ESTIMATED QUANTITIES

ITEM No.	I T E M	UNIT	H-1 (W.B.)	H-1 (E.B.) AND RAMP A	RAMP F	RAMP G STA. 23+00 TO STA. 28+21	WALL 'X'
206.5100	(C) STRUCTURE EXCAVATION FOR RETAINING WALL 'X'	CU YD	–	–	–	–	421
206.5200	(C) STRUCTURE EXCAVATION FOR H-1 (WB & EB) ABUTMENT	CU YD	40	290	–	–	–
206.6000	STRUCTURE EXCAVATION FOR BRIDGES	CU YD	{6,278}	2,185	2,179	808	–
206.7000	STRUCTURE BACKFILL	CU YD	–	–	80	86	–
206.7220	(C) STRUCTURE BACKFILL FOR BRIDGE ABUTMENT AT H-1 (WB & EB)	CU YD	203	284	–	–	–
206.7260	(C) STRUCTURE BACKFILL FOR RETAINING WALL 'X'	CU YD	–	–	–	–	1,728
206.7300	(C) SPECIAL SUBGRADE MATERIAL	CU YD	2,051	3,047	–	–	4,533
206.8000	FILTER MATERIAL	CU YD	–	–	13	9	–
206.8210	(C) FILTER MATERIAL FOR H-1 (WB & EB) ABUTMENT	CU YD	20	48	–	–	–
206.8310	(C) FILTER MATERIAL FOR RETAINING WALL 'X'	CU YD	–	–	–	–	209
206.8500	CRUSHER SCREENINGS	CU YD	–	–	77	96	–
206.8510	(C) CRUSHER SCREENINGS FOR RETAINING WALL 'X'	CU YD	–	–	–	–	3,121
206.8520	(C) CRUSHER SCREENINGS FOR H-1 (WB & EB) ABUTMENT	CU YD	180	529	–	–	–
411.1300	CONCRETE IN APPROACH SLABS	CU YD	–	–	41	38	–
503.1051	(C) CONCRETE IN RETAINING WALL (EXCEPT FOOTINGS); WALL 'X'	LUMP SUM	–	–	–	–	601 CU YD
503.1052	(C) CONCRETE IN RETAINING WALL FOOTINGS; WALL 'X'	LUMP SUM	–	–	–	–	633 CU YD
503.1820	CONCRETE IN BRIDGES (EXCEPT FOOTINGS); H-1 (WB)	LUMP SUM	{7,012 CU YD}	–	–	–	–
503.1830	CONCRETE IN BRIDGES (EXCEPT FOOTINGS); H-1 (EB) & RAMP A	LUMP SUM	–	3,036 CU YD	–	–	–
503.1831	(C) CONCRETE IN BRIDGES (EXCEPT FOOTINGS); H-1 (WB & EB) ABUTMENT	LUMP SUM	68 CU YD	140 CU YD	–	–	–
503.1840	CONCRETE IN BRIDGES (EXCEPT FOOTINGS); RAMP F	LUMP SUM	–	–	1,734 CU YD	–	–
503.1850	CONCRETE IN BRIDGES (EXCEPT FOOTINGS); RAMP G, STA. 23+00± TO STA. 28+21±	LUMP SUM	–	–	–	932 CU YD	–
503.1900	CONCRETE IN BRIDGE FOOTINGS (INCL. PEDESTALS); H-1 (WB)	LUMP SUM	{3,057 CU YD}	–	–	–	–
503.1910	CONCRETE IN BRIDGE FOOTINGS; H-1 (EB) & RAMP A	LUMP SUM	–	1,184 CU YD	–	–	–
503.1911	(C) CONCRETE IN BRIDGE FOOTINGS; H-1 (WB & EB) ABUTMENT	LUMP SUM	63 CU YD	148 CU YD	–	–	–
503.1920	CONCRETE IN BRIDGE FOOTINGS (INCL. PEDESTALS); RAMP F	LUMP SUM	–	–	990 CU YD	–	–
503.1930	CONCRETE IN BRIDGE FOOTINGS; RAMP G, STA. 23+00± TO STA. 28+21±	LUMP SUM	–	–	–	447 CU YD	–
503.6000	TREMIE CONCRETE; H-1 (WB)	LUMP SUM	285 CU YD	–	–	–	–
503.6010	TREMIE CONCRETE: RAMP F	LUMP SUM	–	–	154 CU YD	–	–
504.4500	KEEHI TYPE IV PRESTRESSED CONCRETE GIRDERS	LIN FT	13,338	7,555	688	1,479	–
504.4510	KEEHI TYPE IVF PRESTRESSED CONCRETE GIRDERS	LIN FT	3,475	1,693	292	1,130	–
504.6300	KEEHI TYPE VI PRESTRESSED CONCRETE GIRDERS	LIN FT	2,754	–	2,526	–	–
505.0010	PILE LOAD TESTS	EACH	{3}	2	–	1	–
505.0430	PRECAST, PRESTRESSED CONCRETE PILES - FURNISHED (16½" OCTAGONAL)	LIN FT	{60,331}	24,010	17,920	12,436	–
505.4300	PRECAST, PRESTRESSED CONCRETE PILES - DRIVEN (16½" OCTAGONAL)	LIN FT	{56,743}	22,300	16,315	11,425	–
505.6100	SLEEVED HOLE 24 INCH DIA.	LIN FT	{1,469}	850	960	550	–
505.8100	PILE DRIVING SHOE	EACH	{392}	164	123	82	–
505.9000	EXTENSIONS OR "BUILD-UPS" OF PILES	F.A. (FORCE ACCOUNT)	–	–	–	–	–
507.7100	STANDARD PARAPET	LIN FT	4,340	1,751	1,668	1,168	–
507.7101	(C) STANDARD PARAPET ON H-1 ABUTMENT, WINGWALLS AND RET. WALL 'X'	LIN FT	17	13	–	–	420
511.0100	DECK EXPANSION JOINT	LIN FT	{1,478}	597	311	209	–
602.0052	(C) REINFORCING STEEL FOR RETAINING WALL; WALL 'X'	LUMP SUM	–	–	–	–	100,400 LBS
602.1300	REINFORCING STEEL IN BRIDGES; H-1 (WB)	LUMP SUM	{2,079,597 LBS}	–	–	–	–
602.1310	REINFORCING STEEL IN BRIDGES: H-1 (EB) & RAMP A	LUMP SUM	–	910,000 LBS	–	–	–
602.1311	(C) REINFORCING STEEL IN BRIDGES; H-1 (WB & EB) ABUTMENT	LUMP SUM	12,000 LBS	26,000 LBS	–	–	–
602.1320	REINFORCING STEEL IN BRIDGES; RAMP F	LUMP SUM	–	–	553,800 LBS	–	–
602.1330	REINFORCING STEEL IN BRIDGES; RAMP G, STA. 23+00± TO STA. 18+21±	LUMP SUM	–	–	–	229,200 LBS	–
604.5000	FURNISHING AND INSTALLING TYPE A-12 FRAME AND GRATE FOR DECK DRAINAGE	EACH	21	9	9	8	–
612.0100	GROUTED RUBBLE PAVING	CU YD	72	59	–	21	–
645.0100	CUSHION BARRIER	EACH	1	–	–	–	–
660.0100	BITUMEN COATING	SQ YD	{5,427}	5,500	4,839	2,200	–

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY M. Nishi	AUG. '77
No.	TRACED BY	AUG. '77
	DESIGNED BY J. CHANDOHA	AUG. '77
	QUANTITIES BY	
	CHECKED BY D. GILSTAD	AUG. '77

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(13I):17	1977	232	400

INDEX OF BRIDGE DRAWINGS

SHEET No.	DESCRIPTION	SHEET No.	DESCRIPTION
S-1	INDEX OF DRAWINGS AND ESTIMATED QUANTITIES	S-41	DECK REINFORCEMENT
S-2	GENERAL PLAN SHEET 1 OF 2	S-42	DECK REINFORCEMENT PLAN
S-3	GENERAL PLAN SHEET 2 OF 2	S-43	DECK JOINT DETAILS
S-4	LONGITUDINAL SECTION SHEET 1 OF 2	S-44	MISCELLANEOUS DETAILS
S-5	LONGITUDINAL SECTION SHEET 2 OF 2	S-45	CUSHION BARRIER
S-6	DECK ELEVATIONS SHEET 1 OF 3		
S-7	DECK ELEVATIONS SHEET 2 OF 3		
S-8	DECK ELEVATIONS SHEET 3 OF 3		
S-9	FOOTING LOCATION PLAN SHEET 1 OF 3		
S-10	FOOTING LOCATION PLAN SHEET 2 OF 3		
S-11	FOOTING LOCATION PLAN SHEET 3 OF 3		
S-12	DETAILS OF TYPE I PIER		
S-13	DETAILS OF TYPE II PIER		
S-14	DETAILS OF TYPE III PIER		
S-15	PIER GEOMETRY TABLE SHEET 1 OF 5		
S-16	PIER GEOMETRY TABLE SHEET 2 OF 5		
S-17	PIER GEOMETRY TABLE SHEET 3 OF 5		
S-18	PIER GEOMETRY TABLE SHEET 4 OF 5		
S-19	PIER GEOMETRY TABLE SHEET 5 OF 5		
S-20	PIER REINFORCEMENT SCHEDULE SHEET 1 OF 2		
S-21	PIER REINFORCEMENT SCHEDULE SHEET 2 OF 2		
S-22	PIERS F3 AND F4		
S-23	PIERS H9 AND H10		
S-24	DECK PLAN PIERS F3, F4, H9 & H10		
S-25	SLAB REINFORCEMENT PIERS F3, F4, H9 & H10		
S-26	RESTRAINER DETAILS		
S-27	WEST ABUTMENT – RAMP G		
S-28	EAST ABUTMENT – RAMP F		
S-29	EAST ABUTMENT-I AT MIDDLE STREET		
S-30	EAST ABUTMENT-II AT MIDDLE STREET		
S-31	PLAN & ELEVATION – WALL 'X'		
S-32	WALL DETAILS		
S-33	BEARING DETAILS		
S-34	FRAMING PLAN SHEET 1 OF 3		
S-35	FRAMING PLAN SHEET 2 OF 3		
S-36	FRAMING PLAN SHEET 3 OF 3		
S-37	BEAM TYPE SCHEDULE		
S-38	PRESTRESS BEAM DETAILS SHEET 1 OF 2		
S-39	PRESTRESS BEAM DETAILS SHEET 2 OF 2		
S-40	DAPPED BEAM DETAILS		

{All change order of Plans dated 2/29/80 were prepared by Hwy-DB}

{3}-Denotes changes to C.O. ADD 232 - 2/29/80

NOTES:
1. FOR CONTINUATION OF INDEX OF BRIDGE DRAWINGS SEE SHEETS NOS. S-46 & S-72.
2. (C) INDICATES PAY ITEMS FOR ALTERNATIVE 'C' WHICH CONSISTS OF WORK FOR RETAINING WALL 'X', H-1 ABUTMENTS AND WINGWALLS. FOR ALTERNATIVE 'D' (REINFORCED EARTH WALLS) SEE SHEET NO. RE-1 TO RE-6.
3. THE QUANTITIES FOR PAY ITEM NOS. 505.0430, 505.4300, 505.6100, 505.8100 AND 660.0100 SHOWN IN TABLE 'ESTIMATED QUANTITIES' INDICATE THE REVISED ESTIMATED QUANTITIES DUE TO A REDUCTION IN THE NUMBER OF PILES. THEY SHALL BE USED FOR BIDDING PURPOSES. THE CORRESPONDING FOUNDATION PLANS ARE SUPERSEDED AND WILL BE REVISED BY CONTRACT CHANGE ORDER. SEE SUBSECTION 108.03 - PROSECUTION AND PROGRESS.

DATE	REVISION
2/29/80	REVISED QUANTITIES
7/21/78	REVISED QUANTITIES
3/23/78	ADDED NOTE 3. REVISED QUANTITIES OF PAY ITEM NOS. 505.0430, 505.4300 AND 660.0100. ADDED PAY ITEM NOS. 505.6100 AND 505.8100.

VIJAY CHANDRA REGISTERED PROFESSIONAL ENGINEER No. 4120 HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Vijay Chandra
Signature

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

H-1 VIADUCT (E.B. & W.B.), RAMP A, RAMP F & RAMP G

INDEX OF DRAWINGS AND ESTIMATED QUANTITIES

KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1 (131): 17

SCALE: —— DATE: AUG. 31, '77

SHEET No. S-1 OF S-94 SHEETS

C.O. ADD. 232

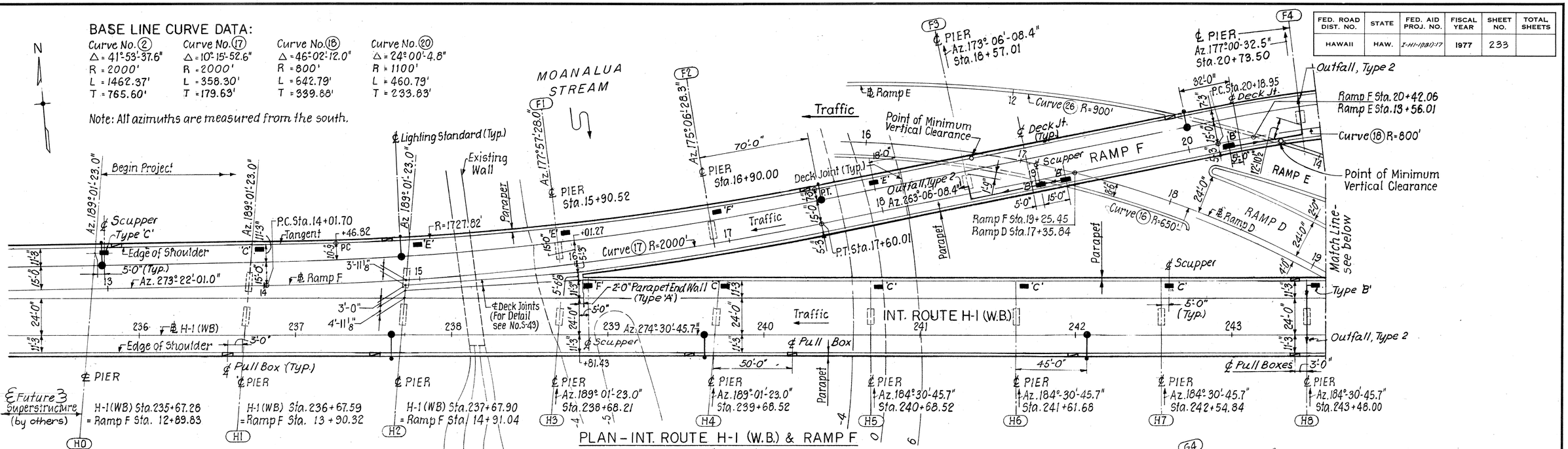
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(31)-17	1977	233	

BASE LINE CURVE DATA:

Curve No. (2)	Curve No. (17)	Curve No. (18)	Curve No. (20)
Δ = 41°53'-37.6"	Δ = 10°15'-52.6"	Δ = 46°02'-12.0"	Δ = 24°00'-4.8"
R = 2000'	R = 2000'	R = 800'	R = 1100'
L = 1462.37'	L = 358.30'	L = 642.79'	L = 460.79'
T = 765.60'	T = 179.63'	T = 339.88'	T = 233.83'

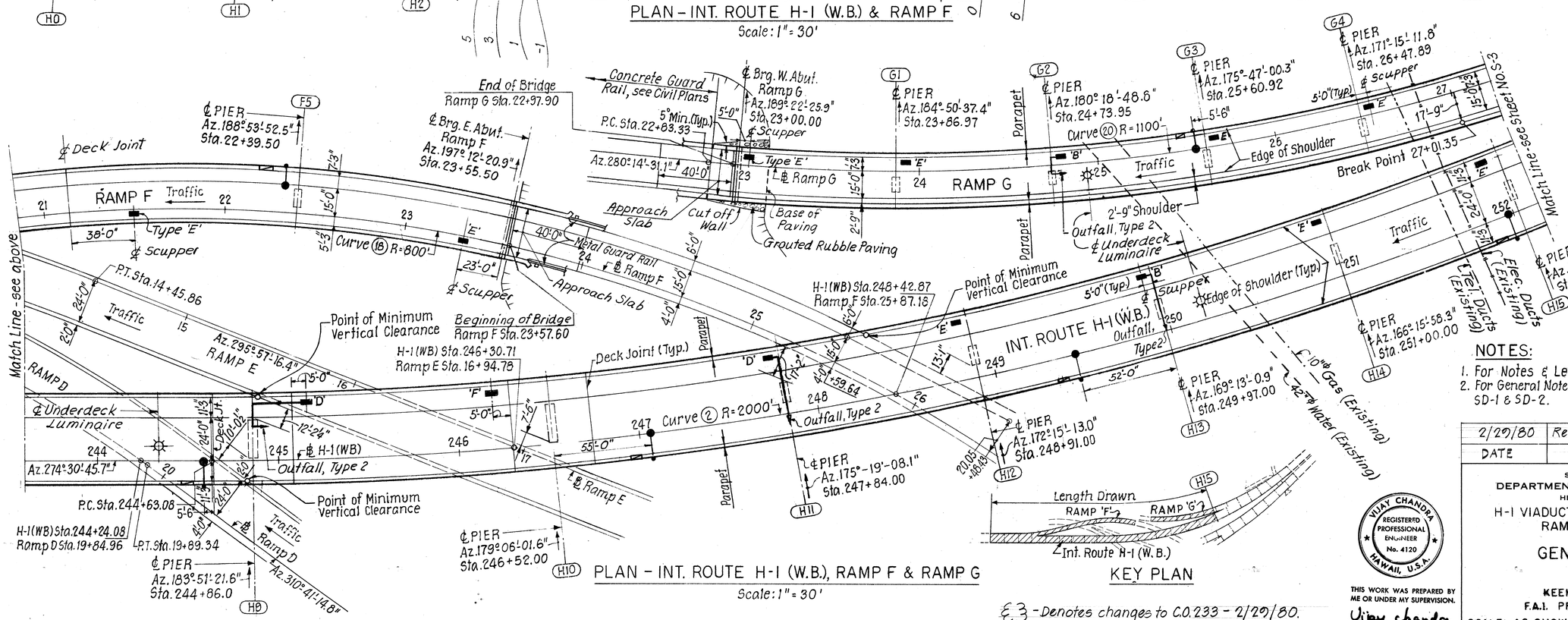
Note: All azimuths are measured from the south.

N



PLAN – INT. ROUTE H-I (W.B.) & RAMP F

Scale: 1" = 30'



PLAN – INT. ROUTE H-I (W.B.), RAMP F & RAMP G

Scale: 1" = 30'

KEY PLAN

NOTES:

1. For Notes & Legend see Sh. No. S-3.
2. For General Notes & Parapet Details, see Sh. Nos. SD-1 & SD-2.

DATE	REVISIONS
2/29/80	Revised note at Pier (H0).

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

H-1 VIADUCT (E.B. & W.B.), RAMP A, RAMP F & RAMP G

GENERAL PLAN

SH. 1 OF 2

KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1 (131): 17

SCALE: AS SHOWN DATE: AUG. 31, '77

SHEET No. S-2 OF 94 SHEETS

VIJAY CHANDRA REGISTERED PROFESSIONAL ENGINEER No. 4120 HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Vijay Chandra
Signature

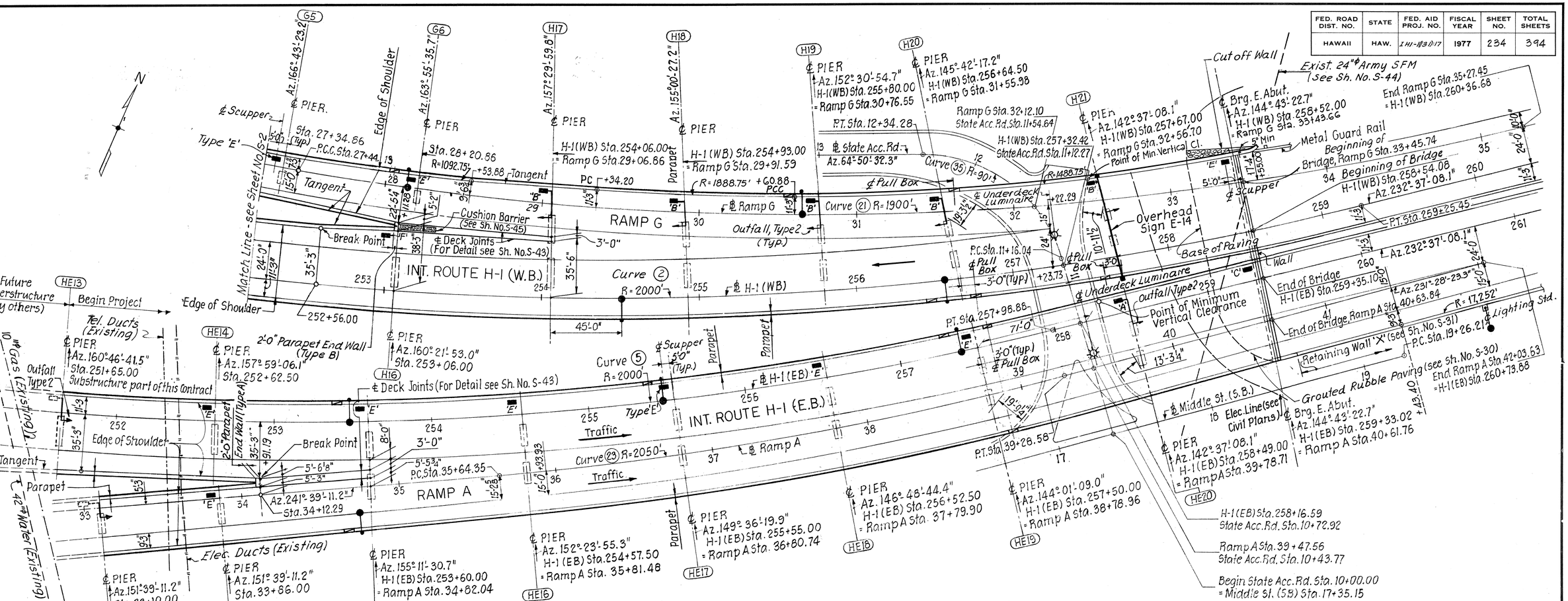
ORIGINAL PLAN	SURVEY PLOTTED BY: PEREIRA & MALKIN	DATE AUG. '77
NOTE BOOK	TRACED BY: C. TANG	AUG. '77
	DESIGNED BY: C. TANG	AUG. '77
No.	QUANTITIES BY:	
	CHECKED BY: V. Chandra	

E3 - Denotes changes to C.O. 233 - 2/29/80.

C.O. 233

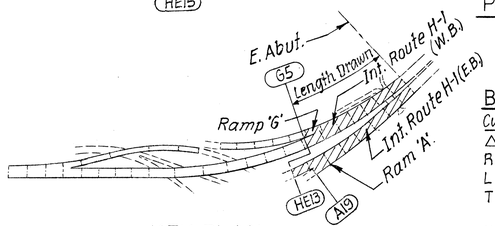
PRINTED ON NO. 1000H CLEARPRINT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I HI-1(13)17	1977	234	394



PLAN - INT. ROUTE H-1 (E.B.) & (W.B.), RAMP A & RAMP G

Scale: 1" = 30'



KEY PLAN

BASE LINE CURVE DATA:

Curve No. (2)	Curve No. (5)	Curve No. (21)	Curve No. (23)
Δ = 41°-53'-37.6"	Δ = 43°-56'-31.8"	Δ = 23°-37'-18.2"	Δ = 10°-10'-47.9"
R = 2000'	R = 2000'	R = 1900'	R = 2050'
L = 1462.37'	L = 1533.87'	L = 783.33'	L = 364.23'
T = 765.60'	T = 806.58'	T = 397.31'	T = 182.60'

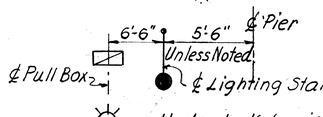
Note: All azimuths are measured from the south.

NOTES:

1. For Details of Sign Structure see Sh. Nos. ES-1 thru ES-6.
2. For Scupper Details see Sh. Nos. SD-8, SD-9 & S-44.
3. For Longitudinal Sections see Sheet Nos. S-4 & S-5.
4. For Footing Location Plans see Sheet Nos. S-9 thru S-11.
5. For Transverse Joint Details see Sh. Nos. SD-6 & SD-7.
6. Horizontal clearances are given at base of Columns.
7. Contractor should verify location of Existing Utilities before excavation starts.
8. For location of Underdeck Luminaires, see Sh. No. E7.

LEGEND:

■ = Scupper



Note: Electrical Conduits are not shown on Plans. For exact location and number of conduits see Electrical Plans.

DATE	REVISIONS
12/18/78	Widened Ramp G shoulder on spans between pier H18 and H-1 (WB) E. Abut.

ORIGINAL PLAN — NOTE BOOK — No.

	DATE
SURVEY PLOTTED BY	AUG.'77
DRAWN BY PATRICIA MALKIN	
TRACED BY	AUG.'77
DESIGNED BY C. YANG	
QUANTITIES BY	AUG.'77
CHECKED BY V. Chandra	

VIJAY CHANDRA REGISTERED PROFESSIONAL ENGINEER No. 4120 HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Vijay Chandra
Signature

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

H-1 VIADUCT (E.B. & W.B.), RAMP A, RAMP F & RAMP G

GENERAL PLAN

SH. 2 OF 2

KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1 (131): 17

SCALE: AS SHOWN — DATE: AUG. 31, '77

SHEET No. S-3 OF S-94 SHEETS

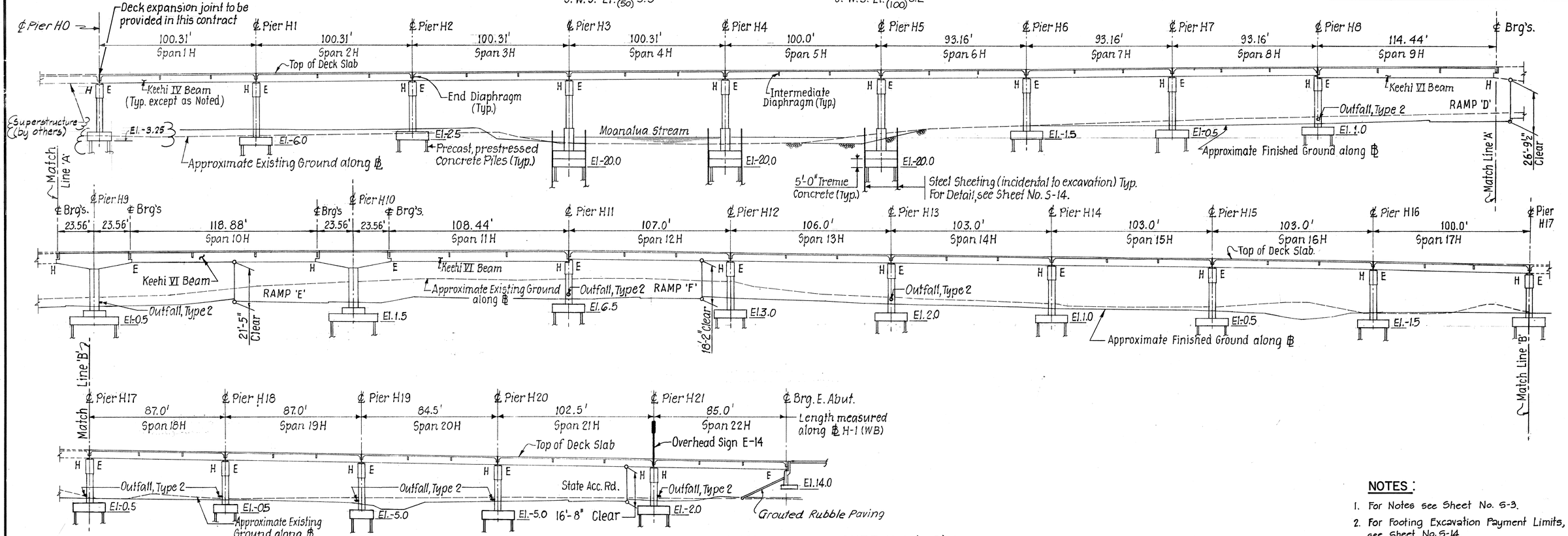
C.O. 234

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(131):17	1977	235	

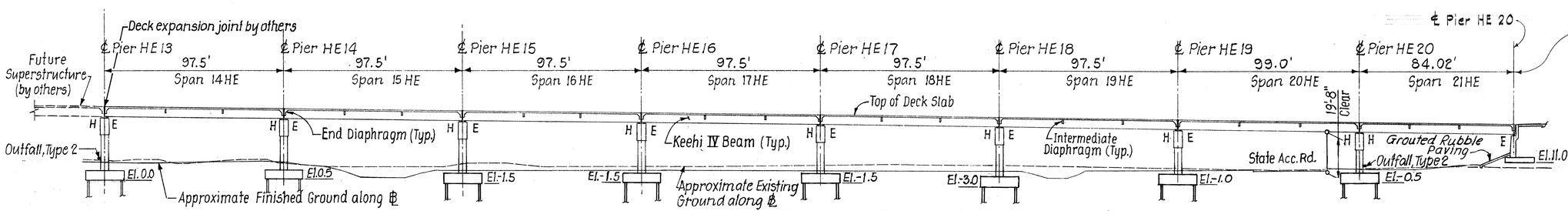
MOANALUA STREAM NOTES:

1. Design Stream 50 year Discharge 14000 cfs.
2. Mean Sea Level 0.0
3. W.S. El.$_{(50)}$ 5.3
4. Design Stream 100 year Discharge 23,000 cfs.
5. Mean Sea Level 0.0
6. W.S. El.$_{(100)}$ 8.2



LONGITUDINAL SECTION – INT. ROUTE H-1 (W.B.) (Taken at Baseline)

Scale: 1" = 30'



LONGITUDINAL SECTION – INT. ROUTE H-1 (E.B.) (Taken at Baseline)

Scale: 1" = 30'

NOTES:

1. For Notes see Sheet No. S-3.
2. For Footing Excavation Payment Limits, see Sheet No. S-14.

LEGEND:

H = Hinge Bearings
E = Expansion Bearings

DATE	REVISIONS
2/29/80	Revised Pier and notes at Pier H0
12-18-78	Revised Mean Sea Level Elevation on Moanalua Stream Notes. Revised minimum vertical clearance on span between piers H20 and H21
7-21-78	Revised Footing Elevations

℄ 3 - Denotes changes to C.O. 235 - 2/29/80.

ORIGINAL PLAN		DATE
	SURVEY PLOTTED BY	
	DRAWN BY PATRICIA MALKIN	AUG. '77
	TRACED BY	
	DESIGNED BY O. YANG	AUG. '77
NOTE BOOK	QUANTITIES BY	
	CHECKED BY J. Chandra	AUG. '77
No.		

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

H-1 VIADUCT (E.B. & W.B.), RAMP A, RAMP F & RAMP G

LONGITUDINAL SECTION

SH. 1 OF 2

KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1 (131):17

SCALE: AS SHOWN DATE: AUG. 31, '77

SHEET NO. S-4 OF S-94 SHEETS

VIJAY CHANDRA REGISTERED PROFESSIONAL ENGINEER No. 4120 HAWAII, U.S.A.

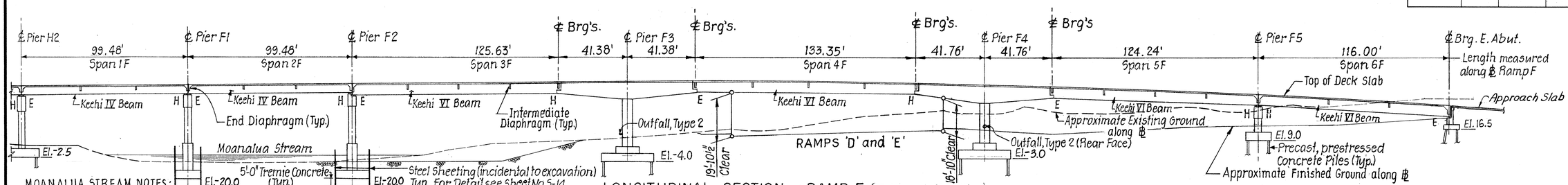
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Vijay Chandra
Signature

PRINTED ON NO. 1000H CLEARPRINT

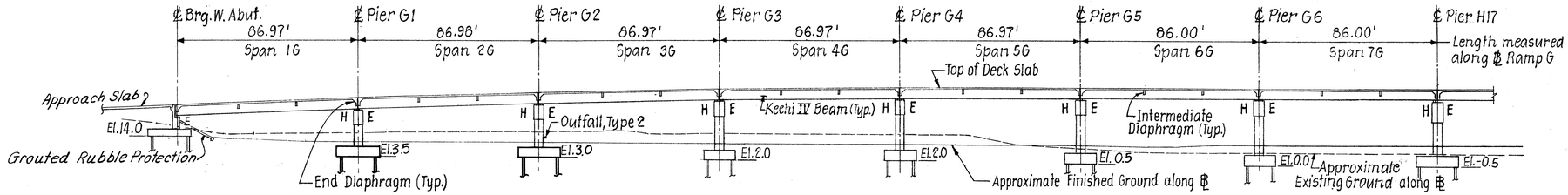
C.O. 235

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(131)17	1977	236	394

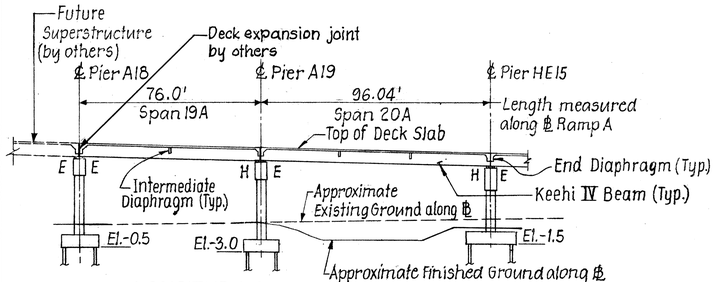


MOANALUA STREAM NOTES:
1. Design Stream 50year Discharge 14000 cfs.
2. Mean Sea Level 0.8
3. W.S. El.$_{(50)}$ 5.7
4. Design Stream 100year Discharge 23,000cfs.
5. Mean Sea Level 0.8.
6. W.S. El.$_{(100)}$ 8.2

LONGITUDINAL SECTION – RAMP F (Taken at Baseline)
Scale: 1" = 30'



LONGITUDINAL SECTION – RAMP G (Taken at Baseline)
Scale: 1" = 30'



LONGITUDINAL SECTION
AT ℄ RAMP A
Scale: 1" = 30'

NOTE:
For Notes, see Sheet No. S-3.

DATE	REVISIONS
7/21/78	Revised footing elevations.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
H-1 VIADUCT (E.B. & W.B.), RAMP A, RAMP F & RAMP G
LONGITUDINAL SECTION
SH. 2 OF 2
KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1 (131):17
SCALE: AS SHOWN DATE: AUG. 31, '77
SHEET NO. S-5 OF 5-94 SHEETS

VIJAY CHANDRA REGISTERED PROFESSIONAL ENGINEER No. 4120 HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
Vijay Chandra
Signature

ORIGINAL PLAN
NOTE BOOK
No.

		DATE
SURVEY PLOTTED BY	PARKS & PERKINS-MALKIN	AUG. '77
DRAWN BY		
TRACED BY		AUG. '77
DESIGNED BY	C. TANG	AUG. '77
QUANTITIES BY		
CHECKED BY	Chandra	AUG. '77

PRINTED ON NO. 1000H CLEARPRINT

C.O. 236

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(13)):17	1977	237	

NOSE AREA ELEVATIONS

PLAN

NOTES:
1. Deck Elevations are shown at 10'-0" and 25'-0" intervals in transition areas and at 25'-0" intervals in non-transition areas.
2. For Scuppers location see Sheet Nos. S-2 & S-3.

ORIGINAL PLAN
SURVEY PLOTTED BY :: DATE AUG.'77
DRAWN BY PATRICIA MALKIN :: AUG.'77
TRACED BY :: AUG.'77
DESIGNED BY D. GILSTAD :: AUG.'77
QUANTITIES BY :: AUG.'77
CHECKED BY M.A. ZSLAM :: AUG.'77
NOTE BOOK
No.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

H-1 VIADUCT (E.B. & W.B.), RAMP A, RAMP F & RAMP G

DECK ELEVATIONS
SHEET 1 OF 3

KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1 (131):17
SCALE: 1"=20' DATE: AUG.31,'77

VIJAY CHANDRA REGISTERED PROFESSIONAL ENGINEER No. 4120 HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
Vijay chandra Signature

SHEET NO. S-6 OF S-94 SHEETS

237

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-HI-1(131):17	1977	238	394

PLAN

NOSE AREA ELEVATIONS

Deck joints

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

H-1 VIADUCT (E.B. & W.B.), RAMP A, RAMP F & RAMP G

DECK ELEVATIONS
SHEET 2 OF 3

KEEHI INTERCHANGE
F.A.I. PROJ. NO. 1-HI-1 (131):17

SCALE: 1"=20' DATE: AUG. 31, '77

SHEET No. S-7 OF S-94 SHEETS

VIJAY CHANDRA REGISTERED PROFESSIONAL ENGINEER No. 4120 HAWAII, U.S.A.

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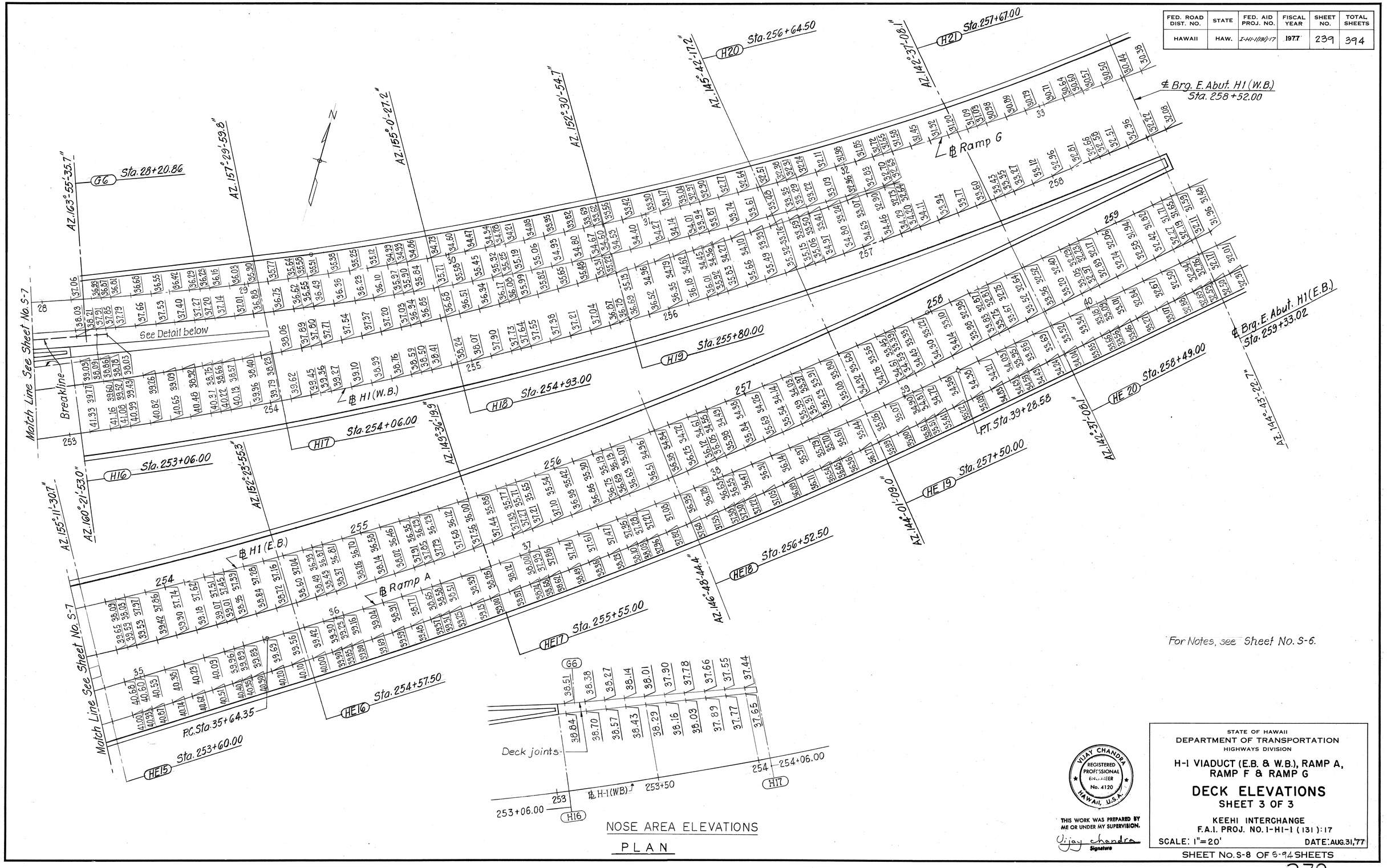
Vijay Chandra
Signature

ORIGINAL PLAN		DATE
	SURVEY PLOTTED BY	AUG. '77
	DRAWN BY	
	TRACED BY	AUG. '77
NOTE BOOK	DESIGNED BY D.G. ILSTAD	AUG. '77
	QUANTITIES BY	
No.	CHECKED BY M.A. ISLAM	AUG. '77

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(13)-17	1977	239	394



ORIGINAL PLAN

NOTE BOOK

No.

SURVEY PLOTTED BY — DATE AUG.'77
DRAWN BY PATRICIA WALKIN — AUG.'77
TRACED BY — AUG.'77
DESIGNED BY D. GILSTAD — AUG.'77
QUANTITIES BY — AUG.'77
CHECKED BY M.A. ISLAM — AUG.'77

For Notes, see Sheet No. S-6.

VIJAY CHANDRA REGISTERED PROFESSIONAL ENGINEER No. 4120 HAWAII, U.S.A.

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Signature

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

H-1 VIADUCT (E.B. & W.B.), RAMP A, RAMP F & RAMP G

DECK ELEVATIONS
SHEET 3 OF 3

KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1 (131):17
SCALE: 1"=20' DATE: AUG.31,'77

SHEET NO. S-8 OF S-94 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-HI-1(131)-17	1977	240	

LEGEND:

⊕ Precast. Prestressed Concrete Piles, 16½" octagonal, Type A.
Design Capacity See Sheet No. C.O. 242 S-1.
(For Details see Shs. No. SD-10, SD-11 & SD-12).

PCE: Pile Cut-off Elevation.
PTE: Estimated Pile Tip Elevation.
BCE: Elevation of Lower Limit of Bitumen Coating
(None' indicates that piles are not coated).

E3 - Denotes changes to C.O. 240 - 2/20/80.

Note: PTE & BCE Revised as shown for production piles.

N

E Future Super Structure 3 Begin Project (by others)

P.C. Sta. 14+01.70

Existing Wall

Az. 273°-22'-01.0"

Az. 274°-30'-45.7"

Az. 177°-57'-28.0"

Az. 175°-06'-28.3"

Az. 263°-06'-08.4"

Az. 173°-06'-08.4"

Az. 189°-01'-23.0"

Az. 184°-30'-45.7"

Az. 188°-53'-52.5"

Az. 177°-00'32.5"

Az. 183°-51'-21.6"

Az. 310°-41'-14.8"

Az. 197°-12'-20.9"

Az. 179°-06'-01.6"

Ramp F Base Line

Ramp D Base Line

Ramp E Base Line

RAMP D

RAMP E

RAMP F

Int. Route H-1(WB) Base Line

Match Line F3

Match Line H6

Match Line H11

Test Pile

Load Test Pile

P.T. Sta. 17+60.01

P.C. Sta. 20+18.95

P.C. Sta. 19+89.34

P.C. Sta. 244+63.08

Ramp F Sta. 19+25.45 = Ramp D Sta. 17+35.84

Ramp F Sta. 20+42.06 = Ramp E Sta. 13+56.01

Ramp F Sta. 12+89.83 = H-1(WB) Sta. 235+67.28

Ramp F Sta. 13+90.32 = H-1(WB) Sta. 236+67.59

Ramp F Sta. 14+91.04 = H-1(WB) Sta. 237+67.90

H-1(WB) Sta. 244+24.08 = Ramp D Sta. 19+84.96

H-1(WB) Sta. 246+30.71 = Ramp E Sta. 16+94.78

Ramp F Sta. 23+55.50 = E. Abut.

For E. Abut. Detail, see Sheet No. S-28

Long-term monitoring piles.

Note: Footing H7 enlarged as shown.

H0	H-1(WB) Sta. 235+67.28 = Ramp F Sta. 12+89.83	PCE = -2.25 PTE = -230.0 BCE = -140.0	
H1	H-1(WB) Sta. 236+67.59 = Ramp F Sta. 13+90.32	PCE = -5.0 PTE = -190.0 (-200 Production Piles) BCE = -125.0 (-130 " ")	
H2	H-1(WB) Sta. 237+67.90 = Ramp F Sta. 14+91.04	PCE = -1.5 PTE = -190.0 (-205 Production Piles) BCE = -120.0 (-130 " ")	
H3	Sta. 238+68.21	PCE = -14.0 PTE = -190.0 (-210 Production Piles) BCE = -125.0 (-130 " ")	
H4	Sta. 239+68.52	PCE = -14.0 PTE = -190.0 (-205 Production Piles) BCE = -130.0 (-130 " ")	
H5	Sta. 240+68.52	PCE = -14.0 PTE = -190.0 BCE = -120.0	
H6	Sta. 241+61.68	PCE = -0.5 PTE = -190.0 BCE = -130.0	
H7	Sta. 242+54.84	PCE = 0.5 PTE = -190.0 BCE = -130.0	
H8	Sta. 243+48.00	PCE = 2.0 PTE = -170.0 BCE = -110.0 (-190 Production Piles) (-115 " ")	
H9	Sta. 244+66.0	PCE = 0.5 PTE = -140.0 BCE = -75.0 (-70 Production Piles)	
H10	Sta. 246+52.00	PCE = 2.5 (-95 Production Piles) PTE = -75.0 (-120 Production Piles) BCE = None	
H11	Sta. 247+84.00	PCE = 7.5 PTE = -60.0 BCE = None	
F1	Sta. 15+90.52	PCE = -14.0 PTE = -190.0 (-205 Production Piles) BCE = -125.0 (-135 " ")	
F2	Sta. 16+90.00	PCE = -14.0 PTE = -190.0 (-200 Production Piles) BCE = -130.0 (-130 " ")	
F3	Sta. 18+57.01	PCE = -3.0 PTE = -185.0 (-195 Production Piles) BCE = -125.0 (-130 " ")	
F4	Sta. 20+73.50	PCE = -2.0 PTE = -135.0 (-140 Production Piles) BCE = -80.0 (-70 " ")	
F5	Sta. 22+39.50	PCE = 10.0 PTE = -90.0 (-105 Production Piles) BCE = -30.0 (-35 " ")	

DATE	REVISIONS	DATE	REVISIONS
2/29/80	Added Pier (H0) footing see sheet #C.O. 242 S-2	7/21/78	Revised footing sizes, pile elevations, Note 1 and Legend. See sheet No. C.O. 242 S-1 for footing types.

NOTES:
1. Work this drawing with Sheet Nos. S-10, S-11 & S-11A
2. Contractor should verify location of Existing Utilities before excavation starts.
3. For details of footings at Piers F3, F4, H9 & H10, see Sheets No. S-22 & S-23.

VIJAY CHANDRA REGISTERED PROFESSIONAL ENGINEER No. 4120 HAWAII, U.S.A.

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Vijay Chandra
Signature

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

H-1 VIADUCT (E.B. & W.B.), RAMP A, RAMP F & RAMP G

FOOTING LOCATION PLAN
SHEET 1 OF 3

KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1 (131): 17
SCALE: 1" = 20'
DATE: AUG. 31, '77

SHEET NO. S-9 OF S-94 SHEETS

ORIGINAL PLAN		DATE
	SURVEY PLOTTED BY	AUG.'77
	DRAWN BY D. MALKIN	AUG.'77
	TRACED BY	
NOTE BOOK	DESIGNED BY V. Chandra	AUG.'77
	QUANTITIES BY	
No.	CHECKED BY D. GILSTAD	AUG.'77

C.O. 240

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(131)-17	1977	241	394

P.C. Sta. 22+83.33
Az. 250°-14'-31.1"
℄ Brg.
W. Abut.
Ramp G Sta. 23+00.00
23+00
PCE = 15.0
PTE = -120.0
BCE = None
For West Abutment Ramp G Details, see Sheet No. S-27
Az. 183°-22'-25.9"
Az. 184°-50'-37.4"
℄ Pier
G1 Sta. 23+86.97
13'-0" 13'-0"
5'-0"
10'-5½"
24+00
Ramp G Base Line
℄ Ftg.
PCE = 4.5
PTE = -120.0 (-125 for Production Piles)
BCE = None
Az. 180°-18'-48.8"
℄ Pier
G2 Sta. 24+73.95
8'-6" 8'-6"
25+00
PCE = 4.0
PTE = -120.0
BCE = -55.0
PTE = -125 } for
BCE = -50 } Production Piles
R = 1100' Curve (20)
42" ℄ Water (Exist.)
10" ℄ Gas (Exist.)
Az. 175°-47'-00.3"
℄ Pier
G3 Sta. 25+60.92
18'-6" 18'-6"
26+00
PCE = 3.0
PTE = -150.0
BCE = -80.0 (-75 for Production Piles)
Az. 171°-15'-11.8"
℄ Pier
G4 Sta. 26+47.89
27+00
PCE = 3.0
PTE = -150.0
BCE = -90.0 (-80 for Production Piles)
Az. 166°-49'-23.2"
℄ Pier
G5 Sta. 27+34.66
P.C.C. Sta. 27+44.13
PCE = 1.5
PTE = -175.0 (-180 for Production Piles)
BCE = -110.0 (-100 " " ")
R = 1900' Curve (21)
28+00
Az. 163°-55'-35.7"
Match Line G6, See Sh. No. S-11
℄ Pier
G6 Sta. 28+20.86
PCE = 1.0
PTE = -175.0 (-185 for Production Piles)
BCE = -110.0 (-120 " " ")

RAMP F
R = 500' Curve (18)
4'-0"
15'-0"
5'-0"
248+00
H-1(WB) Sta. 248+42.87
Ramp F Sta. 25+87.18
℄ Pier
H11 Sta. 247+84.00
Match Line H11 see Sh. No. S-9
Az. 175°-19'-08.1"
26+00 Ramp F Base Line
20.05'
+48.13'
H12 Sta. 248+91.00
Az. 172°-15'-13.0"
7'-6" 7'-6"
13'-0" 13'-0"
11'-9" 11'-9"
℄ Ftg.
249+00
PCE = 4.0
PTE = -110.0 (-120 for Production Piles)
BCE = -40.0 (-50 " " ")
℄ Pier
11'-9" 11'-9"
11'-9" 11'-9"
11'-8"
250+00
Int. Route H-1(WB) Base Line
PCE = 3.0
PTE = -150.0
BCE = -80.0 (-70 for Production Piles)
℄ Pier
H13 Sta. 249+97.00
Az. 169°-13'-00.9"
11'-9" 11'-9"
11'-9" 11'-9"
11'-8"
251+00
PCE = 2.0
PTE = -170.0
BCE = -100.0 (-85 for Production Piles)
℄ Pier
H14 Sta. 251+00.00
Az. 166°-15'-58.3"
R = 2000' Curve (2)
Tel. Ducts (Exist.)
Elec. Ducts (Exist.)
11'-9" 11'-9"
11'-9" 11'-9"
11'-8"
252+00
PCE = 0.5
PTE = -175.0 (-170 for Production Piles)
BCE = -110.0 (-75 " " ")
℄ Pier
H15 Sta. 252+03.00
Az. 163°-18'-55.6"
11'-9" 11'-9"
11'-9" 11'-9"
12'-4½"
253+00
PCE = -0.5
PTE = -175.0 (-190 for Production Piles)
BCE = -110.0
℄ Pier
H16 Sta. 253+06.00
Az. 160°-21'-33.00"
Match Line H16, see Sh. No. S-11
Match Line HE15, see Sh. No. S-11

HE13 Sta. 251+65.00
Az. 160°-46'-41.5"
℄ Pier
Int. Route H-1(EB) Base Line
252+00
11'-9" 11'-9"
11'-9" 11'-9"
12'-2"
℄ Ftg.
PCE = 1.0
PTE = -180.0 (-185 Production)
BCE = -110.0 (-100 ")
Begin Project
Tel. Ducts (Exist.)
Elec. Ducts (Exist.)
11'-9" 11'-9"
11'-9" 11'-9"
12'-2"
℄ Ftg.
PCE = 1.5
PTE = -175.0 (-180 Production)
BCE = -110.0 (-100 ")
HE14 Sta. 252+62.50
Az. 157°-59'-06.1"
℄ Pier
R = 2000' Curve (5)
253+00
8'-6" 8'-6"
23'-0"
27'-9½"
PCE = -0.5
PTE = -175.0 (-190 for Production Piles)
BCE = -110.0 (-100 " " ")
Ramp A Base Line
Az. 241°-39'-11.2"
34+00
11'-9" 11'-9"
11'-9" 11'-9"
11'-5"
℄ Ftg.
PCE = -2.0
PTE = -175.0 (-185 for Production Piles)
BCE = -110.0 (-105 " " ")
8'-6" 8'-6"
℄ Pier
HE15 Sta. 33+86.00
H-1(EB) Sta. 253+60.00 = Ramp A Sta. 34+82.04
Az. 155°-11'-30.7"
12" ℄ Water (Exist.)
10" ℄ Gas (Exist.)
11'-9" 11'-9"
11'-9" 11'-9"
11'-5"
℄ Ftg.
PCE = 0.5
PTE = -180.0 (-185 Production)
BCE = -100.0 (-95 ")
8'-6" 8'-6"
℄ Pier
A19 Sta. 33+86.00
Az. 151°-39'-11.2"
Begin Project
A18 Sta. 33+10.00
Az. 151°-39'-11.2"

Note: Two long-term monitoring piles installed in Pier H-12. One long-term monitoring pile installed in Pier H-13.

NOTES:
1. Work this drawing with Sheet Nos. S-9, S-11 & S-11A
2. For Legend & Notes, see Sheet No. S-9.
3. For Excavation Payment Limits, see Sheet No. S-14.

ORIGINAL PLAN	SURVEY PLOTTED BY:	DATE
	DRAWN BY: PATRICIA MALKIN	AUG. '77
	TRACED BY:	
NOTE BOOK	DESIGNED BY: V. Chandra	AUG. '77
	QUANTITIES BY:	
No.	CHECKED BY: D. GILSTAD	AUG. '77

DATE	REVISIONS
7/21/78	Revised footing sizes, pile elevations, location of ℄ Ftg. of Pier H15 and Note 1. Deleted Footing Types and Table. See sheet No. C.O. 242 S-1 for footing types

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

H-1 VIADUCT (E.B. & W.B.), RAMP A, RAMP F & RAMP G

FOOTING LOCATION PLAN
SHEET 2 OF 3

KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1 (131):17
SCALE: 1" = 20' DATE: AUG. 31, '77

VIJAY CHANDRA REGISTERED PROFESSIONAL ENGINEER No. 4120 HAWAII, U.S.A.

