APPROPRIATION NO 2885
RELEASED
2-4-81
OFFICE OF STATE ENGINEER
SANTA FE, NEW MEXICO

ALBUQUERQUE
SEAL
NEW MEXICO
1706

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT

PLANS FOR
CONSTRUCTION OF

ARROYO DEL OSO
CHANNEL LINING/
DAM REHABILITATION

APPROVED 2885
2-4-81

BOVAY

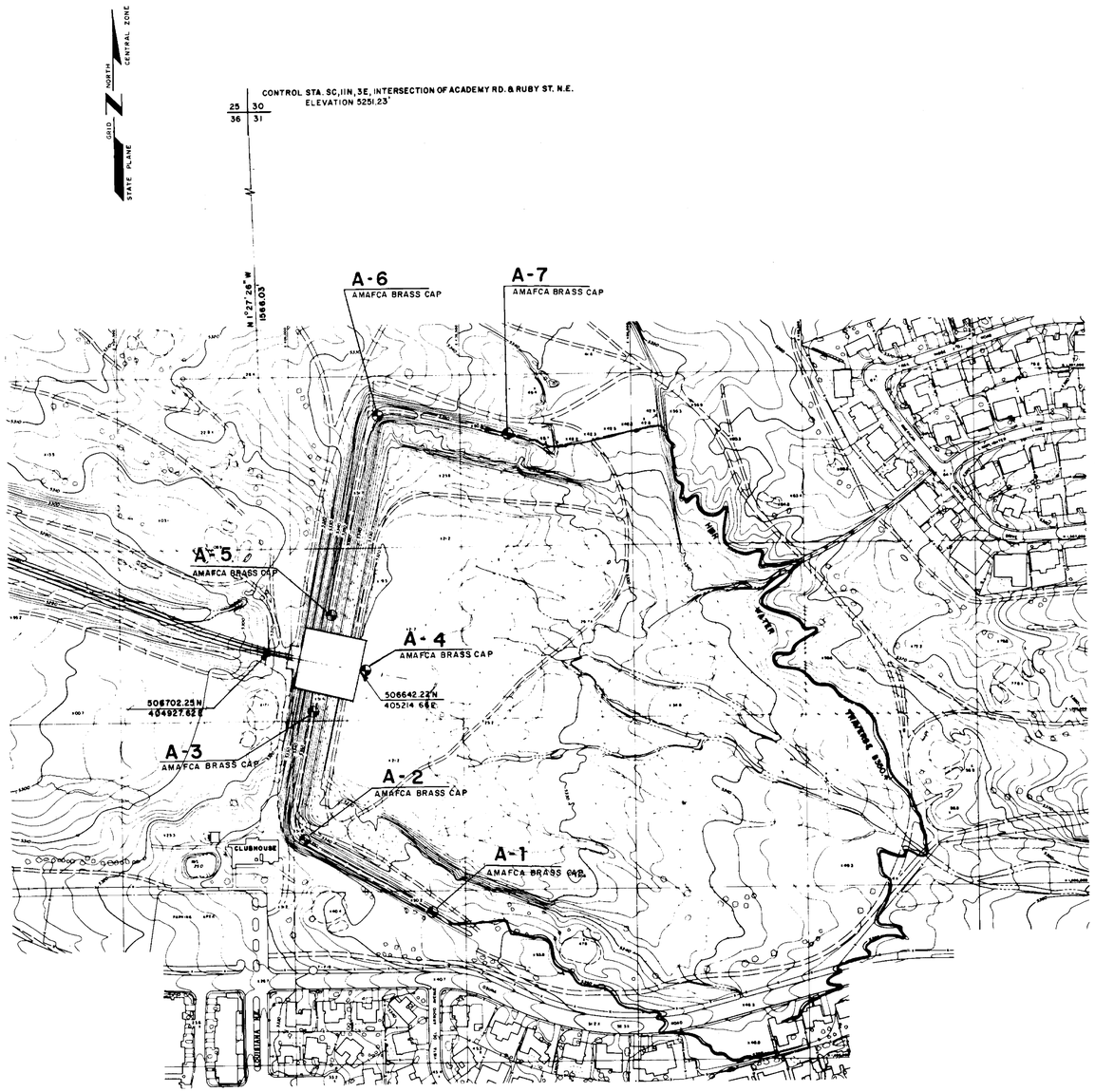
BOVAY ENGINEERS, INC.

ALBUQUERQUE
HOUSTON-SPOKANE
BATON ROUGE-AUSTIN
WASHINGTON D.C.

CHARLES LOCKWOOD
NEW MEXICO
REGISTERED PROFESSIONAL ENGINEER
1/29/81

Rec 2/4/81 File# 2885 Sheet 1 of 28

AP 13167A



PLAN OF DAM AND RESERVOIR

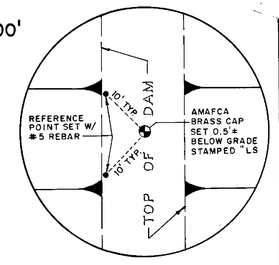
SCALE 1"= 200'

SCALE: 1"=200'

CONTOUR INTERVAL 2'

NOTE: MAPPING COMPLETED BY PHOTOGRAMMETRIC METHODS FROM 1:6,000 PHOTOGRAPHY OBTAINED 3-29-80 WITH A ZEISS RMK A15/23 CAMERA OF 152.43mm FOCAL LENGTH. CONTROL SURVEY TIED TO THE NEW MEXICO STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE

BOVAY ECCI-017



MONUMENT LOCATION

ARROYO DEL OSO DAM MONITORING

STATION - ELEVATION	YEAR 1990	1992	1994	1996	1998	2000
A-1	5350.270					
A-2	5350.970					
A-3	5350.945					
A-4	5335.494					
A-5	5351.004					
A-6	5350.604					
A-7	5350.424					

BENCH MARK: ACS BRASS TABLET STAMPED "6-F19A-1981" LOCATED 238' EAST OF THE INTERSECTION OF OSUNA RD. NE & VISTA DEL ARROYO NE. – ELEVATION= 5346.22

REHABILITATION OF ARROYO DEL OSO DAM
LOCATED IN
BERNALILLO COUNTY STATE OF NEW MEXICO

The undersigned on behalf of the City of Albuquerque, has caused the preparation of plans and specifications for the Rehabilitation of The Arroyo Del Oso Dam, sometimes referred to as South Fork Bear Canyon Dam, as hereinafter described and indicated, hereby makes several statements relative thereto, and offers these plans and statements for acceptance and filing in compliance with the laws of the State of New Mexico. No application is being made for use of water.

The purpose of the original dam, constructed in 1956, has been to prevent flooding and damage by sediment of residential areas in North Albuquerque as well as protecting other improvements such as highways, irrigation facilities, farm lands, and railroads by retarding the runoff from the drainage area and retaining sediment in the reservoir. The rehabilitation of the dam does not change the purpose of the structure.

Properties of the original structure and the rehabilitated structure -

	Original Structure	Rehabilitated Structure
Maximum Height above Foundation, ft.	37.75	37.75
Maximum Length, ft.	2550	3061
Crest Width, ft.	15	15
Maximum Width at Base, ft.	200	200
Slope of Upstream Face, H:V	3:1	3:1
Slope of Downstream Face, H:V:	2:1	2:1
Elevation, MSL, Emergency Spillway Crest	5343	5339
Elevation, MSL, Invert of Upper End of 36-inch Outlet Conduit	5319	N.A.
Elevation, MSL, Invert of Upper End of Reinforced Concrete Outlet Conduit	N.A.	5321
Freeboard, P.M.F., ft.	5.15	0.6
Hazard Classification, Per SCS	C	C
Discharge Capacity of Spillway, CFS	3000	3F500
Coordinates of Outlet Conduit, NMSP		N 506,702.25 E 404,927.62

The outlet of the spillway is situated within the S.W. quarter of the N.W. quarter of Section 31, Township 11 N, Range 4E, whence said N.W. corner of Section 31 bears N 10-27'-26"W, 1566.03 ft. distant.

Estimated cost of Original Structure $77,037
Estimated Cost of Rehabilitation $800,000

Index to Drawings

Sheet No.	Drawing Title
1	Title Page
2	Filing Map & Index to Drawings
3	Location Map
4	Hydrology & Hydraulic Curves
5	Site Plan for Dam Rehabilitation
6	Channel Lining Site Plan
7	Embankment Sections & Spillway Closure
8	Plan of Spillway, Outlet Conduit, Channel & General Notes
9	Longitudinal Section of Spillway & Details
10	Weir & Earth Retaining Wall Sections & Details
11	Longitudinal Section Through Outlet Channel & Misc. Details
12	Box Culvert, Outlet Conduit & Misc. Sections & Details
13	Guardrails and Misc. Details
14	Channel Lining Plan & Profile, Sta. 9+00 to Sta. 21+00
15	Channel Lining Plan & Profile, Sta. 21+00 to Sta. 34+55.66
16	Channel Lining Plan & Profile, Sta. 34+55.66 to Sta. 49+00
17	Channel Lining Plan & Profile, Sta. 49+00 to Sta. 57+40.44
18	Channel Lining Plan & Profile, Storm Sewer System
19	Channel Lining Typical Details
20	Channel Lining Typical Details
21	Channel Lining Typical Details
22	Channel Lining Cross Sections, Sta. 10+00 to Sta. 19+00
23	Channel Lining Cross Sections, Sta. 20+00 to Sta. 26+00
24	Channel Lining Cross Sections, Sta. 27+00 to Sta. 34+00
25	Channel Lining Cross Sections, Sta. 44+00 to Sta. 43+00
26	Channel Lining Cross Sections, Sta. 44+00 to Sta. 51+00
27	Channel Lining Cross Sections, Sta. 52+00 to Sta. 57+00
28	Waterline Relocation

Note: Sheet 9A "Hydraulic Analysis of Spillway" has been added to the filing, making a total of 29 sheets.

BOVAY ENGINEERS, INC.
HOUSTON · AUSTIN · SPOKANE · ALBUQUERQUE · BATON ROUGE · WASHINGTON D.C.

CLAIMANTS CERTIFICATE

STATE OF NEW MEXICO
COUNTY OF BERNALILLO

I, Richard S. Heller, being first duly sworn upon my oath, state that I am the City Engineer of the City of Albuquerque, New Mexico, a political subdivision organized under the laws of the State of New Mexico and that the accompanying maps and statements consisting of 28 sheets were made under the authority of the City Council of the City of Albuquerque, and that, in their behalf, I have read and examined the statements and representations thereon and state that the same are true to the best of my knowledge and belief.

City Council of the City of Albuquerque
CLAIMANT

By: Richard S. Heller
Richard S. Heller, P.E., City Engineer

Subscribed and sworn to before me this 12th day of [illegible], 19[illegible]

NOTARY PUBLIC

My commission expires [illegible]

ENGINEERS CERTIFICATE

STATE OF NEW MEXICO
COUNTY OF BERNALILLO

I, Charles M. Lockwood, being first duly sworn upon my oath that I am a registered professional engineer qualified in Civil Engineering and that the accompanying plans and specifications consisting of 80 sheets of plans and 28 sheets of specifications were prepared under my supervision and are true and correct to the best of my knowledge and belief.

Charles M. Lockwood
Registered Professional Engineer
Certificate No: 6824

Subscribed and sworn to before me this 11th day of February, 19 81.

E G Anderson
NOTARY PUBLIC 1/12/85

My commission expires _____

STATE ENGINEERS APPROVAL

STATE OF NEW MEXICO
COUNTY OF SANTA FE

I hereby certify that the accompanying plans and specifications have been duly examined by me and approved as to form and content and were duly accepted for filing on the 12th day of February, 1981.

S.E. Reynolds
STATE ENGINEER
by: [illegible], Chief
Technical Bureau

0181 306 1 07287

RECORD DRAWINGS

APPROVED FOR CONSTRUCTION
Richard S. Heller 1/30/81
CITY ENGINEER DATE

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ARROYO DEL OSO CHANNEL LINING/DAM REHABILITATION

TITLE: ARROYO DEL OSO DAM MONITORING

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE

DRAWING NO. 2 SHEET 2 OF 28

#2885

AP 13167A

18-4/-2

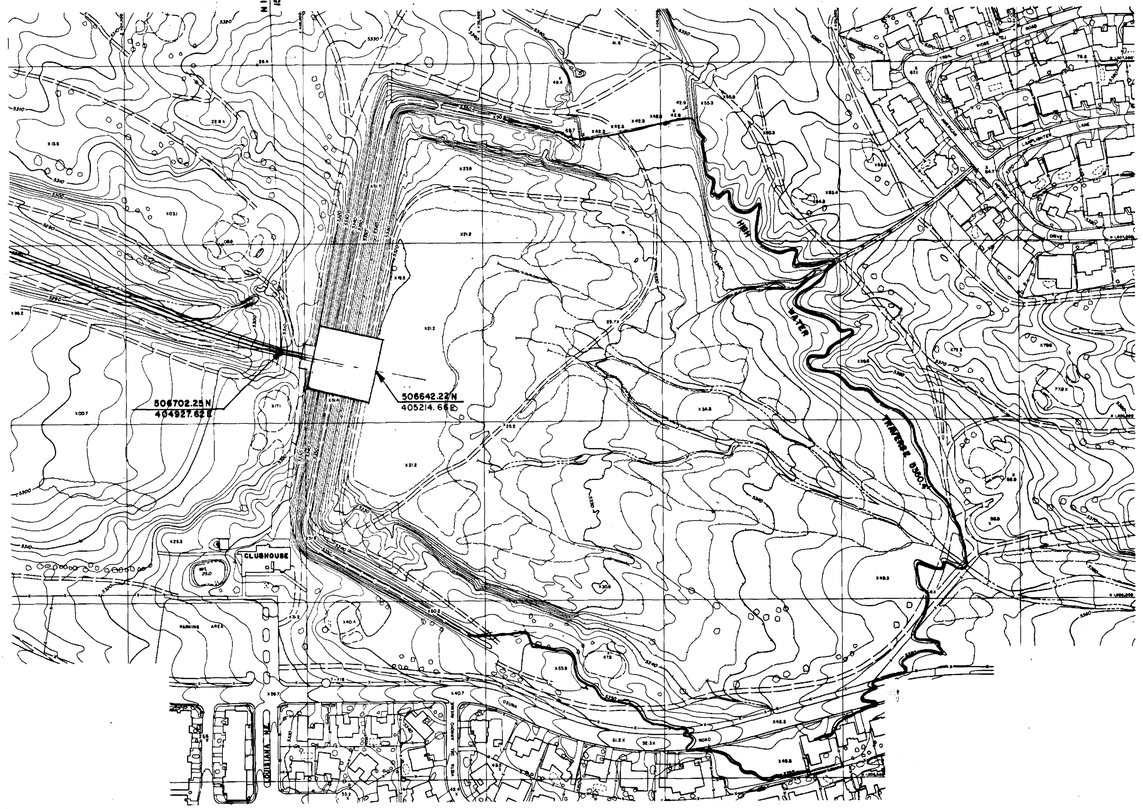
5887

CONTROL STA. SC,11N,3E, INTERSECTION OF ACADEMY RD. & RUBY ST. N.E.
ELEVATION 5251.23'

25 | 30
36 | 31

NORTH CENTRAL ZONE
GRID
STATE PLANE

N 1°27'26" W
1566.03'



PLAN OF DAM AND RESERVOIR

SCALE 1"= 200'

SCALE: 1" =200'

CONTOUR INTERVAL 2'

NOTE: MAPPING COMPLETED BY PHOTOGRAMMETRIC METHODS FROM 1:6,000 PHOTOGRAPHY OBTAINED 3-29-80 WITH A ZEISS RMK A 15/23 CAMERA OF 152.43mm FOCAL LENGTH.
CONTROL SURVEY TIED TO THE NEW MEXICO STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE.

SOVAY 402-017

REHABILITATION OF ARROYO DEL OSO DAM
LOCATED IN
BERNALILLO COUNTY STATE OF NEW MEXICO

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27	Channel Lining Cross Sections, Sta. 52+00 to Sta. 57+00
28	Waterline Relocation

Note: Sheet 9A "Hydraulic Analysis of Spillway" has been added to filing making a total of 29 sheets.

SOVAY ENGINEERS, INC.
HOUSTON · AUSTIN · SPOKANE · ALBUQUERQUE · BATON ROUGE · WASHINGTON, D.C.

CLAIMANTS CERTIFICATE

STATE OF NEW MEXICO
COUNTY OF BERNALILLO

I, Richard S. Heller, being first duly sworn upon my oath, state that I am the City Engineer of the City of Albuquerque, New Mexico, a political subdivision organized under the laws of the State of New Mexico and that the accompanying maps and statements consisting of 29 sheets were made under the authority of the City Council of the City of Albuquerque, and that, in their behalf, I have read and examined the statements and representations thereon and state that the same are true to the best of my knowledge and belief.

City Council of the City of Albuquerque
CLAIMANT

By: Richard S. Heller
Richard S. Heller, P.E., City Engineer

Subscribed and sworn to before me this 12th day of Feb, 1981.

NOTARY PUBLIC

My commission expires Nov. 13, 1981

OFFICIAL SEAL
RAMEL C. MONTANO
NOTARY PUBLIC - NEW MEXICO
BOND FILED WITH SECRETARY OF STATE
My Commission Expires Nov. 13, 1981

ENGINEERS CERTIFICATE

STATE OF NEW MEXICO
COUNTY OF BERNALILLO

I, Charles M. Lockwood, being first duly sworn upon my oath that I am a registered professional engineer qualified in Civil Engineering and that the accompanying plans and specifications consisting of 60 sheets of plans and 29 sheets of specifications were prepared under my supervision and are true and correct to the best of my knowledge and belief.

CHARLES LOCKWOOD NEW MEXICO 6824 REGISTERED PROFESSIONAL ENGINEER

Charles M. Lockwood
Charles M. Lockwood
Registered Professional Engineer
Certificate No: 6824

Subscribed and sworn to before me this 11th day of February, 1981.

NOTARY PUBLIC

My commission expires

STATE ENGINEERS APPROVAL

STATE OF NEW MEXICO
COUNTY OF SANTA FE

I hereby certify that the accompanying plans and specifications have been duly examined by me and approved as to form and content and were duly accepted for filing on the 13th day of February, 1981.

S.E. Reynolds
STATE ENGINEER
by: J. Cullen, Chief
Technical Bureau

2885
2-4-81

CHARLES LOCKWOOD NEW MEXICO 6824 REGISTERED PROFESSIONAL ENGINEER 2/11/81

APPROVED FOR CONSTRUCTION
Richard S. Heller 1/30/81
CITY ENGINEER DATE

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ARROYO DEL OSO CHANNEL LINING/DAM REHABILITATION

TITLE: FILING MAP AND INDEX TO DRAWINGS

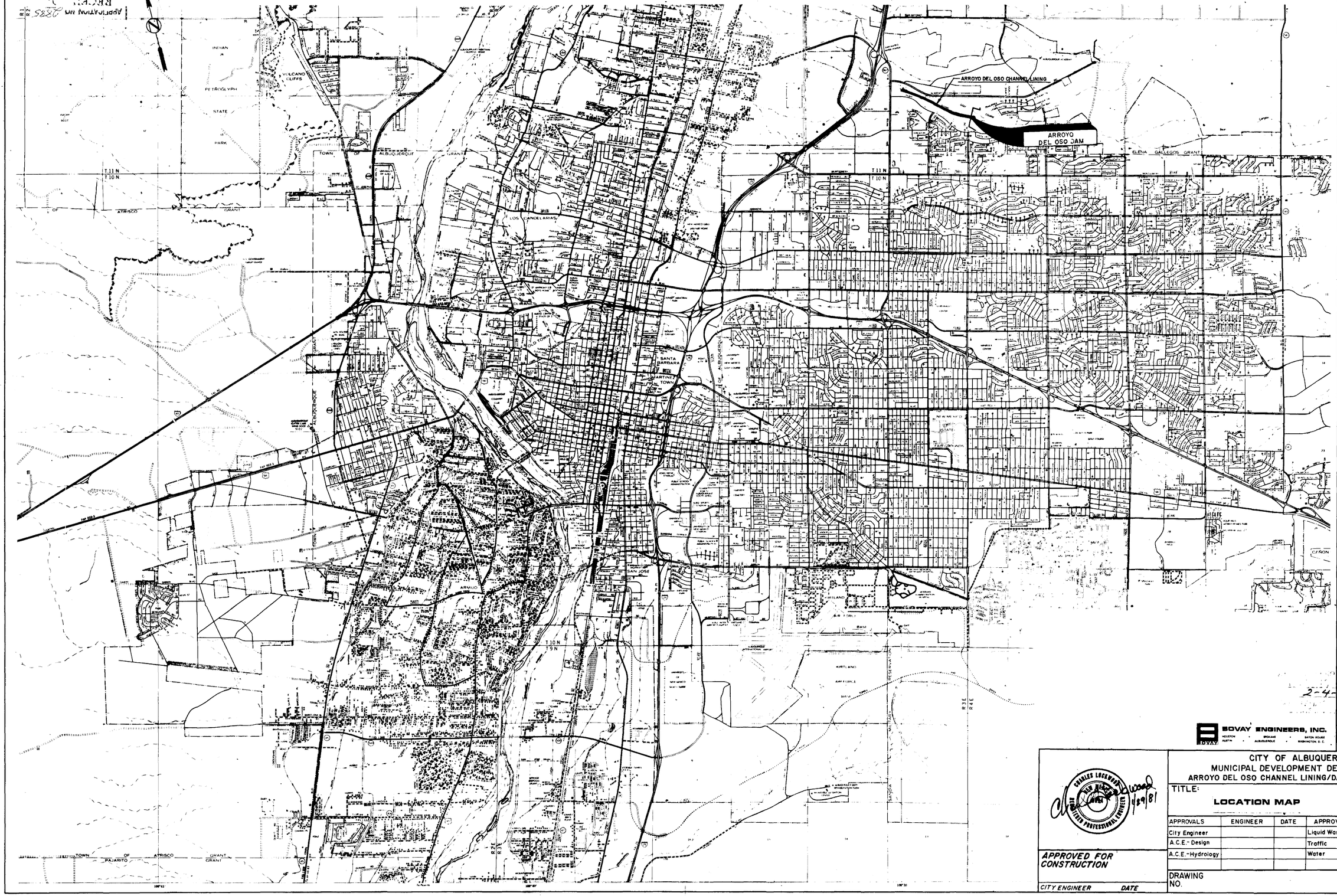
APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE

DRAWING NO.

SHEET 2 OF 28

RECEIVED
OFFICE OF SURVEYOR
SANTA FE, NEW MEXICO
2-4-81

APPLICATION NO. 2285



AS BUILT INFORMATION	
CONTRACTOR	
STAKED BY	DATE
INSPECTORS	
FIELD CHANGES BY	DATE
VERIFICATION BY	
REVISIONS	DATE
CORRECTED BY	DATE
MICRO-FILM INFORMATION	
RECORDED BY	DATE
NO.	

BENCH MARKS			

SURVEY INFORMATION		
FIELD NOTES		
NO.	BY	DATE

REFERENCES
MAP NO. F-18 W.O. NO.
EST. NO.

NO.	DATE	REMARKS	BY
		REVISIONS	
		DESIGN	
		DESIGNED BY JAL & GAH	DATE 10/80
		DRAWN BY EA - CHL	DATE 10/80
		CHECKED BY	DATE 10/80

2285
2-4-81

SOVAY ENGINEERS, INC.
HOUSTON • BATON ROUGE • AUSTIN • ALBUQUERQUE • WASHINGTON, D.C.

CHARLES LOCKWOOD WOOD — NEW MEXICO — REGISTERED PROFESSIONAL ENGINEER — 1/29/81

APPROVED FOR CONSTRUCTION

CITY ENGINEER DATE

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ARROYO DEL OSO CHANNEL LINING/DAM REHABILITATION

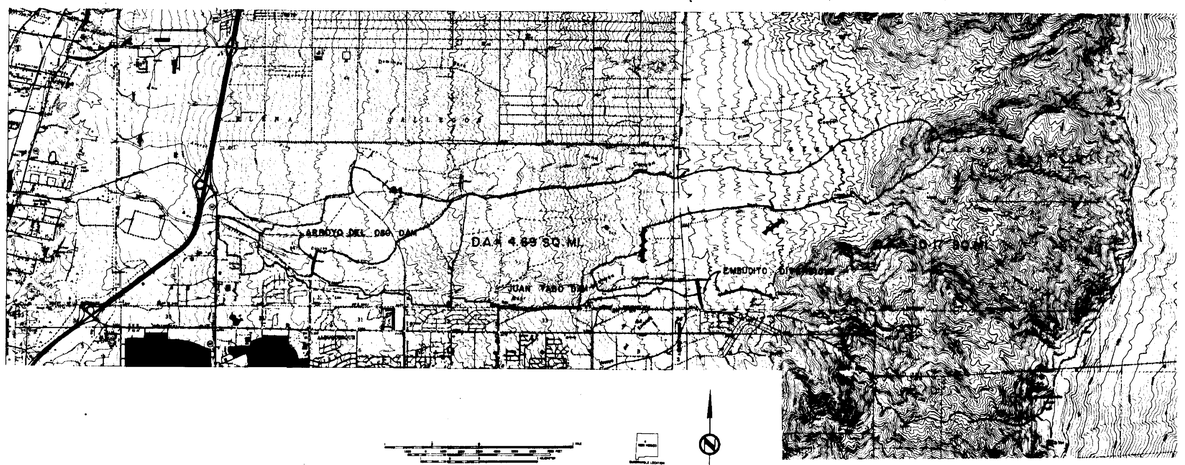
TITLE:

LOCATION MAP

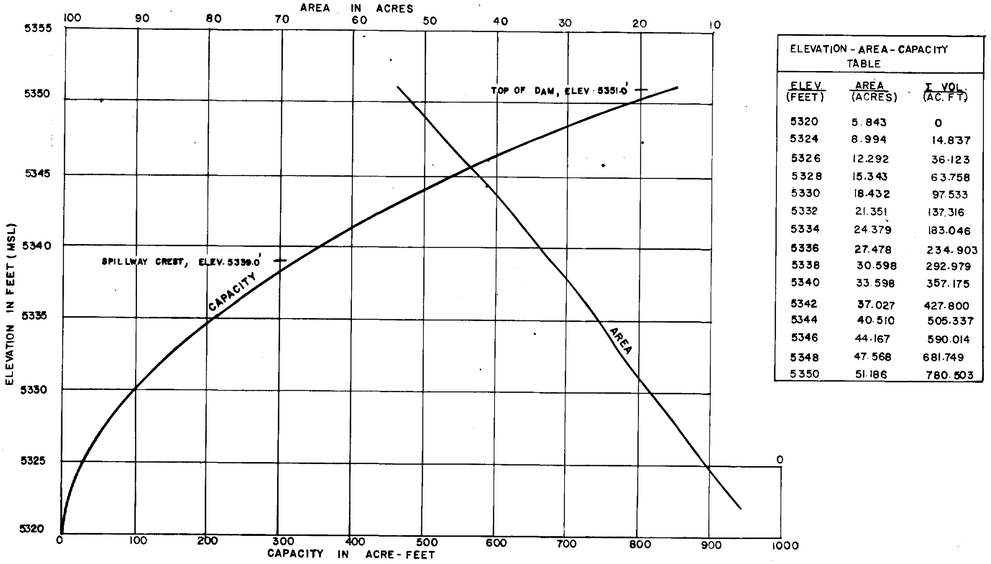
APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
City Engineer			Liquid Waste		
A.C.E.-Design			Traffic		
A.C.E.-Hydrology			Water		

DRAWING NO.

