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ALBUQUERQUE METROPOLITAN

ARROYO FLOOD CONTROL AUTHORITY

ALBUQUERQUE NEW MEXICO

EMBUDO ARROYO CHANNELIZATION

PHASE II

WILLIAM MATOTAN & ASSOCIATES
ENGINEERS

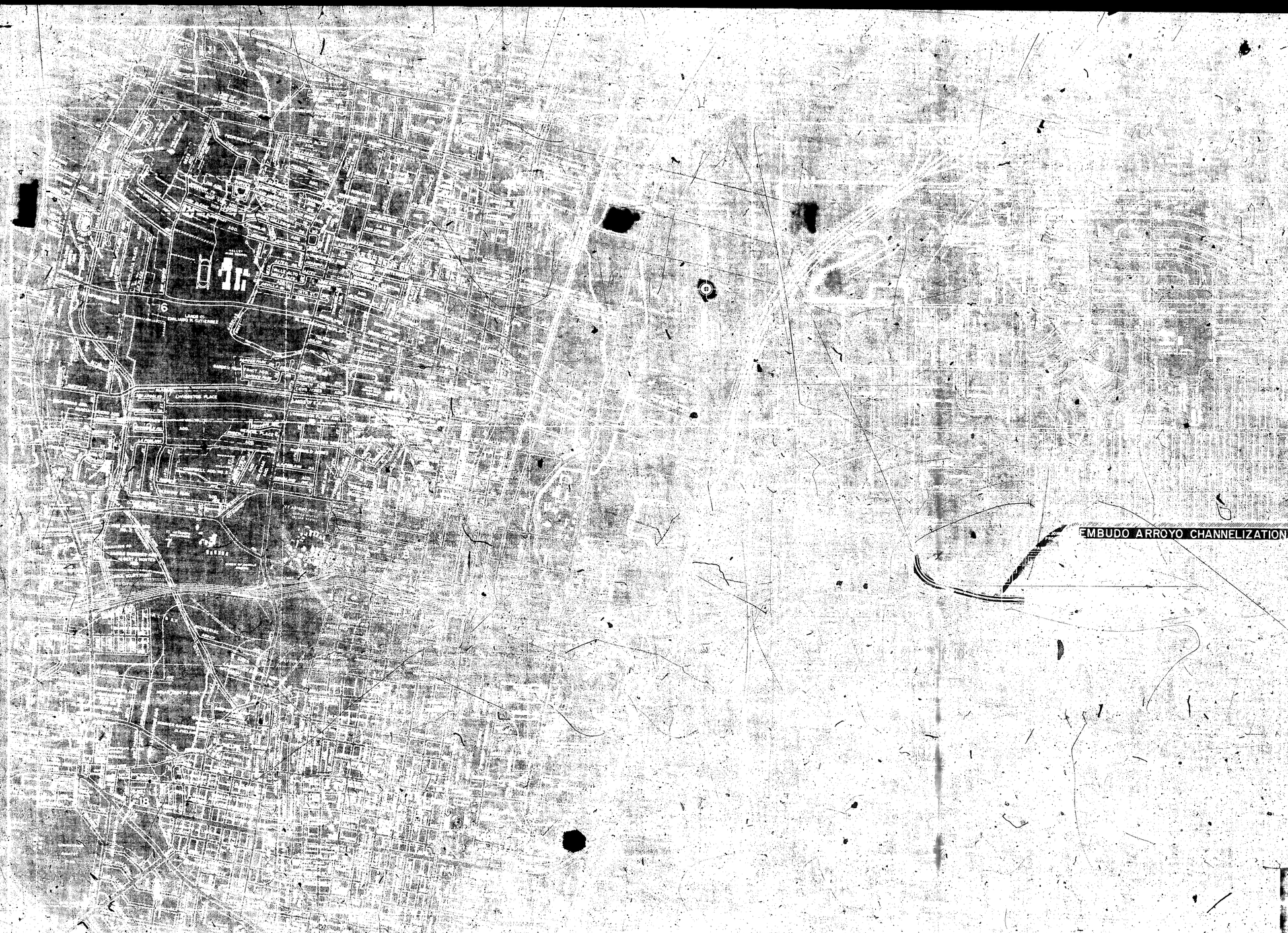
ALBUQUERQUE NEW MEXICO

REGISTERED PROFESSIONAL ENGINEER & L.S. STATE OF NEW MEXICO No. 1593 WILLIAM L. MATOTAN

William L. Matotan

1	2	3	4	5	6	7	8	9	10	11	12
0	8	0	0	1	0	1	1	0	1		

SET No._____

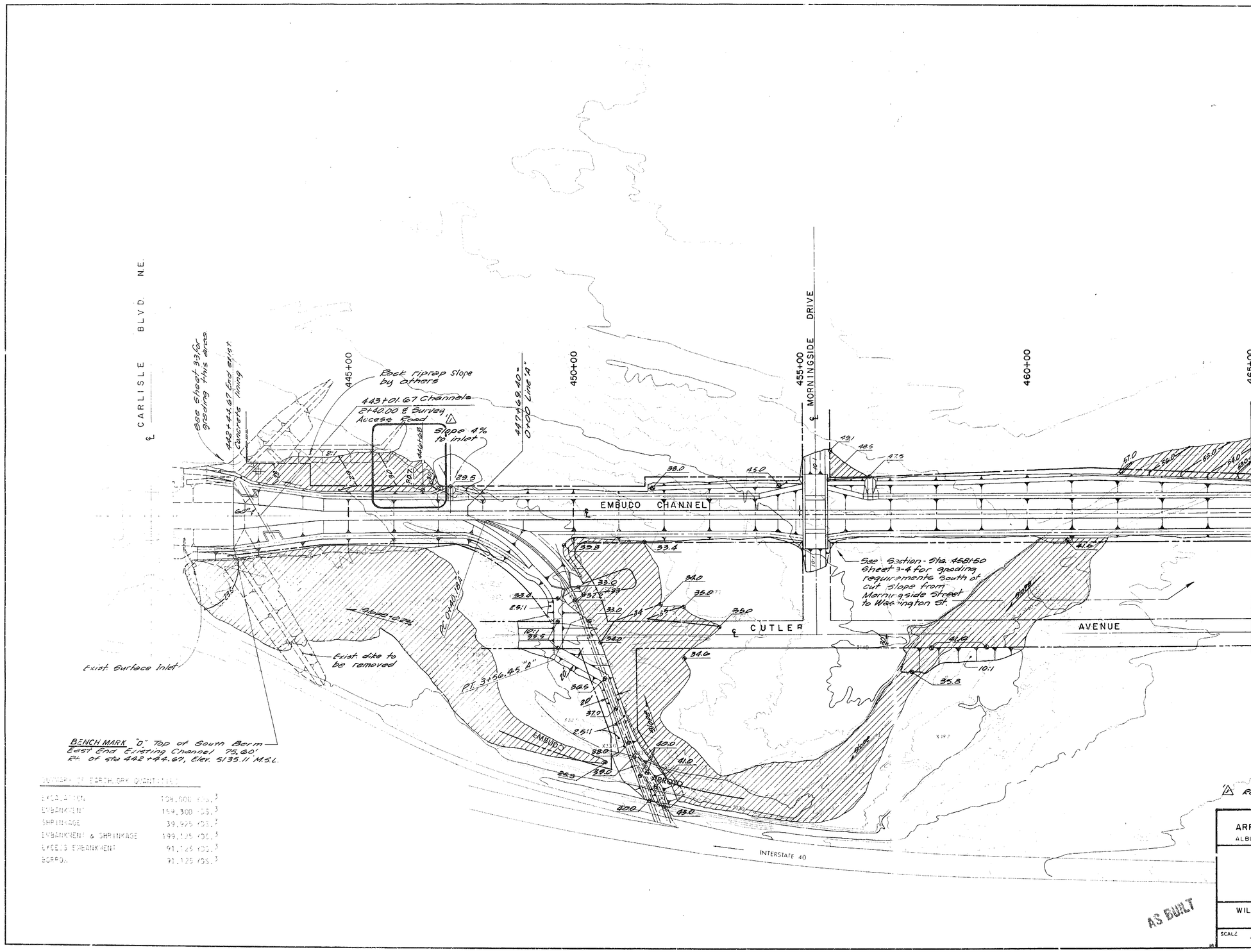


ARROYO FLOOD CONTROL AUTHORITY

EMBUDO ARROYO CHANNELIZATION
PHASE II

LOCATION MAP

WILLIAM MATOYAN



GENERAL NOTES

1. ELEVATIONS ARE IN FEET AND REFER TO MEAN SEA LEVEL.
2. CORPS. OF ENGINEERS BRASS CAP RP-1, P1-6 AT DARTMOUTH N.E. AND NORTH DIVERSION CHANNEL WAS USED FOR VERTICAL CONTROL. BRASS CAP ELEV. 5136.97'
3. EXISTING CONTOURS WERE TAKEN FROM AERIAL SURVEYS MADE IN 1964. CONTOURS MAY VARY DUE TO RECENT FILLING OF CHANNEL.
4. CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGE TO CONCRETE STRUCTURES CAUSED BY HEAVY EARTH MOVING EQUIPMENT. ALL STRUCTURES ARE DESIGNED FOR H-20 LOADING.
5. WORKMANSHIP & MATERIALS SHALL CONFORM TO NEW MEXICO STATE HIGHWAY COMMISSION STANDARD SPECS. FOR ROAD & BRIDGE CONSTRUCTION, DATED 1970, AS AMENDED BY THE SPECS. FOR THIS PROJECT.
6. CONCRETE: ALL CONCRETE CAST IN PLACE SHALL BE CLASS "A" EXCEPT AS NOTED. CHAMFER ALL EXPOSED EDGES. 3/4".
7. REINFORCING STEEL: ALL REINFORCING STEEL SHALL BE DEFORMED BARS, INTERMEDIATE GRADE AND SHALL CONFORM WITH ASTM DESIGNATION A615-GR 40.
8. WELDING: WELDING SHALL BE DONE WITH A SHIELDED ELECTRIC ARC AND SHALL CONFORM TO AMERICAN WELDING SOCIETY SPECS. PERTAINING TO HIGHWAY & RAILWAY BRIDGES. FABRICATOR SHALL REMOVE ALL SLAG COMPLETELY FROM SHOP WELDS PRIOR TO SHIPMENT.
9. STRUCTURAL STEEL: STRUCTURAL STEEL SHALL BE CARBON STEEL CONFORMING TO AASHO DESIGNATION M183 (ASTM A-36)
10. EXPANSION JOINT FILLERS: THE TYPES SHALL BE AS NOTED ON THE DRAWINGS. ALL PREFORMED BITUMINOUS JOINT FILLERS SHALL CONFORM TO ASTM SPECS. D-1751. COST OF ALL JOINT FILLER MATERIAL SHALL BE INCLUDED IN THE UNIT BID PRICE FOR CONCRETE.

LEGEND

- Existing Contours
- --80.0-- New finish Contours
- ⊕ 77.5 New finish grade spot Elev.
- Fill area

SUMMARY OF EARTHWORK QUANTITIES

EXCAVATION	104,000 CUS.^{3}
EMBANKMENT	154,300 CUS.^{3}
SHRINKAGE	39,425 CUS.^{3}
EMBANKMENT & SHRINKAGE	199,125 CUS.^{3}
EXCESS EMBANKMENT	91,125 CUS.^{3}
BORROW	91,125 CUS.^{3}

△1 Revised grading. north of channel Feb. 10, 1971

AS BUILT

ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY
ALBUQUERQUE NEW MEXICO

EMBUDO ARROYO CHANNELIZATION
PHASE II

GRADING PLAN

WILLIAM MATOTAN & ASSOCIATES – ENGINEERS
ALBUQUERQUE, NEW MEXICO

SCALE AS SHOWN | DRAWN R.L. | CHECKED F.B. | DATE JUNE 1970

SHEET 2+3 OF 57

MENAUL BLVD N.E.

℄ TOWNER AVENUE

℄ WASHINGTON ST.

5 Yds. Dumped Riprap at existing RCP for temporary erosion protection. To be payed for in Bid Item 7

Existing Conc. Erosion Protection to be removed. Conc. Retaining Walls may remain in Place except where they conflict with new construction

Slope

EMBUDO CHANNEL

℄ PROSPECT AVENUE

℄ JEFFERSON ST.

470+00

475+00

Fill over new C.B.C. to match natural ground from Sta. 472+20 to Sta. 477+00

ARROYO

℄ MADISON ST.

℄ MONROE ST.

Match Line - Sta. 469+00

EMBUDO CHANNEL

Slope 10' wide ditch @ 2% away from inlet along dike

℄ CUTLER AVENUE

PT. 478+49.84

480+00

BORROW AREA

Existing Structure to be removed

483+62.37

INTERSTATE 40

BENCH MARK: "+" Top of Headwall Elev. 5183.25 M.S.L.

LEGEND

- Existing Contours
- 80.0 New finish Contours
- 775 New finish grade Spot Elev.
- Fill area
- Borrow Area

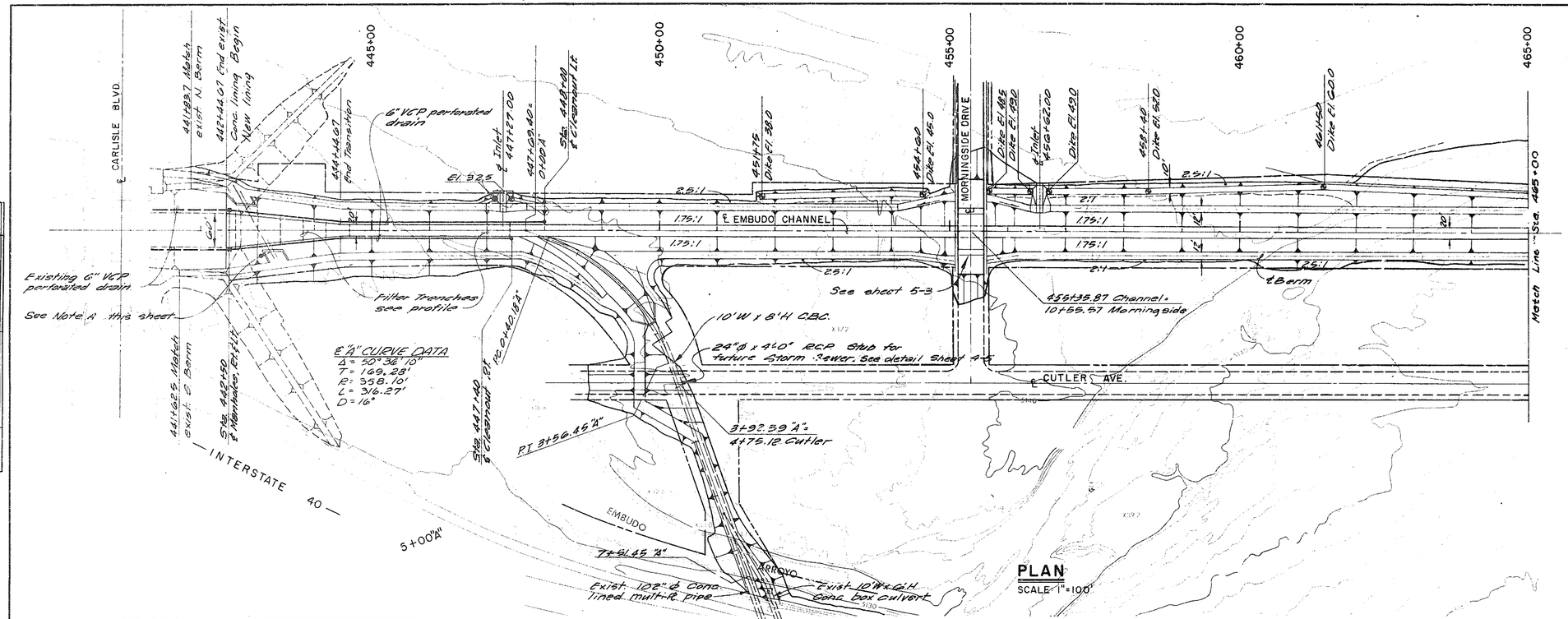
Scale: 1"=100'

ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY ALBUQUERQUE NEW MEXICO	SHEET
EMBUDO ARROYO CHANNELIZATION PHASE II **GRADING PLAN**	2-2 4 OF 57
WILLIAM MATOTAN & ASSOCIATES - ENGINEERS ALBUQUERQUE, NEW MEXICO	
SCALE AS SHOWN · DRAWN R.L. · CHECKED R.S. · DATE JUNE 1970	

AS BUILT

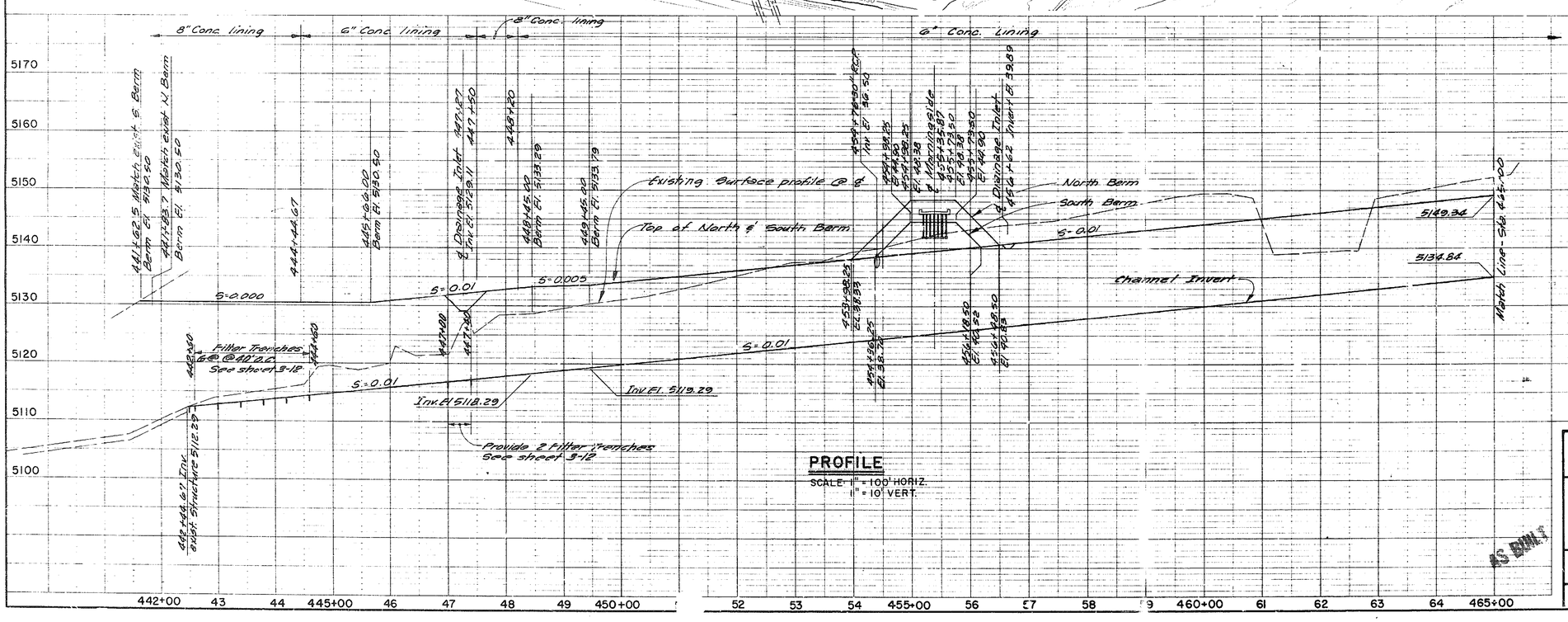
NOTE A:

SUBSTRUCTURE FOR THE AMBASSADOR BRIDGE WILL BE BUILT AS A PART OF THIS CONTRACT. CONTRACTOR SHALL COORDINATE WORK WITH CONTRACTOR BUILDING SUPERSTRUCTURE.



PLAN

SCALE 1" = 100'



PROFILE

SCALE 1" = 100' HORIZ.
1" = 10' VERT.

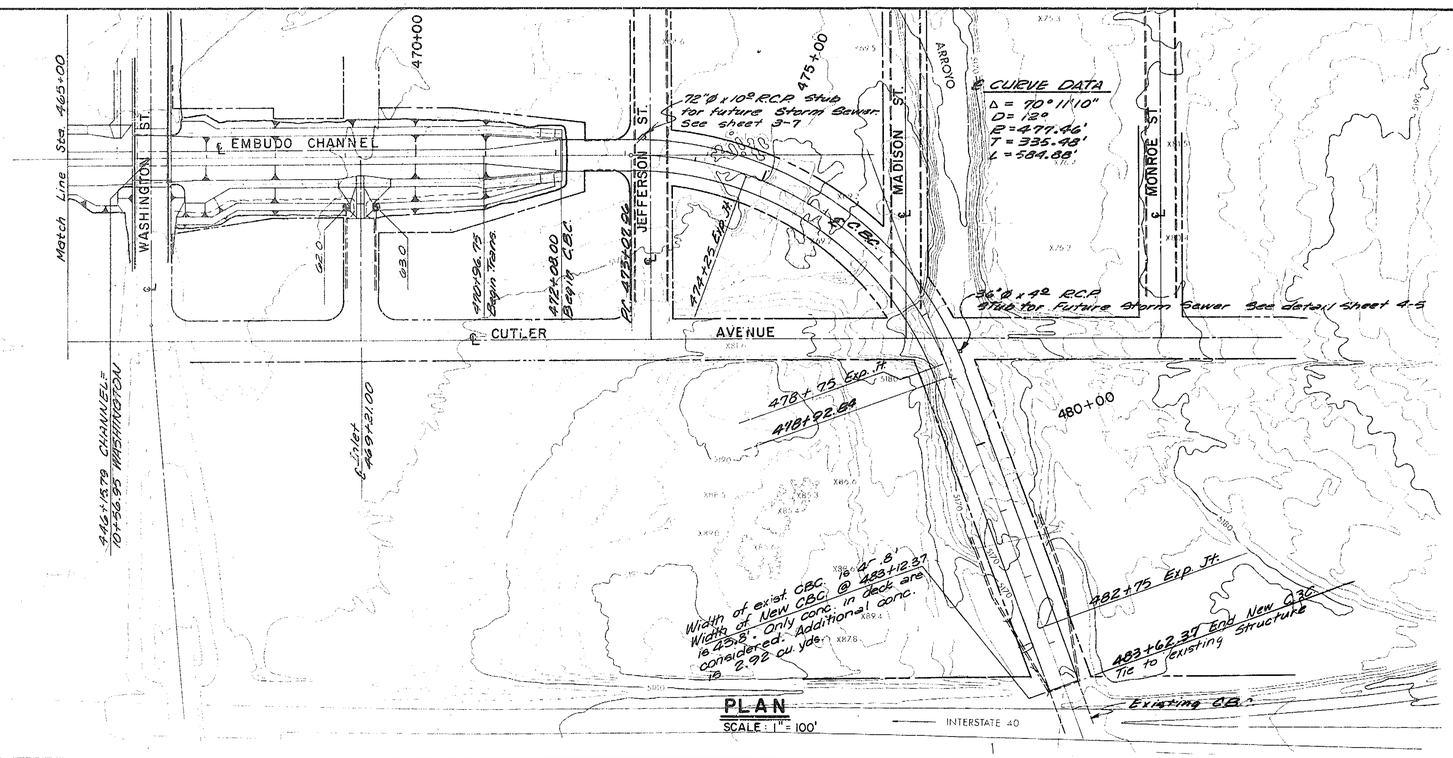
AS BUILT

ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY ALBUQUERQUE NEW MEXICO	SHEET 34 5 OF 57
EMBUDO ARROYO CHANNELIZATION PHASE II	
PLAN & PROFILE	
WILLIAM MATOTAN & ASSOCIATES - ENGINEERS ALBUQUERQUE, NEW MEXICO	
SCALE AS SHOWN · DRAWN R.L. · CHECKED B.B. · DATE JUNE 1970	

PLAN		BY	DATE
NOTE BOOK NO.	SURVEYED		
	PLOTTED		
	PLANS CHECKED		
	RT. OF WAY CHECKED		

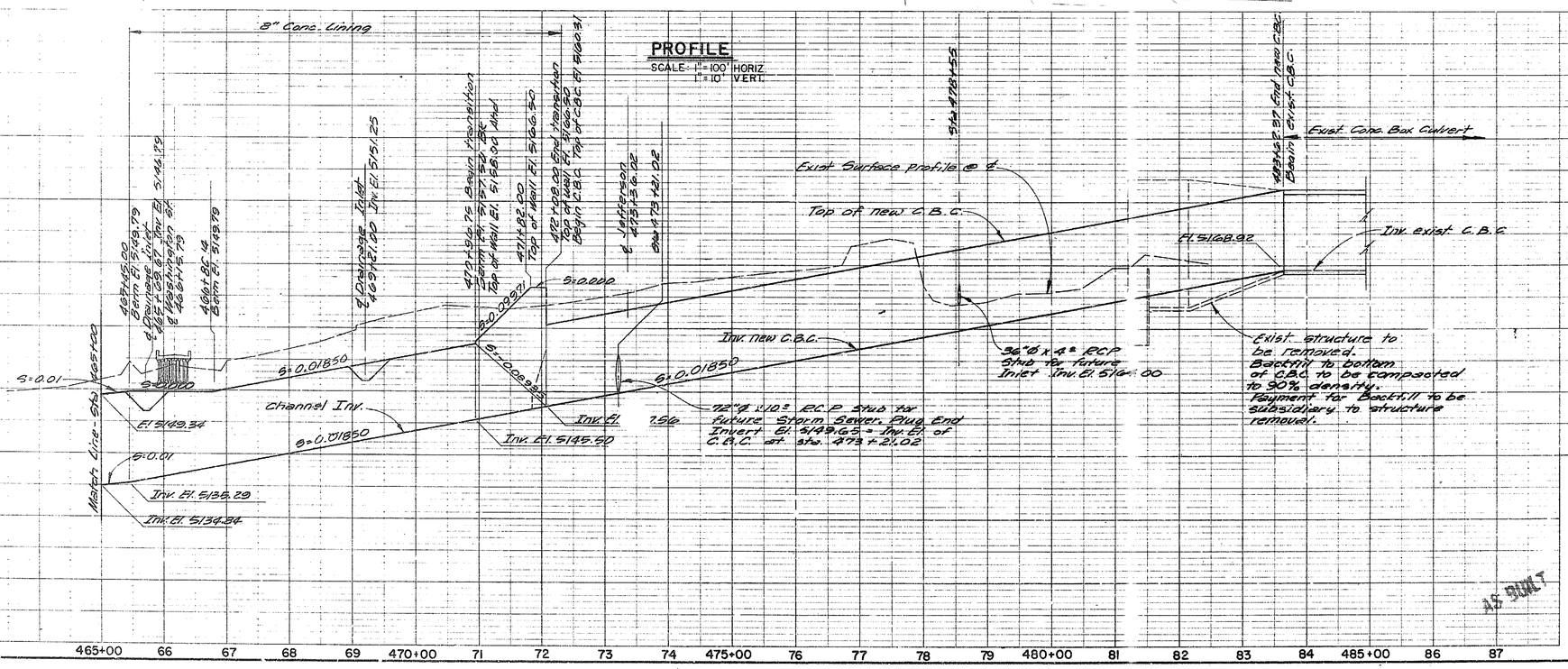
PROFILE		BY	DATE
NOTE BOOK NO.	SURVEYED		
	PLOTTED		
	PLANS CHECKED		
	B. M'S NOTED		
	STRUCTURE NOTATIONS CHECKED		

KOOGLE & POULS ENGINEERING
5775 COPPER N.E. ALBUQUERQUE, NEW MEXICO



PLAN

SCALE: 1" = 100'



PROFILE

SCALE: 1" = 100' HORIZ.
1" = 10' VERT.

PLAN		BY	DATE
NOTE BOOK	SURVEYED		
	PLOTTED		
	ALIGNMENT CHECKED		
	R.L. OF WAY CHECKED		
NO.			

PROFILE		BY	DATE
NOTE BOOK	SURVEYED		
	PLOTTED		
	GRADE CHECKED		
	B. M. NOTED		
NO.	STRUCTURE NOTATIONS CH. 40		

KOOGLE & ROLLS ENGINEERING
SYRACUSE, N.Y. ALBUQUERQUE, NEW MEXICO

ALBUQUERQUE METROPOLITAN
ARROYO FLOOD CONTROL AUTHORITY
ALBUQUERQUE NEW MEXICO

EMBUDO ARROYO CHANNELIZATION
PHASE II

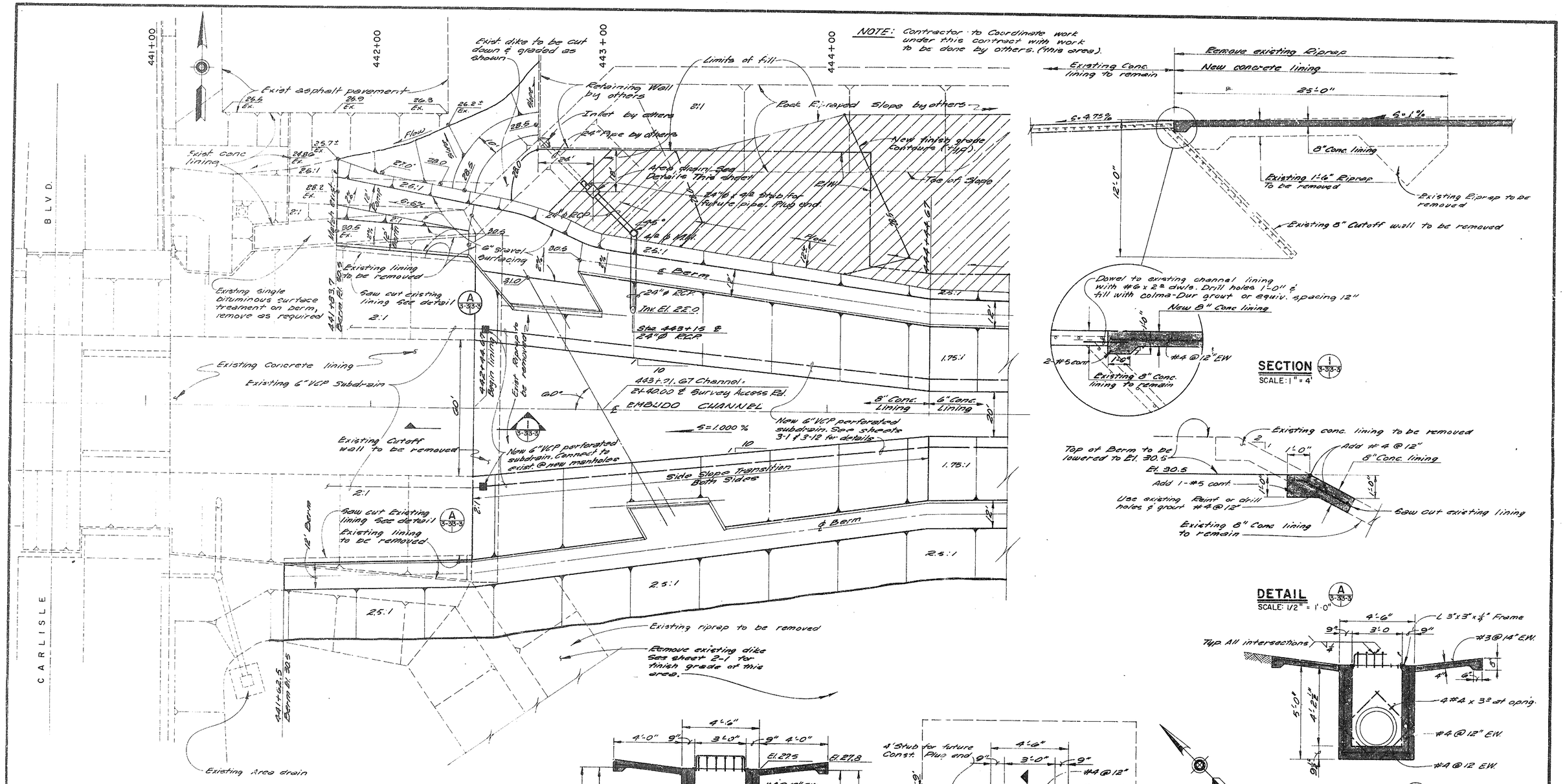
PLAN & PROFILE

WILLIAM MATOTAN & ASSOCIATES - ENGINEERS
ALBUQUERQUE, NEW MEXICO

SCALE	AS SHOWN	DRAWN R.L.	DATE JUNE 1970
		CHECKED R.E.	

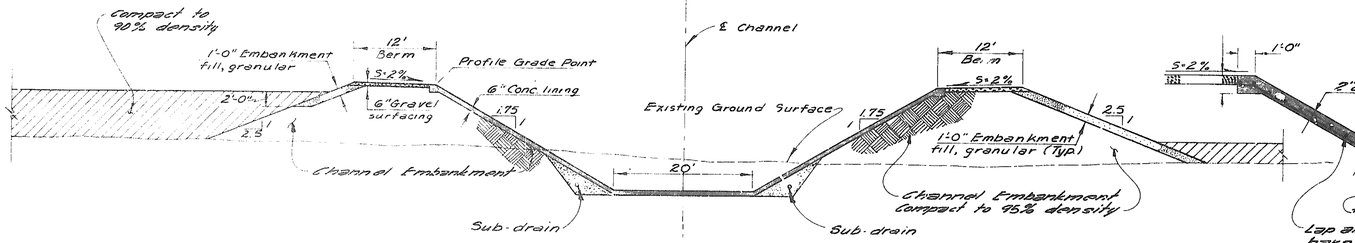
SHEET 3-26 OF 57

AS BUILT



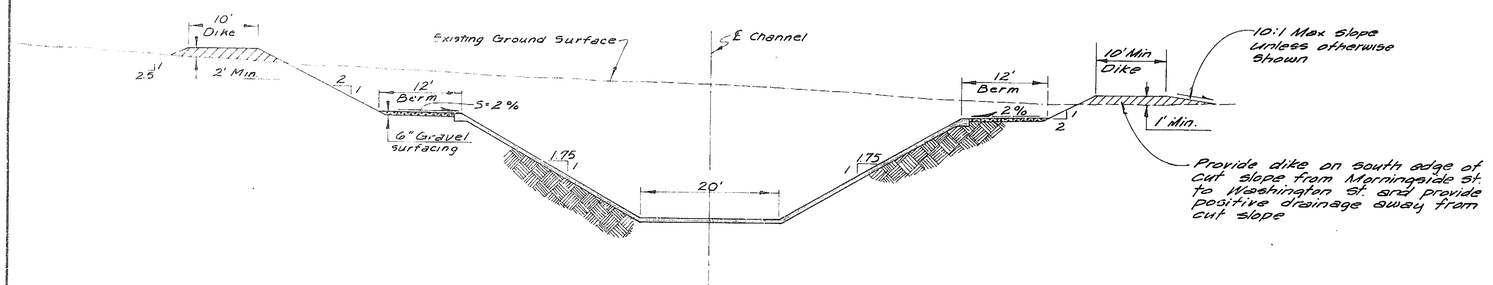
AREA DRAIN DETAILS

ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY ALBUQUERQUE NEW MEXICO	SHEET
EMBUDO ARROYO CHANNELIZATION PHASE II	3-3-7
TRANSITION TO EXISTING CHANNEL	OF 57
WILLIAM MATOTAN & ASSOCIATES – ENGINEERS ALBUQUERQUE, NEW MEXICO	
SCALE AS SHOWN · DRAWN R.L., O.R. · CHECKED R.R. · DATE JUNE 1970	



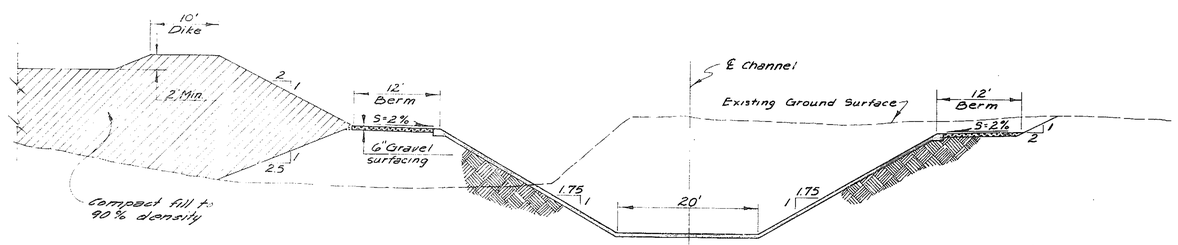
SECTION - STA. 445+50

SCALE: 1" = 10'



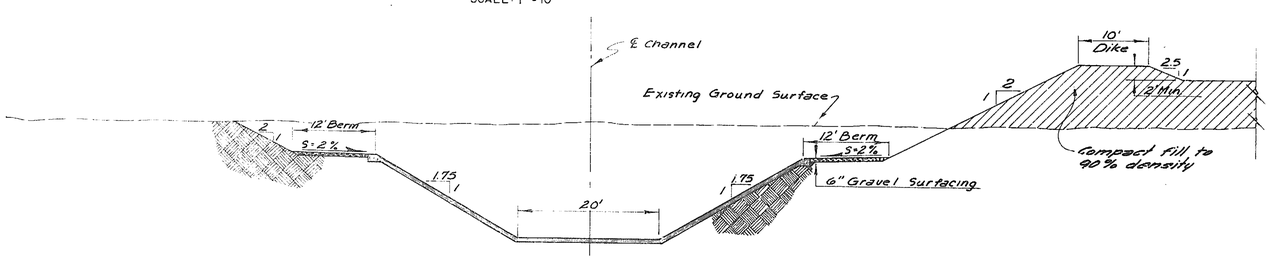
SECTION - STA. 458+50

SCALE: 1" = 10'



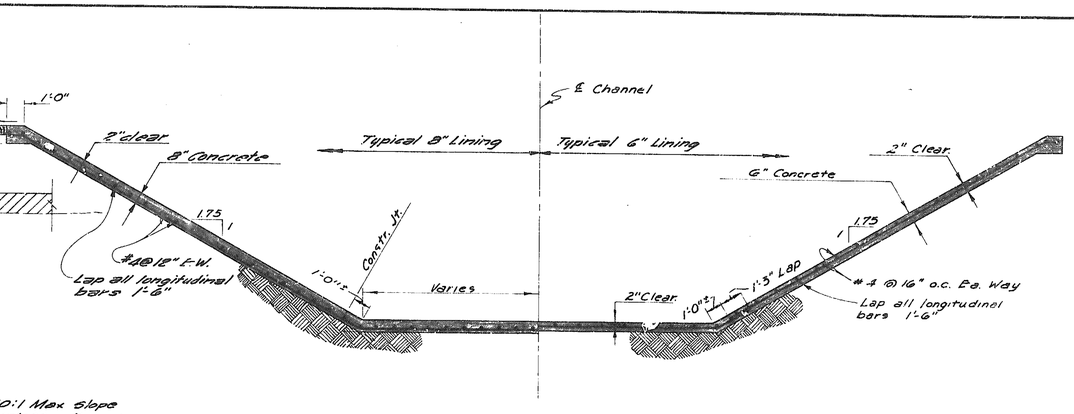
SECTION - STA. 463+50

SCALE: 1" = 10'



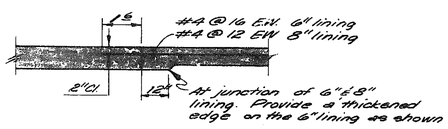
SECTION - STA. 467+50

SCALE: 1" = 10'



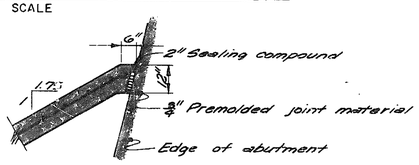
TYPICAL LINED CHANNEL

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



TYP. TRANSVERSE CONST. JT.

NO SCALE



TYP. SECTION @ ABUTMENT

NO SCALE

GENERAL NOTES

1. REINFORCING FOR 6" THICK CHANNEL & INLET LINING SHALL BE #4 at 16" O.C. EACH WAY, UNLESS OTHERWISE NOTED.
2. REINFORCING FOR 8" THICK CHANNEL LINING SHALL BE #4 at 12" O.C. EACH WAY, UNLESS OTHERWISE NOTED.

ESTIMATED QUANTITIES FOR LINING MAIN CHANNEL

ITEM	UNITS	AMOUNT
8" Lining	Sq. Yds.	7440.16
Reinf. for 8" lining	lb.	89460
6" Lining	Sq. Yds.	19159.91
Reinf. for 6" lining	lb.	163712

AS BUILT

ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY
ALBUQUERQUE NEW MEXICO

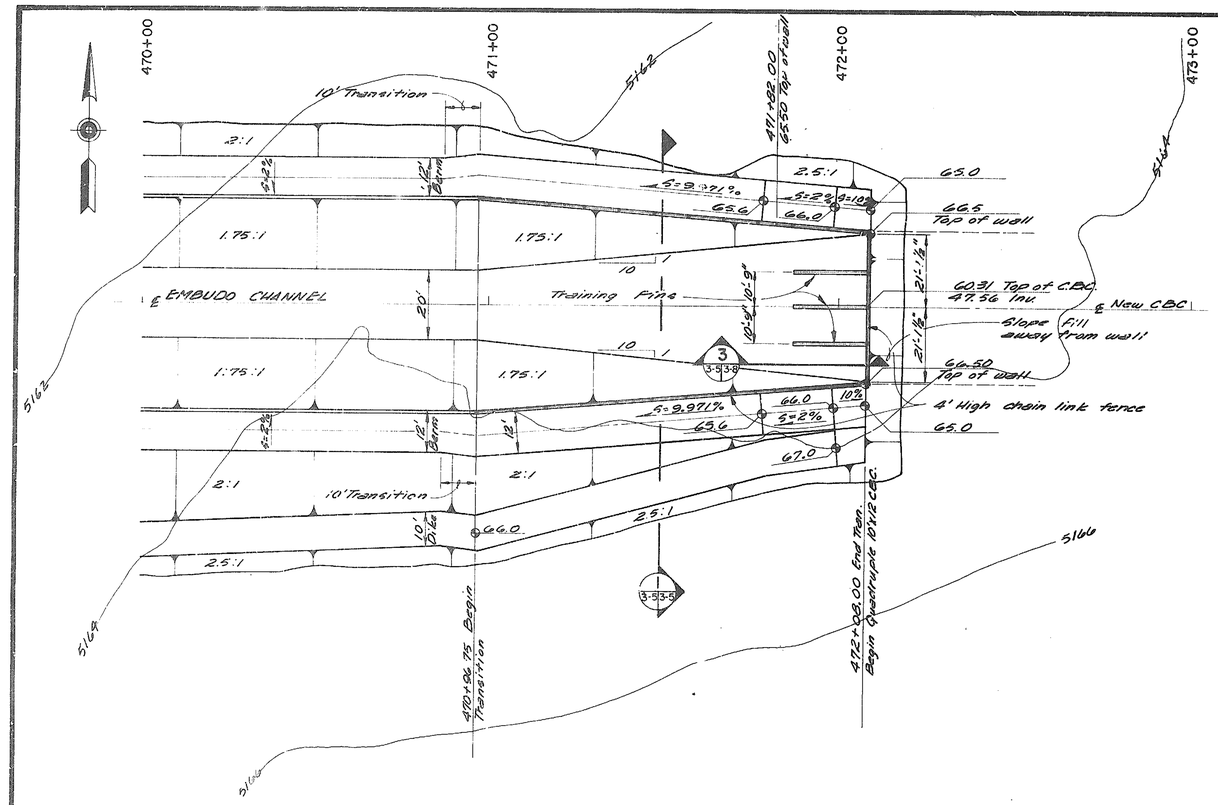
EMBUDO ARROYO CHANNELIZATION
PHASE II

TYPICAL CHANNEL SECTIONS

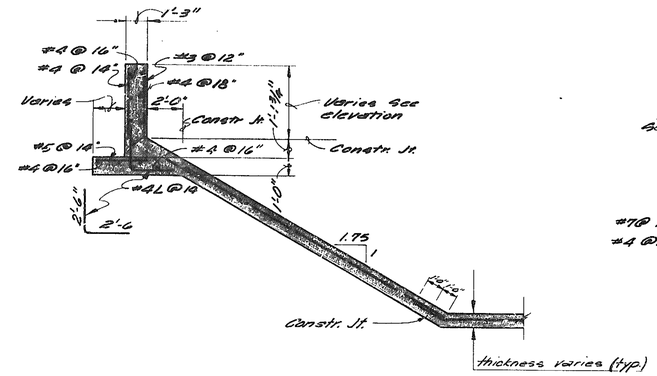
WILLIAM MATOTAN & ASSOCIATES - ENGINEERS
ALBUQUERQUE, NEW MEXICO

SCALE AS SHOWN | DRAWN O.R. | CHECKED A.E. | DATE JUNE 1970

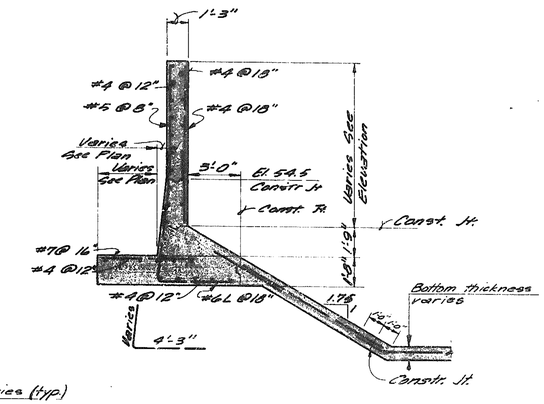
SHEET ~~3-4~~ 8 OF 57



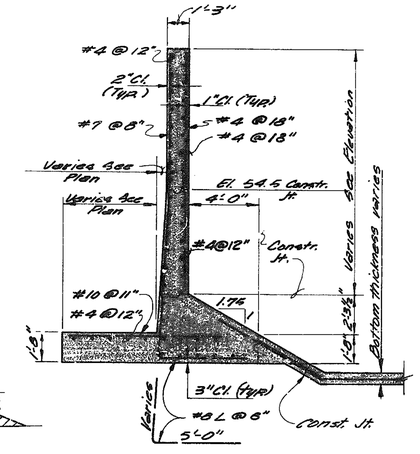
PLAN
SCALE: 1" = 20'



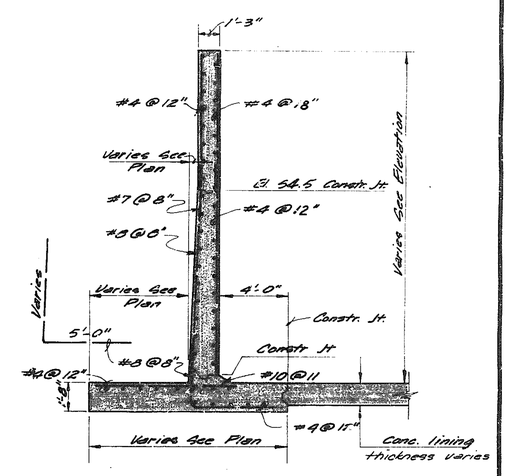
TYPE "A" WALL
STA. 470+96.75 TO STA. 471+30
SCALE: 1/4" = 1'-0"



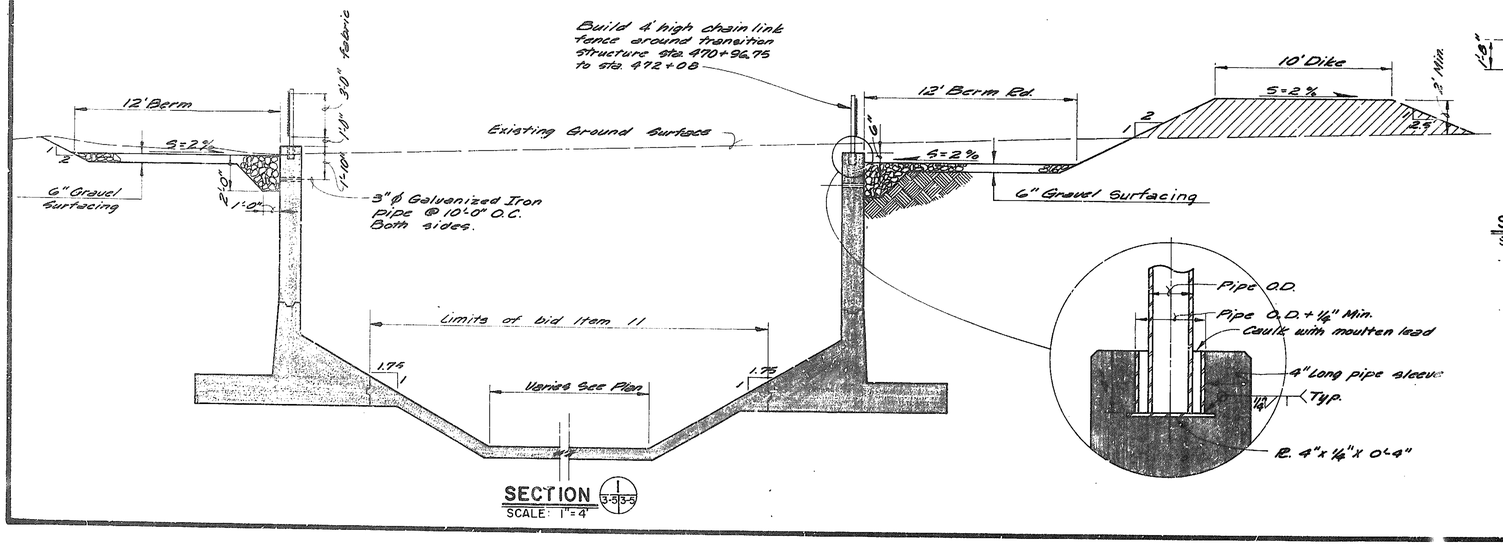
TYPE "B" WALL
STA. 471+30 TO STA. 471+50
SCALE: 1/4" = 1'-0"



TYPE "C" WALL
STA. 471+50 TO STA. 471+86.81
SCALE: 1/4" = 1'-0"



TYPE "D" WALL
STA. 471+86.81 TO STA. 472+08
SCALE: 1/4" = 1'-0"



SECTION 1 / 3-5 3-5
SCALE: 1" = 4'

NOTE:
Thickness of concrete lining on slope shall vary and shall be the same thickness as shown for the bottom lining thickness. Also, the reinforcement shall be the same as shown for bottom lining reinenforcement.

