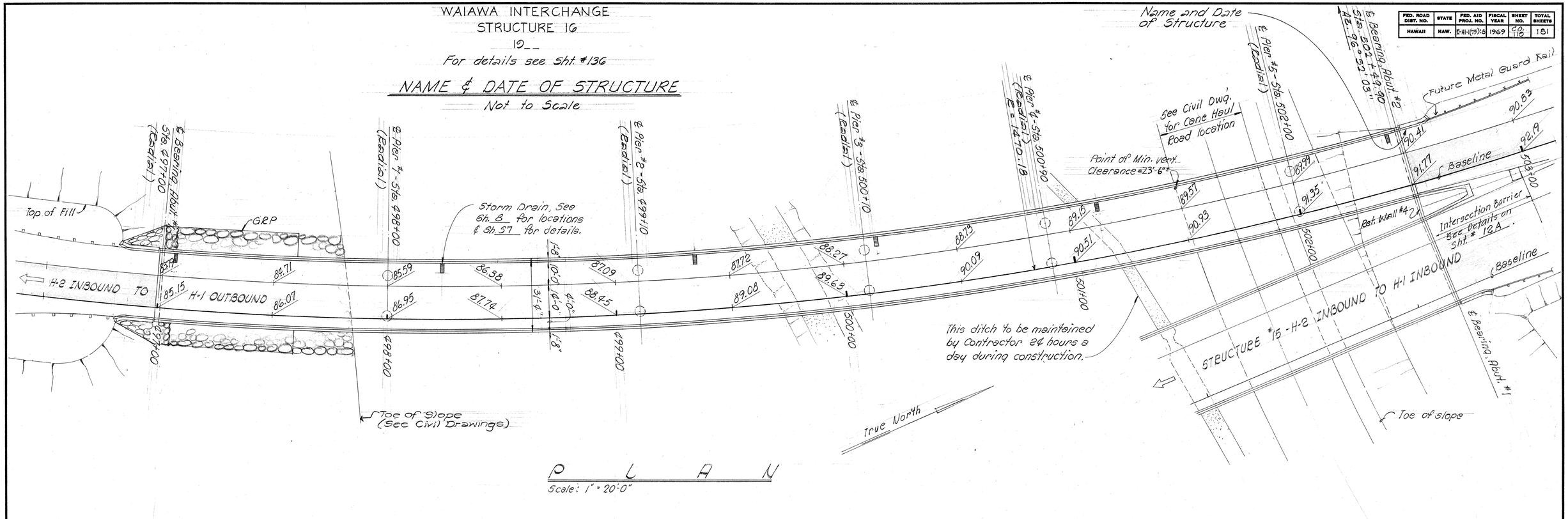
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(75):8	1969	9 of 110	181

WAIAWA INTERCHANGE
STRUCTURE 16
19__

For details see Sht. #136

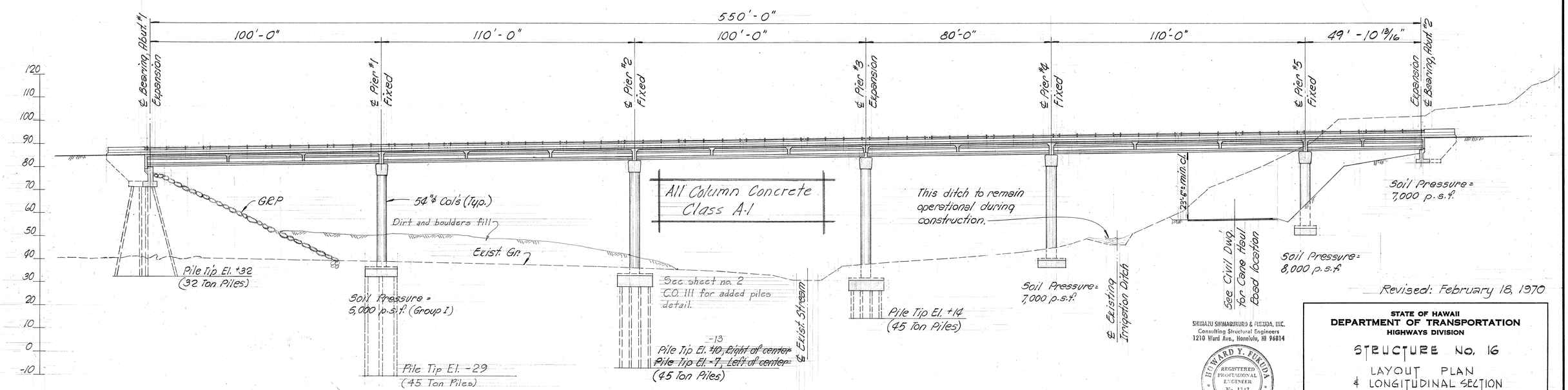
NAME & DATE OF STRUCTURE

Not to Scale



PLAN

Scale: 1" = 20'-0"



LONGITUDINAL SECTION ALONG BASELINE OF STRUCTURE

Scale: 1" = 20'-0"

THIS SHEET SUPERSEDES SHEET NO. 110 & ADD. 110

Revised: February 18, 1970

SHIMAZU SHIMABUKURO & FUKUDA, INC.
Consulting Structural Engineers
1210 Ward Ave., Honolulu, HI 96814

HOWARD Y. FUKUDA
REGISTERED PROFESSIONAL ENGINEER
No. 1343
HAWAII, U.S.A.

This work was prepared by me or under my supervision.
Howard Y. Fukuda

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STRUCTURE No. 16
LAYOUT PLAN & LONGITUDINAL SECTION

WAIAWA INTERCHANGE
F.A.I. Proj. No. I-HI-1(75):8

Scale: As shown Date: JUNE, 1969

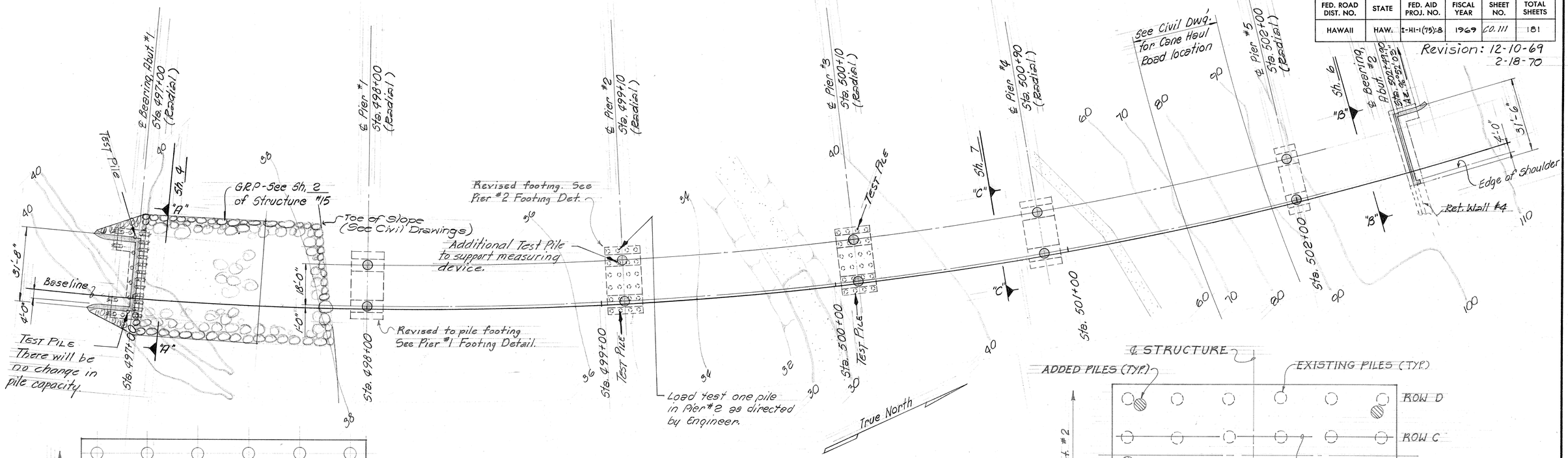
SHEET No. 1 OF 13 SHEETS

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

JUNE 24, 1971 C.O. 110

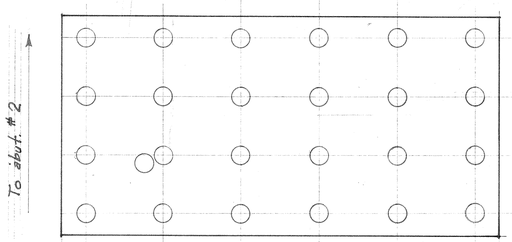
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(75):8	1969	CO. 111	181

Revision: 12-10-69
2-18-70



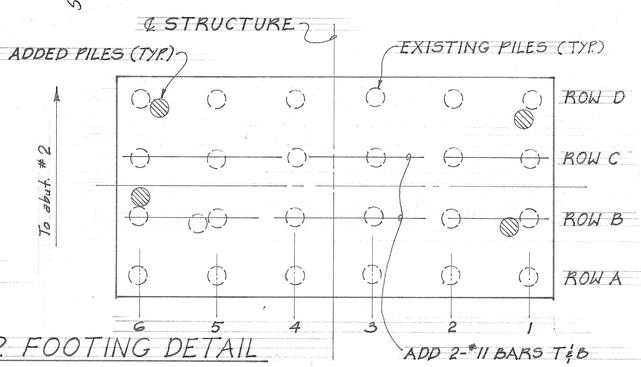
FOUNDATION LAYOUT PLAN

Scale: 1" = 20'-0"



PIER #1 FOOTING DETAIL

SC: N.T.S.



PIER #2 FOOTING DETAIL

SC: N.T.S.

BRIDGE QUANTITY ESTIMATES

ITEM #	ITEM	UNIT	QUANTITY
14.60	Structure Excavation for Bridges	C.Y.	889
46.067	Concrete in Structure #16 (Except in Footings)	L.S.	872 C.Y.
46.068	Concrete in Footings for Structure #16	L.S.	302 C.Y.
46P.18	Type IV Prestressed Concrete Girders for Structure #16	L.S.	3272 L.F.
48.64	Reinforcing Steel in Structure #16	L.S.	376,530 LB.
51.06	Pile Load Test for Structure #16	EA.	One (1)
51.98	Furnishing Conc. Piles for Structure #16	L.F.	2,148
51.99	Driving Conc. Piles for Structure #16	L.F.	1,691
52.10	Filter Material for Structures	C.Y.	98
55.10	Metal Bridge Rail	L.F.	1100.18
55.50	Concrete Bridge Parapet, Including End Post	L.F.	1155.96
65.04	Grouted Rubble Paving for Bridges	C.Y.	163
51.07	Driving Test Piles for Structure #16	L.F.	207

SPECIAL NOTES:

1. See civil drawings for extent of area to be surcharged.
2. No work shall be permitted over surcharged area for 12 months after placement of surcharge.
3. Work permitted on 3 continuous spans adjacent to surcharged area shall not include placing deck slab during period of surcharge application.
4. Work on all other 3 continuous spans shall be permitted.

DESIGN CRITERIA

A. Loads = HS20-44 or Interstate Loading.
B. Specifications = Standard Specifications for Highway Bridges, AASHO, 9TH Edition.
C. Design Stresses
1. Reinforced Concrete Beams & Slabs (See, also, AASHO Specifications & Special Provisions.
a) f'_c = 3,000 p.s.i. Concrete unless otherwise noted.
b) f_s = 20,000 p.s.i. reinforcing steel.
2. Prestressed Girders, See Sh. 38.
3. Pile Capacity, See Longitudinal Section Sh. 1.
4. Allowable Foundation Pressure, See Longitudinal Section, Sh. 1.

REFERENCE DRAWINGS

1. Abutment #1 Foundations -- Sh. 3
2. Abutment #2 Foundations --- Sh. 5
3. Pier Foundations ------ Sh. 32
4. Pier Columns -------- Sh. 61
5. General Notes -------- Sh. 39

THIS SHEET SUPERSEDES SHEET NO. 111 & ADD. 111

SHIMAZU SHIMABUKURO & FUKUDA, INC.
Consulting Structural Engineers
1210 Ward Ave., Honolulu, HI 96814

HOWARD Y. FUKUDA
REGISTERED PROFESSIONAL ENGINEER
No. 1343
HAWAII, U.S.A.