SHEET 3 OF 28

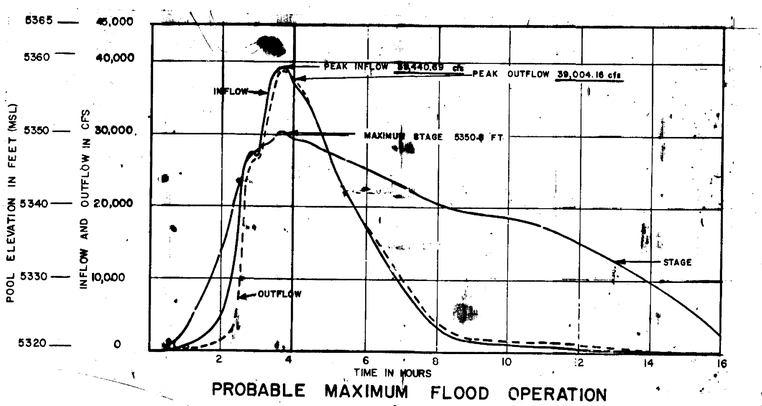


DRAINAGE AREA MAP



ELEVATION — AREA — CAPACITY CURVES

ELEVATION - AREA - CAPACITY TABLE		
ELEV. (FEET)	AREA (ACRES)	T. VOL. (AC. FT.)
5320	5.843	0
5324	8.994	14.837
5326	12.292	36.123
5328	15.343	63.758
5330	18.432	97.533
5332	21.351	137.316
5334	24.379	183.046
5336	27.478	234.903
5338	30.598	292.979
5340	33.598	357.175
5342	37.027	427.800
5344	40.510	505.337
5346	44.167	590.014
5348	47.568	681.749
5350	51.186	780.503



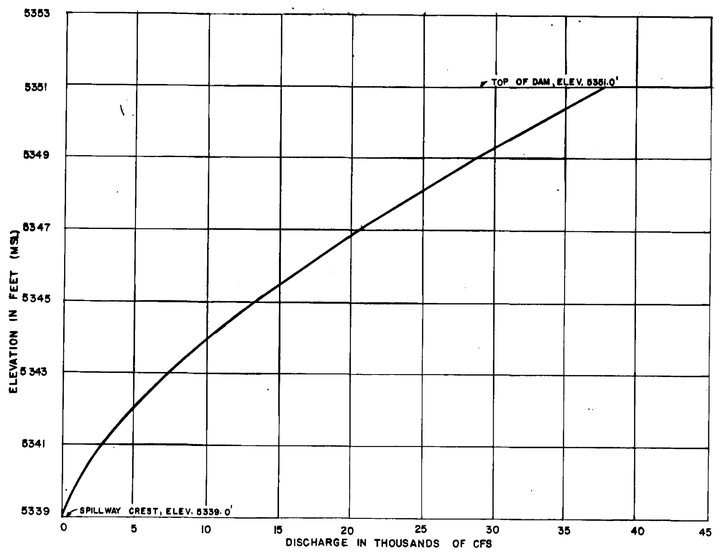
PROBABLE MAXIMUM FLOOD OPERATION HYDROGRAPHS

CONDUIT DISCHARGE TABLE
OPENING 18 'HIGH BY 16' WIDE

CRITICAL FLOW $Q = W\sqrt{g}\left(\frac{H}{1.5}\right)^{3/2}$ — SUBMERGED INLET $Q = C_d WD\sqrt{2gH}$

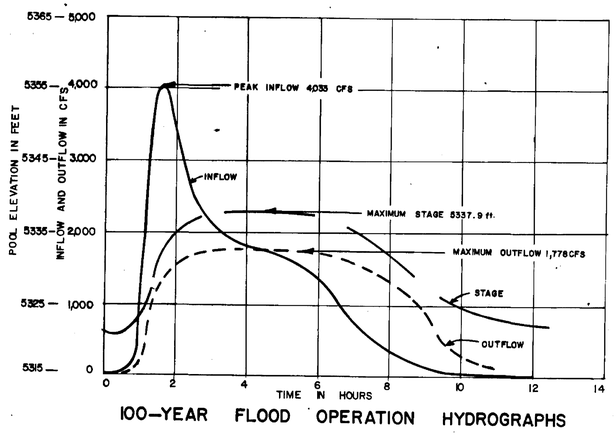
ELEV. (FEET MSL)	H (FT.)	Q (CFS)	ELEV. (FEET MSL)	H (FT)	H/D	C_d	Q (CFS.)
5321.0	0	0	5327.2	6.2	1.03	0.466	893
5321.5	0.5	18	5328.0	7.0	1.17	0.474	965
5322.0	1.0	49	5329.0	8.0	1.33	0.484	1054
5323.0	2.0	140	5330.0	9.0	1.50	0.493	1139
5324.0	3.0	257	5331.0	10.0	1.67	0.503	1225
5325.0	4.0	395	5333.0	12.0	2.00	0.521	1390
5326.0	5.0	552	5335.0	14.0	2.33	0.540	1556
5326.8	5.8	690	5337.0	16.0	2.67	0.556	1712
			5339.0 (SPILLWAY CREST)	18.0	3.00	0.570	1862
			5341.0	20.0	3.33	0.583	2007
			5346.0	25.0	4.17	0.603	2321
			5351.0 (TOP OF DAM)	30.0	5.00	0.605	2551

NOTE: RELATIONSHIP OF C_d TO $H/_D$ TAKEN FROM FIG. 296, PAGE 436 OF SMALL DAMS BY U.S.B.R.

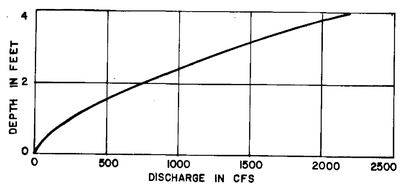


SPILLWAY DISCHARGE RATING CURVE

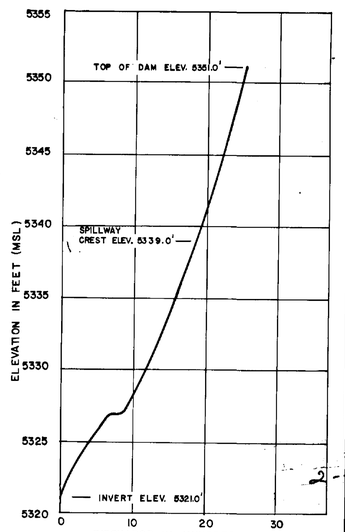
SPILLWAY DISCHARGE TABLE CREST LENGTH = 280' EFFECTIVE LENGTH = 270' $Q = CLH^{1.5}$							
ELEV. (FEET MSL)	HEAD (FEET)	C	Q (CFS)	ELEV. (FEET MSL)	HEAD (FEET)	C	Q (CFS)
5339.0	0	-	0	5346.0	7.0	3.32	16602
5339.5	0.5	2.74	261	5347.0	8.0	3.32	20282
5340.0	1.0	2.98	805	5348.0	9.0	3.32	24203
5341.0	2.0	3.31	2527	5349.0	10.0	3.32	28347
5342.0	3.0	3.32	4658	5350.0	11.0	3.32	32702
5343.0	4.0	3.32	7171	5350.8	11.8	3.32	36334
5344.0	5.0	3.32	10022	5351.0	12.0	3.32	37263
5345.0	6.0	3.32	13173				



100-YEAR FLOOD OPERATION HYDROGRAPHS



DEPTH DISCHARGE RATING FOR RUTHERFORD BOX CULVERT (SAN MATEO N.E.)



CONDUIT DISCHARGE—RATING CURVE

APPROVED FOR CONSTRUCTION

CITY ENGINEER DATE

SOVAY ENGINEERS, INC.

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ARROYO DEL OSO CHANNEL LINING/DAM REHABILITATION

TITLE: HYDROLOGY AND HYDRAULIC CURVES

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE

DRAWING NO.

SHEET 4 OF 28

AS BUILT INFORMATION
CONTRACTOR
WORK STARTED BY — DATE
WORK COMPLETED BY — DATE
INSPECTORS
ACCEPTANCE BY — DATE
VERIFICATION BY — DATE
DRAWINGS CORRECTED BY — DATE
MICRO-FILM INFORMATION
RECORDED BY — DATE
NO.

BENCH MARKS

SURVEY INFORMATION
FIELD NOTES BY — DATE
NO.

REFERENCES
MAP NO. F-18 — W.O. NO.
EST. NO.

REMARKS
REVISIONS — NO. — DATE — BY
DESIGN — DESIGNED BY JAC — DATE 12/80
DRAWN BY HF — DATE 12/80
CHECKED BY HG — DATE 12/80

2885
2-14-81

BOVAY 6001-017

DAM REHABILITATION PORTION OF CONTRACT

MATCH LINE

SPRINKLER LINE

WATER LINE

LINED CHANNEL SEE SHT. NO. 6

STA. 87+40.44

NO. 1 TEE BOX

NO. 18 GREEN

EXIST. CONCRETE RISER TO BE REMOVED. SEE SHT. 7 FOR EXIST. 36"CMP OUTLET CLOSURE DETAILS

EMERGENCY SPILLWAY AND OUTLET CONDUIT STRUCTURE

STA. 73+01

2-10'x 8' GATES

6' CHAIN LINK FENCE

APPROXIMATE LIMITS OF CONTRACTORS STORAGE AREA

PRACTICE GREEN

CHANNEL LINING PORTION CONTRACT

MATCH LINE SHEET 6 OF 28

STA. 84+88

CLUBHOUSE

PARKING AREA

STA. 1+30

STA. 0+00

MINOR FILL WORK

NO. 9 TEE BOX

NO. 9 GREEN

NO. 8 GREEN

CONTRACTORS ACCESS/HAUL ROAD

CONTRACTORS EARTHEN WASTE AREA

STA. 84+78

STA. 87+60

CLOSURE OF FORMER EMERGENCY SPILLWAY

NO. 7 GREEN

NO. 6 TEE BOX

NO. 6 GREEN

PROVIDE LOCKING GATE IN EXIST. CHAIN LINK FENCE. PROVIDE A SIGN ON THIS GATE CAUTIONING CONSTRUCTION PERSONNEL ABOUT THE DANGERS OF FLYING GOLFBALLS.

CONTRACTORS ENTRANCE 200' WEST OF PENNSYLVANIA ON OSUNA. CURB CUT AND LOCKING GATE MUST BE PROVIDED

TRAIL RIDGE ROAD

AMERICAN LAMPLIGHTER LANE

MERIDALE DRIVE

LOUISIANA BLVD. NE

VISTA DEL ARROYO AVENUE

OSUNA ROAD

SCALE: 1" = 100'

CONTOUR INTERVAL 2'

NOTE: MAPPING COMPLETED BY PHOTOGRAMMETRIC METHODS FROM 1:6,000 PHOTOGRAPHY OBTAINED 3-29-80 WITH A ZEISS RMK A 15/23 CAMERA OF 152.43mm FOCAL LENGTH.
CONTROL SURVEY TIED TO THE NEW MEXICO STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE.

BOVAY 6001-017

AS BUILT INFORMATION

CONTRACTOR

WORK STARTED BY — DATE

WORK COMPLETED BY — DATE

ACCEPTANCE BY — DATE

FIELD VERIFICATION BY — DATE

AS BUILT DRAWINGS CORRECTED BY — DATE

MICRO-FILM INFORMATION

RECORDED BY — DATE

NO.

BENCH MARKS

SURVEY INFORMATION

FIELD NOTES

NO.	BY	DATE

REFERENCES

W.O. NO.

MAP NO. F-19

EST. NO.

NO.	DATE	REMARKS	BY
		REVISIONS	

DESIGN

DESIGNED BY TDA, MEK, & MAZ. DATE OCT. '80

DRAWN BY NL DATE DEC. '80

CHECKED BY CWL DATE DEC. '80

2885

2-11-81

BOVAY ENGINEERS, INC.
HOUSTON AUSTIN · DENVER ALBUQUERQUE · BATON ROUGE WASHINGTON, D.C.

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ARROYO DEL OSO CHANNEL LINING/DAM REHABILITATION

TITLE:
SITE PLAN FOR DAM REHABILITATION

CHARLES LOCKWOOD RAMAH NEW MEXICO REGISTERED PROFESSIONAL ENGINEER 11/19/81

APPROVED FOR CONSTRUCTION

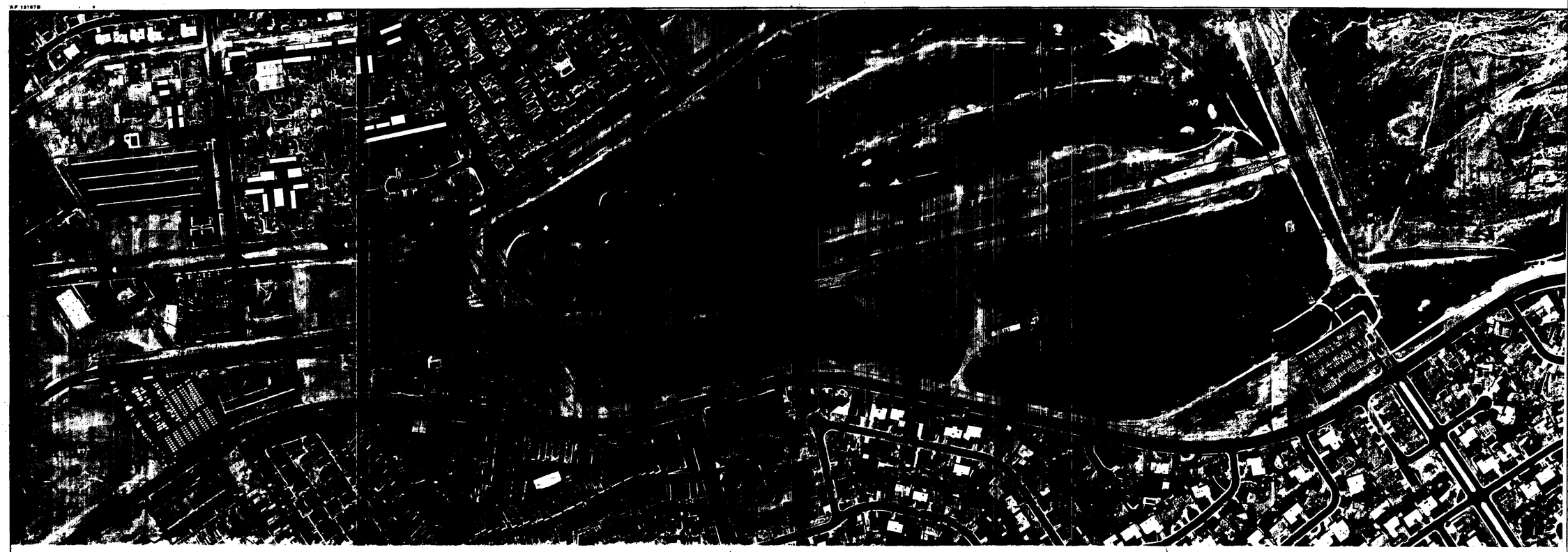
CITY ENGINEER DATE

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE

DRAWING NO.

SHEET 5 OF 28

AP 131679



GENERAL NOTES FOR CHANNEL LINING:

1. ALL CONCRETE FOR CHANNEL LINING, JUNCTION BOXES, AND RELATED WORK SHALL HAVE A STRENGTH OF 3000 PSI AT 28 DAYS.
2. ALL REINFORCING STEEL ASSOCIATED WITH CHANNEL LINING AND STORM SEWER CONSTRUCTION SHALL BE GRADE 60.
3. ALL STATIONING IS ℄ STATIONING UNLESS OTHERWISE NOTED.
4. ALL BEARINGS SHOWN ARE BASED ON THE NEW MEXICO PRINCIPAL MERIDIAN.
5. LOCATIONS OF EXISTING UTILITIES AS SHOWN ON THE PLANS ARE APPROXIMATE. CONTRACTOR IS TO FIELD VERIFY THE ACTUAL LOCATIONS OF THESE UTILITIES PRIOR TO CONSTRUCTION IN THESE AREAS. CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.
6. CONSTRUCTION IS TO BE CONFINED TO THE R.O.W. AND CONSTRUCTION LIMITS AS SHOWN ON THE PLANS.
7. THE AREA DESIGNATED FOR THE MAINTENANCE ROAD WITHIN THE DRAINAGE R.O.W. SHALL BE GRADED AS REQUIRED BY THE ENGINEER. THIS WORK SHALL BE CONSIDERED PART OF THE BID ITEM "UNCLASSIFIED EXCAVATION".
8. CONTRACTORS ACCESS TO THE CHANNEL LINING CONSTRUCTION SHALL BE OFF OF OSUNA ROAD BETWEEN THE WESTERN BOUNDARY OF THE GOLF COURSE AND THE CHATEAU APARTMENTS AS SHOWN ON THE SITE PLAN. ADEQUATE WARNING SIGNS NOTIFYING MOTORISTS OF CONSTRUCTION ZONE, TURNING VEHICLES, ETC. SHALL BE PROVIDED BY THE CONTRACTOR AT NO EXTRA EXPENSE TO THE OWNER. CURB CUT WILL BE REQUIRED.

LEGEND:

- (12") — EXISTING UTILITY WITH SIZE
- EXISTING STRUCTURE
- 5230 — EXISTING CONTOUR
- EXISTING DROP INLET
- EXISTING FENCE
- TRAPEZOIDAL CHANNEL
- RECTANGULAR CHANNEL
- LIMITS OF CONSTRUCTION
- SURFACE INLET TO CHANNEL
- (1) CONSTRUCTION NOTE DESIGNATION
- (1) ℄ CURVE DESIGNATION
- FILL LIMITS

ABBREVIATIONS

TW — TOP OF WALL
P.O.T. — POINT ON TANGENT
V.P.C. — VERTICAL POINT OF CURVATURE
V.P.T. — VERTICAL POINT OF TANGENCY
V.P.I. — VERTICAL POINT OF INTERSECTION
P.V.R.C. — POINT OF VERTICAL REVERSE CURVATURE
R.C.P. — REINFORCED CONCRETE PIPE
O.C. — ON CENTER
E.W. — EACH WAY
C.I. — CAST IRON
D.I. — DUCTILE IRON

SURVEY INFORMATION
FIELD NOTES
NO. | BY | DATE

BENCH MARKS

AS BUILT INFORMATION
CONTRACTOR
STAKED BY — DATE
INSPECTORS
FIELD TANGE BY — DATE
PLOTTED BY
VERIFICATION BY — DATE
TRANSFERRED BY
CORRECTED BY — DATE
MICRO-FILM INFORMATION
RECORDED BY — DATE
NO.

REFERENCES
MAP NO. F-18
EST. NO.
W.O. NO.

NO.	DATE	REMARKS	BY
		REVISIONS	
		DESIGN	

DESIGNED BY MG DATE 10/80
DRAWN BY EA DATE 10/80
CHECKED BY SHB DATE 12/80

2885
2-24-81

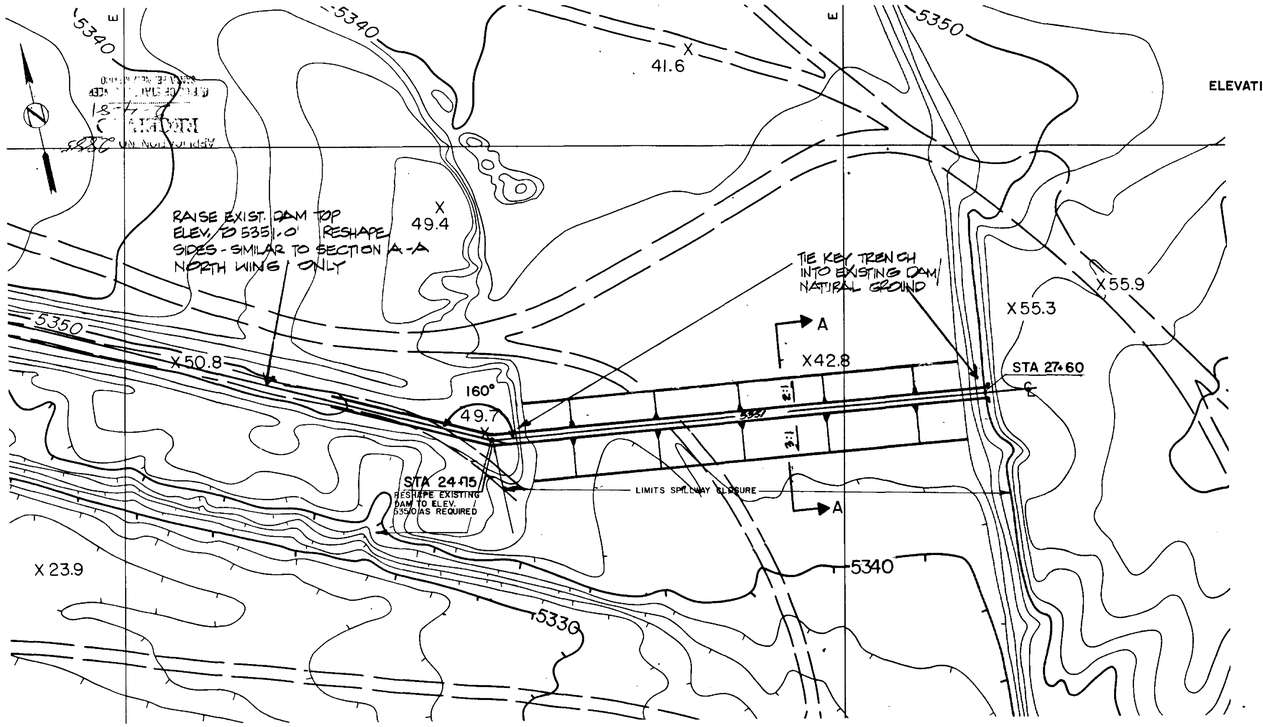
APPROVED FOR CONSTRUCTION
CITY ENGINEER DATE

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPT.
ARROYO DEL OSO CHANNEL LINING / DAM REHABILITATION
TITLE: CHANNEL LINING SITE PLAN

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
City Engineer			Liquid Waste		
A.C.E.-Design			Traffic		
A.C.E.-Hydrology			Water		

DRAWING NO.
SHEET 6 OF 28

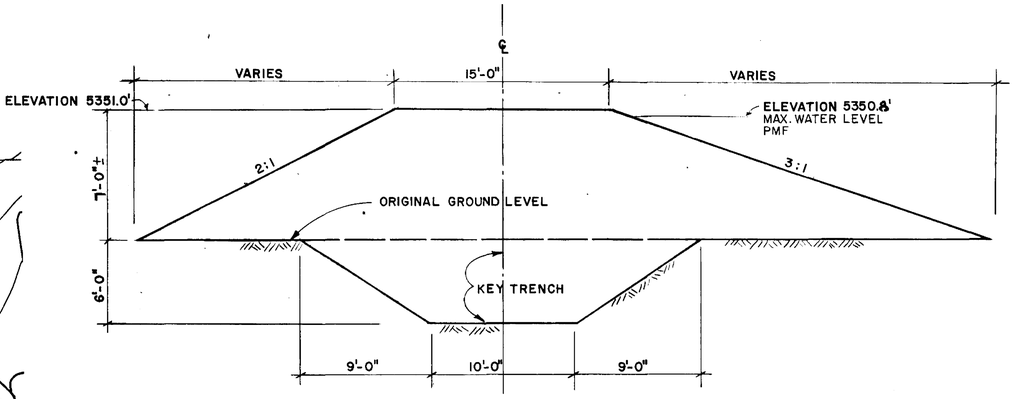
AF 13167A



DETAIL OF CLOSURE SECTION OF PRESENT

EMERGENCY SPILLWAY

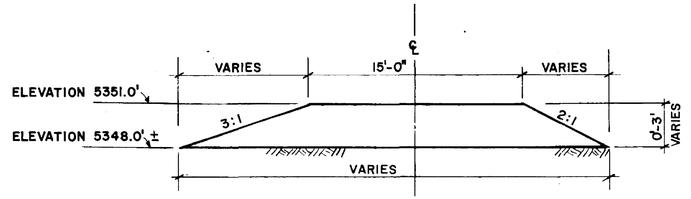
SCALE 1" = 50'



SECTION A-A

SPILLWAY CLOSURE CROSS SECTION

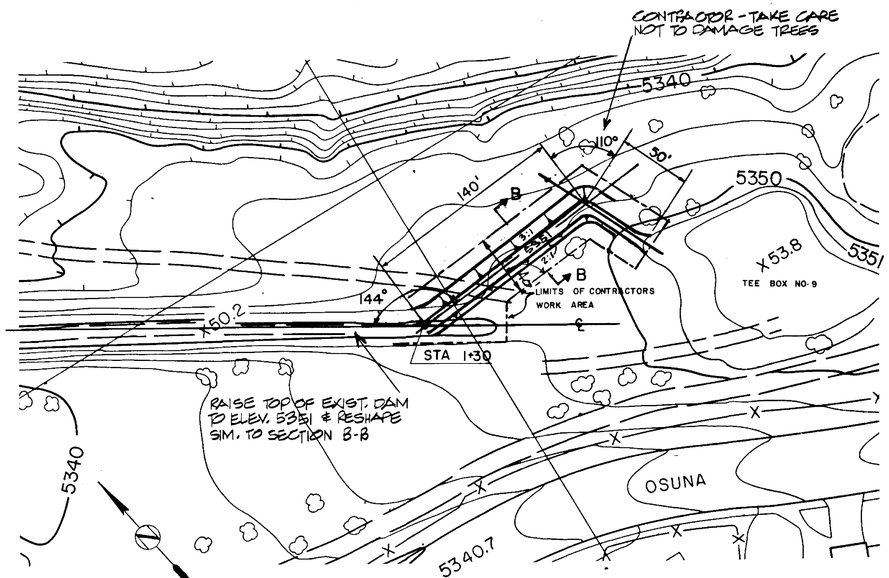
NO SCALE



SECTION B-B

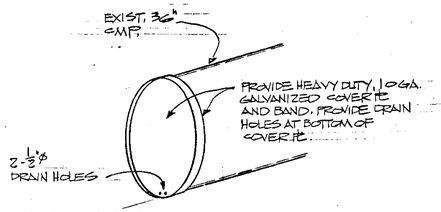
CROSS SECTION THRU MINOR FILL WORK

AT SOUTH END OF DAM NO SCALE



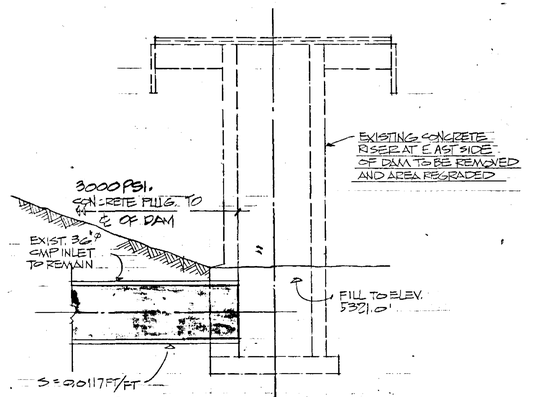
DETAIL OF MINOR FILL WORK AT SOUTH END OF THE DAM

SCALE 1"=50'



(2) OUTLET CLOSURE

NOTE: A SUFFICIENT AMOUNT OF THE EXISTING 36" CMP IS TO BE CUT OFF & REMOVED PRIOR TO INSTALLING THE COVER TO PERMIT THE PIPE TO BE COMPLETELY BURIED AFTER THE AREA IS REGRADED TO MATCH THE ADJACENT AREA.



(1/7) INLET PLUG

DETAILS AT EXIST. 36" CMP THRU DAM

AS BUILT INFORMATION

CONTRACTOR
STAKED BY — DATE
INSPECTORS
FIELD CHANGE BY — DATE
VERIFICATION BY
FINAL CHANGE BY — DATE
CORRECTED BY
MICRO-FILM INFORMATION — DATE
RECORDED BY
NO

BENCH MARKS

SURVEY INFORMATION

FIELD NOTES

NO.	BY	DATE

REFERENCES

MAP NO. F-18 W.O. NO.
EST. NO.

NO.	DATE	REMARKS	BY

REVISIONS

DESIGN — DATE
DESIGNED BY TDA — DATE
DRAWN BY HF — DATE
CHECKED BY CML

ADDENDUM NO. 2885
2-4-81

BOVAY ENGINEERS, INC.
HOUSTON · AUSTIN · ALBUQUERQUE · BOISE · BATON ROUGE · WASHINGTON, D.C.

CHARLES LOCKWOOD NEW MEXICO PROFESSIONAL ENGINEER 1/29/81

APPROVED FOR CONSTRUCTION

CITY ENGINEER DATE

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ARROYO DEL OSO CHANNEL LINING/DAM REHABILITATION

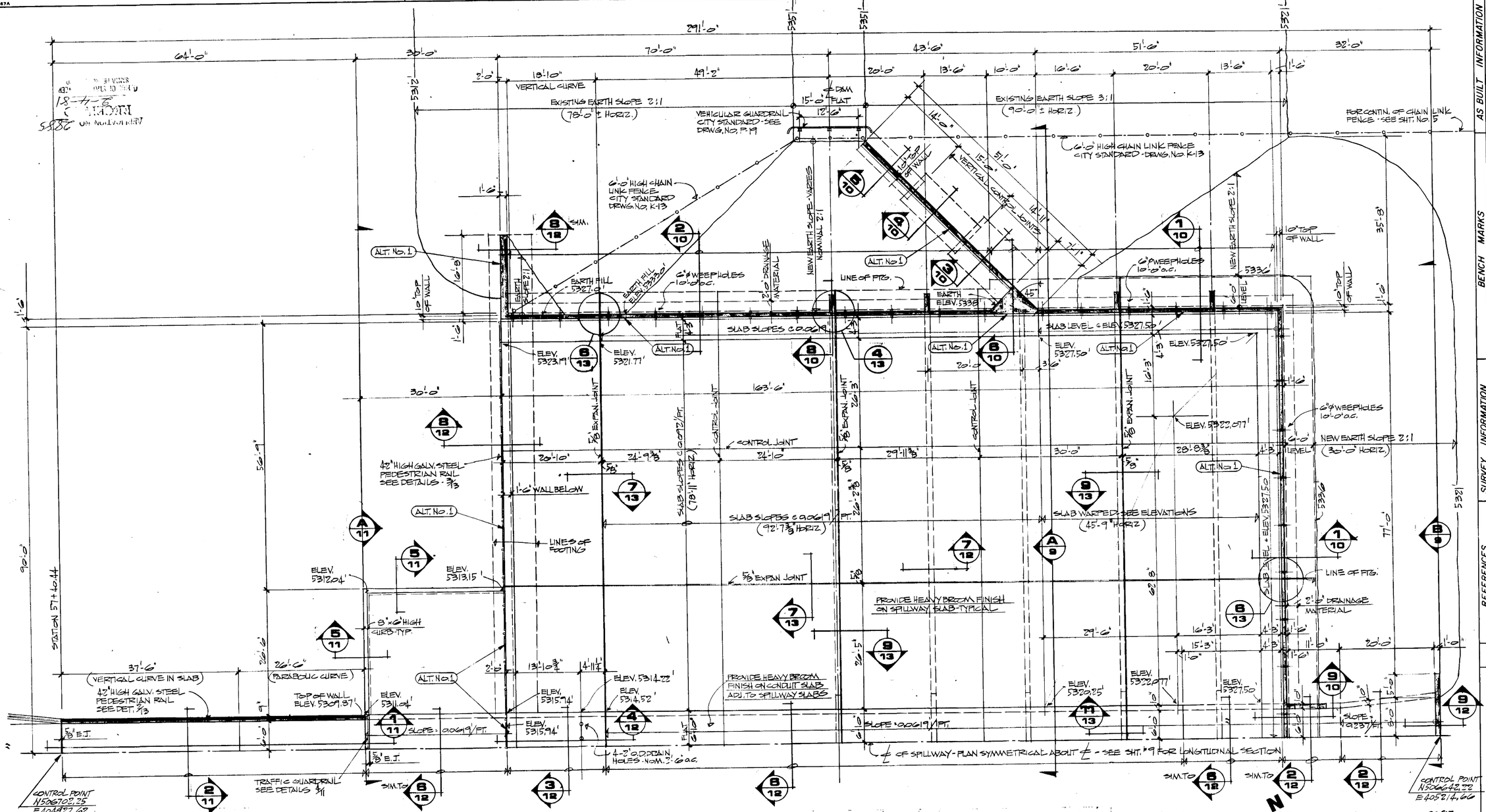
TITLE: EMBANKMENT SECTIONS AND SPILLWAY CLOSURE

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE

DRAWING NO.

