

FED. ROAD DIST. NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	COLO.	S 0009 (I)	1	

COLORADO

STATE HIGHWAY DEPARTMENT

PLAN AND PROFILE OF PROPOSED FEDERAL AID SECONDARY PROJECT NO. S 0009 (I) STATE HIGHWAY NO. 154 LOGAN COUNTY

INDEX OF SHEETS	
SHEET NUMBER	TITLE
1	TITLE SHEET
2	TYPICAL SECTION, SUMMARY & TABULATIONS
3	STANDARD LETTERS & FIGURES FOR YEAR & STRUCTURE NUMBERS. M 10 B
4	STANDARD HEADWALLS & APRONS FOR C.M.P. CULVERTS. M 102 G
5	STANDARD METHODS FOR SUPERELEVATION & WIDENING OF CURVES. M 1 B
6	TYPICAL SIDE APPROACH ROADS, FLARING, CUT SLOPE TREATMENT & WIDENING AT BRIDGES. M 2 C
7	STANDARD ROADWAY CONSTRUCTION TRAFFIC SIGNS. M 2 D
8-12	PLAN & PROFILE SHEETS
13	SURFACING & EARTHWORK TABULATIONS

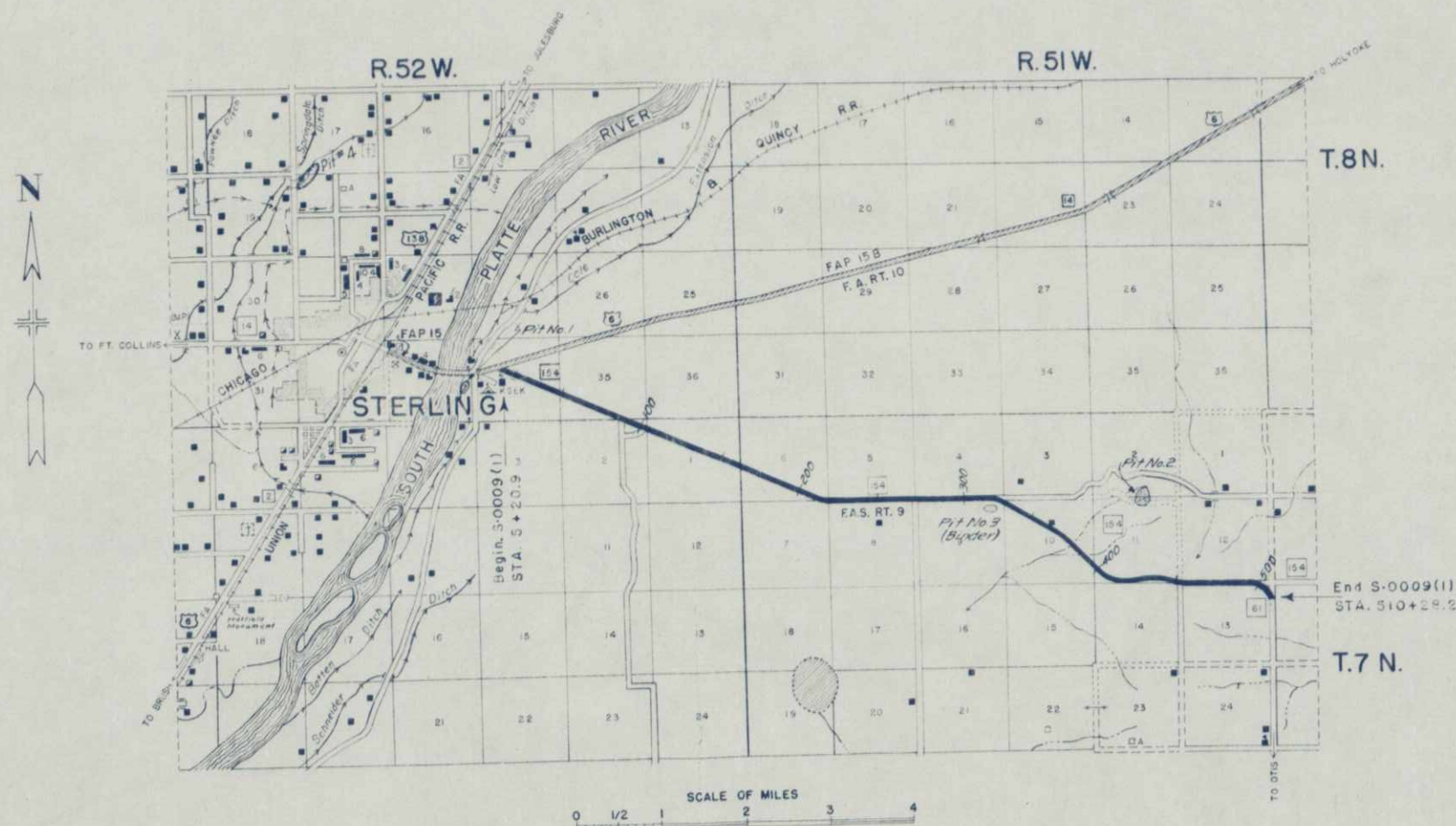
SCALES OF ORIGINAL TRACINGS

ON PLAN. 1 IN. = 400 FT.
ON PROFILE 1 IN. = 400 FT. HORIZONTAL