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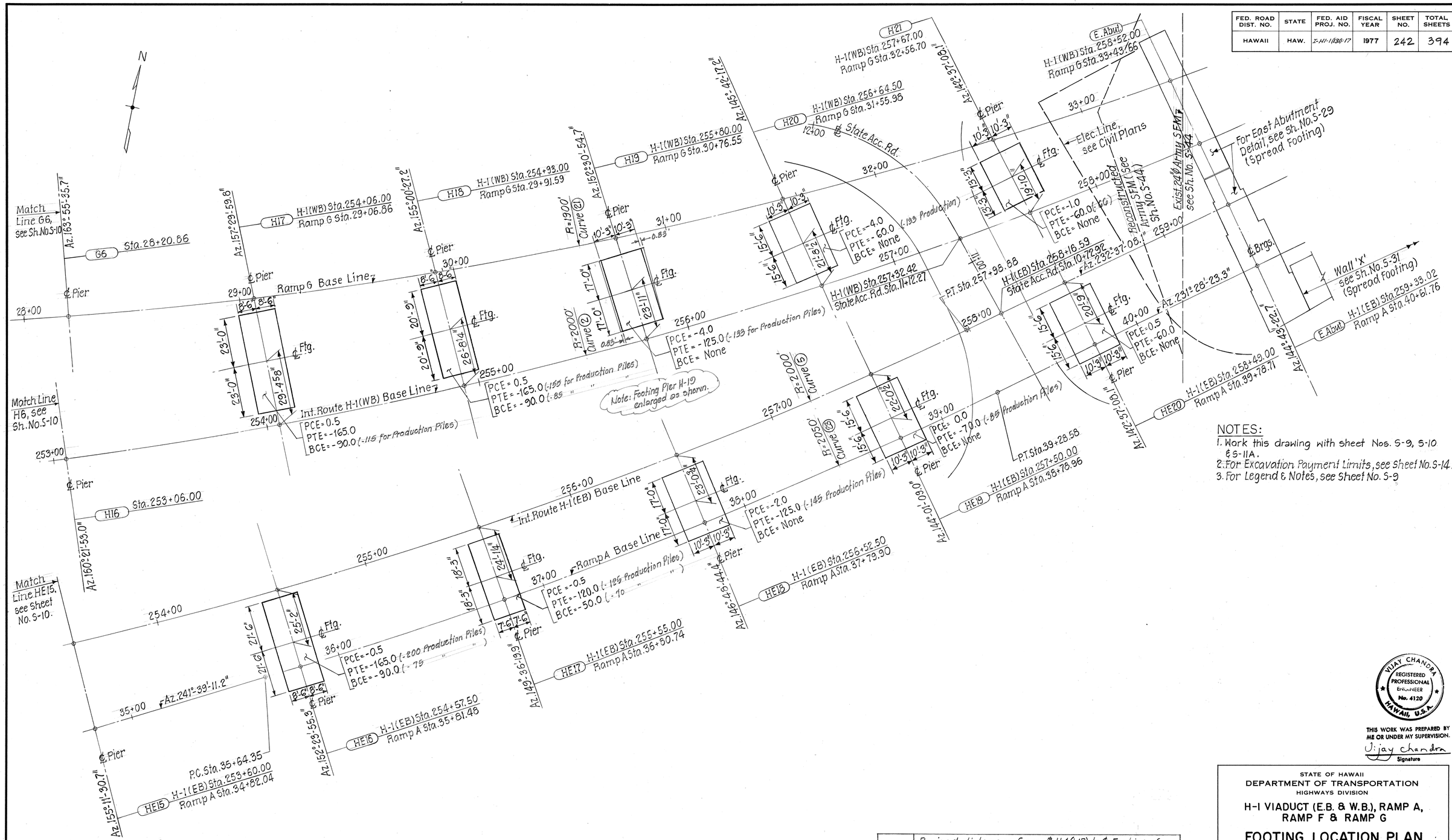
Vijay Chandra
Signature

SHEET NO. S-10 OF S-94 SHEETS

C.O. 241

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(30)17	1977	242	394



NOTES:
1. Work this drawing with sheet Nos. S-9, S-10 & S-11A.
2. For Excavation Payment Limits, see Sheet No. S-14.
3. For Legend & Notes, see Sheet No. S-9

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE AUG.'77
	DRAWN BY PATRICIA MALKIN	AUG.'77
NOTE BOOK	TRACED BY	AUG.'77
	DESIGNED BY	AUG.'77
No.	QUANTITIES BY	AUG.'77
	CHECKED BY D. GILSTAD	AUG.'77

DATE	REVISIONS
12-18-78	Revised distances from ℄ H-1(WB) to ℄ Footing of Piers H 20 & H 21. Revised Footing size of Pier H 21.
7/21/78	Revised footing sizes, pile elevations and Note 1. Deleted Footing Types and Table. See Sheet No. C.O. 242 S-1 for footing types

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Vijay Chandra
Signature

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

H-1 VIADUCT (E.B. & W.B.), RAMP A, RAMP F & RAMP G

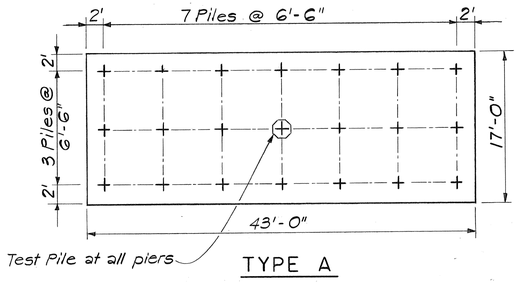
FOOTING LOCATION PLAN
SHEET 3 OF 3

KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1 (131):17
SCALE: 1"=20' DATE: AUG.31,'77

SHEET No.S-11 OF S-94 SHEETS

C.O. 242

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1((131):17	1977	242	394



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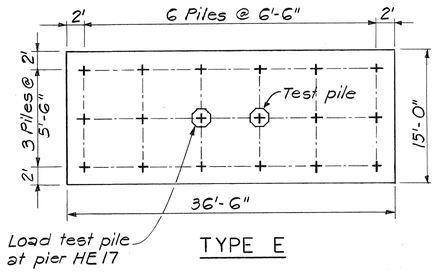

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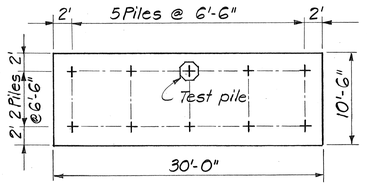

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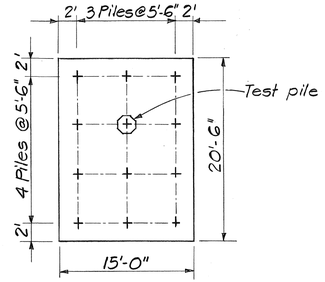

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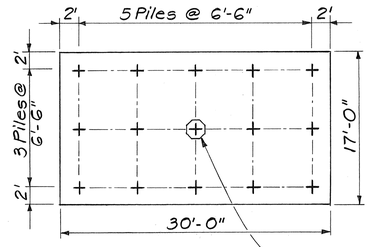

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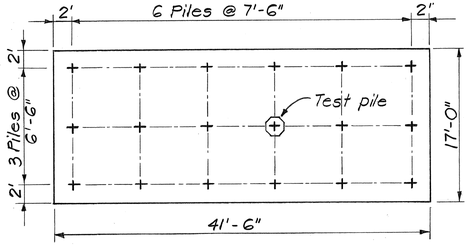

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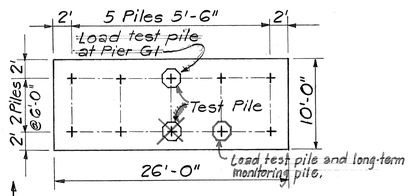

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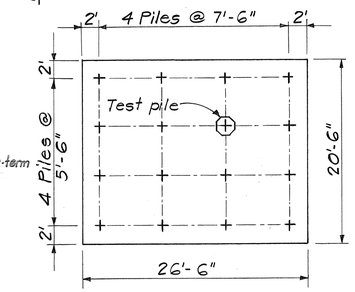

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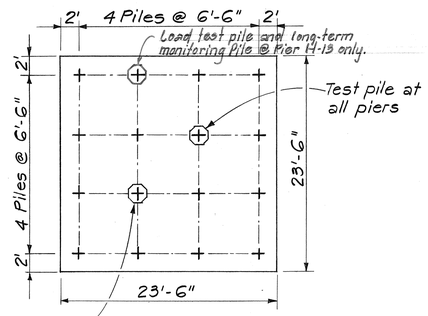

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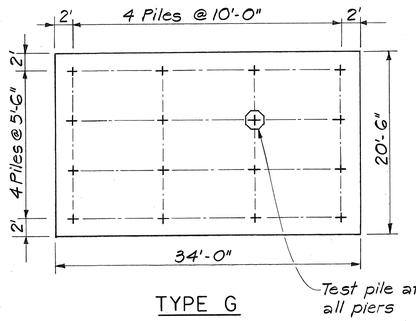

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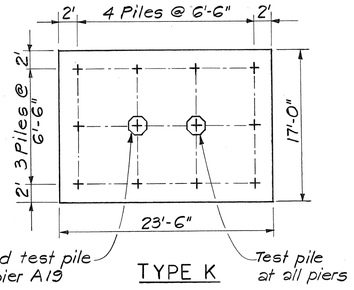

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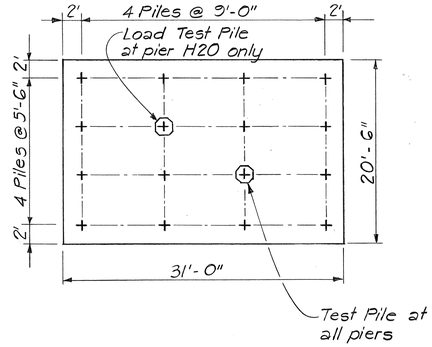
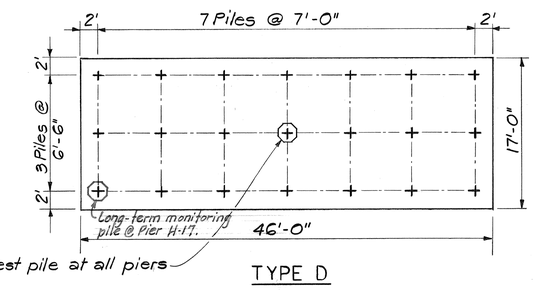


TYPE P



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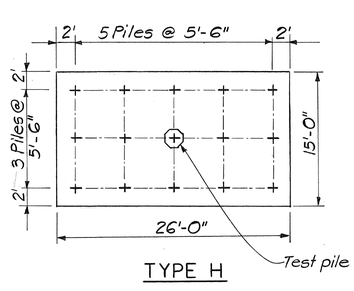
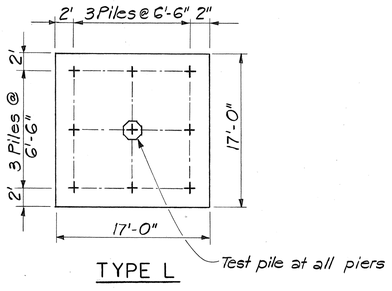


TYPE H



TYPE L

PIER TYPE II			
PIERS	FOOTING TYPE	THICKNESS OF FOOTING	NO OF PILES
H1, H2, HE 16	A	6'-0"	21
H17, HE 15	D	5'-6"	21
HE 17	E	6'-0"	18
H18	F	5'-0"	18
H19, HE 18	G	5'-0"	16
H21	N	5'-0"	16
H20, HE19, HE20	P	5'-0"	16

PIER TYPE I & III			
PIERS	FOOTING TYPE	THICKNESS OF FOOTING	No. OF PILES
H3, H4, H5, H8, F2	B	6'-0"	15
H6, H7, H13 Thru H16, HE13, HE14	C	5'-6"	16
H11, H12	H	6'-6"	15
F1	I	6'-0"	10
G1	J	5'-6"	10
G6, A18, A19	K	5'-0"	12
G2 Thru G5	L	5'-6"	9
F5	M	5'-6"	12

NOTES :

1. Work this drawing with sheet Nos. S-9 thru S-11.
2. Design Pile Load = 145 Tons for Piers H19, H20, H21, HE 18, HE19 and HE 20.
3. Design Pile Load = 130 Tons for Piers H9, H10, H11 and HE 17.
4. Design Pile Load = 90 Tons for Pier G1.
5. Design Pile Load for other piers is 115 Tons.
6. All piles on pier footings are Pile Type A.

DATE	REVISIONS
12/18/78	Revised Footing Size of Type N.
7/21/78	Sheet added to Contract plan set for Footing Types and Tables required on sheets No. C.O. 240 thru C.O. 242

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

H-1 VIADUCT (E.B. & W.B.), RAMP A, RAMP F & RAMP G

FOOTING LOCATION PLAN

SHEET 3 OF 3

KEEHI INTERCHANGE
F. A. I. PROJECT NO. I-HI-1 (131):17
SCALE : 1/8" = 1'-0" DATE : July 21, 78

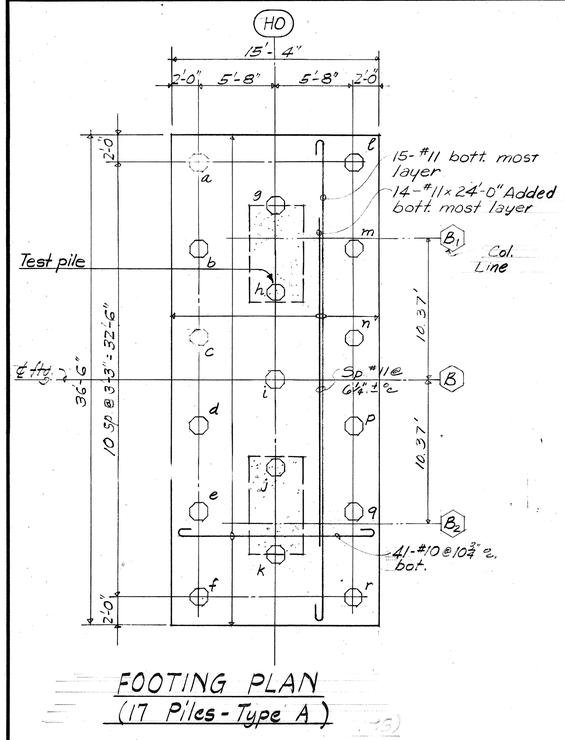
HUI PANG CHEN
REGISTERED PROFESSIONAL ENGINEER
No. 3865
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
Hui pang Chen

SHEET NO. S-11A OF S-94 SHEETS

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

C.O. 242 S-1



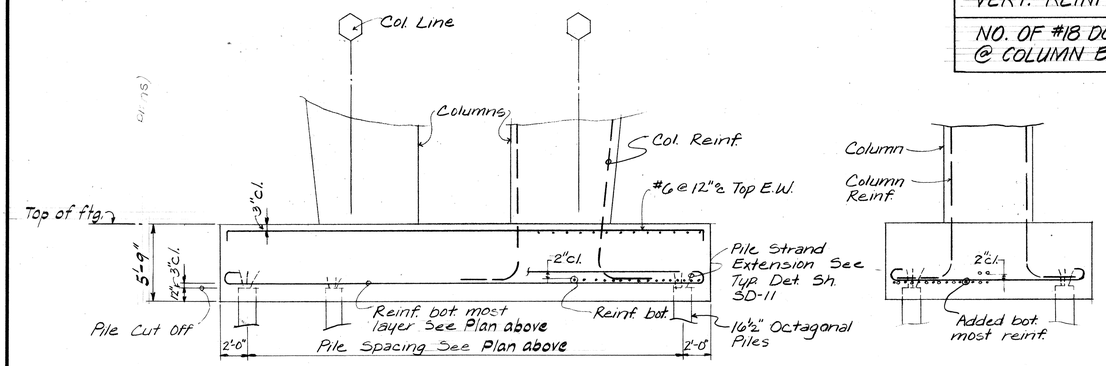
FOOTING PLAN
(17 Piles - Type A)

NOTES:

1. Design loads for Pile Type A = 115 Tons.
2. ~~Spacings of top & bottom reinf. of pile footing shall be rearranged to avoid conflict with 5"ϕ corr. plastic pipe & pile.~~

~~PIER~~ H0 PILE CUT-OFF ELEVATIONS

Piles	a	b	c	d	e	f	g	h	i	j	k	l	m	n	p	q	r
Pile Cut off Elev.	~~+7.5~~	-2.25	+7.5	-2.25	-2.25	-2.25	-2.25	-2.25	+7.5	-2.25	-2.25	-2.25	-2.25	-2.25	~~-2.25~~	-2.25	-2.25



FOOTING SECTIONS
No Scale

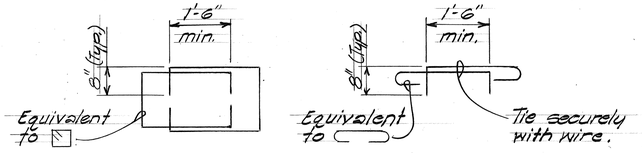
PIER FRAME COLUMN REINFORCING SCHEDULE

PIER	H0	
COLUMN	B1	B	B2
℄ Reference Top of Pier Cap			
℄ Reference Top of Column			
COLUMN VERT. REINF. & TIE SPACING	18-#18 (5'F" bars & 13'9" bars) Bal. @ 12" (#5 tie spacing) 6@6", 6@4", 2" 8-#18 added dowels 8'-0" 2" 6@4", 6@6"	Same as Column H0 B1	
Reference Top of Footing			
TOTAL NO. OF #18 VERT. REINF.	18	18	
NO. OF #18 DOWELS @ COLUMN BASE	8	8	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(131):17	1980	242	

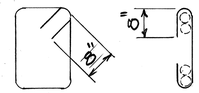
SPECIAL NOTE

At his option the Contractor may substitute non-continuous for continuous column ties. Continuous column ties are shown in the column sections. Non-continuous ties are as follows:



NOTES:

1. Exact location of bars shall be arranged so that no interference will occur between vertical column reinf., pier cap horizontal reinf. & deck drain assembly.
2. Materials: a) 28 day concrete compressive strength = 5,000 p.s.i.
   b) Column #18 bars & #5 ties - A.S.T.M. A-615, Grade 60.
3. In general, cut maximum 2 exterior vertical bars on exterior vertical face of column at deck drain downspout outlet at base of column where occurs.
4. All column ties shall be #5 bars. See column schedule for spacing.
5. Column tie details shall be as follows:



DATE	REVISIONS
2/29/80	Sheet added to contract plan set for Pier H0 only.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

H-1 VIADUCT (EB & WB) RAMP A, RAMP F & RAMP G

PIER H0 FOOTING DETAILS AND COLUMN REINFORCING SCHEDULE

KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1(131):17
Scale: As shown Date: 2/29/80

SHEET NO. S-118 OF S-94 SHEETS

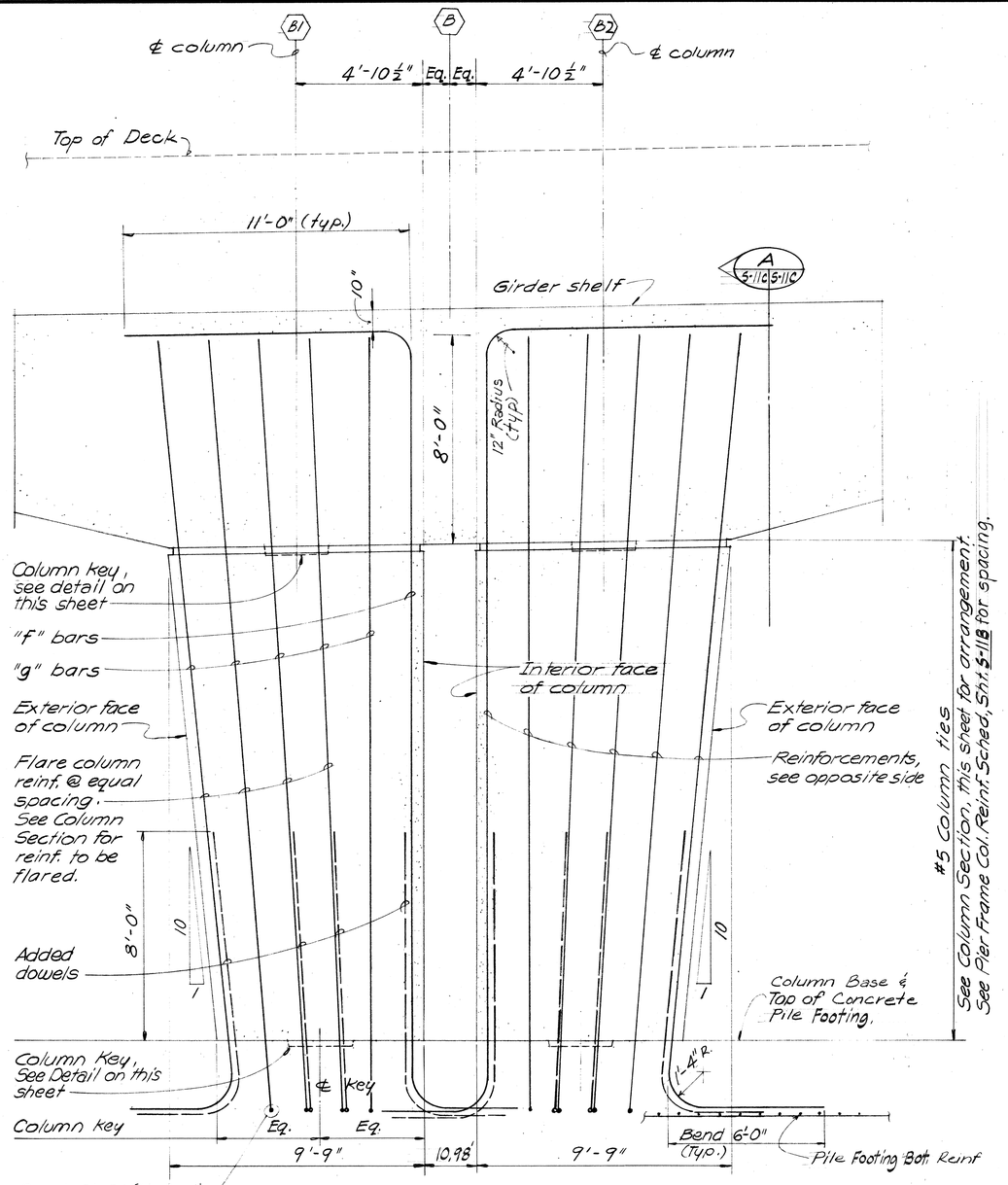
KEEHI INTERCHANGE AREA I & II CONSULTANTS
c/o Shimazu, Shimabukuro & Fukuda, Inc.
1210 Ward Ave. • Honolulu, Hawaii 96814

REUBEN Y. F. TYAU
REGISTERED PROFESSIONAL ENGINEER
No. 868
HAWAII, U.S.A.

This work was prepared by me or under my supervision.

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

C.O. 242 S-2



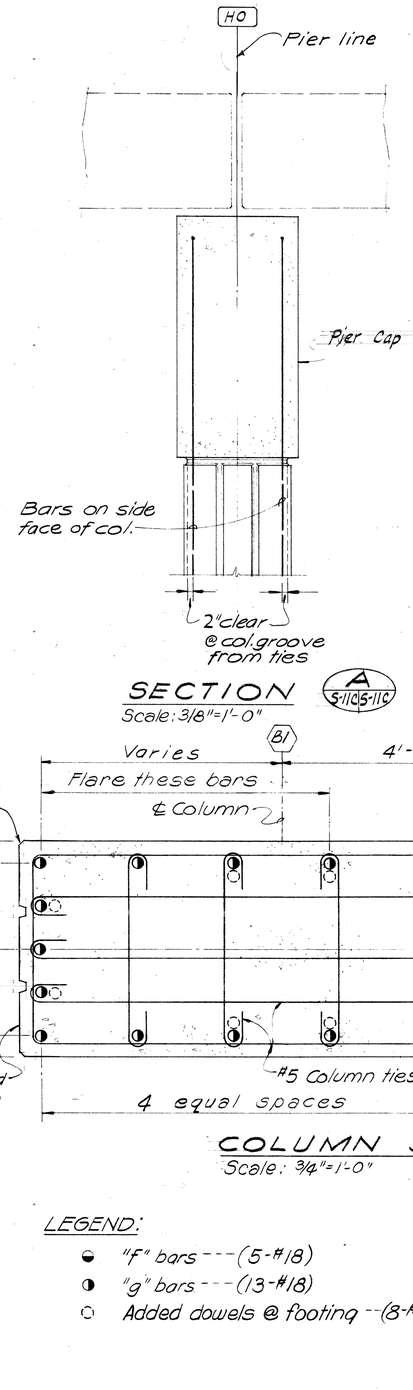
COLUMN ELEVATION

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

NOTE!
See Sht. S-118 for Special Notes & Notes.

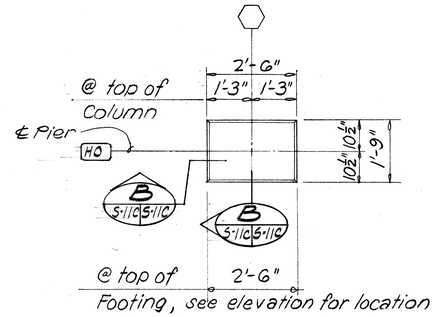
LEGEND:

- "f" bars ---(5-#18)
- "g" bars ---(13-#18)
- Added dowels @ footing --(8-#18)



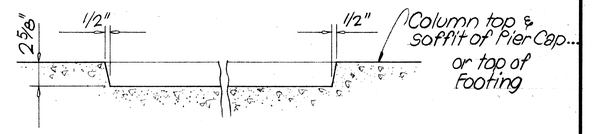
SECTION A S-11C S-11C

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



PLAN

1/2"=1'-0"

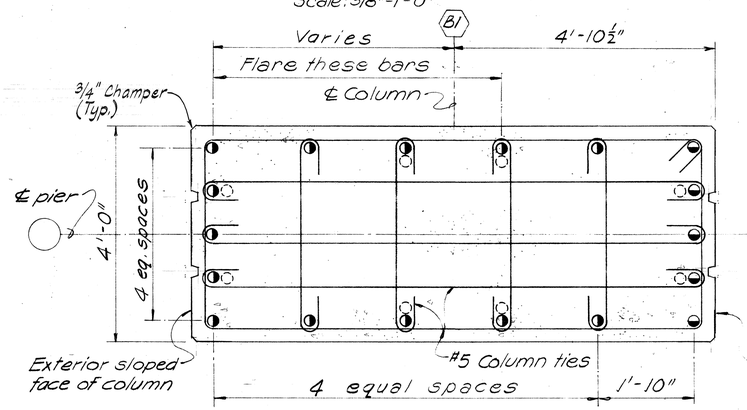


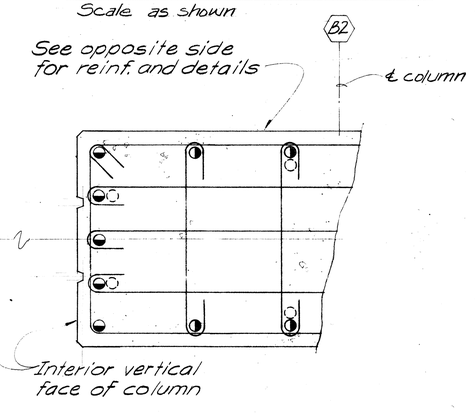
SECTION B S-11C S-11C

1½"=1'-0"

COLUMN KEY DETAIL

Scale as shown





COLUMN SECTION - 18 #18

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

PIER H0 COLUMN REINFORCING DETAIL

Scale as shown

DATE	REVISION
2/29/80	Sheet added to contract plan set for Pier H0 only.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

H-1 VIADUCT (EB & WB) RAMP A, RAMP F & RAMP G
PIER H0 COLUMN REINFORCING DETAILS

KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1(131):17

Scale: As shown Date: 2/29/80

SHEET No S-11C OF S-94 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(31):17	1980	242	

KEEHI INTERCHANGE AREA I & II CONSULTANTS
c/o Shimazu Shimadoteru & Funada, Inc.
1210 Ward Ave. · Honolulu, Hawaii 96814

This work was prepared by me or under my supervision.

ORIGINAL PLAN

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

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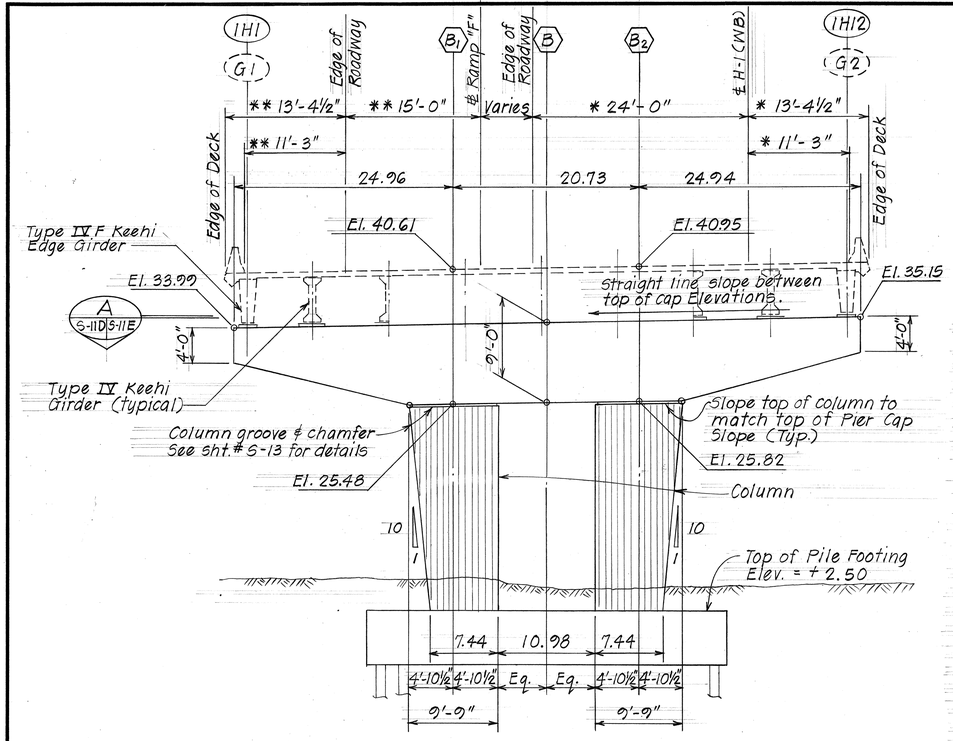
C.O. 242 S-3

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(131):17	1980	242	



PIER (HO) ELEVATION

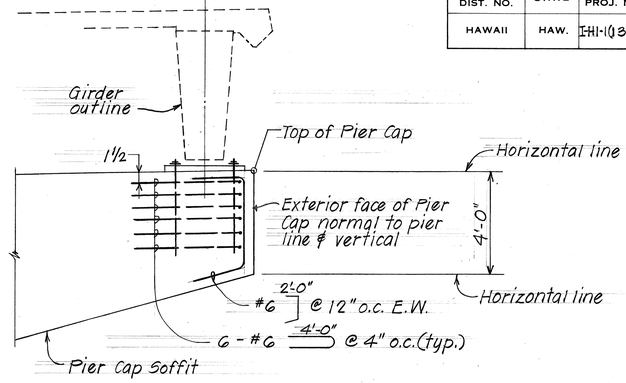
Scale : 1/8" = 1'-0"

NOTES:

1. All dimensions and elevations shown on this sheet are in feet.
2. All horizontal and vertical dimensions are measured along Pier Line (HO).
* Denotes dimensions are perpendicular to ℄ H-1 (W.B.).
** Denotes dimensions are perpendicular to ℄ Ramp "F".

TYPICAL PIER CAP CONSTRUCTION NOTES

1. All formwork supports for pier cap (HO) shall be supported by pile caps supporting viaduct columns only. In no instance shall formwork supports be carried to mudsill, etc. on grade.
2. All costs for formwork supports spanning between pile footing and in cantilever conditions shall be incidental to concrete cost.
3. Formwork for pier cap shall be removed before prestressed girders can be placed on them.



TYPICAL PIER CAP END REINFORCEMENT

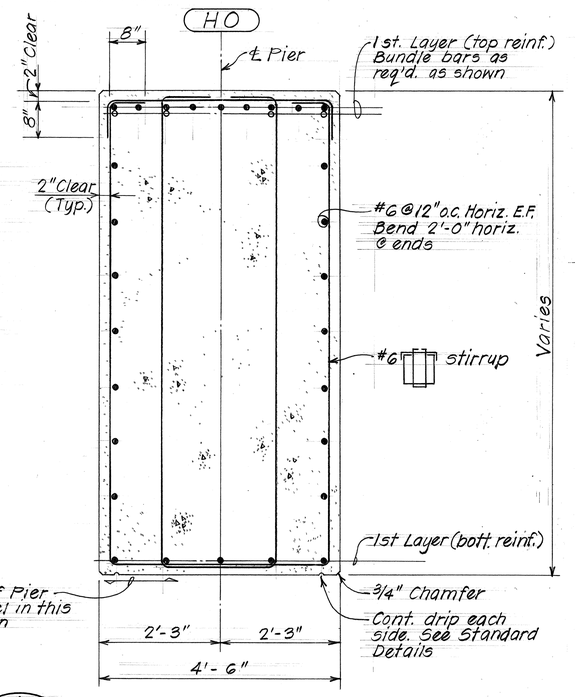
Scale : 3/8" = 1'-0"

SYMBOLS

●-Denotes continuous bars
○-Denotes added bars

REINFORCING NOTES

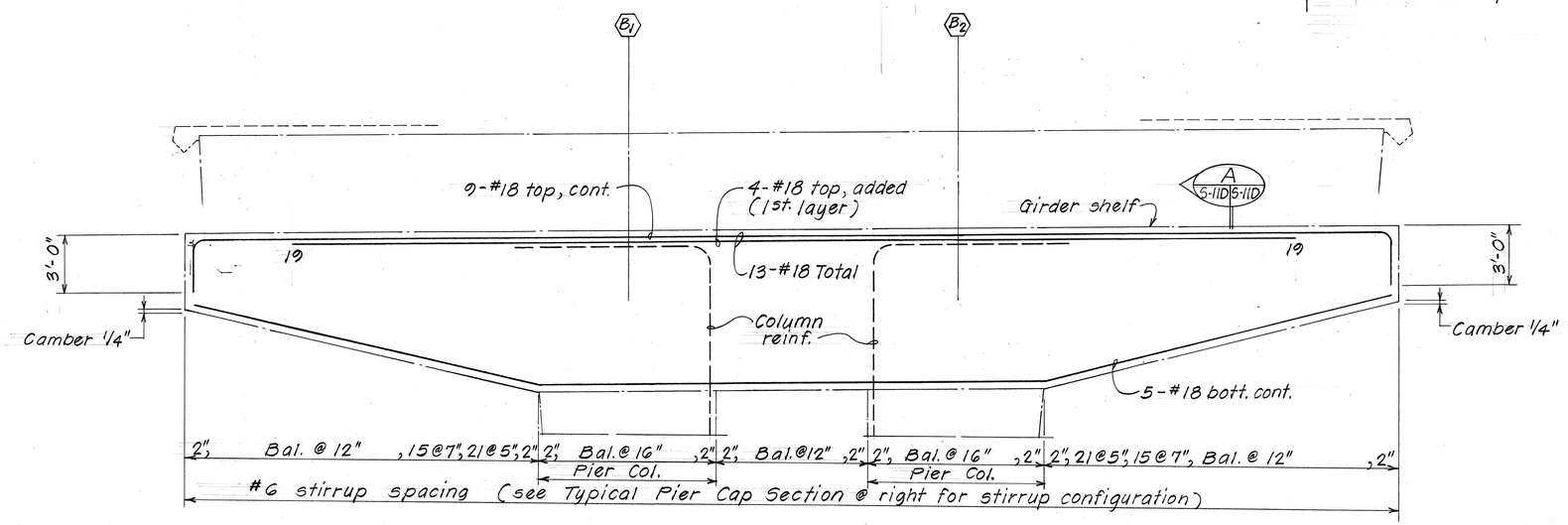
1. Numbers at ends of bars indicate distance in feet. Top bars measured from column line alphabet (B1) or (B2) ℄ bottom bars from ℄ span.
2. Bend #18 bars with 12 inch radius (min.).
3. Allowable splices:
   #9 bars = 4'-0" lap (Stagger 4'-0" o.c.)
   #18 bars = Full butt weld (Not more than 25% shall be spliced at any one point. Stagger splices 4'-0" o.c.)



A 5-11D 5-11D

PIER CAP SECTION

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



PIER (HO) CAP REINFORCING

DATE	REVISIONS
2/20/80	Sheet added to contract plan set for Pier (HO) only.

KEEHI INTERCHANGE AREA I & II CONSULTANTS
Shinsuburo & Fukuda, Inc.
[illegible] Ave., Honolulu, Hawaii 96814

REUBEN Y. F. TYAU
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No. 868
HAWAII, U.S.A.

This work was prepared by me or under my supervision.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

H-1 VIADUCT (E.B. & W.B.), RAMP A, RAMP F & RAMP G
PIER (HO)
PIER ELEVATION & PIER CAP DETAILS
KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1(131):17

Scale: As shown Date: 2/20/80

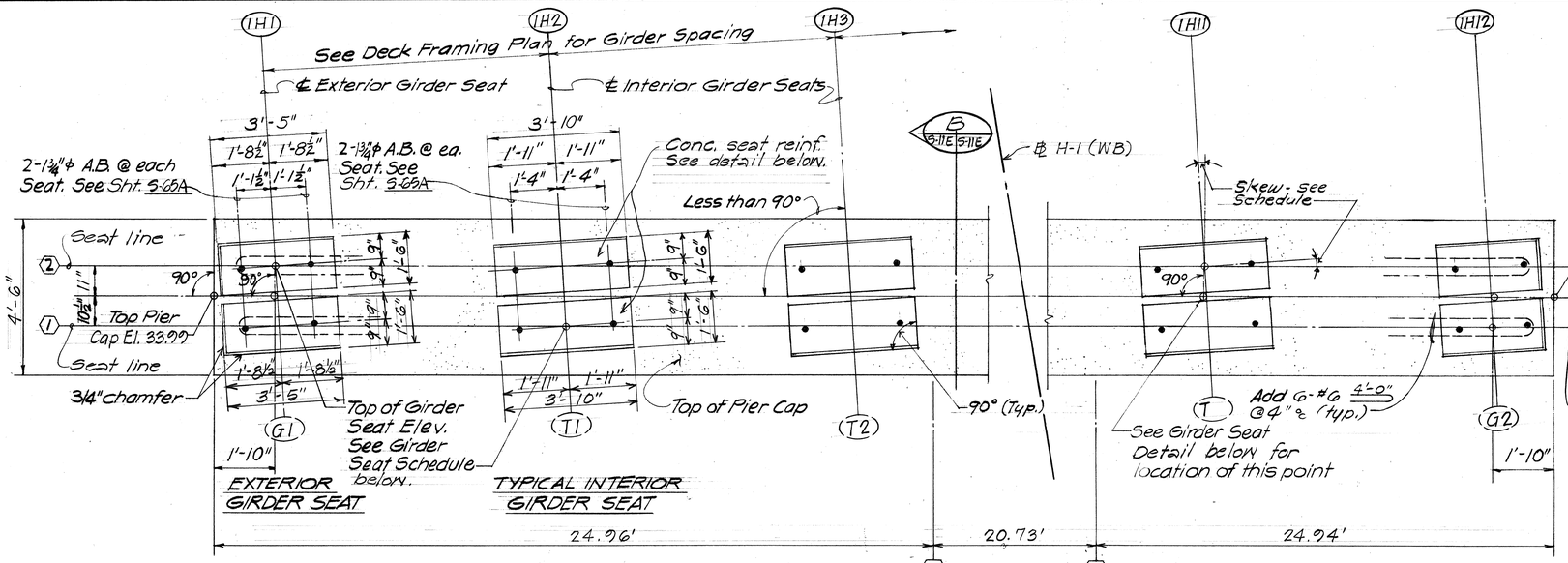
SHEET NO. 5-11D OF 5-04 SHEETS

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

PRINTED ON NO. 1000H CLEARPRINT

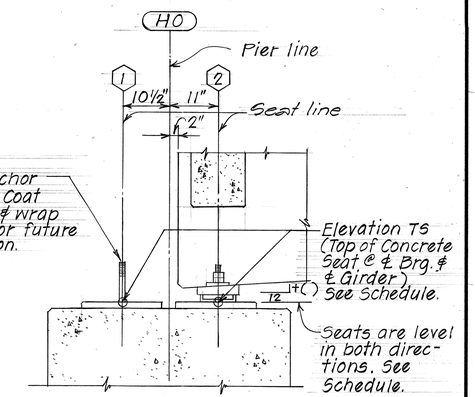
C.O. 242 S-4

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(30):17	1980	242	



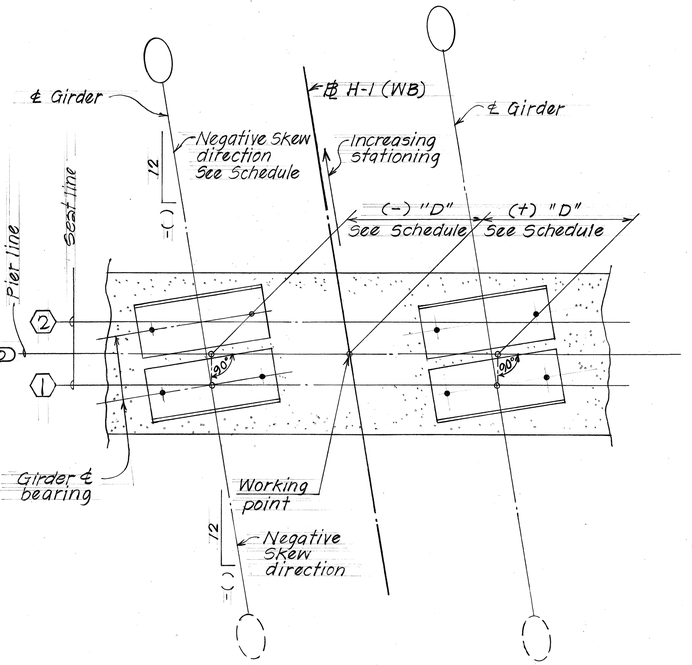
A S-11D S-11E PARTIAL PIER CAP PLAN @ PIER H0

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



B S-11E S-11E SECTION

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



DETAIL ~ GIRDER SEAT LOCATION & SKEW DIRECTION

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

PIER CAP CONCRETE GIRDER SEAT LOCATIONS, ELEVATIONS, SKEWS & BEVELS SCHEDULE

PIER LINE	H-1 VIADUCT WESTBOUND											
BEARING	①				H0		②					
GIRDER	"D"	TS	SKEW	BEVEL	BEARING ℄ BEVEL	GIRDER	"D"	TS	SKEW	BEVEL	BEARING ℄ BEVEL SEE S-69A
G 1	-55.81	34.17	-1 3/16 :12	0:12		1H1	-55.90	34.18	-1 3/16 :12	0:12	+1/16:12
T 1	-48.51	34.33	-15/16 :12			1H2	-49.84	34.30	-1 3/16 :12		
T 2	-40.01	34.50				1H3	-43.78	34.42	-1 1/8 :12		
T 3	-31.51	34.68				1H4	-37.72	34.54			
T 4	-23.01	34.80				1H5	-31.66	34.66			
T 5	-14.51	34.93				1H6	-25.60	34.78	-1 1/16 :12		
T 6	-6.01	35.05				1H7	-10.55	34.86			
T 7	2.49	35.18			Future: by others	1H8	-13.49	34.95			
T 8						1H9	-7.43	35.04	-1:12		
T 9						1H10	-1.37	35.12	-1:12		
T 10						1H11	4.69	35.21	-15/16 :12		
G 2	10.99	35.30	-15/16 :12	0:12	Future: by others	1H12	10.75	35.30	-15/16 :12		+1/16:12

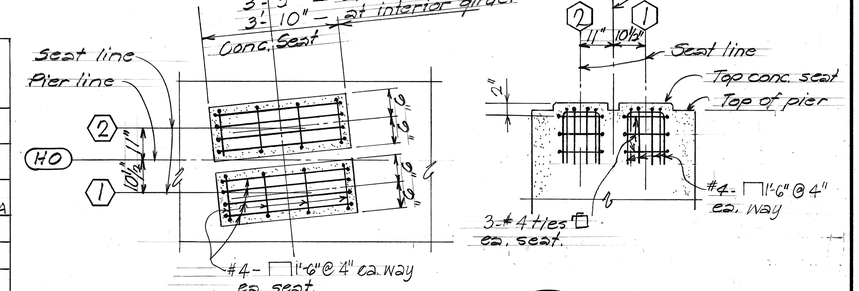
LEGEND:

"D" = Distance from ℄ to the point projected from the intersection of the seat line with girder ℄ bearing. (Measured along pier line in feet.)

TS = Top of Seat Elevation. (Intersection of ℄ girder & seat line.)

Skew = Seat skew

Bevel = Seat bevel



PLAN C S-11E S-11E SECTION

TYPICAL CONCRETE SEAT DETAILS

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

Date	REVISION
2/29/80	Sheet added to contract plan set for Pier H0 only.

KEEHI INTERCHANGE AREA I & II CONSULTANTS
c/o Belt Collins, Group 70 & Fukuda, Inc.
1210 Ward Ave., Honolulu, Hawaii 96814

This work was prepared by me or under my supervision.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

H-1 VIADUCT (EB & WB) RAMP A, RAMP F & RAMP G
PIER H0
PIER CAP PLAN & SCHEDULE
KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1 (131):17

Scale: As shown Date: 2/29/80

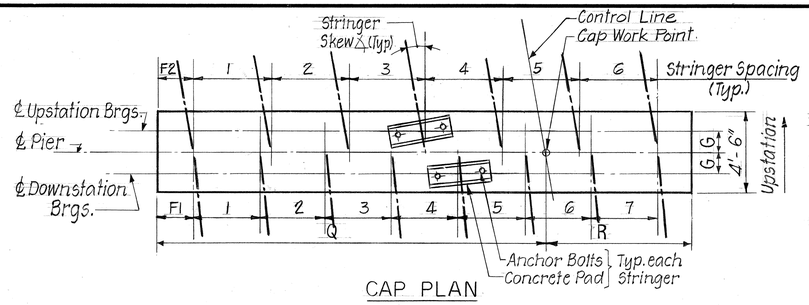
SHEET NO S-11E OF S-94 SHEETS

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

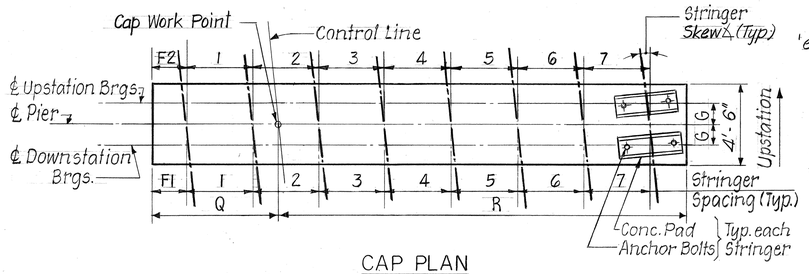
PRINTED ON NO. 1000H CLEARPRINT

CO 242 S-5

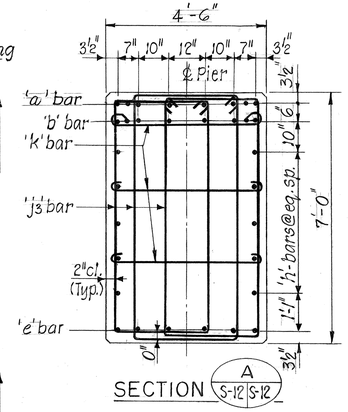
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(131)-17	1977	243	394



CAP PLAN

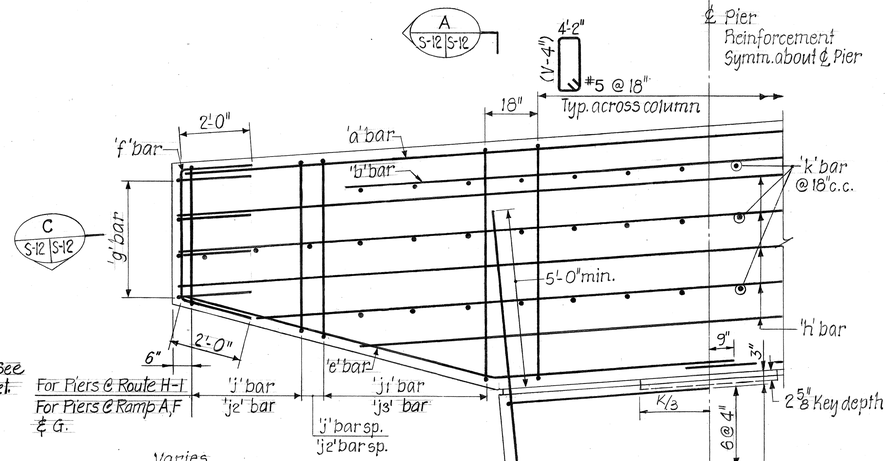


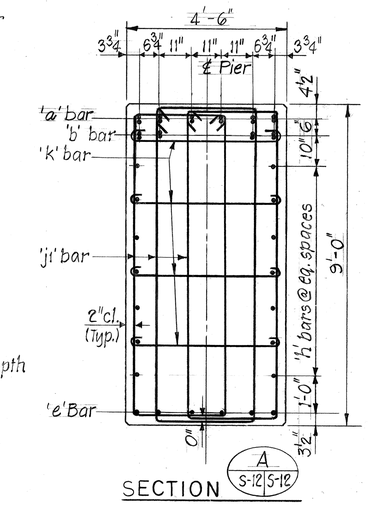
CAP PLAN



SECTION A S-12 | S-12

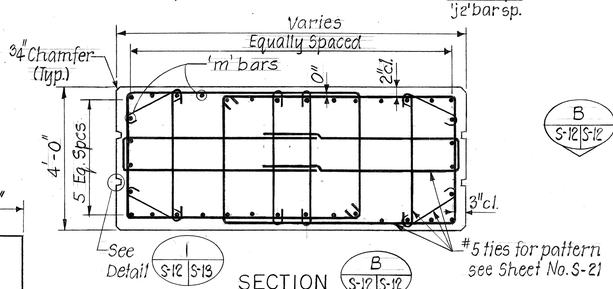
Note: Typ. for all Piers at Ramp A, F & G See Pier Cap Top Detail for Pier F2 this Sheet.



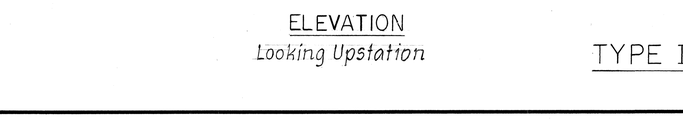


SECTION A S-12 | S-12

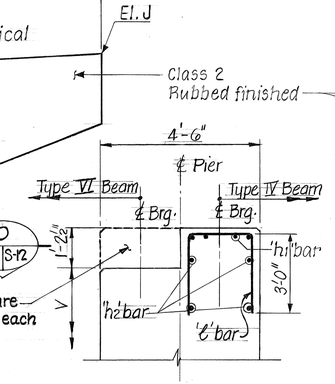
Note: Typ. for Piers at Route H-1 (EB & WB) see Pier Cap Top Detail for Piers H8 & H11 this sheet.

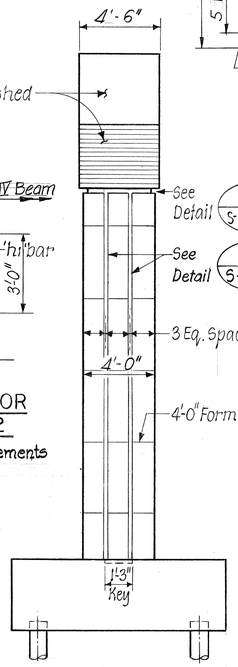


SECTION B S-12 | S-12

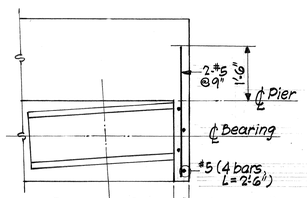


ELEVATION
Looking Upstation

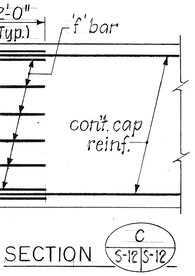




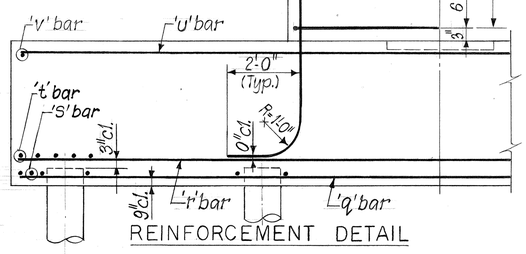
END VIEW



SECTION D S-12 | S-12
Scale ½"=1'-0"



SECTION C S-12 | S-12



REINFORCEMENT DETAIL

NOTES:
1. For Footing & Pedestal of Piers F1, F2, H3, H4 & H5, see Sheet No. S-14.
2. Concrete

	Columns & Caps	Footings
Ult. Strength (28 days) f'_c	4000 psi	3000 psi
Extr. Fiber in Compression	1600 psi	1200 psi

3. Reinforcement Steel, see Schedules Shs. No. S-20 & S-21.
4. Pier geometry, see tables Shs. No. S-15 thru S-19.
5. For Concrete Pad and Anchor Bolt details, see Sheet No. S-33.
6. For footing details, see Sheets No. S-9 thru S-11A.

