

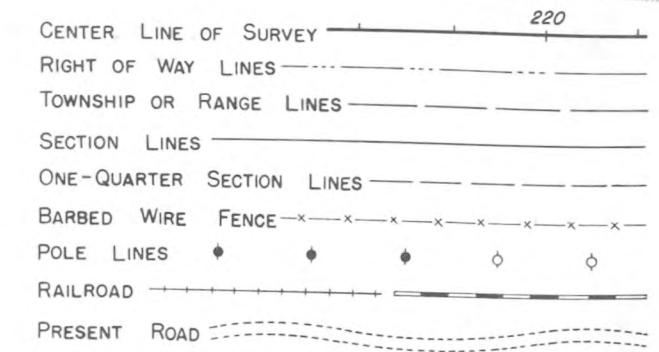
To Inactive File
June 1943
8/26/43

FED. ROAD DIST. NO.	STATE	F.A.S. PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	COLO.	369-C(1)	1	

Revised: Index of Sheets, Res. Engr. 6-9-41 w.d.w.

369.0301

CONVENTIONAL SIGNS



INDEX OF SHEETS

- SHEET NO. 6 TO 19 TO 23 TO
- 1. SKETCH MAP & TITLE
 - 2. TYPICAL SECTION & SUMMARY OF APPROXIMATE QUANTITIES
 - 3. LIST OF STRUCTURES
 - 4. DETAILS OF HEADGATE, ROCKFILL DAM, R.O.W. MARKERS, TIMBER GUARD POSTS & FENCING
 - 5. DETAILS OF BRIDGE, STA. 192+
 - 9. DETAILS OF BRIDGE, STA. 208+
 - 10. DETAILS OF DETOUR BRIDGE, STA. 208+
 - 11. STANDARD HEADWALLS FOR C.M.P. CULVERTS
 - 12. STANDARD TIMBER GUARD POSTS
 - 13. STANDARD WIRE FENCES (TREATED WOODEN POSTS)
 - 14. STANDARD STRUCTURE NUMBER LETTERING
 - 15. STANDARD STRUCTURE YEAR NUMBER MARKING
 - 16. STANDARD METHODS FOR SUPERELEVATION & WIDENING OF CURVES
 - 17. TYPICAL SIDE APPROACH ROADS-ROADWAY CONSTR. TRAFFIC SIGNS
 - 18. STANDARD MARKER POSTS
 - 22. PLAN AND PROFILE
 - 79. CROSS SECTIONS

M 102 F
M 19 B
M 24 G
M 10 A
M 14 A
M 1 B
M 2 B
M 7 B

COLORADO STATE HIGHWAY DEPARTMENT

PLAN AND PROFILE OF PROPOSED FEDERAL AID SECONDARY PROJECT NO. F.A.S. 369-C (1) STATE HIGHWAY NO. 114 SAGUACHE COUNTY

SCALES OF ORIGINAL TRACINGS
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 } 9,946.1 FT. = 1.883 MILES
NET LENGTH OF PROJECT }

FEDERAL AID SECONDARY PROJECT NO. F.A.S. 369-C (1), a gravel surfacing project 1.883 miles long, located between Parlin and Cochetopa Pass on S. H. No. 114 in Saguache County.

The attention of bidders is directed to the Special Provisions covering "Subletting or Assigning the Contract."

BIDS WILL BE OPENED AND READ JUNE 26, 1941.

PROPOSALS WILL BE ACCEPTED ONLY FROM QUALIFIED BIDDERS REGISTERED ON OR BEFORE JUNE 20, 1941.

The minimum wage paid to all skilled labor on this contract shall be not less than one dollar and ten cents (\$1.10) per hour.

The minimum wage paid to all intermediate labor employed on this contract shall be not less than seventy cents (70c) per hour.

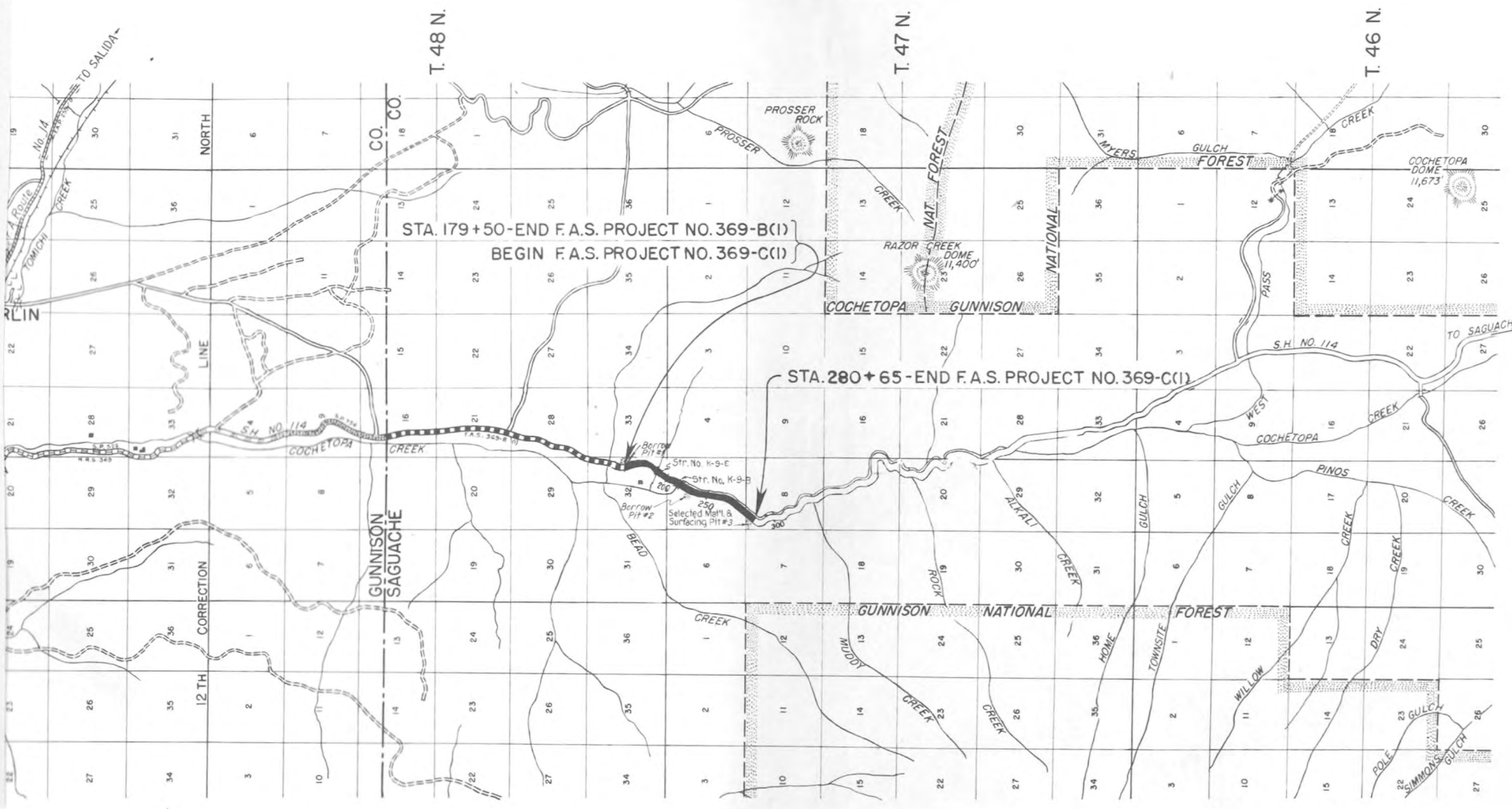
The minimum wage paid to all unskilled labor employed on this contract shall be not less than fifty cents (50c) per hour.

Certified check or Cashier's check required: In amount of nearest multiple of \$100.00 nearest to 8% of total bid amount if the same is \$50,000 or under; the nearest to 5% of total bid amount if the same is more than \$50,000.

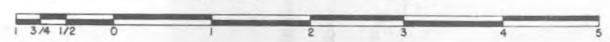
Completion required within three hundred and fifty (350) consecutive calendar days from and including the date of award.

Clear and Grubb, Ent. Proj., Lump Sum; Rem. Disused Bridge, Lt. Sta. 192+, Lump Sum; Rem. Disused Bridge, Sta. 208+, Lump Sum; Rem. Disused Detour Bridge, Sta. 207+, Lump Sum; Rem. 5 Structures, Lump Sum; Rem. Fence, 6,500 Lin. Ft.; Unclass. Excav., 68,400 Cu. Yds.; Unclass. Ditch Excav., 1,000 Cu. Yds.; Dry Rk. Excav. (Str.), 115 Cu. Yds.; Dry Com. Excav. (Str.), 495 Cu. Yds.; Wet Rk. Excav. (Str.), 185 Cu. Yds.; Wet Com. Excav. (Str.), 455 Cu. Yds.; Mechanical Tamping, 324 Hrs.; Sta. Yd. Overhaul, 206,000 Sta. Yds.; Yd. Mi. Overhaul, 4,600 Yd. Mi.; Gr. or Cr. Rk. Surf., 5,500 Ton; Overhaul of Surf., 1,200 Ton Mi.; Untr. Bridge Timber, 1.3 M. ft. b. m.; Untr. Bridge Timber (Native), 1.4 M. ft. b. m.; Untr. Bridge Timber (Salvage), 8.3 M. ft. b. m.; Tr. Bridge Timber, 13.9 M. ft. b. m.; Asphalt Plank Wear Surf., 575 Sq. Ft.; Native Logs, 1,256 Lin. Ft.; Misc. Tr. Timber, 0.2 M. ft. b. m.; Cl. "A" Conc., 275 Cu. Yds.; Cl. "B" Conc., 38 Cu. Yds.; Cl. "A" Conc. (Handrails), 6 Cu. Yds.; Reinf. Steel, 25,400 Lbs.; Struct. Steel, 28,100 Lbs.; 24" CMP Culv., 742 Lin. Ft.; 36" CMP Culv., 158 Lin. Ft.; 48" CMP Culv., 156 Lin. Ft.; Tr. Timber Piling, 592 Lin. Ft.; Met. Pile Shoes, 28; Riprap, 10 Cu. Yds.; Heavy Riprap, 233 Cu. Yds.; B. W. Fence, Tr. Wd. Posts, 5,800 Lin. Ft.; B. W. Gates, 4; Proj. Markers, 1; R. O. W. Markers, 21; Drain Pipe (Conc. Flr.) (3"x4'-0"), 2; Drain Pipe (Timber Flr.) (3"x2'-4"), 2; Timber Gd. Posts, 201; Rk. Filled Dam, 90 Cu. Yds.