1 IN. = 20 FT. VERTICAL
GRADE LINE ON PROFILE IS SHOWN AS GRADE OF FINISHED ROAD
GROSS LENGTH OF PROJECT 50,476.6 Ft. = 9.559 MI.
NET LENGTH OF PROJECT

CONVENTIONAL SIGNS

CENTER LINE OF SURVEY _____
RIGHT OF WAY LINES _____
TOWNSHIP LINES _____
SECTION LINES _____
BARBED WIRE FENCE _____
TELEPH. & TELEG. LINE _____

NOTE:
It is recommended that bidders on this Project go over the plan details with one of the following field representatives of this Department.
W.A. Whitney Division Engineer, Greeley, Colo.

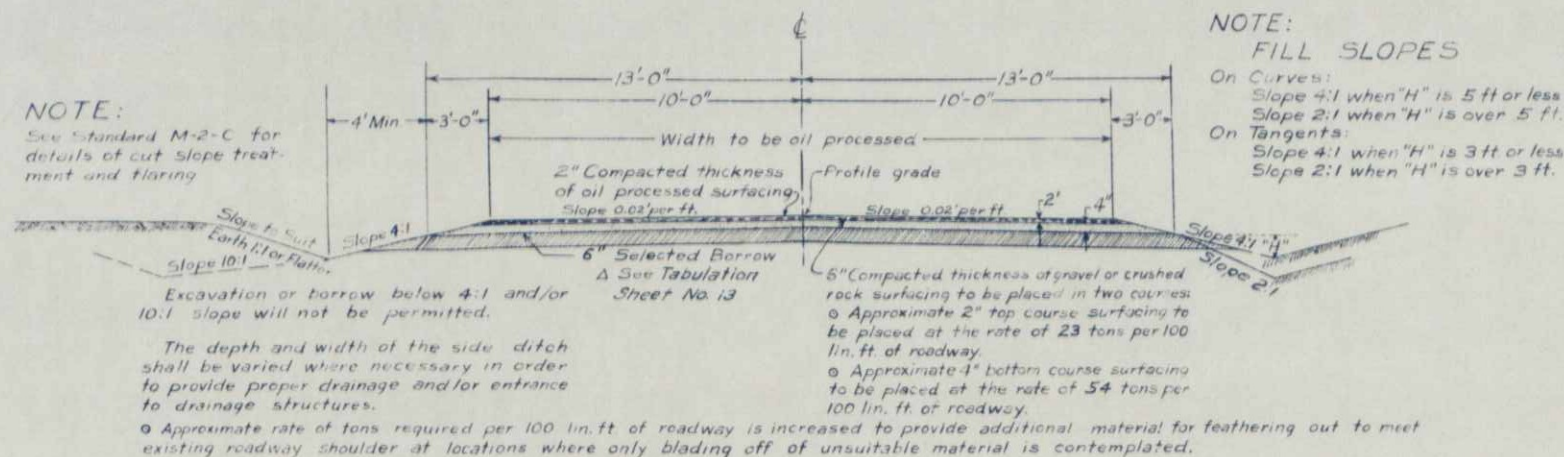


RECOMMENDED FOR APPROVAL	
<i>John S. Paul</i> ASSISTANT ENGINEER 12-9-47	DATE
APPROVED	
<i>W.A. Whitney</i> STATE HIGHWAY ENGINEER 12-9-47	DATE
RECOMMENDED FOR APPROVAL	
DISTRICT ENGINEER PUBLIC ROADS ADMINISTRATION FEDERAL WORKS AGENCY	DATE
APPROVED	
DIVISION ENGINEER PUBLIC ROADS ADMINISTRATION FEDERAL WORKS AGENCY	DATE

