

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

SHEET No.	DESCRIPTION
1	GENERAL INFORMATION
	CIVIL
2	PLANS, PROFILE, DETAILS, & APPROACH WORK
	STRUCTURAL
3	LAYOUT PLAN AND LONGITUDINAL SECTION
4	PROFILE, CAMBER DIAGRAM & RAIL ELEVATIONS
5	FOUNDATION PLAN, COLUMN & FOOTING DETAILS
6	FRAMING PLAN AND RAIL DETAILS
7	DECK SECTIONS AND DETAILS
8	DECK SECTIONS AND DETAILS
9	DECK TOP SLAB REINFORCING PLAN
10	DECK BOTTOM SLAB REINFORCING PLAN
11	TYPICAL PIER CAPS AND ABUTMENT #1 AND ABUTMENT #2 DETAILS
12	ABUTMENT & WING WALL SECTION & DETAILS
13	RETAINING WALL #1 DETAILS
	ELECTRICAL
14	LIGHTING PLAN & DETAILS
15-18	SPECIAL GROUTED RUBBLE PAVING

GENERAL NOTES

SPECIFICATIONS : AASHTO

Standard Specifications for Highway Bridge (10th Edition) with subsequent additions and modifications.

DESIGN LOADS : LIVE LOAD 85 LBS. / P.S.F.

DESIGN STRESSES : (Class A)

$f_c = 3,000$ P.S.I.

$f_c = 1,200$ P.S.I.

$n = 10$

$f_s = 20,000$ P.S.I.

Soil pressure = 4,000 p.s.f.

MATERIALS :

- All concrete shall be Class A unless otherwise noted on plans.
- Concrete clear cover for reinforcing bars shall be as follows unless otherwise noted:
 - $1\frac{1}{2}$ " for stirrups on sides of beams
 - $2\frac{1}{2}$ " to main reinforcing of pier caps
 - $2\frac{1}{2}$ " to main reinforcing of columns
 - 2" for formed walls
 - 3" for footings
- All reinforcing steel to be ASTM Designation A-615 Billet steel, intermediate grade, except as otherwise noted.
- All elastomeric bearing pads shall be 60 hardness pads.
- All structural steel shall be ASTM A-36 steel and galvanized unless noted otherwise.

CONSTRUCTION METHODS :

- Sides of footings shall be excavated and poured to neat lines when called for on plans. For excavation of bottom of footings, see Standard Specifications. Over excavation beyond neat lines for sides of footings and the elevations indicated on the plans for the bottom of footings shall be backfilled with a minimum of Class D concrete at the Contractor's expense and as directed by the Engineer.
- All backfill behind abutments shall be complete in place before placing of superstructure.
- Vertical columns bars shall be arranged in such a manner as to miss pier cap reinforcing above.
- In general, top of concrete deck of structure shall be constructed to follow the finish overpass vertical and horizontal curves and grades.

CAMBER :

- Obtain camber by forming and shoring concrete surfaces above profile grades amount shown in camber diagram and as indicated on detailed drawings.

GENERAL :

- The Contractor shall verify the location of all existing utility lines and notify their respective owners before commencing with work.
- The Contractor shall furnish shop placement and detail drawings for all structural steel work.

METAL RAILING :

- All railings to be galvanized after fabrication - see specifications and special provisions for galvanizing, refinishing of damage galvanizing and finishing of weld.
- All welds shall conform to the latest edition of the "Specification for Welding Highway and Railway of the American Welding Society".

OVERPASS ESTIMATED QUANTITIES

CONCRETE - LUMP SUM (FOOTING ONLY)	(54 C.Y.)
CONCRETE - LUMP SUM (EXCEPT FOOTING)	(193 C.Y.)
REINFORCING STEEL - LUMP SUM	(63,000 LBS.)
STRUCTURAL EXCAVATION	(338 C.Y.)
METAL RAILING	(475 L.F.)
PRESTRESSED CONCRETE PILES TYPE I	
a. Furnishing - Type I prestressed concrete piles	(950 L.F.)
b. Driving concrete piles	(915 L.F.)

SYMBOLS AND ABBREVIATIONS

G-I GIRDER NUMBERS

① COLUMN NUMBER

② TYPE I PILES

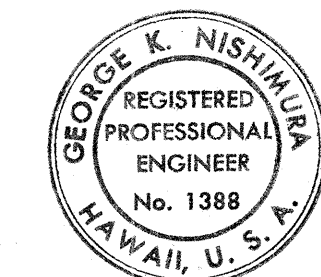
Ⓐ SECTION OR DETAIL DESIGNATION
10 SHEET NUMBER

⊙ BORING LOCATION

B-I BORING MARK

F-I FOOTING MARK

Exp.	BASELINE
No.	EXPANSION
E.W.	NUMBER
E.F.	EACH WAY
Spc.	EACH FACE
W.P.	SPACE
B.F.	WORKING POINT
N.F.	BACK FACE
F.F.	NEAR FACE
bal.	FAR FACE
Cont.	BALANCE
Pt.	CONTINUOUS
ca.	POINT
Sht.	EACH
Bot.	SHEET
Elev. or El.	BOTTOM
Std.	ELEVATION
	STANDARD



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By K. Nishimura

C.C.O. #66

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GENERAL INFORMATION

PEDESTRIAN OVERPASS AT
PUULOA INTERCHANGE

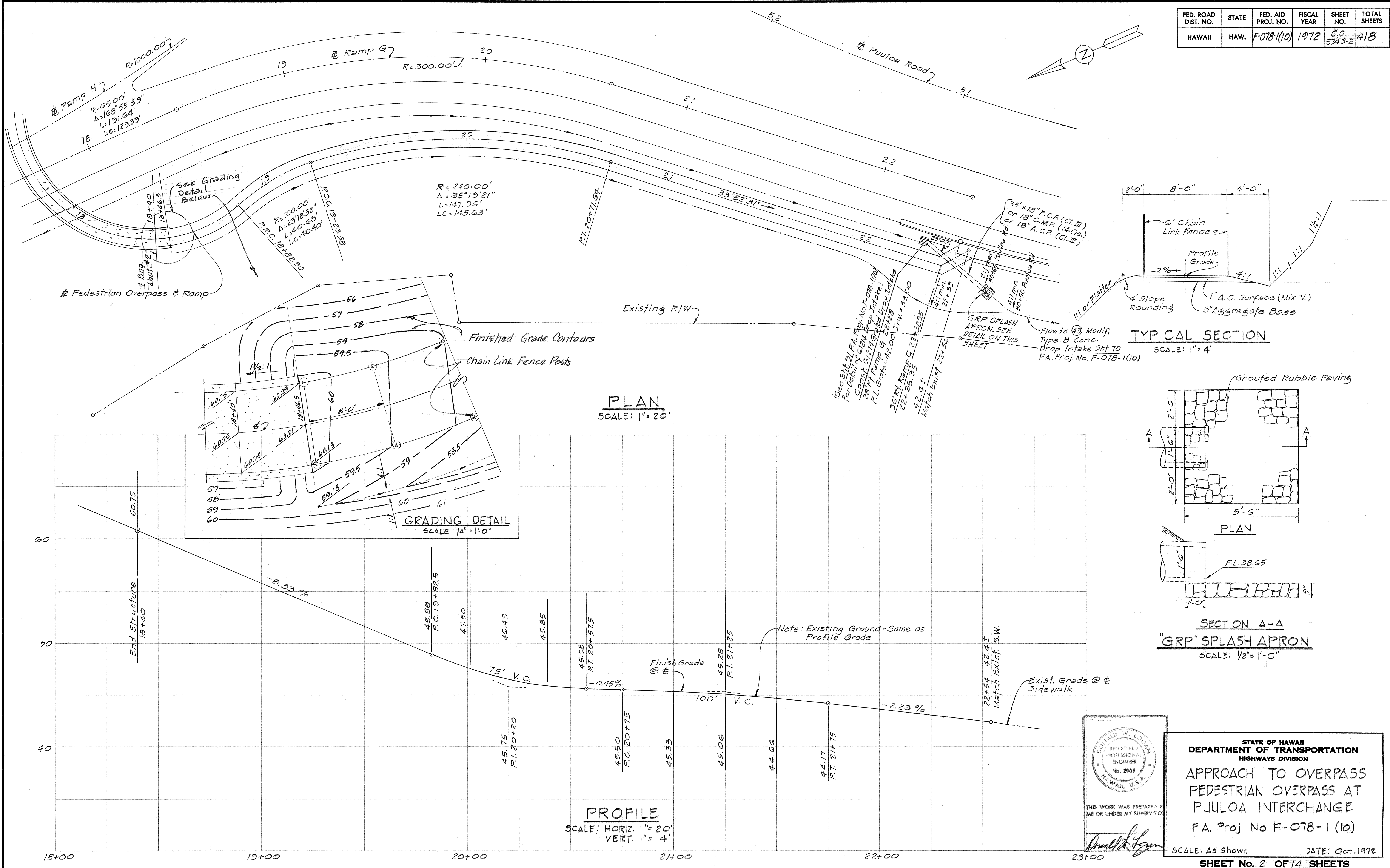
F.A. Proj. No. F-07B-1 (10)

Scale: As noted Date: Oct. 1972

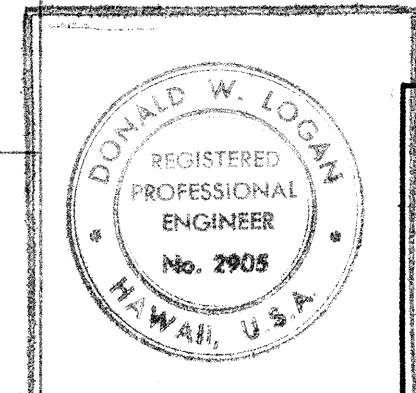
SHEET No. 1 OF 14 SHEETS

C.O. 374 S-1

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-078-1(10)	1972	C.O. 374 S-2	418



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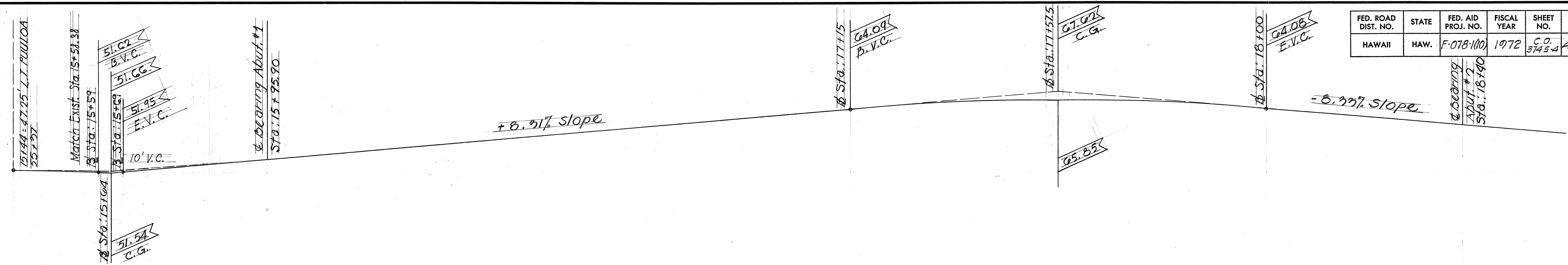
APPROACH TO OVERPASS
PEDESTRIAN OVERPASS AT
PUULOA INTERCHANGE
F.A. Proj. No. F-078-1 (10)

SCALE: As Shown DATE: Oct. 1972

SHEET No. 2 OF 14 SHEETS

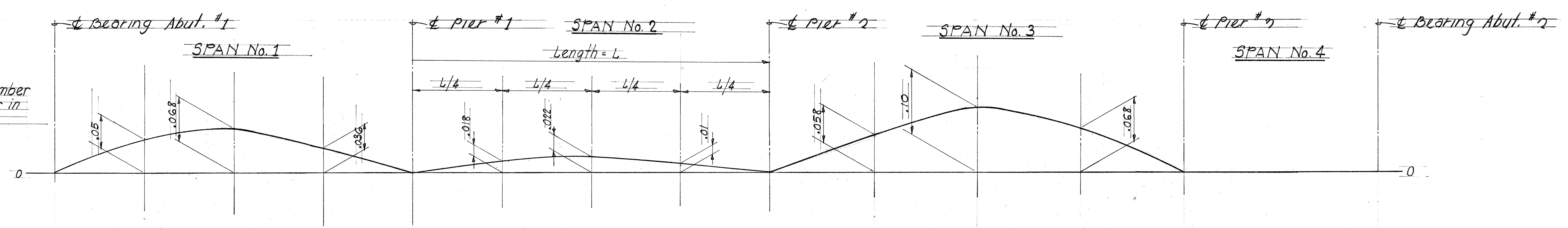
C.O. 374 S-2

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-078-1(10)	1972	C.O. 374 S-4	418

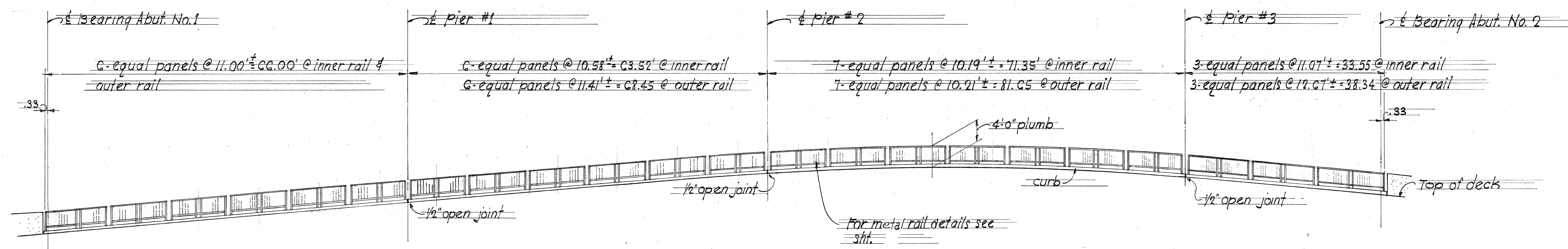


PROFILE OF STRUCTURE
Scale: 1" = 20'-0"

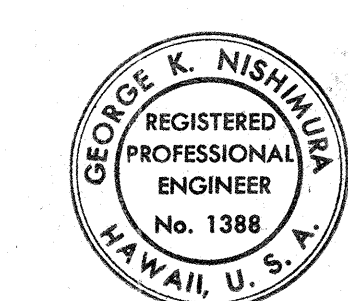
NOTE:
Numbers shown in camber diagram are camber in feet.



DECK CAMBER DIAGRAM
Scale: Horiz. 1" = 10'-0" Vert. = full scale



PROFILE METAL RAILING Scale: 1" = 1'-0"



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
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PROFILE, CAMBER DIAGRAM AND RAIL ELEVATIONS

PEDESTRIAN OVERPASS AT PUULOA INTERCHANGE

F.A. Proj. No. F-078-1(10)
Scale: As noted Date: Oct. 1972

SHEET No. 4 OF 14 SHEETS

C.O. 374 S-4

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-078-1(10)	1972	C.O. 374 S-5	418

COLUMN ELEVATION SCHEDULE

Col. No.	Top of Ftg.	Top of col. Elevation
①	30.83	55.68
②	40.00	61.00
③	39.83	59.71

NOTE:

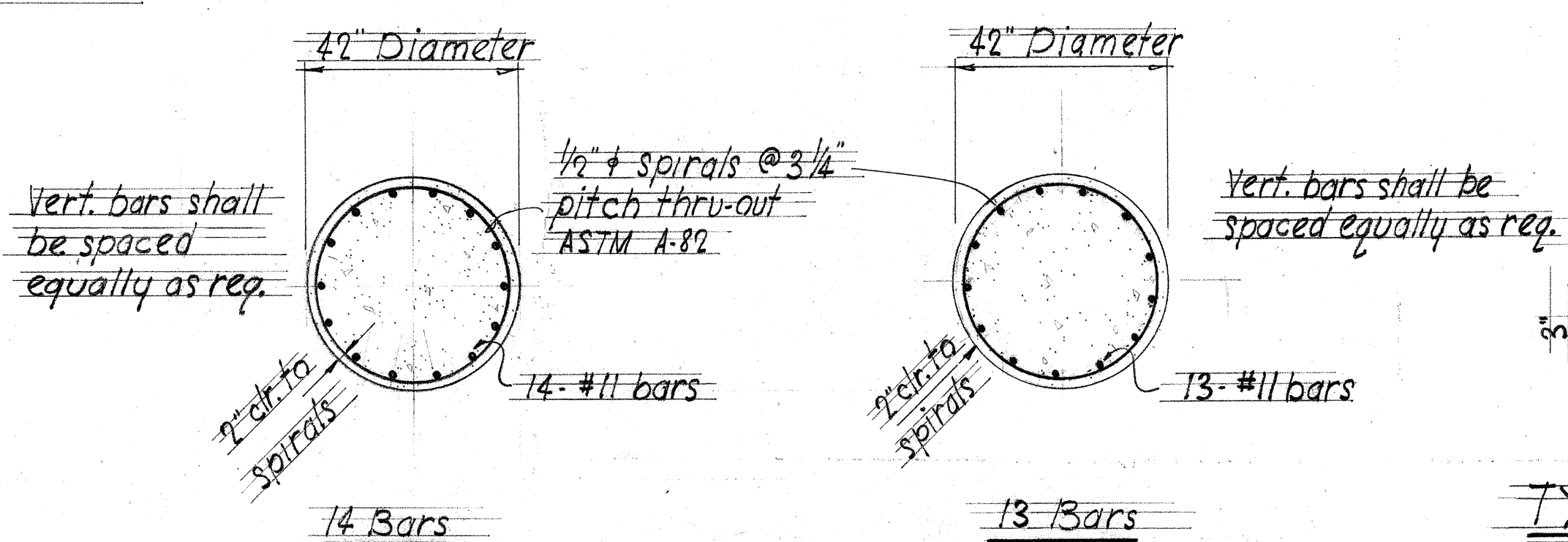
1. All column vertical reinforcing shall be ASTM A-G15 grade 40
2. For top of column and top of ftg. elevations - see adjacent schd.
3. No mechanical splices will be permitted

FOOTING SCHEDULE

Mark	Footing size	Depth	Reinforcement	
			Long bars	Short bars
F-1	12'-0" x 12'-0"	1'-10"	13-#8 x 11'-6" lq.	13-#8 x 11'-6" lq.
F-2	14'-0" x 10'-0"	2'-0"	13-#10 x 9'-6" lq.	15-#7 x 13'-6" lq.
F-3	13'-0" x 10'-0"	1'-10"	11-#10 x 12'-6" lq.	15-#6 x 9'-6" lq.

TYPICAL FOOTING & COLUMN ELEVATION

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



TYPICAL KEY DETAIL

Not to scale

COLUMN SECTION No. ①

Not to scale

COLUMN SECTION No. ③

Not to scale

COLUMN SECTION No. ②

not to scale

FOUNDATION PLAN

Scale: 1" = 10'-0"

NOTE:

1. Longer dimension of footings shall be placed in the longitudinal direction of the superstructure.

NOTE:

1. () - Denotes Type I piles 32 ton capacity.
2. [El. 00.00] - Denotes pile cut off elevation.
3. (El. 00.00) - Denotes pile tip elevation.
4. For Type I piles details - refer to Puuloa Interchange Plans on Sht. # 5-7.

