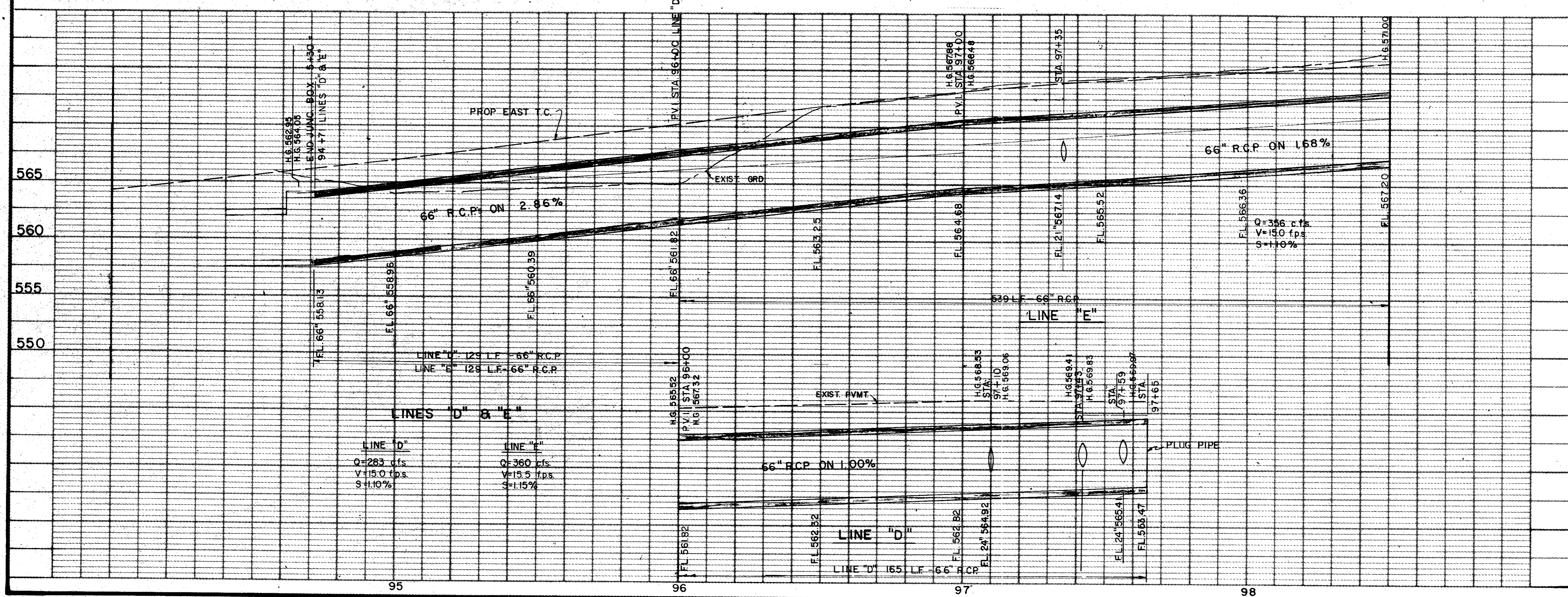
ADJUSTMENT FOR 4" FORCE MAIN  
(CONTRACTOR SHALL VERIFY ELEVATIONS  
AND DISTANCES OF EXISTING FORCE MAIN  
IN FIELD)



ITEM	DESCRIPTION	UNIT	QTY.
421&SP	Cl A Conc(Junc. Box)	C.Y.	18.4
440&SP	Reinf Steel	Lbs.	3,412
465&SP	21" RCP	L.F.	21
465&SP	24" RCP	L.F.	76
465&SP	42" RCP	L.F.	27
465&SP	66" RCP	L.F.	673
470&SP	14" Std Inlet	Each	1
470&SP	20" Std Inlet	Each	1
SS-3	12" Water Main Adj	L.F.	47
SS-6	Adj Water Valve Box	Each	1

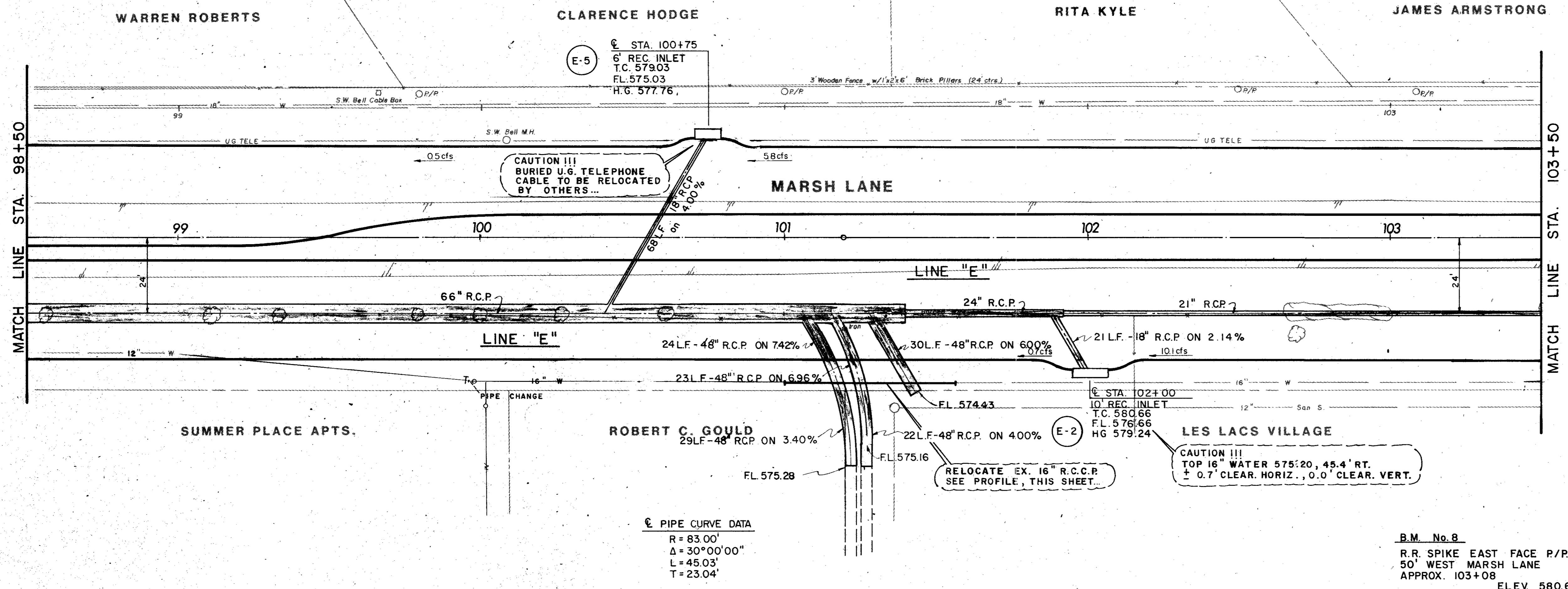
B.M. No. 7  
 N.W. CORNER CONC. WATER BOX N.  
 SIDE SIDNEY ST. 50' E. MARSH  
 LANE APPROX. 96+75  
 ELEV. 574.98

JUNCTION BOX MANHOLES  
 23.8' RT. @ 94+66 TOP 566.08  
 32.8' RT. @ 94+66 TOP 565.87



AS BUILTS 11-22-83

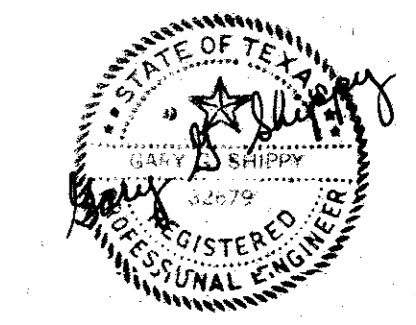
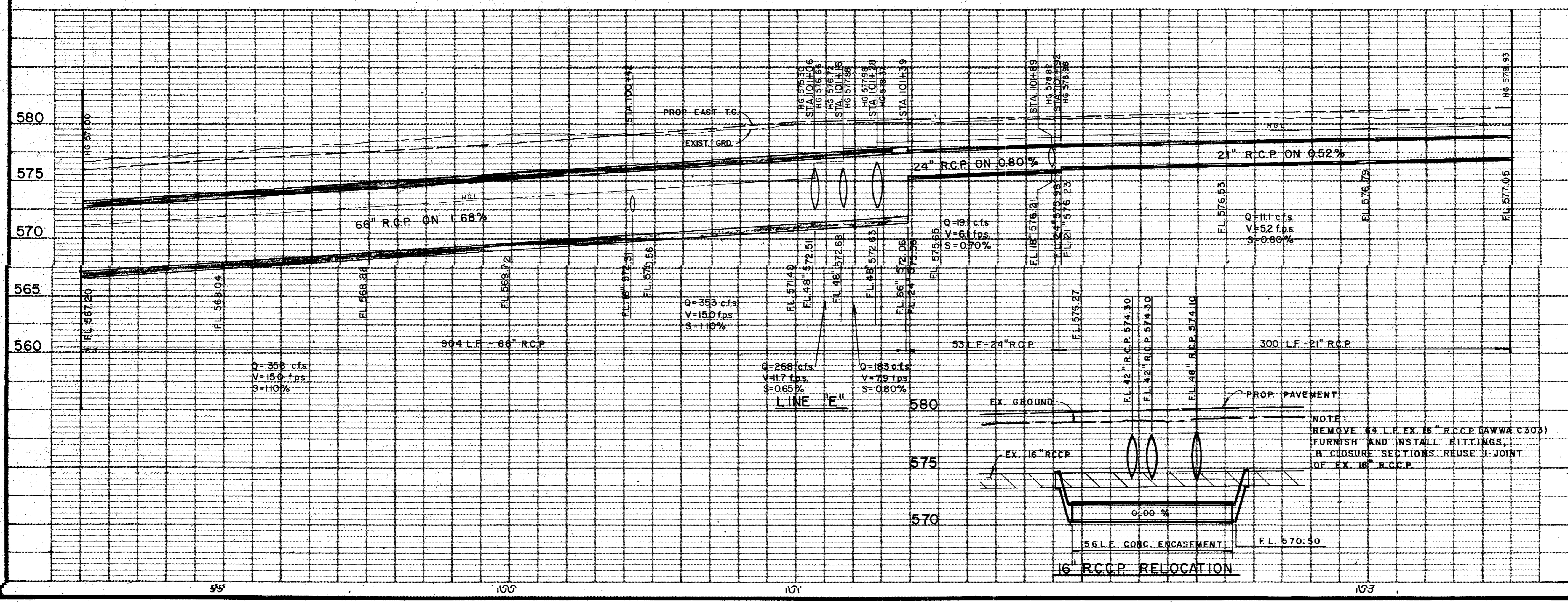
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NO.	DATE	REVISION	APPROV.
<b>CITIES OF ADDISON AND FARMERS BRANCH, TEXAS</b> <b>MARSH LANE</b> BROOKHAVEN CLUB DRIVE TO BELT LINE ROAD <b>DRAINAGE PLAN - LINES "D" &amp; "E"</b> STA. 94-00 TO STA. 97-65 LINE "D" STA. 94-00 TO STA. 98-50 LINE "E"			
Turner Collic & Braden Inc.			
Unit	PAL	Scale	Hor. 1" = 20' Vert. 1" = 5'
Designed	GGS	Checked	GGS
Drawn	LJK	Approved	PAL
		Date	FEB. 1982
		Job No.	6042-010
		Sheet	37 of 66



ITEM	DESCRIPTION	UNIT	QTY.
465&SP	15" RCP	L.F.	68
465&SP	21" RCP	L.F.	178
465&SP	24" RCP	L.F.	53
465&SP	42" RCP	L.F.	98
465&SP	48" RCP	L.F.	30
465&SP	66" RCP	L.F.	289
470&SP	6" Std Inlet	Each	1
470&SP	10" Std Inlet	Each	1
SS-4	16" RCCP Adj.	L.F.	64

PIPE CURVE DATA  
 R=83.00'  
 Δ=30°00'00"  
 L=45.03'  
 T=23.04'

B.M. No. 8  
 R.R. SPIKE EAST FACE P/P  
 50' WEST MARSH LANE  
 APPROX. 103+08  
 ELEV. 580.69



AS BUILTS 11-22-83

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NO.	DATE	REVISION	APPROV.
CITIES OF ADDISON AND FARMERS BRANCH, TEXAS <b>MARSH LANE</b> BROOKHAVEN CLUB DRIVE TO BELT LINE ROAD <b>DRAINAGE PLAN - LINE "E"</b> STA. 98+50 TO STA. 103+50 Turner Collier & Braden Inc.			
UNR PAL	Scale: Hor. 1" = 20' Vert. 1" = 5'	Date FEB. 1982	
Designed GGS	Checked GGS	Job No. 6042-010	Contract
Drawn LJK	Approved PAL	Sheet 38	of 66



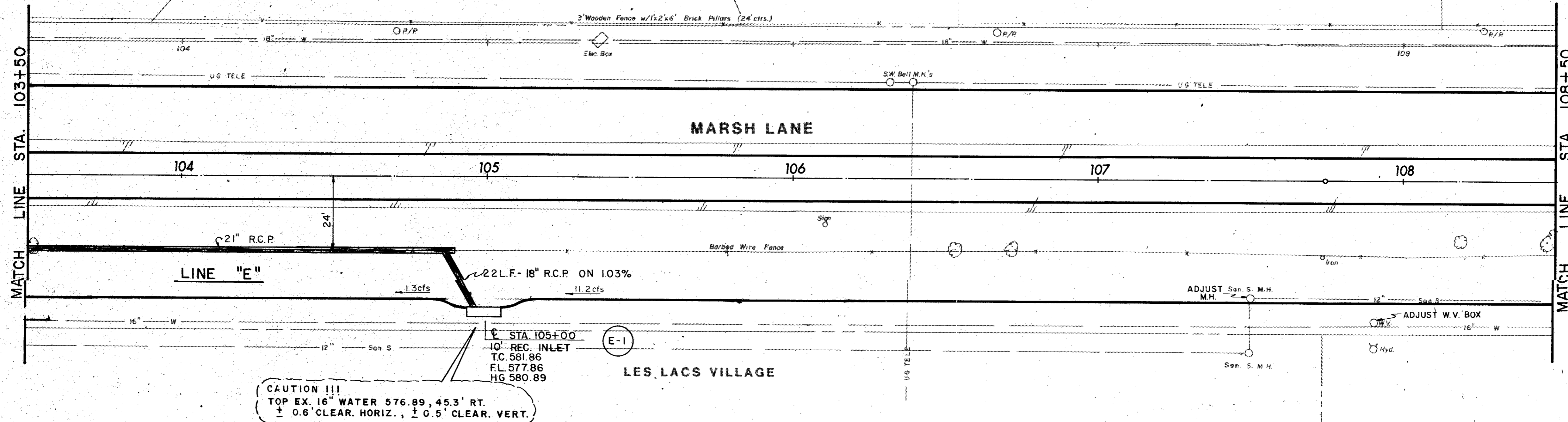


JAMES ARMSTRONG

CHARLES NIVEN

N.E. LEWIN

CHARLES WARREN

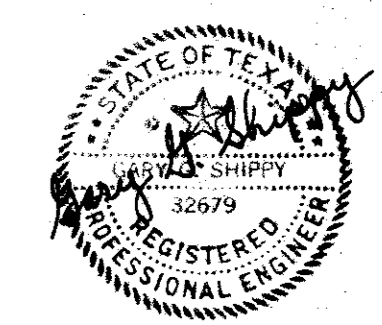
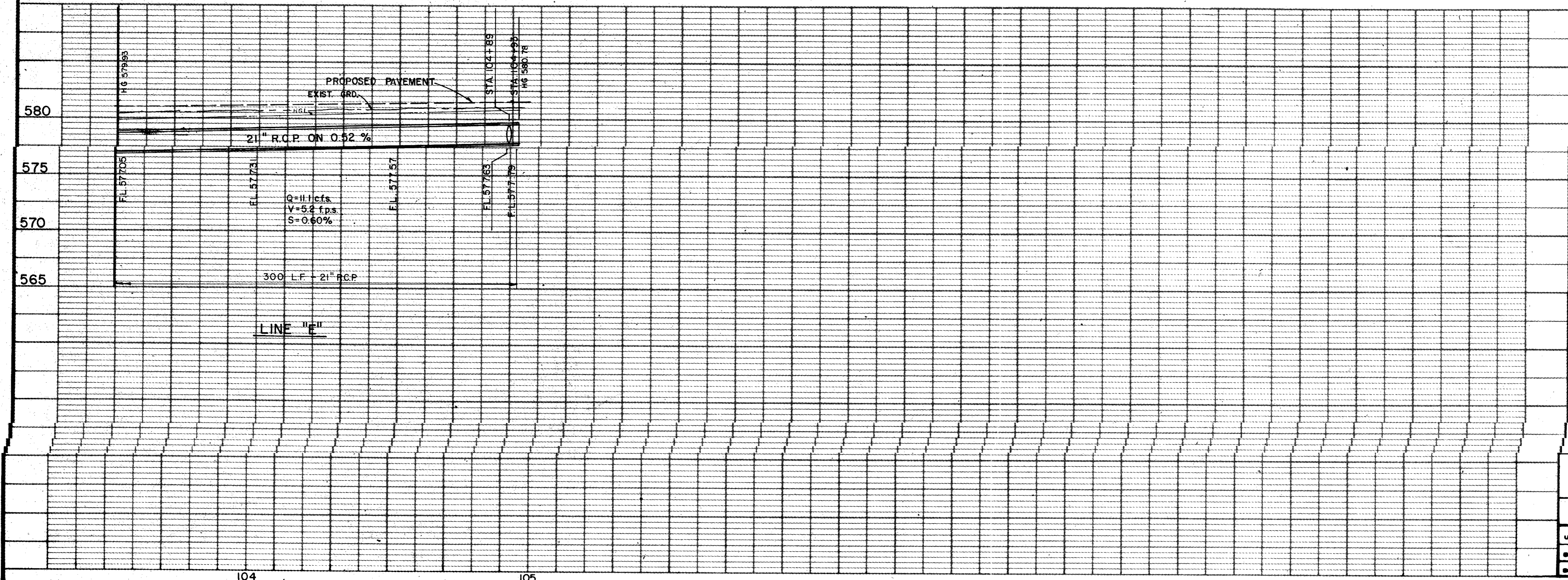


ITEM	DESCRIPTION	UNIT	QTY.
465&SP	21" RCP	L.F.	165
470&SP	10' Std Inlet	Each	1
SS-6	Adj Water Valve Box	Each	1
SS-13	Misc. San Sewer Adj	Each	1

**CAUTION !!!**  
 TOP EX. 16" WATER 576.89, 45.3' RT.  
 1/2" 0.6% CLEAR. HORIZ., 1/2" 0.5% CLEAR. VERT.

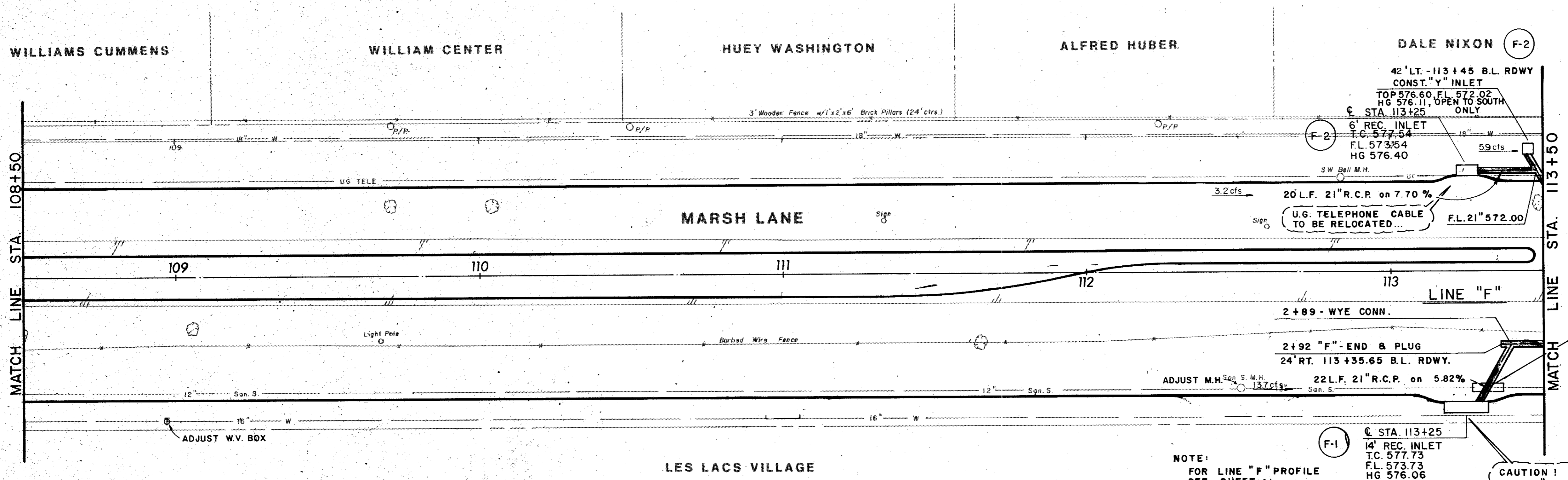
STA 105+00  
 10' REC. INLET  
 T.C. 581.86  
 F.L. 577.86  
 H.G. 580.89

B.M. No. 9  
 R.R. SPIKE EAST FACE P/P. 50'  
 WEST MARSH LANE APPROX. 109+70.  
 ELEV. 583.03



AS BUILTS 11-22-83

NO.	DATE	REVISION	APPROV.
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CITIES OF ADDISON AND FARMERS BRANCH, TEXAS <b>MARSH LANE</b> BROOKHAVEN CLUB DRIVE TO BELT LINE ROAD <b>DRAINAGE PLAN - LINE "E"</b> STA. 103-50 TO END Turner Collier & Braden Inc.			
Unit	PAL	Scale	Horz. 1" = 20' Vert. 1" = 5'
Date	FEB. 1982	Checked	GGG
Drawn	LJK	Approved	PAL
Job No.	6042-010	Sheet	39 of 66

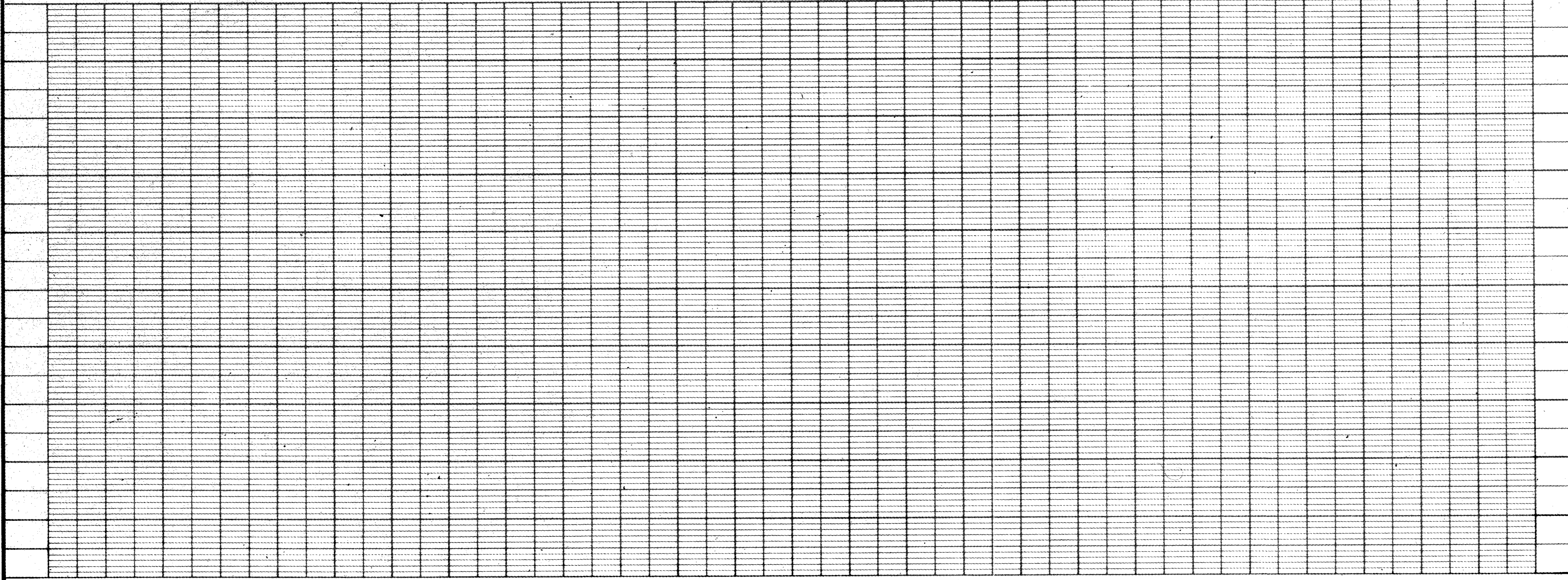


ITEM	DESCRIPTION	UNIT	QTY.
465&SP	21" RCP	L.F.	42
470&SP	6" Std Inlet	Each	1
470&SP	14" Std Inlet	Each	1
470&SP	*Y" Inlet	Each	1
SS-6	Adj Water Valve Box	Each	1
SS-13	Misc. San Sewer Adj	Each	1

NOTE:  
FOR LINE "F" PROFILE  
SEE SHEET 41

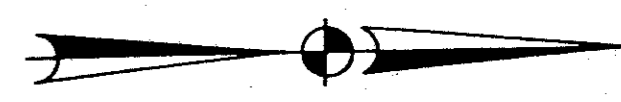
CAUTION!  
TOP 16" WATER 573.74, 46.2' RT.  
± 1.5' CLEAR. HORIZ., 0' CLEAR. VERT.

B.M. No. 9  
R.R. SPIKE EAST FACE P/P  
50' WEST MARSH LANE  
APPROX. 109+70  
ELEV. 583.03



AS BUILTS 11-22-83

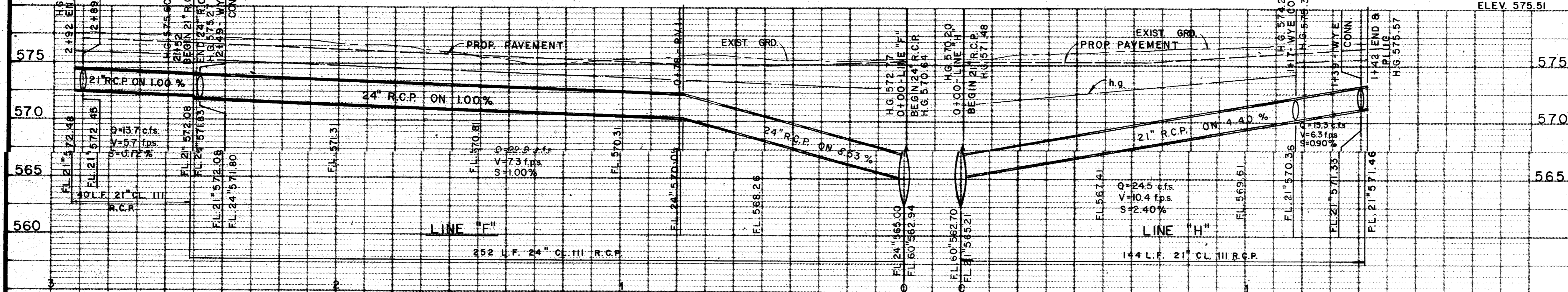
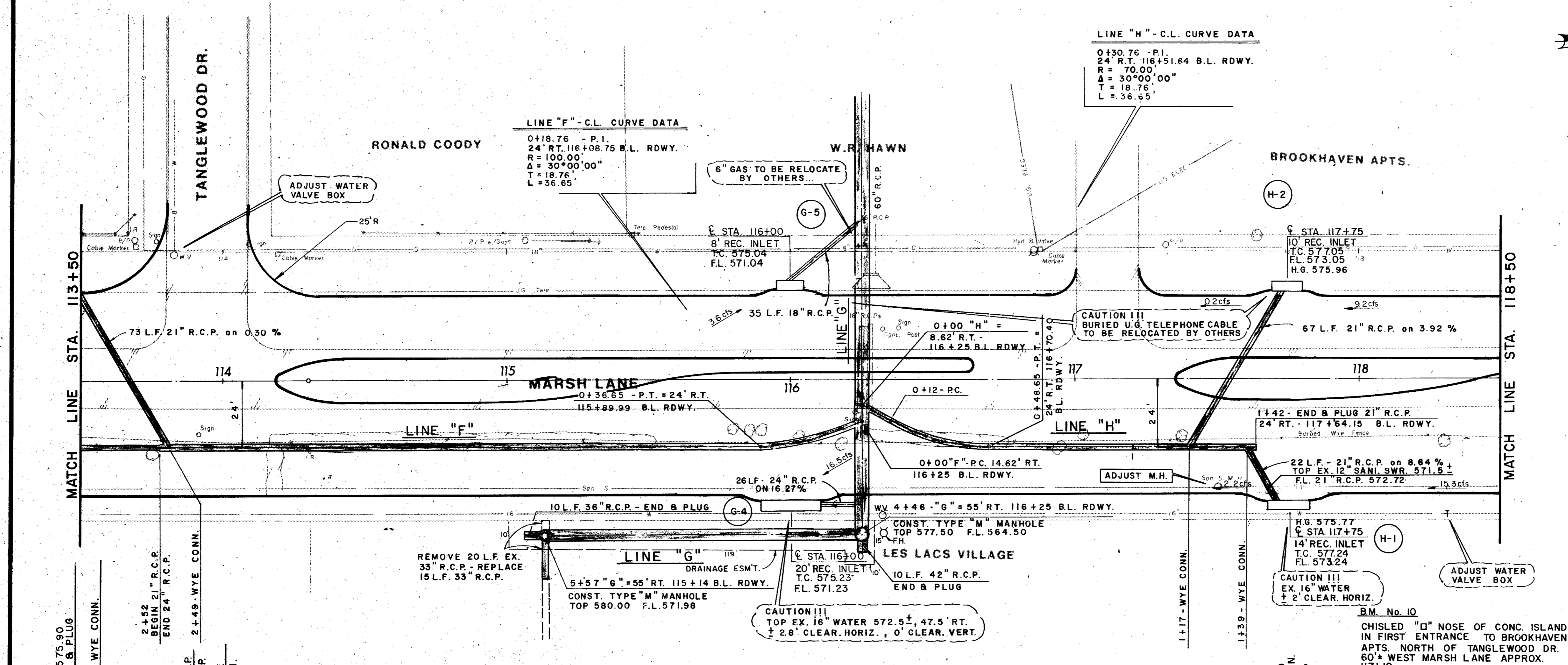
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NO.	DATE	REVISION	APPROV.
<b>CITIES OF ADDISON AND FARMERS BRANCH, TEXAS</b> <b>MARSH LANE</b> BROOKHAVEN CLUB DRIVE TO BELT LINE ROAD <b>DRAINAGE PLAN - LINE "F"</b>			
Turner Collier & Braden Inc.			
Unit	PAL	Scale: Horiz. 1"=20' Vert. 1"=5'	Date FEB. 1982
Checked	GGG	Checked	GGG
Drawn	LJK	Approved	PAL
		Job No.	6042-010
		Sheet	40 of 66



**LINE "H" - C.L. CURVE DATA**  
 0+30.76 - P.I.  
 24' R.T. 116+51.64 B.L. RDWY.  
 R = 70.00'  
 Δ = 30°00'00"  
 T = 18.76'  
 L = 36.65'

**LINE "F" - C.L. CURVE DATA**  
 0+18.76 - P.I.  
 24' R.T. 116+08.75 B.L. RDWY.  
 R = 100.00'  
 Δ = 30°00'00"  
 T = 18.76'  
 L = 36.65'

ITEM	DESCRIPTION	UNIT	QTY.
465&SP	18" RCP	L.F.	22
465&SP	21" RCP	L.F.	348
465&SP	24" RCP	L.F.	252
470&SP	8' Std Inlet	Each	1
470&SP	10' Std Inlet	Each	1
470&SP	14' Std Inlet	Each	1
470&SP	20' Std Inlet	Each	1
SS-6	Adj Water Valve Box	Each	2
SS-13	Misc. San Sewer Adj	Each	1



NOTE:  
 FOR LINE "G" PROFILE  
 SEE SHEET NO. 42

BM. No. 10  
 CHISLED "D" NOSE OF CONC. ISLAND  
 IN FIRST ENTRANCE TO BROOKHAVEN  
 APTS. NORTH OF TANGLEWOOD DR.  
 60'± WEST MARSH LANE APPROX.  
 117+10 ELEV. 575.51



AS BUILT 11-22-83

NO.	DATE	REVISION	APPROV.
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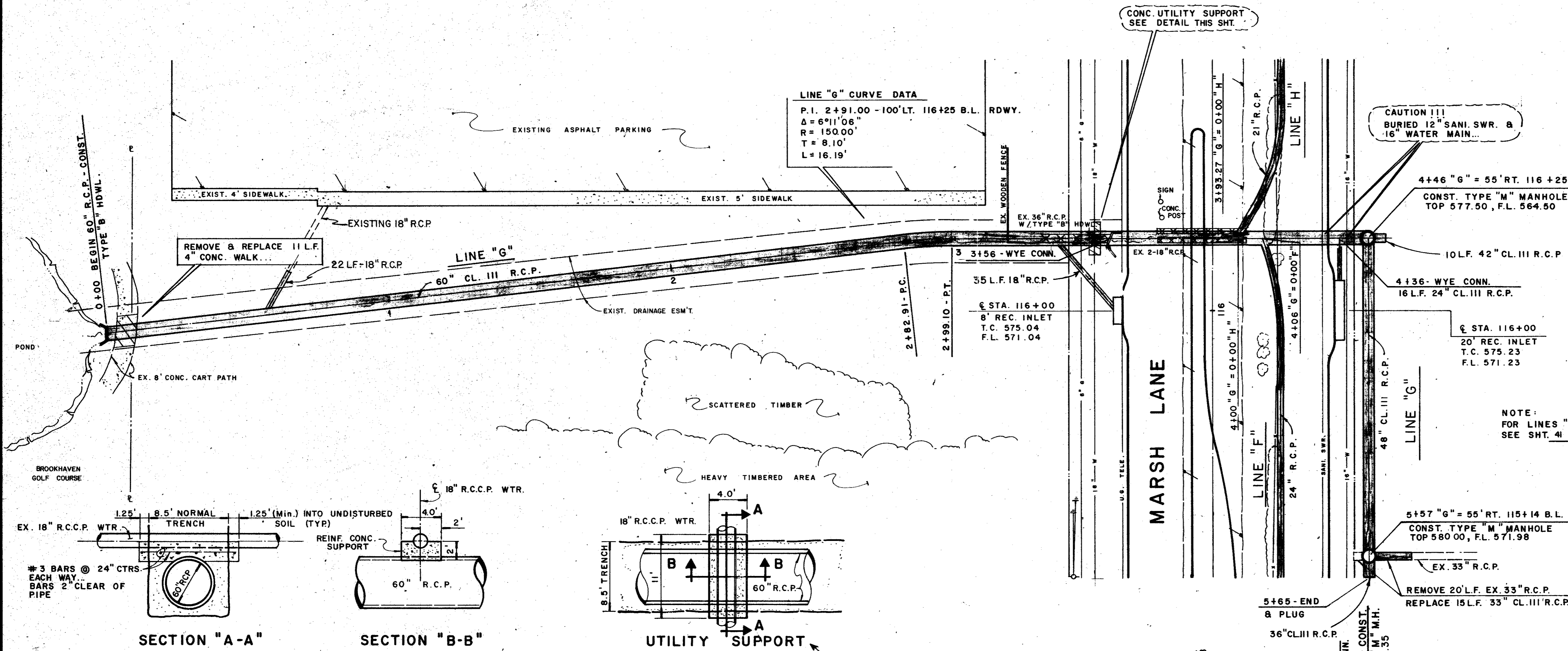
**CITIES OF ADDISON AND FARMERS BRANCH, TEXAS**

**MARSH LANE**  
 BROOKHAVEN CLUB DRIVE TO BELT LINE ROAD

**DRAINAGE PLAN**  
 LINES "F", "G" & "H"

Turner Collie & Braden Inc.

Unit: PAL	Scale: Horiz. Vert.	Date: FEB. 1982
Designed: GGS	Checked: GGS	Job No. 6042-010
Drawn: L. JK	Approved: PAL	Sheet 41 of 66

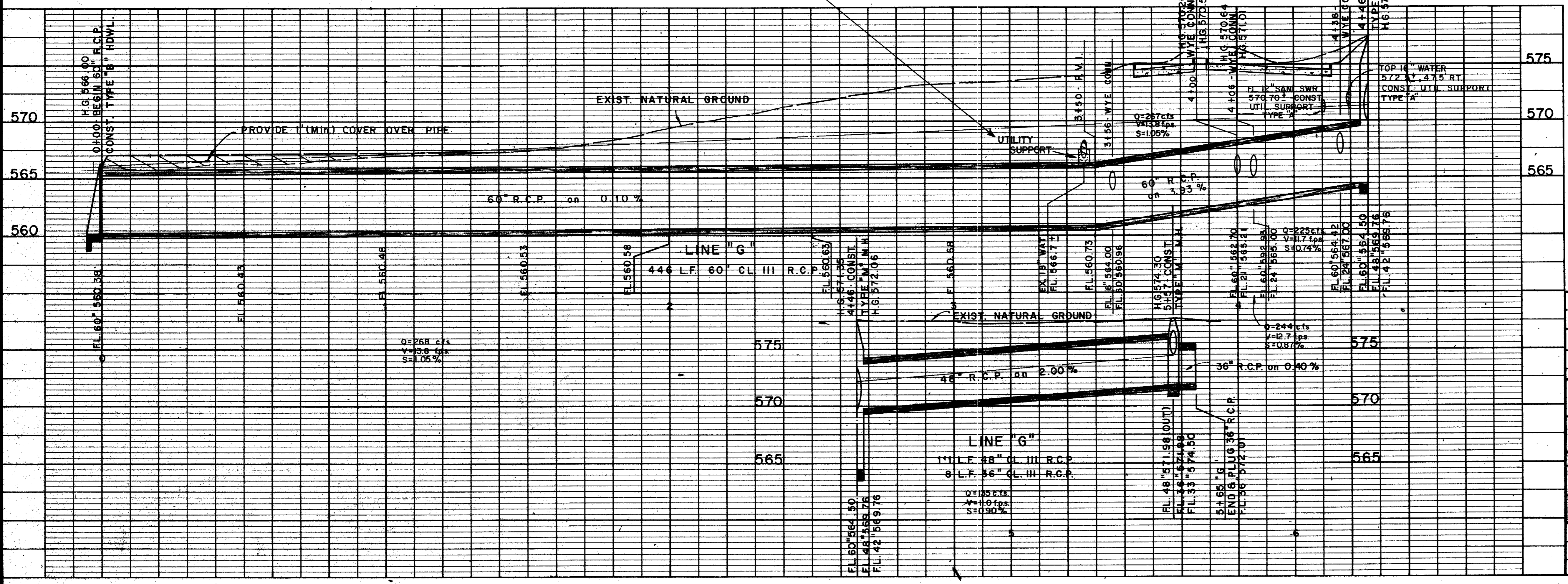
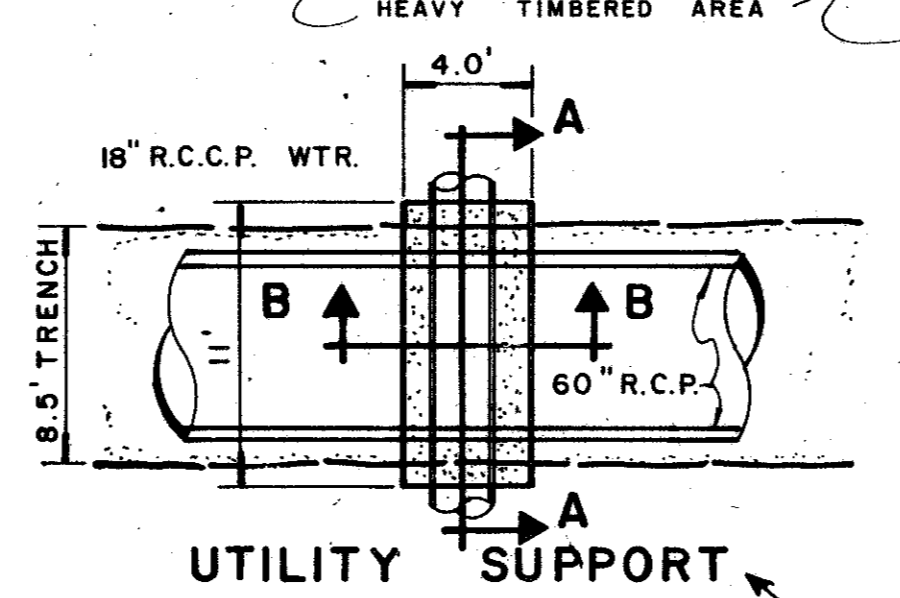
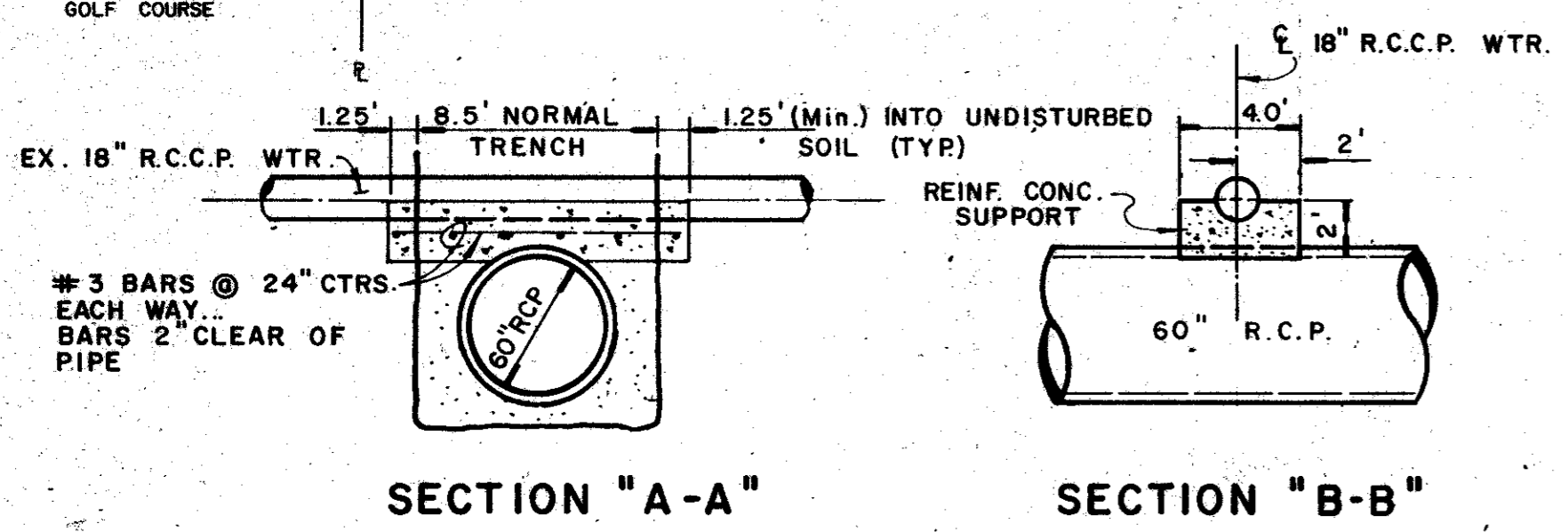


**LINE "G" CURVE DATA**  
 P.I. 2+91.00 - 100' LT. 116+25 B.L. RDWY.  
 $\Delta = 6^{\circ}11'08''$   
 $R = 150.00'$   
 $T = 8.10'$   
 $L = 16.19'$

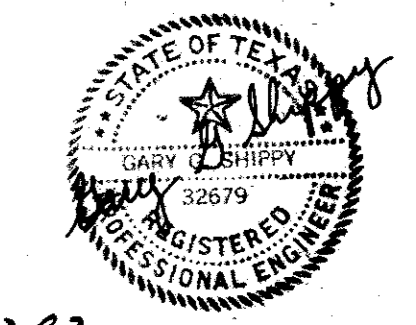
CAUTION !!!  
 BURIED 12" SANI. SWR. &  
 16" WATER MAIN...

ITEM	DESCRIPTION	UNIT	QTY.
421&SP	CL A Conc (Headwalls)	C.Y.	2.1
440&SP	Reinf Steel	Lbs.	341
465&SP	24" RCP	L.F.	26
465&SP	33" RCP	L.F.	15
465&SP	36" RCP	L.F.	9
465&SP	42" RCP	L.F.	10
465&SP	48" RCP	L.F.	111
465&SP	60" RCP	L.F.	446
470&SP	Manhole Type "M", 8-ft	Each	1
470&SP	Manhole Type "M", 13-ft	Each	1
524	4" Conc Sidewalk	S.Y.	10

NOTE:  
 FOR LINES "F" & "H"  
 SEE SHT. 41



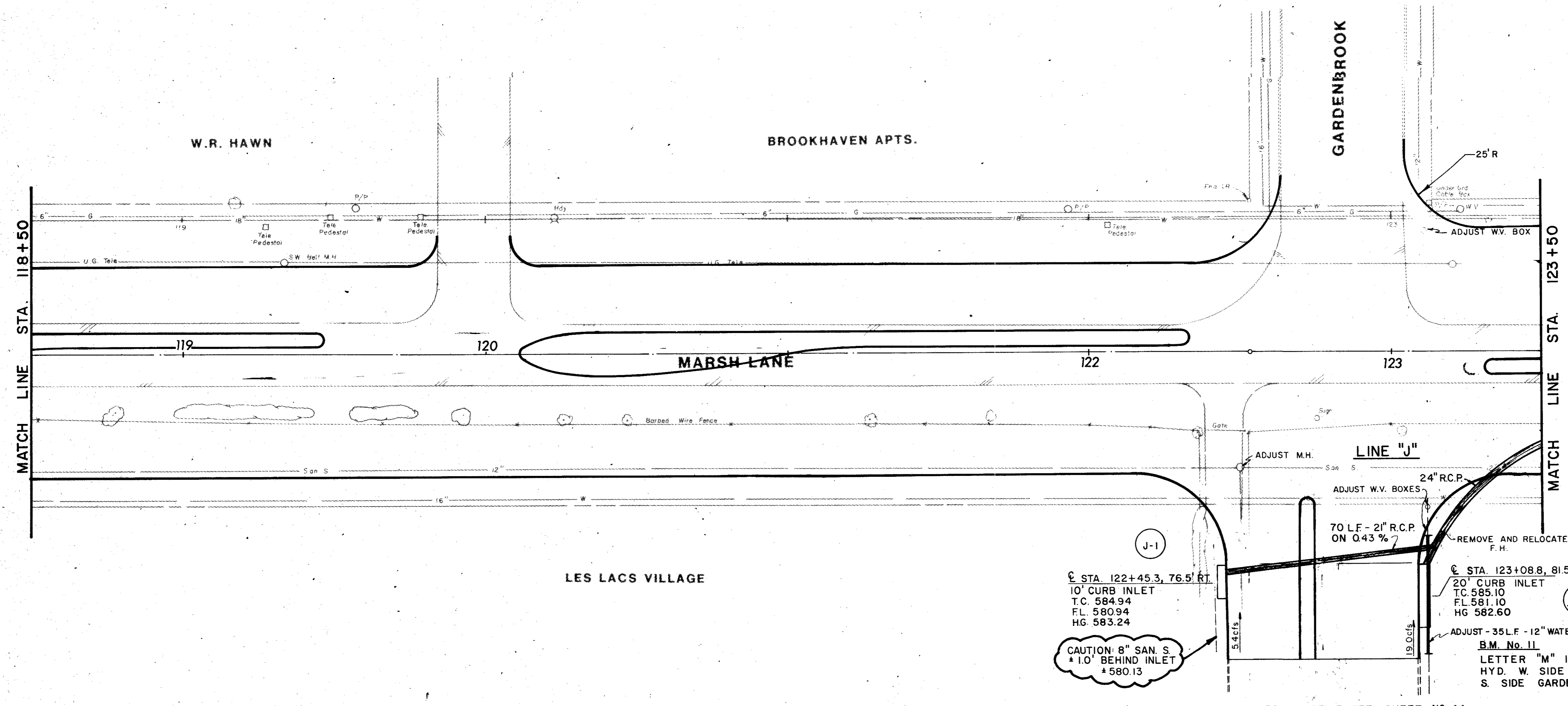
AS BUILTS 11-22-83



NO.	DATE	REVISION	APPROV.
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**CITIES OF ADDISON AND FARMERS BRANCH, TEXAS**  
**MARSH LANE**  
 BROOKHAVEN CLUB DRIVE TO BELT LINE ROAD  
**DRAINAGE PLAN - LINE "G"**  
 STA. 0+00 TO STA. 5+57

**Turner Collie & Braden Inc.**  
 Unit: PAL  
 Scale: Horz. 1" = 20', Vert. 1" = 5'  
 Date: FEB. 1982  
 Designed: GGS  
 Checked: GGS  
 Job No.: 6042-010  
 Contract  
 Drawn: GG  
 Approved: PAL  
 Sheet: 42 of 66



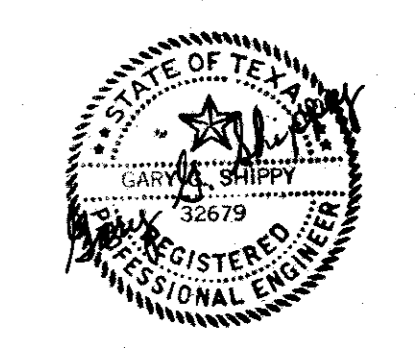
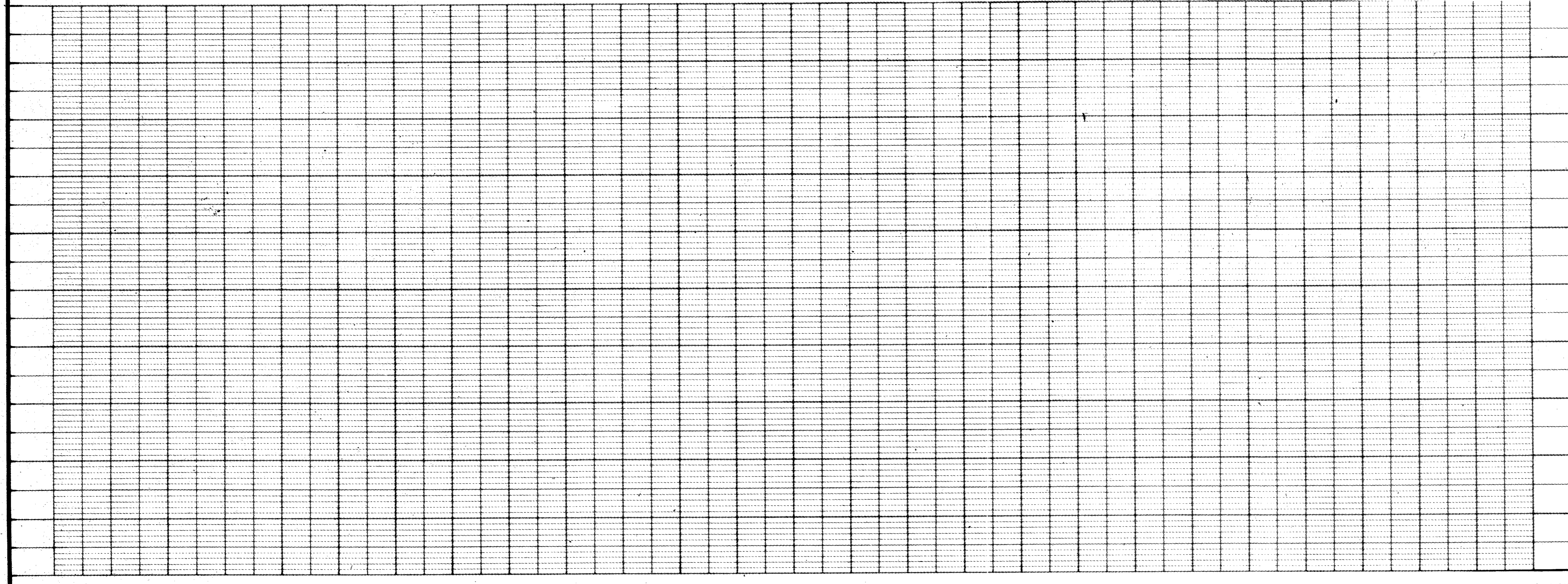
ITEM	DESCRIPTION	UNIT	QTY.
465&SP	21" RCP	L.F.	70
470&SP	10" Std Inlet	Each	1
470&SP	20" Std Inlet	Each	1
SS-3	12" Water Main Adj	L.F.	35
SS-6	Adj Water Valve Box	Each	3
SS-9	Fire Hydrant Removal	Each	1
SS-13	Misc. San Sewer Adj	Each	1

**PIPE CURVE DATA**  
 P.I. STA. 7+52.18 = B MARSH 123+30 24' RT.  
 R = 75.00'  
 Δ = 67° 47' 02"  
 L = 8873'  
 T = 5038'

J-1  
 C STA. 122+45.3, 76.5' RT.  
 10' CURB INLET  
 T.C. 584.94  
 F.L. 580.94  
 H.G. 583.24  
 CAUTION: 8" SAN. S.  
 + 1.0' BEHIND INLET  
 + 580.13

J-2  
 C STA. 123+08.8, 81.5' RT.  
 20' CURB INLET  
 T.C. 585.10  
 F.L. 581.10  
 H.G. 582.60  
 ADJUST - 35 LF - 12" WATER  
 B.M. No. 11  
 LETTER "M" IN MUELLER ON  
 HYD. W. SIDE MARSH LANE AND  
 S. SIDE GARDENBROOK DR.  
 ELEV. 566.08

FOR PROFILE SEE SHEET NO 44



AS BUILT 11-22-83

NO.	DATE	REVISION	APPROV.
1	8/82	REVISED PER CHANGE ORDER NO 1.	

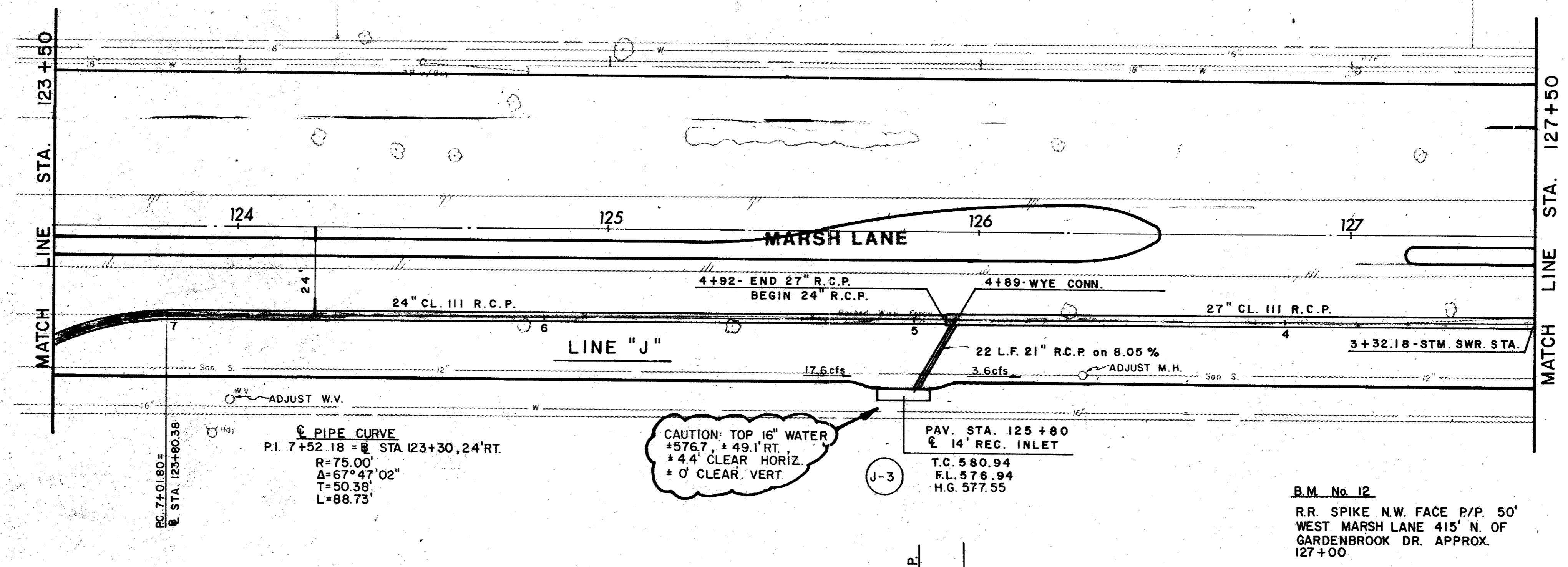
**CITIES OF ADDISON AND FARMERS BRANCH, TEXAS**  
**MARSH LANE**  
 BROOKHAVEN CLUB DRIVE TO BELT LINE ROAD  
**DRAINAGE PLAN - LINE "J"**

Turner Collie & Braden Inc.			
Unit: PAL	Scale: Horiz. 1" = 20' Vert. 1" = 5'	Date: FEB. 1982	
Designed: GGS	Checked: GGS	Job No. 6042-010	Contract
Drawn: LJK	Approved: PAL	Sheet: 43	of 66



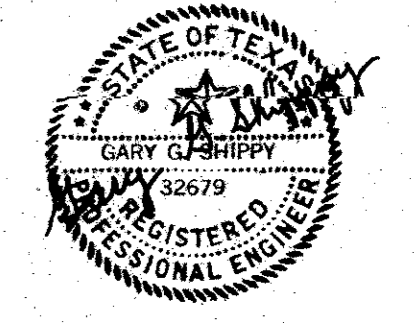
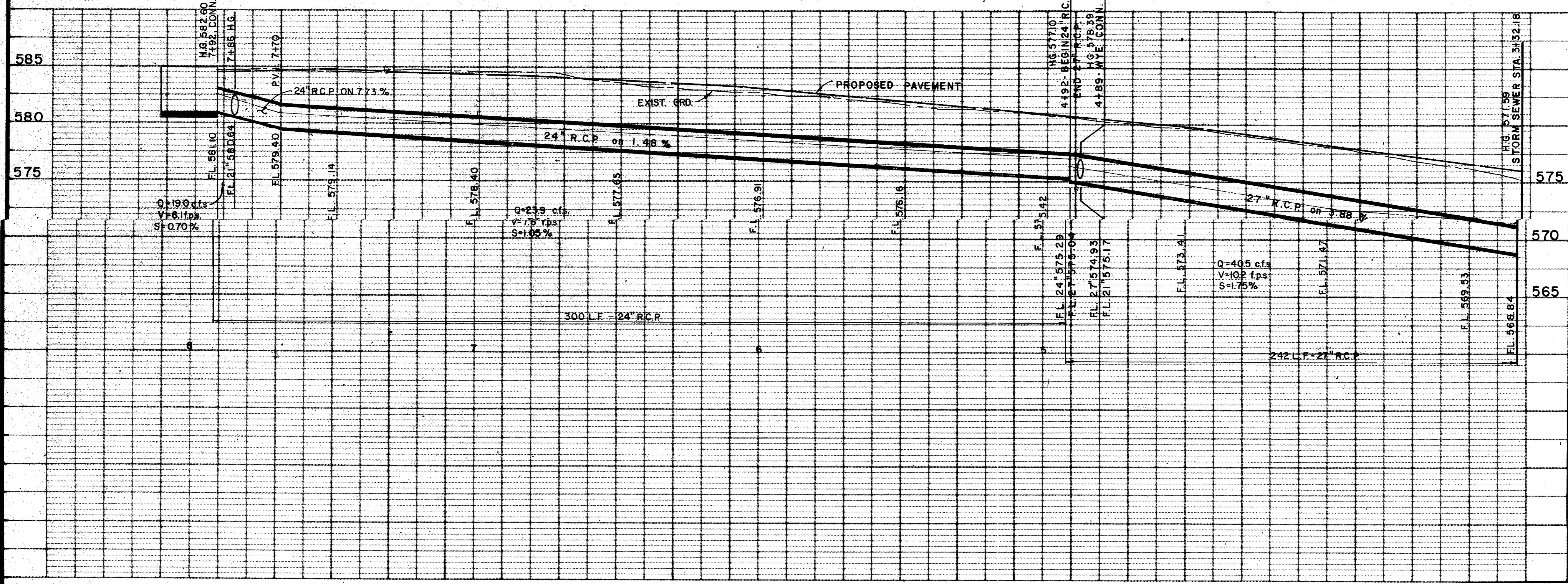
ITEM	DESCRIPTION	UNIT	QTY.
465&SP	21" RCP	L.F.	22
465&SP	24" RCP	L.F.	300
465&SP	27" RCP	L.F.	160
470&SP	14" Std Inlet	Each	1
SS-6	Adj. Water Valve Box	Each	1
SS-13	Misc. San Sewer Adj	Each	1

CYTREN CONSTRUCTION CORP.



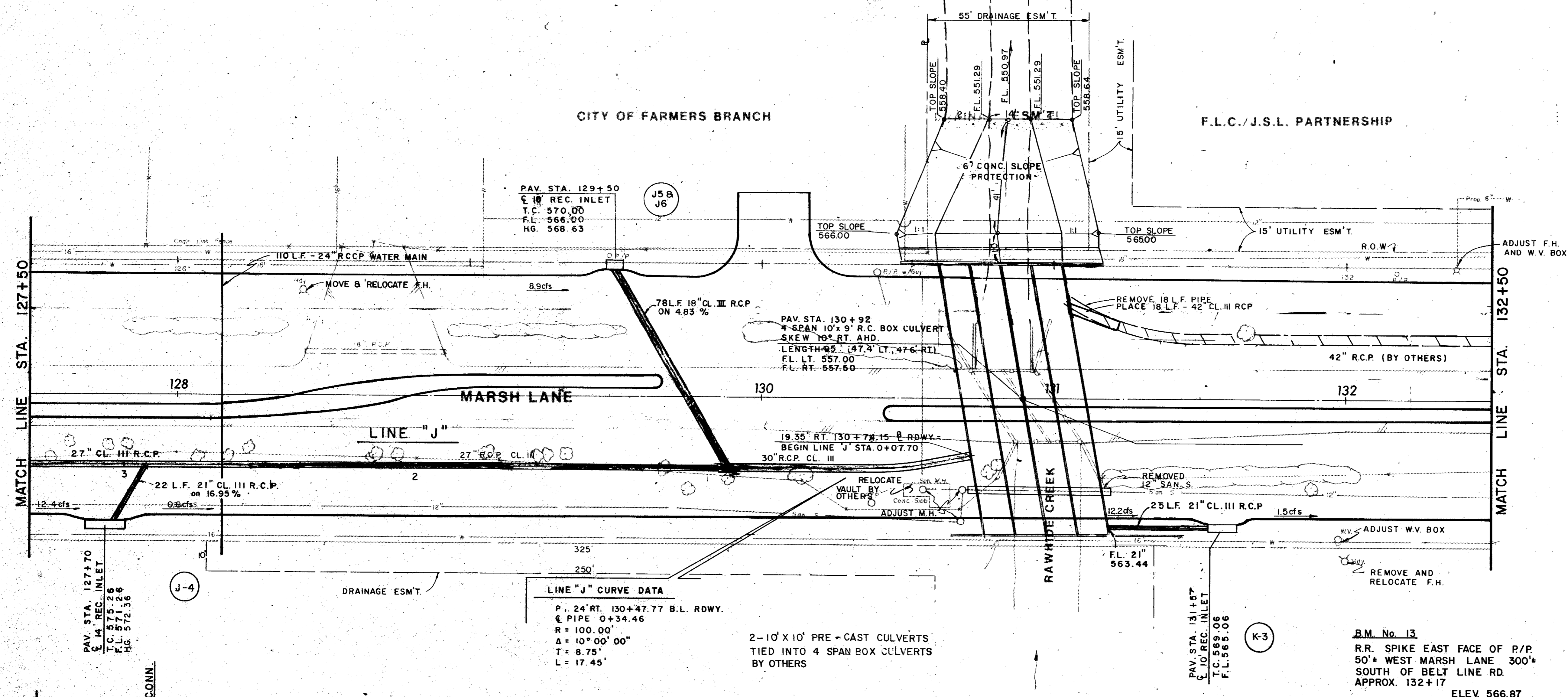
CAUTION: TOP 16" WATER  
 ±5767' ±49.1' RT.  
 ±4.4' CLEAR HORIZ.  
 ±0' CLEAR VERT.

PIPE CURVE  
 P.I. 7+52.18 - @ STA 123+30, 24' RT.  
 R=75.00'  
 Δ=67°47'02"  
 T=50.38'  
 L=88.73'



AS BUILTS 11-22-83

4			
3			
2			
1	8/82	REVISED PER CHANGE ORDER NO. 1.	
NO.	DATE	REVISION	APPROV.
<b>CITIES OF ADDISON AND FARMERS BRANCH, TEXAS</b> <b>MARSH LANE</b> BROOKHAVEN CLUB DRIVE TO BELT LINE ROAD <b>DRAINAGE PLAN - LINE "J"</b> STA. 3-32 TO END <b>Turner Collie &amp; Braden Inc.</b>			
Unit	PAL	Scale: Horiz. 1" = 20', Vert. 1" = 5'	Date FEB. 1982
Designed	GGG	Checked GGG	Job No. 6042-010 Contract
Drawn	LJK	Approved PAL	Sheet 44 of 66



**LINE "J" CURVE DATA**

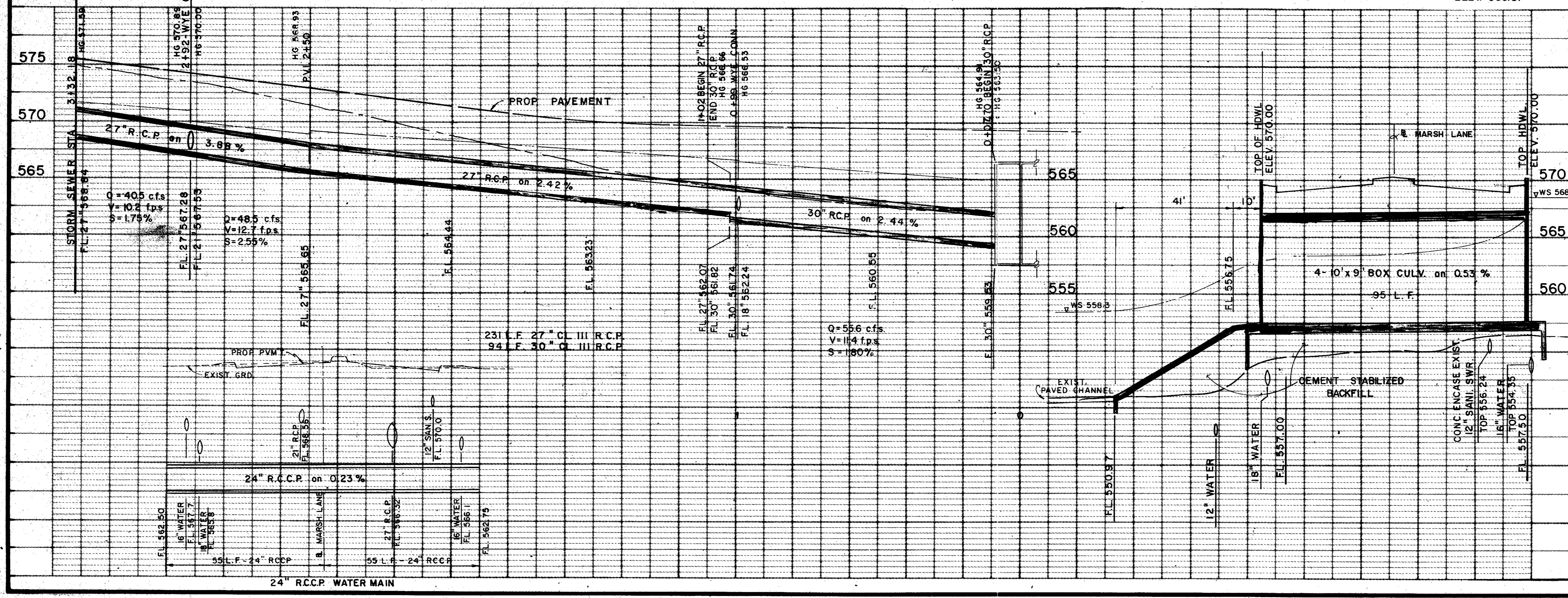
P.	24' RT. 130+47.77 B.L. RDWY.
€	PIPE 0+34.46
R.	100.00'
Δ	10° 00' 00"
T.	8.75'
L.	17.45'

2-10' X 10' PRE-CAST CULVERTS  
TIED INTO 4 SPAN BOX CULVERTS  
BY OTHERS

B.M. No. 13  
R.R. SPIKE EAST FACE OF P/P  
50'± WEST MARSH LANE 300'  
SOUTH OF BELT LINE RD.  
APPROX. 132+17  
ELEV. 566.87

ITEM	DESCRIPTION	UNIT	QTY.
4008SP	Unclas Struc Excav	C.Y.	442
4008SP	Cement Stab. Backfill	C.Y.	372
4216SP	Cl A Conc (Box Culverts)	C.Y.	464.0
432	Riprap	C.Y.	79
4406SP	Reinf Steel	Lbs.	64,041
4506SP	Pod Handrail	L.F.	159
4656SP	18" RCP	L.F.	134
4656SP	21" RCP	L.F.	49
4656SP	27" RCP	L.F.	82
4656SP	30" RCP	L.F.	240
4656SP	42" RCP	L.F.	18
4706SP	6" Std Inlet	Each	1
4706SP	8" Std Inlet	Each	1
4706SP	10" Std Inlet	Each	1
4706SP	14" Std Inlet	Each	1
4966SP	Remove Old Str, Large	L.S.	1
SS-6	Adj Water Valve Box	Each	1
SS-9	Fire Hydrant Removal	Each	1
SS-13	Misc. San Sewer Adj	Each	3
SS-15	24" RCP Water Main	L.F.	10

557.61  
554.35  
15.63



596.00  
554.35  
15.63



AS BUILTS 1/22-83

NO.	DATE	REVISION	APPROV.
1	8/82	REVISED PER CHANGE ORDER NO. 1.	
2	5/82	CHANGED AS PER ADDENDUM NO. 1, ART. 9.	

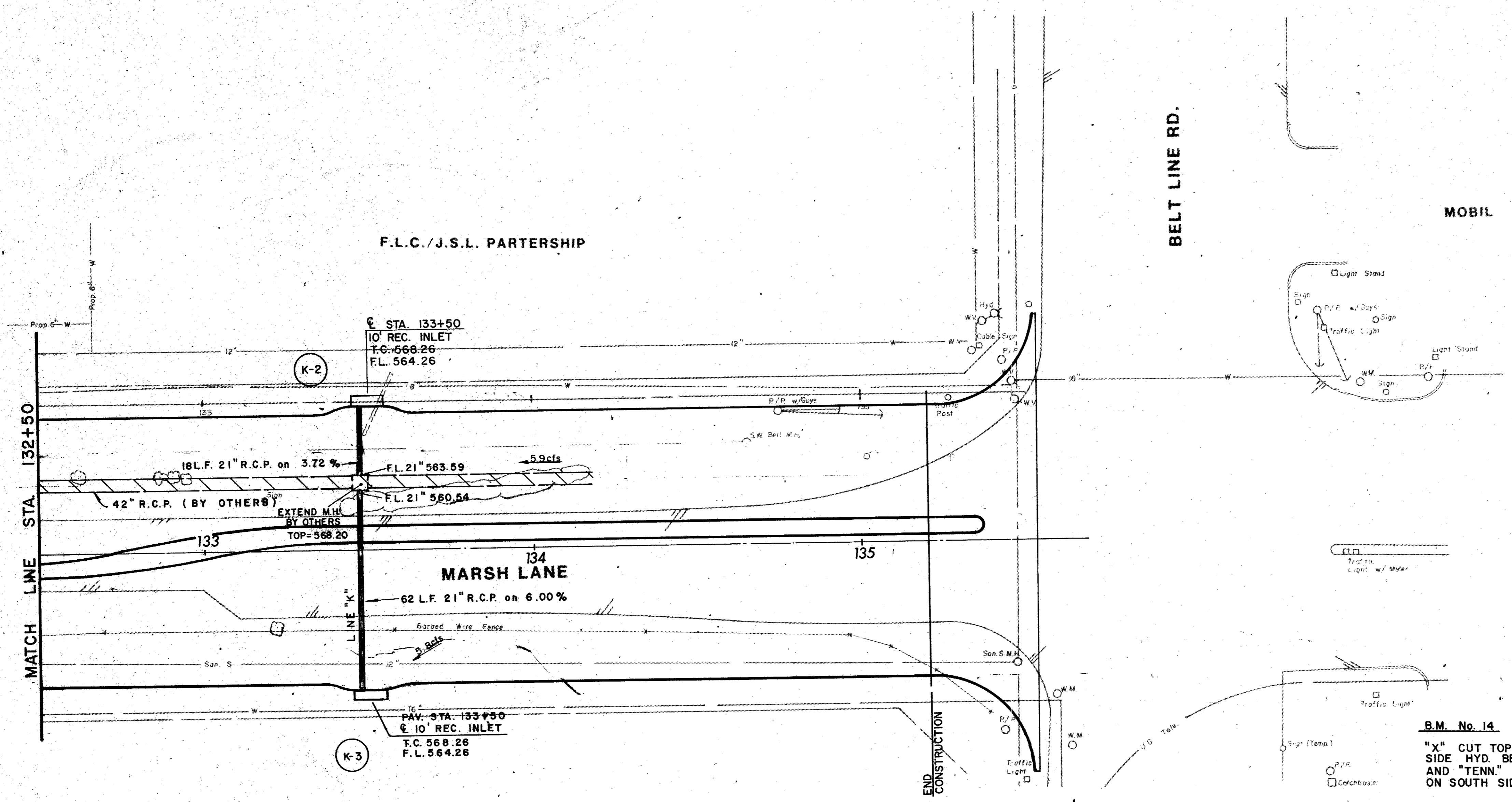
**CITIES OF ADDISON AND FARMERS BRANCH, TEXAS**

**MARSH LANE**  
BROOKHAVEN CLUB DRIVE TO BELT LINE ROAD

**DRAINAGE PLAN - LINE "J"**  
STA. 0+00 TO STA. 3+32

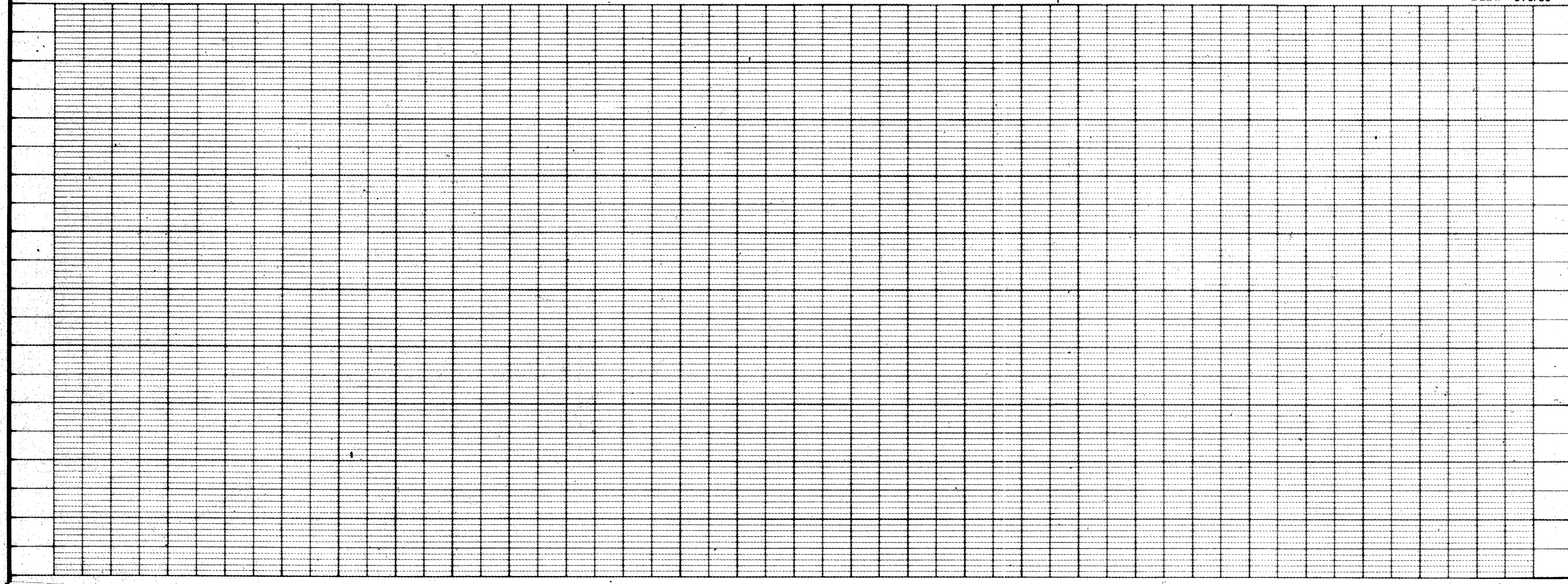
Turner Collier & Braden Inc.

Unit	PAL	Scale	Hor. 1" = 20' Vert. 1" = 5'	Date	FEB. 1982
Designer	GGG	Checker	GGG	Job No.	6042-010
Drawn	GG	Approved	PAL	Sheet	45 of 66



ITEM	DESCRIPTION	UNIT	QTY.
465&SP	21" RCP	L.F.	71
470&SP	10' Std Inlet	Each	2
479	Manhole Type "M" Adj	Each	1
SS-6	Adj Water Valve Box	Each	2
SS-13	Misc. San Sewer Adj	Each	1

**B.M. No. 14**  
 "X" CUT TOP FLANGE BOLT EAST SIDE HYD. BETWEEN "CHATANOGA" AND "TENN." 60' W. OF MARSH ON SOUTH SIDE BELT LINE ROAD. ELEV. 570.85



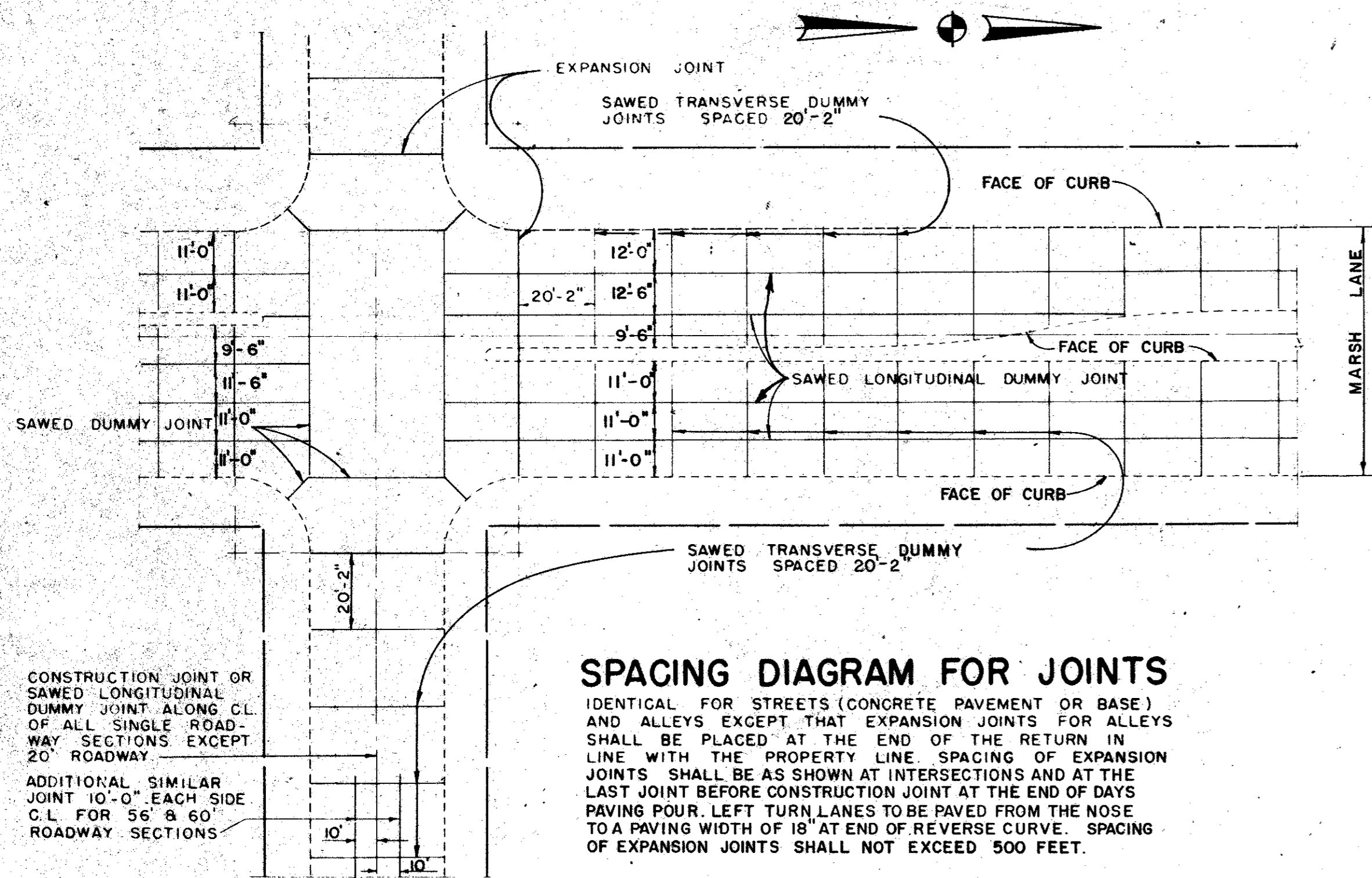
AS BUILTS 11-22-83

NO.	DATE	REVISION	APPROV.
1	8/82	REVISED PER CHANGE ORDER N° 1.	

