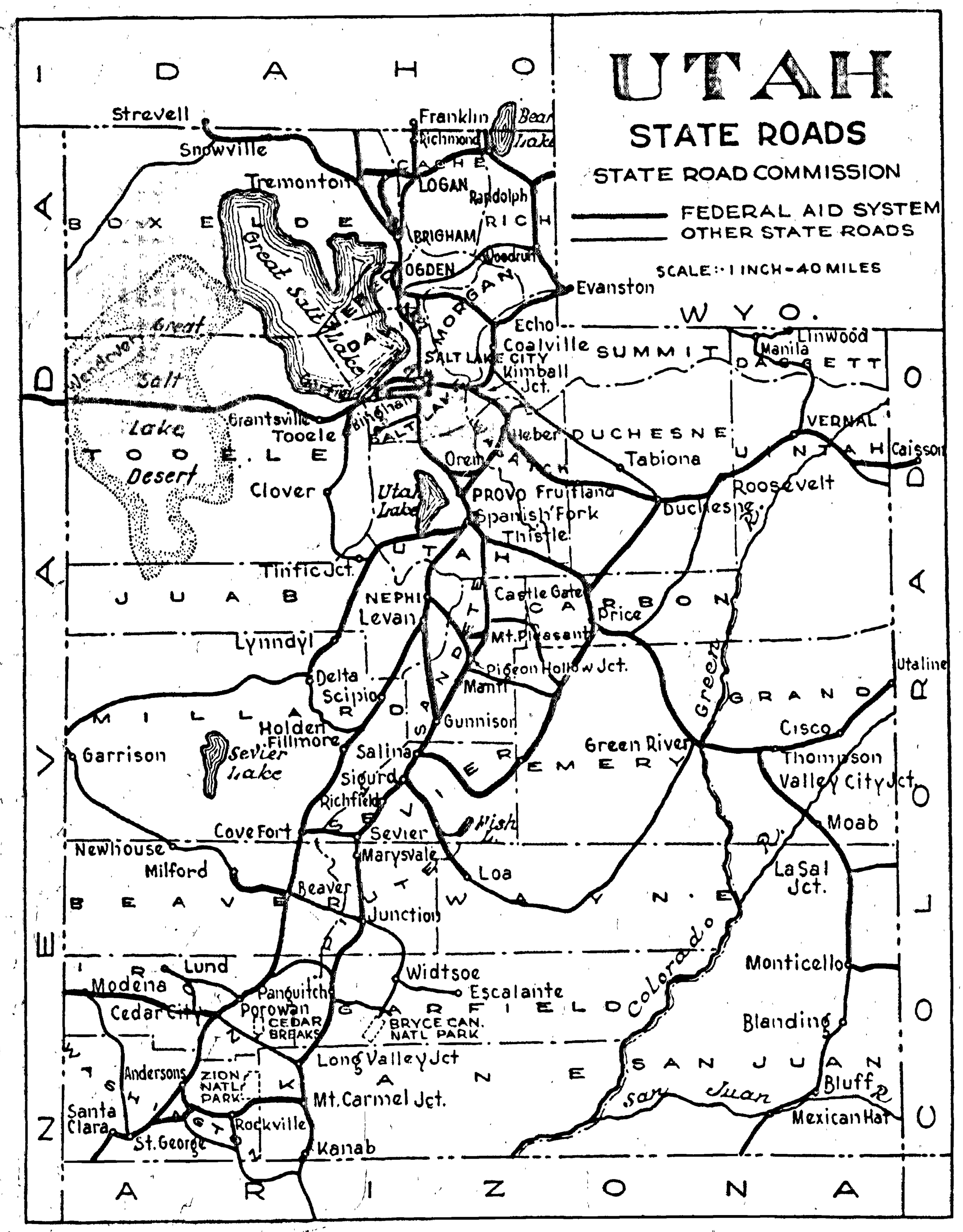
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
12	UTAH	221·A(1)	1942	1	16
"	"	DA-WR 5(1)	1942	1	16
"	"	F.A.P. 224·A(1)	1942	1	17
"	"	DA-WR 6(1)	1942	1	16
"	"	114·E(1)	1942	1	14
"	"	114·C(2)	1942	1	12
"	"	226·A(1)	1942	1	4
"	"	DA-WR 18(1)	1942	1	7
"	"	F.A.G.M. 234·A(1)	1942	1	4
"	"	F.A.P. 225·A(1)	1942	1	11
"	"	DA-WR 17(1)	1942	1	11

STATE OF UTAH
STATE ROAD COMMISSION

PLANS OF PROPOSED STATE ROAD

FEDERAL AID PROJECT

AW (PE) F.A.P. № 221-A(1) LENGTH 0.254 MILES
DA-WR № 5(1) LENGTH 0.254 MILES
AW (PE) F.A.P. № 224-A(1) LENGTH 0.506 MILES
DA-WR № 6(1) LENGTH 0.083 MILES
SN-F.A.P. № 114-E(1) LENGTH 0.939 MILES
SN-F.A.P. № 114-C(2) LENGTH 2.971 MILES
AW-(PE) F.A.P. № 226-A(1) LENGTH 0.117 MILES
DA-WR № 18(1) LENGTH 0.117 MILES
AW-F.A.G.M. № 234-A(1) FL. LT. SIGNALS
AW(PE) F.A.P. 225A(1) LENGTH 0.094 MILES
DA-WR № 17(1) LENGTH 0.094 MILES



INDEX TO SHEETS DA-WR PROJ. № 17(1)

SHEET №	DESCRIPTION	DRAWING №	STATION
1	TITLE SHEET		
2	TYPICAL SECTION		
3	PLAN AND PROFILE		
4	GRADE SHEET		
5	GUTTER INLET AND CLEAN OUT BOX	V.331	5+72±
6	STD. CATCH BASIN	V.330/1-L-14	9+02± 10+07±
7-A	F.A.P. MARKERS	M-45	
7-B	STD. R/W. FENCE	M-46	
8-9	STD. HIGHWAY SIGNS	B-95.1-2	
10	DRIVEWAYS	B-52	
11	" STD. CURB & GUTTER	B-48-1	
1-2	X-SECTIONS		

INDEX TO SHEETS AW-F.A.G.M. 234·A(1)

SHEET	DESCRIPTION	DRAWING	STATION
1	TITLE SHEET		
2	PLAN AND PROFILE		
3	R.R. ADV. WARNING SIGN (FIG. 7)	GC-40	
	F.L. SIGNALS (FIG. 2·A)	GC-40	
4	CIRCUIT PLAN & F.L. SIGNALS	GC-53	

SCALES ON DA-WR №18(1) & 17(1)
PLAN 0' 25' 50'
PROFILE HOR. 0' 25' 50'
VERT. 0' 5' 10'
5' on DA-WR № 17(1)

SCALES:
PLAN:
PROFILE: HORIZ. / VERT.
SN-F.A.P. № 114-C(2) & 114-E(1) AND DA-WR № 6(1) & 5(1)

INDEX TO SHEETS SN·F.A.P. 114·C(2)

SHEET	DESCRIPTION	DRAWING	STATION
1	TITLE SHEET		
2	TYPICAL SECTION		
3-8	PLAN AND PROFILE		
9	REINFORCING AND JOINT DETAILS	B·94	
10-11	STD. HIGHWAY SIGNS	B-95 1&2	
12	SUPERELEVATION OF CURVES	M-37	

~~INDEX TO SHEETS DA-WR № 6(1)~~

SHEET	DESCRIPTION	DRAWING	STATION
1	TITLE SHEET		
2·2A	TYPICAL SECTIONS		
3-3A	PLAN AND PROFILE		
4	DETAILS OF C.&G., & DRIVEWAY		
5-6	CHANNELIZATION		
7	SITUATION PLAN	V-277	
8-12	CONC. FLUME AND TRANSITION	D-474	1+96
13-15	22' O to O WOOD BRIDGES (300' LT. & RT.)	A-400	1+96
16-18	NW. & SW. WING WALL TO FLUME STRUCT.	V-309	1+96±
19-24	MISC. DRAINAGE STRUCTURES	V-311	-3+00 To 5+
25-27	CONC. WING WALL W. END UNDERPASS	V-307	4+
28-30	" " " E. " "	V-306	4+93.6 To 5+
31-35	47'-6" O to O RIGID FRAME UNDERPASS	D-475	4+20.6
36-40	45' O to O " " "	D-476	4+71.1
41-44	CONC. RET. WALL BETW. TRACK STRUCT.	V-308	4+35.6 to 4+
45	F.A.P. AND R/W MARKERS	M-45	
46	REIN. & JOINT DETAILS	B·94	
47	CURB & GUTTER DETAILS	B-48·1	
47A	DETAILS OF TRACK LAYOUT AT UNDERPASS	F-22	
1-30	X·SECTIONS		

INDEX TO SHEETS DA-WR № 18(1)

SHEET	DESCRIPTION	DRAWING	STATION
1	TITLE SHEET		
2	TYPICAL SECTION		
3	PLAN AND PROFILE		
4·A	F.A.P. AND R/W MARKERS	M-45	
5·6	STD. ROAD SIGNS	B·95-1&2	
7	STD. XING SIGN FOR RAILROADS	V·159	
4·B	R.R. ADVANCE WARNING SIGN	J·483	
1-3	X-SECTIONS		

INDEX TO SHEETS DA-WR No. 5(1)

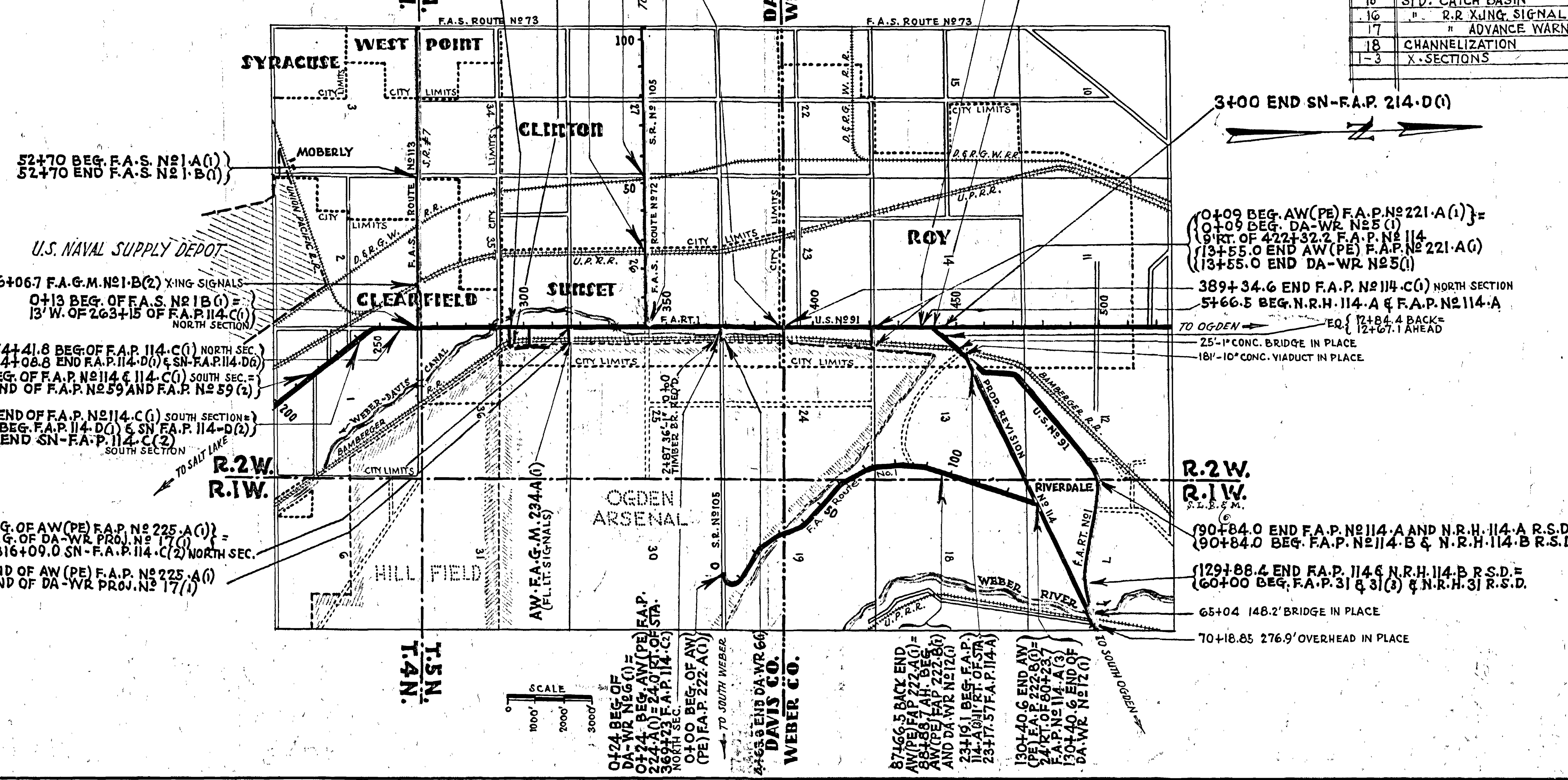
SHEET No.	DESCRIPTION	DRAWING No.	STATION
1	TITLE SHEET		
2	TYPICAL SECTION		
3	PLAN AND PROFILE		
4-10	41' O to O CONC. T-BEAM BRIDGE	D-477	12+70.7
11	STD. CONC. CATCH BASIN	V-175·L/64	0+46 & 4+40
12	" CONC. HEAD GATE & OUTLET	V-323	VARIOUS
13	F.A.P. & R/W MARKERS	M-45	VARIOUS
14-15	R.R. X·ING SIGNALS & CIRCUIT PLAN	GC-4 GC-47	
16-A	STD. R/W FENCE AND GATES	M·46	
1-6	X·SECTIONS		

INDEX TO SHEETS DA-WR № 6(1)

SHEET	DESCRIPTION	DRAWING	STATION
1	TITLE SHEET		
2	TYPICAL SECTION		
3&3.A	PLAN AND PROFILE & PROPERTY KEY MAP		
4-6	MISC. STRUCTURES	V·329	0-35 TO 2+72
7-10	36'-1" O to O TIMBER BRIDGE	A·402	2+87
11	DAVIS-WEBER CO. CANAL RELOCATION	V.328	2+87
12-13	STD. HIGHWAY SIGNS	B·95.1&2	
14·A	F.A.P. MARKERS	M·45	
15	STD. CATCH BASIN	V·330-1 L·13	0+52
16	" R.R XING SIGNAL	G.C.40 Fig.2A	3+59.7 2+42.5
17	" ADVANCE WARNING SIGN	J·483	5+00.1
18	CHANNELIZATION		
1-3	X·SECTIONS		

INDEX TO SHEETS SN-F.A.P. № 114·E(1)

SHEET	DESCRIPTION	DRAWING	STATION
1	TITLE SHEET		
2-2·A	TYPICAL SECTION		
3-4	PLAN AND PROFILE		
5	CHANNELIZATION AT ROY		
6	2'x1'x96'-9½" CONC. CULV.	E·747	407+05
	2'x1'x96'-9½" " "	"	423+32
7	HEADGATES AND OUTLETS	V.313·L.1&2	VARIOUS
8·A	R/W MARKERS	M·45	
8·B	STD. MAIL BOX POST	M·52	
9	GRATE INLET	V.330-1/L.12	395+56
10	STD. CURB AND GUTTER	B·48	
11	STD. DRIVEWAYS	B·52	
12	REINFORCING AND JOINT DETAILS	B·94	
13-14	STD. HIGHWAY SIGNS	B·95.1&2	
1-22	X·SECTIONS		



APPROVED FEBRUARY 1942

STATE ROAD COMMISSION OF UTAH

(signature) DESIGN ENGINEER

RECOMMENDED FOR APPROVAL

(signature) DISTRICT ENGINEER PUBLIC ROADS ADMINISTRATION FEDERAL WORKS AGENCY

RECOMMENDED FOR APPROVAL

POST COMMANDER

RECOMMENDED FOR APPROVAL

(signature) CHIEF, WESTERN REGION PUBLIC ROADS ADMINISTRATION FEDERAL WORKS AGENCY

APPROVED

COMMANDING GENERAL

APPROVED

(signature) COMMISSIONER PUBLIC ROADS ADMINISTRATION FEDERAL WORKS AGENCY

221-224-225
226-114 C&E

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
12	UTAH		1928	2	

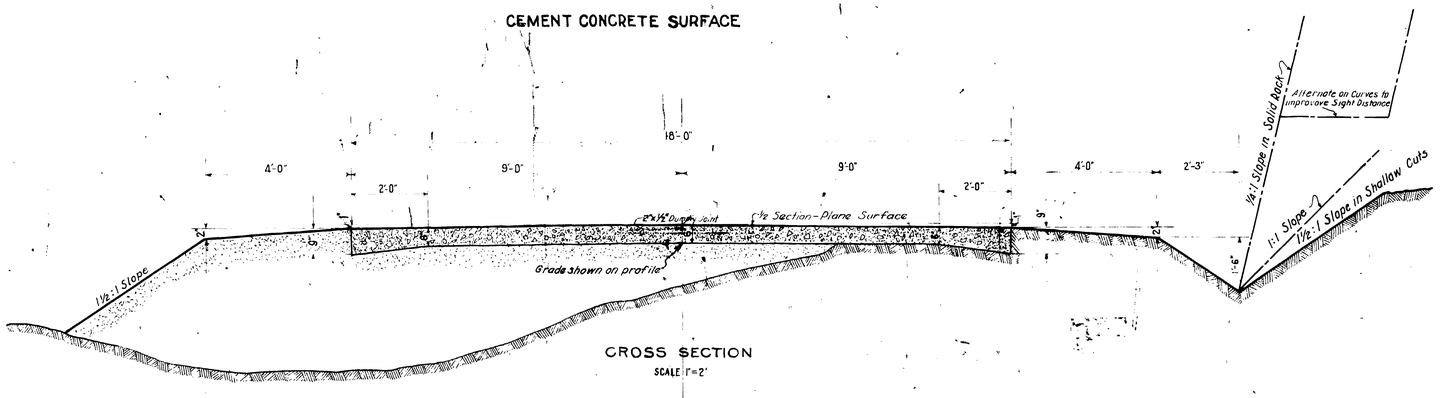
F.A.P.-221-A(1)

SHEET #2

TYPICAL CROSS SECTION

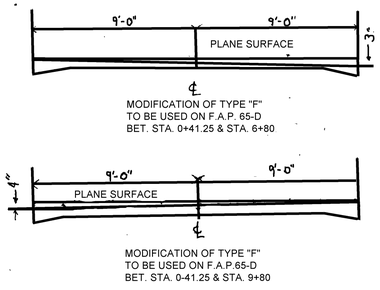
TYPE "F"

CEMENT CONCRETE SURFACE



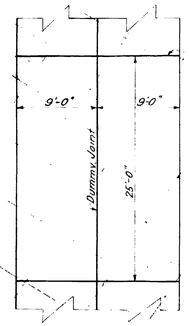
CROSS SECTION

SCALE 1"=2'



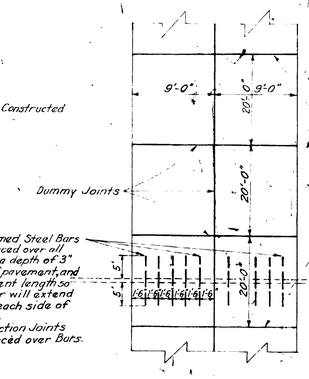
MODIFICATION OF TYPE "F"
TO BE USED ON F.A.P. 65-D
BET. STA. 0+41.25 & STA. 6+80

MODIFICATION OF TYPE "F"
TO BE USED ON F.A.P.65-D
BET. STA. 0-41.25 & STA. 9+80



3/8" Joints
Pre-moulded Joint Filler Constructed to Conform to Template

TO BE USED BETWEEN
STA. [redacted] & STA. [redacted]
NOT USED ON THIS PROJECT

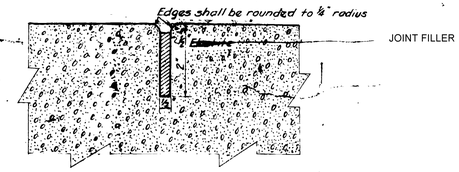


½" Deformed Steel Bars shall be placed over all Culverts-at a depth of 3" from top of pavement, and of sufficient length so that the Bar will extend at least 5' each side of the Culvert. No Contraction Joints shall be placed over Bars.

¾" Joints
Pre-moulded Joint Filler Constructed to Conform to Template

TO BE USED BETWEEN
STA. [redacted] & STA. [redacted]
ON ENTIRE PROJECT

USED STA. 8+83.6 TO 2 26+97.8
STA. 8+83.6 TO 26+92 ON F.A.P. 2



DETAILS OF DUMMY JOINT

USED ON
F.A.P. №
40-B
40-A RESURFACED SECTION
84
72-B
107-D
107-C
(S.R.) 703-D
(S.R.) 430-C
86-A
42-A RE-OP'D
65-D
S.P. 249
S.P. 260

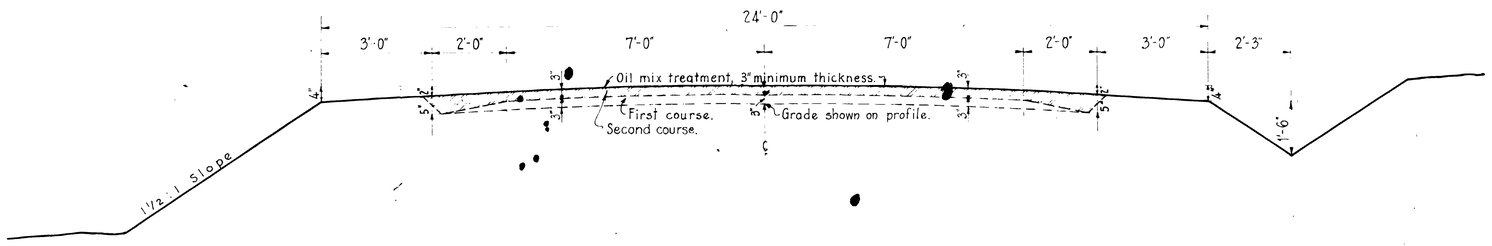
FED. ROAD DIST. NO.	STATE	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
12	UTAH			

F.A.P.-221-A(1)
SHEET #2-A

STANDARD
TYPICAL CROSS SECTION

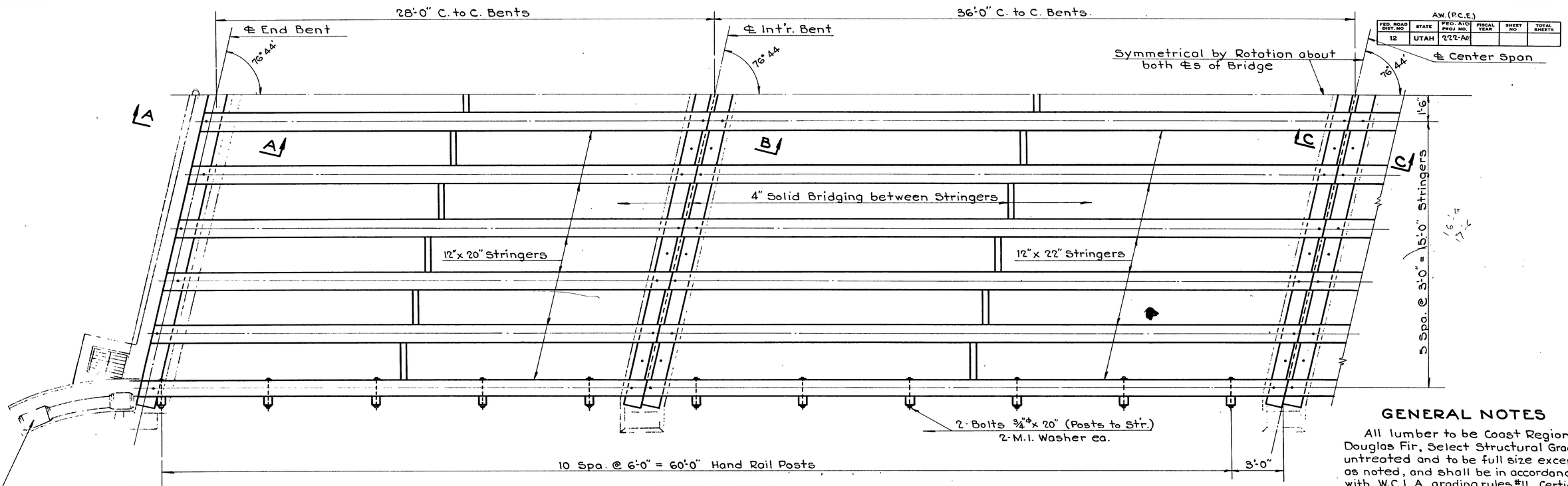
USED ON S.P. 234

TYPE 'N' OILING
SCALE 1"=2'-0"



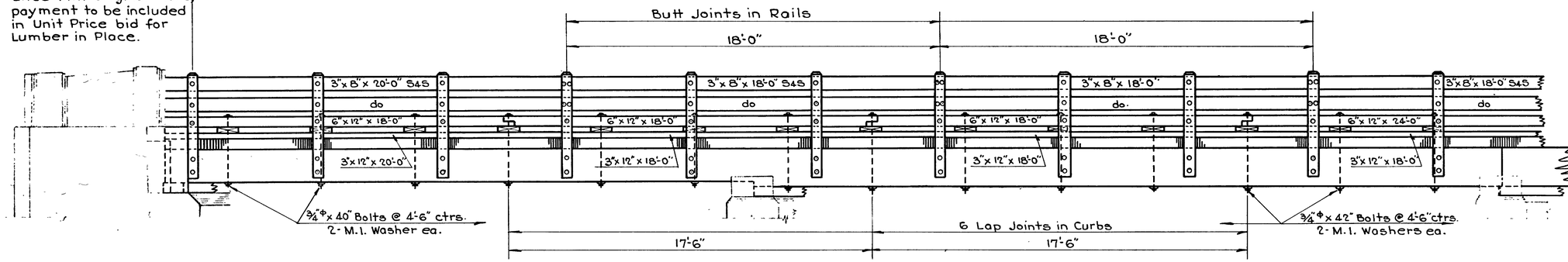
TO BE USED BETWEEN STA. 26+92 & STA. 492+00

Used On N.R.P. No.	USED ON F.A.P. Nº	USED ON F.A.P. Nº	USED ON F.A.P. Nº	USED ON F.A.P. Nº	UTAH STATE ROAD COMMISSION SALT LAKE CITY, UTAH H. S. KERR, Chief Engineer
N.R.S. 139	67				
N.R.S. 146	62-A				
	63-A				
	47-B-Re-op.				
	70-A				
	57-Re-op.				
	88C				
					DESIGNED BY E.C.K. SCALE 1"=2'-0"
					DRAWN BY H.S.T. ISSUED
					CHECKED BY W.L.A. APPROVED
					EXAMINED BY
					DRAWN APR. 13, 1928.



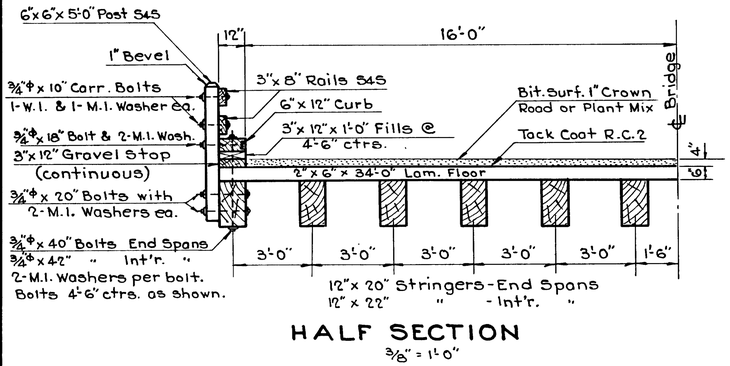
QUARTER PLAN

(Showing Stringers, Sills and Posts Only. Floor not shown.)



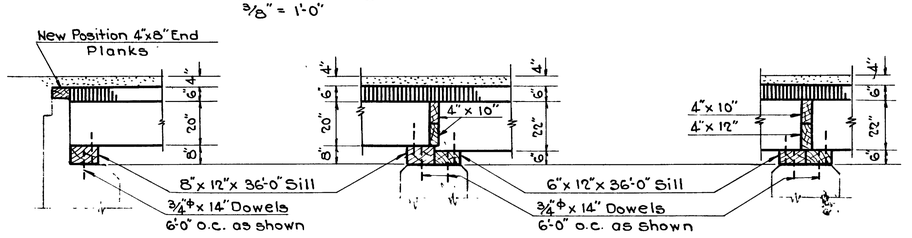
HALF ELEVATION

3/8" = 1'-0"



HALF SECTION

3/8" = 1'-0"



SECTION A-A

(End Bents)

3/8" = 1'-0"

SECTION B-B

(Int'r. Bents)

3/8" = 1'-0"

SECTION C-C

(Center Bent)

3/8" = 1'-0"

GENERAL NOTES

All lumber to be Coast Region Douglas Fir, Select Structural Grade, untreated and to be full size except as noted, and shall be in accordance with W.C.L.A. grading rules #11. Certificates of grade to be furnished as required in the Std. Spec's.

Materials, construction and workmanship shall be in accordance with State Std. Specs. for Road and Bridge Const'n. and Supplements there to.

Bituminous Surface-course to be measured and paid for in accordance with State Std. Specs.

Before applying Bituminous Wearing Surface the top surface of laminated floor shall receive a tack coat of R.C.-2 ⅛ Gal. per Sq. Yd.

DESIGN DATA

A.A.S.H.O. Spec's. of 1941
H-15 Loading
Allowable Stress fw = 1600 #/□"

QUANTITIES

Lumber	66,237 F.B.M.
Hardware	2,469 Lbs.
Bituminous Surfacing	462 Sq. Yds.
Paint - State Std. White	5 Gal.

TEMPORARY WOODEN SUPER STRUCTURE

See D-466

Sheet 1 of 2 sheets

A.W.(P.C.E.) FED. ROAD DIST. NO	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO	TOTAL SHEETS
12	UTAH	222-A(4)			

REVISIONS

DATE	BY	DATE	BY

UTAH STATE ROAD COMMISSION
SALT LAKE CITY - UTAH
BRIDGE DEPARTMENT

BRIDGE OVER U.P. & L. CO'S. PENSTOCKS
A.W.(P.C.E.) F.A.P. 222-A(4)
Sta. 52+50 Weber Co.
Ogden Arsenal-Riverdale

DESIGNED BY F.M.E. | SCALE As noted
DRAWN BY F.M.E. | ISSUED Sept. 6, 1942
CHECKED BY | APPROVED Paul T. Mattes, CHIEF BRIDGE ENGINEER
EXAMINED BY

BR. NO. 29-259-1-2 | DRG. NO. A-406

A.W. (P.C.E.)

FED. ROAD DIST. NO.	STATE	F.A.I.D. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
12	UTAH	222-A(1)			

LUMBER SCHEDULE

SIZE	NO	N.L'TH	N. FBM	NO	G.L'TH.	G. FBM	LOCATION	REM'KS.
8"x12"	4	36'-0"	1152	4	36'	1152	Sills End Spans	Full Size
6"x12"	4	36'-0"	864	4	36'	864	" Int. "	"
4"x10"	44	2'-0"	293				Bridging End Spans	"
4"x10"	22	2'-0"	147	11	12'	440	" End & Int. "	"
4"x10"	44	2'-0⅝"	301				" End "	"
4"x10"	11	2'-0⅝"	75	7	18'	420	" End & Int. "	"
4"x12"	22	2'-0"	176	2	22'	176	" Int. "	"
4"x12"	11	2'-0⅝"	90	1	24'	96	" " "	"
2"x6"	774	34'-0"	26,316	774	34'	26,316	Laminated Floor	"
3"x12"	4	19'-4"	232	4	20'	240	Gravel Stops	"
3"x12"	10	18'-0"	540	10	18'	540	" "	"
3"x12"	56	1'-0"	168	7	8'	168	Curb Fills	"
6"x12"	4	16'-9"	402	4	18'	432	" Ends	"
6"x12"	8	18'-0"	864	8	18'	864	Curb	"
6"x12"	2	23'-0"	276	2	24'	288	" Center	"
12"x20"	24	28'-5"	13,640	24	30'	14,400	Stringers	"
12"x22"	24	36'-0"	19,008	24	36'	19,008	"	"
6"x6"	44	5'-0"	660	22	10'	660	Rail Posts	S4S
3"x8"	8	19'-4"	309	8	20'	320	Railings	"
3"x8"	20	18'-0"	720	20	18'	720	"	"

TOTALS = 66,233 = 67,104 FBM.

All Lumber to be Full Size Rough, Except Railing and Rail Posts as Noted and Shown.

HARDWARE SCHEDULE

ITEM	NO.	SIZE	LENGTH	WT.	LOCATION
Dowels	48	¾" ϕ	14"	85#	Sills
"	96	¾" ϕ	14"	170#	Stringers to Sills
Bolts	24	¾" ϕ	40"	126#	Curbs to Stringers
"	32	¾" ϕ	42"	176#	" " "
"	44	¾" ϕ	18"	114#	Posts to Curb
"	88	¾" ϕ	20"	250#	" " Stringers
Carr. Bolts	112	¾" ϕ	10"	174#	Rails to Posts
Nails	14,000	40 d	5"	800#	Laminated Floor
"	10,000	20 d	4"	400#	Toe Nail Lam. Floor
M. I. Washers	488	¾"	—	161#	¾" Bolts
W. I. Washers	112	¾"	—	13#	" "

TOTAL = 2469 Lbs.

REVISIONS

DATE	BY	DATE	BY

Sheet No. 2 of 2 Sheets

UTAH STATE ROAD COMMISSION
SALT LAKE CITY - UTAH
BRIDGE DEPARTMENT

BRIDGE OVER U.P. & L.CO'S. PENSTOCKS

A.W.(P.C.E.) F.A.P. 222-A(1)
Sta. 52+50 Weber Co.
Ogden Arsenal-Riverdale

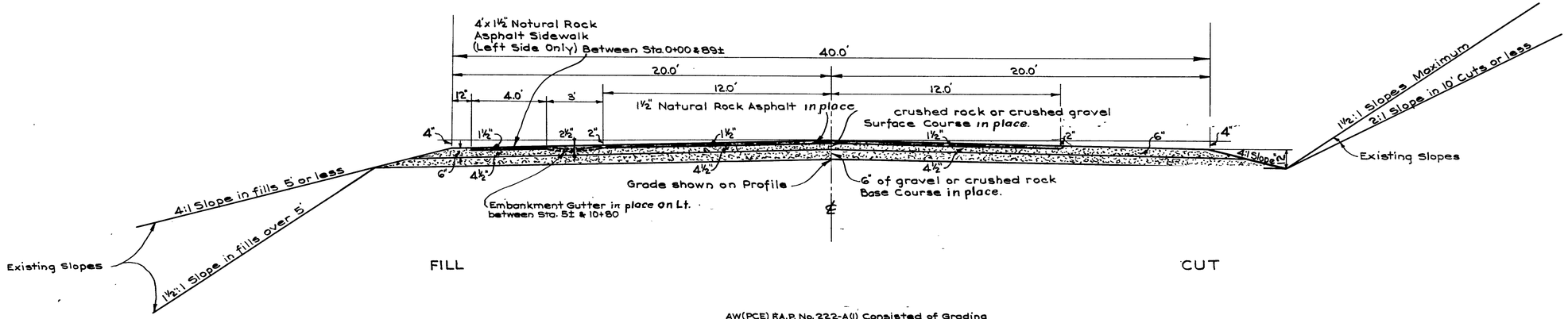
DESIGNED BY F.M.E.
DRAWN BY F.M.E.
CHECKED BY
EXAMINED BY

SCALE None
ISSUED Nov. 1, 1941
APPROVED Paul D. McGatlin
CHIEF BRIDGE ENGINEER

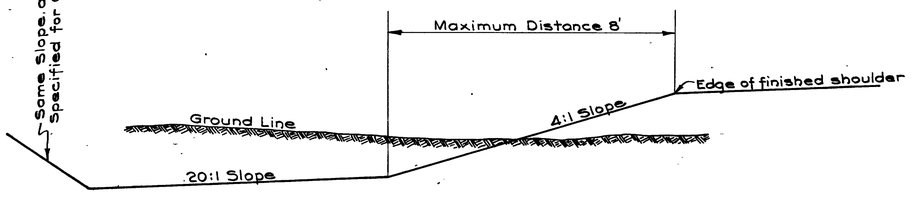
BR. NO. 29-259-1-2 DRG. NO. A-406

TYPICAL CROSS SECTION

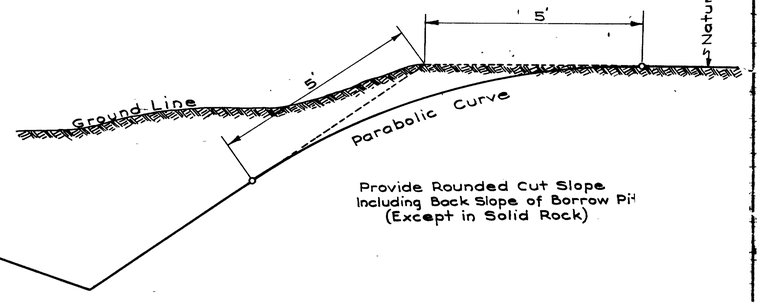
FED. ROAD DIST. NO.	STATE	F.A.P. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
12	UTAH	222-A(1)	1942	2	40



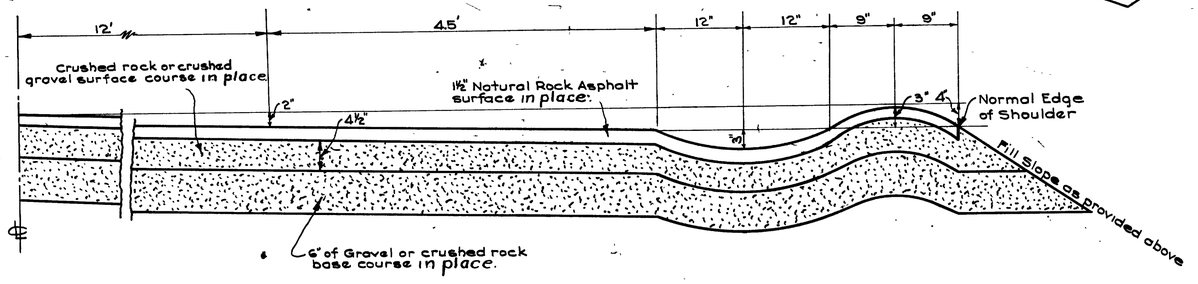
AW(PCE) R.A.P. No. 222-A(1) Consisted of Grading and Placing of Structures only.



Maximum Depth of Borrow Pit.



Provide Rounded Cut Slope Including Back Slope of Borrow Pit (Except in Solid Rock)



PAVED EMBANKMENT GUTTER & SHOULDER

Use between Sta. 12± to Sta. 20+30
" " " 46+50± " " 51+80±
" " " 53+15 " " 56+20±

Widen and Superelevate Curves According to Drwg. No M-37

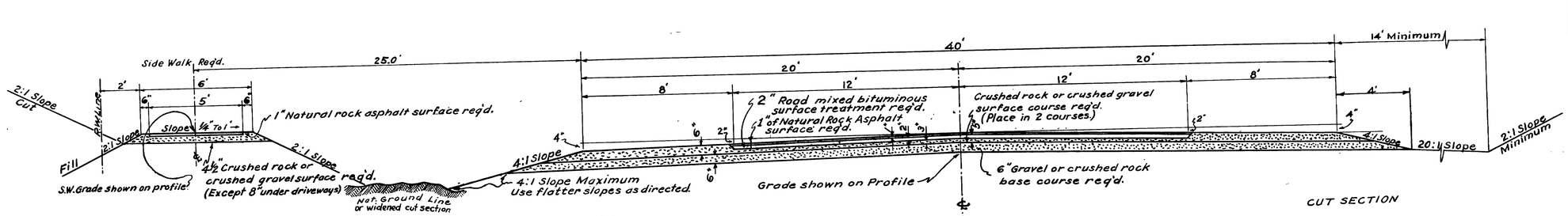
UTAH STATE ROAD COMMISSION
SALT LAKE CITY - UTAH

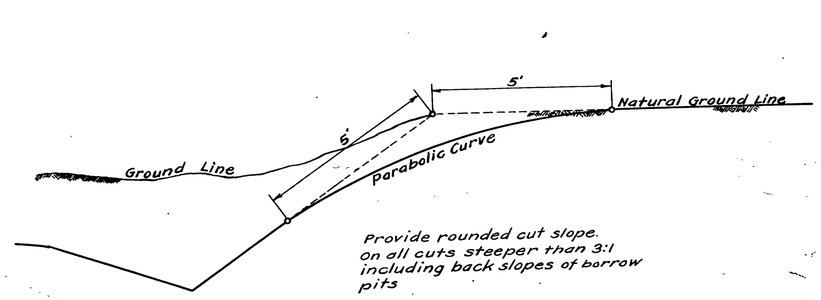
— TYPE —

24' NATURAL ROCK ASPHALT ROADWAY

FED. ROAD DIST. NO.	STATE	FA PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
12	UTAH	222 B(1)	1942	02A	10
		DA-WR 212(1)	1942		10

TYPICAL CROSS SECTION





Provide rounded cut slope. on all cuts steeper than 3:1 including back slopes of borrow pits

REVISIONS

DATE	BY	DATE	BY

UTAH STATE ROAD COMMISSION
SALT LAKE CITY - UTAH
W. L. ANDERSON DESIGN ENGINEER

— TYPE —

Bituminous Surfaced Roadway

LIST OF STRUCTURES

STATION	REQUIRED	IN PLACE	REMARKS	DWG. NO.
5+00±		18"X81' Conc. Pipe		
12+00±		18"X81' " "		
20+50		24"X72' " "		
27+49.42		84'-6⅜" Conc. Br.		C-215 15sh.
5+00-10+80		588' Guard rail Lt.		E-40
5+00-20+00		1500' " " Rt.		" "
26 to 27+00		96' " " "		" "
28 - 29+00		96' " " Lt.		" "
28-34+00		600' " " Rt.		" "
17+00-20±		6 std. guide posts Lt.	60' Intervals	
28±-34		11 " " " "	" "	
33+00		18"X76' Conc. Pipe		
33+75		6"X80' CGMP	Perforated	
28+50-34+50		8"X600' Conc. Drain		
20+30		8"X20' C.G.M.P.	on RT.	

LIST OF STRUCTURES

STATION	REQUIRED	IN PLACE	REMARKS	DWG. NO.
35±		18"x 81' Conc. Pipe		
39+00		18"x 64' " "		
46+86		36"x 126' " "	Skew	
59+72		18"x 72' " "		
51+80		8"x 120' CGMP	on Rt.	
64+74		18 x 144' Conc Pipe	60° SKEW	
27± to 47±		8" x 2000' UNDERDRAIN		
34-39±		9 std. guide posts Rt.	60' Intervals	
52+50		131'-3" 0 to 0 Conc. Br.		D-466-12sh.
47±-56±		16 std guide posts Rt.	60' Intervals	
48±-52±		8 " " " Lt.	" "	
36+00-46+60		8"x 1060' Conc. Drain	On Lt. 4' below Shoulder	Subgrade.
51+80		Embankment Protection on Rt		M-35

PLATE 1-PLAN-PROFILE B. P. R. STANDARD
EUGENE DIETZGEN CO., Chicago-New York
Printed in U.S.A. On IMPERIAL Tracing Cloth

FED ROAD DIST. NO.	STATE	FA PROJECT	FISCAL YEAR	SHEET NO	TOTAL SHEETS
12	UTAH	222-A(1)	1942	5	~~39~~
		222 B(1)	"	3	10
		DA-WR. 12(1)	"	3	10

Note: Work started on DA-WR Nº 12(1) 7-18-42

Note:
Feb. 1, 1942
Cross drain to be placed at 78+50 to Lt. Side, thence back to 76± with necessary Clean out boxes.

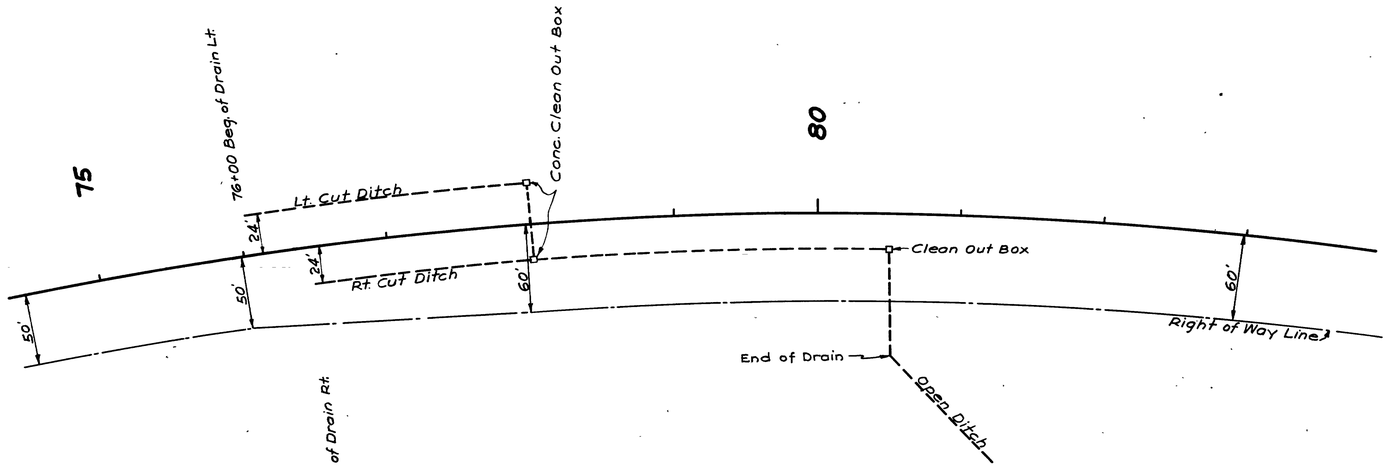
LIST OF STRUCTURES

STATION	REQUIRED	IN PLACE	REMARKS	DWG. NO.
73+50		18"X 72' Culv. Pipe		
[illegible]				
89+07		24"X 136' " "	60° SKEW	
89+07		18"X42' " "	Under road Lt. 45'	
90±	24"X39' Culv. Pipe		Under County Road Lt.	
70 - 74±		8 std. guide posts Rt.	60' Intervals	
91+65	18"X129' Culv. Pipe		45° skew	
94±	18"X 99' Culv. Pipe		drain provide gutter inlet Lt.	V-330-14.7
64+74		18" X 144' " "	Irrigation	
67+00-71+50		6"X450' Conc. Drain	On Lt.	
67+00-70+00		6"X300'± Conc. Drain.	33' Lt. & 4' Below Shoulder Grade.	
70+00-71+50		6"X150'± " "	Lt. of ℄ & 3.5' to 6.4' Below Shoulder Grade	
70+00		6"X67' " "	Xing ℄	
76+00-78+50		6"X250' " "	26' Rt. ℄ 4' Below Shoulder Grade	
78+50-80+50		4"X200' Iron Pipe	26' to 36' Rt ℄ on 18% Grade.	
Various	12"X99' Sewer Pipe		Side Drain (Place as directed)	
Entire Proj.	Type "B" R/W Fence and Gates as req'd.			M-46

Printed in U.S.A. On IMPERIAL Tracing Cloth

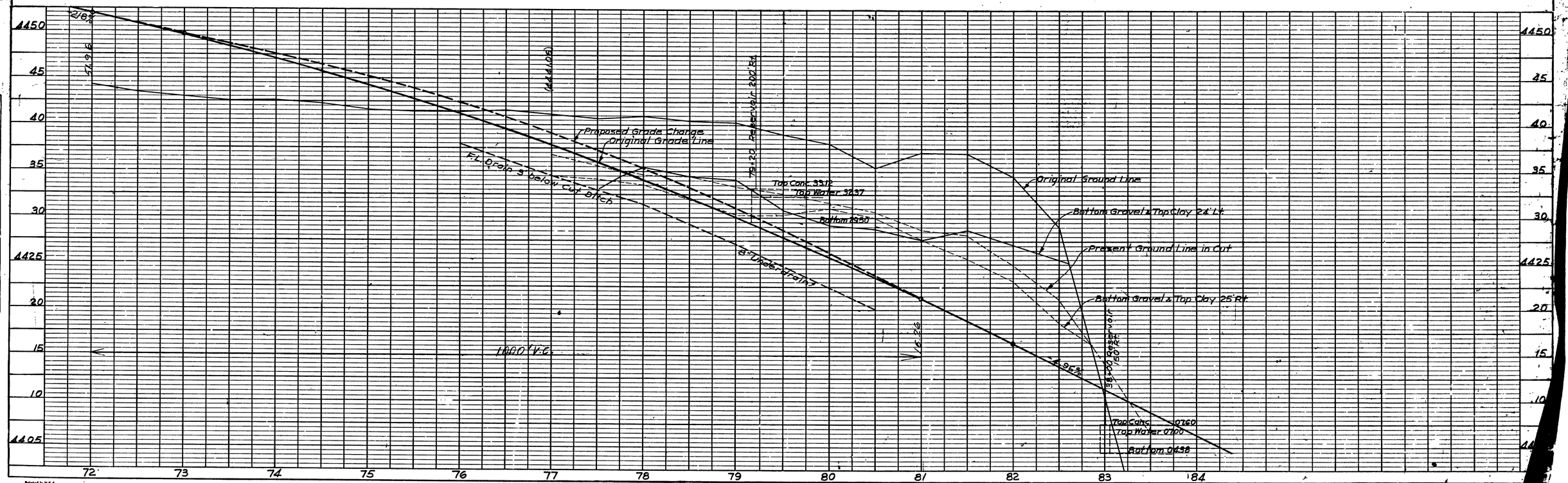
PLATE 1-PLAN-PROFILE B. P. R. STANDARD
EUGENE DIETZGEN CO. Chicago-New York

222-A(1) 5-A



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

PROFILE
SURVEYED BY
PLOTTED
GRADES CHECKED
R.C. & STRUCTURE NOTES CHKD.
NOTE BOOK
NO.
DATE



Printed in U.S.A.
On IMPERIAL Tracing Cloth

PLATE I-PLAN-PROFILE B. P. R. STANDARD
EUGENE DIETZGEN CO., Chicago-New York

Printed in U.S.A.
On IMPERIAL

LIST OF STRUCTURES

STATION	IN PLACE	REQUIRED	REMARKS	DWG. NO.

