

NOTES

All reinforcement shall be placed so that the centers of bars in the outer layer will be 2 1/2" from face of concrete unless otherwise shown.
Lap all bars 40 diameters at splices.
Thickness of concrete to vary uniformly between dimensions shown.
See Dwg. 212-D-3124 for details of inlet and gate chambers.
See Dwg. 212-D-3126 for details of outlet.
See Dwg. 212-D-3127 for details of branch lateral turnout.
See Dwg. 212-D-3110 for general layout.

DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
BOULDER CANYON PROJECT
ALL-AMERICAN CANAL SYSTEM-CALIFORNIA
ALL-AMERICAN CANAL - STA. 1905+70
DROP NO. 1 AND COACHELLA TURNOUT
TURNOUT-BARREL SECTION

DRAWN H.K.B. SUBMITTED *H.K.B.*
TRACED C.J.R. RECOMMENDED *H.K.B.*
CHECKED *H.K.B.* APPROVED *H.K.B.*

29641 DENVER, COLORADO SEPT. 8, 1937 212-D-3126

FOR INFORMATION ONLY

55.

13.

11.

8'2.

8'2.

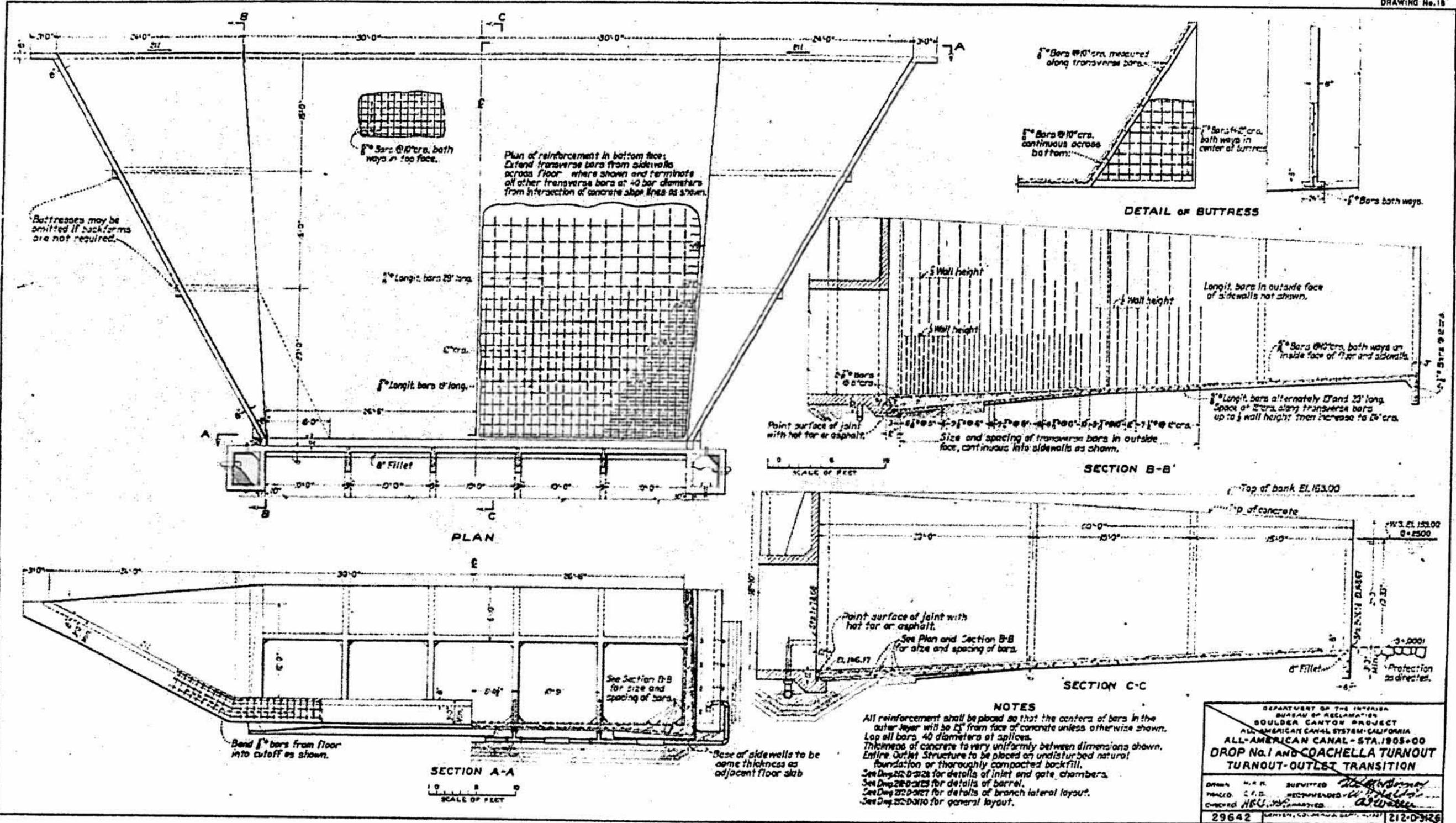
11.

11.

55.

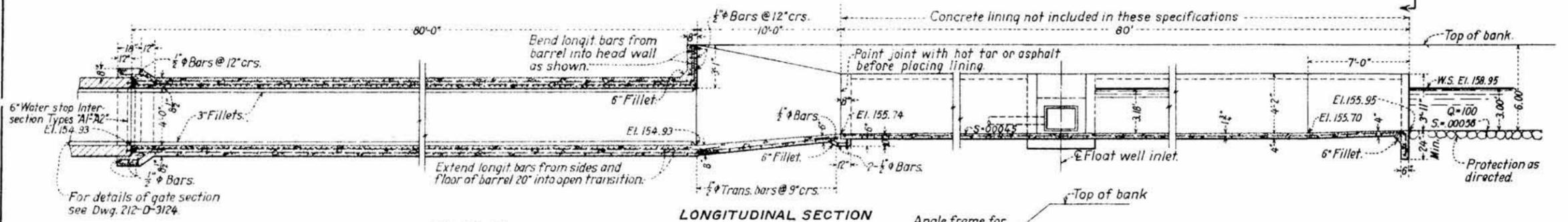
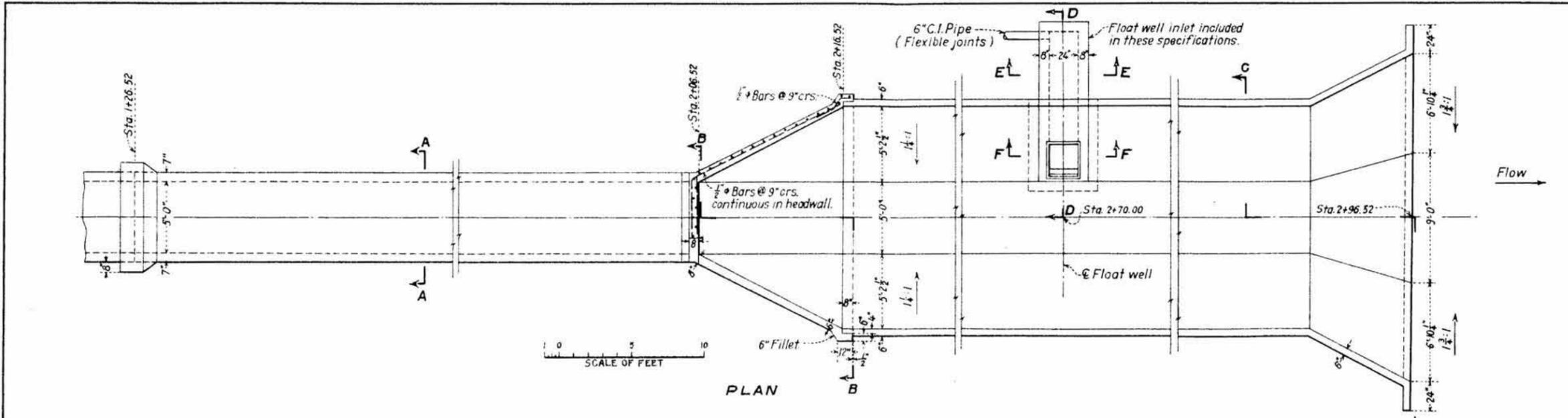
SPECIFICATIONS No. 785

DRAWING No. 18



FOR INFORMATION ONLY

AC-0084



HYDRAULIC PROPERTIES

SECTION	A	V	Q	r	n	S
5x4 Concrete box	19.88	5.03	100	1.14	.014	.00184
Concrete lining	28.53	3.51	100	1.88	.014	.00045
Earth Canal	40.30	2.47	100	2.04	.0225	.00056

NOTES

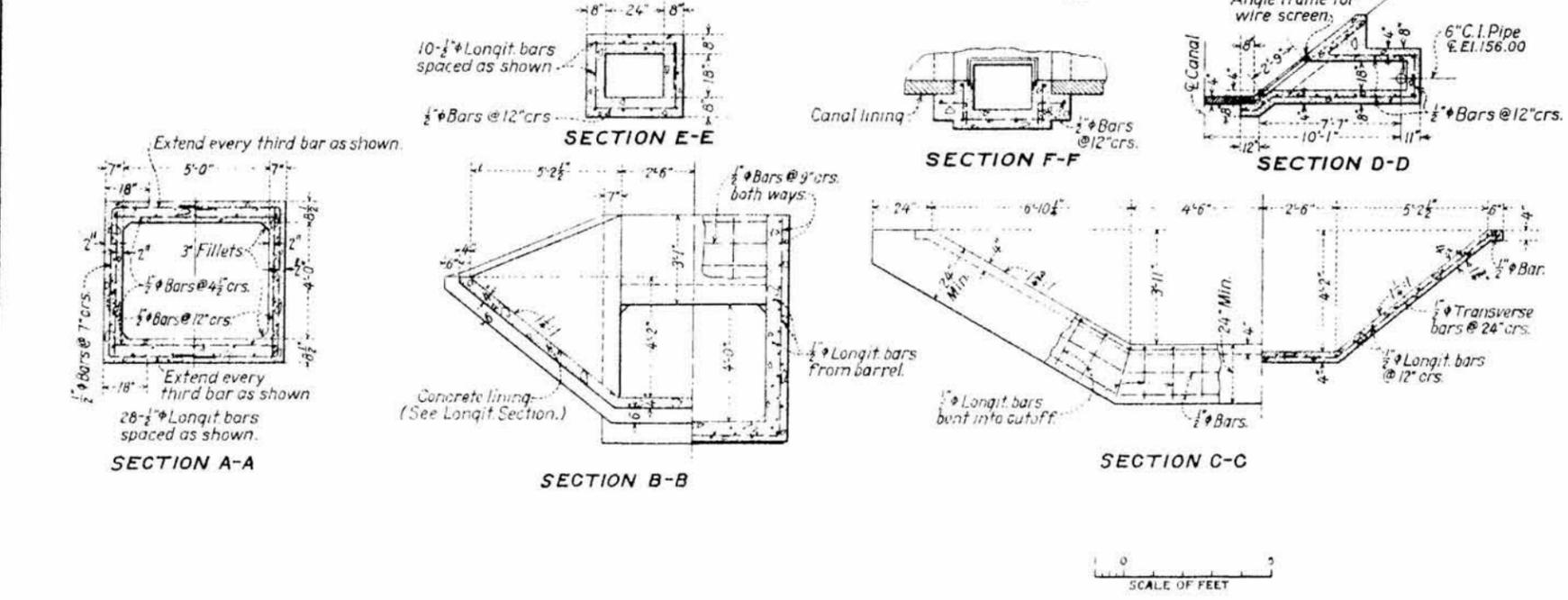
All reinforcement shall be placed so that the centers of bars in the outer layer will be 2 1/2" from face of concrete unless otherwise shown. Lap all bars 40 diameters at splices. Thickness of concrete to vary uniformly between dimensions shown. Floor of box and outlet transition to be placed on thoroughly compacted sub-base.