SHEET 7 OF 28

AP 13167A



GENERAL NOTES :

1. All concrete shall be 4000 psi at 28 days.
2. All reinforcing steel shall be grade 60 deformed bars unless noted otherwise.
3. All reinforcing steel shall be detailed in accordance with the American Concrete Institute. ACI 315
4. Expansion joints and contraction joints shall be located as shown on the drawings. Any modifications must be approved by the Engineer.
5. All exposed edges shall have a 3/4" chamfer.
6. Minimum concrete protection for reinforcing steel will be as follows:
   A. 3" cover for concrete cast against earth.
   B. 2" cover for concrete exposed to earth or weather.
7. Provide 3'-0" minimum depth of engineered (compacted) earth fill under the outlet-conduit, under the footings of the spillway retaining walls, and under the spillway slabs on grade.
8. Provide 6'-0" depth of engineered earth fill at east end of spillway to replace 6'-0" silt excavation.
9. Drainage material behind walls shall be graded gravel +3/4 to -1½.

HALF PLAN OF SPILLWAY, OUTLET CONDUIT & OUTLET CHANNEL

SCALE: 1"=10'-0"

ALTERNATE #1
1.) PROVIDE A HEAVY BROOM FINISH TO THE FLOOR SLAB OF THE SPILLWAY AND THE TOP SURFACE OF THE OUTLET CONDUIT. (BASE BID ITEM)
2.) PROVIDE VERTICAL FLUTED BAG-RELIEF (SECTION 5/13) TO ALL VERTICAL EXPOSED SURFACES NOTED THUS (ALT. NO. 1) ON THIS PLAN ABOVE.

ALTERNATE #2
3.) PROVIDE AN EARTHTONE COLOR ADDITIVE TO ALL CONCRETE WHOSE VERTICAL SURFACES ARE NOTED (ALT. NO. 1) IN LIEU OF ALTERNATE #1 ABOVE.

WARNING

THE CONDUIT TOP IS DESIGNED FOR A MAXIMUM TRUCK LOADING DURING CONSTRUCTION OF 15 TONS AT 28 DAYS STRENGTH. ANY TRUCK LOADS PRIOR TO 28 DAY STRENGTH WILL REQUIRE SHORING.

AS BUILT INFORMATION
CONTRACTOR
WORK STAKED BY — DATE
INSPECTED BY — DATE
FIELD SURVEYS BY — DATE
CORRECTED BY — DATE
MICRO-FILM INFORMATION
RECORDED BY — DATE
NO.

BENCH MARKS
1 AUS BRASS CAP 7-FT.N. NORTHWEST OF THE INTERSECTION OF COUNA ROAD AND LOUISIANA BLVD. ABOUT 5'-0" SOUTH OF THE GOLF COURSE FENCE.

SURVEY INFORMATION
FIELD NOTES
NO. | BY | DATE

REFERENCES
MAP NO. F-9
EST. NO. | W.O. NO.

REMARKS
REVISIONS
NO. | DATE | BY
DESIGN
DESIGNED BY TDA, MAZ, & MEL DATE OCT. '80
DRAWN BY LJG DATE DEC. '80
CHECKED BY CML DATE DEC. '80

2885
2-4-81
BOVAY ENGINEERS, INC.
HOUSTON · SPOKANE · BATON ROUGE · AUSTIN · ALBUQUERQUE · WASHINGTON, D.C.

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ARROYO DEL OSO CHANNEL LINING / DAM REHABILITATION

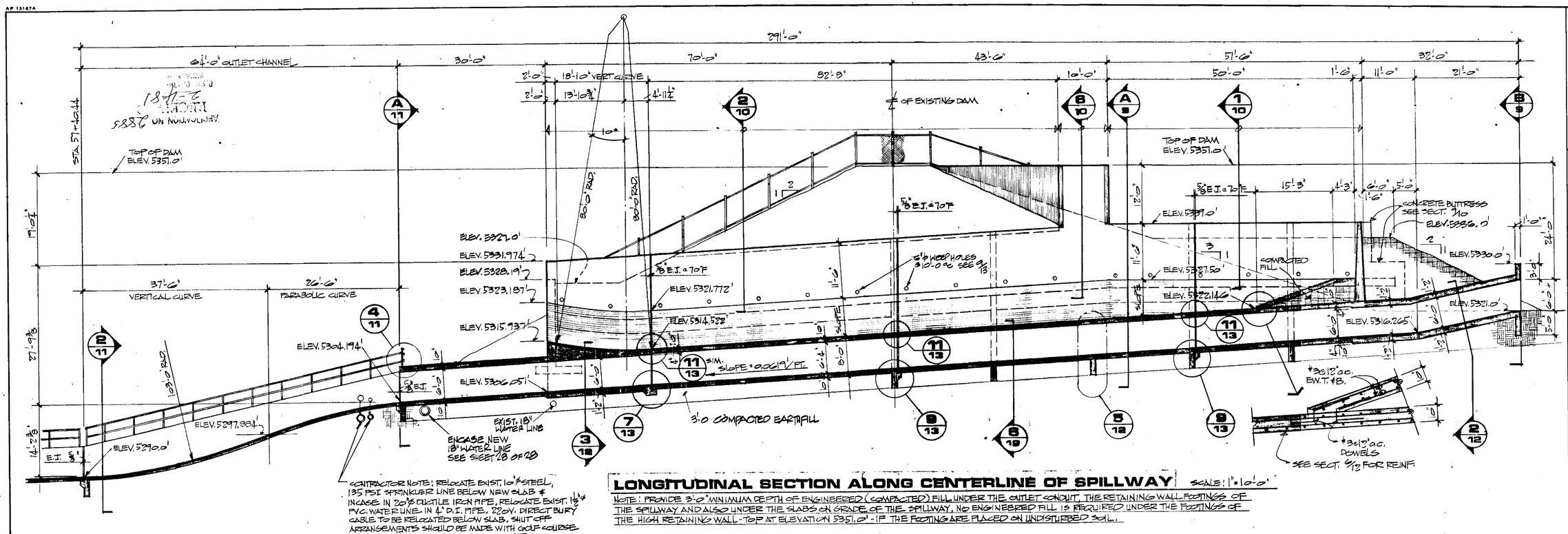
TITLE:
PLAN OF SPILLWAY, OUTLET CONDUIT & CHANNEL & GENERAL NOTES

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE

APPROVED FOR CONSTRUCTION
CITY ENGINEER — DATE

DRAWING NO.
SHEET 8 OF 28

AF 13187A

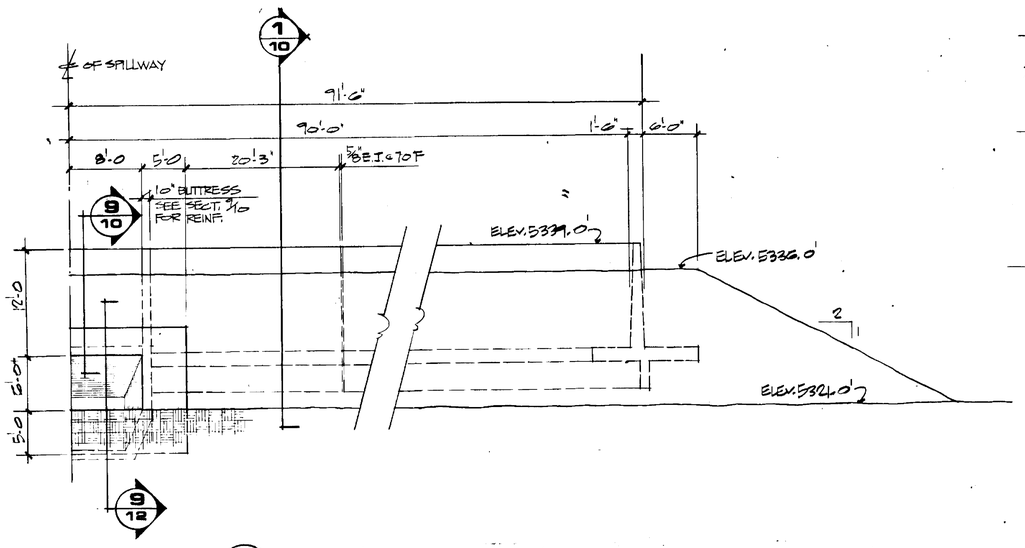


CONTRACTOR NOTE: RELOCATE EXIST. 10" ø STEEL, 135 PSI SPRINKLER LINE BELOW NEW SLAB & ENCASE IN 20" ø DUCTILE IRON PIPE, RELOCATE EXIST. 1½" ø P.V.C. WATER LINE IN 4" ø D.I. PIPE, 220V. DIRECT BURY CABLE TO BE RELOCATED BELOW SLAB, SHUT-OFF ARRANGEMENTS SHOULD BE MADE WITH GOLF COURSE SUPERVISOR - PHONE NUMBER 766-7915.

LONGITUDINAL SECTION ALONG CENTERLINE OF SPILLWAY

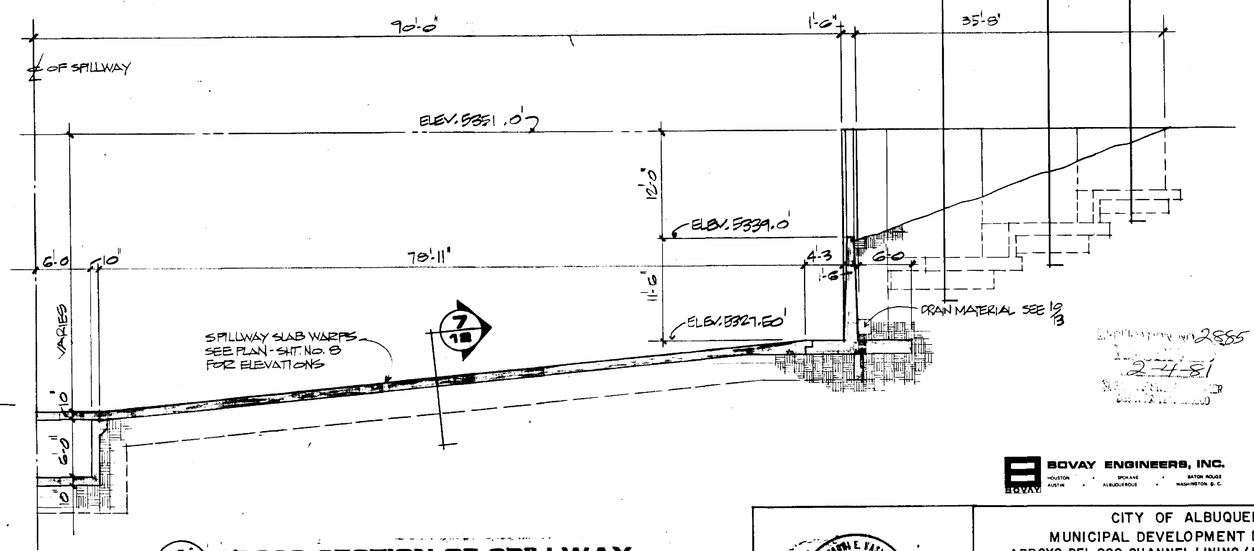
SCALE: 1"=10'-0"

NOTE: PROVIDE 3'-0" MINIMUM DEPTH OF ENGINEERED (COMPACTED) FILL UNDER THE OUTLET CONDUIT, THE RETAINING WALL FOOTINGS OF THE SPILLWAY AND ALSO UNDER THE SLABS ON GRADE OF THE SPILLWAY. NO ENGINEERED FILL IS REQUIRED UNDER THE FOOTINGS OF THE HIGH RETAINING WALL - TOP AT ELEVATION 5351.0' - IF THE FOOTING ARE PLACED ON UNDISTURBED SOIL.



B/9 EAST WALL ELEVATION OF SPILLWAY

NOT TO SCALE



A/9 CROSS SECTION OF SPILLWAY

SCALE: ⅛"=1'-0"

SOVAY ENGINEERS, INC.
HOUSTON · AUSTIN · SPOKANE · ALBUQUERQUE · BATON ROUGE · WASHINGTON D.C.

AS BUILT INFORMATION
CONTRACTOR
WORK STARTED BY — DATE
WORK COMPLETED BY — DATE
INSPECTORS
ACCEPTANCE BY — DATE
FIELD VERIFICATION BY — DATE
CORRECTED BY — DATE
MICRO-FILM INFORMATION
RECORDED BY — DATE
NO

BENCH MARKS
1-ACS BRASS CAP 7-F19 NORTH EAST OF THE INTERSECTION OF OSUNA ROAD AND LOUISIANA BLVD. ABOUT 5'-0" SOUTH OF THE GOLF COURSE FENCE.

SURVEY INFORMATION
FIELD NOTES
NO. | BY | DATE

REFERENCES
MAP NO. F-19
EST. NO.
W.O. NO.

REMARKS | BY | DATE
REVISIONS
DESIGN — DATE OCT. '80
DESIGNED BY TDA, MAZ. & MEL. — DATE DEC. '80
DRAWN BY LJS — DATE DEC. '80
CHECKED BY CML

2855
2-4-81

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ARROYO DEL OSO CHANNEL LINING / DAM REHABILITATION

TITLE:
LONGITUDINAL SECTION OF SPILLWAY & OUTLET CONDUIT

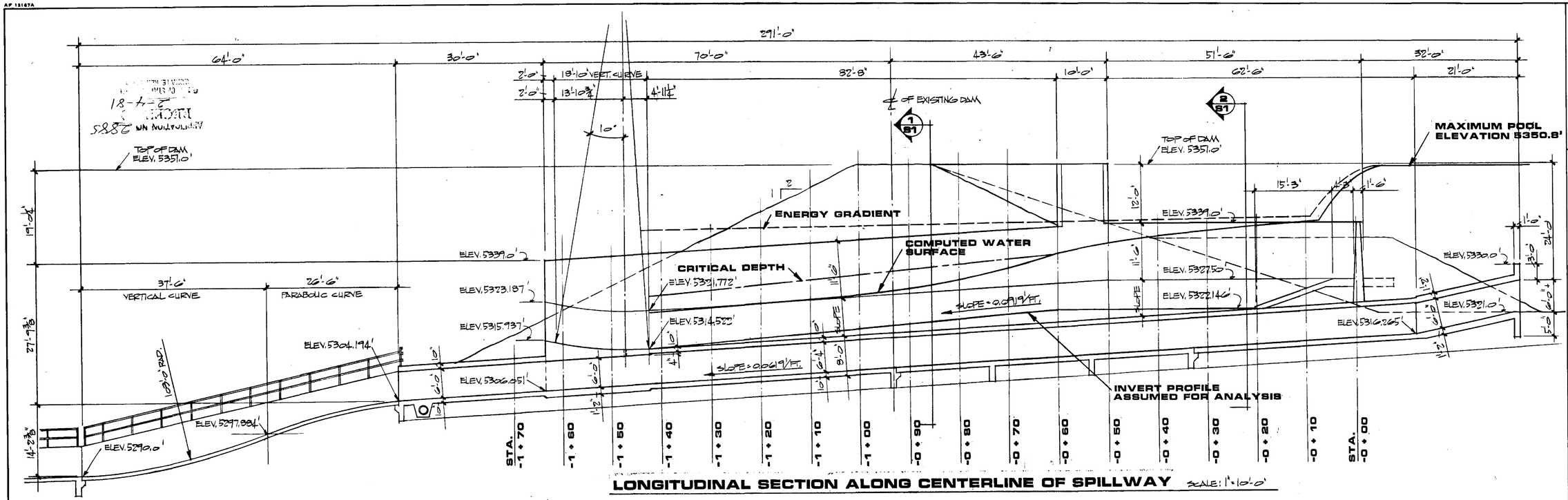
APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE

APPROVED FOR CONSTRUCTION
CITY ENGINEER — DATE

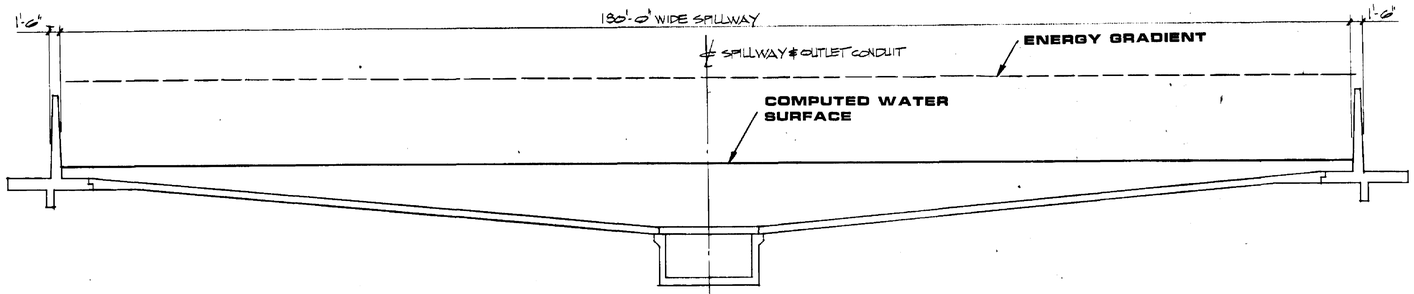
DRAWING NO.

SHEET 9 OF 28

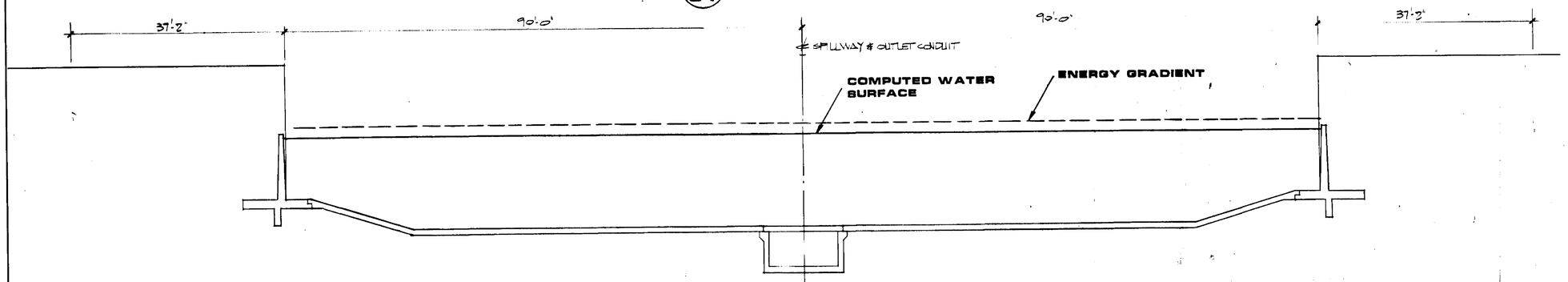
AF 13167A



LONGITUDINAL SECTION ALONG CENTERLINE OF SPILLWAY SCALE: 1"=10'-0"



1 / S1 SPILLWAY CROSS SECTION
SCALE: 1"=10'-0"



2 / S1 SPILLWAY CROSS SECTION
SCALE: 1"=10'-0"

SPILLWAY DESIGN NOTES :

1. SPILLWAY FLOW = 38,450 CFS.
2. CONDUIT FLOW = 2,550 CFS.
3. TOTAL FLOW = 39,000 CFS.
4. CRITICAL DEPTH IN SPILLWAY = 10.83 FEET
5. TOTAL LENGTH OF WEIR = 280 FEET
6. EFFECTIVE LENGTH OF WEIR = 270 FEET
7. " N " = 0.018

AS BUILT INFORMATION
CONTRACTOR
WORK ISSUED BY — DATE
INSPECTORS ACCEPTANCE BY — DATE
FIELD VERIFICATION BY — DATE
CORRECTED BY — DATE
MICRO-FILM INFORMATION
RECORDED BY — DATE
NO

BENCH MARKS

SURVEY INFORMATION
FIELD NOTES
NO. | BY | DATE

REFERENCES
MAP NO. F-19
EST. NO.
W.O. NO.

REVISIONS
NO. | DATE | REMARKS | BY

DESIGN — DATE DEC. '80 — JC
DESIGNED BY — DATE DEC. '80 — LB
DRAWN BY — DATE DEC. '80 — GW
CHECKED BY — DATE

SOVAY ENGINEERS, INC.
HOUSTON • SPOKANE • BATON ROUGE
AUSTIN • ALBUQUERQUE • WASHINGTON, D. C.

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ARROYO DEL OSO CHANNEL LINING / DAM REHABILITATION

TITLE:
HYDRAULIC ANALYSIS OF SPILLWAY

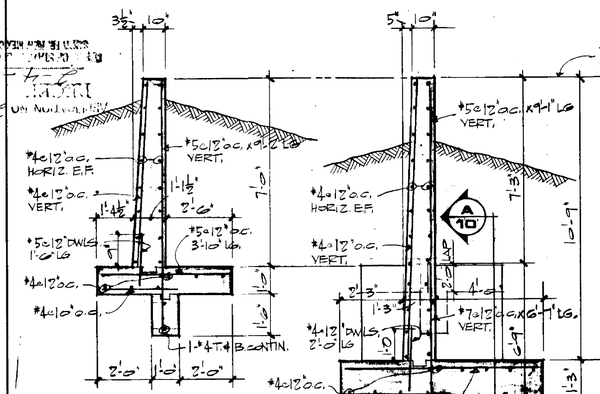
APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE

APPROVED FOR CONSTRUCTION
CITY ENGINEER — DATE

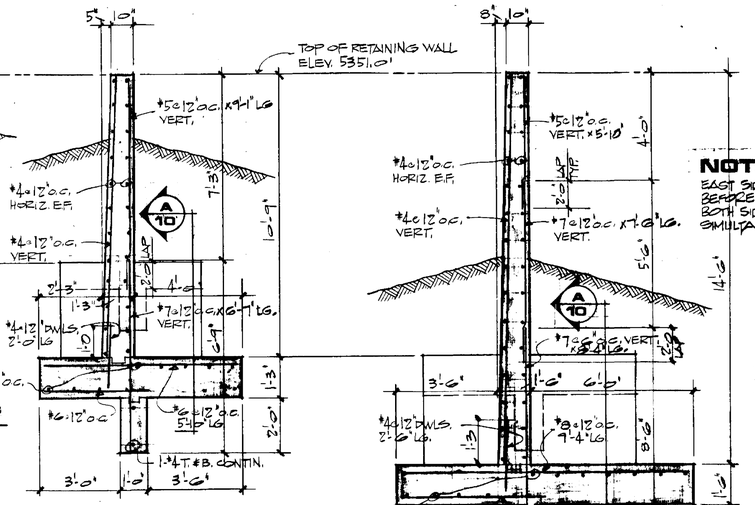
DRAWING NO.

SHEET 9A OF

AF 13187A



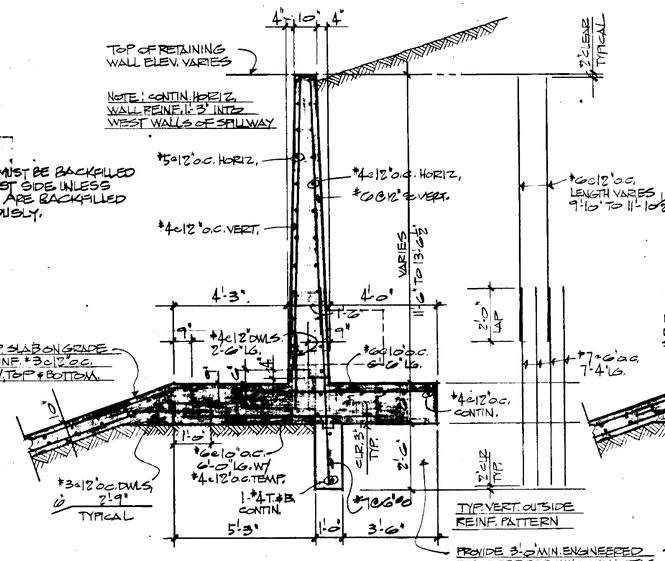
5/10 **45° RETAINING WALL**
SCALE: ⅜"=1'-0"

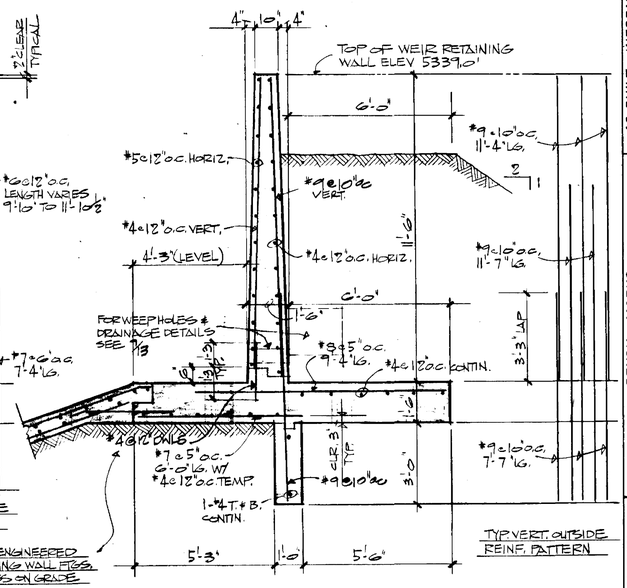


4/10 **45° RETAINING WALL**
SCALE: ⅜"=1'-0"

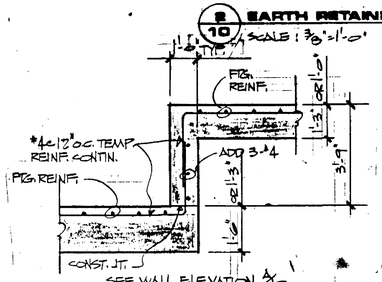
3/10 **45° RETAINING WALL**
SCALE: ⅜"=1'-0"

NOTE
EAST SIDE MUST BE BACKFILLED BEFORE WEST SIDE UNLESS BOTH SIDES ARE BACKFILLED SIMULTANEOUSLY.