Date of first publication, June 12, 1941.
Date of last publication, June 18, 1941.



SCALE IN MILES



NOTE
It is recommended that bidders on this project go over the plan details with one of the following field representatives of this department.

Mr. W. A. Whitney, Division Engineer, Grand Junction, Colo.
(Mr. G. Soper,) Resident Engineer, Gunnison, Colo.

RECOMMENDED FOR APPROVAL	 ASSISTANT ENGINEER DATE 5-3-41
APPROVED	 STATE HIGHWAY ENGINEER DATE
RECOMMENDED FOR APPROVAL	DISTRICT ENGINEER PUBLIC ROADS ADMINISTRATION FEDERAL WORKS AGENCY
RECOMMENDED FOR APPROVAL	CHIEF, WESTERN REGION PUBLIC ROADS ADMINISTRATION FEDERAL WORKS AGENCY
APPROVED	COMMISSIONER PUBLIC ROADS ADMINISTRATION FEDERAL WORKS AGENCY

TYPICAL CROSS SECTION OF IMPROVEMENT AND SUMMARY OF QUANTITIES

FED. ROAD DIST. NO.	STATE	F. A. S. PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	COLO.	369-C (I)	2	

Revised Summary of Approx. Quant, 6-9-41 - w d w

SURFACING PLAN

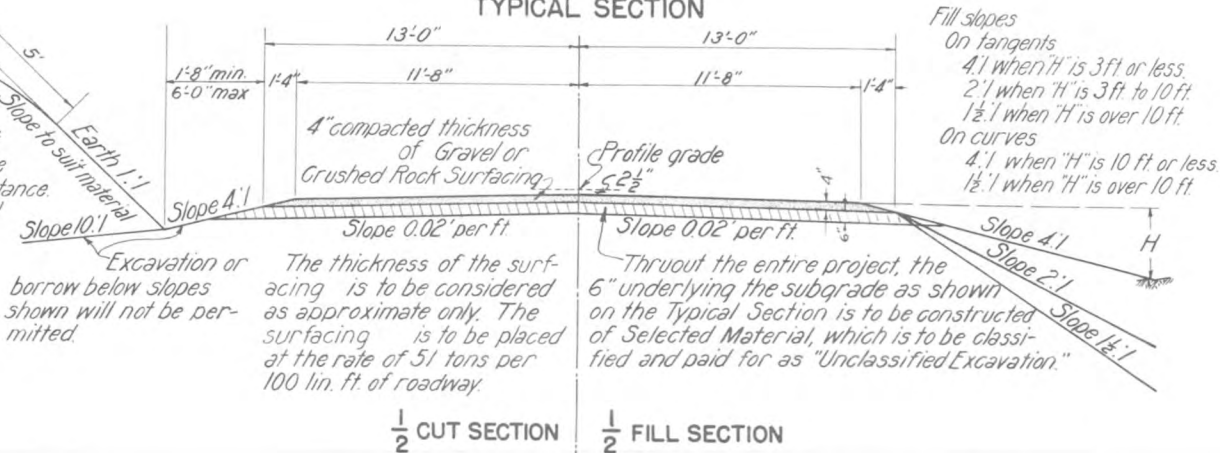
STATIONS	APPROX. QUANT. REQUIRED	OVERHAUL	SOURCE
	TONS	TON MILE	
179+50 - 226+13.3 226+13.3 - 280+65 Approaches and detour	2300 2840 246	1000 - 100	Pit approximately 100 ft right station 278+00. Located in the NW 1/4 Section 8, T. 47 N, R. 2 E, N.M.P.M. Pit No. 3
TOTAL	5386	1100	

SUMMARY OF APPROXIMATE QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	ROADWAY				PROJECT TOTAL
			STA. 192+	STA. 208+	STA. 208+	STA. 208+	
10 a	Clearing and Grubbing The Entire Project	Lump Sum	.	.	.	.	.
11 a	Removal of disused bridge, Sta 192+	Lump Sum	.	.	.	.	.
11 b	Removal of disused bridge, Sta 208+	Lump Sum	.	.	.	.	.
11 c	Removal of disused detour bridge Sta 207+	Lump Sum	.	.	.	.	.
11 d	Removal of 5 Structures	Lump Sum	.	.	.	.	.
12 a	Removing Fence	Lin. Ft.	6500				6500
13 c	Unclassified Excavation	Cu. Yd.	68000	150	250		68400
13 d	Unclassified Ditch Excavation	Cu. Yd.	1000				1000
14 a	Dry Rock Excavation (Structural)	Cu. Yd.	100	5	10		115
14 b	Dry Common Excavation (Structural)	Cu. Yd.	260	5	230		495
14 c	Wet Rock Excavation (Structural)	Cu. Yd.	30	5	150		185
14 d	Wet Common Excavation (Structural)	Cu. Yd.	90	35	330		455
14 e	Mechanical Tamping	Hr.	114	50	160		324
18 a	Station Yard Overhaul	Sta. Yd.	206000				206000
18 b	Yard Mile Overhaul	Yd. Mi.	4600				4600
26 a	Gravel or Crushed Rock Surfacing	Ton	5500				5500
26 c	Overhaul of Surfacing	Ton Mi.	1200				1200
42 a	Untreated Bridge Timber	M ft. b.m.		0.8	0.5		1.3
42 ax	Untreated Bridge Timber (Native)	M ft. b.m.	1.4				1.4
42 ay	Untreated Bridge Timber (Salvage)	M ft. b.m.	8.3				8.3
42 b	Treated Bridge Timber	M ft. b.m.		13.9			13.9
43	Asphalt Plank Wearing Surface	Sq. Ft.		575			575
44 ax	Native Logs	Lin. Ft.	1256				1256
44 b	Miscellaneous Treated Timber	M ft. b.m.	0.2				0.2
46 a	Class "A" Concrete	Cu. Yd.			275		275
46 b	Class "B" Concrete	Cu. Yd.	38				38
46 c	Class "A" Concrete (Handrails)	Cu. Yd.			6		6
47	Reinforcing Steel	Lb.			25400		25400
48	Structural Steel	Lb.			26400		26400
53 c	24" Corrugated Metal Culvert Pipe	Lin. Ft.	742				742
53 e	36" Corrugated Metal Culvert Pipe	Lin. Ft.	158				158
53 g	48" Corrugated Metal Culvert Pipe	Lin. Ft.	156				156
60 a	Treated Timber Piling	Lin. Ft.		592			592
60 e	Metal Pile Shoes	Each		28			28
67 a	Riprap	Cu. Yd.	10				10
67 b	Heavy Riprap	Cu. Yd.	148		85		233
76 a	Barbed Wire Fence with Treated Wooden Posts	Lin. Ft.	5800				5800
76 g	Barbed Wire Gates	Each	4				4
81 a	Project Markers	Each	1				1
81 b	Right of Way Markers	Each	21				21
89 a	Drain Pipe (Concrete Floor) (3" x 4' long)	Each			2		2
89 b	Drain Pipe (Timber Floor) (3" x 4' long)	Each					2
92	Timber Guard Posts	Each	201				201
143	Rock Filled Dam	Cu. Yd.	90				90
	FORCE ACCOUNT ITEMS Obliterate Old Road	Lump Sum	.				.

CUT SLOPE TREATMENT IN EARTH CUTS

The intersection of cut slopes with the existing ground shall be rounded in earth cuts, beginning 5 ft. outside the slope stake and extending 5 ft. down the cut slope. Where the cut slope is less than 5 ft., reduce each of the above widths of slope treatment to the actual slope distance. Quantities involved in cut slope treatment shall be included in "Unclassified Excavation."



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 as approximate only.

All roadway excavation required to construct this project is to be obtained as indicated on the plans. All quantities involved beyond the limits of the ditch as shown on 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 are subject to change by the Engineer to fit embankment requirements actually encountered on construction.

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

All corrugated metal pipe cross culverts are to be provided with one headwall on the inlet end unless otherwise noted on the plans. The ends of corrugated metal culvert pipes, which are not provided with headwalls, shall be covered with approximately 6" of material in such manner that a minimum of metal shall be exposed in the completed work. This shall be accomplished by warping embankment slopes around and adjacent to the culvert.

All side approach roads to the project shall be gravel surfaced with a 4" thickness of "Gravel or Crushed Rock Surfacing" extending approximately 30 ft. from the edge of the highway. Estimated tonnage of surfacing material required in this operation is shown on the List of Structures.

Overhaul will be paid for as measured along the center line of the project, except as otherwise noted on the plans.

All curves are to be superelevated and widened as provided for by the Standard Superelevation sheet included with the plans.