This work was prepared by me or under my supervision.
Howard Y. Fukuda

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STRUCTURE No. 16

FOUNDATION LAYOUT PLAN

WAIAWA INTERCHANGE
F.A.I. Proj. No. I-HI-1(75):8

Scale: As shown Date: JUNE, 1969

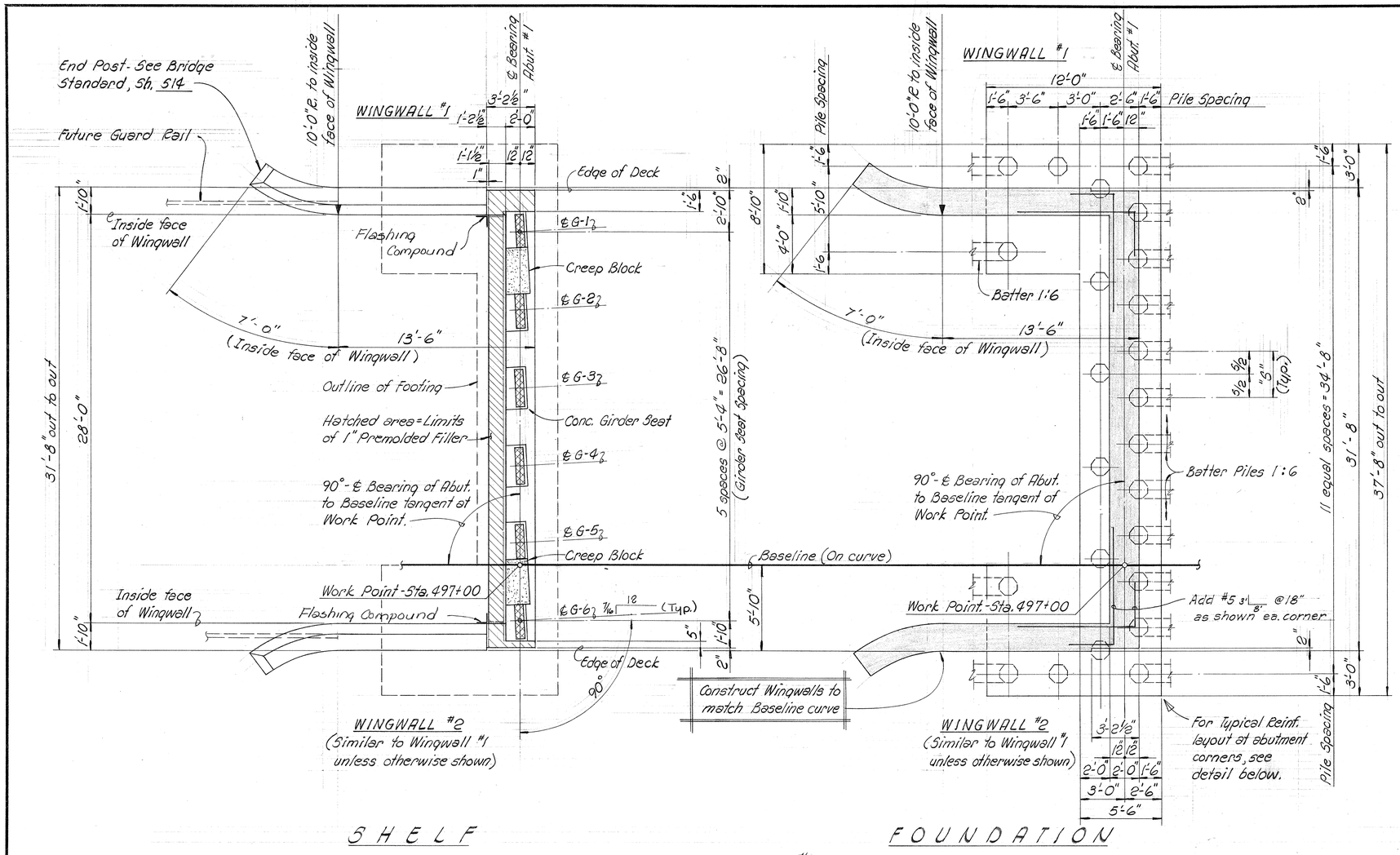
SHEET No. 2 OF 13 SHEETS

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

PRINTED ON NO. 1000H CLEARPRINT

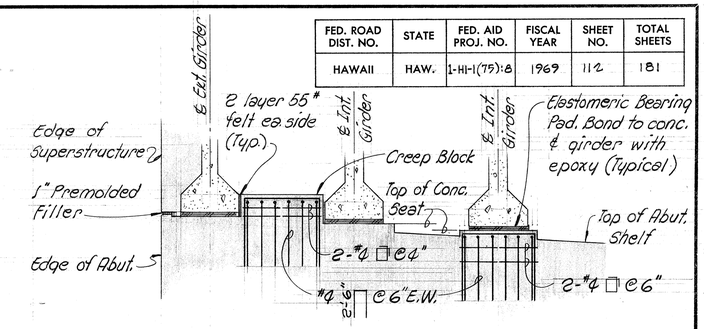
JUNE 24, 1971 CO. 111

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(75):8	1969	112	181



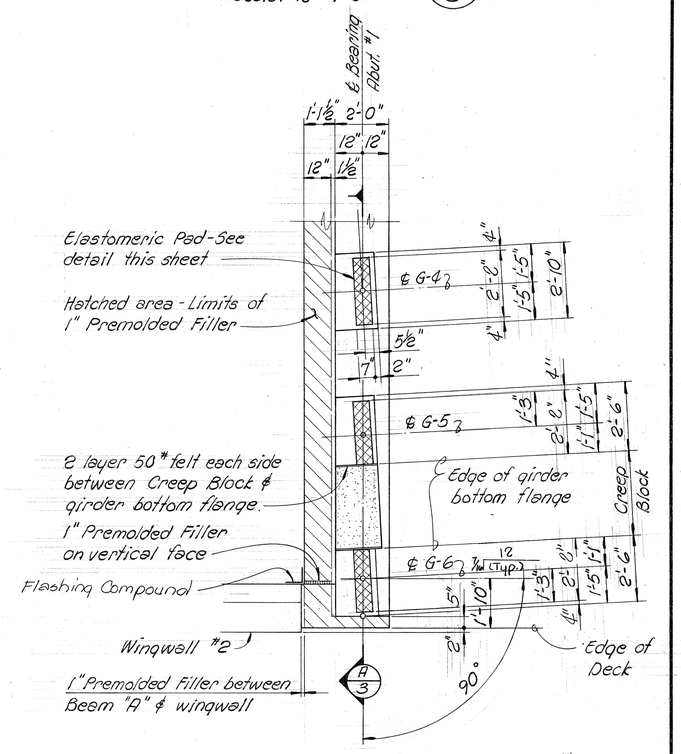
ABUTMENT #1 PLANS

Scale: 1/4" = 1'-0"



SECTION A/3

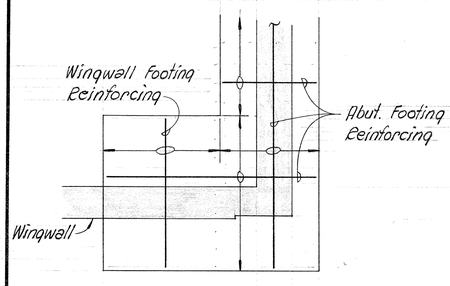
Scale: 3/8" = 1'-0"



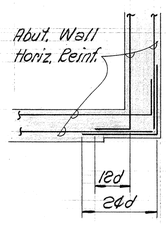
PART PLAN - ABUTMENT #1

CONCRETE SEAT & CREEP BLOCK DETAILS

Scale: 3/8" = 1'-0"



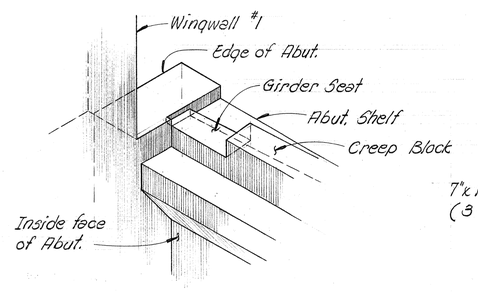
FOOTING



WALL

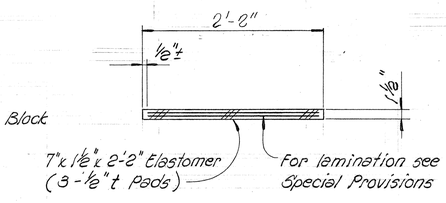
TYPICAL REINF. LAYOUT AT ABUTMENT CORNER

N.T.S.



ISOMETRIC OF ABUTMENT CORNER

N.T.S.



ELASTOMERIC BEARING PAD DETAIL

Scale: 1" = 1'-0"

SHIMADA SHIMAMOTO & FUKUDA, INC.
Consulting Structural Engineers
1210 Ward Ave., Honolulu, HI 96814

HOWARD Y. FUKUDA — REGISTERED PROFESSIONAL ENGINEER No. 1343 — HAWAII, U.S.A.

This work was prepared by me or under my supervision.
Howard Y. Fukuda

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STRUCTURE No. 16

ABUTMENT #1 PLANS
CONCRETE SEAT & CREEP BLOCK DETAILS

WAIAWA INTERCHANGE
F.A.I. Proj. No. I-HI-1(75):8

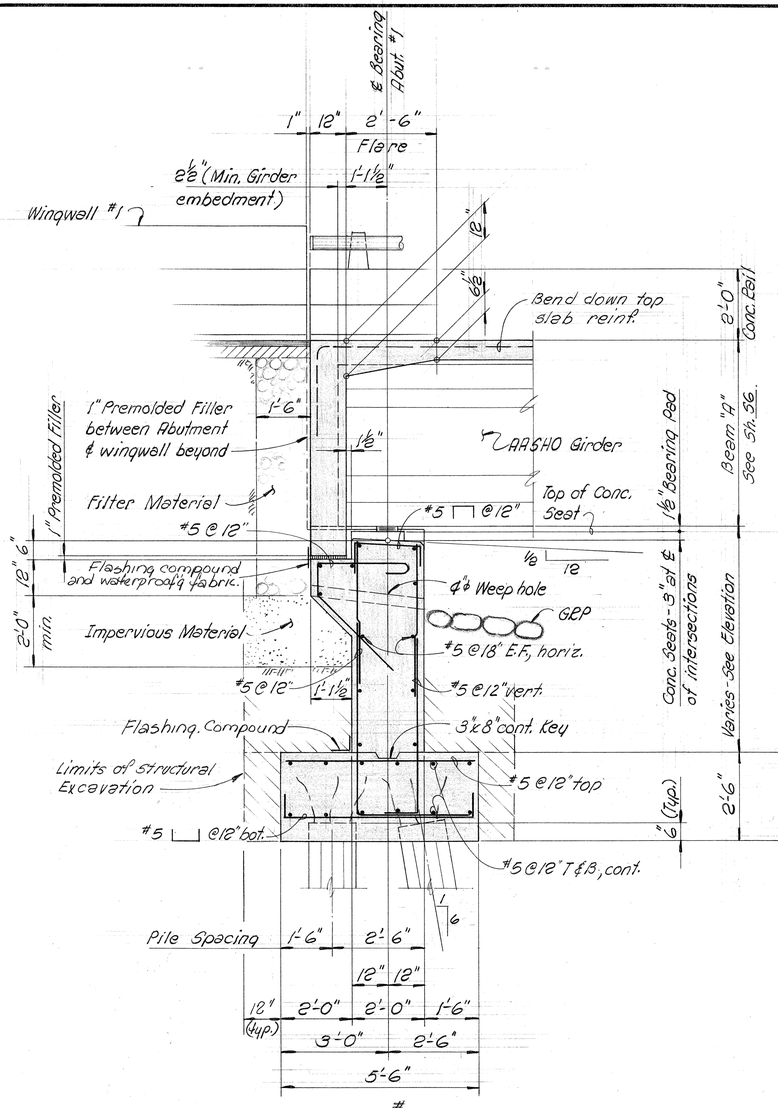
Scale: As shown — Date: JUNE, 1969

SHEET No. 3 OF 13 SHEETS

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

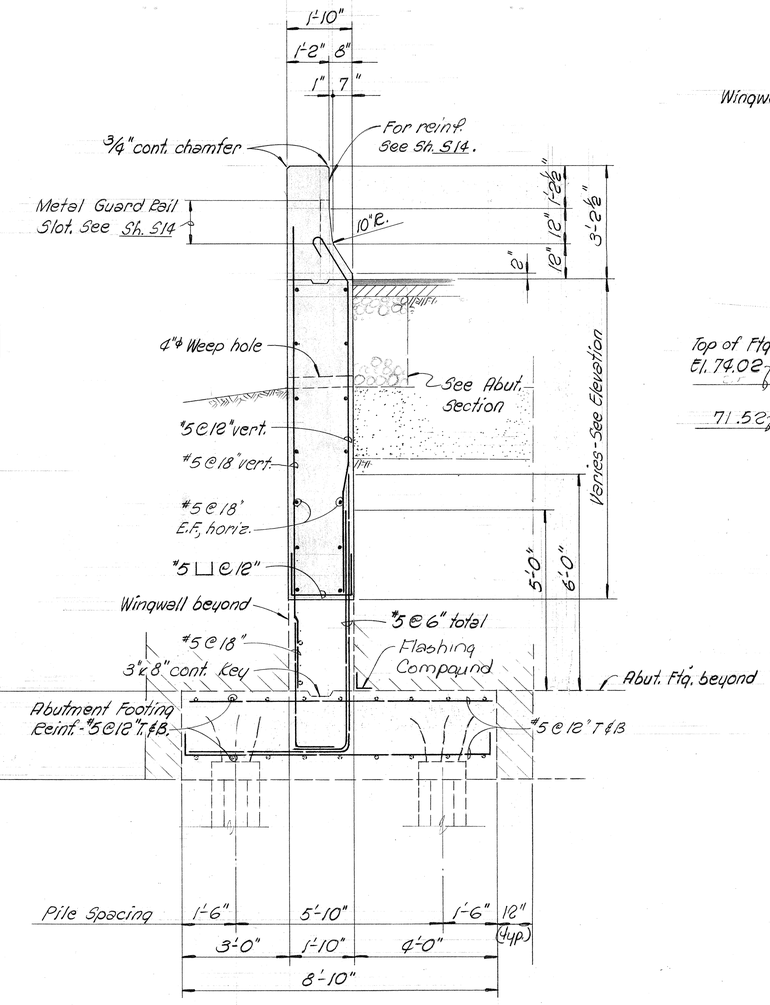
PRINTED ON NO. 1000H CLEARPRINT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(75):8	1969	113	181



