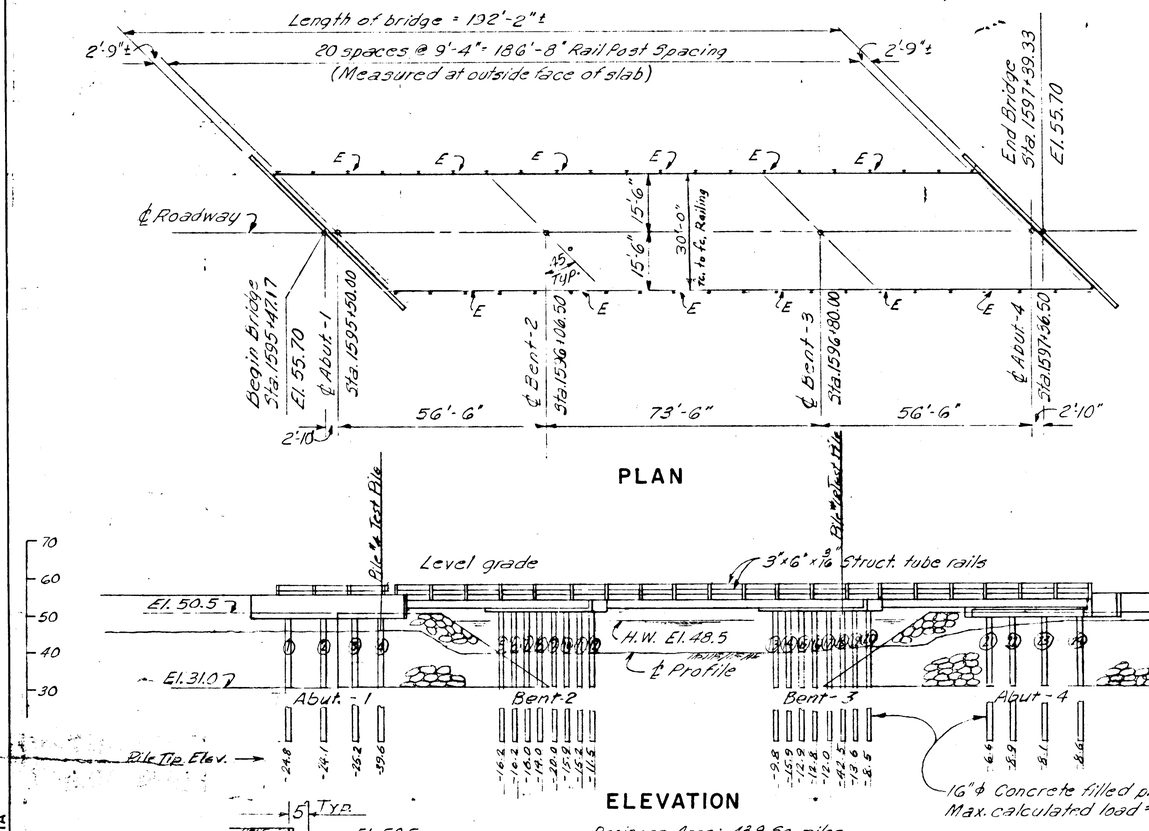
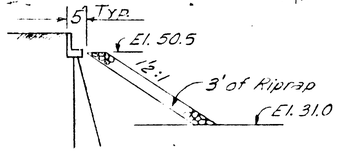
STATE	ROUTE	SECTION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	FH2	4	1970	16	24



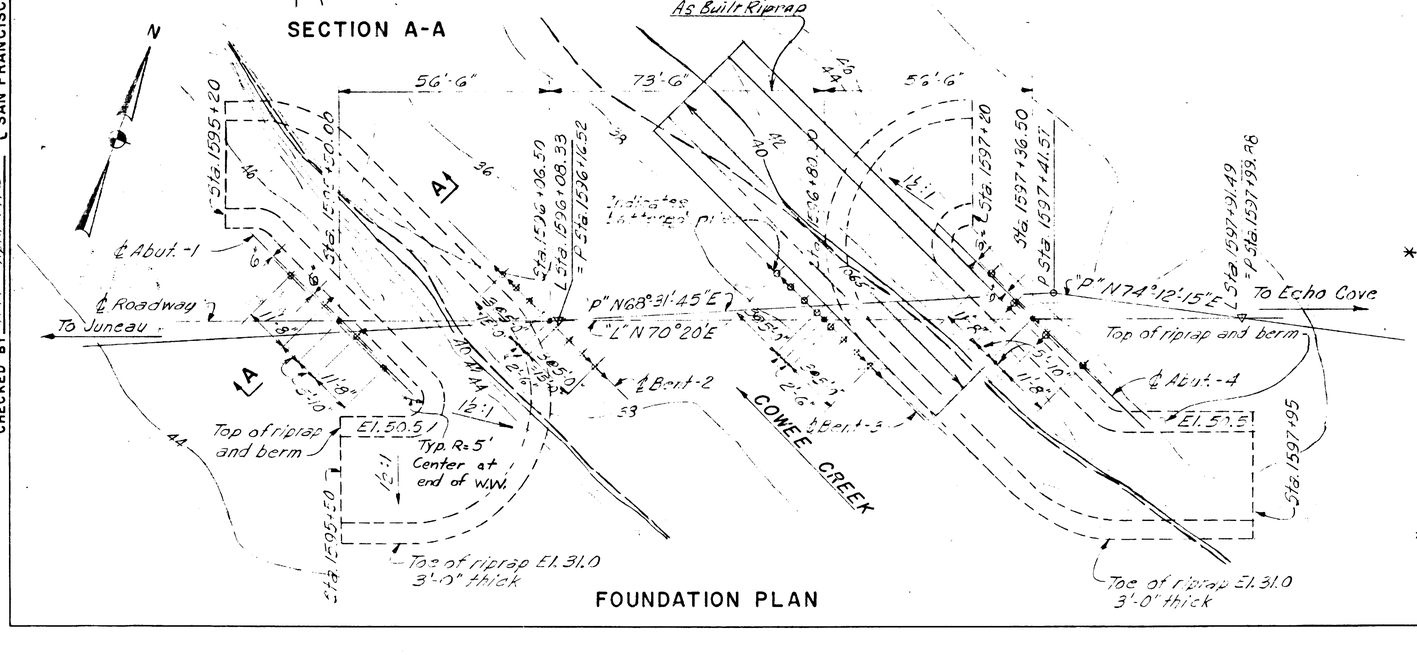
PLAN

ELEVATION



SECTION A-A

Drainage Area: 43.8 Sq. miles
Design Flood Frequency: 50 Years
Design Highwater: Elev. 43.5
Design Discharge: 8630 cfs.
Design Capacity: 8740 cfs.