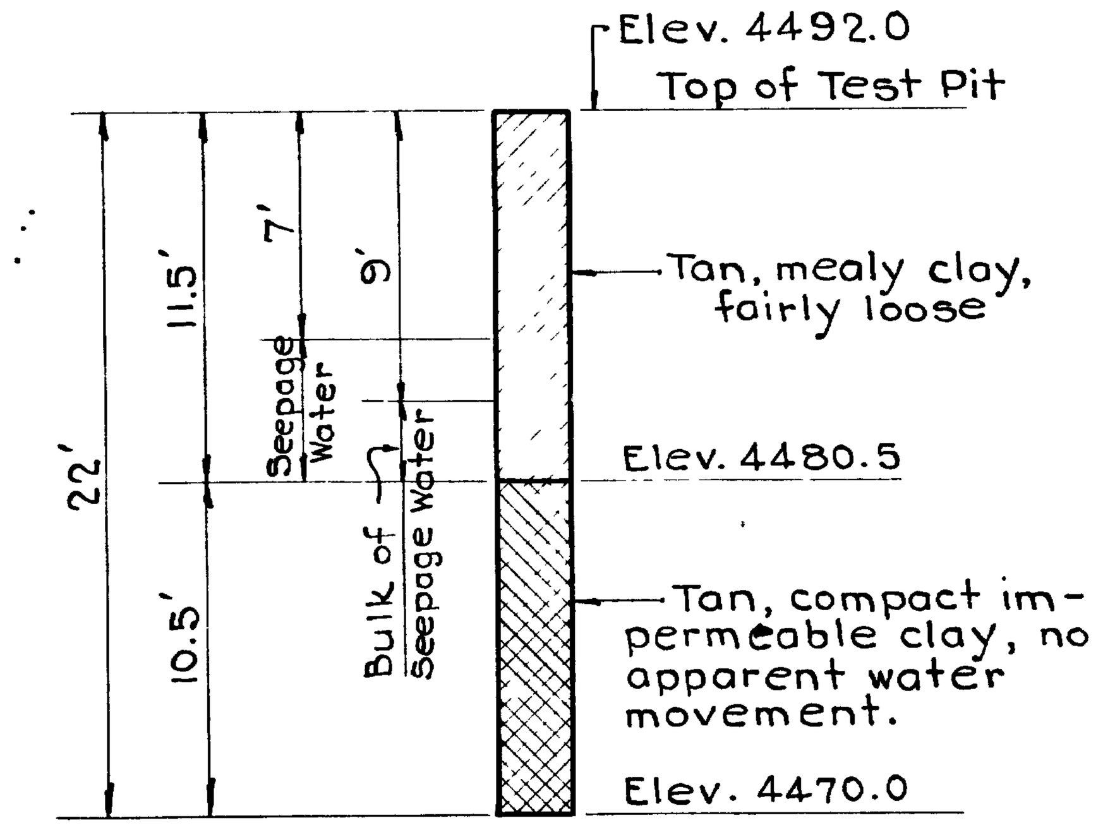
FED. ROAD DIST. NO. | STATE | F.A.P. | YEAR | SHEET NO. | TOTAL SHEETS
12 | UTAH | 114-A(4) | 1942 | 7
12 | UTAH | 114-B(3) | 1942 | 5 | 10
12 | UTAH | 222-B(1) | 1942 | 11
UTAH STATE ROAD COMMISSION
SALT LAKE CITY, UTAH
W. L. ANDERSON
DESIGN ENGINEER
CHANNELIZATION AT INTERSECTION OF SN-A-F.A.P. 114-A(4) & 114-B(3) & AW(PE) F.A.P. 222-B(1) & DA-WR #12(1)
DESIGNED BY N.L.A.
DRAWN BY F.B.P.
CHECKED BY H.S.W.
SCALE 1"=50'
REVISIONS
TYPICAL SECTION OF NEUTRAL ZONE NOT INCLUDED IN CURBED AREA.
Variable
12"
Plant Mixed Bit. material
Edge of Neutral Zone
Finished Grade
NOTE: Provide Raised Dividing Strip between Sta. 72+43.4 & 74+57.6 with Plant Mixed Bit. material. Use 20' Transition to taper from 4' to 0' at end of Neutral Zone. (See Typical Section this sheet).
NOTE: Provide Raised Dividing Strip between Sta. 87+57 & 89+71.2 with Plant Mixed Bit. material. Use 20' Transition to taper from 4' to 0' at end of Neutral Zone. (See Typical Section this sheet)
BEARING EQUATION
N. 64°20' E. F.A.P. 222-B(1) =
N. 64°15' E. SN-A-F.A.P. 114-B(3)
SN-A-F.A.P. 114-A(4)
SN-A-F.A.P. 114-B(3)
N. 64°15' E.
Neutral Zone
Curb No. 1-C
Raised Dividing Strip
10' Shoulder
4600 Traffic Flow
4500 Traffic Flow
5050 Traffic Flow
4950 Traffic Flow
11' Deceleration Lane
10' Acceleration Lane
Right of Way
AW(PE) F.A.P. 222-B(1)
N. 15°25' E.
To Ogden Ordnance Depot
8' Shoulder
130+40.6 END OF AW(PE) F.A.P. No. 222-B(1) =
130+40.6 END OF DA-WR No. 12(1) =
24' Rt. of SN-A-F.A.P. No. 114-A(4) Sta. 80+23.7 (2nd Contract)
129+49.4 ctr. of 200' Rad. curve 212' Rt.
129+40.7 ctr. of 190' R. curve 202' Rt.
128+70
129+60
N. 47°29' W.
S. 46°52' W.
200' R.
190' R.
50' Rad.
Edge of P.C. Conc.
78+90.9 ctr. 50' curve 82' Rt.
72+43.4 P.C. 0°30' Curves 13' Rt. & Lt.
74+57.6 Beg. of Curbed Neutral Zone
89+71.2 End of Curbed Neutral Zone
75
80
85
90

LIST OF STRUCTURES

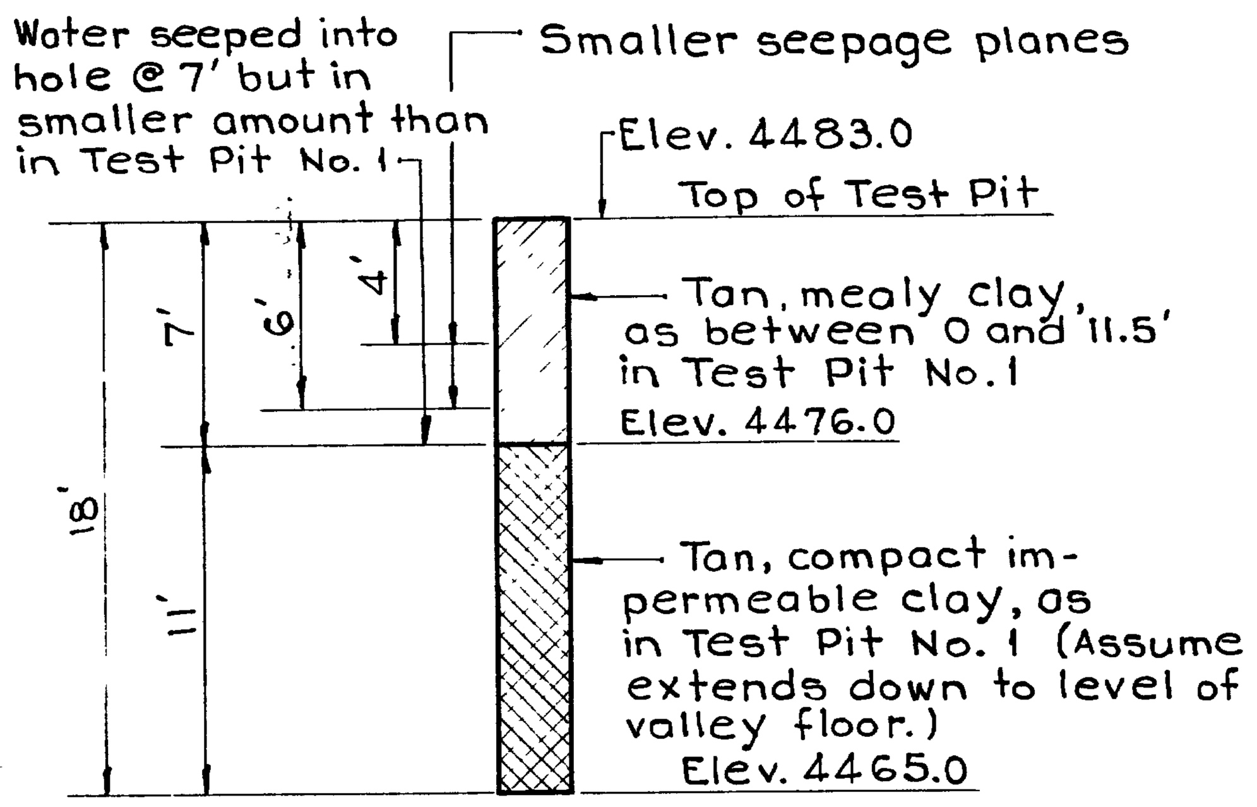
STATION	IN PLACE	REQUIRED	REMARKS	DWG. NO.
106+08		24"x99' Culv. Pipe	Headgate & Outlet	V-224-L-15&18
114±		18"x105' " "	equalizer provide gut. inl. Lt.	V-330-1&8.
118+80		24"x90' " "	Irrig.	
124±		24"x99' " "	equalizer	
124+90		18"x84' " "	Irrigation	
97+34		8'x3'x51' Conc. Box	70° Xing ∠	E-740 2 sh.
106+08		15"x9' Sewer Pipe	Outlet	V-224 L-18

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
12	UTAH	222-A(1)			

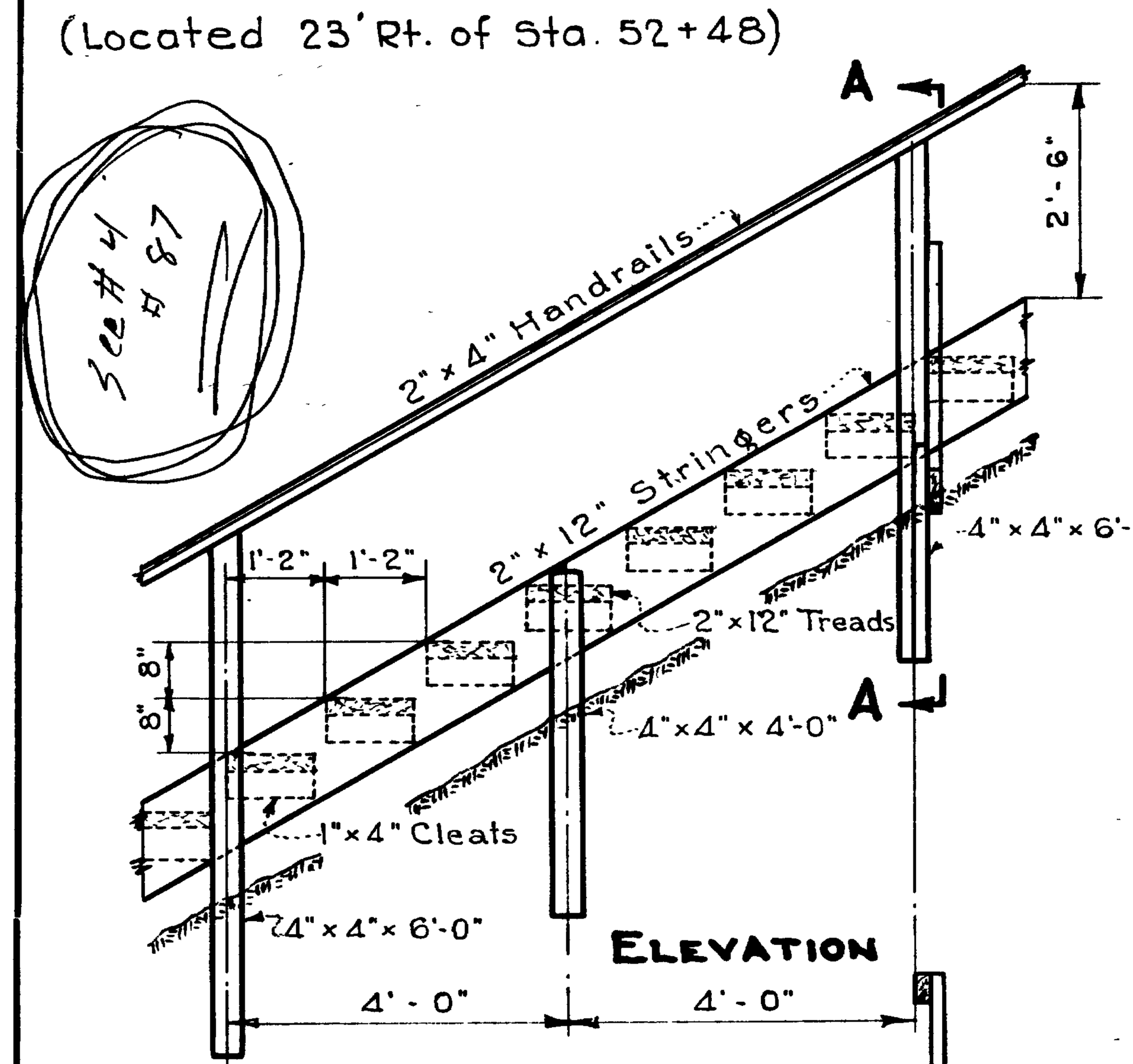
See #4 #87

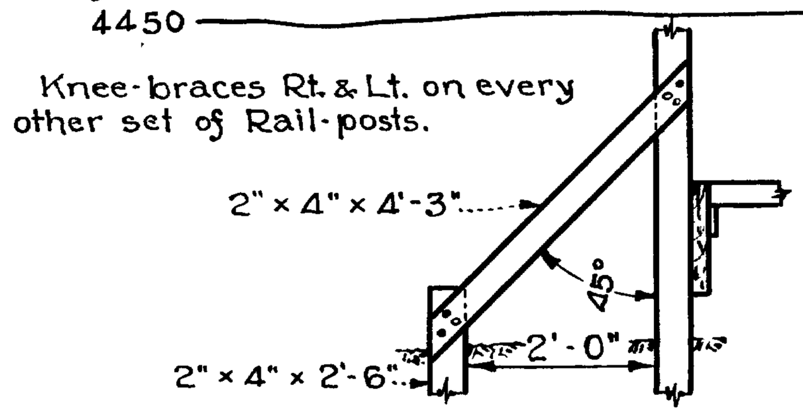


TEST PIT No. 1
(Located 5' Rt. of Sta. 52+48.0)



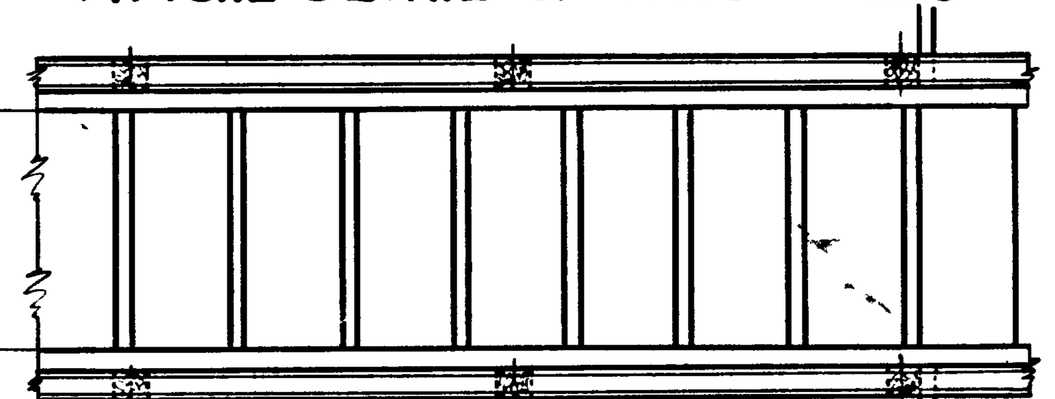
TEST PIT No. 2
(Located 23' Rt. of Sta. 52+48)



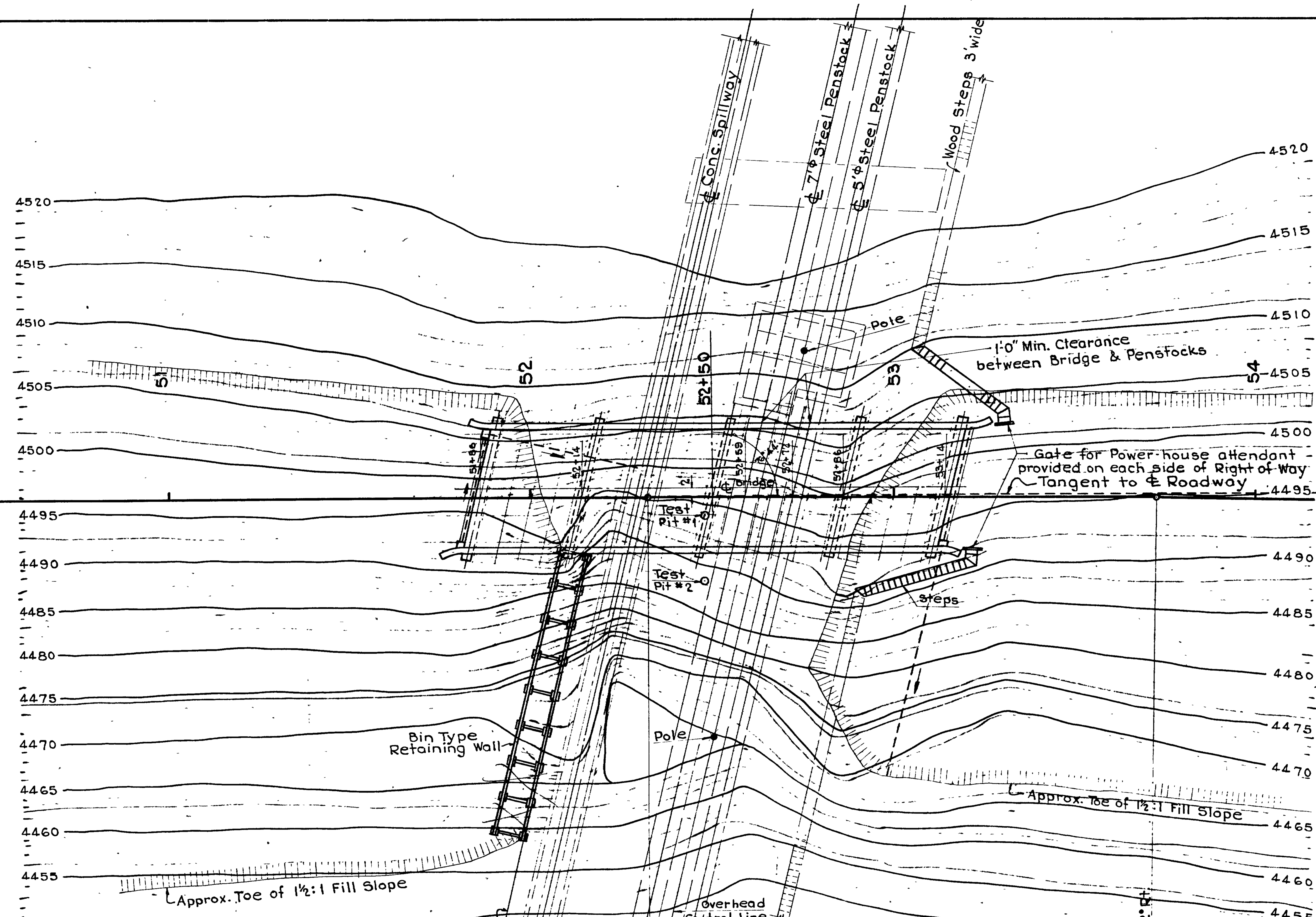


SECTION A-A

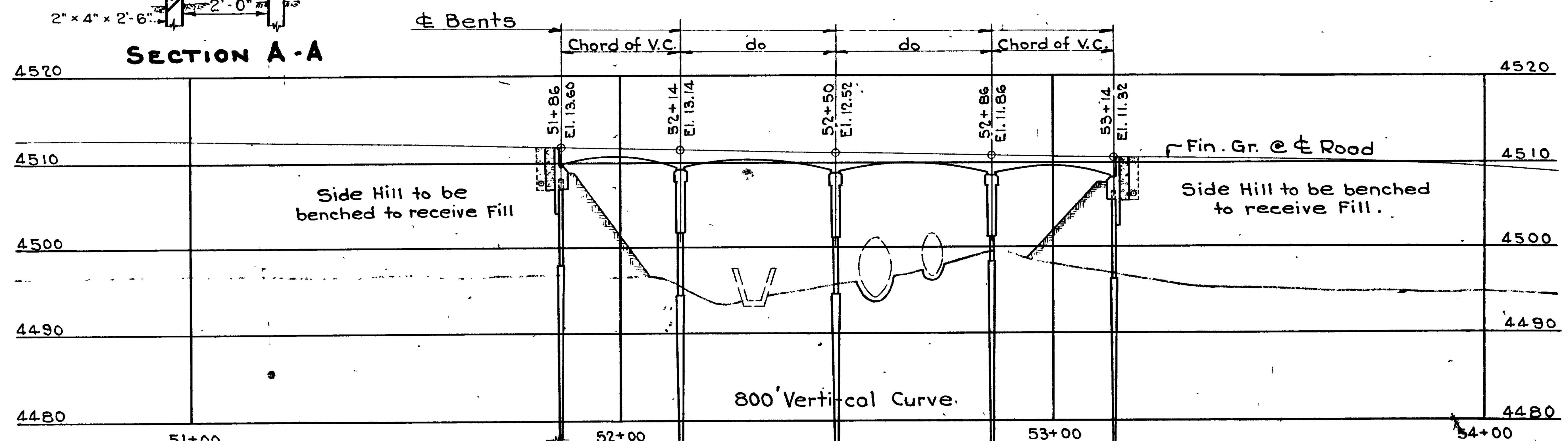
TYPICAL DETAIL OF WOOD STEPS



PLAN



PLAN
1" = 20'



PROFILE ALONG ℄ OF ROAD
Scale: 1" = 20' Horiz. 1" = 10' Vert.

GENERAL NOTES

Materials, construction, and workmanship shall be in accordance with State Standard Specifications for Road and Bridge construction, edition of 1939.

NOTE: Before Cast-in Place Pile shells are ordered a Timber test pile should be driven to ascertain the correct length of shell to be ordered.

DESIGN DATA

A.A.S.H.O. Specifications of 1941
H-15 Loading
fc = 1000#/" fs = 18,000#/"

QUANTITIES

Excav. for Structures	150	Cu. Yds.
Gravel Backfill	21	" "
8"ϕ C.G.M. Pipe Perforated (1-end plug) (Under drain)	60	Lin. Ft.
8"ϕ C.G.M. Pipe Not " (2-30° ells)	118	" "
18"ϕ 7 ga. Steel Shell Cast-in-place Conc. Piles	870	" "
16"ϕ 7 ga. " " " " "	428	" "
Structural Steel	1167	Lbs.
Reinforcing Steel	79728	"
Concrete Class "A"	372	Cu. Yds.
Hand Rail (Concrete)	284.25	Lin. Ft.
Wood Stairway Complete as Req'd.	1	each
Structural Steel Bin Type Retaining Wall (Sh. #3)	1	each

SITUATION PLAN

For Supplemental see Drawing D-406

Sheet 1 of 12 sheets

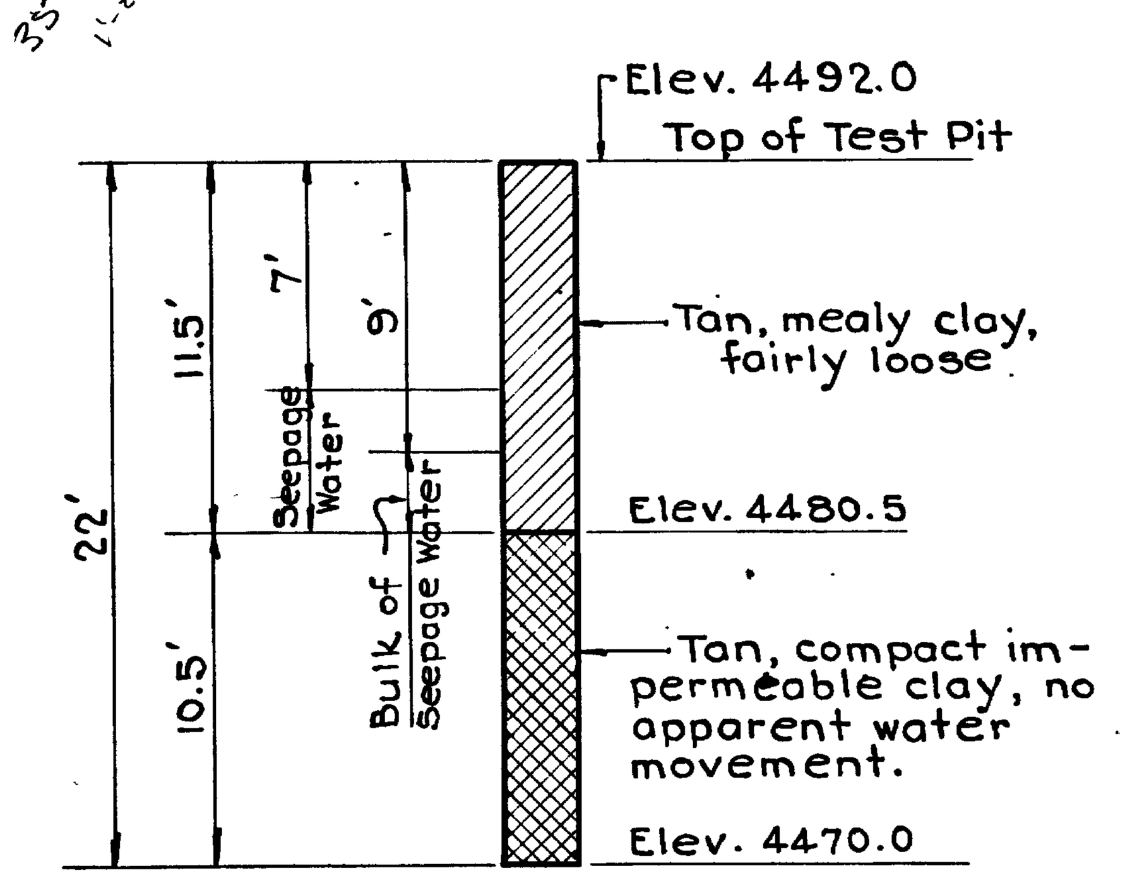
UTAH STATE ROAD COMMISSION
SALT LAKE CITY - UTAH
EZRA C. KNOWLTON, CHIEF ENGINEER

BRIDGE OVER U.P. & L. CO'S. PENSTOCKS
A.W.(P.C.E.) F.A.P. 222-A(1)
Sta. 52+50 Weber Co.
Ogden-Arsenal-Riverdale

Designed by F.M.F. Scale As noted
Drawn by J.H.B. Issued May 22 1941
Approved Oral W. Martin

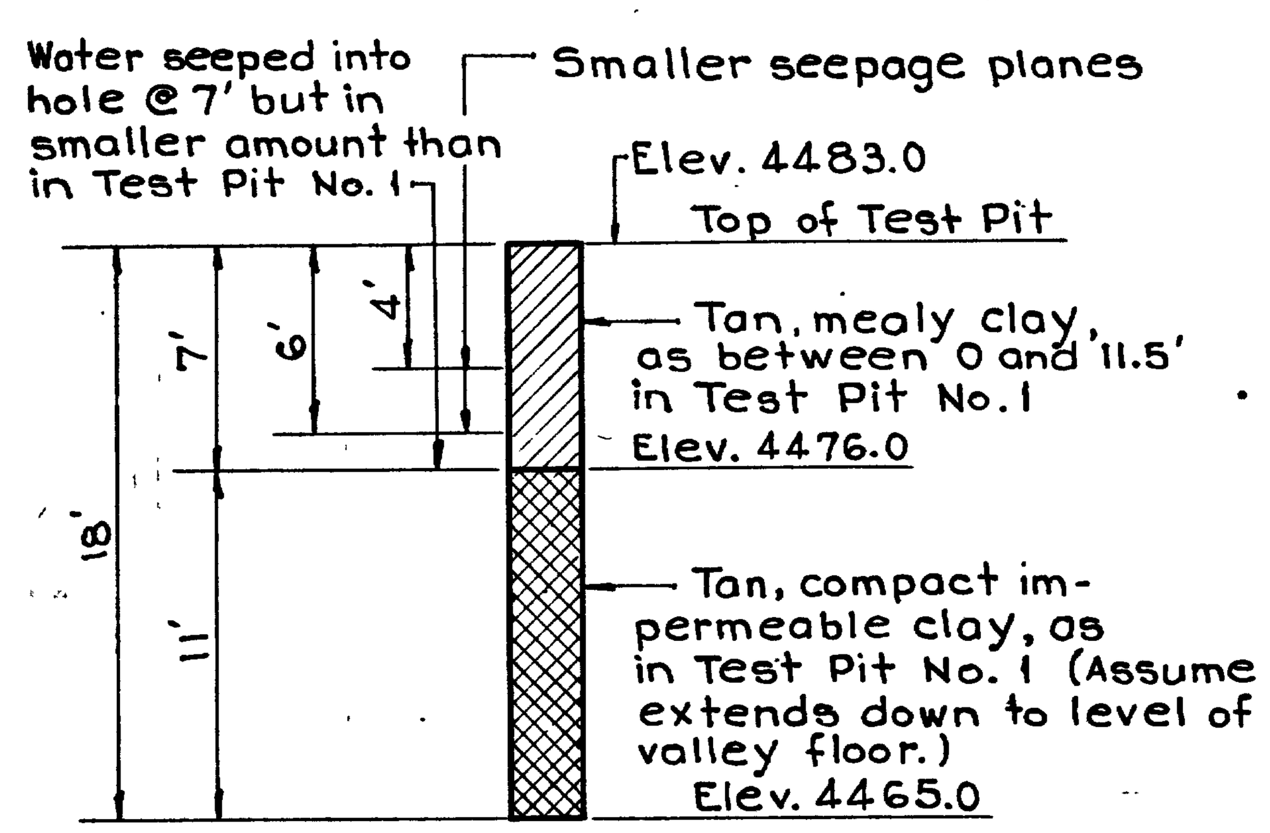
D-466

Fed. Road Dist. No.	State	Fed. Aid Proj. No.	Fiscal Year	Sheet No.	Total Sheets
12	UTAH	222-A(I)			



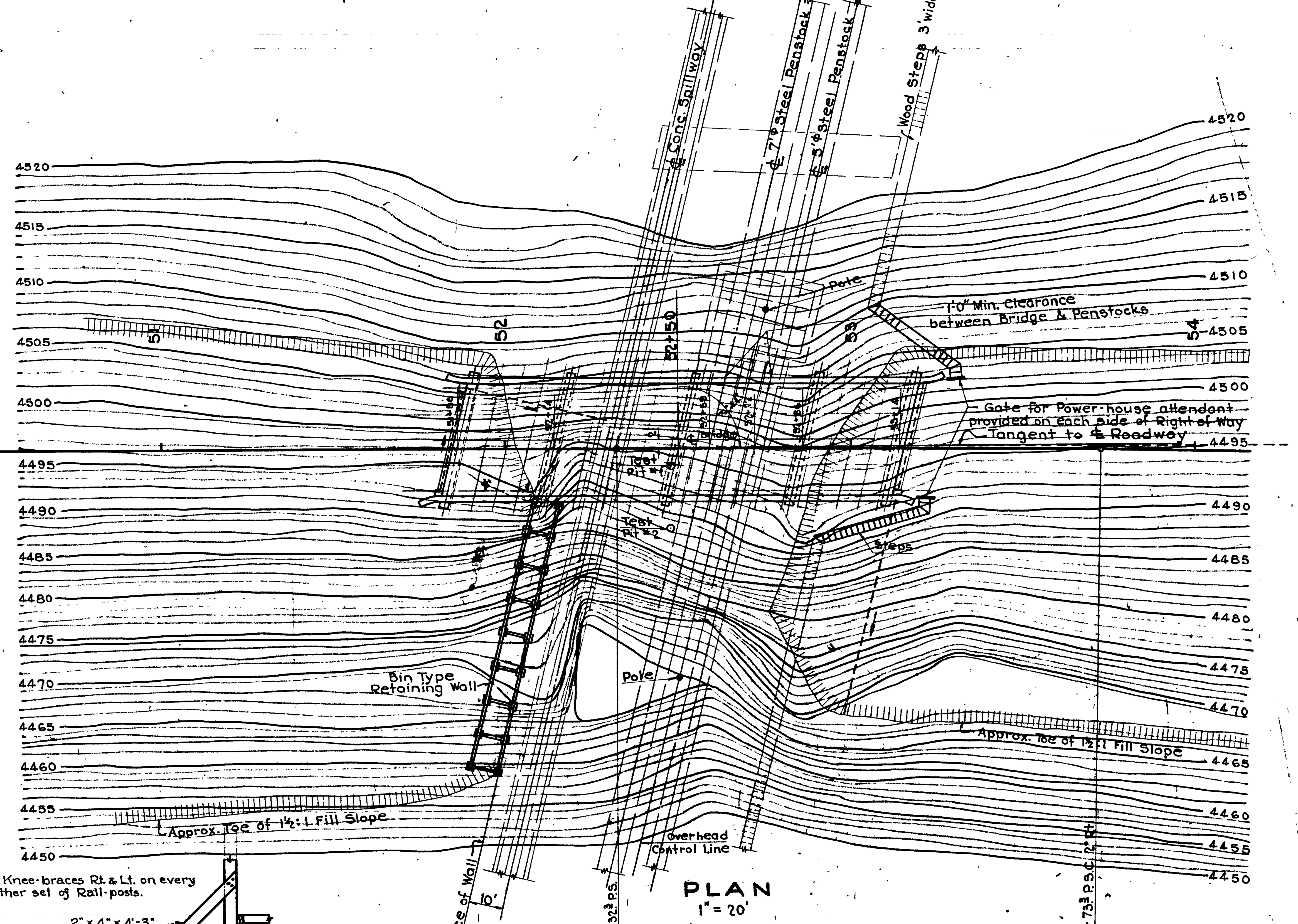
TEST PIT No. 1

(Located 5' Rt. of Sta. 52+48.0)



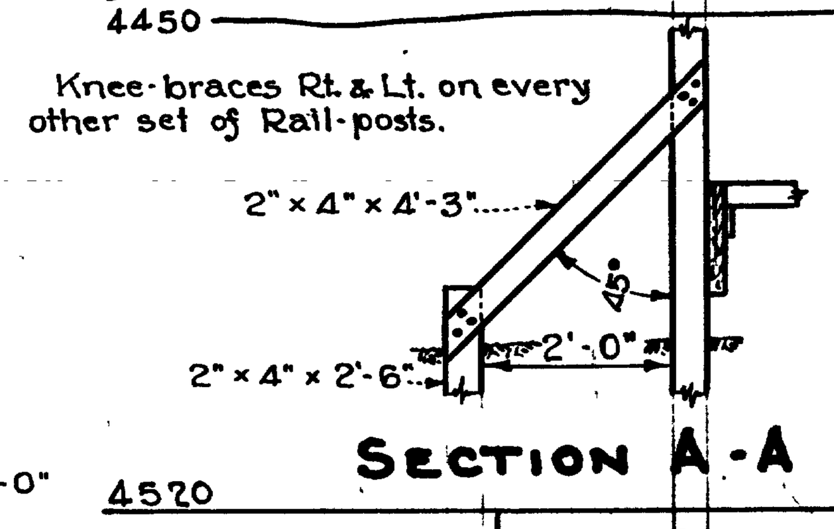
TEST PIT No. 2

(Located 23' Rt. of Sta. 52+48)

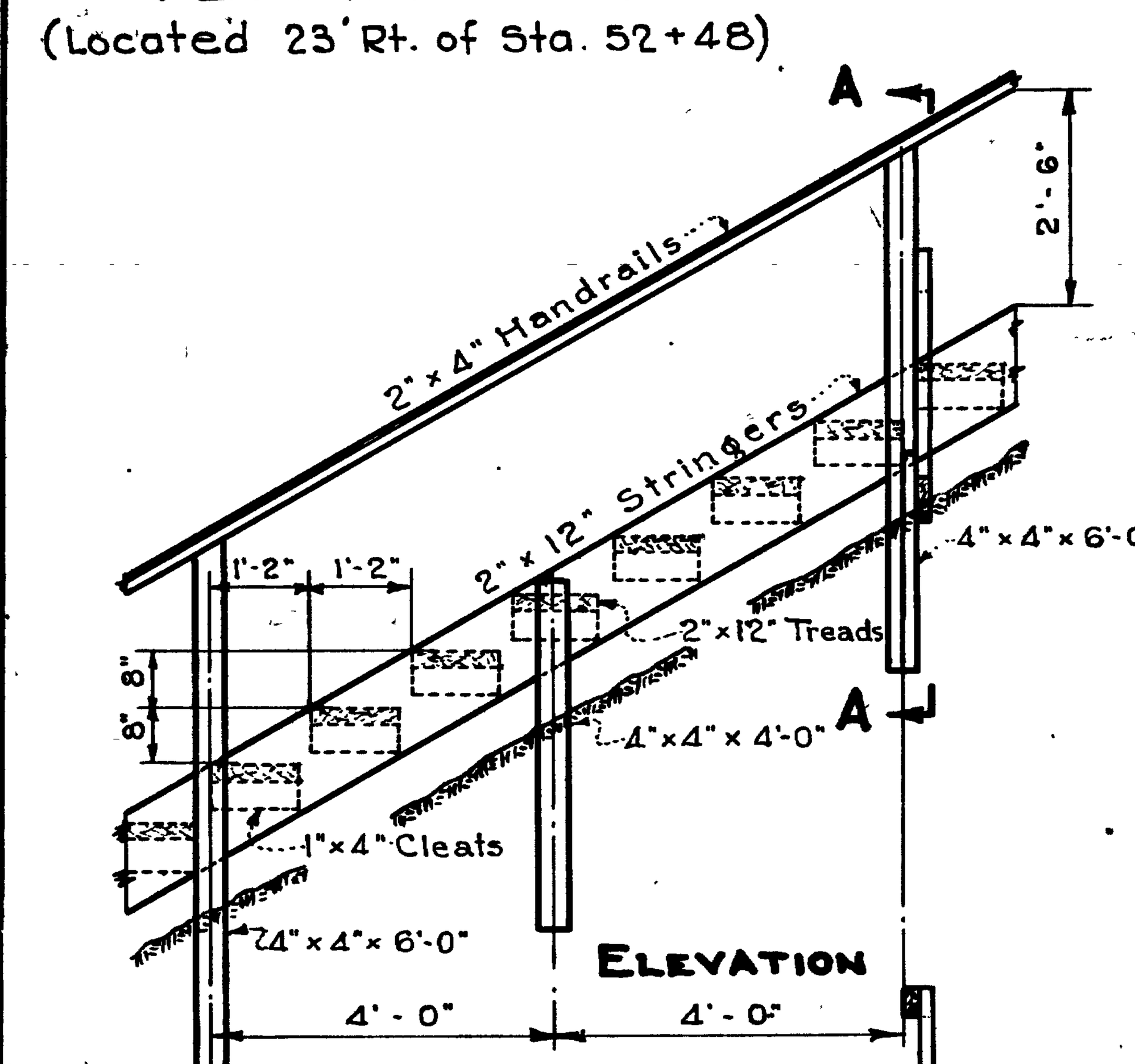


PLAN

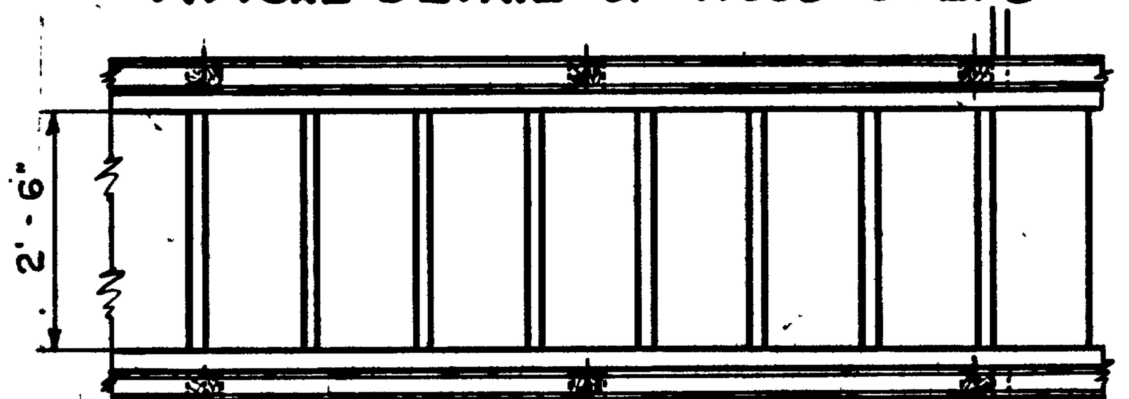
1" = 20'



SECTION A-A

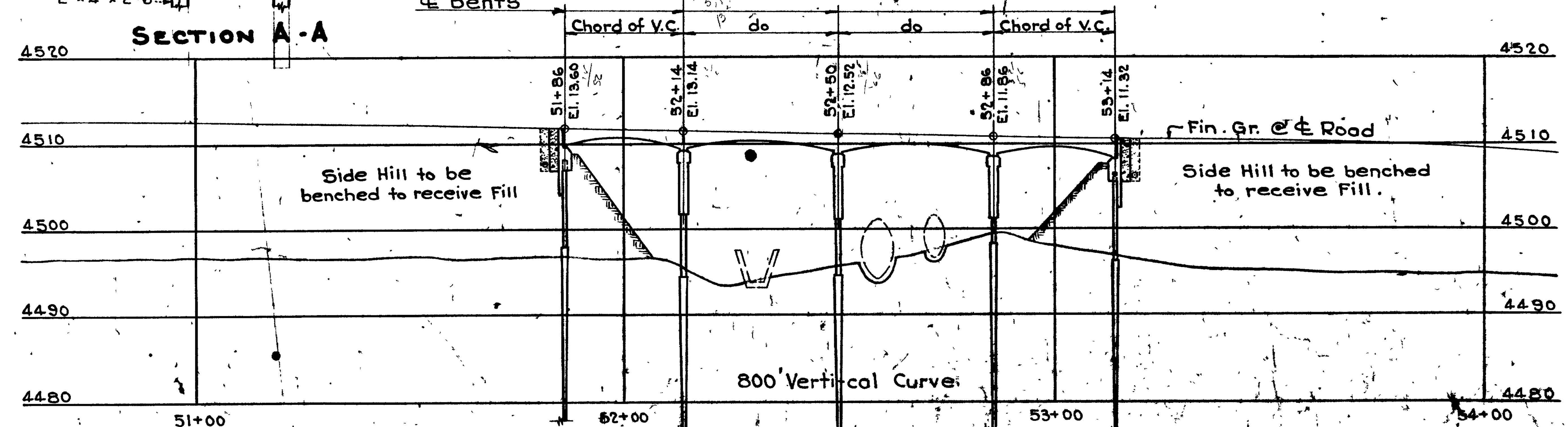


ELEVATION



PLAN

TYPICAL DETAIL OF WOOD STEPS



PROFILE ALONG ℄ OF ROAD

Scale: 1" = 20' Horiz. 1" = 10' Vert.

GENERAL NOTES

Materials, construction, and workmanship shall be in accordance with State Standard Specifications for Road and Bridge construction, edition of 1939.

NOTE: Before Cast-in Place Pile shells are ordered a Timber test pile should be driven to ascertain the correct length of shell to be ordered.

DESIGN DATA

A.A.S.H.O. Specifications of 1941
H-15 Loading
fc = 1000#/" fs = 18,000#/"

QUANTITIES

Excav. for Structures	150	Cu. Yds.
Gravel Backfill	21	"
8"Φ C.G.M. Pipe Perforated (1-end plug) (Under drain)	60	Lin. Ft.
8"Φ C.G.M. Pipe Not " (2-30° ells)	118	"
18"Φ 7 ga. Steel Shell Cast-in-place Conc. Piles	870	"
16"Φ 7 ga. " " " "	428	"
Structural Steel	1167	Lbs.
Reinforcing Steel	79728	"
Concrete - Class "A"	372	Cu. Yds.
Hand Rail - (Concrete)	284.25	Lin. Ft.
Wood Stairway Complete as Req'd.	1	each
Structural Steel Bin Type Retaining Wall (Sh. #3)	1	each

For Super structure see Drawing D-406

SITUATION PLAN

Sheet 1A of 12 sheets

UTAH STATE ROAD COMMISSION
SALT LAKE CITY - UTAH
EZRA C. KNOWLTON, CHIEF ENGINEER

BRIDGE OVER U.P. & L. CO'S. PENSTOCKS
A.W. (D.C.E.) F.A.P. 222-A(I)
Sta. 52+50 Weber Co.
Ogden Arsenal - Riverdale

Designed by F.M.E. Scale As noted
Drawn by J.H.B. Issued May 27, 1941
Checked by Approved [signature] Chief Bridge Engineer
Examined by

Br. No. [redacted] Drg. No. D-466

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
12	UTAH	222-A(I)			

Note: Fill to be thoroughly compacted according to the Specifications before Abutment Piles are driven.

Note: Fill to be thoroughly compacted according to the Specifications before Abutment Piles are driven.

GENERAL DRAWING

Sheet 2 of 12 sheets

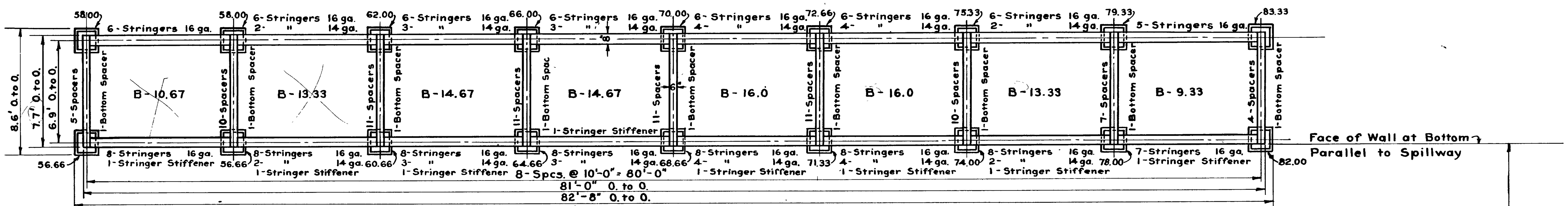
UTAH STATE ROAD COMMISSION
SALT LAKE CITY - UTAH
EZRA C. KNOWLTON, CHIEF ENGINEER

BRIDGE OVER U.P. & L. CO'S PENSTOCKS
A.W. (P.C.E.) F.A.P. 222-A(I)
Sta. 52+50 Weber Co.
Ogden Arsenal - Riverdale

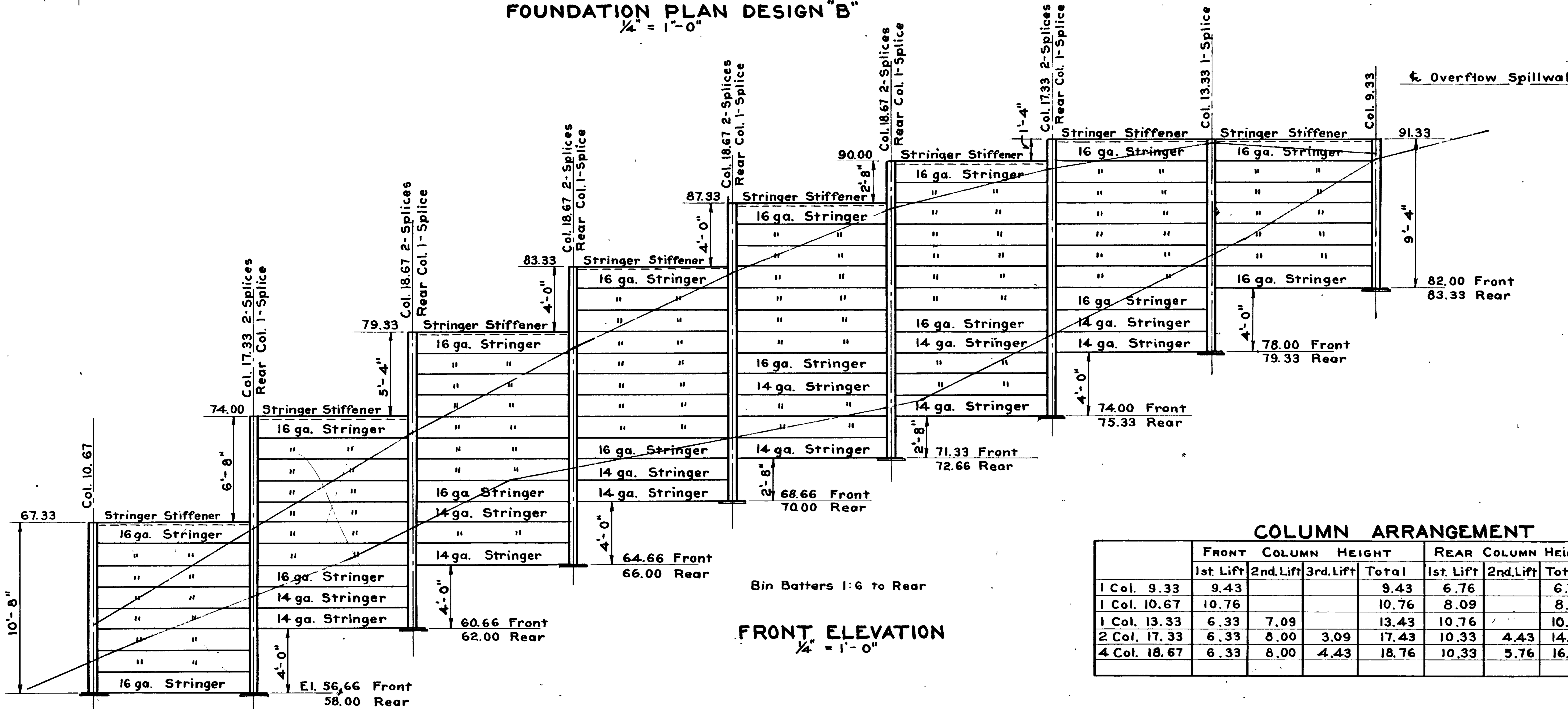
DESIGNED BY F.M.F. SCALE 1" = 6'-0"
DRAWN BY J.H.B. ISSUED May 27, 1941
CHECKED BY
APPROVED
EXAMINED BY

No. 29-289-1-2 DWG. NO. D-466

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
12	UTAH	222-A(1)			



FOUNDATION PLAN DESIGN "B"
1/4" = 1'-0"



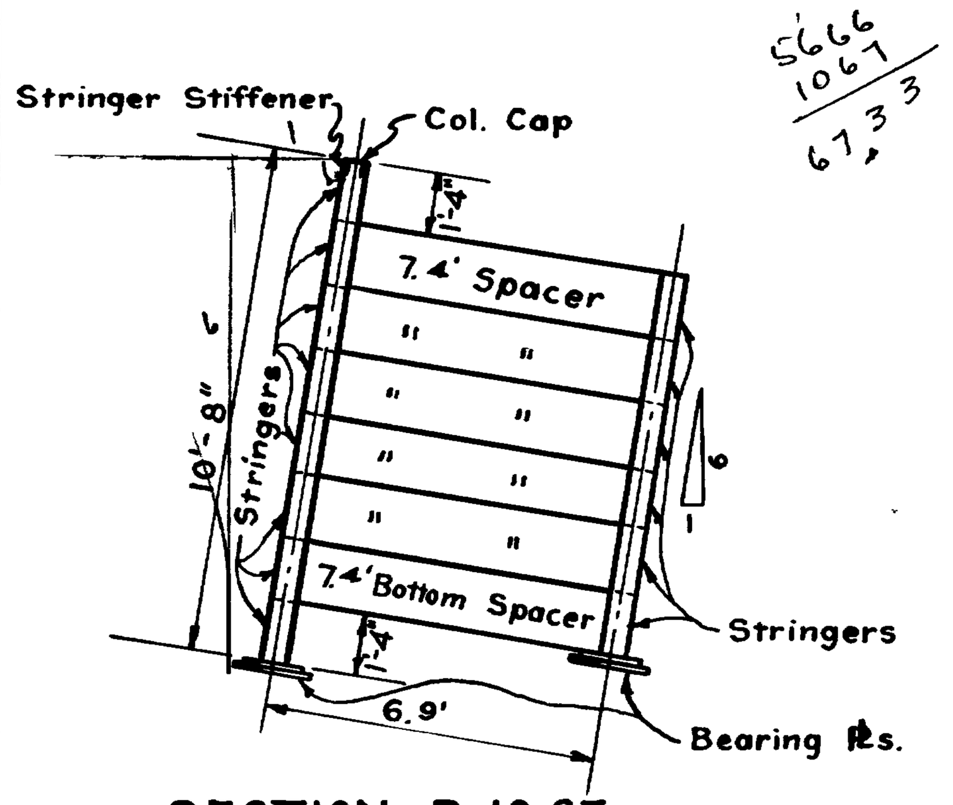
FRONT ELEVATION
1/4" = 1'-0"

COLUMN ARRANGEMENT

	Front Column Height				Rear Column Height			Front & Rear Column Height
	1st. Lift	2nd. Lift	3rd. Lift	Total	1st. Lift	2nd. Lift	Total	
1 Col. 9.33	9.43			9.43	6.76		6.76	16.19x1 = 16.19
1 Col. 10.67	10.76			10.76	8.09		8.09	18.85x1 = 18.85
1 Col. 13.33	6.33	7.09		13.43	10.76		10.76	24.19x1 = 24.19
2 Col. 17.33	6.33	8.00	3.09	17.43	10.33	4.43	14.76	32.19x2 = 64.38
4 Col. 18.67	6.33	8.00	4.43	18.76	10.33	5.76	16.09	34.85x4 = 139.40
								Total = 263.01

MATERIAL LIST

110 -	Stringers	16 ga. x 9.5'
36 -	Stringers	14 ga. x 9.5'
80 -	Spacers	16 ga. x 7.4'
9 -	Bottom Spacers	16 ga. x 7.4'
8 -	Stringer Stiffeners	8 ga. x 9.5'
9 -	Column Cap	12 ga.
19 -	Column Splices	14 ga.
18 -	Bearing Plates	16" x 16" x 1 ga.
18 -	Bearing Plates	20" x 20" x 1 ga.
263 -	Lin. Ft. Columns	8 ga.



SECTION B 10.67
TYPICAL OF ALL SECTIONS

RETAINING WALL

Sheet 3 of 12 sheets

UTAH STATE ROAD COMMISSION
SALT LAKE CITY - UTAH
EZRA C. KNOWLTON, CHIEF ENGINEER

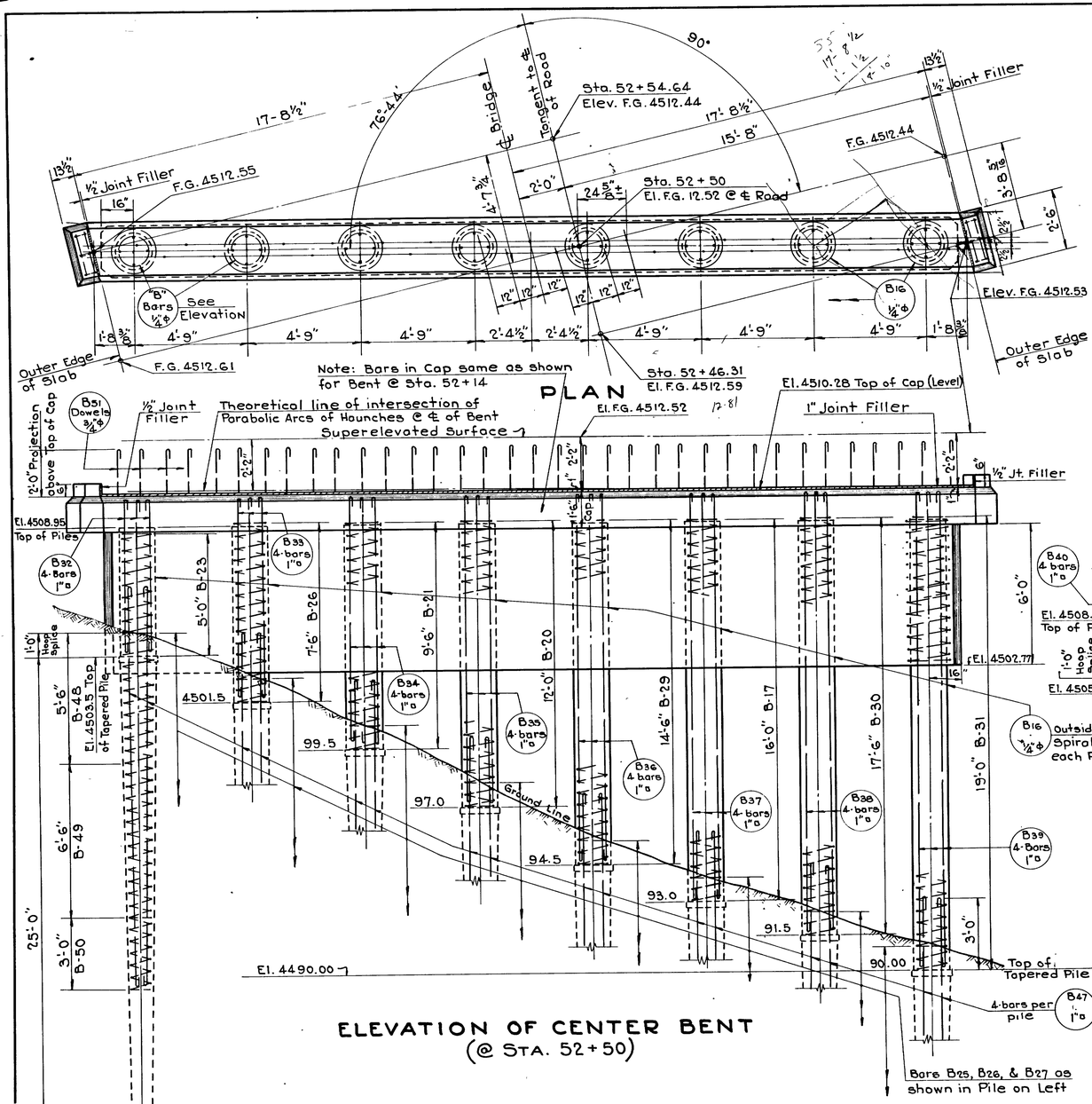
BRIDGE OVER U.P. & L. CO'S. PENSTOCKS
A.W.(P.C.E.) F.A.P. 222-A(1)
Sta. 52+50, Weber Co.
Ogden Arsenal-Riverdale

DESIGNED BY F.M.E. SCALE As shown
DRAWN BY F.M.E. ISSUED May 27, 1941
CHECKED BY
APPROVED [signature] CHIEF BRIDGE ENGINEER
EXAMINED BY

BR. NO. ~~29259 T2~~ DRG NO. D-466

REVISIONS

FED. ROAD DIST. NO	STATE	FED. AID PROJ. NO	FISCAL YEAR	SHEET NO	TOTAL SHEETS
12	UTAH	222-A(1)			



Note:
See Sheet 5 for Section of Diaphragms
See " 6 " " " Bearings

BENTS

Sheet 4 of 12 sheets

UTAH STATE ROAD COMMISSION
SALT LAKE CITY - UTAH
EZRA C. KNOWLTON, CHIEF ENGINEER

BRIDGE OVER U.P. & L. CO'S. PENSTOCKS
A.W.(P.C.E.) F.A.P. 222-A(1)
Sta. 52+50 Weber Co.
Ogden Arsenal - Riverdale

DESIGNED BY F.M.E.	SCALE 3/16" = 1'-0"
DRAWN BY J.H.B.	ISSUED 10-25-51
CHECKED BY	APPROVED
EXAMINED BY	
BY	DATE
No. 25512	DWG. No. D-466

REVISIONS		
DATE	BY	DATE
10-25-51	J.H.B.	