FILE NO.	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
3	COLO.	S0009 (1)	2	

TYPICAL CROSS SECTION OF IMPROVEMENT AND SUMMARY OF QUANTITIES

TYPICAL SECTION



GENERAL NOTES

This project is to be constructed in conformity with the Standard Specifications of the Colorado State Highway Department adopted June 1, 1940.

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

All roadway excavation required to construct this project is to be obtained as indicated on the plans. Quantities involved beyond the limits of the ditch, as shown on the typical section, either noted on the profile as borrow or on 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 conditions actually met in construction.

All poles encroaching on construction are to be moved by the owners.

All corrugated metal pipe culverts shall be laid with a metal apron at both ends unless otherwise noted on the plans.

Approximately 6 inches of embankment material will be used to cover culverts in such a manner that a minimum of pipe shall be exposed in the completed work. This shall be accomplished by warping embankment slopes around and adjacent to the culvert.

Except as otherwise noted on the plans, payment for overhaul will be based on measurement along the centerline of the project. All curves are to be superelevated and widened as provided by the Standard Superelevation Sheet included with the plans.

The detour for this project lies along the present traveled road. At all places on the project where the new work lies along the present traveled road, the contractor shall, at his own expense, prosecute construction in such a manner that traffic may readily pass over the road. Also, the contractor shall maintain in safe condition and at his own expense, all temporary approaches to and crossings of intersecting roads.

Sta. 5+20.9 to Sta. 495+ R.O.W. lines are along existing fence lines.

Sta. 495 to End of Project R.O.W. lines are as shown on the plans.

All stone screenings are to be Type 3.

At bridge approaches, the oil processing shall be widened to meet the curbed width of the bridge and shall take place gradually over a distance of 300 ft each way from the bridge ends.

Asphaltic Road Material, MC-0, is to be placed over a 22 ft. width of roadway previous to placing of oil processed material.

All side approach roads to project shall be oil processed approximately to the right of way line.

A seal coat shall be used over the entire oil processed area on this project.

TABULATION OF LENGTH & DESIGN DATA

Station	Roadway Lin. Ft.	Bridge Lin. Ft.
5+20.9 Beginning of S0009(1)	21381.2	
219+02.1 Bk. =		
218+98.3 Ah.	11185.2	
330+83.5 Bk. =		
330+88.4 Ah.	4608.2	
376+96.6 Bk. =		
377+11.9 Ah.	5604.1	
433+16.0 Bk. =		
433+29.2 Ah.	2023.7	
453+52.9 Bk. =		
453+54.0 Ah.	5674.2	
510+28.2 End of S0009(1)		
Totals	50476.6	
Summary	Lin. ft.	Miles
Roadway	50476.6	9.559
Bridges	None	None
Total S0009(1)	50476.6	9.559
Design Data		
Maximum Degree of Curve	6%	
Maximum Grade	6%	
Minimum N.P.S.D. ~ Horizontal	570 ft.	
Minimum N.P.S.D. ~ Vertical	570 ft.	
Maximum Design Speed	60 M.P.H.	

LIST OF STRUCTURES

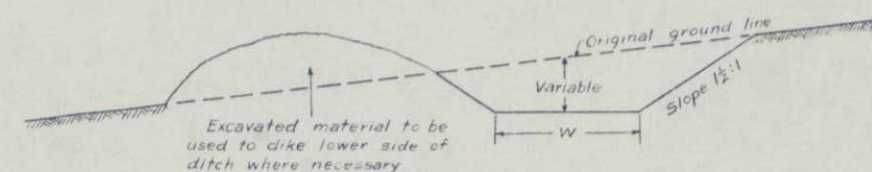
Location of Structure	Description of Structure	Structural Excavation Cu. Yd.	Back Fill Cu. Yd.	Uncl. Ditch Excav. Cu. Yd.	Corrugated Metal Pipe 24" 72"	Metal Apron 24"
5+20.9	Project Marker					
154+00 to 158+00	Drain Ditch			100		
198+00 to 202+00	Drain Ditch			100		
362+00	C.M.P. Cross Culvert	15	20		64'	2
379+91	Remove Treated Timber Cattle Pass					
	Req'd. 72" x 78' C.M.P.	10	250		78'	
411+00	Cross Culv. No Hdw's	30	20		62'	2
424+00	C.M.P. Cross Culvert	25	20		52'	2
510+28.2	Project Marker					
Totals		80	310	200	178'	6

* Structural Excavation is estimated to be 75% Common and 25% Rock of which 75% is dry and 25% is wet.