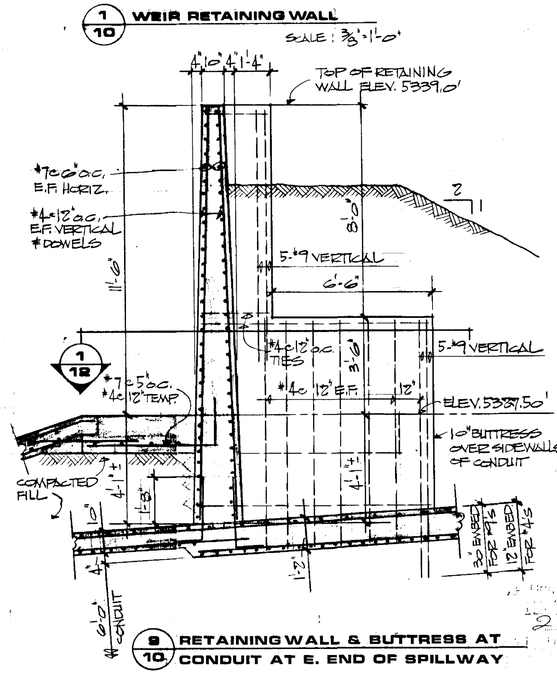




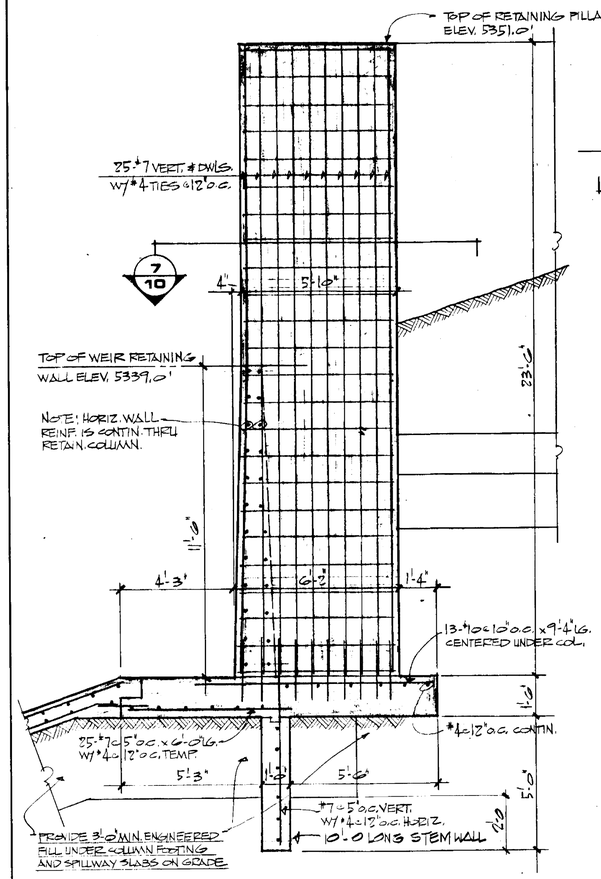
1/10 **WEIR RETAINING WALL**
SCALE: ⅜"=1'-0"



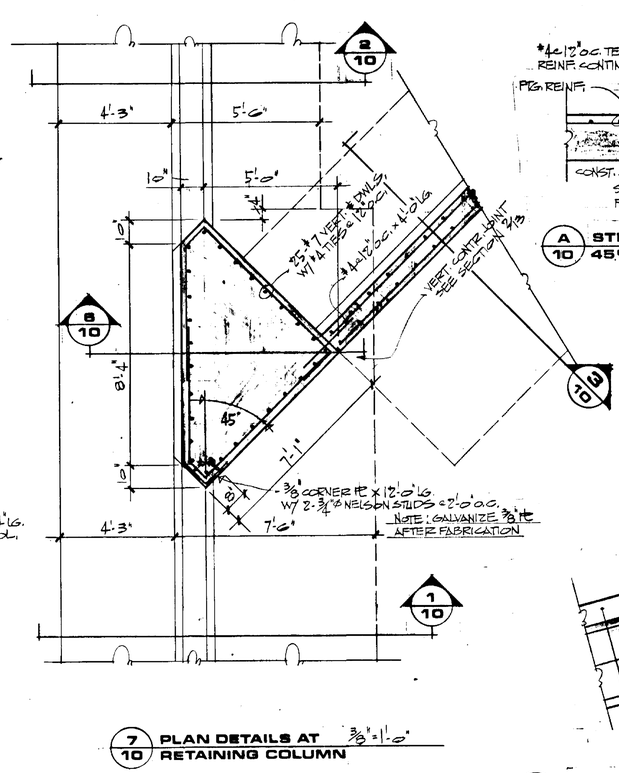
A/10 **STEP FOOTING DETAIL AT 45° RETAINING WALL**
SCALE: ⅜"=1'-0"



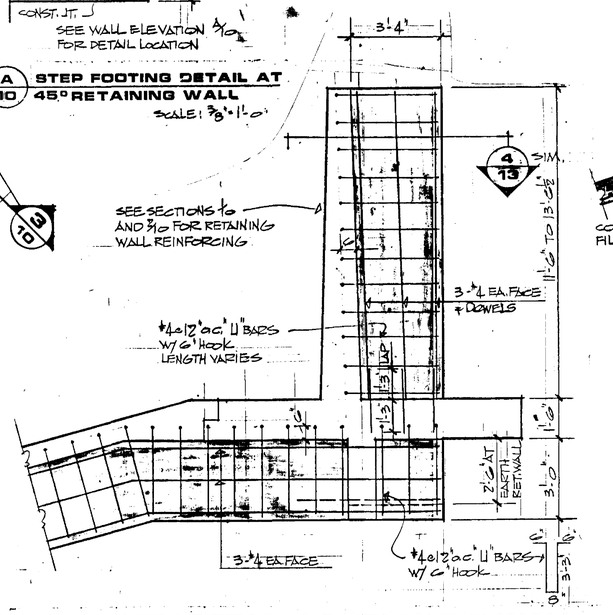
9/10 **RETAINING WALL & BUTTRESS AT CONDUIT AT E. END OF SPILLWAY**



8/10 **RETAINING COLUMN**
SCALE: ⅜"=1'-0"



7/10 **PLAN DETAILS AT RETAINING COLUMN** ⅜"=1'-0"



CONC. KEY DETAIL AT RETAINING WALL
8/10

SURVEY INFORMATION
FIELD NOTES
NO. | BY | DATE

BENCH MARKS

AS BUILT INFORMATION
CONTRACTOR
WORK STARTED BY — DATE
INSPECTORS
ACCEPTANCE BY — DATE
FIELD VERIFICATION BY — DATE
DRAWINGS CORRECTED BY — DATE
MICRO-FILM INFORMATION
RECORDED BY — DATE
NO.

REFERENCES
MAP NO. F-19
EST. NO. — W.O. NO.

NO.	DATE	REVISIONS	BY
		DESIGN	DATE OCT. '80
		DESIGNED BY TDA, MAZ, & WEL	DATE DEC. '80
		DRAWN BY L.J.G.	DATE DEC. '80
		CHECKED BY CML.	

2-27-81

BOVAY ENGINEERS, INC.
HOUSTON · AUSTIN · BRYAN/LANE · ALBUQUERQUE · BATON ROUGE · WASHINGTON D.C.

APPROVED FOR CONSTRUCTION
CITY ENGINEER — DATE

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ARROYO DEL OSO CHANNEL LINING/DAM REHABILITATION

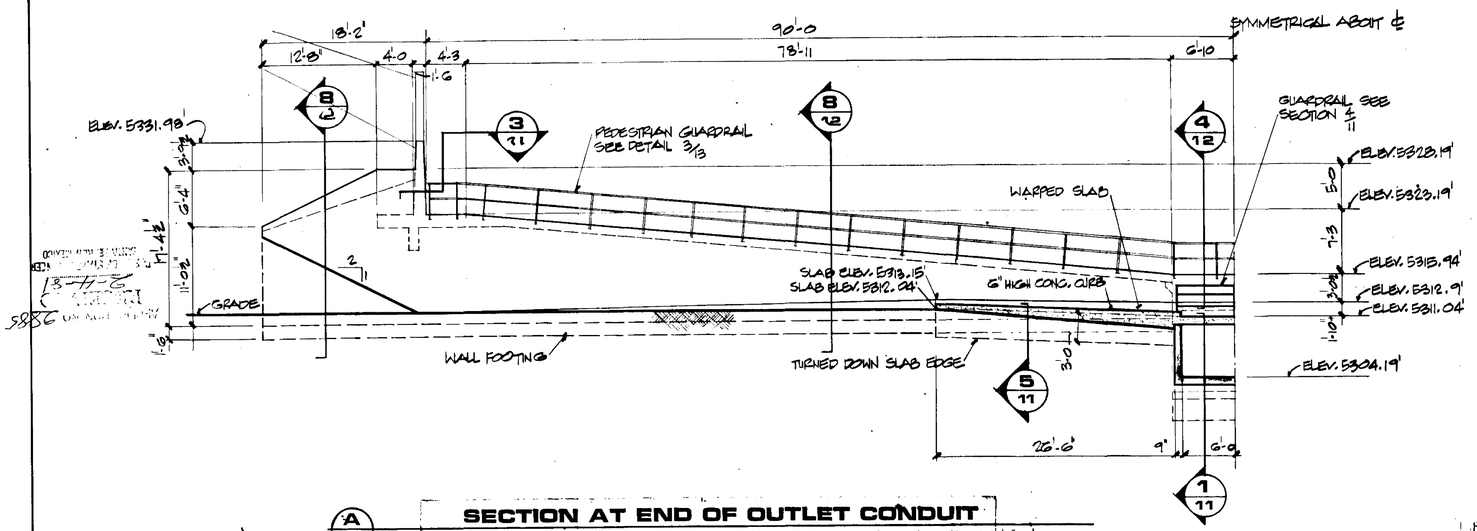
TITLE:
WEIR & EARTH RETAINING WALL SECTIONS & DETAILS

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE

DRAWING NO.

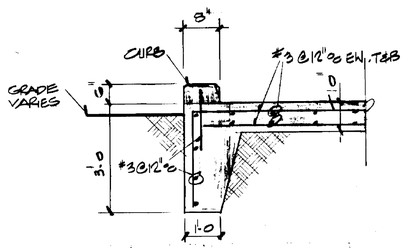
SHEET 10 OF 28

AF 13167A



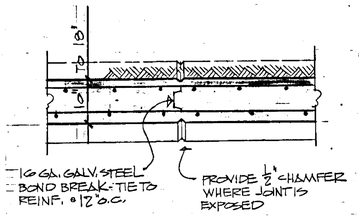
A/11 SECTION AT END OF OUTLET CONDUIT

1/8"=1'-0



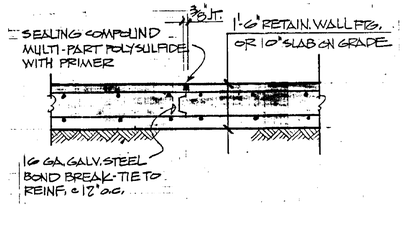
5/11 TURNED DOWN SLAB EDGE

NO SCALE



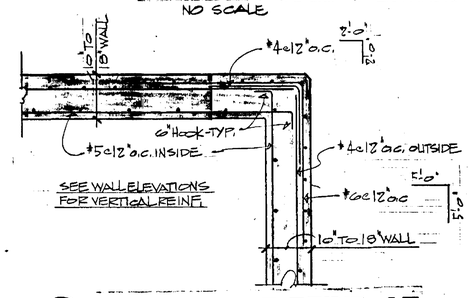
6/11 VERTICAL CONTROL JOINT AT RETAINING WALL

NO SCALE



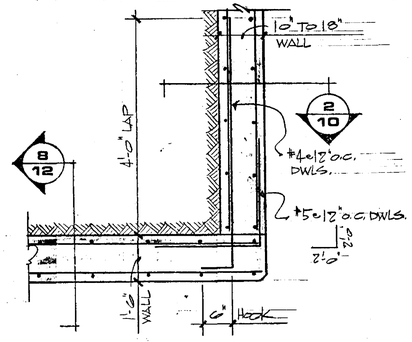
7/11 HORIZ. CONTROL JOINT AT SLAB & FOOTINGS ON GRADE

NO SCALE



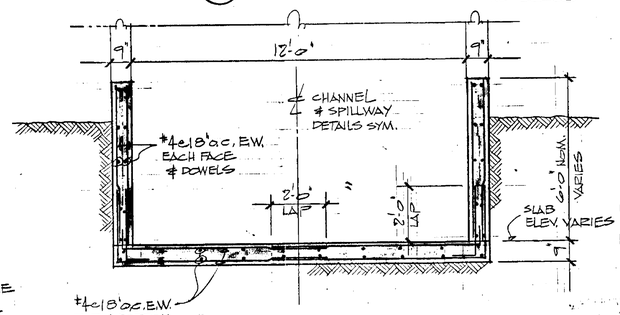
A/11 / 8/11 TYP. CORNER REINF. AT RETAINING WALLS

NO SCALE



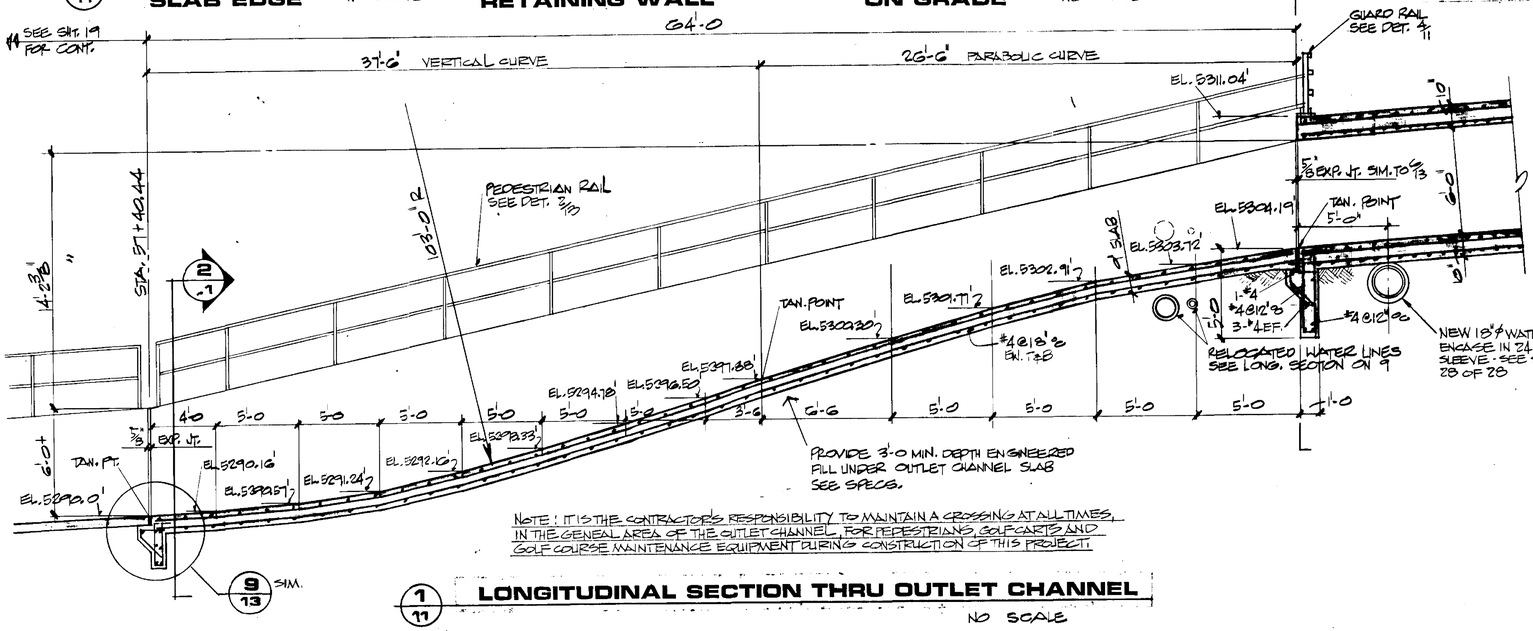
3/11 CORNER REINFORCEMENT

NO SCALE



2/11 OUTLET CHANNEL SECTION

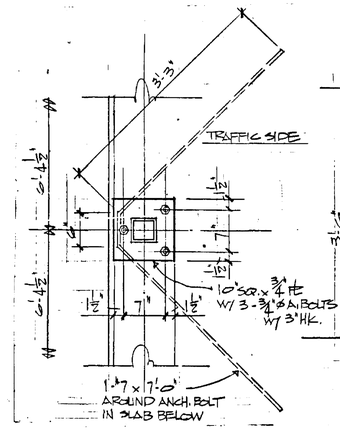
SCALE: 3/8"=1'-0"



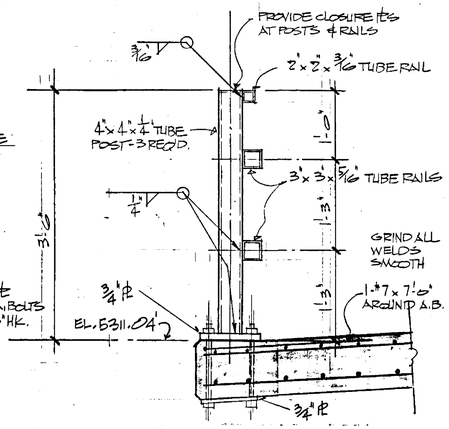
NOTE: IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN A CROSSING AT ALL TIMES, IN THE GENERAL AREA OF THE OUTLET CHANNEL, FOR PEDESTRIANS, GOLF CARTS AND GOLF COURSE MAINTENANCE EQUIPMENT DURING CONSTRUCTION OF THIS PROJECT.

1/11 LONGITUDINAL SECTION THRU OUTLET CHANNEL

NO SCALE



BASEPLATE



4/11 SECTION

GUARDRAIL DETAILS AT END OF OUTLET CONDUIT

AS BUILT INFORMATION	
CONTRACTOR	DATE
STAKED BY	
INSPECTORS	DATE
FIELD CHANGES BY	DATE
FIELD VERIFICATION BY	
DRAWING CORRECTED BY	DATE
MICRO-FILM INFORMATION	
RECORDED BY	DATE
NO.	

BENCH MARKS			
NO.	DESCRIPTION	DATE	BY

SURVEY INFORMATION			
FIELD NOTES			
NO.	BY	DATE	

REFERENCES	
MAP NO. F-19	W.O. NO.
EST. NO.	

NO.	REMARKS	DATE	BY
	REVISIONS		
	DESIGN		
	DESIGNED BY TDA, MEK, & MAZ.	DATE OCT. '80	
	DRAWN BY LJS & NL.	DATE DEC. '80	
	CHECKED BY GWL	DATE DEC. '80	

2885

2-4-81

BOVAY ENGINEERS, INC.
HOUSTON · AUSTIN · ROSLYN · ALBUQUERQUE · EATON RIDGE · WASHINGTON D.C.

NAOMI E. MAZIA NEW MEXICO 6428 REGISTERED PROFESSIONAL ENGINEER

APPROVED FOR CONSTRUCTION

CITY ENGINEER DATE

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ARROYO DEL OSO CHANNEL LINING / DAM REHABILITATION

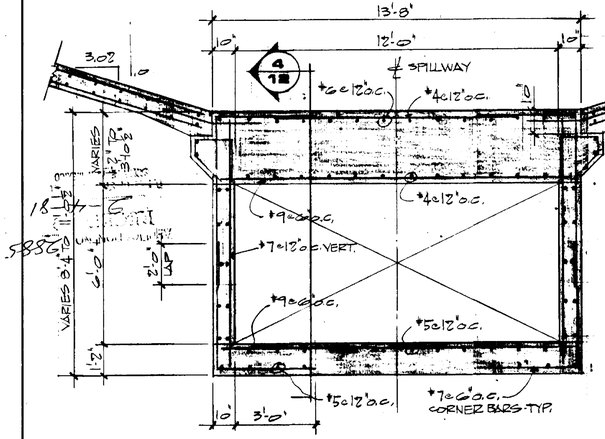
TITLE: LONGITUDINAL SECTION THRU OUTLET CHANNEL & MISC. DETAILS

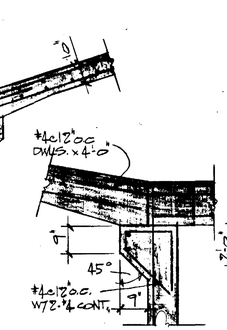
APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE

DRAWING NO

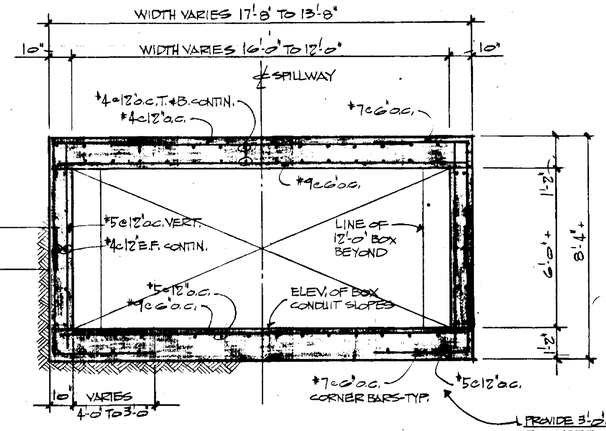
SHEET 11 OF 28

AF 131674

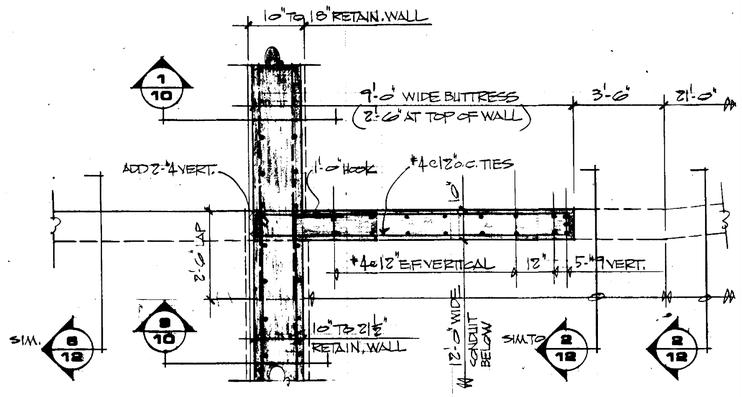




8/12 TYP. LEDGER DETAILS
SCALE: 1/2"=1'-0"



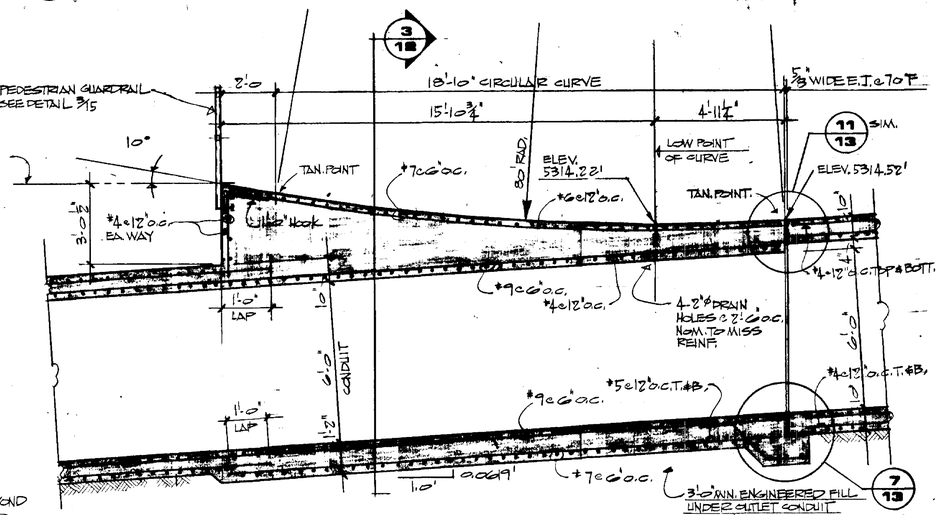
PROVIDE 3'-0" MIN. ENGINEERED FILL UNDER OUTLET CONDUIT, BOX CULVERT & SPILLWAY SLABS ON GRADE-TYPICAL

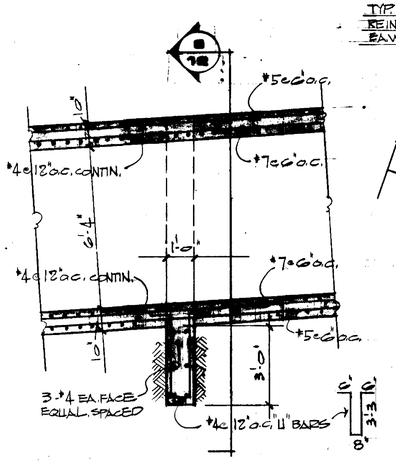


3/12 OUTLET CONDUIT DETAILS AT BUCKET
SCALE: 3/8"=1'-0"

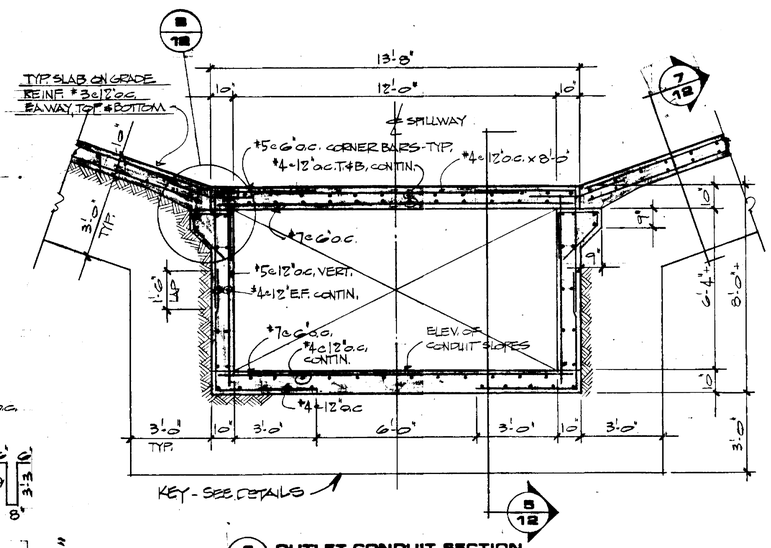
2/12 TRANSITION DETAILS BETWEEN BOX CULVERT & OUTLET CONDUIT
SCALE: 3/8"=1'-0"

1/12 PLAN OF RETAINING WALL BUTTRESS AT E. END OF SPILLWAY
3/8"=1'-0"

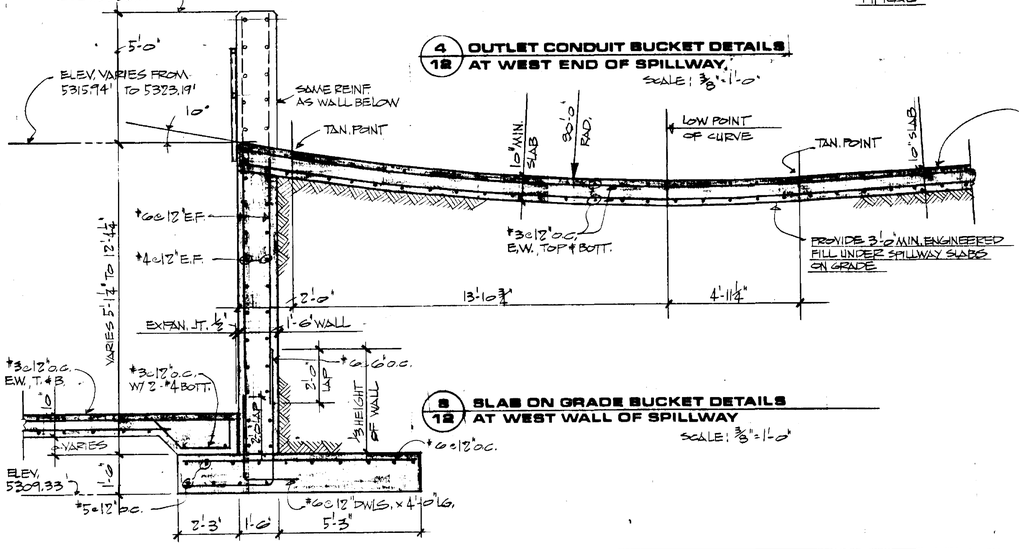




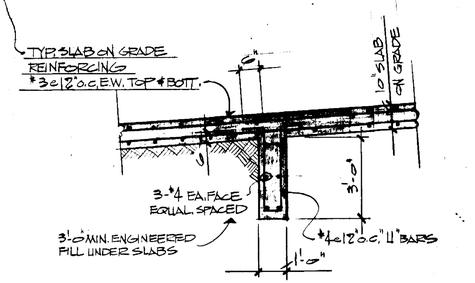
5/12 KEY DETAILS OFF SIDE & BOTTOM OF OUTLET CONDUIT
SCALE: 3/8"=1'-0"



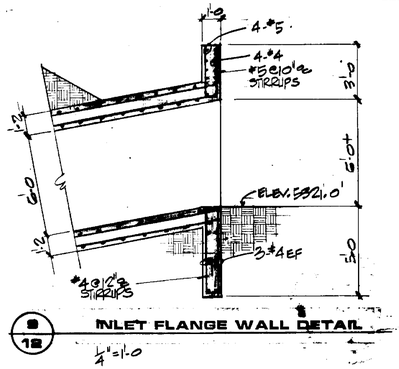
6/12 OUTLET CONDUIT SECTION TYPICAL DETAILS
SCALE: 3/8"=1'-0"



4/12 OUTLET CONDUIT BUCKET DETAILS AT WEST END OF SPILLWAY
SCALE: 3/8"=1'-0"



7/12 KEY DETAILS AT SPILLWAY SLABS ON GRADE
SCALE: 3/8"=1'-0"



9/12 INLET FLANGE WALL DETAIL
¼"=1'-0"

APPROVED FOR CONSTRUCTION

CITY ENGINEER DATE

SOVAY ENGINEERS, INC.
HOUSTON • AUSTIN • BROUSSARD • ALBUQUERQUE • BATON ROUGE • WASHINGTON, D.C.

MANUEL E. MARK — NEW MEXICO — 8425 — REGISTERED PROFESSIONAL ENGINEER

AS BUILT INFORMATION
CONTRACTOR
WORK STAKED BY — DATE
INSPECTIONS BY — DATE
FIELD CHANGES BY — DATE
DRAWINGS CORRECTED BY — DATE
MICRO-FILM INFORMATION
RECORDED BY — DATE
NO.

BENCH MARKS

SURVEY INFORMATION
FIELD NOTES

NO.	BY	DATE

REFERENCES
MAP NO. F-19
EST. NO.
W.O. NO.

NO.	DATE	REVISIONS	BY
		DESIGN	
		DESIGNED BY MEL	DATE 10/80
		DRAWN BY LJG	DATE 10/80
		CHECKED BY CML	DATE 10/80

REMARKS

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ARROYO DEL OSO CHANNEL LINING / DAM REHABILITATION

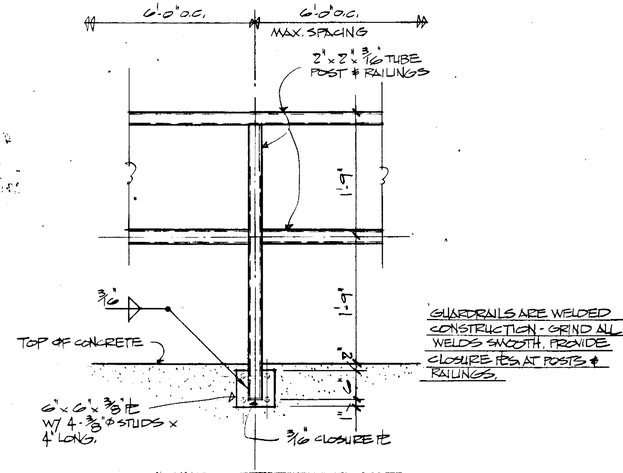
TITLE: BOX CULVERT, OUTLET CONDUIT & MISC. SECTIONS & DETAILS

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE

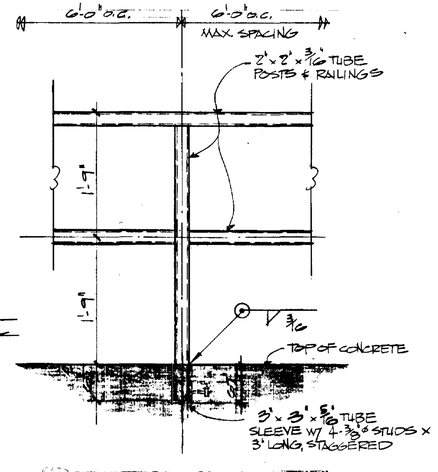
DRAWING NO.