VIJAY CHANDRA
REGISTERED PROFESSIONAL ENGINEER
No. 4120
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
Vijay Chandra
Signature

TYPE I PIER

ORIGINAL PLAN	SURVEY PLOTTED BY: THOMAS MALKIN	DATE AUG. '77
	DRAWN BY: PATRICIA MALKIN	AUG. '77
NOTE BOOK	TRACED BY:	
	DESIGNED BY: H. SAXER	AUG. '77
	QUANTITIES BY:	
No.	CHECKED BY: D. GILSTAD	AUG. '77

DATE	REVISIONS
7/21/78	Revised Note No. 6

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

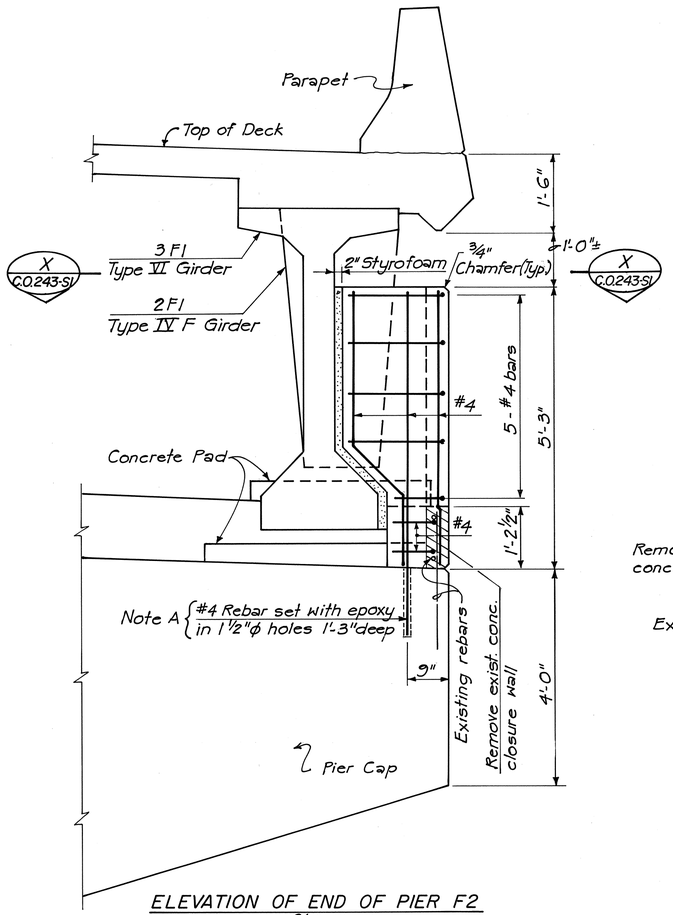
H-1 VIADUCT (E.B. & W.B.), RAMP A, RAMP F & RAMP G

DETAILS OF TYPE I PIER

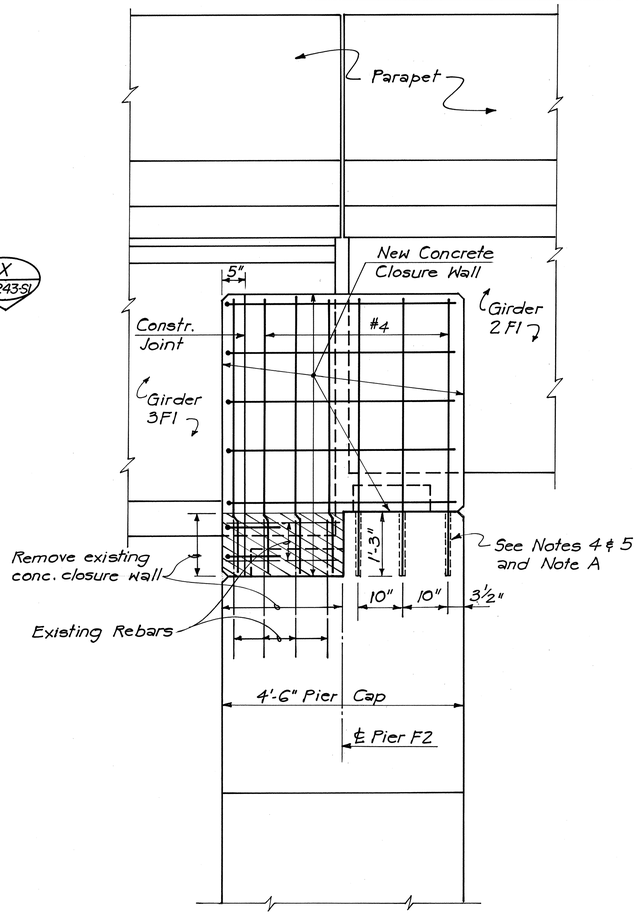
KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1 (131):17
SCALE: N.T.S. DATE: AUG. 31, '77
SHEET NO. S-12 OF S-94 SHEETS

C.O. 243

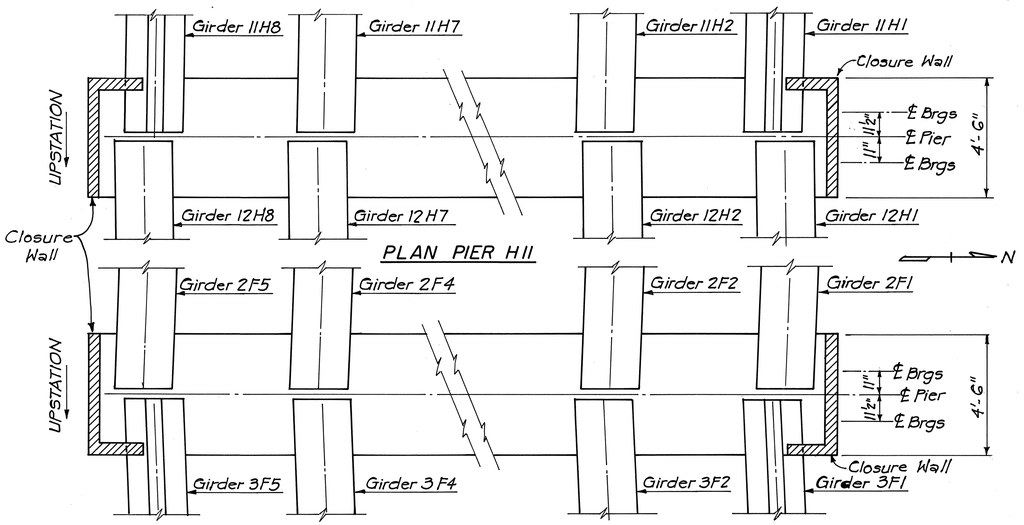
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(131):17	1977	243-SI	394



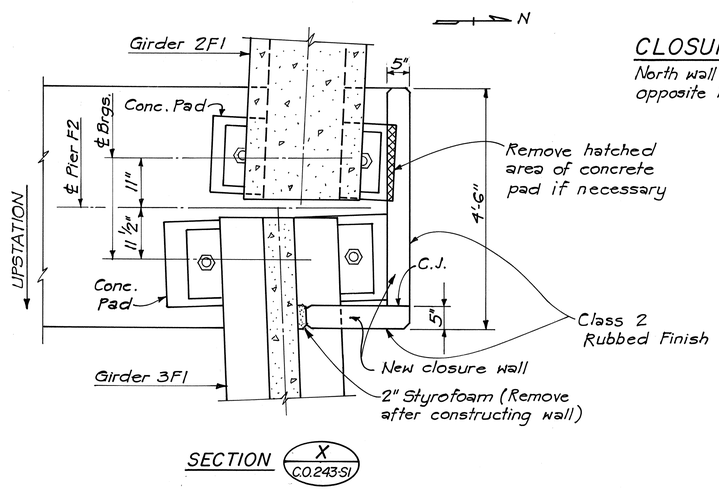
ELEVATION OF END OF PIER F2
Scale: 3/4" = 1'-0"



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



PLAN PIER F2
Scale: 3/8" = 1'-0"



SECTION X C.O.243-SI

CLOSURE WALL DETAILS

North wall of Pier F2 shown, South wall of Pier F2 opposite hand. Walls on Pier H11 are similar.

NOTES

1. Concrete in closure wall shall be Class A, fc' = 3000 psi
2. Reinforcing steel shall be Grade 40.
3. Apply Epoxy Bonding Compond to contact area between closure wall and existing concrete.
4. The holes to receive dowels shall be clean, dry and not oily prior to application of epoxy.
5. The strength of the epoxy shall be equal to or greater than that of the closure wall concrete. The epoxy shall be non-shrink.

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

JOHN P. JOHNSON REGISTERED PROFESSIONAL ENGINEER No. 3647 HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

John P. Johnson

DATE	REVISION
6-19-81	New sheet added for Concrete Closure Walls.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

H-1 VIADUCT (EB & WB), RAMP A
RAMP F & RAMP G

CLOSURE WALL DETAILS
PIER F2 & PIER H11

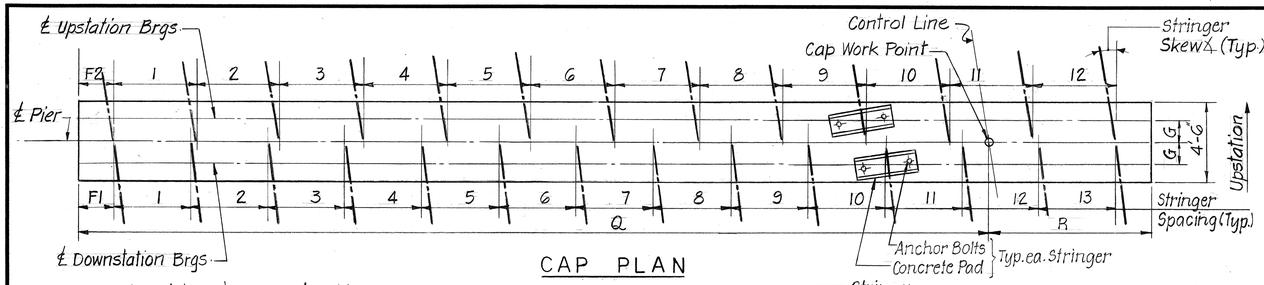
KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1 (131):17

SCALE: AS SHOWN DATE: JUNE 19, 1981

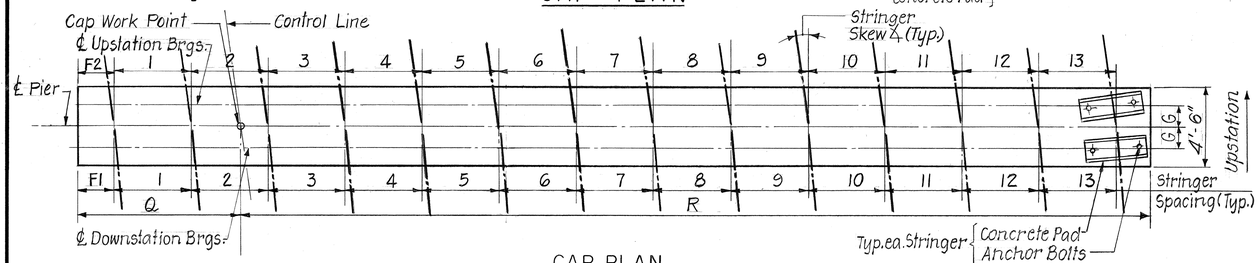
SHEET No. OF SHEETS

C.O. 243-SI

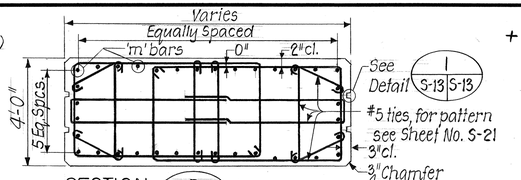
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(131):17	1977	244	394



CAP PLAN

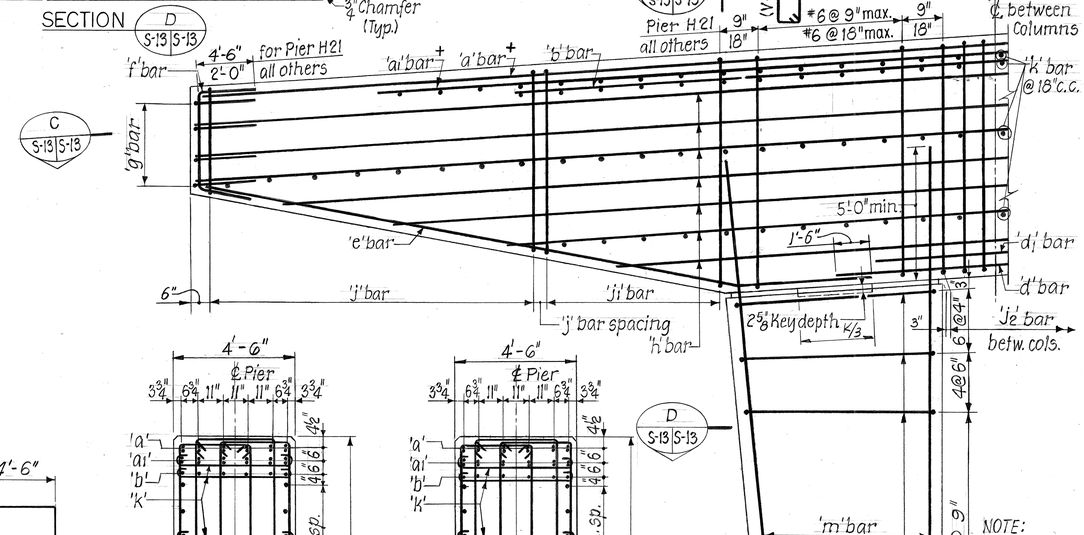


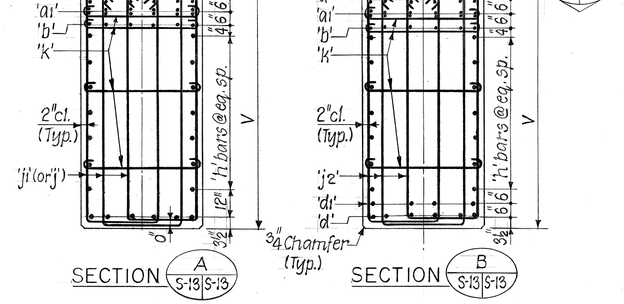
CAP PLAN

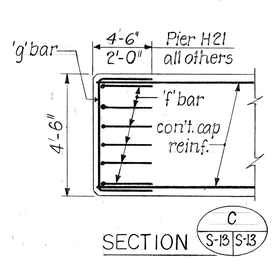


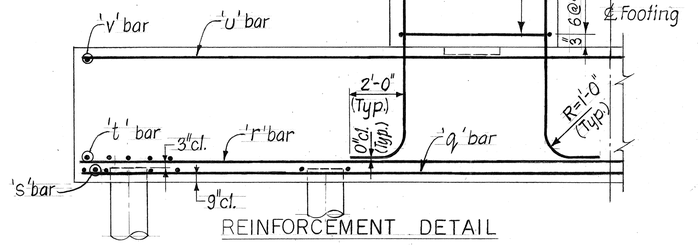
SECTION D S-13 | S-13

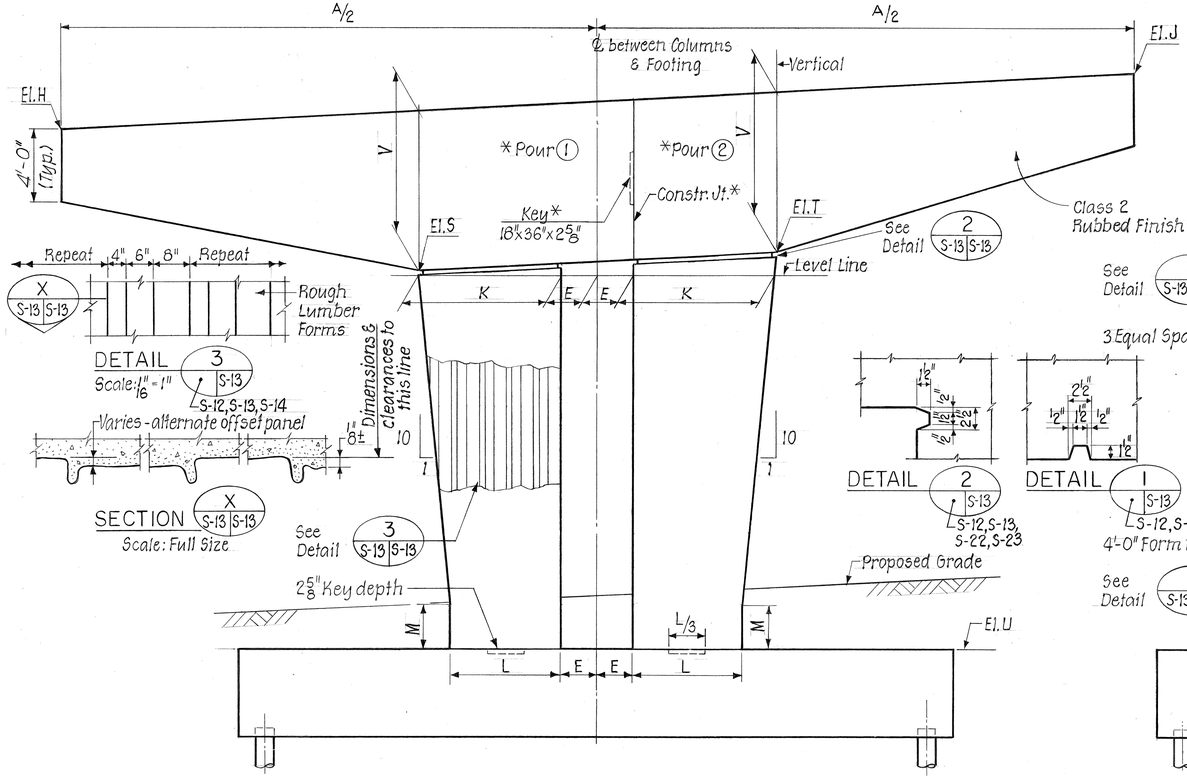
+ 'a' & 'a1' bars greater than 60' in length shall be spliced by welding as per standard specifications.



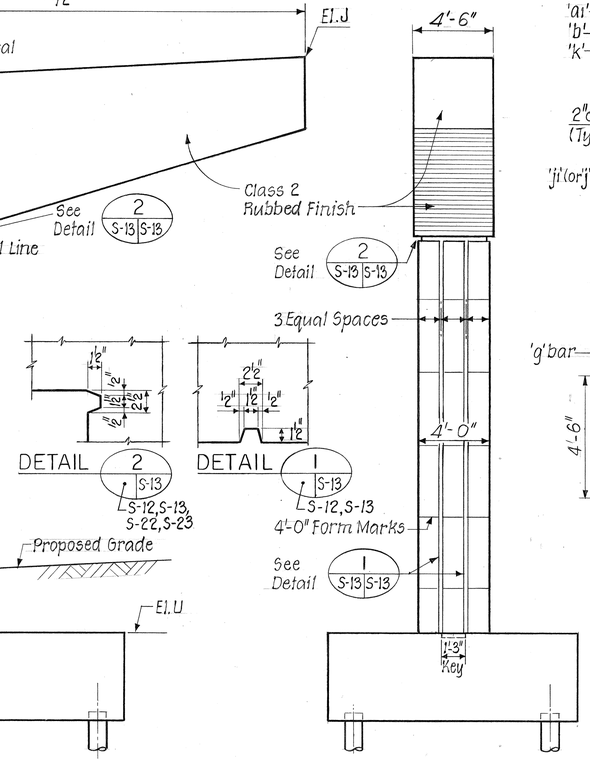








ELEVATION
Looking Upstation



END VIEW

TYPE II PIER

* For Piers H17, H18 & H19 cap shall be poured in two stages as shown. Pour 2 shall be made at least 30 days after pour 1.

For Notes, see Sheet No. S-12

ORIGINAL PLAN
SURVEY PLOTTED BY
DRAWN BY PATRICIA WALKIN DATE AUG.'77
TRACED BY
NOTE BOOK DESIGNED BY H. SAXER DATE AUG.'77
No. QUANTITIES BY
CHECKED BY D. GILSTAD DATE AUG.'77

VIJAY CHANDRA
REGISTERED PROFESSIONAL ENGINEER
No. 4120
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
Vijay chandra
Signature

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

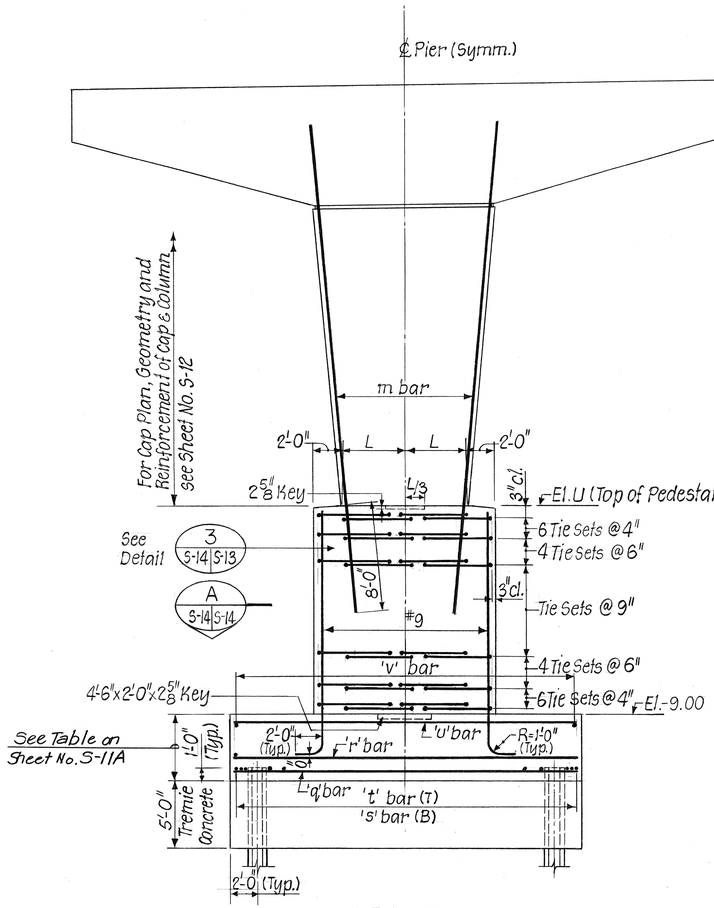
H-1 VIADUCT (E.B. & W.B.), RAMP A, RAMP F & RAMP G

DETAILS OF TYPE II PIER

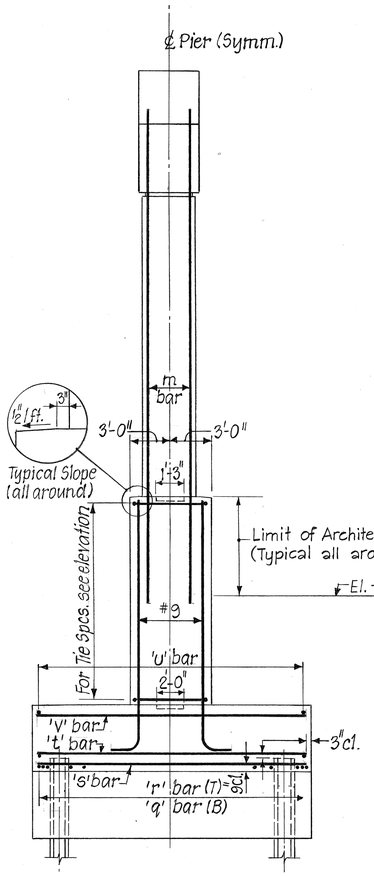
KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1 (131):17
SCALE: N.T.S. DATE: AUG. 31, '77

SHEET NO. S-13 OF S-94 SHEETS

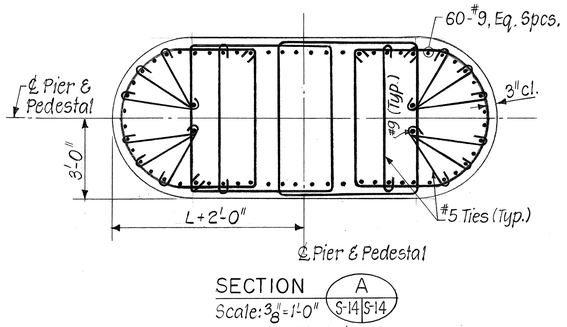
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1((31)):17	1977	245	394



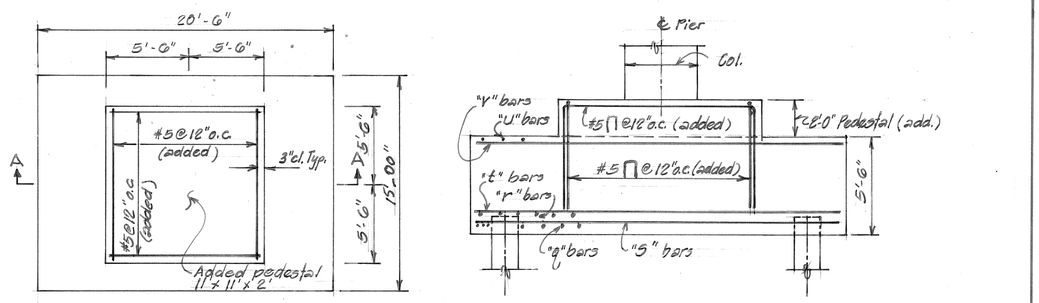
ELEVATION
Looking Upstation
N.T.S.



END VIEW
N.T.S.



SECTION A
Scale: 3/8"=1'-0"
S-14 S-14
Typical Tie Set



PLAN

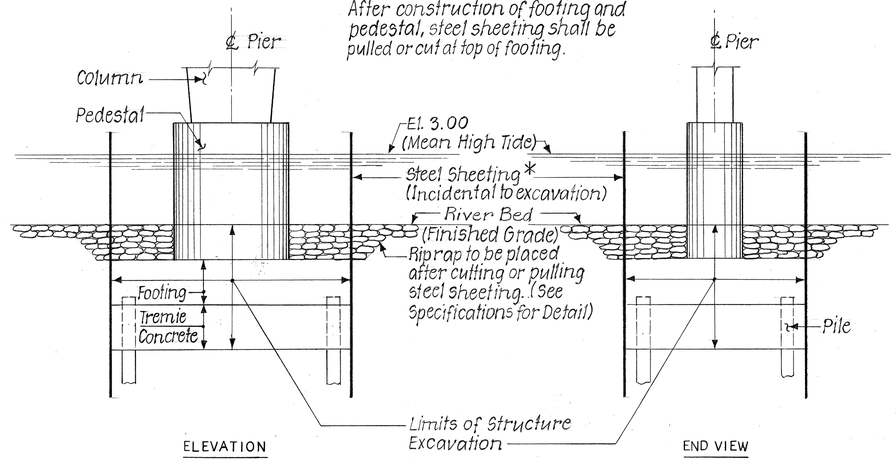
Note: Rebars "q", "r", "s", "t", "u", & "V" remain unchanged.

SECTION A-A

NOTE:
This tracing prepared during "As-Built" posting.

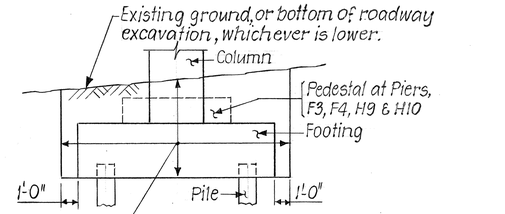
PIER F5 ADDED PEDESTAL DETAIL
N.T.S.

* After construction of footing and pedestal, steel sheeting shall be pulled or cut at top of footing.



ELEVATION — END VIEW

PAYMENT LIMITS
(Piers H3 thru H5, F1 & F2)
N.T.S.



PAYMENT LIMITS
(All Piers except H3 thru H5, F1 & F2)
N.T.S.

NOTES:
1. For Notes, see Sheet No. S-12.
2. For footing location plan & footing details, see Sheet No. S-9 and S-11A.

ORIGINAL PLAN		DATE
	SURVEY PLOTTED BY	
	DRAWN BY PATRICIA MALKIN	AUG.'77
	TRACED BY	
NOTE BOOK	DESIGNED BY Vijay Chandra	AUG.'77
	QUANTITIES BY	
No.	CHECKED BY LEON GILSTAD	AUG.'77

DATE	REVISIONS
7/21/78	Revised Note No.2 Revised footing size and footing reinforcements in Elevation.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

H-1 VIADUCT (E.B. & W.B.), RAMP A, RAMP F & RAMP G

DETAILS OF TYPE III PIER

KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1 (131):17
SCALE: AS SHOWN DATE: AUG. 31, '77

VIJAY CHANDRA
REGISTERED PROFESSIONAL ENGINEER
No. 4120
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
Vijay Chandra
Signature

SHEET No. S-14 OF S-94 SHEETS

C.O. 245

TABLE OF PIER DIMENSIONS AND ELEVATIONS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(131)17	1977	246	

PIER NAME			H1		H2		H3		H4		H5		H6		H7		H8		H11				
PIER TYPE			II		II		III		III		III		I		I		I		I				
WORK POINT STA. OF ℄ PIER			236+67.59		237+67.90		238+68.21		239+68.52		240+68.52		241+61.68		242+54.84		243+48.00		247+84.00				
SOUTH AZIMUTH OF ℄ PIER			189°-01'-23.0"		189°-01'-23.0"		189°-01'-23.0"		189°-01'-23.0"		184°-30'-45.7"		184°-30'-45.7"		184°-30'-45.7"		184°-30'-45.7		175°-19'-08.1"				
CAP	LENGTH OF CAP "A"		72'-8"		74'-9"		48'-0"		49'-9"		49'-7"		49'-7"		49'-7"		49'-7"		48'-11"				
	DIST ℄ BRGS. TO ℄ PIER "G"		11"		11"		11"		11"		11"		11"		11"		DN.STA.= 11" UP STA.= 11½"		DN.STA.=11½" UP STA.= 11"				
	DEPTH "V"	DIMENSION "E"	9'-0"	3'-4"	9'-6"	4'-4½"	9'-0"	~~12'-5⅛"~~	9'-0"	—	9'-0"	—	9'-0"	—	9'-0"	—	9'-0"	—	9'-0"	—			
	DIMENSION "F1"	DIMENSION "F2"	2'-0⅛"	2'-0⅛"	2'-0⅛"	2'-0⅛"	~~2'-0⅝"~~	2'-5⅛"	2'-0⅜"	2'-0⅜"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-5"	2'-5"	2'-0"				
	DISTANCE "Q"	DISTANCE "R"	59'-10"	12'-10"	61'-11"	12'-10"	35'-2"	12'-10"	36'-11"	12'-10"	36'-9½"	12'-9½"	36'-9½"	12'-9½"	36'-9½"	12'-9½"	36'-9½"	12'-9½"	36'-12"	12'-9½"				
	ELEVATION "H"	ELEVATION "J"	34.15	35.63	34.61	36.28	36.24	36.93	36.87	37.59	37.50	38.24	38.16	38.94	38.47	39.62	~~36.03~~ 37.40	~~37.63~~ 39.10	36.64	39.81				
COLUMN	TOP WIDTH "K"		13'-0"		13'-0"		6'-0"		6'-10½"		6'-9½"		6'-9½"		6'-9½"		~~6'-9½"~~ 6'-11½"		6'-5½"				
	BOTTOM WIDTH "L"		10'-8"		10'-11"		4'-1"		4'-10½"		4'-9"		4'-4½"		4'-4½"		4'-10½"		5'-0"				
	DIMENSION "M"	ELEVATION "U"	2'-3"	0.00	1'-9"	3.50	—	6.50(P)	—	6.50(P)	—	6.50(P)	1'-3"	4.00	1'-1"	5.00	1'-5"	7.00	1'-3"	13.00				
	ELEVATION "S"	ELEVATION "T"	25.56	26.23	25.56	26.34	27.50	27.67	28.13	28.33	28.77	28.97	29.44	29.65	29.88	30.19	~~27.60~~ 27.60	~~25.04~~ 25.04	28.81	29.65				
STRINGER SPACING DISTANCE MEASURED ALONG ℄ PIER	DOWN STA. 1	UP STA. 1	6'-2⅞"	Down Station	6'-5⅛"	Down Station	6'-2 11/16"	Same as in Down Station	6'-6 3/8"	Same as in Down Station	6'-6⅛"	Same as in Down Station	6'-6⅛"	Same as in Down Station	6'-6⅛"	Same as in Down Station	6'-6⅝"	Same as in Down Station	6'-3 9/16"	Same as in Down Station				
	DOWN STA. 2	UP STA. 2	6'-2⅞"		6'-5 3/16"		6'-2 11/16"		6'-6 3/8"		6'-6 3/16"		6'-6 3/16"		6'-6⅜"		6'-6⅞"		6'-3 9/16"				
	DOWN STA. 3	UP STA. 3	6'-2⅞"		6'-5 3/16"		6'-2 11/16"		6'-6 3/8"		6'-6⅛"		6'-6⅛"		6'-6⅝"		6'-6⅞"		6'-3 9/16"				
	DOWN STA. 4	UP STA. 4	6'-2⅞"		6'-5⅛"		6'-2 11/16"		6'-6 3/8"		6'-6⅛"		6'-6⅛"		6'-6⅝"		6'-6⅞"		6'-3⅜"				
	DOWN STA. 5	UP STA. 5	6'-2⅞"		6'-5 3/16"	7'-0 1/2"	6'-2 11/16"		6'-6 3/8"		6'-6⅛"		6'-6⅛"		6'-6⅝"		6'-6⅞"		6'-3 9/16"				
	DOWN STA. 6	UP STA. 6	6'-2⅞"		6'-5 3/16"	5'-4 13/16"	6'-2 11/16"		6'-6 3/8"		6'-6 3/16"		6'-6 3/16"		6'-6 3/16"		6'-6⅞"		6'-3 9/16"				
	DOWN STA. 7	UP STA. 7	6'-2⅞"		6'-5 3/16"	5'-4 13/16"	6'-2 11/16"		6'-6 3/8"		6'-6⅛"		6'-6⅛"		6'-6⅝"		6'-6⅞"		6'-3 9/16"				
	DOWN STA. 8	UP STA. 8	6'-2⅞"		6'-5⅛"	5'-4 13/16"	—		—		—		—		—		—		—				
	DOWN STA. 9	UP STA. 9	6'-2⅞"		6'-5 3/16"	5'-4 13/16"	—		—		—		—		—		—		—				
	DOWN STA. 10	UP STA. 10	6'-2⅞"		6'-5 3/16"	5'-4 13/16"	—		—		—		—		—		—		—				
	DOWN STA. 11	UP STA. 11	6'-2⅞"		6'-5⅛"	5'-4 13/16"	—		—		—		—		—		—		—				
	DOWN STA. 12	UP STA. 12	—		—	5'-4 13/16"	—		—		—		—		—		—		—				
	DOWN STA. 13	UP STA. 13	—		—		—		—		—		—		—		—		—				
	DOWN STA. 14	UP STA. 14	—		—		—		—		—		—		—		—		—				
DOWN STATION ℄ BRGS.	①	STRINGER	BRG. TYPE	1H 1	3H	2H1	3H	3H 1	2H	4H1	3H	5H1	3H	6H 1	3H	7H 1	3H	8H1	3H	11H1	1H			
		STR. SKEW X	PAD ELEV.	-1⅛"	34.54	-1⅛"	35.00	-1⅛"	36.62	-1 3/16"	37.24	0	37.87	0	38.51	0	38.86	0	39.14	+5/16"	37.26			
	②	STRINGER	BRG. TYPE	1H 2	2 H	2H2	2 H	3H 2	2H	4H2	2H	5H2	2H	6H2	2H	7H2	2H	8H2	2H	11H2	1H			
		STR. SKEW X	PAD ELEV.	- 1 3/16	34.73	-1⅜"	35.25	-1 9/16"	36.71	-1 3/16"	37.33	0	37.97	0	38.61	0	39.01	0	39.35	+5/16"	37.67			
	③	STRINGER	BRG. TYPE	1H 3	2H	2H3	2H	3H3	2H	4H3	2H	5H3	2H	6H3	2H	7H 3	2H	8H3	2H	11H3	1H			
		STR. SKEW X	PAD ELEV.	-1⅛"	34.91	-1⅛"	35.49	-1 1/16"	36.80	-1⅛"	37.42	0	38.06	0	38.71	0	39.16	0	39.56	+5/16"	38.08			
	④	STRINGER	BRG. TYPE	1H 4	2H	2H4	2H	3H4	2H	4H4	2H	5H4	2H	6H4	2H	7H4	2H	8H4	2H	11H4	1H			
		STR. SKEW X	PAD ELEV.	-1⅛"	35.09	-1⅛"	35.73	-1 5/16"	36.89	-1⅛"	37.52	0	38.16	0	38.82	0	39.31	0	39.77	+5/16"	38.49			
	⑤	STRINGER	BRG. TYPE	1H 5	2H	2H5	2H	3H5	2H	4H5	2H	5H5	2H	6H5	2H	7H 5	2H	8H5	2H	11H5	1H			
		STR. SKEW X	PAD ELEV.	-1⅛"	35.28	-1⅛"	35.94	- 1¼"	36.97	-1 1/16"	37.61	0	38.26	0	38.92	0	39.46	0	39.98	+5/16"	38.90			
	⑥	STRINGER	BRG. TYPE	1H 6	2H	2H6	2H	3H6	2H	4H6	2H	5H6	2H	6H 6	2H	7H6	2H	8H6	2H	11H6	1H			
		STR. SKEW X	PAD ELEV.	-1 1/16"	35.40	-1 1/16"	36.04	-1⅛"	37.06	-1"	37.71	0	38.36	0	39.02	0	39.61	0	40.20	+5/16"	39.3			
	⑦	STRINGER	BRG TYPE	1H 7	2H	2H7	2H	3H 7	2H	4H7	2H	5H7	2H	6H 7	2H	7H7	2H	8H7	2H	11H7	1H			
		STR. SKEW X	PAD ELEV.	-1 1/16"	35.49	-1 1/16"	36.13	- 1 1/16"	37.15	-1"	37.80	0	38.45	0	39.13	0	39.76	0	40.41	+5/16"	39.72			
	⑧	STRINGER	BRG. TYPE	1H 8	2H	2H8	2H	3H8	3H	4H8	3H	5H8	3H	6H 8	3H	7H8	3H	8H8	3H	11H8	1H			
		STR. SKEW X	PAD ELEV.	-1 1/16"	35.58	-1 1/16"	36.22	- 15/16"	37.24	-1 1/16"	37.90	0	38.55	0	39.23	0	39.91	0	40.62	+5/16"	40.13			
	⑨	STRINGER	BRG. TYPE	1H 9	2 H	2H 9	2 H																	
		STR. SKEW X	PAD ELEV.	- 1"	35.67	- 1"	36.31																	
	⑩	STRINGER	BRG. TYPE	1H10	2H	2H10	2H																	
		STR. SKEW X	PAD ELEV.	-1"	35.76	- 1"	36.41																	
	⑪	STRINGER	BRG. TYPE	1H 11	2H	2H11	2H																	
		STR. SKEW X	PAD ELEV.	- 1⅛"	35.85	- 1"	36.50																	
	⑫	STRINGER	BRG. TYPE	1H12	3H	2H12	3H																	
		STR. SKEW X	PAD ELEV.	-1⅛"	35.94	-1⅛"	36.59																	
	⑬	STRINGER	BRG. TYPE																					
		STR. SKEW X	PAD ELEV.																					
	⑭	STRINGER	BRG. TYPE																					
		STR. SKEW X	PAD ELEV.																					
UP STATION ℄ BRGS.	①	STRINGER	BRG. TYPE	2H 1	3E	1F1	3E	4H1	3E	5H1	3E	6H1	3E	7H 1	3E	8H1	3E	9H 1	1E	12H 1	3E			
		STR. SKEW X	PAD ELEV.	-1 3/16"	34.55	-1⅞"	35.03	-1 3/16"	36.63	- 15/16"	37.25	0	37.88	0	38.52	0	38.86	+ 1/8"	37.94	- 5/16"	38.44			
	②	STRINGER	BRG. TYPE	2H2	2E	1F2	2E	4H2	2E	5H2	2E	6H2	2E	7H 2	2E	8H2	2E	9H2	1E	12H2	2E			
		STR. SKEW X	PAD ELEV.	-1⅞"	34.73	-1⅞"	35.27	-1 3/16"	36.72	- 15/16"	37.34	0	37.98	0	38.62	0	39.01	+ 1/16"	38.15	- 5/16"	38.86			
	③	STRINGER	BRG. TYPE	2H3	2E	1F3	2E	4H3	2E	5H3	2E	6H3	2E	7H3	2E	8H3	2E	9H3	1E	12H3	2E			
		STR. SKEW X	PAD ELEV.	-1⅛"	34.92	-1⅞"	35.51	-1⅛"	36.81	- 15/16"	37.44	0	38.08	0	38.72	0	39.17	+ 1/16"	38.36	- 5/16"	39.28			
	④	STRINGER	BRG. TYPE	2H4	2E	1F4	2E	4H4	2E	5H4	2E	6H4	2E	7H4	2E	8H4	2E	9H4	1E	12H4	2E			
		STR. SKEW X	PAD ELEV.	-1⅛"	35.11	-1⅞"	35.75	-1⅛"	36.90	- 15/16"	37.53	0	38.17	0	38.83	0	39.32	+ 1/16"	38.56	- 5/16"	39.70			
	⑤	STRINGER	BRG. TYPE	2H5	2E	1F5	2E	4H5	2E	5H5	2E	6H5	2E	7H5	2E	8H5	2E	9H5	1E	12H5	2E			
		STR. SKEW X	PAD ELEV.	-1⅛"	35.29	-1 1/16"	35.96	-1⅛"	36.99	- 15/16"	37.63	0	38.27	0	38.93	0	39.47	+ 1/16"	38.77	- 5/16"	40.11			
	⑥	STRINGER	BRG. TYPE	2H6	2E	3H1	2E	4H6	2E	5H6	2E	6H6	2E	7H6	2E	8H6	2E	9H6	1E	12H6	2E			
		STR. SKEW X	PAD ELEV.	-1 1/16"	35.41	-1⅝"	36.06	-1"	37.08	- 15/16"	37.72	0	38.37	0	39.03	0	39.62	0	38.98	- 5/16"	40.53			
	⑦	STRINGER	BRG. TYPE	2H 7	2E	3H2	2E	4H7	2E	5H7	2E	6H7	2E	7H 7	2E	8H7	2E	9H7	1E	12H7	2E			
		STR. SKEW X	PAD ELEV.	-1 1/16"	35.50	-1 9/16"	36.14	-1"	37.17	- 15/16"	37.81	0	38.47	0	39.14	0	39.78	0	39.19	- 5/16"	40.95			
	⑧	STRINGER	BRG. TYPE	2H8	2E	3H3	2E	4H8	3E	5H8	3E	6H8	3E	7H8	3E	8H8	3E	9H8	1E	12H8	3E			
		STR. SKEW X	PAD ELEV.	-1 1/16"	35.59	-1 1/16"	36.21	- 15/16"	37.26	- 15/16"	37.91	0	38.56	0	39.24	0	39.93	0	39.39	- 5/16"	41.36			
	⑨	STRINGER	BRG. TYPE	2H 9	2E	3H4	2E																	
		STR. SKEW X	PAD ELEV.	- 1"	35.68	-1 5/16"	36.29																	
	⑩	STRINGER	BRG. TYPE	2H10	2E	3H5	2E																	
		STR. SKEW X	PAD ELEV.	- 1"	35.77	-1¼"	36.37																	
	⑪	STRINGER	BRG. TYPE	2H11	2E	3H6	2E																	
		STR. SKEW X	PAD ELEV.	- 1"	35.86	-1⅛"	36.45																	
	⑫	STRINGER	BRG. TYPE	2H12	3E	Continued																		
		STR. SKEW X	PAD ELEV.	-1 1/16"	35.95	on right																		

NOTES:-

1. For definition of Stringer Skew X see Sh. № S-16.
2. For details of Pier Types I, II & III see Shs. № S-12, S-13 & S-14
3. For Concrete Pad & Anchor Bolt Dets. see Sh. № S-33.
4. (P) indicates that Elev "U" applies to top of pedestal.
5. The words 'Beam' and 'stringer' are used interchangeably.
6. Pier (H0) dimension & elevation not shown. See corresponding sht. #S-110. ℄3

CONTINUATION: UP STATION PIER H2				
(12)	STRINGER	BRG. TYPE	3H7	2E
	STR. SKEW X	PAD ELEV.	-1 1/16"	36.53
(13)	STRINGER	BRG. TYPE	3H8	3E
	STR. SKEW X	PAD ELEV.	-15/16"	36.60

℄3 - Denotes changes to C.O. 246 - 2/29/80.

ORIGINAL PLAN		DATE
NOTE BOOK	SURVEY PLOTTED BY: J.S.	AUG.'77
	DRAWN BY: J.S.	AUG.'77
	DESIGNED BY: H. SAXER	AUG.'77
	QUANTITIES BY:	
No.	CHECKED BY: D. GILSTAD	AUG.'77

VIJAY CHANDRA
REGISTERED PROFESSIONAL ENGINEER
No. 4120
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Vijay Chandra
Signature

DATE	REVISION
2/29/80	Added note 6.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

H-1 VIADUCT (E.B. & W.B.), RAMP A, RAMP F & RAMP G

PIER GEOMETRY TABLE

SHEET 1 OF 5

KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1 (131):17

SCALE: —— DATE: AUG. 31, '77

SHEET NO. S-15 OF S-94 SHEETS

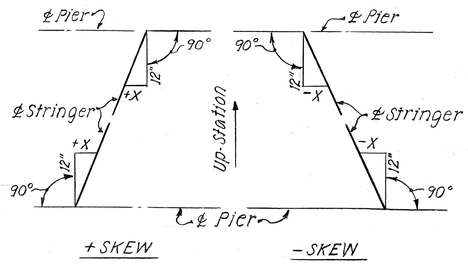
PRINTED ON NO. 1000H CLEARPRINT

C.O. 246

TABLE OF PIER DIMENSIONS AND ELEVATIONS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(131)17	1977	247	394

			H12		H13		H14		H15		H16		H17		H18		H19		H20	
PIER NAME			H12		H13		H14		H15		H16		H17		H18		H19		H20	
PIER TYPE			I		I		I		I		I		II		II		II		II	
WORK POINT STA. OF ℄ PIER			248+91.00		249+97.00		251+00.00		252+03.00		253+06.00		254+06.00		254+93.00		255+80.00		256+64.50	
SOUTH AZIMUTH OF ℄ PIER			172°-15'-13.0"		169°-13'-0.9"		166°-15'-58.3"		163°-18'-55.6"		160°-21'-53.0"		157°-29'-59.8"		155°-0'-27.2"		152°-30'-54.7"		145°-42'-17.2"	
CAP	LENGTH OF CAP "A"		48'-11"		48'-11"		48'-11"		48'-11"		50'-4"		84'-4¼"		78'-11½"		73'-5		69'-1"	
	DIST. ℄ BRGS. TO ℄ PIER "G"		11"		11"		11"		11"		11"		11"		11"		11"		11"	
	DEPTH "V"	DIMENSION "E"	9'-0"	—	9'-0"	—	9'-0"	—	9'-0"	—	9'-0"	—	9'-0"	5'-0"	9'-0"	5'-0"	9'-0"	3'-8½"	9'-0"	2'-0½"
	DIMENSION "F1"	DIMENSION "F2"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-6"	2'-6"	2'-5⅛"	2'-5⅛"	2'-0"	2'-0"	2'-0⅛"	2'-0⅛"	2'-0⅛"	2'-0⅛"	2'-0⅜"	2'-0⅜"
	DISTANCE "Q"	DISTANCE "R"	36'-1½"	12'-9½"	36'-1½"	12'-9½"	36'-1½"	12'-9½"	~~35'-7⅛"~~ 36'-1⅛"	12'-9½"	37'-6¼"	12'-9½"	71'-6¾"	12'-9½"	66'-2"	12'-9½"	60'-7½"	12'-9½"	56'-3"	12'-10"
	ELEVATION "H"	ELEVATION "J"	37.31	40.49	36.47	39.65	35.41	38.59	34.10	37.28	32.44	35.71	28.53	34.01	27.40	32.54	26.27	31.04	25.13	29.50
COLUMN	TOP WIDTH "K"		6'-5½"		6'-5½"		6'-5½"		6'-5½"		7'-2"		17'-2⅛"		14'-5¾"		13'-0"		12'-6"	
	BOTTOM WIDTH "L"		4'-7½"		4'-6"		4'-6"		4'-6"		5'-3"		15'-9"		13'-1½"		11'-4"		10'-11"	
	DIMENSION "M"	ELEVATION "U"	1'-8"	7.50	1'-7"	7.50	1'-6"	6.50	1'-8"	5.00	1'-5½"	4.00	1'-7"	5.00	1'-8"	4.50	1'-11"	0.00	1'-7"	0.00
	ELEVATION "S"	ELEVATION "T"	29.48	30.32	28.64	29.48	27.58	28.42	26.27	27.11	24.61	25.55	20.83	23.73	19.70	22.25	18.57	20.~~67~~76	17.40	19.25
STRINGER SPACING DISTANCE MEASURED ALONG ℄ PIER	DOWN STA. 1	UP STA. 1	6'-5"	Same as in Down Station	6'-5"	Same as in Down Station	6'-5"	Same as in Down Station	6'-4⅛"	Same as in Down Station	6'-6 11/16"	Same as in Down Station	8'-0⅛"	Same as in Down Station	6'-9¾"	Same as in Down Station	6'-3 11/16"	Same as in Down Station	6'-6 1/16"	
	DOWN STA. 2	UP STA. 2	6'-5"		6'-5"		6'-5"		6'-4 3/16"		6'-6 11/16"		8'-0⅛"		6'-9¾"		6'-3 3/4"		6'-6 1/16"	
	DOWN STA. 3	UP STA. 3	6'-5"		6'-5"		6'-5"		6'-4⅛"		6'-6 11/16"		8'-0⅛"		6'-9¾"		6'-3 11/16"		6'-6 1/16"	
	DOWN STA. 4	UP STA. 4	6'-5"		6'-5"		6'-5"		6'-4⅛"		6'-6¾"		8'-1⅛"		6'-9¾"		6'-3 3/4"		6'-6 1/16"	
	DOWN STA. 5	UP STA. 5	6'-5"		6'-5"		6'-5"		6'-4⅛"		6'-6 11/16"		7'-0⅛"		6'-9¾"		6'-3 11/16"		6'-6 1/16"	
	DOWN STA. 6	UP STA. 6	6'-5"		6'-5"		6'-5"		6'-4 3/16"		6'-6 11/16"		5'-10⅞"		6'-9¾"		6'-3 3/4"		6'-6 1/16"	
	DOWN STA. 7	UP STA. 7	6'-5"		6'-5"		6'-5"		6'-4⅛"		6'-6 11/16"		5'-10¾"		6'-9¾"		6'-3 11/16"		6'-6 1/16"	
	DOWN STA. 8	UP STA. 8	—		—		—		—		—		5'-10 13/16"		6'-9¾"		6'-3 3/4"		6'-6 1/16"	
	DOWN STA. 9	UP STA. 9	—		—		—		—		—		5'-10¾"		6'-9¾"		6'-3 11/16"		6'-6 1/16"	
	DOWN STA. 10	UP STA. 10	—		—		—		—		—		5'-10 13/16"		6'-9¾"		6'-3 3/4"		6'-6 1/16"	
	DOWN STA. 11	UP STA. 11	—		—		—		—		—		5'-10 3/4"		6'-9¾"		6'-3 11/16"		—	
	DOWN STA. 12	UP STA. 12	—		—		—		—		—		5'-10 7/8"	—	—		—		—	
	DOWN STA. 13	UP STA. 13	—		—		—		—		—		—		—		—		—	
	DOWN STA. 14	UP STA. 14	—		—		—		—		—		—		—		—		—	
DOWN STATION ℄ BRGS.	①	STRINGER	BRG. TYPE	12H1	3H	13H1	3H	14H1	3H	15H1	3H	16H1	3H	7G1	3H	18H1	3H	19H1	3H	20H1	3H
		STR. SKEW X	PAD ELEV.	+5/16"	37.89	+5/16"	37.06	+5/16"	36.01	+3/8"	34.73	+1/2"	33.07	+3/8"	29.12	+1 1/16"	28.00	+1 1/16"	26.86	+1 1/8"	25.72
	②	STRINGER	BRG. TYPE	12H2	2H	13H2	2H	14H2	2H	15H2	2H	16H2	2H	7G2	2H	18H2	2H	19H2	2H	20H2	2H
		STR. SKEW X	PAD ELEV.	+5/16"	38.31	+5/16"	37.48	+5/16"	36.42	+3/8"	35.14	+3/16"	33.50	+13/16"	29.65	+15/16"	28.44	+1"	27.27	+1 13/16"	26.13
	③	STRINGER	BRG. TYPE	12H3	2H	13H3	2H	14H3	2H	15H3	2H	16H3	2H	7G3	2H	18H3	2H	19H3	2H	20H3	2H
		STR. SKEW X	PAD ELEV.	+5/16"	38.72	+5/16"	37.90	+5/16"	36.84	+3/8"	35.55	+3/16"	33.92	+15/16"	30.16	+1/8"	28.89	+1/8"	27.68	+1 3/4"	26.54
	④	STRINGER	BRG. TYPE	12H4	2H	13H4	2H	14H4	2H	15H4	2H	16H4	2H	7G4	2H	18H4	2H	19H4	2H	20H4	2H
		STR. SKEW X	PAD ELEV.	+5/16"	39.14	+5/16"	~~37.31~~ 38.31	+5/16"	37.26	+5/16"	35.97	+3/16"	34.35	+1/8	30.68	+1/16"	29.33	+13/16"	28.09	+1 11/16"	26.96
	⑤	STRINGER	BRG. TYPE	12H5	2H	13H5	2H	14H5	2H	15H5	2H	16H5	2H	7G5	2H	18H5	2H	19H5	2H	20H5	2H
		STR. SKEW X	PAD ELEV.	+5/16"	39.56	+5/16"	38.73	+5/16"	37.67	+5/16"	36.38	+1/4"	34.78	+1/4	31.20	+3/4"	29.77	+3/4"	28.50	+1 3/16"	27.37
	⑥	STRINGER	BRG. TYPE	12H6	2H	13H6	2H	14H6	2H	15H6	2H	16H6	2H	17H1	2H	18H6	2H	19H6	2H	20H6	2H
		STR. SKEW X	PAD ELEV.	+5/16"	39.97	+5/16"	39.15	+5/16"	38.09	+5/16"	36.79	+1/4"	35.20	+1/8"	31.66	+1 1/16"	30.21	+1 1/16"	28.91	+1 1/2"	27.78
	⑦	STRINGER	BRG. TYPE	12H7	2H	13H7	2H	14H7	2H	15H7	2H	16H7	2H	17H2	2H	18H7	2H	19H7	2H	20H7	2H
		STR. SKEW X	PAD ELEV.	+5/16"	40.39	+5/16"	39.57	+5/16"	38.51	+5/16"	37.20	+5/16"	35.63	+1 3/16"	32.05	+1/8"	30.66	+5/8"	29.33	+1 7/16"	28.19
	⑧	STRINGER	BRG. TYPE	12H8	3H	13H8	3H	14H8	3H	15H8	3H	16H8	3H	17H3	2H	18H8	2H	19H8	2H	20H8	2H
		STR. SKEW X	PAD ELEV.	+5/16"	40.81	+5/16"	39.98	+5/16"	38.92	+5/16"	37.62	+3/16"	36.05	+1 11/16"	32.43	+1/16"	31.10	+9/16"	29.74	+1 3/8"	28.61
	⑨	STRINGER	BRG. TYPE											17H4	2H	18H9	2H	19H9	2H	20H9	2H
		STR. SKEW X	PAD ELEV.											+5/8"	32.81	+1/16"	31.54	+1/2"	30.15	+15/16"	29.02
	⑩	STRINGER	BRG. TYPE											17H5	2H	18H10	2H	19H10	2H	20H10	2H
		STR. SKEW X	PAD ELEV.											+9/16"	33.20	+3/8"	31.99	+3/8"	30.56	+1/4"	29.43
	⑪	STRINGER	BRG. TYPE											17H6	2H	18H11	2H	19H11	2H	20H11	3H
		STR. SKEW X	PAD ELEV.											+7/16"	33.58	+5/16"	32.43	+5/16"	30.97	+1 3/16"	29.85
	⑫	STRINGER	BRG. TYPE											17H7	2H	18H12	3H	19H12	3H		
		STR. SKEW X	PAD ELEV.											+3/8"	33.97	+1/4"	32.87	+1/4"	31.38		
	⑬	STRINGER	BRG. TYPE											17H8	3H						
		STR. SKEW X	PAD ELEV.											+5/16"	34.35						
	⑭	STRINGER	BRG. TYPE																		
		STR. SKEW X	PAD ELEV.																		
UP STATION ℄ BRGS.	①	STRINGER	BRG. TYPE	13H1	3E	14H1	3E	15H1	3E	16H1	3E	17H1	2E	18H1	3E	19H1	3E	20H1	3E	21H1	3E
		STR. SKEW X	PAD ELEV.	- 5/16"	37.88	-5/16"	37.05	- 1/4"	35.98	-1/2"	34.70	+ 1/4"	33.04	+1/2"	29.10	+ 1/2"	27.97	+12"	26.84	+1 3/16"	25.69
	②	STRINGER	BRG. TYPE	13H2	2E	14H2	2E	15H2	2E	16H2	2E	17H2	2E	18H2	2E	19H2	2E	20H2	2E	21H2	2E
		STR. SKEW X	PAD ELEV.	- 5/16"	38.29	-5/16"	37.46	- 1/4"	36.40	- 1/16"	35.11	+3/16"	33.47	+7/16"	29.57	+7/16"	28.42	+3/8"	27.29	+1 1/8"	26.10
	③	STRINGER	BRG. TYPE	13H3	2E	14H3	2E	15H3	2E	16H3	2E	17H3	2E	18H3	2E	19H3	2E	20H3	2E	21H3	2E
		STR. SKEW X	PAD ELEV.	-5/16"	38.71	- 5/16"	37.88	- 1/4"	36.82	- 1/16"	35.53	+1/8"	33.90	+3/8"	30.05	+3/8"	28.86	+ 5/16"	27.74	+1 1/16"	26.51
	④	STRINGER	BRG. TYPE	13H4	2E	14H4	2E	15H4	2E	16H4	2E	17H4	2E	18H4	2E	19H4	2E	20H4	2E	21H4	2E
		STR. SKEW X	PAD ELEV.	-5/16"	39.13	- 5/16"	38.30	- 1/4"	37.24	- 1/16"	35.94	0	34.32	+5/16"	30.52	+5/16"	29.30	+ 1/4"	28.19	+1"	26.93
	⑤	STRINGER	BRG. TYPE	13H5	2E	14H5	2E	15H5	2E	16H5	2E	17H5	2E	18H5	2E	19H5	2E	20H5	2E	21H5	2E
		STR. SKEW X	PAD ELEV.	-5/16"	39.54	- 5/16"	38.71	-5/16"	37.65	-3/8"	36.35	-1/16"	34.75	+1/4"	31.00	+1/4"	29.74	+3/16"	28.64	+ 15/16"	27.34
	⑥	STRINGER	BRG. TYPE	13H6	2E	14H6	2E	15H6	2E	16H6	2E	17H6	2E	18H6	2E	19H6	2E	20H6	2E	21H6	2E
		STR. SKEW X	PAD ELEV.	- 5/16"	39.96	- 5/16"	39.13	-5/16"	38.07	- 3/8"	36.76	- 1/8"	35.17	+1/8"	31.47	+3/16"	30.19	+1/16"	29.09	+ 7/8"	27.75
	⑦	STRINGER	BRG. TYPE	13H7	2E	14H7	2E	15H7	2E	16H7	2E	17H7	2E	18H7	2E	19H7	2E	20H7	2E	21H7	2E
		STR. SKEW X	PAD ELEV.	- 5/16"	40.38	- 5/16"	39.55	-5/16"	38.49	-5/16"	37.18	- 1/4"	35.60	+1/16"	31.95	+ 1/16"	30.63	+ 0"	29.54	+ 13/16"	28.16
	⑧	STRINGER	BRG. TYPE	13H8	3E	14H8	3E	15H8	3E	16H8	3E	17H8	3E	18H8	2E	19H8	2E	20H8	2E	21H8	2E
		STR. SKEW X	PAD ELEV.	- 5/16"	40.80	-5/16"	39.97	-5/16"	38.90	-5/16"	37.59	-5/16"	36.02	0	32.42	0	31.07	-1/16"	29.99	+ 3/4"	28.58
	⑨	STRINGER	BRG. TYPE											18H9	2E	19H9	2E	20H9	2E	21H9	2E
		STR. SKEW X	PAD ELEV.											-1/16"	32.89	-1/16"	31.51	-1/8"	30.44	+1 11/16"	28.99
	⑩	STRINGER	BRG. TYPE											18H10	2E	19H10	2E	20H10	2E	21H10	2E
		STR. SKEW X	PAD ELEV.											-1/8"	33.37	-1/8"	31.96	-3/16"	30.90	+1 1/16"	29.40
	⑪	STRINGER	BRG. TYPE											18H11	2E	19H11	2E	20H11	3E	21H11	3E
		STR. SKEW X	PAD ELEV.											-3/16	33.84	-3/16	32.40	-1/4"	31.35	+ 5/8"	29.82
	⑫	STRINGER	BRG. TYPE											18H12	3E	19H12	3E				
		STR. SKEW X	PAD ELEV.											-1/4"	34.32	-1/4"	32.84				