FOUNDATION PLAN

GENERAL NOTES:

SPECIFICATIONS: Construction, Bureau of Public Roads, F.P.69; Design, A.A.S.H.O. Standard Specifications for Highway Bridges, 1969.

DEAD LOAD: Concrete, 150 Lbs. per cu.ft.; paving allowance, 25 Lbs. per sq.ft. of roadway surface. Earth pressure equivalent to a fluid weighing 36 Lbs. per cu.ft.

LIVE LOAD: H S 20-44 Loading. Impact = $I = \frac{50}{L+125}$ (L = Span Length), Max. I = 30%.

UNIT STRESSES: Concrete: f'_c = 3,300 psi., f_c = 1,320 psi. except for slab design where f_c = 1,200 psi.; Reinforcing steel: f_s = 24,000 psi. except for slab design where f_s = 20,000 psi., n = 10.

CONCRETE: All concrete shall be Class "A" with 1½" max. size of coarse aggregate. All concrete shall be mixed with an air entraining admixture and shall be vibrated.
Chamfer all exposed corners ¾" unless otherwise shown. Elastomeric bearing pads shall conform to Sec. 25 of the 1969 A.A.S.H.O. Std. Specs. for Highway Bridges. Payment for bearing pads shall be included in contract item for Structural Concrete, Class "A."

FINISHING CONCRETE: Roadway surface shall be finished according to specifications. The following surfaces shall be given a rubbed finish: outside faces of the slab, outside faces of exterior girders, and exposed surfaces of abutment wings down to one foot below finished ground line. All other surfaces shall be given an "Ordinary Finish."

REINFORCING STEEL: All bars shall conform to ASTM Spec. A615. Unless otherwise shown bars shall be Grade 60. The minimum covering to the face of any bar shall be 2" unless otherwise shown. Grade 60 bars shall be lapped 36 bar diameters and Grade 40 bars shall be lapped 24 bar diameters at all splices unless otherwise shown. Bar splice other than those shown on the plans will not be paid for.

CONCRETE PILES CAST IN STEEL PIPE OR SHELLS: The casing for cast in place concrete piles shall be either steel pipe or steel shells at the contractor's option. However, only one type shall be used for the entire project. Steel pipe shall have a min. O.D. of 16" with a min. wall thickness of ¼". Pipe shall be either spiral welded or seamless steel pipe conforming to requirements of A.S.T.M. Spec. A252, Grade 2. Steel pipe shall be fitted with pile tip as detailed on the plans. All pipe splices shall be made by butt welds. Steel shell piles shall consist of a 20 ft. length lower section with a min. tip diameter of 12" and a top diameter of 16" and a constant 16" diameter pile extension of the required length welded to the lower tapered section. Wall thickness of both upper and lower sections shall be min. 3 ga. steel. Steel for the shells shall have a min. tensile strength of 50,000 psi. Piles may be ordered in stock lengths and spliced to obtain required lengths except that the min. length of any piece shall be 10 ft. All piles shall be water tight. All piling shall be driven to a min. bearing value of 50 tons and min. tip elevation of El. +15.0. (Estimated tip El. -15.0). The contract item for "Concrete Piles Cast in Steel Pipes or Shells" shall include payment for furnishing the pipe or shells and filling with concrete, complete in place. Order lengths of steel pipe or shell shall be based on test pile data. Only those splices required for pile extensions to secure adequate pile bearing after the pile order length has been driven will be paid for. Payment for concrete columns above El. 39.5 in Bents #2 and #3 shall be included in the items for Structural Concrete, Class A and Reinforcing Steel.

TEST PILES: Two test piles shall be driven at locations selected by the Engineer and shall be of the same type as the remainder of the piles in the substructure units and shall become permanent piles. Pile #4 & 18.

PREFORMED ELASTOMERIC COMPRESSION JOINT SEALS: The seals shall be as manufactured by D.S. Brown Company, Acme Highway Products Co. or equal. The cost of the seals and their installation is to be included in the contract item for Structural Concrete, Class "A."

STEEL BRIDGE RAILING: All items of rail construction are included in the contract item for "Steel Bridge Railing" and include the tubular rails, steel posts, and all rail and post securing bolts, nuts, washers and shims. All elements of bridge railing shall be galvanized after fabrication and shall conform to A.S.T.M. Spec. A123. Tubular rails shall conform to A.S.T.M. Spec's. A500 or A501. Posts, plates and ⅞"ϕ bolts shall conform to A.S.T.M. Spec. A307. ⅝"ϕ, ¾"ϕ and ⅞"ϕ H.S. bolts shall conform to A.S.T.M. Spec. A325. Provide metal shims for alignment. The cost of furnishing and installing Guard Rail Brackets and End Shoes at all four corners of bridge shall be included in contract item for "Steel Bridge Railing." Contractor will be furnished standard state of Alaska bridge number plates. He shall install these plates on the bridge railing as directed by the engineer. The cost of installing bridge number plates is to be included in the price for "Steel Bridge Railing."

ESTIMATE:

***	Structural Concrete, Class "A"	All Req'd.
*	Reinforcing Steel	113,730 Lbs. (b)
	Concrete Piles Cast in Steel Pipes or Shells	1,280 Lin. Ft.
	Test Piles (Conc. Piles Cast in Steel Pipes or Shells)	2 Each
	Pile Splices	4 Each
	Steel Bridge Railing	378 Lin. Ft.
	Loose Riprap (Includes Excavation)	1,202 Cu. Yds.
	Steel Pile Pipes or Shells, Driven	22 Each

* Includes weight of guard angles

(a) Abut. #1 = 21.8 cu. yds. Abut. #4 = 21.8 cu. yds. Superstructure = 300.3 cu. yds. Bents #2 & #3 = 2.7 cu. yds.

(b) Abut. #1 = 1,690 Lbs.*, Abut. #4 = 1,690 Lbs.*, Superstructure = 110,440 Lbs.**

** Includes Bents #2 & #3 & pile reinforcing.

*** Estimated quantity Class A Concrete = 354.1 Cu. Yds.

AS BUILT PLANS

#1220

U S DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
HIGHWAY PROGRAMS OFFICE REGION 7 SAN FRANCISCO, CALIFORNIA

COWEE CREEK BRIDGE
BRIDGE NO. 1220
ALASKA FOREST HIGHWAY PROJECT FH2-4(3)
GLACIER HIGHWAY

APPROVED J.M. Hoodell
CHIEF, WESTERN BRIDGE DESIGN

SCALE: 1" = 20'-0"

APRIL 1970

BRIDGE DRWG. 1 OF 4 DRWGS.

