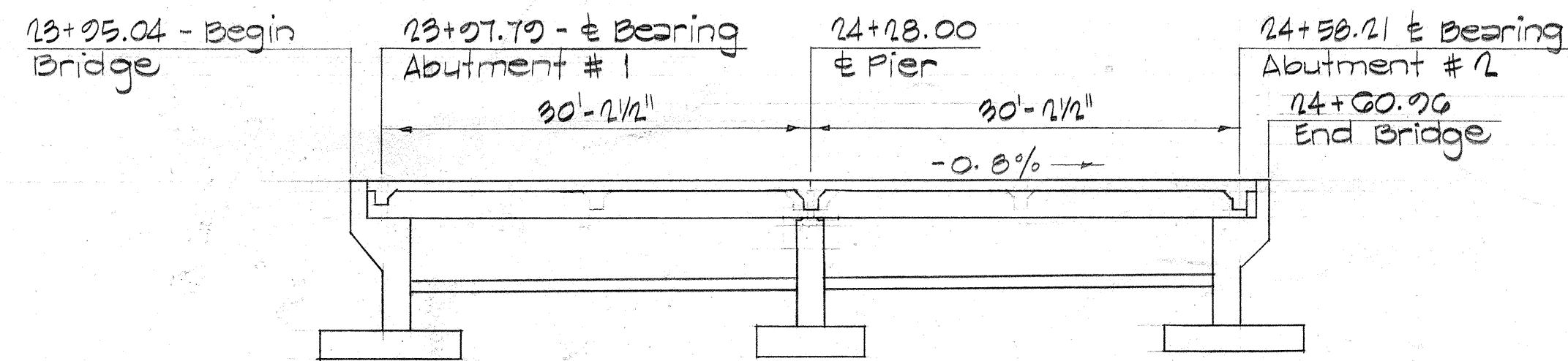


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	5-00000	1965	103	162



GENERAL NOTES

MATERIALS

All concrete class A-1. Comp. Roofing shall incidental to concrete and not paid for separately.

CONSTRUCTION METHODS

All backfill behind abutments shall be complete in place before beginning work on superstructure.

GENERAL

Cover for reinforcing bars shall be as follows except as otherwise noted:

- 2" for formed walls
- 1 1/2" to main top bars and 1 1/4" to main bottom bars at deck slab
- 2 1/2" to main reinforcing of diaphragm
- 3" for footing

ESTIMATED QUANTITIES

Class A-1 Concrete (Including Stream Lining) (Lump Sum) 897 c.y.

Reinforcing Steel (Including Welded Wire Fabric) (Lump Sum) 124,000 lbs

Structure Excavation for Bridges 1,683.2 4,700 c.y.

Filter Material 47.2 56 c.y.

Grouted Rubble Paving 18.3 45 c.y.

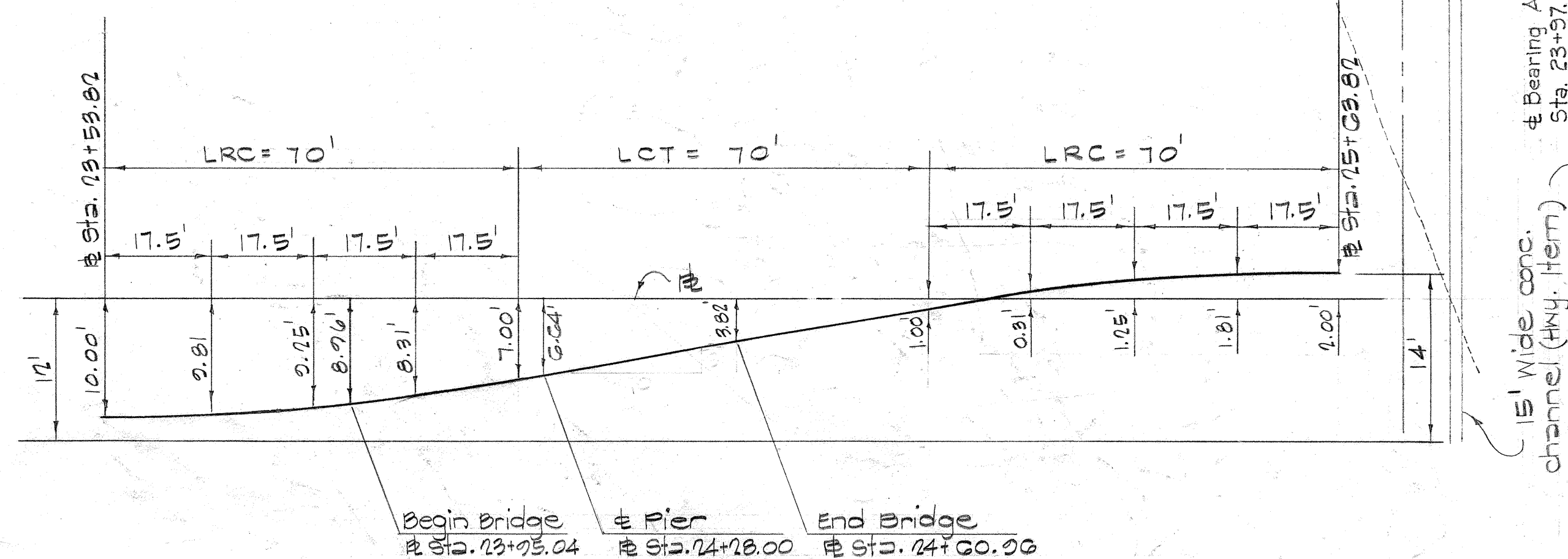
Prestressed Concrete Piles 5,134.0 4,250 L.F.

Metal Railing 247.2 456 L.F.

Concrete Railing & End Post 206 L.F.

A.C. Paving - Mix No. I 30.4 44 Tons

Bituminous Tack Coat - Mixing Type SS-1 63.7 45 Gal.



TAPER LAYOUT

Not to Scale

PLAN

Scale: 1" = 10'-0"

NOTE:

- See Order of Work & Details, Sheet No. 26 for construction phasing of this structure.
- See Sht. 21 for Boring location & logs.
- Remove, salvage and stockpile (at job site) all existing metal guard rail and conc. posts at Keananolo Bridge (Incidental to Roadway Exc.)

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

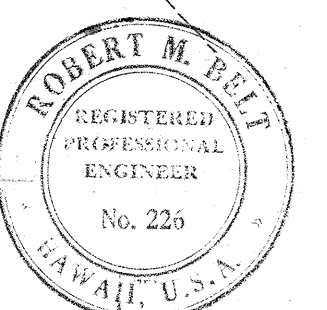
KEANANOLO STREAM BRIDGE

STA. 23+05.04 TO STA. 24+60.06

FARRINGTON HWY. PROJ. NO. 5-0000(9)

JUNE, 1964

SHEET No. 1 OF 12 SHEETS



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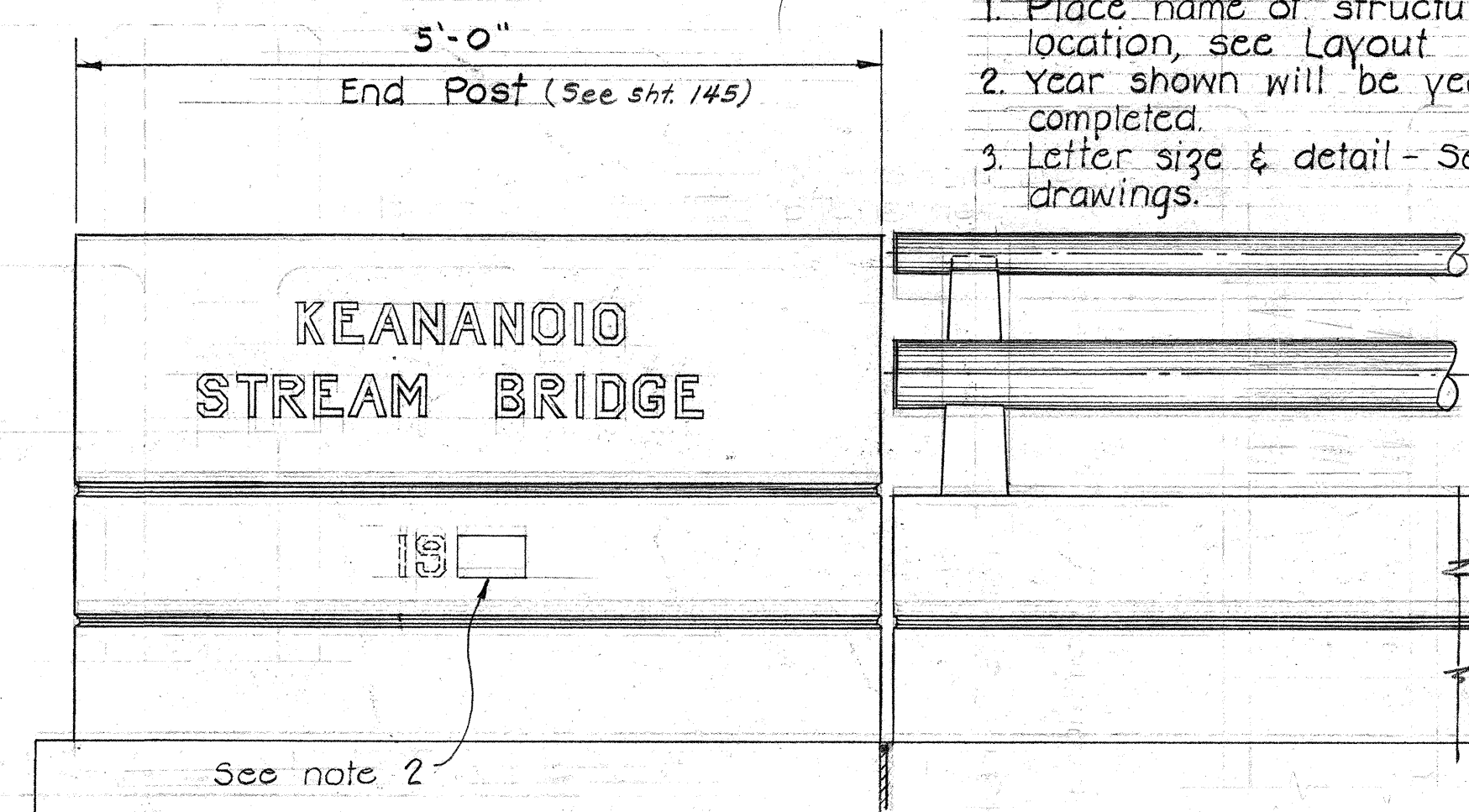
Belt, Collins & Associates Ltd.

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FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	5-09000	1965	110	162

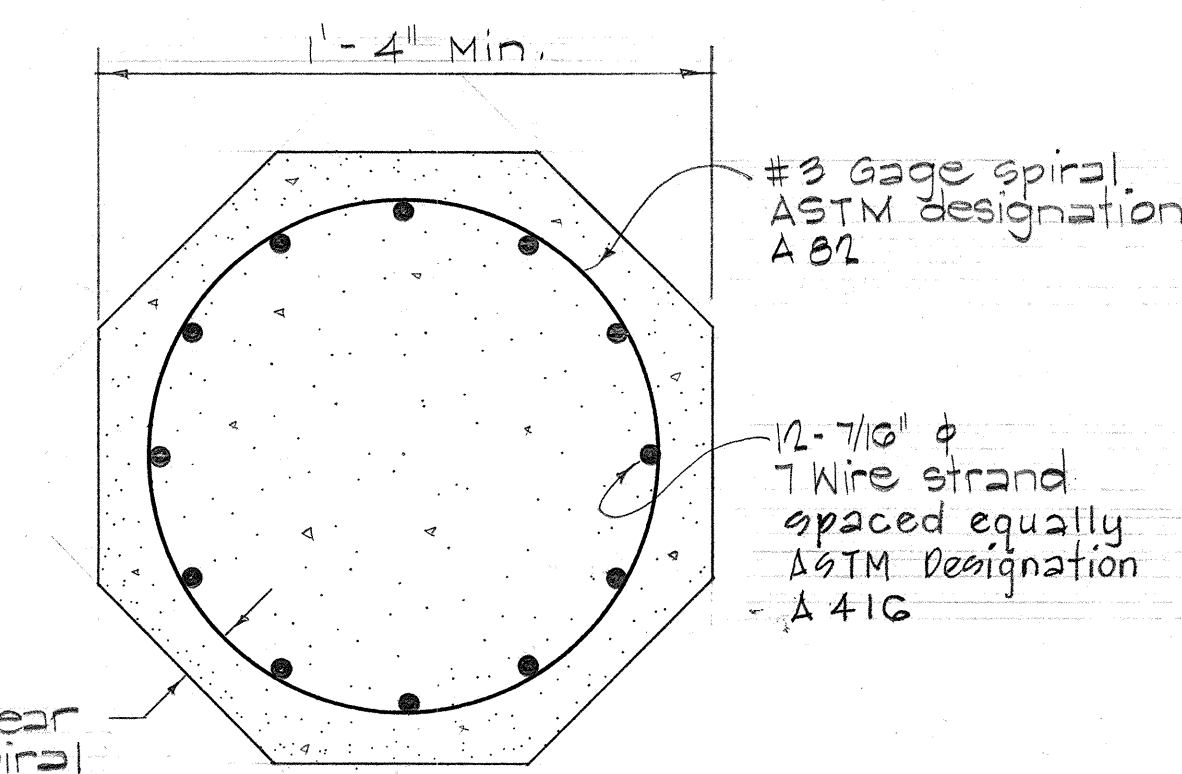
NOTE!

1. Place name of structure as shown - for location, see Layout Plan.
2. Year shown will be year structure is completed.
3. Letter size & detail - See standard letter drawings.



