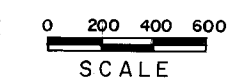


TRAMWAY CHANNEL CROSSING AT SPAIN ROAD N.E.

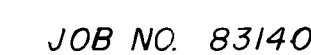


SHEET	DRAWING
1.	TITLE SHEET
2.	TRAMWAY CHANNEL PLAN & PROFILE
3.	SPAIN ROAD N.E. PLAN & PROFILE
4.	CONCRETE BOX CULVERT DETAILS
5.	CONCRETE WINGWALL DETAILS
6.	RAILING & GUARD RAIL CONNECTION DETAILS
7	CROSS SECTIONS TRAMWAY CHANNEL

1. All work detailed on these plans to be performed under contract shall, except as otherwise stated or provided for herein be constructed in accordance with the New Mexico Standard Specifications for Public Works Construction 1979 Edition (referred to herein as the Standard Specifications) and the Contract Documents for City Wide Utilities and Cash Paying No. 91 - PUBLIC WORKS CONTRACT NO. 88-1.
2. Two (2) working days prior to any excavation, contractor must contact Line Locating Service, 765-1234 , for location of existing utilities.
3. Prior to construction, the contractor shall excavate and verify the horizontal and vertical locations of all obstructions. Should a conflict exist, the contractor shall notify the engineer so that the conflict can be resolved with a minimum amount of delay.

26 1976 0184

CITY OF ALBUQUERQUE MUNICIPAL DEVELOPMENT DEPARTMENT ENGINEERING DIVISION					
TITLE: TRAMWAY CHANNEL CROSSING AT SPAIN ROAD N.E.					
TITLE SHEET					
APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
City Engineer	<i>C. H. [Signature]</i>	1/16/04	Liquid Waste	<i>W.D. [Signature]</i>	1-23-04
A.C.E. - Design	<i>[Signature]</i>	2/5/04	Traffic	<i>[Signature]</i>	1/28/04
A.C.E. - Hydrology	<i>[Signature]</i>	1/20/04	Water	<i>W.D. [Signature]</i>	1-23-04
DRAWING NO. 1976	MAP E-22		SHEET 1		OF 7

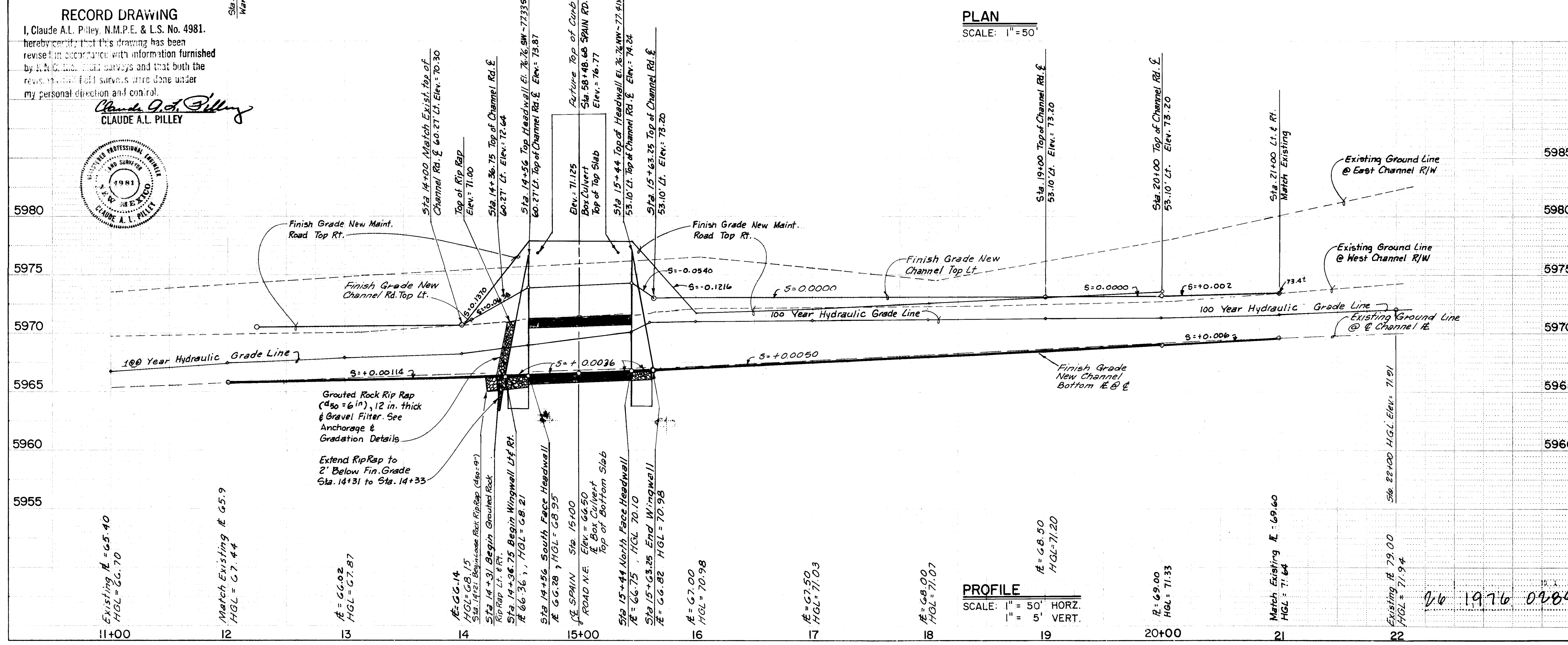
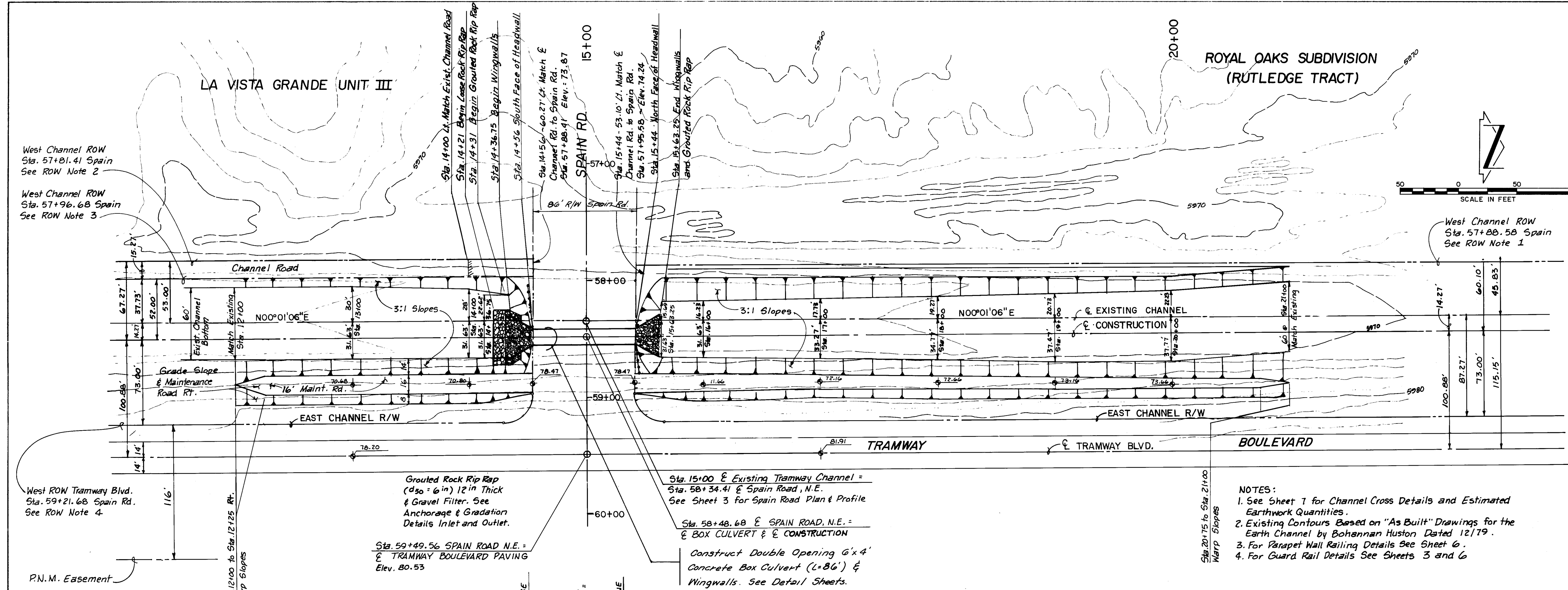