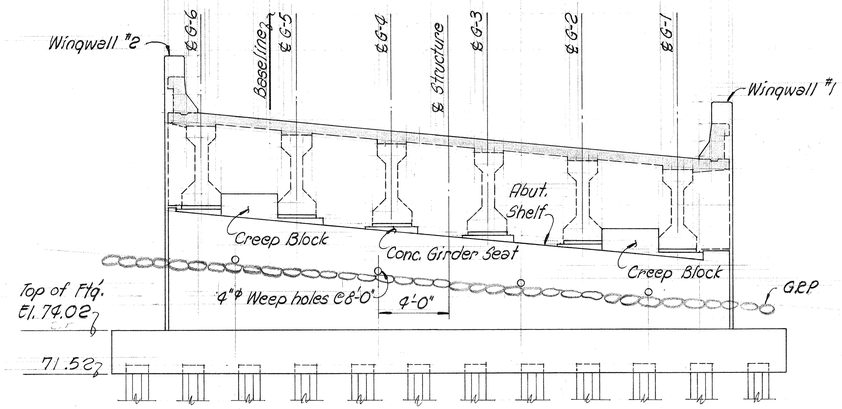
ABUTMENT #1 SECTION

Scale: ½" = 1'-0"



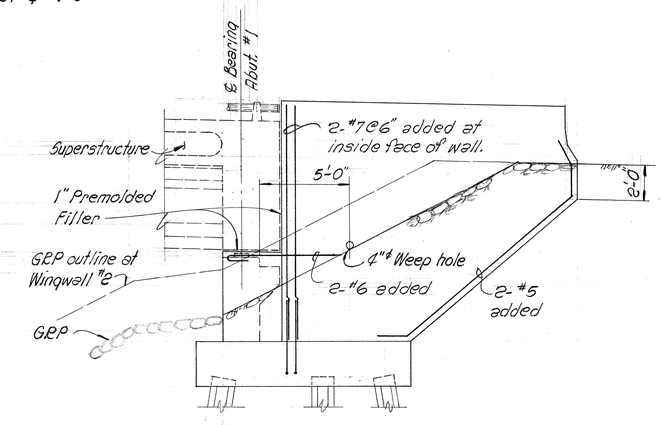
WINGWALL #1 SECTION

Scale: ⅛" = 1'-0" (Wingwall #2 similar)



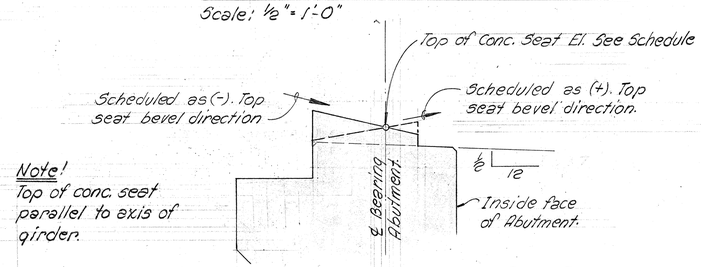
ABUTMENT #1 ELEVATION "A"-"A"

Scale: ¼" = 1'-0"



WINGWALL #1 ELEVATION

Scale: ¼" = 1'-0" (Wingwall #2 similar)



Note:
Top of conc. seat parallel to axis of girder.

DIAGRAM OF CONC. SEAT BEVEL DIRECTION DET.

Not to Scale

See Revised Schedule

ABUTMENT #1 ELEVATIONS & BEVELS

Girders	Top of Slab	Bottom of Girder	Top of Conc. Seat	Conc. Seat Bevels
G-1	82.93	77.44	77.31	+1/4 : 12
G-2	83.45	77.95	77.83	+7/32 : 12
G-3	83.97	78.47	78.34	+7/32 : 12
G-4	84.49	78.99	78.87	+7/32 : 12
G-5	85.00	79.51	79.38	+7/32 : 12
G-6	85.52	80.03	79.90	+7/32 : 12

Note:
1. Elevations are at ℄ intersections.
2. Girder seat bevel direction - See diagram this sheet.

ABUTMENT #1 ELEVATIONS & BEVELS

Girders	Top of Slab	Bottom of Girder	Top of Conc. Seat	Conc. Seat Bevels
G-1	82.93	77.60	77.48	+1/4 : 12
G-2	83.45	78.12	78.00	+1/4 : 12
G-3	83.97	78.64	78.52	+1/4 : 12
G-4	84.49	79.16	79.03	+1/4 : 12
G-5	85.00	79.68	79.55	+1/4 : 12
G-6	85.52	80.20	80.07	+1/4 : 12

SHIMAZU SHIMABUKURO & FUKUDA, INC.
Consulting Structural Engineers
1210 Ward Ave., Honolulu, HI 96814

HOWARD Y. FUKUDA
REGISTERED PROFESSIONAL ENGINEER
No. 1343
HAWAII, U.S.A.

This work was prepared by me or under my supervision.
Howard Y. Fukuda

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STRUCTURE No. 16

ABUTMENT #1 & WINGWALL #1 SECTIONS & ELEVATIONS

WAIAWA INTERCHANGE
F.A.I. Proj. No. I-HI-1 (75):8

Scale: As shown Date: JUNE, 1969

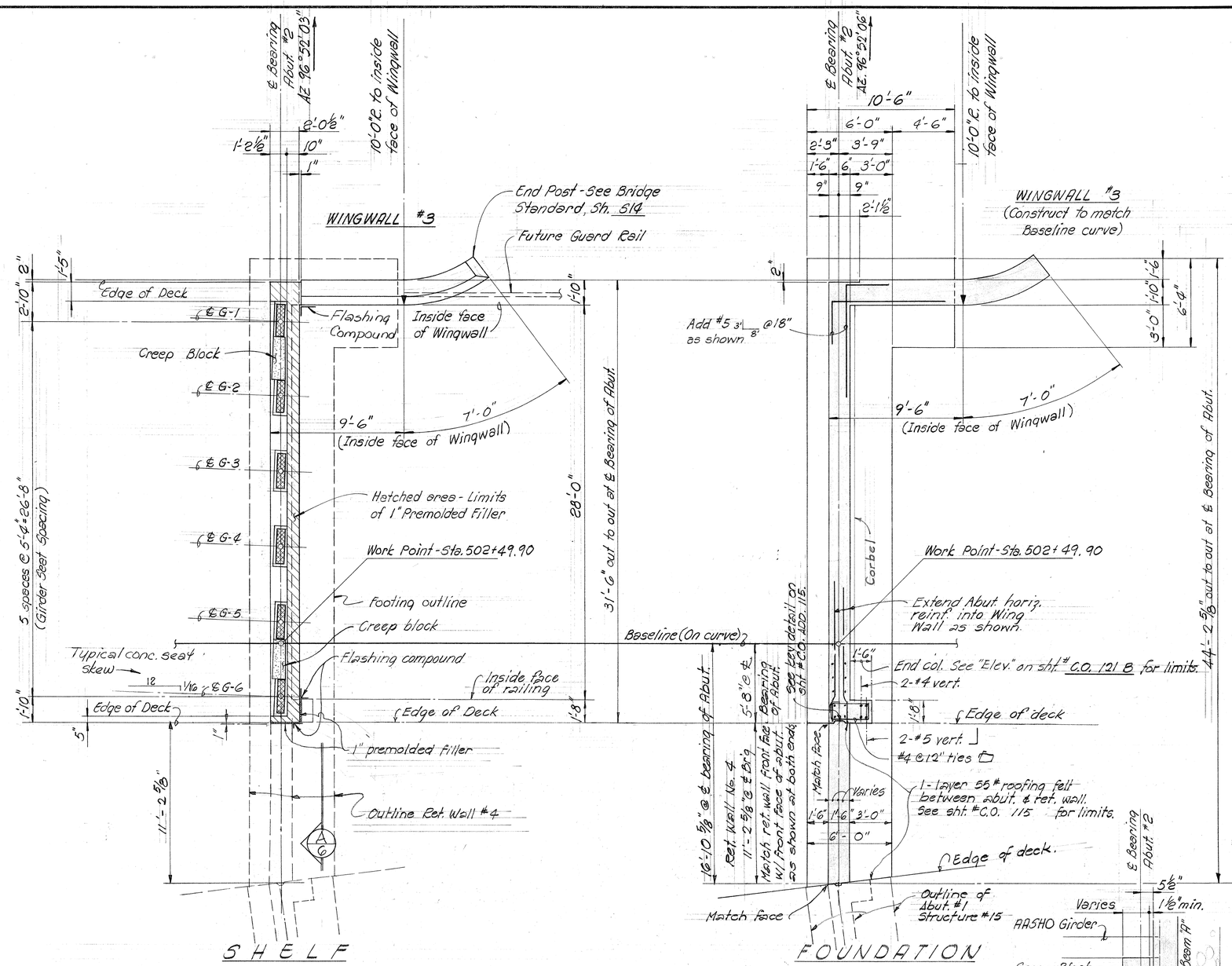
SHEET No. 4 OF 13 SHEETS

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

PRINTED ON NO. 1000H CLEARPRINT

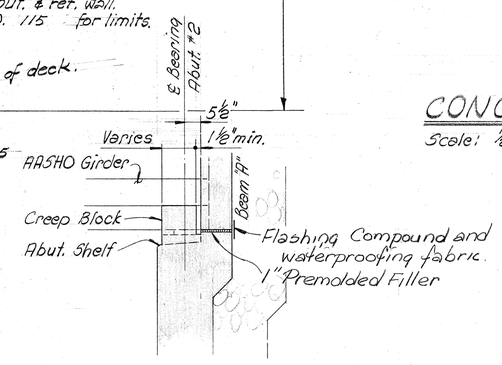
Revised: February 18, 1970

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-(75):8	1969	C.O. 114	181



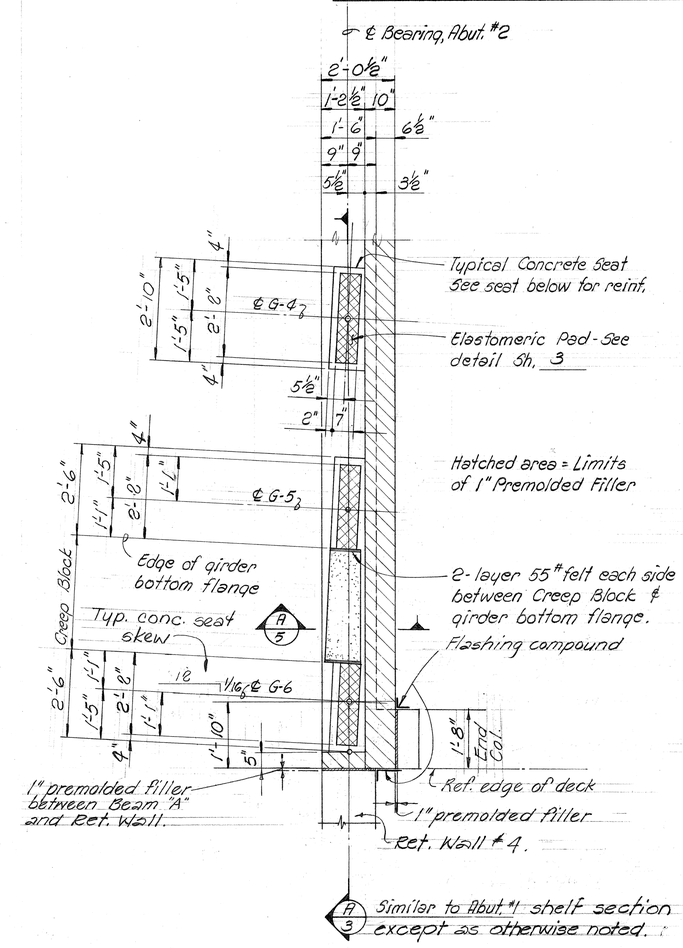
ABUTMENT #2 PLANS

Scale: 1/4" = 1'-0"



SECTION A/5

Scale: 1/2" = 1'-0"



PART PLAN ~ ABUTMENT #2 CONCRETE SEAT & CREEP BLOCK DETAILS

Scale: 1/2" = 1'-0"

THIS SHEET SUPERSEDES SHEET NO. 114 & ADD. 114

SHIMAZU SHIMABUKURO & FUKUDA, INC.
Consulting Structural Engineers
1210 Ward Ave., Honolulu, HI 96814

HOWARD Y. FUKUDA
REGISTERED PROFESSIONAL ENGINEER
No. 1343
HAWAII, U.S.A.

