

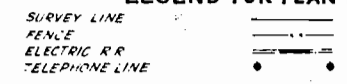
COLORADO STATE HIGHWAY DEPARTMENT

PLAN AND PROFILE OF PROPOSED FEDERAL AID PROJECT NO. 242A STATE HIGHWAY NO. 4 MESA COUNTY

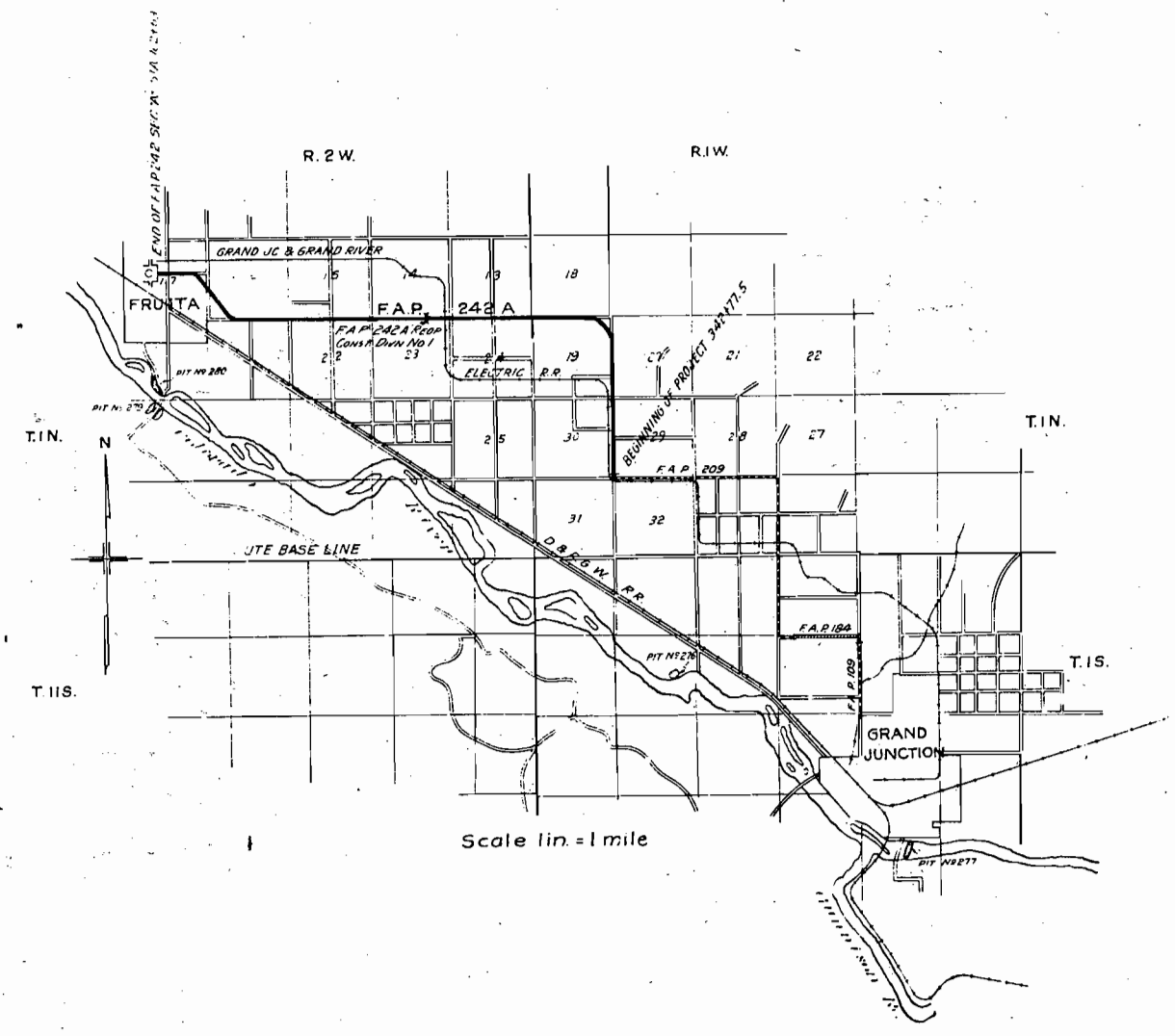
INDEX OF SHEETS

SHEET NO. 1	TITLE PAGE
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SHEET NO. 3	CONCRETE BOX CULV. 115+00
SHEET NO. 4 & 5	CONCRETE GIRDER BRIDGE STA. 142.8+00
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LEGEND FOR PLAN SHEETS



SCALES
 ON PLAN 1 IN. = 100 FT.
 ON PROFILE 1 IN. = 100 FT. HORIZ. 1/2 IN. = 10 FT. VERT.
 GRADE LINE ON PROFILE IS SHOWN AS A DOTTED LINE
 GROSS LENGTH OF PROJECT 41 581.2 FT. = 7.875 MILES
 NET LENGTH OF PROJECT 40 673.8 FT. = 7.703 MILES



RECOMMENDED FOR APPROVAL

 ASSISTANT ENGINEER

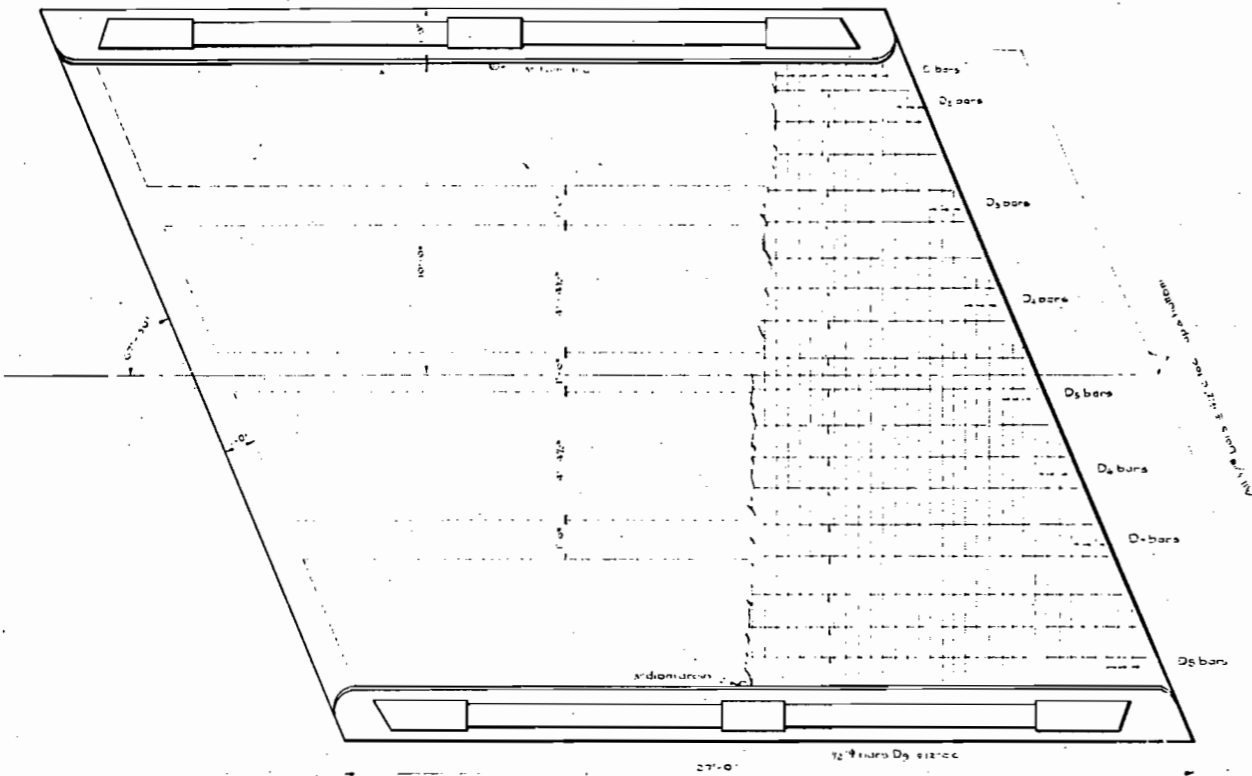
 STATE HIGHWAY ENGINEER
 RECOMMENDED FOR APPROVAL

 DIST. ENG. BUREAU PUBLIC ROADS
 RECOMMENDED FOR APPROVAL

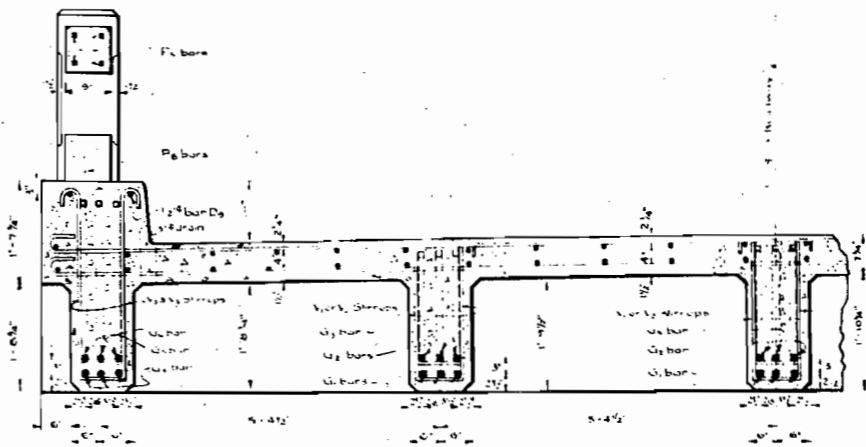
 CHIEF ENG. BUREAU PUBLIC ROADS
 RECOMMENDED FOR APPROVAL

 DIRECTOR BUREAU PUBLIC ROADS

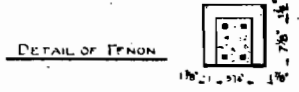
Rev. 11/22/24 PJB



PLAN
PLAN AT STATION 44+00
PLAN AT STATION 44+00



PART SECTION AA



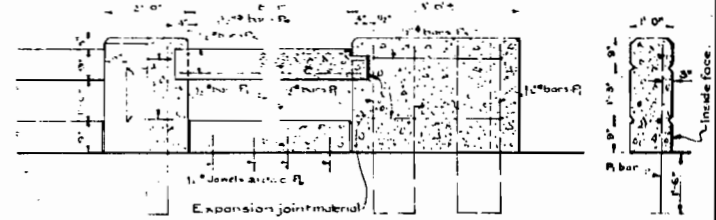
DETAIL OF TYPON

HANDRAIL NOTES

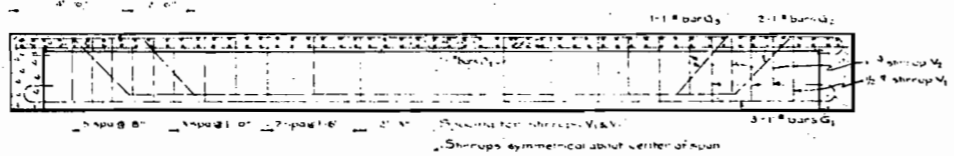
Top rail to be precast and put in place before pouring posts.

One end of rail to be cast solidly into the post; other end shall have a length of long inset 1/8" on each of three sides but bottom flush with surface of rail. This end to be entirely covered with expansion joint material before post is cast around it. Rail shall be cast free of twist.

