

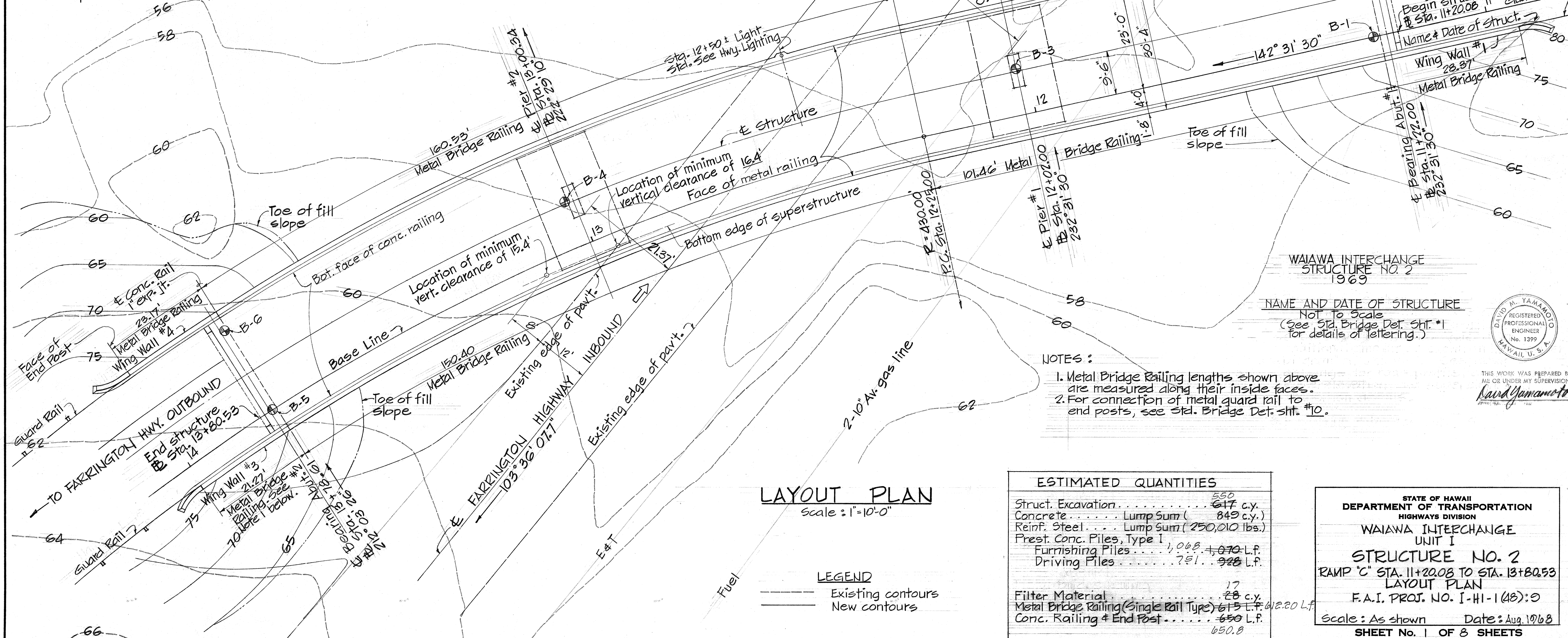
FINISH GRADES				
STATION	FINISH GRADES			
	5.67' LEFT 0/5	BASE LINE	15' RIGHT 0/5	24.67' RIGHT 0/5
10 + 87		80.62	80.89	
11 + 00		80.94	81.27	
11 + 20.08		81.35	81.77	
11 + 22		81.39	81.81	
11 + 25	81.28	81.44	81.88	82.16
11 + 50	81.58	81.79	82.34	82.69
11 + 75	81.74	81.99	82.64	83.07
12 + 00	81.75	82.04	82.80	83.30
12 + 25	81.61	81.94	82.81	83.38
12 + 50	81.32	81.69	82.67	83.30
12 + 75	80.88	81.29	82.37	83.06
13 + 00	80.31	80.74	81.89	82.62
13 + 25	79.59	80.04	81.23	81.99
13 + 50	78.74	79.19	80.39	81.16
13 + 75	77.74	78.19	79.39	80.16
13 + 78.61		78.03	79.23	
13 + 80.53		77.95	79.15	
14 + 00		77.04	78.24	
14 + 06.84		76.70	77.90	

GENERAL NOTES

- Design Spec's. : Standard Spec's. for Highway Bridges, AASHTO, 9th Ed., 1965.
- Design loads :
 - HS 20-44
 - B.R.R. Special Axle Loading : $24K \cdot 24K$
 - $1\frac{1}{2}$ " A.C. pavement in future.
- Concrete classes :
 - Pier columns : Class E-1
 - All others : Class A-1
- Reinforcing steel (yield stress)
 - Pier columns : 60,000 psi
 - All others : 40,000 psi
- Refer to Std. Bridge Detail shts. #1 to #11 for additional details not shown on these drawings.
- Refer to sht. # for location of Highway Lighting Stds.
- Top of bridge shall be constructed to conform with roadway geometrics & grades. Superstructure shall be raised an additional amount as shown on the "Camber Diagram" on

- sht. #2. See Ramp "C" drawings for road geometrics & grades.
8. For boring data, see sht. #8.
9. Concrete Design Stresses :
- | | Class A-1 | Class E-1 |
|--------|-----------|-----------|
| f'_c | 3,000 psi | 4,500 psi |
| f_c | 1,200 psi | 1,800 psi |
| n | 10 | 8 |
10. Reinf. Design Stresses :
- | | 40,000 psi | 60,000 psi |
|-----------------|------------|------------|
| f_s (tension) | 20,000 psi | 20,000 psi |
| f_s (comp.) | 16,000 psi | 24,000 psi |

NOTE : See sht. #3 for Base Line & Super-elevation Profiles.



NOTES :

- Metal Bridge Railing lengths shown above are measured along their inside faces.
- For connection of metal guard rail to end posts, see Std. Bridge Det. sht. #10.

ESTIMATED QUANTITIES

Struct. Excavation	550
Concrete	617 c.y.
Reinf. Steel	Lump Sum (849 c.y.)
Prest. Conc. Piles, Type I	Lump Sum (250,010 lbs.)
Furnishing Piles	1,068 + 070 L.F.
Driving Piles	751 + 928 L.F.
Filter Material	17
Metal Bridge Railing (Single Rail Type)	615 L.F.
Conc. Railing & End Post	650 L.F.

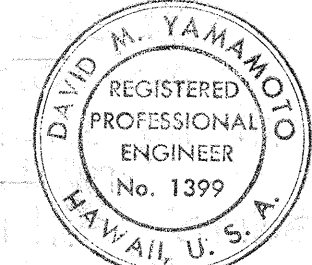
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WAIAWA INTERCHANGE
UNIT I

STRUCTURE NO. 2
RAMP "C" STA. 11+20.08 TO STA. 13+80.53
LAYOUT PLAN

F.A.I. PROJ. NO. I-HI-1 (48):2

Scale : As shown Date : Aug. 1968
SHEET No. 1 OF 8 SHEETS



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David Yamamoto

85
80
75
70
65
60
55

80.00'
Along & structure

100.00'
Along & structure

80.00'
Along & structure

Existing grade

Farrington Hwy. I.B.

Soil Pressure = 4600 PSF
(Group IV, Reduced)

Soil Pressure = 4600 PSF
(Group IV, Reduced)

LONGITUDINAL SECTION ALONG & STRUCTURE

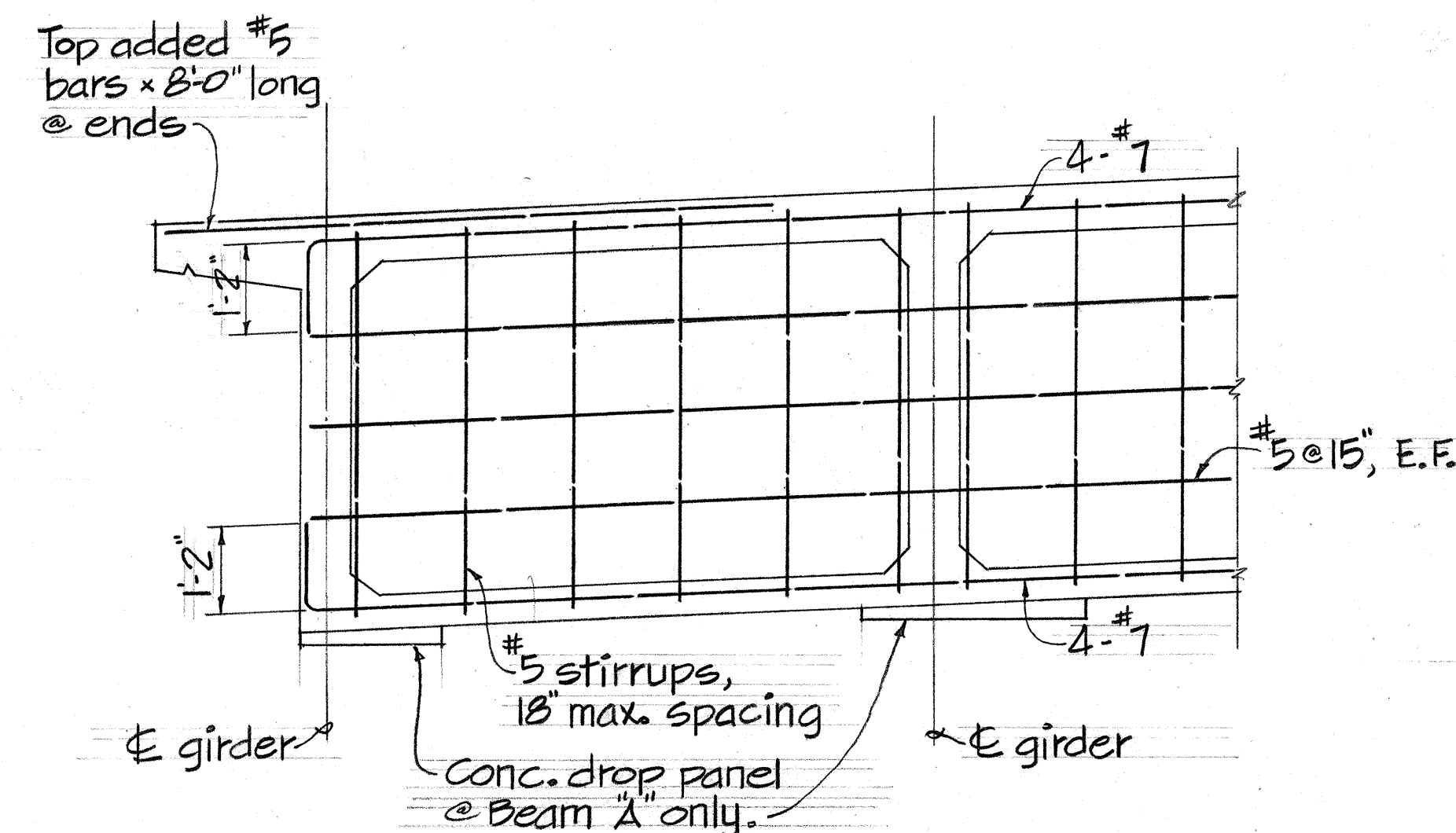
Scale = 1" = 10'-0"

Bearing of abut.

Bars in plan

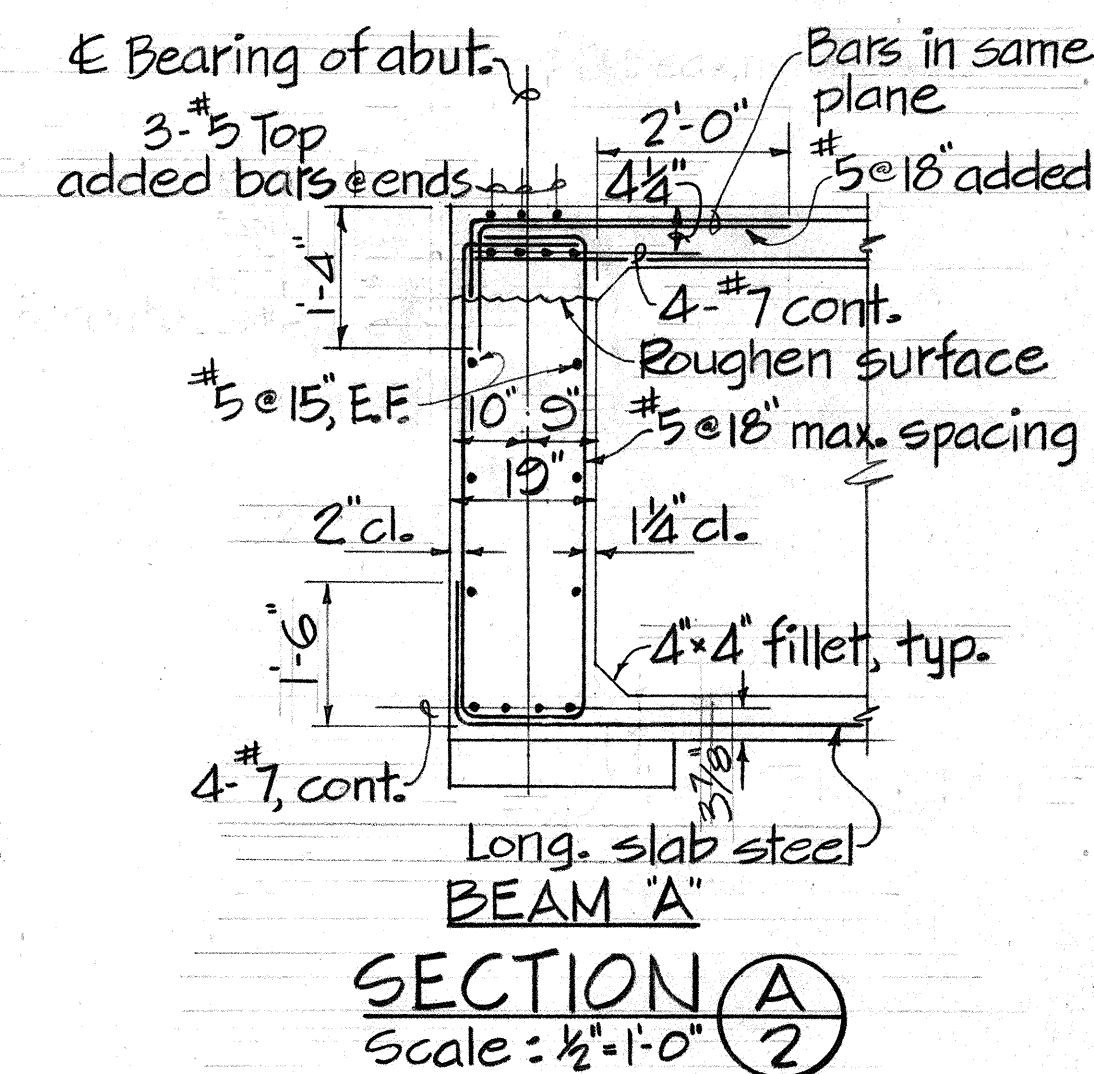
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.
HAWAII	HAW.	1-111(40)3	1968	67