All wire fences, including line posts, shall be placed approximately six (6) inches inside the highway right of way as shown on the plans.

The present traveled roadway will be used for traffic during the construction of this project. Between Sta 206+ and 209+ the contractor shall construct detour on the right as noted on plans. At all other places on the project where new construction encroaches on the present traveled roadway traffic shall be adequately provided for at the contractor's expense. Also, the contractor shall, at his own expense, construct and maintain in safe condition all temporary approaches to and crossings of intersecting roads.

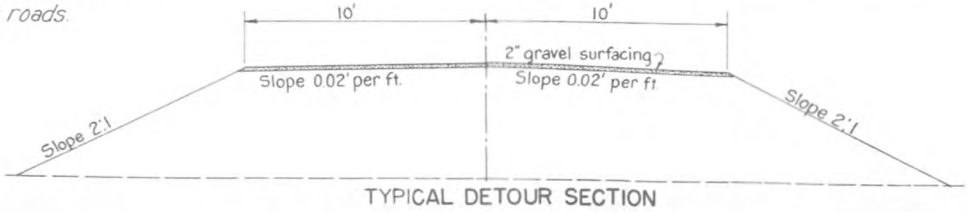
NOTE: Roadway embankments at bridge approaches shall be so constructed that the finish point of the gravel shoulder is 3 ft. outside the curb line of the bridge. Where widening of the section is necessary to achieve this result, it shall take place uniformly over a distance of 300 ft. This is done to accommodate guard fence or guard posts at bridge approaches.

PROTECTION OF FILL SLOPES

At all places on this project where toe of embankments, on stream side, extend into present stream bed, such toes of embankments shall be constructed of large rocks, and boulders from adjacent cuts. Rock and boulders shall be placed in toes of embankments on stream side to a minimum height of five (5) feet above stream bed. The embankments at the approaches to each end of bridge, station 208+, are to be constructed of rock from adjacent cuts. Actual overhaul on this material will be allowed and paid for. All other costs of this work shall be included in the unit price bid per cubic yard for Unclassified Excav.

SELECTED MATERIAL

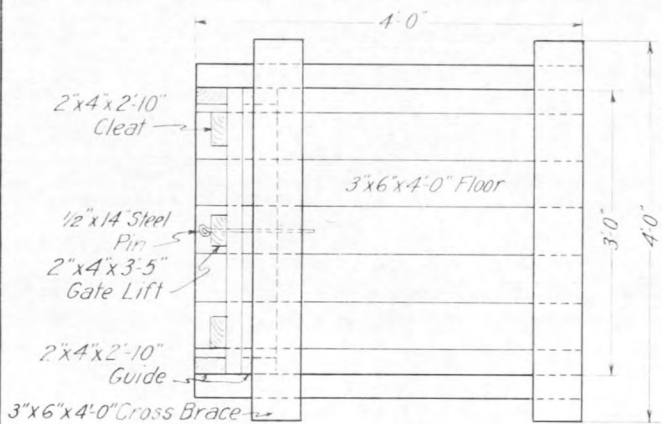
STATIONS	QUANT. PER STATION		APPR. QUANT. REQUIRED		OVERHAUL	SOURCE
	CU. YD.	CU. YD.	STA. YD.	YD. MI.		
179+50 - 263+00	60	4910	54,010	3810	Pit approximately 100 ft right station 278+00. Located in the NW 1/4 Section 8, T. 47 N, R. 2 E, N.M.P.M. Pit No. 3.	
263+00 - 274+00	60	660	3,630			
274+00 - 280+65	60	400				
TOTAL		5970	57,640	3810		



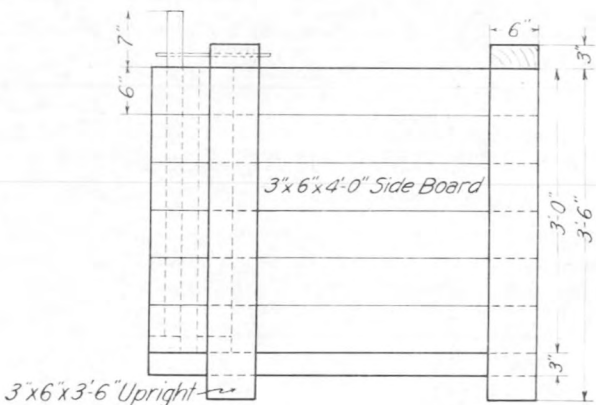
* Structural Excavation is estimated to be 30% Rock and 70% Common, each of which is estimated to be 80% dry and 20% wet.
 φ Material to come from channel change Sta. 278+ - 280+

DETAIL OF HEADGATE

STA. 240+00 LEFT
SCALE 1"=1'



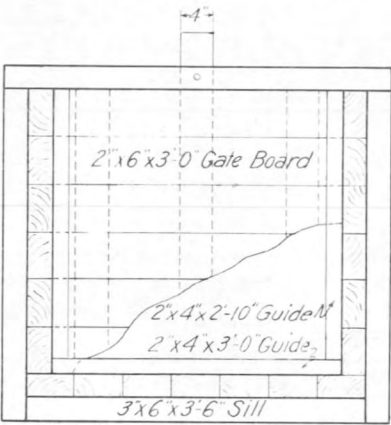
PLAN



SIDE ELEV.

BILL OF MATERIALS			
NO. PIECES	DESCRIPTION	SIZE	LENGTH
4	Guide	2"x4"	2'-10"
2	Cleat	2"x4"	2'-10"
1	Gate Lift	2"x4"	3'-5"
6	Gate Board	2"x6"	3'-0"
4	Upright	3"x6"	3'-6"
2	Sill	3"x6"	3'-6"
7	Floor Board	3"x6"	4'-0"
12	Side Board	3"x6"	4'-0"
2	Cross Brace	3"x6"	4'-0"
2	Guide	2"x4"	3'-0"
Misc'l Treated Timber 195 Mft. b.m.			
* Steel Pin 1/2"x14" 1 Pin			
* Wire Nails 20d 5 lbs.			
* Wire Nails 40d 10 lbs.			
* Hardware to be included in bid price for Misc'l Tr. Timber			

Nailing Directions:
Flooring to sills 2-40d nails per piece per sill.
Upright 3-40d nails per end per post.
Side Board 2-40d nails per piece per post.
Guide 4-20d nails per linear foot.
Endgate to cleat 2-20d nails per piece per 2"x4"
(Clinch nails)



INLET END

GUARD POSTS

STATION TO STATION	SIDE	NO.
179+50 - 181+50	R	5
183+26 - 192+37	R	22
191+76 - 192+37	L	5
192+67.5 - 195+78.5	L	10
192+67.5 - 198+28.5	R	15
201+75 - 204+75	R	7
207+41.5 - 208+02.5	R	5
207+41.5 - 208+02.5	L	5
208+53.9 - 210+64.9	R	8
208+53.9 - 225+66.2	L	35
221+00 - 225+00	R	9
227+00 - 235+50	L	18
227+50 - 229+00	R	4
237+50 - 242+50	L	11
252+50 - 256+00	L	8
258+50 - 262+00	L	8
264+25 - 268+75	L	10
274+65 - 280+65	L	13
275+75 - 276+75	R	3
TOTAL		201

Treated timber guard posts are to be spaced on 50 ft. centers, except at bridge ends where standard bridge end spacing shall apply.

R.O.W. MARKERS

STATION	SIDE	NO.
185+24	L & R	2
193+00	R	1
194+00	R	1
198+11.7	L & R	2
199+00	L	1
199+50	R	1
214+75	L	1
215+18	R	1
235+77.5	L	1
237+00	L	1
242+00	R	1
243+00	R	1
246+40	L	1
246+67	R	1
248+00	R	1
258+68	R	1
261+94	L	1
277+30	L	1
278+70	R	1
TOTAL		21

FENCING REQUIREMENTS

STATION TO STATION	SIDE	REMOVE FENCE	BUILD B.W. FENCE	LINE POSTS	GATES
		LIN. FT.	LIN. FT.	NO.	EACH
183+10 - 192+30	L & R	1210	925		
192+70 - 205+00	L & R	1300	1235		
205+00 - 207+85	R	310	295		
207+50 - 208+15	L	95	85		
208+50 - 210+10	R	225	180		
208+75 - 238+00	L	2875	2750		
238+00 - 241+25	L	405	325		
193+00	R				/
209+00	L				/
216+00	L				/
227+00	L				/
TOTALS		6,420	5,795		4

EMBANKMENT MATERIAL NOT AVAILABLE ON R.O.W.

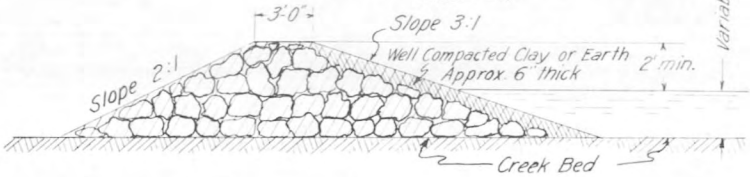
Embankment material not available on highway right of way is estimated to be available from borrow pits as indicated in profile data and noted on tabulation below.