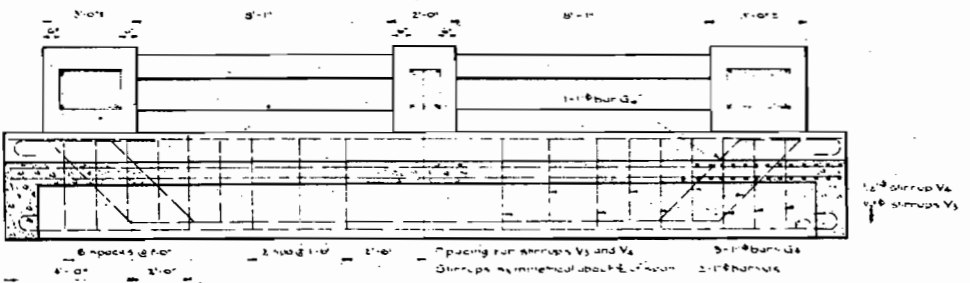
Bevels in top of also vertical corners in posts and panels in posts to be made by inserting 1/2" triangular wood strip.



DETAIL OF HANDRAIL



SECTION OF INTERIOR GIRDER



SECTION THRU EXTERIOR GIRDER

BAR LIST FOR ONE SPAN

Mark.	Size	Number	Length	Remarks
D1	12"	92	24'-0"	
D2	12"	12	27'-4"	
D3	12"	12	18'-7"	
D4	12"	12	5'-11"	
D5	12"	12	3'-2"	
D6	12"	12	10'-2"	
D7	12"	12	7'-9"	
D8	12"	12	5'-0"	
D9	12"	12	24'-0"	
G1	1"	9	26'-6"	
G2	1"	6	26'-6"	
G3	1"	6	30'-0"	
G4	1"	4	30'-0"	
G5	1"	2	30'-9"	
V1	12"	45	0'-5"	
V2	12"	28	5'-9"	
V3	12"	24	8'-1"	
V4	12"	14	7'-7"	
F1	12"	8	8'-2"	
F2	12"	32	1'-0"	
F3	12"	8	2'-0"	
F4	12"	4	1'-0"	
F5	12"	10	8'-0"	

SUMMARY OF QUANTITIES FOR ONE SUPERSTRUCTURE

3594 Lbs. #4 Reinforcing Steel @ 0.007 per Lb. = 25.16 Cu Yds.
2004 Lbs. #6 Reinforcing Steel @ 0.008 per Lb. = 13.78 Cu Yds.
527 Lbs. #8 Reinforcing Steel @ 0.012 per Lb. = 3.23 Cu Yds.
850 Lbs. #10 Reinforcing Steel @ 0.015 per Lb. = 5.67 Cu Yds.
3% for overrun added
Total
Class A concrete
33 Cu Yds.

For Total Summary of Quantities see Sheet No. 5.

GENERAL NOTES

All work to be done in accordance with the Standard Specifications of the Colorado State Highway Department.

All concrete shall be class "A" (1:2:4) mixture.

All expansion joints shall be rubbed free of form marks.

Panels in handrail shall be bush hammered.

All exposed corners except handrail to be beveled to a 2" face.

Curbs shall be poured monolithically with slab and girders.

All reinforcing bars shall be plain round or plain square as shown.

Structure is designed for a 1/2" wearing surface.

Bridges to be combined 1/2".

LOADING: LL+T AASHO T-15

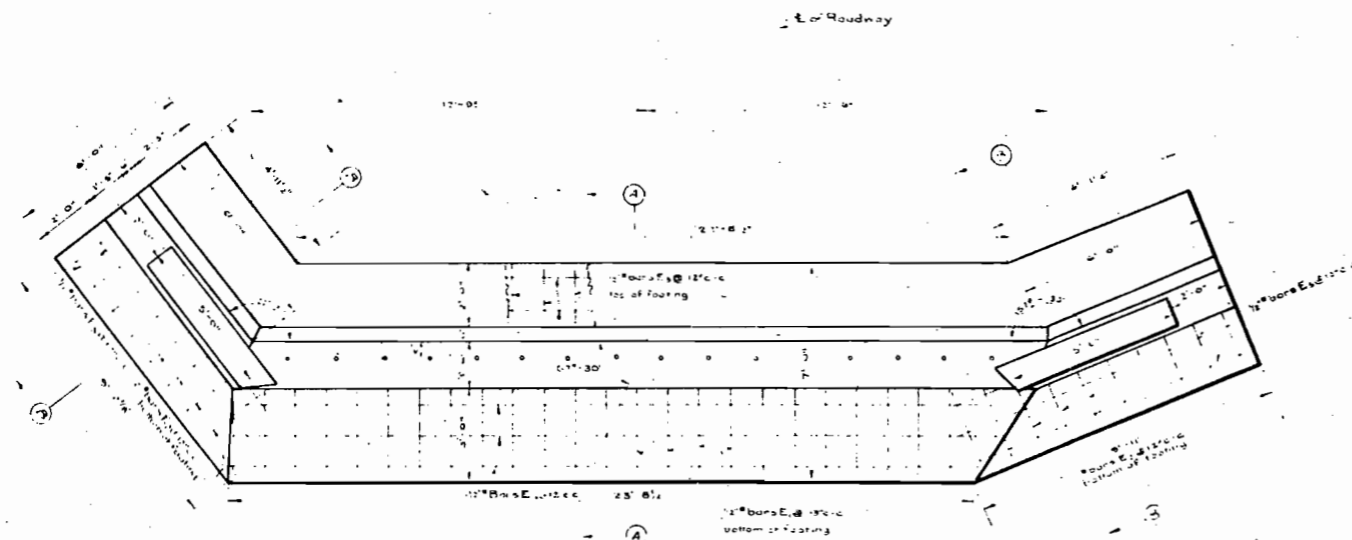
COLORADO
STATE HIGHWAY DEPARTMENT

CONCRETE GIRDER SPAN
TO BE USED FOR TWO BRIDGES

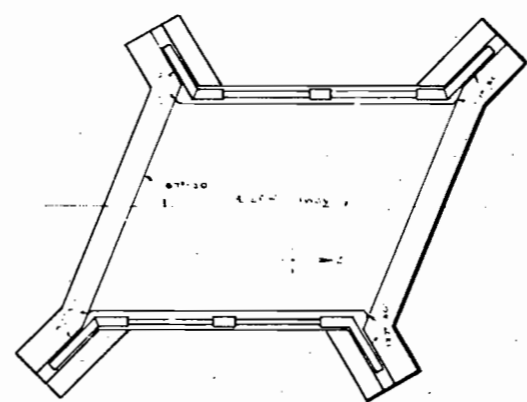
ACROSS GRAND VALLEY HIGHLINE CANAL
STA. 44+100 and 44+200
Near FRUITA, Sec. 12, T. 1 N., R. 1 W.

Designed by RWJ
Made by RMA
Checked by RJB

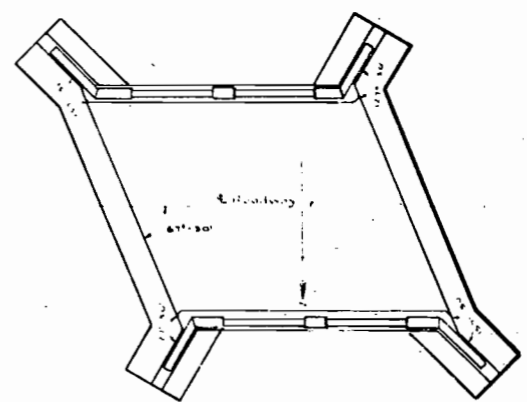
Approved by [Signature]
Bridge Engineer
Date: 11/22/24



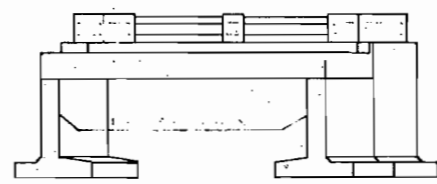
PLAN OF ABUTMENTS STA. 463+00.
FOR STA. 436+00 PLAN IS OPPOSITE HAND



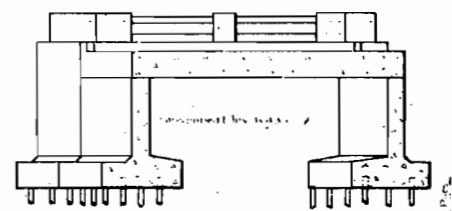
GENERAL PLAN - STA. 436+00



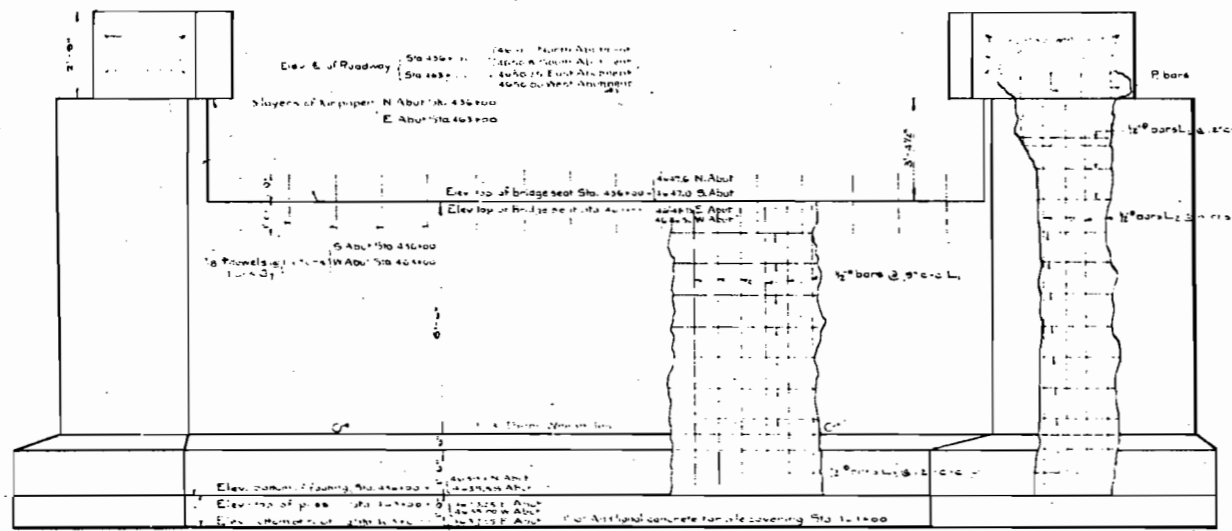
GENERAL PLAN - STA. 463+00



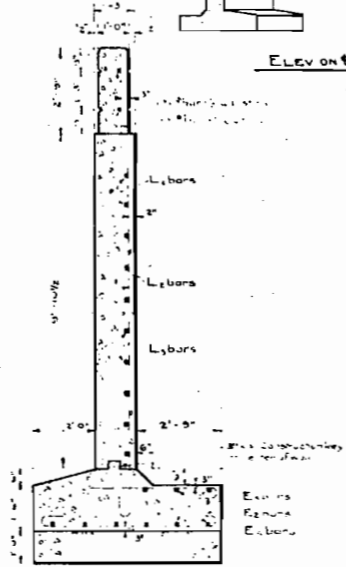
ELEV ON E. STA. 436+00



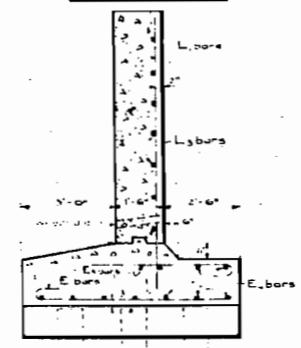
ELEV ON E. STA. 463+00



ELEVATION.