SHEET 12 OF 28

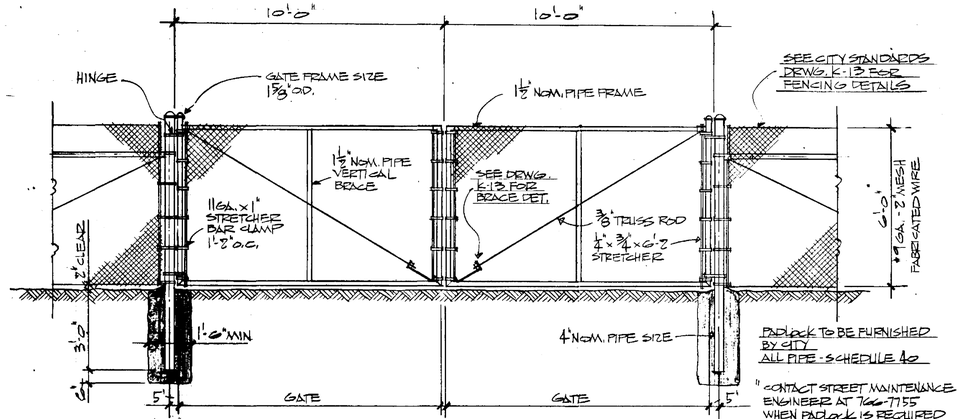
AF 13167A



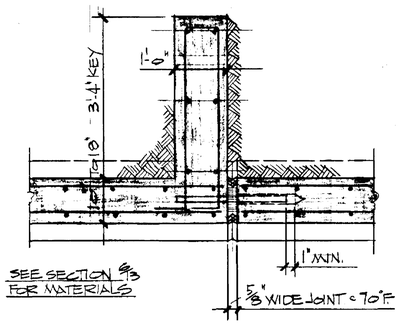
3/13 PEDESTRIAN GUARDRAIL SURFACE MOUNTED



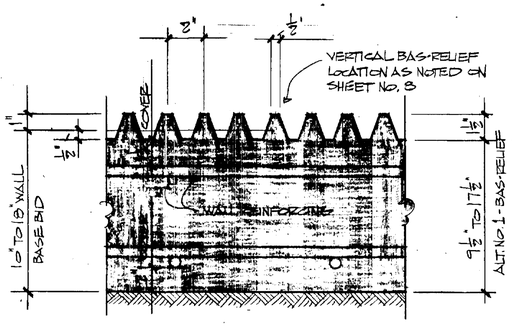
8/13 PEDESTRIAN GUARDRAIL SLEEVE MOUNTED



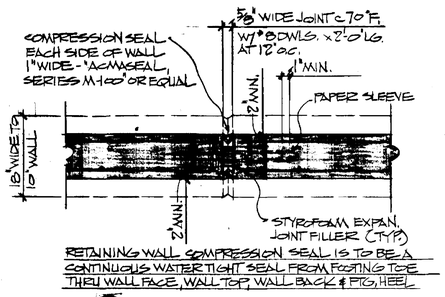
1/13 CHAINLINK GATE DETAILS AT EAST END OF SPILLWAY
LOCATED 30'-0" EAST OF EAST END OF BOX CULVERT - SEE SITE PLAN, SHT. #5



4/13 VERTICAL EXPANSION JOINT AT RETAINING WALLS

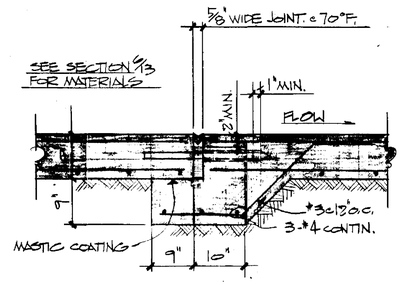


5/13 ALT. NO. 1 BAS-RELIEF DETAILS AT VERTICAL SPILLWAY WALLS

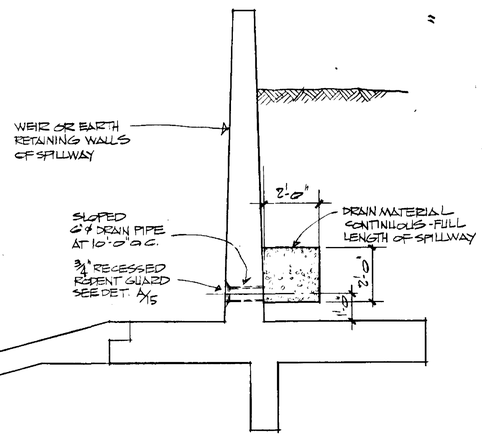


RETAINING WALL COMPRESSION SEAL IS TO BE A CONTINUOUS WATER TIGHT SEAL FROM FOOTING TOE THRU WALL FACE, WALL TOP, WALL BACK & FTG. HEEL

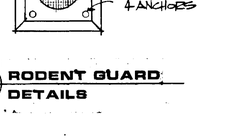
8/13 VERTICAL EXPAN. JOINT AT RETAINING WALLS



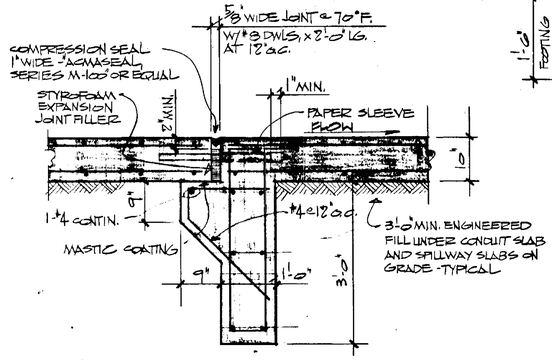
7/13 LONGITUDINAL EXPAN. JOINT FOR SLABS ON GRADE AND CHANNEL LINING



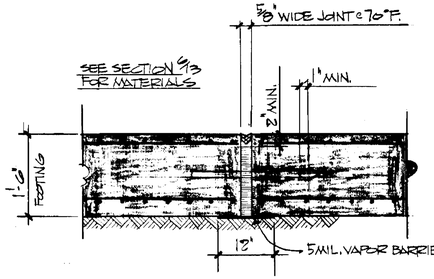
10/13 WEEPHOLE & DRAINAGE DETAILS AT SPILLWAY RETAINING WALLS



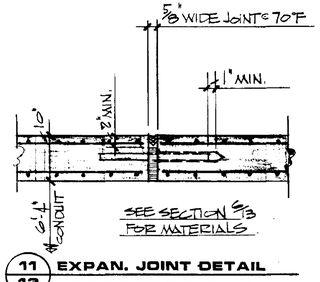
A/13 RODENT GUARD DETAILS



9/13 TYP. EXPAN. JOINT IN SLABS & BOX CONDUIT



8/13 EXPAN. JOINT DETAILS FOR WALL FOOTINGS



11/13 EXPAN. JOINT DETAIL AT TOP OF CONDUIT

AS BUILT INFORMATION
CONTRACTOR — DATE
WORK STAKED BY
INSPECTOR'S ACCEPTANCE BY — DATE
FIELD VERIFICATION BY — DATE
DRAWINGS CORRECTED BY — DATE
MICRO-FILM INFORMATION
RECORDED BY — DATE
NO

BENCH MARKS

SURVEY INFORMATION
FIELD NOTES BY — DATE
NO.

REFERENCES
MAP NO. F-19
W.O. NO.
EST. NO.

NO.	DATE	REVISIONS	BY
		REMARKS	
		DESIGN	

DESIGNED BY CML & MEL DATE 10/80
DRAWN BY LJG DATE 12/80
CHECKED BY CML DATE 12/80"

1285

BOVAY ENGINEERS, INC.
HOUSTON · SPOKANE · BATON ROUGE
AUSTIN · ALBUQUERQUE · WASHINGTON, D.C.

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ARROYO DEL OSO CHANNEL LINING/DAM REHABILITATION

TITLE:
GUARDRAILS & MISC. DETAILS

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE

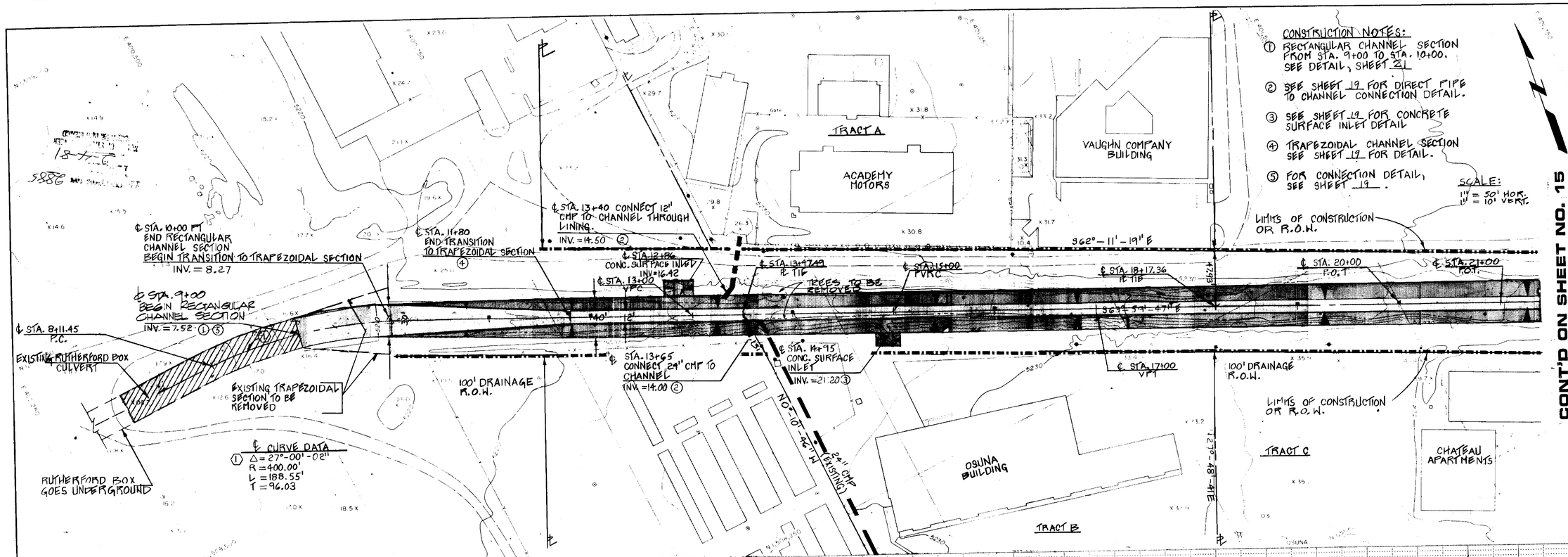
Madhu E. Kasiri

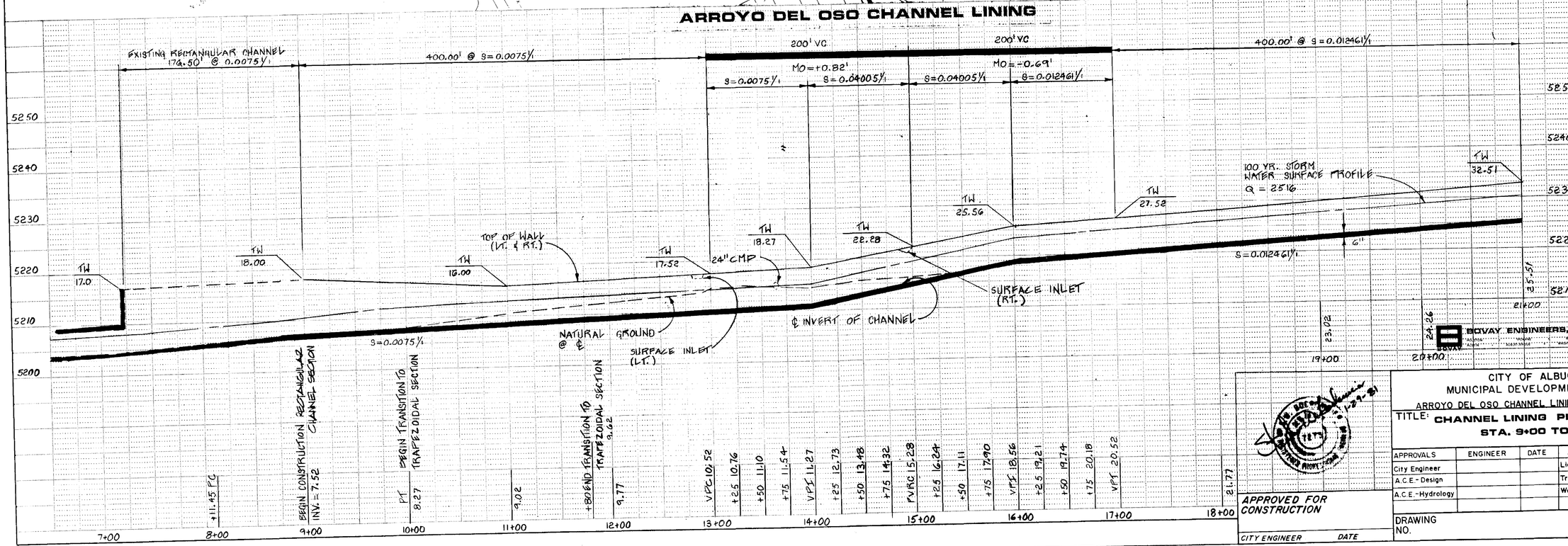
APPROVED FOR CONSTRUCTION

CITY ENGINEER DATE

DRAWING NO.

SHEET 13 OF 28





CONT'D ON SHEET NO. 15

AS BUILT INFORMATION
CONTRACTOR — DATE
WORK STAKED BY
INSPECTOR'S FIELD CHANGE BY — DATE
VERIFICATION BY — DATE
CORRECTED BY — DATE
MICRO-FILM INFORMATION
RECORDED BY — DATE
NO.

SURVEY INFORMATION
FIELD NOTES
NO. | BY | DATE
INTERSECTION OF MARCHETTA AVE. AND ACADEMY ROAD. LOCATED IN CENTER OF MEDIAN. BVD V. = 5251.23

BENCH MARKS
1 - ACS BRASS CAP 1-PIBA - 275' ± WEST OF

REFERENCES
MAP NO. F-18
EST. NO.
WO. NO.

REMARKS
REVISIONS
DESIGN — DATE 11/80
DESIGNED BY MG — DATE 11/80
DRAWN BY EA
CHECKED BY SHD & CML — DATE 11/80

NO. | DATE | BY

BOVAY ENGINEERS, INC.
ALBUQUERQUE HOUSTON DENVER LAS VEGAS PHOENIX SAN DIEGO

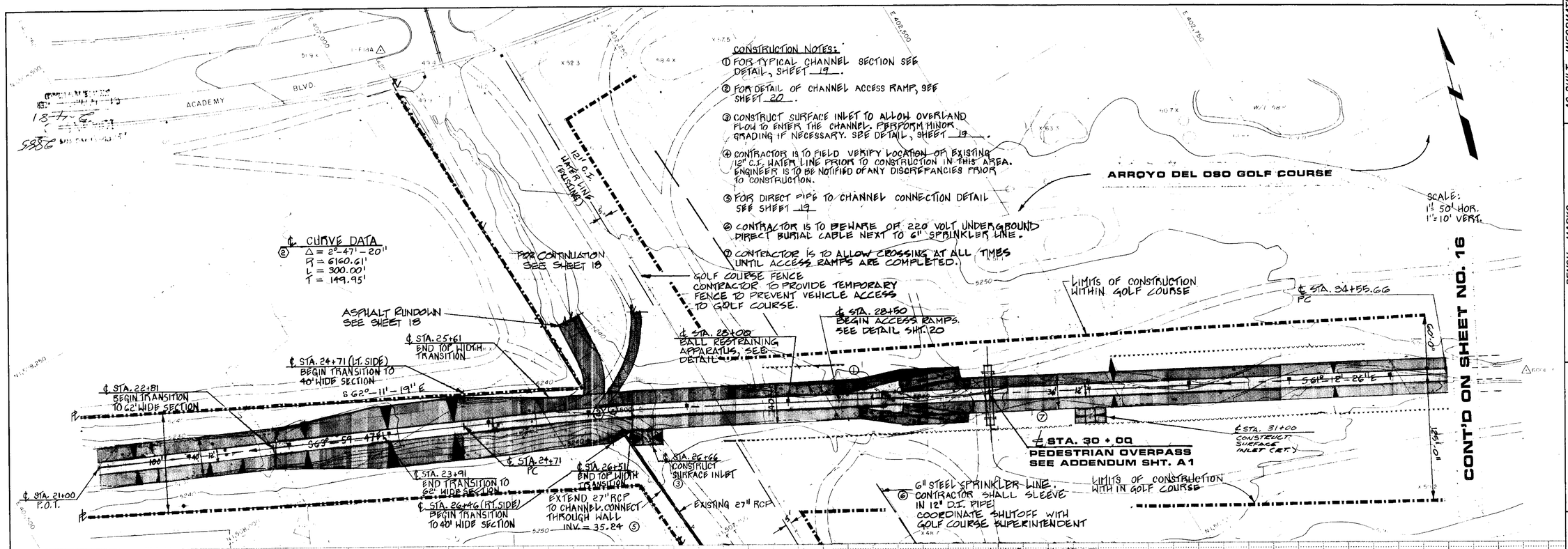
CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ARROYO DEL OSO CHANNEL LINING / DAM REHABILITATION
TITLE: CHANNEL LINING PLAN AND PROFILE STA. 9+00 TO STA. 21+00

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
City Engineer			Liquid Waste		
A.C.E. - Design			Traffic		
A.C.E. - Hydrology			Water		

APPROVED FOR CONSTRUCTION
CITY ENGINEER — DATE

DRAWING NO.
SHEET 14 OF 28

BOVAY 6001-019 /10-80



AS BUILT INFORMATION
CONTRACTOR
WORK STARTED BY — DATE
WORK COMPLETED — DATE
ACCEPTANCE BY — DATE
FIELD VERIFICATION BY — DATE
AS-BUILT DRAWINGS COMPLETED BY — DATE
MICRO-FILM INFORMATION
RECORDED BY — DATE
NO.

BENCH MARKS
1-ACS BRASS CAP 1-F18A

SURVEY INFORMATION
FIELD NOTES — NO. — BY — DATE

REFERENCES
MAP NO. F-18
W.O. NO.
EST. NO.

NO.	DATE	REMARKS	BY
		REVISIONS	
		DESIGN	
	DATE 11/80	DESIGNED BY MG	
	DATE 11/80	DRAWN BY GA	
	DATE 11/80	CHECKED BY SWB	

BOVAY ENGINEERS, INC.

APPROVED FOR CONSTRUCTION
CITY ENGINEER — DATE

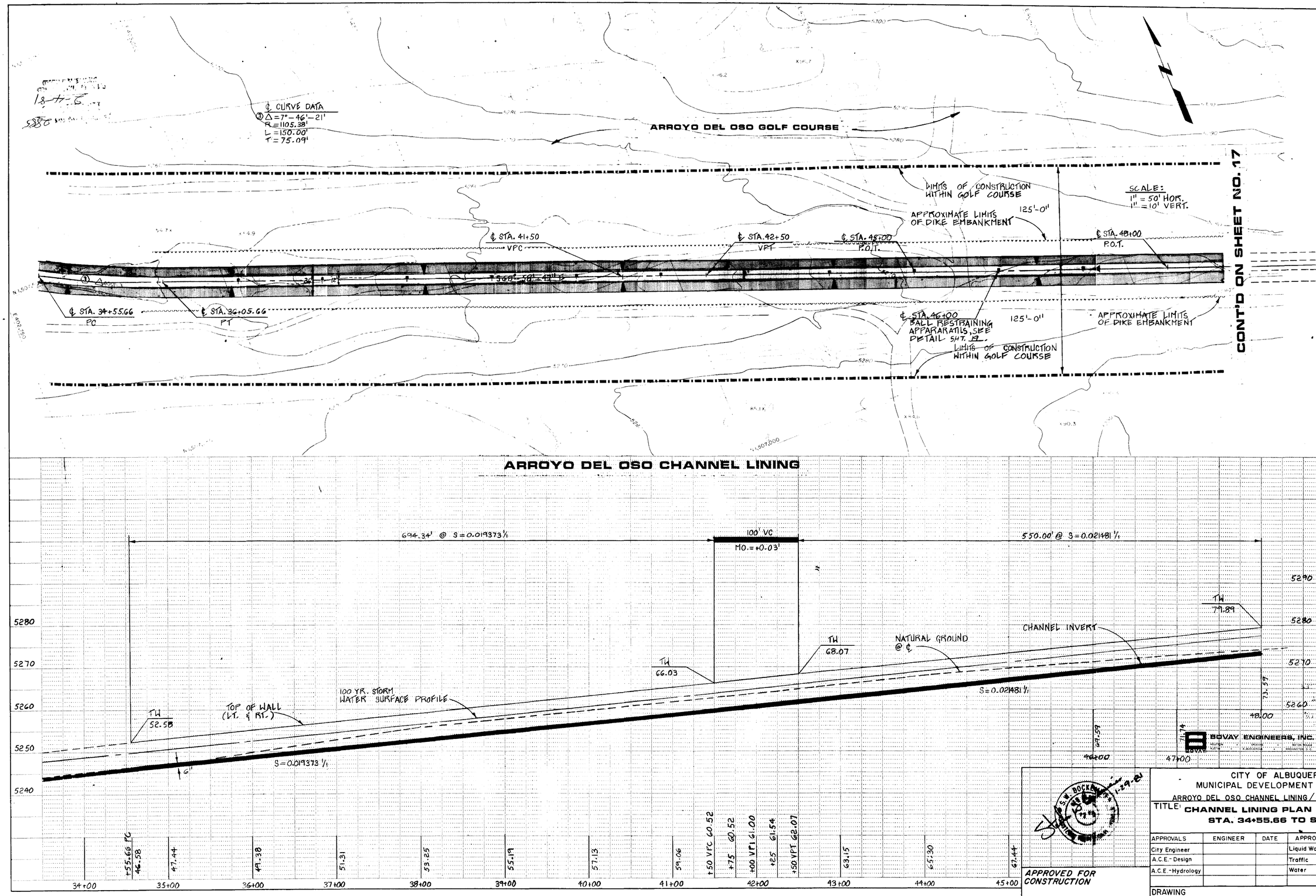
CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ARROYO DEL OSO CHANNEL LINING / DAM REHABILITATION
TITLE: CHANNEL LINING PLAN AND PROFILE STA. 21+00 TO STA. 34+55.66

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
City Engineer			Liquid Waste		
A.C.E.-Design			Traffic		
A.C.E.-Hydrology			Water		

DRAWING NO.
SHEET 15 OF 28

BOVAY 6001-019 / 10-80

ADDENDUM NO. 1



AS BUILT INFORMATION
CONTRACTOR
WORK STAKED BY — DATE
ACCEPTANCE BY — DATE
FIELD CHANGES — DATE
FIELD LOCATION BY
DRAWINGS CORRECTED BY — DATE
MICRO-FILM INFORMATION
RECORDED BY — DATE
NO.

BENCH MARKS
1-ACS BRASS CAP 1-F 184

SURVEY INFORMATION
FIELD NOTES
NO. | BY | DATE

REFERENCES
MAP NO. F-18
EST. NO. | W.O. NO.

REVISIONS
NO. | DATE | REMARKS | BY

DESIGN
DESIGNED BY MQ — DATE 11/80
DRAWN BY EA — DATE 11/80
CHECKED BY SWB — DATE 11/80

BOVAY ENGINEERS, INC.

APPROVED FOR CONSTRUCTION
CITY ENGINEER — DATE

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ARROYO DEL OSO CHANNEL LINING / DAM REHABILITATION
TITLE: CHANNEL LINING PLAN AND PROFILE
STA. 34+55.66 TO STA. 49+00

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
City Engineer			Liquid Waste		
A.C.E.- Design			Traffic		
A.C.E.-Hydrology			Water		

DRAWING NO.
SHEET 16 OF 28

BOVAY 6001-019 / 10-80

CONT'D FROM SHEET NO. 16

ARROYO DEL OSO GOLF COURSE

CONTRACTOR IS TO FILL IN EXISTING HOLE AROUND EXISTING 36" OUTLET AFTER FLUME HAS BEEN PLACED.

SCALE
1" = 50' HOR.
1" = 10' VERT.

LIMITS OF CONSTRUCTION WITHIN GOLF COURSE

APPROXIMATE LIMITS OF DIKE EMBANKMENT

℄ STA. 49+00 P.O.T.

℄ STA. 52+50 VPC

℄ STA. 53+50 VPT

℄ STA. 55+00 P.O.T.

℄ STA. 55+36.68 PC-BEGIN TRANSITION TO RECTANGULAR SECTION@

℄ STA. 57+49.44 PT TIE TO RECTANGULAR OUTLET STRUCTURE END TRANSITION TO RECTANGULAR SECTION. ①

℄ CURVE DATA
Δ = 19°20'33"
R = 13.50'
L = 203.81'
T = 102.12'

181'-0"

30'-0"

180'-0"

ARROYO DEL OSO SPILLWAY AND OUTLET STRUCTURE
SEE SHEETS #8 THRU #15

ARROYO DEL OSO DAM

CREST ROAD

SEE SHT #9 FOR CONTIN.

CONSTRUCTION NOTES:
① SEE DETAIL, SHEET 14 FOR THE TO EMOPOSED ARROYO DEL OSO OUTLET STRUCTURE
② FOR TRANSITION DETAIL, SEE SHEET 12.
③ PEDESTRIAN RAIL TO BE CONSTRUCTED ON BOTH SIDES OF CHANNEL FROM STA. 56+37 TO STA. 57+39. SEE DETAIL, SHEET 13.

ARROYO DEL OSO CHANNEL LINING

450.00' @ S=0.019373/1 | 100' VC | 390.44' @ S=0.014576

M0 = -0.06'

NATURAL GROUND @ ℄

ARROYO DEL OSO OUTLET STRUCTURE

TW 81.83 | TOP OF WALL (Lt. & Rt.) | 100 YR. STORM WATER SURFACE PROFILE | TW 88.61 | TW 90.31 | CHANNEL INVERT | TW 96.00

S=0.019373/1 | S=0.014576/1

6"

48+00	49+00	50+00	51+00	52+00	+50 VPC	+75	+00 VPI	+25	+50 VPT	54+00	55+00	56+00	57+00	+40.44 END CONSTRUCTION
73.59	75.83	77.77	79.70	81.64	82.61	83.08	83.58	83.93	84.31	85.04	86.50	87.95	89.41	90.00

BOVAY 6001-019/10-80

AS BUILT INFORMATION
CONTRACTOR
WORK STARTED BY — DATE
INSPECTORS — DATE
ACCEPTANCE BY:
CERTIFICATION BY — DATE
DRAWINGS CHECKED BY — DATE
MICRO-FILM INFORMATION
RECORDED BY — DATE
NO.

BENCH MARKS
1- ACS BRASS CAP 7-F19- 110.5' ± EAST OF THE INSECTION OF OSUNA ROAD AND LOUISIANA BLVD. AND 7.4'± NORTH OF OSUNA ROAD
ELEVA. = 5332.18

SURVEY INFORMATION
FIELD NOTES
NO. | BY | DATE

REFERENCES
MAP NO. F-18
EST. NO.
W.O. NO.

REMARKS
REVISIONS
NO. | DATE | BY
DESIGN — DATE 11/80
DESIGNED BY HG — DRAWN BY EA — DATE 11/80

BOVAY ENGINEERS, INC.