CITIES OF ADDISON AND FARMERS BRANCH, TEXAS  
**MARSH LANE**  
 BROOKHAVEN CLUB DRIVE TO BELT LINE ROAD  
**DRAINAGE PLAN**  
**LINE "K"**

Turner Collie & Braden Inc.			
Unit	PAL	Scale: Horiz. 1" = 20' Vert. 1" = 5'	Date FEB. 1982
Designer	GGG	Checker	Job No. 6042-010
Drawn	GG	Approved	Sheet 46 of 66



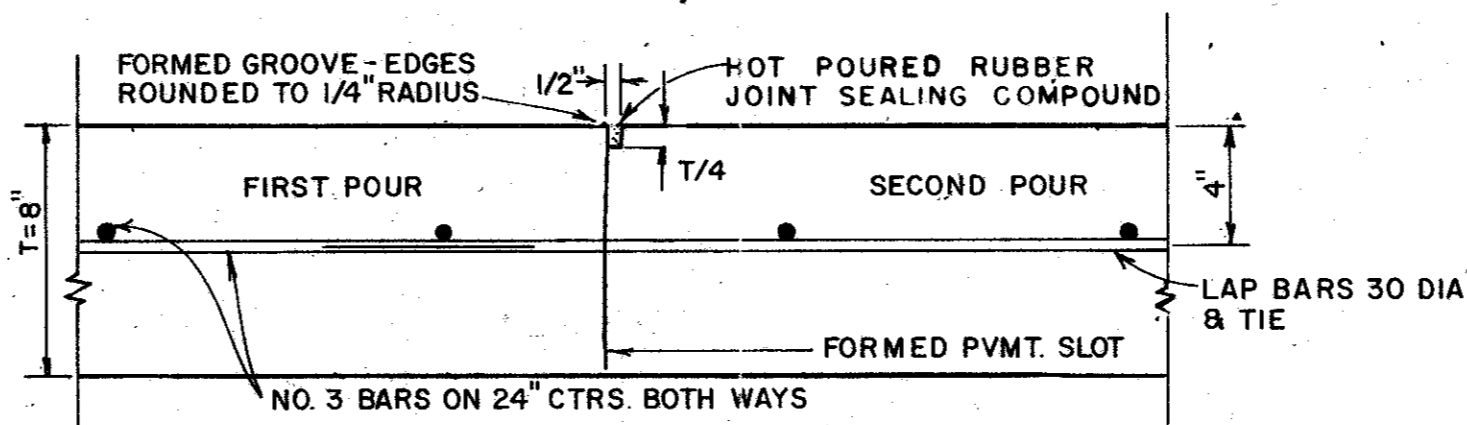


**SPACING DIAGRAM FOR JOINTS**

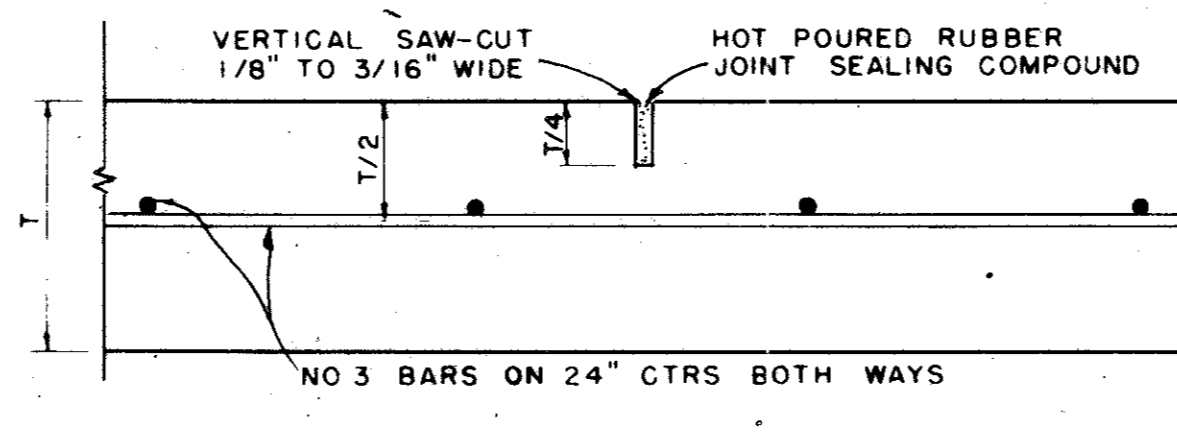
IDENTICAL FOR STREETS (CONCRETE PAVEMENT OR BASE) AND ALLEYS EXCEPT THAT EXPANSION JOINTS FOR ALLEYS SHALL BE PLACED AT THE END OF THE RETURN IN LINE WITH THE PROPERTY LINE. SPACING OF EXPANSION JOINTS SHALL BE AS SHOWN AT INTERSECTIONS AND AT THE LAST JOINT BEFORE CONSTRUCTION JOINT AT THE END OF DAYS PAVING POUR. LEFT TURN LANES TO BE PAVED FROM THE NOSE TO A PAVING WIDTH OF 18' AT END OF REVERSE CURVE. SPACING OF EXPANSION JOINTS SHALL NOT EXCEED 500 FEET.

CONSTRUCTION JOINT OR SAWED LONGITUDINAL DUMMY JOINT ALONG C.L. OF ALL SINGLE ROADWAY SECTIONS EXCEPT 20' ROADWAY. ADDITIONAL SIMILAR JOINT 10'-0" EACH SIDE C.L. FOR 56' & 60' ROADWAY SECTIONS.

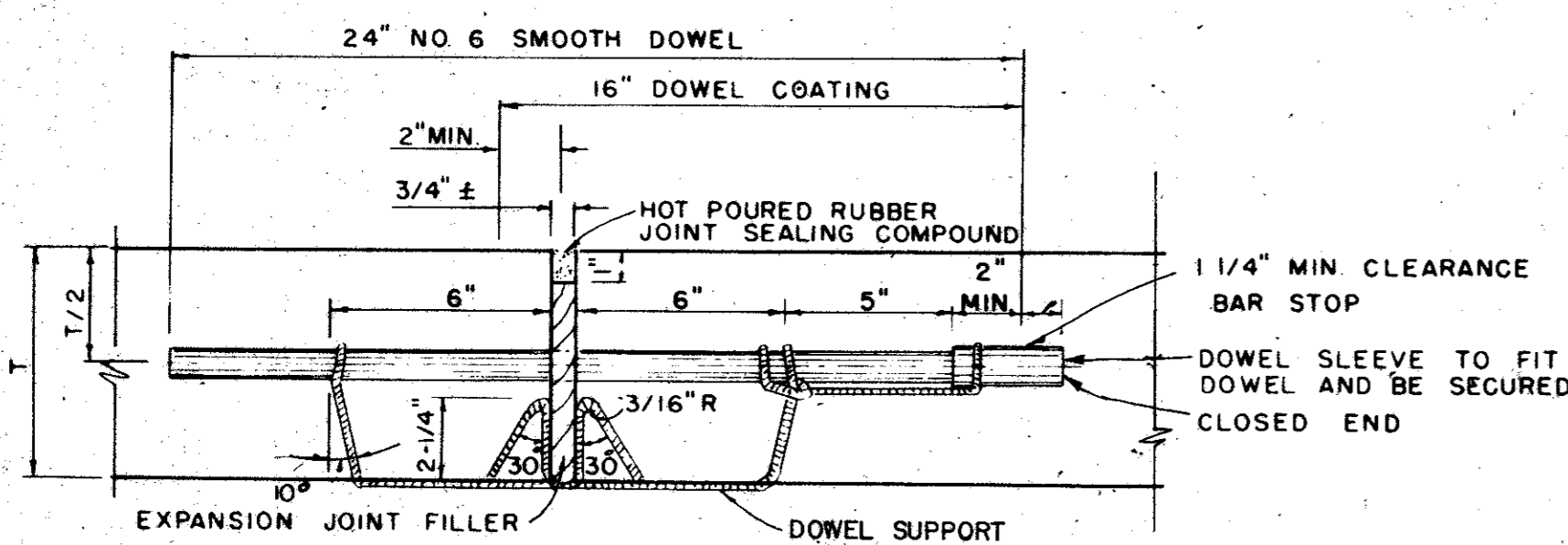
SECONDARY & RESIDENTIAL TYPE STREETS



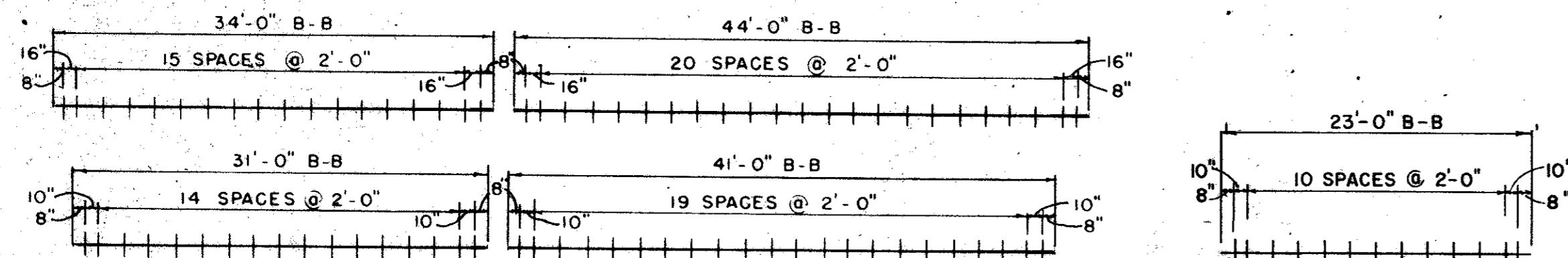
**CONSTRUCTION JOINT FOR 8" PAVEMENT THICKNESS**



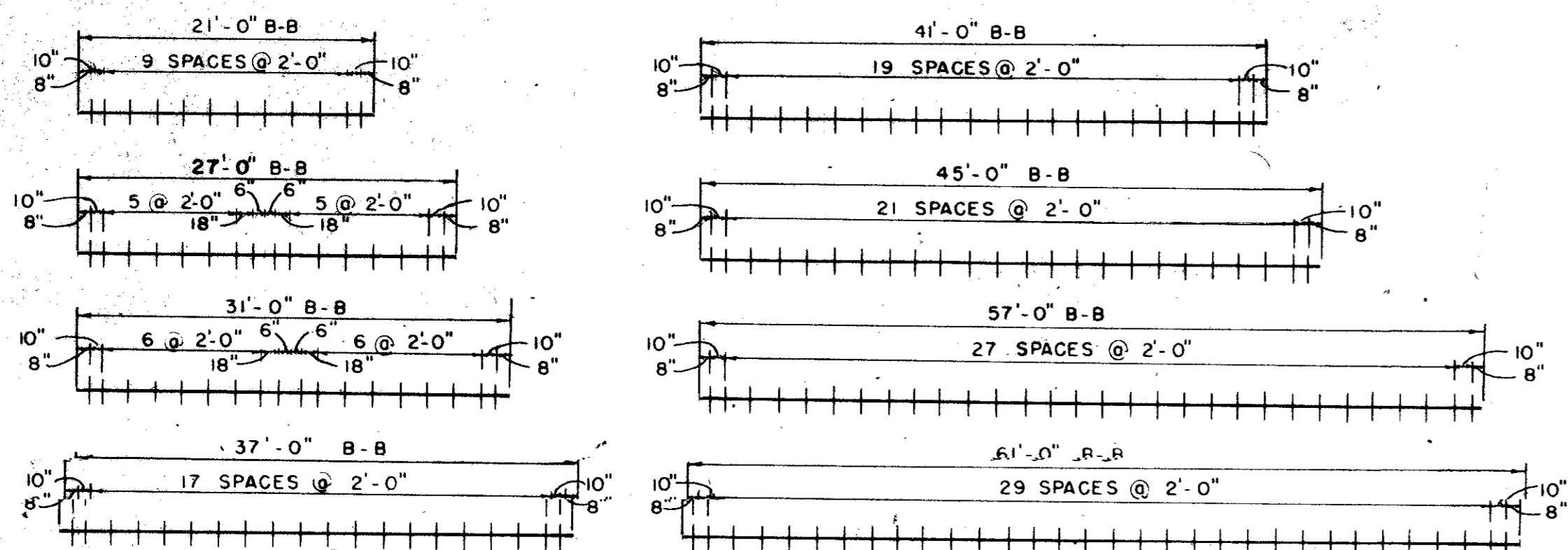
**SAWED DUMMY JOINT**



**TRANSVERSE EXPANSION JOINT IDENTICAL FOR STREETS & ALLEYS**

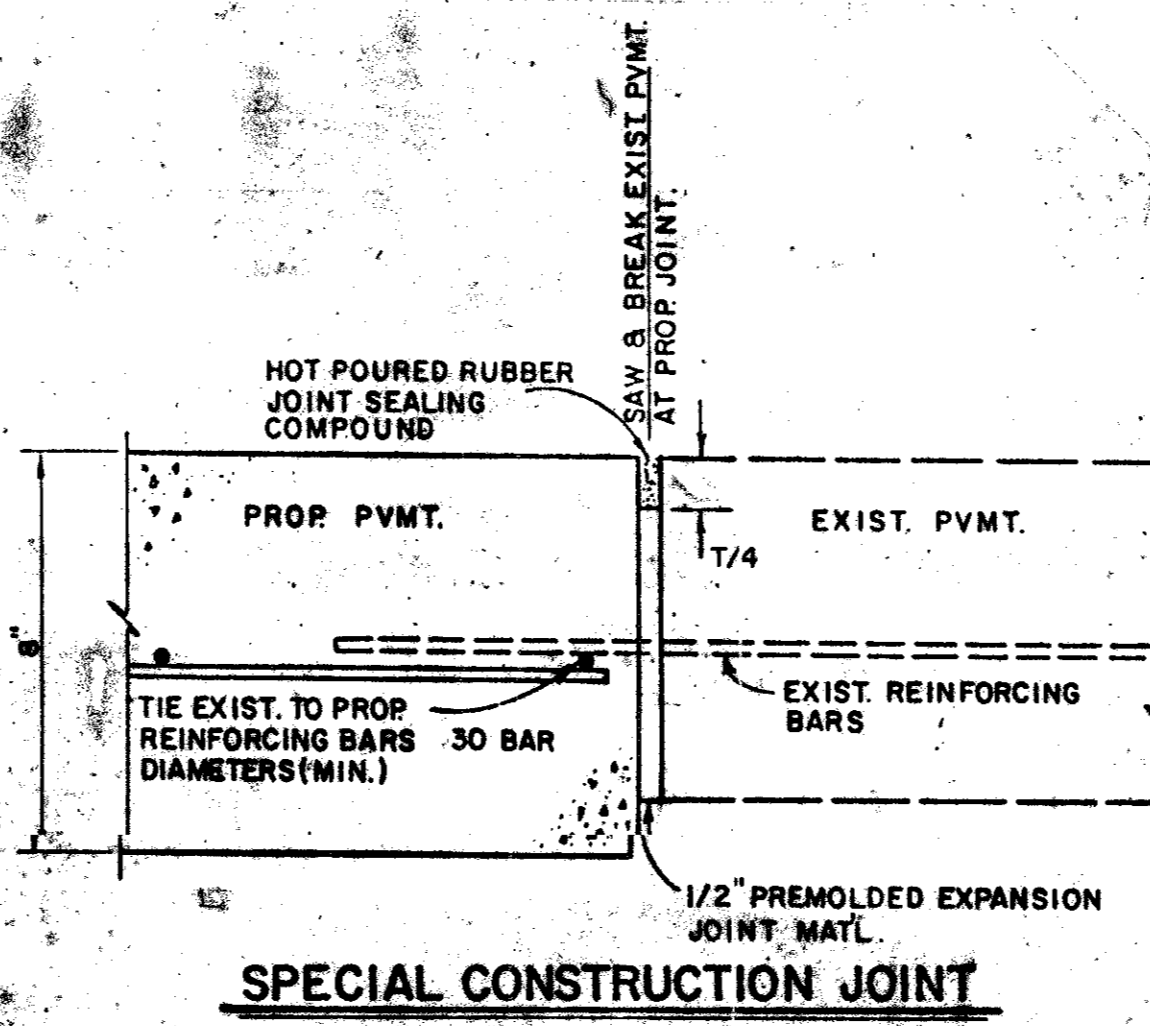


**MAJOR STREETS**



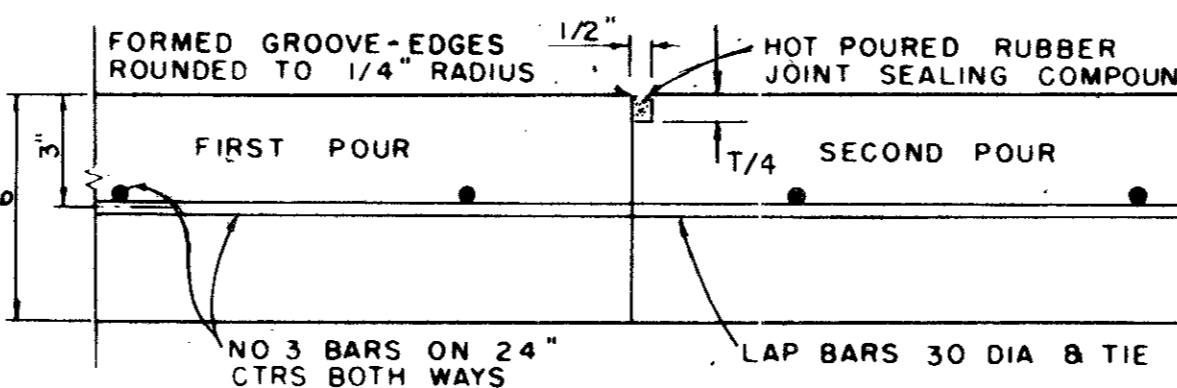
**RESIDENTIAL & SECONDARY STREETS**

**SPACING DIAGRAM FOR DOWELS AT EXPANSION JOINTS**

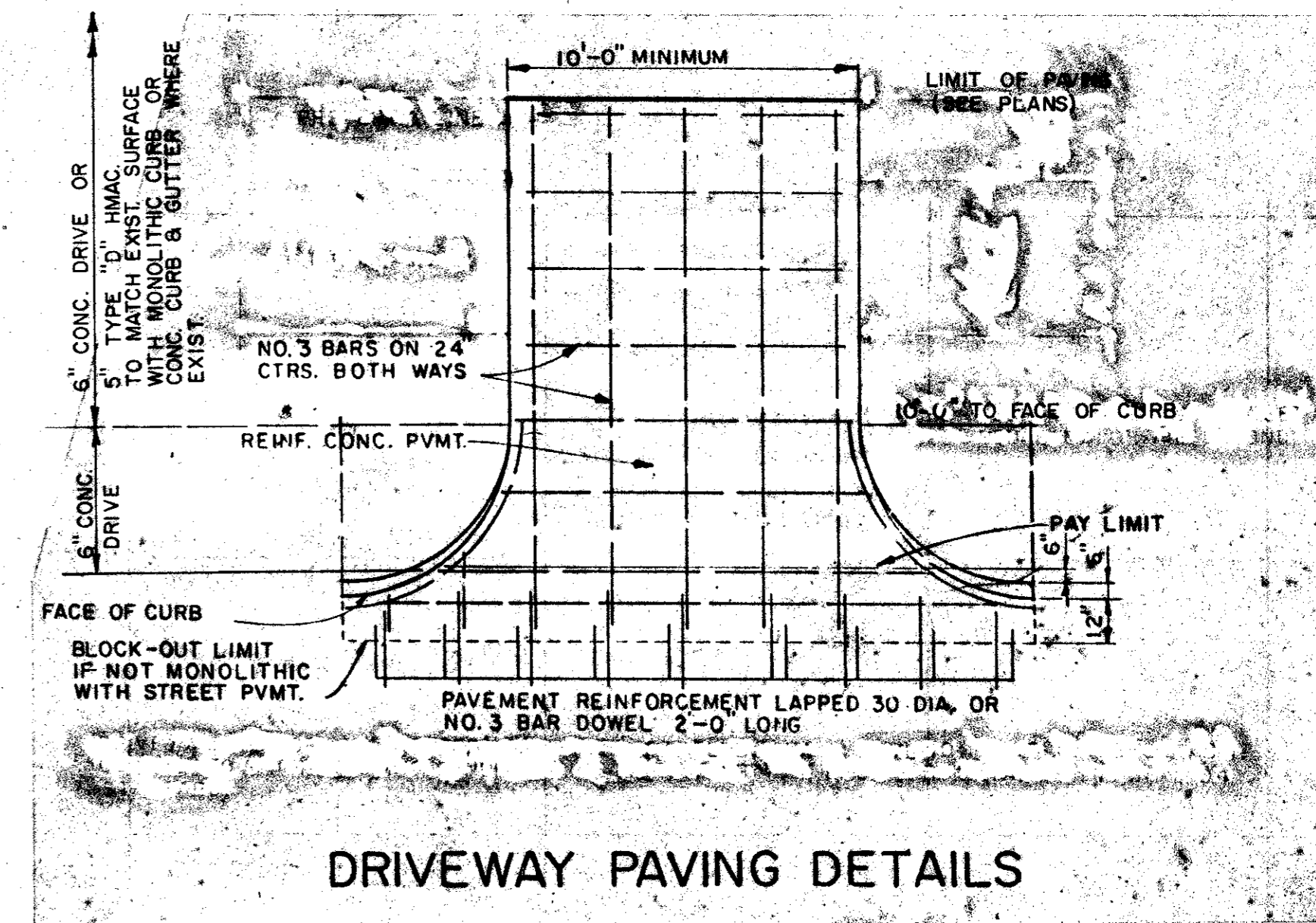


**SPECIAL CONSTRUCTION JOINT**

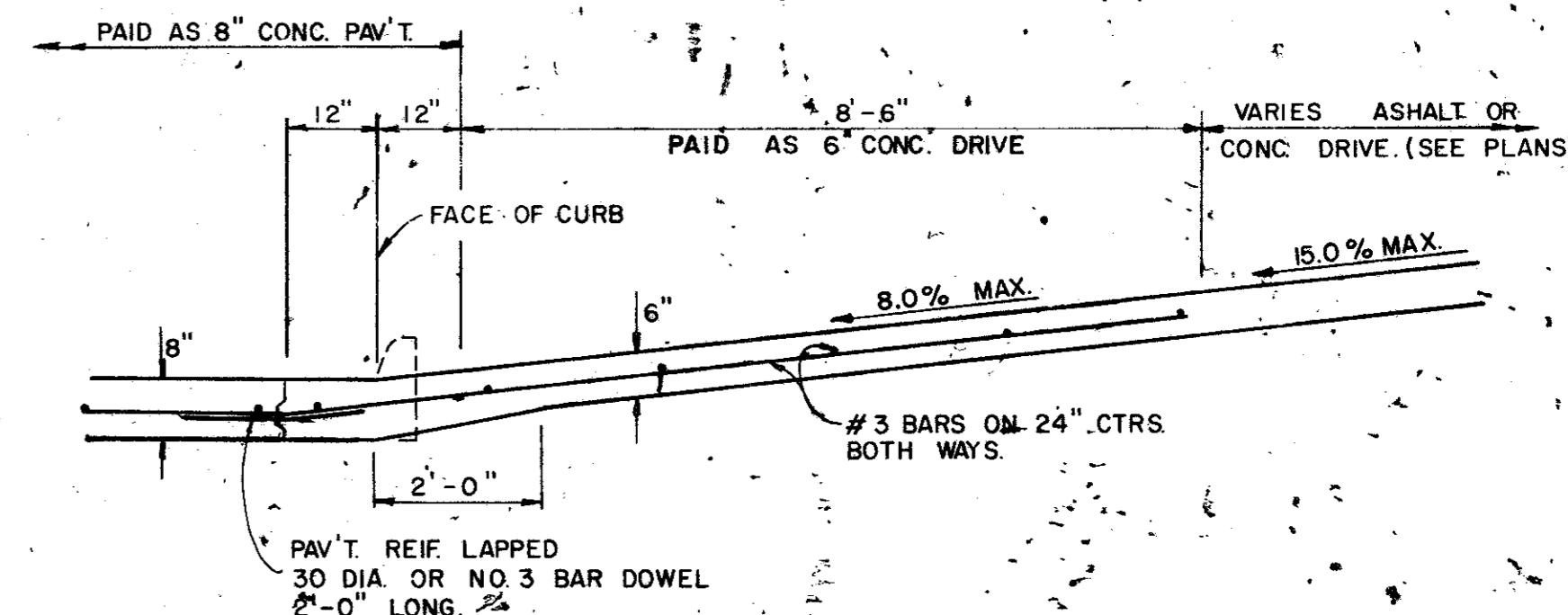
PROPOSED IN EXISTING PAVEMENT JOINT. ALL WORK AND MATERIALS TO CONSTRUCT JOINT SHALL BE SUBSIDIARY TO THE ITEM 8" REINF. CONC. PAVEMENT.



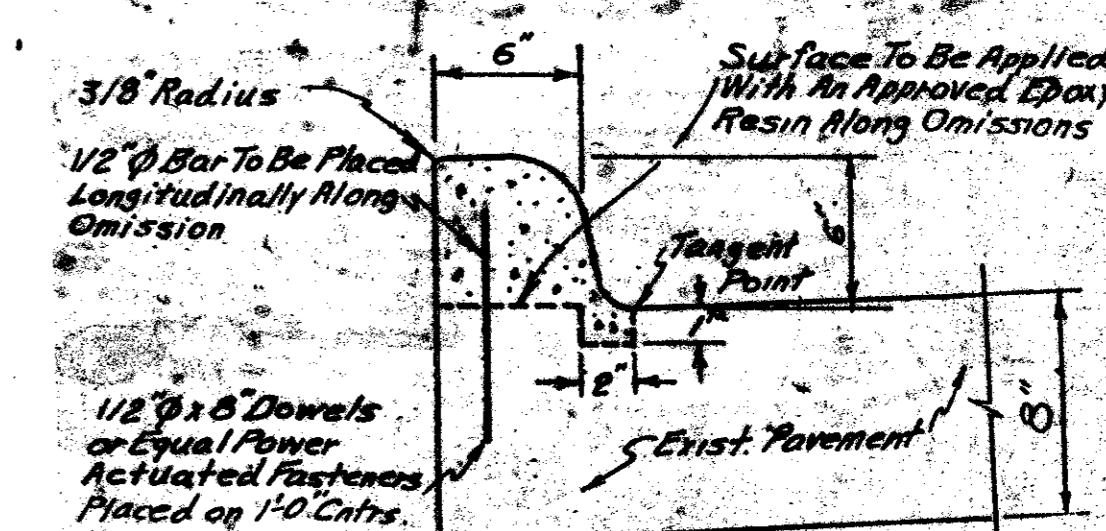
**CONSTRUCTION JOINT FOR 6" THICKNESS PAVEMENT OR BASE**



**DRIVEWAY PAVING DETAILS**

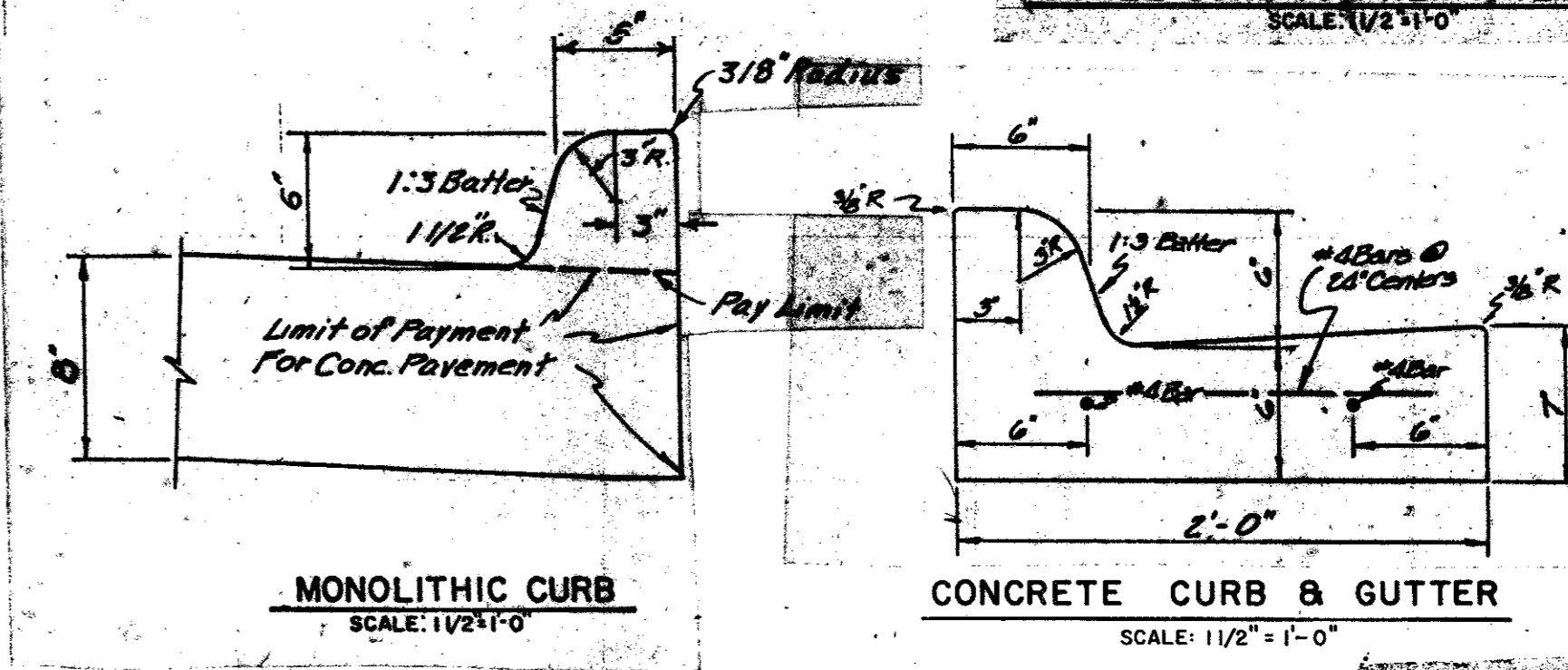


**DRIVEWAY SECTION**



**DOWEL CURB FOR NEW PAVEMENT**

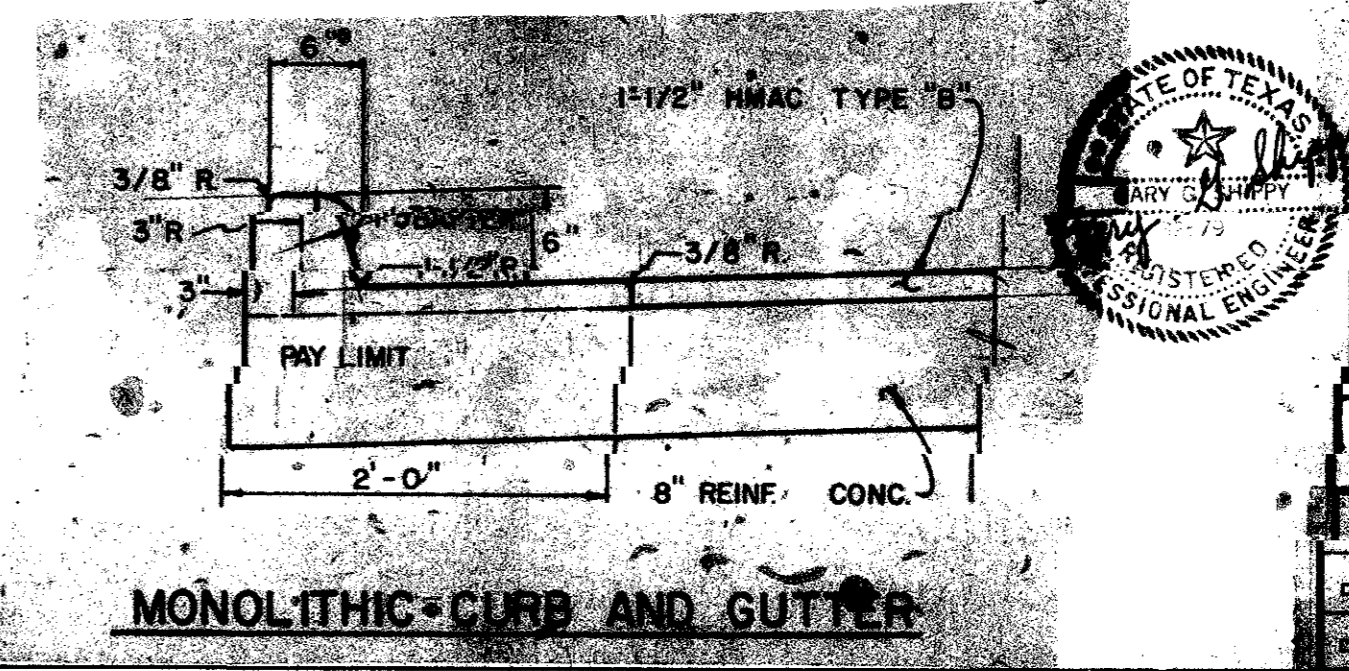
Note: Continuous Monolithic Curb Has To Be Omitted For Any Reason, The Curb Shall Be Dowelled as Shown. All Work and Materials to Construct Dowel Curb Shall Be Subsidiary to the Item "Monolithic Curb".



**MONOLITHIC CURB AND GUTTER**

**CONCRETE CURB & GUTTER**

AS BUILTS 11-22-83



**MONOLITHIC CURB AND GUTTER**

**CITIES OF ADDISON AND FARMERS BRANCH, TEXAS**

**MARSH LANE**

BROOKHAVEN CLUB DRIVE TO JEFFERSON ROAD

**PAVING DETAILS**

Turner-Collie & Braden, Inc.

DATE: FEB. 1983

DESIGNED: GGS

CHECKED: LJK

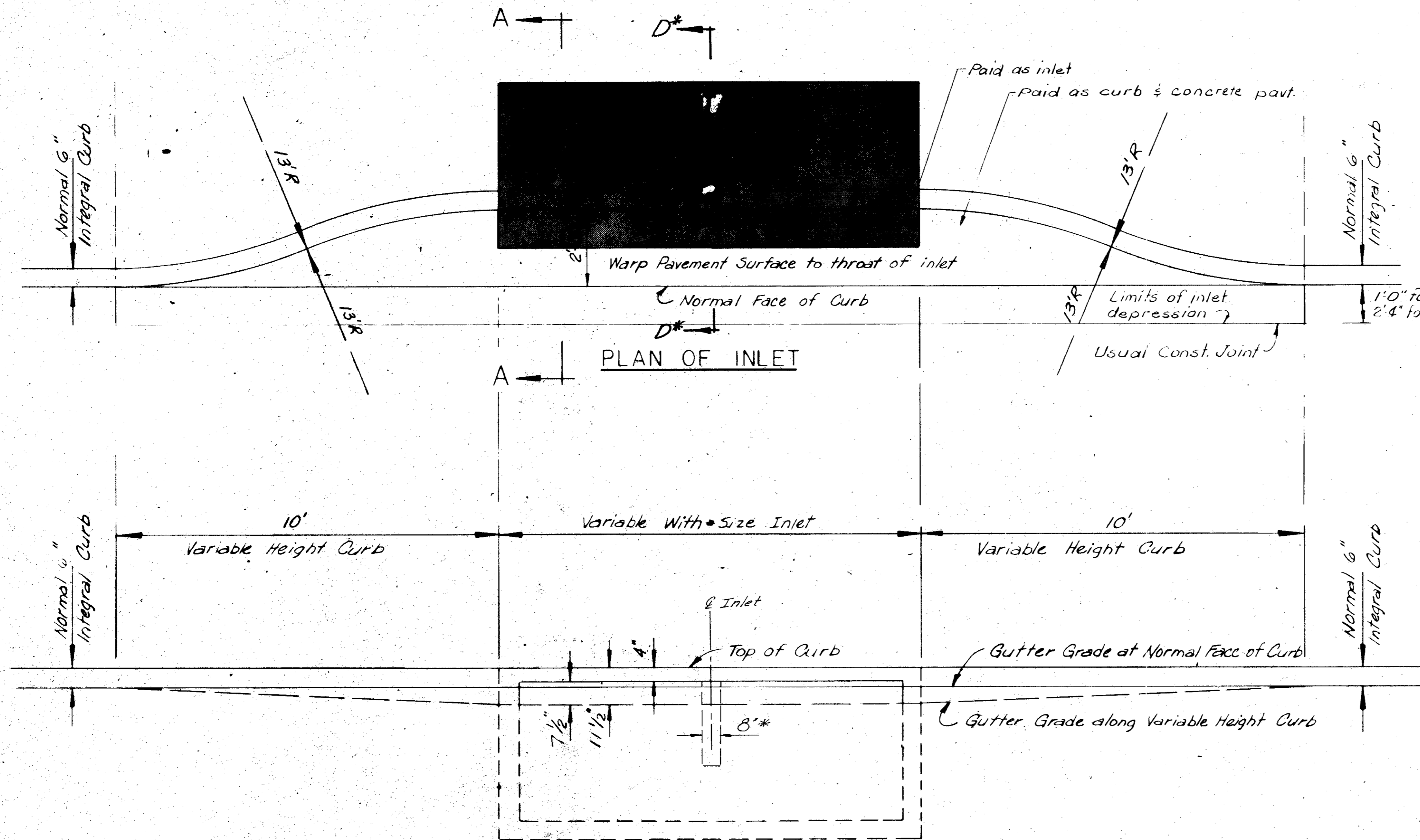
APPROVED: PAL

DATE: FEB. 1983

JOB NO. 6042-010

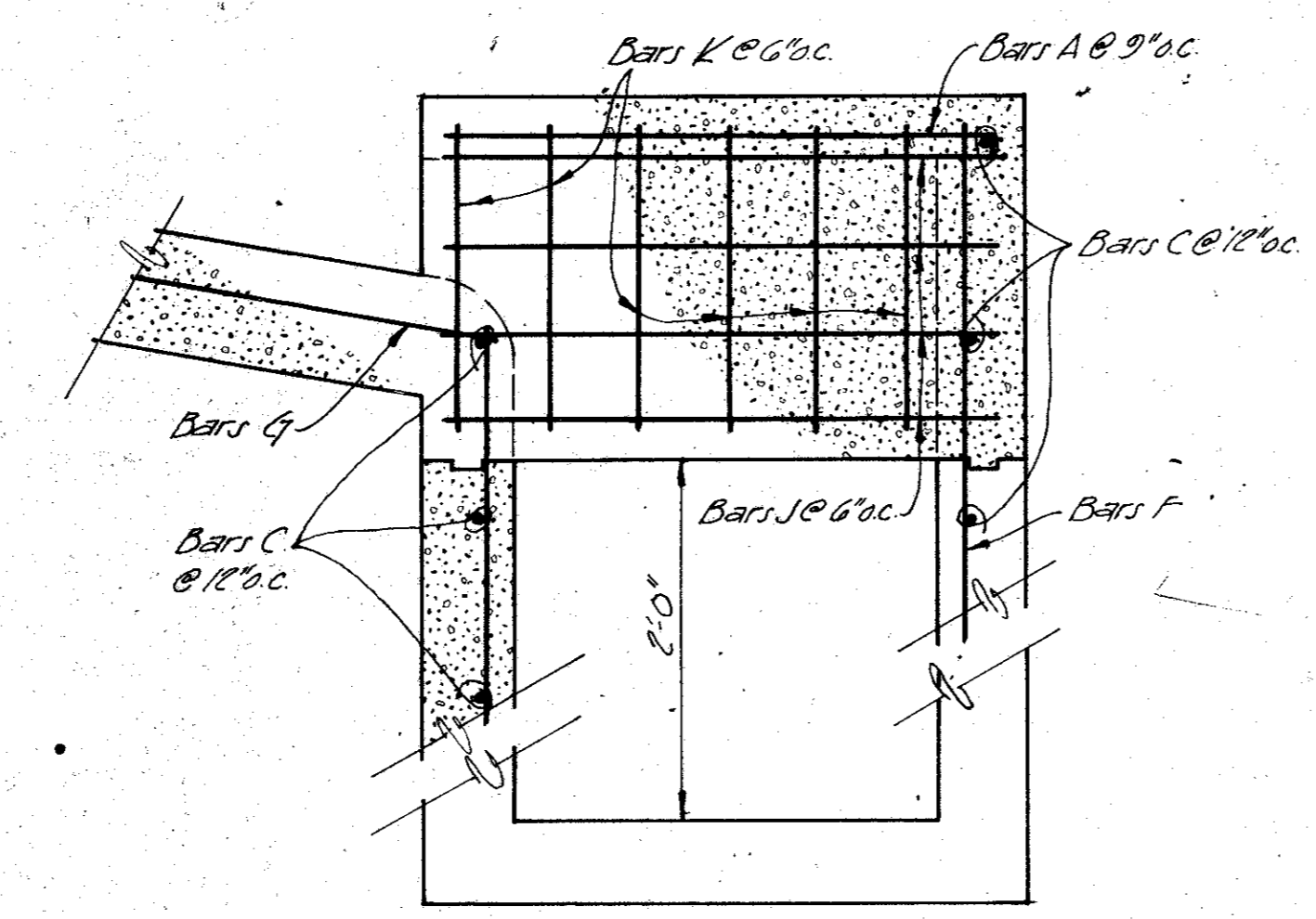
SHEET 47

\* Center Wall to be used in Inlets With Throat Widths Greater Than 10'

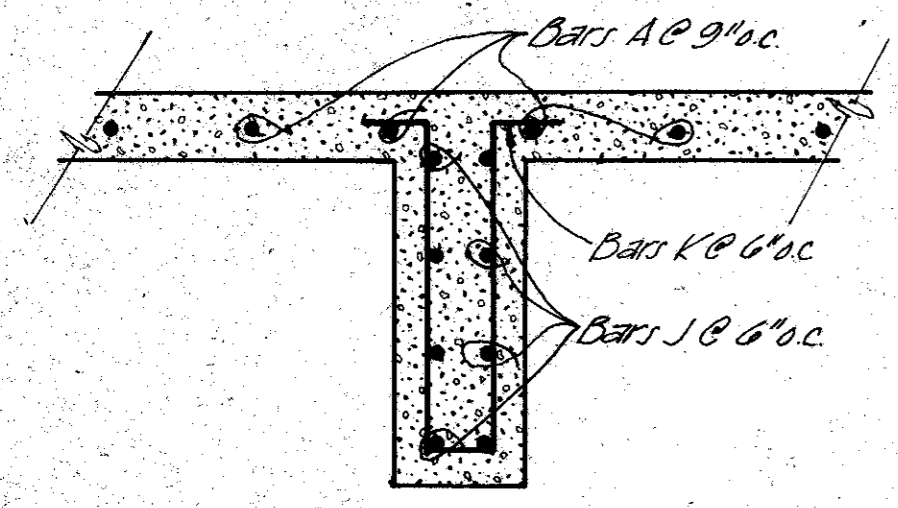


A ← D\*

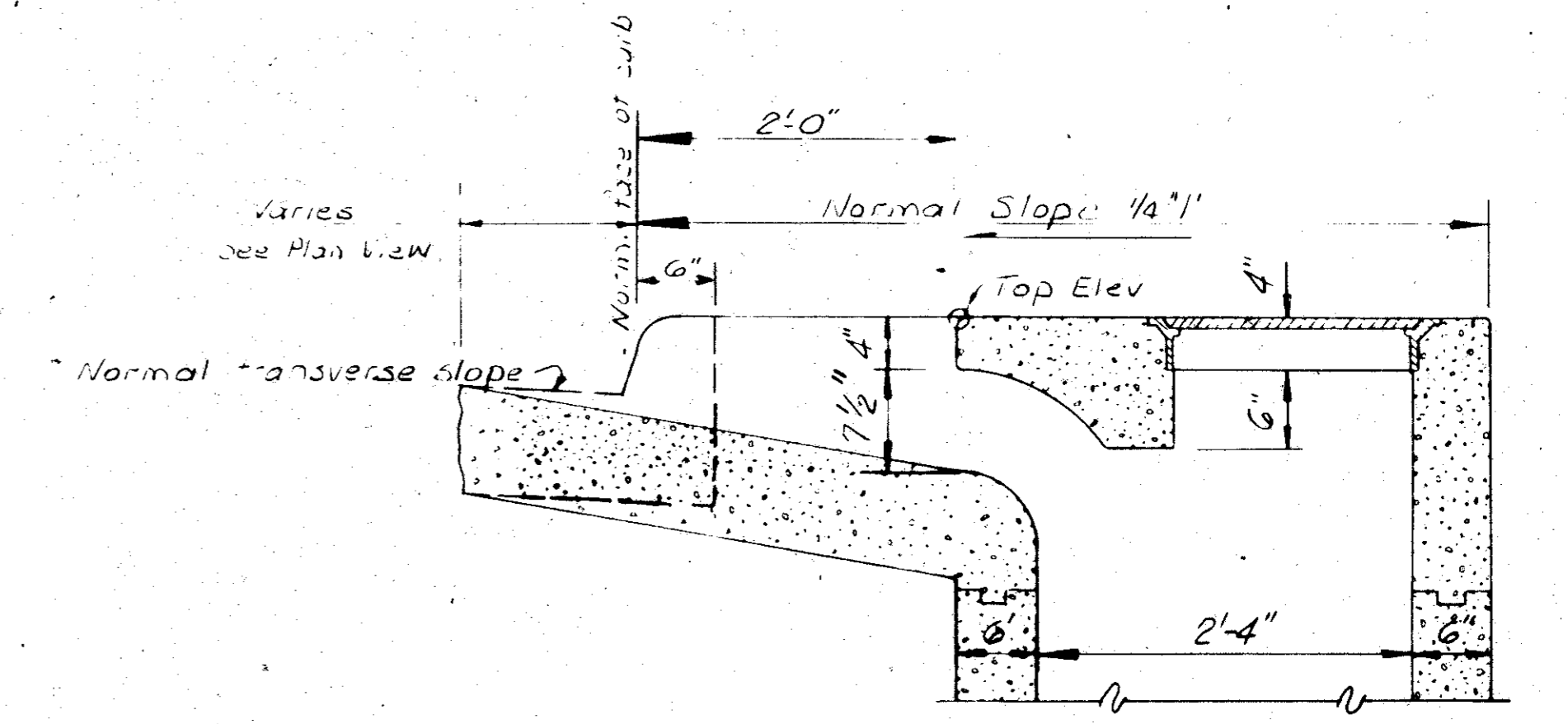
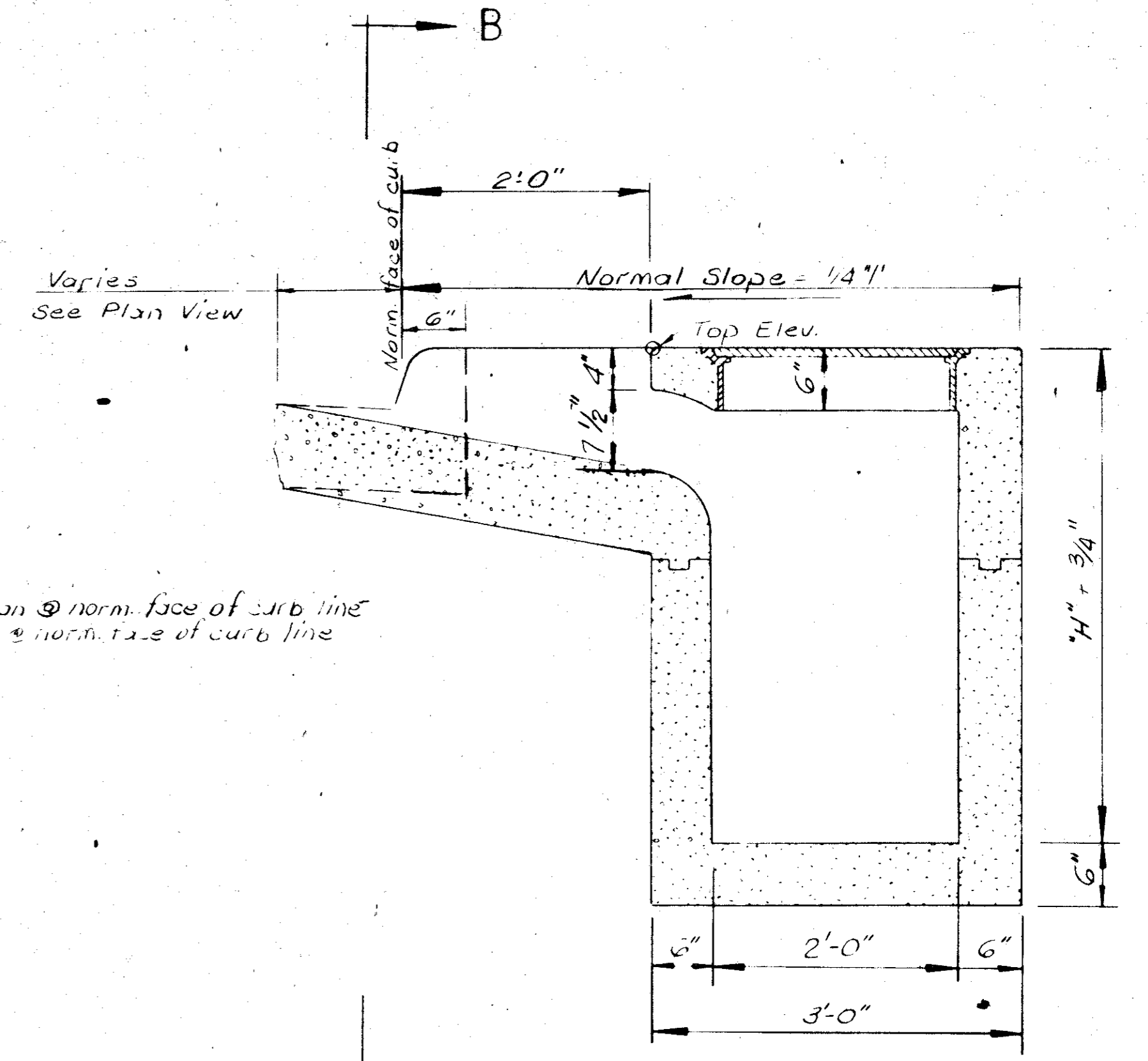
SECTION B-B



Section D-D\* Middle Wall (20' Inlet Only)

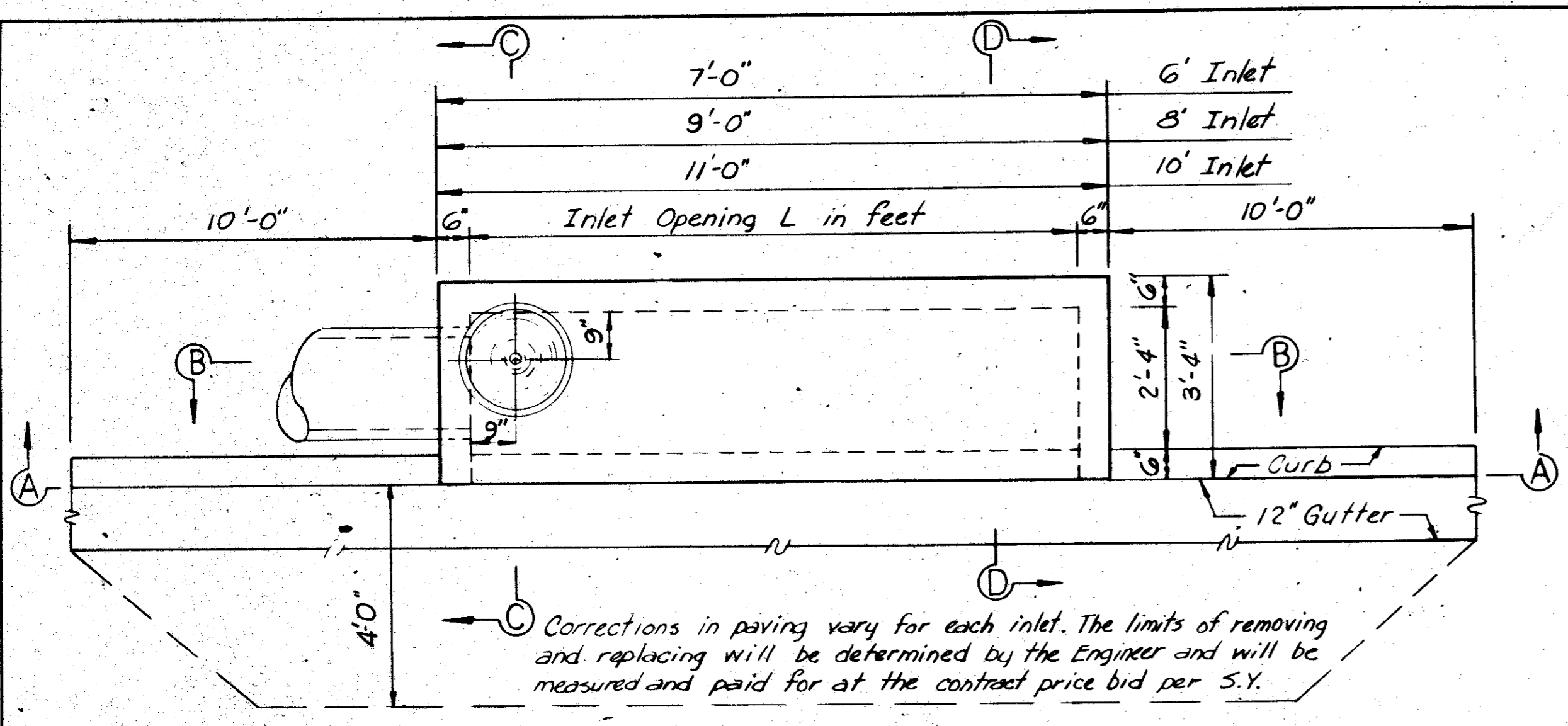


Section C-C\* Middle Wall



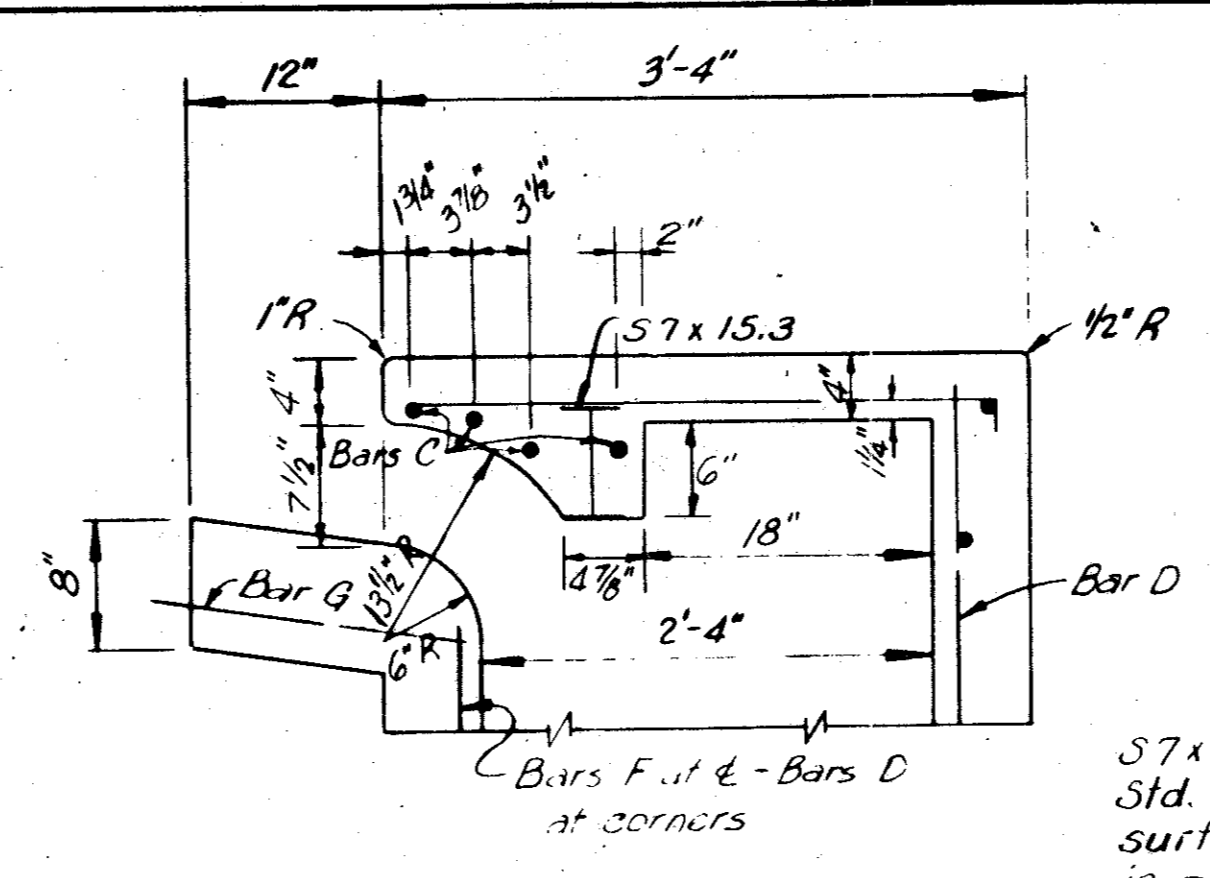
AS BUILTS 11-22-83

<b>CITIES OF ADDISON AND FARMERS BRANCH, TEXAS</b>		
<b>MARSH LANE</b>		
BROOKHAVEN CLUB DRIVE TO BELT LINE ROAD		
<b>CURB INLET DETAILS</b>		
<b>6", 8", 10", &amp; 20" CURB INLETS</b>		
Turner Collic & Braden Inc.		
Unit - S.D.H.P.T.	Scale: Horiz. Vert.	Date FEB 1982
Designed	Checked	Job No. 6042-010 Contract
Drawn	Approved	Sheet 48 of 66

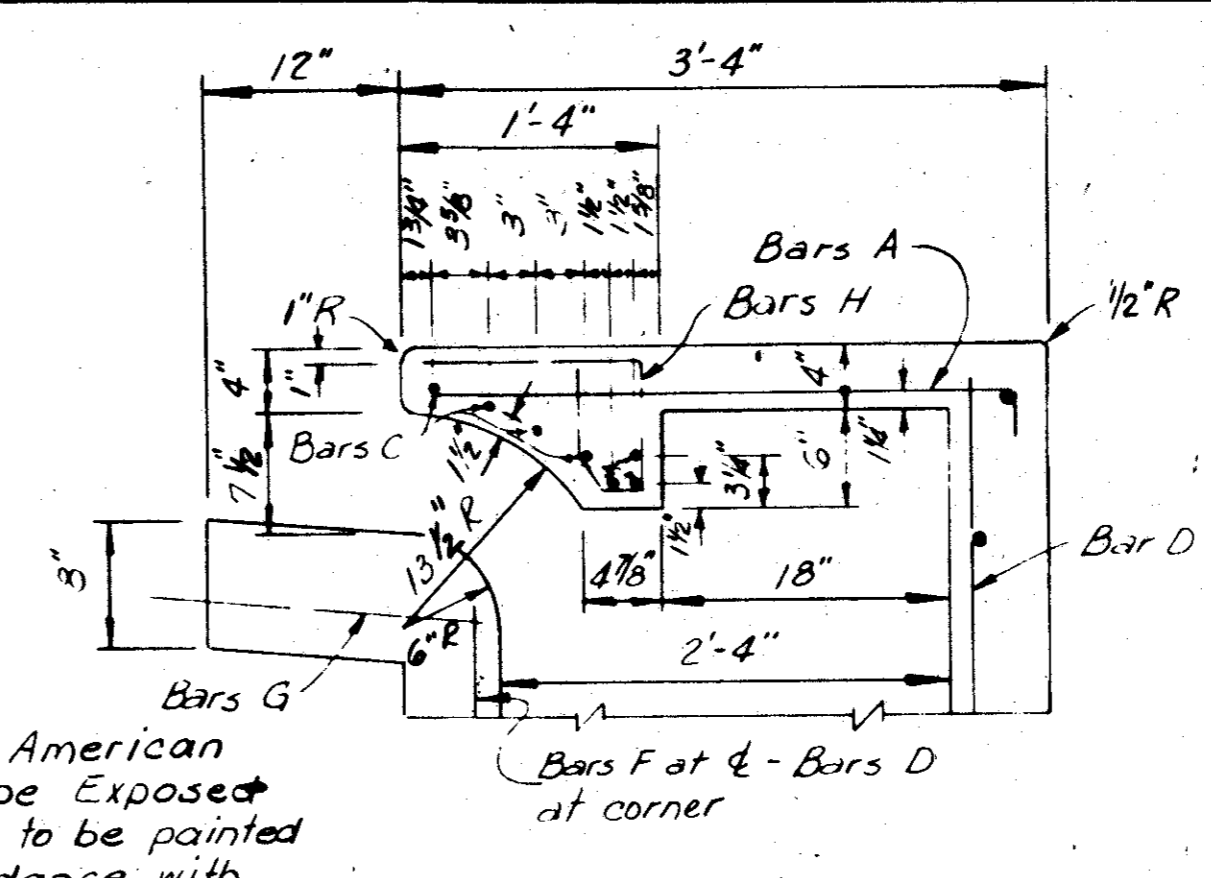


PLAN

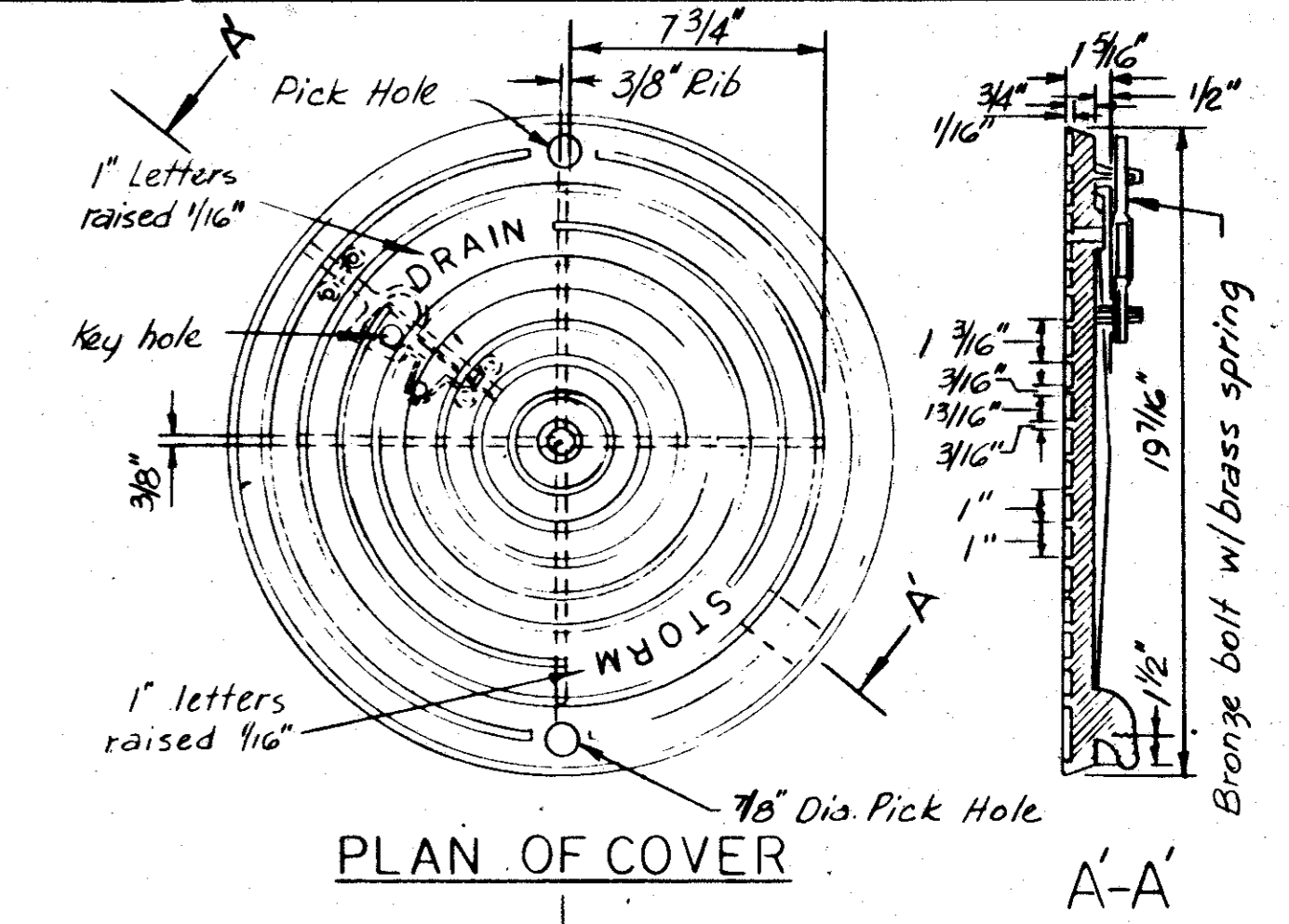
Corrections in paving vary for each inlet. The limits of removing and replacing will be determined by the Engineer and will be measured and paid for at the contract price bid per S.Y.



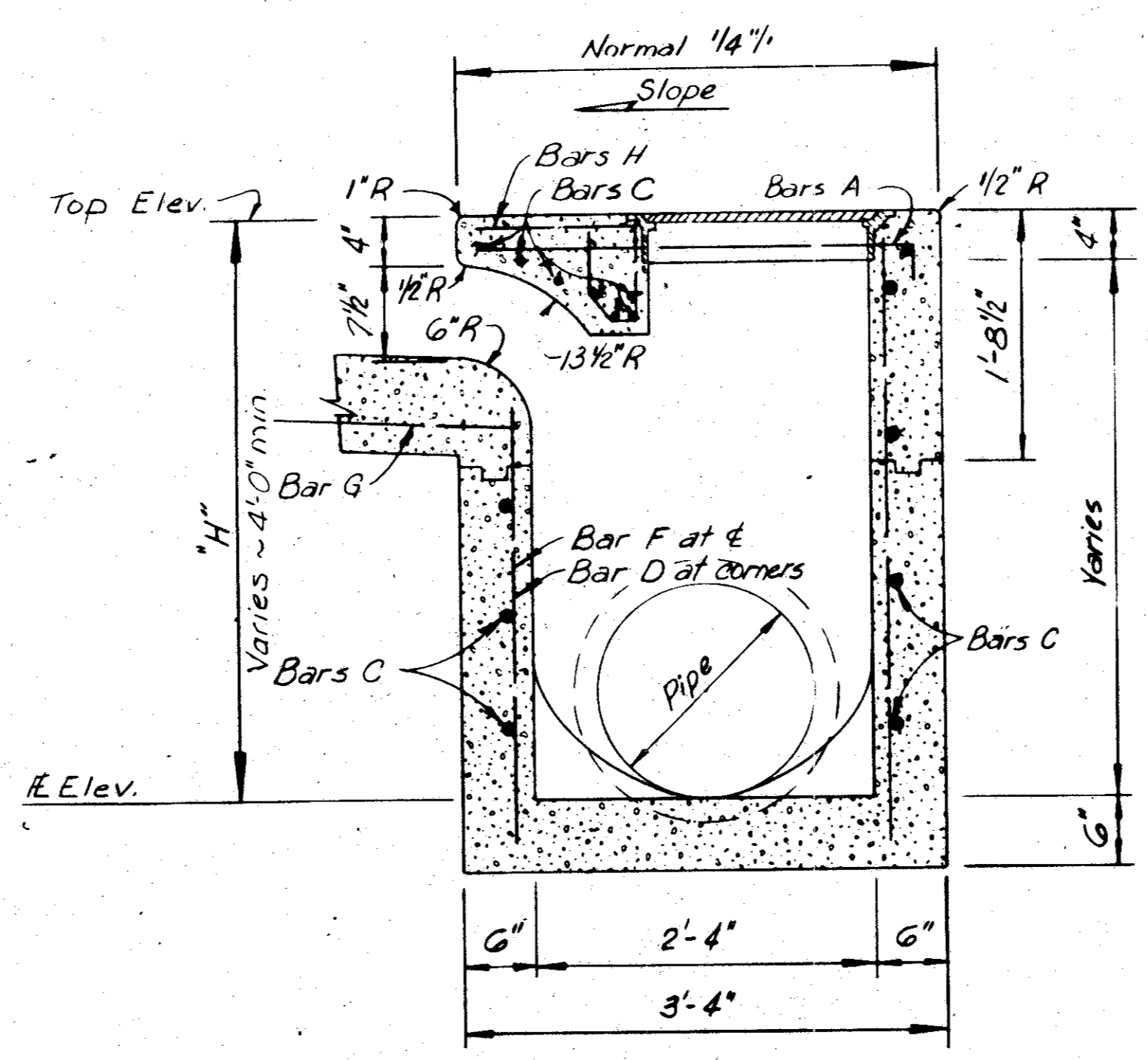
SECTION D-D FOR STANDARD INLETS



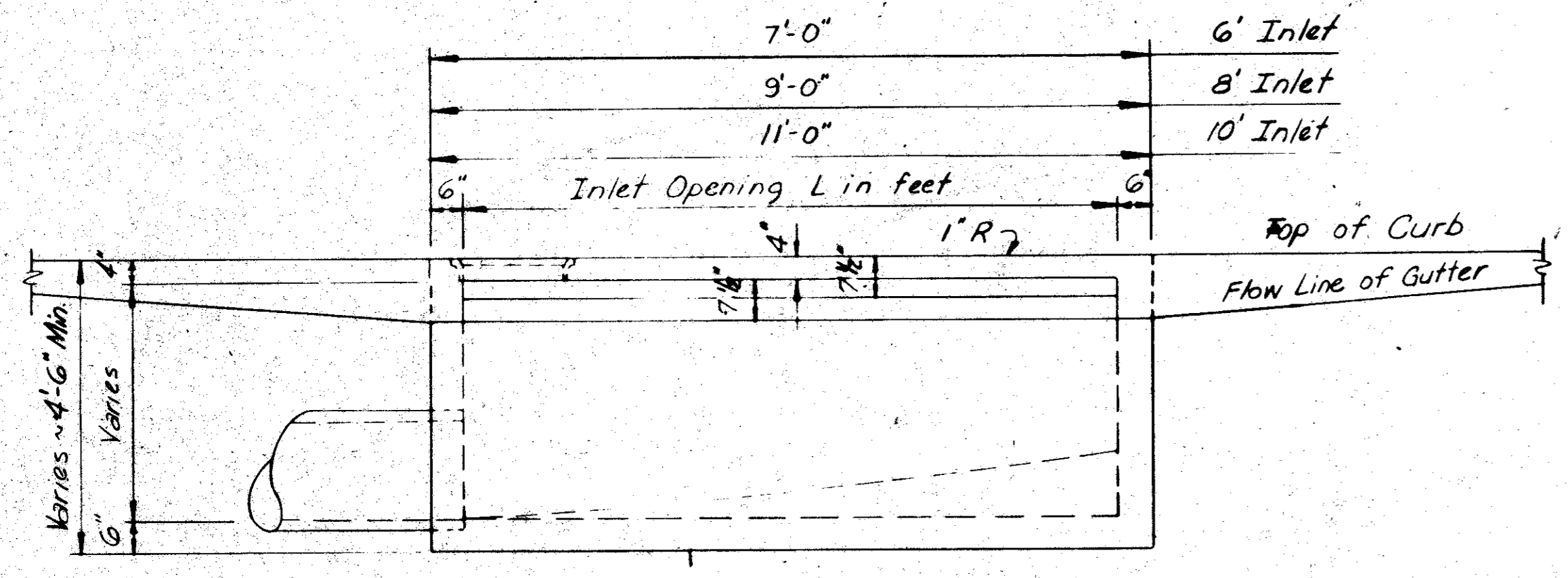
ALTERNATE SECTION D-D SEE STD. SEC. D-D AT LEFT



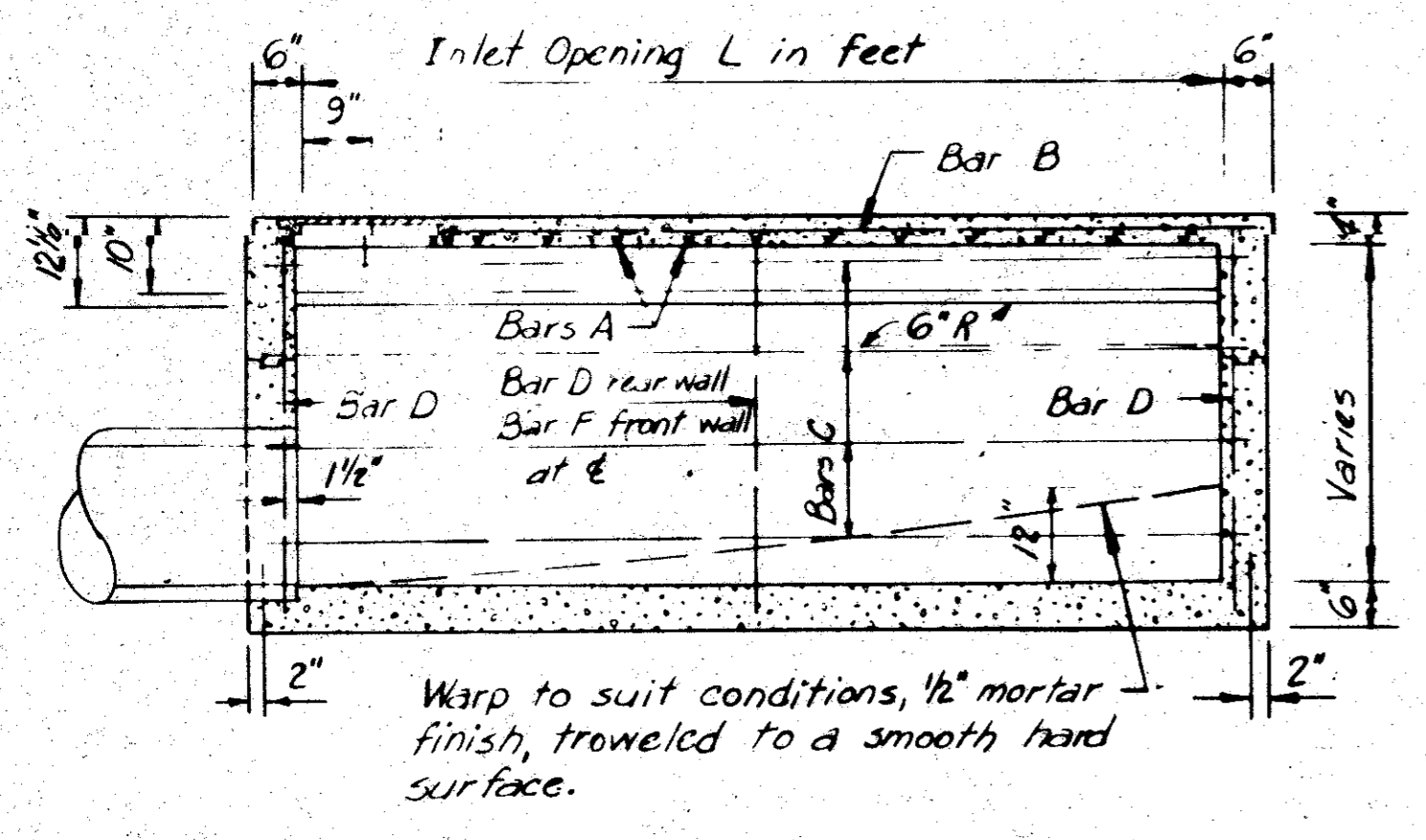
PLAN OF COVER



SECTION C-C

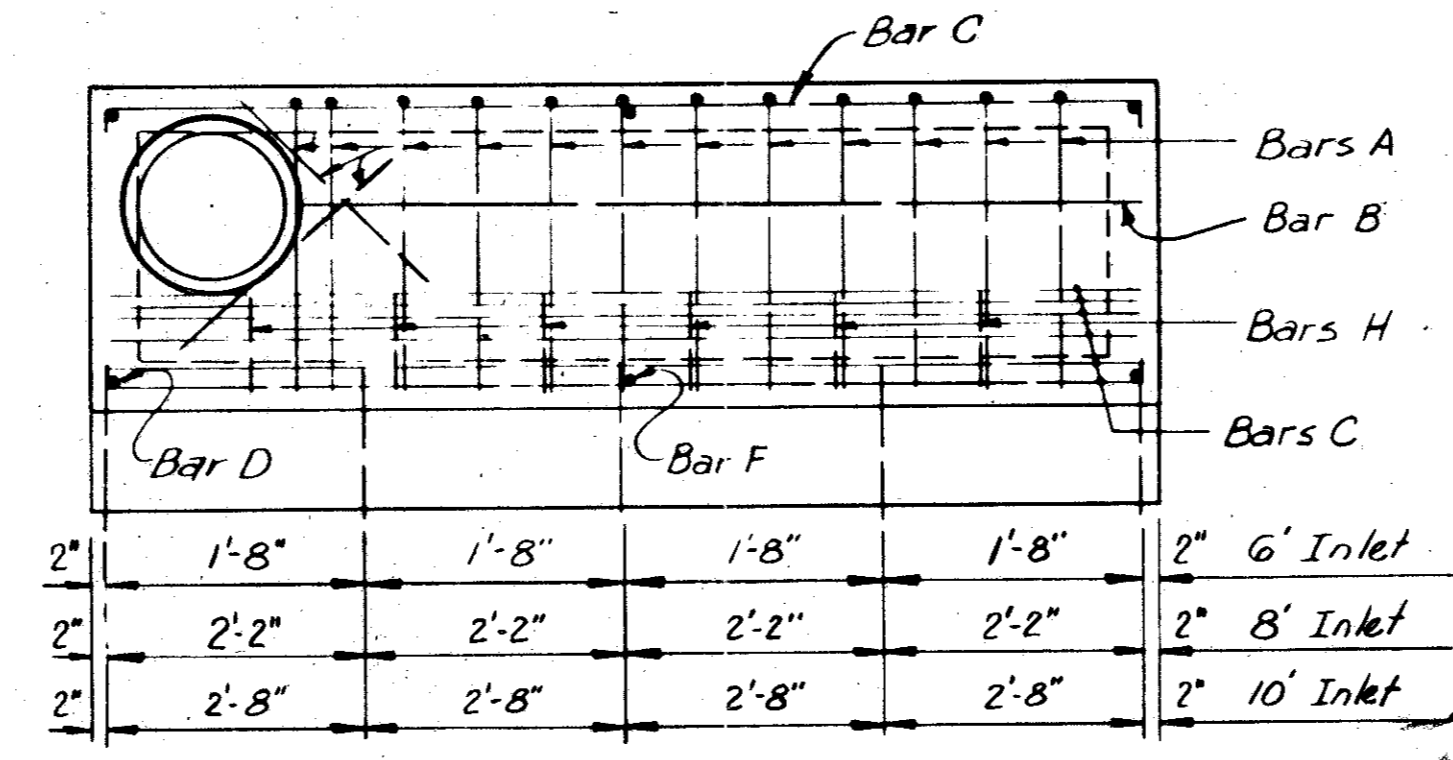


SECTION A-A

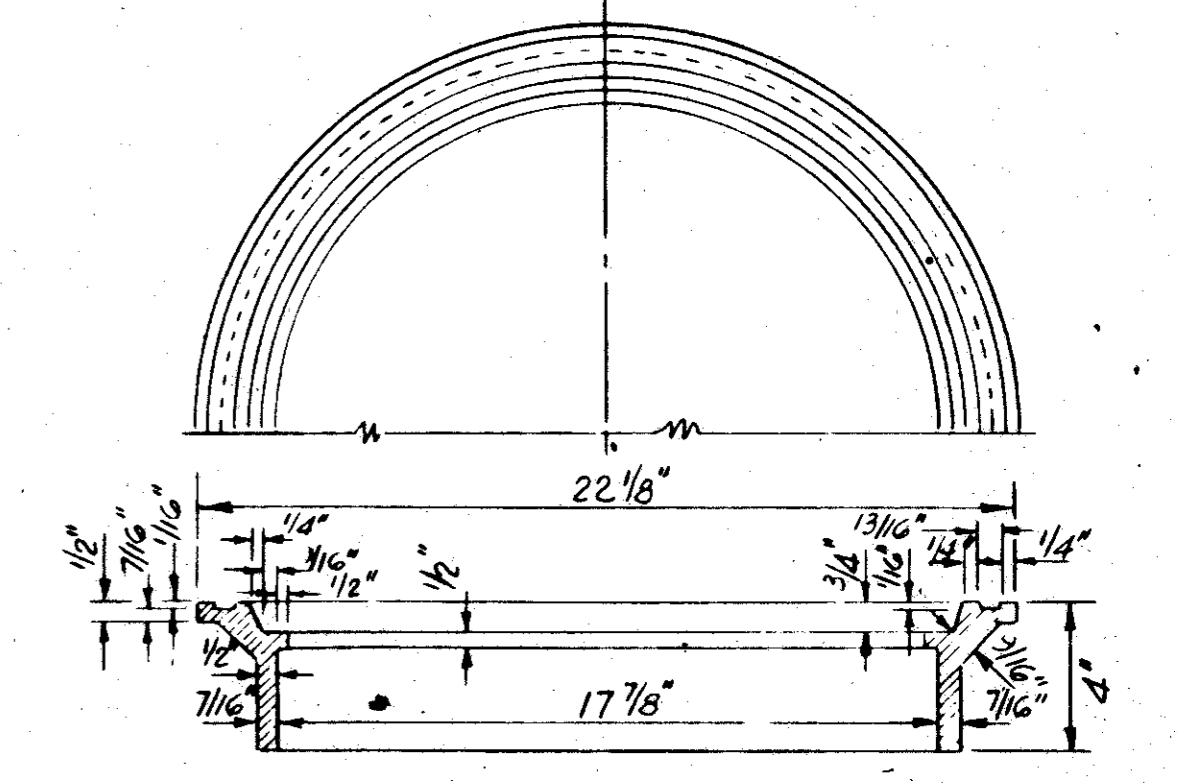


SECTION B-B

Warp to suit conditions, 1/2" mortar finish, troweled to a smooth hard surface.