AS BUILT

ALBUQUERQUE METROPOLITAN
ARROYO FLOOD CONTROL AUTHORITY
ALBUQUERQUE NEW MEXICO

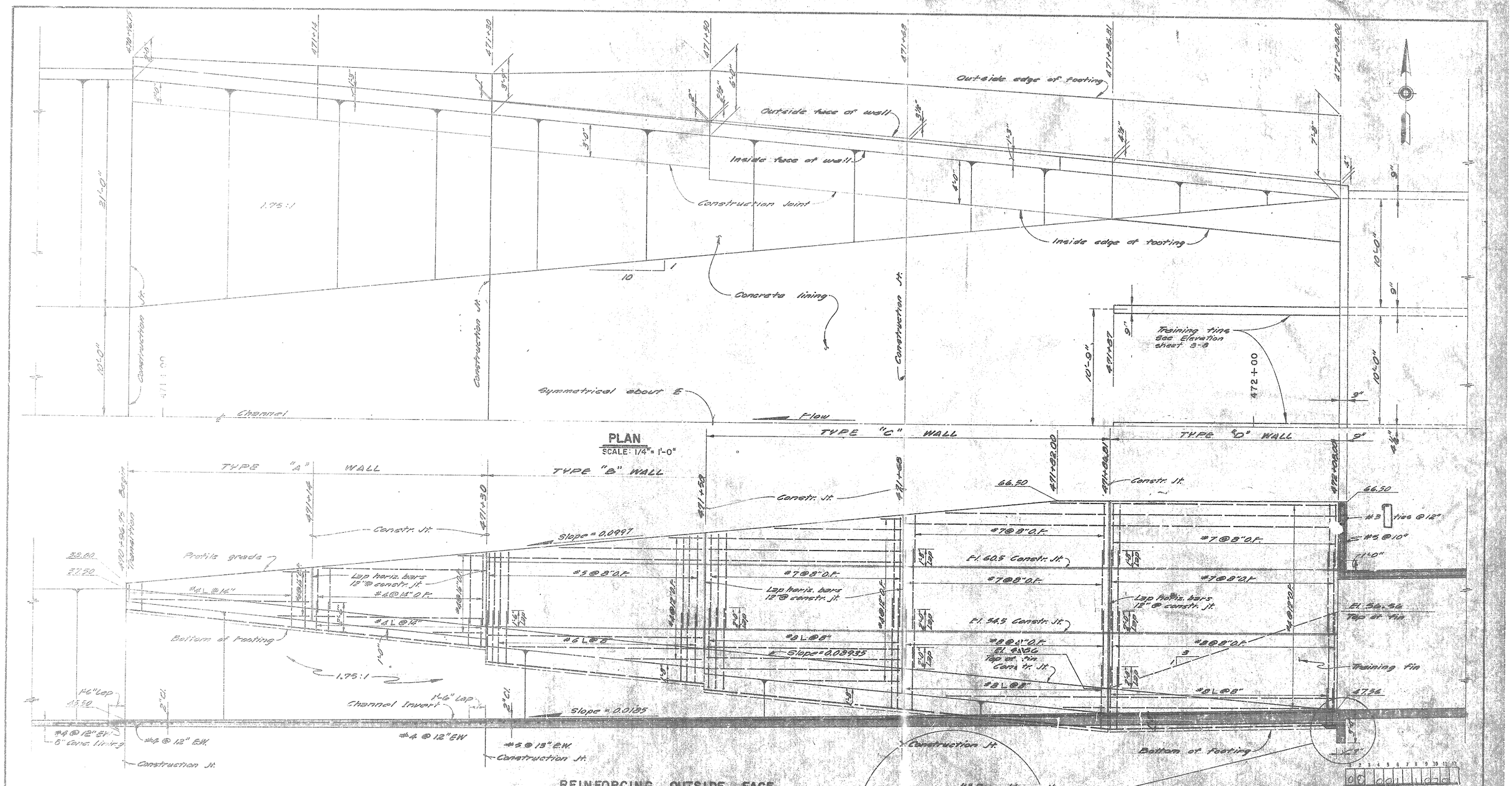
EMBUDO ARROYO CHANNELIZATION
PHASE II

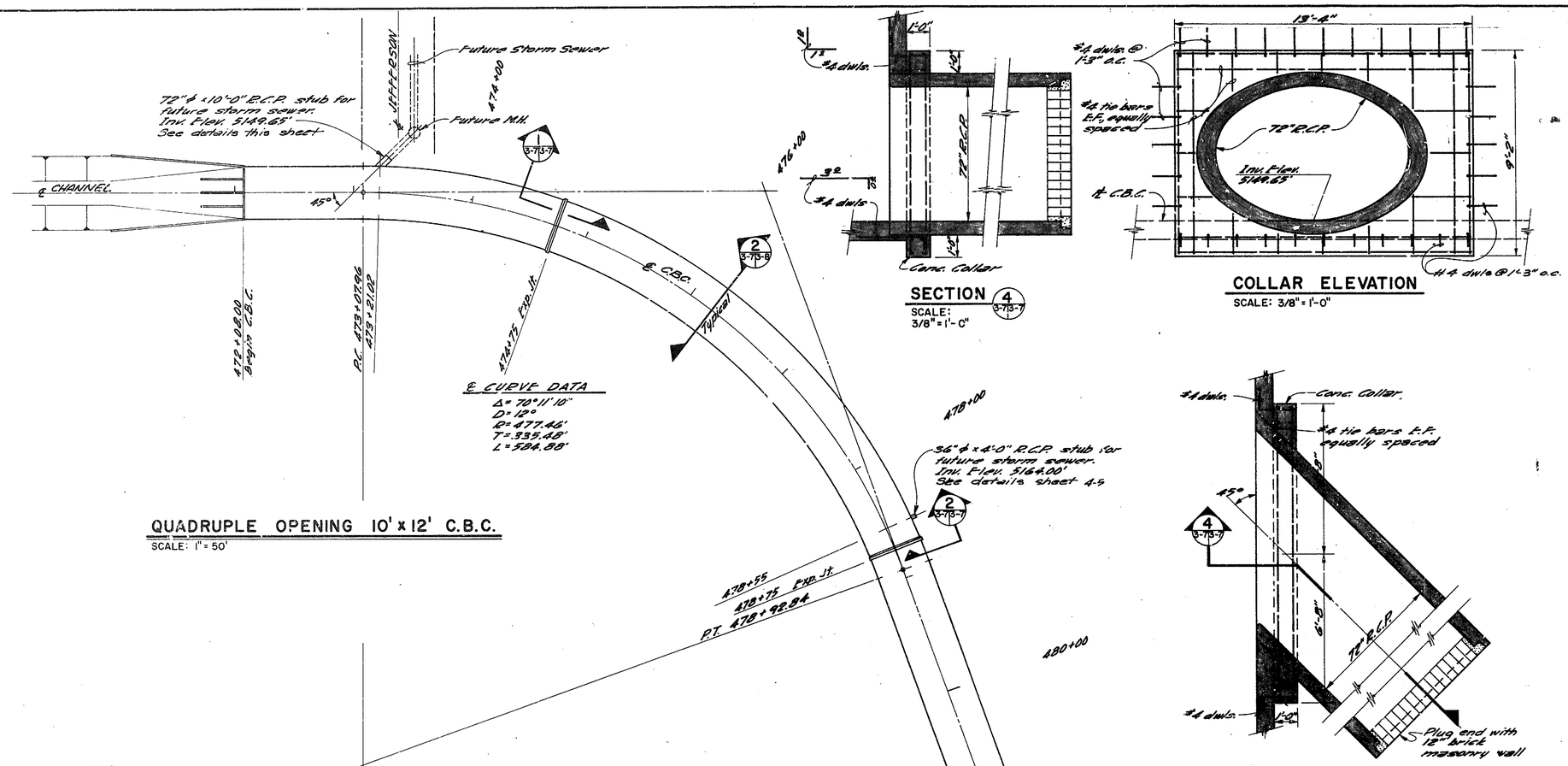
TRANSITION FROM CBC & TYPICAL SECTIONS

WILLIAM MATOTAN & ASSOCIATES – ENGINEERS
ALBUQUERQUE, NEW MEXICO

SCALE AS SHOWN | DRAWN O.R. | CHECKED R.B. | DATE JUNE 1970

SHEET ~~3-5~~ 9 OF 57


PLAN
SCALE: 1/4" = 1'-0"
Outside edge of footing
Outside face of wall
Inside face of wall
Construction Joint
Inside edge of footing
Concrete lining
Training fins
See Elevation
Sheet 3-8
Symmetrical about ℄
Channel
Flow
TYPE "A" WALL
TYPE "B" WALL
TYPE "C" WALL
TYPE "D" WALL
Constr. Jt.
Profile grade
Slope = 0.0997
Slope = 0.08935
Slope = 0.0135
Lap horiz. bars 12" @ constr. jt.
Bottom of footing
Channel Invert
1.75:1
Training fin
Top of fin
Construction Jt.
REINFORCING OUTSIDE FACE
ELEVATION
SCALE: 1/4" = 1'-0"
DETAIL
SCALE: 1/2" = 1'-0"
AS BUILT
ALBUQUERQUE METROPOLITAN
ARROYO FLOOD CONTROL AUTHORITY
ALBUQUERQUE NEW MEXICO
EMBUDO ARROYO CHANNELIZATION
PHASE II
PLAN & ELEVATION OF
TRANSITION FROM CBC
WILLIAM MATOTAN & ASSOCIATES - ENGINEERS
ALBUQUERQUE, NEW MEXICO
SHEET
3-8
10
OF
57



QUADRUPLE OPENING 10' x 12' C.B.C.

SCALE: 1" = 50'

SECTION 4 (3-713-7)

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

COLLAR ELEVATION

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

GENERAL NOTES

1. WORKMANSHIP & MATERIALS SHALL CONFORM TO N.M.S.H.D. SPECIFICATIONS, 1970 EDITION.
2. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 psi AT 28 DAYS. (CLASS "A")
3. ALL REINFORCING STEEL SHALL BE DEFORMED BARS, ASTM A-615 GR. 40.
4. TRANSVERSE BARS MAY BE SPLICED WHEN NECESSARY BY LAPPING AT LEAST 20 BAR DIAMETERS. PAY WEIGHT FOR REINFORCING STEEL DOES NOT INCLUDE SPLICES. COST OF MATERIAL TO BE INCLUDED IN UNIT BID PRICE FOR REINFORCING STEEL.
5. SPACING OF LATERAL BARS AROUND THE CURVE SHALL BE MEASURED FROM THE CENTERLINE OF THE C.B.C. & BARS SHALL BE PLACED RADIAL TO THE CURVE.

℄ CURVE DATA

$\Delta = 70°11'10''$
$D = 12°$
$R = 477.46'$
$T = 333.48'$
$L = 584.88'$

SECTION 3 (3-713-7)

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

DESIGN DATA

LIVE LOAD - H20-S16-44

WEIGHT OF FILL OVER BOX - 84#/cu.ft.

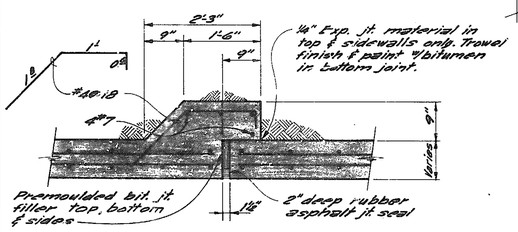
HORIZONTAL EARTH PRESSURE - 30#/cu.ft.

DESIGN STRESSES $f'_c = 3000$ psi $f_c = 1200$ psi
$f_s = 20000$ psi $n = 10$

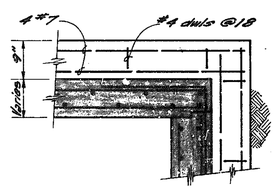
COEFFICIENT OF THERMAL EXPANSION = 0.00055 ft/ft FOR 100° Δt
$\Delta t = 50°$

ESTIMATED QUANTITIES FOR C.B.C.

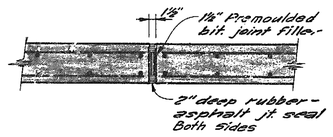
ITEM	UNITS	AMOUNT
Class A Concrete	cu. yds.	4885.3
Reinforcing Steel	lbs.	771,119



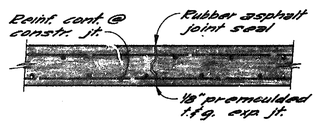
TYPICAL EXPANSION JOINT SECTION 1 (3-713-7)



EXPANSION JOINT CORNER SECTION 2 (3-713-7)



EXPANSION JOINT IN INTERIOR WALL

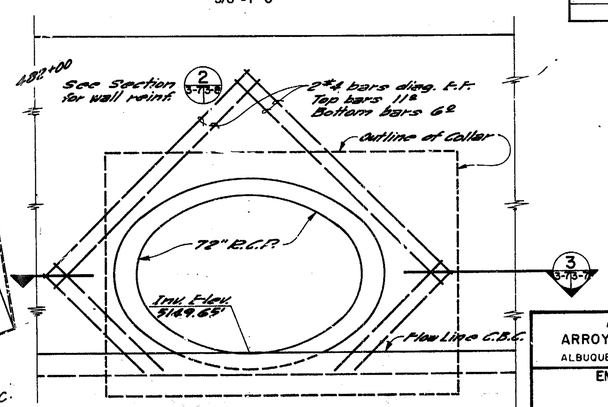


TYPICAL CONSTRUCTION JOINT

EXPANSION & CONSTRUCTION JOINT DETAILS

SCALE: 3/4" = 1'-0"

NOTE:
Existing structure to be removed. Plans of this structure are available for contractors inspection at William Matotan & Assoc. Inc. office, 230 Truman, N.E.

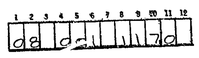


C.B.C. INSIDE WALL ELEVATION

72" ϕ R.C.P. STUB DETAILS

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

AS BUILT



ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY
ALBUQUERQUE NEW MEXICO

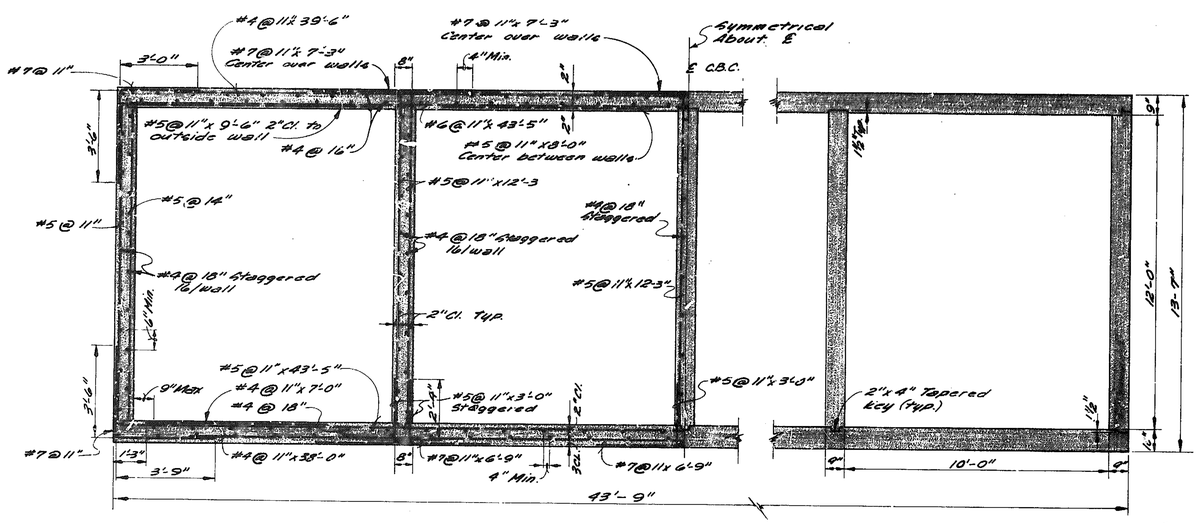
EMBUDO ARROYO CHANNELIZATION
PHASE II

PLAN & DETAILS
QUADRUPLE 10' x 12' C.B.C.

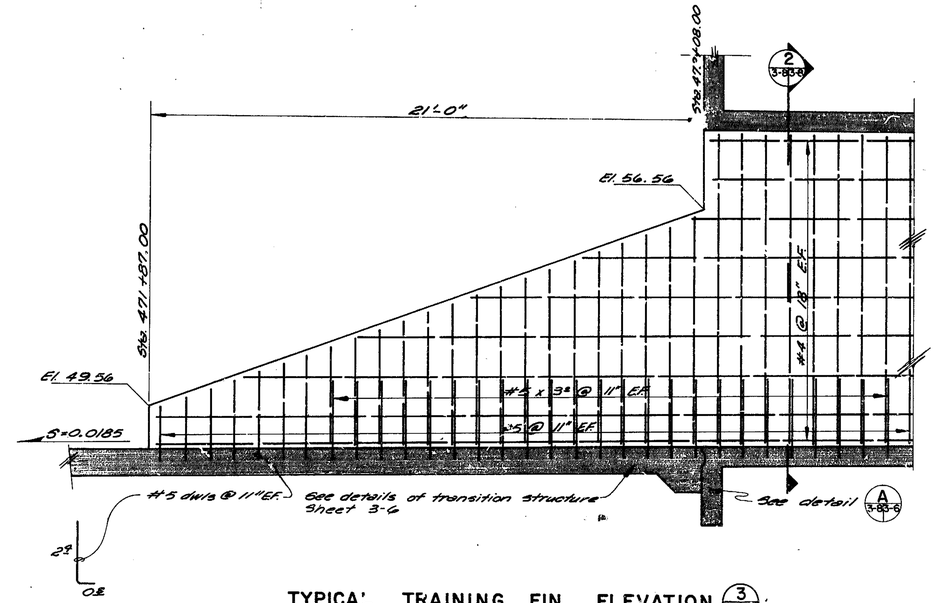
WILLIAM MATOTAN & ASSOCIATES - ENGINEERS
ALBUQUERQUE, NEW MEXICO

SCALE: AS SHOWN | DRAWN: J.C.S. | CHECKED: R.B. | DATE: JUNE 1970

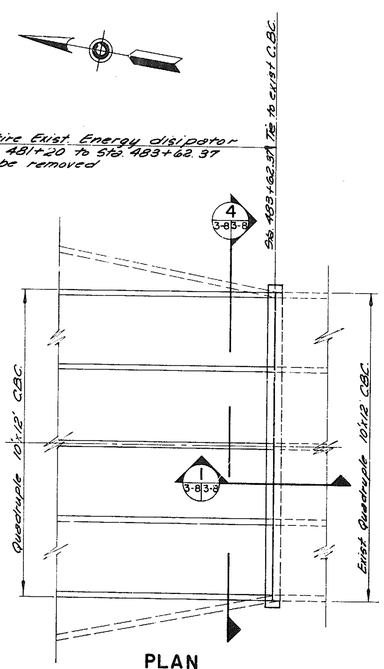
SHEET 37 OF 57



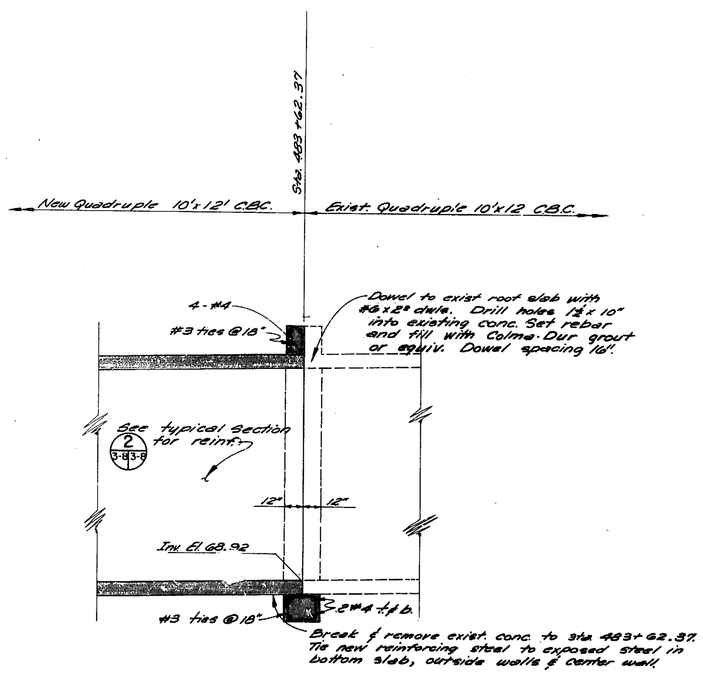
TYPICAL SECTION (2/3-8 3-6) (2/3-7 3-6)
CONC. BOX CULVERT
SCALE: 3/8" = 1'-0"



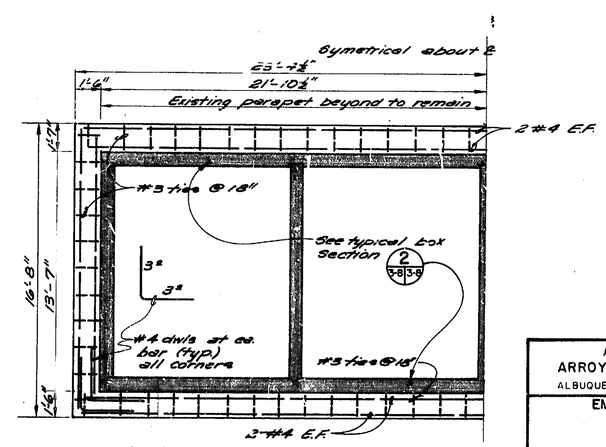
TYPICAL TRAINING FIN ELEVATION (3/3-8 3-6)
SCALE: 3/8" = 1'-0"



PLAN
SCALE: 1" = 10'



SECTION (1/3-8 3-6)
SCALE: 1/4" = 1'-0"



SECTION (4/3-8 3-6)
SCALE: 1/4" = 1'-0"

AS BUILT

1	2	3	4	5	6	7	8	9	10	11	12
0	8		0	0	1		1	2	7	0	

ALBUQUERQUE METROPOLITAN
ARROYO FLOOD CONTROL AUTHORITY
ALBUQUERQUE NEW MEXICO

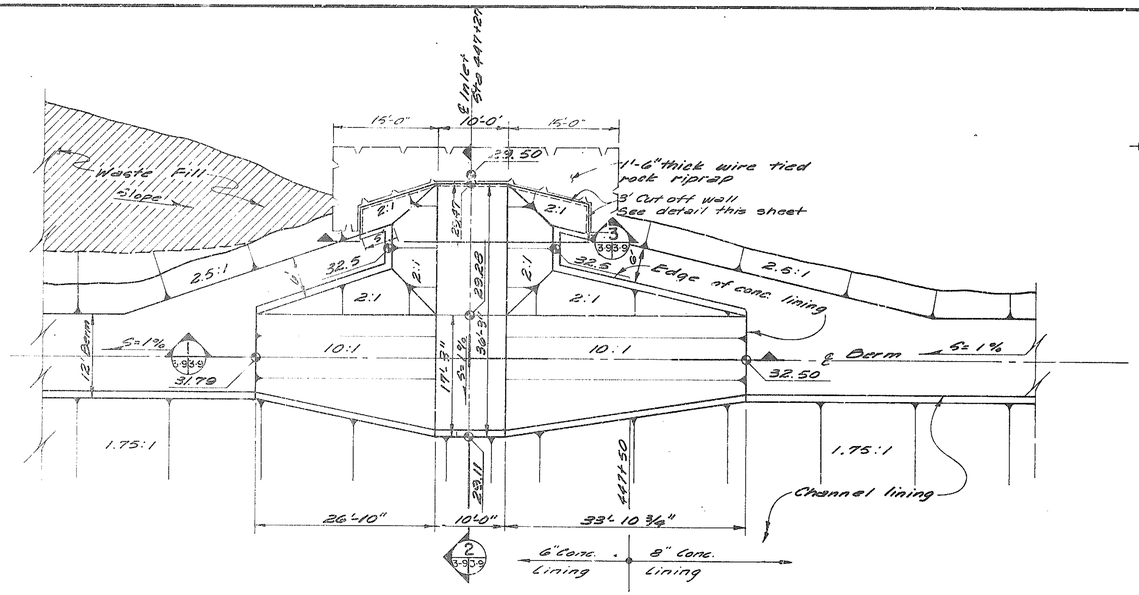
EMBUDO ARROYO CHANNELIZATION
PHASE II

SECTION & DETAILS
CONCRETE BOX CULVERT

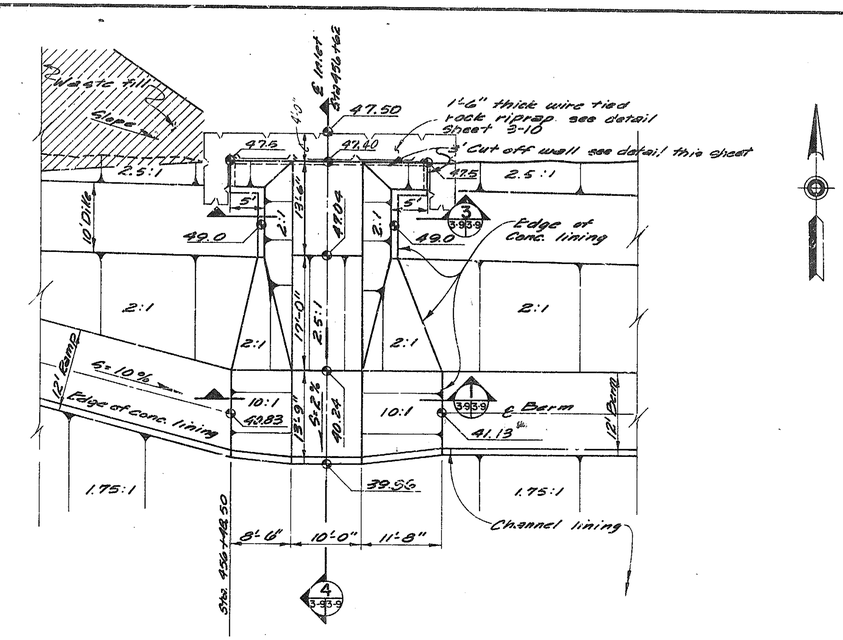
WILLIAM MATOTAN & ASSOCIATES – ENGINEERS
ALBUQUERQUE, NEW MEXICO

SCALE AS SHOWN | DRAWN O.R. | CHECKED R.B. | DATE JUNE 1970

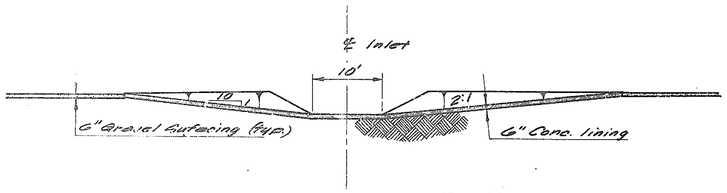
SHEET ~~3-8~~ 12 OF 57



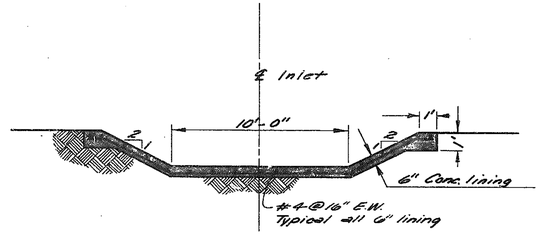
PLAN
SCALE: 1" = 10



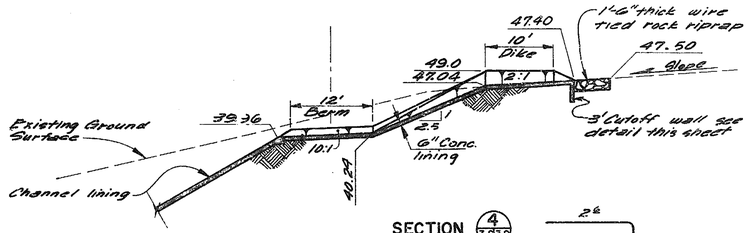
PLAN
SCALE: 1" = 10'



TYPICAL SECTION (1/3-9.3-9) (1/3-10.3-9)
SCALE: 1" = 10'

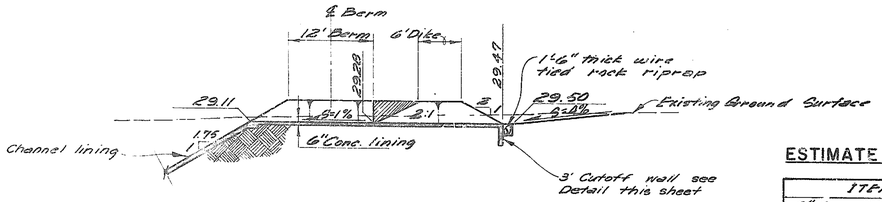


TYPICAL SECTION (3/3-9.3-9) (3/3-10.3-9)
SCALE: 1/4" = 1'-0"



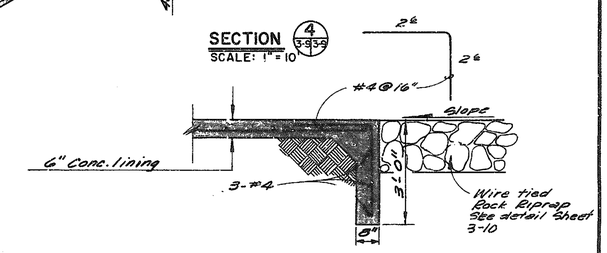
SECTION (4/3-9.3-9)
SCALE: 1" = 10

DRAINAGE INLET STA. 456 + 62



SECTION (2/3-9.3-9)
SCALE: 1" = 10'

DRAINAGE INLET STA. 447 + 27



CUTOFF WALL DETAIL
SCALE: 1/2" = 1'-0"

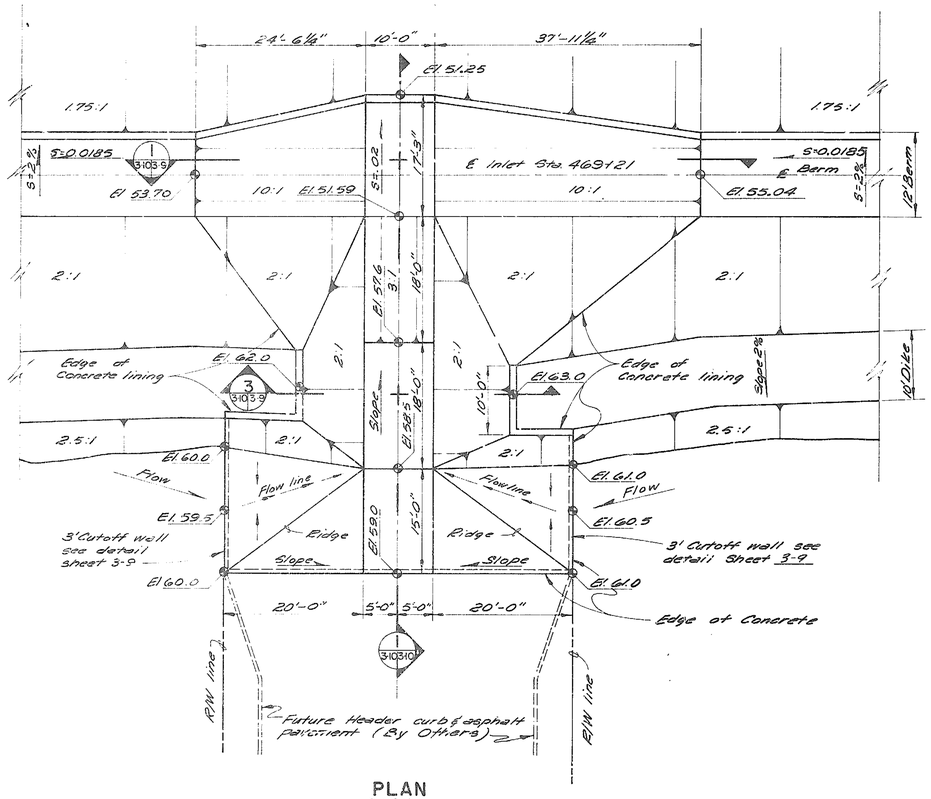
NOTE
Cutoff walls will be paid for as 6" lining on a yd² basis.

ESTIMATE OF INLET QUANTITIES

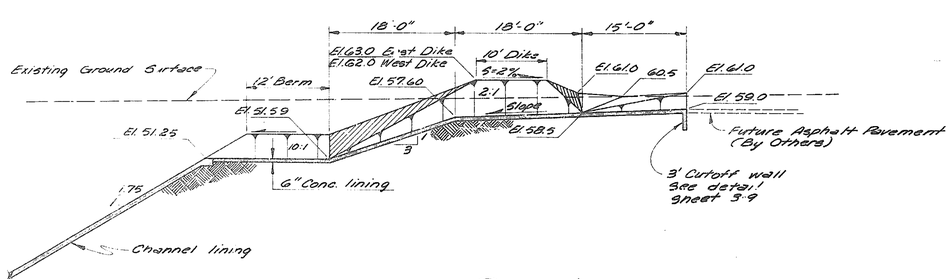
ITEM	UNITS	STA. 447+27 AMOUNT	STA. 456+62 AMOUNT
6" Conc. Lining	Yd²	202	146
Reinforcing	Lb.	1822	1317
Riprap	Yd³	7	12

AS BUILT

ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY ALBUQUERQUE NEW MEXICO	SHEET
EMBUDO ARROYO CHANNELIZATION PHASE II SURFACE INLET DETAILS	~~3-9~~ 13 OF 57
WILLIAM MATOTAN & ASSOCIATES - ENGINEERS ALBUQUERQUE, NEW MEXICO	
SCALE AS SHOWN · DRAWN O.R. A.D.Q. · CHECKED R.B. · DATE JUNE 1970	

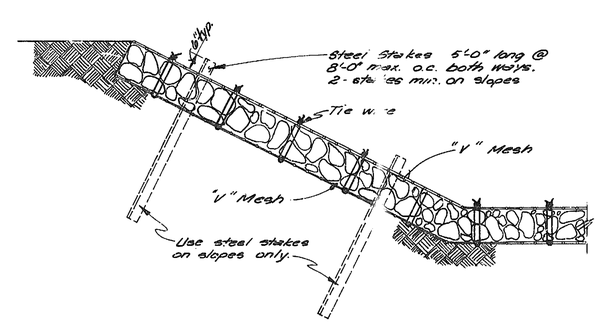


PLAN
SCALE: 1" = 10'



SECTION 1 (3-10.3.10)
SCALE: 1" = 10'

DRAINAGE INLET STA. 469 + 21



WIRE TIED ROCK RIPRAP DETAIL
NO SCALE

ESTIMATE OF INLET QUANTITIES AT 4 + 69.21		
ITEM	UNIT	AMOUNT
6" Concrete Lining	SQ YDS	436
Reinforcing	LBS.	3932

NOTES:

1. Wire for wrapping rock to be Specification J-3 Colorado V-Mesh, galvanized, as manufactured by Colorado Fuel and Iron Co., or equal
2. Tie wires to be NO. 9 ga. galvanized at 2'-0" O.C. each way.
3. Steel Stakes shall be railroad rails weighing not less than 30 lbs./yd., 4" O.D. standard strength galvanized steel pipe, or 4" x 4" x 3/8" L

AS BUILT

ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY
ALBUQUERQUE NEW MEXICO

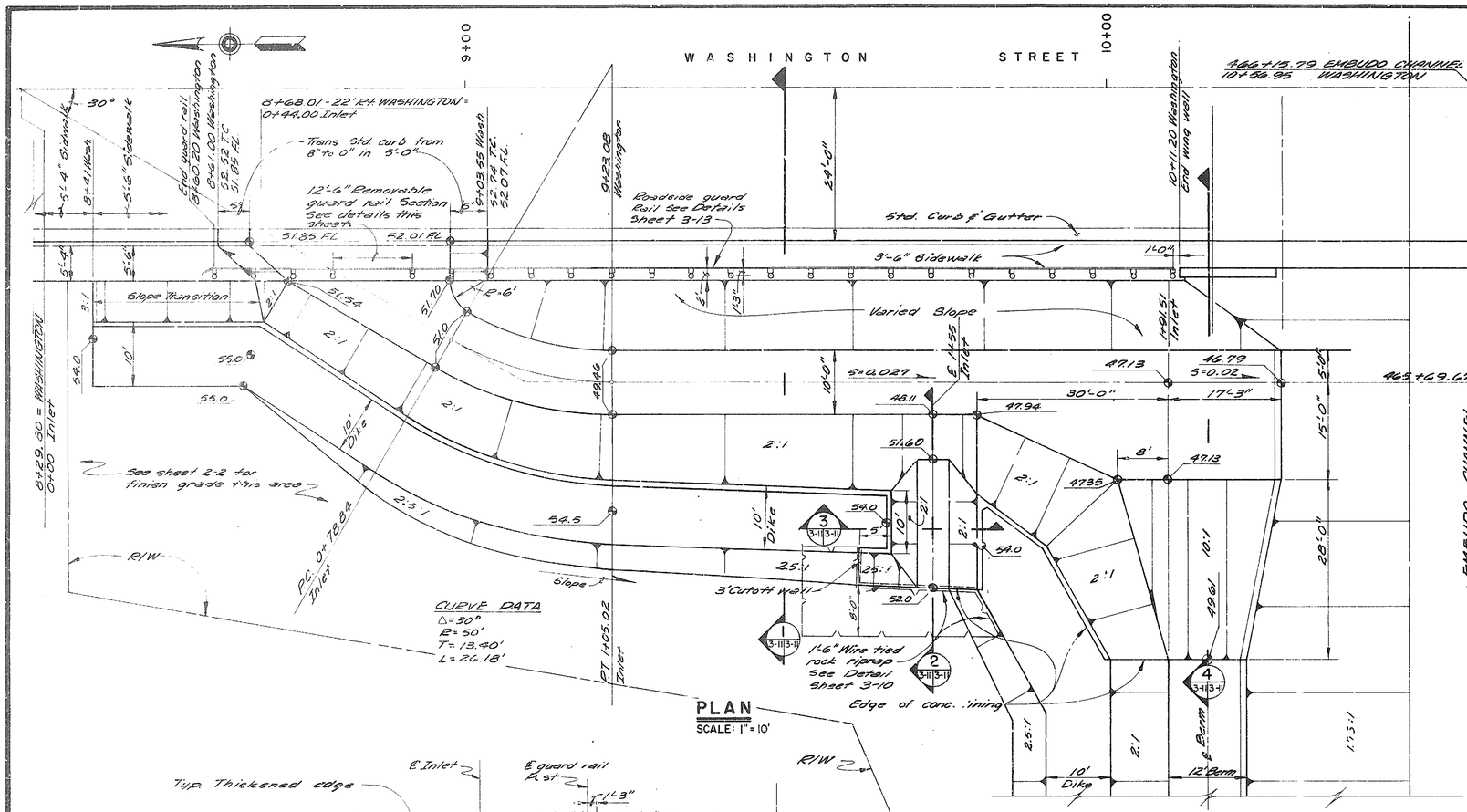
EMBUDO ARROYO CHANNELIZATION
PHASE II

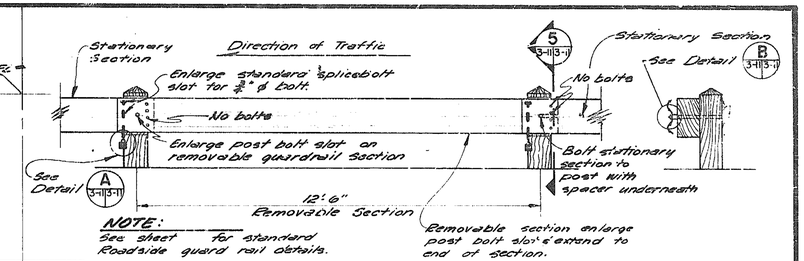
SURFACE INLET DETAILS

WILLIAM MATOTAN & ASSOCIATES – ENGINEERS
ALBUQUERQUE, NEW MEXICO

SCALE AS SHOWN | DRAWN O.R. | CHECKED R.B. | DATE JUNE 1970

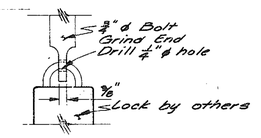
SHEET ~~3-10~~ 14 OF 57



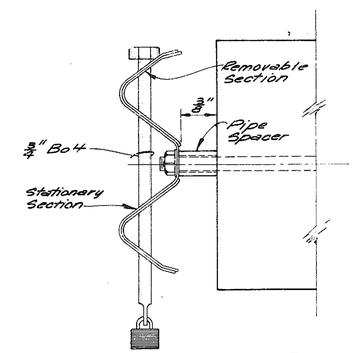


ELEVATION
NO SCALE

SECTION 5 3-11 3-11
NO SCALE



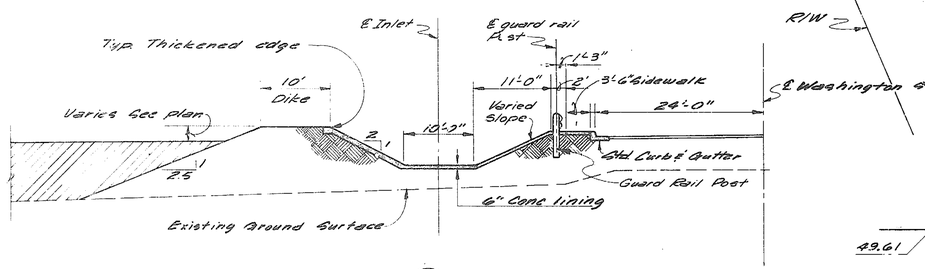
DETAIL A 3-11 3-11
NO SCALE



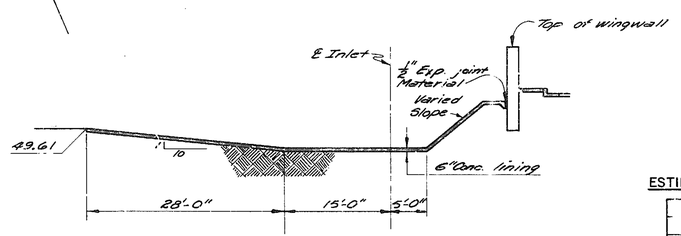
DETAIL B 3-11 3-11
NO SCALE

NOTE:
Provide shop drawings before fabrication of removable sections of guard rail. No torch cutting of guard rails permitted. All cuts and holes shall sawed or drilled and exposed steel surfaces painted with two coats of aluminum paint.