This work was prepared by me or under my supervision.
Howard Y. Fukuda

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STRUCTURE No. 16

ABUTMENT #2 PLANS & CONCRETE SEAT & CREEP BLOCK DETAILS

WAIAWA INTERCHANGE
F.A.I. Proj. No. I-HI-1(75):8

Scale: As shown Date: JUNE, 1969

SHEET No. 5 OF 13 SHEETS

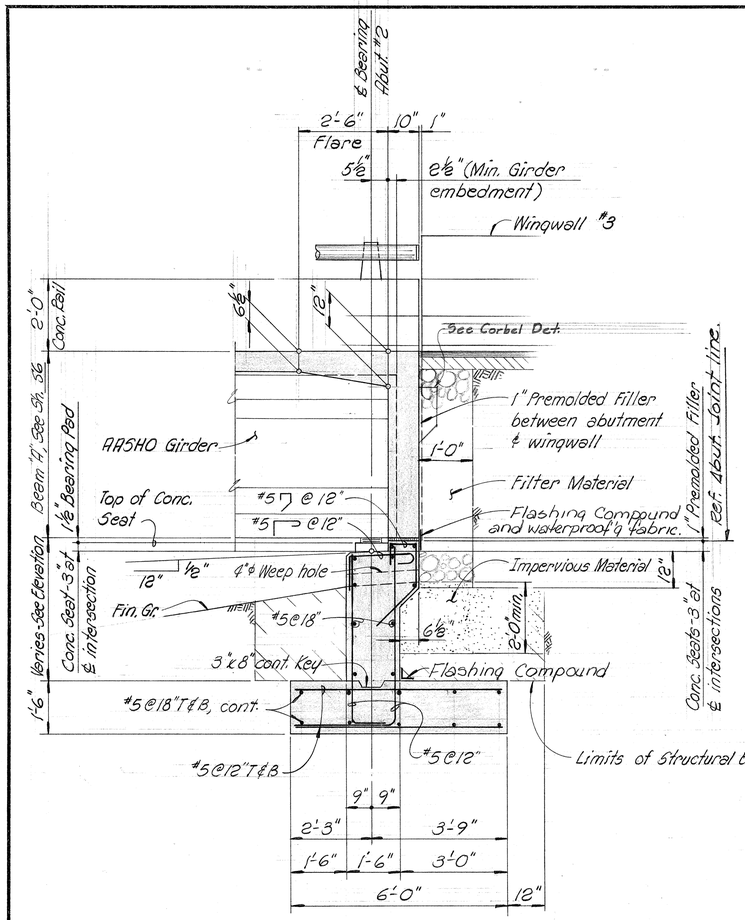
ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY	"
	TRACED BY	"
NOTE BOOK	DESIGNED BY	"
	QUANTITIES	"
No.	CHECKED BY	"

JUNE 24, 1971

PRINTED ON NO. 1000H CLEARPRINT

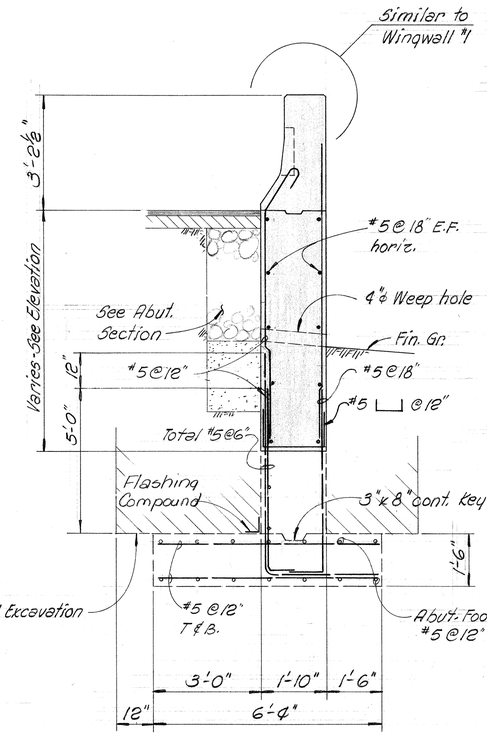
Revised: Feb. 18, 1970

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(75):8	1969	CO. 115	181



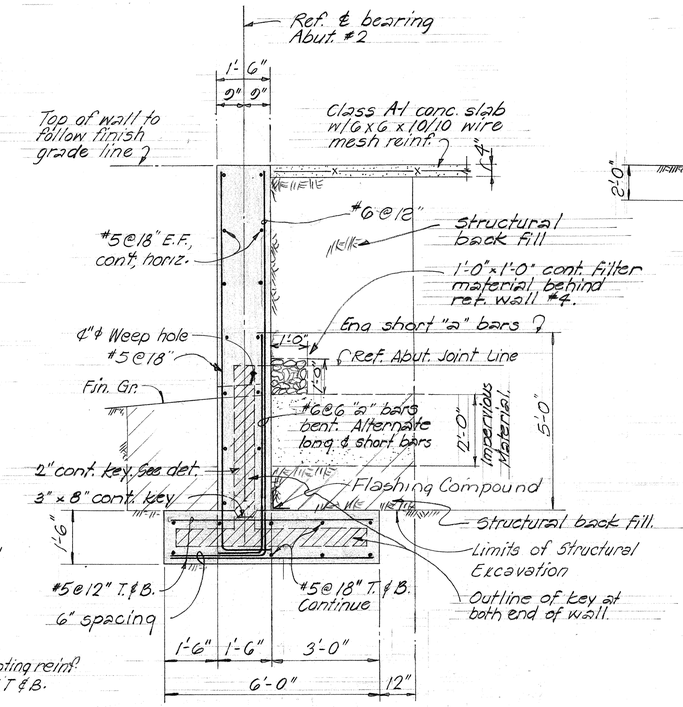
ABUTMENT #2 SECTION

Scale: ½" = 1'-0"



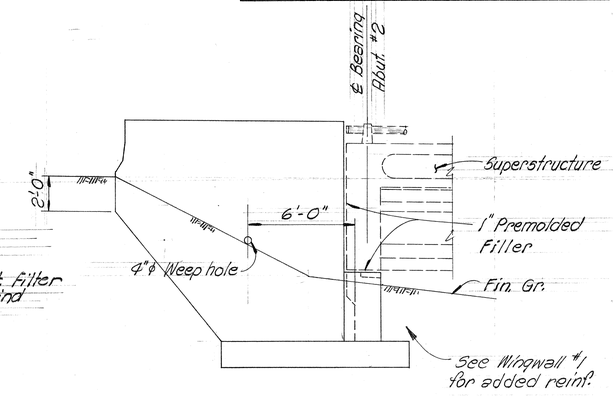
WINGWALL #3 SECTION

Scale: ½" = 1'-0"



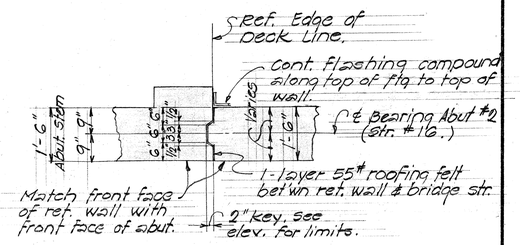
RETAINING WALL Nº 4 SECTION

Scale: ½" = 1'-0"



ELEVATION WINGWALL #3

Scale: ½" = 1'-0"



SECTION A/6

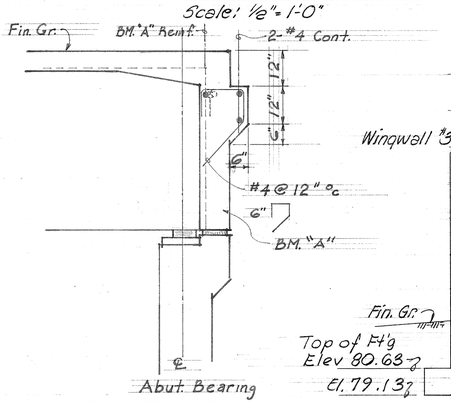
SECTION A/6 Similar Except Opp. Hand.

Scale: ½" = 1'-0"

ABUTMENT #2 ELEVATIONS & BEVELS				
Girders	Top of Slab	Bot. of Girder	Top of Conc. Seat	Conc. Seat Bevels
G-1	89.55	84.34	84.21	+1/8 : 12
G-2	90.07	84.86	84.73	+1/8 : 12
G-3	90.59	85.37	85.25	+1/8 : 12
G-4	91.11	85.89	85.77	+1/8 : 12
G-5	91.62	86.41	86.28	+1/8 : 12
G-6	92.14	86.93	86.80	+1/8 : 12

Note:

1. Elevations are at ℄ intersections
2. Girder seat bevel direction - See Sh. 4

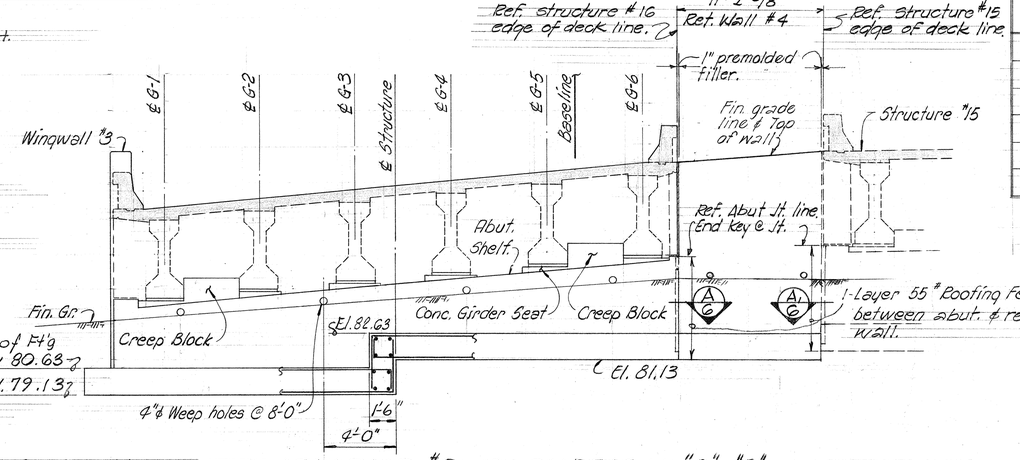


CORBEL DETAIL @ END BM.

Abut. #2 - Str. No. 16

Notes:

1. Corbel at end beams are to extend from inside face of wingwall to inside face of End Col.
2. Place two layers 55# roofing paper between Corbel & Wingwall & between Corbel & End Col.
3. For details not shown see Contract Plans.



ABUTMENT #2 ELEVATION "B"-"B"

Scale: ¼" = 1'-0"

THIS SHEET SUPERSEDES SHEET NO. 115 & ADD. 115

SHIMAZU SHIMABUKURO & FUKUDA, INC.
Consulting Structural Engineers
1210 Ward Ave., Honolulu, HI 96814

HOWARD Y. FUKUDA
REGISTERED PROFESSIONAL ENGINEER
No. 1343
HAWAII, U.S.A.

This work was prepared by me or under my supervision.

Howard Y. Fukuda

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STRUCTURE No. 16

ABUTMENT #2 & WINGWALLS #3 & #4
SECTIONS & ELEVATIONS

WAIAWA INTERCHANGE
F.A.I. Proj. No. I-HI-1(75):8

Scale: As shown Date: JUNE, 1969

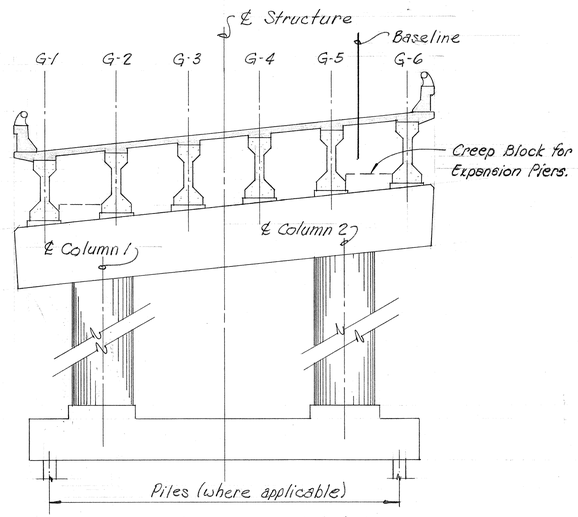
SHEET No. 6 OF 13 SHEETS

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

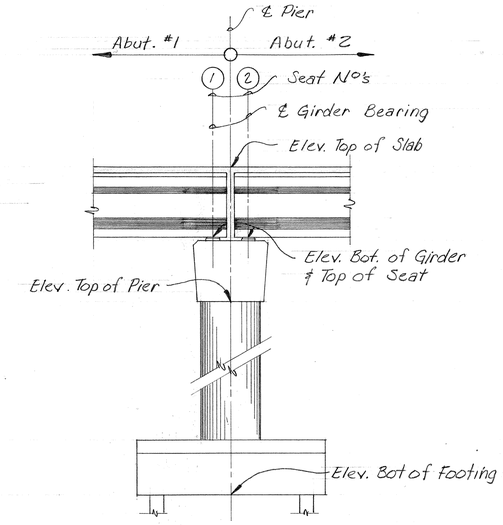
PRINTED ON NO. 1000H CLEARPRINT

JUNE 24, 1971 C.O. 115

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(75):8	1969	116	181



SECTION "C"-"C"