SECTION B-B.



SECTION A-A.

BAR LIST FOR ONE ABUTMENT.

Mark	Size	Number	Length	Designation
L ₁	2"	35	6'-4"	Bottom Deck Slab
L ₂	1 1/2"	8	11'-9"	Top Deck Slab
L ₃	1 1/2"	14	14'-4"	Top Deck Slab
L ₄	1 1/2"	6	6'-4"	Top Deck Slab
L ₅	1 1/2"	12	7'-4"	Top Deck Slab
E ₁	1 1/2"	10	4'-4"	Top Deck Slab
E ₂	1 1/2"	10	24'-0"	Top Deck Slab
E ₃	1 1/2"	35	5'-0"	Top Deck Slab
E ₄	1 1/2"	10	24'-0"	Top Deck Slab
E ₅	1 1/2"	8	9'-0"	Top Deck Slab
P ₁	2"	6	4'-0"	Pile
P ₂	1 1/2"	4	5'-0"	Pile
G ₁	3/4"	16	3'-0"	Girder

CONCRETE FOR ONE ABUTMENT.

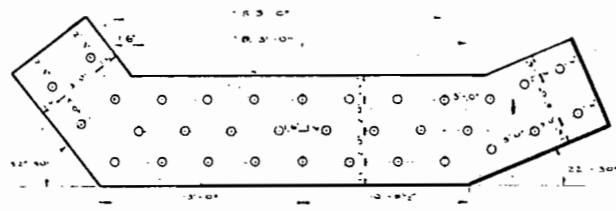
Concrete Class 'A' Sta. 436+00	33 Cu Yds
Concrete Class 'A' Sta. 463+00	42 Cu Yds

GENERAL NOTES

- All work shall be done in accordance with the Standard Specifications of the Colorado State Highway Department.
 - All concrete shall be Class 'A' (1:2:4 mixture).
 - All exposed surfaces shall be rubbed free of form marks.
 - All exposed corners shall be beveled to a 2" face except in handrail.
 - Panels in handrail shall be bush hammered.
 - All reinforcing bars shall be plain round or plain square as shown.
- Maximum soil pressure - 2000 lbs. per sq. ft.
Maximum pile loading - 8 Tons.

TOTAL SUMMARY OF QUANTITIES

	STA. 436+00	STA. 463+00
Reinforcing Steel	2400 Lbs.	1000 Lbs.
Concrete Class 'A'	33 Cu Yds	42 Cu Yds
Piling, sup. etc.		1000 Lbs.



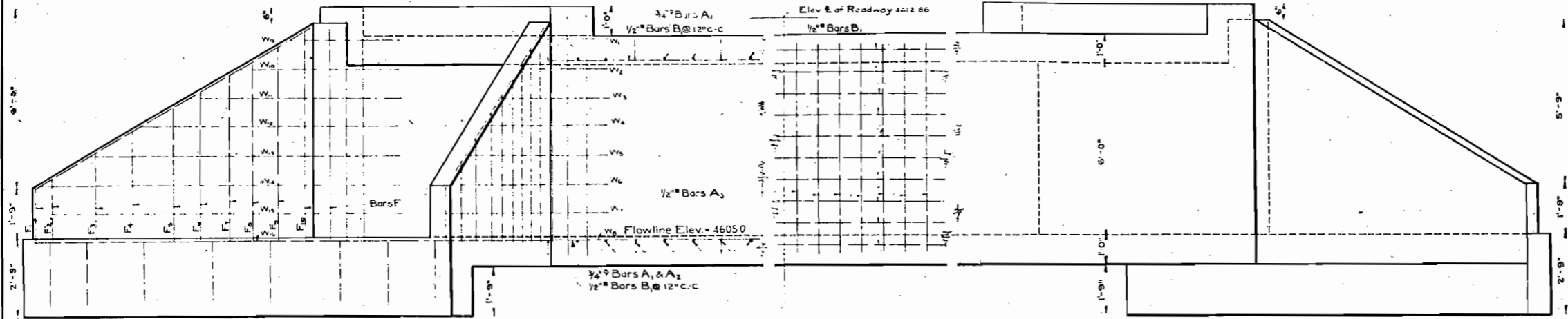
PILE PLAN ABUTMENTS STA. 463 ONLY.

COLORADO STATE HIGHWAY DEPARTMENT

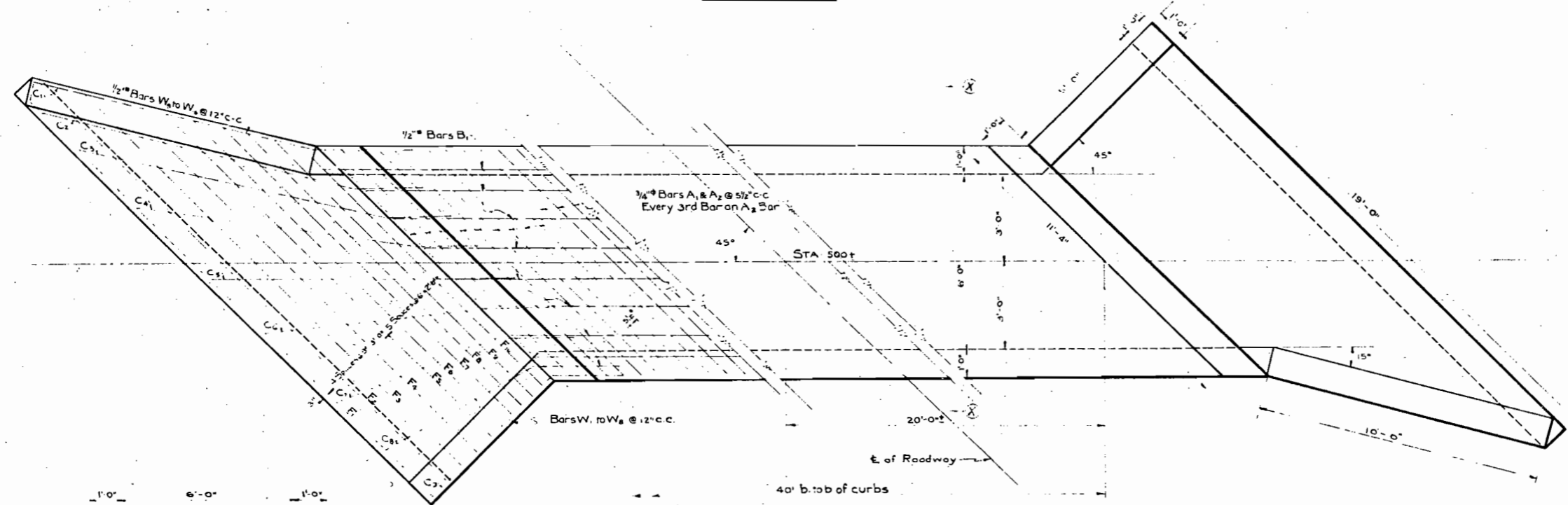
ABUTMENTS & LOCATION PLANS, TWO
SKEWED CONCRETE GIRDER SPANS
ACROSS GRAND VALLEY HIGHLINE CANAL
Sta. 436+00 & 463+00
Near FRUITA, Sec. 19 T. 1 N. R. 1 W.

Designed by R.M.J.
Made by R.M.A.
Checked by P.S.B.

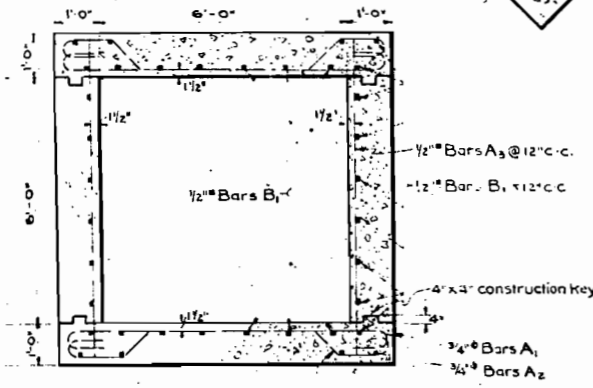
Approved by [Signature]
Bridge Engineer
Date: 1-13-24



ELEVATION



PLAN



SECTION XX

GENERAL NOTES

All work shall be done in accordance with the Standard Specifications of the Colorado State Highway Department.
 All concrete shall be class "A" (1:2:4) mixture.
 All exposed surfaces shall be rubbed free of form marks.
 All walls shall have forms on both sides.
 All construction joints shall be properly cleaned before fresh concrete is poured.
 All reinforcing bars shall be plain round or plain square as shown.

Maximum soil pressure 1000 lbs per sq ft

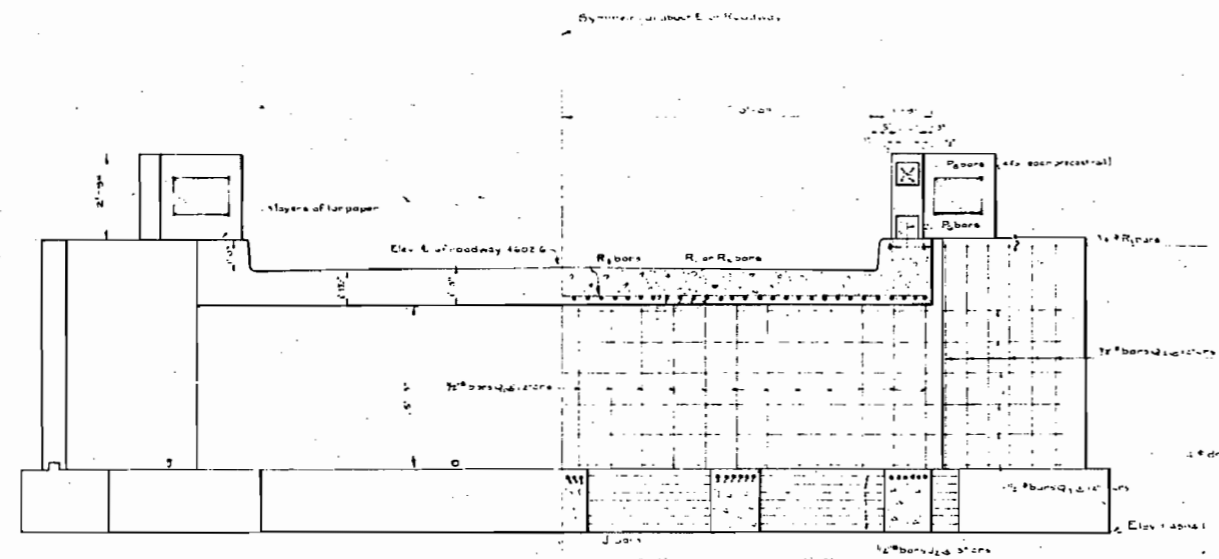
SUMMARY OF QUANTITIES

1663 lin ft 3/4" Reinforcing Steel	= 532.4	2500 lbs
3040 lin ft 1/2" Reinforcing Steel	= 385.0	2580 lbs
3% added for overrun		130 lbs
TOTAL		5230 lbs
Class "A" concrete (1:2:4 mixture)		64.3 CU Yds

LOADING: AASHTO 2-15.