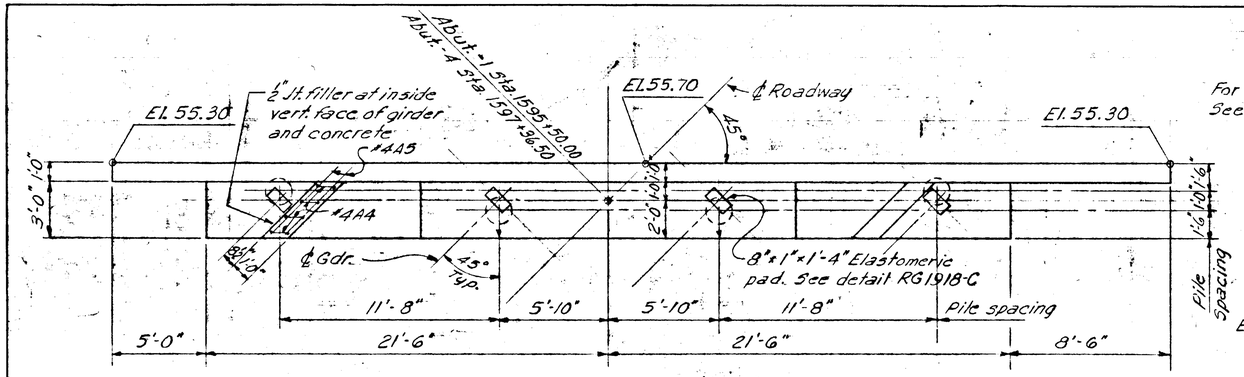
RG 1918-A

Rev. 7-1-70

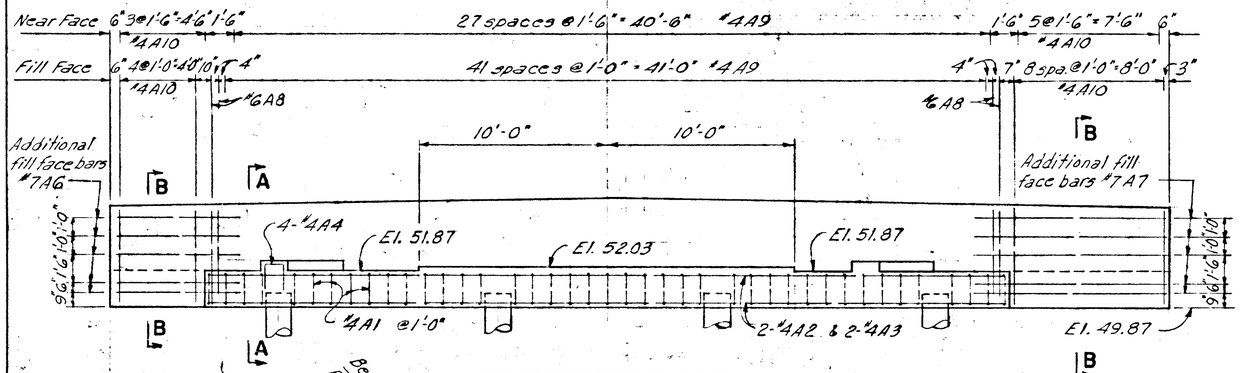
DRAWN BY ___ WESTERN BRIDGE DESIGN DIVISION
CHECKED BY AJT April 1970 SAN FRANCISCO, CALIFORNIA

GPO 877-968

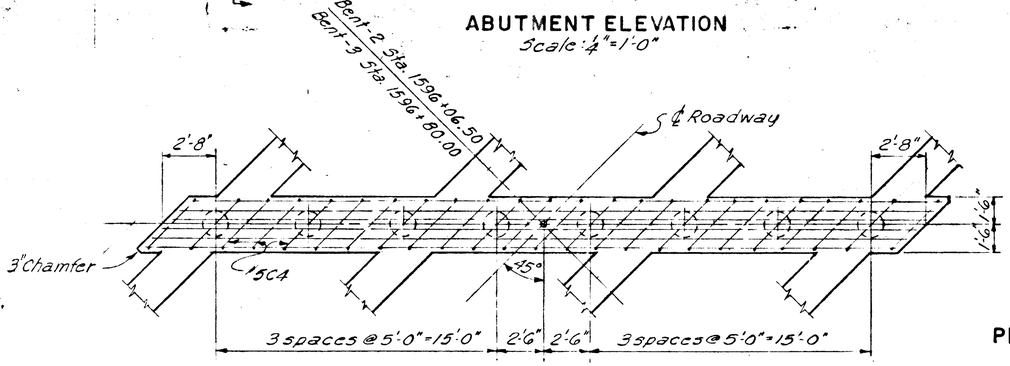
STATE	ROUTE	SECTION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	FH2	4	1970	17	24



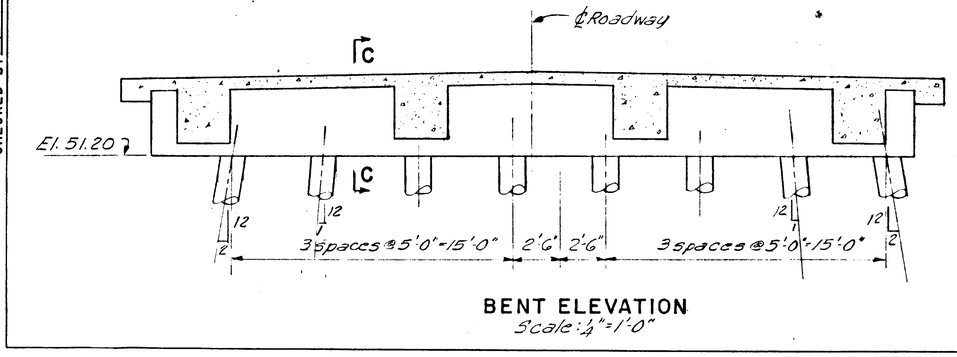
ABUTMENT PLAN
Scale: ¼"=1'-0"