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
12	UTAH				

Sheet 5 of 12 sheets

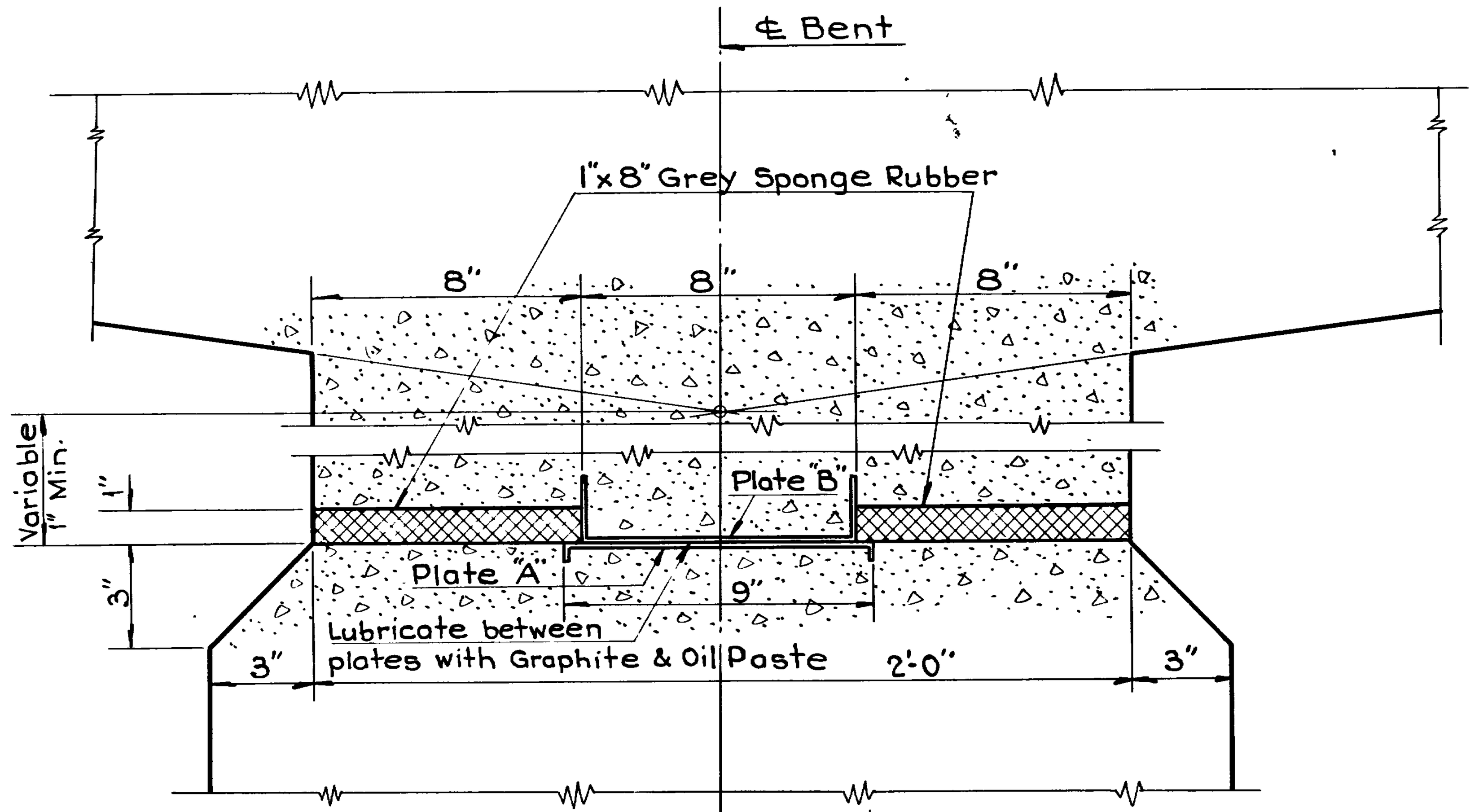
UTAH STATE ROAD COMMISSION
SALT LAKE CITY · UTAH
EZRA C. KNOWLTON, CHIEF ENGINEER

BRIDGE OVER U.P. & L. CO'S. PENSTOCKS
A.W. (P.C.E.) F.A.P. 222-A(1)
Sta. 52 + 50 Weber Co.
Ogden Arsenal - Riverdale

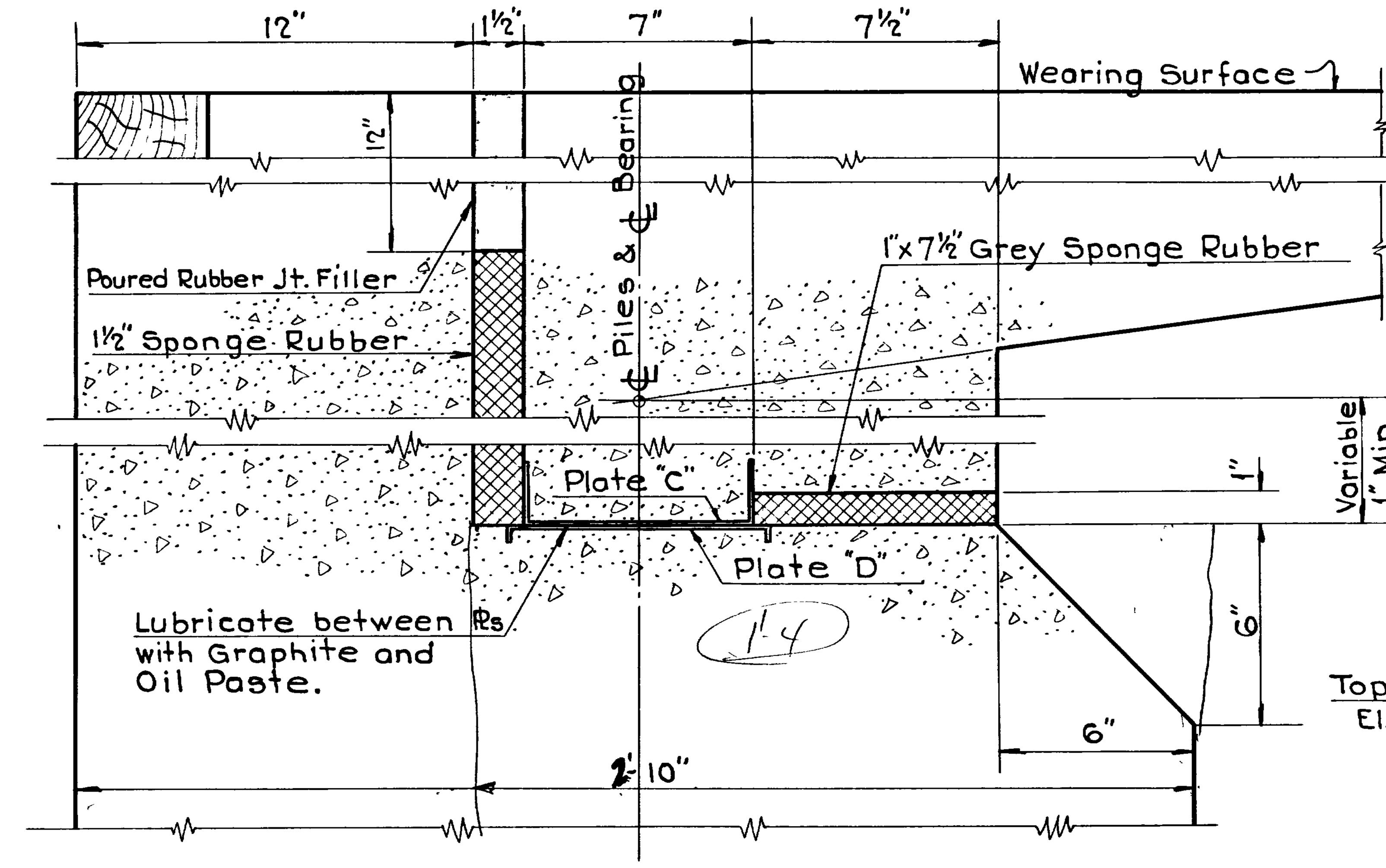
Designed by F.M.F. Scale As noted
Drawn by J.H.B. Issued May 27, 1941
Checked by
Examined by

Br. No. 29-259-1-2 Dwg. No. D-466

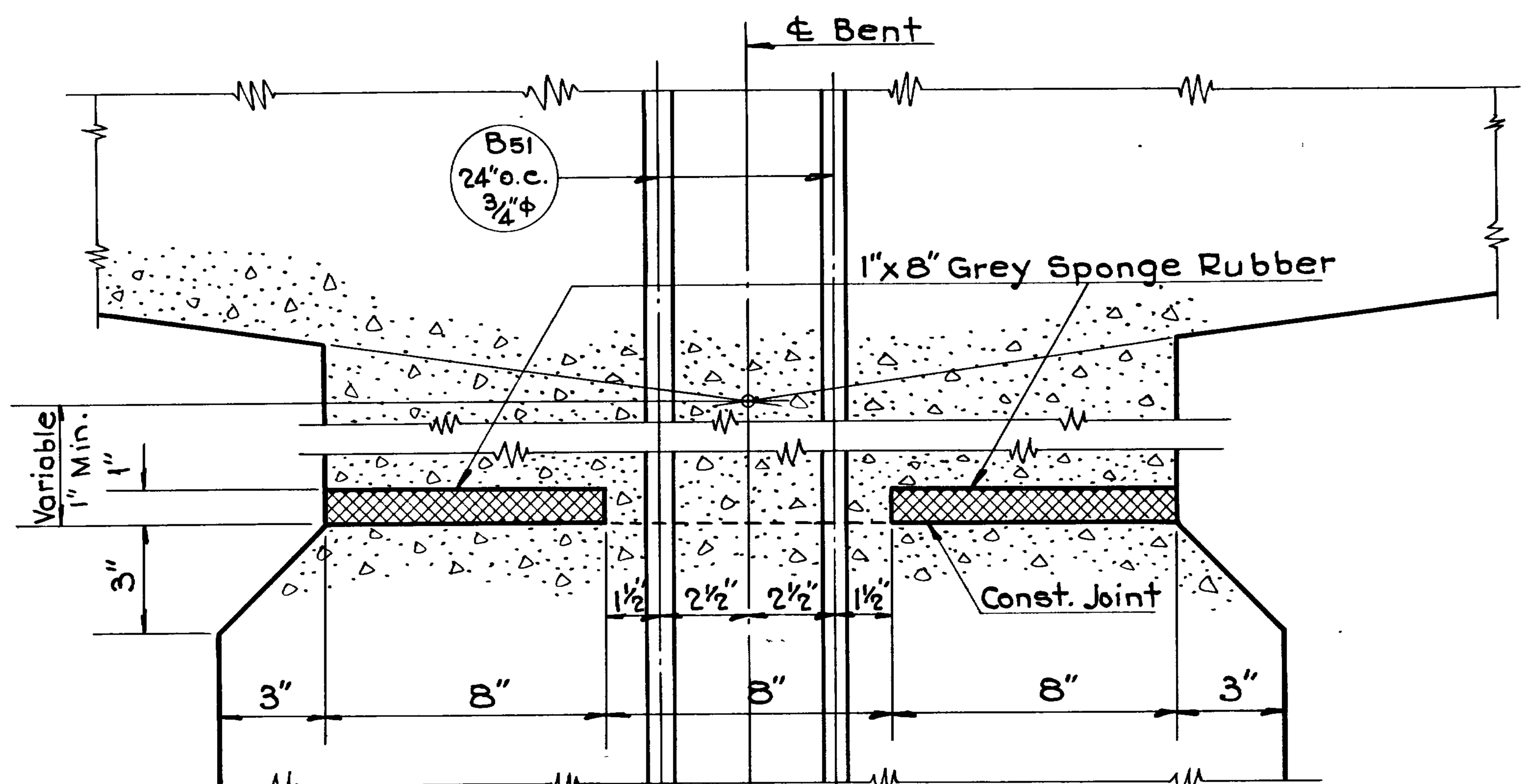
FED ROAD DIST NO	STATE	FED. AID PROJ NO	FISCAL YEAR	SHEET NO	TOTAL SHEETS
12	UTAH	222-A(1)			



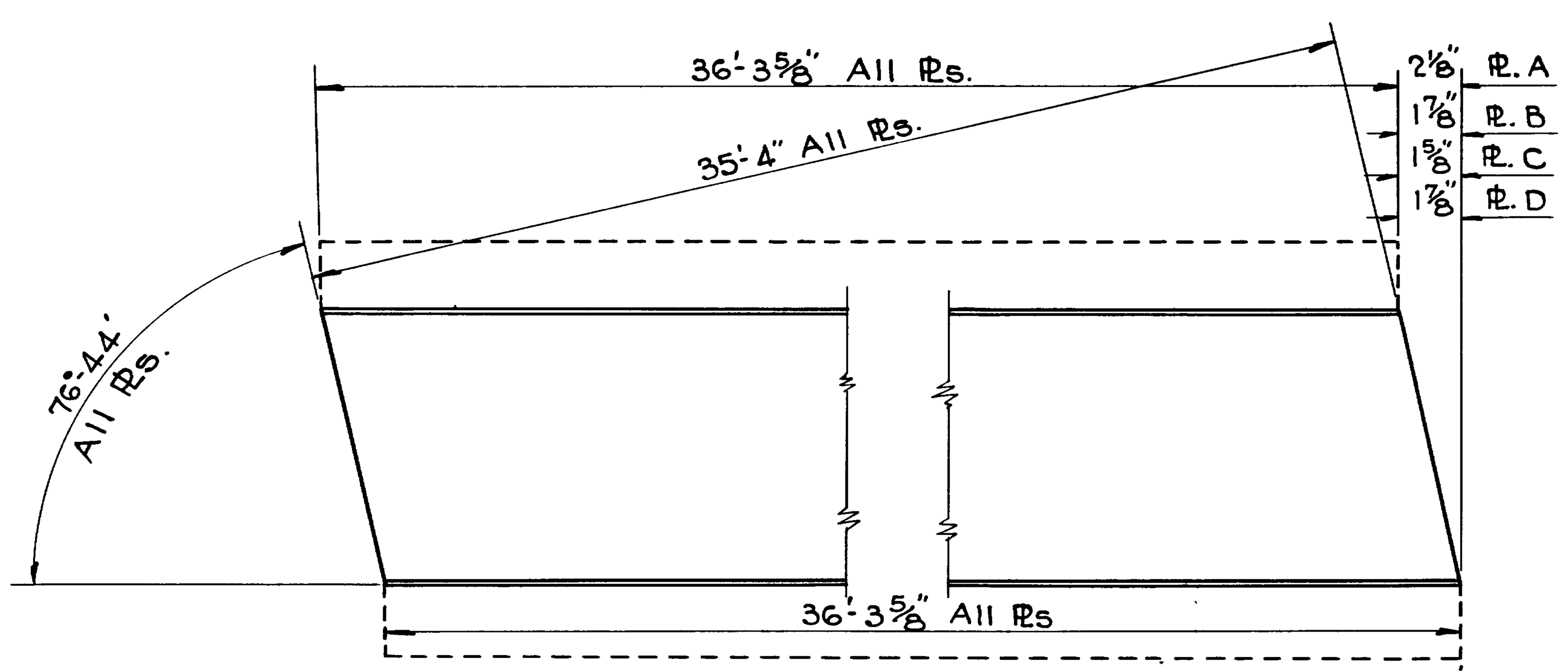
DETAIL OF FREE BEARINGS - INT. BENTS

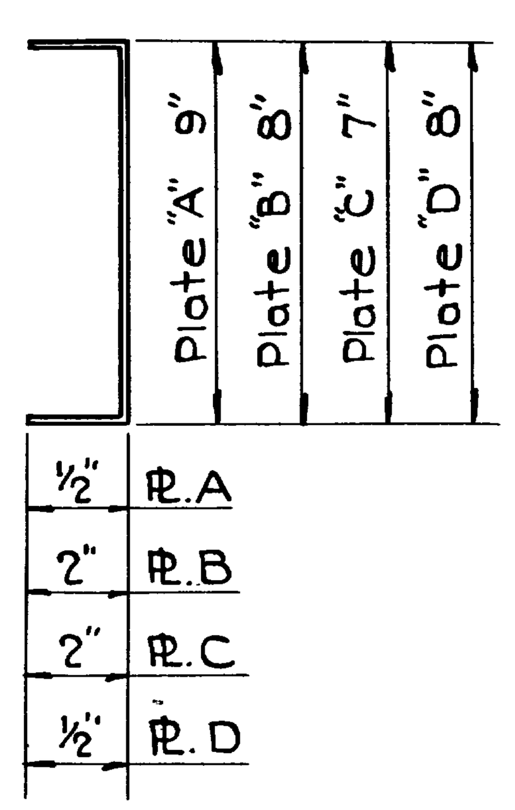


DETAIL OF BEARING AT ABUTMENTS FREE ENDS



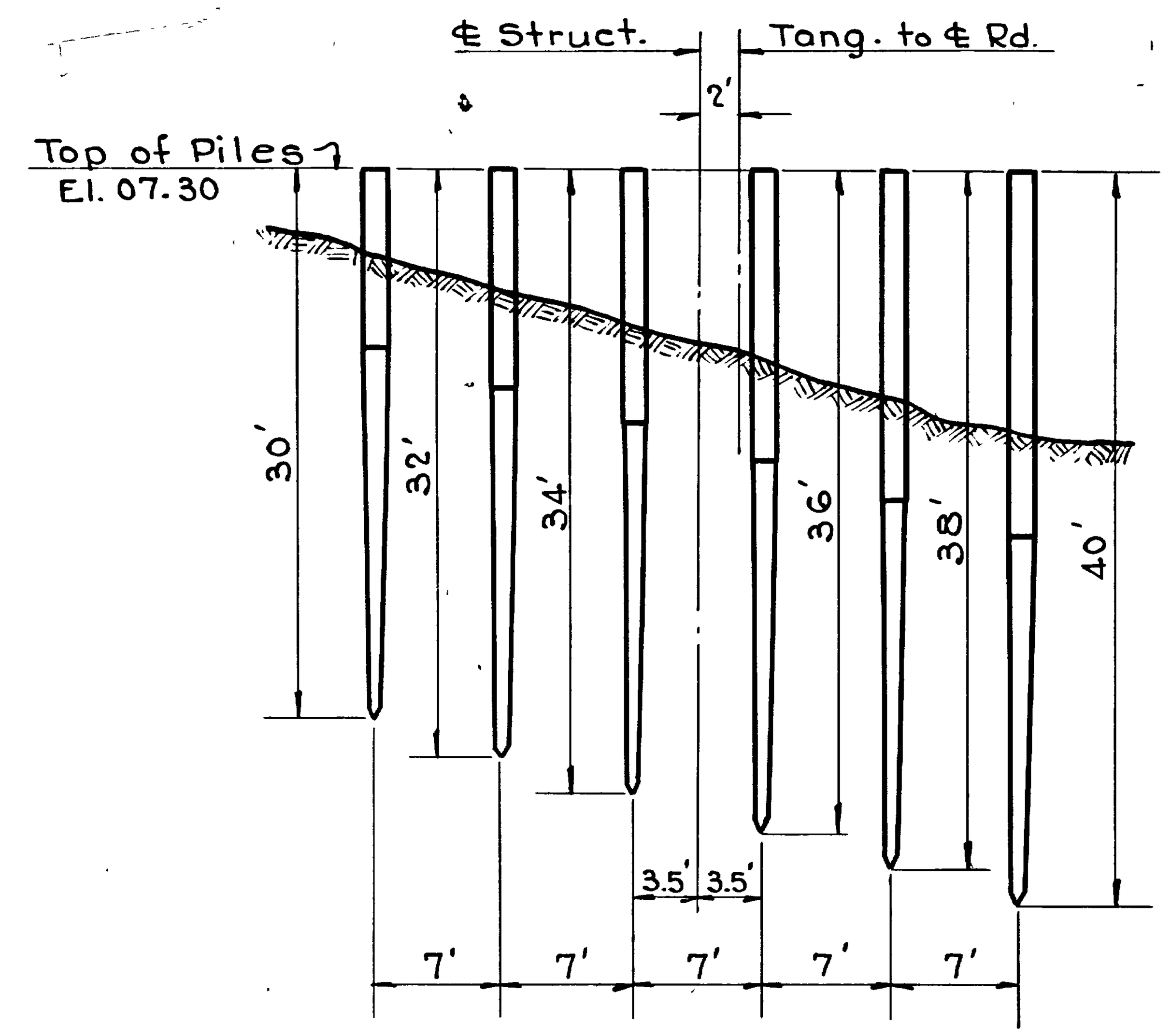
DETAIL OF FIXED BEARING - CENTER BENT



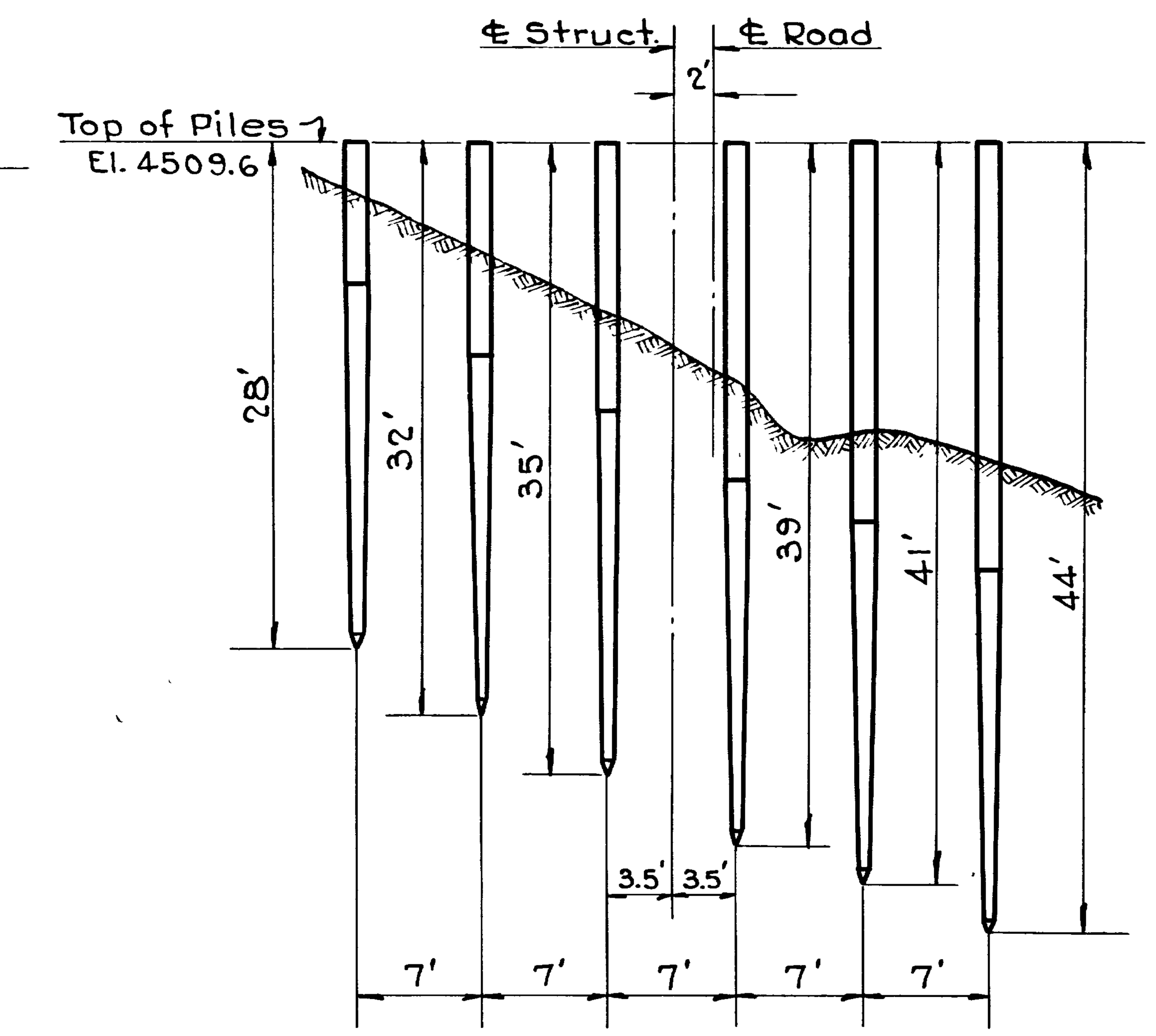


DETAIL OF BEARING PLATES

Make 2 - Pls. as shown Mark "A" 10"x$\frac{1}{16}$"x36'-5¾" @ 2.125# = 155.0 Lbs
" 2 " " " " "B" 12"x$\frac{1}{16}$"x36'-5½" @ 2.550# = 185.9 "
" 2 " " " " "C" 11"x$\frac{1}{16}$"x36'-5½" @ 2.338# = 170.4 "
" 2 " " " " "D" 9"x$\frac{1}{16}$"x36'-5½" @ 1.913# = 139.5 "
Total Wt. All Plates = 650.8 Lbs. Gross



ELEVATION PILING
(Downgrade Abut.)
Sta. 53 + 14
⅛" = 1'-0"



ELEVATION PILING
(Upgrade Abut.)
Sta. 51+86
⅛" = 1'-0"

BEARINGS & BRG. PLATES

Sheet 6 of 12 sheets

UTAH STATE ROAD COMMISSION
SALT LAKE CITY - UTAH
EZRA C KNOWLTON, CHIEF ENGINEER

BRIDGE OVER U.P. & L. CO'S. PENSTOCKS
A.W.(P.C.E.) F.A.P. 222-A(1)
Sta. 52+50 Weber Co.
Ogden Arsenal - Riverdale

DESIGNED BY F.M.E. SCALE As noted
DRAWN BY F.M.E. ISSUED May 22, 1941
CHECKED BY ____ APPROVED Paul M Masters act. CHIEF BRIDGE ENGINEER
EXAMINED BY ____

BR No. 29-259-1-2 DRG. No. D-466

REVISIONS
DATE	BY	DATE	BY

Sheet 7 of 12 sheets

UTAH STATE ROAD COMMISSION
SALT LAKE CITY · UTAH
EZRA C. KNOWLTON, CHIEF ENGINEER

BRIDGE OVER U.P. & L. CO'S. PENSTOCKS
A.W. (P.C.E.) F.A.P. 222-A(1)
Sta. 52+50 Weber Co.
Ogden Arsenal - Riverdale

Designed by F.M.E. Scale As noted
Drawn by J.H.B. Issued May 27, 1941

Br. No. 29-259-1-2 Drg. No. D-466

FED. ROAD DIST NO	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO	TOTAL SHEETS
12	UTAH	222-A(1)			

MANHOLES & CURBS

Sheet 8 of 12 sheets

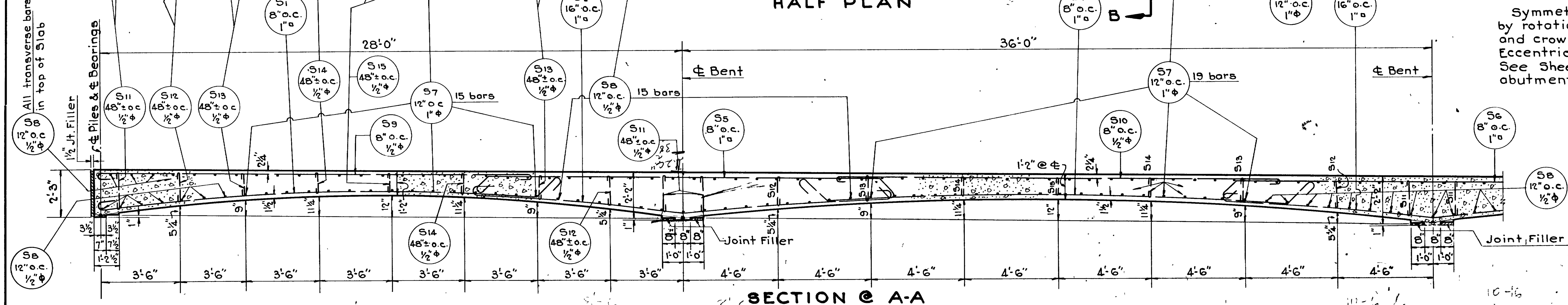
UTAH STATE ROAD COMMISSION
SALT LAKE CITY - UTAH
EZRA C. KNOWLTON, CHIEF ENGINEER

BRIDGE OVER U.P. & L. CO'S. PENSTOCKS
A.W. (P.C.E.) F.A.P. 222-A(1)
Sta. 52+50 Weber Co.
Ogden Arsenal - Riverdale

Designed by F.M.E. Scale As noted
Drawn by J.H.B.
Br. No. 29-259-1-2 Drg. No. D-466

FED ROAD DIST NO	STATE	FED. AID PROJ NO	FISCAL YEAR	SHEET NO	TOTAL SHEETS
12	UTAH	212-A(1)			

HALF PLAN



SECTION @ A-A

Symmetrical about Bridge Center Lines by rotation, except for super-elevation and crown, or where shown otherwise. Eccentric with ℄ of Road as shown. See Sheet 6 for details of bearings on abutments and interior bents.

DECK STEEL

See A-406

Sheet 9 of 12 sheets

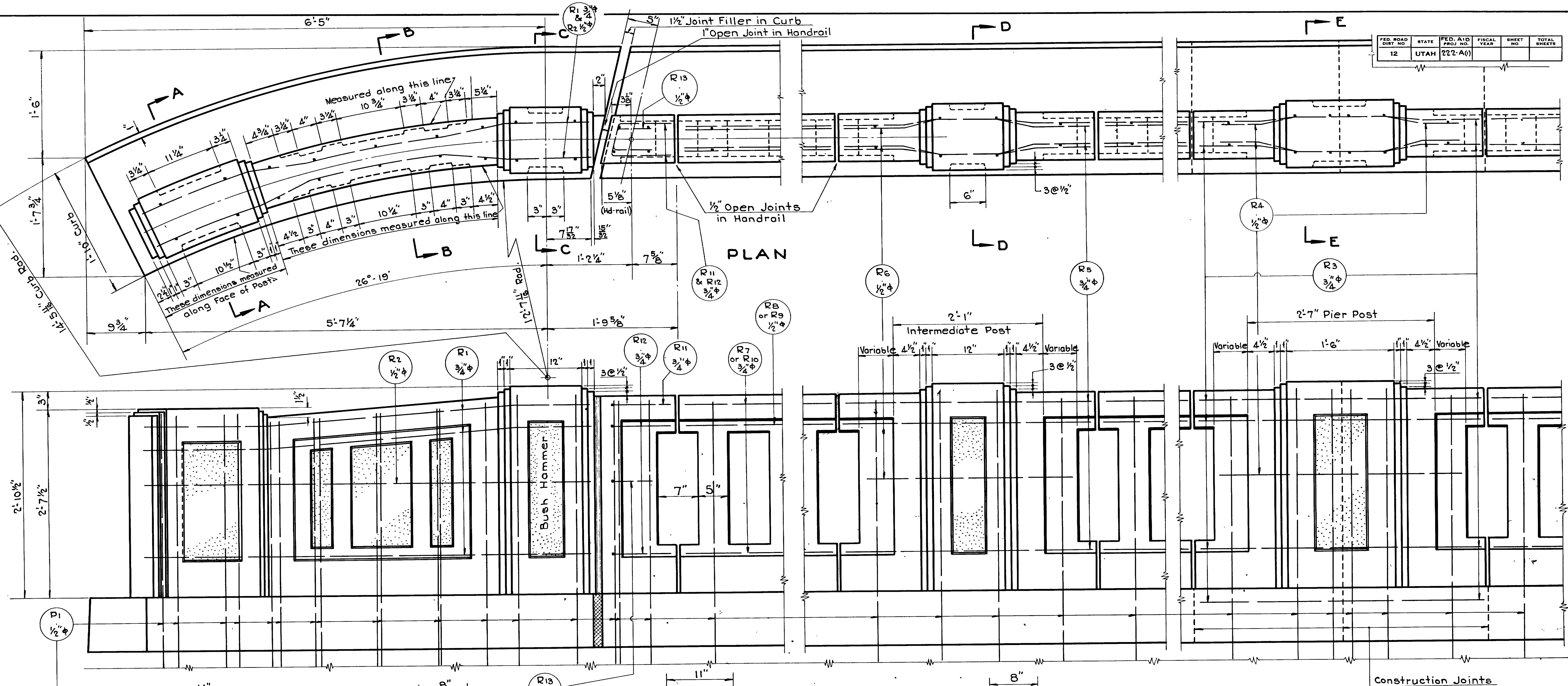
UTAH STATE ROAD COMMISSION
SALT LAKE CITY - UTAH
EZRA C. KNOWLTON, CHIEF ENGINEER

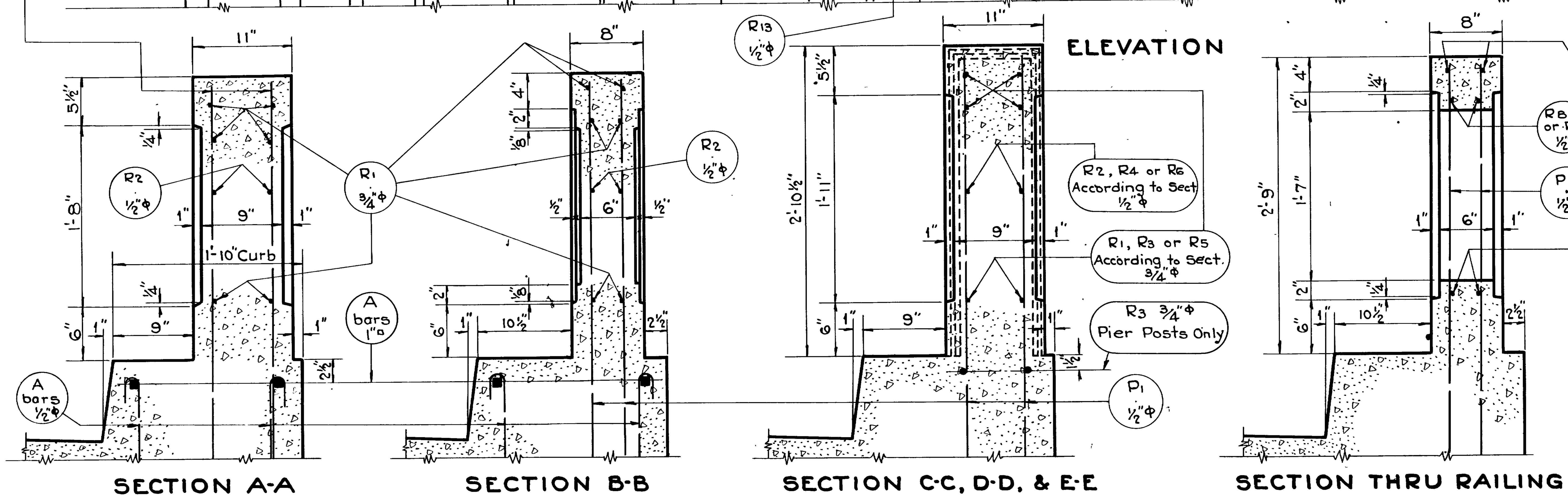
BRIDGE OVER U.P. & L. CO'S. PENSTOCKS
A.W.(P.C.E.) F.A.P. 222-A(1)
Sta. 52+50 Weber Co.
Ogden Arsenal - Riverdale

DESIGNED BY F.M.E. SCALE 3/8" = 1'-0"
DRAWN BY J.H.B. ISSUED May 27, 1941
CHECKED BY APPROVED Paul M. Martin Actg. Chief Bridge Engineer
EXAMINED BY

BR. No. 29-259-1-2 DRG. No. D-466

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
12	UTAH	222-A(1)			





CONCRETE QUANTITIES

One End Post	13.00	Cu. Ft.
One Pier Post	4.69	" "
One Intermediate Post	3.38	" "
Railing per Lin. Ft.	1.19	" "
Variable Portion of Railing per Lin. Ft.	1.51	" "

HAND RAIL

Sheet 10 of 12 sheets

UTAH STATE ROAD COMMISSION
SALT LAKE CITY - UTAH
EZRA C. KNOWLTON, CHIEF ENGINEER

BRIDGE OVER U.P. & L. CO'S. PENSTOCKS
A.W.(P.C.E.) F.A.P. 222-A(1)
Sta. 52+50 Weber Co.
Ogden Arsenal-Riverdale

DESIGNED BY F.M.E. SCALE 1½" = 1'-0"
DRAWN BY J.H.B. ISSUED May 22, 1941
CHECKED BY
EXAMINED BY
No. 29-253-12 Drg. No. D-466

MARK	LOCATION	SIZE	LGTH	No. BARS	TOTAL LENGTH	SKETCH	O. To O.
F 1	Retaining Wall Foot.	½"	4'-3"	5	21'-3"		3'-2"
F 2			4'-8"		23'-4"		3'-7"
F 3			5'-3"		26'-3"		4'-2"
F 4			5'-9"		28'-9"		4'-8"
F 5			5'-11"		29'-7"		4'-10"
F 6		½"	6'-5"		32'-1"		5'-4"
F 7		⅝"	7'-3"		36'-3"		5'-11"
F 8		¾"	8'-3"		41'-3"		6'-7"
F 9		⅞"	9'-0"		45'-0"		7'-1"
F 10			9'-7"		47'-11"		7'-8"
F 11			9'-4"		46'-8"		7'-5"
F 12		⅞"	9'-0"		45'-0"		7'-1"
F 13		¾"	7'-10"		39'-2"		6'-2"
F 14		½"	6'-5"		32'-1"		5'-4"
F 15			5'-1"		25'-5"		4'-0"
F 16			3'-6"	5	17'-6"		2'-5"
F 17	Retaining Wall Foot.	½"	4'-8"	120	560'-0"		
W 1	Retaining Wall	½"	6'-4"	1	6'-4"	3'-10" 2'-0"	
W 2			7'-0"		7'-0"	4'-5" 2'-0"	
W 3			7'-6"		7'-6"	5'-0" 2'-0"	
W 4			8'-1"		8'-1"	5'-7" 2'-0"	
W 5		½"	8'-8"		8'-8"	6'-2" 2'-0"	
W 6		⅝"	7'-7"		7'-7"	4'-8" 2'-9"	
W 7			8'-2"		8'-2"	5'-3" 2'-3"	
W 8			8'-9"		8'-9"	5'-10" 2'-3"	
W 9			9'-4"		9'-4"	6'-5" 2'-3"	
W 10		⅝"	9'-11"		9'-11"	7'-0" 2'-3"	
W 11	Retaining Wall	⅞"	9'-4"	1	9'-4"	5'-10" 2'-6"	

MARK	LOCATION	SIZE	LGTH	No. BARS	TOTAL LENGTH	SKETCH	O. To O.
W 12	Retaining Wall	⅞"	9'-11"	1	9'-11"	6'-5" 2'-6"	
W 13			10'-6"		10'-6"	7'-0" 2'-6"	
W 14			11'-1"		11'-1"	7'-7" 2'-6"	
W 15			11'-8"		11'-8"	8'-2" 2'-6"	
W 16			10'-7"		10'-7"	6'-10" 2'-9"	
W 17			11'-2"		11'-2"	7'-5" 2'-9"	
W 18			11'-9"		11'-9"	8'-0" 2'-9"	
W 19			12'-4"		12'-4"	8'-7" 2'-9"	
W 20			12'-11"		12'-11"	9'-2" 2'-9"	
W 21			11'-4"		11'-4"	7'-6" 2'-10"	
W 22			11'-10"		11'-10"	8'-0" 2'-10"	
W 23			12'-5"		12'-5"	8'-7" 2'-10"	
W 24			12'-11"		12'-11"	9'-1" 2'-10"	
W 25		⅞"	13'-5"		13'-5"	9'-7" 2'-10"	
W 26		1"	12'-5"		12'-5"	8'-4" 3'-0"	
W 27			12'-11"		12'-11"	8'-10" 3'-0"	
W 28			13'-6"		13'-6"	9'-5" 3'-0"	
W 29			14'-0"		14'-0"	9'-11" 3'-0"	
W 30		⅞"	14'-7"		14'-7"	10'-6" 3'-0"	
W 31		1"	14'-5"		14'-5"	10'-0" 3'-4"	
W 32			14'-10"		14'-10"	10'-5" 3'-4"	
W 33			15'-3"		15'-3"	10'-10" 3'-4"	
W 34			15'-8"		15'-8"	11'-3" 3'-4"	
W 35			16'-1"		16'-1"	11'-8" 3'-4"	
W 36			16'-0"		16'-0"	11'-3" 3'-8"	
W 37			16'-5"		16'-5"	11'-8" 3'-8"	
W 38			16'-11"		16'-11"	12'-2" 3'-8"	
W 39			17'-4"		17'-4"	12'-7" 3'-8"	
W 40		1"	17'-10"		17'-10"	13'-1" 3'-8"	
W 41		1⅛"	17'-8"		17-8"	12'-6" 3'-11"	
W 42	Retaining Wall	1⅛"	18'-1"	1	18'-1"	12'-11" 3'-11"	

MARK	LOCATION	SIZE	LGTH	No. BARS	TOTAL LENGTH	SKETCH	O. To O.
W 43	Retaining Wall	1⅛"	18'-6"	1	18'-6"	13'-4" 3'-11"	
W 44			18'-11"		18'-11"	13'-9" 3'-11"	
W 45		1⅛"	19'-4"		19'-4"	14'-2" 3'-11"	
W 46		1¼"	19'-2"		19'-2"	13'-7" 4'-2"	
W 47			19'-6"		19'-6"	13'-11" 4'-2"	
W 48			19'-11"		19'-11"	14'-4" 4'-2"	
W 49			20'-3"		20'-3"	14'-8" 4'-2"	
W 50			20'-8"		20'-8"	15'-1" 4'-2"	
W 51			19'-4"		19'-4"	13'-10" 4'-1"	
W 52			19'-7"		19'-7"	14'-1" 4'-1"	
W 53			19'-10"		19'-10"	14'-4" 4'-1"	
W 54		1⅛"	20'-1"		20'-1"	14'-7" 4'-1"	
W 55		1¼"	20'-4"		20'-4"	14'-10" 4'-1"	
W 56		1⅛"	18'-4"		18'-4"	13'-2" 3'-11"	
W 57			18'-7"		18'-7"	13'-5" 3'-11"	
W 58			18'-10"		18'-10"	13'-8" 3'-11"	
W 59			19'-1"		19'-1"	13'-11" 3'-11"	
W 60		1⅛"	19'-4"		19'-4"	14'-2" 3'-11"	
W 61		1"	16'-6"		16'-6"	11'-11" 3'-6"	
W 62			16'-8"		16'-8"	12'-1" 3'-6"	
W 63			16'-9"		16'-9"	12'-2" 3'-6"	
W 64			16'-10"		16'-10"	12'-3" 3'-6"	
W 65		1"	17'-0"		17'-0"	12'-5" 3'-6"	
W 66		1"	14'-2"		14'-2"	10'-1" 3'-0"	
W 67			14'-4"		14'-4"	10'-3" 3'-0"	
W 68			14'-5"		14'-5"	10'-4" 3'-0"	
W 69			14'-7"		14'-7"	10'-6" 3'-0"	
W 70		1"	14'-9"		14'-9"	10'-8" 3'-0"	
W 71		¾"	11'-2"		11'-2"	8'-0" 2'-4"	
W 72			11'-1"		11'-1"	7'-11" 2'-4"	
W 73	Retaining Wall	¾"	11'-1"	1	11'-1"	7'-11" 2'-4"	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
12	UTAH	222-A(1)			

MARK	LOCATION	SIZE	LGTH	No. BARS	TOTAL LENGTH	SKETCH	O. To O.
W 74	Retaining Wall	¾"	11'-0"	1	11'-0"	7'-10" 2'-4"	
W 75		¾"	11'-0"		11'-0"	7'-10" 2'-4"	
W 76		½"	7'-2"		5'-0"	1'-7"	
W 77			7'-1"		7'-1"	4'-11" 1'-7"	
W 78			7'-1"		7'-1"	4'-11" 1'-7"	
W 79			7'-0"		7'-0"	4'-10" 1'-7"	
W 80		½"	6'-11"	1	6'-11"	4'-9" 1'-7"	
L 1		½"	4'-8"	3	14'-0"		
L 2			9'-8"	3	29'-0"		
L 3			8'-6"	1	8'-6"		
L 4			12'-0"	1	12'-0"		
L 5			10'-2"		10'-2"		
L 6			13'-6"		13'-6"		
L 7			12'-0"	1	12'-0"		
L 8			15'-0"	2	30'-0"		
L 9			13'-6"	1	13'-6"		
L 10			16'-9"	1	16'-9"		
L 11			20'-0"	2	40'-0"		
L 12			23'-6"	1	23'-6"		
L 13			21'-9"	1	21'-9"		
L 14			18'-4"	1	18'-4"		
L 15			16'-6"	1	16'-6"		
L 16			14'-8"	3	44'-0"		
L 17			12'-9"	1	12'-9"		
L 18	Retaining Wall	½"	10'-9"	1	10'-9"		

MARK	LOCATION	SIZE	LGTH	No. BARS	TOTAL LENGTH	SKETCH	O. To O.
L 19	Retaining Wall	½"	8'-9"	1	8'-9"		
L 20			6'-9"	1	6'-9"		
L 21			4'-3"	1	4'-3"		
L 22			2'-0"	1	2'-0"		
L 23			24'-0"	4	96'-0"		
L 24			19'-8"	2	39'-4"		
L 25			24'-8"	2	49'-4"		
L 26			29'-8"	2	59'-4"		
L 27			29'-0"	1	29'-0"		
L 28			31'-6"		31'-6"		
L 29			29'-0"		29'-0"		
L 30			26'-6"		26'-6"		
L 31			29'-0"		29'-0"		
L 32			24'-6"		24'-6"		
L 33	Retaining Wall	½"	20'-6"	1	20'-6"		
* B 1	Bent @ Sta. 52+14	1"	19'-4"	8	154'-8"		17'-2"
* B 2			18'-4"	4	73'-4"		16'-2"
* B 3			17'-4"		69'-4"		15'-2"
* B 4			15'-4"		61'-4"		13'-2"
* B 5			12'-10"		51'-4"		10'-8"
* B 6			10'-4"		41'-4"		8'-2"
* B 7	Bent @ Sta. 52+14	1"	8'-4"	4	33'-4"		6'-2"
B 8	Bents @ Sta. 52+14, 52+50 & 52+86	½"	7'-2"	216	1548'-0"		7'-0"
B 9		½"	33'-3"	36	1197'-0"		
B 10	Bents @ Sta. 52+14, 52+50 & 52+86	½"	8'-0"	36	288'-0"		

MARK	LOCATION	SIZE	LGTH	No. BARS	TOTAL LENGTH	SKETCH	O. To O.
B 11	Bents @ Sta. 52+14, 52+50 & 52+86	½"	4'-6"	108	486'-0"		
B 12		½"	39'-0"	18	702'-0"		37'-11"
B 13	Bents @ Sta. 52+14, 52+50 & 52+86	½"	3'-10"	15	57'-6"		
B 14	Bent @ Sta. 52+86	½"	4'-8"	3	14'-0"	Ditto but "A" = 2'-2"	
B 15	Bent @ Sta. 52+14, 52+50 & 52+86	½"	1'-9"	12	21'-0"		
* B 16	Bent @ Sta. (52+14, 52+50, 52+86)	¼"	73'-0"	24	1752'-0"	6'-0" 1'-9"	
* B 17	Bent @ Sta. (52+14, 52+50)		133'-0"	3	399'-0"	16'-0" 1'-3"	
* B 18	Bent @ Sta. (52+14, 52+86)		125'-0"	2	250'-0"	15'-0" 1'-3"	
* B 19	Bent @ Sta. 52+14		116'-0"	1	116'-0"	14'-0" 1'-3"	
* B 20	Bent @ Sta. (52+14, 52+50)		100'-0"	2	200'-0"	12'-0" 1'-3"	
* B 21	Bent @ Sta. (52+14, 52+50 & 52+86)		80'-0"	3	240'-0"	9'-6" 1'-3"	
* B 22	Bent @ Sta. 52+14		60'-0"	1	60'-0"	7'-0" 1'-3"	
* B 23	Bent @ Sta. (52+14, 52+86)		44'-0"	3	132'-0"	5'-0" 1'-3"	
* B 24	Bent @ Sta. 52+86		28'-0"	1	28'-0"	3'-0" 1'-3"	
* B 25			52'-0"		52'-0"	6'-0" 1'-3"	
* B 26			64'-0"		64'-0"	7'-6" 1'-3"	
* B 27			97'-0"		97'-0"	11'-6" 1'-3"	
* B 28	Bent @ Sta. 52+86		113'-0"		113'-0"	13'-6" 1'-3"	
* B 29	Bent @ Sta. 52+50		121'-0"		121'-0"	14'-6" 1'-3"	
* B 30			145'-0"		145'-0"	17'-6" 1'-3"	
* B 31		¼"	157'-0"	1	157'-0"	19'-0" 1'-3"	
* B 32		1"	8'-6"	4	34'-0"		6'-4"
* B 33	Bent @ Sta. 52+50	1"	10'-6"	4	42'-0"		8'-4"
* B 34	Bent @ Sta. (52+14, 52+86)	1"	12'-6"	8	100'-0"		10'-4"

* This steel to be used in the Cast-in-place Piles.

MARK	LOCATION	SIZE	LGTH	No. BARS	TOTAL LENGTH	SKETCH	O. To O.
* B 35	Bent @ Sta. 52+50	1"	15'-0"	4	60'-0"		12'-10"
* B 36			17'-6"		70'-0"		15'-4"
* B 37			19'-0"		76'-0"		16'-10"
* B 38			20'-6"		82'-0"		18'-4"
* B 39	Bent @ Sta. 52+50		22'-0"		88'-0"		19'-10"
* B 40	Bent @ Sta. 52+86		6'-2"		24'-8"		4'-0"
* B 41			8'-0"		32'-0"		5'-10"
* B 42			9'-2"		36'-8"		7'-0"
* B 43			10'-8"		42'-8"		8'-6"
* B 44			14'-8"		58'-8"		12'-6"
* B 45			16'-8"		66'-8"		14'-6"
* B 46	Bent @ Sta. 52+86		18'-0"	4	72'-0"		15'-10"
* B 47	Bents @ Sta. (52+14, 52+50 & 52+86)	1"	19'-2"	96	1840'-0"		17'-0"
* B 48	Bents @ Sta. (52+14, 52+50 & 52+86)	¼"	42'-0"	24	1008'-0"	5'-6" 14" 12"	
* B 49		¼"	44'-9"	24	1074'-0"	6'-6" 12" 9½"	
* B 50	Bents @ Sta. (52+14, 52+50 & 52+86)	¼"	17'-3"	24	414'-0"	3'-0" 9½" 8½"	
B 51	Bents @ Sta. 52+50	¾"	5'-8"	35	198'-4"		4'-0"
A 1	Abutment Piles	½"	84'-7"	12	1015'-0"		
A 2	Abutment Piles	1"	14'-6"	48	696'-0"		12'-3"
A 3	Abutments	⅞"	40'-0"	18	720'-0"		38'-1"
~~A 4~~	~~Abutment Upgrade~~	½"	8'-6"	33	280'-6"		7'-5"
A 5	Abutments		9'-3"	9	83'-3"		8'-2"
A 6			39'-5"	8	315'-4"		38'-4"
A 7	Abutments	½"	3'-6"	74	259'-0"		2'-5"

Changed under Revision ③

d	13 d	16 d
⅜	5"	6"
½	6½"	8"
⅝	8"	10"
¾	9¾"	12"
⅞	11½"	14"
1"	13"	16"
1⅛"	14½"	18"
1¼"	16¼"	20"

1-d or not less than ¾"

Length as shown in sketches

ROD NOTES

When hooks are called for the lengths given in the Total Length column include allowance for hooks as shown in above detail.

Lengths given in sketches are center to center of bend points.

REINFORCING STEEL

Sheet 11 of 12 sheets

UTAH STATE ROAD COMMISSION
SALT LAKE CITY - UTAH
EZRA C. KNOWLTON, CHIEF ENGINEER

BRIDGE OVER U.P. & L. CO'S. PENSTOCKS
A.W.(P.C.E.) F.A.P. 222-A(1)
Sta. 52+50 Weber Co.
Ogden Arsenal - Riverdale

DESIGNED BY F.M.E. SCALE None
DRAWN BY F.M.E. - J.H.B. ISSUED 12-22-42
CHECKED BY APPROVED
STAMPED BY CHIEF BRIDGE ENGINEER

Br. No. 29-259-1-2 Drg. No. D-466

REVISIONS

DATE	BY	DWG
9-22-43	J.H.B.	
10-26-43	J.H.B.	