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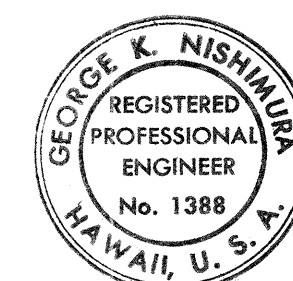
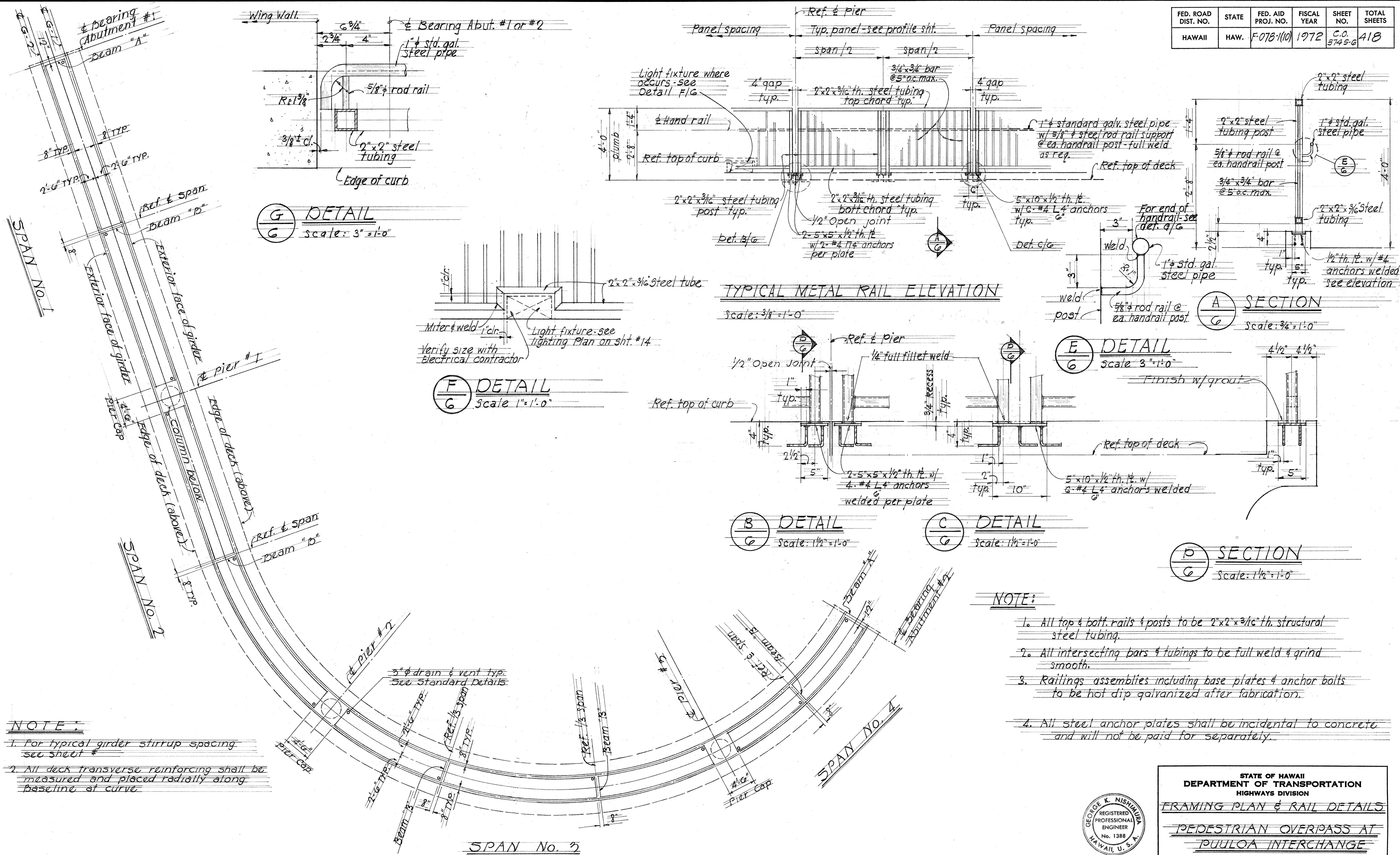
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
FOUNDATION PLAN, COLUMN & FOOTING DETAILS
PEDESTRIAN OVERPASS AT
PUULOA INTERCHANGE
F.A. Proj. No. F-078-1 (10)
Scale: As noted Date: Oct. 1972

SHEET No. 5 OF 14 SHEETS

C.O. 374 S-5

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-078-1(10)	1972	C.O. 374 S-6	418

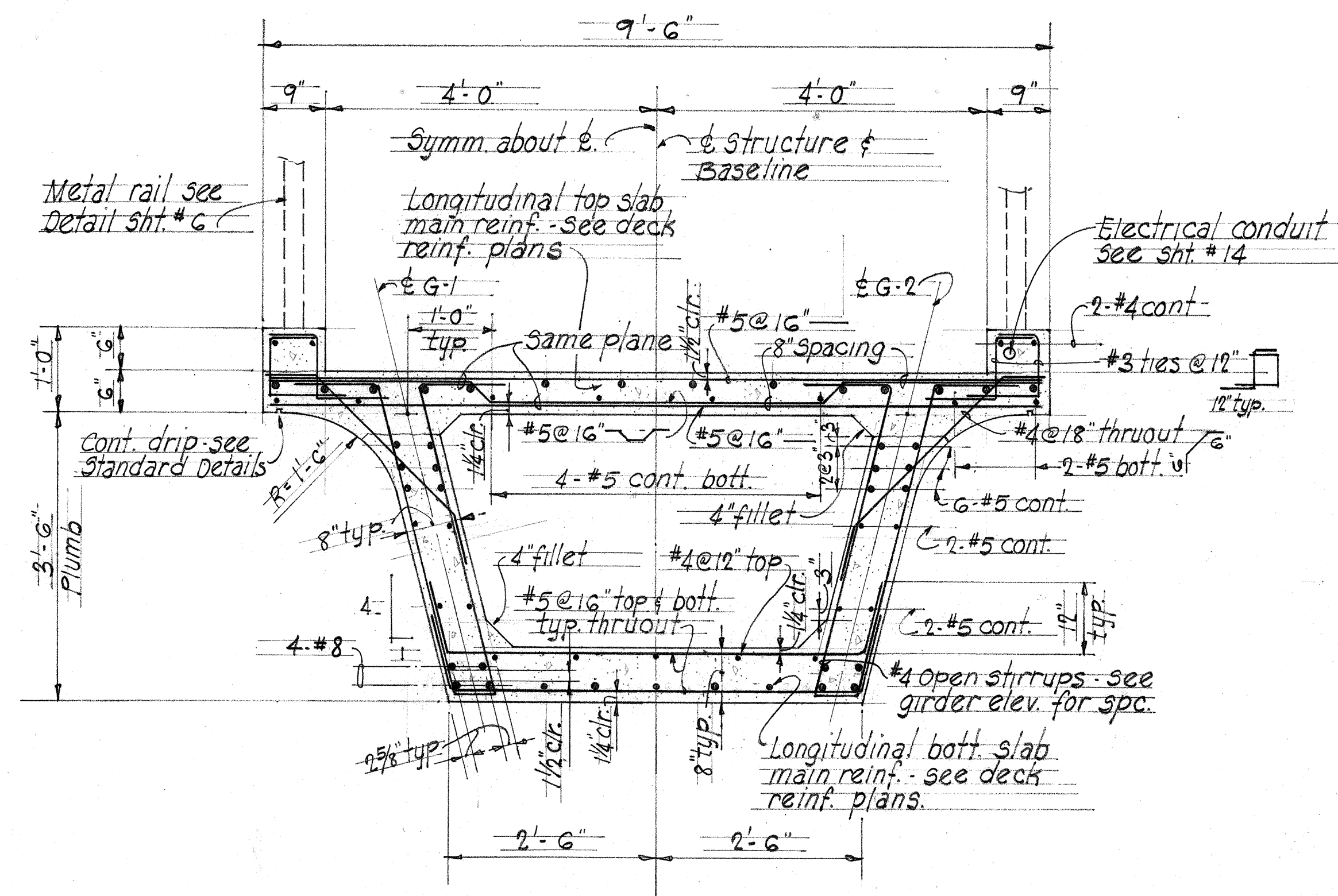


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STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
FRAMING PLAN & RAIL DETAILS	
PEDESTRIAN OVERPASS AT PUULOA INTERCHANGE	
F.A. Proj. No. F-078-1(10)	
Scale: As noted	Date: Oct 1972
SHEET No. 6 OF 14 SHEETS	

C.O. 374 S-6

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-078-1(10)	1972	C.O. 374 S-7	418

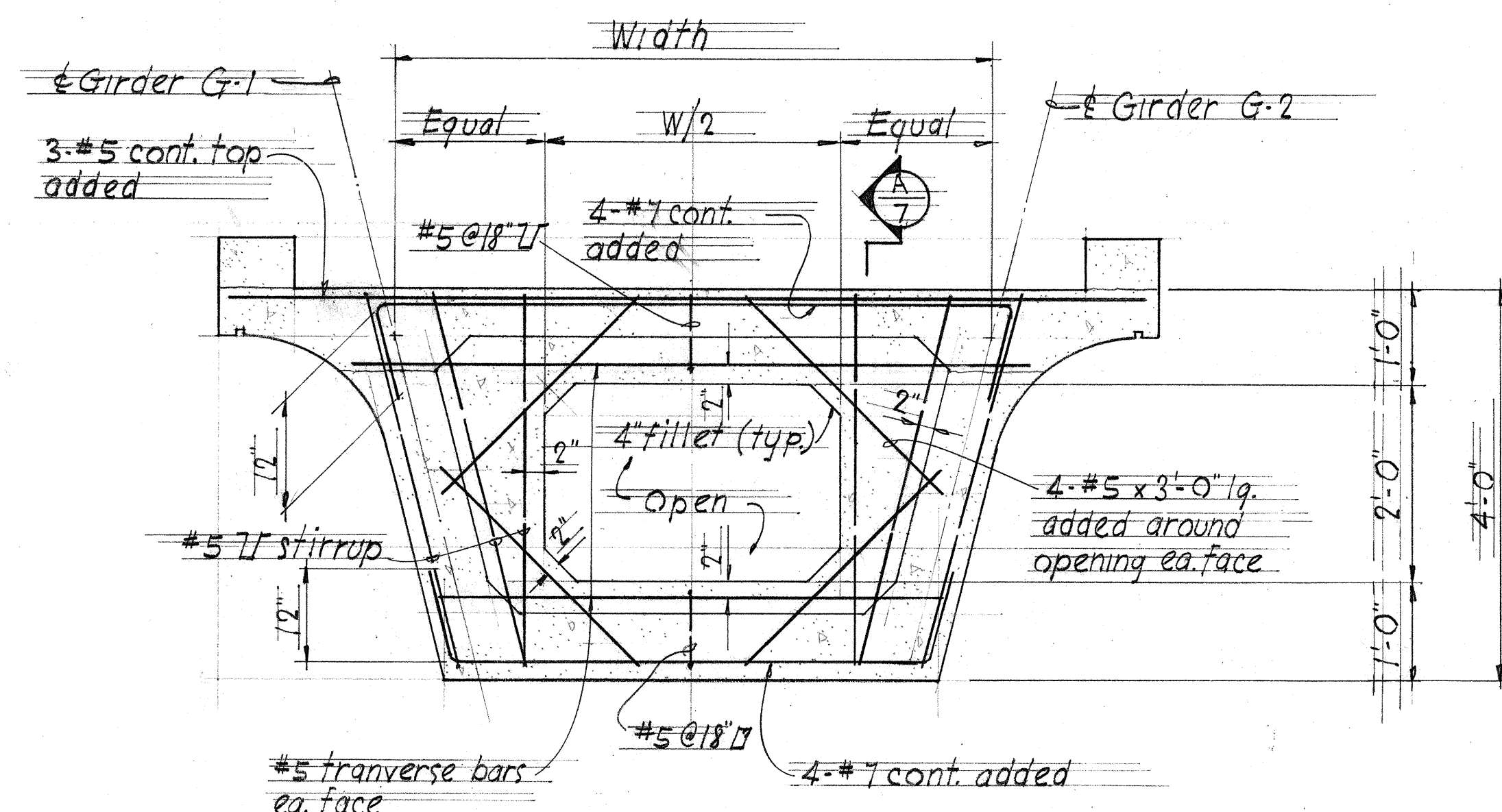


NORMAL DECK SECTION

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

NOTE:

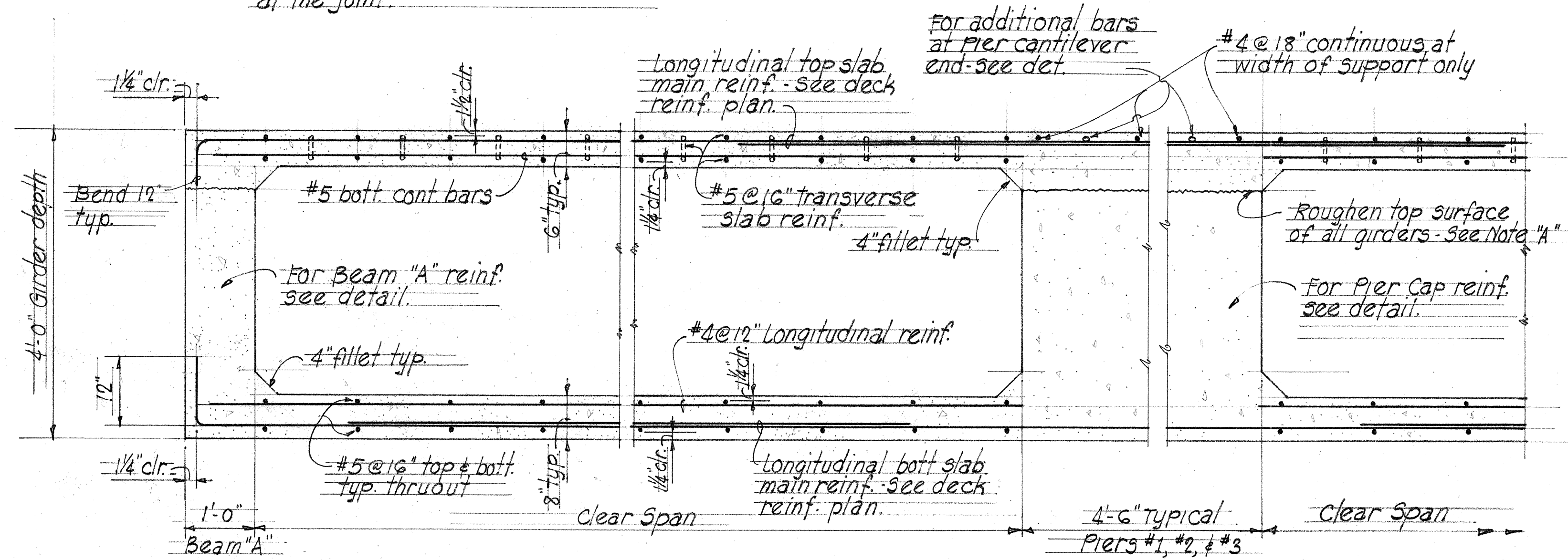
In general all transverse reinf. shall be measured and placed normal or radial to baseline.
For Standard Details refer to Puuloa Interchange plans on sheets 5-1 thru 5-9.