REINFORCING PLAN ALTERNATE



SECTION OF FRAME INLET FRAME AND COVER TYPE II

**GENERAL NOTES:**  
 All concrete shall be Class A.  
 Lateral pipe may enter inlet at any location.  
 The 12" gutter in front of inlet is a part of the inlet and shall be built with the inlet.  
 Top of inlet slope shall conform to adjacent parkway normal 1/4" slope.  
 Payment of curb inlet as shown on the plans will be made at the unit price bid for 6 ft., 8 ft., 10 ft., 14 ft. or 20 ft. standard curb inlet complete in place.  
 Dimensions relating to reinforcing steel are to centers of bar.  
 Monolithic curb will not be paid for through the inlet.  
 Reinforcing steel will be ASTM A-615, Grade 60.  
 All exposed corners shall be chamfered 3/4".  
 Inlet steps spaced at 14" c.c. and located as directed by the Engineer, shall be provided and installed in all inlets where the depth exceeds 5'-0".

CITIES OF ADDISON AND FARMERS BRANCH, TEXAS			
MARSH LANE			
BROOKHAVEN CLUB DRIVE TO BELT LINE ROAD			
CURB INLET DETAILS			
6', 8', 10', & 20' INLETS			
Turner Collier & Braden Inc.			
Unit	SDHPT	Scale	Horz. Vert.
Designed	Checked	Date	FEB., 1982
Drawn	Approved	Job No.	6042-010 Contract
		Sheet	49 of 66

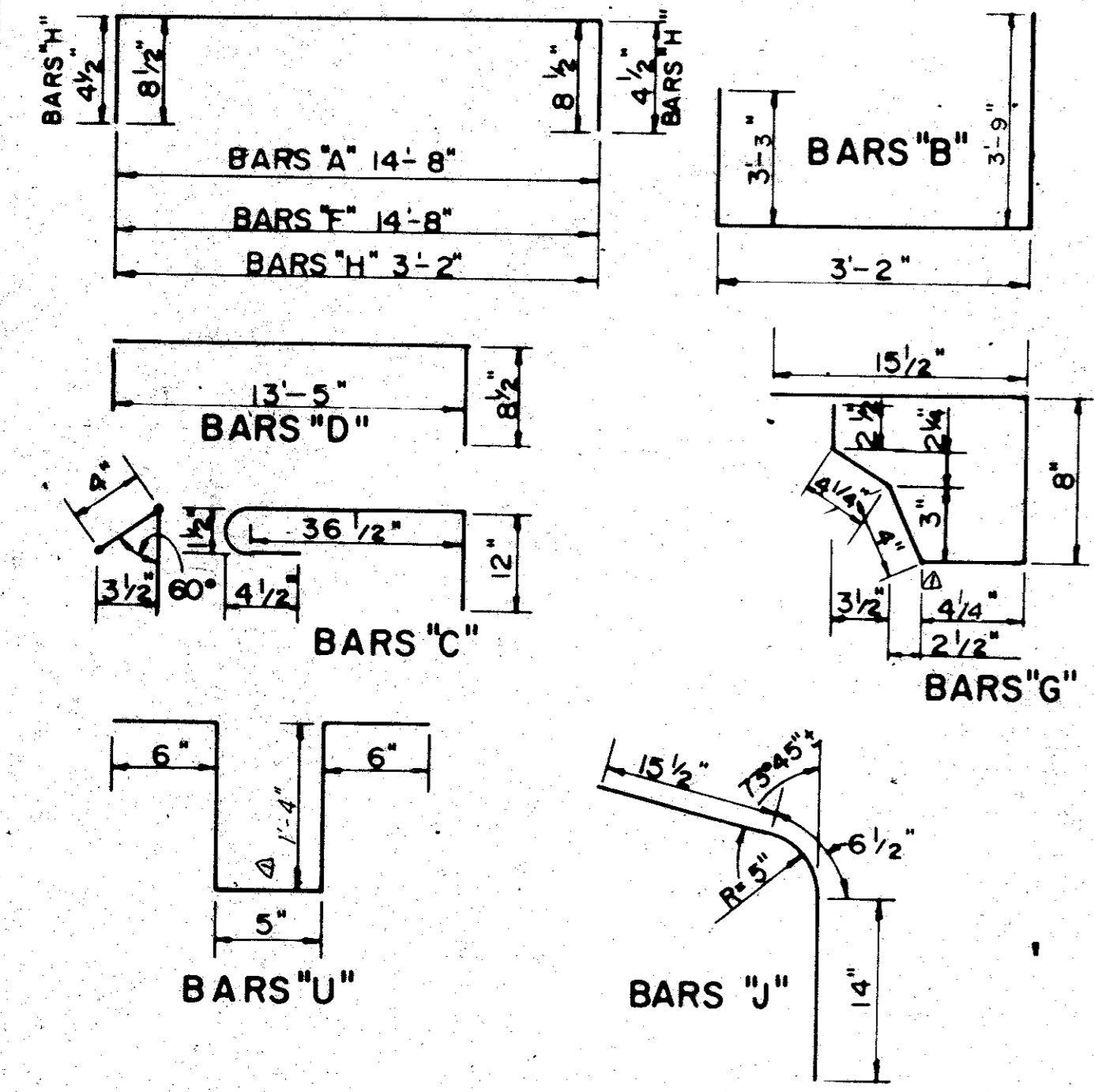


**STEEL SCHEDULE FOR 14-FOOT INLETS**

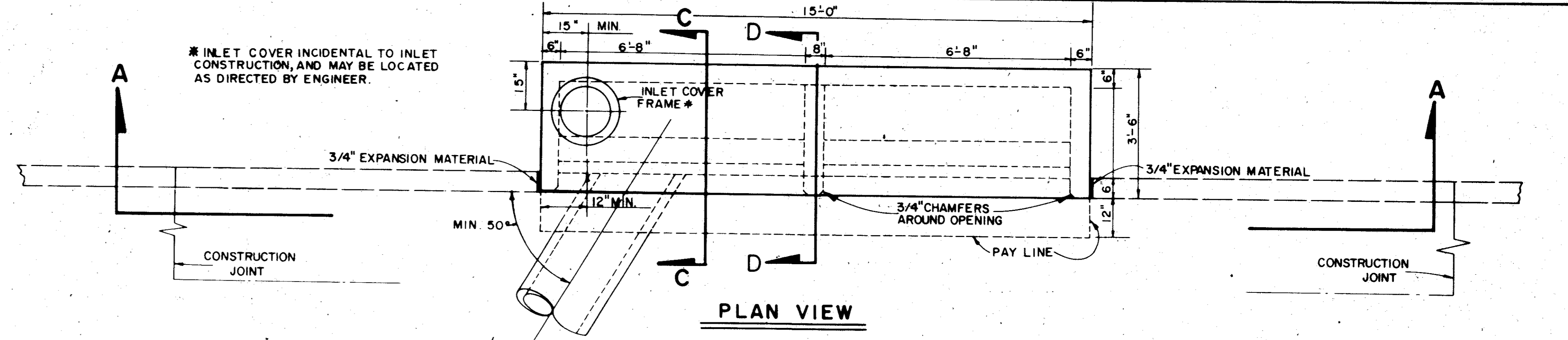
BAR CODE	NO. REQ'D	BAR SIZE	LENGTH	SPACE	WEIGHT (LBS.)	DESCRIPTION AND REMARKS
A	12	4	16'-1"	*	129	SEE DETAILS   *HALLS 9" CTR. *NOTION 12" CTR.
B	10	4	10'-2"	21 1/2"	68	SEE DETAILS   SEE SECTION "EE"
C	14	4	4'-6 1/2"	18"	45	SEE DETAILS   SEE SECTION "BB"
D	2	4	4'-1 1/2"	8"	19	SEE DETAILS
F	7	4	16'-1"	*	75	SEE DETAILS   *SEE SECTION "CC"
G	15	3	3'-2 1/2"	12"	21	SEE DETAILS   *SEE SECTION "BB"
H	4	4	3'-11"	4 1/2"	13	SEE DETAILS   *SEE SECTION "EE"
J	12	3	3'-0"	16"	14	SEE DETAILS
K	2	4	3'-0"	*	4.00	STRAIGHT BARS   *SEE SECTION "BB"
U	5	3	4'-1"	9 3/8"	7	SEE DETAILS

ALTERNATE CONSTRUCTION  
ALTERNATE PRECAST INLETS MAY BE APPROVED ON AN INDIVIDUAL BASIS. PRECAST INLETS SHALL BE OF EQUAL OR BETTER STRENGTH, MATERIAL AND WORKMANSHIP, AND SHALL MEET THE STANDARD DESIGN CRITERIA OF THE CAST-IN PLACE INLETS SHOWN IN THESE DETAILS.

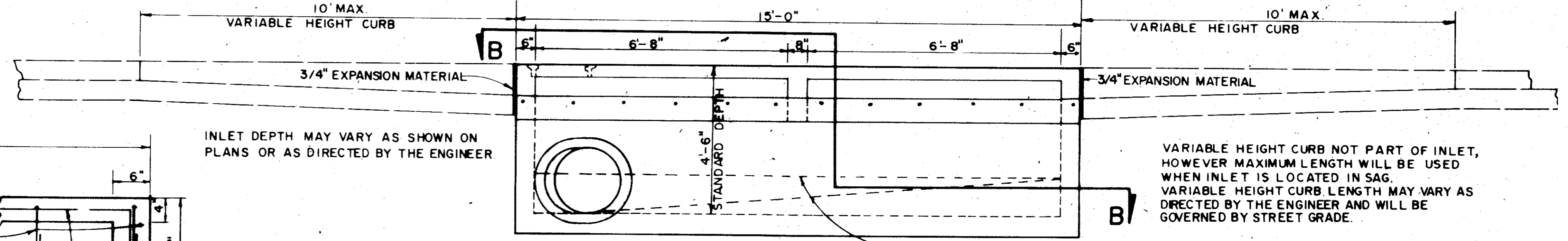
TOTAL STEEL FOR 4'-0" STANDARD DEPTH INLET  
395 LBS.  
WEIGHT OF STEEL MAY VARY WITH INCREASED DEPTH OF INLET BY AN AVERAGE OF 17.5 LBS PER EACH 1/2 FOOT OF EXTRA DEPTH.  
493 CUBIC YARDS OF 3000 P.S.I. CONCRETE REQUIRED PER STANDARD INLET.  
CONCRETE FOR EACH ADDITIONAL 1/2 FOOT OF DEPTH 0.32 CU. YD.



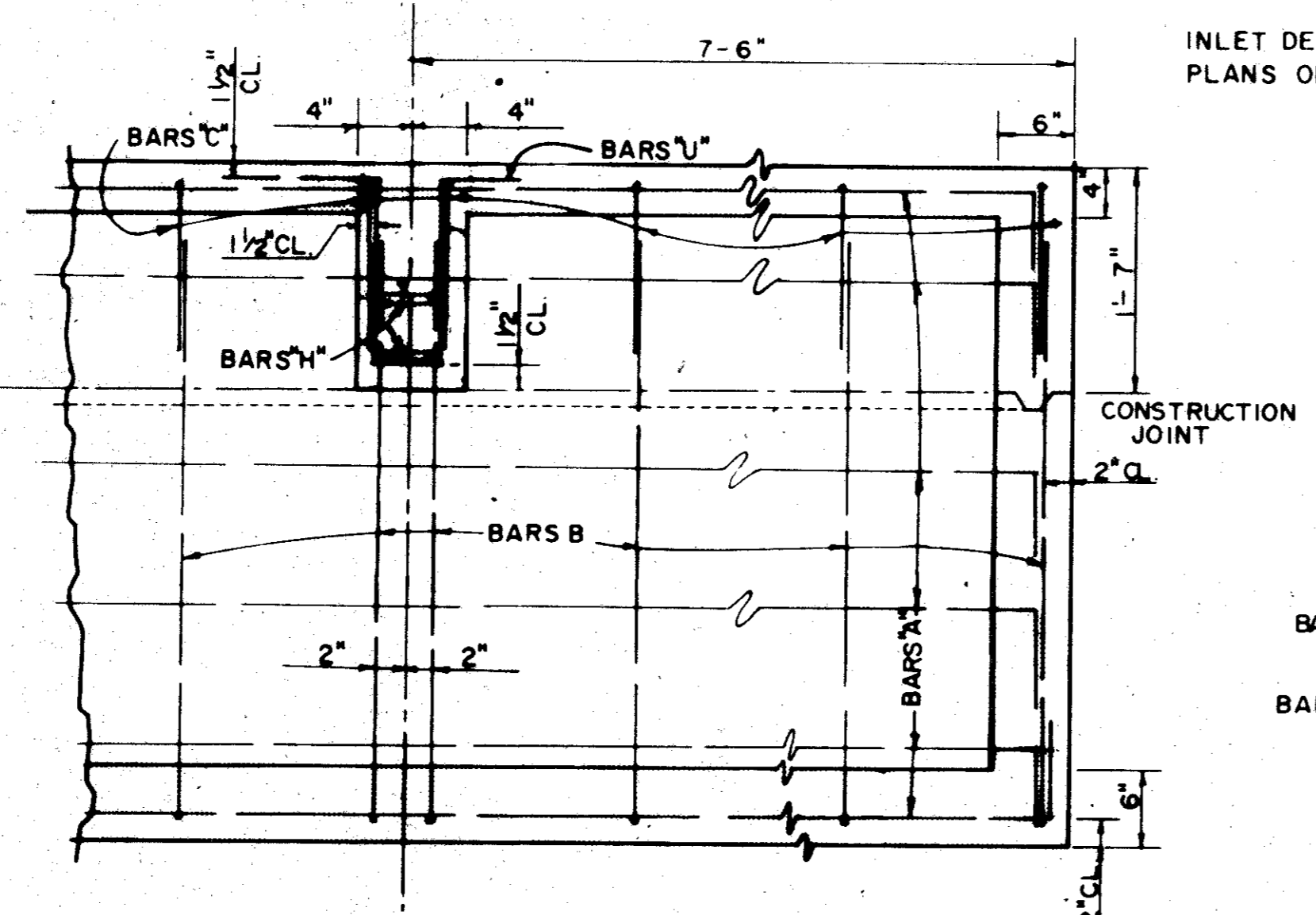
**BAR DETAILS**



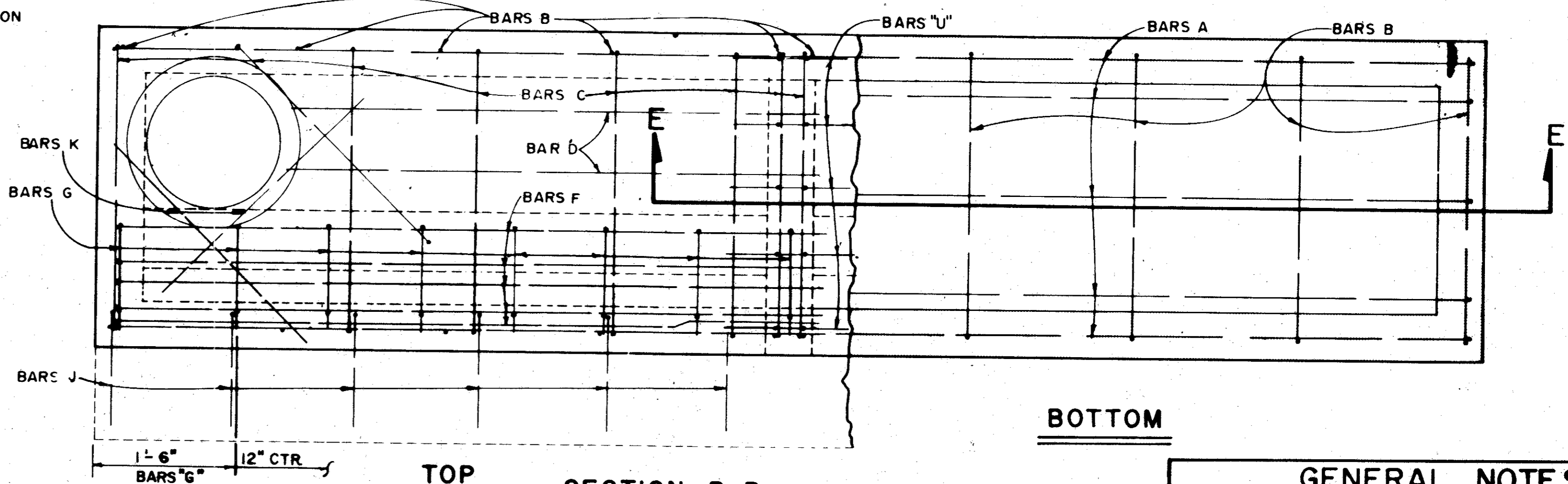
**PLAN VIEW**



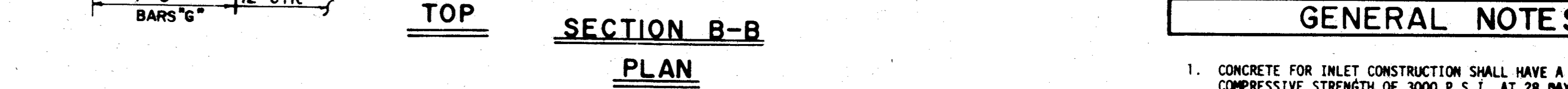
**SECTION A-A**



**SECTION E-E & HALF SECTION ELEVATION**

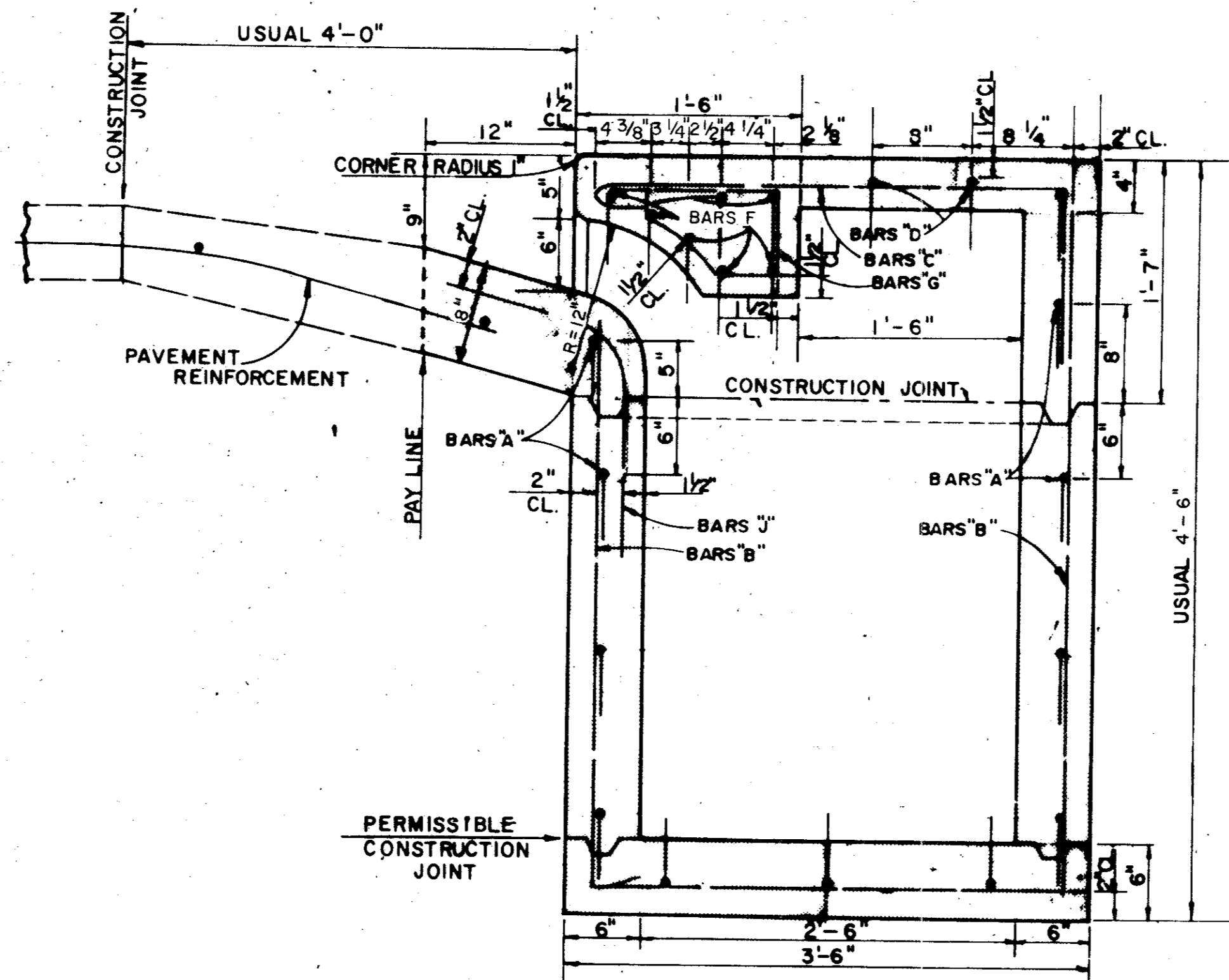


**BOTTOM**

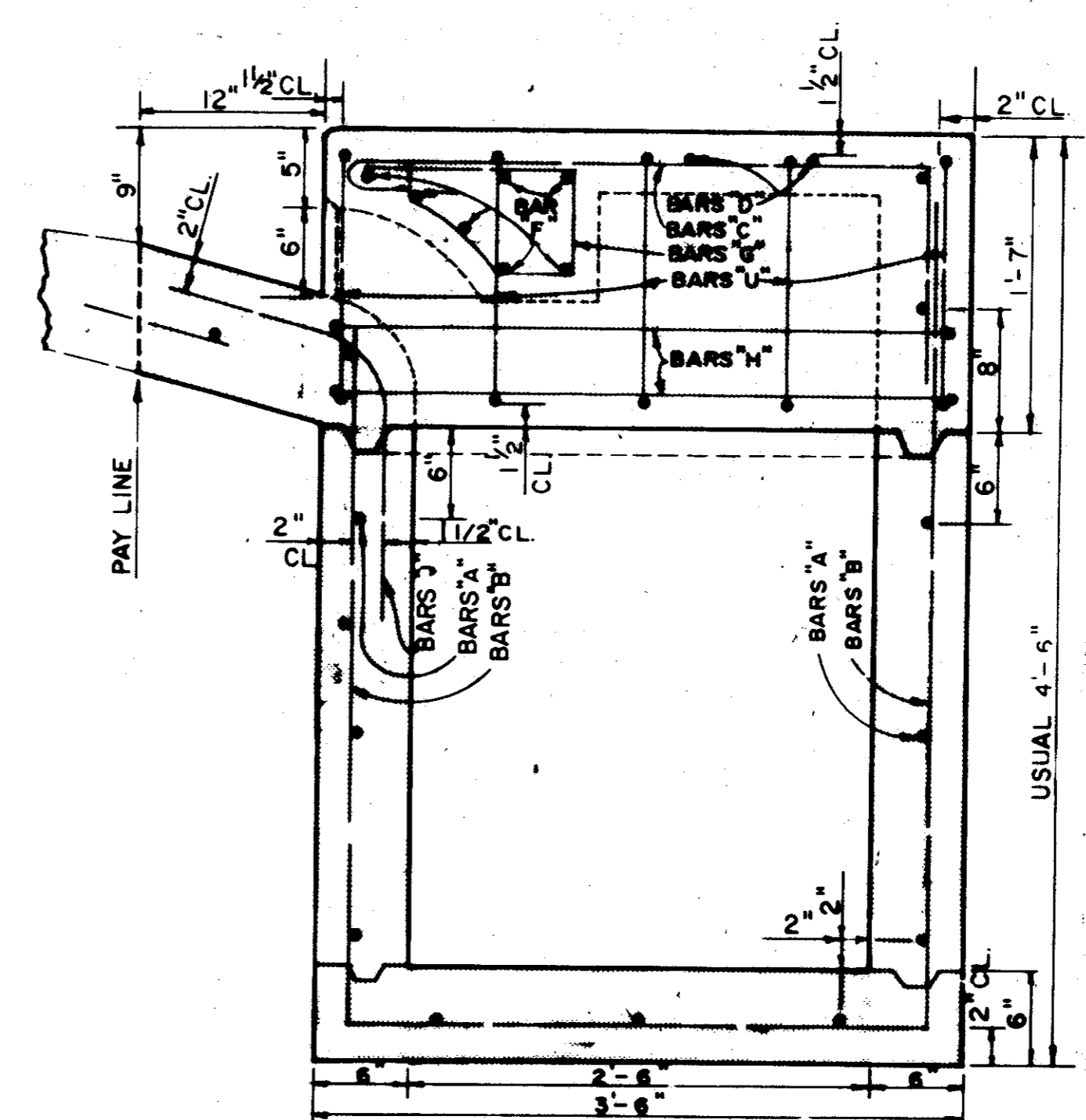


**TOP**

**SECTION B-B PLAN**



**SECTION C-C**



**SECTION D-D**

**GENERAL NOTES**

1. CONCRETE FOR INLET CONSTRUCTION SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 P.S.I. AT 28 DAYS.
2. DIMENSIONS RELATING TO PLACEMENT OF REINFORCING BARS ARE FROM CENTER TO CENTER OF BARS UNLESS OTHERWISE NOTED. BAR SPLICES ARE PERMISSIBLE IF BARS ARE TIED AND OVERLAPPED 30 DIAMETERS.
3. PIPE LATERALS MAY ENTER INLET AT SIDES OR ENDS.
4. STRUCTURAL EXCAVATION WILL NOT BE A SEPARATE PAY ITEM.
5. CHAMFER ALL EXPOSED EDGES AROUND INLET OPENINGS 3/4".
6. SEE SHEET FOR RECESSED INLET DETAILS.

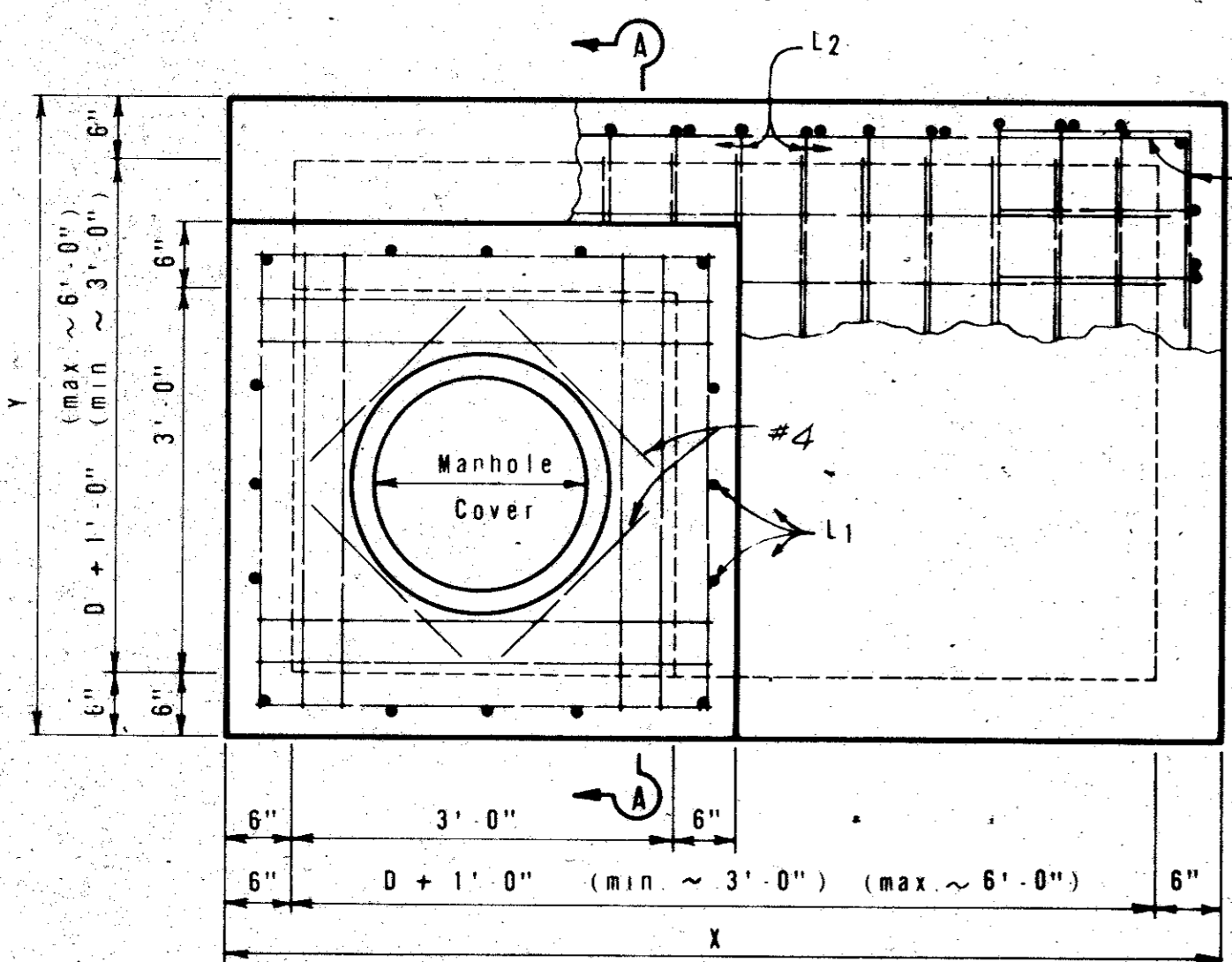
NO SCALE

Rev lengths. 9/10/82

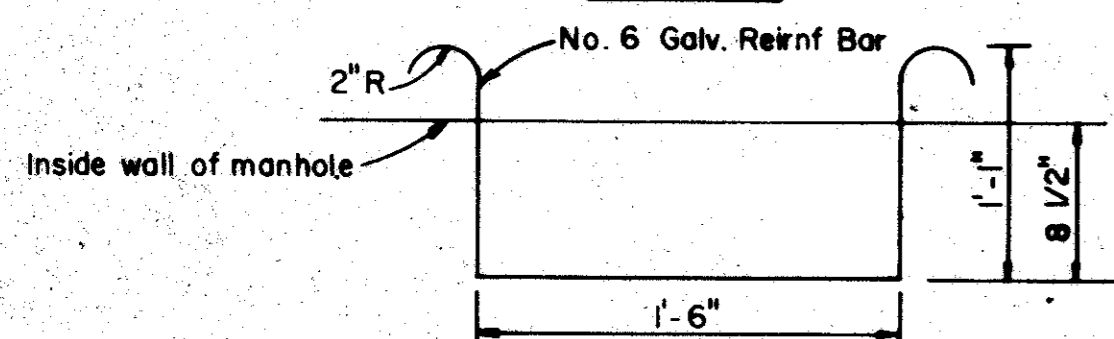
CITIES OF ADDISON AND FARMERS BRANCH, TEXAS  
MARSH LANE  
BROOKHAVEN CLUB DRIVE TO BELT LINE ROAD  
CURB INLET DETAILS  
14 FOOT INLET  
Turner Collier & Braden Inc.

Unit CITY DALLAS	Scale: Horiz. Vert.	Date FEB, 1982
Designed	Checked	Job No. 6042-010 Contract
Drawn	Approved	Sheet 51 of 66

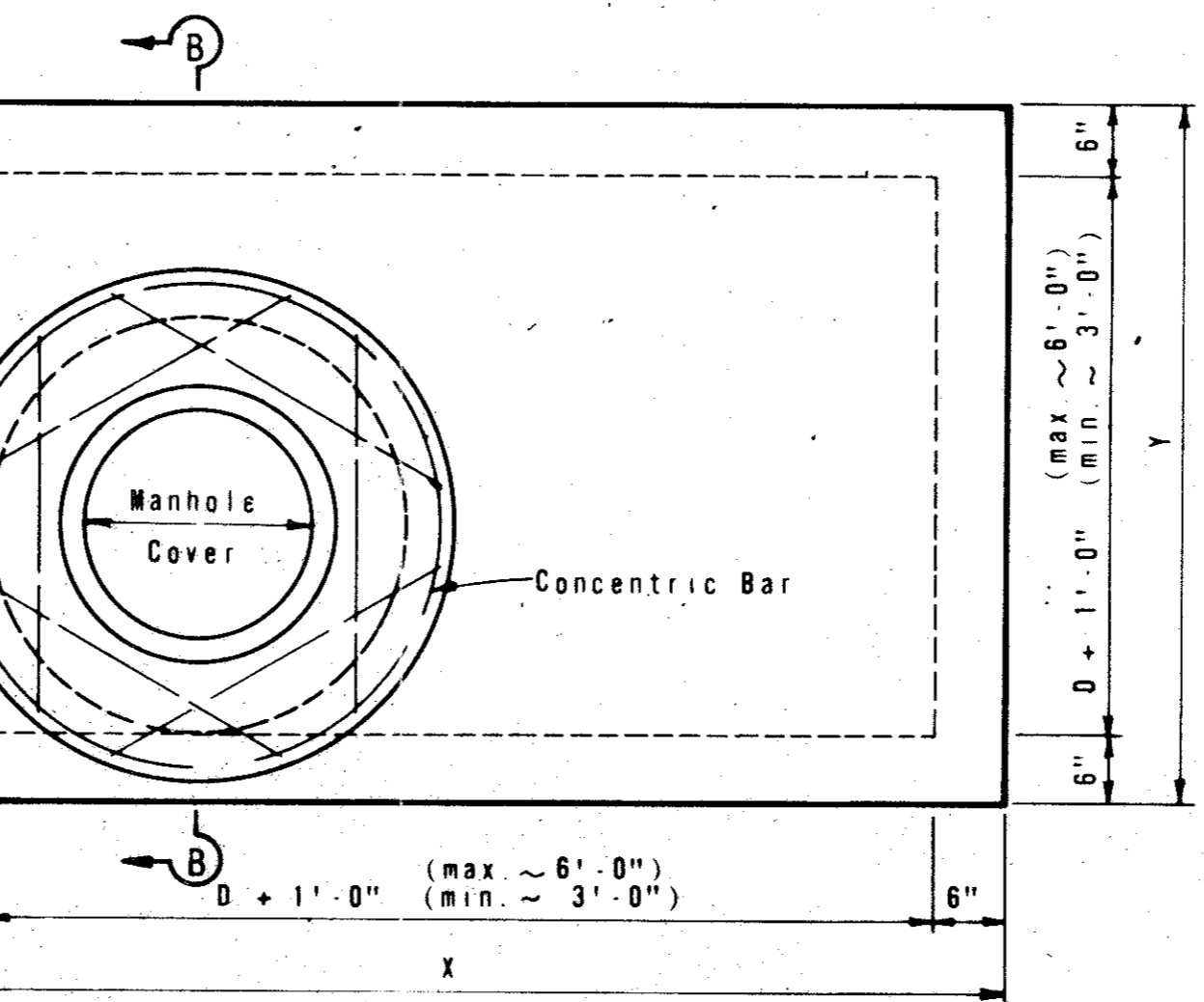
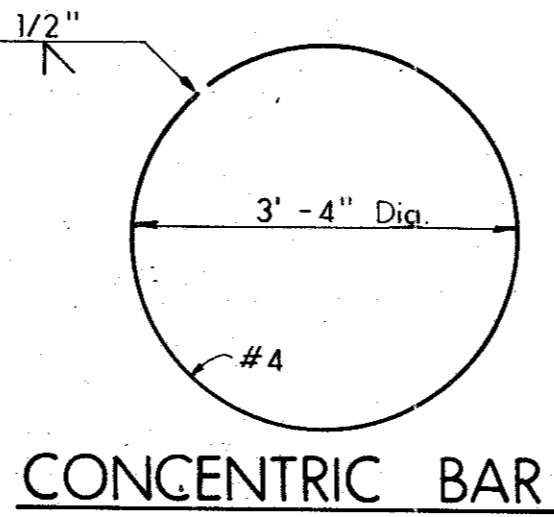
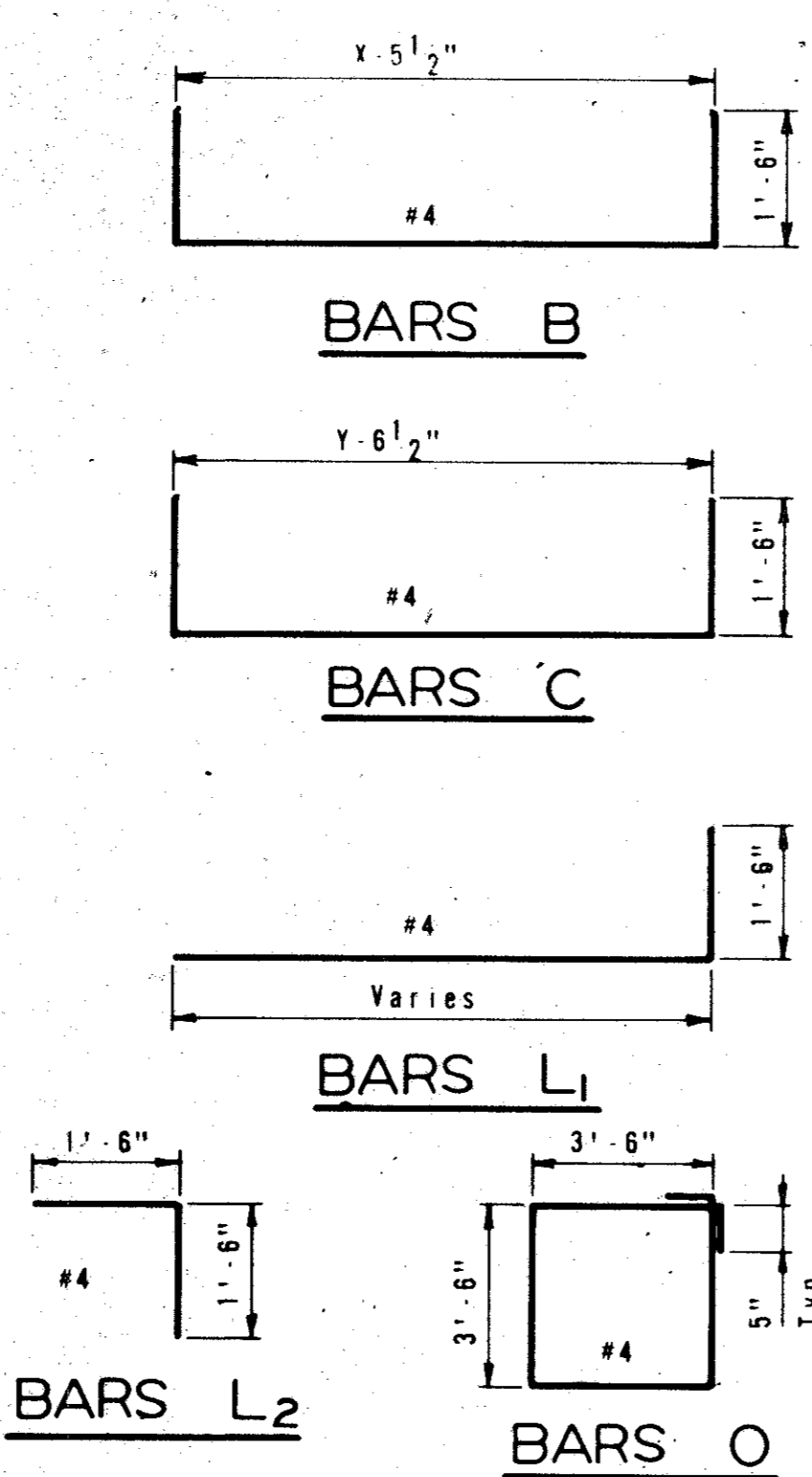
Note: Riser, either cast-in-place or concrete pipe, may be located in any corner.



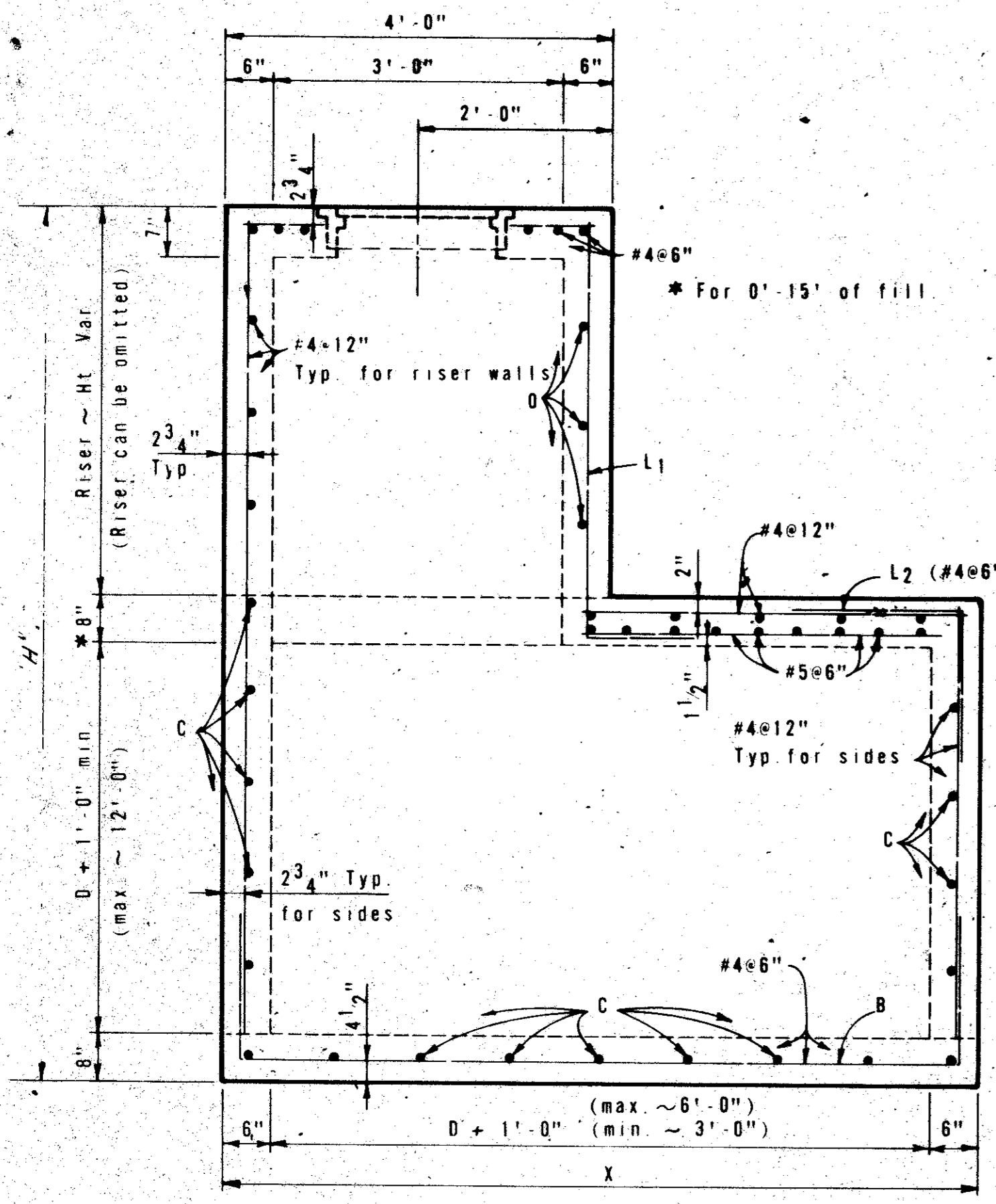
PLAN



DETAIL OF MANHOLE STEP FOR CAST IN PLACE RISER  
NOTE: Manhole Steps For Pipe Risers Shall Conform To The Requirements Of ASTM C 478.

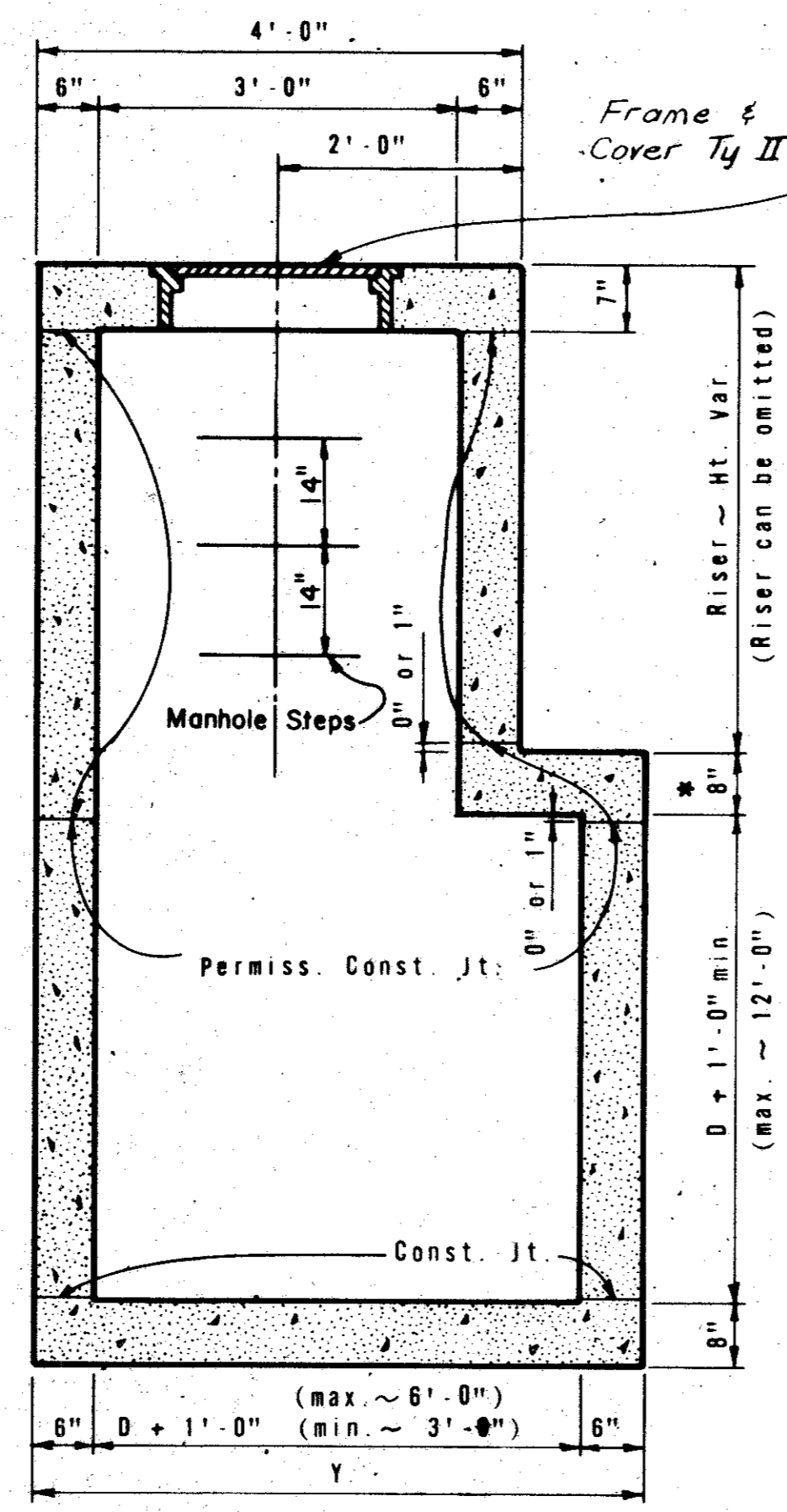


PLAN

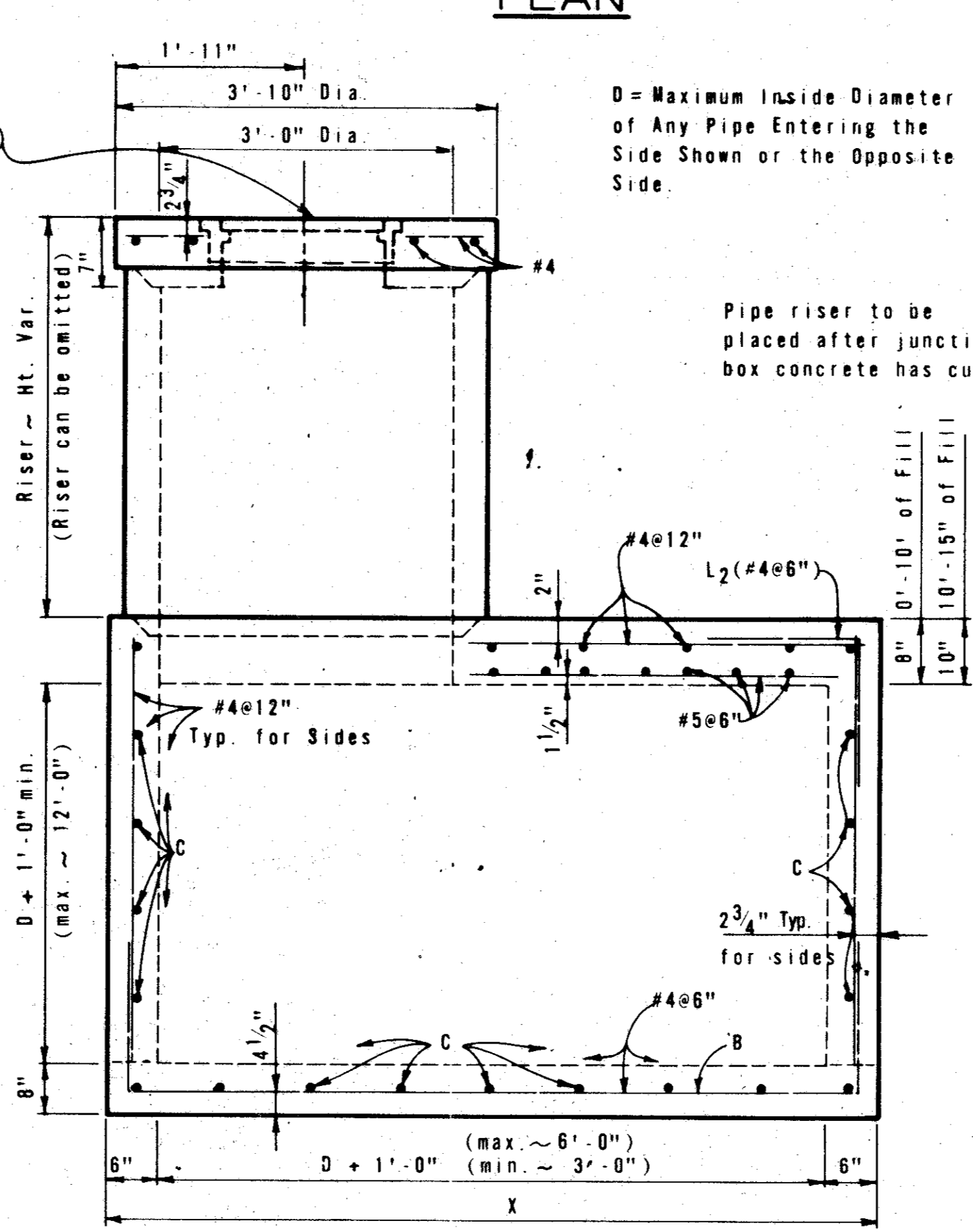


ELEVATION

MANHOLE WITH CAST-IN-PLACE RISER

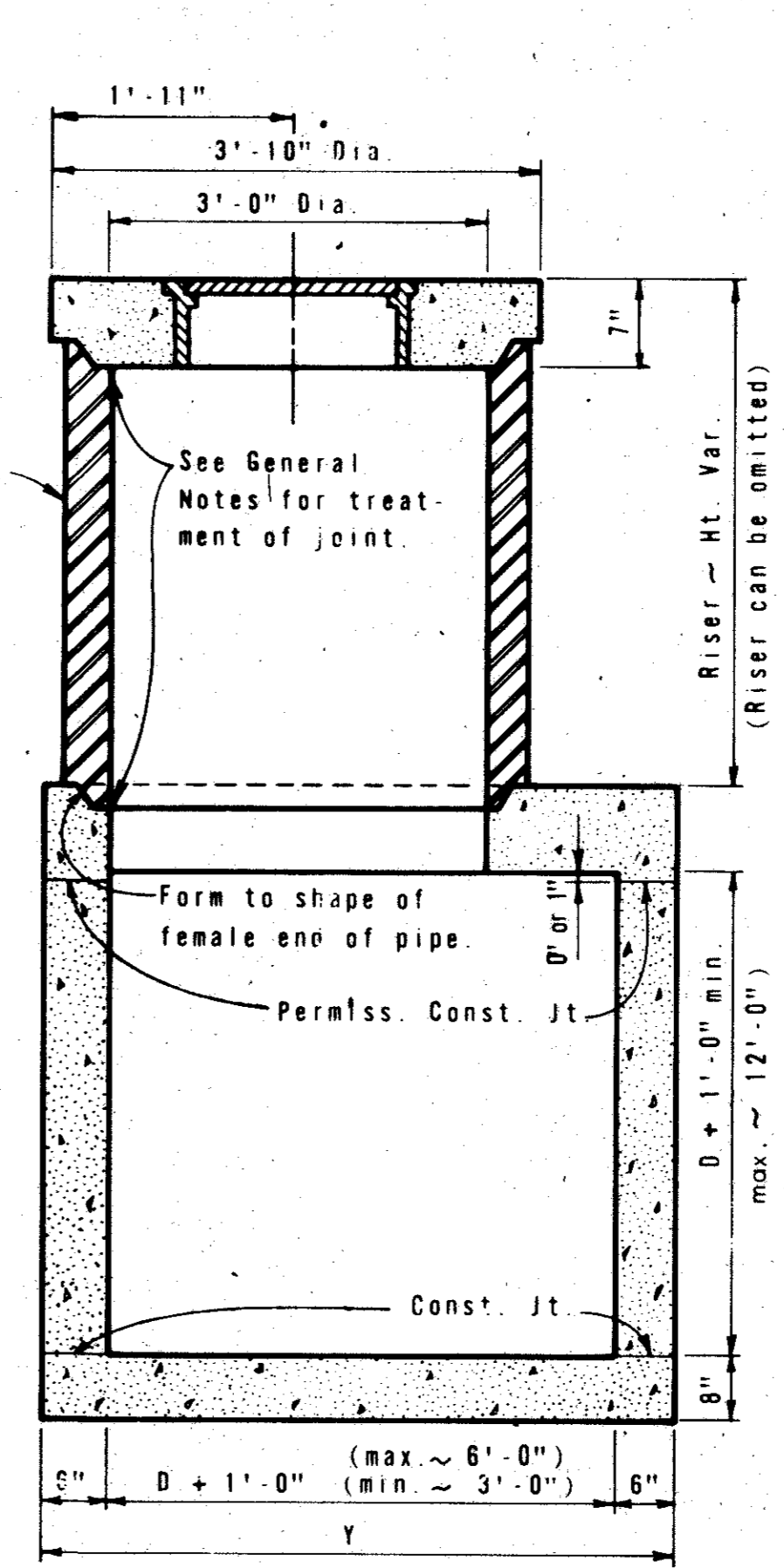


SECTION A-A



ELEVATION

OPTIONAL MANHOLE WITH PIPE RISER



SECTION B-B

GENERAL NOTES

Unless otherwise shown in the plans, payment will be made for each Manhole of the Type M and Frame and Cover (Ty II). See Inlet Details for frame and cover (Ty II). Exposed edges shall be chamfered 3/4".

The Contractor may propose alternate procedures for the construction of Manholes, including precast units. Plans for such proposed alternates shall be submitted to the Engineer for review and approval before construction.

In areas of conflict between reinforcing steel, block-outs, pipes, anchor bolts or other reinforcing steel, the reinforcement shall be bent or adjusted to clear as directed by the Engineer.

The riser may be constructed of reinforced concrete as shown or of Reinforced Concrete Pipe, Class III, in accordance with ASTM Designation C-76. If pipe is used, joints shall conform to the Item "Reinforced Concrete Pipe Culverts".

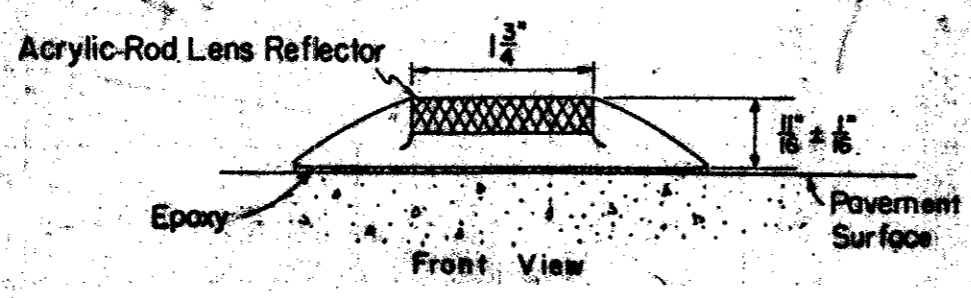
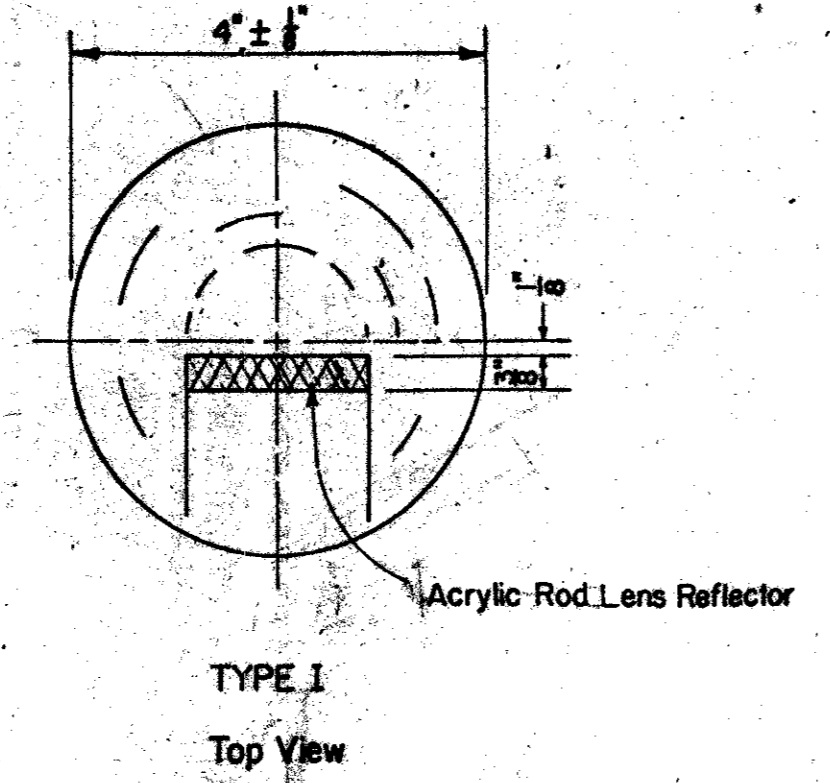
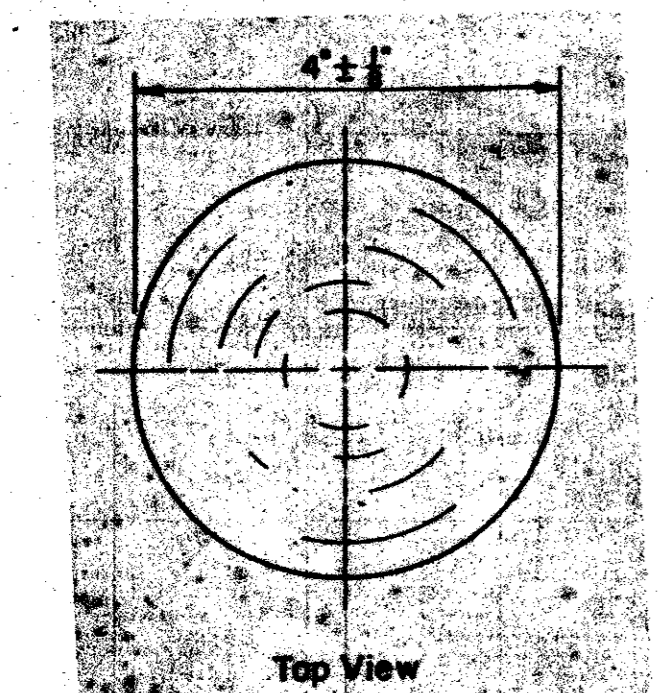
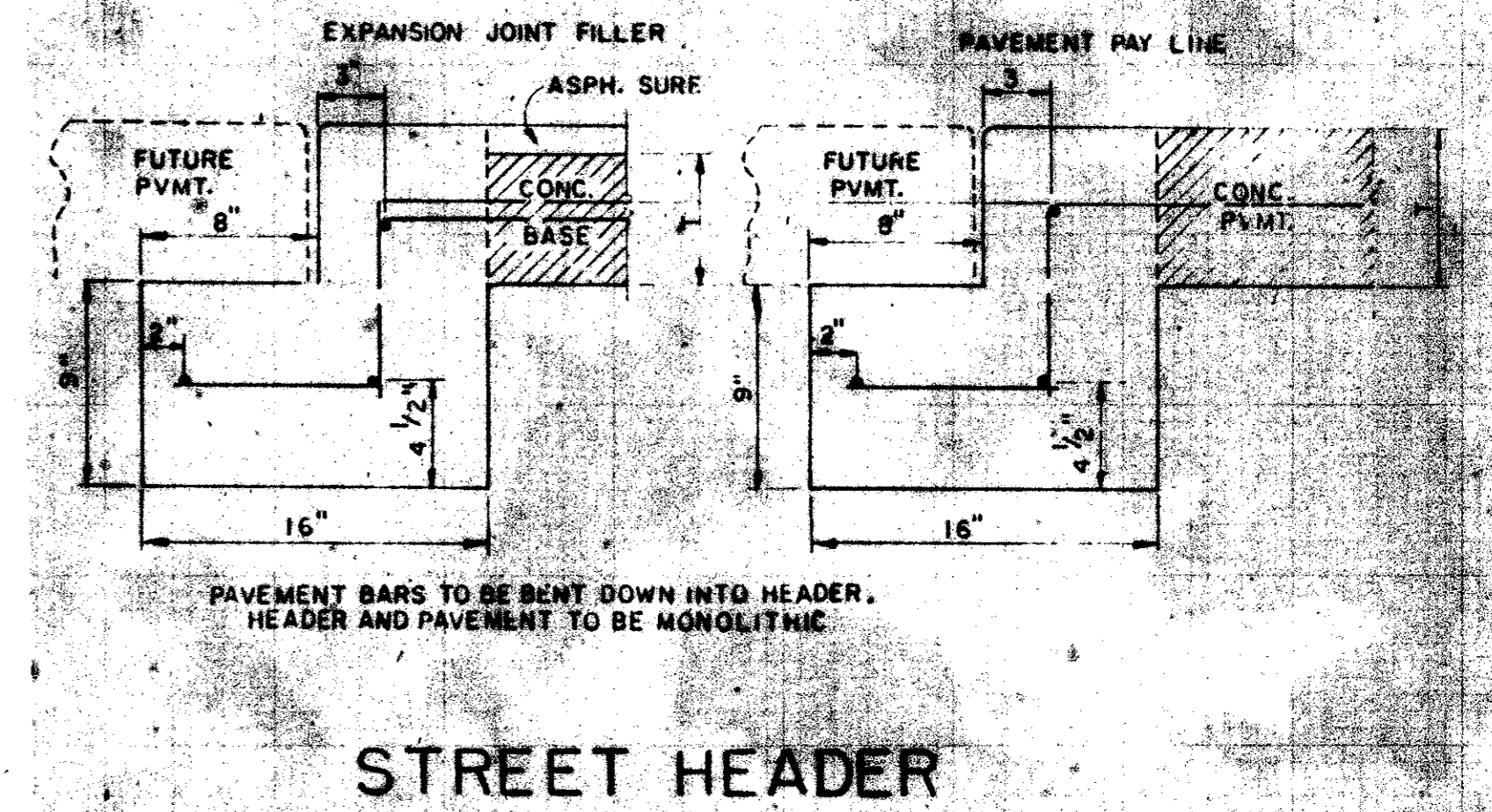
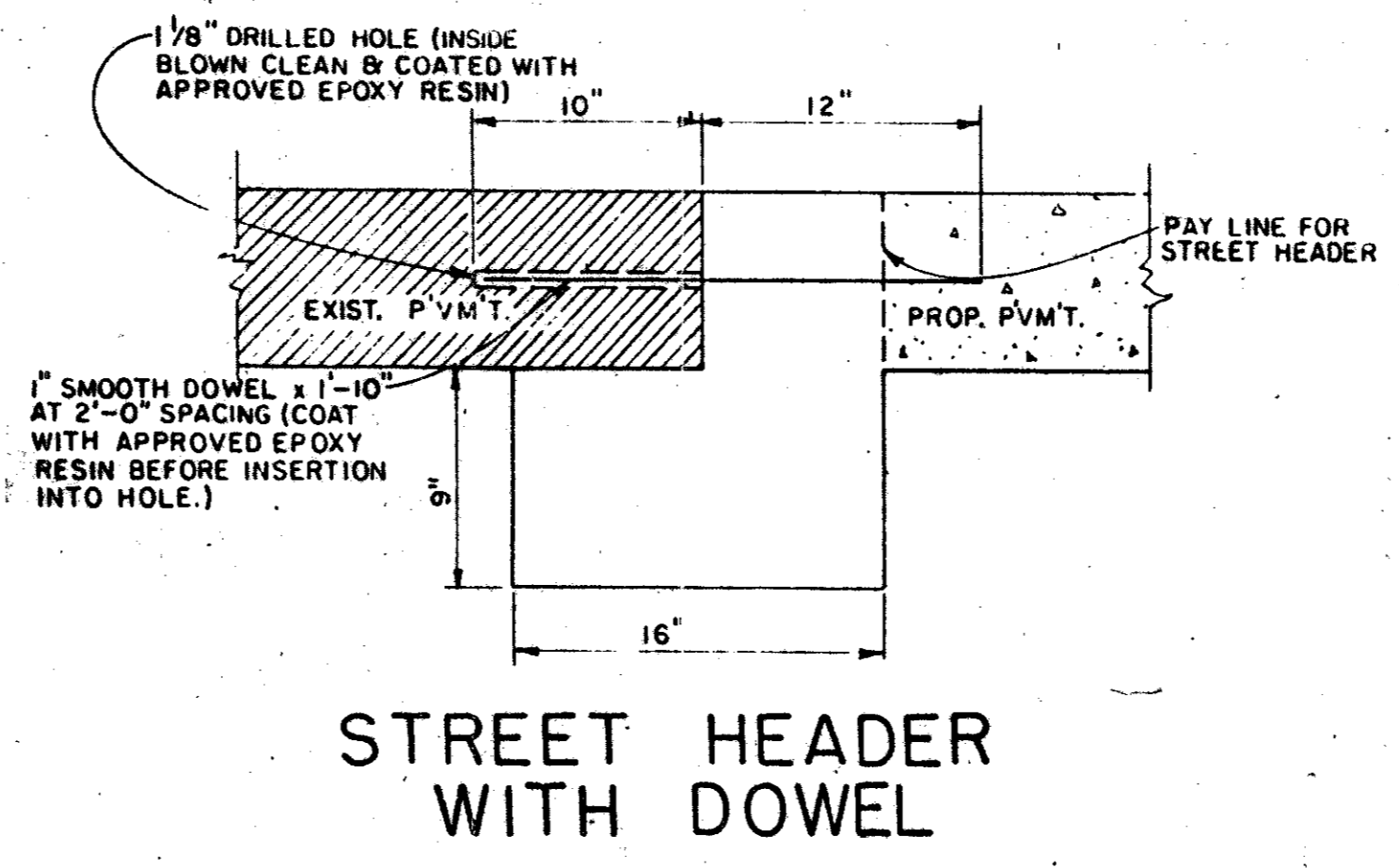
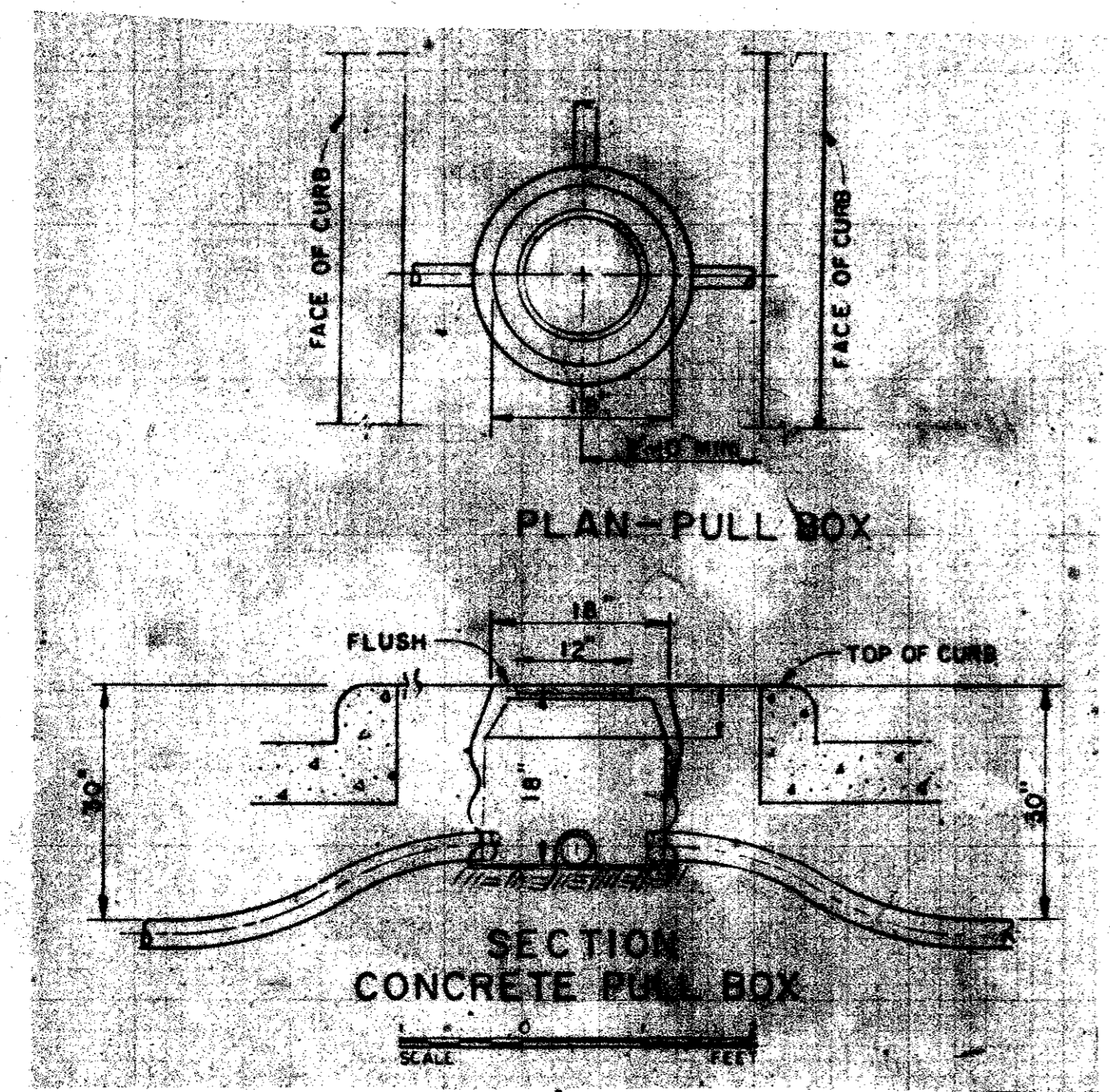
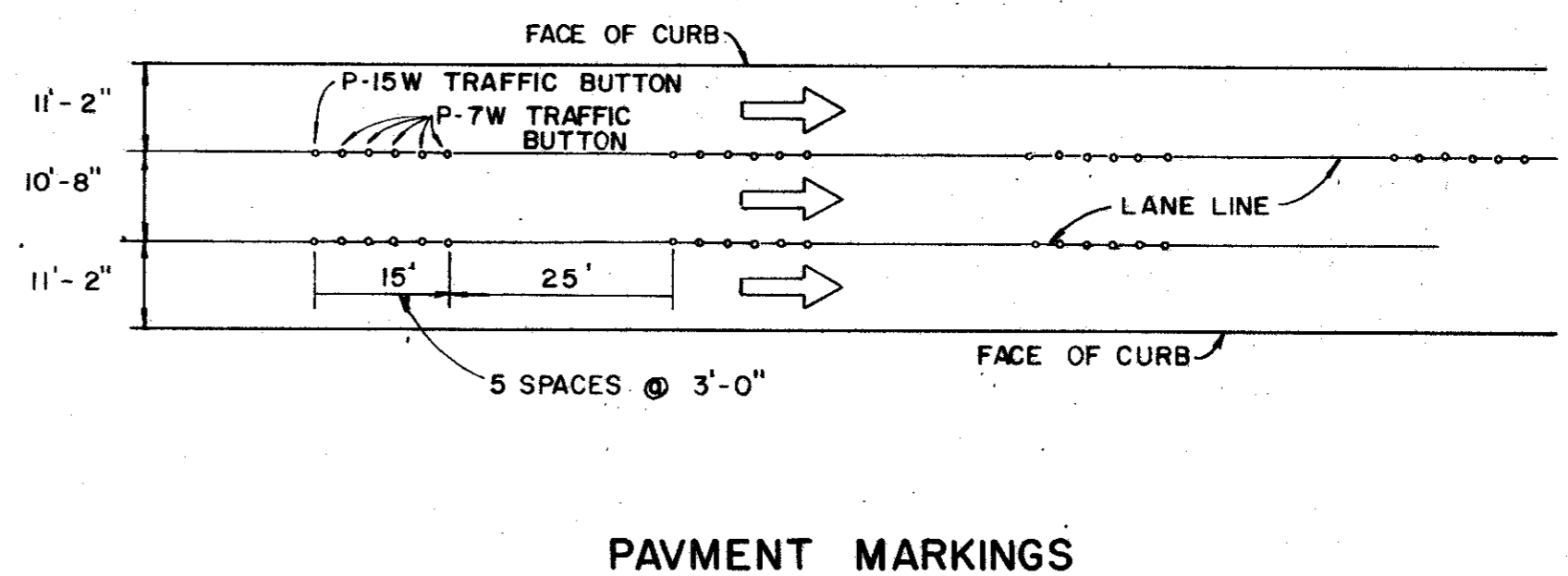
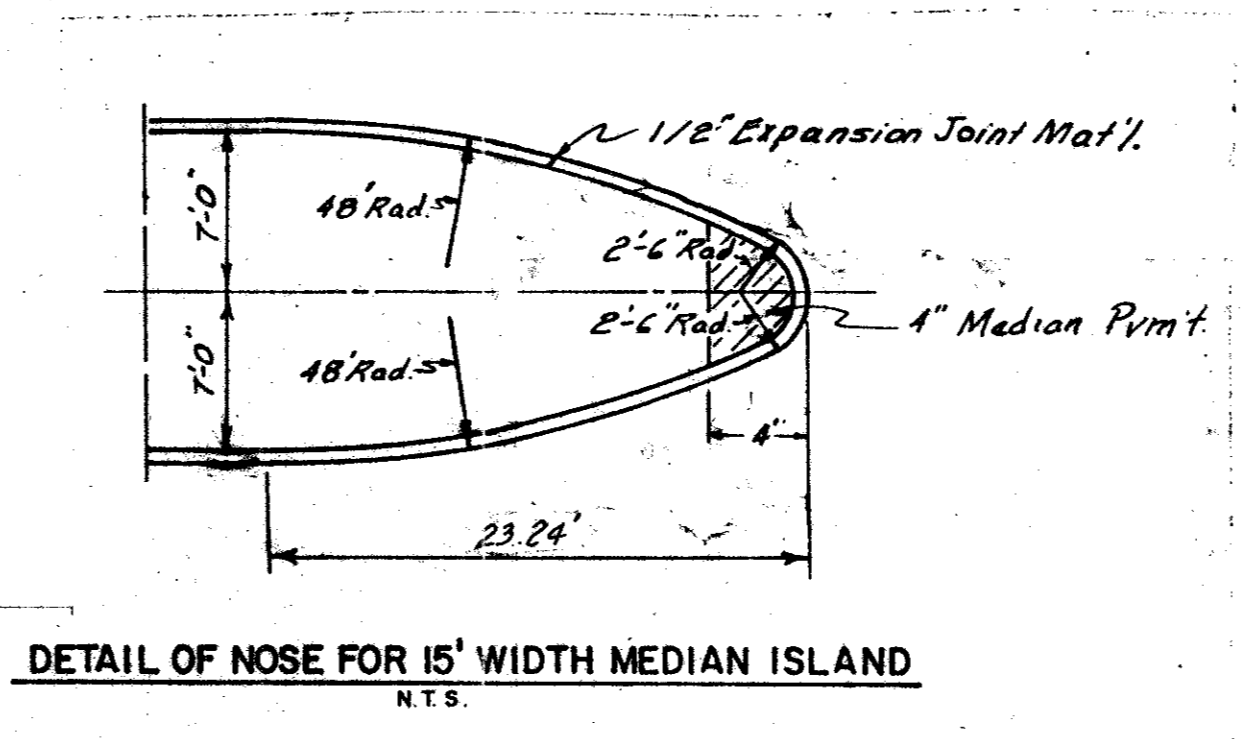
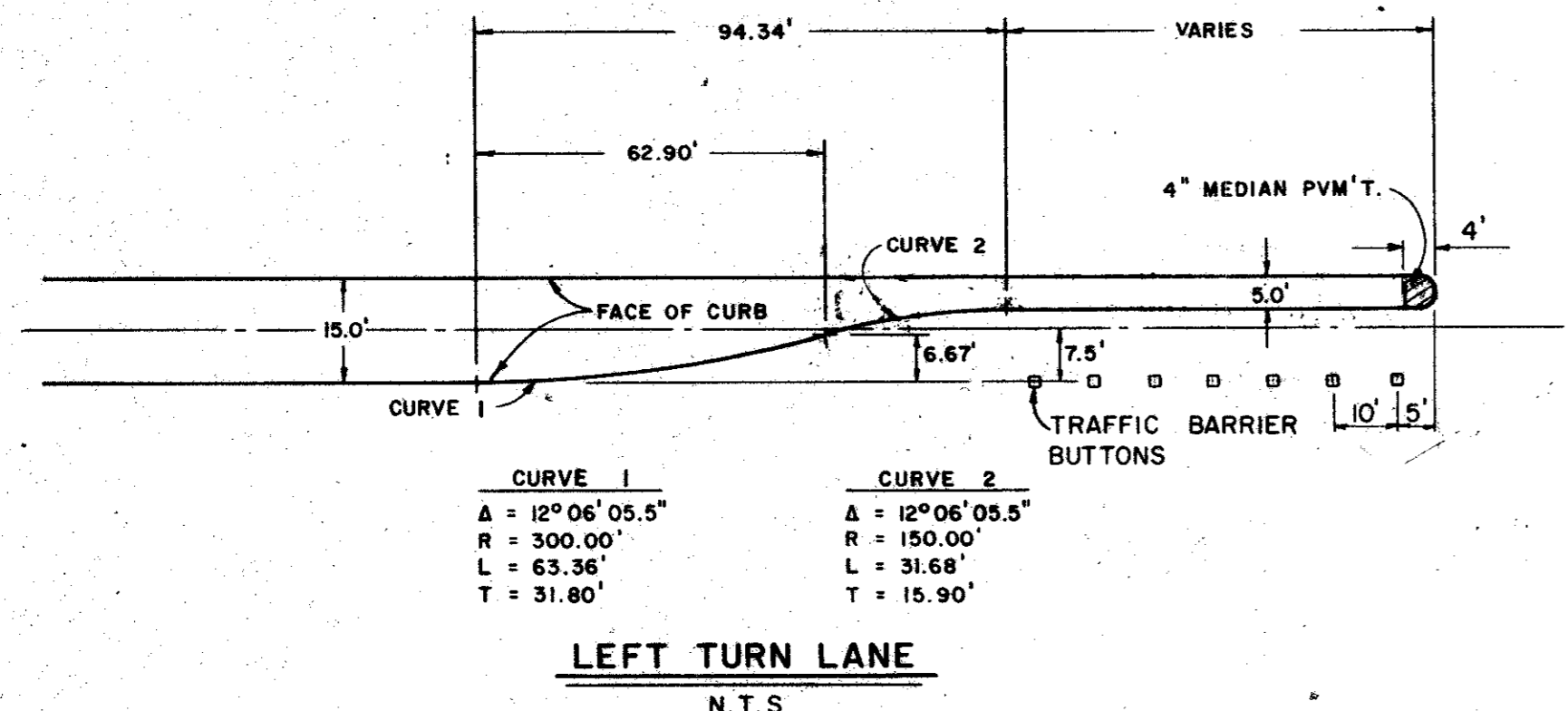
Connecting pipes should enter within 10° of normal to inlet wall. If necessary, pipe elbow or curved approach alignment should be used to stay within this limit.



Pipes may enter any or all walls. The maximum size of pipe that can be accommodated is 60". More than one pipe may enter a side, subject to the maximum box dimensions shown. The clear distance between adjacent pipes should be 9" minimum.