REMOVABLE GUARD RAIL DETAILS



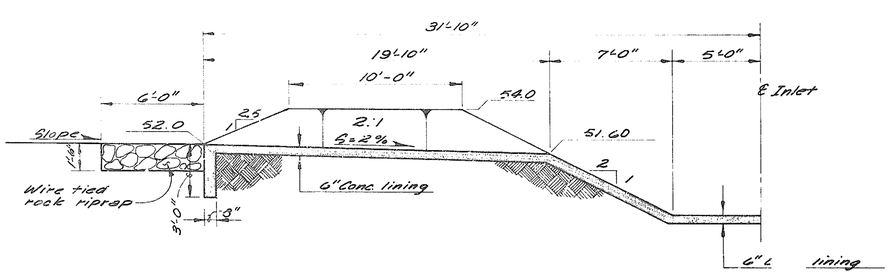
SECTION 1 3-11 3-11
SCALE: 1" = 10'



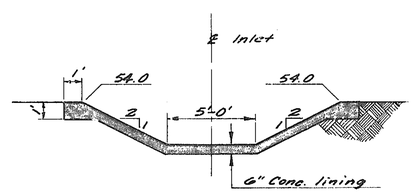
SECTION 4 3-11 3-11
SCALE: 1" = 10'

ESTIMATED QUANTITIES FOR WASHINGTION INLET

ITEM	UNIT	AMOUNT
6" Concrete lining	Yd²	717
Reinf Steel	Lb.	6466



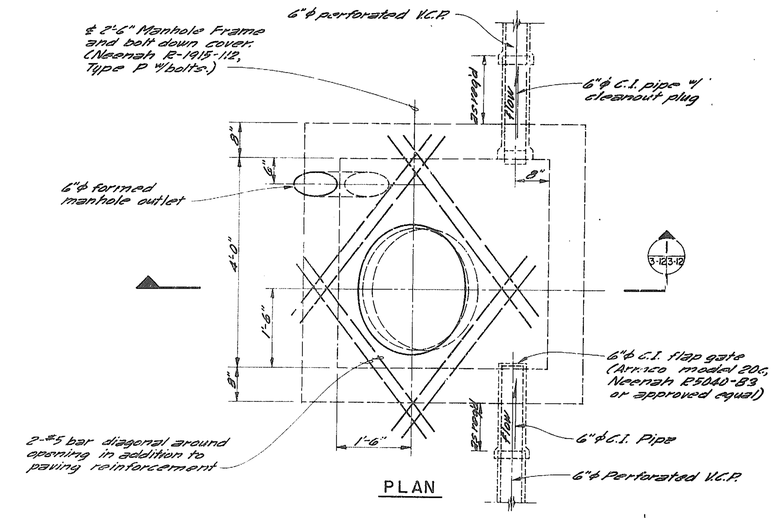
SECTION 2 3-11 3-11
SCALE: 1" = 4'



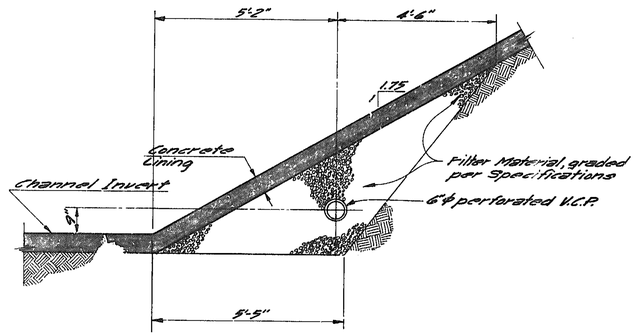
SECTION 3 3-11 3-11
SCALE: 1" = 4'

AS BUILT

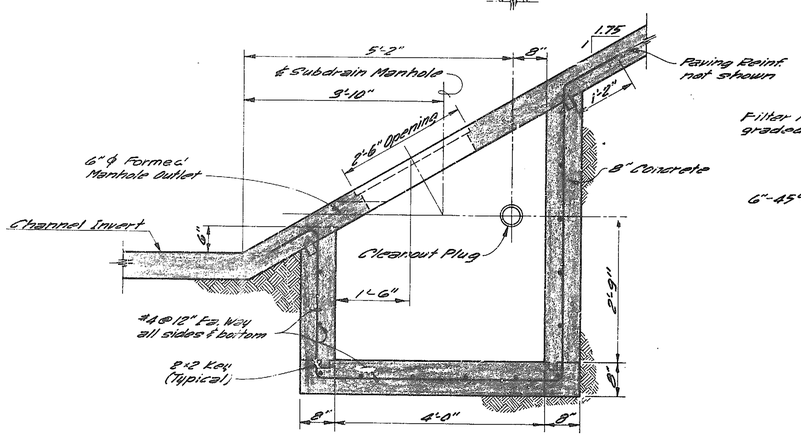
ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY ALBUQUERQUE NEW MEXICO	SHEET ~~3-11~~ 15 OF 57
EMBUDO ARROYO CHANNELIZATION PHASE II **PLAN & SECTIONS WASHINGTON INLET**	
WILLIAM MATOTAN & ASSOCIATES - ENGINEERS ALBUQUERQUE, NEW MEXICO	
SCALE AS SHOWN · DRAWN O.R. · CHECKED R.B. · DATE JUNE 1970	



PLAN

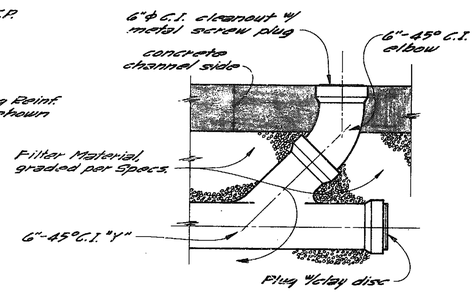


SUBDRAIN SECTION
SCALE: 1/2" = 1'-0"



SECTION 1 / 3-12-12

SUBDRAIN MANHOLE DETAILS
SCALE: 3/4" = 1'-0"

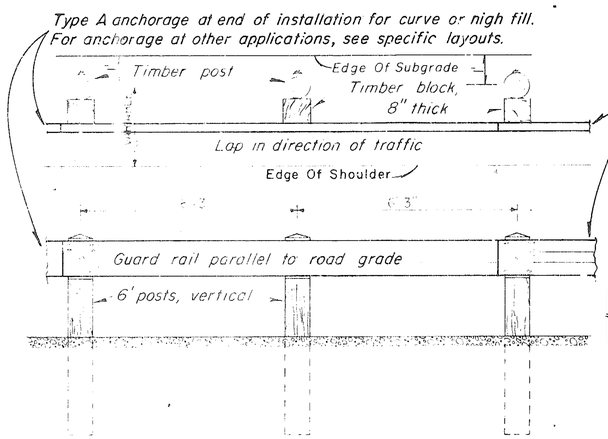


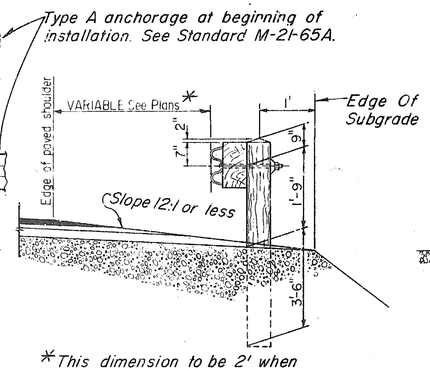
SUBDRAIN CLEANOUT DETAIL
NO SCALE

AS BUILT

ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY ALBUQUERQUE NEW MEXICO	SHEET
EMBUDO ARROYO CHANNELIZATION PHASE II **SUBDRAIN DETAILS**	3-12 16 of 57
WILLIAM MATOTAN & ASSOCIATES – ENGINEERS ALBUQUERQUE, NEW MEXICO	
SCALE AS SHOWN · DRAWN JC · CHECKED R.J.S. · DATE JUNE 1970	

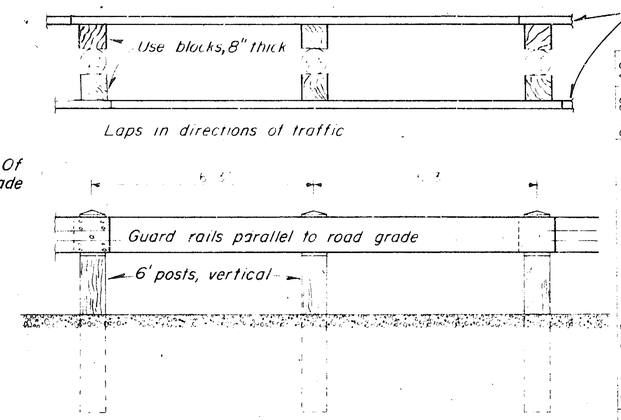
FED. ROAD DIV. NO.	STATE		FISCAL YEAR	SHEET NO.	TOTAL SHEETS
9	NEW MEXICO			17 3-13	57





Roadside Installation

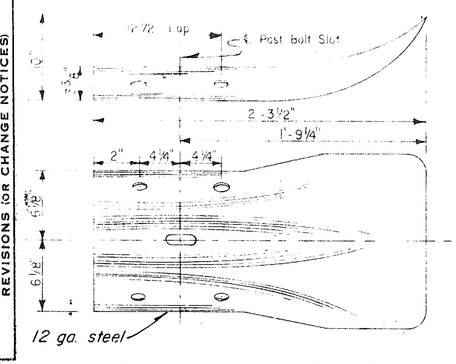
*This dimension to be 2' when guardrail is continuous between bridges.



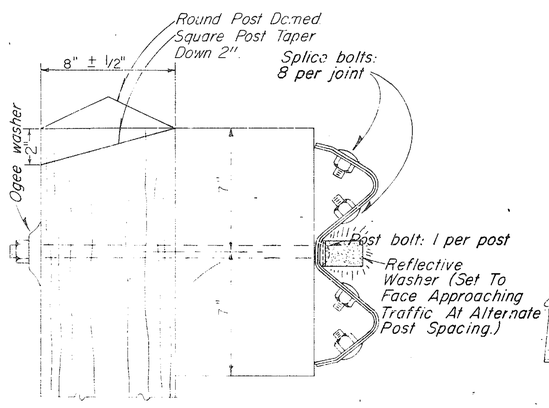
Median Installation

No.	DESCRIPTION	DATE	BY
8	Revised 8" Block.	Dec 69	A.G.
7	Gation Note	Nov 69	A.G.
6	Added Reflective Washer	Oct 69	A.G.
5	Changed Post Diam. & Post Option	Apr 69	A.G.
4	Added 2' Offset Distance	Jan. 69	C.E.S.
3	Added Note Subgrade	Nov. 68	A.G.
2	Revised Post Height & Misc. Details	Mar. 68	R.Z.
1	Revised Guard Rail-Post Diameter	Nov 66	M.H.

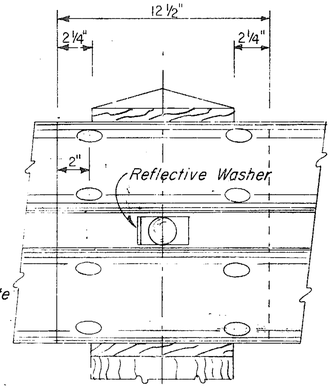
REVISIONS (OR CHANGE NOTICES)



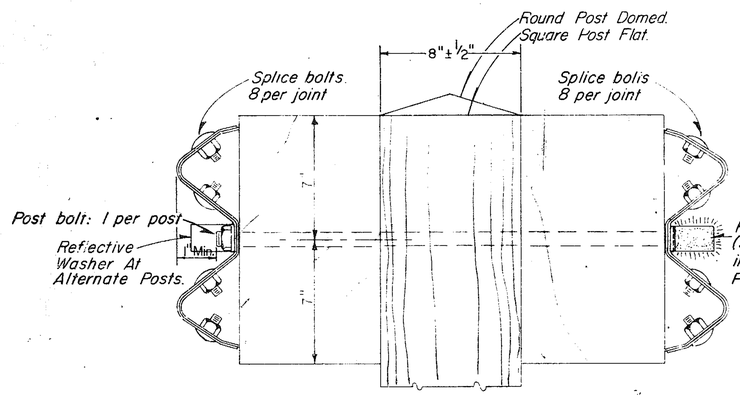
Standard Terminal Section



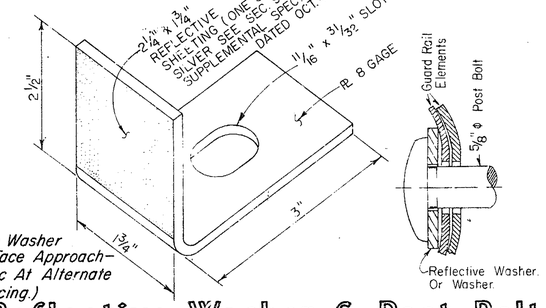
Section at Joint, Single Rail



Joint Assembly



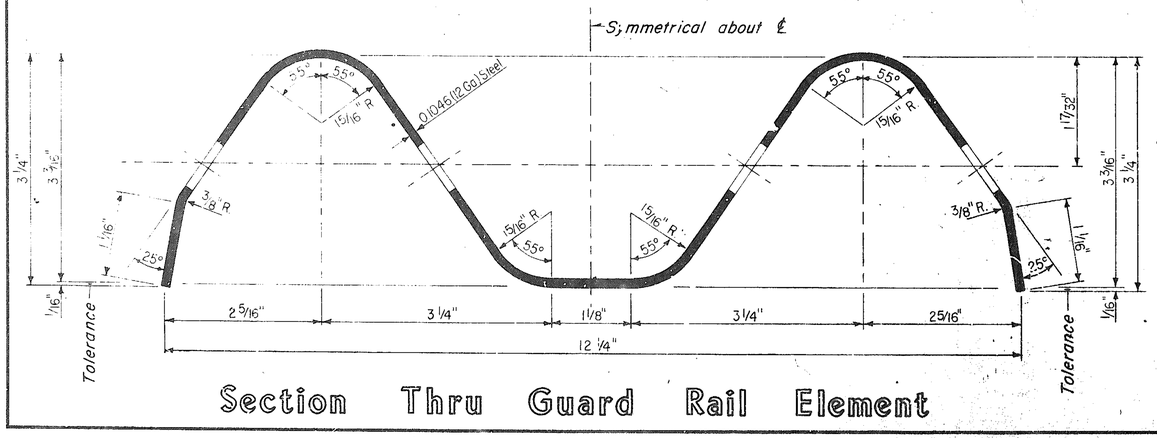
Section at Joint, Double Rail



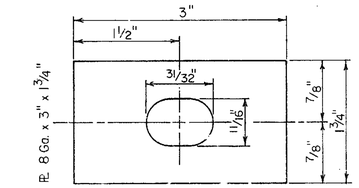
Reflective Washer & Post Bolt

NOTES

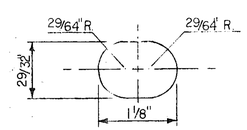
1. Top of square posts with double guard rail shall be flat. Top of single guard rail posts shall be beveled 2" to back side. Round posts shall be domed.
2. Unless otherwise provided, rail elements and terminal sections shall be 12 gauge steel. Rail elements may be furnished in 12 1/2 ft. or 25 ft. lengths.
3. Guard rail sections on curved alignment shall be installed to make full contact over the entire area of the splice. Where the radius of curved alignment is 150 ft. or less, the individual railing sections shall be shop-formed by the manufacturer to fit the curvature.
4. Timber blocks to be 8"x8"x14" high, except where otherwise noted. Timber blocks and timber posts to be treated with pentachlorophenol in conformity with New Mexico State Highway Comm. Specifications. Blocks may be rough or S4S.
5. Approach end of roadside guard rail must be flared away from traffic by methods illustrated on Standard M-21-64. Install proper washers on both ends of all post bolts.
6. Contractor Has The Option To Use 8"ø x 6' Post or 8" x 8" x 6' Rough Post or S4S.



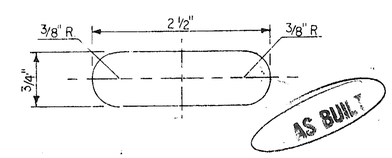
Section Thru Guard Rail Element



Post Bolt Washer



Splice Bolt Slot

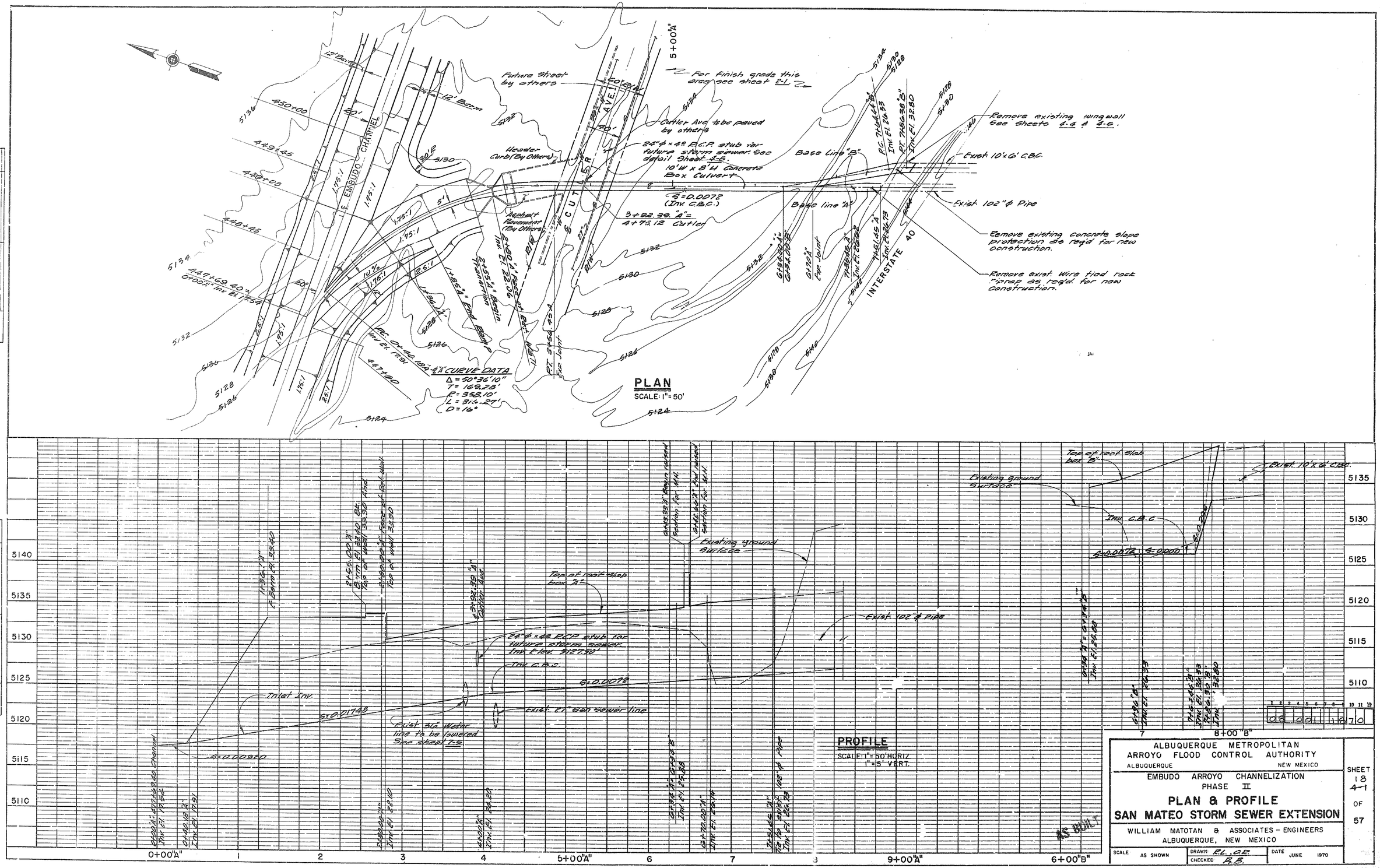


Post Bolt Slot

NEW MEXICO
STATE HIGHWAY DEPARTMENT
TRAFFIC DESIGN SECTION

GUARD RAIL
Roadside & Median

SERIAL M-21-62



PLAN	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	R.O.W. & EASEMENTS CHECKED		
	RT. OF WAY CHECKED		

PROFILE	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	GRADES CHECKED		
	B. M.'S NOTED		
	STRUCTURE NOTATIONS CHKD.		

ALBUQUERQUE METROPOLITAN
ARROYO FLOOD CONTROL AUTHORITY
ALBUQUERQUE NEW MEXICO

EMBUDO ARROYO CHANNELIZATION
PHASE II

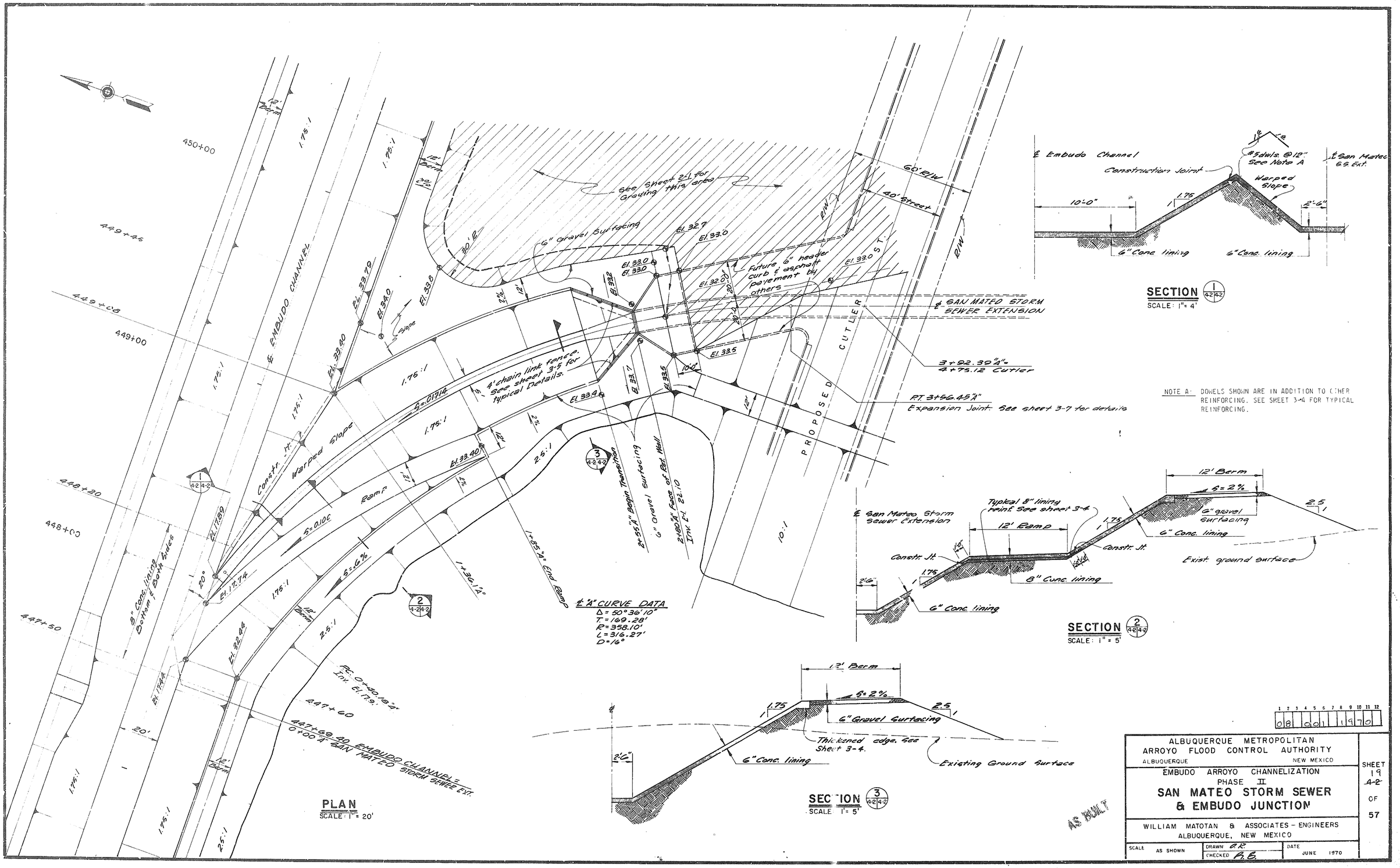
PLAN & PROFILE
SAN MATEO STORM SEWER EXTENSION

WILLIAM MATOTAN & ASSOCIATES - ENGINEERS
ALBUQUERQUE, NEW MEXICO

SCALE	AS SHOWN	DRAWN: R.L., O.R.	DATE	JUNE 1970
		CHECKED: R.B.		

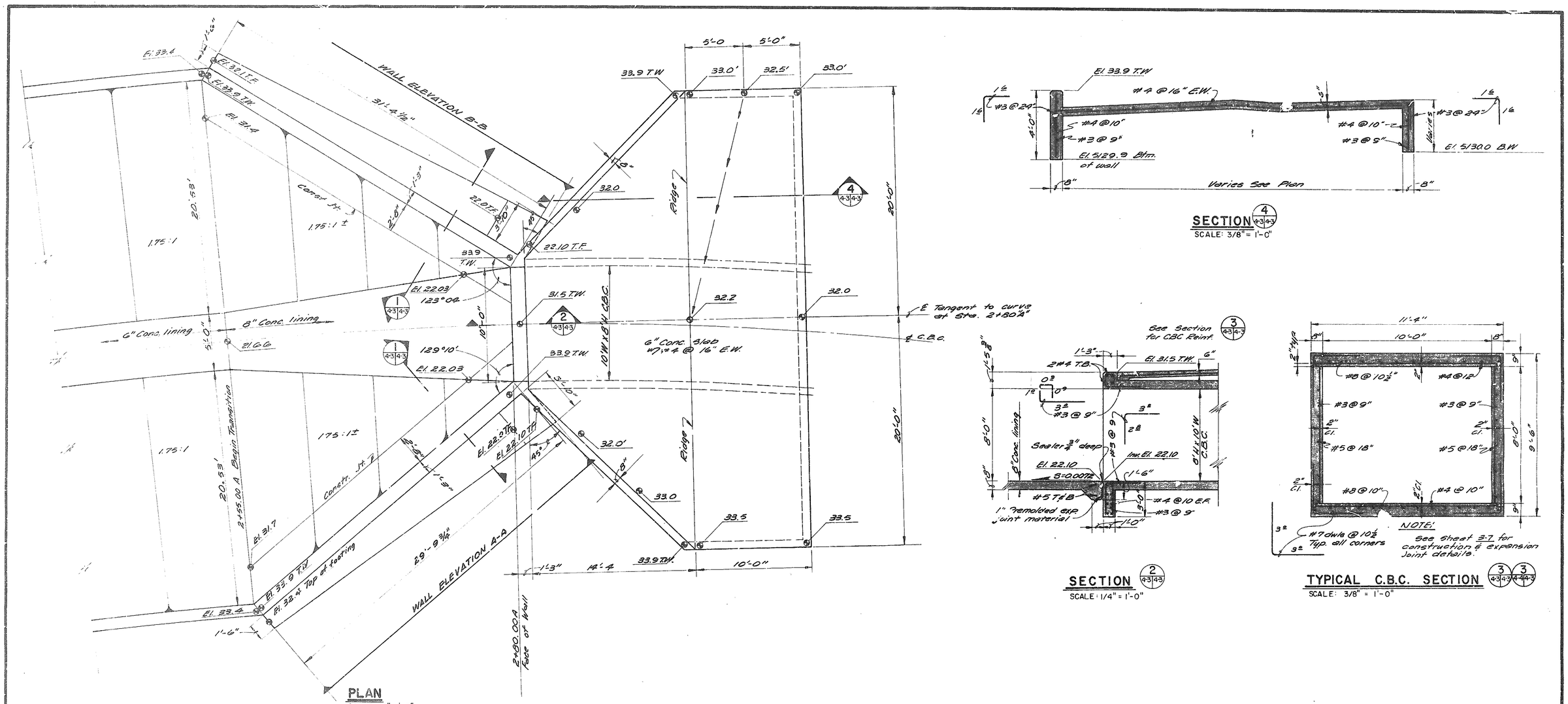
SHEET 18 4-1 OF 57

PLATE 1—PLAN PROFILE B. P. R. STANDARD
THE FREDERICK POUT CO., CHICAGO

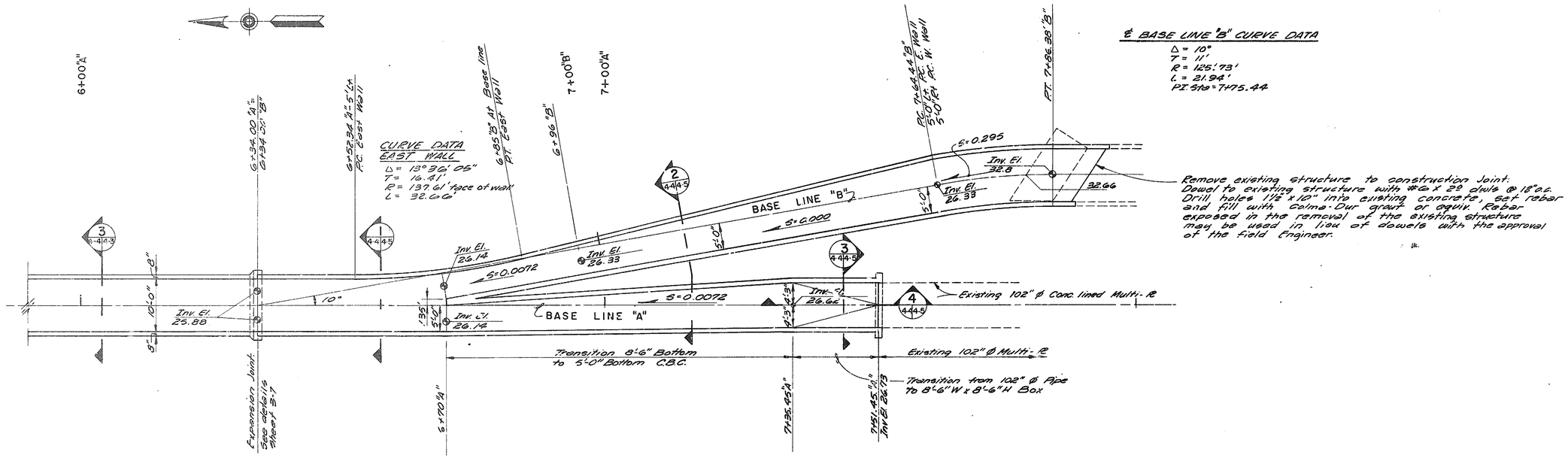


ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY ALBUQUERQUE NEW MEXICO		SHEET 19 ~~4-2~~ OF 57
EMBUDO ARROYO CHANNELIZATION PHASE II **SAN MATEO STORM SEWER & EMBUDO JUNCTION**		
WILLIAM MATOTAN & ASSOCIATES – ENGINEERS ALBUQUERQUE, NEW MEXICO		
SCALE AS SHOWN	DRAWN A.R. CHECKED P.B.	DATE JUNE 1970

1 2 3 4 5 6 7 8 9 10 11 12
08 001 19 70



ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY ALBUQUERQUE NEW MEXICO	SHEET 20 4-3 OF 57
EMBUDO ARROYO CHANNELIZATION PHASE II **PLAN & DETAILS - TRANSITION STRUCT.** **SAN MATEO STORM SEWER EXTENSION**	
WILLIAM MATOTAN & ASSOCIATES - ENGINEERS ALBUQUERQUE, NEW MEXICO	
SCALE AS SHOWN · DRAWN O.E. · CHECKED R.B. · DATE JUNE 1970	



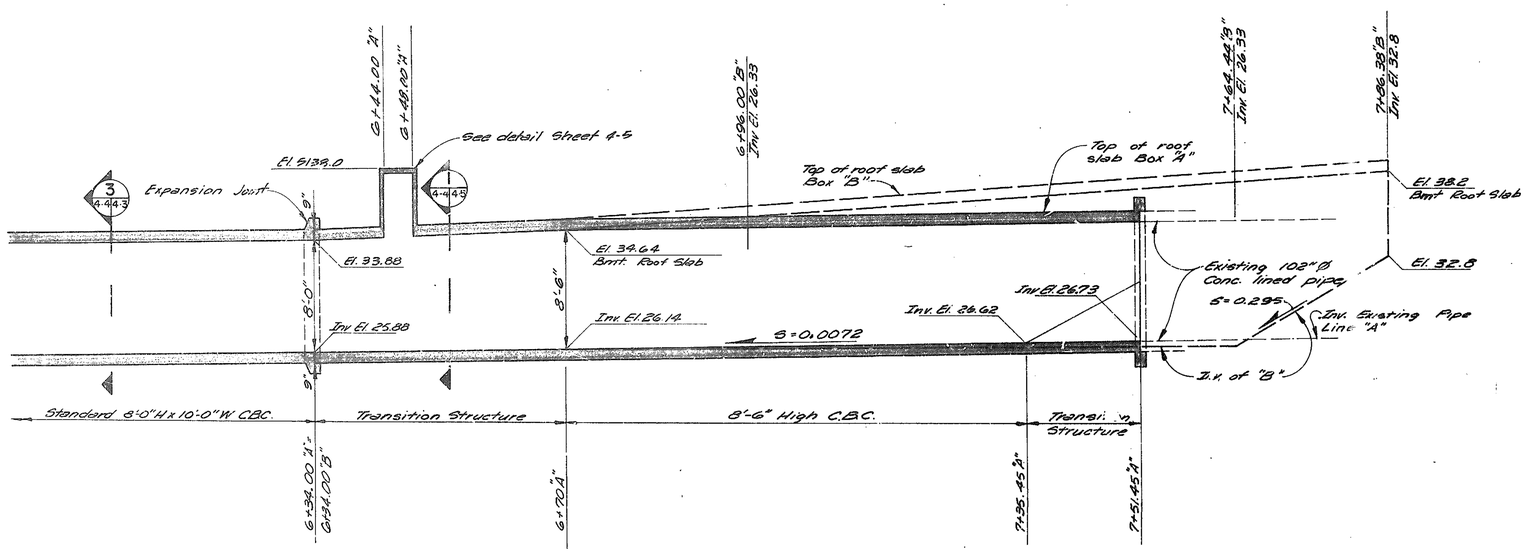
Remove existing structure to construction Joint. Dowel to existing structure with #6 x 22 dwls @ 18" o.c. Drill holes 1½" x 10" into existing concrete, set rebar and fill with Colma-Dur grout or equiv. Rebar exposed in the removal of the existing structure may be used in lieu of dowels with the approval of the field Engineer.

℄ BASE LINE "B" CURVE DATA

Δ = 10°
T = 11'
R = 125.73'
L = 21.94'
PI: Sta = 7+75.44

PLAN

SCALE: 1" = 10'



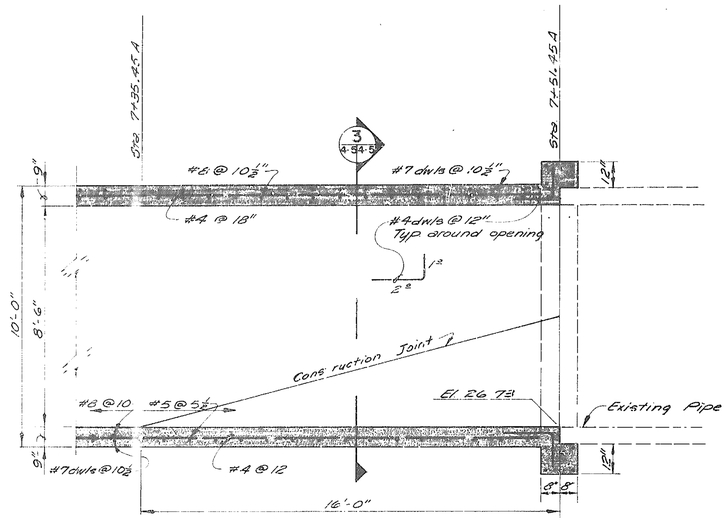
PROFILE

SCALE: 1" = 10' HORIZ.
1" = 5' VERT.

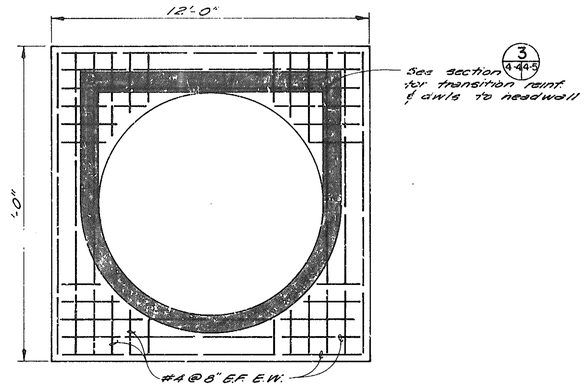
AS BUILT

ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY ALBUQUERQUE NEW MEXICO	SHEET 21 4-4 OF 57
EMBUDO ARROYO CHANNELIZATION PHASE II **TRANSITION TO EXISTING CONST.** **SAN MATEO STORM SEWER EXTENSION**	
WILLIAM MATOTAN & ASSOCIATES - ENGINEERS ALBUQUERQUE, NEW MEXICO	
SCALE AS SHOWN / DRAWN: O.R. / CHECKED: R.B. / DATE JUNE 1970	

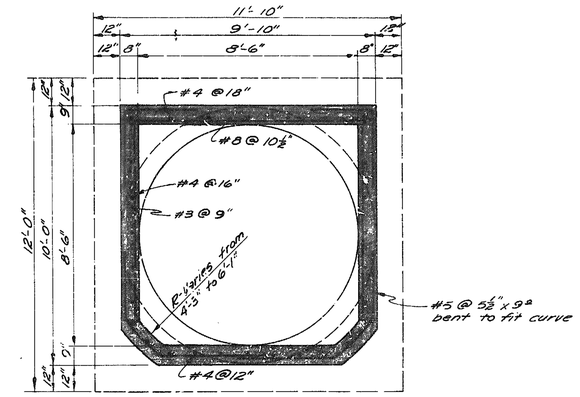
1 2 3 4 5 6 7 8 9 10 11 12
0 8 0 0 1 2 1 7 0



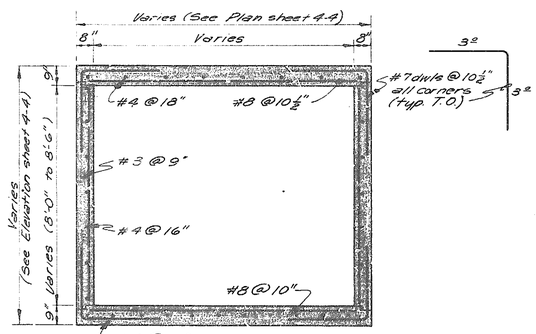
SECTION 4/4-4-5
SCALE: 3/8" = 1'-0"



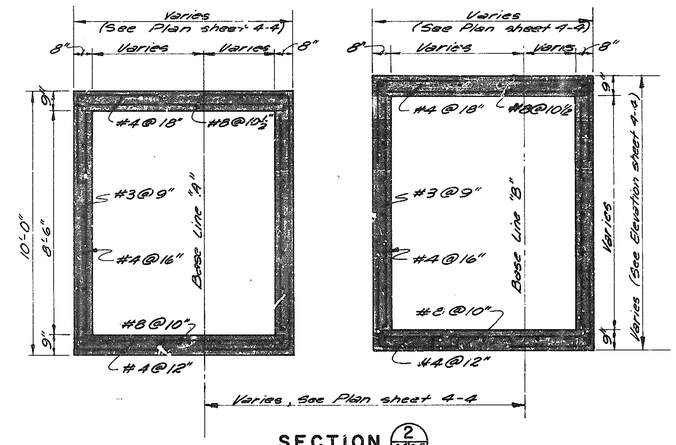
ELEV. OF HEADWALL
AT STA. 7+51.45 "A"
SCALE: 3/8" = 1'-0"



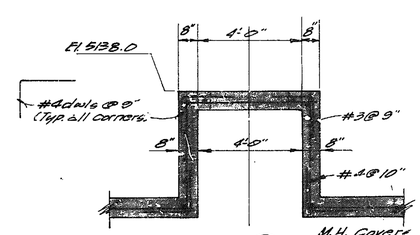
SECTION 3/4-4-5
SCALE: 3/8" = 1'-0"



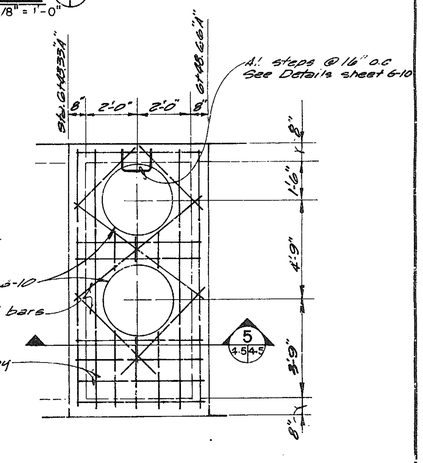
SECTION 4/4-4-5
SCALE: 3/8" = 1'-0"



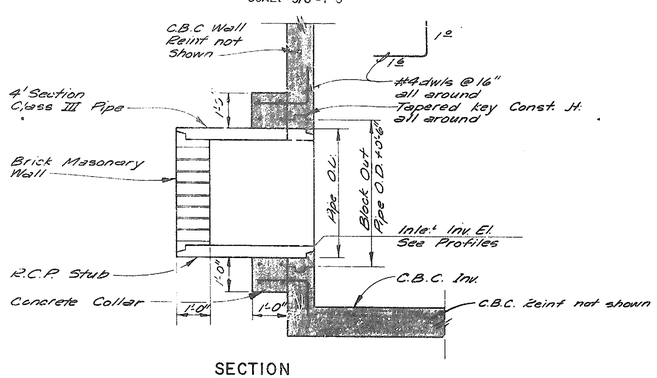
SECTION 2/4-4-5
SCALE: 3/8" = 1'-0"



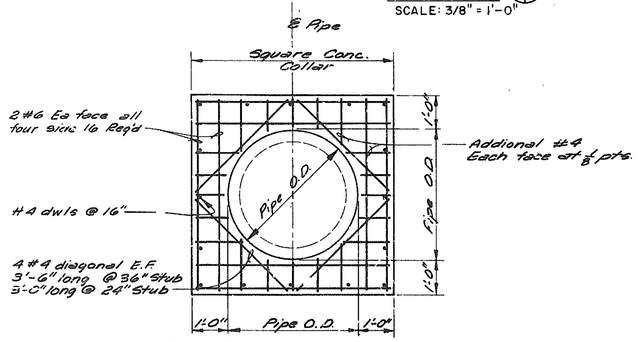
SECTION 5/4-4-5
SCALE: 3/8" = 1'-0"



PLAN OF RAISED SECTION
SCALE: 3/8" = 1'-0"



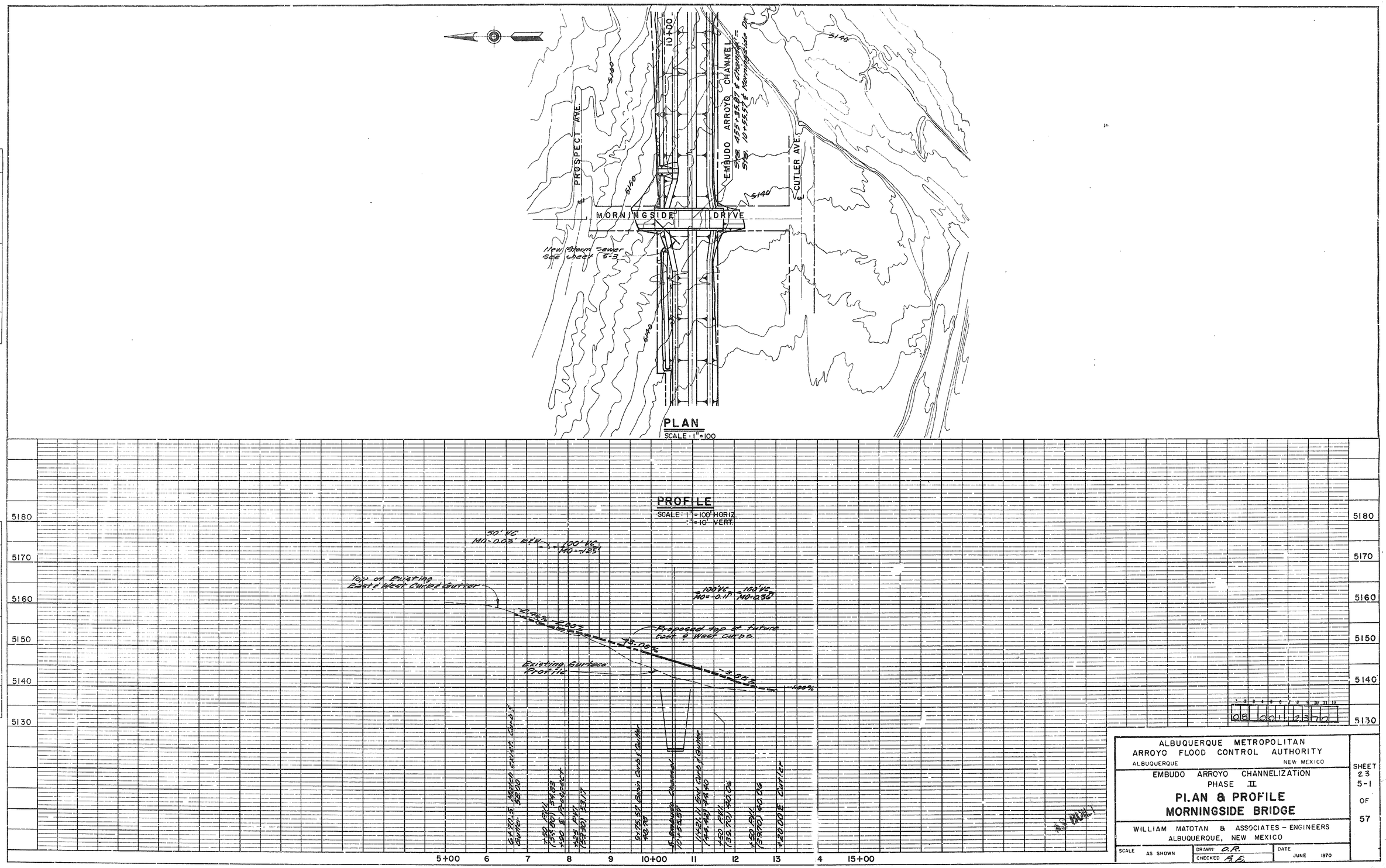
SECTION



ELEVATION CONC. COLLAR

TYPICAL R.C.P. STUB OUT DETAIL
SCALE: 1/2" = 1'-0"

ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY ALBUQUERQUE NEW MEXICO	SHEET 22 4-5 OF 57
EMBUDO ARROYO CHANNELIZATION PHASE II SECTIONS OF TRANSITION STRUCT. SAN MATEO STORM SEWER EXTENSION	
WILLIAM MATOTAN & ASSOCIATES – ENGINEERS ALBUQUERQUE, NEW MEXICO	
SCALE AS SHOWN · DRAWN O.R. · CHECKED R.R. · DATE JUNE 1970	



PLAN	BY	DATE
NOTE BOOK NO.	SURVEYED	
	PLOTTED	
	ALIGNMENT CHECKED	
	RT. OF WAY CHECKED	

PROFILE	BY	DATE
NOTE BOOK NO.	SURVEYED	
	PLOTTED	
	GRADES CHECKED	
	B. M.'S NOTED	
	STRUCTURE NOTATIONS CHKD.	