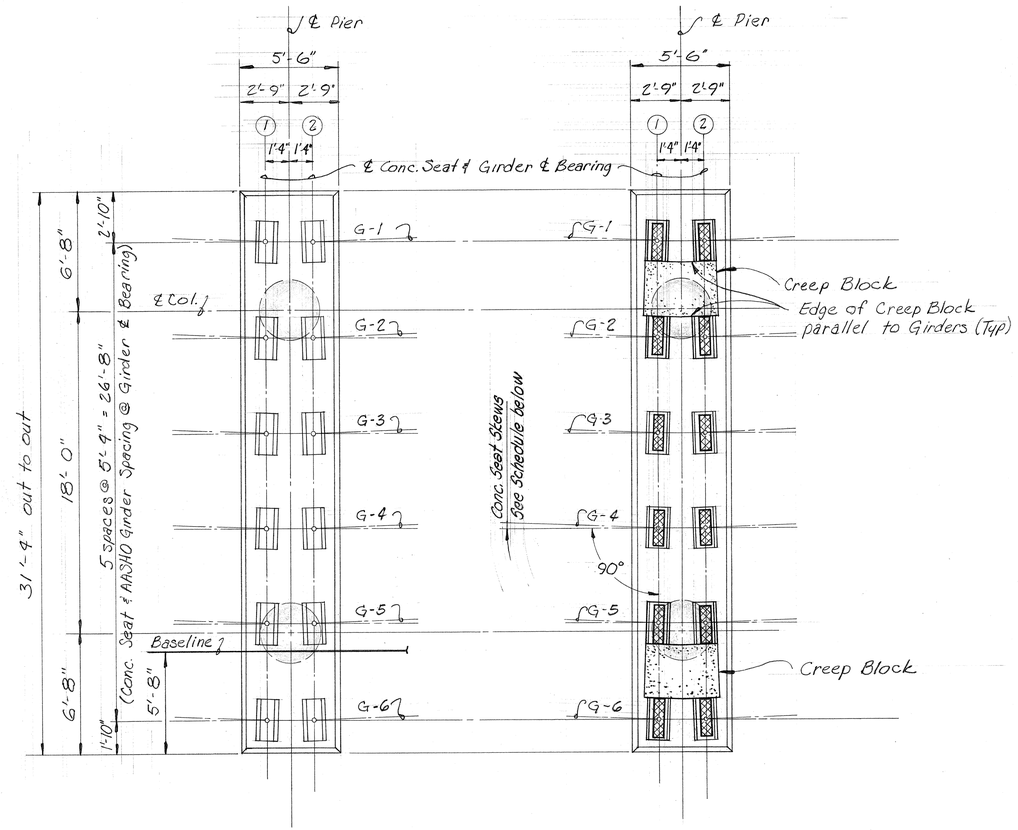
ELEVATION

SCHEMATIC - TYPICAL PIER

PIER Nº	TOP OF SLAB						BOTTOM OF GIRDER												TOP OF SEATS												TOP OF COLUMN		BOT. OF FOOTING
	GIRDER Nº						GIRDER & SEAT Nº												GIRDER & SEAT Nº														
	G-1	G-2	G-3	G-4	G-5	G-6	G-1		G-2		G-3		G-4		G-5		G-6		G-1		G-2		G-3		G-4		G-5		G-6		1	2	
							1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2			
1	84.72	85.24	85.76	86.28	86.80	87.32	72.38 ~~79.20~~	72.86 ~~79.26~~	72.90 ~~79.72~~	72.87 ~~79.76~~	80.24 ~~80.24~~	80.33 ~~80.29~~	80.76 ~~80.76~~	81.19 ~~80.81~~	81.28 ~~80.28~~	81.73 ~~80.33~~	81.71 ~~80.71~~	81.85 ~~80.85~~													74.85 ~~74.85~~	76.60 ~~76.60~~	32.00
2	86.39	86.87	87.39	87.91	88.43	88.95	80.85	80.88	81.36	81.40	81.88	81.92	82.40	82.43	82.92	82.95	83.44	83.47													76.48	78.23	28.00
3	87.50	88.02	88.54	89.06	89.57	90.09	83.00 ~~83.00~~	83.08 ~~83.08~~	83.15 ~~83.15~~	83.54 ~~83.54~~	83.93 ~~83.93~~	83.96 ~~83.96~~	83.55 ~~83.55~~	83.81 ~~83.81~~	84.07 ~~84.07~~	84.09 ~~84.09~~	84.59 ~~84.59~~	84.61 ~~84.61~~	83.04 ~~81.87~~	83.13 ~~81.90~~	83.39 ~~82.39~~	83.47 ~~82.47~~	83.88 ~~82.90~~	83.97 ~~82.93~~	83.97 ~~83.43~~	83.98 ~~83.45~~	84.94 ~~84.94~~	84.97 ~~84.97~~	84.96 ~~84.96~~	84.99 ~~84.99~~	77.51 ~~77.51~~	79.25 ~~79.25~~	26.00
4	88.21	88.72	89.24	89.76	90.28	90.80	83.76 ~~82.76~~	83.82 ~~82.82~~	83.75 ~~83.22~~	83.74 ~~83.74~~	83.77 ~~83.74~~	83.79 ~~83.76~~	83.76 ~~84.26~~	83.88 ~~84.28~~	83.97 ~~84.77~~	83.80 ~~84.80~~	83.99 ~~84.29~~	83.81 ~~84.31~~													78.33 ~~78.33~~	80.08 ~~80.08~~	36.00
5	89.13	89.65	90.17	90.69	91.20	91.72	83.78 ~~83.62~~	83.85 ~~83.65~~	84.24 ~~84.24~~	84.75 ~~84.77~~	84.76 ~~84.66~~	84.81 ~~84.68~~	85.28 ~~85.28~~	85.20 ~~85.20~~	85.80 ~~86.10~~	85.72 ~~85.72~~	86.22 ~~86.22~~	86.24 ~~86.24~~													79.25 ~~79.25~~	80.00 ~~80.00~~	48.00

NOTE: Piers #1, #2, #4, & #5 are fixed supports. Therefore, elevations of Top of Conc. Seats are same as Bottom of Girders.

SCHEDULE OF ELEVATIONS



PIERS #1, #2, #4, #5
FIXED

PIER #3
EXPANSION

TOP OF PIER CAP PLANS

1/4" = 1'-0"

REFERENCE DRAWINGS

1. Foundations ---------- Sh. 52
2. Pier Caps ---------- Sh. 53
3. Conc. Seats & Creep Blocks -- Sh. 54

CONCRETE SEAT SKEWS		
PIERS	1	2
1	13/32 3/8 : 12	7/16 : 12
2	7/16 : 12	13/32 3/8 : 12
3	13/32 3/8 : 12	11/32 5/16 : 12
4	11/32 5/16 : 12	13/32 5/16 : 12
5	15/32 5/16 : 12	7/32 1/8 : 12

CONCRETE SEAT BEVELS										
PIERS	1		2		3		4		5	
GIRDERS	1	2	1	2	1	2	1	2	1	2
G1	1/4 : 12	3/16 : 12	3/16 : 12	5/32 1/8 : 12	5/32 1/8 : 12	1/8 : 12	1/8 : 12	3/32 : 12	5/32 : 12	3/16 : 12
G2	7/32 : 12									
G3										
G4										
G5										
G6	↑	↓	↑	↓	↑	↓	↑	↓	↑	↓

SHIMAZU SHIMABUKURO & FUKUDA, INC.
Consulting Structural Engineers
1210 Ward Ave., Honolulu, HI 96814

HOWARD Y. FUKUDA
REGISTERED PROFESSIONAL ENGINEER
No. 1343
HAWAII, U.S.A.

This work was prepared by me or under my supervision.
Howard Y. Fukuda

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STRUCTURE No. 16

PIER ELEVATION & SECTION, SCHEDULE OF ELEVATIONS & PIER CAP TOP PLANS

WAIAWA INTERCHANGE
F.A.I. Proj. No. I-HI-1(75):8

Scale: As shown Date: JUNE, 1969

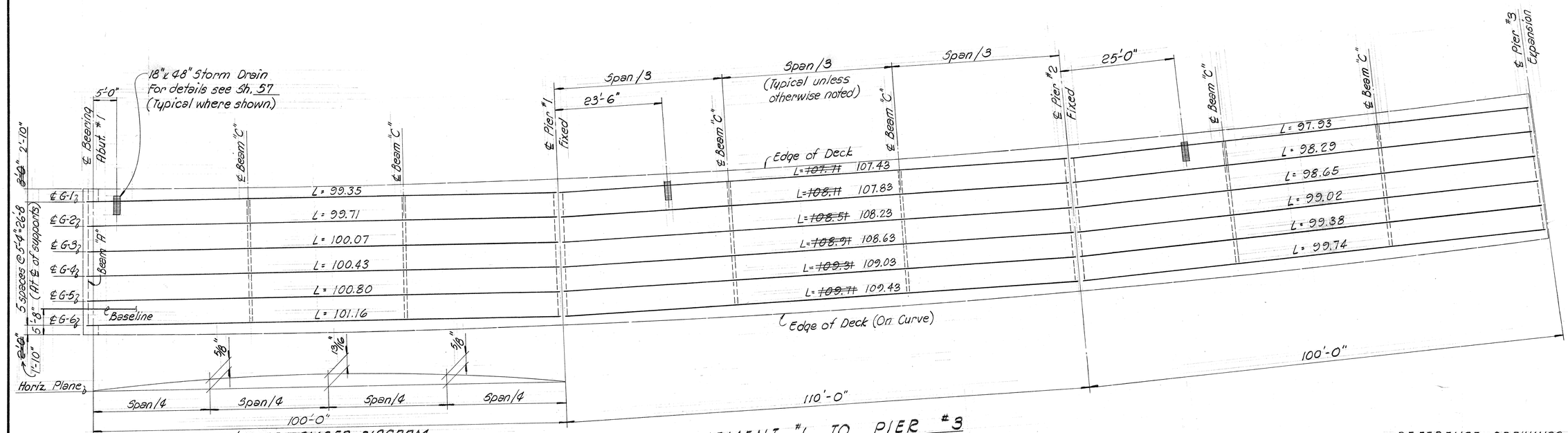
SHEET No. 7 OF 13 SHEETS

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

PRINTED ON NO. 1000H CLEARPRINT

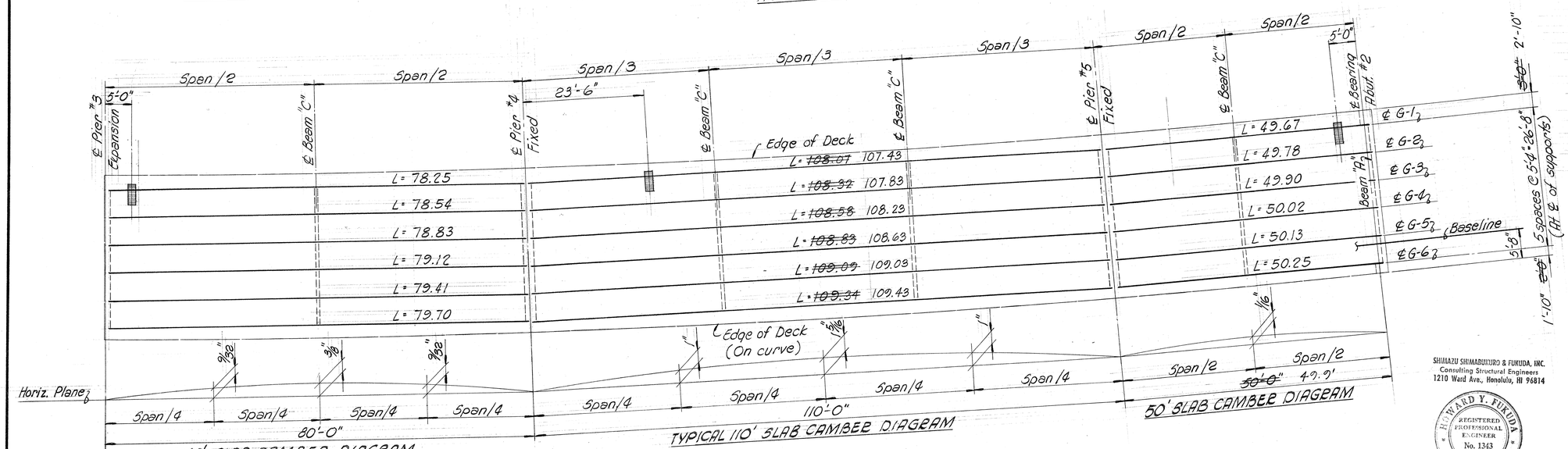
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(75):8	1969	117	181

DATE	REVISION
March 30, 1971	Changed girder lengths and dimensions.



TYPICAL 100' SLAB CAMBER DIAGRAM

ABUTMENT #1 TO PIER #3



80' SLAB CAMBER DIAGRAM

TYPICAL 110' SLAB CAMBER DIAGRAM

50' SLAB CAMBER DIAGRAM

PIER #3 TO ABUTMENT #2
DECK FRAMING PLANS

Scale: 3/32" = 1'-0"

REFERENCE DRAWINGS

1. Beam "A" ---------- Sh. 56
2. Beam "C" ---------- Sh. 56
3. Beam over Fixed & Expansion Pier Supports -- Sh. 55

NOTES

Girder lengths "L" are measured @ ℄ of girders and horizontally out to out.

This sheet supersedes sheet No. 117.

SHIMAZU SHIMABUKURO & FUKUDA, INC.
Consulting Structural Engineers
1210 Ward Ave., Honolulu, HI 96814

HOWARD Y. FUKUDA
REGISTERED PROFESSIONAL ENGINEER
No. 1343
HAWAII, U.S.A.

