

INDEX TO DRAWINGS

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FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-H1-1(131):17	1977	277	

ESTIMATED QUANTITIES

ITEM NO.	ITEM	UNIT	QUANTITIES
206.6000	Structure Excavation in Bridges	cu.yd.	€ 5223 cu.yd.
206.7000	Structure Backfill	cu.yd.	208 cu.yd.
206.8000	Filter Materials	cu.yd.	24 cu.yd.
206.8500	Crusher Screenings	cu.yd.	38 cu.yd.
411.1300	Concrete in Approach Slabs	cu.yd.	142 cu.yd.
503.1860	Concrete in Bridges (Except Footings)	L.F.	€ 2,7743 cu.yd.
503.1940	Concrete in Bridge Footings	L.F.	62 cu.yd.
504.2200	Type II Prestressed Concrete Girders	L.F.	10,066 L.F.
504.2300	Kechi Type II Prestressed Concrete Girders	L.F.	1,940 L.F.
505.0010	Pile Load Tests	Each	1 pc.
505.0430	Precast, Prest. Concrete Piles - furnished (16 1/2" Octagonal)	L.F.	€ 32,4313 L.F.
505.0440	Precast, Prest. Concrete Piles - furnished (20" Square)	L.F.	9322 L.F.
505.4300	Precast, Prest. Concrete Piles - driven (16 1/2" Octagonal)	L.F.	€ 31,8893 L.F.
505.4400	Precast, Prest. Concrete Piles - driven (20" Square)	L.F.	8,850 L.F.
505.9000	Extensions or 'Build-ups' of Piles	F.A.	
507.1600	Metal Bridge Railing - One Rail	L.F.	212 L.F.
507.7100	Standard Parapet	L.F.	1889 L.F.
507.7200	Standard Sidewalk Parapet	L.F.	237 L.F.
511.0100	Deck Expansion Joint	L.F.	€ 1,3103 L.F.
602.1340	Reinforcing Steel in Bridges	L.F.	€ 697,7653 lbs.
604.5000	Furnishing and Installing Type A-12 Frame & Grate	Each	32 pcs.
660.0100	Bitumen Coating	Sq.Yd.	€ 14,8253 sq.yd.
505.6100	Sleeved Hole, 24-inch Dia.	L.F.	€ 9683 L.F.
505.6200	Sleeved Hole, 30-inch Dia.	L.F.	1,180 L.F.
505.8100	Pile Driving Shoe	Each	€ 2093 pcs

€ 3 - Denotes changes to C.O. ADD 277-2/29/80.

2/29/80	Revised Quantities
8/31/78	Revised Estimated Quantities of Pay Item 206.7000
3/23/78	Revised Estimated Quantities of the following Pay Items : 505.0430, 505.0440, 505.4300, 505.4400 & 660.0100. Added Pay Items : 505.6100, 505.6200, 505.8100
DATE	REVISION

PETER HSI ASSOCIATES, INC. ARCHITECTS/ENGINEERS

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
KEEHI INTERCHANGE RAMP D & G
INDEX TO DRAWINGS
ESTIMATED QUANTITY TAKE-OFF
INTERSTATE ROUTE HI
F.A.I. PROJ. NO. I-H1-1(131):17
Scale: Date: Aug. 31, 1977

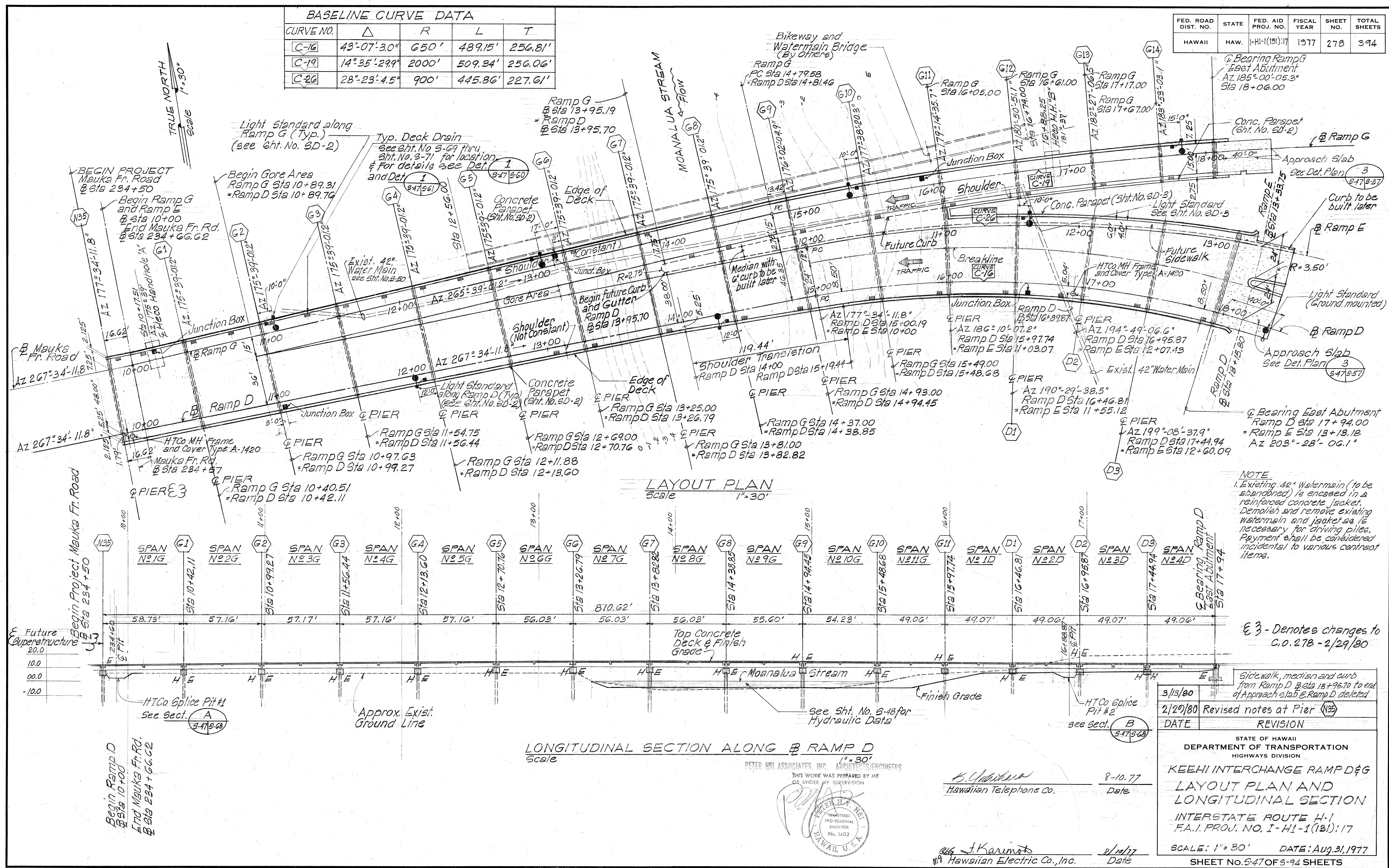
SHEET NO. S-46 OF S-94 SHEETS

C.O. ADD. 277

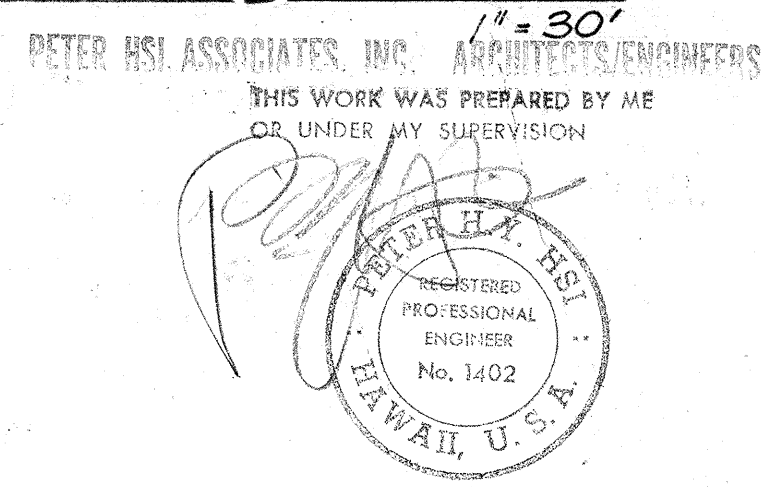
DATE	
SURVEY PLOTTED BY	
ORIGINAL PLAN	
DRAWN BY	
TRACED BY	
DESIGNED BY	
CHECKED BY	
NOTE BOOK	
NO.	

BASELINE CURVE DATA				
CURVE NO.	Δ	R	L	T
C-16	43°-07'-30"	650'	489.15'	256.81'
C-19	14°-35'-29"	2000'	509.34'	256.06'
C-26	28°-23'-4.5"	900'	445.86'	227.61'

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-1(131):17	1977	278	394



DATE	3/13/80
SURVEY PLOTTED BY	...
DESIGNED BY	...
QUANTITIES BY	...
CHECKED BY	...
ORIGINAL PLAN	...
NOTE BOOK	...
NO.	...

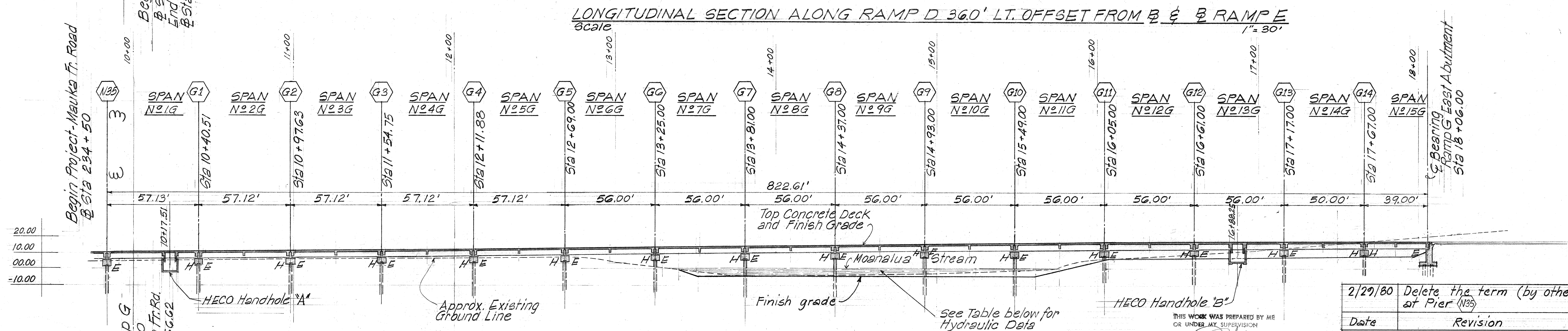
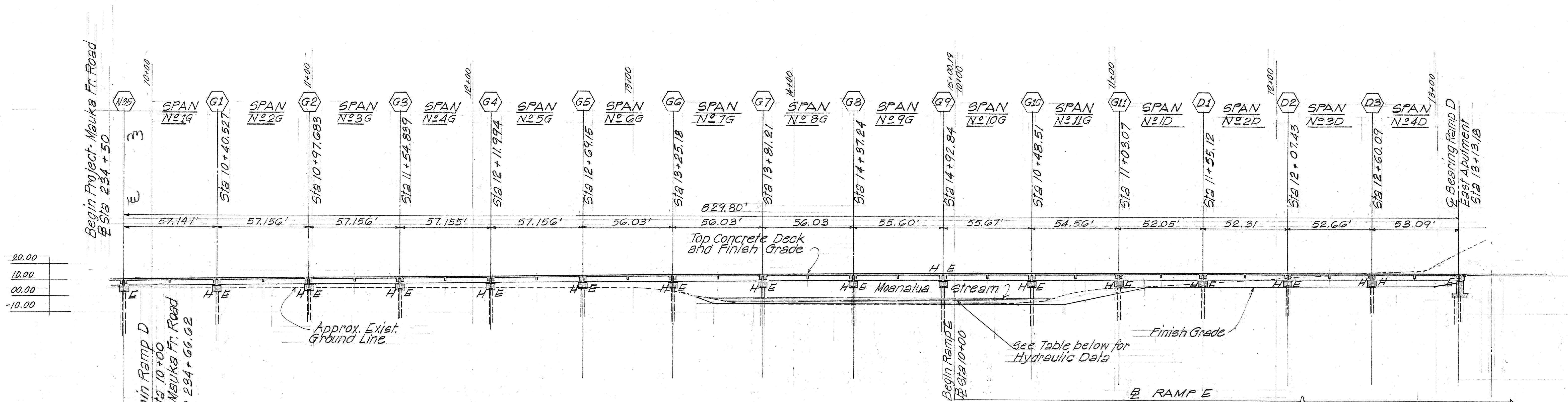


B. Chandra
Hawaiian Telephone Co.
8-10-77
Date

J. Karim
Hawaiian Electric Co., Inc.
8/10/77
Date

E3 - Denotes changes to C.O. 279 - 2/29/80

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H-1(131):17	1977	279	



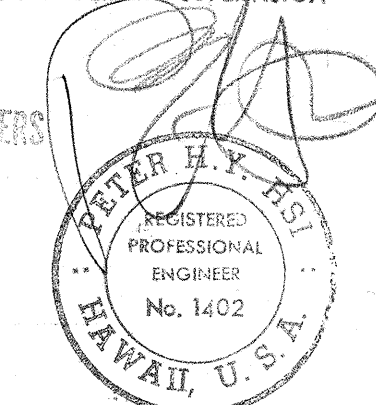
MOANALUA STREAM HYDRAULIC DATA					
BRIDGE	Mean Sea Level	Q50 (CFS)	Q50 W.B. Elev.	Q100 (CFS)	Q100 W.B. Elev.
RAMP D & G	0.8	14,000	5.8	23,000	8.2

LONGITUDINAL SECTION ALONG B RAMP G

Scale 1" = 30'

PETER HSI ASSOCIATES, INC. ARCHITECTS/ENGINEERS

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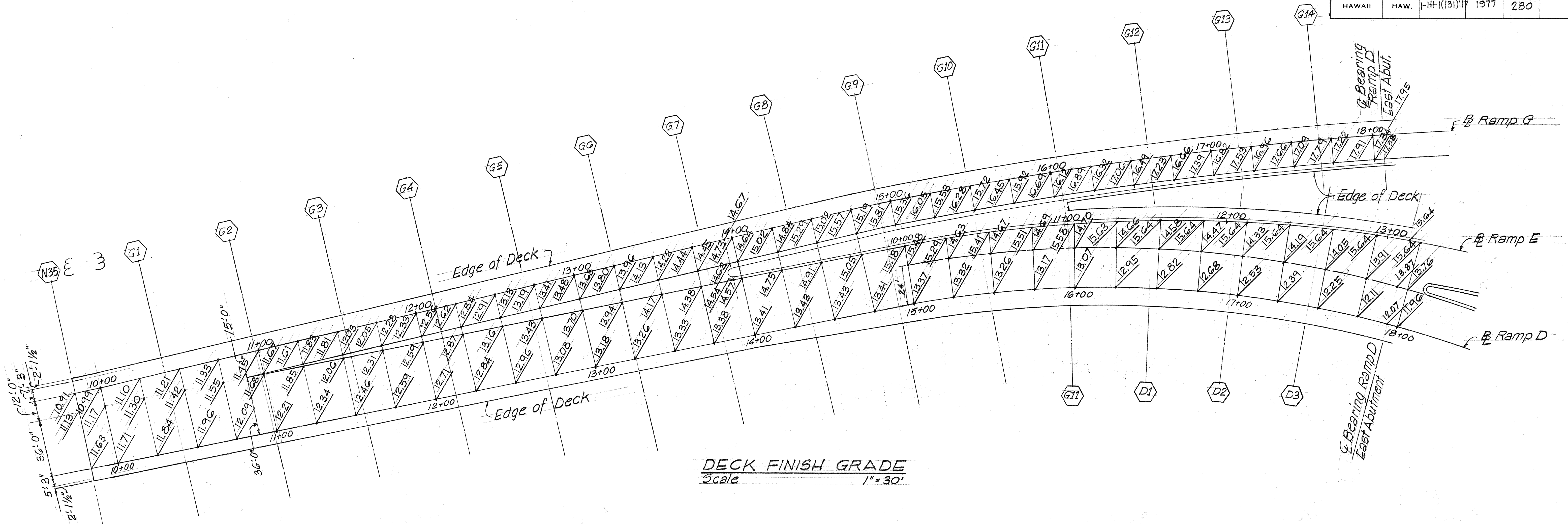
W. J. Kammert
Hawaiian Electric Co., Inc.

8/10/77
Date

2/29/80	Delete the term (by others) at Pier N°35
Date	Revision

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
KEEHI INTERCHANGE RAMP D & G
LONGITUDINAL SECTIONS
INTERSTATE ROUTE H-1
F.A.I. PROJ. NO. I-H-1(131):17
SCALE: 1" = 30' DATE: AUG. 31, 1977
SHEET NO. 348 OF 594 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-H1-1(131);17	1977	280	



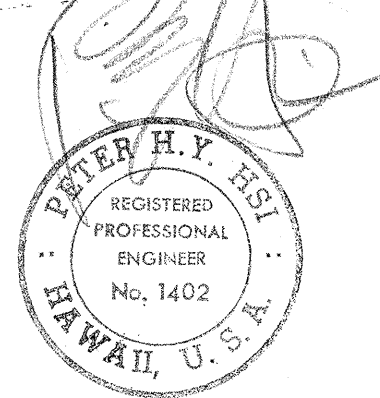
DECK FINISH GRADE
Scale 1" = 30'

E 3 - Denotes changes to C.O. 280 - 2/29/80.

SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	

PETER HSI ASSOCIATES, INC. ARCHITECTS/ENGINEERS

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2/29/80	Deleted the term (by others) at Pier N35
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
KEEHI INTERCHANGE RAMP D & G DECK FINISH GRADE	
INTERSTATE ROUTE H-1 F.A.I. PROJ. NO. 1-H1-1(131);17	
SCALE: 1" = 30'	DATE: Aug. 31, 1977
SHEET NO. 549 OF 694 SHEETS	

C.O. 280

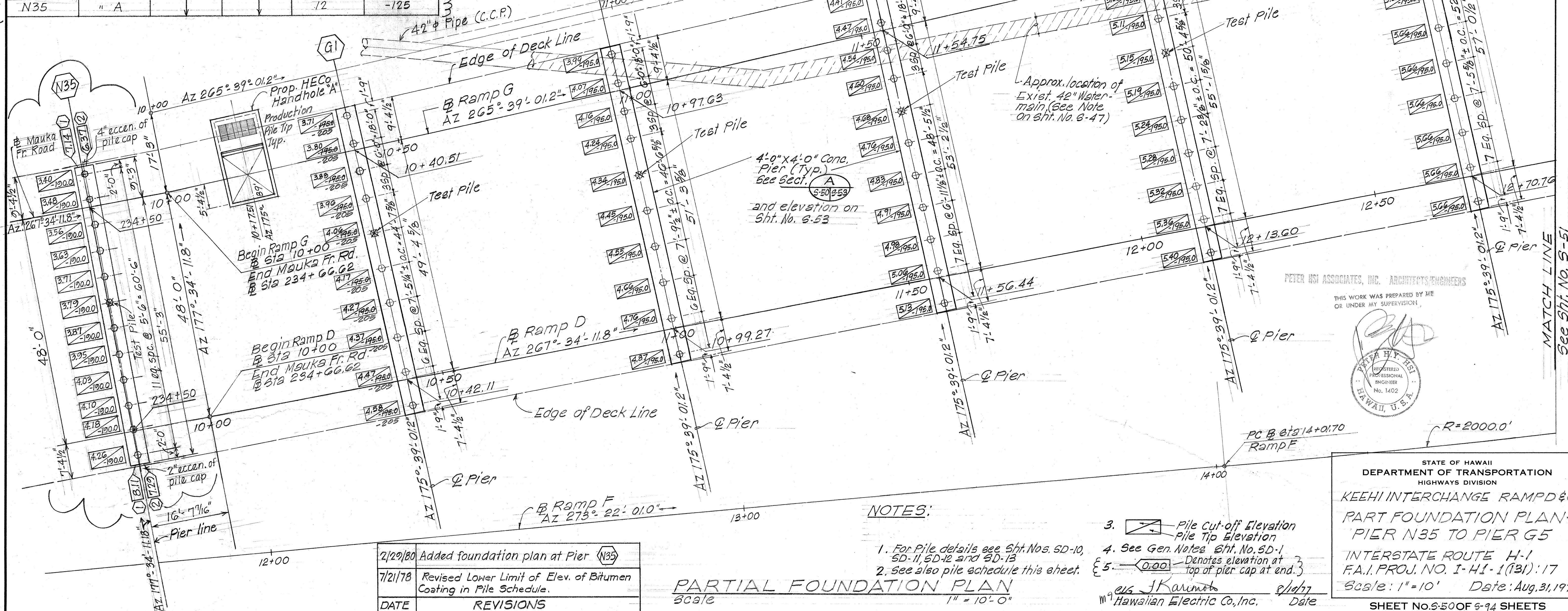
PILE SCHEDULE					
PIER MARK	PILE TYPE	PILE TIP ELEVATION	PILE CUT-OFF ELEVATION	NO. OF PILES	LOWER LIMIT ELEV. OF BITUMEN COATING
G1	Type A			10	-120.0(-145)
G2	" A			10	(-135)
G3	" A			11	(-135)
G4	" A			11	(-135)
G5	" A			11	(-135)
G6	" B			11	(-130)
G7	" B			12	-120(-130)
G8	" B			12	-130(-130)
G9	" B			13	(-130)
G10	" B			13	(-130)
G11	" B			14	(-130)
G12	" B			5	(-130)
G13	" B			5	(-115)
G14	" B			5	-130(-115)
D1	" B			9	-125(-130)
D2	" B			9	-125(-120)
D3	" B			10	-120(-110)
ABUTMENT RAMP G	" A			9	-120(-115)
ABUTMENT RAMP D	" A			17	-120(-100)
N35	" A			12	-125

for Production Piles

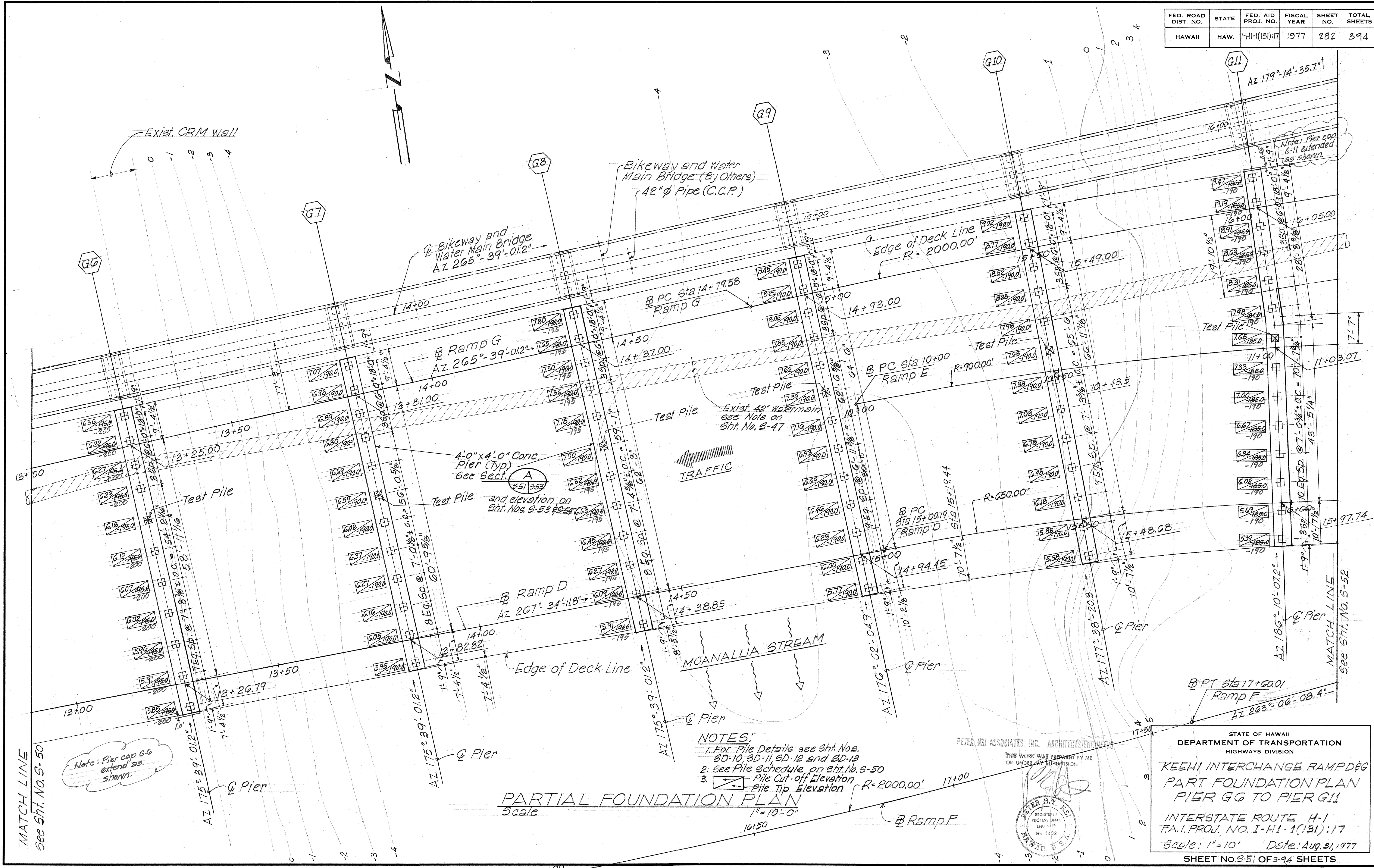
E3 - Denotes changes to C.O 281-2/29/80.

Note: Pile Tip for Production Piles as noted if changed.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-HH(131):17	1977	281	



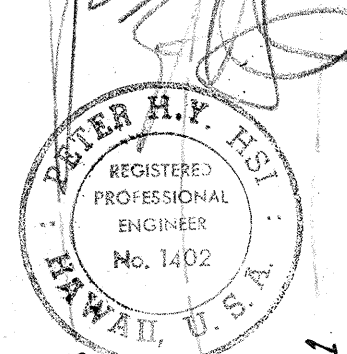
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(131):17	1977	282	394



SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
CHECKED BY	
NO.	

PETER HSI ASSOCIATES, INC. ARCHITECTS/ENGINEERS

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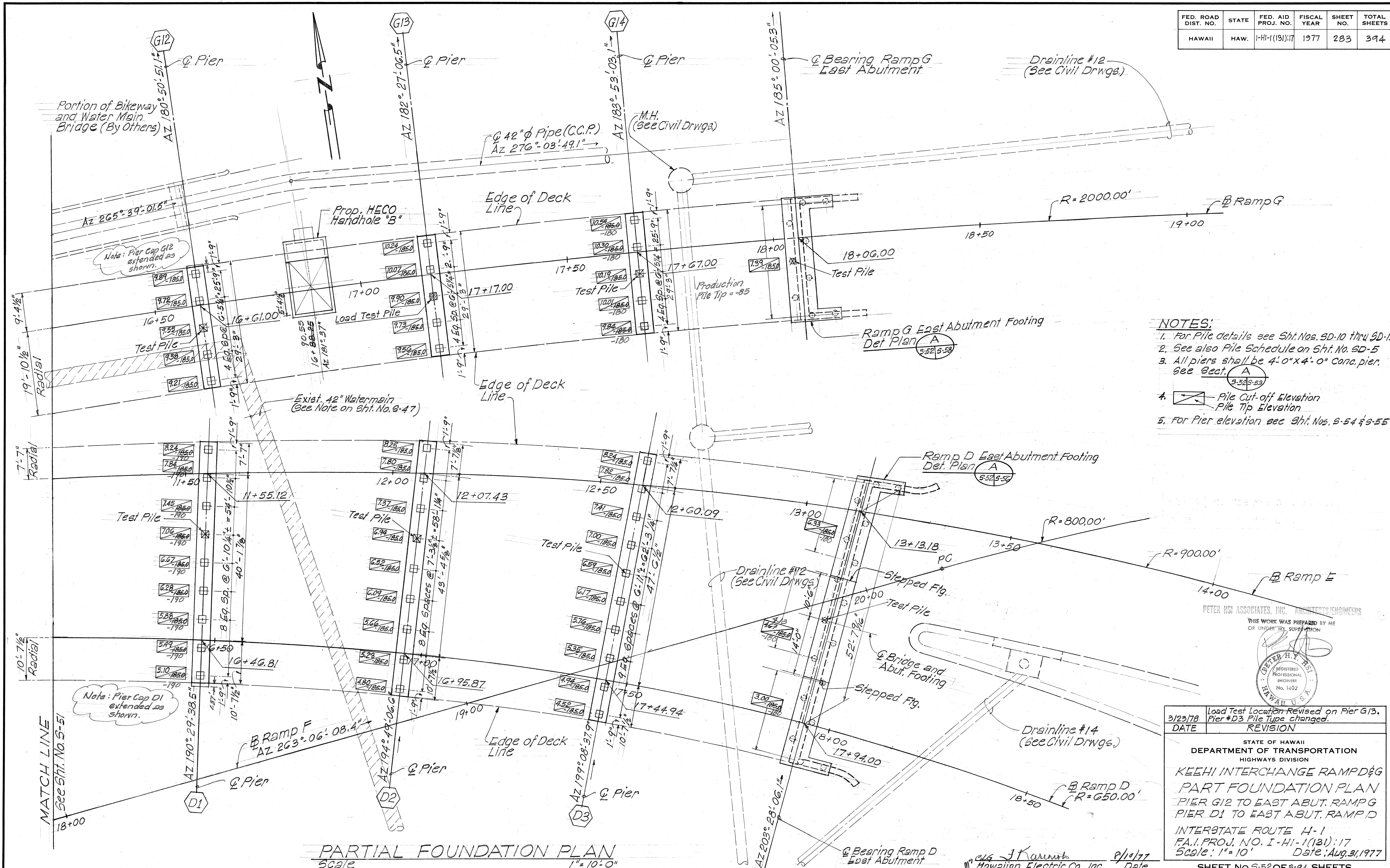
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**KEEHI INTERCHANGE RAMP D, E, G
PART FOUNDATION PLAN
PIER GG TO PIER G11**

INTERSTATE ROUTE H-1
F.A.I. PROJ. NO. I-HI-1(131):17
Scale: 1" = 10' Date: Aug. 31, 1977

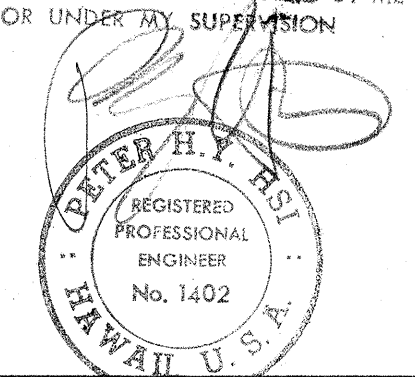
SHEET NO. 5-51 OF 5-94 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(131):17	1977	283	394



DATE	...
SURVEY PLOTTED BY	...
ORIGINAL PLAN	...
DESIGNED BY	...
TRACED BY	...
CHECKED BY	...
NO.	...

3/23/78	Load Test Location Revised on Pier G13. Pier #D3 Pile Type changed.
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
KEEHI INTERCHANGE RAMP D & G PART FOUNDATION PLAN PIER G12 TO EAST ABUT. RAMP G PIER D1 TO EAST ABUT. RAMP D INTERSTATE ROUTE H-1 F.A.I. PROJ. NO. I-HI-1(131):17 Scale: 1" = 10' Date: Aug. 31, 1977	
SHEET NO. S-52 OF S-94 SHEETS	



Prepared by J. Kammath
Hawaiian Electric Co., Inc. Date 8/10/77

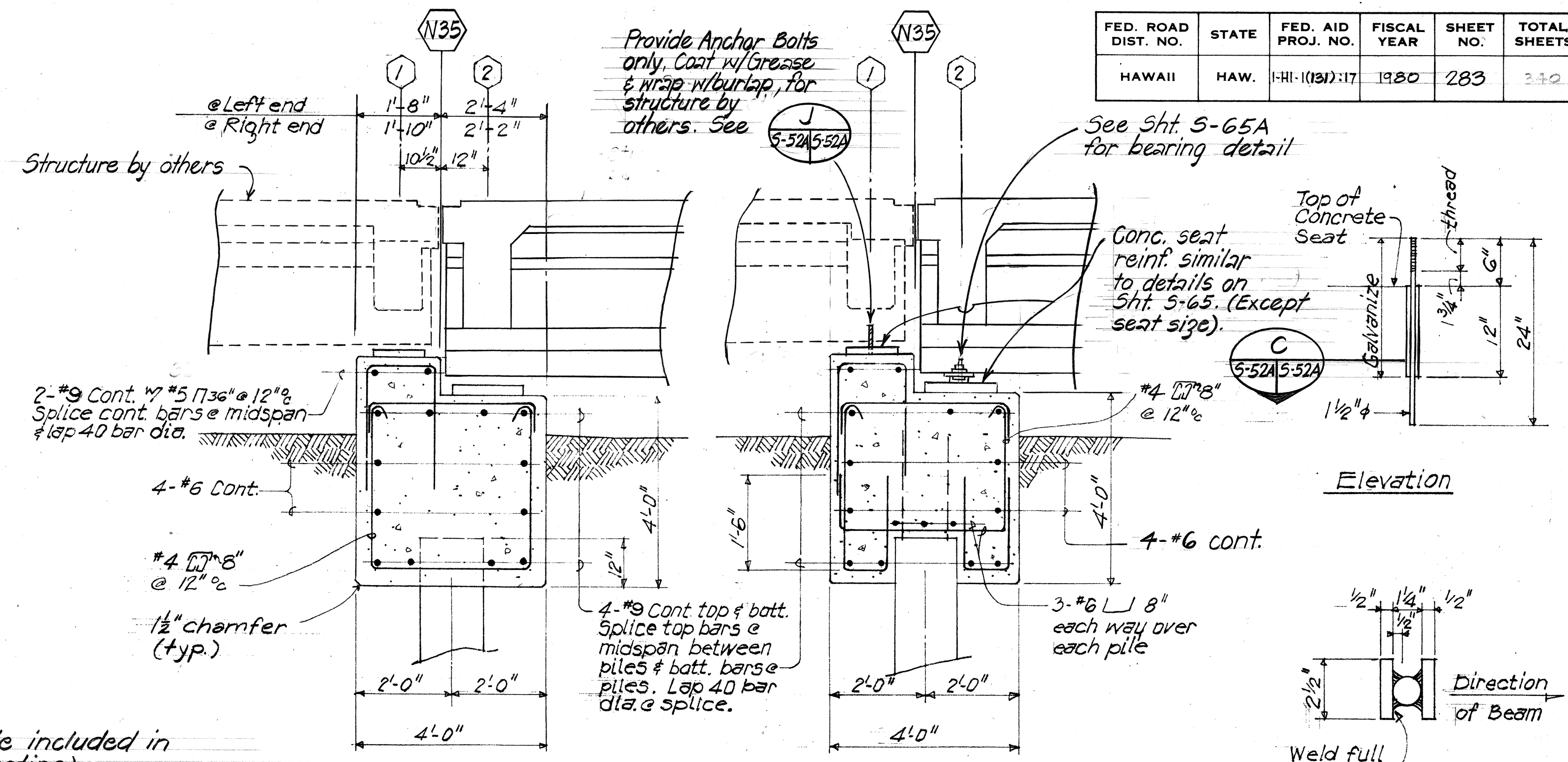
Hand-drawn technical drawing of a girder seat for a bridge, showing dimensions and labels for "HINGE END" and "EXPANSION END".