TYPICAL BEAM "B" DETAIL

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

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

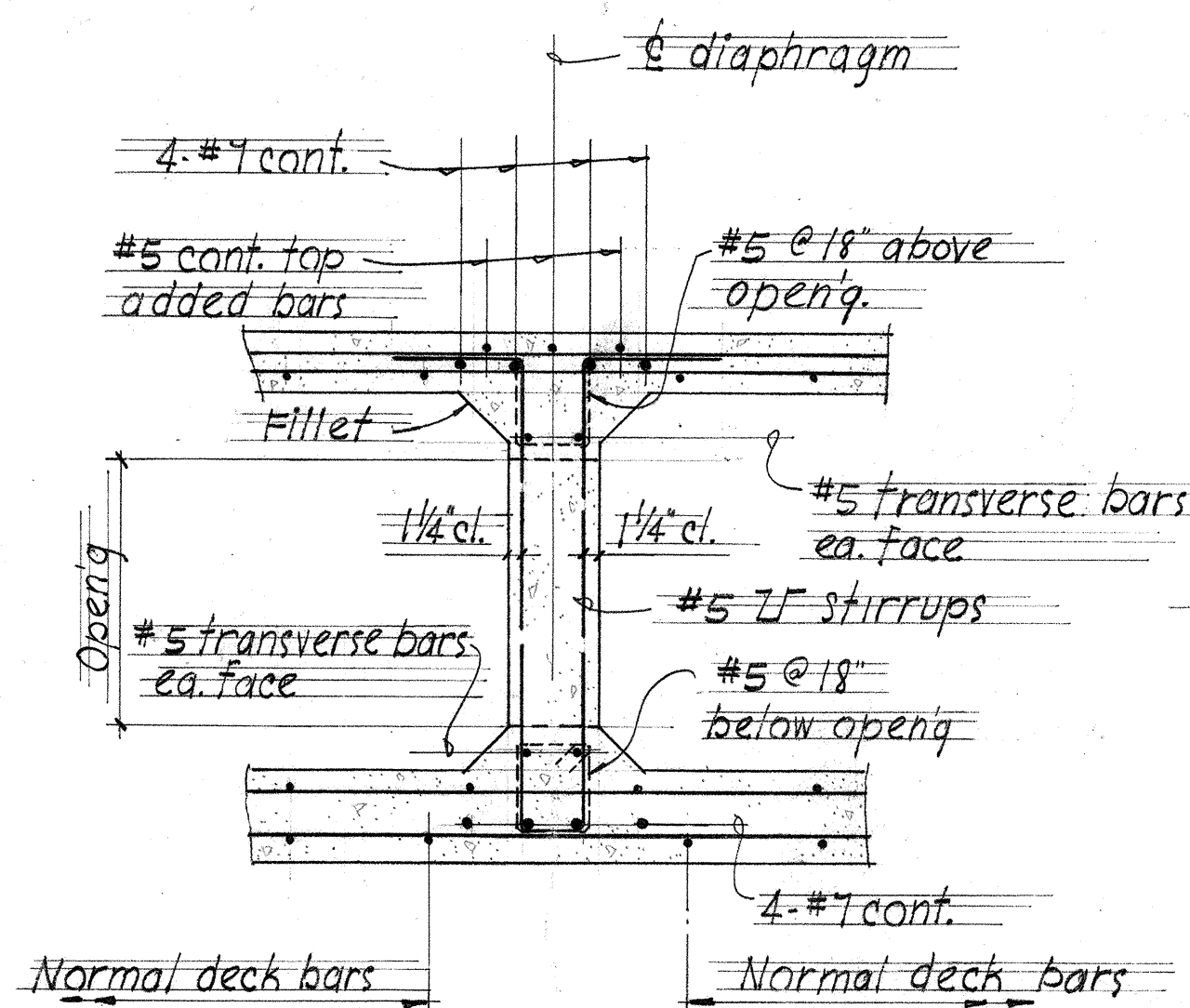


AT NON-CONTINUOUS END

AT CONTINUOUS SUPPORT

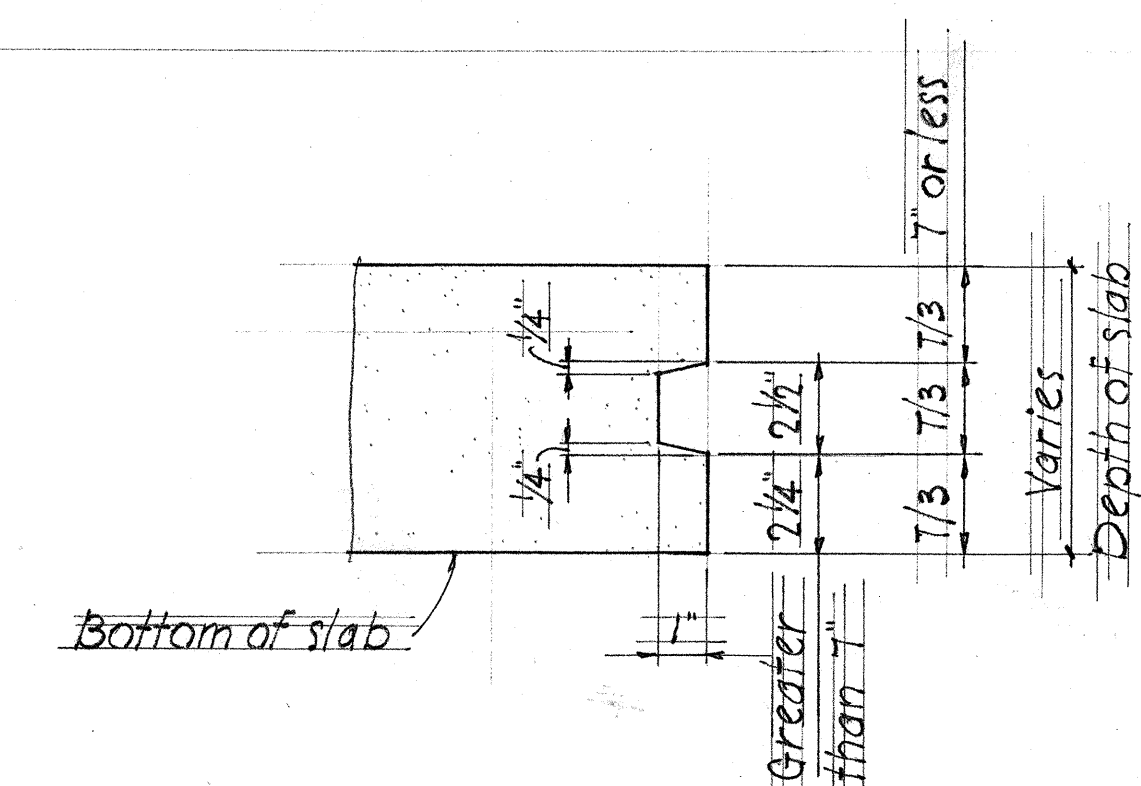
TYPICAL LONGITUDINAL DECK SECTION

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



SECTION A-7

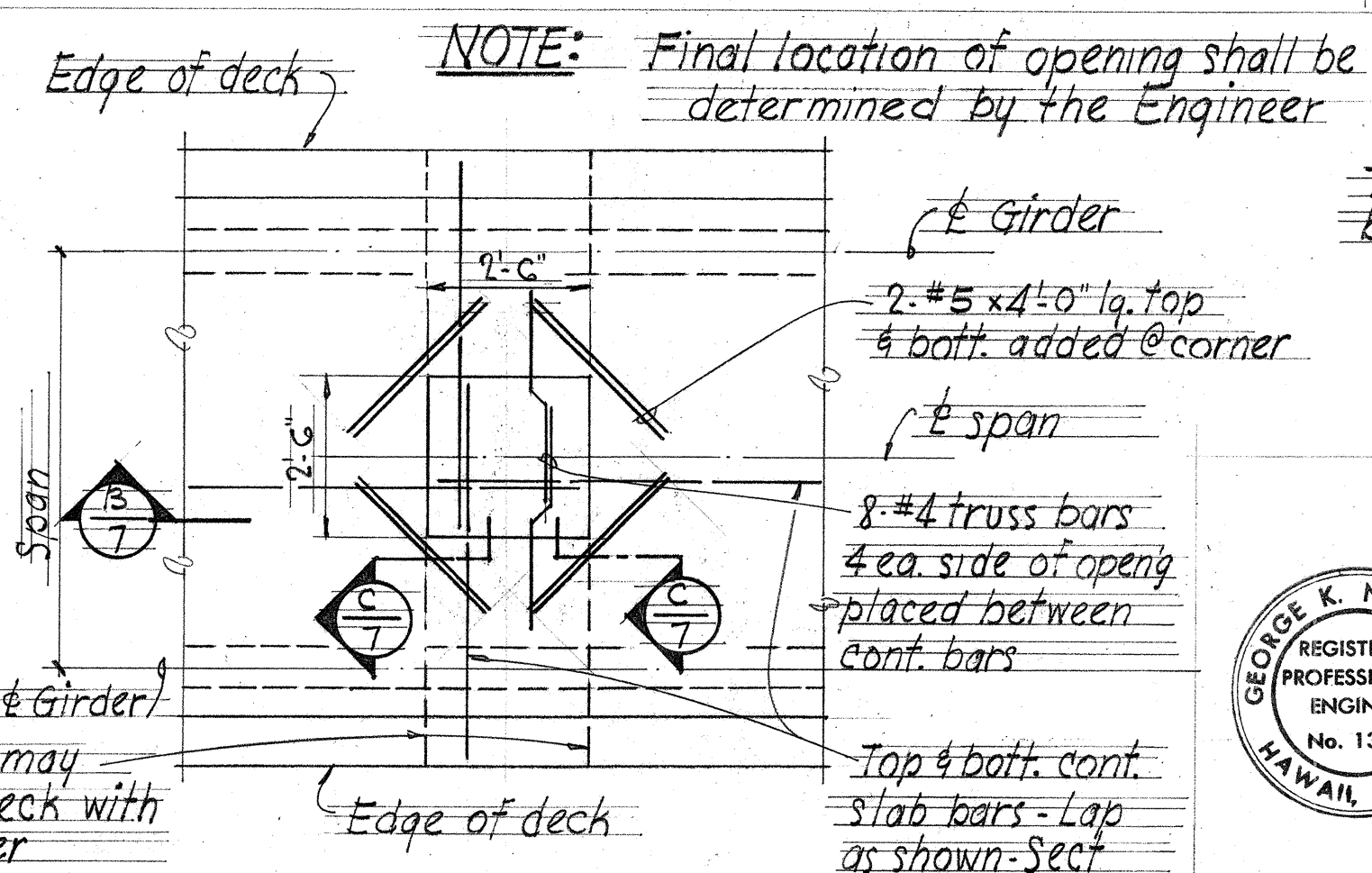
Scale: 3/4" = 1'-0"



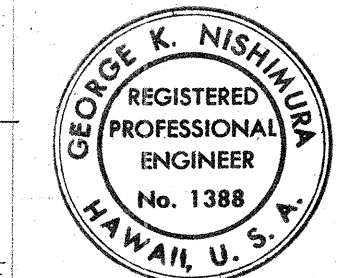
TYPICAL SLAB CONSTRUCTION

JOINT DETAIL Not to scale

NOTE: Form removal opening at top slab shall not be located where main slab bars occur.



PART PLAN - DECK SHOWING FORM REMOVAL OPENING



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DECK SECTIONS & DETAILS

PEDESTRIAN OVERPASS AT PUULOA INTERCHANGE

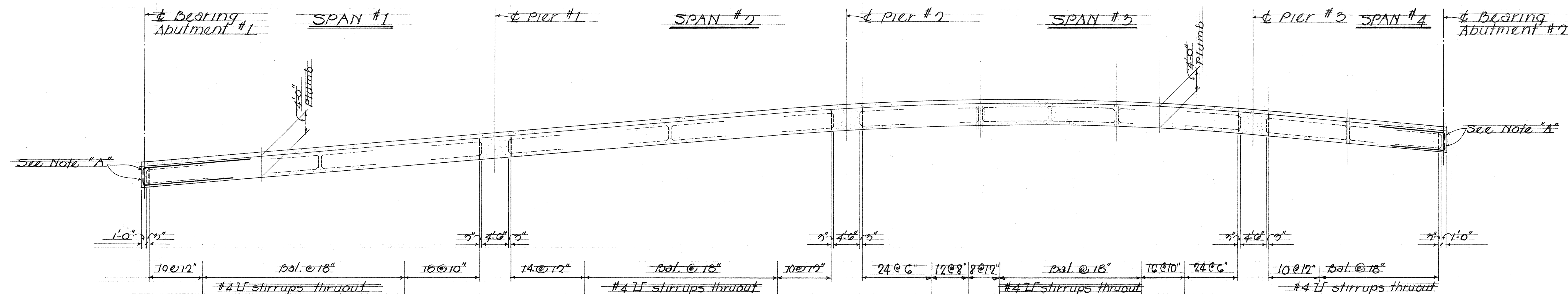
F.A. Proj. No. F-078-1 (10)

Scale: As noted Date: Oct. 1972

SHEET No. 7 OF 14 SHEETS

C.O. 374 S-7

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-078-1(10)	1972	C.O. 374 S-8	418



GIRDER STIRRUP SPACINGS - SPAN Nos. 1, 2, 3, & 4

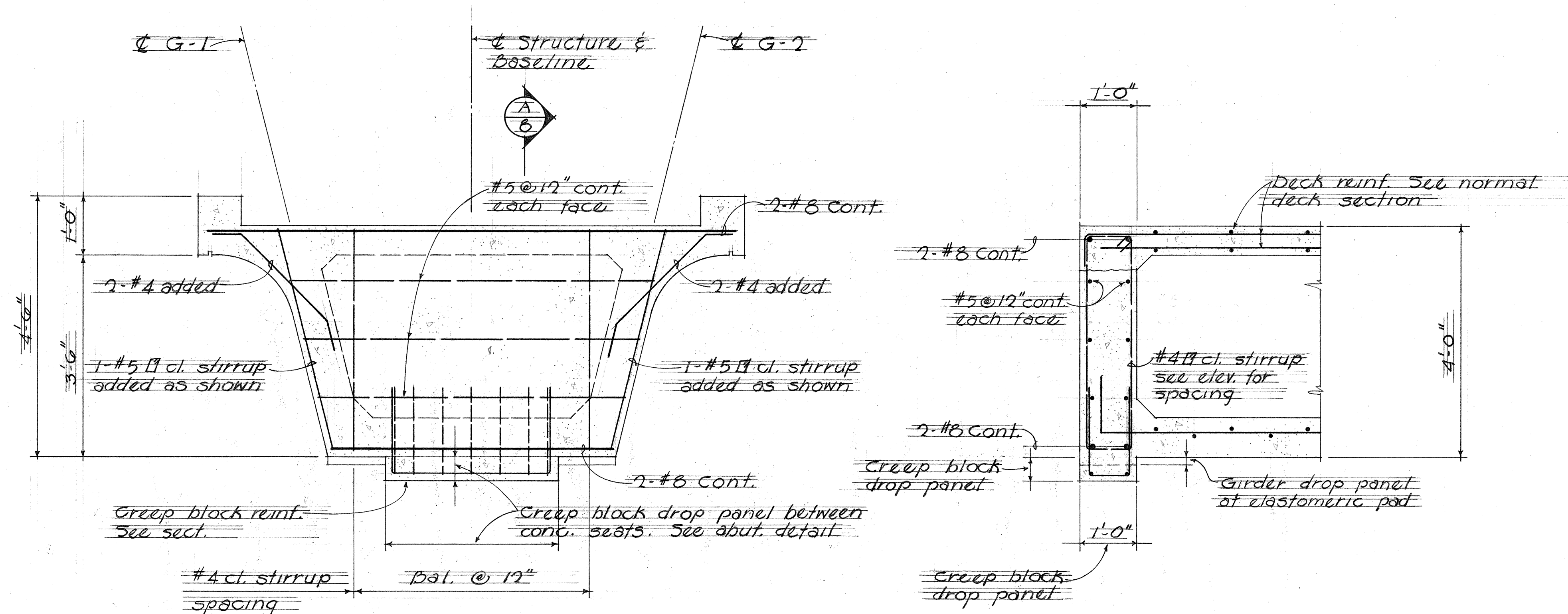
Scale: 1" = 10'-0"

NOTES:

- All stirrups to be placed plumb.
- Girder depth measured plumb - See normal deck section.
- For permissible girder construction joints refer to Puuloa Interchange Plans on sht. # 5-3

NOTE: "A"

Bend ends of all top & bottom slab main reinforcing at beams where occurs.
See longitudinal section sheet #

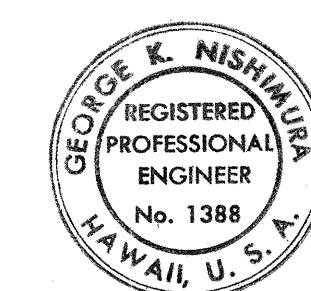


ELEVATION BEAM "A"

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

SECTION

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



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HIGHWAYS DIVISION

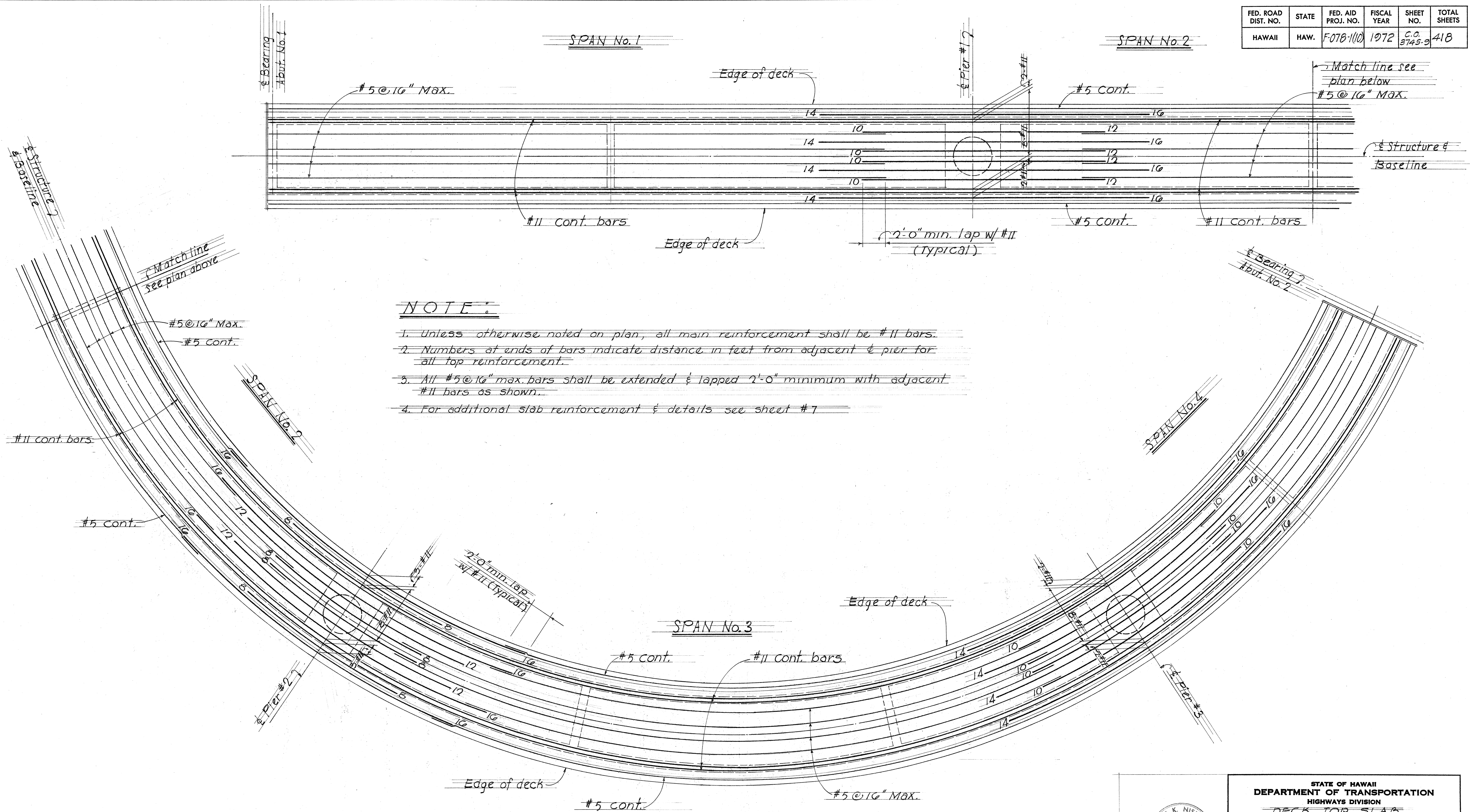
DECK SECTIONS & DETAILS
PEDESTRIAN OVERPASS AT
PUULOA INTERCHANGE

F.A. Proj. No. F-078-1(10)
Scale: As noted Date: Oct. 1972

SHEET No. 8 OF 14 SHEETS

C.O. 374 S-8

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-07B-110	1972	C.O. 374S-9	418

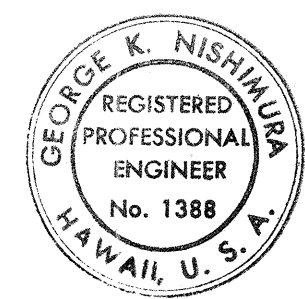


NOTE:

1. Unless otherwise noted on plan, all main reinforcement shall be #11 bars.
2. Numbers at ends of bars indicate distance in feet from adjacent pier for all top reinforcement.
3. All #5 @ 16\"
4. For additional slab reinforcement & details see sheet #7

TOP SLAB MAIN REINFORCEMENT PLAN

Scale: 1/4\"



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STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION
**DECK TOP SLAB
 REINFORCING PLAN**
**PEDESTRIAN OVERPASS AT
 PUULOA INTERCHANGE**