ALBUQUERQUE METROPOLITAN
ARROYO FLOOD CONTROL AUTHORITY
ALBUQUERQUE NEW MEXICO

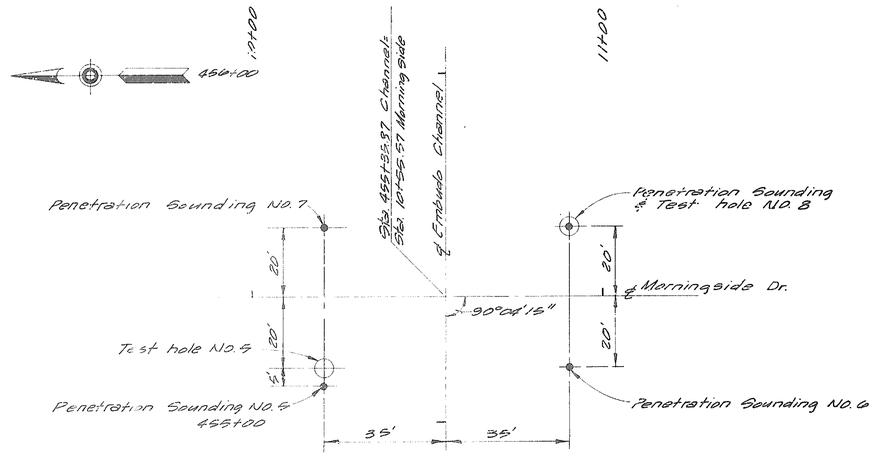
EMBUDO ARROYO CHANNELIZATION
PHASE II

PLAN & PROFILE
MORNINGSIDE BRIDGE

WILLIAM MATOTAN & ASSOCIATES – ENGINEERS
ALBUQUERQUE, NEW MEXICO

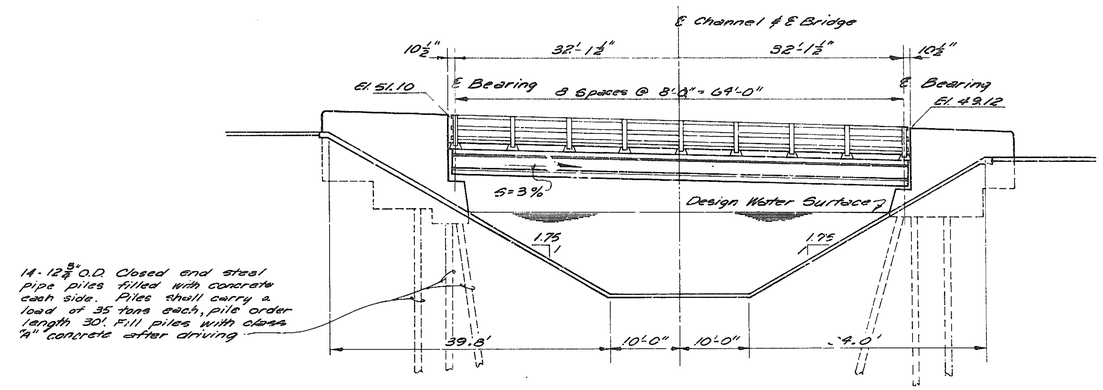
SCALE	DRAWN	DATE
AS SHOWN	O.R.	JUNE 1970
	CHECKED R.E.	

SHEET 23
5-1
OF
57



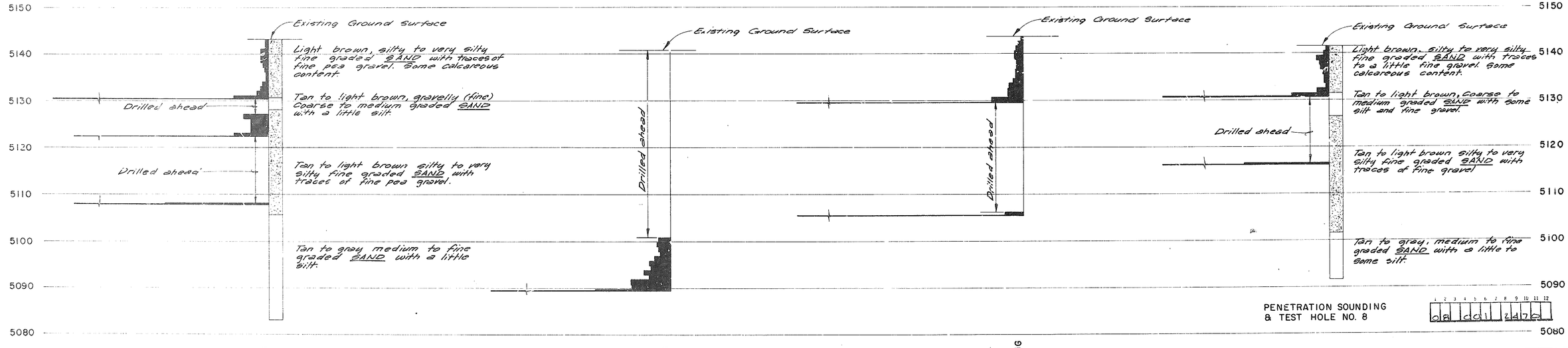
TEST HOLE LOCATION

SCALE: 1" = 20'



WEST ELEVATION

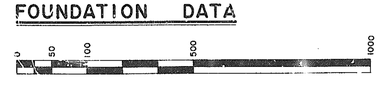
SCALE: 1" = 10'



PENETRATION SOUNDING & TEST HOLE NO. 5

PENETRATION SOUNDING NO. 6

FOUNDATION DATA



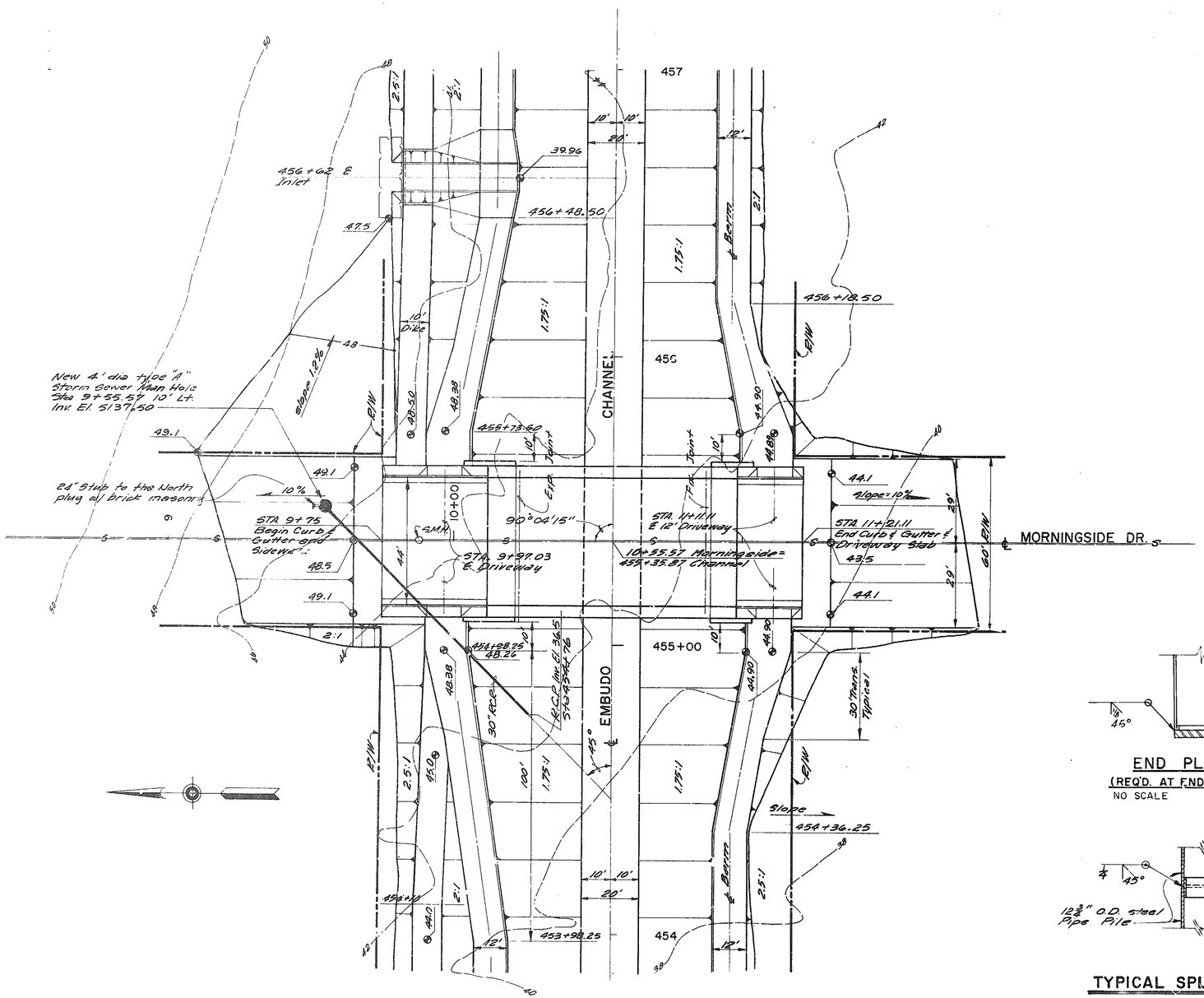
BLOWS PER FOOT

ROD SOUNDING SCALE

PENETRATION SOUNDING NO. 7

AS BUILT

ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY ALBUQUERQUE NEW MEXICO		SHEET 24 5-2 OF 57
EMBUDO ARROYO CHANNELIZATION PHASE II **FOUNDATION DATA** **MORNINGSIDE BRIDGE**		
WILLIAM MATOTAN & ASSOCIATES – ENGINEERS ALBUQUERQUE, NEW MEXICO		
SCALE AS SHOWN	DRAW. O.R., R.L. CHECKED R.B.	DATE JUNE 1970

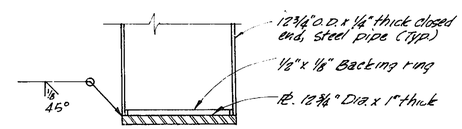


PLAN

SCALE: 1" = 20'

NOTE

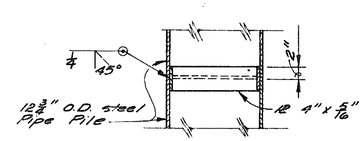
Cost of pile end plates & splice materials shall be included in the unit price bid for lin. ft. of pipe pile.



END PLATE DETAIL

(REQ'D. AT ENDS OF ALL 12 3/4" O.D. PILES)

NO SCALE

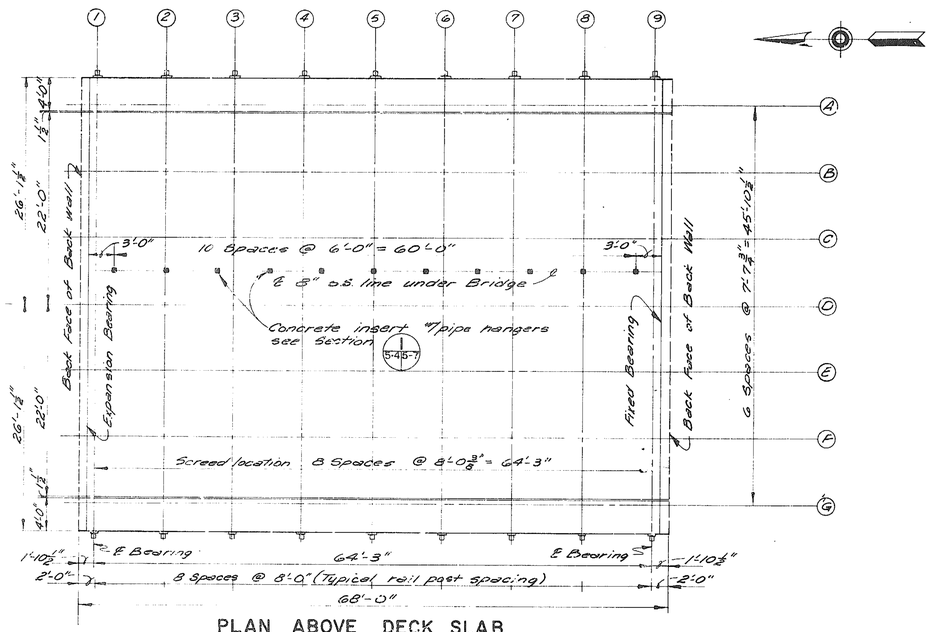


TYPICAL SPLICE DETAIL FOR CLOSED-END STEEL PIPE PILES

NO SCALE

AS BUILT

ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY ALBUQUERQUE NEW MEXICO	SHEET 25 5-3 OF 57
EMBUDO ARROYO CHANNELIZATION PHASE II **GRADING PLAN** **MORNINGSIDE BRIDGE**	
WILLIAM MATOTAN & ASSOCIATES – ENGINEERS ALBUQUERQUE, NEW MEXICO	
SCALE AS SHOWN · DRAWN: O.R. K.C. · CHECKED: P.B. · DATE JUNE 1970	



PLAN ABOVE DECK SLAB

SCALE: 1/8" = 1'-0"

TOP OF SLAB ELEV. AT ℄ OF GIRDERS

	1	2	3	4	5	6	7	8	9
A	5146.68	5146.43	5146.19	5145.95	5145.71	5145.46	5145.22	5144.98	5144.74
B	5146.79	5146.54	5146.30	5146.06	5145.82	5145.57	5145.33	5145.09	5144.85
C	5146.90	5146.65	5146.41	5146.17	5145.93	5145.68	5145.44	5145.20	5144.96
D	5147.02	5146.77	5146.53	5146.29	5146.05	5145.80	5145.56	5145.32	5145.08
E	5146.90	5146.65	5146.41	5146.17	5145.93	5145.68	5145.44	5145.20	5144.96
F	5146.79	5146.54	5146.30	5146.06	5145.82	5145.57	5145.33	5145.09	5144.85
G	5146.68	5146.43	5146.19	5145.95	5145.71	5145.46	5145.22	5144.98	5144.74

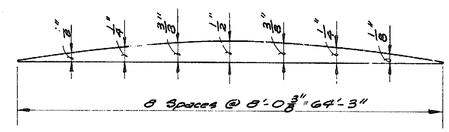
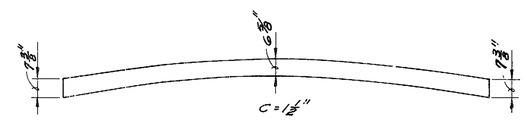


DIAGRAM FOR PLACING CONC. DECK

NO SCALE

To compensate for dead load deflections set screeds for concrete deck above finish grade by dimensions shown.



SLAB THICKENING DIAGRAM

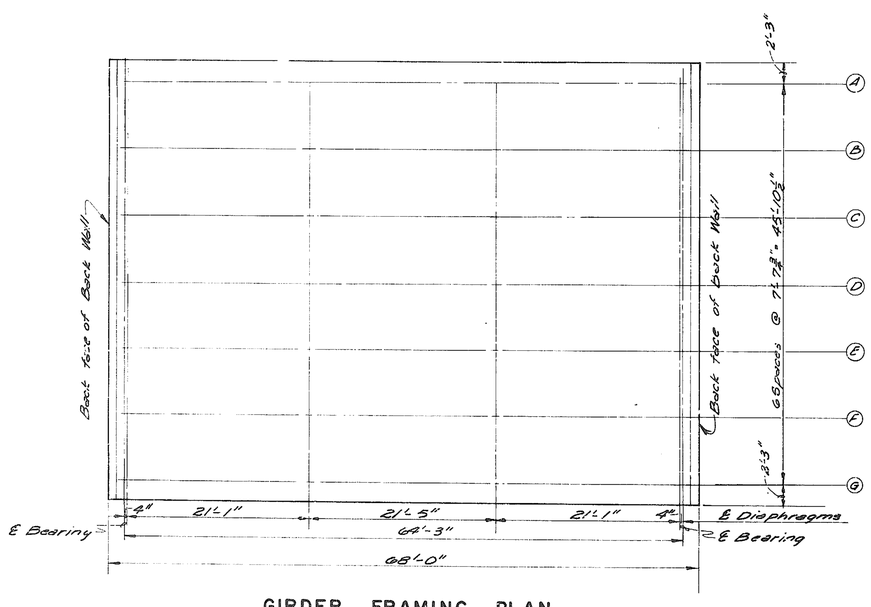
NO SCALE

Used in determining the estimated superstructure concrete quantities. Camber & dead load deflection have been taken into account in determining the values shown.

SLAB THICKENING NOTES:

C IS THE COMPUTED CAMBER IN THE GIRDERS THAT WILL BE AT THE CENTER OF THE SPAN AFTER THEY ARE IN PLACE AND BEFORE THE SLAB, DIAPHRAGMS OR OTHER SUPERIMPOSED LOADS ARE IN PLACE.

THE ACTUAL CAMBER AT THE CENTER OF THE SPAN SHALL BE MEASURED AND IF IT IS DIFFERENT THAN C AS COMPUTED, THE SLAB THICKNESS SHALL BE CORRECTED TO CONFORM WITH THE DIFFERENCE.

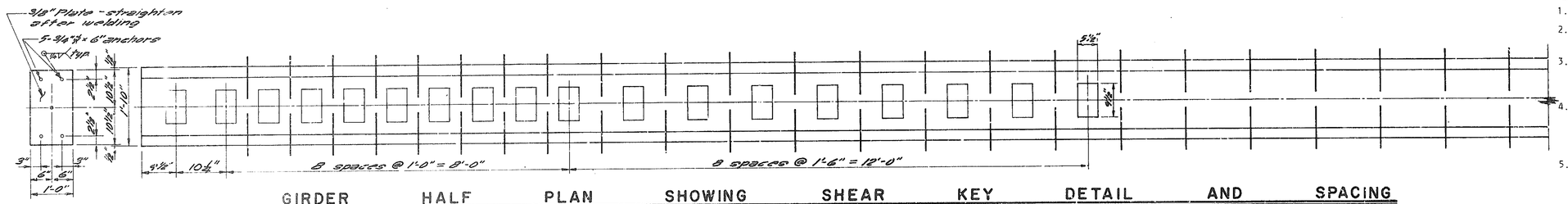


GIRDER FRAMING PLAN

SCALE: 1/8" = 1'-0"

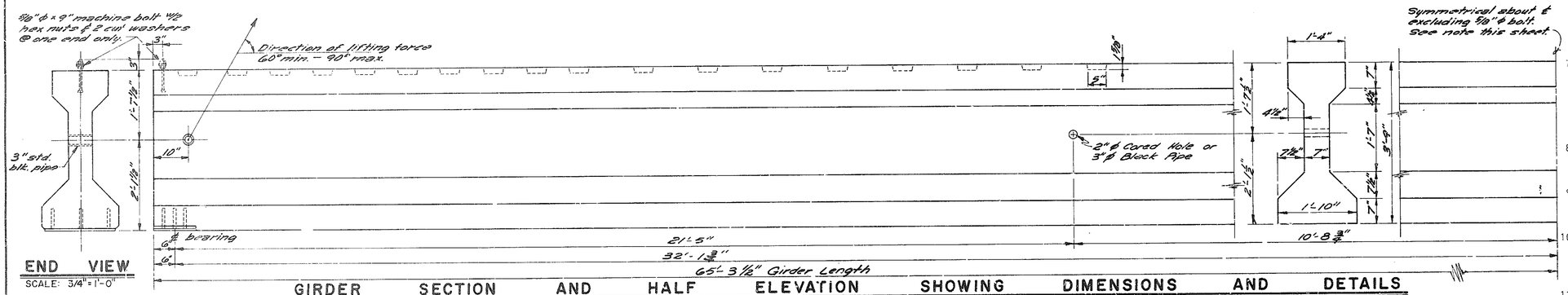
AS BUILT

ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY ALBUQUERQUE NEW MEXICO	SHEET 26 5-4 OF 57
EMBUDO ARROYO CHANNELIZATION PHASE II **FRAMING PLAN** **MORNINGSIDE BRIDGE**	
WILLIAM MATOTAN & ASSOCIATES – ENGINEERS ALBUQUERQUE, NEW MEXICO	
SCALE AS SHOWN · DRAWN O.B. · CHECKED B.B. · DATE JUNE 1970	



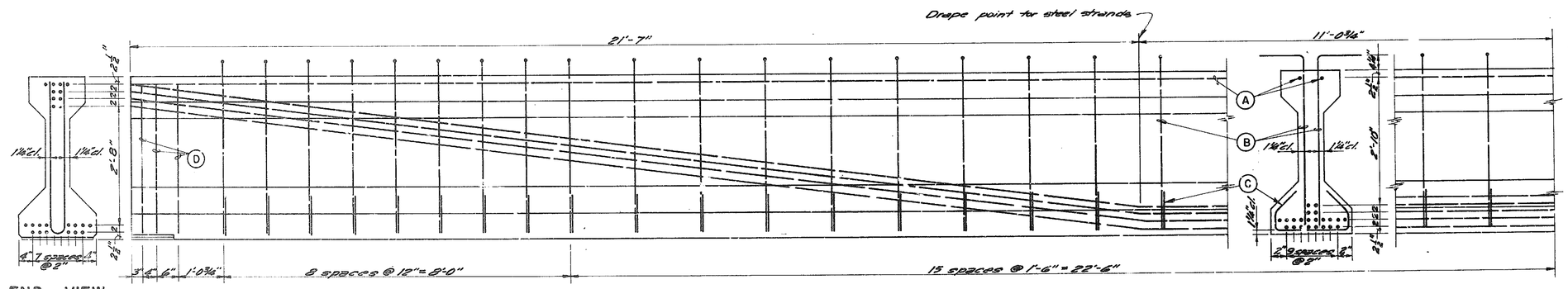
SHOE PLATE
SCALE: 3/4" = 1'-0"

GIRDER HALF PLAN SHOWING SHEAR KEY DETAIL AND SPACING
SCALE: 3/4" = 1'-0"



END VIEW
SCALE: 3/4" = 1'-0"

GIRDER SECTION AND HALF ELEVATION SHOWING DIMENSIONS AND DETAILS
SCALE: 3/4" = 1'-0"



END VIEW
SCALE: 3/4" = 1'-0"

GIRDER SECTION AND HALF ELEVATION SHOWING REINFORCING DETAIL AND SPACING
SCALE: 3/4" = 1'-0"

GENERAL NOTES:

1. PRETENSIONED GIRDERS SHALL BE MANUFACTURED WITHOUT END BLOCKS.
2. ALL WORKMANSHIP AND MATERIALS SHALL CONFORM TO THE NEW MEXICO STATE HIGHWAY COMMISSION SPECIFICATIONS
3. ALL EXPOSED EDGES SHALL BE CHAMFERED 3/4" OR ROUNDED TO 3/4" RADIUS. ANGLES OF INTERSECTION BETWEEN FLANGES AND WEBS SHALL BE ROUNDED TO NOT LESS THAN 3/4" RADIUS.
4. STIRRUPS MAY BE WELDED INTO A "CAGE" AT THE FABRICATOR'S OPTION. STIRRUP SPACING BARS MAY BE USED SUBJECT TO APPROVAL BY THE ENGINEER. NO EXTRA PAYMENT WILL BE ALLOWED FOR STIRRUP SPACING BARS, COST OF SAME TO BE INCLUDED IN BID PRICE.
5. GIRDERS SHALL LIFTED WITH DEVICES SATISFACTORY TO THE ENGINEER, INSERTED THROUGH THE 3"ø PIPE AT THE GIRDER ENDS. LIFTING DEVICES SHALL BE SUBMITTED FOR THE ENGINEER'S APPROVAL PRIOR TO THEIR USE. GIRDERS SHALL BE CAST, LIFTED, STORED, HAULED, AND INSTALLED IN AN UPRIGHT POSITION.
6. PRESTRESSING TENDONS FOR PRETENSIONED GIRDERS SHALL CONSIST OF HIGH-TENSILE STRENGTH SEVEN-WIRE STEEL STRANDS CONFORMING TO REQUIREMENTS OF THE NEW MEXICO STATE HIGHWAY COMMISSION SPECIFICATIONS. DETAILS OF HOLD-DOWNS FOR DRAPED STRANDS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO THEIR USE.
7. PRESTRESSING TENDONS FOR POST-TENSIONED GIRDERS MAY CONSIST OF EITHER HIGH-TENSILE STRENGTH SEVEN-WIRE STEEL STRANDS, HIGH-TENSILE STRENGTH STEEL WIRES IN PARALLEL ASSEMBLIES OR HIGH-TENSILE STRENGTH ALLOY-STEEL BARS INSTALLED, TENSIONED, ANCHORED AND GROUTED AS PROVIDED IN THE NEW MEXICO STATE HIGHWAY COMMISSION SPECIFICATIONS.
8. ALL MILD STEEL REINFORCING BARS SHALL BE DEFORMED BARS, A-615 GRADE 40. ALL DIMENSIONS REFER TO CENTERLINE OF BARS UNLESS OTHERWISE NOTED.
9. COST OF PRESTRESSING TENDONS, ANCHORS, CONDUITS, REINFORCING BARS AND STRUCTURAL STEEL ITEMS EMBEDDED IN THE GIRDERS SHALL BE INCLUDED IN THE UNIT BID PRICE FOR EACH GIRDER.
10. POST TENSIONED GIRDERS MAY BE USED. SHOULD THE CONTRACTOR ELECT TO USE THIS METHOD, HE MUST SUBMIT DESIGN CALCULATIONS AND DETAILS FOR APPROVAL. POST TENSIONED GIRDERS SHALL HAVE END BLOCKS.
11. 1/2" DIA. SEVEN-WIRE HIGH-TENSILE STRENGTH PRESTRESSING STRAND HAVING PROPERTIES OTHER THAN THOSE SHOWN IN DESIGN DATA MAY BE USED. SHOULD THE CONTRACTOR ELECT TO USE SUCH STRANDS, THE NUMBER OF STRANDS PER BEAM AND THE STRAND PATTERN WILL BE REDETERMINED ON THE BASIS OF STRAND STRENGTH. THE NEW DESIGN TO BE PREPARED BY THE CONTRACTOR AND SUBMITTED FOR APPROVAL.

DESIGN NOTES:

DESIGN ACCORDING TO A.A.S.H.O. SPECIFICATIONS, 1969 WITH SUBSEQUENT AMENDMENTS AND ADDITIONS THERETO.

DESIGN BASED ON PRETENSIONED BEAMS WITH 1/2" DIA. HIGH-TENSILE STRENGTH SEVEN-WIRE STEEL STRAND.

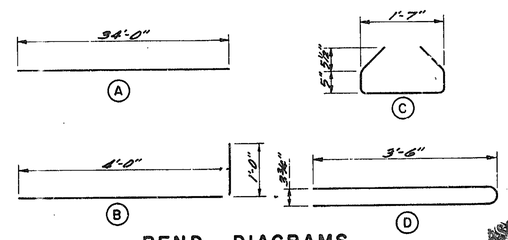
DESIGN STRESSES: f'c=6000 #/sq. INCH, MINIMUM CYLINDER STRENGTH OF CONCRETE AT TIME OF PRESTRESSING, f'ci=4500 #/sq. INCH.

INITIAL PRESTRESS =28,910# PER STRAND; fs = 41,300# PER STRAND.

FOR REINFORCING BARS: fs=20,000#/sq. INCH.

LIVE LOAD: H20-S16-44.

REINFORCING FOR ONE GIRDER				
MARK	SIZE	LENGTH	NO. REQUIRED	WEIGHT.
A	#5	34' 2"	4	141.8#
B	#4	5' 2"	96	320.6#
C	#4	3' 2"	48	120.2#
D	#6	7' 2"	6	64.7#
QUANITIES FOR ONE GIRDER				
CONCRETE (6000 P.S.I.				9.40 C.Y.
REINFORCING STEEL				647.3#
STRUCTURAL STEEL				67 #
COMPUTED WT. FOR ONE GIRDER				19.1 Tons



BEND DIAGRAMS
NO SCALE

ASSEMBLY

1 2 3 4 5 6 7 8 9 10 11 12
08 001 2 7 7 0

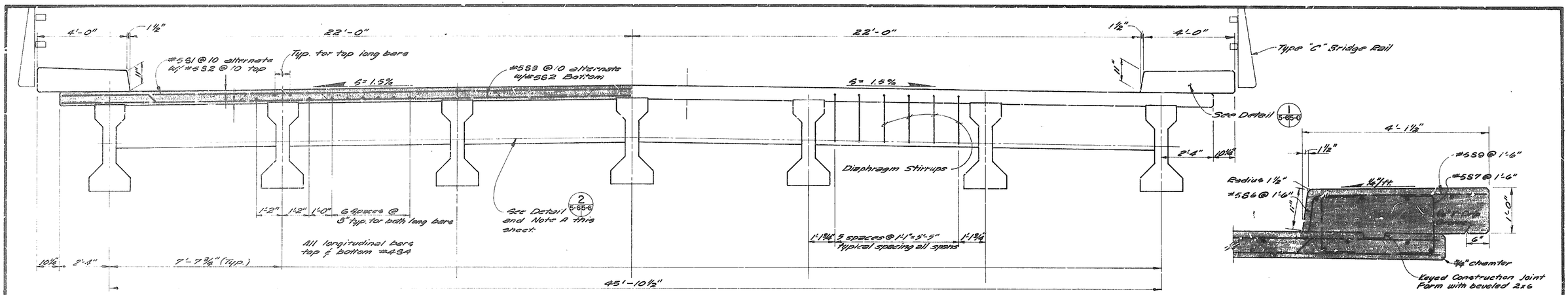
ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY
ALBUQUERQUE NEW MEXICO

EMBUDO ARROYO CHANNELIZATION
PHASE II
GIRDER DETAILS
MORNINGSIDE BRIDGE

WILLIAM MATOTAN & ASSOCIATES - ENGINEERS
ALBUQUERQUE, NEW MEXICO

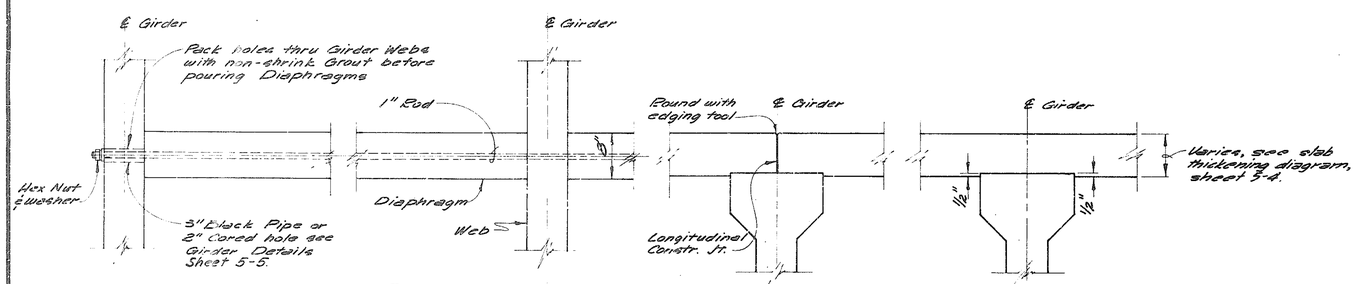
SCALE AS SHOWN | DRAWN J.C.S. | CHECKED F.B. | DATE JUNE 1970

SHEET 27 5-5 OF 57



DECK SECTION
SCALE: 1/2" = 1'-0"

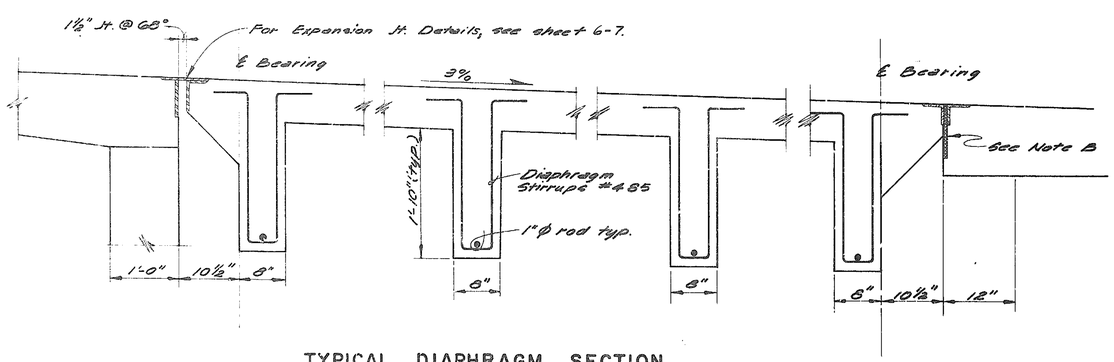
DETAIL 1 5-65-6
SCALE: 1" = 1'-0"



DETAIL 2 5-65-6
SCALE: 1" = 1'-0"

CONSTRUCTION JOINT
SCALE: 1" = 1'-0"

SLAB DETAIL
SCALE: 1" = 1'-0"



TYPICAL DIAPHRAGM SECTION
SCALE: 1" = 1'-0"

NOTE A: 1. 1" Ø ROD, WA' RS AND NUTS ARE INCLUDED IN QUANTITY SHOWN FOR STRUCTURAL STEEL.

2. THREAD BARS 4" BOTH ENDS.

3. TIGHTEN ALL NUTS AND BURR THREADS ON 1" Ø RODS AFTER FORMS ARE REMOVED.

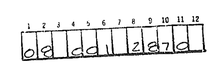
4. COST OF NON-SHRINK GROUT SHALL BE INCLUDED IN UNIT PRICE BID FOR CLASS A CONCRETE.

NOTE B: 1. FORM IN BACK OF FLEXIBLE JOINT MATERIAL BEFORE PLACING APPROACH SLAB.

ESTIMATED QUANTITIES FOR SUPERSTRUCTURE

ITEM	UNITS	AMOUNT
Class A Concrete	Cu. Yds.	92.02
Reinforcing	lb.	8699
Metal Bridge Railing	L.F.	192
Prestressed Conc. Girders	Ea.	7
Structural Steel	lb.	7546

AS BUILT



ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY
ALBUQUERQUE NEW MEXICO

EMBUDO ARROYO CHANNELIZATION
PHASE II

SLAB SECTION & DETAILS
MORNINGSIDE BRIDGE

WILLIAM MATOTAN & ASSOCIATES - ENGINEERS
ALBUQUERQUE, NEW MEXICO

SCALE AS SHOWN | DRAWN O.R. | CHECKED F.B. | DATE JUNE 1970

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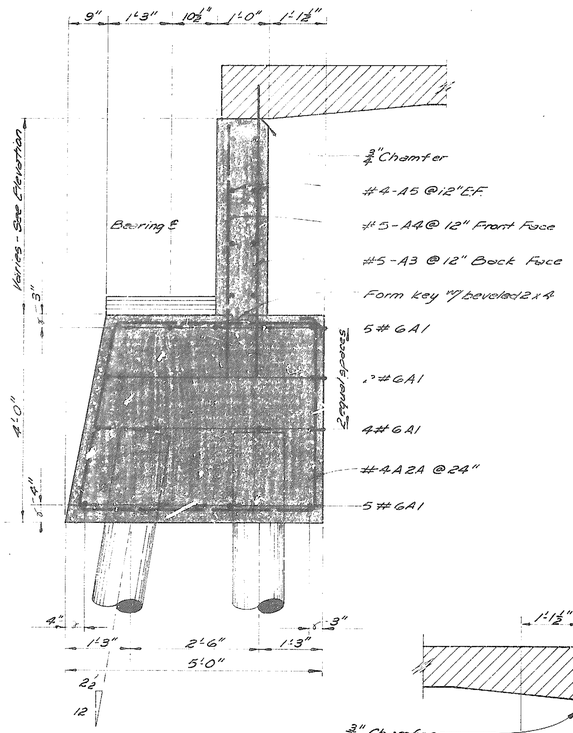
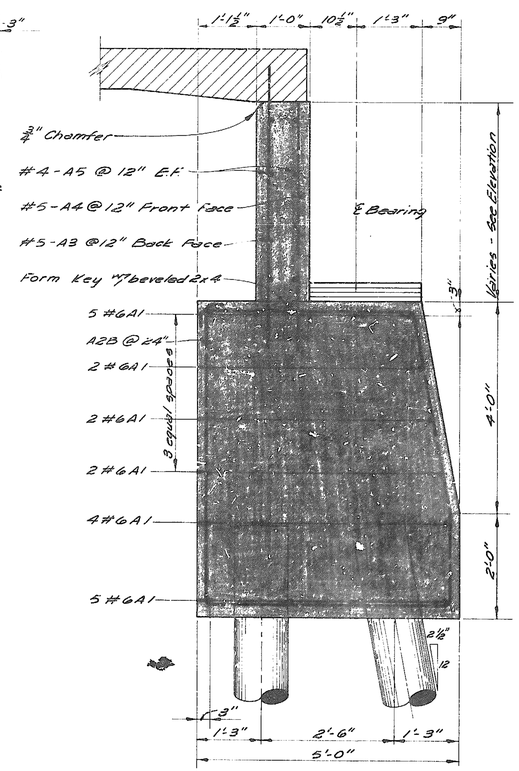


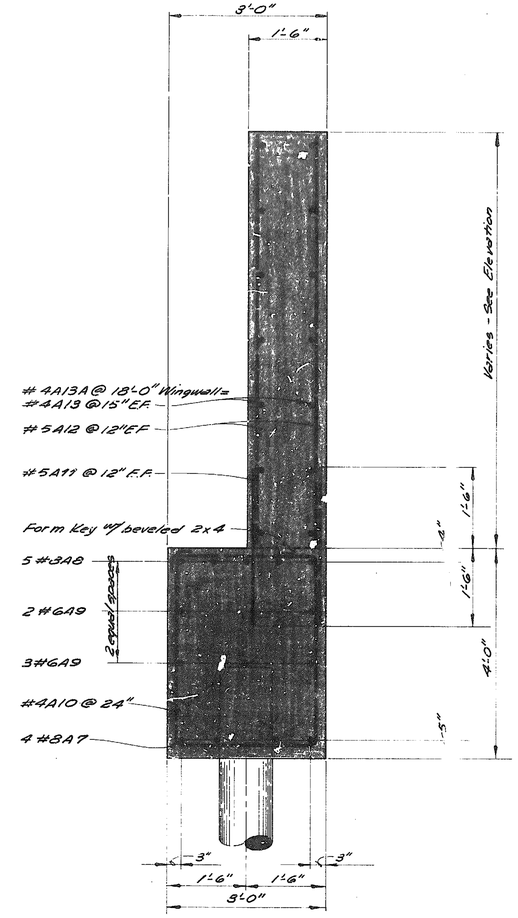
SOUTH ABUTMENT SECTION

SCALE: 3/4" = 1'-0"



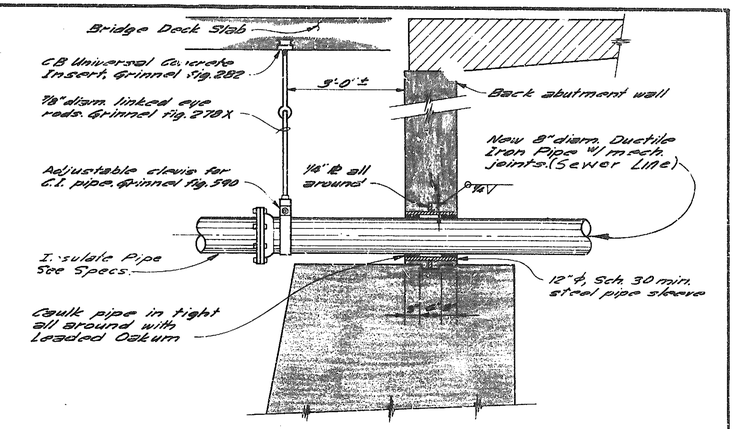
NORTH ABUTMENT SECTION

SCALE: 3/4" = 1'-0"



WINGWALL SECTION

SCALE: 3/4" = 1'-0"



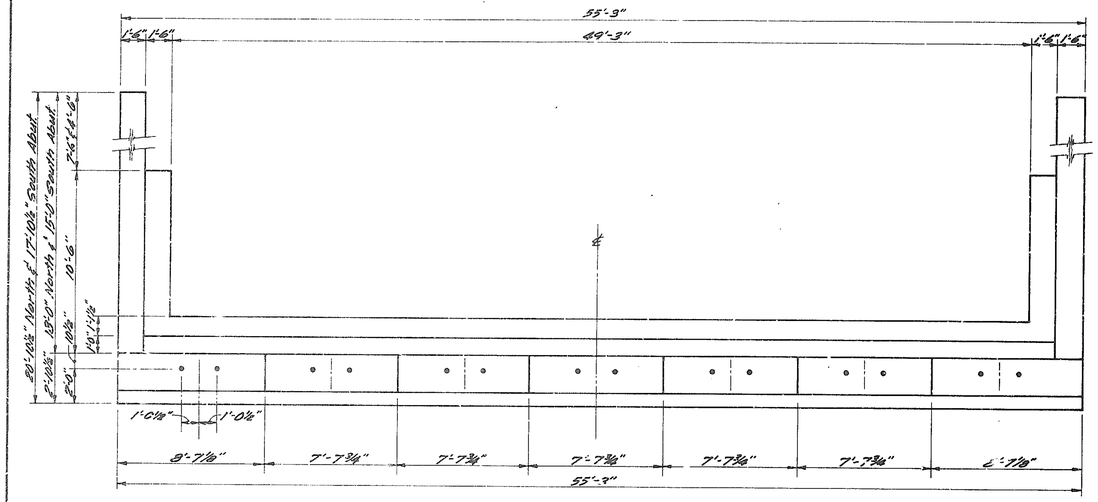
SLEEVE DETAIL

SCALE: 3/4" = 1'-0"

5-B5 5-7 5-B5 5-7

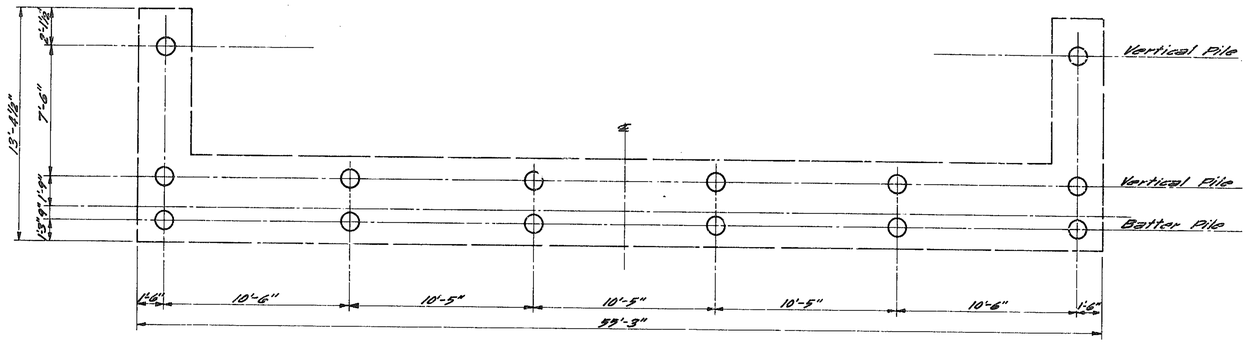
AS BUILT

ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY ALBUQUERQUE NEW MEXICO	SHEET 29 5-7 OF 57
EMBUDO ARROYO CHANNELIZATION PHASE II **ABUTMENT DETAILS** **MORNINGSIDE BRIDGE**	
WILLIAM MATOTAN & ASSOCIATES - ENGINEERS ALBUQUERQUE, NEW MEXICO	
SCALE AS SHOWN · DRAWN O.R., L.C.S. · CHECKED R.B. · DATE JUNE 1970	



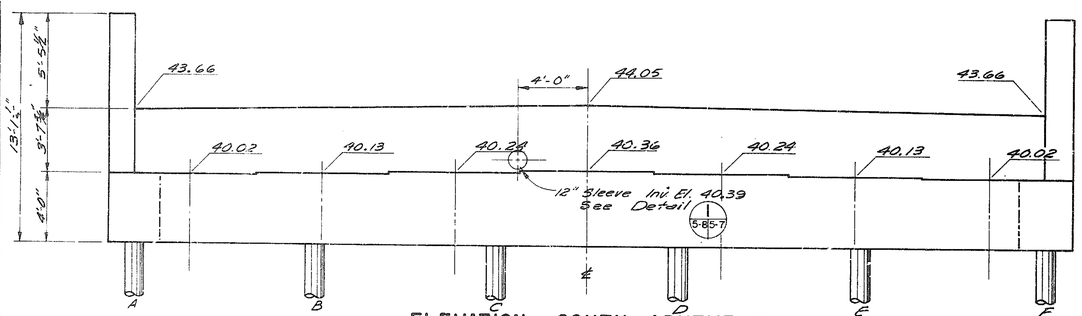
ABUTMENT PLAN

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



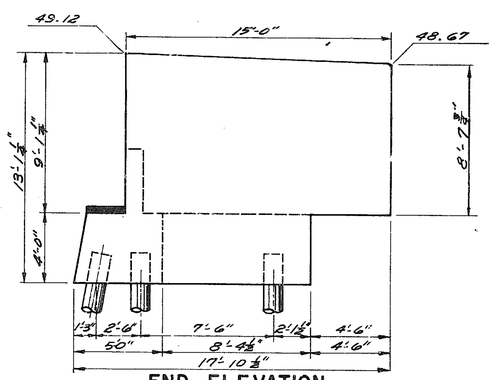
PILE LAYOUT PLAN

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



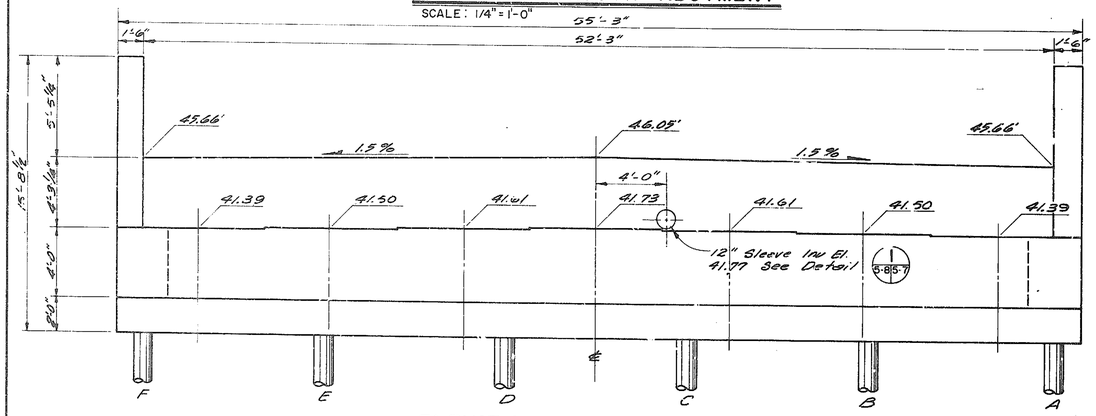
ELEVATION – SOUTH ABUTMENT

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



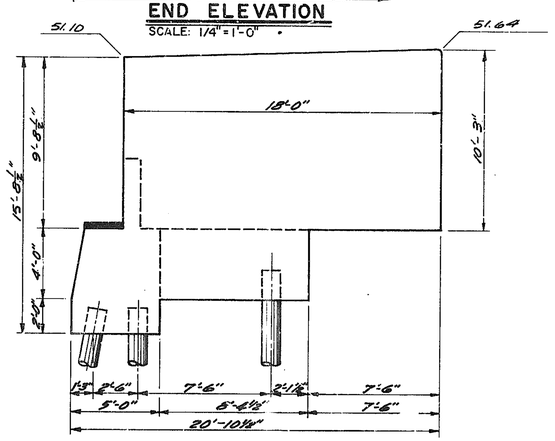
END ELEVATION

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



ELEVATION – NORTH ABUTMENT

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



END ELEVATION

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

ESTIMATED QUANTITIES FOR ABUTMENTS		
ITEM	UNIT	AMOUNT
Class A Concrete	Yd³	160.15
Reinforcing Steel	Lbs	8573