APPROVED FOR
CONSTRUCTION
C. W. Shupp 3/9/82

APPROVED BY A.M.A.F.C.A.
Richard E Leonard
EXECUTIVE ENGINEER DATE

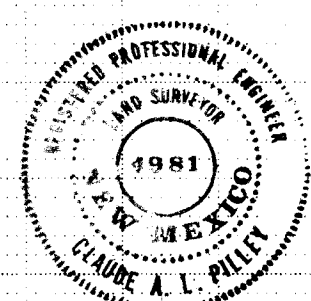
1976

AT 224801



RECORD DRAWING
I, Claude A.L. Pilley, N.M.P.E. & L.S. No. 4981,
hereby certify that this drawing has been
revised in accordance with information furnished
by the client and that both the
revisions and full surveys were done under
my personal direction and control.

Claude A.L. Pilley
CLAUDE A.L. PILLEY



LEGEND

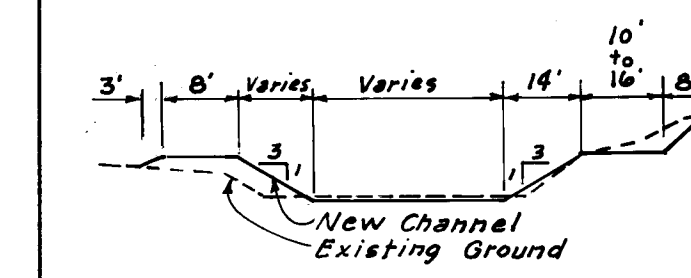
ROUTED RIP RAP

GUARD RAIL

EXISTING CONTOURS

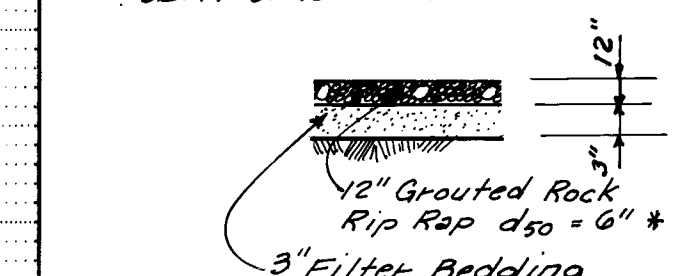
EMBANKMENT SLOPE

- RIGHT-OF-WAY NOTES**
1. Taken from Misc. Book 797 pages 579 to 582.
 2. Taken from La Vista Grande Unit II Subdivision Plat C17-122.
 3. Taken from Misc. Book 797 pages 574 to 578.
 4. Taken from Summary Plat of a portion of the Elena Gallegos Grant C19-183 and quitclaim deed for Panorama (Tramway) Boulevard Misc. Book D 831 pages 921 to 926.



TYPICAL SECTION
NOT TO SCALE

* Thicken to 24" for the South 2' of the downstream end Sta. 14+31 to Sta. 14+33



RIP RAP DETAIL
NOT TO SCALE

Size	% Pass	Filter Bedding	% Pass
12"	100	1/2"	85-95
8"	30-70	1/4"	70-85
4"	10-35	3/8"	30-75
2"	0-10	3/16"	10-60
		1/8"	5-50
		1/16"	0-30