This work was prepared by me or under my supervision.
Howard Y. Fukuda

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STRUCTURE No. 16

DECK FRAMING PLANS

WAIAWA INTERCHANGE
F.A.I. Proj. No. I-HI-1(75):8

Scale: As shown Date: JUNE, 1969

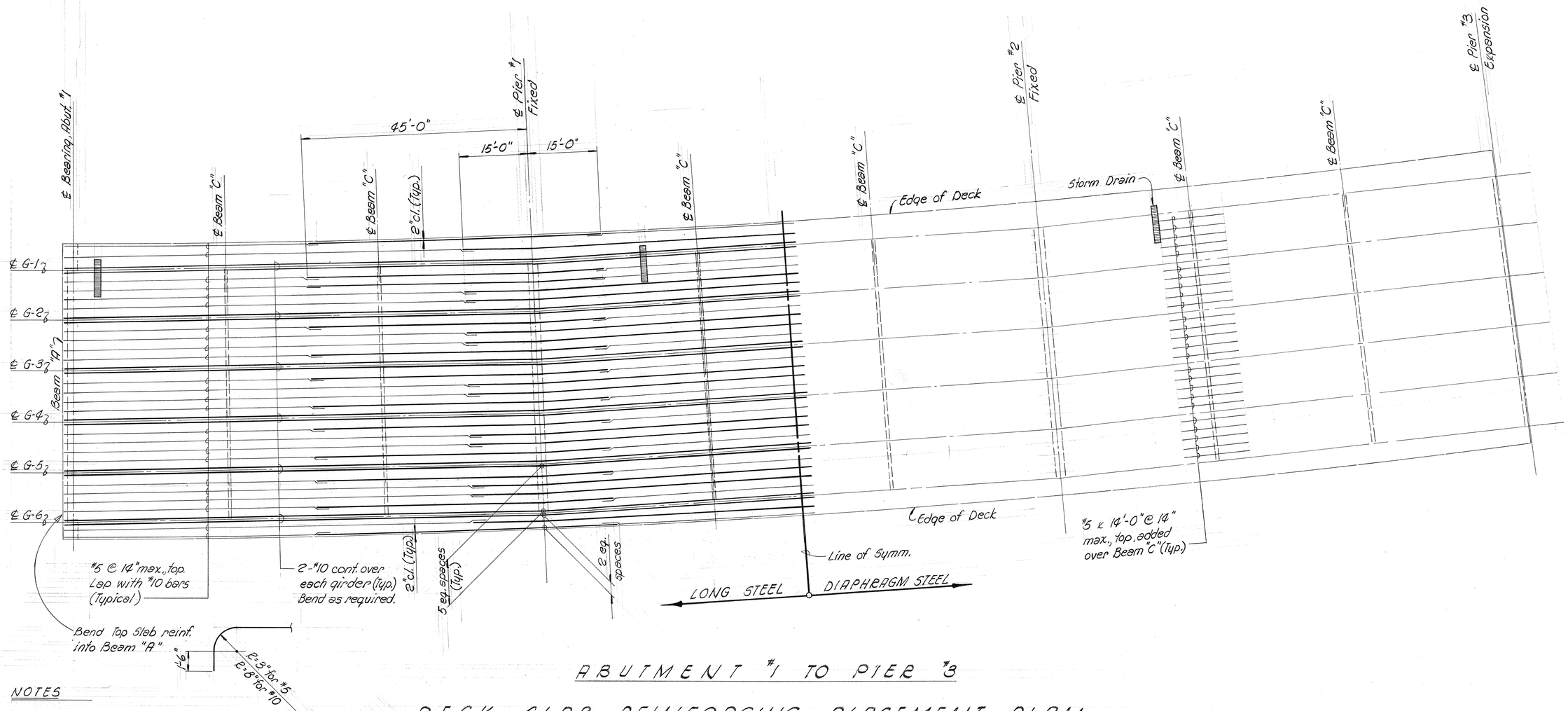
SHEET No. 8 OF 13 SHEETS

C.O. 117

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

PRINTED ON NO. 1000H CLEARPRINT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(75):8	1969	118	181



ABUTMENT #1 TO PIER #3

DECK SLAB REINFORCING PLACEMENT PLAN

Scale: Horiz. 3/32" = 1'-0", Vert. 3/16" = 1'-0"

NOTES

1. Except as otherwise noted all slab bars to be #10 bars. Bend as required.
2. All #5 bars at 14" max. spacing shall be extended & lapped a min. of 2'-6" with adjacent #10 bars as shown.
3. Transverse bars not shown, See Typical Deck Section, Sh. 11
4. Longitudinal deck reinforcing along edge of deck to follow curvature of deck edge.
5. All vertical dimensions are measured plumb

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

SHIMAZU SHIMABUKURO & FUKUDA, INC.
Consulting Structural Engineers
1210 Ward Ave., Honolulu, HI 96814

HOWARD Y. FUKUDA
REGISTERED PROFESSIONAL ENGINEER
No. 1343
HAWAII, U.S.A.

This work was prepared by me or under my supervision.
Howard Y. Fukuda

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STRUCTURE No. 16

DECK SLAB REINFORCING PLACEMENT PLAN
ABUTMENT #1 TO PIER #3

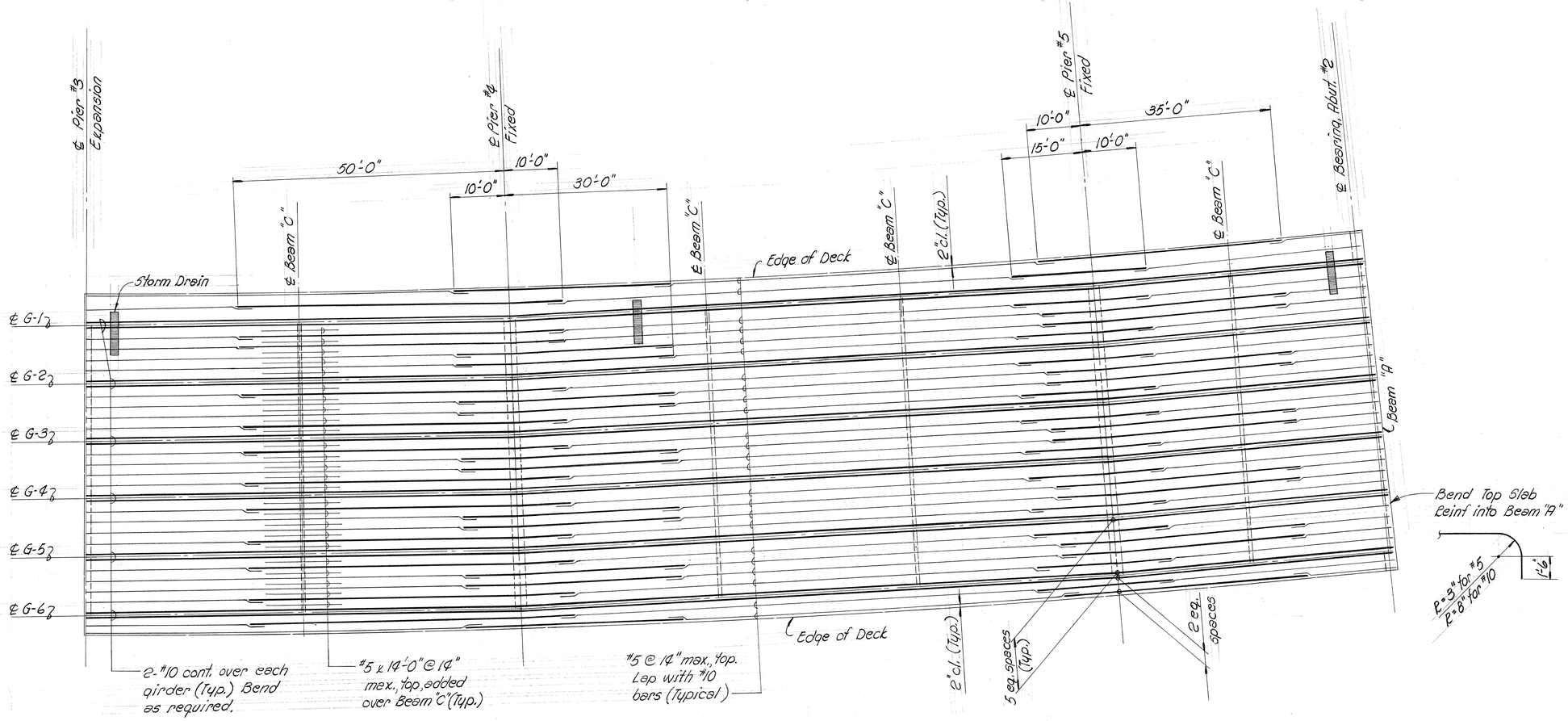
WAIAWA INTERCHANGE
F.A.I. Proj. No. I-HI-1(75):8

Scale: As shown Date: JUNE, 1969

SHEET No. 9 OF 13 SHEETS

PRINTED ON NO. 1000H CLEARPRINT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(75):8	1969	119	181



PIER #3 TO ABUTMENT #2

DECK SLAB REINFORCING PLACEMENT PLAN

Scale: Horiz. 3/32" = 1'-0", Vert. 3/16" = 1'-0"

NOTE! See notes Sh. 9

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

SHIMAZU SHIMABUKURO & FUKUDA, INC.
Consulting Structural Engineers
1210 Ward Ave., Honolulu, HI 96814

HOWARD Y. FUKUDA
REGISTERED PROFESSIONAL ENGINEER
No. 1343
HAWAII, U.S.A.

This work was prepared by me or under my supervision.

Howard Y. Fukuda

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STRUCTURE No. 16

DECK SLAB REINFORCING PLACEMENT PLAN
PIER #3 TO ABUTMENT #2

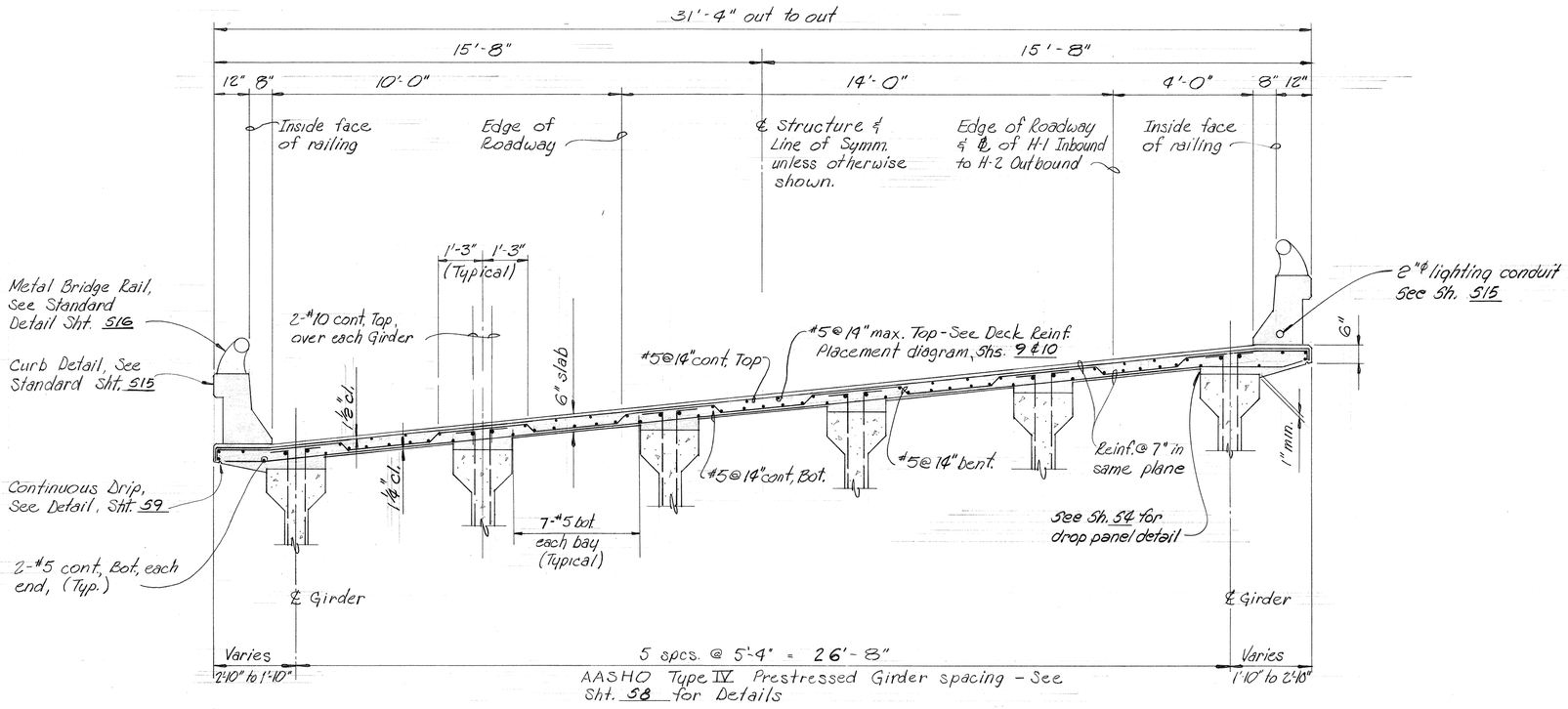
WAIAWA INTERCHANGE
F.A.I. Proj. No. I-HI-1 (75):8

Scale: As shown Date: JUNE 1969

SHEET No. 10 OF 13 SHEETS

PRINTED ON NO. 1000H CLEARPRINT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(75):8	1969	120	181



TYPICAL DECK SECTION

1/2" = 1'-0"

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

HOWARD SYMANZIK HIRAMOTO & FUKUDA, INC.
Consulting Structural Engineers
1210 Ward Ave., Honolulu, HI 96814

HOWARD Y. FUKUDA
REGISTERED PROFESSIONAL ENGINEER
No. 1343
HAWAII, U.S.A.

