

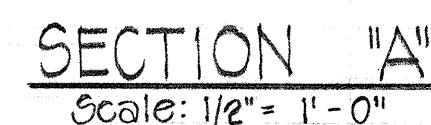
Technical drawing of a bridge deck section showing a welded frame and grating. The drawing includes dimensions for the frame (3'-8" x 3'-8"), dowels (#6 @ 12" o.c. x 1'-0" long), and the grating (Type A-9). It also shows an existing pipe and a 4'-6" existing curb. The drawing is labeled "Type A-9 Welded Frame & Grating".



Scale: $1'' = 10'$

ESTIMATED QUANTITIES:

24" Culvert 18± L.F.
Bed Course Material 2.5 c.y.
Struct. Exc. 20 c.y.
Concrete 2 c.y.
Grouted Rubble Paving 5 c.y.
Reinforcing Steel 42 lb.



Scales: Horiz. 1" = 10'
Vert. 1" = 10'



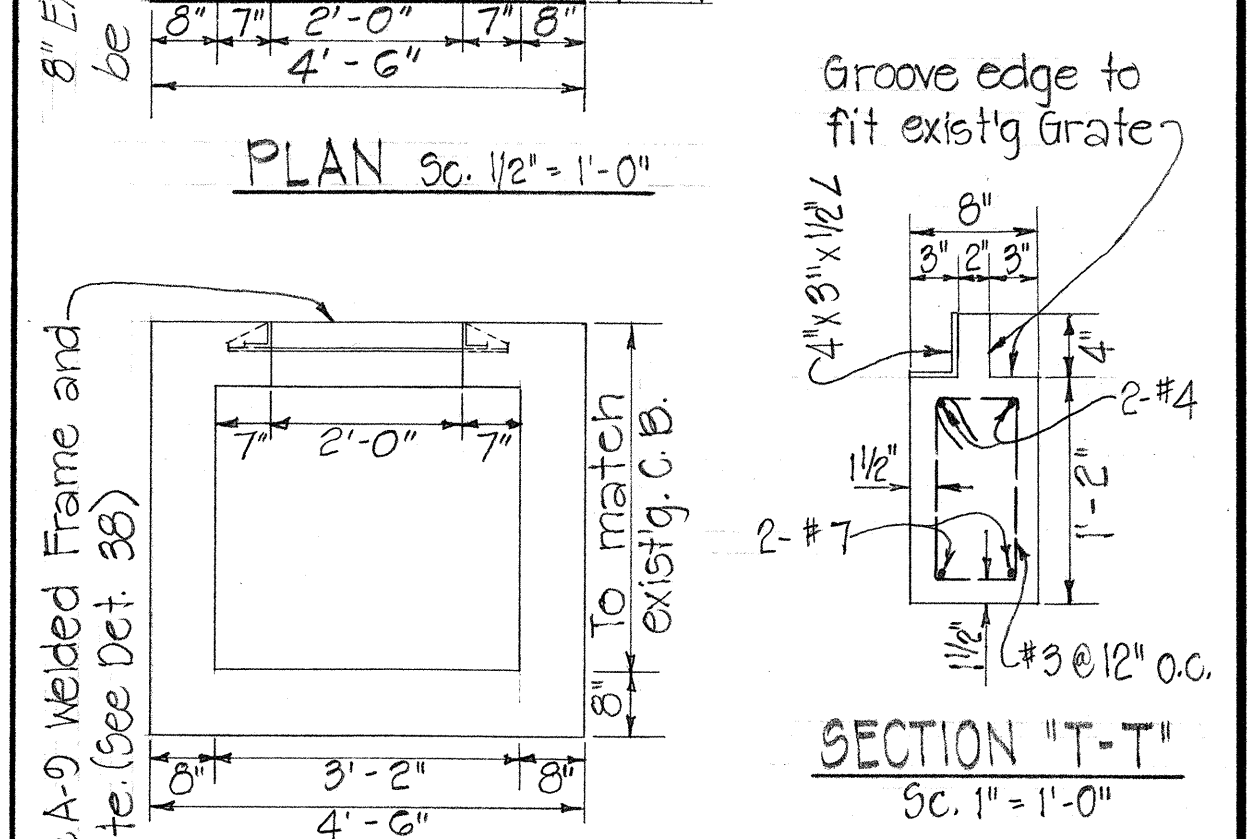
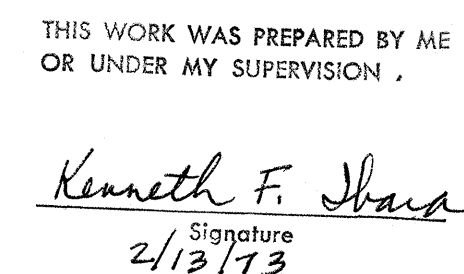
Scale: 1" = 10'

ESTIMATED QUANTITIES:

24" CMP	ESTIMATED QUANTITIES
8" RCP, Class V 8± L.F.	Type G1214 Steel Frame & Grate 2 ea.
Struct. Exc. 11 c.y.	Bed Course Material 1 c.y.
Concrete 4 c.y.	Reinforcing Steel 100 lb.