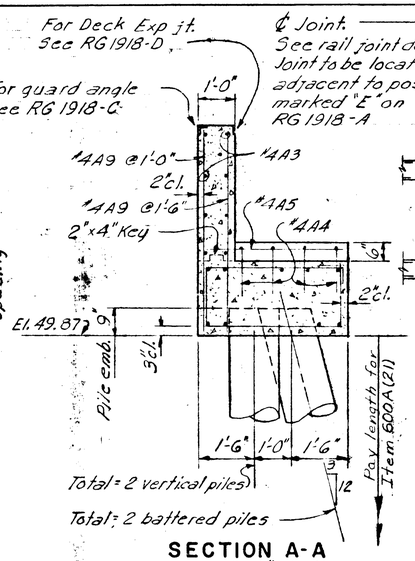
ABUTMENT ELEVATION
Scale: ¼"=1'-0"



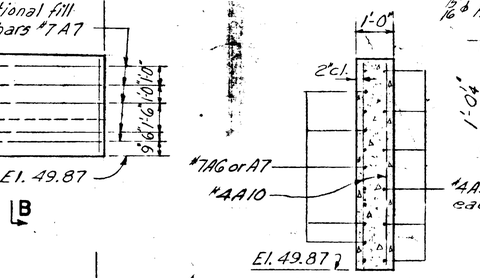
BENT PLAN
Scale: ¼"=1'-0"



BENT ELEVATION
Scale: ¼"=1'-0"

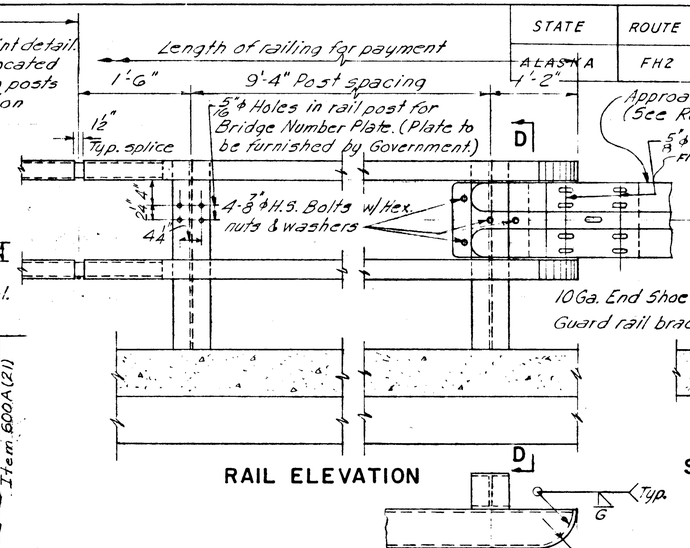


SECTION A-A
Scale: ½"=1'-0"



SECTION B-B
Scale: ½"=1'-0"

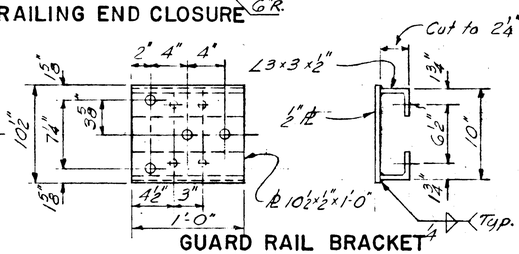
END SHOE



RAIL ELEVATION

SECTION D-D

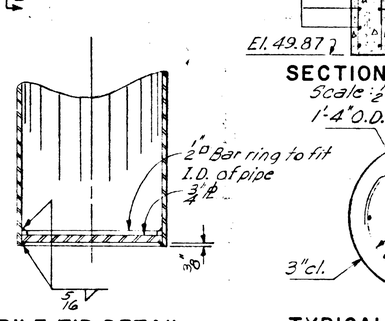
RAILING END CLOSURE



GUARD RAIL BRACKET

Joint must be free to move after erection. Grind all exposed edges 1/16 R.

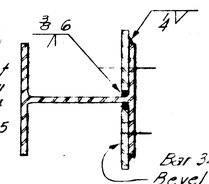
RAIL JOINT DETAIL
Scale: ½"=1'-0"



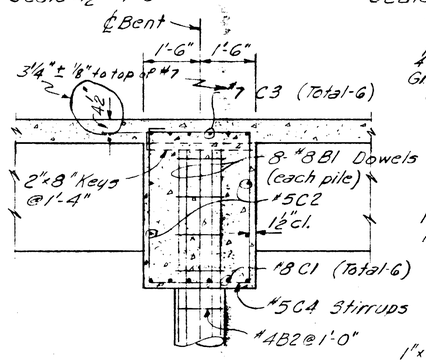
Note: This reinforcement is to be used at top of all piles in Bents #2 & #3. Omit pipe or shells above El. 39.5 in Bents #2 & #3 only.

PIPE PILE TIP DETAIL
Scale: 1½"=1'-0"

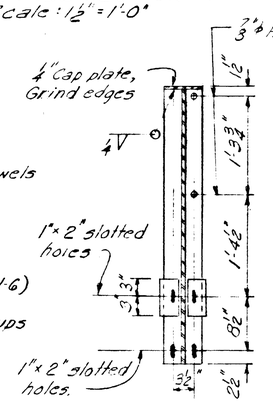
TYPICAL PILE SECTION
Scale: 1½"=1'-0"



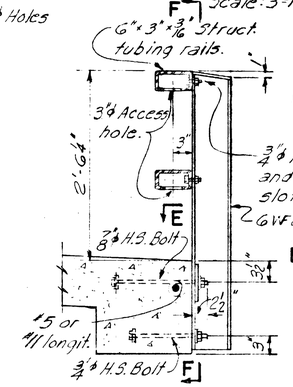
SECTION E-E
Scale: 3"=1'-0"



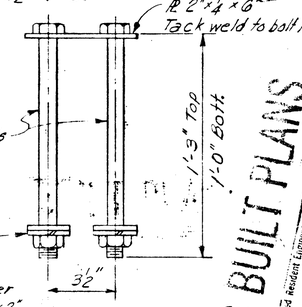
SECTION C-C
Scale: ½"=1'-0"



SECTION F-F



STEEL RAIL & POST



POST BOLTS
Scale: 3"=1'-0"