SUMMARY OF APPROXIMATE QUANTITIES

No.	Item	Unit	Quantity
11c	Remove Timber Cattle Pass Sta 379+91	Lump sum	•
13c	Unclassified Excavation	Cu. Yd.	61,000
13d	Unclassified Ditch Excavation	Cu. Yd.	200
14a	Dry Rock Excavation (Structural)	Cu. Yd.	20
14b	Dry Common Excavation (Structural)	Cu. Yd.	50
14c	Wet Rock Excavation (Structural)	Cu. Yd.	10
14d	Wet Common Excavation (Structural)	Cu. Yd.	20
15a	Rolling Embankments and Cuts	Hr.	550
15b	Furnishing Roller	R. Unit	2
15c	Wetting Embankments and Cuts	M. Gal.	2150
15y	Selected Backfill	Cu. Yd.	310
18a	Station Yard Overhaul	Sta. Yd.	200,000
18b	Yard Mile Overhaul	Yd. Mi.	2,600
26a	Gravel or Crushed Rock Surfacing	Tons	39,000
26c	Overhaul of Surfacing	Ten. Mi.	100,000
30e	Asphaltic Road Material RC-3	Gal.	28,200
30g	Asphaltic Road Material MC-0	Gal.	49,500
30p	Asphaltic Road Material MC-3	Gal.	141,400
31a	Road Mix Oil Processing	Sq. Yd.	117,900
31e	Rolling Surfacing (Rubber Tired)	Hr.	300
31f	Rolling Surfacing (Flat Wheel)	Hr.	40
31g	Furnishing Roller (Rubber Tired)	Lump sum	•
31h	Furnishing Roller (Flat Wheel)	Lump sum	•
32b	Stone Screenings	Ton	1,180
53c	24" Corrugated Metal Culvert Pipe	Lin. ft.	178
53j	72" Corrugated Metal Culvert Pipe	Lin. ft.	78
61a	Project Markers (By State Forces)	Each	1
95c	Metal Apron for 24" C.M.P. Culvert	Each	6

TYPICAL SECTION OF DRAIN DITCH



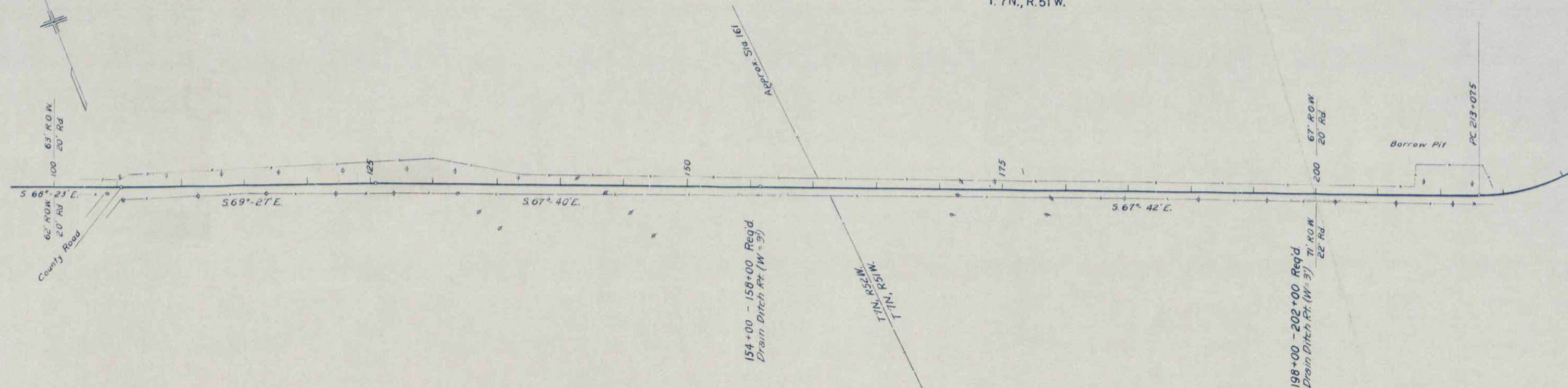


FED. ROAD DIST. NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	COLO.	S-0009 (1)	9	

SEC. 2,
T. 7N., R. 52W.