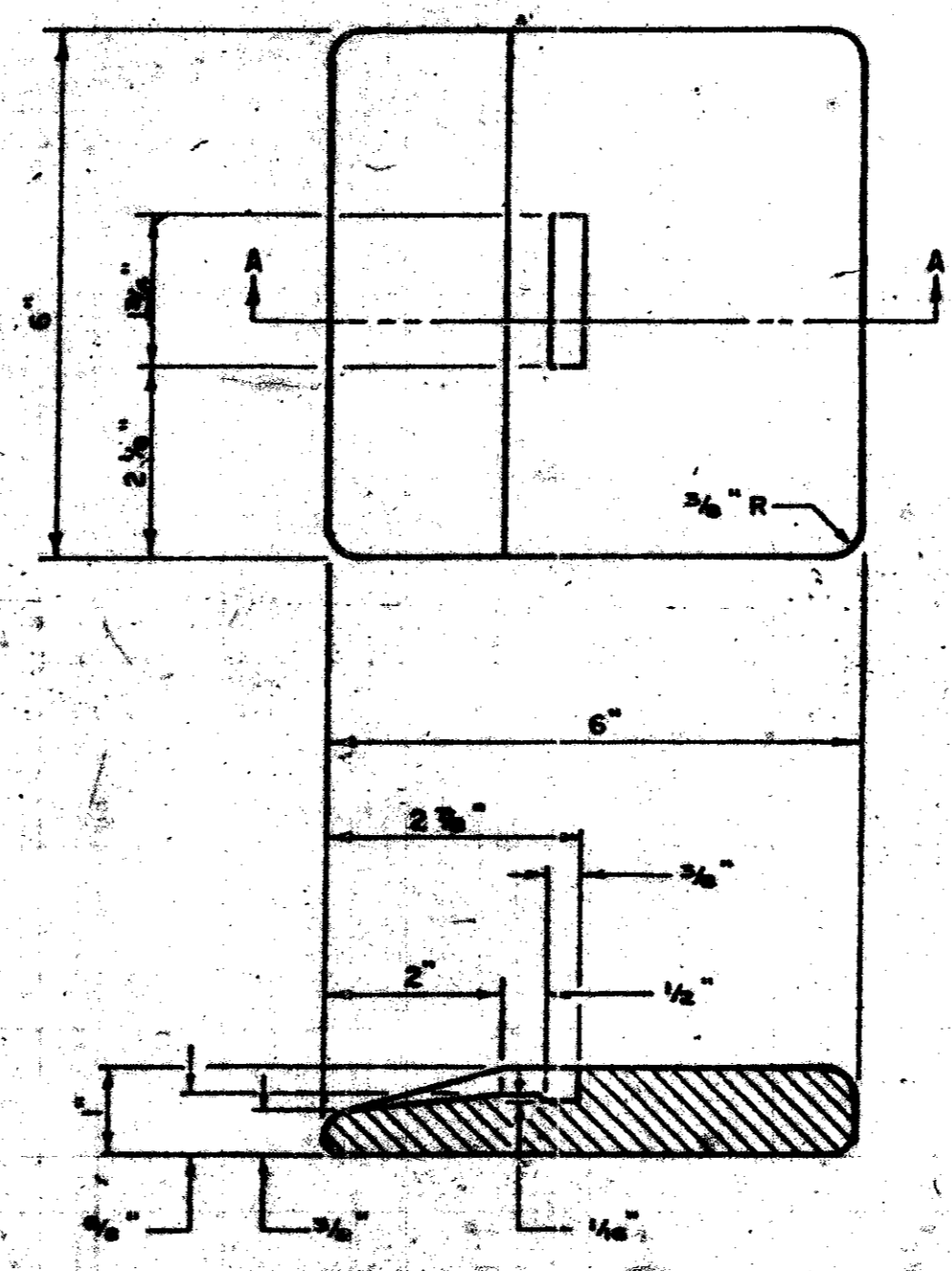
Provide 3/4" premolded expansion joint, sealed with rubber compound around manhole top when in pavement.

CITIES OF ADDISON AND FARMERS BRANCH, TEXAS		
MARSH LANE		
BROOKHAVEN CLUB DRIVE TO BELT LINE ROAD		
MANHOLE TYPE M		
Turner Collie & Braden Inc.		
Unit: SD HPT	Scale: Horz. Vert.	Date: FEB., 1982
Designed:	Checked:	Job No. 6042-010 Contract
Drawn:	Approved:	Sheet 52 of 66



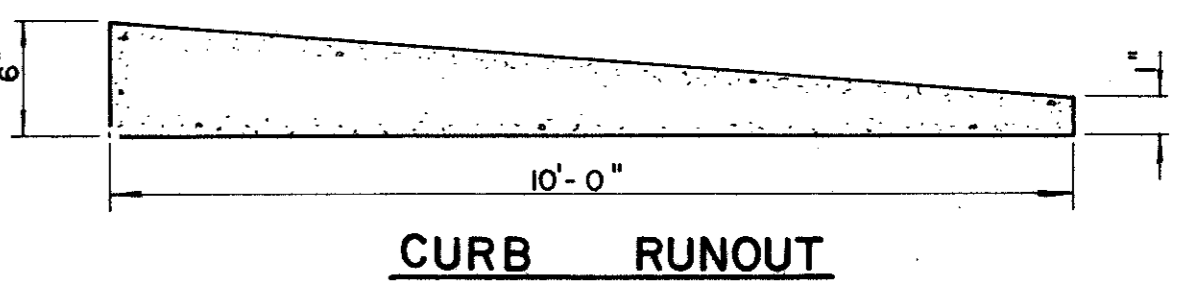
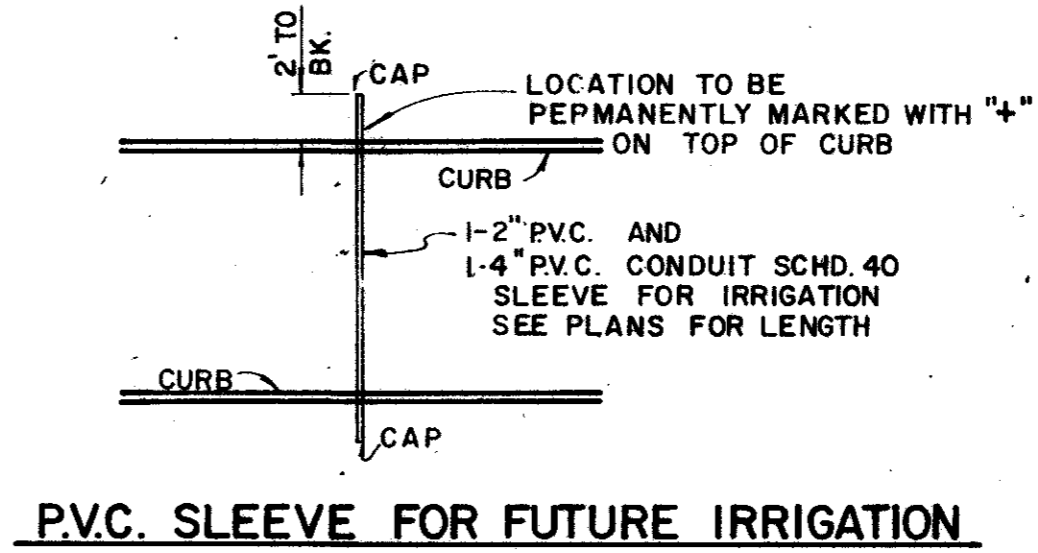
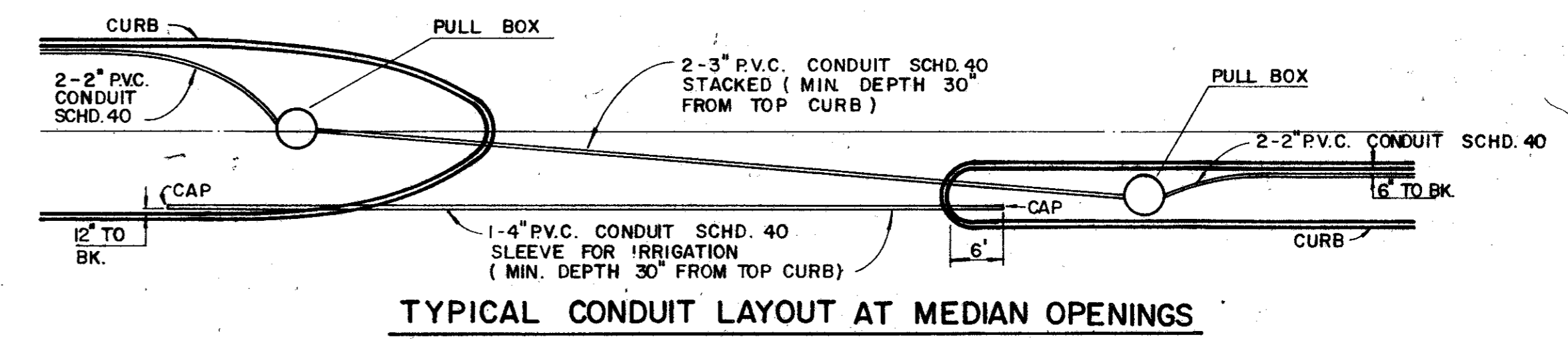
**PAVEMENT MARKERS (REFLECTORIZED) TYPE P-15W**

NOTES:  
 THE PAVEMENT UPON WHICH THE TRAFFIC BUTTONS AND PAVEMENT MARKERS ARE TO BE PLACED SHALL BE GROUND, BUFFED, SANDBLASTED, OR OTHERWISE PREPARED AND APPROVED BY THE ENGINEER TO INSURE PROPER CLEANING OF THE PAVEMENT SURFACE. THEY SHALL BE BONDED TO THE ROADWAY SURFACE WITH EPOXY ADHESIVE CONFORMING WITH SPECIFICATION. MARKER SHOWN ARE FOR ILLUSTRATION PURPOSES ONLY. THEY ARE NOT INTENDED TO SPECIFY ANY PARTICULAR PRODUCT.



**TRAFFIC BARRIER BUTTON**

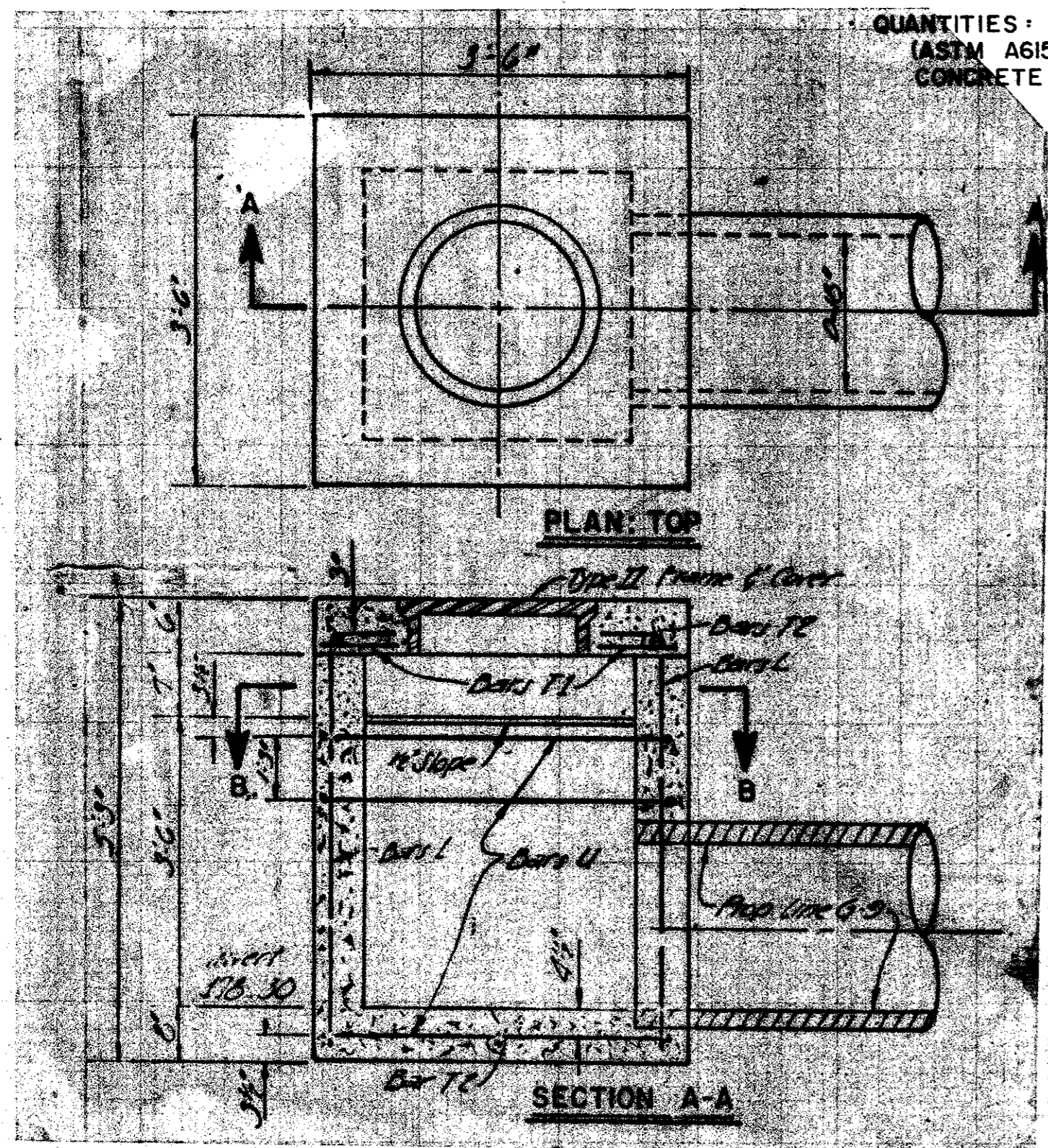
NOTE:  
 TRAFFIC BARRIER BUTTONS TO BE CERAMIC AS MANUFACTURED BY AMERICAN CLAY FORMING OR APPROVED EQUAL AND APPROVED BY THE CITY OF FARMERS BRANCH, ENGINEERING DEPARTMENT.  
 LANE LINE BUTTONS TO BE 4" DIA. LANE MARKERS, P-7 PERMARK CERAMIC ROAD MARKERS OR APPROVED EQUAL.  
 TRAFFIC BUTTONS TO BE FURNISHED BY CONTRACTOR.



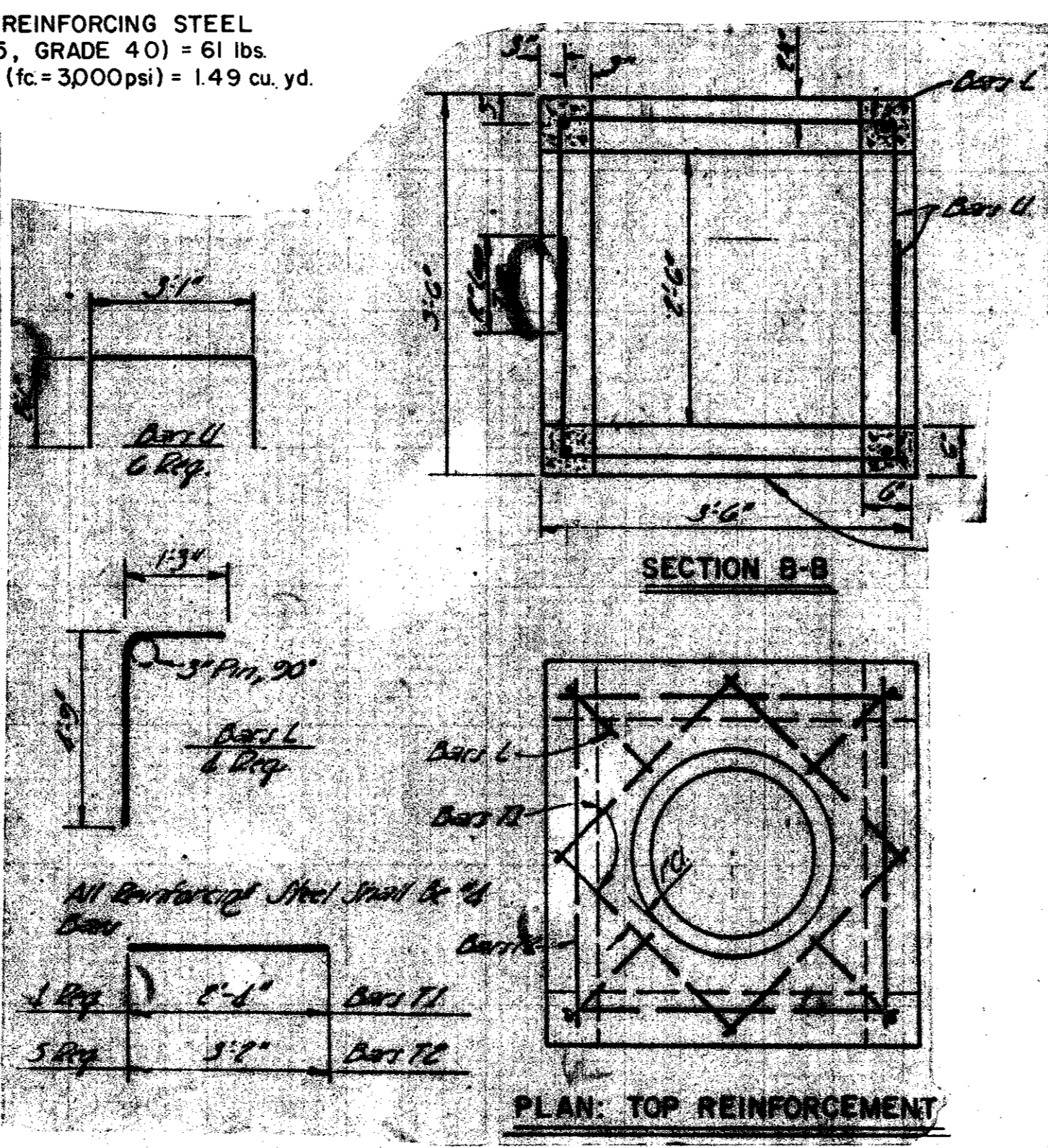
AS BUILTS 11-22-83

CITIES OF ADDISON AND FARMERS BRANCH, TEXAS		
MARSH LANE		
BROOKHAVEN CLUB DRIVE TO BELT LINE ROAD		
MISCELLANEOUS DETAILS		
Turner Collier & Braden Inc.		
Unit: PAL	Date: FEB. 1982	Job No. 6042-010
Designed: GGS	Checked:	Contract:
Drawn: LJK	Approved: PAL	Sheet: 53 of 66

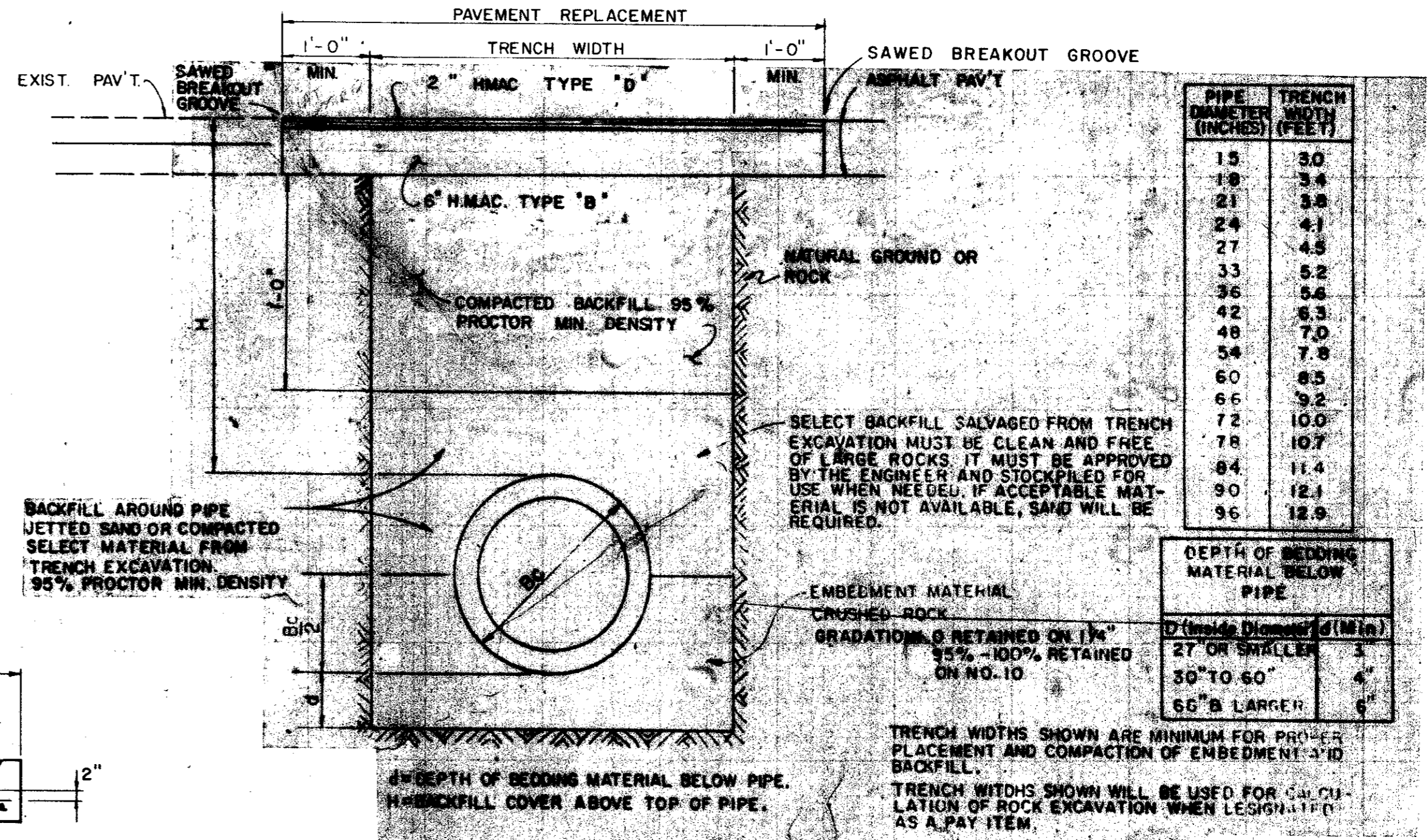




QUANTITIES: REINFORCING STEEL  
(ASTM A615, GRADE 40) = 61 lbs.  
CONCRETE (fc = 3,000psi) = 1.49 cu. yd.

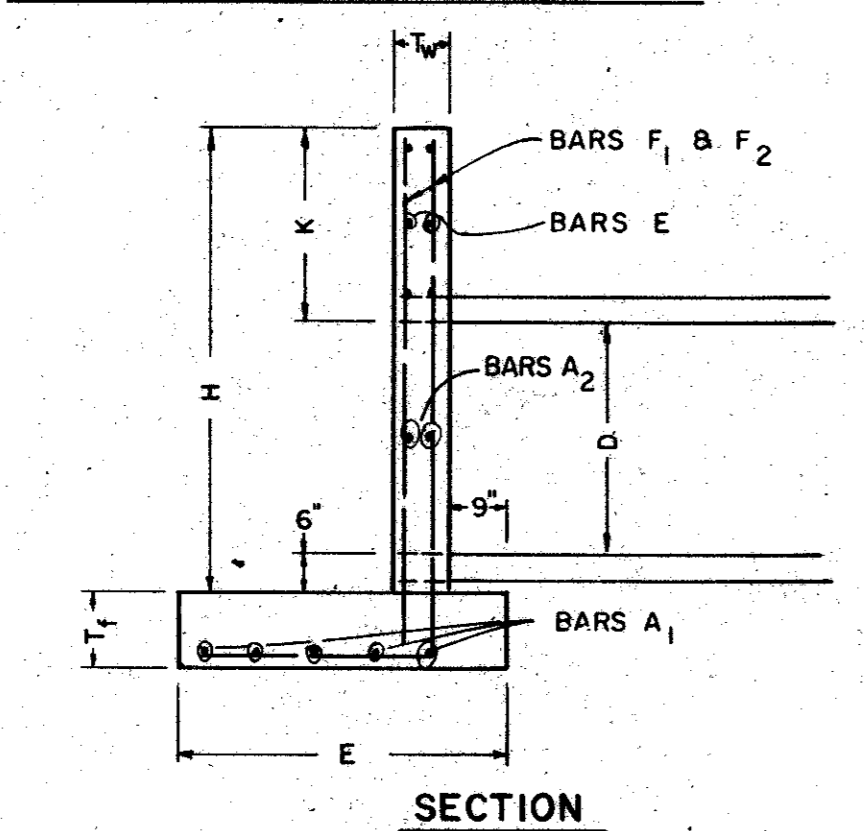


TYPE 'Y' INLET

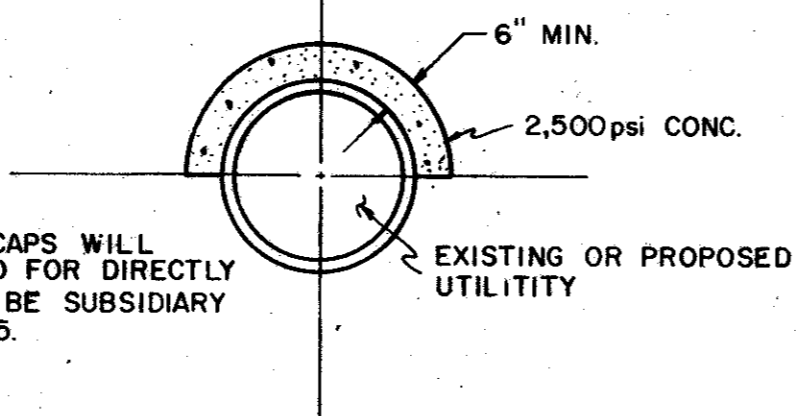


**REINFORCED CONCRETE CLASS III PIPE INSTALLATION**  
INSTALLATION WILL BE AS SHOWN OR AS DESCRIBED IN THE GENERAL SPECIFICATIONS FOR CONSTRUCTION

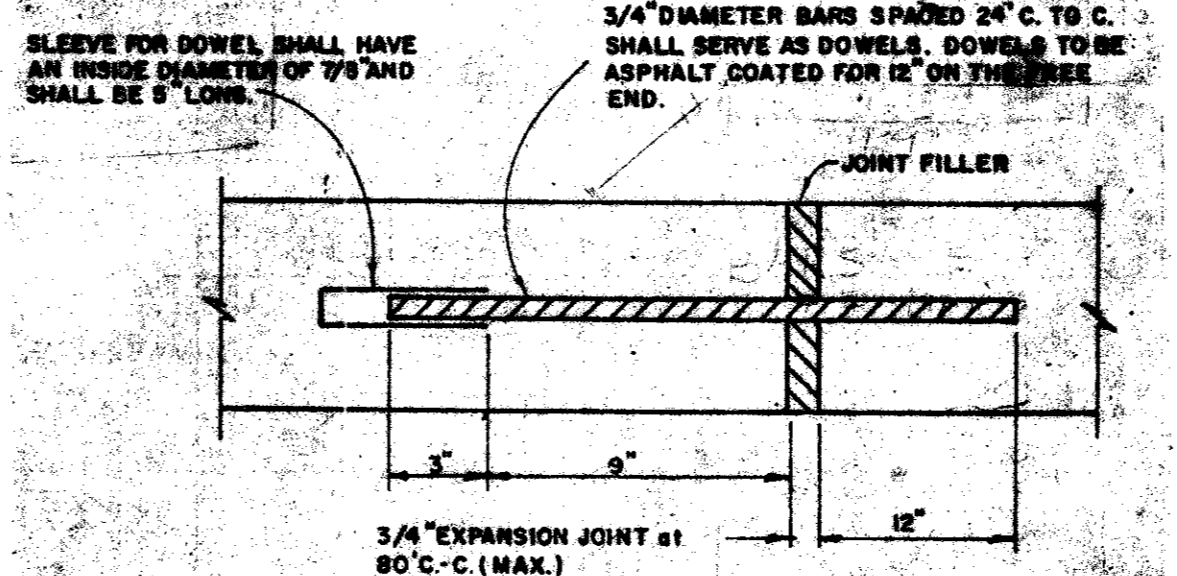
**MODIFIED TYPE 'A' HEADWALLS**



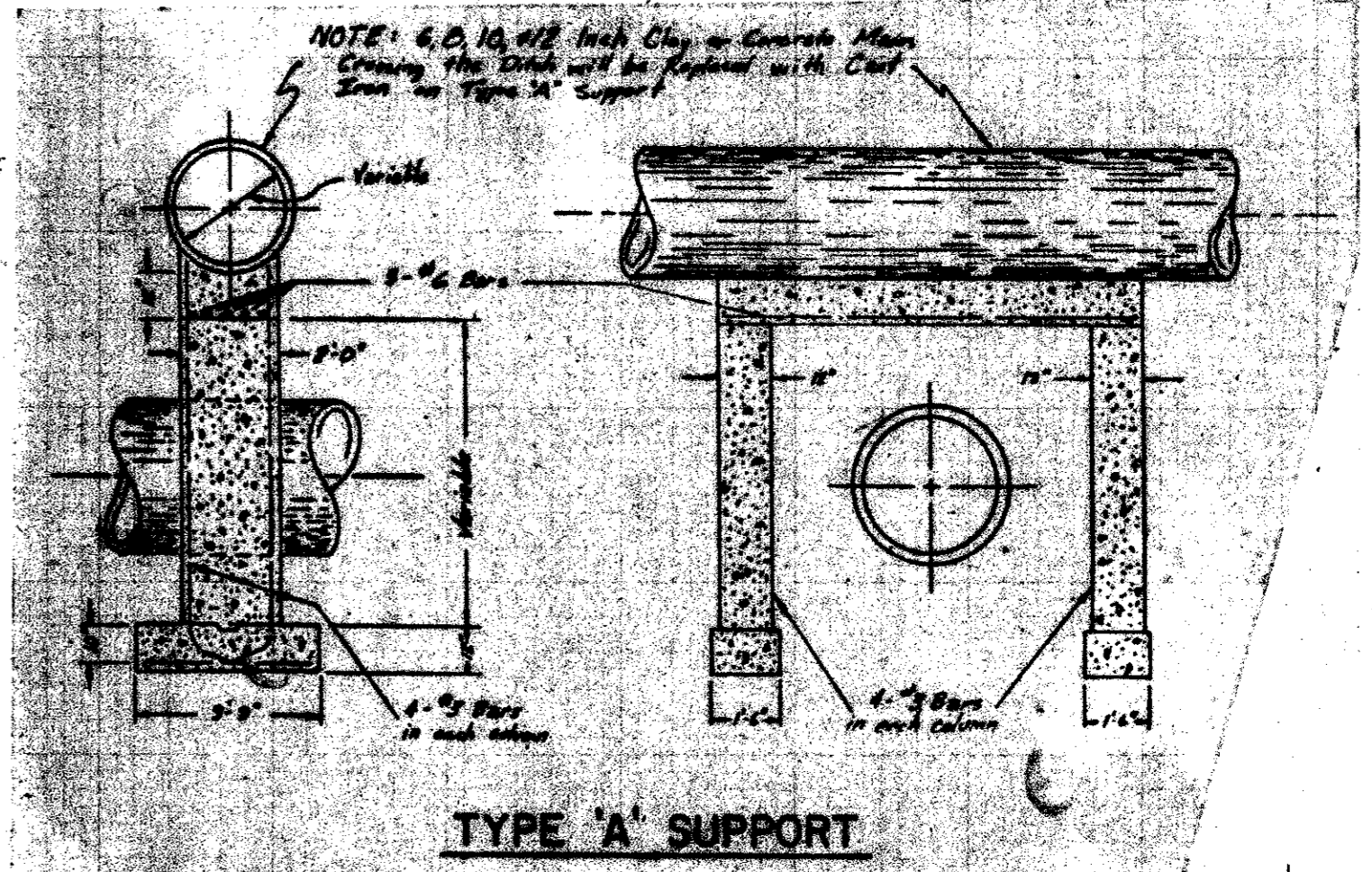
NOTE: CONCRETE CAPS WILL NOT BE PAID FOR DIRECTLY BUT SHALL BE SUBSIDIARY TO ITEM 465.



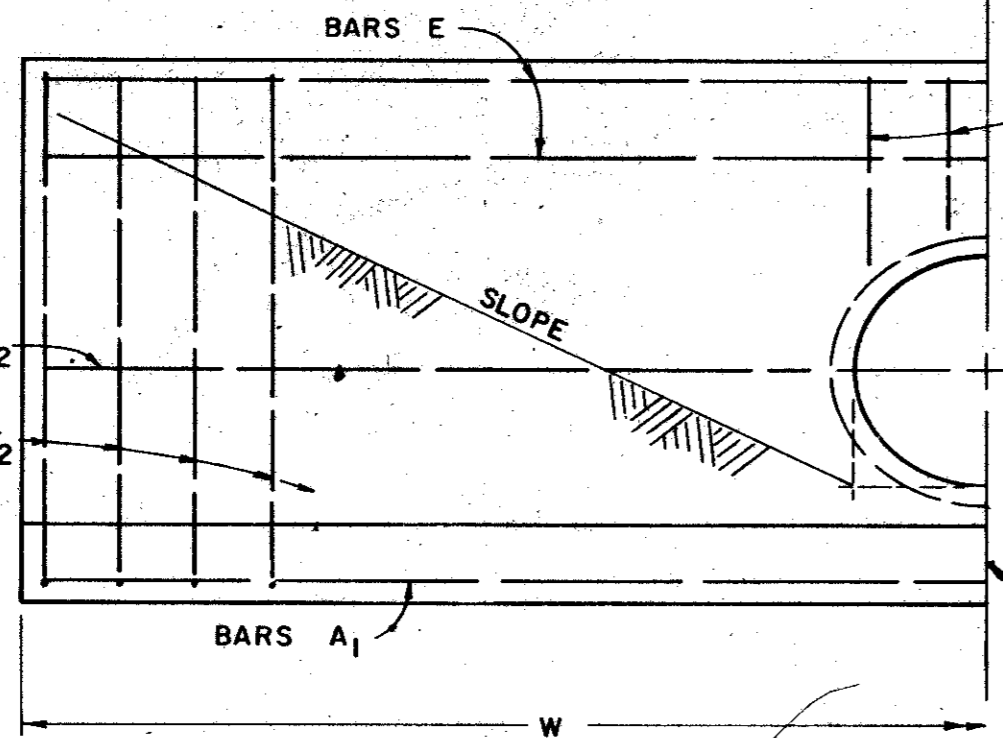
TYPICAL CONCRETE CAP TO PROTECT UTILITIES



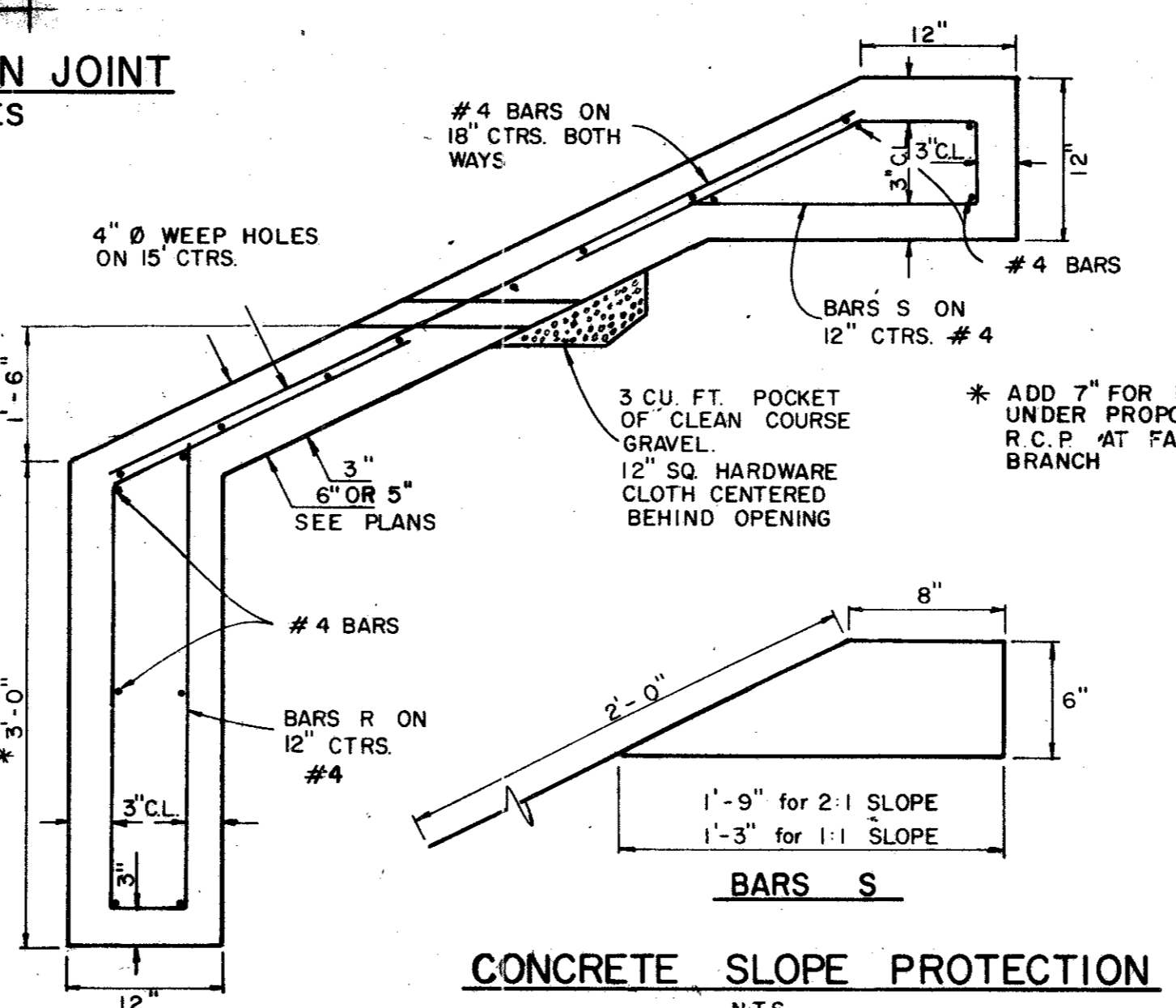
TRANSVERSE EXPANSION JOINT CONC. CHANNEL & SLOPE PROTECTION



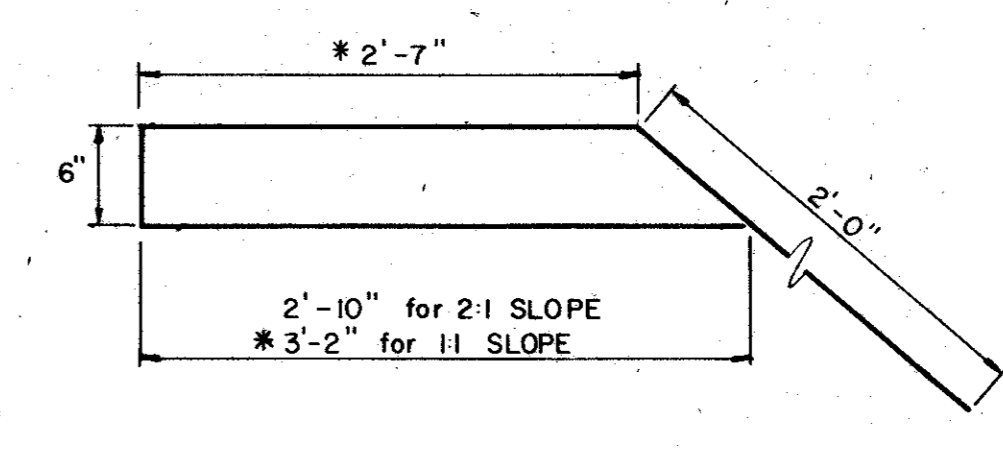
TYPE 'A' SUPPORT



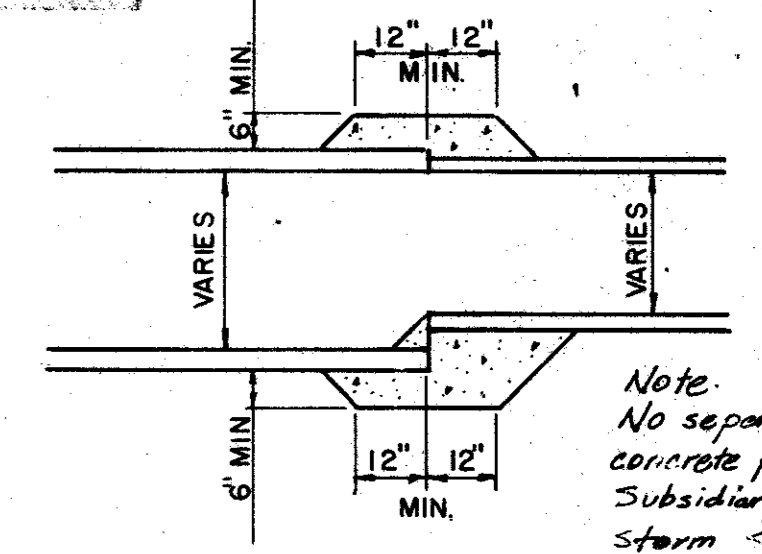
CHANNEL CONSTRUCTION JOINT FOR SLOPE CHANGES



CONCRETE SLOPE PROTECTION N.T.S.



BAR S



CONCRETE COLLAR FOR PIPE CONNECTION N.T.S.

Location: Sta. 73+50, 47' Rt.

Dimensions	Bar	Qty.	Size	Spac.	Length	Weight
D=39"	A1	2	#3	1'-7 1/2"	26'-3"	20
K=1'-0"	A2	8	#3	18"	11'-0"	33
T=1'-0"	E	2	#5	-	26'-3"	55
T=8"	F	24	#4	12"	5'-5"	87
E=2'-7 1/2"	F2	24	#4	12"	7'-0"	112
H=4'-9"	F3	-	-	-	-	-
W=26'-6"	-	-	-	-	-	-

Slope: 3:1  
Total Steel = 307 lbs.  
Total Concrete = 4.6 cy.

Location: Sta. 92+45, 47' Rt.

Dimensions	Bar	Qty.	Size	Spac.	Length	Weight
D=36"	A1	3	#3	11"	18'-2"	21
K=3'-6"	A2	12	#3	15"	7'-2"	32
T=1'-0"	E	6	#5	18"	18'-2"	114
T=8"	F	16	#5	12"	7'-8"	128
E=3'-9"	F2	16	#5	12"	10'-5"	174
H=7'-0"	F3	6	#5	12"	2'-10"	18
W=18'-6"	-	-	-	-	-	-

Slope: 1:1  
Total Steel = 487 lbs.  
Total Concrete = 4.7 cy.

- NOTES:
- All construction in conformity with General Specs.
  - Provide 3/4" preformed joint material at joints where concrete slope protection is placed against headwall or existing pavement.
  - Reinforcing steel for concrete slope protection included under Pay Item 432 Riprap (Class "B" Concrete).
  - Weep holes and granular material considered subsidiary to Pay Item 432.
  - Toewall to be constructed at end of channel bottom, and at bottom of channel grades with greater than 5% breakout grade. Where a toewall is required at breaks in grade, the steel in the channel shall be tied to the steel in the toewall.
  - Twelve inch lap splices in all bar splices.
  - Lap normal slope paving bars with Bars R and Bars S a minimum of 15-inches.

**CITIES OF ADDISON AND FARMERS BRANCH, TEXAS**

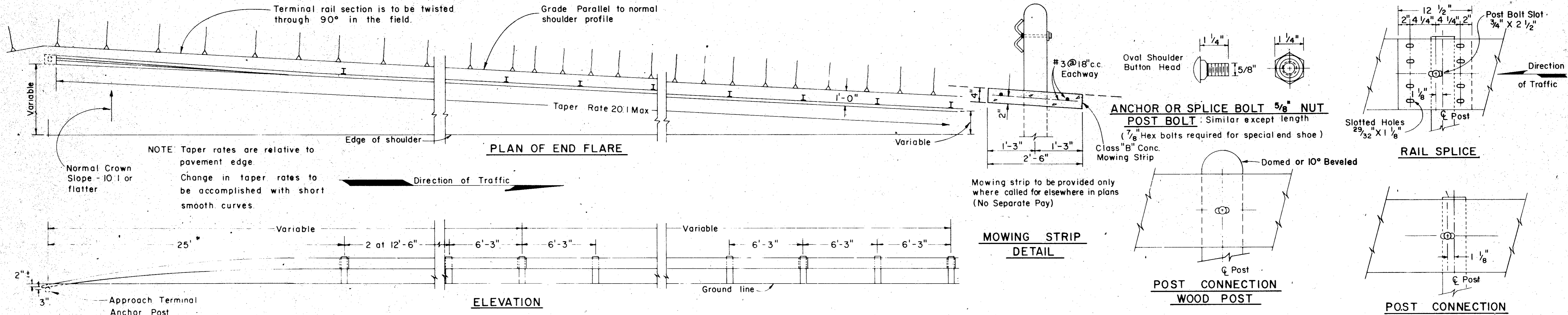
**MARSH LANE**  
BROOKHAVEN CLUB DRIVE TO BELT LINE ROAD

**MISCELLANEOUS DRAINAGE DETAILS**

Turner Collier & Braden Inc.

Unit: PAL	Scale: Horiz. N.T.S.	Date: FEB. 1982
Designed: GGS	Checked: GGS	Job No. 6042-010 Contract
Drawn: L.J.K.	Approved: PAL	Sheet: 54 of 66

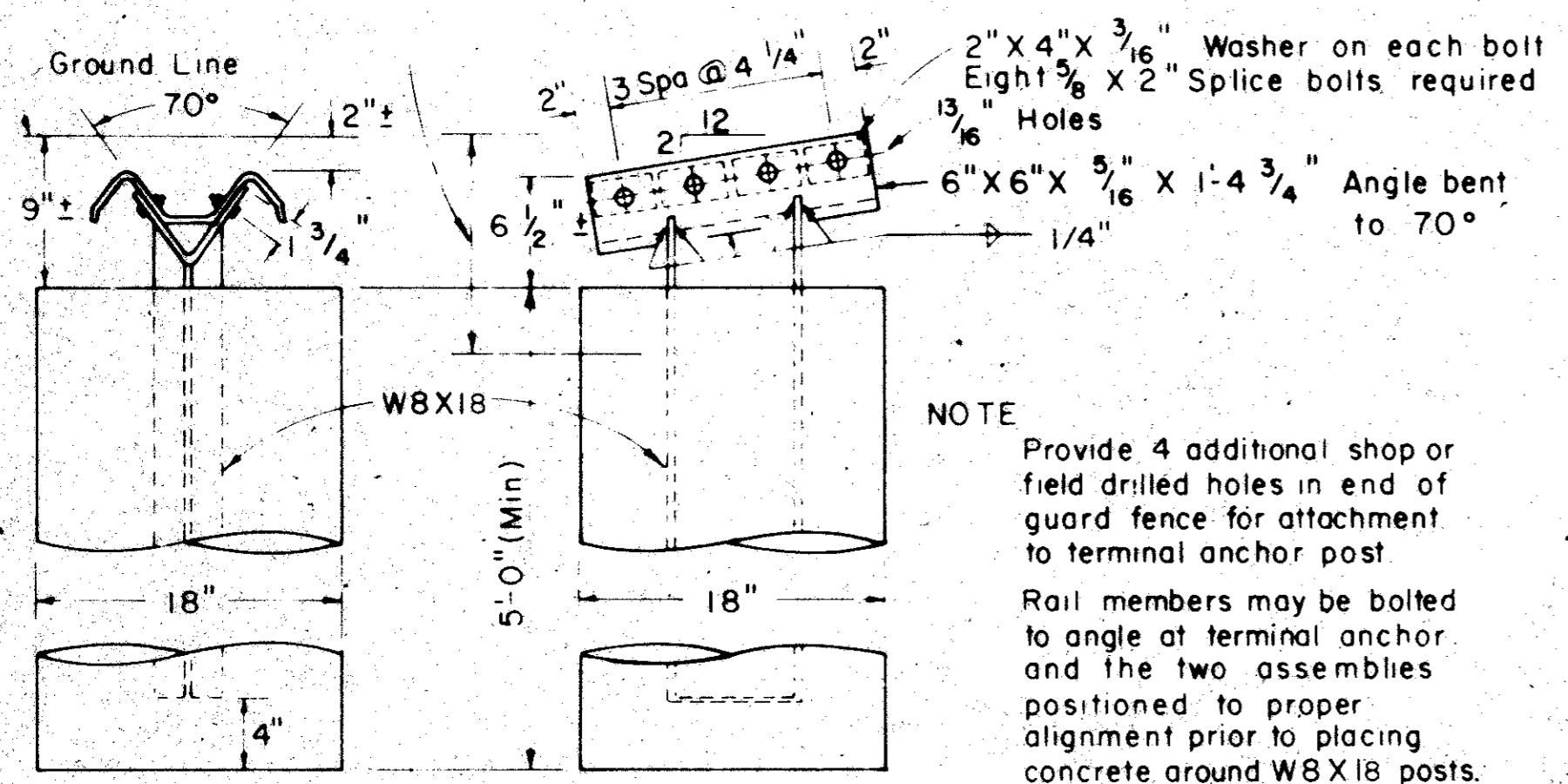




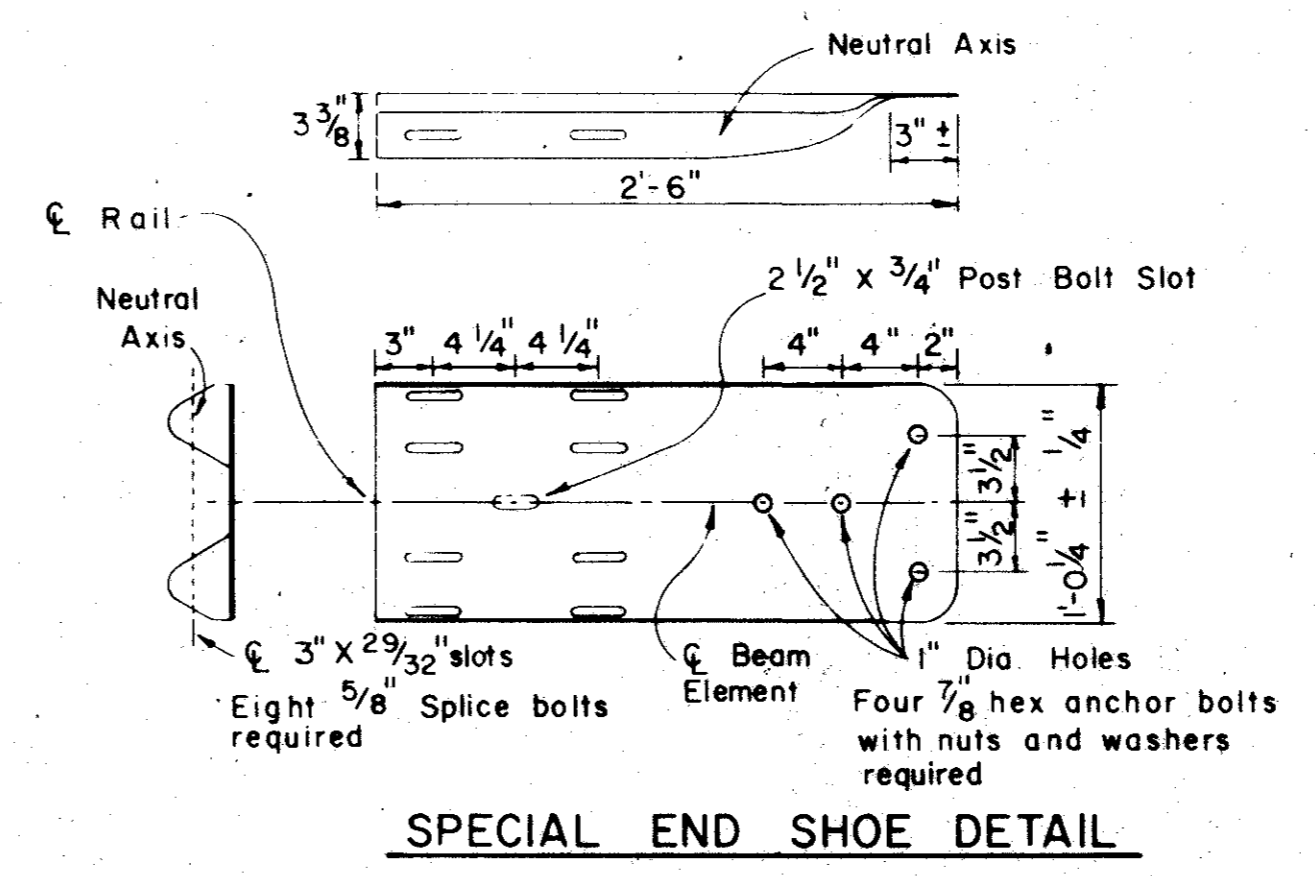
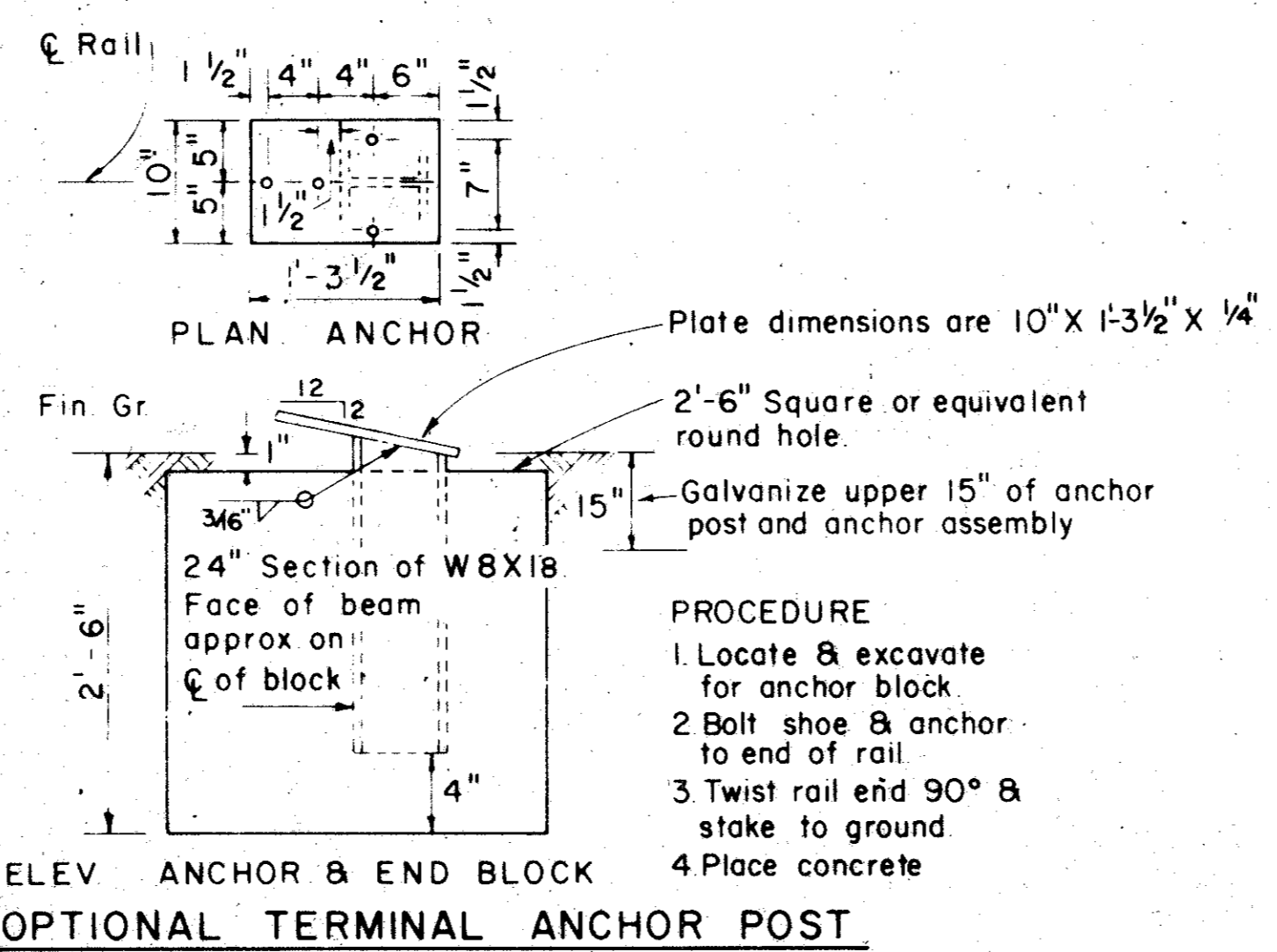
NOTE Taper rates are relative to pavement edge  
Change in taper rates to be accomplished with short smooth curves.

\* NOTE Dimension measured to center of splice when special end shoe is used

NOTE Galvanize upper 15" of anchor post and anchor assembly

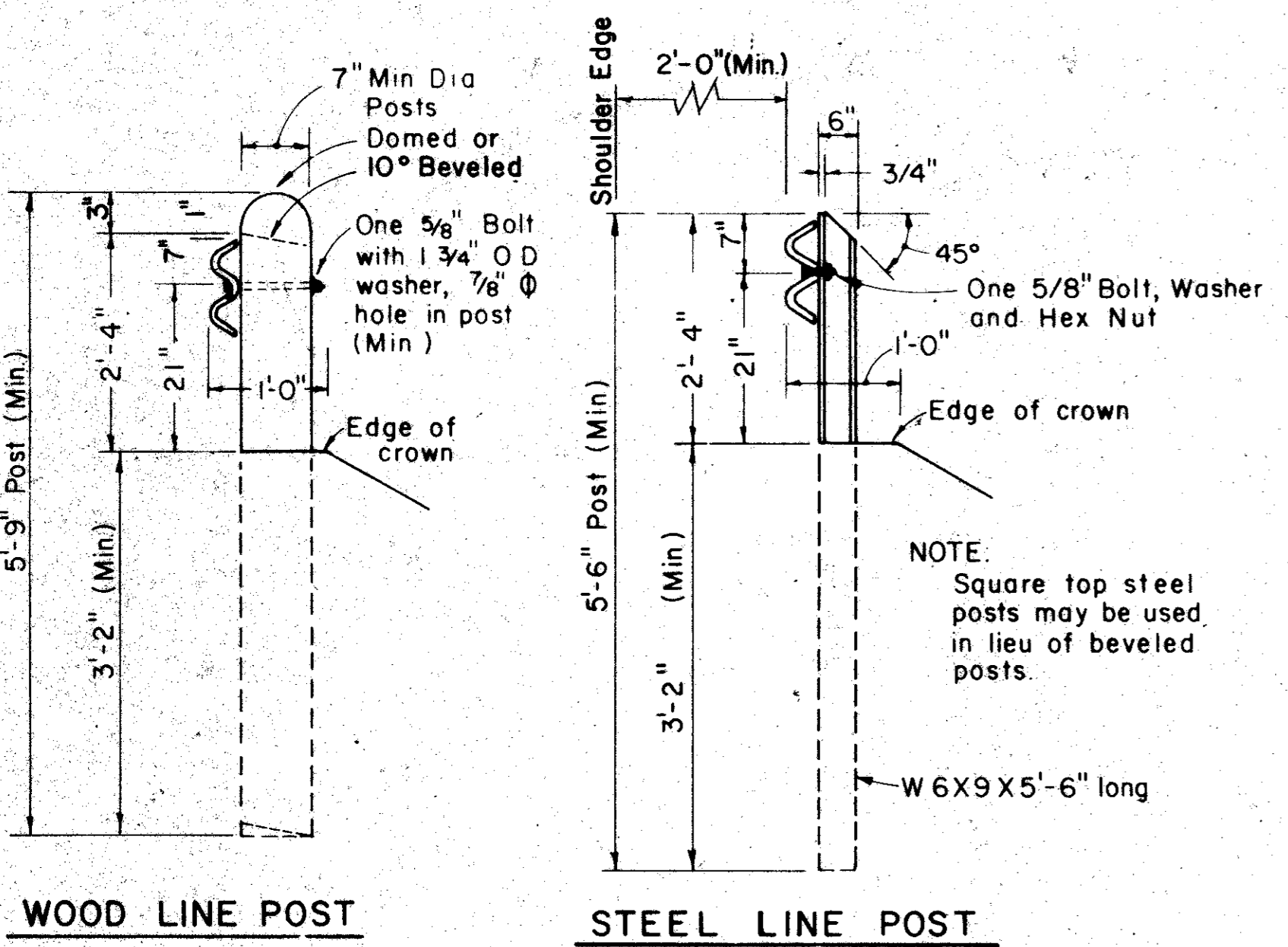


DETAIL OF TERMINAL ANCHOR POST

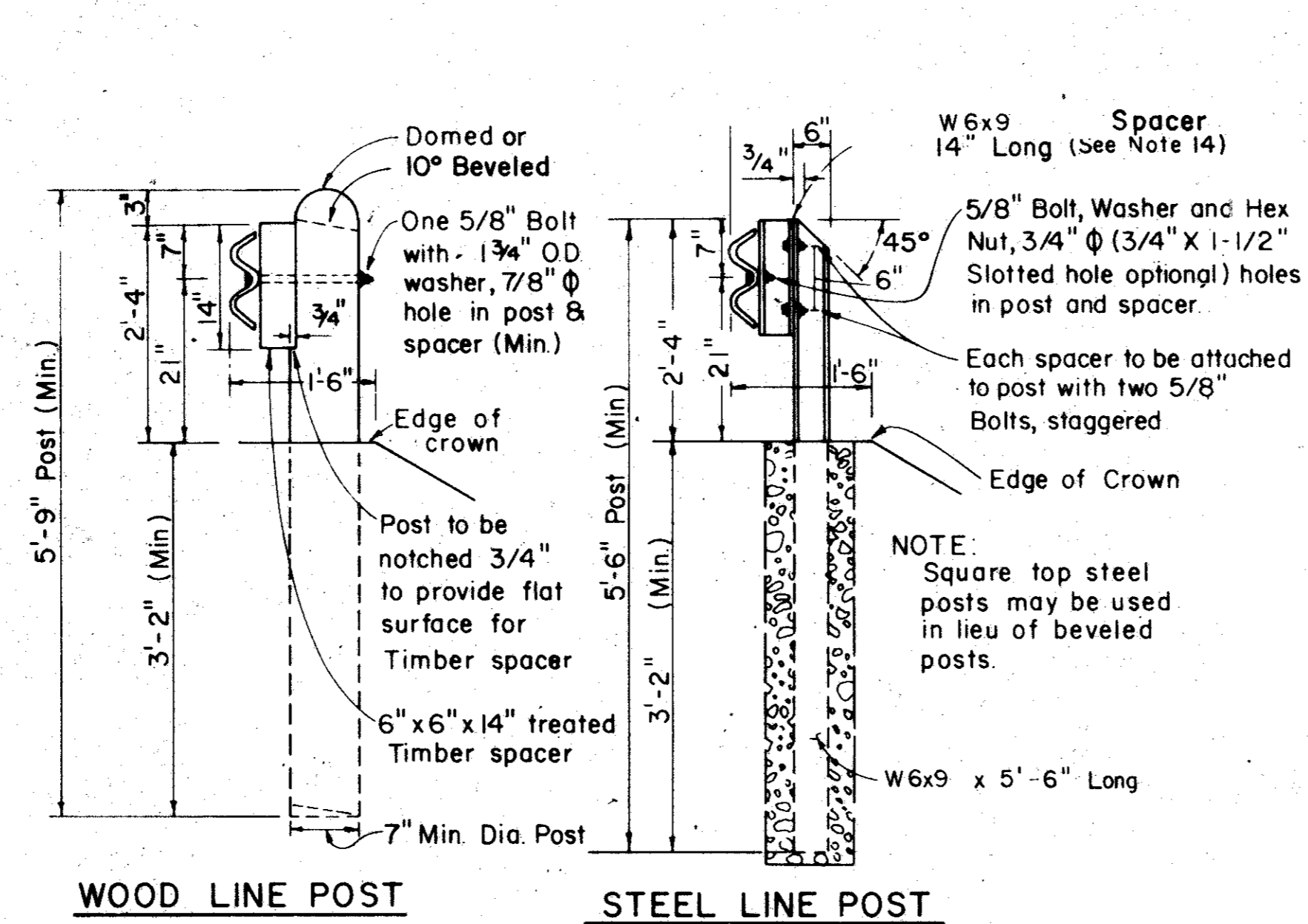


GENERAL NOTES

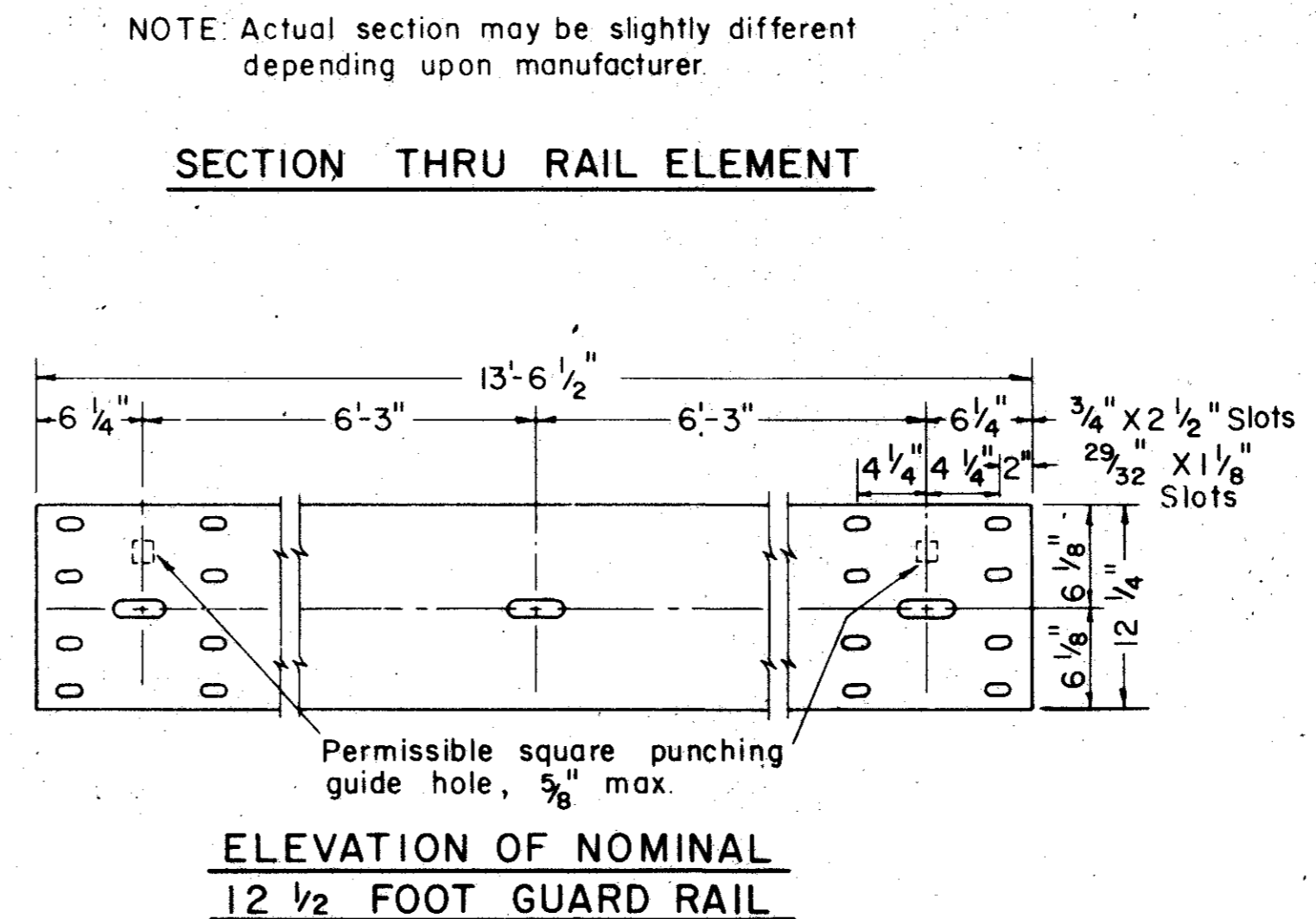
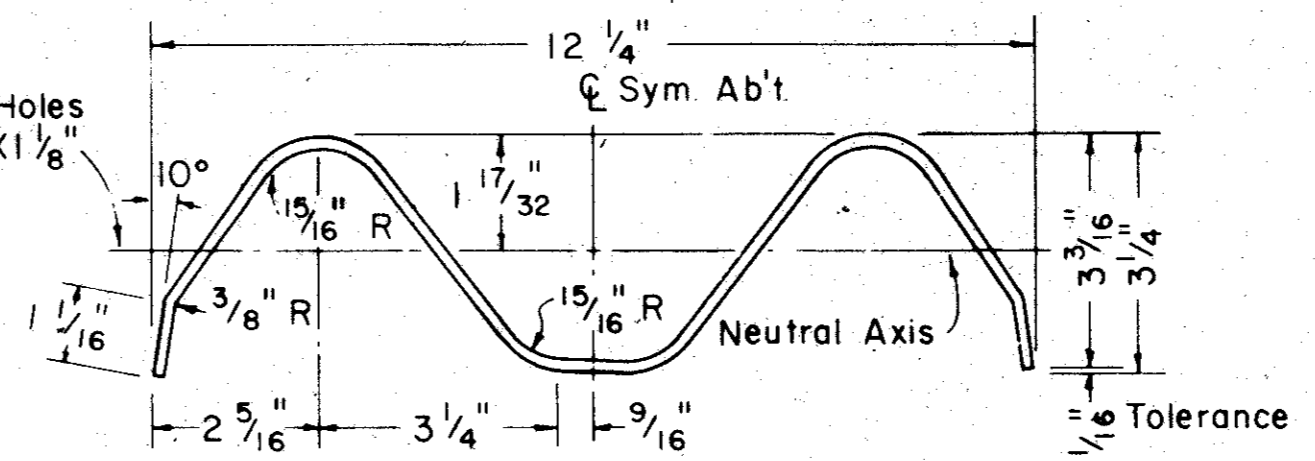
- EXCEPT WHERE USED AT STRUCTURES OR WHERE OTHERWISE SHOWN ON PLANS, GUARD RAIL TO BE LOCATED A MINIMUM OF ONE FOOT FROM THE SHOULDER EDGE ON EXISTING ROADWAYS AND A MINIMUM OF TWO FEET FROM THE SHOULDER EDGE ON NEW CONSTRUCTION. EXACT POSITION TO BE AS SHOWN ELSEWHERE ON PLANS OR AS DIRECTED BY THE ENGINEER. RAIL TO BE TRANSITIONED TO A SMOOTH CONNECTION WITH OTHER STRUCTURE OR RAIL AS SHOWN ELSEWHERE ON PLANS.
- AT THE OPTION OF THE CONTRACTOR THE RAIL ELEMENTS FOR THE GUARD RAIL MAY BE FURNISHED IN EITHER 12 1/2' OR 25' FOOT NOMINAL LENGTHS. RAIL TO BE FURNISHED WITH POST BOLT SLOTS FOR 5/8" DIAMETER BOLT CONNECTION TO POSTS.
- BOLTS TO BE OF SUFFICIENT LENGTH TO EXTEND THROUGH THE FULL THICKNESS OF THE NUT AND NO MORE THAN 3/4" BEYOND IT.
- TOP OF TERMINAL ANCHOR POST ASSEMBLY, RAIL ELEMENT, AND ALL STEEL FITTINGS THEREON TO BE GALVANIZED.
- WHERE ROCK IS ENCOUNTERED OR WHERE SHOWN ON PLANS, DIAMETER OF THE HOLES AND MATERIAL FOR BACKFILLING TO BE AS DIRECTED BY THE ENGINEER. TIMBER POSTS TO BE SET IN CONCRETE.
- THE TERMINAL ANCHOR POST SHALL BE SET IN CLASS "A", "B" OR "C" CONCRETE IN ACCORDANCE WITH ITEM "CONCRETE FOR STRUCTURES", OR SET IN CONCRETE IN ACCORDANCE WITH ITEM "CONCRETE PAVEMENT". CONCRETE SHALL BE SUBSIDIARY TO THE BID ITEM "METAL BEAM GUARD FENCE".
- TIMBER POSTS MAY BE BEVELED AT APPROXIMATELY 10 DEGREES ON THE TOP OR BOTH ENDS WITH HIGH SIDE OF TOP OF POST PLACED TOWARD THE ROADWAY OR THE. MAY BE DOMED. WHEN "BLOCKED OUT", THE UPPER PORTION OF THE POST SHALL BE NOTCHED 3/4" TO PROVIDE FLAT SURFACE FOR SPACER. A TOLERANCE OF ± 1/8" ON THE NOTCHED POST.
- AN ANCHOR OTHER THAN TO A TERMINAL ANCHOR POST TO CONSIST OF A CONNECTION SIMILAR TO THE RAIL SPLICE OR SIMILAR TO THE SPECIAL END SHOE.
- SPECIAL FABRICATION WILL BE REQUIRED IN INSTALLATIONS HAVING A CURVATURE OF LESS THAN 150' RADIUS.
- POST SPACING WILL BE 6'-3" EXCEPT THAT THE FIRST POST WILL BE 25' FROM THE TERMINAL ANCHOR POST AND THE NEXT TWO POSTS SPACED AT 12'-6" WITH A MINIMUM OF 8 POSTS ADJACENT TO STRUCTURES SPACED AT 3'-1 1/2".
- SPECIAL END SHOE ANCHOR MAY BE USED WITH THE 18" X 5'-0" CONCRETE FOOTING OR THE ANGLE ANCHOR MAY BE USED WITH THE 2'-6" SQUARE OR EQUIVALENT CONCRETE FOOTING.
- CROWN WILL BE WIDENED TO ACCOMMODATE GUARD RAIL.
- STEEL POSTS SHALL BE SET IN CONCRETE AND BLOCKED OUT
- A 6"x6"x14" TREATED TIMBER SPACER OF SOUTHERN YELLOW PINE SHALL BE USED WITH WOOD POSTS AND A W6X9 SPACER 14" LONG SHALL BE USED WITH STEEL POSTS. A TOLERANCE OF ± 1/4" IN ANY DIMENSION WILL BE PERMITTED ON THE TREATED TIMBER SPACER.