Scale: $1'' = 10' - 0''$

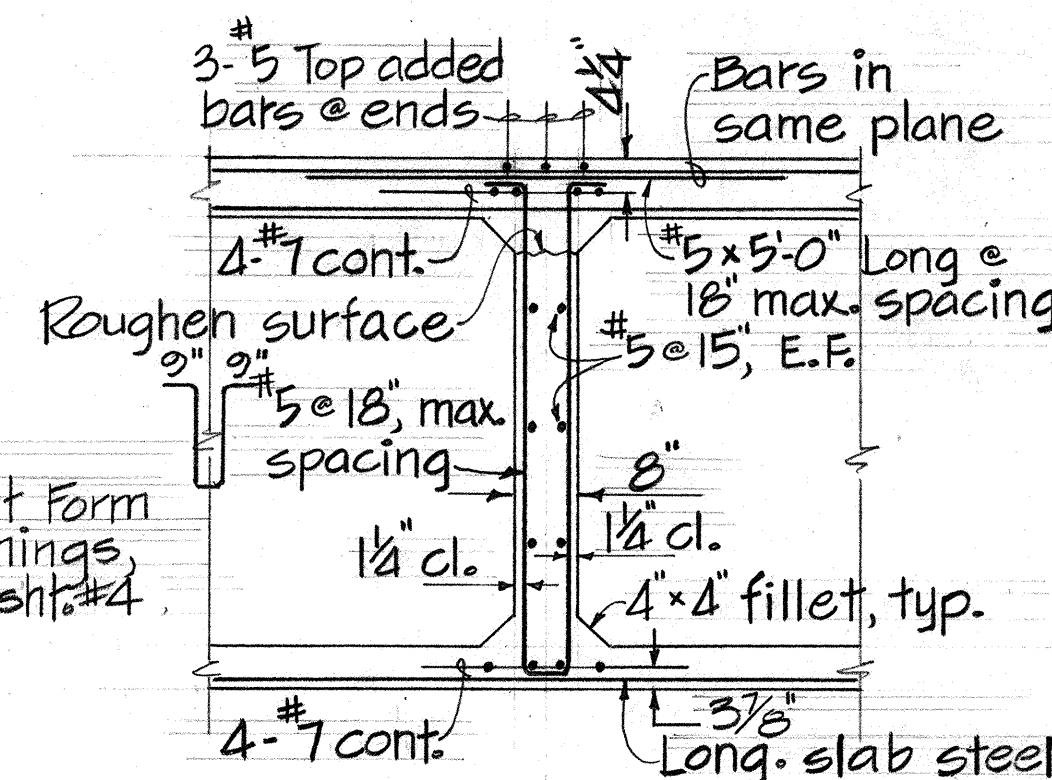


ELEVATION OF BEAM "A" & BEAM "B"

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

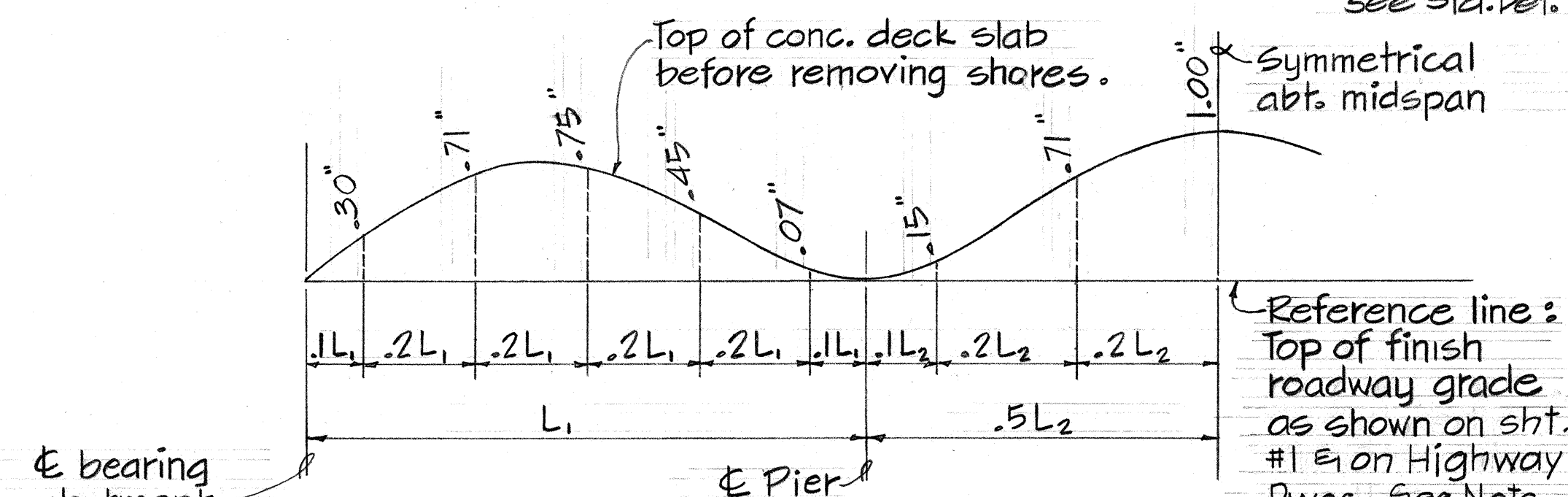


SECTION (A)
Scale: $\frac{1}{2}'' = 1'-0''$
2



BEAM "B"
SECTION (E)
Scale: $\frac{1}{2}" = 1'-0"$

Note:
For details at Form
removal openings,
see Std. Det. sh. #4



CAMBER DIAGRAM

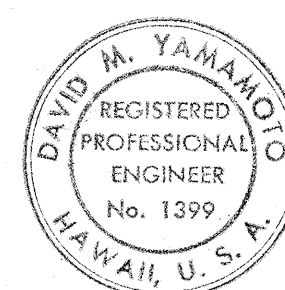
Reference line :
Top of finish
roadway grade
as shown on sht.
#1 & on Highway
Dwgs. See Note
#7 on sht. #1.

1. All deck reinforcing shall follow the curvatures & slopes of the finish grade.
2. Transverse slab reinf. to be placed radially with the indicated spacing not to be exceeded.

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

NEAR MIDSPAN

NEAR SUPPORT



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WAIAWA INTERCHANGE
UNIT I

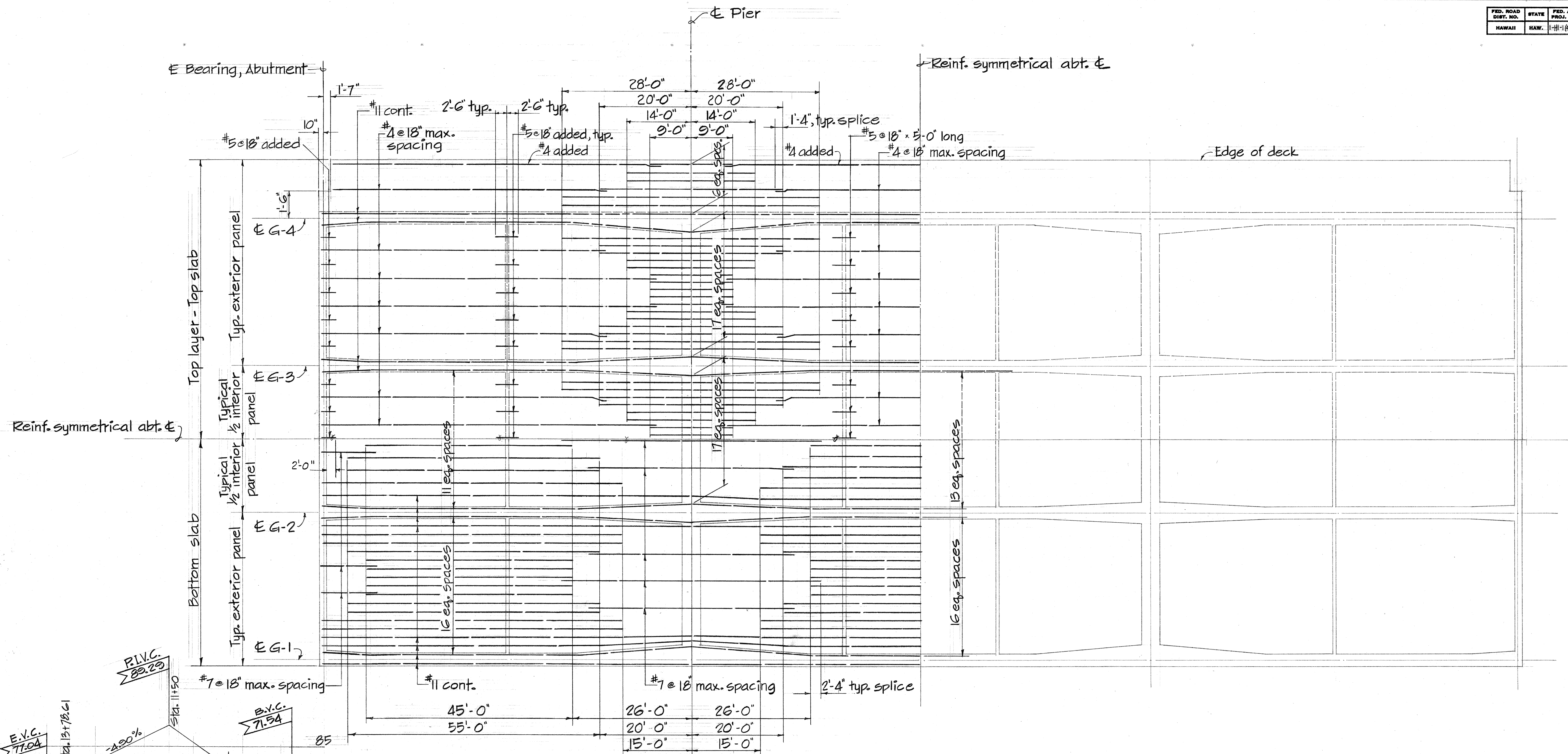
STRUCTURE NO. 2

STRUCTURE SECTIONS & BEAM DETAILS

F.A.I. PROJ. NO. I-HI-1(48):9

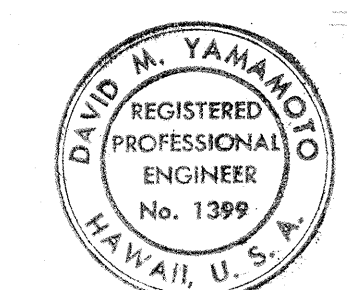
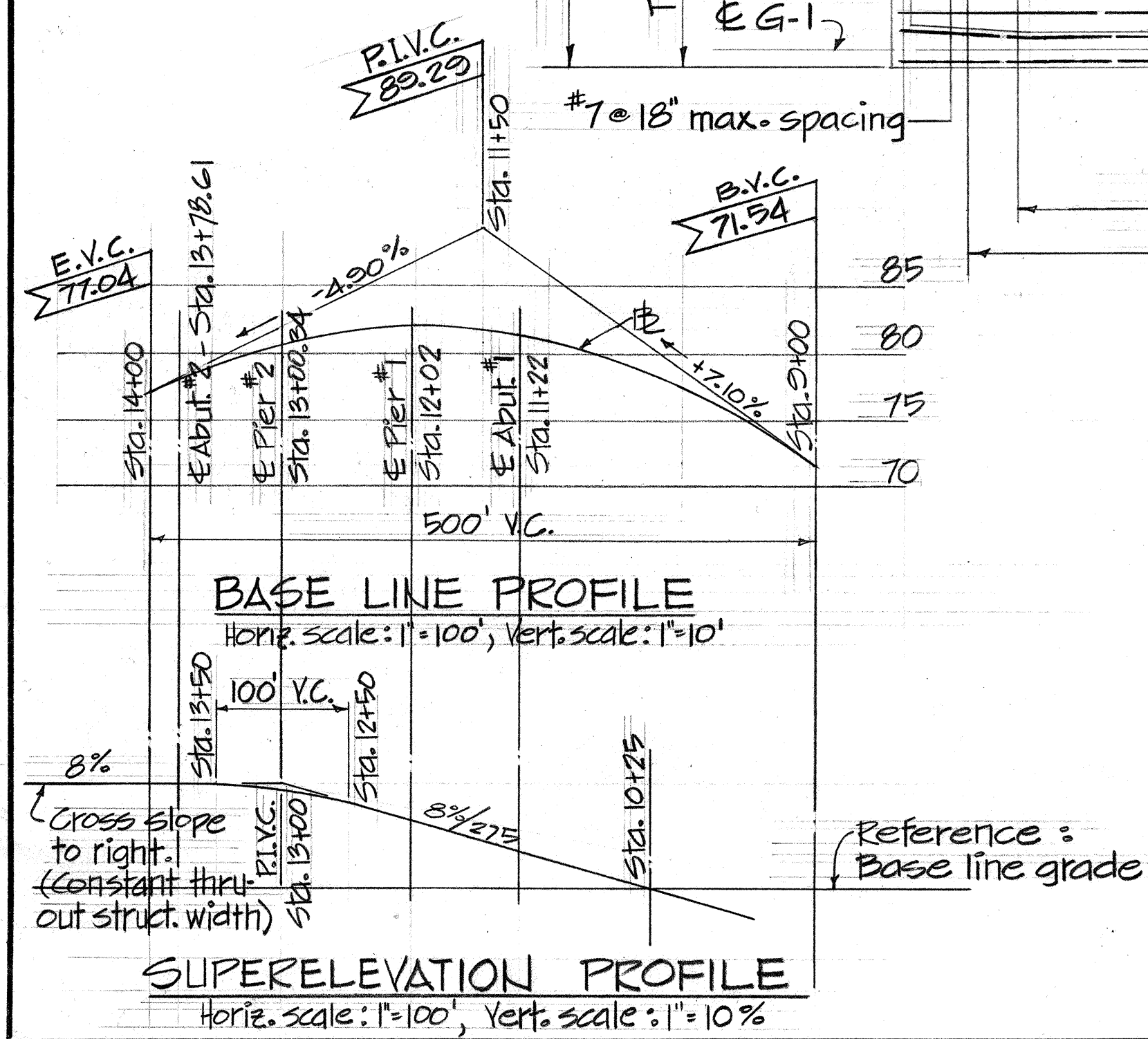
Scale: As shown Date: Aug. 1968

SHEET No. 2 OF 8 SHEETS



- NOTES:
1. Unless otherwise indicated, all longitudinal slab bars shall be #11.
 2. This drawing is schematic only. Curvature of structure is not shown. Reinf. shall follow the curvature.