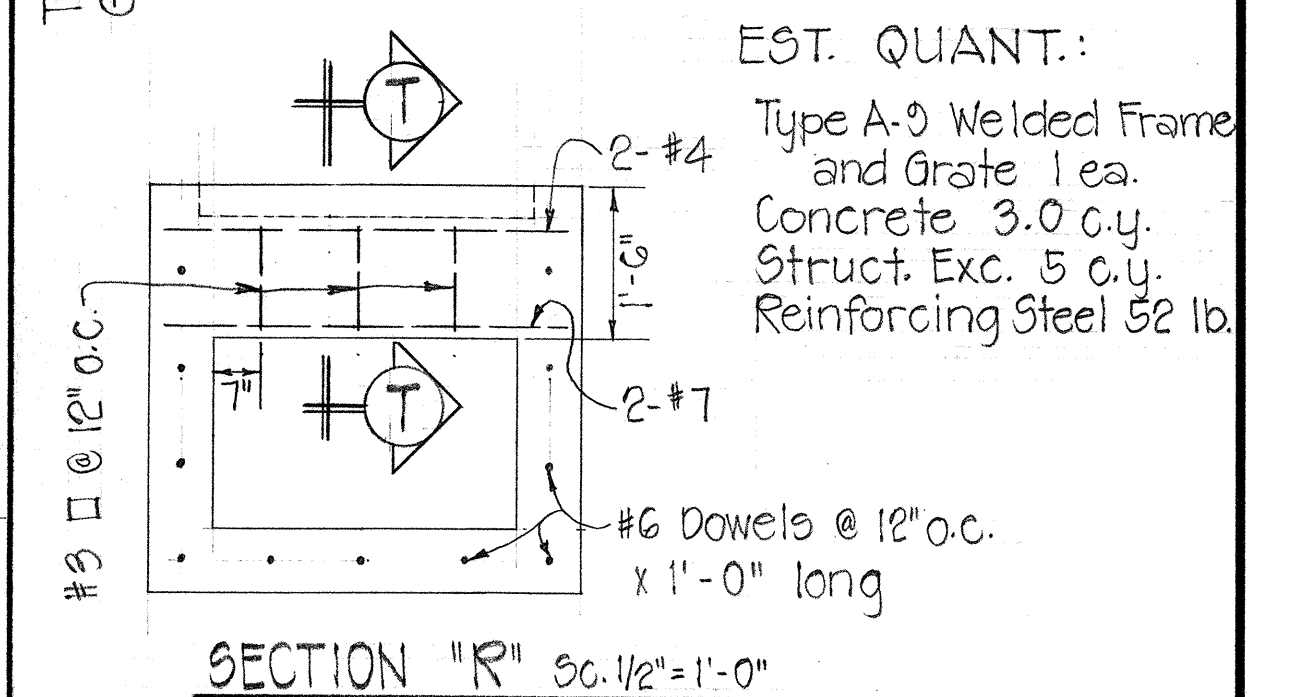
Scales: Horiz. $1'' = 10'$
Vert. $1'' = 10'$



SECTION "S" sc. 1/2" = 1'-0"

EST. QUANT.:

Type A-9 Welded Frame
and Grate 1 ea.
Concrete 3.0 c.y.
Struct. Exc. 5 c.y.
Reinforcing Steel 52 lb.



SECTION "R" SC. 1/2" = 1'-0"

DETAILS LAWAI - DROP INTAKE
EXTENSION @ STA. 70+75±

Scale: As Shown

(See General Notes for All Sections Sheet No 2)

CULVERT EXTENSIONS AND DETAILS

EAST OMAO & LAWAI SECTIONS

TRUCK CLIMBING LANES AT THREE

LOCATIONS (WAHIAWA, LAWAI AND OMAO VALLEYS)

PROJ. NO 50 CD-01-70

SHEET No. OF SHEETS

ORIGINAL PLAN	SURVEY PLOTTED BY _____ DATE _____
NOTE BOOK	DRAWN BY _____
	TRACED BY _____
	DESIGNED BY _____
	QUANTITIES BY _____
No. _____	CHECKED BY _____

EST. QUANT. FOR BOX CULVERT EXTENSION:

Struct. Exc. 239 c.y.
Concrete 41 c.y.
Reinforcing Steel 5,167 lb.

EST. QUANT. FOR RETAINING WALL:

Struct. Exc. 7 c.y.
Concrete 2 c.y.
Reinforcing Steel 1,067 lb.