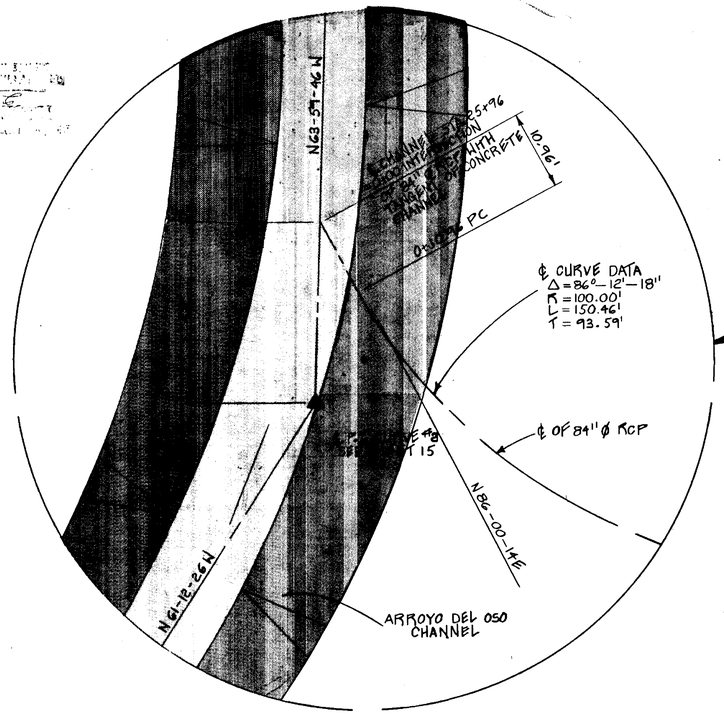
APPROVED FOR CONSTRUCTION
CITY ENGINEER — DATE

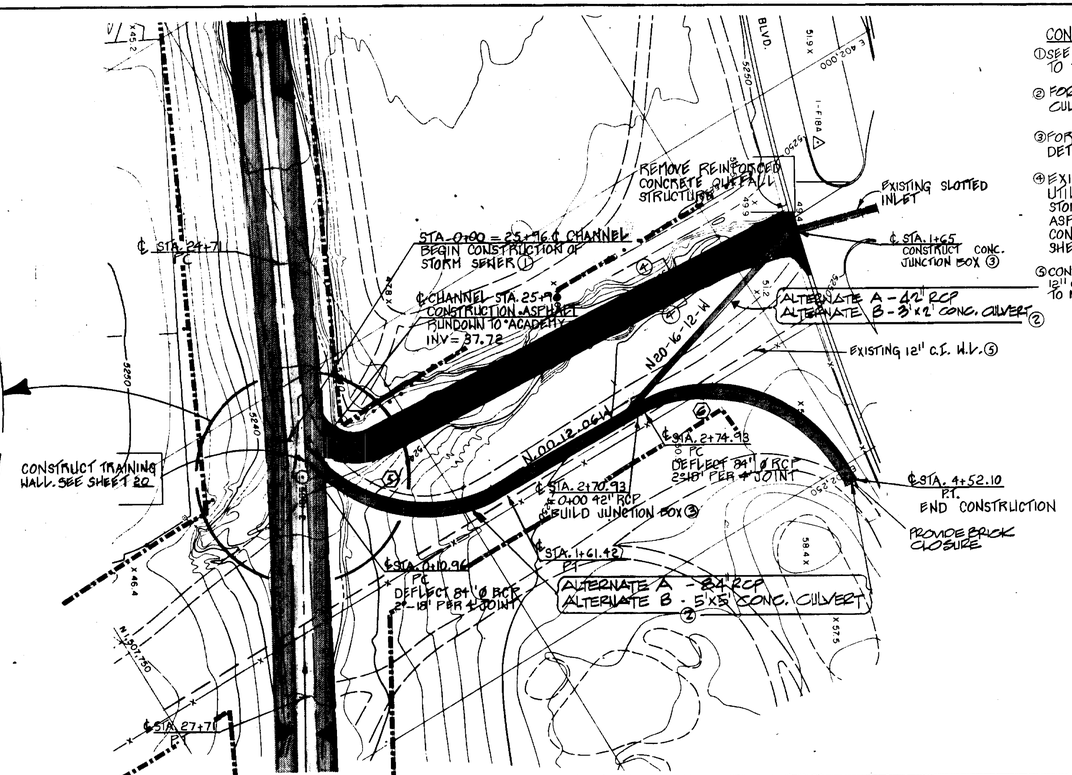
CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ARROYO DEL OSO CHANNEL LINING / DAM REHABILITATION
TITLE: CHANNEL LINING PLAN AND PROFILE STA. 49+00 TO STA. 57+40.44

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
City Engineer			Liquid Waste		
A.C.E.- Design			Traffic		
A.C.E.-Hydrology			Water		

DRAWING NO.
SHEET 17 OF 28

AP 13167B





CONSTRUCTION NOTES:

① SEE DETAIL SHOWING CONNECTION OF STORM SEWER TO THE CHANNEL ON SHEET 20.

② FOR DETAIL OF 5'x5' & 3'x2' CONCRETE BOX CULVERTS, SEE SHEET 21

③ FOR REINFORCED CONCRETE JUNCTION BOX DETAIL, SEE SHEET 21.

④ EXISTING NATURAL CHANNEL IS TO BE BACKFILLED UTILIZING EXCESS MATERIAL FROM 84" RCP STORM SEWER CONSTRUCTION. 20' WIDE TEMPERARY ASPHALTIC CONCRETE RUNDOWN IS TO BE CONSTRUCTED. SEE TYPICAL SECTION & DETAIL, SHEET 19.

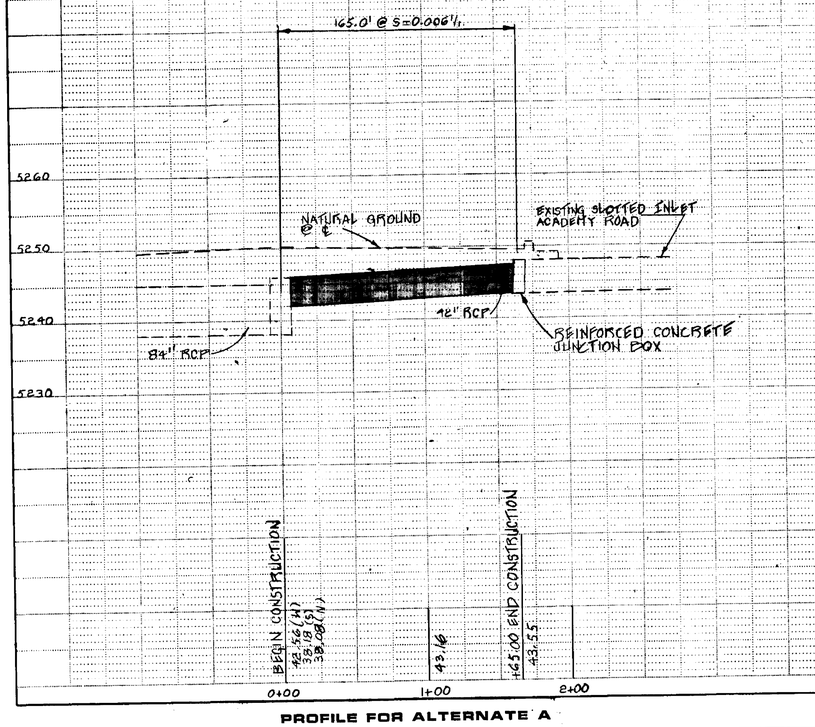
⑤ CONTRACTOR IS TO FIELD VERIFY LOCATION OF EXISTING 12" C.I.W.L. PRIOR TO CONSTRUCTION. CONTRACTOR IS TO NOTIFY ENGINEER OF ANY DISCREPANCIES.

℄ CURVE DATA

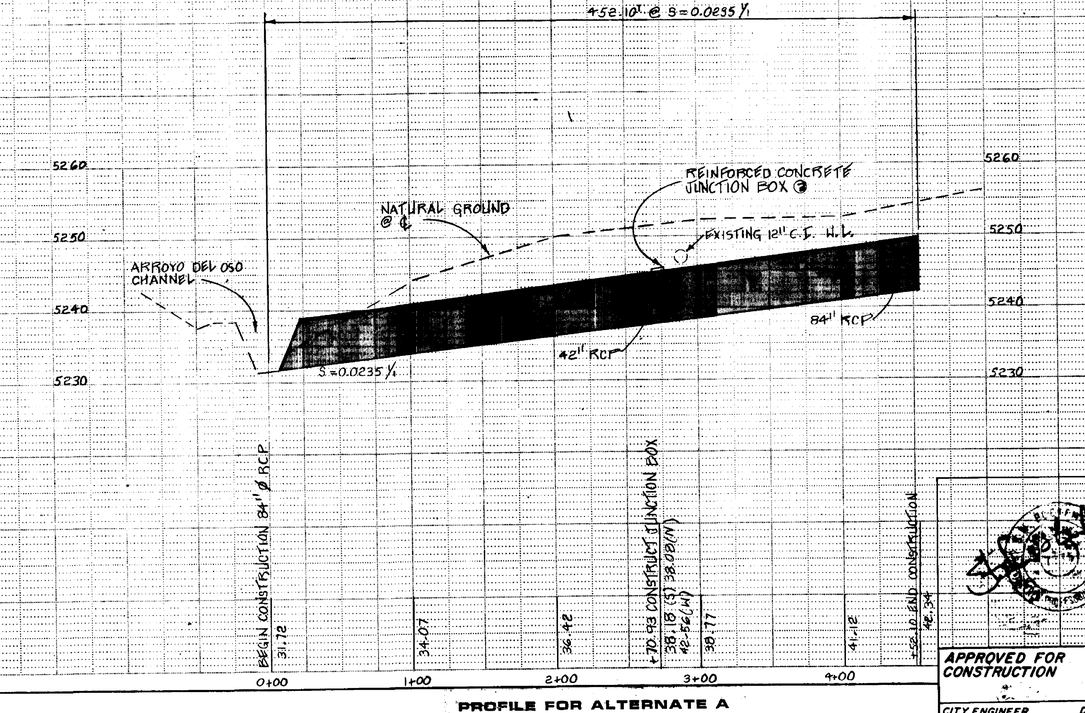
⑤ Δ = 86°-12'-18"
R = 100.00'
L = 150.46'
T = 93.59'

⑥ Δ = 101°-30'-38"
R = 100.00'
L = 177.17'
T = 122.42'

STORM SEWER SYSTEM - ALTERNATES A & B



PROFILE FOR ALTERNATE A



PROFILE FOR ALTERNATE A

AS BUILT INFORMATION
CONTRACTOR
WORK STAKED BY — DATE
INSPECTION BY
ACCEPTANCE BY — DATE
FIELD LOCATION BY — DATE
CORRECTED BY
MICRO-FILM INFORMATION
RECORDED BY — DATE
NO.

BENCH MARKS
1-ACS BRASS CAP 1-FIBA

SURVEY INFORMATION
FIELD NOTES
NO. — BY — DATE

REFERENCES
MAP NO. F-18
EST. NO. — W.O. NO.

NO.	DATE	REMARKS	BY
		REVISIONS	
		DESIGN	

DESIGNED BY MG — DATE 11/80
DRAWN BY BA — DATE 11/80
CHECKED BY C.M.L — DATE 12/80

BOVAY ENGINEERS, INC.

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ARROYO DEL OSO CHANNEL LINING/DAM REHABILITATION

TITLE:
CHANNEL LINING PLAN AND PROFILE, STORM SEWER SYSTEM

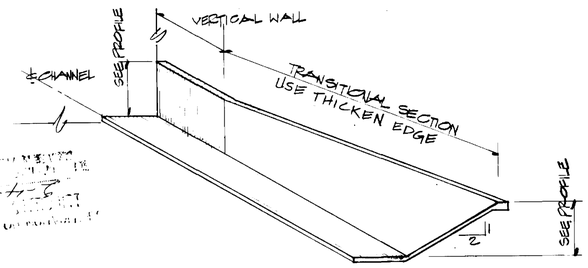
APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
City Engineer			Liquid Waste		
A.C.E.-Design			Traffic		
A.C.E.-Hydrology			Water		

APPROVED FOR CONSTRUCTION
CITY ENGINEER — DATE

DRAWING NO.

SHEET 18 OF 28

AF 13167A

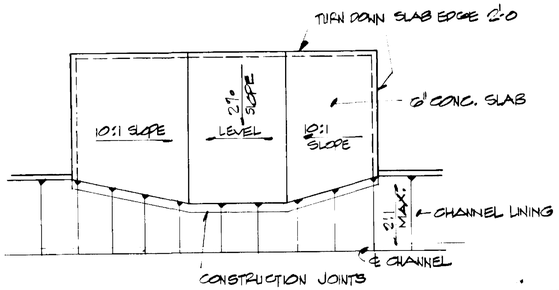


RECTANGULAR TO TRAPEZOIDAL TRANSITION SECTION

STA. 10+00 TO STA. 11+80
STA. 55+36.63 TO STA. 57.40+44

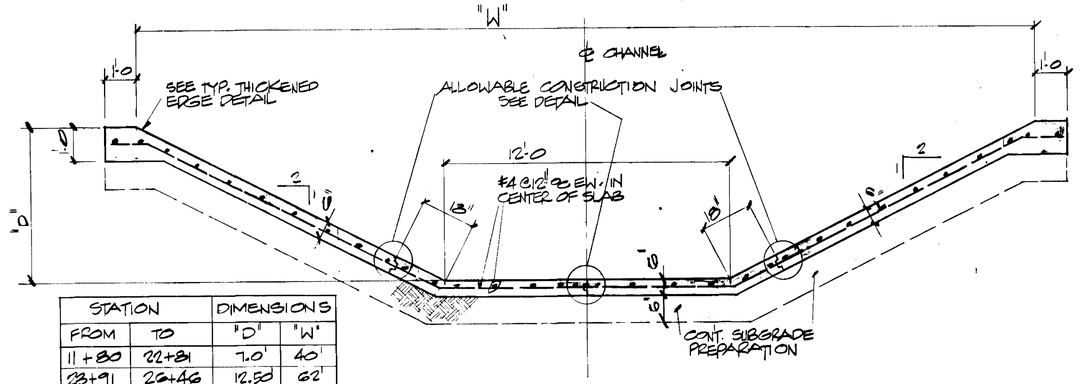
NO SCALE

REINFORCE TRANSITION AS PER RECTANGULAR CHANNEL SECTION SHEET 21 OF 28. HORIZONTAL REINFORCING TO BE CONTINUOUS.



SURFACE INLET PLAN STA. 12+86, 14.95, 26+86, 28+41

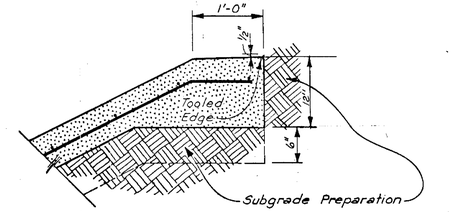
NO SCALE



STATION		DIMENSIONS	
FROM	TO	"D"	"W"
11+80	22+81	7.0'	40'
23+91	26+46	12.50'	62'
28+11	55+36.63	6.0'	36'

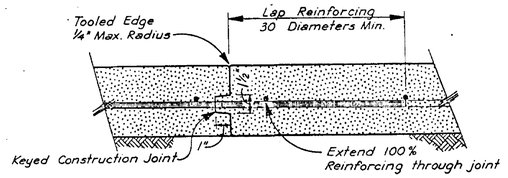
TYPICAL CHANNEL SECTION

NO SCALE



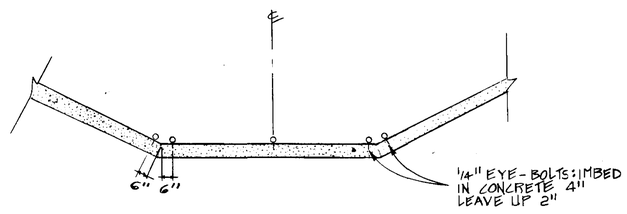
THICKENED EDGE OF CHANNEL SECTION

NO SCALE



TYPICAL CONSTRUCTION JOINT

NO SCALE

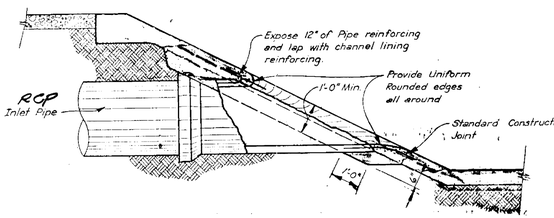


BALL RESTRAINING APPARATUS

STA. 28+00 & STA. 46+00

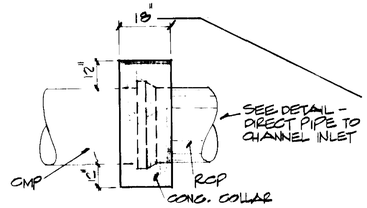
NO SCALE

NOTE: CONTRACTOR TO INSTALL EYE-BOLTS ONLY. GOLF COURSE SUPERINTENDENT TO SEE TO CAGING.



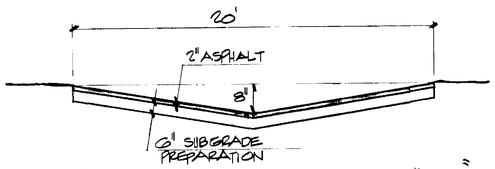
TYPICAL DIRECT PIPE TO CHANNEL INLET DETAIL

NO SCALE



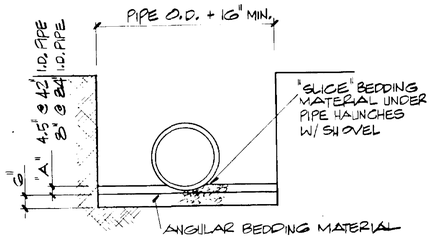
CMP TO RCP TO CHANNEL INLET DETAIL

NO SCALE



ASPHALT RUNDOWN SECTION

NO SCALE

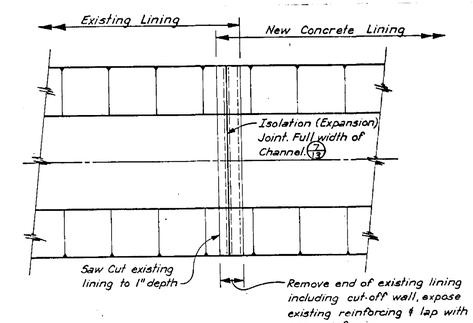


ANGULAR BEDDING MATERIAL	
SIEVE SIZE	% PASSING
1"	100
¾"	90-100
⅜"	20-55
#4	0-10
#8	0-5

50 "+" BY WEIGHT OF ALL PLUS Nº 4 MATERIAL SHALL HAVE A MIN. OF 2 MECHANICALLY FRACTURED FACES.

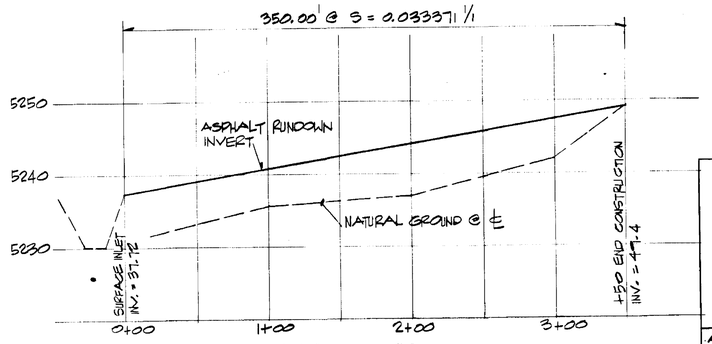
RCP BEDDING DETAIL

NO SCALE



CONNECTION - NEW TO EXISTING CHANNEL

NO SCALE



ASPHALT RUNDOWN PROFILE

NO SCALE

2885
9-4-81

APPROVED FOR CONSTRUCTION

CITY ENGINEER DATE

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ARROYO DEL OSO CHANNEL LINING / DAM REHABILITATION

TITLE: **CHANNEL LINING TYPICAL DETAILS**

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE

DRAWING NO.

SHEET 19 OF 28

AS BUILT INFORMATION
CONTRACTOR DATE
WORK OBSERVED BY DATE
INSPECTOR'S ACCEPTANCE BY DATE
FIELD VERIFICATION BY DATE
DRAWING CORRECTED BY DATE
MICRO-FILM INFORMATION
RECORDED BY DATE
NO.

BENCH MARKS

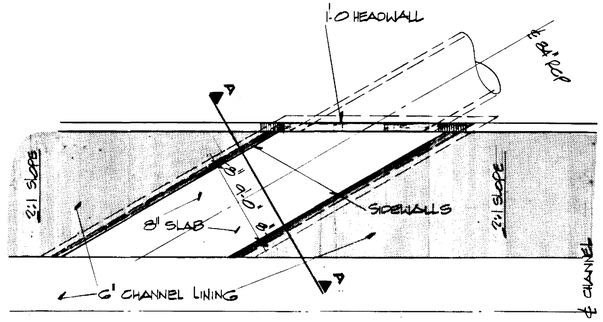
SURVEY INFORMATION
FIELD NOTES
NO. BY DATE

REFERENCES
MAP NO. F-18
EST. NO.
W.O. NO.

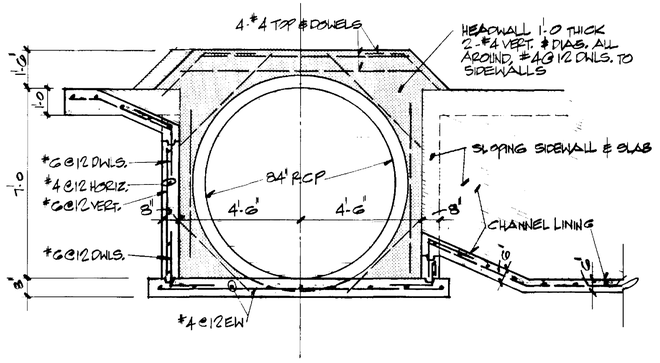
REVISIONS

NO.	DATE	REMARKS	BY
		DESIGN	
	DATE 11/80	DESIGNED BY	MS
	DATE 11/80	DRAWN BY	NL
	DATE 12/80	CHECKED BY	CML

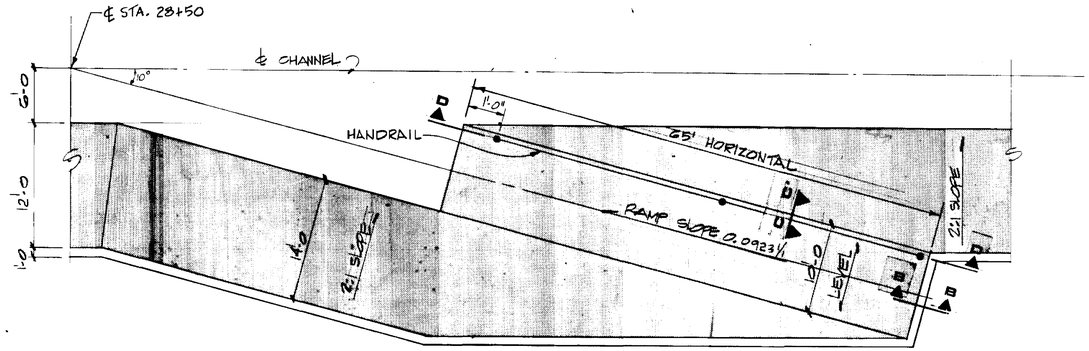
AF 13167A



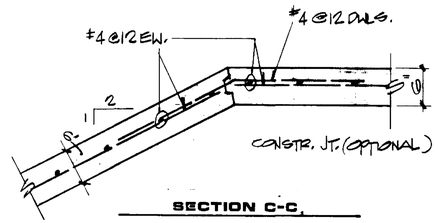
CULVERT INLET WITH TRAINING WALLS STA. 25+96
SHOWN FOR ALT. A FOR ALT. B SUBSTITUTE 5'X8', CONCRETE BOX CULVERT IN LIEU OF 84" RCP
SEE DETAIL ON SHEET 23



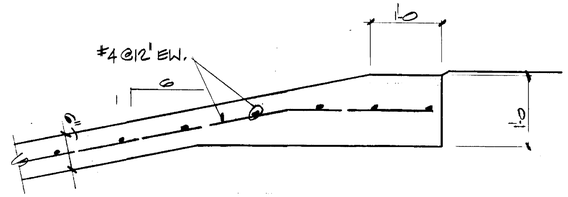
SECTION A-A



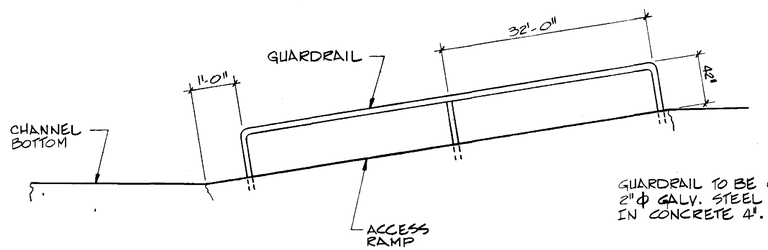
MAINTENANCE VEHICLE ACCESS RAMP STA. 28+50



SECTION C-C



SECTION B-B



GUARDRAIL TO BE CONSTRUCTED OF 2" ϕ GALV. STEEL PIPE AND IMBEDDED IN CONCRETE 4'.

SECTION D-D

2885
2-4-81

AS BUILT INFORMATION
CONTRACTOR
#CMK
STAKED BY
INSPECTED BY
ACCEPTANCE BY
FIELD
DATE
DATE
DATE
DATE
DATE
DATE
DATE
FIELD VERIFICATION BY
DRAWINGS CORRECTED BY
MICRO-FILM INFORMATION
RECORDED BY
NO

BENCH MARKS

SURVEY INFORMATION
FIELD NOTES
NO. | BY | DATE

REFERENCES
MAP NO. F-18
EST. NO.
W.O. NO.

REMARKS
REVISIONS
NO. | DATE | BY
DESIGN
DESIGNED BY MG DATE 11/80
DRAWN BY NL DATE 11/80
CHECKED BY CHL DATE 12/80

APPROVED FOR CONSTRUCTION
CITY ENGINEER DATE

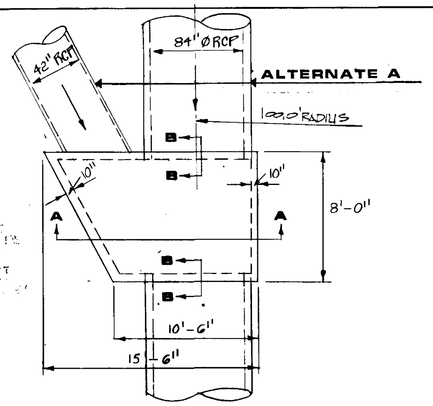
CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ARROYO DEL OSO CHANNEL LINING/DAM REHABILITATION

TITLE:
CHANNEL LINING TYPICAL DETAILS

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE

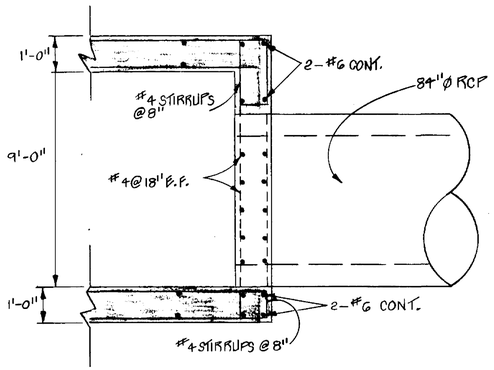
DRAWING NO.
SHEET 20 OF 28

AF 13167A



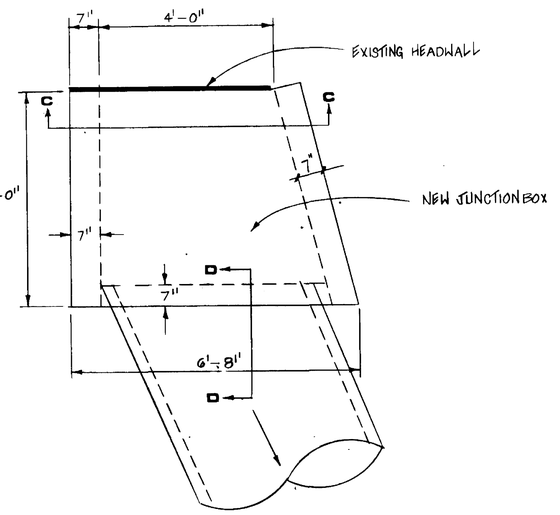
REINFORCED CONCRETE JUNCTION BOX

STORM SEWER ℄ STA. 2+70.93 NO SCALE



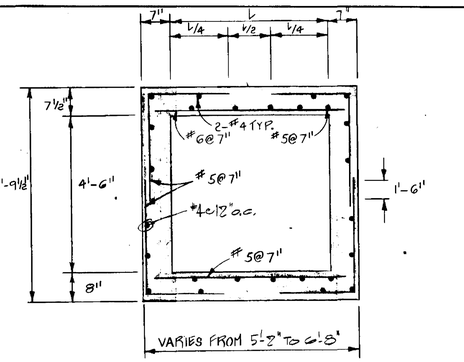
SECTION B - B

NO SCALE



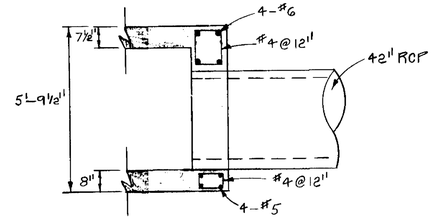
REINFORCED CONCRETE JUNCTION BOX

42" RCP CONNECTION TO EXISTING SLOTTED INLET IN ACADEMY ROAD NO SCALE



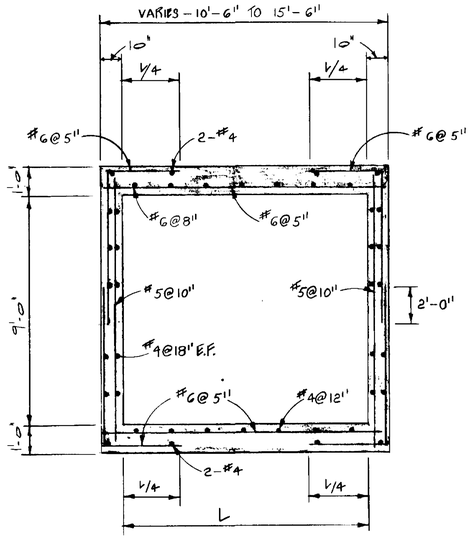
SECTION C - C

NO SCALE



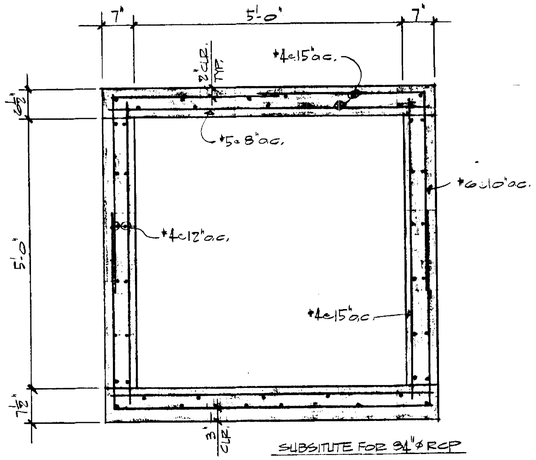
SECTION D - D

NO SCALE

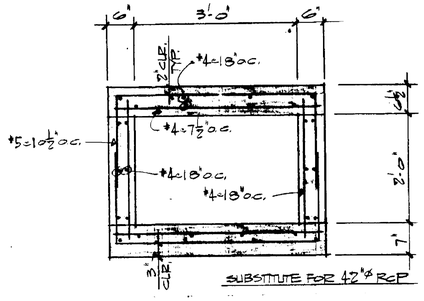


SECTION A - A

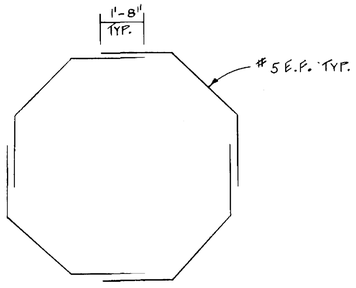
NO SCALE



CONCRETE BOX CULVERT ALTERNATE B

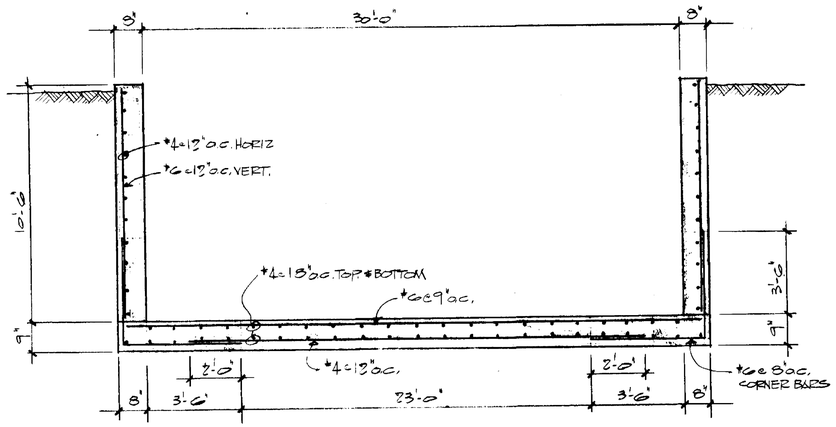


CONCRETE BOX CULVERT ALTERNATE B



REINFORCEMENT AT PIPE OPENINGS

NO SCALE



RECTANGULAR CHANNEL SECTION NO SCALE

STA 9+00 TO STA. 10+00

2885

SOVAY ENGINEERS, INC.
HOUSTON · ORLANDO · BATON ROUGE
AUSTIN · ALBUQUERQUE · WASHINGTON, D.C.