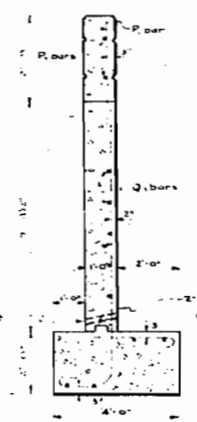
BAR LIST				BENDING DIAGRAM (All dimensions shown are to Centerline of bar)
MARK	SIZE	NO REQD	LENGTH	
A ₁	3/4"	88	12'-3"	
A ₂	3/4"	45	15'-0"	
F ₁ to F ₅	1/2"	2 Ea	23'-4"	
F ₅ to F ₆	1/2"	2 Ea	23'-8"	
F ₆ to F ₇	1/2"	2 Ea	24'-4"	
F ₇ to F ₁₀	1/2"	2 Ea	24'-10"	
W ₁			2'-9"	
W ₂			3'-9"	
W ₃			4'-9"	
W ₄			5'-9"	
W ₅			6'-9"	
W ₆ to W ₇	1/2"	2 Ea	8'-0"	
W ₇			3'-0"	
W ₈			4'-9"	
W ₉			6'-0"	
W ₁₀			8'-0"	
C ₁ to C ₉	1/2"	2 Ea	16'-4"	
C ₉			10'-4"	
B ₁	1/2"	36	42'-0"	
A ₃	1/2"	84	7'-0"	

COLORADO STATE HIGHWAY DEPARTMENT
45° SKEW
6'x6' BOX CULVERT
 Across ARROYA
 Sta 500+00
 Near Hunter Sec 24 T1 N R2 W
 Designed by PSB Approved by J. J. J.
 Made by RMA Bridge Engineer
 Checked by PSB Date 1924

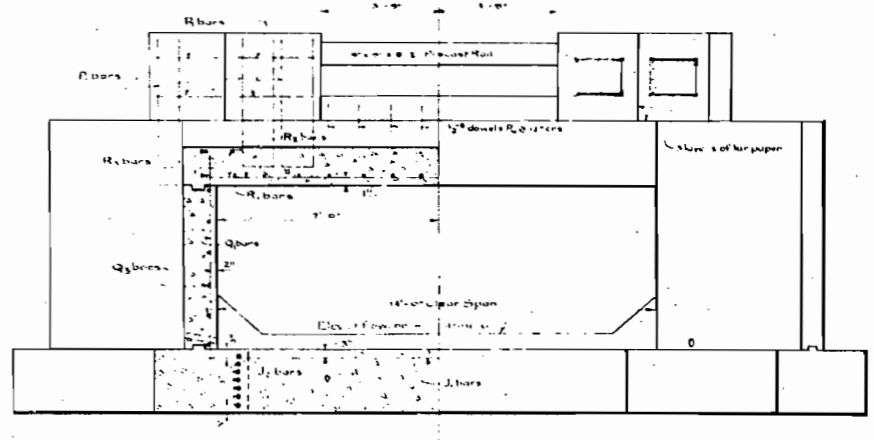


HALF ELEVATION

HALF SECTION ON E. OF STREAM

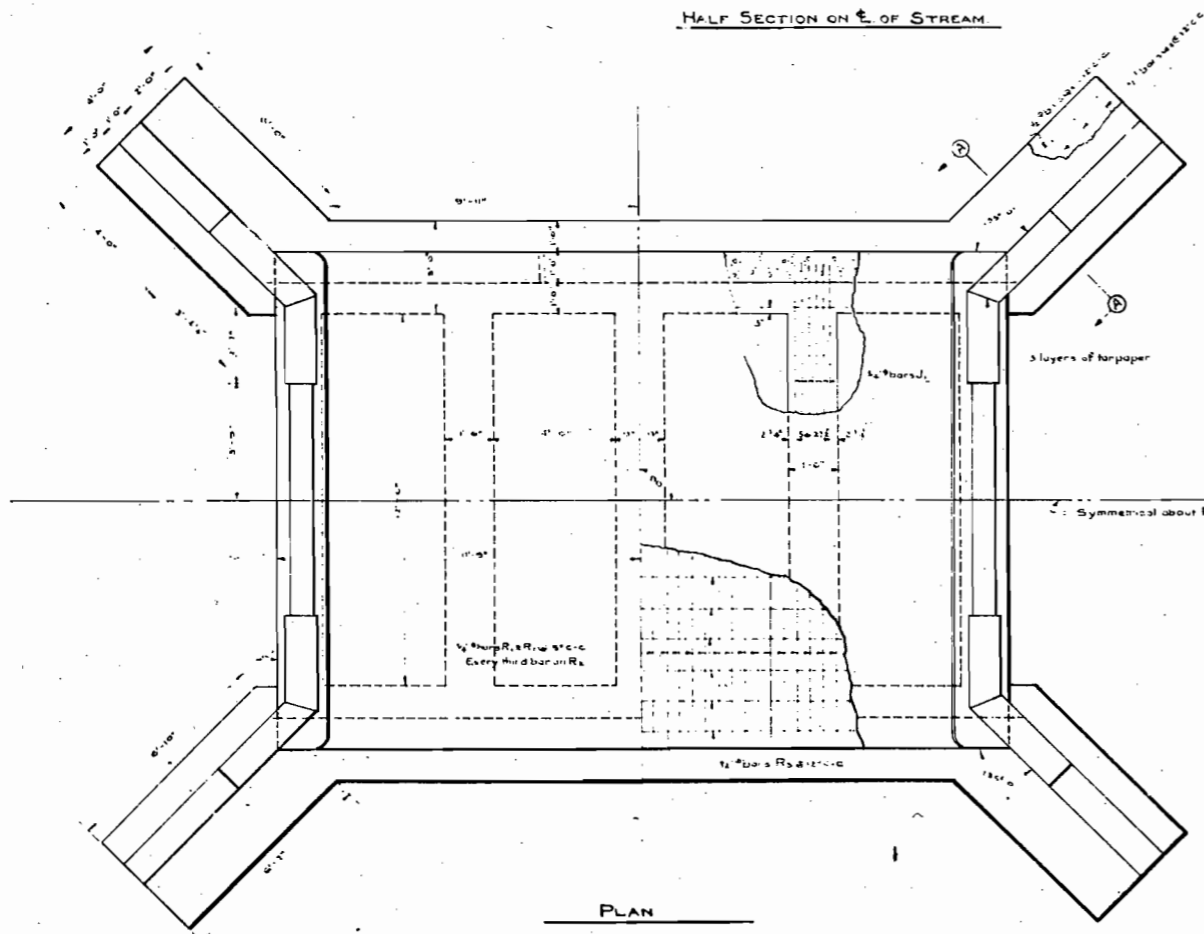


SECTION A-A.



HALF END VIEW ON E. OF ROADWAY

HALF END VIEW



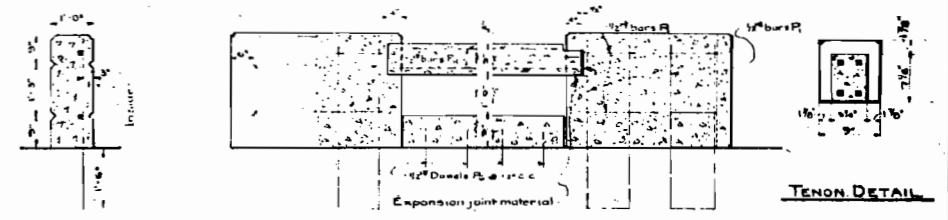
PLAN

HANDRAIL NOTES

Top rail to be precast and put in place before pouring posts.

One end of rail to be cast solidly into the post; other end shall have a tenon 4" long inset 1/8" on each of three sides but bottom flush with surface of rail. This end to be entirely covered with expansion joint material before post is cast around it. Rail shall be cast free of twist.

Bevels in top rail, also vertical corners in posts and panels in posts to be made by inserting 1/2" triangular wood-trip.



TENON DETAIL

HANDRAIL DETAIL

GENERAL NOTES

All work to be done in accordance with the Standard Specifications of the Colorado State Highway Department.

All concrete shall be class 'A' (1:2:4) mixture.

All exposed surfaces shall be rubbed free of form marks.

Panels in hand rail shall be bushhammered.

All exposed corners except handrail to be beveled to a 2" face.

Curb shall be poured monolithic with slab.

All reinforcing bars shall be plain round or plain square as shown.

Structure is designed for a 7/8" wearing surface.

Bridge to be combed 3/4"

Maximum pressure = 1150 lbs per sq ft.

COMPLETE BAR LIST.

Mark	Size	Number	Length	Area	Remarks
R ₁	3/4"	42	17'-0"	21.2	Bottom Diagonal
R ₂	3/4"	9	7'-9"	4.8	
R ₃	1/2"	20	23'-0"	10.4	
J ₁	3/8"	30	13'-0"	6.0	
J ₂	3/8"	14	24'-0"	2.8	
Q ₁	3/8"	48	7'-0"	1.6	
Q ₂	3/8"	24	11'-0"	0.8	
Q ₃	3/8"	24	19'-0"	0.8	
Q ₄	3/8"	26	3'-8"	0.3	
Q ₅	3/8"	16	7'-0"	0.5	
P ₁	3/8"	12	9'-0"	0.4	
P ₂	3/8"	16	7'-0"	0.5	
P ₃	3/8"	16	2'-0"	0.2	
P ₄	3/8"	8	8'-0"	0.3	

SUMMARY OF QUANTITIES

1561	Lineal ft. 3/4" Reinforcing Steel @ 5.07 lbs per ft.	2332 lbs.
1562	Lineal ft. 1/2" Reinforcing Steel @ 3.60 lbs per ft.	720 lbs.
1563	Lineal ft. 3/8" Reinforcing Steel @ 2.65 lbs per ft.	980 lbs.
	3% for overman	128 lbs.
	Total	4230 lbs.

Class 'A' Concrete 630 Cu. Yds.

LOADING: AASHO I-15

COLORADO STATE HIGHWAY DEPARTMENT

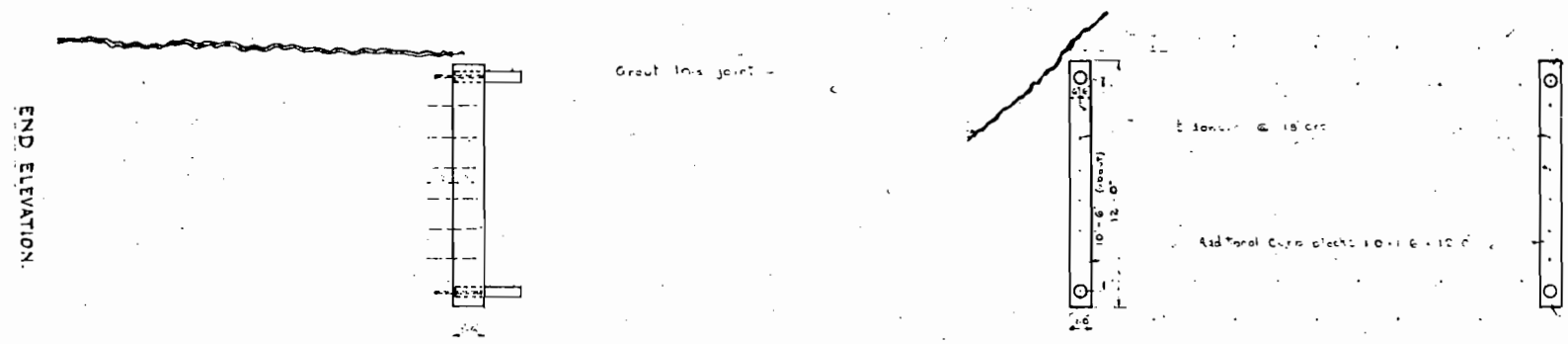
STRUTTED BOX CULVERT

Across GRAND VALLEY MAINLINE CANAL
Sta 517+60
Near HUNTER Sec. 25 T. 12 N. R. 2 W.