This work was prepared by me or under my supervision.
Howard Y. Fukuda

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STRUCTURE No. 16

TYPICAL DECK SECTION

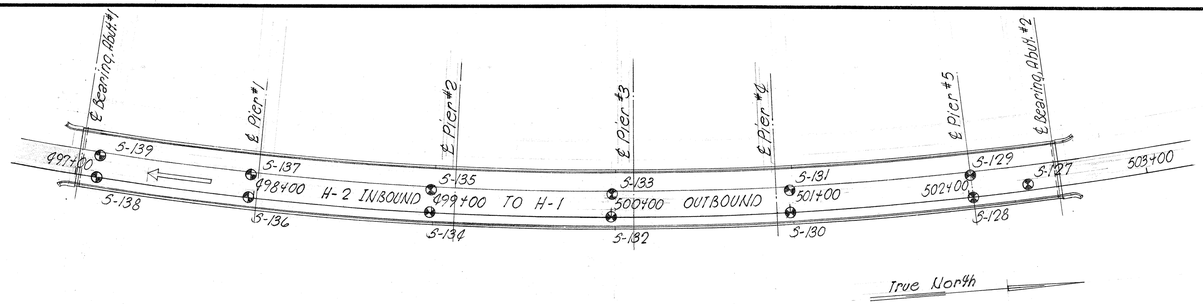
WAIAWA INTERCHANGE
F.A.I. Proj. No. I - HI - 1 (75):8

Scale: As shown Date: JUNE, 1969

SHEET No. 11 OF 13 SHEETS

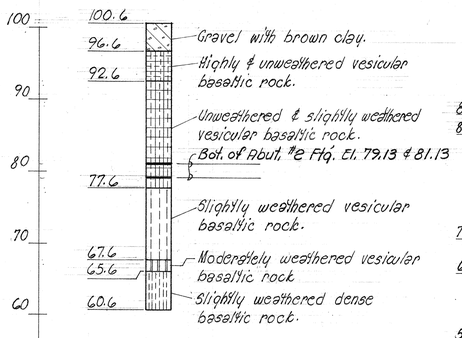
PRINTED ON NO. 1000H CLEARPRINT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(75)8	1969	121	181

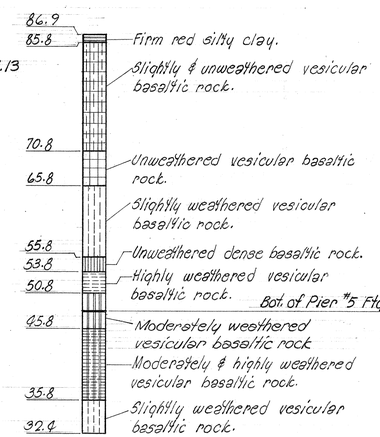


BORING PLOT PLAN

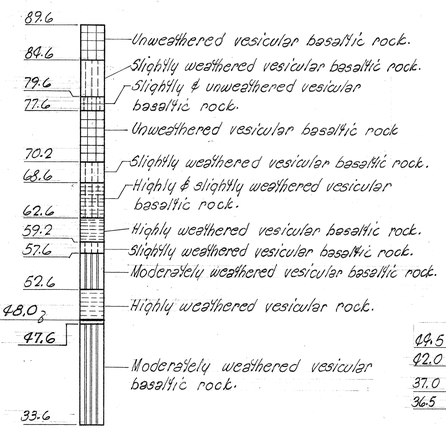
Scale: 1" = 90'-0"



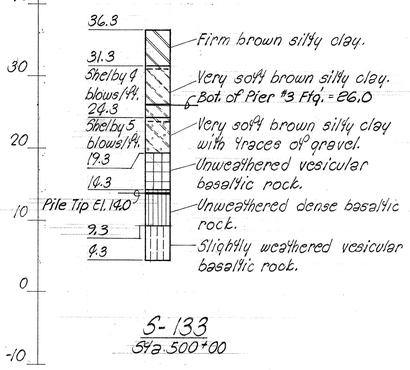
S-127
Sta. 502+33



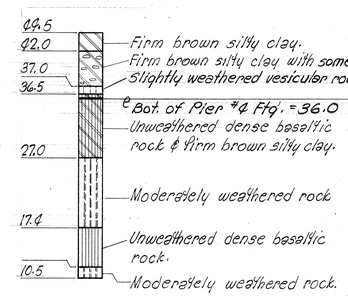
S-128
Sta. 502+02



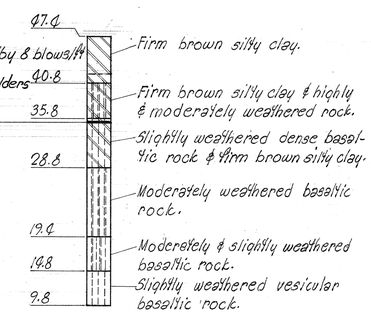
S-129
Sta. 502+02



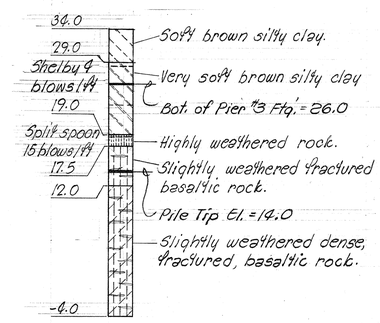
S-133
Sta. 500+00



S-130
Sta. 501+00



S-131
Sta. 501+00



S-132
Sta. 500+00

BORING LOGS FOR STRUCTURE 16

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

SHIMAZU SHIMABUKURO & FUKUDA, INC.
Consulting Structural Engineers
1210 Ward Ave., Honolulu, HI 96814

HOWARD Y. FUKUDA
REGISTERED PROFESSIONAL ENGINEER
No. 1343
HAWAII, U.S.A.

This work was prepared by me or under my supervision.
Howard Y. Fukuda

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STRUCTURE No. 16

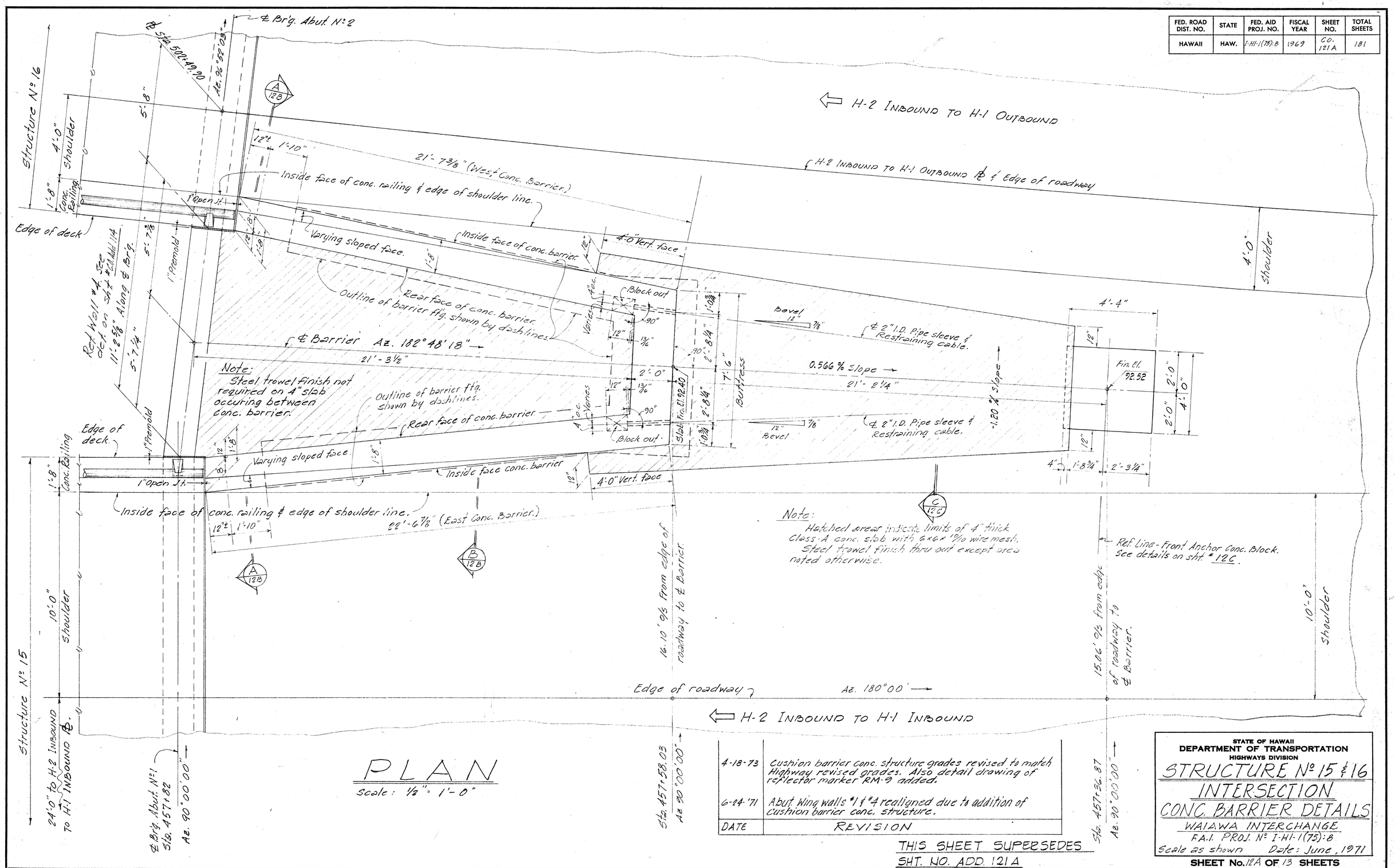
BORING LOGS

WAIAWA INTERCHANGE
F.A.I. Proj. No. I-HI-1(75):8

Scale: As shown Date: June, 1969

SHEET No. 12 OF 13 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(75):8	1969	CO. 121A	181



PLAN

Scale: 1/2" = 1'-0"

DATE	REVISION
4-18-73	Cushion barrier conc. structure grades revised to match Highway revised grades. Also detail drawing of reflector marker RM-9 added.
6-24-'71	Abut. Wing walls #1 & #4 realigned due to addition of cushion barrier conc. structure.

THIS SHEET SUPERSEDES SHT. NO. ADD. 121A

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STRUCTURE No. 15 & 16
INTERSECTION
CONC. BARRIER DETAILS

WAIAWA INTERCHANGE
F.A.I. PROJ. No. I-HI-1(75):8
Scale as shown Date: June, 1971

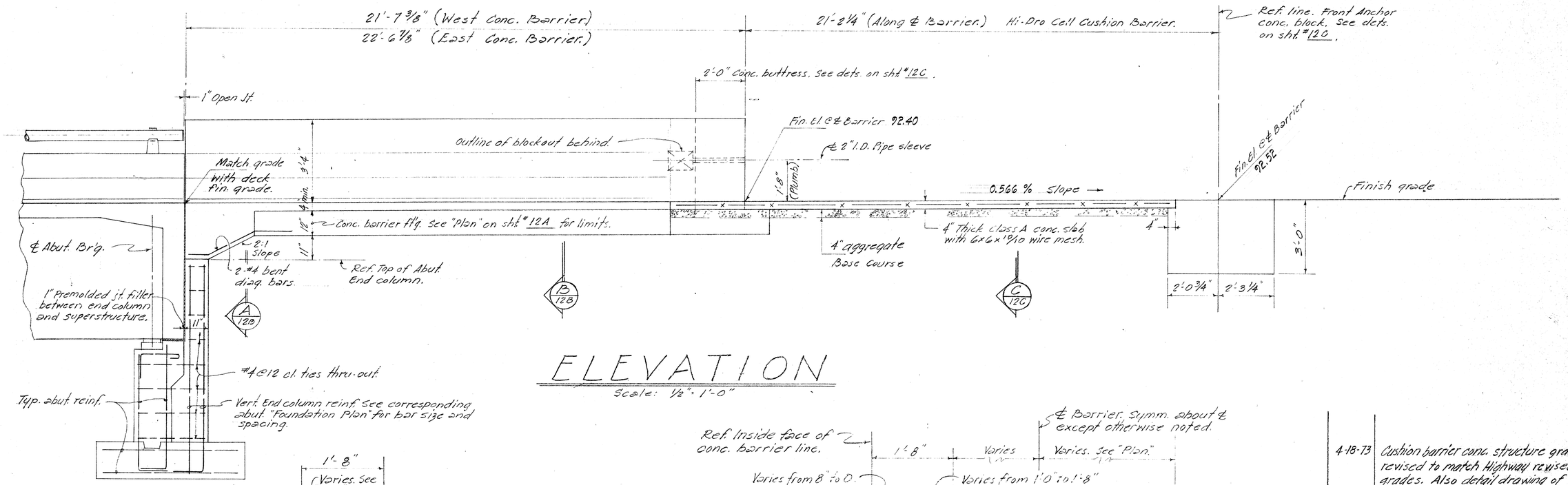
SHEET No. 12A OF 13 SHEETS

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

PRINTED ON NO. 1000H CLEARPRINT

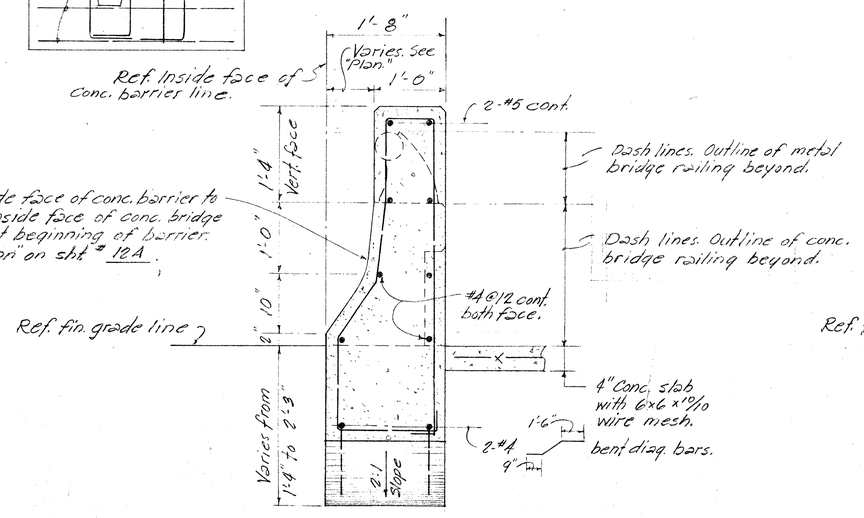
APR. 18, 1973 JUNE 24, 1971 CO. 121A

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(75):8	1969	CO. 121B	181



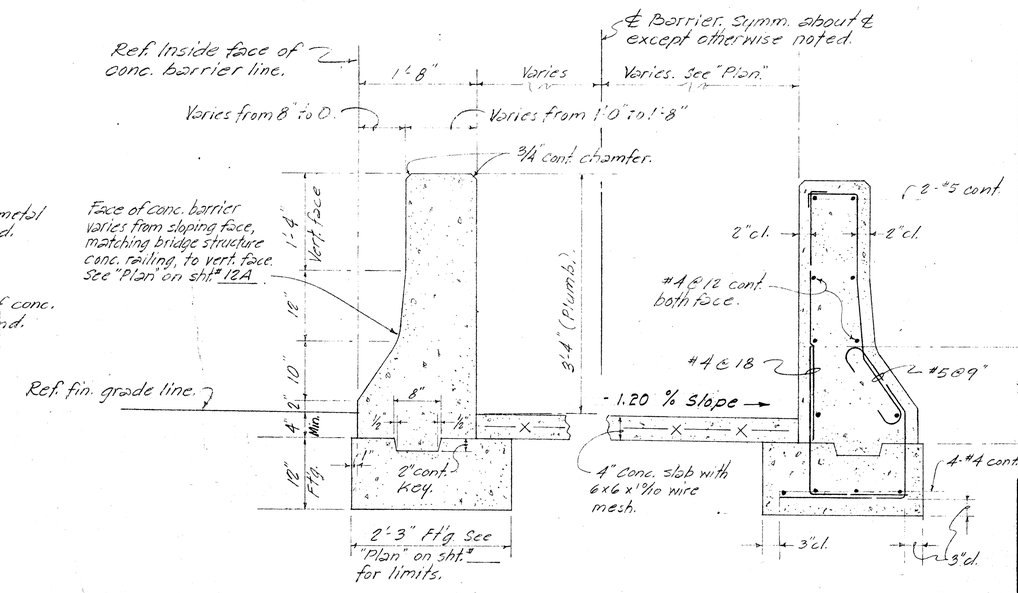
ELEVATION

Scale: 1/2" = 1'-0"



SECTION A 12B

Scale: 1" = 1'-0"



SECTION B 12B

Scale: 1" = 1'-0"

DATE	REVISION
4-18-73	Cushion barrier conc. structure grades revised to match Highway revised grades. Also detail drawing of reflector marker RM-9 added.
6-24-71	Abut. wing walls #1 & #4 realigned due to addition of cushion barrier conc. structure.

