FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
8	COLO.	E-248-E	1	

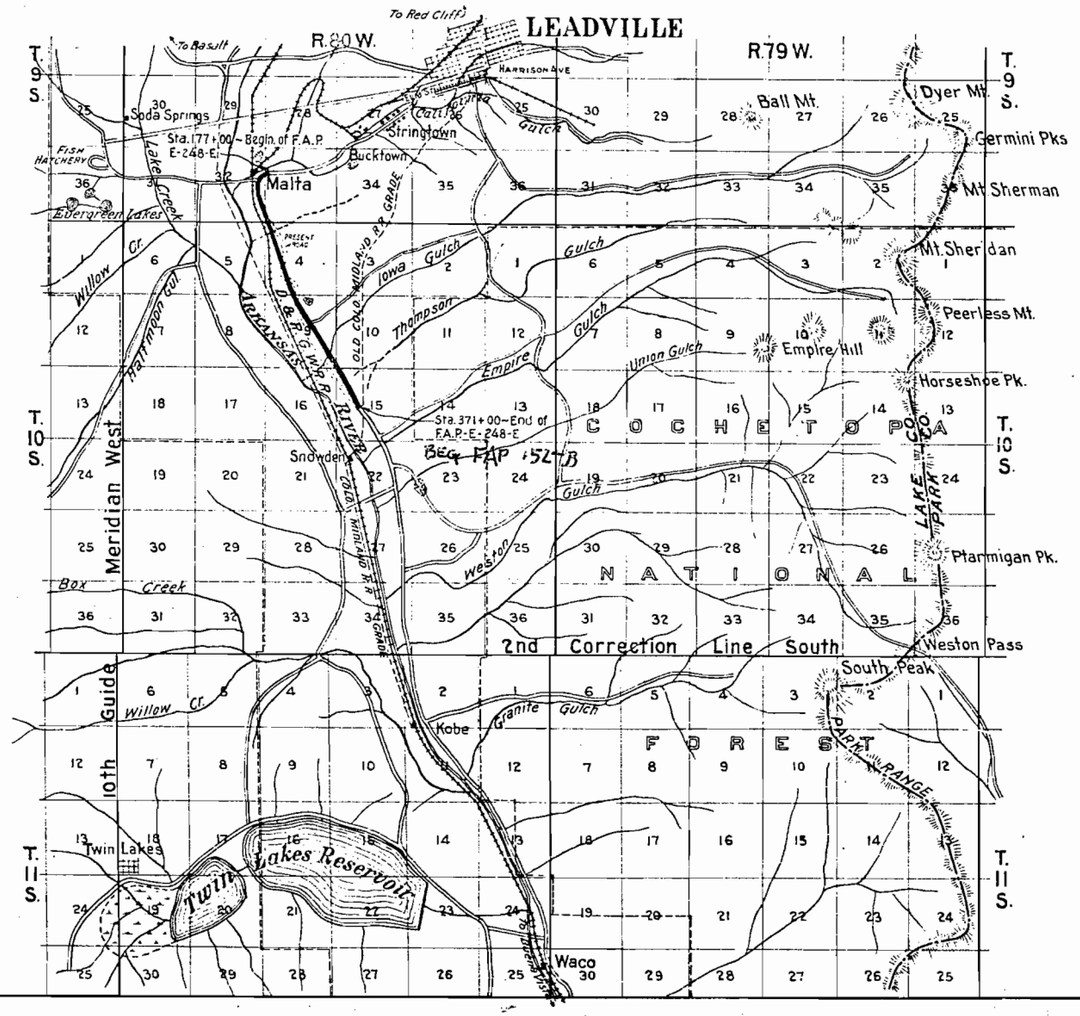
COLORADO
STATE HIGHWAY DEPARTMENT

PLAN AND PROFILE OF PROPOSED
FEDERAL AID PROJECT NºE-248-E
STATE HIGHWAY NO. 4
LAKE COUNTY

INDEX OF SHEETS

SCALES

ON PLAN, 1 IN. = 100 FT.
ON PROFILE { 1 IN. = 100 FT. HORIZONTAL
1 IN. = 10 FT. VERTICAL
GRADE LINE ON PROFILE IS SHOWN AS GRADE OF FINISHED ROAD
GROSS LENGTH OF PROJECT } 19,314.3 FT. = 3.658 MI.
NET LENGTH OF PROJECT }



N
S

Scale 1 in = 1 Mile

RECOMMENDED FOR APPROVAL 9/9/32
J. E. Wallace
ASSISTANT ENGINEER
APPROVED
Chas D. Vivian
STATE HIGHWAY ENGINEER
RECOMMENDED FOR APPROVAL
DIST. ENG. BUREAU PUBLIC ROADS
RECOMMENDED FOR APPROVAL
CHIEF ENG. BUREAU PUBLIC ROADS
APPROVED
DIRECTOR BUREAU PUBLIC ROADS

CONVENTIONAL SIGNS

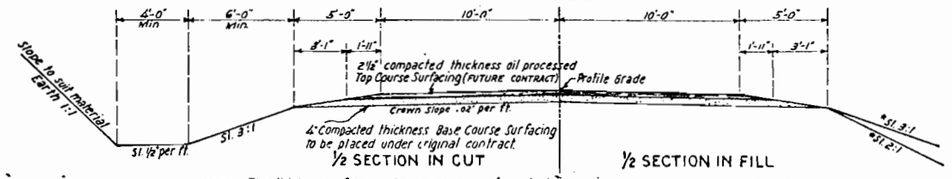
Center Line of Survey
County Line
Township Line
Section Line
One-Quarter Sec. Line

TYPICAL CROSS SECTION OF IMPROVEMENT AND SUMMARY OF QUANTITIES

FED. ROAD SHT. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	248-E	2	

REVISED AS CONSTRUCTED

TYPICAL SECTION



½ SECTION IN CUT

½ SECTION IN FILL

NOTE: The thickness of top and base courses of surfacing is to be considered approximate only. Surfacing Material is to be placed at the rate of 32 tons per 100 ft. for the Top Course and at the rate of 61 tons per 100 ft. for the Base Course.

*NOTE: 3:1 slope to be used on fills of 3 ft. or less. 2:1 slope to be used on fills of over 3 ft.

GENERAL NOTES

This project is to be constructed in conformity with the Standard Specifications of the Colorado State Highway Department adopted on January 1, 1930.

All quantities on preliminary plans are to be considered as approximate only.

All roadway excavation required to construct the project is to be obtained as indicated on the plans. Quantities involved beyond the limits of the ditch as shown on Typical Section, either noted on profile as "Borrow" or in the List of Structures as "Embankment" are to be classified and paid for as "Unclassified Excavation". These quantities are to be staked as part of the original excavation at locations indicated on the plans. Slope stakes beyond the limits of the Typical Section as shown, are subject to change by the Engineer to fit embankment requirements actually encountered during construction.

Unless otherwise noted on the plan sheets, the inlet ends of all pipe cross culverts are to be protected by Dry Rubble Slope Paving 1ft. thick placed about the end of the pipe. The approximate quantity of slope paving required is shown in the List of Structures.

All curves are to be superelevated in accordance with methods shown on the Standard Superelevation sheet included in the plans.

The entire project is to be cleared for the full width of the right of way, and the cost thereof is to be included in the Lump Sum bid for "Clearing and Grubbing the Entire Project". Approximate location and character of clearing and Grubbing required is indicated in notes on plans.

The upper 6" of the subgrade between Sta 177+00 and Sta 210+00 of the project is to be covered with selected material, which is to be classified and paid for as "Unclassified Excavation". This material is to be used to fill the interstices in the rocky subgrade, and to prepare the subgrade for the gravel surface course.

It is estimated that this material will be obtained approximately 300 ft. left of Sta. 209 and will be placed at the rate of approximately 60 cu. yds. per 100 linear feet of roadway. It is estimated that this operation involves the following quantities:

Item No 13c	Unclassified Excavation	2,000 Cu. Yds.
" " 18a	Station Yard Overhaul	19,300 Sta. Yds.
" " 18b	Yard Mile Overhaul	190 Yd. Mi.