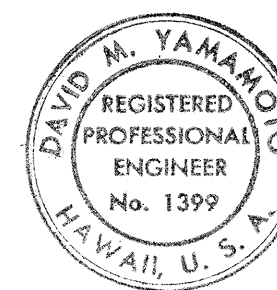
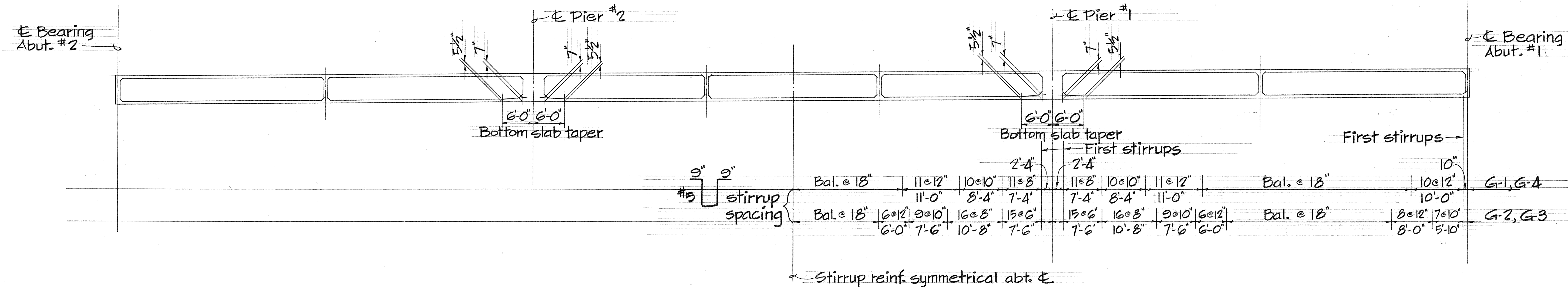
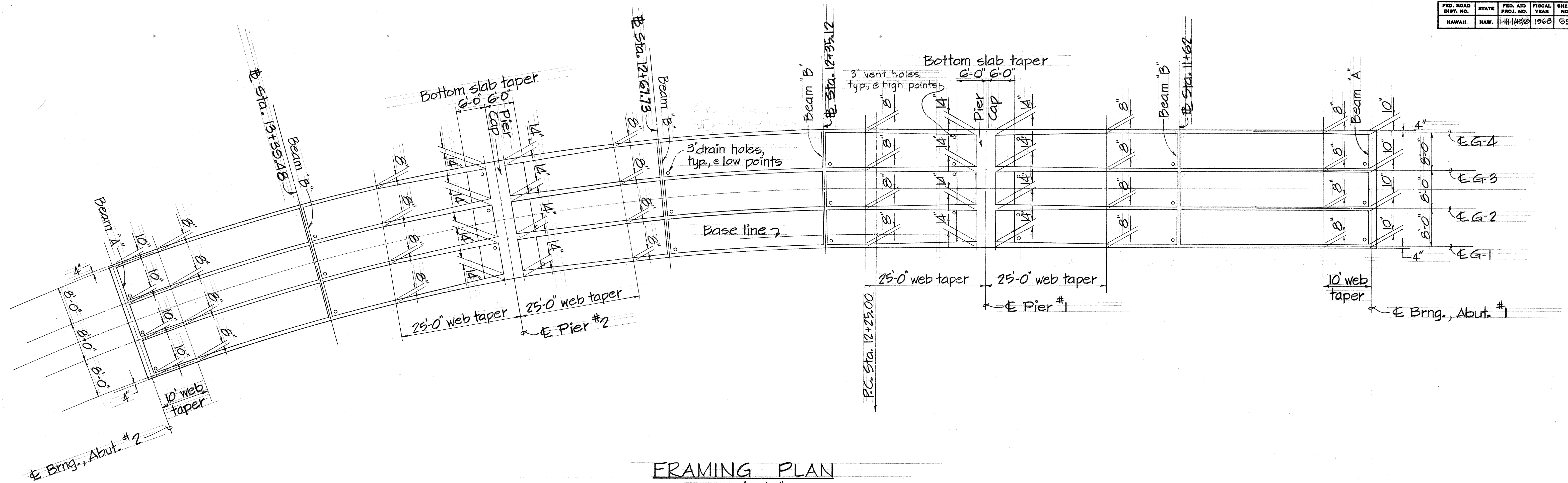
HALF-PLAN OF LONGITUDINAL SLAB REINFORCEMENT
Not to scale



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
WAIAWA INTERCHANGE
UNIT I
STRUCTURE NO. 2
LONGITUDINAL REINFORCEMENT
PLAN
F.A.I. PROJ. NO. I-HI-1(48):9
Scale: As shown Date: Aug. 1968
SHEET No. 3 OF 8 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-11-1(48)2	1968	60	139

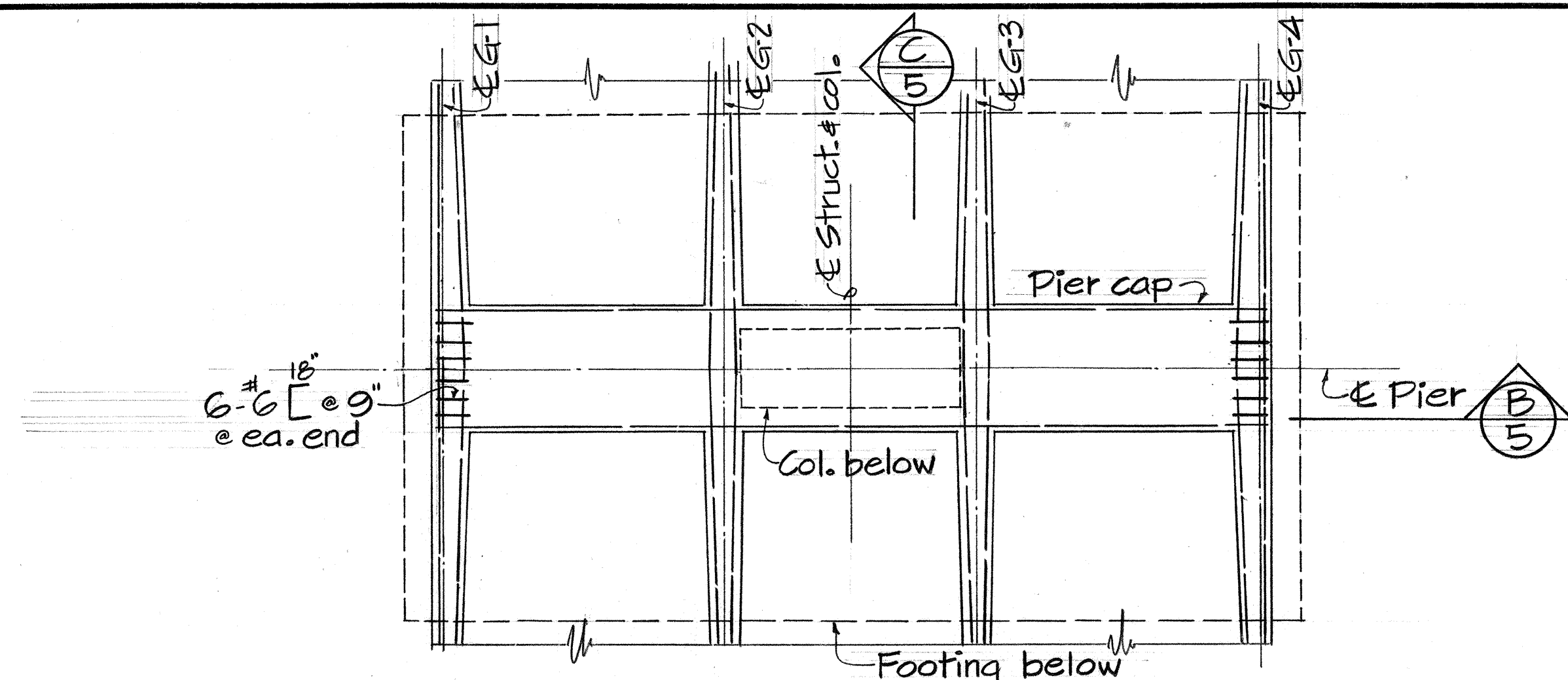


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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
WAI'ANA INTERCHANGE
UNIT I
STRUCTURE NO. 2
FRAMING & STIRRUP LAYOUTS
F.A.I. PROJ. NO. I-11-1(48):9
Scale: As shown Date: Aug. 1968
SHEET No. 4 OF 8 SHEETS

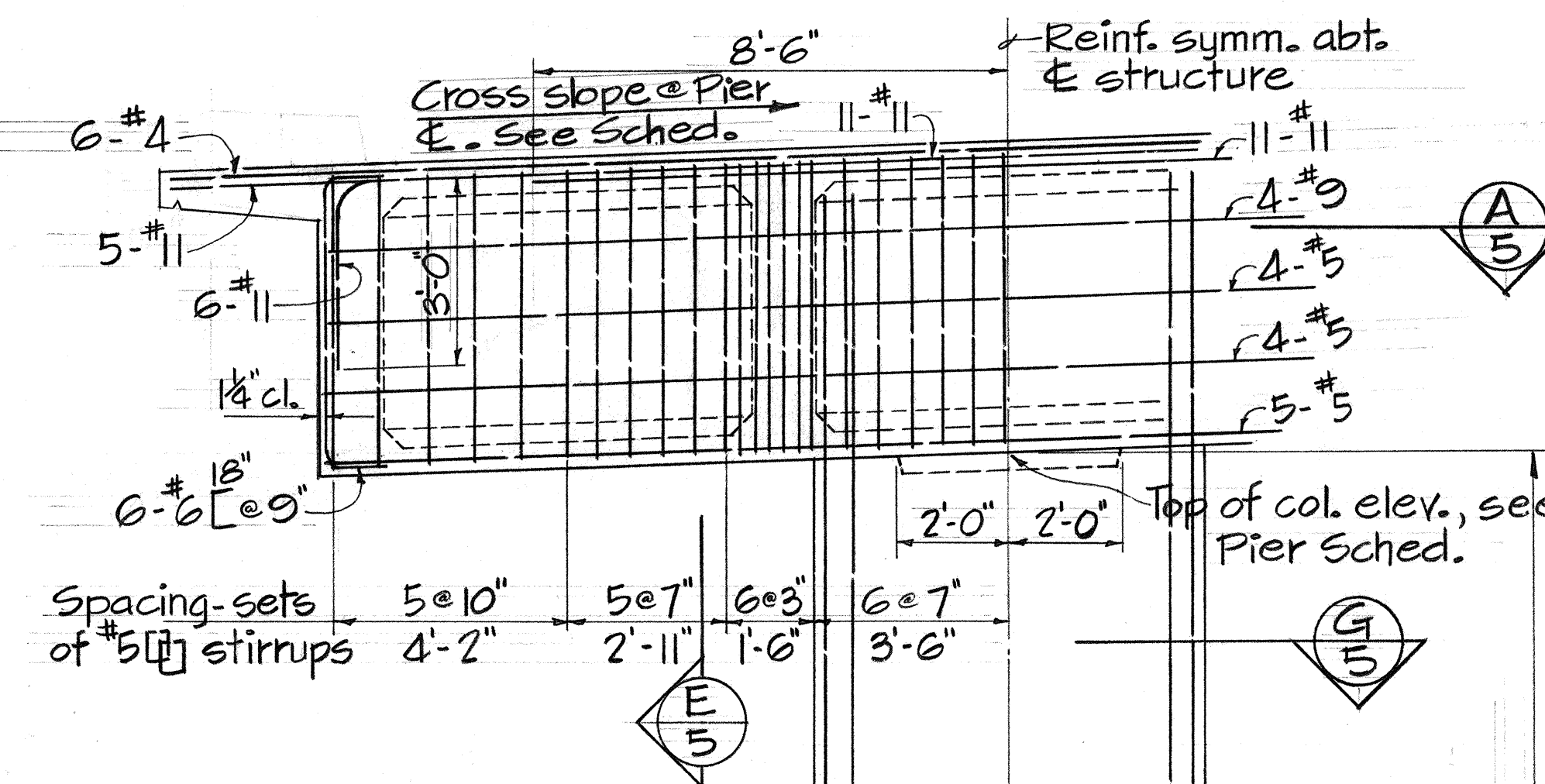
(55)

PIER SCHEDULE			
PIER NO.		1	2
COLUMN	Top elev.	77.03	75.96
	Bott. elev.	51.50	53.50
	Height h	25.53	22.46
	Conc. class	E-1	E-1
	Vert. reinf.	ASTM A432	ASTM A432
Cross slope		5.15 %	7.64 %