Estimated quantities and overhaul for this Embankment Material are tabulated below

STA. TO STA.	APPROX QUANT. REQD. CU. YDS.	OVERHAUL		SOURCE
		STA. YD.	YD. MI.	
184+ - 196+	10,883	42,700		Pit located approx. 100 ft. left Sta 183+00. In NE ⁴ Sec. 32 T. 48 N, R. 2 E, N.M.P.M. Pit No. 1
227+ - 251+	11,008	61,469	580	Pit located approx. 100 ft. right Sta 226+. In NE ⁴ Sec. 5 T. 47 N, R. 2 E, N.M.P.M. Pit No. 2
TOTAL	21,891	104,169	580	

DETAIL OF ROCK FILLED DAM

STA. 240+00 LEFT
SCALE 1"=10'



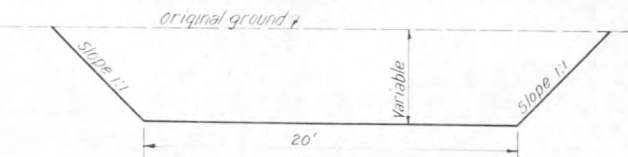
90 cu. yds. Rock Fill Dam

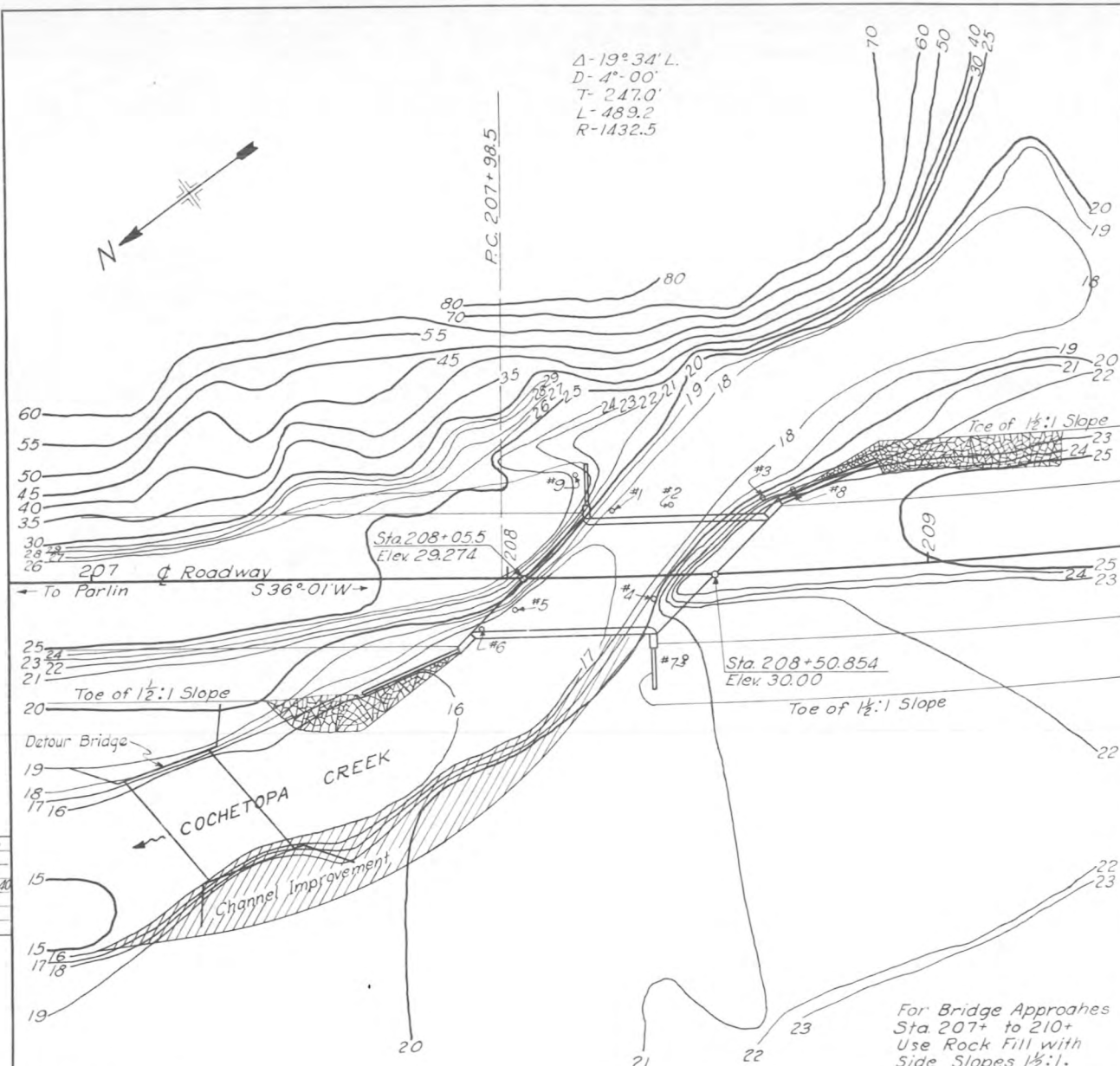
GENERAL NOTES

All work shall be done in accordance with the Colorado State Highway Department Specifications adopted June 1, 1940.

All miscellaneous treated timber shall be full sawn.

TYPICAL SECTION OF CHANNEL CHANGES





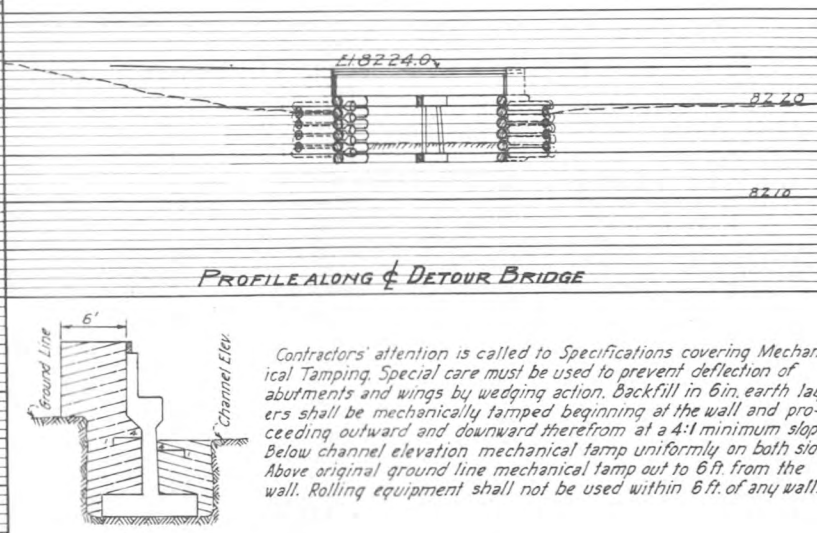
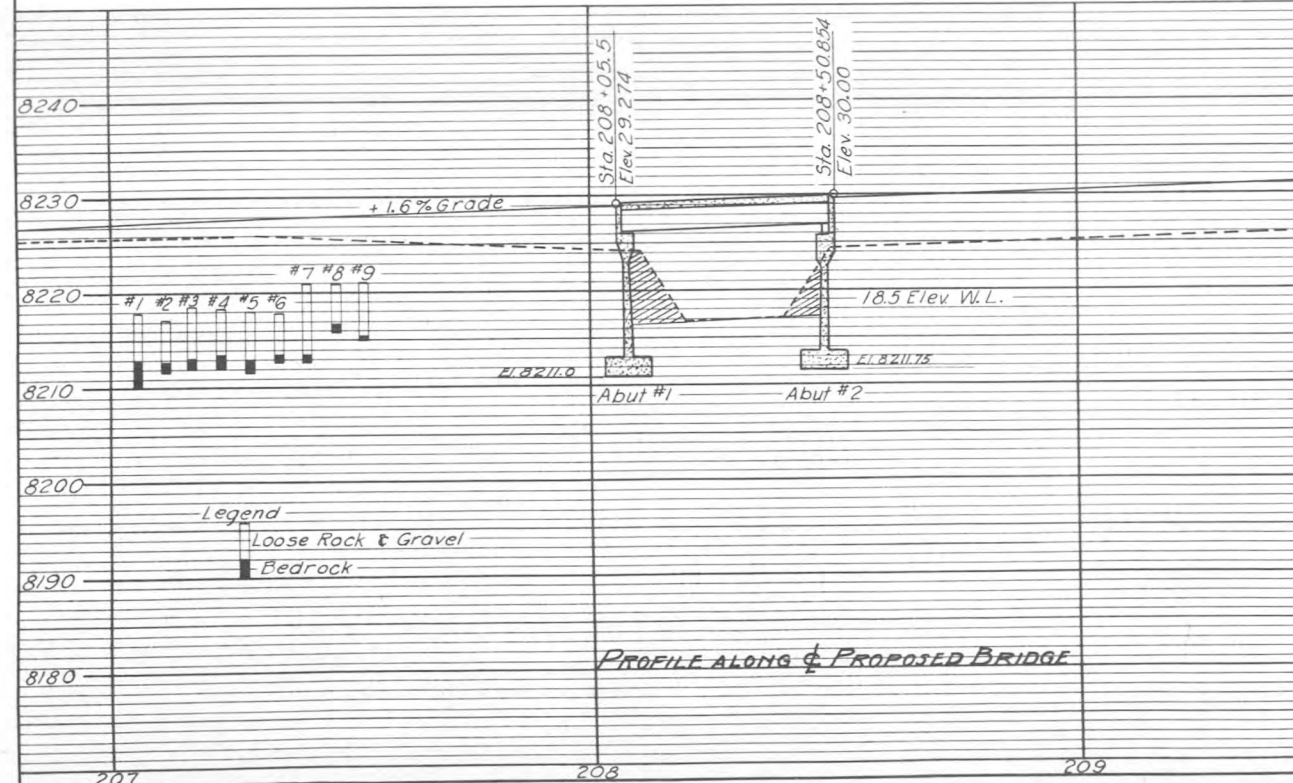
REVISIONS
 10-15-40 NMM Changed reinf steel quantities
 3-28-41 A.F.F. Added detour structure
 4-8-41 W.G.S. Mechanical Tamping.