Mark	Location	Size	Lgth	No. Bars	Total Length	Sketch	0. to 0.
A 8	Abutments	½ϕ	10'-6"	74	777'-0"	6½" 45° 7" 2'-3" 5" 2'-7"	
A 9	Down-grade Abut.		8'-6"	4	34'-0"		7'-5"
A 10			8'-7"		34'-4"		7'-6"
A 11			8'-8"		34'-8"		7'-7"
A 12			8'-9"		35'-0"		7'-8"
A 13			8'-10"		35'-4"		7'-9"
A 14			8'-11"		35'-8"		7'-10"
A 15			9'-0"	4	36'-0"		7'-11"
A 16			9'-1"	5	45'-5"		8'-0"
A 17	Down-grade Abut.	½ϕ	10'-0"	3	30'-0"		8'-11"
S 1	Deck Slab Bottom (28' Spans)	1"□	24'-10"	108	2682'-0"	See Sketch	22'-5"
S 2	Deck Slab Bottom	1"□	22'-6"	56	1260'-0"	See Sketch	20'-4"
S 3	Deck Slab Bottom (Over Center Bent)	1"□	22'-6"	28	630'-0"	See Sketch	20'-4"
S 4	Deck Slab Bottom 36'-0" Spans	1"□	27'-9"	108	2997'-0"	See Sketch	24'-10"
S 5	Deck Slab Top	1"□	23'-0"	108	2484'-0"	See Sketch	20'-0½"
S 6	Deck Slab Top	1"□	23'-2"	54	1251'-0"	See Sketch	20'-2"
S 7	Deck Slab Bott. (Trans)	1"ϕ	38'-2"	68	2595'-4"		36'-0"
S 8	Deck Slab Top & Bott. "	½ϕ	37'-1"	189	7008'-9"		36'-0"
S 9	Deck Slab Top 28' Spans	½ϕ	22'-0"	108	2376'-0"		20'-11"
S 10	Deck Slab Top 36' "	½ϕ	22'-6"	108	2430'-0"		21'-5"
S 11	Deck Slab	½ϕ	3'-0"	80	240'-0"	A Inside Hooks A = 1'-9½"	1'-10½"
S 12			2'-8"		213'-4"	Ditto but A = 1'-5¾"	1'-6¾"
S 13			2'-4"		186'-8"	A = 1'-2"	1'-3"
S 14			2'-2"	80	173'-4"	A = 0'-11¾"	1'-0¾"
S 15	Deck Slab	½ϕ	2'-1"	40	86'-8"	Ditto but A = 0'-11"	1'-0"
⑤ A 18	Abutment Curb	1"□	14'-0"	2	28'-0"	A = 6'-4" Field Bend 90° 6'-7"	
A 19		½ϕ	9'-3"	12	111'-0"		8'-2"
⑤ A 20	Abutment Curb		6'-4"	16	101'-4"		5'-3"
A 21	Up-grade Abut.		9'-10"	7	68'-10"		
A 22	Up-grade Abut.		6'-6"	13	84'-6"		5'-5"
A 23	Both Abutments		2'-6"	6	15'-6"		
⑤ A 24	Both Abutments		4'-4"	11	47'-8"		3'-3"
⑤ A 25	Downgrade Abut.		7'-9"	5	38'-9"	3'-3" 90° A=3'-5"	
⑤ ~~A 26~~	~~Up-grade Abut.~~		~~8'-3"~~	~~4~~	~~33'-0"~~	~~Ditto but A = 3'-11"~~	
A 27	Up-grade Abut.	½ϕ	2'-10"	5	15'-0"		
P 1	Hand Rail	½ϕ	4'-3"	624	2652'-0"		
R 1	End Posts	¾ϕ	6'-3"	24	150'-0"		Field Bend
R 2	End Posts	½ϕ	6'-3"	8	50'-0"		
R 3	Pier Posts	¾ϕ	2'-0"	96	192'-0"		
R 4	Pier Posts	½ϕ	1'-8"	24	40'-0"		
R 5	Int. Post.	¾ϕ	3'-6"	96	336'-0"		Field Bend
R 6	Int. Post.	½ϕ	3'-0"	32	96'-0"		"
R 7	Railing End Spans	¾ϕ	5'-8"	48	272'-0"		
R 8		½ϕ	5'-8"	24	136'-0"		
R 9		½ϕ	7'-8"	24	184'-0"		
R 10	Railing End Spans	¾ϕ	7'-8"	48	368'-0"		
③ A 28	~~Up-grade Abut.~~	1"□	14'-0"	1	14'-0"	A = 7'-1" 90° B=5'-10" A 7'-1" B 7'-4"	
③ A 30	~~Up-grade Abut.~~		~~13'-0"~~		~~13'-0"~~	~~6'-1" 5'-10"~~	
A 31	Down-grade Abut.	1"□	14'-6"	1	14'-6"	6'-1" 7'-4"	
③ A 32		½ϕ	7'-6"	4	30'-0"		6'-5"
③ A 33			8'-2"	2	16'-4"		7'-1"
③ A 34	Downgrade Abut.		7'-2"	2	14'-4"		6'-1"
A 35	Both Abutments		10'-0"	7	70'-0"		8'-11"
A 36	Both Abutments		9'-0"	7	63'-0"		7'-11"
A 37	Down-grade Abut.	½ϕ	7'-0"	11	77'-0"		5'-11"
R 11	End Spans	¾ϕ	2'-0"	8	16'-0"	A 8½" B 10" C 5½" D 5⅝"	
R 12	" "	¾ϕ	1'-10"	16	29'-4"	A 9" B 9¼" C 3½" D 3⅞"	
R 13	End Spans	½ϕ	1'-4"	8	10'-8"	A 5¾" B 6¼" C 3½" D 3⅞"	

Note:- Bars marked ⑤ changed under Revision ⑤

TOTAL REINFORCING STEEL

7437.00	Lin. Ft	¼"ϕ	@	0.167 #	=	1242.0
22705.17 ~~23169.75~~	"	½"ϕ	@	0.668 #	=	~~15477.4~~ 15137.6
~~17463.75~~	"	½"□	@	0.850 #	=	
	"	⅝"ϕ	@	1.043 #	=	
1561.67	"	¾"ϕ	@	1.502 #	=	2345.6
~~800.00~~	"	⅞"ϕ	@	2.044 #	=	~~1635.2~~ 1471.7
2595.33	"	1"ϕ	@	2.670 #	=	6929.5
15267 ~~15323.00~~	"	1"□	@	3.400 #	=	~~52098.2~~ 51911.2
	"	1⅛"□	@	4.303 #	=	
	"	1¼"□	@	5.313 #	=	

Total = ~~82,306.3~~ Lbs.

= ~~79,727.9~~

Rev ⑤ = 79,067.1 lbs ← Total of Steel shown on this sheet after deductions of bars necessary to make new revised bars A 40 to A 52 inclusive shown on Sheets 13 & 14)

Fed. Road Dist. No.	State	Fed. Aid Proj. No.	Fiscal Year	Sheet No.	Total Sheets
12	UTAH	222-A(4)			

REINFORCING STEEL

Sheet 12 of 12 sheets

UTAH STATE ROAD COMMISSION
SALT LAKE CITY - UTAH
EZRA C. KNOWLTON, CHIEF ENGINEER

BRIDGE OVER U.P. & L. CO'S. PENSTOCKS
A.W.(P.C.E.) F.A.P. 222-A(4)
Sta. 52+50 Weber Co.
Ogden Arsenal - Riverdale

Designed by F.M.E.
Drawn by F.M.E. & J.H.B.
Checked by
Examined by

Scale None
Issued May 27 1941
Approved [signature] Chief Bridge Engineer

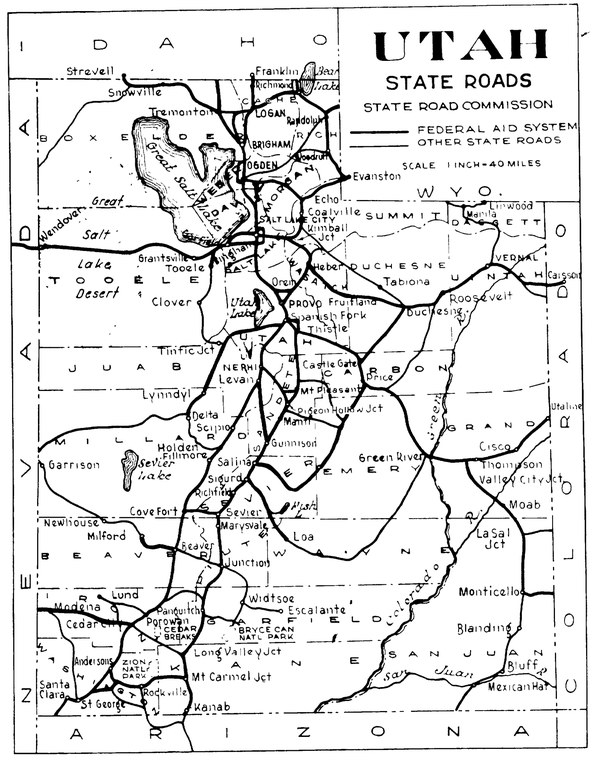
Br. No. 29-259-1.2 Drg. No. D-466

REVISIONS

Date	By	Date	By
Jan 29/42	J.H.B.		
Nov 20/42	J.H.B.		

Rev ⑤

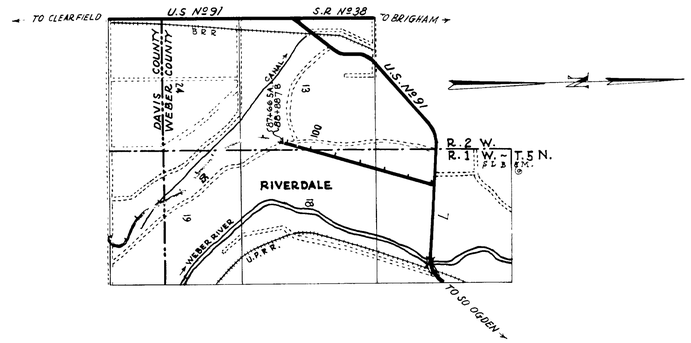
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
12	UTAH		19		



STATE OF UTAH
STATE ROAD COMMISSION

PLANS OF PROPOSED STATE ROAD
FEDERAL AID PROJECT

Scales { PLAN 0 50 100 ; PROFILE { HOR. 0 50 100 ; VERT. 0 5 10



INDEX TO SHEETS F.A.P. No.

SHEET No.	DESCRIPTION	DRAWING No.	STATION

APPROVED MARCH 1941

STATE ROAD COMMISSION OF UTAH

Byron B. Russell
CHIEF ENGR.

RECOMMENDED FOR APPROVAL

[redacted]

DISTRICT ENGINEER
PUBLIC ROADS ADMINISTRATION
FEDERAL WORKS AGENCY

RECOMMENDED FOR APPROVAL

[redacted]

CHIEF WESTERN REGION
PUBLIC ROADS ADMINISTRATION
FEDERAL WORKS AGENCY

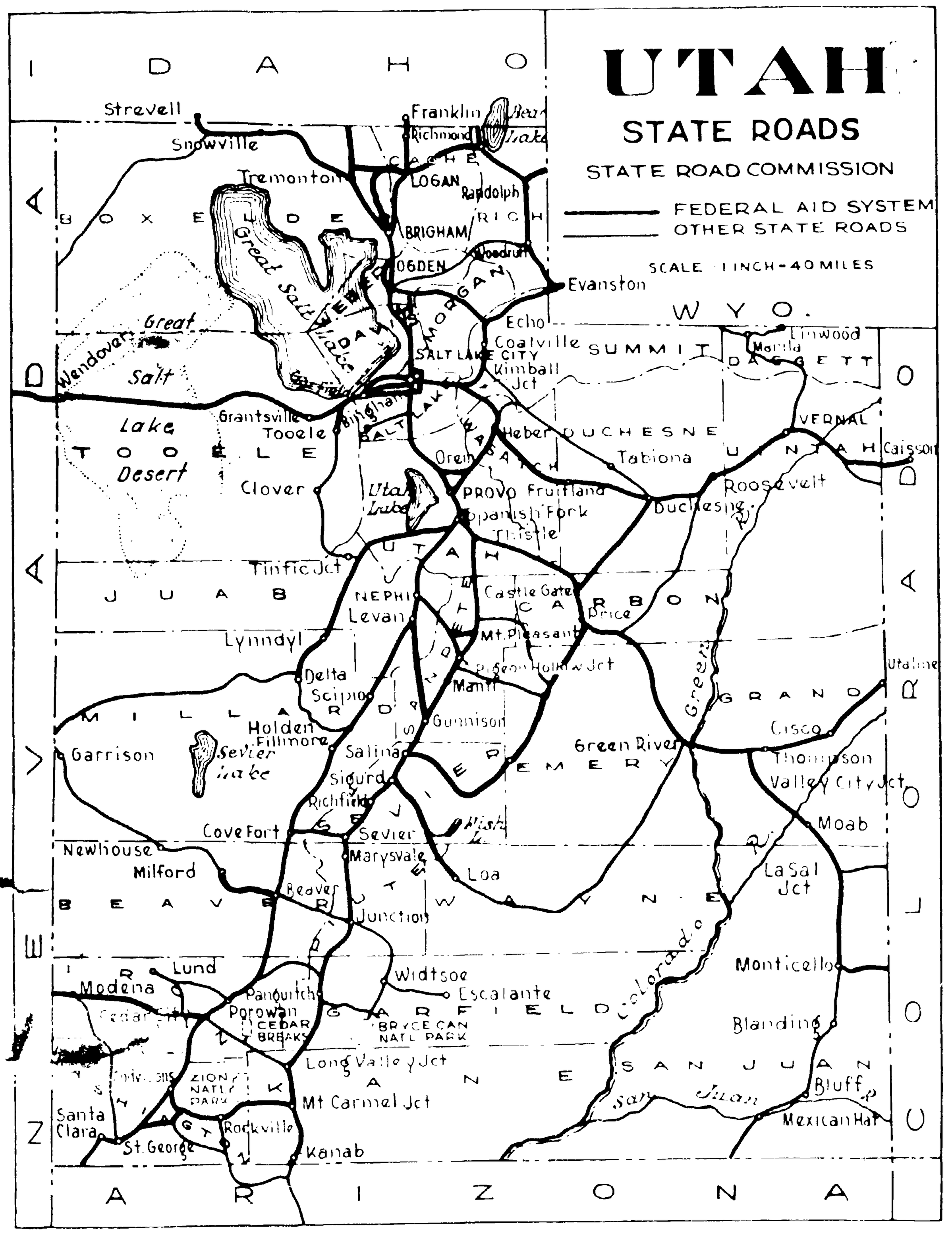
APPROVED

[redacted]

COMMISSIONER
PUBLIC ROADS ADMINISTRATION
FEDERAL WORKS AGENCY

FA R 222-

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
12	UTAH	222-A(1)	1942	1	39
"	"	222-B(1)	"	1	10
"	"	DA WR 12(1)	"	1	10



UTAH
STATE ROADS
STATE ROAD COMMISSION
FEDERAL AID SYSTEM
OTHER STATE ROADS
SCALE 1 INCH = 40 MILES
IDAHO
WYO.
ARIZONA
Ogden
Logan
Brigham
Salt Lake City
Provo
Tooele
Nephi
Richfield
Moab
Milford
St. George
Kanab
Vernal
Roosevelt
Price
Green River
Evanston

STATE OF UTAH
STATE ROAD COMMISSION

PLANS OF PROPOSED STATE ROAD

FEDERAL AID PROJECT

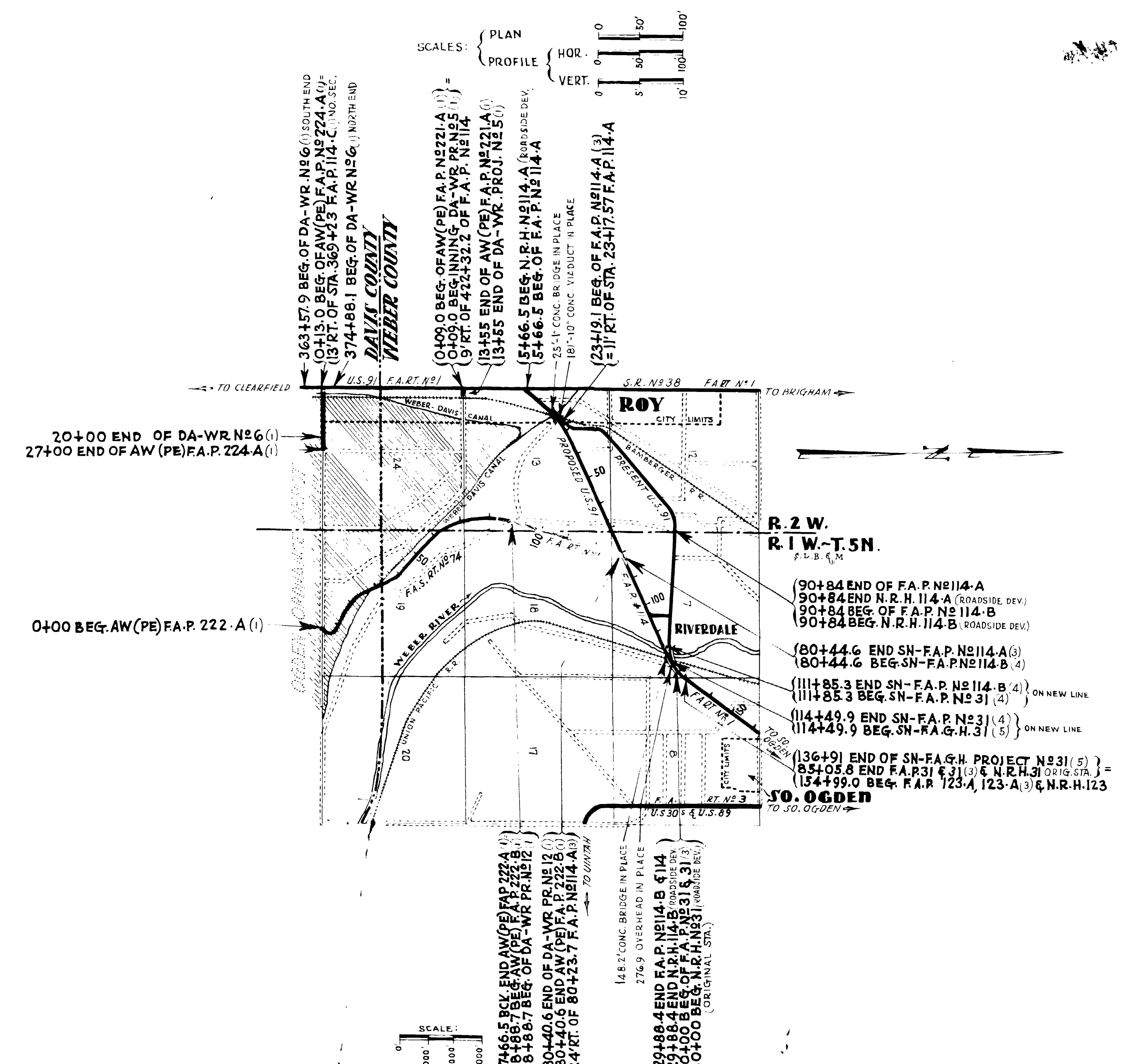
AW (PE) F.A.P. № 222-A(1) ~ LENGTH 1.661 MILES
AW (PE) F.A.P. № 222-B(1) ~ LENGTH 0.786 MILES
DA-WR PR. № 12(1) ~ LENGTH 0.786 MILES

INDEX TO SHEETS DA-WR. № 12(1)

SHEET	DESCRIPTION	DRAWING №	STATION
1	TITLE SHEET		
2	TYPICAL SECTION		
3-5	PLAN AND PROFILE		
6	STD. CATCH BASINS	V-330 L-7 L-8	94± & 114±
7	" HEADGATE AND OUTLET	V-224 L-15 L-18	106+08
8-9	8'x3'x51' CONC. BOX	E-740	97+34
10	F.A.P. MARKER	M-45	
1-10	X-SECTIONS		

INDEX TO SHEETS AW (PE) F.A.P. 222-A(1)

SHEET No	DESCRIPTION	DRAWING No	STATION
1	TITLE SHEET		
2	TYPICAL SECTION		
3-5	PLAN AND PROFILE		
6-18	84'-6⅜" CONC. BRIDGE	C-215	27+46
21-32	131'-3" CONC. BRIDGE	D-466	52+50
33-A	R/W MARKERS	~~J-391-RS~~	
33-C	SUPER. AND WIDEN CURVES	M-37	
34	STD. GUARD RAIL	E-40	
~~35~~	~~STD. CATCH BASINS~~	~~V-175 L-62 L-63~~	~~94± 114±~~
~~36~~	~~STD. HEADGATE AND OUTLET~~	V-224 L-15 L-18	106+08
~~37-38~~	~~8'x3'x51' CONC. BOX~~	E-740	97+34
39	STD. EMBANKMENT PROTECTOR	M-35	
1-14	X-SECTIONS		



SCALES: PLAN
PROFILE HOR.
VERT.
TO CLEARFIELD
TO BRIGHAM
ROY
CITY LIMITS
DAVIS COUNTY
WEBER COUNTY
R.2 W.
R.1 W.-T.5N.
RIVERDALE
WEBER RIVER
SO. OGDEN
TO SO. OGDEN
20+00 END OF DA-WR. № 6(1)
27+00 END OF AW (PE) F.A.P. 224-A(1)
0+00 BEG. AW (PE) F.A.P. 222-A(1)
(90+84 END OF F.A.P. № 114-A
90+84 END N.R.H. 114-A (ROADSIDE DEV.)
90+84 BEG. OF F.A.P. № 114-B
90+84 BEG. N.R.H. 114-B (ROADSIDE DEV.)
(80+44.6 END SN-F.A.P. № 114-A(3)
80+44.6 BEG. SN-F.A.P. № 114-B(4)
(111+85.3 END SN-F.A.P. № 114-B(4)
111+85.3 BEG. SN-F.A.P. № 31(4)) ON NEW LINE
(114+49.9 END SN-F.A.P. № 31(4)
114+49.9 BEG. SN-F.A.G.H. 31(5)) ON NEW LINE
(136+91 END OF SN-F.A.G.H. PROJECT № 31(5))
85+05.8 END F.A.P. 31 & 31(3) & N.R.H. 31 (ORIG. STA.)
(154+99.0 BEG. F.A.P. 123-A, 123-A(3) & N.R.H. 123
SCALE

APPROVED APRIL 1942

STATE ROAD COMMISSION OF UTAH

W. Anderson
DESIGN ENGINEER

RECOMMENDED FOR APPROVAL

[redacted]
DISTRICT ENGINEER
PUBLIC ROADS ADMINISTRATION
FEDERAL WORKS AGENCY

RECOMMENDED FOR APPROVAL

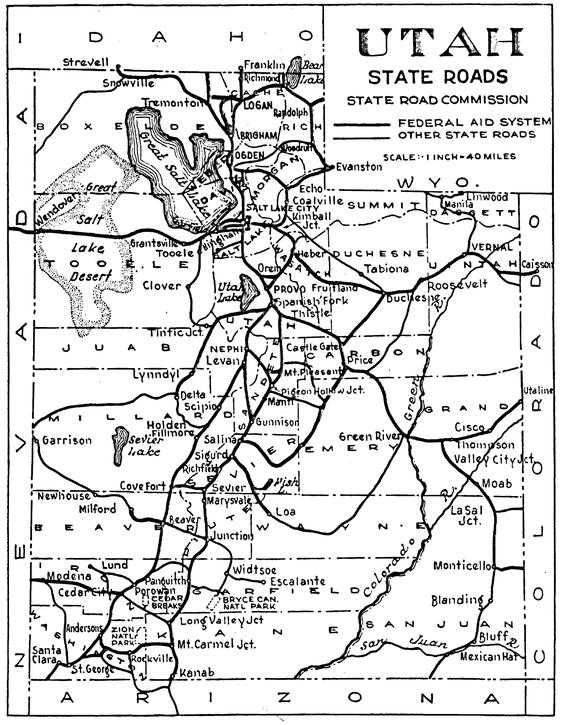
[redacted]
CHIEF WESTERN REGION
PUBLIC ROADS ADMINISTRATION
FEDERAL WORKS AGENCY

APPROVED

[redacted]
COMMISSIONER
PUBLIC ROADS ADMINISTRATION
FEDERAL WORKS AGENCY

F.A.P. 222-A(1) & B
DA-WR-12(1)

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
12	UTAH	222-A(1)	1942	1-A	39
"	"	222-B(1)	"	1	10
"	"	DA-WR 12(1)	"	1	10
UT.	UTAH	UI-123(4)	POSTWAR	1	18



STATE OF UTAH
STATE ROAD COMMISSION

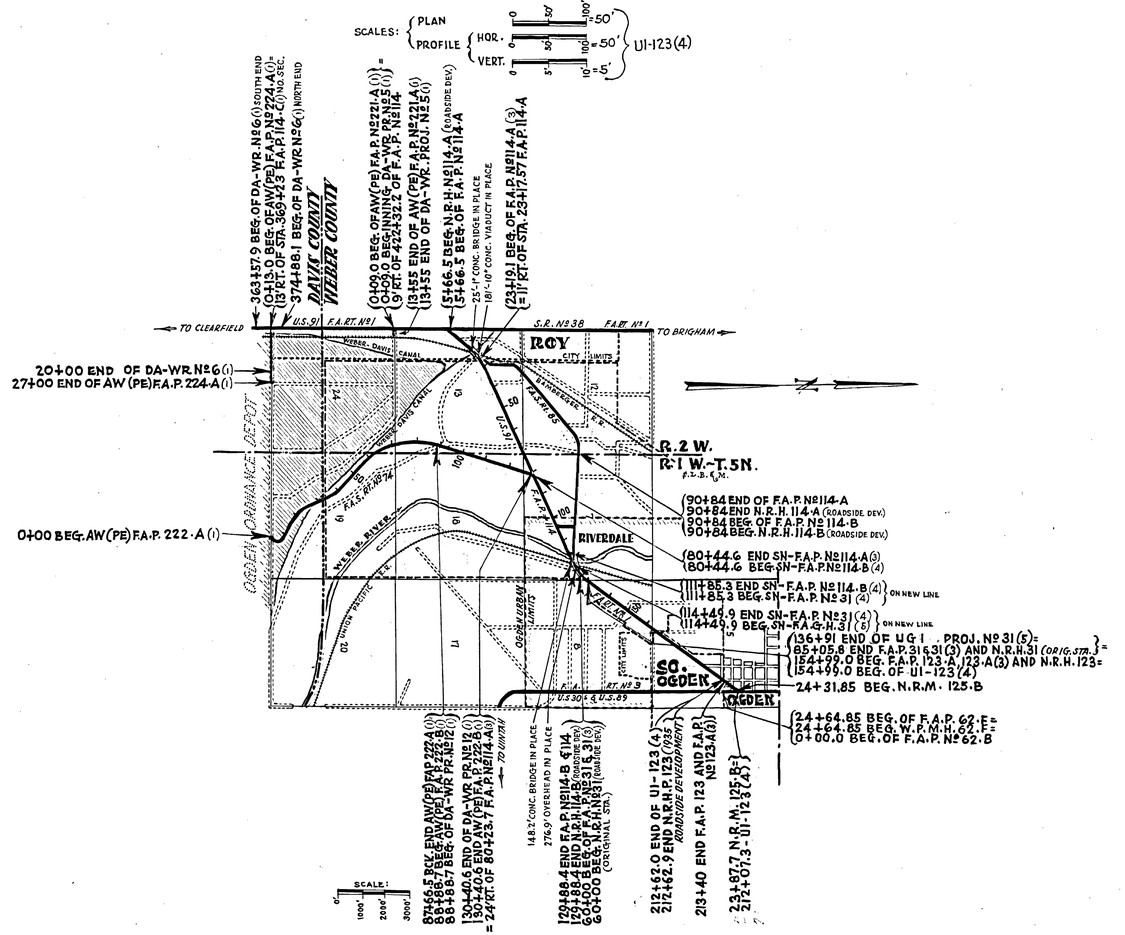
PLANS OF PROPOSED STATE ROAD

FEDERAL AID PROJECT

AW (PE) F.A.P. Nº 222-A(1) ~ LENGTH 1.661 MILES
AW (PE) F.A.P. Nº 222-B(1) ~ LENGTH 0.786 MILES
DA-WR PR. Nº 12(1) ~ LENGTH 0.786 MILES

WEBER COUNTY

UI-123(4) ~ LENGTH 1.091 MILES



INDEX TO SHEETS DA-WR. Nº 12(1)

SHEET	DESCRIPTION	DRAWING Nº	STATION
1	TITLE SHEET		
2	TYPICAL SECTION		
3-5	PLAN AND PROFILE		
6	STD. CATCH BASINS	V-330 1-8	94+8 114+
7	" HEADGATE AND OUTLET	V-224 1-18	106+08
8-9	8'x3'x51' CONC. BOX	E-740	97+34
10	F.A.P. MARKER	M-45	
1-10	X-SECTIONS		

INDEX TO SHEETS AW (PE) F.A.P. 222-A(1)

SHEET No.	DESCRIPTION	DRAWING No.	STATION
1	TITLE SHEET		
2	TYPICAL SECTION		
3-5	PLAN AND PROFILE		
6-18	84'-6 3/8" CONC. BRIDGE	C-215	27+46
21-32	131'-3" CONC. BRIDGE	D-466	52+50
33-A	R/W MARKERS	J-391-RS	
33-C	SUPER. AND WIDEN CURVES	M-37	
34	STD. GUARD RAIL	E-40	
35	STD. CATCH BASINS	V-175 1-63 1-63	93+ 114+
36	STD. HEADGATE AND OUTLET	V-224 1-18	106+08
37-38	8'x3'x51' CONC. BOX	E-740	97+34
39	STD. EMBANKMENT PROTECTOR	M-35	
1-44	X-SECTIONS		

INDEX TO SHEETS UI-123(4)

SHEET	DESCRIPTION	DRAWING	STATION
1	TITLE SHEET		
2-2A	TYPICAL SECTION, REINF. & JOINT DET.	B-120	
3-6	PLAN AND PROFILE		
7-8	2'x1'x16' BOX EXT. AND WELLS	E-918	175+75
9	DIV. BOX	V-4.40	177+23
10-11	6'x2'x22.17' BOX EXT. AND WELLS	E-919	182+76
12	STD. CATCH BASINS	V-175(4)	
13-14	RETAINING WALL	V-4.38	
15	STD. CLEANOUT BOXES	V-202-2	
16	STD. HEADWALL AND GRATING	V-450	156+00
17-18	" HIGHWAY SIGNS	B-25, 1&2	
1-9	X-SECTIONS		

APPROVED AUGUST 1951

STATE ROAD COMMISSION OF UTAH

J. H. Anderson
ASST. CHIEF ENGINEER

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

RECOMMENDED FOR APPROVAL:

DISTRICT ENGINEER ____ DATE

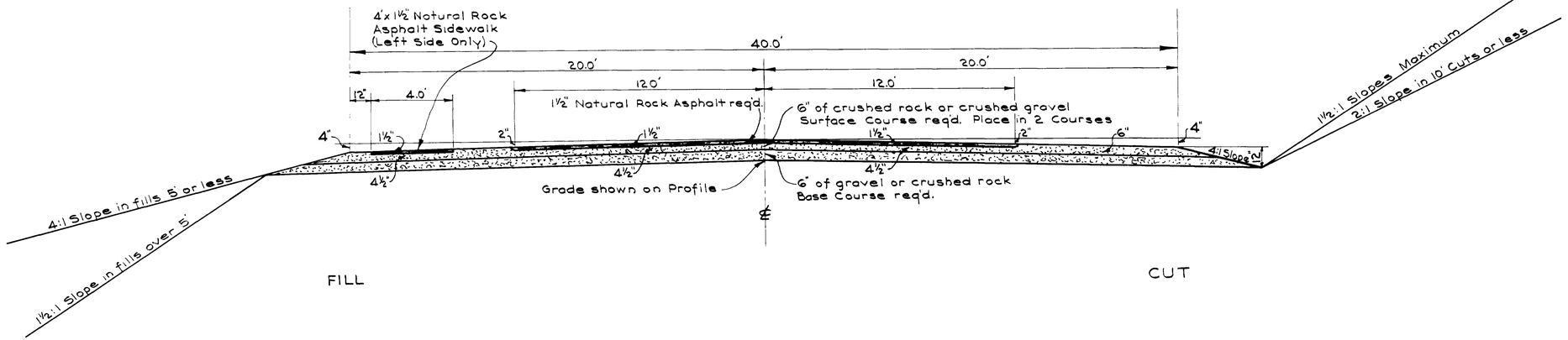
APPROVED:

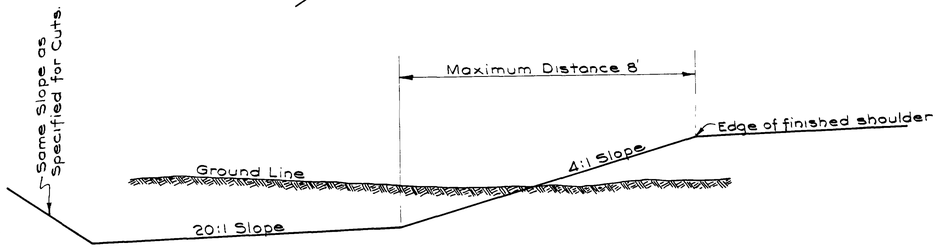
DIVISION ENGINEER ____ DATE

UI-123(4)
F.A.P. 222 A -DA-WR-12

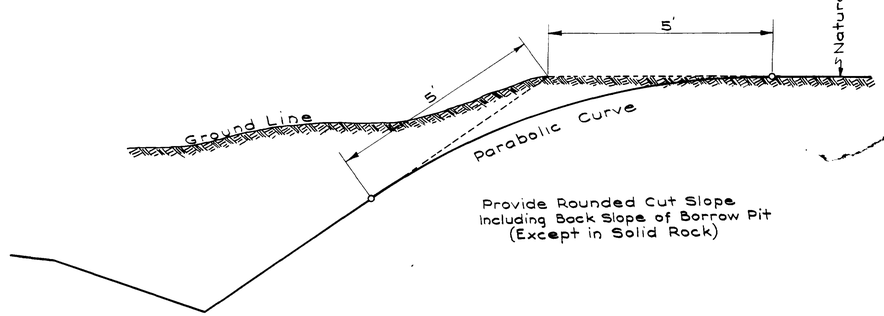
FED ROAD DIST NO.	STATE	F.A.P. PROJ NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
12	UTAH	222-A(1)	1941	2	

TYPICAL CROSS SECTION





Maximum Depth of Borrow Pit



Provide Rounded Cut Slope Including Back Slope of Borrow Pit (Except in Solid Rock)

Widen and Superelevate Curves According to Drwg. No. J-479

REVISIONS

DATE	BY	DATE	BY

UTAH STATE ROAD COMMISSION
SALT LAKE CITY - UTAH
EZRA C. KNOWLTON CHIEF ENGINEER

— TYPE —

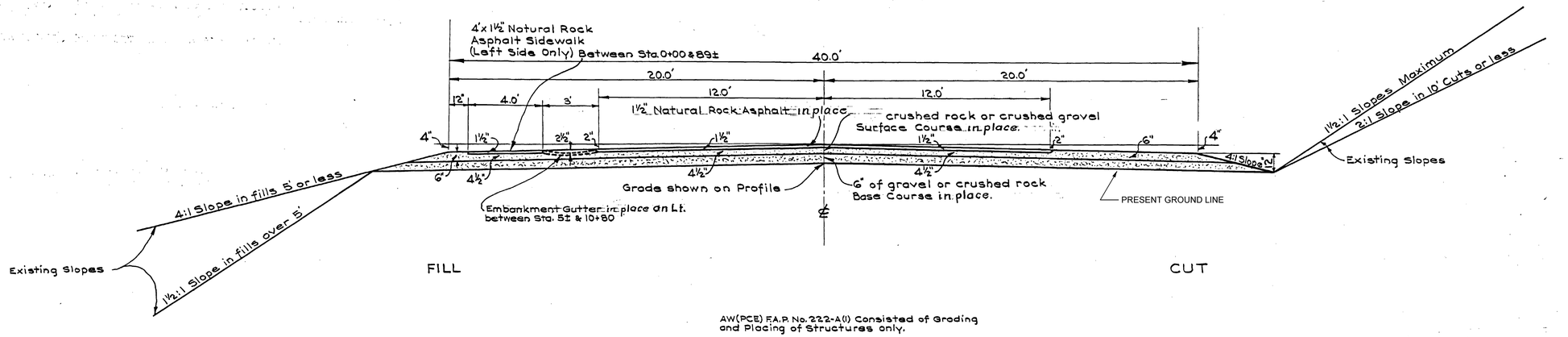
24' NATURAL ROCK ASPHALT ROADWAY

TYPICAL CROSS SECTION

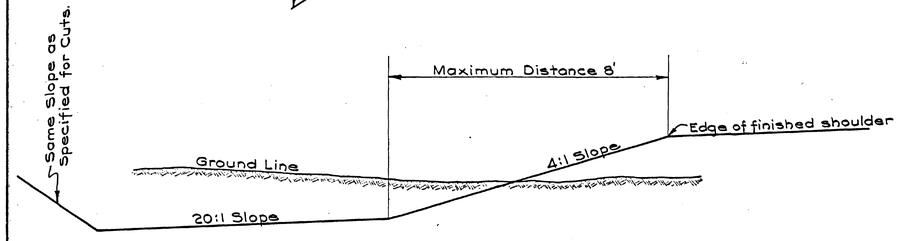
FED. ROAD DIST. NO.	STATE	F.A.P. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
12	UTAH	222-A(1)	1942	2	40

REVISIONS

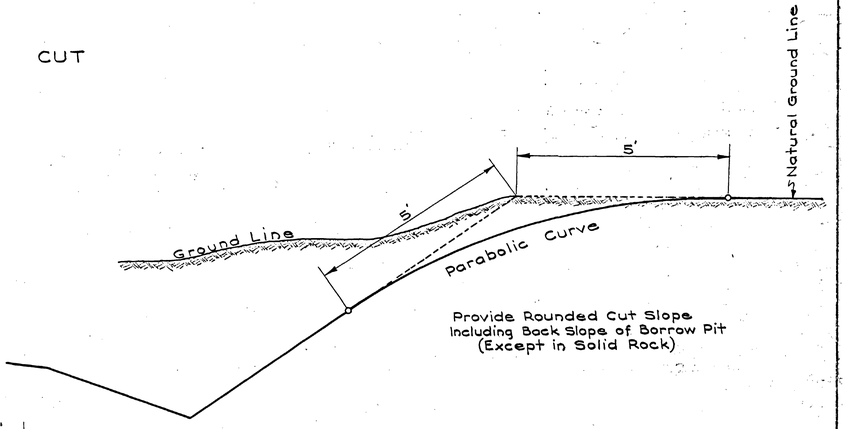
DATE	BY	DATE	BY



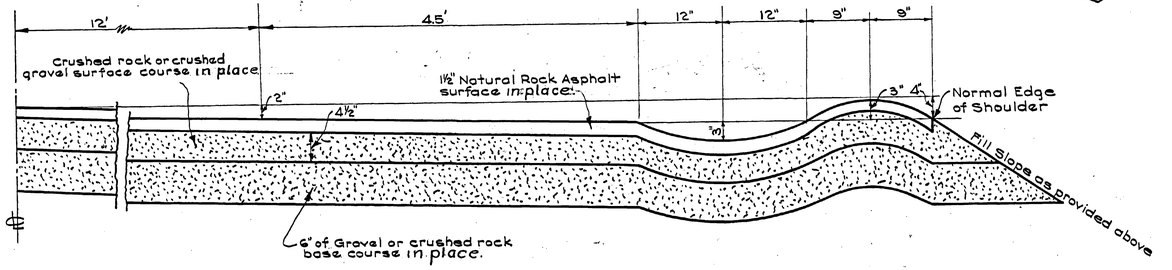
AW(PCE) F.A.P. No. 222-A(1) Consisted of Grading and Placing of Structures only.



Maximum Depth of Borrow Pit.



Provide Rounded Cut Slope Including Back Slope of Borrow Pit (Except in Solid Rock)



PAVED EMBANKMENT GUTTER & SHOULDER

Use between Sta. 12± to Sta. 20+30
" " " 46+50± " " 51+80±
" " " 53+15 " " 56+20±

Widen and Superelevate Curves According to Drwg. No. M-37

UTAH STATE ROAD COMMISSION
SALT LAKE CITY - UTAH

— TYPE —

24' NATURAL ROCK ASPHALT ROADWAY

LIST OF STRUCTURES

STATION	IN PLACE	REQUIRED	REMARKS	DWG. NO.
5+00±		18"x81' Conc. Pipe		
12+00±		18"x81' " "		
20±		24"x78' " "		

(Partial)
CORRECTED ACCORDING TO CONSTR. BY S.F.N. 4-4-42

222 A(1) 1942 3 40

LIST OF STRUCTURES

STATION	REQUIRED	IN PLACE	REMARKS	DWG. NO.
5+00±		18"x81' Conc. Pipe		
12+00±		18"x81' " "		
20+50		24"x72' " "		
27+49.42		84'-6⅜" Conc. Br.		C-215 15sh.
5+00-10+80		588' Guard rail Lt.		E-40
5+00-20+00		1500' " " Rt.		" "
26 to 27+00		96' " " "		" "
28-29+00		96' " " Lt.		" "
28-34+00		600' " " Rt.		" "
17+00-20±		6 std. guide posts Lt.	60' Intervals	
28±-34		11 " " " "	" "	
33+00		18"x76' Conc. Pipe		
33+75		6"x80' CGMP	Perforated	
28+50-34+50		8"x600' Conc. Drain		
20+30		8"x20' C.G.M.P.	on RT.	

LIST OF STRUCTURES

STATION	IN PLACE	REQUIRED	REMARKS	DWG. NO.
35±		18"x 81' Conc Pipe		
39±		18"x 69' " "		
46+85		36"x 90' " "		
59+26		18"x 111' " "	45° SKEW	
63±		18 x 78' " "		
64±		18 x 162' " "	60° SKEW	
27± to 47±		8"x 2000' UNDERDRAIN		
50±		Structure		

LIST OF STRUCTURES

STATION	REQUIRED	IN PLACE	REMARKS	DWG. NO.
35±		18"x81' Conc. Pipe		
39+00		18"x64' " "		
46+86		36"x126' " "	skew	
59+72		18"x72' " "		
51+80		8"x120' CGMP	on Rt.	
64+74		18x144' Conc Pipe	60° SKEW	
27± to 47±		8"x2000' UNDERDRAIN		
34-39±		9 std. guide posts Rt.	60' Intervals	
52+50		131'-3" 0to0 Conc. Br.		D-466-12st.
47±-56±		16 std guide posts Rt.	60' Intervals	
48±-52±		8 " " " Lt.	" "	
36+00-46+60		8"x1060' Conc. Drain	On Lt. 4' below Shoulder	Subgrade.
51+80		Embankment Protection on Rt		M-35

MORONI J. SHIPLEY
BERNARD W CHILD
NE 1/4 SE 1/4 SEC. 13
NE 1/4 NE 1/4 SEC. 24
S. 52° 28' W
P.I. 72+30.7
Prop & R/W Line
N. 10° 35' E.
Proposed channel change R/W 189.4
SHELDON DICKSON
COUNTY ROAD
JOHN LEE BYBEE
Prop Line
U.P.& L. Co.
M.S.T.&T. Co.
R/W Const. tail ditch
S 1° 36' E 196.4'
SE 1/4 SE 1/4 SEC. 13
MARY EDITH RITTER
1032' to Sec Cor.
ROLLAND O. BERNICE
BILL'S
Old Road
N 15° 25' E
HENRY WITTEN & WIFE LAURA
87+66.5 P.T. Bk. EQUATION 88+88.7 Ah (calc.)
T 5 N R 2 W RANGE LINE
T 5 N R 1 W
Cor. Fd
625' to Cor. (calc.)
64+66.5 (calc.)
64+60 Ditch
Proposed channel change
HOWARD T. CHILD
SECTION LINE
"RB" LINE
Δ = 67° 53' Rt
D = 2° 00'
R = 2864.9'
Ts = 1998.4'
Ls = 3534.2'
SW 1/4 SW 1/4 SEC. 18
T 5 N R 1 W
SLB&M.
40 ACRE LINE 86+26.5 P.C.S.
S 1° 24' 10 x 14 Chds.
87+66.5 P.T.
DAVIS & WEBER CO. CANAL CO.
NW 1/4 NW 1/4 SEC. 19
Δ = 67° 53' Rt
R = 2864.9'
-3.50%
200' V.C.
-2.18%
1000' V.C.
-4.96%
400' V.C.
-0.50%
Bk. 87+66.5
88+88.7 Ah.
EQUATION
EMBANKMENT 3075 6335 10805
EXCAVATION 3538 7285 12884
REMARKS

LIST OF STRUCTURES

STATION	IN PLACE	REQUIRED	REMARKS	DWG. NO.
73±		18"x 72' Conc Pipe		
75±		18"x 69' " "		
87±		24"x 66' " "		
90±		24"x 39' " "		
84±		8"x 84' UNDERDRAIN		

PLAN — NOTE BOOK No. 4799

	BY	DATE
SURVEYED	J.B. BURNS	1941
PLOTTED	J.B. BURNS	"
ALIGNMENT CHECKED	H.S. WRIGHT	"
RT. OF WAY CHECKED	H.S. WRIGHT	"
TRACED	R.H. LOGIE	"

PROFILE — NOTE BOOK No. 4793

	BY	DATE
SURVEYED	J.B. BURNS	1941
PLOTTED	R.H.L.	"
GRADES CHECKED	H.S.W.	"
B. M.S NOTED	R.H.L.	"
STRUCTURE NOTAT'NS CH KD	H.S.W.	"

FED ROAD DIST. NO.	STATE	FA PROJECT	FISCAL YEAR	SHEET NO	TOTAL SHEETS
12	UTAH	222-A(1)	1942	5	~~39~~
		222 B(1)	"	3	10
		DA-WR. #12(1)	"	3	10

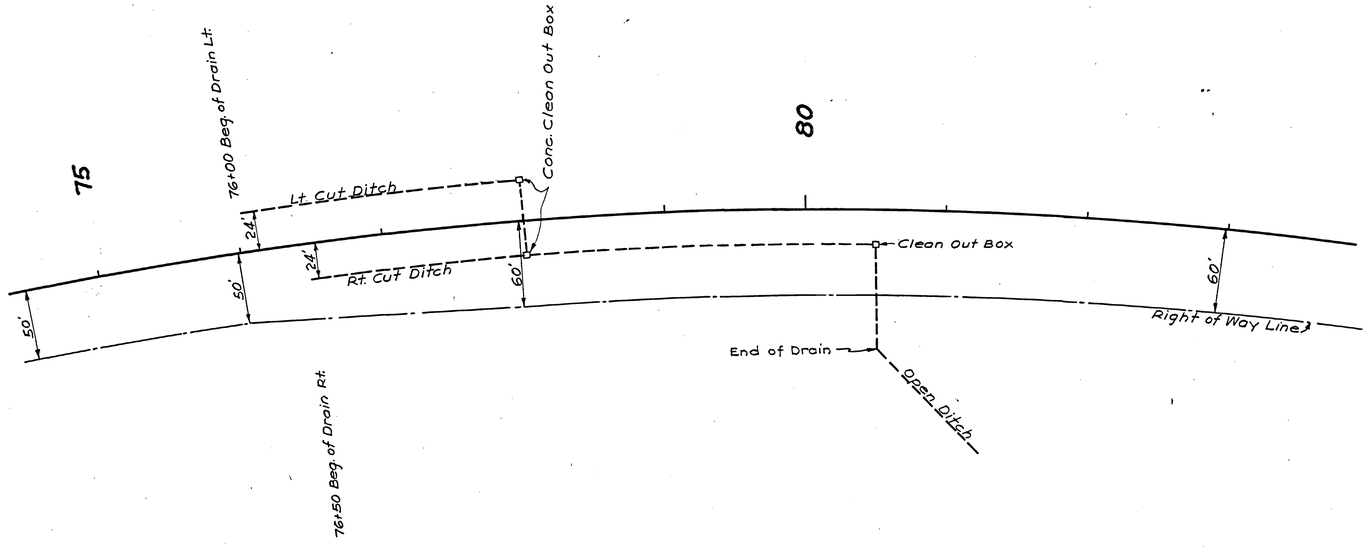
Note: Work started on DA-WR Nº 12(1) 7-18-42

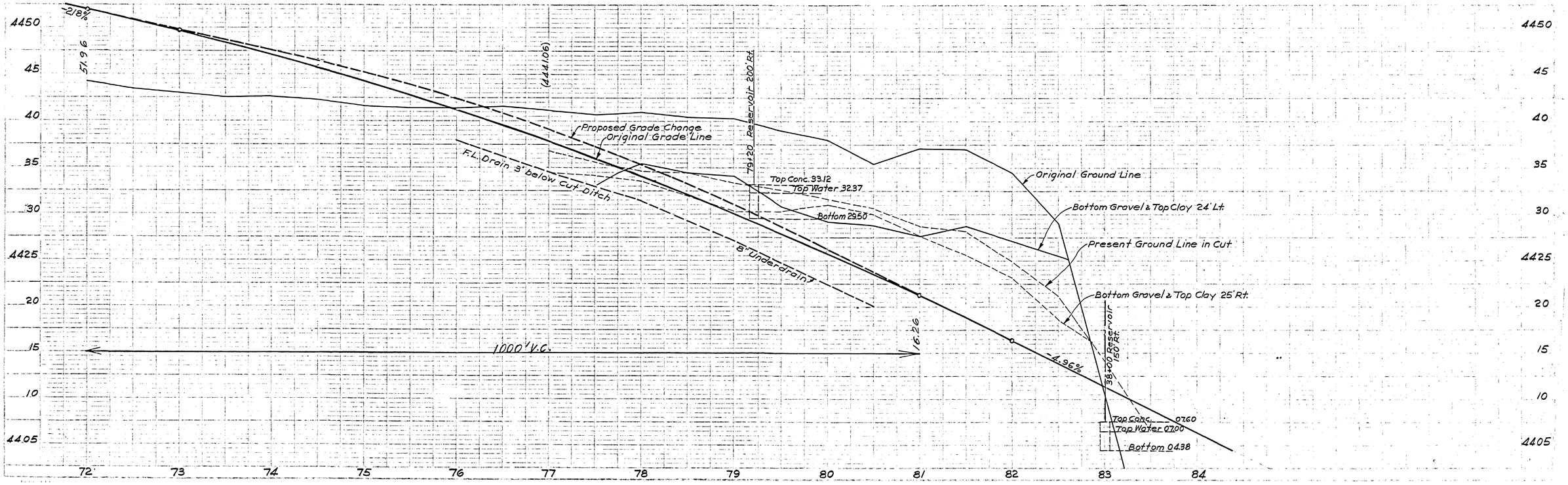
Note:
Feb. 1, 1942
Cross drain to be placed at 78+50 to Lt. Side, thence back to 76± with necessary Clean out boxes.

LIST OF STRUCTURES

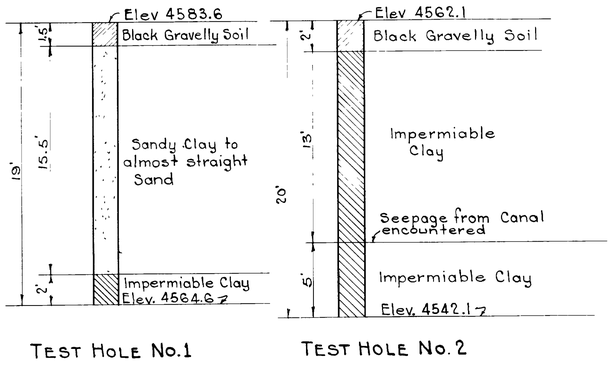
STATION	REQUIRED	IN PLACE.	REMARKS	DWG. NO.
73+50		18"X 72' Culv. Pipe		
[illegible]				
89+07		24"X 136' " "	60° SKEW	
89+07		18"X 42' " "	Under road Lt. 45°	
90±	24"X 39' Culv. Pipe		Under County Road Lt.	
70 - 74±		8 std. guide posts Rt.	60' Intervals	
91+65	18"X 129' Culv. Pipe		45° skew	
94±	18"X 99' Culv. Pipe		drain provide gutter Inlet Lt.	V-330-147
64+74		18" X 144' " "	Irrigation	
67+00-71+50		6"X 450' Conc. Drain	On Lt.	
67+00-70+00		6"X 300'± Conc. Drain.	33' Lt. & 4' Below Shoulder Grade.	
70+00-71+50		6"X 150'± " "	Lt. of ¢ & 3.5' to 6.4' Below Shoulder Grade.	
70+00		6"X 67' " "	Xing ¢	
76+00-78+50		6"X 250' " "	26' Rt. ¢ 4' Below Shoulder Grade	
78+50-80+50		4"X 200' Iron Pipe	26' to 36' Rt ¢ on 18% Grade.	
Various	12"X 99' Sewer Pipe		Side Drain (Place as directed.)	
Entire Proj.	Type "B" R./W. Fence and Gates as req'd.			M-46

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
12	UTAH	222-A(1)		5-A	





FED. ROAD DIST. NO.	STATE	AW FA PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
12	UTAH	222 A(1)			

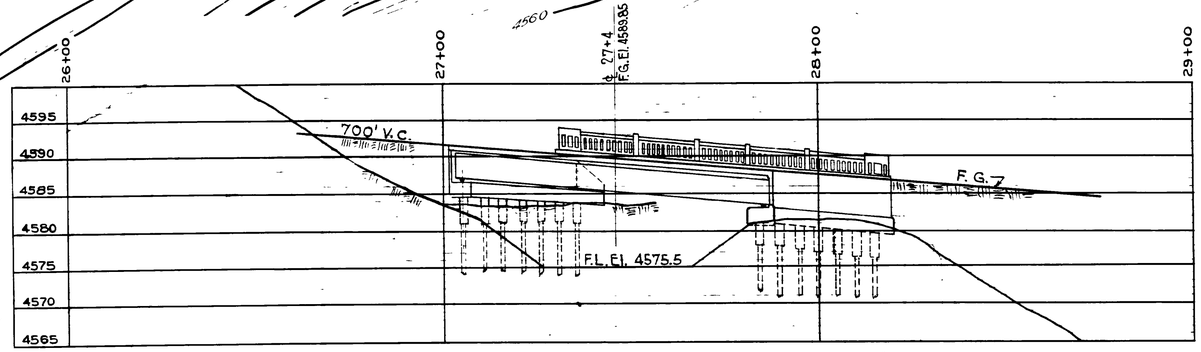


TEST HOLE No.1 TEST HOLE No.2

TEST HOLE DATA

PLAN

SCALE 1" = 20'-0"



PROFILE

HOR SCALE 1" = 20'-0"
VER SCALE 1" = 10'-0"

GENERAL NOTES

Materials, construction and workmanship shall be in accordance with State Standard Specifications, for Road and Bridge Construction, edition of 1939.

Bearing Plates and Rollers to be set in place before pouring concrete

DESIGN DATA

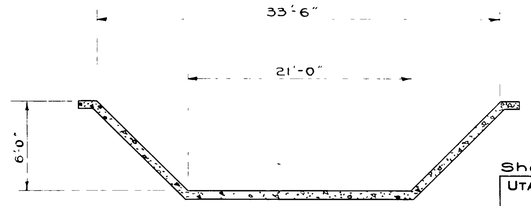
A. A. S. H. O. Specifications of 1935, - H-15 Loading with impact, ¾ wearing surface and 15# future wearing surface.

Dead Load :- Concrete 150# per Cu. Ft.