STRINGER SKEW X

For Notes see Sh. № S-15

VIJAY CHANDRA REGISTERED PROFESSIONAL ENGINEER No. 4120 HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Vijay chandra
Signature

12/18/78	Revised Pier Geometry of Piers H19 & H20.
DATE	REVISIONS

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

H-1 VIADUCT (E.B. & W.B.), RAMP A, RAMP F & RAMP G

PIER GEOMETRY TABLE
SHEET 2 OF 5

KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1 (131):17

SCALE: —— DATE: AUG. 31, '77

SHEET NO. S-16 OF S-94 SHEETS

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE AUG.'77
	DRAWN BY S.L.	
NOTE BOOK	DESIGNED BY H. SAKAE	AUG.'77
	QUANTITIES BY	
No.	CHECKED BY L. GUSTAD	AUG.'77

PRINTED ON NO. 1000H CLEARPRINT

C.O. 247

TABLE OF PIER DIMENSIONS AND ELEVATIONS

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TABLE OF PIER DIMENSIONS AND ELEVATIONS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1103(17	1977	249	394

			F1		F2		F5		G1		G2		G3		G4		G5		G6	
PIER NAME			F1		F2		F5		G1		G2		G3		G4		G5		G6	
PIER TYPE			III		III		I		I		I		I		I		I		I	
WORK POINT STA. OF ℄ PIER			15+90.52		16+90.00		22+39.50		23+86.97		24+73.95		25+60.92		26+47.89		27+34.86		28+20.86	
SOUTH AZIMUTH OF ℄ PIER			177°-57'-28.0"		175°-06'-28.3"		188°-53'-52.5"		184°-50'-37.4"		180°-18'-48.8"		175°-47'-0.3"		171°-15'-11.8"		166°-43'-23.2"		163°-55'-35.7"	
CAP	LENGTH OF CAP "A"		29'-6"		29'-9½"		28'-1"		27'-5"		27'-5"		27'-5"		27'-5"		27'-11½"		31'-6½"	
	DIST ℄ BRGS. TO ℄ PIER "G"		11"		DN.STA.=11" UP STA.=11½"		11½"		11"		11"		11"		11"		11"		11"	
	DEPTH "V"		7'-0"		7'-0"		7'-0"		7'-0"		7'-0"		7'-0"		7'-0"		7'-0"		7'-0"	
	DIMENSION "F1"	DIMENSION "F2"	2'-0"	2'-0"	2'-0"	2'-5"	2'-5"	2'-5"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0 3/16"	2'-0 3/16"
	DISTANCE "Q"	DISTANCE "R"	24'-2 7/16"	5'-3 3/16"	22'-11¾"	6'-9¾"	23'-9½"	4'-3½"	8'-0½"	19'-4½"	8'-0½"	19'-4½"	8'-0½"	19'-4½"	8'-0½"	19'-4½"	8'-0½"	19'-11"	9'-2¼"	22'-4¼"
	ELEVATION "H"	ELEVATION "J"	35.05	36.14	34.29	35.44	31.03	29.06	25.27	27.01	27.87	29.65	29.65	31.43	30.61	32.39	30.72	32.54	29.92	31.99
COLUMN	TOP WIDTH "K"		5'-9"		5'-10¾"		5'-0½"		4'-8½"		4'-8½"		4'-8½"		4'-8½"		4'-11¾"		6'-9¼"	
	BOTTOM WIDTH "L"		3'-9"		4'-0"		4'-4"		3'-11"		3'-7"		3'-4"		3'-2"		3'-4"		5'-1"	
	DIMENSION "M"	ELEVATION "U"	—	7.00(P)	—	7.00(P)	1'-2"	14.50	1'-1"	9.00	1'-8"	8.50	1'-11½"	7.50	1'-3"	7.50	1'-10"	6.00	1'-8"	5.00
	ELEVATION "S"	ELEVATION "T"	28.38	28.81	27.64	28.10	23.40	22.69	18.84	19.43	21.45	22.07	23.23	23.85	24.19	24.81	24.31	24.96	23.51	24.41
STRINGER SPACING DISTANCE MEASURED ALONG ℄ PIER	DOWN STA. 1	UP STA. 1	6'-3¼"	Same as in Down Station	6'-5¼"	6'-2¾"	5'-9¾"	Same as in Down Station	7'-9 15/16"	Same as in Down Station	7'-9 15/16"	Same as in Down Station	7'-9 15/16"	Same as in Down Station	7'-9 15/16"	Same as in Down Station	7'-11⅜"	5'-11 3/16"	6'-10 9/16"	Same as in Down Station
	DOWN STA. 2	UP STA. 2	6'-3¼"		6'-5 5/16"	6'-2 13/16"	5'-9¾"		7'-9⅝"		7'-9⅝"		7'-9⅝"		7'-9⅝"		7'-11¾"	5'-11 13/16"	6'-10⅛"	
	DOWN STA. 3	UP STA. 3	6'-3¼"		6'-5 5/16"	6'-2 13/16"	5'-9¾"		7'-9 15/16"		7'-9 15/16"		7'-9 15/16"		7'-9 15/16"		7'-11¾"	5'-11 13/16"	6'-10⅛"	
	DOWN STA. 4	UP STA. 4	6'-3¼"		6'-5¼"	6'-2¾"	5'-9¾"		—		—		—		—		—	5'-11 13/16"	6'-10⅛"	
	DOWN STA. 5	UP STA. 5	—		—		—		—		—		—		—		—	—	—	
	DOWN STA. 6	UP STA. 6	—		—		—		—		—		—		—		—	—	—	
	DOWN STA. 7	UP STA. 7	—		—		—		—		—		—		—		—	—	—	
	DOWN STA. 8	UP STA. 8	—		—		—		—		—		—		—		—	—	—	
	DOWN STA. 9	UP STA. 9	—		—		—		—		—		—		—		—	—	—	
	DOWN STA. 10	UP STA. 10	—		—		—		—		—		—		—		—	—	—	
	DOWN STA. 11	UP STA. 11	—		—		—		—		—		—		—		—	—	—	
	DOWN STA. 12	UP STA. 12	—		—		—		—		—		—		—		—	—	—	
	DOWN STA. 13	UP STA. 13	—		—		—		—		—		—		—		—	—	—	
	DOWN STA. 14	UP STA. 14	—		—		—		—		—		—		—		—	—	—	
DOWN STATION ℄ BRGS.	①	STRINGER	BRG.TYPE	1F1	3H	2F1	3H	5F1	1H	1G1	3H	2G1	3H	3G1	3H	4G1	3H	5G1	3H	6G1	3H
		STR. SKEW X	PAD ELEV.	+½"	35.52	+7/16"	35.98	-15/16"	31.43	+½"	25.83	+½"	28.44	+½"	30.22	+½"	31.18	+½"	31.30	+⅝"	30.51
	②	STRINGER	BRG.TYPE	1F2	2H	2F2	2H	5F2	1H	1G2	2H	2G2	2H	3G2	2H	4G2	2H	5G2	2H	6G2	2H
		STR. SKEW X	PAD ELEV.	+½"	35.77	+½"	36.23	-1"	31.02	+½"	26.32	+½"	28.94	+½"	30.73	+½"	31.68	+½"	31.82	+¼"	30.97
	③	STRINGER	BRG.TYPE	1F3	2H	2F3	2H	5F3	1H	1G3	2H	2G3	2H	3G3	2H	4G3	2H	5G3	2H	6G3	2H
		STR. SKEW X	PAD ELEV.	+7/16"	36.02	+½"	36.48	-1"	30.61	+½"	26.82	+½"	29.45	+½"	31.24	+½"	32.19	+½"	32.34	+⅜"	31.42
	④	STRINGER	BRG.TYPE	1F4	2H	2F4	2H	5F4	1H	1G4	3H	2G4	3H	3G4	3H	4G4	3H	5G4	3H	6G4	2H
		STR. SKEW X	PAD ELEV.	+7/16"	36.27	+½"	36.73	-1/16"	30.21	+½"	27.32	+½"	29.96	+½"	31.74	+½"	32.70	+9/16"	32.85	+½"	31.87
	⑤	STRINGER	BRG.TYPE	1F5	2H	2F5	3H	5F5	1H											6G5	3H
		STR. SKEW X	PAD ELEV.	+7/16"	36.45	+9/16"	36.98	-1/16"	29.80											+⅝"	32.32
	⑥	STRINGER	BRG.TYPE																		
		STR. SKEW X	PAD ELEV.																		
	⑦	STRINGER	BRG TYPE																		
		STR. SKEW X	PAD ELEV.																		
	⑧	STRINGER	BRG.TYPE																		
		STR. SKEW X	PAD ELEV.																		
	⑨	STRINGER	BRG.TYPE																		
		STR. SKEW X	PAD ELEV.																		
	⑩	STRINGER	BRG. TYPE																		
		STR. SKEW X	PAD ELEV.																		
	⑪	STRINGER	BRG.TYPE																		
		STR. SKEW X	PAD ELEV.																		
	⑫	STRINGER	BRG.TYPE																		
		STR. SKEW X	PAD ELEV.																		
	⑬	STRINGER	BRG.TYPE																		
		STR. SKEW X	PAD ELEV.																		
	⑭	STRINGER	BRG.TYPE																		
		STR. SKEW X	PAD ELEV.																		
UP STATION ℄ BRGS.	①	STRINGER	BRG.TYPE	2F1	3E	3F1	1E	6F1	1H	2G1	3E	3G1	3E	4G1	3E	5G1	3E	6G1	3E	7G1	3E
		STR. SKEW X	PAD ELEV.	-⅛"	35.53	-⅜"	34.79	+⅜"	31.34	-½"	25.89	-½"	28.48	-½"	30.25	-½"	31.19	-½"	31.29	-1/16"	30.49
	②	STRINGER	BRG.TYPE	2F2	2E	3F2	1E	6F2	1H	2G2	2E	3G2	2E	4G2	2E	5G2	2E	6G2	2E	7G2	2E
		STR. SKEW X	PAD ELEV.	-⅛"	35.78	-¾"	35.03	+⅛"	30.93	-½"	26.39	-½"	28.99	-½"	30.76	-7/16"	31.70	-⅜"	31.68	-9/16"	30.94
	③	STRINGER	BRG.TYPE	2F3	2E	3F3	1E	6F3	1H	2G3	2E	3G3	2E	4G3	2E	5G3	2E	6G3	2E	7G3	2E
		STR.SKEW X	PAD ELEV.	-⅛"	36.03	-5/16"	35.27	+1/16"	30.53	-½"	26.89	-½"	29.50	-½"	31.27	-7/16"	32.20	-⅛"	32.07	-⅜"	31.40
	④	STRINGER	BRG.TYPE	2F4	2E	3F4	1E	6F4	1H	2G4	3E	3G4	3E	4G4	3E	5G4	3E	6G4	2E	7G4	2E
		STR.SKEW X	PAD ELEV.	-1/16"	36.28	-5/16"	35.51	+1/16"	30.12	-½"	27.38	-½"	30.00	-½"	31.77	-⅜"	32.71	-⅛"	32.46	-¼"	31.85
	⑤	STRINGER	BRG.TYPE	2F5	3E	3F5	1E	6F5	1H									6G5	3E	7G5	2E
		STR. SKEW X	PAD ELEV.	-1/16"	36.46	-5/16"	35.75	+1"	29.71									0	32.85	-1/16"	32.30
	⑥	STRINGER	BRG.TYPE																		
		STR. SKEW X	PAD ELEV.																		
	⑦	STRINGER	BRG.TYPE																		
		STR. SKEW X	PAD ELEV.																		
	⑧	STRINGER	BRG.TYPE																		
		STR. SKEW X	PAD ELEV.																		
	⑨	STRINGER	BRG.TYPE																		
		STR.SKEW X	PAD ELEV.																		
	⑩	STRINGER	BRG.TYPE																		
		STR. SKEW X	PAD ELEV.																		
	⑪	STRINGER	BRG. TYPE																		
		STR. SKEWX	PAD ELEV.																		
	⑫	STRINGER	BRG.TYPE																		
		STR.SKEWX	PAD ELEV.																		

(P) indicates that Elevation "U" applies to Top of Pedestal.

For Notes see Sh. No S-15.

SURVEY PLOTTED BY	DATE AUG.'77
DRAWN BY S.S.	
TRACED BY	AUG.'77
DESIGNED BY H.SAXER	
QUANTITIES BY	AUG.'77
CHECKED BY L.GILSTAD	
ORIGINAL PLAN	
NOTE BOOK	
No.	

VIJAY CHANDRA REGISTERED PROFESSIONAL ENGINEER No. 4120 HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Vijay chandra
Signature

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

H-1 VIADUCT (E.B. & W.B.), RAMP A, RAMP F & RAMP G

PIER GEOMETRY TABLE
SHEET 4 OF 5

KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-I (131):17

SCALE: —
DATE: AUG.31,'77

SHEET No.S-18 OF S-94 SHEETS

PRINTED ON NO. 1000H CLEARPRINT

TABLE OF PIER DIMENSIONS AND ELEVATIONS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-HI-I(31)-17	1977	250	394

			A18		A19		H0 (By Others)		H9 *		H10 *		F3 *		F4 *	
PIER NAME																
PIER TYPE			I		I		—									
WORK POINT STA. OF ℄ PIER			33+10.00		33+86.00		235+67.28									
SOUTH AZIMUTH OF ℄ PIER			151°-39'-11.2"		151°-39'-11.2"		189° 01'-23.0"									
CAP	LENGTH OF CAP "A"		36'-8"		34'-6"		—									
	DIST. ℄ BRGS. TO ℄ PIER "G"		11"		11"		11"									
	DEPTH "V"	DIMENSION "E"	7'-0"	—	7'-0"	—										
	DIMENSION "F1"	DIMENSION "F2"		2'-0"	2'-5 1/16"	2'-5 1/16"										
	DISTANCE "Q"	DISTANCE "R"	6'-10 1/2"	29'-9 1/2"	5'-10"	28'-8"										
	ELEVATION "H"	ELEVATION "J"	37.53	38.08	35.88	36.53										
COLUMN	TOP WIDTH "K"		9'-4"		8'-3"											
	BOTTOM WIDTH "L"		6'-11"		5'-8 1/2"											
	DIMENSION "M"	ELEVATION "U"	2'-0"	4.50	1'-8"	2.00										
	ELEVATION "S"	ELEVATION "T"	30.67	30.95	29.05	29.36										
STRINGER SPACING DISTANCE MEASURED ALONG ℄ PIER	DOWN STA. 1	UP STA. 1	6'-6 5/16"	6'-6 5/16"	6'-0 3/16"	SAME AS DOWN STATION	6'-0 11/16"									
	DOWN STA. 2	UP STA. 2	6'-6 5/16"	6'-6 3/16"	6'-0 3/16"											
	DOWN STA. 3	UP STA. 3	6'-6 3/8"	6'-6 3/8"	6'-0 3/16"											
	DOWN STA. 4	UP STA. 4	6'-6 5/16"	6'-6 5/16"	6'-0 3/16"											
	DOWN STA. 5	UP STA. 5	6'-6 5/16"	6'-6 3/16"	6'-0 3/16"											
	DOWN STA. 6	UP STA. 6	—		—											
	DOWN STA. 7	UP STA. 7	—		—											
	DOWN STA. 8	UP STA. 8	—		—											
	DOWN STA. 9	UP STA. 9	—		—											
	DOWN STA. 10	UP STA. 10	—		—											
	DOWN STA. 11	UP STA. 11	—		—		6'-0 11/16"									
	DOWN STA. 12	UP STA. 12	—		—											
	DOWN STA. 13	UP STA. 13	—		—											
	DOWN STA. 14	UP STA. 14	—		—											
DOWN STATION ℄ BRGS.	①	STRINGER	BRG. TYPE	18A1	3E	19A1	3H			9H1	5	10H1	5	3F1	5	4F1	5
		STR. SKEW X	PAD ELEV.	0"	37.91	+1/4"	36.30			+1/8"	41.35	+3/8"	40.95	+1/16"	39.15	-3/16"	40.76
	②	STRINGER	BRG. TYPE	18A2	2E	19A2	2H			9H2	5	10H2	5	3F2	5	4F2	5
		STR. SKEW X	PAD ELEV.	-1/16"	37.98	+1/8"	36.51			+1 1/8"	41.62	+3/8"	41.32	+1 1/16"	39.22	-3/16"	40.43
	③	STRINGER	BRG. TYPE	18A3	2E	19A3	2H			9H3	5	10H3	5	3F3	5	4F3	5
		STR. SKEW X	PAD ELEV.	-1/16"	38.08	+1/16"	36.60			+1/16"	41.90	+3/8"	41.70	+1/16"	39.29	-3/16"	40.11
	④	STRINGER	BRG. TYPE	18A4	2E	19A4	2H			9H4	5	10H4	5	3F4	5	4F4	5
		STR. SKEW X	PAD ELEV.	-1/8"	38.18	0	36.69			+1/16"	42.17	+3/8"	42.07	+1/8"	39.35	-3/16"	39.78
	⑤	STRINGER	BRG. TYPE	18A5	2E	19A5	2H			9H5	5	10H5	5	3F5	5	4F5	5
		STR. SKEW X	PAD ELEV.	-1/8"	38.28	-1/16"	36.78			+1/16"	42.44	+3/8"	42.45	+1/8"	39.42	-3/16"	39.45
	⑥	STRINGER	BRG. TYPE	18A6	3E	19A6	3H			9H6	5	10H6	5				
		STR. SKEW X	PAD ELEV.	-3/16"	38.40	-3/16"	36.87			0	42.72	+3/8"	42.83				
	⑦	STRINGER	BRG. TYPE							9H7	5	10H7	5				
		STR. SKEW X	PAD ELEV.							0	42.99	+3/8"	43.20				
	⑧	STRINGER	BRG. TYPE							9H8	5	10H8	5				
		STR. SKEW X	PAD ELEV.							0	43.26	+3/8"	43.58				
	⑨	STRINGER	BRG. TYPE														
		STR. SKEW X	PAD ELEV.														
	⑩	STRINGER	BRG. TYPE														
		STR. SKEW X	PAD ELEV.														
	⑪	STRINGER	BRG. TYPE														
		STR. SKEW X	PAD ELEV.														
	⑫	STRINGER	BRG. TYPE														
		STR. SKEW X	PAD ELEV.														
	⑬	STRINGER	BRG. TYPE														
		STR. SKEW X	PAD ELEV.														
	⑭	STRINGER	BRG. TYPE														
		STR. SKEW X	PAD ELEV.														
UP STATION ℄ BRGS.	①	STRINGER	BRG. TYPE	19A1	3E	20A1	2E	1H1	3E	10H1	5	11H1	5	4F1	5	5F1	5
		STR. SKEW X	PAD ELEV.	+1/4"	37.90	-1/16"	36.27	-1 3/16"	34.18	-3/8"	41.25	-3/8"	40.83	0	40.41	+13/16"	39.16
	②	STRINGER	BRG. TYPE	19A2	2E	20A2	2E	1H2	2E	10H2	5	11H2	5	4F2	5	5F2	5
		STR. SKEW X	PAD ELEV.	+1/8"	37.99	-1/16"	36.48	-1 3/16"	34.30	-3/8"	41.55	-3/8"	41.23	0	40.32	+7/8"	38.74
	③	STRINGER	BRG. TYPE	19A3	2E	20A3	2E	1H3	2E	10H3	5	11H3	5	4F3	5	5F3	5
		STR. SKEW X	PAD ELEV.	+1/16"	38.09	-1/16"	36.57	-1'8"	34.42	-3/8"	41.86	-3/8"	41.62	0	40.24	+7/8"	38.32
	④	STRINGER	BRG. TYPE	19A4	2E	20A4	2E	1H4	2E	10H4	5	11H4	5	4F4	5	5F4	5
		STR. SKEW X	PAD ELEV.	+0	38.19	-1/8"	36.66	-1'8"	34.54	-3/8"	42.16	-3/8"	42.02	0	40.15	+13/16"	37.89
	⑤	STRINGER	BRG. TYPE	19A5	2E	20A5	2E	1H5	2E	10H5	5	11H5	5	4F5	5	5F5	5
		STR. SKEW X	PAD ELEV.	-1/16"	38.29	-1/8"	36.75	-1'8"	34.66	-3/8"	42.46	-5/16"	42.42	0	40.07	+13/16"	37.47
	⑥	STRINGER	BRG. TYPE	19A6	3E	20A6	3E	1H6	2E	10H6	5	11H6	5				
		STR. SKEW X	PAD ELEV.	-3/16"	38.39	-3/16	36.84	-1'16"	34.78	-3/8"	42.76	-5/16"	42.82				
	⑦	STRINGER	BRG. TYPE					1H7	2E	10H7	5	11H7	5				
		STR. SKEW X	PAD ELEV.					-1'16"	34.86	-3/8"	43.07	-5/16"	43.02				
	⑧	STRINGER	BRG. TYPE					1H8	2E	10H8	5	11H8	5				
		STR. SKEW X	PAD ELEV.					-1'16"	34.95	-3/8"	43.37	-5/16	43.61				
	⑨	STRINGER	BRG. TYPE					1H9	2E								
		STR. SKEW X	PAD ELEV.					-1"	35.04								
	⑩	STRINGER	BRG. TYPE					1H10	2E								
		STR. SKEW X	PAD ELEV.					-1"	35.12								
	⑪	STRINGER	BRG. TYPE					1H11	2E								
		STR. SKEW X	PAD ELEV.					-15/16"	35.21								
	⑫	STRINGER	BRG. TYPE					1H12	3E								
		STR. SKEW X	PAD ELEV.					-15/16"	35.30								

* For Piers H9, H10, F3 & F4, this table gives beam data only.
For all other information see Sheet Nos. S-22 thru S-24.

NOTES:
1. Anchor Bolts at Pier A18 downstation bearings shall be coated with grease and wrapped in burlap for future construction.
2. Data given at Pier H0 is for information only.
3. For all other notes, see Sheet No. S-15.

VIJAY CHANDRA
REGISTERED PROFESSIONAL ENGINEER
No. 4120
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
Vijay Chandra
Signature

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

H-1 VIADUCT (E.B. & W.B.), RAMP A, RAMP F & RAMP G

PIER GEOMETRY TABLE
SHEET 5 OF 5

KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-I (131):17

SCALE: — DATE: AUG. 31, '77

SHEET NO. S-19 OF S-94 SHEETS

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY T.T.	AUG. '77
	TRACED BY	
	DESIGNED BY H. SAXER	AUG. '77
	QUANTITIES BY	
No.	CHECKED BY D. GILSTAD	AUG. '77

PRINTED ON NO. 1000H CLEARPRINT

250

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(31):17	1977	251	

REINFORCEMENT SCHEDULE

PIER NAME		PIER H1				PIER H2				PIER H3				PIER H4				PIER H5				PIER H6				PIER H7				PIER H8				PIER H11				PIER H12				PIER H13				PIER H14				PIER H15				PIER H16				PIER H17			
	DESCRIPTION	SIZE	NO.	SPG.	LENGTH	SIZE	NO.	SPG.	LENGTH	SIZE	NO.	SPG.	LENGTH	SIZE	NO.	SPG.	LENGTH	SIZE	NO.	SPG.	LENGTH	SIZE	NO.	SPG.	LENGTH	SIZE	NO.	SPG.	LENGTH	SIZE	NO.	SPG.	LENGTH	SIZE	NO.	SPG.	LENGTH	SIZE	NO.	SPG.	LENGTH	SIZE	NO.	SPG.	LENGTH	SIZE	NO.	SPG.	LENGTH	SIZE	NO.	SPG.	LENGTH	SIZE	NO.	SPG.	LENGTH	SIZE	NO.	SPG.	LENGTH
CAP MAIN BARS	a Bar	*145	12	—	—	*145	12	—	—	*145	12	—	—	*145	12	—	—	*145	12	—	—	*145	12	—	—	*145	12	—	—	*145	12	—	—	*145	12	—	—	*145	12	—	—	*145	12	—	—	*145	12	—	—	*145	12	—	—	*145	12	—	—	*145	12	—	—
	a1 "	*145	12	—	50'-0"	*145	12	—	54'-6"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*145	12	—	69'-0"
	b "	145	4	—	32'-6"	145	6	—	47'-6"	*145	8	—	25'-0"	*145	8	—	27-0"	*145	8	—	27'-0"	*145	8	—	27'-0"	*145	8	—	27'-0"	*145	8	—	27'-0"	*145	12	—	25'-0"	*145	8	—	26'-0"	*145	8	—	26'-0"	*145	8	—	26'-0"	*145	8	—	26'-0"	*145	8	—	27'-6"	—	—	—	—
	d Bar	7	6	—	15'-0"	7	6	—	17'-0"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7	6	—	24'-0"
	d1 "	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
CAP - OTHER BARS	e "	9	12	—	—	7	12	—	—	6	12	—	—	6	12	—	—	6	12	—	—	6	12	—	—	6	12	—	—	6	12	—	—	6	12	—	—	6	12	—	—	6	12	—	—	6	12	—	—	6	12	—	—	6	12	—	—	6	12	—	—
	f "	5	12	—	—	5	12	—	—	5	12	—	—	5	12	—	—	5	12	—	—	5	12	—	—	5	12	—	—	5	12	—	—	5	12	—	—	5	12	—	—	5	12	—	—	5	12	—	—	5	12	—	—	5	12	—	—	5	12	—	—
	g "	5	8	—	—	5	8	—	—	5	8	—	—	5	8	—	—	5	8	—	—	5	8	—	—	5	8	—	—	5	8	—	—	5	8	—	—	5	10	—	—	5	8	—	—	5	8	—	—	5	8	—	—	5	8	—	—	5	10	—	—
	h "	7	14	—	—	7	14	—	—	6	14	—	—	6	14	—	—	6	14	—	—	6	14	—	—	6	14	—	—	6	14	—	—	6	14	—	—	6	16	—	—	6	14	—	—	6	14	—	—	6	14	—	—	6	14	—	—	6	16	—	—
	h1 "	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6	4	—	49'-0"	6	4	—	48'-0"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	h2 "	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5	4	—	49'-0"	5	4	—	48'-0"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	j "	6	96	10"	—	6	48	12"	—	5	48	12"	—	5	48	12"	—	5	48	12"	—	5	48	12"	—	5	48	12"	—	5	48	12"	—	5	48	12"	—	5	48	12"	—	5	48	12"	—	5	48	12"	—	5	48	12"	—	5	48	12"	—	6	60	10"	—
	j1 "	6	84	6"	—	6	150	6"	—	5	126	6"	—	5	126	6"	—	5	126	6"	—	5	126	6"	—	5	126	6"	—	5	126	6"	—	5	126	6"	—	5	132	5½"	—	5	126	6"	—	5	126	6"	—	5	126	6"	—	5	126	6"	—	6	108	8"	—
	j2 "	6	21	12"	—	6	27	12"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6	33	12"	—
	j3 "	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	k "	5	—	18"	—	5	—	18"	—	5	—	18"	—	5	—	18"	—	5	—	18"	—	5	—	18"	—	5	—	18"	—	5	—	18"	—	5	—	18"	—	5	—	18"	—	5	—	18"	—	5	—	18"	—	5	—	18"	—	5	—	18"	—	5	—	18"	—
	l "	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6	50	12"	—	6	49	12"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
COL. REINF.	m "	11	2x40	—	—	11	2x40	—	—	11	40	—	—	11	40	—	—	11	44	—	—	11	44	—	—	11	44	—	—	11	40	—	—	11	40	—	—	11	36	—	—	11	40	—	—	11	40	—	—	11	40	—	—	11	40	—	—	11	2x58	—	—
FOOTING REINF.	a Bar	11	34	—	—	11	34	—	—	8	28	—	—	8	28	—	—	8	28	—	—	9	33	—	—	9	33	—	—	9	32	—	—	8	26	—	—	8	26	—	—	9	33	—	—	9	33	—	—	9	33	—	—	9	33	—	—	11	32	—	—
	r "	11	34	—	—	11	34	—	—	8	28	—	—	8	28	—	—	8	28	—	—	9	33	—	—	9	33	—	—	9	32	—	—	8	26	—	—	8	26	—	—	9	33	—	—	9	33	—	—	9	33	—	—	9	33	—	—	11	32	—	—
	s "	8	42	—	—	8	42	—	—	7	34	—	—	7	34	—	—	7	34	—	—	9	42	—	—	9	42	—	—	8	34	—	—	7	30	—	—	7	30	—	—	9	42	—	—	9	42	—	—	9	42	—	—	9	42	—	—	6	78	—	—
	t "	8	42	—	—	8	42	—	—	7	34	—	—	7	34	—	—	7	34	—	—	9	42	—	—	9	42	—	—	8	34	—	—	7	30	—	—	7	30	—	—	9	42	—	—	9	42	—	—	9	42	—	—	9	42	—	—	6	78	—	—
	u "	5	18	—	—	5	18	—	—	5	18	—	—	5	18	—	—	5	18	—	—	5	24	—	—	5	24	—	—	5	18	—	—	5	16	—	—	5	16	—	—	5	24	—	—	5	24	—	—	5	24	—	—	5	24	—	—	8	34	—	—
	v "	5	44	—	—	5	44	—	—	5	31	—	—	5	31	—	—	5	31	—	—	5	24	—	—	5	24	—	—	5	31	—	—	5	27	—	—	5	27	—	—	5	24	—	—	5	24	—	—	5	24	—	—	5	24	—	—	5	47	—	—

E3 - Denotes changes to C.O. 251 - 2/29/80.

REINFORCEMENT SCHEDULE (CONTD.)

PIER NAME		PIER H18				PIER H19				PIER H20				PIER H21				PIER HE13				PIER HE14				PIER HE15				PIER HE16				PIER HE17				PIER HE18				PIER HE19			
	DESCRIPTION	SIZE	NO.	SPG.	LENGTH	SIZE	NO.	SPG.	LENGTH	SIZE	NO.	SPG.	LENGTH	SIZE	NO.	SPG.	LENGTH	SIZE	NO.	SPG.	LENGTH	SIZE	NO.	SPG.	LENGTH	SIZE	NO.	SPG.	LENGTH	SIZE	NO.	SPG.	LENGTH	SIZE	NO.	SPG.	LENGTH	SIZE	NO.	SPG.	LENGTH	SIZE	NO.	SPG.	LENGTH
CAP MAIN BARS	a Bar	*145	12	—	—	*145	12	—	—	*145	12	—	—	*145	12	—	—	*145	12	—	—	*145	12	—	—	*145	12	—	—	*145	12	—	—	*145	12	—	—	*145	12	—	—	*145	12	—	—
	a1 "	*145	12	—	70'-0"	*145	12	—	51'-0"	*145	12	—	59'-6"	*145	12	—	60'-0"	—	—	—	—	—	—	—	—	—	—	—	71'-6"	*145	12	—	54'-6"	*145	12	—	50'-0"	*145	12	—	62'-0"	*145	12	—	60'-0"
	b "	145	2	—	54'-0"	145	4	—	33'-6"	145	2	—	43'-0"	145	4	—	47'-6"	*145	8	—	26'-6"	*145	8	—	27'-0"	145	2	—	55'-6"	145	6	—	47'-6"	145	4	—	32'-6"	145	2	—	46'-0"	145	2	—	44'-0"
	d Bar	9	6	—	18'-0"	7	6	—	15'-6"	6	6	—	12'-0"	7	6	—	13'-0"	—	—	—	—	—	—	—	—	9	6	—	17'-0"	7	6	—	17'-0"	7	6	—	15'-0"	6	6	—	13'-0"	6	6	—	12'-0"
	d1 "	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
CAP - OTHER BARS	e "	6	12	—	—	9	12	—	—	6	12	—	—	7	12	—	—	6	12	—	—	6	12	—	—	6	12	—	—	7	12	—	—	9	12	—	—	6	12	—	—	6	12	—	—
	f "	5	12	—	—	5	12	—	—	5	12	—	—	7	12	—	—	5	12	—	—	5	12	—	—	5	12	—	—	5	12	—	—	5	12	—	—	5	12	—	—	5	12	—	—
	g "	5	10	—	—	5	8	—	—	5	10	—	—	7	8	—	—	5	8	—	—	5	8	—	—	5	10	—	—	5	8	—	—	5	8	—	—	5	10	—	—	5	10	—	—
	h "	6	16	—	—	7	14	—	—	6	16	—	—	7	14	—	—	6	14	—	—	6	14	—	—	6	16	—	—	7	14	—	—	7	14	—	—	6	16	—	—	6	16	—	—
	h1 "	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	h2 "	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	j "	6	78	10"	—	6	96	10"	—	6	78	10"	—	—	—	—	—	5	48	12"	—	5	48	12"	—	6	78	10	—	6	96	10"	—	6	78	10"	—	6	78	10"	—	6	78	10"	—
	j1 "	6	126	6"	—	6	84	6"	—	6	126	6"	—	6	300	6"	—	5	126	6"	—	5	126	6"	—	6	126	6	—	6	150	6"	—	6	84	6"	—	6	126	6"	—	6	126	6"	—
	j2 "	6	33	12"	—	6	24	12"	—	6	12	12"	—	6	18	12"	—	—	—	—	—	—	—	—	—	6	30	12	—	6	27	12"	—	6	24	12"	—	6	15	12"	—	6	12	12"	—
	j3 "	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	k "	5	—	18"	—	5	—	18"	—	5	—	18"	—	5	—	18"	—	5	—	18"	—	5	—	18"	—	5	—	18"	—	5	—	18"	—	5	—	18"	—	5	—	18"	—	5	—	18"	—
	l "	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
COL. REINF.	m "	11	2x42	—	—	11	2x42	—	—	11	2x36	—	—	11	2x36	—	—	11	40	—	—	11	40	—	—	11	2x40	—	—	11	2x40	—	—	11	2x40	—	—	11	2x40	—	—	11	2x40	—	—
FOOTING REINF.	a Bar	8	26	—	—	8	36	—	—	8	33	—	—	10	42	—	—	9	33	—	—	9	33	—	—	11	32	—	—	11	34	—	—	10	30	—	—	8	36	—	—	8	33	—	—
	r "	8	26	—	—	8	36	—	—	8	33	—	—	10	42	—	—	9	33	—	—	9	33	—	—	11	32	—	—	11	34	—	—	10	30	—	—	8	36	—	—	8	33	—	—
	s "	6	76	—	—	7	63	—	—	8	48	—	—	8	45	—	—	9	42	—	—	9	42	—	—	6	78	—	—	8	42	—	—	7	41	—	—	7	63	—	—	8	48	—	—
	t "	6	76	—	—	7	63	—	—	8	48	—	—	8	45	—	—	9	42	—	—	9	42	—	—	6	78	—	—	8	42	—	—	7	41	—	—	7	63	—	—	8	48	—	—
	u "	6	26	—	—	8	24	—	—	8	21	—	—	5	41	—	—	5	24	—	—	5	24	—	—	8	34	—	—	5	18	—	—	5	16	—	—	8	24	—	—	8	21	—	—
	v "	5	42	—	—	5	35	—	—	5	32	—	—	5	26	—	—	5	24	—	—	5	24	—	—	5	47	—	—	5	44	—	—	5	37	—	—	5	35	—	—	5	32	—	—

NOTES:

1. Number of bars shown is total for one pier.
2. * indicates bars to be placed in bundles of two.
3. Reinforcement Steel - ASTM A615.
   a) Cap Main Bars
      Grade 40 for Piers F1, F2, F5, G1 thru 6, A18, A19.
      Grade 60 for all other piers.
   b) Other Cap Bars, Column & Footing Bars, Grade 40 for all piers.
4. For reinforcement at Piers F3, F4, H9 & H10, see Sheets No. S-22 thru S-25.
5. Pier (H10) reinforcement schedule not shown See corresponding sht. S-11B, S-11C, & S-11D

DATE	REVISIONS
2/29/80	Added note 5.
12/18/78	Revised reinforcement in Pier H21
7/21/78	Revised Ftg. reinforcements in Reinforcement Schedule.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

H-1 VIADUCT (E.B. & W.B.), RAMP A, RAMP F & RAMP G

PIER REINFORCEMENT SCHEDULE
SHEET 1 OF 2

KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1(131):17

SCALE: —— DATE: AUG. 31, '77

SHEET NO. S-20 OF S-94 SHEETS

VIJAY CHANDRA REGISTERED PROFESSIONAL ENGINEER No. 4120 HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
Vijay chandra
Signature

ORIGINAL PLAN
SURVEY PLOTTED BY: DATE AUG. '77
DRAWN BY: PATRICIA MALKIN
TRACED BY:
NOTE BOOK DESIGNED BY: H. SAXER
QUANTITIES BY:
No. CHECKED BY: D. GILSTAD

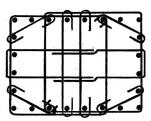
C.O. 251

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(131):17	1977	252	394

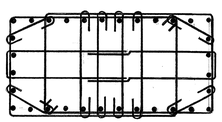
REINFORCEMENT SCHEDULE

	PIER NAME	PIER HE20				PIER F1				PIER F2				PIER F5				PIER G1				PIER G2				PIER G3				PIER G4				PIER G5				PIER G6				PIER A18				PIER A19			
	DESCRIPTION	SIZE	NO.	SPG.	LENGTH	SIZE	NO.	SPG.	LENGTH	SIZE	NO.	SPG.	LENGTH	SIZE	NO.	SPG.	LENGTH	SIZE	NO.	SPG.	LENGTH	SIZE	NO.	SPG.	LENGTH	SIZE	NO.	SPG.	LENGTH	SIZE	NO.	SPG.	LENGTH	SIZE	NO.	SPG.	LENGTH	SIZE	NO.	SPG.	LENGTH	SIZE	NO.	SPG.	LENGTH	SIZE	NO.	SPG.	LENGTH
CAP MAIN BARS	a Bar	*14S	12	—	—	11	8	—	—	11	8	—	—	14S	6	—	—	11	8	—	—	11	8	—	—	11	8	—	—	11	8	—	—	11	8	—	—	11	8	—	—	11	8	—	—	11	8	—	—
	a1 "	*14S	12	—	58'-6"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	b "	14S	2	—	42'-0"	11	6	—	21'-6"	11	6	—	22'-0"	14S	6	—	27'-6"	11	6	—	27'-0"	11	6	—	27'-0"	11	6	—	27'-0"	11	6	—	27'-0"	11	6	—	27'-6"	11	6	—	31'-0"	11	6	—	29'-0"	11	6	—	26'-6"
	d Bar	6	6	—	10'-0"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	d1 "	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
CAP - OTHER BARS	e "	6	12	—	—	6	12	—	—	6	12	—	—	6	12	—	—	6	12	—	—	6	12	—	—	6	12	—	—	6	12	—	—	6	12	—	—	6	12	—	—	6	12	—	—	6	12	—	—
	f "	5	12	—	—	5	12	—	—	5	12	—	—	5	12	—	—	5	12	—	—	5	12	—	—	5	12	—	—	5	12	—	—	5	12	—	—	5	12	—	—	5	12	—	—	5	12	—	—
	g "	5	10	—	—	5	8	—	—	5	8	—	—	5	8	—	—	5	8	—	—	5	8	—	—	5	8	—	—	5	8	—	—	5	8	—	—	5	8	—	—	5	8	—	—	5	8	—	—
	h "	6	16	—	—	5	10	—	—	5	10	—	—	5	10	—	—	5	10	—	—	5	10	—	—	5	10	—	—	5	10	—	—	5	10	—	—	5	10	—	—	5	10	—	—	5	10	—	—
	h1 "	—	—	—	—	—	—	—	—	6	4	—	29'-0"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	h2 "	—	—	—	—	—	—	—	—	5	4	—	29'-0"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	j "	6	78	10"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	j1 "	6	126	6"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	j2 "	6	9	12"	—	5	36	12"	—	5	36	12"	—	5	48	9"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5	36	12"	—	5	36	12"	—
	j3 "	—	—	—	—	5	42	6"	—	5	42	6"	—	5	42	6"	—	5	60	12"	—	5	60	12"	—	5	60	12"	—	5	60	12"	—	5	60	12"	—	5	60	12"	—	5	42	6"	—	5	42	6"	—
	k "	5	—	18"	—	5	—	18"	—	5	—	18"	—	5	—	18"	—	5	—	18"	—	5	—	18"	—	5	—	18"	—	5	—	18"	—	5	—	18"	—	5	—	18"	—	5	—	18"	—	5	—	18"	—
	l "	—	—	—	—	—	—	—	—	6	30	12"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
COL. REINF.	m "	11	2x36	—	—	11	32	—	—	11	32	—	—	11	36	—	—	11	24	—	—	11	24	—	—	11	24	—	—	11	24	—	—	11	24	—	—	11	24	—	—	11	40	—	—	11	40	—	—
FOOTING REINF.	q Bar	8	33	—	—	8	21	—	—	8	28	—	—	5	24	—	—	8	20	—	—	7	24	—	—	7	24	—	—	7	24	—	—	7	24	—	—	7	24	—	—	8	24	—	—	8	24	—	—
	r "	8	33	—	—	8	21	—	—	8	28	—	—	5	24	—	—	8	20	—	—	7	24	—	—	7	24	—	—	7	24	—	—	7	24	—	—	7	24	—	—	8	24	—	—	8	24	—	—
	s "	8	48	—	—	5	31	—	—	7	34	—	—	8	28	—	—	5	26	—	—	7	24	—	—	7	24	—	—	7	24	—	—	7	24	—	—	7	24	—	—	8	27	—	—	8	27	—	—
	t "	8	48	—	—	5	31	—	—	7	34	—	—	8	28	—	—	5	26	—	—	7	24	—	—	7	24	—	—	7	24	—	—	7	24	—	—	7	24	—	—	8	27	—	—	8	27	—	—
	u "	8	21	—	—	5	12	—	—	5	18	—	—	5	24	—	—	5	11	—	—	5	18	—	—	5	18	—	—	5	18	—	—	5	18	—	—	5	18	—	—	5	18	—	—	5	18	—	—
	v "	5	32	—	—	5	31	—	—	5	31	—	—	5	16	—	—	5	26	—	—	5	18	—	—	5	18	—	—	5	18	—	—	5	18	—	—	5	24	—	—	5	24	—	—	5	24	—	—

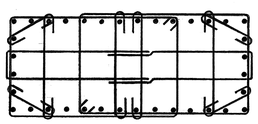
For Notes, see Sheet No. S-20.



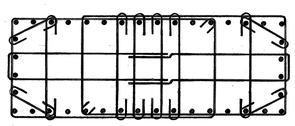
24 BARS



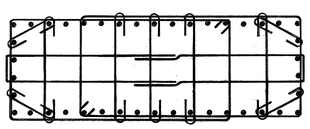
32 BARS



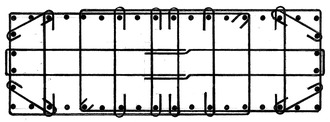
36 BARS



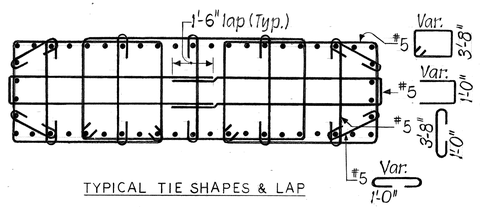
40 BARS



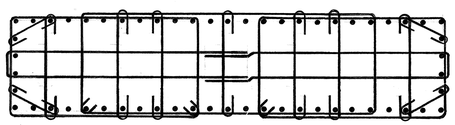
42 BARS



44 BARS



TYPICAL TIE SHAPES & LAP



58 BARS

COLUMN TIE PATTERNS

ORIGINAL PLANS — NOTE BOOK — No.

SURVEY PLOTTED BY: DATE AUG.'77
DRAWN BY: PARROA-MALKIN
TRACED BY:
DESIGNED BY: H. SAXER AUG.'77
QUANTITIES BY:
CHECKED BY: D. GILSTAD AUG.'77

7/21/78	Revised footing reinforcements in Reinforcement Schedule.
DATE	REVISIONS

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

H-1 VIADUCT (E.B. & W.B.), RAMP A, RAMP F & RAMP G

PIER REINFORCEMENT SCHEDULE

SHEET 2 OF 2
KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1(131):17
SCALE: — DATE: AUG. 31, '77

VIJAY CHANDRA — REGISTERED PROFESSIONAL ENGINEER — No. 4120 — HAWAII, U.S.A.

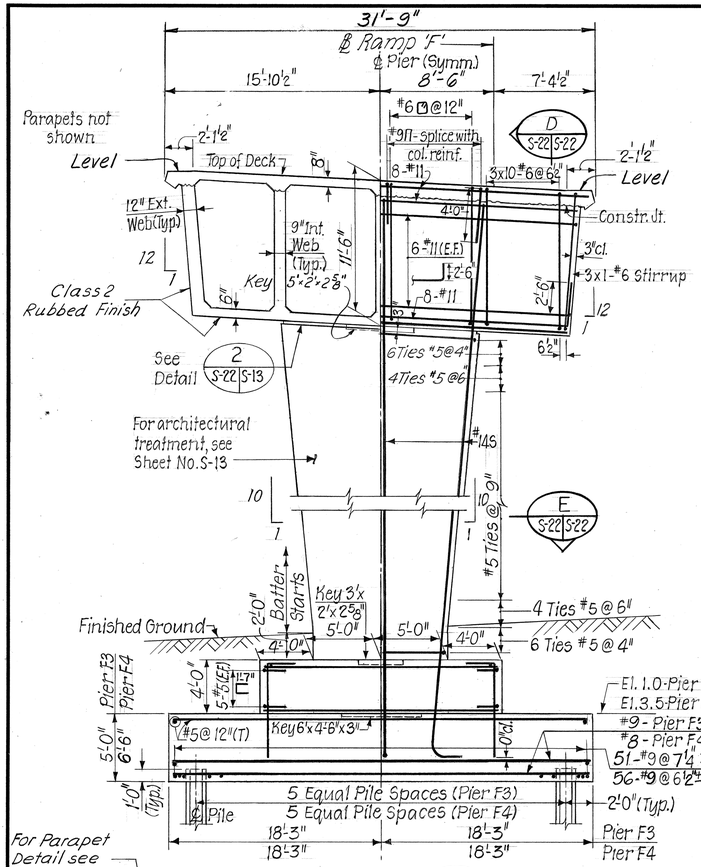
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

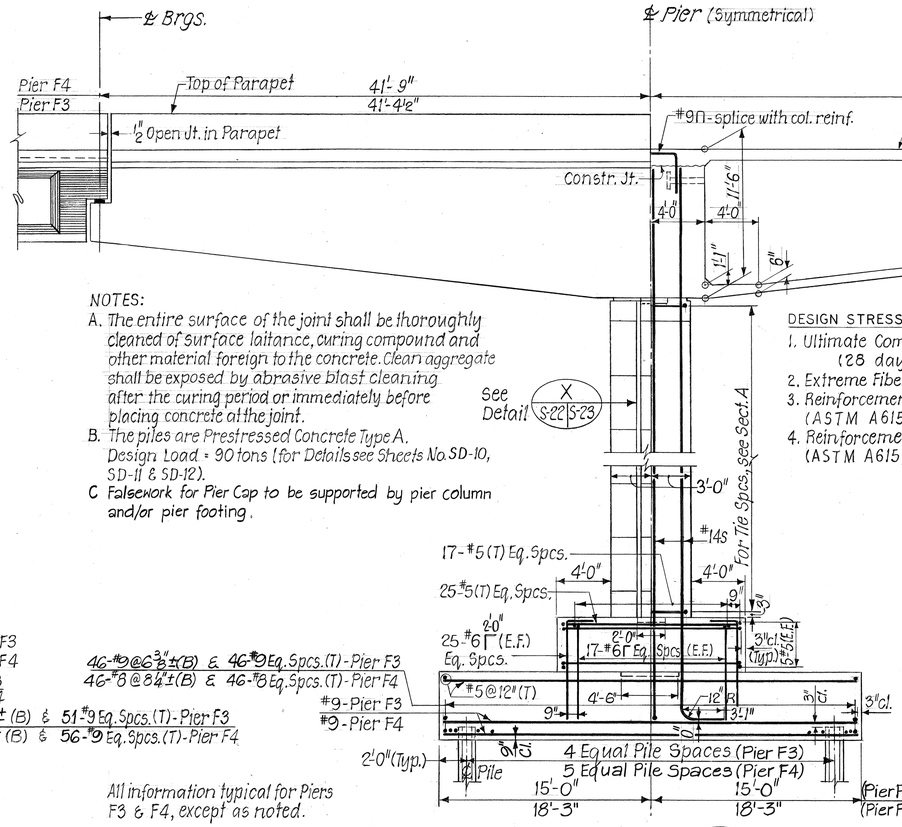
Vijay Chandra
Signature

SHEET NO. S-21 OF S-94 SHEETS

C.O. 252

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(130):17	1977	253	394





NOTES:

A. The entire surface of the joint shall be thoroughly cleaned of surface laitance, curing compound and other material foreign to the concrete. Clean aggregate shall be exposed by abrasive blast cleaning after the curing period or immediately before placing concrete at the joint.

B. The piles are Prestressed Concrete Type A. Design Load = 90 tons (for Details see Sheets No. SD-10, SD-11 & SD-12).

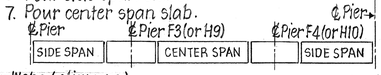
C Falsework for Pier Cap to be supported by pier column and/or pier footing.

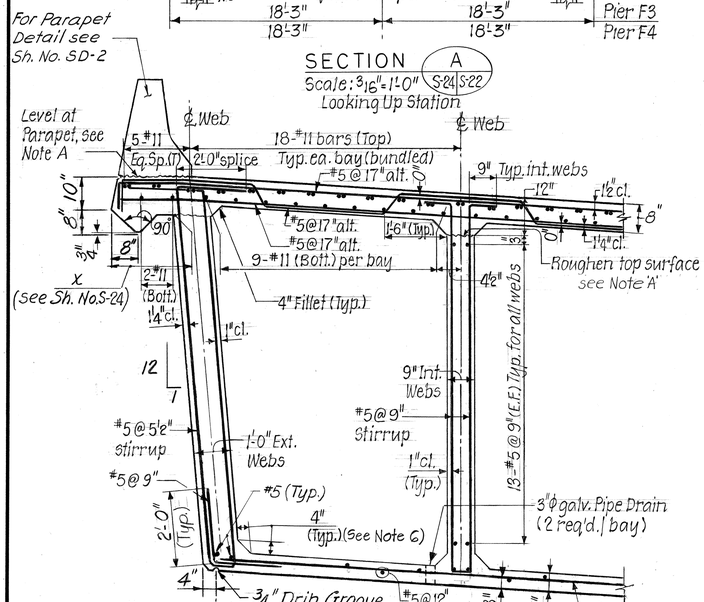
DESIGN STRESSES

	Pier Cap & Column	Footing
1. Ultimate Compressive Stress - f'c (28 days Concrete)	5,000 psi	3,000 psi
2. Extreme Fiber in Compression - fc	2,000 psi	1,200 psi
3. Reinforcement Steel - fs (ASTM A615, Grade 60)	24,000 psi	—
4. Reinforcement Steel - fs (ASTM A615, Grade 40)	—	20,000 psi

SEQUENCE OF CONSTRUCTION

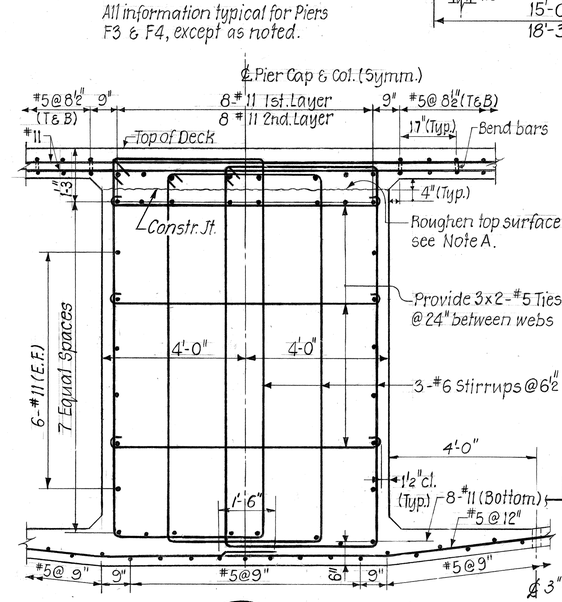
1. Construct footings, columns and pier cap bottom slabs and webs. (See Note C)
2. When bottom slab and web concrete has attained a minimum cylinder strength of 3000 psi (10 days min.) remove the interior forms. Note: Pier cap false work shall not be removed until 28 days after top slab is cast (See step 4).
3. Pour pier cap top slab; taking into account elevations and total camber as shown on Shs. No. S-24 & S-25
4. When entire cap concrete has attained a minimum cylinder strength of 5000 psi (28 days min) remove pier cap falsework, beginning from the extremities of the cap and proceeding uniformly toward the column.
5. Place beams alternately for side & center spans with not more than one beam dead load unbalance.
6. Pour side span slabs.
7. Pour center span slab.



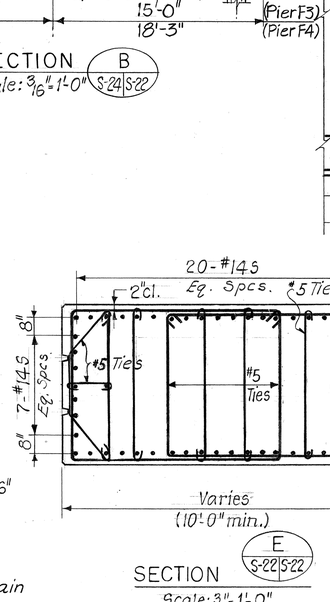


TYPICAL BOX SECTION (at face of column)
N. T. S.

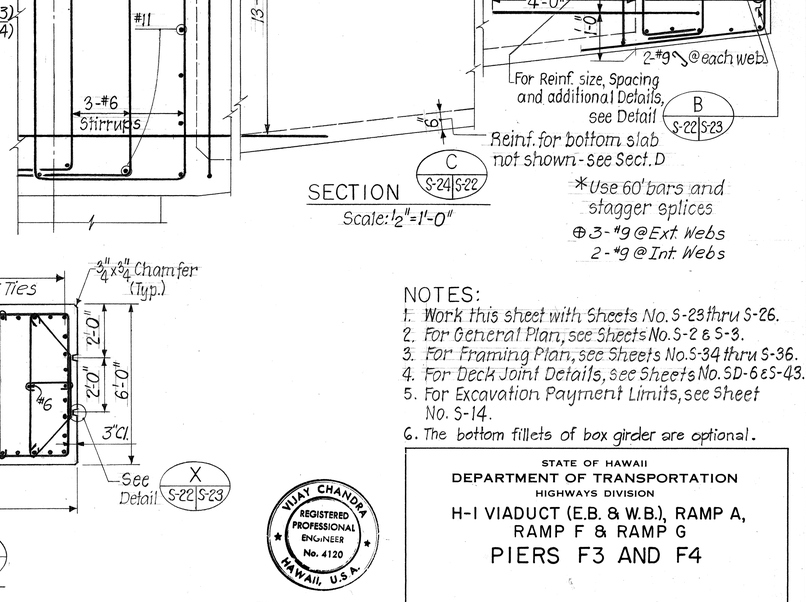
All information typical for Piers F3 & F4, except as noted.