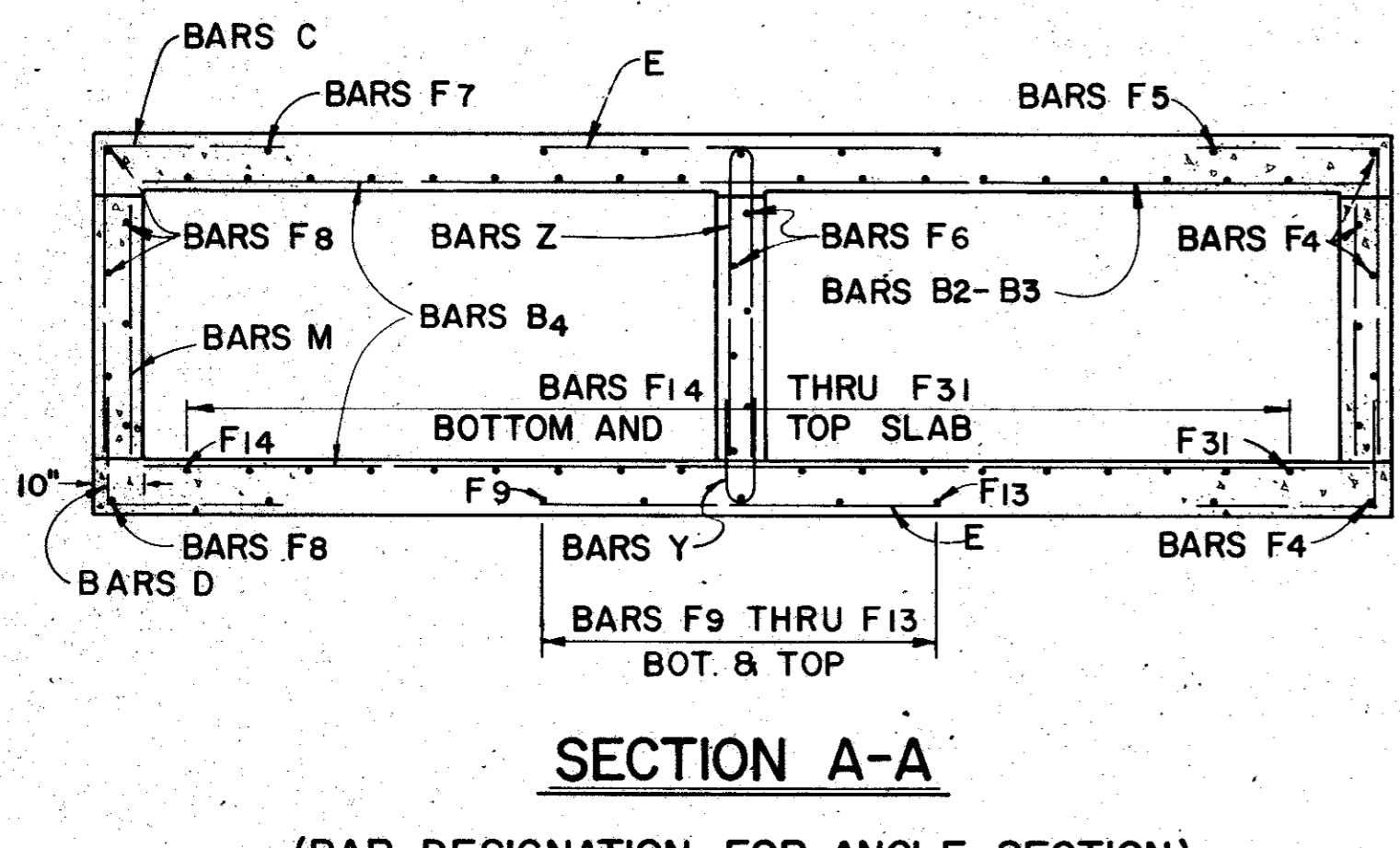


WOOD LINE POST STEEL LINE POST

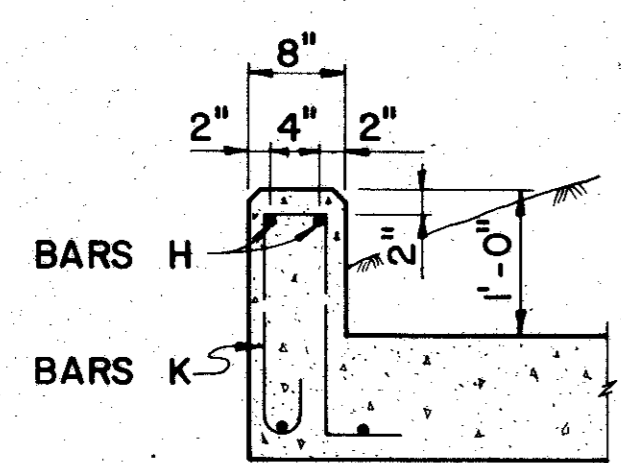


NOTE: When undisturbed solid rock is encountered the minimum depth of the hole shall be 1'-6"

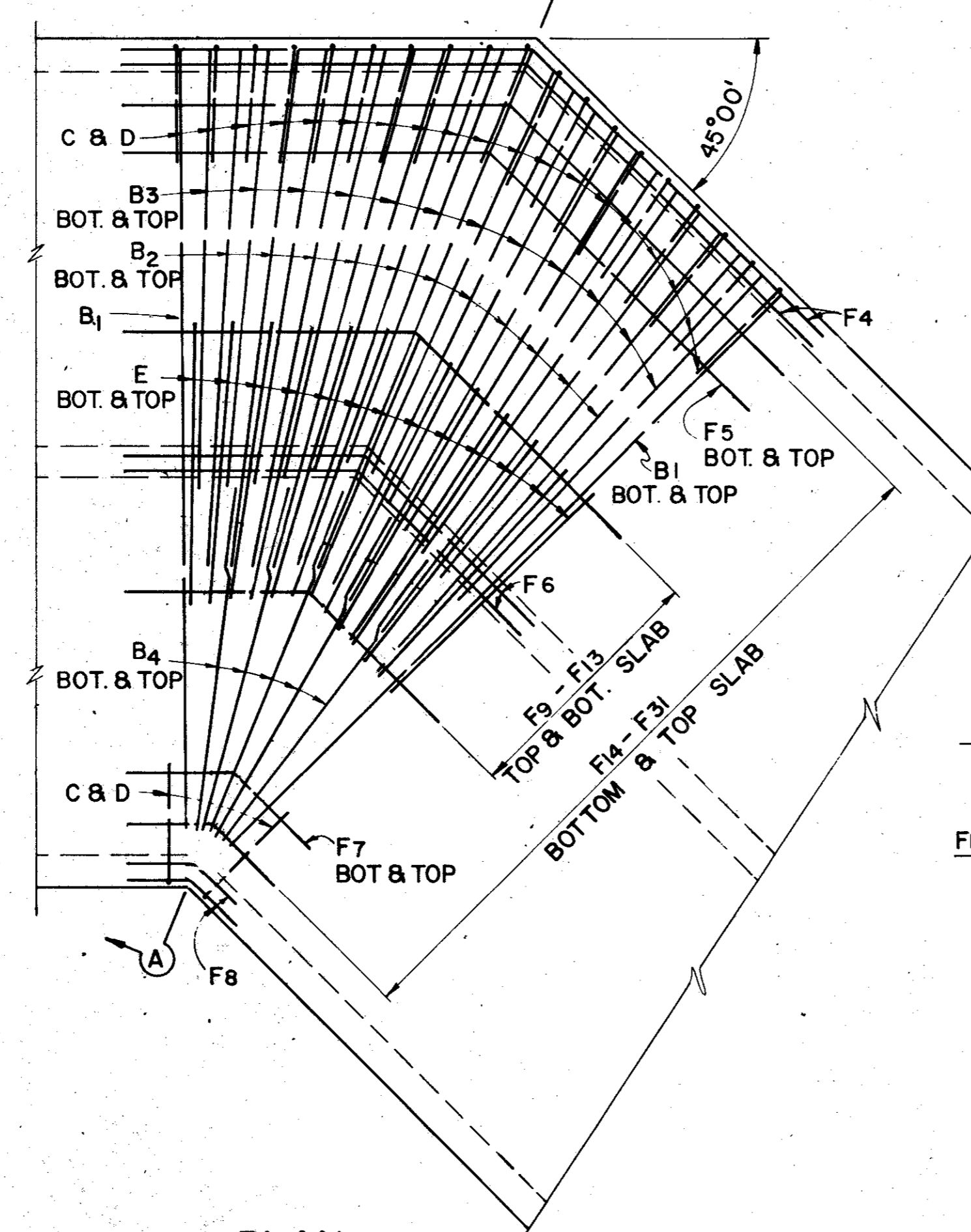




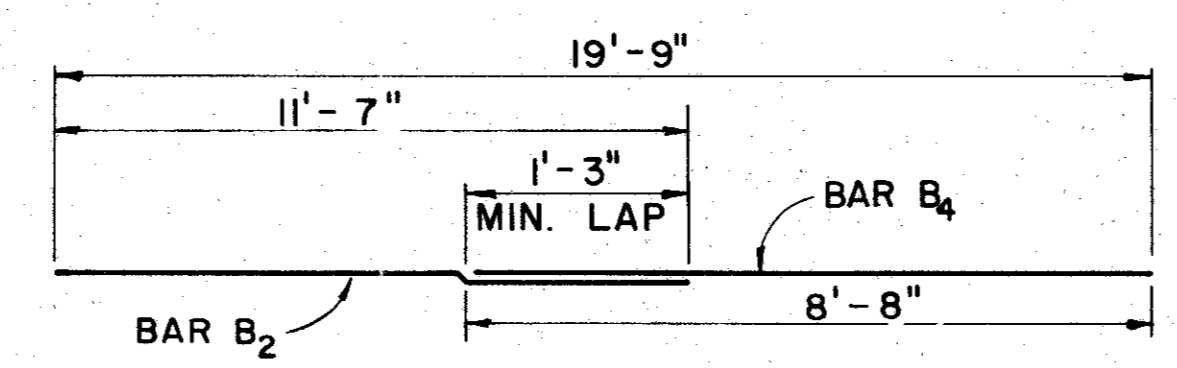
SECTION A-A  
(BAR DESIGNATION FOR ANGLE SECTION)



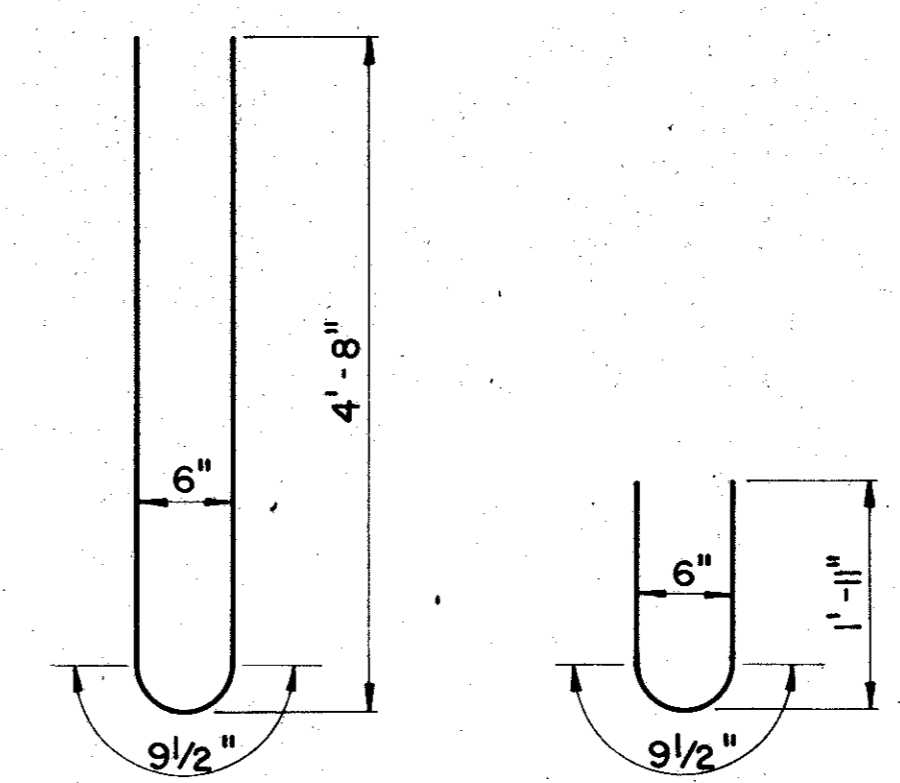
CURB SECTION



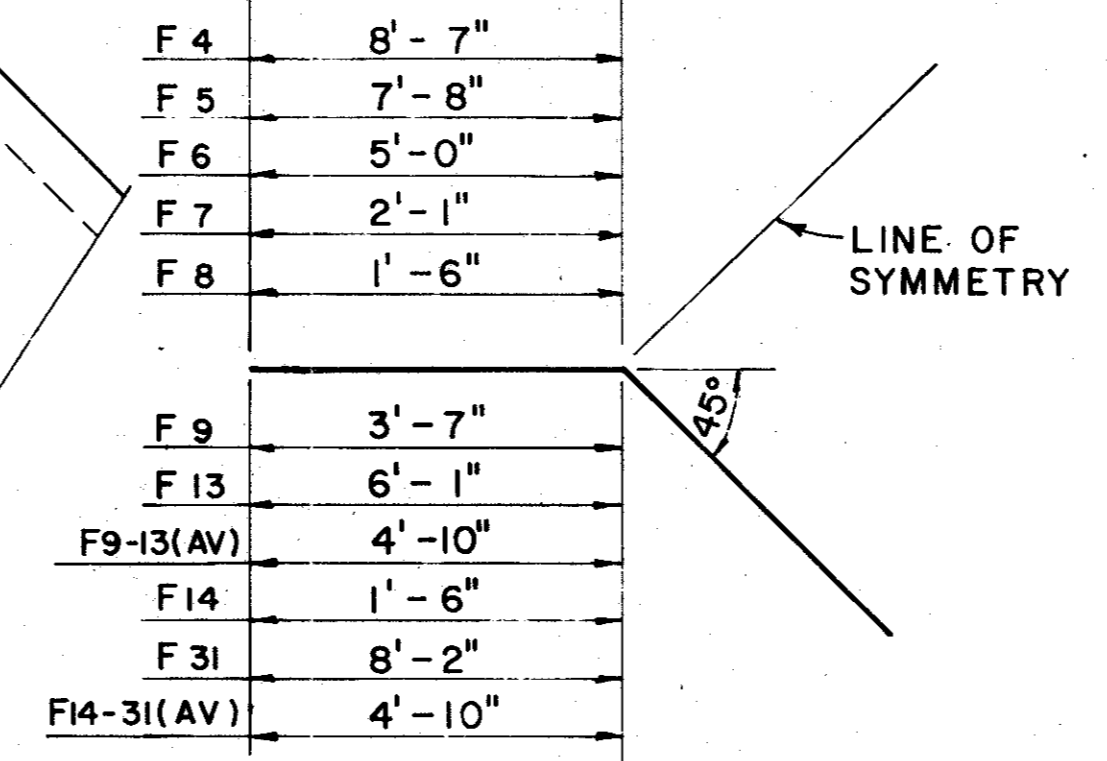
PLAN  
TYPICAL ANGLE SECTION



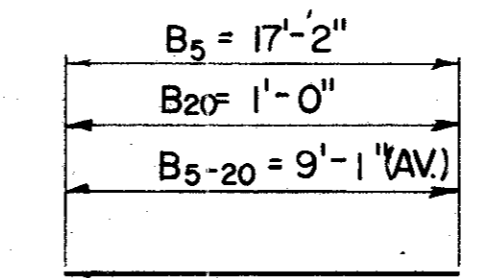
BARS B<sub>2</sub>, B<sub>4</sub>, LAP DETAIL



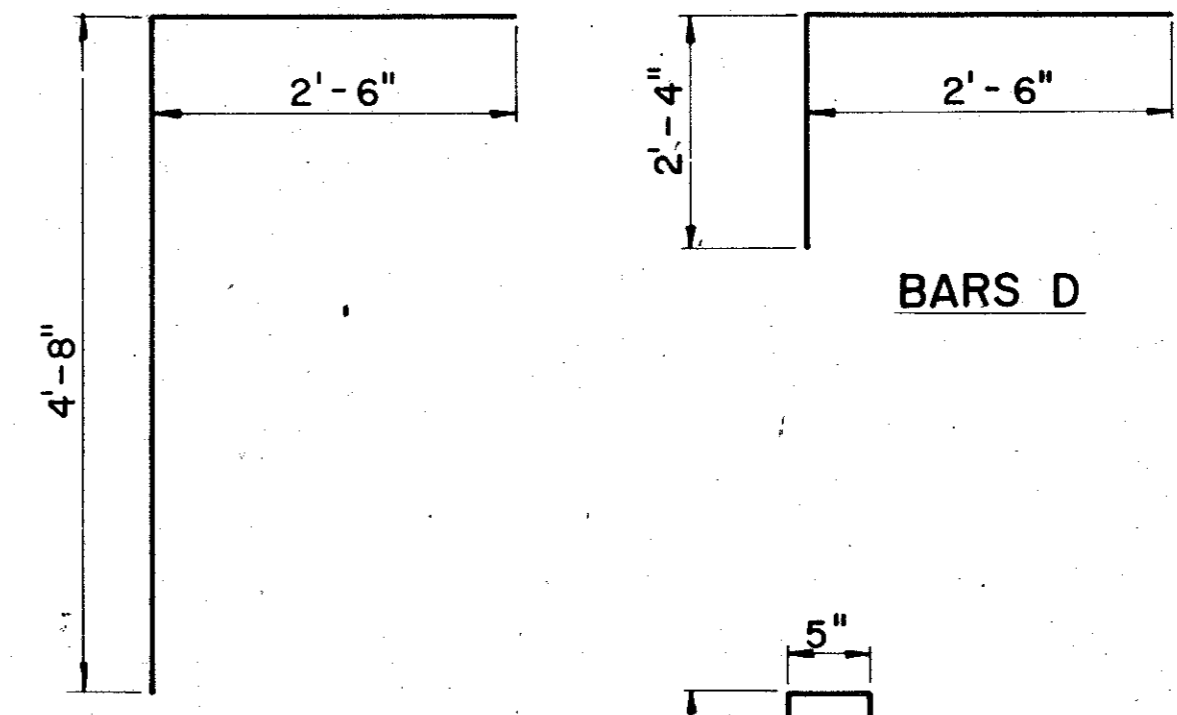
BARS Z BARS Y



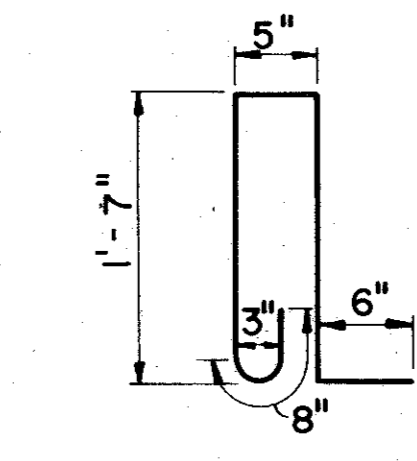
BARS F



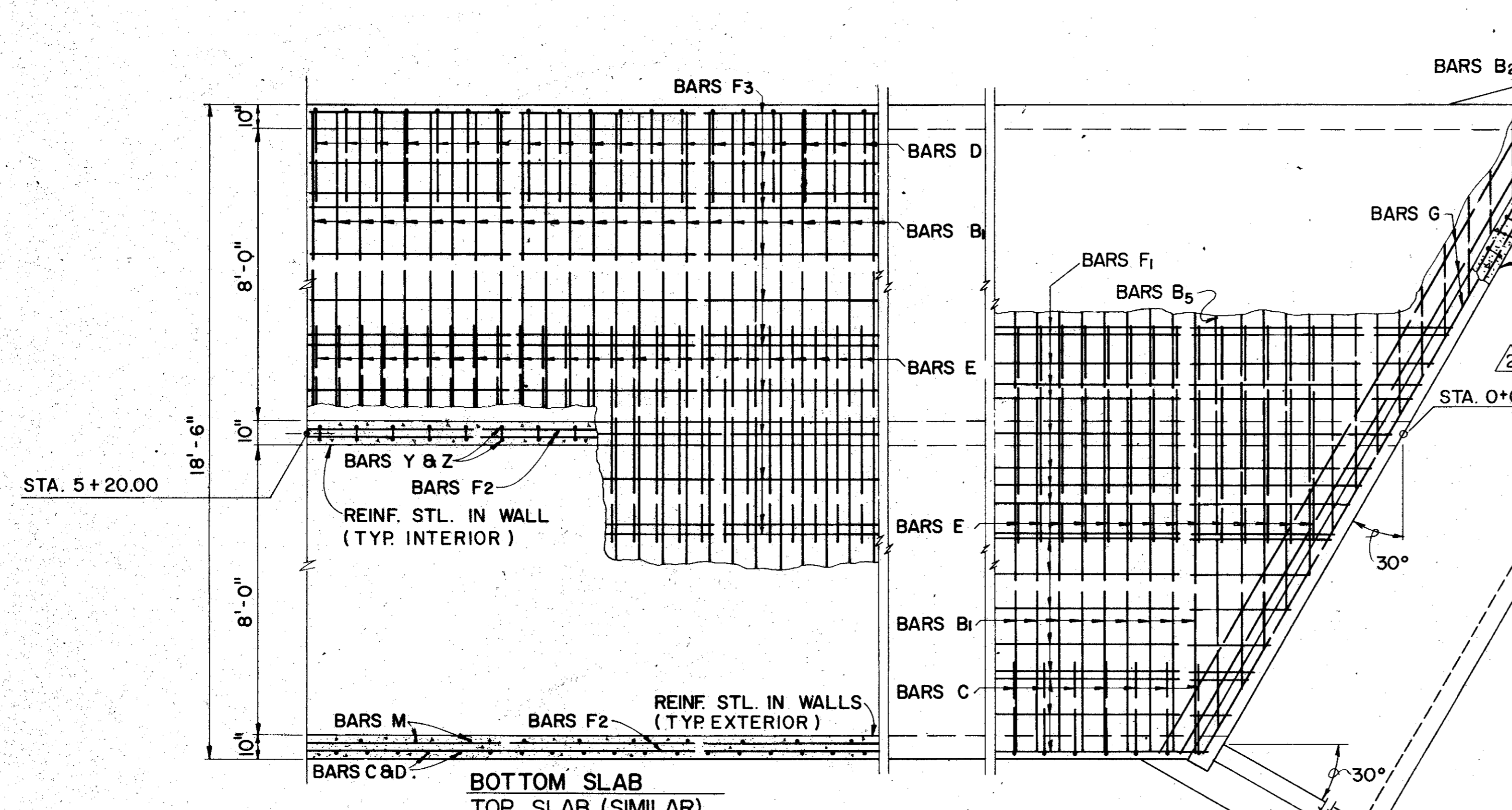
BARS B



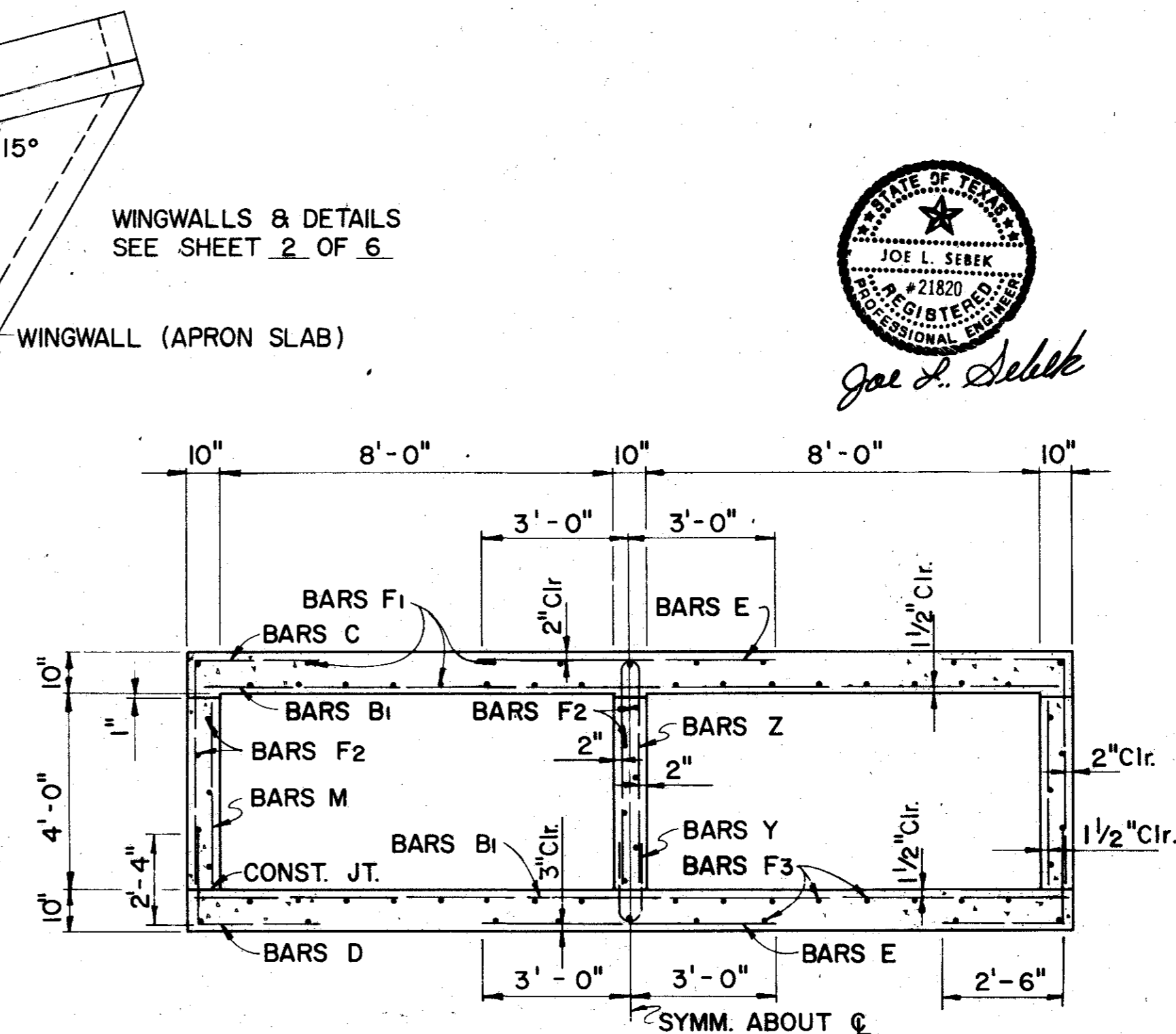
BARS C



BARS K



PART PLANS (BOX)



TYPICAL SECTION

BILL OF REINFORCING STEEL					
BARS	NO.	SIZE	SPACING	LENGTH	WEIGHT
B <sub>1</sub>	1512	#5	7 1/2"	18'-3"	28781
B <sub>2</sub>	110	#5	SHOWN	11'-7"	1329
B <sub>3</sub>	120	#5	SHOWN	10'-3"	1283
B <sub>4</sub>	50	#5	SHOWN	8'-8"	452
B <sub>5-20(AV)</sub>	32	#5	SHOWN	9'-1"	303
C	1232	#6	10"	7'-2"	13262
D	1232	#6	10"	4'-10"	8944
E	1536	#6	8"	6'-0"	13842
*F <sub>1</sub>	25	#5	SHOWN	488'-1"	12727
**F <sub>2</sub>	16	#4	SHOWN	486'-1"	5188
*F <sub>3</sub>	25	#5	SHOWN	488'-1"	12727
F <sub>4</sub>	35	#4	SHOWN	17'-2"	401
F <sub>5</sub>	10	#5	SHOWN	15'-4"	160
F <sub>6</sub>	30	#4	SHOWN	10'-0"	200
F <sub>7</sub>	10	#5	SHOWN	4'-2"	43
F <sub>8</sub>	35	#4	SHOWN	3'-0"	70
F <sub>9-13(AV)</sub>	50	#5	SHOWN	9'-8"	504
F <sub>14-31(AV)</sub>	180	#5	SHOWN	9'-8"	1815
G	6	#5	8"	21'-0"	131
H	2	#4	SHOWN	21'-0"	28
K	22	#4	12"	4'-8"	69
M	684	#4	18"	3'-10"	1749
Y	512	#4	12"	4'-1"	1395
Z	512	#4	12"	9'-8"	3301

ESTIMATED QUANTITIES		
ITEM	UNIT	QUANTITY
REINFORCING STEEL	LB.	108,635
CLASS A CONCRETE (CULV.)	CY.	773.2
STRUCTURAL EXCAV. (CULV.)	CY.	2,686

- \* INCLUDES (8)1'-3" SPLICES
- \*\* INCLUDES (8)1'-0" SPLICES
- △ INCLUDES (1) CURB WALL
- MAX. LENGTH

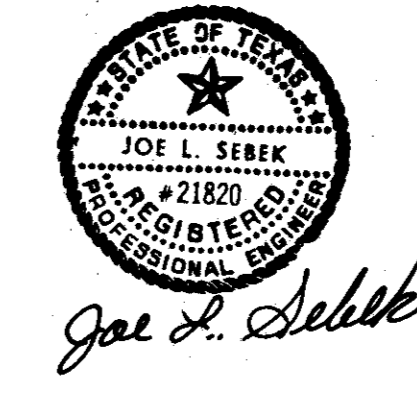
**GENERAL NOTES:**

DESIGN LOADING H 20 OR HS 20-44 TRAVELING PARALLEL AND PERPENDICULAR TO CENTER OF BOX CULVERT IN ACCORDANCE WITH AASHTO 1977 STANDARD AND INTERIM SPECIFICATIONS.

CONSTRUCTION JOINT SHOWN AT THE FLOW LINE MAY BE RAISED A MAXIMUM OF 6" AT THE CONTRACTORS OPTION. BARS M MAY BE CUT OFF OR RAISED, BARS C & D MAY BE REVERSED (D ON TOP) AND BARS Y & Z MAY BE REVERSED (Y ON TOP).

ALL REINFORCING STEEL SHALL BE GRADE 60. HORIZONTAL EARTH PRESSURE WAS ASSUMED TO BE 50#/SF LIQUID PRESSURE EQUIVALENT. CONCRETE SHALL BE CLASS "A" 3000psi AT 28 DAYS.

SEE SHEET 3 OF 6 FOR JUNCTION BOX (TRANSITION SECTION) DETAILS.



SHEET 1 OF 6

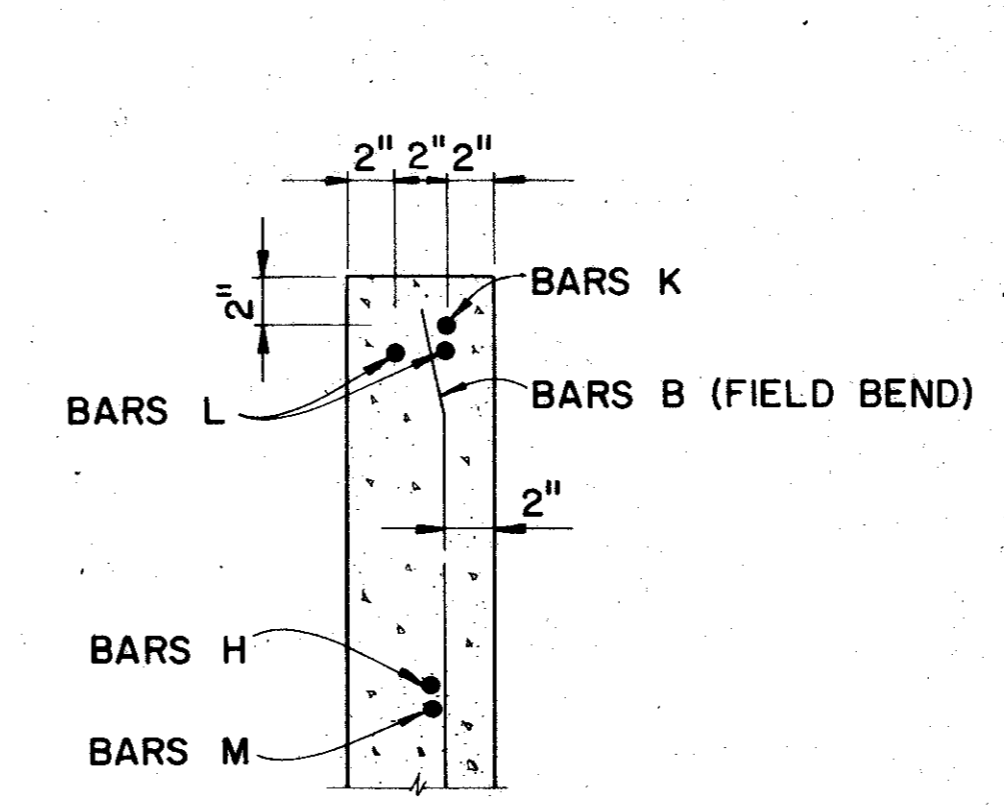
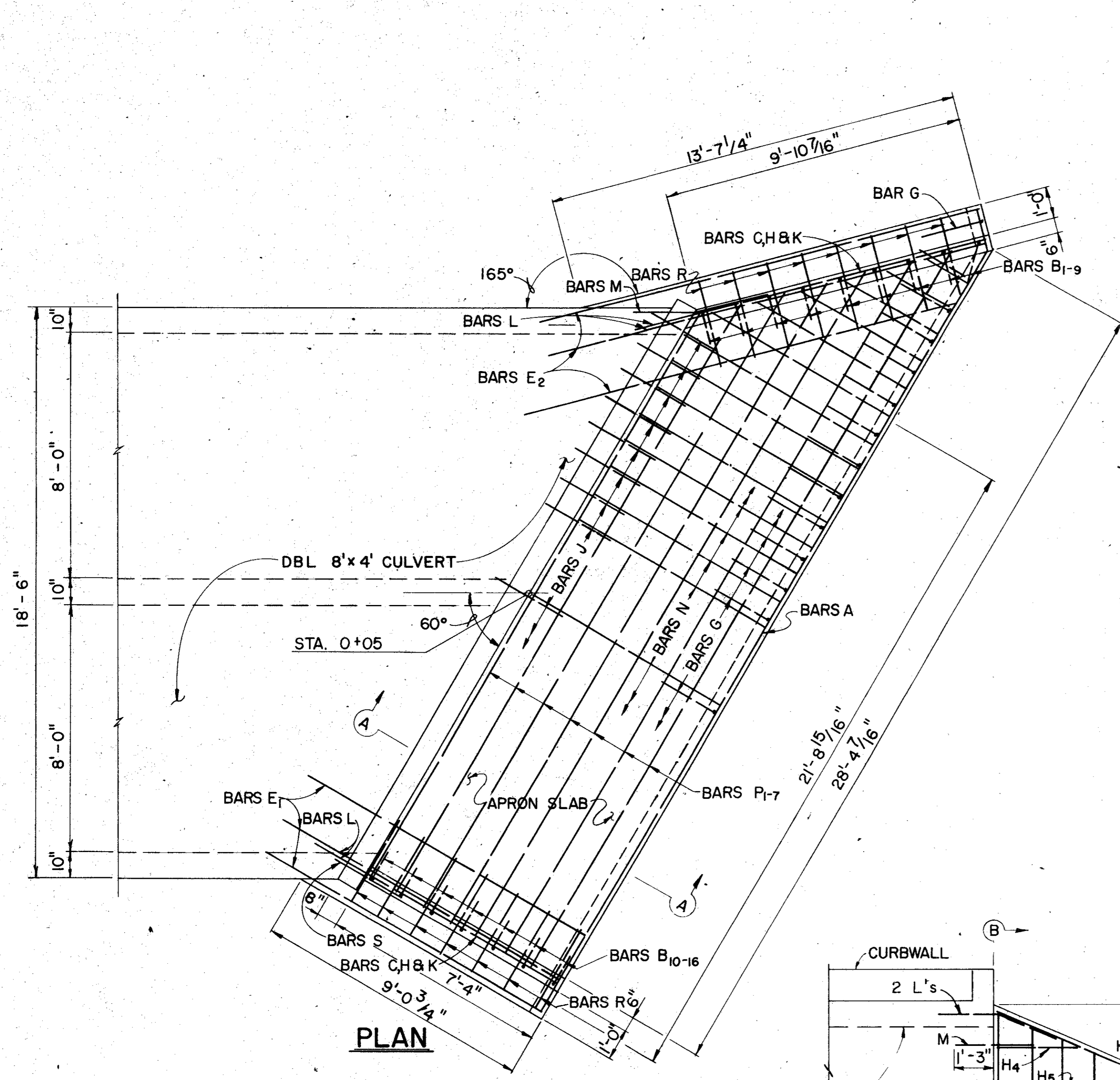
NO.	DATE	REVISION	APPROV.
9/82		Revised End Station & Estimated Quantities	
10/82		Revised per Change Order #2	

**CITIES OF ADDISON AND FARMERS BRANCH, TEXAS**

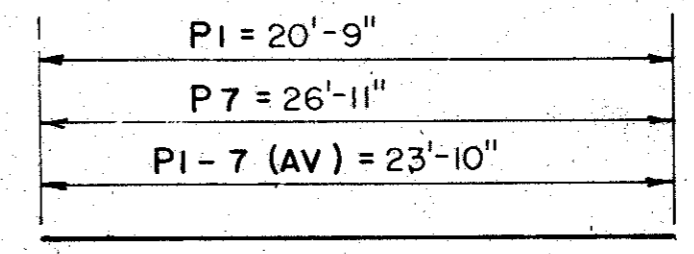
**2 SPAN 8'x4' RC BOX CULVERT CULVERT DETAILS**

**Turner Collie & Braden Inc.**  
CONSULTING ENGINEERS  
TEXAS ALUSTIN/DALLAS/EL PASO/HOUSTON/PORT ARTHUR  
COLORADO DENVER/GRAND JUNCTION

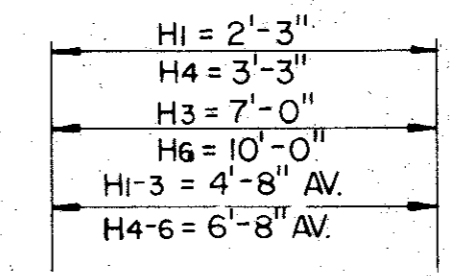
UNIT	GALFIONE	Scale:	Horz. Vert.	Date	FEBRUARY 1982
Designed	JS	Checked	WNL	Job No.	6042-010 Contract
Drawn	RP	Approved		Sheet	56 of 66



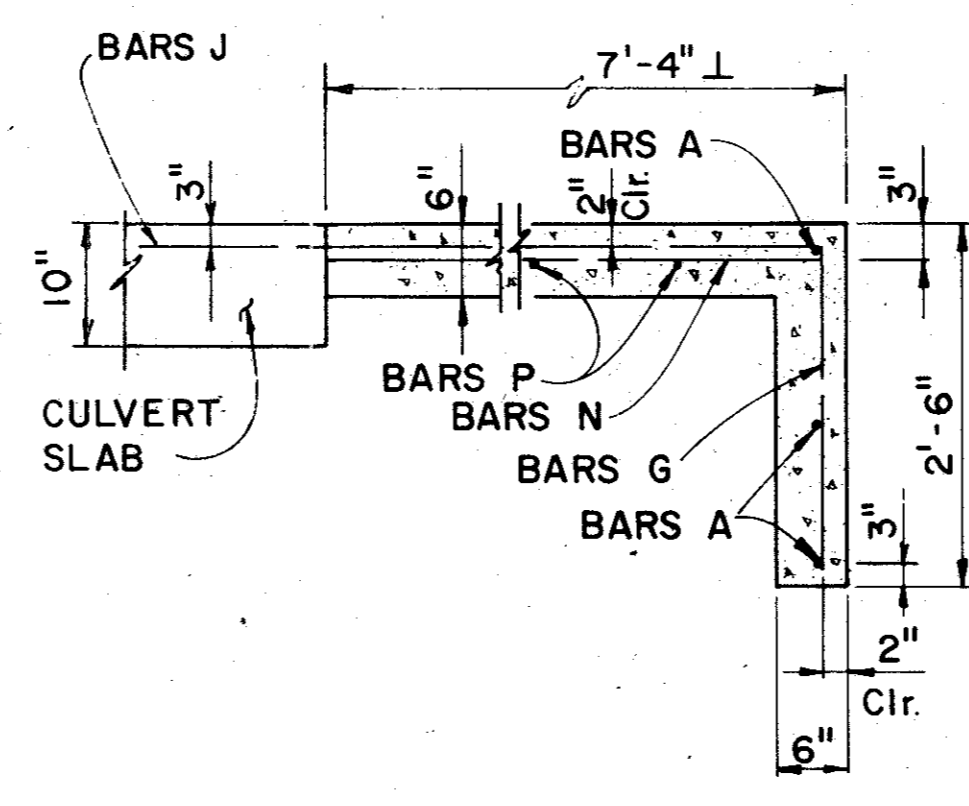
WINGWALL TOP DETAIL  
(TYPICAL)



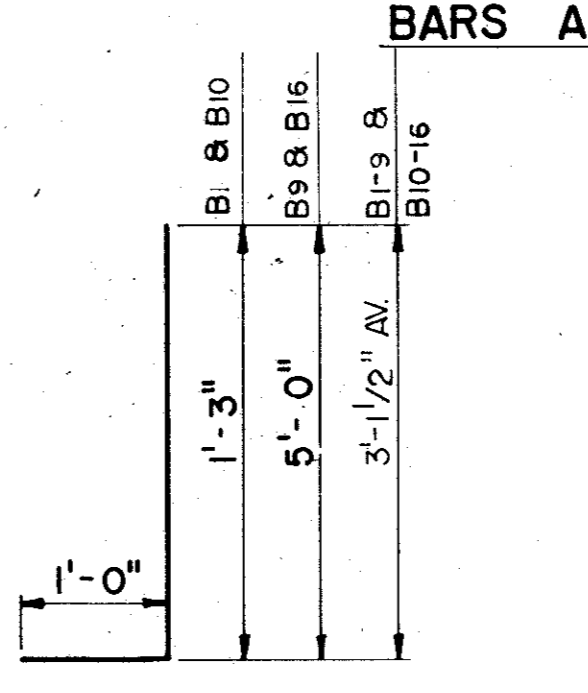
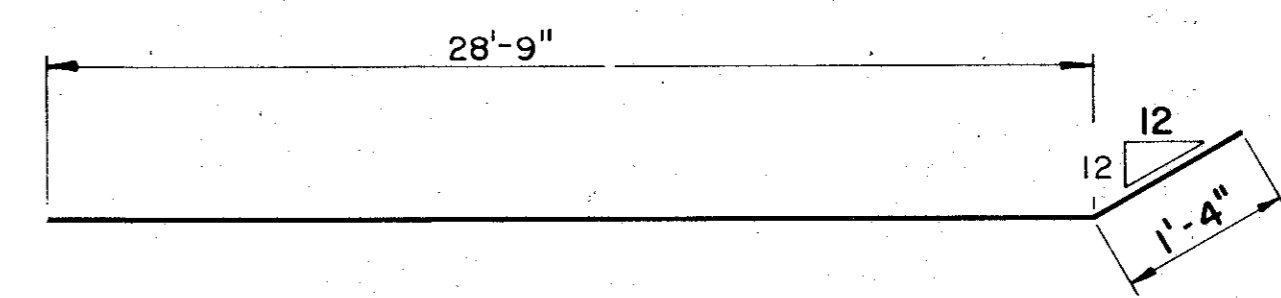
BARS P1-P7



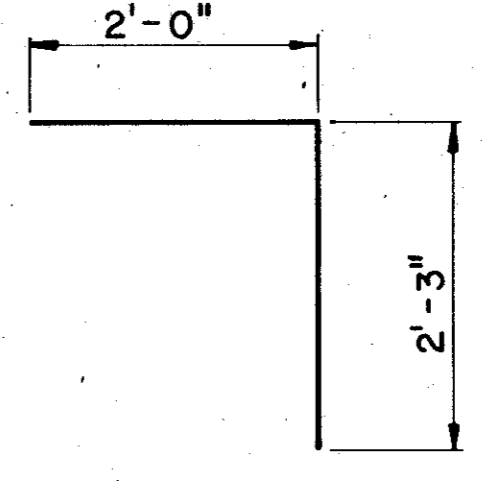
BARS H1-H6



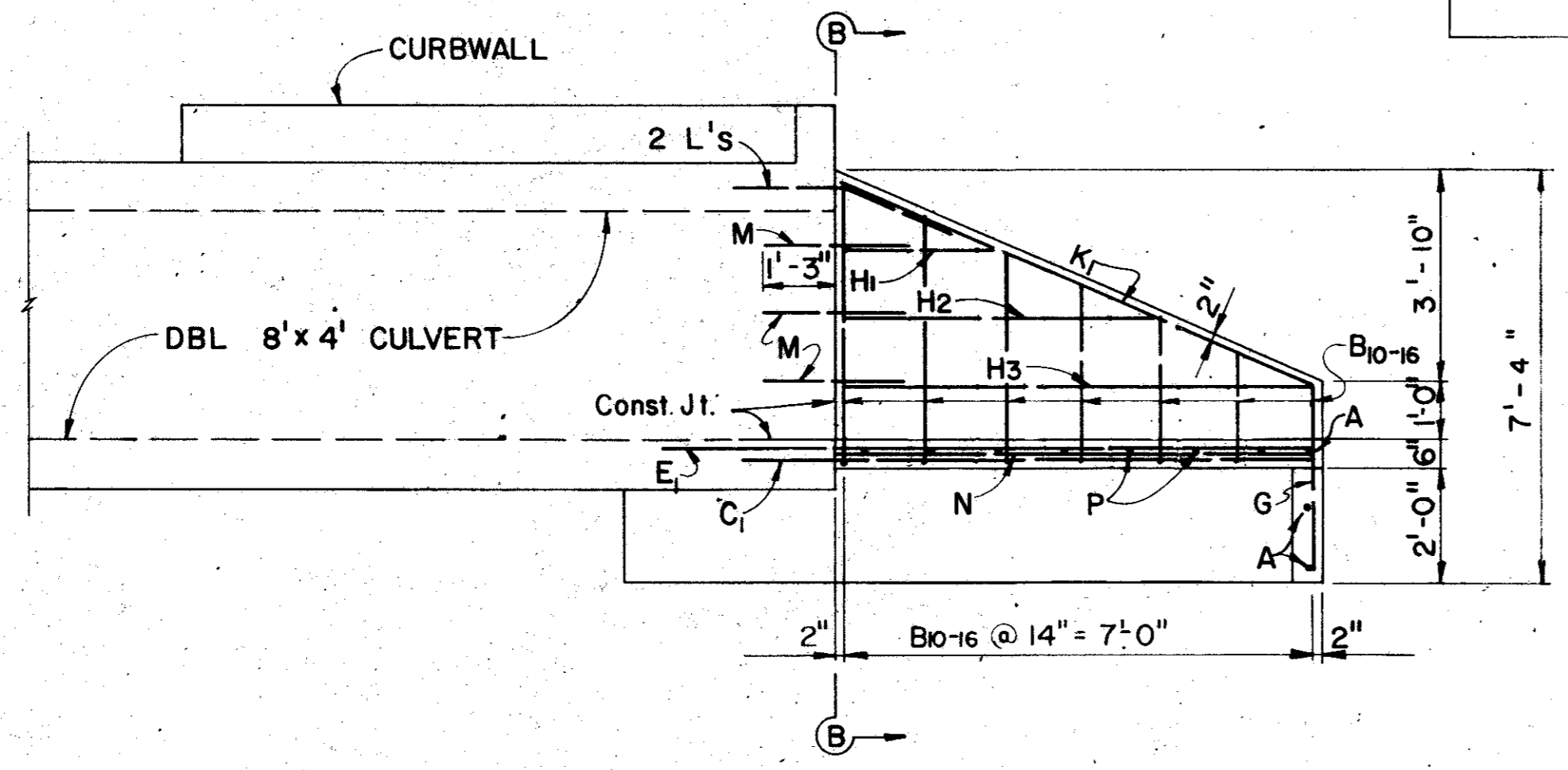
SECTION A-A



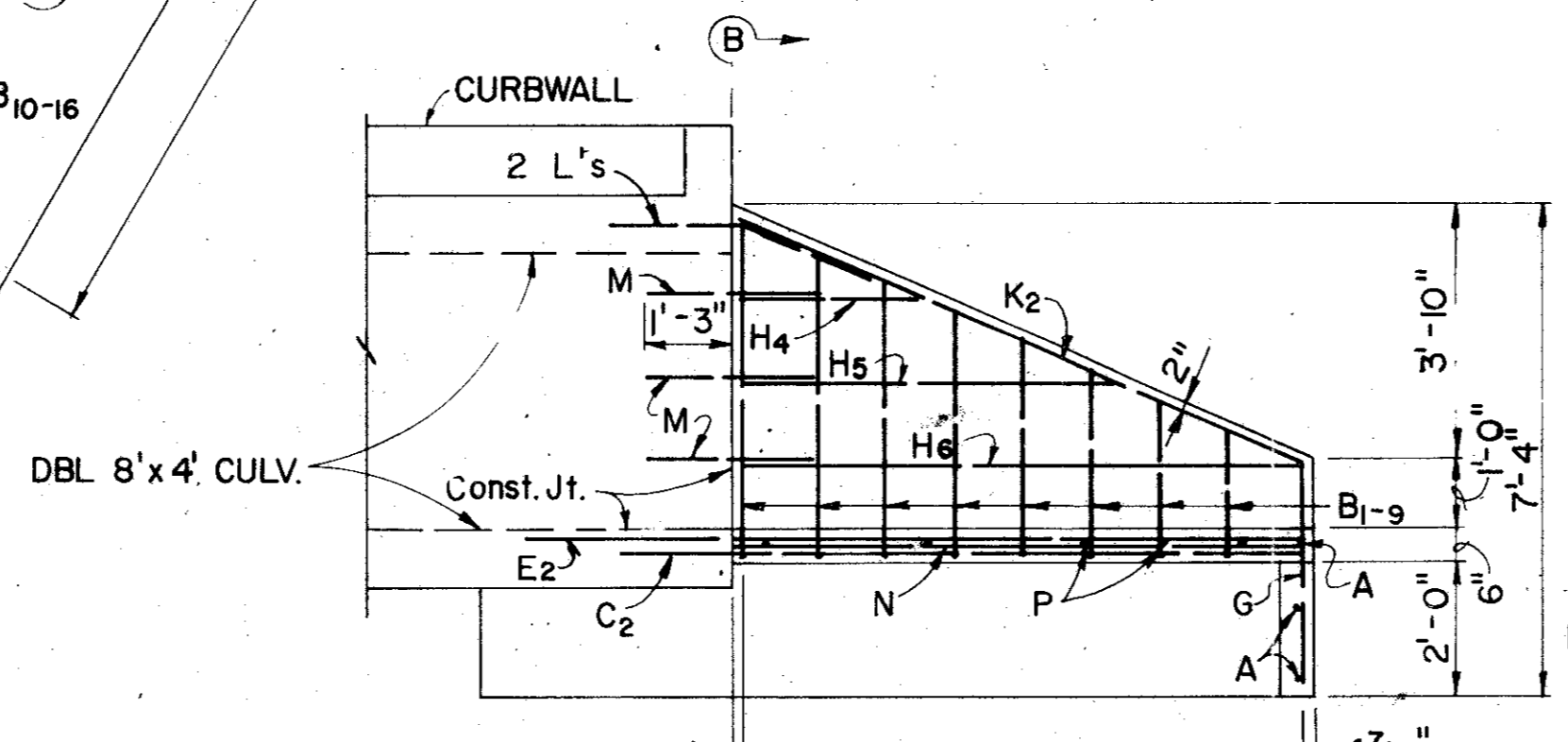
BARS B1-B16



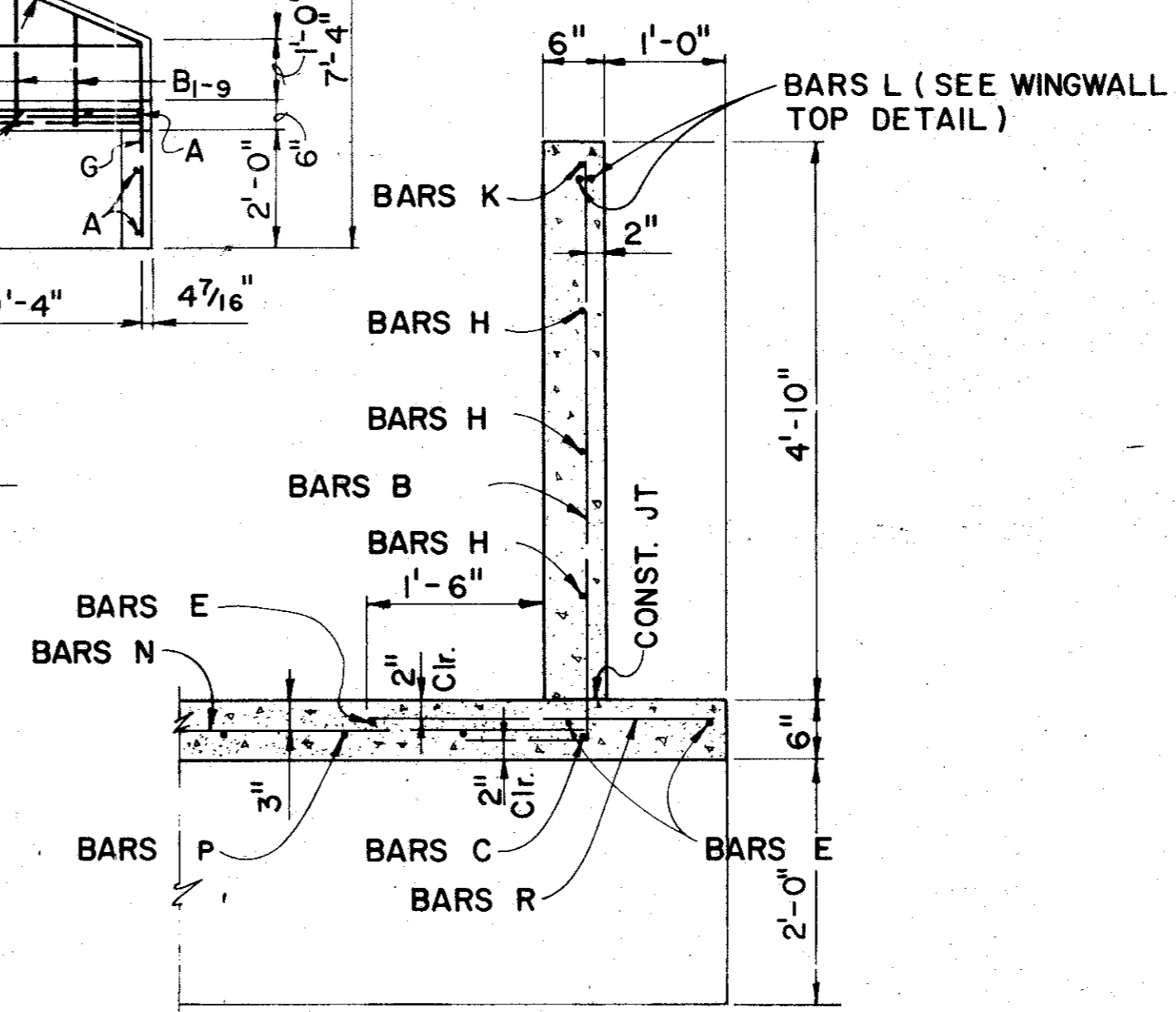
BARS G



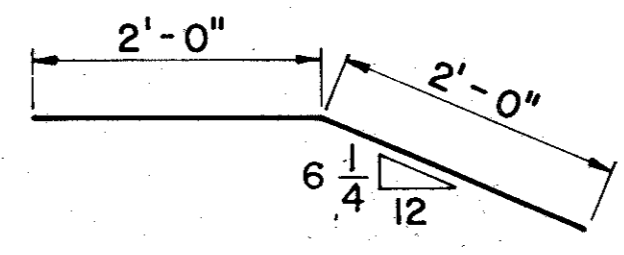
ELEVATION  
7'-4" WINGWALL



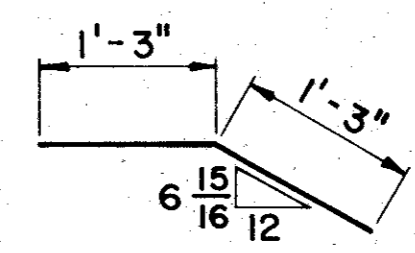
ELEVATION  
9'-10 7/16" WINGWALL



SECTION B-B



BARS L



BARS M

BILL OF REINFORCING STEEL

BAR	NO.	SIZE	SPACING	LENGTH	WEIGHT
A	3	#4	SHOWN	30'-1"	60
B1-9 AV.	9	#4	14"	4'-2"	25
B10-16 AV.	7	#4	14"	4'-2"	19
C1	1	#4	---	9'-0"	6
C2	1	#4	---	12'-0"	8
E1	3	#4	---	10'-3"	21
E2	3	#4	---	14'-6"	29
G	27	#4	14"	4'-3"	77
H1-3 AV.	3	#4	15"	4'-8"	9
H4-6 AV.	3	#4	15"	6'-8"	13
J	21	#5	12"±	2'-6"	55
K1	1	#5	---	8'-0"	8
K2	1	#5	---	10'-8"	11
L	4	#5	SHOWN	4'-0"	17
M	3	#4	15"	2'-6"	5
#N	29	#4	12"	7'-0"	136
P1-7 AV.	7	#4	12"	23'-10"	111
R	16	#4	14"	2'-10"	30
S	3	#4	15"	2'-6"	5

ESTIMATED QUANTITIES

ITEM	UNIT	QUANTITY
CL. A CONCRETE (WINGWALL)	C.Y.	569
REINFORCING STEEL	LB.	

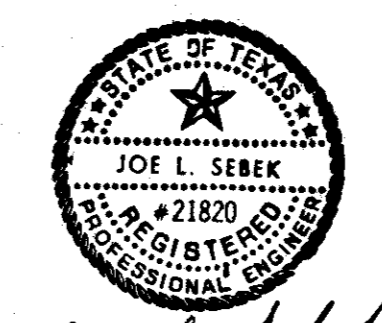
\* FIELD CUT BARS IN WEDGE TO FIT.

GENERAL NOTES:

END CULVERT BOTTOM SECTION, WINGWALL FOOTINGS, AND APRON SLAB WITH TOE WALL SHALL BE PLACED IN ONE OPERATION.  
ALL REINFORCING STEEL SHALL BE GRADE HORIZONTAL EARTH PRESSURE WAS ASSUMED TO BE 50 #/SF EQUIVALENT LIQUID PREST CONCRETE SHALL BE CLASS "A" 3000psi 28 DAYS

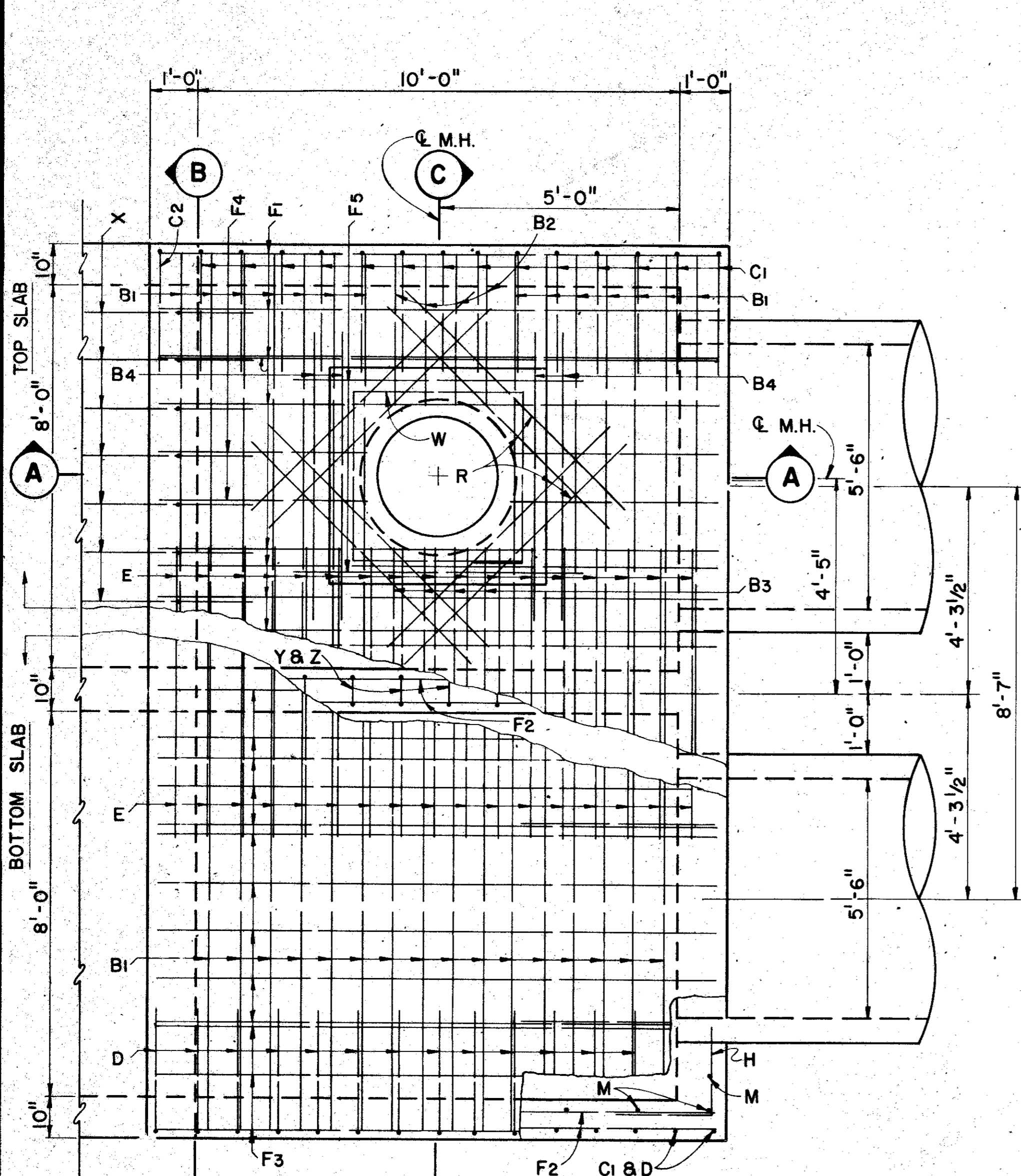
NO.	DATE	REVISION	APPROV.
2	8/82	Revised per Change Order # 2	
1	5/82	AS PER ADDENDUM # 1, ART. 16	

CITIES OF ADDISON AND FARMERS BRANCH, TEXAS  
FLARED WINGWALLS FOR  
2 SPAN 8'x4' RC BOX CULVERT  
Turner Collie & Braden Inc.  
CONSULTING ENGINEERS  
TEXAS AUSTIN/DALLAS/EL PASO/HOUSTON/PORT ARTHUR  
COLORADO DENVER/GRAND JUNCTION

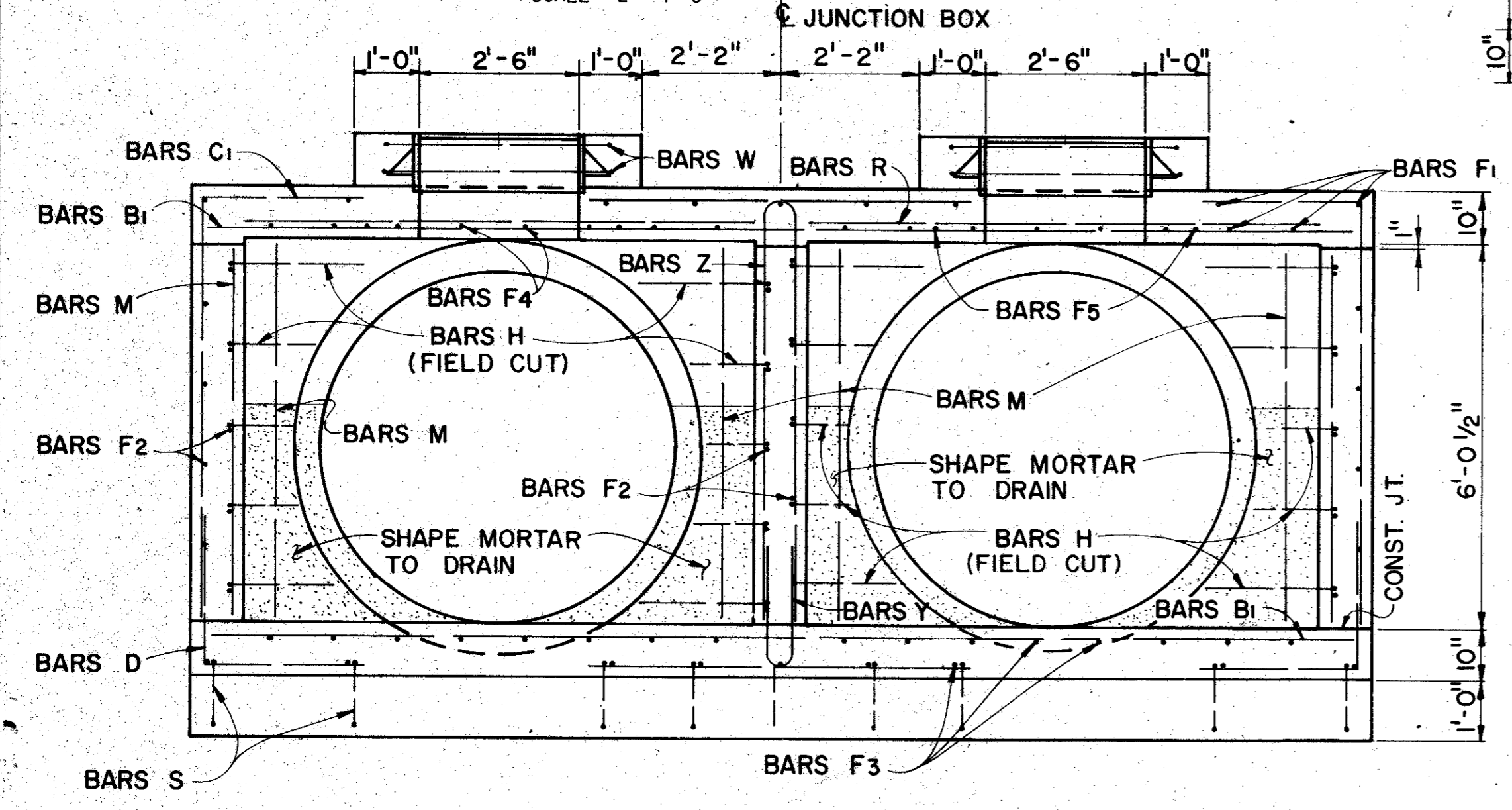


Joe L. Sebek

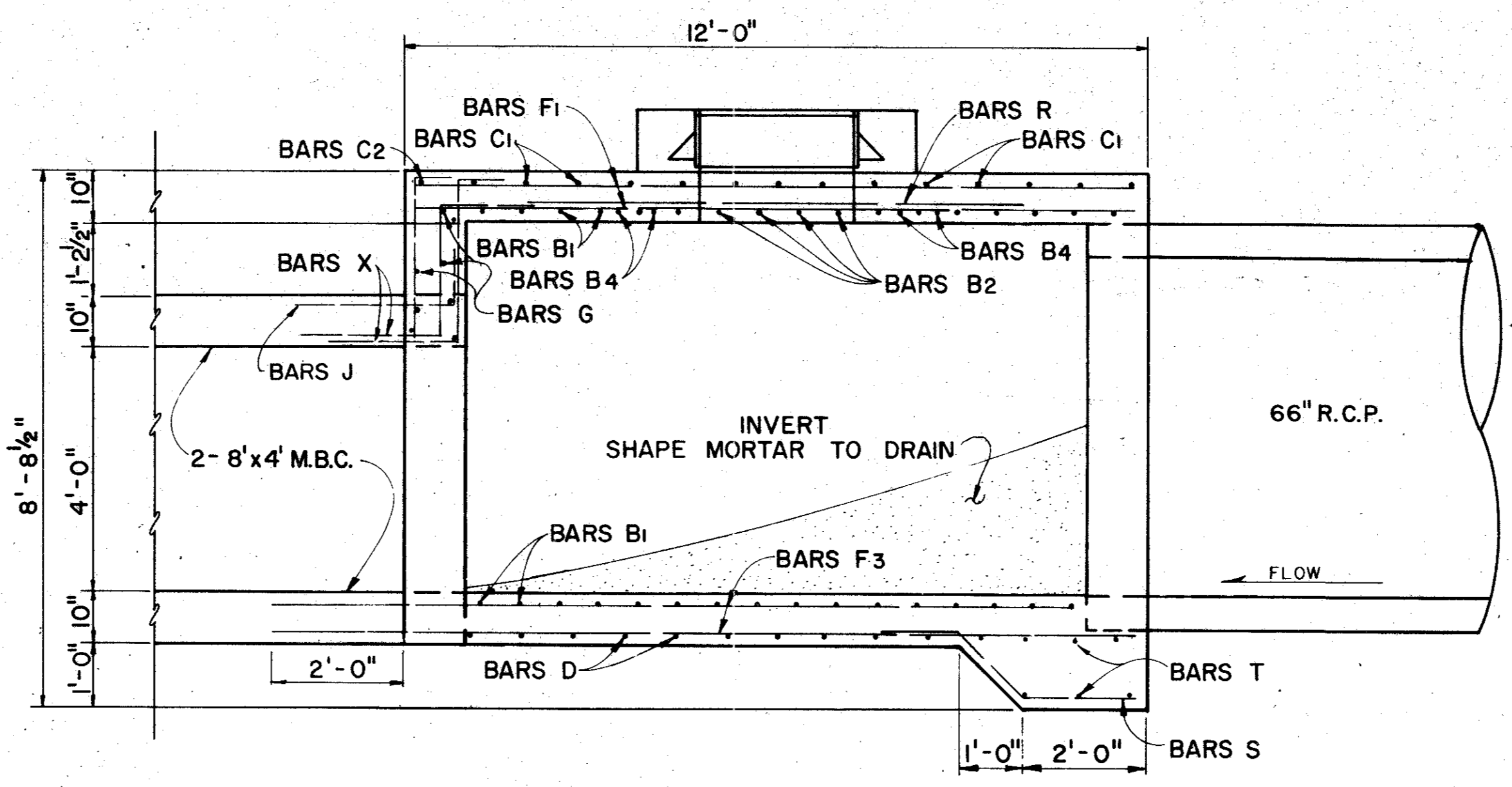
Unit	Scale	Date
GALFIONE	Hors. Vert.	FEBRUARY 1982
Designed JS	Checked WNL	Job No. 6042-010 Contract
Drawn RP	Approved	Sheet 57 of 66



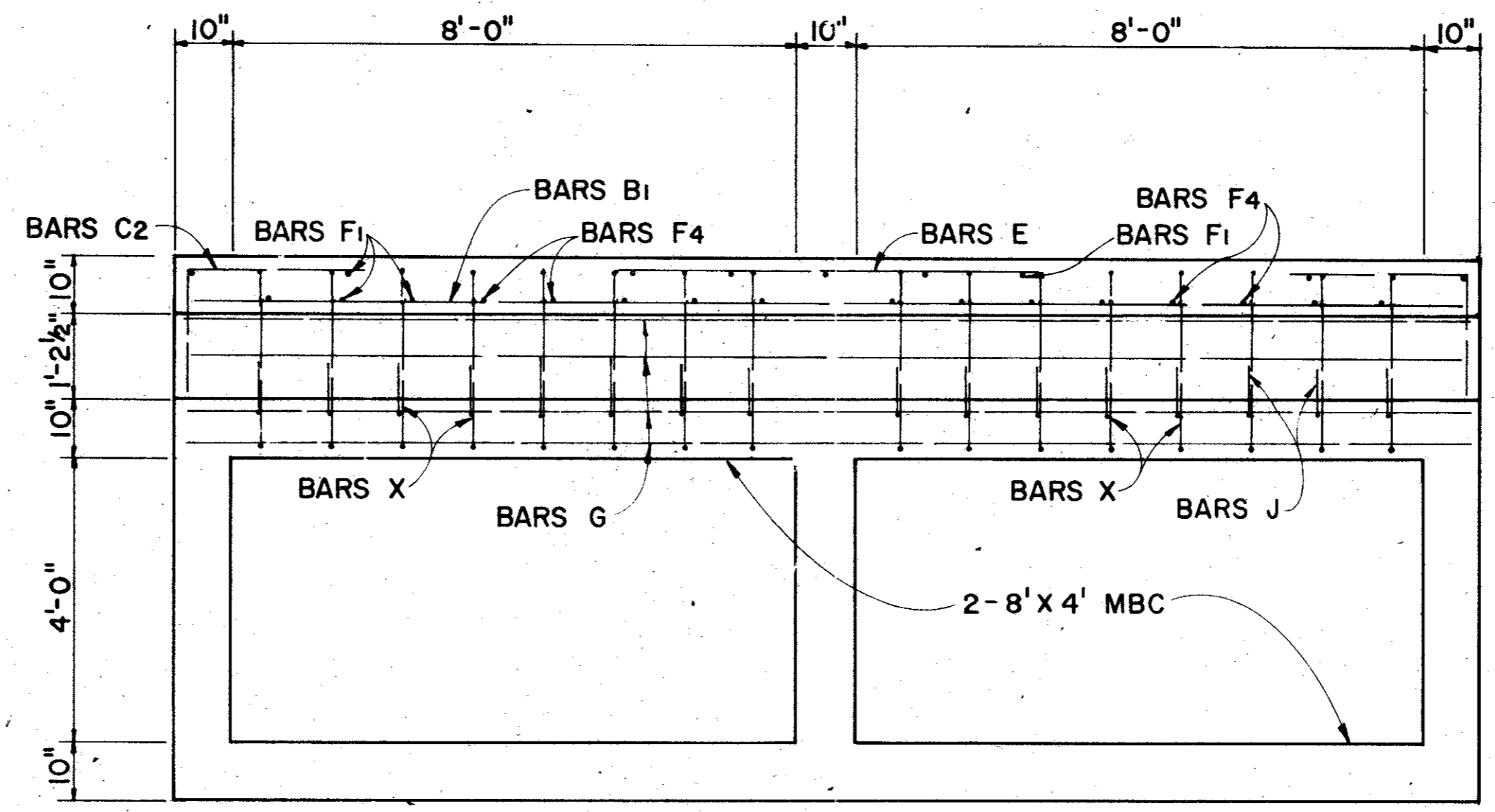
**PLAN**  
SCALE: 1/2" = 1'-0"



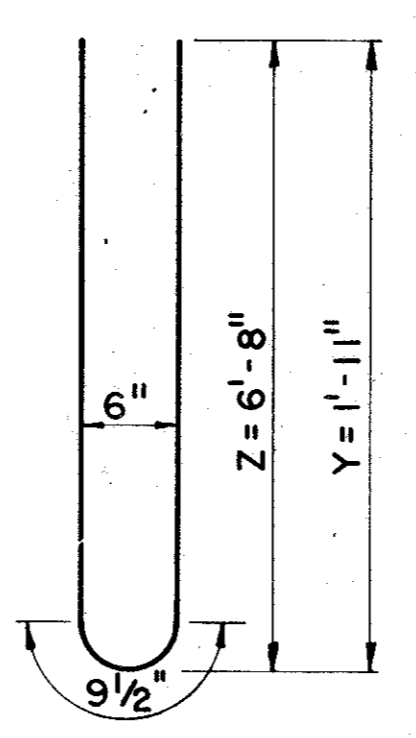
**SECTION C-C**  
SCALE: 1/2" = 1'-0"



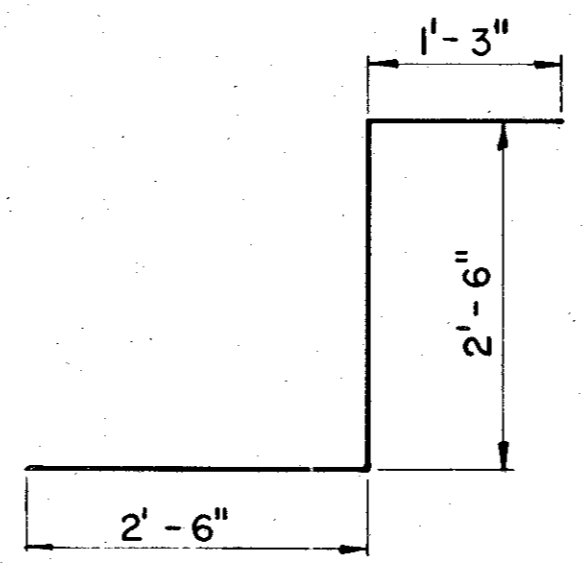
**SECTION A-A**  
SCALE: 1/2" = 1'-0"



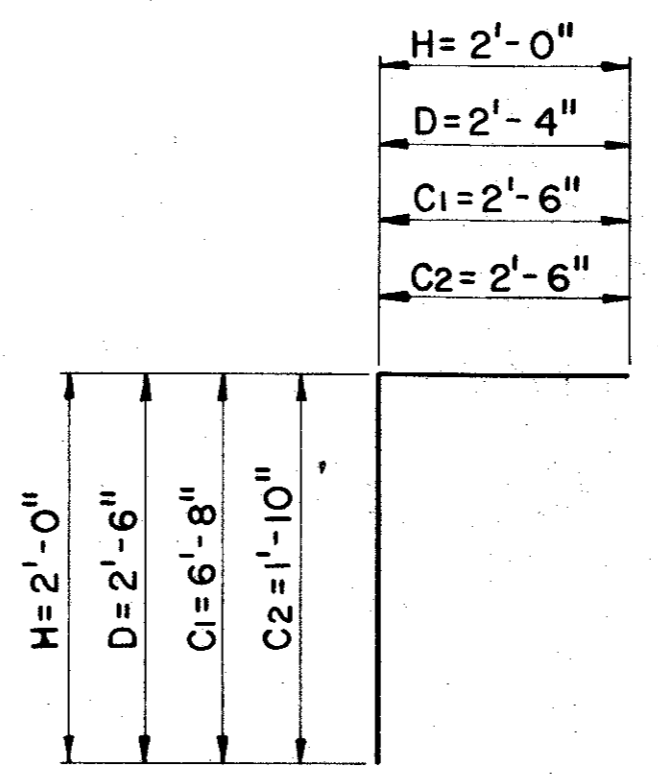
**SECTION B-B**  
SCALE: 1/2" = 1'-0"



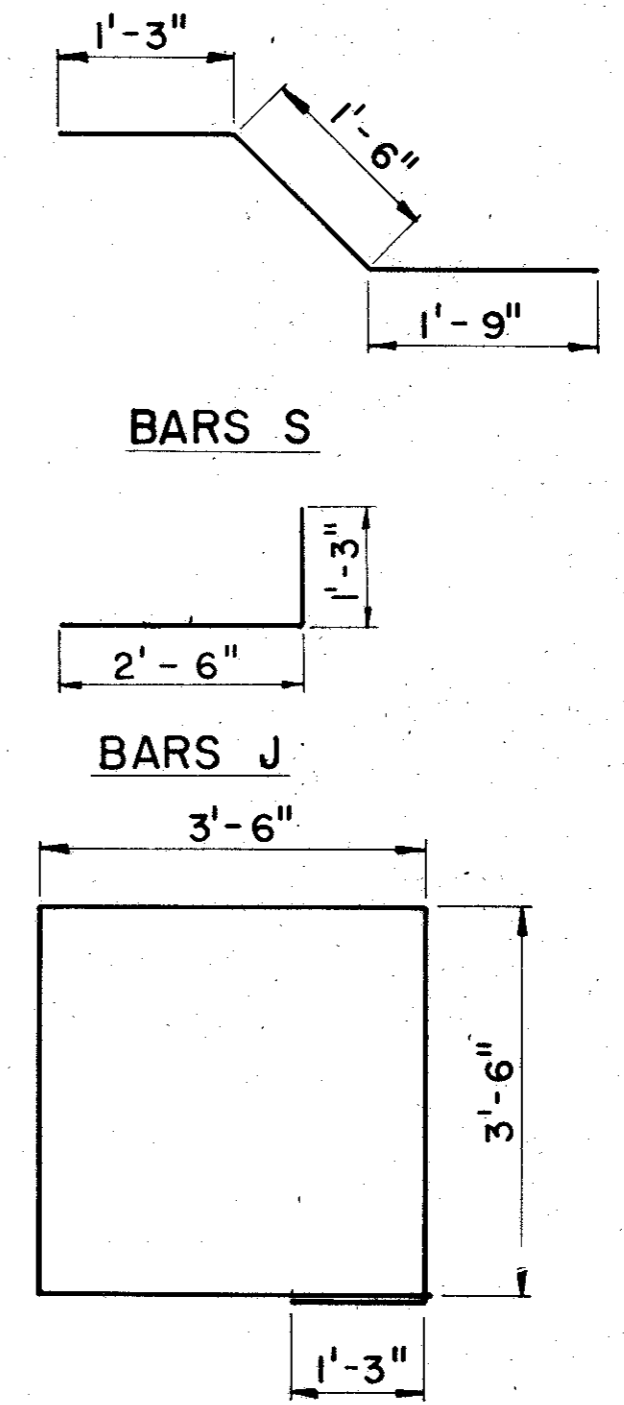
**BARS Y & Z**



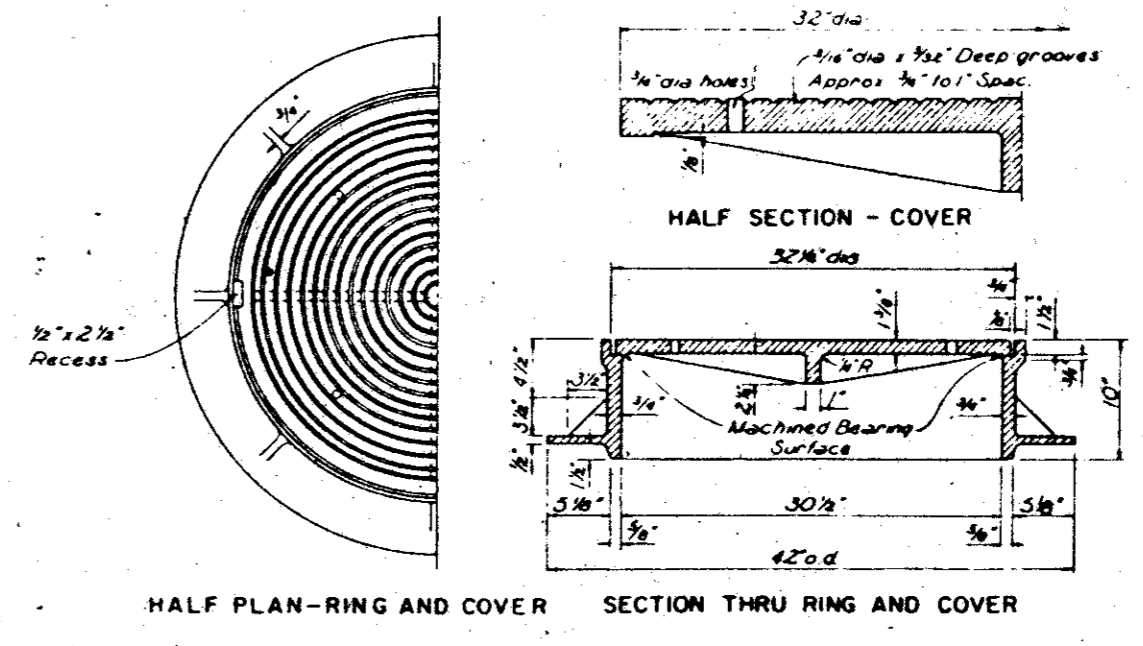
**BARS X**



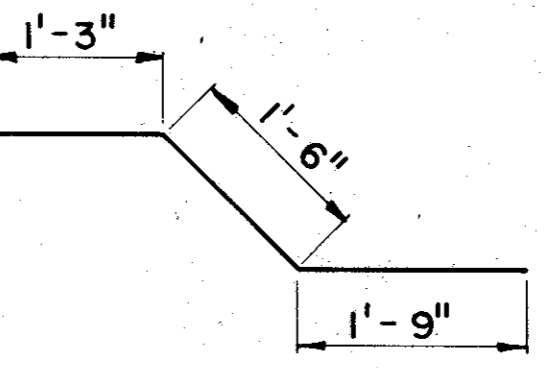
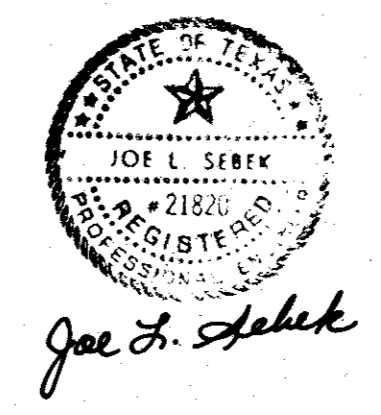
**BARS C, D, & H**



**BARS W**



HALF PLAN-RING AND COVER SECTION THRU RING AND COVER



**BILL OF REINFORCING STEEL**

BAR	NO.	SIZE	SPACING	LENGTH	WEIGHT
B1	30	#5	7 1/2"	18'-3"	571
B2	8	#5	7 1/2"	3'-4"	28
B3	4	#5	7 1/2"	6'-1"	25
B4	8	#5	SHOWN	6'-0"	50
C1	28	#6	10"	9'-2"	385
C2	2	#6	SHOWN	4'-4"	13
D	28	#6	10"	4'-10"	203
E	34	#6	8"	6'-0"	306
F1	21	#5	SHOWN	11'-9"	257
F2	28	#5	SHOWN	11'-9"	343
F3	25	#5	SHOWN	13'-10"	363
F4	8	#5	SHOWN	4'-6"	38
F5	4	#5	SHOWN	6'-0"	25
G	1	#5	SHOWN	8'-3"	19
H	20	#5	SHOWN	4'-0"	83
M	20	#4	18"	5'-9"	77
R	16	#5	SHOWN	6'-6"	108
S	9	#5	SHOWN	4'-0"	42
T	7	#5	SHOWN	18'-3"	134
W	4	#5	SHOWN	15'-3"	64
X	16	#5	SHOWN	5'-1"	85
Y	11	#4	12"	4'-1"	30
Z	11	#4	12"	13'-7"	100
J	16	#5	SHOWN	3'-9"	63

**ESTIMATED QUANTITIES**

ITEM	UNIT	QUANTITY
REINFORCING STEEL	LB.	3,412
CL. A CONC. JUNCTION BOX	C.Y.	18.4

**GENERAL NOTES:**

DESIGN LOADING H20 OR HS20-44 IN ACCORDANCE WITH AASHTO 1977 STANDARD OF AND INTERUM SPECIFICATIONS

CONSTRUCTION JOINT SHOWN AT THE FLOW LINE MAY BE RAISED A MAXIMUM OF 6" AT THE CONTRACTORS OPTION. BARS M MAY BE CUT OFF OR RAISED, BARS Y & Z MAY BE REVERSED (Y ON TOP).

HORIZONTAL EARTH PRESSURE WAS ASSUMED TO BE 50 #/SF LIQUID PRESSURE EQUIVALENT.

CONCRETE SHALL BE CLASS "A" 3000psi AT 28 DAYS.

ALL REINFORCING STEEL BE GRADE 60

STRUCTURAL EXCAVATION INCLUDED IN 2-SPAN-8'x4' R.C. BOX CULVERT.

MANHOLE RING AND COVER SHALL BE INCIDENTAL TO ITEM 421.

4			
3			
2			
1			
NO.	DATE	REVISION	APPROV.