FED. ROAD DIST. NO.	STATE	F.A.S.	SHEET NO.	TOTAL SHEETS
3	COLO.	369-C-11	6	

SUMMARY OF QUANTITIES						
Item	Description	Unit	Superstr.	Abut.#1	Abut.#2	Total
11b	Removal of Present Structure	Lump Sum				•
13c	Unclassified Excavation	Cu Yd			250	250
14a	Dry Rock Excavation (Str)	Cu Yd		5	5	10
14b	Dry Common Excavation (Str)	Cu Yd		70	160	230
14c	Wet Rock Excavation (Str)	Cu Yd		70	80	150
14d	Wet Common Excavation (Str)	Cu Yd		170	160	330
42a	Untreated Bridge Timber	Mft/bm		0.216	0.216	0.432
46a	Class "A" Concrete	Cu Yd	40	117	118	275
46r	Class "A" Concrete -Handrail	Cu Yd	4	0.6	0.6	5.2
47	Reinforcing Steel (Includes 1%± Overrun)	Lb.	7500	8870	9000	25,370
48	Structural Steel (Includes 1½ %± Overrun)	Lb.	26,190	55	55	26,300
67b	Heavy Riprap	Cu Yd		20	65	85
89a	Drain Pipe 3½ x 4'-0" Long (Conc. Floor)	Each	2			2
14e	Mechanical Tamping	Hrs.		80	80	160
*	¾" Expansion Joint Material	Sq.Ft.	50			50
*	¼" Expansion Joint Material	Sq.Ft.		43	42	85
*	#12 Ga. Galv. Sheet Metal	Lb.	550			550

* To be included in unit bid price of Class "A" Concrete.

REFERENCE DRAWINGS:
 Sheet No. 7 Details of Superstructure.
 Sheet No. 8 Details of Abutment #1.
 Sheet No. 9 Details of Abutment #2.
 Sheet No. 10 Details of Detour Structure.



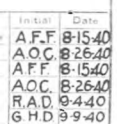
GENERAL NOTES
 ALL WORK SHALL BE DONE ACCORDING TO THE STANDARD SPECIFICATIONS OF THE COLORADO STATE HIGHWAY DEPARTMENT.
 ALL CONCRETE SHALL BE CLASS "A".
 FORMS FOR CONCRETE SURFACES EXPOSED IN THE FINISHED WORK SHALL BE CONSTRUCTED OF SHIPLAP OR TONGUE AND GROOVE LUMBER 5/8" UNLESS FACED WITH PANEL BOARD.
 CONCRETE GIRDERS, FLOOR SLABS AND CURB SHALL BE POURED MONOLITHICALLY. FOOTINGS IN ROCK SHALL BE POURED OUT TO THE ROCK AND NOT FORMED.
 ALL REINFORCING BARS SHALL BE DEFORMED AND TAGGED WITH THE STATION NUMBER AND LETTER DESIGNATION. MAIN BARS SHALL NOT BE SPLICED.
 SOUNDINGS AND DEPTH OF FOOTINGS SHOWN ARE ACCORDING TO THE BEST AVAILABLE DATA. IF ESSENTIALLY DIFFERENT CONDITIONS ARE ENCOUNTERED THE BRIDGE ENGINEER WILL INSPECT AND DETERMINE IF REDESIGN IS NECESSARY.
 ALL RIVETS TO BE 3/4" DIA. ALL RIVETS TO BE POWER DRIVEN.

LOADING DATA.
 LIVE LOAD - A. A. S. H. O. 1935 CLASS A (H-15)
 DEAD LOAD - ASSUMES 15 LBS. PER SQ. FT. ADDITIONAL WEARING SURFACE WHICH INCLUDES THE 3/4" INCH CONCRETE MONOLITHIC WEARING SURFACE SHOWN.

DESIGNING DATA.
 A.A.S.H.O. 1935 EXCEPT CONCRETE UNIT STRESSES
 F_c = 750 LBS. PER SQ. IN.
 F_s = 18,000 LBS. PER SQ. IN.
 N = 12

COLORADO
STATE HIGHWAY DEPARTMENT
1-40'-0" CONC. & I-BEAM SPAN
25'-0" RDWY.-45° SKEW
SUMMARY OF QUANTITIES
GENERAL LAYOUT
 Across Cochetopa Creek
 Sta. 208+05.5 to 208+50.85
 Near Parlin N.M.S. Sec. 32 T. 48N. R. 2E.

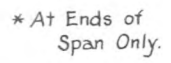
Designed by A.O.C. Approved by C. Bailey
 Made by A.O.C. Bridge Engineer
 Checked by A.O.C. Date: Sept 25, 1940.



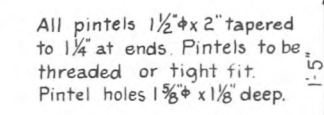
A

Sta. 208+05.5
Elev. 8229.274

Abut. #2



END DIAPHRAGM CONNECTION



EXPANSION BEARING
5 Req'd.



Sheet No. 6 General Layout & Summary of Quantities.
Sheet No. 8 Details of Abutment No.1.
Sheet No. 9 Details of Abutment No.2

LOADING DATA.
LIVE LOAD—A. A. S. H. O. 1935 CLASS A. (H-15)
DEAD LOAD—ASSUMES 15 LBS. PER SQ. FT. ADDITIONAL WEARING SURFACE WHICH INCLUDES THE 3/4 INCH CONCRETE MONOLITHIC WEARING SURFACE SHOWN.

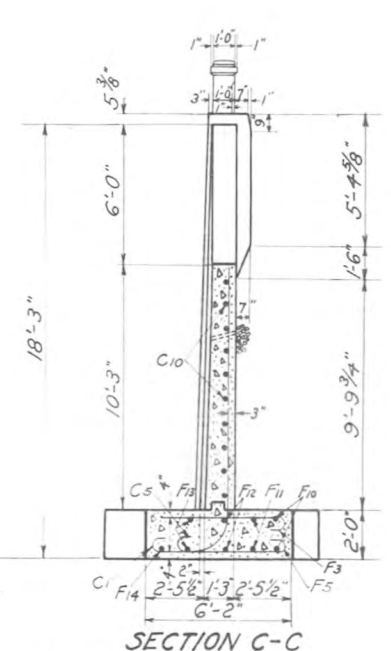
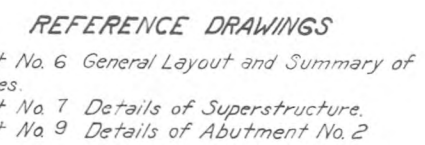
DESIGNING DATA.
A.A.S.H.O. 1935 EXCEPT CONCRETE UNIT STRESSES
 $F_3 = 18,000\#/SQ. IN.$
 $F_c = 750\#/SQ. IN.$
 $N = 12$

COLORADO
STATE HIGHWAY DEPARTMENT
1-40'-0" CONC. & I-BEAM SPAN
25'-0" RDWY- 45° SKEW.

DETAILS OF SUPERSTRUCTURE

Across Cochetopa Creek
Sta. 208+05.5 to 208+50.854
Near Parlin Sec. 32 T. 8N R. 2E

Designed by A.F.F. Approved by W. B. Bailey
Made by R.A.D. Bridge Engineer
Checked by G.H.D. Date: Sept. 25th, 1940.



TRUE ELEVATION OF 5' WING

VHCG

BAR SUMMARY

878 Lin. Ft. of 1"φ @ 2.670 Lbs. per Lin. Ft. =	2344 Lbs.
974 " " " 3/8"φ @ 2.044 " " " " =	1991 "
692 " " " 3/4"φ @ 1.502 " " " " =	1039 "
1103 " " " 5/8"φ @ 1.043 " " " " =	1150 "
663 " " " 1/2"φ @ 0.850 " " " " =	564 "
2537 " " " 1/2"φ @ 0.668 " " " " =	1695 "

+1%± Overrun = 87 "

Total = 8870 Lbs.

BENDING DIAGRAMS

Diagram I: A horizontal member of length m and a vertical member of length l . A 90° bend is shown with a radius of $1'-4"$. Dimensions include $3'-9"$ for the vertical section, $1'-10"$ for the horizontal section, and a $3'-0"$ section at the bottom. A $1/2"$ dimension is also shown.

Diagram II: A vertical member of length l and a horizontal member of length m . A 90° bend is shown with a radius of $1'-4"$. Dimensions include $3'-9"$ for the vertical section, $1'-10"$ for the horizontal section, and a $3'-0"$ section at the bottom. A $1/2"$ dimension is also shown.

Diagram III: A vertical member of length l and a horizontal member of length m . A 90° bend is shown with a radius of $1'-4"$. Dimensions include $3'-9"$ for the vertical section, $1'-10"$ for the horizontal section, and a $3'-0"$ section at the bottom. A $1/2"$ dimension is also shown.

Diagram IV: A vertical member of length l and a horizontal member of length m . A 90° bend is shown with a radius of $1'-4"$. Dimensions include $3'-9"$ for the vertical section, $1'-10"$ for the horizontal section, and a $3'-0"$ section at the bottom. A $1/2"$ dimension is also shown.

Diagram V: A vertical member of length l and a horizontal member of length m . A 90° bend is shown with a radius of $1'-4"$. Dimensions include $3'-9"$ for the vertical section, $1'-10"$ for the horizontal section, and a $3'-0"$ section at the bottom. A $1/2"$ dimension is also shown.