TYPICAL BRIDGE NAME & YEAR LOCATIONS AT END POST

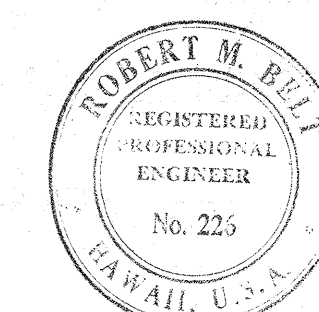
Scale: 1" = 1'-0"



TYPICAL SECTION PRESTRESSED CONC. PILES

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

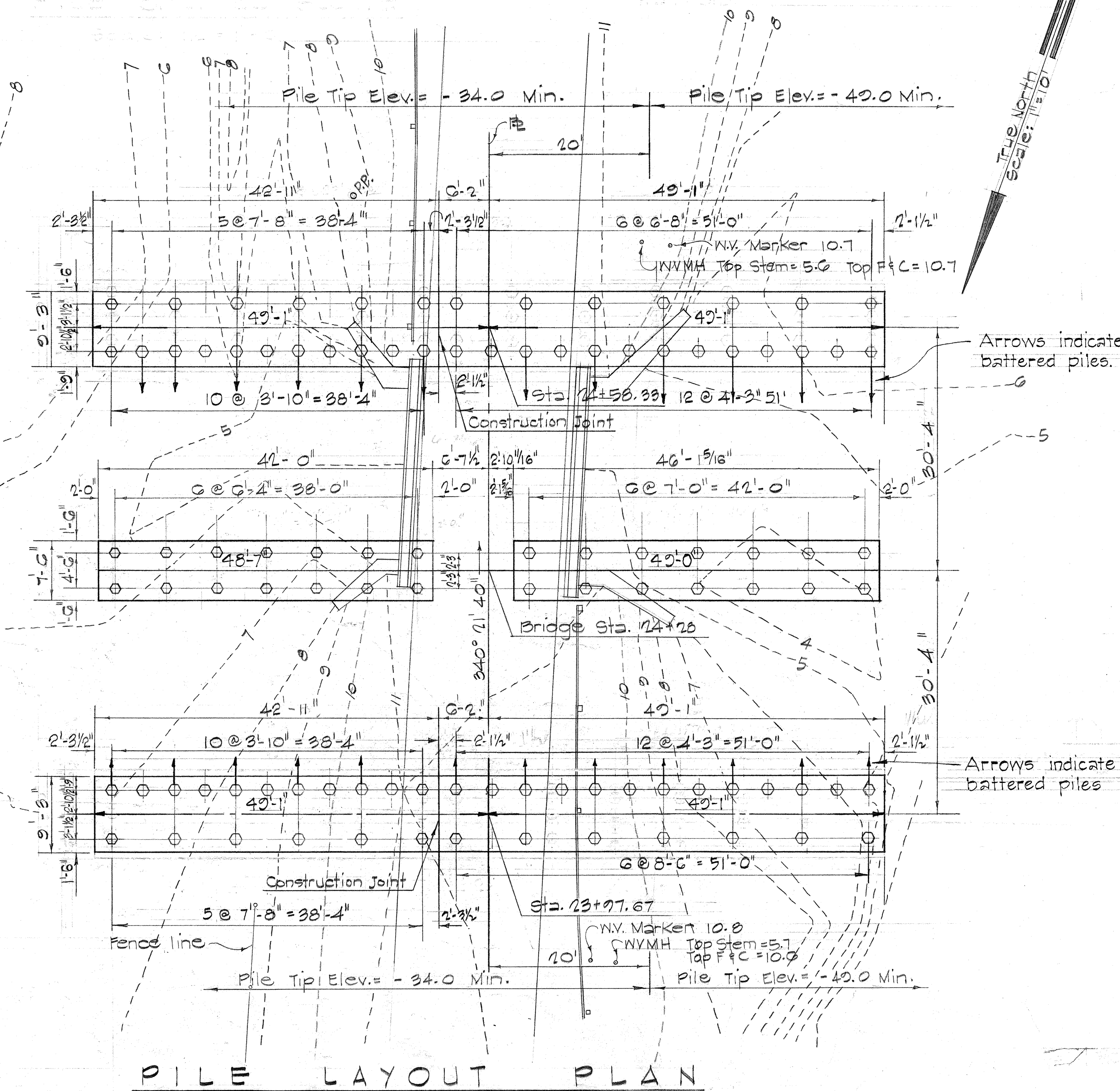
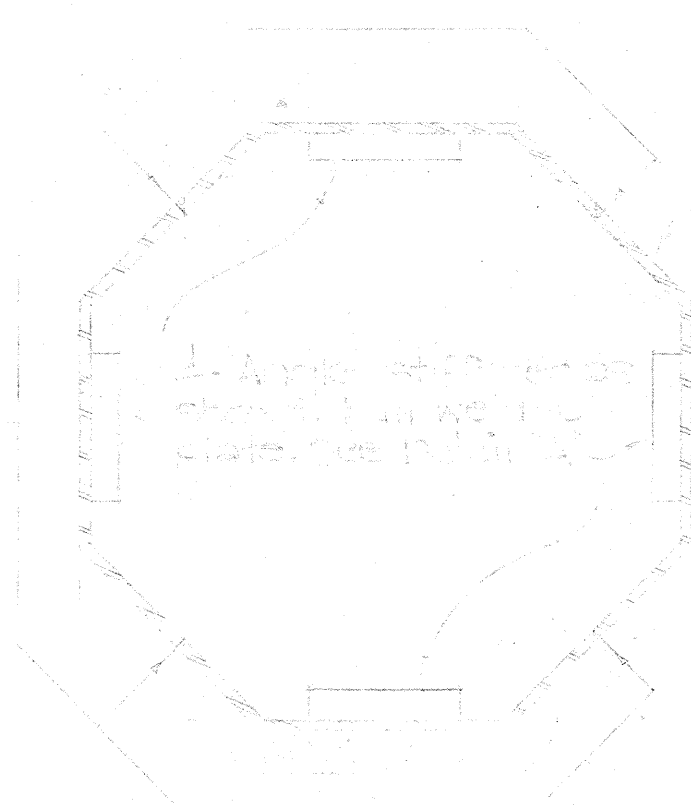
Belt, Collins & Associates Ltd. NOTE: For details, see Sht. 118 (Std. Prestress Conc. Pile)



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STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
KEANANOIO STREAM BRIDGE
STA. 23+25.04 TO STA. 24+60.06
FARRINGTON HWY. PROJ. NO. 5-09000(3)
JUNE, 1964
SHEET No. 2 OF 12 SHEETS



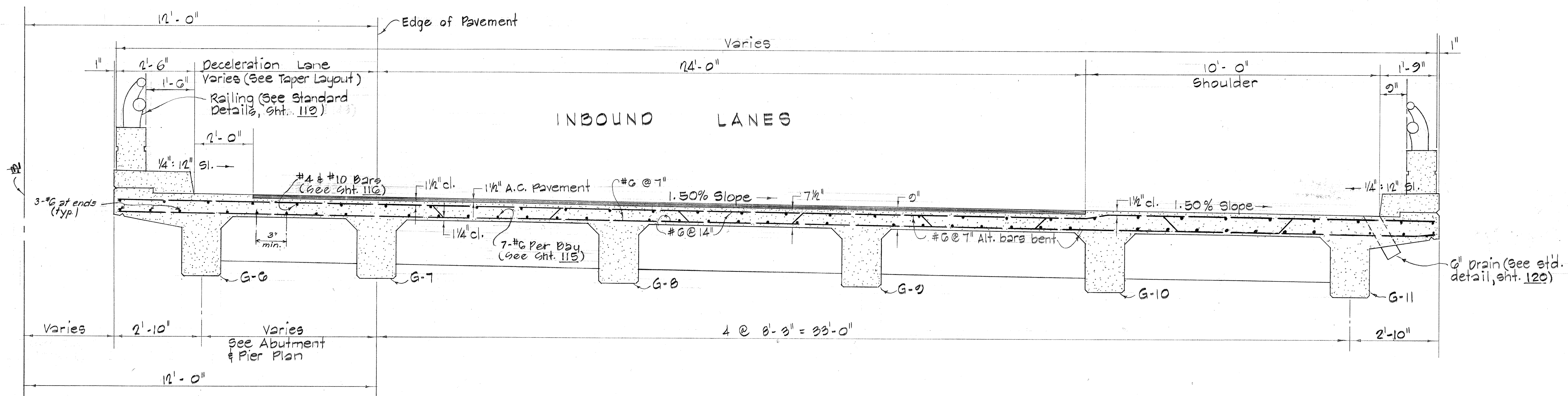
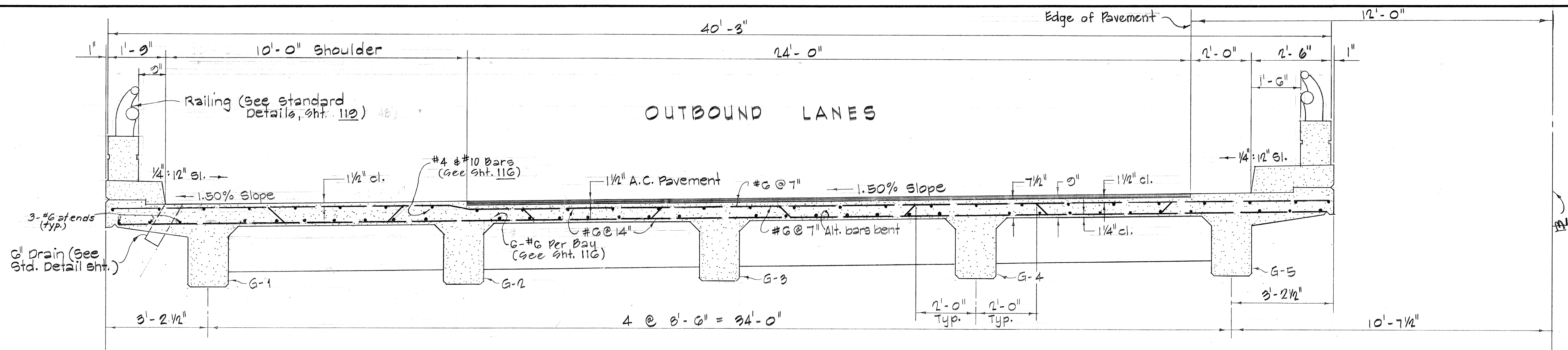
PILE LAYOUT PLAN

Scale: 1" = 10'

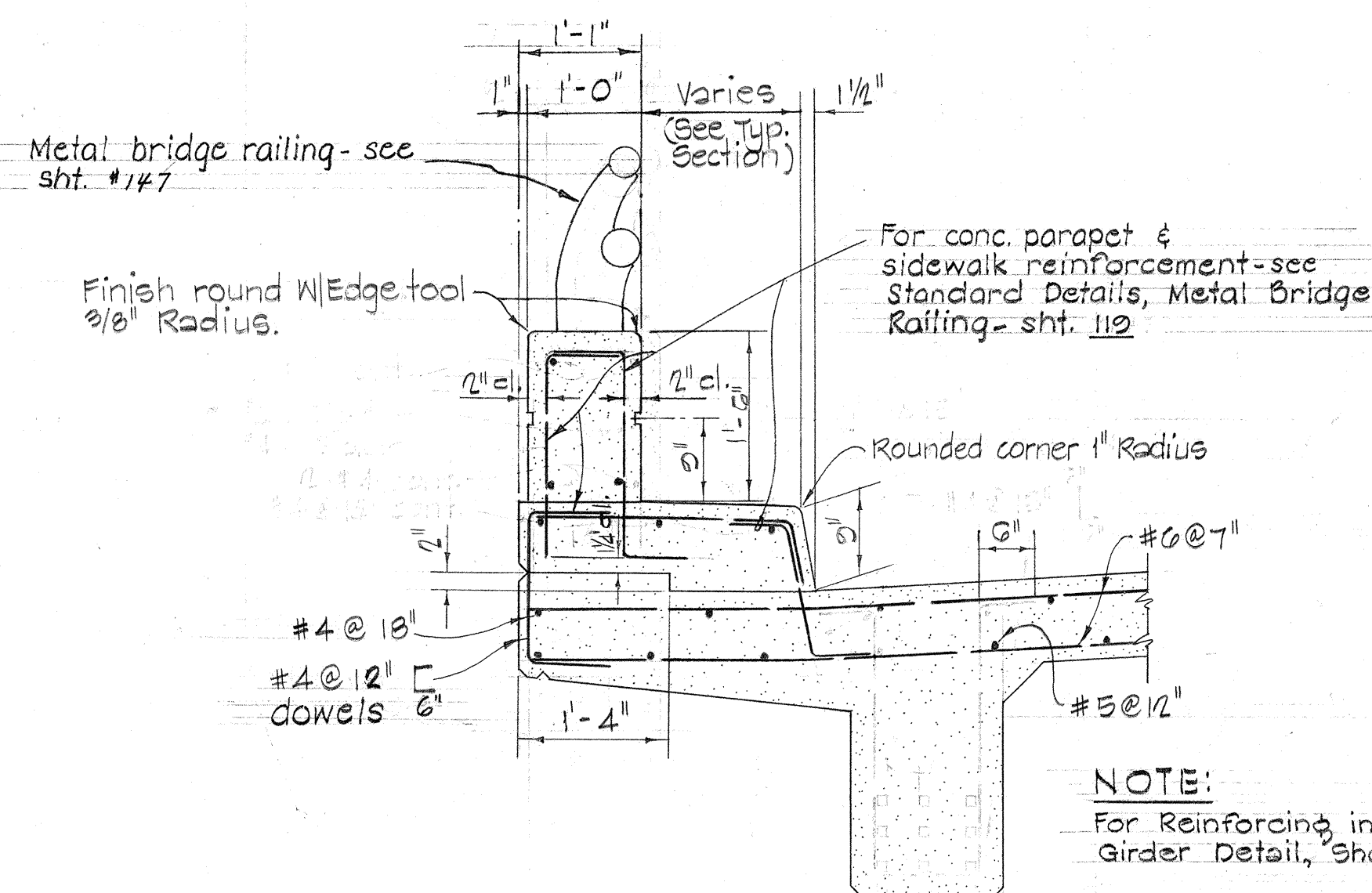
See Contract Change Order #18, April 12, 1967 and Memo, Sept 8, 1966 for new pile lengths and work done.

SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
QUANTITIES 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.	5-0700(3)	1965	111	162

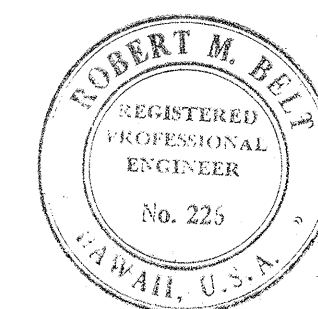


TYPICAL SECTION
Scale: 1/2" = 1'-0"



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

Belt, Collins & Associates Ltd.