AS BUILT PLANS
Signed Resident Engineer

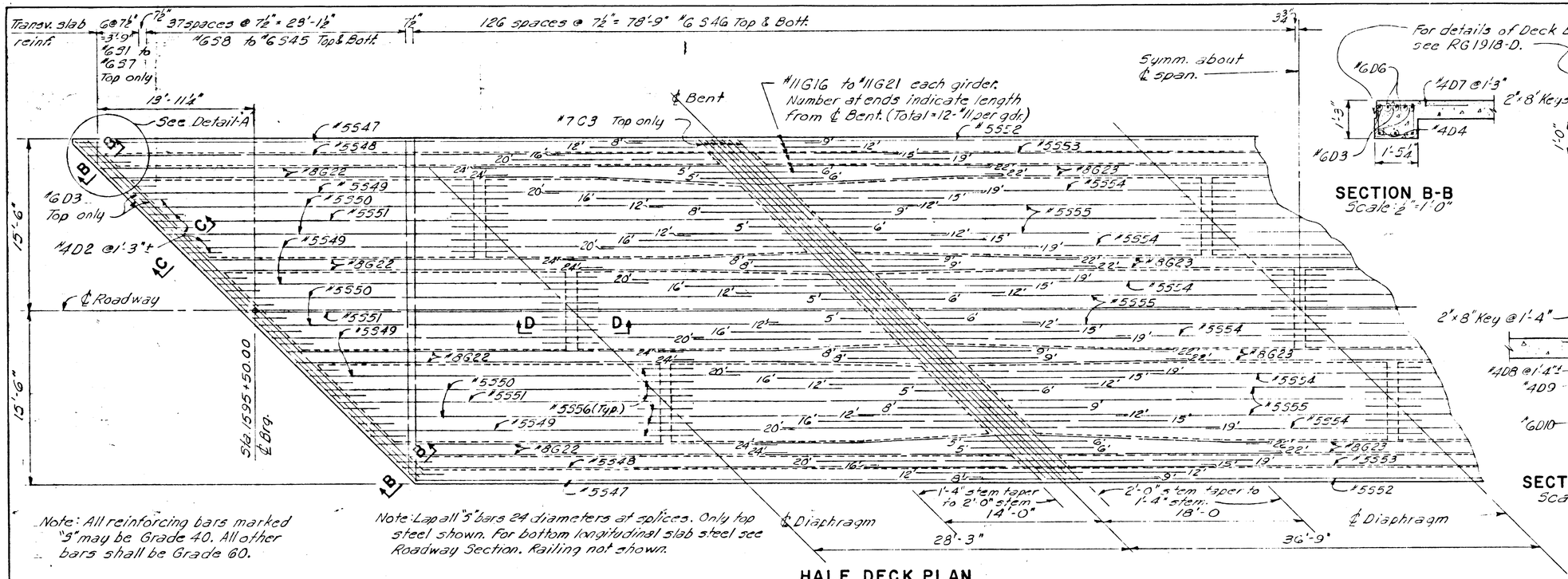
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
HIGHWAY PROGRAMS OFFICE REGION 7 SAN FRANCISCO, CALIFORNIA

COWEE CREEK BRIDGE #1220
BRIDGE NO. 1220
ALASKA FOREST HIGHWAY PROJECT FH2-4(3)
GLACIER HIGHWAY

SCALE: 1"=1'-0" UNLESS NOTED
APRIL 1970
BRIDGE DRWG. 2 OF 4 DRWGS.
RG 1918-B
Rev. 7-1-70

WESTERN BRIDGE DESIGN DIVISION
SAN FRANCISCO, CALIFORNIA
DRAWN BY A.L. APRIL 1970
CHECKED BY AHT 4/70

STATE	ROUTE	SECTION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	FH2	4	1970	18	24

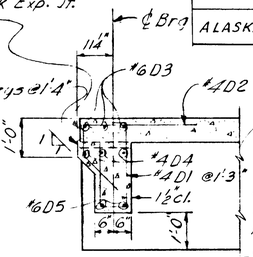


Note: All reinforcing bars marked "S" may be Grade 40. All other bars shall be Grade 60.

Note: Lap all "S" bars 24 diameters at splices. Only top steel shown. For bottom longitudinal slab steel see Roadway Section. Railing not shown.

HALF DECK PLAN
Scale: 3/16" = 1'-0"

SECTION B-B
Scale: 2" = 1'-0"



SECTION C-C
Scale: ½" = 1'-0"

5/16" ϕ Holes @ 4" ± Vertical leg only

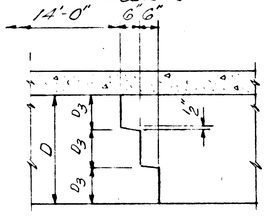
2 L's 3"x3"x⅜"x42'-6". Fabricate in two pieces with splice @ ℄ Rdwy. and weld in field. Galvanize after fabrication.

1½"

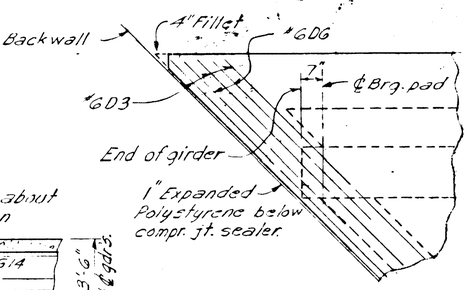
1" ϕ x 8" End-Weldable stud @ 1'-0" o.c. w/ ½" x 5/16" min. head.

GUARD ANGLE DETAIL
Scale: 3" = 1'-0"

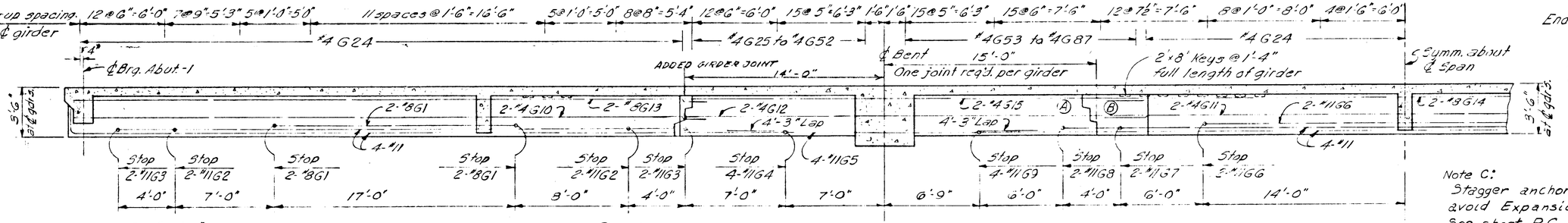
SECTION D-D
Scale: ½" = 1'-0"



GIRDER CONSTRUCTION JOINT
Scale: ½" = 1'-0"



DETAIL - "A"
Scale: ½" = 1'-0"

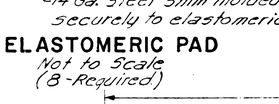


GIRDER ELEVATION
Scale: ¼" = 1'-0"

Note C: Stagger anchor spacing to avoid Expansion Joint Anchors, See sheet RG 1918-D.