The detour for this project lies along the present travelled roadway, and where the new work and the present travelled roadway coincide, the contractor shall, at his own expense, so prosecute construction that traffic can readily pass over the road. Also he shall maintain in safe condition and at his own expense, all temporary approaches to and crossings of intersecting highways.

Except as limited by the special provisions, power equipment may be used on this project.

SUMMARY OF APPROXIMATE QUANTITIES

NO	ITEM	UNIT	ROADWAY	BRIDGE - 326+	TOTAL
10a	Clear and Grubb the Entire Proj	Lp.Sum	•		•
11	Removing 12 Structures	" "	•		•
12a	" Fence	Lin.Ft	9300		9300
13c	Unclassified Excavation	Cu.Yd	57202.0	416.0	57618.0
	" (Struct.)	" "			
14b	" Com. " "	" "	290.0	180.5	470.5
14d	" Com. " "	" "	50.3		50.3
18a	Station Yard Overhaul	Sta.Yd.	225725.6		225,725.6
18b	Yard Mile "	Yd.Mi.	2.120.1		2120.1
30X	Gravel or Crushed Rock Surfacing	Tons.	12.516.0		12,516.0
42b	Treated Bridge Timber	M.f.b.m.		0.35	0.35
46a	Class "A" Concrete	Cu.Yd.		42	42
46b	" "B" "	" "		134.44	134.44
47	Reinforcing Steel	Lb.		4800	4800
48	Structural "	"		14600	14600
53b	18" Corr Metal Culv. Pipe	Lin.Ft.	962		962
53c	24" " " " "	" "	324		324
53d	30" " " " "	" "	52		52
53e	36" " " " "	" "	50		50
65	Dry Rubble Slope Paving (12" Thick)	Sq.Yd	120.8		120.8
72	Wire Cable Guard Fence	Lin.Ft		200	200
75a	Galvan. Barb Wire "	" "	33070.		33070.
75b	Gates in " " "	Each	12		12
78	Project Markers	"	2		2
79	Right of Way Markers	"	26		26
63	Riprap	cu. yd	200		200
68	Stone underdrain	lin.ft.	140		140
	MATERIALS TO BE FURNISHED & WORK TO BE DONE BY STATE FORCES				
	Moving Buildings, Sta 367+	Lp.Sum	•		•
	Selected Material	Cu. Yd	2000		2000

FENCING

LOCATION	SIDE	BUILD	REMOVE
193+00 - 211+20	R	1740	1750
211+20 - 293+40	R&L	16440	
240+00 - 247+00	X		850
250+30 - 269+50	R&L		1950
274+00 - 291+00	R		1800
348+00 - 367+00	L		2050
367+00 - 371+00	R&L		900
293+40 - 293+90	R	50	
296+00 - 296+40	R	40	
296+40 - 369+00	R&L	14520	
369+00 - 370+20	R	120	
370+20 - 371+00	R&L	160	
TOTALS		33070	9300

GATES

LOCATION	SIDE	NO
270+00	R	1
275+00	"	1
298+20	R&L	2
309+00	"	2
321+75	"	2
341+00	L	1
368+30	R&L	2
369+30	R	1
TOTAL		12

R.O.W. MARKERS

LOCATION	SIDE	NO.
177+00	R&L	2
181+51	"	2
188+359	"	2
212+113	"	2
216+675	"	2
244+20	"	2
273+11	"	2
289+90	"	2
305+90	"	2
336+95	"	2
337+85	"	2
367+05	"	2
371+00	"	2
TOTAL		26

LIST OF STRUCTURES

LOCATION	DESCRIPTION	REMOVE STRUCT	EXCAVATION CU. YD.	STRUCTURAL EXCAVATION-Culvs		CORRUGATED METAL CULV. PIPE - Lin Ft.				DR RUB. SL PAV. 12" TH	MISCELLANEOUS.
		NO	UNCL	DRY	WET	18"	24"	30"	36"	SQ YD	
177+00	Project marker and approach										1 Proj. Marker
179+60	Side Drain and approach					32					
187+50	Cross Culvert and ditches			13.5			52			5.9	
192+00	Side Drain and approach					100					
205+30	Remove struct, Cross Culvert	1	2.7	5		48				5.8	
222+00	" " " "	1		4.6			50			6.3	
236+50 - 243+00	Diversion channel										
243+00	Cross Culvert and ditches			19.6				50		7	
245+50	Remove Structure	1									
250+00	" " Cross Culv, ditches	1		18.8			50			5	
254+00	Cross Culvert			2.2				50		6.8	
264+00 - 269+10	Ditch change										
264+86	Remove structure, Cross Culvert	1		4.5		56				3.1	
269+10	" " " "	1		23.1		70				3.1	
270+00	side Drain and approach					32					
270+50 - 271+30	Ditch change										
275+00	Cross Culvert			3.2				50		6.0	
284-35 - 284+95	Store Underdrain			31.1	46.6						140. lin ft.
285+15	Remove Structure, Cross Culvert, Ditches	1	5.7	1.7		48				5.1	
295+28	" " " "	1		31.7	3.7		48			0.0	
299+20	Approaches										
300+00	Cross Culvert			7.8				70		9.7	
302+91 - 303+50	" " Side Drain, Approach			21.3		110				3.1	
309+00	Approaches										
321+75	" " side drain					32					
326+38 - 326+68	Bridge (See Summary for Quants)			180.5							
332+33	Cross Culvert, Ditches		32.5	3.7		50				7.8	
338+50	" "			5.8			54			11.9	
341+00	Approaches										
347+00	Remove Struct, Cross Culv, ditches	1	59.2	19.7		56				6.9	
349+00	" " " "	1		5.7			52			6.3	
217+75	" "			3.9		64				6.0	
361+15	Cross Culvert, ditches			7.2		48				4.5	
361+15 - 365+50	Ditch change		11.1								
362+06	Remove Structure	1									
368+30	Approaches										
367+40 - 369+00	Remove Buildings (STATE FORCES)										
369+57	Remove Structure, Cross Culvert	1		3.5		46				4.5	
370+00	Move Pond										
371+00	Project Marker and approach										1 Proj. Marker
223+40	" "			24.3		70				6.0	
294+50 - 297+40	Riprap										200 Cu. Yds.
284+00 - 295+00	Ditch Change		44.4								
TOTALS		12	155.6	470.3	50.3	962	328	52	50	120.8	

Structural Excavation is estimated to be 80% Common and 20% Rock each of which is estimated to be 50% Dry and 50% Wet.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	[illegible]	24	

FINAL SUMMARY OF QUANTITIES

FINAL CONSTRUCTION SHEET

ENG. DIV. S.H.D. JUL 1938

SUMMARY OF CRUSHED ROCK BOOKS

Gravel Book No.	Ticket Nos. From	Ticket Nos. To	Stations From	Stations To	Book Total Tons
1	E85231	H85283	246+00	263+00	
"	E85284	H85300	232+	241+00	1599.9
2	E85301	H85340	210+	232+	
"	E85341	H85350	201+	207+00	1692.8
3	E85351	E85393	177+00	201+	
"	F85393	G85400	296+00	300+	1692.9
4	E85401	H85405	293+	296+00	
"	E85406	E85424	300+	310+	
"	F85424	E85430	313+	326+	
"	F85430	H85450	243+	246+	1593.9
5	E85451	H85457	310+	313+	
"	E85458	F85465	241+00	246+	
"	G85465	E85472	207+00	210+	
"	F85472	H85473	326+	327+	
"	E85477	H85475	267+00	268+00	
"	E85476	F85483	263+00	267+00	
"	G85483	H85500	268+00	277+	1557.9
6	E86351	F86370	277+	287+00	
"	G86370	G86375	291+00	293+	
"	H86375	H86377	Road App	303+50	
"	E86378	H86386	327+	332+	
"	E86387	G86394	287+00	291+00	
"	H86394	H86400	332+	336+	1596.8
7	E86401	F86412	336+	343+00	
"	G86412	H86413	346+00	347+00	
"	E86414	E86419	343+00	346+00	
"	F86419	H86450	347+00	366+	1811.2
8	E86451	G86452	366+	568+00	
"	F86455	F86461	368+00	371+00	
"	All other tickets	in this book to No G86483 were used	in road approaches and low spots		971.9
1 to 8	E85231	G86483	177+00	371+00	12,516.0