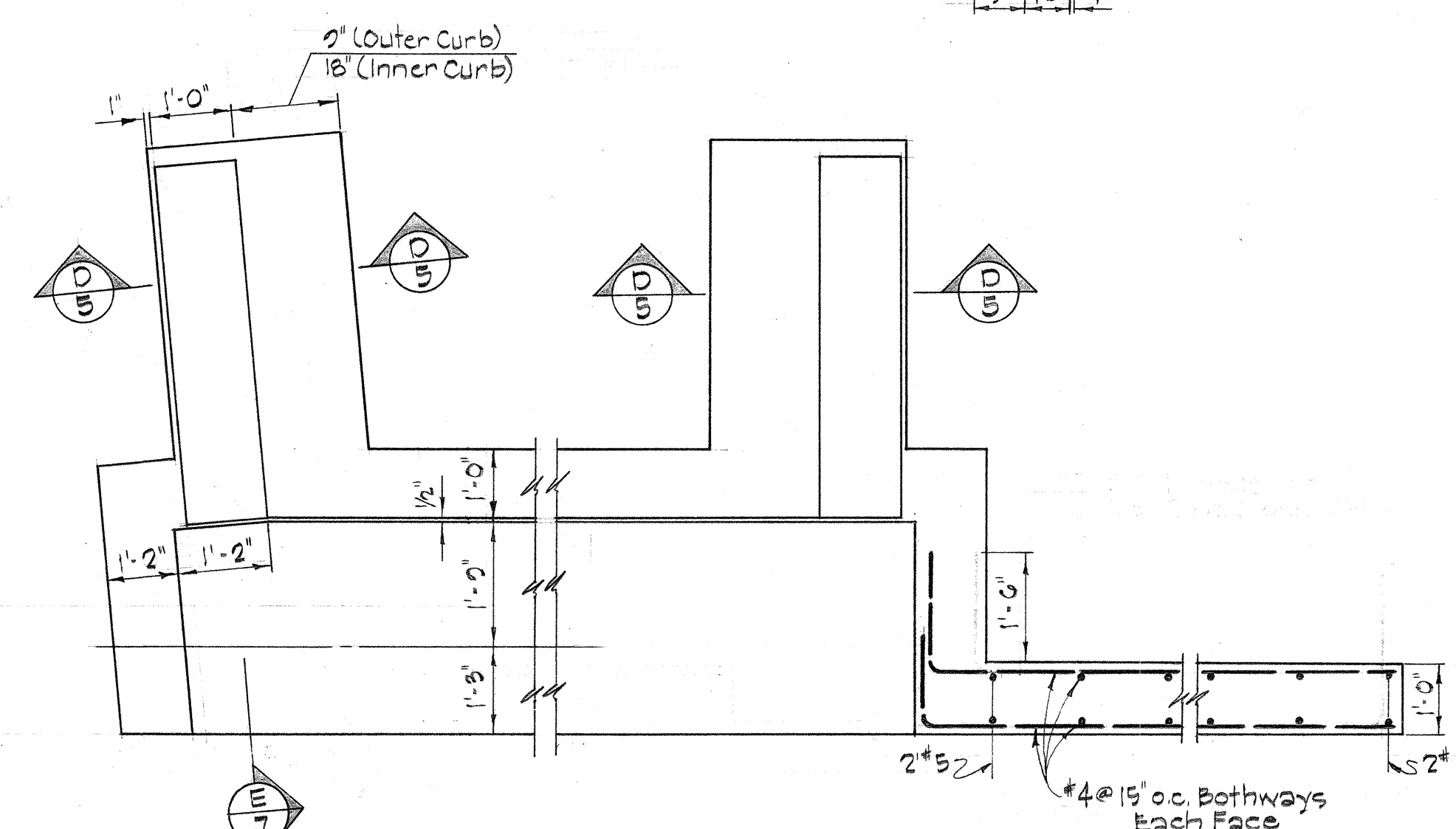
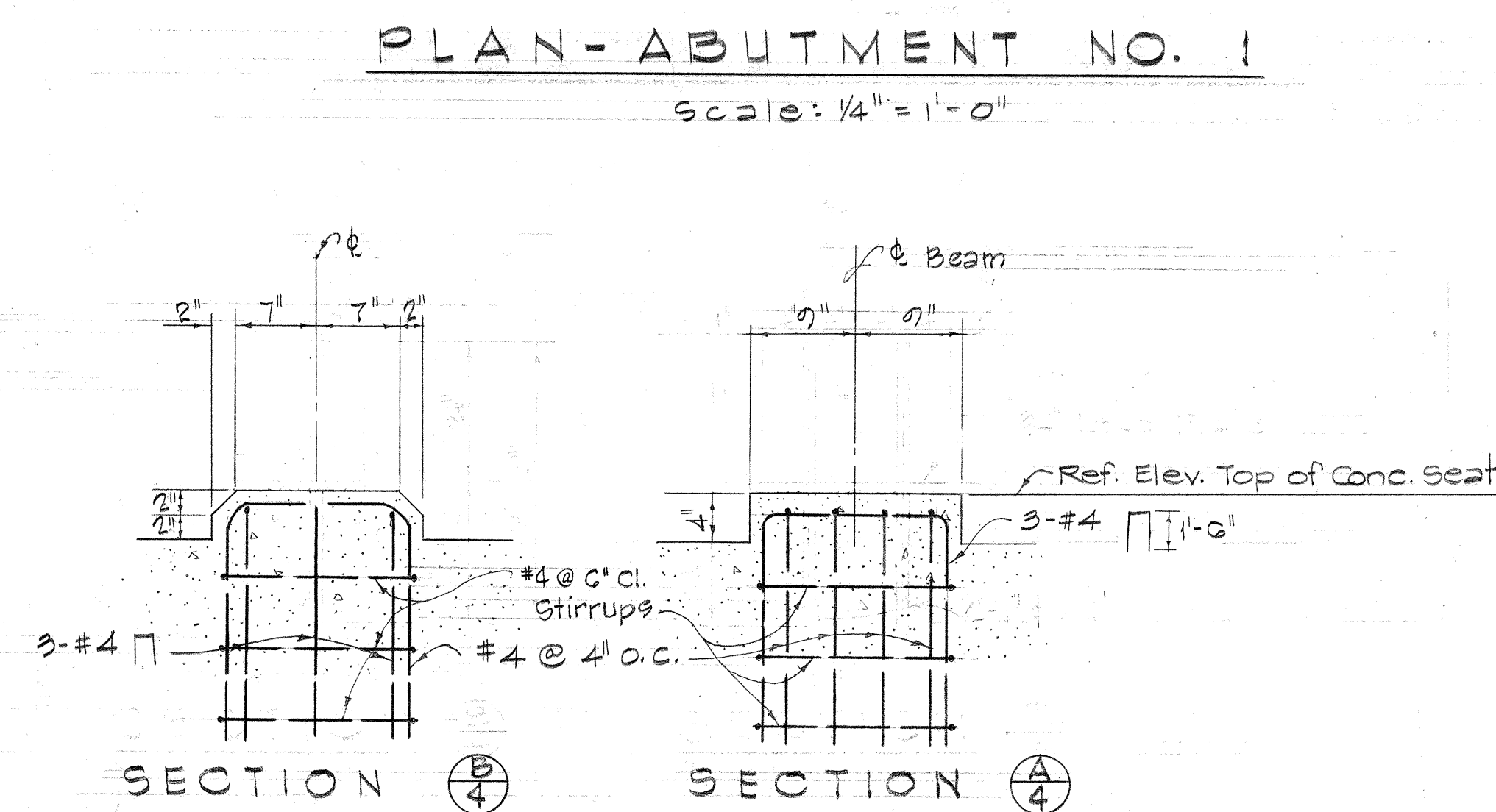
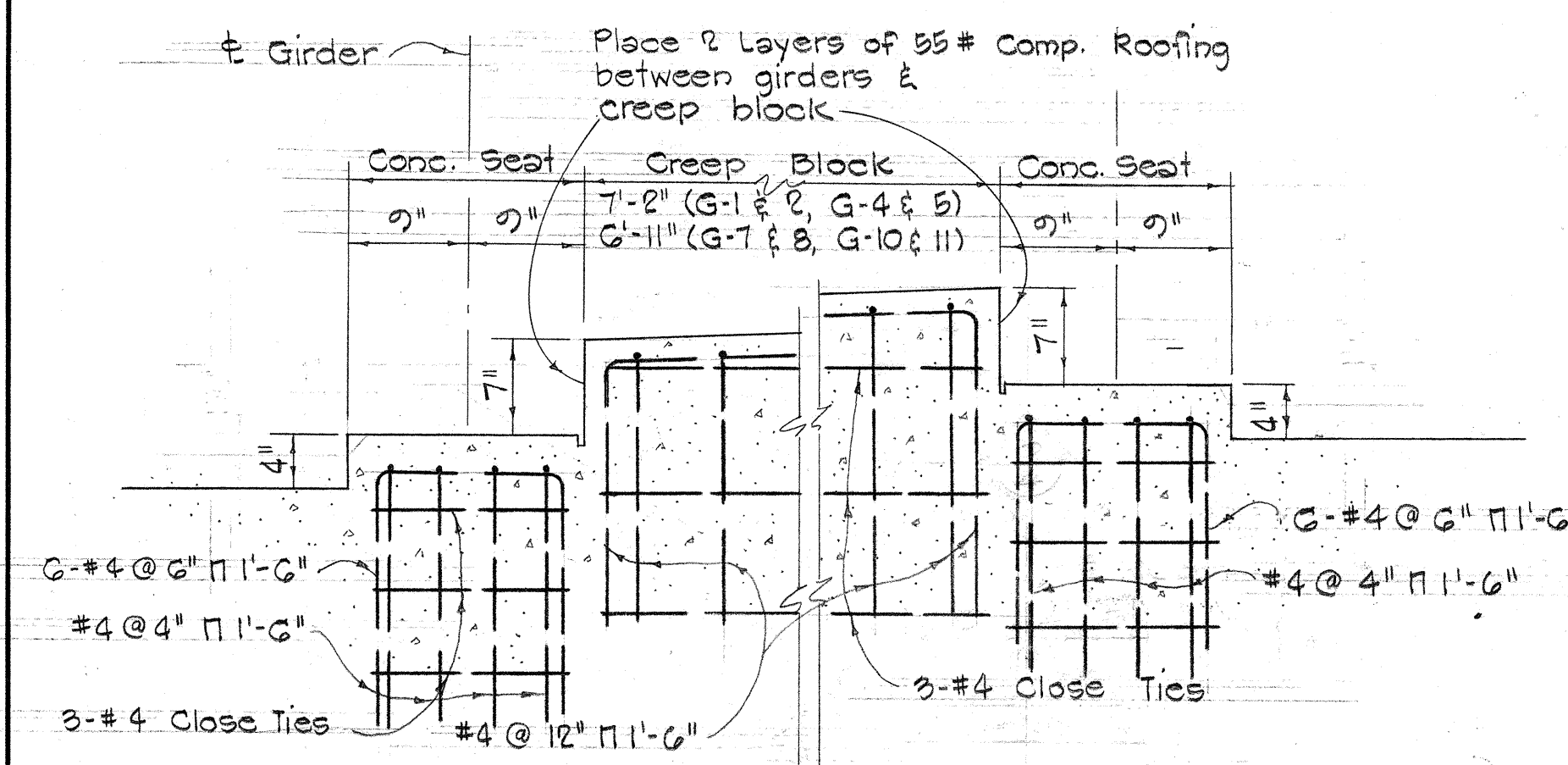
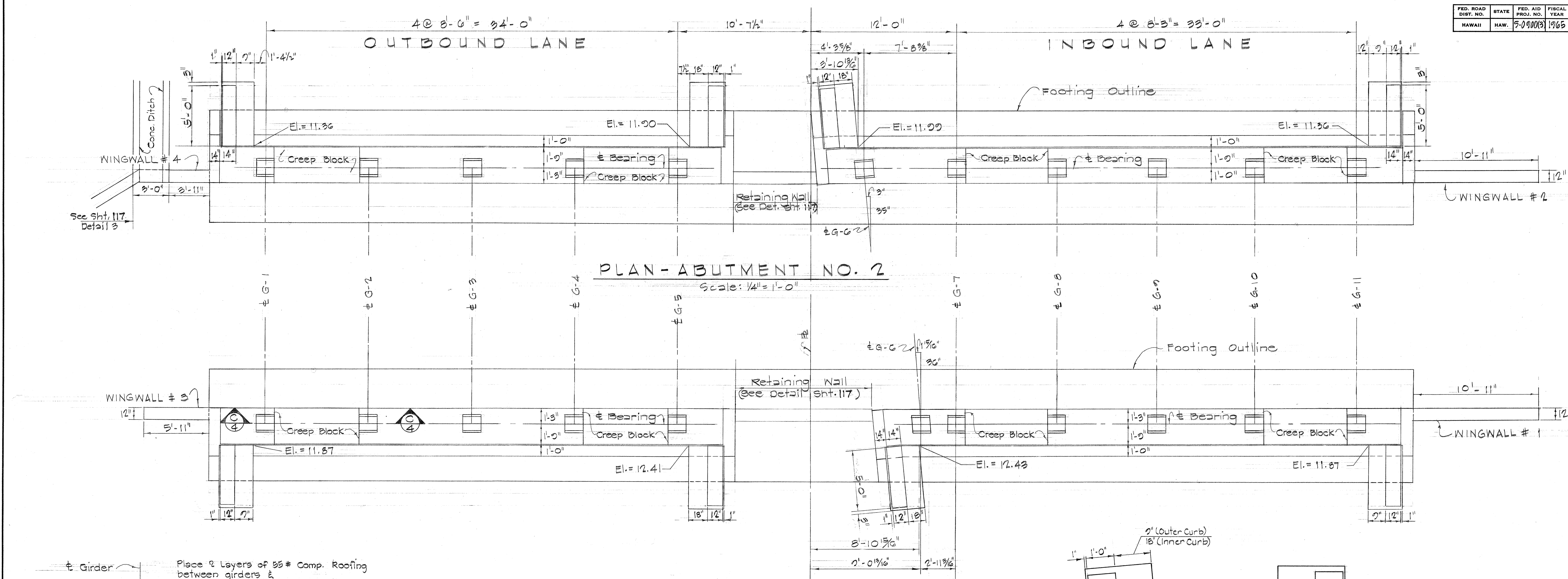