FOR INFORMATION ONLY

DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
BOULDER CANYON PROJECT
ALL-AMERICAN CANAL SYSTEM-CALIFORNIA
ALL-AMERICAN CANAL - STA. 1905+70
**DROP No. 1 AND COACHELLA TURNOUT
LATERAL TURNOUT
BARREL-TRANSITION-LINING**

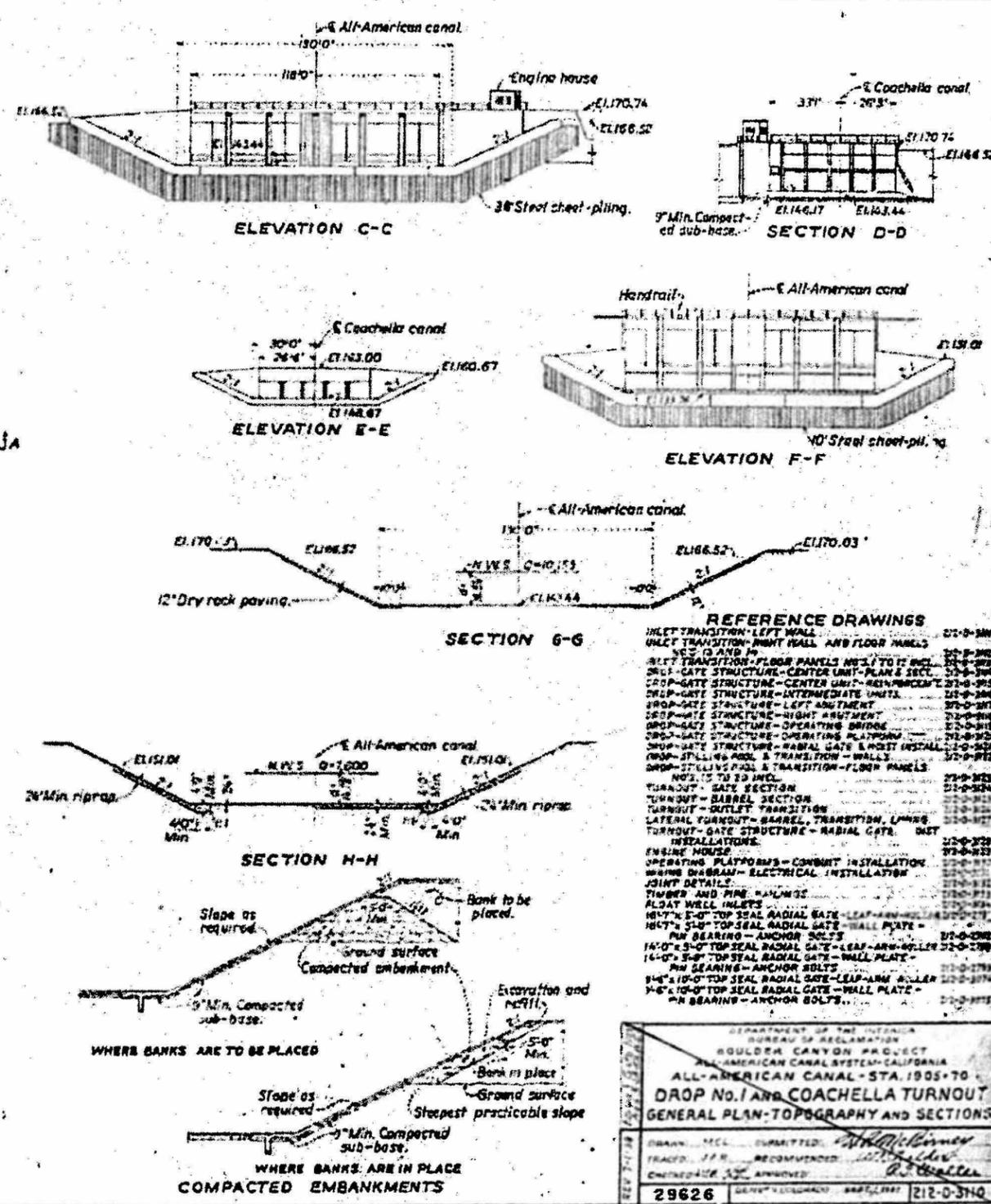
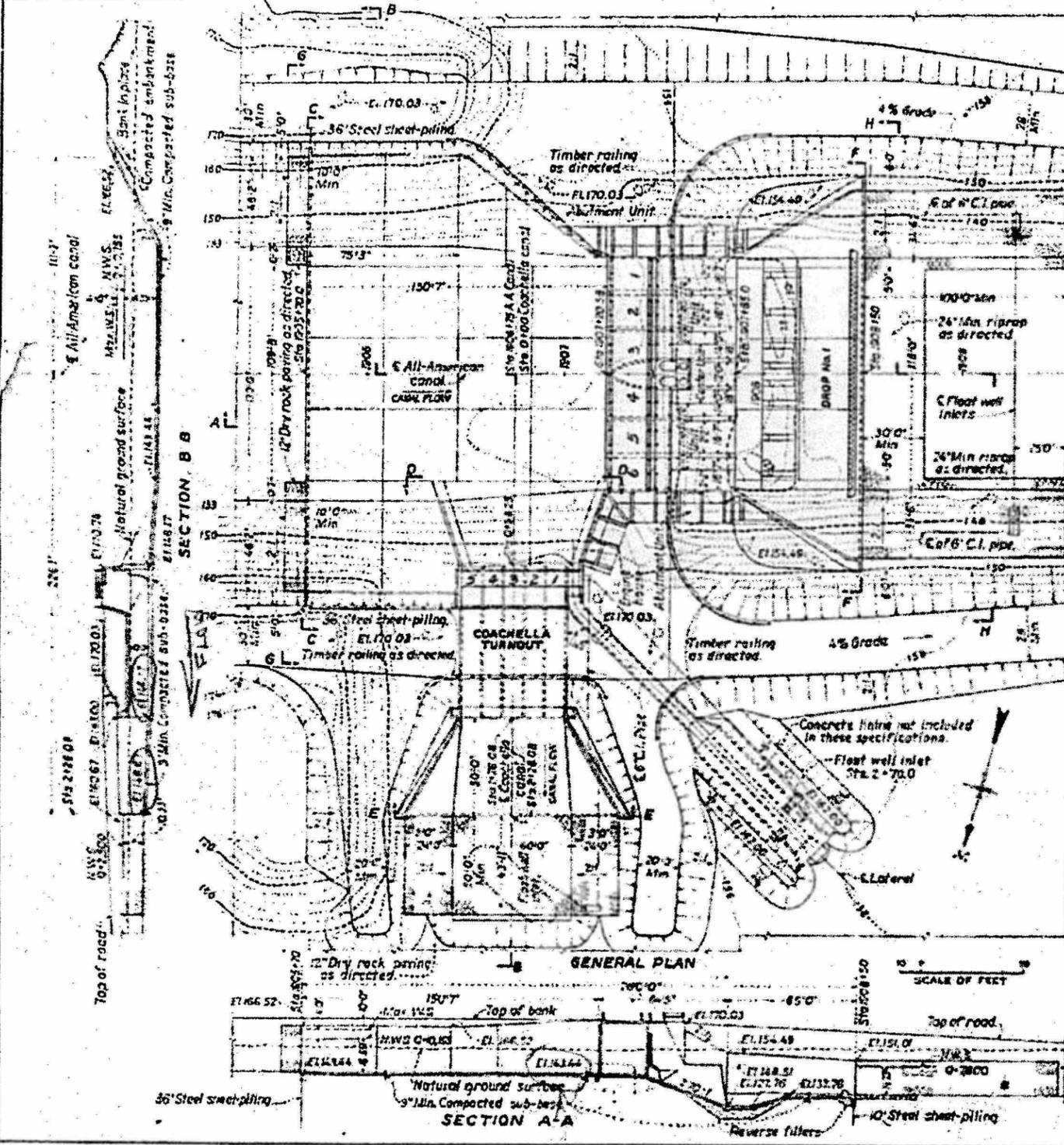
DRAWN: H. K. B. SUBMITTED: *A. P. Williams*
TRACED: H. L. E. RECOMMENDED: *W. H. Alder*
CHECKED: *R. H. ...* APPROVED: *A. J. ...*

29643 DENVER, COLO., SEPT. 27, 1937 212-0-3127



SPECIFICATIONS No 765

DRAWING No. 2



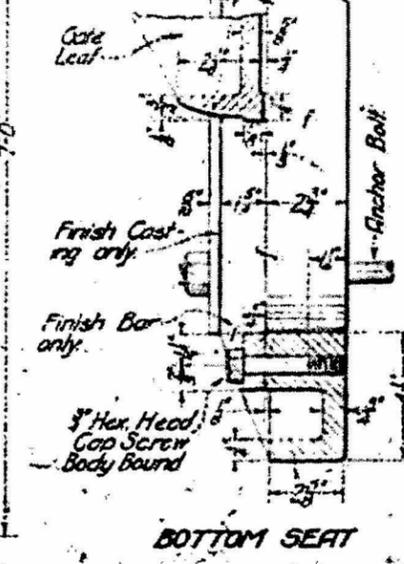
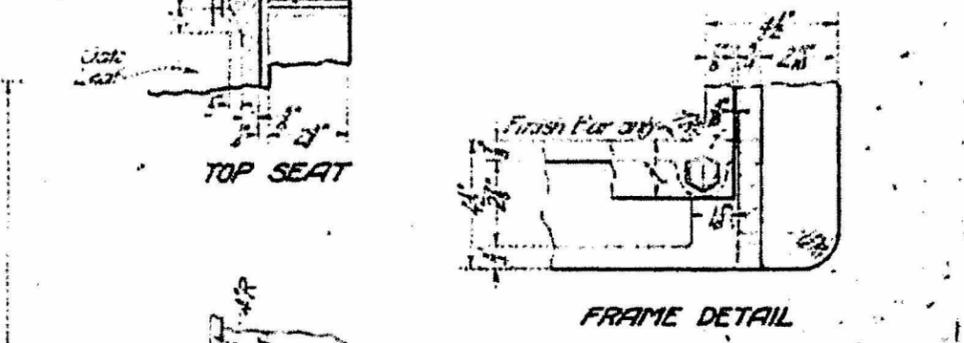
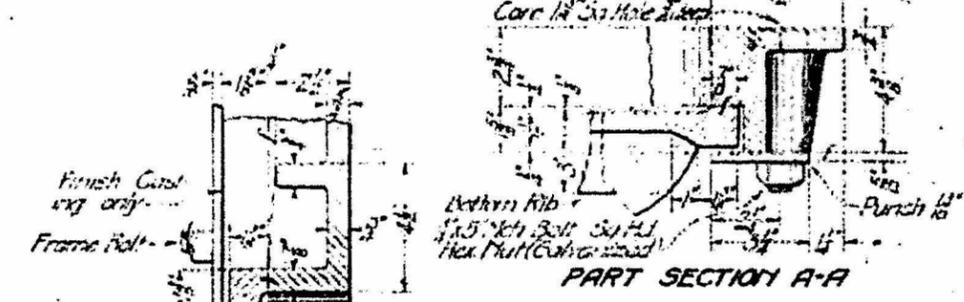
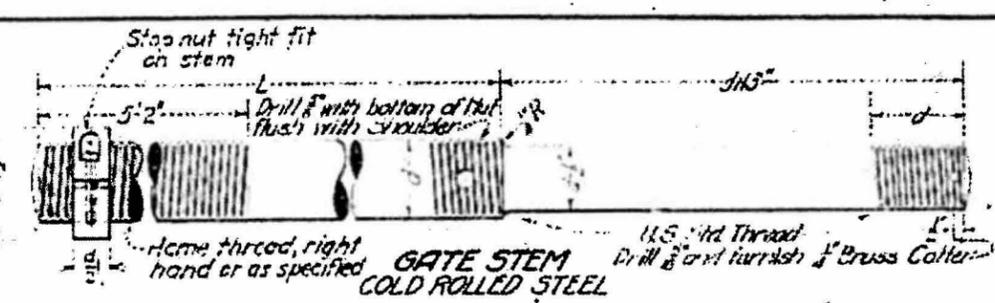
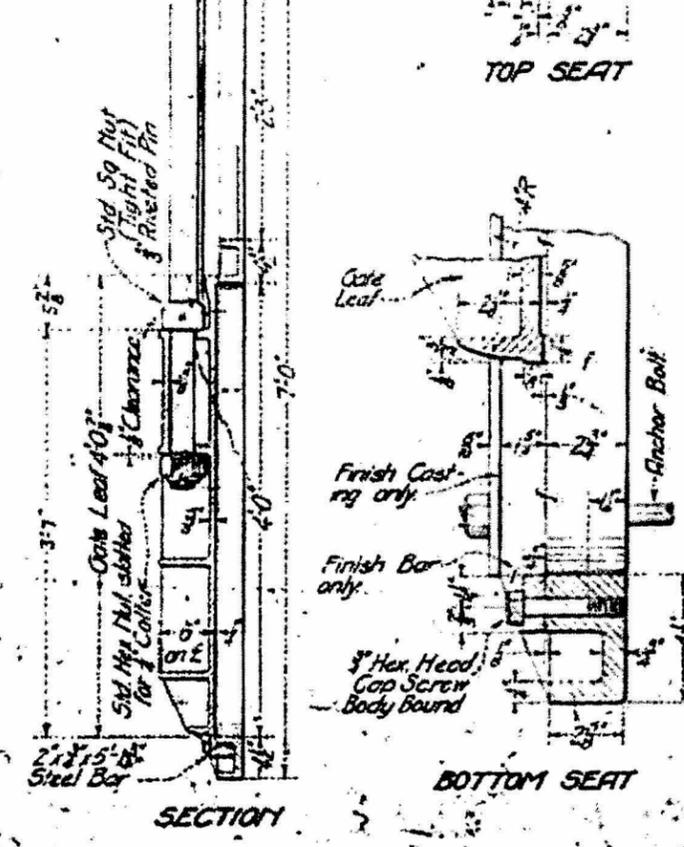
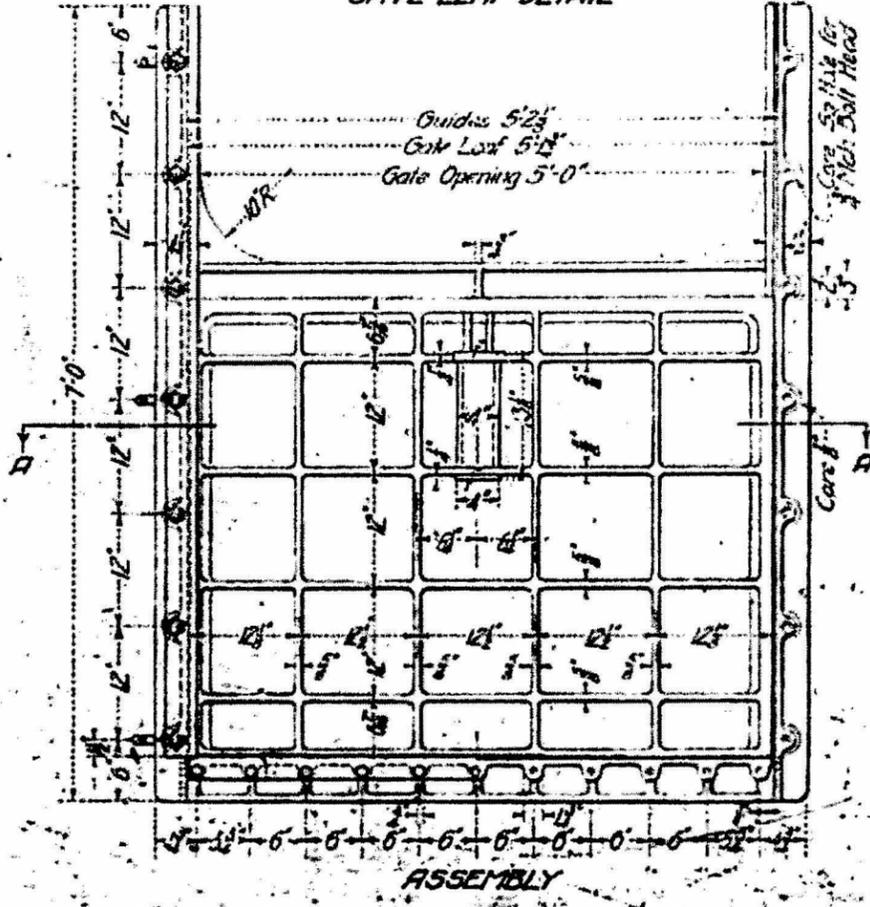
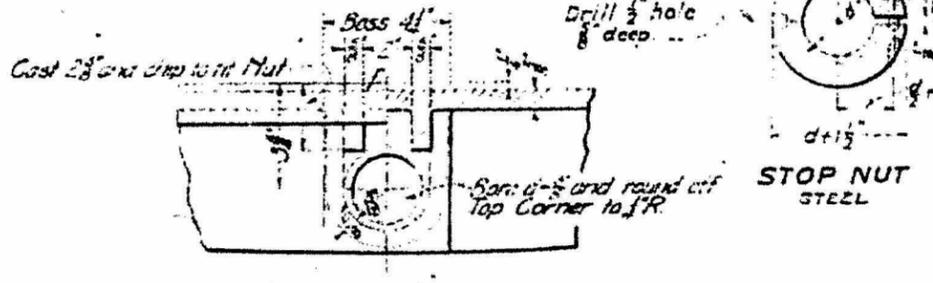
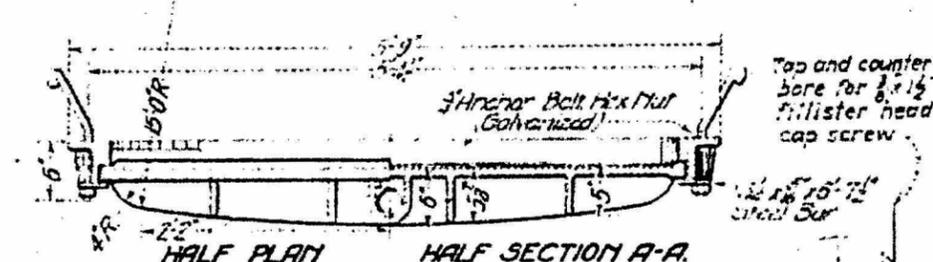
REFERENCE DRAWINGS