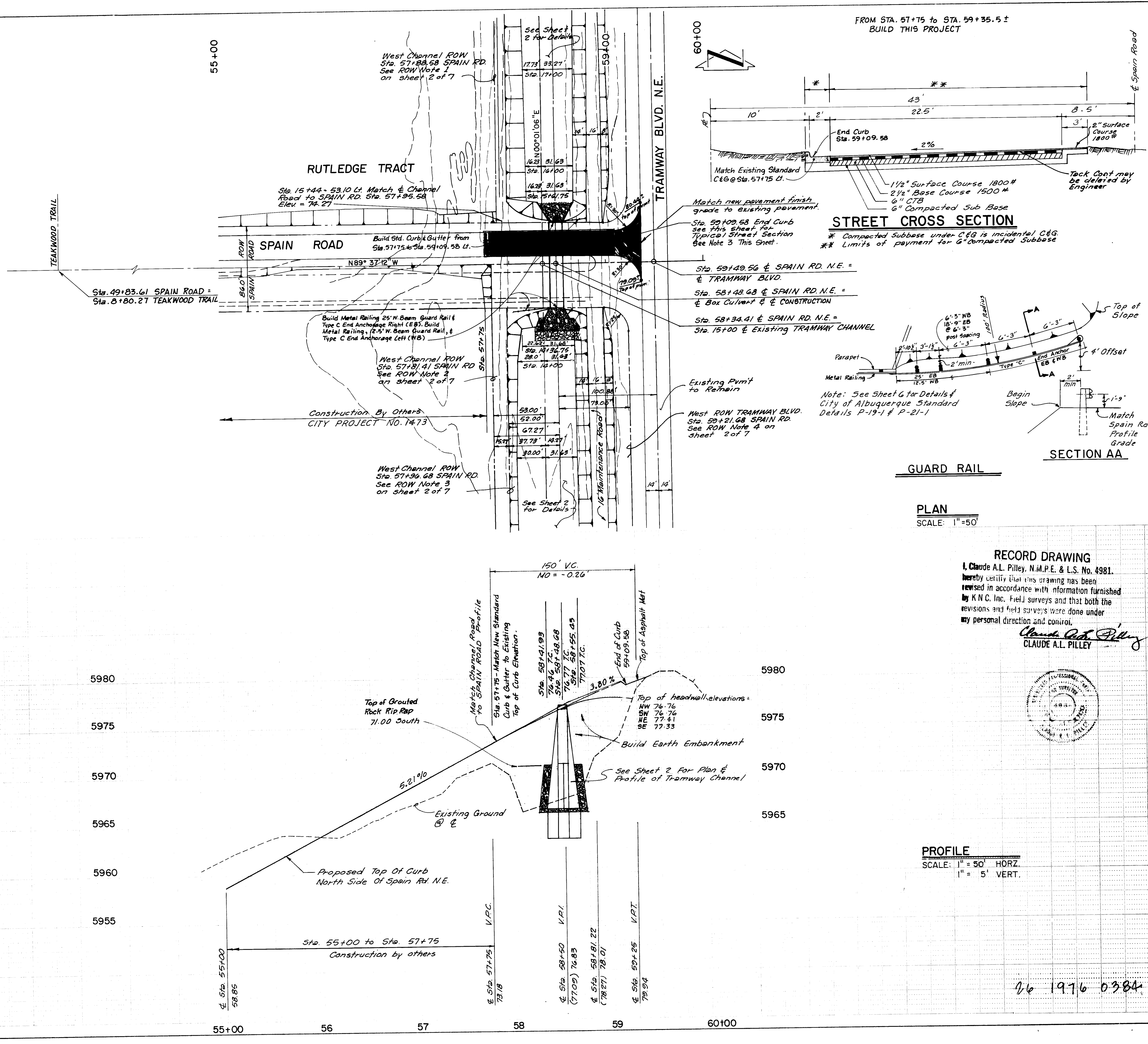
** Build Loose Rock RipRap d50 = 9" Sta. 14+21 to Sta. 14+31 See Sheet 3