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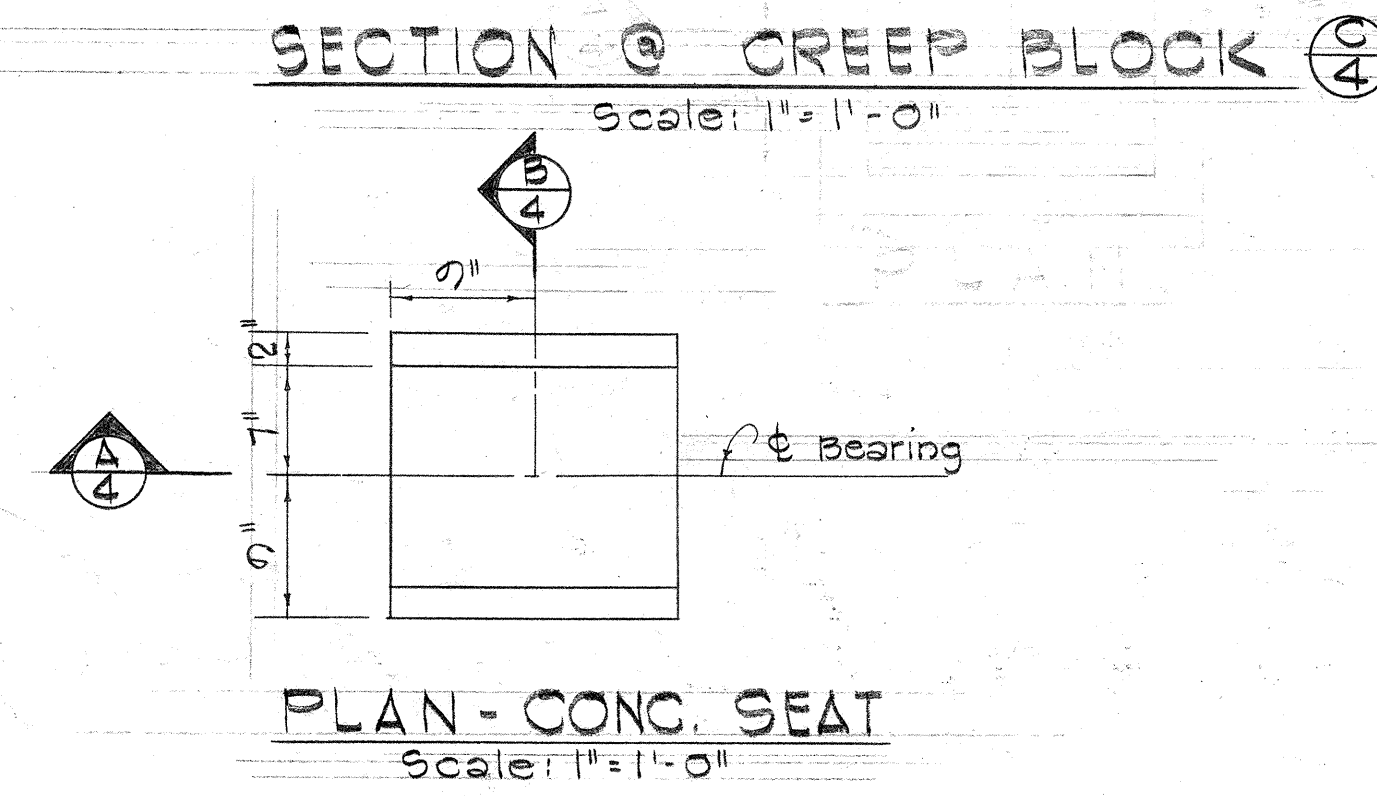
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STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
KEANANOLO STREAM BRIDGE
STA. 23+25.04 TO STA. 24+60.96
FARRINGTON HWY. PROJ. NO. S-0700(3)
JUNE, 1964
SHEET No. 3 OF 12 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	5-0900(3)	1965	112	162



PART - PLAN ABUTMENT
Scale: $1/2" = 1'-0"$
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CONC. SEAT DETAIL @ ABUTMENT
Scale: 1" = 1'-0"



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

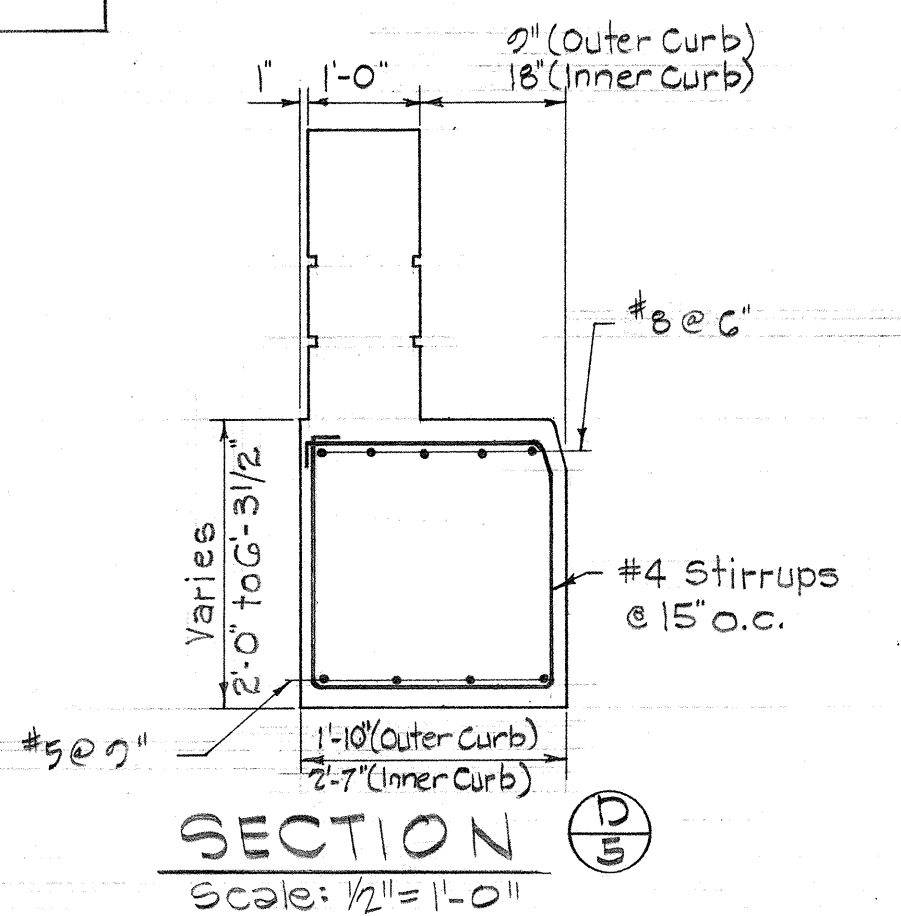
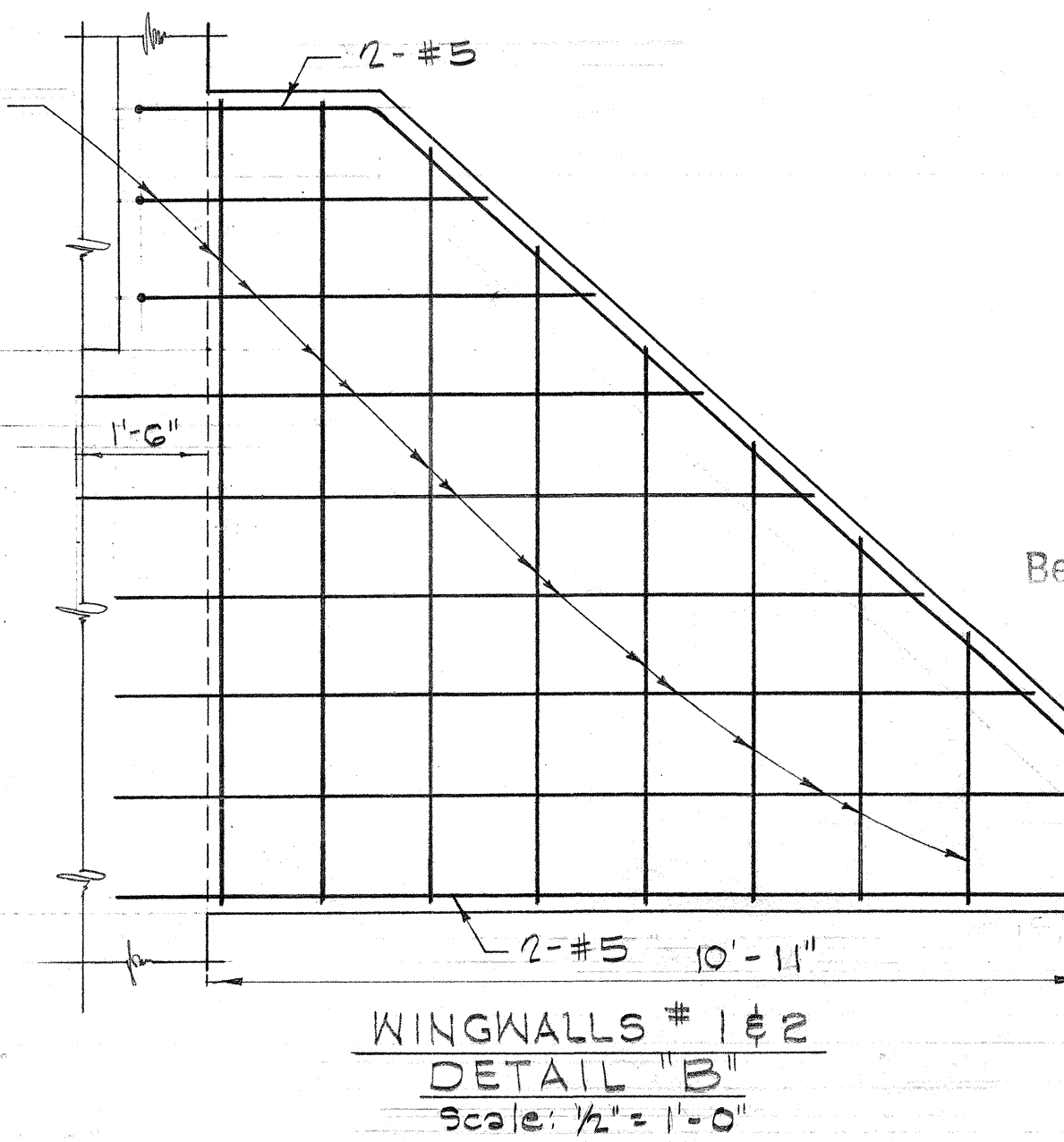
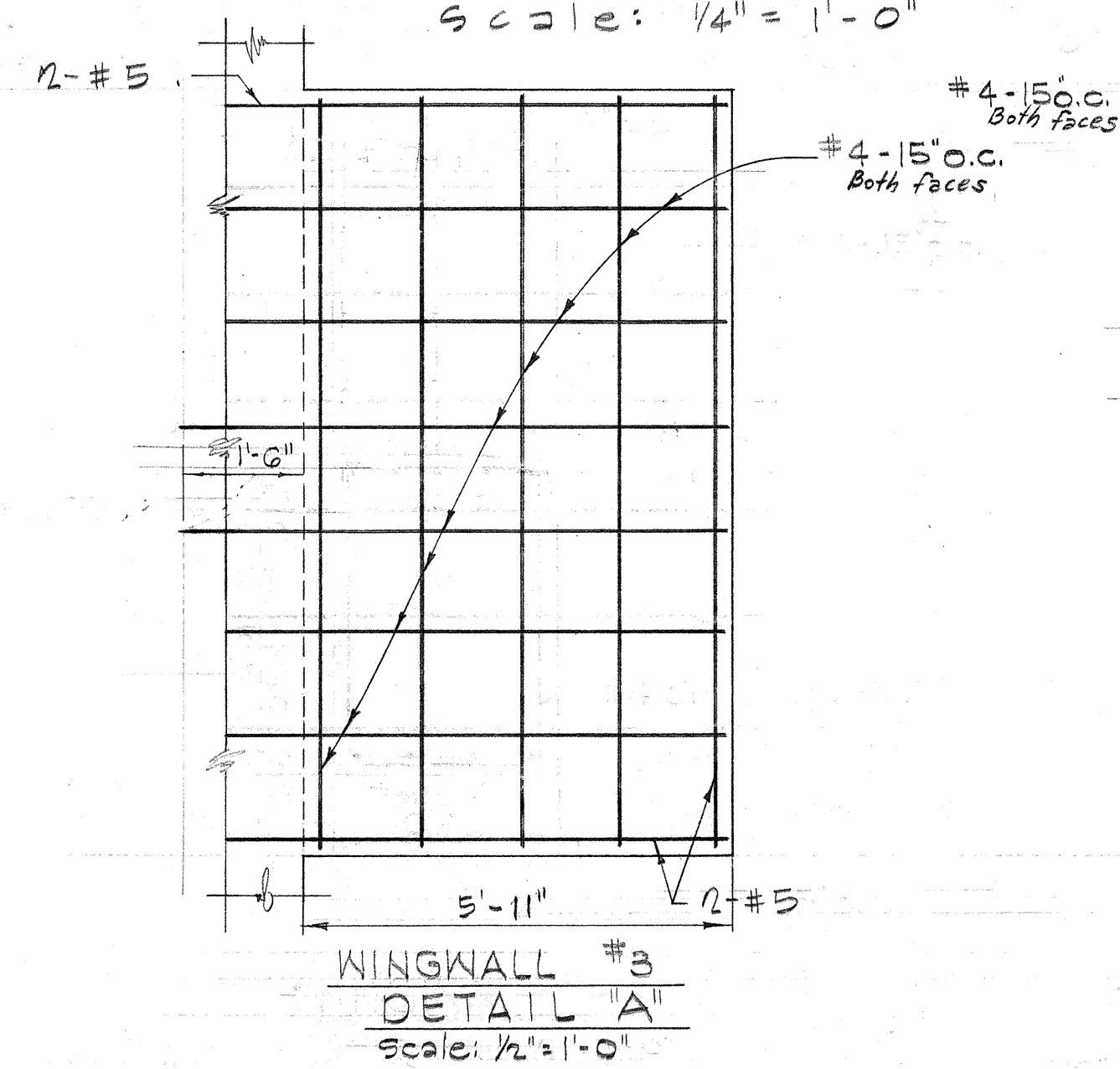
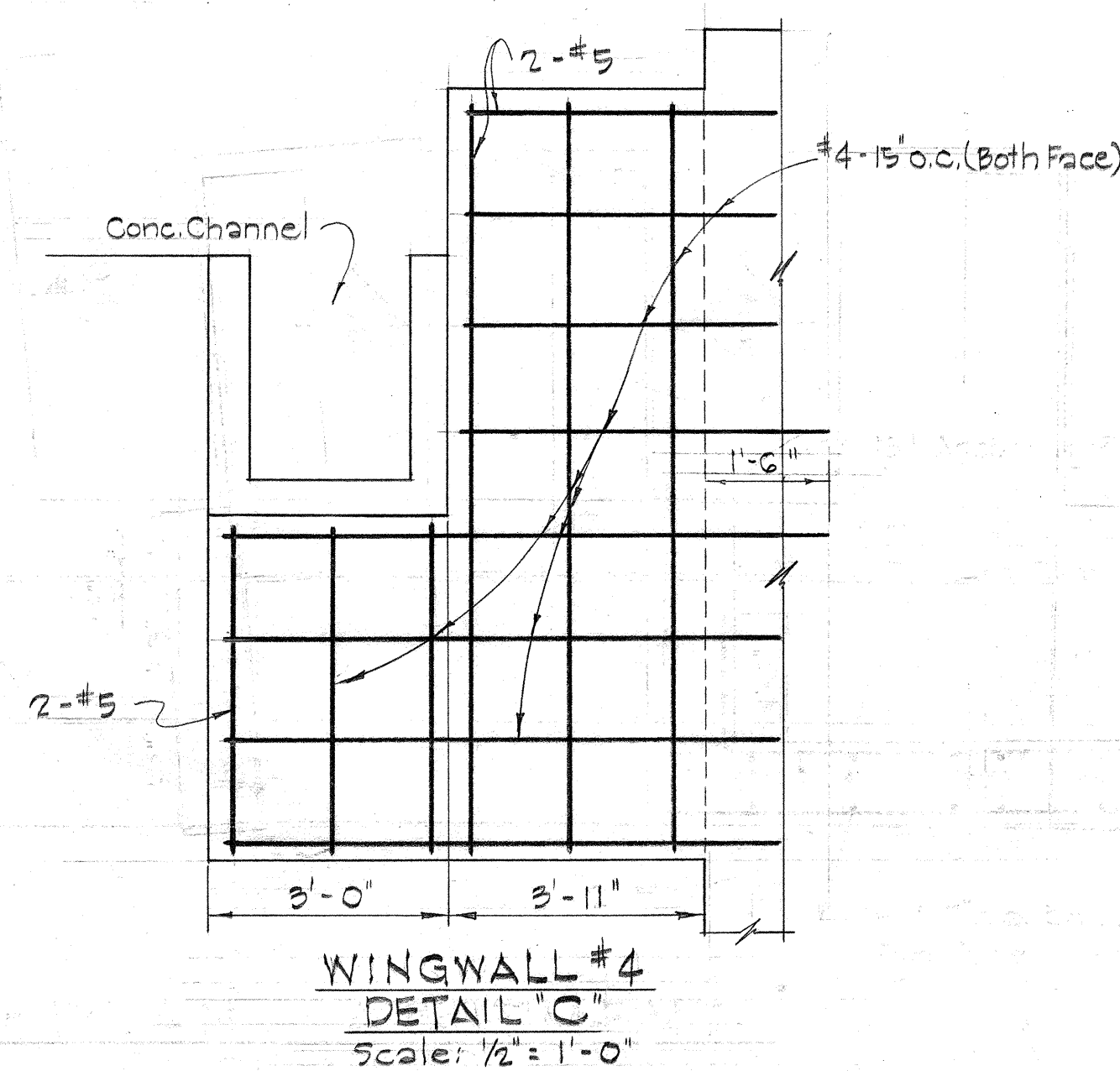
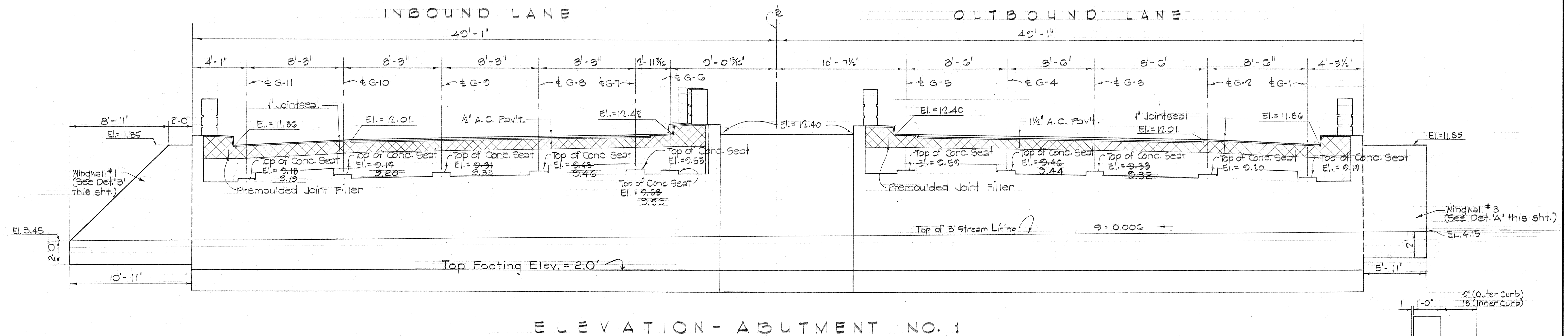
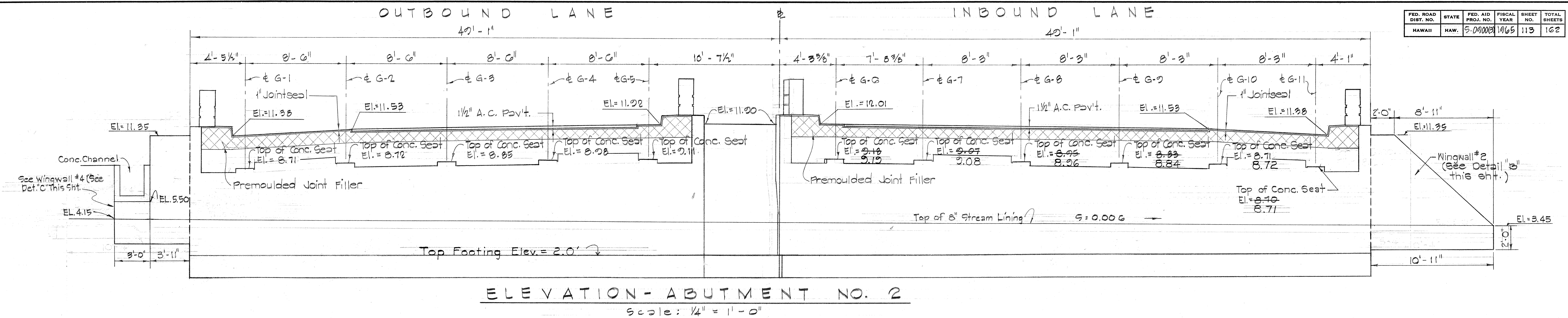
KEANANOIO STREAM BRIDGE