STRUCTURE NO. K-9-B

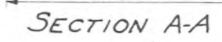
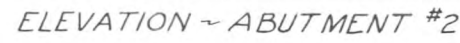
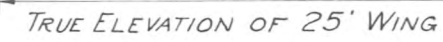
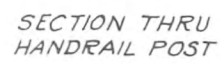
LOADING DATA.
LIVE LOAD A. A. S. H. O. 1935 CLASS A. (H-15)
DEAD LOAD ASSUMES 15 LBS. PER SQ. FT. ADDITIONAL WEARING SURFACE WHICH INCLUDES THE ¾ INCH CONCRETE MONOLITHIC WEARING SURFACE SHOWN.

DESIGNING DATA.
A. A. S. H. O. 1935 EXCEPT UNIT STRESSES.
fc = 750 LBS. per Sq. In. n = 12
fs = 18,000 LBS. per Sq. In. (Intermed. Grade)

COLORADO
STATE HIGHWAY DEPARTMENT
1-40'-0" CONC* I-BEAM SPAN
25'-0" Rdwy. 45° Skew
DETAILS OF ABUTMENT #1

Across Cochetopa Creek
Sta. 208+0.55 to 208+50.85
Near Parlin Sec. 32 T. 18 N. R. 2 E.

Designed by A. F. H. H. C. Approved by G. L. Bailey
Made by H. C. Bridge Engineer
Checked by _____ Date: Sept. 25th 1940.

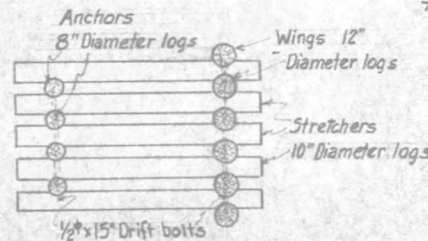
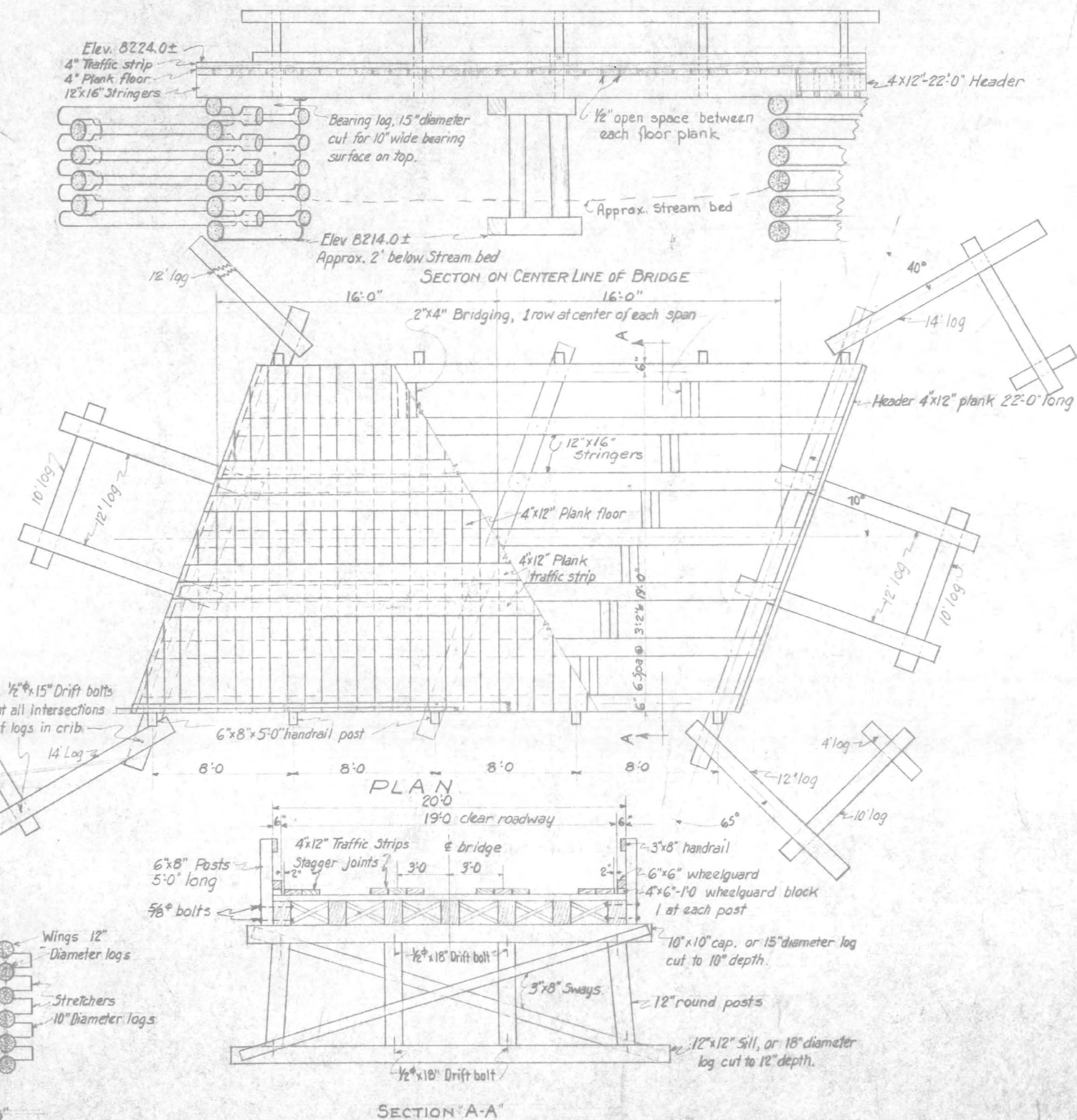
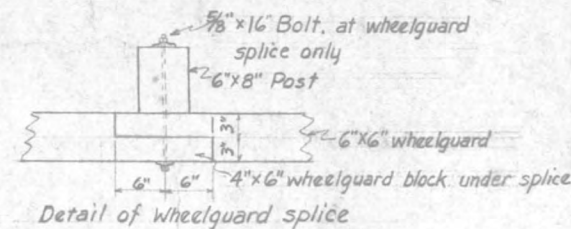


Bar Summary				H.C.C.
760	Lin. Ft. of 1" @ 2.670	Lbs. per Ft. =	2030	Lbs.
1142	" " " 3/8" @ 2.044	" " " =	2334	"
512	" " " 3/8" @ 1.502	" " " =	769	"
1421	" " " 3/8" @ 1.043	" " " =	1482	"
729	" " " 1/2" @ 0.850	" " " =	620	"
2508	" " " 1/2" @ 0.668	" " " =	1675	"
Plus 1% Overrun =			90	"
Total =			9000	Lbs.

COLORADO
STATE HIGHWAY DEPARTMENT
1-40'-0" CONC. & I-BEAM SPAN
25'-0" RDWY.- 45° SKEW
DETAILS OF ABUTMENT #2

Across Cochetopa Creek
Sta. 208+0.5 to 208+50.85
Near Parlin Sec. 32 T48N R 2E

Designed by AOC Approved by P. L. Bailey
Made by AOC Bridge Engineer
Checked by _____ Date: Sept. 25, 1940.



ELEVATION "B-B"
Typical on all wings

SECTION "A-A"

NATIVE LUMBER

SUPERSTRUCTURE

DESCRIPTION	No.	SIZE	LENGTH	Bd. Ft.
* Stringers	7	12"x16"	35'-0"	392.0
* Floor plank	35	4"x12"	20'-0"	280.0
* Traffic strips (350 lin.ft.)		4"x12"	Random	140.0
Handrail posts	10	6"x8"	5'-0"	20.0
Handrail	4	3"x8"	18'-0"	14.4
Wheel guard	4	6"x6"	18'-0"	21.6
Wheelguard blocks	10	4"x6"	1'-0"	2.0
Bridging	6	3"x6"	12'-0"	10.8
* Headers	2	4"x12"	22'-0"	17.6
* This is salvage material from present structure				

FRAME BENT

	DESCRIPTION	NO	SIZE	LENGTH	
▲	Cap.	1	10"x10"	24'-0	200 Bds
▲	Sill	1	12"x12"	26'-0	312 Bds
φ	Posts	4	12" φ	6'-0	24 w/f
	Sways	2	3"x8"	26'-0	104 Bds

▲ May be 15" and 18" Logs, see detail

Φ TWO LOG CRIBS

DESCRIPTION	No	SIZE	LENGTH	Lin. ft.
Bearing log.	2	15"φ	28'-0"	56
Abutment face	10	12"φ	28'-0"	280
Wings	12	12"φ	14'-0"	168
Wings	12	12"φ	12'-0"	144
Abutment stretchers	20	10"φ	12'-0"	240
Wing stretchers	28	10"φ	10'-0"	280
Wing anchors	16	8"φ	4'-0"	64

HARDWARE

	Nails	
20 d	nails	3 lbs
40 d	nails	2 lbs
60 d	nails	80 lbs
	Total	85 lbs

DRIFT BOLTS

Log to log in crib	220 - 1/2" - 15" long	184 lbs
Posts to cap or sill	8 - 1/2" 18" long	8 lbs
	Total	192

BOLTS and CLOG WASHERS

Post to stringer	20-5/8" - 22" long	44 lbs
Post to wheelguard splice	2-5/8" - 16" long	4 lbs
CIOG washers	44-5/8"	32 lbs
	Total	80 lbs

* Peeling of logs will not be required

NAILING DIRECTIONS

Rails to Posts - 2-40d nails per rail per post,
W.G. blocking to floor plank - 2-40d nails per block,
Wheelguard to blocking - 2-60d nails per W.G. per block,
Floor plank to stringer - 2-60d nails per plank per stringer,
Traffic strip to floor - 1-60d nails per tread plank per floor

Bridging to stringer-	4-20d nails	per piece,
Stringer to caps	2-60d nails	per stringer per cap.
Sways to caps & posts	2-60d nails	per cap or post.