SUMMARY OF FINAL QUANTITIES

No.	Item	Unit	Roadway	Bridge 326+	Total	Reference
10a	Clearing & Grubbing	Lp Sm	●		●	Spec.
11	Remove 12 structures	" "	●		●	AND PLANS Book 3, Page 24
12a	Remove fence	Lin ft	9300		9300	PLANS B3.P22
13c	Unclassified excavation	Cu Yd	57202	416	57618	CROSS SECTIONS & DITCHES
14b	Dry common excavation struct.	" "	290	180.5	470.5	CROSS SECTIONS
14d	Wet " " "	" "	50.3		50.3	do BOOK 3 PAGE 18
18a	Sta. Yds. overhaul	Sta Yd	225,725.6		225,725.6	MASS DIAGRAM
18b	Yd. Mile "	Yd. Mi.	2,120.1		2,120.1	do
30c	Gravel or crushed rock surf.	Tons	12516.0		12516.0	SCALE BOOKS
42b	Treated bridge timber	M.ft.BM		0.35	0.35	PLANS
46a	Class "A" concrete	Cu Yd		42.0	42.0	"
46b	" "B" "	" "		134.44	134.44	PLANS, FIELD BK. NO 3 p.2
47	Reinforcing steel	Lbs.		4800	4800	" Book 3, Page 23
48	Structural "	"		14600	14600	" Book 3, Page 23
53b	18" corrugated metal culvert pipe	Lin. ft.	962		962	" W.O. NOS. 3434, 3760, 3764 B.3 P.25
53c	24" " " " "	" "	324		324	" do B. and P.
53d	30" " " " "	" "	32		32	" " " "
53e	36" " " " "	" "	50		50	" " " " "
65	Dry rubble slope paving (12" thick)	Sq. Yd	120.8		120.8	BOOK 3, PAGE 17
72	Wire cable guard fence	Lin. ft		200	200	PLANS Book 3, Page 19
75a	Galvan. barb wire "	" "	33070		33070	" Book 3 p. 22
75b	Gates in " " "	Each	12		12	" " " " "
78	Project markers	"	2		2	" BOOK 3, P. 7-10.
79	Right of way "	"	26		26	" " " " "
	Moving buildings Sta 367+	Lp Sm.	●		●	W.O. NO. 3235
68	Stone underdrain	Lin. ft	140		140	" " 3238 B3 P18
63	Rip rap	Cu yds	200		200	" 3013 B3, P18

LIST OF STRUCTURES

Location	Description	Remove Struct No	Excavation Cu Yd Uncl	Excavation Cu Yd Emb	Structural Excavation Cu Yd Dry	Structural Excavation Cu Yd Wet	Corrugated Metal Culv Pipe Lin ft 18"	24"	30"	36"	De Rub Sl Pav 12" Th Sq Yd.	Misc.	Reference
177+00	Project marker and approach			2.4								1 proj mkr	Book 3 Page 10 & X-Sections
179+60	Side drain and approach			15.4			32						Book 5 Page 46 & X-Sections
187+50	Cross culvert and ditches				13.5			32			5.9		Book 3, Pages 21 & 25, X-Sects.
192+00	Side drain and approach			82.4			100						Book 3 Page 25
205+30	Remove structure; cross culvert ditch	1	2		5.0		48				5.8		Book 3 Pages 24, 20, 17 " "
222+00	" " " "	1			4.6			50			6.3		" " " " " " " "
236+50 ~ 243+00	Diversion channel												
243+00	Cross culvert and ditches				19.6					50	7.0		" " " " " " "
245+50	Remove structure	1											" " " "
250+00	" " , cross culvert; ditches	1			18.8			50			3.0		" " " " " "
254+00	Cross culvert				2.2		30				6.8		" " " " " "
264+00 - 269+10	Ditch change												
264+56	Remove structure; cross culvert	1			4.5		56				3.1		
269+10	" " " "	1			23.2		70				3.1		
270+00	Side drain and approach			14.8			32						
270+50 - 271+30	Ditch change												
275+00	Cross culvert				3.2		30				6.0		
284+55 - 284+95	Stone Underdrain				31.1	46.6						140 lin ft	Work order No. 3238, Book 3, Page 18
284+00	Remove structure; cross culvert	1	33		1.7		48				8.1		
295+28	" " " "	1			31.3	3.7		48			0.0		Book 3 Page 17
284+95 - 285+15	Ditches		24										" " " 21
300+00	Cross culvert				7.8			70			9.7		
302+91	" "				21.3		60				3.1		Work order No. 3234
303+50	Side drain and approach			75.98			30						" " " 3760
309+00	Approaches			65.3									Cross Sections
321+75	Side drain and approaches			32.4			32						" "
326+38 - 326+68.2	Bridge (See summary for quantities)				180.5								Cross section sheet.
332+33	Cross culvert ditches		325		3.7		30				7.8		
338+50	" "				5.6			54			11.9		
341+00	Approaches			28.0									Cross Sections.
347+04	Remove structure; cross culvert, ditches	1	592		19.7		56				6.9		
349+00	" " " " "	1			5.7				32		6.8		
361+15	" " "				7.2		48				4.8		
361+15 - 365+50	Ditch change		11										
362+06	Remove structure	1											
368+30	Approaches			35.1									Cross Sections.
367+40 - 369+00	Remove buildings												W.O. No 3235
369+57	Remove structure; cross culvert	1			3.5		46				4.5		
370+00	Move pond & Approach			5.3									Cross Sections
371+00	Project marker and approach			6.3								1 proj. mkr	" "
217+75	Cross Culvert				31.9		64				6.0		Work Order No. 3764
223+40	" "				24.3		70				6.0		" " " "
294+50 - 297+40	Riprap											200 Cu yd	" " " 3013
284+00 - 286+00	Ditch change		444										Book 3, Page 21.
Totals		12	1656		470.5	50.3	962	324	32	50	120.8		

Note: For culvert excavation refer to cross section sheets. To the yardage there shown add excavation for rubble paving, page 17, book 3
Ditchs page 21, book 3. Dry rubble slope paving, page 17, book 3 Building removal Work order No 3235. Culvert list Book 3, page 25. - Approaches - see cross sections