INLET TRANSITION - LEFT WALL	212-0-308
INLET TRANSITION - RIGHT WALL AND FLOOR PANELS	212-0-309
INLET TRANSITION - FLOOR PANELS NOT TO SCALE	212-0-310
DRIP-GATE STRUCTURE - CENTER UNIT - PLAN & SECT.	212-0-311
DRIP-GATE STRUCTURE - INTERMEDIATE UNITS	212-0-312
DRIP-GATE STRUCTURE - LEFT ABUTMENT	212-0-313
DRIP-GATE STRUCTURE - RIGHT ABUTMENT	212-0-314
DRIP-GATE STRUCTURE - OPERATING BRIDGE	212-0-315
DRIP-GATE STRUCTURE - OPERATING PLATFORM	212-0-316
DRIP-GATE STRUCTURE - RADIAL GATE & RAYET INSTALL.	212-0-317
DRIP-GATE STRUCTURE - TRANSITION - WALLS	212-0-318
DRIP-GATE STRUCTURE - TRANSITION - FLOOR PANELS	212-0-319
TURNOUT - GATE SECTION	212-0-320
TURNOUT - BARREL SECTION	212-0-321
TURNOUT - OUTLET TRANSITION	212-0-322
LATERAL TURNOUT - BARREL, TRANSITION, LINES	212-0-323
TURNOUT - GATE STRUCTURE - RADIAL GATE - DET.	212-0-324
INSTALLATIONS	212-0-325
ENGINE HOUSE	212-0-326
OPERATING PLATFORMS - CONCRETE INSTALLATION	212-0-327
WIRING DIAGRAM - ELECTRICAL INSTALLATION	212-0-328
JOINT DETAILS	212-0-329
TIMBER AND PIPE RAILINGS	212-0-330
ALLOY WELLS - INLETS	212-0-331
14'-0" x 5'-0" TOP SEAL RADIAL GATE - LEAF - ANCHOR BOLTS	212-0-332
14'-0" x 5'-0" TOP SEAL RADIAL GATE - WALL PLATE - ANCHOR BOLTS	212-0-333
14'-0" x 5'-0" TOP SEAL RADIAL GATE - LEAF - ANCHOR BOLTS	212-0-334
14'-0" x 5'-0" TOP SEAL RADIAL GATE - WALL PLATE - ANCHOR BOLTS	212-0-335

DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
ROULDER CANYON PROJECT
ALL-AMERICAN CANAL SYSTEM - CALIFORNIA
DROP No. 1 AND COACHELLA TURNOUT
GENERAL PLAN - TOPOGRAPHY AND SECTIONS

29626
AC-0046

FOR INFORMATION ONLY



NOTES:

- Dimensions acc. Manufacturer. Add Draft.
- Variable Dimensions and Thread Data given in Specifications
- Dimensions of base (upon Sign Data shown on Plans Drawings) (d-1) (102)
- Unless otherwise stated in Specifications, stems to be furnished by Manufacturer of Gate Metal.
- Unless otherwise stated in Specifications, Anchor Bolts to be furnished by the United States.
- Tighten Cap Screw in Field with Stop Nut bearing on top of Gate Head after snalling Gate under Mean Temperature Conditions with a Low Gear Crank Pull of 20 Pounds
- Head measured on Center of Gate.
- Stop nut not required unless specified.

DEPARTMENT OF THE INTERIOR
 UNITED STATES RECLAMATION SERVICE
 DENVER OFFICE STANDARD DESIGN
 5'-0" x 4'-0" CAST IRON GATE
 HEADS 0 TO 15 FEET
 DRAWING NO. 100-C-36 ACCESSORY NO. 100-000
 AUGUST 1924

R. E. ... CHIEF ENGINEER
 A. P. Davis DIRECTOR

REV. MAR. 2, 1938
 JULY 31, 1940
 FOR INFORMATION ONLY
 AC-0464

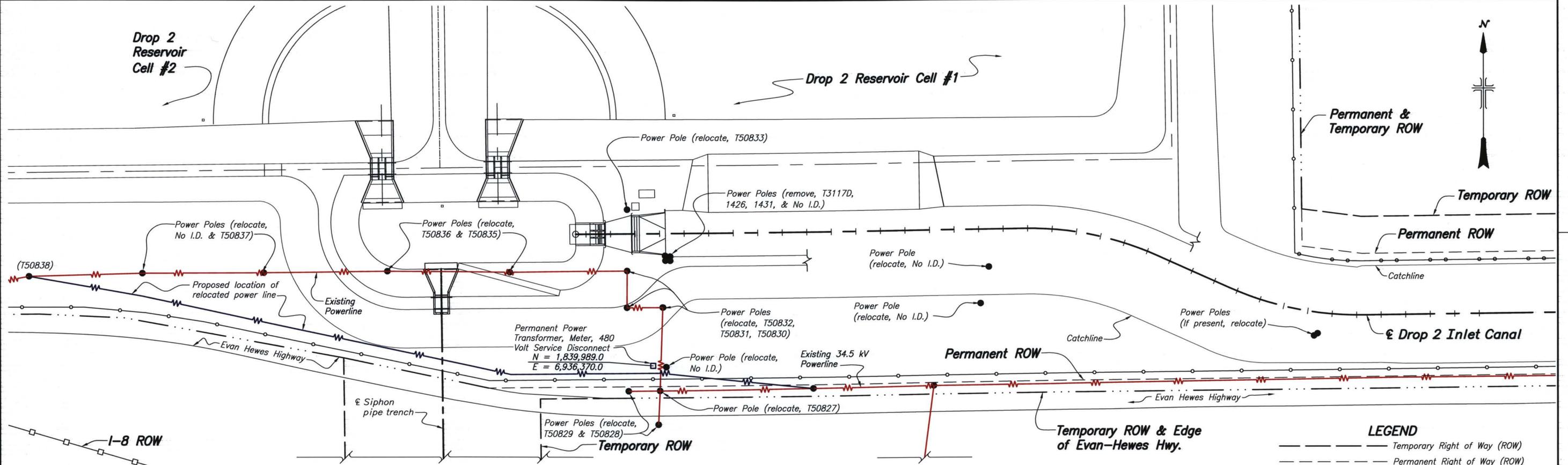
11"

8'2"

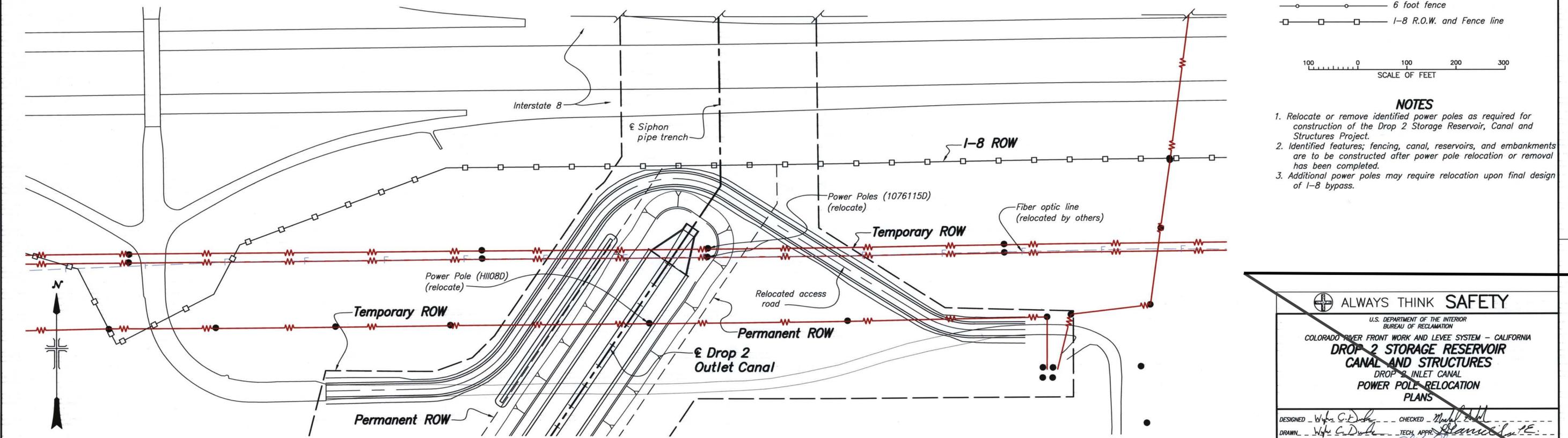
2.8"

11"

11"



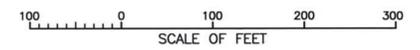
PLAN (A)
(North Side Interstate 8)



PLAN (B)
(South Side Interstate 8)

LEGEND

- Temporary Right of Way (ROW)
- Permanent Right of Way (ROW)
- Combination linetype (see notations)
- Transmission Line (Existing)
- Transmission Line (Proposed)
- Fiber Optic Line
- 6 foot fence
- I-8 R.O.W. and Fence line



- NOTES**
- Relocate or remove identified power poles as required for construction of the Drop 2 Storage Reservoir, Canal and Structures Project.
 - Identified features; fencing, canal, reservoirs, and embankments are to be constructed after power pole relocation or removal has been completed.
 - Additional power poles may require relocation upon final design of I-8 bypass.