Dimensions and Labels:

- Top of Seat elev. See Girder Seat Schedule below**
- HINGE END**
- EXPANSION END**
- See Schedule for skew**
- See Girder Seat Detail below for location of this point**
- 2 anchor bolts each seat. See Sht. 5-65A**
- 3/4" chamfer**
- 3/4" chamfer (typ.)**
- See Kechi II**
- See Kechi II F**
- 6.37**
- N35**
- 7.14**
- 106° 12'**
- 157**
- 152**
- 153**
- 157A**
- 157B**
- 157C**
- 157D**
- 157E**
- 157F**
- 157G**
- 157H**
- 157I**
- 157J**
- 157K**
- 157L**
- 157M**
- 157N**
- 157O**
- 157P**
- 157Q**
- 157R**
- 157S**
- 157T**
- 157U**
- 157V**
- 157W**
- 157X**
- 157Y**
- 157Z**

Scale: $\frac{1}{2}" = 1'-0"$

NOTE:
Pier cap concrete included in bridge (except footing).

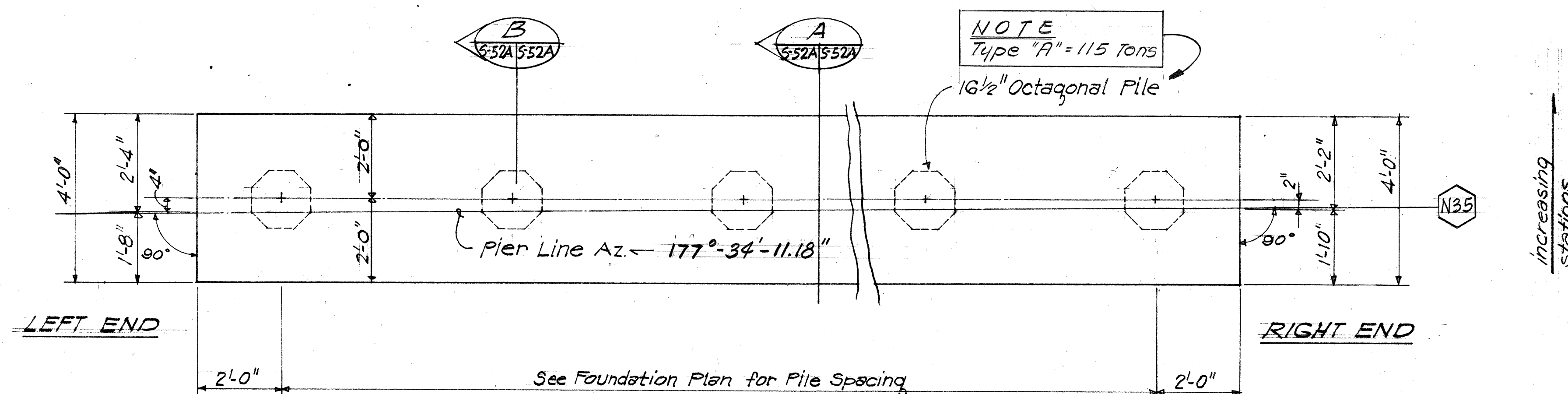


SECTION A
Scale: $\frac{1}{2}'' = 1'-0''$ 5-52A/5-52

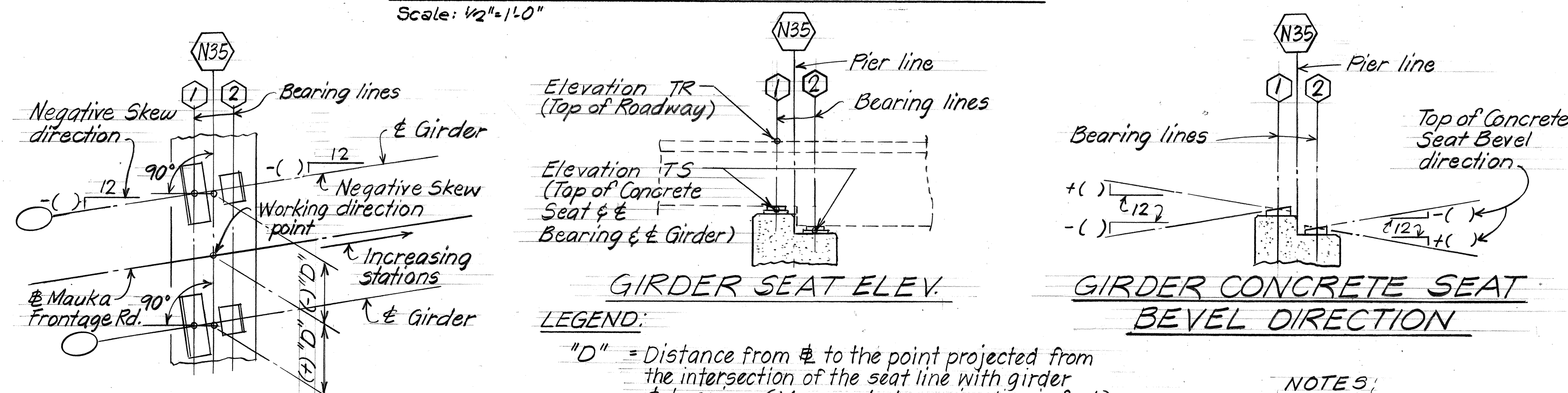
SECTION B
Scale: $\frac{1}{2}'' = 1'-0''$ 5-52A 5-52B

Section 

ANCHOR BOLT
DETAIL @    5-52A 5-52A



Scale: $\frac{1}{2}" = 1'-0"$



DETAIL - GIRDER SEAT LOCATION & SKEW

PIER CAP CONCRETE GIRDER SEAT LOCATIONS, ELEVATIONS, SKEWS, BEVEL SCHEDULES											
PIER LINE	N-35										
BEARING	①					②					
Girder	"D"	TR	TS	Skew	Bevel	Girder	"D"	TR	TS	Skew	Bevel
G-1	-6.63	10.81	7.35	0.12	-1/16:12	1G-1	-6.63	10.81	6.90	-5/16:12	
T-1	-1.67	10.89	7.55			1G-2	-2.13	10.88	6.96		
T-2	4.50	10.98	7.64			1G-3	2.38	10.94	7.03		
T-3	10.67	11.07	7.73			1G-4	6.88	11.01	7.12		
T-4	16.83	11.16	7.82			1G-5	11.38	11.08	7.20		
T-5	23.00	11.26	7.91			1G-6	15.68	11.14	7.28	-3/16:12	
T-6	29.17	11.35	7.99			1G-7	19.99	11.21	7.32	-1/8:12	
T-7	35.33	11.44	8.08			1G-8	24.29	11.27	7.38		
T-8	41.50	11.53	8.16			1G-9	29.96	11.36	7.46		
T-9	47.67	11.63	8.25			1G-10	35.63	11.44	7.52		
G-2	52.63	11.70	8.24			1G-11	41.29	11.53	7.60		
						1G-12	46.96	11.61	7.67		
						1G-13	52.63	11.70	7.76		

KEEHI INTERCHANGE AREA I & II CONSULTANT:
c/o Shimazu, Shimabukuro & 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

KEEHI INTERCHANGE RAMP D & G

PARTIAL PLAN & SECTIONS
OF PIER CAP @ N35

INTERSTATE ROUTE H-1

F.A.I. PROJ. NO. 1-H-1(13):7

Scale: As Shown Date: 2/29/80

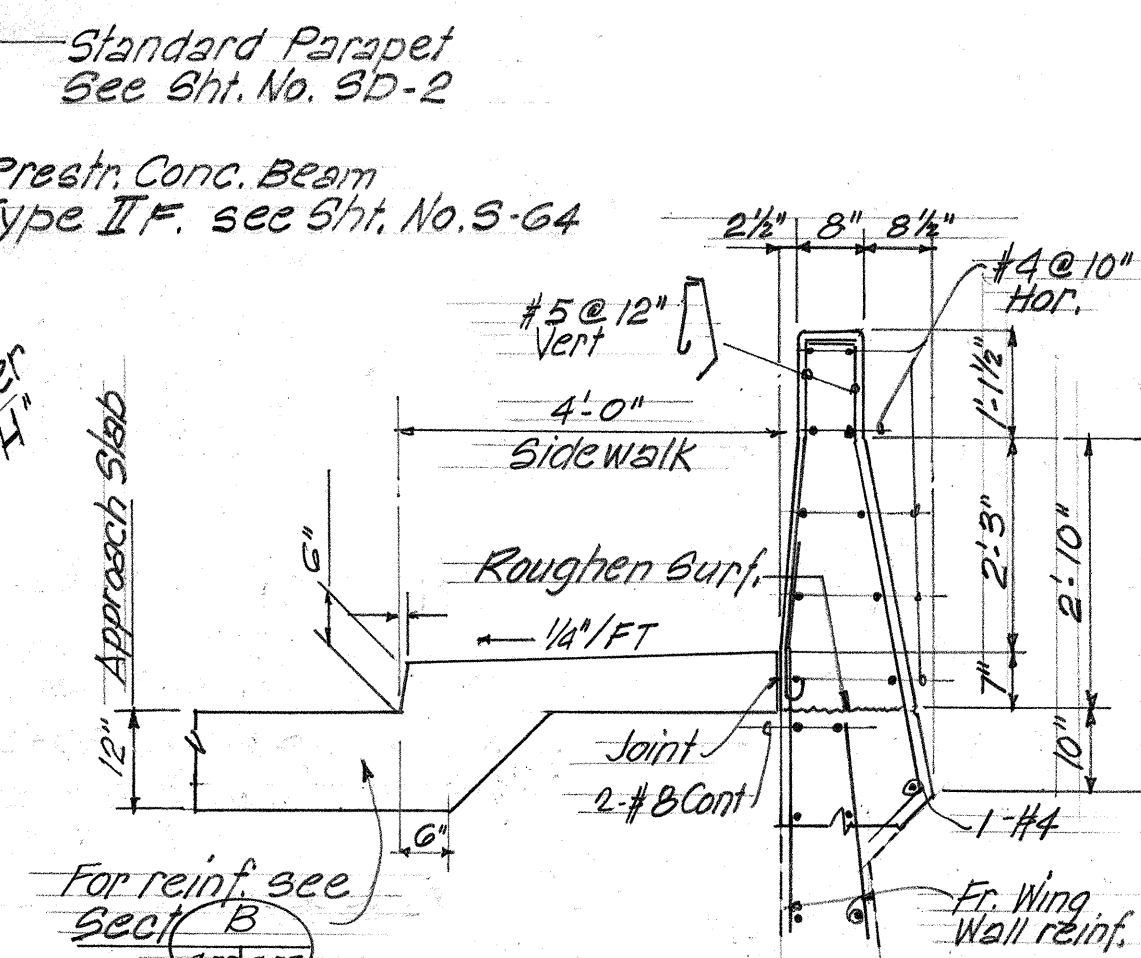
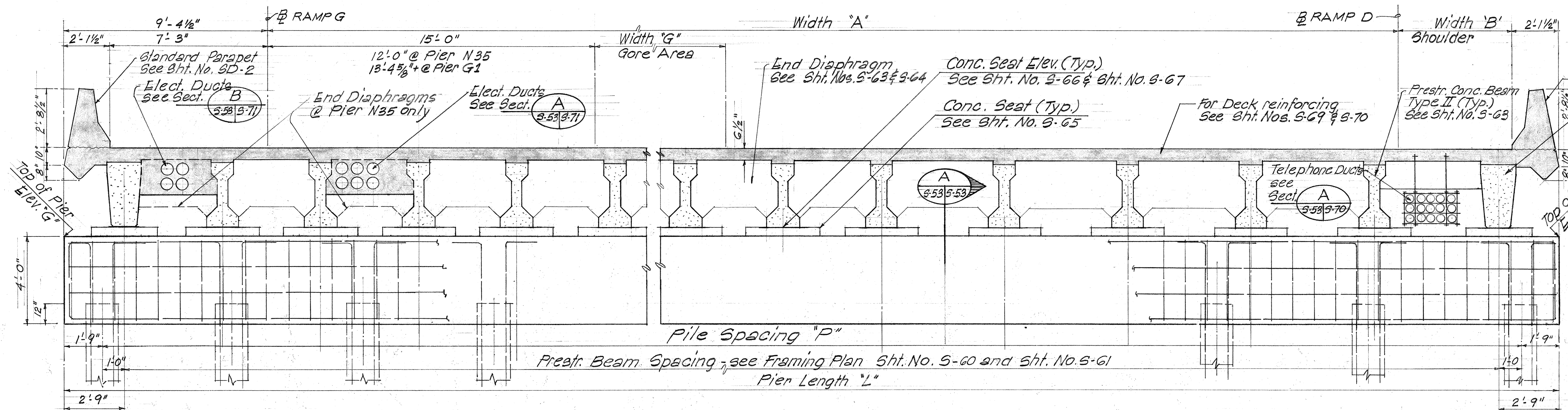
SHEET No. 5-52A OF 5-94 SHEETS

C.O. 283 S-1

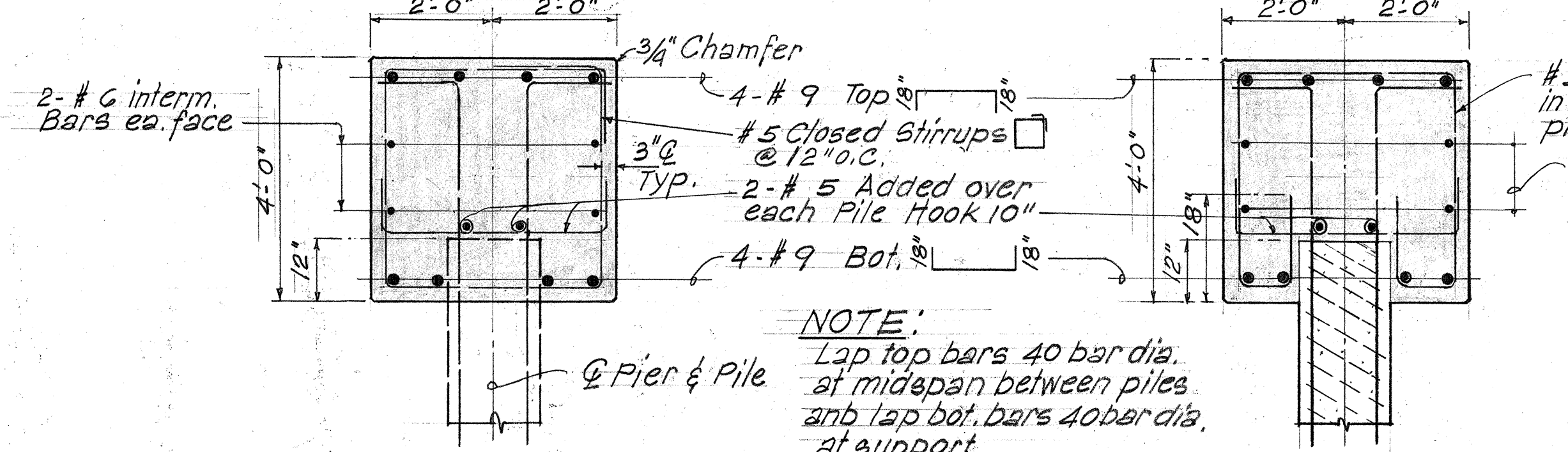
2/29/80	Sheet added to Contract plan set for Pier N35 only.
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	WSS
DATE	REVISIONS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H-1(131):17	1977	284	

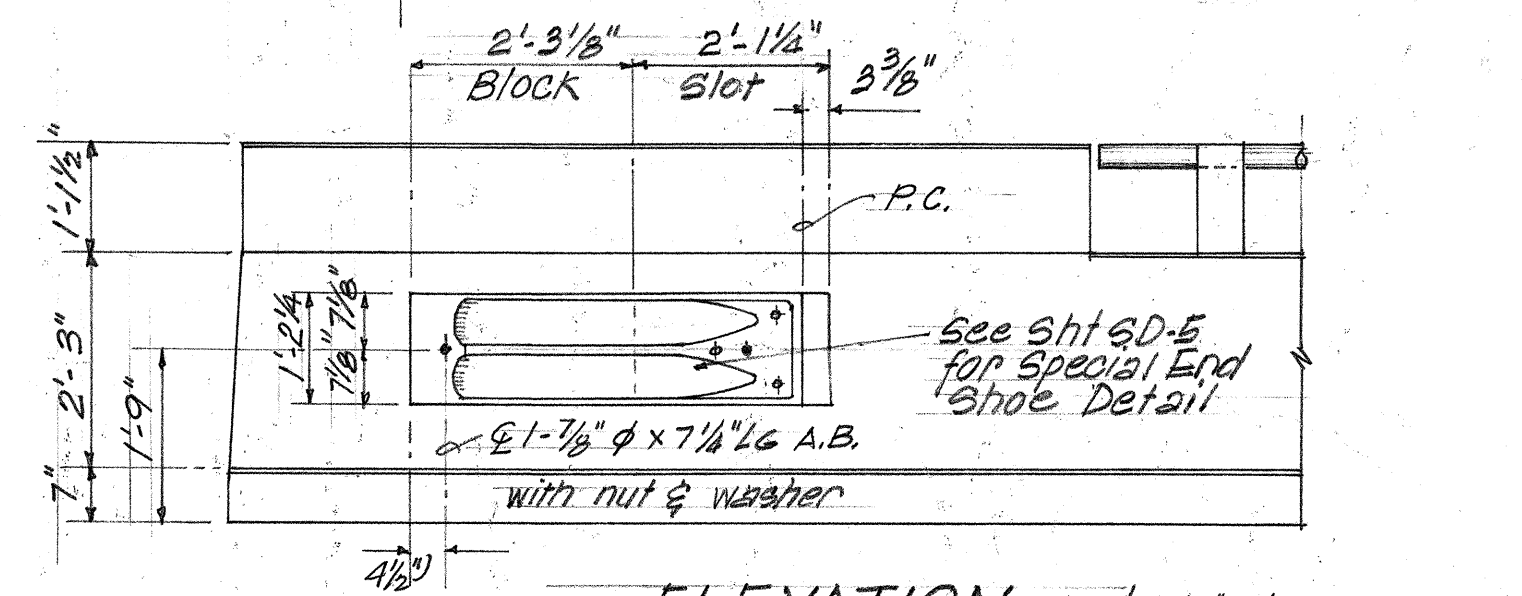
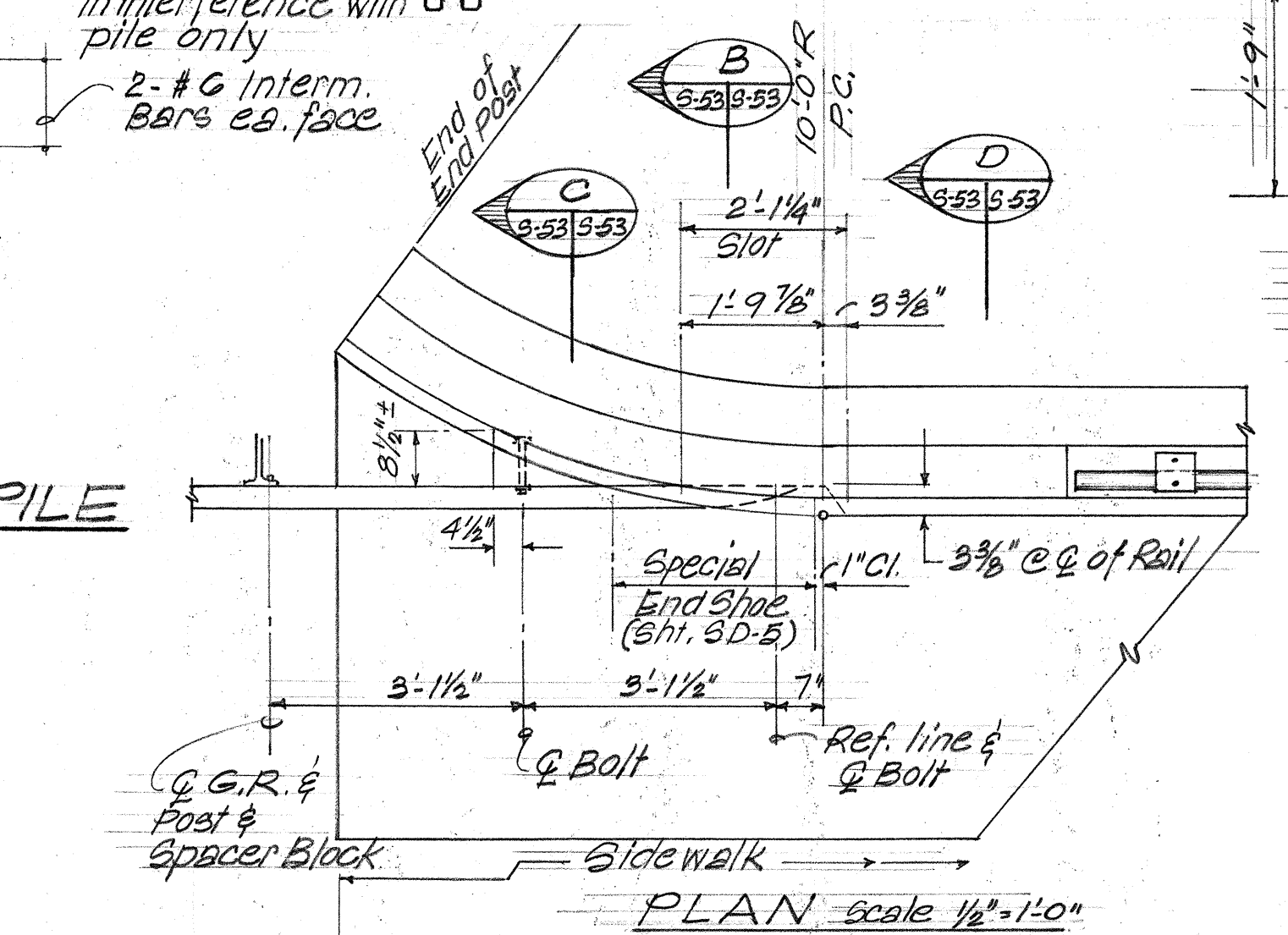


ELEVATION - PIER NOS. N35 G1 G2 G3 G4 G5 G6 G7
(UP STATION ELEVATION)
SCALE 3/8" = 1'-0"

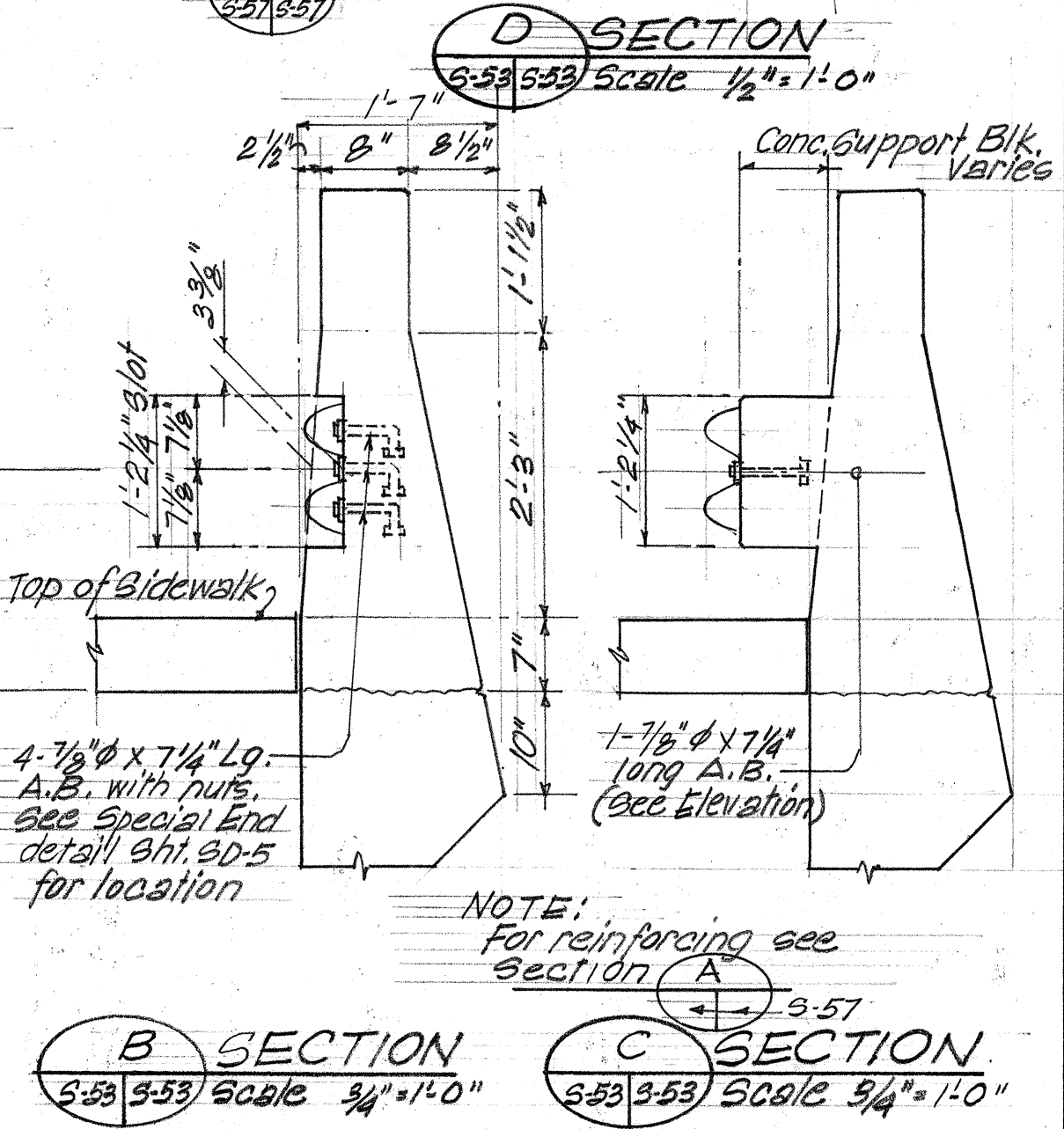


NOTE: Lap top bars 40 bar dia. at midspan between piles and lap bot. bars 40 bar dia. at support.
PIER COND. BETWEEN PILES
PIER COND. @ PILE
A TYPICAL PIER SECTION
Scale 1/2" = 1'-0"

	PIER NAME							
	N35	G1	G2	G3	G4	G5	G6	G7
PILE SPACING "P"		See Foundation Plan Sht. No. S-50 and Sht. No. S-51						
WORK PT. STATION OF C PIER	Sta 234+50 @ RAMP G Sta 234+50 @ RAMP D	Sta 10+40.51	Sta 10+97.03	Sta 11+54.75	Sta 12+11.88	Sta 12+69.00	Sta 13+25.00	Sta 13+81.00
AZIMUTH OF C PIER	177° 34' 11.8"	175° 39' 01.2"	175° 39' 01.2"	175° 39' 01.2"	175° 39' 01.2"	175° 39' 01.2"	175° 39' 01.2"	175° 39' 01.2"
PIER LENGTH "L"		66'-1 5/8"	68'-0 5/8"	69'-1 1/2"	71'-10 5/8"	73'-9 3/8"	75'-8"	77'-6 5/8"
DECK WIDTH "A"	48'-0"	49'-4 5/8"±	51'-3 5/8"	53'-2 1/2"	55'-1 5/8"±	57'-0 1/2"±	58'-11"	60'-9 5/8"±
RIGHT SHOULDER WIDTH "B"	5'-3"	5'-3 1/8"	5'-3 1/8"	5'-3 1/8"	5'-3 1/8"	5'-3 1/8"±	5'-3 1/8"	5'-3 1/8"
GORE AREA WIDTH "G"			3 5/8"	2'-2 1/2"	4'-1 5/8"±	6'-0 1/2"±	7'-11"	9'-9 5/8"
ELEVATION "G"	6.37	6.69	6.97	7.39	8.00	8.66	9.37	10.10
ELEVATION "H"	7.29	7.60	7.89	8.15	8.41	8.66	8.84	8.92



END POST OVER WING WALL #3 DETAIL
Scale 1/2" = 1'-0"



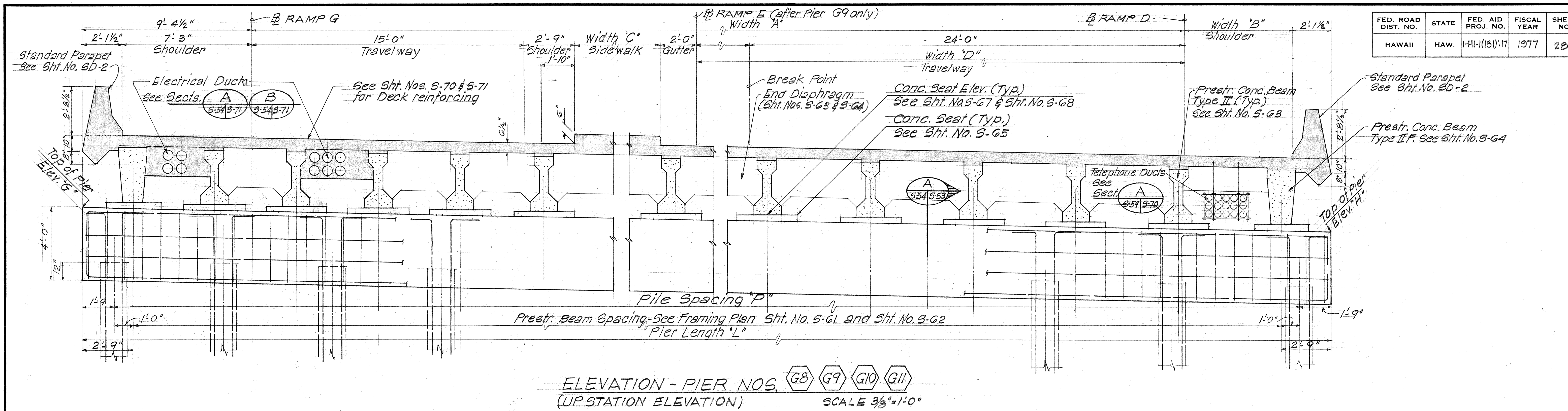
B SECTION Scale 1/2" = 1'-0"
C SECTION Scale 1/2" = 1'-0"

PETER HSI ASSOCIATES, INC. ARCHITECTS/ENGINEERS
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
PETER H. HSI
REGISTERED PROFESSIONAL ENGINEER
No. 1402
HAWAII, U.S.A.