Stresses:- fc 900#/□" fs 16,000#/□"
for Structural Steel 18,000#/□"

QUATITIES

Excavation for Structures	35 Cu. Yd.
Concrete Class "A"	189 Cu. Yd.
Reinforcing Steel	38,103 Lbs.
Structural Steel	129,000 Lbs.
Handrail (Concrete)	181 Lin. Ft.
8" Perforated C.G.M. Pipe Underdrain	122 Lin. Ft.
8" C.G.M.P.	20 Lin. Ft.
Gravel Backfill	15 Cu. Yd.
Cast in place Concrete Piles 16" Butt	650 Lin. Ft.
Steel Piles (8"H @ 36#)	440 Lin. Ft.



TYPICAL SECTION OF CANAL

No Scale

Sheet # 1 of 15 Sheets

UTAH STATE ROAD COMMISSION
SALT LAKE CITY · UTAH
EZRA C KNOWLTON CHIEF ENGINEER

STEEL DECK GIRDER BRIDGE
84-6⅜ 0 to 0 149°40' X-ING ANGLE
WEBER DAVIS CANAL
Sta. 27+46 AW FAP 222 A(1)
Riverdale Arsenal-Davis Co.

DESIGNED BY K.W.T. SCALE As Noted
DRAWN BY K.W.T. ISSUED July 21, 1941
CHECKED BY APPROVED Paul Martin
EXAMINED BY
BR No 6-259-1-1 DRG No C-215

NO.	DATE	BY

FED. ROAD DIST. NO.	STATE	A.W.F.A. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
12	UTAH	222-A(1)			

PLAN
3/16" = 1'-0"

ELEVATION

Abutment Piles shall be Class "A" concrete cast in place, in Metal Shells.
Shells to be of 7 Gage Metal with 16" Butt and 8" Tip, and for estimating purposes to be 25'-0" Long. 26 Req'd.

Bulkhead Piles to be 8" H-Pile @ 36# x 20'-0" (min.) and are to be Hammer driven. 22 Required.

Sheet #2 of 15 Sheets

UTAH STATE ROAD COMMISSION
SALT LAKE CITY - UTAH
EZRA C. KNOWLTON CHIEF ENGINEER

STEEL DECK GIRDER BRIDGE
84'-6 3/8" O to O - 149° 40' X-ING ANGLE
WEBER-DAVIS CANAL
Sta. 27+46 AWFAP 222 A(1)
Riverdale Arsenal Davis Co.

DESIGNED BY K.W.T. SCALE 3/16" = 1'-0"
DRAWN BY D.M.S.
CHECKED BY
BR. NO. 8-259-1-1 DRG. NO. C-215

FED ROAD DIST NO	STATE	AW FA PROJ NO	FISCAL YEAR	SHEET NO	TOTAL SHEETS
12	UTAH	222A(1)			

Sheet #3 of 15 Sheets

UTAH STATE ROAD COMMISSION
SALT LAKE CITY UTAH
EZRA C KNOWLTON CHIEF ENGINEER

STEEL DECK GIRDER BRIDGE
84'-6 3/8" O. to O. 149°40' XING ANGLE
WEBER-DAVIS CANAL
Sta. 27+46 A.W. F.A.P 222 A(1)
Riverdale-Arsenal Davis Co.

DESIGNED BY K.W.T SCALE As Shown
DRAWN BY D.M.S. ISSUED July 24, 1941
CHECKED BY APPROVED Paul M. Masters
EXAMINED BY

BR NO. 6-259-1-1 DRG NO. C-215

FED ROAD DIST NO	STATE	A.W F.A. PROJ NO	FISCAL YEAR	SHEET NO	TOTAL SHEETS
12	UTAH	222 A(1)			

NOTE:
For Sections thru Diaphragms
See Sheet No 5

REVISIONS

DATE	BY	DATE	BY

Sheet #4 of 15 Sheets

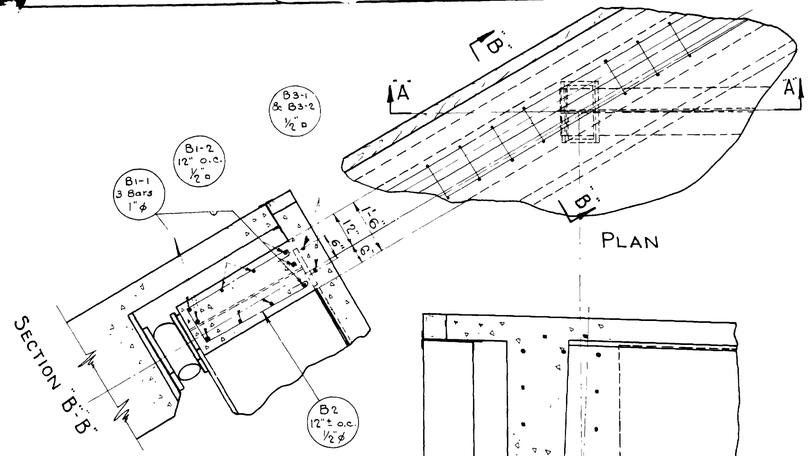
UTAH STATE ROAD COMMISSION
SALT LAKE CITY UTAH
EZRA C KNOWLTON CHIEF ENGINEER

STEEL DECK GIRDER BRIDGE
84'-6 3/8" O. to O. 149°40' XING ANGLE
WEBER-DAVIS CANAL
Sta, 27+46 A W. F.A.P. 222 A(1)
Riverdale Arsenal Davis Co

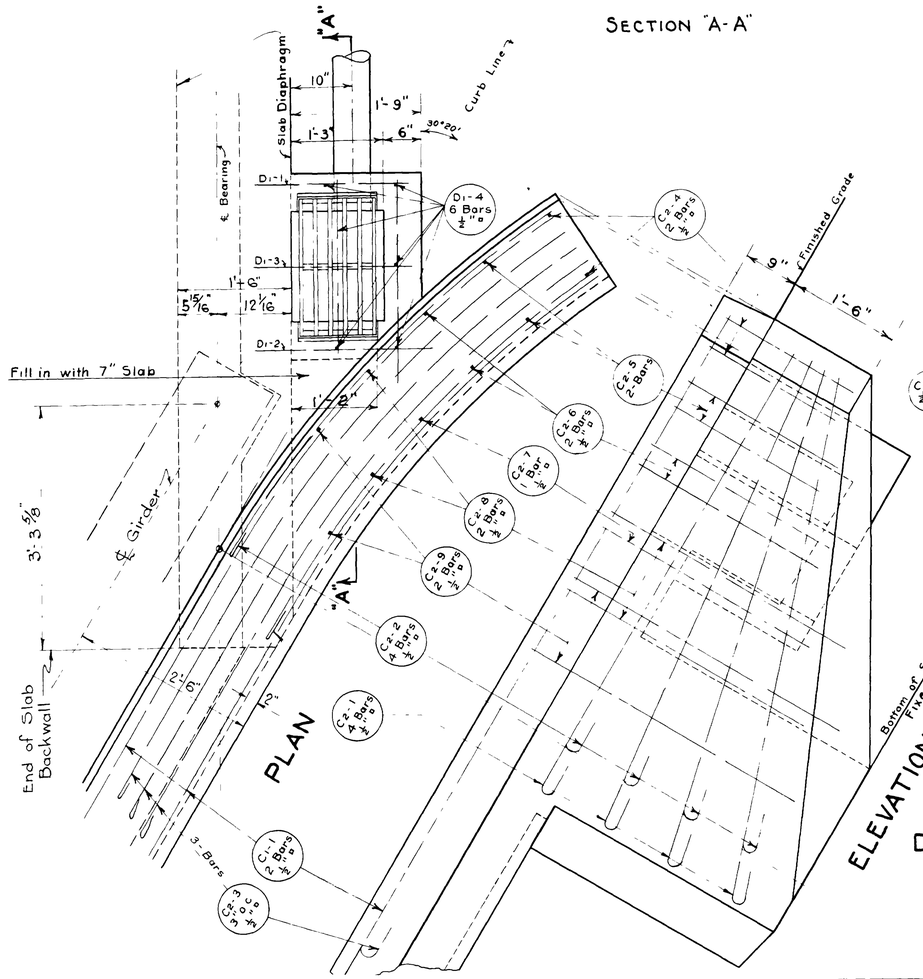
DESIGNED BY K.W.T. SCALE 1/4" = 1'-0"
DRAWN BY D.M.S. ISSUED July 24, 1941
CHECKED BY APPROVED Paul M Martin, acty. BRIDGE ENGINEER
EXAMINED BY

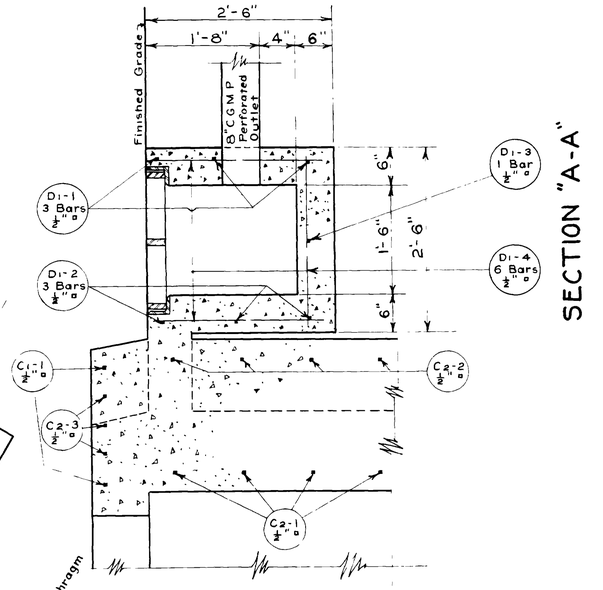
BR NO 6-259-1-1 DRG NO C-215

FED. ROAD DIST. NO.	STATE	AW F A PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
12	UTAH	222-A(1)			

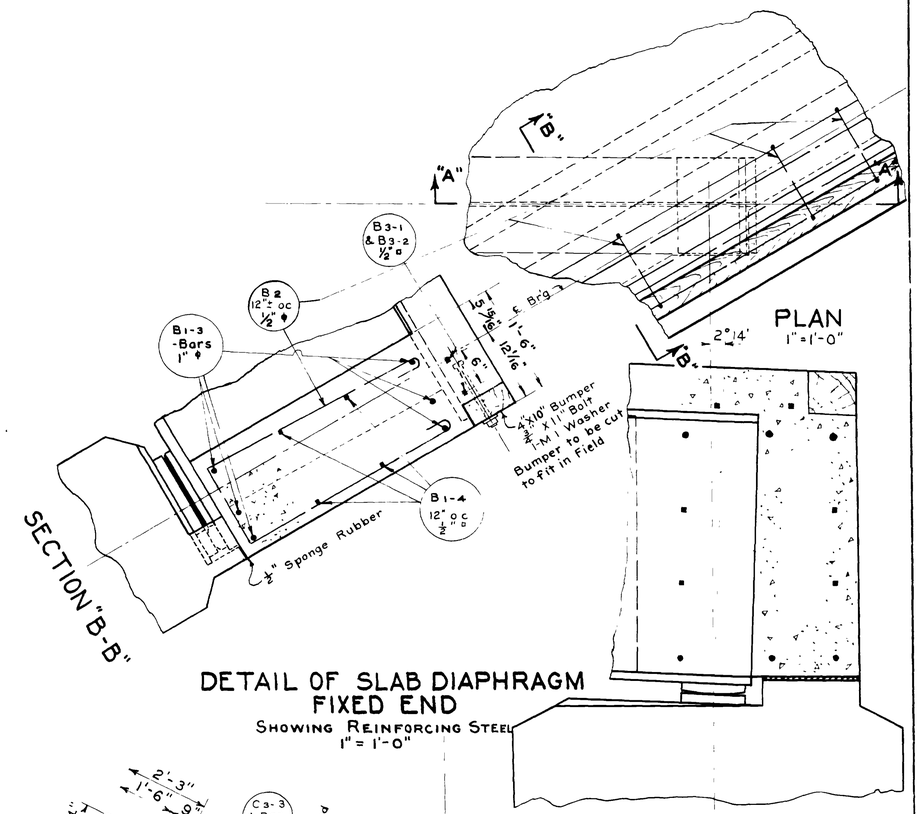


SLAB DIAPHRAGM - EXP. END
SHOWING REINF. STEEL
½" = 1'-0"

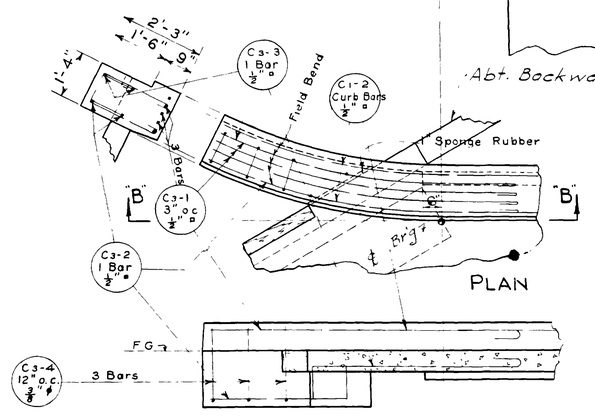




DETAIL OF DRAIN BOX No. 3 & CURB
1" = 1'-0"



DETAIL OF SLAB DIAPHRAGM
FIXED END
SHOWING REINFORCING STEEL
1" = 1'-0"



DETAIL OF CURB AT No. 1 DRAIN BOX
½" = 1'-0"

REVISIONS

DATE	BY	DATE	BY

Sheet 15 of 15 Sheets

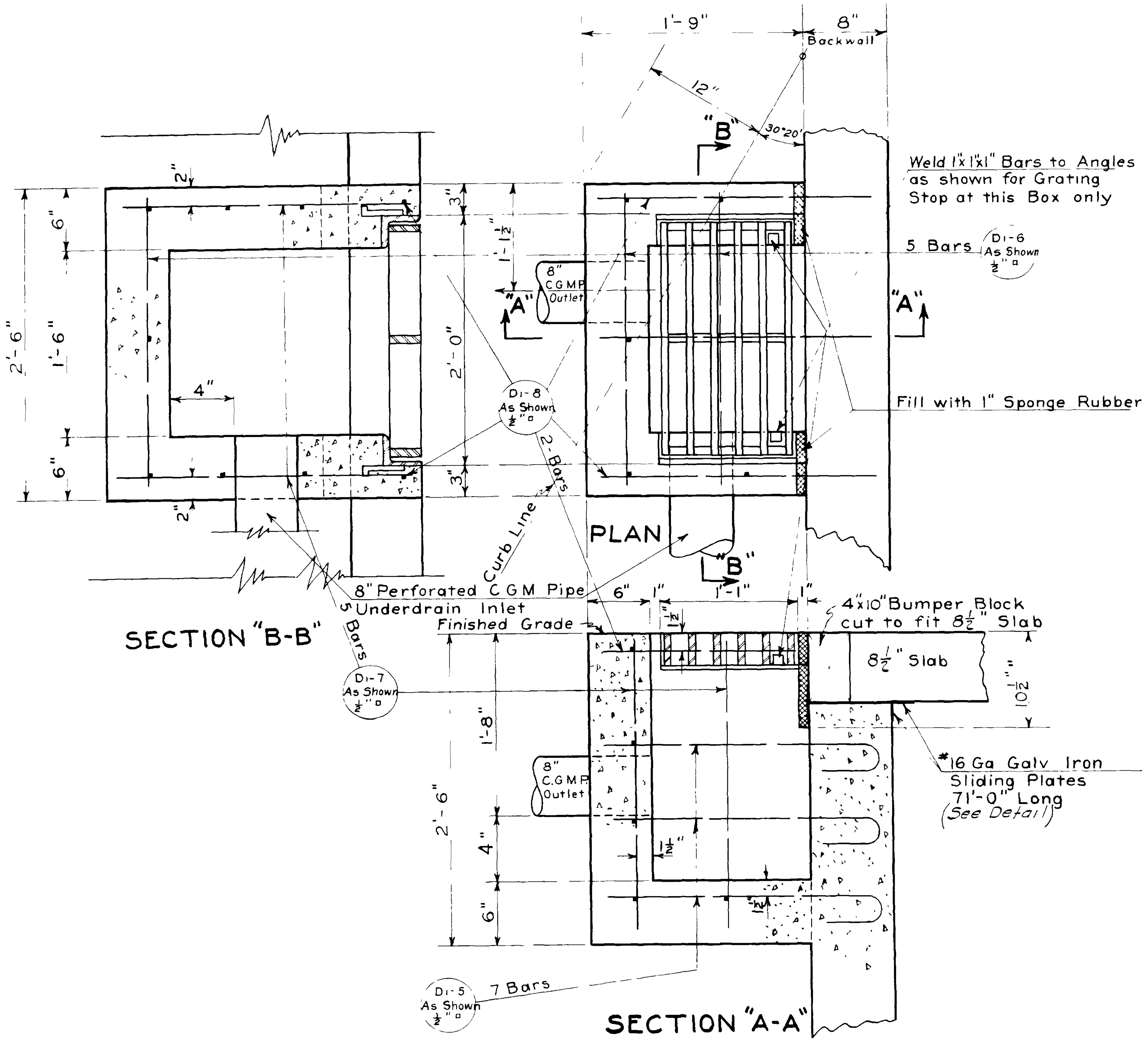
UTAH STATE ROAD COMMISSION
SALT LAKE CITY, UTAH
EZRA C. KNOWLTON, CHIEF ENGINEER

STEEL DECK GIRDER BRIDG
84'-6⅜"0 to 0 149°40'X ING ANGLE
WEBER DAVIS CANAL
Sta. 27+46 AWFAP 222 A(1)
Riverdale Arsenal Davis Co.

	K.W.T.	As Noted
	D.M.S.	July 24, 1961
		Chief Engineer

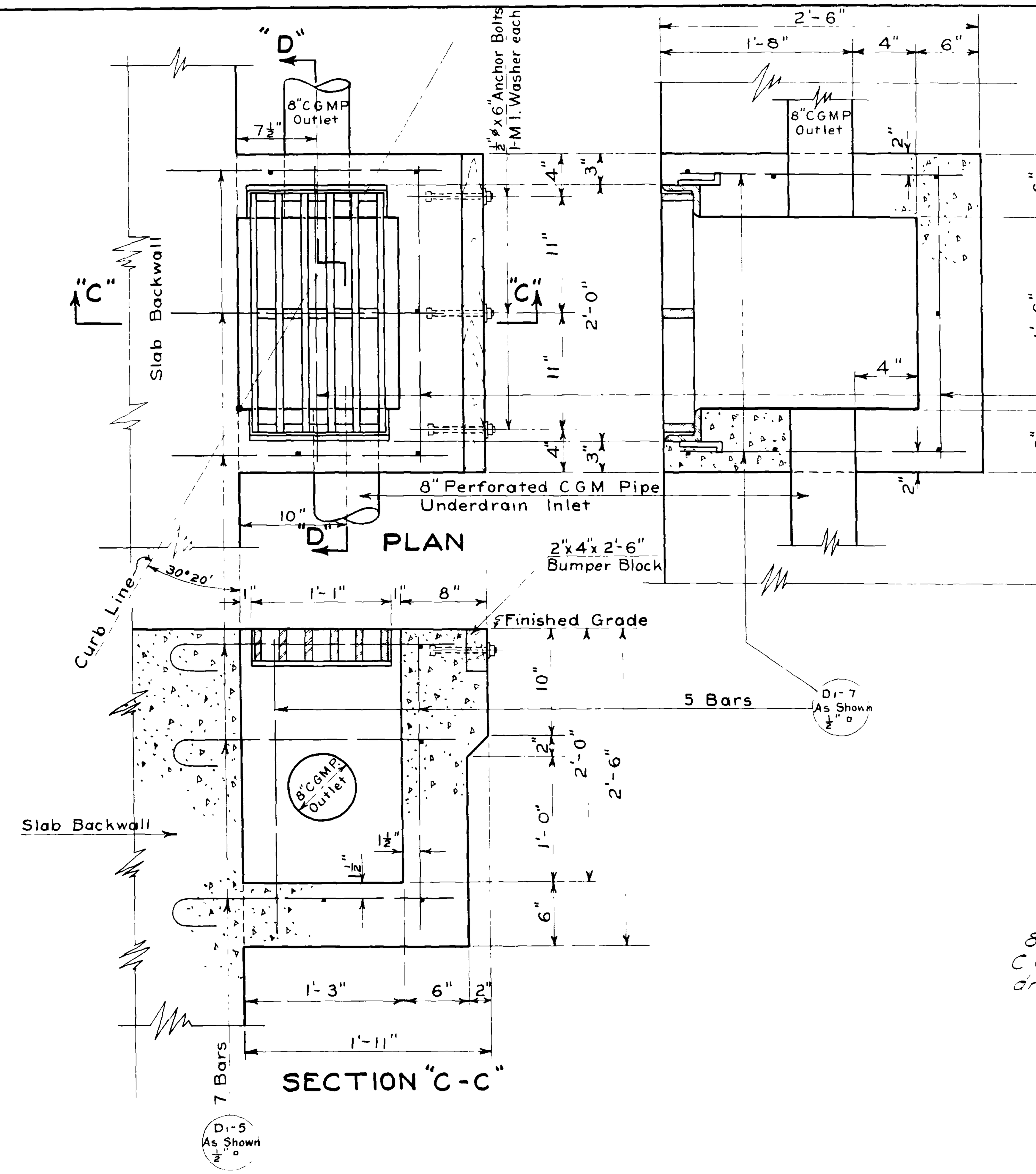
6-259-1-1 C-215

FED ROAD DIST NO	STATE	A.W.-F.A. PROJ NO	FISCAL YEAR	SHEET NO	TOTAL SHEETS
12	UTAH	222-A(1)			



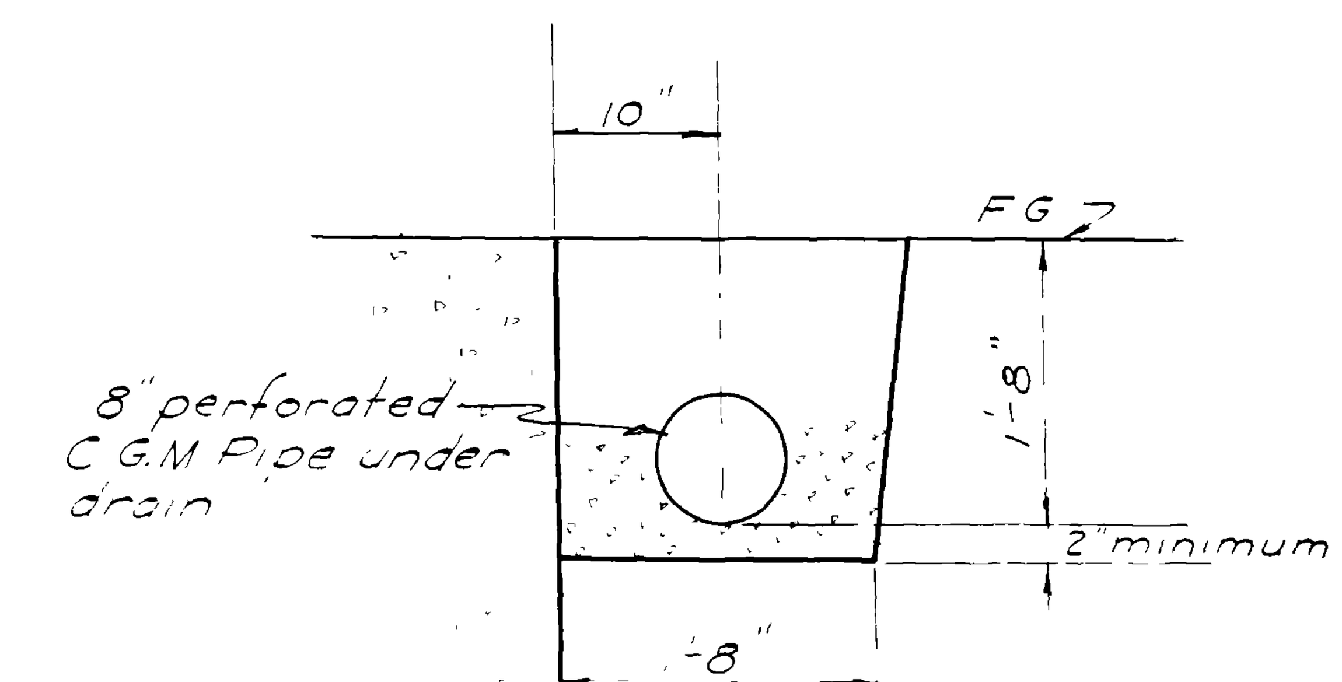
DETAIL OF DRAIN BOX No. 1 AT ABUTMENT BACKWALL

1½" = 1'-0"



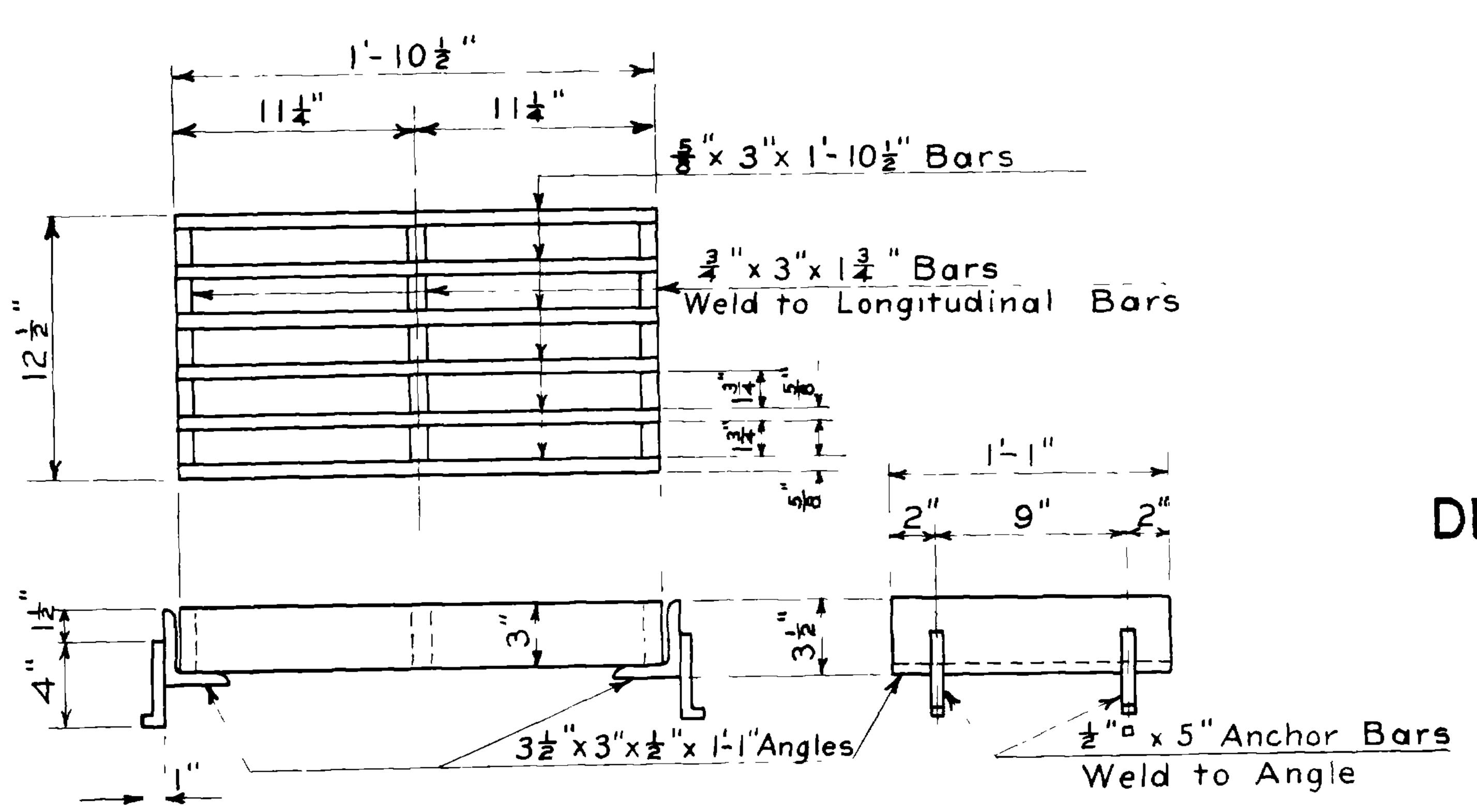
DETAIL OF DRAIN BOX No. 2 AT SLAB BACKWALL

1½" = 1'-0"



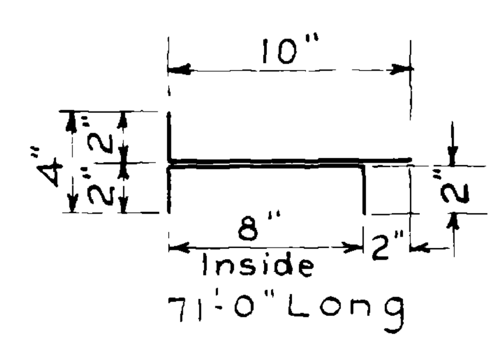
TYPICAL SECTION THRU DRAIN

1" = 1'-0"



DETAIL OF GRATING & SHELF ANGLES FOR DRAIN BOXES

Weight Complete = 112 Lbs
1½" = 1'-0"   3 Required



DETAIL OF 16 Ga. GALV. IRON SLIDING PLATES

1½" = 1'-0"

UTAH STATE ROAD COMMISSION
SALT LAKE CITY, UTAH
EZRA C. KNOWLTON CHIEF ENGINEER

STEEL DECK GIRDER BRIDGE
84'-6⅜" 0 to 0 - 14°40' X-ING ANGLE
WEBER-DAVIS CANAL
Sta. 27+46   AWFAP 222 A(1)
Riverdale Arsenal Davis Co.

K.W.T.   1½" = 1'-0"
D.M.S.   July 24, 1941

6-259-1-1   C-215

Sheet #7 of 15 Sheets

UTAH STATE ROAD COMMISSION
SALT LAKE CITY - UTAH

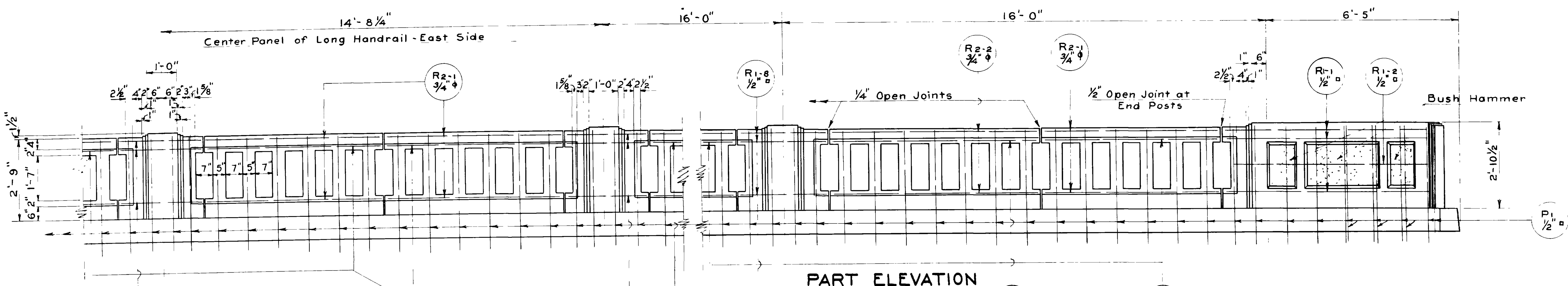
STEEL DECK GIRDER BRIDGE
84'-6 3/8" 0 to 0 - 149°40' X-ING ANGLE
WEBER - DAVIS CANAL
Sta 27+46 AWFAP 222 A(1)
Riverdale Arsenal - Davis Co.

KWT — As Noted
D.M.S

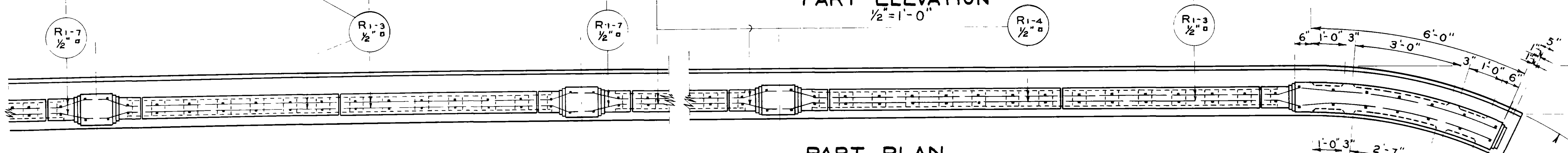
No. G-259-1-1 — C-215


PLAN
ELEVATION
LOWER ABUTMENT
3/8" = 1'-0"
SECTION THRU ABUTMENT
1" = 1'-0"
SECTION A-A
73'-1/2"
El. Br. Seat 82.5309
El. Br. Seat 82.9853
El Br. Seat 83.4013
El. Br. Seat 83.8088
El. Br. Seat 84.1893
El. Br Seat 84.5395
3.381 % for Parallel Lines and Top of Pile Elevs
1 1/4" x 18" Anchor Bolts
5 spaces @ 6'-0" = 30'-0"
1/2" x 8" sponge rubber
FED. ROAD DIST. NO. 12 | STATE UTAH | AW-FA PROJ. NO. 222-A(1)
Sheet #8 of 15 Sheets
UTAH STATE ROAD COMMISSION
SALT LAKE CITY UTAH
STEEL DECK GIRDER BRIDGE
84'-6 3/8" O to O 149°40' X-ING ANGLE
WEBER DAVIS CANAL
Sta 27+46 AW FAP 222 A(1)
Riverdale Arsenal - Davis Co.
KW.T.
D.M.S.
As Noted
July 24 1941
8-259-1-1
C-215

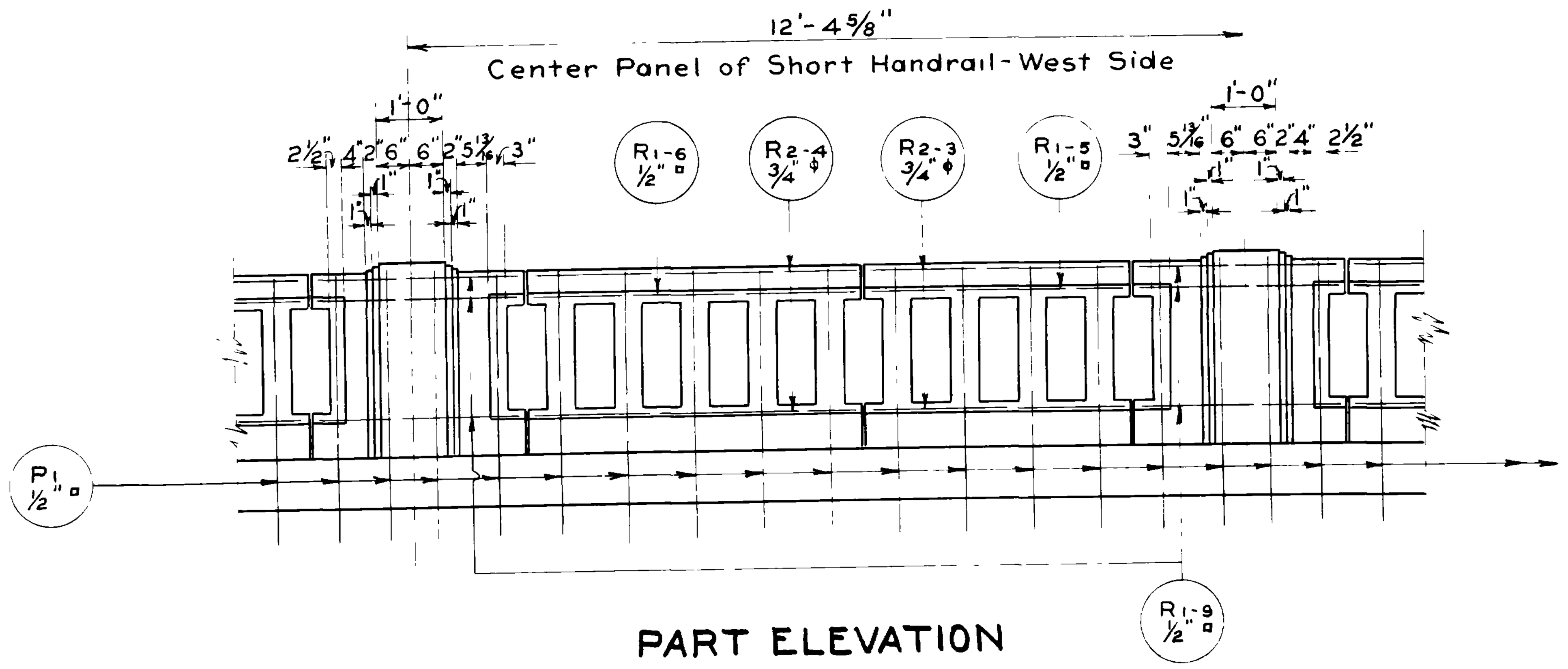
FED. ROAD DIST. NO.	STATE	AW FA PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
12	UTAH	222-A(1)			



PART ELEVATION
½" = 1'-0"

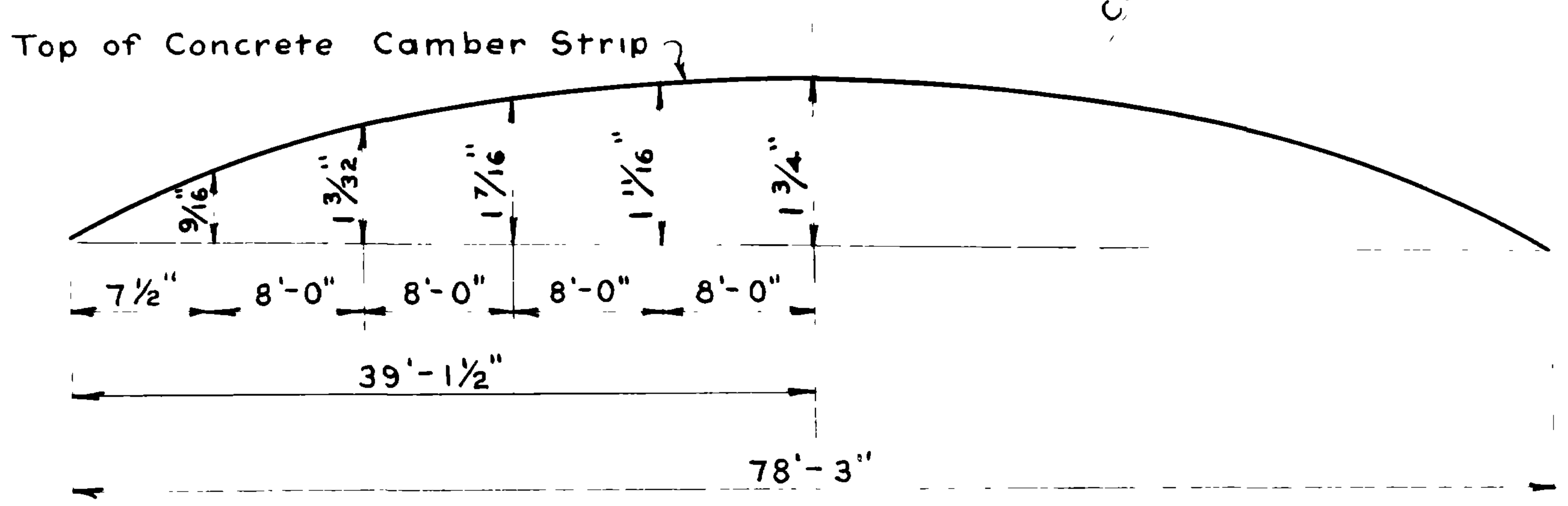


PART PLAN

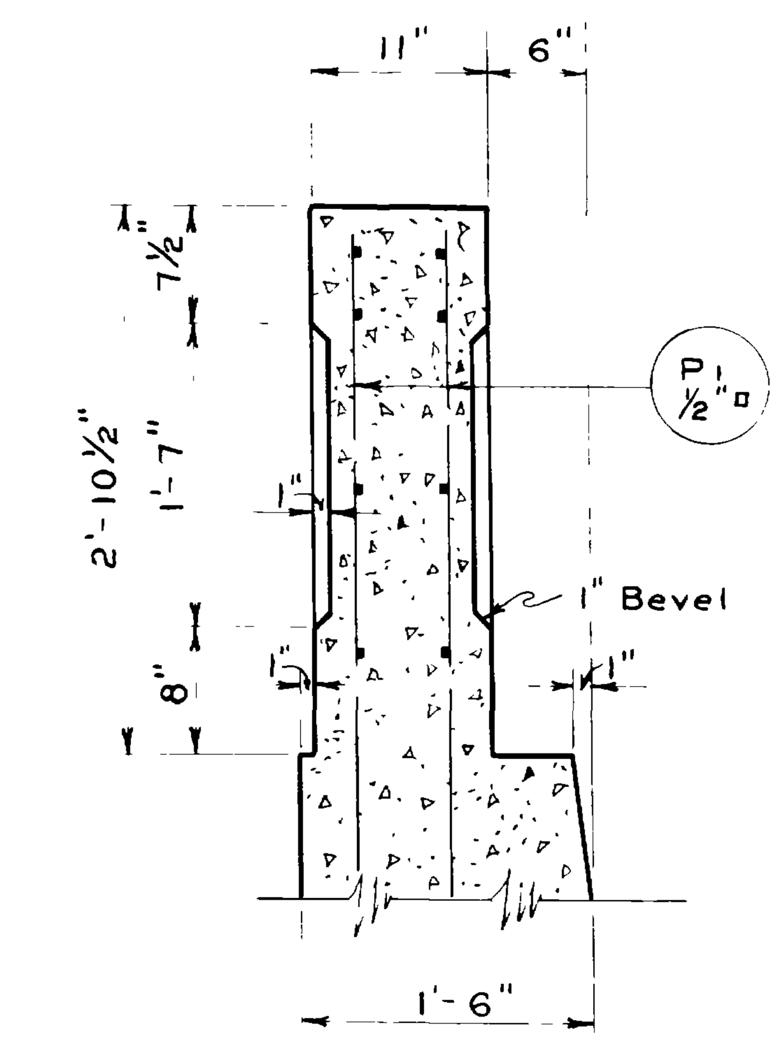


PART ELEVATION

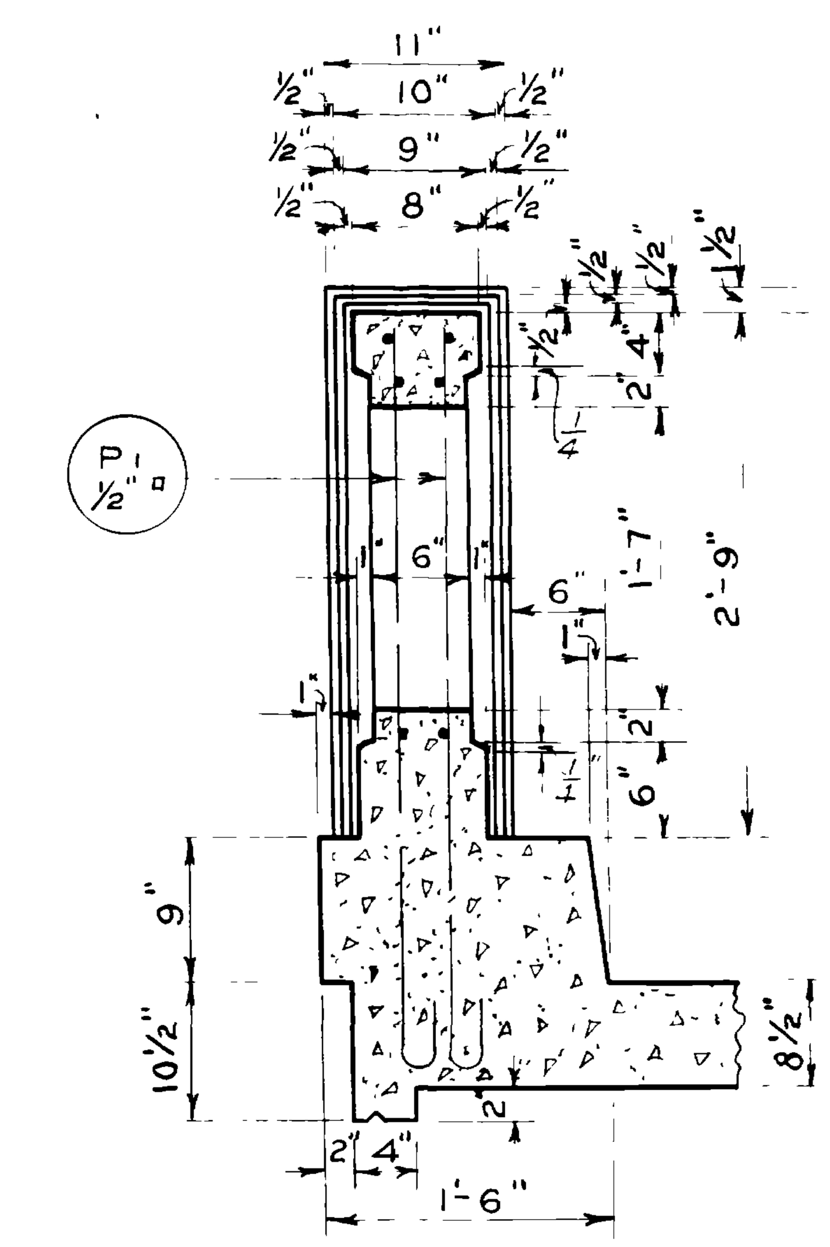
Note: Handrails Similar Except for Center Panels



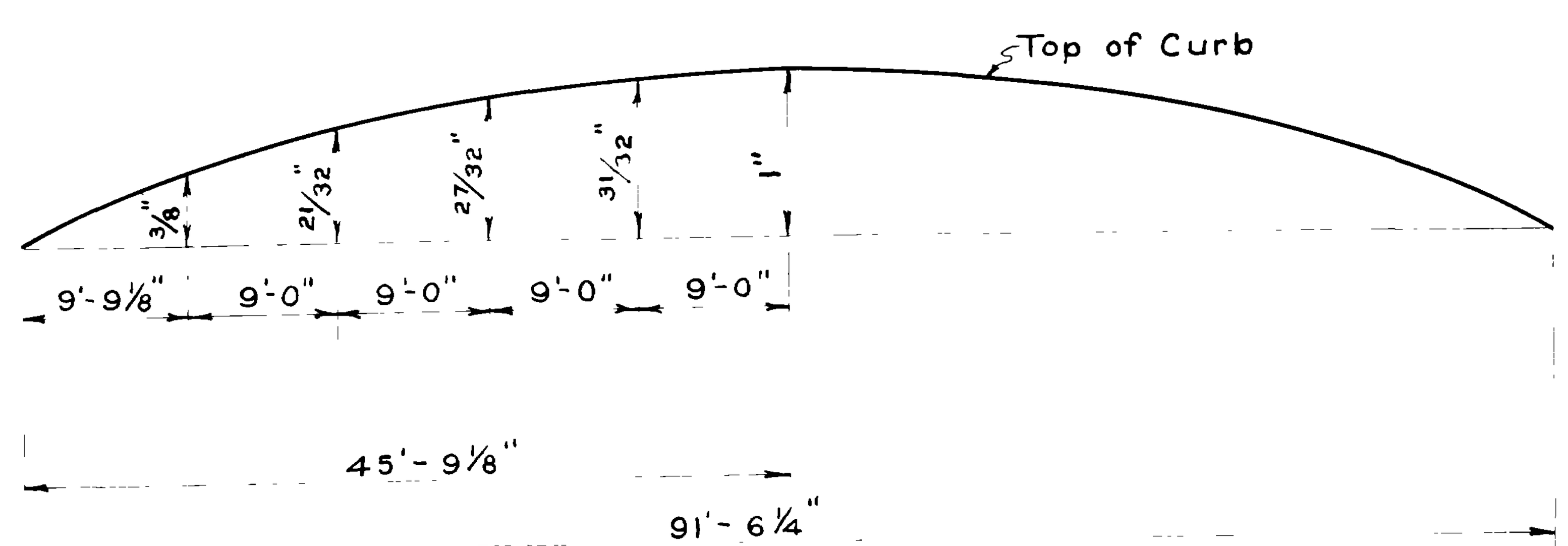
DEAD LOAD CAMBER DIAGRAM FOR BEAMS
No Scale



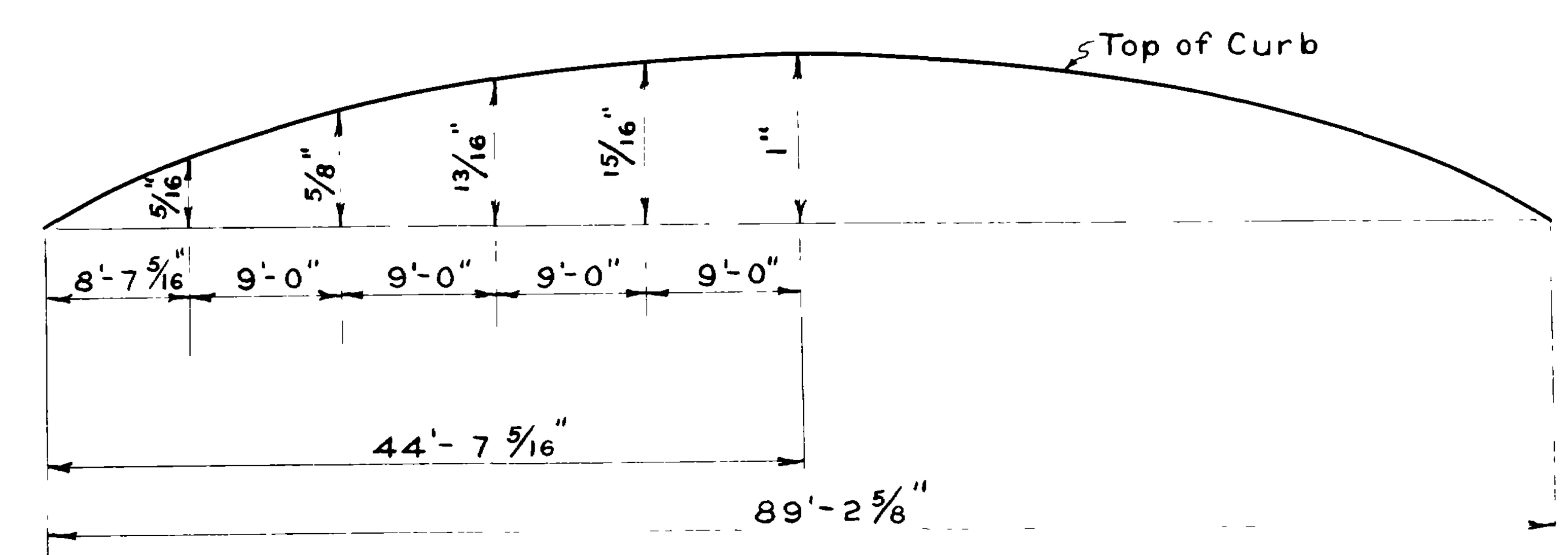
SECTION THRU END POST
1" = 1'-0"



SECTION THRU RAILING
1" = 1'-0"



LONG HANDRAIL
EAST SIDE



SHORT HANDRAIL
WEST SIDE

CAMBER DIAGRAM - HANDRAILS
No Scale

Sheet #9 of 15 Sheets

UTAH STATE ROAD COMMISSION
SALT LAKE CITY UTAH
EZRA C. KNOWLTON CHIEF ENGINEER

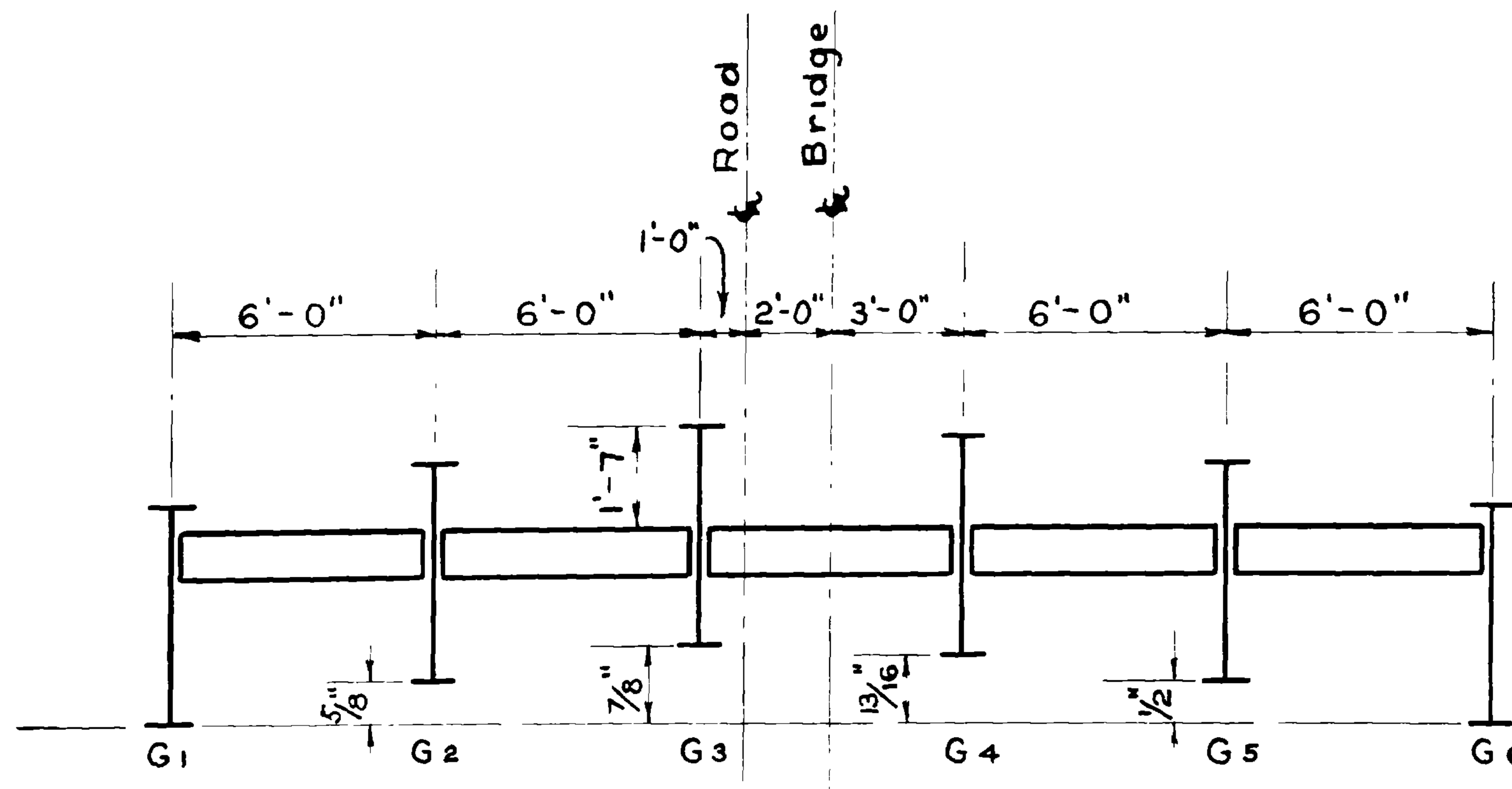
STEEL DECK GIRDER BRIDGE
84'-6⅜" O to O 149°40' X-ING ANGLE
WEBER-DAVIS CANAL
Sta. 27+46 AW FAP 222 A(1)
Riverdale Arsenal-Davis Co.