F.A. Proj. No. F-07B-110

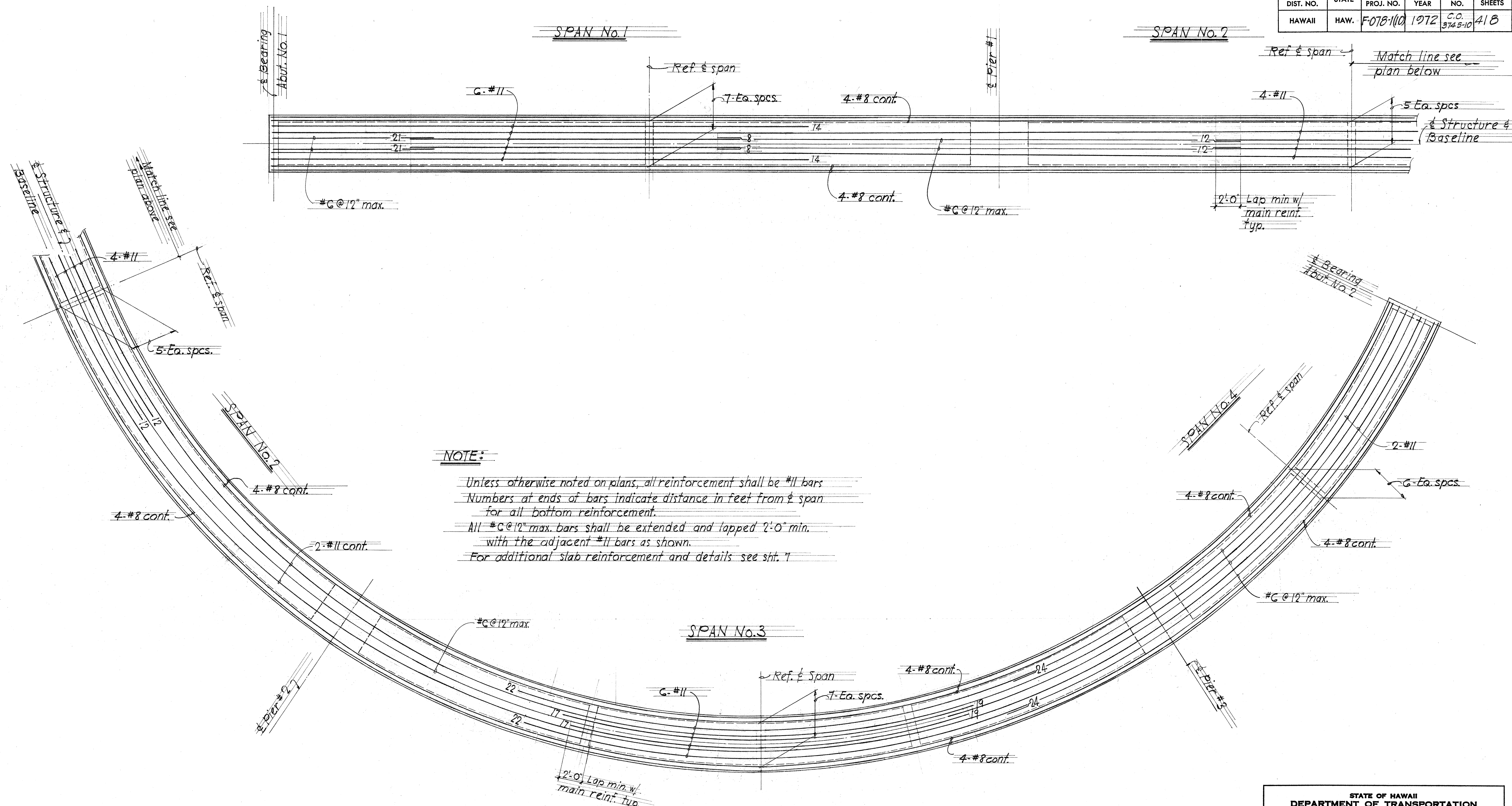
Scale: As noted Date: Oct. 1972

SHEET No. 9 OF 14 SHEETS

C.O. 374S-9

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HAWAII	HAW.	F-078-1(10)	1972	C.O. 374 S-10	418



NOTE:

Unless otherwise noted on plans, all reinforcement shall be #11 bars
 Numbers at ends of bars indicate distance in feet from ϕ span
 for all bottom reinforcement.
 All #C@12" max. bars shall be extended and lapped 2'-0" min.
 with the adjacent #11 bars as shown.
 For additional slab reinforcement and details see sht. 7

BOTTOM SLAB MAIN REINFORCMENT PLAN

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



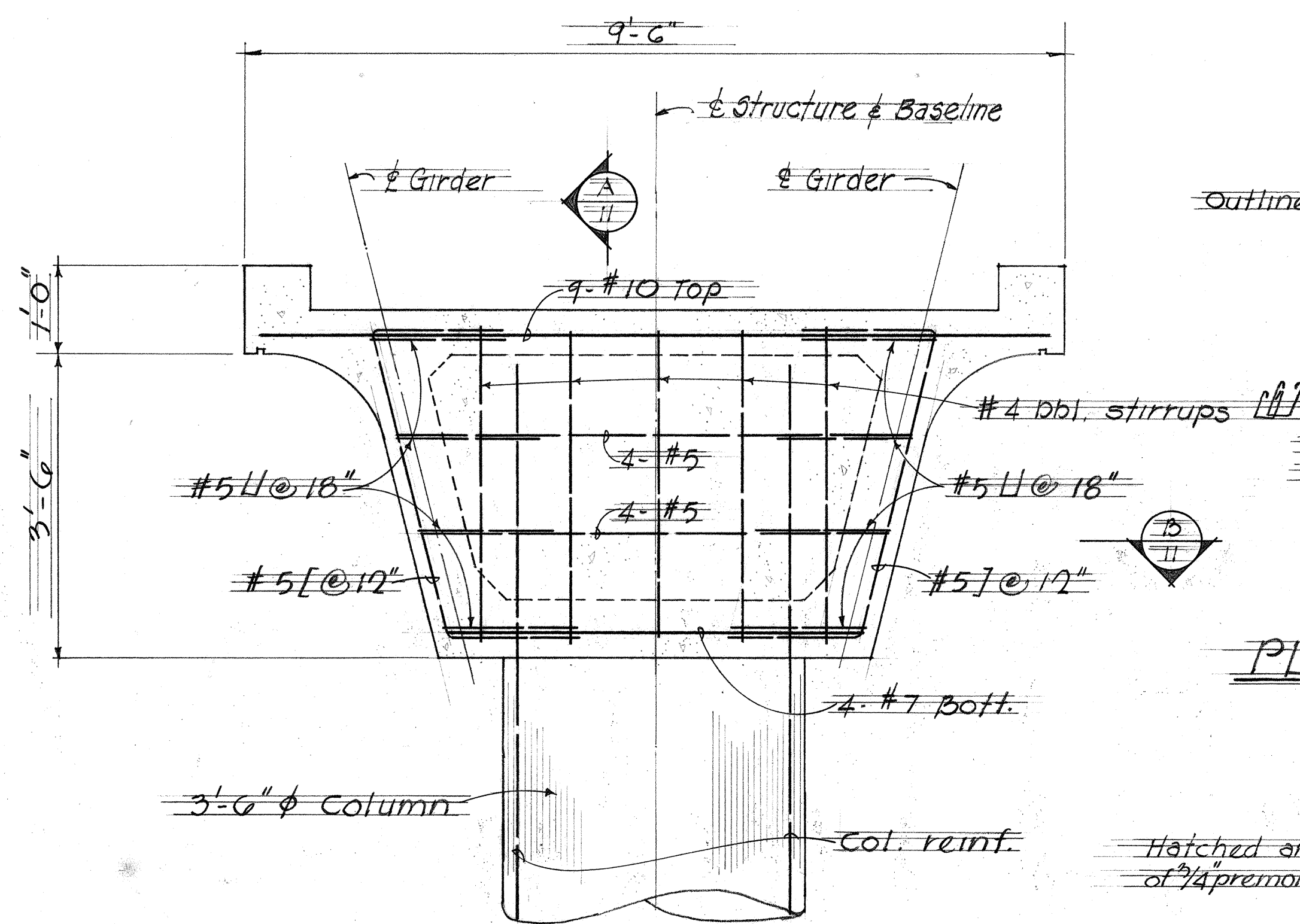
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**DECK BOTTOM SLAB
 REINFORCING PLAN**
**PEDESTRIAN OVERPASS AT
 PUULOA INTERCHANGE**
 F.A. Proj. No. F-078-1 (10)
 Scale: As noted Date: Oct. 1972
 SHEET No. 30 OF 74 SHEETS

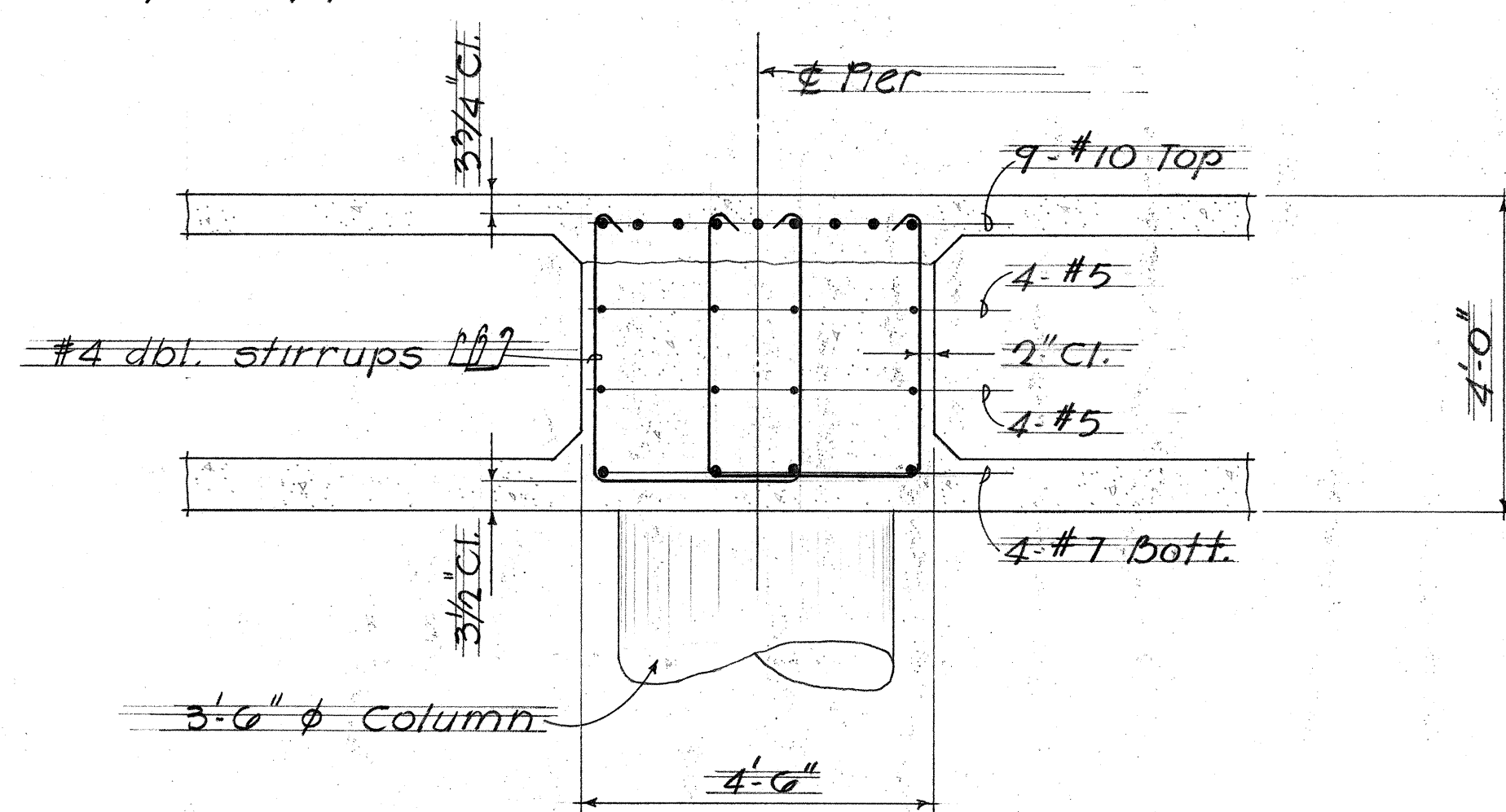
C.O. 374 S-10

ORIGINAL PLAN	DATE
NO. 1	
NO. 2	
NO. 3	
NO. 4	
NO. 5	
NO. 6	
NO. 7	
NO. 8	
NO. 9	
NO. 10	

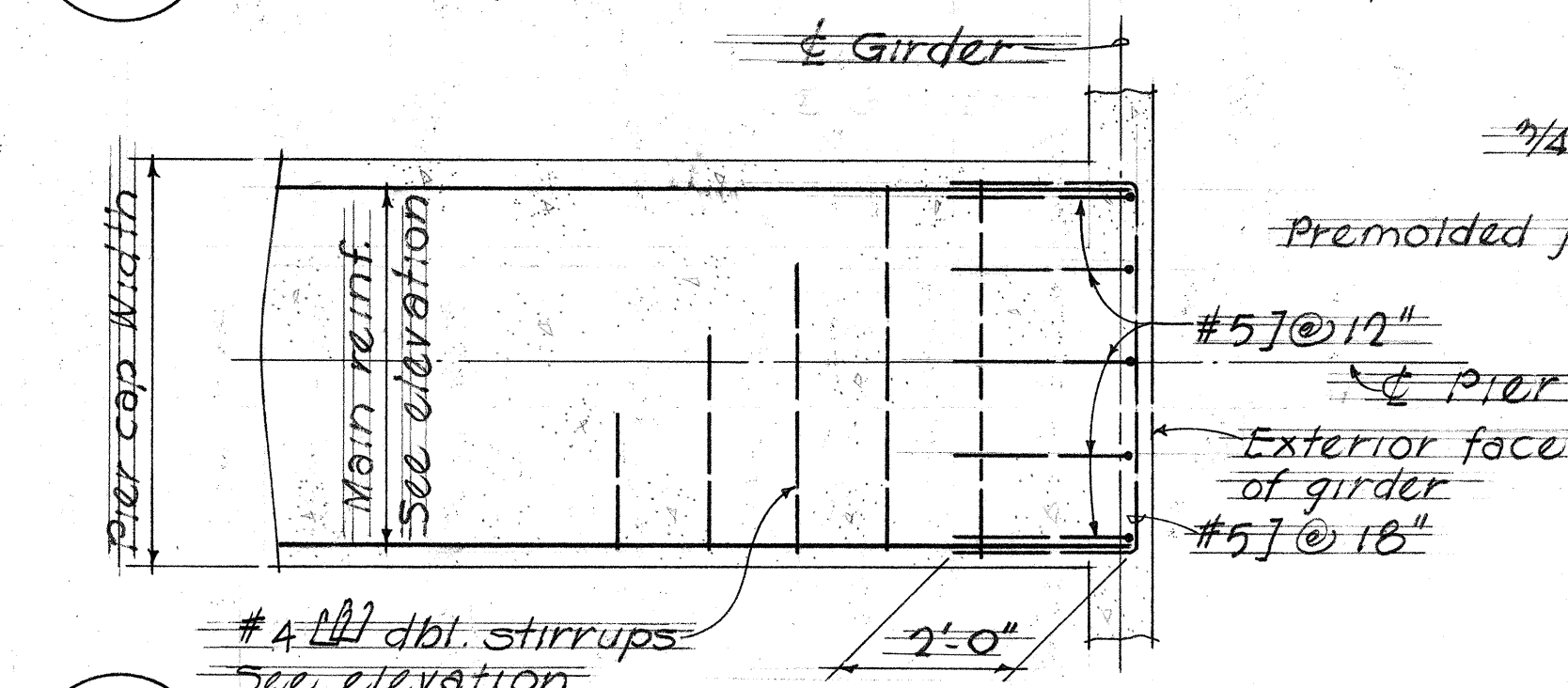
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-078-1(10)	1972	C.O. 3745-11	418



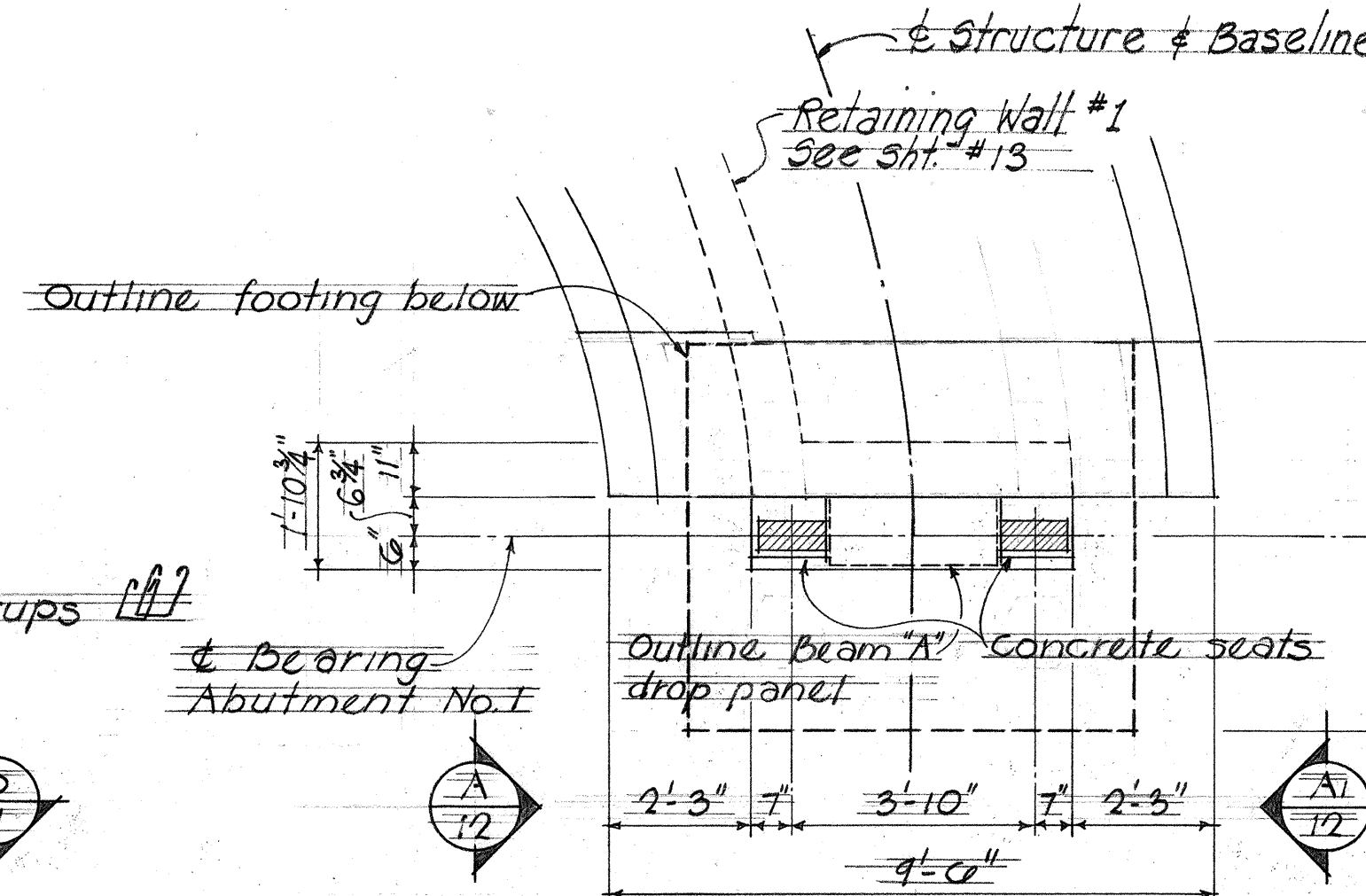
TYPICAL PIER CAP ELEVATION
Scale: $\frac{3}{4}'' = 1'-0''$