ALWAYS THINK SAFETY

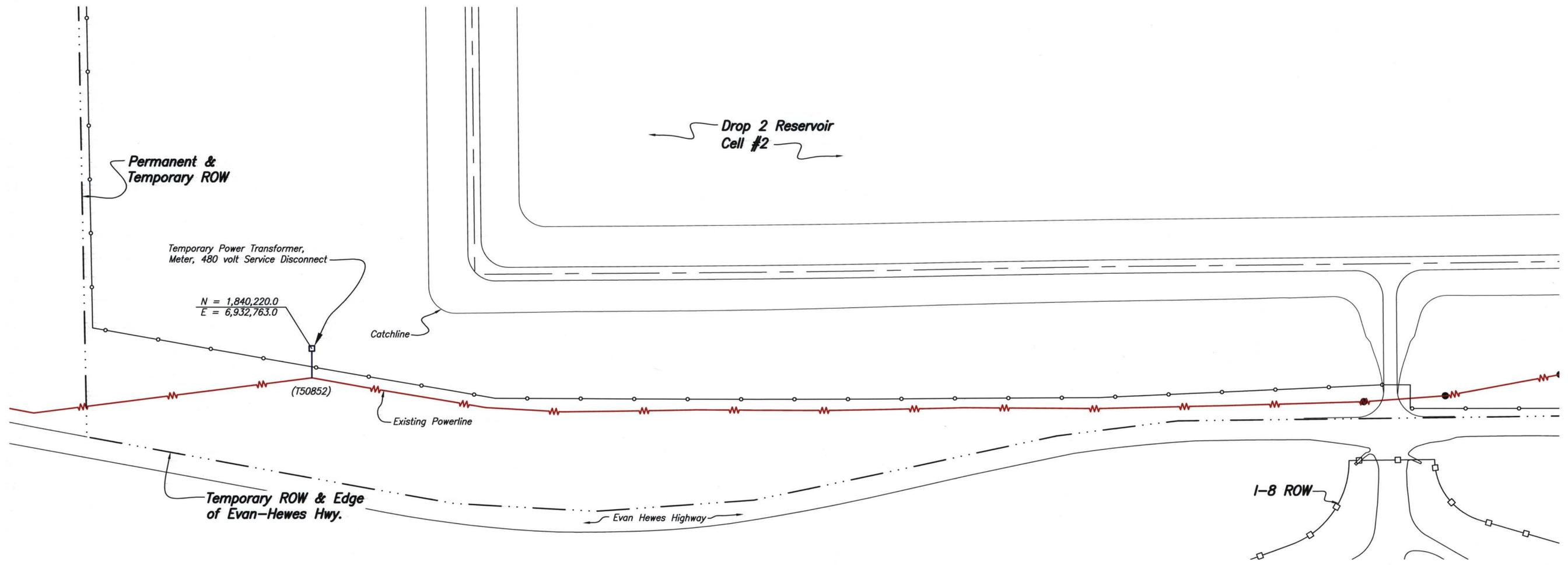
U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
COLORADO RIVER FRONT WORK AND LEVEE SYSTEM - CALIFORNIA
**DROP 2 STORAGE RESERVOIR
CANAL AND STRUCTURES**
DROP 2 INLET CANAL
**POWER POLE RELOCATION
PLANS**

DESIGNED: *W. C. D. ...* CHECKED: *...*
DRAWN: *W. C. D. ...* TECH. APPR: *...*
APPROVED: *...*
MANAGER, ELECTRICAL DESIGN GROUP

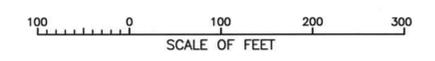
DENVER, COLORADO 2007-12-21
SHEET 1 OF 2 **423-D-646**

DATE AND TIME PLOTTED
FEBRUARY 14, 2008 13:25
PLOTTED BY
MIDUNE

CAD SYSTEM
AutoCAD Rev. 16.1s
CAD FILENAME
423-D-646.dwg



PLAN (C)
 (North Side Interstate 8 - Temporary Power Location)



NOTE
 1. Identified temporary power transformer shall be located approximately 50 feet north of existing power line as shown.

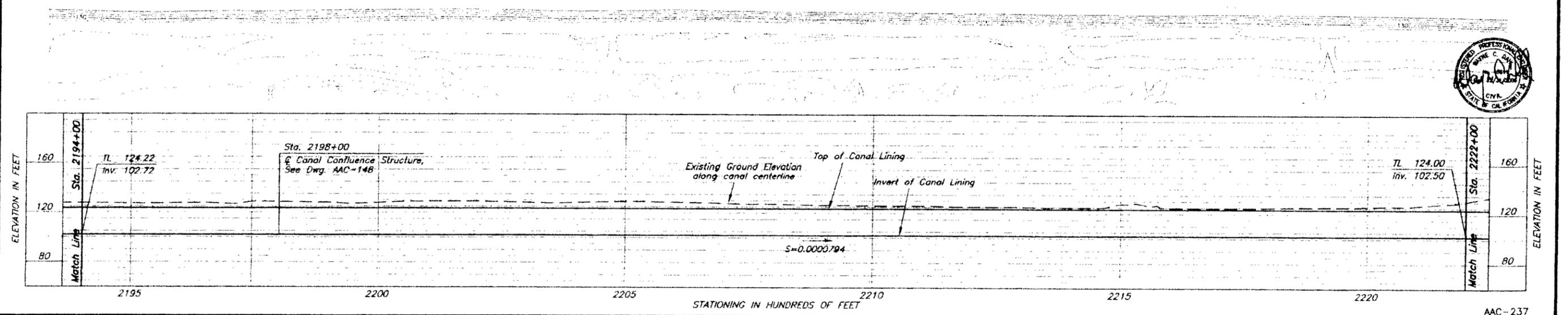
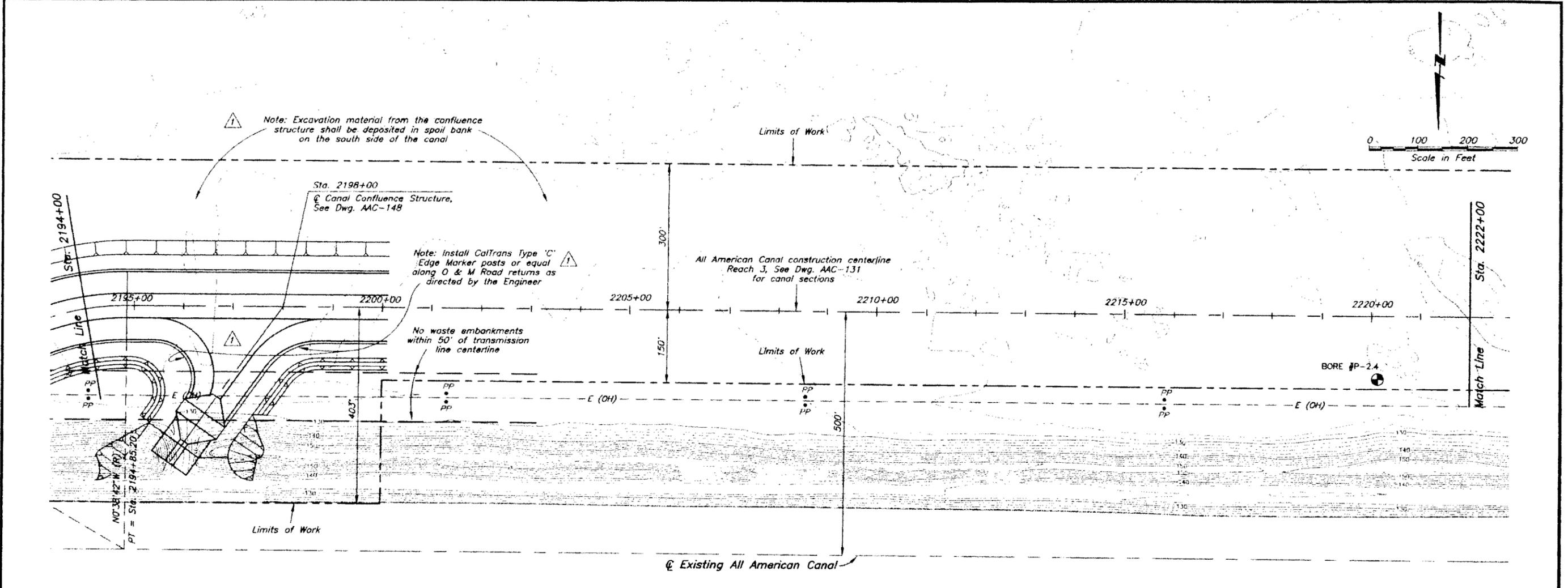
DATE AND TIME PLOTTED
 FEBRUARY 1, 2008 11:51
 PLOTTED BY
 WJW

CAD SYSTEM
 AutoCAD Rev. 16.1a
 CAD FILENAME
 423-D-647.DWG

ALWAYS THINK SAFETY

U.S. DEPARTMENT OF THE INTERIOR
 BUREAU OF RECLAMATION
 COLORADO RIVER FRONT WORK AND LEVEE SYSTEM - CALIFORNIA
DROP 2 STORAGE RESERVOIR
CANAL AND STRUCTURES
 DROP INLET CANAL
POWER POLE RELOCATION
PLAN

DESIGNED *W.C.D.* CHECKED *April Smith*
 DRAWN *W.C.D.* TECH. APPR. *Stanley P.E.*
 APPROVED *DM*
 MANAGER, ELECTRICAL DESIGN GROUP



REV	DATE	BY	DESCRIPTION
1	10/07	RAT	Add Confluence Structure

DESIGNED	HUANG	SUBMITTED	Wayne Hill	45611	10/1/07
DRAWN	TURNER	PROJECT MANAGER		R.C.E. No.	DATE
CHECKED	DOLYNIUK	DESIGN MANAGER - CIVIL	David A. Altman	54852	10/1/07
				R.C.E. No.	DATE