APPROVED BY A.M.A.F.C.A.
Richard E. Leonard 1/21/84
EXECUTIVE ENGINEER DATE

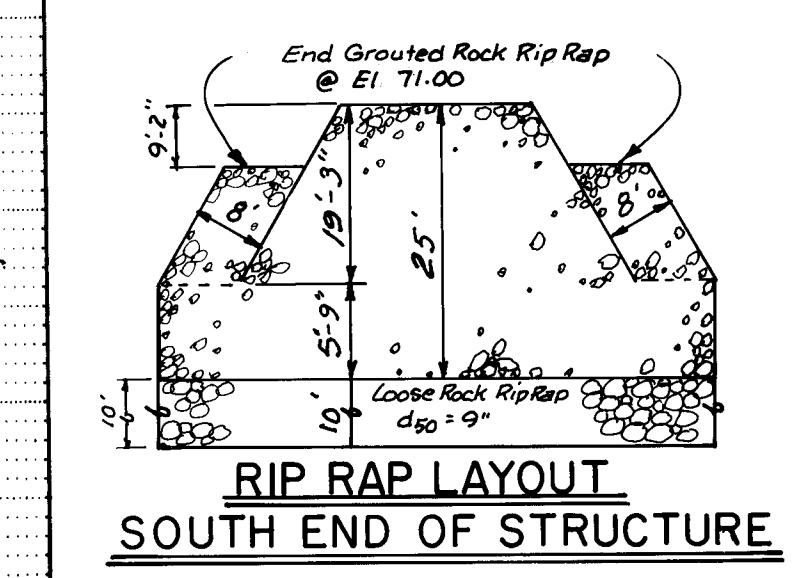
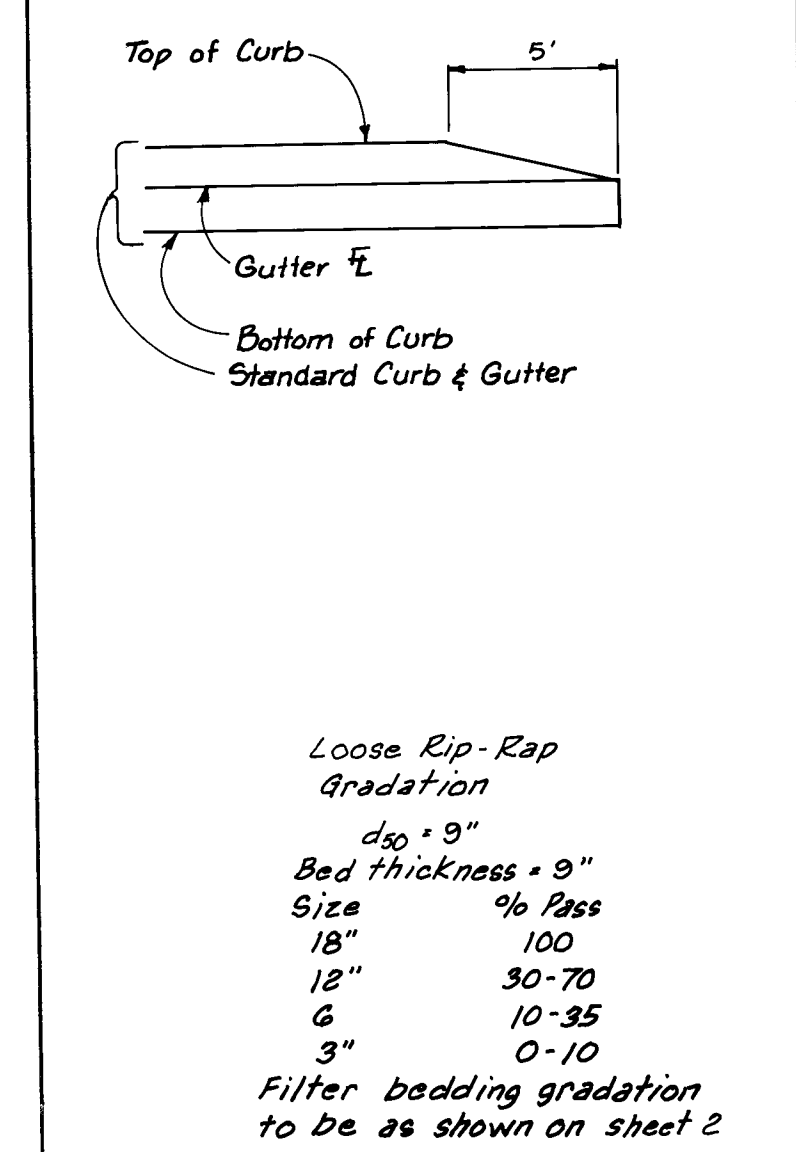
CITY OF ALBUQUERQUE MUNICIPAL DEVELOPMENT DEPARTMENT ENGINEERING DIVISION					
TITLE: TRAMWAY CHANNEL PLAN & PROFILE					
APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
City Engineer	<i>C. H. Leonard</i>	1/20/84	Liquid Waste	NA	12-28-83
A C E - Design	<i>R. E. Leonard</i>	1/20/84	Traffic	NA	1/1/84
A C E - Hydrology	<i>John Smith</i>	1/20/84	Water	NA	12-28-83
DRAWING NO. 1976		MAP NO. E-22		SHEET 2 OF 7	

12/01

AF 224001



- NOTES:
- The design of Spain Road was taken from plans prepared by Academy Engineering, Inc., Albuquerque N.M., James E. Blackwell, PE #7145. Those plans were previously approved for construction by C.D. Sheppard, Acting City Engineer on 9-7-83.
 - Refer to Drawing No. 1473 sheet 19 of 19, map F-22, titled Spain Road Paving, Peppertree Subdivision Unit I, Phase I.
 - Transition top of curb from Sta. 59+04.58 to gutter at Sta. 59+09.58 to eliminate blunt end of curb.



APPROVED BY A.M.A.F.C.A.
Richard E. Leonard
EXECUTIVE ENGINEER DATE

CITY OF ALBUQUERQUE MUNICIPAL DEVELOPMENT DEPARTMENT ENGINEERING DIVISION				
TITLE: SPAIN ROAD N.E. PLAN & PROFILE				
APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER
City Engineer	<i>C. D. Sheppard</i>	1/10/84	Liquid Waste	<i>NA</i>
A.C.E. Design	<i>Phillip</i>	2/2/84	Traffic	<i>Phillip</i>
A.C.E. Hydrology	<i>Jim</i>	1/20/84	Water	<i>NA</i>
DRAWING NO.	1976	MAP NO.	E-22	SHEET 3 OF 7

BAR BENDING DIAGRAM

4# V1	8"	1'-5" Lg.	4# S1	1'-4"	2 Each *
to 4# V8	By 2'-3"	By 2'-3"	to 4# S13	By 1 3/8"	2 Each *
6# V9	6'-8"	7'-10"	6# S14	2'-10"	6 Each *
to 6# V13	By 2'-3"	By 2'-3"	to 6# S25	By 1 3/8"	6 Each *
4# V6	2'-2"	3'-2" Lg.	6# S25	4'-0 5/8"	6 Each *
6# V6	2'-9"	3'-11" Lg.	6# S25	3'-5"	6 Each *
6# Vc	4'-1"	5'-6" Lg.	6# S25	3'-5"	10 Each *
6# Vd	6'-2"	7'-7" Lg.	6# S25	3'-5"	6 Each *