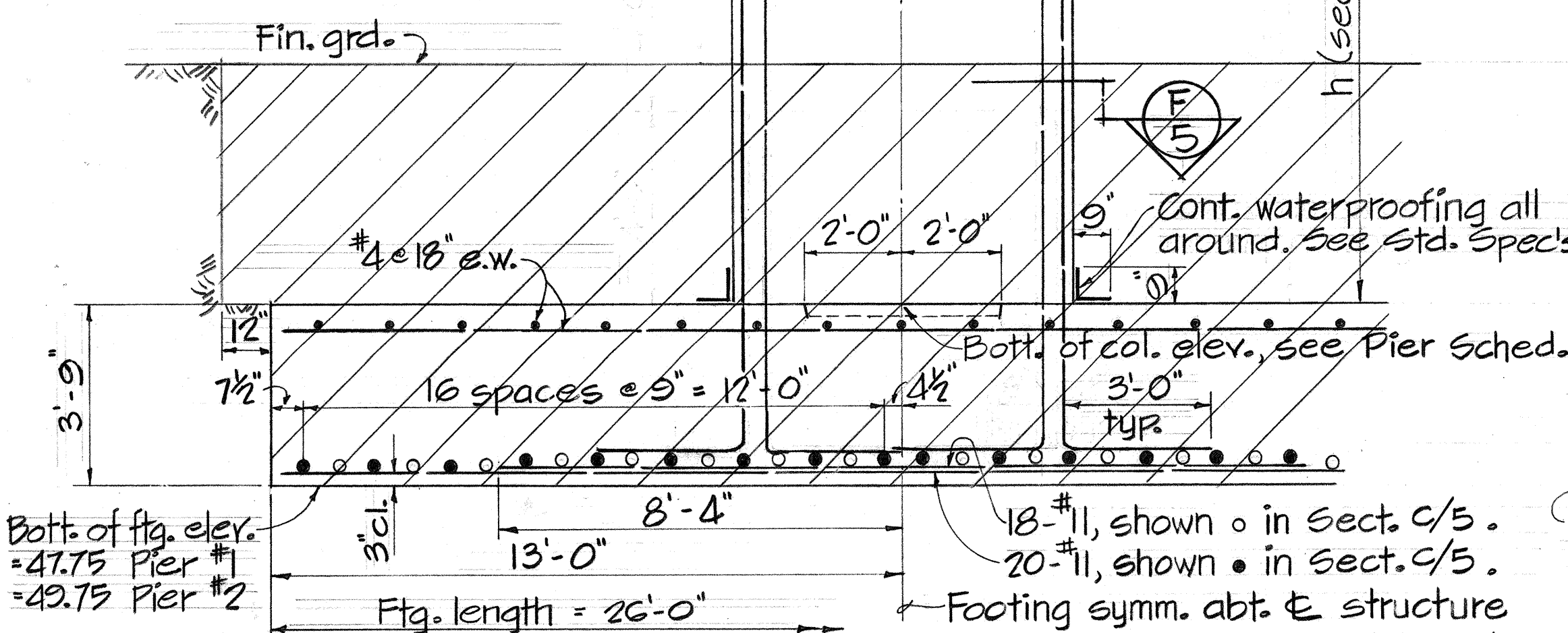


PLAN-SECTION TYP. PIER (A)
Scale: 1/2" = 1'-0"

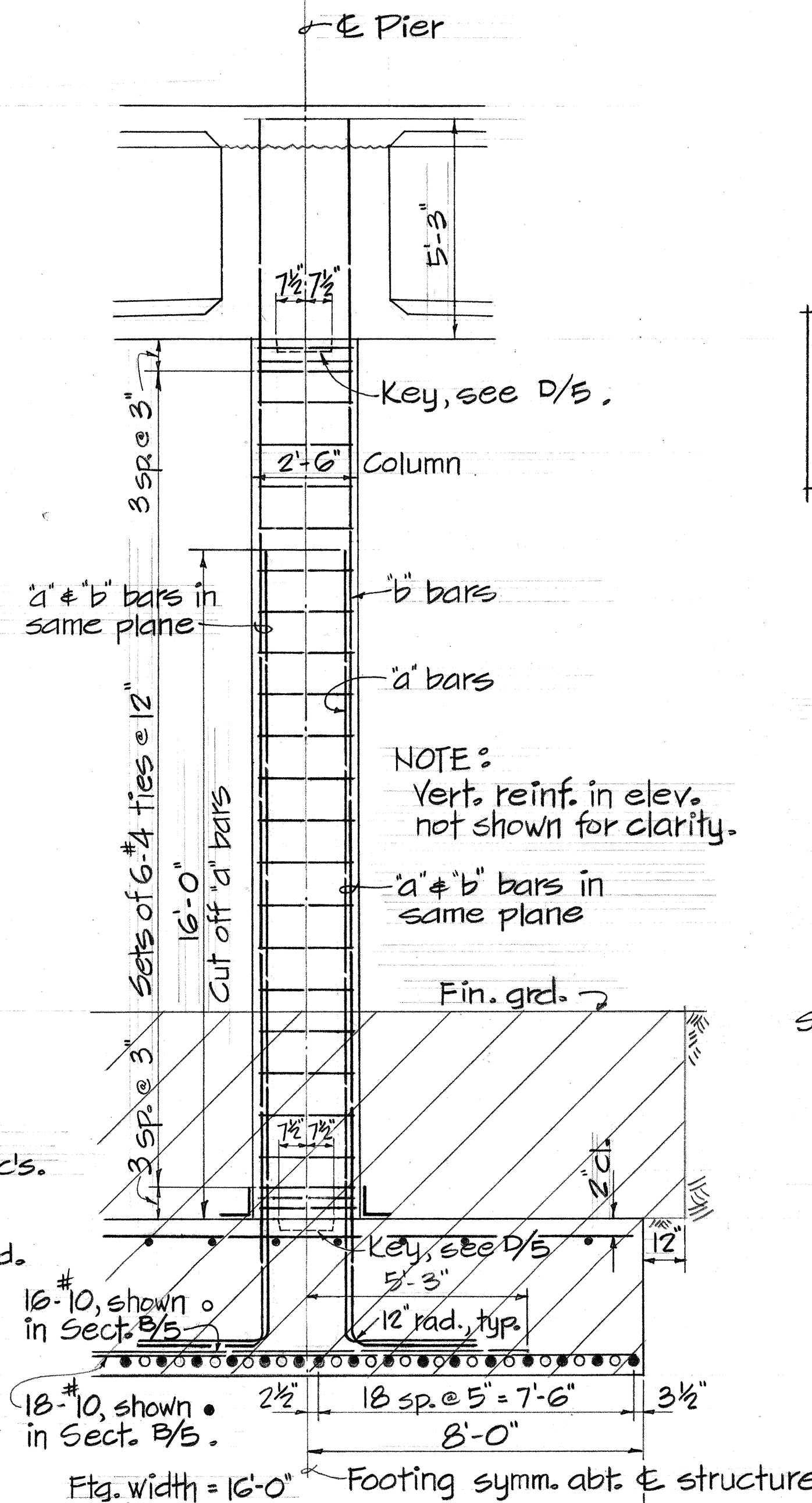
TYP. COL. KEY DET. (D)
No scale



NOTE:
1. Col. ties not shown for clarity.
2. Vert. reinf. in elevation not shown for clarity.

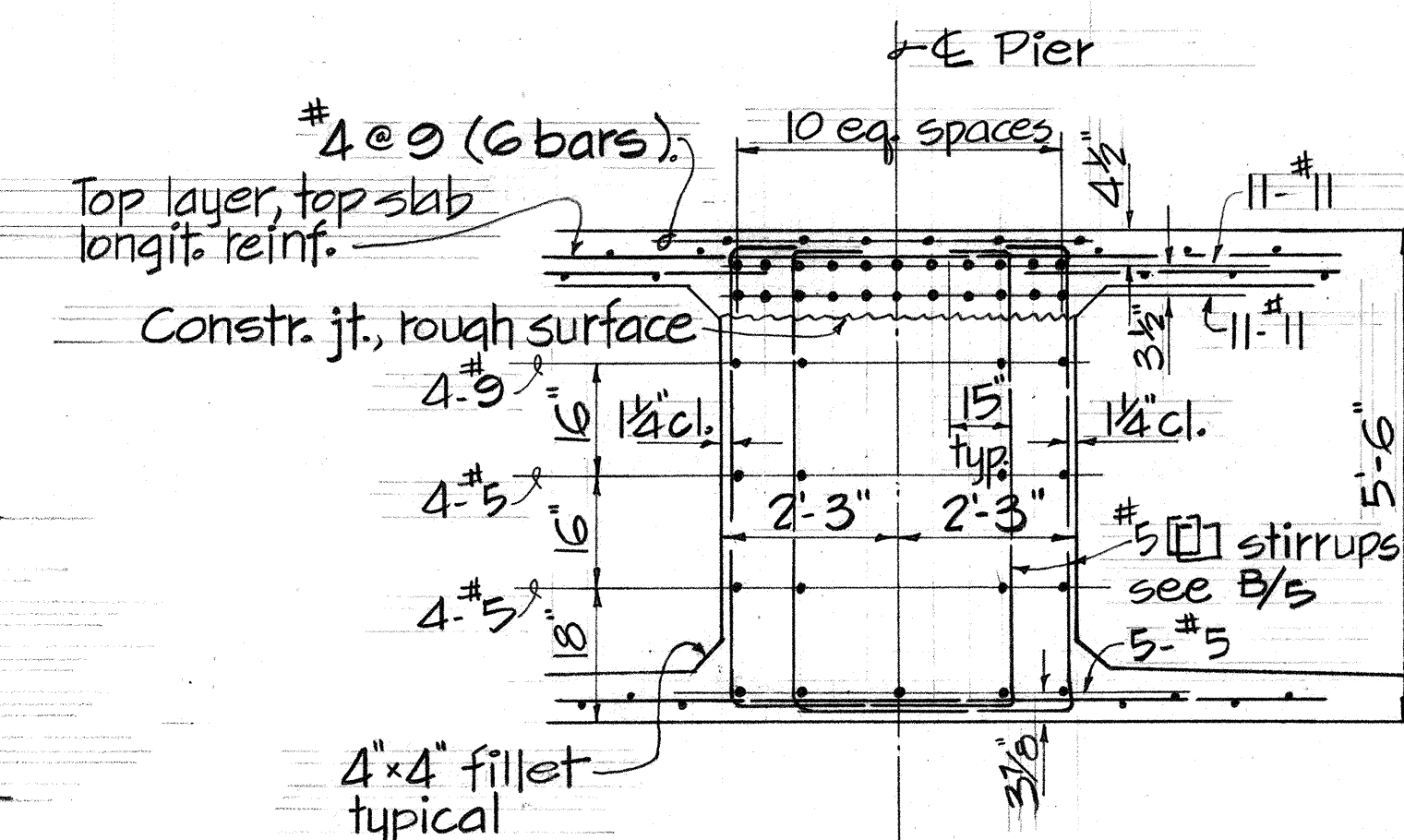


PIER SECTION (B)
Scale: 3/8" = 1'-0"

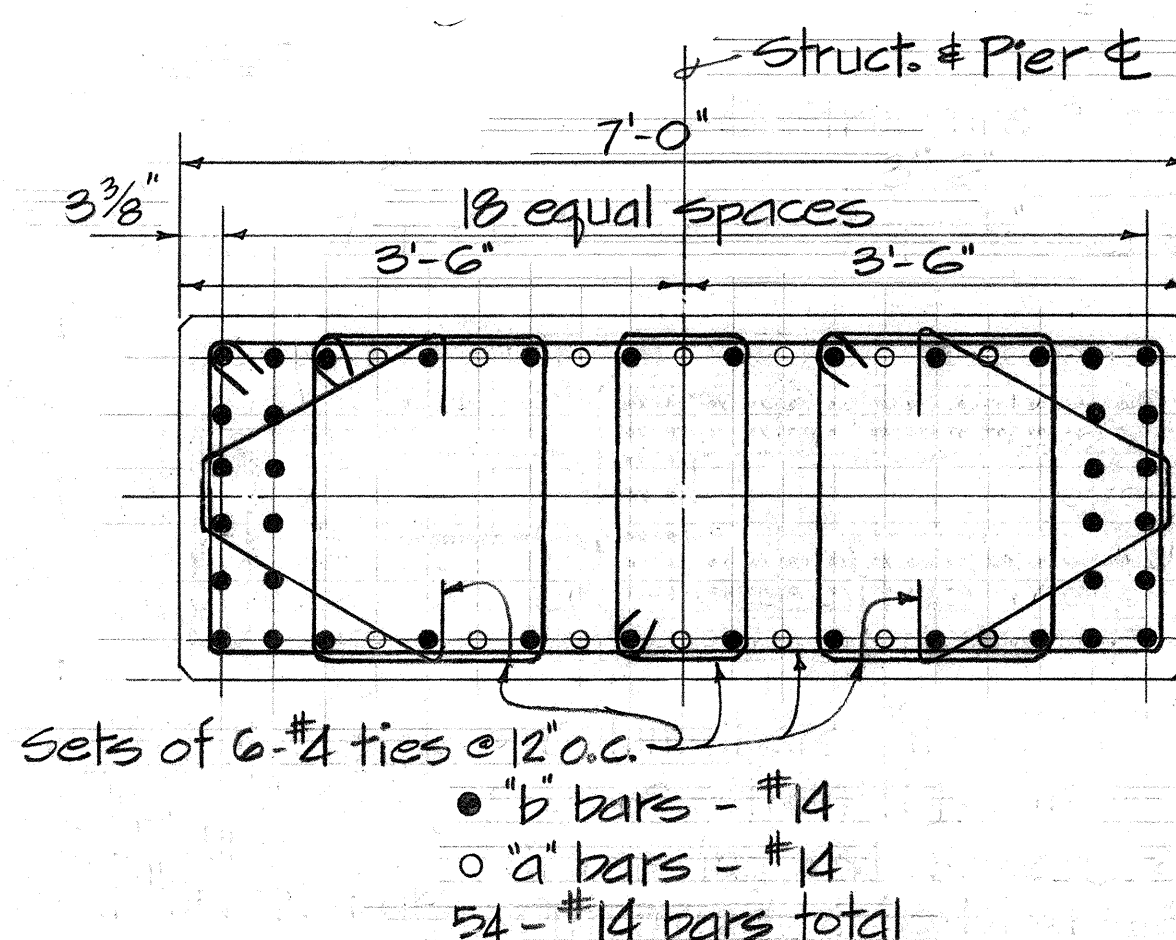


PIER SECTION (C)
Scale: 3/8" = 1'-0"