Designed by: R.M.I. Approved by: J.S.D.
Made by: R.M.I. Bridge Engineer
Checked by: J.S.D. Date: 12/1/24

FED. ROAD DIST. NO.	STATE	FMS P. B. PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	COLO.	242-A	7-A	

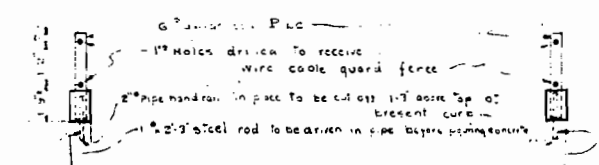
ADDITIONAL SHEET 2-24-25
 Revised January 27, 1925 at Constructed 2-27-29 RSS



PLAN



END ELEVATION



SIDE ELEVATION

GENERAL NOTES.

All work to be done in accordance with the standard specifications of the Colorado State Highway Department.
 All concrete in coping to be Class A (1:2:4 mixture).

SUMMARY OF QUANTITIES.

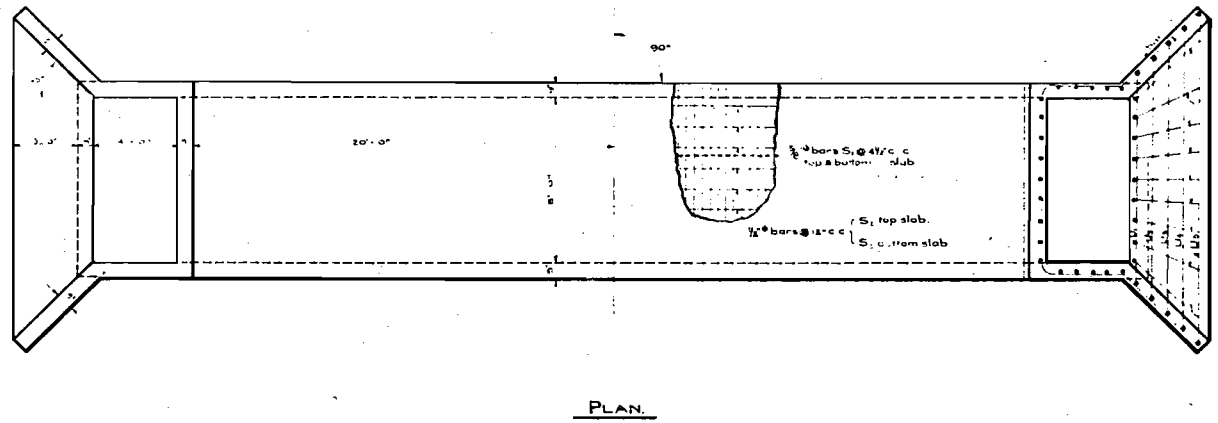
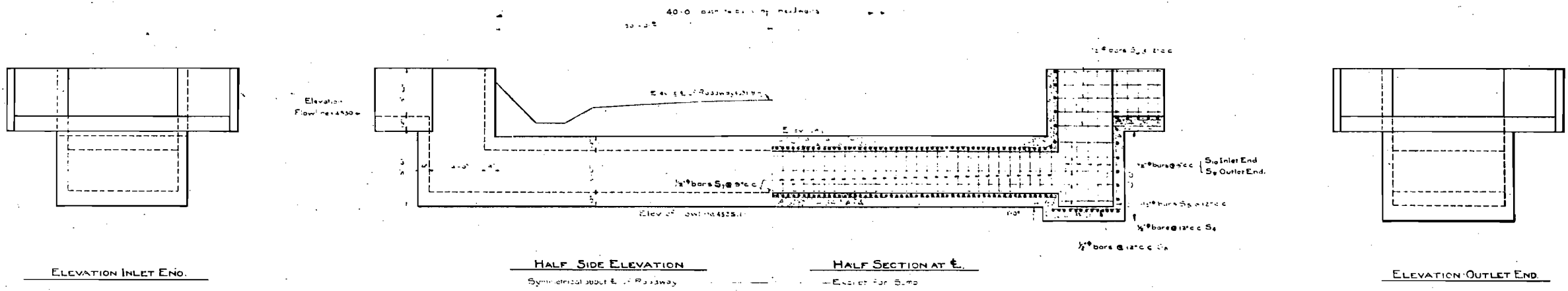
Concrete Class A	27 Cu Yds.
Reinforcement	50 Lbs.
Galv. Pipe	14 Lbs.

0.5 Cu Yds for Grouting

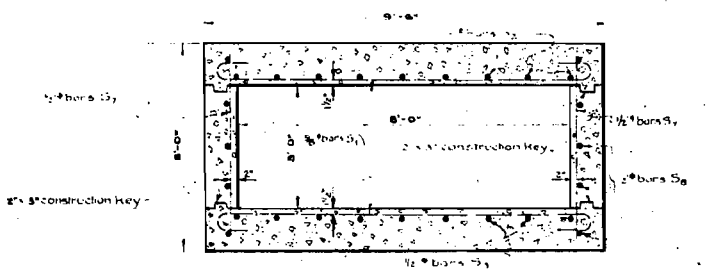
COLORADO
 STATE HIGHWAY DEPARTMENT
 CHANGES IN PRESENT
 10' x 12' CONCRETE CULVERT

Across Hunters Wash
 Sta. 5+62+00
 Near Fruit & Sec 14 T 1 N. R 2 W.

Designed by Field Approved by *W.A.C.*
 Made by P.S.B. Bridge Engineer
 Checked by M.S.D. Date. 2-25-1925



Class	Size	Number	Length	Bending Diagram
S ₁	1/2"	241	10'-3"	
S ₂	1/2"	19	21'-0"	
S ₃	1/2"	10	10'-0"	
S ₄	1/2"	10	26'-0"	
S ₅	1/2"	9	8'-0"	
S ₆	1/2"	111	4'-0"	
S ₇	1/2"	20	26'-0"	
S ₈	1/2"	10	10'-0"	
S ₉	1/2"	10	9'-6"	
U ₁	1/2"	2	11'-3"	
U ₂	1/2"	2	16'-8"	
U ₃	1/2"	2	20'-1"	
U ₄	1/2"	2	21'-6"	
U ₅	1/2"	2	22'-11"	



TYPICAL SECTION THRU BARREL

GENERAL NOTES

All work shall be done in accordance with the standard Specifications of the Colorado State Highway Department.
 All concrete shall be class "A" (1:2:4 mixture).
 All exposed surfaces shall be rubbed free of form marks.
 All walls shall have forms on both sides except as noted.
 All reinforcing bars shall be plain round.
 All construction joints shall be thoroughly cleaned before fresh concrete is poured.
 Maximum soil pressure 1000 lbs per sq ft.

SUMMARY OF QUANTITIES

2470	LIN. FT. 1/2" REINFORCING STEEL	2580	LBS.
2788	LIN. FT. 1/2" REINFORCING STEEL	1660	LBS.
	3% OVER RUN	110	LBS.
	TOTAL	4350	LBS.
	CLASS "A" CONCRETE	560	CU. YDS.

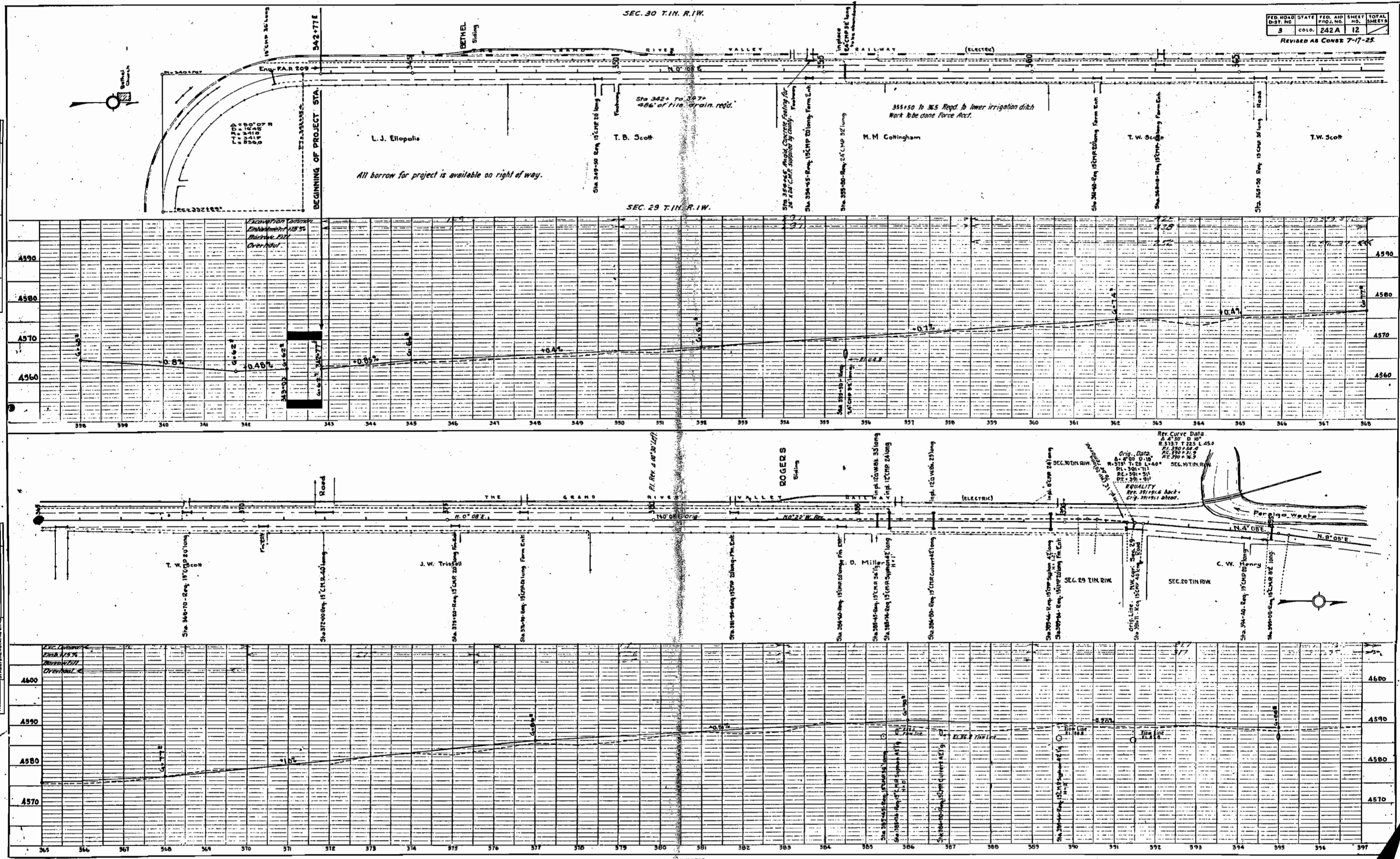
LOADING -
 LL-1-AAGHO 2-15

COLORADO
 STATE HIGHWAY DEPARTMENT
 SPECIAL 3'x8'
 CONCRETE SIPHON
 ACROSS INDEPENDENT RANCHMAN'S
 DITCH - STA 692+83
 Near FRUITA, Sec. 16 T. 1 N. R. 2 W.
 Designed by RWJ
 Made by RMA
 Checked by P.S.B.
 Approved by
 Date: 4-7-24 1924

PLAN
 CHECKED BY: [Signature]
 DATE: [Date]
 DRAWN BY: [Signature]
 DATE: [Date]

RECEIVED
 21 March 1926

PROFILE
 CHECKED BY: [Signature]
 DATE: [Date]
 DRAWN BY: [Signature]
 DATE: [Date]



SEC. 19 T. 1 N. R. 1 W.