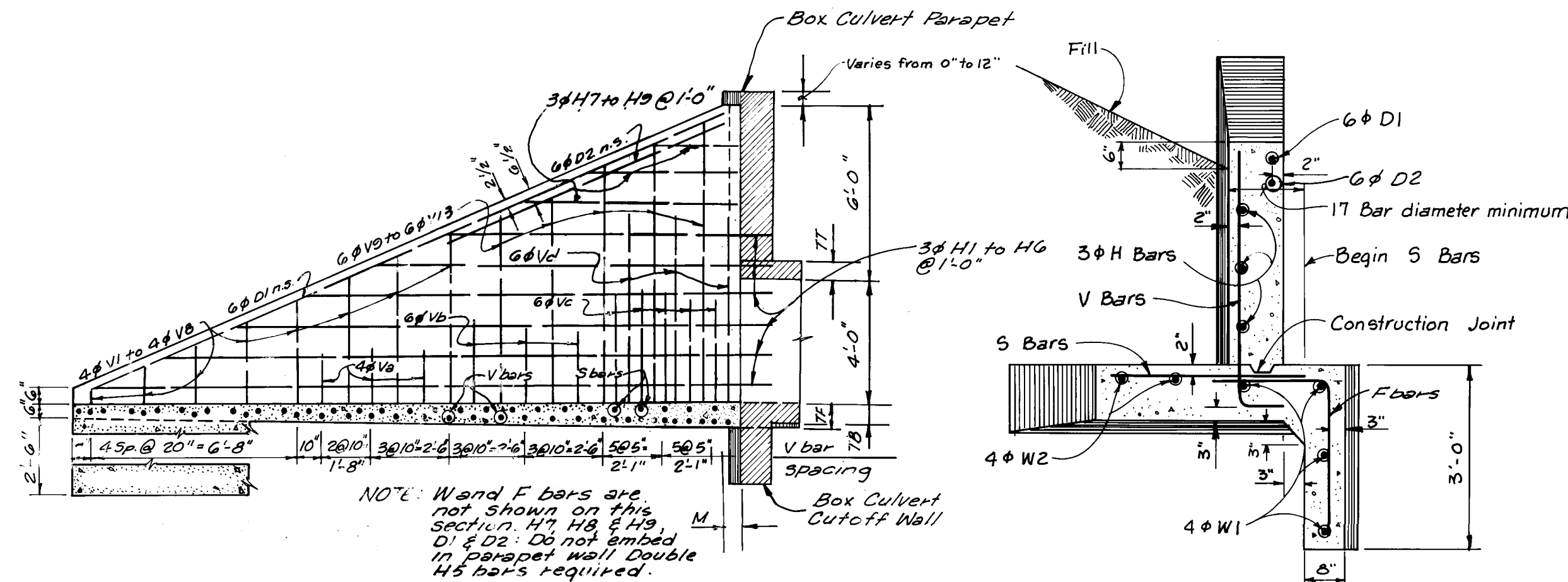
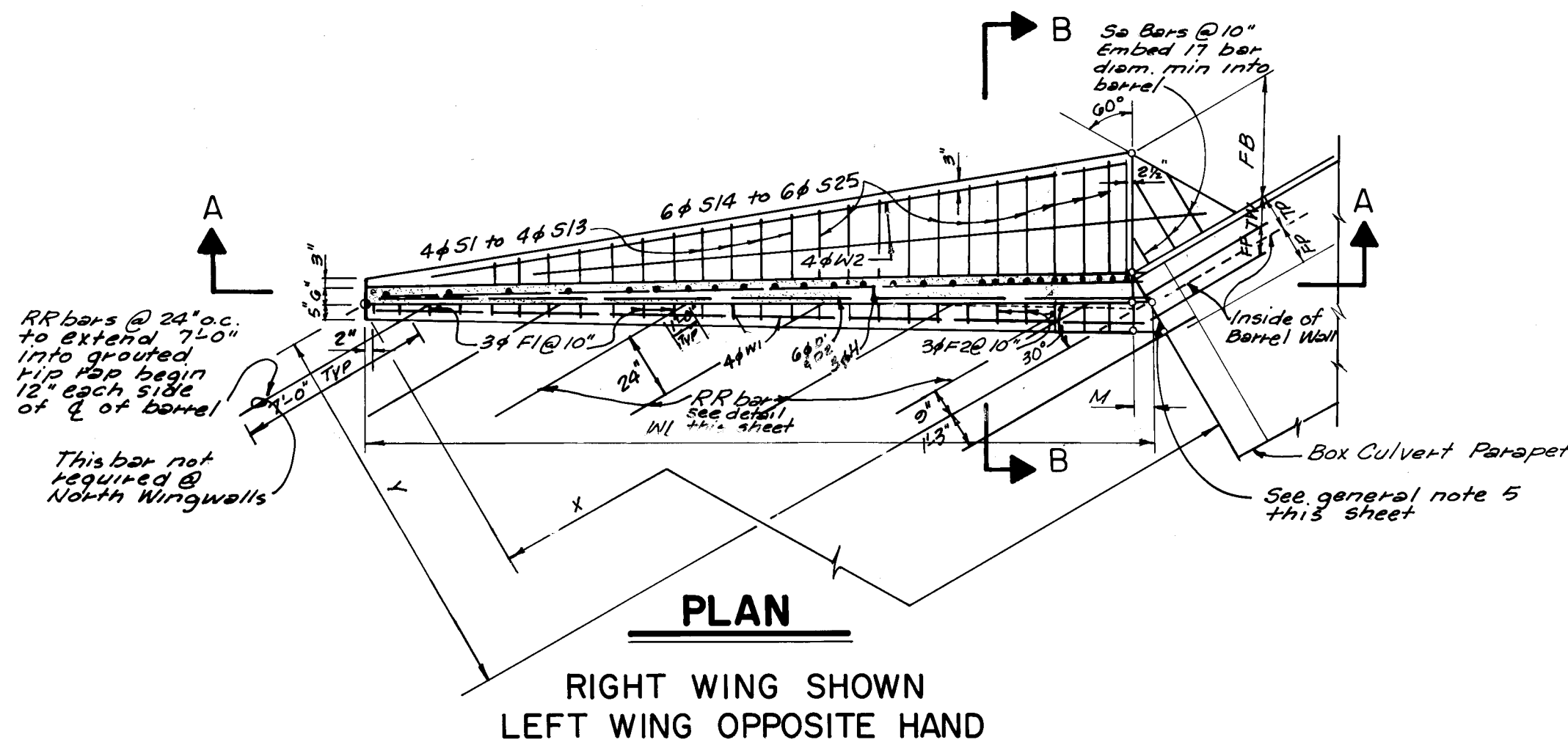
4# W2	21'-6"	4 Each *	4# W1	23'-6"	8 Each *
4# RR	8'-0"	16 Each * (South) 14 Each * (North)		25'-0" Lg.	