K.W.T. — As Noted
D.M.S. — July 24, 1941
Paul M. Mastin act.

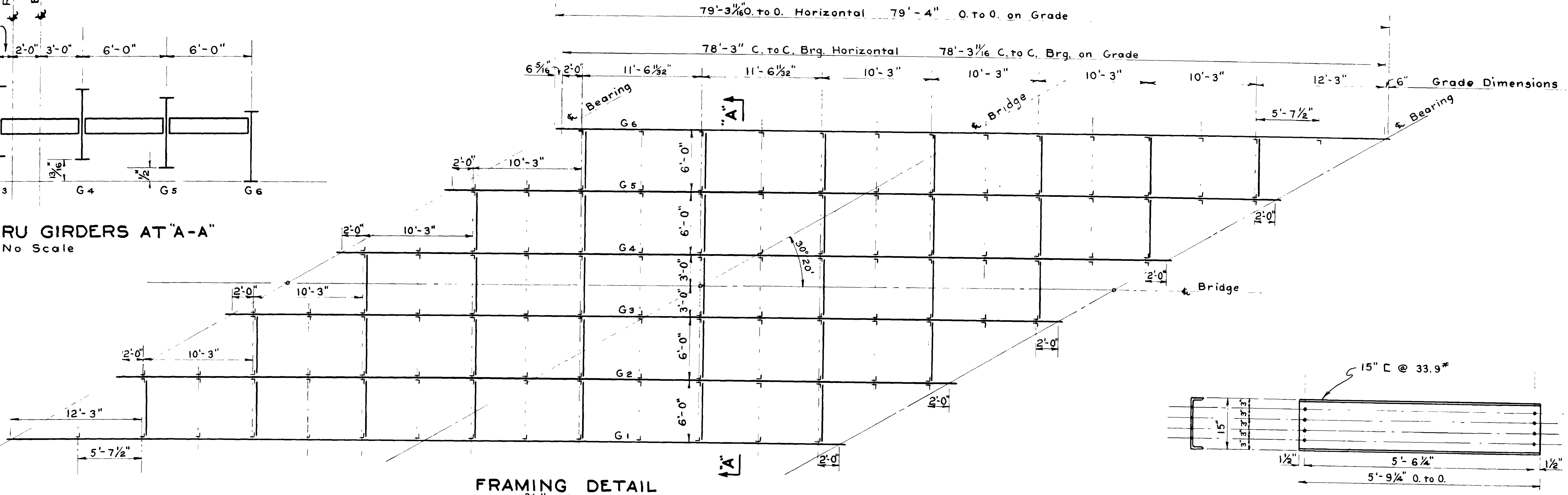
BR. NO. 6-259-1-1 DR. NO. C-215

REVISIONS | DATE | BY

FED. ROAD DIST. NO.	STATE	AW-FA PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
12	UTAH	222 A(1)			

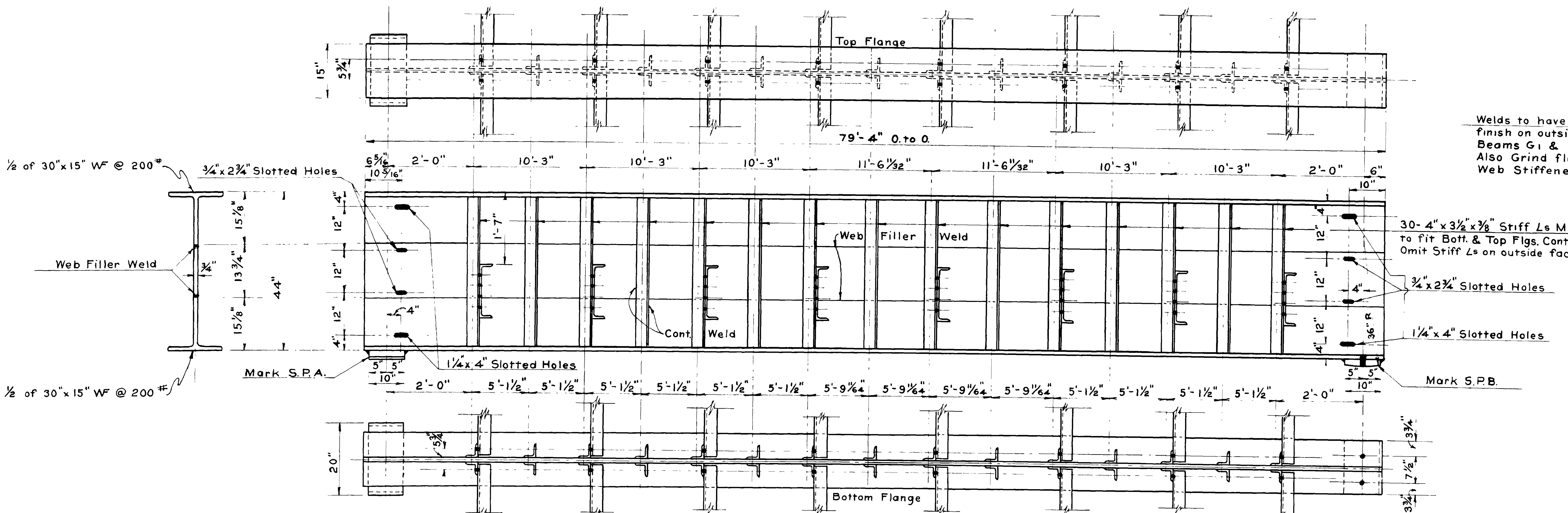


SECTION THRU GIRDERS AT "A-A"
No Scale

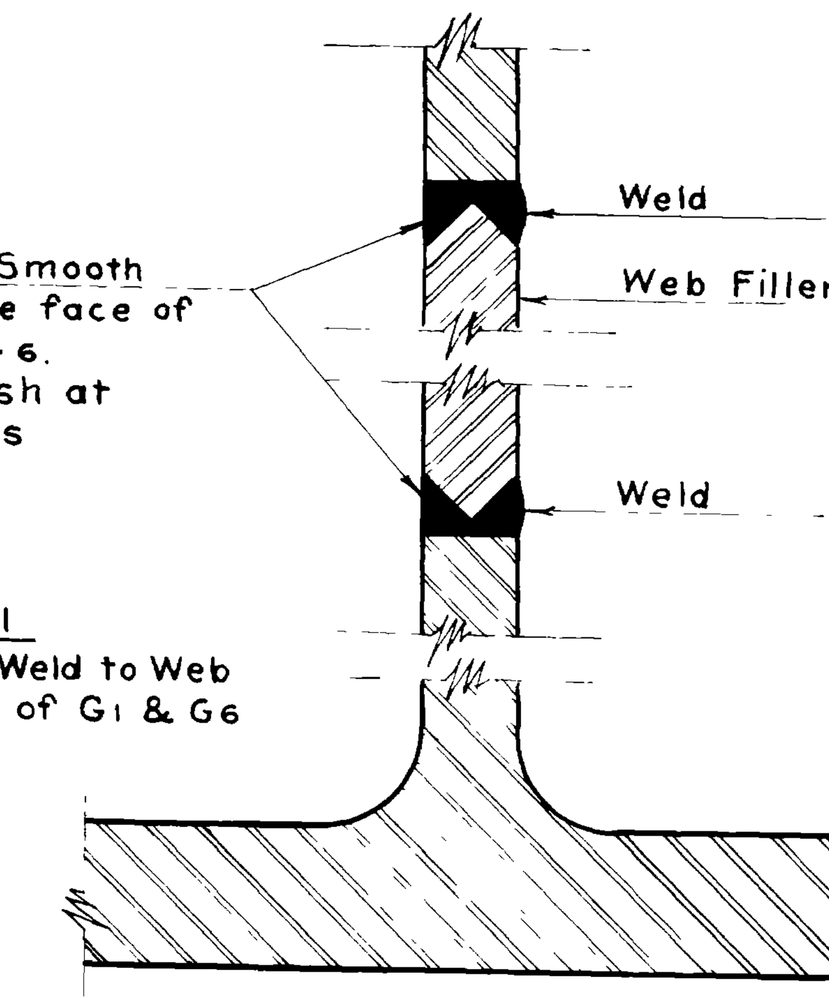


FRAMING DETAIL
3/16" = 1'-0"

DETAIL DIAPHRAGM
3/4" = 1'-0"



DETAIL OF GIRDER G3, OTHERS SIMILAR
No Scale



TYPICAL WELDING DETAIL FOR WEB FILLER
No Scale

REVISIONS — DATE | BY | DATE | BY

Sheet # 10 of 15 Sheets

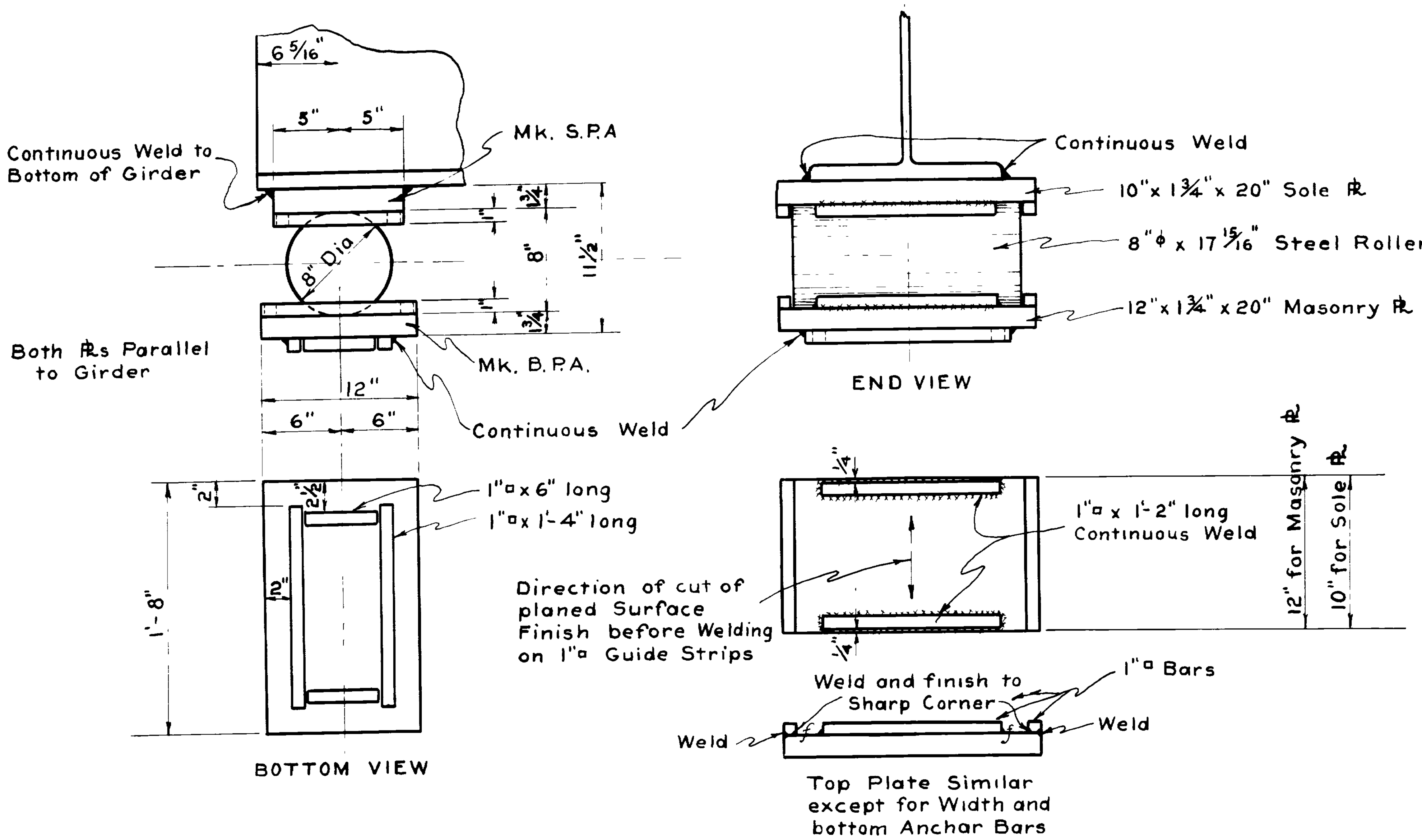
UTAH STATE ROAD COMMISSION
SALT LAKE CITY UTAH
EZRA C. KNOWLTON CHIEF ENGINEER

STEEL DECK GIRDER BRIDGE
84'-6 3/8" O to O.-149°40' X-ING ANGLE
WEBER-DAVIS CANAL
Sta. 27+46 AW.FAP 222 A(1)
Riverdale Arsenal - Davis Co.

DESIGNED BY K.W.T. SCALE As Noted
DRAWN BY R.W.M.
CHECKED BY
EXAMINED BY

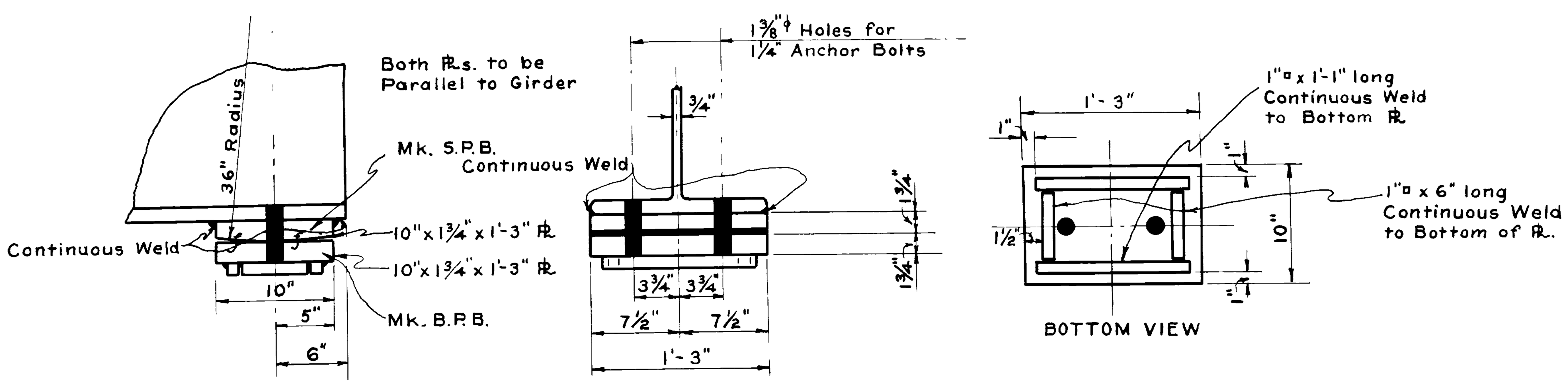
Br. No. 6-259-1-1 Drg. No. C-215

FED. ROAD DIST. NO.	STATE	A.W.F.A. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
12	UTAH	222 A(1)			



DETAIL OF EXPANSION BEARING UNIT

6 Req'd. thus
1 1/2" = 1'-0"



DETAIL OF FIXED BEARING UNIT

6 Req'd thus
1 1/2" = 1'-0"

REVISIONS			
DATE	BY	DATE	BY

Sheet #11 of 15 Sheets

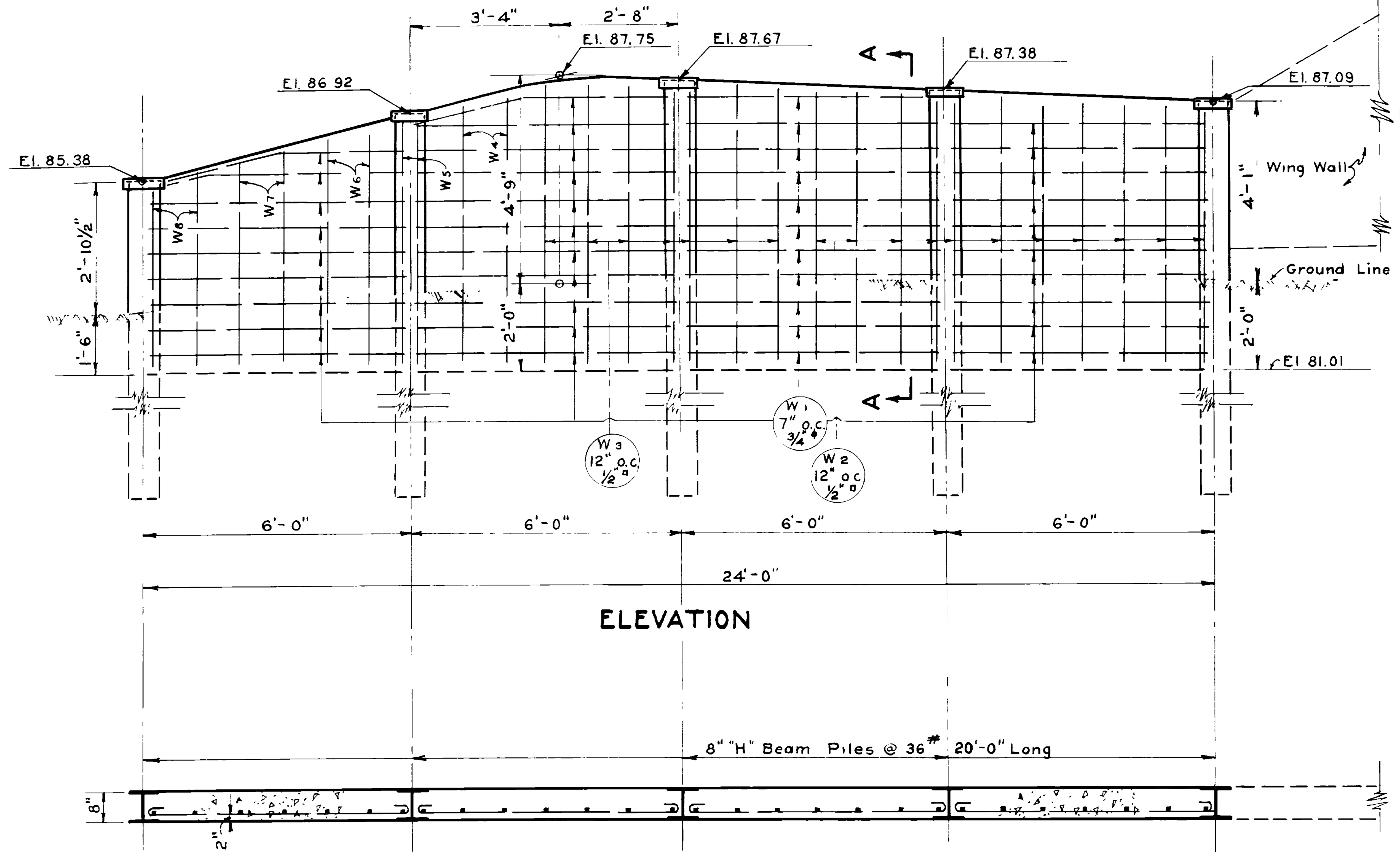
UTAH STATE ROAD COMMISSION
SALT LAKE CITY UTAH
EZRA C. KNOWLTON CHIEF ENGINEER

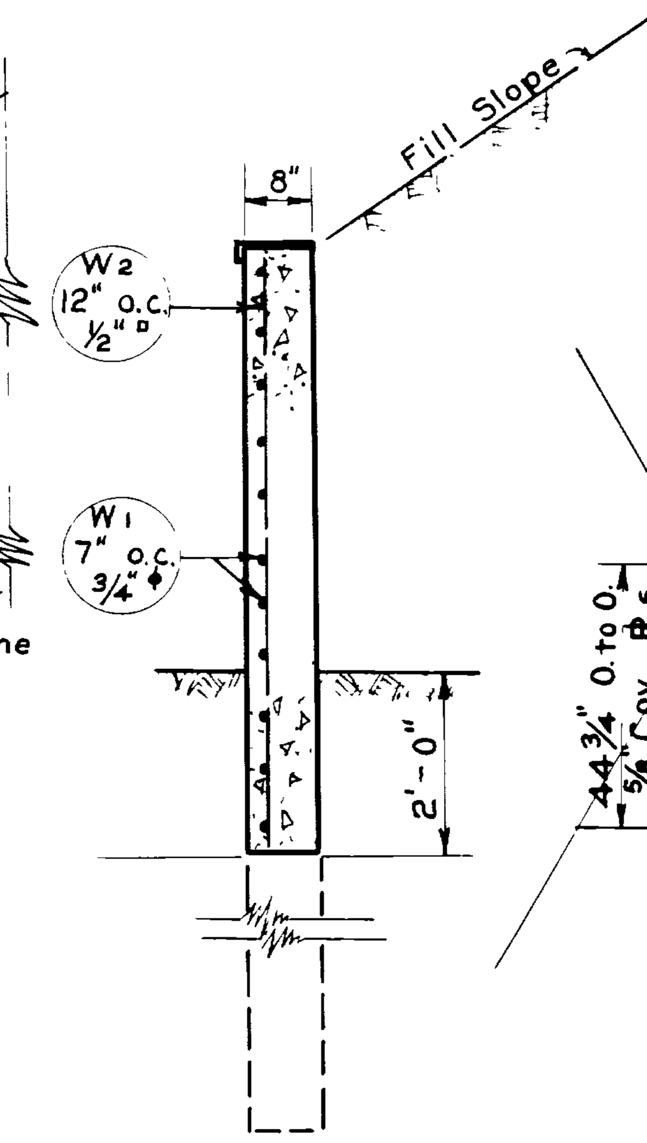
STEEL DECK GIRDER BRIDGE
84'-6 3/8" O to O. - 149°40' X-ING ANGLE
WEBER - DAVIS CANAL
Sta. 27+46 AW. F.A.P. 222 A(1)
Riverdale Arsenal - Davis Co.

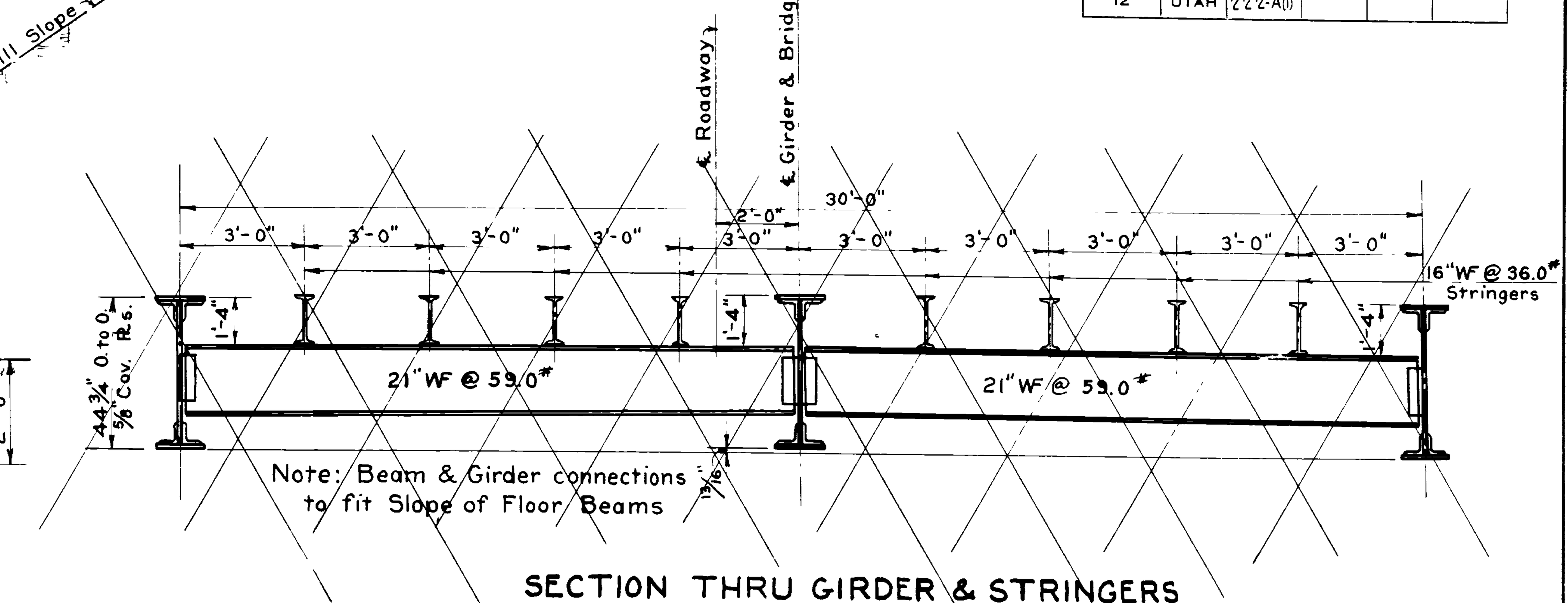
DESIGNED BY K.W.T. SCALE As Shown
DRAWN BY D.M.S. July 24, 1941
CHECKED BY APPROVED
EXAMINED BY

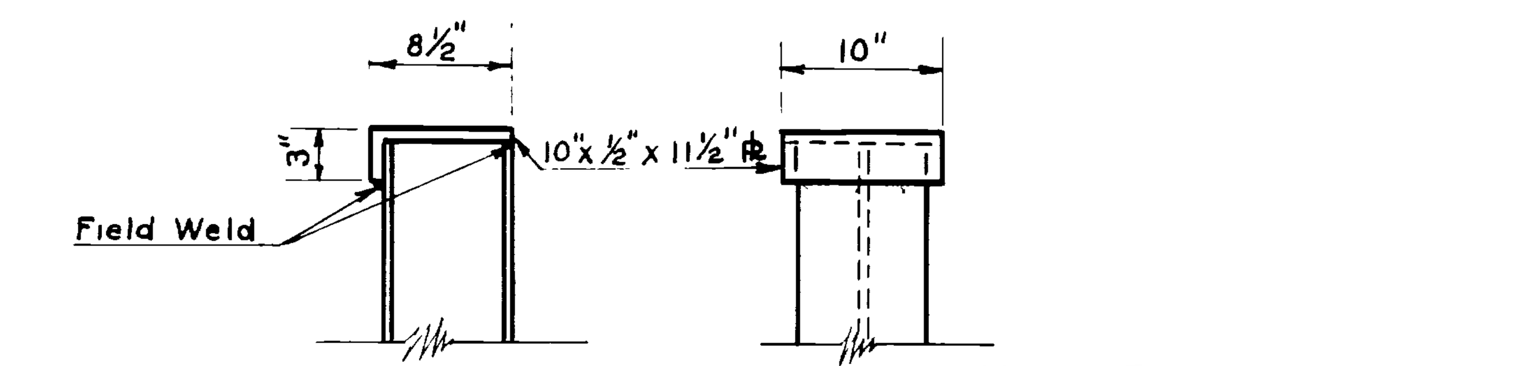
Br. No. 6-259-1-1 Drg. No. C-215

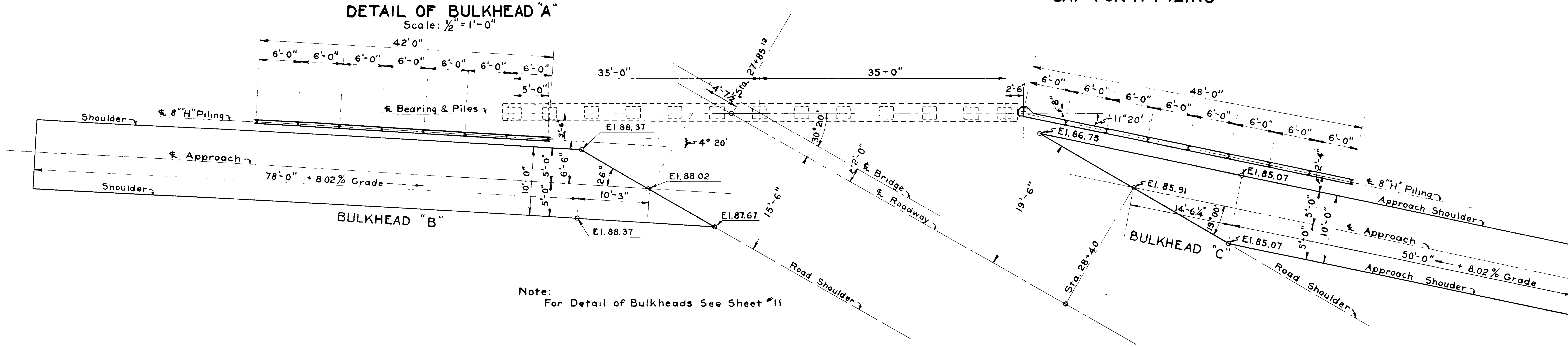
FED. ROAD DIST. NO.	STATE	AWFA PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
12	UTAH	222-A(1)			











REVISIONS

Sheet #12 of 15 Sheets

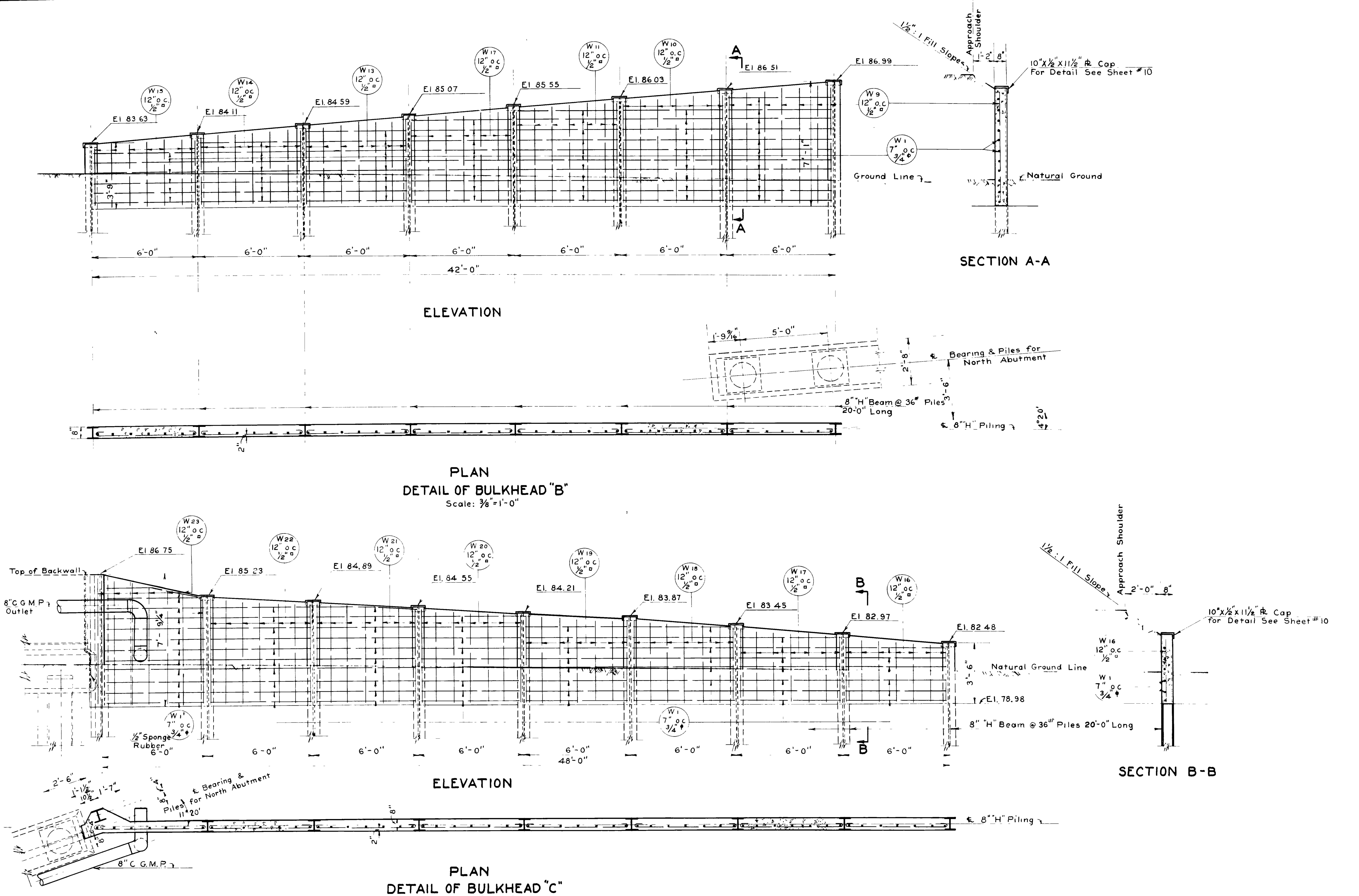
UTAH STATE ROAD COMMISSION
SALT LAKE CITY, UTAH
EZRA C. KNOWLTON, CHIEF ENGINEER

STEEL DECK GIRDER BRIDGE
84'-6 3/8" 0. to 0. - 149° 40' X-ING ANGLE
WEBER-DAVIS CANAL
Sta. 27+46 AWFAP 222 A(1)
Riverdale Arsenal Davis Co.

Designed by K.W.T. Scale As Noted
Drawn by K.W.T. Date July 24, 1941

File No. 6-259-1-1 Dwg. No. C-215

FED ROAD DIST NO	STATE	A.W.F.A. PROJ. NO	FISCAL YEAR	SHEET NO	TOTAL SHEETS
12	UTAH	222-A(1)			



ELEVATION

SECTION A-A

PLAN

DETAIL OF BULKHEAD "B"

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

ELEVATION

SECTION B-B

PLAN

DETAIL OF BULKHEAD "C"

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

Sheet #13 of 15 Sheets

UTAH STATE ROAD COMMISSION
SALT LAKE CITY UTAH
EZRA C KNOWLTON CHIEF ENGINEER

STEEL DECK GIRDER BRIDGE
84'-6 3/8" O. to O. - 149° 40' X-ING ANGLE
WEBER-DAVIS CANAL
Sta. 27+46 A.W.F.A.P. 222 A(1)
Riverdale Arsenal Davis Co.

DESIGNED BY K.W.T. SCALE 3/8" = 1'-0"
DRAWN BY K.W.T. July 24 194
CHECKED BY
EXAMINED BY APPROVED Paul M Masters Actg.

BR. NO. 6-259-1-1 DR. NO. C-215

Mark	Location	Size	Lgth	No Bars	Total Length	Sketch	O to O
A1-1	Slab	5/8"φ	35'-9"	56	2002'-0"		34'-5"
A1-2			4'-3"	12	51'-0"		2'-11"
A1-3			4'-6"	4	18'-0"		3'-2"
A1-4			5'-1"		20'-4"		3'-9"
A1-5			5'-8"		22'-8"		4'-4"
A1-6			6'-3"		25'-0"		4'-11"
A1-7			6'-10"		27'-4"		5'-6"
A1-8			7'-5"		29'-8"		6'-1"
A1-9			8'-0"		32'-0"		6'-8"
A1-10			8'-7"		34'-4"		7'-3"
A1-11			9'-2"		36'-8"		7'-10"
A1-12			9'-9"		39'-0"		8'-5"
A1-13			10'-4"		41'-4"		9'-0"
A1-14			10'-11"		43'-8"		9'-7"
A1-15			11'-6"		46'-0"		10'-2"
A1-16			12'-1"		48'-4"		10'-9"
A1-17			12'-8"		50'-8"		11'-4"
A1-18			13'-3"		53'-0"		11'-11"
A1-19			13'-10"		55'-4"		12'-6"
A1-20			14'-5"		57'-8"		13'-1"
A1-21			15'-0"		60'-0"		13'-8"
A1-22			15'-8"		62'-8"		14'-4"
A1-23			16'-3"		65'-0"		14'-11"
A1-24			16'-10"		67'-4"		15'-6"
A1-25			17'-5"		69'-8"		16'-1"
A1-26			18'-0"		72'-0"		16'-8"
A1-27			18'-7"		74'-4"		17'-3"
A1-28			19'-2"		76'-8"		17'-10"
A1-29			19'-9"		79'-0"		18'-5"
A1-30			20'-4"		81'-4"		19'-0"
A1-31			20'-11"		83'-8"		19'-7"
A1-32			21'-6"		86'-0"		20'-2"
A1-33			22'-1"		88'-4"		20'-9"
A1-34			22'-8"		90'-8"		21'-4"
A1-35			23'-3"		93'-0"		21'-11"
A1-36	Slab	5/8"φ	23'-10"	4	95'-4"		22'-6"

Mark	Location	Size	Lgth	No Bars	Total Length	Sketch	O to O
A1-37	Slab	5/8"φ	24'-5"	4	97'-8"		23'-1"
A1-38			25'-0"		100'-0"		23'-8"
A1-39			25'-7"		102'-4"		24'-3"
A1-40			26'-2"		104'-8"		24'-10"
A1-41			26'-9"		107'-0"		25'-5"
A1-42			27'-4"		109'-4"		26'-0"
A1-43			27'-11"		111'-8"		26'-7"
A1-44			28'-6"		114'-0"		27'-2"
A1-45			29'-1"		116'-4"		27'-9"
A1-46			29'-8"		118'-8"		28'-4"
A1-47			30'-3"		121'-0"		28'-11"
A1-48			30'-10"		123'-4"		29'-6"
A1-49			31'-5"		125'-8"		30'-1"
A1-50			32'-0"		128'-0"		30'-8"
A1-51			32'-7"		130'-4"		31'-3"
A1-52			33'-2"		132'-8"		31'-10"
A1-53			33'-9"	4	135'-0"		32'-5"
A1-54	Slab	5/8"φ	34'-4"	2	68'-8"		33'-0"
A2-1	Slab	1/2"φ	36'-0"	57	2052'-0"	a = 33'-3"; 1'-8"; 12; 10½	
A2-2			5'-1"	2	10'-2"	a = 2'-4"	
A2-3			5'-8"		11'-4"	a = 2'-11"	
A2-4			6'-3"		12'-6"	a = 3'-6"	
A2-5			6'-10"		13'-8"	a = 4'-1"	
A2-6			7'-5"		14'-10"	a = 4'-8"	
A2-7			8'-0"		16'-0"	a = 5'-3"	
A2-8			8'-7"		17'-2"	a = 5'-10"	
A2-9			9'-2"		18'-4"	a = 6'-5"	
A2-10			9'-9"		19'-6"	a = 7'-0"	
A2-11			10'-4"		20'-8"	a = 7'-7"	
A2-12			10'-11"		21'-10"	a = 8'-2"	
A2-13	Slab	1/2"φ	11'-6"	2	23'-0"	a = 8'-9"	

Mark	Location	Size	Lgth	No Bars	Total Length	Sketch	O to O
A2-14	Slab	1/2"φ	12'-1"	2	24'-2"	a = 9'-4"; 1'-8"; 2; 10½	
A2-15			12'-8"		25'-4"	a = 9'-11"	
A2-16			13'-3"		26'-6"	a = 10'-6"	
A2-17			13'-10"		27'-8"	a = 11'-1"	
A2-18			14'-5"		28'-10"	a = 11'-8"	
A2-19			15'-0"		30'-0"	a = 12'-3"	
A2-20			15'-7"		31'-2"	a = 12'-10"	
A2-21			16'-2"		32'-4"	a = 13'-5"	
A2-22			16'-9"		33'-6"	a = 14'-0"	
A2-23			17'-4"		34'-8"	a = 14'-7"	
A2-24			17'-11"		35'-10"	a = 15'-2"	
A2-25			18'-6"		37'-0"	a = 15'-9"	
A2-26			19'-1"		38'-2"	a = 16'-4"	
A2-27			19'-8"		39'-4"	a = 16'-11"	
A2-28			20'-3"		40'-6"	a = 17'-6"	
A2-29			20'-10"		41'-8"	a = 18'-1"	
A2-30			21'-5"		42'-10"	a = 18'-8"	
A2-31			22'-0"		44'-0"	a = 19'-3"	
A2-32			22'-7"		45'-2"	a = 19'-10"	
A2-33			23'-2"		46'-4"	a = 20'-5"	
A2-34			23'-9"		47'-6"	a = 21'-0"	
A2-35			24'-4"		48'-8"	a = 21'-7"	
A2-36			24'-11"		49'-10"	a = 22'-2"	
A2-37			25'-6"		51'-0"	a = 22'-9"	
A2-38			26'-1"		52'-2"	a = 23'-4"	
A2-39			26'-8"		53'-4"	a = 23'-11"	
A2-40			27'-3"		54'-6"	a = 24'-6"	
A2-41			27'-10"		55'-8"	a = 25'-1"	
A2-42			28'-5"		56'-10"	a = 25'-8"	
A2-43			29'-0"		58'-0"	a = 26'-3"	
A2-44			29'-7"		59'-2"	a = 26'-10"	
A2-45			30'-2"		60'-4"	a = 27'-5"	
A2-46	Slab	1/2"φ	30'-9"	2	61'-6"	a = 28'-0"	

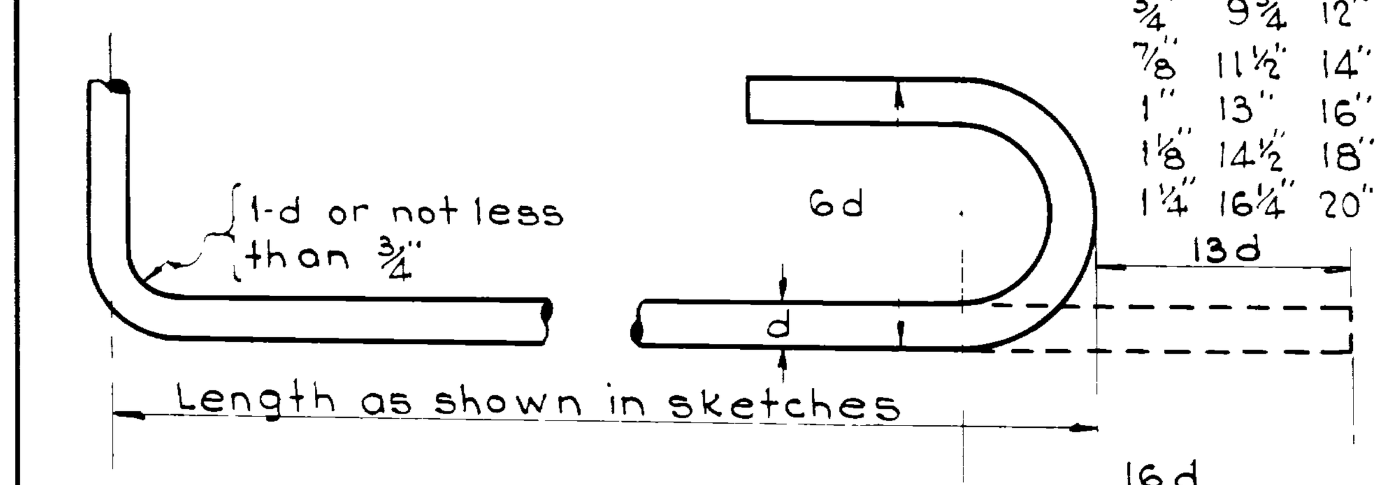
FED. ROAD DIST. NO.	STATE	A.W.F.A. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
12	UTAH	222-A(1)			

Mark	Location	Size	Lgth	No Bars	Total Length	Sketch	O to O
A2-47	Slab	1/2"φ	31'-4"	2	62'-8"	a = 28'-7"; 1'-8"; 2; 10½	
A2-48			31'-11"		63'-10"	a = 29'-2"	
A2-49			32'-7"		65'-2"	a = 29'-10"	
A2-50			33'-2"		66'-4"	a = 30'-5"	
A2-51			33'-9"		67'-6"	a = 31'-0"	
A2-52	Slab	1/2"φ	34'-4"	2	68'-8"	a = 31'-7"	
B1	Slab NOTE:- For B1-1 to B3-2 and A2-1 to A2-52 see next Sheet	1/2"φ	29'-0"	321	9309'-0"		
C1-1	Curb (Long)	1/2"φ	31'-11"	6	191'-6"		
C1-2	" (Short)	1/2"φ	28'-10"	6	173'-0"		
C2-1	Curb at #3 Drain Box	1/2"φ	7'-3"	4	29'-0"	Field bend	
C2-2			6'-10"	4	27'-4"	Field bend	
C2-3			10'-3"	3	30'-9"		
C2-4			2'-0"	2	4'-0"		
C2-5			2'-6"	2	5'-0"		
C2-6			2'-11"	2	5'-10"		
C2-7			3'-4"	1	3'-4"		
C2-8			3'-9"	2	7'-6"		
C2-9	Curb at #3 Drain Box	1/2"φ	4'-1"	2	8'-2"		

Mark	Location	Size	Lgth.	No Bars	Total Length	Sketch	O to O
C3-1	Curb at #1 Box	1/2"φ	8'-6"	3	25'-6"	Field bend	
C3-2	" " " "	1/2"φ	8'-8"	1	8'-8"	9"; a = 2'-1"; 4'-5½"	
C3-3	" " " "	1/2"φ	9'-3"	1	9'-3"	a = 3'-6"	
C3-4	" " " "	3/8"φ	5'-6"	3	16'-6"	10"; 1'-11"	
D1-1	Drain Box #3	1/2"φ	5'-9"	3	17'-3"	1'-11"; 2'-9"	
D1-2	" " "	1/2"φ	3'-6"	3	10'-6"		2'-5"
D1-3	" " "	1/2"φ	2'-8"	1	2'-8"		
D1-4	" " "	1/2"φ	2'-3"	6	13'-6"		
D1-5	" " #1 &#2	1/2"φ	2'-8"	14	37'-4"		
D1-6	" " " "	1/2"φ	2'-3"	9	20'-3"		
D1-7	" " " "	1/2"φ	2'-3"	10	22'-6"		
D1-8	" " #1	1/2"φ	1'-5"	2	2'-10"		
E1-1	Lower Abut (Fixed End)	1/2"φ	10'-6"	10	105'-0"		
E1-2	" " " "	1/2"φ	6'-0"	2	12'-0"		
E2	" " " "	3/8"φ	2'-0"	62	124'-0"		
E3	" " " "	1/2"φ	37'-5"	18	673'-6"		

Mark	Location	Size	Lgth	No. Bars	Total Length	Sketch	O to O
E4	Lower Abut (Fixed End)	1/2"φ	5'-9"	46	264'-6"	2'-1"; 1'-10"	
F1	Pile Casings	7/8"φ	7'-0"	208	1456'-0"		
F2	"	1/2"φ	7'-4"	156	1144'-0"	4"; 4"; 1'-8"; 1'-8"	
G1	Piles	7/8"φ	18'-2"	104	1889'-4"		
G2	Piles (Spiral)	1/4"φ	179'-7"	26	4669'-2"	3" Pitch; 13" Dia.; 7" Dia.; 16'-0"; 4 @ 40'-0" = 160'-0"; 1 @ 18'-6" = 19'-7"; includes 4'-4" for laps	
J1	Upper Abut (Exp. End)	1/2"φ	39'-2"	32	1253'-4"		
J2	" " "	1/2"φ	39'-2"	32	1253'-4"		

Mark	Location	Size	Lgth	No. Bars	Total Length	Sketch	O to O
J3-1	Upper Abut (Exp. End)	1/2"φ	7'-9"	66	511'-6"	a = 6'-4"; 45°; 10½"	
J3-2	" " "	1/2"φ	7'-3"	1	7'-3"	a = 5'-10"	
J3-3	" " "	1/2"φ	6'-5"	1	6'-5"	a = 5'-0"	
J3-4	" " "	1/2"φ	5'-7"	1	5'-7"	a = 4'-2"	
J3-5	" " "	1/2"φ	4'-9"	1	4'-9"	a = 3'-4"	
J3-6	" " "	1/2"φ	3'-11"	1	3'-11"	a = 2'-6"	
J4-1	" " "	1/2"φ	6'-4"	66	418'-0"		
J4-2	" " "	1/2"φ	5'-10"	1	5'-10"		
J4-3	" " "	1/2"φ	5'-0"	1	5'-0"		
J4-4	" " "	1/2"φ	4'-2"	1	4'-2"		
J4-5	" " "	1/2"φ	3'-4"	1	3'-4"		
J4-6	" " "	1/2"φ	2'-6"	1	2'-6"		
J5	Upper Abut (Wing Wall)	1/2"φ	5'-10"	46	268'-4"	3'-5"; 1'-10½"	
J6-1	" " "	1/2"φ	13'-1"	4	52'-4"		
J6-2	" " "		11'-3"	1	11'-3"		
J6-3	" " "		8'-9"	1	8'-9"		
J7-1	" " "		7'-11"	5	39'-7"		
J7-2	" " "		8'-6"	1	8'-6"		
J7-3	" " "		8'-1"	1	8'-1"		
J7-4	" " "		7'-8"	1	7'-8"		
J7-5	" " "		7'-3"	1	7'-3"		
J7-6	" " "		6'-10"	1	6'-10"		
J7-7	" " "		6'-5"	1	6'-5"		
J7-8	" " "		6'-0"	1	6'-0"		
J7-9	" " "		5'-7"	1	5'-7"		
J7-10	" " "	1/2"φ	5'-2"	1	5'-2"		



d	13d	16d
3/8"	5"	6"
1/2"	6½"	8"
5/8"	8"	10"
3/4"	9¾"	12"
7/8"	11½"	14"
1"	13"	16"
1⅛"	14½"	18"
1¼"	16¼"	20"

ROD NOTES

When hooks are called for the lengths given in the Total Length column include allowance for hooks as shown in above detail.

Lengths given in sketches are center to center of bend points.

Sheet #14 of 15 Sheets

UTAH STATE ROAD COMMISSION
SALT LAKE CITY, UTAH
EZRA C. KNOWLTON, CHIEF ENGINEER

DECK PLATE GIRDER BRIDGE
84'-6 3/8" O. to O. 149°40' X-ING ANGLE
WEBER - DAVIS CANAL
Sta. 27+46 A.W. F.A.P. 222 A(1)
Riverdale Arsenal Davis Co.