**CITIES OF ADDISON AND FARMERS BRANCH, TEXAS**

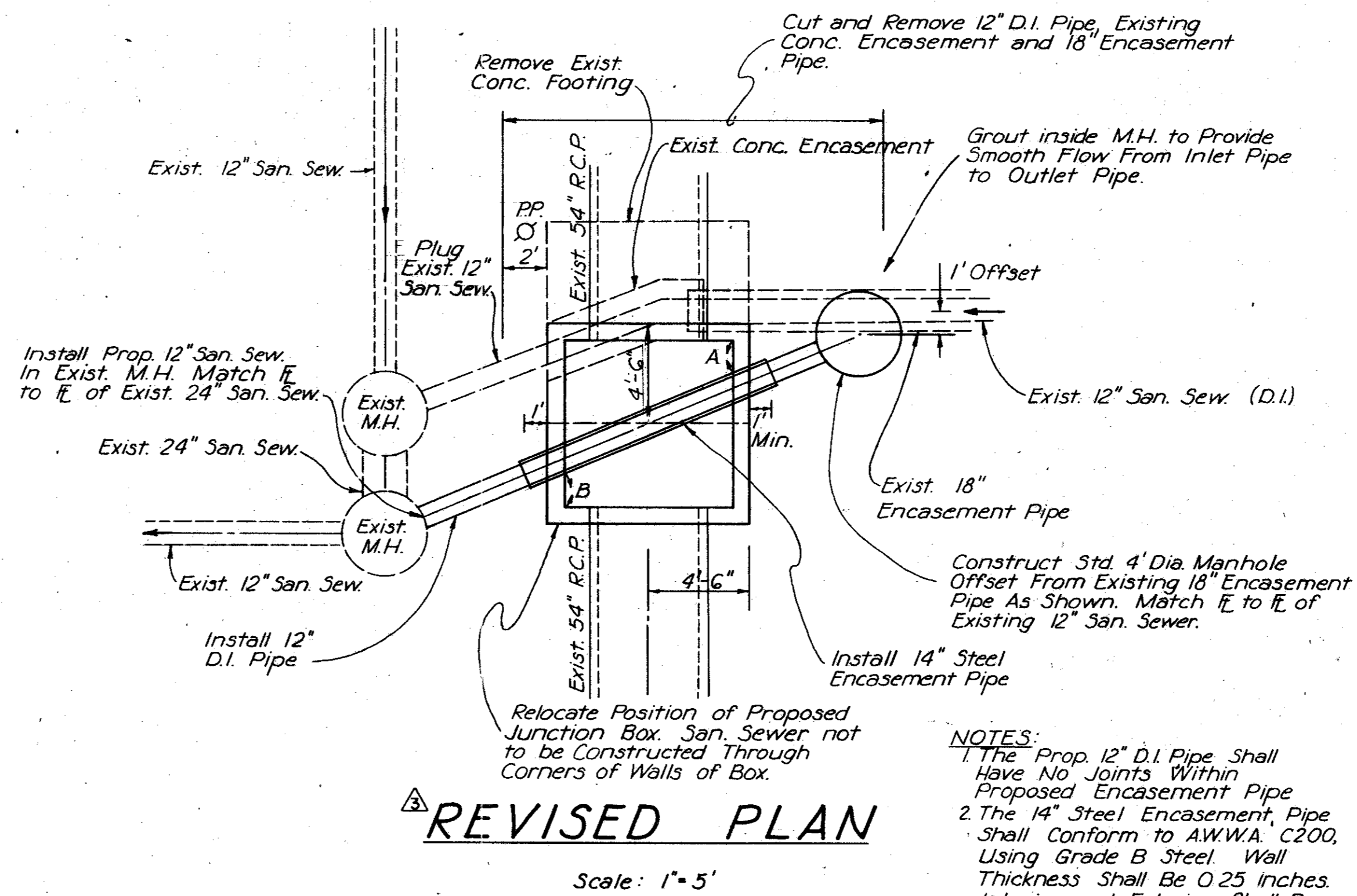
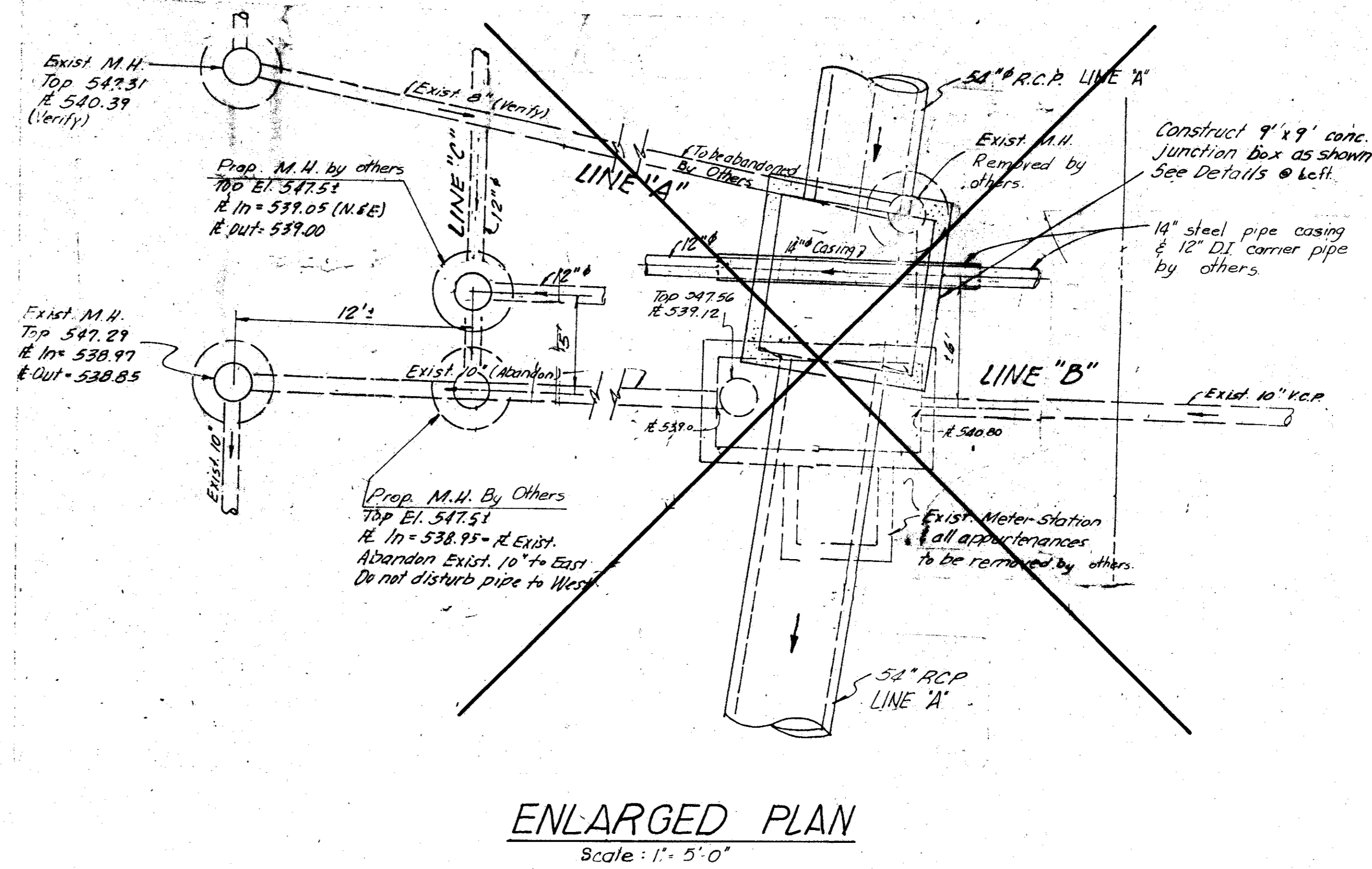
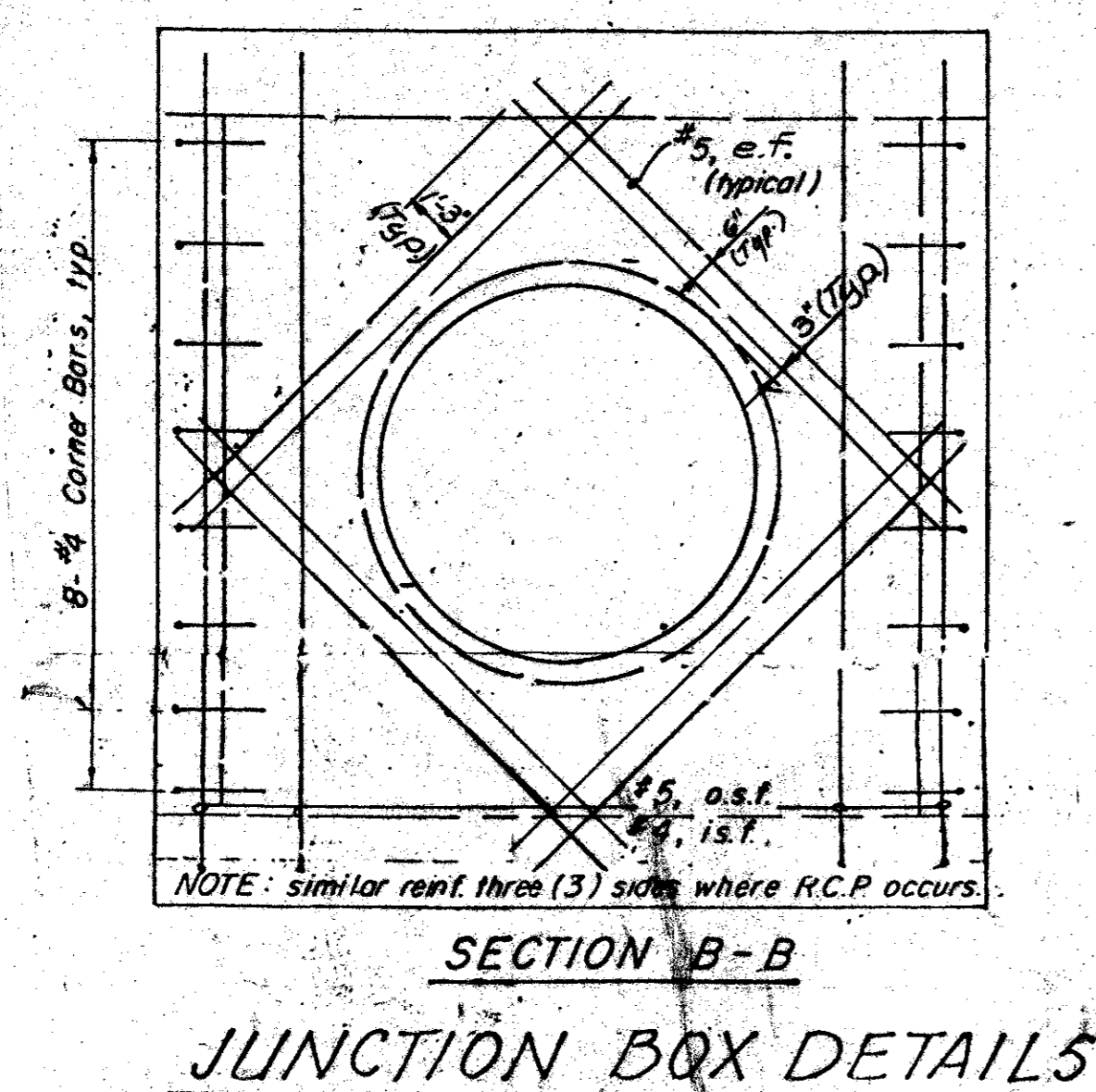
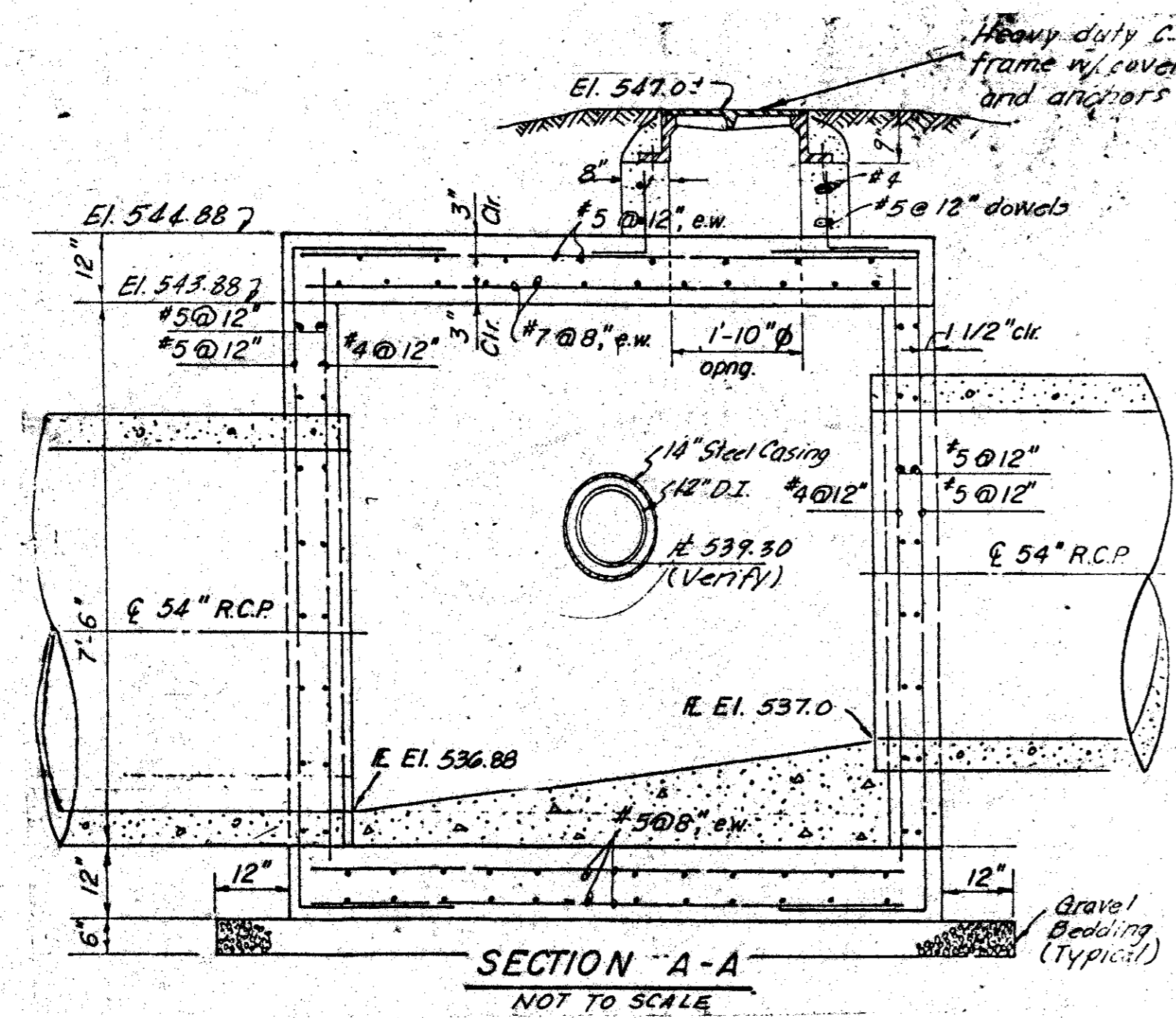
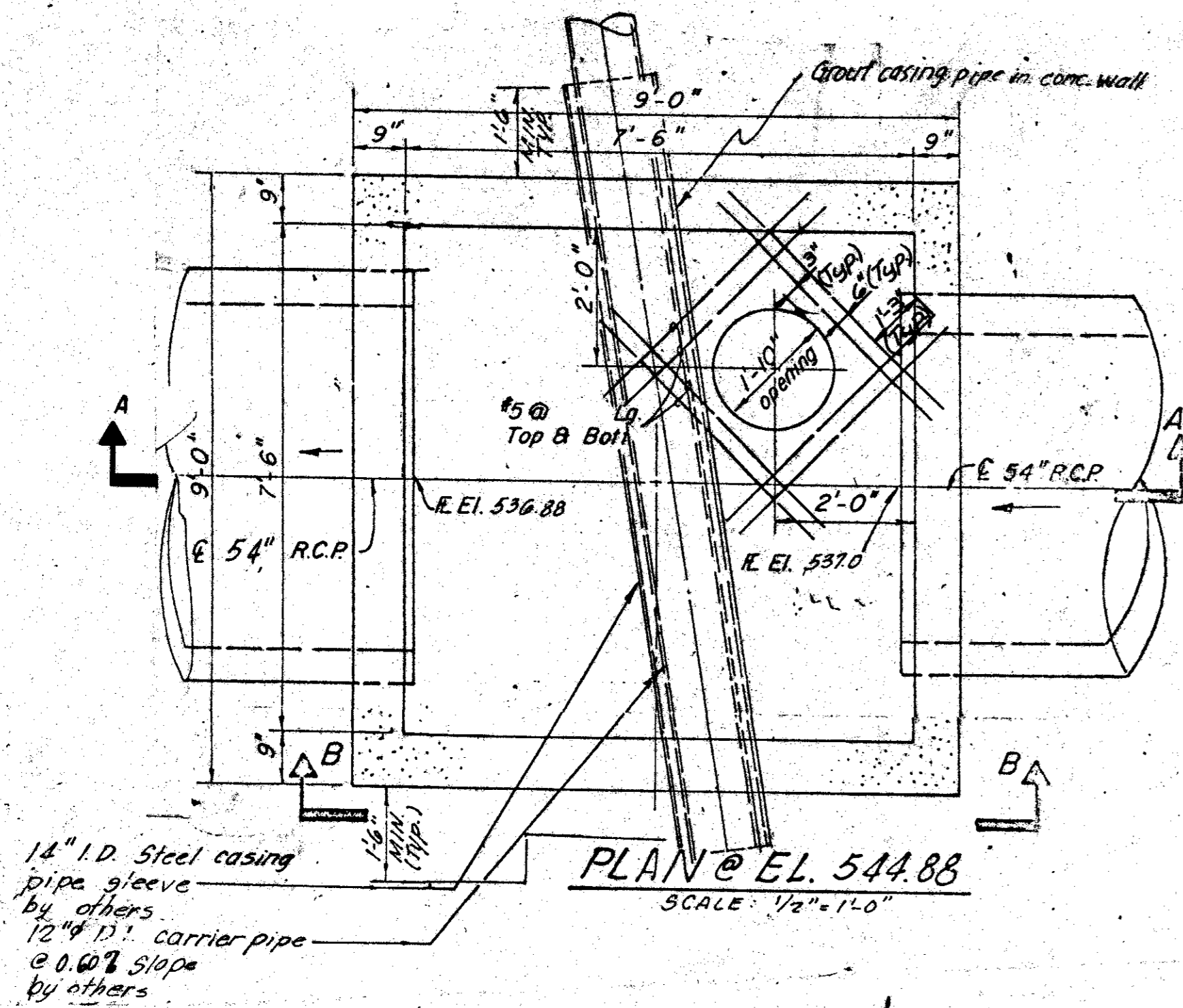
**JUNCTION BOX DETAIL**

**2-66" RCP'S TO 2-8'x4"**

**Turner Collie & Braden Inc.**  
CONSULTING ENGINEERS

TEXAS ALSTIN DALLAS EL PASO HOUSTON PORT ARTHUR COLORADO DENVER GRAND JUNCTION

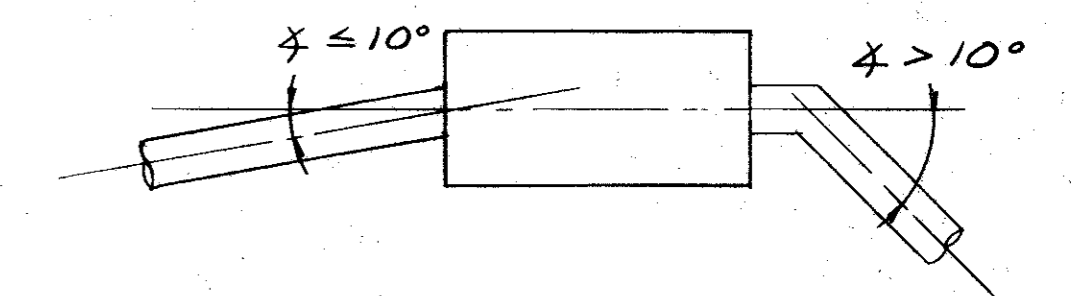
Unit	GALFIONE	Scale	AS NOTED	Date	FEBRUARY, 1982
Designed	WNL	Checked	JS	Job No.	6042-010 Contract
Drawn	WW/RP	Approved		Sheet	58 of 66



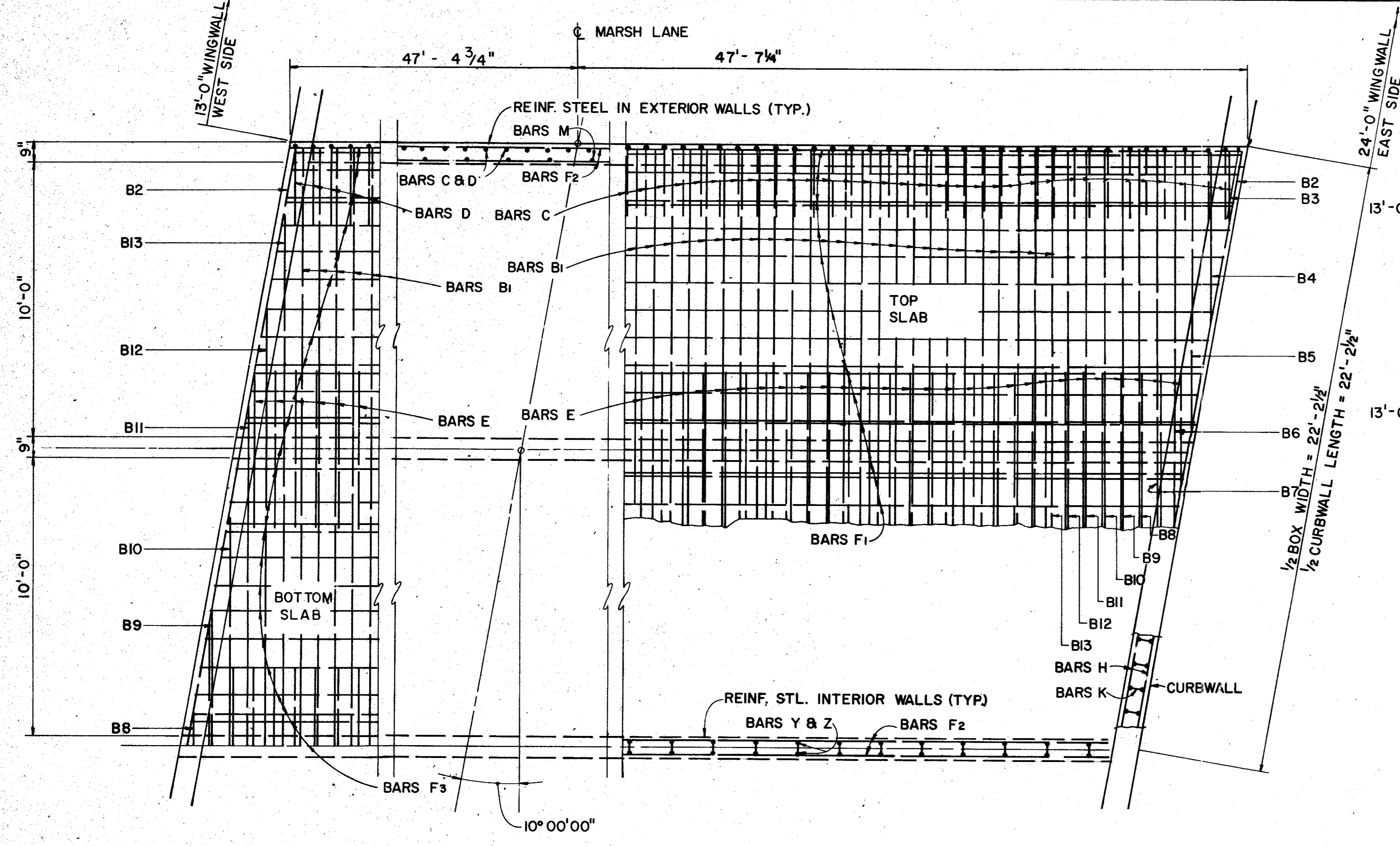
- NOTES:
- The Prop. 12" D.I. Pipe Shall Have No Joints Within Proposed Encasement Pipe
  - The 14" Steel Encasement Pipe Shall Conform to AWWA C200, Using Grade B Steel Wall Thickness Shall Be 0.25 Inches. Interior and Exterior Shall Be Coated By Hot Dip Galvanizing.
  - Locate Box so that Distance A and Distance B are Equal.

GENERAL NOTES

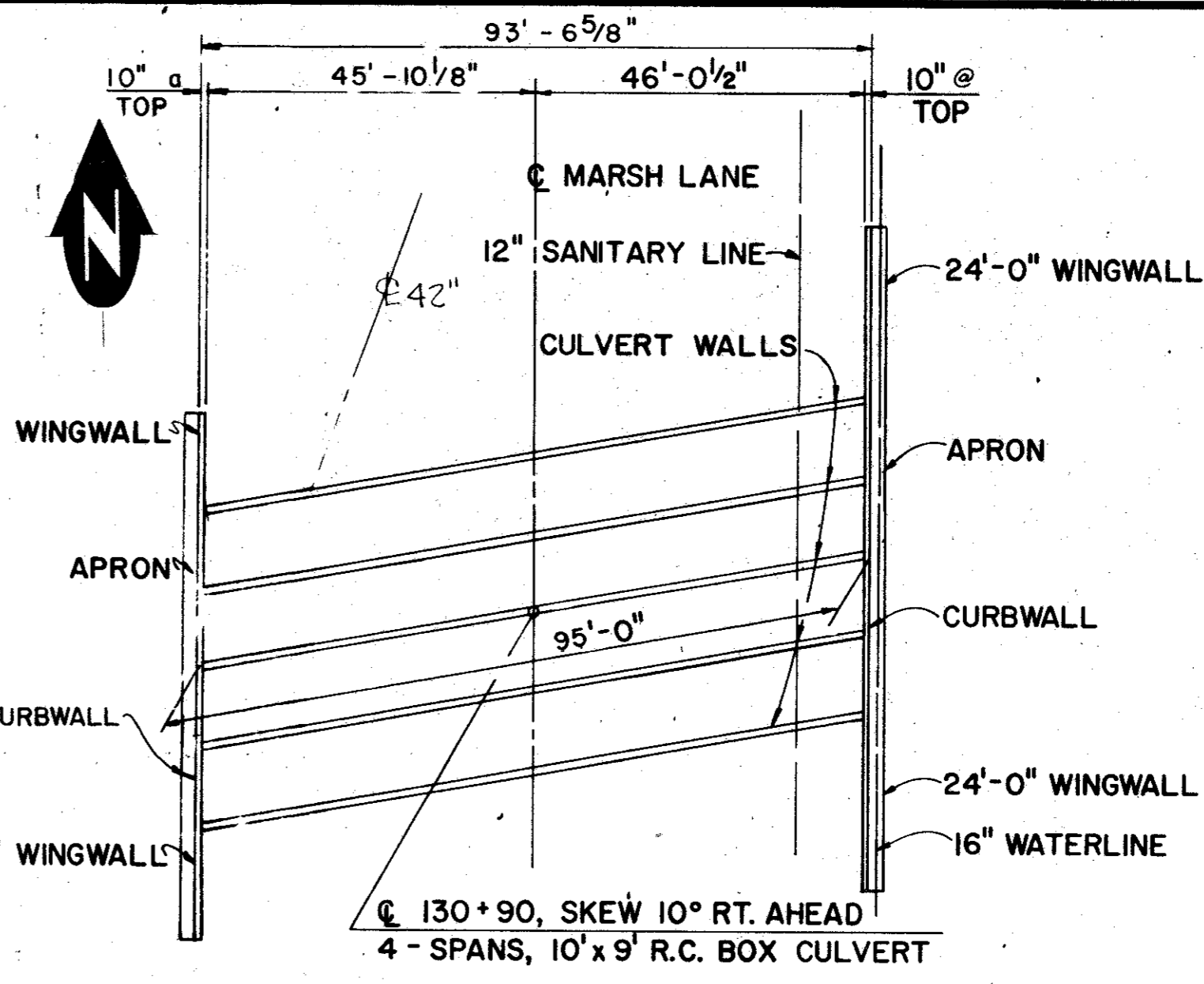
- All concrete shall be Class A. Exposed edges shall be chamfered 3/4".
- All dimensions relating to reinforcing steel are to centers of bars unless otherwise noted.
- Reinforcing steel shall conform to ASTM specifications A-615, Grade 60. (Design stress = 24,000 psi)
- In areas of conflict between reinforcing steel, block-outs, pipes, anchor bolts or other reinforcing steel, the reinforcement shall be bent or adjusted to clear as directed by the engineer.
- The riser may be constructed of reinforced concrete as shown or of reinforced concrete pipe, class III, in accordance with ASTM designation C-76. If pipe is used, joints shall conform to the item "Reinforced Concrete Pipe Culverts." Precast concrete lift-off cover may be substituted for "Ring and Cover."
- Connecting pipes should enter within 10° of normal to inlet wall. If necessary, pipe elbow or curved approach alignment should be used to stay within this limit.



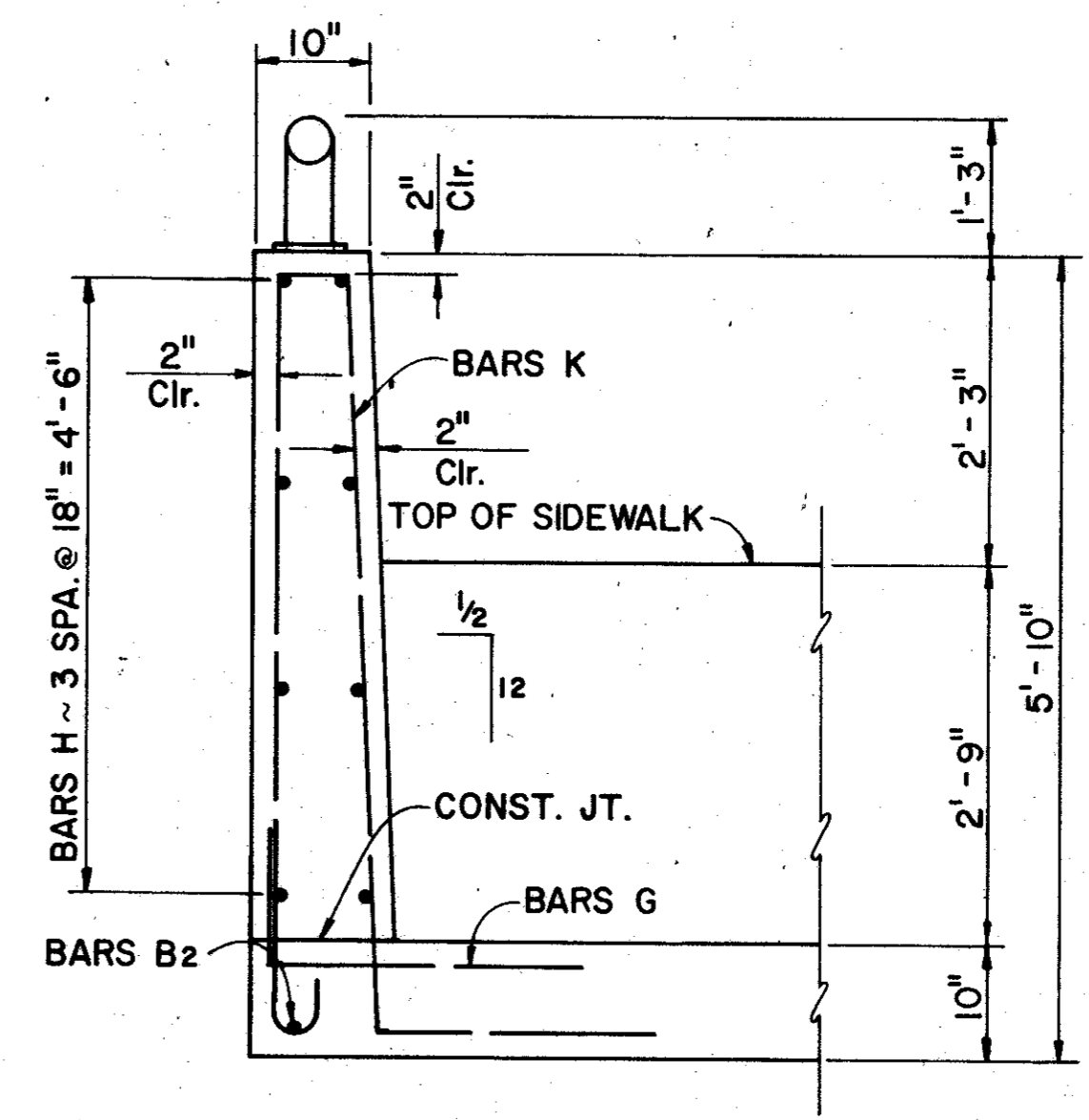
4			
3	2/23/83	REVISED PLAN	
2	2/83	REVISED PLAN	
1	9/82	ADDED PER CHANGE ORDER NO. 4	
NO.	DATE	REVISION	APPROV.
<b>CITIES OF ADDISON AND FARMERS BRANCH, TEXAS</b>			
<b>MARSH LANE</b>			
BROOKHAVEN CLUB DRIVE TO BELT LINE ROAD			
<b>9' x 9' JUNCTION BOX DETAIL</b>			
<b>STORM SEWER - LINE 'A' 54" R.C.P.</b>			
Turner Collie & Braden, Inc.			
Unit	GALFIONE	Scale: Horiz. AS NOTED Vert. AS NOTED	Date SEPT. 1982
Designed		Checked GGS	Job No. 6042-010 Contract
Drawn LJK		Approved	Sheet 58 of 66



**PLAN**  
SCALE: 3/8" = 1'-0"



**CULVERT KEY PLAN**



**CURB WALL SECTION**  
SCALE: 3/4" = 1'-0"

BILL OF REINFORCING STEEL					
BAR	NO.	SIZE	SPACING	LENGTH	WEIGHT
B1	282	#6	7 1/2"	43'-5"	18,390
B2	4	#6	SHOWN	44'-0"	264
B3-13(AV)	22	#6	7 1/2"	23'-0"	760
C	288	#6	8"	12'-5"	5,371
D	288	#6	8"	5'-2"	2,235
E	744	#6	9"	6'-0"	6,705
*F1	61	#4	SHOWN	96'-8"	3,939
*F2	78	#4	SHOWN	96'-8"	5,037
*F3	61	#4	SHOWN	96'-8"	3,939
G	102	#6	10 1/2"	6'-0"	919
H	16	#4	18"	46'-6"	497
K	102	#6	10 1/2"	17'-1"	2,617
M	126	#4	18"	8'-1"	750
Y	285	#4	12"	4'-1"	777
Z	285	#4	12"	19'-5"	3,697
					55,897

ESTIMATED QUANTITIES		
ITEM	UNIT	QUANTITY
**CLASS A CONCRETE (CULV)	CY	390.8
REINFORCING STEEL	LB	55,897
STRUCTURAL EXCAV. (CULV)	C.Y.	977

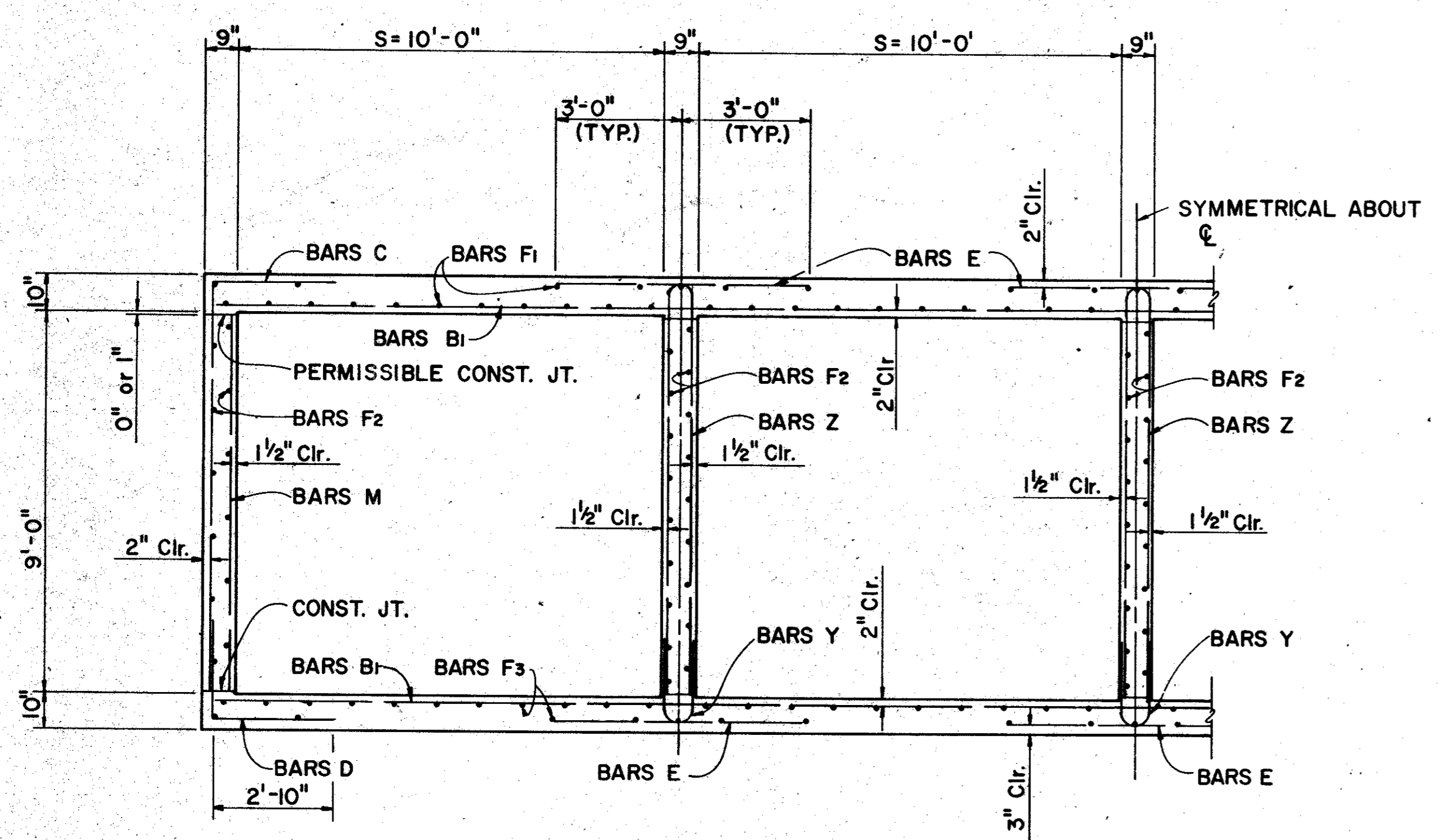
\* INCLUDES 2'-1'-0" SPLICE  
\*\* INCLUDES CURBWALLS

GENERAL NOTES:  
DESIGN LOADING H20 OR H20-44 IN ACCORDANCE WITH AASHTO 1977 STANDARD AND INTERUM SPECIFICATION.

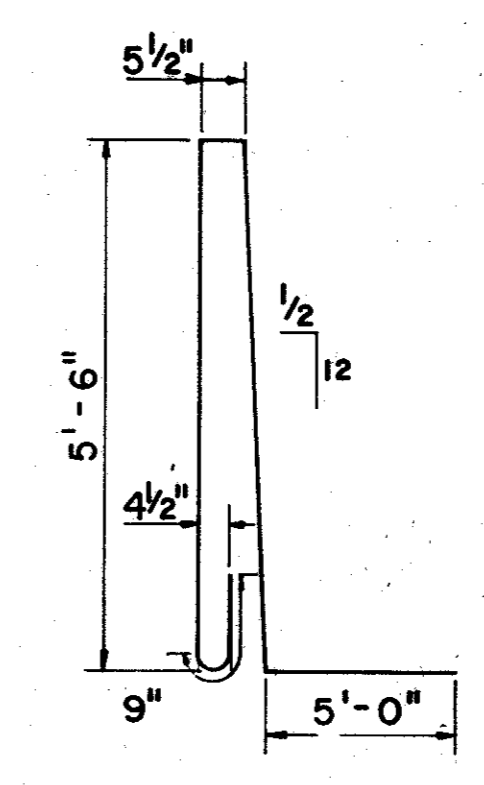
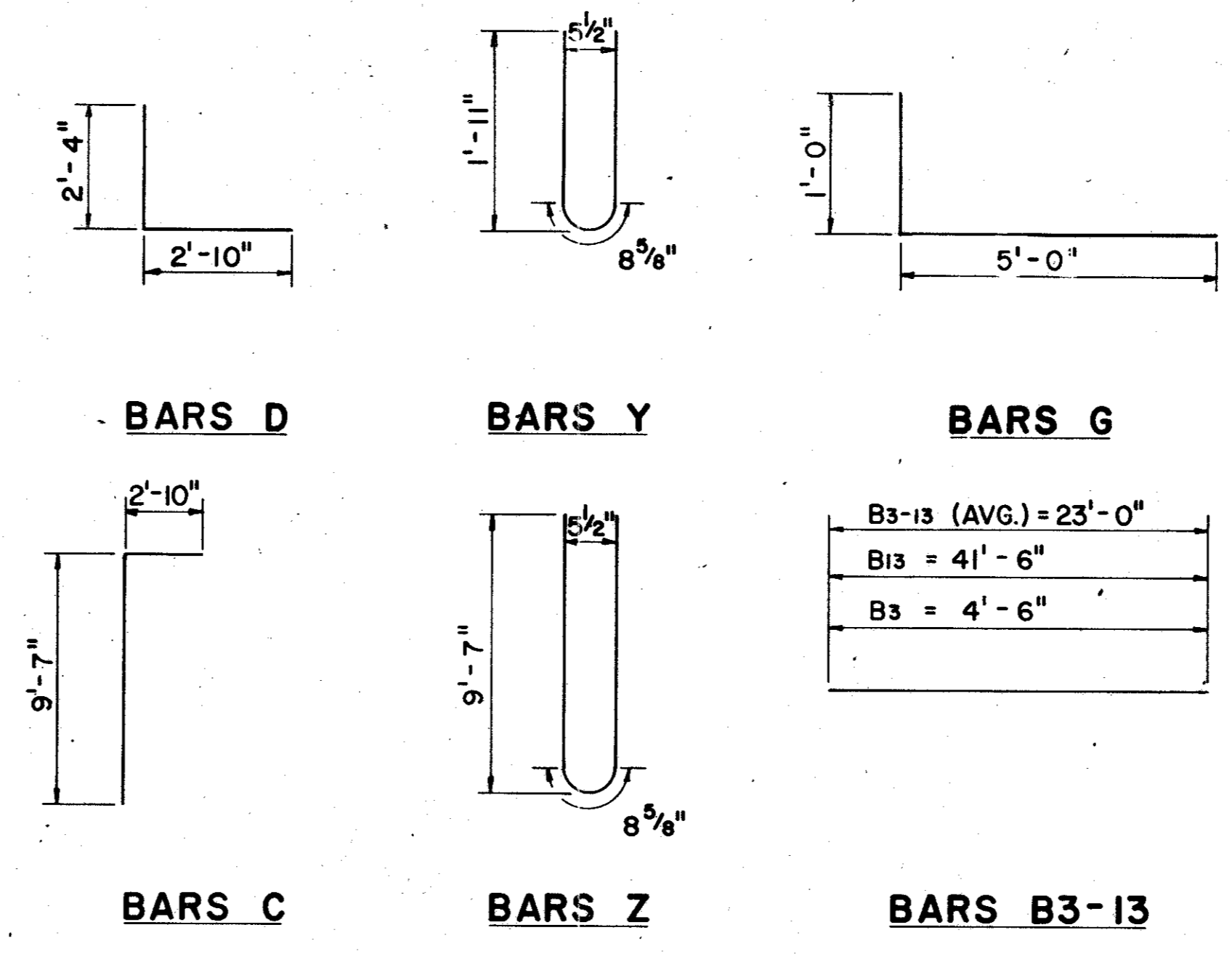
CONSTRUCTION JOINT SHOWN AT THE FLOW LINE MAY BE RAISED A MAXIMUM OF 6" AT THE CONTRACTOR'S OPTION. BARS M MAY BE CUT OFF OR RAISED, BARS C & D MAY BE REVERSED (D ON TOP) AND BARS Y & Z MAY BE REVERSED (Y ON TOP).

HORIZONTAL EARTH PRESSURE WAS ASSUMED TO BE 50 % LIQUID PRESSURE EQUIVALENT. CONCRETE SHALL BE CLASS "A" 3000psi 28 DAYS. ALL REINFORCING STEEL SHALL BE GRADE 60.

SEE SHEET 5 OF 6 FOR WINGWALL DETAILS.  
SEE SHEET 6 OF 6 FOR RAILING DETAILS.



**TYPICAL HALF SECTION**  
SCALE: 3/8" = 1'-0"



**BARS K**

SHEET 4 OF 6

4			
3			
2			
1	8/82	REVISED PER CHANGE ORDER NO. 1	
NO.	DATE	REVISION	APPROV.

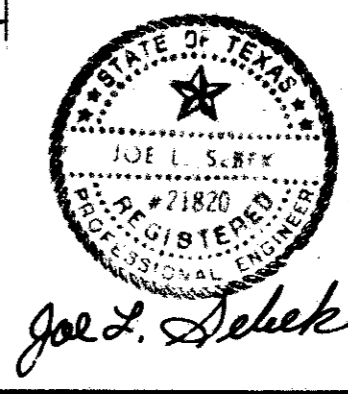
**CITIES OF ADDISON AND FARMERS BRANCH, TEXAS**

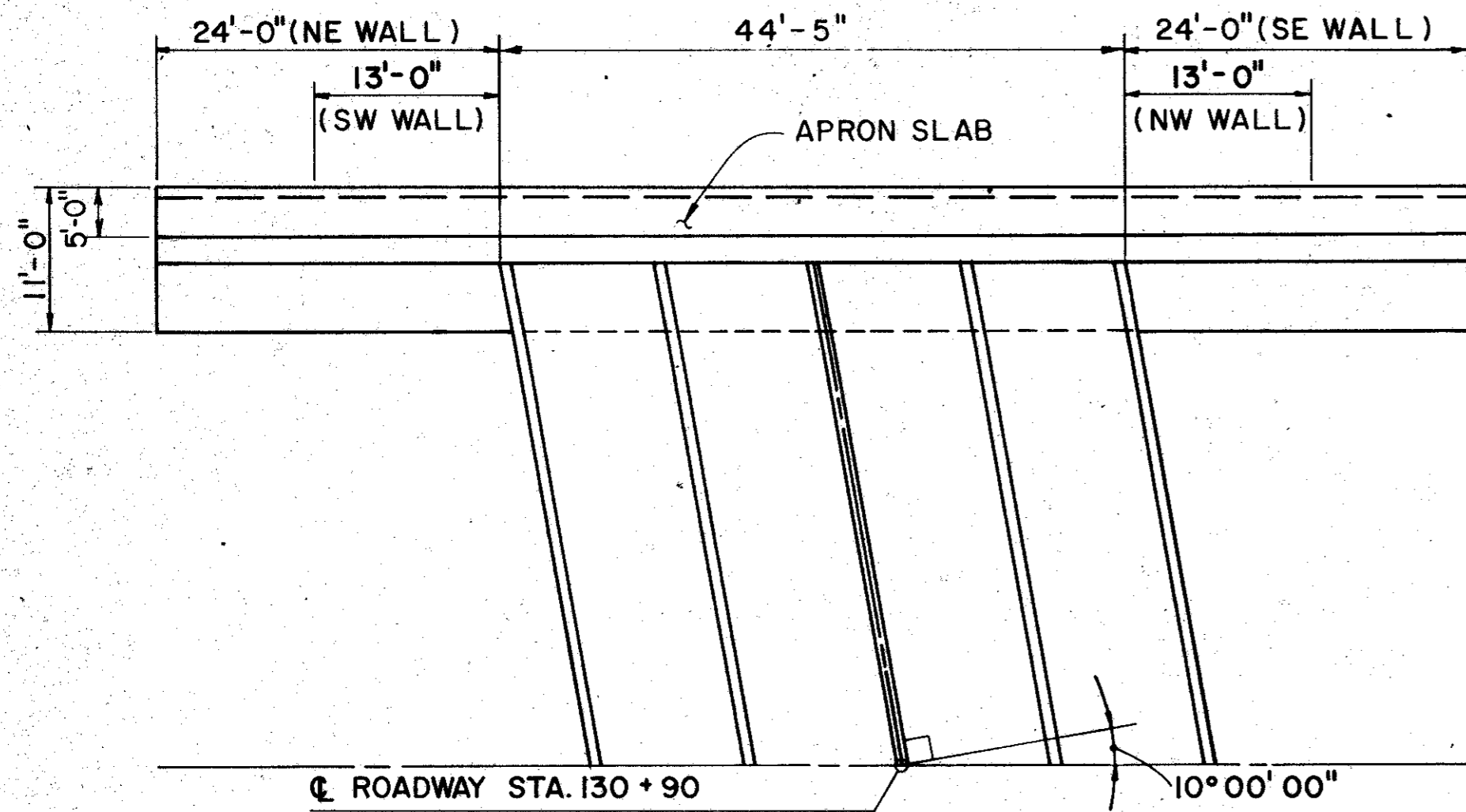
**4-SPAN 10' x 9' R.C. BOX CULVERT**

**CULVERT DETAILS**

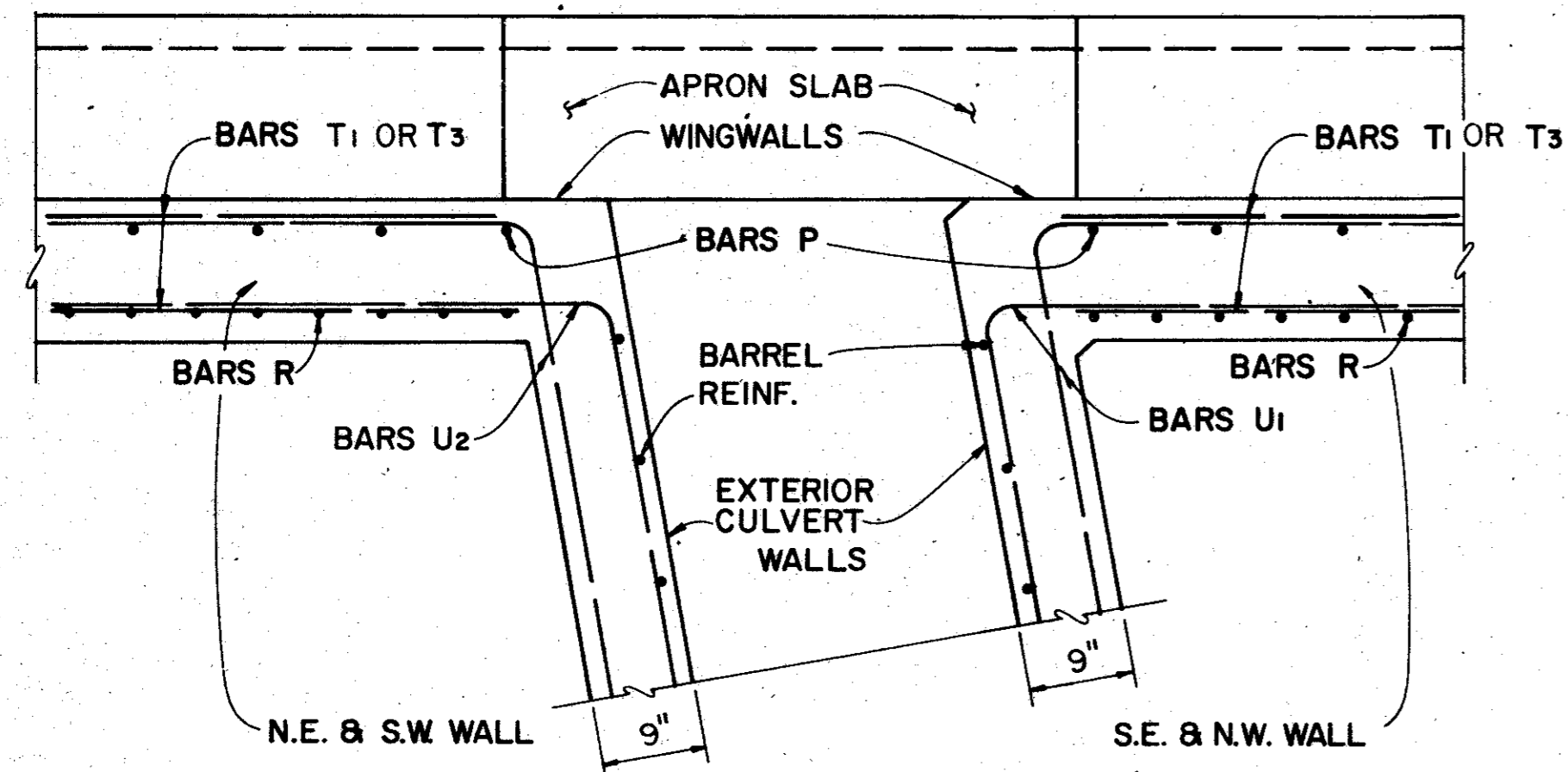
**Turner Collie & Braden Inc.**  
CONSULTING ENGINEERS  
TEXAS: AUSTIN, DALLAS, EL PASO, HOUSTON, PORT ARTHUR  
COLORADO: DENVER, GRAND JUNCTION

Unit	GALFIONG	Scale	AS NOTED	Date	FEBRUARY, 1982
Designed	J.S.	Checked	WNL	Job No.	6042-010 Contract
Drawn	WW	Approved		Sheet	59 of 66

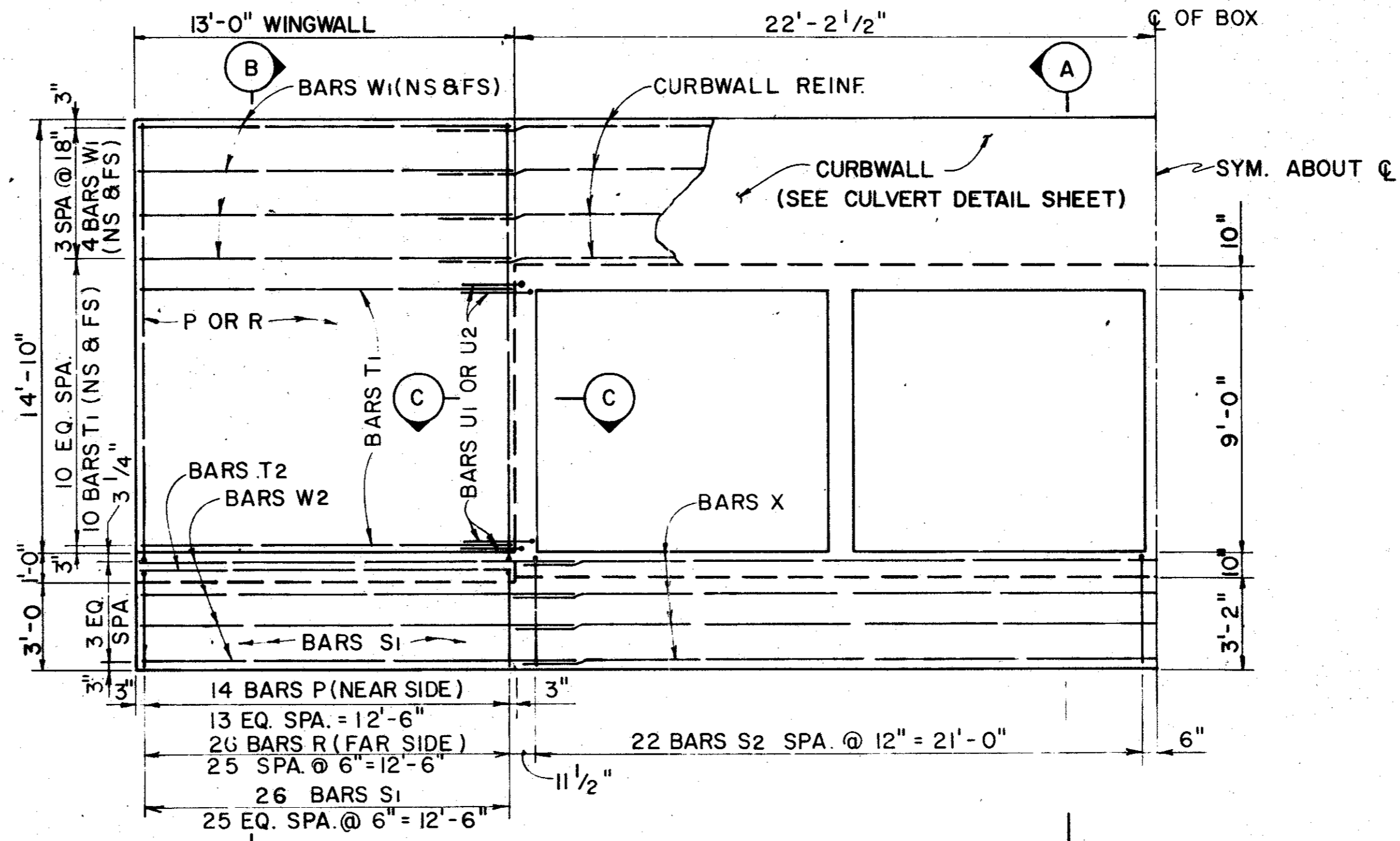




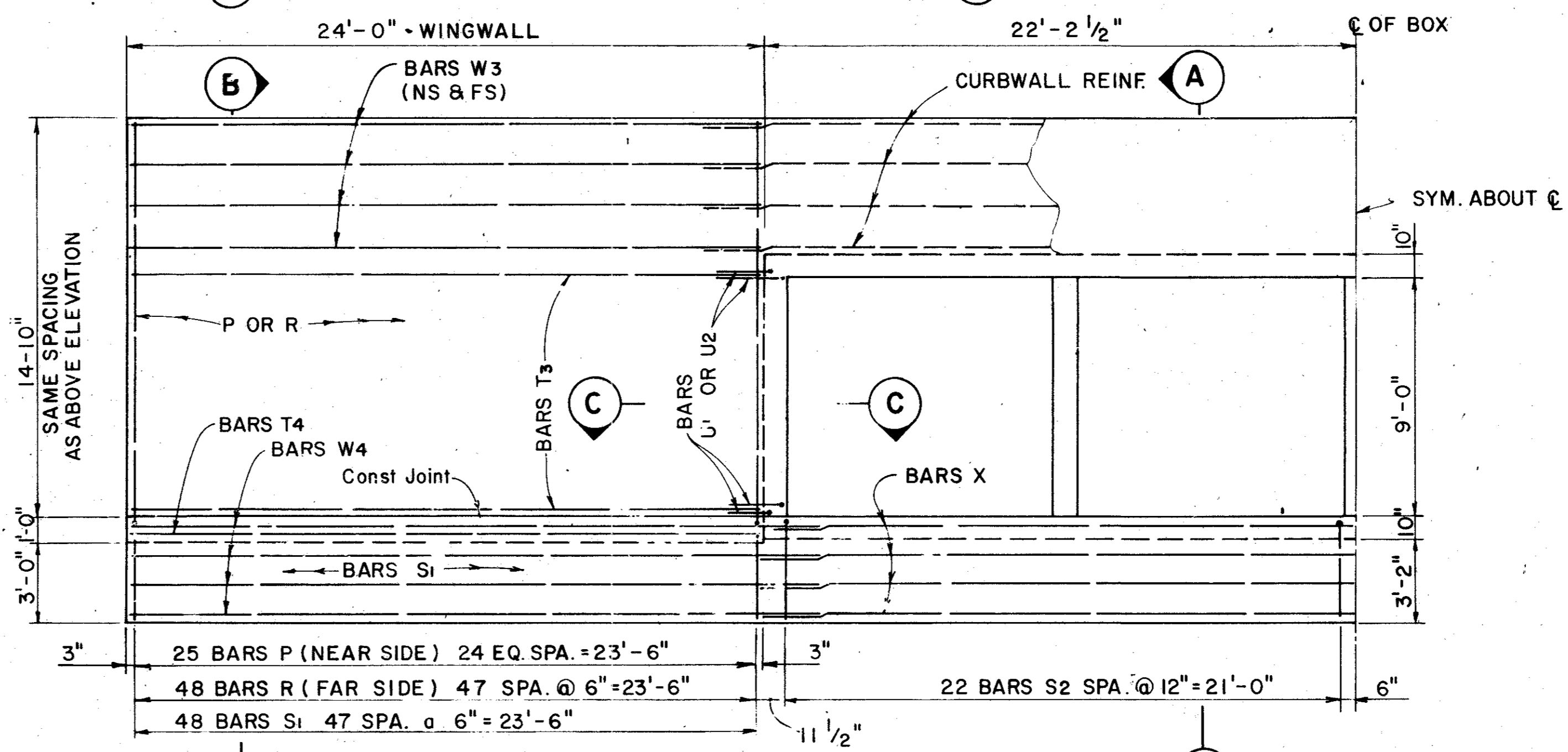
PLAN VIEW OF WINGWALLS



SECTION C-C



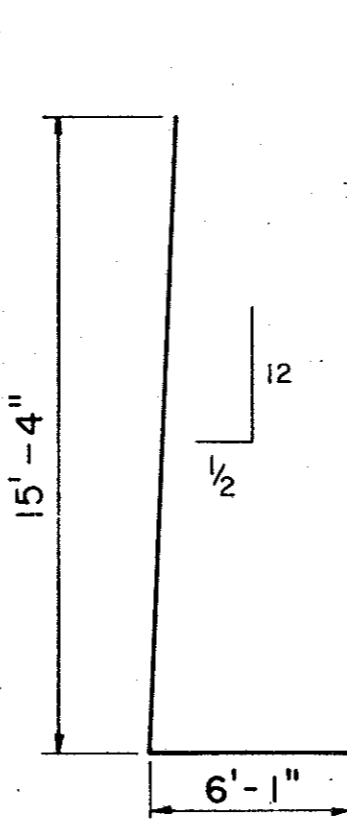
WEST WALL



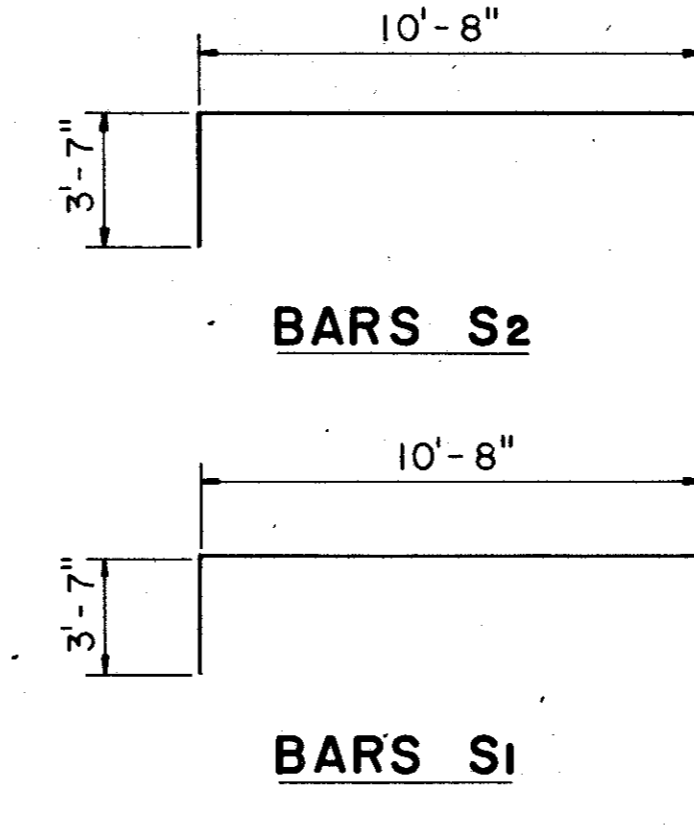
EAST WALL

HALF ELEVATIONS

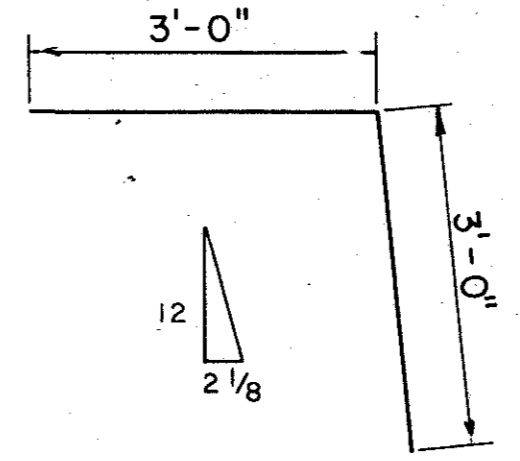
SCALE: 1/4" = 1'-0"



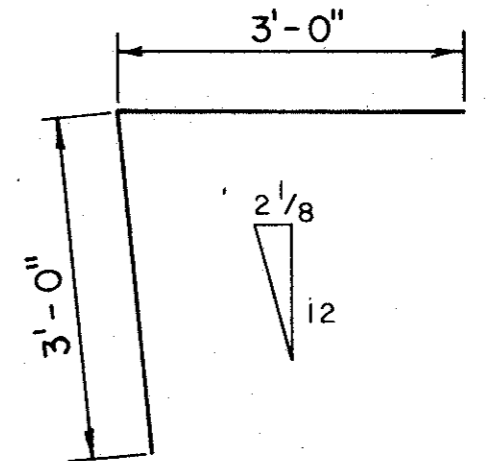
BARS R



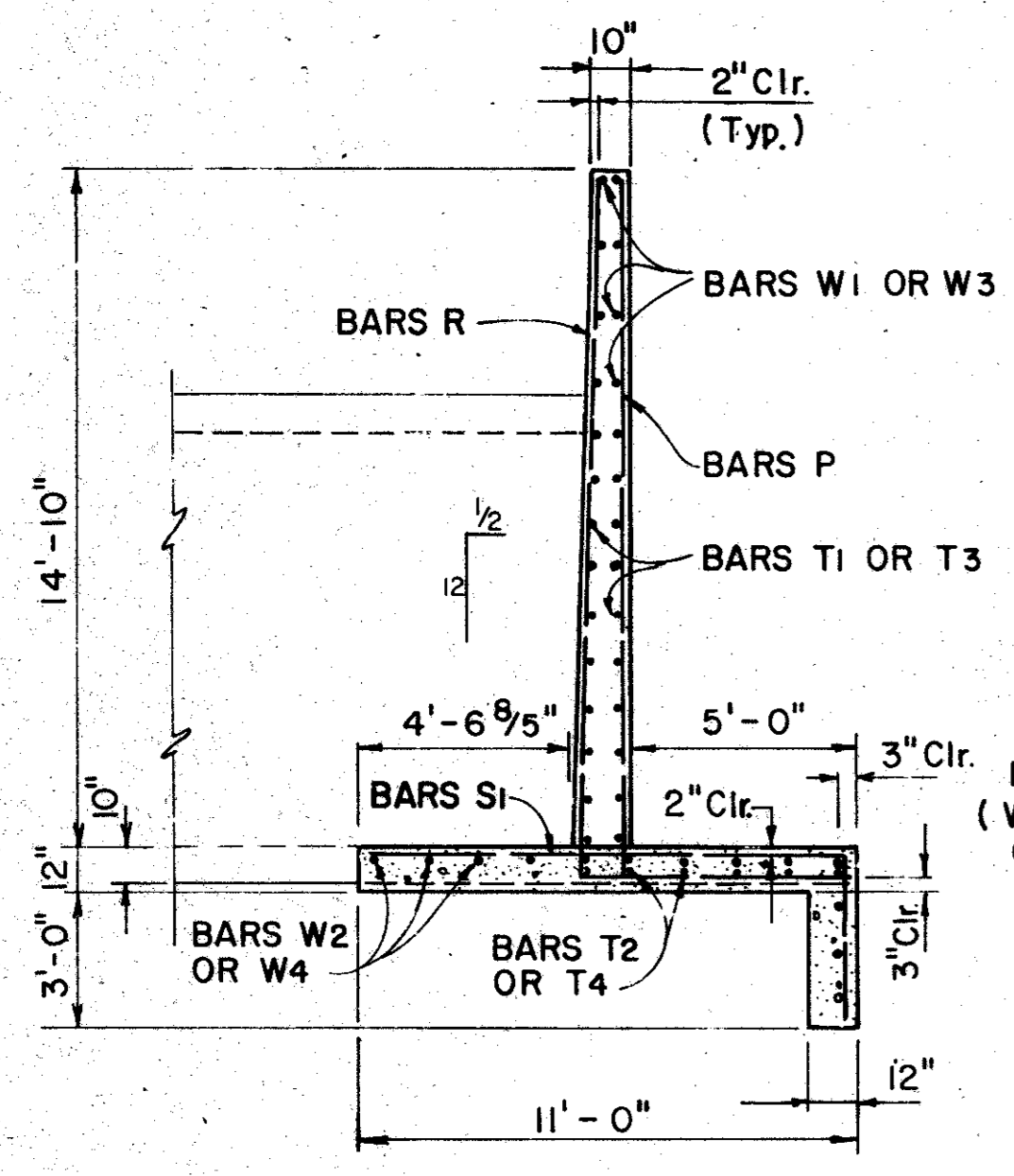
BARS S1



BARS U2

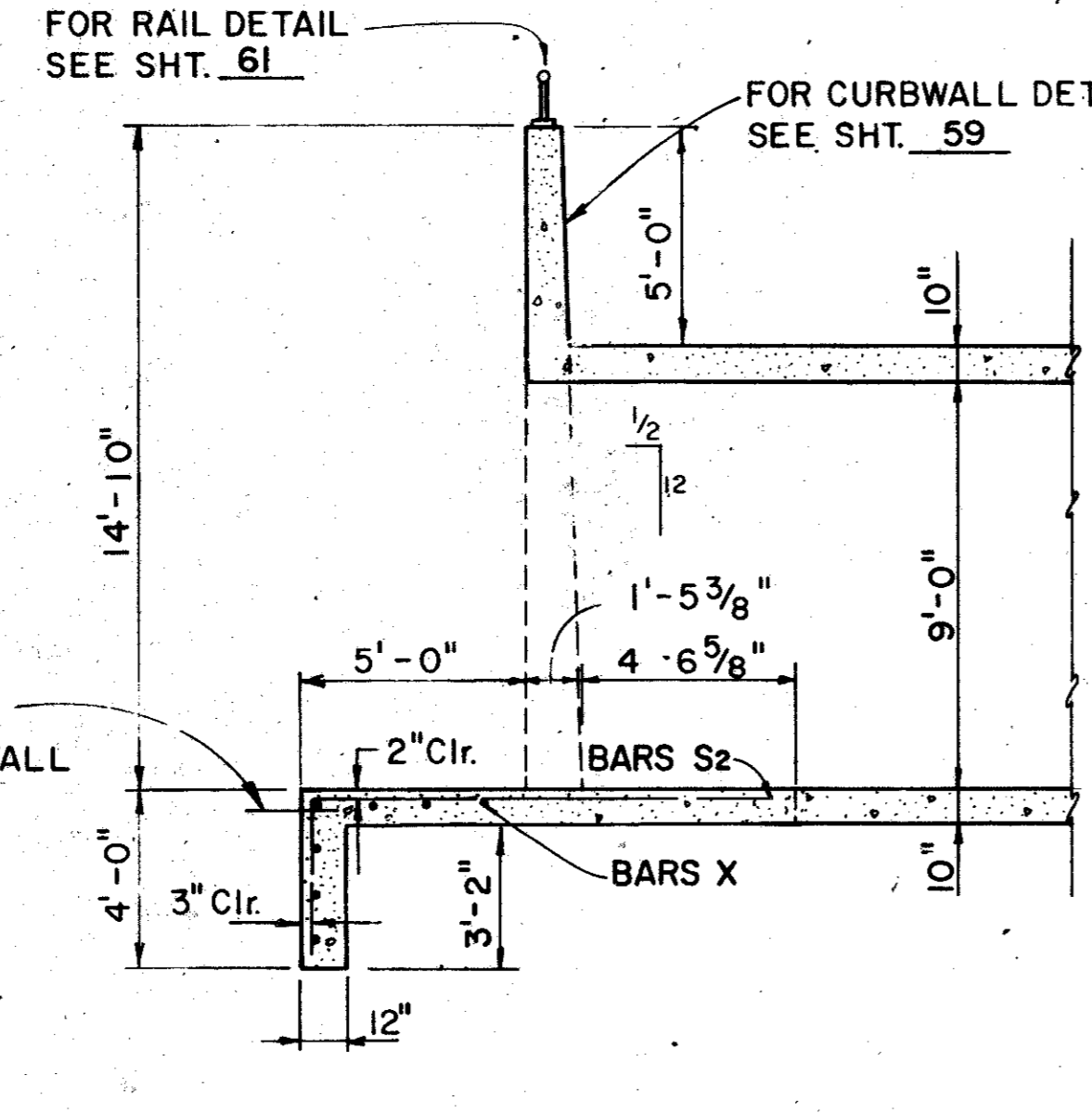


BARS U1



SECTION B-B

SCALE: 1/4" = 1'-0"



SECTION A-A

APRON DETAIL

SCALE: 1/4" = 1'-0"

BILL OF REINFORCING STEEL					
BAR	NO.	SIZE	SPACING	LENGTH	WEIGHT
P	78	# 4	SHOWN	15'-6"	808
R	148	# 7	6"	21'-5"	6504
S1	148	# 7	6"	14'-3"	4327
S2	88	# 4	12"	14'-3"	838
T1	40	# 4	SHOWN	12'-8"	339
T3	40	# 4	SHOWN	23'-8"	632
T4	12	# 4	SHOWN	23'-8"	190
U1	40	# 5	12"	6'-0"	250
U2	40	# 5	12"	6'-0"	250
W1	16	# 4	18"	12'-8"	135
W2	26	# 4	SHOWN	13'-10"	240
W3	16	# 4	18"	23'-8"	253
W4	26	# 4	SHOWN	24'-10"	431
X	14	# 4	SHOWN	44'-0"	411
V	38	# 5	18"	2'-6"	99
T2	12	# 4	SHOWN	12'-8"	102
					15,809

ESTIMATED QUANTITIES

ITEM	UNIT	QUANTITY
*CL "A" CONCRETE (WINGWALL)	C.Y.	108.8
REINFORCING STEEL	L.B.	13,151

INCLUDES APRON SLAB.

GENERAL NOTES:  
 END CULVERT BOTTOM SECTION, WINGWALL FOOTINGS, AND APRON SLAB WITH TOE WALL SHALL BE PLACED IN ONE OPERATION.  
 ALL REINFORCING STEEL SHALL BE GRADE 60.  
 HORIZONTAL EARTH PRESSURE WAS ASSUMED TO BE 50<sup>7</sup>sf EQUIVALENT LIQUID PRESSURE.  
 CONCRETE SHALL BE CLASS "A" 3000 psi 28 DAYS.  
 DESIGN LOADING H2O OR HS20-44 IN ACCORDANCE WITH AASHTO 1977 STANDARD AND INTERUM SPECIFICATIONS.

SHEET 5 OF 6

NO.	DATE	REVISION	APPROV.