3# F1	9"	3'-6" Lg.	3# F2	1'-9"	4'-6" Lg.
	42 Each *			12' Each *	

3# H1	4'-0"	5'-6" Lg.	3# H6	15'-3"	2 Each *
to 3# H6	By 2'-3"	By 2'-3"	to 3# H6	By 2'-3"	2 Each *
3# H7	17'-6"		3# H8	19'-6"	2 Each *
3# H8	19'-6"		3# H9	21'-9"	2 Each *
3# H9	21'-9"				

6# D1	23'-3"	2 Each *	6# D2	17'-9"	2 Each *
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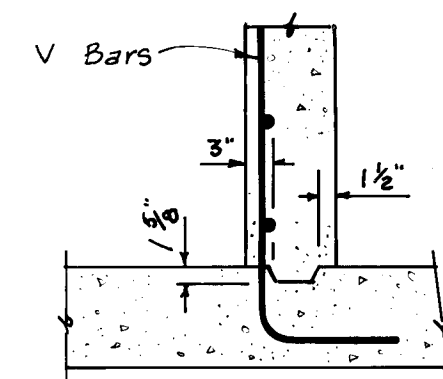
* Reinforcing steel requirements and quantities are tabulated for the two wings at one end of the culvert.



SECTION A-A

SECTION B-B

NOTE: Wingwalls may be built with a uniform thickness of TW throughout their entire length, providing vertical reinforcing in back face is kept 2" from back face of the concrete and the back of the footing is kept at least wide enough to prevent the wall from projecting beyond the footing and providing this modification is made at no additional cost to the Owner.



CONSTRUCTION JOINT DETAIL

2.6 1976 0584

H	4'
WL	22'-2 3/4"
X	19'-3"
Y	11'-1 3/8"
TW	8 1/2"
FF	1'-3"
FB	3'-1 1/2"
TF	10 1/2"
M	4 15/16"
TP	9 13/16"
FP	1'-6 9/16"
TT	7"
TB	8"
HP	6'-4"

GENERAL NOTES

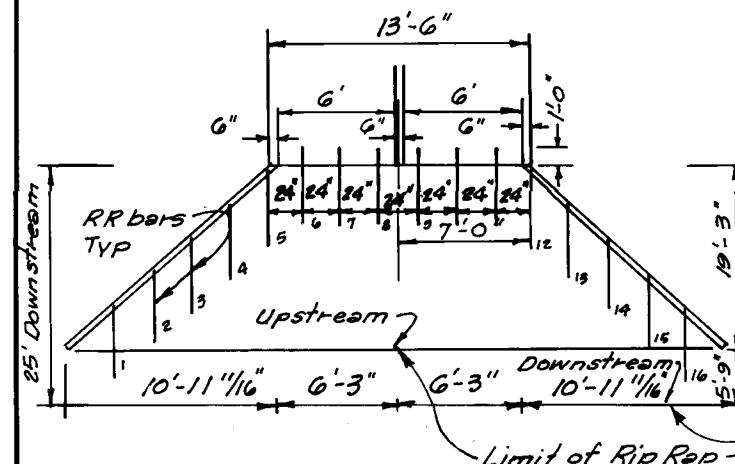
- All reinforcing steel shall conform to A.S.T.M. specification A 615, grade 40.
- Chamfer all exposed concrete edges 1/2".
- Reinforcing bars may be spliced where necessary to avoid excessive lengths of bars. Splices shall lap a minimum of 20 bar diameters.
- Dimensions to reinforcing steel refer to bar. Cut bars to nearest 1" length; use shorter length when detailed length falls at 1/2".
- Wingwalls are to be placed monolithic with barrel from the flowline of the box culvert to a point 5'-9" above the flowline. Above this point, the wingwall shall be separated from the parapet wall with a 1/2" expansion joint.

DESIGN DATA

Design according to AASHTO Specification, 1973. Active earth pressure determined from Rankine's Formula. Weight of earth: 120#/ft.3. Fill Slope 2:1. Angle of internal friction: 34°. Design stresses: ft=3000 psi, fc=1200 psi, fs=20,000 psi, n=10. Maximum computed footing pressure = 2 tons per sq. ft. NMSHD Standard Drawing NO. WCB-0 Wingwalls for Normal Concrete Box Culverts

WING WALL ESTIMATED QUANTITIES

Two wings at one end:
Concrete = 12.22 c.y. ±
Reinforcing Steel = 1153 lbs. ± (South)
1142 lbs. ± (North)
Four wings:
Concrete = 24.44 c.y. ±
Reinforcing Steel = 2295 lbs. ±



RR BAR LAYOUT

APPROVED BY A.M.A.F.C.A.
Richard E. Leonard 1/25/84
EXECUTIVE ENGINEER DATE

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION

TITLE:
CONCRETE WINGWALL DETAILS

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
City Engineer	1/25/84	12-23-83	Liquid Waste	NA	12-23-83
A.C.E.-Design	1/25/84	1/15/84	Traffic	NA	1/15/84
A.C.E.-Hydrology	1/25/84	12-22-83	Water	NA	12-22-83