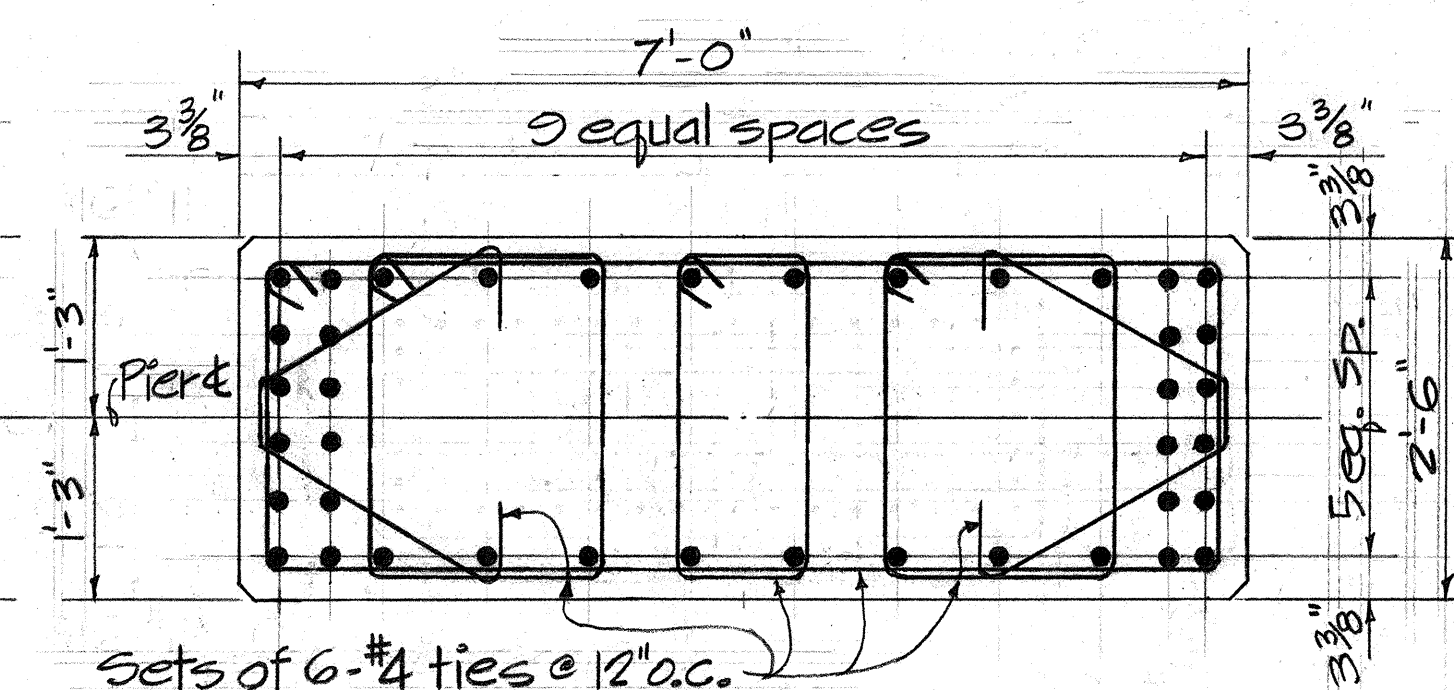
NOTE: Concrete for pier columns shall be Class E-1. Column vert. reinf. shall be high strength, ASTM A-432.



PIER CAP SECTION (E)
Scale: 1/2" = 1'-0"



PIER COL. SECT. (F)
Scale: 3/4" = 1'-0"



PIER COL. SECT. (G)
Scale: 3/4" = 1'-0"

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

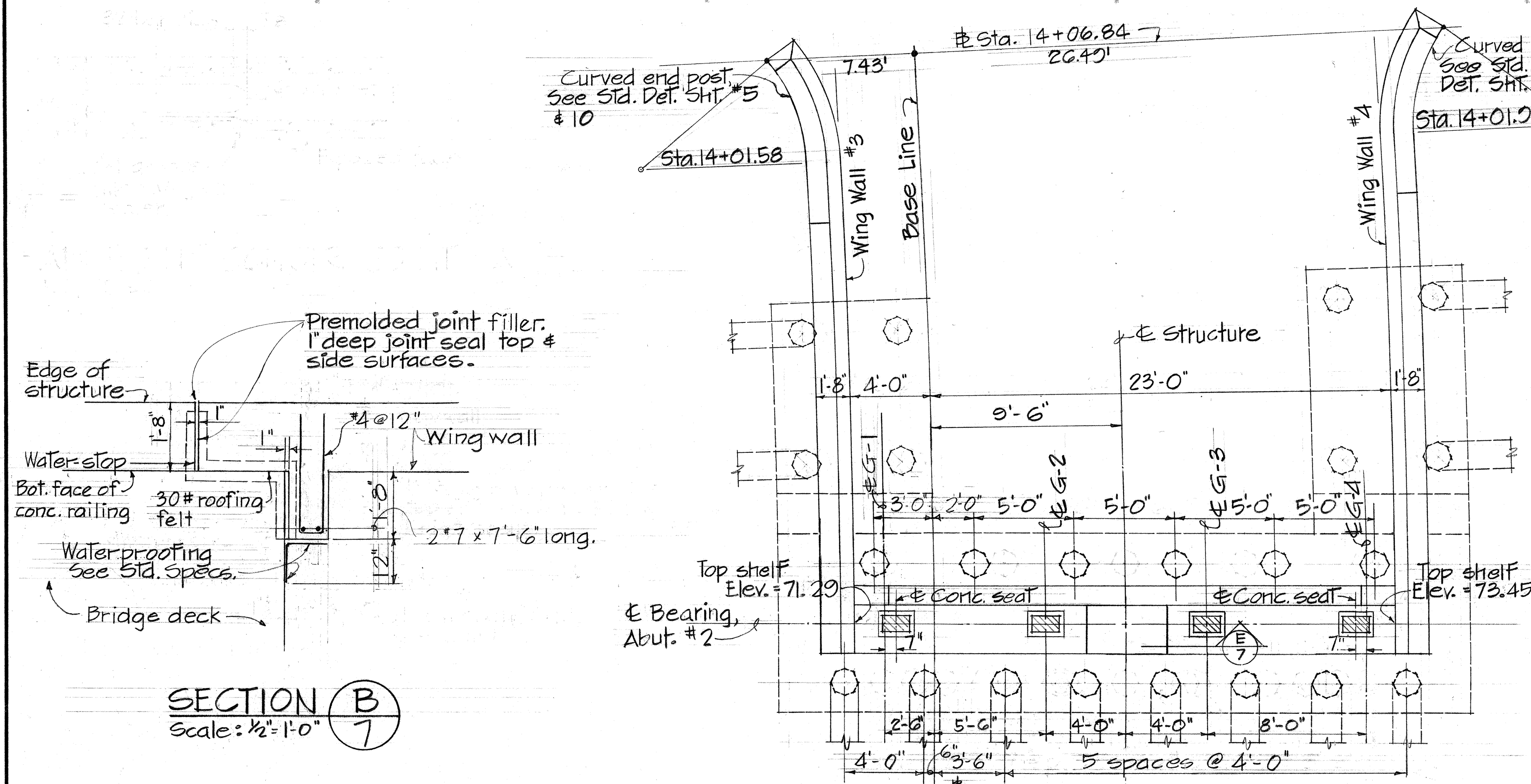
WAIAWA INTERCHANGE
UNIT I
STRUCTURE NO. 2
PIERS

F.A.I. PROJ. NO. I-HI-1(48):9
Scale: As shown Date: Aug. 1968
SHEET No. 5 OF 8 SHEETS

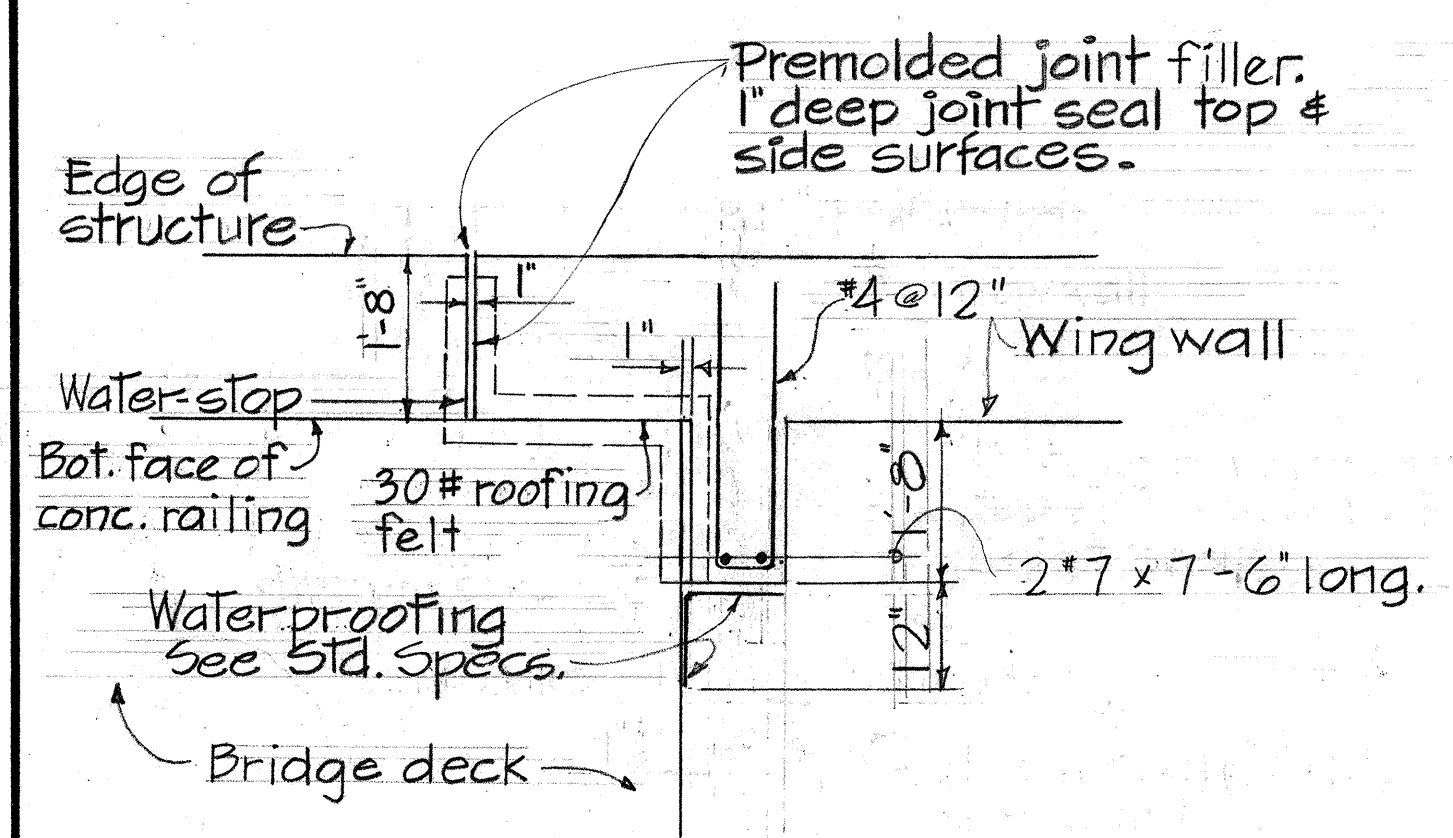
DAVID M. YAMAMOTO
REGISTERED PROFESSIONAL ENGINEER
No. 1399
HAWAII, U.S.A.

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David Yamamoto

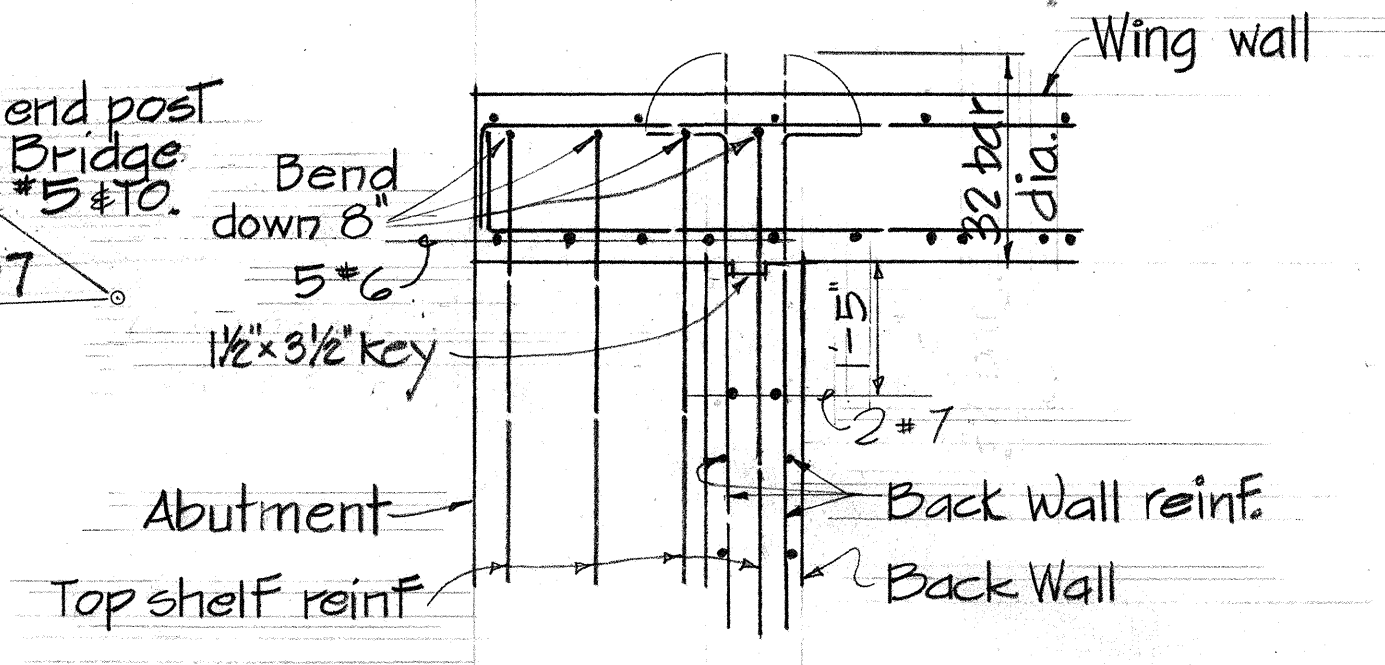
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-HI-1(48)0	1968	72	133