1 2 3 4 5 6 7 8 9 10 11 12
08 001 3970

ALBUQUERQUE METROPOLITAN
ARROYO FLOOD CONTROL AUTHORITY
ALBUQUERQUE NEW MEXICO

EMBUDO ARROYO CHANNELIZATION
PHASE II

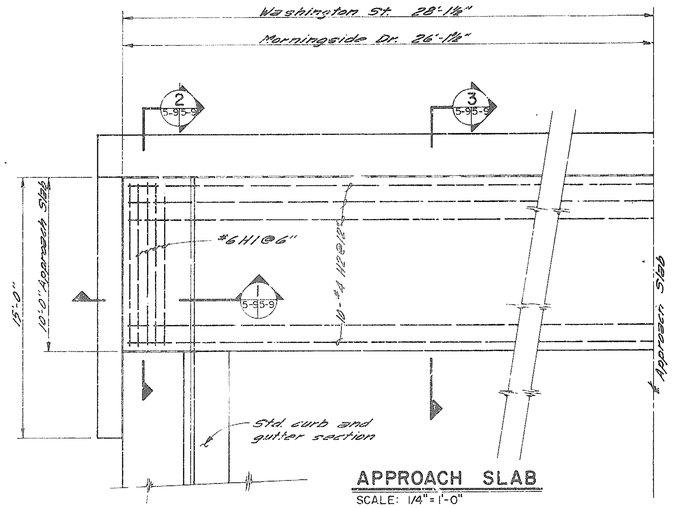
ABUTMENT DETAILS
MORNING SIDE BRIDGE

WILLIAM MATOTAN & ASSOCIATES – ENGINEERS
ALBUQUERQUE, NEW MEXICO

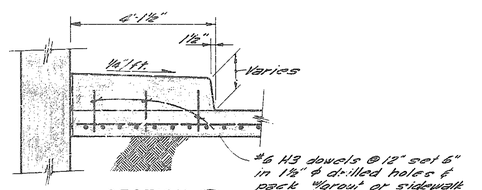
SCALE AS SHOWN | DRAWN J.C.S. | CHECKED R.B. | DATE JUNE 1970

SHEET 30 5-8 OF 57

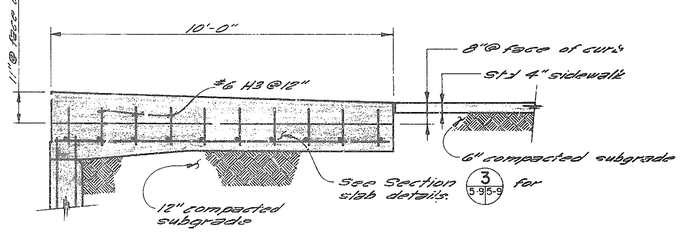
AS BUILT



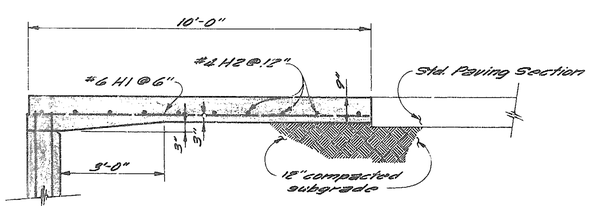
APPROACH SLAB
SCALE: 1/4" = 1'-0"



SECTION 1
SCALE: 1/2" = 1'-0" 5-95-9



SECTION 2
SCALE: 1/2" = 1'-0" 5-95-9

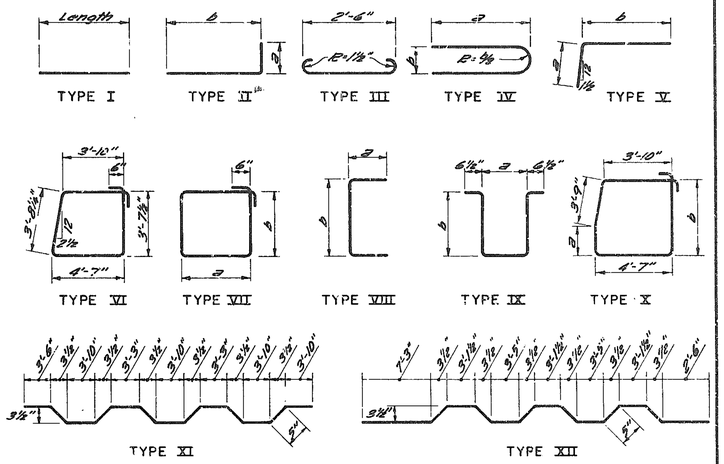


SECTION 3
SCALE: 1/2" = 1'-0" 5-95-9

MORNINGSIDE BRIDGE						
Mark	No.	Size	Length	Type	a	b
A1	36	6	54'-6"	I		
A2A	30	4	16'-9"	VI		
A3	102	5	6'-3"	I		
A4	102	5	5'-3"	I		
A5	16	[illegible]	47'-9"	I		
A6	16	4	2'-6"	I		
A7	16	8	12'-9"	I		
A8	20	8	12'-9"	I		
A9	20	6	12'-6"	I		
A10	28	4	13'-0"	VII	2'-6"	3'-5"
A11	56	5	3'-6"	I		
A12	128	5	Varies	I		
A13	56	4	14'-6"	I		
A2	30	4	19'-9"	X	1'-8"	5'-5"
S1	162	5	27'-1"	I		
S2	160	5	27'-10"	XI		
S3	162	5	27'-1"	I		
S4	166	4	33'-3"	I		
S5	144	4	5'-6"	IX	0'-5"	2'-0"
S6	88	5	2'-9"	VIII	0'-9"	1'-3"
S7	88	5	2'-10"	VIII	0'-9"	1'-4"
S8	88	5	4'-9"	V	0'-8"	3'-7"
H1	208	6	9'-9"	I		
H2	20	4	51'-9"	I		
H3	120	6	1'-1"	I		

WASHINGTON BRIDGE						
Mark	No.	Size	Length	Type	a	b
A1	40	6	58'-9"	I		
A2A	32	4	21'-9"	X	2'-8"	6'-5"
A2B	32	4	17'-9"	X	0'-8"	4'-5"
A3	108	5	6'-3	I		
A4	108	5	5'-3	I		
A5	16	4	51'-9"	I		
A6						
A7	16	8	12'-9"	I		
A8	20	8	12'-9"	I		
A9	20	6	12'-6"	I		
A10	28	4	11'-10"	VII	2'-6"	3'-5"
A11	56	5	3'-6"	I		
A12	148	5	Varies	I		
A13	14	4	14'-6"	I		
A13A	42	4	17'-6"	I		
S1	164	5	27'-8½"	I		
S2	144	5	28'-5½"	XII		
S3	166	5	27'-8½"	I		
S4	164	4	32'-0"	I		
S5	168	4	5'-6"	IX	0'-5"	2'-0"
S6	86	5	2'-9"	VIII		
S7	86	5	2'-10"	VIII		
S8	86	5	4'-9"	V		
H1	224	6	9'-9"	I		
H2	20	4	55'-9"	I		
H3	120	6	1'-1"	I		

QUANTITIES for 2 APPROACH SLABS			
ITEM	UNITS	MORNINGSIDE	WASHINGTON
Class A Concrete	Cu. Yds.	71.42	76.91
Reinforcing Steel	lbs.	1967	2108



REINFORCING TYPES
NO SCALE

1	2	3	4	5	6	7	8	9	10	11	12
0	8	0	0	1		3	1	7	0		

ALBUQUERQUE METROPOLITAN
ARROYO FLOOD CONTROL AUTHORITY
ALBUQUERQUE NEW MEXICO

EMBUDO ARROYO CHANNELIZATION
PHASE II

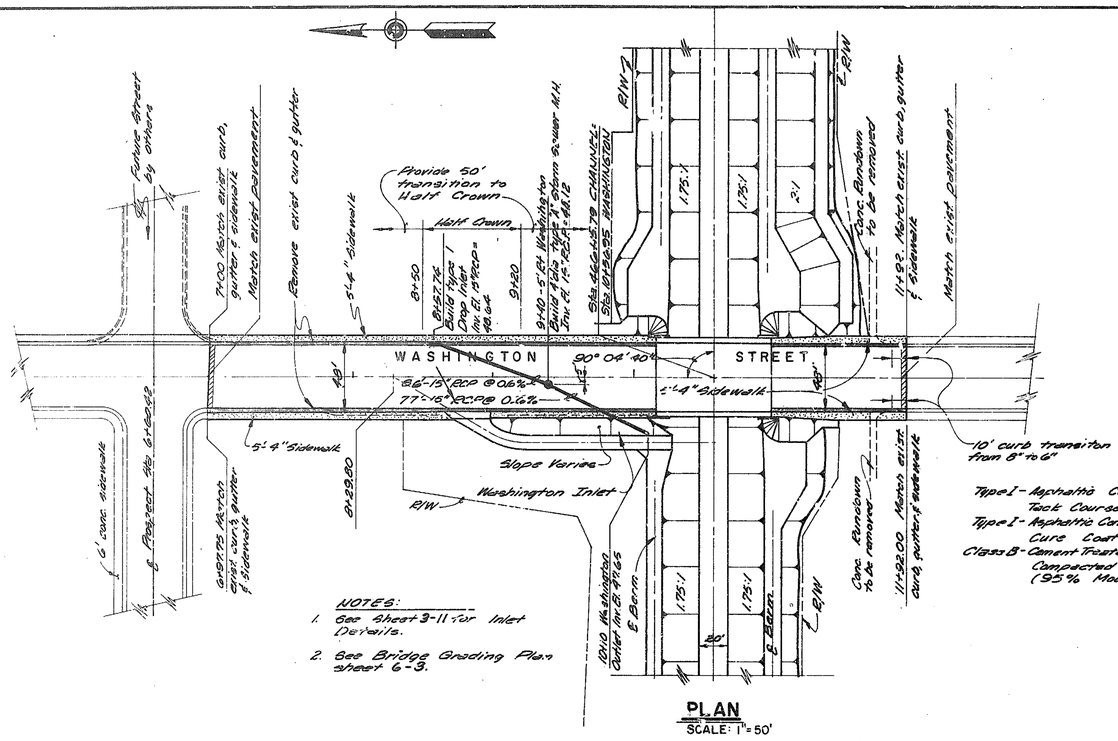
APPROACH SLAB DETAILS & REIFORCING SCHEDULE

WILLIAM MATOTAN & ASSOCIATES – ENGINEERS
ALBUQUERQUE, NEW MEXICO

SCALE AS SHOWN | DRAWN J.C.D. | CHECKED R.E. | DATE JUNE 1970

SHEET 31 5-9 OF 57

AS BUILT

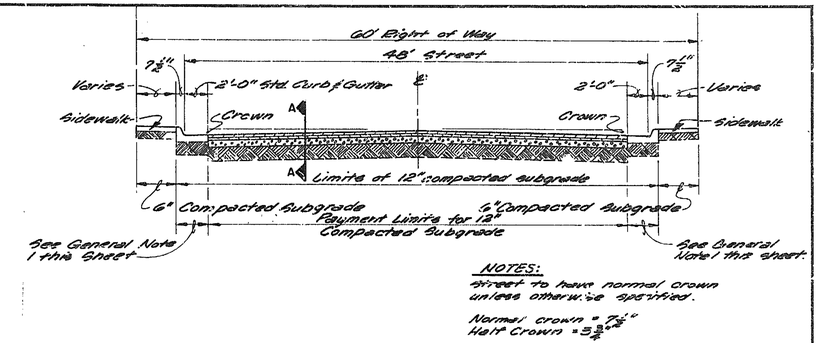


NOTES:

1. See Sheet 3-11 for Inlet Details.
2. See Bridge Grading Plan sheet 6-3.

PLAN

SCALE: 1" = 50'



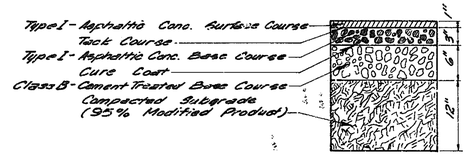
NOTES:

Street to have normal crown unless otherwise specified.

Normal crown = 7½"
Half Crown = 3¾"

TYPICAL STREET SECTION

NO SCALE

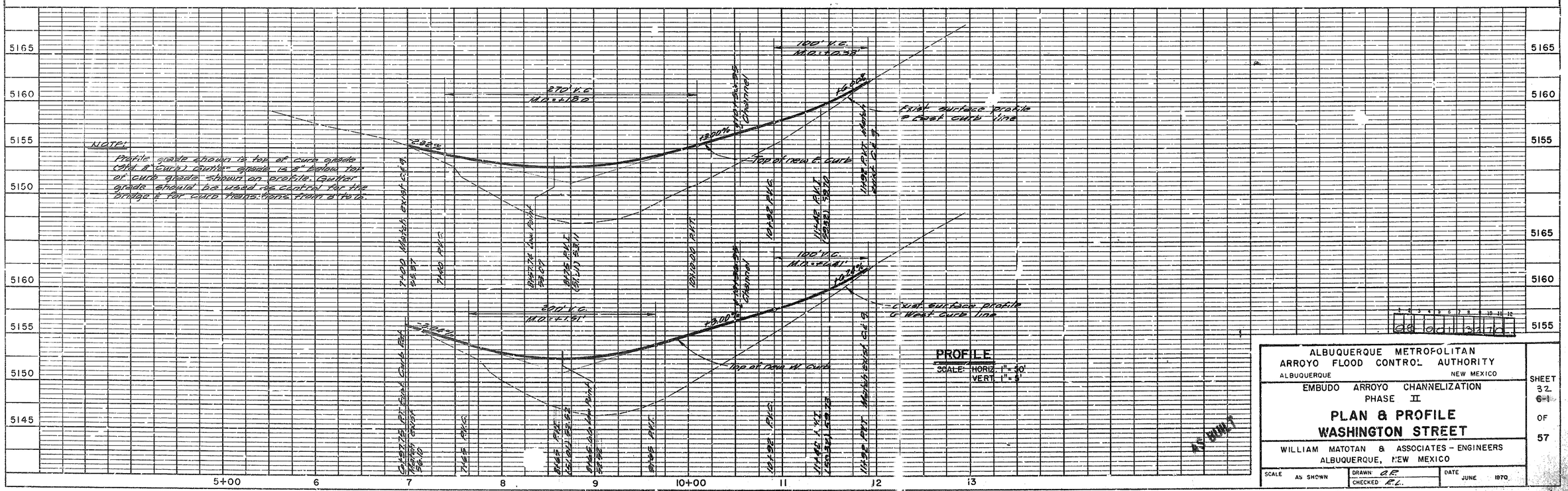


SECTION A-A

SCALE: 1" = 1'-0"

GENERAL NOTES:

1. Payment for Subgrade preparation under Curb & Gutter to be included with Curb & Gutter bid item.
2. Payment for Subgrade preparation under Sidewalks and driveway slabs shall be included with Sidewalk & Drive way bid items.



NOTE:

Profile grade shown is top of curb grade (Old & Curb) Gutter grade is 3" below top of curb grade shown on profile. Gutter grade should be used as control for the bridge & for curb transitions from 8" to 6".

PROFILE

SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'

PLAN	SURVEYED / PLOTTED / ALIGNMENT CHECKED / RT. OF WAY CHECKED / NOTE BOOK / NO.
PROFILE	SURVEYED / PLOTTED / GRADES CHECKED / B.M.'s NOTED / STRUCTURE NOTATIONS CHKD. / NOTE BOOK / NO.

ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY
ALBUQUERQUE NEW MEXICO

EMBUDO ARROYO CHANNELIZATION
PHASE II

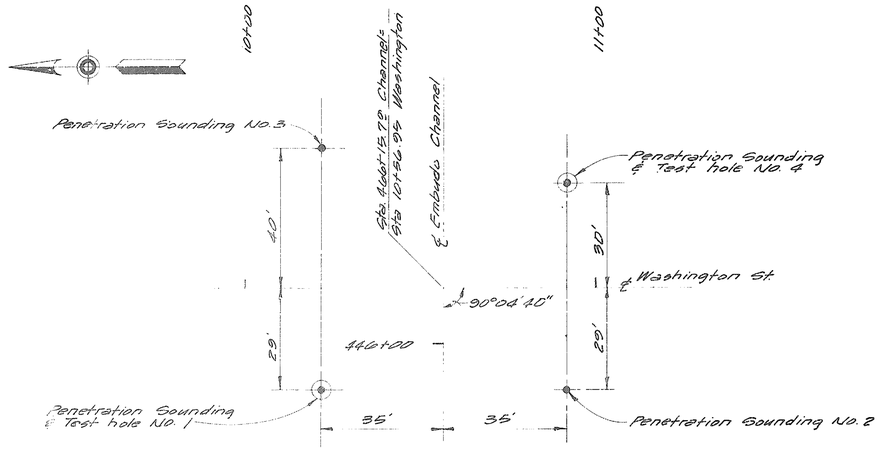
PLAN & PROFILE WASHINGTON STREET

WILLIAM MATOTAN & ASSOCIATES - ENGINEERS
ALBUQUERQUE, NEW MEXICO

SCALE AS SHOWN | DRAWN O.E. | CHECKED R.L. | DATE JUNE 1970

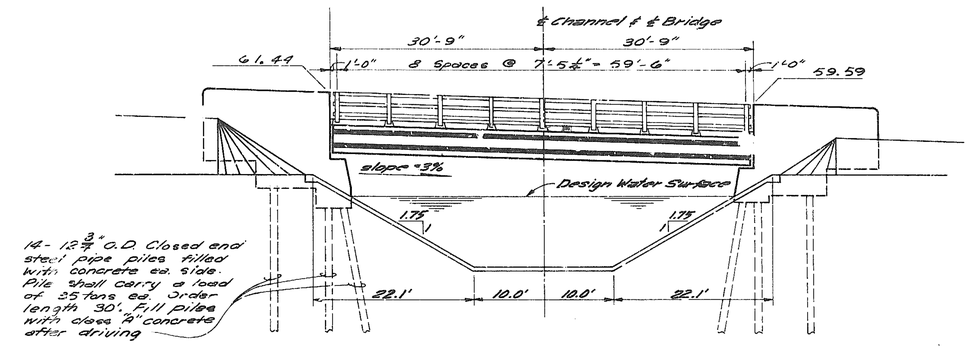
SHEET 32 ~~6-1~~ OF 57

PLATE I—PLAN PROFILE D. P. R. STANDARD
THE FREDERICK POST CO., CHICAGO



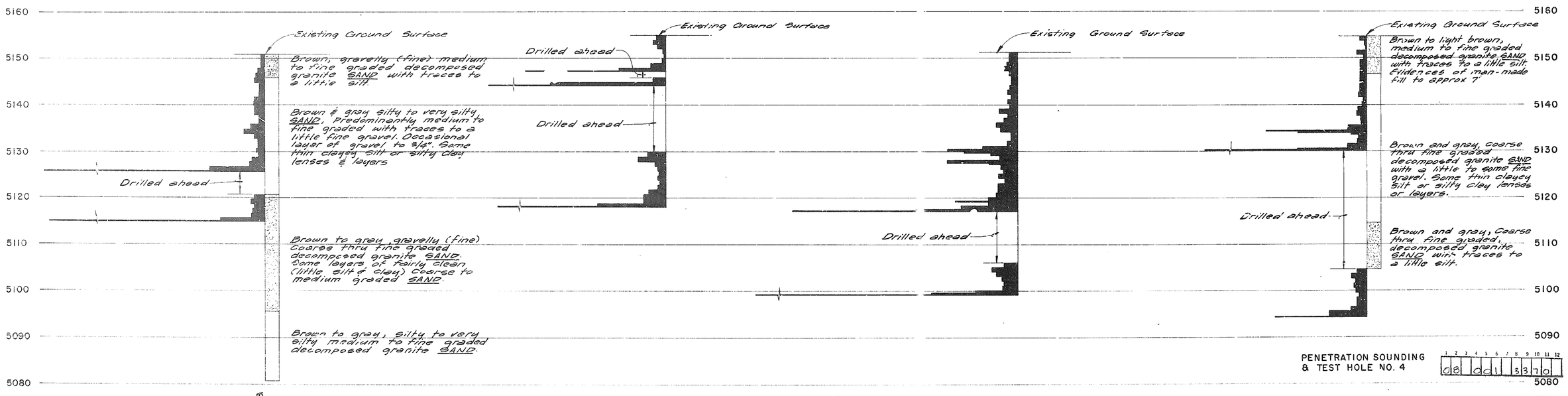
TEST HOLE LOCATION

SCALE: 1" = 20'



EAST ELEVATION

SCALE: 1" = 10'



PENETRATION SOUNDING & TEST HOLE NO. 1

PENETRATION SOUNDING NO. 2

PENETRATION SOUNDING NO. 3

FOUNDATION DATA

0 50 100 500 1000

BLOWS PER FOOT

ROD SOUNDING SCALE

AS BUILT

ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY
ALBUQUERQUE NEW MEXICO

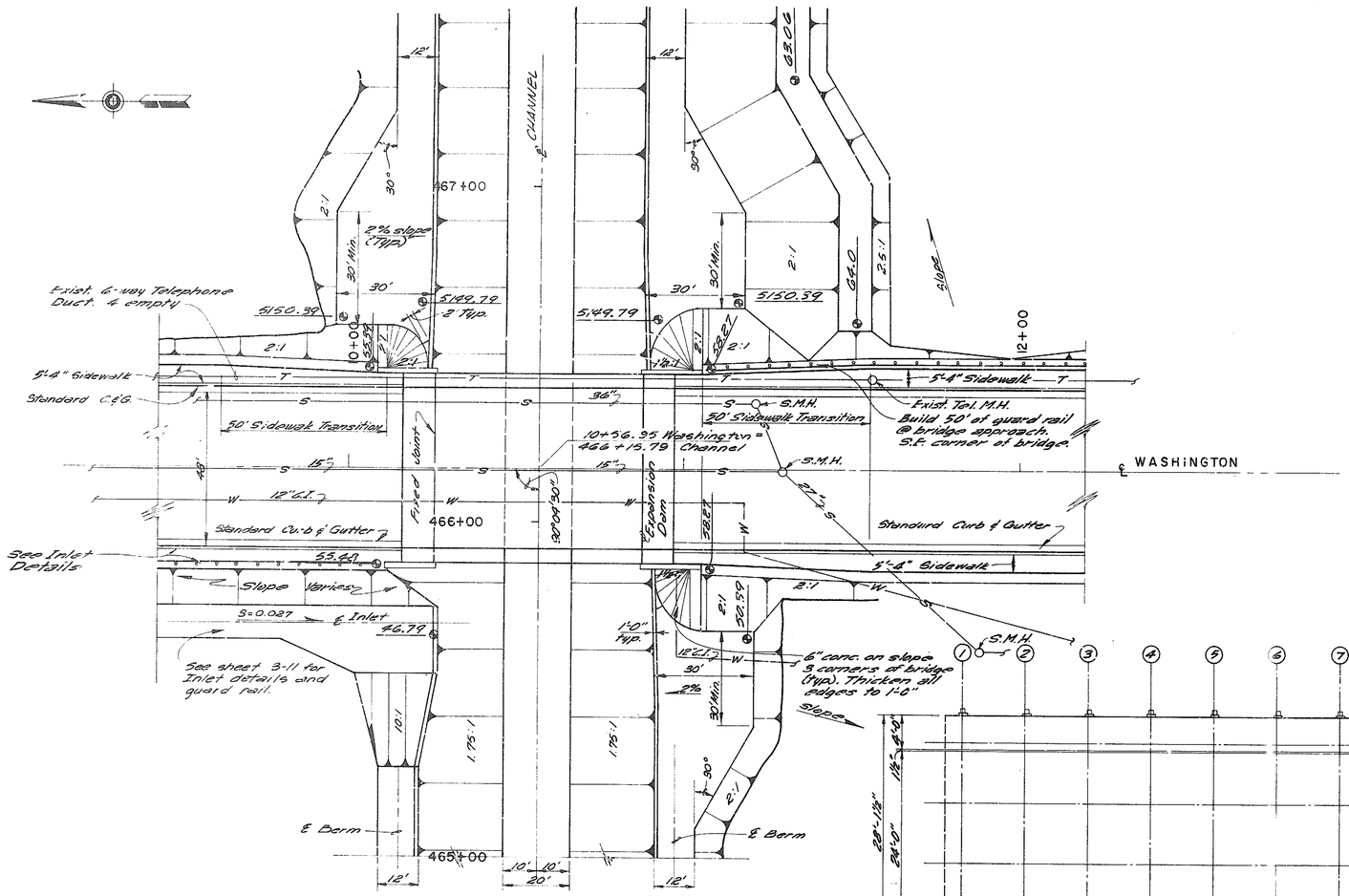
EMBUDO ARROYO CHANNELIZATION
PHASE II

FOUNDATION DATA
WASHINGTON BRIDGE

WILLIAM MATOTAN & ASSOCIATES - ENGINEERS
ALBUQUERQUE, NEW MEXICO

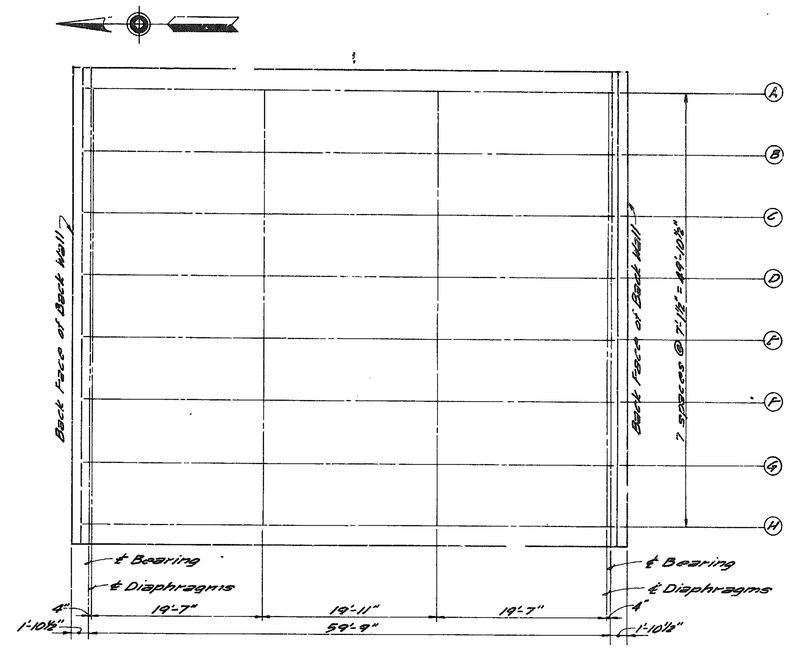
SCALE AS SHOWN | DRAWN O.B., R.L. | CHECKED R.B. | DATE JUNE 1970

SHEET 33 6-2 OF 57



PLAN

SCALE: 1" = 20



GIRDER FRAMING PLAN

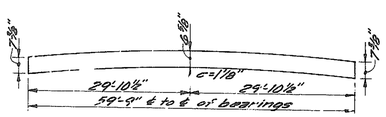
SCALE: 1/8" = 1'-0"

TOP OF SLAB ELEV. AT ℄ OF GIRDERS

	1	2	3	4	5	6	7	8	9
A	55.19	55.41	55.66	55.86	5156.09	56.32	56.56	56.77	56.99
B	55.29	55.51	55.74	55.96	5156.19	56.42	56.66	56.87	57.09
C	55.40	55.62	55.85	56.07	5156.30	56.53	56.75	56.98	57.20
D	55.51	55.73	55.96	56.18	5156.41	56.64	56.86	57.09	57.31
℄	55.56	55.78	56.01	56.23	5156.46	56.69	56.91	57.14	57.36
E	55.51	55.73	55.96	56.18	5156.41	56.64	56.86	57.09	57.31
F	55.40	55.62	55.85	56.07	5156.30	56.53	56.75	56.98	57.20
G	55.29	55.51	55.74	55.96	5156.19	56.42	56.66	56.87	57.09
H	55.19	55.41	55.66	55.86	5156.09	56.32	56.56	56.77	56.99

DIAGRAM FOR PLACING CONC. DECK

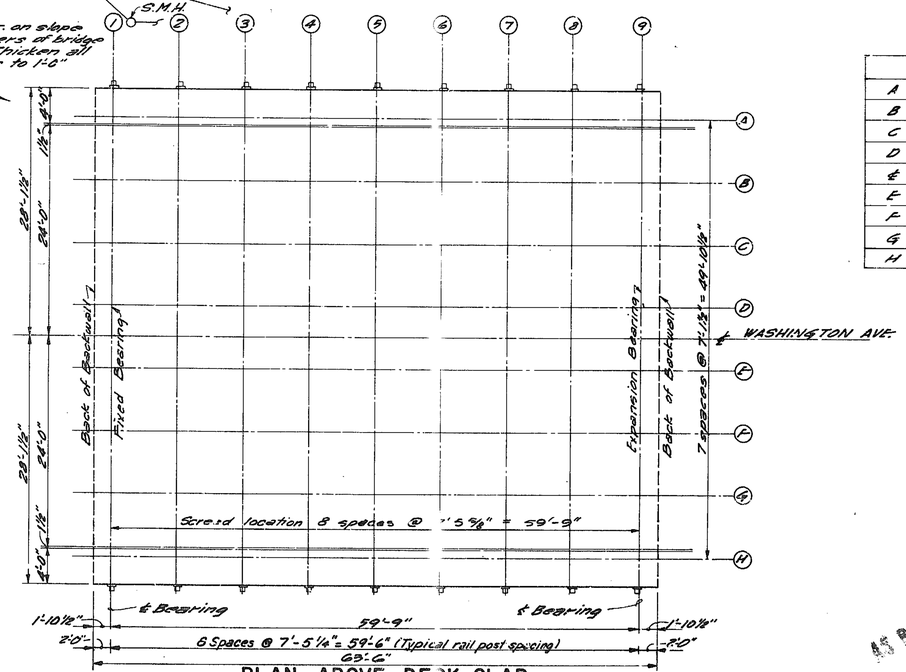
NO SCALE To compensate for dead load deflections set screeds for the top of the concrete deck above finish grade by the dimensions shown.



SLAB THICKENING DIAGRAM

NO SCALE

See slab thickening notes sheet 6-4.



PLAN ABOVE DECK SLAB

SCALE: 1/8" = 1'-0"

AS BUILT

ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY
ALBUQUERQUE NEW MEXICO

EMBUDO ARROYO CHANNELIZATION
PHASE II

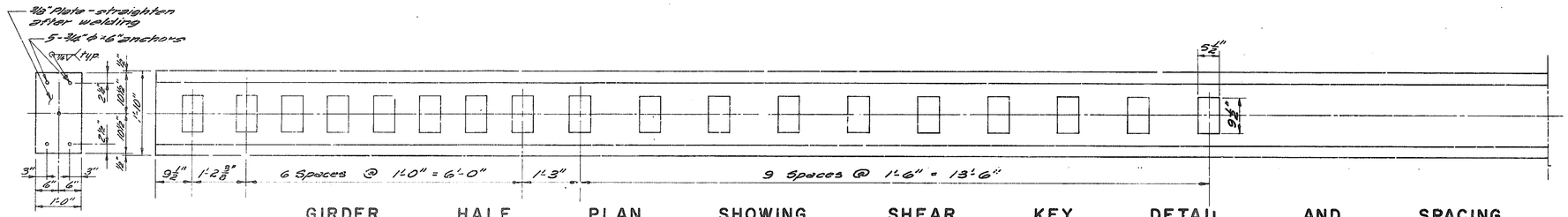
GRADING PLAN & FRAMING PLAN
WASHINGTON BRIDGE

WILLIAM MATOTAN & ASSOCIATES – ENGINEERS
ALBUQUERQUE, NEW MEXICO

SCALE: AS SHOWN | DRAWN: O.R., J.C.S. | CHECKED: A.E. | DATE: JUNE 1970

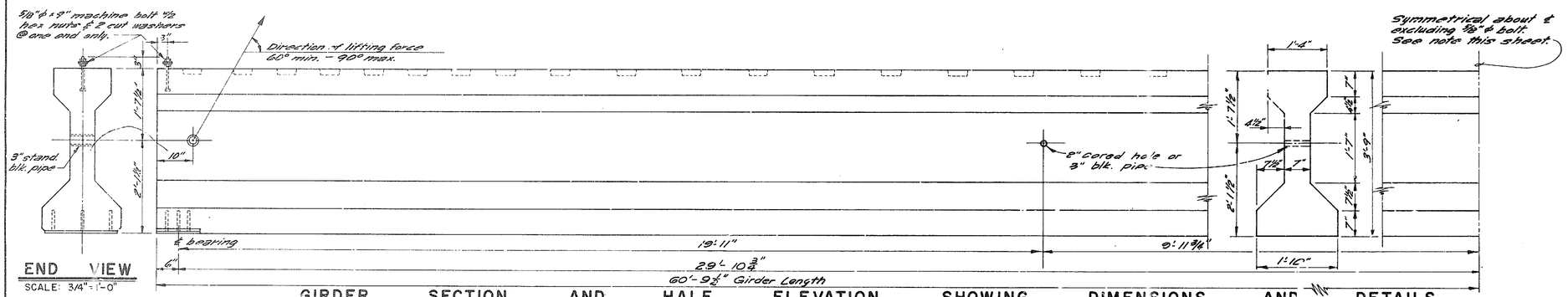
SHEET 34 6-3 OF 57

NOTE A: SEE SHEET 5-5 FOR GENERAL NOTES PERTAINING TO PRESTRESSED GIRDERS.



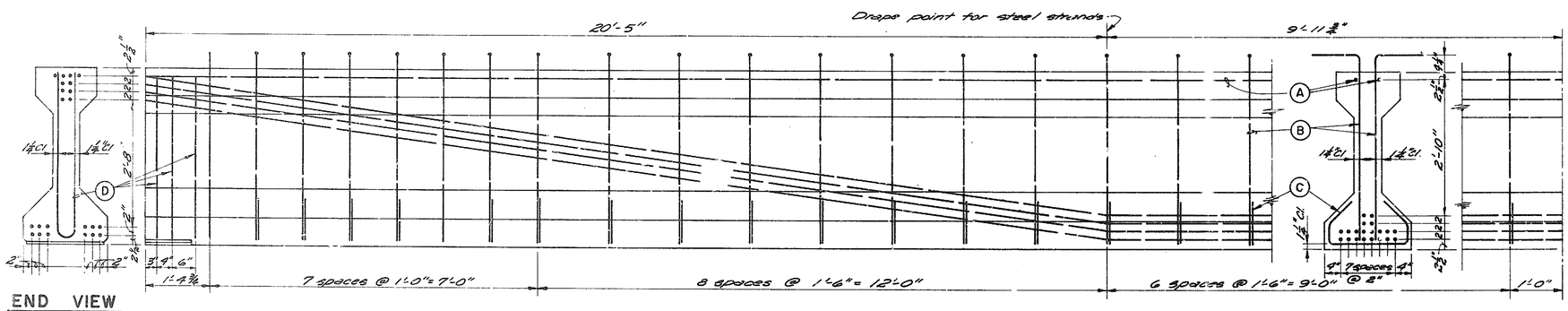
SHOE PLATE
SCALE: 3/4" = 1'-0"

GIRDER HALF PLAN SHOWING SHEAR KEY DETAIL AND SPACING
SCALE: 3/4" = 1'-0"



END VIEW
SCALE: 3/4" = 1'-0"

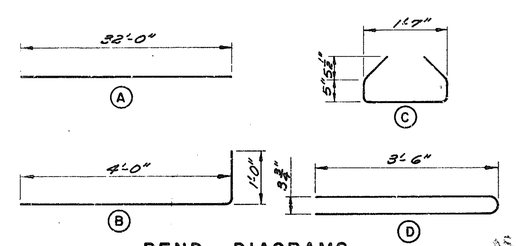
GIRDER SECTION AND HALF ELEVATION SHOWING DIMENSIONS AND DETAILS
SCALE: 3/4" = 1'-0"



END VIEW
SCALE: 3/4" = 1'-0"

GIRDER SECTION AND HALF ELEVATION SHOWING REINFORCING DETAIL AND SPACING
SCALE: 3/4" = 1'-0"

REINFORCING FOR ONE GIRDER				
MARK	SIZE	LENGTH	NO. REQUIRED	WEIGHT
A	#5	32'	4	133.5#
B	#4	5'	88	293.9#
C	#4	3'	44	110.2#
D	#6	7'	6	64.8#
QUANITIES FOR ONE GIRDER				
CONCRETE (6000 P.S.I.)				8.75 C.Y.
REINFORCING STEEL				602.4#
STRUCTURAL STEEL				67#
COMPUTED WT. FOR ONE GIRDER				17.7 tons



BEND DIAGRAMS
NO SCALE

AS BUILT

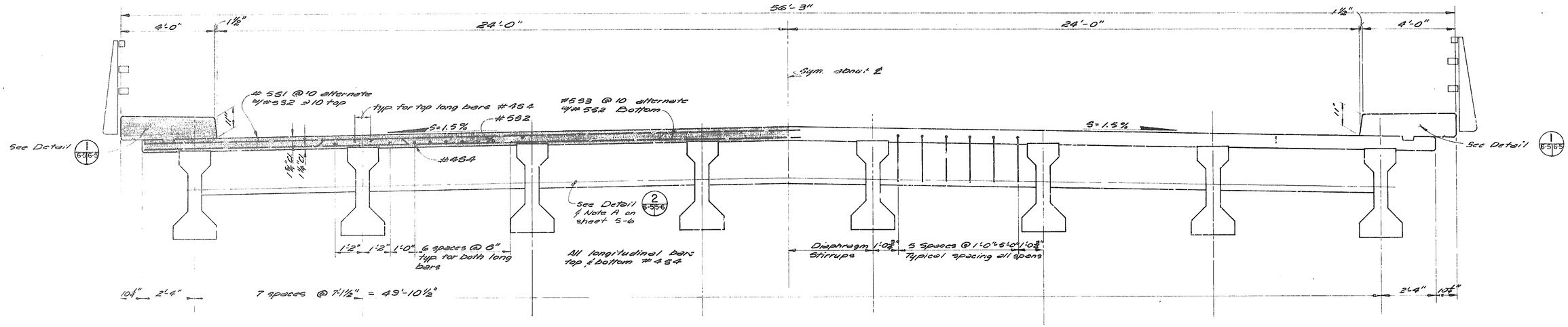
ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY
ALBUQUERQUE NEW MEXICO

EMBUDO ARROYO CHANNELIZATION
PHASE II
GIRDER DETAILS
WASHINGTON BRIDGE

WILLIAM MATOTAN & ASSOCIATES - ENGINEERS
ALBUQUERQUE, NEW MEXICO

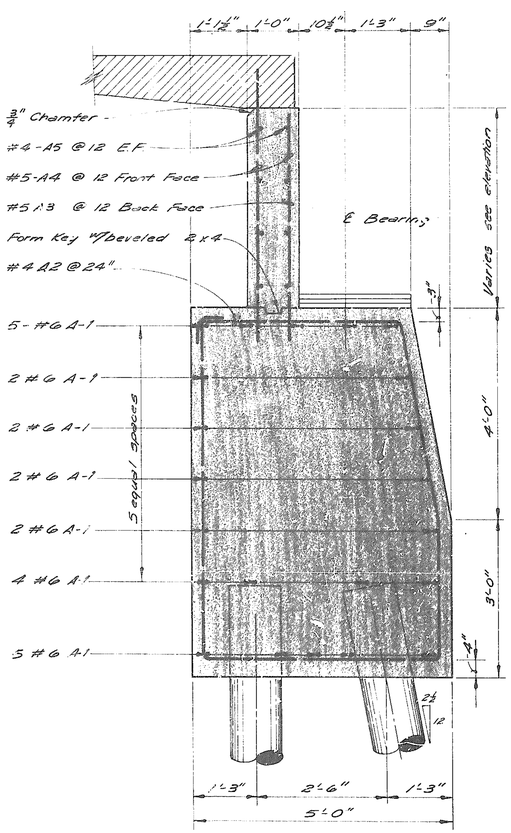
SCALE AS SHOWN | DRAWN J.C.S., D.R. | CHECKED R.E. | DATE JUNE 1970

SHEET 35 6-4 OF 57



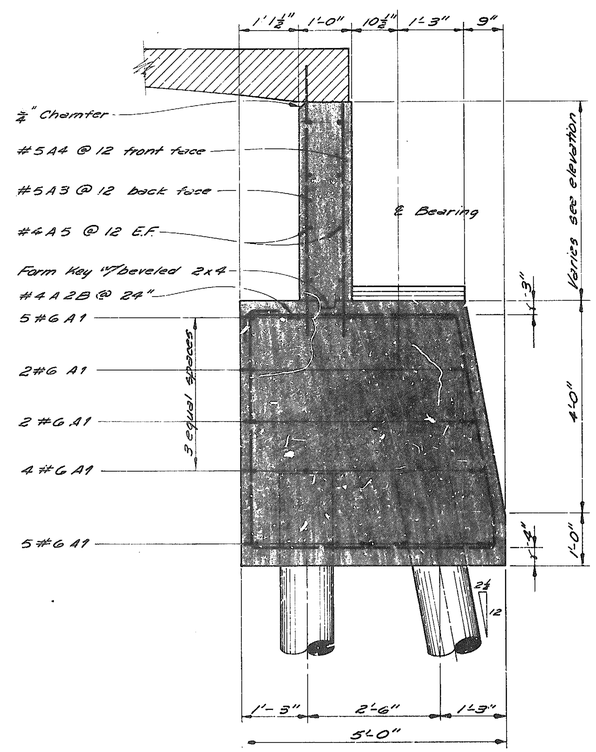
DECK SECTION

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



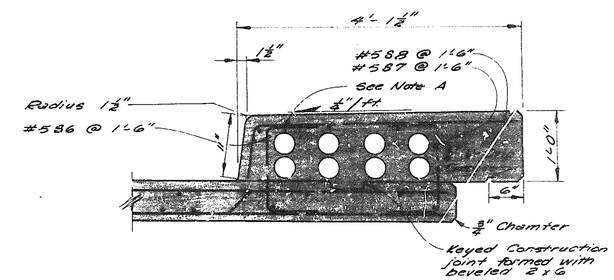
SOUTH ABUTMENT SECTION

SCALE: 3/4" = 1'-0"



NORTH ABUTMENT SECTION

SCALE: 3/4" = 1'-0"



DETAIL 1/6-5 6-5

SCALE: 1'-0"

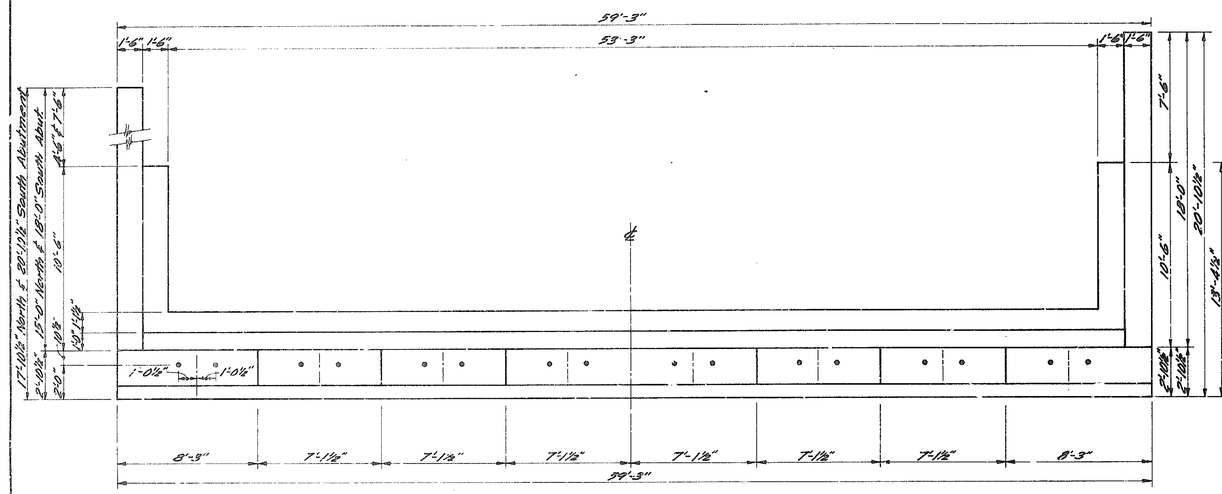
NOTE: A

8-3½" Transite Conduits for Telephone Co on East side of Washington only. Place 2 rows as shown with Top row directly over bottom row. 3" minimum horizontal distance between conduits. Secure conduits firmly in place before placing concrete. Conduit will be furnished by others. Sidewalk Expansion dam will have opening to match Conduit.