AS BUILT INFORMATION
CONTRACTOR
WORK STARTED BY / DATE
WORK COMPLETED BY / DATE
ACCEPTANCE BY / DATE
FIELD VERIFICATION BY / DATE
DRAWINGS CONNECTED BY MICRO-FILM INFORMATION / DATE
RECORDED BY / DATE
NO.

BENCH MARKS

SURVEY INFORMATION
FIELD NOTES
NO. / BY / DATE

REFERENCES
MAP NO. F-18 W.O. NO.
EST. NO.

NO.	REMARKS	BY	DATE
	REVISIONS		

DESIGN
DESIGNED BY HQ DATE 10/80
DRAWN BY BA DATE 10/80
CHECKED BY CHL DATE 12/80

APPROVED FOR CONSTRUCTION
CITY ENGINEER DATE

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ARROYO DEL OSO CHANNEL LINING DAM REHABILITATION

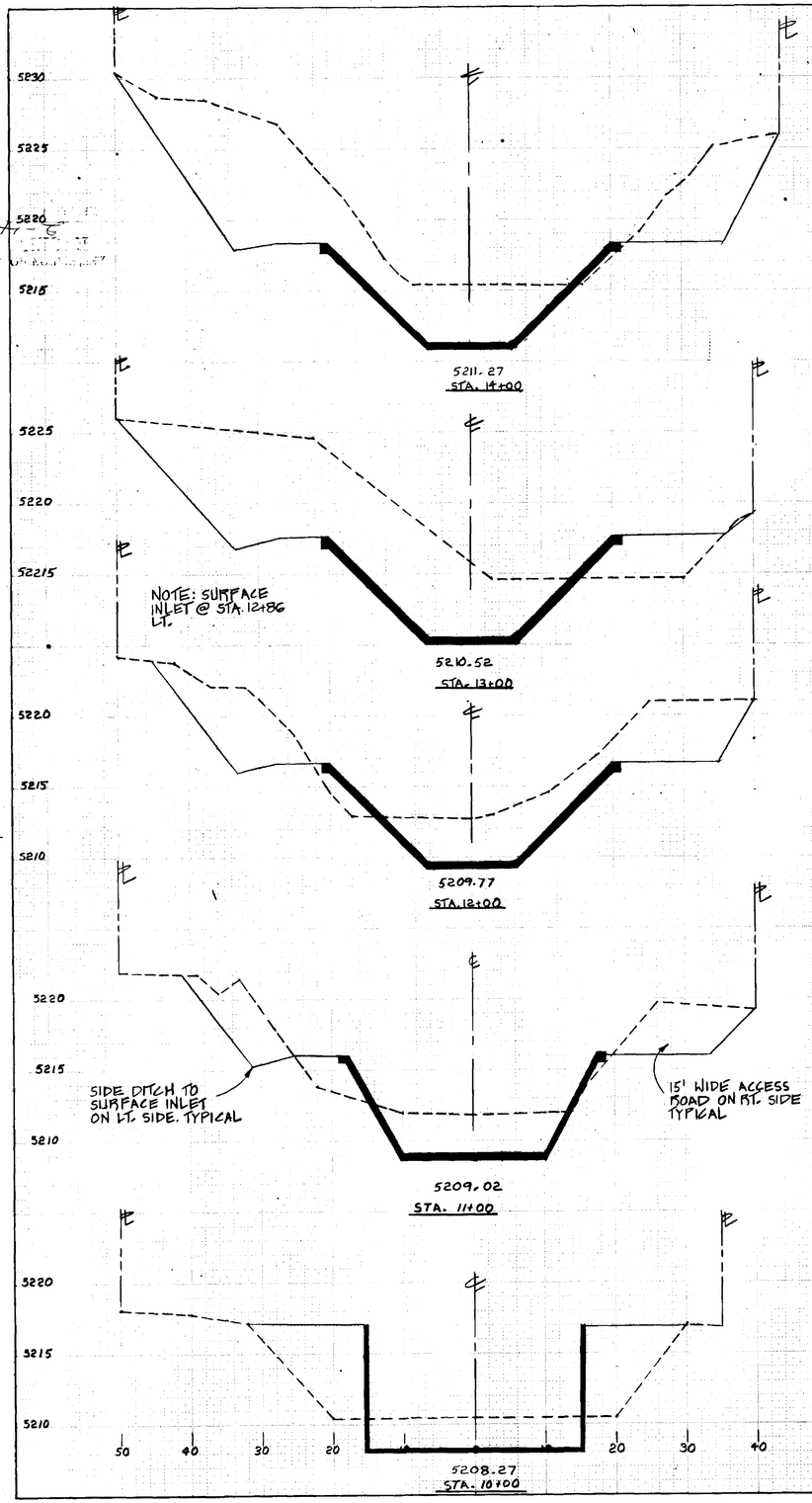
TITLE:
CHANNEL LINING TYPICAL DETAILS

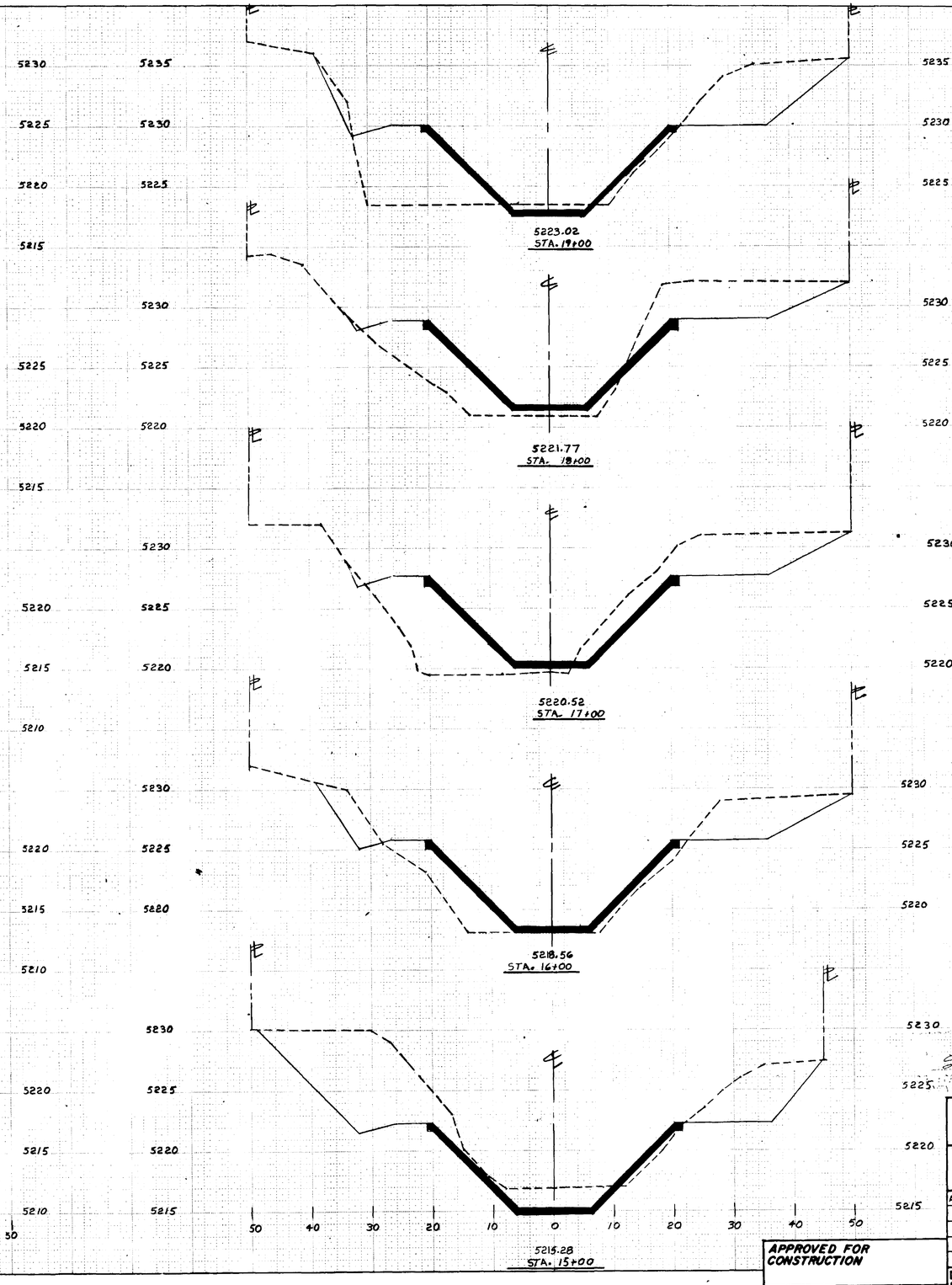
APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE

DRAWING NO.

SHEET 21 OF 28

18-A-5
5886





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

SOVAY ENGINEERS, INC.
AUSTIN · BOISE · BATON ROUGE
AUSTIN · ALBUQUERQUE · WASHINGTON D.C.

APPROVED FOR CONSTRUCTION

CITY ENGINEER DATE

AS BUILT INFORMATION
CONTRACTOR
WORK STAKED BY DATE
INSPECTED BY
ACCEPTANCE BY DATE
FIELD VERIFICATION BY DATE
DRAWING CORRECTED BY DATE
MICRO-FILM INFORMATION
RECORDED BY DATE
NO.

BENCH MARKS

SURVEY INFORMATION
FIELD NOTES
NO. BY DATE

REFERENCES
MAP NO. F-18
W.O. NO.
EST. NO.

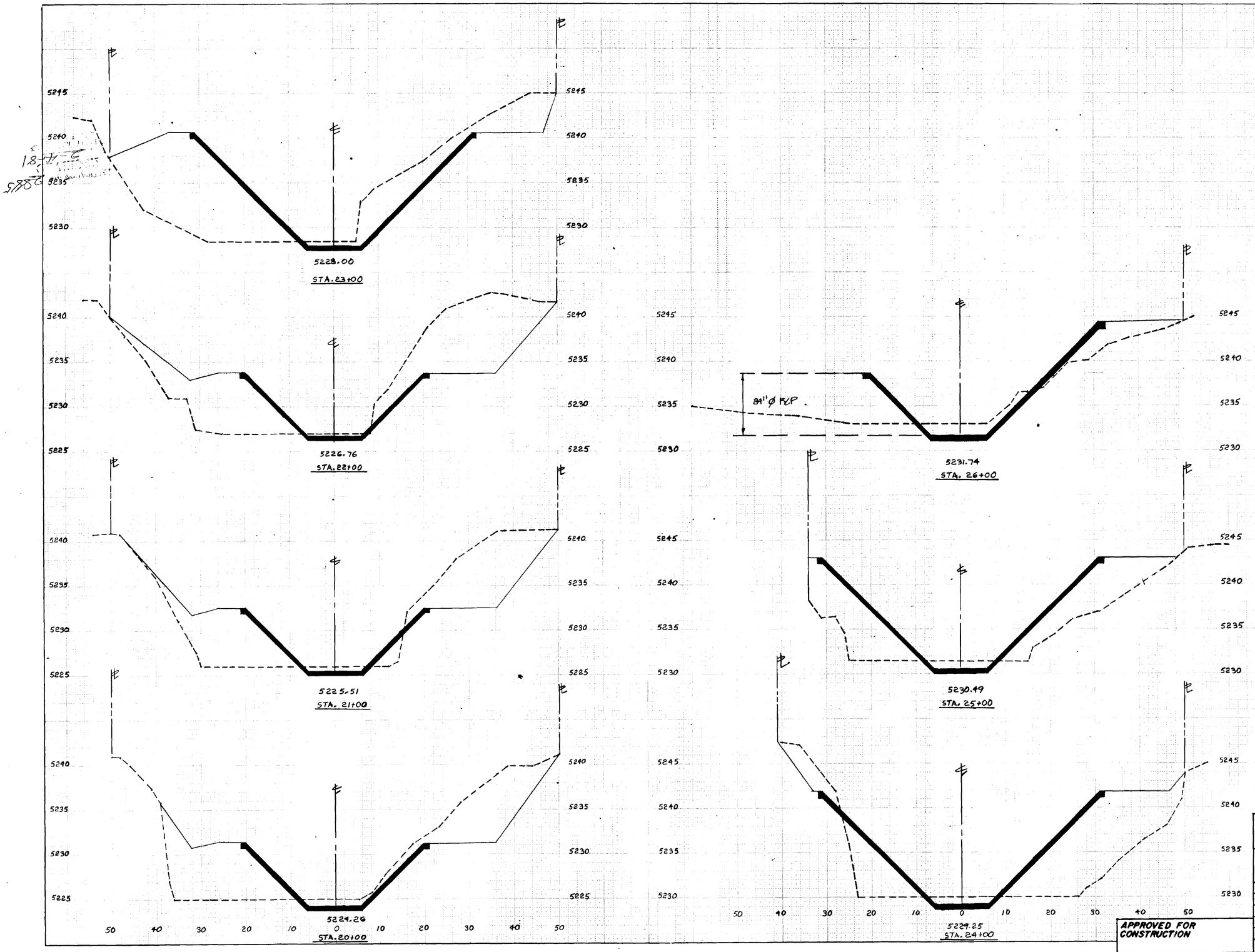
NO.	DATE	REMARKS	BY
		REVISIONS	
		DESIGN	DATE 11/80
		DESIGNED BY MG	DATE 11/80
		DRAWN BY EA	DATE 12/80
		CHECKED BY CHL	

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ARROYO DEL OSO CHANNEL LINING/DAM REHABILITATION
TITLE: CHANNEL LINING CROSS SECTIONS STA. TO 10+00 TO STA. 19+00

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE

DRAWING NO.

SHEET 22 OF 28



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

SOVAY ENGINEERS, INC.
HOUSTON · AUSTIN · WICHITA · ALBUQUERQUE · BATON ROUGE · WASHINGTON, D.C.

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ARROYO DEL OSO CHANNEL LINING/DAM REHABILITATION

TITLE: CHANNEL LINING CROSS SECTIONS
STA. 20+00 TO STA. 28+00

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE

APPROVED FOR CONSTRUCTION
CITY ENGINEER DATE

DRAWING NO.

SHEET 23 OF 28

AS BUILT INFORMATION
CONTRACTOR
WORK STAKED BY — DATE
INSPECTOR'S ACCEPTANCE BY — DATE
FIELD VERIFICATION BY — DATE
CORRECTIONS MADE BY — DATE
MICRO-FILM INFORMATION
RECORDED BY — DATE
NO.

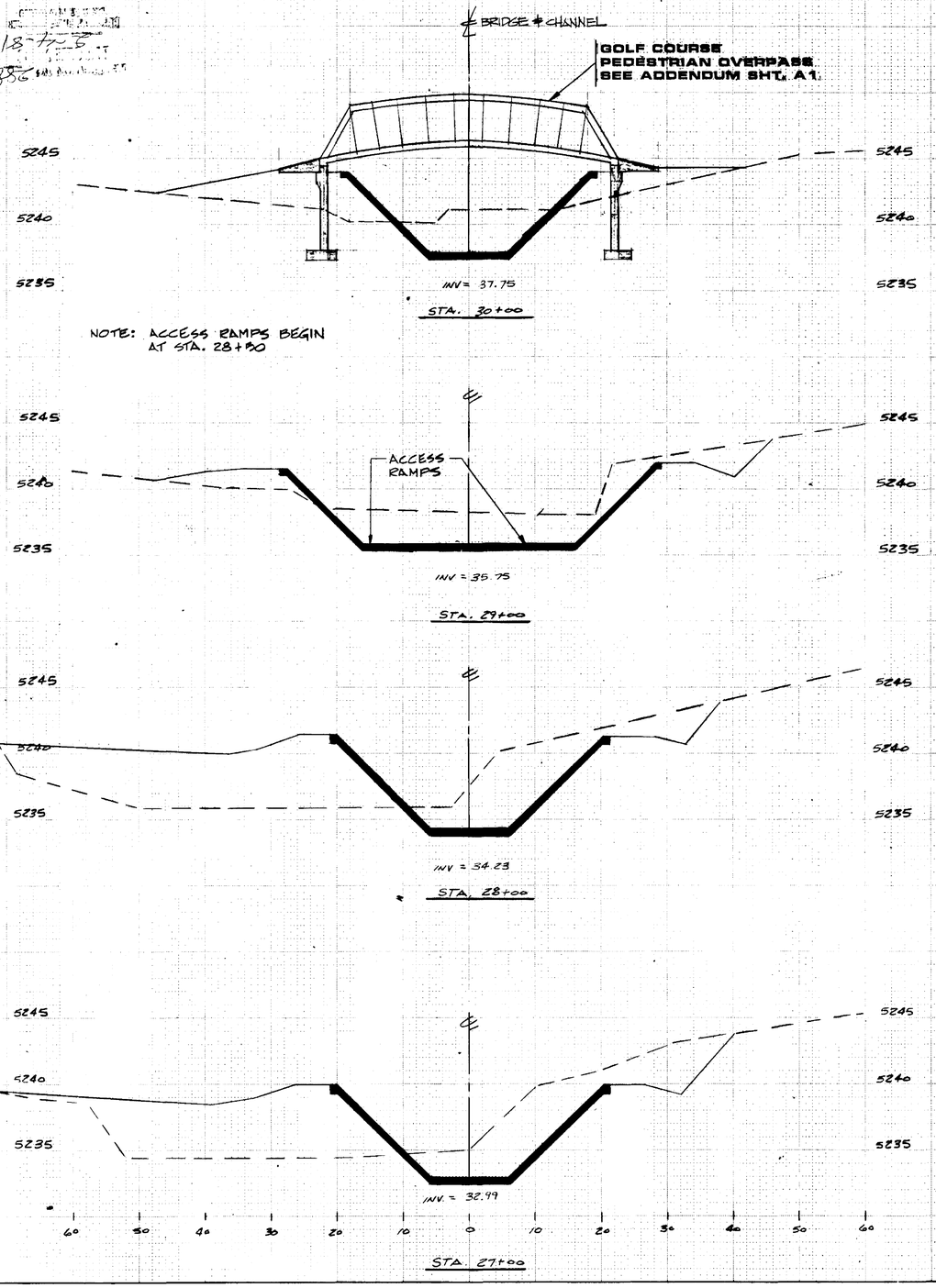
BENCH MARKS

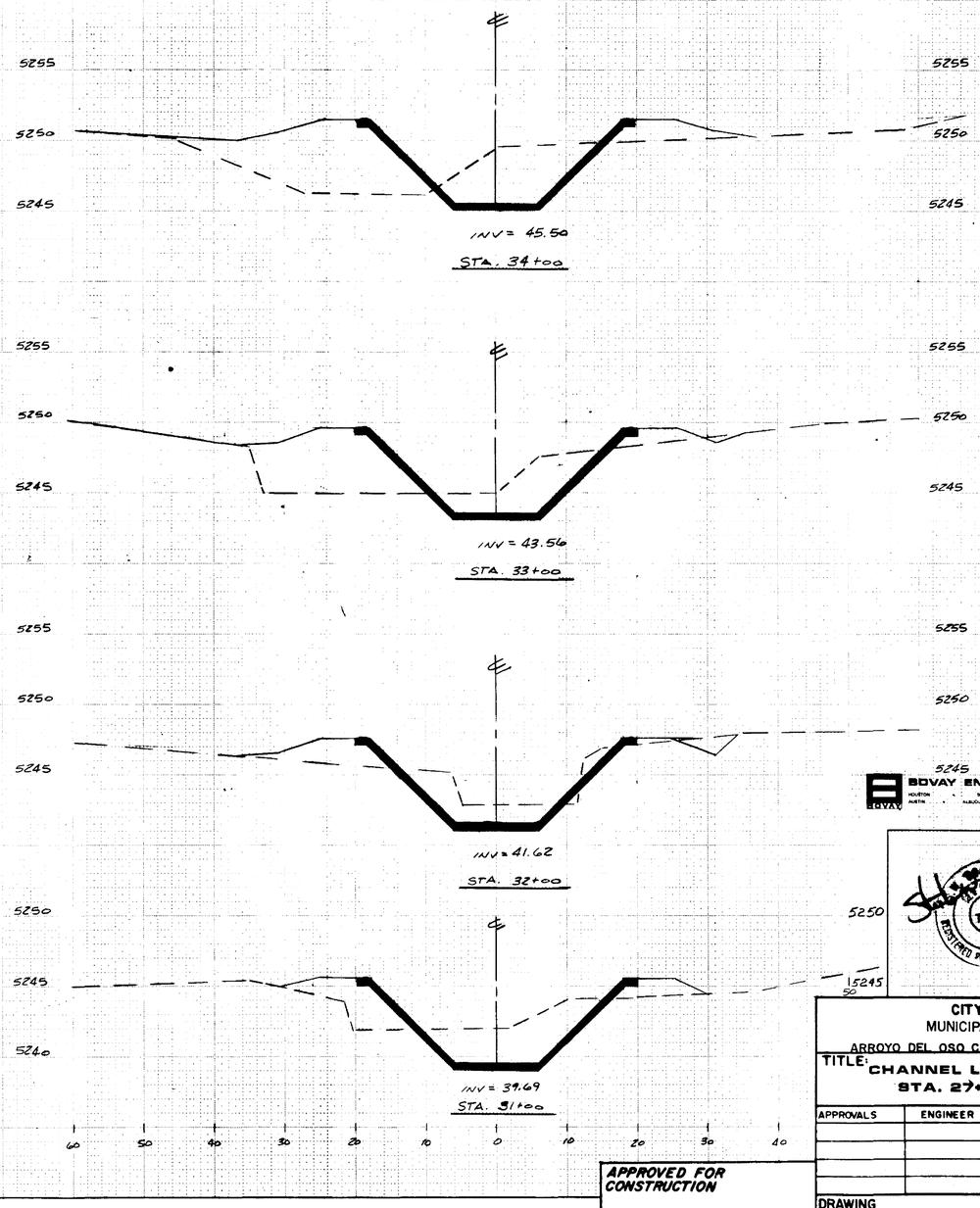
SURVEY INFORMATION
FIELD NOTES
NO. | BY | DATE

REFERENCES
MAP NO. F-18
EST. NO.
W.O. NO.

NO.	DATE	REMARKS
		REVISIONS
		DESIGN

DESIGNED BY MG DATE 11/80
DRAWN BY BA DATE 11/80
CHECKED BY CHL DATE 12/80





AS BUILT INFORMATION
CONTRACTOR
WORK STARTED BY — DATE
INSPECTORS
ACCEPTANCE BY — DATE
FIELD VERIFICATION BY — DATE
DRAWINGS CORRECTED BY — DATE
MICRO-FILM INFORMATION
RECORDED BY — DATE
NO.

BENCH MARKS

SURVEY INFORMATION
FIELD NOTES
NO. | BY | DATE

REFERENCES
MAP NO. F-18
EST. NO.
W.O. NO.

NO.	DATE	REMARKS	BY
		REVISIONS	
		DESIGN	DATE 11/20
		DESIGNED BY MJG	DATE 11/80
		DRAWN BY MJG & EA	DATE 12/80
		CHECKED BY CHL	

BOVAY ENGINEERS, INC.
HOUSTON · MIDLAND · BATON ROUGE
AUSTIN · ALBUQUERQUE · WASHINGTON D.C.

12885
11-24-81
REGISTERED PROFESSIONAL ENGINEER 7278
11-24-81

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPT.
ARROYO DEL OSO CHANNEL LINING / DAM REHABILITATION
TITLE: CHANNEL LINING CROSS SECTIONS STA. 27+00 TO STA. 34+00

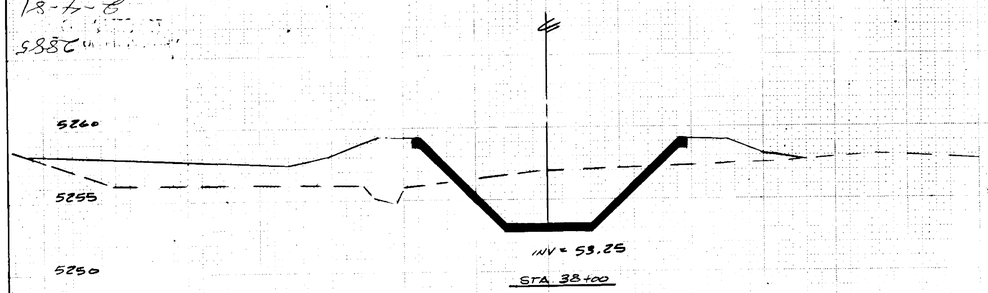
APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE

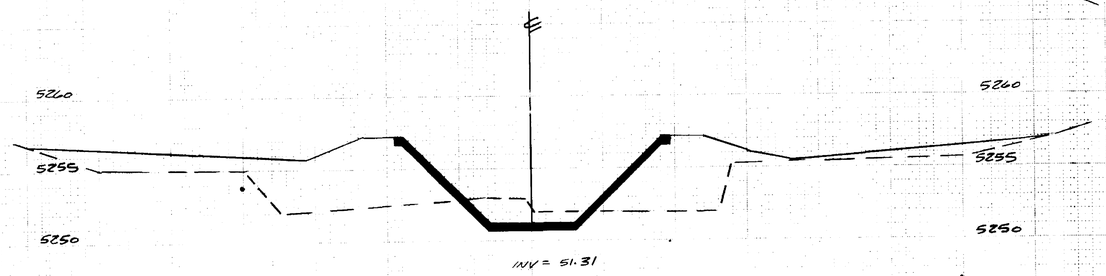
APPROVED FOR CONSTRUCTION
CITY ENGINEER — DATE

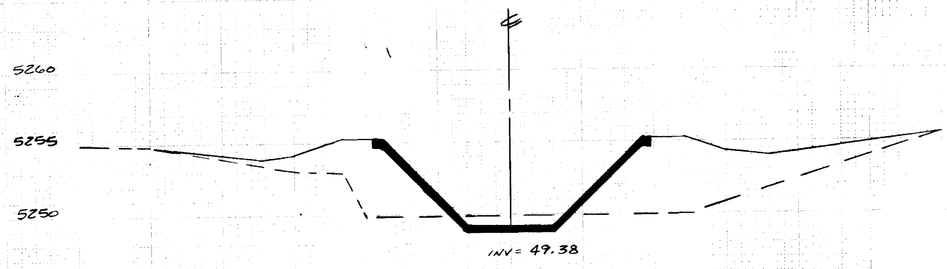
DRAWING NO.
SHEET 24 OF 28

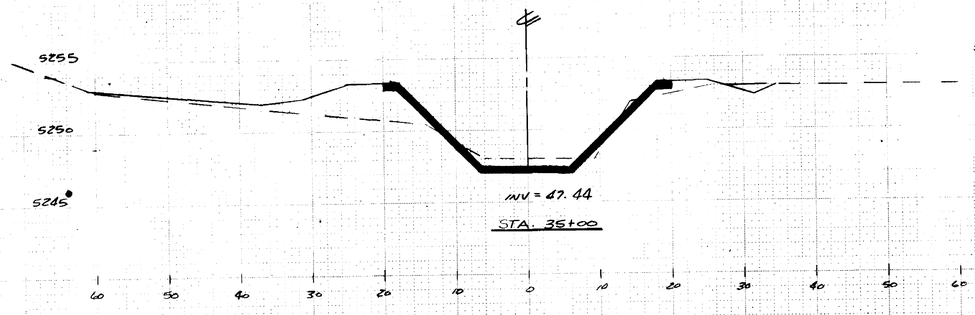
ADDENDUM NO. 1

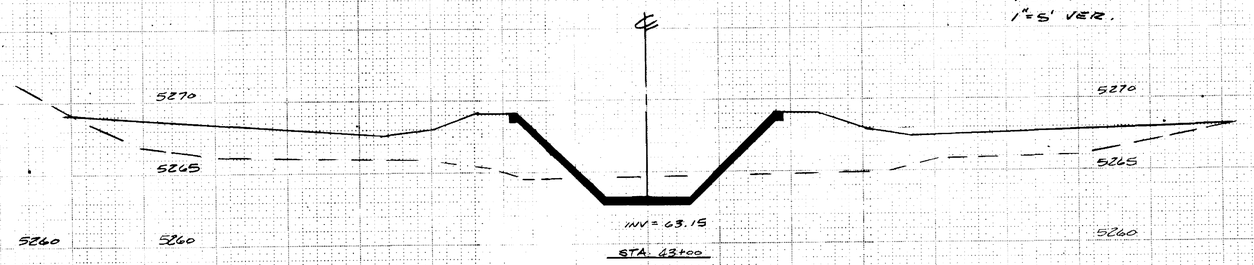
SCALE:
1"=10' HOR.
1"=5' VER.