THIS SHEET SUPERSEDES SHT. NO. ADD. 121B.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STRUCTURE Nº 15 & 16
INTERSECTION
CONC. BARRIER DETAILS
WAIAWA INTERCHANGE
F.A.I. PROJ. Nº I-HI-1(75):8
Scale as shown Date: June, 1971

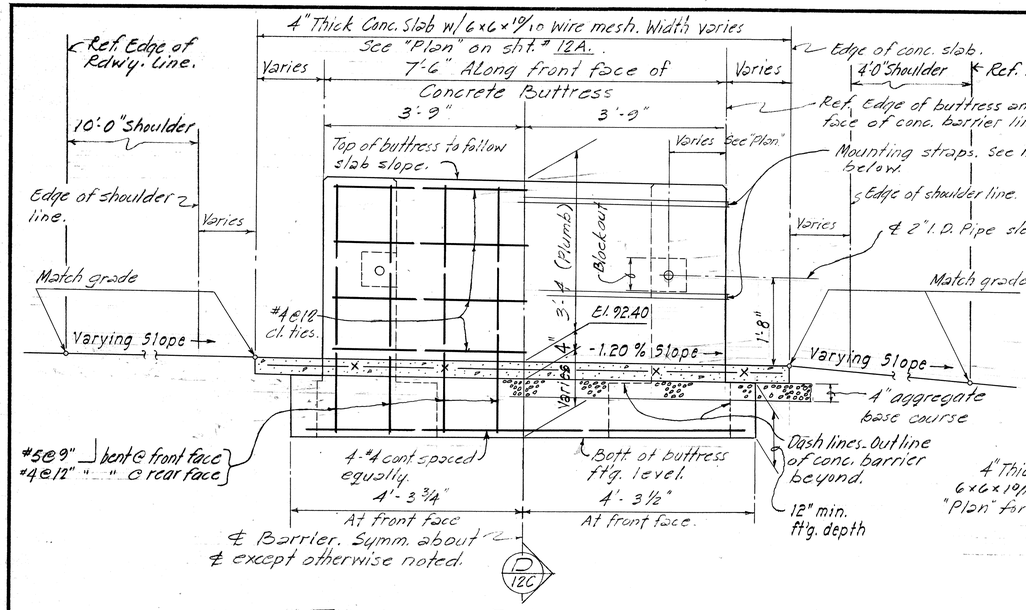
SHEET No. 12B OF 13 SHEETS

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

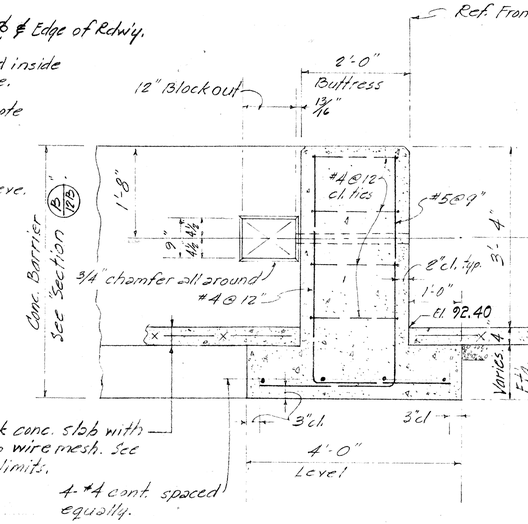
PRINTED ON NO. 1000H CLEARPRINT

APR. 18, 1973 ~~JUNE 24, 1971~~ CO. 121B

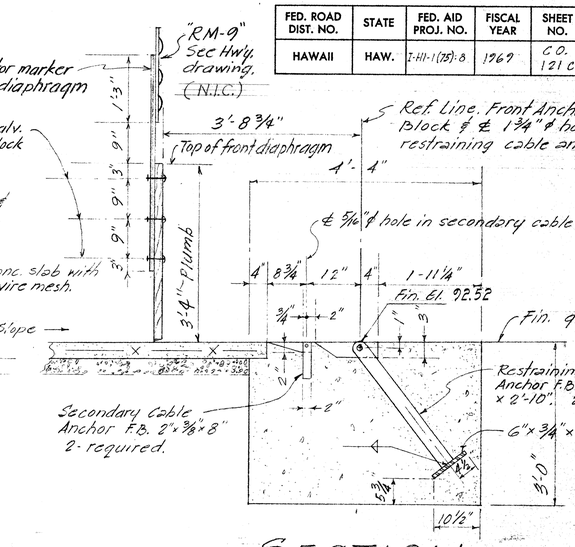
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(75)-8	1969	C.O. 121 C	181



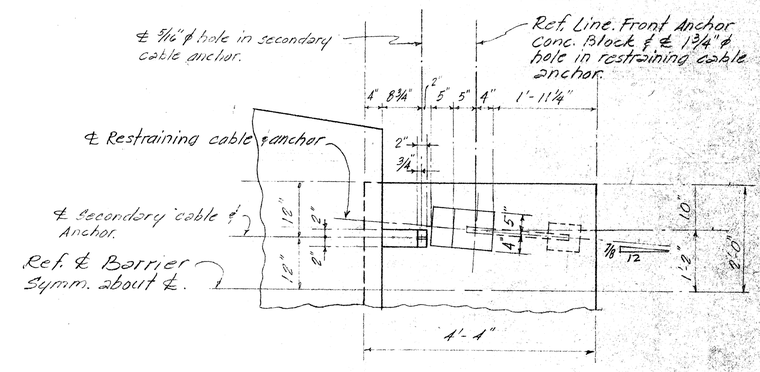
FRONT ELEVATION



SECTION D 12C



SECTION



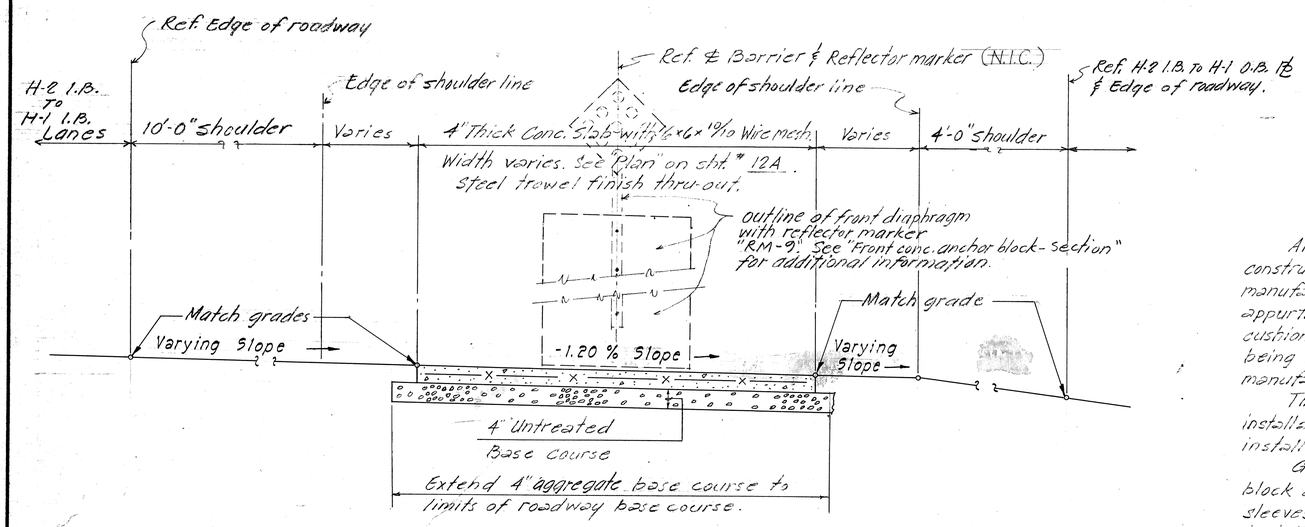
PLAN

FRONT CONCRETE ANCHOR BLOCK DETAILS

Scale: 3/4" = 1'-0"

CONCRETE BUTTRESS DETAILS

Scale: 3/4" = 1'-0"



TYPICAL SECTION C 12C

Scale: 3/4" = 1'-0"

NOTE

All materials and information necessary to properly construct and install the cells shall be furnished by the manufacturers of the cells. All brackets, bolts and other appurtenances necessary for the installation of the cushion barrier shall be placed in the structure that is being constructed, in accordance with the plans and the manufacturer's recommendations.

The individual components, fastenings and overall installation shall reflect the latest designs and installation practices at the time of installation.

Galvanize all anchor assemblies in front anchor block and buttress and all bolts, mounting straps, sleeves and other appurtenances used in the installation of the cushion barrier.

DATE	REVISION
4-18-73	Cushion barrier conc. structure grades revised to match revised Highway grades. Also detail drawing of reflector marker RM-9 added.
6-24-71	Abut. wingwalls #1 & #4 realigned due to addition of cushion barrier conc. structure.

THIS SHEET SUPERSEDES SHT. NO. ADD. 121 C

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STRUCTURE Nº 15 & 16
INTERSECTION
CONC. BARRIER DETAILS
WAIAWA INTERCHANGE
F.A.I. PROJ. Nº I-HI-1(75):8
Scale as shown Date: June, 1971

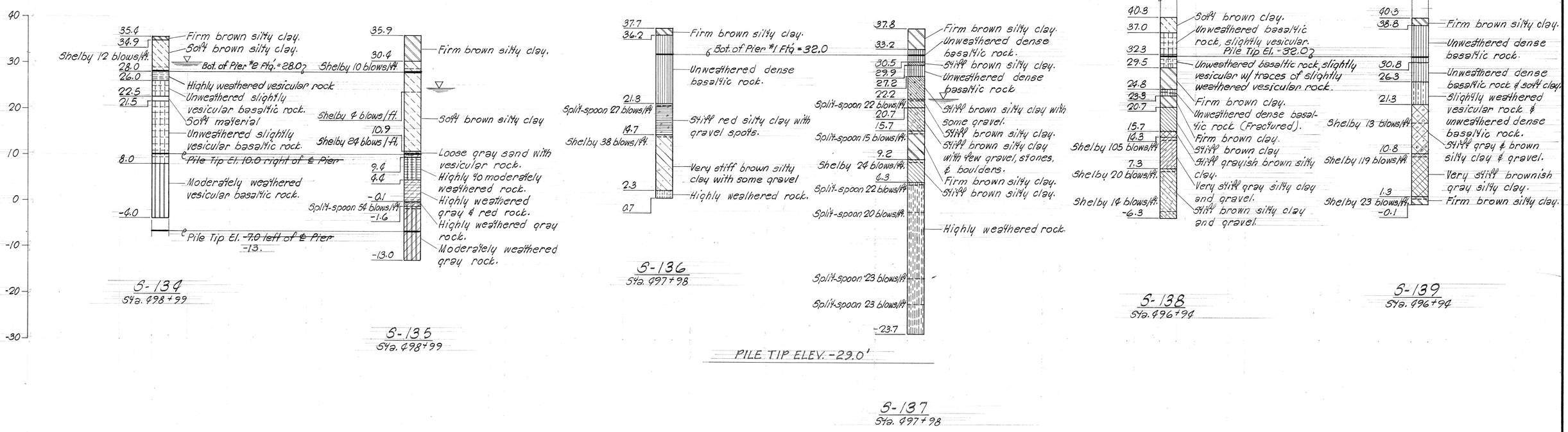
SHEET No. 12C OF 13 SHEETS

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

PRINTED ON NO. 1000H CLEARPRINT

APR. 18, 1973 ~~JUNE 24, 1971~~ C.O. 121 C

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(75):8	1969	122	181



BORING LOGS FOR STRUCTURE 16

See Sh. 12 for Boring Plot Plan.

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

SHIMAZU SHIMADUKURO & FUKUDA, INC.
Consulting Structural Engineers
1210 Ward Ave., Honolulu, HI 96814

HOWARD Y. FUKUDA
REGISTERED PROFESSIONAL ENGINEER
No. 1343
HAWAII, U. S. A.

This work was prepared by me or under my supervision.

Howard Y. Fukuda

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STRUCTURE NO. 16

BORING LOGS

WAIAWA INTERCHANGE
F.A.I. Proj. No. I-HI-1(75):8

Scale: As shown Date: JUNE, 1969

SHEET No. 13 OF 13 SHEETS