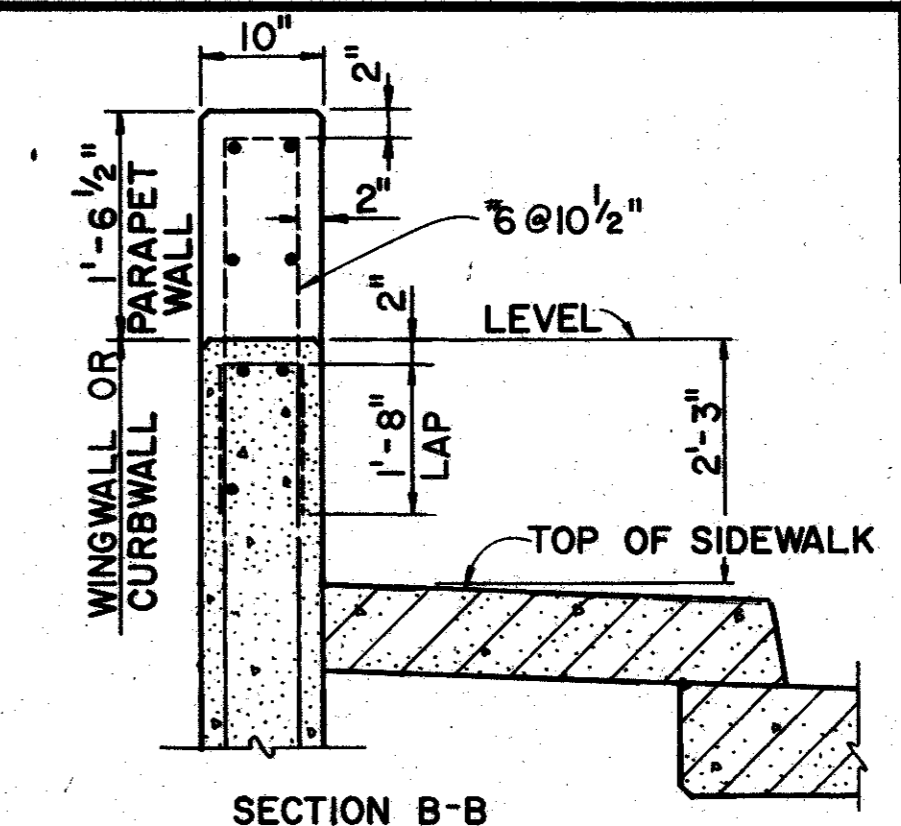
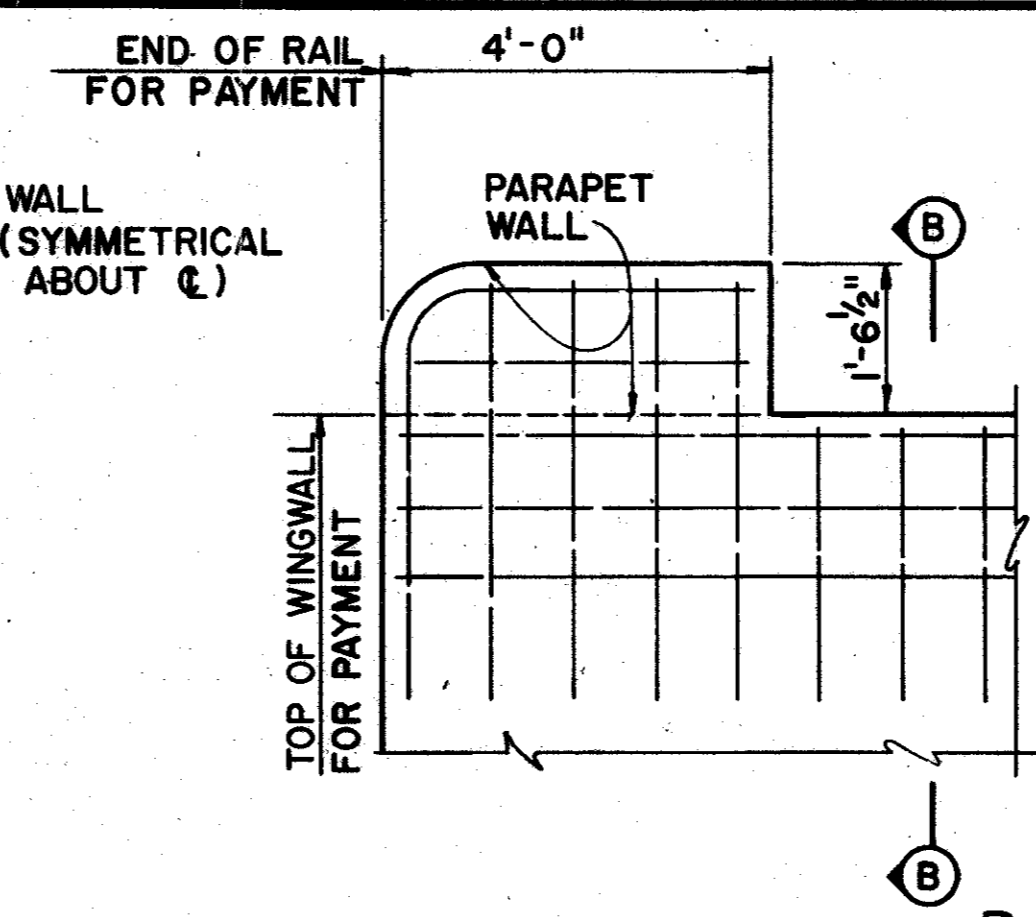
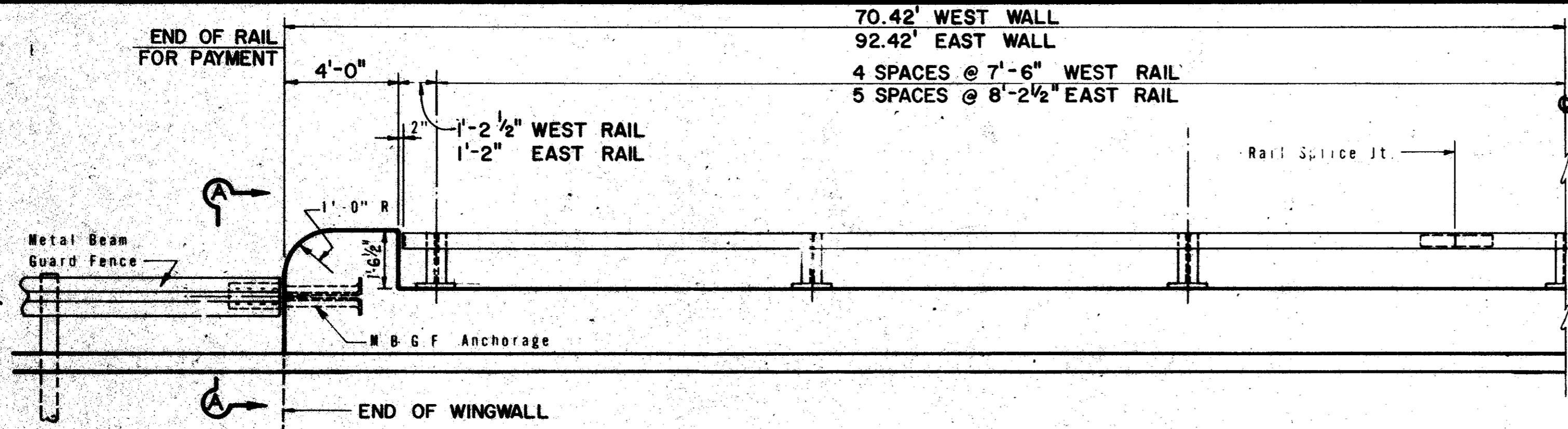
**CITIES OF ADDISON AND FARMERS BRANCH, TEXAS**  
**4-SPAN 10' x 9' RC BOX CULVERT HEADWALL DETAILS**

**Turner Collie & Braden Inc.**  
 CONSULTING ENGINEERS  
TEXAS AUSTIN DALLAS EL PASO HOUSTON PORT ARTHUR COLORADO DENVER GRAND JUNCTION

Unit	GALFIONE	Scale	AS NOTED	Date	FEBRUARY, 1982
Designed	JS	Checked	WNL	Job No.	6042-010 - Contract
Drawn	WW	Approved		Sheet	60 of 66

*Joe J. Szek*

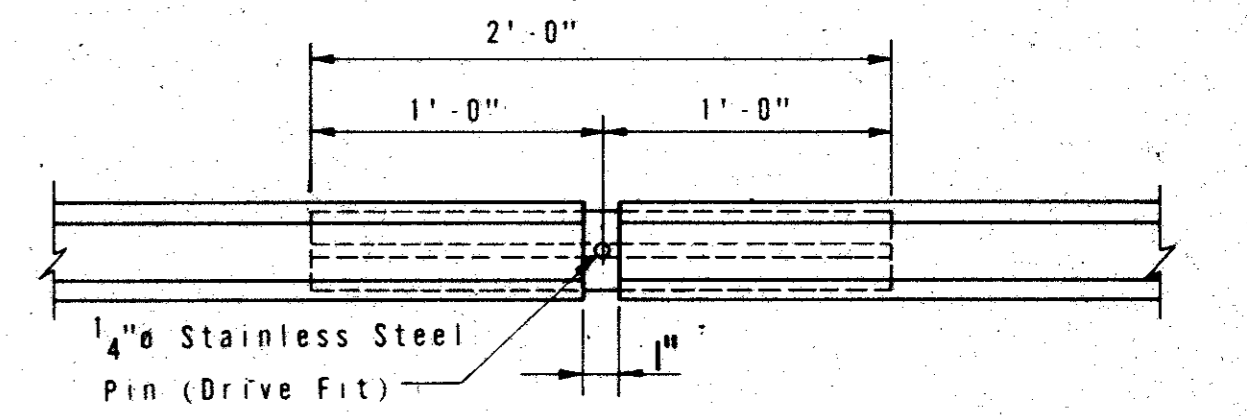
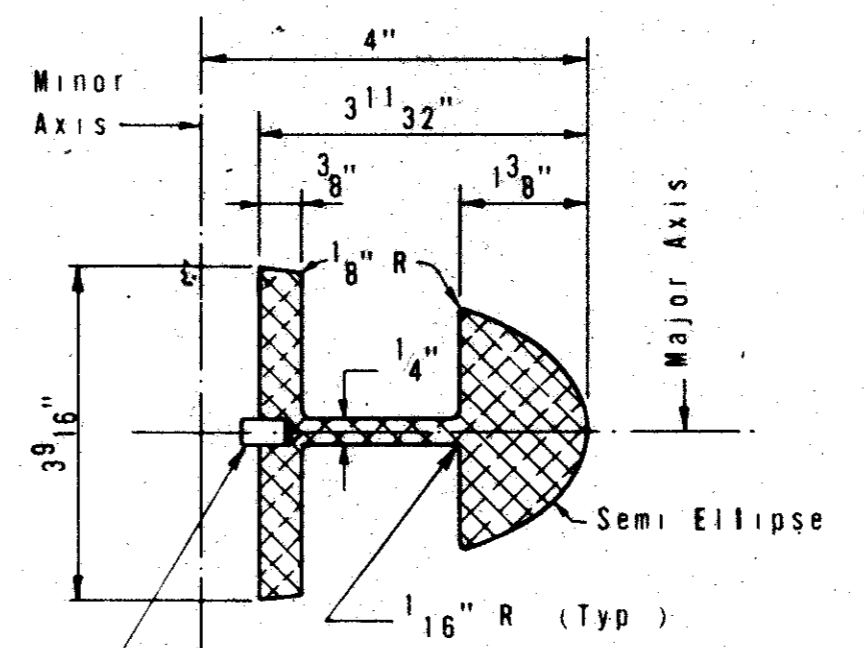
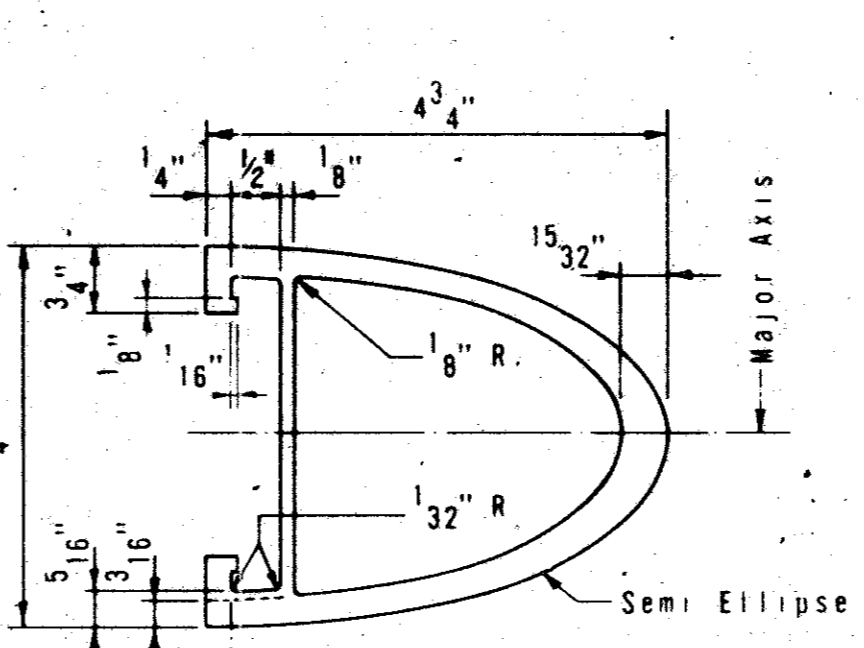
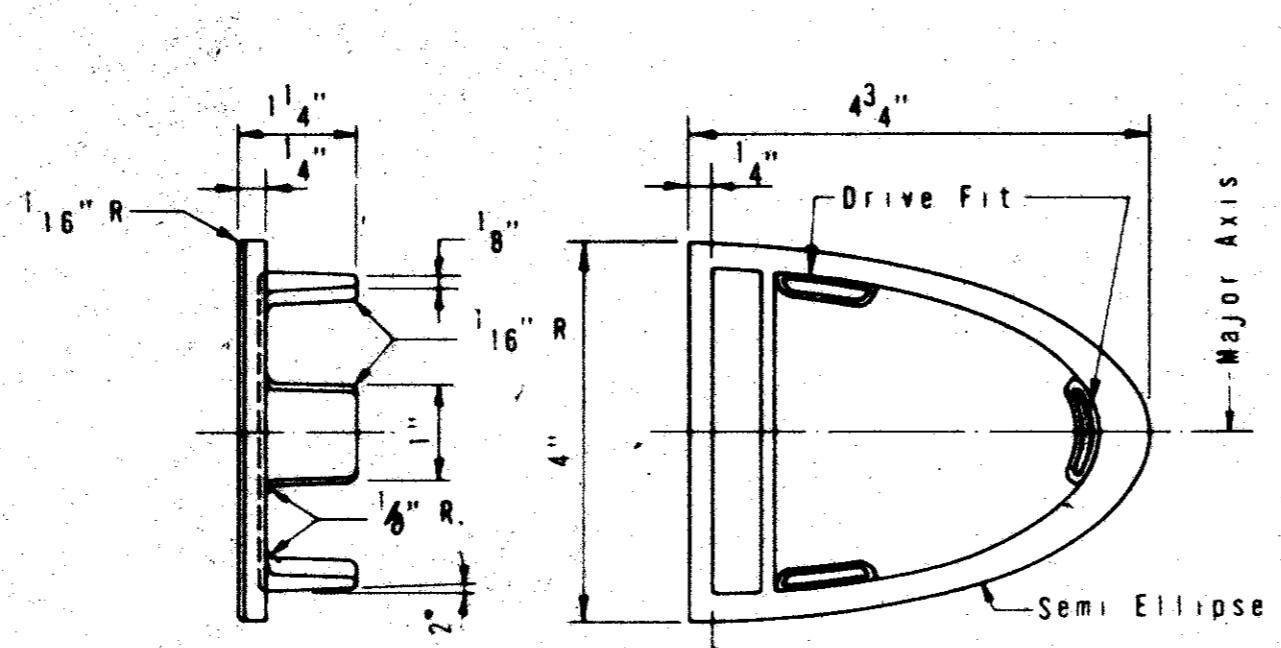
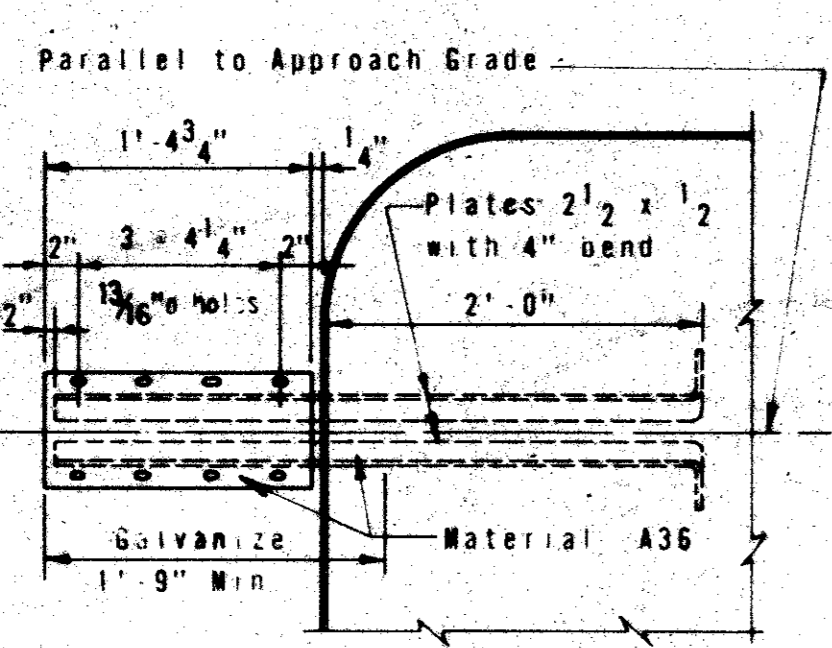
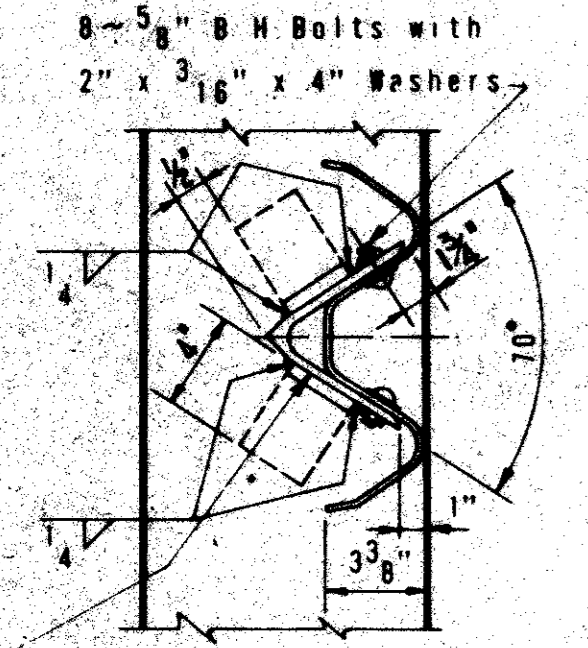
ESTIMATED QUANTITIES		
ITEM	UNIT	QUANTITY
RAIL (TYPE C4)	LF	162.83



PARAPET WALL DETAILS

NOTE: METAL BEAM GUARD FENCE MUST BE ATTACHED TO THE ABUTMENT WING AND EXTENDED ALONG THE ROADWAY. SEE PLAN SHEET FOR DETAILS AND LENGTH FOR PAYMENT.

ROADWAY ELEVATION OF RAIL (SYMMETRICAL ABOUT C)



2 L 6" x 6" x 5/16" bent to 70°, or 2 RS 8" x 5/16" welded to 70°. Provide 2 additional shop or field holes in guard fence for this connection. (Use B bolts)

METAL BEAM GUARD FENCE ANCHORAGE

END PLUG DETAILS

RAIL EXTRUSION

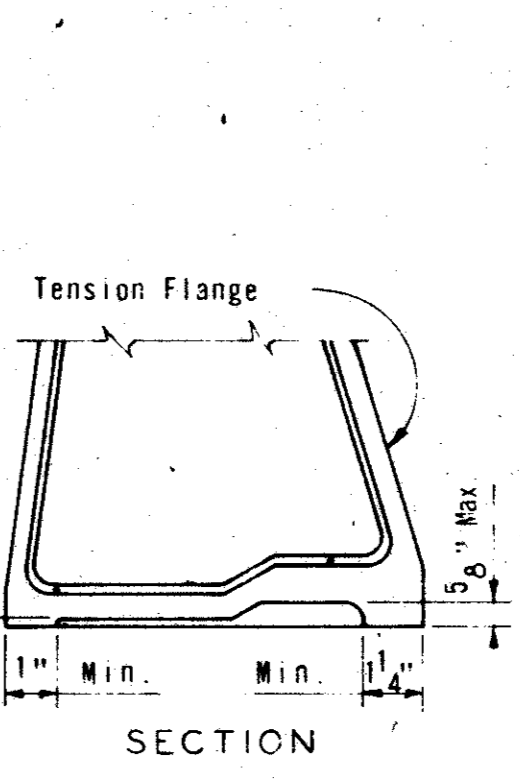
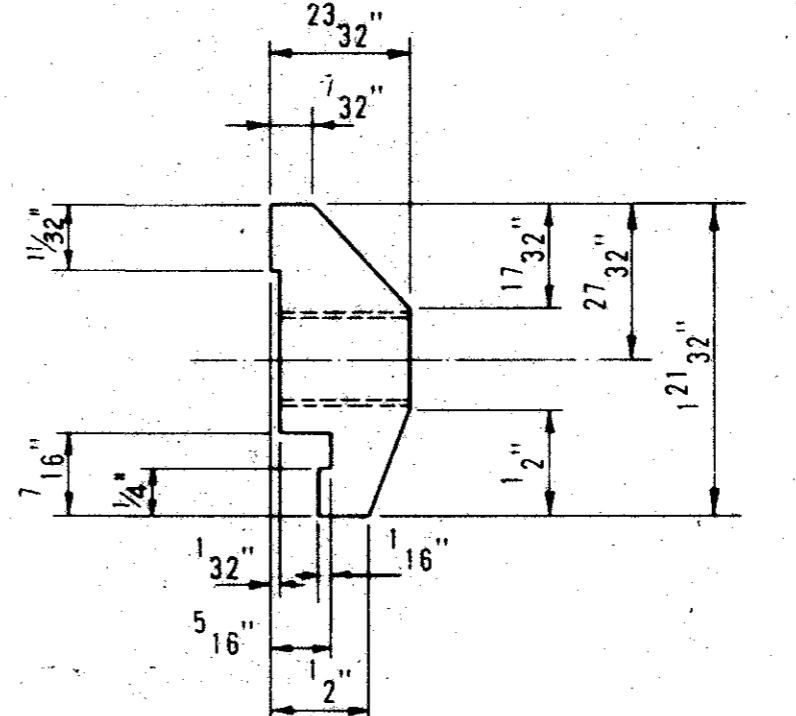
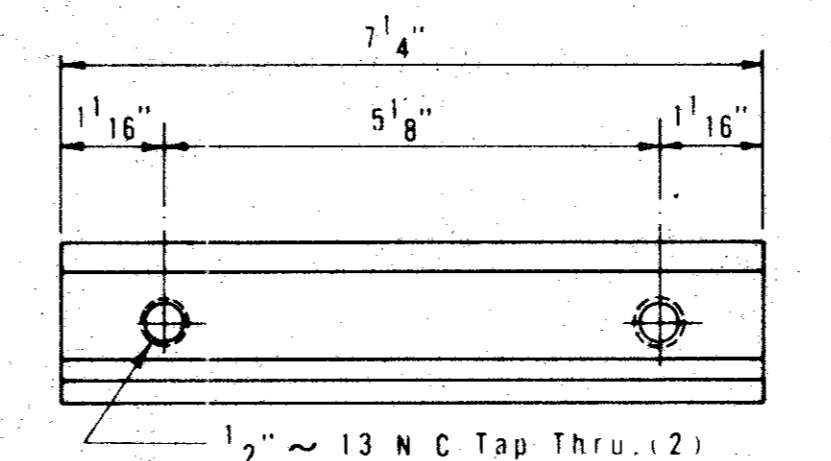
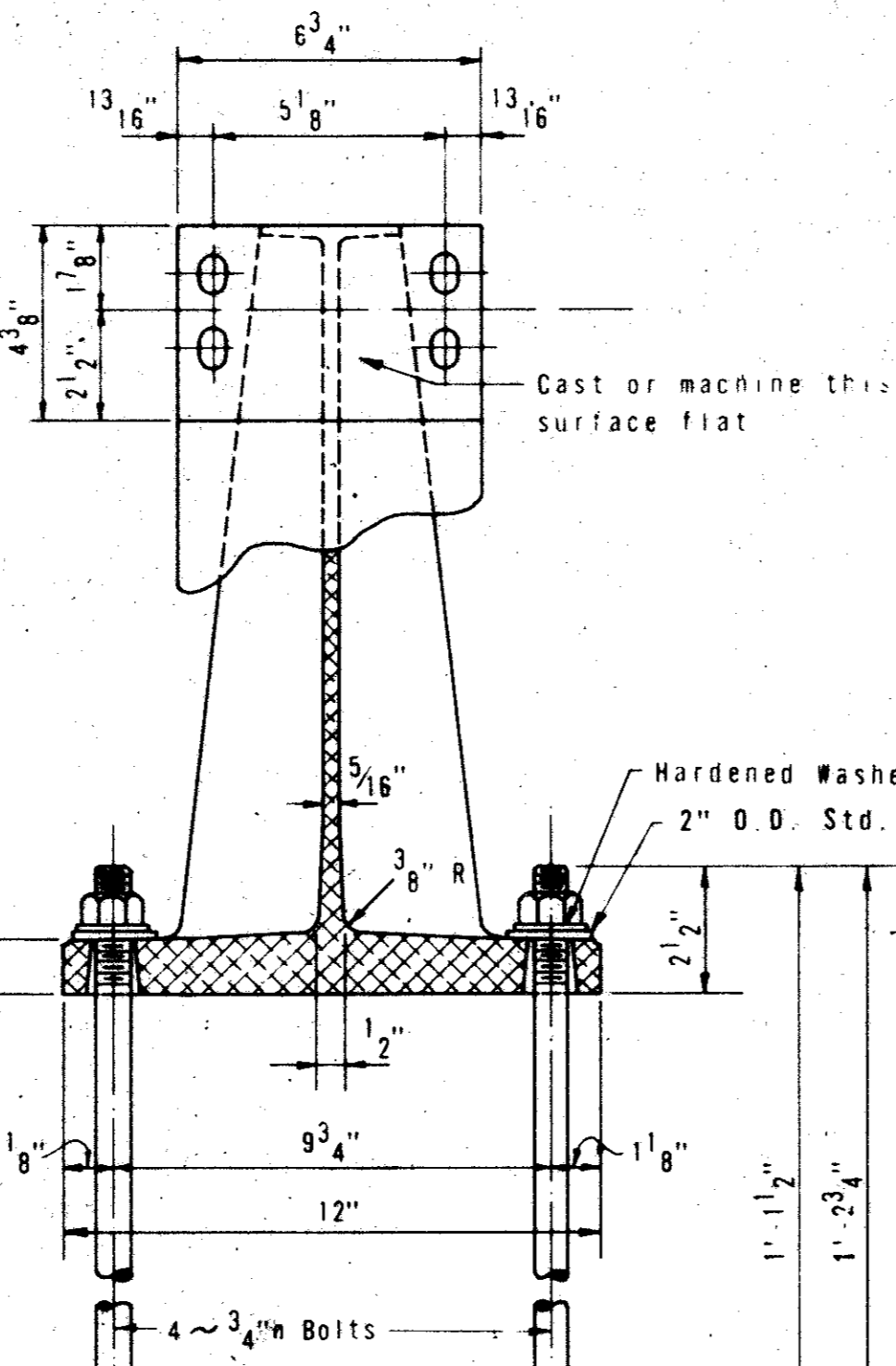
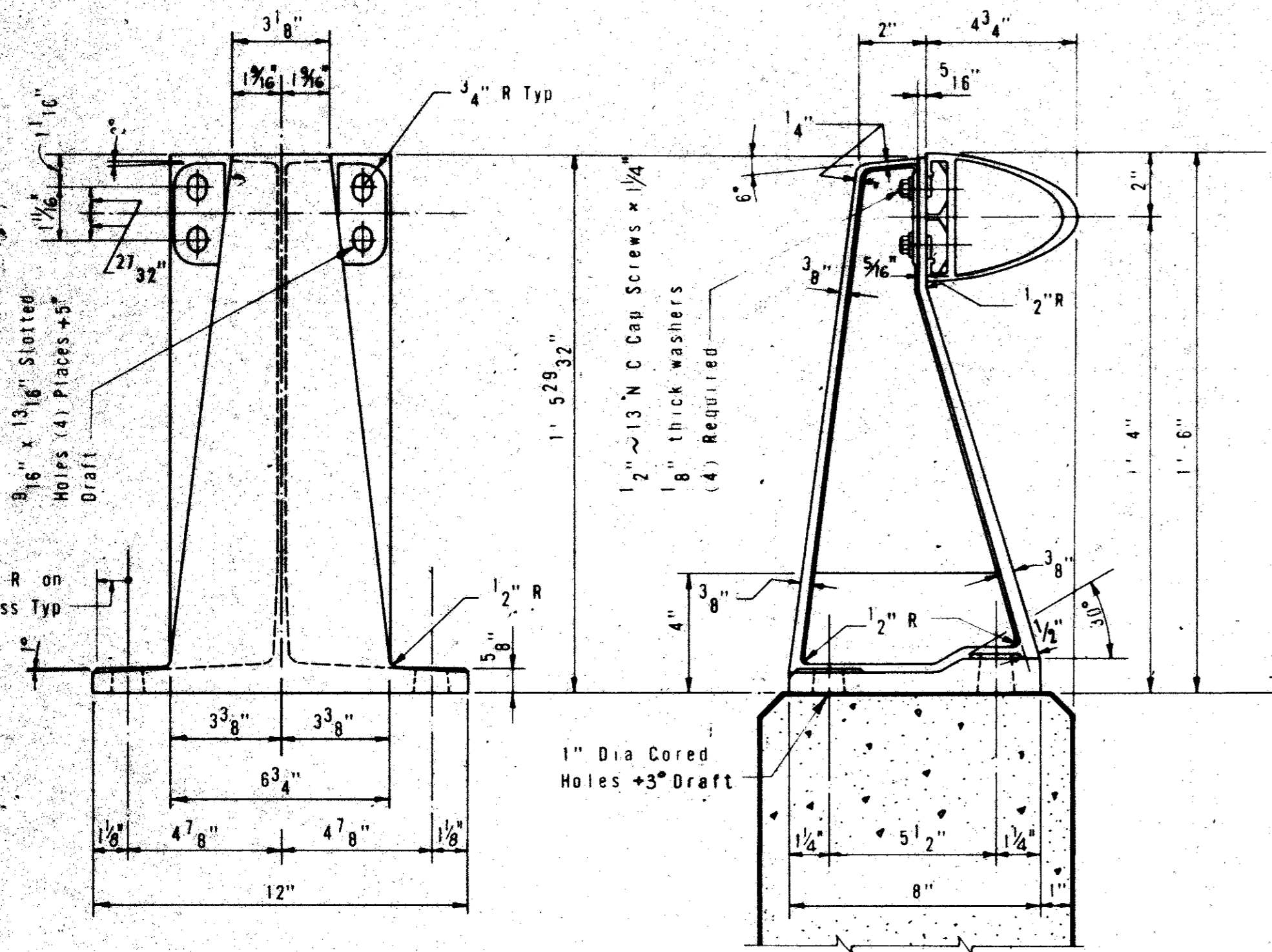
SEC. THRU. SPLICE MEMBER

SPLICE DETAIL

**General Notes:**  
 Designed according to AASHTO 1977 Standard and current Interim Specifications. All open ends of the rail shall be capped. Rail posts shall be set perpendicularly to top of wall. Panel lengths of rail shall be attached to a minimum of three posts. Anchor bolts shall conform to A325 requirements. Nuts and washers for Anchor Bolts shall conform to A325 requirements. Nuts may be tapped and chased after galvanizing. Bolts and nuts shall have Class 2A and 2B fit tolerances.

Posts shall be cast aluminum, alloy A444-T4. Material for rails shall be aluminum -ASTM B221 -alloy 6061-T6. Machine screws for rail attachment shall be stainless steel. For horizontal curves of radius less than 1000ft. the rail member shall be fabricated to follow the curvature of the roadway. Castings shall have a maximum draft of 3° and a minimum radius of fillet of 1/4" unless otherwise shown.

Unit bid price for Rail Type C4 includes:  
 Concrete Parapet Wall, Metal Railing, Posts, Connectors, Anchor Bolts and M.B.G.F. Anchorage.  
 Concrete for parapet wall shall be Class A. Chamfer all exposed corners 3/4" unless otherwise shown.



PERMISSIBLE RECESS IN POST BASE

REAR ELEVATION OF POST

SECTION THRU RAIL

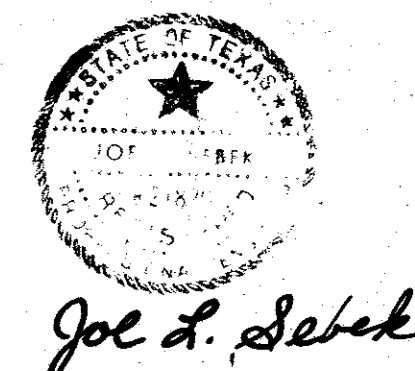
ROADWAY VIEW OF POST

OPTIONAL ANCHORS

PARTIAL PLAN OF UNDERSIDE

SECTION

RAIL POST & ANCHORAGE DETAILS



4				
3				
2				
1	5/82	AS PER ADDENDUM No. 1, ART. 17		
NO.	DATE	REVISION	APPROV.	
<b>CITIES OF ADDISON AND FARMERS BRANCH, TEXAS</b>				
<b>4-SPAN 10'x9' RC. BOX CULVERT</b>				
<b>C4 ALUMINUM RAIL DETAILS</b>				
<b>Turner Collier &amp; Braden Inc.</b>				
CONSULTING ENGINEERS TEXAS AUSTINDALLASSEL PASOHOUSTONPORT ARTHUR COLORADO DENVERGRAND JUNCTION				
Unit	GALFIONE	Scale:	Horz. Vert.	Date: MARCH, 1982
Designed	SHD	Checked	WNL	Job No. 6042-010 Contract
Drawn	WW	Approved		Sheet 61 of 66

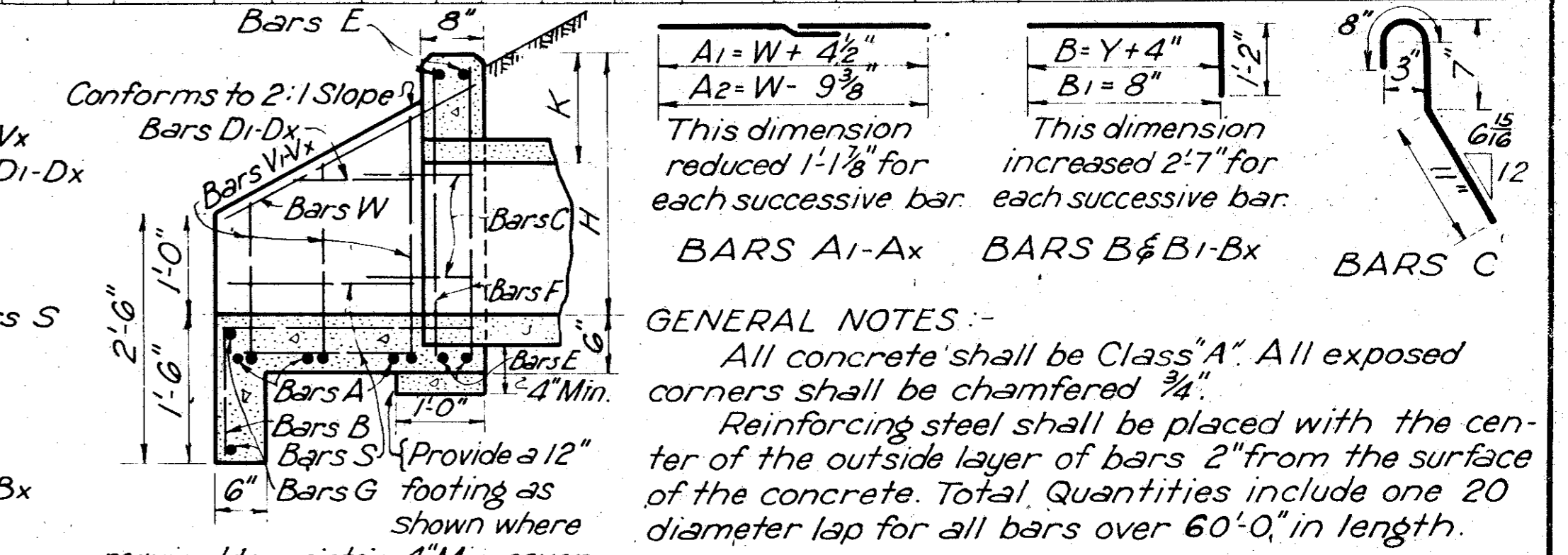
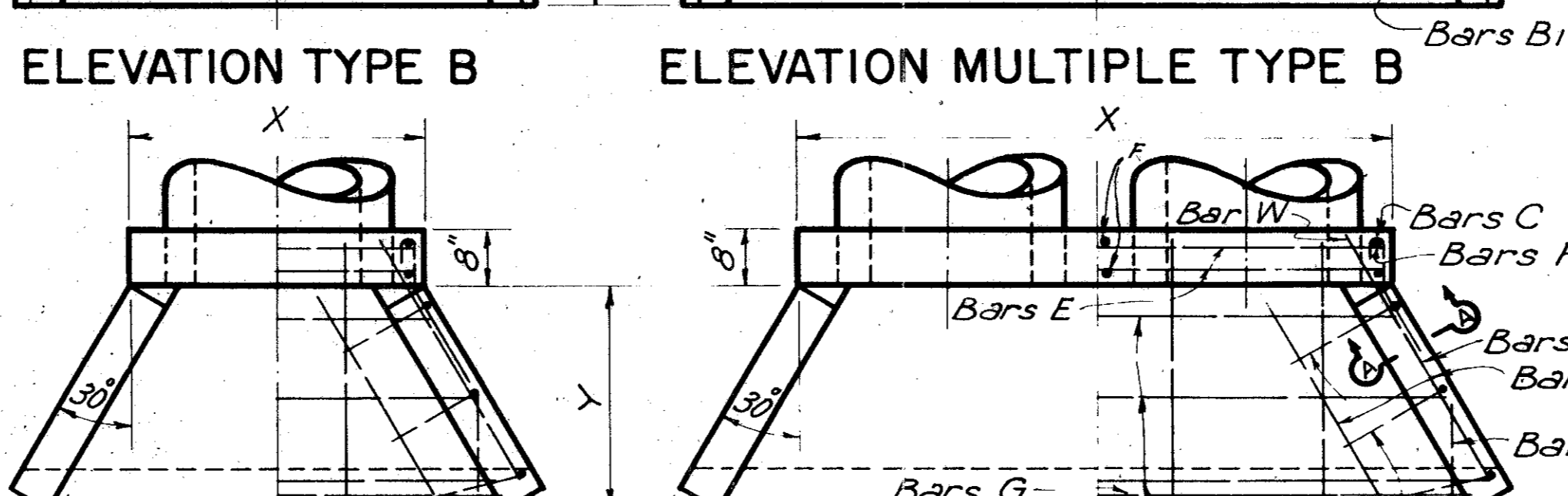
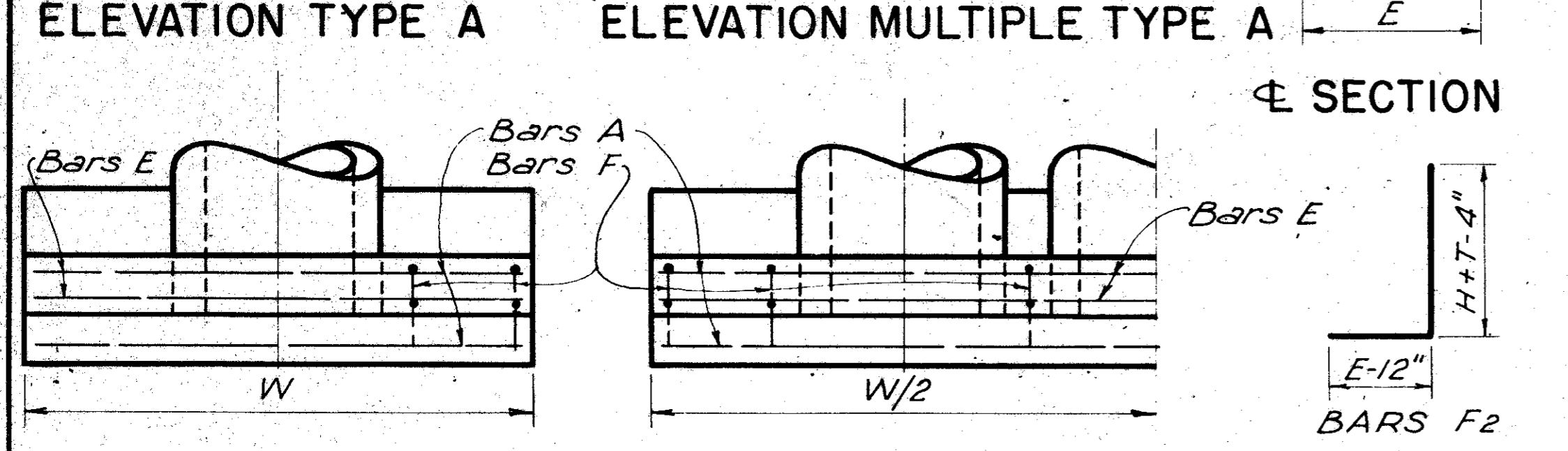
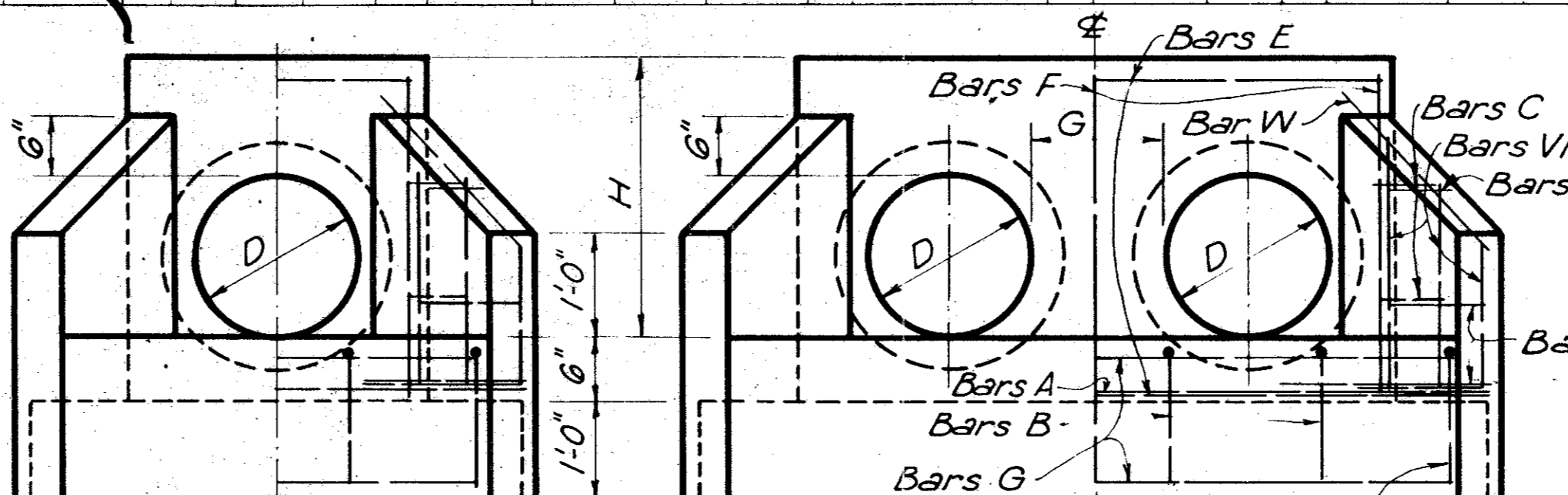
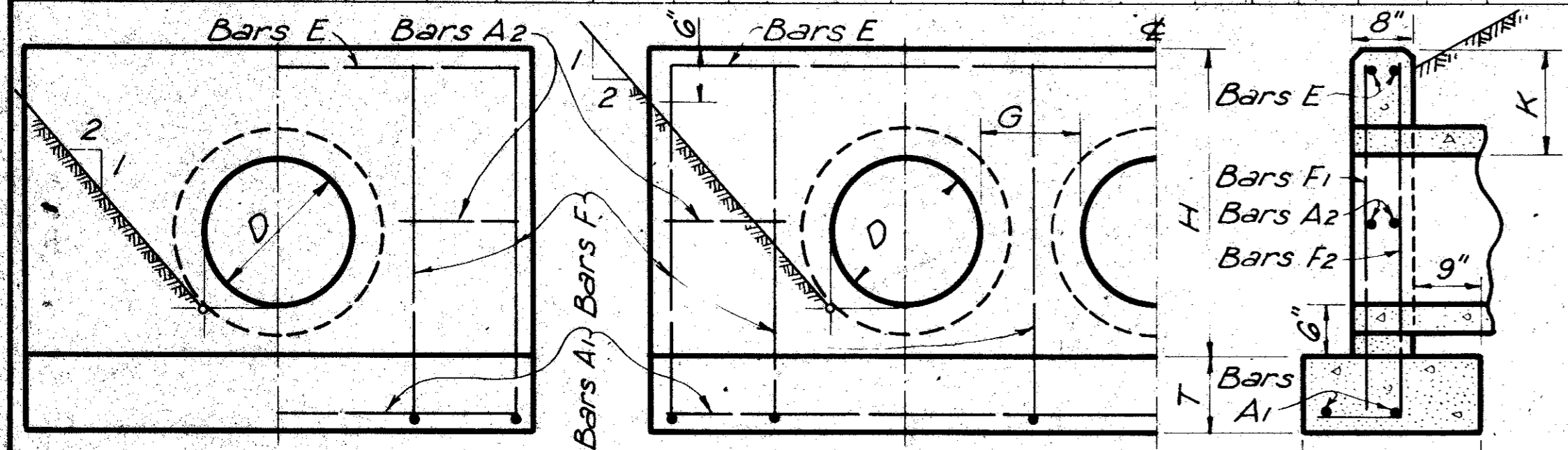


TABLE OF DIMENSIONS AND QUANTITIES FOR TWO TYPE A HEADWALLS

Table with columns for Dimensions (G, K, T, E, H, W), Reinforcing Steel (Bars A1-Ax, A2, B, C, D, E, F, G, S, V, W), and Total Quantities (LBS, C.Y.). It includes a sub-table for 'REINFORCING STEEL AND QUANTITIES FOR TWO HEADWALLS'.

TABLE OF DIMENSIONS AND QUANTITIES FOR TWO TYPE B HEADWALLS

Table with columns for Dimensions (G, K, X, H, Y, W), Reinforcing Steel (Bars A1-Ax, B, B1-Bx, C=2'-0", D1-Dx, E, F, G, S, V1-Vx, W), and Total Quantities (LBS, C.Y.). It includes a sub-table for 'REINFORCING STEEL AND QUANTITIES FOR TWO HEADWALLS'.



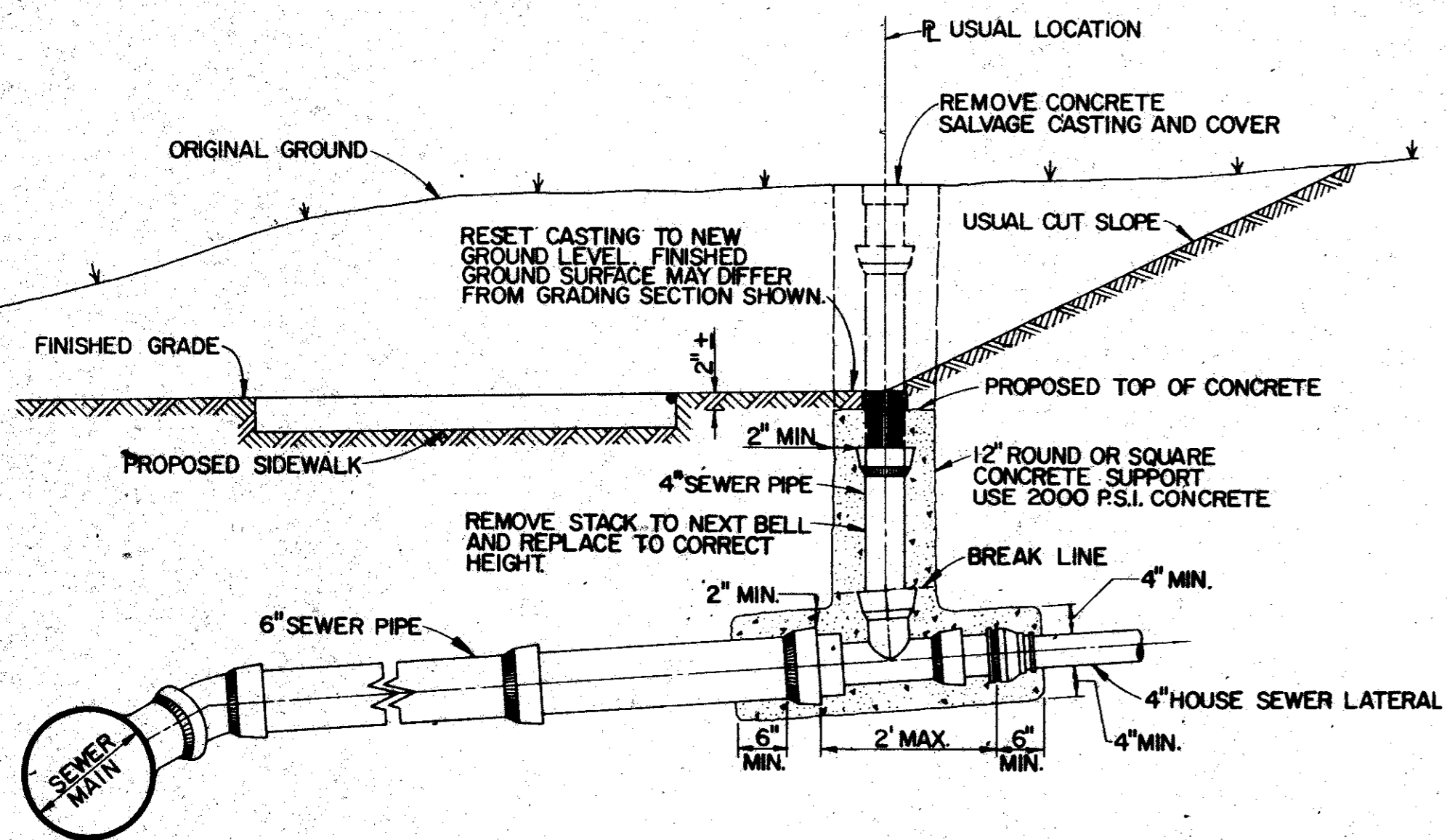
Equations: A1 = W + 4 1/2, A2 = W - 9 3/8, B = Y + 4, B1 = 8. Notes: This dimension reduced 1-1/8" for each successive bar. This dimension increased 2-7" for each successive bar.

GENERAL NOTES: All concrete shall be Class "A". All exposed corners shall be chamfered 3/4". Reinforcing steel shall be placed with the center of the outside layer of bars 2" from the surface of the concrete. Total Quantities include one 20 diameter lap for all bars over 60'-0" in length.

Project information: CITIES OF ADDISON AND FARMERS BRANCH, TEXAS; MARSH LANE; BROOKHAVEN CLUB DRIVE TO BELT LINE ROAD; TYPE "B" HEADWALL DETAILS; Turner Collier & Braden Inc.; Date FEB, 1982; Job No. 6042-010 Contract; Sheet 62 of 66.

PLAN, PROFILE, DATE, BY, CHECKED, NO. 3

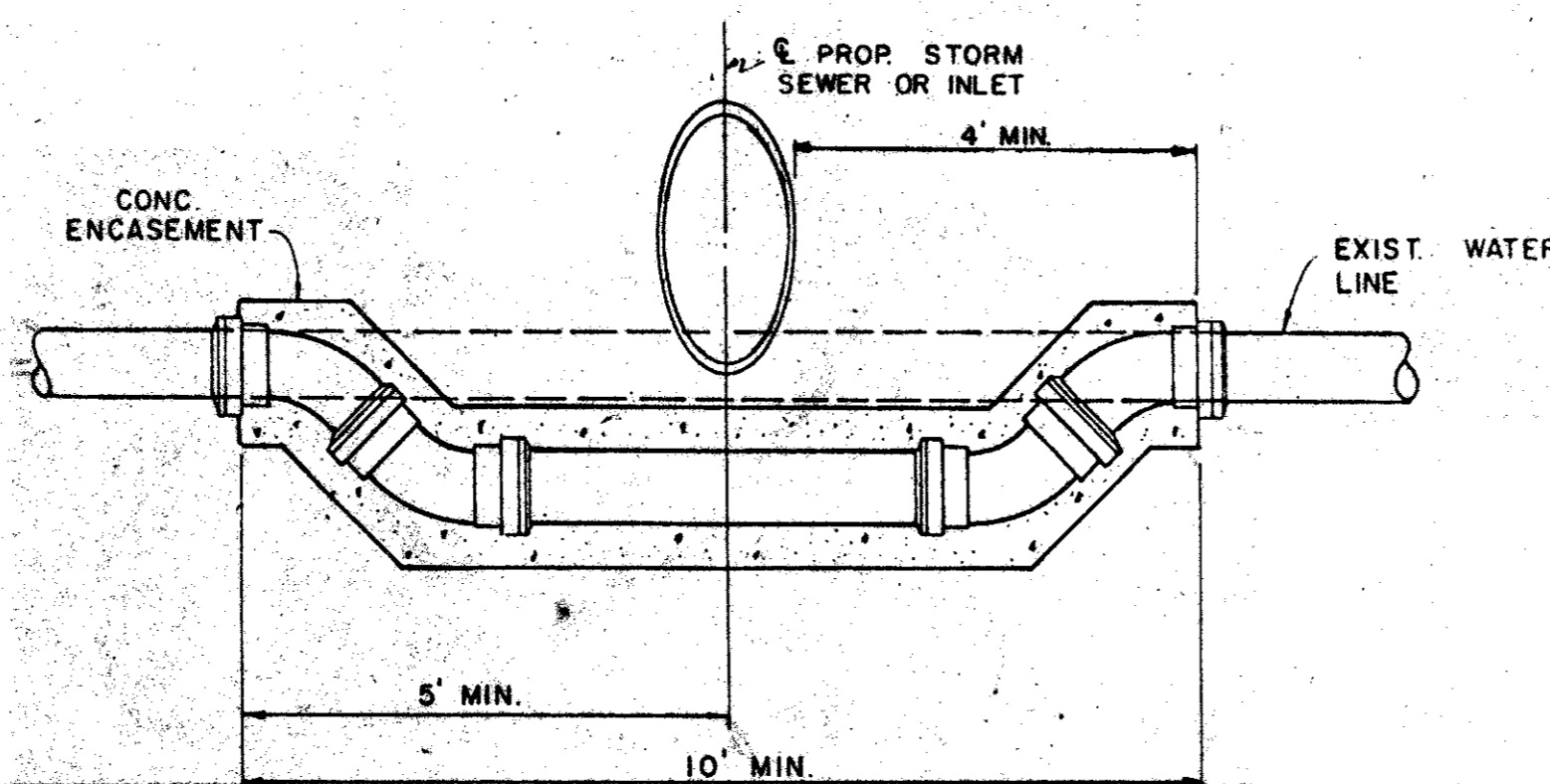
\*Concrete Quantities increase slightly for metal pipe installations.



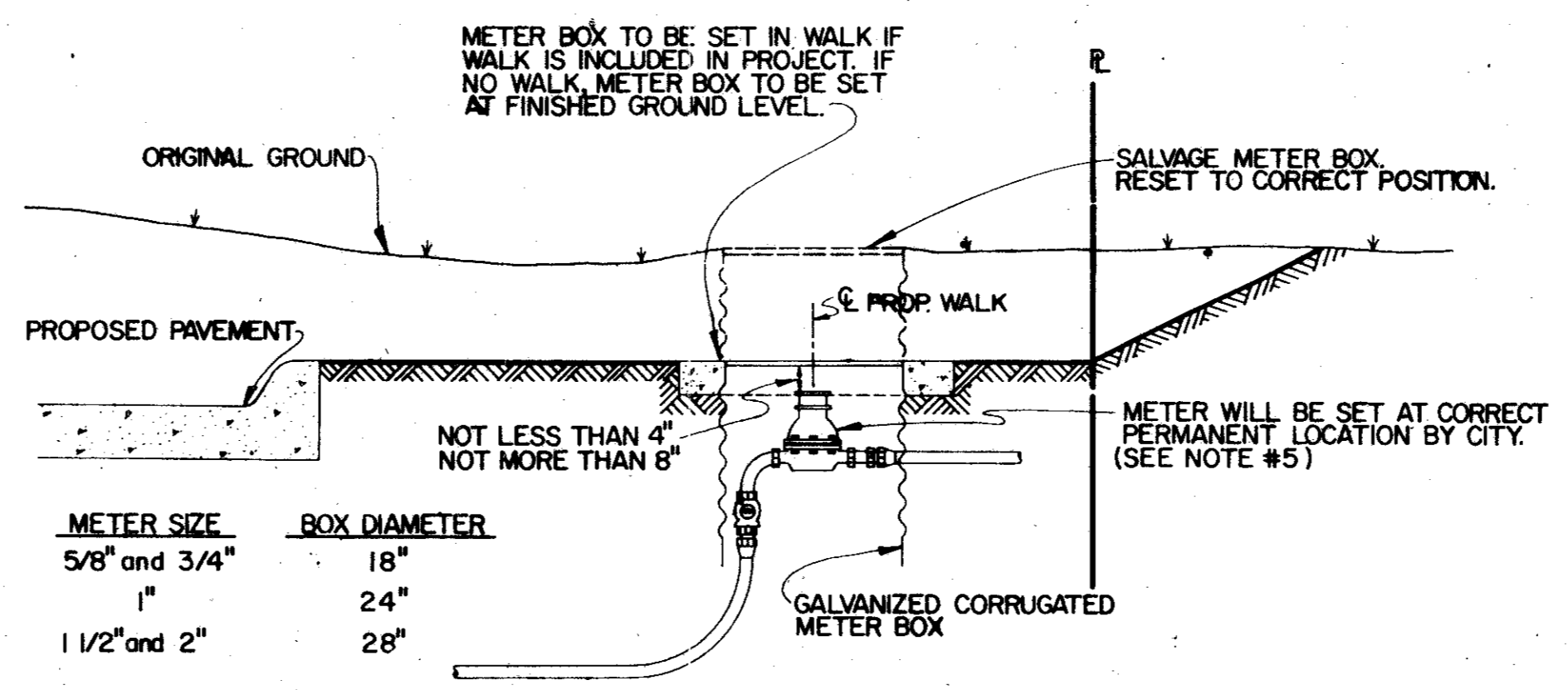
**SANITARY SEWER LATERAL CLEANOUT**  
NO SCALE

- NOTE:**
1. Install four 45° bends (unless otherwise directed by Engineer) and length of pipe necessary to achieve minimum clearance.
  2. Adjustment will be paid for in accordance with appropriate bid item for linear feet of water main of the size required, complete in place. Water main fittings (lbs.), concrete encasement (2000 psi/C.Y.) and all other costs shall be subsidiary.
  3. Payment shall be for relocation of the existing water line, complete in place, and ready to operate, test and sterilize.

... shall be the same type or class of pipe as the pipe being adjusted.

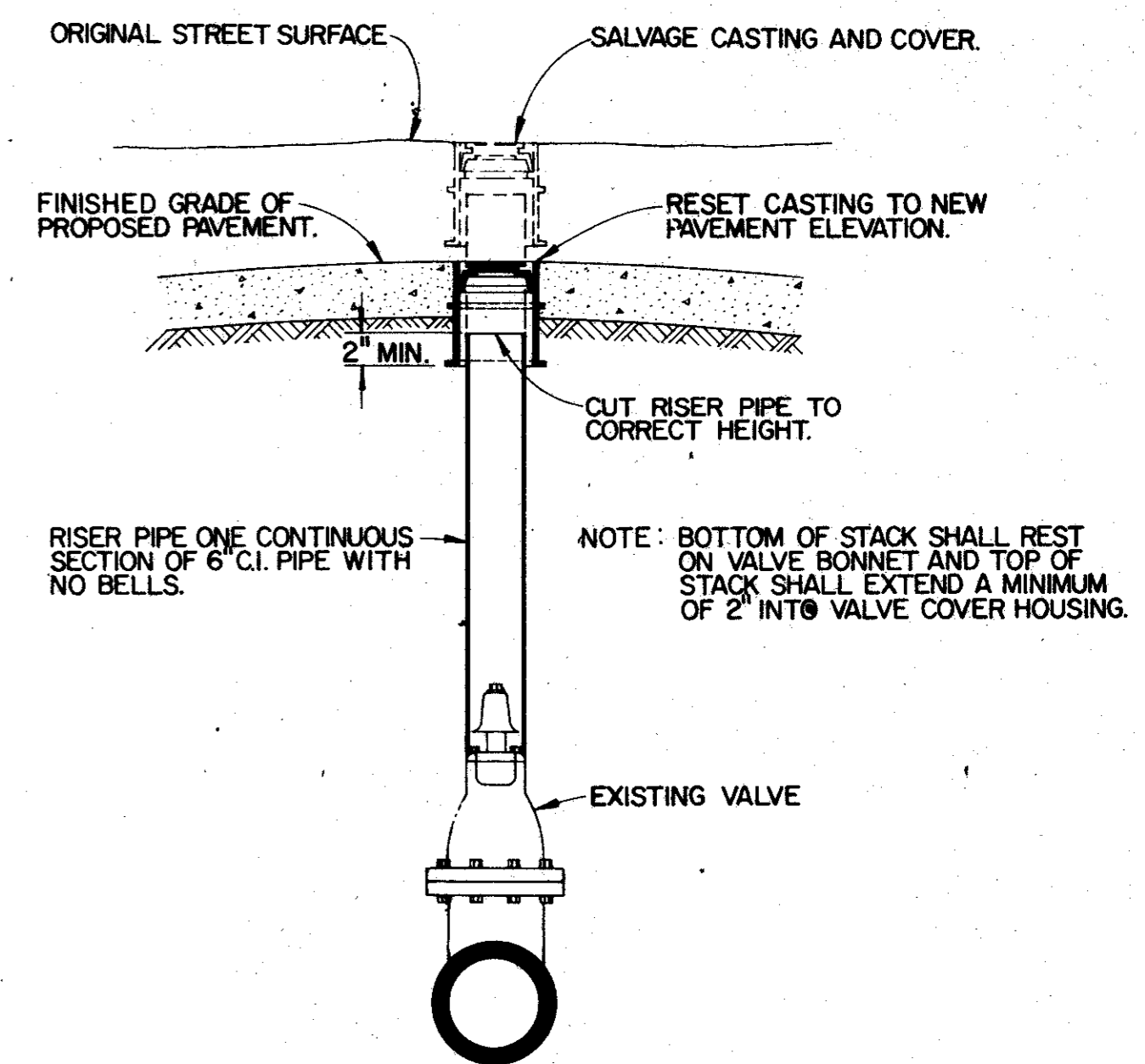


**TYPICAL WATER MAIN ADJUSTMENT**  
FOR 6" OR 8" NTS.



METER SIZE	BOX DIAMETER
5/8" and 3/4"	18"
1"	24"
1 1/2" and 2"	28"

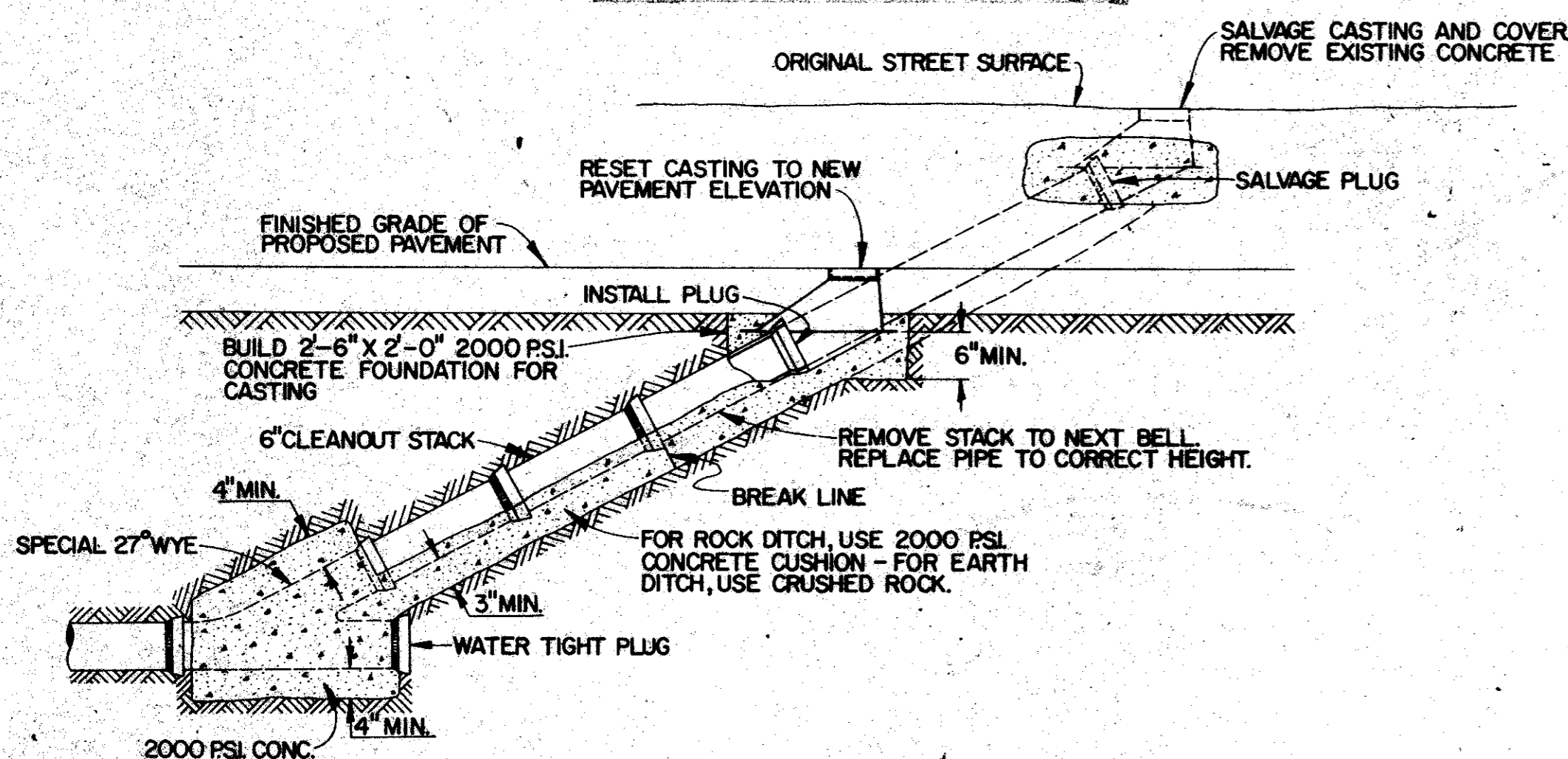
**METER BOX**  
NO SCALE



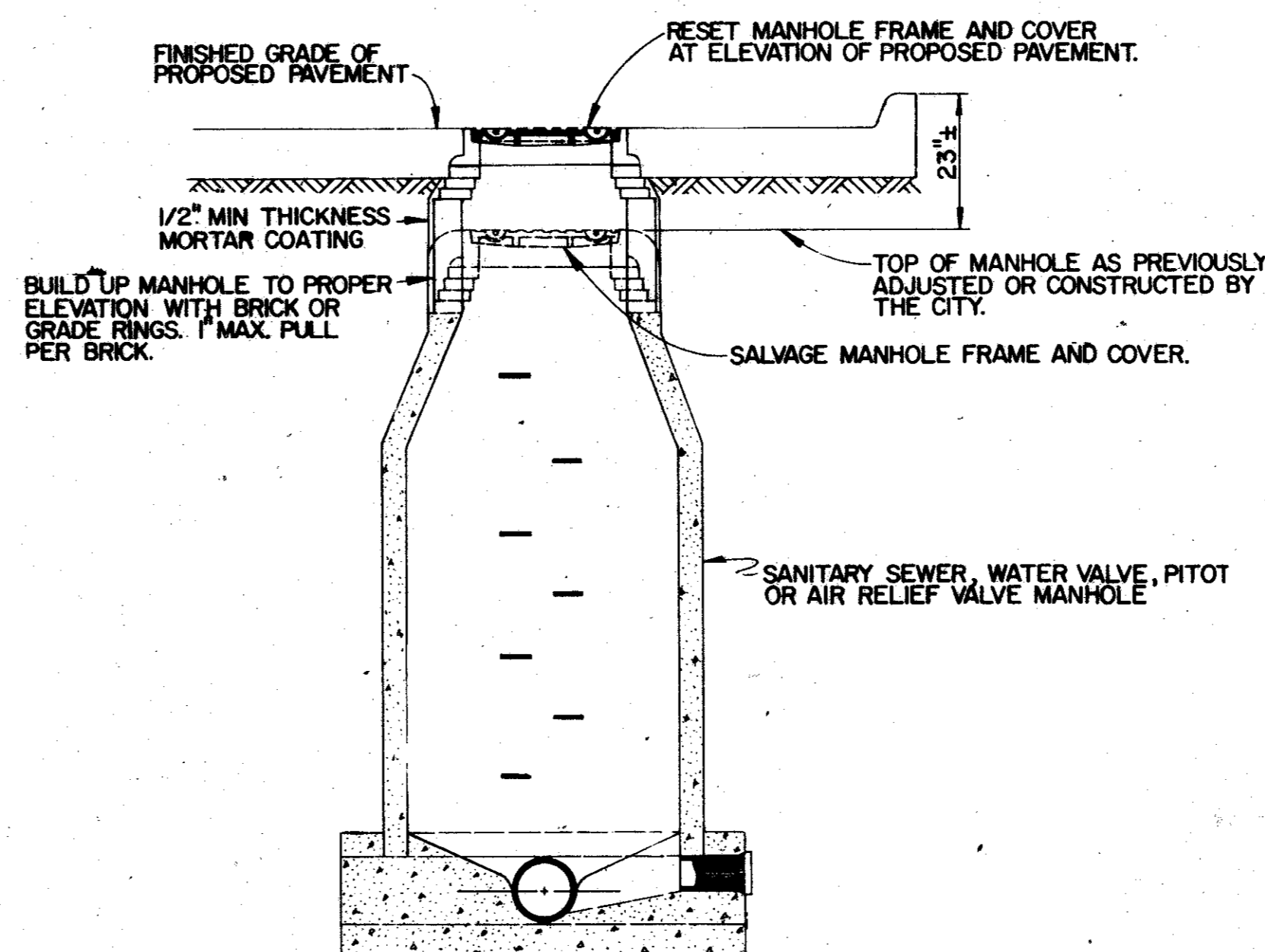
**VALVE COVER AND RISER PIPE**  
NO SCALE

**NOTES**

1. SANITARY SEWERS MUST BE KEPT CLEAR OF BROKEN CONCRETE, DIRT OR ANY OTHER DEBRIS RESULTING FROM CONSTRUCTION OPERATIONS.
2. PIPE TO BE EXTENDED OR REPLACED WILL BE OF THE SAME TYPE AS THE EXISTING UNLESS ALTERNATE TYPE IS APPROVED BY THE ENGINEER.
3. CASTINGS, COVERS OR ANY OTHER MATERIAL PARTS WHICH MAY BE DAMAGED OR LOST BY THE CONTRACTOR'S OPERATIONS WILL BE REPLACED AT THE CONTRACTOR'S EXPENSE WITH CITY STANDARD APPURTENANCES.
4. THE ADJUSTED FACILITIES MUST BE CLEAN, FULLY OPERATIONAL AND EQUAL IN QUALITY WITH NEW CONSTRUCTION AT THE TIME OF FINAL INSPECTION OF THE PROJECT.

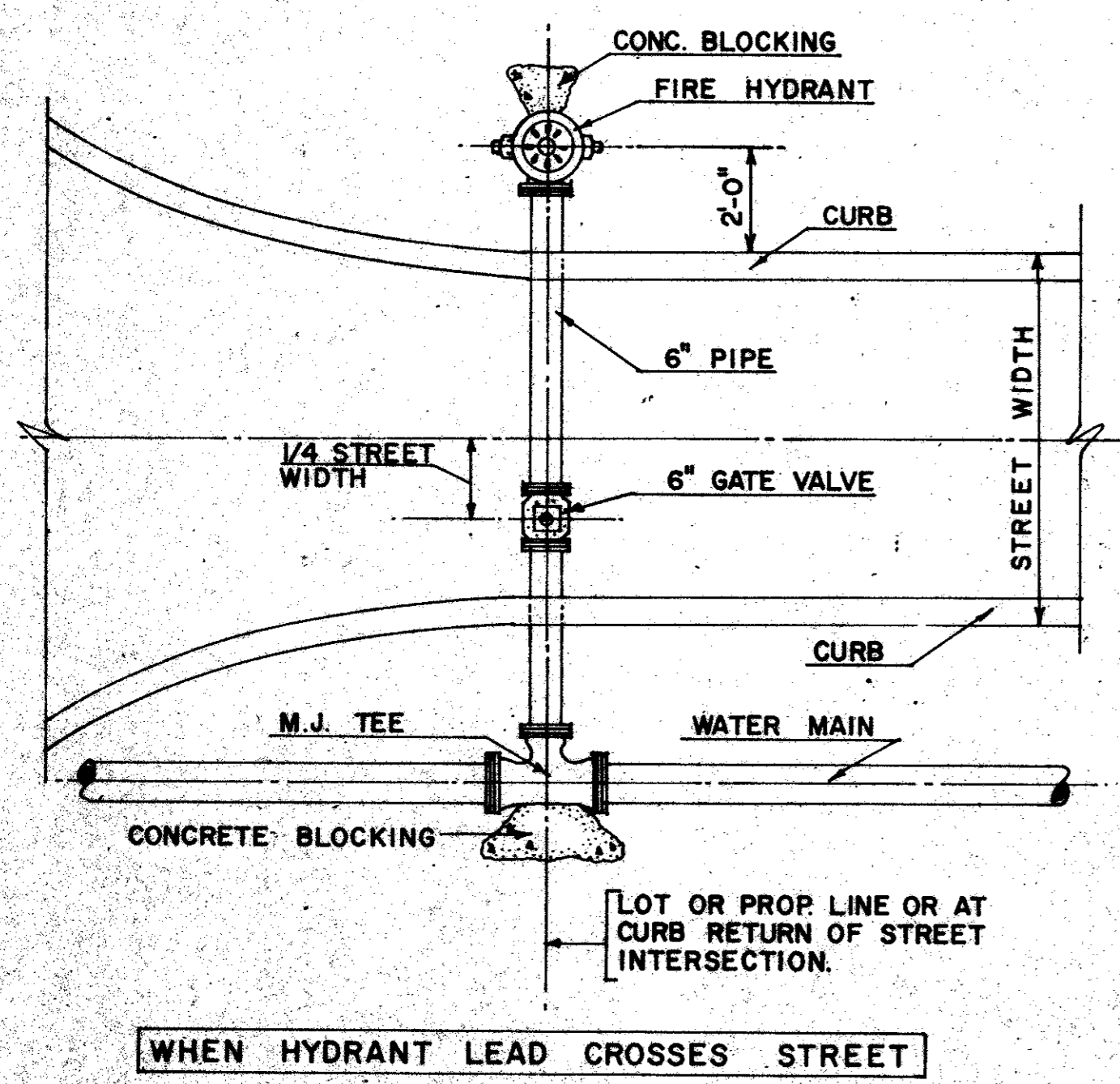
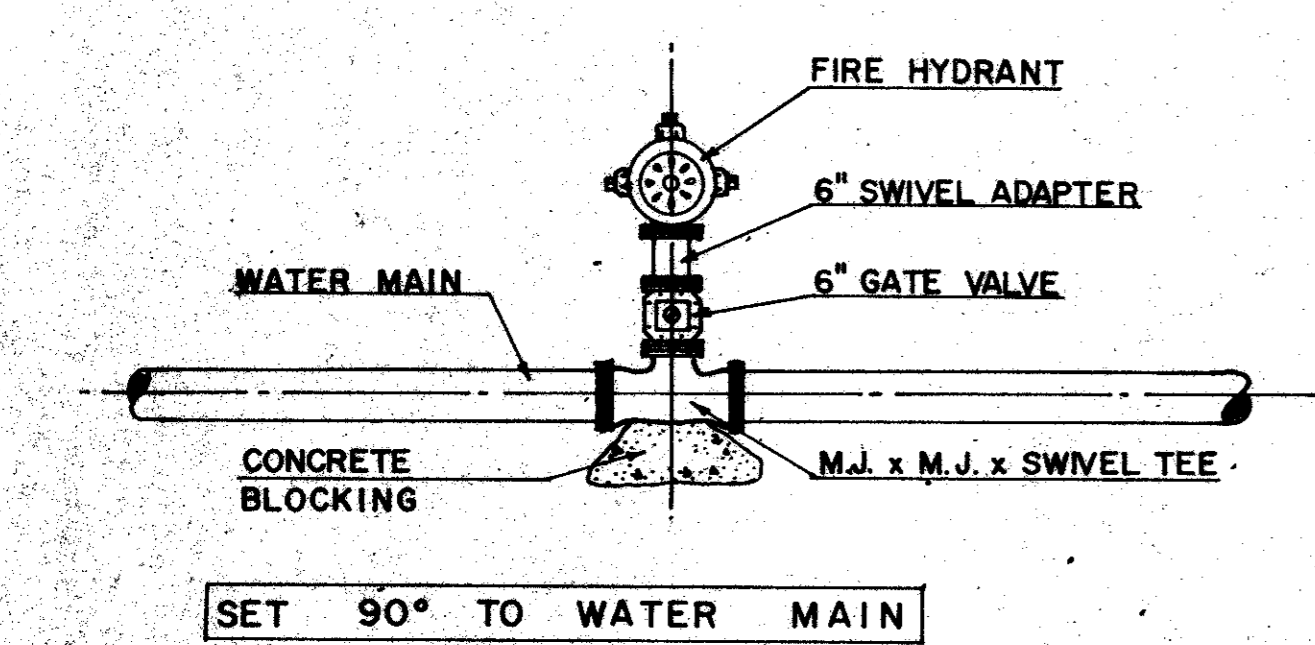


**SANITARY SEWER MAINLINE CLEANOUT**  
NO SCALE

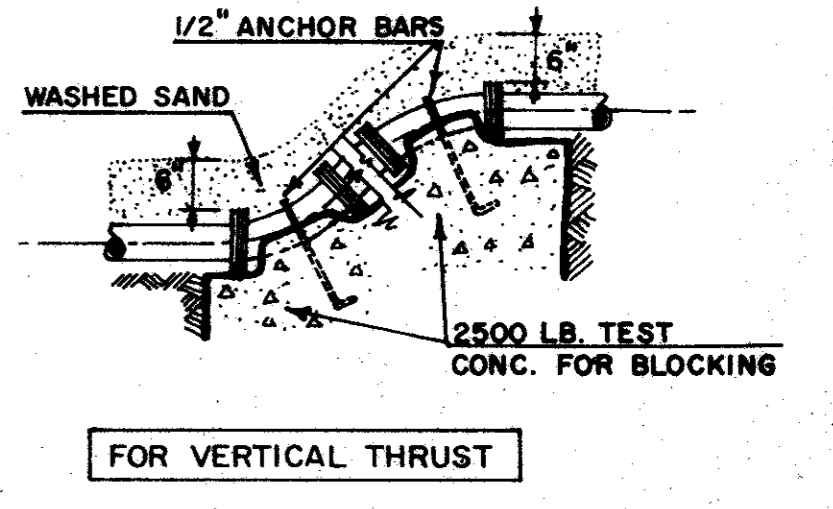
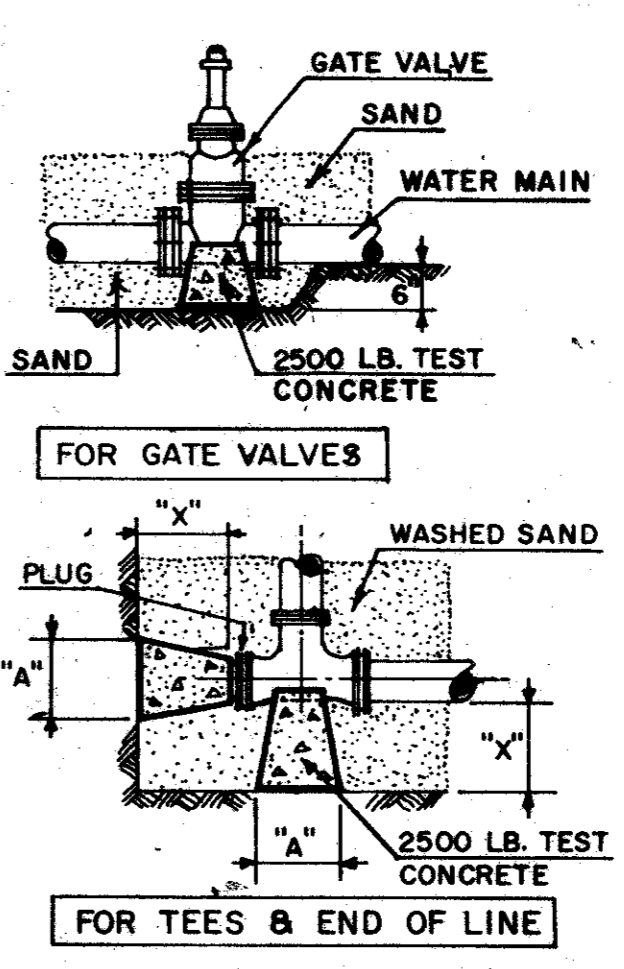
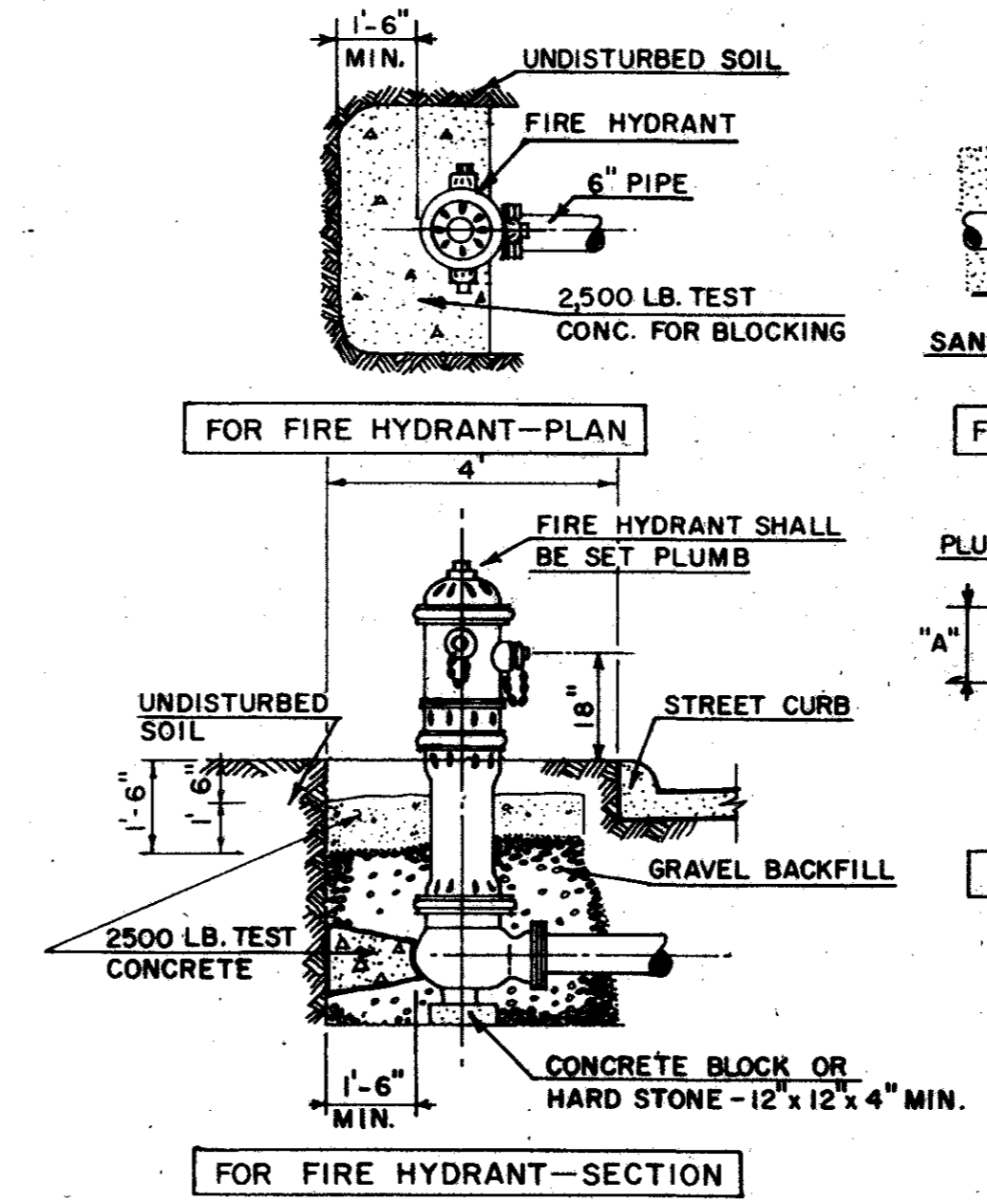
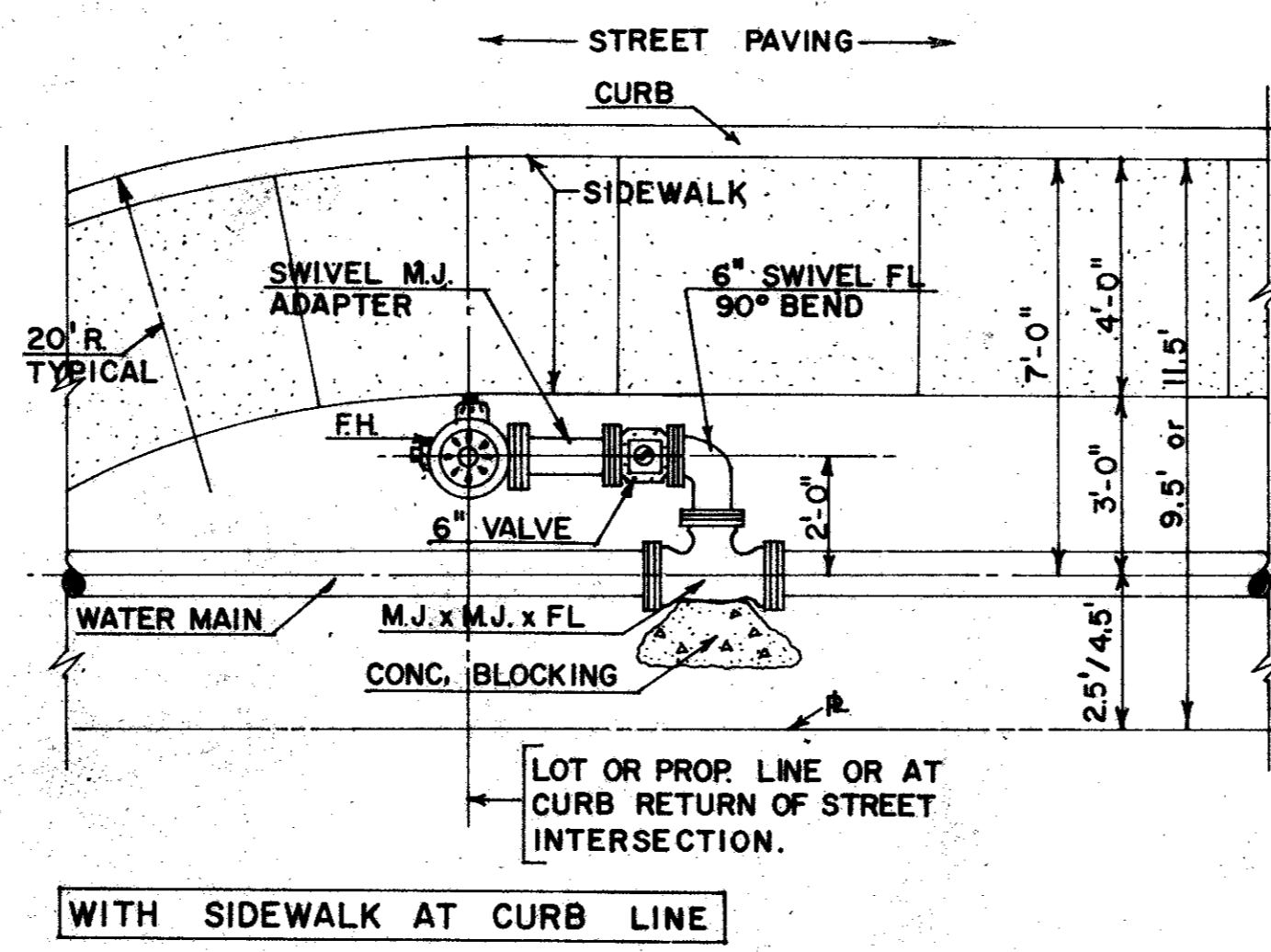
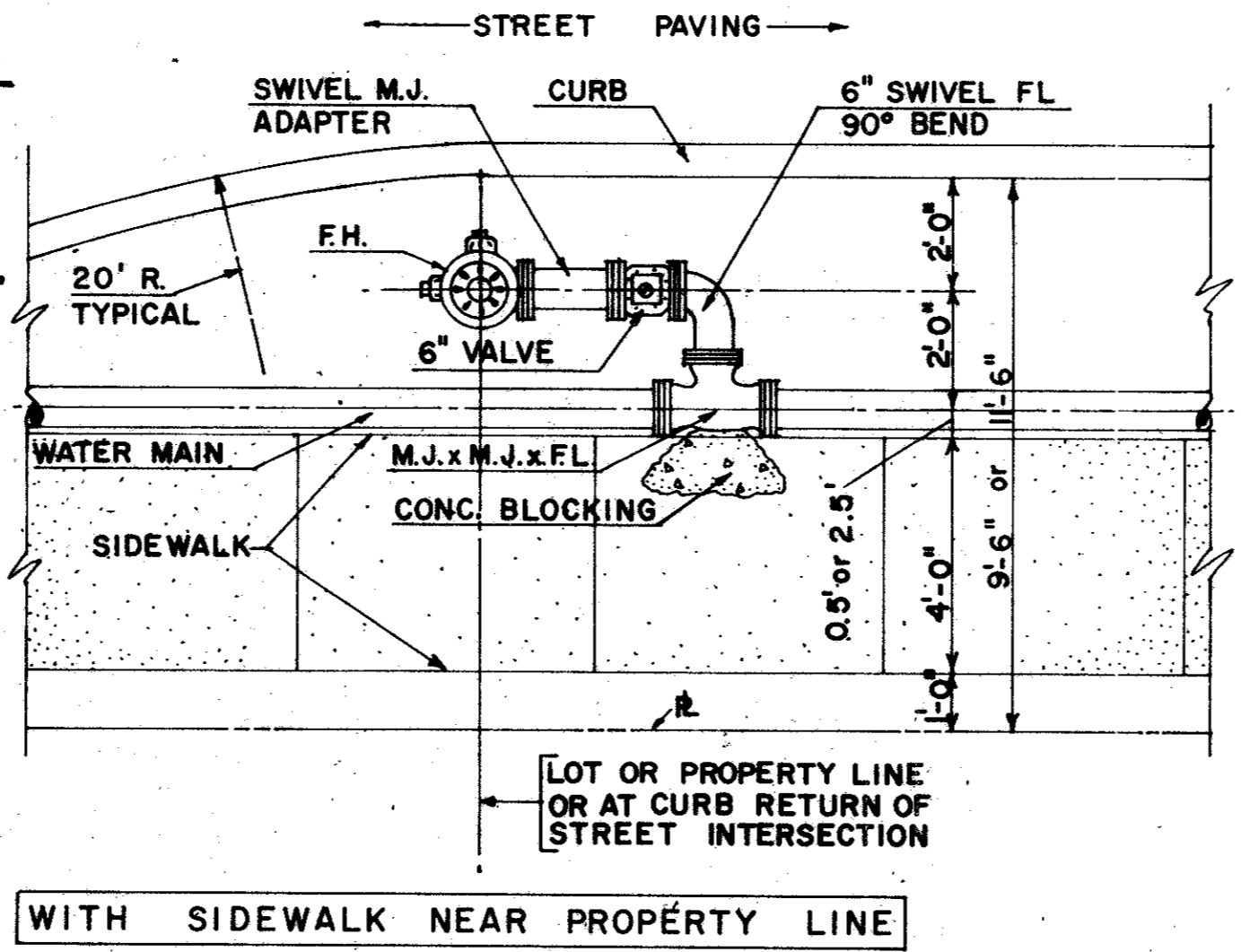


**STANDARD BRICK OR PRE-CAST MANHOLE**  
NO SCALE

CITIES OF ADDISON AND FARMERS BRANCH, TEXAS		
MARSH LANE		
BROOKHAVEN CLUB DRIVE TO BELT LINE ROAD		
UTILITY ADJUSTMENT DETAILS		
Turner Collier & Braden Inc.		
Unit CITY OF DALLAS	Scale: Horiz. Vert.	Date FEB., 1982
Designed	Checked	Job No. 6042-010 Contract
Drawn	Approved	Sheet 63 of 66



**NOTES:**  
 Fire hydrant shall have "O" ring seals and mechanical joint inlet ends.  
 Fire hydrant steamer nozzle centerline shall be 18" above curb grade and shall face C.L. of street.  
 Pipe fittings shall have mechanical joint, ring tite or swivel ends.  
 Mech. joint fittings shall be supplied with non-corrosive bolts.  
 Gate valves shall be non-rising stem with "O" ring seal & mech. joint or ring tite.