STA. 23+95.04 TO STA. 24+60.06

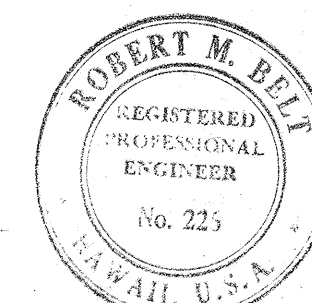
FARRINGTON HWY. PROJ. NO. S-0900(B)

JUNE, 1964

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	5-09000	1965	113	162



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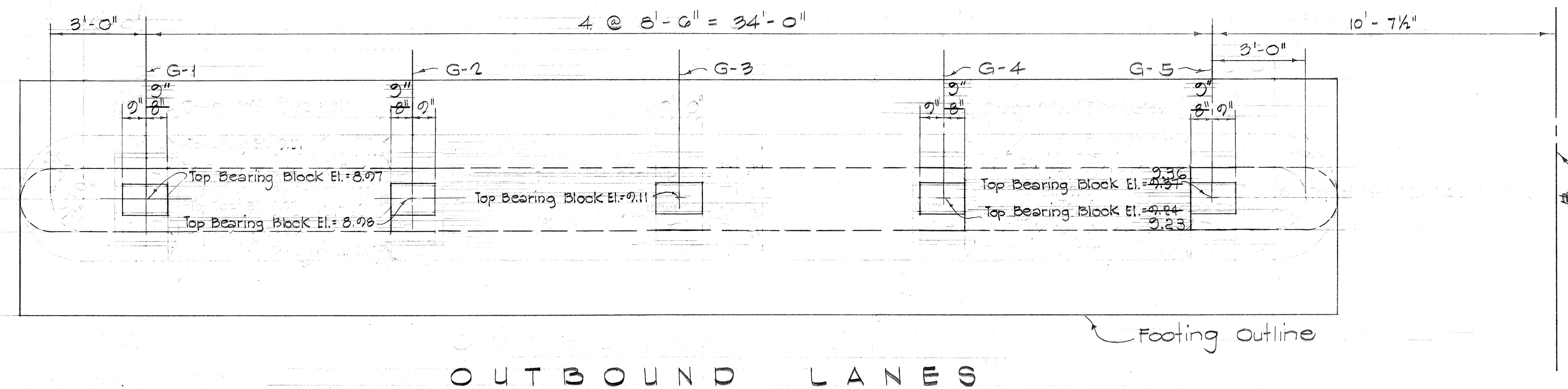
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

KEANANOIO STREAM BRIDGE
STA. 23+05.04 TO STA. 24+60.06
FARRINGTON HWY. PROJ. NO. 5-09000(5)
JUNE, 1964

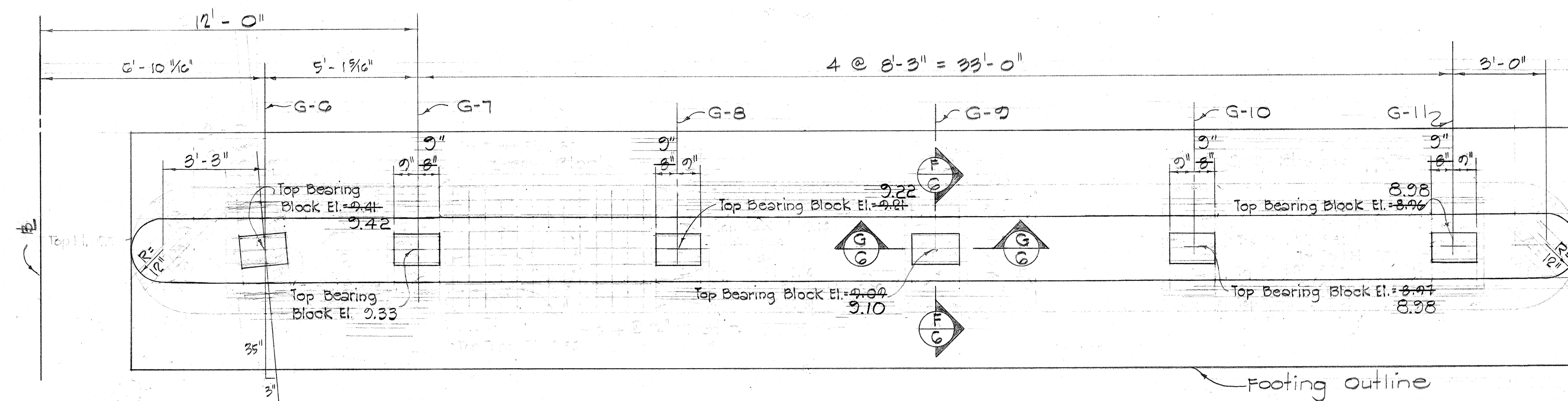
SHEET No. 5 OF 12 SHEETS

ORIGINAL PLAN	DATE
DESIGNED BY	
TRACED BY	
NOTE BOOK	
QUANTITIES BY	
CHECKED BY	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	5-0700(3)	1965	114	162