SECTION D
S-22 S-22
Scale 1/2" = 1'-0"



SECTION E
S-22 S-22
Scale: 3/8" = 1'-0"



SECTION C
S-24 S-22
Scale: ½" = 1'-0"

*Use 60' bars and stagger splices
⊕ 3-#9 @ Ext. Webs
2-#9 @ Int. Webs

NOTES:

1. Work this sheet with Sheets No. S-23 thru S-26.
2. For General Plan, see Sheets No. S-2 & S-3.
3. For Framing Plan, see Sheets No. S-34 thru S-36.
4. For Deck Joint Details, see Sheets No. SD-6 & S-43.
5. For Excavation Payment Limits, see Sheet No. S-14.
6. The bottom fillets of box girder are optional.

DATE	REVISIONS
7/21/78	Revised ftg. size & ftg. reinforcements in Sections A S-24 S-22 & B S-24 S-22

ORIGINAL PLAN	SURVEY PLOTTED BY PATRICIA HALKIN	DATE AUG. '77
NOTE BOOK	TRACED BY	
	DESIGNED BY J. Mendes & D. Gusman	AUG. '77
	QUANTITIES BY	
No.	CHECKED BY V. Chandra	AUG. '77

VIJAY CHANDRA REGISTERED PROFESSIONAL ENGINEER No. 4120 HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Vijay Chandra
Signature

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

H-1 VIADUCT (E.B. & W.B.), RAMP A, RAMP F & RAMP G

PIERS F3 AND F4

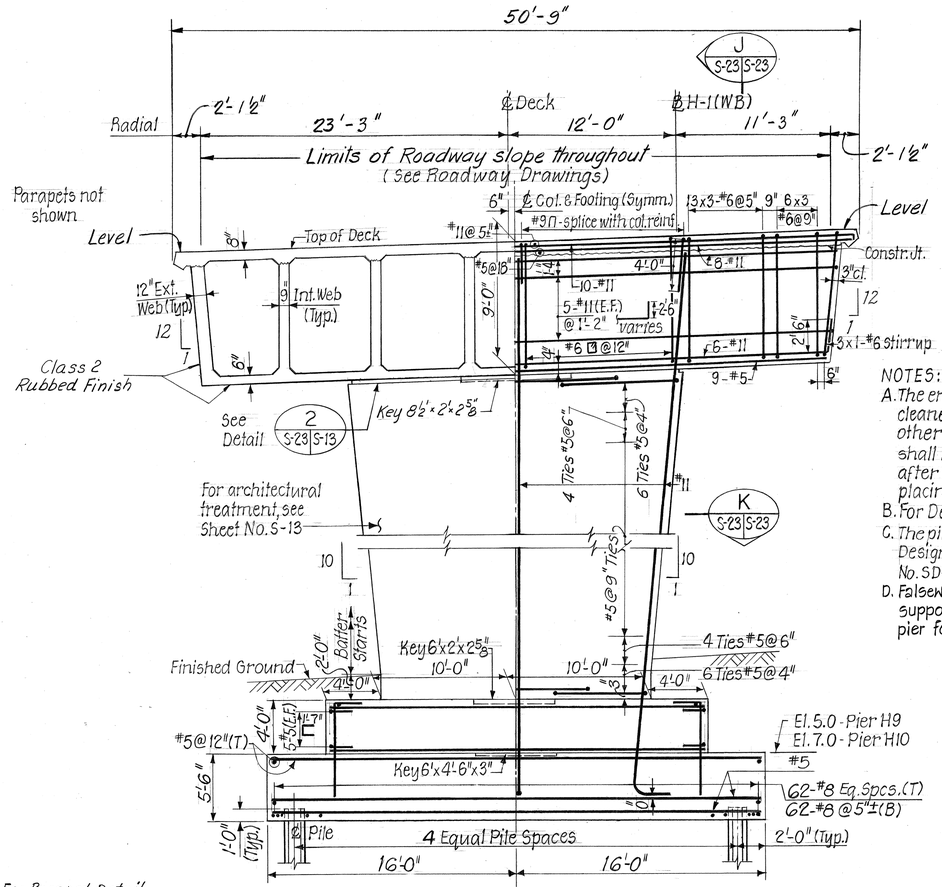
KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1 (131):17

SCALE: AS SHOWN DATE: AUG. 31, '77

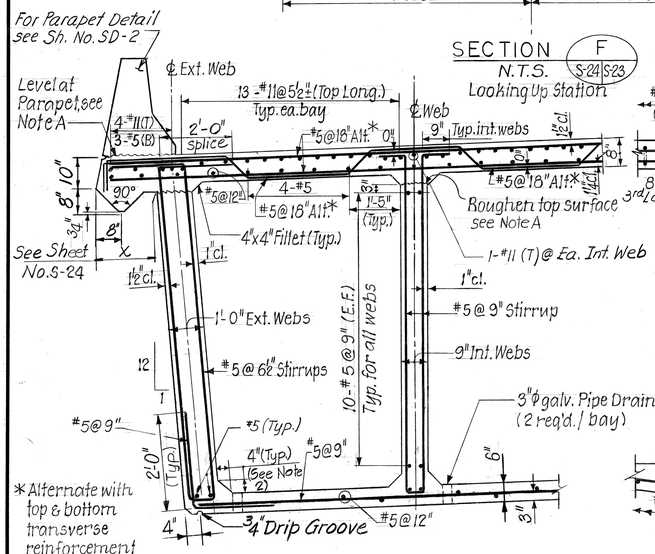
SHEET NO. S-22 OF S-94 SHEETS

C.O. 253

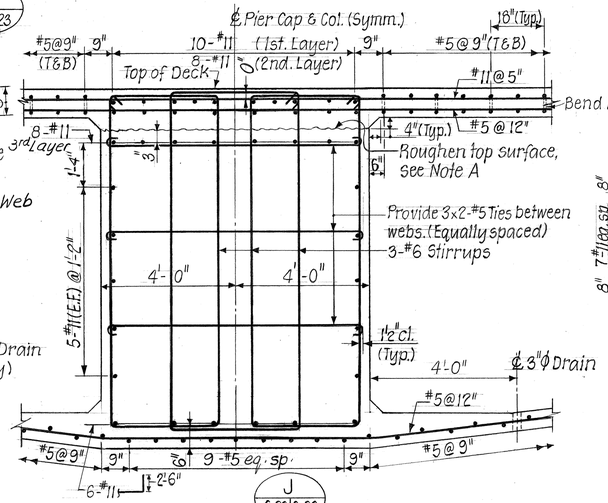
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(31)-17	1977	254	394



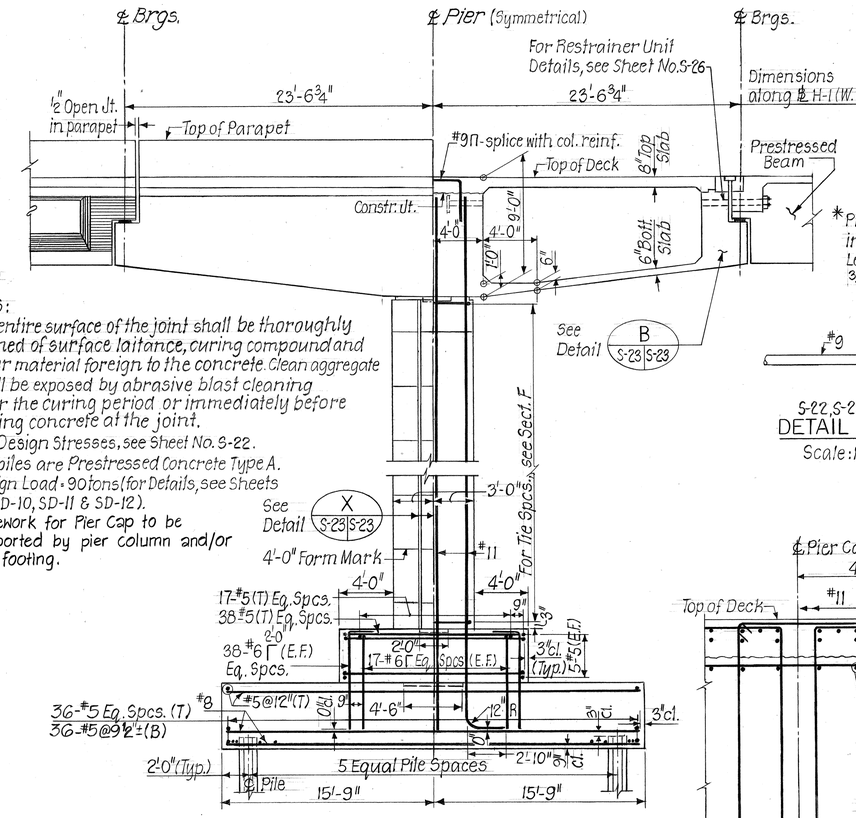
SECTION F
N.T.S.
S-24 S-23
Looking Up Station



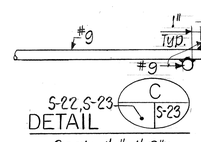
TYPICAL BOX SECTION
N.T.S.



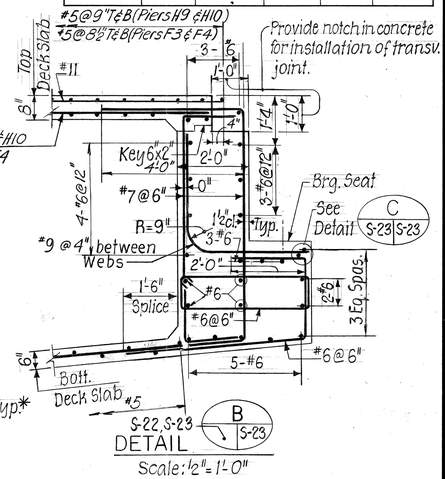
SECTION J
N.T.S.
S-23 S-23

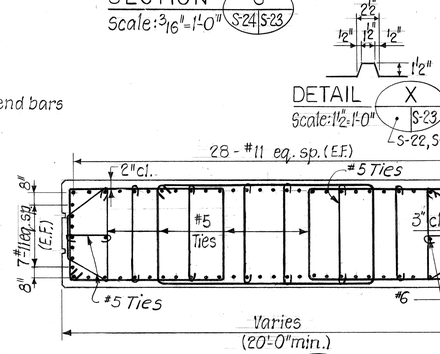


SECTION G
Scale: 3/16" = 1'-0"
S-24 S-23



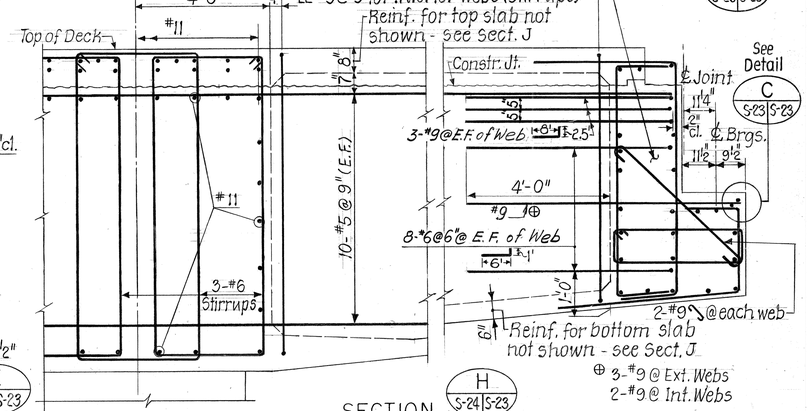
*Provide 4 welds per intersection of bars. Length per weld = 34 x diam. of bar.





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

DETAIL X
Scale: 1½" = 1'-0"
S-22, S-23



For Reinf. size, Spacing and additional Details, see Detail B S-23 S-23

SECTION H
Scale: ½" = 1'-0"
S-24 S-23

NOTES:
1. For Notes & Sequence of Construction, see Sheet No. S-22.
2. The bottom fillets of box girder are optional.

DATE	REVISIONS
7/21/78	Revised ftg. size & ftg. reinforcements in Sections F S-24 S-23 & G S-24 S-23

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

H-1 VIADUCT (E.B. & W.B.), RAMP A, RAMP F & RAMP G

PIERS H9 AND H10

KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1 (131):17

SCALE: AS SHOWN DATE: AUG. 31, 77

SHEET NO. S-23 OF S-94 SHEETS

VIJAY CHANDRA
REGISTERED PROFESSIONAL ENGINEER
No. 4120
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
Vijay Chandra
Signature

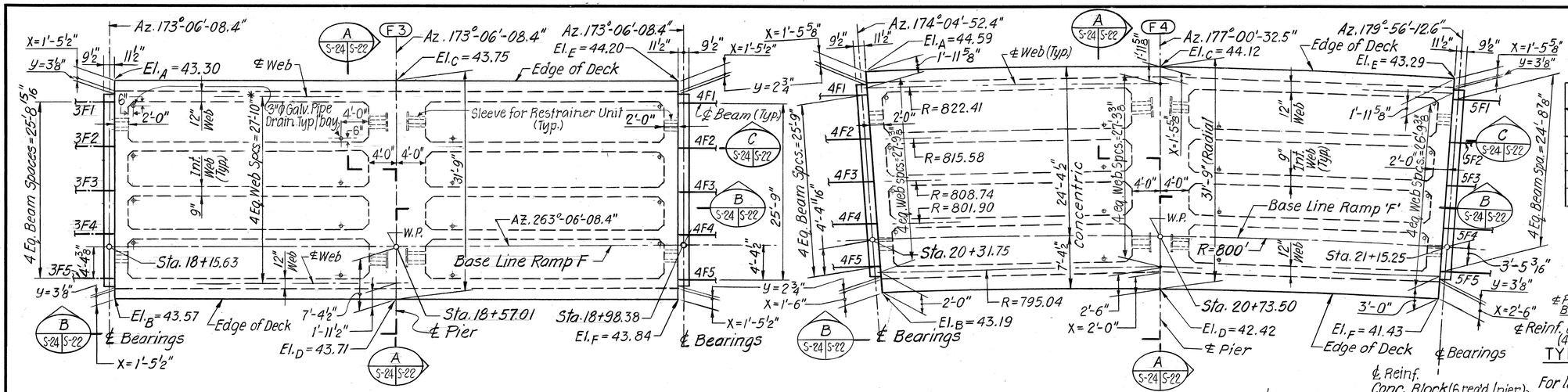
ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	PLANS PREPARED BY P. MALKIN	AUG. 77
NOTE BOOK	TRACED BY	
	DESIGNED BY L. Mercado & D. GUSTAD	AUG. 77
	QUANTITIES BY	
No.	CHECKED BY V. Chandra	AUG. 77

C.O. 254

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(130)-17	1977	255	394

ELEVATIONS (FT.)

POINTS / PIERS	Q	R	S	T	U	V	W	X	Y	Z
F 3	37.16	37.50	36.53	36.24	32.00	32.00	32.22	32.20	32.30	32.20
F 4	34.50	36.33	30.50	37.91	31.05	31.96	30.87	32.63	32.52	31.06
H 9	40.52	38.30	40.41	38.40	37.70	36.54	38.39	36.29	36.30	38.37
H 10	40.77	37.87	40.73	37.99	37.90	36.33	38.91	35.93	35.32	38.75

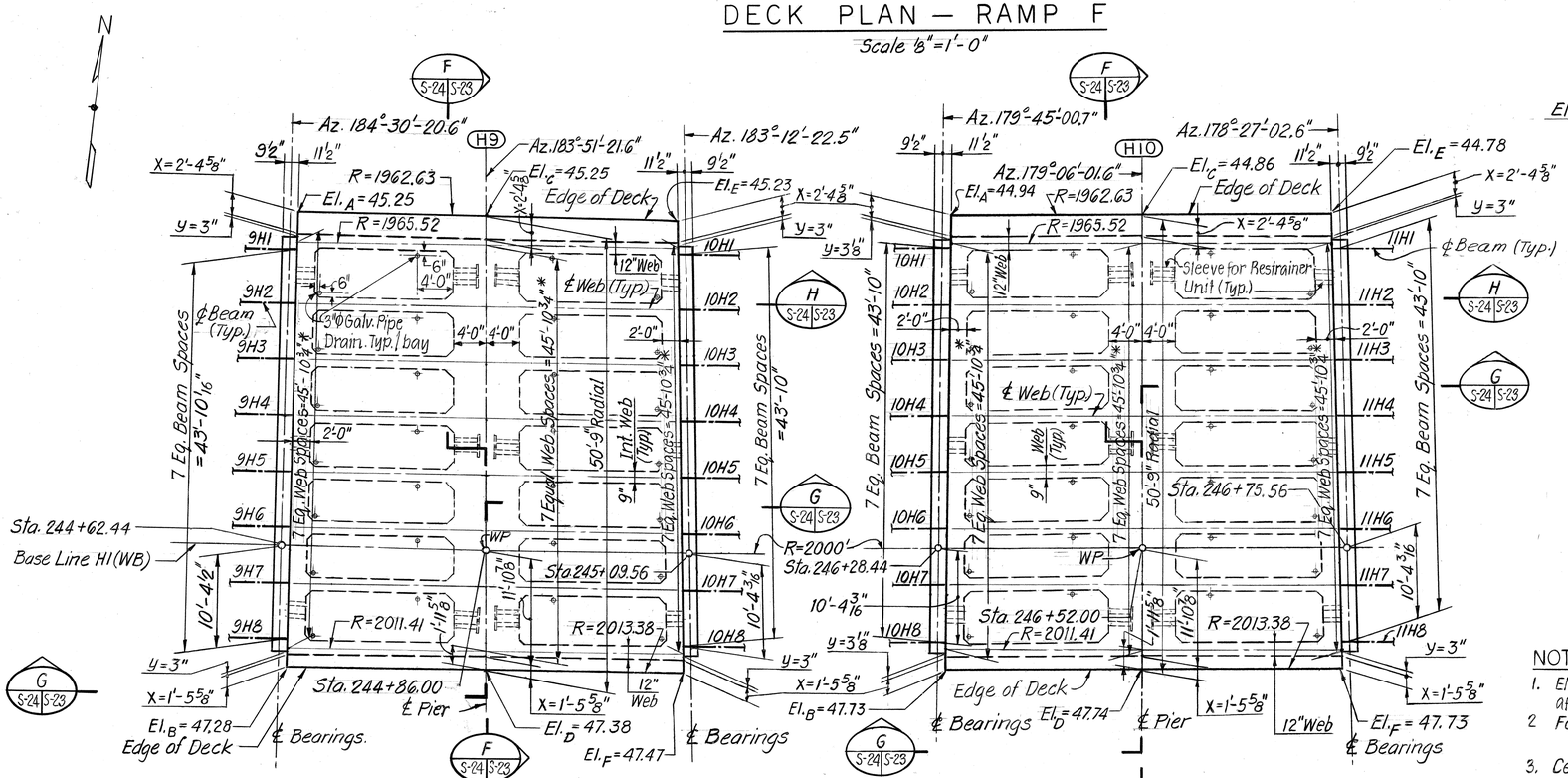


PIER F3

PIER F4

DECK PLAN — RAMP F

Scale 1/8"=1'-0"



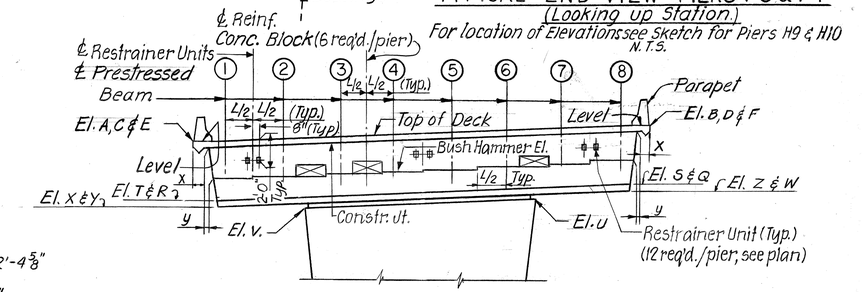
PIER H9

PIER H10

DECK PLAN — INT. ROUTE H1-WB

Scale 1/8"=1'-0"

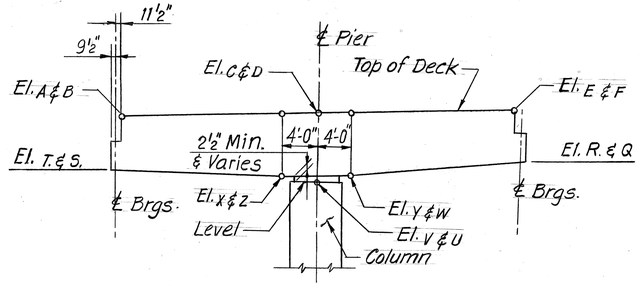
* Distance measured 12" below top of roadway slab along Construction Joint.



TYPICAL END VIEW — PIERS H9 & H10

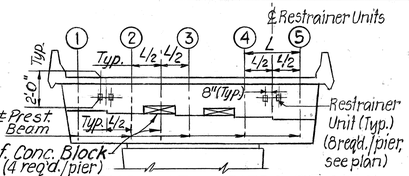
(Looking up Station.)

N.T.S.



LONGITUDINAL ELEVATION (Looking North)

N.T.S.



TYPICAL END VIEW — PIERS F3 & F4

(Looking up Station.)

For location of Elevations see sketch for Piers H9 & H10

N.T.S.

VIJAY CHANDRA REGISTERED PROFESSIONAL ENGINEER No. 4120 HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Vijay Chandra
Signature

NOTES:

1. Elevations shown are final elevations required in the structure after all short and long term deflections have taken place.
2. For bush hammer elevations, skew angles and bearing types, see Sheet No. S-19.
3. Centerline of Deck Joint is radial and ℄ Brg's. is parallel to ℄ Joint.
4. For Elevation and Section of Piers F3, F4, H9 and H10, see Sheet No's. S-22 & S-23.
5. For Deck Reinforcing Plan, see Sh. No. S-25.
6. For Details of Restrainer Units, see Sh. No. S-26.
7. For Jacking Diagram, see Sheet No. S-35.
8. For drainage details & location of scuppers, see Sheet Nos. S-2 & S-44.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

H-1 VIADUCT (E.B. & W.B.), RAMP A, RAMP F & RAMP G

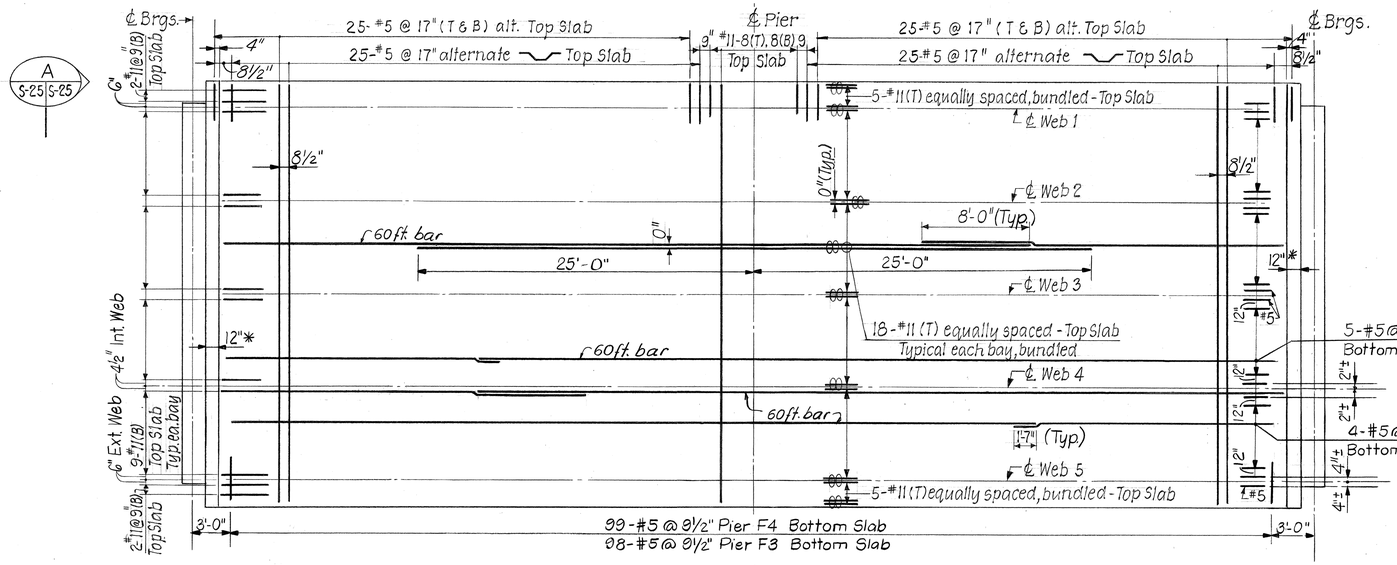
DECK PLAN PIERS F3, F4, H9 & H10

KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1(131):17
SCALE: AS SHOWN DATE: AUG. 31, '77

SHEET NO. S-24 OF S-94 SHEETS

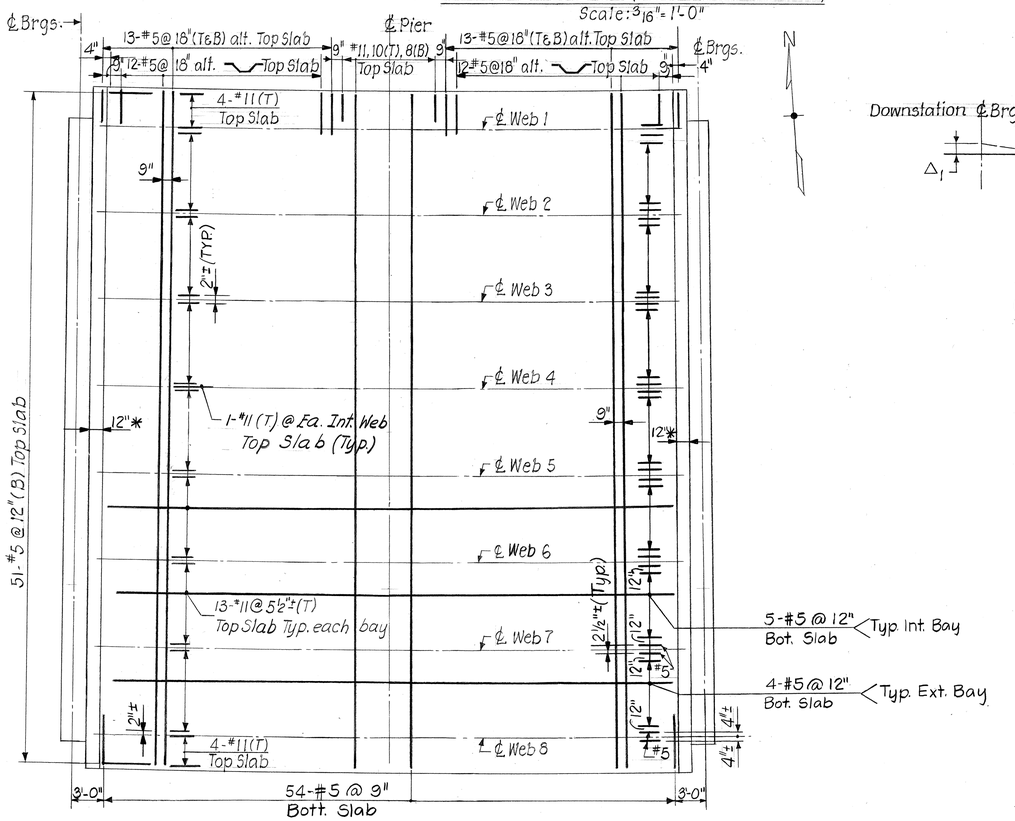
ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY	AUG. '77
NOTE BOOK	TRACED BY	
	DESIGNED BY: Bennett & DiSILVESTRO	AUG. '77
	QUANTITIES BY	
No.	CHECKED BY: Chandra	AUG. '77

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(131)17	1977	256	394



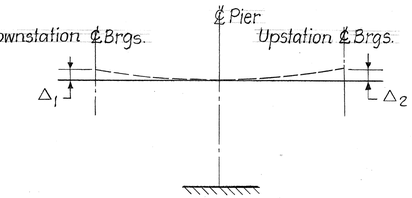
PLAN - PIER F3 (PIER F4 SIMILAR)

Scale: 3/16" = 1'-0"



PLAN - PIER H9 (PIER H10 SIMILAR)

Scale: 3/16" = 1'-0"

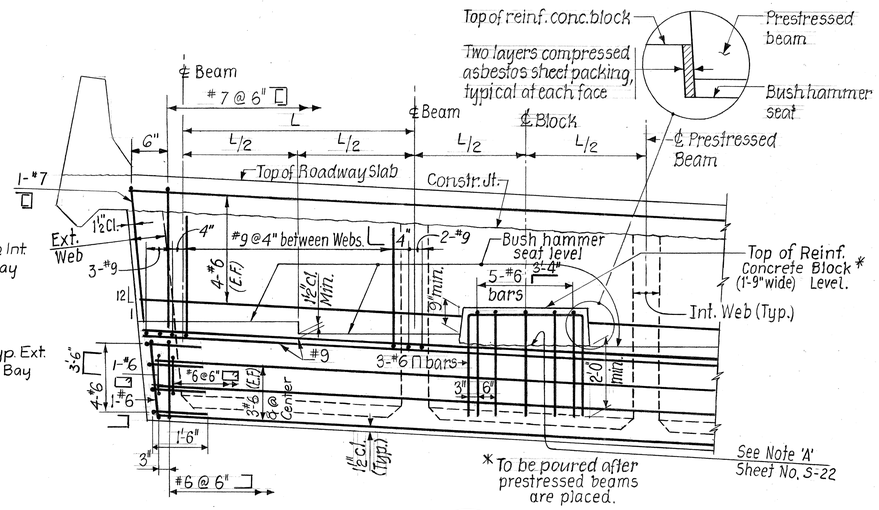


CAMBER DIAGRAM

CAMBER TABLE

DESCRIPTION	PIER F3†		PIER H9††	
	Δ1	Δ2	Δ1	Δ2
Dead load Pier	3/16"	3/16"	0"	0"
D.L. Beams-Approach Spans	3/16"	1/2"	1/16"	1/8"
All other D.L.-Approach Spans	3/16"	7/16"	1/16"	1/8"
Long-Term Deflection	3/4"	7/8"	3/16"	3/16"
Total Camber	15/16"	2"	5/16"	7/16"

† Pier F4 opposite hand
†† Pier H10 opposite hand



VIEW A (S-25 | S-25) (Typical for all Bearing Seats)

Scale: ½" = 1'-0"

NOTES:

1. Work this Sheet with Sheet Nos. S-22 thru S-24.
2. ~~00~~ indicates bundle bars in groups of twos.
3. For Jacking Diagram, see Sheet No. S-35.
4. For Deck Joint Detail, see Sh. Nos. SD-6 & S-43.
5. For Framing Plans, see Sheet No. S-34 thru Sheet No. S-36.
6. Where bar length would exceed 60 feet, bars shall be spliced at alternate locations.

* Notch in concrete for installation of transverse joint

ORIGINAL PLAN

NOTE BOOK No.

SURVEY PLOTTED BY ... DATE AUG.'77
DRAWN BY PATRICIA MALKIN ... AUG.'77
TRACED BY ... AUG.'77
DESIGNED BY J. Chandra / D. GUSTAD ... AUG.'77
QUANTITIES BY ... AUG.'77
CHECKED BY J. Chandra

VIJAY CHANDRA REGISTERED PROFESSIONAL ENGINEER No. 4120 HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Jay Chandra
Signature

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

H-1 VIADUCT (E.B. & W.B.), RAMP A, RAMP F & RAMP G

SLAB REINFORCEMENT PIERS F3, F4, H9 & H10

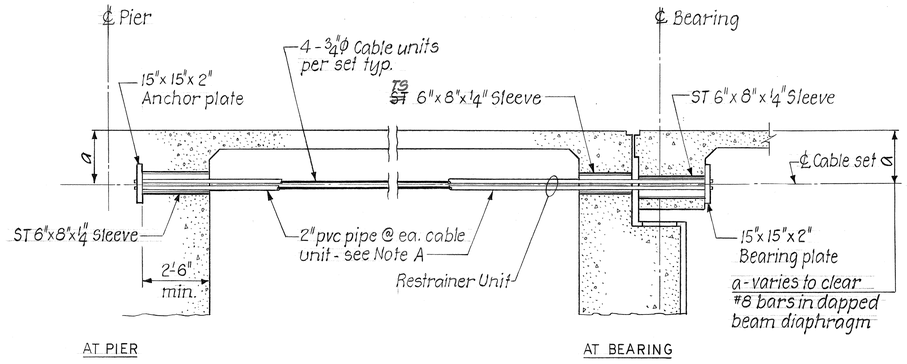
KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1 (131): 17

SCALE: AS SHOWN DATE: AUG. 31, '77

SHEET NO. S-25 OF S-94 SHEETS

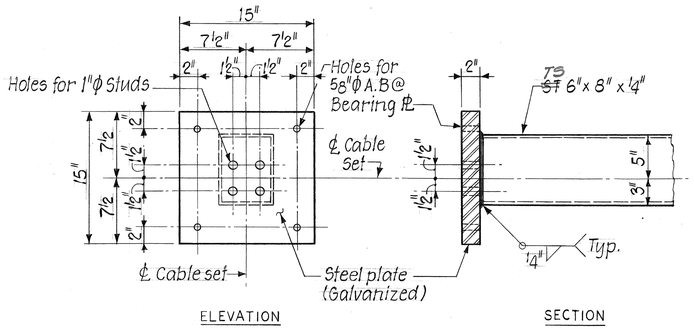
256

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-I(131):17	1977	257	394



PROFILE - SHOWING RESTRAINERS

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

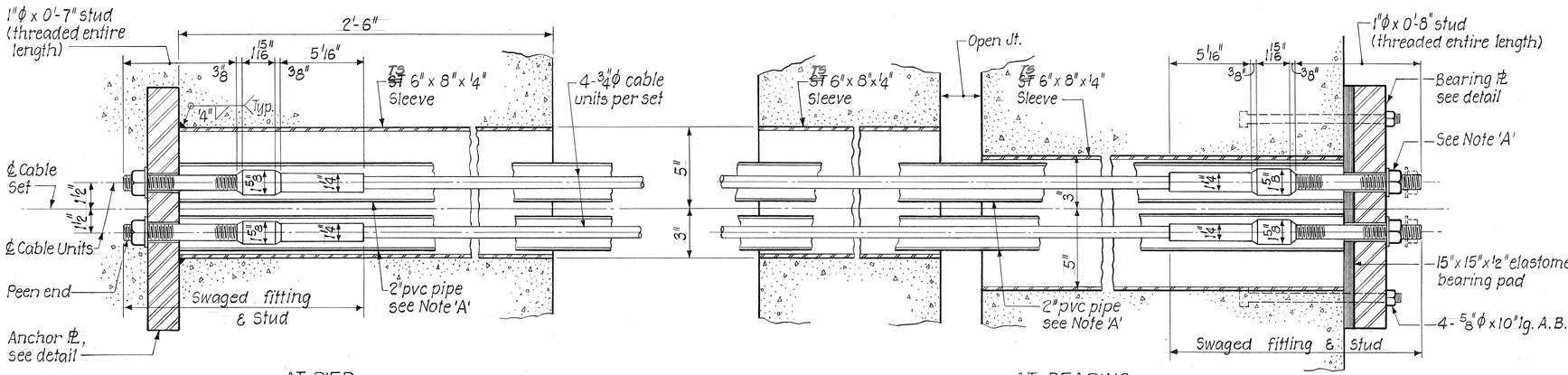


TYPICAL BEARING & ANCHOR PLATE DETAIL

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

NOTE 'A':

1. After top slab has attained its 28 day concrete strength, torque nut to 45 ft. lbs then back-off one inch typical and peen threads at Expansion Bearing.
   Torque nut to 20 ft. lbs then release to 5 ft. lbs and peen threads at Hinged Bearing.
2. All cables shall be greased with heavy duty grease and encased with 2" pvc pipe. All joints in pvc pipe shall be sealed water tight as approved by the Engineer.
3. Cables, swaged fitting and studs, nut, washer, plates and steel sleeve to be galvanized.
4. All restrainer units shall be incidental to concrete in Bridges.



TYPICAL RESTRAINER UNIT DETAIL

Not to Scale

NOTES:

1. For location of Restrainer, see Sheet No. S-24.
2. For dapped Beam diaphragm details, see Sheet No. S-40.

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY PATRICIA MALKIN	AUG.'77
	TRACED BY	
NOTE BOOK	DESIGNED BY T. Maeda	AUG.'77
	QUANTITIES BY	
No.	CHECKED BY D. GILSTAD	AUG.'77

VIJAY CHANDRA
REGISTERED PROFESSIONAL ENGINEER
No. 4120
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Vijay Chandra
Signature

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

H-1 VIADUCT (E.B. & W.B.), RAMP A, RAMP F & RAMP G

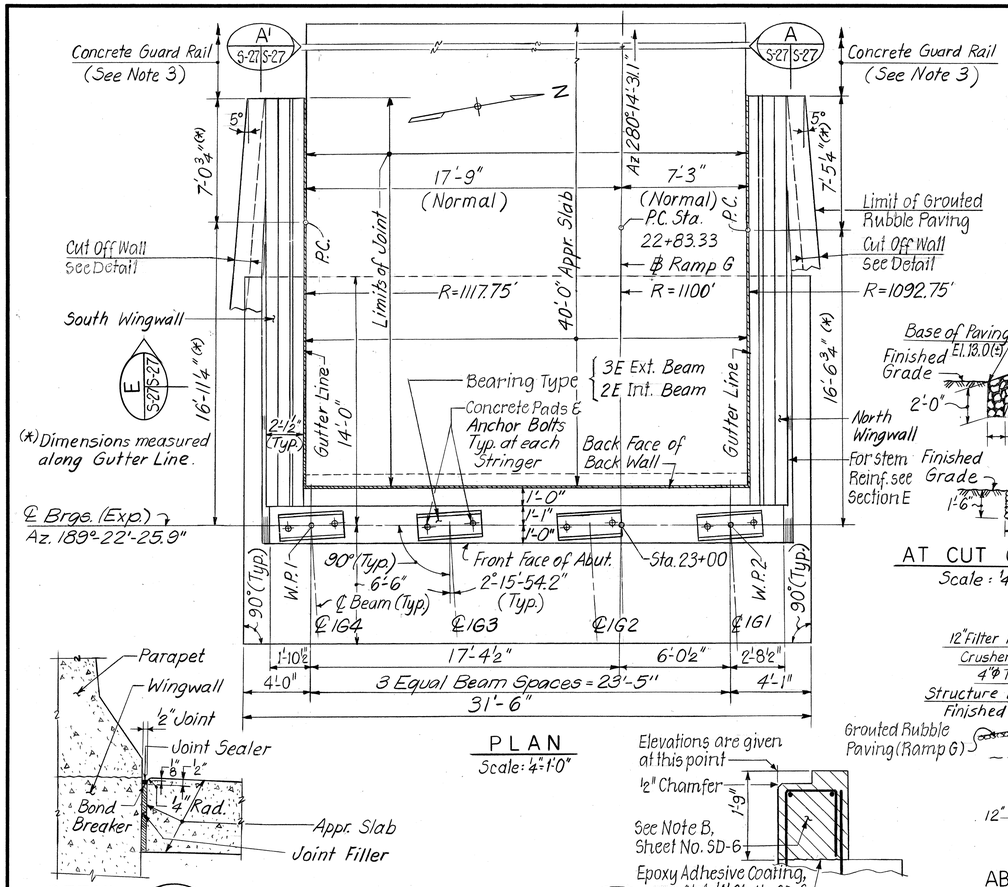
RESTRAINER DETAILS

KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-I(131):17

SCALE: AS SHOWN DATE: AUG.31,'77

SHEET NO. S-26 OF S-94 SHEETS

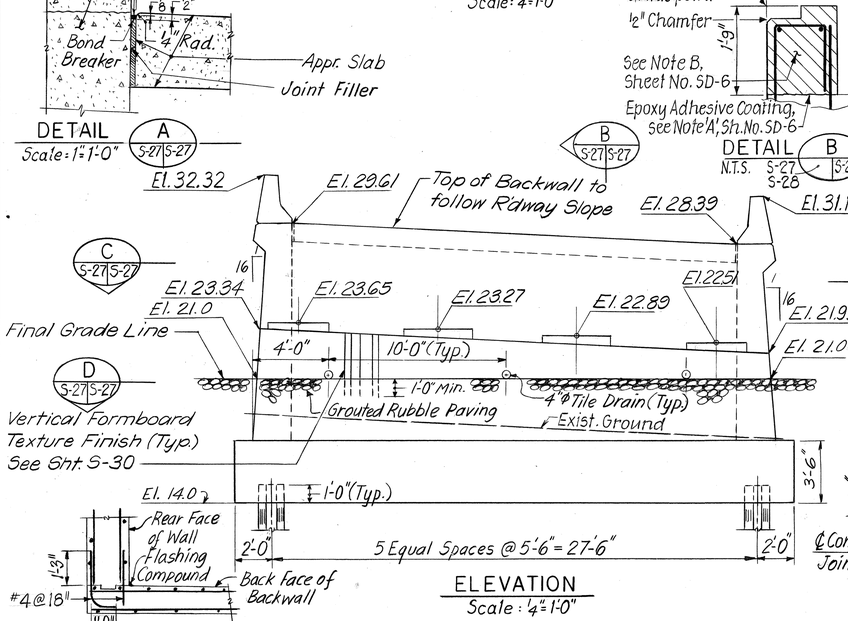
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I HI-1(131):17	1977	258	394



PLAN
Scale: ¼"=1'-0"

DETAIL A S-27 S-27
Scale: 1"=1'-0"

DETAIL B S-27 S-27
N.T.S. S-27 S-28



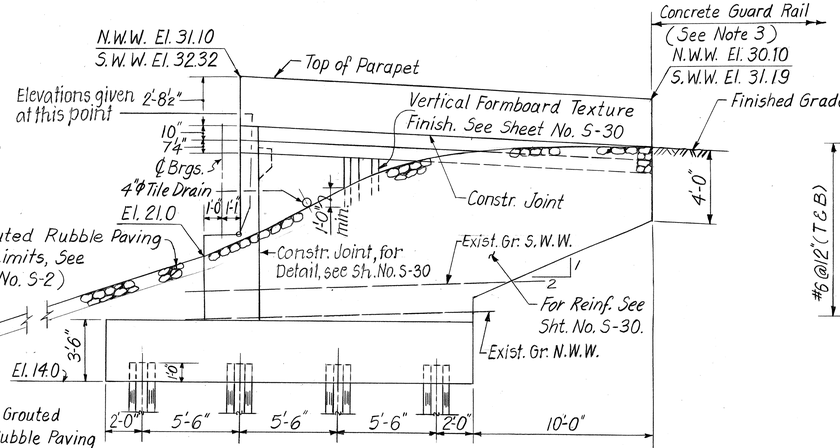
SECTION C S-27 S-27 SHOWN

SECTION C' S-27 S-27 SIMILAR (OPP. HAND)
Scale: ⅜"=1'-0"

ELEVATION
Scale: ¼"=1'-0"

SECTION D S-27 S-27 SHOWN

SECTION D' S-27 S-27 SIMILAR (OPP. HAND)
Scale: ⅜"=1'-0"

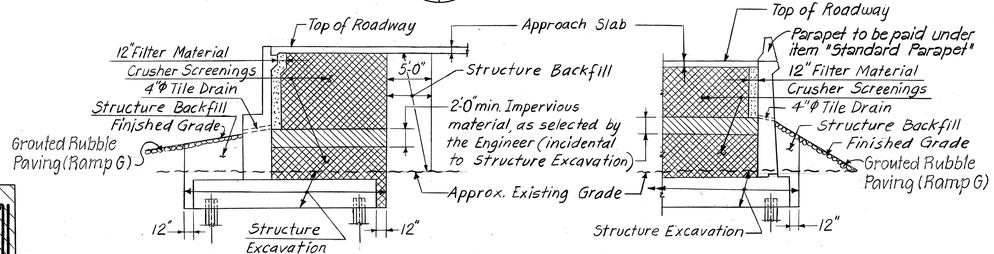


VIEW A S-27 S-27 SHOWN

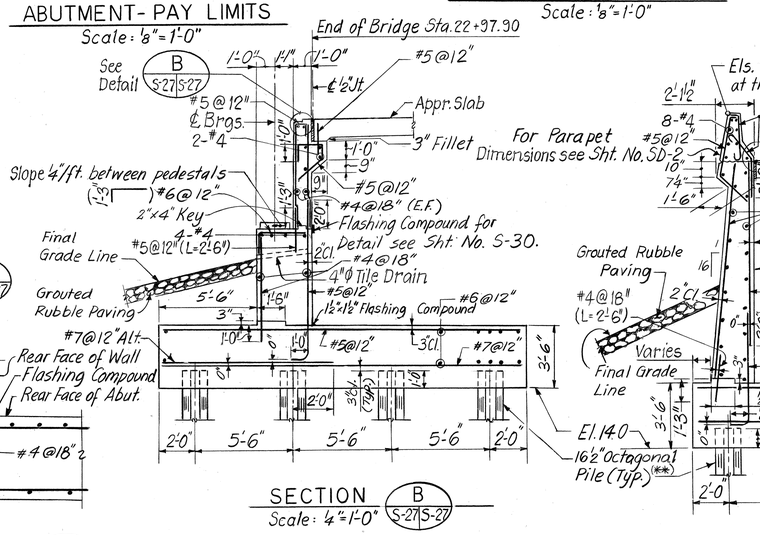
VIEW A' S-27 S-27 SIMILAR (OPP. HAND)
Scale: ¼"=1'-0"

AT CUT OFF WALL
Scale: ¼"=1'-0"

N.W.W. = North Wingwall
S.W.W. = South Wingwall



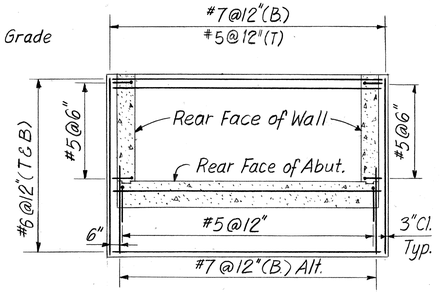
WINGWALL - PAY LIMITS
Scale: ⅛"=1'-0"



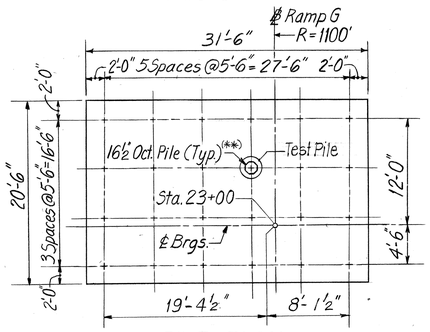
SECTION B S-27 S-27
Scale: ¼"=1'-0"

SECTION E S-27 S-27
Scale: ¼"=1'-0"

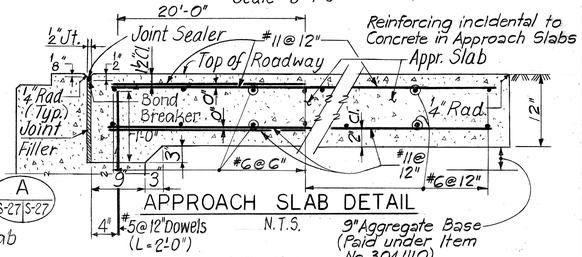
(**) Piles are Type A.
Design Load = 45 Tons.
Pile Tip Elev. = -120.
For Details see Sheets No. SD-10, SD-11 & SD-12.



FOOTING PLAN
Scale: ⅛"=1'-0"



PILE PLAN
Scale: ⅛"=1'-0"



APPROACH SLAB DETAIL
N.T.S.

NOTES:

1. For Concrete Pad reinforcing, see Sheet No. S-30.
2. For Anchor Bolt and Bearing Details, see Sheet No. S-33.
3. Provide key in wingwall to suit concrete Guard Rail. For details of concrete Guard Rail see Civil Plans.
4. For Design Stresses, see Sheet No. S-32.

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE AUG.'77
	DRAWN BY H. Nevata	AUG.'77
NOTE BOOK	TRACED BY H. Nevata	AUG.'77
	DESIGNED BY	
	QUANTITIES BY	
No.	CHECKED BY E. Lachpaul	AUG.'77

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

H-1 VIADUCT (E.B. & W.B.), RAMP A, RAMP F & RAMP G

WEST ABUTMENT - RAMP G

KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1 (131):17

SCALE: AS SHOWN DATE: AUG.31,'77

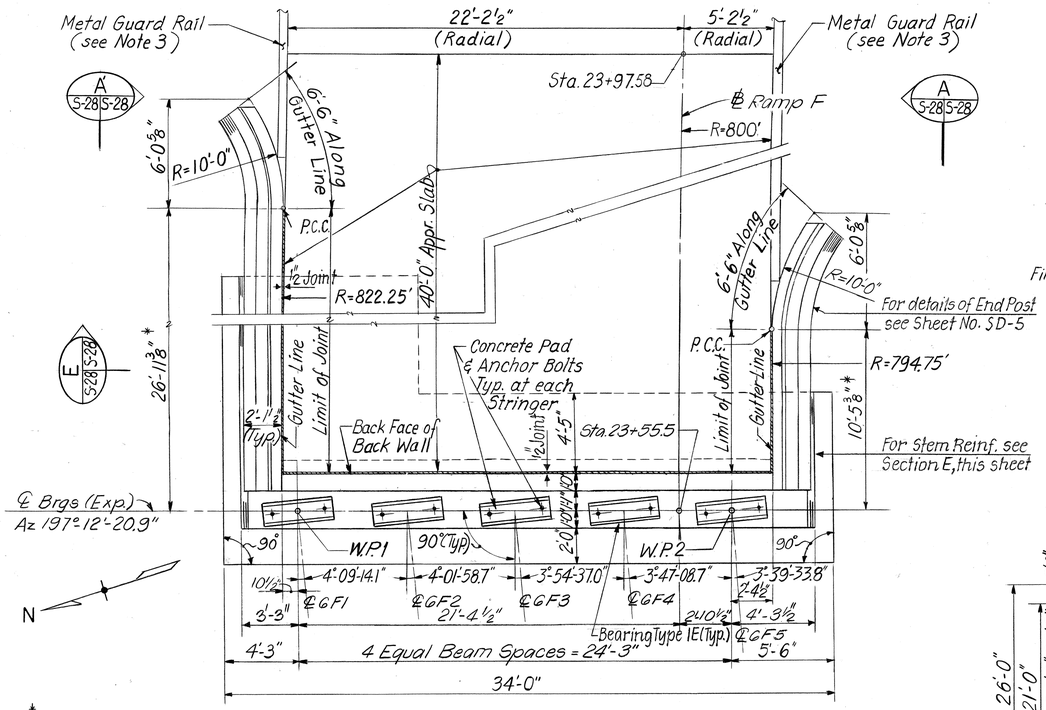
SHEET NO. S-27 OF S-94 SHEETS

VIJAY CHANDRA
REGISTERED PROFESSIONAL ENGINEER
No. 4120
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

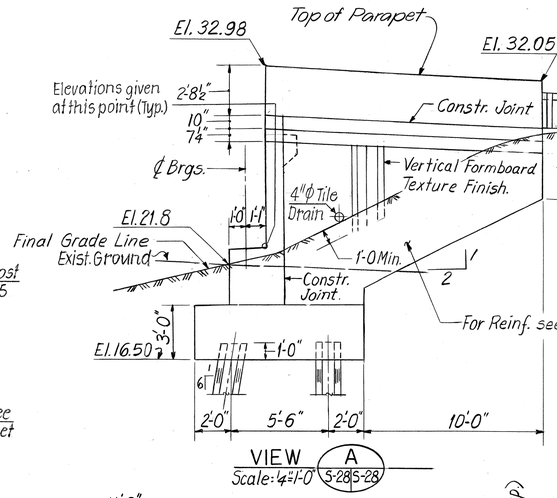
Vijay chandra
Signature

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(13)-17	1977	259	394

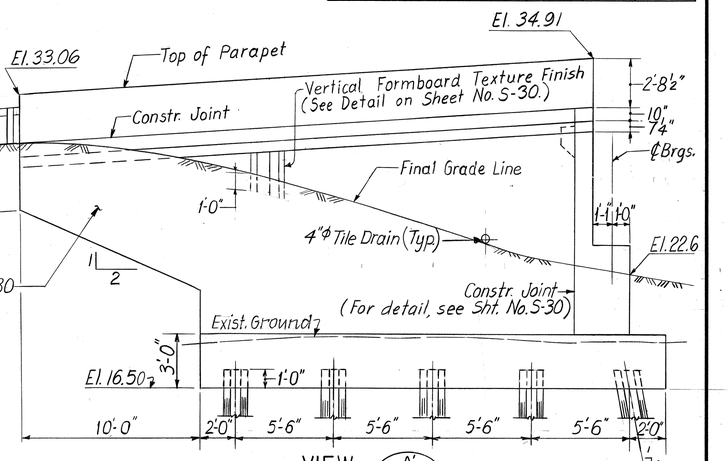


*Dimensions measured along Gutter Line.

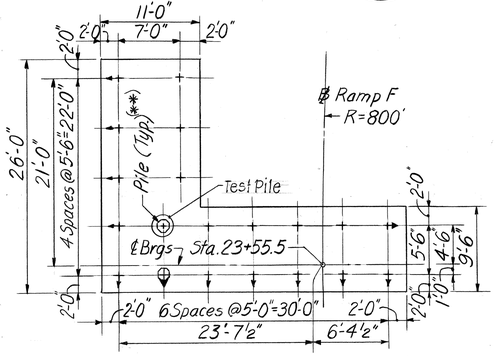
PLAN
Scale: ¼"=1'-0"



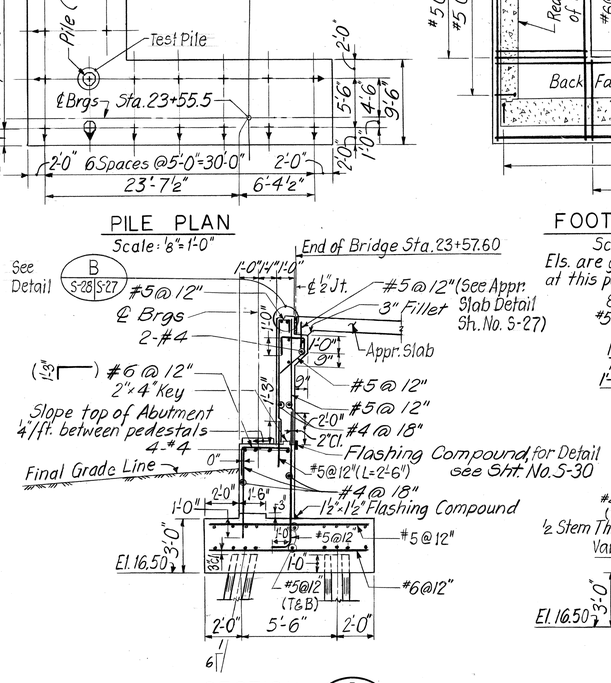
VIEW A S-28 S-28
Scale: ¼"=1'-0"



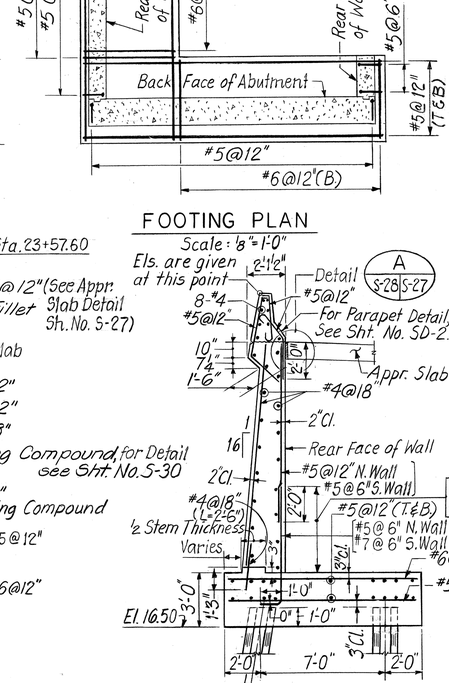
VIEW A' S-28 S-28
Scale: ¼"=1'-0"



PILE PLAN
Scale: ⅛"=1'-0"

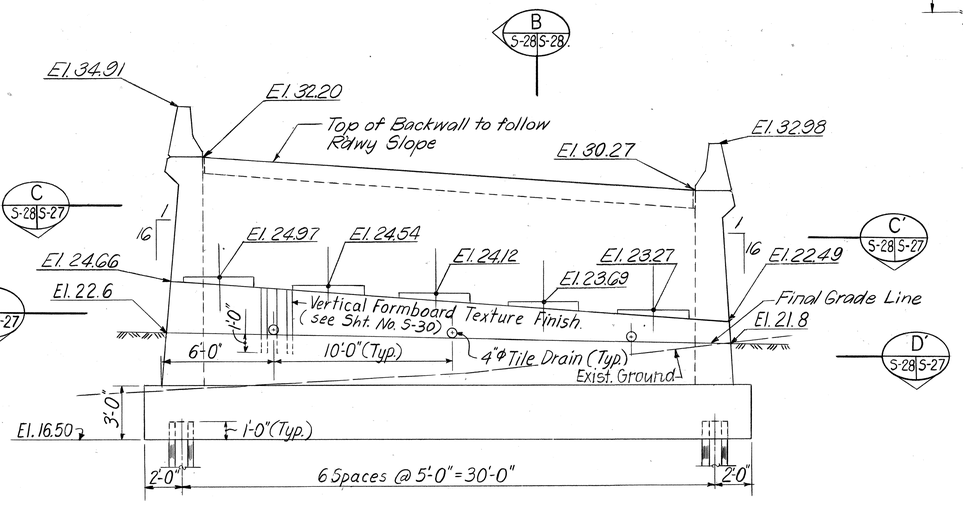


SECTION B S-28 S-28
Scale: ¼"=1'-0"



FOOTING PLAN
Scale: ⅛"=1'-0"

SECTION E S-28 S-28
Scale: ¼"=1'-0"



ELEVATION
Scale: ¼"=1'-0"

Legend:
- 16½" Vertical Pile (**)
- indicates 1 to 6 Batter Pile (**)

(**) Piles are Type A.
Design Load = 100 Tons & Pile Tip Elev. = -95.
For Details see Sheets No. SD-10, SD-11 & SD-12.