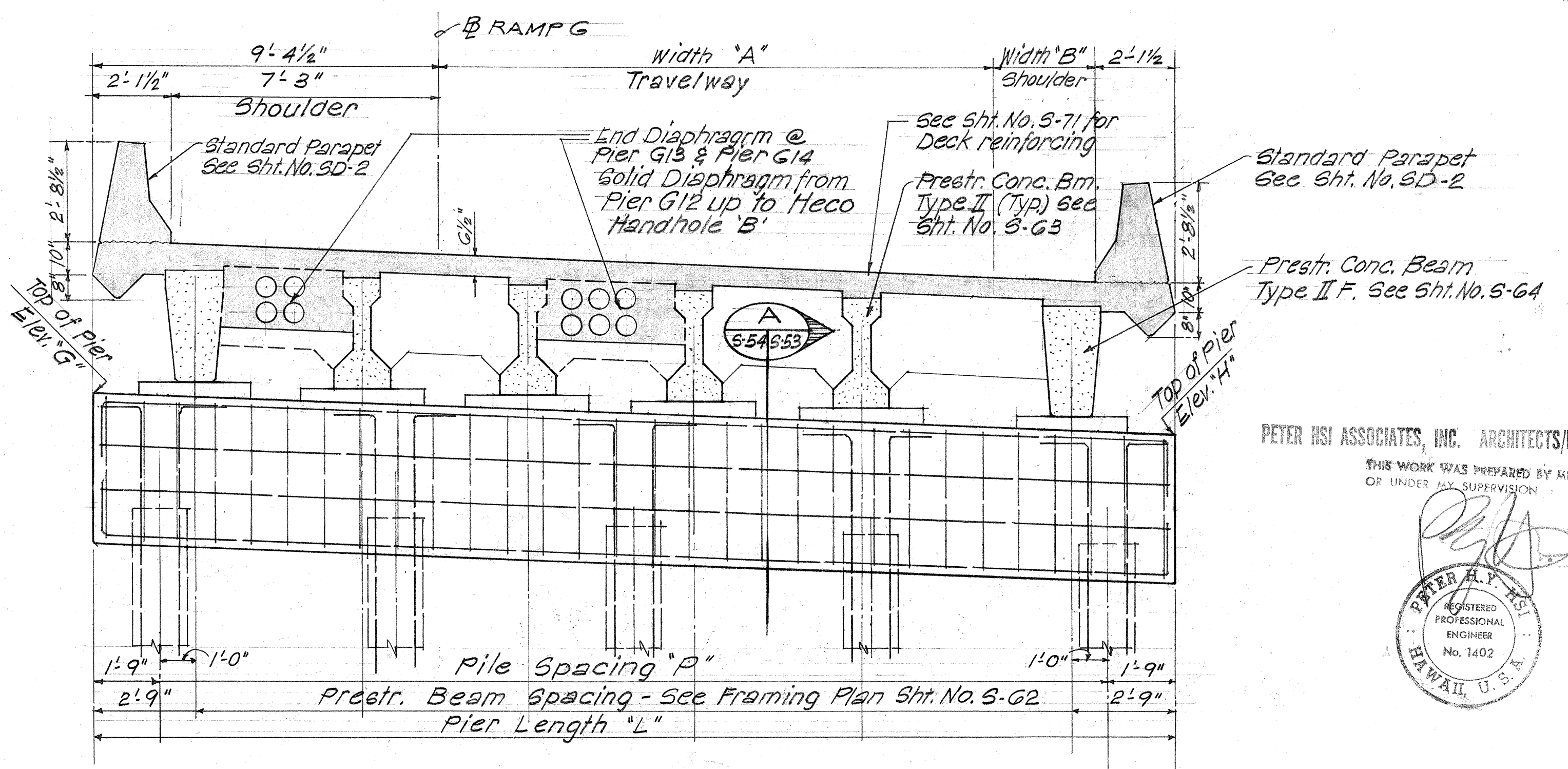
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
KEEHI INTERCHANGE RAMP D & G
PIER ELEVATION & SCHEDULE
PIER N35 TO PIER G7
INTERSTATE ROUTE H-1
F.A.I. PROJ. NO. I-H-1(131):17
SCALE: 3/8" = 1'-0" DATE: AUG. 31, 1977
SHEET NO. S-53 OF 5-94 SHEETS

Hawaiian Telephone Co.
Date 8-10-77
Hawaiian Electric Co., Inc.
Date 8/10/77

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H-1(131):17	1977	285	394

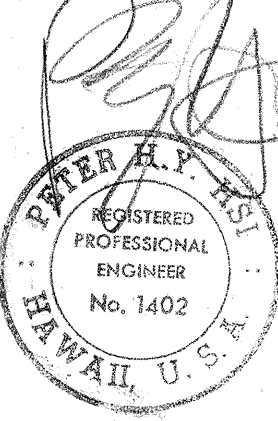


		PIER NAME						
		G8	G9	G10	G11	G12	G13	G14
PILE SPACING "P"		See Foundation Plan on Sht. No. S-51 and S-52						
WORK PT. STATION OF Q PIER	@ RAMP G	Sta 14+37.00	Sta 14+93.00	Sta 15+49.00	Sta 16+05.00	Sta 16+61.00	Sta 17+17.00	Sta 17+73.00
	@ RAMP D	Sta 14+38.85	Sta 14+94.45	Sta 15+48.68	Sta 15+97.74			
	@ RAMP E			Sta 10+48.51	Sta 11+03.07			
AZIMUTH OF Q PIER		175°39'01.2"	176°02'04.9"	177°38'20.3"	179°14'35.7" 186°10'07.2"	180°50'51.1"	182°27'06.5"	183°53'03.1"
PIER LENGTH "L"		80'-7"	84'-0 5/8"	86'-11 7/8"	92'-1 3/4"	29'-3"	29'-3"	29'-3"
DECK WIDTH "A"		62'-8"	64'-6"	66'-11 7/8"	72'-1 5/8"	15'-0"	15'-0"	15'-0"
RIGHT SHOULDER WIDTH "B"		6'-4 1/2"	8'-0 5/8"	8'-6"	8'-6"	2'-9"	2'-9"	2'-9"
MEDIAN OR SIDEWALK WIDTH "C"		6'-11"	8'-9"	10'-3 7/8"	14'-6 5/8"			
DECK WIDTH "D"		36'-0"	36'-0"	36'-11"	37'-10 1/8"			
ELEVATION "G"		10.84	11.51	12.09	12.55	12.94	13.29	13.59
ELEVATION "H"		8.87	8.71	8.51	8.28	12.16	12.51	12.79



PEYER HSI ASSOCIATES, INC. ARCHITECTS/ENGINEERS

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION



ELEVATION - PIER NOS. G12 G13 G14 (UP STATION ELEVATION) SCALE 3/8" = 1'-0"

K. Yamashita 8-10-77
Hawaiian Telephone Co. Date

W. J. Karunak 8/10/77
Hawaiian Electric Co., Inc. Date

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

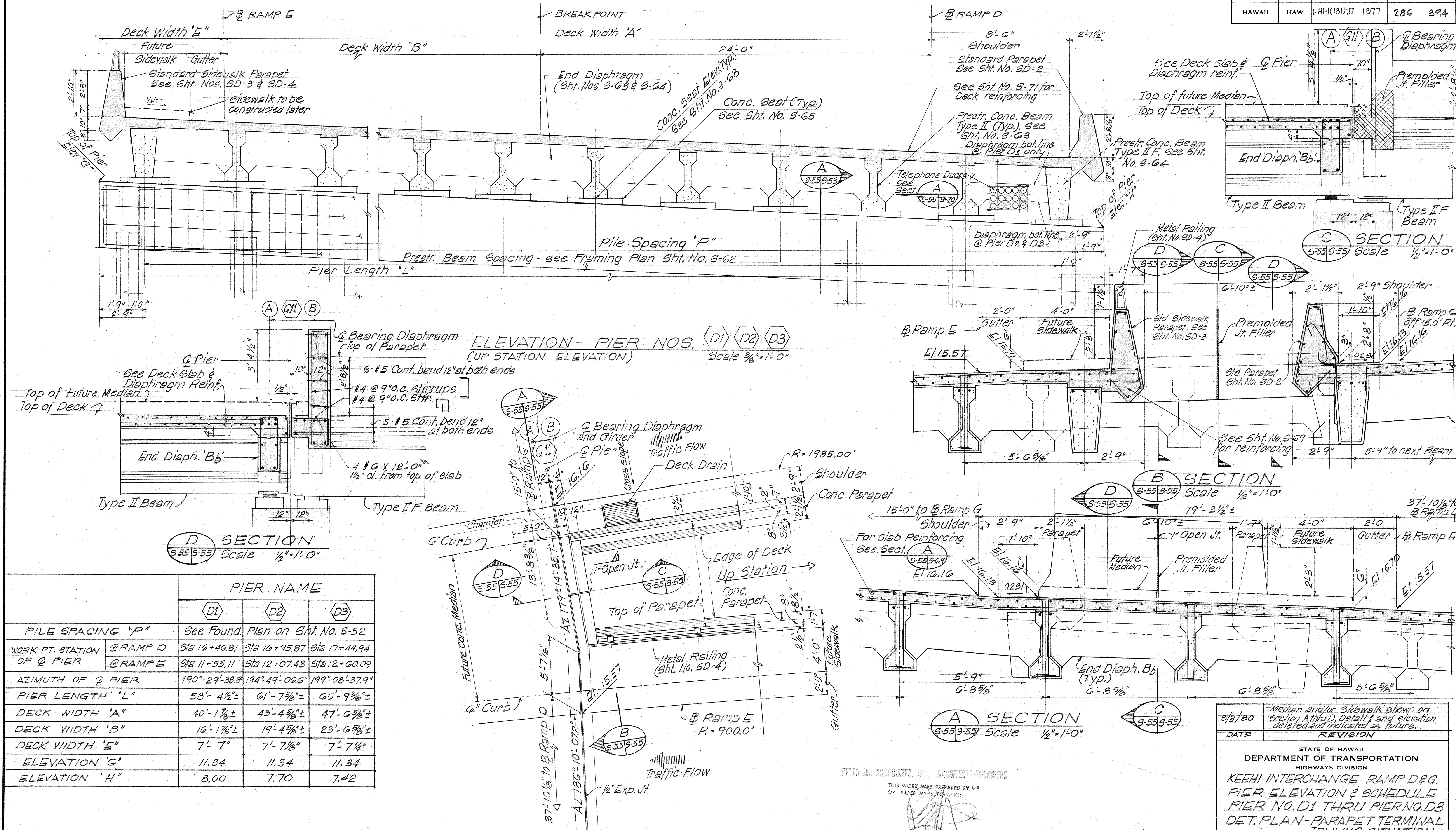
KEEHI INTERCHANGE RAMP D & G
PIER ELEVATION & SCHEDULE
PIER G8 TO PIER G14

INTERSTATE ROUTE H-1
F.A.I. PROJ. NO. I-H-1-1(131):17
SCALE: 3/8" = 1'-0" DATE: Aug. 31, 1977

SHEET NO. S-54 OF S-94 SHEETS

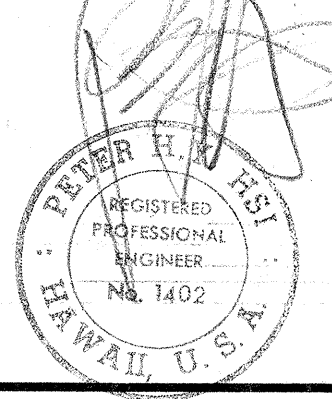
DATE: _____
SURVEY PLOTTED BY: _____
DRAWN BY: _____
DESIGNED BY: _____
CHECKED BY: _____
NOTE BOOK NO. _____

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(131):17	1977	286	394



PETER HSI ASSOCIATES, INC. ARCHITECTS/ENGINEERS

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION



B. Oshiro
Hawaiian Telephone Co.

8-10-77
Date

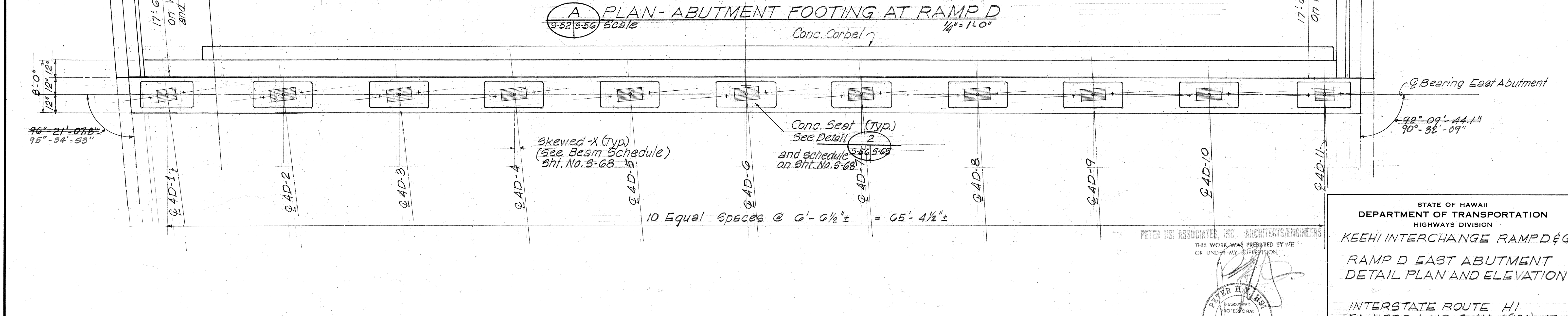
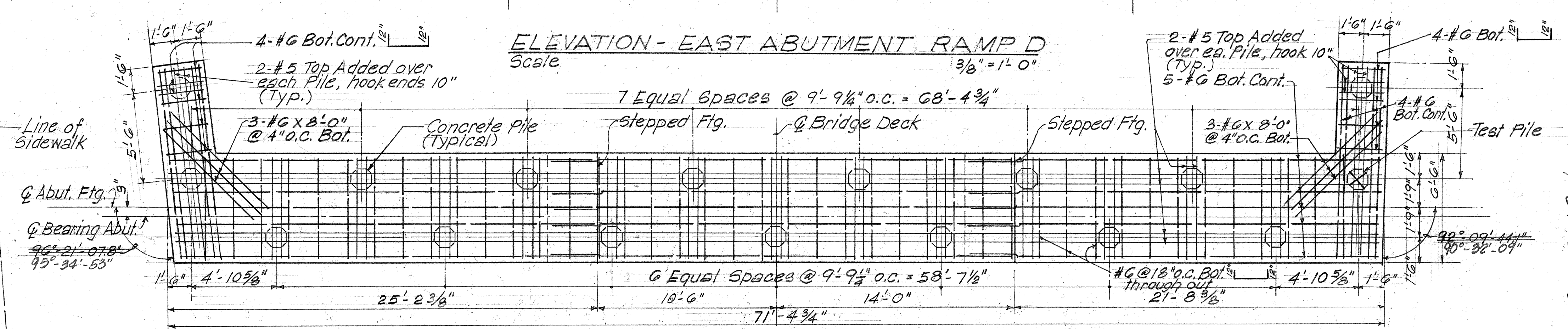
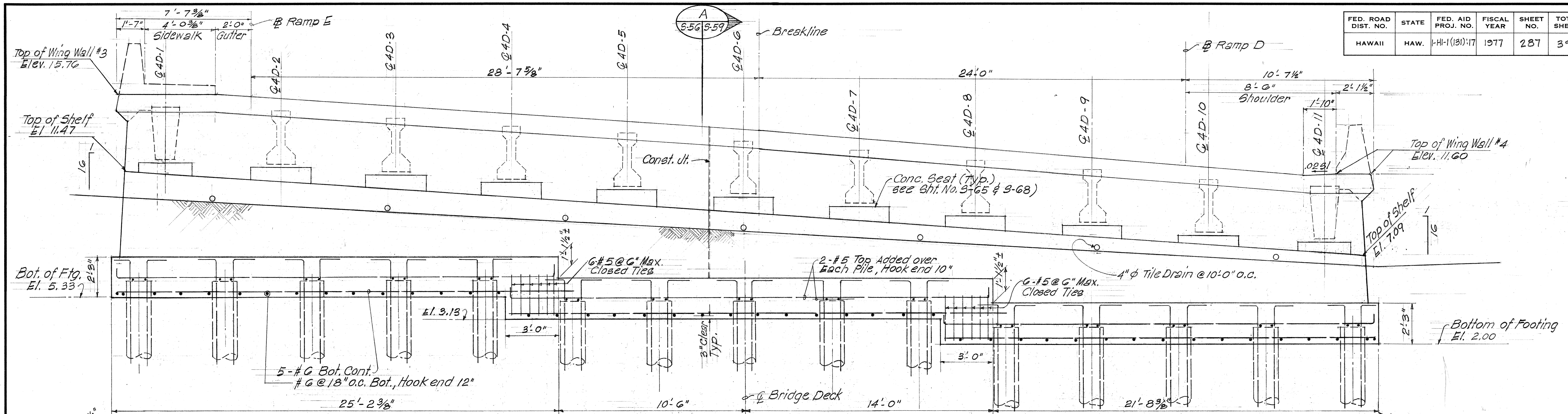
3/3/80 Median and/or sidewalk shown on section A thru D, Detail 1 and elevation deleted and indicated as future.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

KEEHI INTERCHANGE RAMP D & G
PIER ELEVATION & SCHEDULE
PIER NO. D1 THRU PIER NO. D3
DET. PLAN - PARAPET TERMINAL TRAILING SITUATION
INTERSTATE ROUTE H-1
F.A.I. PROJ. NO. I-HI-1(131):17
SCALE: AS SHOWN DATE: Aug. 31, 1977

SHEET NO. S-55 OF 5-94 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(131):17	1977	287	394

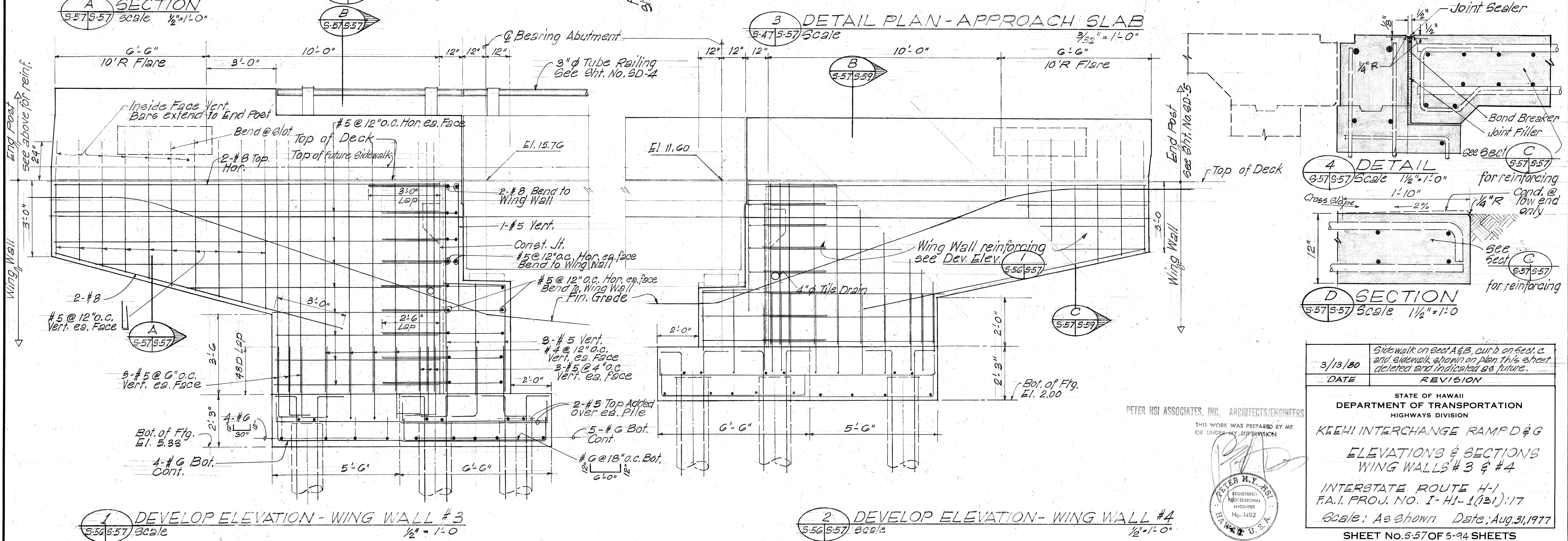
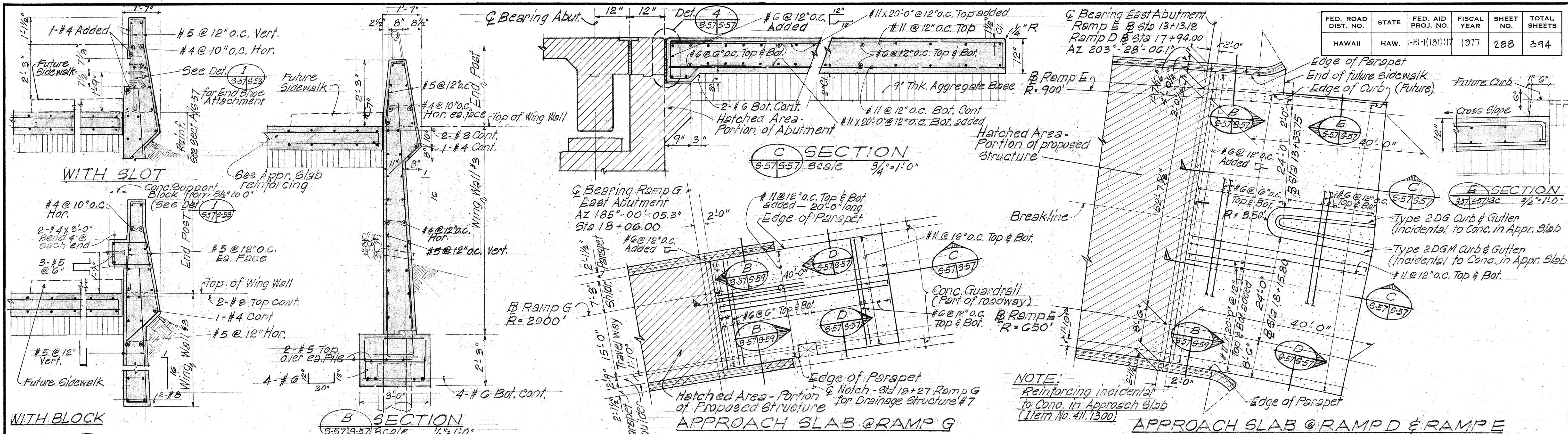


DATE: _____
SURVEY PLOTTED BY: _____
DRAWN BY: _____
DESIGNED BY: _____
CHECKED BY: _____
ORIGINAL PLAN: _____
NOTE BOOK: _____
NO. _____

PETER ISI ASSOCIATES, INC. ARCHITECTS/ENGINEERS
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
PETER H. ISI
REGISTERED PROFESSIONAL ENGINEER
No. 1402
HAWAII, U.S.A.

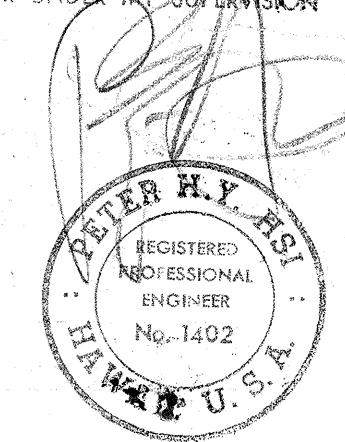
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
KEEHI INTERCHANGE RAMP D & G
RAMP D EAST ABUTMENT
DETAIL PLAN AND ELEVATION
INTERSTATE ROUTE HI
F.A.I. PROJ. NO. I-HI-1(131):17
Scale: 3/8" = 1'-0" DATE: Aug. 31, 1977
SHEET NO. 5-56 OF 5-94 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	H-1(131)17	1977	288	394



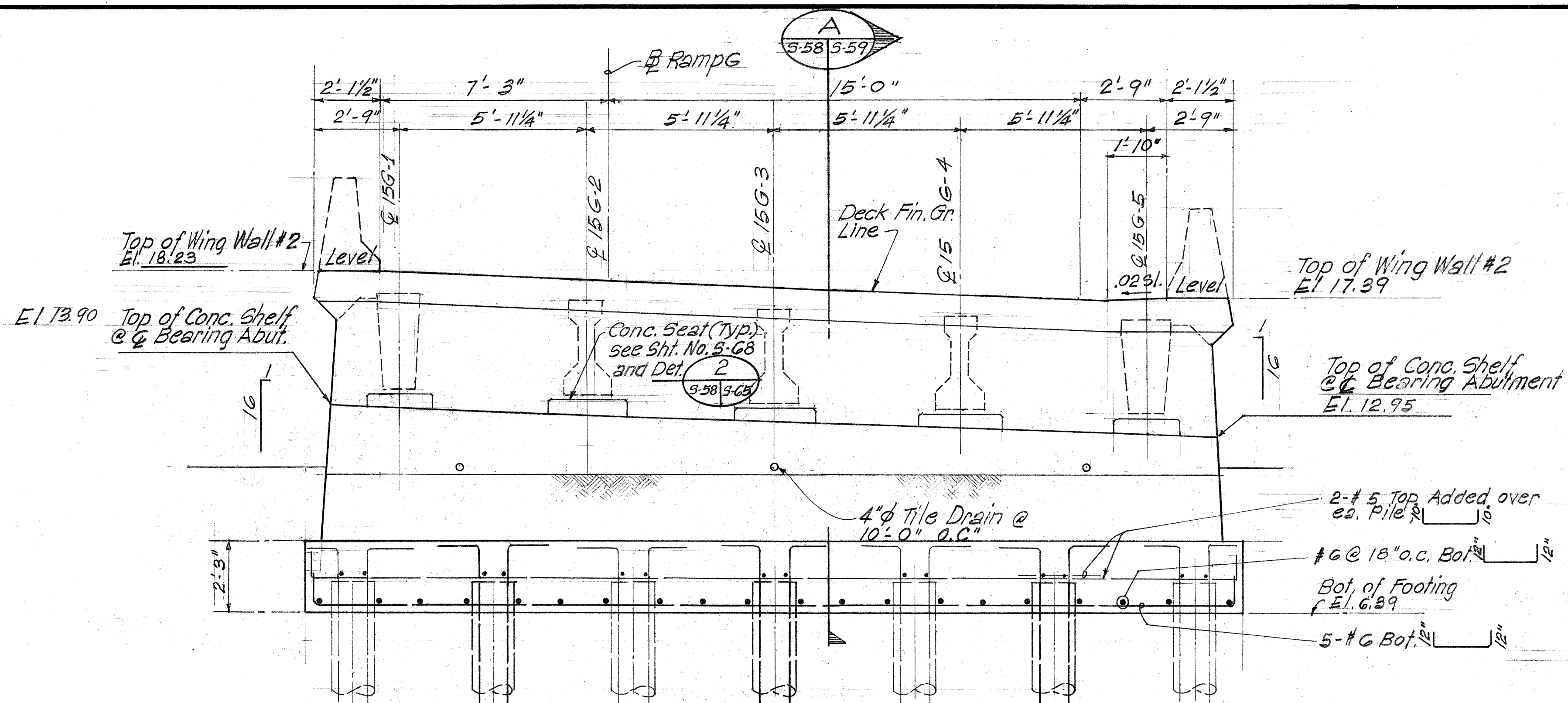
DATE: _____
 SURVEY PLOTTED BY: _____
 DRAWN BY: _____
 DESIGNED BY: _____
 CHECKED BY: _____
 NO. _____

PETER HSI ASSOCIATES, INC. ARCHITECTS/ENGINEERS
 THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

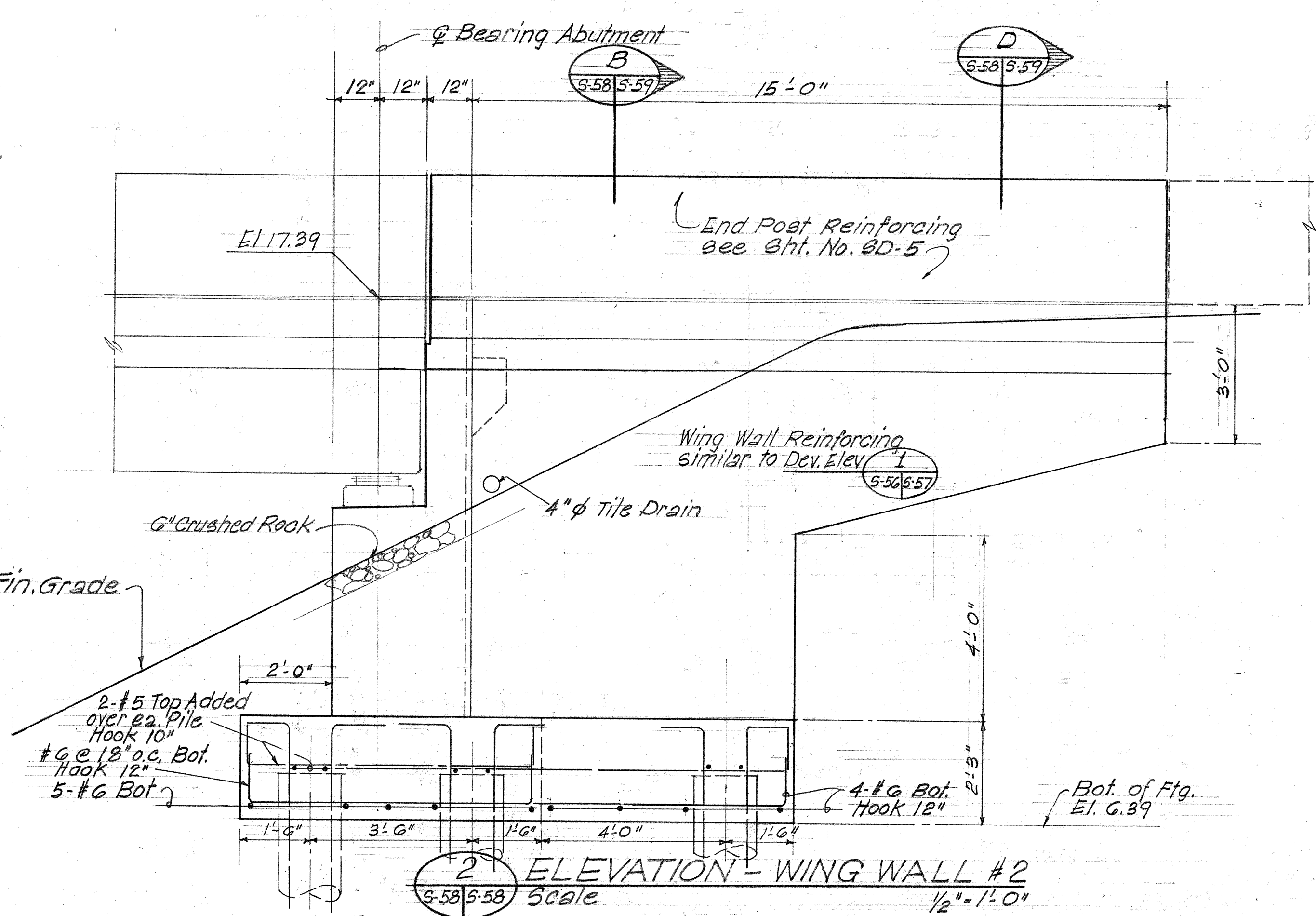


3/13/80	Side walk on East A&B, curb on East A and sidewalk shown on plan this sheet deleted and indicated as future.
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
KEEHI INTERCHANGE RAMP D & E	
ELEVATIONS & SECTIONS WING WALLS #3 & #4	
INTERSTATE ROUTE H-1 F.A.I. PROJ. NO. I-1(131)17	
Scale: As shown Date: Aug. 31, 1977	
SHEET NO. 5-57 OF 5-94 SHEETS	

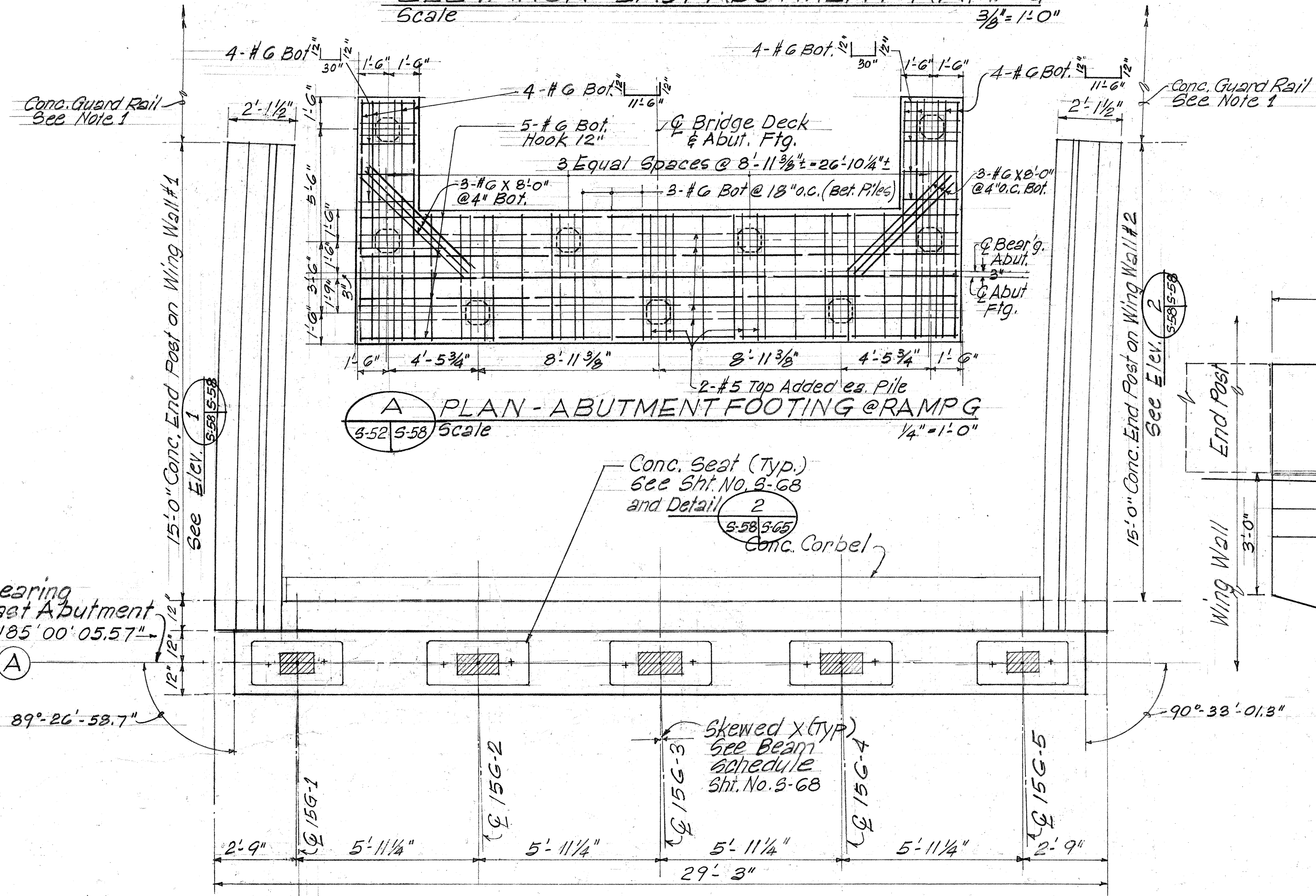
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	-H1-1(131):17	1977	289	394



ELEVATION - EAST ABUTMENT RAMP
Scale 3/8" = 1'-0"



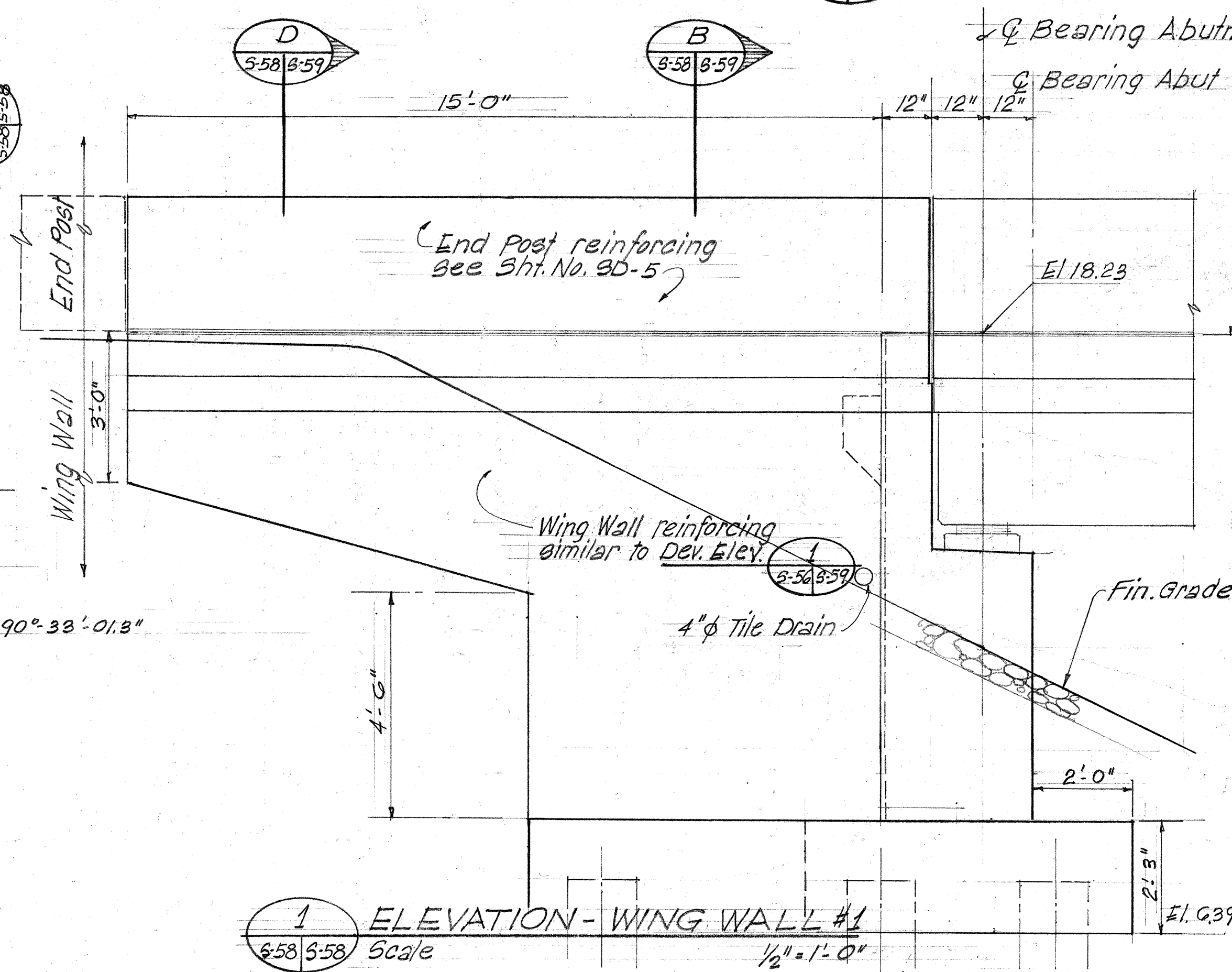
ELEVATION - WING WALL #2
Scale 1/2" = 1'-0"



PLAN - ABUTMENT FOOTING @ RAMP
Scale 1/4" = 1'-0"

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

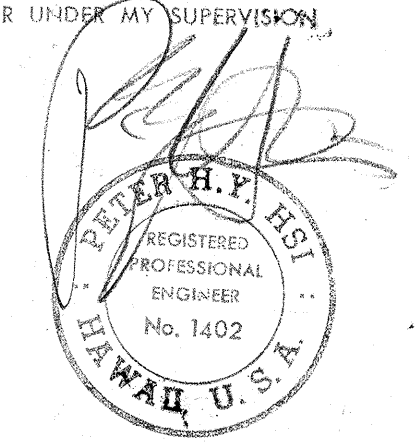
PLAN - EAST ABUTMENT RAMP
Scale 3/8" = 1'-0"



ELEVATION - WING WALL #1
Scale 1/2" = 1'-0"

NOTE:
1. Provide key in wing wall End Post to suit conc. guard rail. For detail of conc. guard rail see Civil Plans.