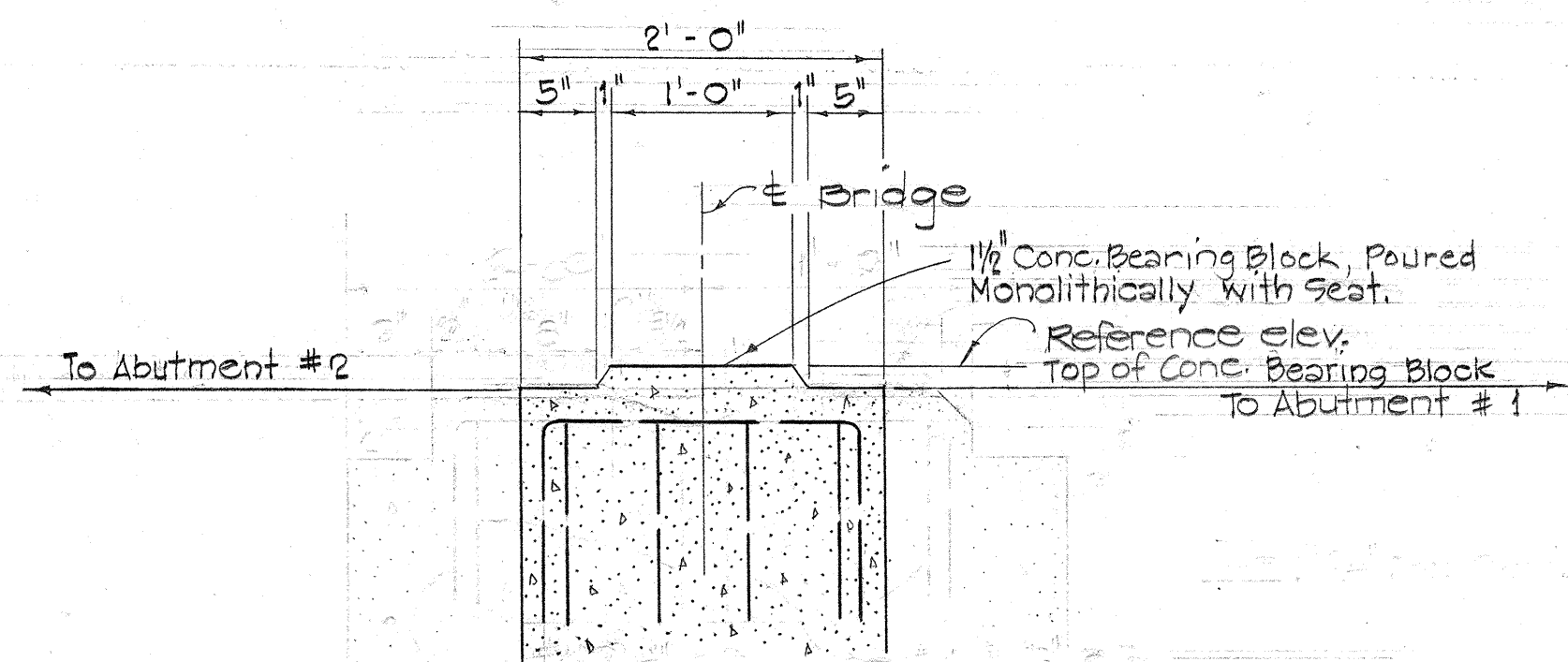


OUTBOUND LANES

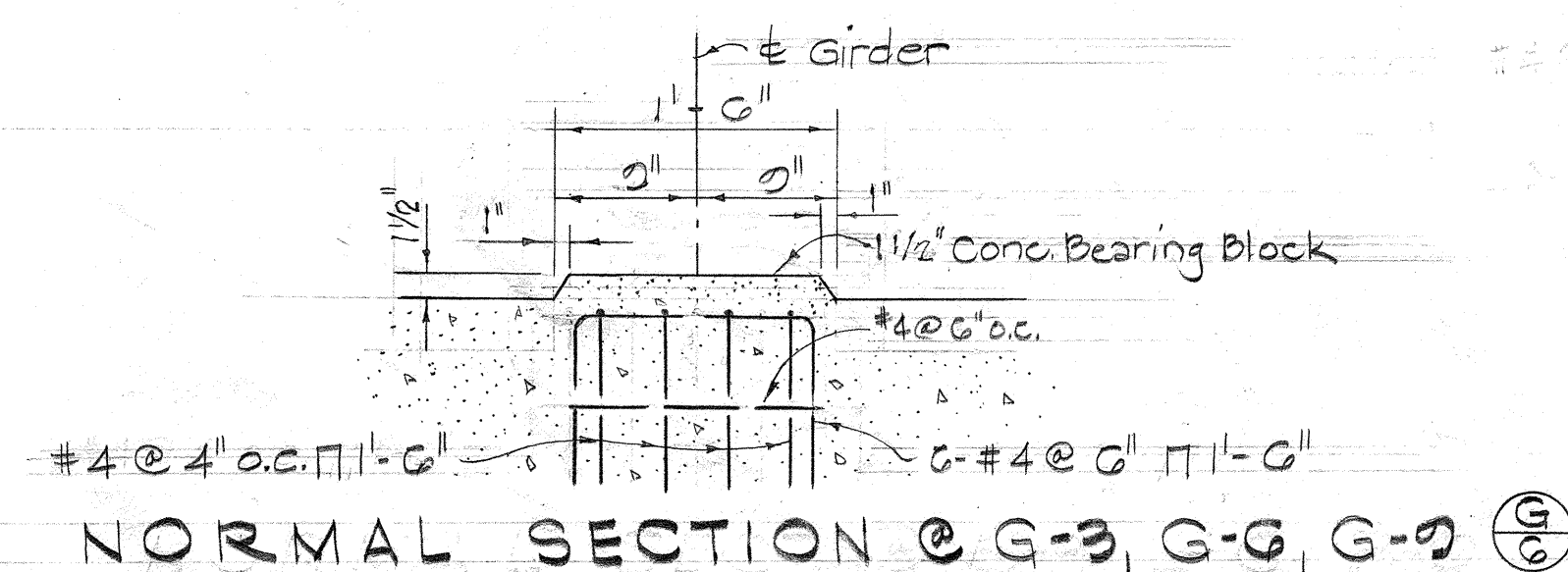


INBOUND LANES
PIER PLAN

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



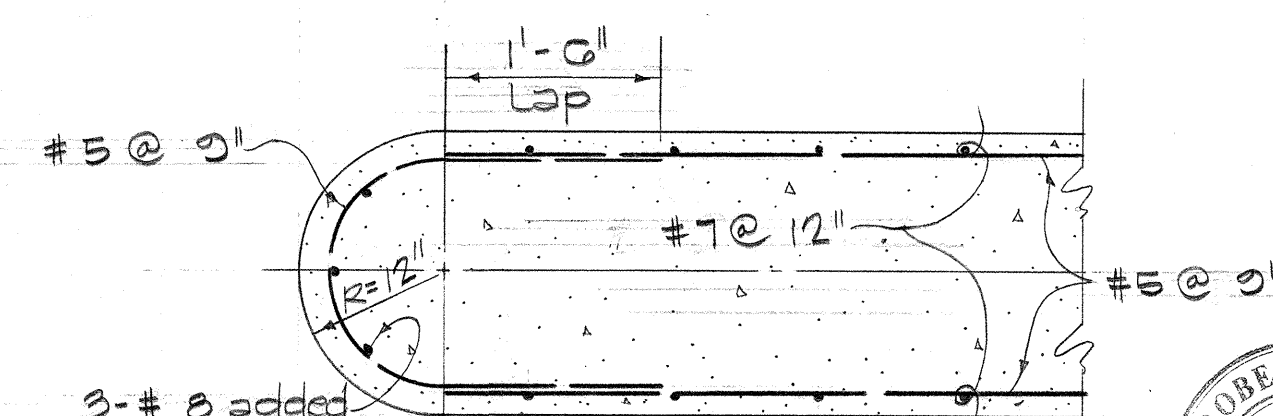
TYPICAL SECTION F/G



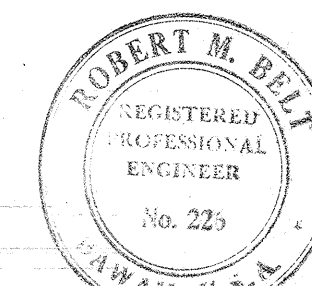
NORMAL SECTION @ G-3, G-6, G-9

TYPICAL CONCRETE SEAT DETAILS @ PIER

Scale: 1" = 1'-0"



SECTION H/G
Scale: 3/4" = 1'-0"



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

KEANANOIO STREAM BRIDGE

STA. 23+25.04 TO STA. 24+60.06

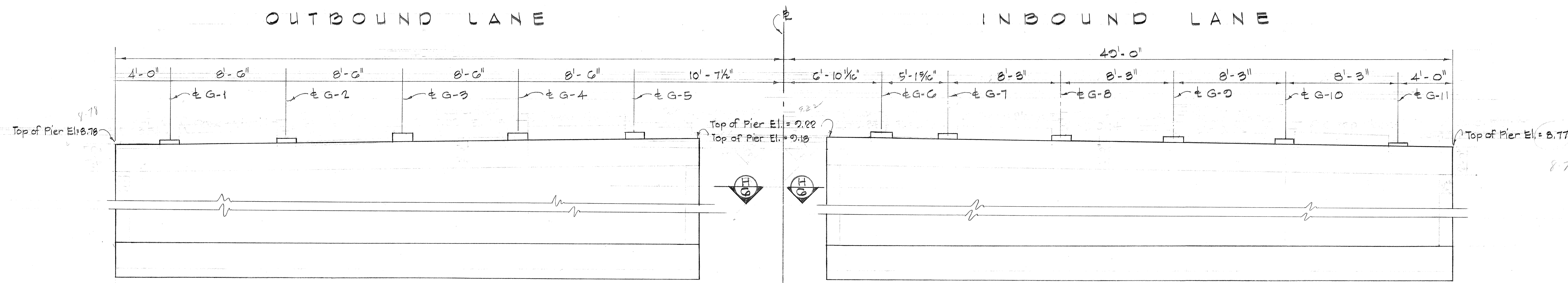
FARRINGTON HWY. PROJ. NO. S-0000(3)

JUNE, 1964

SHEET No. 6 OF 12 SHEETS

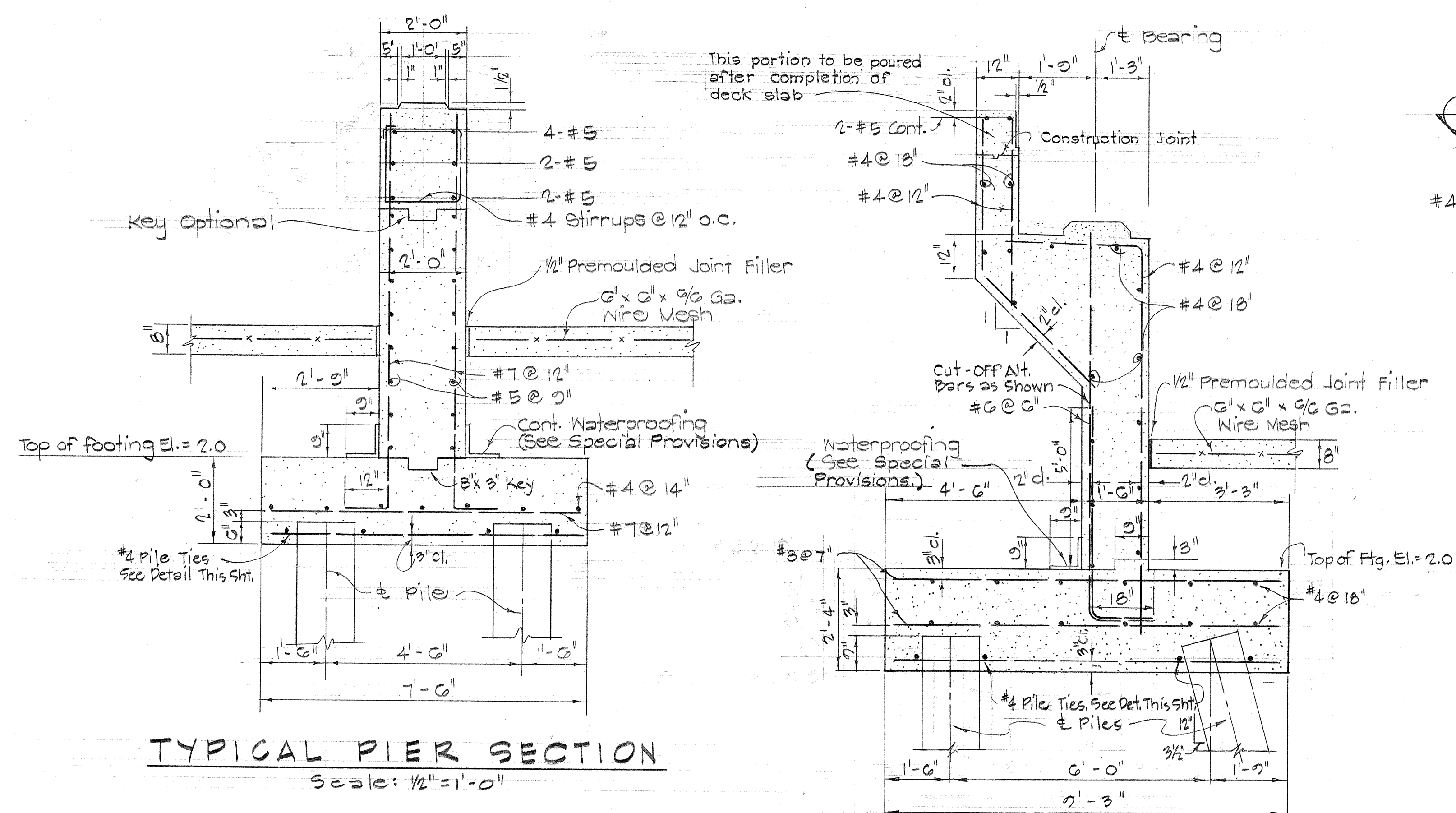
1114

SURVEY PLOTTED BY	DATE
PLAN	
DESIGNED BY	
NOTED BY	
CHECKED BY	
ORIGINAL	
PLAN	
DESIGNED BY	
NOTED BY	
CHECKED BY	
ORIGINAL	