Designed by K.W.T. Scale None
Drawn by D.M.S. Passed July 24, 1941
Checked by Paul M. Martin, acty
Examined by

B.P. No. 6-259-1-1 Dr. No. C-215

Fed. Road Dist. No.	State	A.W.F.A. Proj. No.	Fiscal Year	Sheet No.	Total Sheets
12	UTAH	222-A(1)			

Mark	Location	Size	L'gth.	No. Bars	Total Length	Sketch	O. to O.
J8-1	Upper Abut. Wing wall	7/8"φ	16'-10"	3	50'-6"	13'-1" ; 2'-9½"	
J8-2			13'-1"	3	39'-3"		
J8-3			15'-10"	6	95'-0"		
J8-4			13'-10"	1	13'-10"		
J8-5			12'-3"	1	12'-3"		
J8-6		7/8"φ	10'-6"	1	10'-6"		
J9-1		½"□	7'-11"	5	39'-7"		
J9-2			8'-6"	1	8'-6"		
J9-3			8'-1"	1	8'-1"		
J9-4			7'-8"	1	7'-8"		
J9-5			7'-3"	1	7'-3"		
J9-6			6'-10"	1	6'-10"		
J9-7			6'-5"	1	6'-5"		
J9-8			6'-0"	1	6'-0"		
J9-9			5'-7"	1	5'-7"		
J9-10	Upper Abut. Wing Wall	½"□	5'-2"	1	5'-2"		
J10	" " " "	1"□	16'-2"	2	32'-4"	8'-11" ; 7'-3"	
P1	Hand Rail & Posts	½"□	4'-4"	378	1638'-0"		3'-9½"
R1-1	End Posts		7'-0"	24	168'-0"	Field bend	
R1-2	" "		8'-8"	8	69'-4"	Field bend	
R1-3	Hand Rail		5'-9"	20	115'-0"		
R1-4	" "		6'-9"	16	108'-0"		
R1-5	" "		3'-9"	2	7'-6"		
R1-6	" "		4'-9"	2	9'-6"	Field bend	
R1-7	H. Rail Posts		2'-8"	12	32'-0"		
R1-8	" " "		2'-10"	24	68'-0"		
R1-9	" " "	½"□	3'-0"	12	36'-0"		

Mark	Location	Size	L'gth	No Bars	Total Length	Sketch	O. to O.
R2-1	Hand Rail	¾"φ	5'-9"	40	230'-0"		
R2-2	" "	¾"φ	6'-9"	32	216'-0"		
R2-3	" "	¾"φ	3'-9"	4	15'-0"		
R2-4	" "	¾"φ	4'-9"	4	19'-0"		
W1	Bulkh'ds "A" "B" "C"	¾"φ	7'-3"	160	1160'-0"		5'-7½"
W1'	"C"	¾"φ	8'-1"	12	97'-0"		6'-5½"
W2	"A"	½"□	5'-10"	11	64'-2"		
W3	"A"		6'-3"	7	43'-9"		
W4	"A"		5'-10"	2	11'-8"		
W5	"A"		5'-6"	2	11'-0"		
W6	"A"		5'-1"	2	10'-2"		
W7	"A"		4'-7"	2	9'-2"		
W8	"A"		4'-1"	2	8'-2"		
W9	"B"		6'-4"	7	44'-4"		
W10	"B"		5'-10"	7	40'-10"		
W11	"B"		5'-4"	7	37'-4"		
W12	"B"		4'-10"	7	33'-10"		
W13	"B"		4'-5"	7	30'-11"		
W14	"B"		3'-11"	7	27'-5"		
W15	"B"		3'-5"	7	23'-11"		
W16	"C"		3'-2"	7	22'-2"		
W17	"C"		3'-8"	7	25'-8"		
W18	"C"		4'-2"	7	29'-2"		
W19	"C"		4'-7"	7	32'-1"		
W20	"C"		4'-11"	7	34'-5"		
W21	"C"		5'-4"	7	37'-2"		
W22	"C"		5'-7"	7	39'-1"		
W23	Bulkhead "C"	½"□	5'-11"	7	41'-5"		

Mark	Location	Size	L'gth	No Bars	Total Length	Sketch	O. to O.
						2'-1¼" ; 2'-2½" ; 1'-6" ; 6¾" ; 4¾" ; 3'-0" ; 2'-1¼" ; 10" ; 1'-4"	
A2-1	Slab	5/8"φ	38'-0"	29	1102'-0"	See Sketch	34'-8
A2-2			5'-2"	2	10'-4"	10" ; 1'-6" ; 1'-4 ; a = 2'-4"	3'-8"
A2-3			5'-9"	2	11'-6"	a = 2'-11"	4'-3"
A2-4			6'-6"	2	13'-0"	10" ; 1'-6" ; 6¾" ; 1'-4 ; 2'-1¼ ; a = 1'-0" ; 4¾"	4'-10
A2-5			7'-1"	2	14'-2"	a = 1'-7"	5'-5"
A2-6			7'-8"	2	15'-4"	a = 2'-2"	6'-0"
A2-7			8'-3"	2	16'-6"	a = 2'-9"	6'-7"
A2-8			8'-10"	2	17'-8"	a = 3'-4"	7'-2"
A2-9			9'-5"	2	18'-10"	a = 3'-11"	7'-9"
A2-10			10'-2"	2	20'-4"	10" ; 1'-6" ; 6¾" ; 1'-4 ; 2'-1¼ ; 3'-0 ; a = 1'-1¼" ; 4¾"	8'-4"
A2-11			10'-9"	2	21'-6"	a = 1'-8¼"	8'-11"
A2-12			11'-4"	2	22'-8"	a = 2'-3¼"	9'-6"
A2-13	Slab	5/8"φ	11'-11"	2	23'-10"	a = 2'-10¼"	10'-1"

Mark	Location	Size	L'gth	No Bars	Total Length	Sketch	O. to O.
A2-14	Slab	5/8"φ	12'-8"	2	25'-4"	10" ; 1'-6" ; 6¾" ; 1'-4 ; 2'-1¼ ; 3'-0 ; 2'-2½ ; a = 10" ; 4¾"	10'-8"
A2-15			13'-3"	2	26'-6"	a = 1'-5"	11'-3"
A2-16			13'-10"	2	27'-8"	a = 2'-0"	11'-10"
A2-17			14'-5"	2	28'-10"	a = 2'-7"	12'-5"
A2-18			15'-0"	2	30'-0"	a = 3'-2"	13'-0"
A2-19			15'-7"	2	31'-2"	a = 3'-9"	13'-7"
A2-20			16'-3"	2	32'-6"	10" ; 1'-6" ; 6¾" ; 1'-4 ; 2'-1¼ ; 3'-0 ; 2'-2½ ; a = 10" ; 4¾"	14'-2"
A2-21			16'-10"	2	33'-8"	a = 1'-5¼"	14'-9"
A2-22			17'-5"	2	34'-10"	a = 2'-0¼"	15'-4"
A2-23			18'-0"	2	36'-0"	a = 2'-7¼"	15'-11"
A2-24			18'-7"	2	37'-2"	a = 3'-2¼"	16'-6"
						10" ; 1'-6" ; 6¾" ; 1'-4 ; 2'-1¼ ; 3'-0 ; 2'-2½ ; "a" ; 4¾"	
A2-25			19'-5"	2	38'-10"	a = 1'-3"	17'-1"
A2-26			20'-0"	2	40'-0"	a = 1'-10"	17'-8"
A2-27			20'-7"	2	41'-2"	a = 2'-5"	18'-3"
A2-28			21'-2"	2	42'-4"	a = 3'-0"	18'-10"
A2-29	Slab	5/8"φ	21'-9"	2	43'-6"	a = 3'-7"	19'-5"

Mark	Location	Size	L'gth	No Bars	Total Length	Sketch	O. to O.
						10" ; 1'-6" ; 6¾" ; 4¾" ; 1'-4 ; 2'-1¼ ; 3'-0 ; 2'-2½ ; "a" ; 4¾"	
A2-30	Slab	5/8"φ	22'-6"	2	45'-0"	a = 0'-9¼"	20'-0"
A2-31			23'-1"	2	46'-2"	a = 1'-4¼"	20'-7"
A2-32			23'-8"	2	47'-4"	a = 1'-11¼"	21'-2"
A2-33			24'-3"	2	48'-6"	a = 2'-6¼"	21'-9"
A2-34	Slab	5/8"φ	24'-10"	2	49'-8"	a = 3'-1¼"	22'-4"
						10" ; 1'-6" ; 6¾" ; 4¾" ; 1'-4 ; 2'-1¼ ; 3'-0 ; 2'-2½ ; "a" ; 4¾"	
A2-35	Slab	5/8"φ	25'-7"	2	51'-2"	a = 1'-1"	22'-11"
A2-36			26'-2"	2	52'-4"	a = 1'-8"	23'-6"
A2-37			26'-9"	2	53'-6"	a = 2'-3"	24'-1"
A2-38			27'-4"	2	54'-8"	a = 2'-10"	24'-8
A2-39			27'-11"	2	55'-10"	a = 3'-5"	25'-3
A2-40	Slab	5/8"φ	28'-6"	2	57'-0"	a = 4'-0"	25'-10"

Mark	Location	Size	L'gth	No Bars	Total Length	Sketch	O. to O.
						10" ; 1'-6" ; 6¾" ; 4¾" ; 1'-4 ; 2'-1¼ ; 3'-0 ; 2'-2½ ; "a" ; 4¾"	
A2-41	Slab	5/8"φ	29'-3"	2	58'-6"	a = 1'-2¼"	26'-5"
A2-42			29'-10"	2	59'-8"	a = 1'-9¼"	27'-0"
A2-43			30'-5"	2	60'-10"	a = 2'-4¼"	27'-7"
A2-44	Slab	5/8"φ	31'-0"	2	62'-0"	a = 2'-11¼"	28'-2"
						10" ; 1'-6" ; 6¾" ; 4¾" ; 1'-4 ; 2'-1¼ ; 3'-0 ; 2'-2½ ; "a" ; 4¾"	
A2-45	Slab	5/8"φ	31'-9"	2	63'-6"	a = 0'-11"	28'-9"
A2-46			32'-4"	2	64'-8"	a = 1'-6"	29'-4"
A2-47			32'-11"	2	65'-10"	a = 2'-1"	29'-11"
A2-48			33'-6"	2	67'-0"	a = 2'-8"	30'-6"
A2-49			34'-2"	2	68'-4"	a = 3'-4"	31'-2"
A2-50	Slab	5/8"φ	34'-9"	2	69'-6"	a = 3'-11"	31'-9"
						10" ; 1'-6" ; 6¾" ; 4¾" ; 1'-4 ; 2'-1¼ ; 3'-0 ; 2'-2½ ; "a" ; 4¾"	
A2-51	Slab	5/8"φ	35'-6"	2	71'-0"	a = 1'-1¼"	32'-4"
A2-52	Slab	5/8"φ	36'-1"	2	72'-2"	a = 1'-8¼"	32'-11"

Mark	Location	Size	L'gth	No Bars	Total Length	Sketch	O. to O.
B1-1	Diaph. Exp. End	1"φ	34'-9"	12	417'-0"		
B1-2	Diaph. Exp. End	½"□	33'-4"	8	266'-8"		
B1-3	Diaph. Fixed End	1"φ	37'-9"	12	453'-0"		
B1-4	Diaph. Fixed End	½"□	36'-2"	8	289'-4"		
B2	Both Diaphragms	½"φ	8'-0"	110	880'-0"	7½" ; 3'-1¾"	
B3-1	Both Diaphragms	½"□	21'-1"	16	337'-4"	2'-0 ; 8'-6" ; 3'-0" ; 8'-6"	
B3-2	Both Diaphragms	½"□	13'-7"	8	108'-8"	2'-0 ; 8'-6" ; 4'-0"	

QUANTITIES

32'-4"	of	1"□	Bars	@ 3.40#/' =	109.93#
870'-0"	"	1"φ	"	@ 2.67#/' =	2322.90#
3566'-8"	"	7/8"φ	"	@ 2.044#/' =	7290.26#
9226'-8"	"	5/8"φ	"	@ 1.043#/' =	9623.41#
7134'-2"	"	½"□	"	@ 0.85#/' =	6064.04#
13,848'-5"	"	½"φ	"	@ 0.668#/' =	9250.74#
140'-6"	"	3/8"φ	"	@ 0.376#/' =	52.83#
4669'-2"	"	¼"φ	"	@ 0.167#/' =	779.75#
1737'-0"	"	¾"φ	"	@ 1.502#/' =	2608.97#
				Total =	38102.83 Lbs.

Revisions: Date 12-8-41, By D.M.S.

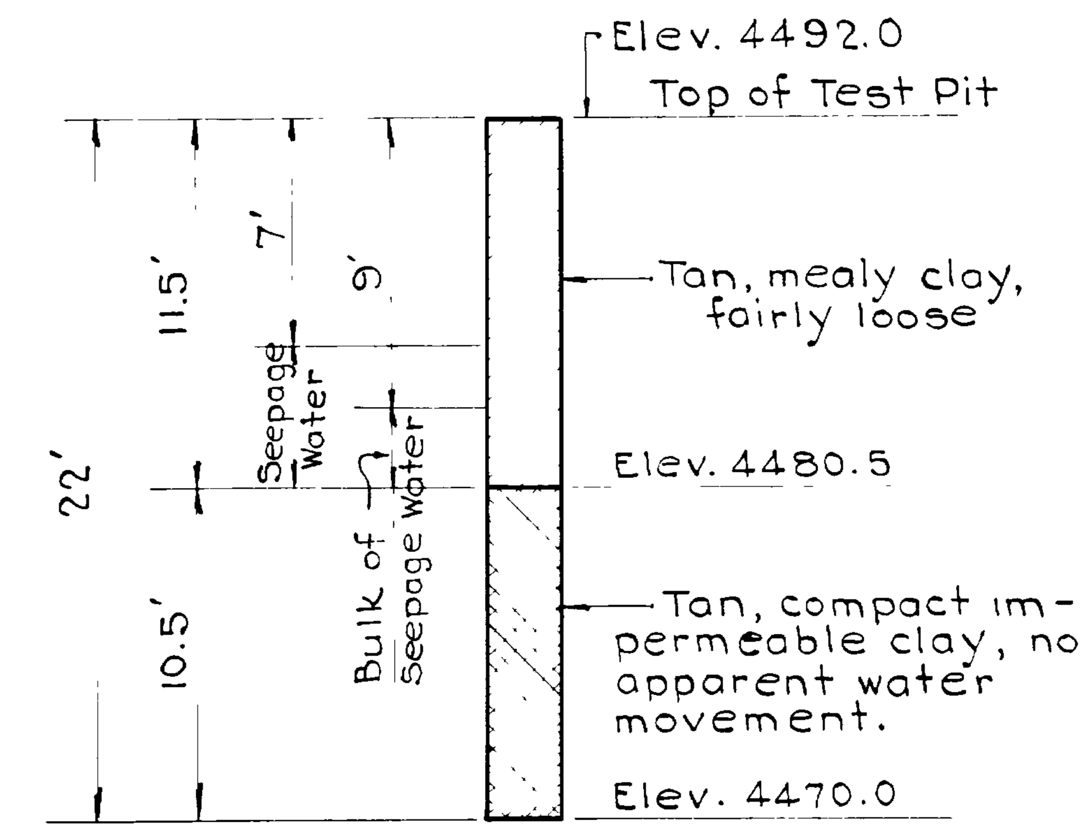
Utah State Road Commission
Salt Lake City - Utah
Ezra C. Knowlton Chief Engineer

STEEL DECK GIRDER BRIDGE
84'-6⅜ O.to O. 149°40' X-ING ANGLE
WEBER-DAVIS CANAL
Sta. 27+46 A.W.F.A.P. 222-A(1)
Riverdale Arsenal Davis Co.

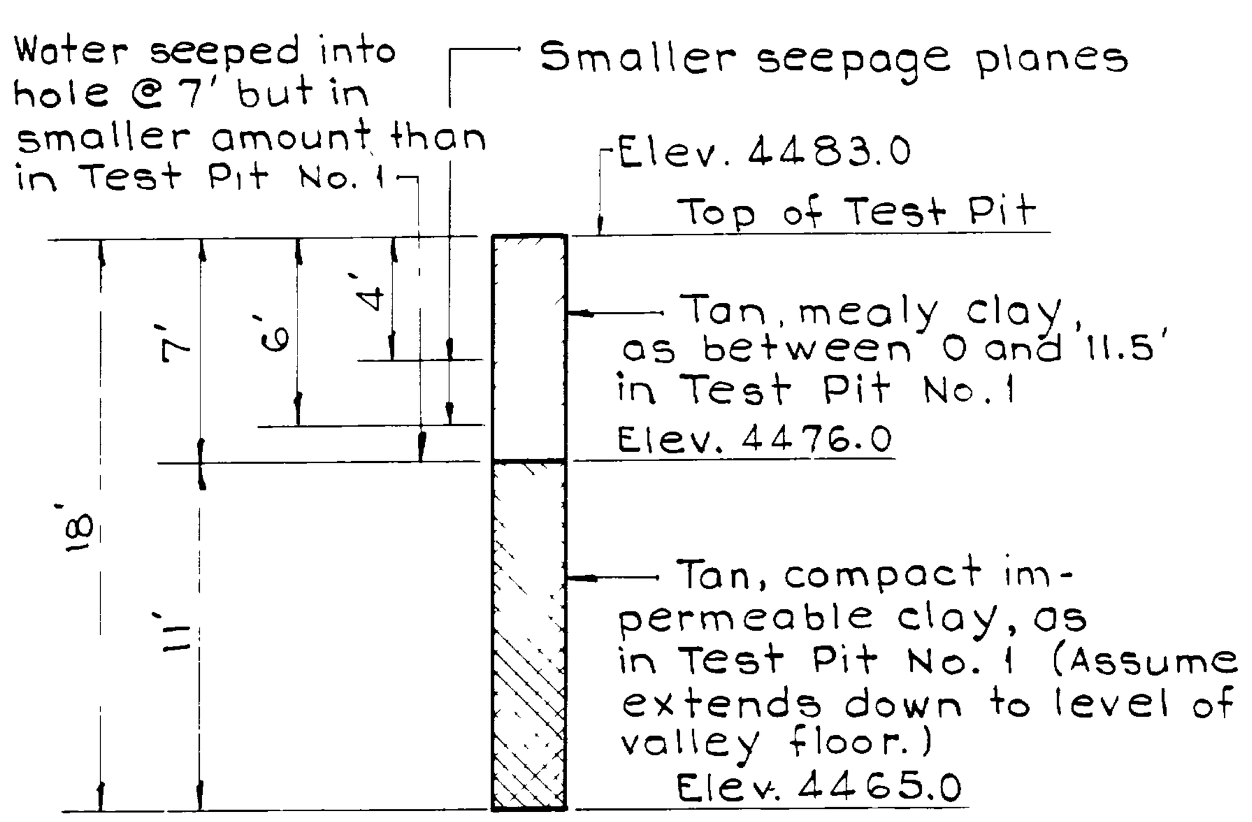
Designed by K.W.T. Scale None
Drawn by D.M.S.
Checked by
Examined by

Br. No. 6-259-1-1 Drg. No. C-215

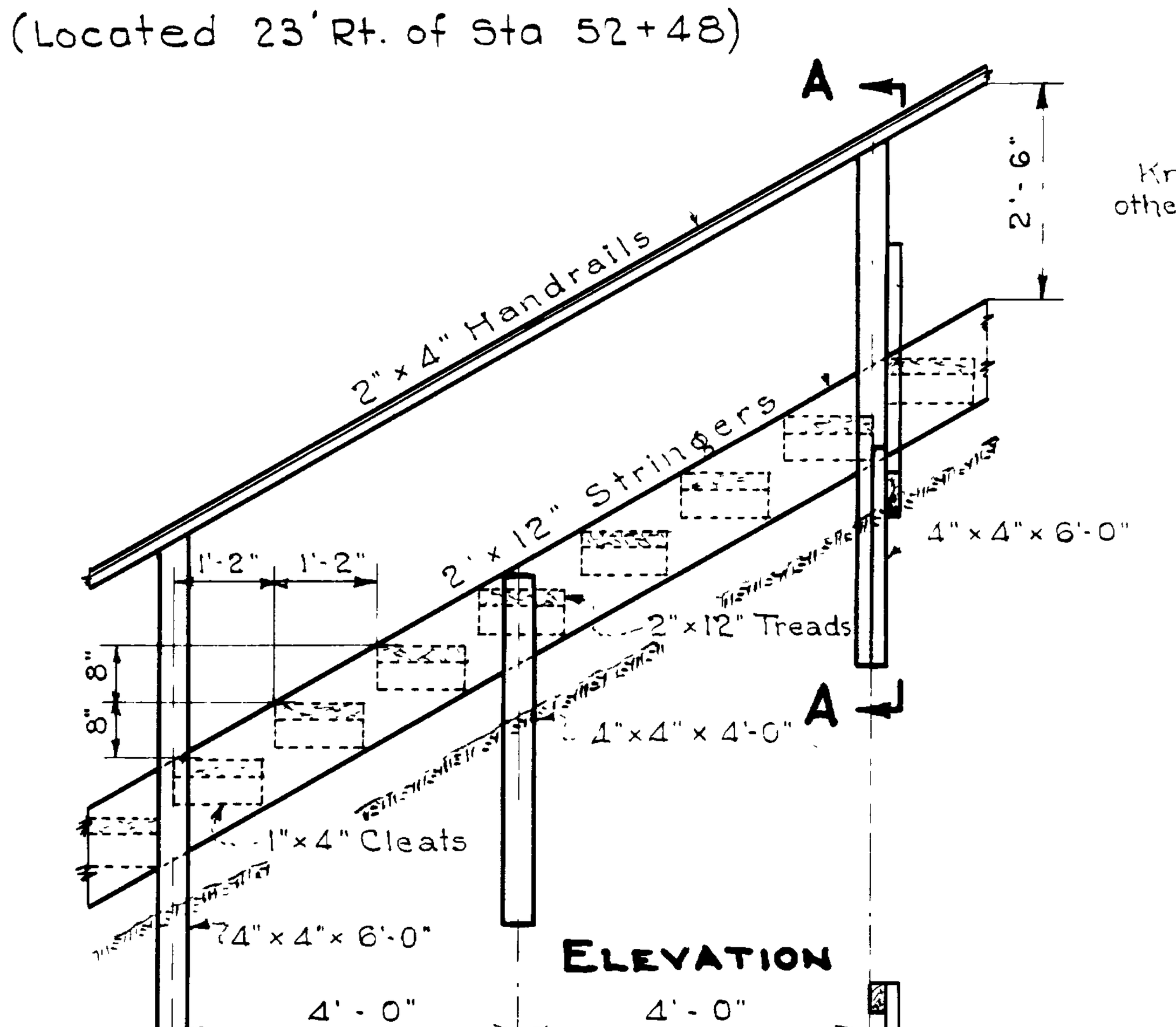
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
12	UTAH	222-A(1)			



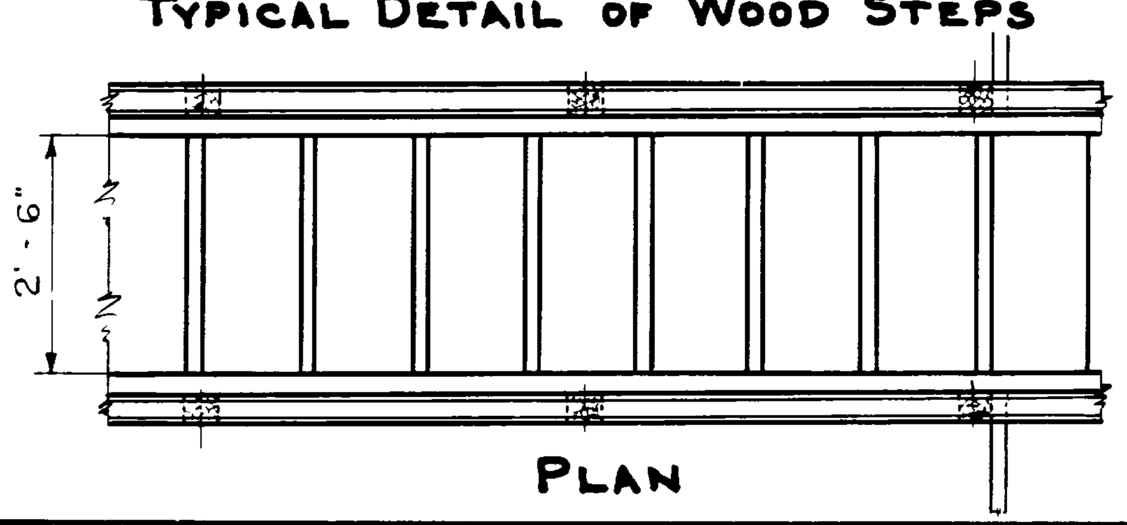
TEST PIT No. 1
(Located 5' Rt. of Sta. 52+48.0)



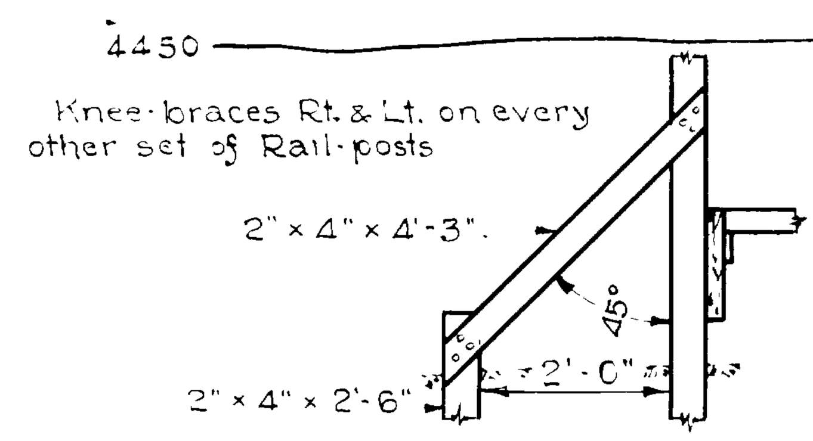
TEST PIT No. 2
(Located 23' Rt. of Sta 52+48)



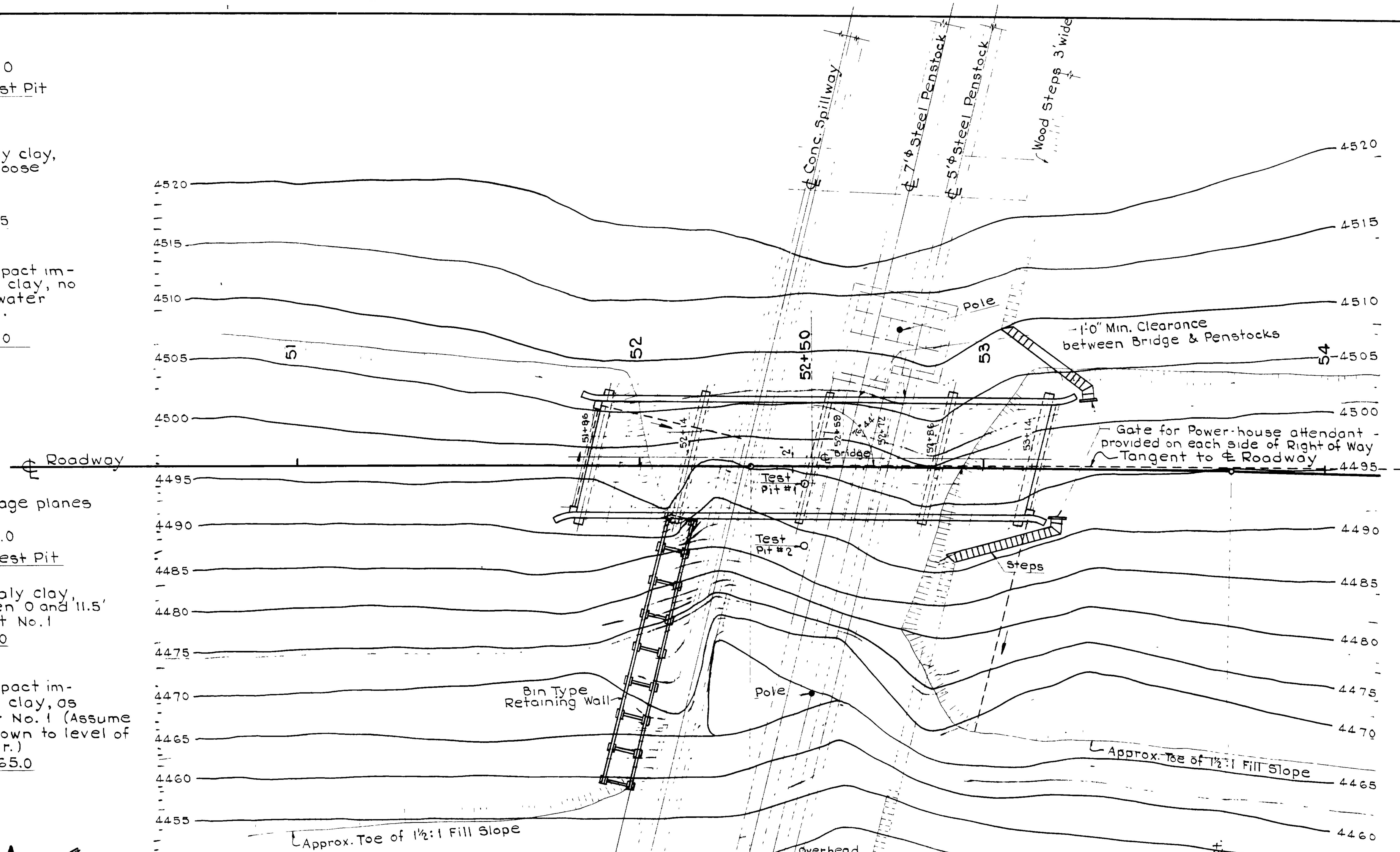
TYPICAL DETAIL OF WOOD STEPS



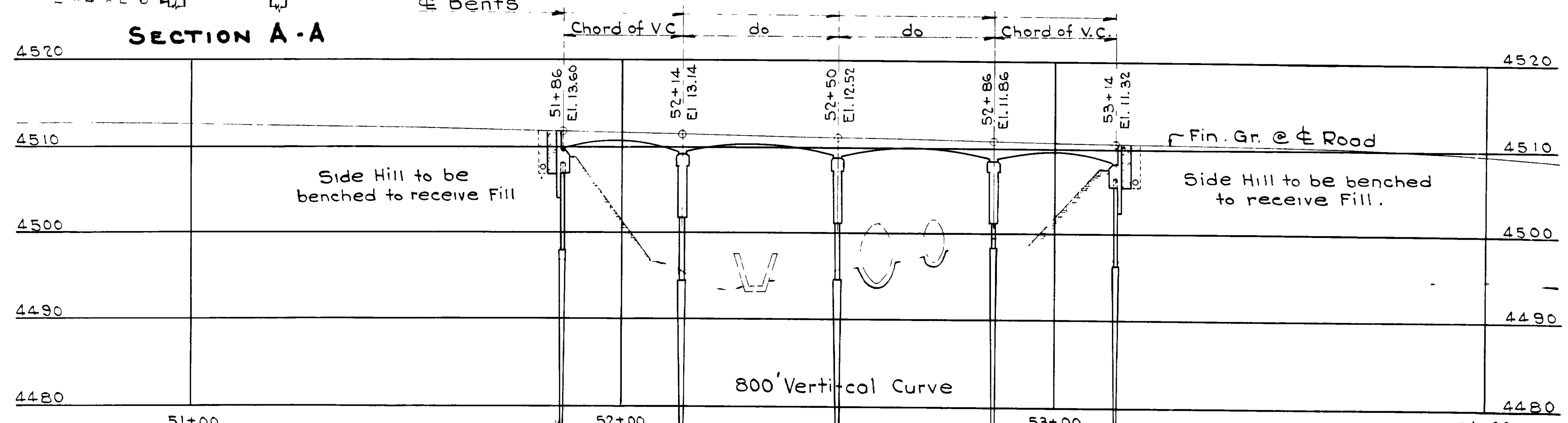
PLAN



SECTION A-A



PLAN
1" = 20'



PROFILE ALONG ℄ OF ROAD
Scale: 1" = 20' Horiz. 1" = 10' Vert.

GENERAL NOTES

Materials, construction, and workmanship shall be in accordance with State Standard Specifications for Road and Bridge construction, edition of 1939.

NOTE: Before Cast-in Place Pile shells are ordered a Timber test pile should be driven to ascertain the correct length of shell to be ordered.

DESIGN DATA

A.A.S.H.O. Specifications of 1941
H-15 Loading
fc = 1000#/" fs = 18,000#/"

QUANTITIES

Excav. for Structures	150	Cu. Yds.
Gravel Backfill	21	" "
8"Φ C.G.M. Pipe Perforated (1-end plug) (Under drain)	60	Lin. Ft.
8"Φ C.G.M. Pipe Not " (2-30° ells)	118	" "
18"Φ 7 ga. Steel Shell Cast-in-place Conc. Piles	870	" "
16"Φ 7 ga. " " " " "	428	" "
Structural Steel	1167	Lbs.
Reinforcing Steel	79728	"
Concrete - Class "A"	372	Cu. Yds.
Hand Rail - (Concrete)	284.25	Lin. Ft.
Wood Stairway Complete as Req'd.	1	each
Structural Steel Bin Type Retaining Wall (Sh. #3)	1	each

SITUATION PLAN

Sheet 1 of 12 sheets

UTAH STATE ROAD COMMISSION
SALT LAKE CITY, UTAH
BRIDGE OVER U.P. & L. CO'S. PENSTOCKS
A.W. (D.C.E.) F.A.P. 222-A(1)
Sta. 52+50 Weber Co.
Ogden Arsenal - Riverdale
F.M.E. — As noted
J.H.B.
29-259-1-2 D-466

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
12	UTAH	222-A(1)			

131'-3" O. to O.
65'-2¼"
65'-2¼"
28'-0"
36'-0"
36'-0"
28'-0"
26° 19'
26° 19'
℄ Bridge
℄ Handrail
Catch Basin #1
Catch Basin #2
Catch Basin #3
Gravel Filled Trench 2'-0" wide
℄ Piles
1½" Joint Filler between Slab and Backwall
1½" Joint Filler between Deck and Backwall
℄ of Concrete Spillway + Slope 23° to Horizontal
℄ 7' ф Steel Penstock + Slope 23° to Horiz.
℄ 5' ф Steel Penstock + Slope 23° to Horiz.
El. 4501.74 Top of 5' Penstock
Elev. 4501.27 Top of 7' Penstock
Elev. 4497.6 Top of Side of Flume @ ℄ of Road
℄ Bridge Tangent to ℄ of Roadway
℄ Bridge Tangent to ℄ of Road
76° 44'
52+20
52+30
52+32.3 P.S.
52+59
52+72
Full Crown
Superelevated
12.3' Warped
Level
PLAN
Sta 51+86
Sta 52+14
Sta 52+50
Sta 52+86
Sta 53+14
14'-5 5/16" Curb Rad.
14'-5¼" Curb Rad.
END ELEVATION
8" ф C.G.M.P. Perforated Perforations on bottom
Slope 1 to 10
1½:1 Fill Slope
8" ф C.G.M. Pipe
66'-0" ±
SECTION AT STA. 52+32.3 (P. Spiral Curve)
Level Plane Surface
Elev. 12.84
32'-0"
Handrail - Sh. #9
F.G. @ ℄ Road 4513.60
F.G. @ ℄ Road 4513.14
F.G. @ ℄ Road 4512.52
F.G. @ ℄ Road 4511.86
F.G. @ ℄ Road 4511.32
1½:1 Slope of Compacted Fill
Note: Fill to be thoroughly compacted according to the Specifications before Abutment Piles are driven.
Profile of Ground along outer face of caps
SIDE ELEVATION

GENERAL DRAWING

Sheet 2 of 12 sheets

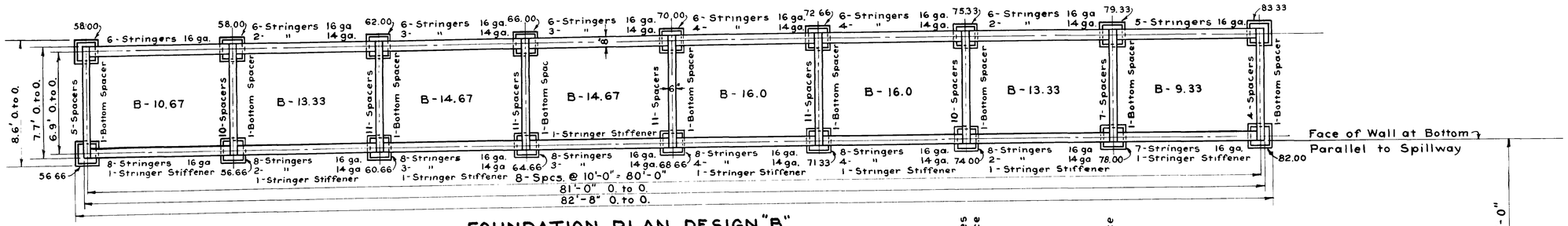
UTAH STATE ROAD COMMISSION
SALT LAKE CITY - UTAH
EZRA C. KNOWLTON, CHIEF ENGINEER

BRIDGE OVER U.P. & L. CO'S. PENSTOCKS
A.W. (P.C.E.) F.A.P. 222-A(1)
Sta. 52+50 Weber Co.
Ogden Arsenal - Riverdale

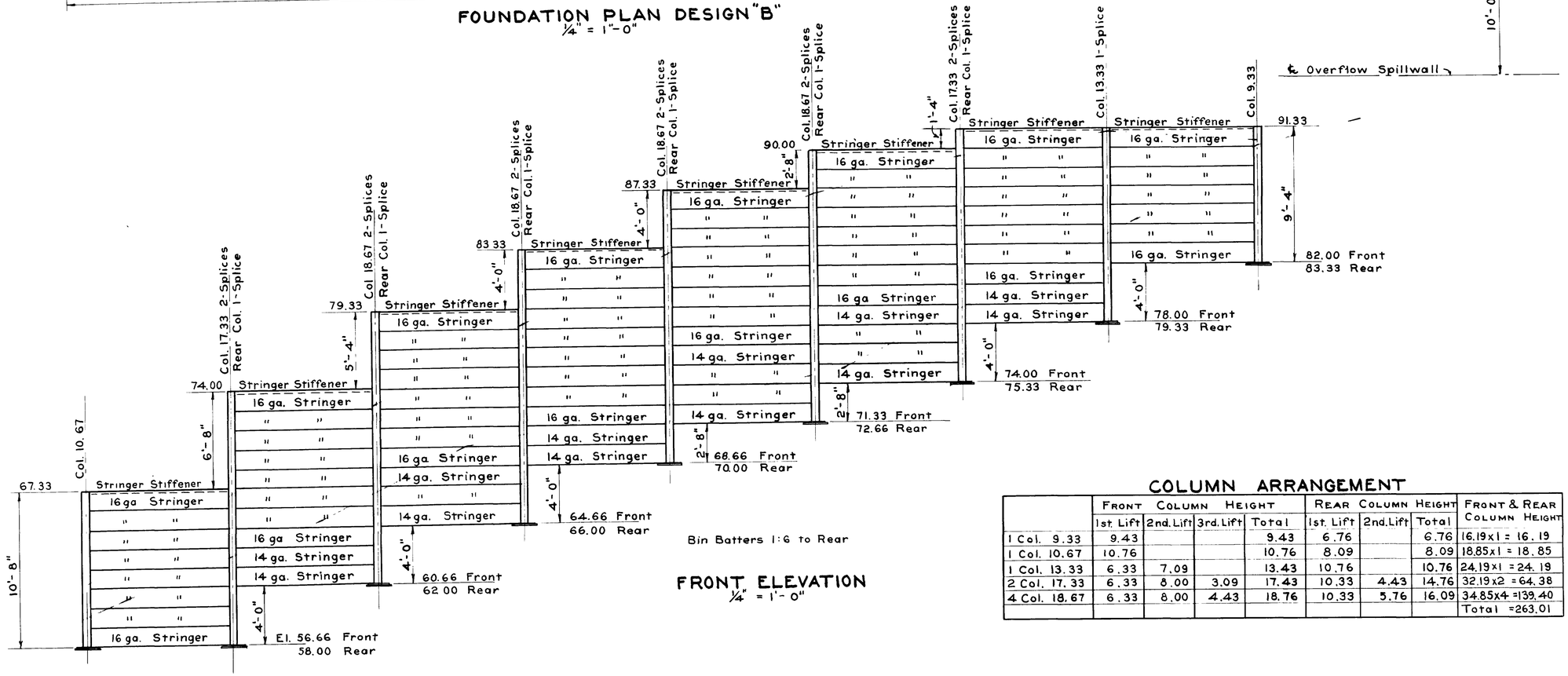
DESIGNED BY F.M.E. SCALE 1" = 6'-0"
DRAWN BY J.H.B. ISSUED May 27, 1941
CHECKED BY
EXAMINED BY

BR. NO. 29-259-1-2 DRG. NO. D-466

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
12	UTAH	222-A(1)			



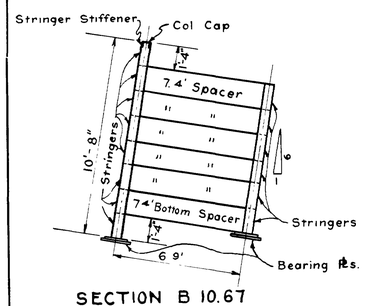
FOUNDATION PLAN DESIGN "B"
1/4" = 1'-0"



FRONT ELEVATION
1/4" = 1'-0"

COLUMN ARRANGEMENT

	Front Column Height				Rear Column Height			Front & Rear Column Height
	1st. Lift	2nd. Lift	3rd. Lift	Total	1st. Lift	2nd. Lift	Total	
1 Col. 9.33	9.43			9.43	6.76		6.76	16.19x1 = 16.19
1 Col. 10.67	10.76			10.76	8.09		8.09	18.85x1 = 18.85
1 Col. 13.33	6.33	7.09		13.43	10.76		10.76	24.19x1 = 24.19
2 Col. 17.33	6.33	8.00	3.09	17.43	10.33	4.43	14.76	32.19x2 = 64.38
4 Col. 18.67	6.33	8.00	4.43	18.76	10.33	5.76	16.09	34.85x4 = 139.40
								Total = 263.01



SECTION B 10.67
TYPICAL OF ALL SECTIONS

MATERIAL LIST

110 -	Stringers	16 ga. x 9.5'
36 -	Stringers	14 ga. x 9.5'
80 -	Spacers	16 ga. x 7.4'
9 -	Bottom Spacers	16 ga. x 7.4'
8 -	Stringer Stiffeners	8 ga. x 9.5'
9 -	Column Cap	12 ga.
19 -	Column Splices	14 ga.
18 -	Bearing Plates	16"x 16" x 1 ga.
18 -	Bearing Plates	20"x 20"x1 ga.
263 -	Lin. Ft. Columns	8 ga.

RETAINING WALL

Sheet 3 of 12 sheets

UTAH STATE ROAD COMMISSION
SALT LAKE CITY, UTAH
EZRA C. KNOWLTON CHIEF ENGINEER

BRIDGE OVER U.P. & L. CO'S. PENSTOCKS
A.W.(P.C.E.) F.A.P. 222-A(1)
Sta. 52+50 Weber Co.
Ogden Arsenal-Riverdale

DESIGNED BY F.M.E. SCALE AS shown
DRAWN BY F.M.E. TRACED
CHECKED BY APPROVED
EXAMINED BY

BR. NO. 29-259-1-2 DRG. NO. D-466

Note:
See Sheet 5 for Section of Diaphragms
See " 6 " " " Bearings

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
12	UTAH	222-A(1)			

BENTS

Sheet 4 of 12 sheets

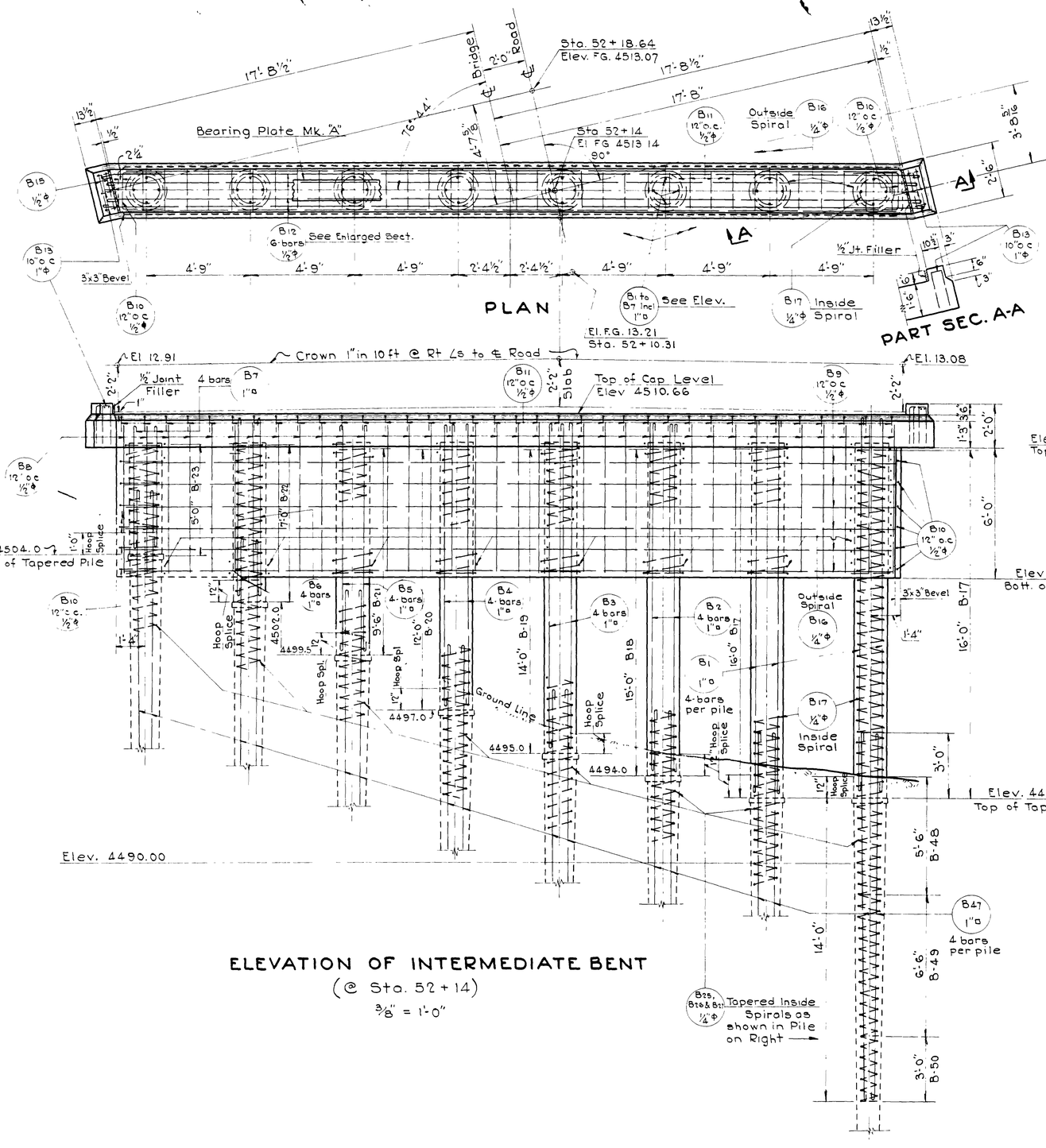
UTAH STATE ROAD COMMISSION
SALT LAKE CITY UTAH
EZRA C. KNOWLTON CHIEF ENGINEER

BRIDGE OVER U.P. & L. CO'S. PENSTOCKS
A.W.(P.C.E.) F.A.P. 222-A(1)
Sta 52+50 Weber Co
Ogden Arsenal - Riverdale

Designed by F.M.E. Scale 3/8" = 1'-0"
Drawn by J.H.B.
Checked by

29-259-1-2 D-466

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
12	UTAH				



REVISIONS

DATE	BY
Jan 25 44	J.H.B.

BENTS

Sheet 5 of 12 sheets

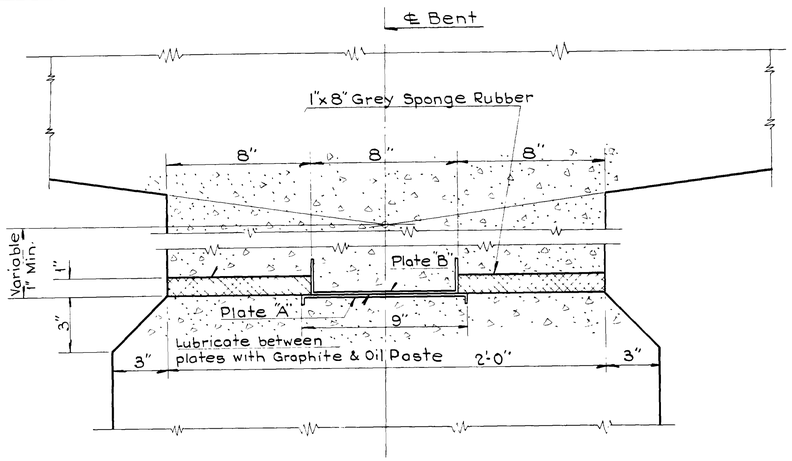
UTAH STATE ROAD COMMISSION
SALT LAKE CITY UTAH
EZRA C KNOWLTON CHIEF ENGINEER

BRIDGE OVER U.P. & L. CO'S. PENSTOCKS
A.W.(P.C.E.) F.A.P. 222-A(1)
Sta 52+50 Weber Co.
Ogden Arsenal-Riverdale

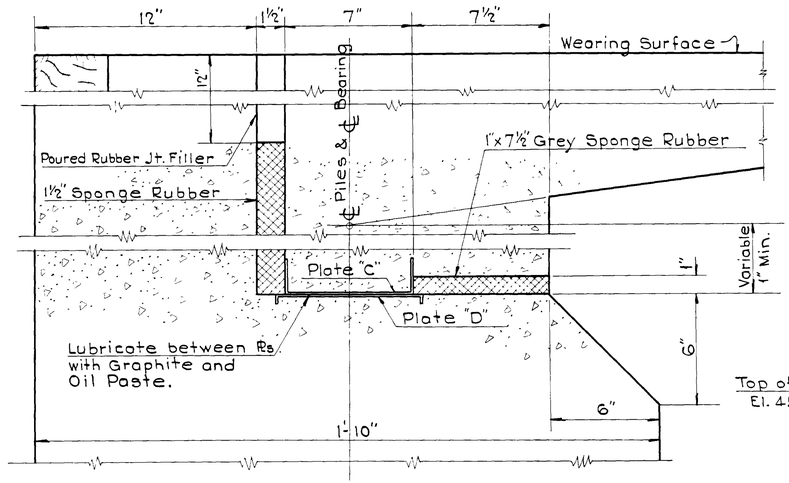
DESIGNED BY F.M.E. SCALE As noted
DRAWN BY J.H.B. TRACED Dec 27 '43
CHECKED BY CHIEF ENGINEER

BR. NO. 29-259-1-2 PROJECT NO. D-466

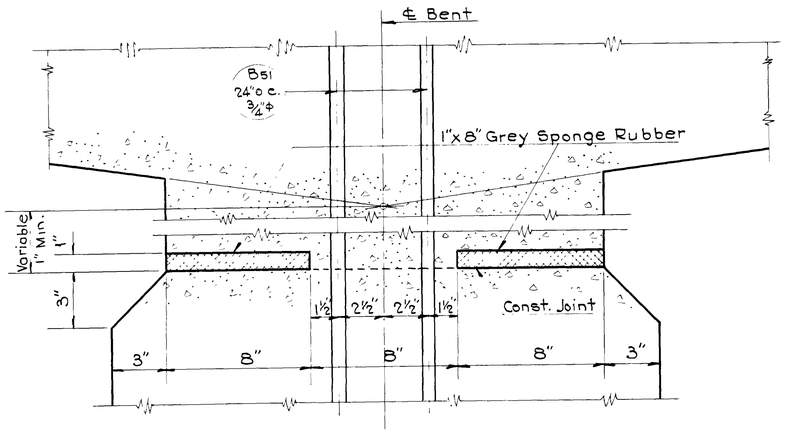
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
12	UTAH	222-A(1)			



DETAIL OF FREE BEARINGS - INT. BENTS



DETAIL OF BEARING AT ABUTMENTS FREE ENDS



DETAIL OF FIXED BEARING - CENTER BENT

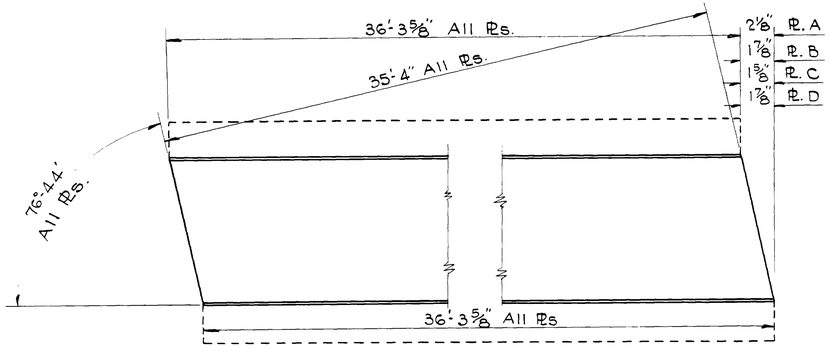
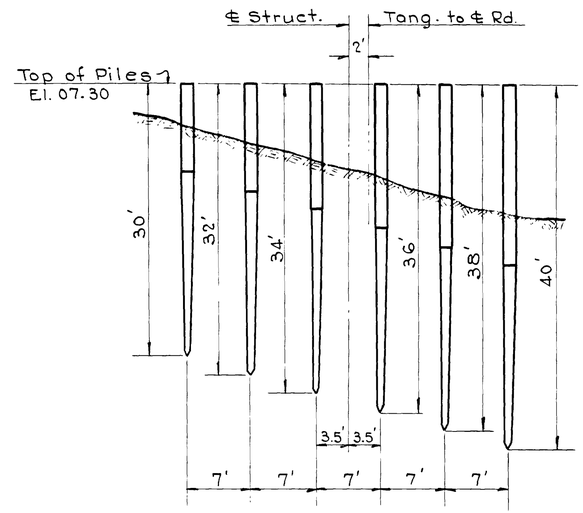


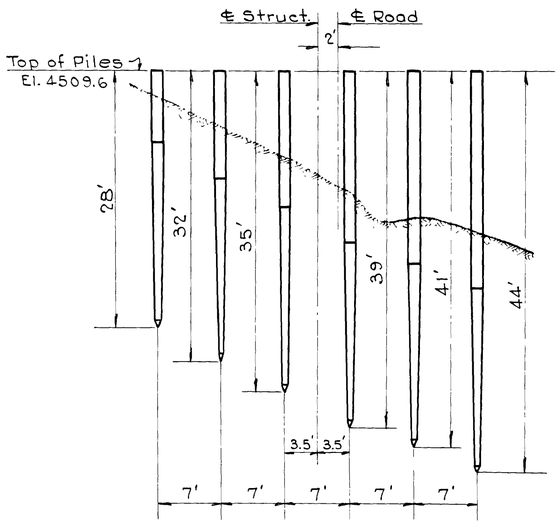
Plate "A" 9"	½" Pl. A
Plate "B" 8"	2" Pl. B
Plate "C" 7"	2" Pl. C
Plate "D" 8"	½" Pl. D

DETAIL OF BEARING PLATES

Make	2	Rs. as shown	Mark "A"	10"x 1 1/16" x 36'-5 3/4" @ 2.125#	= 155.0 Lbs
"	2	" " "	"B"	12"x 1/16" x 36'-5½" @ 2.550#	= 185.9 "
"	2	" " "	"C"	11"x 1/16" x 36'-5¼" @ 2.338#	= 170.4 "
"	2	" " "	"D"	9"x 1/16" x 36'-5½" @ 1.913#	= 139.5 "
				Total Wt All Plates =	650.8 Lbs. Gross



ELEVATION PILING
(Downgrade Abut.)
Sta. 53 + 14
⅛" = 1'-0"



ELEVATION PILING
(Upgrade Abut.)
Sta. 51 + 86
⅛" = 1'-0"

BEARINGS & BRG. PLATES

Sheet 6 of 12 sheets

UTAH STATE ROAD COMMISSION
SALT LAKE CITY, UTAH
EZRA C. KNOWLTON, CHIEF ENGINEER

BRIDGE OVER U.P. & L. CO'S. PENSTOCKS
A.W. (P.C.E.) F.A.P. 222-A(1)
Sta. 52 + 50 Weber Co.
Ogden Arsenal - Riverdale

DESIGNED BY F.M.E. SCALE As noted
DRAWN BY F.M.E. ISSUED May 22 1941
CHECKED BY ____ APPROVED Chas. McMaster Asst.
EXAMINED BY

BR. NO. 29-259-1-2 ORG. NO. D-466

FED. ROAD DIST. NO. 12 | STATE UTAH

ABUTMENTS

Sheet 7 of 12 sheets

UTAH STATE ROAD COMMISSION
SALT LAKE CITY UTAH

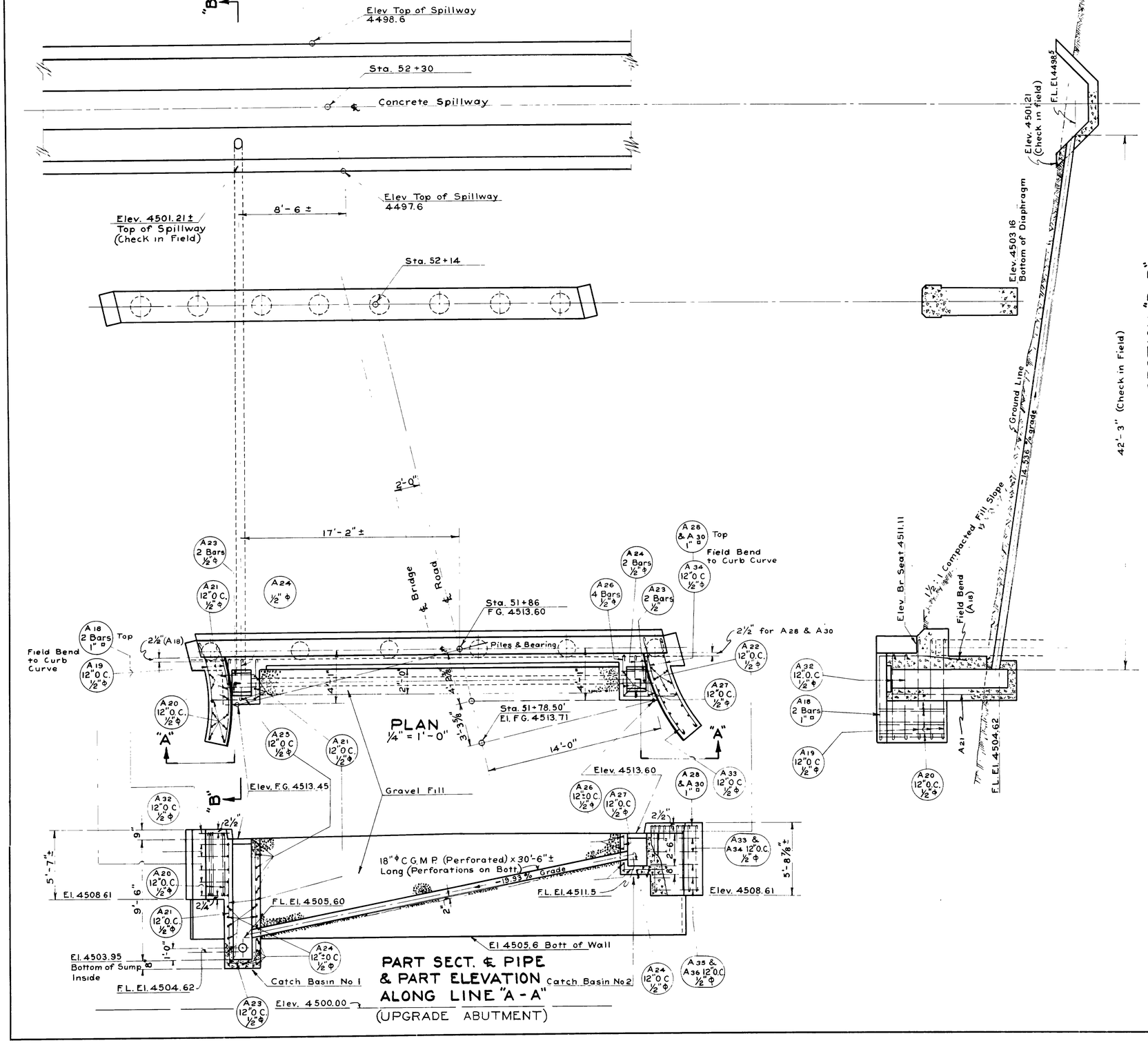
BRIDGE OVER U.P. & L. CO'S. PENSTOCKS
A.W.(P.C.E.) F.A.P. 222-A(1)
Sta. 52+50 Weber Co.
Ogden Arsenal - Riverdale

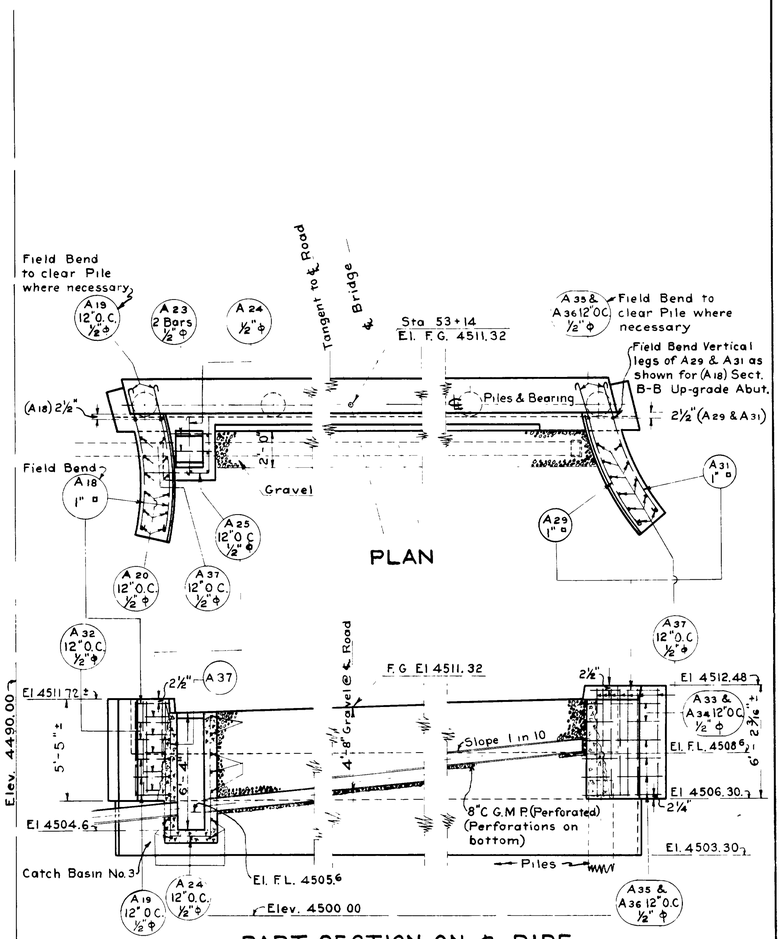
F.M.E. As noted
J.H.B. May 27, 1942

29-259-1-2 D-466

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
12	UTAH	222-A(1)			

REVISIONS			
DATE	BY	DATE	BY
Jan 23/74	J.H.B.		