PETER HSI ASSOCIATES, INC. ARCHITECTS/ENGINEERS
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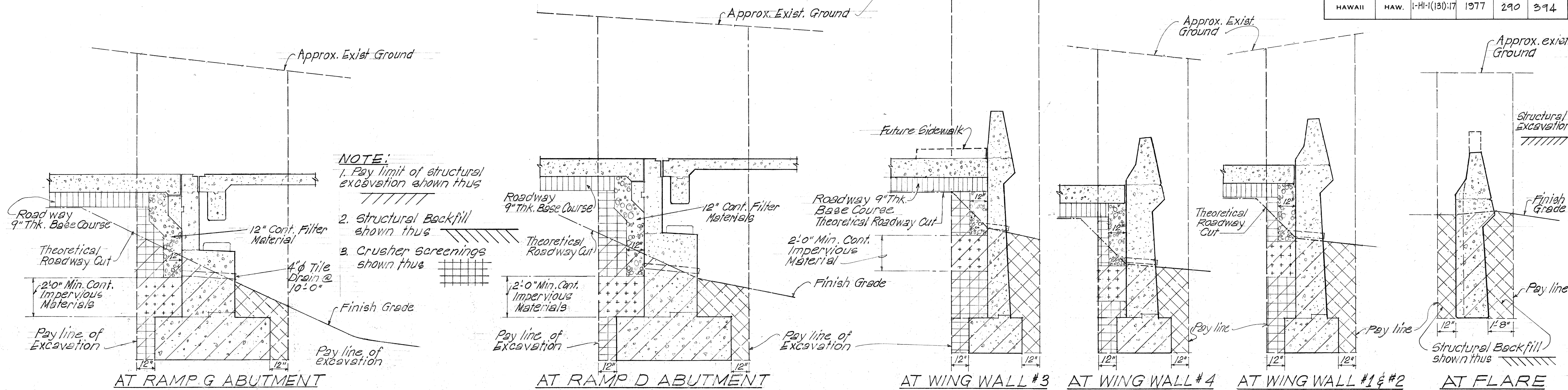
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

KEEHI INTERCHANGE RAMP D & G
RAMP G EAST ABUTMENT
DETAIL PLAN AND ELEVATION

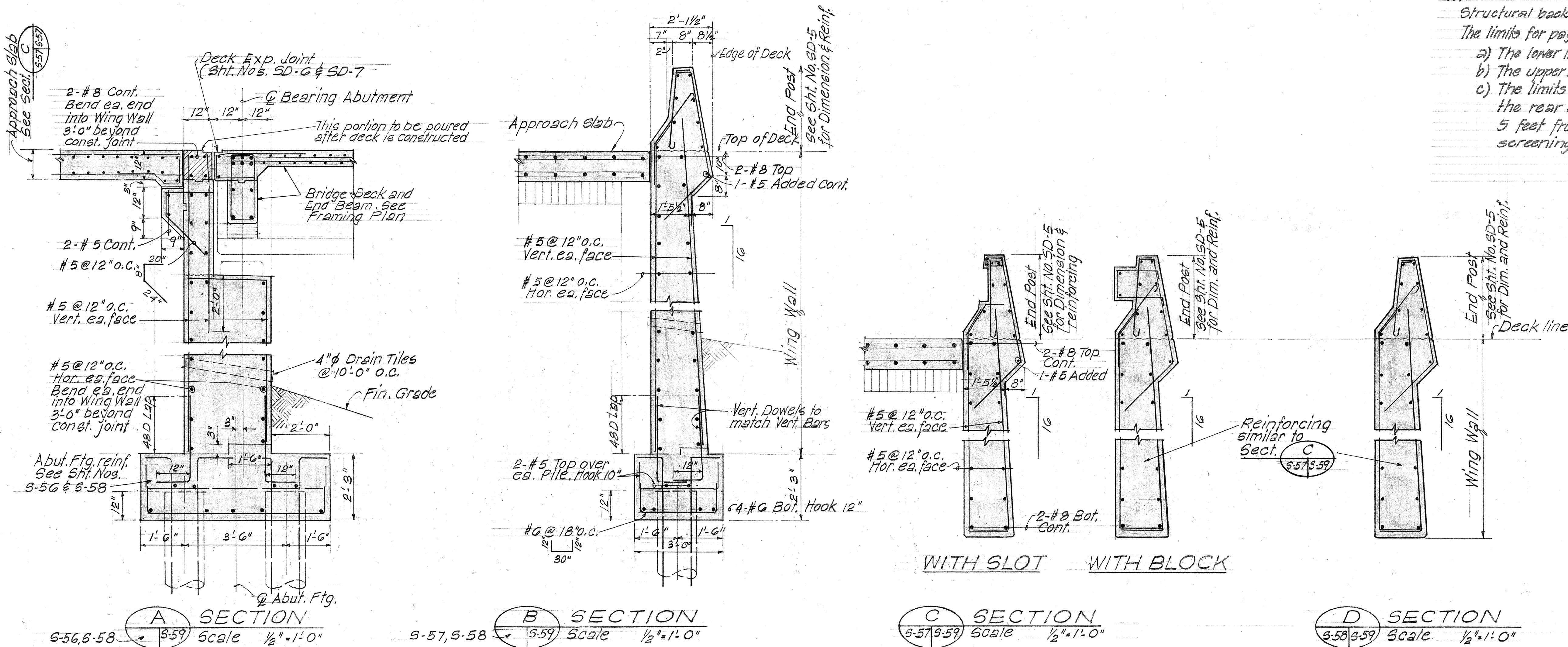
INTERSTATE ROUTE H-1
F.A.I. PROJ. NO. I-H1-1(131):17
SCALE: 3/8" = 1'-0" DATE: AUG. 31, 1977

SHEET NO. S-58 OF S-94 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H1-1(13):17	1977	290	314



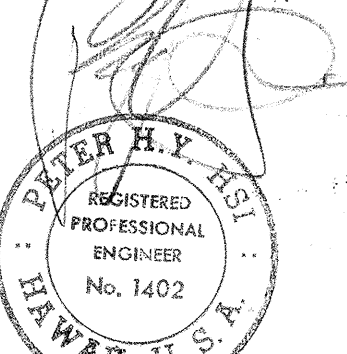
TYPICAL LIMIT OF STRUCTURAL EXCAVATION PAY LINE AND BACKFILL DETAILS
Scale 3/8" = 1'-0"



Note:
Structural backfill shall be placed behind the abutment and wingwalls. The limits for payment are as follows:
a) The lower limit is the top of footing.
b) The upper limit is the bottom of the roadway structure.
c) The limits in a direction normal to the stem are from the rear of the crusher screenings to a vertical plane 5 feet from and parallel to the payline of the crusher screenings.

PETER HSI ASSOCIATES, INC. ARCHITECTS/ENGINEERS

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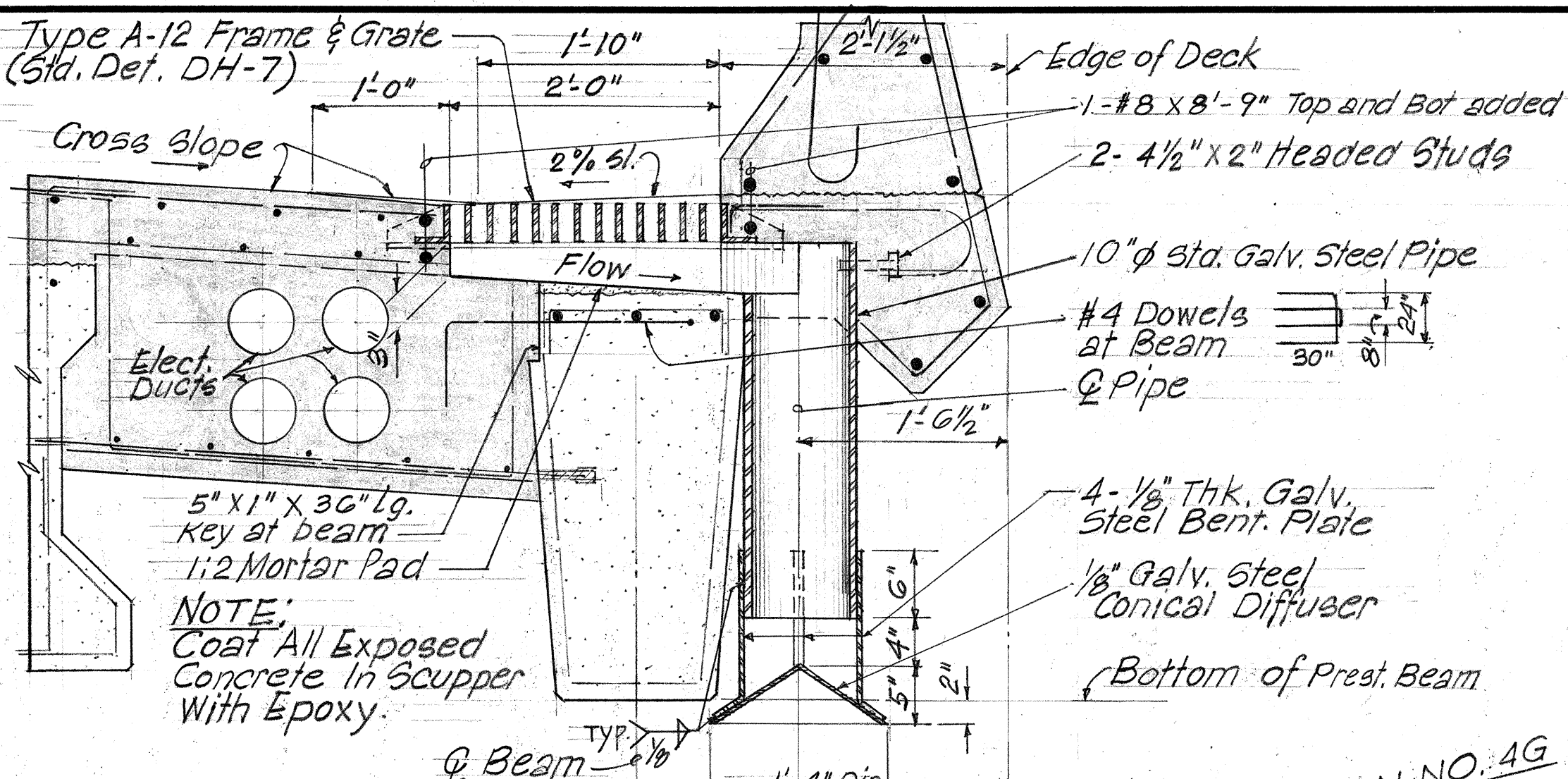
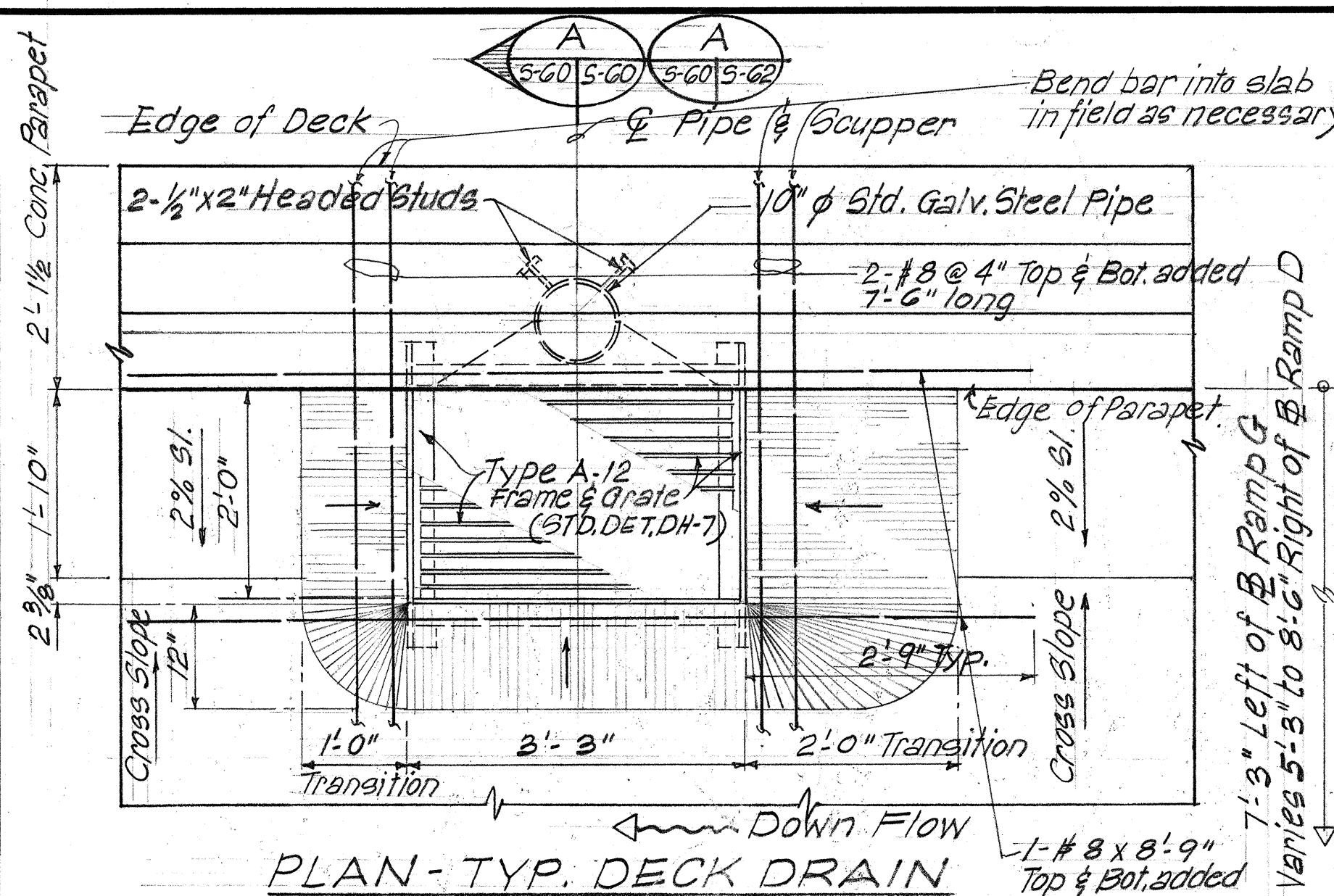


3/3/80	DATE	REVISION
SIDEWALK SHOWN ON DWG. FOR WING WALL #3 EXCAVATION PAYLINE AND BACKFILL DELETED AND INDICATED AS FUTURE.		
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION KEEHI INTERCHANGE RAMP D & G RAMP D & G EAST ABUTMENT AND WING WALL SECTIONS INTERSTATE ROUTE H-1 F.A.I. PROJ. NO. I-H1-1(13):17 Scale: 1/2" = 1'-0" Date: Aug. 31, 1977		
SHEET NO. 559 OF 594 SHEETS		

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	H-11(131):17	1977	291	394

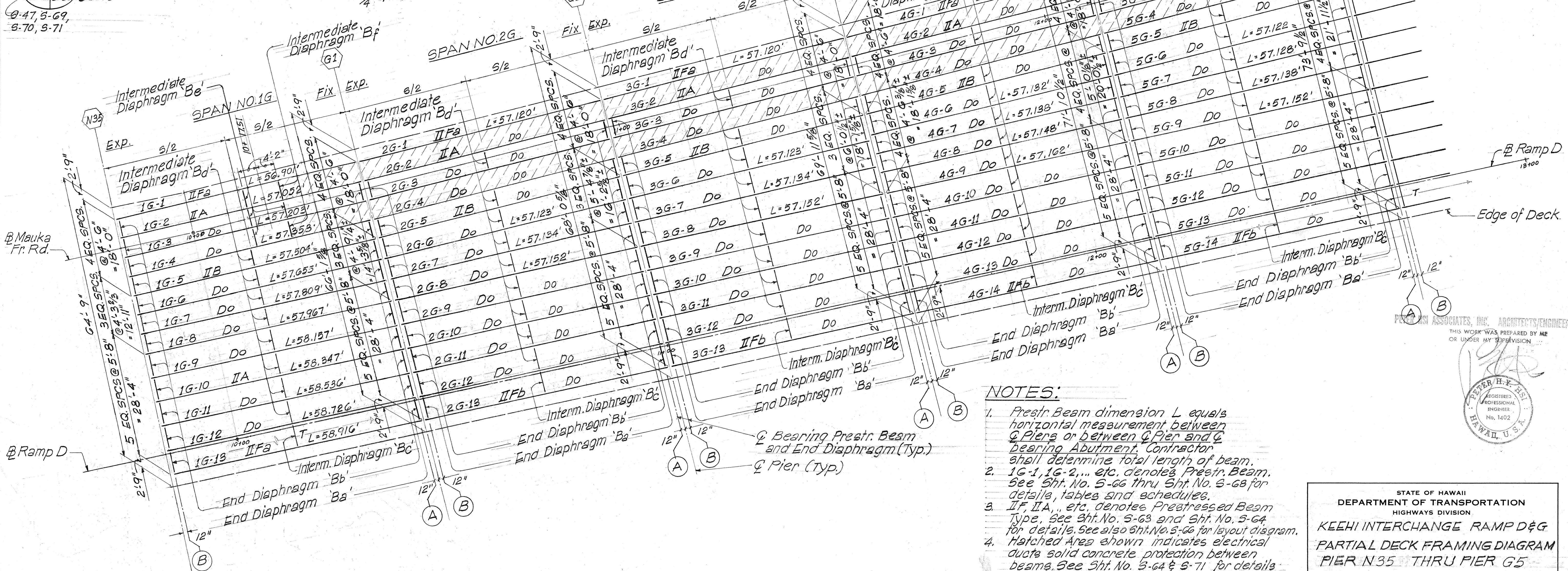
H. Yamahara 8-10-77
Hawaiian Telephone Co., Date

W. Kaimoto 8/10/77
Hawaiian Electric Co., Inc. Date



SECTION - SCUPPER AT SOLID DIAPHRAGM
Scale 1" = 1'-0"

1 STRUCTURE DRAINAGE DETAILS
Scale 3/4" = 1'-0"



NOTES:

1. Precast Beam dimension L equals horizontal measurement between $\bar{C}$ Piers or between $\bar{C}$ Pier and $\bar{C}$ bearing Abutment. Contractor shall determine total length of beam.
2. 1G-1, 1G-2, ... etc. denotes Precast Beam. See Sht. No. S-66 thru Sht. No. S-68 for details, labels and schedules.
3. IF IA, ... etc. denotes Prestressed Beam Type. See Sht. No. S-63 and Sht. No. S-64 for details. See also Sht. No. S-66 for layout diagram.
4. Hatched Area shown indicates electrical ducts solid concrete protection between beams. See Sht. No. S-64 & S-71 for details.
5. See Sht. Nos. S-63 & S-64 for Diaphragm details.
6. T denotes telephone ducts. See Sht. No. S-70.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

KEEHI INTERCHANGE RAMP D & G
PARTIAL DECK FRAMING DIAGRAM
PIER N35 THRU PIER G5

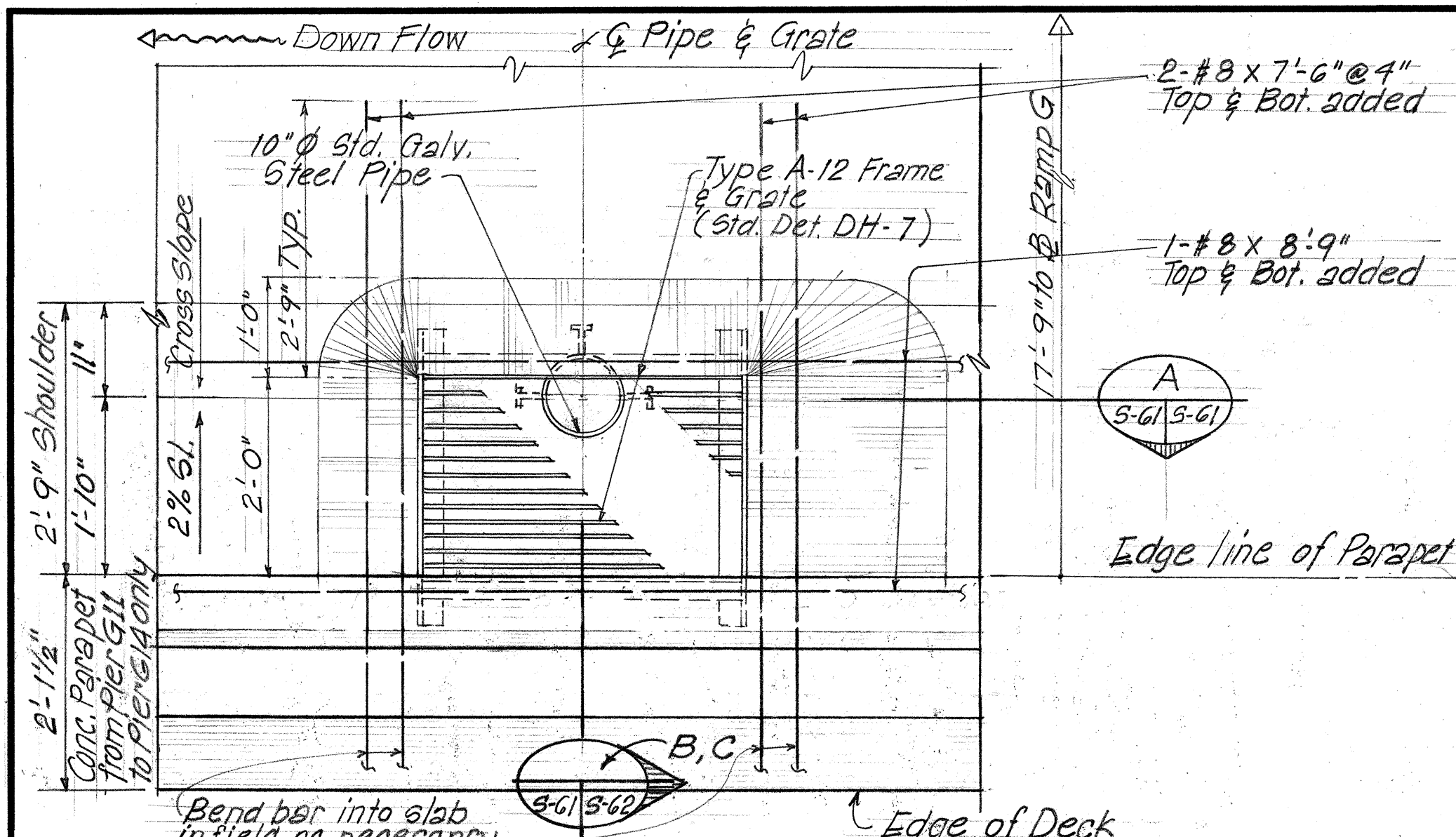
INTERSTATE ROUTE H-1
F.A.I. PROJ. NO. I-H-1(131):17
SCALE: 3/32" = 1'-0" DATE: Aug. 31, 1977

SHEET NO. S-60 OF S-94 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	-H-1(131)-17	1977	292	394

W. Upshur
Hawaiian Telephone Co. 8-10-77
Date

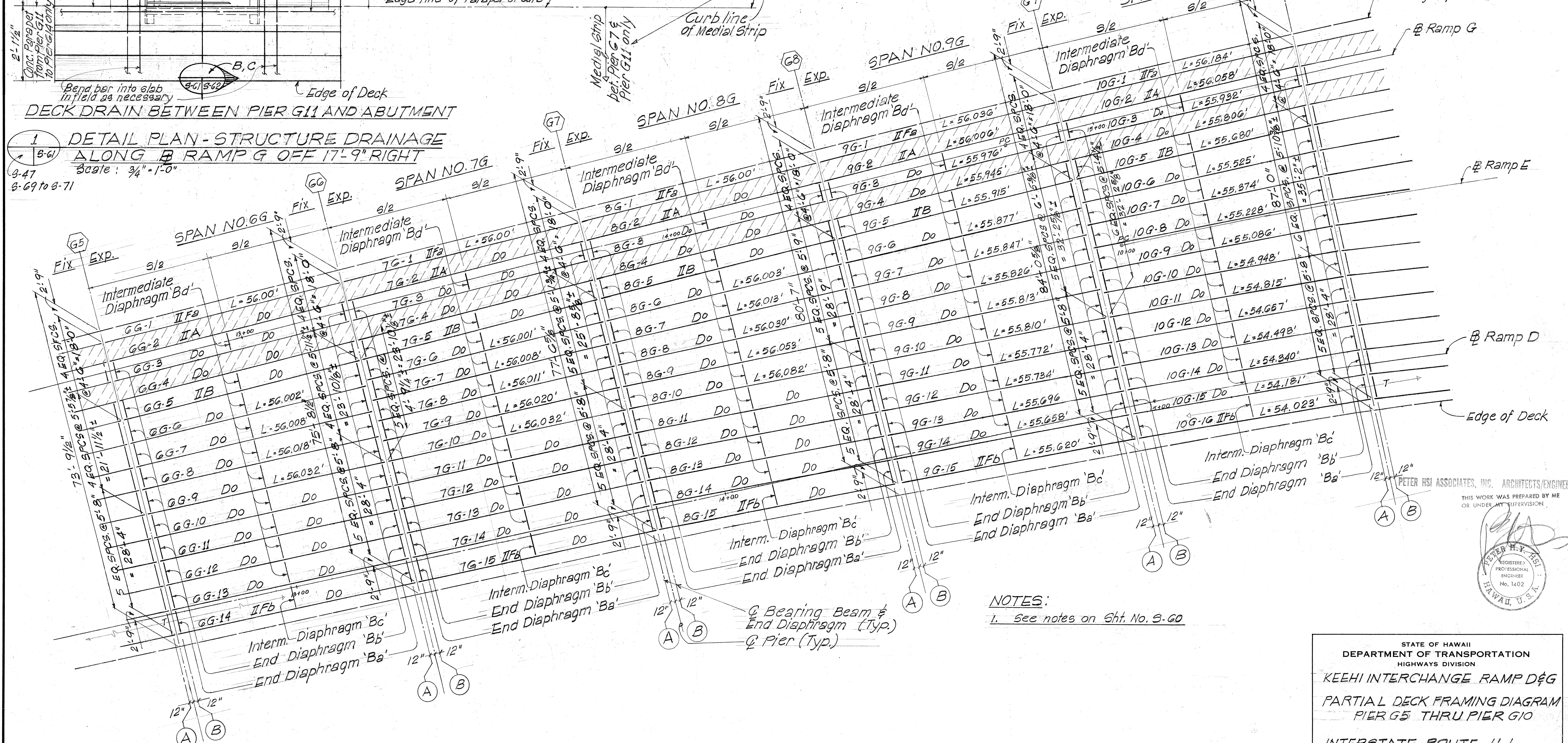
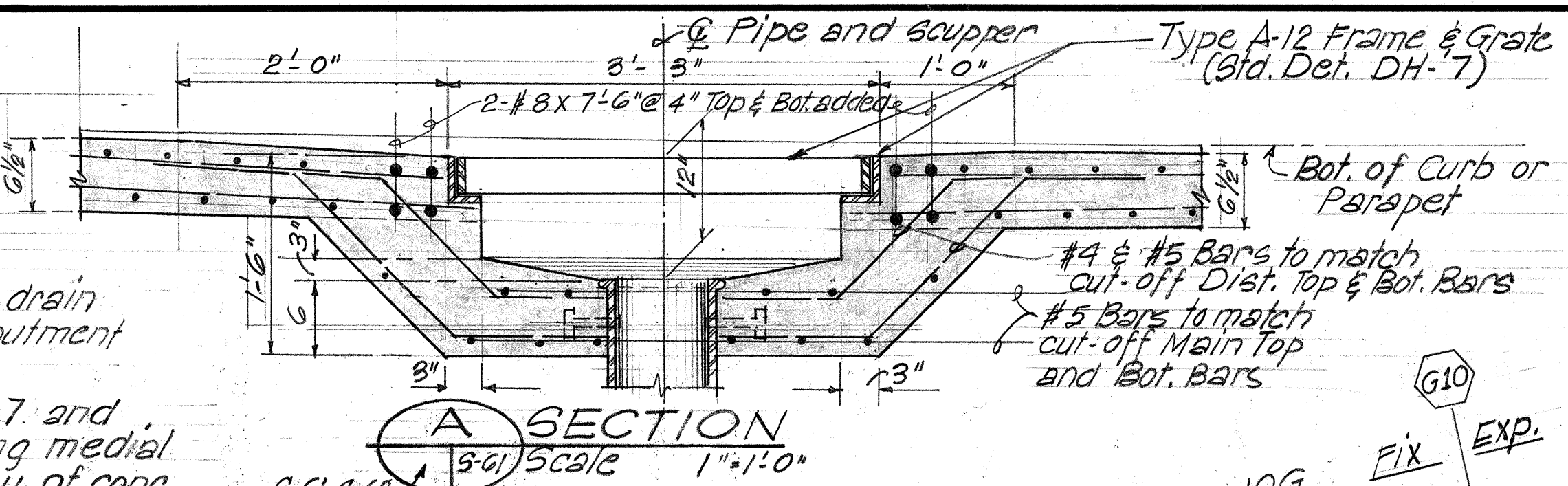
W. Karim
Hawaiian Electric Co., Inc. 8/10/77
Date



DECK DRAIN BETWEEN PIER G11 AND ABUTMENT

1 DETAIL PLAN - STRUCTURE DRAINAGE
ALONG B RAMP G OFF 17'-9" RIGHT
Scale: 3/4" = 1'-0"
3-47
3-69 to 3-71

- NOTES:
1. Coat all exposed concrete in scupper with epoxy.
 2. Detail Plan drawn is for deck drain between Pier G11 and East Abutment Ramp G.
 3. Deck drain between Pier G7 and Pier G11 similar except along medial strip with 6" conc. curb in lieu of conc. parapet. (See Notation)



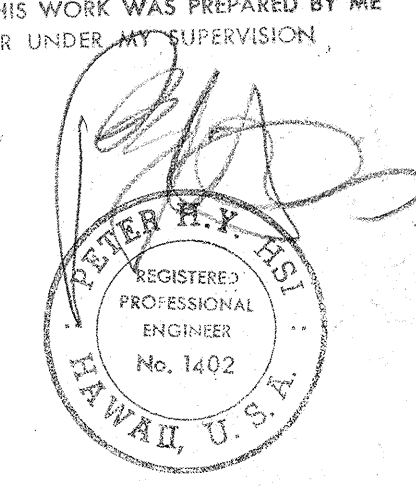
- NOTES:
1. See notes on Sht. No. 3-60

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

KEEHI INTERCHANGE RAMP D&G
PARTIAL DECK FRAMING DIAGRAM
PIER G5 THRU PIER G10

INTERSTATE ROUTE H-1
F.A.I. PROJ. NO. I-H-1(131)-17
Scale: 3/32" = 1'-0" DATE: Aug. 31, 1977

SHEET NO. 3-61 OF 3-94 SHEETS

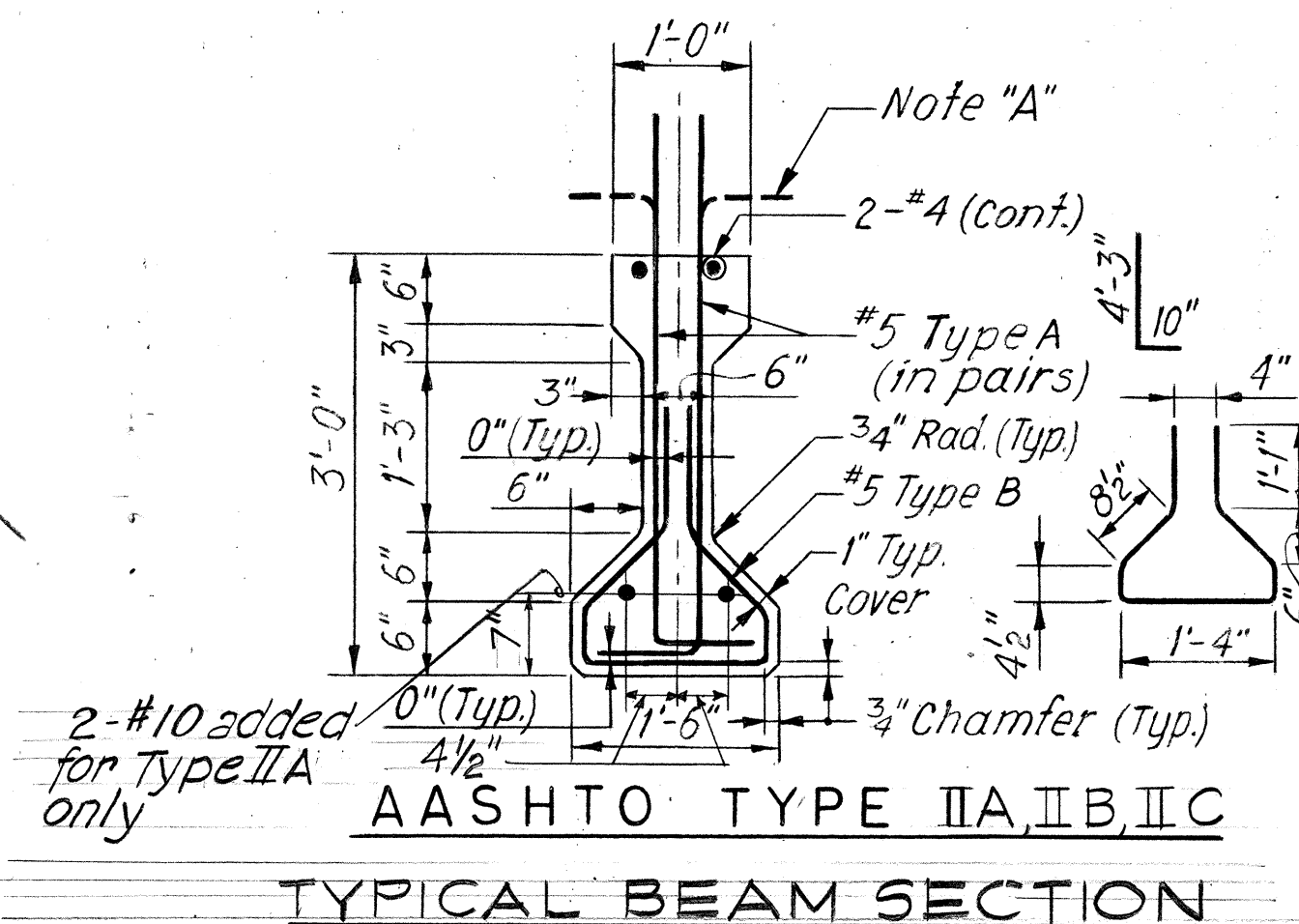


SURVEY PLOTTED BY	DATE
DRAWN BY	
CHECKED BY	
NOTE BOOK	
QUANTITIES BY	
CHECKED BY	
NO.	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-HI-1(131):17	1977	294	394