Bookman-Edmonston
A Division of Ge. Conso. Engrs.
in association with RWI

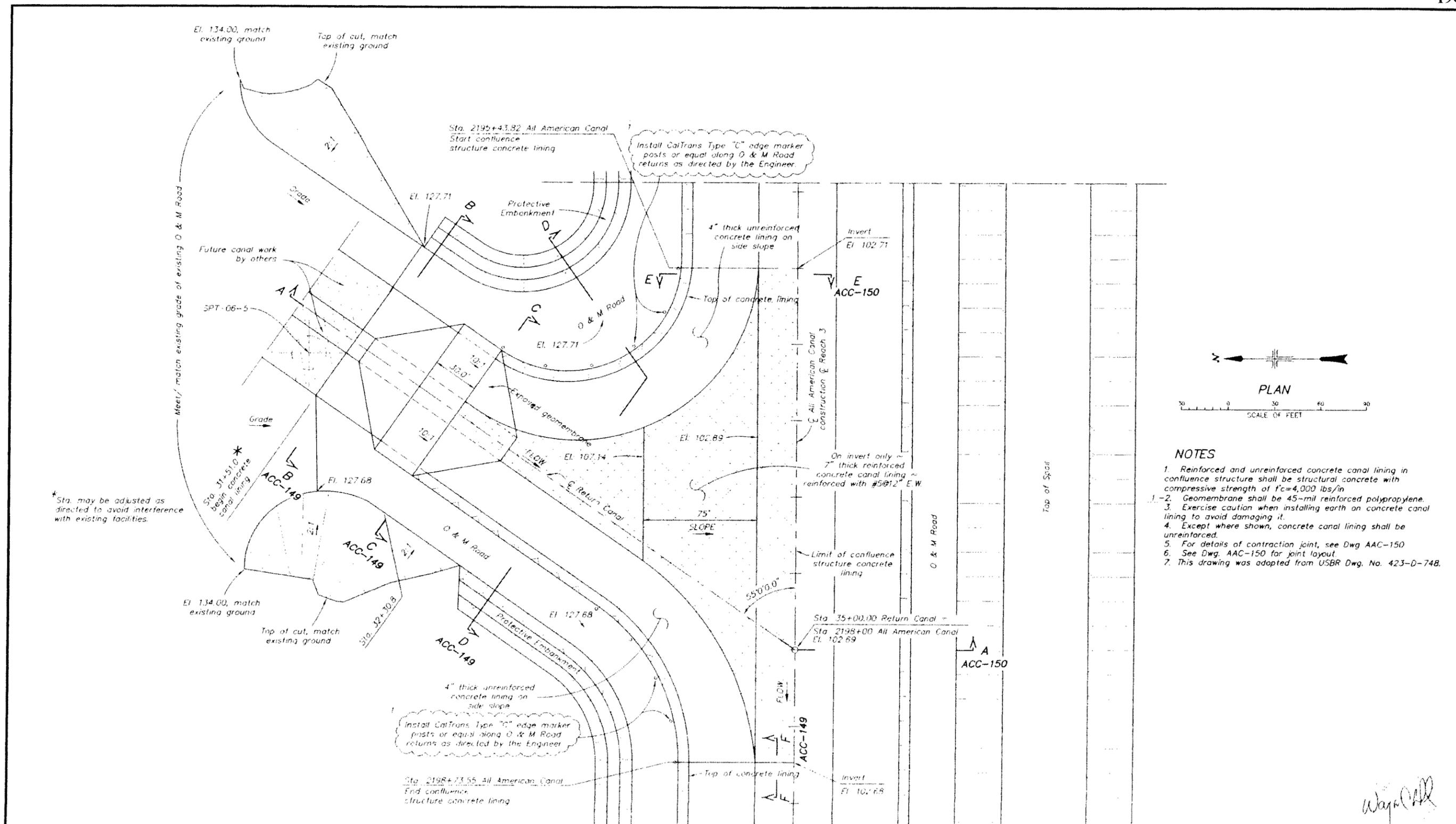
Paul D. Prodel
CHIEF ENGINEER

45289
R.C.E. No.

10/1/07
DATE

ALL AMERICAN CANAL LINING PROJECT
PLAN AND PROFILE
REACH 3
FROM STA. 2194+00 TO STA. 2222+00

AAC-237
DATE October 2007
FILE NO.

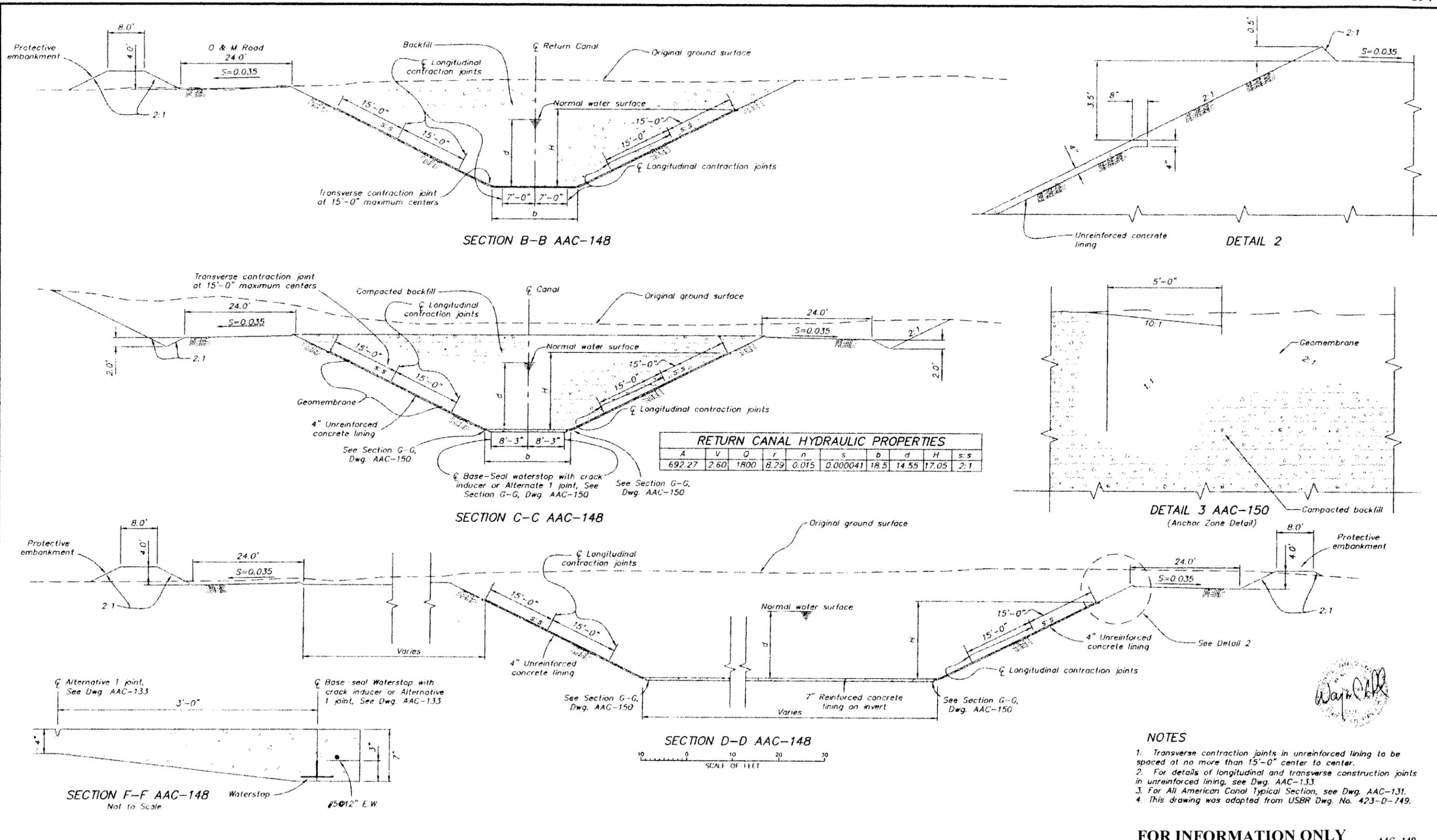


- NOTES**
1. Reinforced and unreinforced concrete canal lining in confluence structure shall be structural concrete with compressive strength of $f'c=4,000$ lbs/in²
 2. Geomembrane shall be 45-mil reinforced polypropylene.
 3. Exercise caution when installing earth on concrete canal lining to avoid damaging it.
 4. Except where shown, concrete canal lining shall be unreinforced.
 5. For details of contraction joint, see Dwg AAC-150
 6. See Dwg. AAC-150 for joint layout.
 7. This drawing was adopted from USBR Dwg. No. 423-D-748.

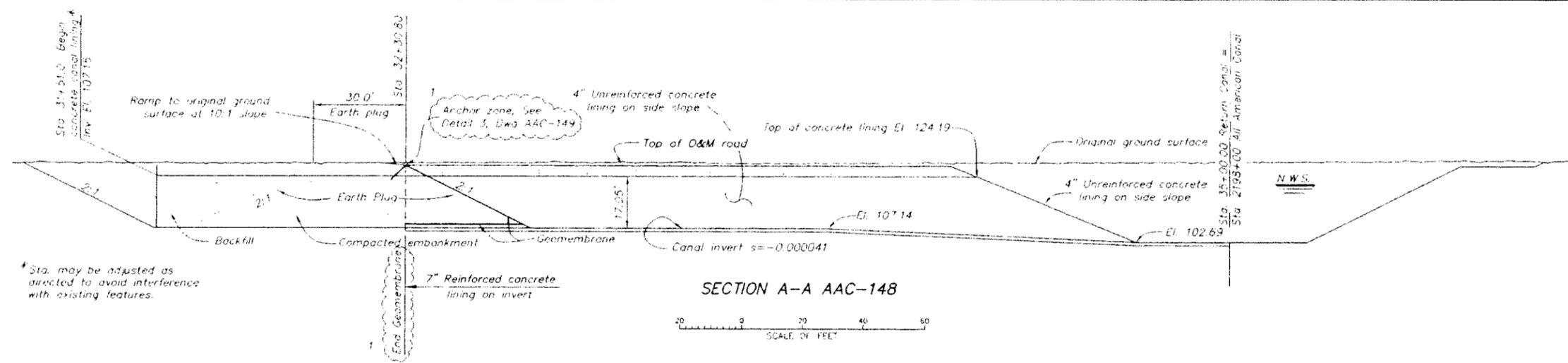
FOR INFORMATION ONLY AAC-148

REVISIONS				DESIGNED	SUBMITTED	PROJECT MANAGER	DESIGN MANAGER	BOOKMAN-EDMONSTON	DATE	ALL AMERICAN CANAL LINING PROJECT	DATE
REV	DATE	BY	DESCRIPTION	LONG	45611	10/1/07	45611	Bookman-Edmonston	10/1/07	ALL AMERICAN CANAL LINING PROJECT	October 2007
1			GENERAL REVISION	TURNER	44852	10/1/07	44852	Bookman-Edmonston	10/1/07	CANAL CONFLUENCE STRUCTURE	
				DOLYNTIK				Bookman-Edmonston		PLAN	

Wayne

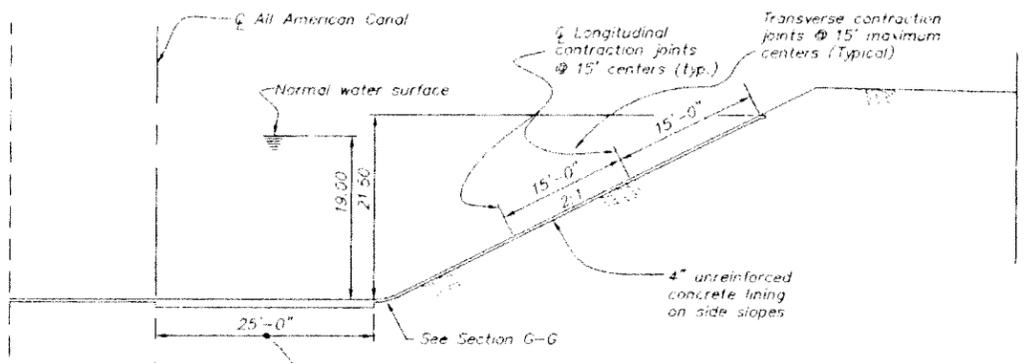


REVISIONS				DESIGNED		SUBMITTED		FOR INFORMATION ONLY	
REV	DATE	BY	DESCRIPTION	DATE	BY	DATE	PROJECT MANAGER	DATE	ALL AMERICAN CANAL LINING PROJECT
				10/1/07	Turner	10/1/07	Wynn Call	10/1/07	October 2007
							Bookman-Edmonston		CANAL CONFLUENCE STRUCTURE SECTIONS AND DETAILS
							Paul D. Pankel	10/1/07	



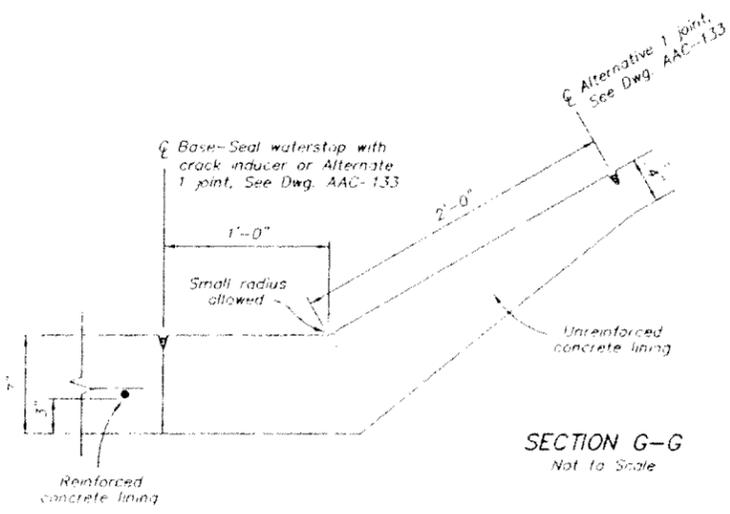
* Sta. may be adjusted as directed to avoid interference with existing features.