**NOTES:**  
 1. CONCRETE FOR BLOCKING SHALL CONTAIN A MINIMUM OF 4 1/2 SACKS OF CEMENT AND HAVE A 2500 LB. TEST STRENGTH.  
 2. WATER MAIN FITTINGS SHALL BE CAST IRON AND HAVE MECHANICAL JOINT ENDS OR AS APPROVED BY CITY ENGINEER.  
 3. JOINTS SHALL BE COVERED WITH A MINIMUM OF 6" OF WASHED SAND IN ALL DIRECTIONS OR WRAPPED IN POLYETHYLENE PIPE COVERING, MINIMUM THICKNESS OF 8 MILL.  
 4. BLOCKING FOR FIRE HYDRANT SHALL BE EXTENDED TO REST AGAINST UNDISTURBED SOIL AND SHALL NOT CLOG OR BLOCK DRAIN OPENING. AFTER BLOCKING HAS BEEN SET - PLACE 7 CUBIC FEET OF GRAVEL TO INSURE DRAINAGE OF DRAIN OPENING.

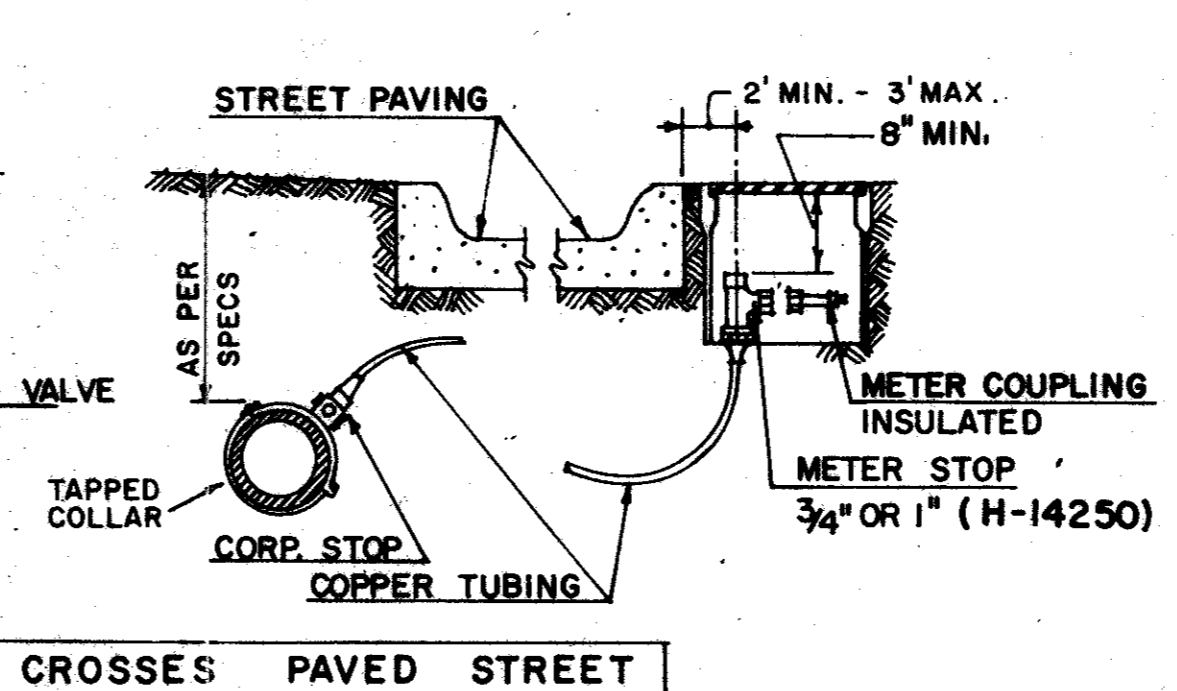
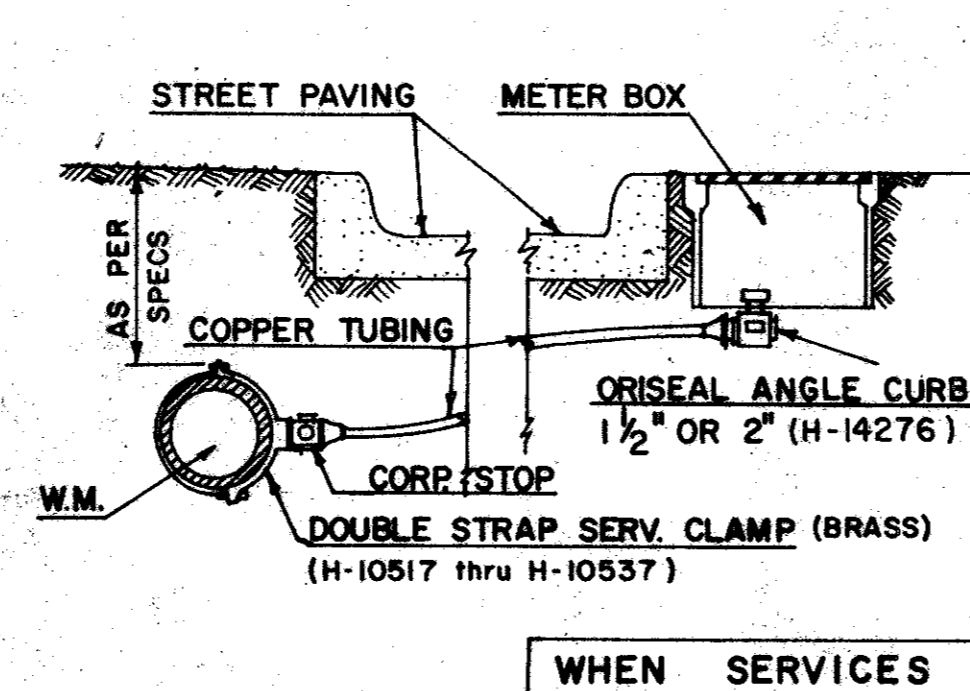
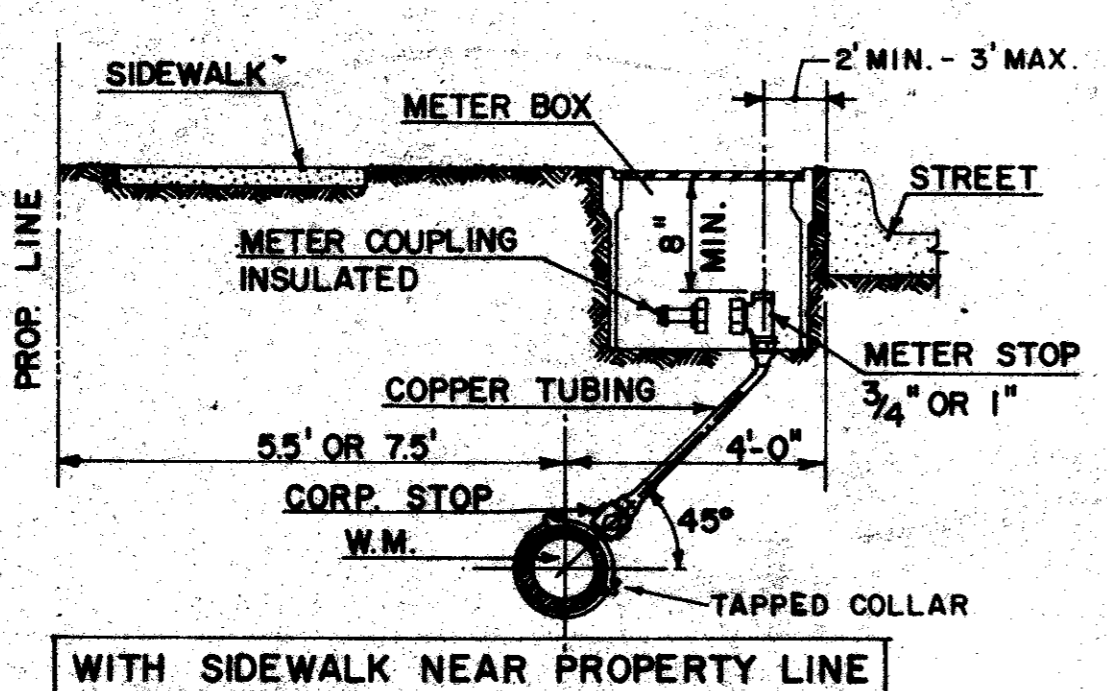
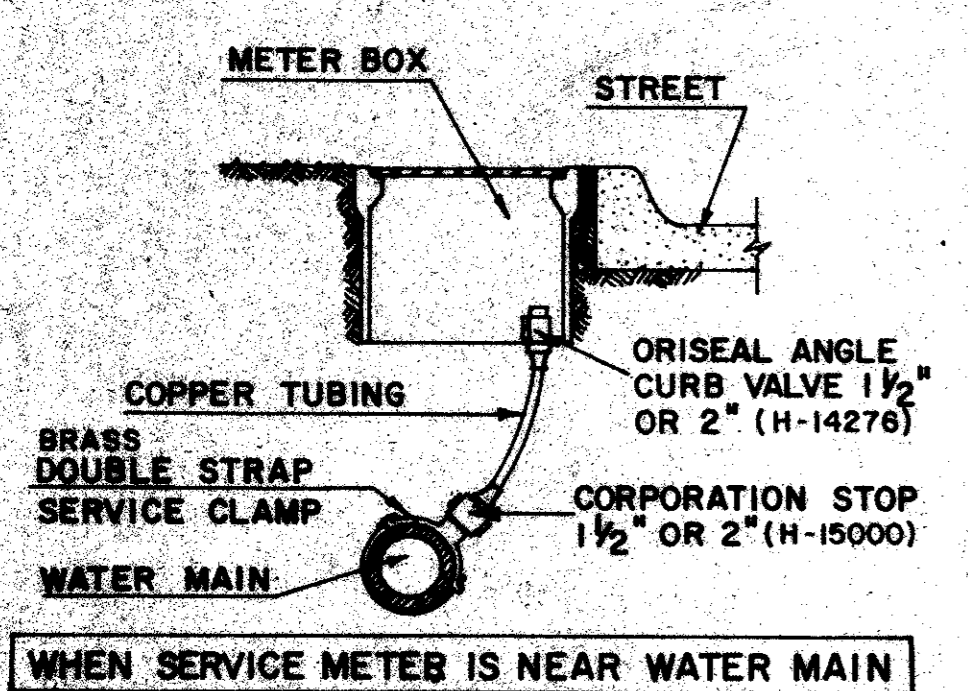
**HORIZONTAL BLOCKING TABLE**

PIPE SIZE	"X" DIM.	PLUGS & TEES		90° BENDS		45° BENDS		22°-30° BENDS		11°-15° BENDS	
		"A" MIN.	MAX. AREA VOL.	"A" MIN.	MAX. AREA VOL.	"A" MIN.	MAX. AREA VOL.	"A" MIN.	MAX. AREA VOL.	"A" MIN.	MAX. AREA VOL.
4"	1'-0"	1'-0"	.83 .08	1'-0"	.83 .08	1'-0"	.83 .08	1'-0"	.83 .08	1'-0"	.83 .08
6"	1'-6"	1'-0"	1.06 .06	1'-2"	1.50 .09	1'-0"	.83 .08	1'-0"	.83 .08	1'-0"	.83 .08
8"	1'-6"	1'-3"	1.89 .11	1'-6"	2.66 .15	1'-3"	1.44 .08	1'-0"	.83 .08	1'-0"	.83 .08
10"	1'-6"	1'-9"	2.95 .17	2'-0"	4.17 .24	1'-6"	2.26 .13	1'-3"	1.15 .07	1'-0"	.83 .08
12"	1'-6"	2'-0"	4.25 .24	3'-3"	6.00 .34	1'-9"	3.25 .18	1'-3"	1.65 .10	1'-0"	.83 .08
16"	2'-0"	2'-7"	7.54 .36	3'-0"	10.65 .78	2'-3"	5.76 .43	1'-8"	2.94 .22	1'-8"	1.48 .11
18"	2'-0"	2'-11"	7.70 .57	3'-5"	10.89 .82	2'-6"	5.89 .44	1'-10"	3.01 .22	1'-5"	1.51 .11
20"	2'-0"	3'-3"	7.86 .59	3'-9"	11.12 .84	2'-9"	6.01 .45	2'-0"	3.07 .23	1'-7"	1.54 .12
24"	2'-0"	3'-8"	11.33 .84	4'-3"	16.00 1.20	3'-2"	8.65 .65	2'-6"	4.42 .33	1'-10"	2.22 .17

"X" DIMENSION COLUMN ARE LIN. FT. DIMENSIONS AND ARE TO BE INCREASED WHERE IT IS NECESSARY TO PROVIDE BEARING AGAINST UNDISTURBED SOIL OR SOLID TRENCH WALL.  
 "A" COLUMN ARE L.F. DIMENSIONS AND ARE TO BE INCREASED WHERE IT IS NECESSARY TO PROVIDE BEARING AGAINST UNDISTURBED SOIL OR SOLID TRENCH WALL.  
 MIN. AREA VOL. DIMENSIONS ARE IN SQ. FT. OF BEARING AGAINST UNDIST. SOIL OR SOLID TRENCH WALL AT LOCATION OF "A" DIMENSIONS.  
 MAX. VOL. COL. DIMENSIONS ARE IN CUBIC YARDS AND DENOTES THE MAXIMUM CU. YD. CONCRETE BLOCKING PAY FOR EACH FITTING.

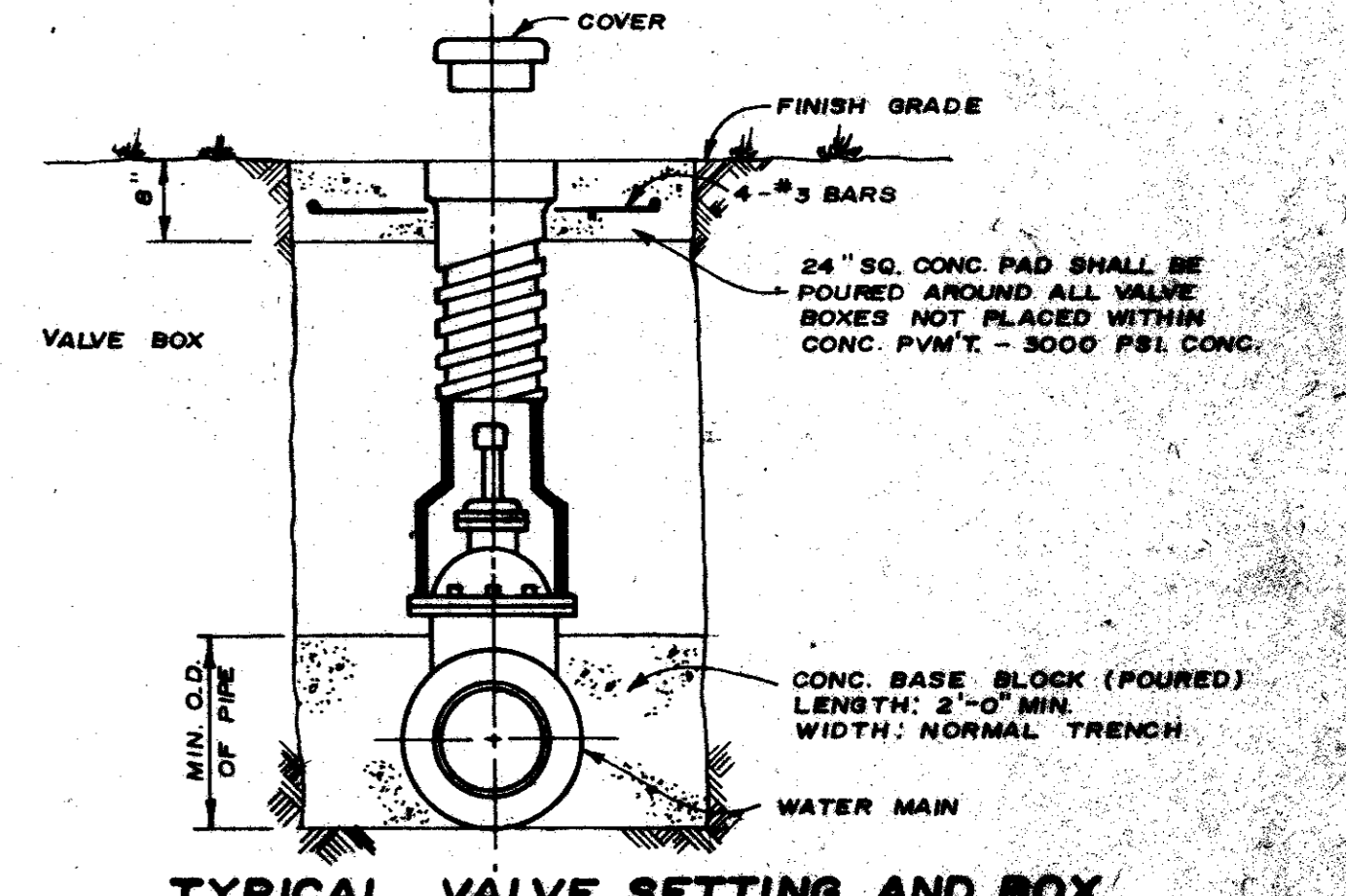
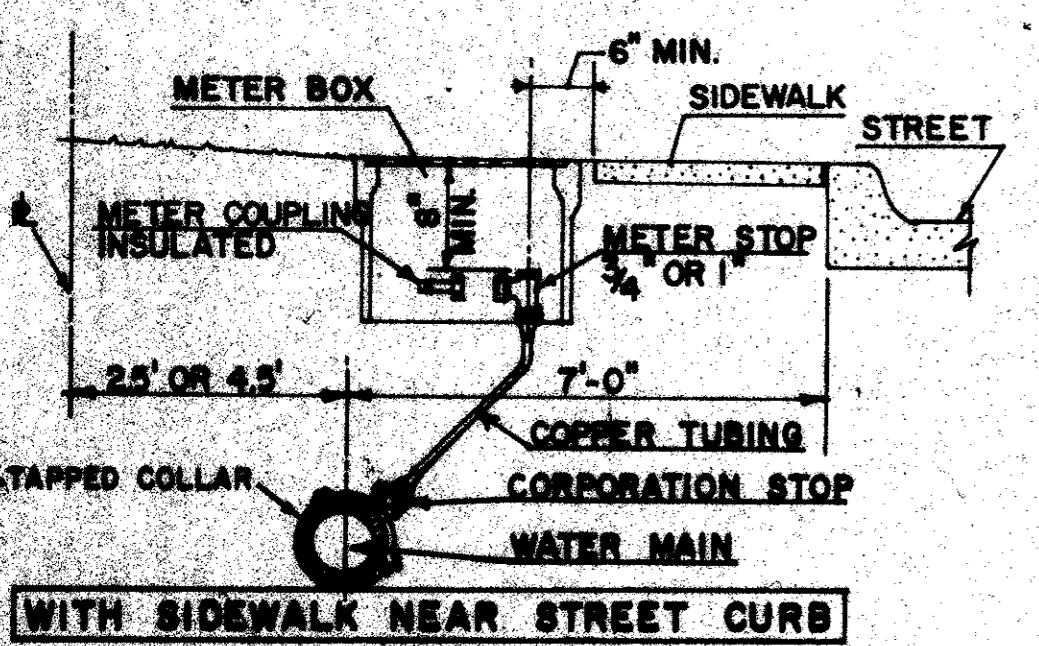
**FIRE HYDRANT LOCATION DETAILS**

**CONCRETE BLOCKING DETAILS**



**NOTES:**  
 1. The water main shall have a minimum cover as per specs. below top of curb grade.  
 2. The water services that are installed before the completion of street construction, shall be laid in the service ditch at the same elevation as the water main or a minimum cover of 30" below top of curb grade. At the proper location for the meter box, the meter (curb) stop shall be raised to 18" below top of curb grade with excess copper tubing to raise the stop at a future date to 6" below top of curb grade.  
 3. Use double brass strap service clamp when tapping all asbestos cement pipe.  
 4. On "A" & 1" corp. tapped collars shall be used.

**SERVICE CONNECTION DETAILS**



**TYPICAL VALVE SETTING AND BOX**

24" SQ. CONC. PAD SHALL BE POURED AROUND ALL VALVE BOXES NOT PLACED WITHIN CONC. P.V.M.'s - 3000 PSI CONC.

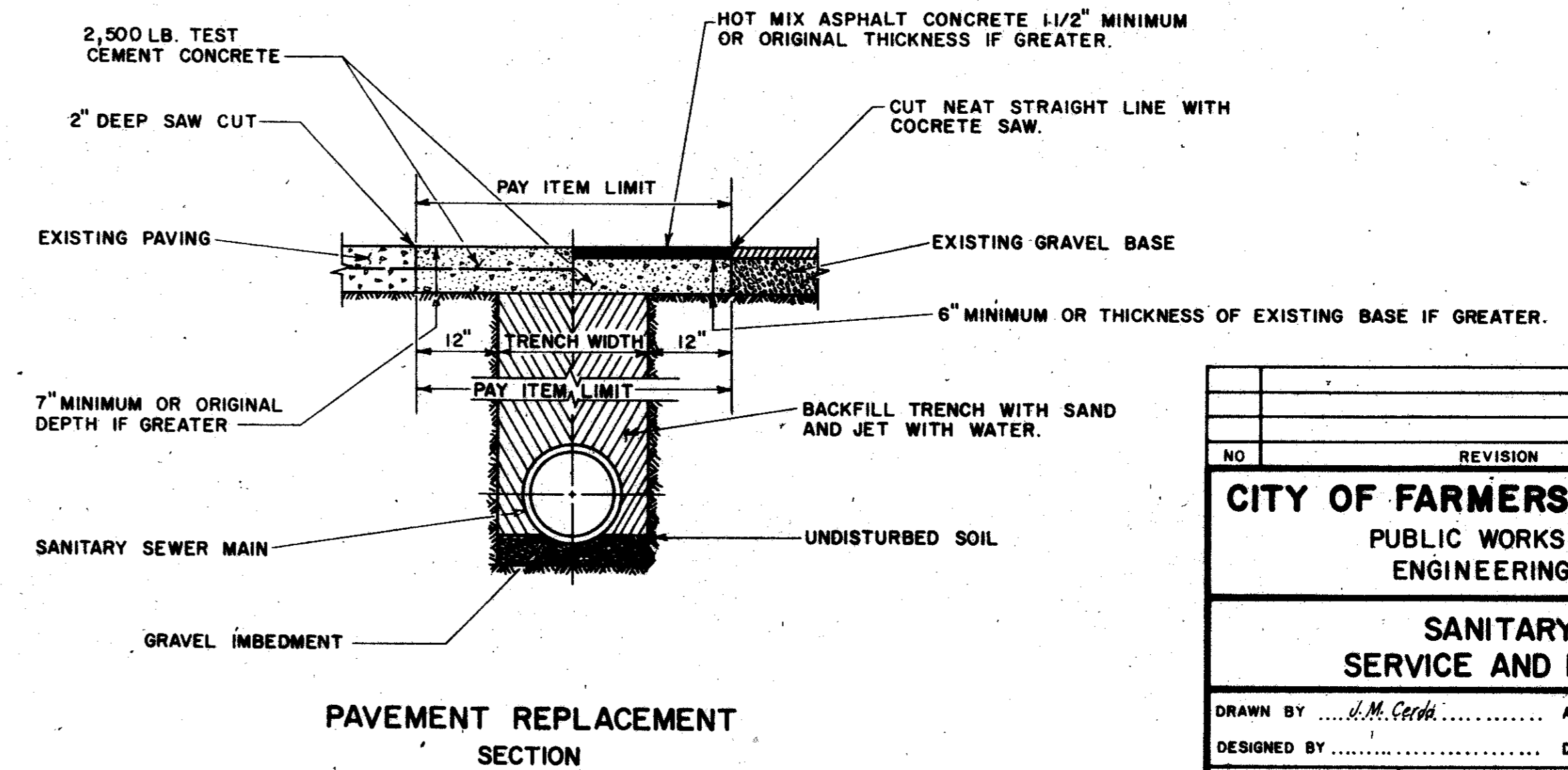
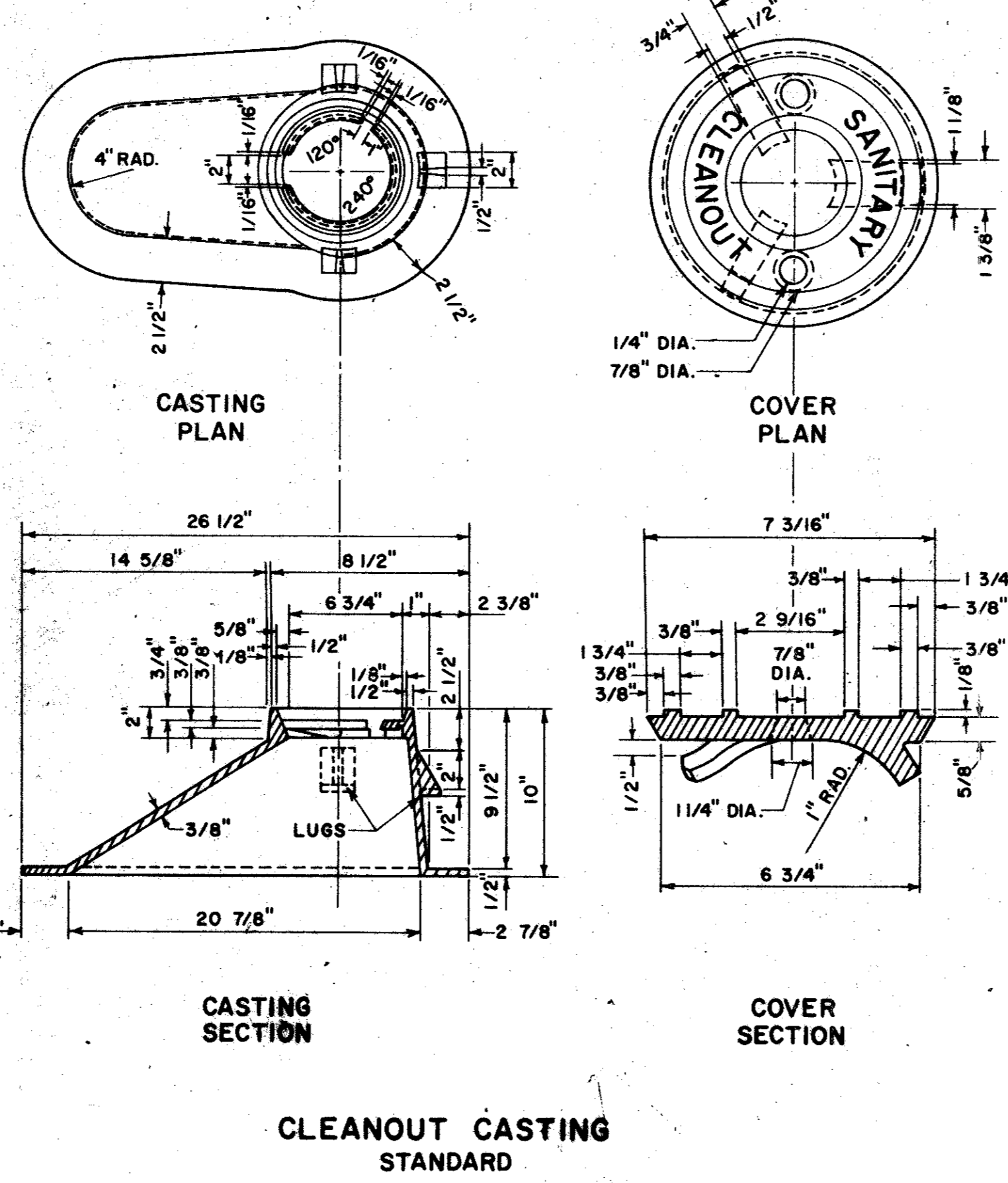
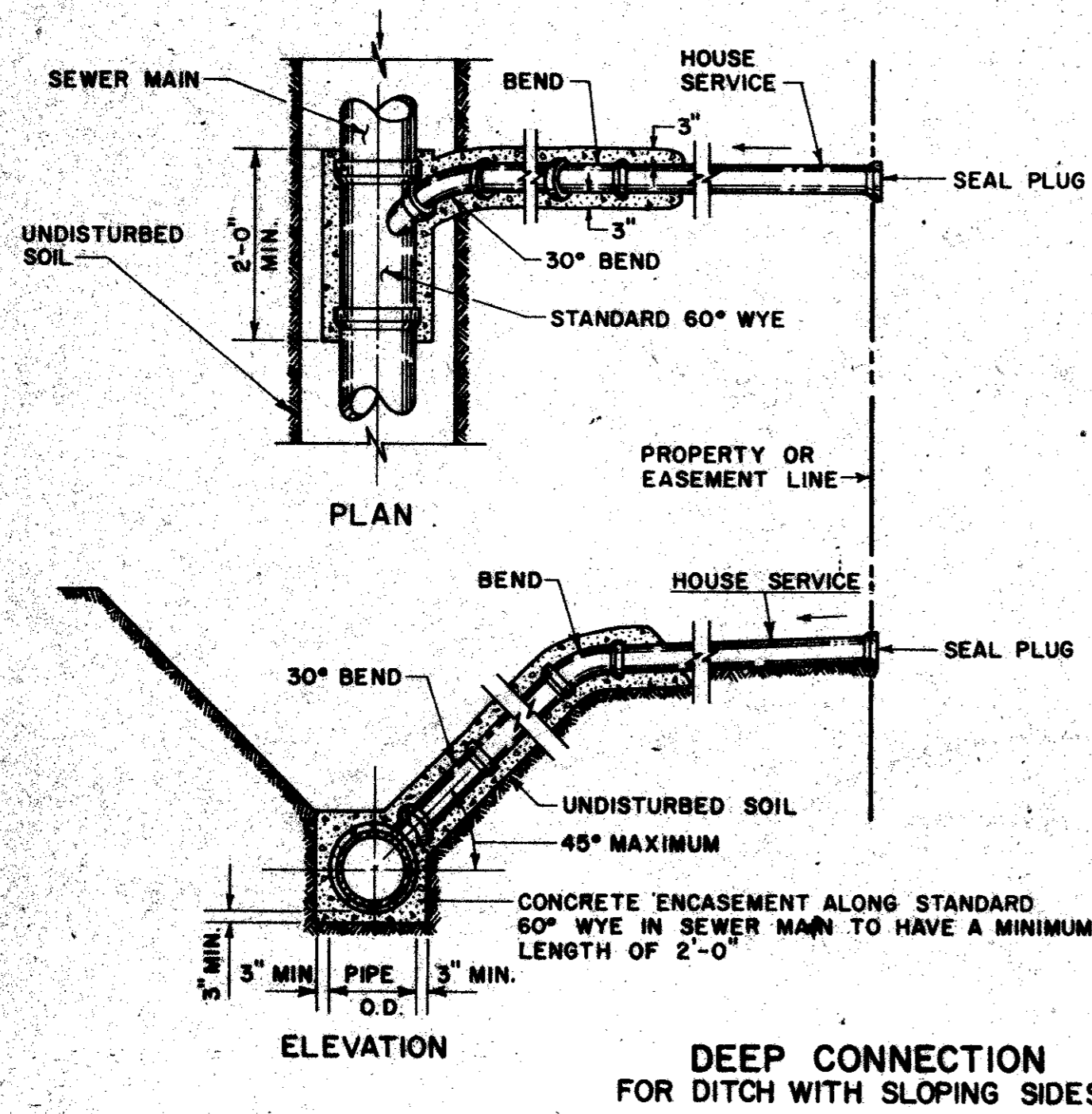
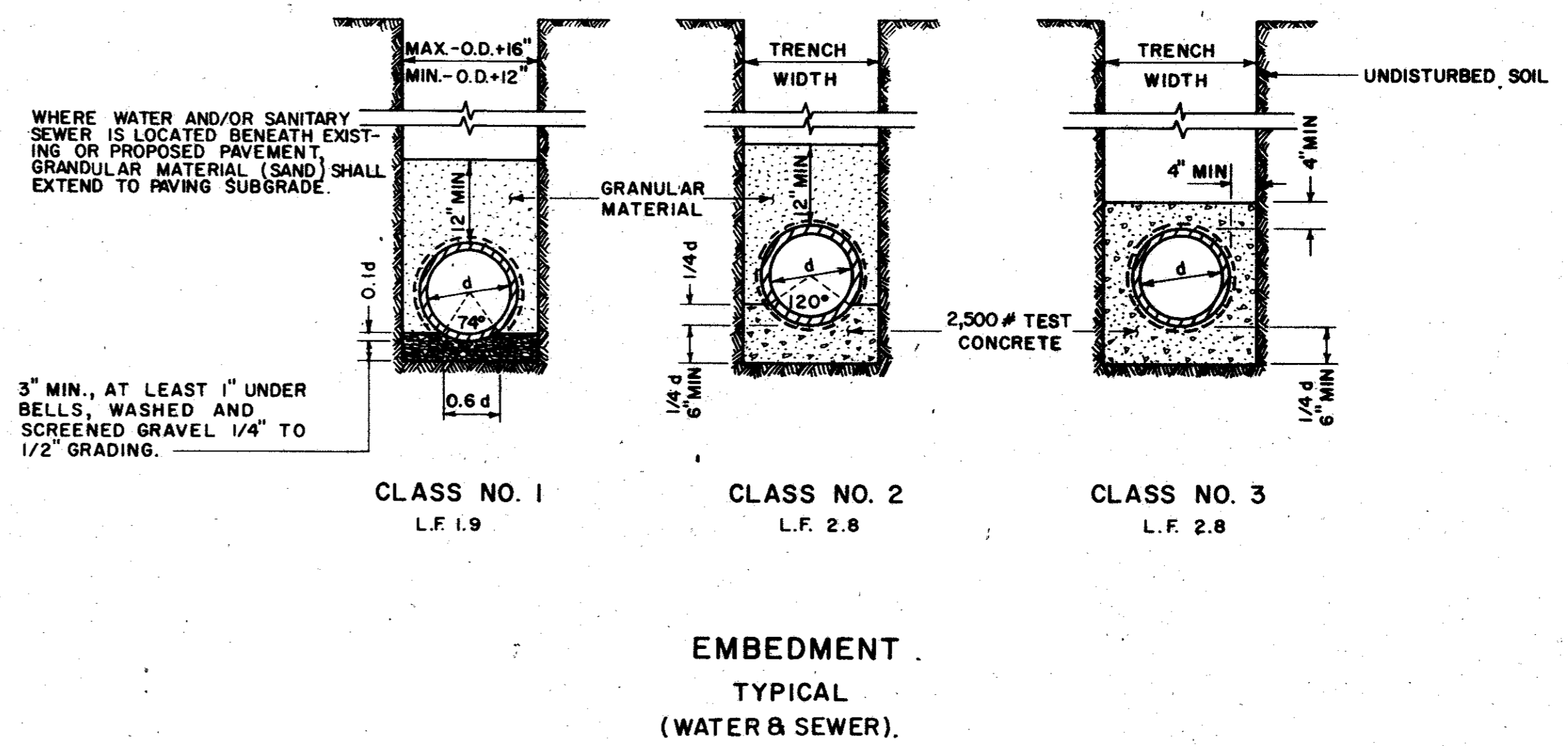
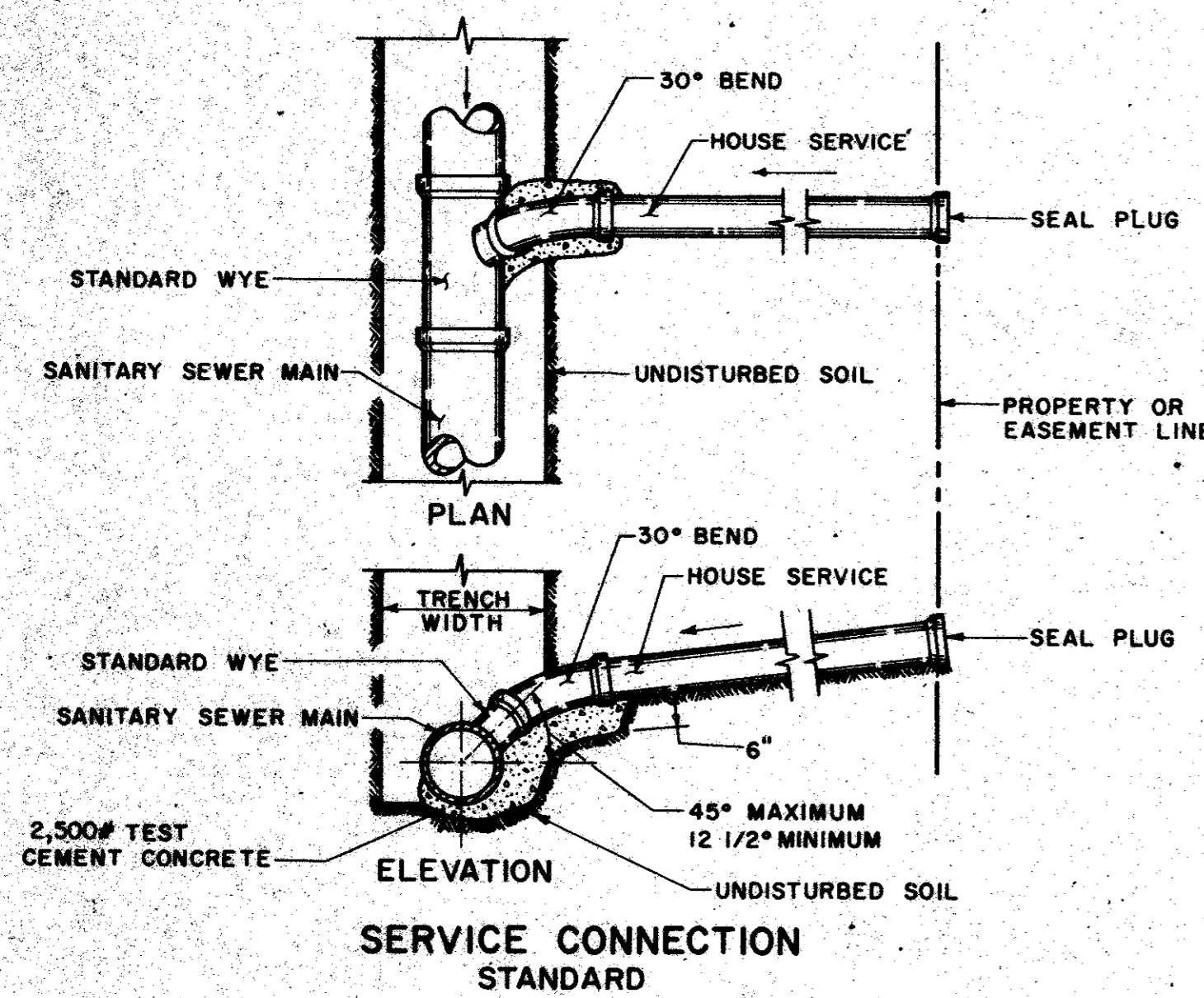
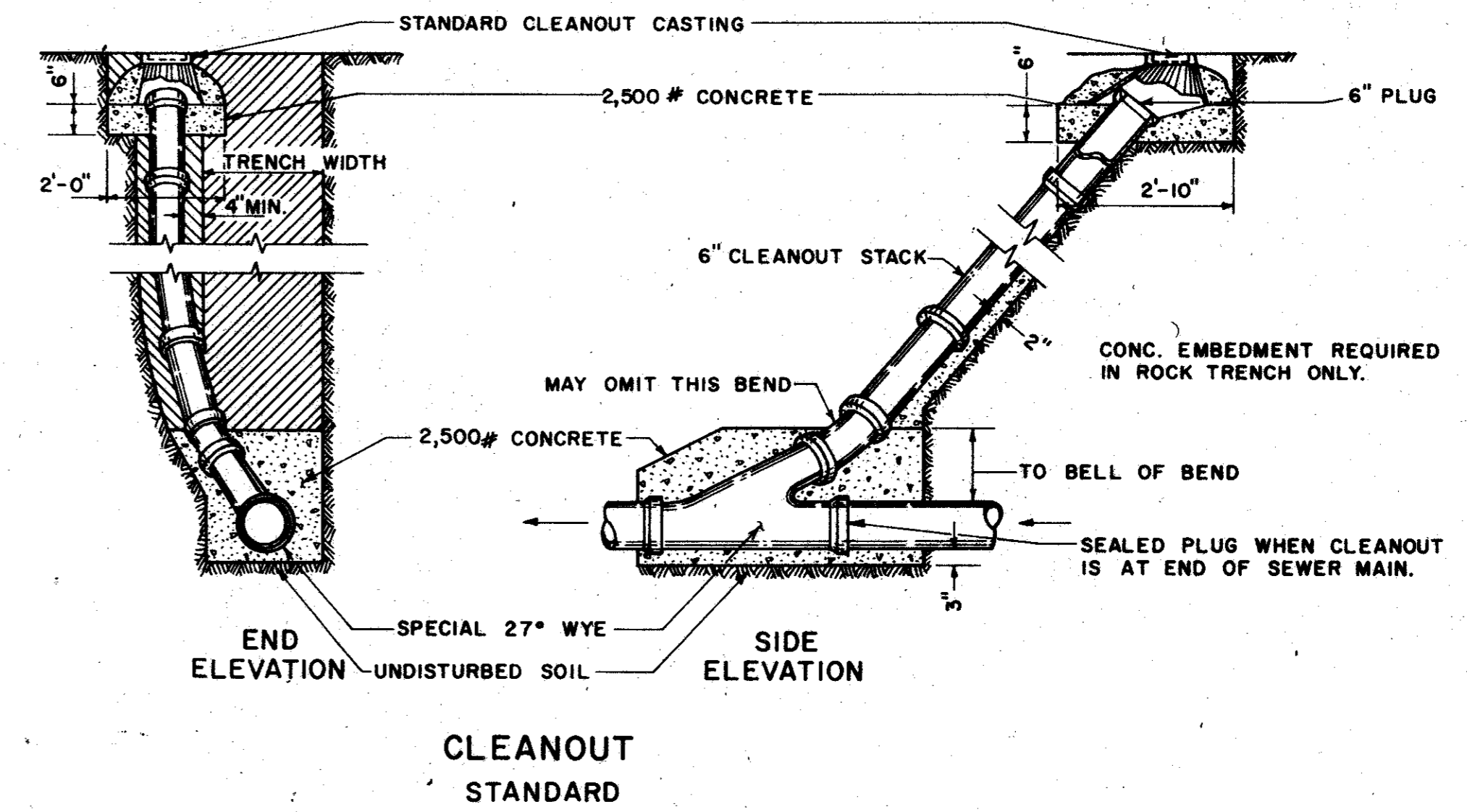
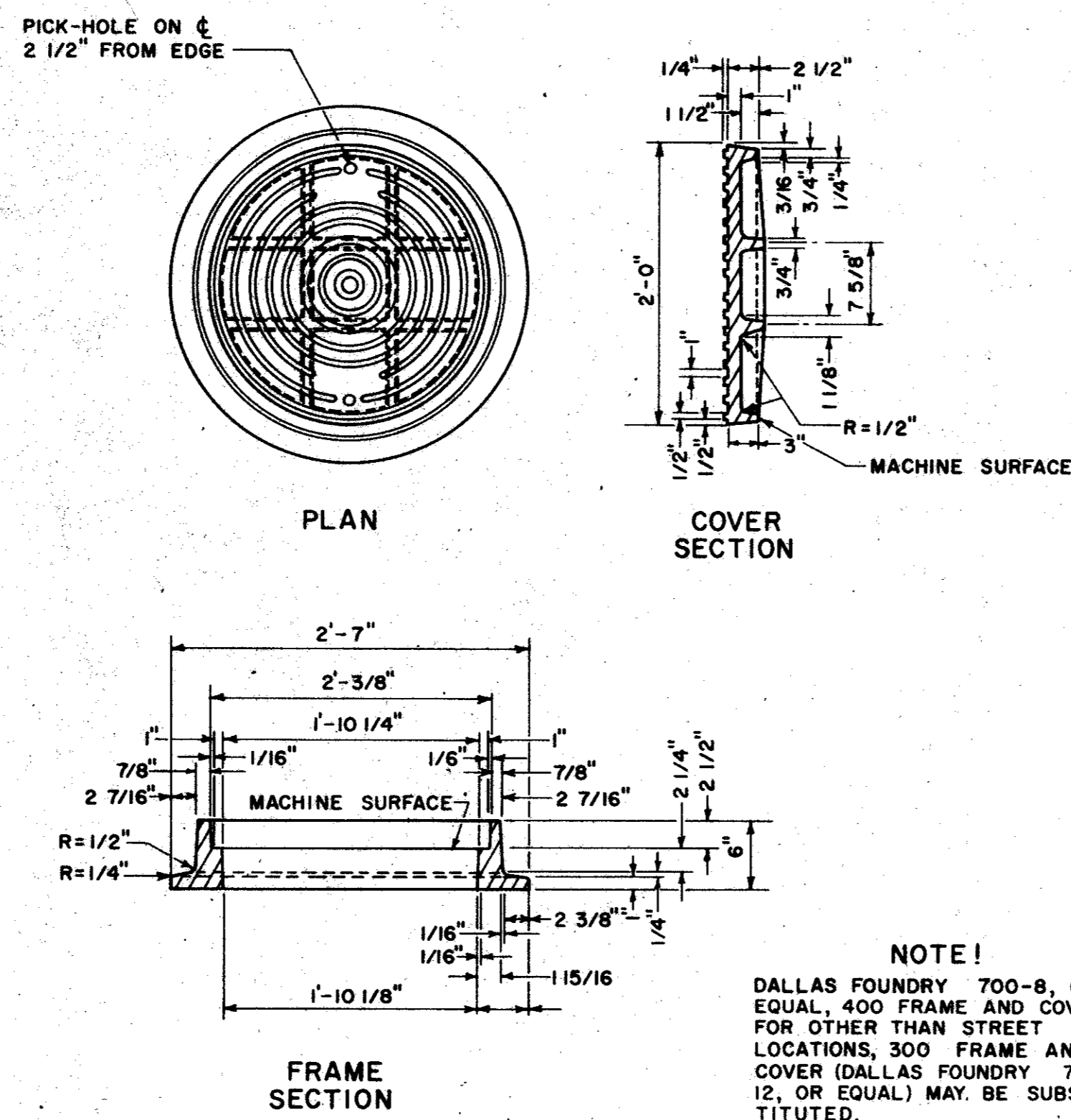
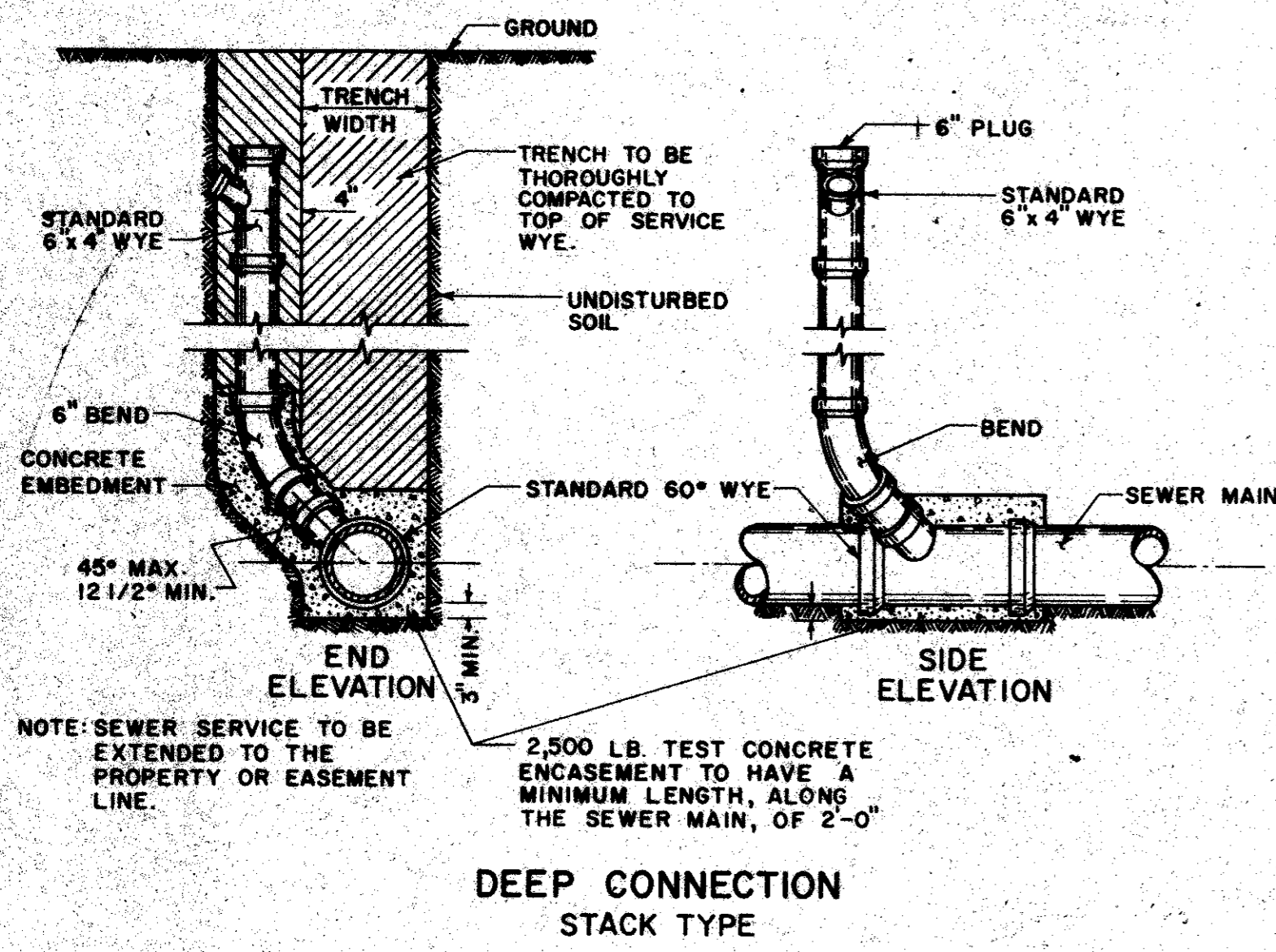
CONC. BASE BLOCK (POURED) LENGTH: 2'-0" MIN. WIDTH: NORMAL TRENCH

NO.	ADDED VALVE SETTING AND BOX	DATE	BY
	REVISION		

**CITY OF FARMERS BRANCH, TEXAS**  
 PUBLIC WORKS DEPARTMENT  
 ENGINEERING DIVISION

**WATER SERVICE AND MAIN DETAILS**

DRAWN BY: GHA APPROVED BY: \_\_\_\_\_  
 DESIGNED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 PROJECT NO.: \_\_\_\_\_ SCALE: \_\_\_\_\_ SHEET 64 OF 66

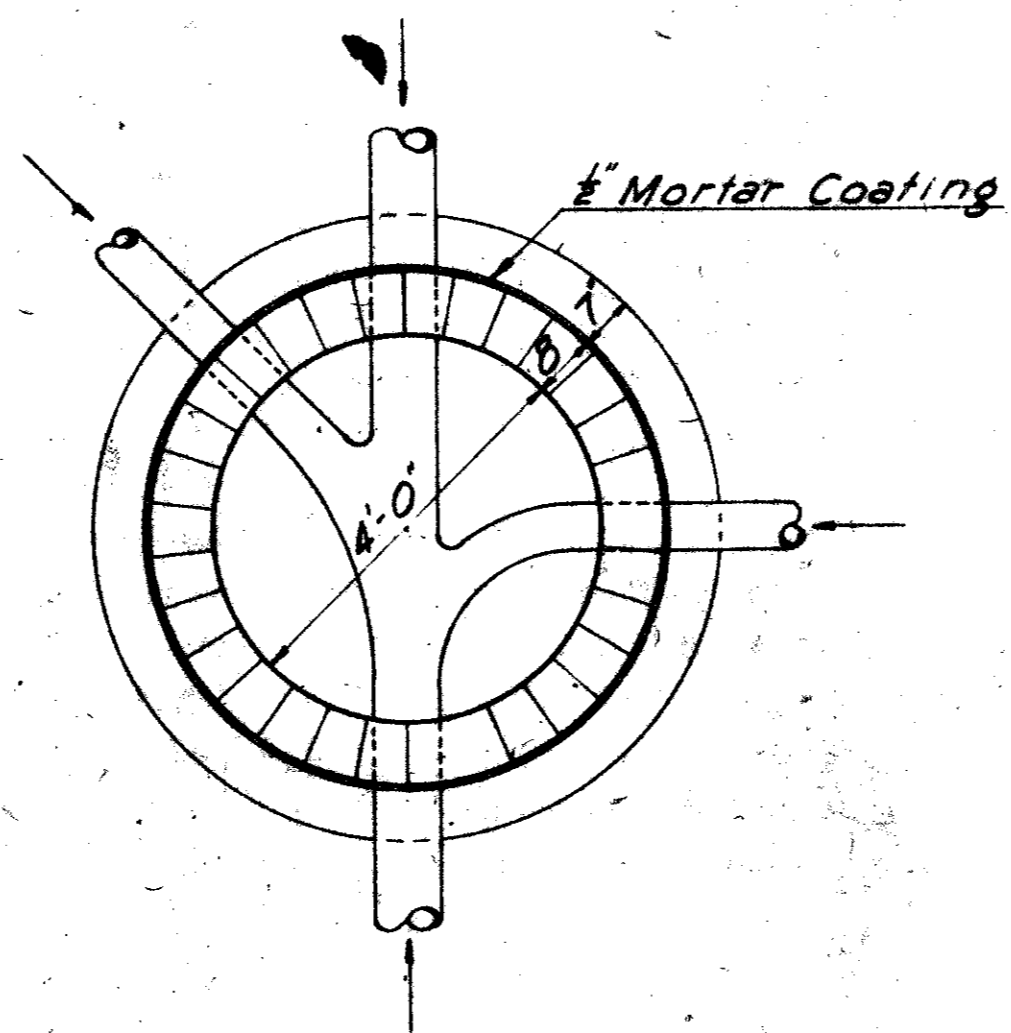


NO.	REVISION	BY	DATE
<b>CITY OF FARMERS BRANCH, TEXAS</b>			
PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION			
<b>SANITARY SEWER SERVICE AND MAIN DETAILS</b>			
DRAWN BY <i>J.M. Cerda</i>		APPROVED BY _____	
DESIGNED BY _____		DATE _____	
PROJECT NO. _____	SCALE: None	SHEET 65	OF 66

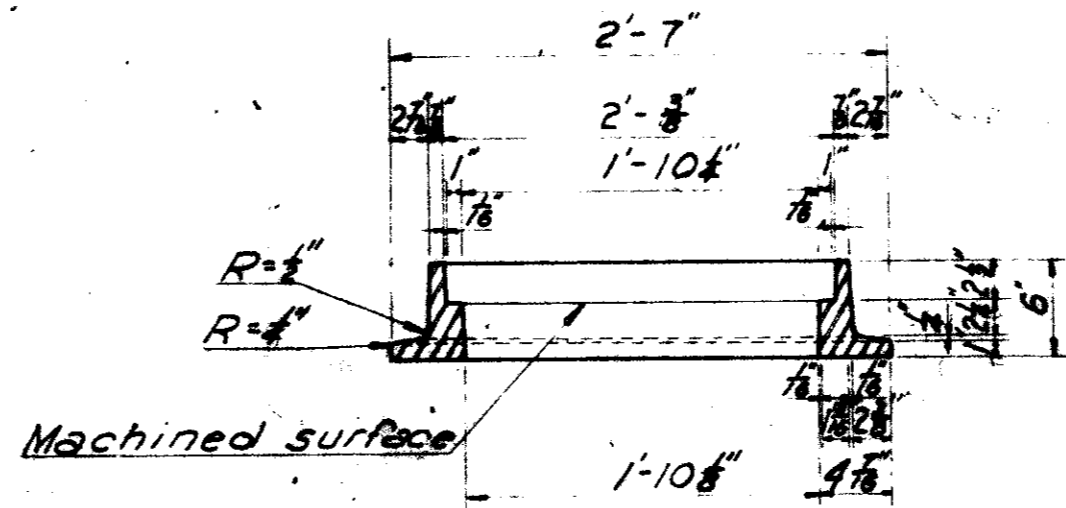
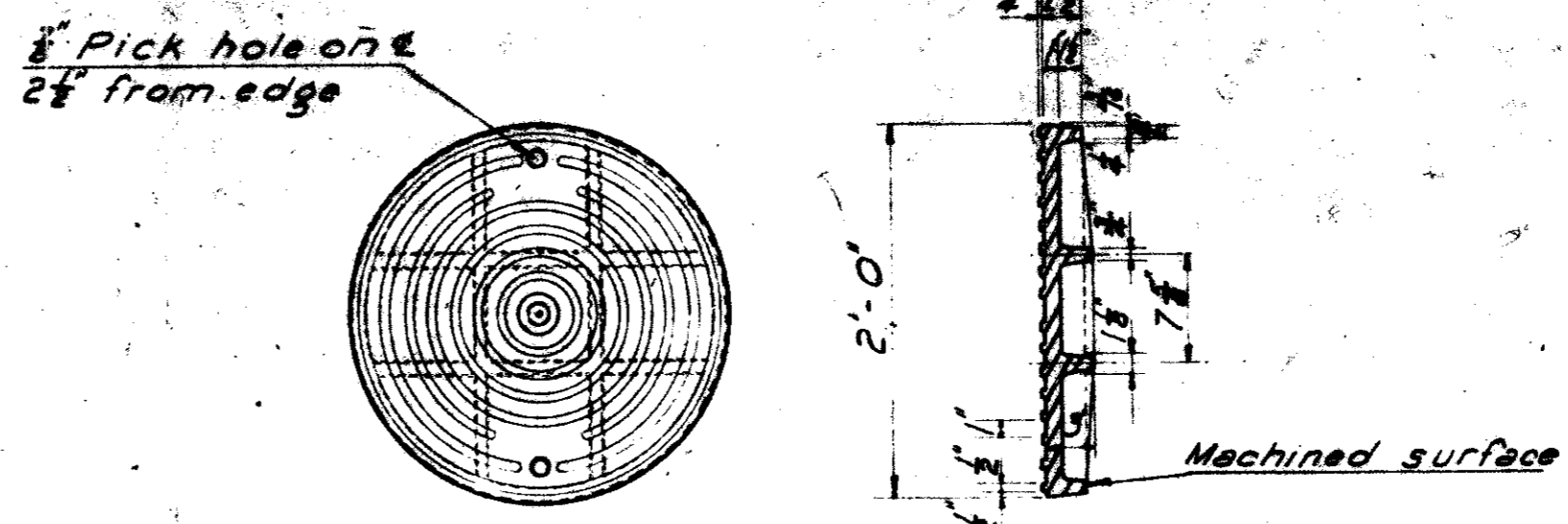
**NOTE:**  
**ALL MANHOLES**  
 In earth excavation diameter of base of manholes shall not be less than 6'-6" and in rock excavation 4'-0" plus wall thicknesses in all cases the base shall be poured the full width of the excavation.

Concrete cradle shall be provided for influent and effluent piping until firm bearing on undisturbed soil is maintained.

MANHOLE MINIMUM DIAMETER	
PIPE SIZE	DIAMETER
6"-8"-10"	4'-0"
12"-16"-18"	4'-6"
21"-24"-27"	5'-0"
30"	5'-6"
36"	6'-0"

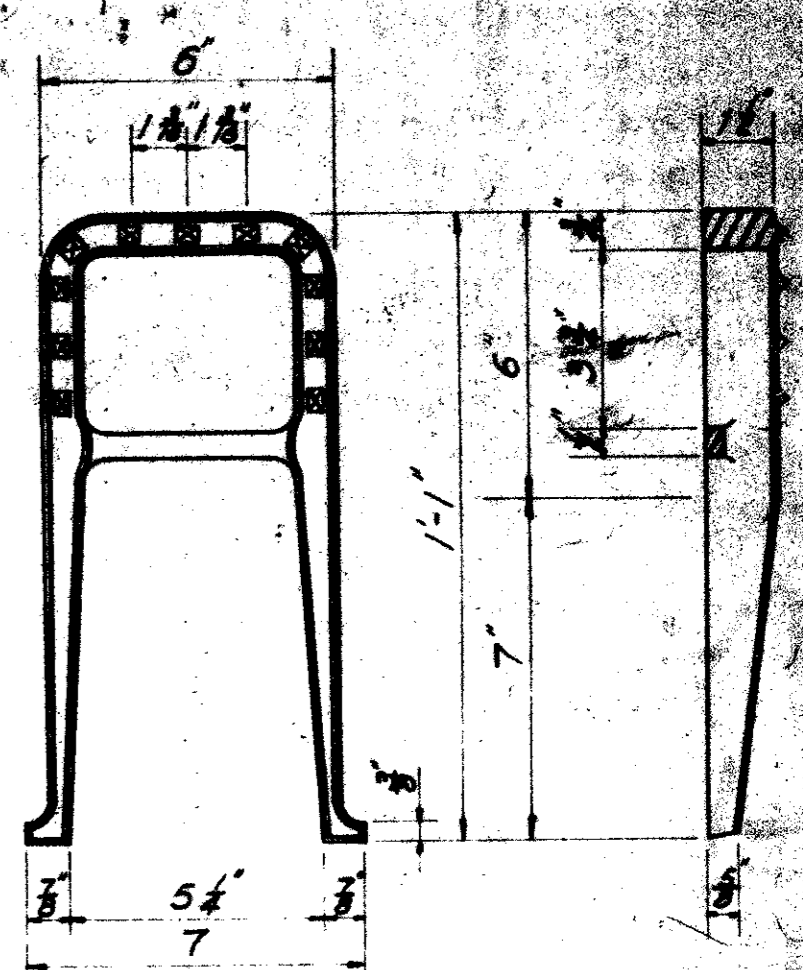


TYPICAL PLAN

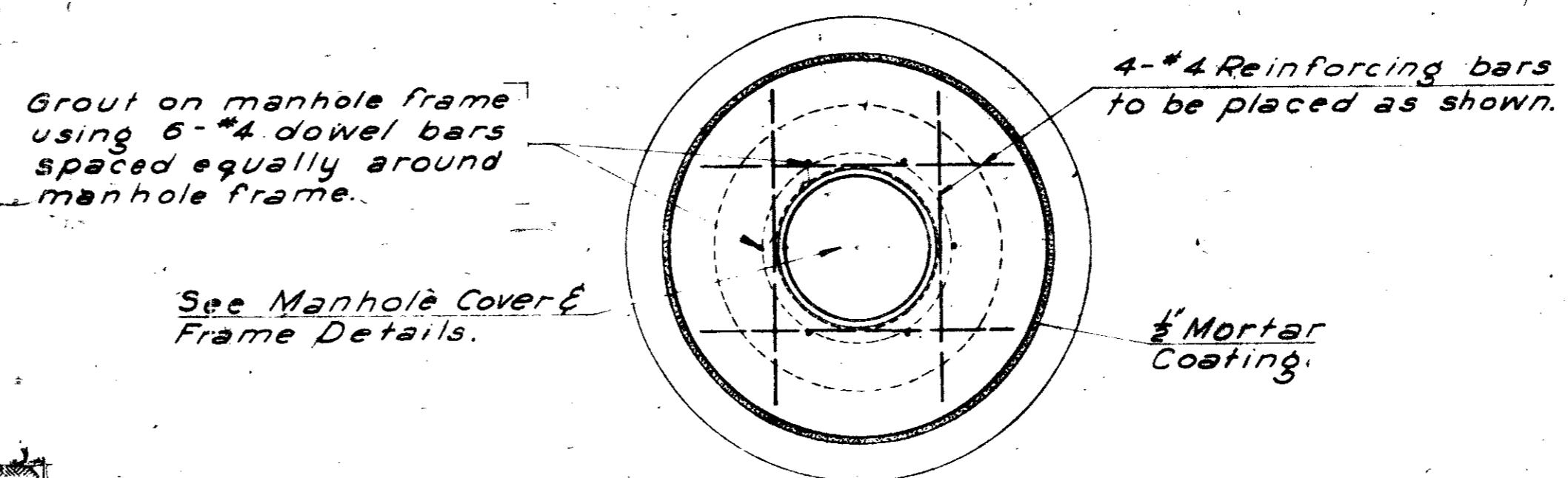


**NOTE:**  
 Dallas Foundry #700-8, or equal, 400# frame & cover. For other than street locations, 300# frame & cover (Dallas Foundry #700-12, or equal) may be substituted.

MANHOLE FRAME and COVER



MANHOLE STEP



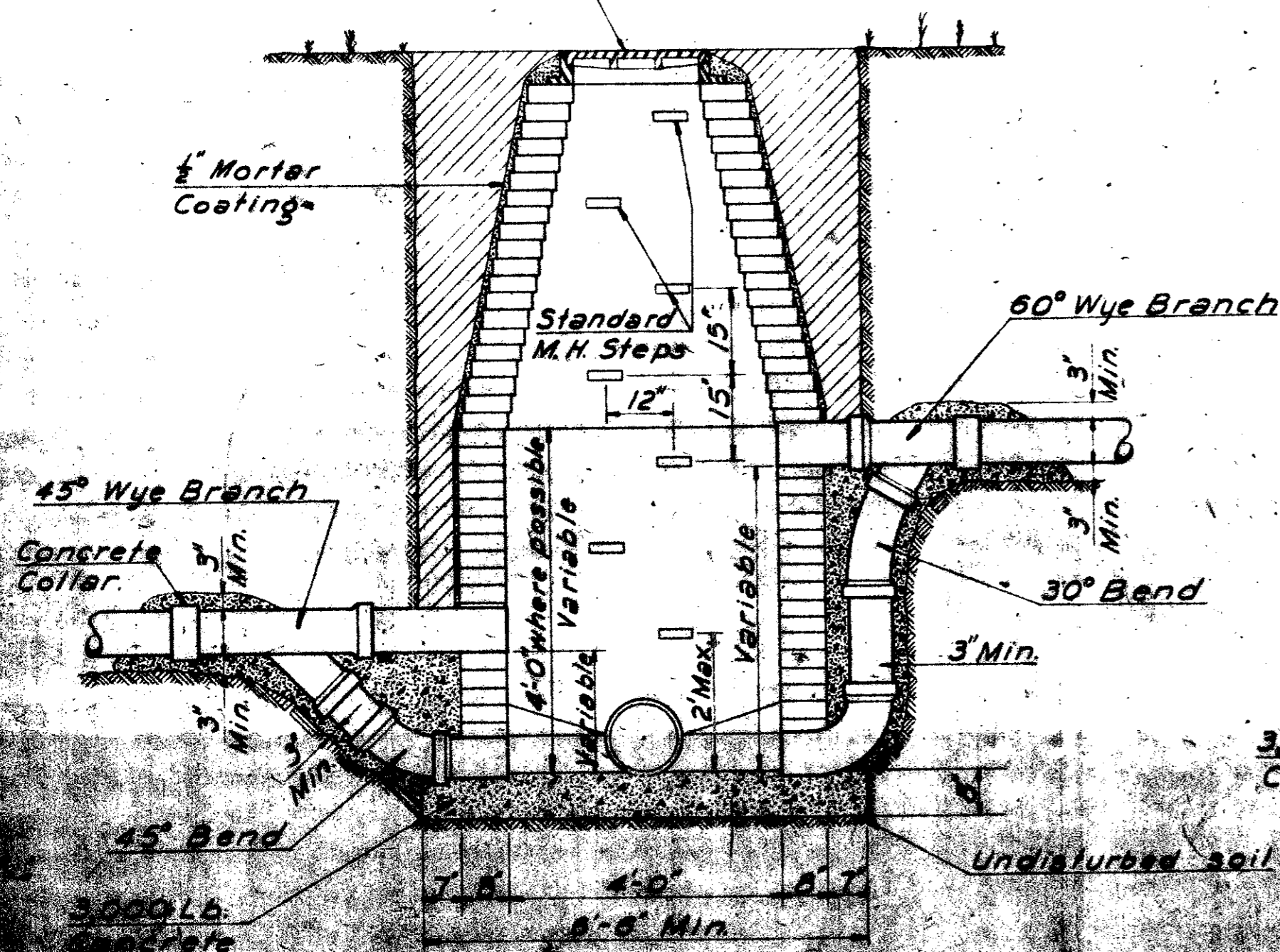
ROOF SLAB PLAN

See Manhole Cover & Frame Details.

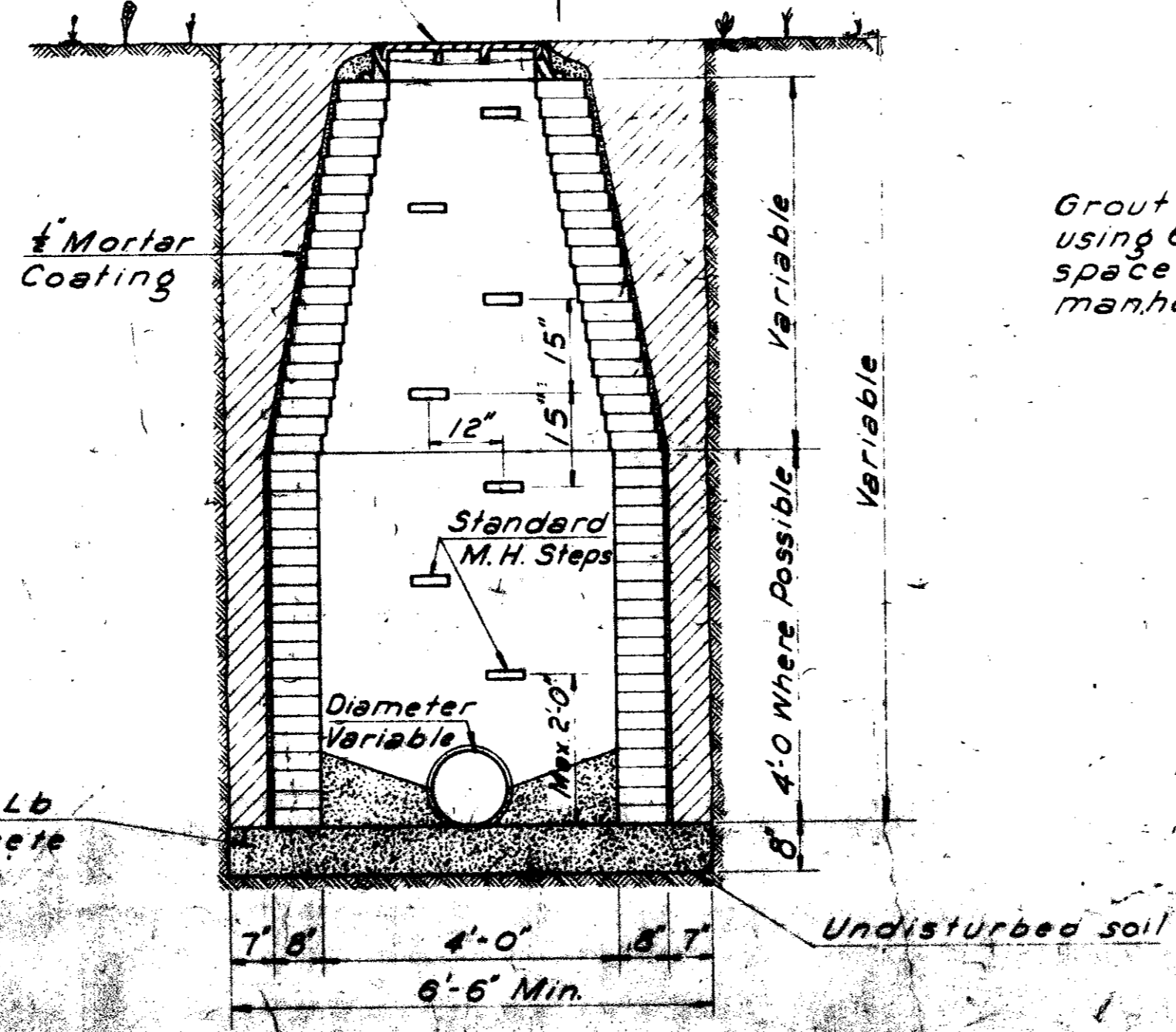
See Manhole Cover & Frame Details.

See Manhole Cover & Frame Details.

See Manhole Cover & Frame Details.



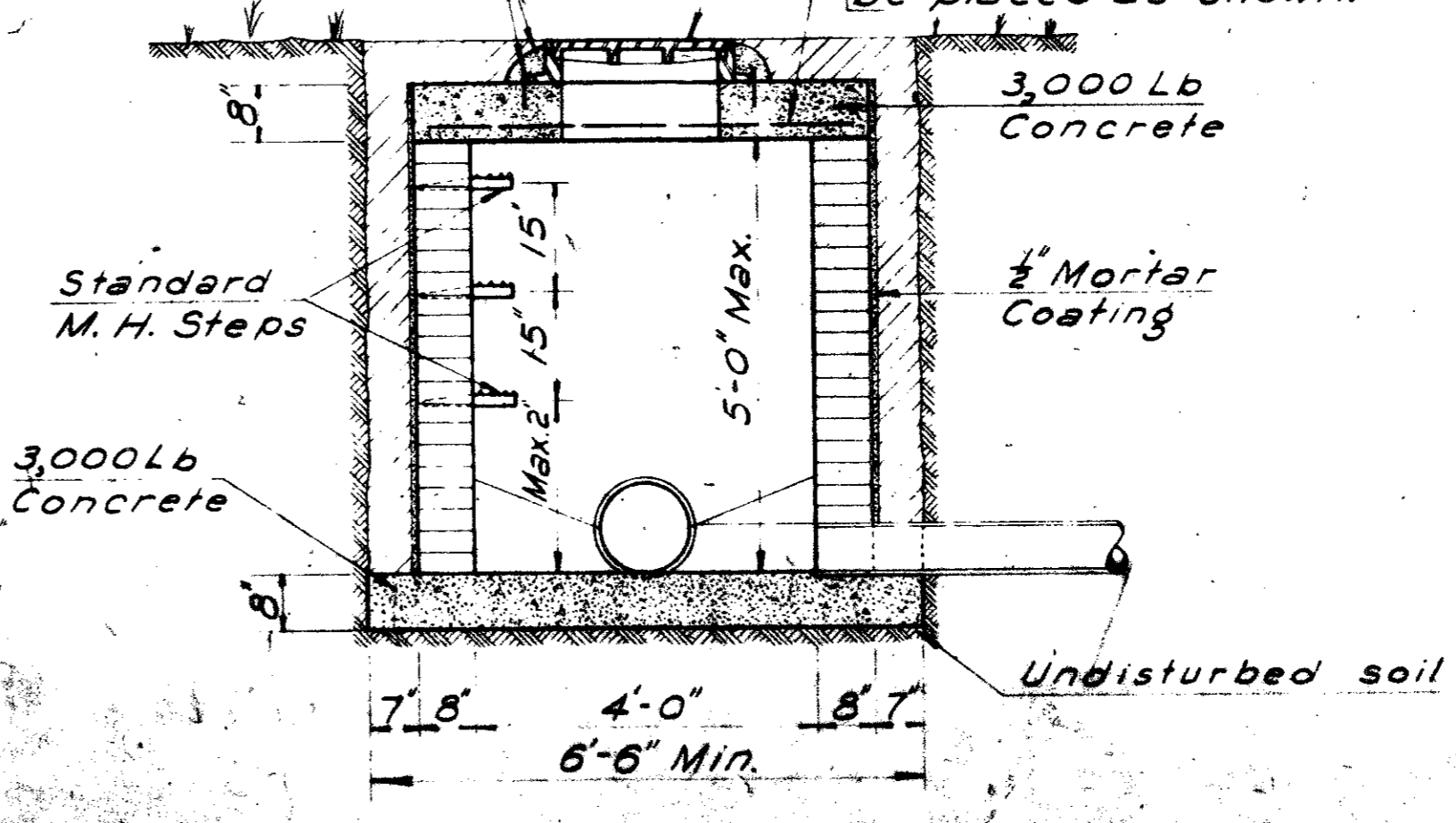
DROP MANHOLE



STANDARD MANHOLE

Grout on manhole frame using 6 #4 dowel bars spaced equally around manhole frame.

See Manhole Cover & Frame Details.



SHALLOW MANHOLE

NO.	REVISION
CITY OF FARMERS BRANCH, TEXAS	
PUBLIC WORKS DEPARTMENT	
ENGINEERING DIVISION	
SANITARY SEWER	
MANHOLE DETAILS	
DESIGNED BY	APPROVED BY
DATE	DATE
PROJECT NO.	SCALE
	SHEET 66 OF 66