NOTES:
1. For Concrete Pad reinforcing, see Sheet No. S-30.
2. For Anchor Bolt and Bearing Details, See Sheet No. S-33.
3. For Metal Guard Rail attachment Details, see Sheet No. SD-5.
4. For Design Stresses, see Sheet No. S-32.
5. For Pay Limits, see Sheet No. S-27.
6. For Approach Slab Details, see Sheet No. S-27.

VIJAY CHANDRA
REGISTERED PROFESSIONAL ENGINEER
No. 4120
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
Vijay Chandra
Signature

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY H. Nacata	AUG.'77
	TRACED BY H. Nacata	AUG.'77
NOTE BOOK	DESIGNED BY	AUG.'77
No.	QUANTITIES BY F. Ladesma	AUG.'77
	CHECKED BY	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

H-1 VIADUCT (E.B. & W.B.), RAMP A, RAMP F & RAMP G

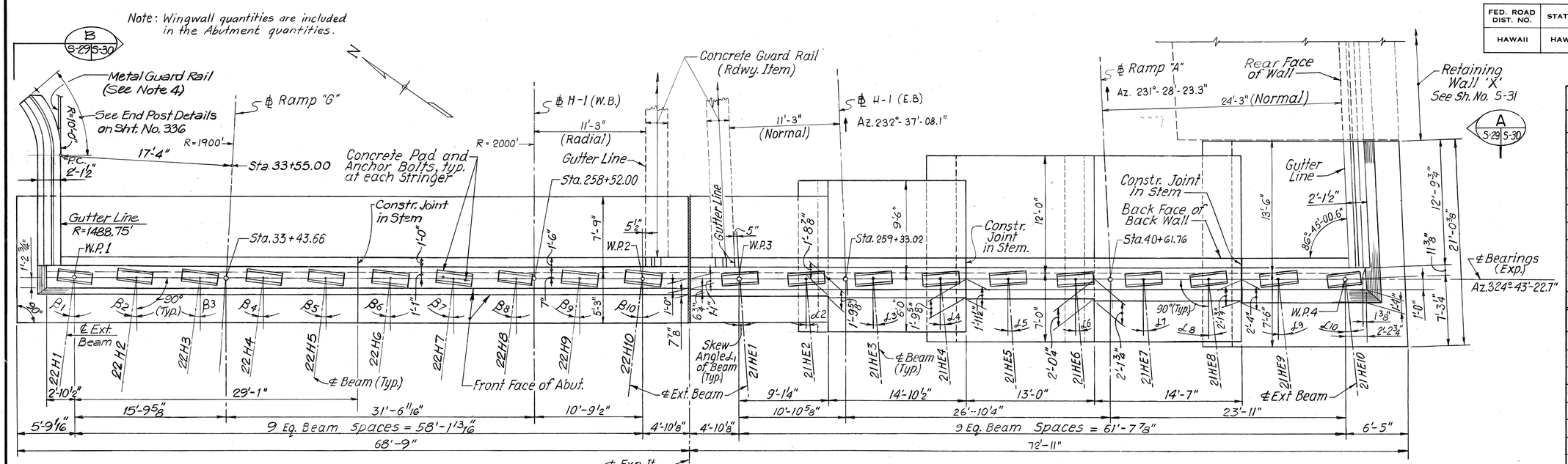
EAST ABUTMENT - RAMP F

KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1 (131): 17
SCALE: AS SHOWN DATE: AUG.31,'77

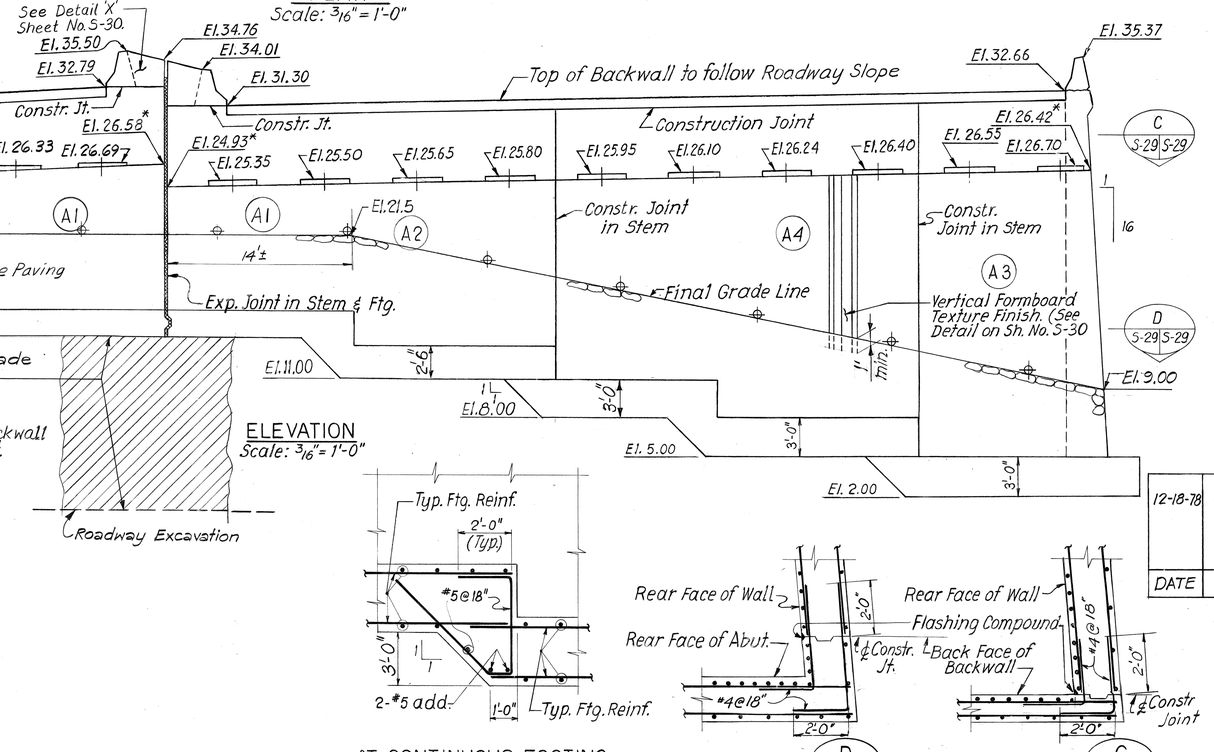
SHEET NO. S-28 OF S-94 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAWAII	I-HI-1(13)-17	1977	260	394

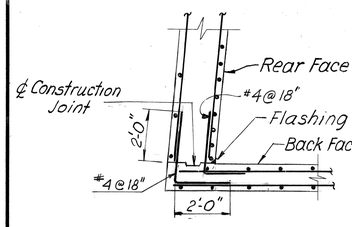
Note: Wingwall quantities are included in the Abutment quantities.



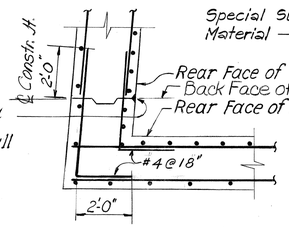
PLAN
Scale: 3/16" = 1'-0"



ELEVATION
Scale: 3/16" = 1'-0"



SECTION E S-29 S-29
Scale: 3/8" = 1'-0"



SECTION F S-29 S-29
Scale: 3/8" = 1'-0"

AT CONTINUOUS FOOTING
N.T.S.

FOOTING STEP DETAIL

SECTION D S-29 S-29
Scale: 3/8" = 1'-0"

SECTION C S-29 S-29
Scale: 3/8" = 1'-0"

STRINGER	SKEW ANGLE	BEARING TYPE
H-1 (W.B.) & RAMP 'G'		
22H1	$\beta_1 = 2°53'-04.0"$	3E
22H2	$\beta_2 = 2°42'-08.0"$	2E
22H3	$\beta_3 = 2°31'-08.1"$	↑
22H4	$\beta_4 = 2°20'-04.3"$	
22H5	$\beta_5 = 2°08'-56.4"$	
22H6	$\beta_6 = 1°57'-44.5"$	
22H7	$\beta_7 = 1°46'-28.6"$	↓
22H8	$\beta_8 = 1°35'-08.6"$	2E
22H9	$\beta_9 = 1°23'-44.5"$	2E
22H10	$\beta_{10} = 1°12'-16.3"$	3E
H-1 (E.B.) & RAMP 'A'		
21HE1	$\angle_1 = 2°06'-18.6"$	3E
21HE2	$\angle_2 = 2°13'-44.6"$	2E
21HE3	$\angle_3 = 2°21'-13.3"$	↑
21HE4	$\angle_4 = 2°28'-44.7"$	
21HE5	$\angle_5 = 2°36'-18.8"$	
21HE6	$\angle_6 = 2°43'-55.6"$	
21HE7	$\angle_7 = 2°51'-35.2"$	
21HE8	$\angle_8 = 2°59'-17.5"$	↓
21HE9	$\angle_9 = 3°07'-02.6"$	2E
21HE10	$\angle_{10} = 3°14'-50.6"$	3E

NOTES:

1. Work this Dwg. with Sheet No. S-30.
2. For Anchor Bolts and Bearing Details see Sheet No. S-33.
3. For vertical Joint Detail, Design Stresses and Wall 'X' see Sheet Nos. S-31, S-32 & S-44.
4. For Metal Guard Rail attachment Details see Sheet No. SD-5.
5. For Pay Limits, see Sheet No. S-44
6. For Excavation Plan and Limits of Special Subgrade Material See Sht. No. S-44

DATE	REVISIONS
12-18-78	Added Beam 22H10. Revised dimensions & Beam Pad Elev. on H-1(WB) Abut. Plan & Elevation. Revised Table of Skew Angles of Stringers 22H1 thru 22H10. Revised Beam Spacing on H-1(EB) Abut. Plan

VIJAY CHANDRA REGISTERED PROFESSIONAL ENGINEER No. 4120 HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Vijay Chandra
Sig. Date

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

H-1 VIADUCT (E.B. & W.B.), RAMP A, RAMP F & RAMP G

EAST ABUTMENT-I AT MIDDLE STREET

KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1 (131): 17
SCALE: AS SHOWN DATE: AUG. 31, '77

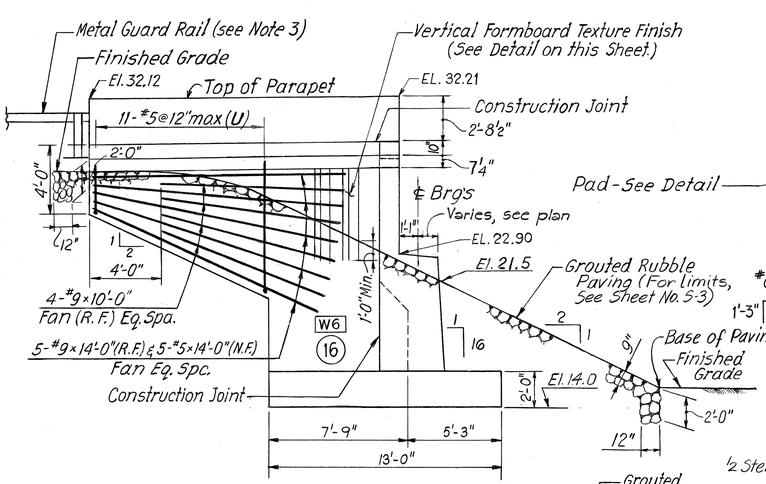
SHEET NO. S-29 OF S-94 SHEETS

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE AUG. '77
	DRAWN BY H. Miyake	
	TRACED BY H. Sakae & K. Nimoto	
NOTE BOOK	DESIGNED BY H. SAKAE	AUG. '77
	QUANTITIES BY	
NO.	CHECKED BY J. Planck	AUG. '77

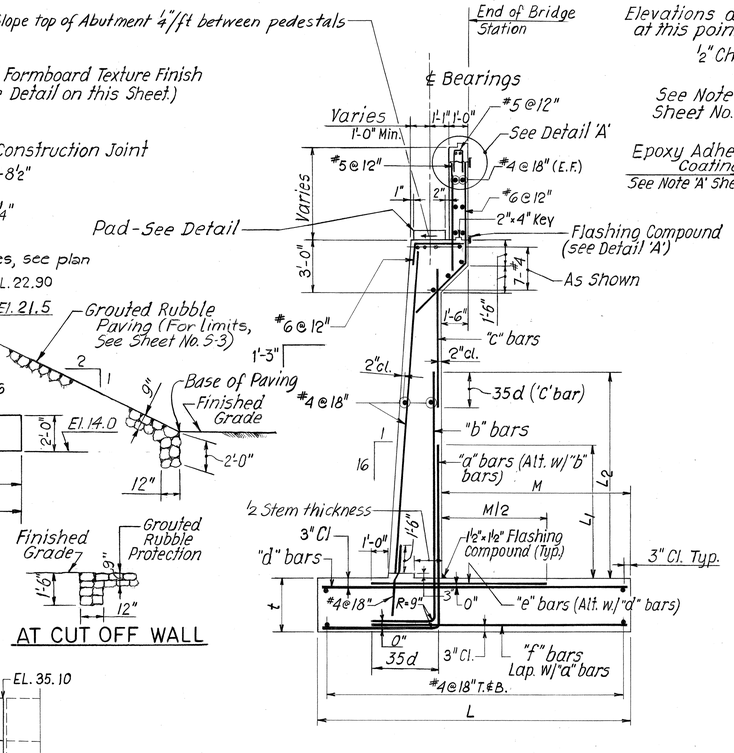
* Elevations are given at front face of backwall.

C.O. 260

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(13)17	1977	261	394

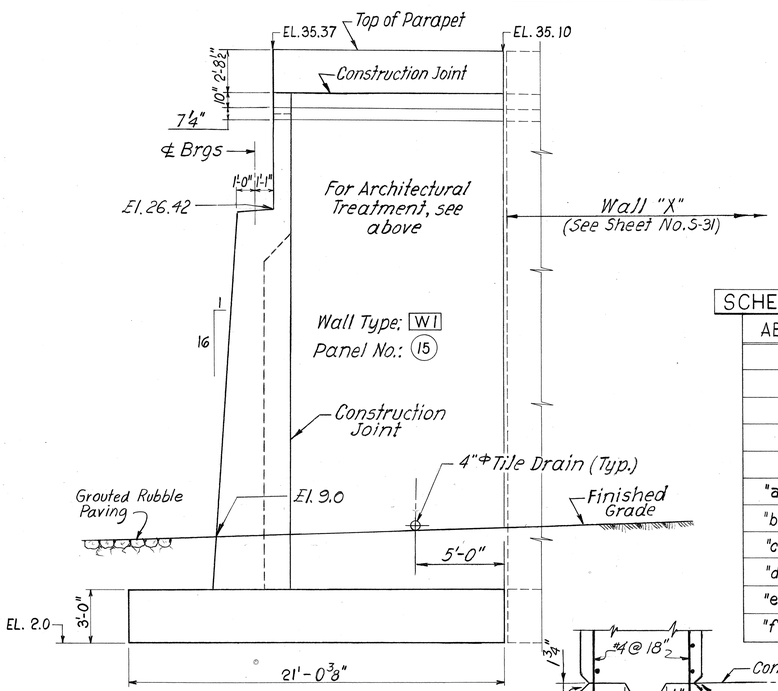


VIEW B (5-29 | S-30)
Scale: 1/4"=1'-0"

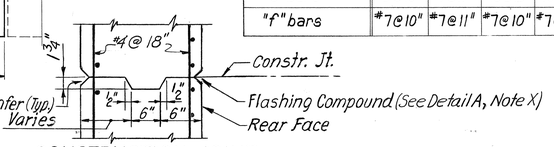


EAST ABUTMENT - SECTION
Scale: 1/4"=1'-0"

AT CUT OFF WALL

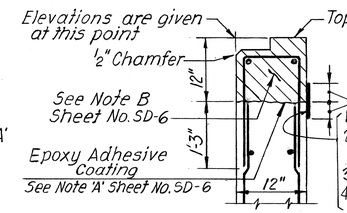


VIEW A (S-29 | S-30)
Scale: 1/4"=1'-0"

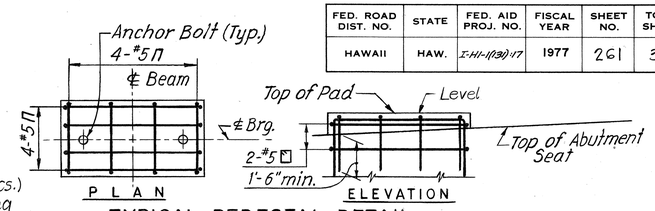


CONSTRUCTION JOINT
For Exp. Joint see Sheet No. S-32
N.T.S.

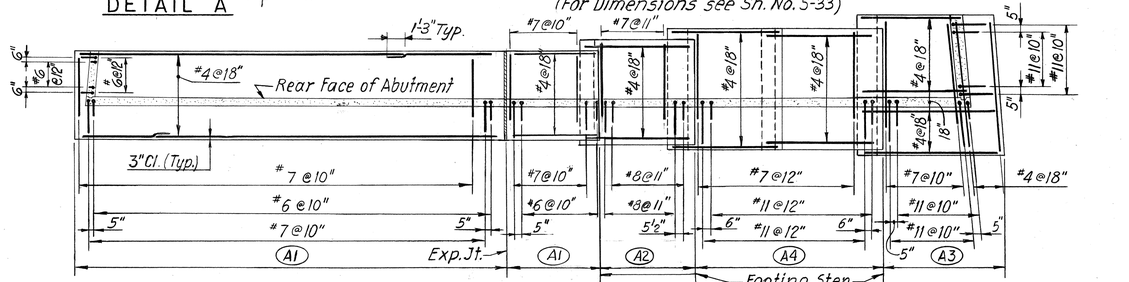
SCHEDULE OF DIM. AND REINF. STEEL				
ABUT. TYPE	A1	A2	A3	A4
M	7'-9"	9'-6"	13'-6"	12'-0"
t	2'-0"	2'-6"	3'-0"	3'-0"
L	13'-0"	15'-6"	21'-0"	19'-0"
L_1	5'-0"	7'-6"	10'-0"	9'-0"
L_2	Full Length	Full Length	16'-0"	14'-0"
"a" bars	#7@10"	#8@11"	#11@10"	#11@12"
"b" bars	#6@10"	#8@11"	#11@10"	#11@12"
"c" bars	—	—	#8@10"	#7@12"
"d" bars	#5@10"	#6@11"	#10@10"	#9@12"
"e" bars	#5@10"	#7@11"	#10@10"	#10@12"
"f" bars	#7@10"	#7@11"	#7@10"	#7@12"



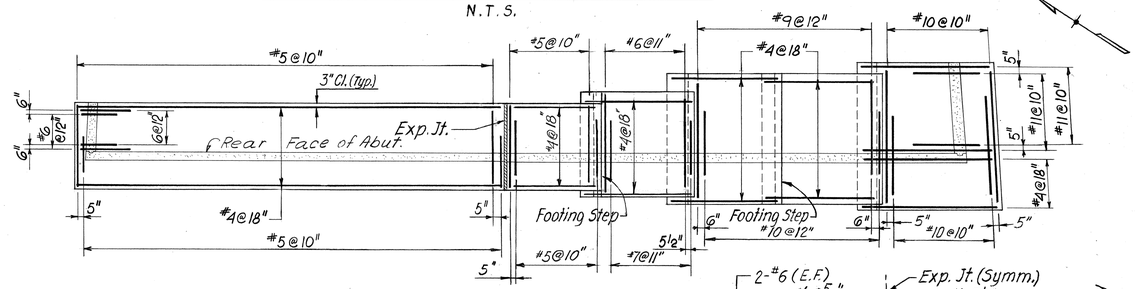
DETAIL A



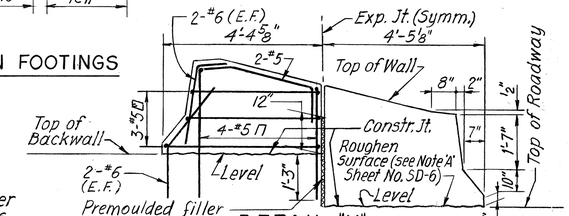
TYPICAL PEDESTAL DETAIL
(For Dimensions see Sh. No. S-33)



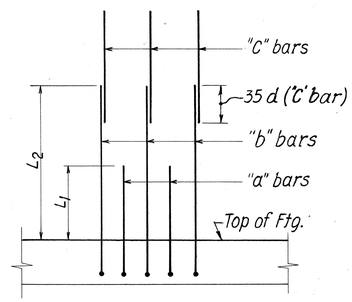
BOTTOM REINFORCEMENT IN FOOTINGS
N.T.S.



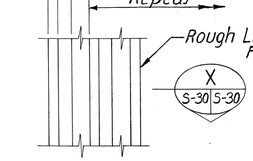
TOP REINFORCEMENT IN FOOTINGS
N.T.S.



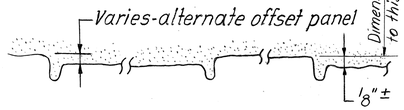
DETAIL "X"



REINF. PATTERN (R.F.)



DETAIL OF ABUTMENT AND WINGWALL FINISH
(Board finish)



SECTION X (S-30 | S-30)
N.T.S.

NOTES:
1. Work this Dwg. with Sheet Nos. S-29 & S-32
2. For Wingwall and Parapet Reinforcing see Sheet No. S-32
3. For Metal Guard Rail attachment details see Sheet No. SD-5

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY A. Hayase	AUG.'77
	TRACED BY	AUG.'77
NOTE BOOK	DESIGNED BY H. SAYER & H. Nanbu	AUG.'77
	QUANTITIES BY	AUG.'77
No.	CHECKED BY V. Chandra	

VIJAY CHANDRA
REGISTERED PROFESSIONAL ENGINEER
No. 4120
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
Vijay Chandra
Signature

DATE	REVISIONS
12-18-78	Revised wall elevations on View B.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

H-1 VIADUCT (E.B. & W.B.), RAMP A, RAMP F & RAMP G

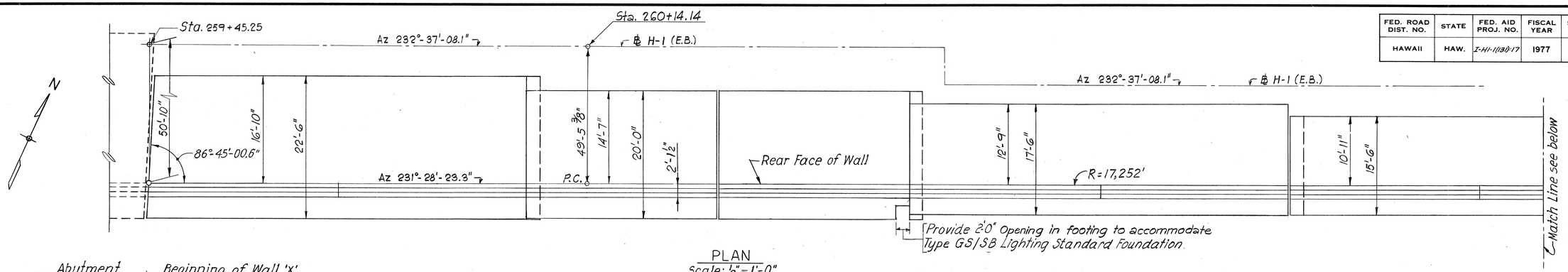
EAST ABUTMENT-II AT MIDDLE STREET

KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1 (131):17
SCALE: AS SHOWN DATE: AUG.31,'77

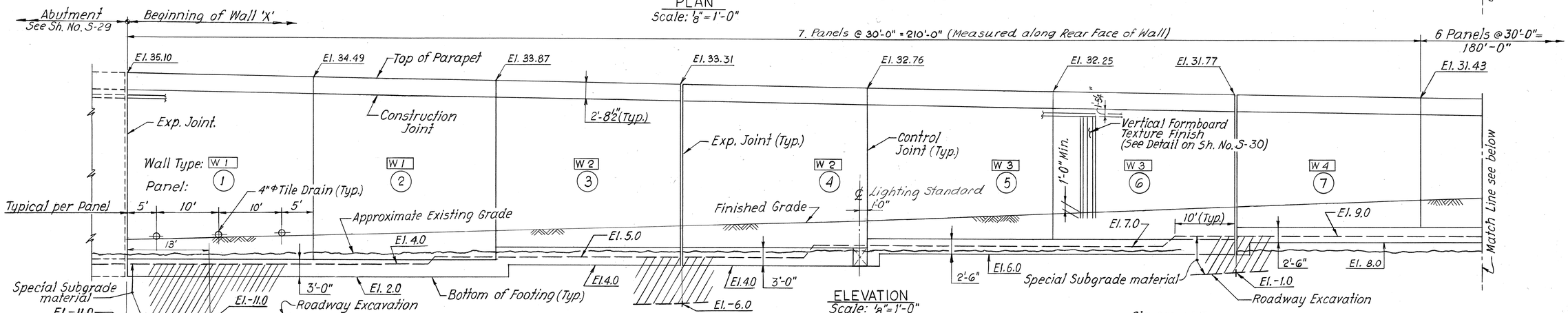
SHEET NO. S-30 OF S-94 SHEETS

C.O. 261

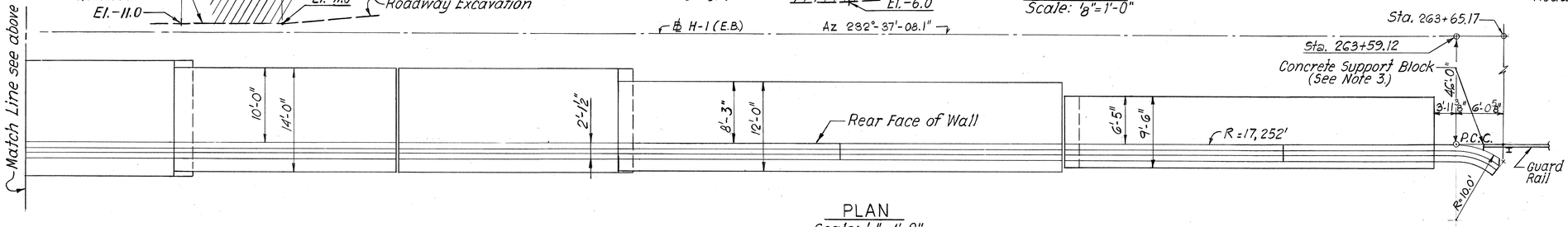
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(31)17	1977	262	394



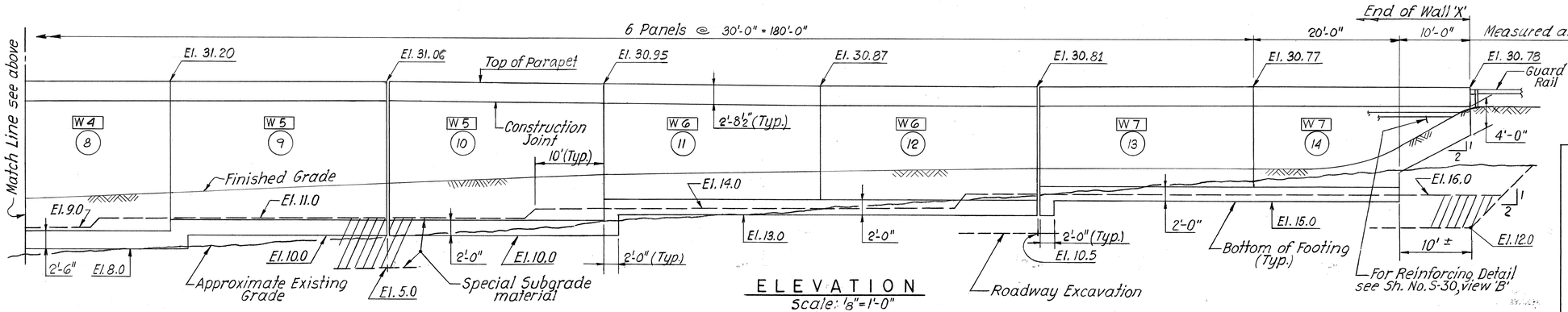
PLAN
Scale: ⅛"=1'-0"



ELEVATION
Scale: ⅛"=1'-0"



PLAN
Scale: ⅛"=1'-0"



ELEVATION
Scale: ⅛"=1'-0"

NOTES:
1. For Location of Wall 'X' see Sheet No. S-3
2. For Wall Details see Sheet No. S-32
3. For Metal Guard Rail attachment Details see Sheet No. SD-5

VIJAY CHANDRA
REGISTERED PROFESSIONAL ENGINEER
No. 4120
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
Vijay Chandra
Signature

ORIGINAL PLAN		DATE
	SURVEY PLOTTED BY:	AUG.'77
	DRAWN BY: A. Hidayat	
	TRACED BY:	AUG.'77
NOTE BOOK	DESIGNED BY: H. Saxer & K. Maeda	AUG.'77
	QUANTITIES BY:	
No.	CHECKED BY: V. Chandra	AUG.'77

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

H-1 VIADUCT (E.B. & W.B.), RAMP A, RAMP F & RAMP G

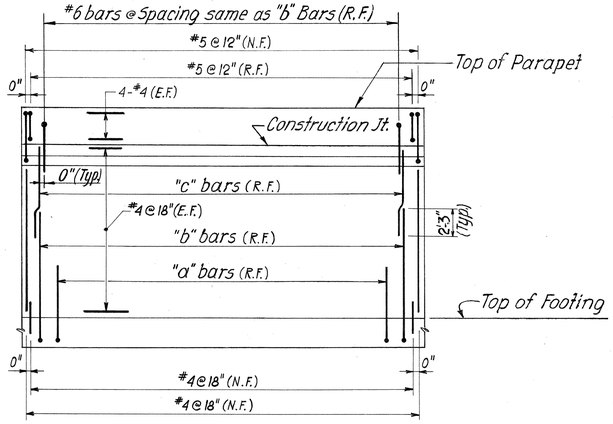
PLAN & ELEVATION - WALL 'X'

KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1 (131): 17
SCALE: AS SHOWN . DATE: AUG. 31, '77

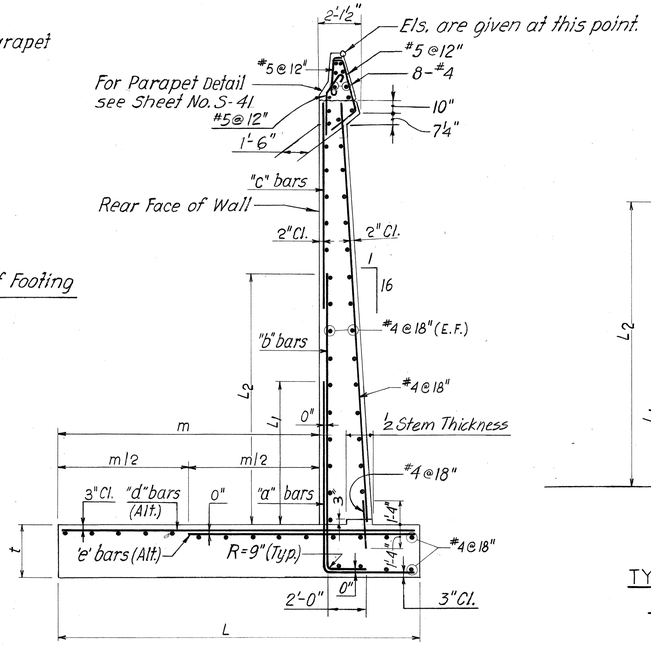
SHEET NO. S-31 OF S-94 SHEETS

262

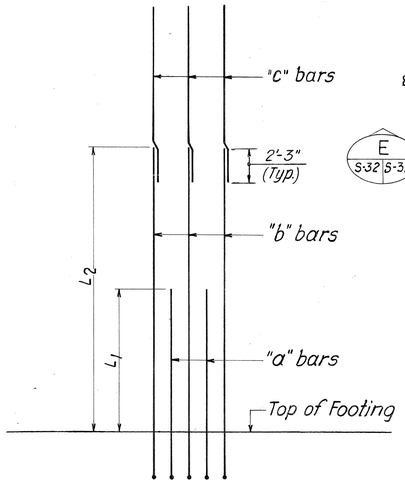
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(13I):17	1977	263	394



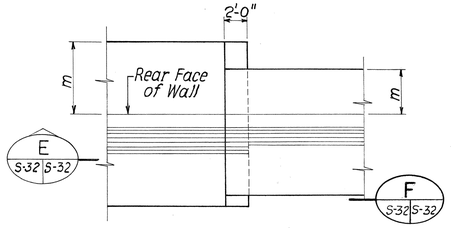
BAR LOCATION - TYPICAL PANEL
N. T. S.



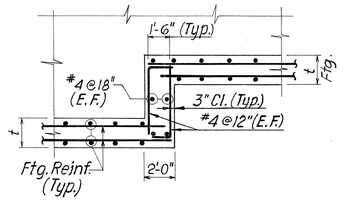
TYPICAL WALL - SECTION
Scale: 1/4" = 1'-0"



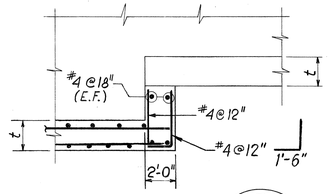
TYPICAL REAR FACE REINFORCEMENT
N. T. S.



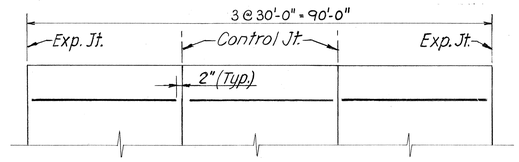
PLAN



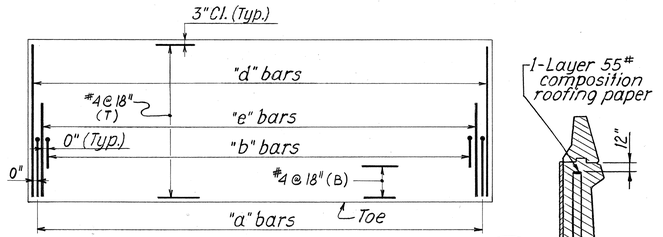
SECTION E S-32 S-32



SECTION F S-32 S-32

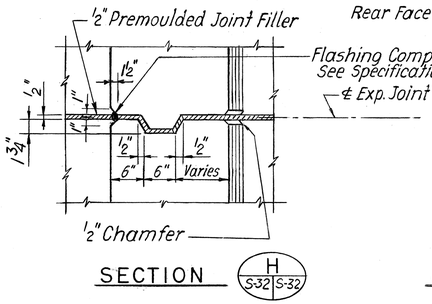


TYPICAL FOR HORIZONTAL BARS
N.T.S.

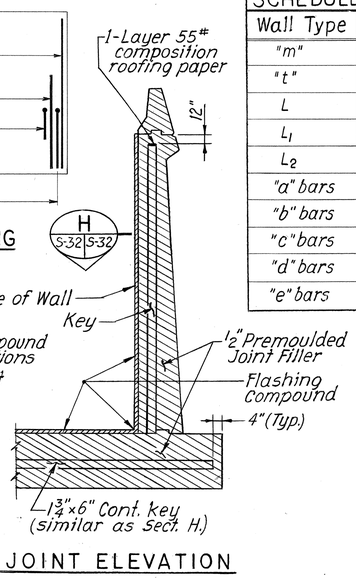


BAR LOCATION - TYPICAL FOOTING
N.T.S.

SCHEDULE OF DIMENSIONS AND REINF. STEEL							
Wall Type	W1	W2	W3	W4	W5	W6	W7
"m"	16'-10"	14'-7"	12'-9"	10'-11"	10'-0"	8'-3"	6'-5"
"t"	36"	36"	30"	30"	24"	24"	24"
L	22'-6"	20'-0"	17'-6"	15'-6"	14'-0"	12'-0"	9'-6"
L_1	8'-6"	8'-0"	7'-6"	5'-6"	6'-0"	4'-0"	—
L_2	17'-0"	14'-0"	13'-0"	8'-6"	Full Length	Full Length	Full Length
"a" bars	#11@10"	#10@12"	#9@12"	#8@12"	#6@10"	#6@12"	—
"b" bars	#11@10"	#10@12"	#9@12"	#8@12"	#6@10"	#6@12"	#6@12"
"c" bars	#6@10"	#6@12"	#6@12"	#6@12"	—	—	—
"d" bars	#11@10"	#10@12"	#10@12"	#8@12"	#8@12"	#6@12"	#5@12"
"e" bars	#11@10"	#10@12"	#10@12"	#8@12"	#8@12"	#6@12"	#5@12"



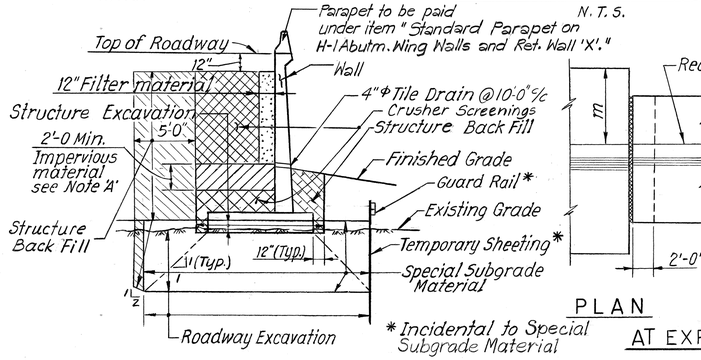
SECTION H S-32 S-32



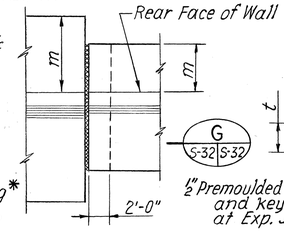
JOINT ELEVATION

DESIGN STRESSES:
(Parapet, Stem and Footing)
1. Ultimate Compressive Stress - f'c = 3,000 p.s.i. (28 days Concrete)
2. Extreme Fibre in Compression - fc = 1,200 p.s.i.
3. Reinforcement Steel - fs = 20,000 p.s.i. (ASTM A 615, Grade 40)
4. For Design purpose, the foundation pressure of spread footing does not exceed 4 t.s.f.

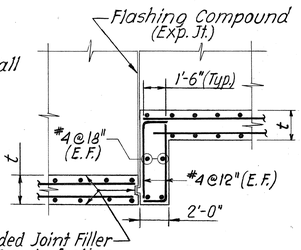
AT CONTINUOUS FOOTING
N. T. S.



RETAINING WALL - PAY LIMITS
N.T.S.



PLAN
AT EXPANSION JOINT
N. T. S.

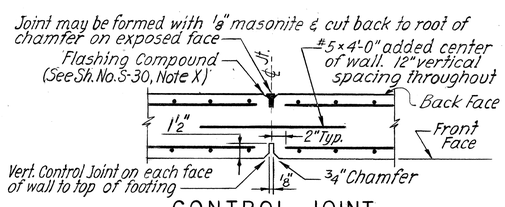


SECTION G S-32 S-32

TYPICAL FOOTING STEP-UP DETAILS
N. T. S.

NOTE 'A': Impervious material as selected by the Engineer. (Incidental to structure excavation.)

NOTE
For Plan & Elevation of Wall 'X' see Sheet No. S-31



CONTROL JOINT
N.T.S.

VIJAY CHANDRA
REGISTERED PROFESSIONAL ENGINEER
No. 4120
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
Vijay Chandra
Signature

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

H-1 VIADUCT (E.B. & W.B.), RAMP A, RAMP F & RAMP G

WALL DETAILS

KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1 (131):17
SCALE: AS SHOWN DATE: AUG. 31, 77

SHEET No. S-32 OF S-94 SHEETS

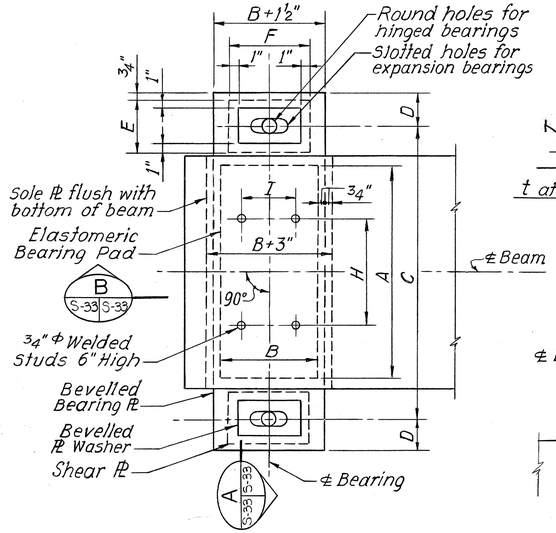
ORIGINAL PLAN

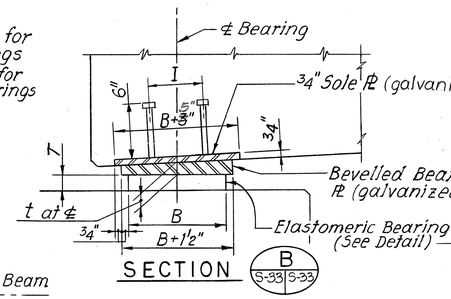
		DATE
SURVEY PLOTTED BY		
DRAWN BY	M. Ishida	AUG. '77
TRACED BY		
DESIGNED BY	H. SAKAE & K. Nerada	AUG. '77
QUANTITIES BY		
CHECKED BY	J. Chandra	AUG. '77

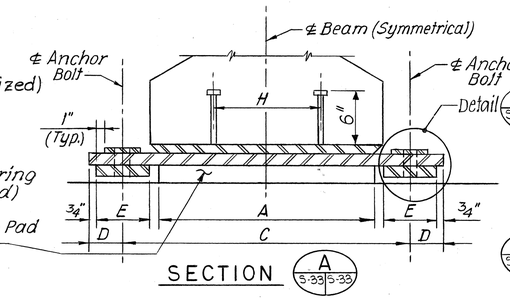
NOTE BOOK
No.

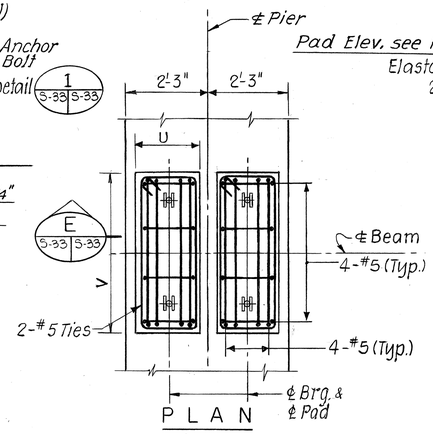
263

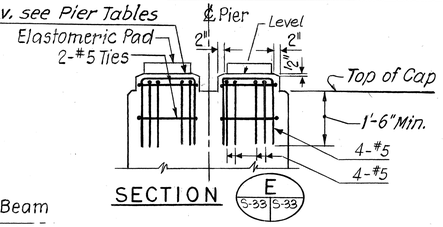
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(19)-17	1977	264	394



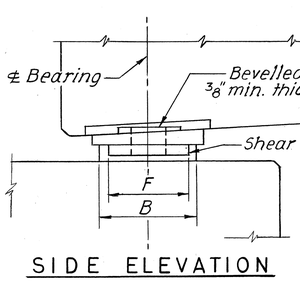


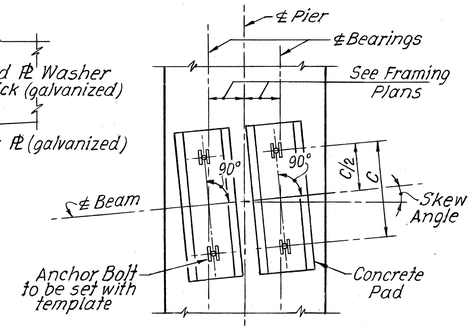






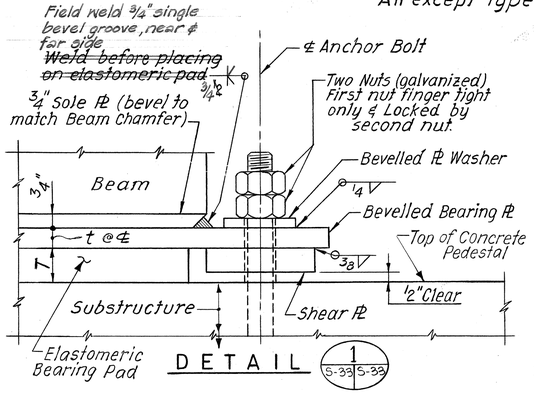
CONCRETE PAD DIMENSIONS		
BEARING TYPE	U	V
1H & 1E	1'-7"	4'-3"
2H & 2E	1'-2"	3'-10"
3H & 3E	1'-5"	3'-5"

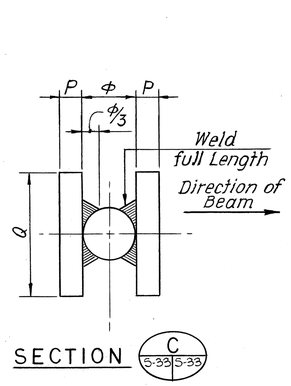


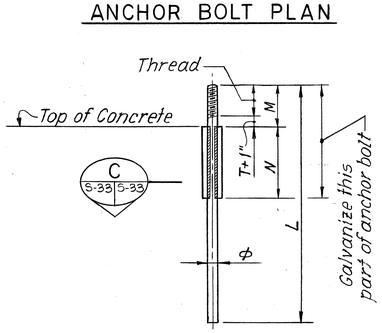


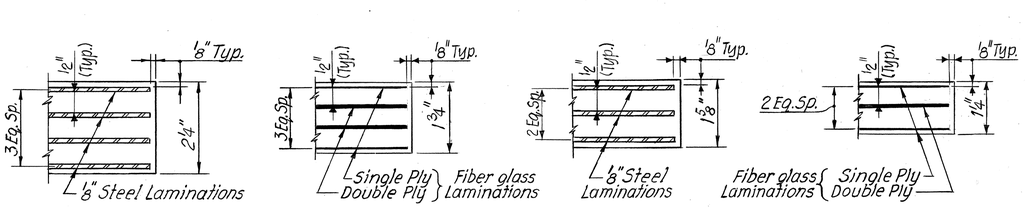
BEARING DETAILS

All except Type 5









BEARING AND ANCHOR BOLT TABLE

BEARING TYPE	ELASTOMERIC BEARING PAD A	B	T	STEEL DIMENSIONS C	D	E	F	t	STUD SPACING H	I	ANCHOR BOLT HOLES HINGED BRGS.	EXP. BRGS.	ANCHOR BOLT Φ	L	M	ANCHOR PLATES N	Q	P
1H / 1E	24"	14"	2¼"	33"	4¼"	7"	10"	See beam table on Sh. No. S-37	12"	9"	2¼"Φ / —	— / 2¼"×5"	2"	45"	10"	9"	5"	¾"
2H / 2E	24"	8"	1⅝"	32"	3¾"	6"	8"		12"	6"	1¾"Φ / —	— / 1¾"×4"	1½"	33"	9"	8"	4"	⅝"
3H / 3E	19"	12"	1⅝"	27"	3¾"	6"	8"		8"	6"	2"Φ / —	— / 2"×4"	1¾"	39"	9"	8"	4½"	⅝"
5	28"	12"	2¼"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

NOTES:

1. Elastomeric Bearing Pads, Anchor Bolts, and Bevelled Bearing Pls are incidental to Concrete in Bridges.
2. Sole Pls and Welded Studs are incidental to Prestressed Beams.
3. Anchor Bolts at existing piers shall be sand-blasted before elastomeric pads are placed.

CONCRETE PAD DETAILS

Shown for 0° Skew Angle

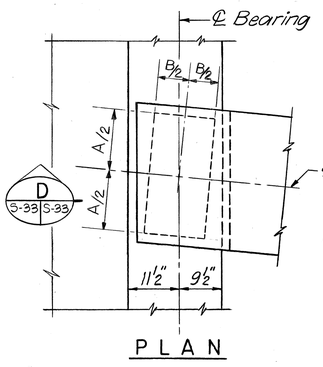
ELASTOMERIC BEARING PAD DETAILS

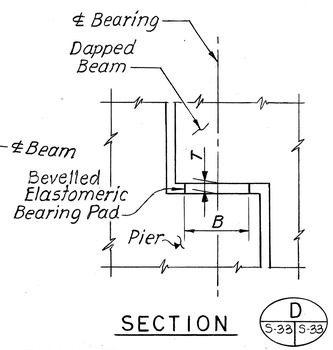
FIBER GLASS LAMINATED PADS

All bearing seat elevations (Denoted also as bush hammer or pad elevations) are based on steel laminated elastomeric bearing pads. If the contractor elects to use fiber glass laminated elastomeric pads, instead of steel laminated elastomeric pads, he shall comply with the following requirements.

a. The fiber glass laminated elastomeric pads shall comply with the details shown on the plans and the requirements of the Special Provisions.

b. Appropriate revisions shall be made to the bearing seat elevations to reflect the reduction in thickness for the fiber glass laminated bearing pads. Any such revisions shall be approved by the engineer.





BEARING DETAIL TYPE 5

Note:
Contractor used fiber glass laminated pads.

VIJAY CHANDRA REGISTERED PROFESSIONAL ENGINEER No. 4120 HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Vijay chandra
Signature

ORIGINAL PLAN	SURVEY PLOTTED BY		DATE
	DRAWN BY M. Yoshita		AUG. '77
	TRACED BY		
NOTE BOOK	DESIGNED BY H. SAKER		AUG. '77
	QUANTITIES BY		
No.	CHECKED BY D. GILSTAD		AUG. '77

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

H-1 VIADUCT (E.B. & W.B.), RAMP A, RAMP F & RAMP G

BEARING DETAILS

KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1 (131):17

SCALE: N.T.S. DATE: AUG. 31, '77

SHEET NO. S-33 OF S-94 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(131):17	1977	265	

N

Begin Project

Az. 189°-01'-23.0"

End Diaphragm (Typ.)

Intermediate Diaphragm (Typ.)

3 Eq. Spaces

℄ Brg's (Typ.)

℄ Pier & ℄ Joint (Typ.) (Except as Noted)

Az. 189°-01'-23.0"

P.C. Sta. 14+01.70

℄ Ramp F

Measured along ℄ Ramp F

Az. 189°-01'-23.0"

3 Eq. Spaces @ 1F3

Span 1F = 99'-5¾"

Az. 177°-57'-28.0"

Sta. 15+90.52

Curve ⑦ R=2000'

Span 2F = 99'-5¾"

3 Eq. Spcs @ 2F3

4 Eq. Sp. = 25'-9⅛"

Az. 176°-06'-28.3"

Sta. 16+90.00

Az. 173°-06'-08.4

Sta. 18+15.63

℄ Brg's

41'-4½"

Span 3F = 125'-7⅝"

4 Eq. Spcs. @ 3 F3

℄ Pier

For Detail see Sheet No. S-24

Az. 173°-06'-08.4

Sta. 18+57.01

Az. 263°-06'-08.4

Match Line F 3

4 Eq. Spcs. = 24'-11⅛"

4'-4 3/8"

4 Eq. Spcs = 25'-8 15/16"

4'-4½" PT. Sta. 17+60.01

11 Eq. Spcs = 66'-7⅞"

25'-11"

10'-9⅞"

Az. 273°-22'-01.0"

11 Eq. Sp. = 68'-7¾"

℄ Ramp F

11 Eq. Sp. = 70'-9 13/16"

23'-11 3/16"

4 Eq. Sp. = 25'-10 5/8"

4 Eq. Spcs. = 25'-1"

7'-0½"

2'-10 3/16"

4'-9½"

7 Eq. Spcs = 45'-7"

3 Eq. Spcs @ 5H5

7 Eq. Spcs = 45'-8 11/16"

3 Eq. Spcs.

Match Line H6

7 Eq. Spcs = 45'-7"

℄ H-1(WB)

7 Eq. Sp. = 43'-6 13/16"

Az. 274°-30'-45.7"

Span 1H = 100'-3¾"

Span 2H = 100'-3¾"

10'-9⅞"

Span 3H = 100'-3¾"

Span 4H = 100'-3¾"

Span 5H = 100'-0"

Span 6H = 93'-1⅞"

10'-9½"

Measured along Base Line H-1(WB)

H-1(WB) Sta. 235+67.28 = Ramp F Sta. 12+89.83

H-1(WB) Sta. 236+67.59 = Ramp F Sta 13+90.32

H-1(WB) Sta. 237+67.90 = Ramp F Sta. 14+91.04

Az. 189°-01'-23.0" Sta. 238+68.21

Az. 189°-01'-23.0" Sta. 239+68.52

Az. 184°-30'-45.7" Sta. 240+68.52

Az. 184°-30'-45.7" Sta. 241+61.68

Az. 173°-06'-08.4 Sta. 18+98.38

Az. 174°-04'-52.4 Sta. 20+31.75

Az. 177°-0'-32.5" Sta. 20+73.50

℄ Pier For Detail see Sheet No. S-24

4 Eq. Spcs = 24'-8⅞"

4 Eq. Spcs = 23'-3"

Az. 197°-12'-20.9"

℄ Brgs. E. Abut. Ramp F Sta. 23+55.50

4 Eq. Spcs = 25'-9"

℄ Ramp F

Curve 18, R=800'

3'-5 3/16"

4 Eq. Spcs. @ 5F3

1'-10½"

Span 5F = 124'-3"

166'-0" measured along ℄

Span 4F = 133'-4 3/8"

216'-5 7/8" measured along ℄

Az. 179°-56'-12.6" Sta. 21+15.25

Az. 188°-53'-52.5" Sta. 22+39.50

3 Eq. Spcs. @ 6F3

Span 6F = 116'-0"

Measured along ℄ Ramp F

Az. 263°-06'-08.4

4'-4½"

41'-4½"

Match Line F-3

Sta. 243+48.00

Az. 184°-30'-45.7" Sta. 241+61.68

Az. 184°-30'-45.7" Sta. 242+54.84

Az. 184°-30'-45.7"

℄ Brgs (Typ)

℄ Brg's Az. 184°-30'-20.6" Sta. 244+62.44

Az. 183°-51'-21.6" Sta. 244+86.00

℄ Brg's Az. 183°-12'-22.5" Sta. 245+09.56

℄ Brg's Az. 179°-45'-00.7" Sta. 246+28.44

Az. 179°-06'-01.6" Sta. 246+52.00

Match Line 11 See Sh. No. S-35

Az. 178°-27'-02.6" Sta. 246+75.56

3 Eq. Spcs. @ 10 H5

7 Eq. Spcs. = 44'-9"

7 Eq. Sp. = 43'-10 1/16"

7 Eq. Spcs. = 43'-10"

Match Line H 6

℄ H-1(WB)

Az. 274°-30'-45.7"

℄ Pier For Detail see Sheet No. S-24

Curve ② R=2000'

90°(Typ.)