W. J. Hammer.

W. L. Chapman

W. M. Scarlett.

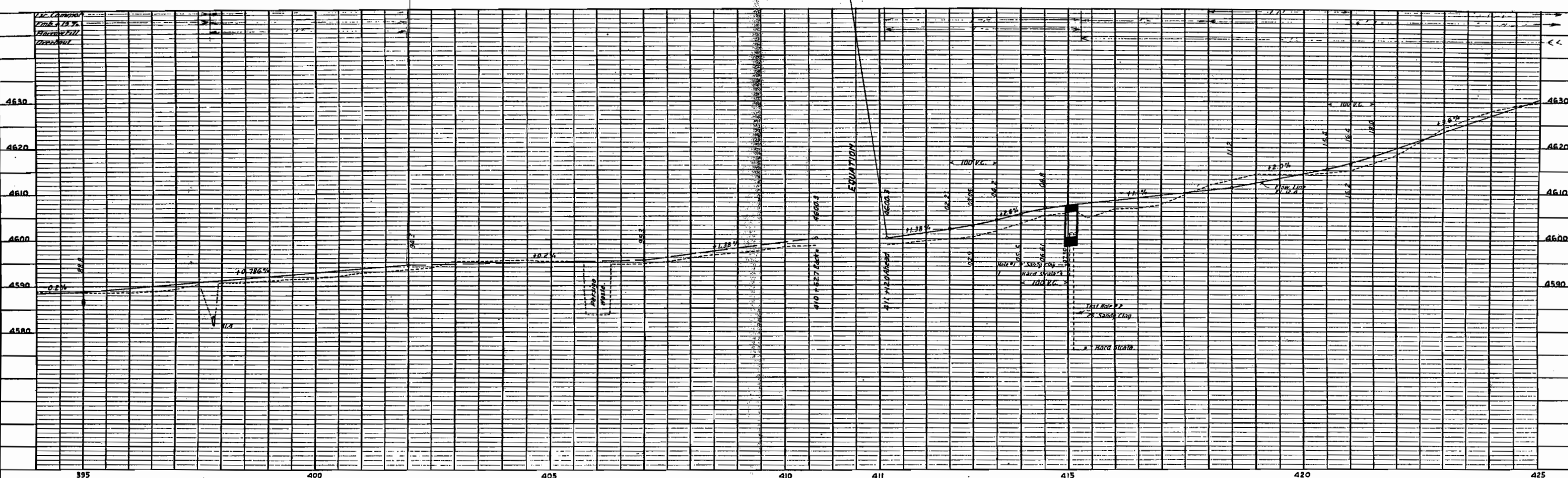
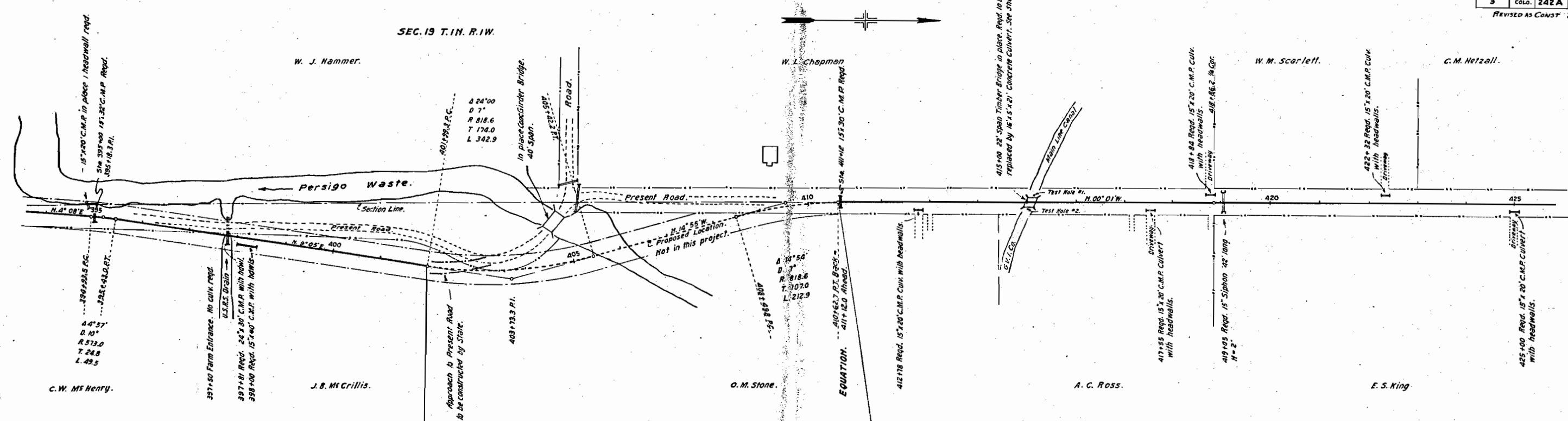
C. M. Hetzell.

DATE	BY

PLAN SURVEYED, PLOTTED, CHECKED, NOTE BOOK, RT. OF WAY CHECKED, NO. 1, K.G.M.

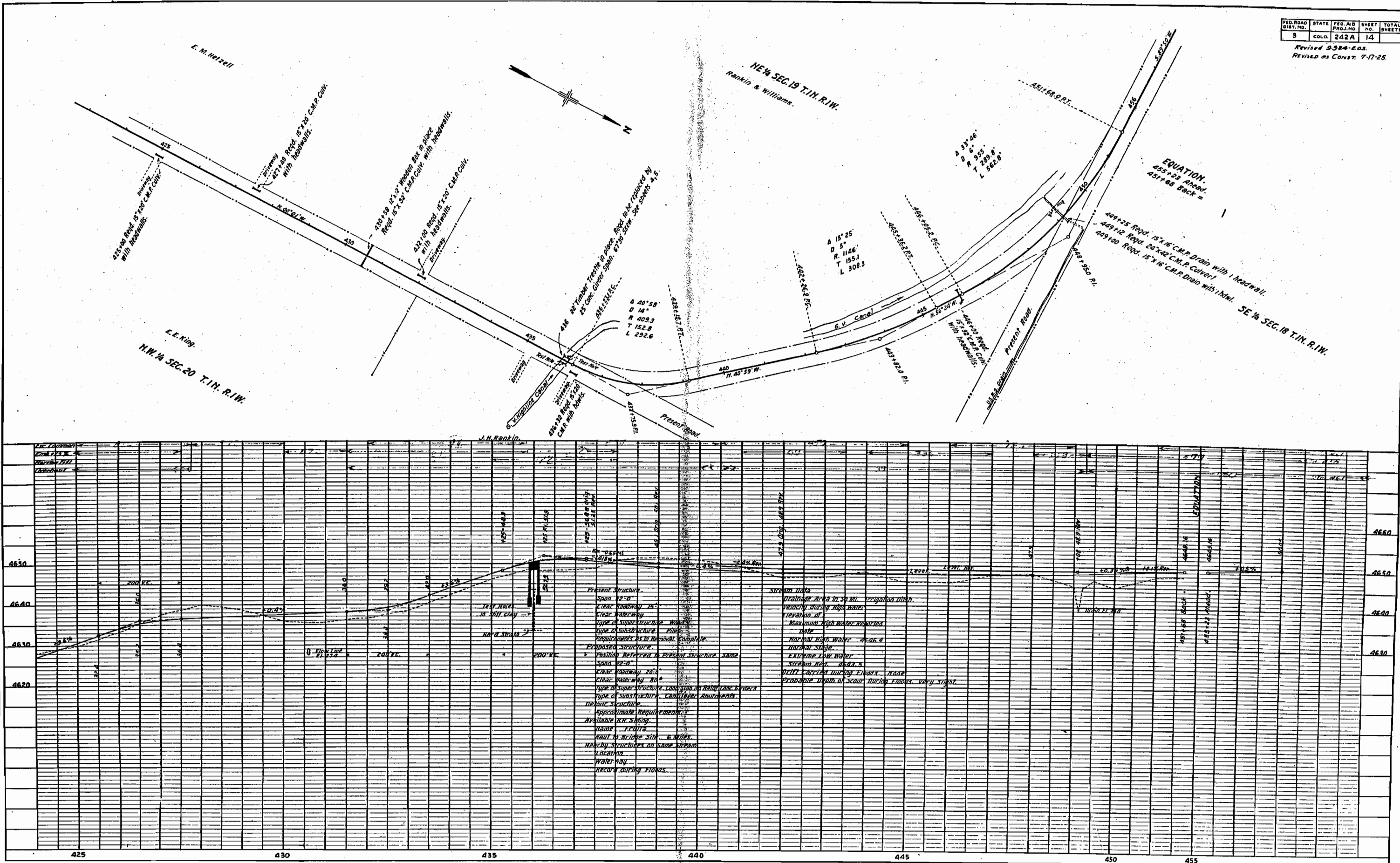
DATE	BY

PROFILE SURVEYED, PLOTTED, CHECKED, NOTE BOOK, GRADES CHECKED, STRUCTURE NOTATIONS CHECKED, NO. 1, K.G.M.