FENCING

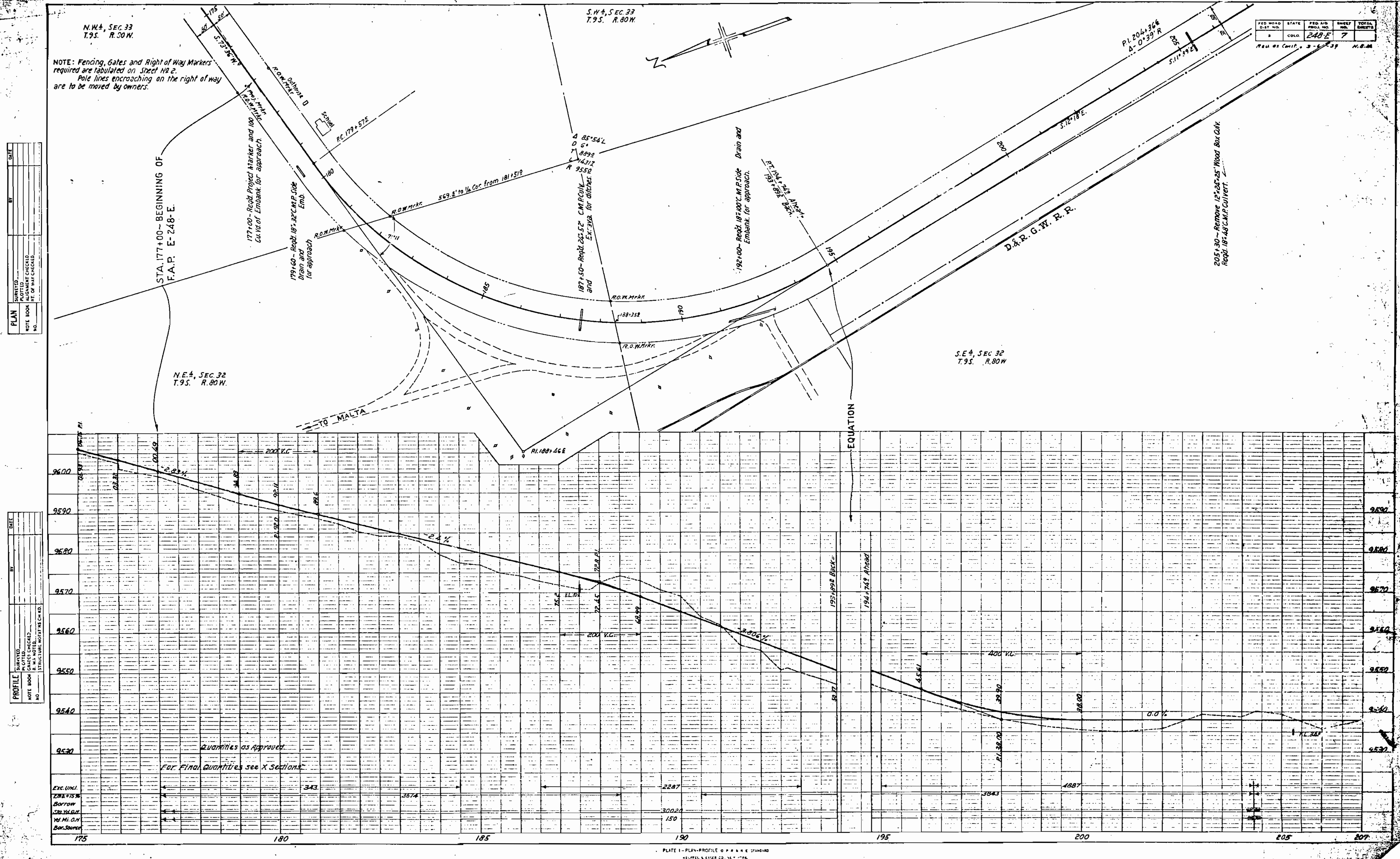
Location	Side	Build	Remove
193+00 - 211+20	R	1740	1750
211+20 - 293+40	R & L	16 440	
240+00 - 247+00	X		850
250+30 - 269+30	R & L		1550
274+00 - 291+00	R		1800
348+00 - 367+00	L		2050
367+00 - 371+00	R & L		900
293+40 - 293+90	R	50	
296+30 - 296+40	R	40	
296+40 - 369+00	R & L	14520	
369+00 - 370+20	R	120	
370+20 - 371+00	R & L	160	
Totals		33070	9300

GATES

Location	Side	No.
270+00	R	1
275+00	R	1
298+20	R & L	2
309+00	R & L	2
321+75	R & L	2
341+00	L	1
36?+30	R & L	2
369+00	R	1
Total		12

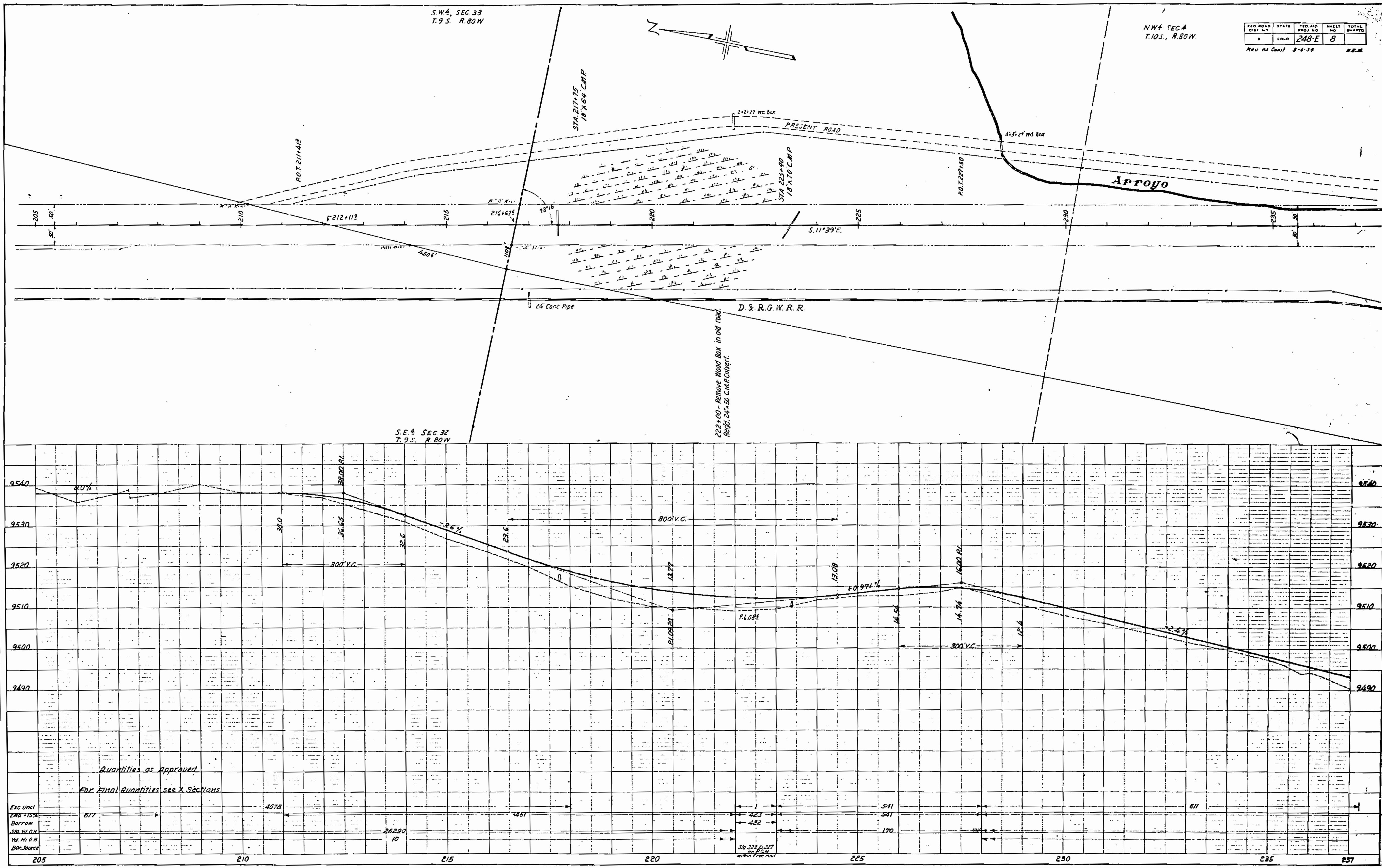
R.O.W. MARKERS

Location	Side	No.
177+00	R & L	2
181+51	"	2
188+35.8	"	2
212+12	"	2
216+67.8	"	2
244+20	"	2
273+11	"	2
289+60	"	2
305+80	"	2
336+95	"	2
337+85	"	2
367+05	"	2
371+00	"	2
Total		26