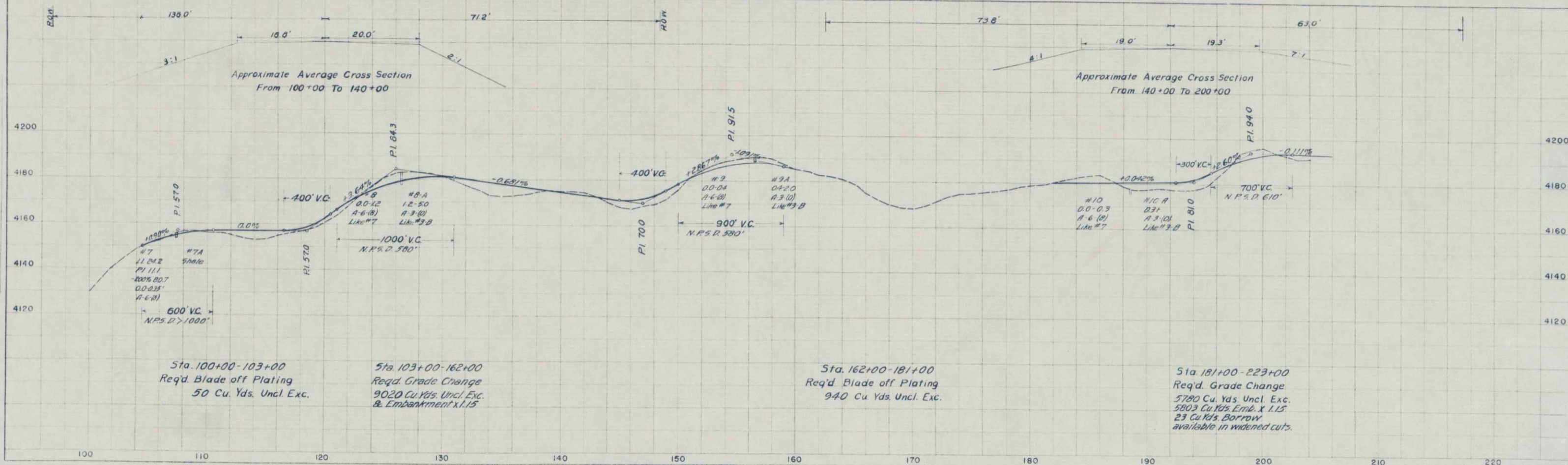
SEC. 1

SEC. 6
T. 7N., R. 51W.