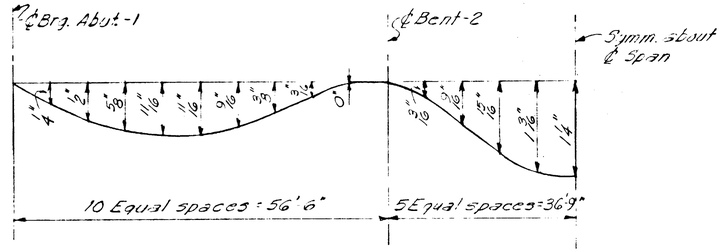
Note: Concrete in girder pour Ⓐ shall not be placed until concrete in pour Ⓐ has obtained a strength of 1,000 psi.

Note: Shear keys between girder stems and deck slab, and between diaphragms, end beams, bent caps and deck slab, may be eliminated at the contractor's option; provided the top surface in contact with the slab is left rough or artificially roughened, and this surface is sandblasted prior to placing any deck slab concrete.



ELASTOMERIC PAD
Not to Scale
(8 - Required)

ROADWAY SECTION
Scale: ⅜" = 1'-0"



DEAD LOAD DEFLECTION
Not to Scale

Note: Computation for dead load deflection based on E_c = 1,000,000 psi to allow for plastic flow. No allowance for settlement of falsework is included in the deflection ordinates.

AS BUILT PLANS

Signed: Resident Engineer — Date

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
HIGHWAY PROGRAMS OFFICE REGION 7 SAN FRANCISCO, CALIFORNIA

COWEE CREEK BRIDGE #1220

BRIDGE NO. 1220
ALASKA FOREST HIGHWAY PROJECT FH2-4(3)
GLACIER HIGHWAY

SCALE: AS NOTED — APRIL 1970

BRIDGE DRWG. 3 OF 4 DRWGS.

Rev. 7-1-70

RG 1918-C

WESTERN BRIDGE DESIGN DIVISION
SAN FRANCISCO, CALIFORNIA

DRAWN BY A.T. March 1970
CHECKED BY Art Aldo

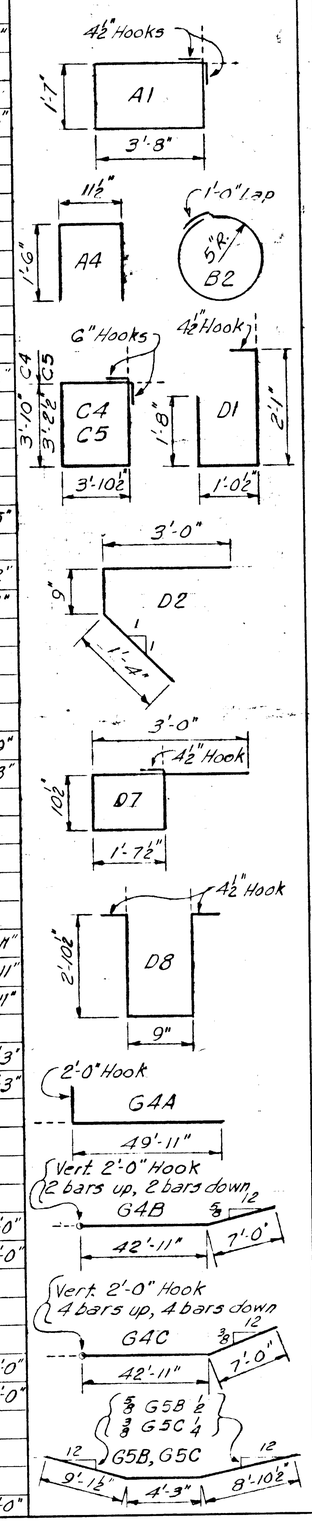
GPO 977-058

LOCATION	STRAIGHT BARS MARK	NO.	SIZE	LENGTH	BENT BARS MARK	NO.	SIZE	LENGTH
ABUTMENTS								
Footing Ties					A1	82	4	11'-3"
" Longit.	A2	8	4	42'-8"				
Ftg. & Backwall Longit.	A3	24	4	56'-2"				
Ftg. Gdr. Blocks					A4	16	4	3'-11½"
" " "	A5	8	4	5'-2"				
Wings - Horiz.	A6	10	7	7'-0"				
" "	A7	10	7	10'-6"				
Backwall - Vert. fill face	A8	8	6	5'-3"				
" " both faces	A9	140	4	5'-3"				
Wings " " "	A10	48	4	5'-2"				
BENTS								
Bent Pile - caps	B1	128	8	20'-0"				
" " "					B2	320	4	3'-8"
SUPERSTRUCTURE								
Bent Caps - Bott.-Longit.	C1	12	8	40'-0"				
" " - Ctr. - "	C2	8	5	40'-0"				
" " - Top - "	C3	12	7	49'-4"				
" " - Stirrups					C4	48	5	16'-5"
End Beam - Ties					D1	36	4	5'-2"
" " - "					D2	36	4	5'-1"
" " - Longit.	D3	6	6	49'-4"				
" " "	D4	6	4	49'-4"				
" " "	D5	4	6	36'-5"				
" " "	D6	8	6	6'-0"				
" " Ties					D7	8	4	6'-9"
Int. Diaph. - Ties					D8	54	4	7'-3"
" "	D9	18	4	9'-4"				
" "	D10	18	6	9'-4"				
Gdr. Stems	G1	16	8	17'-0"				
" "	G2	16	11	32'-0"				
" "	G3	16	11	40'-0"				
" "					G4A	20	11	51'-11"
" " (Ext. Gdr's.)					G4B	4	11	51'-11"
" " (Int. Gdr's.)					G4C	8	11	51'-11"
" "	G5A	20	11	22'-3"				
" " (Ext. Gdr's.)					G5B	4	11	22'-3"
" " (Int. Gdr's.)					G5C	8	11	22'-3"
" "	G6	8	11	28'-0"				
" "	G7	8	11	40'-0"				
" "	G8	8	11	48'-0"				
" "	G9A	10	11	60'-0"				
" " (Ext. Gdr's.)					G9B	2	11	60'-0"
" " (Int. Gdr's.)					G9C	4	11	60'-0"
" "	G10	16	4	44'-5"				
" "	G11	8	4	40'-6"				
" " (Ext. Gdr's.)	G12A	4	4	32'-0"				
" " (Ext. Gdr's.)					G12B	4	4	32'-0"
" " (Int. Gdr's.)					G12C	8	4	32'-0"
" "	G13	16	8	45'-11"				
" "	G14	8	8	43'-6"				
" " (Ext. Gdr's.)	G15A	4	8	32'-0"				
" " (Ext. Gdr's.)					G15B	4	8	32'-0"