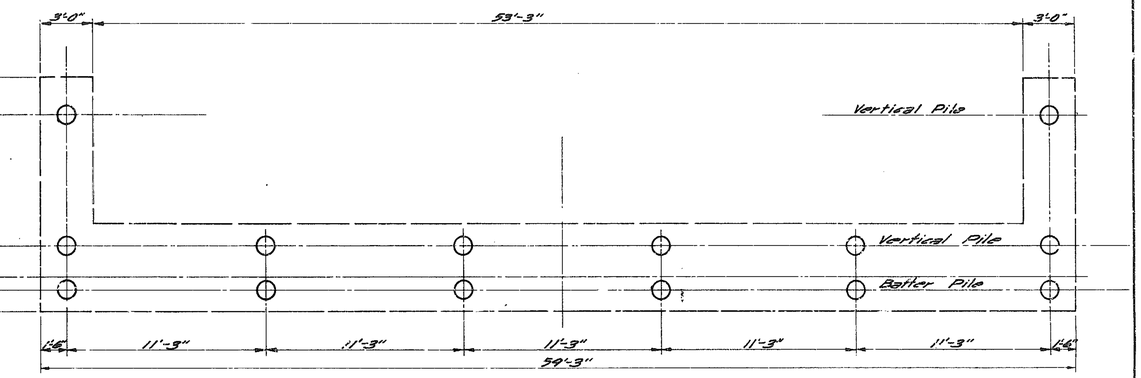
ESTIMATED QUANTITIES FOR SUPERSTRUCTURE			
	ITEM	UNITS	AMOUNT
Class "A" conc	Bridge Superstructure	CU. YDS.	94.27
Reinforcing fo	Concrete Structure	LB.	11413
Metal Bridge	Railing Type C	Lin. ft.	133
Prestressed	Conc. Bridge Girders	Ea	8
Structural	Steel	Lb.	8134

AS BUILT

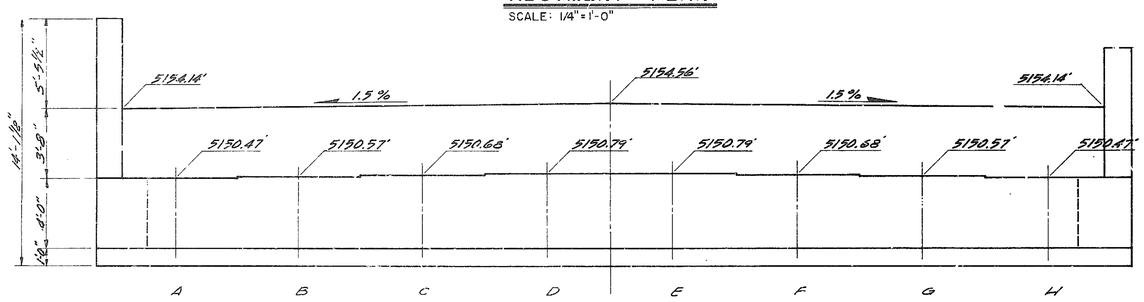
ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY ALBUQUERQUE NEW MEXICO	SHEET 36 6-5 OF 57
EMBUDO ARROYO CHANNELIZATION PHASE II **SLAB SECTION & DETAILS WASHINGTON BRIDGE**	
WILLIAM MATOTAN & ASSOCIATES - ENGINEERS ALBUQUERQUE, NEW MEXICO	
SCALE AS SHOWN · DRAWN O.R. · CHECKED R.B. · DATE JUNE 1970	



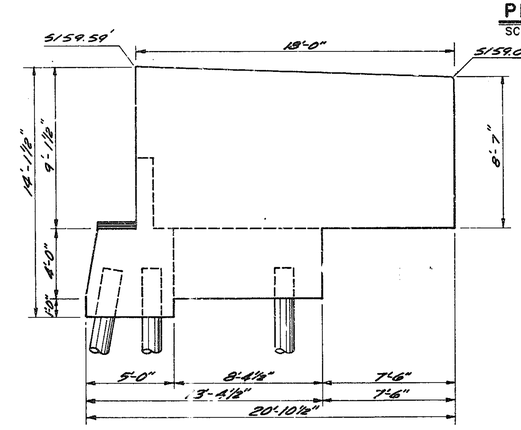
ABUTMENT PLAN
SCALE: 1/4" = 1'-0"



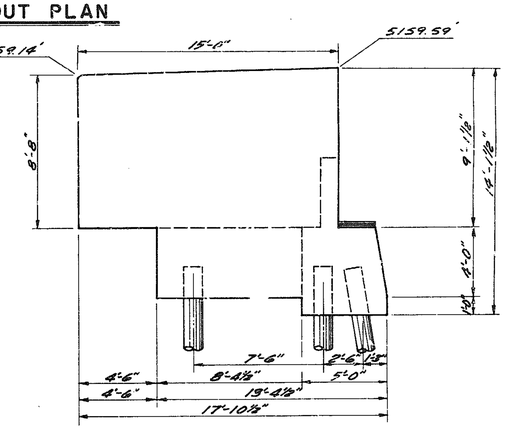
PILE LAYOUT PLAN
SCALE: 1/4" = 1'-0"



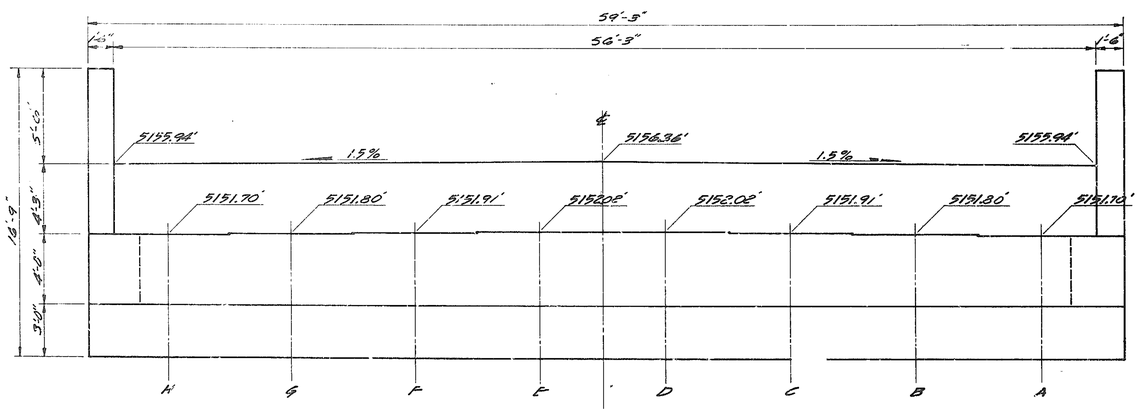
ELEVATION - NORTH ABUTMENT
SCALE: 1/4" = 1'-0"



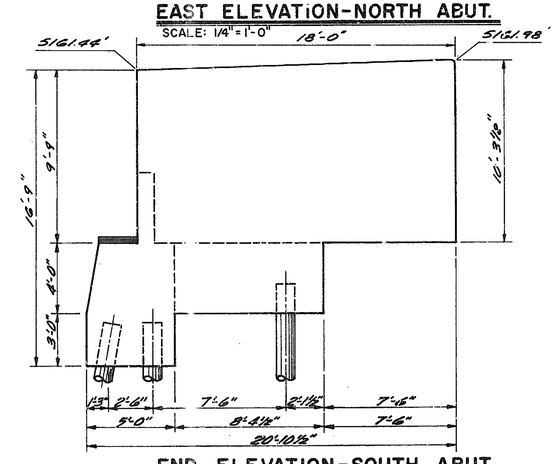
EAST ELEVATION-NORTH ABUT.
SCALE: 1/4" = 1'-0"



WEST ELEVATION-NORTH ABUT.
SCALE: 1/4" = 1'-0"



ELEVATION - SOUTH ABUTMENT
SCALE: 1/4" = 1'-0"



END ELEVATION-SOUTH ABUT.
SCALE: 1/4" = 1'-0"

ESTIMATED QUANTITIES FOR ABUTMENTS		
ITEM	UNITS	AMOUNT
Class A Conc. Substructure	Cu. Yds.	174.80
Reinforcing for Concrete	lbs.	9215

08 001 3770

ALBUQUERQUE METROPOLITAN
ARROYO FLOOD CONTROL AUTHORITY
ALBUQUERQUE NEW MEXICO

EMBUDO ARROYO CHANNELIZATION
PHASE II

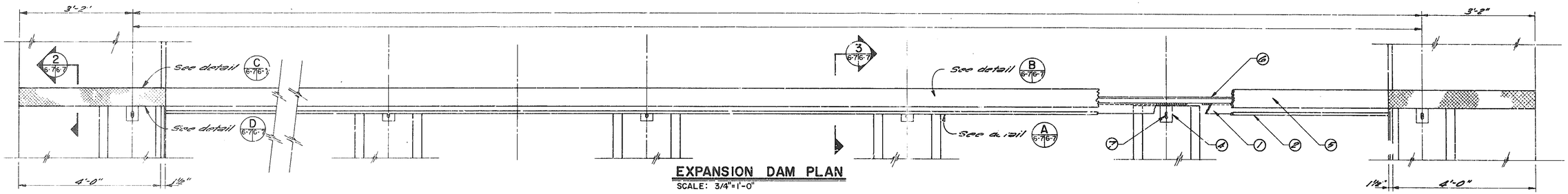
ABUTMENT DETAILS
WASHINGTON BRIDGE

WILLIAM MATOTAN & ASSOCIATES - ENGINEERS
ALBUQUERQUE, NEW MEXICO

SCALE AS SHOWN | DRAWN J.C.S. | CHECKED R.B. | DATE JUNE 1970

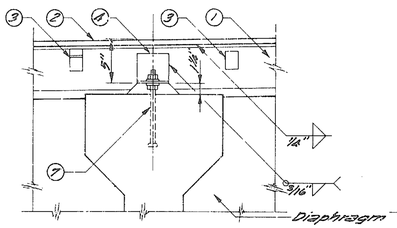
SHEET 37 6-6 OF 57

AS BUILT

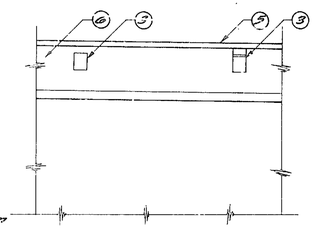


EXPANSION DAM PLAN

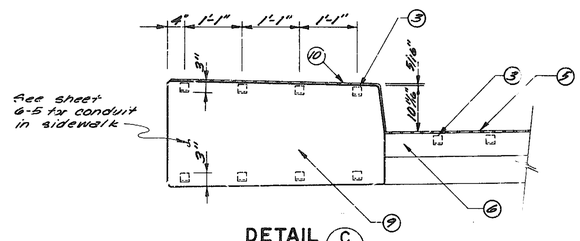
SCALE: 3/4"=1'-0"



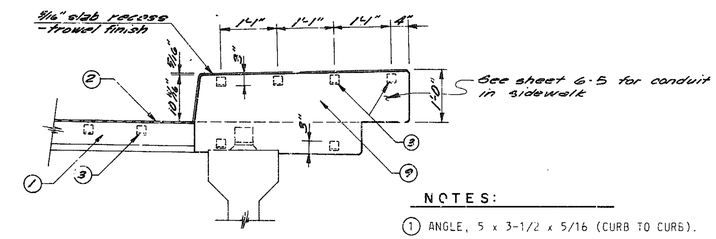
DETAIL A 6-7/6-7
1½"=1'-0"



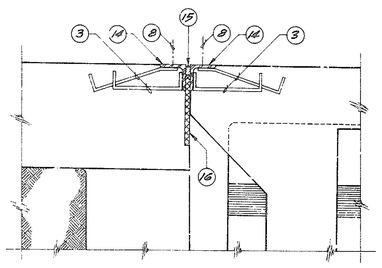
DETAIL B 6-7/6-7
1½"=1'-0"



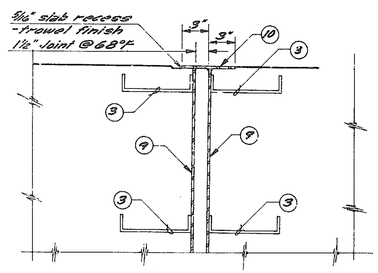
DETAIL C 6-7/6-7
3/4"=1'-0"



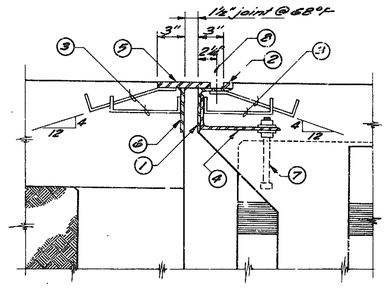
DETAIL D 6-7/6-7
3/4"=1'-0"



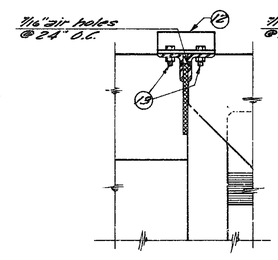
SECTION 1 6-7/6-7
1½"=1'-0"



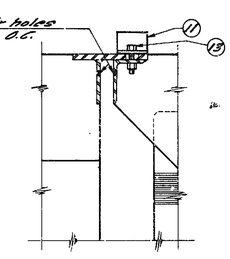
SECTION 2 6-7/6-7
1½"=1'-0"



SECTION 3 6-7/6-7
1½"=1'-0"



FIXED DECK JOINT



EXPANSION DAM

ERECTION ASSEMBLY DETAILS

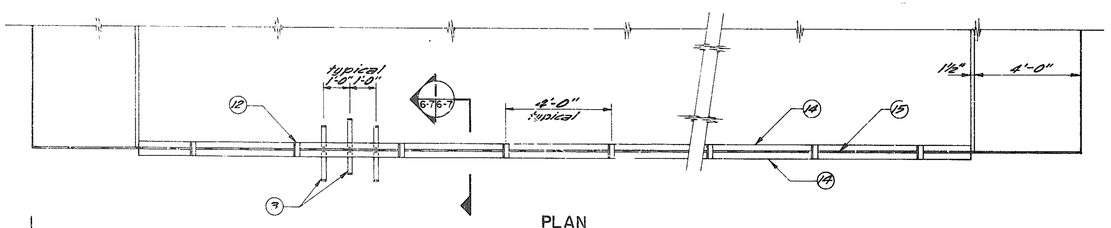
SCALE: 1½"=1'-0"

ERECTION NOTE:

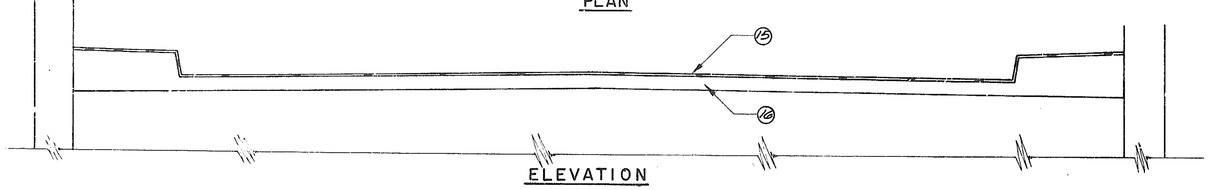
CLIPS TO HOLD EXPANSION DEVICES AND FIXED JOINT ANGLES FIRMLY IN POSITION DURING ERECTION. REMOVE CLIPS IMMEDIATELY AFTER CONCRETE HAS ATTAINED INITIAL SET. COST OF CLIP ANGLES AND BOLTS TO BE INCLUDED IN UNIT PRICE BID FOR CLASS "A" CONCRETE.

NOTES:

1. ANGLE, 5 x 3-1/2 x 5/16 (CURB TO CURB).
2. BAR, 1 x 5/8 (CURB TO CURB).
3. BAR, 1-1/2 x 5/16 x1'-0" OR . ALTERNATE AT 1'-6" MAX. FOR EXPANSION DAM: 1'-0" FOR FIXED JOINT. WELD TO ANGLES AND PLATES THUS.
4. CLIP ANGLE, 9 x 4 x 5/16 x 0'-4" W/1 x 2-1/2 SLOTTED HOLE IN O.S.L.(7-1/2 Ga.)
5. PLATE, 6 x 5/8 (CURB TO CURB).
6. PLATE, 6 x 3/8 (CURB TO CURB).
7. 5/8 Φ x 0'-8" BOLT W/2 HEX NUTS AND 2 CUT WASHERS (2"O.D.) SEE BEAM DETAILS.
8. 11/16" Φ O.H. AT 4'-0"
9. PLATE, 5/16.
10. PLATE, CHECKERED, 6 x 5/16.
11. CLIP ANGLE, 2-1/2 x 2-1/2 x 5/16 x 0'-3-1/2" AT 4'-0" c/c MAX.
12. CLIP ANGLE, 2-1/2 x 2-1/2 x 5/16 x 0'-6-1/2" AT 4'-0" c/c MAX.
13. 5/8" Φ x 2" BOLT.
14. ANGLE, 3 x 3 x 3/8 (CURB TO CURB).
15. 1/2" x 1" "SERVICISED VERTISEAL", GUN GRADE GREY, OR APPROVED EQUAL.
16. 1/2" THICK PREFORMED BITUMINOUS JOINT FILLER. CEMENT NAIL TO CONCRETE AT 8" O.C. RECESS NAILS 1/4". THE COST OF THE "SERVICISED VERTISEAL" AND PREFORMED JOINT FILLER TO BE INCLUDED IN THE CONTRACT PRICE BID FOR CONCRETE.



PLAN



ELEVATION

FIXED JOINT DETAILS

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

AS BUILT

ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY
ALBUQUERQUE NEW MEXICO

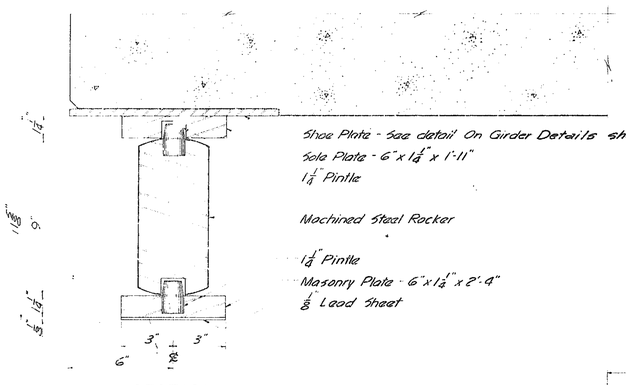
EMBUDO ARROYO CHANNELIZATION
PHASE II

TYPICAL BRIDGE EXPANSION JOINT DETAILS

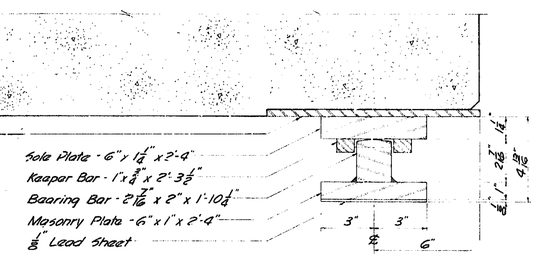
WILLIAM MATOTAN & ASSOCIATES – ENGINEERS
ALBUQUERQUE, NEW MEXICO

SCALE AS SHOWN | DRAWN J.C.S. | CHECKED R.B. | DATE JUNE 1970

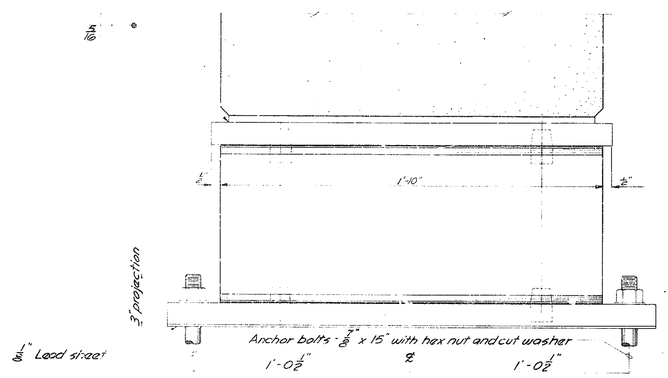
SHEET 38 6-7 OF 57



SECTION



SECTION



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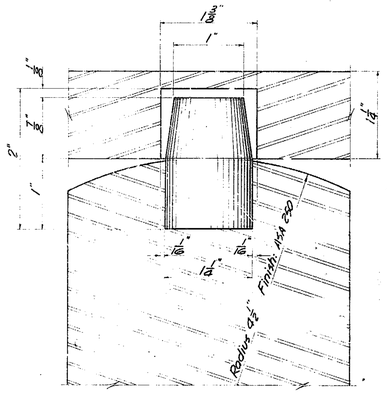

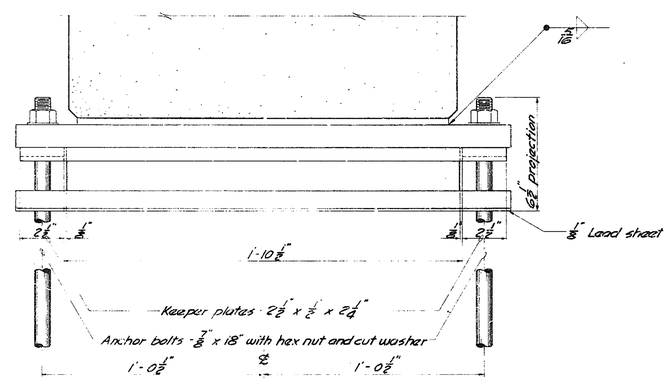

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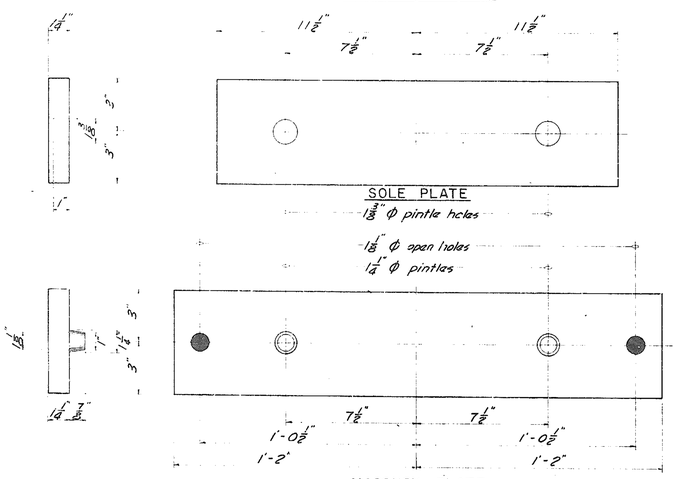
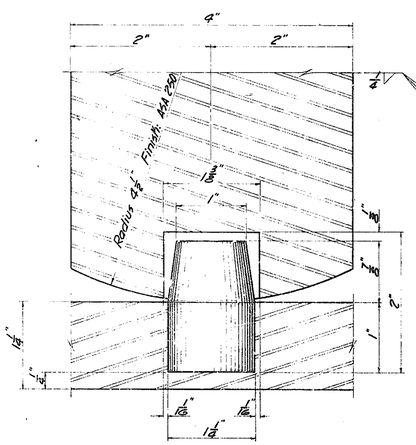


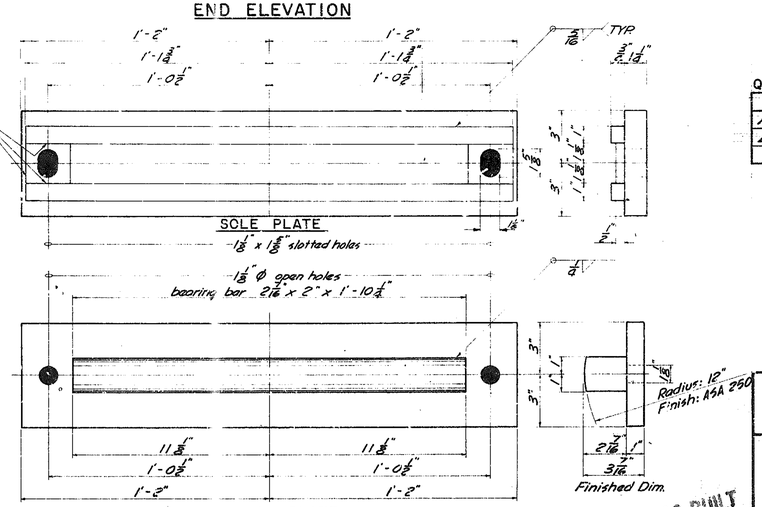
EXPANSION BEARING DETAILS

SCALE: 3" = 1'-0"



ROCKER DETAIL

SCALE: FULL SIZE



FIXED BEARING DETAILS

SCALE: 3" = 1'-0"

AS BUILT

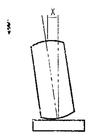
GIRDER SHOE NOTES

FABRICATION:

1. All plates and bars shall be flat and free from edge burrs. Straighten after welding if necessary.
2. Paint all structural steel members with one field coat of red lead and linseed oil and two field coats of aluminum paint. Omit paint on contact surfaces and surfaces embedded in concrete. No increase in the computed pay weight for structural steel will be made for paint.

ASSEMBLY:

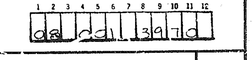
1. All members shall be [illegible] and assembled.
2. Each unit shall be clearly marked with shoe assembly designation.
3. Shoe assemblies shall be placed and bolted before placing girder and field weld.
4. Sole plates shall not be welded to shoe plates until all setting adjustments have been made and accepted by the Engineer.
5. Bearings shall be carefully set level transversely to avoid excessive local pressure at side of girder bearing.
6. Expansion rockers for shoe assemblies shall be vertical at 68° F and shall be tipped at other temperatures as indicated by table below. For temperatures lower than 68° F, "X" is measured toward the center of the span. For temperatures above 68° F, "X" is measured away from the center of the span.



X = .05" per 10° F.

QUANTITIES FOR ONE BEARING

ITEM	UNITS	AMOUNT
Fixed Bearing	lb.	165.06
Expansion Bearing	lb.	341.89



ALBUQUERQUE METROPOLITAN
ARROYO FLOOD CONTROL AUTHORITY
ALBUQUERQUE NEW MEXICO

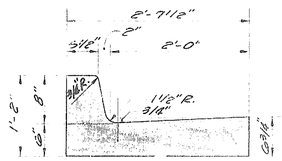
EMBUDO - ARROYO CHANNELIZATION
PHASE II

BEARING DETAILS

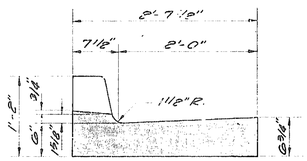
WILLIAM MATOTAN & ASSOCIATES - ENGINEERS
ALBUQUERQUE, NEW MEXICO

SCALE: AS SHOWN | DRAWN: J.C.S., D.R. | CHECKED: R.E. | DATE: JUNE 1970

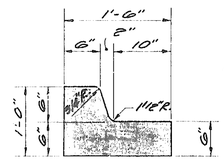
SHEET 39 6-8 OF 57



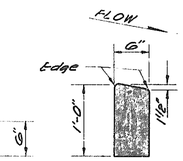
STANDARD CURB & GUTTER



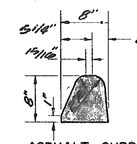
LAYDOWN CURB



MEDIAN CURB & GUTTER



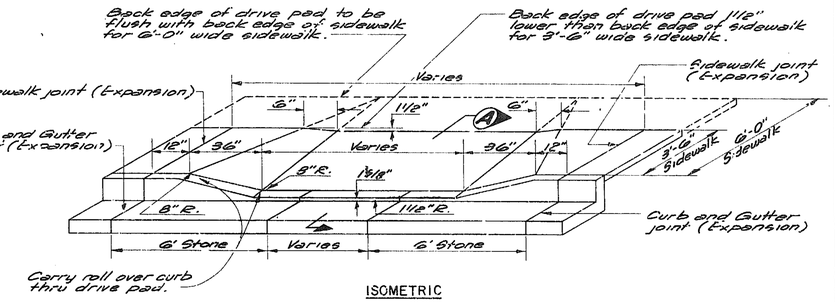
HEADER CURB



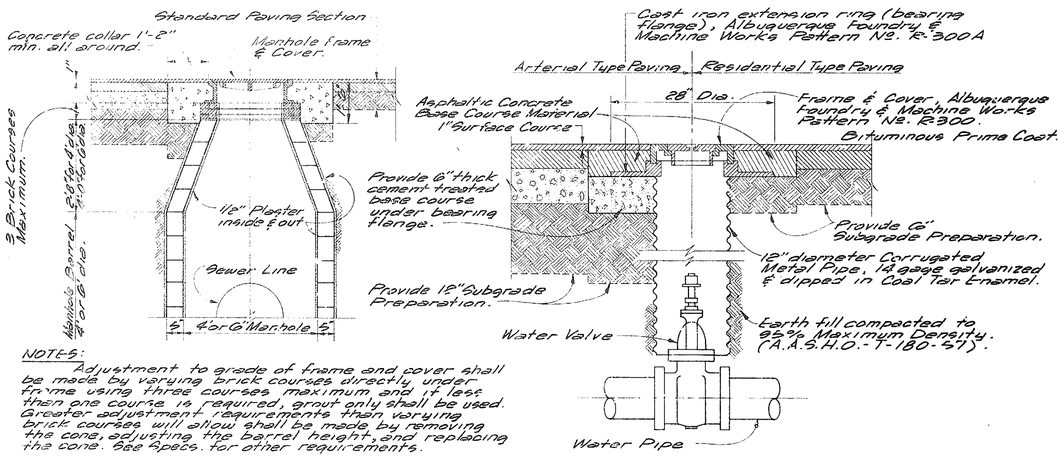
ASPHALT CURB

ALLEY GUTTER

TYPICAL CURB & GUTTER DETAILS



ISOMETRIC

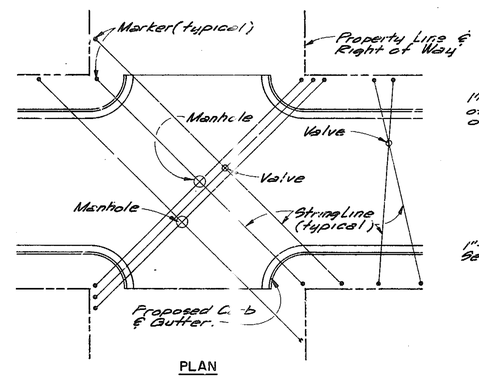


NOTES:

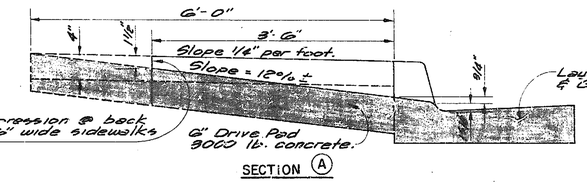
Adjustment to grade of frame and cover shall be made by varying brick courses directly under frame using three courses maximum and if less than one course is required, grout only shall be used. Greater adjustment requirements than varying brick courses will allow shall be made by removing the cone, adjusting the barrel height, and replacing the cone. See Specs. for other requirements.

MANHOLE REGRADING DETAIL

VALVE BOX REGRADING DETAIL

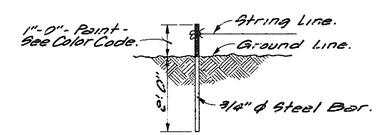


PLAN



SECTION (A)

TYPICAL DRIVEWAY & LAY DOWN CURB

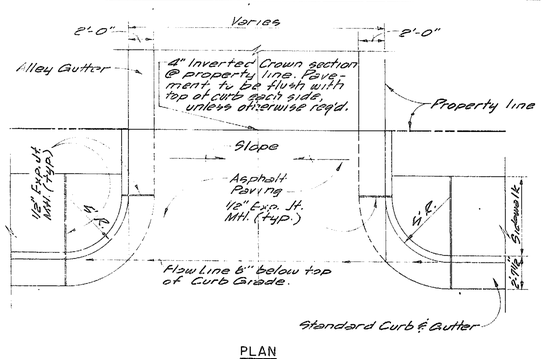


MARKER DETAIL

COLOR CODE

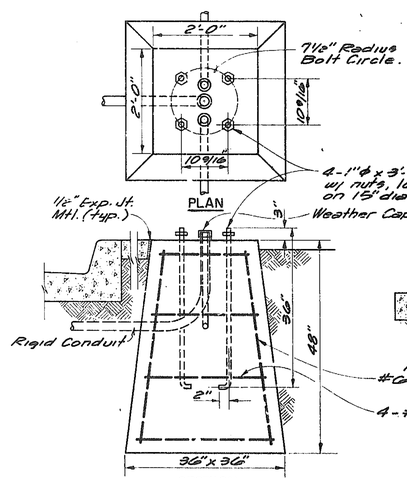
Green	Gas
Red	Sanitary Sewer
Yellow	Storm Sewer
White	Water

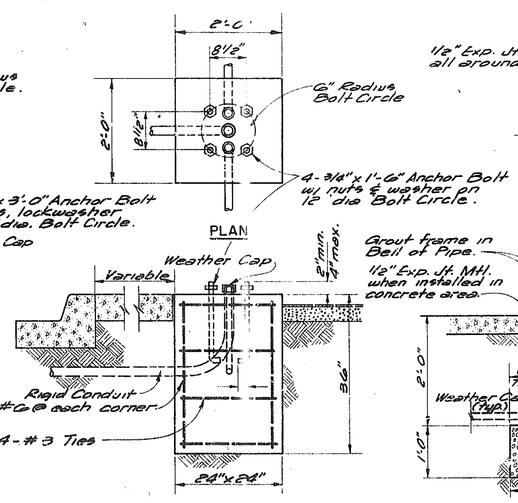
PLAN FOR LOCATING UNDERGROUND UTILITIES



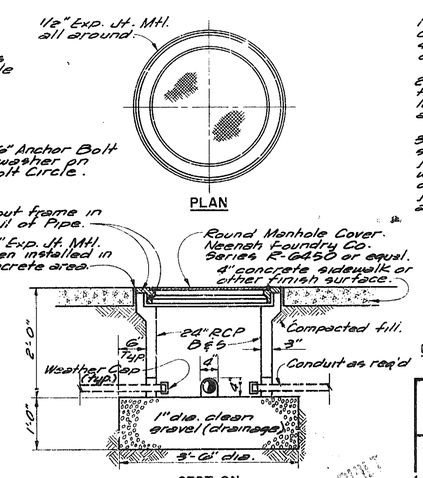
PLAN

TYPICAL ALLEY INTERSECTION





TRAFFIC LIGHT FOUNDATION DETAILS



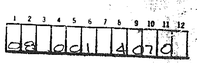
CONDUIT JUNCTION BOX DETAIL

GENERAL NOTES

1. Curb & Gutter. Provide contraction joints at 6'o.c. Provide 1/2" preformed expansion joints at 48'o.c. maximum, at curb returns and at each side of driveways.

2. Driveways. 18' to 36' long to have 1/2" preformed expansion joint at centerline. Driveways longer than 36' to have expansion joints spaced at 18' o.c. maximum.

3. Sidewalks to be 4" thick with a transverse slope of 1/4" per foot. 1/2" preformed expansion joints shall be provided at 18' o.c. maximum and where sidewalks abut existing walks, buildings, driveways or other construction. Contraction joints to be provided at same spacing and location as joints in Curb & Gutter.



DISREGARD NOTES AND DETAILS NOT APPLICABLE TO THIS CONTRACT.

ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY
ALBUQUERQUE NEW MEXICO

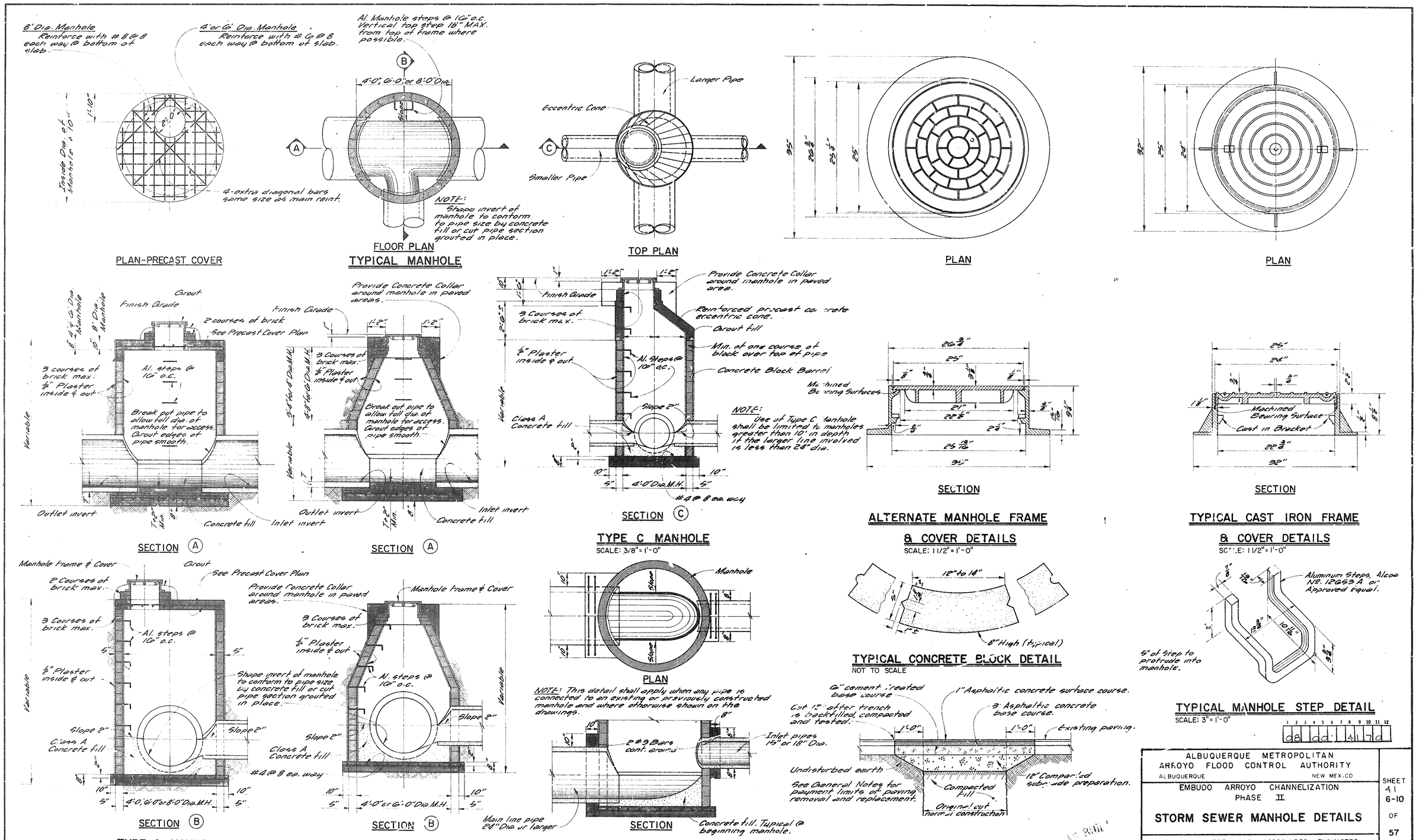
EMBUDO ARROYO CHANNELIZATION
PHASE II

STANDARD DETAILS

WILLIAM MATOTAN & ASSOCIATES - ENGINEERS
ALBUQUERQUE, NEW MEXICO

SCALE AS SHOWN | DRAWN B.D.M.S. | CHECKED | DATE JUNE 1970

SHEET 40 6-9 OF 57



ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY
ALBUQUERQUE NEW MEX. CO

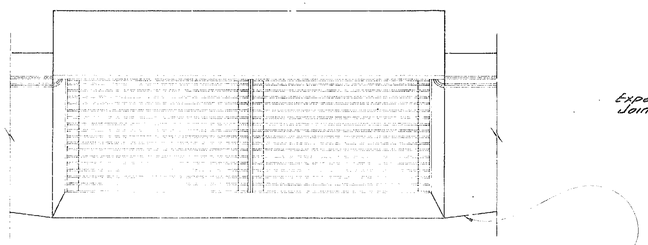
EMBUDO ARROYO CHANNELIZATION
PHASE II

STORM SEWER MANHOLE DETAILS

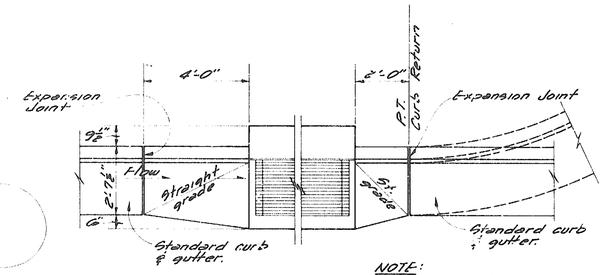
WILLIAM MATOTAN & ASSOCIATES - ENGINEERS
ALBUQUERQUE, NEW MEXICO

SCALE AS SHOWN | DRAWN B.D.M.E. | CHECKED J.A. | DATE JUNE 1970

SHEET 41 6-10 OF 57

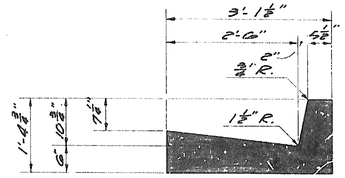


PLAN

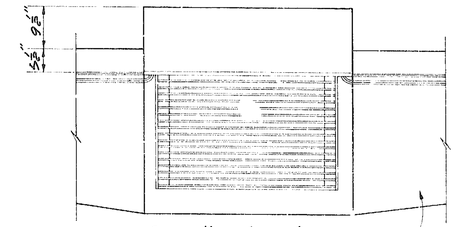


PLAN

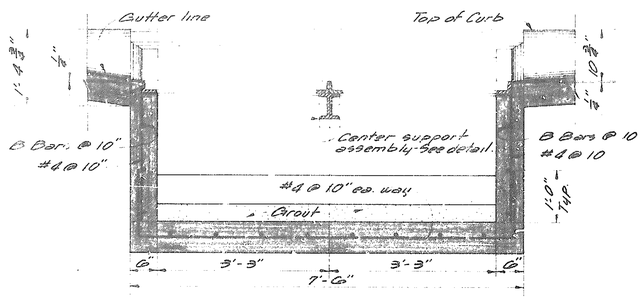
NOTE:
Provide 4' transition each side of inlet when installing inlet @ low point of curb & gutter.



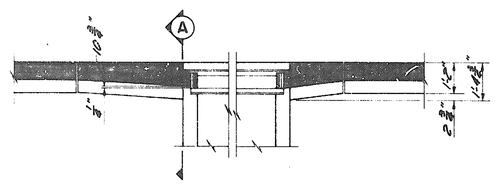
SECTION (A)



PLAN



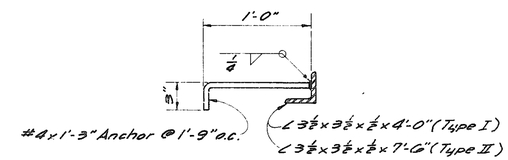
LONGITUDINAL SECTION



LONGITUDINAL SECTION

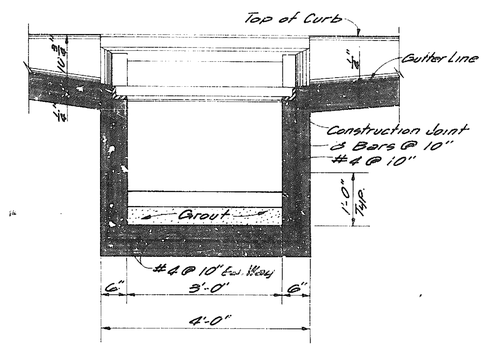
DETAIL FOR PLACING DROP INLET

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

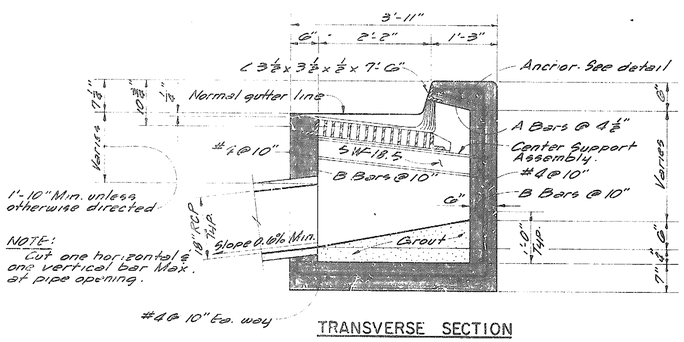


ANCHOR DETAIL

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



LONGITUDINAL SECTION

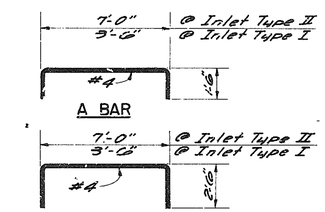


NOTE:
Cut one horizontal & one vertical bar Max. at pipe opening.

TRANSVERSE SECTION

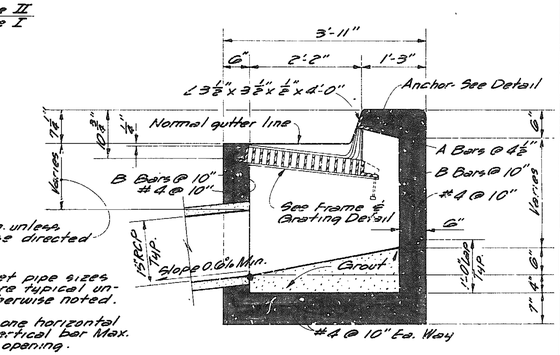
TYPE II DROP INLET DETAILS

SCALE: 3/4" = 1'-0"



BAR BENDING DETAILS

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

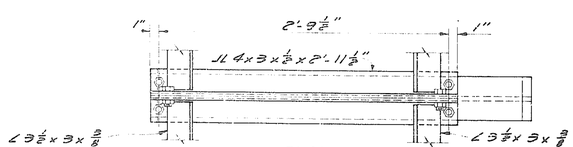


NOTES:
1. Outlet pipe sizes shown are typical unless otherwise noted.
2. Cut one horizontal & one vertical bar Max. at pipe opening.

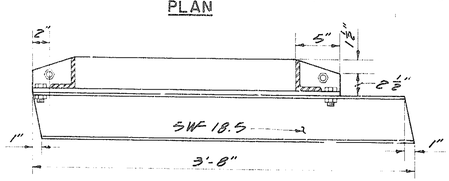
TRANSVERSE SECTION

TYPE I DROP INLET DETAILS

SCALE: 3/4" = 1'-0"



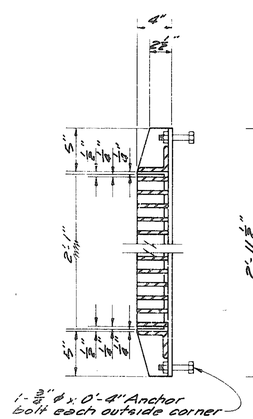
PLAN



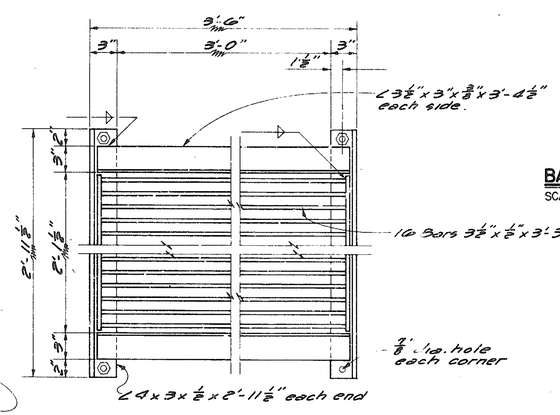
ELEVATION

CENTER SUPPORT ASSEMBLY – TYPE II DROP INLET

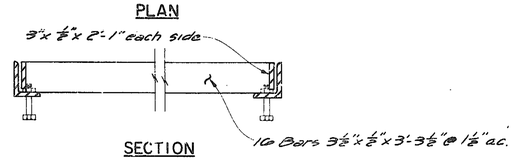
SCALE: 1 1/2" = 1'-0"



SECTION



PLAN



SECTION

FRAME & GRATING DETAILS

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

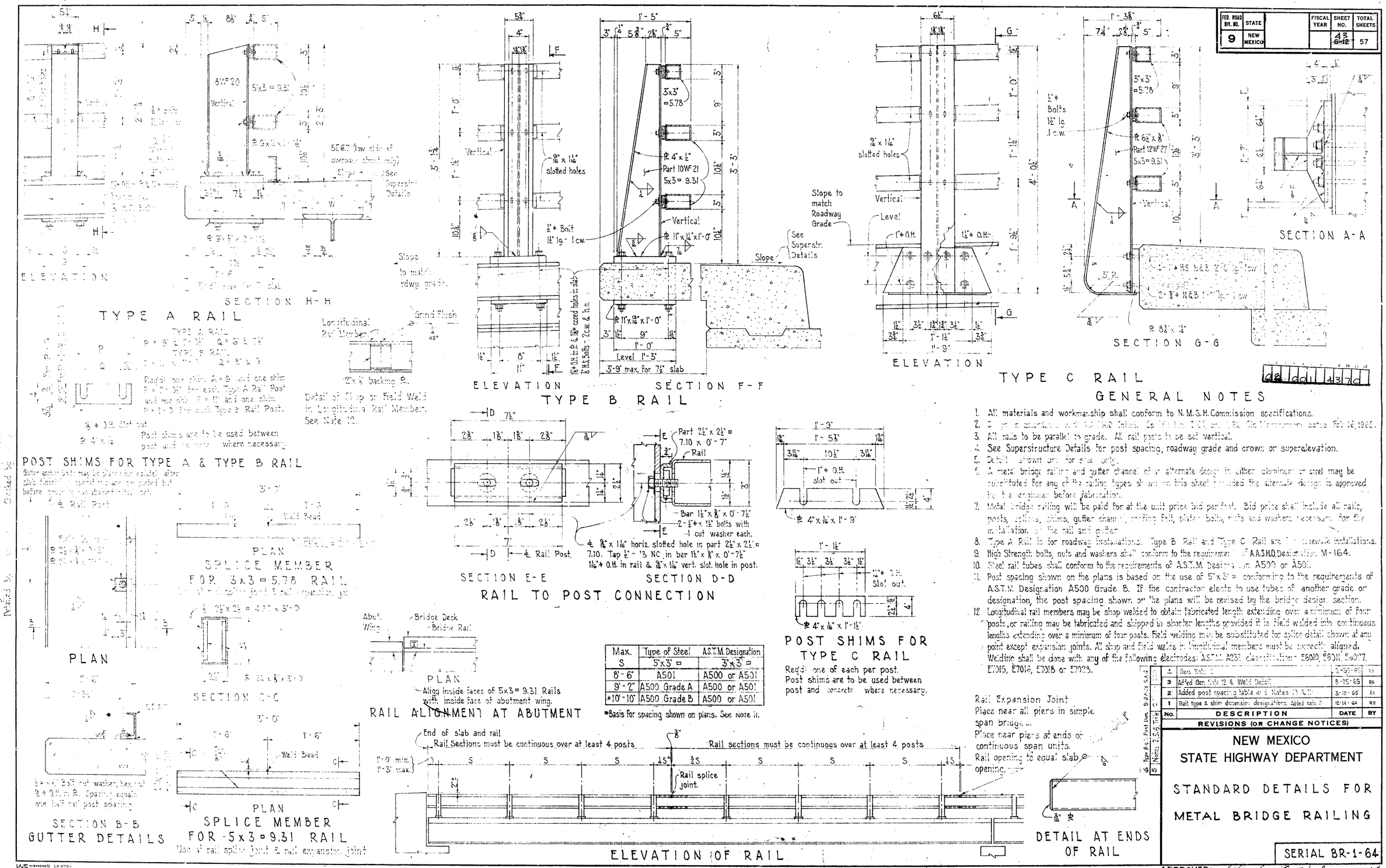
DETAILS TYPICAL TO DROP INLETS TYPE I & II

AS BUILT

ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY ALBUQUERQUE NEW MEXICO	SHEET 42 6-11 OF 57
EMBUDO ARROYO CHANNELIZATION PHASE II DROP INLET DETAILS	
WILLIAM MATOTAN & ASSOCIATES – ENGINEERS ALBUQUERQUE, NEW MEXICO	
SCALE AS SHOWN · DRAWN B.D.M.E. · CHECKED J.A. · DATE JUNE 1970	

670

FED. ROAD DIV. NO.	STATE		FISCAL YEAR	SHEET NO.	TOTAL SHEETS
9	NEW MEXICO			43 of 57	57



Max. S	Type of Steel	A.S.T.M. Designation
	5"x3" ▭	3"x3" ▭
8'-6"	A501	A500 or A501
9'-2"	A500 Grade A	A500 or A501
*10'-10"	A500 Grade B	A500 or A501

*Basis for spacing shown on plans. See Note 11.