SECTION A-A AAC-148
SCALE OF FEET

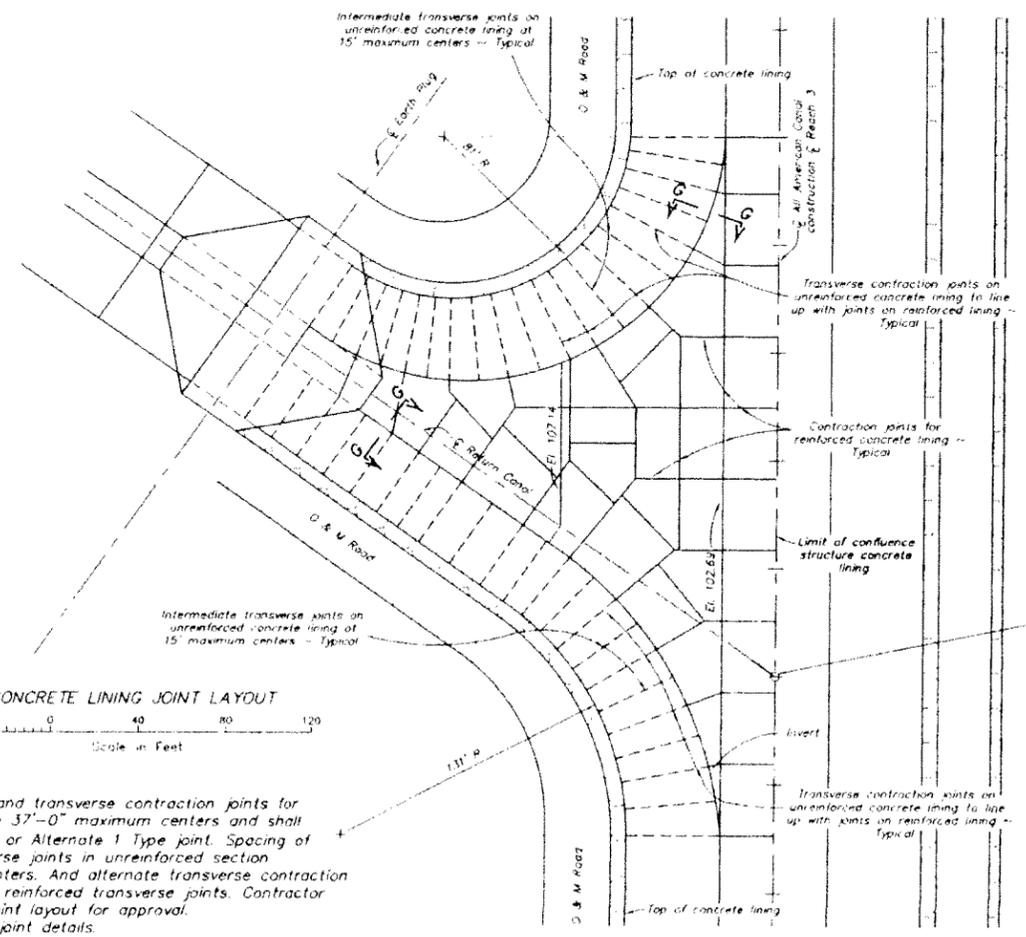


SECTION E-E AAC-148
SCALE OF FEET

7" reinforced concrete lining with #5@12" E.W. See detail at right for joint layout



SECTION G-G
Not to Scale

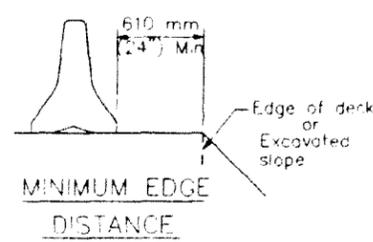
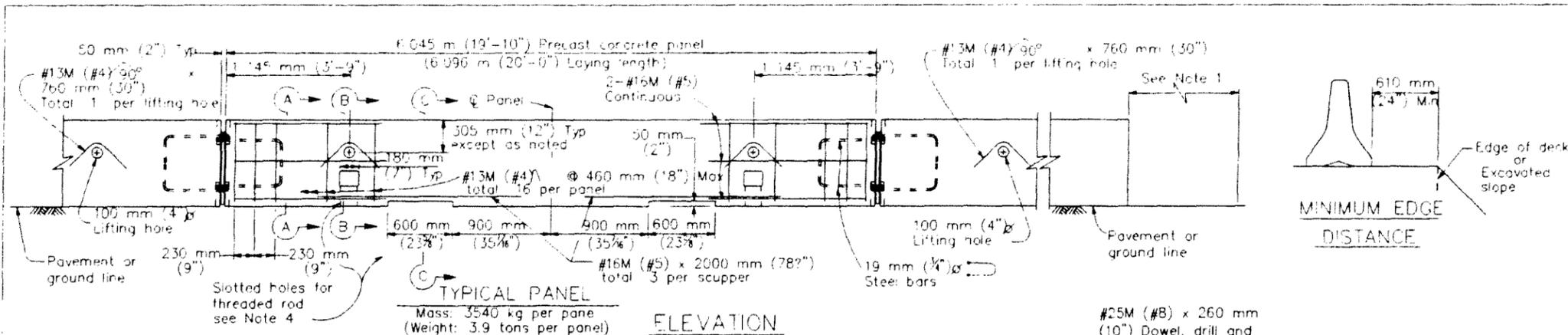


CONCRETE LINING JOINT LAYOUT
Scale in Feet

NOTE
Spacing of longitudinal and transverse contraction joints for reinforced section to be 37'-0" maximum centers and shall be Base Seal waterstop or Alternate 1 Type joint. Spacing of longitudinal and transverse joints in unreinforced section at 15'-0" maximum centers. And alternate transverse contraction joints shall line up with reinforced transverse joints. Contractor may submit alternate joint layout for approval. See Dwg. AAC-133 for joint details.

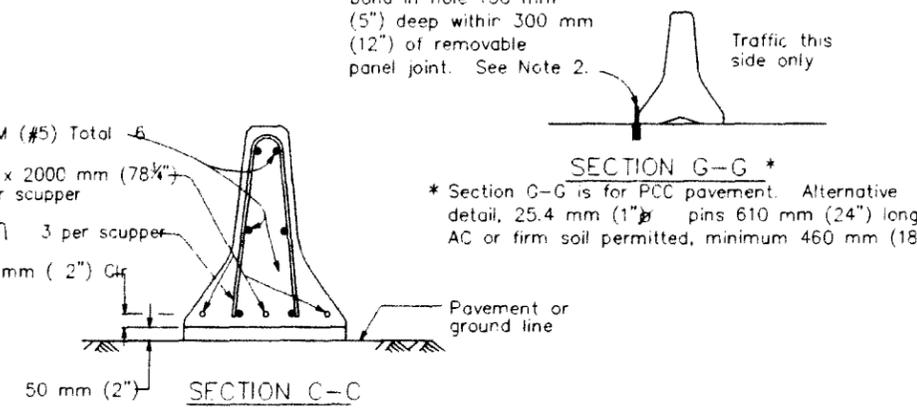
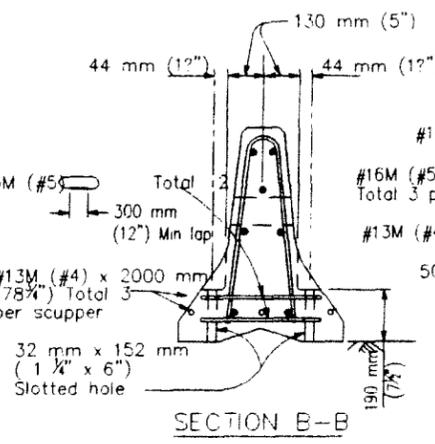
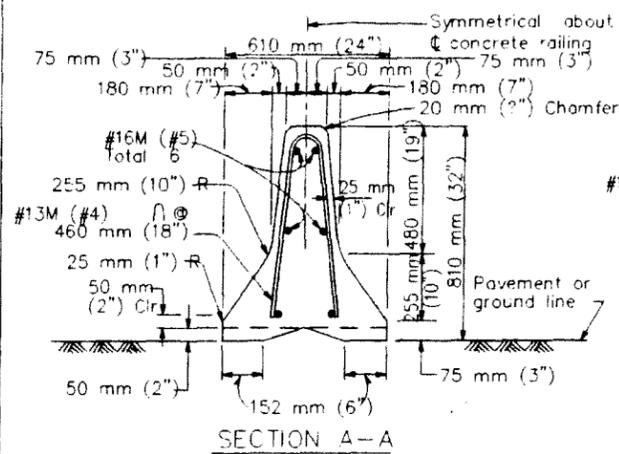
FOR INFORMATION ONLY

REVISIONS REV. DATE BY DESCRIPTION 1/09 PT GENERAL REVISION		DESIGNED: TURNER DRAWN: TURNER CHECKED: DOLYNIUK	SUBMITTED: [Signature] PROJECT MANAGER: [Signature] DESIGN MANAGER: [Signature]	45411 P.C.E. No. 10/1/07 DATE 54852 P.C.E. No. 10/1/07 DATE	Bookman-Edmonston Association with M.A.	ALL AMERICAN CANAL LINING PROJECT CANAL CONFLUENCE STRUCTURE SECTIONS AND CONCRETE LINING JOINT LAYOUT	DATE: October 2007 FILE NO.
--	--	--	---	--	--	---	--------------------------------

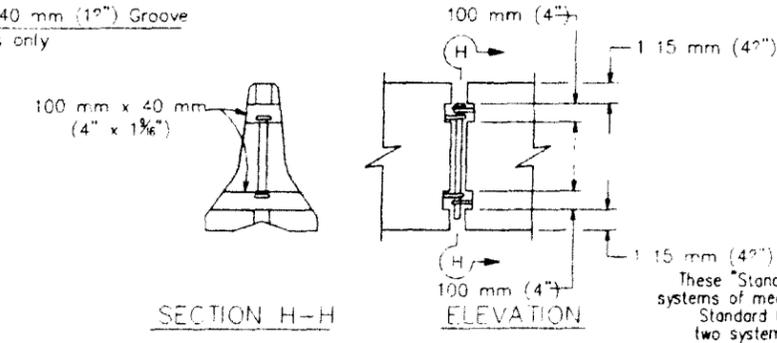
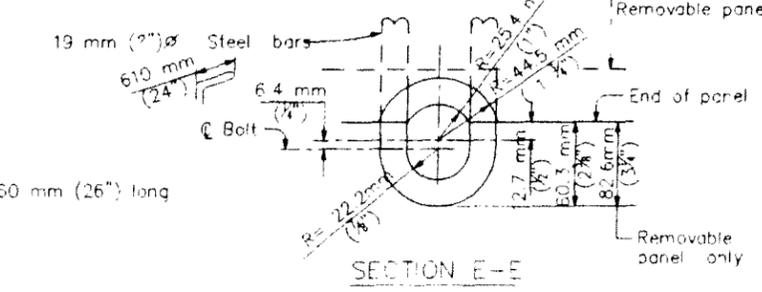
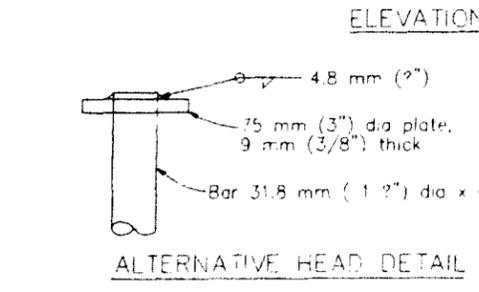
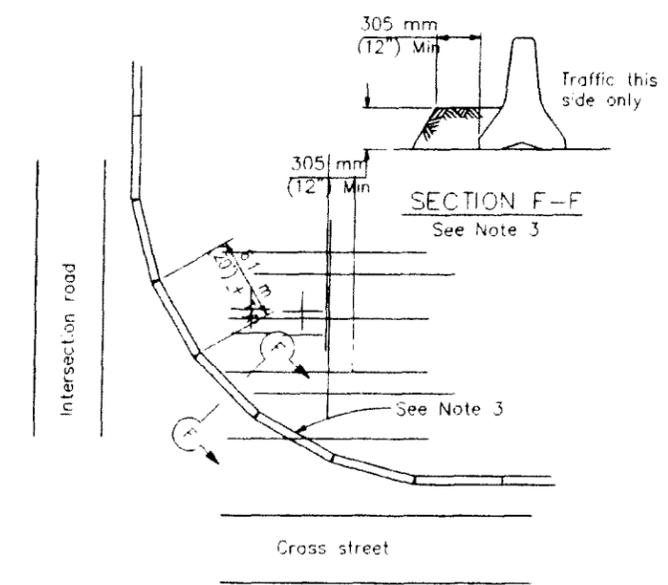
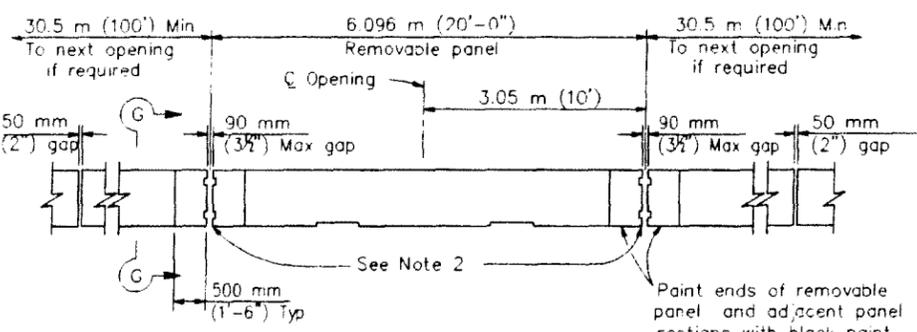
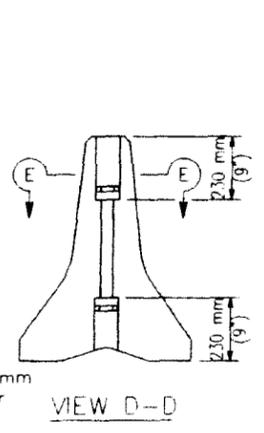
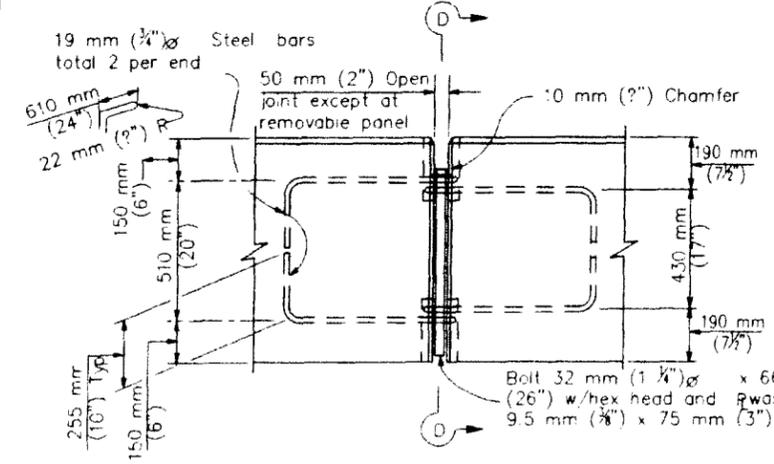