DRAWN BY RJT 4/70
CHECKED BY

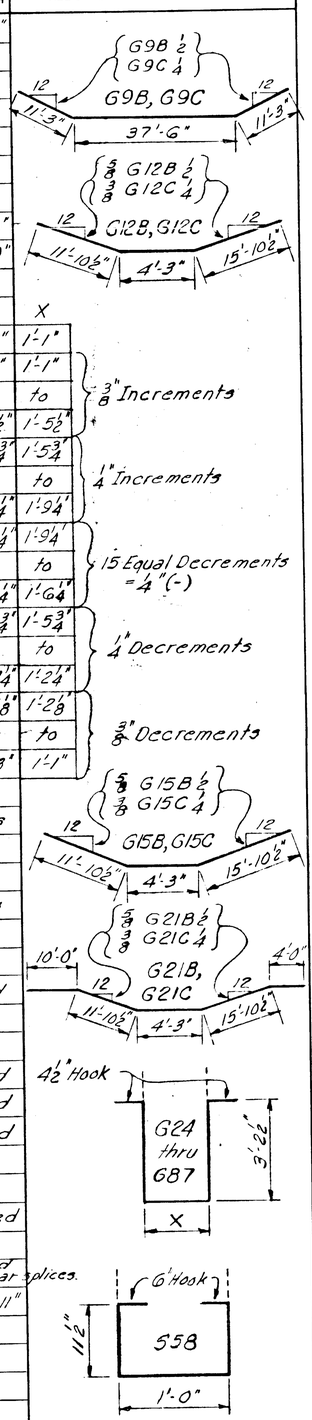
WESTERN REGION
SAN FRANCISCO, CALIFORNIA

BENDING DIAGRAMS
ALL DIMENSIONS ARE OUT TO OUT



LOCATION	STRAIGHT BARS MARK	NO.	SIZE	LENGTH	BENT BARS MARK	NO.	SIZE	LENGTH
Girder Stems (Int. Gdr's.)					G15C	8	8	32'-0"
Girder Slab	G16	16	11	11'-0"				
" "	G17	16	11	17'-0"				
" "	G18	16	11	24'-0"				
" "	G19	16	11	31'-0"				
" "	G20	16	11	39'-0"				
" "	G21A	4	11	46'-0"				
Girder Slab (Ext. Gdr's.)					G12B	4	11	46'-0"
" " (Int. Gdr's.)					G12C	8	11	46'-0"
" "	G22	16	8	36'-8"				
" "	G23	8	8	35'-6"				
Girder Stirrups					G24	540	4	8'-3"
" "					G25	8 ea.	4	8'-3"
" "					to	of 13		to
" "					G37	=104	4	8'-7½"
" "					G38	8 ea.	4	8'-7¾"
" "					to	of 15		to
" "					G52	=120	4	8'-11¼"
" "					G53	8 ea.	4	8'-11¼"
" "					to	of 16		to
" "					G68	=128	4	8'-8¼"
" "					G69	8 ea.	4	8'-7¾"
" "					to	of 15		to
" "					G83	=120	4	8'-4¼"
" "					G84	8 ea.	4	8'-4⅛"
" "					to	of 4		to
" "					G87	=32	4	8'-3"
Slab Transv.	S1	2 ea.	6	2'-8"				
" "	to	of 7		to				
" "	S7	=14	6	6'-5"				
" "	S8	4 ea.	6	7'-0½"				
" "	to	of 38		to				
" "	S45	=152	6	30'-2"				
" "	S46	508	6	30'-8"				
" Top Longit.	S47	4	5	52'-3"	1-splice allowed			
" " "	S48	4	5	43'-0"				
" " "	S49	12	5	39'-0"				
" " "	S50	12	5	48'-3"	1-splice allowed			
" " "	S51	3	5	194'-0"	4-splices allowed			
" " "	S52	2	5	59'-3"	1-splice allowed			
" " "	S53	2	5	46'-0"				
" " "	S54	6	5	38'-0"				
" " "	S55	6	5	53'-3"	1-splice allowed			
" Over Diaphs.	S56	54	5	5'-0"	4-splices allowed			
" Bottom Longit.	S57	31	5	194'-0"	stagger adjacent bar splices.			
Edge Slab Ties					S58	302	5	3'-11"

BENDING DIAGRAMS
ALL DIMENSIONS ARE OUT TO OUT

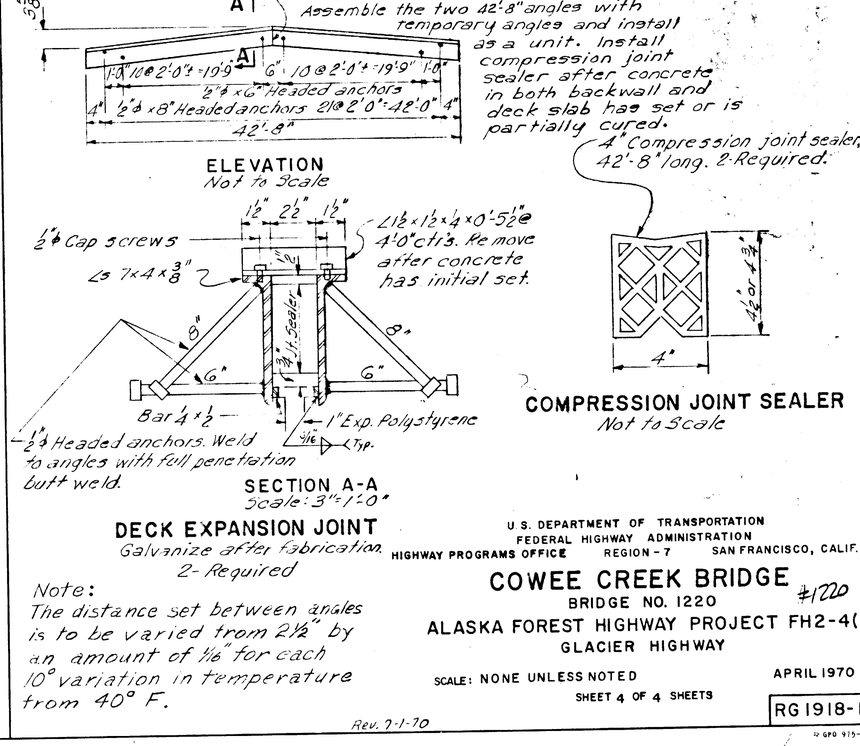


STATE	ROUTE	SECTION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	FH2	4	1970	19	24

LOCATION	STRAIGHT BARS MARK	NO.	SIZE	LENGTH	BENT BARS MARK	NO.	SIZE	LENGTH

BENDING DIAGRAMS
ALL DIMENSIONS ARE OUT TO OUT

AS BUILT PLANS
Signed Resident Engineer
Date



DECK EXPANSION JOINT
Galvanize after fabrication.
2-Required

Note:
The distance set between angles is to be varied from 2½" by an amount of 1/16" for each 10° variation in temperature from 40° F.