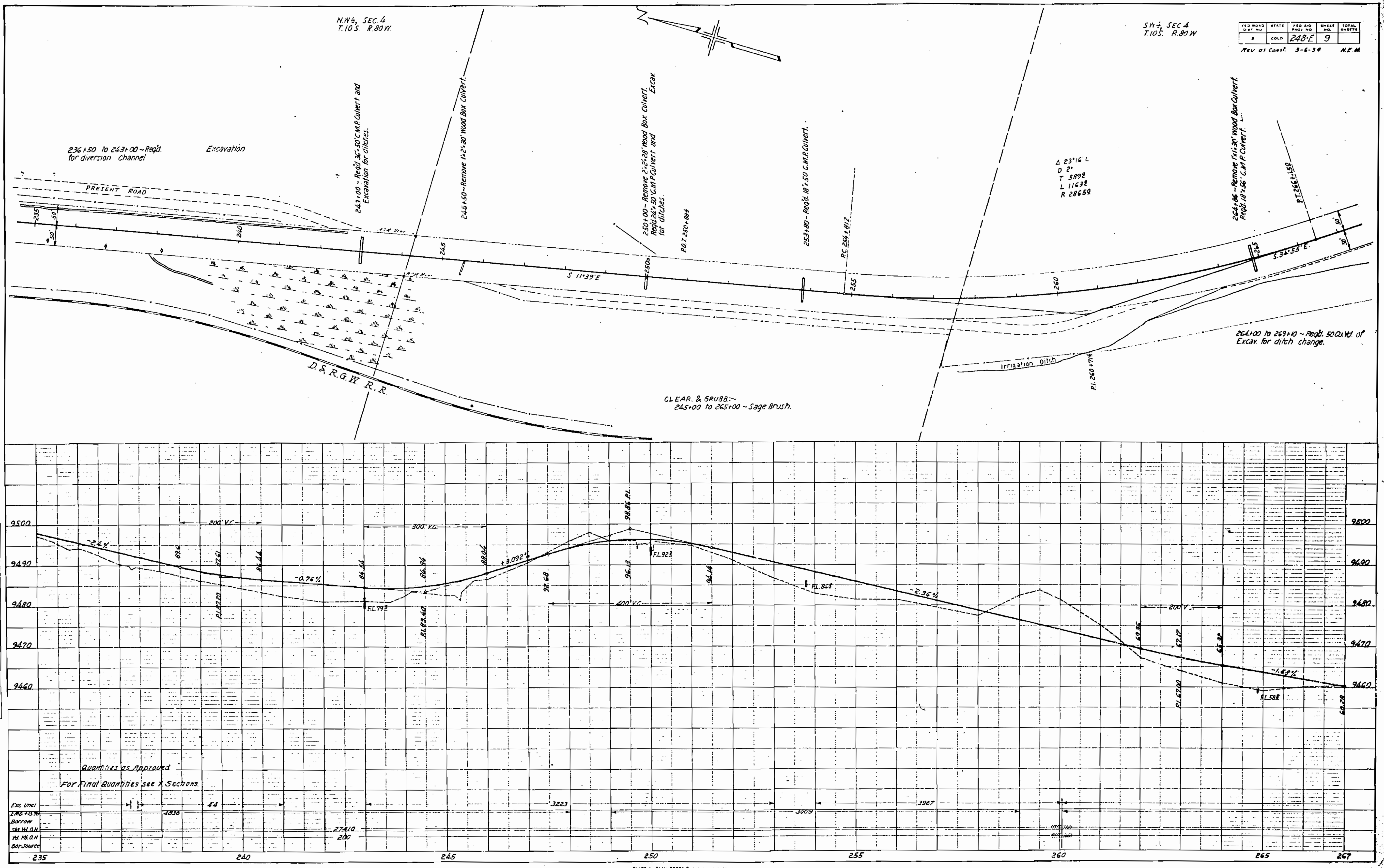


FED ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS
3 | COLO. | 248-E | 7 |
Rev. as Const. 3-6-39 H.B.M.
N.W.¼, SEC. 33 T.9S. R.80W.
NOTE: Fencing, Gates and Right of Way Markers required are tabulated on Sheet No. 2.
Pole lines encroaching on the right of way are to be moved by owners.
S.W.¼, SEC. 33 T.9S. R.80W.
STA. 177+00 ~ BEGINNING OF F.A.P. E-248-E.
177+00 ~ Reqd. Project Marker and 100 Cu. Yd. of Embank. for approach.
179+60 ~ Reqd. 18" x 32' C.M.P. Side Drain and Emb. for approach
P.C. 179+57.5
School
Outhouse
R.O.W. Mrkr.
Proj. Mrkr.
S.73°36' W.
569.3' to ¼ Cor. from 181+51.0
Δ 85°54' L
D 6°
T 889.9
L 1431.7
R 955.0
187+50 ~ Reqd. 24" x 52' C.M.P. Culv. and Ex. yds. for ditches.
188+35.2
192+00 ~ Reqd. 18" x 100' C.M.P. Side Drain and Embank. for approach.
P.T. 194+74.9 Ahead = 193+89.8 Back.
P.I. 188+46.8
TO MALTA
N.E.¼, SEC. 32 T.9S. R.80W.
S.E.¼, SEC. 32 T.9S. R.80W.
D.&R.G.W. R.R.
S.12°18' E.
S.11°39' E.
P.I. 204+36.6 Δ-0°39' R
205+30 ~ Remove 12" x 24" x 25' Wood Box Culv. Reqd. 18" x 48' C.M.P. Culvert.
EQUATION
193+89.8 Back =
194+74.9 Ahead
200' V.C.
400' V.C.
-2.83%
-2.4%
-3.806%
0.0%
06.16 P.I.
00.49
03.32
94.88
92.11
88.6
P.I. 92.0
72.8 P.I.
72.45
75.2
EL.
68.99
50.72
45.61
39.90
38.00
P.I. 38.00
F.L. 34
9600
9590
9580
9570
9560
9550
9540
9530
Quantities as Approved.
For Final Quantities see X Sections.
Exc. Uncl.
Emb. + 15%
Borrow
Sta. Yd. O.H.
Yd. Mi. O.H.
Bor. Source
343
3674
2287
30020
150
3843
4887
175
180
185
190
195
200
205
207
PLAN
SURVEYED
PLOTTED
ALIGNMENT CHECKED
RT. OF WAY CHECKED
NOTE BOOK
NO.
BY
DATE
PROFILE
GRADES CHECKED
B. M.s NOTED
STRUCTURAL NOTATIONS CH'KD.
PLATE I - PLAN-PROFILE
KEUFFEL & ESSER CO., N.Y.

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



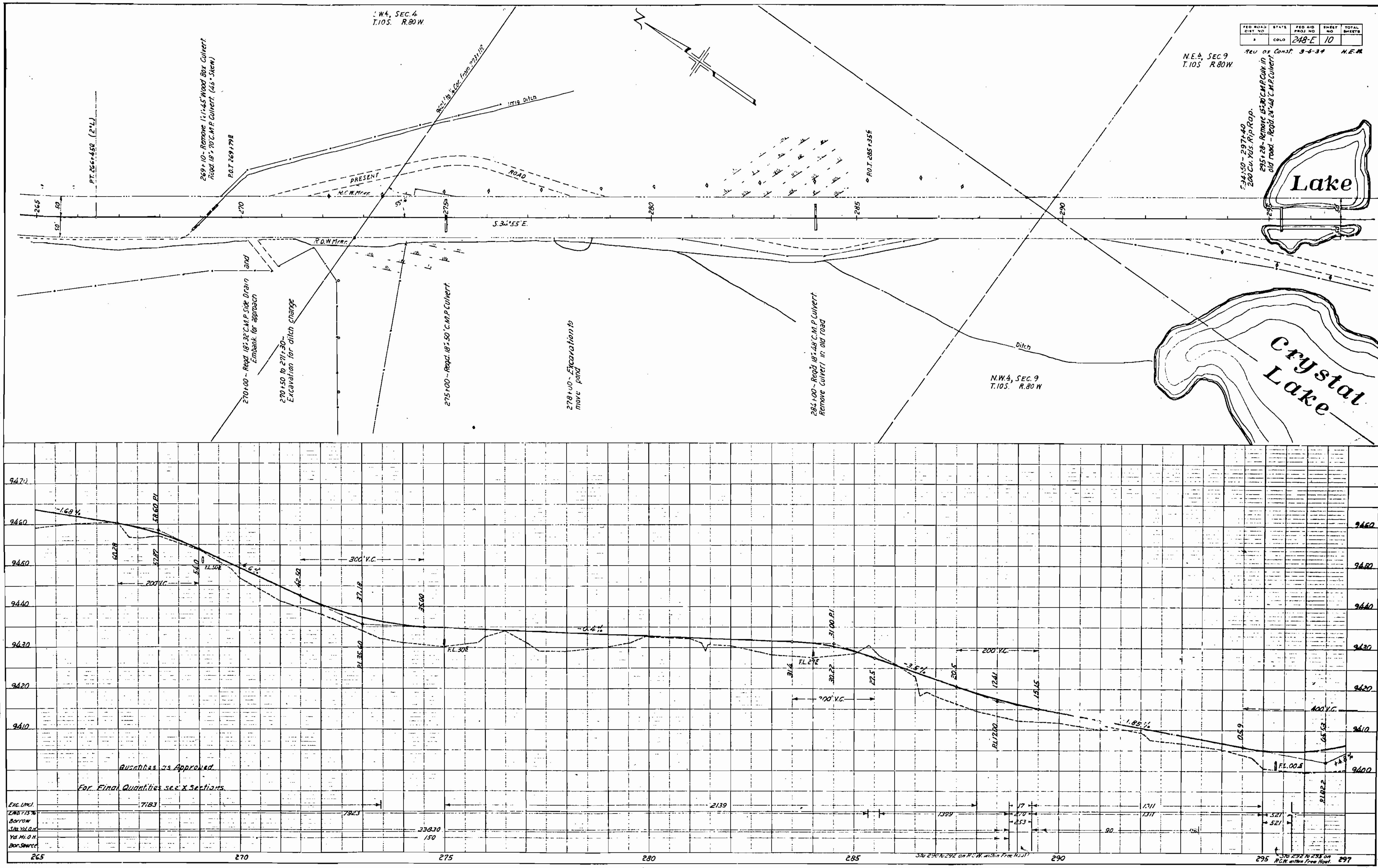
PROFILE
NOTE BOOK
NO.
SURVEYED
PLOTTED
GRADES CHECKED
6 M.S NOTED
STRUCTURE NOTAT NS CH'KD.
BY
DATE