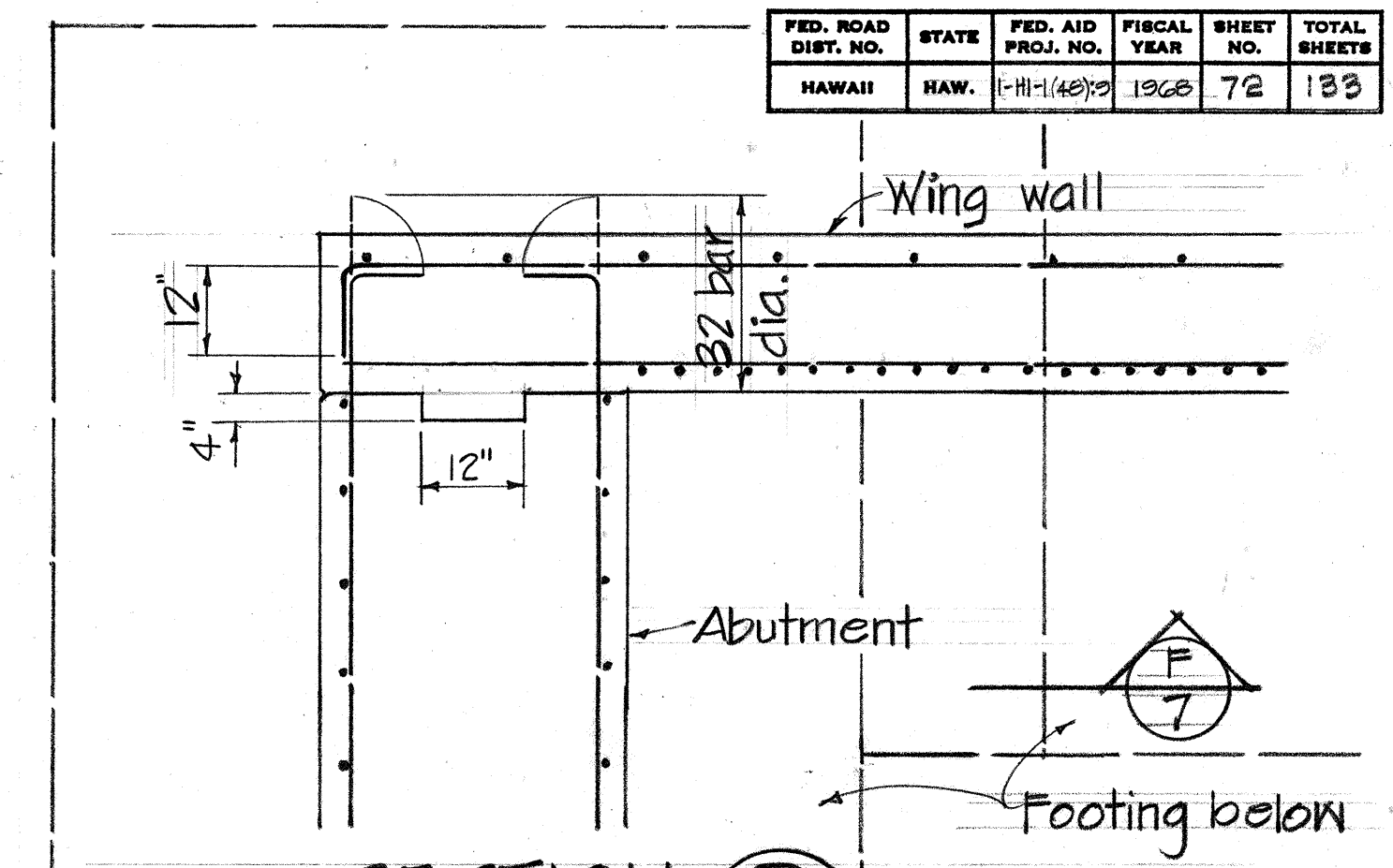
PLAN - ABUTMENT NO. 2
Scale: 1/4" = 1'-0"



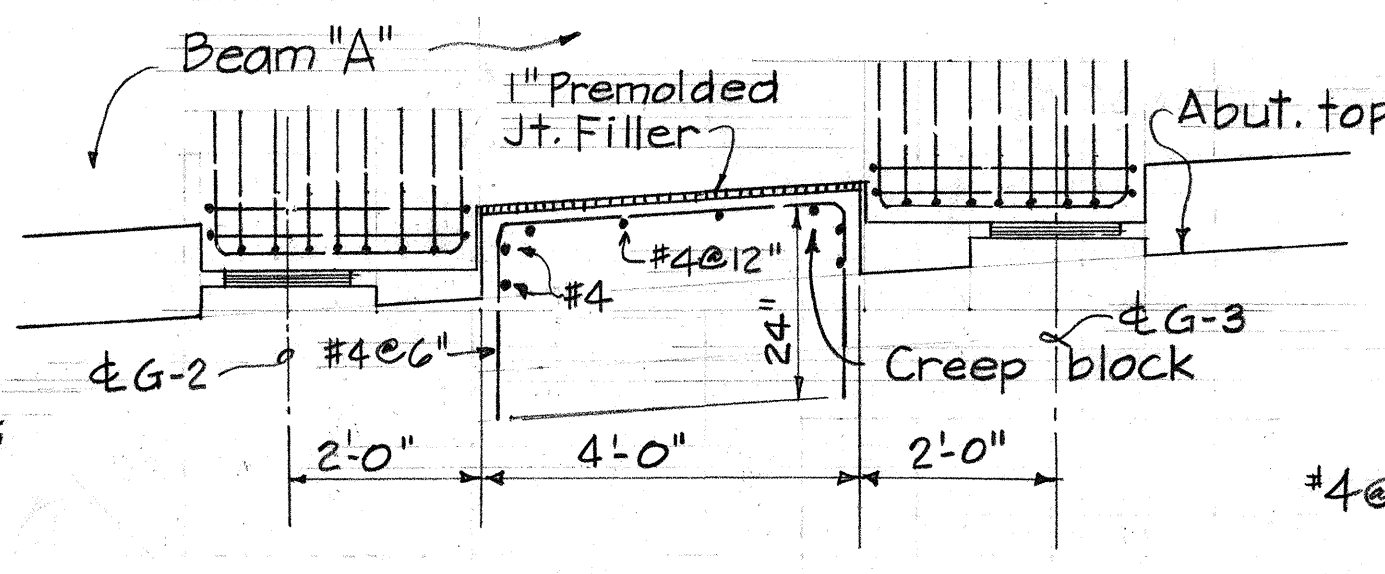
SECTION B
Scale: 1/2" = 1'-0"



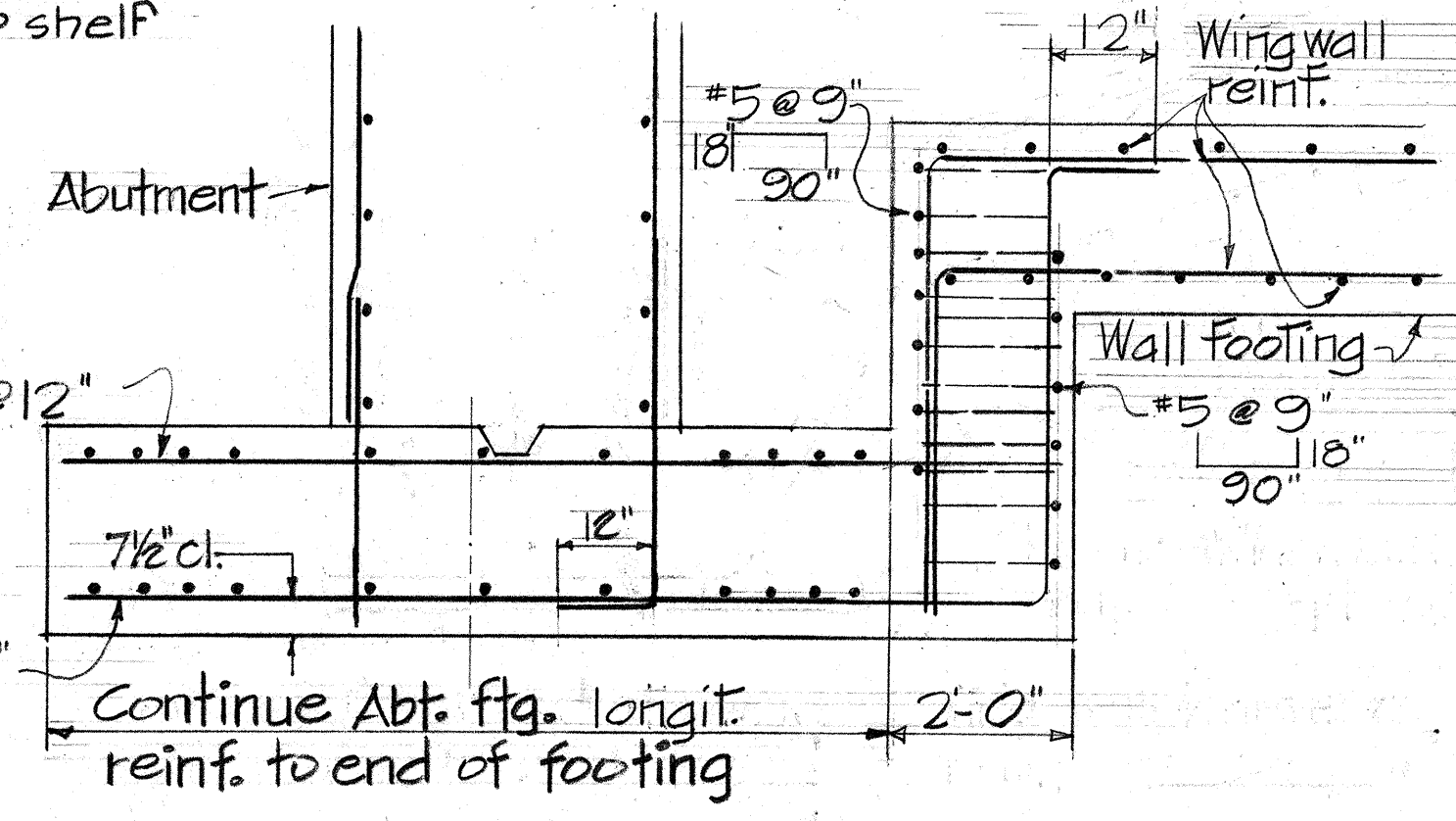
SECTION C
Scale: 1/2" = 1'-0"



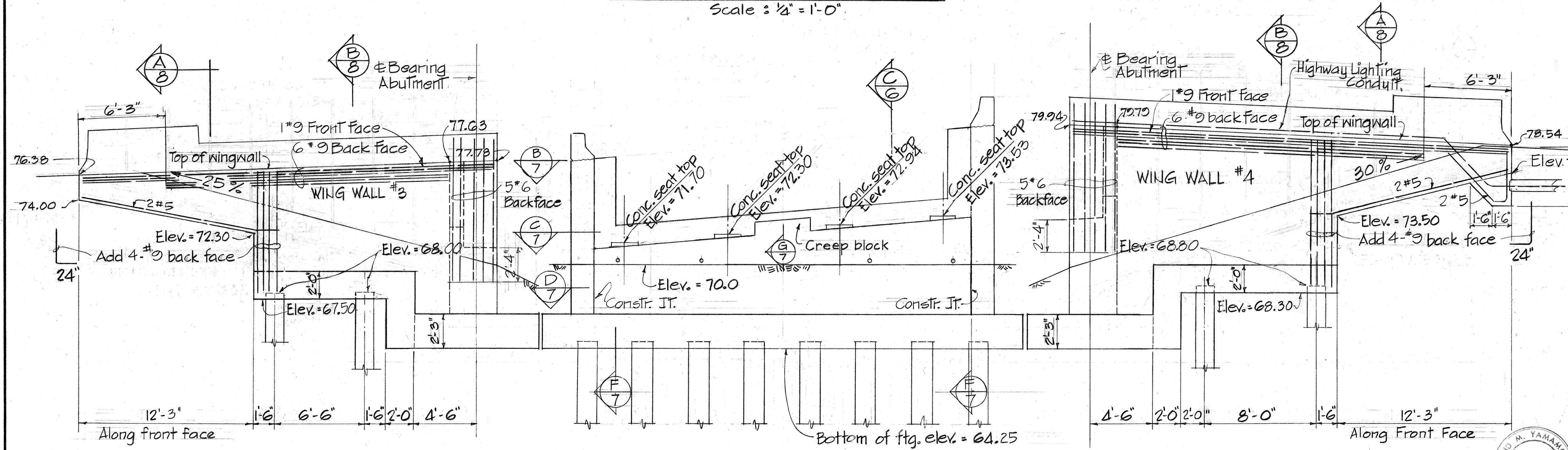
SECTION D
Scale: 1/2" = 1'-0"