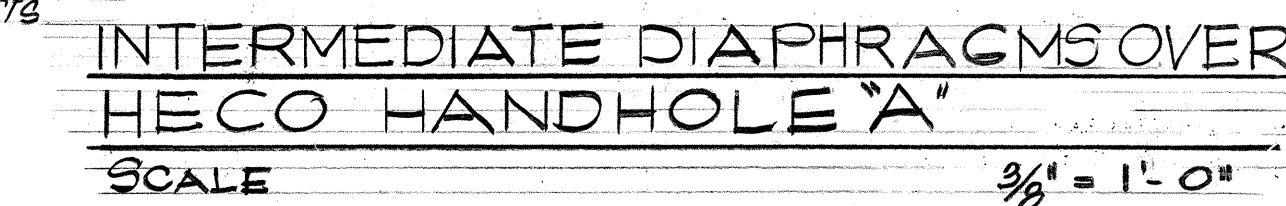
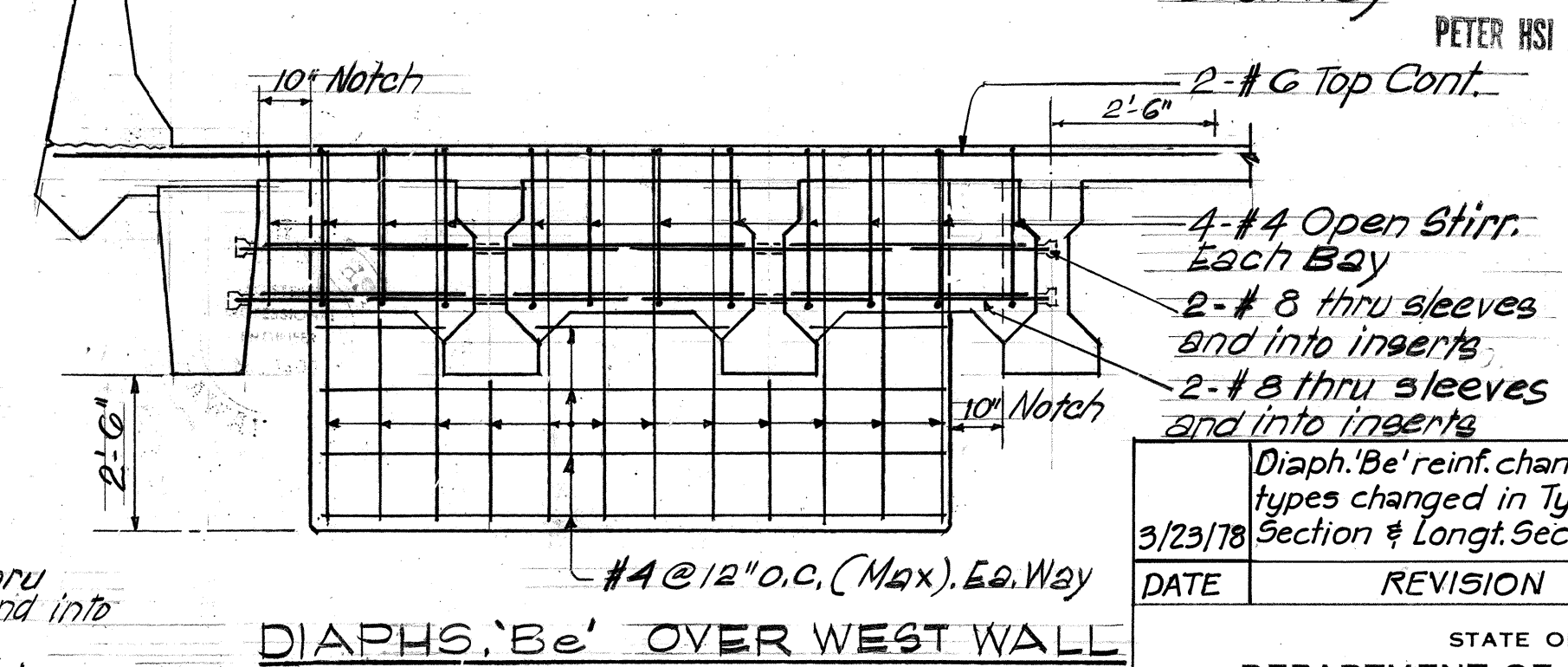
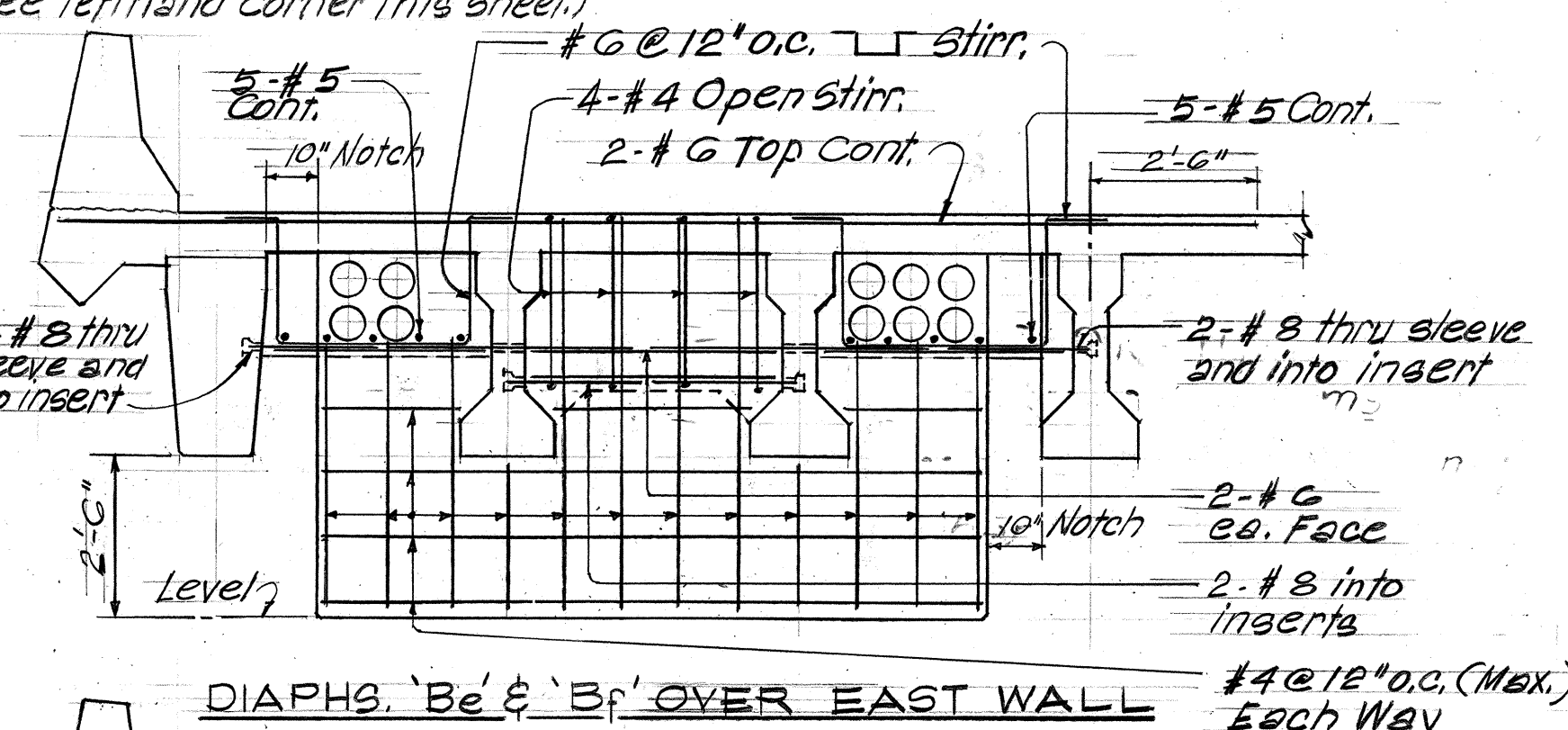
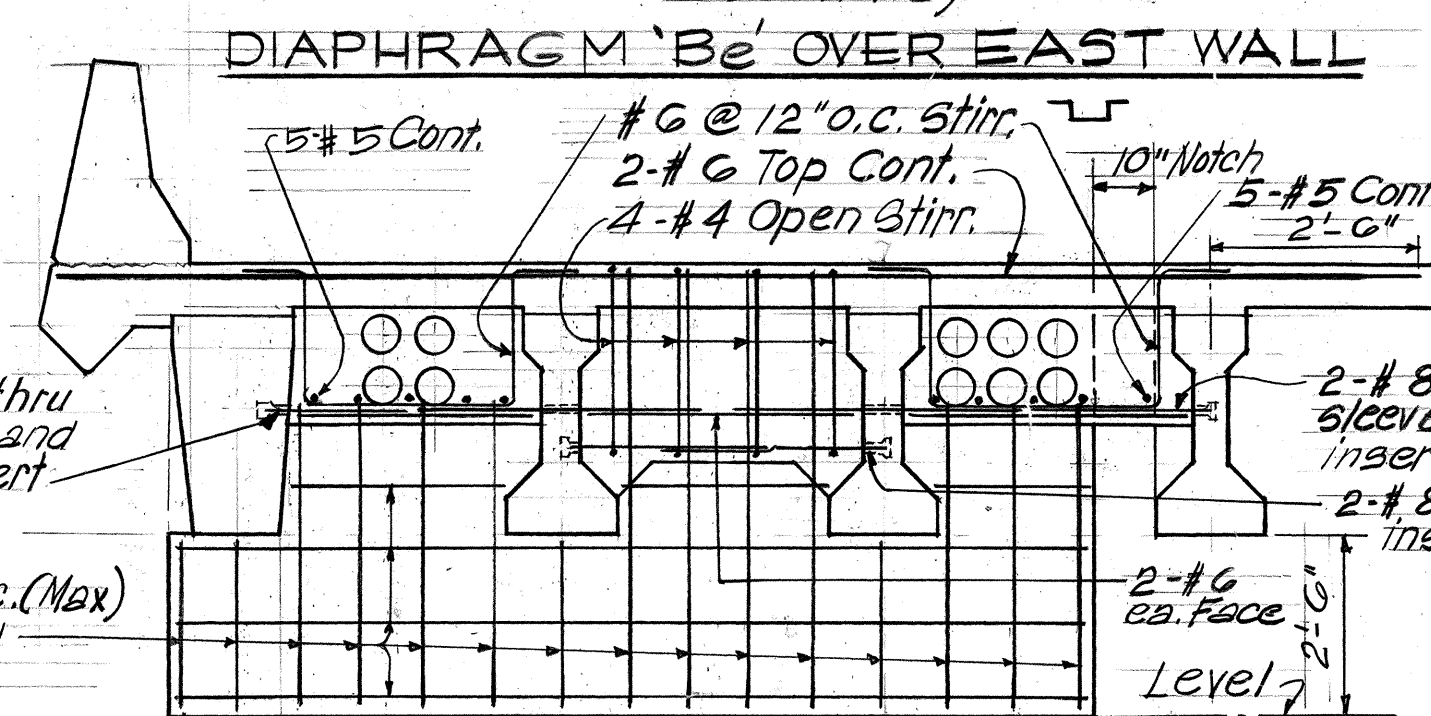
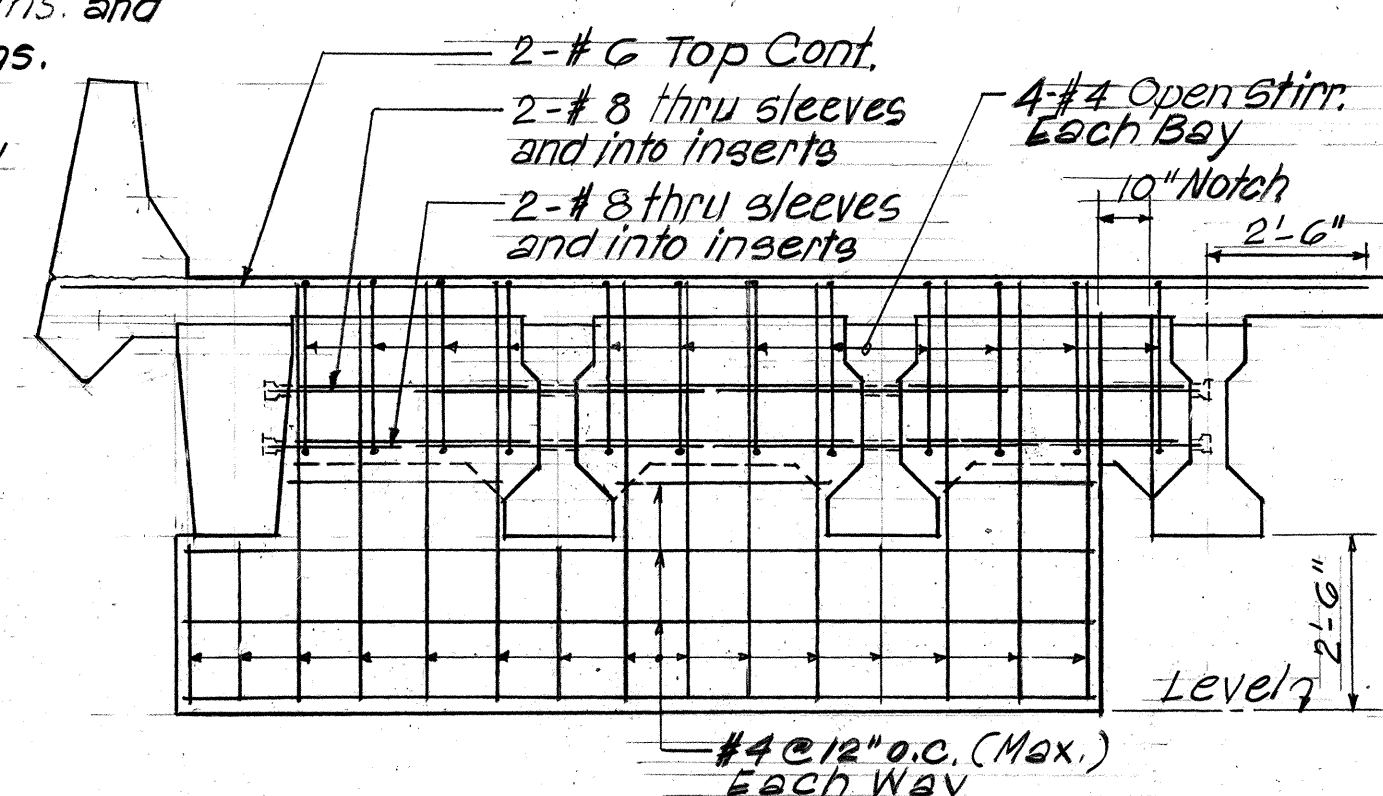
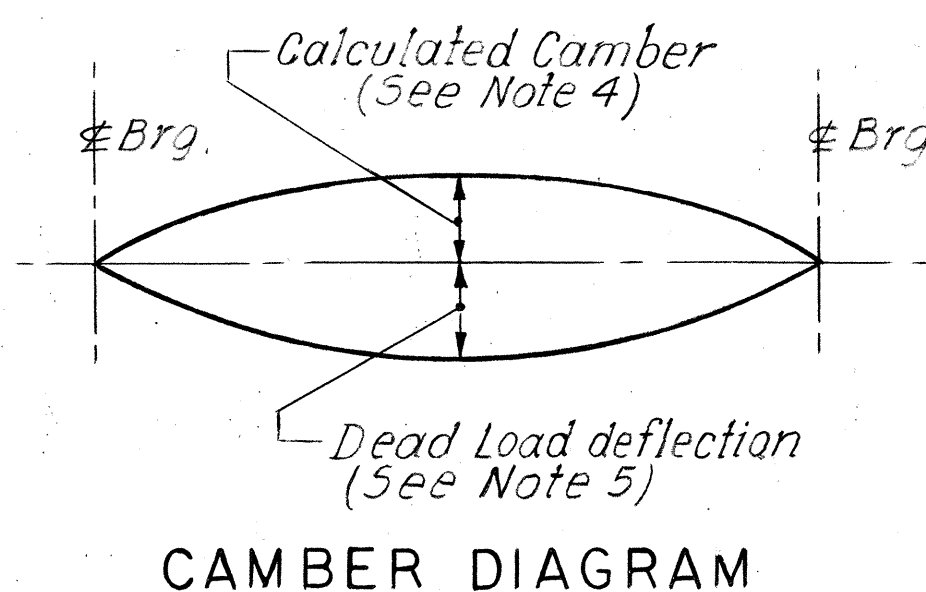
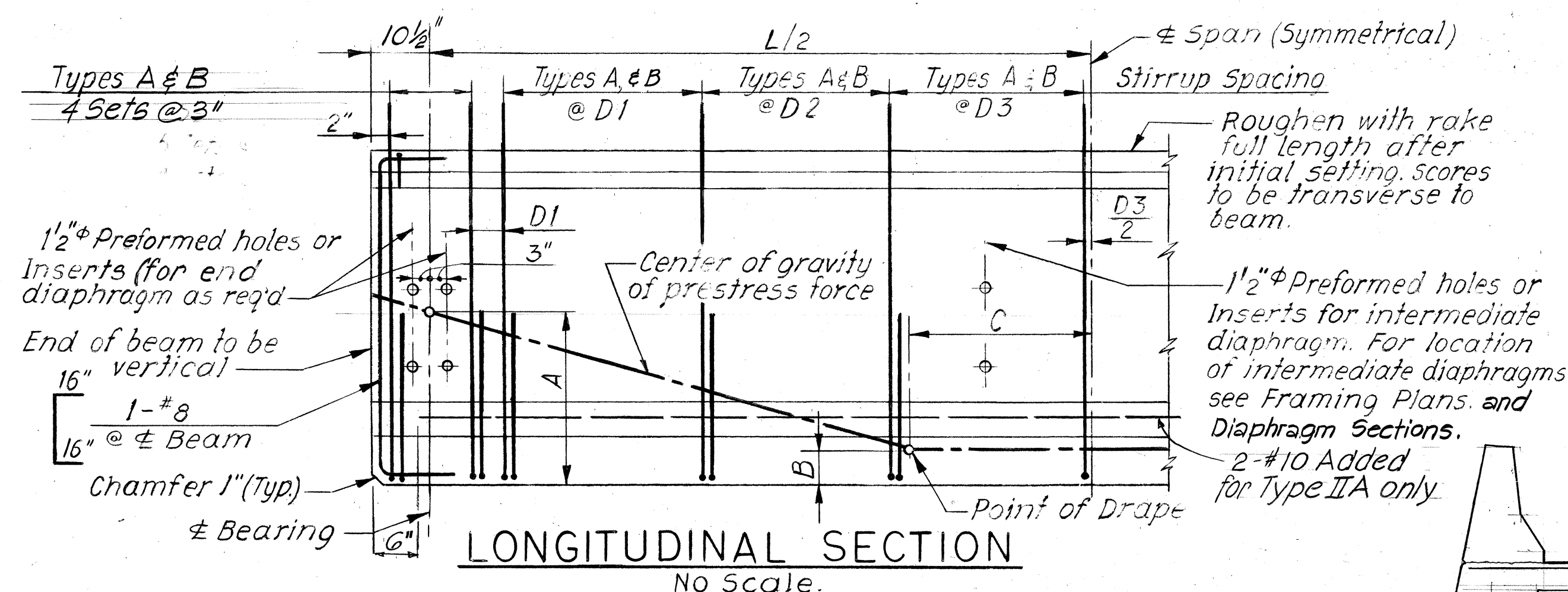
12. In lieu of the 7 wires 1/2" dia. stress-relieved steel strands (area = 0.153 in²) with the ultimate strength of 270 ksi, the Contractor at his option may use 7 wires 0.6" dia. stress-relieved steel strands (area = 0.217 in²) with an ultimate strength of 270 ksi. For properties of 0.6" dia. strands see special provisions. However the final prestressed force and its center of gravity, as stated, shall not be revised.

NOTE "A": Bend bars in field 1/2" below top of deck.
All reinforcing dimensions are out to out.



NOTES FOR PRESTRESSED BEAMS: PRETENSIONING

- Concrete shall have a minimum ultimate 28 day cylinder strength of 6,000 psi.
- Pretensioned strands shall be 7 wire 1/2" 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.
- Non-prestressed reinforcing steel shall be Grade 40 unless otherwise noted. For properties see State Standard Specifications.
- 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%.
- The dead load deflection includes the combined effects of the weight of slab, haunch and diaphragm.
- Strand pattern shall be symmetrical about the longitudinal $\pm$ of the beam.
- Strand release sequence shall not induce any lateral deflection of the beam.
- Contractor shall submit his proposed strand pattern and releasing sequence to the Engineer for approval.
- During curing care shall be taken to avoid any lateral deflection of the beam due to improper orientation.
- 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.
- See Framing Plans for locations of diaphragms, type, mark number and length of individual girders. Lengths shown do not include effect of elastic shortening.
- (See lefthand corner this sheet.)



- NOTES:
- All inserts & sleeves incidental to Prestress Beam.
 - See Sht. No. 3-64 for Diaphragm Typical Sections.
 - See Det. 1/3-64 for inserts detail.
 - Splices and Laps shall be 2'-9" min.

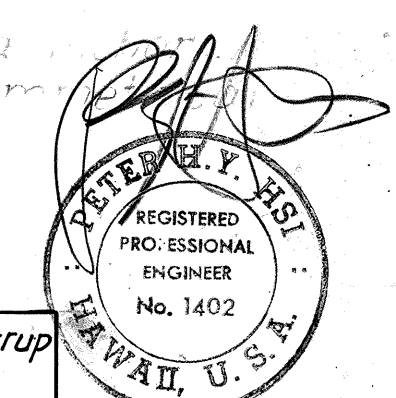
BEAM TYPE	* INITIAL PRESTRESS FORCE (KIPS)	* FINAL PRESTRESS FORCE (KIPS)	CALCULATED CAMBER SEE NOTE 4	DEAD LOAD DEFLECTION SEE NOTE 5	LOCATION OF CENTER OF GRAVITY OF PRESTRESS FORCE			STIRRUPS			REQUIRED MIN. ULT. CONC. STRENGTH BEFORE RELEASE OF STRANDS (PSI)	REMARKS
					DIST A	DIST B	DIST. TO PT. OF DRAPE C	NO. OF STIRRUPS @ SPACING D1	NO. OF STIRRUPS @ SPACING D2	SPACING D3		
IIA	669.8	518.4			11.87"	6.37"	5.50'	16 @ 6"	11 @ 8"	Bal. @ 12"	4,500	
IIB	608.9	471.2			11.83"	6.33"	5.50'	17 @ 5 1/2"	18 @ 7"	Bal. @ 12"	4,300	
IIC	548.1	424.1			11.83"	5.83"	4.75'	17 @ 5"	22 @ 7"	Bal. @ 12"	4,000	

See Sht. No. 3-66 to Sht. No. 3-68

- * Initial Prestress Force is based on the stress in strands equal to 199 ksi
* Final Prestress Force is based on the stress in strands equal to 154 ksi (199 ksi - 45 ksi)

PETER HSI ASSOCIATES, INC. ARCHITECTS/ENGINEERS

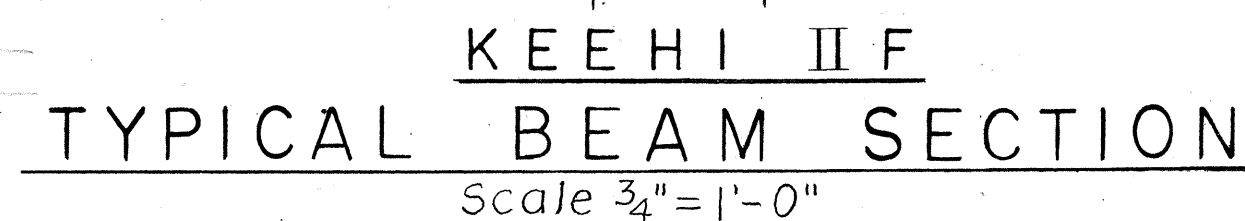
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION



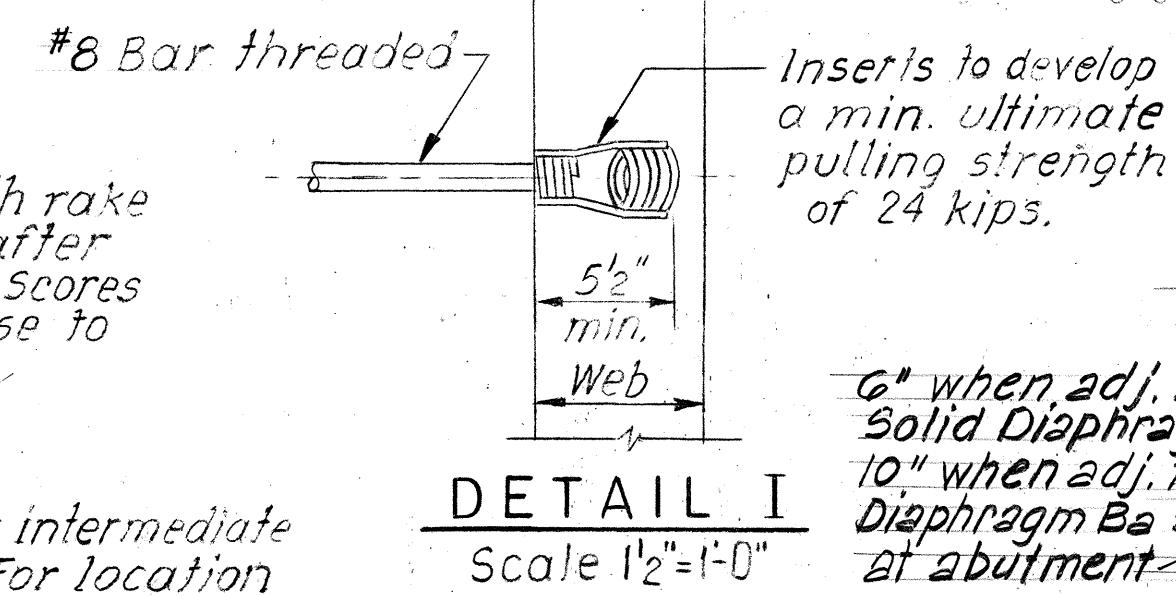
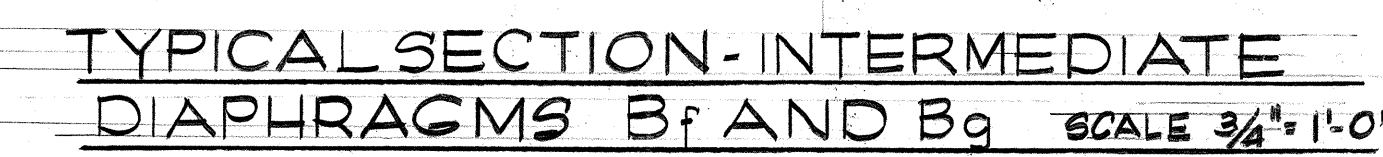
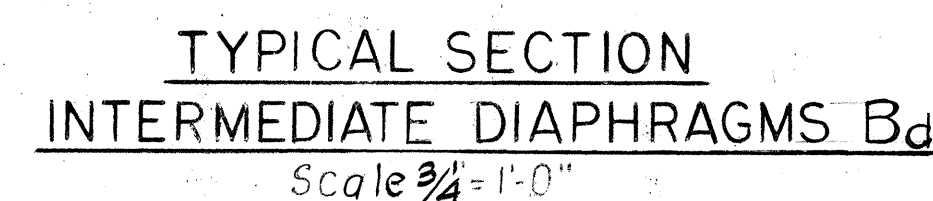
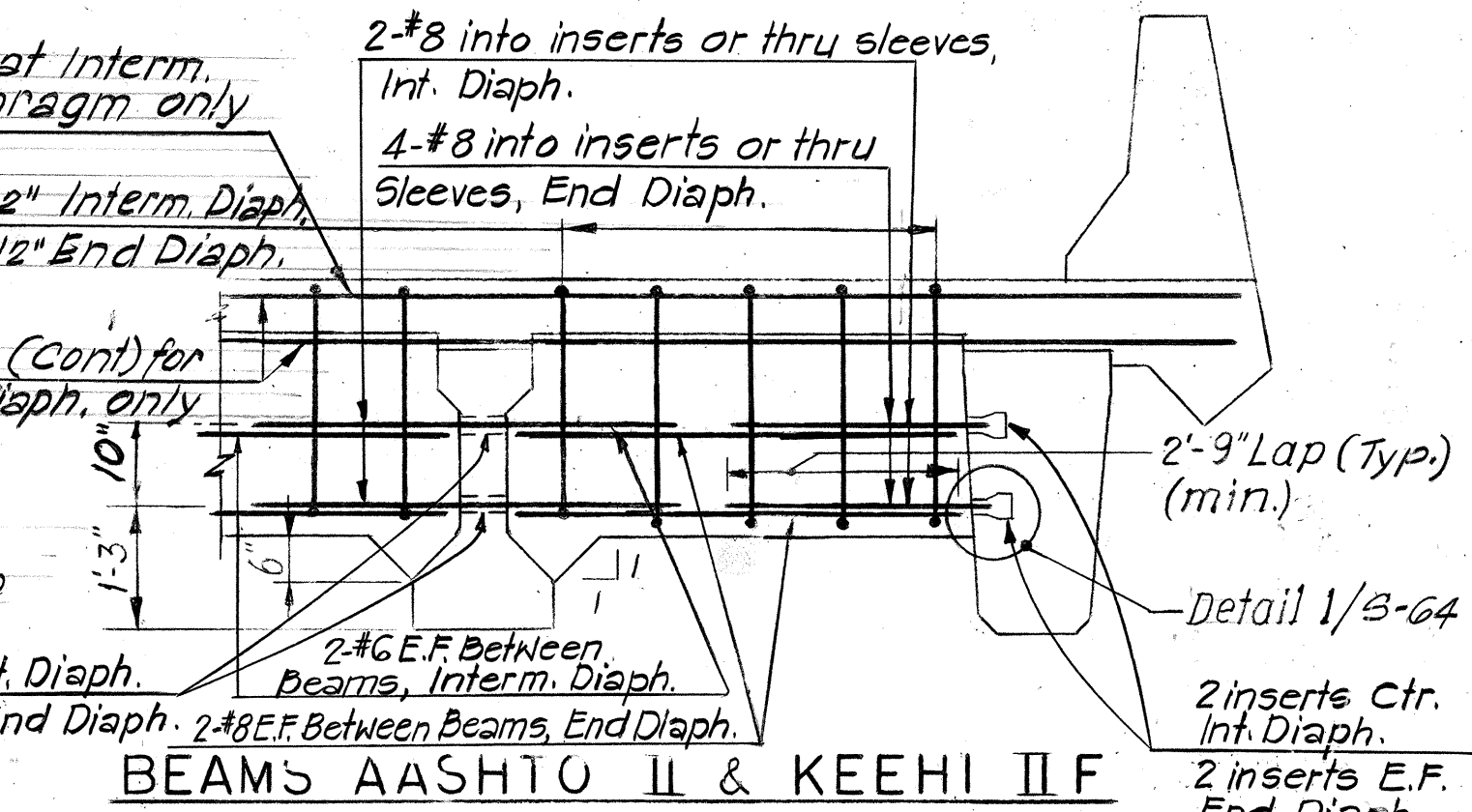
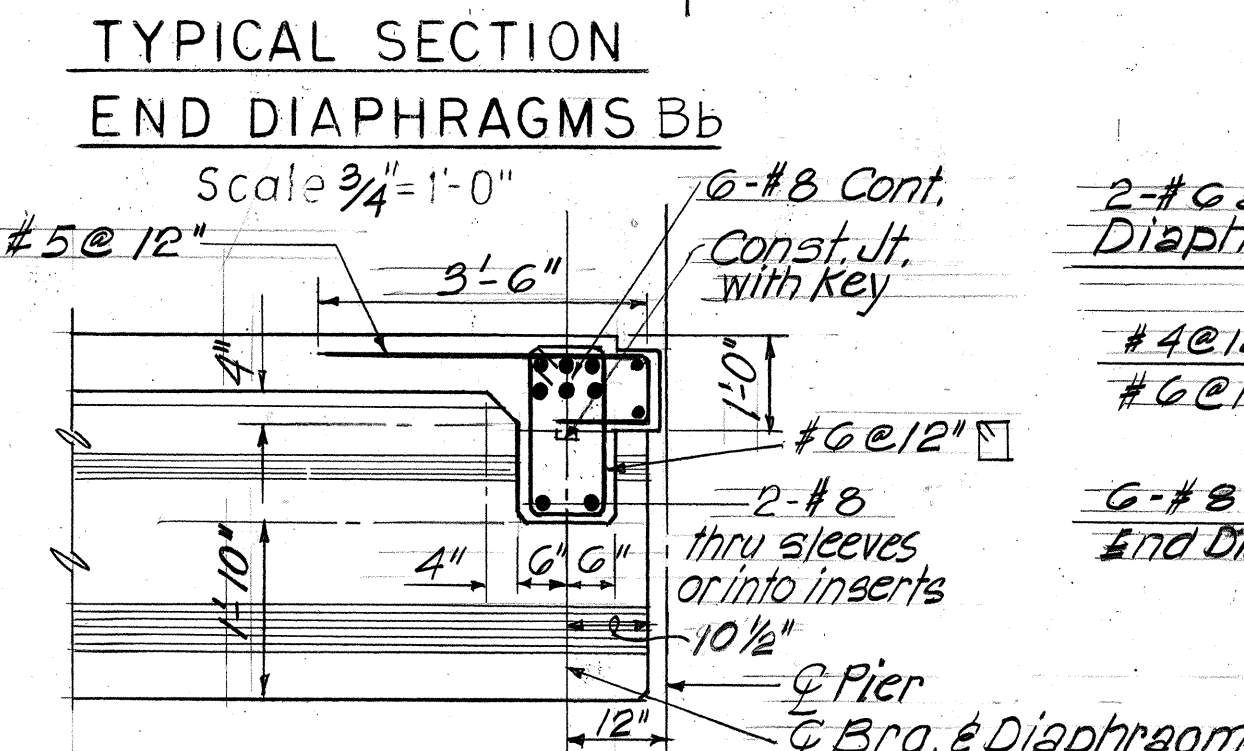
DATE	REVISION
3/23/78	Diaph. 'Be' reinf. changed. Stirrup types changed in Typ. Beam Section & Long. Section.