July 1, 2002
 PLANS APPROVAL DATE
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.
 Caltrans now has a web site. To get to the web site, go to <http://www.caltrans.gov>

- NOTES:**
1. For end treatment, layout and crash cushions, where needed, see Project Plans or Special Provisions.
 2. All 90 mm (3 1/2") gaps at removable panels are to be backed at the base with #25M (#8) x 260 mm (10") dowel or 25.4 mm (1") ϕ pin each side of joint. See Section C-G.
 3. Where Temporary Railing (Type K) is placed on curves and radii that are too severe to connect panels with bolted joints, the railing is to be backed continuously with earth fill. See Section F-F.
 4. Attach units to deck slabs when required by Bridge Plans.



* Section C-G is for PCC pavement. Alternative detail, 25.4 mm (1") pins 610 mm (24") long driven in AC or firm soil permitted, minimum 460 mm (18") deep.

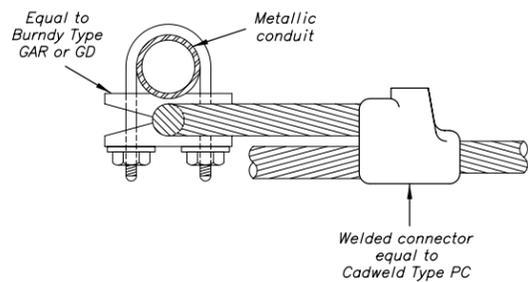


FOR INFORMATION ONLY
 STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
TEMPORARY RAILING (TYPE K)
 These "Standard Plans for Construction of Local Streets and Roads" contain units in two systems of measurement: international System of Units (SI or "metric") and United States Standard Measures shown in the parentheses (). The measurements expressed in the two systems are not necessarily equal or interchangeable. See the "Foreword" at the beginning of this publication.

2002 DUAL UNITS STD PLAN T3

FIGURE 1

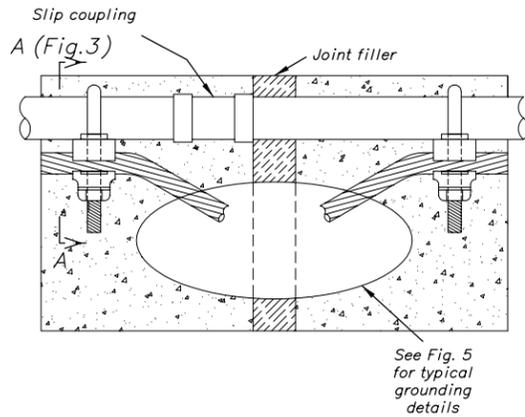
GROUNDING METAL CONDUITS



METAL CONDUIT GROUNDING TABLE			
CONDUIT SIZE	MINIMUM SIZE OF GROUND CABLE	NUMBER OF TAPS	CLAMP SIMILAR TO BURNDY TYPE
$\frac{3}{4}$ " to $1\frac{1}{2}$ "	No. 4 A.W.G.	1	GAR
2" to 3"	No. 1 A.W.G.	1	GAR
Above 3"	No. 1 A.W.G.	2	GD

FIGURE 2

BONDING CONDUITS AT EXPANSION JOINTS

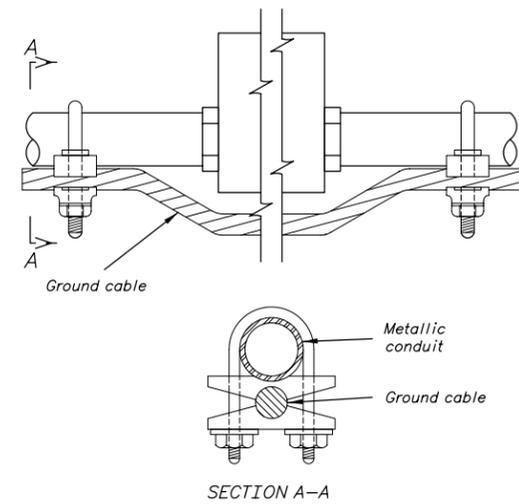


NOTE

CLAMPS SHALL BE EQUAL TO BURNDY TYPE GAR OR GD AND BARE COPPER CABLE IN ACCORDANCE WITH THE TABLE IN FIGURE 1 OR A BONDING JUMPER EQUAL TO O.Z. TYPE BJ (WITH BRONZE FITTINGS) MAY BE USED.

FIGURE 3

BONDING CONDUITS AROUND JUNCTION BOXES



NOTE

CLAMPS SHALL BE EQUAL TO BURNDY TYPE GAR OR GD AND BARE COPPER CABLE IN ACCORDANCE WITH THE TABLE IN FIGURE 1 OR A BONDING JUMPER EQUAL TO O.Z. TYPE BJ (WITH BRONZE FITTINGS) MAY BE USED.

NOTES

- Ground cables for connection to equipment shall be of sufficient length to bolt to equipment when ultimately installed. Terminations as shown in Figure 4 Dwg 40-D-4334 shall be used in lieu of stubouts. Approximate locations only are shown on drawings. Exact locations to be determined in field.
- Refer to conduit drawings or general arrangement drawings whenever available, for more exact location of equipment.
- Metal conduits shall be grounded at both ends. If a break occurs in a run of metal conduit, the conduit shall be bonded across the break. In case the above is not feasible, the each section shall be grounded separately. Each contractor shall ground each metal conduit run, or portion thereof, that he installs. Junction or pull boxes not containing protective equipment in which the conduits are installed with a locknut and bondnut shall not be considered a break when the voltage is below 240 volts to ground, but shall be so considered for higher voltages. All junction or pull boxes in runs of non-metallic conduit shall be individually grounded. All boxes containing overload protective devices shall be individually grounded.
- Ground cable shall be No. 4 A.W.G. or larger.
- All paint, enamel, and scale shall be removed from point of contact on metal surfaces before applying ground connections.
- All bolts, machine screws, nuts and washers used in making grounding connections shall be silicon bronze.
- Cable shields and one conductor of multiconductor cable shall be grounded at both ends.
- Thermoweld, Cadweld, or an approved equivalent process shall be used in making connections between cables where embedded in concrete, direct buried, or under plant superstructure.
- Where Thermoweld, Cadweld, or an approved equivalent process is used it shall be performed with heavy duty welding equipment in accordance with manufacturer's instructions and the material shall be new fresh stock.
- All ground connectors shall be UL listed. All below grade connectors to be in accordance with IEEE 837.

FIGURE 4

EMBEDDED GROUND CONNECTOR WITH EQUIPMENT GROUND CABLE

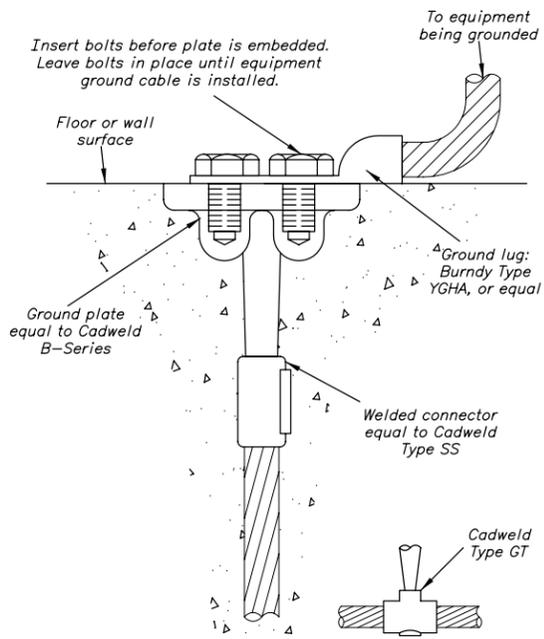
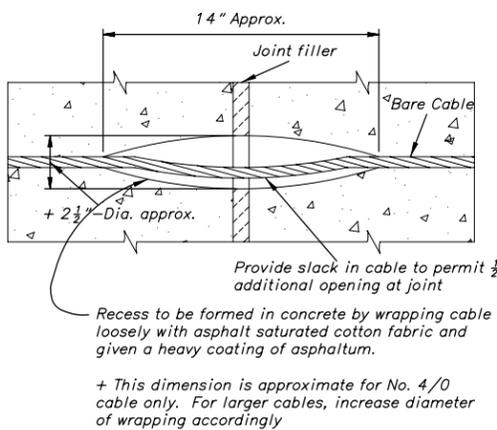


FIGURE 5

CROSSING EXPANSION AND CONTRACTION JOINTS WITH GROUNDING CABLE

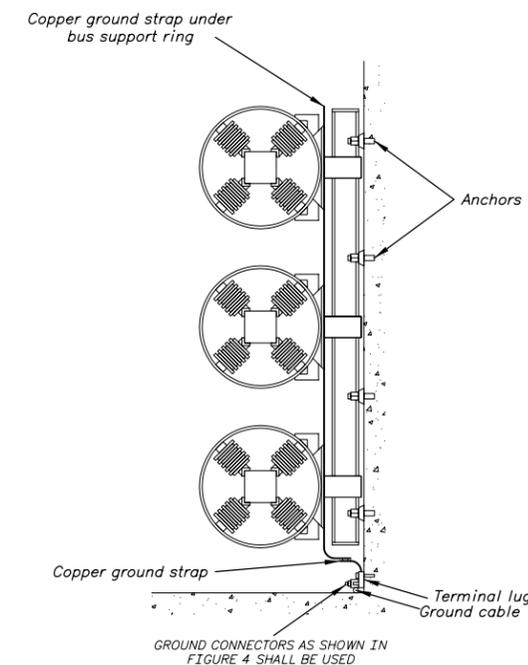


NOTE

THE CROSSING OF EXPANSION JOINTS WITH EMBEDDED GROUND CABLE SHOULD BE AVOIDED WHENEVER POSSIBLE. THE EMBEDDED GROUNDING SYSTEM FOR EACH UNIT OR BLOCK SHOULD BE SELF CONTAINED.