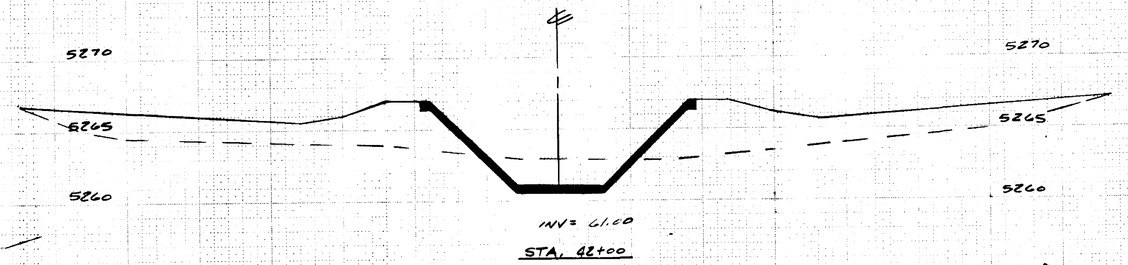


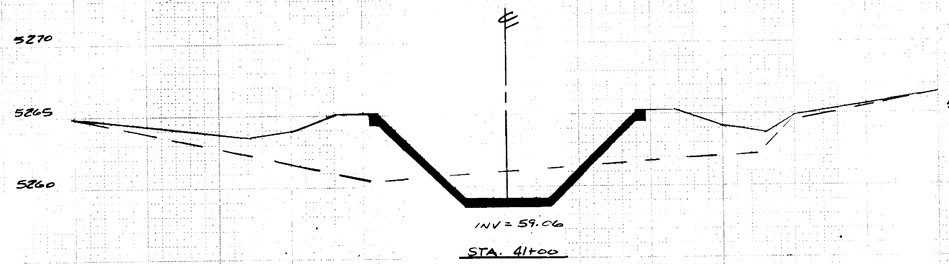


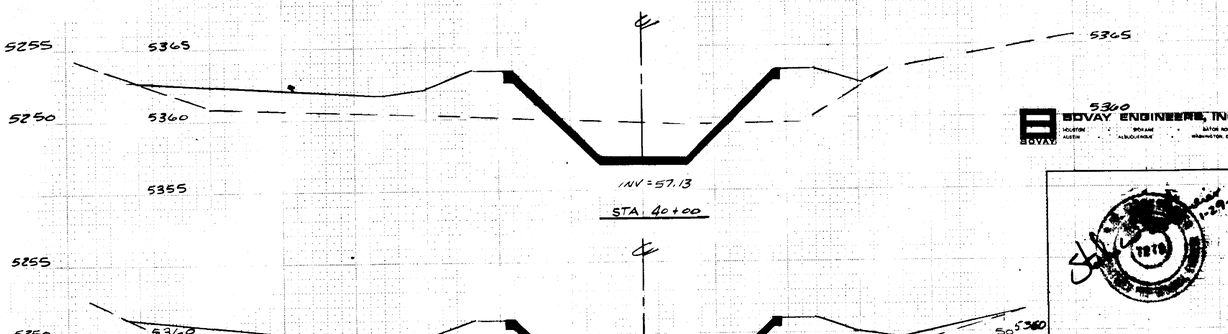


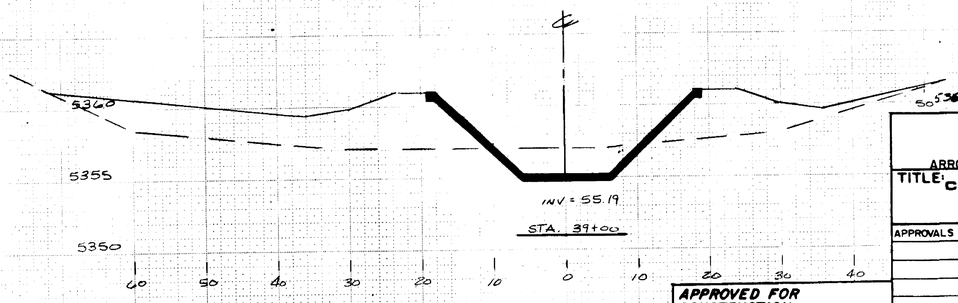












60 50 40 30 20 10 0 10 20 30 40 50 60

60 50 40 30 20 10 0 10 20 30 40

BOVAY ENGINEERS, INC.
HOUSTON · AUSTIN · BOISE · BOISE · ALBUQUERQUE · BATON ROUGE · WASHINGTON, D.C.

1-29-81

APPROVED FOR CONSTRUCTION
CITY ENGINEER DATE

AS BUILT INFORMATION
CONTRACTOR
WORK ISSUED BY — DATE
INSPECTORS
ACCEPTANCE BY — DATE
VERIFICATION BY
DISCONNECTED BY — DATE
MICRO-FILM INFORMATION
RECORDED BY — DATE
NO.

BENCH MARKS

SURVEY INFORMATION
FIELD NOTES
NO. | BY | DATE

REFERENCES
MAP NO. F-18
EST. NO.
W.O. NO.

NO.	DATE	REMARKS	BY
		REVISIONS	
		DESIGN	DATE 11/80
		DESIGNED BY MG	DATE 11/80
		DRAWN BY MG & EA	DATE 12/80
		CHECKED BY CNL	

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPT.
ARROYO DEL OSO CHANNEL LINING/DAM REHABILITATION
TITLE: CHANNEL LINING CROSS SECTIONS
STA. 35+00 TO STA. 43+00

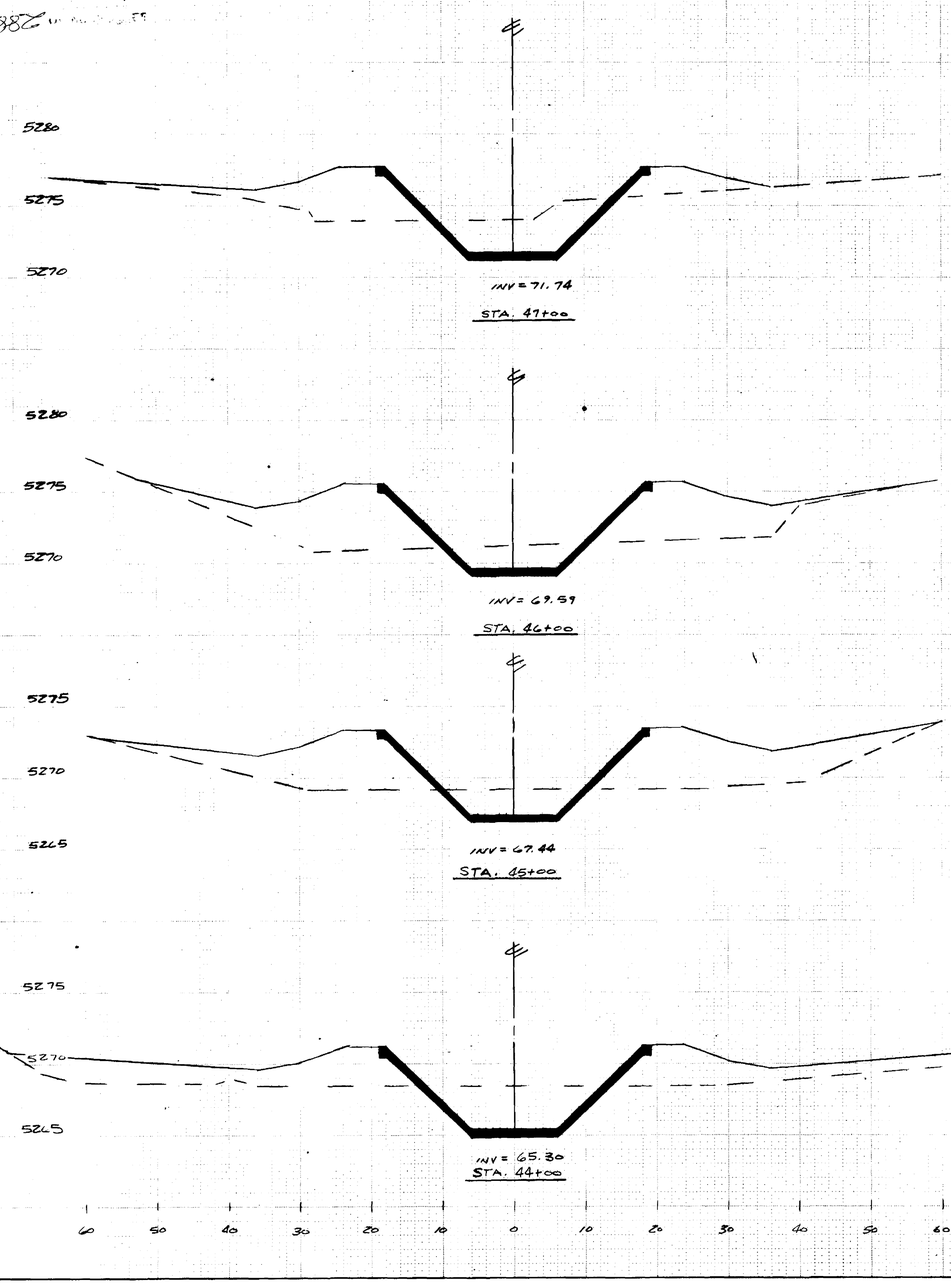
APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE

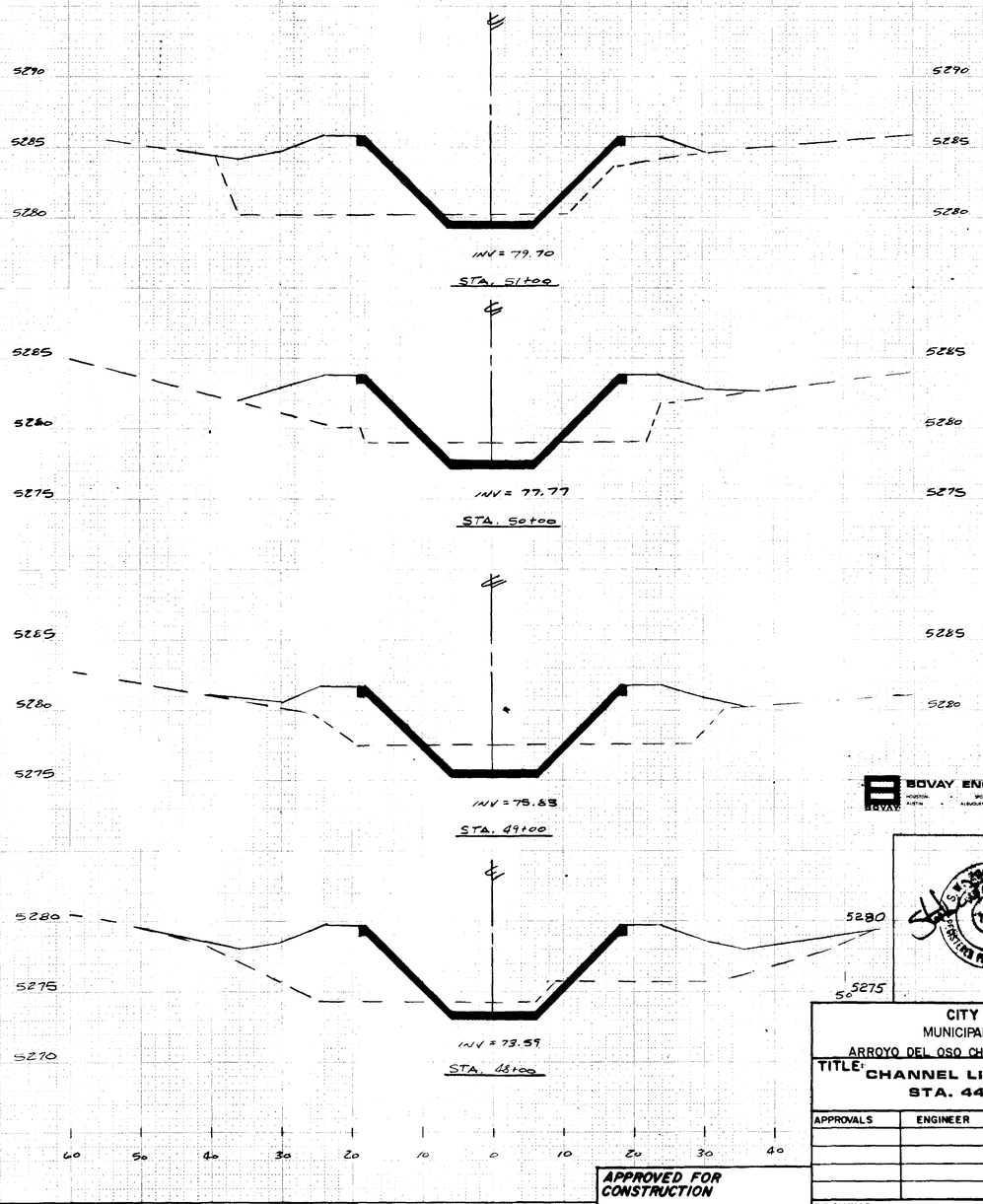
DRAWING NO.
SHEET 25 OF 28

18-44-8

5885

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





AS BUILT INFORMATION

CONTRACTOR — DATE
STAKED BY
INSPECTOR'S
ACCEPTANCE BY — DATE
FIELD VERIFICATION BY — DATE
CORRECTED BY — DATE

MICRO-FILM INFORMATION

RECORDED BY — DATE
NO.

BENCH MARKS

SURVEY INFORMATION

FIELD NOTES

NO.	BY	DATE

REFERENCES

MAP NO. F-18
EST. NO.
W.O. NO.

NO.	DATE	REMARKS	BY
		REVISIONS	
		DESIGNED BY MG	DATE 11/80
		DRAWN BY MG + E A	DATE 11/80
		CHECKED BY CML	DATE 12/80

BOVAY ENGINEERS, INC.
HOUSTON · AUSTIN · SPOKANE · ALBUQUERQUE · BATON ROUGE · WASHINGTON, D.C.

2885

2-4-81

APPROVED FOR CONSTRUCTION

CITY ENGINEER — DATE

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPT.
ARROYO DEL OSO CHANNEL LINING/DAM REHABILITATION

TITLE: CHANNEL LINING CROSS SECTIONS
STA. 44+00 TO STA. 51+00

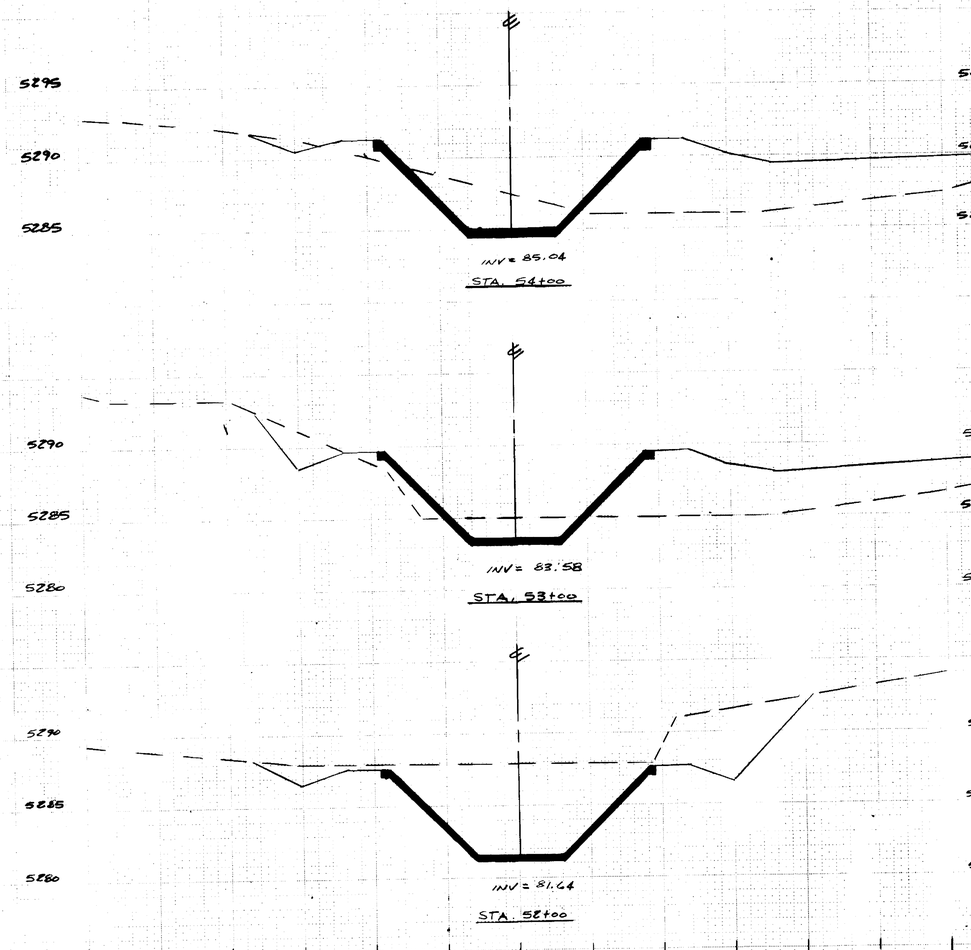
APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE

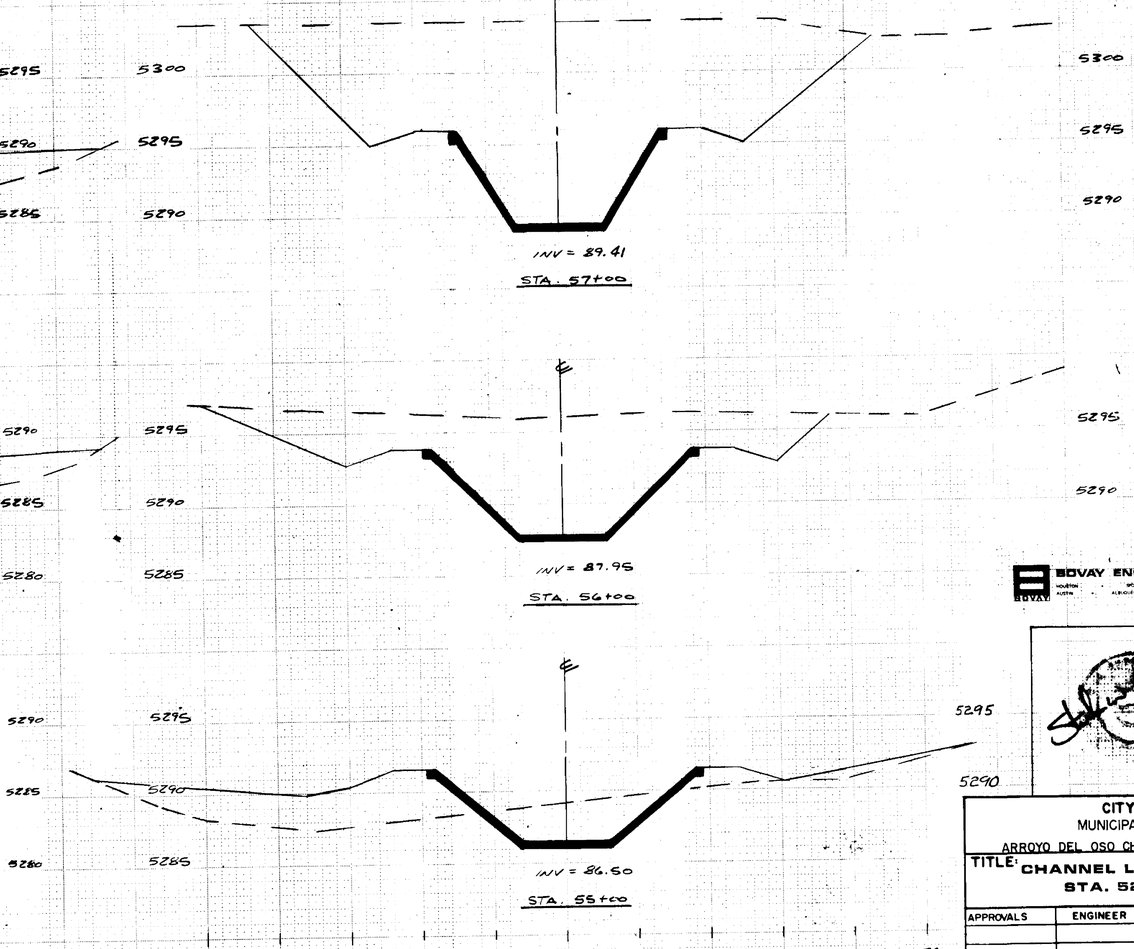
DRAWING NO.

SHEET 28 OF 28

18-7-6
9886

SCALE:
1"=10' HOR.
1"=5' VER.





BOVAY ENGINEERS, INC.
HOUSTON · AUSTIN · DENVER · ALBUQUERQUE · BATON ROUGE · WASHINGTON D.C.

AS BUILT INFORMATION
CONTRACTOR
WORK STARTED ON — DATE
FINAL WORK INSPECTED & ACCEPTANCE BY — DATE
FIELD VERIFICATION BY — DATE
DRAWINGS CORRECTED BY — DATE
MICRO-FILM INFORMATION
RECORDED BY — DATE
NO.

BENCH MARKS

SURVEY INFORMATION
FIELD NOTES
NO. | BY | DATE

REFERENCES
MAP NO. F-18
EST. NO. | W.O. NO.

NO.	DATE	REVISIONS	BY
		REMARKS	
		DESIGN	
		DESIGNED BY MJS	DATE 11/80
		DRAWN BY MJS & E.A.	DATE 11/80
		CHECKED BY C.N.L.	DATE 12/80

APPROVED FOR CONSTRUCTION
CITY ENGINEER — DATE

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPT.
ARROYO DEL OSO CHANNEL LINING / DAM REHABILITATION
TITLE: CHANNEL LINING CROSS SECTIONS STA. 52+00 TO STA. 57+00

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE

DRAWING NO.
SHEET 27 OF 28

APPLICATION NO. 131678
DEPOSIT OF SUR...
SANTA FE, N. M.

12-4-81

5885

GENERAL NOTES

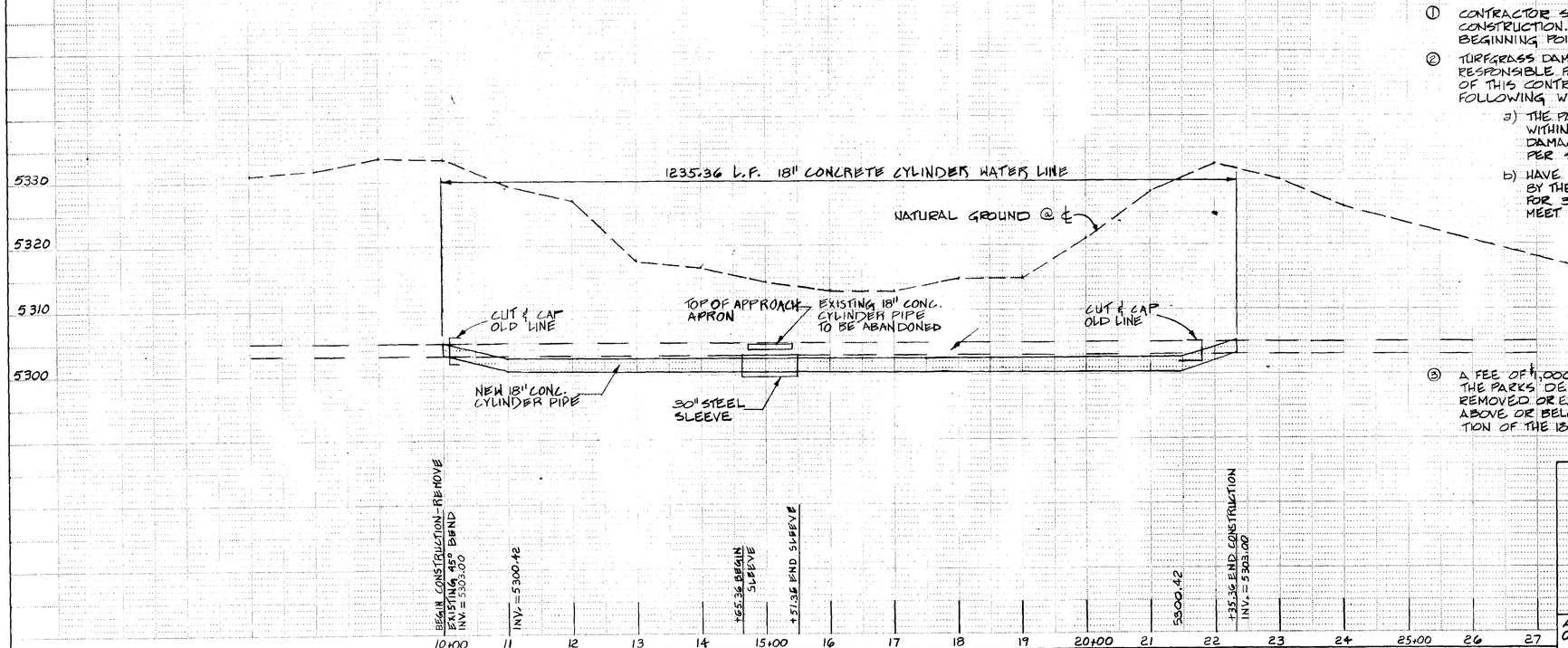
① CONTRACTOR SHALL NOTIFY THE GOLF COURSE SUPERINTENDENT PRIOR TO CONSTRUCTION. GOLF COURSE SUPERINTENDENT WILL AID IN LOCATING BEGINNING POINT OF CONSTRUCTION.

② TURFGRASS DAMAGE AND REPLACEMENT: THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACEMENT OF ALL GRASS DAMAGED AS A RESULT OF THIS CONTRACT. THIS CAN BE ACCOMPLISHED IN EITHER OF THE FOLLOWING WAYS AT THE CONTRACTORS OPTION:

a) THE PARKS DEPARTMENT WILL RESTORE THE GRASS BY SODDING WITHIN THE LIMITS OF CONSTRUCTION FOR $0.00 PER SQ.YD. AND DAMAGE OUTSIDE THE LIMITS OF CONSTRUCTION FOR $.50 PER SQ. FT.

b) HAVE A COMPETENT LANDSCAPE COMPANY RESTORE THE GRASS BY THE SODDING METHOD AND MAINTAIN NEWLY PLACED SOD FOR 30 DAYS. THE SOD USED AND THE FINISH PRODUCT MUST MEET THE APPROVAL OF THE PARKS AND RECREATION DEPARTMENT.

③ A FEE OF $1,000 PER TREE WILL BE DUE THE PARKS DEPARTMENT FOR ANY TREE REMOVED OR EXTENSIVELY DAMAGED EITHER ABOVE OR BELOW GROUND DURING CONSTRUCTION OF THE 18" CONCRETE CYLINDER PIPE.



2885
2-4-81

REFERENCES	SURVEY INFORMATION	BENCH MARKS	AS BUILT INFORMATION
MAP NO. F-18	FIELD NOTES	1-ACS BRASS CAP 7-F-19-110.5' ± EAST OF THE INTERSECTION OF OSUNA ROAD AND LOUISIANA BLVD. AND 7.4'± NORTH OF OSUNA ROAD ELEV. = 5332.18	CONTRACTOR
EST. NO.	NO. BY DATE		WORK STARTED BY
W.O. NO.			INSPECTORS ACCEPTANCE BY DATE
			VERIFICATION BY DATE
			DRAWINGS CHECKED BY DATE
			MICRO-FILM INFORMATION
			RECORDED BY DATE
			NO.

NO.	DATE	REMARKS	BY
		REVISIONS	
		DESIGN	

DESIGNED BY MG DATE 11/80
DRAWN BY EA DATE 11/80
CHECKED BY DATE

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ARROYO DEL OSO CHANNEL LINING / DAM REHABILITATION

TITLE: **WATERLINE RELOCATION**

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
City Engineer			Liquid Waste		
A.C.E.-Design			Traffic		
A.C.E.-Hydrology			Water		

APPROVED FOR CONSTRUCTION
CITY ENGINEER DATE

DRAWING NO.

SHEET 28 OF 28