GENERAL NOTES

1. All materials and workmanship shall conform to N.M.S.H.Commission specifications.
2. Design in accordance with AASHO Interim Specifications 1963 and 1964 Supplements as amended by the Commission effective Feb 16, 1965.
3. All rails to be parallel to grade. All rail posts to be set vertical.
4. See Superstructure Details for post spacing, roadway grade and crown or superelevation.
5. Details shown are for show only.
6. A metal bridge railing and gutter channel of an alternate design in either aluminum or steel may be substituted for any of the railing types shown on this sheet provided the alternate design is approved by the engineer before fabrication.
7. Metal bridge railing will be paid for at the unit price bid per foot. Bid price shall include all rails, posts, splices, shims, gutter channel, parking bolt, plates, bolts, nuts and washers necessary for the installation of the rail and gutter.
8. Type A Rail is for roadway installations. Type B Rail and Type C Rail are for sidewalk installations.
9. High Strength bolts, nuts and washers shall conform to the requirements of A.A.S.H.O. Designation M-164.
10. Steel rail tubes shall conform to the requirements of A.S.T.M. Designation A500 or A501.
11. Post spacing shown on the plans is based on the use of 5"x3" conforming to the requirements of A.S.T.M. Designation A500 Grade B. If the contractor elects to use tubes of another grade or designation, the post spacing shown on the plans will be revised by the bridge design section.
12. Longitudinal rail members may be shop welded to obtain fabricated length extending over a minimum of four posts, or railing may be fabricated and shipped in shorter lengths provided it is field welded into continuous lengths extending over a minimum of four posts. Field welding may be substituted for splice detail shown at any point except expansion joints. All shop and field welds in longitudinal members must be correctly aligned. Welding shall be done with any of the following electrodes: A.S.T.M. A233, classification: E6010, E6011, E6027, E7015, E7016, E7018 or E7028.

No.	DESCRIPTION	DATE	BY
4	Gen. Note 12	2-25-65	RH
3	Add'ed Gen. Note 12 & Weld Detail	8-25-65	RH
2	Added post spacing table at 5 Notes 11 & 11	3-10-65	RH
1	Rail type & shim dimension designations. Added note 12	12-14-64	RH

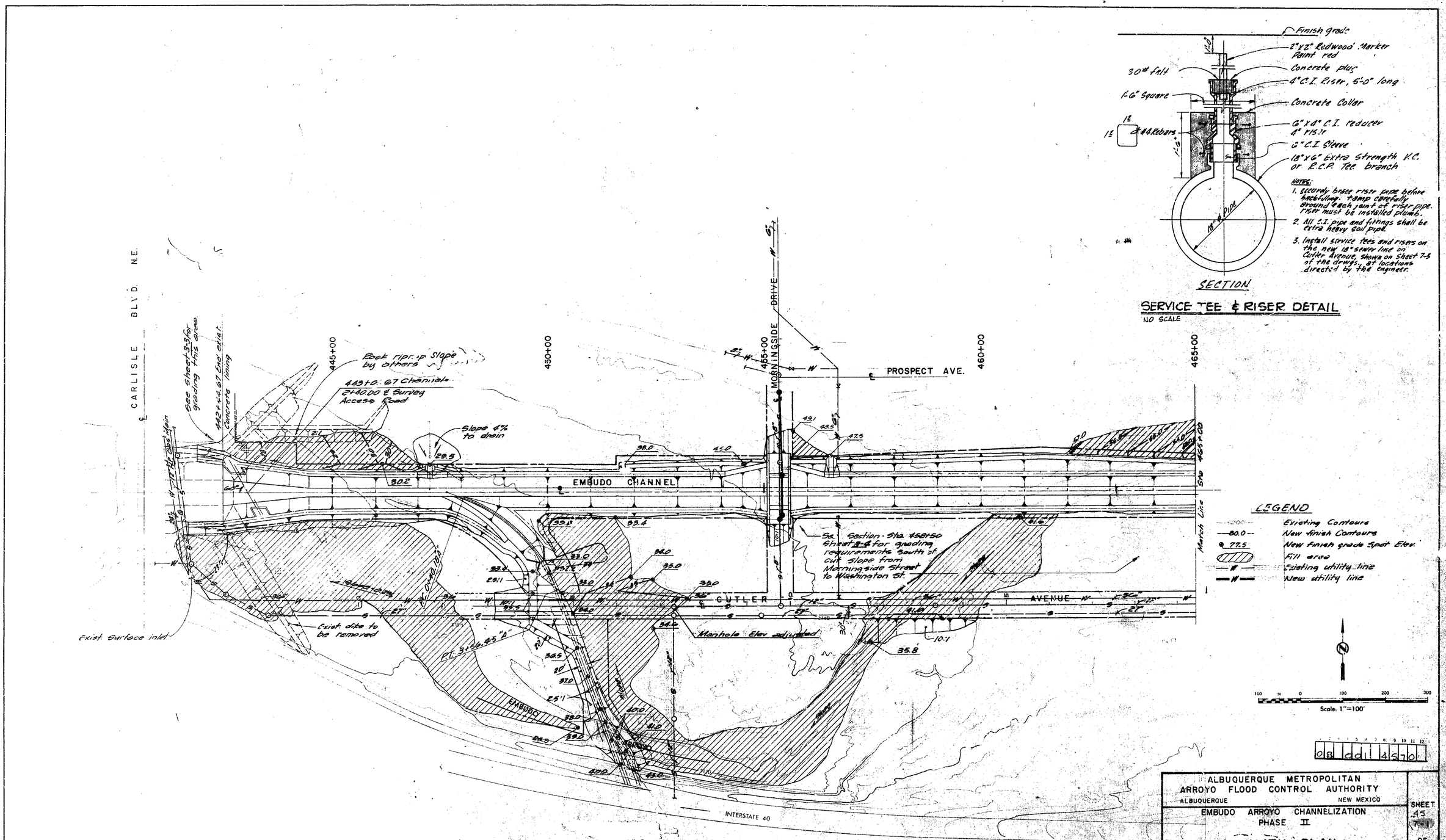
REVISIONS (OR CHANGE NOTICES)

NEW MEXICO
STATE HIGHWAY DEPARTMENT

STANDARD DETAILS FOR
METAL BRIDGE RAILING

SERIAL BR-1-64

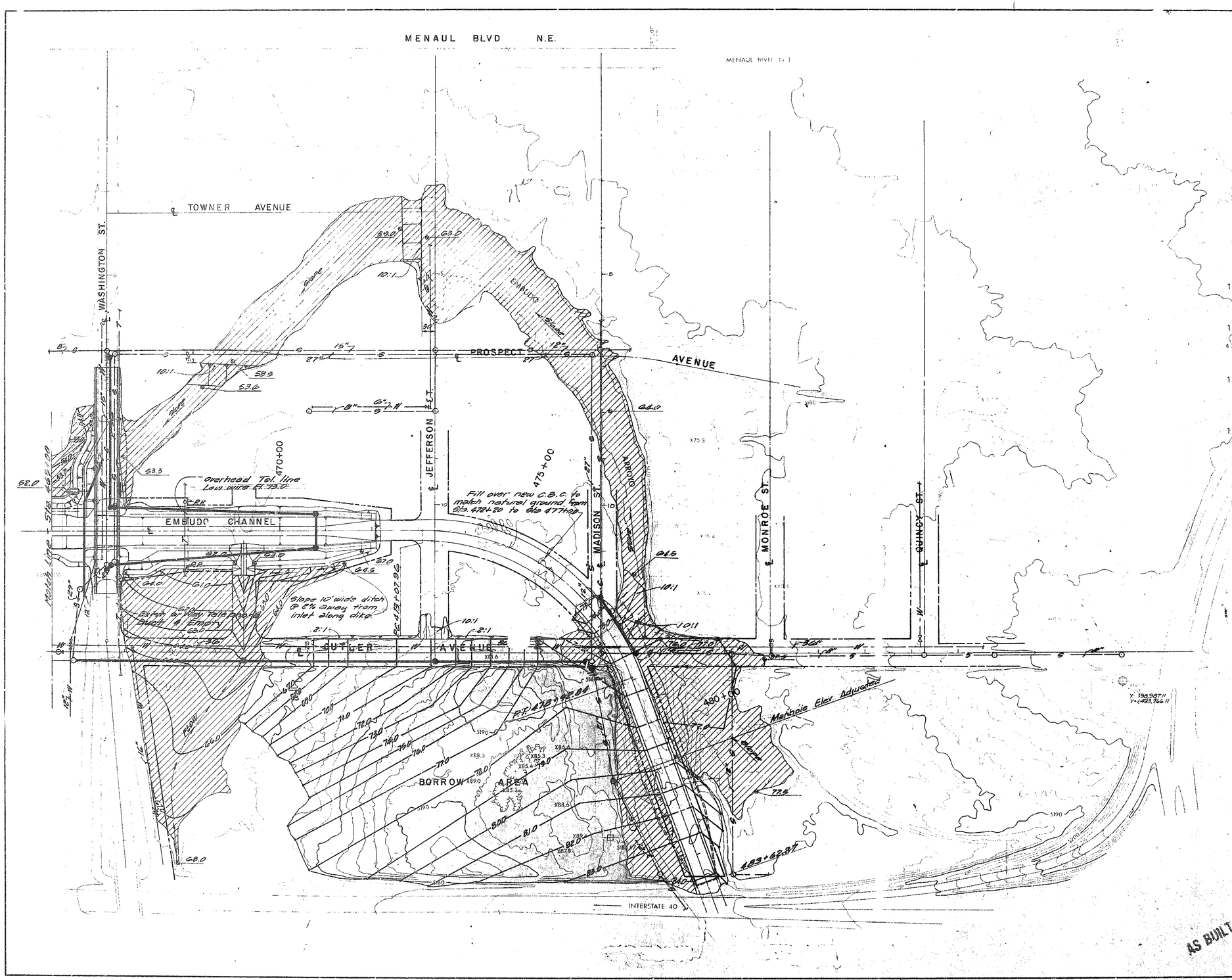
APPROVED: Charles E. Ford 10-30-64
BRIDGE ENGINEER



SERVICE TEE & RISER DETAIL

NO SCALE

ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY ALBUQUERQUE NEW MEXICO	SHEET 45 7-1 OF 57
EMBUDO ARROYO CHANNELIZATION PHASE II	
UTILITY PLAN	
WILLIAM MATOTAN & ASSOCIATES – ENGINEERS ALBUQUERQUE, NEW MEXICO	
SCALE: AS SHOWN DRAWN: G.B. K.R. CHECKED: F.L. DATE: JUNE 1970	



NOTES

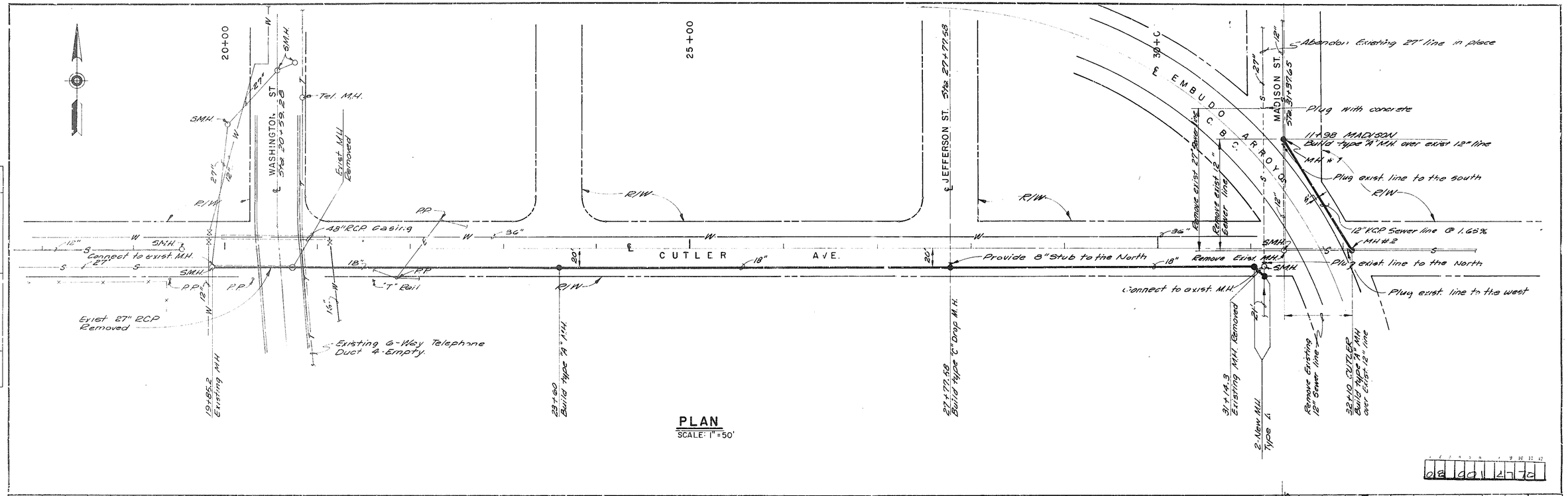
1. THE CONTRACTOR SHALL COORDINATE ANY WORK REQUIRED BY OTHERS IN THE CONSTRUCTION AREA WITH THE CONSTRUCTION OF THIS PROJECT.
2. EXISTING MATERIALS TO BE REMOVED AND PAID FOR ON A UNIT BASIS SHALL BE MEASURED AND QUANTITIES APPROVED BY THE ENGINEER PRIOR TO REMOVING EXISTING MATERIALS.
3. CONNECTIONS OF NEW SEWERS TO EXISTING MANHOLES SHALL BE SUBSIDIARY TO CONSTRUCTION OF SUCH SEWERS.
4. DEPTH OF MANHOLES MEASURED FOR PAYMENT SHALL BE MEASURED FROM THE TOP OF THE FRAME TO THE FLOWLINE OF THE LOWEST PIPE ENTERING THE MANHOLE.
5. DEPTH OF SEWER TRENCH MEASURED FOR PAYMENT SHALL BE MEASURED FROM FLOWLINE OF PIPE TO NATURAL GROUND OR NEW FINISH GRADES WHICH EVER IS LOWER.
6. ALL GAS VALVE BOXES, GAS MANHOLES, AND TELEPHONE MANHOLES WILL BE ADJUSTED TO GRADE BY OTHERS.
7. THE CONTRACTOR SHALL NOTIFY THE TELEPHONE Co. BY CALLING 842-1211 BEFORE COMMENCING WORK IN AREAS NEAR UNDERGROUND TELEPHONE LINES.
8. ANY ADJUSTMENTS TO GRADE OF NEW MANHOLES CONSTRUCTED UNDER THIS CONTRACT SHALL BE SUBSIDIARY TO CONSTRUCTION OF THE MANHOLES.
9. THE MAXIMUM ALLOWABLE QUANTITIES FOR PAYMENT FOR REPLACEMENT OF PAVING WHERE STORM SEWERS ARE TO BE INSTALLED UNDER EXISTING PAVING WILL BE COMPUTED BY USING TRENCH WIDTHS TABULATED IN THE SPECIFICATIONS PLUS 24" UNLESS OTHERWISE DIRECTED BY THE ENGINEER. (SEE PAVEMENT CUT DETAIL.)
10. ALL SEWER LINES TO BE ABANDONED UNDER THIS CONTRACT SHALL BE PLUGGED WITH CONCRETE AT EACH END OF THE PORTION TO BE ABANDONED. PAYMENT FOR SUCH WORK WILL BE CONSIDERED SUBSIDIARY TO OTHER ITEMS OF CONSTRUCTION.
11. PRIOR TO COMMENCING WORK IN A SPECIFIC AREA THE CONTRACTOR WILL BE REQUIRED TO EXPOSE EXISTING UTILITY LINES AT LOCATIONS DETERMINED BY THE CONTRACTOR OR AT LOCATIONS REQUIRED BY THE RESIDENT ENGINEER WHERE IT IS ANTICIPATED THAT POSSIBLE CONFLICTS WITH NEW CONSTRUCTION MAY OCCUR.
12. ALL EXISTING UTILITIES SHOWN WERE TAKEN FROM RECORD DRAWINGS AND ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO PROTECT, MAINTAIN IN SERVICE, AND AT POINTS REQUIRED, VERIFY EXACT LOCATION OF THESE UTILITIES DURING CONSTRUCTION OPERATIONS OF THIS PROJECT.
13. ALL VITRIFIED CLAY PIPE USED SHALL BE EXTRA STRENGTH.

LEGEND

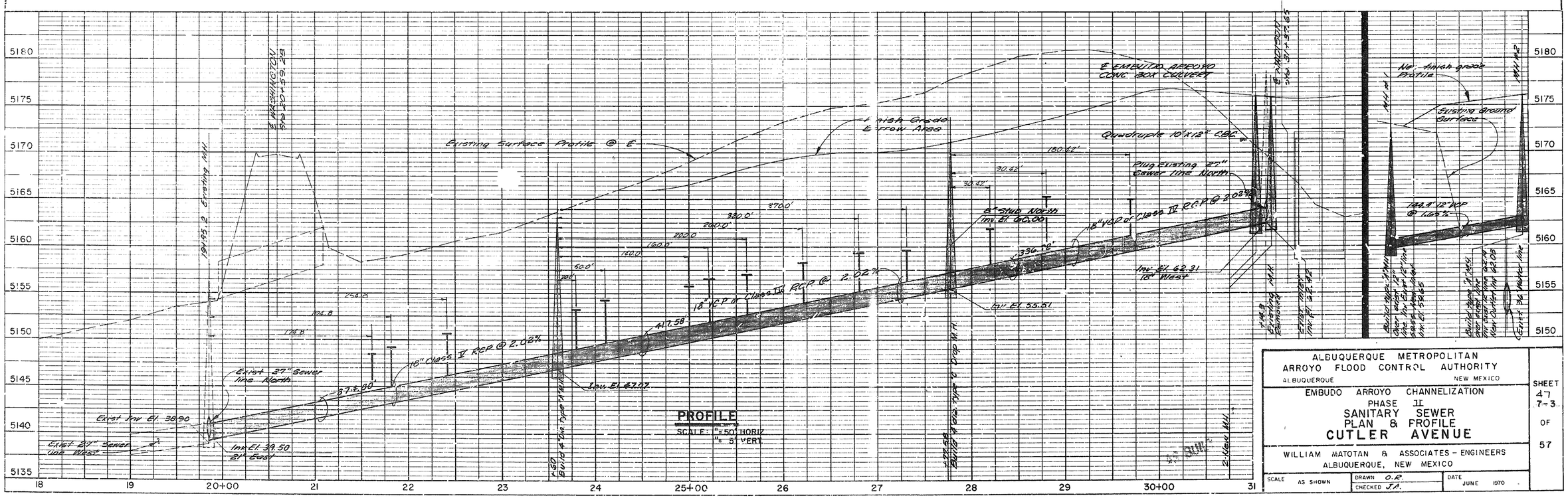
- Existing Contours
- 80.0 New finish Contours
- 77.5 New finish grade Spot Elev.
- Fill area
- Borrow Area
- —W— Existing utility line
- —W— New utility line

Scale: 1"=100'

ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY ALBUQUERQUE NEW MEXICO		SHEET 42 OF 57
EMBUDO ARROYO CHANNELIZATION PHASE II UTILITY PLAN		
WILLIAM MATOTAN & ASSOCIATES – ENGINEERS ALBUQUERQUE, NEW MEXICO		
SCALE: AS SHOWN	DRAWN: O.R. / CHECKED: R.L.	DATE: JUNE 1970



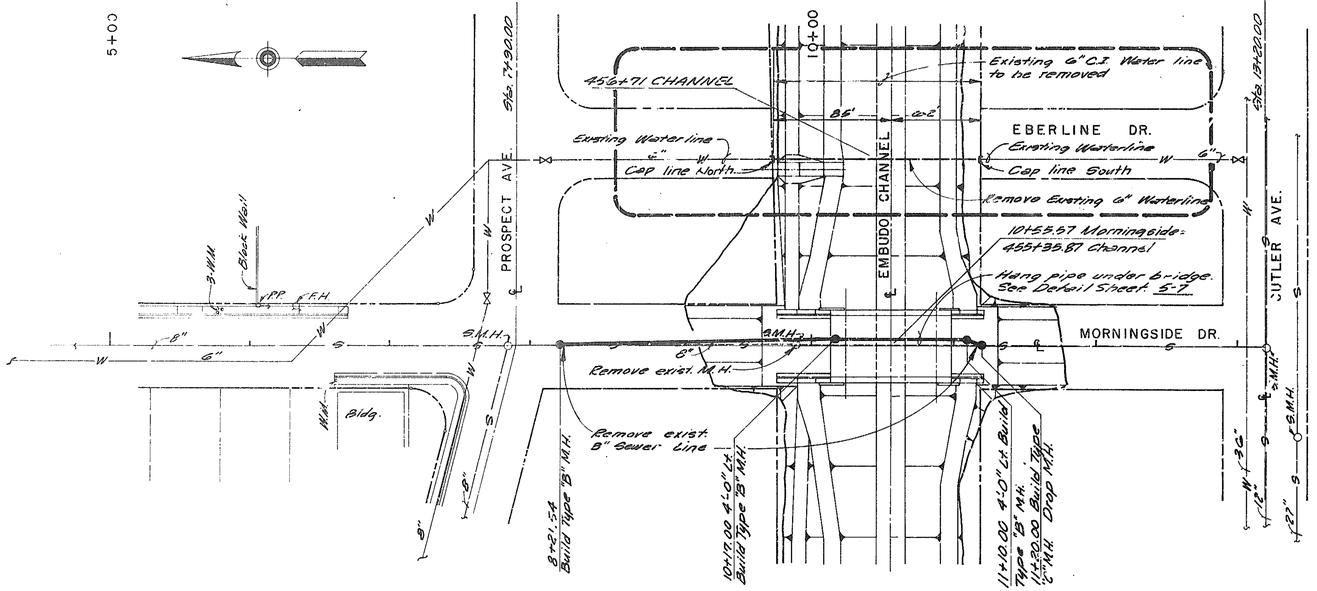
PLAN
SCALE: 1" = 50'



PROFILE
SCALE: 1" = 50' HORIZ
1" = 5' VERT.

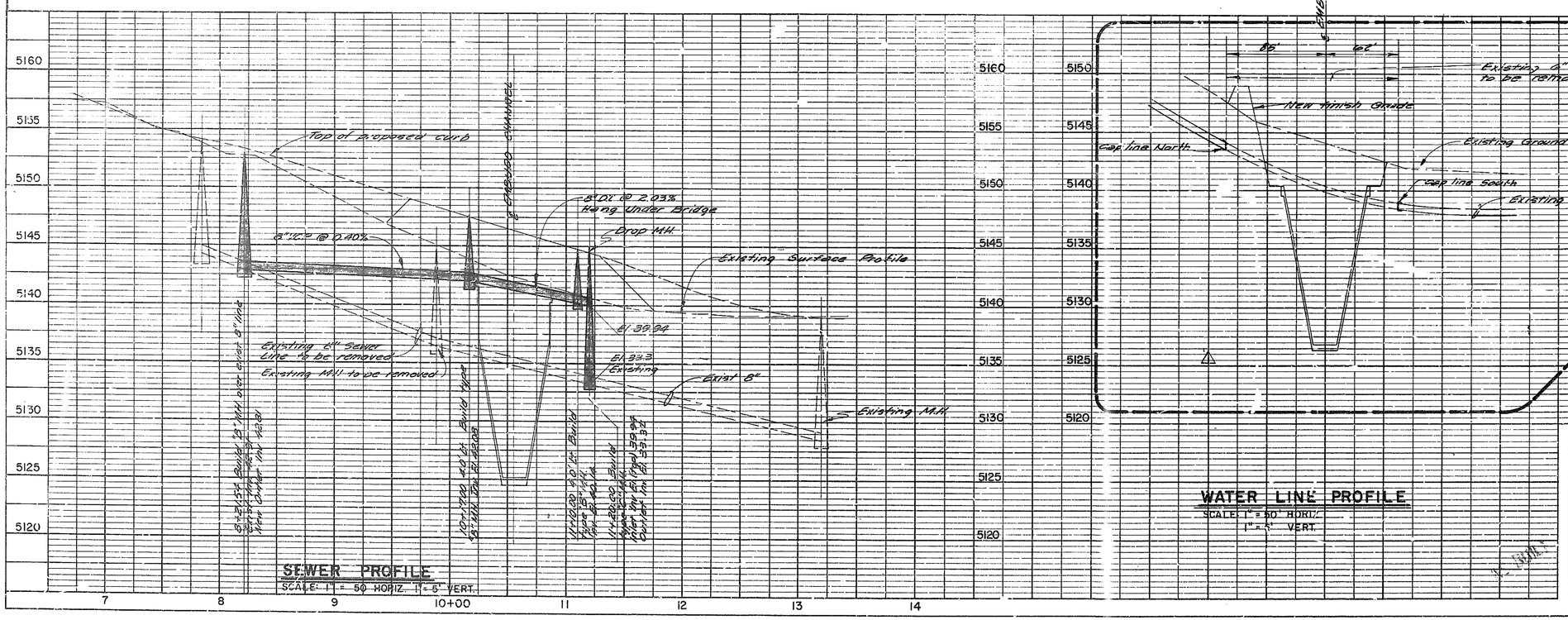
ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY ALBUQUERQUE NEW MEXICO	SHEET 47 7-3 OF 57
EMBUDO ARROYO CHANNELIZATION PHASE II SANITARY SEWER PLAN & PROFILE CUTLER AVENUE	
WILLIAM MATOTAN & ASSOCIATES - ENGINEERS ALBUQUERQUE, NEW MEXICO	
SCALE AS SHOWN · DRAWN O.R. · CHECKED J.A. · DATE JUNE 1970	

PLATE I—PLAN PROFILE S. P. B. STANDARD
THE FREDERICK POST CO., CHICAGO



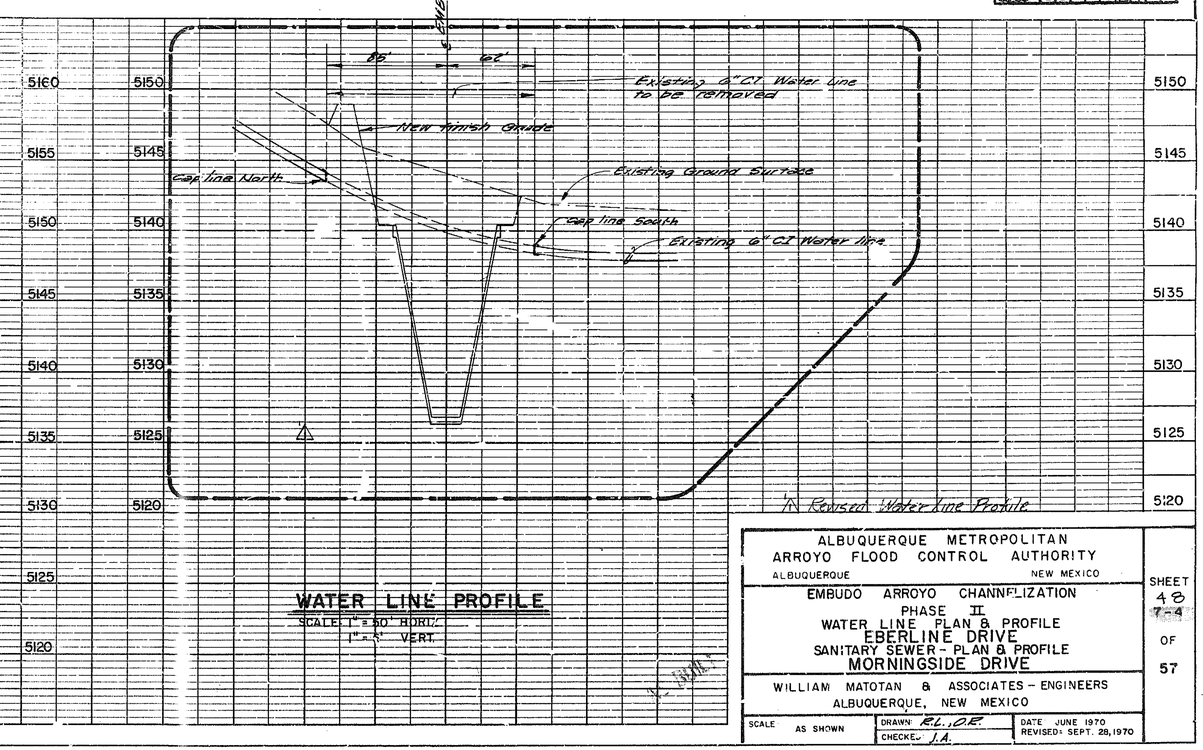
PLAN

SCALE: 1" = 50'



SEWER PROFILE

SCALE: 1" = 50 HORIZ. 1" = 5' VERT.



WATER LINE PROFILE

SCALE: 1" = 50' HORIZ. 1" = 5' VERT.

PLAN		BY	DATE
NOTE BOOK NO.	SURVEYED / PLOTTED / ALIGNMENT CHECKED / RT. OF WAY CHECKED		

PROFILE		BY	DATE
NOTE BOOK NO.	SURVEYED / PLOTTED / GRADES CHECKED / B. M. & NOTED / STRUCTS. NOTATIONS CHKD.		

ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY
ALBUQUERQUE NEW MEXICO

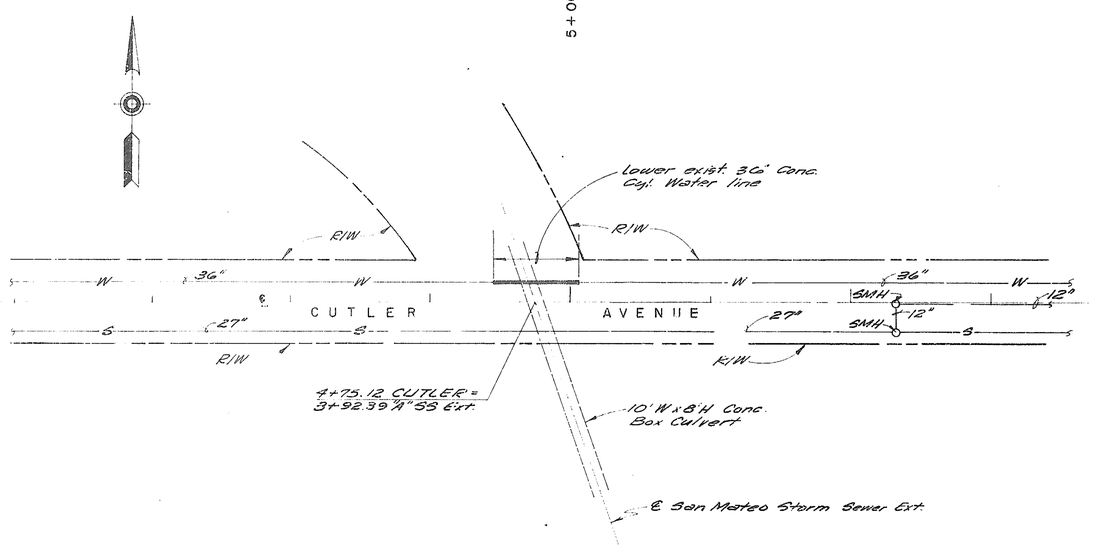
EMBUDO ARROYO CHANNELIZATION
PHASE II
WATER LINE PLAN & PROFILE
EBERLINE DRIVE
SANITARY SEWER - PLAN & PROFILE
MORNINGSIDE DRIVE

WILLIAM MATOTAN & ASSOCIATES - ENGINEERS
ALBUQUERQUE, NEW MEXICO

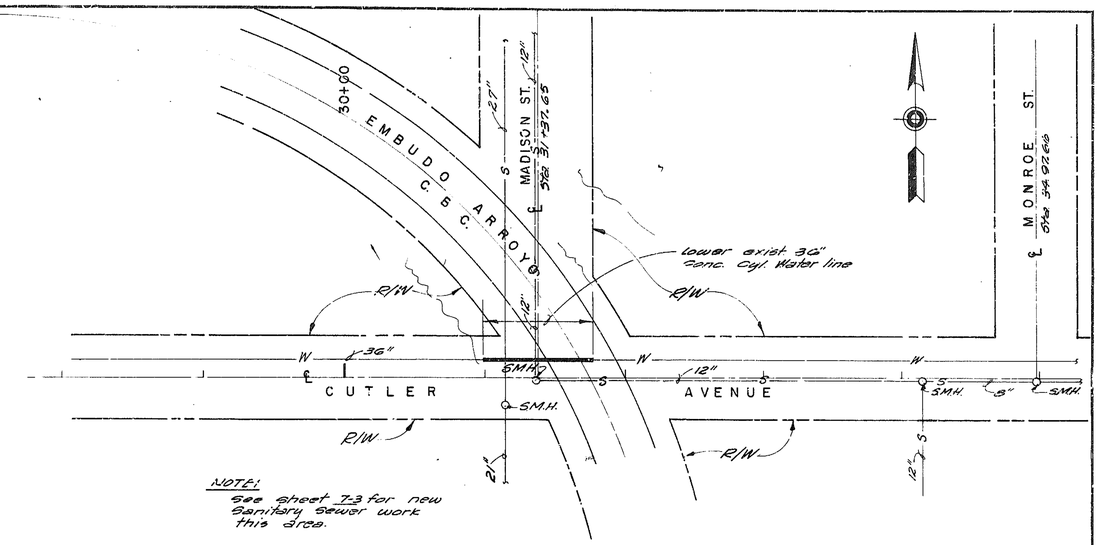
SCALE AS SHOWN | DRAWN R.L., D.E. | CHECKED J.A. | DATE JUNE 1970 | REVISED SEPT. 28, 1970

SHEET 48 OF 57

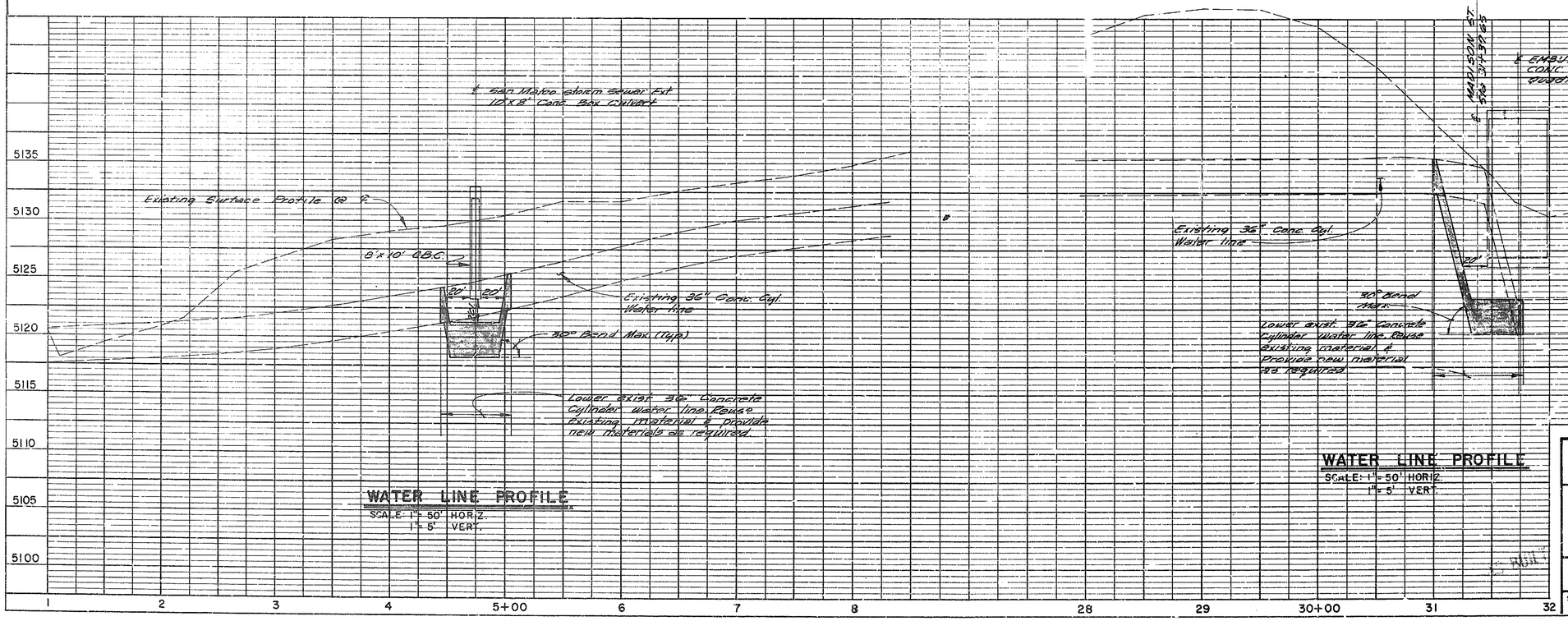
PLATE 1—PLAN PROFILE B. P. R. STANDARD
THE FREDERICK POST CO., CHICAGO



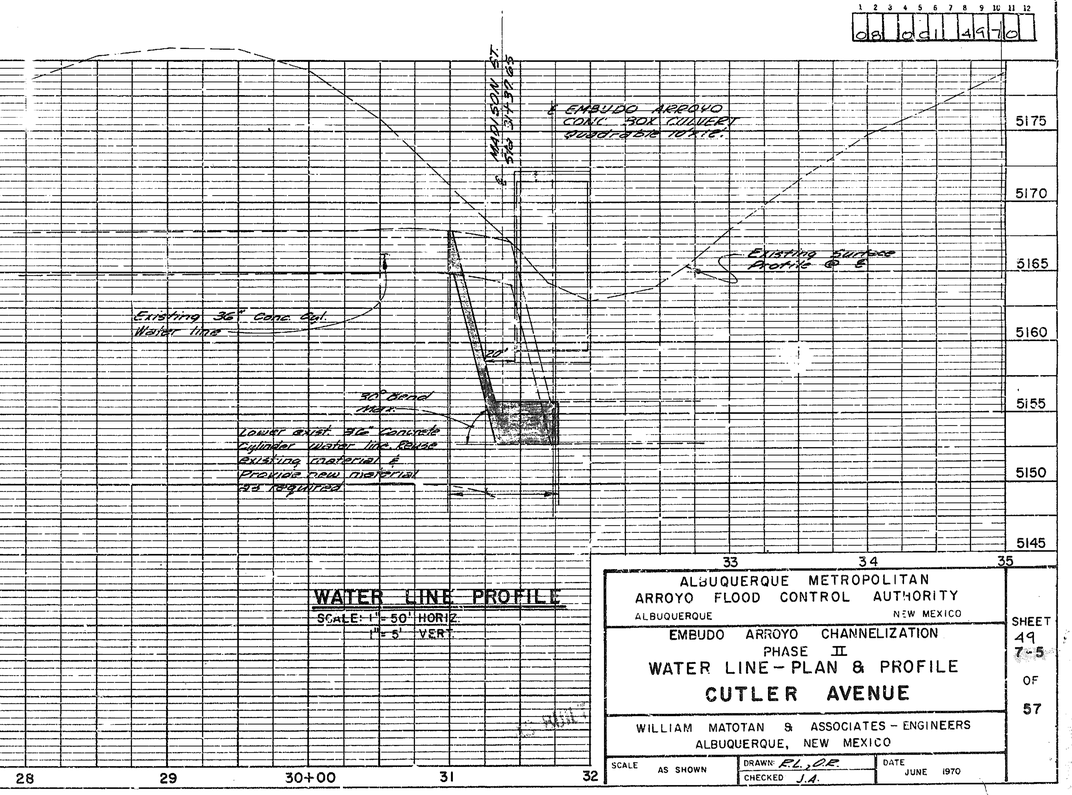
PLAN
SCALE: 1" = 50'



PLAN
SCALE: 1" = 50'



WATER LINE PROFILE
SCALE: 1" = 50' HORIZ.
1" = 5' VERT.



WATER LINE PROFILE
SCALE: 1" = 50' HORIZ.
1" = 5' VERT.

ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY
ALBUQUERQUE NEW MEXICO

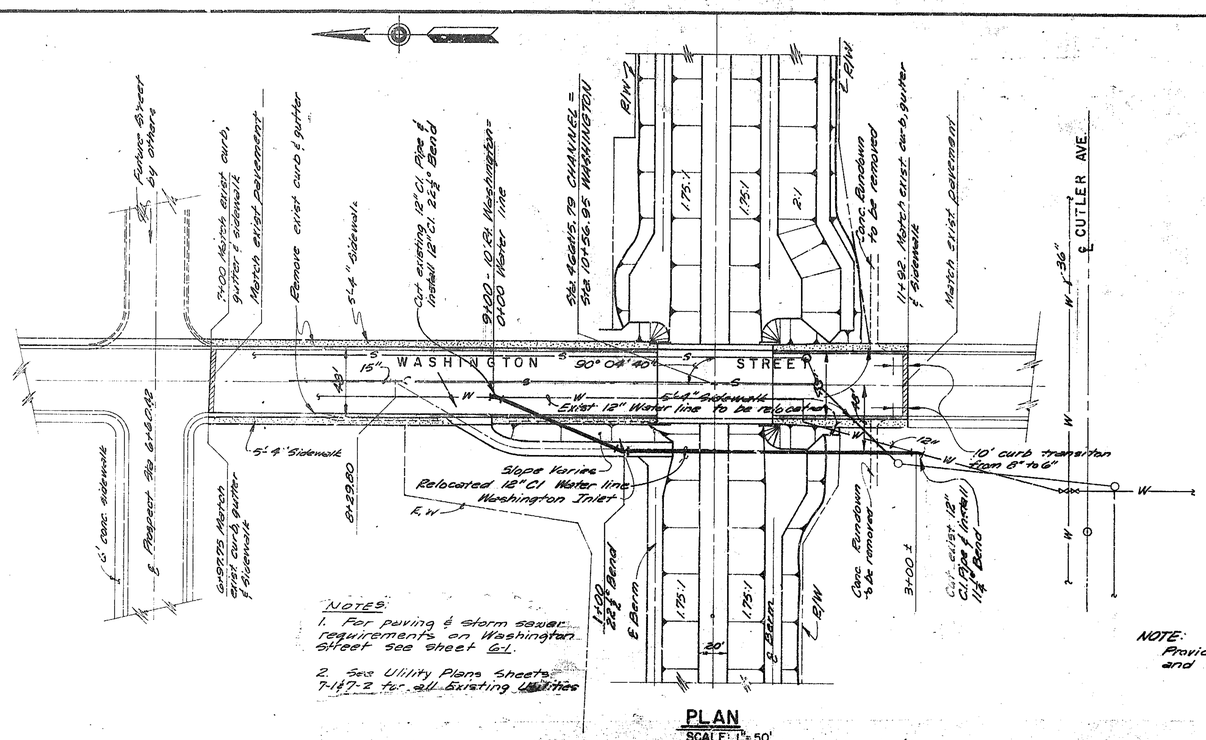
EMBUDO ARROYO CHANNELIZATION
PHASE II
WATER LINE – PLAN & PROFILE
CUTLER AVENUE

WILLIAM MATOTAN & ASSOCIATES – ENGINEERS
ALBUQUERQUE, NEW MEXICO

SCALE AS SHOWN | DRAWN R.L., O.R. | CHECKED J.A. | DATE JUNE 1970

SHEET 49 7-5 OF 57

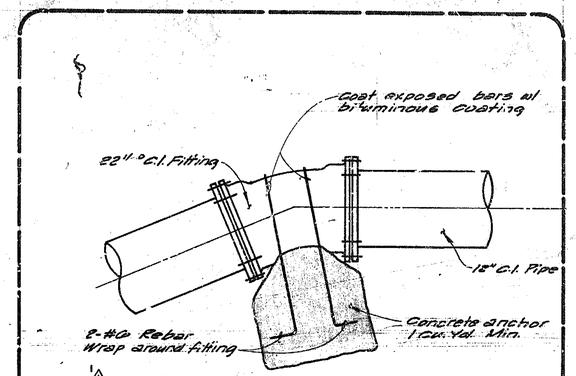
PLATE 1—PLAN PROFILE B. P. R. STANDARD
THE FREDERICK POST CO., CHICAGO



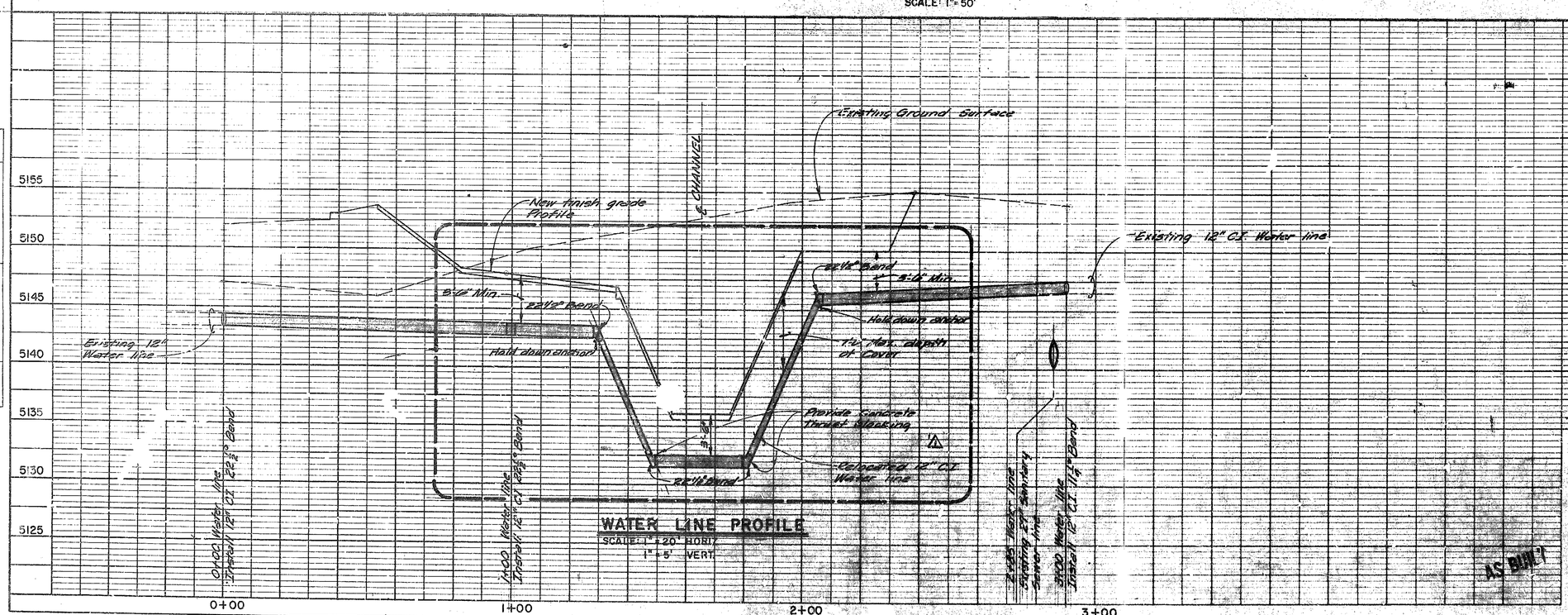
NOTES:
1. For paving & storm sewer requirements on Washington Street see sheet G-1.
2. See Utility Plans Sheets 7-147-2 for all Existing Utilities

PLAN
SCALE: 1" = 50'

NOTE:
Provide New C.I. Pipe and fittings as required



⚠ HOLD DOWN ANCHOR DETAIL
SCALE: 1" = 1'-0"



WATER LINE PROFILE
SCALE: 1" = 20' HORIZ.
1" = 5' VERT.