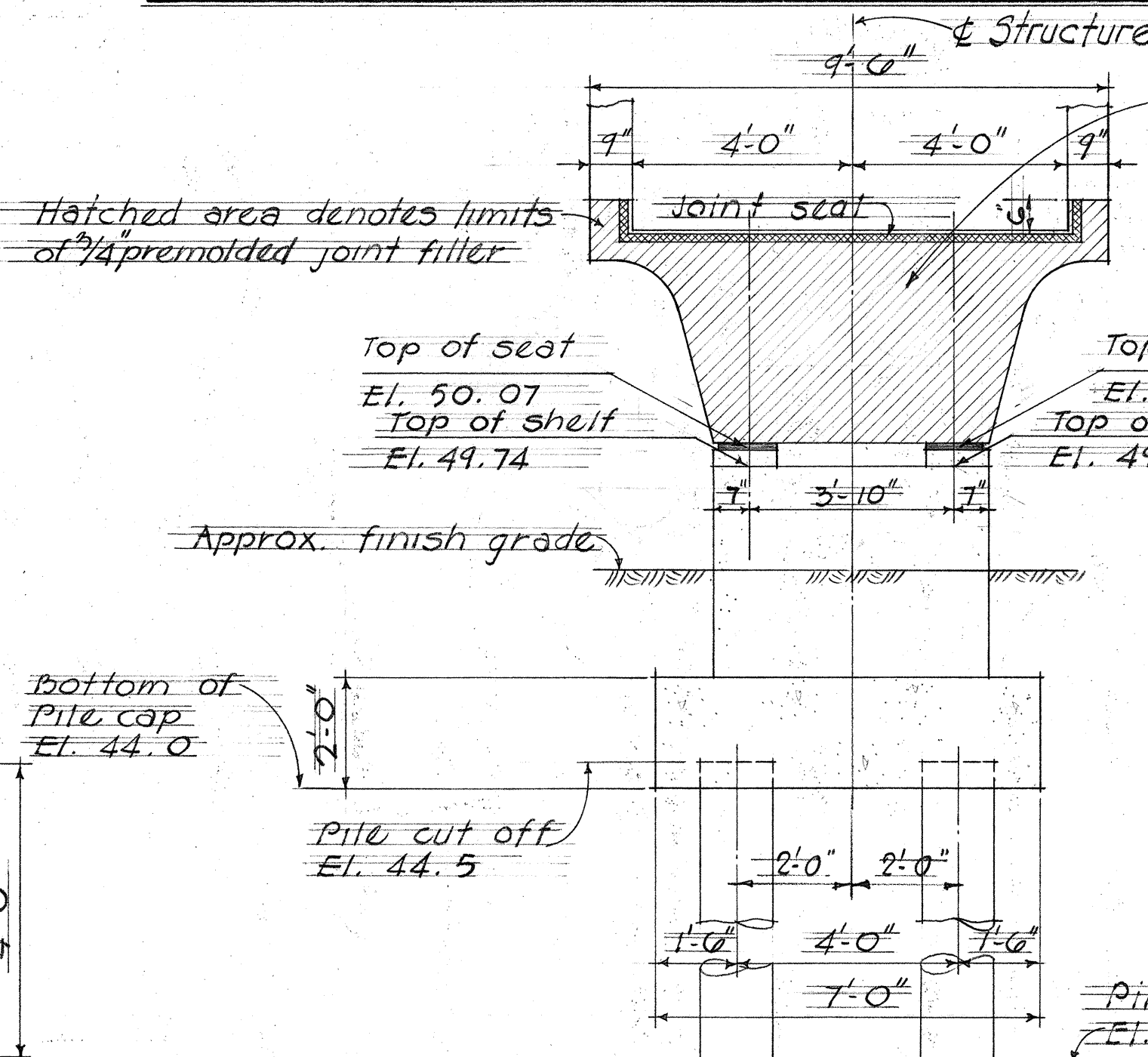
SECTION A-A
Scale: $\frac{1}{2}'' = 1'-0''$



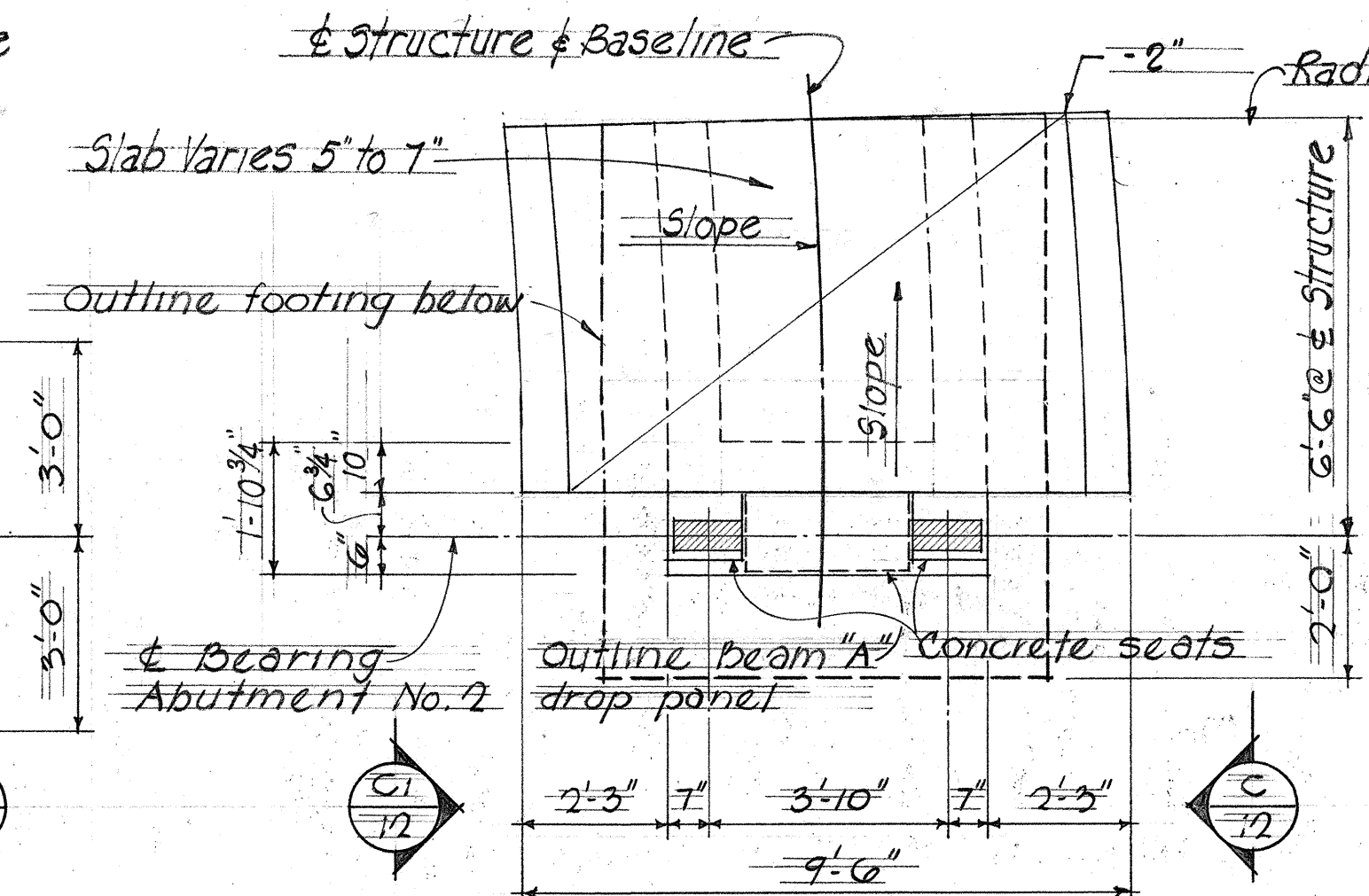
SECTION B-B
Scale: $\frac{1}{2}'' = 1'-0''$



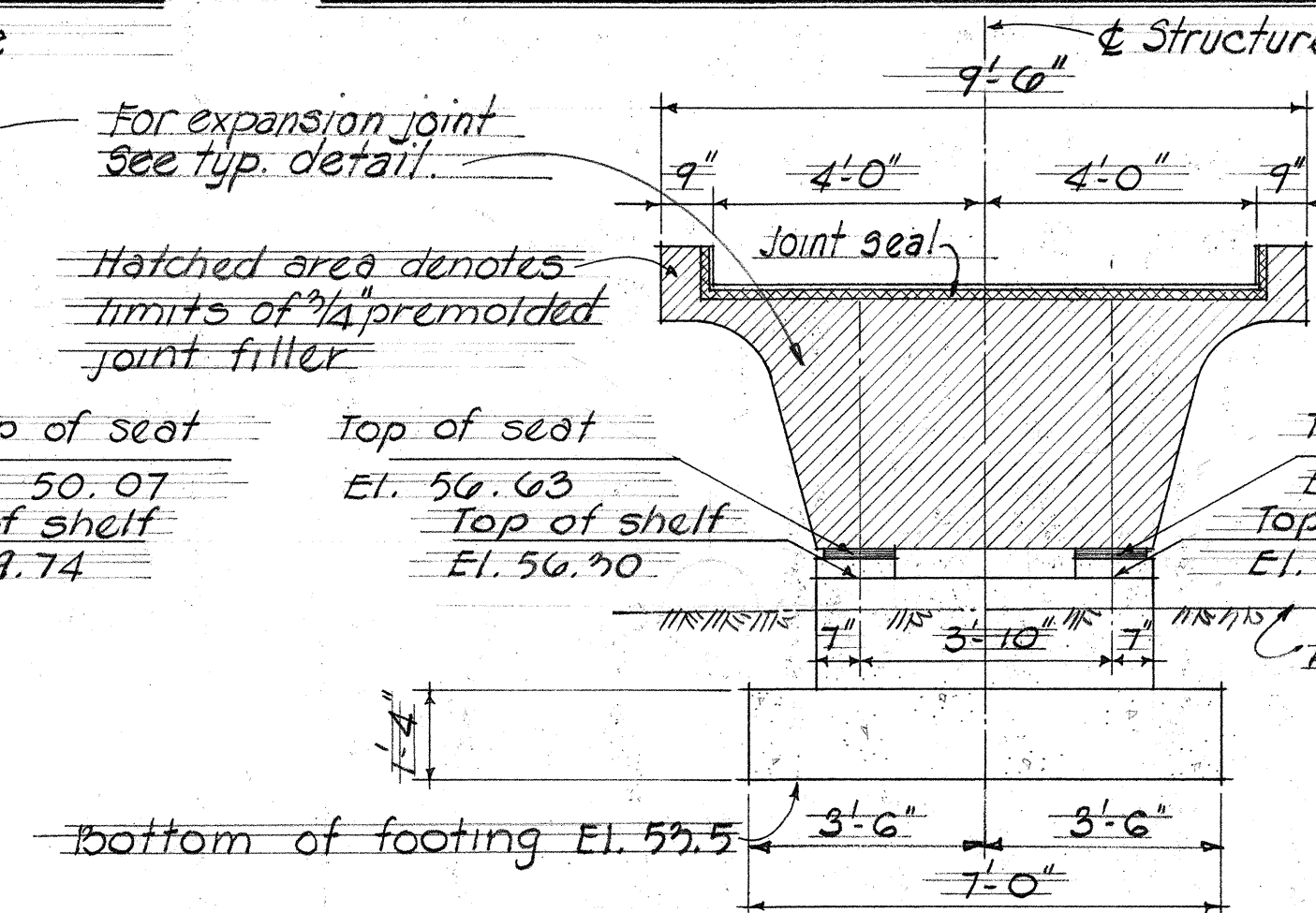
PLAN-ABUTMENT No. 1 Scale: $\frac{3}{8}'' = 1'-0''$



ELEVATION-ABUTMENT No. 1 Scale: $\frac{3}{8}'' = 1'-0''$



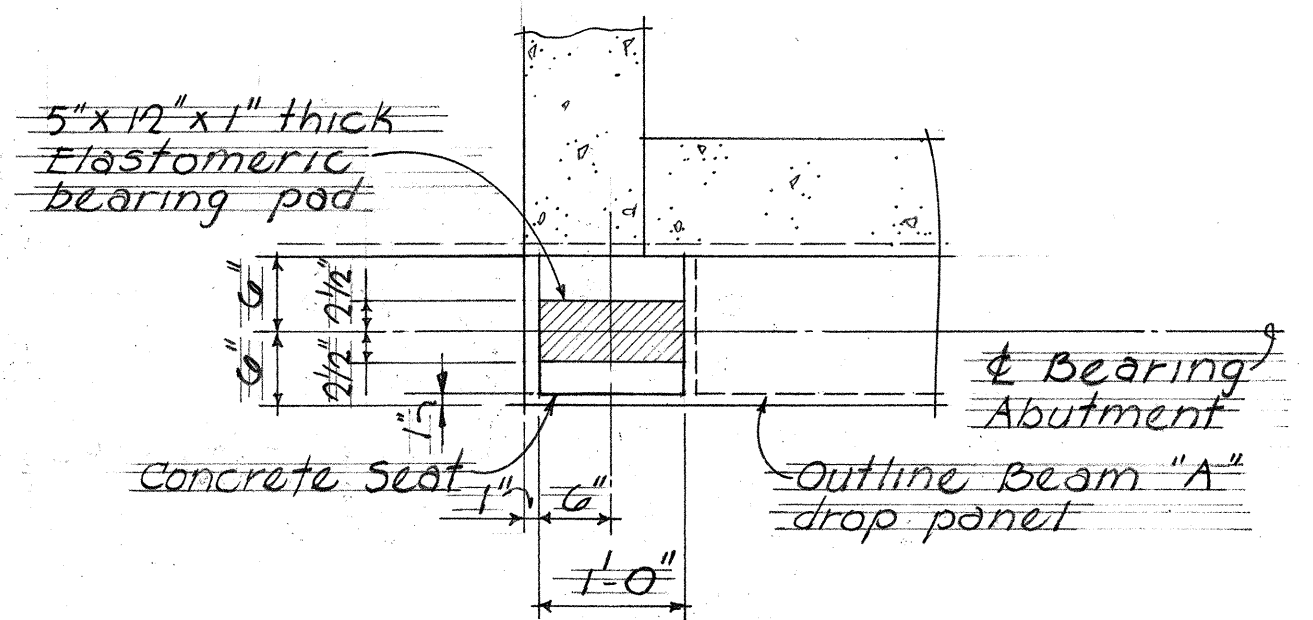
PLAN-ABUTMENT No. 2 Scale: $\frac{3}{8}'' = 1'-0''$



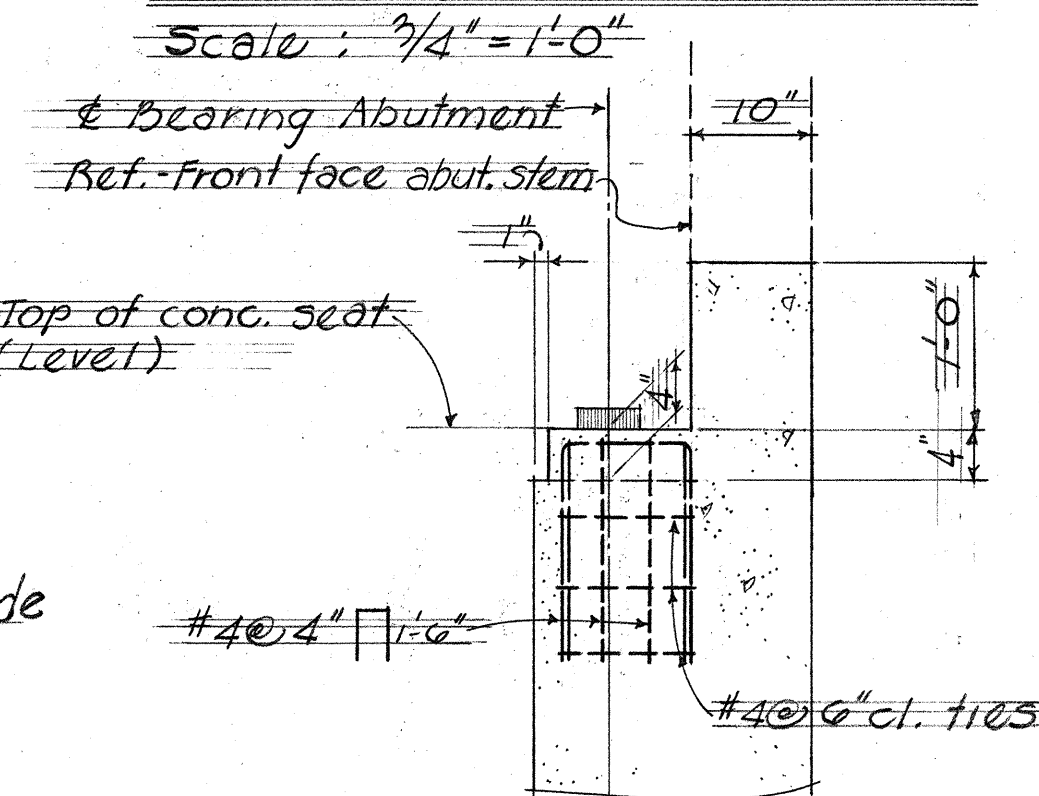
ELEVATION-ABUTMENT No. 2 Scale: $\frac{3}{8}'' = 1'-0''$

NOTE:

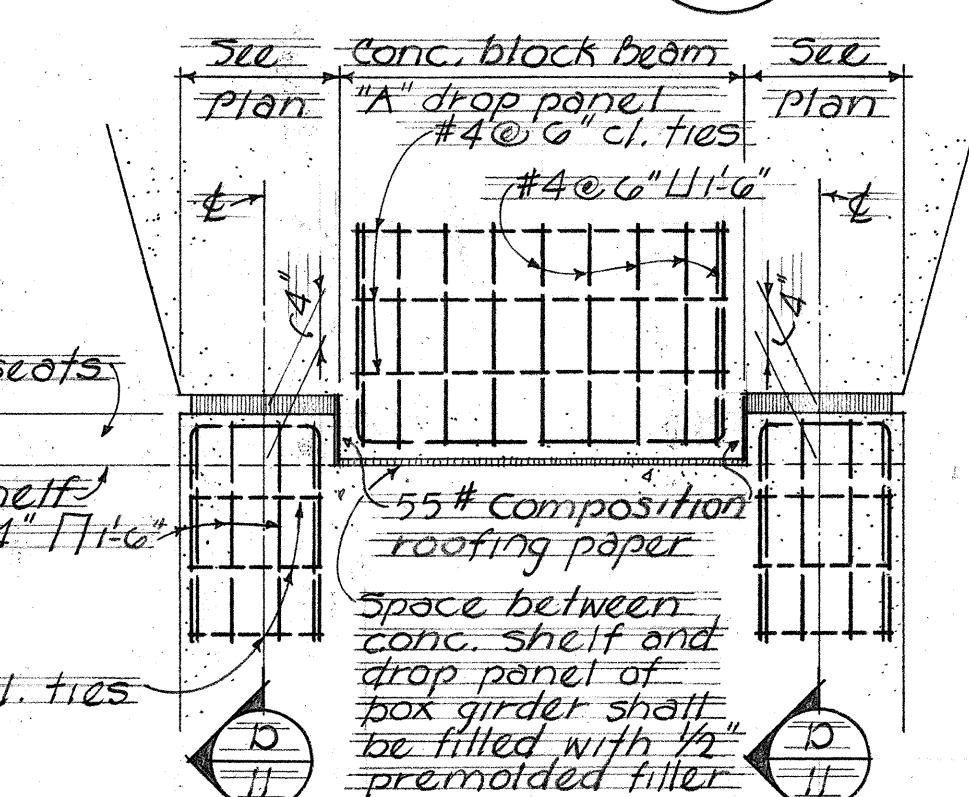
1. All Elastomeric bearing pads shall be incidental to concrete and will not be paid for separately.
2. Elastomeric bearing pads see Special Provisions.