MANHOLES & CURBS

Sheet 8 of 12 sheets

UTAH STATE ROAD COMMISSION
SALT LAKE CITY, UTAH
EZRA C. KNOWLTON, CHIEF ENGINEER

BRIDGE OVER U.P. & L. CO'S. PENSTOCKS
A.W.(P.C.E.) F.A.P. 222-A(1)
Sta 52+50 Weber Co.
Ogden Arsenal-Riverdale

DESIGNED BY F.M.E. SCALE As noted
DRAWN BY J.H.B. TRACED
CHECKED BY APPROVED May 22, 1974 Earl Martin
QUANTITIES
BRIDGE NO. 29-259-1-2 DRAWING NO. D-466

Symmetrical about Bridge Center Lines by rotation, except for super-elevation and crown, or where shown otherwise. Eccentric with ℄ of Road as shown. See Sheet 6 for details of bearings on abutments and interior bents.

DECK STEEL

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
12	UTAH	212-A(1)			

Sheet 9 of 12 sheets

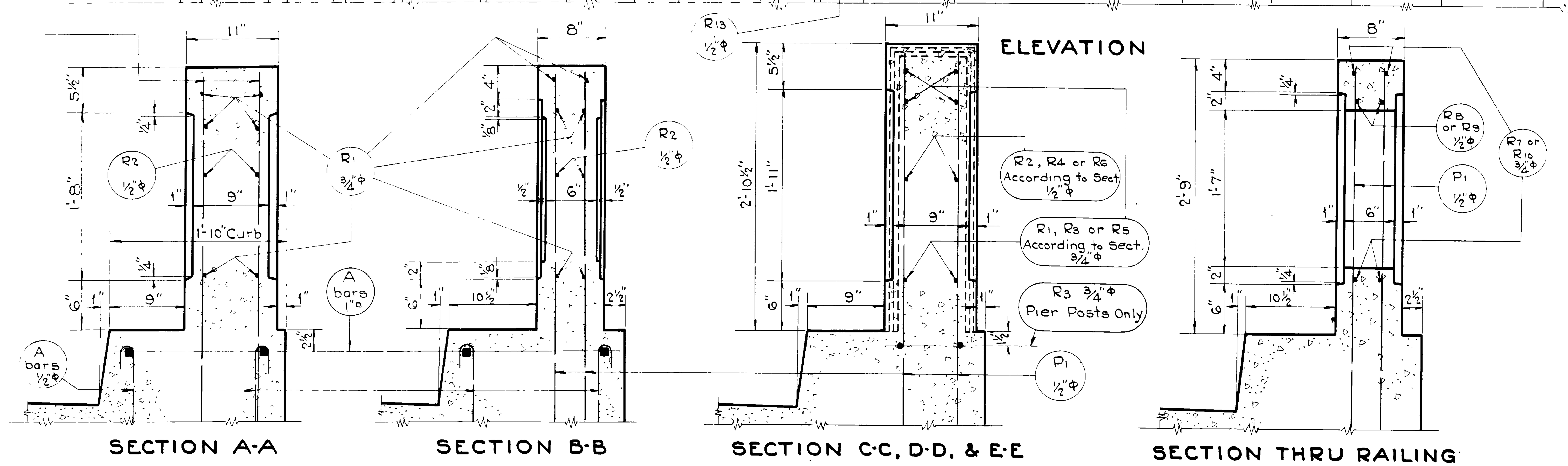
UTAH STATE ROAD COMMISSION
SALT LAKE CITY - UTAH
EZRA C. KNOWLTON CHIEF ENGINEER

BRIDGE OVER U.P. & L. CO'S. PENSTOCKS
A.W. (P.C.E.) F.A.P. 222-A(1)
Sta 52+50 Weber Co.
Ogden Arsenal - Riverdale

Designed by F.M.E. Scale 3/8" = 1'-0"
Drawn by J.H.B. May 23, 1941
Checked by
Examined by
Br. No. 29-259-1-2 Drg. No. D-466

REVISIONS

FED ROAD DIST NO	STATE	FED AID PROJ NO	FISCAL YEAR	SHEET NO	TOTAL SHEETS
12	UTAH	222-A(1)			



CONCRETE QUANTITIES

One End Post	13.00	Cu. Ft
One Pier Post	4.69	" "
One Intermediate Post	3.38	" "
Railing per Lin. Ft.	1.19	" "
Variable Portion of Railing per Lin. Ft.	1.51	" "

HAND RAIL

Sheet 10 of 12 sheets

UTAH STATE ROAD COMMISSION
SALT LAKE CITY - UTAH
EZRA C KNOWLTON CHIEF ENGINEER

BRIDGE OVER U.P. & L. CO'S. PENSTOCKS
A.W.(P.C.E.) F.A.P 222 A(1)
Sta. 52+50 Weber Co.
Ogden Arsenal-Riverdale

DESIGNED BY F.M.E. SCALE 1½" = 1'-0"
DRAWN BY J.H.B. ISSUED May 22, 194
CHECKED BY
APPROVED Paul M. Martin
EXAMINED BY

BR NO 29-259-1-2 DRG NO D-466

Fed Road Dist No	State	Fed Aid Proj No	Fiscal Year	Sheet No	Total Sheets
12	UTAH	222-A(1)			

Mark	Location	Size	Lgth	No Bars	Total Length	Sketch	O to O
F 1	Retaining Wall Foot.	½"□	4'-3"	5	21'-3"		3'-2"
F 2			4'-8"		23'-4"		3'-7"
F 3			5'-3"		26'-3"		4'-2"
F 4			5'-9"		28'-9"		4'-8"
F 5			5'-11"		29'-7"		4'-10"
F 6		½"□	6'-5"		32'-1"		5'-4"
F 7		⅝"□	7'-3"		36'-3"		5'-11"
F 8		¾"□	8'-3"		41'-3"		6'-7"
F 9		⅞"□	9'-0"		45'-0"		7'-1"
F 10			9'-7"		47'-11"		7'-8"
F 11			9'-4"		46'-8"		7'-5"
F 12		⅞"□	9'-0"		45'-0"		7'-1"
F 13		¾"□	7'-10"		39'-2"		6'-2"
F 14		½"□	6'-5"		32'-1"		5'-4"
F 15			5'-1"		25'-5"		4'-0"
F 16			3'-6"	5	17'-6"		2'-5"
F 17	Retaining Wall Foot.	½"□	4'-8"	120	560'-0"		
						A / B / 12	
W 1	Retaining Wall	½"□	6'-4"	1	6'-4"	3'-10" 2'-0"	
W 2			7'-0"		7'-0"	4'-5" 2'-0"	
W 3			7'-6"		7'-6"	5'-0" 2'-0"	
W 4			8'-1"		8'-1"	5'-7" 2'-0"	
W 5		½"□	8'-8"		8'-8"	6'-2" 2'-0"	
W 6		⅝"□	7'-7"		7'-7"	4'-8" 2'-3"	
W 7			8'-2"		8'-2"	5'-3" 2'-3"	
W 8			8'-9"		8'-9"	5'-10" 2'-3"	
W 9			9'-4"		9'-4"	6'-5" 2'-3"	
W 10		⅝"□	9'-11"		9'-11"	7'-0" 2'-3"	
W 11	Retaining Wall	⅞"□	9'-4"	1	9'-4"	5'-10" 2'-6"	

Mark	Location	Size	Lgth	No. Bars	Total Length	Sketch A	Sketch B	O to O
W 12	Retaining Wall	⅞"□	9'-11"	1	9'-11"	6'-5"	2'-6"	
W 13			10'-6"		10'-6"	7'-0"	2'-6"	
W 14			11'-1"		11'-1"	7'-7"	2'-6"	
W 15			11'-8"		11'-8"	8'-2"	2'-6"	
W 16			10'-7"		10'-7"	6'-10"	2'-9"	
W 17			11'-2"		11'-2"	7'-5"	2'-9"	
W 18			11'-9"		11'-9"	8'-0"	2'-9"	
W 19			12'-4"		12'-4"	8'-7"	2'-9"	
W 20			12'-11"		12'-11"	9'-2"	2'-9"	
W 21			11'-4"		11'-4"	7'-6"	2'-10"	
W 22			11'-10"		11'-10"	8'-0"	2'-10"	
W 23			12'-5"		12'-5"	8'-7"	2'-10"	
W 24			12'-11"		12'-11"	9'-1"	2'-10"	
W 25		⅞"□	13'-5"		13'-5"	9'-7"	2'-10"	
W 26		1"□	12'-5"		12'-5"	8'-4"	3'-0"	
W 27			12'-11"		12'-11"	8'-10"	3'-0"	
W 28			13'-6"		13'-6"	9'-5"	3'-0"	
W 29			14'-0"		14'-0"	9'-11"	3'-0"	
W 30			14'-7"		14'-7"	10'-6"	3'-0"	
W 31		1"□	14'-5"		14'-5"	10'-0"	3'-4"	
W 32			14'-10"		14'-10"	10'-5"	3'-4"	
W 33			15'-3"		15'-3"	10'-10"	3'-4"	
W 34			15'-8"		15'-8"	11'-3"	3'-4"	
W 35			16'-1"		16'-1"	11'-8"	3'-4"	
W 36			16'-0"		16'-0"	11'-3"	3'-8"	
W 37			16'-5"		16'-5"	11'-8"	3'-8"	
W 38			16'-11"		16'-11"	12'-2"	3'-8"	
W 39			17'-4"		17'-4"	12'-7"	3'-8"	
W 40		1"□	17'-10"		17'-10"	13'-1"	3'-8"	
W 41		1⅛"□	17'-8"		17'-8"	12'-6"	3'-11"	
W 42	Retaining Wall	1⅛"□	18'-1"	1	18'-1"	12'-11"	3'-11"	

Mark	Location	Size	Lgth	No Bars	Total Length	Sketch A	Sketch B	O to O
W 43	Retaining Wall	1⅛"□	18'-6"	1	18'-6"	13'-4"	3'-11"	
W 44			18'-11"		18'-11"	13'-9"	3'-11"	
W 45		1⅛"□	19'-4"		19'-4"	14'-2"	3'-11"	
W 46		1¼"□	19'-2"		19'-2"	13'-7"	4'-2"	
W 47			19'-6"		19'-6"	13'-11"	4'-2"	
W 48			19'-11"		19'-11"	14'-4"	4'-2"	
W 49			20'-3"		20'-3"	14'-8"	4'-2"	
W 50			20'-8"		20'-8"	15'-1"	4'-2"	
W 51			19'-4"		19'-4"	13'-10"	4'-1"	
W 52			19'-7"		19'-7"	14'-1"	4'-1"	
W 53			19'-10"		19'-10"	14'-4"	4'-1"	
W 54		1¼"□	20'-1"		20'-1"	14'-7"	4'-1"	
W 55		1¼"□	20'-4"		20'-4"	14'-10"	4'-1"	
W 56		1⅛"□	18'-4"		18'-4"	13'-2"	3'-11"	
W 57			18'-7"		18'-7"	13'-5"	3'-11"	
W 58			18'-10"		18'-10"	13'-8"	3'-11"	
W 59			19'-1"		19'-1"	13'-11"	3'-11"	
W 60		1⅛"□	19'-4"		19'-4"	14'-2"	3'-11"	
W 61		1"□	16'-6"		16'-6"	11'-11"	3'-6"	
W 62			16'-8"		16'-8"	12'-1"	3'-6"	
W 63			16'-9"		16'-9"	12'-2"	3'-6"	
W 64			16'-10"		16'-10"	12'-3"	3'-6"	
W 65		1"□	17'-0"		17'-0"	12'-5"	3'-6"	
W 66		1"□	14'-2"		14'-2"	10'-1"	3'-0"	
W 67			14'-4"		14'-4"	10'-3"	3'-0"	
W 68			14'-5"		14'-5"	10'-4"	3'-0"	
W 69			14'-7"		14'-7"	10'-6"	3'-0"	
W 70		1"□	14'-9"		14'-9"	10'-8"	3'-0"	
W 71		¾"□	11'-2"		11'-2"	8'-0"	2'-4"	
W 72			11'-1"		11'-1"	7'-11"	2'-4"	
W 73	Retaining Wall	¾"□	11'-1"	1	11'-1"	7'-11"	2'-4"	

Mark	Location	Size	Lgth	No. Bars	Total Length	Sketch	O to O
W 74	Retaining Wall	¾"□	11'-0"	1	11'-0"	7'-10" 2'-4"	
W 75		¾"□	11'-0"		11'-0"	7'-10" 2'-4"	
W 76		½"□	7'-2"		7'-2"	5'-0" 1'-7"	
W 77			7'-1"		7'-1"	4'-11" 1'-7"	
W 78			7'-1"		7'-1"	4'-11" 1'-7"	
W 79			7'-0"		7'-0"	4'-10" 1'-7"	
W 80		½"□	6'-11"	1	6'-11"	4'-9" 1'-7"	
L 1		½"□	4'-8"	3	14'-0"		
L 2			9'-8"	3	29'-0"		
L 3			8'-6"	1	8'-6"		
L 4			12'-0"	1	12'-0"		
L 5			10'-2"		10'-2"		
L 6			13'-6"		13'-6"		
L 7			12'-0"	1	12'-0"		
L 8			15'-0"	2	30'-0"		
L 9			13'-6"	1	13'-6"		
L 10			16'-9"	1	16'-9"		
L 11			20'-0"	2	40'-0"		
L 12			23'-6"	1	23'-6"		
L 13			21'-9"		21'-9"		
L 14			18'-4"		18'-4"		
L 15			16'-6"	1	16'-6"		
L 16			14'-8"	3	44'-0"		
L 17			12'-9"	1	12'-9"		
L 18	Retaining Wall	½"□	10'-9"	1	10'-9"		

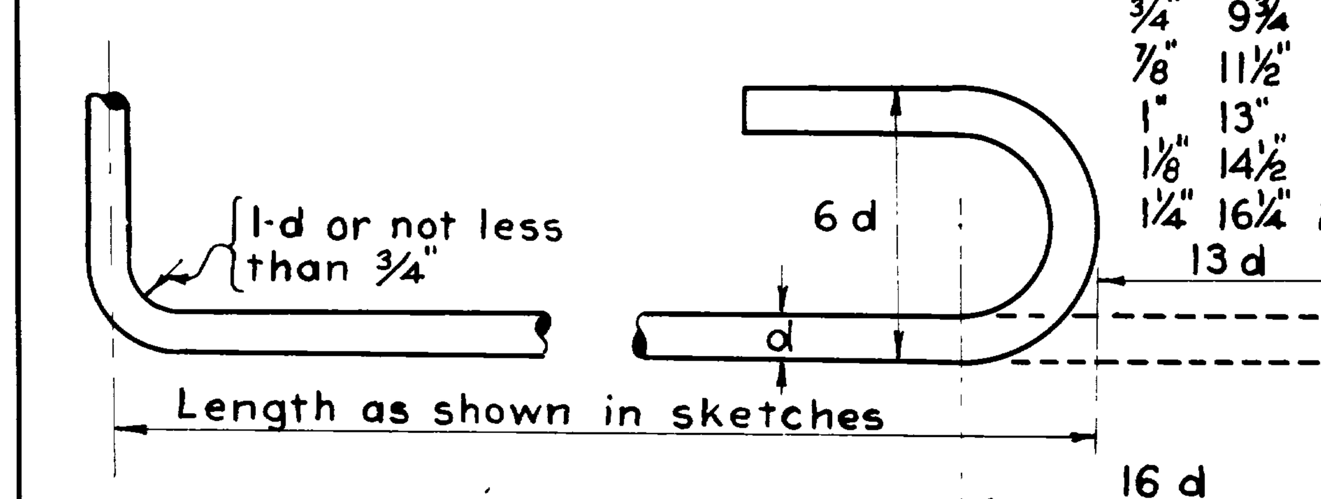
	Mark	Location	Size	Lgth	No. Bars	Total Length	Sketch	O to O
	L 19	Retaining Wall	½"□	8'-9"	1	8'-9"		
	L 20			6'-9"	1	6'-9"		
	L 21			4'-3"	1	4'-3"		
	L 22			2'-0"	1	2'-0"		
	L 23			24'-0"	4	96'-0"		
	L 24			19'-8"	2	39'-4"		
	L 25			24'-8"	2	49'-4"		
	L 26			29'-8"	2	59'-4"		
	L 27			29'-0"	1	29'-0"		
	L 28			31'-6"		31'-6"		
	L 29			29'-0"		29'-0"		
	L 30			26'-6"		26'-6"		
	L 31			29'-0"		29'-0"		
	L 32			24'-6"		24'-6"		
	L 33	Retaining Wall	½"□	20'-6"	1	20'-6"		
*	B 1	Bent @ Sta. 52+14	1"□	19'-4"	8	154'-8"		17'-2"
*	B 2			18'-4"	4	73'-4"		16'-2"
*	B 3			17'-4"		69'-4"		15'-2"
*	B 4			15'-4"		61'-4"		13'-2"
*	B 5			12'-10"		51'-4"		10'-8"
*	B 6			10'-4"		41'-4"		8'-2"
*	B 7	Bent @ Sta. 52+14	1"□	8'-4"	4	33'-4"		6'-2"
	B 8	Bents @ Sta. 52+14, 52+50 & 52+86	½"φ	7'-2"	216	1548'-0"	1'-0" 6'-0" 2"	7'-0"
	B 9		½"φ	33'-3"	36	1197'-0"		
	B 10	Bents @ Sta. 52+14, 52+50 & 52+86	½"φ	8'-0"	36	288'-0"	1'-8" 3'-2"	

	Mark	Location	Size	Lgth	No. Bars	Total Length	Sketch	O to O
	B 11	Bents @ Sta 52+14, 52+50 & 52+86	½"φ	4'-6"	108	486'-0"	4½" 3"X3" Bevel 1'-3" 2'-3"	
	B 12		½"φ	39'-0"	18	702'-0"		37'-11"
	B 13	Bents @ Sta. 52+14, 52+50 & 52+86	½"φ	3'-10"	15	57'-6"	6" A=1'-8"	
	B 14	Bent @ Sta. 52+86	½"φ	4'-8"	3	14'-0"	Ditto but "A"=2'-2"	
	B 15	Bent @ Sta. 52+14, 52+50 & 52+86	½"φ	1'-9"	12	21'-0"		
							A; Inside B; 6" — A / B	
*	B 16	Bent@ Sta. {52+14, 52+50, 52+86}	¼"φ	73'-0"	24	1752'-0"	6'-0" 1'-9"	
*	B 17	Bent@ Sta. {52+14, 52+50}		133'-0"	3	399'-0"	16'-0" 1'-3"	
*	B 18	Bent@ Sta. {52+14, 52+86}		125'-0"	2	250'-0"	15'-0" 1'-3"	
*	B 19	Bent@ Sta. 52+14		116'-0"	1	116'-0"	14'-0" 1'-3"	
*	B 20	Bent@ Sta. {52+14, 52+50}		100'-0"	2	200'-0"	12'-0" 1'-3"	
*	B 21	Bent@ Sta {52+14, +50 & +86}		80'-0"	3	240'-0"	9'-6" 1'-3"	
*	B 22	Bent@ Sta. 52+14		60'-0"	1	60'-0"	7'-0" 1'-3"	
*	B 23	Bent@ Sta. {52+14, +50 & +86}		44'-0"	3	132'-0"	5'-0" 1'-3"	
*	B 24	Bent@ Sta. 52+86		28'-0"	1	28'-0"	3'-0" 1'-3"	
*	B 25			52'-0"		52'-0"	6'-0" 1'-3"	
*	B 26			64'-0"		64'-0"	7'-6" 1'-3"	
*	B 27			97'-0"		97'-0"	11'-6" 1'-3"	
*	B 28	Bent@ Sta. 52+86		113'-0"		113'-0"	13'-6" 1'-3"	
*	B 29	Bent@ Sta. 52+50		121'-0"		121'-0"	14'-6" 1'-3"	
*	B 30			145'-0"		145'-0"	17'-6" 1'-3"	
*	B 31		¼"φ	157'-0"	1	157'-0"	19'-0" 1'-3"	
*	B 32		1"□	8'-6"	4	34'-0"		6'-4"
*	B 33	Bent@ Sta. 52+50	1"□	10'-6"	4	42'-0"		8'-4"
*	B 34	Bent@ Sta. {52+50, 52+86}	1"□	12'-6"	8	100'-0"		10'-4"

* This steel to be used in the Cast-in-place Piles.

	Mark	Location	Size	Lgth	No Bars	Total Length	Sketch	O to O
*	B 35	Bent@ Sta. 52+50	1"□	15'-0"	4	60'-0"		12'-10"
*	B 36			17'-6"		70'-0"		15'-4"
*	B 37			19'-0"		76'-0"		16'-10"
*	B 38			20'-6"		82'-0"		18'-4"
*	B 39	Bent@ Sta. 52+50		22'-0"		88'-0"		19'-10"
*	B 40	Bent @ Sta. 52+86		6'-2"		24'-8"		4'-0"
*	B 41			8'-0"		32'-0"		5'-10"
*	B 42			9'-2"		36'-8"		7'-0"
*	B 43			10'-8"		42'-8"		8'-6"
*	B 44			14'-8"		58'-8"		12'-6"
*	B 45			16'-8"		66'-8"		14'-6"
*	B 46	Bent@ Sta. 52+86		18'-0"	4	72'-0"		15'-10"
*	B 47	Bents@ Sta. {52+14, +50 & +86}	1"□	19'-2"	96	1840'-0"		17'-0"
							A; Inside B; Inside C; 6" — A / B / C	
*	B 48	Bents @ Sta. {52+14, +50 & +86}	¼"φ	42'-0"	24	1008'-0"	5'-6" 14" 12"	
*	B 49		¼"φ	44'-9"	24	1074'-0"	6'-6" 12" 9½"	
*	B 50	Bents @ Sta. {52+14, +50 & +86}	¼"φ	17'-3"	24	414'-0"	3'-0" 9½" 8½"	
	B 51	Bents @ Sta. 52+50	¾"φ	5'-8"	35	198'-4"		4'-0"
	A 1	Abutment Piles	¼"φ	84'-7"	12	1015'-0"	10'-0"; Inside 15"φ; 6"	
	A 2	Abutment Piles	1"□	14'-6"	48	696'-0"		12'-3"
	A 3	Abutments	⅞"φ	40'-0"	20	800'-0"		38'-1"
	A 4	Abutment Up-grade	½"φ	8'-6"	33	280'-6"		7'-5"
	A 5	Abutments		9'-3"	9	83'-3"		8'-2"
	A 6			39'-5"	8	315'-4"		38'-4"
	A 7	Abutments	½"φ	3'-6"	74	259'-0"		2'-5"

d	13d	16d
⅜"	5"	6"
½"	6½"	8"
⅝"	8"	10"
¾"	9¾"	12"
⅞"	11½"	14"
1"	13"	16"
1⅛"	14½"	18"
1¼"	16¼"	20"



ROD NOTES

When hooks are called for the lengths given in the Total Length column include allowance for hooks as shown in above detail.

Lengths given in sketches are center to center of bend points.

REINFORCING STEEL

Sheet 11 of 12 sheets

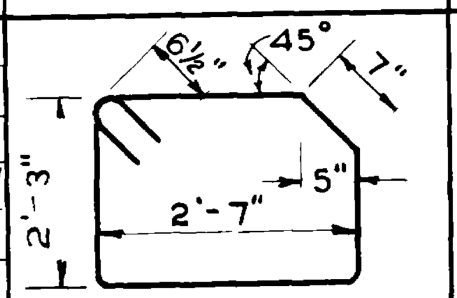
UTAH STATE ROAD COMMISSION
SALT LAKE CITY - UTAH
EZRA C KNOWLTON CHIEF ENGINEER

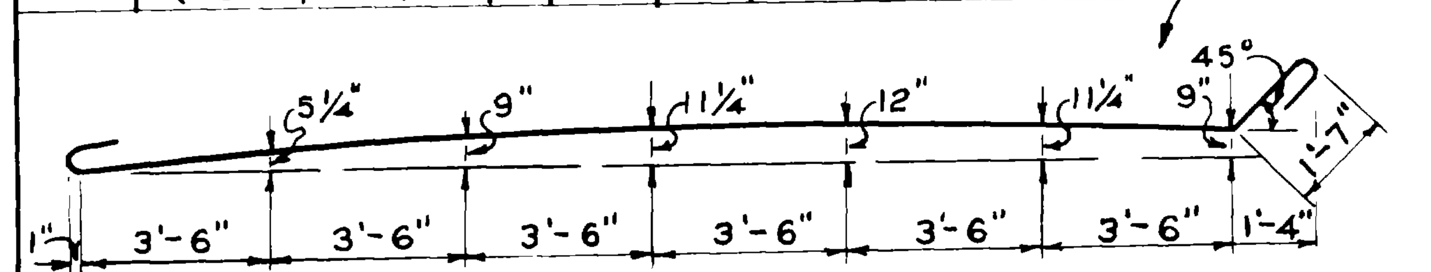
BRIDGE OVER U.P. & L. CO'S. PENSTOCKS
A.W. (P.C.E.) F.A.P. 222-A(1)
Sta. 52+50 Weber Co.
Ogden Arsenal - Riverdale

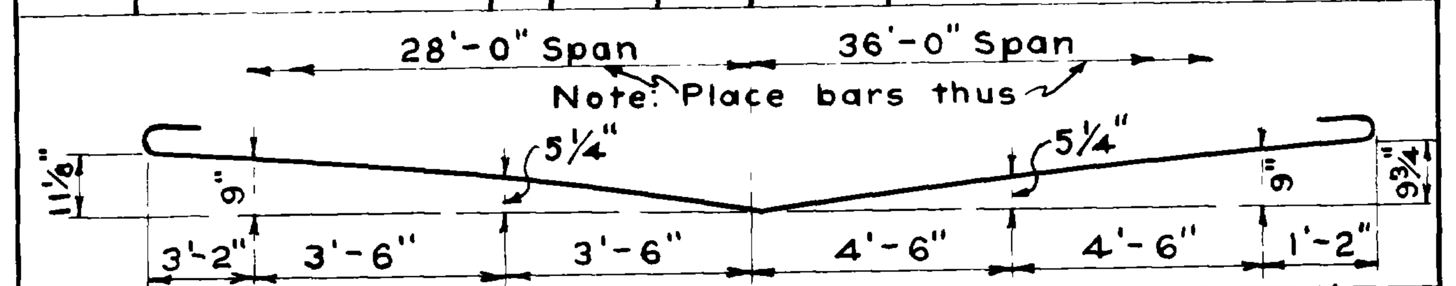
Designed by F.M.E. Scale None
Drawn by F.M.E. + J.H.B. Issued May 22, 1941
Checked by Approved Paul M. [illegible] Actg. Chief Bridge Engineer
Examined by

Br No 29-259-1-2 Drg No D-466

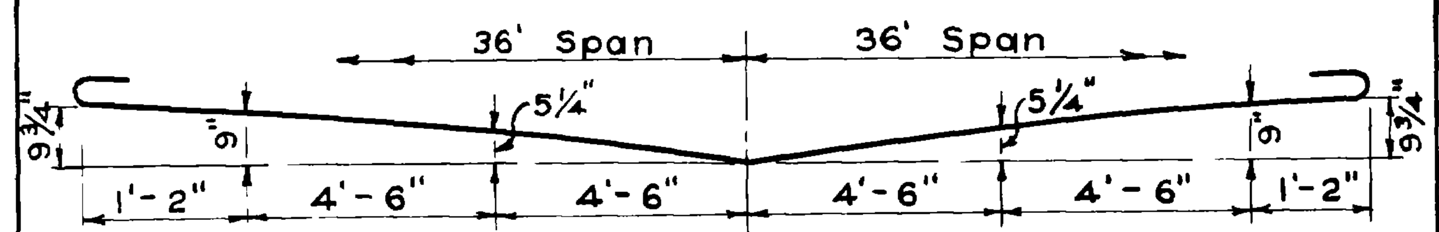
REVISIONS

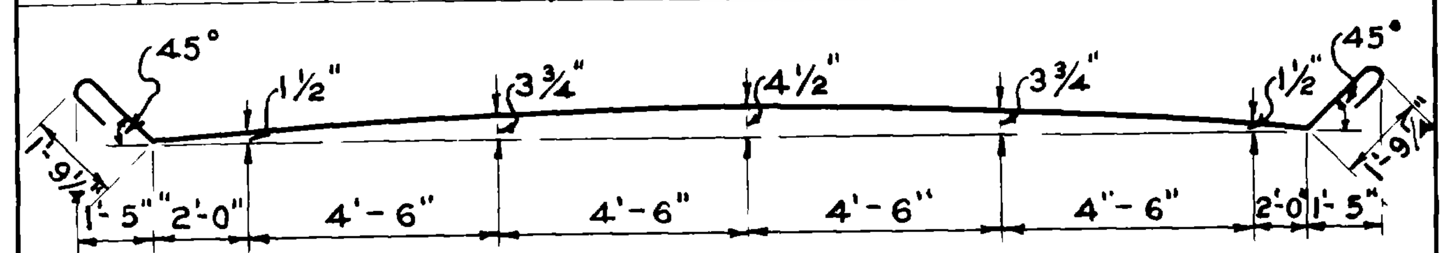
Mark	Location	Size	Lgth	No Bars	Total Length	Sketch	O to O
A 8	Abutments	½"φ	10'-6	74	777'-0"		
A 9	Down-grade Abut		8'-6"	4	34'-0"		7'-5"
A 10			8'-7"		34'-4"		7'-6"
A 11			8'-8"		34'-8"		7'-7"
A 12			8'-9"		35'-0"		7'-8"
A 13			8'-10"		35'-4"		7'-9"
A 14			8'-11"		35'-8"		7'-10"
A 15			9'-0"	4	36'-0"		7'-11"
A 16			9'-1"	5	45'-5"		8'-0"
A 17	Down-grade Abut	½"φ	10'-0"	3	30'-0"		8'-11"
S 1	Deck Slab Bottom (28' Spans)	1"□	24'-10	108	2682'-0	See Sketch	22'-5"
S 2	Deck Slab Bottom	1"□	22'-6	56	1260'-0"	See Sketch	20'-4"

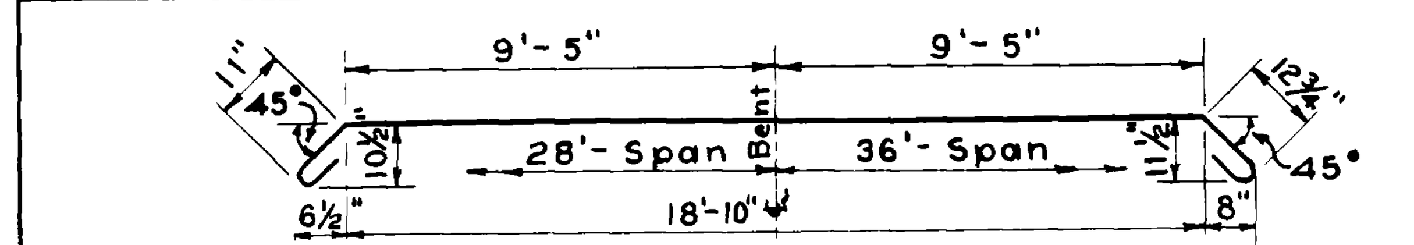


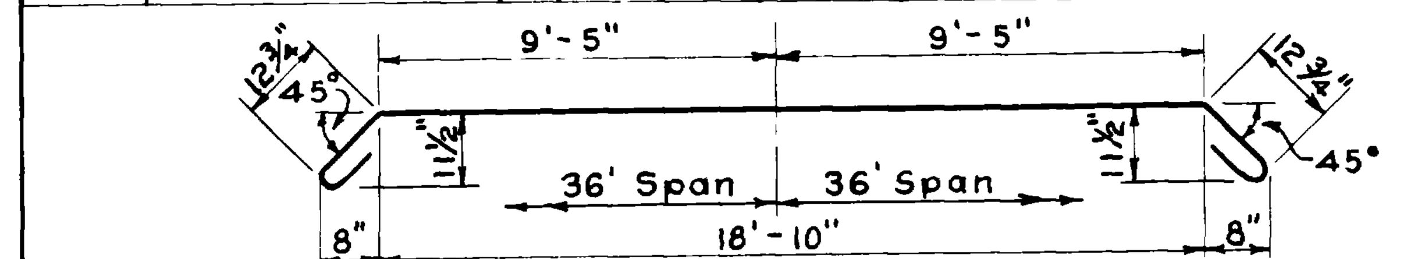


Mark	Location	Size	Lgth	No. Bars	Total Length	Sketch	O to O
S 3	Deck Slab Bottom (Over Center Bent)	1"□	22'-6	28	630'-0"	See Sketch	20'-4
S 4	Deck Slab Bottom 36'-0" Spans	1"□	27'-9	108	2997'-0"	See Sketch	24'-10
S 5	Deck Slab Top	1"□	23'-0	108	2484'-0"	See Sketch	20'-0½
S 6	Deck Slab Top	1"□	23'-2	54	1251'-0"	See Sketch	20'-2
S 7	Deck Slab Bott (Trans)	1"φ	38'-2	68	2595'-4"		36'-0"
S 8	Deck Slab Top & Bott. "	½"φ	37'-1"	189	7008'-9"		36'-0"
S 9	Deck Slab Top 28' Span	½"φ	22'-0	108	2376'-0"		20'-11"
S 10	Deck Slab Top 36' "	½"φ	22'-6	108	2430'-0"		21'-5"





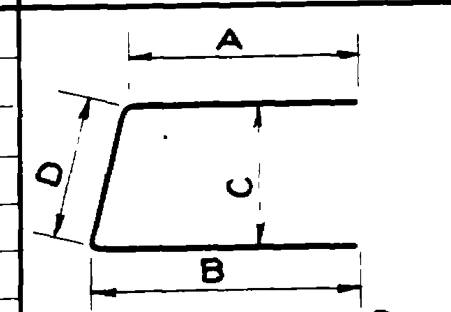




Mark	Location	Size	Lgth	No Bars	Total Length	Sketch	O to O
S 11	Deck Slab	½"φ	3'-0"	80	240'-0"	Inside Hooks A = 1'-9½"	1'-10½
S 12			2'-8"		213'-4"	Ditto but A = 1'-5¾	1'-6¾
S 13			2'-4"		186'-8"	A = 1'-2"	1'-3"
S 14			2'-2"	80	173'-4"	A = 0'-11¾	1'-0¾
S 15	Deck Slab	½"φ	2'-1"	40	86'-8	Ditto but A = 0'-11"	1'-0"
A 18	Abutment Curb	1"□	14'-0"	4	56'-0"	A = 6'-4" Field Bend 90° 6'-7"	Bend
A 19		½"φ	9'-3"	12	111'-0"		8'-2"
A 20	Abutment Curb		6'-4"	18	114'-0"		5'-3"
A 21	Up-grade Abut.		9'-10	7	68'-10"		
A 22	Up-grade Abut.		6'-6"	13	84'-6"		5'-5"
A 23	Both Abutments		2'-6"	6	15'-6"		
A 24			4'-4"	20	86'-8"		3'-3"
A 25	Both Abutments		7'-9"	10	77'-6"	3'-3" 90° A = 3'-5"	
A 26	Up-grade Abut.		8'-3"	4	33'-0"	Ditto but A = 3'-11"	
A 27	Up-grade Abut.	½"φ	2'-10"	5	15'-0"		

Mark	Location	Size	Lgth	No Bars	Total Length	Sketch	O to O
A 28	Up-grade Abut.	1"□	14'-0"	1	14'-0"	A = 7'-1" 90° B = 5'-10"	
						A B	
A 29	Down-grade Abut.		15'-6"		15'-6"	7'-1" 7'-4"	
A 30	Up-grade Abut.		13'-0"		13'-0"	6'-1" 5'-10"	
A 31	Down-grade Abut.	1"□	14'-6"	1	14'-6"	6'-1" 7'-4"	
A 32	Both Abutments	½"φ	7'-6"	8	60'-0"		6'-5"
A 33			8'-2"	4	32'-8"		7'-1"
A 34			7'-2"	4	28'-8"		6'-1"
A 35			10'-0"	7	70'-0"		8'-11"
A 36	Both Abutments		9'-0"	7	63'-0"		7'-11"
A 37	Down-grade Abut.	½"φ	7'-0"	11	77'-0"		5'-11"
P 1	Hand Rail	½"φ	4'-3"	624	2652'-0"		
R 1	End Posts	¾"φ	6'-3"	24	150'-0"		Field Bend
R 2	End Posts	½"φ	6'-3"	8	50'-0"		
R 3	Pier Posts	¾"φ	2'-0"	96	192'-0"		
R 4	Pier Posts	½"φ	1'-8"	24	40'-0"		
R 5	Int. Post.	¾"φ	3'-6"	96	336'-0"		Field Bend
R 6	Int. Post.	½"φ	3'-0"	32	96'-0"		"
R 7	Railing End Spans	¾"φ	5'-8"	48	272'-0"		
R 8		½"φ	5'-8"	24	136'-0"		
R 9		½"φ	7'-8"	24	184'-0"		
R 10	Railing End Spans	¾"φ	7'-8"	48	368'-0"		

Mark	Location	Size	Lgth	No. Bars	Total Length	Sketch A	B	C	D	O to O
R 11	End Spans	¾"φ	2'-0"	8	16'-0"	8½"	10"	5½"	5⅝"	
R 12	" "	¾"φ	1'-10"	16	29'-4"	9"	9¼"	3½"	3⅝"	
R 13	End Spans	½"φ	1'-4"	8	10'-8"	5¾"	6¼"	3½"	3⅝"	



TOTAL REINFORCING STEEL

7437.00	Lin. Ft	¼"φ	@	0.167 #	=	1242.0
23169.75	"	½"φ	@	0.668 #	=	15477.4
~~17463.75~~	~~"~~	~~½"□~~	~~@~~	~~0.850 #~~	~~=~~	
~~"~~		~~⅝"φ~~	~~@~~	~~1.043 #~~	~~=~~	
1561.67	"	¾"φ	@	1.502 #	=	2345.6
800.00	"	⅞"φ	@	2.044 #	=	1635.2
2595.33	"	1"φ	@	2.670 #	=	6929.5
15323.00	"	1"□	@	3.400 #	=	52098.2
~~"~~		~~1⅛"□~~	~~@~~	~~4.303 #~~	~~=~~	
~~"~~		~~1¼"□~~	~~@~~	~~5.313 #~~	~~=~~	

Total = ~~82,906.9~~ Lbs.
= 79,727.9

Revisions		
Date	By	Date	By
1-29-42	J.H.B		

REINFORCING STEEL

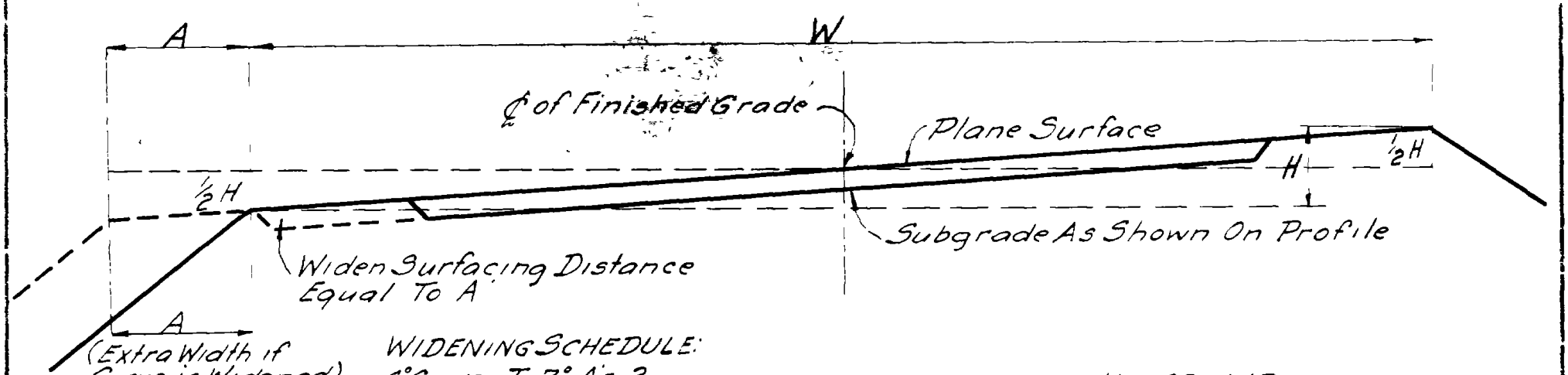
Sheet 12 of 12 sheets

UTAH STATE ROAD COMMISSION
SALT LAKE CITY · UTAH
EZRA C. KNOWLTON CHIEF ENGINEER

BRIDGE OVER U P & L. CO'S. PENSTOCKS
A.W.(P.C.E.) F.A.P. 222-A(1)
Sta. 52+50 Weber Co.
Ogden Arsenal - Riverdale

Designed by F.M.E. Scale None
Drawn by F.M.E. & H.B. Approved May 27 1941
Checked by
Examined by
Br. No. 29-259-1-2 Drg. No. D-466

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	LOCAL CAR NO.	SHEET NO.	TOTAL SHEETS
12	UTAH				



WIDENING SCHEDULE:
4° Curves To 7° A = 2
Over 7° To 12° A = 4
Over 12° A = 6

H = .02 x W D
D = Degree of Curve
W = Width of Roadway

Superelevate All Curves.
Superelevation Transition Shall Be Equal To The Length of Spiral on Spiraled Curves
On Curves Not Spiraled, Use Transition as Follows, The Transition Beg. & Ending Equal Distances From P.C. & P.T. of Curves

0°30'	to	1°30'	- 100' Total Trans
Over 1°30	"	2°00'	- 140' " "
" 2°00'	"	2°30'	- 180' " "
" 2°30'	"	3°00'	- 220' " "
" 3°00'	"	3°30'	- 240' " "
" 3°30'			- 280' " "

On All Curves Sharper Than 4° Use 4 For Value of D When Grade is Less Than 4%
On Grades Over 4% Use 3 For Value of 'D' For Curves Over 3°

The Surface of The Roadway on Curves Shall be a Plane Surface Across Entire Section ℄ of Grade Shall be Held, Inner & Outer Edge Lowered & Raised Respectively a Distance Equal to ½H Except in Flat Country When Bad Drainage Conditions Might Develop, or When Otherwise Directed, ~~In Which Case~~ Hold Inner Edge and Raise The Outer Edge a Distance Equal to 'H'

WIDENING:
4° Curves or Sharper Shall be Widened if Indicated on Plans or Directed by Engineer Transition Shall be Same as Specified For Super. Curve Shall be Widened on Inside Distance 'A' According to Above Schedule.

UTAH STATE ROAD COMMISSION
SALT LAKE CITY - UTAH
H. S. Kerr, Chief Engineer

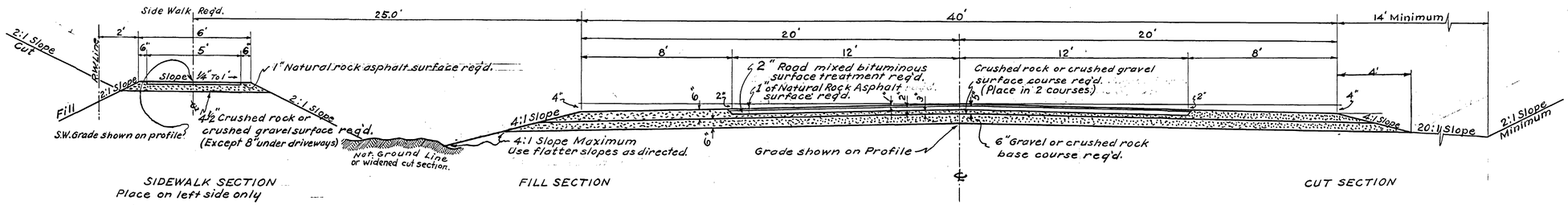
STANDARD FOR SUPERELEVATING & WIDENING OF CURVES

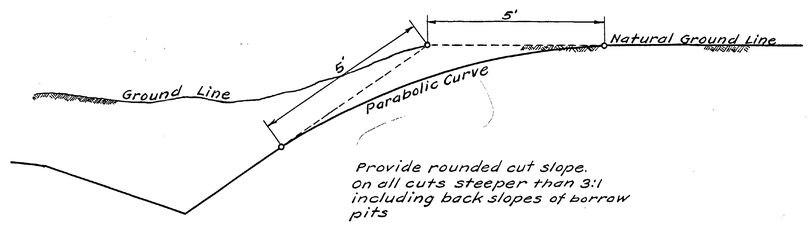
DESIGNED W.L.A. DATE 6-7-40
DRAWN Miller TRACED
CHECKED
APPROVED H. S. Kerr

BRIDGE NO. DRG NO. J-479

TYPICAL CROSS SECTION

FED. ROAD DIST. NO.	STATE	FA PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
12	UTAH	222 B(1)	1942	3-A	10
		DA-WPA F-12(1)	1942		10





REVISIONS

DATE	BY	DATE	BY

UTAH STATE ROAD COMMISSION
SALT LAKE CITY - UTAH
W. L. ANDERSON DESIGN ENGINEER

— TYPE —

Bituminous Surfaced Roadway

		DA-WR #12(1)	1942	4	10
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
12	UTAH	222-B(1)	1942	4	10

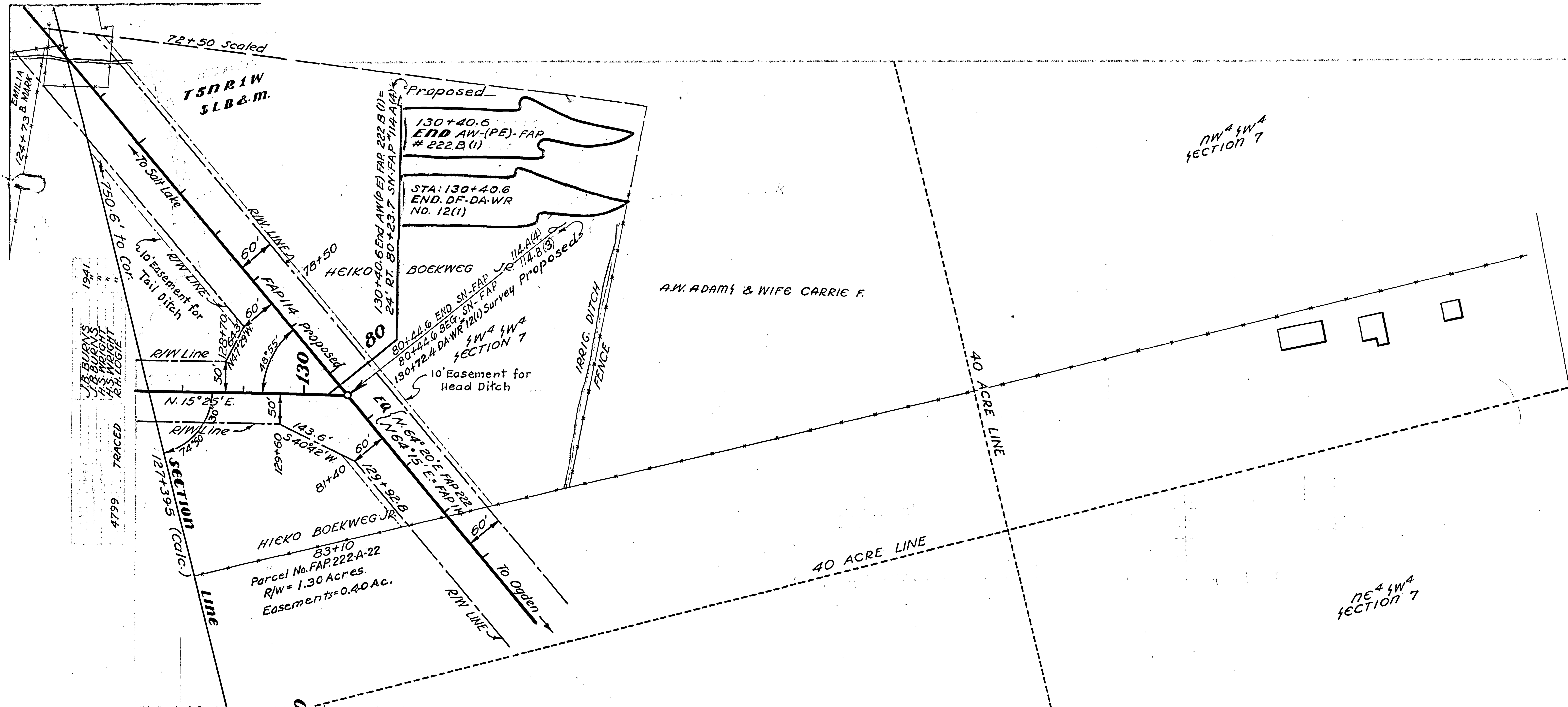
LIST OF STRUCTURES

STATION	IN PLACE	REQUIRED	REMARKS	DWG. NO.
106+08		24"x 99' Culv. Pipe	Headgate & Outlet	V-224-L-15&18
114±		18"x 105' " "	equalizer provide gut. inl. Lt.	V-330-1-L8
118+80		24"x 90' " "	Irrig.	
124±		24"x 99' " "	equalizer	
124+90		18"x 84' " "	Irrigation	
97+34		8'x 3'x 51' Conc. Box	70° Xing ∠	E-740 2 sh.
106+08		15"x 9' Sewer Pipe	Outlet	V-224 L-18

J.B. BURNS	1941	
J.B. BURNS	"	
H.S. WRIGHT	"	
H.S. WRIGHT	"	
R.H. LOGIE	"	
TRACED		4799

J.B. BURNS	1941	
J.B. BURNS	"	
H.S. WRIGHT	"	
R.H. LOGIE	"	
H.S. WRIGHT	"	
		4793

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
12	UTAH	222B(1)	1942	5	10
	"	DA-WR #12(1)	"	5	10



LIST OF STRUCTURES

STATION	IN PLACE	REQUIRED	REMARKS	DWG. NO.

FED. ROAD DIST. NO.	STATE	F.A.P. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
12	UTAH	114-A(4)	1942	7	24
12	UTAH	114-B(3)	1942	5	10
12	UTAH	222-B(1)	1942	11	

REVISIONS			
DATE	BY	DATE	BY

UTAH STATE ROAD COMMISSION
SALT LAKE CITY · UTAH
W.L. ANDERSON — DESIGN ENGINEER

CHANNELIZATION AT INTERSECTION OF SN-A-F.A.P. 114-A(4) & 114-B(3) & AW(PE) FAP 222-B(1) & DA-WR #12(1)

DESIGNED BY W.L.A. — SCALE 1" = 50'
DRAWN BY F.B.P. — ISSUED
CHECKED BY H.S.W. — APPROVED — CHIEF BRIDGE ENGINEER
EXAMINED BY

NO. — NO.