10'-4½"

10'-4 3/16"

23'-6¾"

Span 7H = 93'-1⅞"

Span 8H = 93'-1⅞"

10'-9½"

Span 9H = 114'-5¼"

Span 10H = 118'-10½"

138'-0" measured along ℄

166'-0" measured along ℄

Measured along ℄ H-1(WB)

PC. Sta. 244+63.08

NOTES:

1. All Azimuths are measured from the south.
2. The ℄ Brgs are parallel to ℄ of Piers except at Piers F3, F4, H9 & H10.
3. The ℄s of Deck Joints are at ℄s of piers except as noted at Piers F3, F4, H9 & H10.

VIJAY CHANDRA REGISTERED PROFESSIONAL ENGINEER No. 4120 HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Vijay Chandra
Signature

ORIGINAL PLANS	SURVEY PLOTTED BY	DATE
	DRAWN BY	AUG.'77
	TRACED BY	AUG.'77
NOTE BOOK	DESIGNED BY H. SAKER	AUG.'77
	QUANTITIES BY	
No.	CHECKED BY Vijay Chandra	AUG.'77

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

H-1 VIADUCT (E.B. & W.B.), RAMP A, RAMP F & RAMP G

FRAMING PLAN

SHEET 1 OF 3

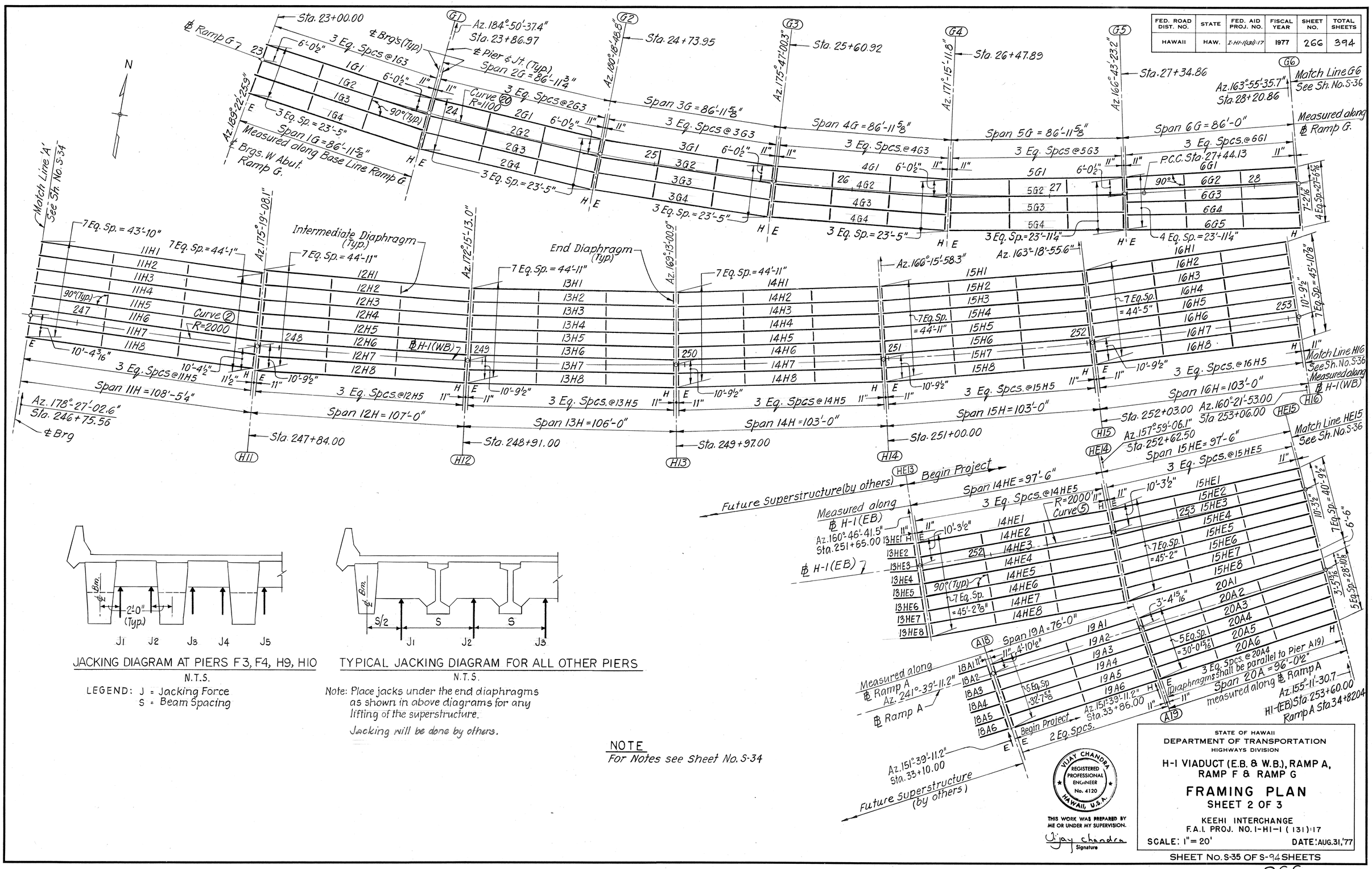
KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1 (131):17

SCALE: 1"=20' DATE: AUG. 31, '77

SHEET No. S-34 OF S-94 SHEETS

265

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(33)-17	1977	266	394



JACKING DIAGRAM AT PIERS F3, F4, H9, H10

N.T.S.

LEGEND: J = Jacking Force
S = Beam Spacing

TYPICAL JACKING DIAGRAM FOR ALL OTHER PIERS

N.T.S.

Note: Place jacks under the end diaphragms as shown in above diagrams for any lifting of the superstructure.

Jacking will be done by others.

NOTE

For Notes see Sheet No. S-34

ORIGINAL PLAN	SURVEY PLOT BY	DATE
	DRAWN BY A. Hidayat	AUG.'77
	TRACED BY	
NOTE BOOK	DESIGNED BY H. SAXER	AUG.'77
	QUANTITIES BY	
NO.	CHECKED BY Chandra	AUG.'77

VIJAY CHANDRA
REGISTERED PROFESSIONAL ENGINEER
No. 4120
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Vijay Chandra
Signature

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

H-1 VIADUCT (E.B. & W.B.), RAMP A, RAMP F & RAMP G

FRAMING PLAN
SHEET 2 OF 3

KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1(131)17

SCALE: 1"=20' DATE: AUG. 31, '77

SHEET No. S-35 OF S-94 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(13)-17	1977	267	394

N

* Diaphragms shall be parallel to down station pier.

G6 — Az. 163°-55'-35.7" Sta. 28+20.86

H17 — Az. 157°-29'-59.8" H-1(WB) Sta. 254+06.00 = Ramp G Sta. 29+06.86

H18 — Az. 155°-00'-27.2" H-1(WB) Sta. 254+93.00 = Ramp G Sta. 29+91.59

H19 — Az. 152°-30'-54.7" H-1(WB) Sta. 255+80.00 = Ramp G Sta. 30+76.55

H20 — Az. 145°-42'-17.2" H-1(WB) Sta. 256+64.50 = Ramp G Sta. 31+55.98

H21 — Az. 142°-37'-08.1" H-1(WB) Sta. 257+67.00 = Ramp G Sta. 32+56.70

Intermediate Diaphragm (Typ)
End Diaphragm (Typ)
℄ Pier & Jt. (Typ.)
℄ Brg's (Typ)

Span 7G = 86'-0"
Measured along ℄ Ramp G
3 Eq. Spcs. @ 7G3 *
4 Eq. Spcs. = 32'-0 9/16"
4 Eq. Spcs. = 27'-8 5/16"
Match Line G6 See Sh. No. S-35

Span 18H = 87'-0"
3 Eq. Spcs @ 18H12 *
Span 19H = 87'-0"
3 Eq. Spcs @ 19H12 *
Span 20H = 84'-6"
3 Eq. Spcs. @ 20H6 *
Span 21H = 102'-6"
3 Eq. Spcs. @ 21H6 *
Span 22H = 85'-0"
3 Eq. Spcs. @ 21H5 *

Measured along ℄ H-1 (WB)
℄ Brg. E Abut. Az. 144°-43'-22.7"
H-1(WB) Sta. 258+52.00 = Ramp G. Sta. 33+43.66

R=1900' Curve (21)
R=2000' Curve (2)
R=2000' Curve (5)
R=2050' Curve (23)
℄ Ramp G
℄ Ramp A
90° (Typ.) except as Noted

10 Eq. Sp. = 69'-4 7/8"
11 Eq. Sp. = 80'-4 1/4"
11 Eq. Sp. = 74'-11 5/16"
11 Eq. Spcs. = 68'-9 3/16"
10 Eq. Sp. = 64'-8 1/16"
10 Eq. Spcs. = 65'-0 5/8"
10 Eq. Spcs. = 66'-8 3/8"
11 Eq. Spcs. = 70'-10 15/16"
12 Eq. Spcs. = 76'-1 5/8"
12 Eq. Spcs. = 70'-10 15/16"

P.T. Sta. 257+98.88
P.T. Sta. 39+28.58
Span 21HE = 84'-0 1/4"
3 Eq. Spcs @ 21HE6 *
Measured along ℄ H-1(EB) ℄ Brg. E Abut. Az. 144°-43'-22.7" H-1(EB) Sta. 259+33.02 = Ramp A Sta. 40+61.76

Span 20HE = 99'-0"
10 Eq. Sp. = 63'-3 1/16"
3 Eq. Sp. @ 20HE6
Az. 144°-01'-09.0" H-1(EB) Sta. 257+50.00 = Ramp A Sta. 38+78.96

Span 19HE = 97'-6"
3 Eq. Spcs. @ 19HE6
10 Eq. Spcs. = 66'-8 3/8"
Az. 146°-48'-44.4" H-1(EB) Sta. 256+52.50 = Ramp A Sta. 37+79.90

Span 18HE = 97'-6"
3 Eq. Spcs. @ 18HE7
11 Eq. Spcs. = 66'-8 3/8"
Az. 149°-36'-19.9" H-1(EB) Sta. 255+55.00 = Ramp A Sta. 36+80.74

Span 17HE = 97'-6"
3 Eq. Spcs. @ 17HE7
Az. 152°-23'-55.3" H-1(EB) Sta. 254+57.50 = Ramp A Sta. 35+81.48

Span 16HE = 97'-6"
3 Eq. Spcs. @ 16HE7 *
P.C. Sta. 35+64.35
Az. 155°-11'-30.7" H-1(EB) Sta. 253+60.00 = Ramp A Sta. 34+82.04

Span 17H = 100'-0"
3 Eq. Sp. @ 17H8 *
7 Eq. Sp. = 41'-3 1/2"
Measured along ℄ H-1 (WB)
Az. 160°-21'-53.00" Sta. 253+06.00
Match Line H16 See Sh. No. S-35
Match Line HE15 See Sh. No. S-35

HE15 HE16 HE17 HE18 HE19 HE20 H16

NOTE
For Notes see Sheet No. S-34

DATE	REVISIONS
12/18/78	Revised stringer framing plan on Spans 20H, 21H & 22H. Added Beam 22H10 in Span 22H

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

H-1 VIADUCT (E.B. & W.B.), RAMP A, RAMP F & RAMP G

FRAMING PLAN
SHEET 3 OF 3

KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1(131):17
SCALE: 1"=20' DATE: AUG. 31, '77

SHEET NO. S-36 OF S-94 SHEETS

VIJAY CHANDRA REGISTERED PROFESSIONAL ENGINEER No. 4120 HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
Vijay chandra
Signature

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE AUG. '77
	DRAWN BY H. Magee	AUG. '77
NOTE BOOK	TRACED BY	AUG. '77
	DESIGNED BY H. SAKER	AUG. '77
No.	QUANTITIES BY	AUG. '77
	CHECKED BY V. Chandra	

C.O. 267

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(131):17	1977	268	394

BEAM MARK	BEAM LGTH. ℄ TO ℄ BRG.	t^1	t^2	BEAM TYPE
1H 1	98.65	1¼	1¼	IVF - A
2	98.63	↑	↑	IV - C
3	98.61			↕
4	98.60			
5	98.58			
6	98.56			
7	98.55			
8	98.53			
9	98.52			
10	98.50			
↓ 11	98.49	↓	↓	IV - C
1H 12	98.47	1¼	1¼	IVF - A
2H 1	98.65	1¼	1¼	IVF - A
↑ 2	98.64	↑	↑	IV - A
3	98.62			↕
4	98.60			
5	98.58			
6	98.57			
7	98.55			
8	98.53			
9	98.52			
10	98.50			
↓ 11	98.49	↓	↓	IV - A
2H 12	98.47	1¼	1¼	IVF - A
3H 1	99.08	1¼	1¼	IV - B
↑ 2	98.97	↑	↑	IV - C
3	98.87			↕
4	98.78			
5	98.69			
6	98.61			
↓ 7	98.54	↓	↓	IV - C
3H 8	98.47	1¼	1¼	IVF - A
4H 1	98.66	1¼	1¼	IVF - C
↑ 2	98.63	↑	↑	IV - A
3	98.60			↕
4	98.57			
5	98.55			
6	98.52			
↓ 7	98.50	↓	↓	IV - A
4H 8	98.47	1¼	1¼	IVF - A
5H 1	95.42	1¼	1¼	IVF - E
↑ 2	95.93	↑	↑	IV - C
3	96.45			IV - C
4	96.96			IV - A
5	97.47			↕
6	97.99			
↓ 7	98.50	↓	↓	IV - A
5H 8	99.02	1¼	1¼	IVF - A
6H 1	91.33	1¼	1¼	IVF - E
↑ 2		↑	↑	IV - D
3				↕
4				
5				
6				
↓ 7		↓	↓	IV - D
6H 8	91.33	1¼	1¼	IVF - E
7H 1	91.33	1¼	1¼	IVF - E
↑ 2		↑	↑	IV - D
3				↕
4				
5				
6				
↓ 7		↓	↓	IV - D
7H 8	91.33	1¼	1¼	IVF - E
8H 1	91.33	1¼	1¼	IVF - E
↑ 2		↑	↑	IV - D
3				↕
4				
5				
6				
↓ 7		↓	↓	IV - D
8H 8	91.33	1¼	1¼	IVF - E
9H 1	~~114.21~~ 113.48	1¼	0	VI - B
↑ 2	~~114.21~~ 113.48	↑	↑	VI - C
3				↕
4				
↓ 5	~~114.21~~ 113.48	↓	↓	
9H 6	~~114.21~~ 113.48	1¼	0	VI - C

BEAM MARK	BEAM LGTH. ℄ TO ℄ BRG.	t^1	t^2	BEAM TYPE
9H 7	114.21	1¼	0	VI - C
9H 8	114.21	1¼	0	VI - B
10H 1	116.85	0	0	VI - B
↑ 2	117.23	↑	↑	↕
3	117.61			
4	117.99			
5	118.36			
6	118.74			
↓ 7	119.12	↓	↓	
10H 8	119.50	0	0	VI - B
11H 1	105.64	0	1¼	VI - C
↑ 2	105.98	↑	↑	↕
3	106.32			
4	106.67			
5	107.01			
6	107.35			
↓ 7	107.70	↓	↓	
11H 8	108.04	0	1¼	VI - C
12H 1	103.33	1¼	1¼	IVF - L
↑ 2	103.67	↑	↑	IV - M
3	104.01			↕
4	104.36			
5	104.70			
6	105.04			
↓ 7	105.39	↓	↓	IV - M
12H 8	105.73	1¼	1¼	IVF - L
13H 1	102.35	1¼	1¼	IVF - L
↑ 2	102.69	↑	↑	IV - M
3	103.03			↕
4	103.37			
5	103.71			
6	104.05			
↓ 7	104.39	↓	↓	IV - M
13H 8	104.73	1¼	1¼	IVF - L
14H 1	99.40	1¼	1¼	IVF - C
↑ 2	99.73	↑	↑	IV - A
3	100.06			↕
4	100.39			
5	100.72			
6	101.05			
↓ 7	101.38	↓	↓	IV - A
14H 8	101.71	1¼	1¼	IVF - C
15H 1	99.41	1¼	1¼	IVF - C
↑ 2	99.74	↑	↑	IV - A
3	100.07			↕
4	100.40			
5	100.72			
6	101.05			
↓ 7	101.38	↓	↓	IV - A
15H 8	101.71	1¼	1¼	IVF - C
16H 1	99.40	1¼	1¼	IVF - C
↑ 2	99.73	↑	↑	IV - A
3	100.05			↕
4	100.39			
5	100.72			
6	101.05			
↓ 7	101.38	↓	↓	IV - A
16H 8	101.71	1¼	1¼	IVF - C
17H 1	96.62	1¼	1¼	IV - B
↑ 2	96.90	↑	↑	IV - C
3	97.19			↕
4	97.48			IV - C
5	97.78			IV - A
6	98.06			↕
↓ 7	98.39	↓	↓	IV - A
17H 8	98.70	1¼	1¼	IVF - C
18H 1	82.42	1¼	1¼	IVF - D
↑ 2	82.70	↑	↑	IV - E
3	82.98			↕
4	83.26			
5	83.55			
6	83.84			IV - E
7	84.13			IV - D
8	84.42			↕
9	84.72			
10	85.02			
↓ 11	85.32	↓	↓	IV - D
18H 12	85.63	1¼	1¼	IVF - D

BEAM MARK	BEAM LGTH. ℄ TO ℄ BRG.	t^1	t^2	BEAM TYPE
19H 1	82.67	1¼	1¼	IVF - D
↑ 2	82.92	↑	↑	IV - E
3	83.18			↕
4	83.44			
5	83.70			
6	83.97			
7	84.24			
8	84.51			
9	84.79			
10	85.06			
↓ 11	85.34	↓	↓	IV - E
19H 12	85.63	1¼	1¼	IVF - D
20H 1	76.26	1¼	1¼	IVF - D
↑ 2	77.01	↑	↑	IV - E
3	77.77			↕
4	78.53			
5	79.30			
6	80.06			
7	80.83			
8	81.61			
9	82.38			
↓ 10	83.16	↓	↓	IV - E
20H 11	83.94	1¼	1¼	IVF - D
21H 1	97.95	1¼	1¼	IVF - A
↑ 2	98.24	↑	↑	IV - A
3	98.53			↕
4	98.82			
5	99.11			
6	99.41			
7	99.70			
8	100.00			
9	100.30			
↓ 10	100.60	↓	↓	IV - A
21H 11	100.91	1¼	1¼	IVF - C
22H 1	86.42	1¼	1¼	IVF - D
↑ 2	86.10	↑	↑	IV - C
3	85.78			↕
4	85.47			
5	85.15			IV - C
6	84.87			IV - E
7	84.57			↕
8	84.28			IV - E
22H 9	84.00	1¼	1¼	IVF - D
14HE 1	95.15	1¼	1¼	IVF - E
↑ 2	95.47	↑	↑	IV - C
3	95.78			↕
4	96.10			
5	96.41			IV - C
6	96.73			IV - A
↓ 7	97.04	↓	↓	IV - A
14HE 8	97.36	1¼	1¼	IVF - A
15HE 1	95.15	1¼	1¼	IVF - E
↑ 2	95.46	↑	↑	IV - C
3	95.76			↕
4	96.07			
5	96.38			
6	96.70			
↓ 7	97.02	↓	↓	IV - C
15HE 8	97.34	1¼	1¼	IV - B
16HE 1	95.15	1¼	1¼	IVF - E
↑ 2	95.45	↑	↑	IV - C
3	95.76			↕
4	96.06			
5	96.36			
6	96.67			
7	96.98			
8	97.29			
9	97.60			
10	97.92			
11	98.23			
↓ 12	98.55	↓	↓	IV - C
16HE 13	98.87	1¼	1¼	IVF - A
17HE 1	95.15	1¼	1¼	IVF - E
↑ 2	95.46	↑	↑	IV - C
3	95.77			↕
4	96.08			
5	96.40			
↓ 6	96.71	↓	↓	IV - C

BEAM MARK	BEAM LGTH. ℄ TO ℄ BRG.	t^1	t^2	BEAM TYPE
17HE 7	97.02	1¼	1¼	IV - C
↑ 8	97.33	↑	↑	IV - C
9	97.64			IV - A
10	97.96			↕
↓ 11	98.27	↓	↓	IV - A
17HE 12	98.58	1¼	1¼	IVF - A
18HE 1	95.15	1¼	1¼	IVF - E
↑ 2	95.46	↑	↑	IV - C
3	95.76			↕
4	96.06			
5	96.36			
6	96.66			
7	96.96			
8	97.26			
9	97.57			
10	97.87			
↓ 11	98.17	↓	↓	IV - C
18HE 12	98.48	1¼	1¼	IVF - A
19HE 1	95.15	1¼	1¼	IVF - E
↑ 2	95.48	↑	↑	IV - C
3	95.80			↕
4	96.12			IV - C
5	96.44			IV - A
6	96.76			↕
7	97.08			
8	97.41			
9	97.73			
↓ 10	98.05	↓	↓	IV - A
19HE 11	98.38	1¼	1¼	IVF - A
20HE 1	96.91	1¼	1¼	IVF - E
↑ 2	97.07	↑	↑	IV - C
3	97.23			↕
4	97.38			IV - C
5	97.54			IV - A
6	97.70			↕
7	97.86			
8	98.02			
9	98.18			
↓ 10	98.34	↓	↓	IV - A
20HE 11	98.50	1¼	1¼	IVF - A
21HE 1	83.50	1¼	1¼	IVF - D
↑ 2	83.25	↑	↑	IV - E
3	83.00			↕
4	82.75			
5	82.50			
6	82.25			
7	82.00			
8	81.75			
↓ 9	81.50	↓	↓	IV - E
21HE 10	81.26	1¼	1¼	IVF - D
1F 1	93.07	1¼	1¼	IVF - E
↑ 2	94.30	↑	↑	IV - A
3	95.54			↕
↓ 4	96.78	↓	↓	IV - A
1F 5	98.02	1¼	1¼	IV - B
2F 1	96.57	1¼	1¼	IVF - A
↑ 2	96.89	↑	↑	IV - A
3	97.21			↕
↓ 4	97.53	↓	↓	IV - A
2F 5	97.84	1¼	1¼	IVF - C
3F 1	123.94	1¼	0	VI - E
↑ 2	124.16	↑	↑	VI - A
3	124.38			↕
↓ 4	124.60	↓	↓	VI - A
3F 5	124.82	1¼	0	VI - E
4F 1	133.72	0	0	VI - D
↑ 2	133.61	↑	↑	↕
3	133.50			
↓ 4	133.39	↓	↓	
4F 5	133.28	0	0	VI - D
5F 1	126.49	0	1¼	VI - D
↑ 2	125.56	↑	↑	VI - A
3	124.62			↕
↓ 4	123.69	↓	↓	VI - A
5F 5	122.75	0	1¼	VI - B
6F 1	118.03	1¼	1¼	VI - E
↑ 2	117.17	↑	↑	VI - B
↕ 3	116.31	1¼	1¼	VI - B

BEAM MARK	BEAM LGTH. ℄ TO ℄ BRG.	t^1	t^2	BEAM TYPE
6F 4	115.46	1¼	1¼	VI - B
6F 5	114.60	1¼	1¼	VI - B
1G 1	85.56	1¼	1¼	IVF - E
↑ 2	86.17	↑	↑	IV - C
↓ 3	86.79	↓	↓	IV - C
1G 4	87.41	1¼	1¼	IVF - E
2G 1	84.64	1¼	1¼	IVF - E
↑ 2	85.25	↑	↑	IV - C
↓ 3	85.87	↓	↓	IV - C
2G 4	86.49	1¼	1¼	IVF - E
3G 1	84.64	1¼	1¼	IVF - E
↑ 2	85.25	↑	↑	IV - C
↓ 3	85.87	↓	↓	IV - C
3G 4	86.49	1¼	1¼	IVF - E
4G 1	84.64	1¼	1¼	IVF - E
↑ 2	85.25	↑	↑	IV - C
↓ 3	85.87	↓	↓	IV - C
4G 4	86.49	1¼	1¼	IVF - E
5G 1	84.64	1¼	1¼	IVF - E
↑ 2	85.26	↑	↑	IV - C
↓ 3	85.89	↓	↓	IV - C
5G 4	86.51	1¼	1¼	IVF - E
6G 1	83.85	1¼	1¼	IVF - E
↑ 2	84.15	↑	↑	IV - E
3	84.47			↕
↓ 4	84.79	↓	↓	IV - E
6G 5	85.12	1¼	1¼	IVF - E
7G 1	83.13	1¼	1¼	IVF - E
↑ 2	83.98	↑	↑	IV - C
3	84.83			↕
↓ 4	85.70			
7G 5	86.58	1¼	1¼	IV - C
19A 1	74.18	1¼	1¼	IVF - B
↑ 2	74.17	↑	↑	IV - L
3				↕
4				
↓ 5		↓	↓	IV - L
19A 6	74.17	1¼	1¼	IVF - B
20A 1	94.43	1¼	1¼	IV - B
↑ 2	94.07	↑	↑	IV - D
3	93.72			↕
4	93.36			
↓ 5	93.00	↓	↓	IV - D
20A 6	92.65	1¼	1¼	IVF - E
22H 1	86.68	1¼	1¼	IVF - D
↑ 2	86.38	↑	↑	IV - C
3	86.08			↕
4	85.78			
5	85.48			
6	85.18			IV - C
7	84.89			IV - E
8	84.59			↕
↓ 9	84.29	↓	↓	IV - E
22H 10	84.00	1¼	1¼	IVF - D

NOTES:-

1. t^1 is the bearing plate thickness (inches) at down station end of the beam.
2. t^2 is the plate thickness (inches) at up station end of beam.
3. For bearing type see pier geometry tables.
4. Beam length given is horizontal distance between ℄ bearings.

SEE REVISION ON RIGHT

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY: S.S.	AUG.'77
NOTE BOOK	CHECKED BY: J.C.M.	AUG.'77
	DESIGNED BY:	
No.	QUANTITIES BY:	
	CHECKED BY: D. GILSTAD	AUG.'77

DATE	REVISIONS
12/18/78	Corrected length of beam 20A6. Revised beam lengths of 20H1 thru 20H11, 21H1 thru 21H11, 22H1 thru 22H10, Added beam 22H10.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

H-1 VIADUCT (E.B. & W.B.), RAMP A, RAMP F & RAMP G

BEAM TYPE SCHEDULE

KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1 (131):17

SCALE: —— DATE: AUG. 31, '77

SHEET NO. S-37 OF S-94 SHEETS

VIJAY CHANDRA
REGISTERED PROFESSIONAL ENGINEER
No. 4120
HAWAII, U.S.A.

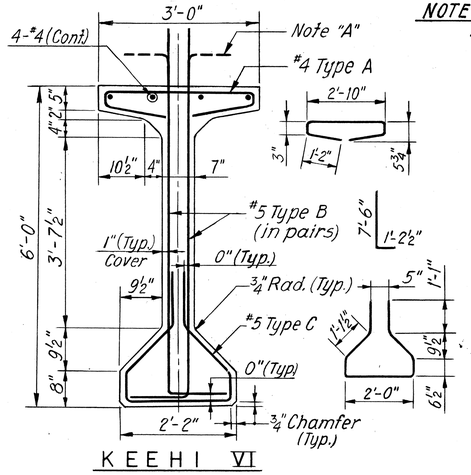
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Vijay Chandra
Signature

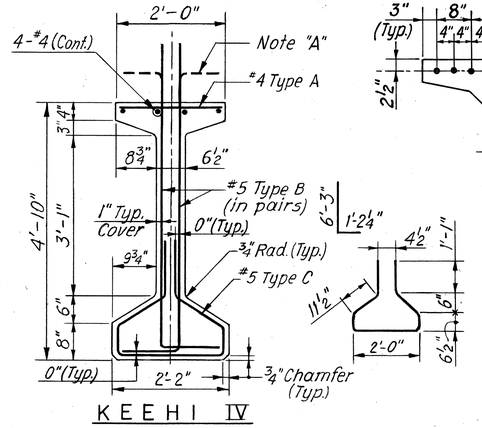
C.O. 268

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(38)17	1977	269	394

NOTE "A": Bend bars in field 1½" below top of deck.
All reinforcing dimensions are out to out.



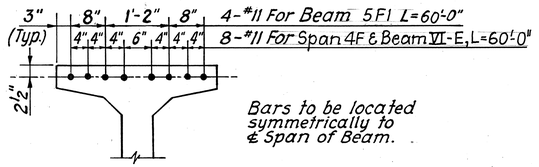
KEEHI VI



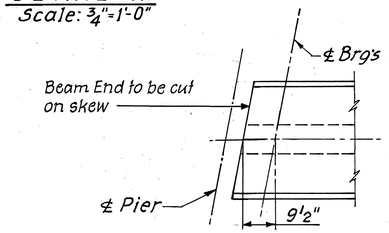
KEEHI IV

TYPICAL BEAM SECTIONS

Scale ¾" = 1'-0"

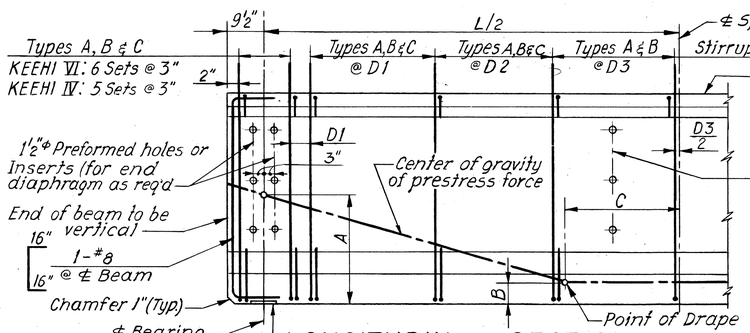


DETAIL 'A'
Scale: ¾"=1'-0"



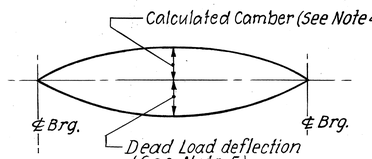
BEAM END PLAN

Scale: ¾"= 1'-0"

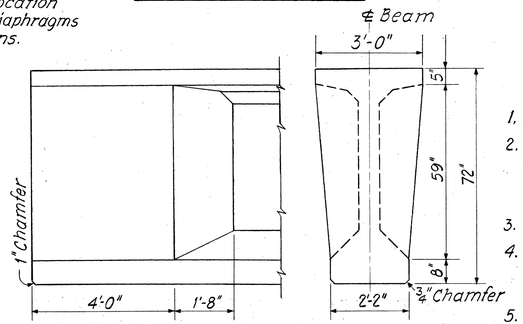


LONGITUDINAL SECTION

No Scale.



CAMBER DIAGRAM



ELEVATION SECTION

TYPICAL END BLOCK DETAIL

Scale ½"= 1'-0"

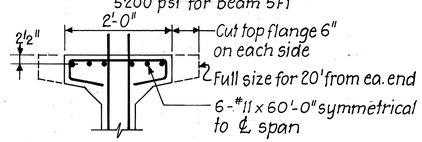
(This detail applies to Keehi type VI beams if post-tensioned)

BEAM SCHEDULE

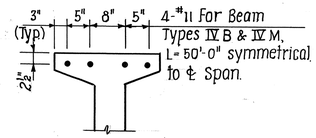
BEAM TYPE	INITIAL* PRESTRESS FORCE (KIPS)	FINAL PRESTRESS FORCE (KIPS)	CALCULATED CAMBER SEE NOTE 4	DEAD LOAD DEFLECTION SEE NOTE 5	LOCATION OF CENTER OF GRAVITY OF PRESTRESS FORCE			STIRRUPS			REQUIRED MIN. ULT. CONC. STRENGTH BEFORE RELEASE OF STRANDS (P.S.I.)	REMARKS
					DIST A	DIST B	DIST. TO PT. OF DRAPE C	NO. OF STIRRUPS @ SPACING D1	NO. OF STIRRUPS @ SPACING D2	SPACING D3		
VI-A	1644	1272	-1¾"	1½"	1'-9½"	4¾"	12'-0"	14@12"	15@15"	18"	4500	
VI-B	1522	1178	-1½"	1½"	1'-11"	4⅜"	12'-0"	14@12"	15@15"	18"	4500	See Detail 'B' for 5F5
VI-C	1339	1037	-1¼"	1"	1'-8½"	5"	12'-0"	10@12"	13@15"	18"	4500	
VI-D	1827	1414	-2⅛"	2⅛"	1'-8⅞"	5"	13'-0"	19@9"	20@12"	18"	—	Detail 'A' & Note "B"
VI-E	1705	1319	-1⅞"	1¾"	1'-9¾"	4¾"	11'-0"	17@9"	18@12"	18"	5000	See Detail 'A'
IV-A	1279	990	-1½"	1¼"	1'-4½"	4'-4"	10'-0"	11@12"	10@18"	18"	4700	
IV-B	1400	1084	-1⅜"	1⅛"	1'-10"	7"	10'-0"	15@9"	14@12"	18"	4900	See Detail 'C'
IV-C	1157	895	-1⅜"	1"	1'-2"	4¼"	10'-0"	11@12"	11@18"	18"	4500	
IV-D	1035	801	-1⅛"	⅞"	1'-2½"	4"	10'-0"	10@12"	10@18"	18"	4500	
IV-E	974	754	-⅞"	⅝"	1'-3½"	4"	9'-0"	10@12"	9@18"	18"	4500	
IV-L	731	565	-⅝"	⅜"	1'-3½"	3½"	8'-0"	7@15"	8@18"	18"	4500	
IV-M	1400	1084	-1½"	1⅜"	1'-5¾"	5¾"	11'-0"	12@12"	12@18"	18"	4800	See Detail 'C'

*Before any losses

NOTE "B": 8 Strands Located 2" above bottom of beam shall be blanketed in the first 8'-0" from each end of beam.
Reqd. min. ult. conc. strength before release of strands:
5000 psi for Span 4F
5200 psi for Beam 5F1



DETAIL 'B' (Beam 5F5)
Scale: ¾" = 1'-0"



DETAIL 'C'
Scale: ¾" = 1'-0"

NOTES FOR PRESTRESSED BEAMS:

PRETENSIONING

1. Concrete shall have a minimum ultimate 28 day cylinder strength of 6000 psi.
2. Pretensioned strands shall be 7 wire ½"Φ stress-relieved steel strands (area = 0.153 in²) with an ultimate strength of 270 ksi. For properties see State Standard Specifications.
   Initial strand stress (before any losses): 199 ksi.; Initial loss = 20,000 psi.
   Total loss due to creep, shrinkage, elastic shortening and relaxation of steel = 45,000 psi.
3. Non-prestressed reinforcing steel shall be Grade 40 unless otherwise noted. For properties see State Standard Specifications.
4. The calculated camber includes the effect of the initial prestress force and the weight of the beam after removal from bed. Negative values shown for calculated camber indicate a net upward deflection. Calculated camber values shown do not account for any camber growth of the beam. The actual camber shall not exceed the calculated camber shown on the plans by more than 100%.
5. The dead load deflection includes the combined effects of the weight of slab, haunch and diaphragm.
6. Strand pattern shall be symmetrical about the longitudinal ℄ of the beam.
7. Strand release sequence shall not induce any lateral deflection of the beam.
8. Contractor shall submit his proposed strand pattern and releasing sequence to the Engineer for approval.
9. During curing care shall be taken to avoid any lateral deflection of the beam due to improper orientation.
10. Lifting devices shall be placed as close as possible to the center line of bearings of the beam. Details and locations of lifting devices shall be submitted to the Engineer for approval. Such approval does not relieve the Contractor of his responsibilities if beam is damaged due to failure of the lifting device.
11. See Framing Plans for locations of diaphragms ℄ beam mark numbers. For beam types and lengths see beam type schedule. Lengths shown do not include effect of elastic shortening.
12. In lieu of the 7 wire ½" dia. stress-relieved steel strands (area 0.153 in²) with an ultimate strength of 270 ksi, the Contractor at his option may use 7 wire 0.6" dia. stress-relieved steel strands (area 0.217 in²) with an ultimate strength of 270 ksi. For properties of 0.6" dia. strand see special provisions. However the final prestress force and its center of gravity, as stated, shall not be revised.

POST-TENSIONING

(Contractor's Option for KEEHI VI Beams)

1. The ultimate 28-day cylinder strength of concrete shall be a minimum of 6000 psi.
2. Post-tensioning steel shall consist of either ½"Φ, 270 ksi S/R multistrand tendons or high strength alloy steel bars. Sheathing shall be galvanized rigid duct (coef. of friction μ = 0.25 and wobble coef. K = 0.0002) for strands and galvanized metal sheathing (μ = 0.15 and k = 0.0002) for bars.
3. Loss due to creep, shrinkage, elastic shortening and relaxation of steel to be assumed = 35,000 psi.
4. Contractor shall submit the post-tensioned beam design including elongation, jacking and deflection computation to Engineer for approval. Estimate of losses (apart from that listed above) peculiar to post-tensioning shall be part of the calculations.
5. Contractor shall submit the tendon pattern and profile, sequence of stressing and anchorage details to Engineer for approval. Tendons location and post-tensioning shall be symmetrical about the longitudinal ℄ of the beam.
6. Pretensioning notes 3, 9, 10 and 11 also apply to post-tensioning.

ORIGINAL PLAN	NOTE BOOK	No.	SURVEY PLOTTED BY	DRAWN BY	TRACED BY	DESIGNED BY	QUANTITIES BY	CHECKED BY	DATE
				M. Nishida	K. Arasaki			Y. Paulson	AUG.'77

VIJAY CHANDRA
REGISTERED PROFESSIONAL ENGINEER
No. 4120
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Vijay Chandra
Signature

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

H-1 VIADUCT (E.B. & W.B.), RAMP A, RAMP F & RAMP G

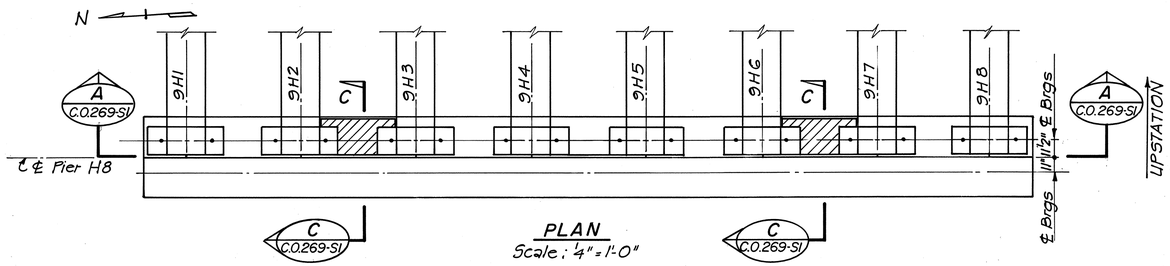
PRESTRESS BEAM DETAILS
SHEET 1 OF 2

KEEHI INTERCHANGE
F.A.I. PROJECT NO. 1-HI-1(131):17

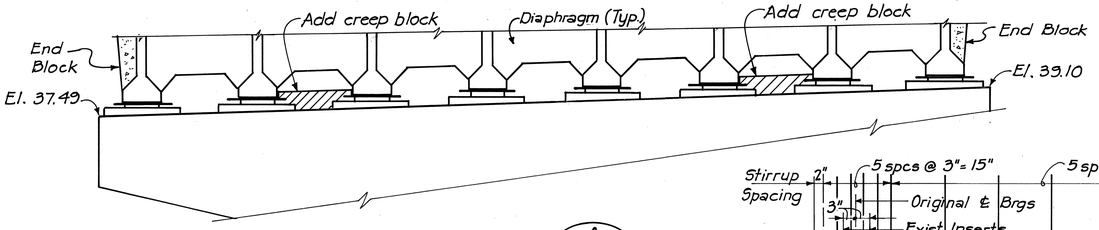
SCALE: AS SHOWN DATE: AUG. 31, '77

SHEET NO. S-38 OF S-94 SHEETS

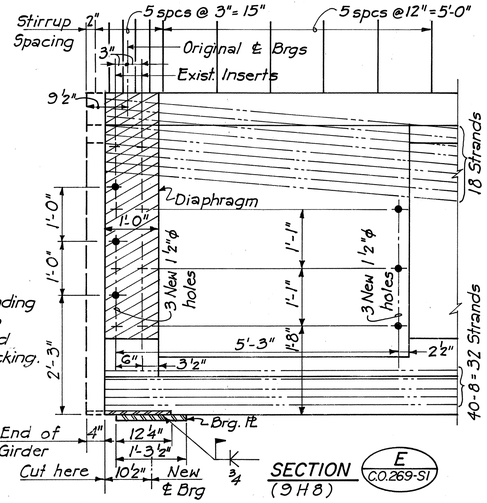
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(131):17	1977	269-SI	394



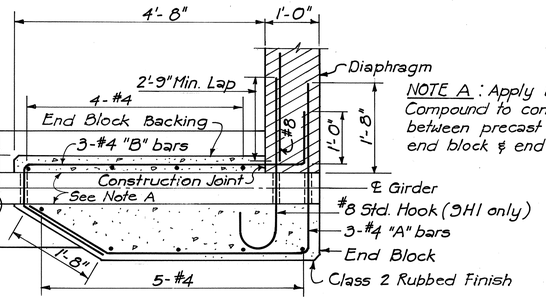
PLAN
Scale: 1/4" = 1'-0"



SECTION A C.0.269-SI
Scale: 1/4" = 1'-0"

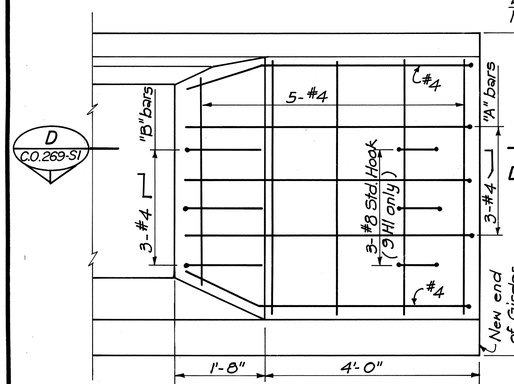


SECTION E C.0.269-SI (9H8)



NOTE A: Apply Epoxy Bonding Compound to contact area between precast girder and end block & end block backing.

SECTION D C.0.269-SI

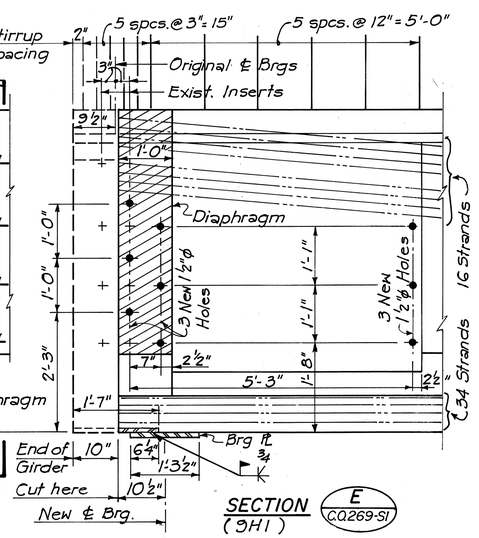


ELEVATION

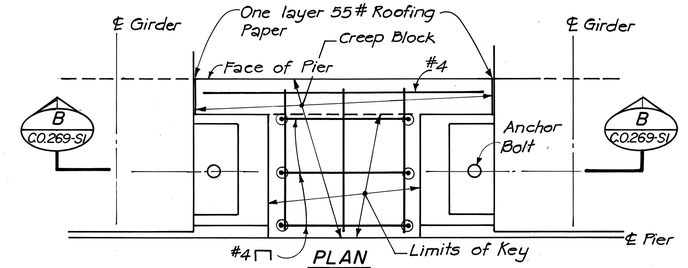
END VIEW E C.0.269-SI

Note: Add end blocks to girders 11H8 and 11H1 similar to girder 9H1 and 9H8.

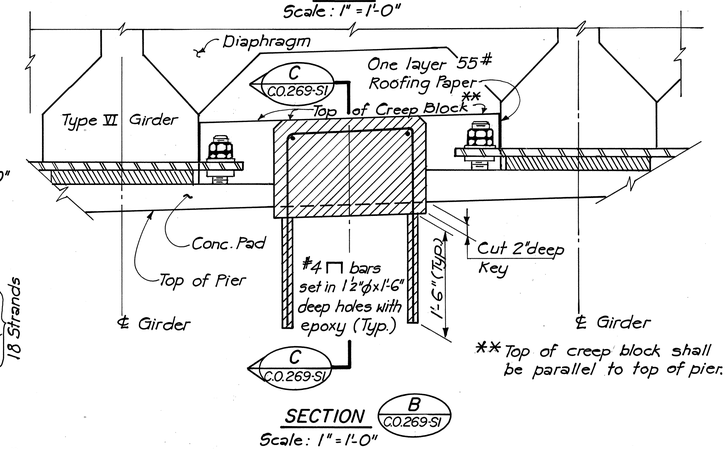
EXTERIOR GIRDERS
Girder 9H1 shown, 9H8 opposite hand
Scale: 3/4" = 1'-0"



SECTION E C.0.269-SI (9H1)



PLAN
Scale: 1" = 1'-0"

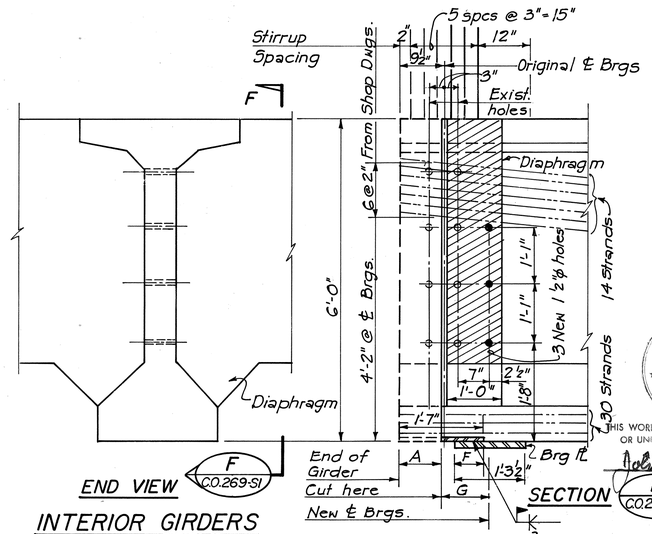


** Top of creep block shall be parallel to top of pier.

SECTION B C.0.269-SI
Scale: 1" = 1'-0"

GIRDER	L*	A	B	C*	D	E	F	G
9H1	115.69	0.83	114.86	115.05	0.08	0.11	See Section E	
9H2	115.81	0.83	114.98	115.15	0.08	0.09	0.52	0.88
9H3	115.86	0.75	115.11	115.35	0.12	0.12	0.65	0.83
9H4	115.87	0.75	115.12	115.40	0.14	0.14	0.67	0.81
9H5	115.86	0.75	115.11	115.40	0.14	0.15	0.67	0.81
9H6	115.90	0.58	115.32	115.50	0.08	0.10	0.77	0.88
9H7	115.87	0.58	115.29	115.60	0.15	0.16	0.83	0.81
9H8	115.90	0.33	115.57	115.75	0.08	0.10	See Section E	

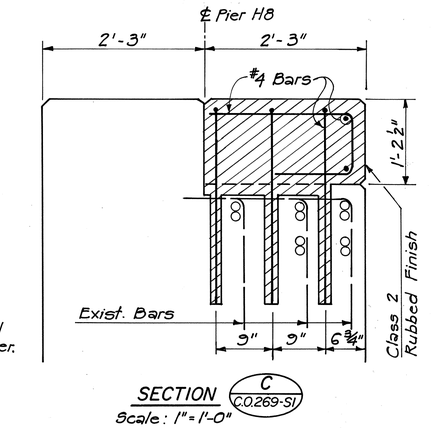
* Field Measurement



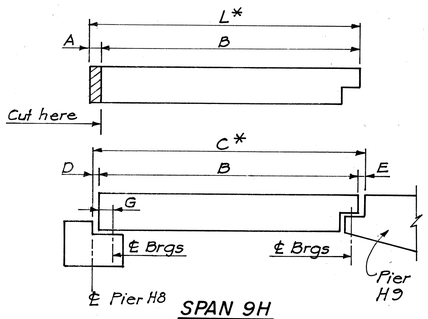
END VIEW F C.0.269-SI

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

SECTION F C.0.269-SI



SECTION C C.0.269-SI
Scale: 1" = 1'-0"



SPAN 9H

NOTES:
1. Concrete in creep blocks, girder end blocks & end block backing shall be Class A, f'c=3000psi.
2. Reinforcing steel shall be Grade 40.
3. Strength of epoxy shall be equal or greater than that of the concrete. The epoxy shall be non-shrink.
4. The holes to receive rebars shall be clean, dry & not oily prior to application of epoxy.

DATE	REVISION
6-19-81	New sheet added for modifications to girders of Span 9H & addition of creep blocks to Pier H8

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

H-1 VIADUCT (EB & WB), RAMP A
RAMP F & RAMP G

MODIFICATIONS TO PIER H8 & GIRDERS OF SPAN 9H

KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1(131):17

SCALE: AS SHOWN DATE: JUNE 19, 1981

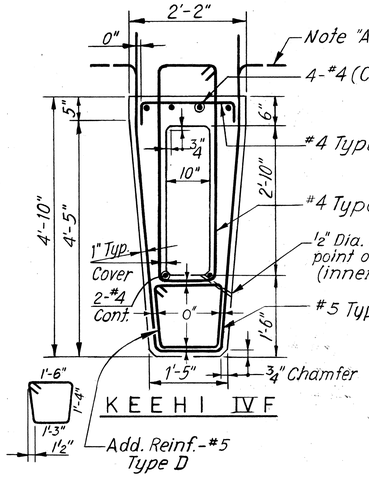
SHEET No. OF SHEETS

JOHN P. JOHNSON REGISTERED PROFESSIONAL ENGINEER No. 3647 HAWAII, U.S.A.
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
John P. Johnson

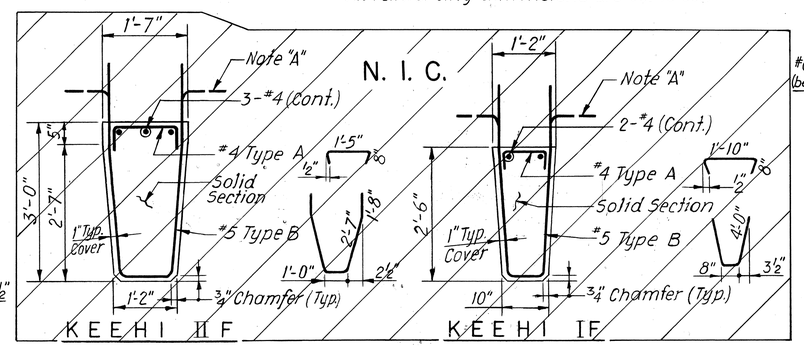
ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY	"
	TRACED BY	"
NOTE BOOK	DESIGNED BY	"
No.	QUANTITIES BY	"
	CHECKED BY	"

C.O. 269-SI

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(131)17	1977	270	394



KEEHI IVF



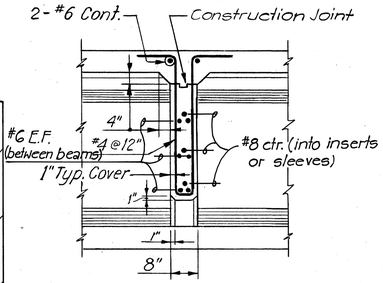
KEEHI IIF KEEHI IF

N. I. C.

NOTE "A": Bend bars in field 1½" below top of deck. All reinforcing dimensions are out to out.

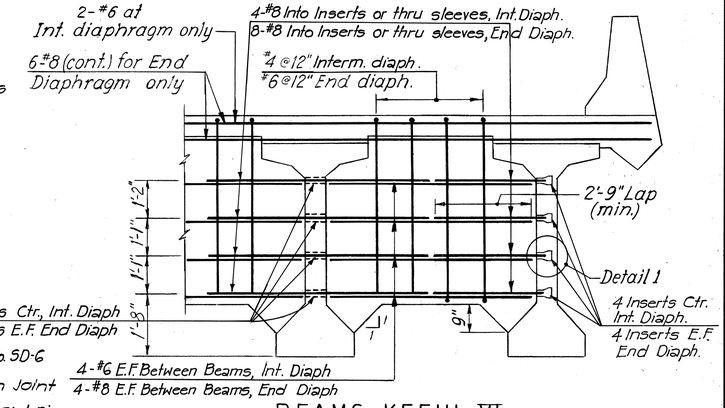
TYPICAL BEAM SECTION

Scale: ¾" = 1'-0"

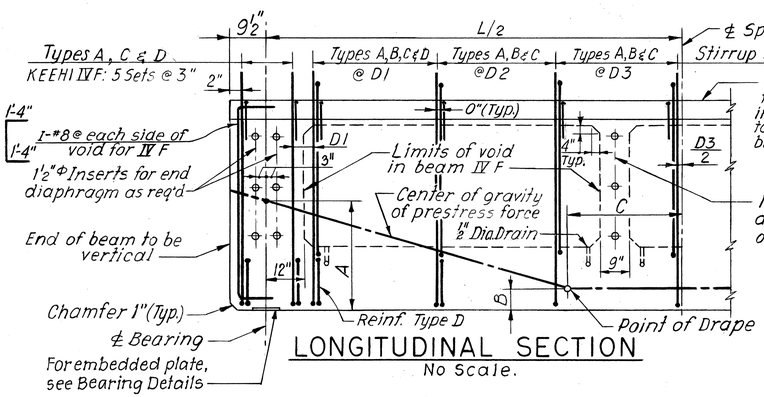


TYPICAL SECTION INTERMEDIATE DIAPHRAGMS

Scale 1½" = 1'-0"

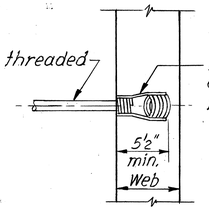


BEAMS KEEHI VI



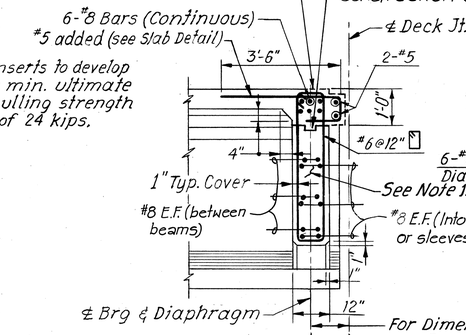
LONGITUDINAL SECTION

No Scale.