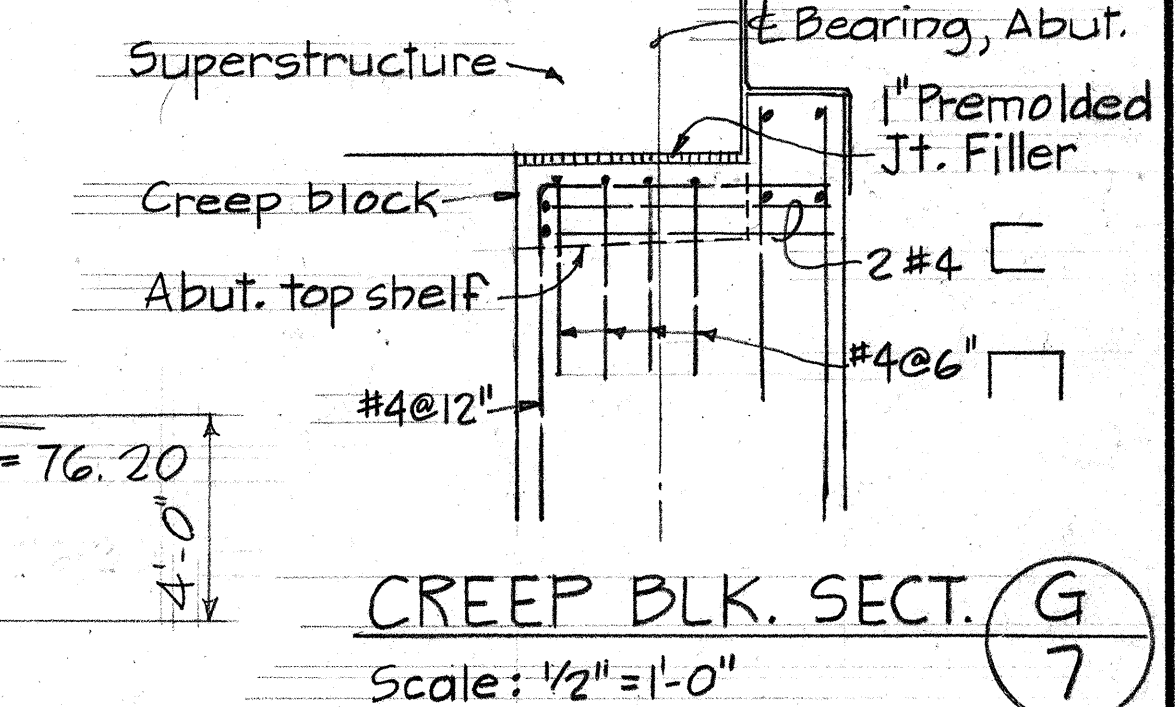
CREEP BLOCK SECT. E
Scale: 1/2" = 1'-0"



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

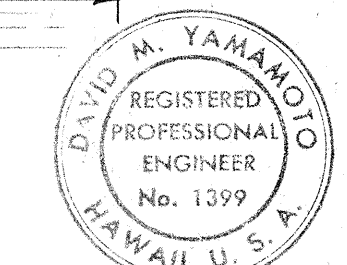


ELEVATION - ABUTMENT NO. 2
Scale: 1/4" = 1'-0"



CREEP BLK. SECT. G
Scale: 1/2" = 1'-0"

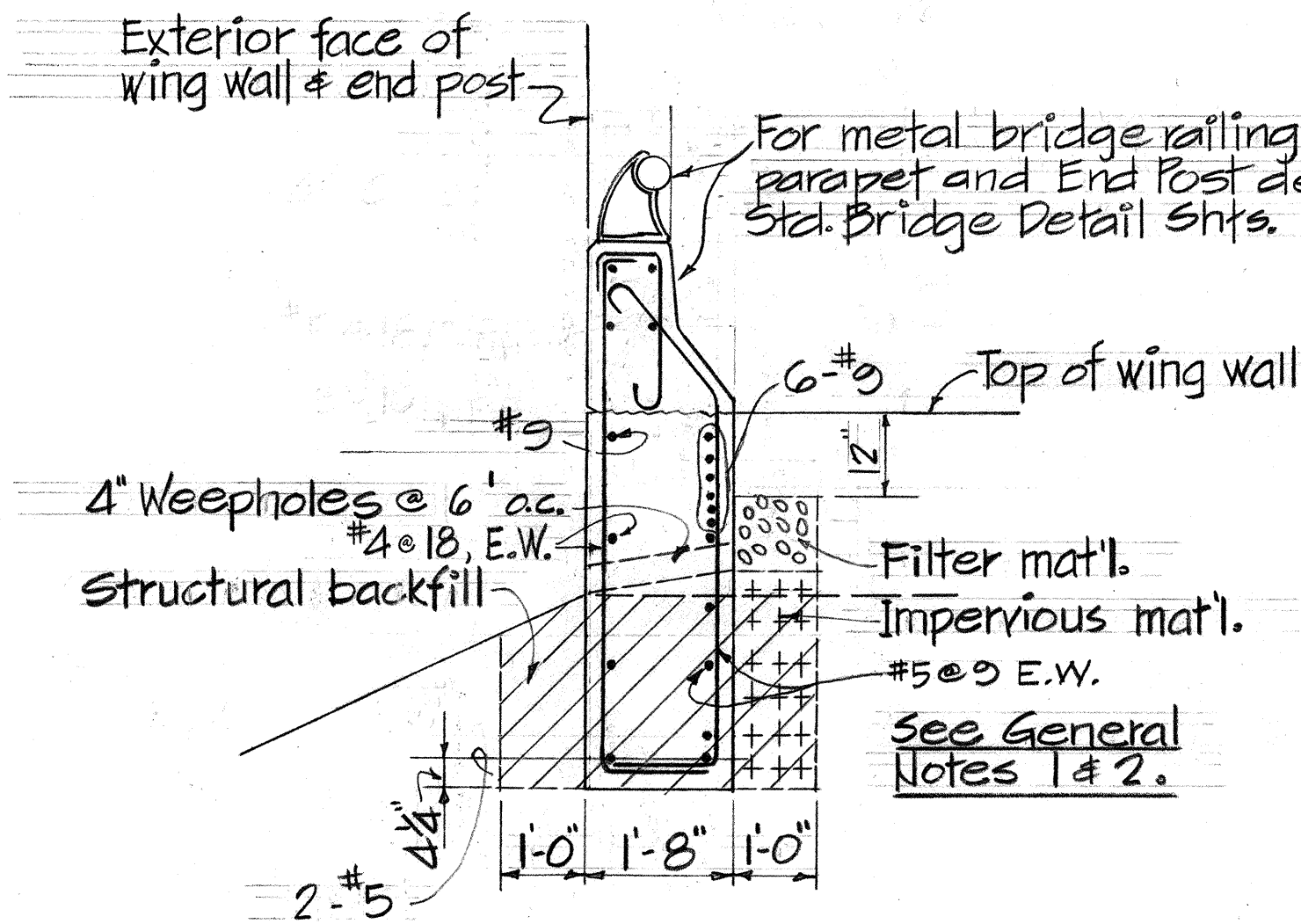
DESIGNED BY	DATE
DRAWN BY	
CHECKED BY	
NOTED BY	
ORIGINAL	



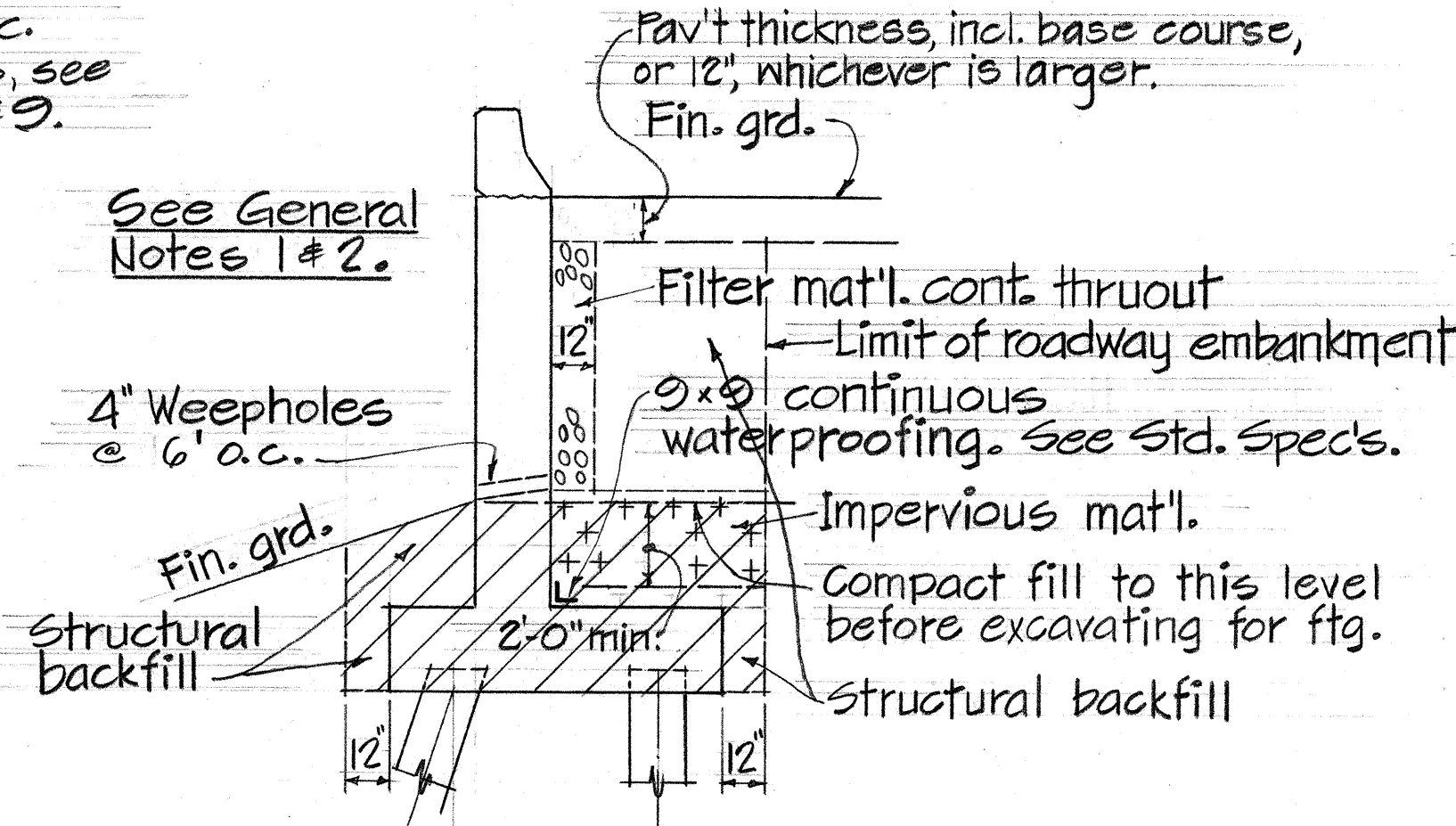
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
WAIANA INTERCHANGE
UNIT I
STRUCTURE NO. 2
ABUTMENT NO. 2
F.A.I. PROJ. NO. I-HI-1(48)0
Scale: As shown Date: Aug. 1968
SHEET No. 7 OF 8 SHEETS

GENERAL NOTES

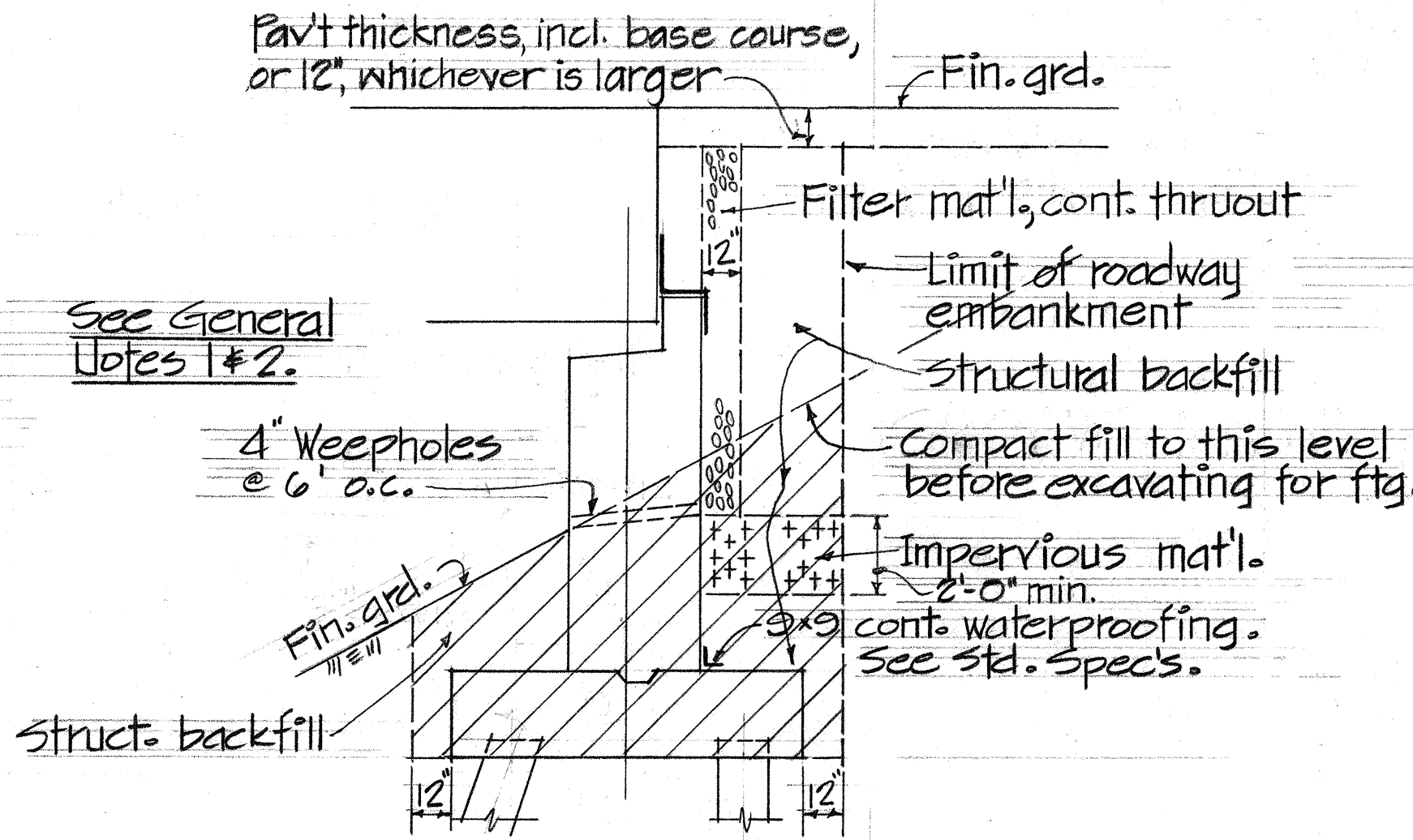
1. Hatched areas denote limits of structural excavation payment. All other excavation shall be roadway excavation.
2. Where shown, impervious material used for backfill shall be selected by the Engineer and shall be incidental to structural excavation.
3. For wall details at light standards, see Standard Bridge Details sh. 2.