Approximate Average Cross Section
From 100+00 To 140+00

Approximate Average Cross Section
From 140+00 To 200+00



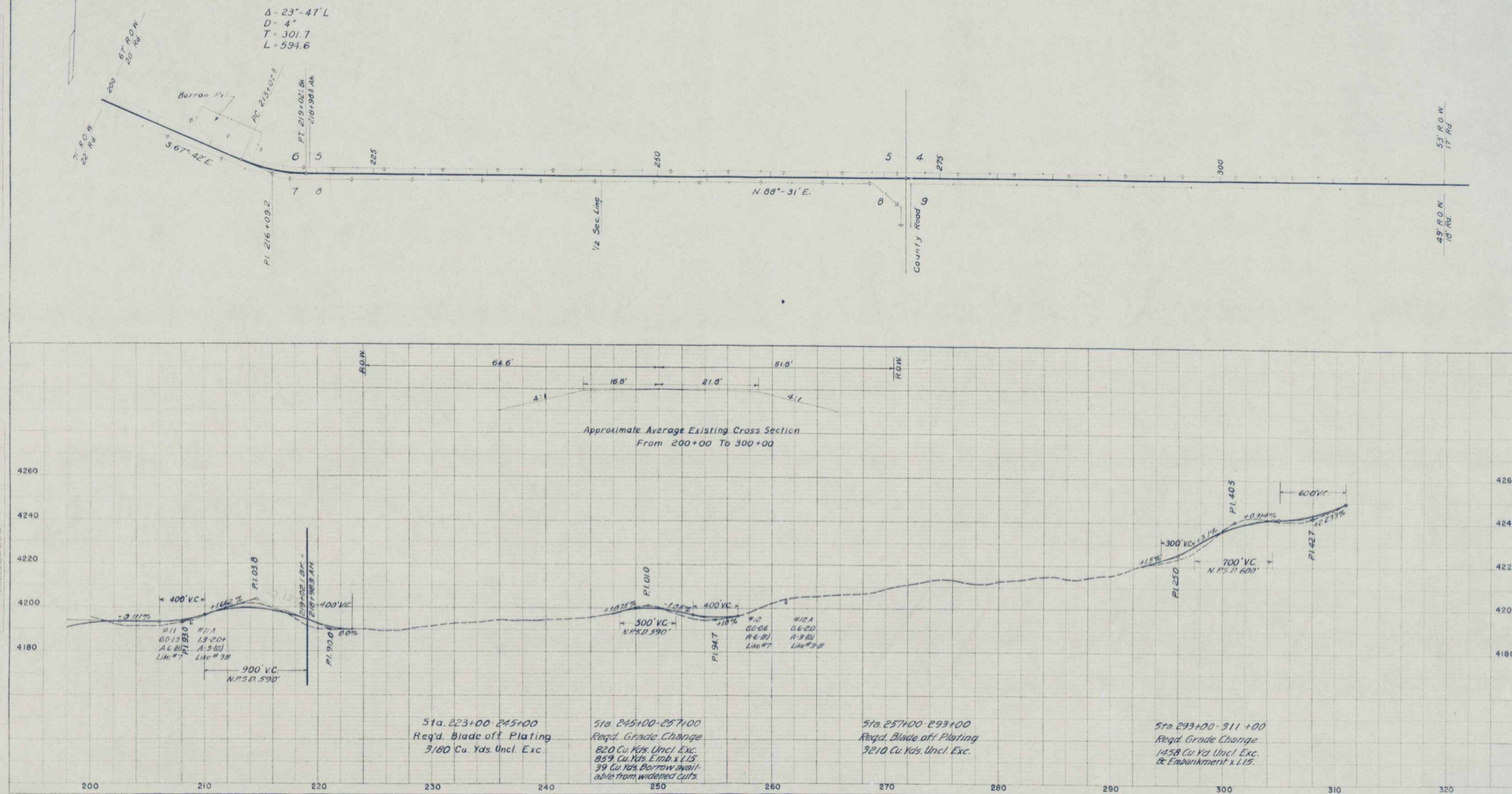
Sta. 100+00-103+00
Req'd. Blade off Plating
50 Cu. Yds. Uncl. Exc.

Sta. 103+00-162+00
Req'd. Grade Change
9020 Cu. Yds. Uncl. Exc.
& Embankment x 1.15

Sta. 162+00-181+00
Req'd. Blade off Plating
940 Cu. Yds. Uncl. Exc.

Sta. 181+00-223+00
Req'd. Grade Change
5780 Cu. Yds. Uncl. Exc.
5803 Cu. Yds. Emb. x 1.15
23 Cu. Yds. Borrow
available in widened cuts.

PROFILE	DATE	BY	REMARKS
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100. PROFILE			

$$\begin{aligned}\Delta &= 23^{\circ}-47' L \\ D &= 4^{\circ} \\ T &= 301.7 \\ L &= 594.6\end{aligned}$$


Sta. 223+00-245+00
Req'd. Blade off Plating
3/80 Cu. Yds. Uncl. Exc.

Sta. 245+00-257+00
Reqd. Grade Change
820 Cu. Yds. Uncl. Exc.
859 Cu. Yds. Emb. x 1.15
39 Cu. Yds. Borrow avail-
able from widened cuts.

Sta. 257+00 - 293+00
Reqd. Blade off Paving
3210 Cu. Yds. Uncl. Exc.

Sta. 293+00 - 311+00
Reqd. Grade Change
1458 Cu. Yd Uncl. Exc.
& Embankment x 1.15.

FED. ROAD DIST. NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	COLO.	S-0009(I)	11	

SEC. 11