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
KEEHI INTERCHANGE RAMP D&G	
PRESTRESS BEAM DETAILS DIAPHRAGM DETAILS	
INTERSTATE ROUTE F.A.I. PROJECT NO. 1-HI-1(131):17	DATE: 8/31/77
SCALE: AS SHOWN	SHEET NO. 3-63 OF 3-94 SHEETS

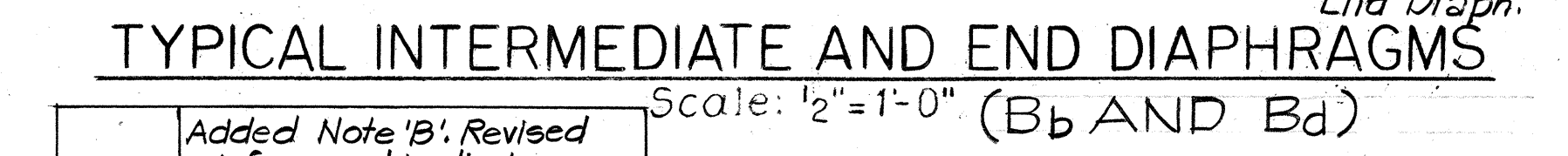
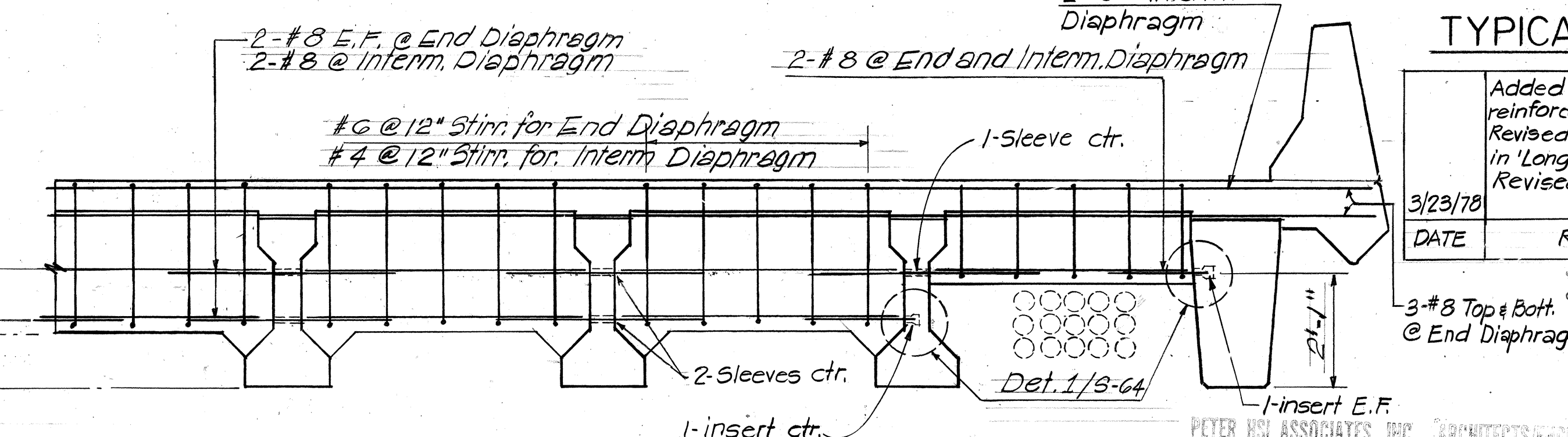
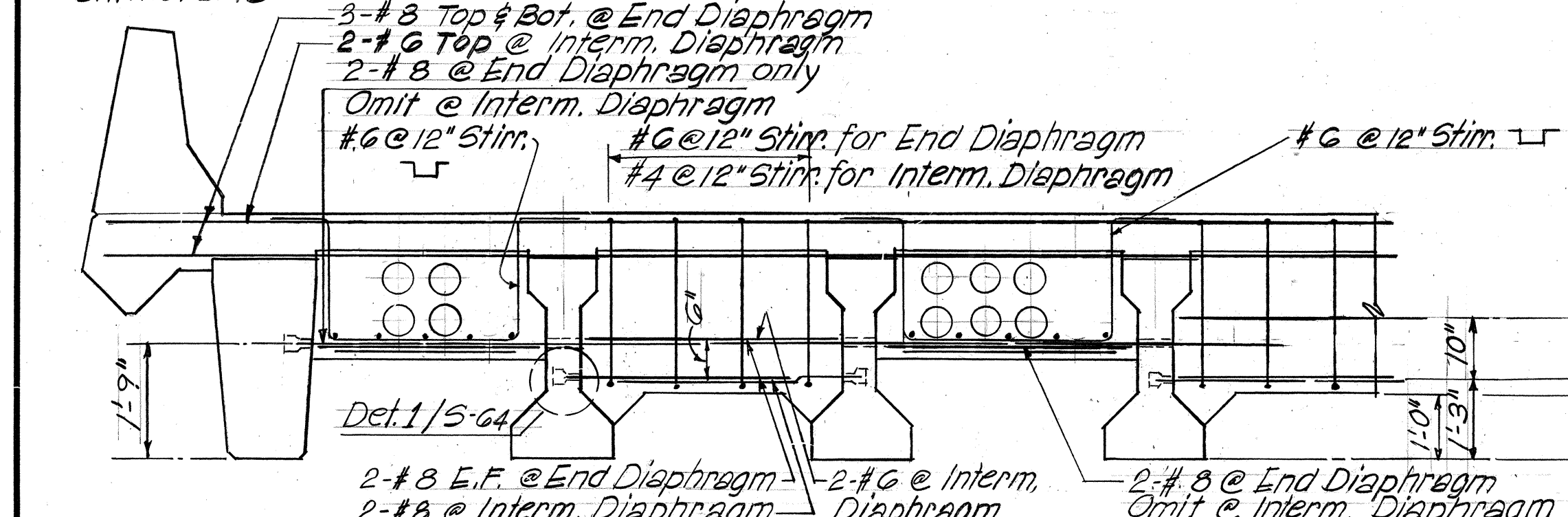
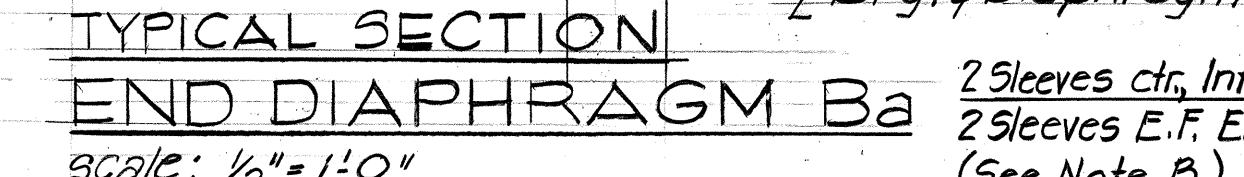
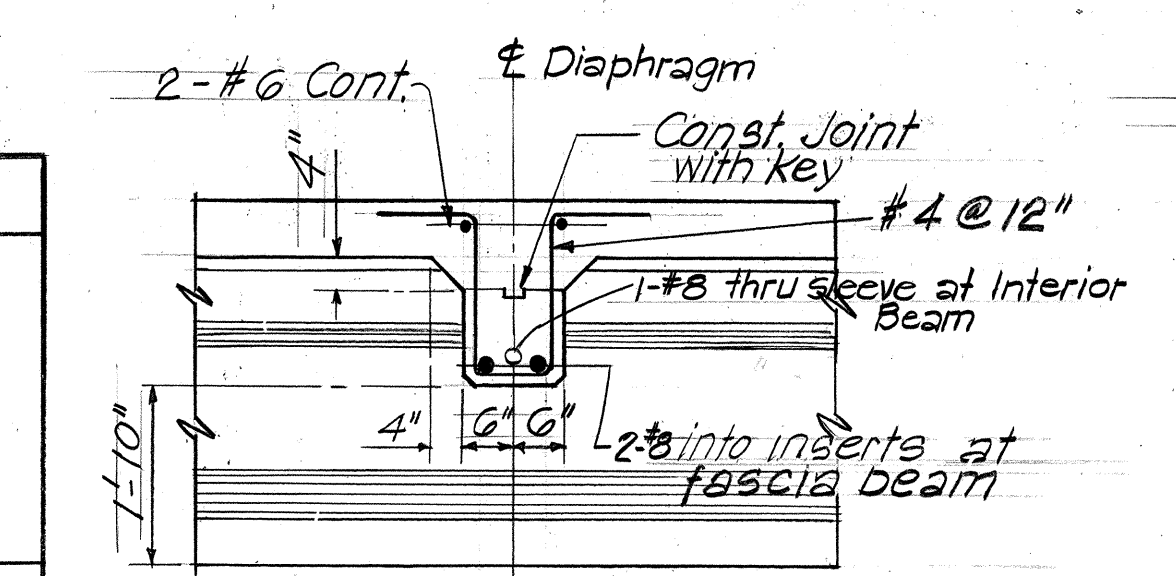
Slab reinf. not shown
see Section A-B



NOTE "B" : Bars in sleeves shall be grouted before pouring diaphragm.

[illegible]

* - See notes on Sht. No. 5-12 See Sht. No. 5-66 to Sht. No. 5-68



	reinforcement in diaphragms. Revised insert location note in 'Longitudinal Section'. Revised Detail I.
3/23/78	
DATE	REVISION

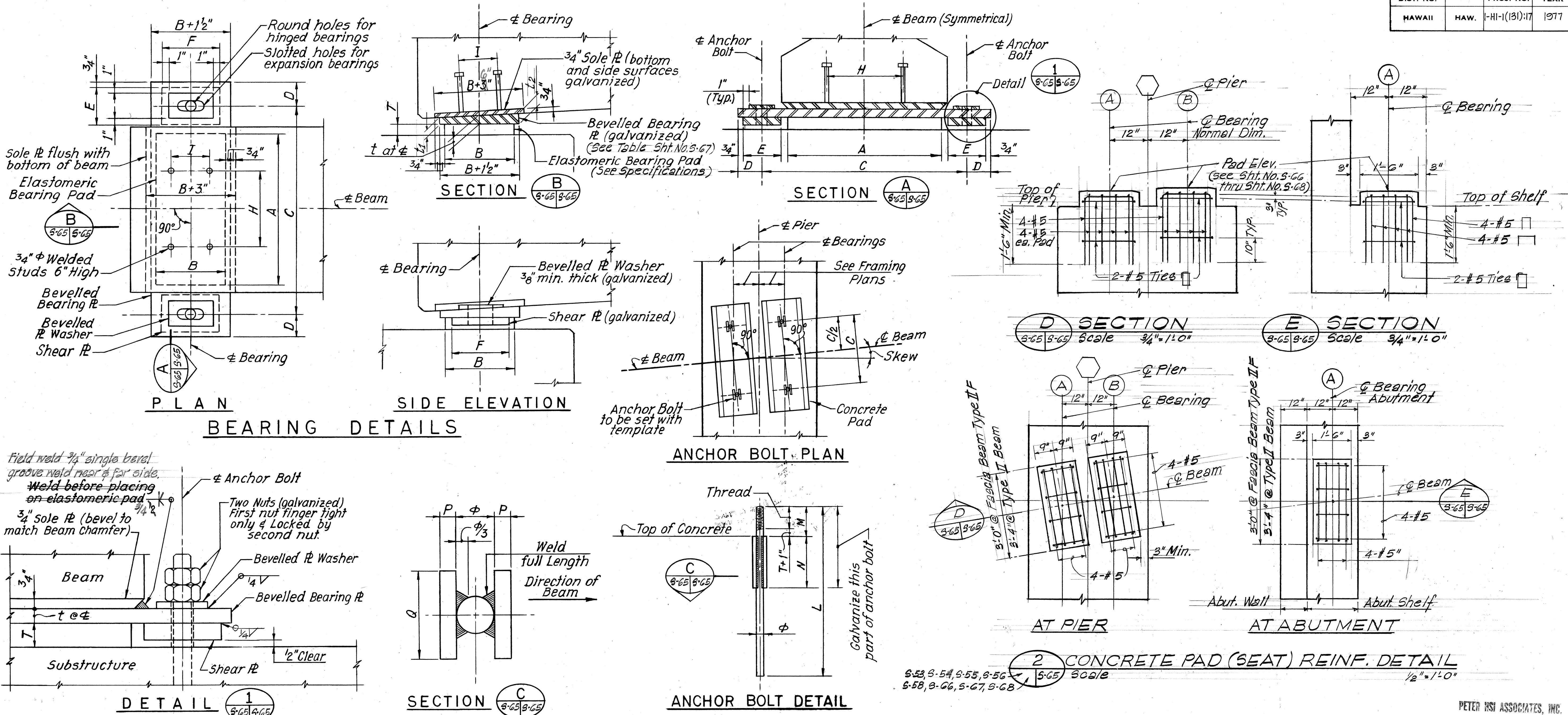
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
KEEHI INTERCHANGE RAMP D & G

PRESTRESS BEAM DETAILS
DIAPHRAGM DETAILS

INTERSTATE ROUTE
F.A.T. PROJECT NO. 1-HI-(131):17

SCALE: *A3 Noted* DATE: *8/31/77*

SHEET NO. *5-64* OF *5-94* SHEETS



BEARING AND ANCHOR BOLT TABLE

[illegible]

Note:

Contractor initially used 3/4" neoprene pads (non-laminated). These were subsequently replaced with 1 1/4" fiberglass laminated pads.

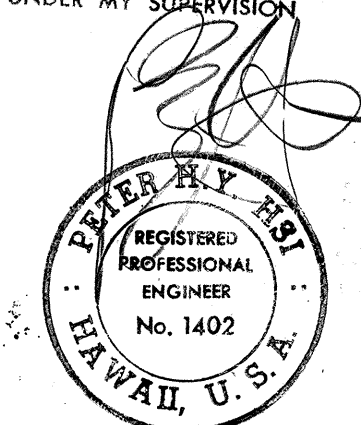
FIBER GLASS LAMINATED PADS

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.

PETER NSI ASSOCIATES, INC. ARCHITECTS/ENGINEERS

THIS WORK WAS PREPARED BY ME
OR UNDER MY SUPERVISION

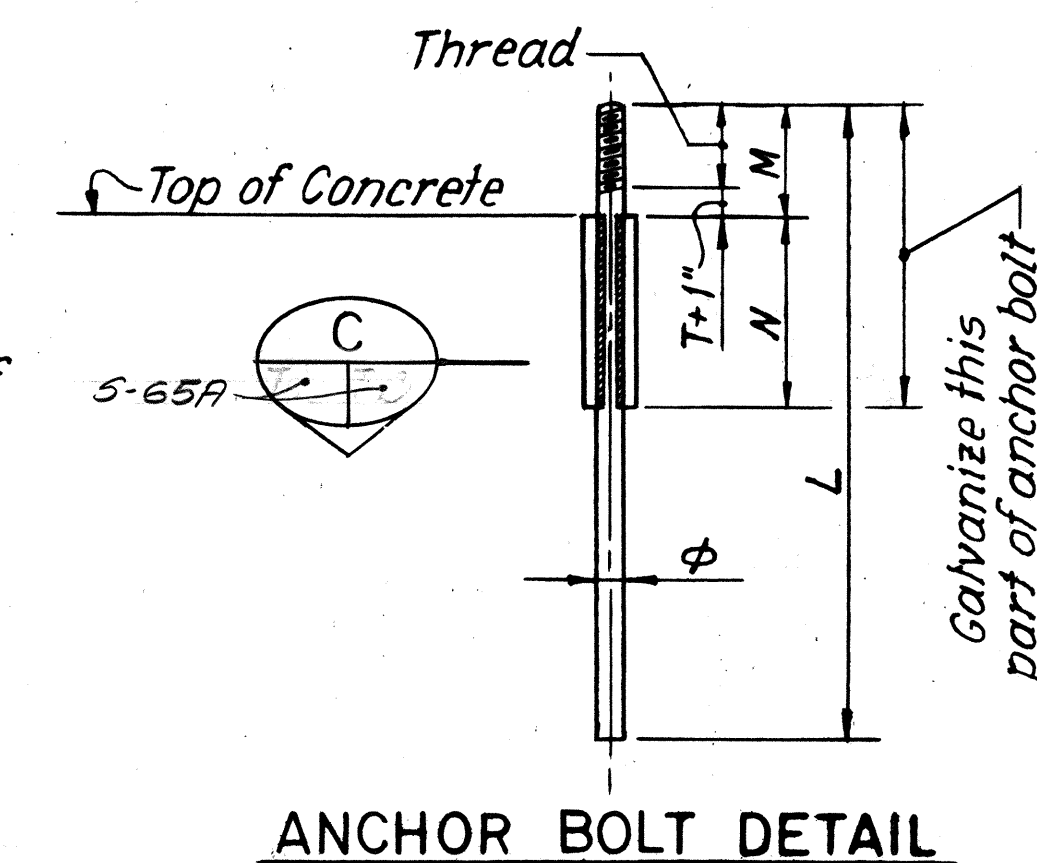
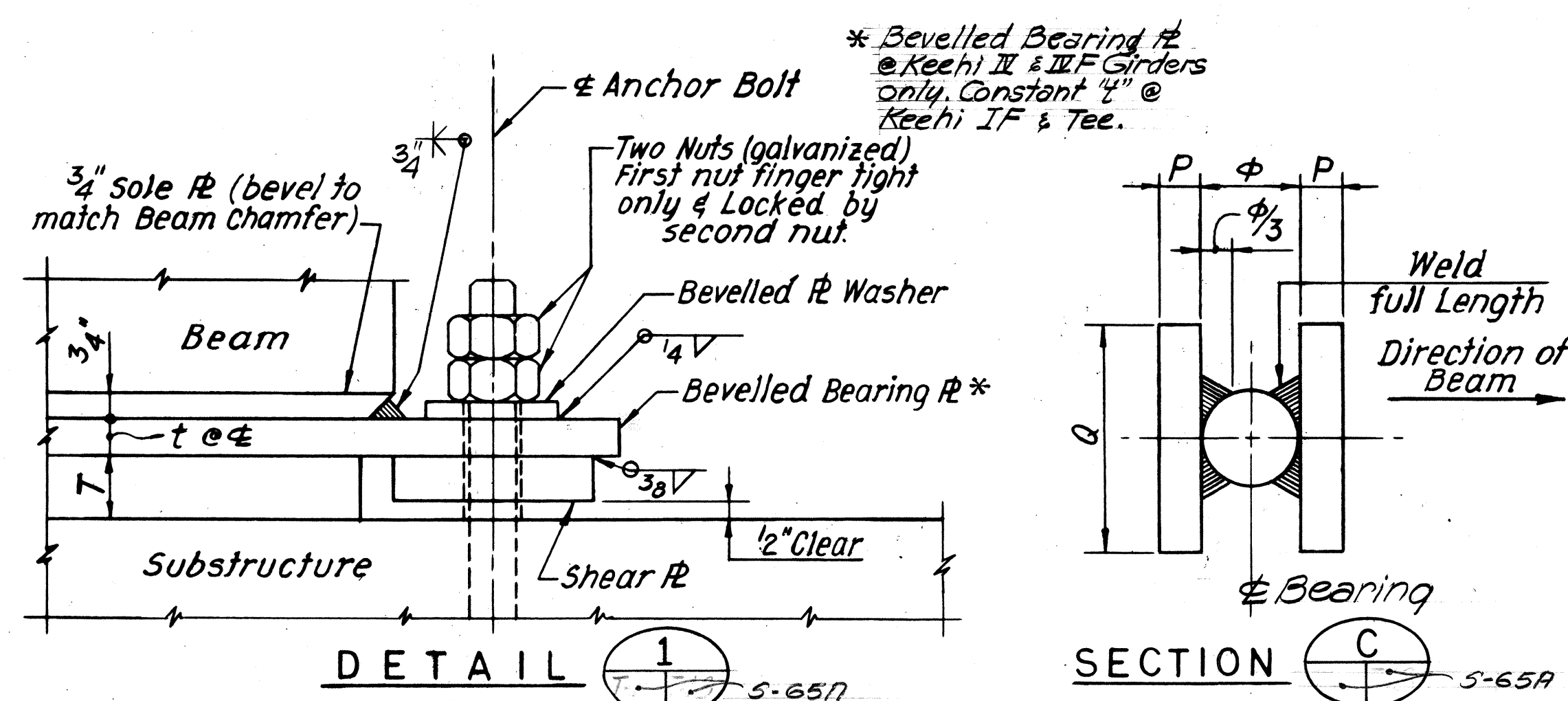
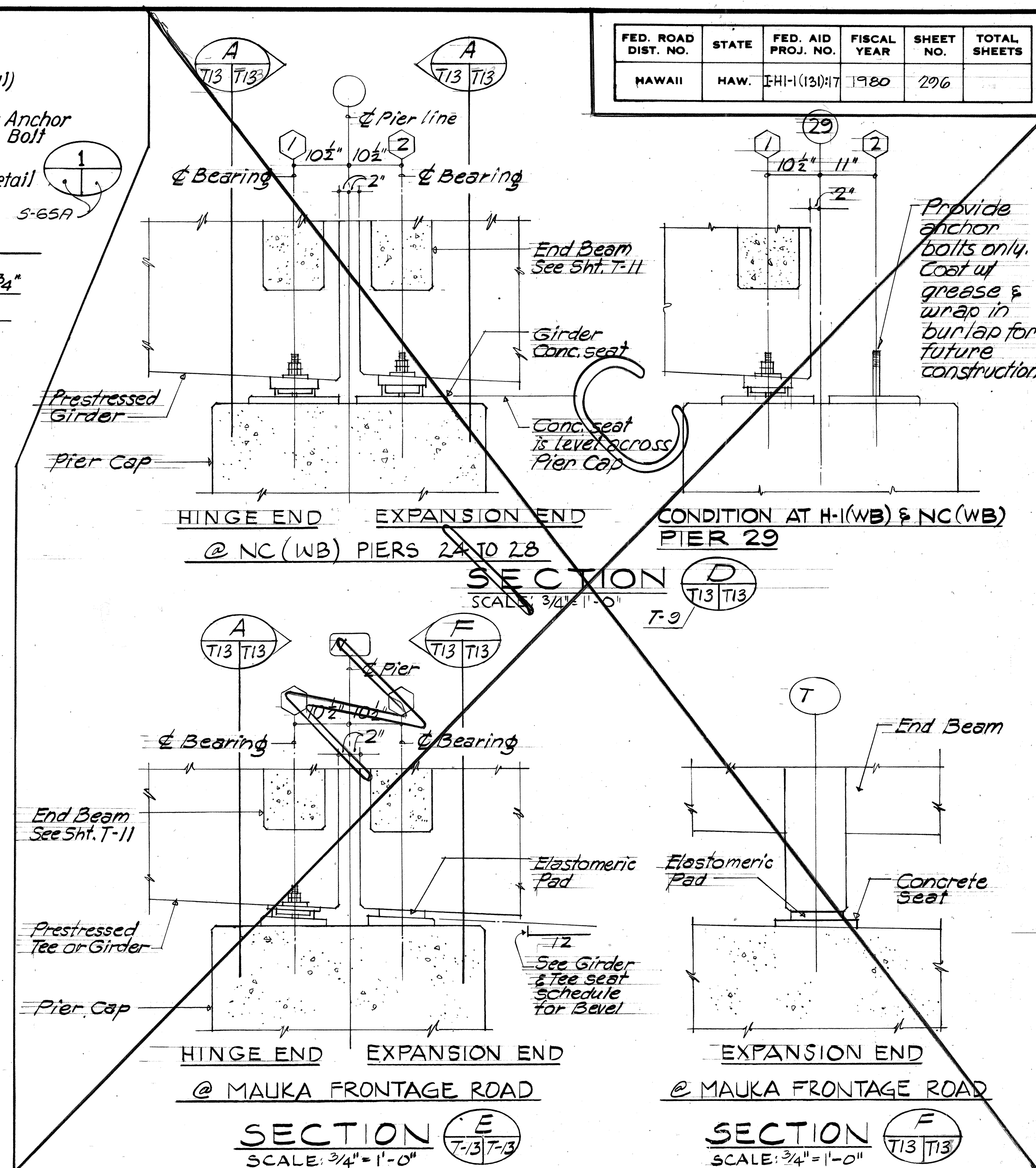
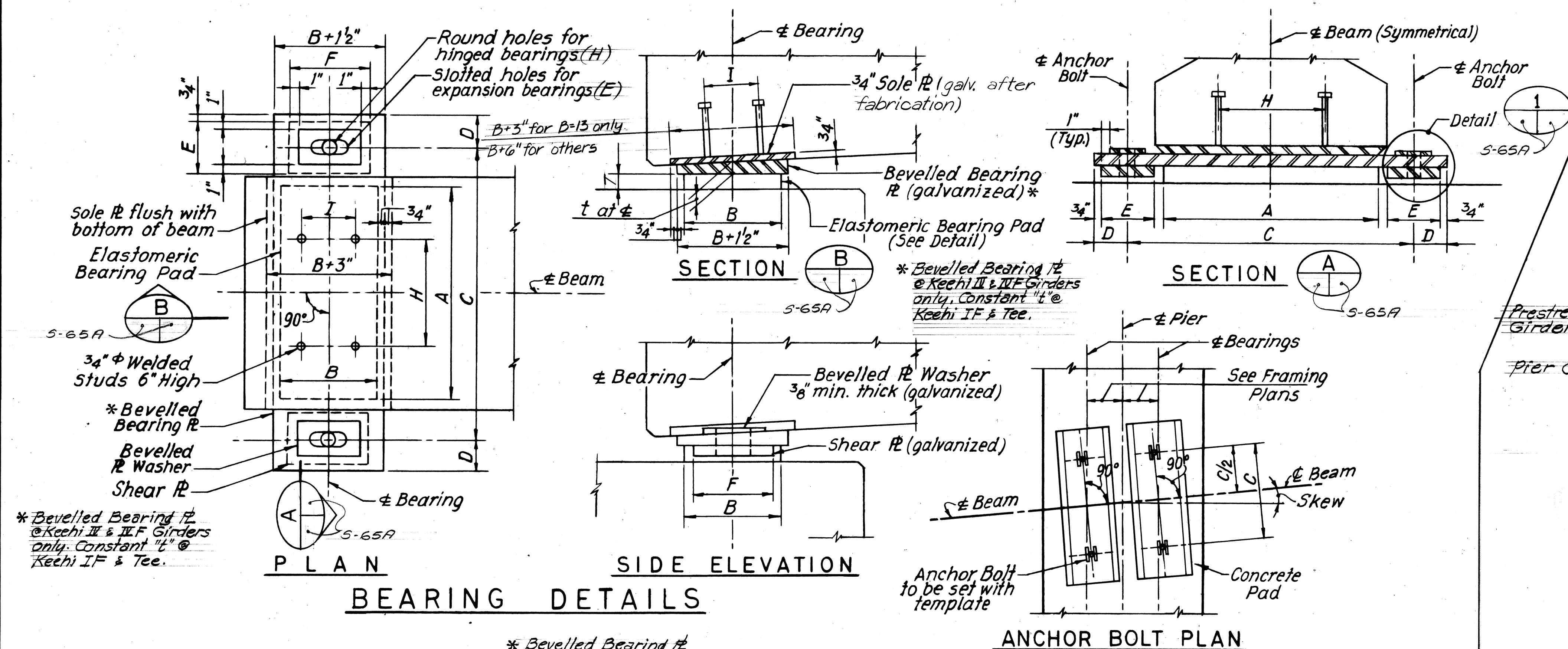


STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
KEEHI INTERCHANGE RAMP D & G

BEARING DETAILS

KEEHI INTERCHANGE
 F.A.I. PROJ. NO. I-HI-1 (131);17
 SCALE: AS SHOWN DATE: 8/31/77
 SHEET No. 65 OF 94 SHEETS

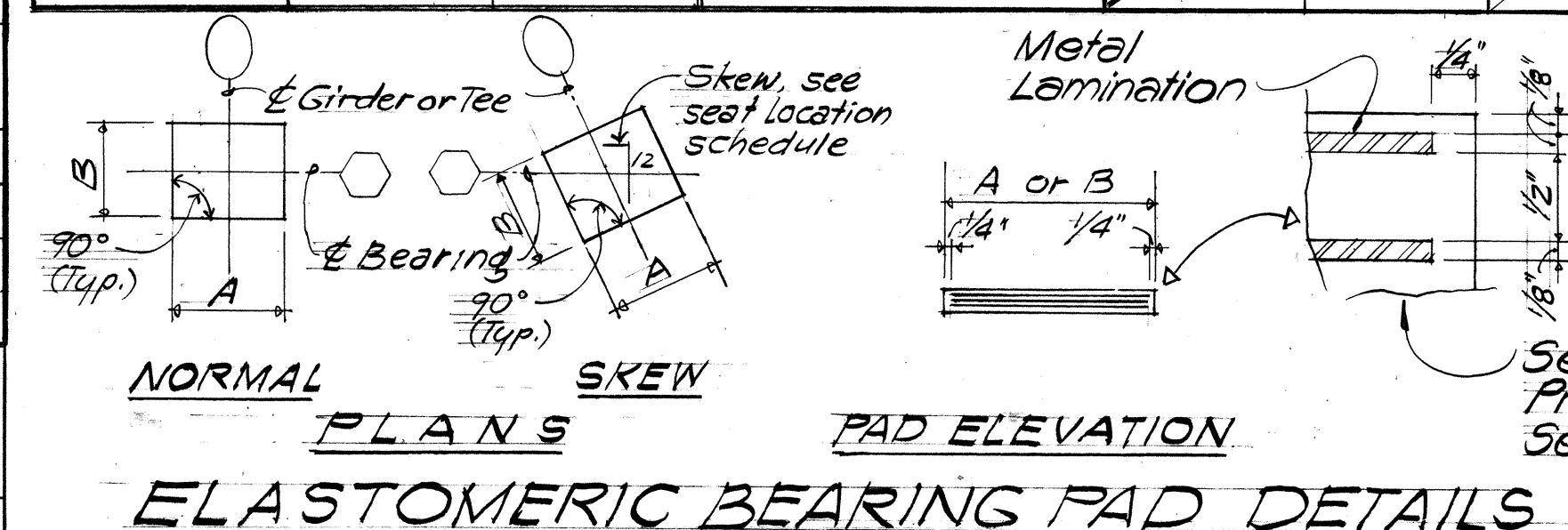
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	FH-1(13):17	1980	296	



** See Sht. # S-11E for Bearing & Bevel at Bearing Type 1H, 1E, 2H, & 2E

[illegible]

BEARING TYPE SCHEDULE						
	H-1 (WB) (HO)		N35 HINGE		N79 E- (N/O) H (N78)	
GIRDER	G1 & G2 1H1 & 1H12	T1 - T7 1H2 - 1H11	G1 & G2	T1 - T7	G1 & G2	T1 - T2 (2) <i>Per Sht.</i>
HINGE END (H)	1 H	2 H	3 H	4 H	5 H	6 H 4 H
EXPANSION END (E)	1 E	2 E	See Sht. S-65		3 E	6 E



FIBER GLASS LAMINATED PADS

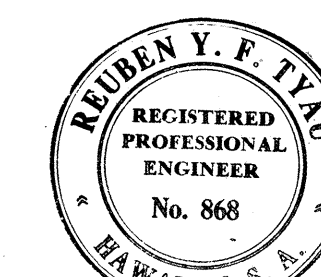
All bearing seat elevations (Denoted also as bush hammer or pad elevations) are based on steel laminated elastomeric bearing pads. If the contractor elects to use fiber glass laminated elastomeric pads, instead of steel laminated elastomeric pads, he shall comply with the following requirements.

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.

c. Cost of bearing pads incidental to concrete.