Rev. 7-1-70

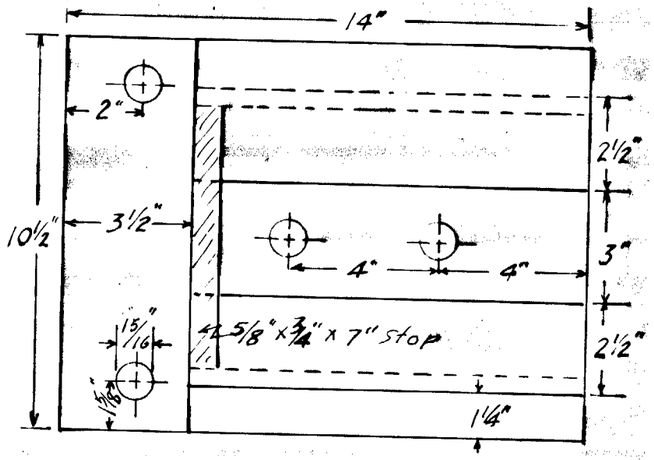
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
HIGHWAY PROGRAMS OFFICE REGION - 7 SAN FRANCISCO, CALIF.

COWEE CREEK BRIDGE #1220
BRIDGE NO. 1220
ALASKA FOREST HIGHWAY PROJECT FH2-4(3)
GLACIER HIGHWAY

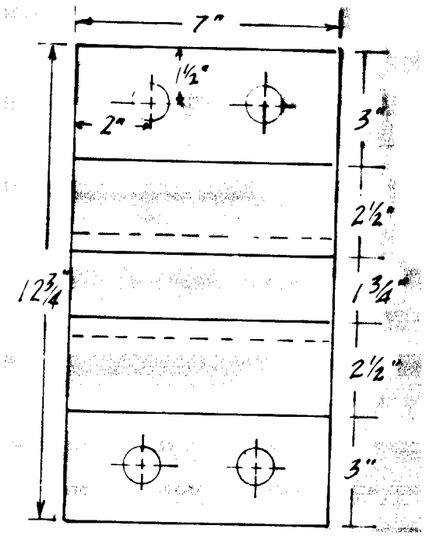
SCALE: NONE UNLESS NOTED
APRIL 1970
SHEET 4 OF 4 SHEETS
RG 1918-D

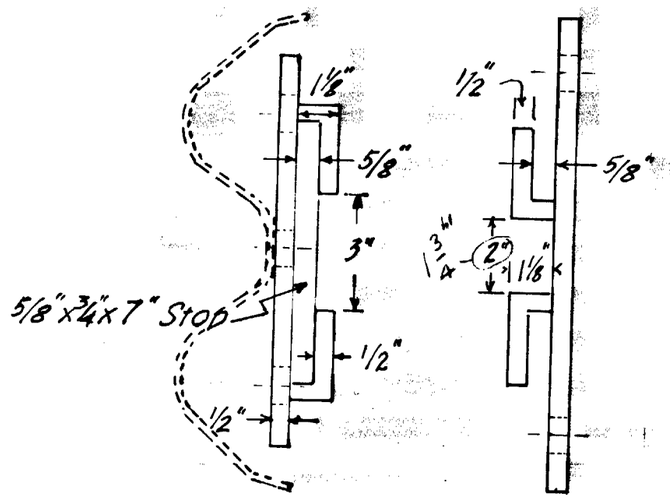
GPO 915-895

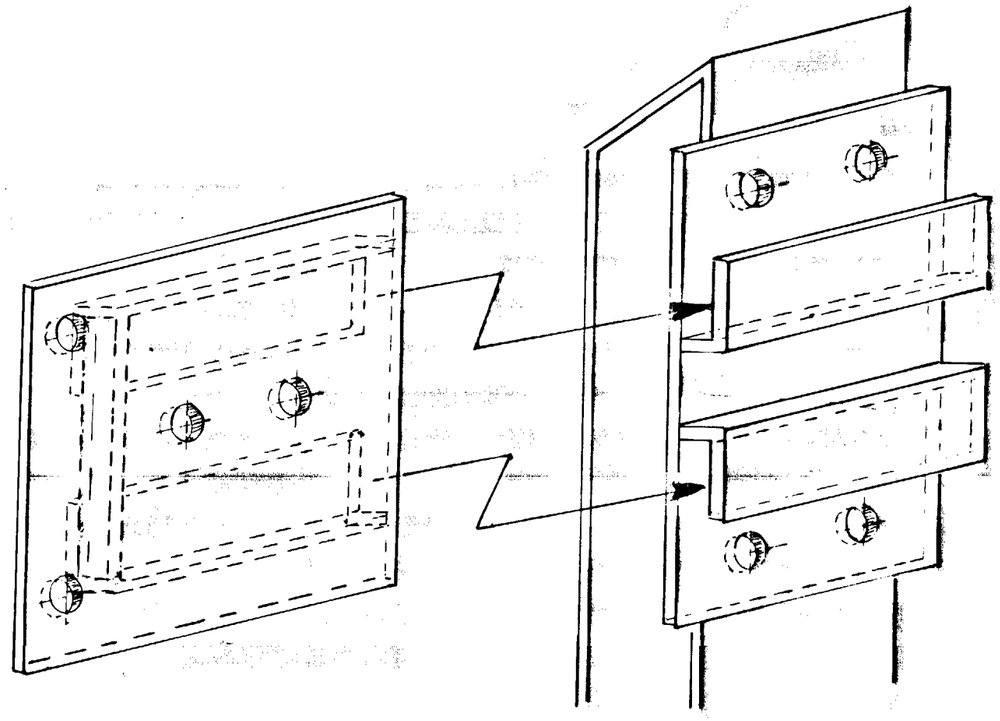
Guardrail Plate



Bridge Post Plate







SCALE: ¼"=1"

Bl: # 1220