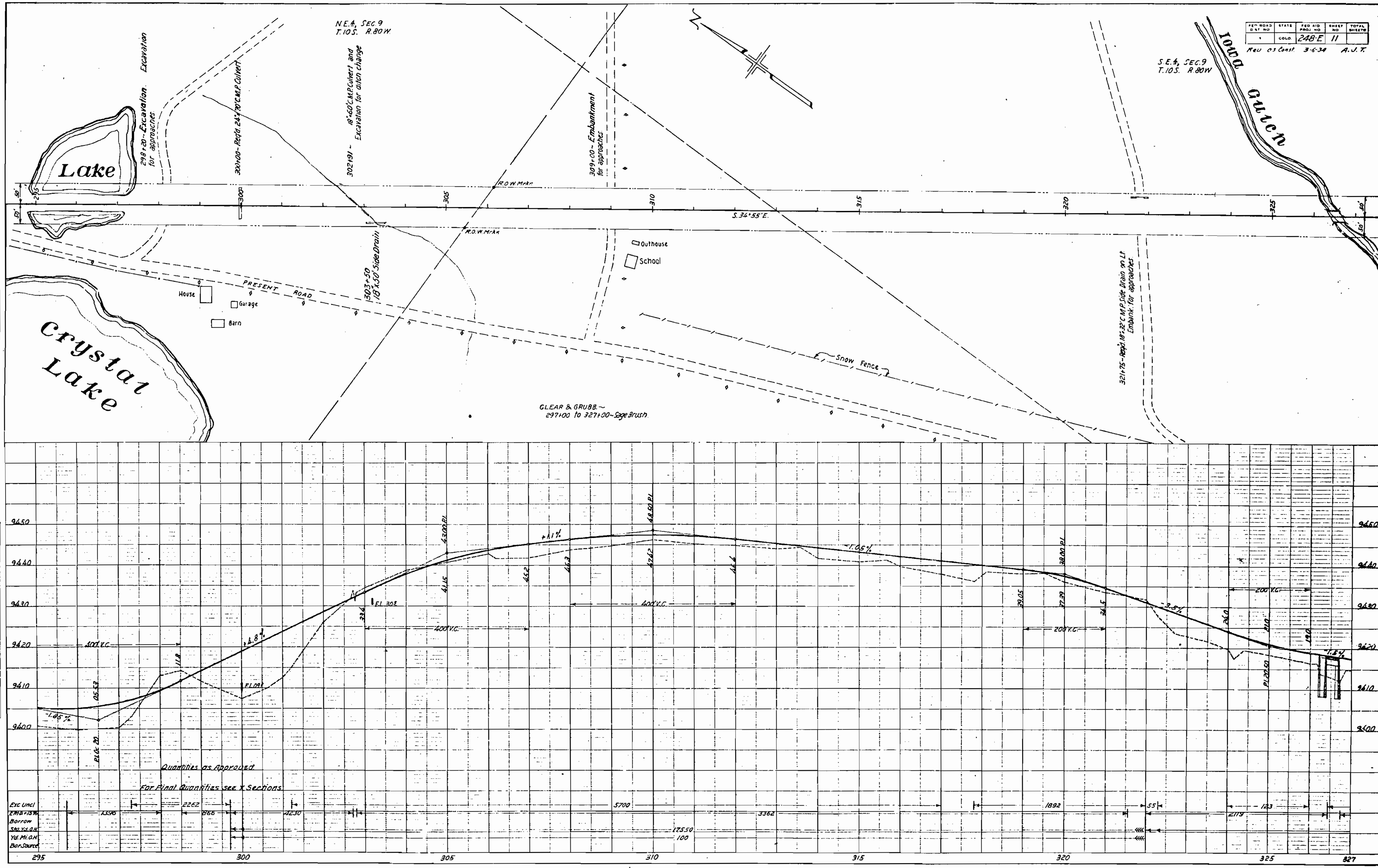


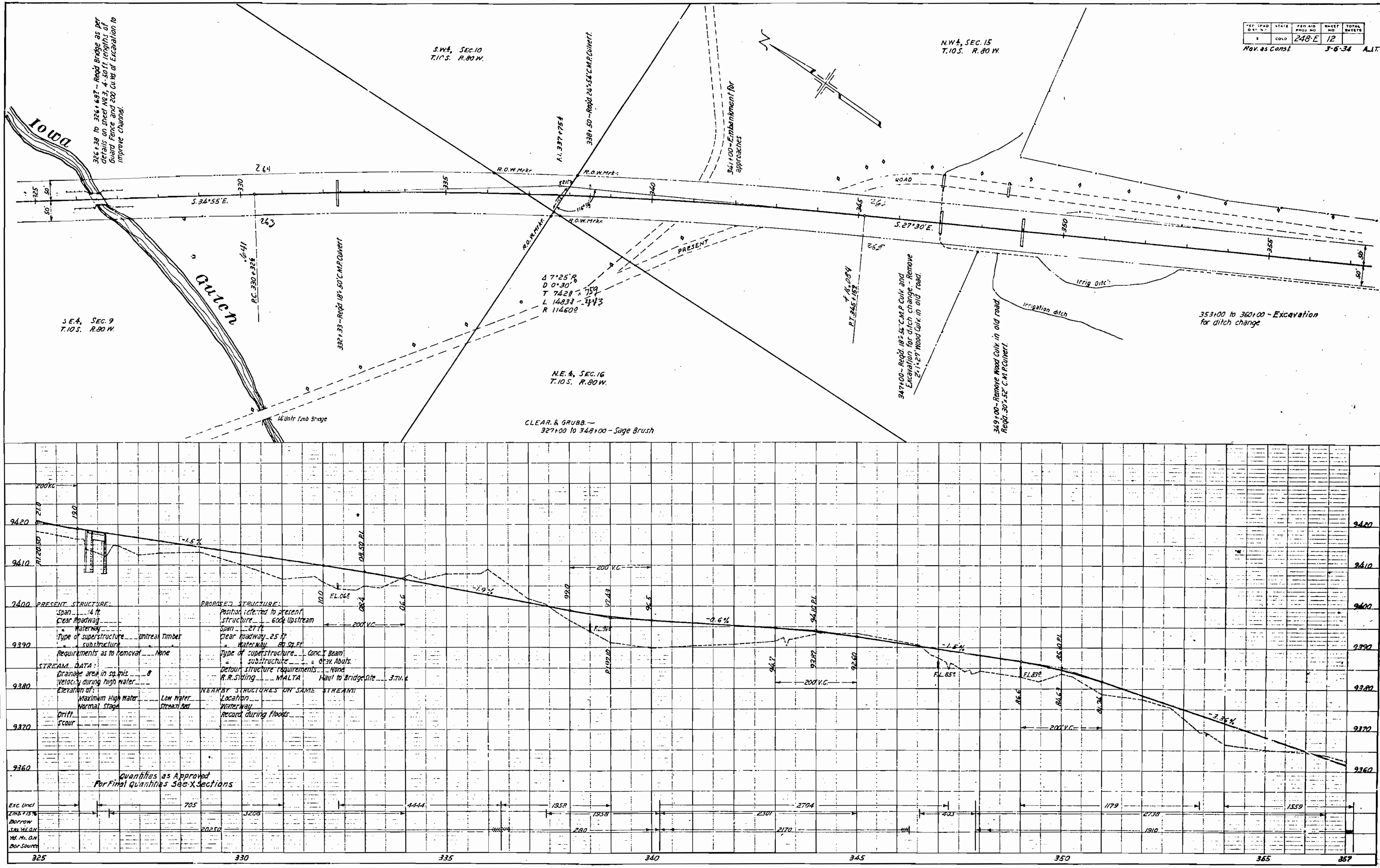
FED ROAD DIST NO
STATE
FED AID PROJ NO
SHEET NO.
TOTAL SHEETS
COLO
248-E
9
Rev as Const. 3-6-34 H.E.M.
N.W¼, SEC. 4
T.10 S. R.80 W.
S.W¼, SEC 4
T.10 S. R.80 W
236+50 to 243+00 ~ Req'd. Excavation for diversion channel
PRESENT ROAD
243+00 ~ Req'd 36"x50' C.M.P. Culvert and Excavation for ditches.
245+50 ~ Remove 1'x2'x30' Wood Box Culvert.
250+00 ~ Remove 2'x2'x28' Wood Box Culvert. Req'd. 24"x50' C.M.P. Culvert and Excav. for ditches.
P.O.T. 250+88
253+80 ~ Req'd. 18"x50' C.M.P. Culvert.
P.C. 254+81.7
Δ 23°16' L
D 2°
T 589.2
L 1163.3
R 2865.0
264+86 ~ Remove 1'x1'x30' Wood Box Culvert. Req'd. 18"x56' C.M.P. Culvert.
P.T. 266+15.0
S 11°39' E
S.34°55' E.
D. & R.G.W. R.R.
CLEAR. & GRUBB:~ 245+00 to 265+00 ~ Sage Brush.
Irrigation Ditch