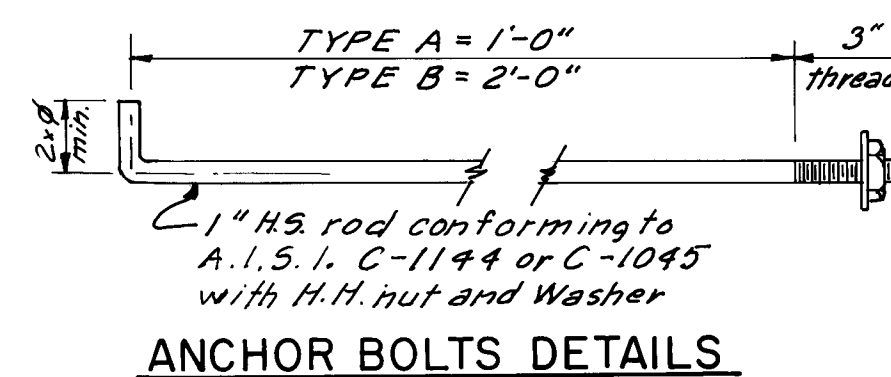
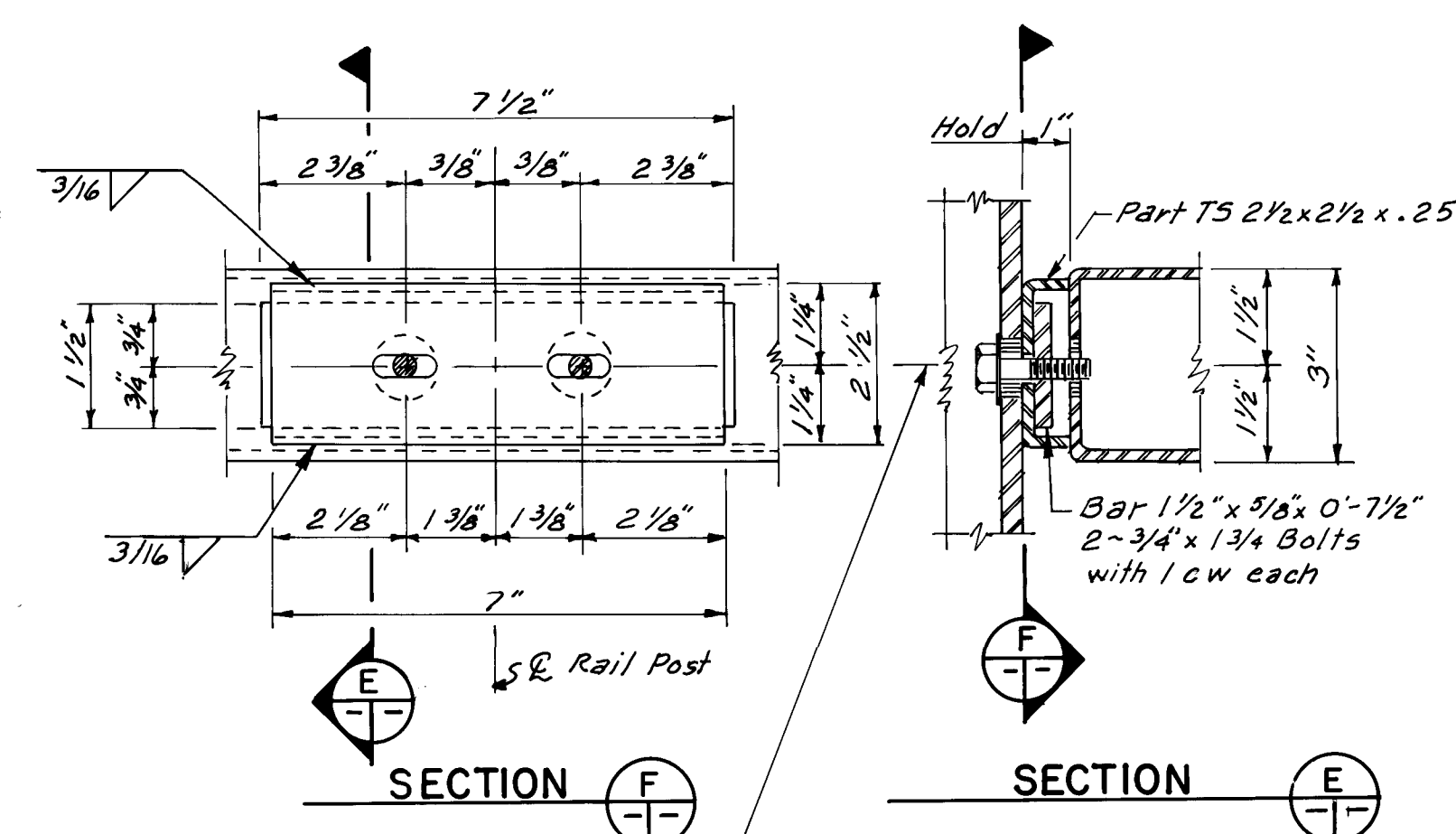
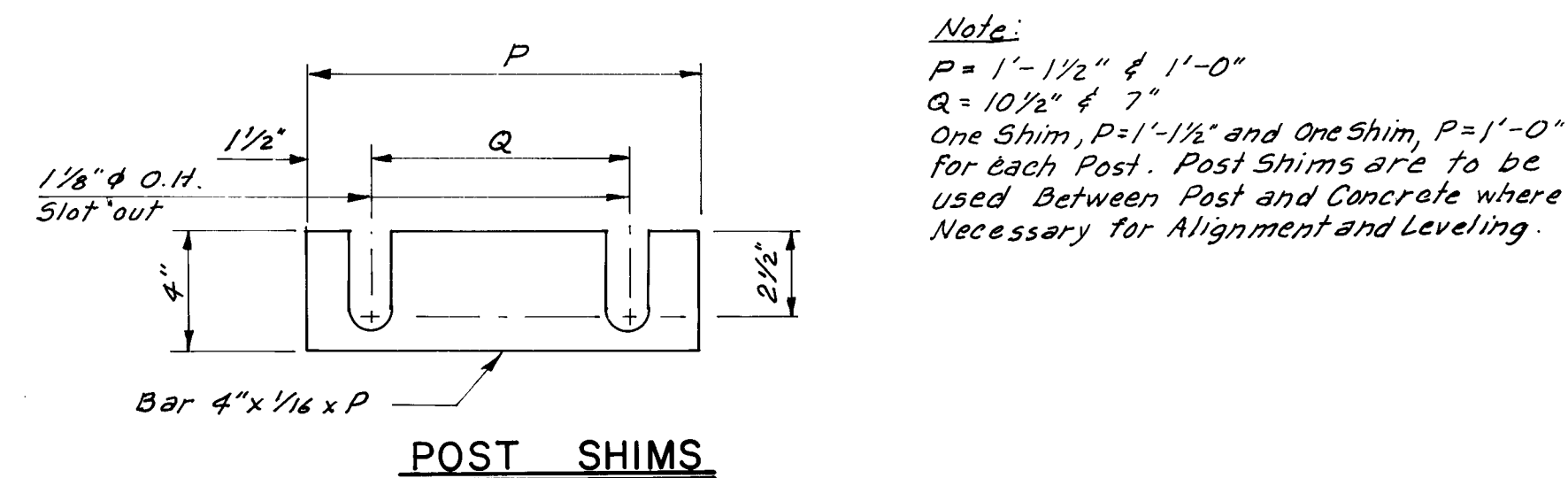
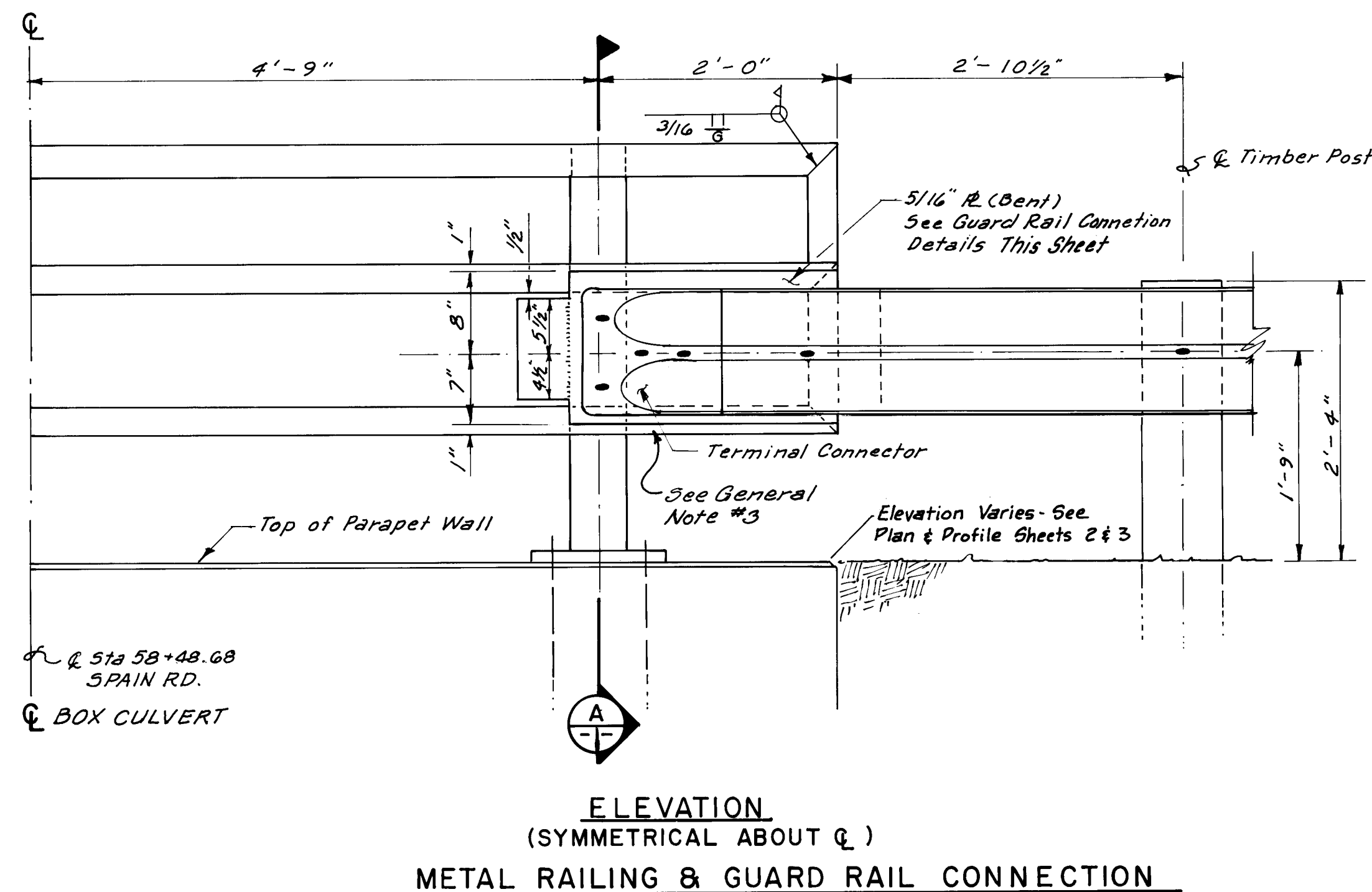
DRAWING NO.	1976	MAP NO.	E-22	SHEET	5	OF	7
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CONTRACTOR	DATE	INSPECTOR'S	DATE	FIELD	DATE	VERIFICATION	DATE	CORRECTION	DATE	RECORDED	DATE