FIGURE 6

GROUNDING OF THREE PHASE BUS STRUCTURE



REFERENCE DRAWINGS

TYPICAL GROUNDING DETAILS (SHT 2 OF 2)	40-D-4335
SWITCHYARDS & SUBSTATIONS - GROUNDING DETAILS	40-D-4753
PLATFORM GROUNDING DETAILS	40-D-4874
CABLE TRENCH GROUNDING	40-D-6182
GROUNDING SUPPORTS ON TUBULAR STEEL STRUCTURES	40-D-6309
FENCE GROUNDING DETAILS	40-D-6376

REV NO 3	2004-07-06	CHANGED NOTE 10, ADDED FIG. 4 CONNECTOR REF., ADDED REF.
D	J. R. Z.	DRAWINGS, OTHER MINOR REVISIONS.
3	10-00	REDRAWN IN AUTOCAD R.14 FORMAT
D	L.G.	
12	2-85	REVISED TO SHOW CURRENT PRODUCTS OR PRACTICES.
D	G.D.O.	

THIS DRAWING SUPERSEDES IN PART DRAWING 40-D-4336, 01-14-2003

ALWAYS THINK SAFETY

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION STANDARD DESIGNS

ELECTRICAL INSTALLATION
TYPICAL GROUNDING DETAILS

DRAWN	R.Y.N. - S.J.S.	SUBMITTED	D. CLARK
TRACED	J. M. H.	RECOMMENDED	H. H. PLUMB
CHECKED	V.N.P. - R.E.H. - T.J.L.	APPROVED	L. N. McCLILLAN
			ACTING CHIEF ENGINEER

FIGURE 1
GROUND MATS

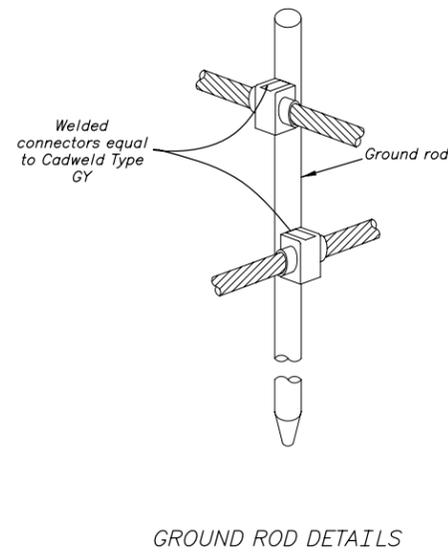


FIGURE 2
GROUND MATS

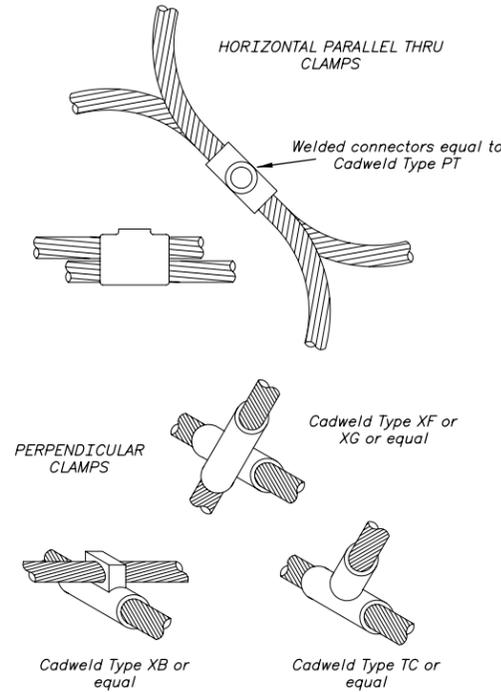


FIGURE 3
LIGHTING OR MISC POWER CABINETS

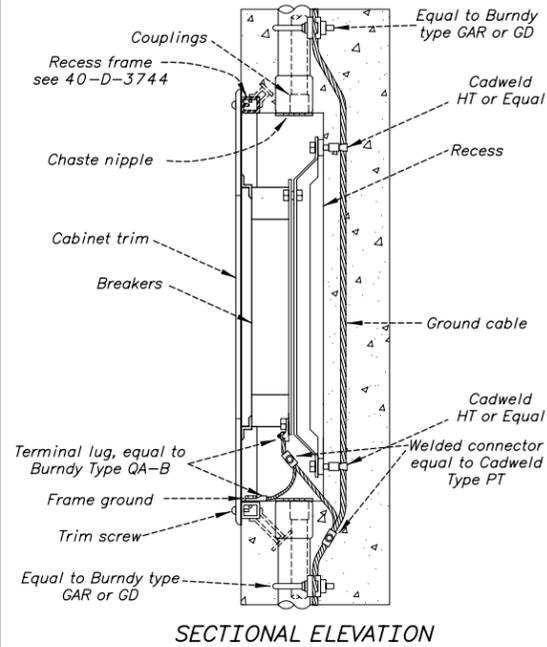
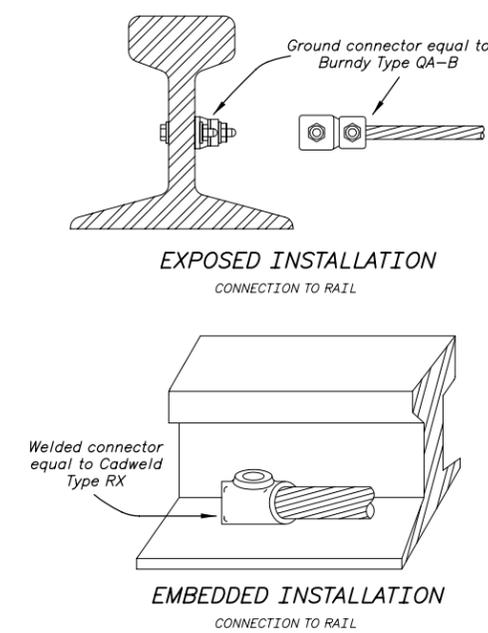


FIGURE 4
RAILS



NOTES
1. See drawing 40-D-4334 for notes and list of reference drawings.

GROUND SYMBOLS
(Used on Plan Drawings)

- Indicates ground cable embedded in concrete
- - - Indicates ground cable concealed but not embedded in concrete
- Indicates ground cable exposed
- ⊙ Indicates ground rod
- Indicates ground connection
- Indicates ground cable riser
- Indicates embedded ground plate

FIGURE 5
FLOOR FRAMES

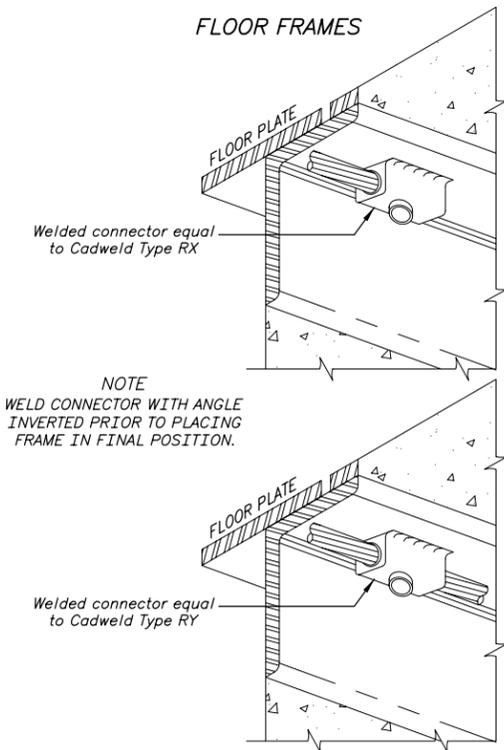


FIGURE 6
RAILING POST BASES AND HANDRAIL SUPPORTS

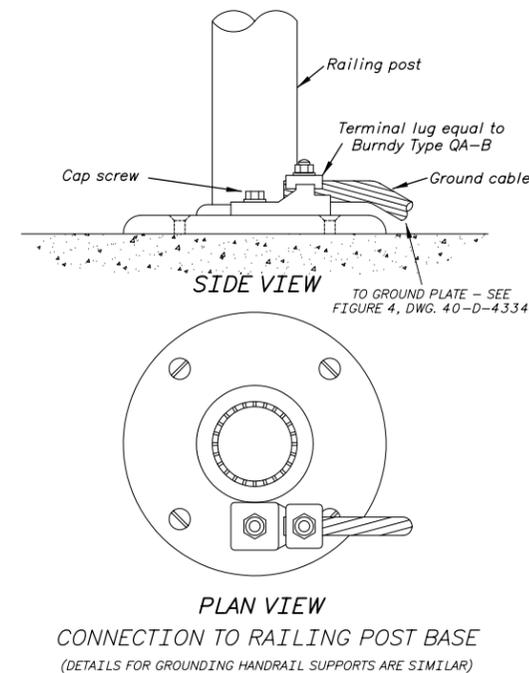


FIGURE 7
OIL TANK GROUNDING DETAILS

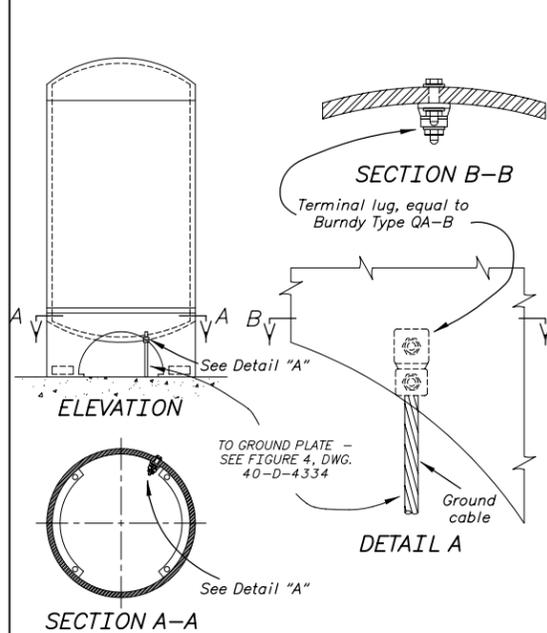
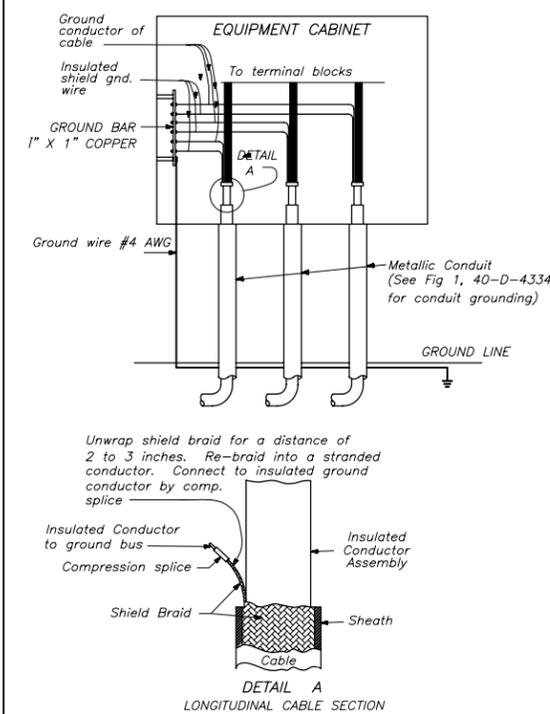


FIGURE 8
CONTROL CABLE SHIELD



REFERENCE DRAWINGS
ELECTRICAL INSTALLATION - TYPICAL
GROUNDING DETAILS (SHT 1 OF 2) 40-D-4334

REV NO	2004-07-06	MINOR REVISIONS; ADDED FIG.'S 2 AND 8.
3	D - J. R. Z.	
3 - 10 - 00		REDRAWN IN AUTOCAD R.14 FORMAT
D - L.G.		
12 - 2 - 85		REVISED TO SHOW CURRENT PRODUCTS OR PRACTICES.
D - G.D.O.		

THIS DRAWING SUPERSEDES DRAWING
40-D-4336 IN PART (2003-01-14);
AND DRAWING 104-D-944 (2004-07-06)

ALWAYS THINK SAFETY

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
STANDARD DESIGNS

ELECTRICAL INSTALLATION
TYPICAL GROUNDING DETAILS

DRAWN	R.Y.N. - S.J.S.	SUBMITTED	D. CLARK
TRACED	J. M. H.	RECOMMENDED	H. H. PLUMB
CHECKED	V.N.P. - R.F.H. - T.J.L.	APPROVED	L.N. McCLELLAN
			ACTING CHIEF ENGINEER