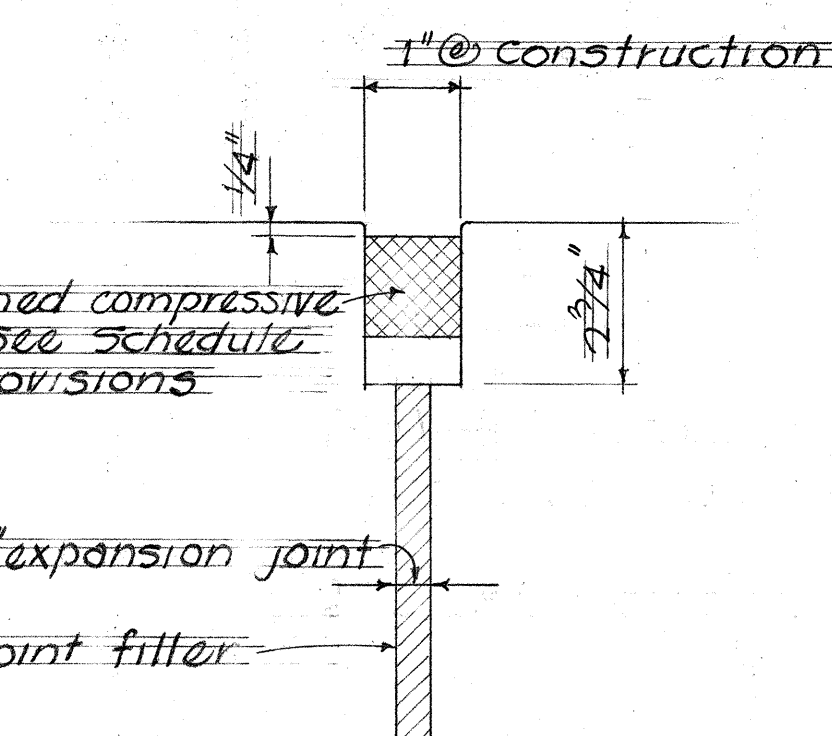
PARTIAL CONCRETE SEAT PLAN Scale: $\frac{3}{4}'' = 1'-0''$



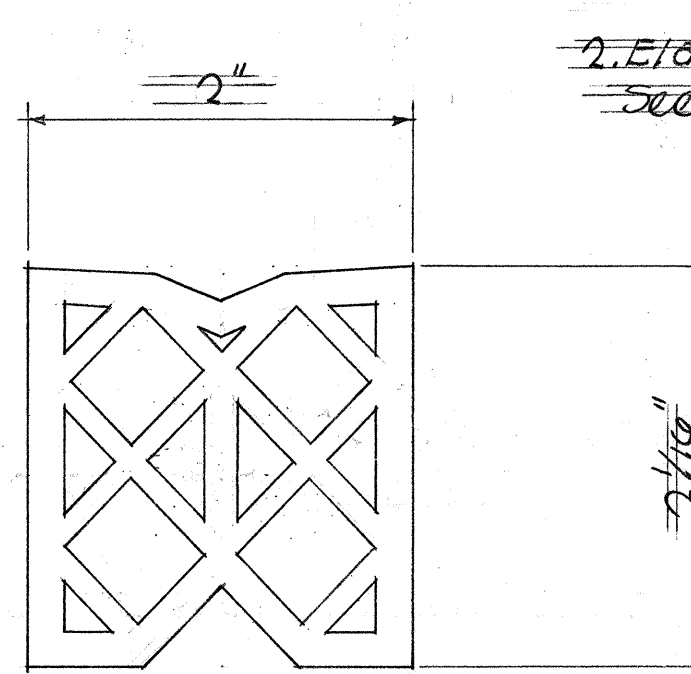
SECTION D-D Scale: $\frac{3}{4}'' = 1'-0''$



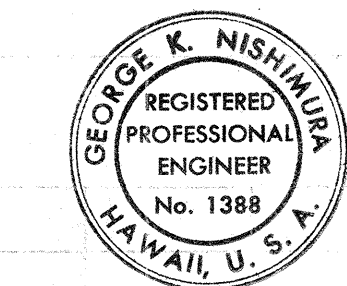
SECTION C-C Scale: $\frac{3}{4}'' = 1'-0''$