ENGINEER'S SEAL	REVISIONS	BY	DATE

NO.	DATE	REMARKS

DESIGNED BY	CWT	DATE	12/23/83
DRAWN BY	SG	DATE	12/23/83
CHECKED BY	CEA	DATE	12/23/83



GUARD RAIL CONNECTION DETAILS

3. Guard rail Connection Plate shall be positioned on railing before welding to match Spain Road slope so that Guard Rail will match roadway grade.

ENGINEER'S SEAL			SURVEY INFORMATION		BENCH MARKS		AS BUILT INFORMATION	
			FIELD NOTES				CONTRACTOR	
			NO.	BY			WORKED BY	DATE
							INSPECTED BY	DATE
							ACCEPTANCE BY	DATE
NO. DATE REMARKS BY							FIELD VERIFICATION BY	
							DRAWINGS	
							CORRECTED BY	
							DATE	
DESIGNED BY CWT			DATE Dec. 1983				MICRO-FILM INFORMATION	
DRAWN BY DHW			DATE Dec. 1983				RECORDED BY	
							NO	

SCANLON & ASSOCIATES'

ORIGINAL	SURVEYED _____	BY _____	DATE _____
SURVEY	PLOTTED _____		
NOTE BOOK	TEMPLATE _____		
NO _____	AREAS _____		
	AREAS CHECKED _____		



DRAWING NO.	1976	MAP NO.	E-22	SHEET	7	OF	7
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ENGINEER'S SEAL		SURVEY INFORMATION		BENCH MARKS		AS BUILT INFORMATION	
	FIELD NOTES		DATE		CONTRACTOR		MICRO-FILM INFORMATION RECORDED BY NO
	NO.	BY			WORKED BY		
					INSPECTOR'S		
					ACCEPTANCE BY		
					FIELD		
REMARKS		DATE		NO.		DATE	
BY						DATE	
REVISIONS						DRAWINGS	
DESIGN						CHECKED BY	
DESIGNED BY		DATE				MICRO-FILM INFORMATION	
DRAWN BY		DATE				RECORDED BY	
CHECKED BY		DATE				NO	