PLAN	DATE
SURVEYED	
PLOTTED	
ALIGNED CHECKED	
NOTE BOOK NO.	
BY	
DATE	

PROFILE	DATE
SURVEYED	
PLOTTED	
GRADES CHECKED	
NOTE BOOK NO.	
BY	
DATE	

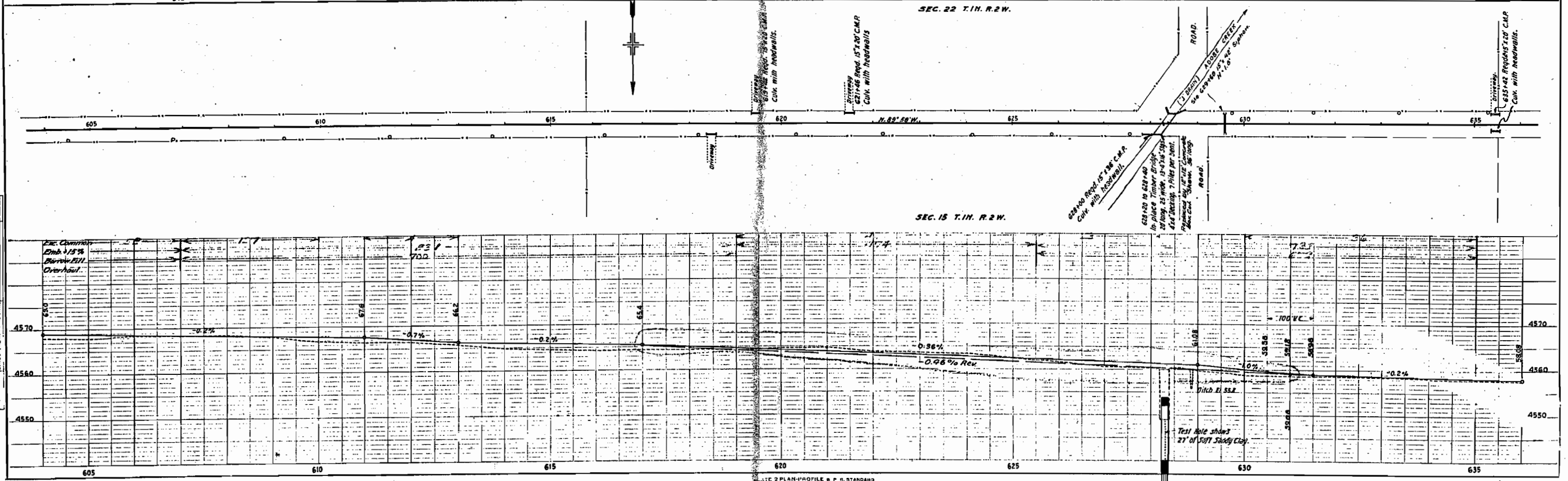
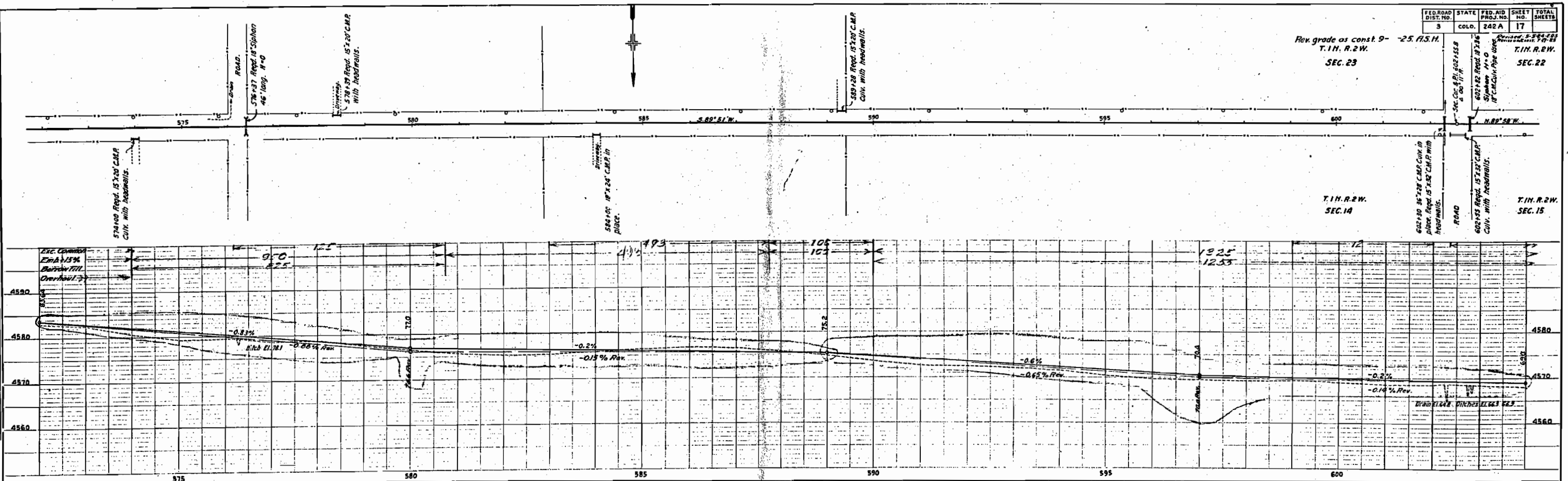


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	COLO.	242 A	17	

Rev. grade as const. 9'-25" F.I.S.H.
T.I.N. R.2.W.
SEC. 23

DATE	BY

SURVEYED
 PLOTTED
 CHECKED
 NOTE BOOK
 NO. OF WAY CHECKED
 NO.



DATE	BY

SURVEYED
 PLOTTED
 CHECKED
 NOTE BOOK
 NO. OF WAY CHECKED
 NO.

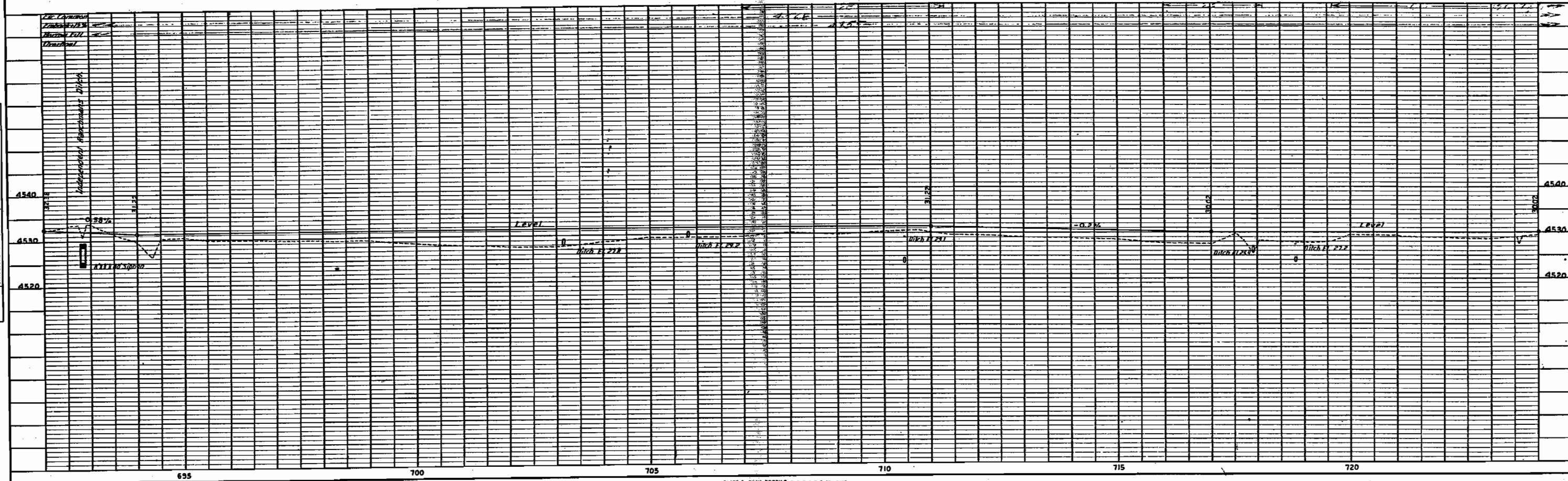
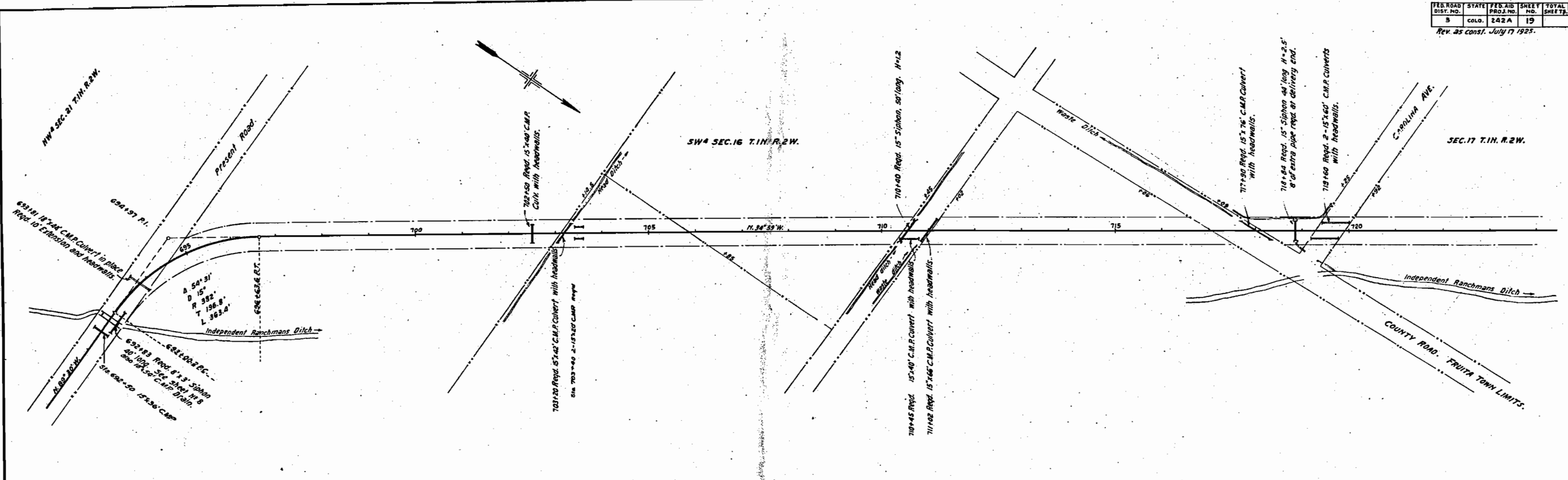
DATE
 BY
 SURVEYED
 PLOTTED
 CHECKED
 NOTE BOOK NO.
 PROJECT NO.

DATE
 BY
 SURVEYED
 PLOTTED
 CHECKED
 NOTE BOOK NO.
 PROJECT NO.



PLAN	SURVEYED	DATE
	PLOTTED	
	NOTED	
	ALIGNED	
	CHECKED	
	BY	
	NO.	

PROFILE	SURVEYED	DATE
	PLOTTED	
	NOTED	
	ALIGNED	
	CHECKED	
	BY	
	NO.	



PLAN	SURVEYED	DATE
PLOTTED		
NOTE BOOK		
NO.		