TYPICAL EXPANSION JOINT DETAIL Scale: $3'' = 1'-0''$



COMPRESSIVE JOINT SEAL DETAIL Scale: $3'' = 1'-0''$

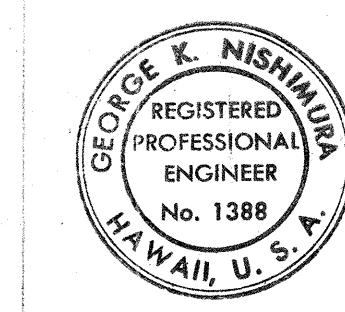
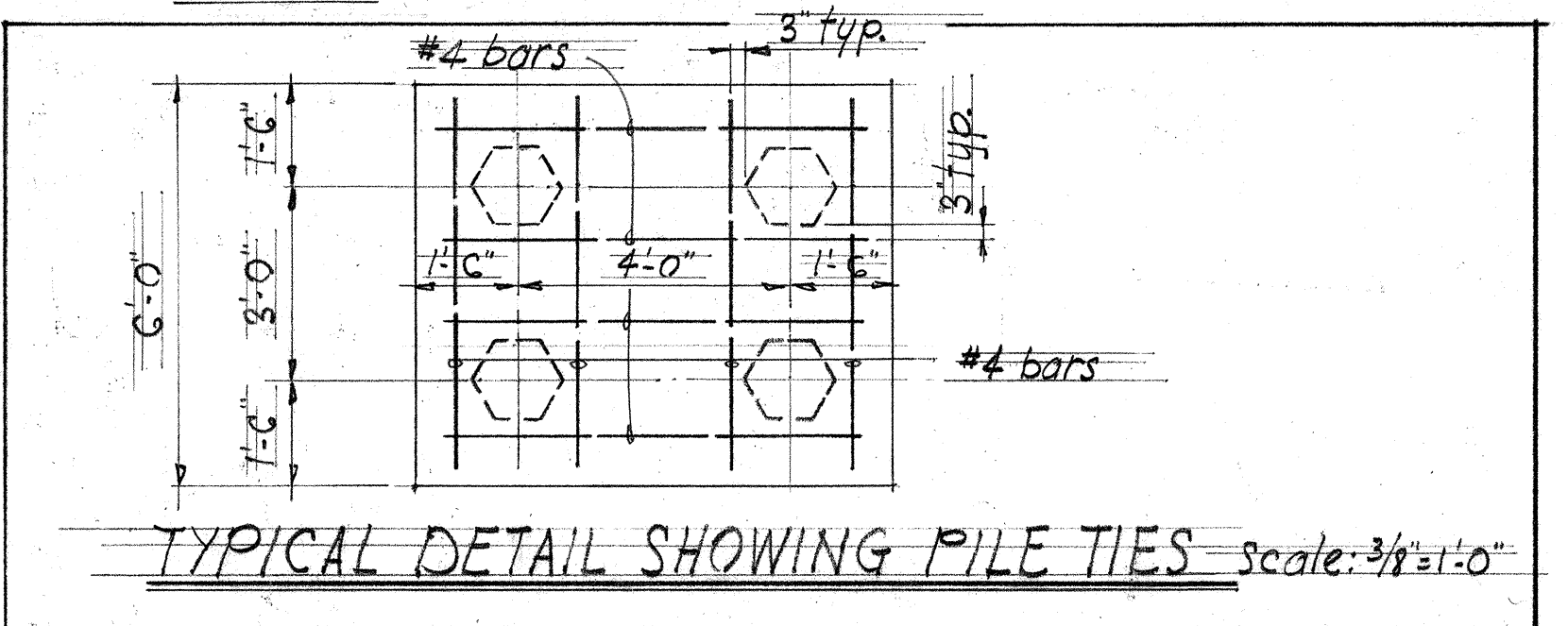
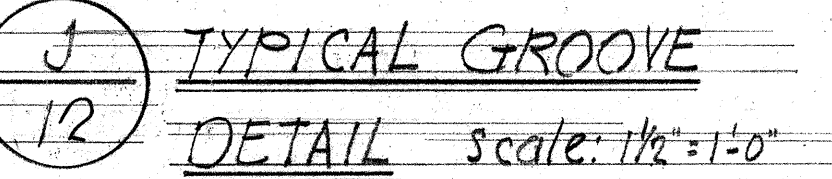
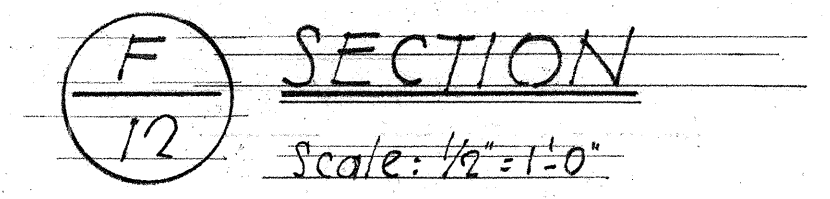
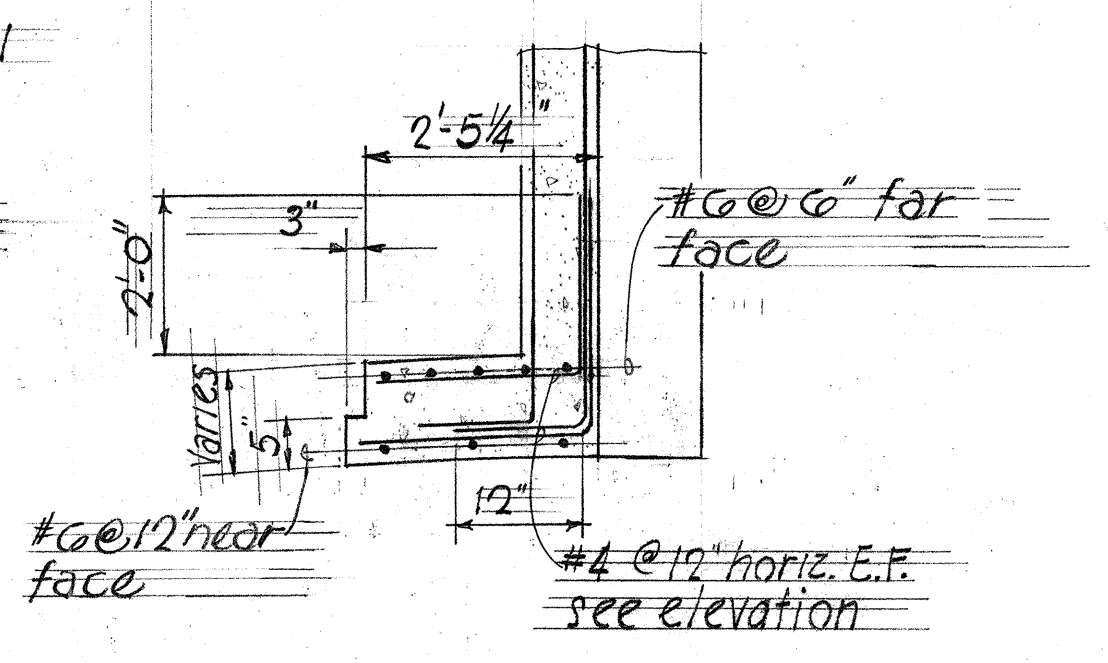
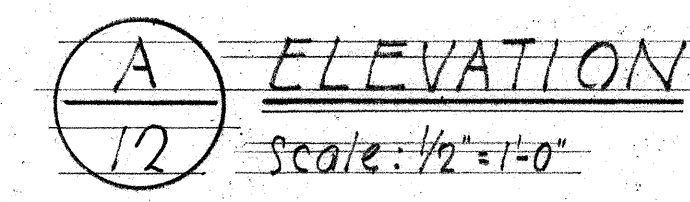
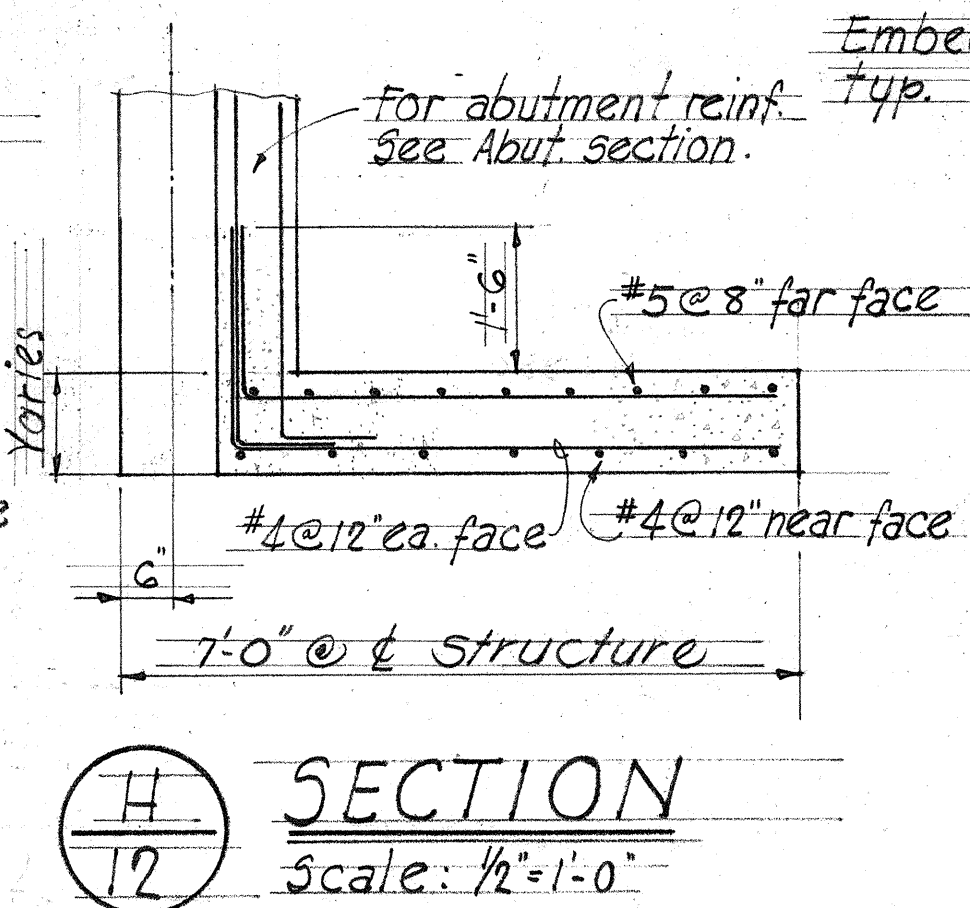
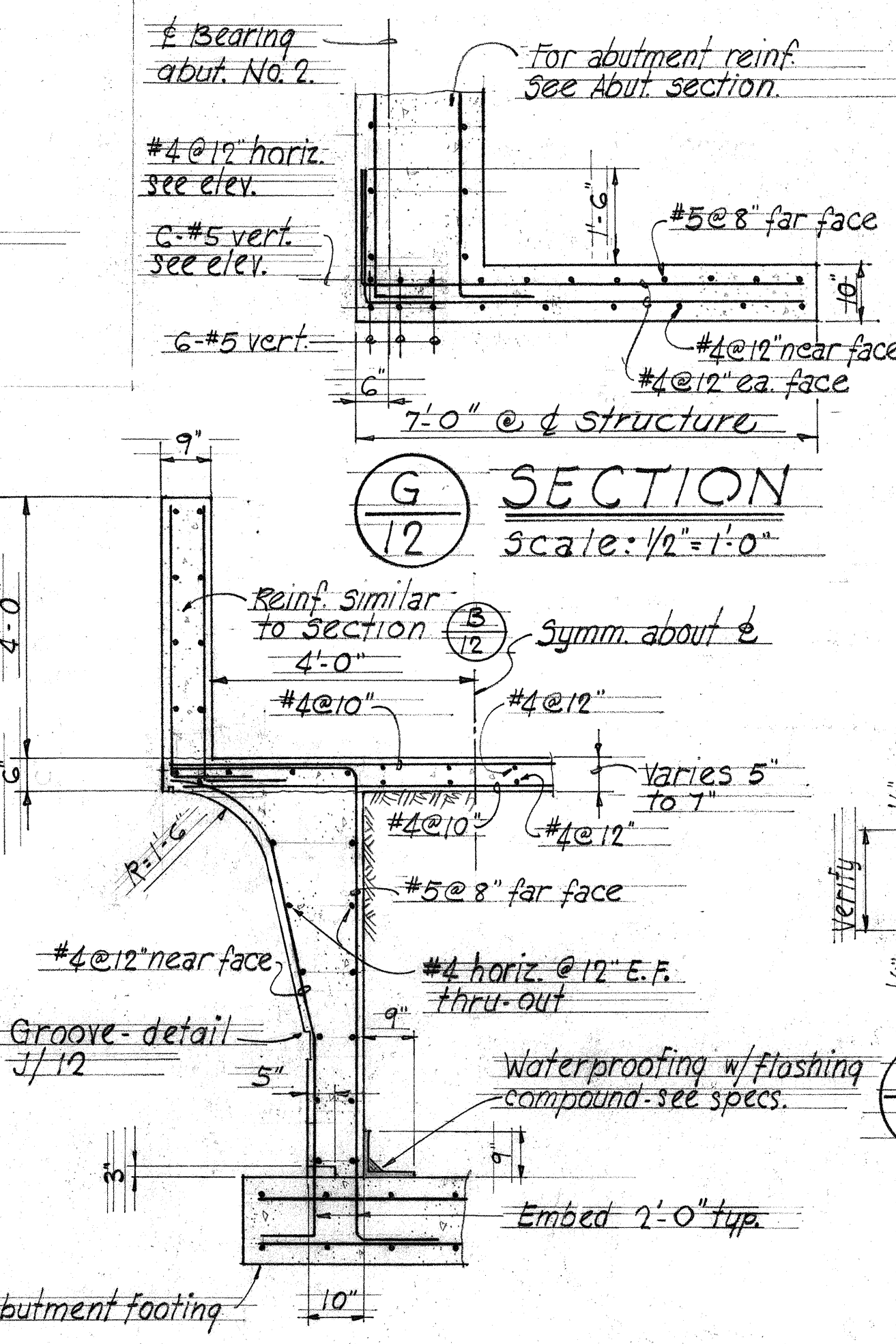
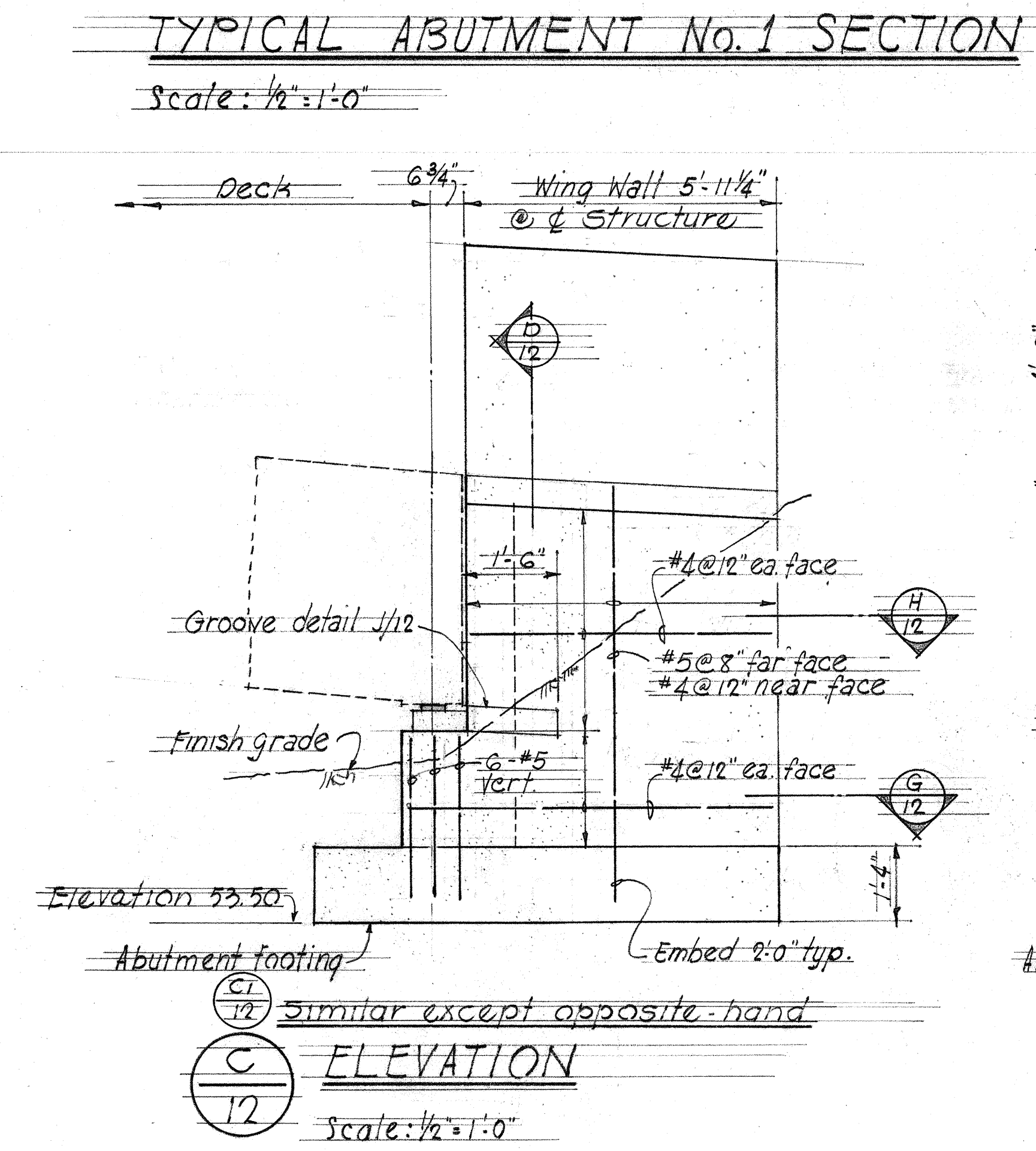
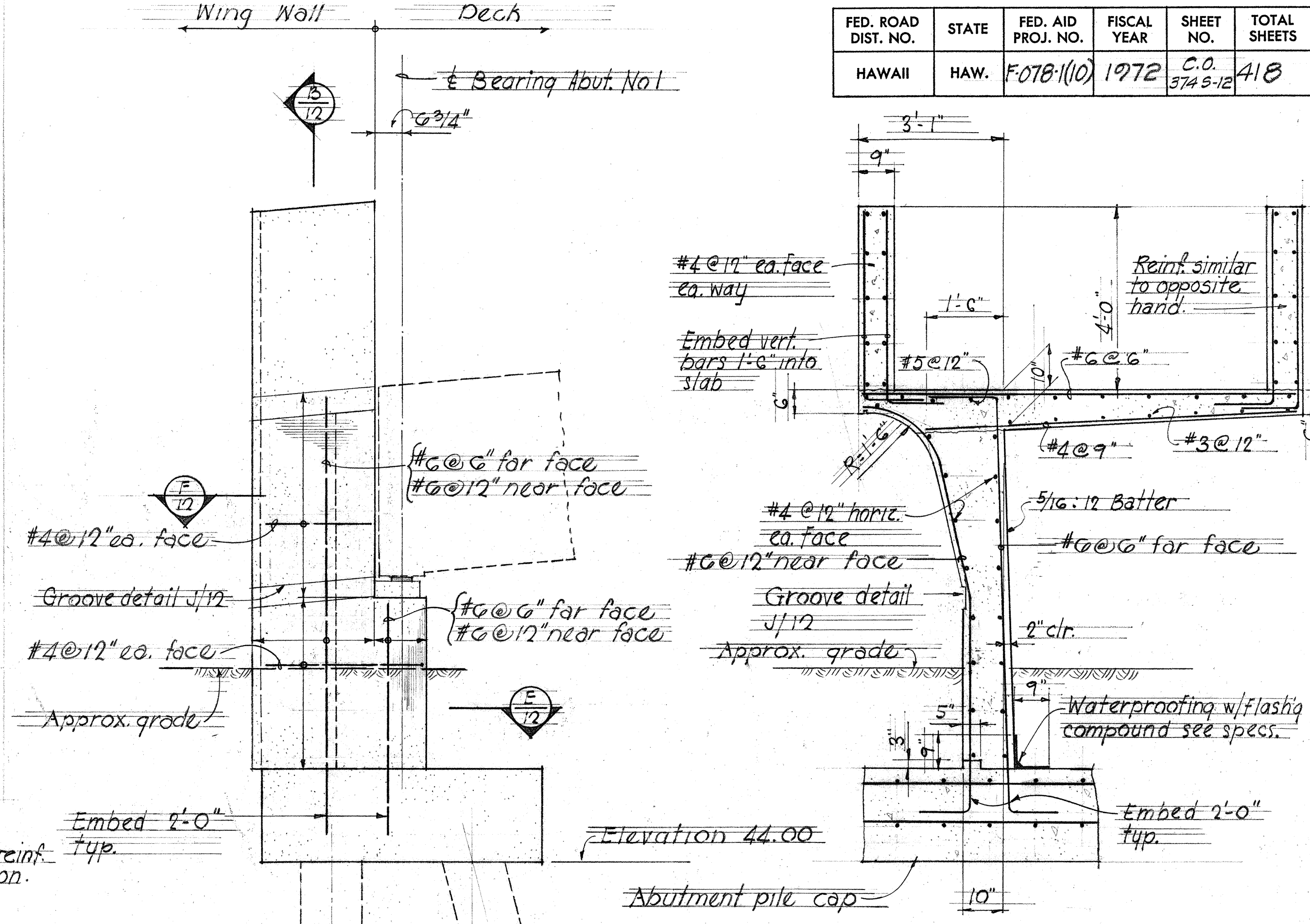
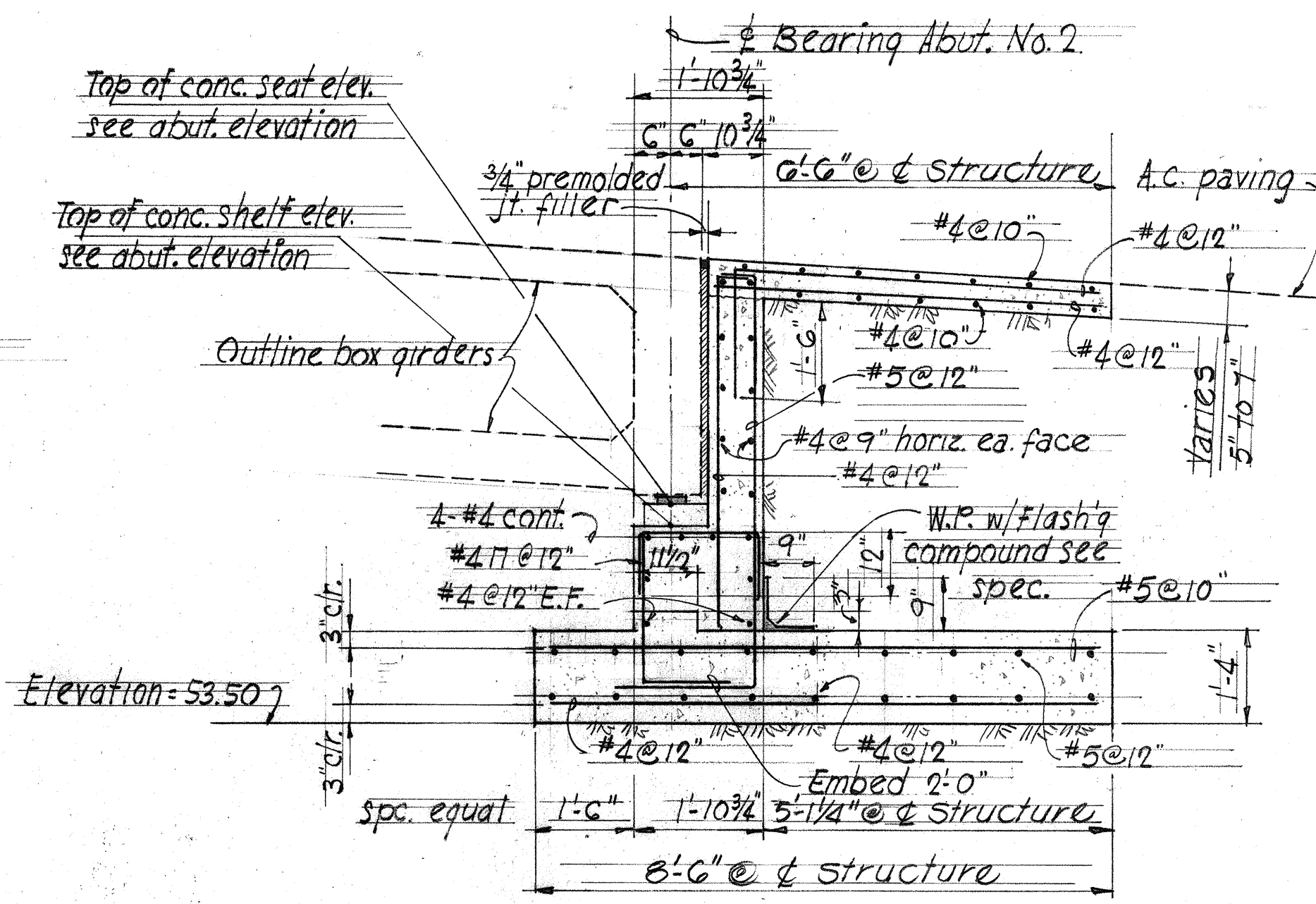
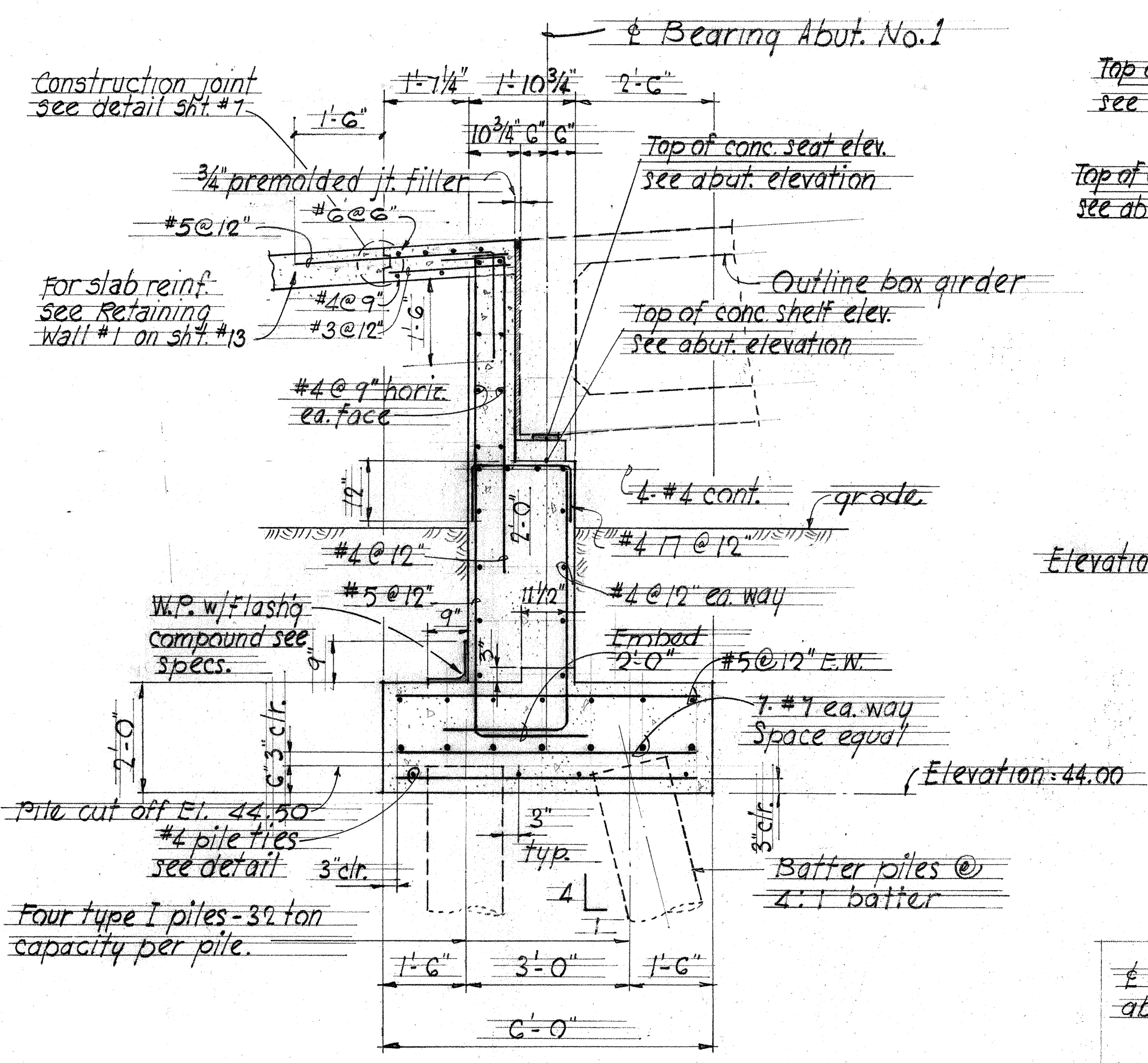


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By: K. Nishimura

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
TYPICAL PIER CAPS AND ABUTMENT #1 & 2 DETAILS
PEDESTRIAN OVERPASS AT PUULOA INTERCHANGE
P.A. Proj. No. F-078-1(10)
Scale: As noted Date: Oct. 1972
SHEET No. 11 OF 14 SHEETS