GENERAL NOTES

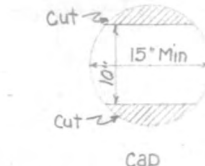
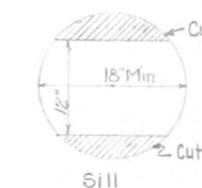
All work shall be done in accordance with the Standard Specifications of the Colorado State Highway Department adopted June 1940. All handrails and handrail posts to be given two coats of white paint. Stringers not to be dapped more than one half inch to obtain an even bearing on cap.

When traffic is turned over permanent structure, the detour structure is to be removed. All nails to be removed from timber, and timber piled as directed by the engineer in charge. All usable hardware to be removed and stored in suitable container.

SUMMARY OF QUANTITIES

Item	Description	Unit	Total
14a	Dry Rock Excavation (Str)	Cu.Yd.	—
14b	Dry Common Excavation (Str)	Cu.Yd.	35
14c	Wet Rock Excavation (Str)	Cu.Yd.	—
14d	Wet Common Excavation (Str)	Cu.Yd.	28
42ax	Untreated Bridge Timber (Native)	Mft.bm.	1,304
42ay	Untreated Bridge Timber (Salvage)	Mft.bm.	8,296
44ax	Native Logs	Lin.ft.	1256
•	Hardware	Lb	357

- Include in bid price for lumber.



DETAIL OF LOG CAP, SILL AND BEARING LOG.

REFERENCE DRAWING
Sheet No 6 for location.

$$H = 12\frac{1}{2} \quad f = 1000^\circ$$

COLORADO
STATE HIGHWAY DEPARTMENT
2 SPANS @ 16'-0" 70' 5" SKW
19'-0" RDWY
DETOUR BRIDGE
FOR STRUCTURE K-9-B
Across Cochetopa Creek
Sta. 50+14 Sta 207+
Near Perlin Sec 32 T 48N R 2E
Designed by A.F.F. Approved by P.D. Bailey
Made by A.F.F. Bridge Engineer
Checked by CFW Date April 14, 1941

NOTE: All poles encroaching on construction are to be moved by owners.
Fencing requirements, guard posts and right of way markers are tabulated on sheet No. 4.
Treated timber guard posts are to be spaced on 50 ft. centers, except at bridge ends where standard bridge end spacing shall apply.
For typical cross section of channel changes see sheet No. 4.

NW 1/4 SECTION 33
T. 48N. R. 2E.
N.M.P.M.

SW 1/4 SECTION 33
T. 48N. R. 2E.
N.M.P.M.

FED. ROAD DIST. NO.	STATE	F.A.S. PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	COLO.	369-C(1)	19	

Sta. 179+50 Reg'd.
200 cu. yds. emb. for approach to project.
Sta. 181+00-183+50 Reg'd.
intercepting ditch lt.

Sta. 185+50 Reg'd.
48"x48" C.M.P. Cross Culvert and inlet and outlet ditches.

Sta. 193+00 Reg'd.
160 cu. yds. emb. for road approach lt.

Sta. 194+00 Reg'd.
24"x80" C.M.P. Cross Culvert and inlet and outlet ditches.

Sta. 194+70-196+75 Reg'd. 800 cu. yds. uncl. excav. for channel change rt. (Material to be used to fill old channel.)

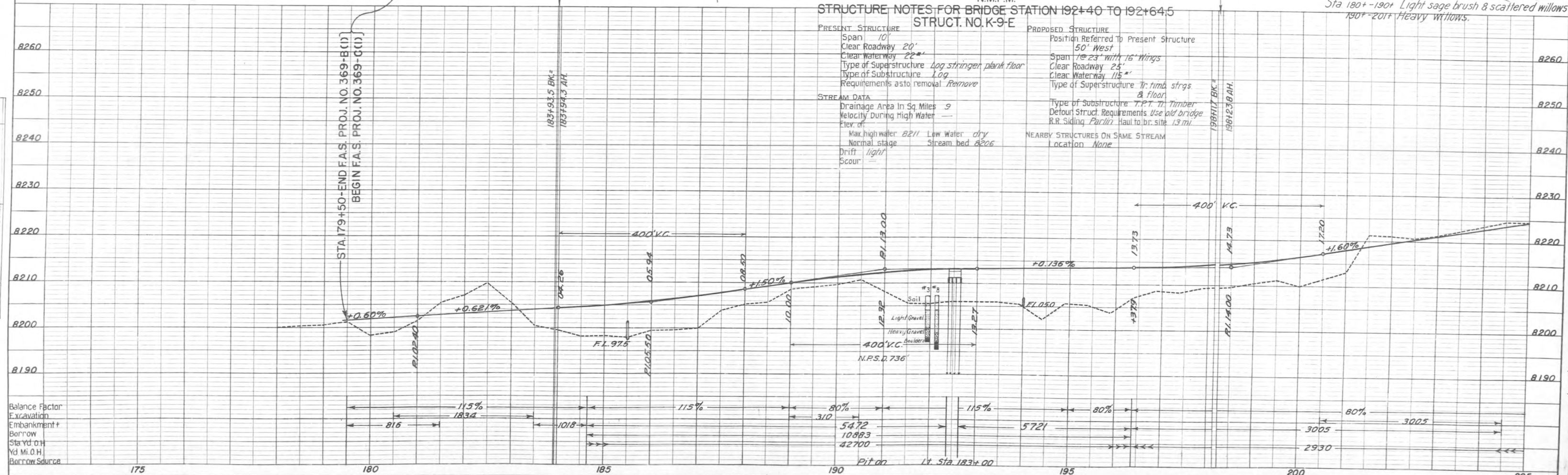
Sta. 192+40-192+64.5 Reg'd.
1 span @ 23' treated timber pile trestle (details on sheet no. 5) and remove present bridge, and 150 cu. yds. unclassified excavation for channel improvement. (QUANTITIES IN SUMMARY)

SE 1/4 SECTION 32
T. 48N. R. 2E.
N.M.P.M.

CLEARING & GRUBBING
Sta. 180+ - 190+ Light sage brush & scattered willows
190+ - 201+ Heavy willows.

STRUCTURE NOTES FOR BRIDGE STATION 192+40 TO 192+64.5
STRUCT. NO. K-9-E

PRESENT STRUCTURE	PROPOSED STRUCTURE
Span 10'	Position Referred To Present Structure
Clear Roadway 20'	50' West
Clear Waterway 22'	Span 10' 23' with 16' Wings
Type of Superstructure Log stringer plank floor	Clear Roadway 25'
Type of Substructure Log	Clear Waterway 115'
Requirements as to removal Remove	Type of Superstructure Tr. timb. strgs. & floor
STREAM DATA	Type of Substructure T.P.T. Timber
Drainage Area In Sq. Miles 9	Defourn Struct. Requirements Use old bridge
Velocity During High Water —	R.R. Siding Parallel Haul to br. site 1.3 mi
Elev. of Max. high water 8211 Low Water dry	NEARBY STRUCTURES ON SAME STREAM
Normal stage Stream bed 8206	Location None
Drift light	
Scour —	



Balance Factor
Excavation
Embankment +
Borrow
Stand off
Yd. M.O.H.
Borrow Source

SE 1/4 SECTION 32

T.48N. R.2E.

N.M.P.M.

Sta 207+ Reg'd

Detour bridge, Rt. (70°) (Details on Sheet No. 10) (Quantities shown on Sh. No. 10 & inc. in Roadway Summary)
Remove detour bridge after abandonment of detour.

Sta 206+ to 209+ Reg'd

1000 cu yds. emb. for detour rt. (Material to be used in roadway after abandonment of detour)
(Mat'l. included in profile quantities for paym't. as excav. & in List of Str. as emb.)

Sta 208+05.5-208+50.9 Reg'd

1 span @ 40' concrete and I beam bridge (45°) (details on sheets no. 6 to 9) and remove present bridge, and 250 cu yds. uncl. excav. for channel improvement (QUANTITIES IN SUMMARY)

Δ 19°34' L
D 4°
T 2470
L 489.2
R 1432.5

Sta 217+15-224+75 Reg'd
Ditch change lt.

Sta 216+64 Reg'd

50 cu yd. emb. and 24" x 24" C.M.P. side drain for road approach lt.

Sta 217+65 Reg'd

24" x 78" C.M.P. Cross Culvert and inlet ditch.

Sta 227+50 Reg'd

180 cu yds. emb. for road approach lt.

Sta 231+70-234+00 Reg'd
ditch change lt.

Δ 27°48' L
D 4°
T 354.5
L 695.0
R 1432.5

Sta 236+90-239+40 Reg'd
640 cu yds. uncl. excav. for channel change lt. (Material to be used to fill old channel.)Sta 209+00 Reg'd
600 cu yds. emb. for road approach rt.Sta 210+16 Reg'd
Remove 30" x 24" C.M.P.Sta 210+20 Reg'd
36" x 106" C.M.P. Cross Culvert (45°) and inlet and outlet ditches.Sta 222+10 Reg'd
24" x 86" C.M.P. Cross Culvert and inlet ditch.Sta 225+75-227+25 Reg'd
Intercepting ditch rt.Sta 229+75-231+25 Reg'd
Intercepting ditch rt.
Sta 228+00 Reg'd
48" x 58" C.M.P. Cross Culvert and inlet ditch.Sta 230+08 Reg'd
remove 15" x 24" C.M.P.Sta 232+50 Reg'd
24" x 66" C.M.P. Cross Culvert and inlet ditch.Sta 233+50 Reg'd
40 cu yds. emb. for road approach rt.Sta 234+00 Reg'd
24" x 60" C.M.P. Cross Culvert and inlet and outlet ditches.Sta 234+50 Reg'd
48" x 50" C.M.P. Cross Culvert and inlet and outlet ditches.Sta 234+65 Reg'd
remove 36" x 24" C.M.P. Rt.