P.I. 260+71.6
264+00 to 269+10 ~ Req'd. 50 Cu. Yd. of Excav. for ditch change.
PLAN
SURVEYED
PLOTTED
ALIGNMENT CHECKED
R/W OF WAY CHECKED
NOTE BOOK
NO.
BY
DATE
PROFILE
SURVEYED
PLOTTED
GRADES CHECKED
B.M.'s NOTED
STRUCTURE NOTATIONS CH'KD
9500
9490
9480
9470
9460
200' V.C.
300' V.C.
400' V.C.
200' V.C.
-2.4%
-0.76%
+3.092%
-2.36%
-1.68%
88.6
87.61
86.44
84.54
84.84
88.04
92.68
98.86 P.I.
96.13
94.14
69.36
67.12
65.32
60.28
P.I. 87.20
P.I. 83.40
P.I. 67.00
F.L. 79.2
F.L. 92.3
F.L. 84.2
F.L. 58.8
Quantities as Approved
For Final Quantities see X Sections.
Exc. Uncl
Emb. +15%
Borrow
Sta. Yd. O.H.
Yd. Mi. O.H.
Bor. Source
44
4836
3223
3009
3967
27410
200
235
240
245
250
255
260
265
267

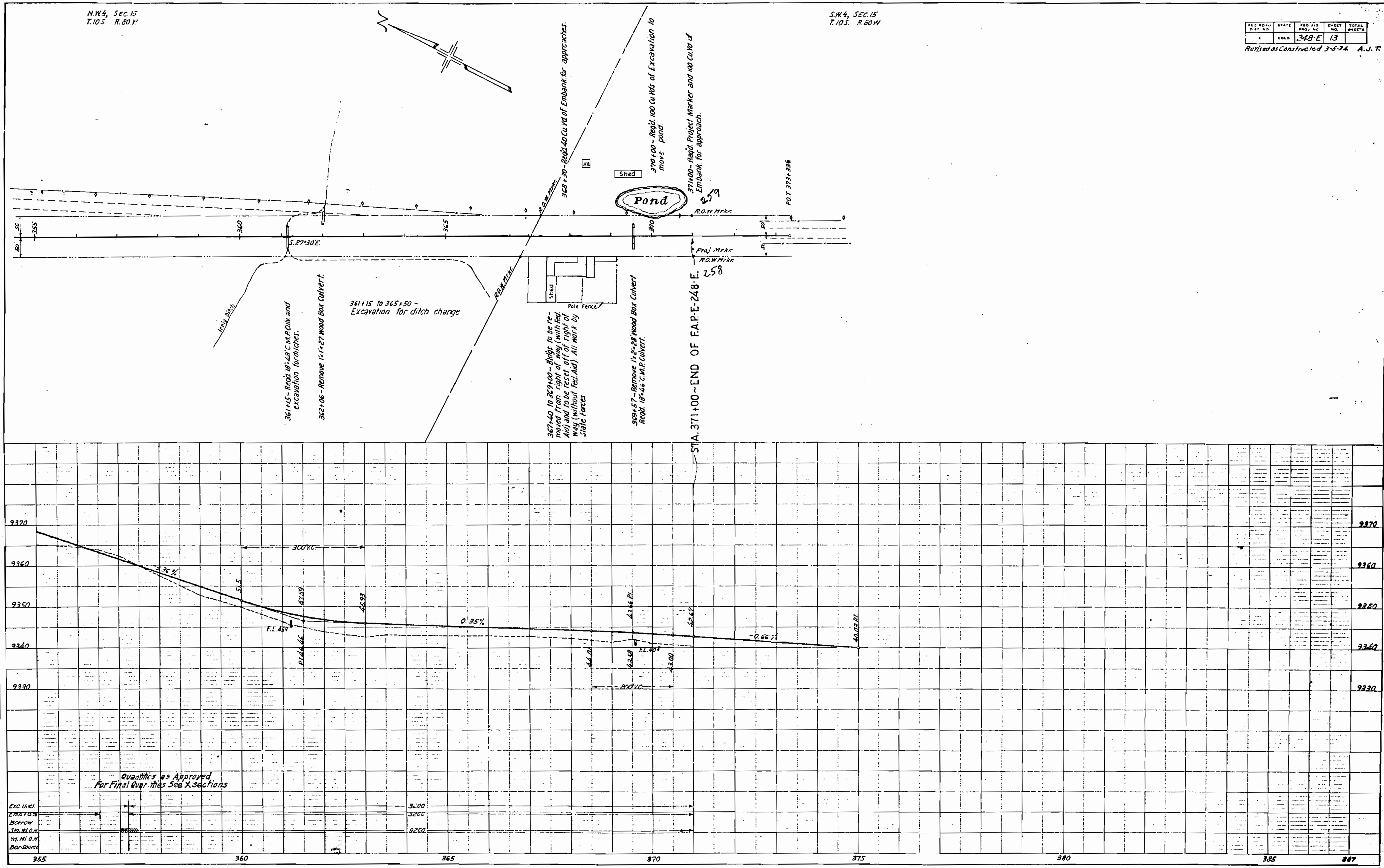
PLAN
NOTE BOOK
NO.
SURVEYED
PLOTTED
ALIGNMENT CHECKED
RT. OF WAY CHECKED
BY
DATE