C.O. 3745-11

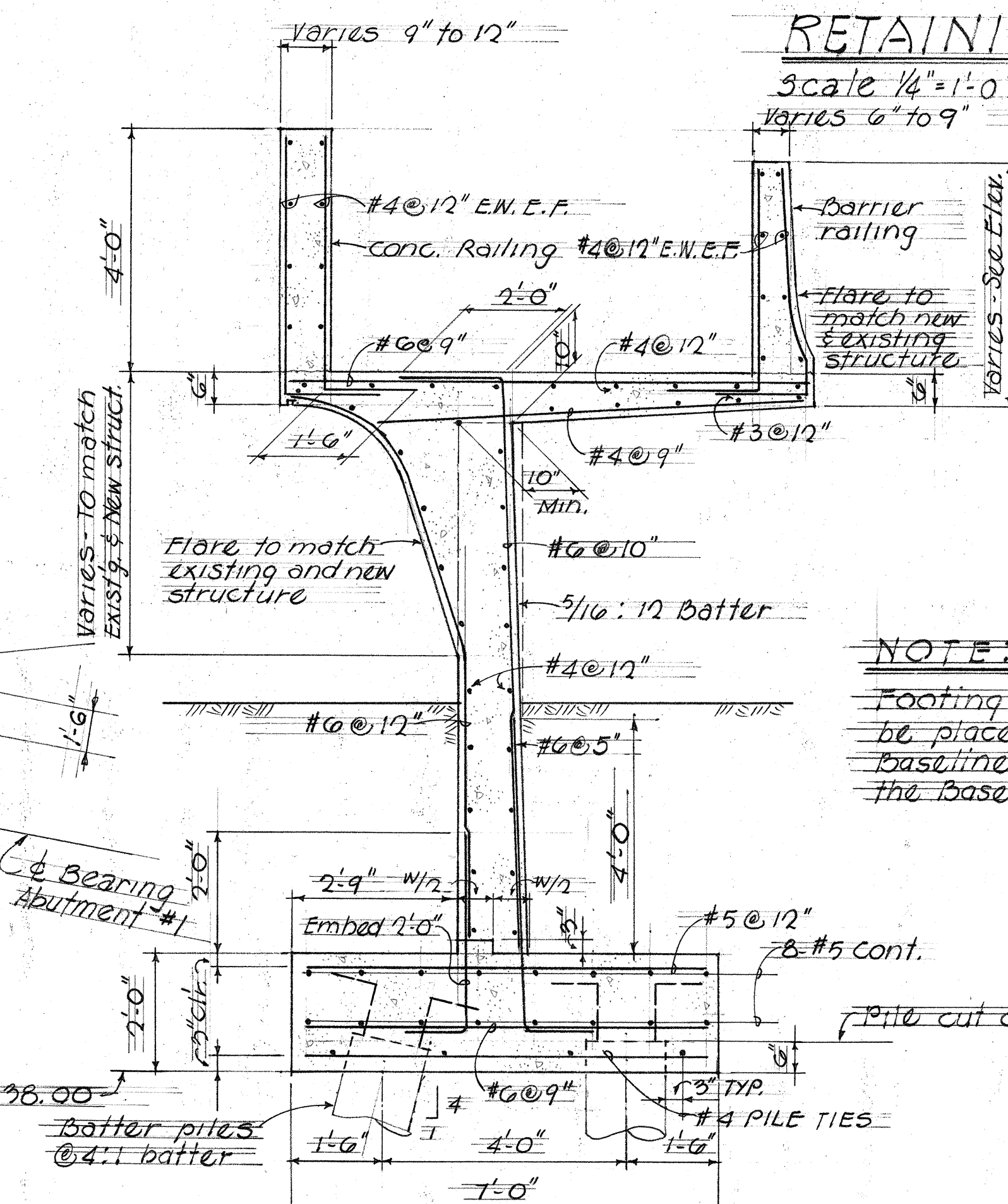
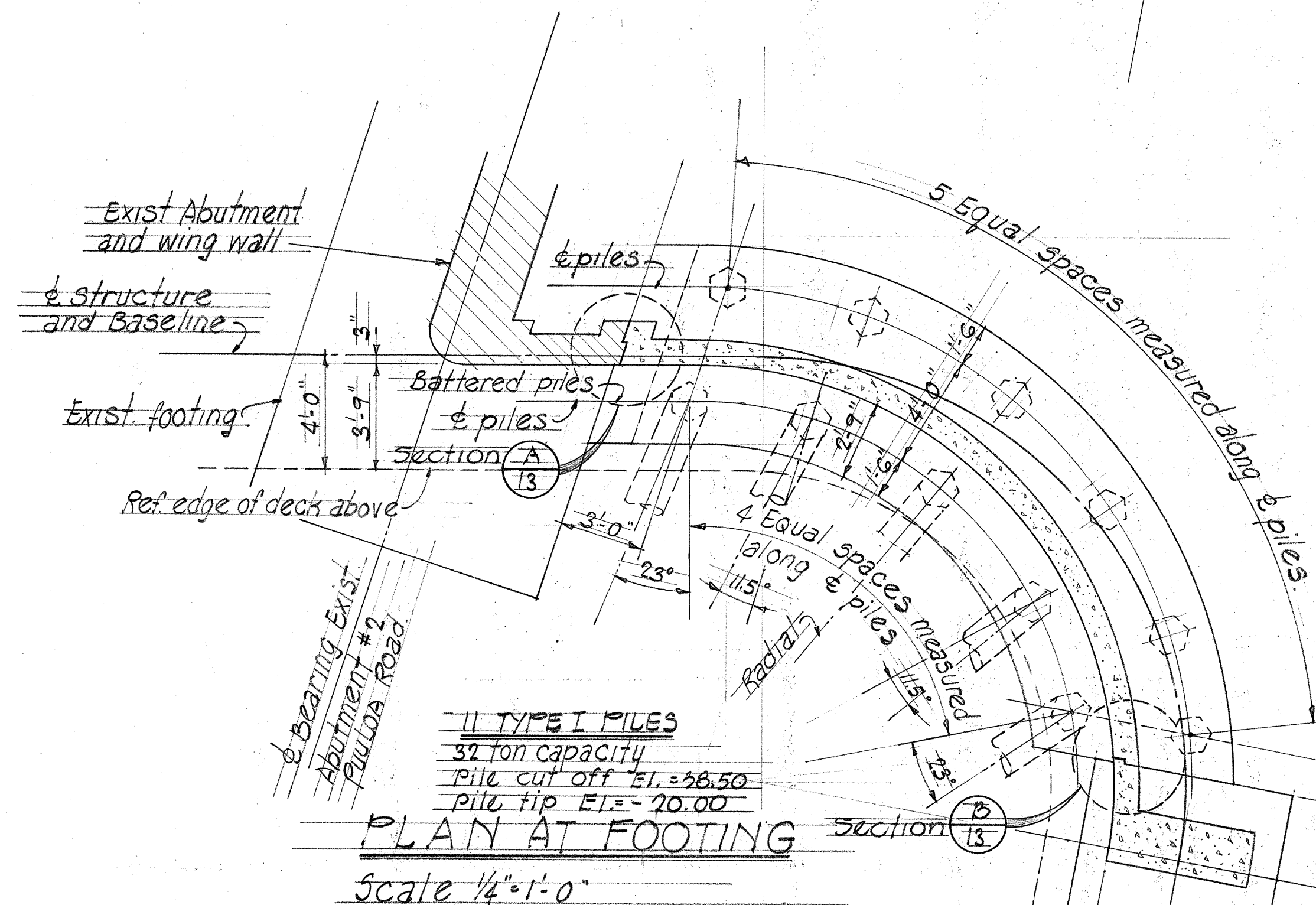
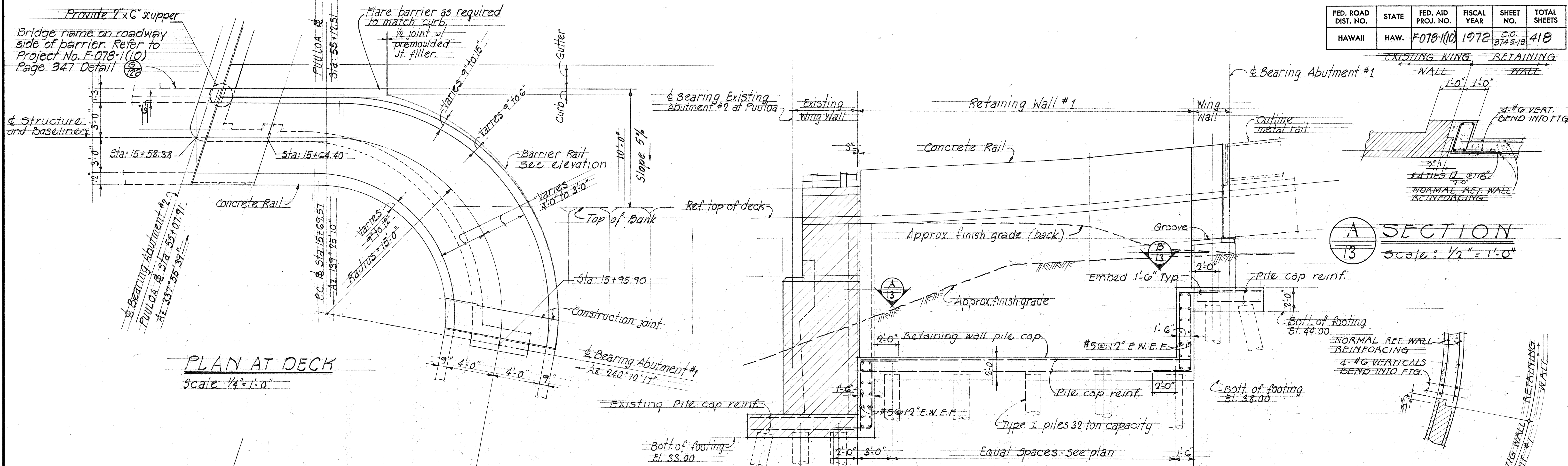
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F078-1(10)	1972	C.O. 374 S-12	418



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
ABUTMENT No. 1 & 2 SECTIONS AND DETAILS
PEDESTRIAN OVERPASS AT PUULOA INTERCHANGE
F.A. Proj. No. F-078-1 (10)
Scale: As noted Date: Oct. 1972
SHEET No. 12 OF 14 SHEETS

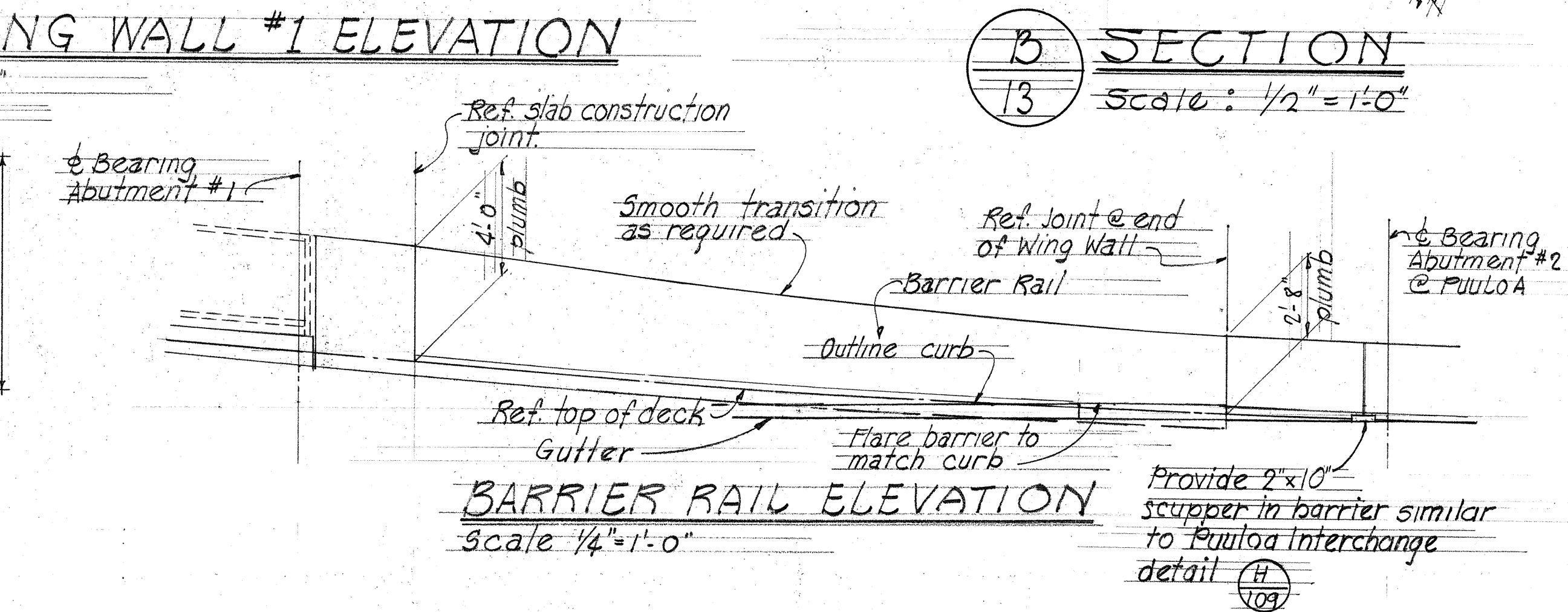
C.O. 374 S-12

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-078-1(10)	1972	C.O. 374 S-13	418

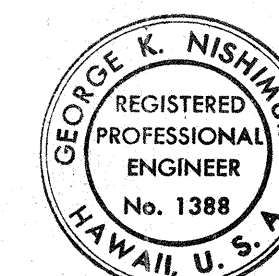


NOTE:

Footing and slab transverse bars shall be placed normally or radially to the baseline and spacing measured along the baseline.



TYPICAL RETAINING WALL SECTION Scale: 1/2" = 1'-0"



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By: K. Nishimura

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

RETAINING WALL #1 DETAILS

PEDESTRIAN OVERPASS AT
PUULOA INTERCHANGE

F.A. Proj. No. F-078-1 (10)

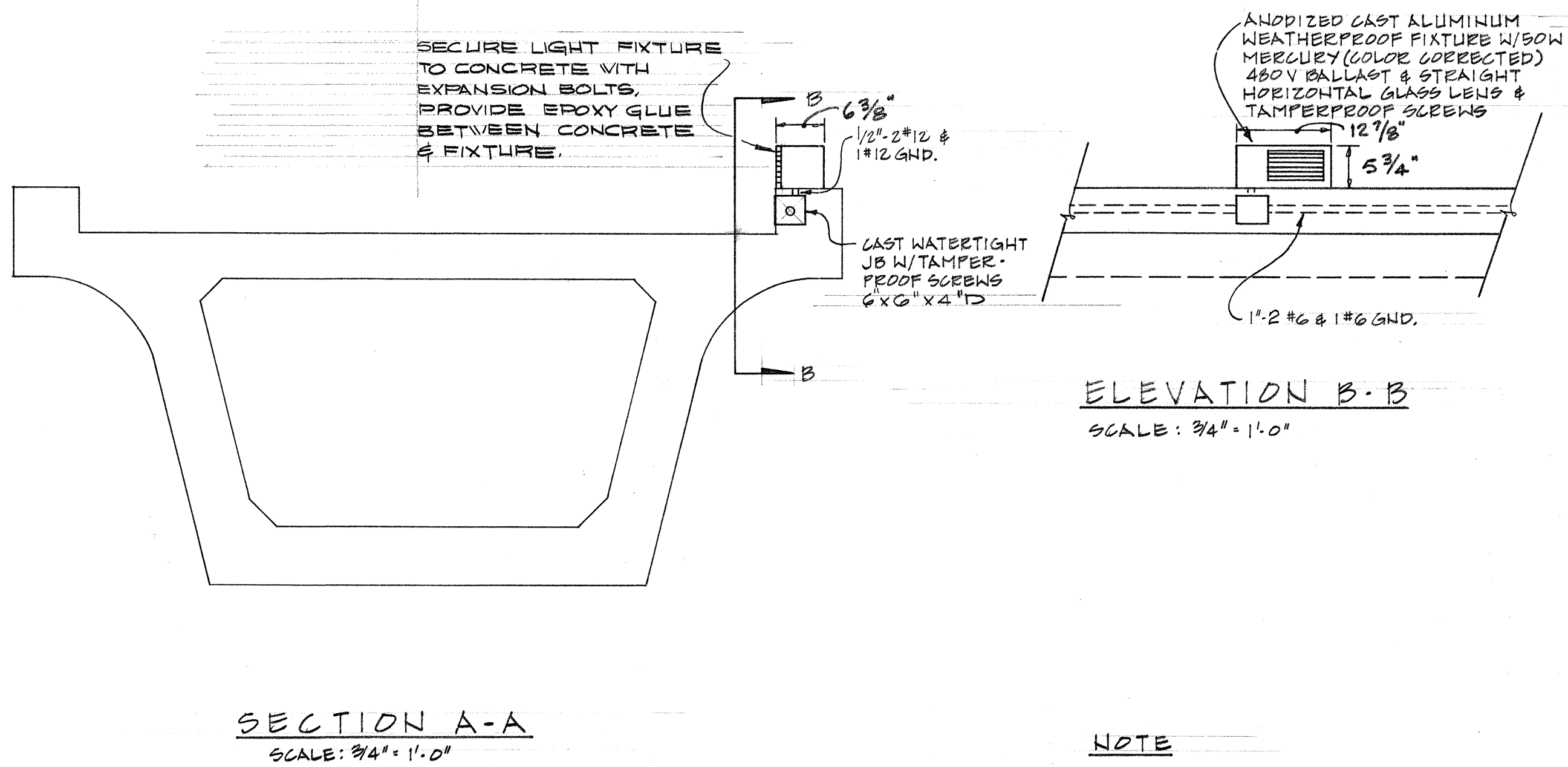
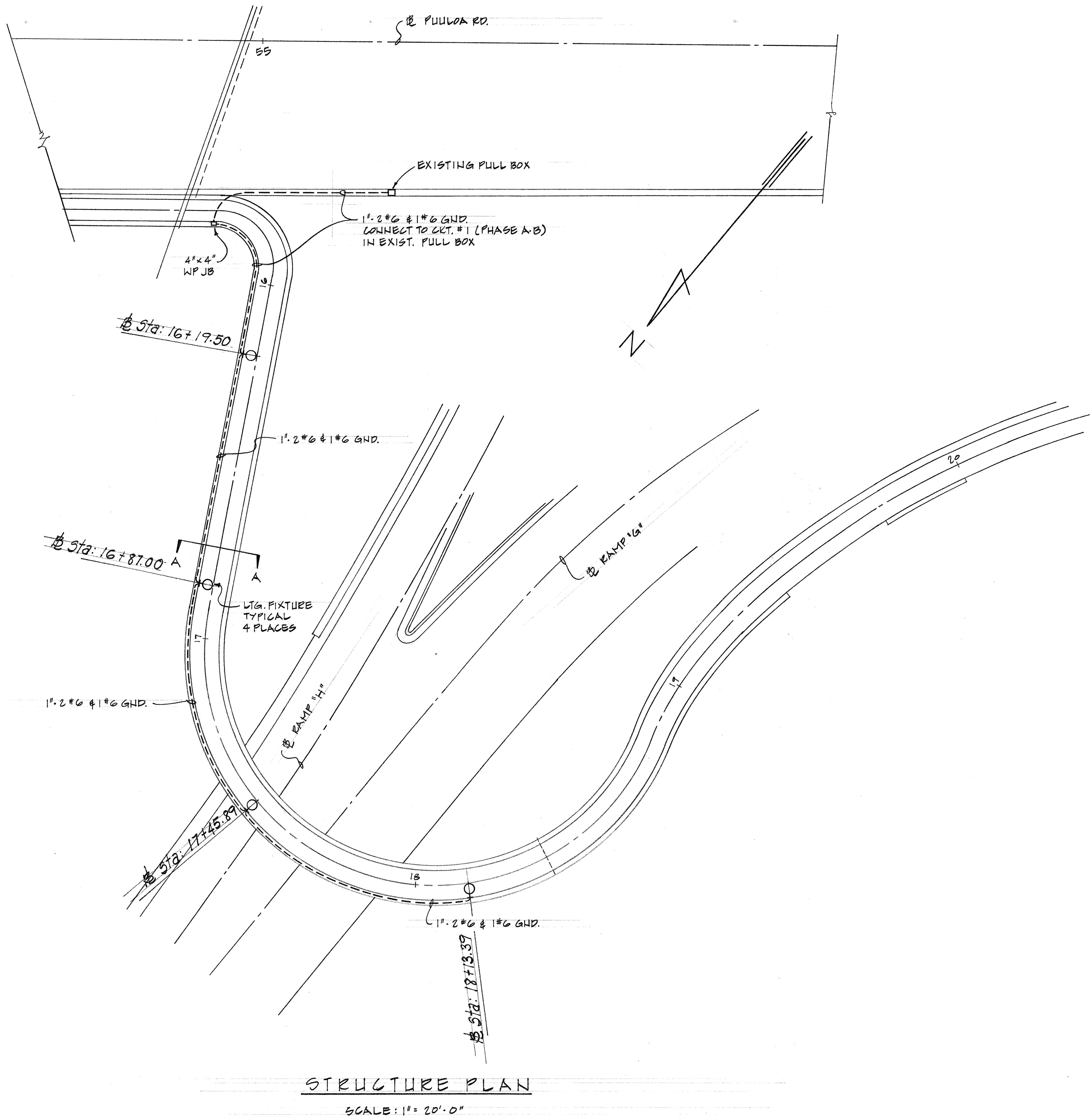
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SHEET No. 13 OF 14 SHEETS

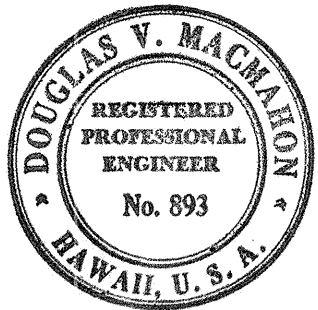
C.O. 374 S-13

DATE	
DESIGNED BY	
DRAWN BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
NO.	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-078-1(10)	1972	C.O. 374 S-14	418



- NOTE**
1. PROVIDE CONDUIT EXPANSION FITTINGS AT ALL STRUCTURAL EXPANSION JOINTS.
 2. ALL CONDUITS SHALL BE GALVANIZED STEEL.



THIS WORK WAS PREPARED BY ME
OR UNDER MY SUPERVISION
Douglas V. MacFarland

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
LIGHTING PLAN & DETAILS	
PEDESTRIAN OVERPASS AT PUULOA INTERCHANGE	
P.A. Proj. No. F-078-1(10)	Date: Oct. 1972
SHEET No. 14 OF 14 SHEETS	

C.O. 374 S-14

DESIGNED BY	DATE
DRAWN BY	
CHECKED BY	
NOTED BY	
NO.	