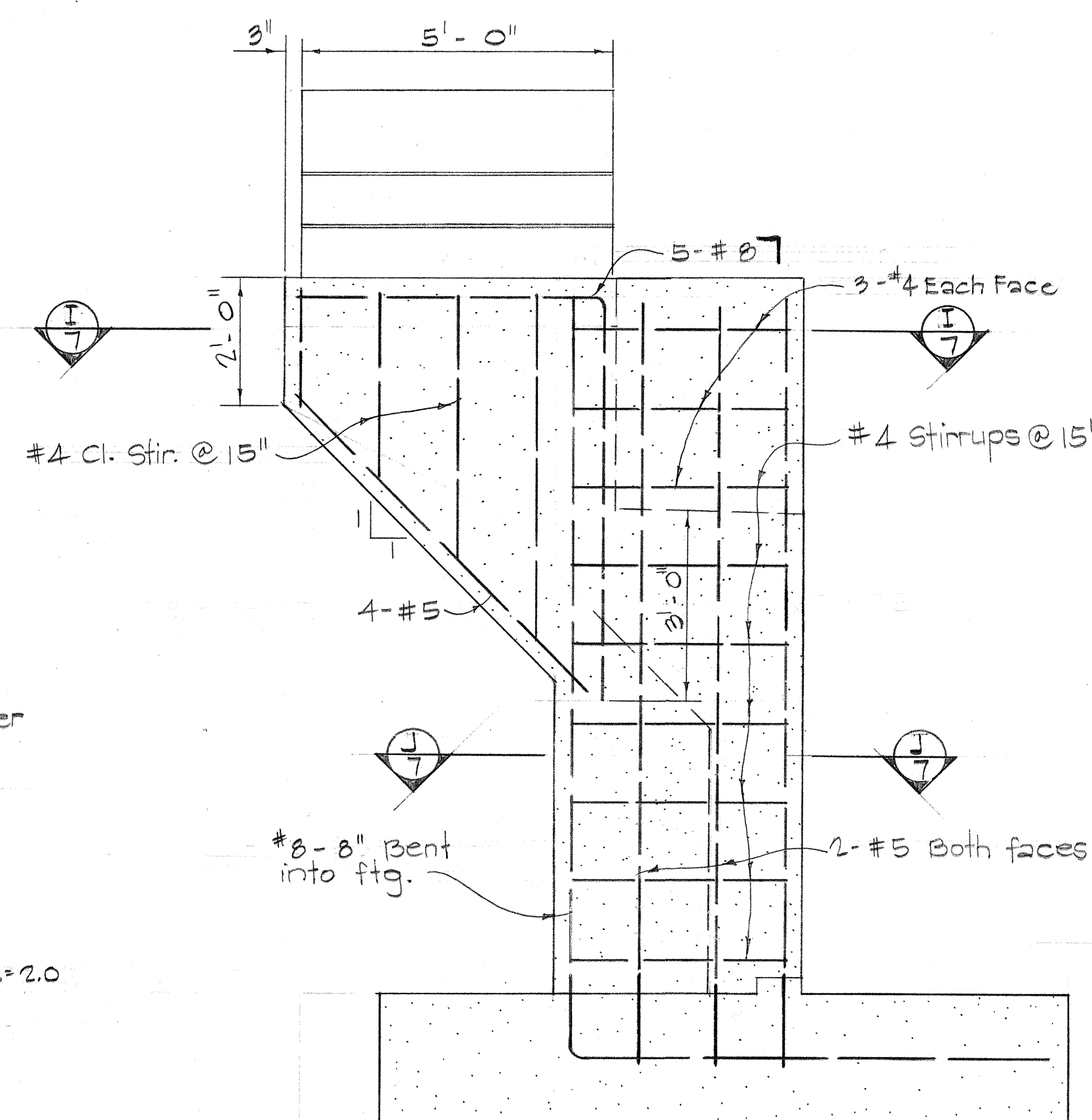
PIER ELEVATION

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

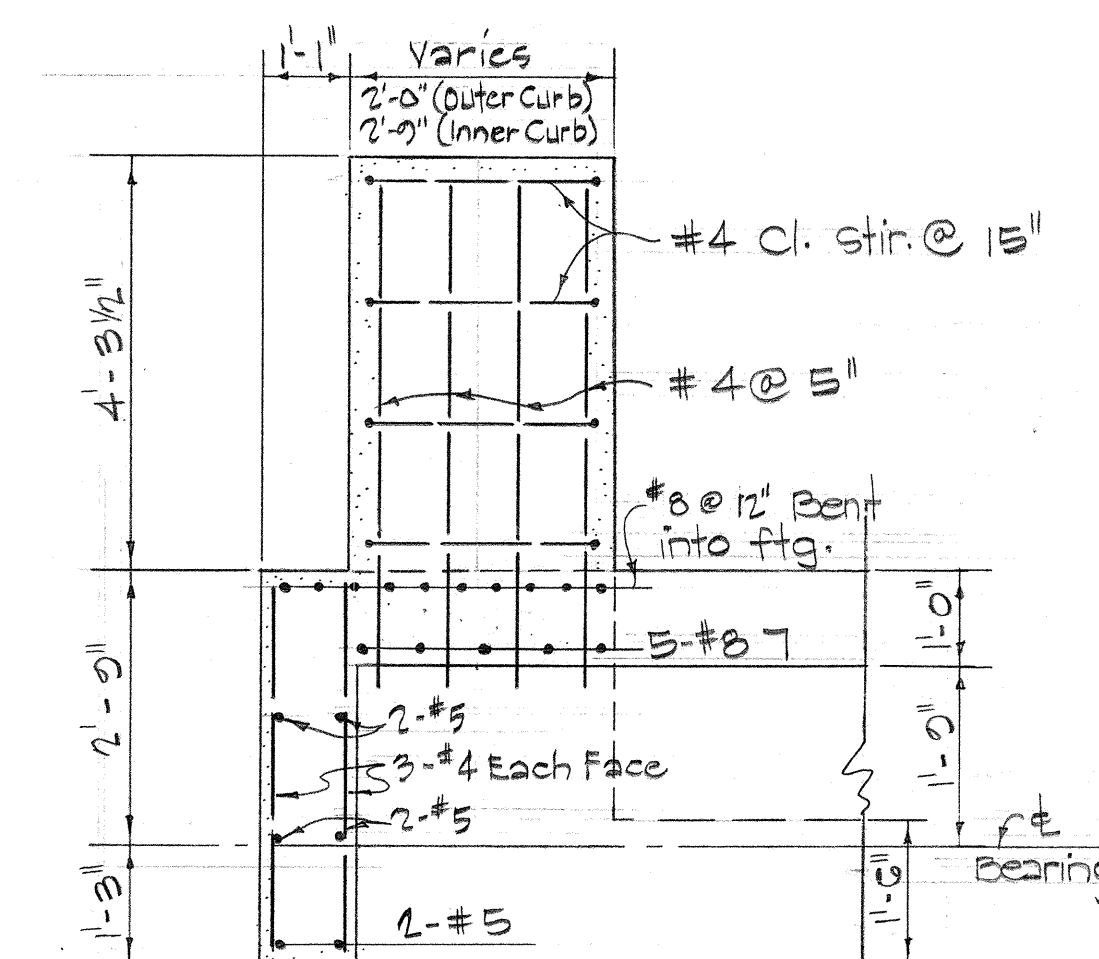


TYPICAL PIER SECTION

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

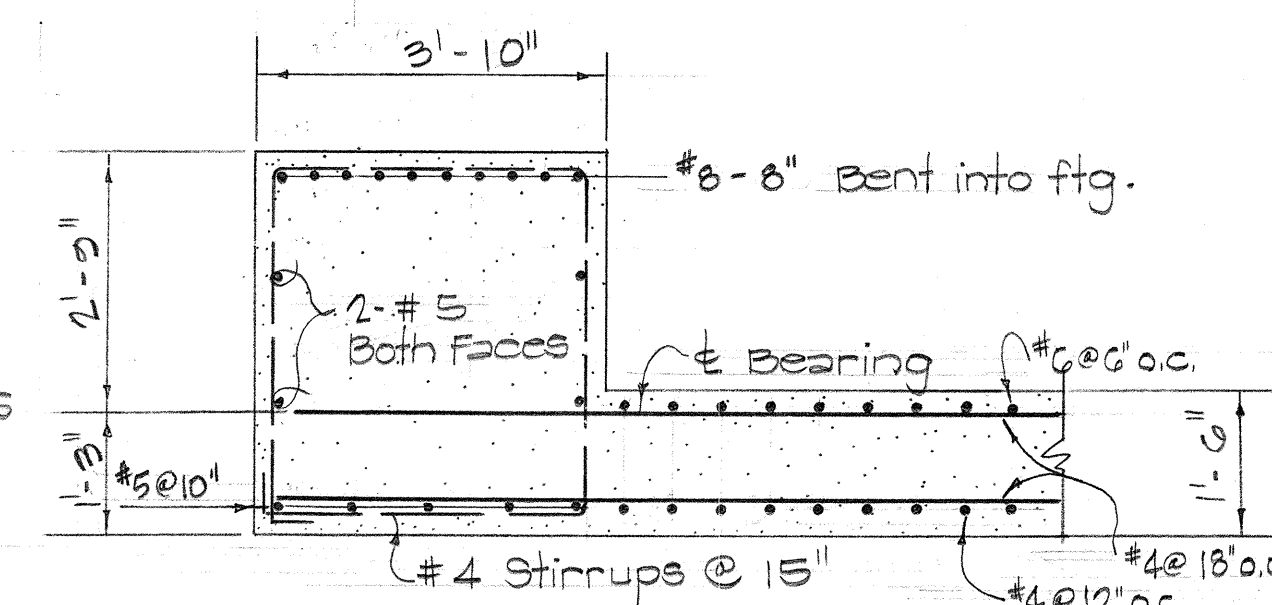
SECTION E
7

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



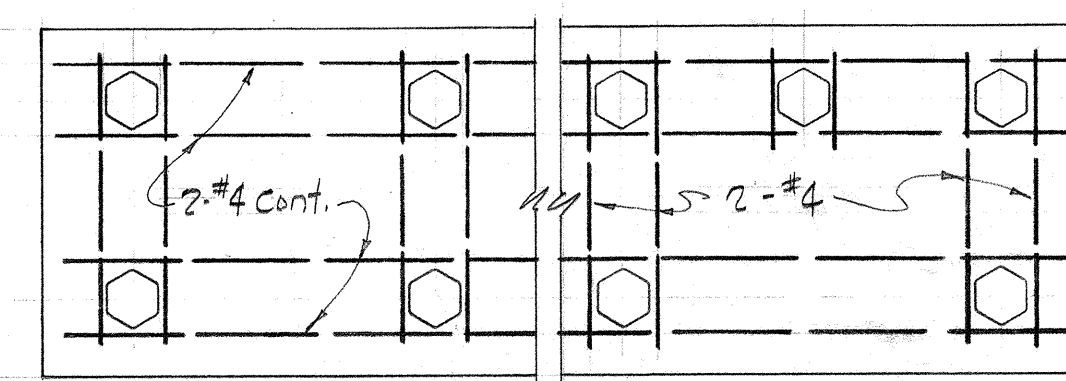
SECTION

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



SECTION

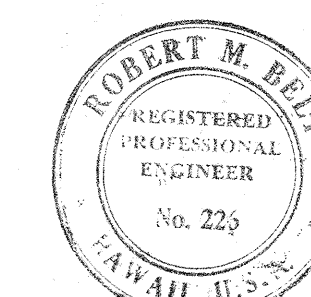
Scale: $1/2'' = 1' - 0''$



PILE TIES DETAIL

Not to Scale

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

KEANANOIO STREAM BRIDGE

STA. 23+95.04 TO STA. 24+60.96

FARRINGTON HWY. PROJ. NO. S-0900(3)