PLAN LAWAI - EXTENSION OF CONC. BOX CULVERT

@ STA. 82+00
Scale: 1" = 10'

SECTION LAWAI - EXTENSION OF CONC. BOX CULVERT

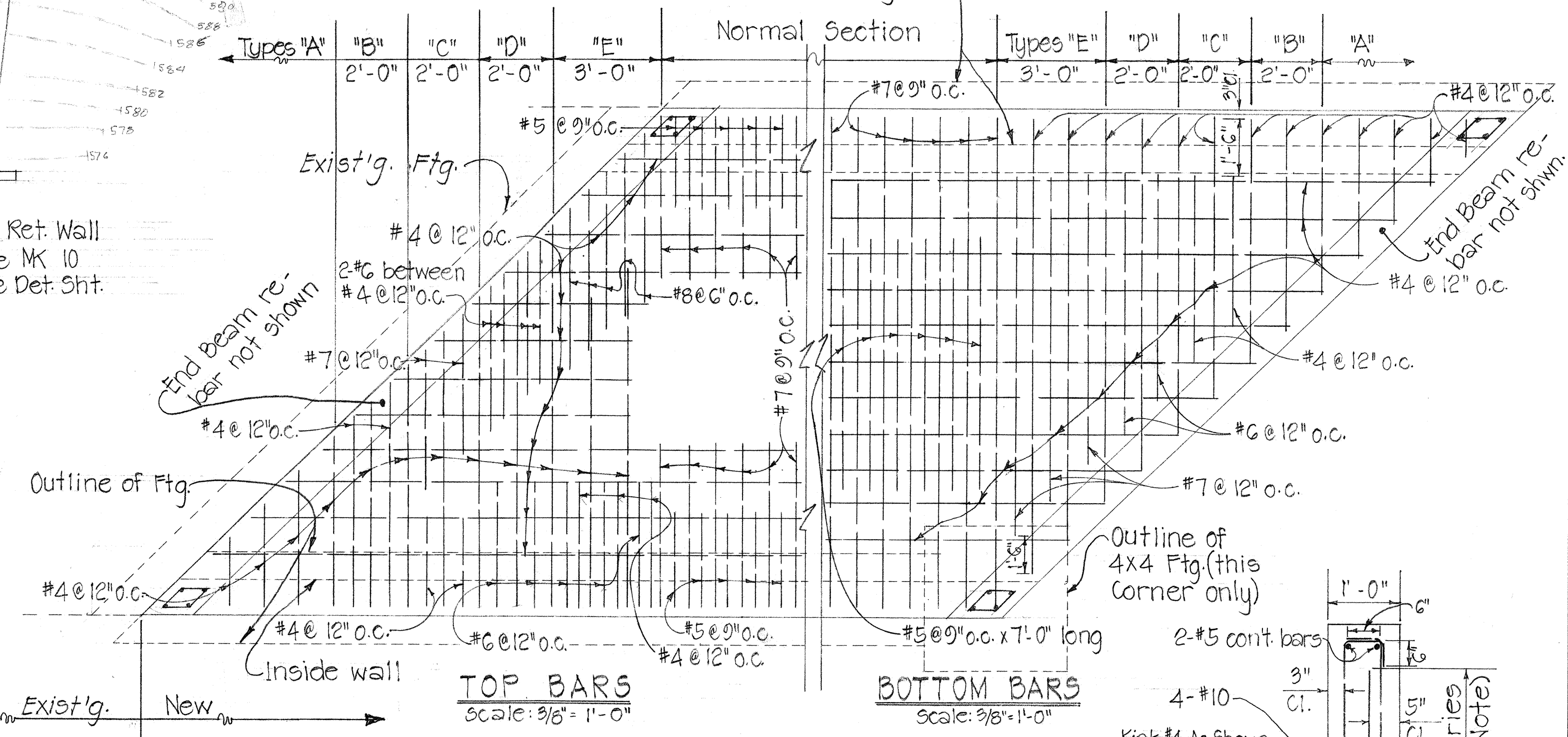
@ STA. 82+00± Scale: 1" = 10'

TYPICAL NORMAL SECTION

Sc. 1/2" = 1'-0"

END BEAM DETAIL

Sc. 1/4" = 1'-0"



SECTION "F" TYPICAL END BEAM SECTION

Sc. 3/4" = 1'-0"

4x4 TYPICAL FTG. PLAN

Sc. 1/4" = 1'-0"

NOTE:

2'-8" for #8; 2'-4" for #7; 2'-0" for #6; 1'-4" for #4. Some of these dimensions are greater than the depth of the beam-bars need not be placed plumb.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CONC. BOX CULVERT EXTENSIONS

LAWAI SECTION

TRUCK CLIMBING LANES AT THREE
LOCATIONS (WAHIWA, LAWAI AND OMAO VALLEYS)

PROJ. NO. 50 CD-01-70

SHEET NO. OF SHEETS

DATE	
SURVEY PLOTTED BY	
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
NO.	



THIS WORK WAS PREPARED BY ME
OR UNDER MY SUPERVISION.

Masao Kutaka

Signature
2/13/73