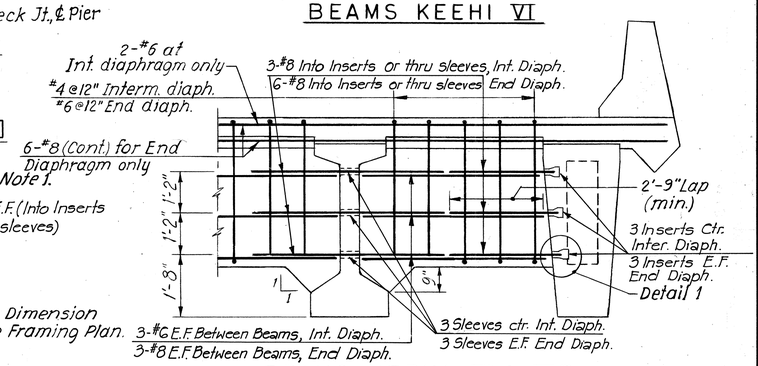
DETAIL I

Scale 1½" = 1'-0"



TYPICAL SECTION END DIAPHRAGMS

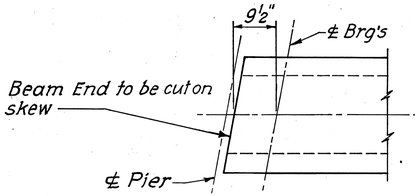
Scale: ½" = 1'-0"



BEAMS KEEHI IV & IVF

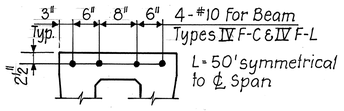
BEAM SCHEDULE												
BEAM TYPE	INITIAL* PRESTRESS FORCE (KIPS)	FINAL PRESTRESS FORCE (KIPS)	CALCULATED CAMBER SEE NOTE 4	DEAD LOAD DEFLECTION SEE NOTE 5	LOCATION OF CENTER OF GRAVITY OF PRESTRESS FORCE			STIRRUPS			REQUIRED MIN. ULT. CONC. STRENGTH BEFORE RELEASE OF STRANDS (P.S.I.)	REMARKS
					DIST. A	DIST. B	DIST. TO PT. OF DRAPE C	NO. OF STIRRUPS @ SPACING D1	NO. OF STIRRUPS @ SPACING D2	SPACING D3		
IVF-A	1461	1131	-1½"	1¼"	1'-8"	8"	10'-0"	9 @ 15"	10 @ 18"	18"	4500	
IVF-B	792	613	-½"	⅜"	1'-7½"	6"	8'-0"	7 @ 15"	8 @ 18"	18"	4500	
IVF-C	1522	1178	-1⅝"	1½"	1'-11"	7	10'-0"	12 @ 12"	11 @ 18"	18"	4800	see Detail 'A'
IVF-D	1096	848	-1"	¾"	1'-7¼"	6½"	9'-0"	8 @ 15"	9 @ 18"	18"	4500	
IVF-E	1340	1037	-1⅜"	1⅛"	1'-7"	8"	10'-0"	9 @ 15"	10 @ 18"	18"	4500	
IVF-L	1583	1225	-1¾"	1⅝"	1'-8½"	7¼"	10'-0"	12 @ 12"	12 @ 18"	18"	4900	see Detail 'A'

* Before any losses



BEAM END PLAN - KEEHI IVF

Scale: ¾" = 1'-0"



DETAIL 'A'

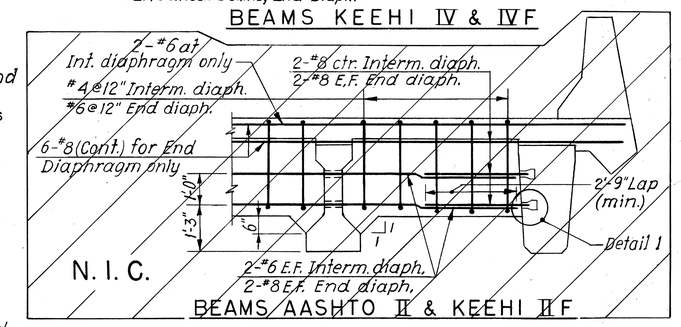
Scale: ¾" = 1'-0"

NOTE: For Prestress Notes and Camber Diagram see Sh. No. S-38

NOTE 1: Apply Epoxy Bonding Compound to contact area of all Dapped Beams and Type IV Fascia Beams before placing end diaphragm concrete. Epoxy Bonding Compound incidental to concrete in bridges.

NOTE 2: Bars in sleeves shall be grouted in place before pouring the diaphragms.

NOTE 3: Inserts and Sleeves are incidental to prestressed concrete beam.



BEAMS AASHTO II & KEEHI IIF

TYPICAL INTERMEDIATE AND END DIAPHRAGMS

Scale: ½" = 1'-0"

DATE	REVISION
3/23/78	Interm. and End Diaphragms reinforcements changed. Notes 2 & 3 added.

VIJAY CHANDRA REGISTERED PROFESSIONAL ENGINEER No. 4120 HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Vijay Chandra Signature

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

H-1 VIADUCT (E.B. & W.B.), RAMP A, RAMP F & RAMP G

PRESTRESS BEAM DETAILS
SHEET 2 OF 2

KEEHI INTERCHANGE
F.A.I. PROJECT NO. 1-HI-1(131):17

SCALE: AS SHOWN DATE: AUG. 31, '77

SHEET NO. S-39 OF S-94 SHEETS

ADD. 270

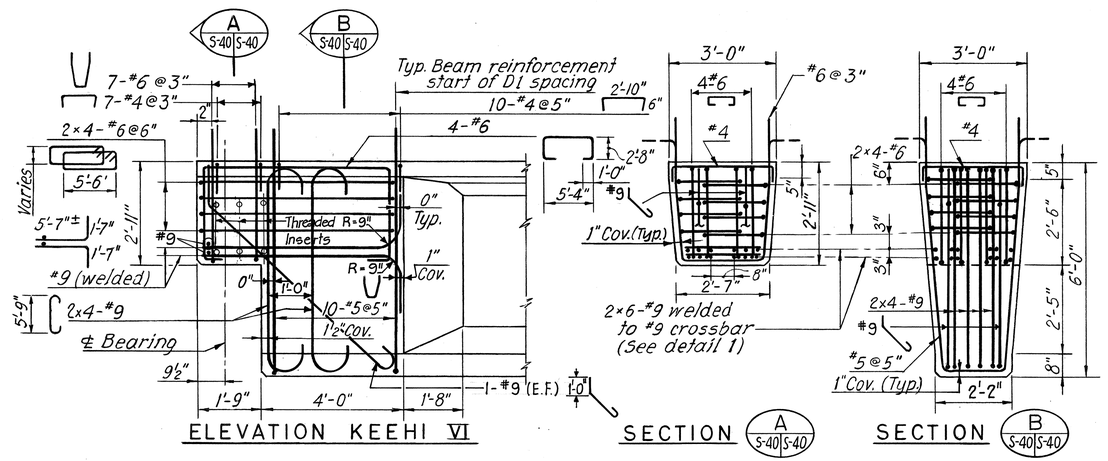
ORIGINAL PLAN

	DATE
SURVEY PLOTTED BY	
DRAWN BY M. Hirata	AUG '77
TRACED BY H. Arnold	AUG '77
DESIGNED BY	
QUANTITIES BY Y. Tadano	AUG '77
CHECKED BY	

NOTE BOOK

No.

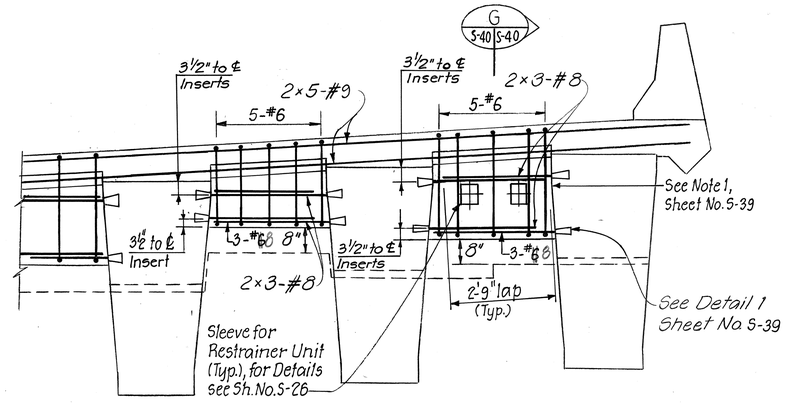
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(13I):17	1977	271	394



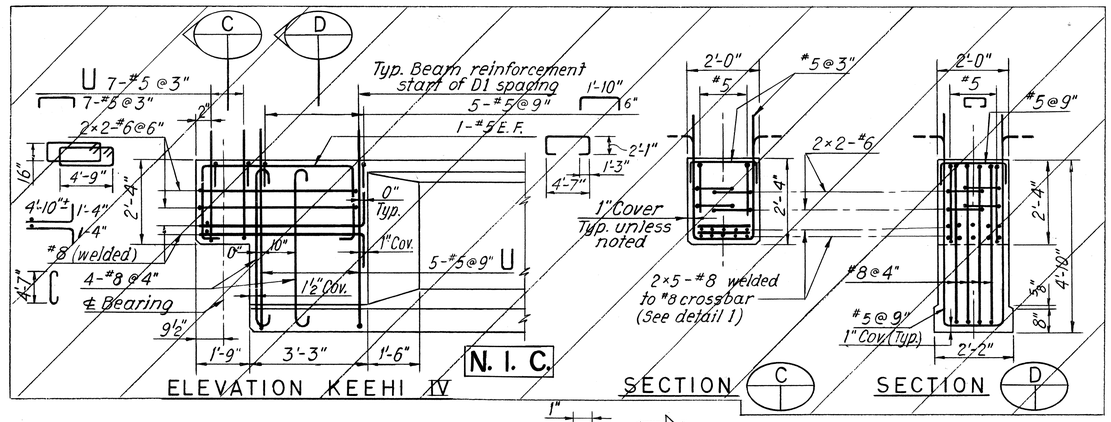
ELEVATION KEEHI VI

SECTION A S-40 S-40

SECTION B S-40 S-40



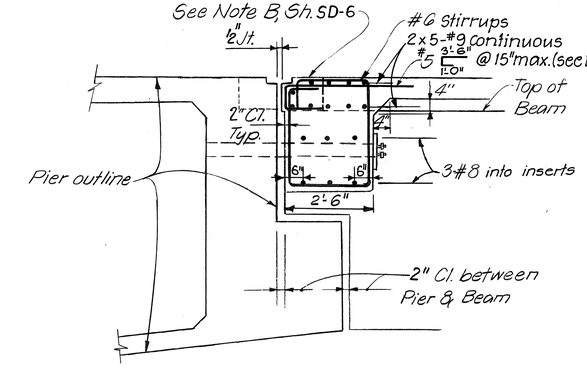
END DIAPHRAGMS
AT DAPPED END OF KEEHI VI BEAMS
Scale: ½" = 1'-0"



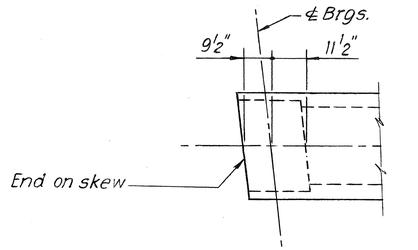
ELEVATION KEEHI IV

SECTION C

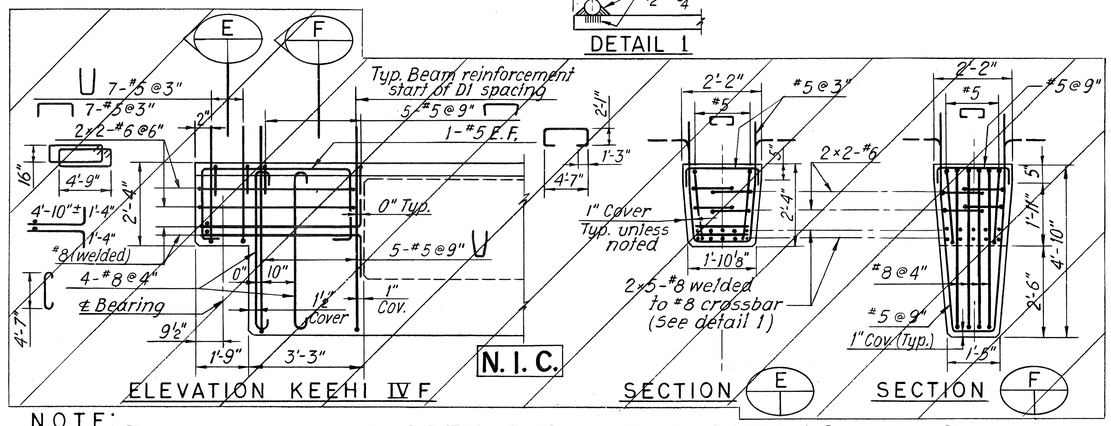
SECTION D



SECTION G S-40 S-40
Scale: ½"=1'-0"



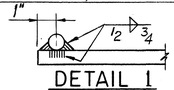
DAPPED BEAM END-PLAN
(Keehi VI shown, others similar)
Scale: ½"=1'-0"



ELEVATION KEEHI IV F

SECTION E

SECTION F



DETAIL 1

NOTE:
All beam ends to be vertical, all seat areas to be level.

DAPPED BEAM END DETAILS
Scale: ½"=1'-0"

NOTE 'A' : All dapped Keehi beams, either pretensioned or post-tensioned, shall have end blocks. See Beam Elevation.

ORIGINAL PLAN		DATE
	SURVEY PLOTTED BY	
	DRAWN BY M. Pleshe	AUG. '77
	TRACED BY	
	DESIGNED BY H. SAKER	AUG. '77
NOTE BOOK	QUANTITIES BY	
	CHECKED BY D. SILLSTAD	AUG. '77
NO.		

DATE	REVISION
3/23/78	Changed Dapped Beam End Diaphragm Sleeve to be inserts. Added inserts on Beam Elevation. Added Note 'A'.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

H-1 VIADUCT (E.B. & W.B.), RAMP A, RAMP F & RAMP G

DAPPED BEAM DETAILS

KEEHI INTERCHANGE
F.A.I. PROJECT NO. 1-HI-1(131):17
SCALE: AS SHOWN DATE: AUG. 31, '77

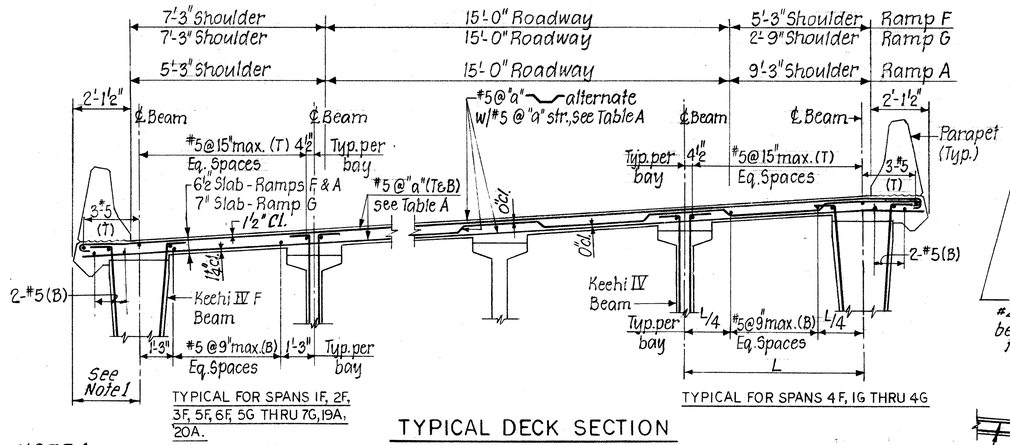
SHEET NO. S-40 OF S-94 SHEETS

VIJAY CHANDRA
REGISTERED PROFESSIONAL ENGINEER
No. 4120
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
Vijay Chandra
Signature

ADD. 271

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(131)17	1977	272	394



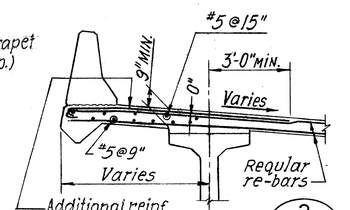
TYPICAL FOR SPANS 1F, 2F, 3F, 5F, 6F, 5G THRU 7G, 19A, 20A.

TYPICAL FOR SPANS 4F, 1G THRU 4G

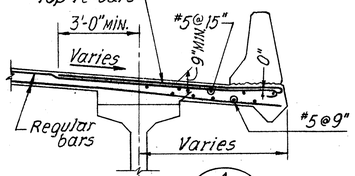
TYPICAL DECK SECTION FOR RAMPS F, G & A

Looking Up - Station
Scale: 3/8" = 1'-0"

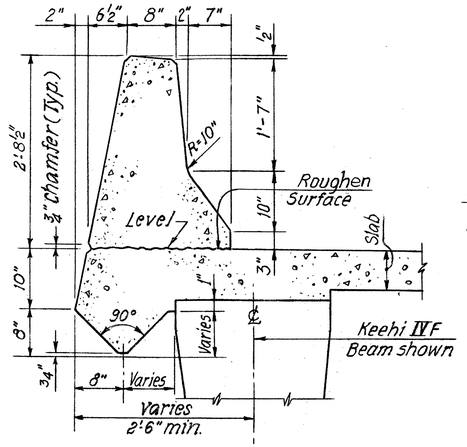
NOTE 1
See Details where cantilever exceeds 4'-6" on span 5F & 6F, 7G & 1GH (1 S-41 | S-41) & (2 S-41 | S-41)



DETAIL (2 S-41 | S-41) Scale: 3/8" = 1'-0"

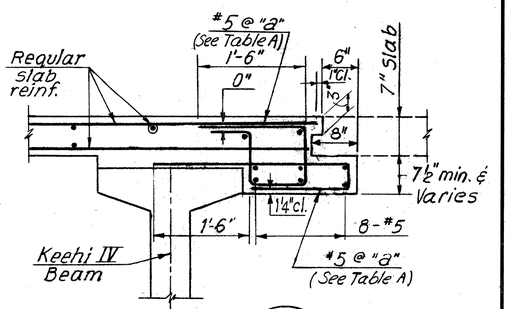


DETAIL (1 S-41 | S-41) Scale: 3/8" = 1'-0"

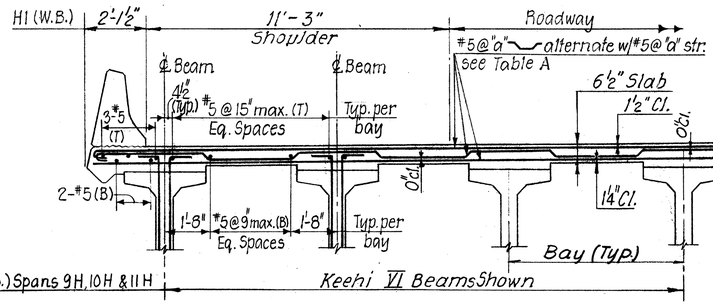


STANDARD PARAPET DETAIL

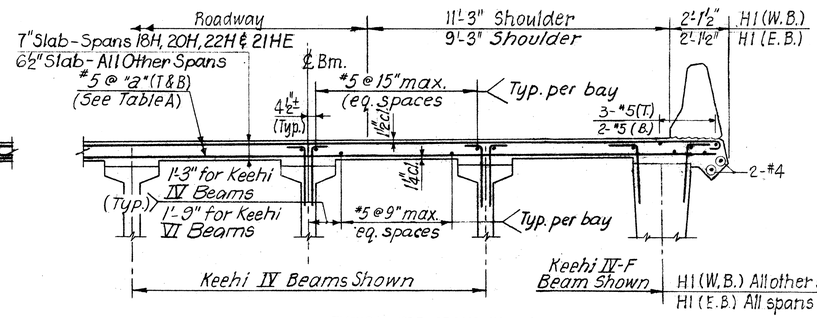
Scale: 1" = 1'-0"
(For Parapet reinf. see Sheet No. SD-2)



DETAIL (3 S-41 | S-41) Scale 1" = 1'-0"



TYPICAL FOR SPANS 5H THRU 8H, 10H, 12H THRU 14H, 14HE



TYPICAL FOR SPANS 1H THRU 4H, 9H, 11H, 15H THRU 22H, 15HE THRU 21HE

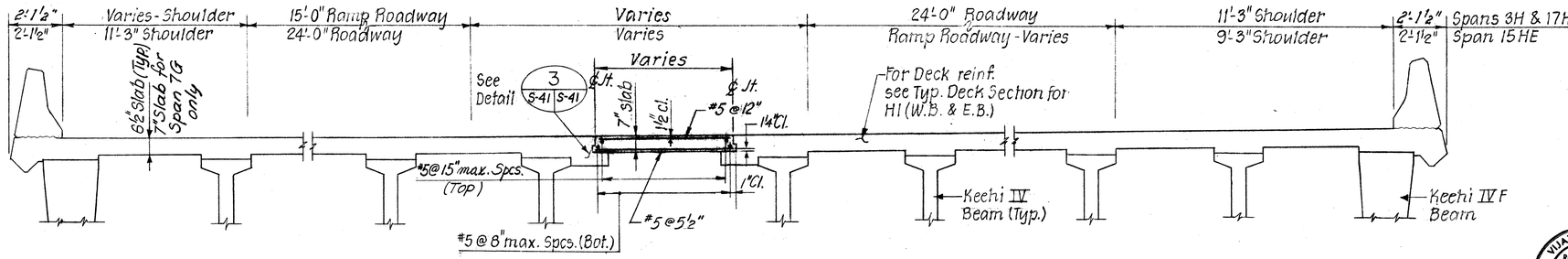
TYPICAL DECK SECTION FOR H1 W.B. & E.B.

Looking up - station
Scale: 3/8" = 1'-0"

TABLE A	
SPACING REINF. BARS IN SLAB	
SPACING "a"	SPAN
6" max	5G, 7G, 18H, 19H, 22H
7" "	1H thru 4H, 15H thru 17H, 20H, 21H, 1F, 2F, 19A, 15HE thru 21HE
7½" "	6G, 20A
8" "	9H, 11H, 3F, 5F, 6F
12" "	1G thru 4G
14" "	5H thru 8H, 12H thru 14H, 14HE
16" "	4F, 10H

NOTES:

1. For Deck Joint Detail, see Sheet Nos. SD-6 & S-43
2. For Framing Plans, see Sheet No. S-34 thru Sheet No. S-36
3. Where bar length would exceed 60 feet, bars shall be spliced in alternate locations.
4. For additional reinforcement at intermediate and end diaphragms see, Sheet No. S-39
5. For additional reinforcement at scuppers, see Sheet No. SD-9
6. For allowable stresses see Sheet No. SD-1 (Class A Concrete)



TYPICAL DECK SECTION AT SPANS 3H, 17H AND 15HE

(Looking Up - Station)
Scale: 3/8" = 1'-0"

ORIGINAL PLAN | NOTE BOOK | No. | DATE
SURVEY PLOTTED BY: S
DRAWN BY:
TRACED BY:
DESIGNED BY: H. SAXER
QUANTITIES BY:
CHECKED BY: Y. Chandra

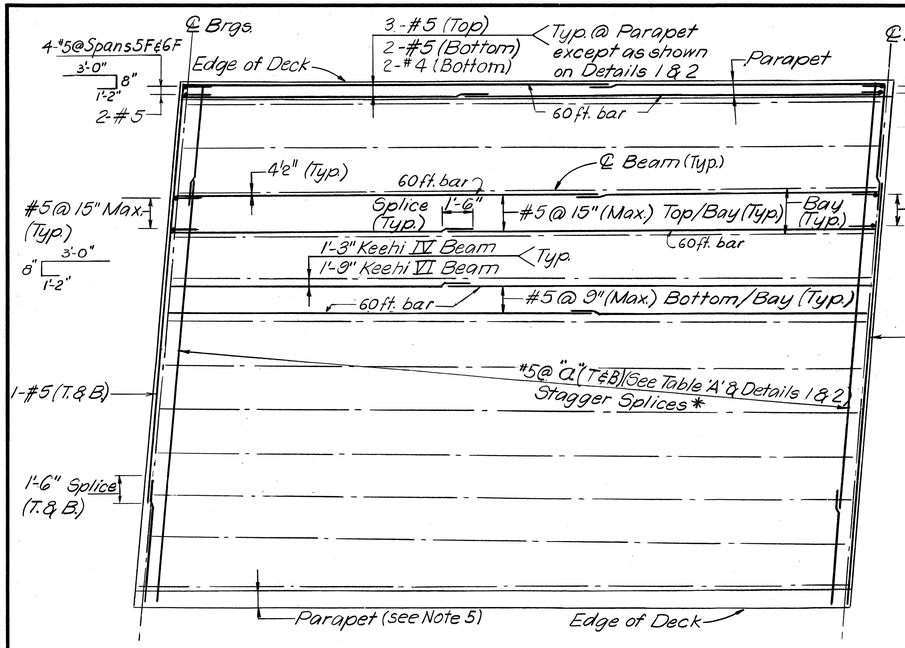
VIJAY CHANDRA REGISTERED PROFESSIONAL ENGINEER No. 4120 HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
Vijay Chandra
Signature

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
H-1 VIADUCT (E.B. & W.B.), RAMP A, RAMP F & RAMP G
DECK REINFORCEMENT

KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1 (131): 17
SCALE: AS SHOWN DATE: AUG. 31, '77
SHEET NO. S-41 OF S-94 SHEETS

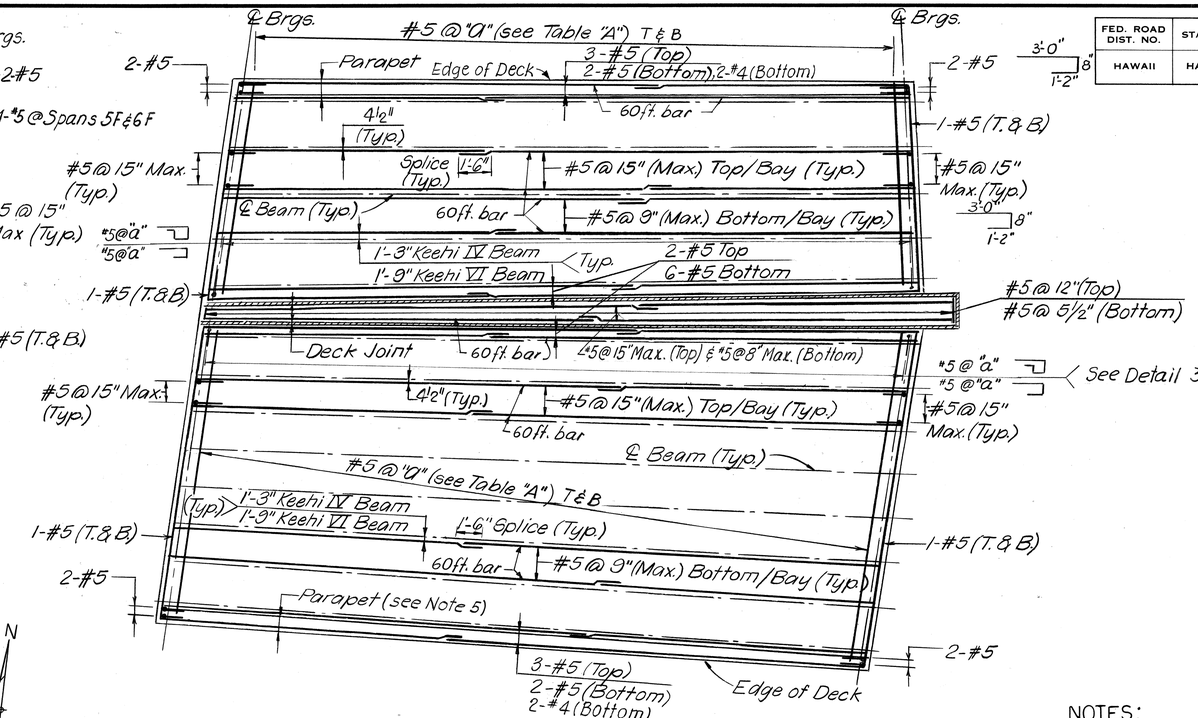
PRINTED ON NO. 1000H CLEARPRINT



TYPICAL REINFORCED DECK SLAB

Scale: 1" = 10'

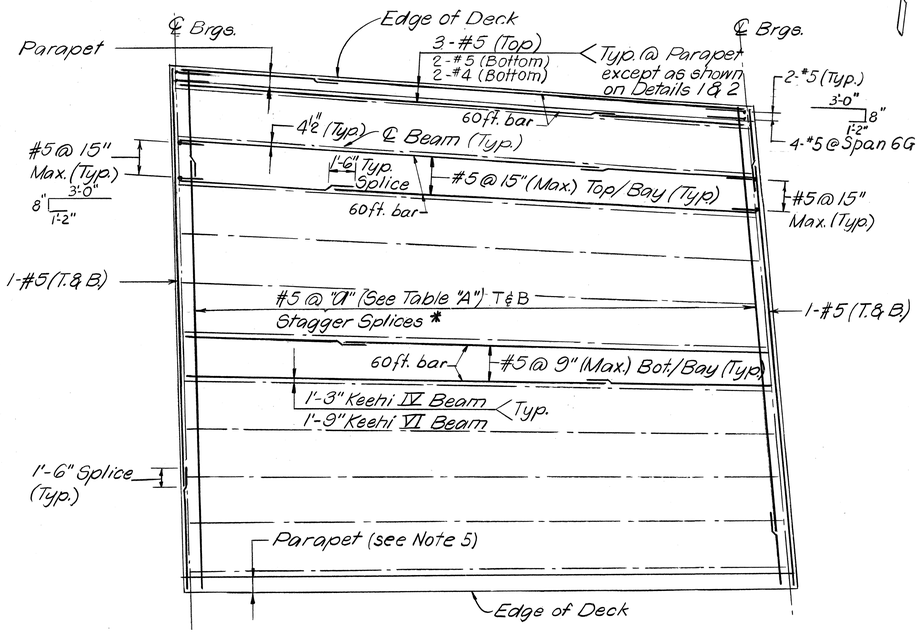
(For Spans: 1H, 2H, 5H thru 9H, 16H, 2F thru 4F, 5G, 19A, 14HE)



TYPICAL REINFORCED DECK SLAB

Scale: 1" = 10'

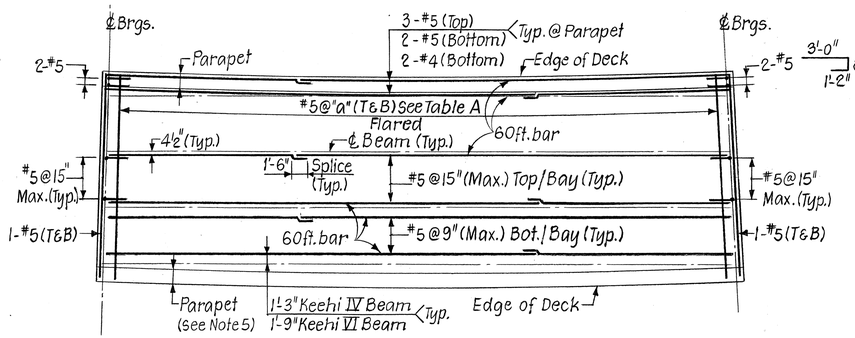
(For Spans: 1F, 3H, 7G, 17H, 20A, 15HE)



TYPICAL REINFORCED DECK SLAB

Scale: 1" = 10'

(For Spans: 4H, 18H thru 22H, 6G, 16HE thru 21HE)



TYPICAL REINFORCED DECK SLAB

Scale: 1" = 10'

(For Spans 5F, 6F, 1G thru 4G, 10H thru 15H)

* For Top bars provide splices at ℄ Bay
For Bottom bars provide splices at ℄ Beam

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(131):17	1977	273	394

NOTES:

1. Work this Dwg with Sheet No. S-41.
2. For General Plan and Elevation, see Sheet Nos. S-2 thru S-5.
3. For Framing Plan, see Sheet No. S-34 thru Sheet No. S-36.
4. For Deck Joint Details, see Sheet Nos. SD-6, SD-7 & S-43.
5. For Standard Parapet Detail, Reinforcement & Deck Cross Slope for Drainage, see Sheet No. SD-2.
6. All longitudinal reinforcing to be parallel to beams except in flared bays.
7. Alternate all splices in longitudinal & Transverse directions where the total length of reinforcing bars exceed 60'-0"
8. For additional reinforcement at End & Intermediate Diaphragms, see Sheet No. S-39.
9. For location of scuppers, see Sheet Nos. S-2 & S-3.
10. For add. reinf. at scuppers, see Sheet No. SD-9.

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY S.J.	AUG.'77
	TRACED BY H. SAXER	AUG.'77
NOTE BOOK	DESIGNED BY	
	QUANTITIES BY	AUG.'77
No.	CHECKED BY Chandra	

VIJAY CHANDRA
REGISTERED PROFESSIONAL ENGINEER
No. 4120
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Vijay Chandra
Signature

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

H-1 VIADUCT (E.B. & W.B.), RAMP A, RAMP F & RAMP G

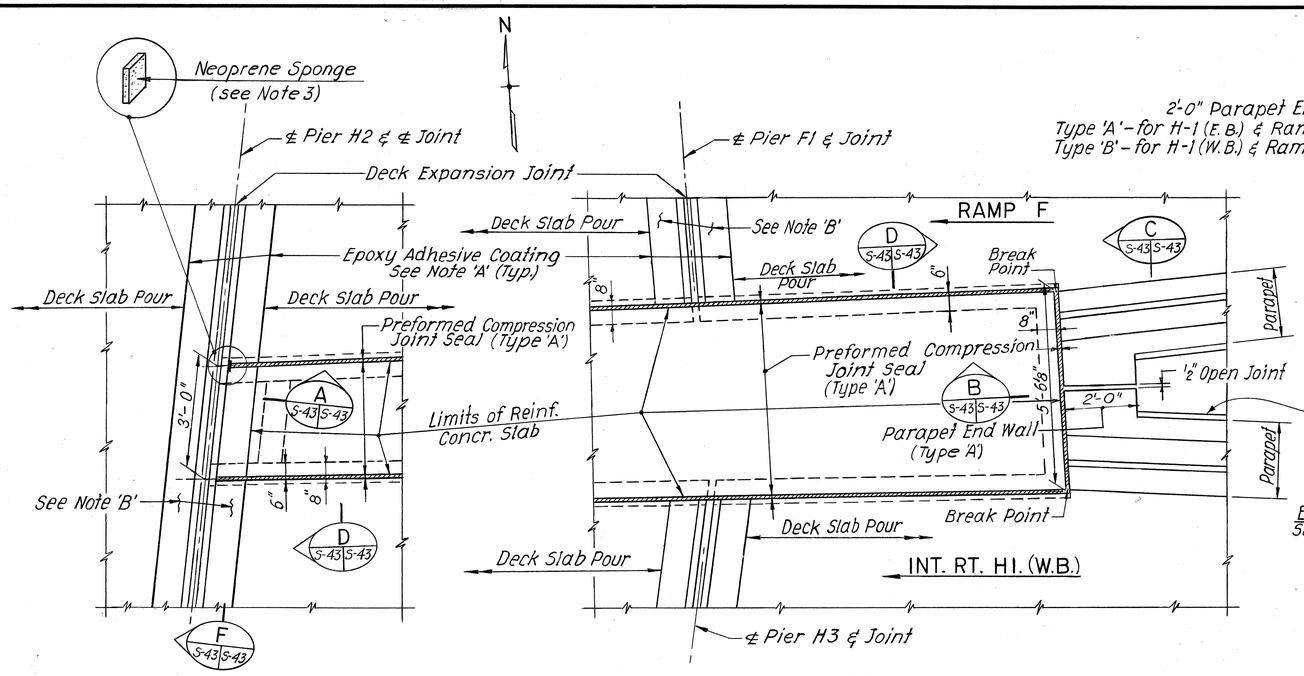
DECK REINFORCEMENT PLAN

KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1(131):17

SCALE: AS SHOWN DATE: AUG. 31, '77

SHEET No. S-42 OF S-94 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(31)17	1977	274	394

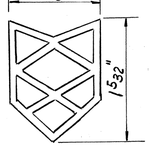


PARTIAL DECK JOINT PLAN BETWEEN PIERS H2 & F1

Scale: ½"= 1'-0"

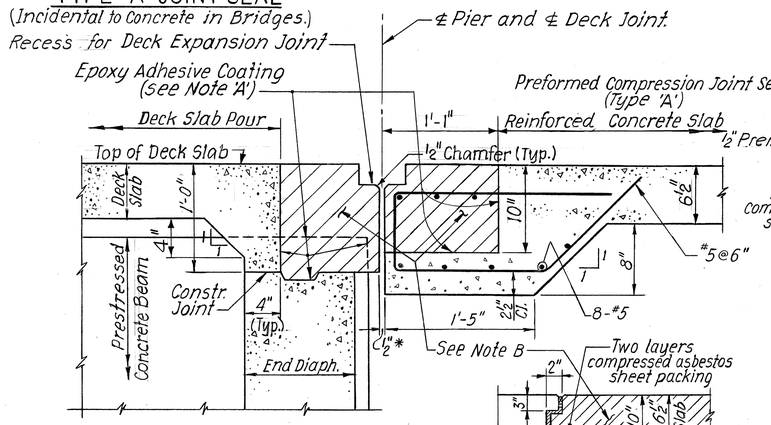
PARTIAL DECK JOINT PLAN BETWEEN PIERS H16 & H17 & AT HE 15

Scale: ½"= 1'-0"



TYPE 'A'-JOINT SEAL

(Incidental to Concrete in Bridges.)

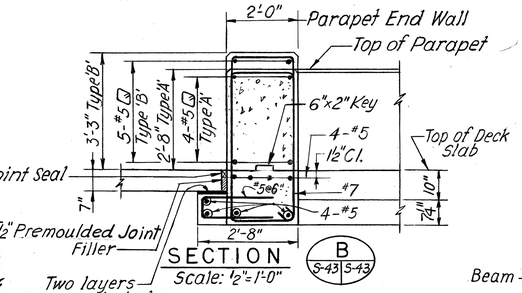


SECTION A

Scale: 1½"=1'-0"

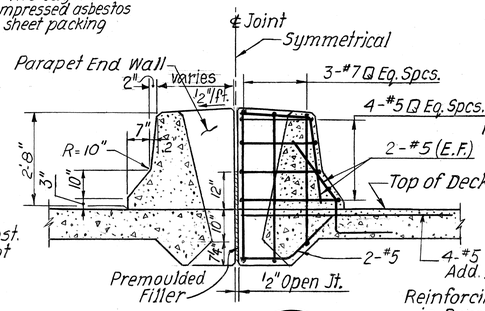
SECTION F

Scale: 1"=1'-0"



SECTION B

Scale: ½"=1'-0"

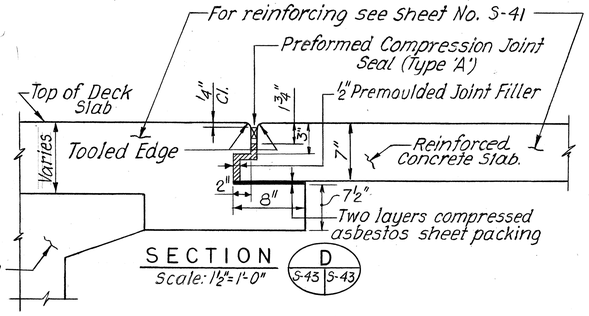


SECTION C

Scale: ½"=1'-0"

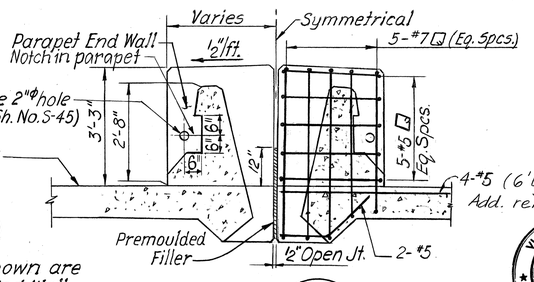
PARAPET END WALL – TYPE A

Reinforcing shown are in Parapet End Wall.



SECTION D

Scale: 1½"=1'-0"



SECTION E

Scale: ½"=1'-0"

PARAPET END WALL – TYPE B

NOTES:

1. For typical deck Joint details at Piers, and for Notes A & B, see Sheet Nos. SD-6 & SD-7
2. For location of longitudinal deck joints see Sh. Nos. S-2 & S-3
3. On all joint intersections use Neoprene Sponge cut to the proper size. Glue sponge to the end of the seal with Cyanoacrylate Adhesive.

SURVEY PLOTTED BY: DATE AUG.'77
DRAWN BY: M. Reshetar AUG.'77
TRACED BY: J. Shimada AUG.'77
DESIGNED BY: QUANTITIES BY: AUG.'77
CHECKED BY: D. GILSTAD
ORIGINAL PLAN
NOTE BOOK
No.

VIJAY CHANDRA REGISTERED PROFESSIONAL ENGINEER No. 4120 HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Vijay Chandra Signature

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

H-1 VIADUCT (E.B. & W.B.), RAMP A, RAMP F & RAMP G

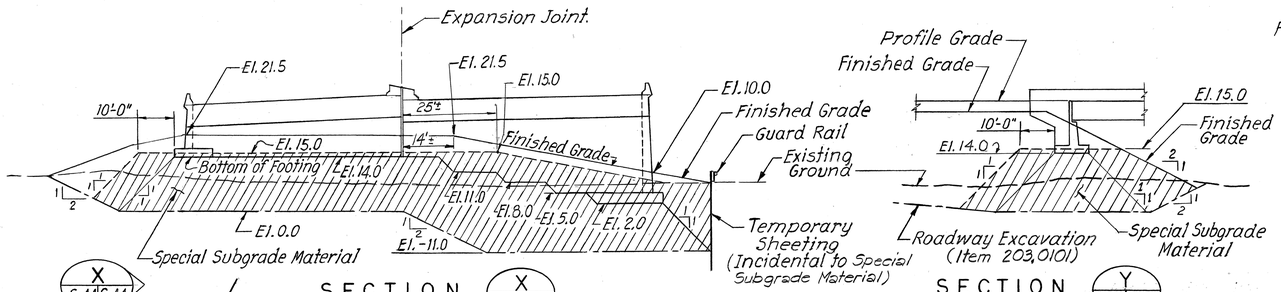
DECK JOINT DETAILS

KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1 (131): 17
SCALE: As Shown DATE: AUG. 31, '77

SHEET NO. S-43 OF S-94 SHEETS

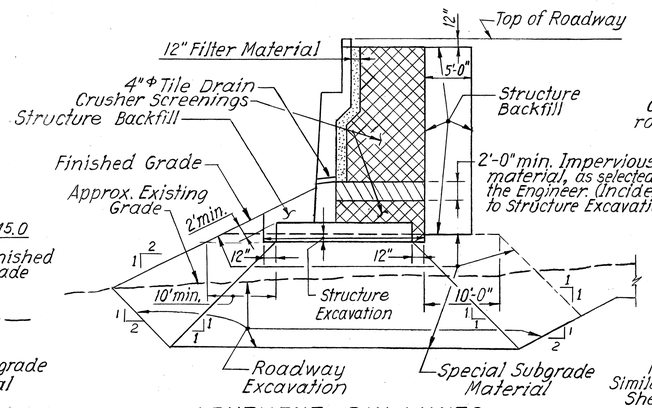
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-HI-1(130)17	1977	275	394

** Contractor shall provide temporary support to 24"Φ Sewer force main during excavation and construction. Cost of temporary support shall be incidental to roadway excavation. Contractor shall be held responsible for damage to sewer force main and he shall repair such damage immediately.

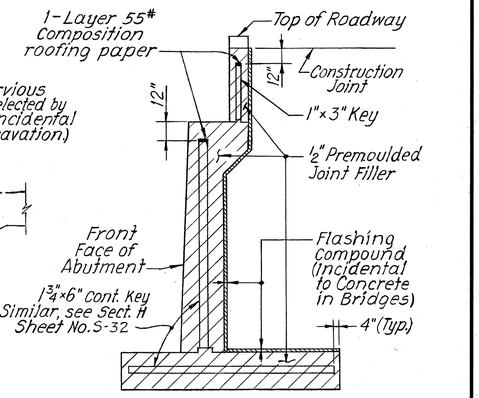


SECTION
N.T.S.

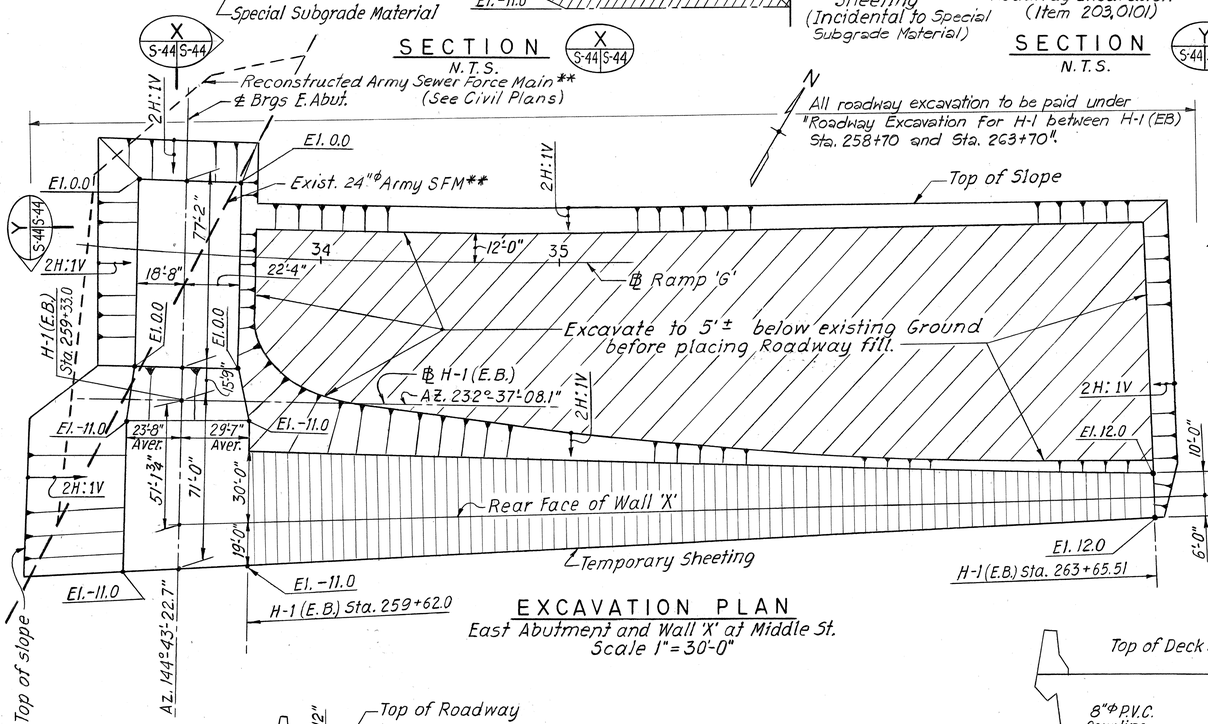
SECTION
N.T.S.



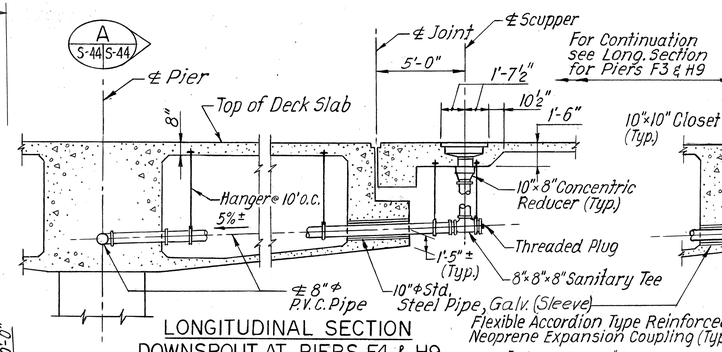
ABUTMENT - PAY LIMITS
(East Abutment at Middle Street)
N.T.S.



JOINT ELEVATION
N.T.S.

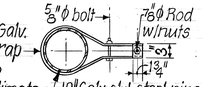


EXCAVATION PLAN
East Abutment and Wall 'X' at Middle St.
Scale 1"=30'-0"

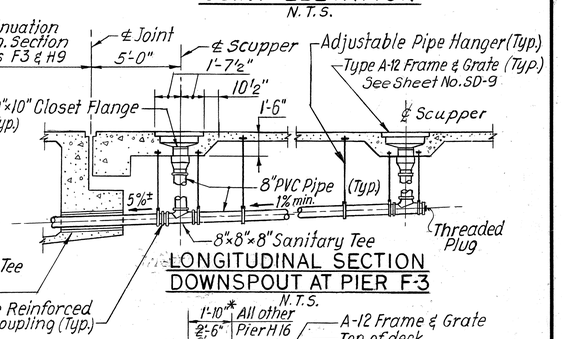


LONGITUDINAL SECTION
DOWNSPOUT AT PIERS F4 & H9
N.T.S.

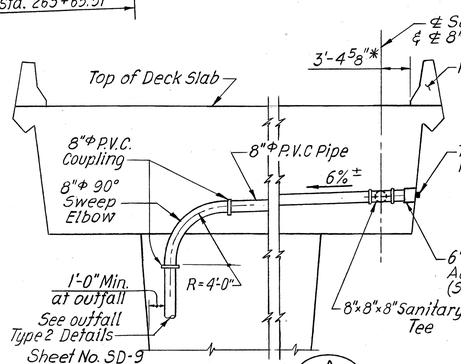
Note: Inserts and hangers to develop a minimum ultimate pulling strength of 13 kips.



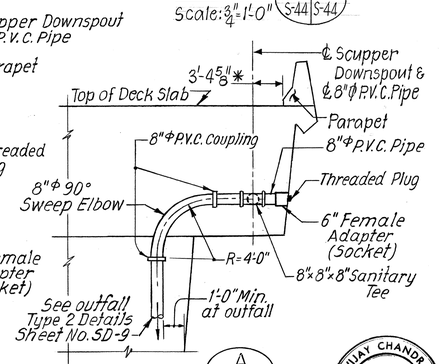
SECTION
Scale: ¾"=1'-0"



LONGITUDINAL SECTION
DOWNSPOUT AT PIER F-3
N.T.S.

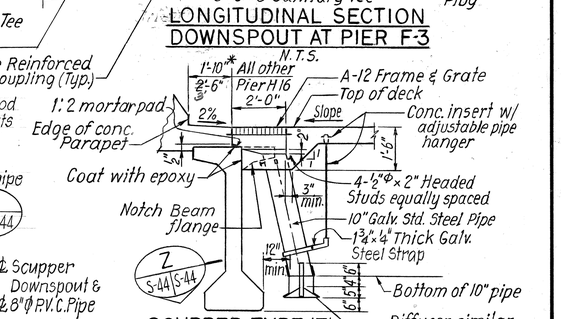


SECTION
AT PIER F4
N.T.S.



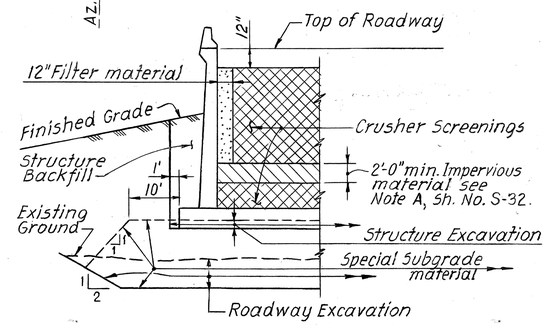
SECTION
AT PIERS F3 & H9
N.T.S.

* Top Flange of Beams to be notched to accomodate Scuppers if interference occurs. (See Sheet No. SD-8)



SCUPPER TYPE 'F'
Scale: ⅜"=1'-0"

NOTES:
1. For additional drainage details and notes see Sheet Nos. SD-8 & SD-9.
2. For Location of Scuppers see Sh. Nos. S-2 & S-3.
3. Drainage Downspout Pipes and Crushed Rock at each Downspout are incidental to Concrete in Bridges.



WINGWALL PAY LIMITS
N.T.S.

DRAINAGE DETAILS

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Vijay Chandra
Signature

VIJAY CHANDRA REGISTERED PROFESSIONAL ENGINEER No. 4120 HAWAII, U.S.A.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

H-1 VIADUCT (E.B. & W.B.), RAMP A, RAMP F & RAMP G

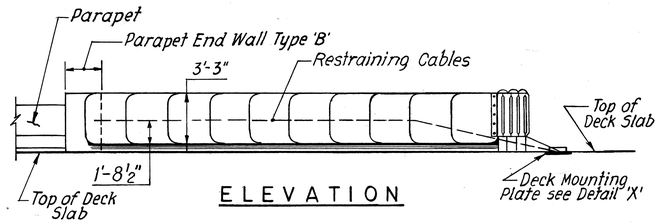
MISCELLANEOUS DETAILS

KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1 (131):17
SCALE: AS SHOWN DATE: AUG. 31, '77

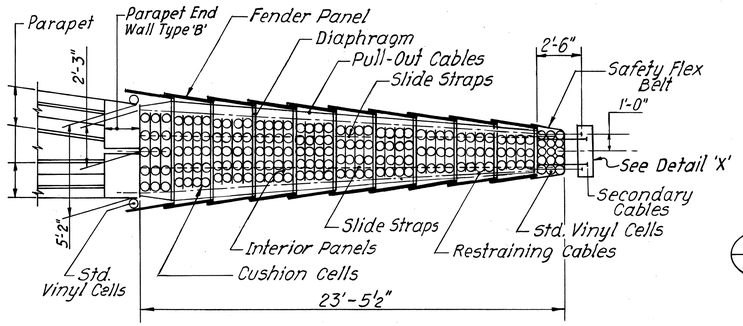
SHEET NO. S-44 OF S-94 SHEETS

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE AUG.'77
	DRAWN BY M. Tashita	AUG.'77
NOTE BOOK	TRACED BY	AUG.'77
	DESIGNED BY J. Chandra	
No.	QUANTITIES BY S. Yuen	AUG.'77
	CHECKED BY S. Yuen	

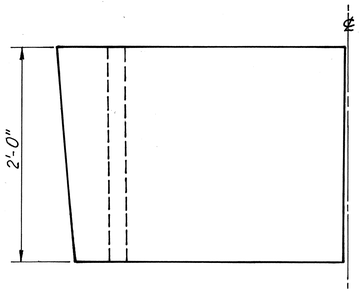
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-I(131):17	1977	276	394



ELEVATION

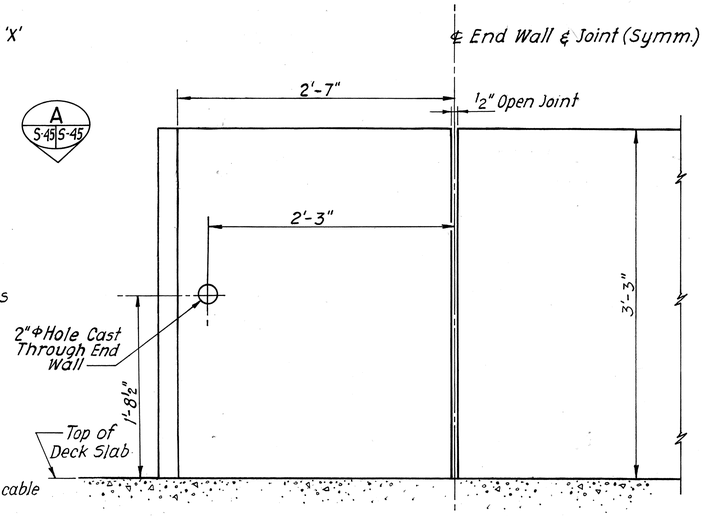


PLAN
Scale: ¼"=1'-0"

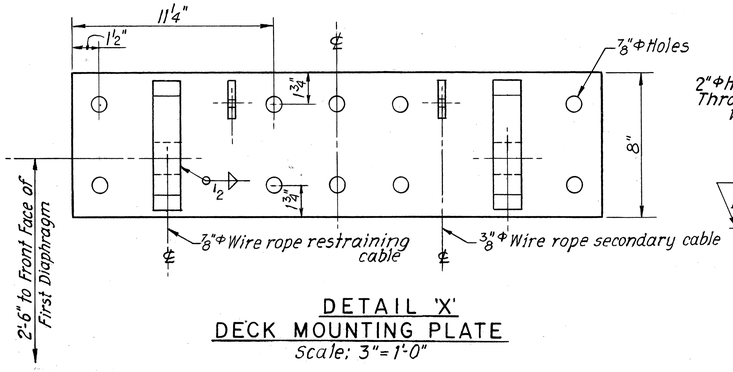


VIEW
Scale: 1½"=1'-0"

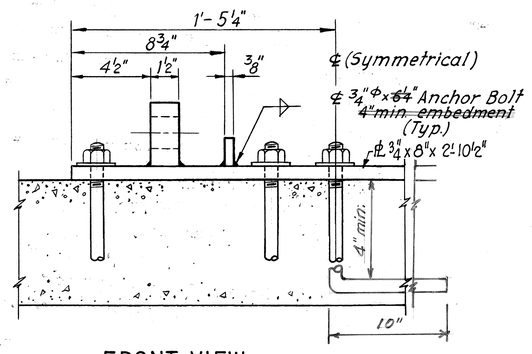
A S-45 S-45



FRONT VIEW OF PARAPET END WALL
Scale: 1½"=1'-0"



DETAIL 'X'
DECK MOUNTING PLATE
Scale: 3"=1'-0"



FRONT VIEW
DECK MOUNTING PLATE
Scale: 3"=1'-0"

NOTES:

1. For Location of Cushion Barrier see Sheet No. S-3.
2. For Additional information see Specifications.
3. For details and reinforcing at Parapet End Wall see Sh. No. S-43.

ORIGINAL PLAN | NOTE BOOK | No.
SURVEY PLOTTED BY: M. Nishita
DRAWN BY:
TRACED BY: Y. Chandra
DESIGN BY:
QUANTITIES BY:
CHECKED BY: Jim Kitsul
DATE:

VIJAY CHANDRA REGISTERED PROFESSIONAL ENGINEER No. 4120 HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
Vijay Chandra
Signature

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

H-1 VIADUCT (E.B. & W.B.), RAMP A, RAMP F & RAMP G

CUSHION BARRIER

KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1 (131):17
SCALE: AS SHOWN DATE: AUG. 31, '77

SHEET NO. S-45 OF S-94 SHEETS