EQUATION

EQUATION

STRUCTURE NOTES FOR BRIDGE STA. 208+05.5 TO 208+50.9

STRUCTURE NO. K-9-B.

PRESENT STRUCTURE

Span 1 @ 35'
Clear Roadway 20'
Clear Waterway 140'
Type of Superstructure Timber
Type of Substructure Log crib Abutts.
Requirements as to removal Remove

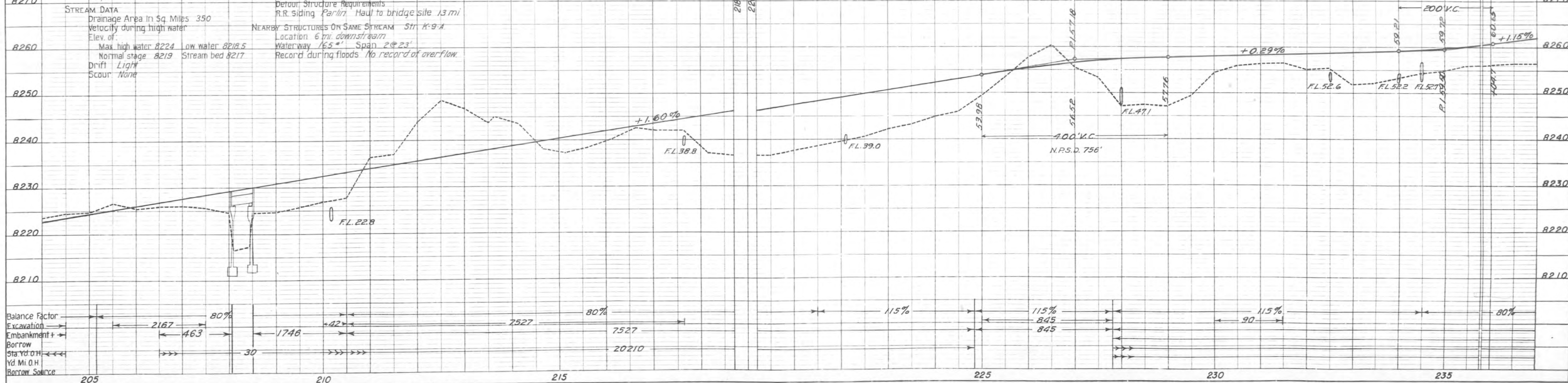
PROPOSED STRUCTURE

Position referred to present structure Same
Span 1 @ 40'
Clear roadway 25'
Clear waterway 265'
Type of Superstructure Conc. & I-beam
Type of Substructure Conc. Gant. Abutts.
Detour Structure Requirements
R.R. Siding Parlin. Haul to bridge site 13 mi

STREAM DATA

Drainage Area in Sq. Miles 350
Velocity during high water
Elev. of:
Max high water 8224 ow water 8219.5
Normal stage 8219 Stream bed 8217
Drift Light
Scour None

NEARBY STRUCTURES ON SAME STREAM Str. K-9-A
Location 6 mi. downstream
Waterway 165' Span 2 @ 23'
Record during floods No record of overflow.



CLEARING & GRUBBING

Sta 201+ - 246+ Light sage brush
Scattered willows and alders.

NE 1/4 SECTION 5
T.47N. R.2E.
N.M.P.M.

SE 1/4 SECTION 5
T.47N. R.2E.
N.M.P.M.

FED. ROAD DIST. NO.	STATE	F.A.S. PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	COLO.	369-C(1)	21	

Sta. 238+75 Req'd.
24"x100' C.M.P. Cross Culvert
(30') and inlet ditch.
Sta. 239+ -240+ Req'd.
Ditch change lt.
Sta. 240+ Req'd.
90 cu.yds. of Rock filled dam
and 3"x4' treated timber
headgate lt. (Details on
sheet no.4).

Sta. 240+ -241+ Req'd.
150 cu.yds. uncl. excav.
for channel change lt.
(Material to be used to
fill old channel.)

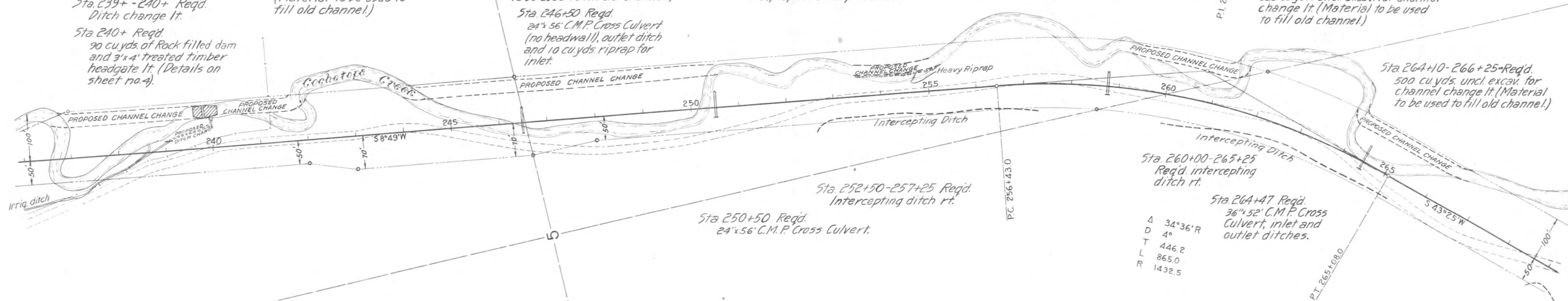
Sta. 244+ -250+45 Req'd.
1975 cu.yds. uncl. excav. for
channel change lt. (Material
to be used to fill old channel.)
Sta. 246+50 Req'd.
24"x56' C.M.P. Cross Culvert
(no headwall), outlet ditch
and 10 cu.yds. riprap for
inlet.

Sta. 253+50 -255+00 Req'd.
50 cu.yds. uncl. excav. for channel
change lt. and 148 cu.yds. heavy
riprap for bank protection.

Sta. 258+77 Req'd.
24"x44' C.M.P. Cross Culvert,
inlet ditch and remove 15"x24'
C.M.P.

Sta. 259+45 -261+40 Req'd.
625 cu.yds. uncl. excav. for channel
change lt. (Material to be used
to fill old channel.)

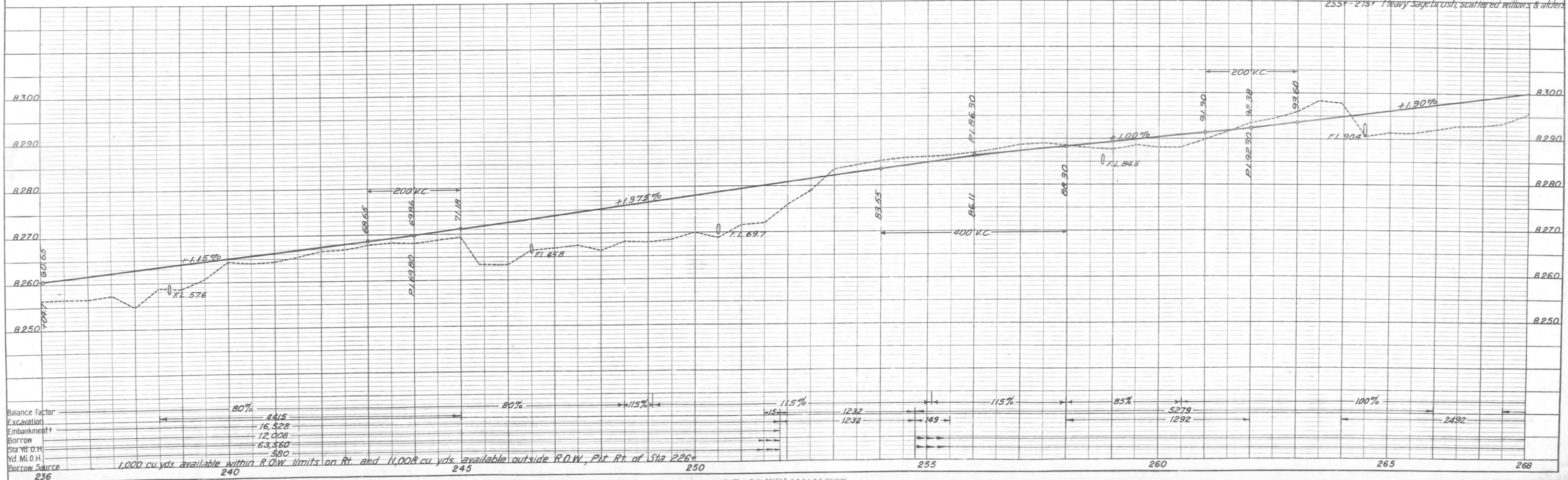
Sta. 264+10 -266+25 Req'd.
500 cu.yds. uncl. excav. for
channel change lt. (Material
to be used to fill old channel.)



N.W 1/4 SECTION 5
T.47N. R.2E.
N.M.P.M.

SW 1/4 SECTION 5
T.47N. R.2E.
N.M.P.M.

CLEARING & GRUBBING
Sta 246+ -255+ Heavy willows and alders
255+ -275+ Heavy Sagebrush, scattered willows & alders



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

PROFILE	DATE
SURVEYED	BY
PLOTTED	BY
NOTE BOOK	DATE
GRADES CHECKED	DATE
STRUCTURE NOTATION CHKD.	DATE
NO.	

FED. ROAD DIST. NO.	STATE	F.A.S. PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	COLO.	369-C(1)	22	