KEEHI INTERCHANGE AREA I & II CONSULTANTS
c/o Shimazu, Shimabukuro & 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

KEEHI INTERCHANGE RAMP D & G

BEARING DETAILS

KEEHI INTERCHANGE

SCALE: AS SHOWN DATE: 2/29/80

SHEET No. 3-65A OF 3-94 SHEETS

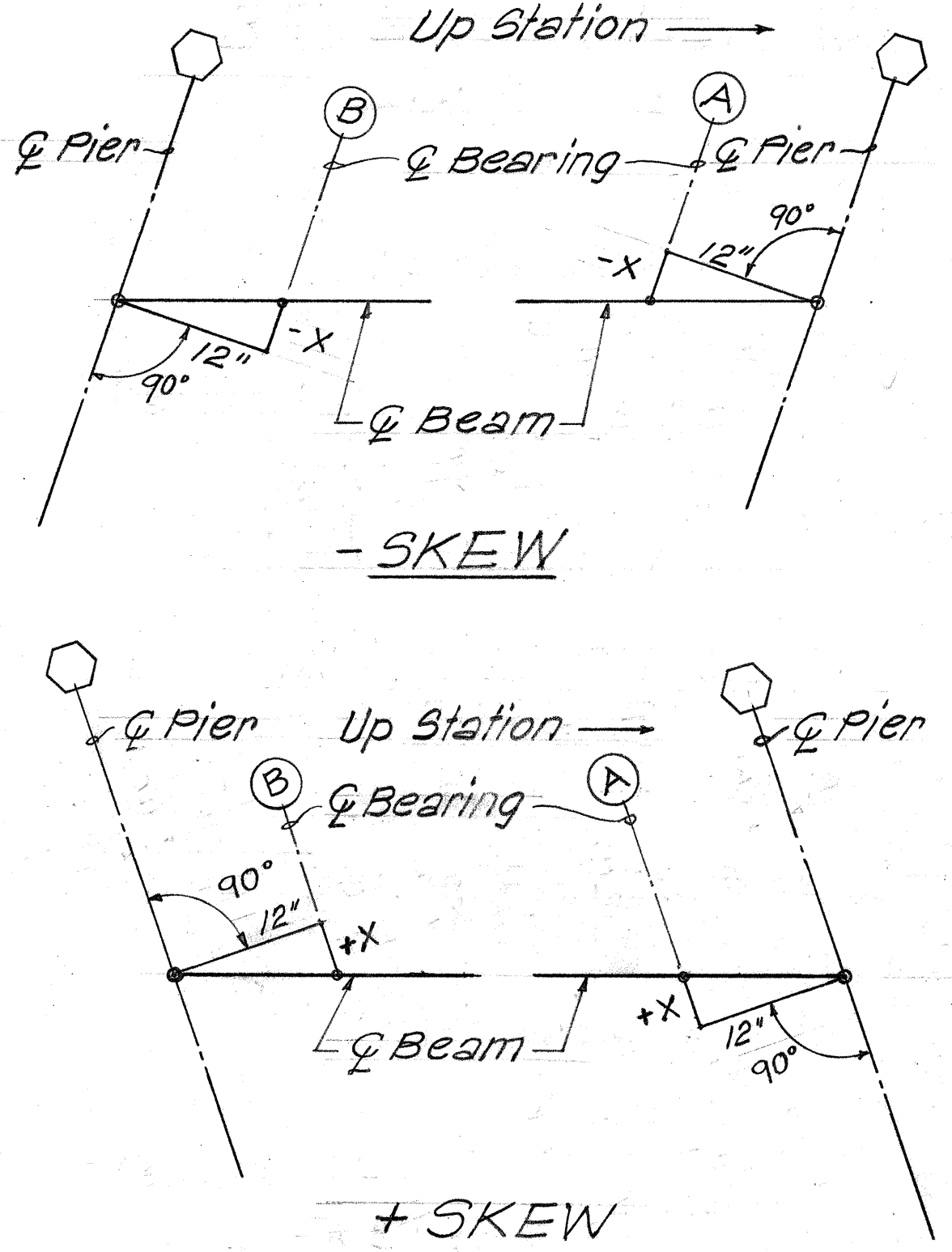
C.O. 296 S-1

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

PRESTRESSED CONCRETE BEAM SCHEDULE

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-H-1(131)-17	1977	297	394

SPAN NO. 1G										SPAN NO. 4G											
BEAM MARK	CALC. CAMBER SEE NOTE 4 SHT. NO. 3-63	DEAD LOAD DEFLECTION SEE NOTE 5 SHT. NO. 3-63	SKEW ± X @ PIER (SEE DET. 1/3-66)		CONCRETE SEAT (SEE DET. 2/3-65)		BEARING PLATE EACH END OF BEAM (SEE DET. 1/3-66)			REMARKS	BEAM MARK	CALC. CAMBER SEE NOTE 4 SHT. NO. 3-63	DEAD LOAD DEFLECTION SEE NOTE 5 SHT. NO. 3-63	SKEW ± X @ PIER (SEE DET. 1/3-66)		CONCRETE SEAT (SEE DET. 2/3-65)		BEARING PLATE EACH END OF BEAM (SEE DET. 1/3-66)			REMARKS
			LEFT END	RIGHT END	B	A	t ₁	t ₂	TYPE (SHT. 3-67)					LEFT END	RIGHT END	B	A	t ₁	t ₂	TYPE (SHT. 3-67)	
1G-1	-0.98"	0.89"	-5/16"	+1/8"	6.90	7.19	3/32"	1/32"	A		4G-1	-0.98"	0.89"	0	0	7.89	8.48	15/16"	1 1/16"	C	
1G-2	-1.02"	0.87"	-5/16"	+1/8"	6.96	7.21	1"	1"	B		4G-2	-1.02"	0.87"	0	0	7.91	8.50	D ₀	D ₀	C	
1G-3	-1.02"	0.88"	-5/16"	+1/8"	7.03	7.28	3/32"	1/32"	A		4G-3	-1.02"	0.87"	0	0	7.98	8.57	D ₀	D ₀	C	
1G-4	-1.02"	0.89"	-5/16"	+1/8"	7.12	7.35	D ₀	D ₀	A		4G-4	-1.02"	0.87"	0	0	8.05	8.64	D ₀	D ₀	C	
1G-5	-1.00"	0.44"	-5/16"	+1/8"	7.20	7.42	D ₀	D ₀	A		4G-5	-0.99"	0.43"	0	0	8.12	8.71	D ₀	D ₀	C	
1G-6	-1.00"	0.44"	-3/16"	+3/16"	7.28	7.49	1"	1"	B		4G-6	-0.99"	0.44"	+1/8"	+1/8"	8.18	8.78	D ₀	D ₀	C	
1G-7	-1.01"	0.44"	-1/8"	+5/16"	7.32	7.56	3/32"	1/32"	A		4G-7	-0.99"	0.44"	+3/16"	+3/16"	8.23	8.81	D ₀	D ₀	C	
1G-8	-1.01"	0.52"	-1/8"	+7/16"	7.38	7.63	D ₀	D ₀	A		4G-8	-0.99"	0.44"	+3/16"	+5/16"	8.28	8.81	D ₀	D ₀	C	
1G-9	-1.01"	0.58"	-1/8"	+3/8"	7.46	7.72	D ₀	D ₀	A		4G-9	-0.99"	0.50"	+3/8"	+3/8"	8.33	8.82	D ₀	D ₀	C	
1G-10	-1.04"	0.55"	-1/8"	+3/8"	7.52	7.79	D ₀	D ₀	A		4G-10	-0.99"	0.54"	+3/8"	+3/8"	8.39	8.83	D ₀	D ₀	C	
1G-11	-1.05"	0.56"	-1/8"	+3/8"	7.60	7.88	D ₀	D ₀	A		4G-11	-0.99"	0.54"	+3/8"	+3/8"	8.45	8.84	3/32"	1/32"	A	
1G-12	-1.05"	0.57"	-1/8"	+3/8"	7.69	7.98	D ₀	D ₀	A		4G-12	-0.99"	0.54"	+3/8"	+3/8"	8.50	8.85	D ₀	D ₀	A	
1G-13	-1.00"	0.63"	-1/8"	+3/8"	7.76	8.06	D ₀	D ₀	A		4G-13	-0.99"	0.54"	+3/8"	+3/8"	8.54	8.86	D ₀	D ₀	A	
											4G-14	-0.82"	0.54"	+3/8"	+3/8"	8.65	8.90	D ₀	D ₀	A	
SPAN NO. 2G										SPAN NO. 5G											
2G-1	-0.98"	0.89"	0	0	7.19	7.45	3/32"	1/32"	A		5G-1	-0.98"	0.89"	0	0	8.50	9.13	15/16"	1 1/16"	C	
2G-2	-1.02"	0.87"	0	0	7.22	7.48	D ₀	D ₀	A		5G-2	-1.02"	0.87"	0	0	8.52	9.15	D ₀	D ₀	C	
2G-3	-1.02"	0.87"	0	0	7.29	7.55	D ₀	D ₀	A		5G-3	-1.02"	0.87"	0	0	8.59	9.22	D ₀	D ₀	C	
2G-4	-1.02"	0.87"	0	0	7.36	7.61	D ₀	D ₀	A		5G-4	-1.02"	0.87"	0	0	8.66	9.29	D ₀	D ₀	C	
2G-5	-0.99"	0.45"	0	0	7.43	7.68	D ₀	D ₀	A		5G-5	-0.99"	0.45"	0	0	8.73	9.36	D ₀	D ₀	C	
2G-6	-0.99"	0.47"	+1/8"	+1/8"	7.50	7.76	D ₀	D ₀	A		5G-6	-0.99"	0.50"	+1/8"	+1/8"	8.80	9.43	D ₀	D ₀	C	
2G-7	-0.99"	0.47"	+1/4"	+1/4"	7.57	7.84	D ₀	D ₀	A		5G-7	-0.99"	0.50"	+3/16"	+3/16"	8.83	9.43	D ₀	D ₀	C	
2G-8	-0.99"	0.51"	+3/8"	+3/16"	7.64	7.92	D ₀	D ₀	A		5G-8	-0.99"	0.50"	+3/16"	+5/16"	8.83	9.38	D ₀	D ₀	C	
2G-9	-0.99"	0.54"	+3/8"	+3/16"	7.73	8.01	D ₀	D ₀	A		5G-9	-0.99"	0.52"	+3/8"	+3/8"	8.84	9.38	D ₀	D ₀	C	
2G-10	-0.99"	0.54"	+3/8"	+3/16"	7.81	8.09	D ₀	D ₀	A		5G-10	-0.99"	0.54"	+3/8"	+3/8"	8.84	9.28	D ₀	D ₀	C	
2G-11	-0.99"	0.54"	+3/8"	+3/16"	7.90	8.18	D ₀	D ₀	A		5G-11	-0.99"	0.54"	+3/8"	+3/8"	8.85	9.24	3/32"	1/32"	A	
2G-12	-0.99"	0.54"	+3/8"	+3/16"	7.98	8.26	D ₀	D ₀	A		5G-12	-0.99"	0.54"	+3/8"	+3/8"	8.86	9.19	D ₀	D ₀	A	
2G-13	-0.82"	0.54"	+3/8"	+3/16"	8.10	8.38	D ₀	D ₀	A		5G-13	-0.99"	0.54"	+3/8"	+3/8"	8.87	9.14	D ₀	D ₀	A	
											5G-14	-0.82"	0.54"	+3/8"	+3/8"	8.91	9.15	D ₀	D ₀	A	
SPAN NO. 3G										SPAN NO. 6G											
3G-1	-0.98"	0.89"	0	0	7.47	7.87	3/32"	1/32"	A		6G-1	-0.96"	0.82"	0	0	9.16	9.84	15/16"	1 1/16"	C	
3G-2	-1.02"	0.87"	0	0	7.49	7.89	D ₀	D ₀	A		6G-2	-1.00"	0.79"	0	0	9.18	9.84	D ₀	D ₀	C	
3G-3	-1.02"	0.87"	0	0	7.56	7.96	D ₀	D ₀	A		6G-3	-1.00"	0.79"	0	0	9.25	9.90	D ₀	D ₀	C	
3G-4	-1.02"	0.87"	0	0	7.62	8.04	D ₀	D ₀	A		6G-4	-1.00"	0.79"	0	0	9.32	9.94	D ₀	D ₀	C	
3G-5	-0.99"	0.47"	0	0	7.69	8.10	D ₀	D ₀	A		6G-5	-0.97"	0.44"	0	0	9.38	9.99	D ₀	D ₀	C	
3G-6	-0.99"	0.54"	+1/8"	+1/8"	7.77	8.17	D ₀	D ₀	A		6G-6	-0.97"	0.51"	+1/8"	+1/8"	9.46	10.03	D ₀	D ₀	C	
3G-7	-0.99"	0.54"	+1/4"	+1/4"	7.85	8.24	D ₀	D ₀	A		6G-7	-0.97"	0.51"	+3/16"	+3/16"	9.45	10.00	D ₀	D ₀	C	
3G-8	-0.99"	0.54"	+3/16"	+3/8"	7.93	8.31	D ₀	D ₀	A		6G-8	-0.97"	0.51"	+5/16"	+5/16"	9.40	9.89	D ₀	D ₀	C	
3G-9	-0.99"	0.54"	+3/16"	+3/8"	8.02	8.37	D ₀	D ₀	A		6G-9	-0.97"	0.50"	+3/8"	+3/8"	9.35	9.78	D ₀	D ₀	C	
3G-10	-0.99"	0.54"	+3/16"	+3/8"	8.10	8.43	D ₀	D ₀	A		6G-10	-0.97"	0.50"	+3/8"	+3/8"	9.30	9.67	3/32"	1/32"	A	
3G-11	-0.99"	0.54"	+3/16"	+3/8"	8.19	8.49	D ₀	D ₀	A		6G-11	-0.97"	0.50"	+3/8"	+3/8"	9.26	9.57	D ₀	D ₀	A	
3G-12	-0.99"	0.54"	+3/16"	+3/8"	8.27	8.55	D ₀	D ₀	A		6G-12	-0.97"	0.50"	+3/8"	+3/8"	9.21	9.46	D ₀	D ₀	A	
3G-13	-0.82"	0.54"	+3/16"	+3/8"	8.39	8.64	D ₀	D ₀	A		6G-13	-0.97"	0.50"	+3/8"	+3/8"	9.16	9.36	1"	1"	B	
											6G-14	-0.81	0.50"	+3/8"	+3/8"	9.16	9.33	D ₀	D ₀	B	



1 BEAM LAYOUT DIAGRAM
3-66 3-66 Scale N.T.S.

PETER HSL ASSOCIATES, INC. ARCHITECTS/ENGINEERS
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
KEEHI INTERCHANGE RAMP D&G
PRESTR. CONCRETE BEAM
LAYOUT, CAMBER AND
CONC. SEAT SCHEDULE
INTERSTATE ROUTE H-1
F.A.I. PROJ. NO. 1-H-1(131)-17
Scale: Date: Aug. 31, 1977
SHEET NO. 3-66 OF 3-94 SHEETS

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

PRESTRESSED CONCRETE BEAM SCHEDULE

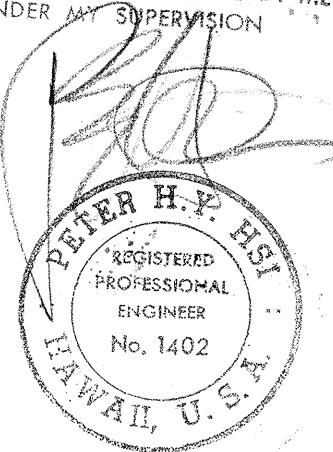
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	H-1(131):17	1977	298	394

SPAN NO. 7G										SPAN NO. 10G											
BEAM MARK	CALC. CAMBER SEE NOTE 4 SHT. NO. 3-63	DEAD LOAD DEFLECTION SEE NOTE 5 SHT. NO. 3-63	SKEW ± X @ PIER (SEE DET. 1/3-66)		CONCRETE SEAT (SEE DET. 2/3-65)		BEARING PLATE EA. END OF BEAM			REMARKS	BEAM MARK	CALC. CAMBER SEE NOTE 4 SHT. NO. 3-63	DEAD LOAD DEFLECTION SEE NOTE 5 SHT. NO. 3-63	SKEW ± X @ PIER (SEE DET. 1/3-66)		CONCRETE SEAT (SEE DET. 2/3-65)		BEARING PLATE EA. END OF BEAM			REMARKS
			LEFT END	RIGHT END	B	A	t ₁	t ₂	TYPE (Sht. 3-67)					B	A	t ₁	t ₂	TYPE (Sht. 3-67)			
7G-1	-0.96"	0.82"	0	0	9.87	10.58	15/16"	1 1/16"	C		10G-1	-0.96"	0.82"	+ 3/16"	- 3/16"	12.01	12.57	15/16"	1 1/16"	C	
7G-2	-1.00"	0.79"	0	0	9.87	10.57	D ₀	D ₀	C		10G-2	-1.00"	0.79"	+ 3/16"	- 3/16"	11.88	12.41	D ₀	D ₀	C	
7G-3	-1.00"	0.79"	0	0	9.92	10.57	D ₀	D ₀	C		10G-3	-1.00"	0.79"	+ 3/16"	- 3/16"	11.75	12.24	D ₀	D ₀	C	
7G-4	-1.00"	0.79"	0	0	9.96	10.57	D ₀	D ₀	C		10G-4	-1.00"	0.78"	+ 3/16"	- 3/16"	11.62	12.08	D ₀	D ₀	C	
7G-5	-0.97"	0.41"	0	0	10.01	10.58	D ₀	D ₀	C		10G-5	-0.96"	0.43"	+ 3/16"	- 3/16"	11.49	11.91	D ₀	D ₀	C	
7G-6	-0.97"	0.43"	+ 1/16"	+ 1/16"	10.06	10.56	D ₀	D ₀	C		10G-6	-0.96"	0.49"	+ 1/4"	- 1/16"	11.39	11.78	3/32"	1 1/32"	A	
7G-7	-0.97"	0.43"	+ 3/16"	+ 3/16"	10.05	10.51	D ₀	D ₀	C		10G-7	-0.95"	0.48"	+ 3/8"	+ 1/16"	11.37	11.68	D ₀	D ₀	A	
7G-8	-0.97"	0.43"	+ 1/4"	+ 1/4"	9.98	10.43	D ₀	D ₀	C		10G-8	-0.95"	0.48"	+ 1/2"	+ 1/8"	11.27	11.51	D ₀	D ₀	A	
7G-9	-0.97"	0.43"	+ 5/16"	+ 5/16"	9.90	10.29	3/32"	1 1/32"	A		10G-9	-0.94"	0.47"	+ 5/8"	+ 1/4"	11.01	11.18	1"	1"	B	
7G-10	-0.97"	0.47"	+ 3/8"	+ 3/8"	9.79	10.14	D ₀	D ₀	A		10G-10	-0.94"	0.47"	+ 1 1/16"	+ 3/8"	10.74	10.85	D ₀	D ₀	B	
7G-11	-0.97"	0.50"	+ 3/8"	+ 3/8"	9.68	9.98	D ₀	D ₀	A		10G-11	-0.94"	0.47"	+ 1 3/16"	+ 1/2"	10.49	10.51	D ₀	D ₀	B	
7G-12	-0.97"	0.50"	+ 3/8"	+ 3/8"	9.58	9.81	D ₀	D ₀	A		10G-12	-0.94"	0.46"	+ 1 3/16"	+ 1/2"	10.21	10.18	D ₀	D ₀	B	
7G-13	-0.97"	0.50"	+ 3/8"	+ 3/8"	9.47	9.65	1"	1"	B		10G-13	-0.93"	0.45"	+ 1 3/16"	+ 1/2"	9.93	9.86	D ₀	D ₀	B	
7G-14	-0.97"	0.50"	+ 3/8"	+ 3/8"	9.37	9.48	D ₀	D ₀	B		10G-14	-0.93"	0.44"	+ 1 3/16"	+ 1/2"	9.65	9.53	D ₀	D ₀	B	
7G-15	-0.81"	0.50"	+ 3/8"	+ 3/8"	9.34	9.42	D ₀	D ₀	B		10G-15	-0.92"	0.44"	+ 1 3/16"	+ 1/2"	9.37	9.20	D ₀	D ₀	B	
											10G-16	-0.79"	0.43"	+ 1 3/16"	+ 1/2"	9.21	9.01	D ₀	D ₀	B	
SPAN NO. 8G										SPAN NO. 11G											
8G-1	-0.96"	0.82"	0	0	10.60	11.31	15/16"	1 1/16"	C		11G-1	-0.96"	0.83"	+ 3/16"	- 3/16"	12.59	13.03	15/16"	1 1/16"	C	
8G-2	-1.00"	0.79"	0	0	10.59	11.24	D ₀	D ₀	C		11G-2	-1.00"	0.79"	+ 3/16"	- 3/16"	12.43	12.86	D ₀	D ₀	C	
8G-3	-1.00"	0.79"	0	0	10.59	11.18	D ₀	D ₀	C		11G-3	-1.00"	0.79"	+ 3/16"	- 3/16"	12.26	12.70	D ₀	D ₀	C	
8G-4	-1.00"	0.79"	0	0	10.59	11.12	D ₀	D ₀	C		11G-4	-1.00"	0.78"	+ 3/16"	- 3/16"	12.09	12.53	D ₀	D ₀	C	
8G-5	-0.97"	0.43"	0	0	10.60	11.06	D ₀	D ₀	C		11G-5	-0.96"	0.46"	+ 3/16"	- 3/16"	11.93	12.36	D ₀	D ₀	C	
8G-6	-0.97"	0.48"	+ 1/8"	+ 1/8"	10.58	11.02	D ₀	D ₀	C		11G-6	-0.95"	0.54"	+ 3/8"	0	11.80	12.23	D ₀	D ₀	C	
8G-7	-0.97"	0.48"	+ 1/4"	+ 1/4"	10.54	11.00	D ₀	D ₀	C		11G-7	-0.95"	0.54"	+ 9/16"	+ 3/16"	11.70	12.01	3/32"	1 1/32"	A	
8G-8	-0.97"	0.48"	+ 3/8"	+ 3/8"	10.45	10.81	3/32"	1 1/32"	A		11G-8	-0.94"	0.52"	+ 3/4"	- 1 1/16"	11.52	11.80	D ₀	D ₀	A	
8G-9	-0.97"	0.48"	+ 1/2"	+ 1/2"	10.30	10.59	D ₀	D ₀	A		11G-9	-0.92"	0.48"	+ 1 5/16"	- 7/8"	11.19	11.38	1"	1"	B	
8G-10	-0.97"	0.49"	+ 5/8"	+ 5/8"	10.15	10.36	D ₀	D ₀	A		11G-10	-0.89"	0.46"	+ 1"	- 1/16"	10.86	10.97	D ₀	D ₀	B	
8G-11	-0.97"	0.50"	+ 5/8"	+ 5/8"	9.99	10.15	1"	1"	B		11G-11	-0.87"	0.39"	+ 1 5/16"	- 1/2"	10.52	10.53	D ₀	D ₀	B	
8G-12	-0.97"	0.50"	+ 5/8"	+ 5/8"	9.83	9.93	D ₀	D ₀	B		11G-12	-0.85"	0.34"	+ 1 5/16"	- 1/2"	10.20	10.14	D ₀	D ₀	B	
8G-13	-0.97"	0.50"	+ 5/8"	+ 5/8"	9.65	9.71	D ₀	D ₀	B		11G-13	-0.84"	0.33"	+ 1 5/16"	- 7/16"	9.87	9.78	D ₀	D ₀	B	
8G-14	-0.97"	0.50"	+ 5/8"	+ 5/8"	9.49	9.49	D ₀	D ₀	B		11G-14	-0.82"	0.31"	+ 1 5/16"	- 7/16"	9.54	9.39	D ₀	D ₀	B	
8G-15	-0.81"	0.50"	+ 5/8"	+ 5/8"	9.42	9.38	D ₀	D ₀	B		11G-15	-0.80"	0.29"	+ 1 5/16"	- 7/16"	9.21	9.02	1 1/32"	3/32"	A	
											11G-16	-0.69"	0.27"	+ 1 5/16"	- 7/16"	9.01	8.78	D ₀	D ₀	A	
SPAN NO. 9G										SPAN NO. 12G											
9G-1	-0.96"	0.82"	0	- 1/16"	11.34	11.98	15/16"	1 1/16"	C		12G-1	-0.96"	0.83"	+ 3/16"	- 3/16"	13.05	13.44	3/32"	1 1/32"	A	
9G-2	-1.00"	0.79"	0	- 1/16"	11.27	11.86	D ₀	D ₀	C		12G-2	-1.00"	0.79"	+ 3/16"	- 3/16"	12.88	13.28	D ₀	D ₀	A	
9G-3	-1.00"	0.79"	0	- 1/16"	11.20	11.73	D ₀	D ₀	C		12G-3	-1.00"	0.79"	+ 3/16"	- 3/16"	12.71	13.11	D ₀	D ₀	A	
9G-4	-1.00"	0.79"	0	- 1/16"	11.13	11.60	D ₀	D ₀	C		12G-4	-1.00"	0.78"	+ 3/16"	- 3/16"	12.54	12.94	D ₀	D ₀	A	
9G-5	-0.97"	0.46"	0	- 1/16"	11.08	11.48	3/32"	1 1/32"	A		12G-5	-0.96"	0.45"	+ 3/16"	- 3/16"	12.38	12.77	D ₀	D ₀	A	
9G-6	-0.97"	0.53"	+ 1/8"	+ 1/16"	11.03	11.40	D ₀	D ₀	A		12G-6	-0.81"	0.49"	+ 3/16"	- 3/16"	12.26	12.66	D ₀	D ₀	A	
9G-7	-0.96"	0.52"	+ 5/16"	+ 1/4"	11.01	11.33	D ₀	D ₀	A												
9G-8	-0.96"	0.52"	+ 7/16"	+ 3/8"	10.82	11.10	D ₀	D ₀	A												
9G-9	-0.96"	0.52"	+ 5/16"	+ 1/2"	10.60	10.78	1"	1"	B												
9G-10	-0.96"	0.50"	+ 3/4"	+ 1 1/16"	10.37	10.48	D ₀	D ₀	B												
9G-11	-0.96"	0.49"	+ 3/4"	+ 1 1/16"	10.15	10.20	D ₀	D ₀	B												
9G-12	-0.96"	0.48"	+ 3/4"	+ 1 1/16"	9.93	9.92	D ₀	D ₀	B												
9G-13	-0.96"	0.48"	+ 3/4"	+ 1 1/16"	9.71	9.64	D ₀	D ₀	B												
9G-14	-0.96"	0.48"	+ 3/4"	+ 1 1/16"	9.49	9.37	D ₀	D ₀	B												
9G-15	-0.81"	0.48"	+ 3/4"	+ 1 1/16"	9.37	9.21	D ₀	D ₀	B												

BEVELLED BEARING PLATE TABLE			
TYPE	THICKNESS		
	t ₁	t	t ₂
A	3/32"	1"	1 1/32"
B	1"	1"	1"
C	1 5/16"	1"	1 1/16"

PETER HSI ASSOCIATES, INC. ARCHITECTS/ENGINEERS

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

KEEHI INTERCHANGE RAMP & G
PRESTR. CONCRETE BEAM
LAYOUT, CAMBER AND
CONC. SEAT SCHEDULE
INTERSTATE ROUTE H-1
F.A.I. PROJ. NO. I-H-1(131):17
Scale: Date: Aug. 3, 1977

SHEET NO. 5-67 OF 5-94 SHEETS

PRESTRESSED CONCRETE BEAM SCHEDULE

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-H1-1(13)-17	1977	299	394

SPAN NO. 13G

BEAM MARK	CALC.	DEAD LOAD	SKEW ± X		CONCRETE		BEARING PLATE			REMARKS
	CAMBER	DEFLECTION	@ PIER		SEAT		EA. END OF BEAM			
	SEE NOTE 4	SEE NOTE 5	(SEE DET. 1/5-66)		(SEE DET. 2/5-65)					
	SHT. NO. 5-63	SHT. NO. 5-63	LEFT	RIGHT	Q BEARING ELEV.					
			END	END	(B)	(A)	L1	L2	TYPE	
									(Sht. 5-67)	
13G-1	-0.90"	0.83"	+ 3/16"	- 3/16"	13.45	13.79	3/32"	1/32"	A	
13G-2	-1.00"	0.79"	+ 3/16"	- 3/16"	13.29	13.63	D0	D0	A	
13G-3	-1.00"	0.79"	+ 3/16"	- 3/16"	13.12	13.46	D0	D0	A	
13G-4	-1.00"	0.78"	+ 3/16"	- 3/16"	12.95	13.29	D0	D0	A	
13G-5	-0.96"	0.45"	+ 3/16"	- 3/16"	12.79	13.12	D0	D0	A	
13G-6	-0.81"	0.49"	+ 3/16"	- 3/16"	12.67	13.01	D0	D0	A	

SPAN NO. 14G

14G-1	-0.72"	0.34"	+1/8"	-1/8"	13.84	14.09	3/32"	1/32"	A	
14G-2	-0.75"	0.34"	+1/8"	-1/8"	13.62	13.87	D0	D0	A	
14G-3	-0.75"	0.34"	+1/8"	-1/8"	13.39	13.67	D0	D0	A	
14G-4	-0.74"	0.33"	+1/8"	-1/8"	13.16	13.42	D0	D0	A	
14G-5	-0.71"	0.32"	+1/8"	-1/8"	13.04	13.29	D0	D0	A	

SPAN NO. 15G

15G-1	-0.51"	0.12"	+1/8"	-1/8"	14.14	14.33	3/32"	1/32"	A	
15G-2	-0.51"	0.13"	+1/8"	-1/8"	13.92	14.11	D0	D0	A	
15G-3	-0.51"	0.13"	+1/8"	-1/8"	13.70	13.89	D0	D0	A	
15G-4	-0.51"	0.13"	+1/8"	-1/8"	13.47	13.66	D0	D0	A	
15G-5	-0.51"	0.12"	+1/8"	-1/8"	13.33	13.52	D0	D0	A	

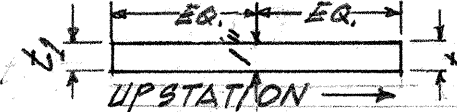
SPAN NO. 1D

1D-1	-0.77"	0.40"	-1/16"	-1"	11.77	11.84	1"	1"	B	
1D-2	-0.79"	0.38"	+1/16"	-7/8"	11.62	11.63	D0	D0	B	
1D-3	-0.78"	0.37"	+3/16"	-3/4"	11.27	11.24	D0	D0	B	
1D-4	-0.77"	0.36"	+5/16"	-9/16"	10.92	10.84	D0	D0	B	
1D-5	-0.76"	0.34"	+7/16"	-7/16"	10.55	10.42	D0	D0	B	
1D-6	-0.75"	0.32"	+1/16"	-7/16"	10.16	10.01	D0	D0	B	
1D-7	-0.74"	0.31"	+7/16"	-7/16"	9.79	9.60	1 1/32"	3/32"	A	
1D-8	-0.73"	0.29"	+7/16"	-7/16"	9.40	9.20	D0	D0	A	
1D-9	-0.73"	0.29"	+7/16"	-7/16"	9.02	8.79	D0	D0	A	
1D-10	-0.70"	0.28"	+7/16"	-7/16"	8.77	8.50	D0	D0	A	

SPAN NO. 2D

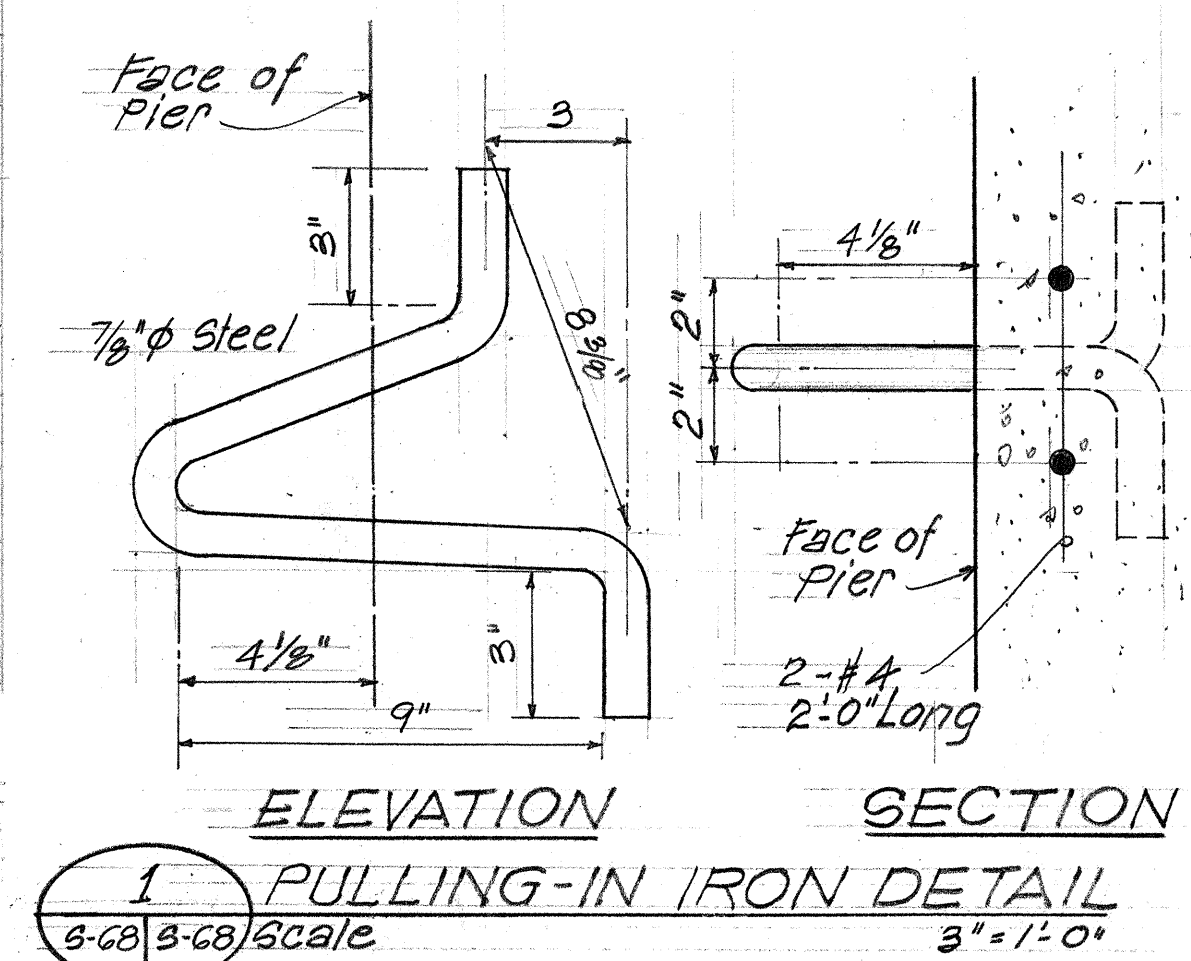
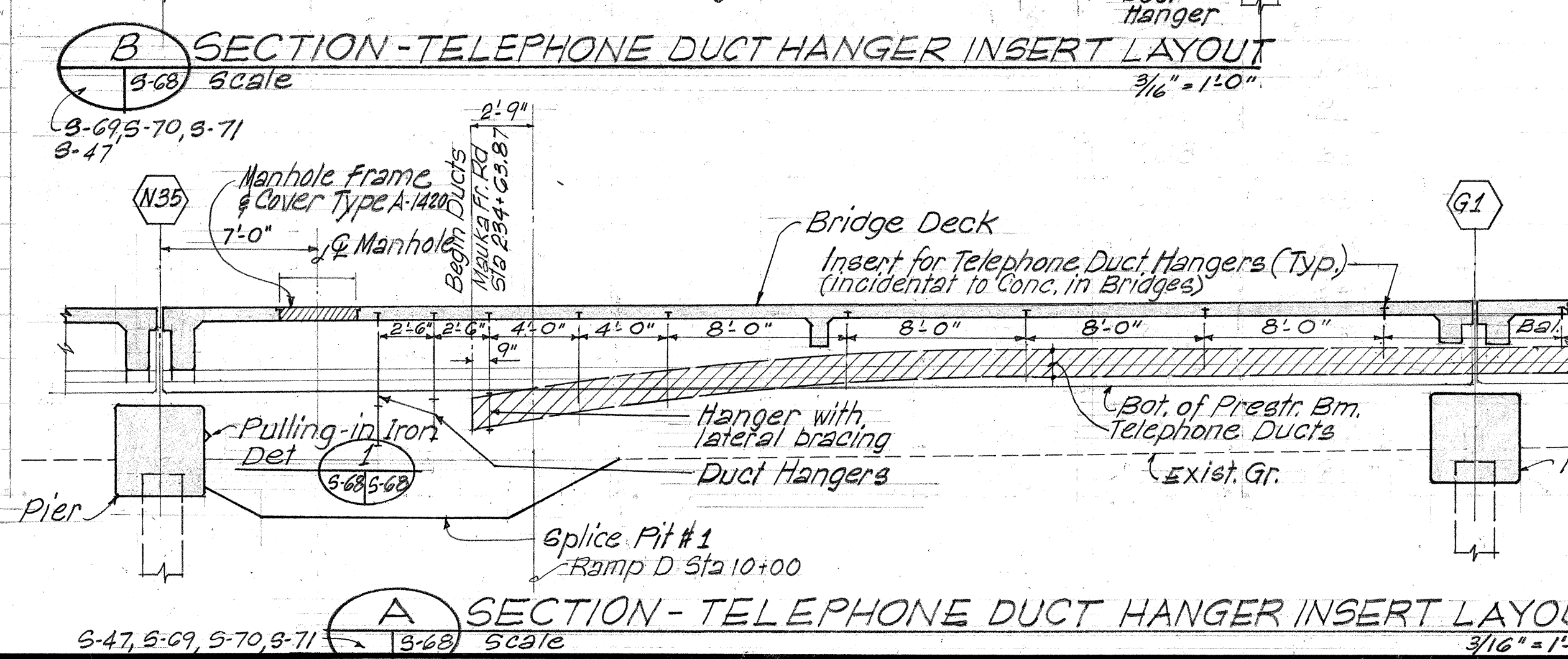
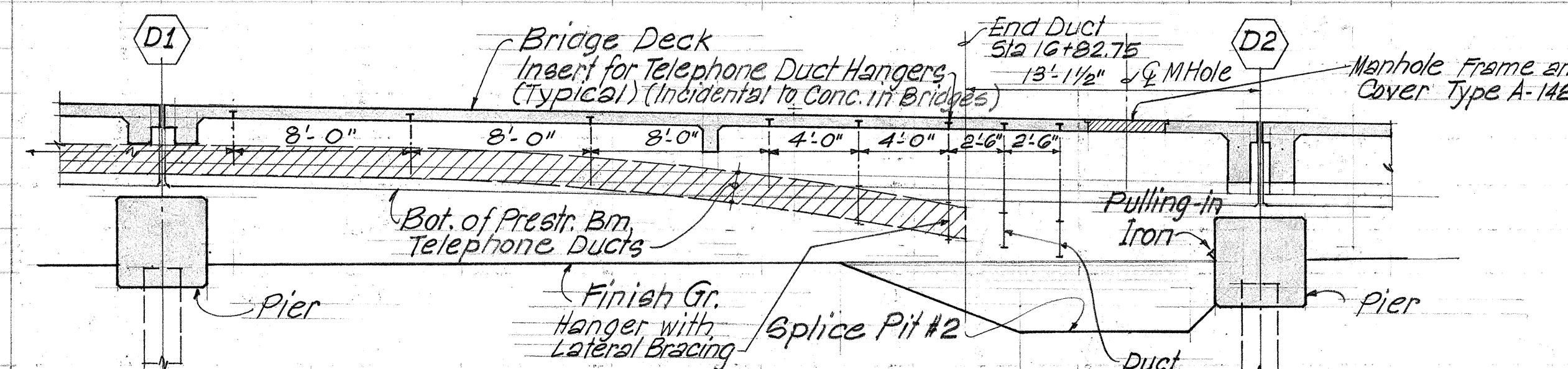
2D-1	-0.77"	0.39"	-1/4"	-1 3/16"	11.84	11.84	1"	1"	B	
2D-2	-0.80"	0.34"	-1/8"	-1 1/16"	11.71	11.67	D0	D0	B	
2D-3	-0.79"	0.33"	0	-1 5/16"	11.39	11.31	D0	D0	B	
2D-4	-0.78"	0.32"	+1/8"	-3/4"	11.07	10.94	D0	D0	B	
2D-5	-0.77"	0.32"	+5/16"	-5/16"	10.75	10.59	D0	D0	B	
2D-6	-0.76"	0.32"	+7/16"	-7/16"	10.41	10.18	1 1/32"	3/32"	A	
2D-7	-0.75"	0.32"	+7/16"	-7/16"	10.00	9.77	D0	D0	A	
2D-8	-0.75"	0.30"	+7/16"	-7/16"	9.59	9.33	D0	D0	A	
2D-9	-0.74"	0.30"	+7/16"	-7/16"	9.18	8.91	D0	D0	A	
2D-10	-0.73"	0.30"	+7/16"	-7/16"	8.78	8.50	D0	D0	A	
2D-11	-0.70"	0.29"	+7/16"	-7/16"	8.49	8.21	D0	D0	A	