WALL SECTION **A**
Not to scale



RETAINING WALL



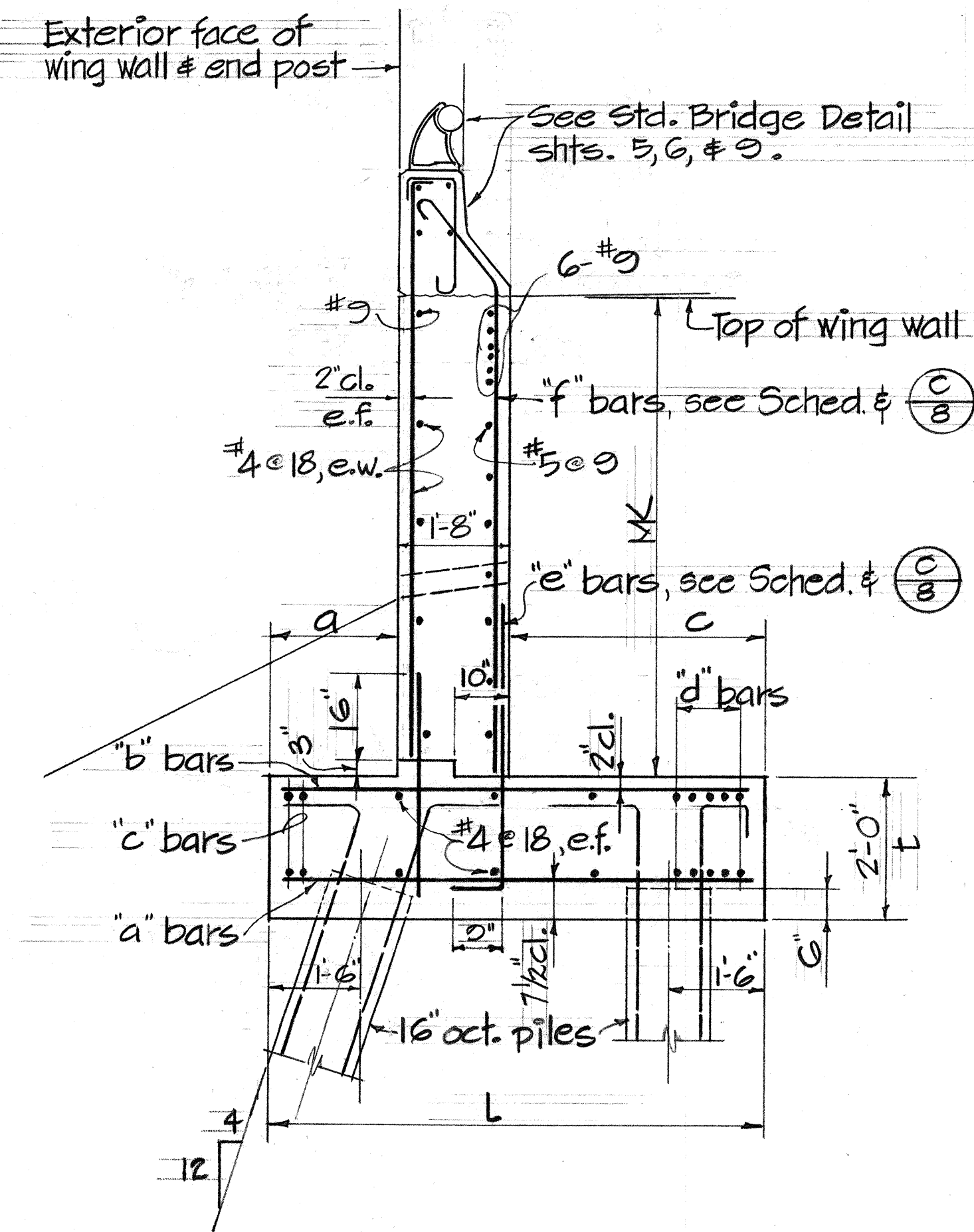
ABUTMENT

STRUCTURAL EXCAVATION & DRAINAGE DETAILS

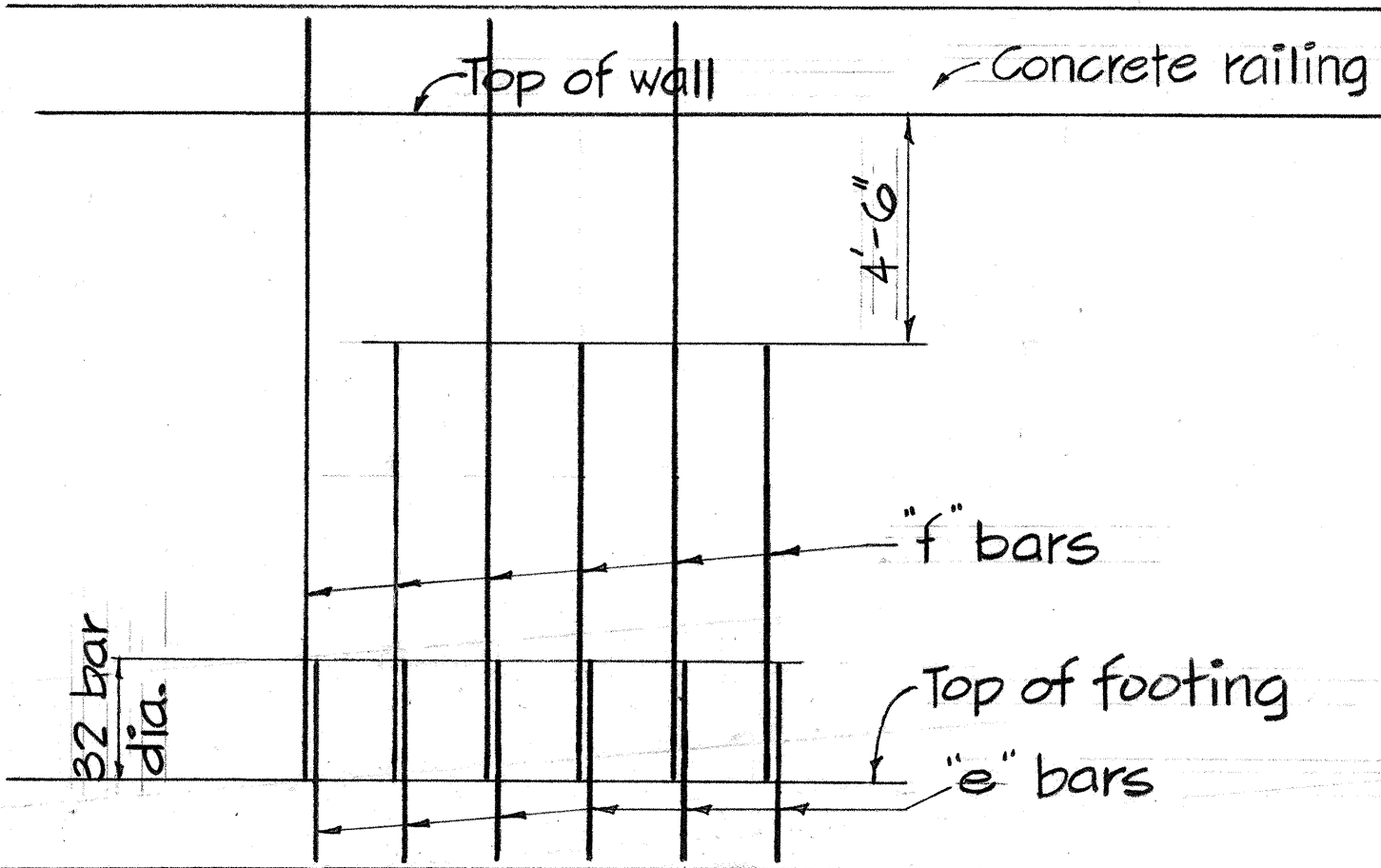
Not to scale

SCHEDULE OF DIMENSIONS & REINFORCING STEEL

WING WALL	#1	#2	#3	#4
MK	Varies	Varies	Varies	Varies
a	2'-4"	2'-4"	2'-4"	2'-4"
c	4'-0"	4'-0"	4'-0"	4'-0"
L	8'-0"	8'-0"	8'-0"	8'-0"
t	2'-0"	2'-0"	2'-0"	2'-0"
"a" bars	#5 @ 10"	#5 @ 10"	#5 @ 10"	#5 @ 10"
"b" "	#6 @ 12"	#6 @ 12"	#6 @ 12"	#6 @ 12"
"c" "	2-#6 E.F.	2-#6 E.F.	2-#6 E.F.	2-#6 E.F.
"d" "	5-#8 E.F.	5-#8 E.F.	5-#6 E.F.	5-#6 E.F.
"e" "	#5 @ 4 1/2"	#5 @ 4 1/2"	#5 @ 4 1/2"	#5 @ 4 1/2"
"f" "	#5	#5	#5	#5



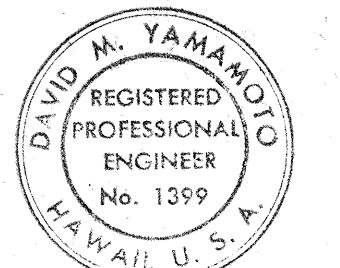
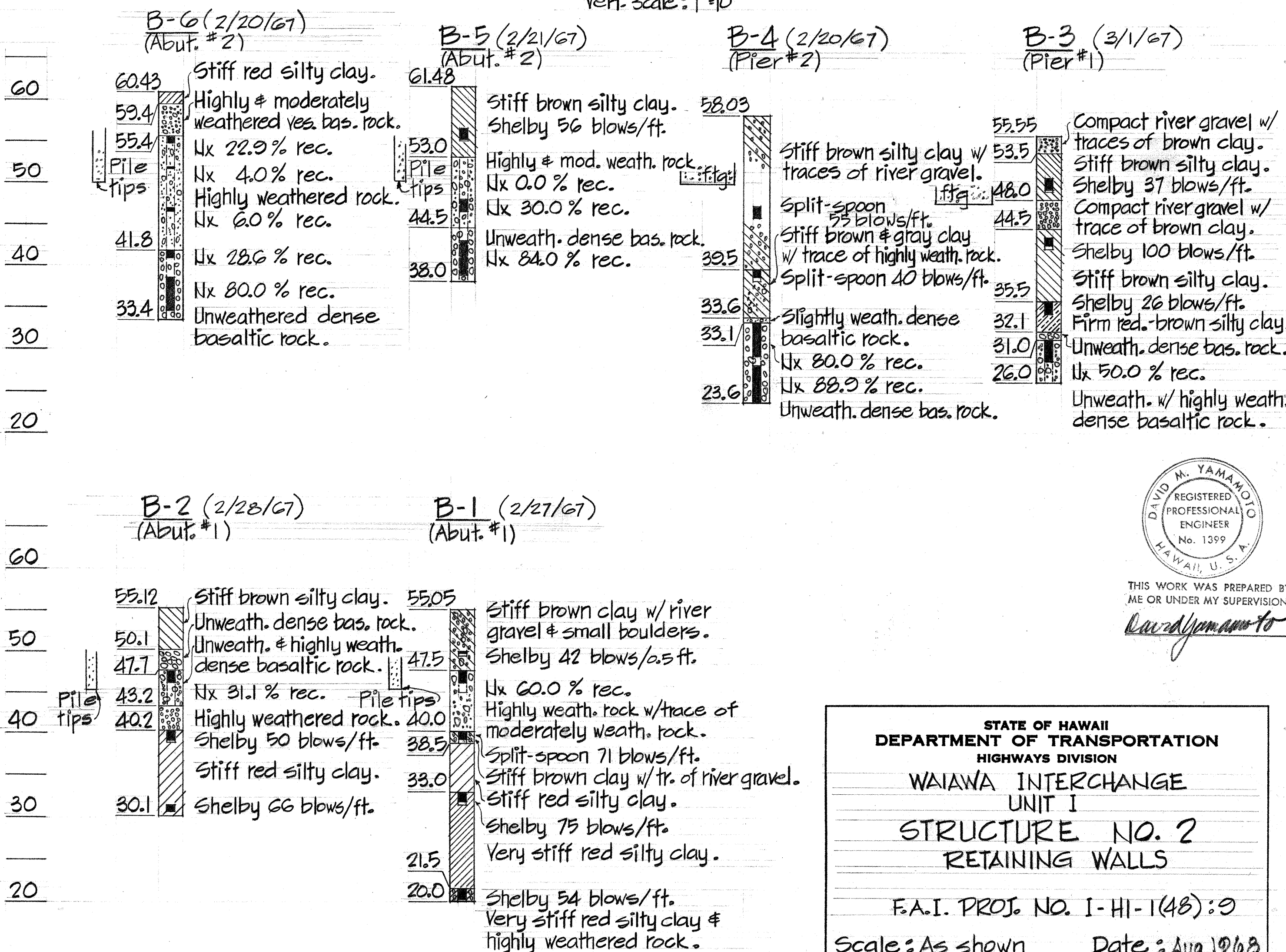
WALL SECTION **B**
Not to scale



VERTICAL REINF. STEEL ARRANGEMENT **C**
Not to scale

BORING LOGS

Vert. scale: 1"=10'



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
WAIANA INTERCHANGE
UNIT I
STRUCTURE NO. 2
RETAINING WALLS
F.A.I. PROJ. NO. I-HI-1(48):3
Scale: As shown Date: Aug. 1968
SHEET No. 8 OF 8 SHEETS