AS BUILT

PROFILE:	SURVEYED	BY	DATE
	PLOTTED		
	CROSSES CHECKED		
NOTE BOOK	B. M.'S NOTED		
NO.	STRUCTURE NOTATIONS CHKD.		

ALBUQUERQUE METROPOLITAN
ARROYO FLOOD CONTROL AUTHORITY
ALBUQUERQUE NEW MEXICO

EMBUDO ARROYO CHANNELIZATION
PHASE II

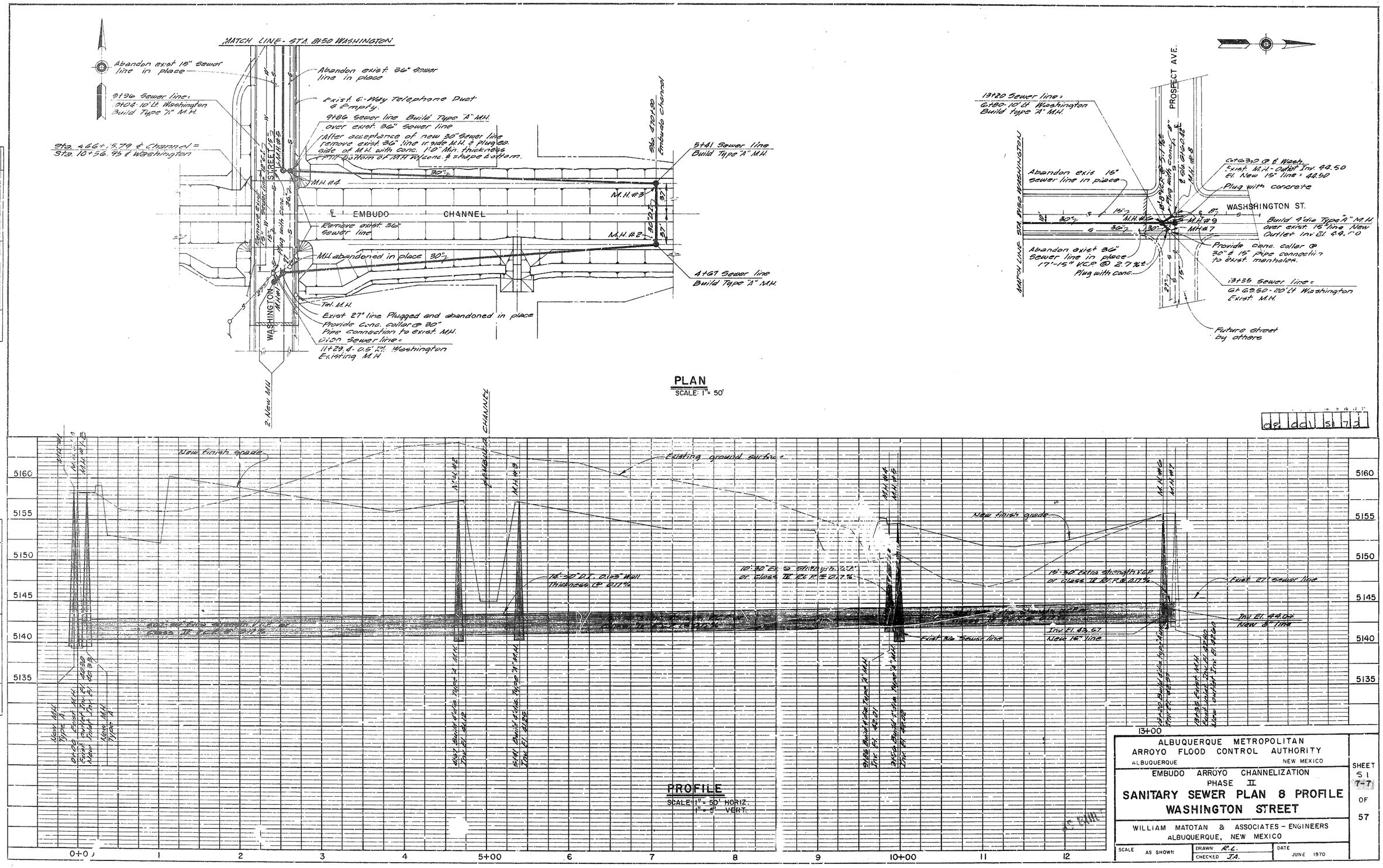
WATER LINE PLAN & PROFILE
WASHINGTON ST.

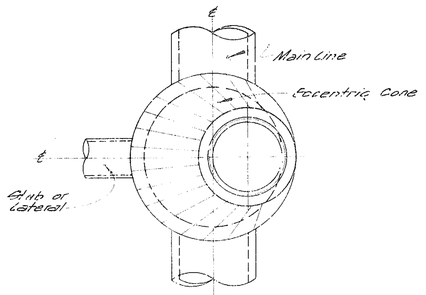
WILLIAM MATOTAN & ASSOCIATES - ENGINEERS
ALBUQUERQUE, NEW MEXICO

SCALE AS SHOWN | DRAWN CR | CHECKED J.J. | DATE JUNE 1970 | REVISED SEPT 28, 1970

SHEET 50 OF 57

PLATE I—PLAN PROFILE B. P. D. STANDARD
THE KASTENICK POST CO. CHICAGO

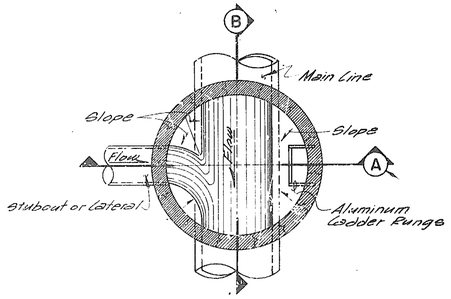

MATCH LINE - STA. 8+50 WASHINGTON
Abandon exist 15" Sewer line in place
9+36 Sewer line: 2+04.10' Lt Washington Build Type "A" M.H.
Sta. 4+66±. 5.79 ℄ Channel = Sta. 10+56.95 ℄ Washington
Abandon exist 36" Sewer line in place
Exist 6'-Way Telephone Duct & Empty.
9+86 Sewer line Build Type "A" M.H. over exist 36" Sewer line
(After acceptance of new 30" Sewer line remove exist 36" line inside M.H. & plug ends. Side of M.H. with conc. 1'-0" Min. thickness
Fill bottom of M.H. w/conc. & shape bottom.
Sta. 4+70±.80 Embudo Channel
5+41 Sewer line Build Type "A" M.H.
WASHINGTON STREET
M.H.#4
M.H.#3
℄ EMBUDO CHANNEL
Remove exist 36" Sewer line
M.H.#2
M.H. abandoned in place
4+67 Sewer line Build Type "A" M.H.
Tel. M.H.
Exist 27" line Plugged and abandoned in place
Provide Conc. collar @ 30" Pipe connection to exist. M.H.
11+23 Sewer line: 11+23.4 - 0.5' Rt. Washington Existing M.H.
2. New M.H.
PROSPECT AVE.
13+20 Sewer line: 6+80.10' Lt Washington Build Type "A" M.H.
MATCH LINE STA. 8+50 WASHINGTON
Abandon exist 15" Sewer line in place
6+63±.2 @ ℄ Wash. Exist. M.H. - Outlet Inv. 44.50 El. New 15" line = 44.50
Plug with concrete
WASHINGTON ST.
M.H.#9
M.H.#7
Build 4' dia Type "A" M.H. over exist. 15" line. New Outlet Inv El. 44.70
Abandon exist 30" Sewer line in place 17'-15" V.C.P. @ 2.7%±
Plug with Conc.
Provide conc. collar @ 30" & 15" Pipe connection to exist. manholes.
13+35 Sewer line: 6+63.50 - 20' Lt Washington Exist. M.H.
Future street by others
PLAN
SCALE: 1" = 50'
New finish grade
Existing ground surface
New finish grade
Exist 27" sewer line
Exist 36" sewer line
Inv El. 42.51 New 18" line
Inv El. 44.07 New 8" line
5160
5155
5150
5145
5140
5135
0+00
1
2
3
4
5+00
6
7
8
9
10+00
11
12
13+00
PROFILE
SCALE: 1" = 50' HORIZ.
1" = 5' VERT.
ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY
ALBUQUERQUE NEW MEXICO
EMBUDO ARROYO CHANNELIZATION
PHASE II
SANITARY SEWER PLAN & PROFILE
WASHINGTON STREET
WILLIAM MATOTAN & ASSOCIATES - ENGINEERS
ALBUQUERQUE, NEW MEXICO
SCALE AS SHOWN
DRAWN R.L.
CHECKED J.A.
DATE JUNE 1970
SHEET S1 7-7 OF 57
PLAN
NOTE BOOK
NO.
SURVEYED
PLOTTED
ALIGNMENT CHECKED
R/W & STRUCTURE NOTATIONS CHKD.
PROFILE
STRUCTURE NOTATIONS CHKD.
BY
DATE
PLATE 1—PLAN PROFILE B. P. R. STANDARD
THE FREDERICK POST CO., CHICAGO



TOP PLAN

TYPE A MANHOLE

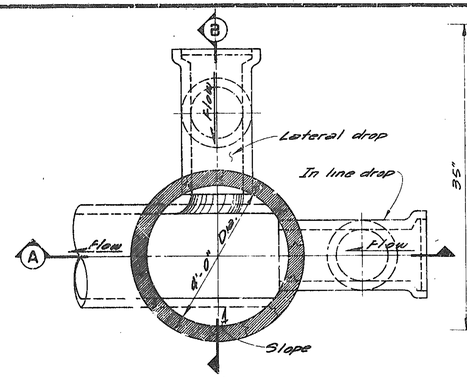
SCALE 1/2" = 1'-0"



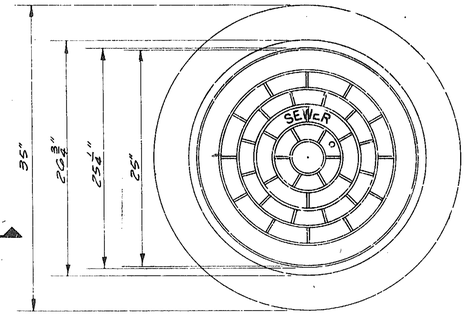
PLAN

TYPE A & B MANHOLE

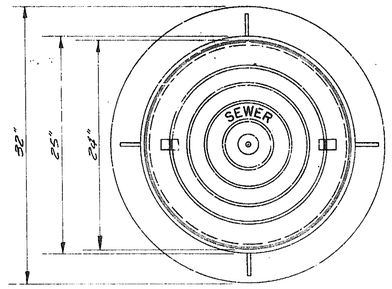
SCALE 1/2" = 1'-0"



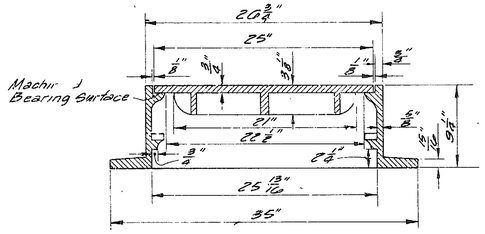
PLAN



PLAN



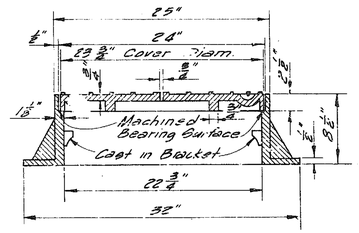
PLAN



SECTION

ALTERNATE MANHOLE FRAME & COVER DETAILS

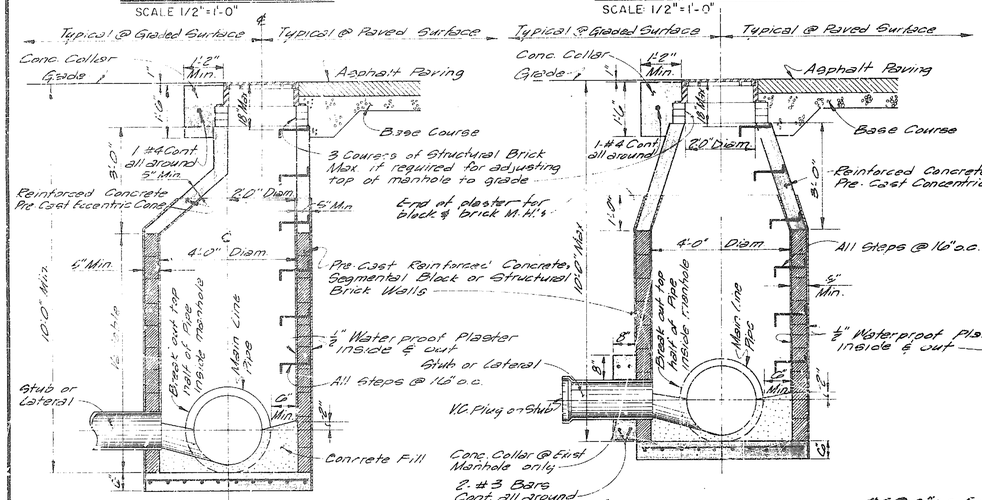
SCALE: 1-1/2" = 1'-0"



SECTION

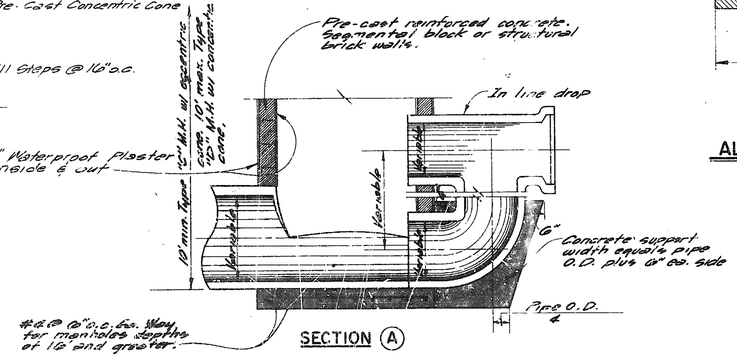
TYPICAL CAST IRON FRAME & COVER DETAILS

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



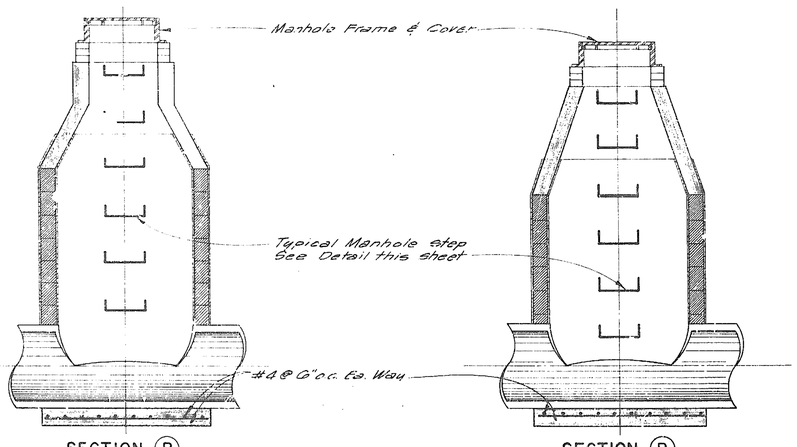
SECTION (A)

SECTION (A)



SECTION (A)

IN LINE DROP MANHOLE



SECTION (B)

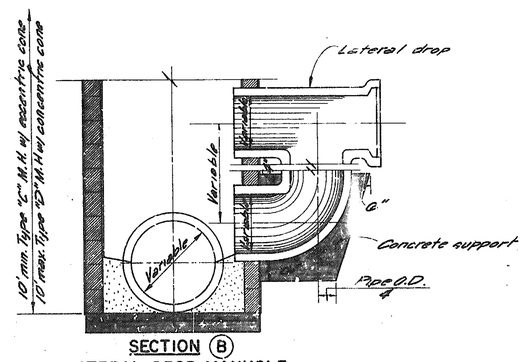
TYPE A MANHOLE

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

SECTION (B)

TYPE B MANHOLE

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

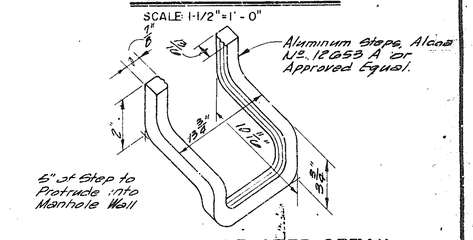


SECTION (B)

LATERAL DROP MANHOLE

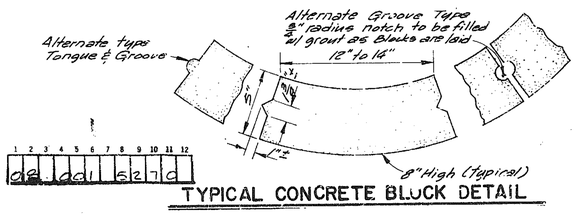
TYPE C & D MANHOLE

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



TYPICAL MANHOLE STEP DETAIL

SCALE: 3" = 1'-0"



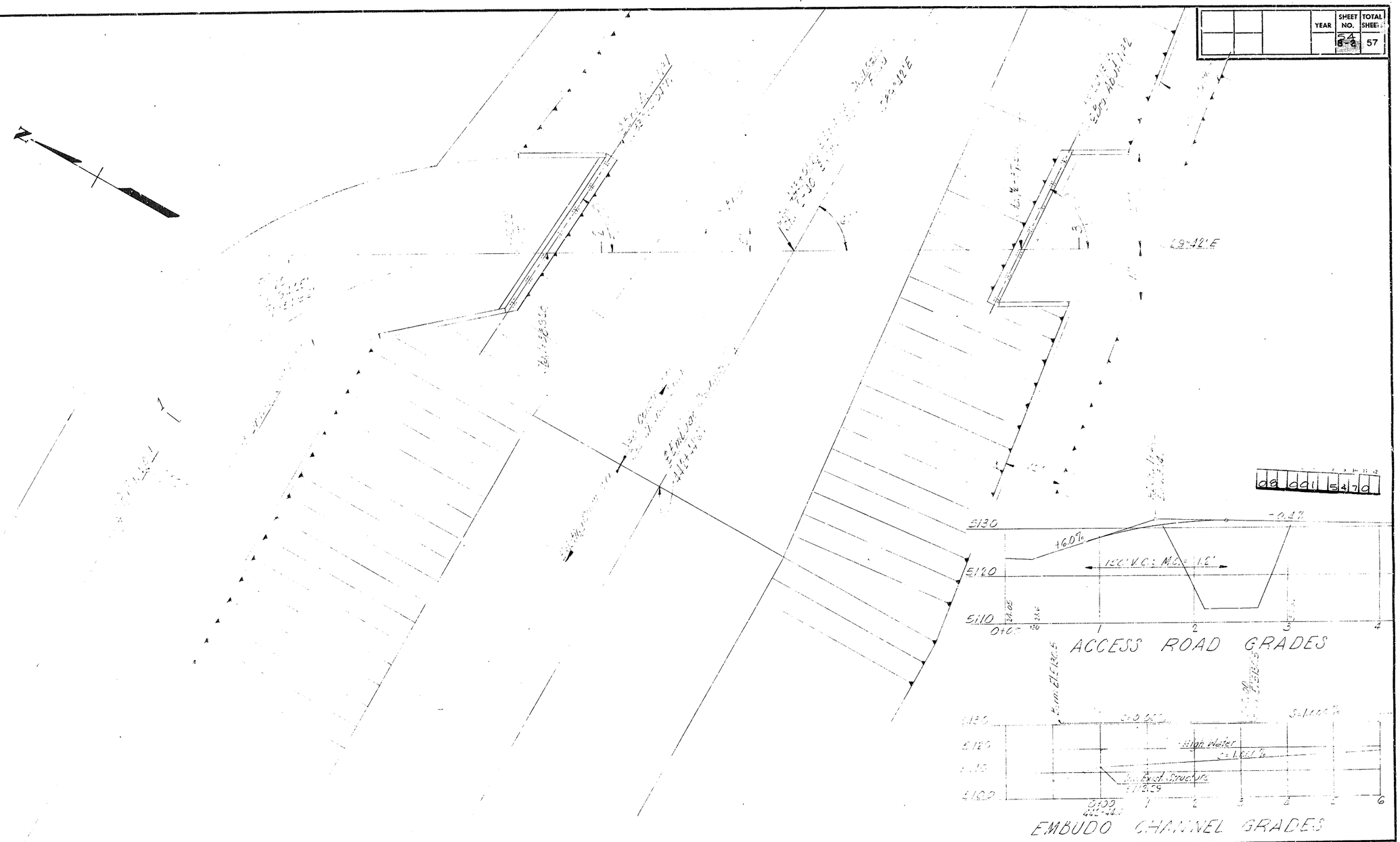
TYPICAL CONCRETE BLOCK DETAIL

AS BUILT

ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY ALBUQUERQUE NEW MEXICO	SHEET 52 7-8 OF 57
EMBUDO ARROYO CHANNELIZATION PHASE II	
SANITARY SEWER MANHOLE DETAILS	
WILLIAM MATOTAN & ASSOCIATES – ENGINEERS ALBUQUERQUE, NEW MEXICO	
SCALE AS SHOWN · DRAWN R.L. · CHECKED J.A. · DATE JUNE 1970	

Scanlon-Derickson, Inc.

YEAR	SHEET NO.	TOTAL SHEETS
	54	57



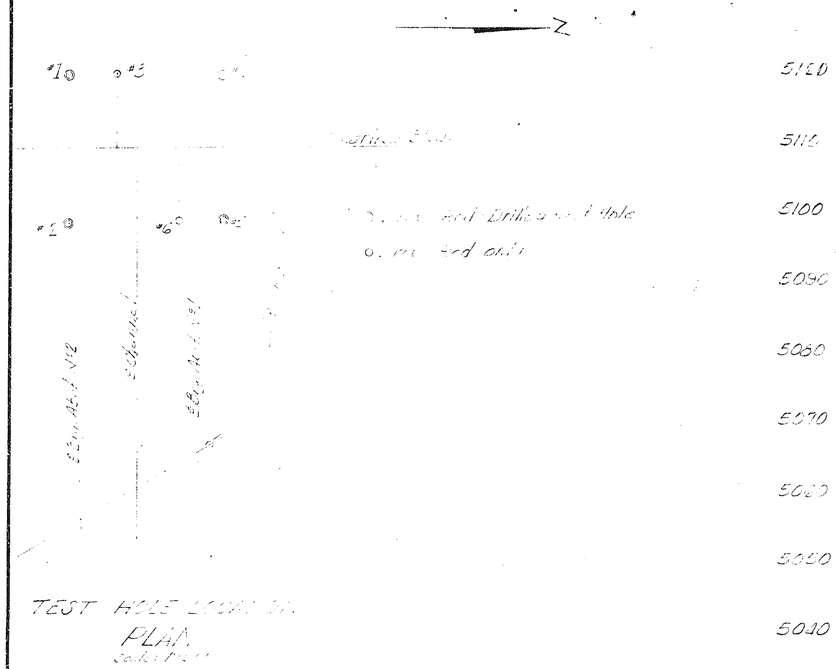
ALBUQUERQUE METROPOLITAN
ARROYO FLOOD CONTROL AUTHORITY
ALBUQUERQUE NEW MEXICO

EMBUDO ARROYO CHANNELIZATION
PHASE II

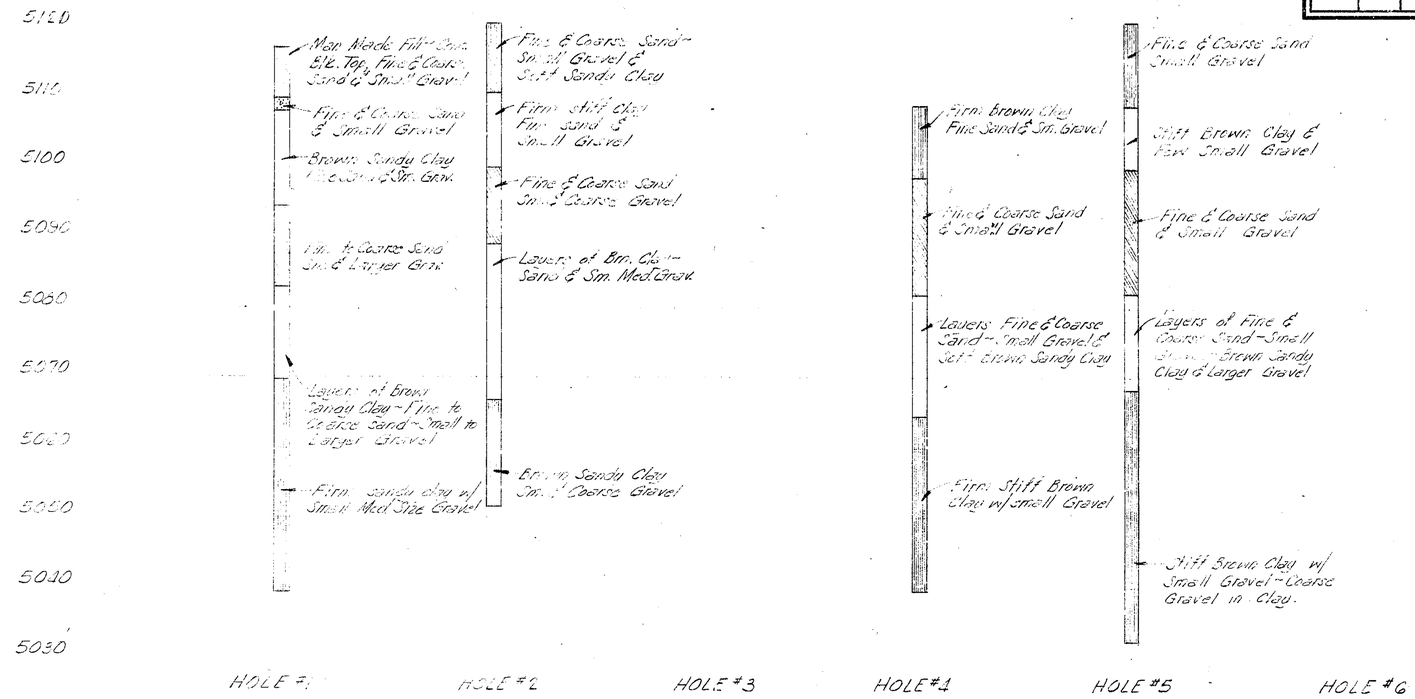
AMBASSADOR BRIDGE
LAYOUT PLAN

Scanlon-Derickson, Inc
Consulting Engineers
ALBUQUERQUE NEW MEXICO

SCALE	DRAWN	DATE
AS SHOWN	WD	3 JUNE 1970
	CHECKED TEG	



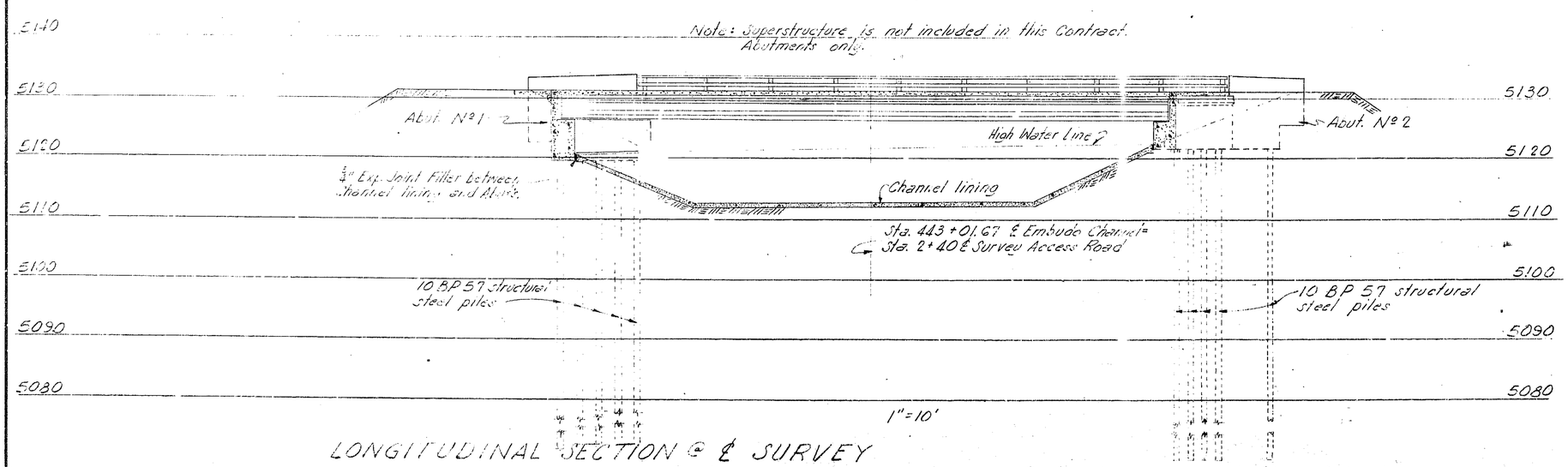
TEST HOLE LOCATION PLAN



FOUNDATION DATA

PILING NOTE:

All piling to be 10 BP 57 structural steel piles driven vertical. Piles to be a maximum of 60 feet long for each pile. Logs of the driving will be maintained so that the bearing capacity of each pile can be determined. The New Mexico Highway Dept. tables will be used for determining the bearing capacities. Should a pile develop a bearing of 50 tons or more prior to placing the 60 foot of length, then driving will stop at this point.



LONGITUDINAL SECTION @ ℄ SURVEY

AS BUILT

1	2	3	4	5	6	7	8	9	10	11	12
0	8	0	0	1	5	5	7	0			

ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY
ALBUQUERQUE NEW MEXICO

EMBUDO ARROYO CHANNELIZATION
PHASE II

AMBASSADOR BRIDGE
SECTION & FOUNDATION DATA

Scanlon-Derickson, Inc.
Consulting Engineers
ALBUQUERQUE NEW MEXICO

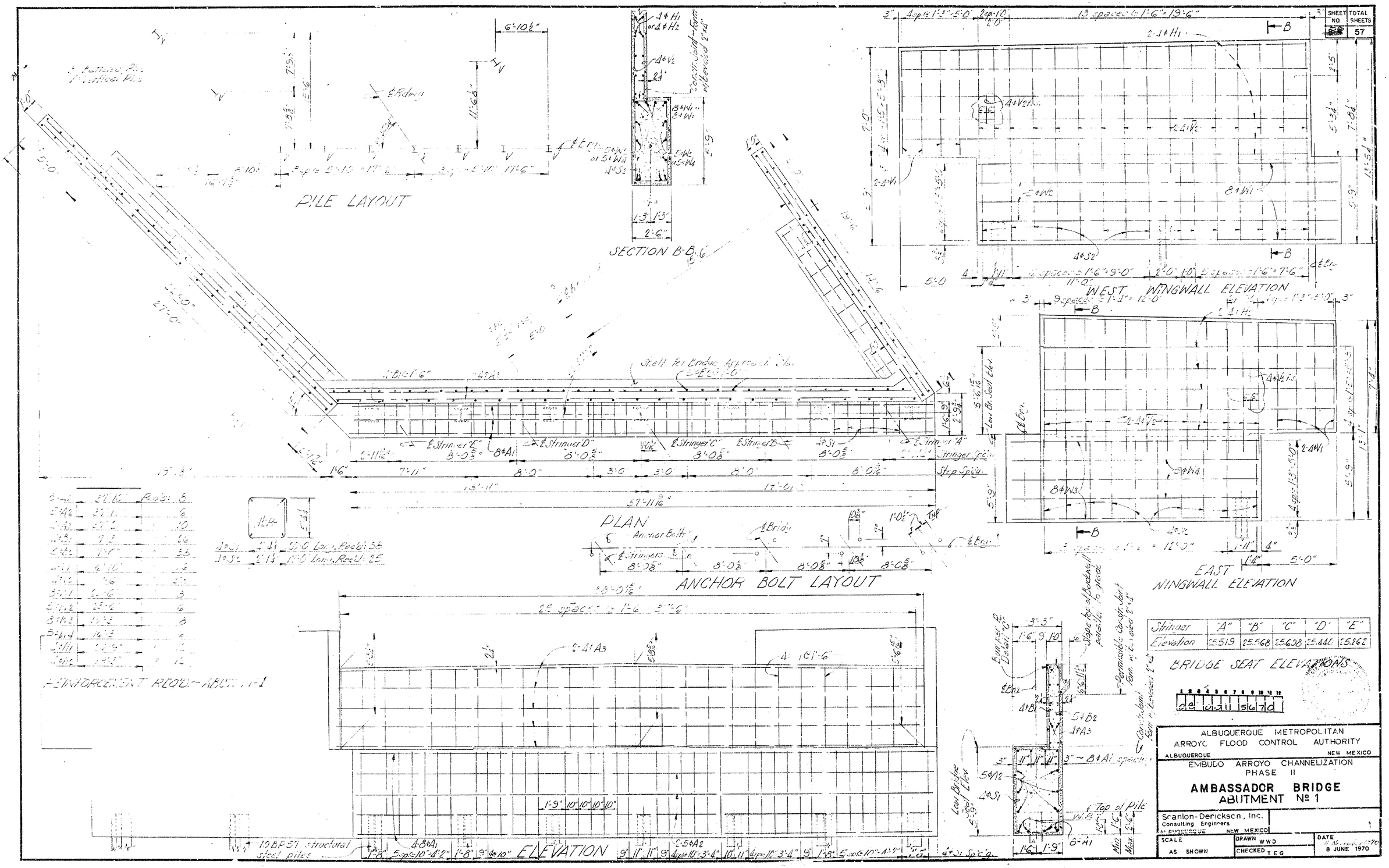
SCALE	DRAWN W.W.D	DATE 11 November 1970
AS SHOWN	CHECKED T.E.G	8 JUNE 1970

Scanlon-Derickson, Inc.
Consulting Engineers

Drawn:
Checked

Design
Checked

SHEET NO.	TOTAL SHEETS
56	57



Stringer	"A"	"B"	"C"	"D"	"E"
Elevation	25.519	25.568	25.638	25.440	25.262

ALBUQUERQUE METROPOLITAN
ARROYO FLOOD CONTROL AUTHORITY
ALBUQUERQUE NEW MEXICO

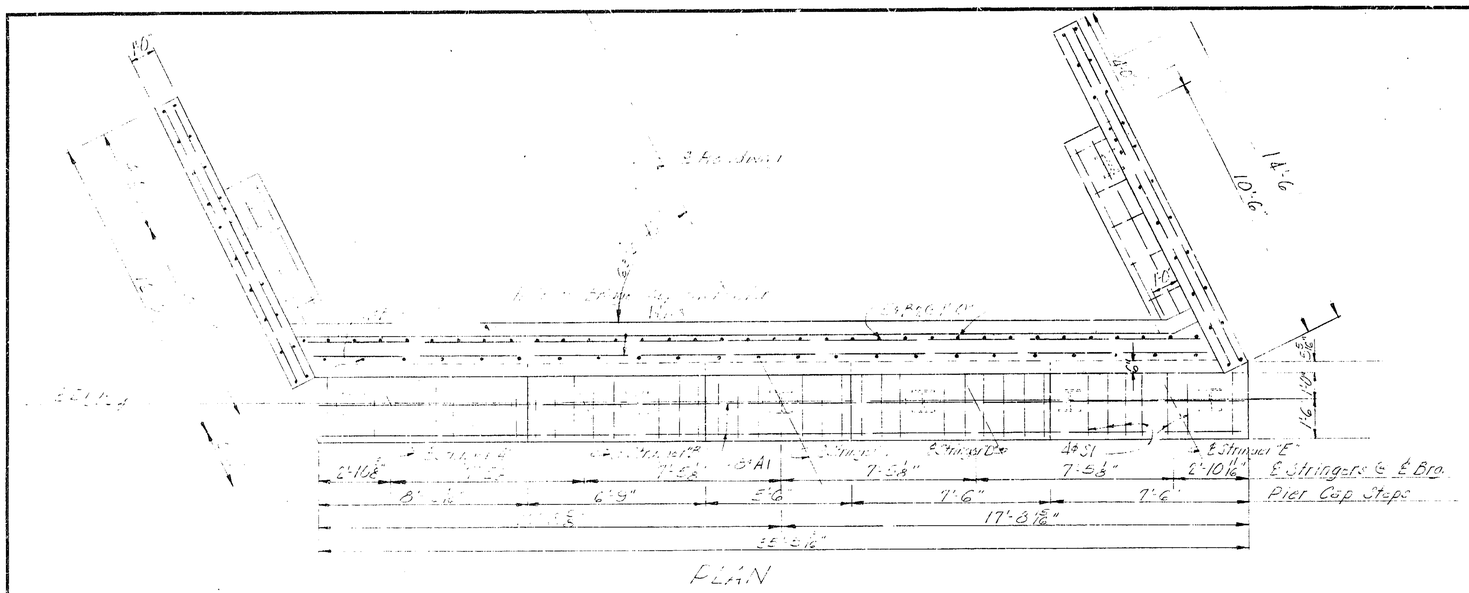
EMBUDO ARROYO CHANNELIZATION
PHASE II

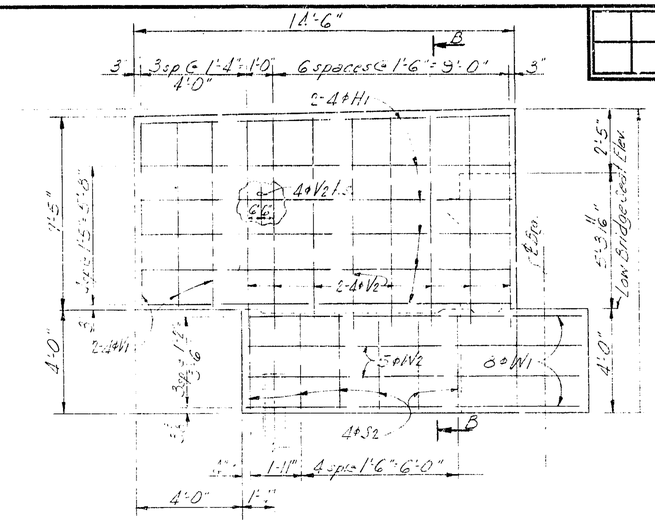
AMBASSADOR BRIDGE
ABUTMENT № 1

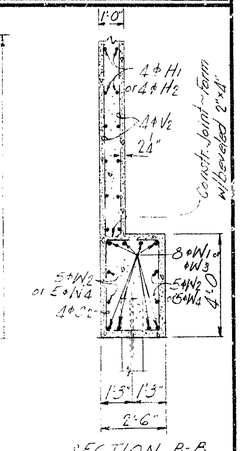
Scanlon-Derickson, Inc.
Consulting Engineers
ALBUQUERQUE NEW MEXICO

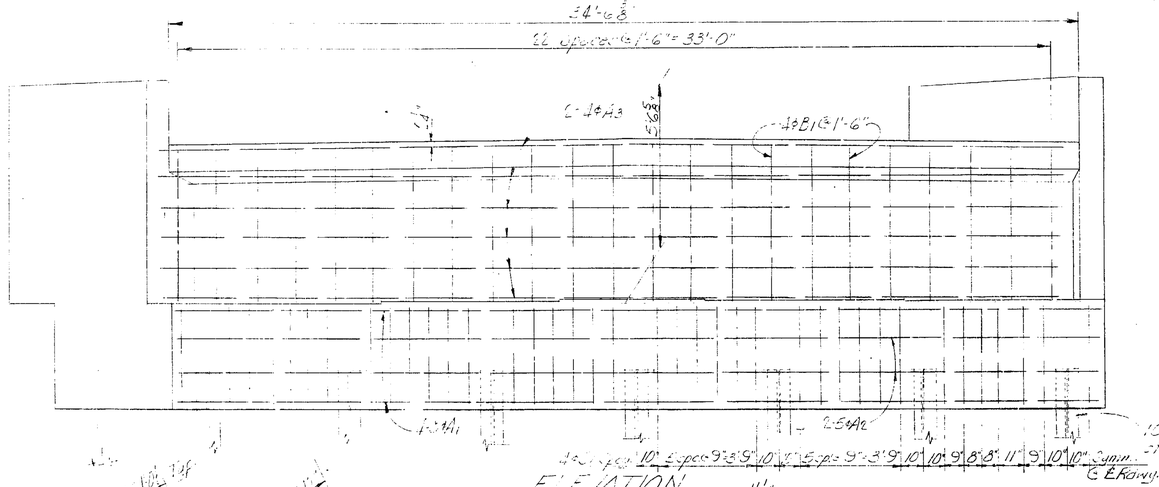
SCALE	DRAWN WWD	DATE
AS SHOWN	CHECKED TEG	8 JUNE 1970

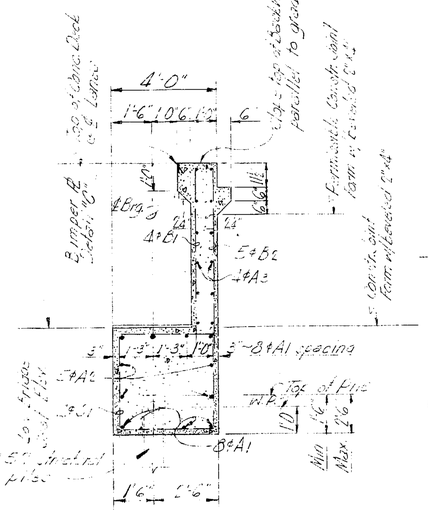
SHEET NO.	TOTAL SHEETS
57	57

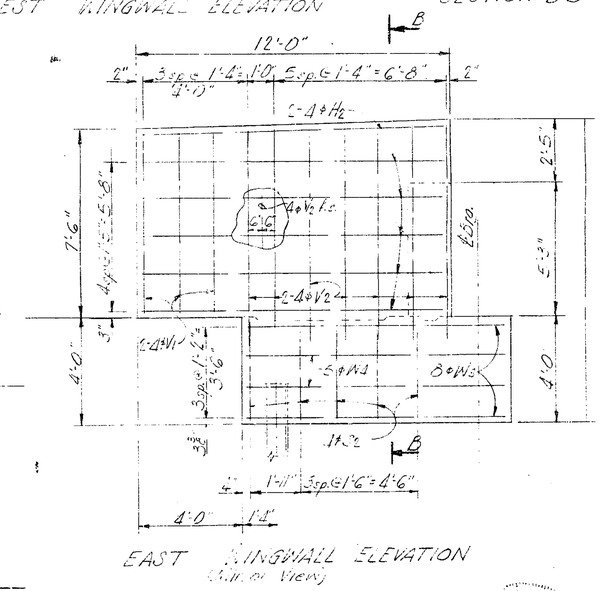


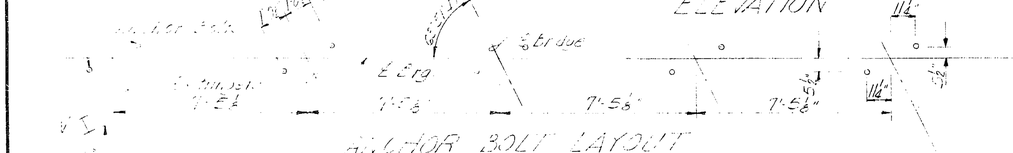


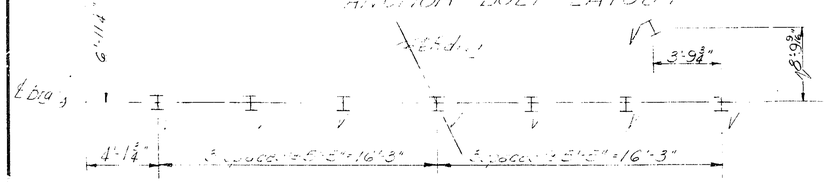






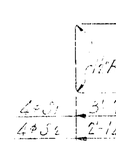






Stringer	"A"	"B"	"C"	"D"	"E"
Elevation	25.443	25.556	25.669	25.582	25.495

BRIDGE SEAT ELEVATIONS



4 ϕ V1	3'-7"	15'-0" long, Req'd: 53	
4 ϕ V2	2'-14"	12'-0" long, Req'd: 11	

8 ϕ A1	35'-2"	Req'd:	8
8 ϕ A2	35'-2"	"	1
4 ϕ A3	34'-8"	"	12
4 ϕ B1	7'-0"	"	23
5 ϕ B2	7'-3"	"	23
4 ϕ V1	7'-8"	"	12
4 ϕ V2	8'-6"	"	36
5 ϕ W1	9'-6"	"	2
5 ϕ W2	9'-6"	"	1
5 ϕ W3	12'-6"	"	8
5 ϕ W4	12'-6"	"	1
4 ϕ H1	14'-3"	"	12
4 ϕ H2	11'-9"	"	12

REINFORCEMENT REQ'D ~ ABUTMENT Nº 2

AS BUILT

ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY
ALBUQUERQUE NEW MEXICO

EMBUDO ARROYO CHANNELIZATION
PHASE II

AMBASSADOR BRIDGE
ABUTMENT Nº 2

Scanlon-Derickson, Inc.
Consulting Engineers
ALBUQUERQUE NEW MEXICO

SCALE AS SHOWN | DRAWN W.W.D. | CHECKED T.E.S. | DATE 17 Nov. for 1970, 8 JUNE 1970