SPAN NO. 3D

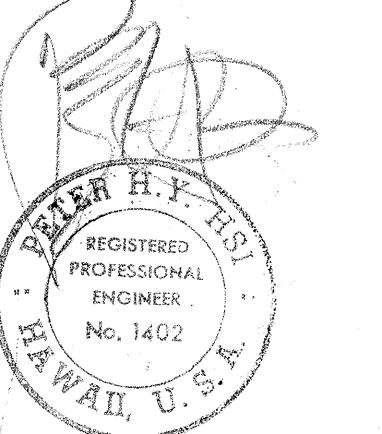
BEAM MARK	CALC.	DEAD LOAD	SKEW ± X @		CONCRETE		BEARING PLATE			REMARKS	
	CAMBER SEE NOTE 4 SHT. NO. 5-63	DEFLECTION SEE NOTE 5 SHT. NO. 5-63	@ C PIER (SEE DET. 1/5-66)		SEAT (SEE DET. 2/5-65)		EA. END OF BEAM 				TYPE (SHT. 3-67)
			LEFT END	RIGHT END	Q BEARING ELEV.		Ⓟ	Ⓟ	Ⓟ		
3D-1	-0.77"	0.41"	-1/2"	-1 3/8"	11.84	11.84	1"	1"	B		
3D-2	-0.80"	0.40"	-3/8"	-1 5/8"	11.67	11.65	D0	D0	B		
3D-3	-0.79"	0.38"	-3/8"	-1 1/4"	11.30	11.26	D0	D0	B		
3D-4	-0.78"	0.37"	-1/4"	-1 1/8"	10.93	10.86	D0	D0	B		
3D-5	-0.77"	0.36"	-1/8"	-1 1/16"	10.56	10.46	D0	D0	B		
3D-6	-0.76"	0.35"	-1/16"	-1 5/16"	10.17	10.04	D0	D0	B		
3D-7	-0.76"	0.34"	+1/16"	-7/8"	9.76	9.59	D0	D0	B		
3D-8	-0.75"	0.33"	+1/8"	-3/4"	9.32	9.14	1 1/2"	3/32"	A		
3D-9	-0.74"	0.32"	+1/4"	-5/8"	8.90	8.68	D0	D0	A		
3D-10	-0.73"	0.31"	+3/8"	-9/16"	8.48	8.24	D0	D0	A		
3D-11	-0.70"	0.28"	+7/16"	-7/16"	8.20	7.93	D0	D0	A		

SPAN NO. 4D

4D-1	-0.73"	0.43"	-1/16"	-1 9/16"	11.84	11.83	1"	1"	B	
4D-2	-0.81"	0.45"	-9/16"	-1 1/2"	11.65	11.61	D0	D0	B	
4D-3	-0.80"	0.43"	-1/8"	-1 3/8"	11.25	11.22	D0	D0	B	
4D-4	-0.79"	0.40"	-3/8"	-1 5/16"	10.85	10.82	D0	D0	B	
4D-5	-0.78"	0.39"	-1/4"	-1 3/16"	10.45	10.42	D0	D0	B	
4D-6	-0.77"	0.38"	-1/8"	-1 1/16"	10.03	10.01	D0	D0	B	
4D-7	-0.76"	0.37"	0	-1 5/16"	9.58	9.53	D0	D0	B	
4D-8	-0.75"	0.35"	+1/16"	-1 3/16"	9.14	9.04	D0	D0	B	
4D-9	-0.74"	0.34"	+3/16"	-1 1/16"	8.67	8.55	D0	D0	B	
4D-10	-0.73"	0.33"	+5/16"	-9/16"	8.23	8.06	D0	D0	B	
4D-11	-0.70"	0.29"	+7/16"	-7/16"	7.92	7.72	1 1/2"	3/32"	A	



PETER HSI ASSOCIATES, INC. ARCHITECTS/ENGINEERS
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OR UNDER MY SUPERVISION



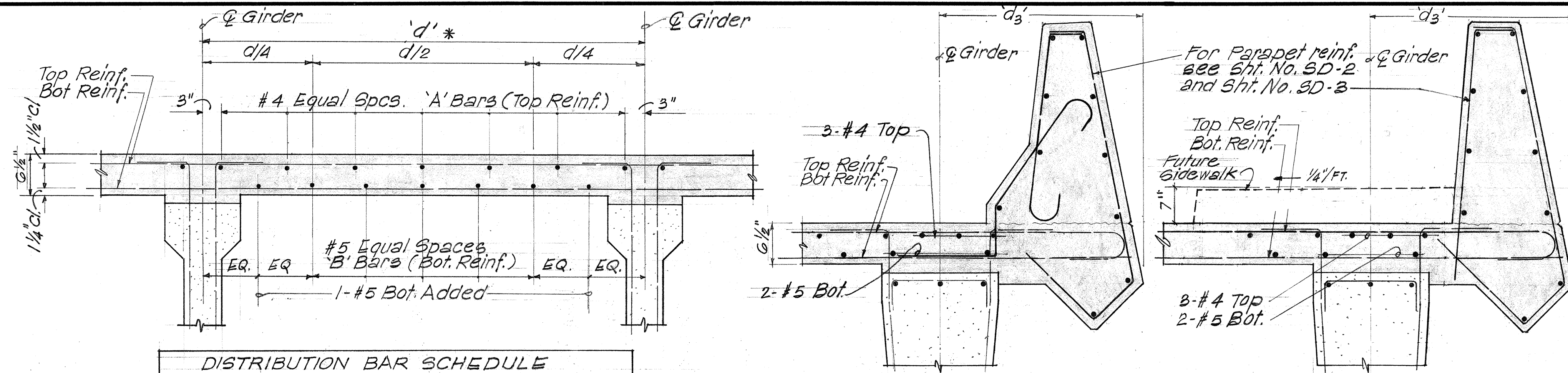
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
KEEHI INTERCHANGE RAMP D & G
PRESTR. CONCRETE BEAM
LAYOUT, CAMBER AND
CONC. SEAT SCHEDULE
INTERSTATE ROUTE H-1
F.A.I. PROJ. NO. I-H1-1(13)-17
Scale: Date: Aug. 31, 1977
SHEET NO. 5-68 OF 5-94 SHEETS

DATE: _____
SURVEY PLOTTED BY: _____
DRAWN BY: _____
CHECKED BY: _____
NOTE BOOK NO. _____

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	H-1(131):17	1977	300	394

K. Upadhyay 8-10-77
Hawaiian Telephone Co. Date

W. Kanamoto 8/10/77
Hawaiian Electric Co., Inc. Date

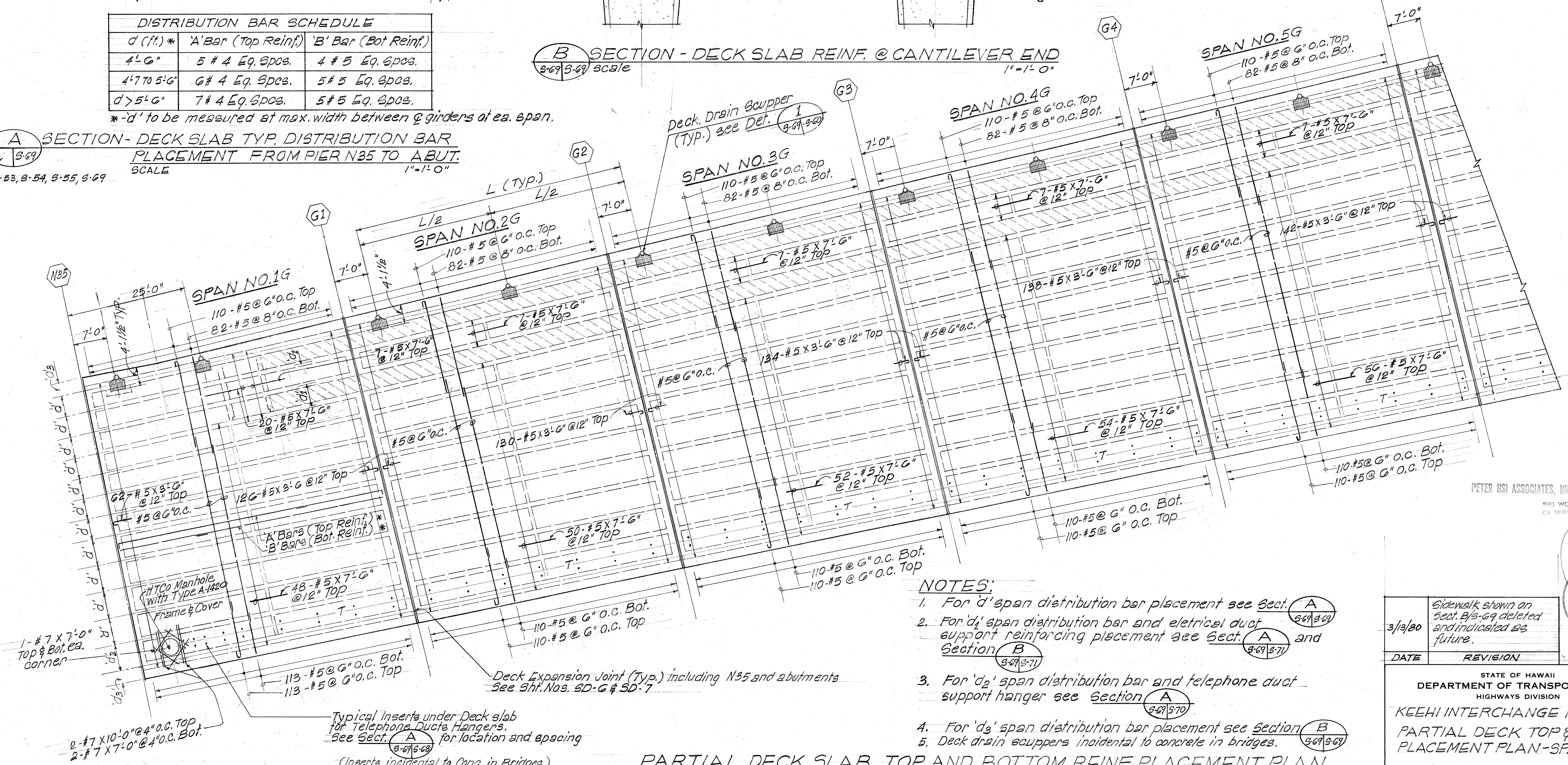


d (ft.) *	A' Bar (Top Reinf.)	B' Bar (Bot Reinf.)
4'-0"	5 # 4 Eq. Spcs.	4 # 5 Eq. Spcs.
4'-7 to 5'-0"	6 # 4 Eq. Spcs.	5 # 5 Eq. Spcs.
d > 5'-0"	7 # 4 Eq. Spcs.	5 # 5 Eq. Spcs.

* -d' to be measured at max. width between girders at ea. span.

A SECTION - DECK SLAB TYP. DISTRIBUTION BAR PLACEMENT FROM PIER N35 TO ABUT.
SCALE 1" = 1'-0"

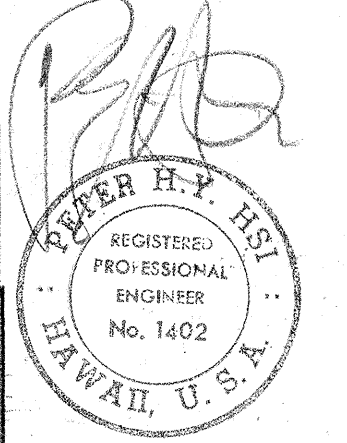
B SECTION - DECK SLAB REINF. @ CANTILEVER END
SCALE 1" = 1'-0"



- NOTES:**
- For 'd' span distribution bar placement see Sect. **A** 5-69 5-69
 - For 'd' span distribution bar and electrical duct support reinforcing placement see Sect. **A** 5-69 5-71 and Section **B** 5-69 5-71
 - For 'd' span distribution bar and telephone duct support hanger see Section **A** 5-69 5-70
 - For 'd' span distribution bar placement see Section **B** 5-69 5-69
 - Deck drain scuppers incidental to concrete in bridges.

PARTIAL DECK SLAB TOP AND BOTTOM REINF. PLACEMENT PLAN
Scale 3/32" = 1'-0"

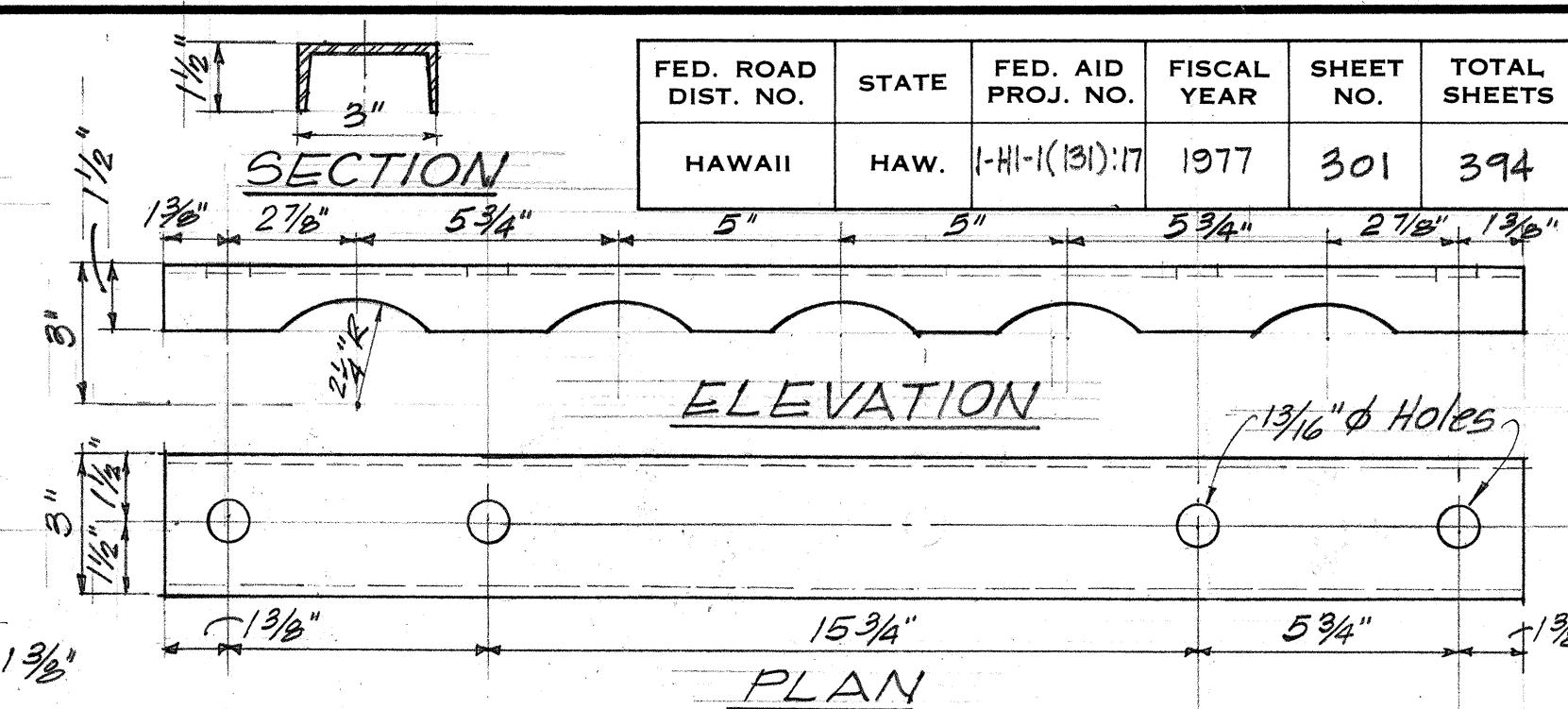
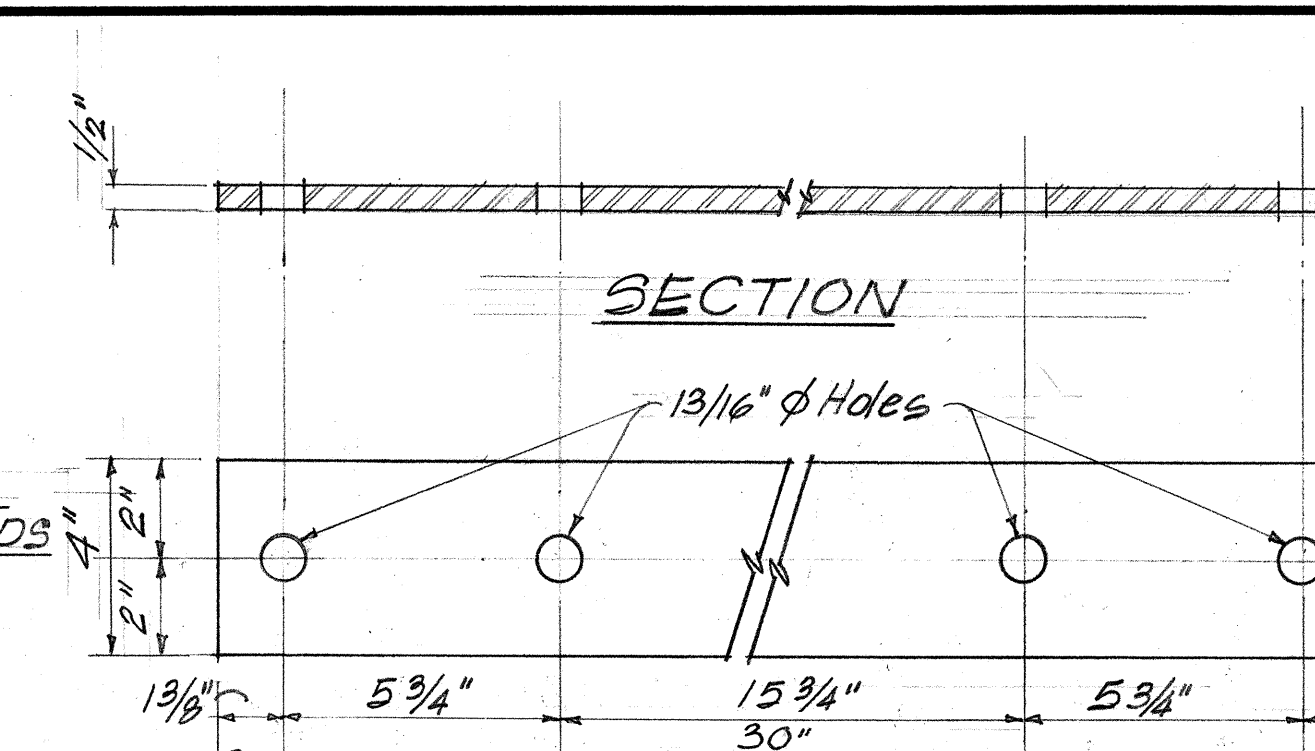
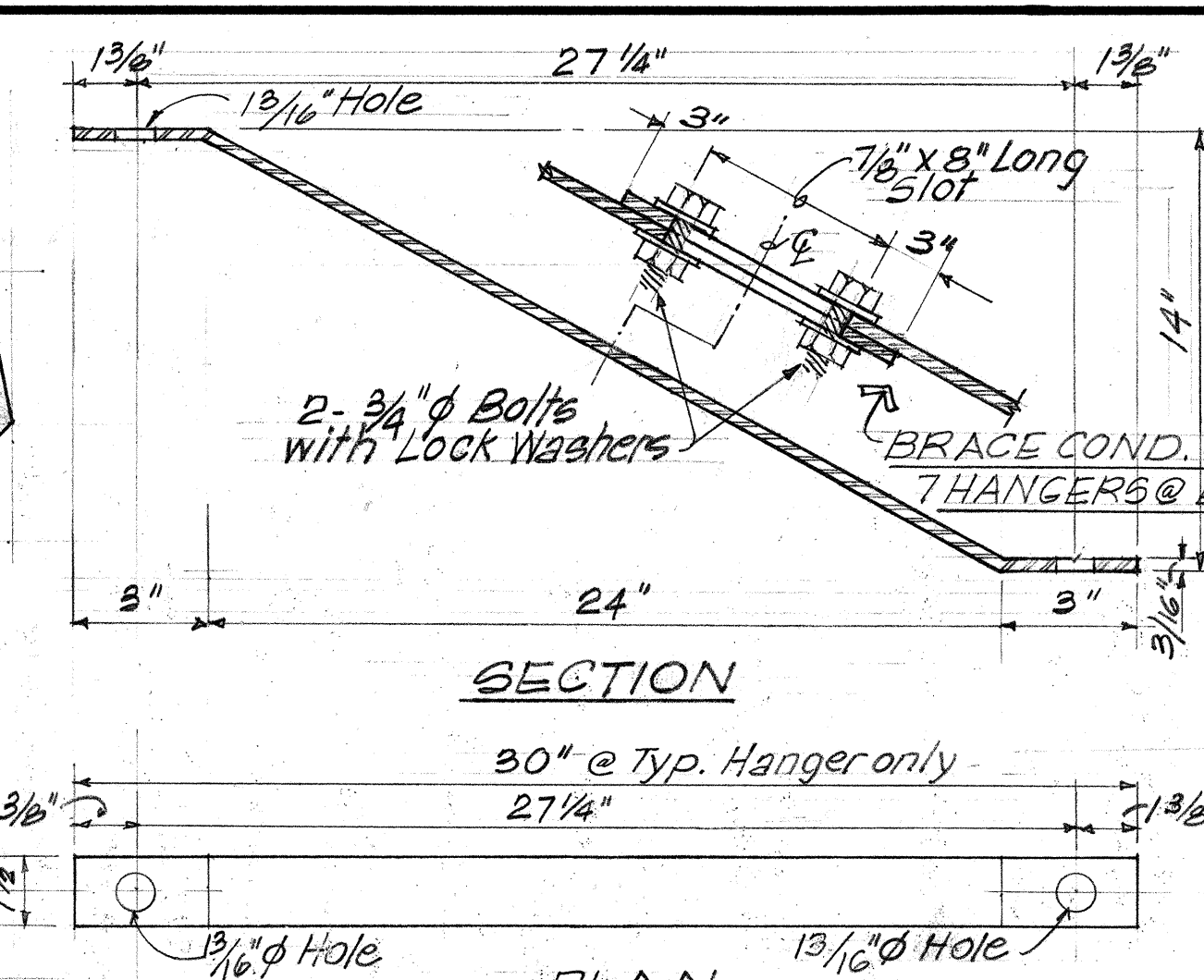
PETER HSI ASSOCIATES, INC. ARCHITECTS/ENGINEERS
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION



3/13/80	Sidewalk shown on Sect. B/5-69 deleted and indicated as future.
DATE	REVISION

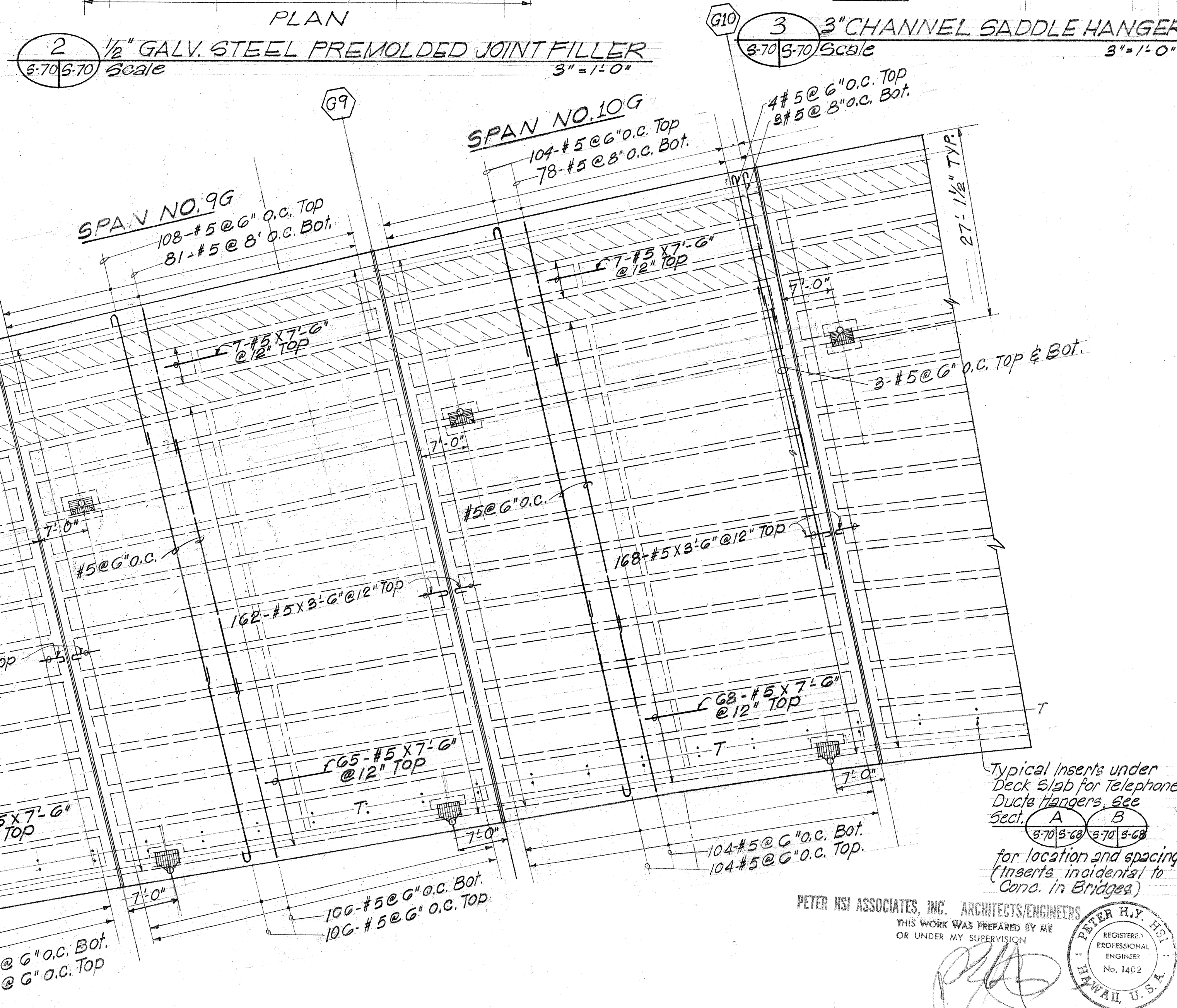
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
KEEHI INTERCHANGE RAMP D & G
PARTIAL DECK TOP & BOT. BAR
PLACEMENT PLAN - SPAN 1G TO 5G
INTERSTATE ROUTE H-1
F.A.I. PROJ. NO. I-H-1(131):17
SCALE: 3/32" = 1'-0" DATE: Aug. 31, 1977
SHEET NO. 5-69 OF 5-94 SHEETS

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

[illegible]

PLAN

1 3/16" GALV. STEEL BRACE
3-70 5-70 scale N.T.S. 68



PARTIAL DECK SLAB TOP AND BOT. BAR REINF. PLACEMENT PLAN
Scale 3/32" = 1'-0"

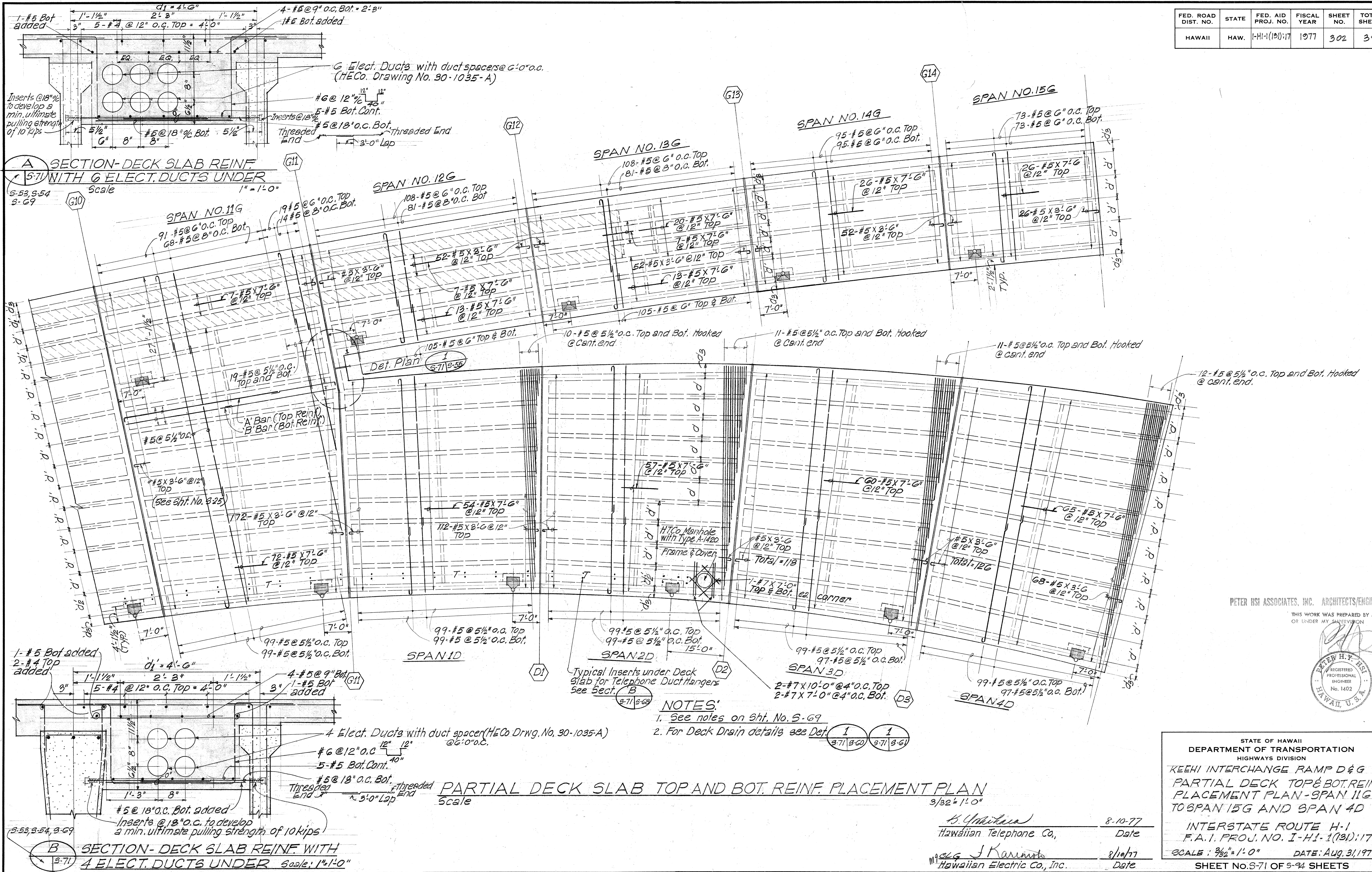
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

KEEHI INTERCHANGE RAMP D & G
PARTIAL DECK TOP AND
BOT. REINF. PLACEMENT PLAN
SPAN GG TO SPAN IOG
INTERSTATE ROUTE H-1
F.A.I. PROJ. NO. I-H-1 (131):17

SCALE: $\frac{3}{32}'' = 1' - 0''$ DATE: AUG. 31, 1977

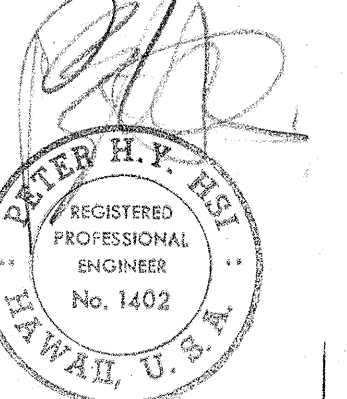
SHEET NO. 3-700F5-94 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-H1-1(131):17	1977	302	394



PETER HSI ASSOCIATES, INC. ARCHITECTS/ENGINEERS

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

KEEHI INTERCHANGE RAMP D & G
PARTIAL DECK TOP & BOT. REINF.
PLACEMENT PLAN-SPAN 11G
TO SPAN 15G AND SPAN 4D

INTERSTATE ROUTE H-1
F.A.I. PROJ. NO. I-H1-1(131):17
SCALE: 3/32" = 1'-0" DATE: Aug. 31, 1977
SHEET NO. S-71 OF S-94 SHEETS

H. Yamahara 8-10-77
Hawaiian Telephone Co., Date

M. J. Karim 8/10/77
Hawaiian Electric Co., Inc. Date