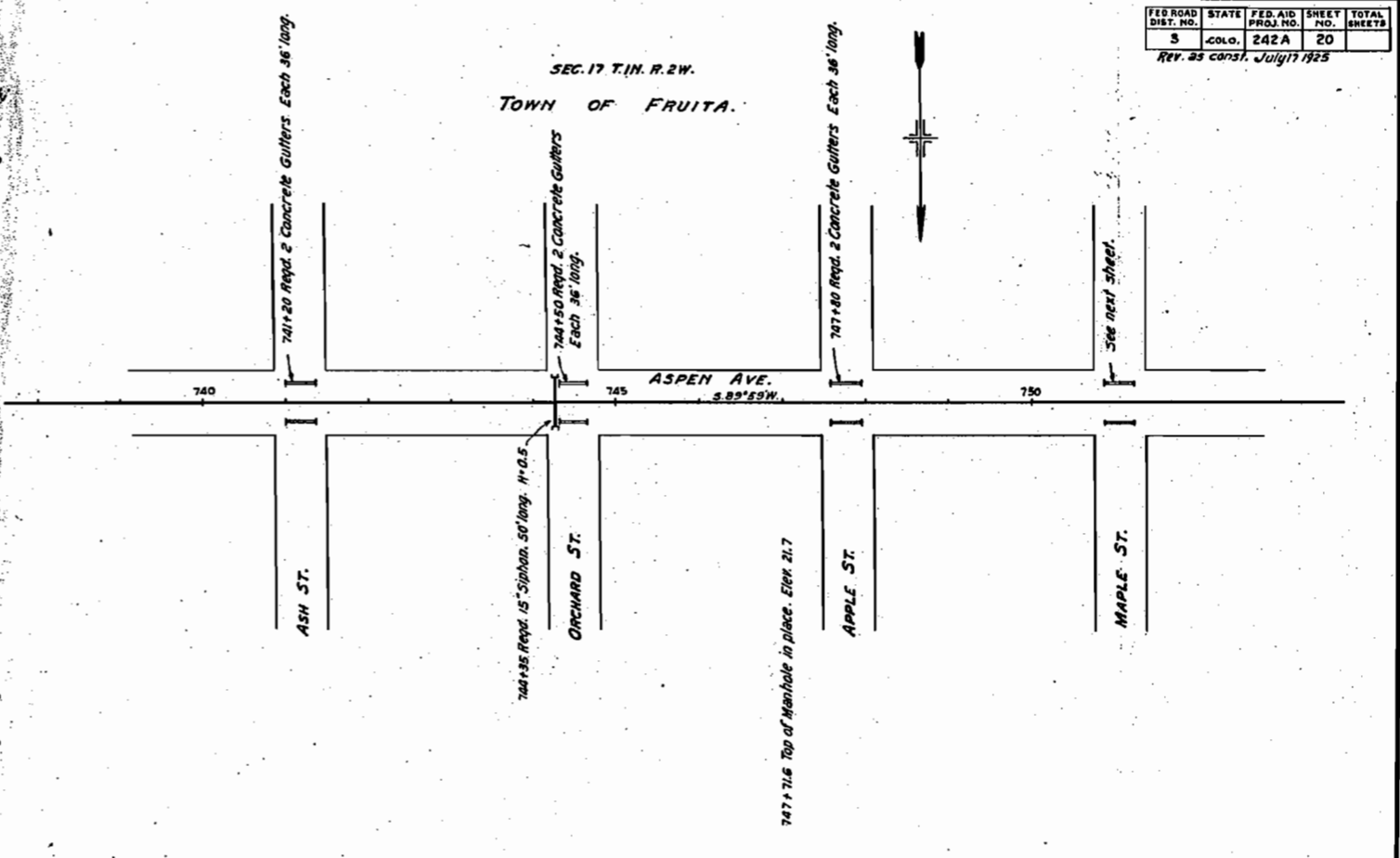
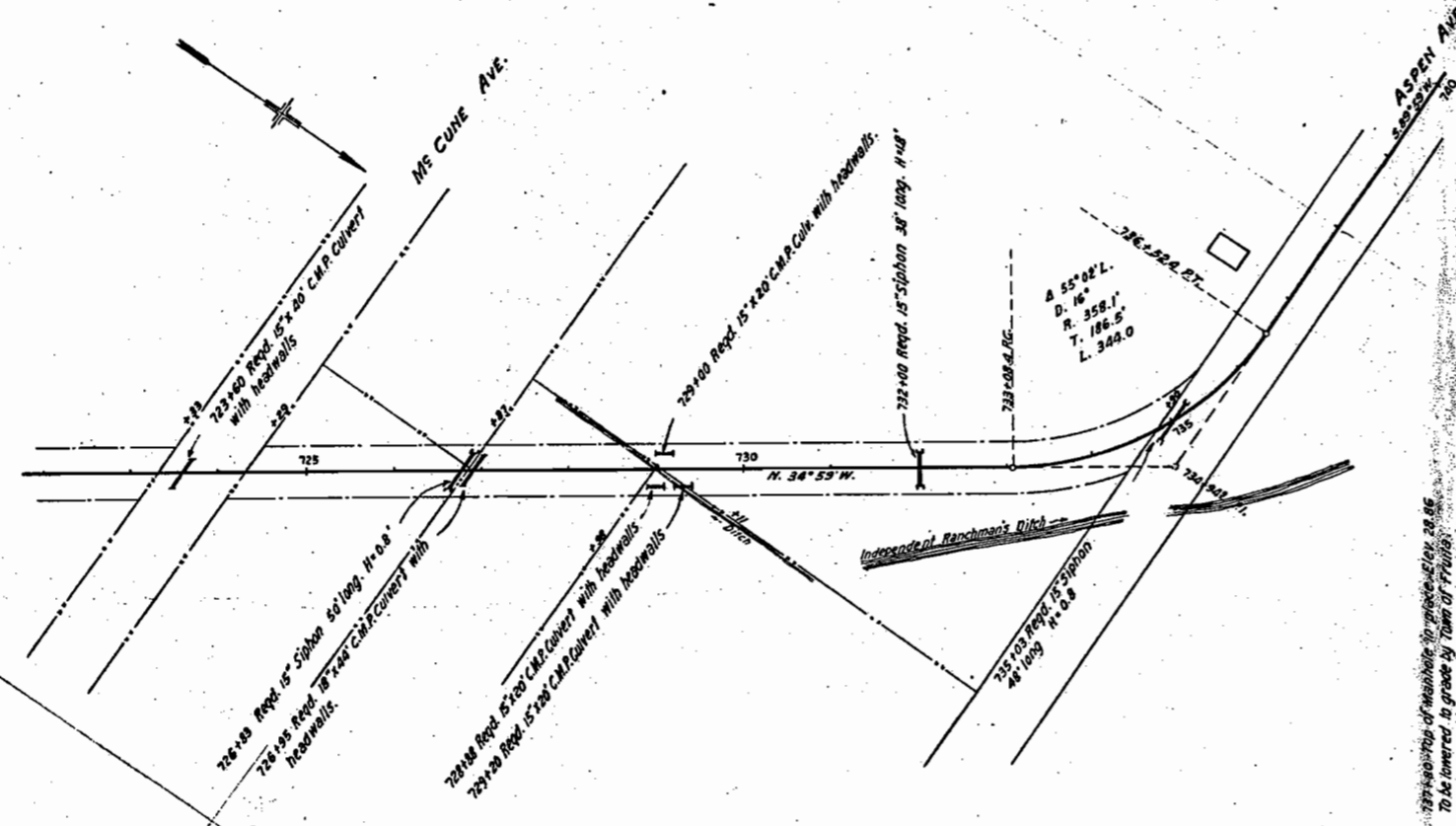
PROFILE	SURVEYED	DATE
PLOTTED		
NOTE BOOK		
NO.		

SEC. 17 T. 11 N. R. 2 W.

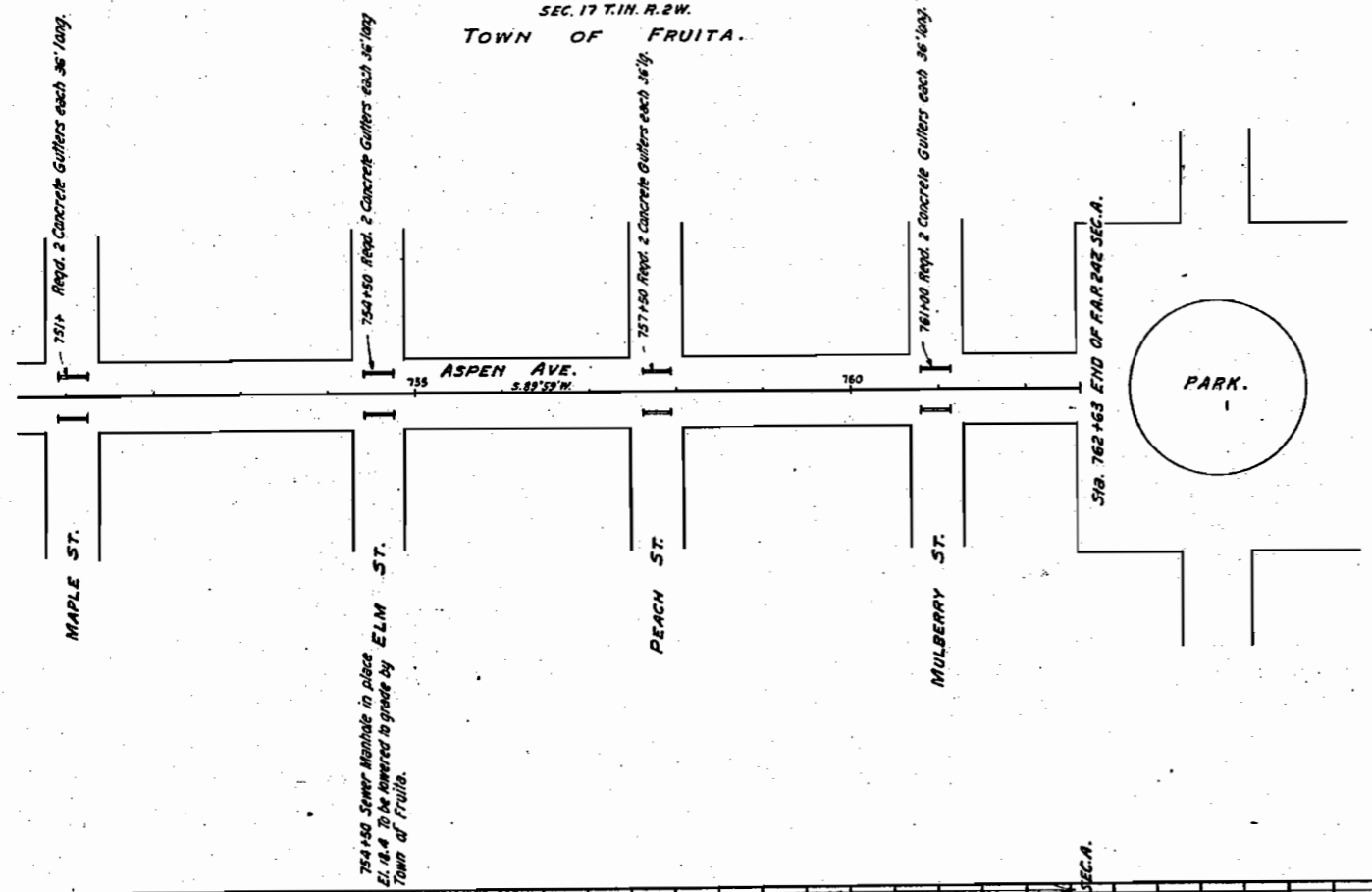
SEC. 17 T. 11 N. R. 2 W.
TOWN OF FRUITA.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
5	COLO.	242A	20	

Rev. 25 const. July 17 1925



SEC. 17 T. 11 N. R. 2 W.
TOWN OF FRUITA.



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

PROFILE	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	GRADES		