PROFILE
NOTE BOOK
NO.
SURVEYED
PLOTTED
GRADES CHECKED
F. M. NOTED
STRUCTURE NOTATIONS CHECKED
BY
DATE




FED ROAD DIST NO | STATE | FED AID PROJ NO | SHEET NO | TOTAL SHEETS
COLO. | 248-E | 11
Rev as Const. 3-6-34 A.J.T.
N.E.¼, SEC.9
T.10S. R.80W.
S.E.¼, SEC.9
T.10S. R.80W
Lake
Crystal Lake
Iowa Gulch
298+20 - Excavation for approaches
Excavation
300+00 - Req'd. 24"x70' C.M.P. Culvert
302+91 - 18"x60' C.M.P. Culvert and Excavation for ditch change
303+50 18"x50' Side Drain
309+00 - Embankment for approaches
321+75 - Req'd. 18"x32' C.M.P. Side Drain on Lt. Embank. for approaches
R.O.W. Mrkr.
S.34°55'E.
PRESENT ROAD
House
Garage
Barn
Outhouse
School
Snow Fence
CLEAR & GRUBB. ~ 297+00 to 327+00 ~ Sage Brush.
PLAN
SURVEYED
PLOTTED
ALIGNMENT CHECKED
RT. OF WAY CHECKED
NOTE BOOK
NO.
BY
DATE
PROFILE
SURVEYED
PLOTTED
GRADES CHECKED
B M'S NOTED
STRUCTURE NOTAT'NS CH'KD.
9450
9440
9430
9420
9410
9400
-1.35%
400' V.C.
+4.8%
P.I. 05.20
05.53
11.8
El. 09
El. 303
33.4
4300 P.I.
41.15
400' V.C.
+1.1%
45.2
46.3
48.50 P.I.
42.62
46.6
400' V.C.
-1.05%
39.05
38.00 P.I.
37.39
34.5
200' V.C.
-3.5%
26.0
21.0
19.0
P.I. 20.50
200' V.C.
-1.5%
Quantities as Approved
For Final Quantities see X Sections
Exc. Uncl.
Emb.+15%
Borrow
Sta.Yd.O.H.
Yd.Mi.O.H.
Bor. Source
2262
1396
866
1230
5700
3362
17550
100
1892
55
123
2119
295
300
305
310
315
320
325
327


FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS
COLO | 248-E | 12
Rev. as Const. 3-6-34 A.J.T.
PLAN
SURVEYED
PLOTTED
ALIGNMENT CHECKED
RT OF WAY CHECKED
NOTE BOOK
NO.
BY
DATE
Iowa Gulch
326+38 to 326+687 ~ Reqd. Bridge as per details on sheet No. 3, 4-50 ft. lengths of Guard Fence and 200 Cu.Yd. of Excavation to improve channel.
S.W.¼, Sec. 10 T.10S. R.80W.
N.W.¼, SEC. 15 T.10S. R.80W.
S.E.¼, Sec. 9 T.10S. R.80W.
N.E.¼, Sec. 16 T.10S. R.80W.
S.34°55'E.
S.27°30'E.
P.C. 330+326
P.I. 337+754
P.T. 345+152
332+33 ~ Reqd. 18"x50' C.M.P. Culvert
338+50 ~ Reqd. 24"x54' C.M.P. Culvert.
341+00 ~ Embankment for approaches
347+00 ~ Reqd. 18"x56' C.M.P. Culv. and Excavation for ditch change. - Remove 2'x1'x27' Wood Culv. in old road.
349+00 ~ Remove Wood Culv. in old road. Reqd. 30"x52' C.M.P. Culvert.
353+00 to 360+00 ~ Excavation for ditch change
Δ 7°25' R
D 0°30'
T 742.8 - 759
L 1483.3 - 1483
R 11460.0
R.O.W. Mrkr.
PRESENT
ROAD
Irrig. Ditch
Irrigation ditch
14' Untr. Timb. Bridge
CLEAR. & GRUBB. — 327+00 to 348+00 - Sage Brush
PROFILE
SURVEYED
PLOTTED
GRADES CHECKED
B.M. NOTED
STRUCTURE NOTATIONS CHKD.
9420
9410
9400
9390
9380
9370
9360
200' V.C.
-1.5%
-1.9%
-0.6%
-1.5%
-3.36%
P.I. 20.50
09.50 P.I.
94.10 P.I.
85.0 P.I.
P.I. 97.10
F.L. 06.5
F.L. 93
F.L. 85.0
F.L. 83.0
PRESENT STRUCTURE:
Span 14 ft.
Clear Roadway
Waterway
Type of superstructure Untreat Timber
substructure
Requirements as to removal None
STREAM DATA:
Drainage area in sq. mis. 8
Velocity during high water
Elevation of:
Maximum High Water Low Water
Normal Stage Stream Bed
Drift
Scour
PROPOSED STRUCTURE:
Position referred to present structure 60' ± Upstream
Span 27 ft.
Clear Roadway 25 ft.
Waterway 80 Sq. Ft.
Type of superstructure Conc. I Beam
substructure Grav. Abuts.
Detour structure requirements None
R.R. Siding MALTA Haul to Bridge Site 3 mi. ±
NEARBY STRUCTURES ON SAME STREAM:
Location
Waterway
Record during floods
Quantities as Approved
For Final Quantities See X Sections
Exc. Uncl.
Emb.+15%
Borrow
Sta. Yd. O.H.
Yd. Mi. O.H.
Bor. Source
705
3208
20250
4444
1958
1938
280
2301
2170
2704
403
1179
2738
1910
1559
325
330
335
340
345
350
355
357
PLATE: PLAN-PROFILE



FED ROAD DIST. NO. | STATE | FED AID PROJ. NO. | SHEET NO. | TOTAL SHEETS
COLO | 348-E | 13
Revised as Constructed 3-5-34 A.J.T.
N.W.4, SEC. 15
T.10S. R.80W
S.W.4, SEC. 15
T.10S. R.80W
PLAN
NOTE BOOK
NO.
SURVEYED
PLOTTED
ALIGNMENT CHECKED
RT OF WAY CHECKED
BY
DATE
355
360
365
370
S.27°30'E.
50'
Irrig. Ditch
361+15 - Reqd. 18"-48' C.M.P. Culv. and excavation for ditches.
362+06 - Remove 1'x1'x27' Wood Box Culvert.
361+15 to 365+50 - Excavation for ditch change
R.O.W. Mrkr.
368+30 - Reqd. 40 Cu. Yd. of Embank. for approaches.
Ha
Shed
Pond
370+00 - Reqd. 100 Cu. Yds of Excavation to move pond.
371+00 - Reqd. Project Marker and 100 Cu. Yd. of Embank. for approach.
P.O.T. 373+33.6
259
258
Proj. Mrkr.
Pole Fence
367+40 to 369+00 - Bldgs to be removed from right of way (with Fed. Aid) and to be reset off of right of way (without Fed. Aid). All work by State Forces
369+57 - Remove 1'x2'x28' Wood Box Culvert. Reqd. 18"-46' C.M.P. Culvert.
STA. 371+00 ~ END OF F.A.P.-E-248-E.
PROFILE
NOTE BOOK
NO.
SURVEYED
PLOTTED
GRADES CHECKED
S.M.S. NOTED
STRUCTURE NOTATIONS CHKD
9370
9360
9350
9340
9330
3.36%
300' V.C.
51.5
42.59
46.93
F.L. 45.9
P.I. 46.46
0.35%
43.66 P.I.
42.67
44.01
43.58
F.L. 40.7
43.00
200' V.C.
-0.66%
40.03 P.I.
Quantities as Approved
For Final Quantities See X Sections
Exc. Uncl.
Emb. + 15%
Borrow
Sta. Yd. O.H.
Yd. Mi. O.H.
Bor. Source
3200
3200
9200
355
360
365
370
375
380
385
387