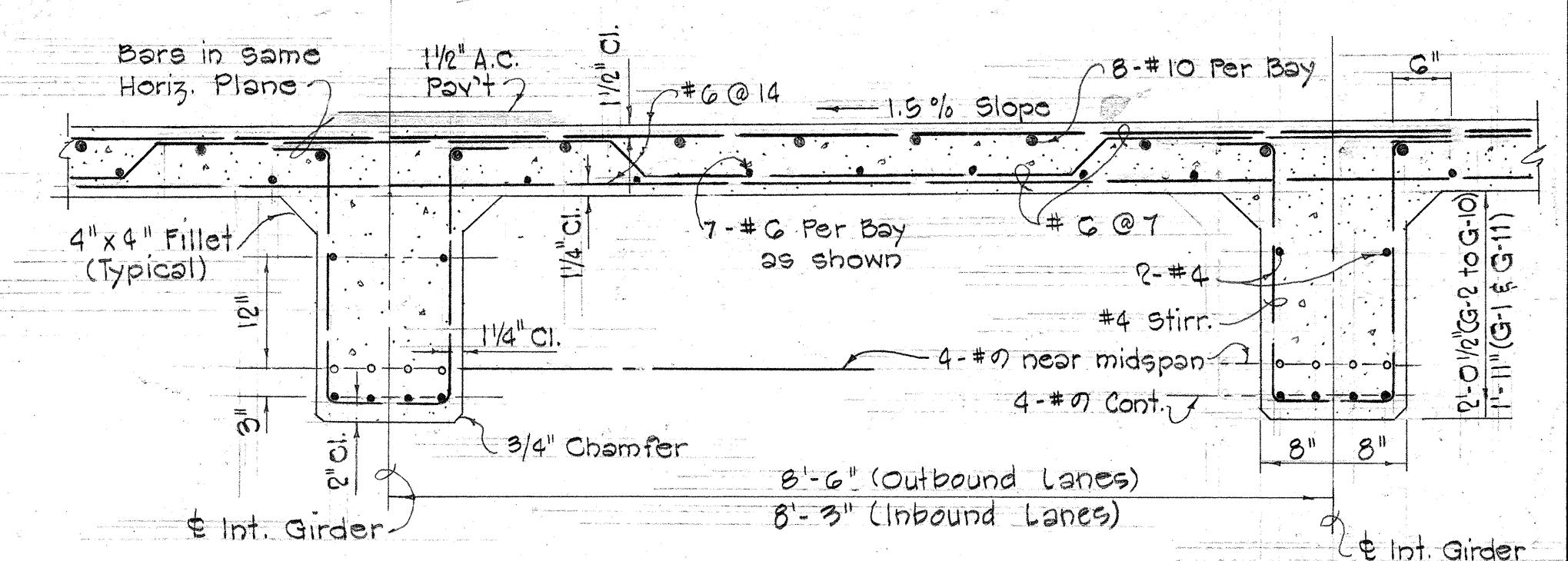
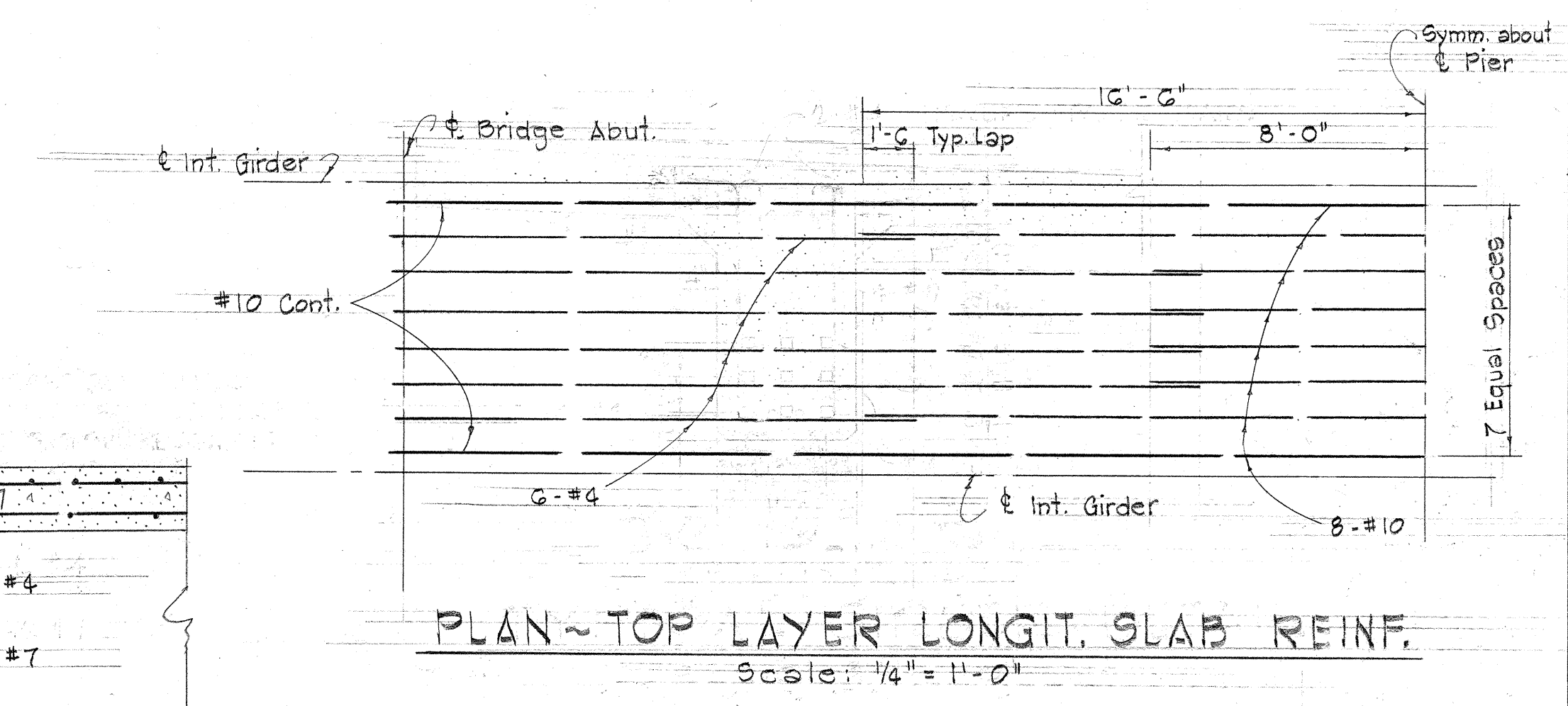
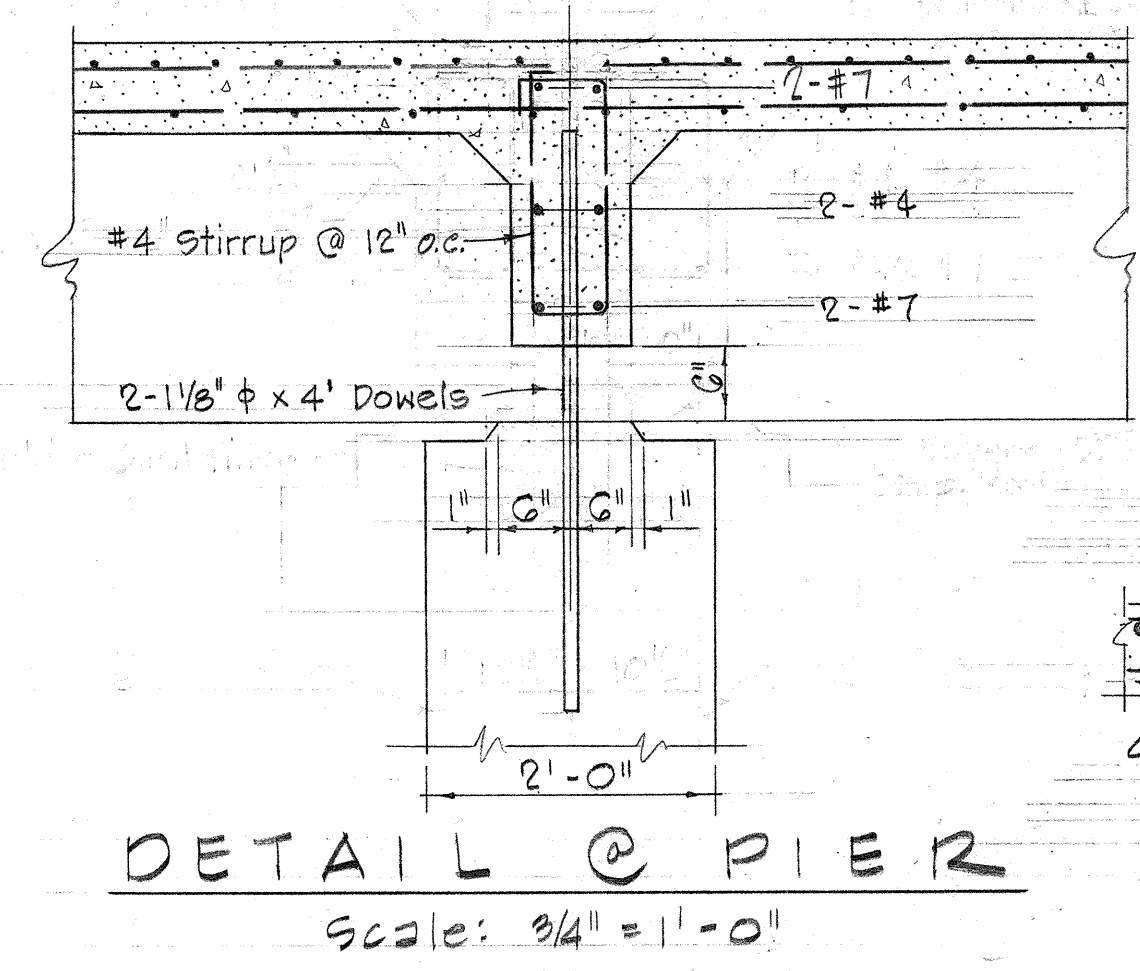
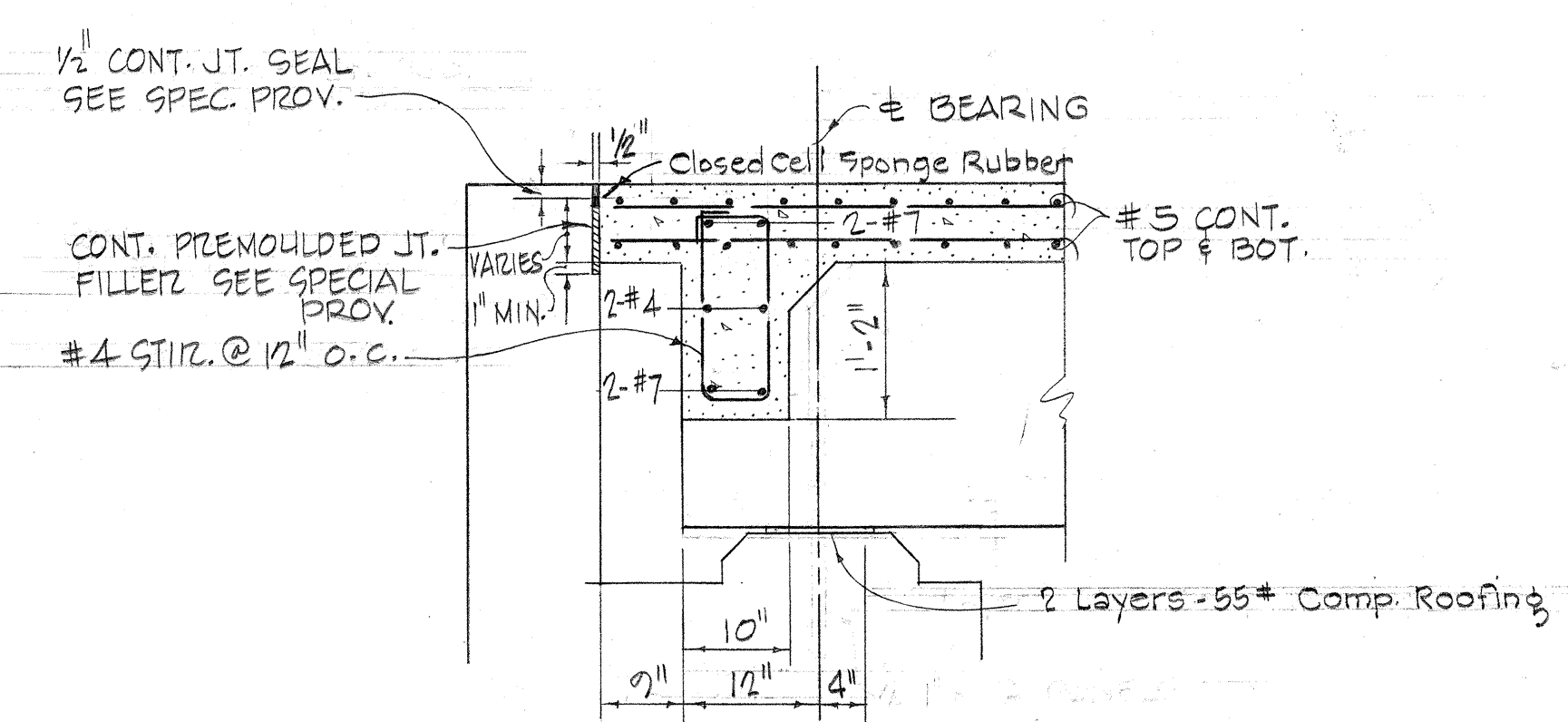
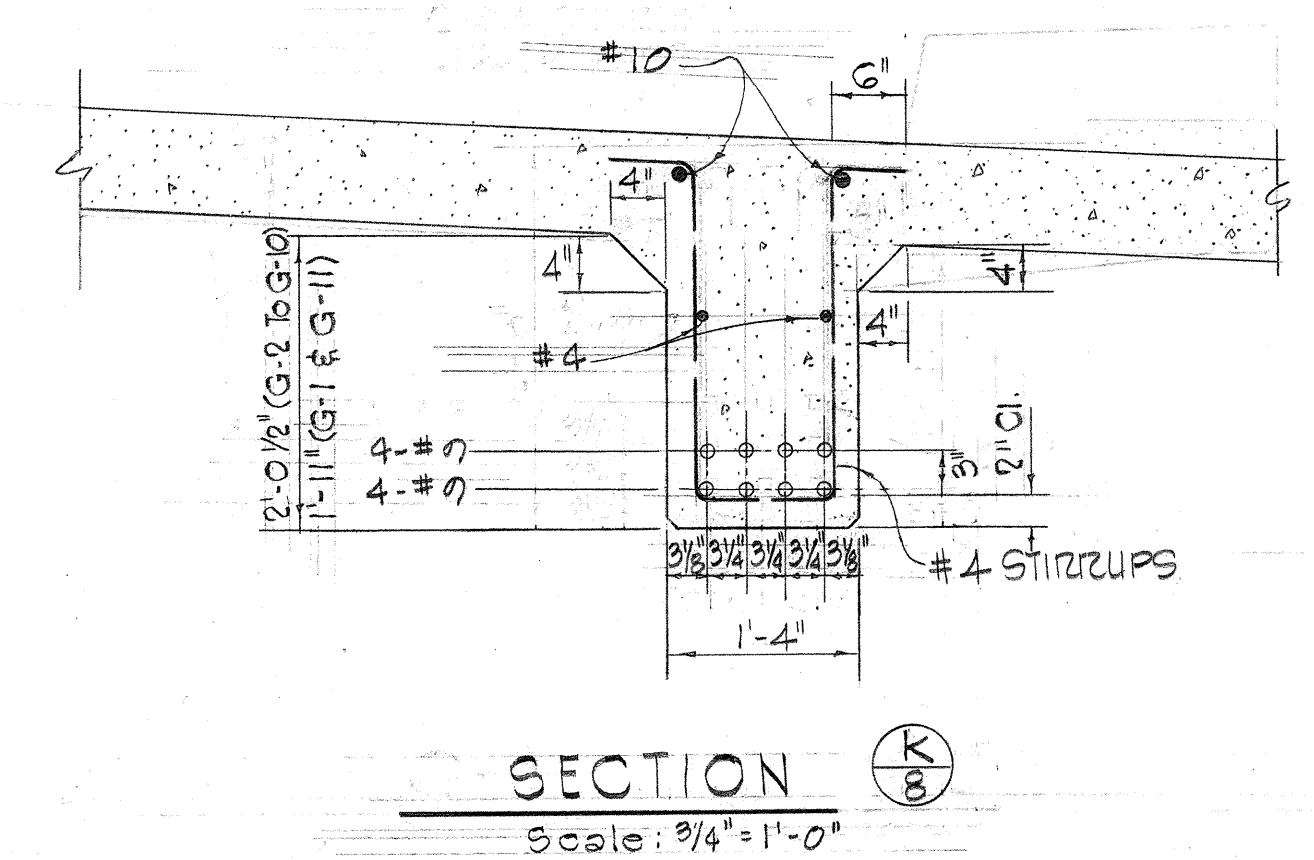
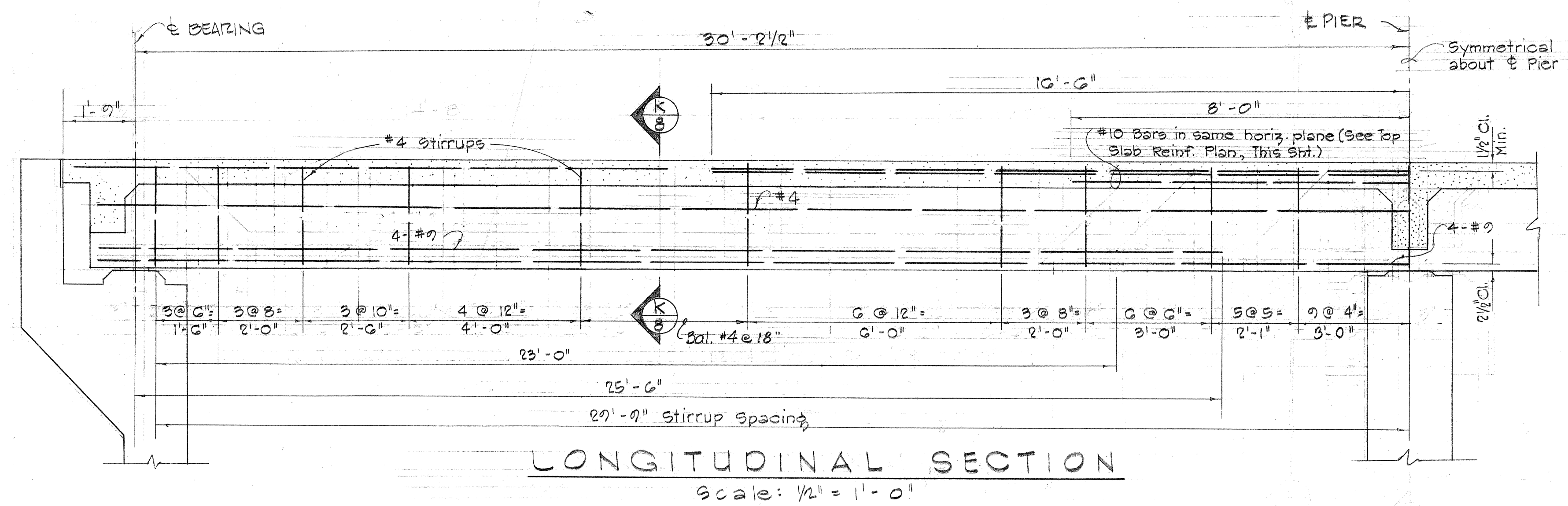
JUNE, 1964

SHEET No. 7 OF 12 SHEETS

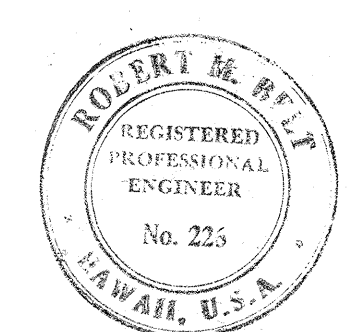
115

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

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	5-0900(3)	1965	116	122



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



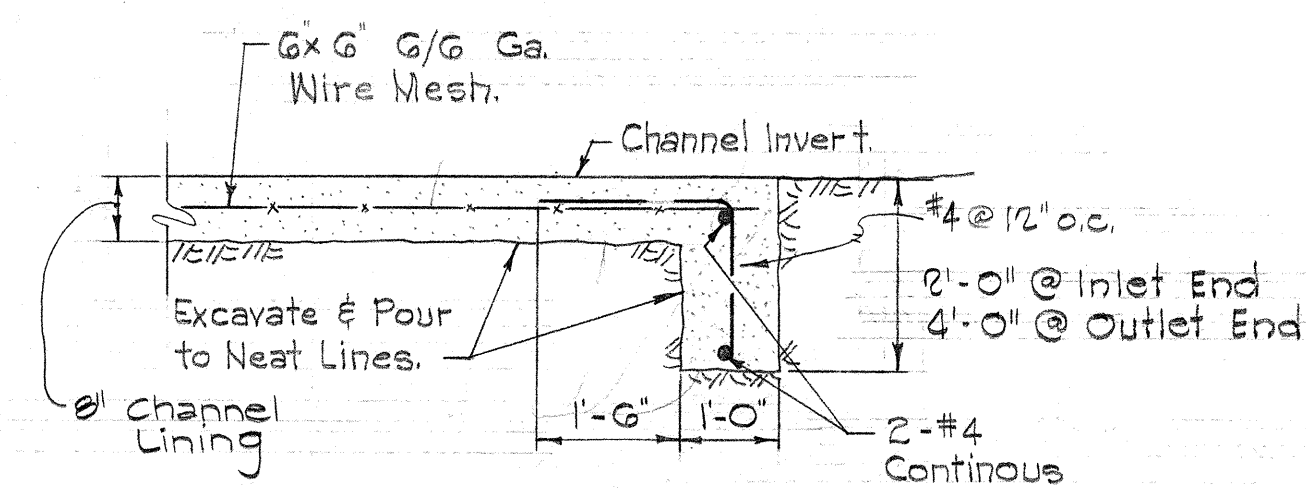
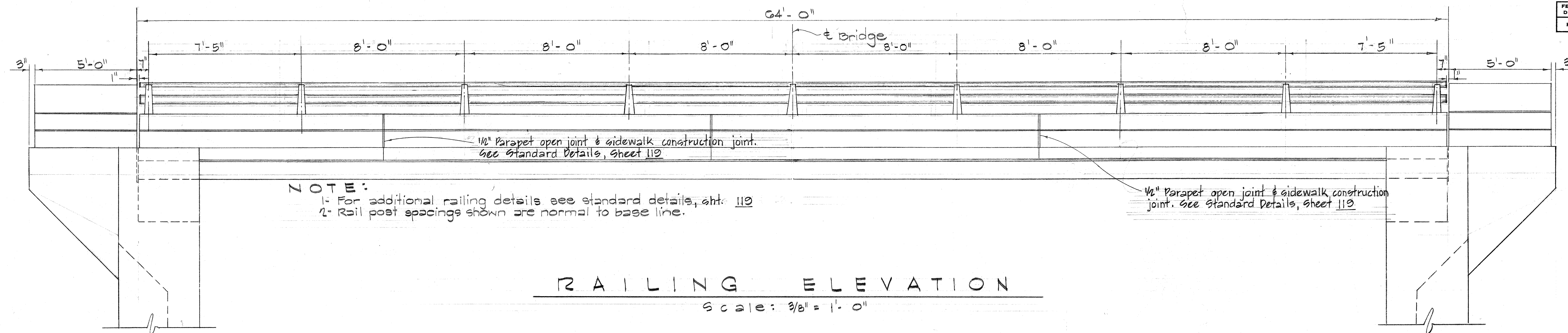
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
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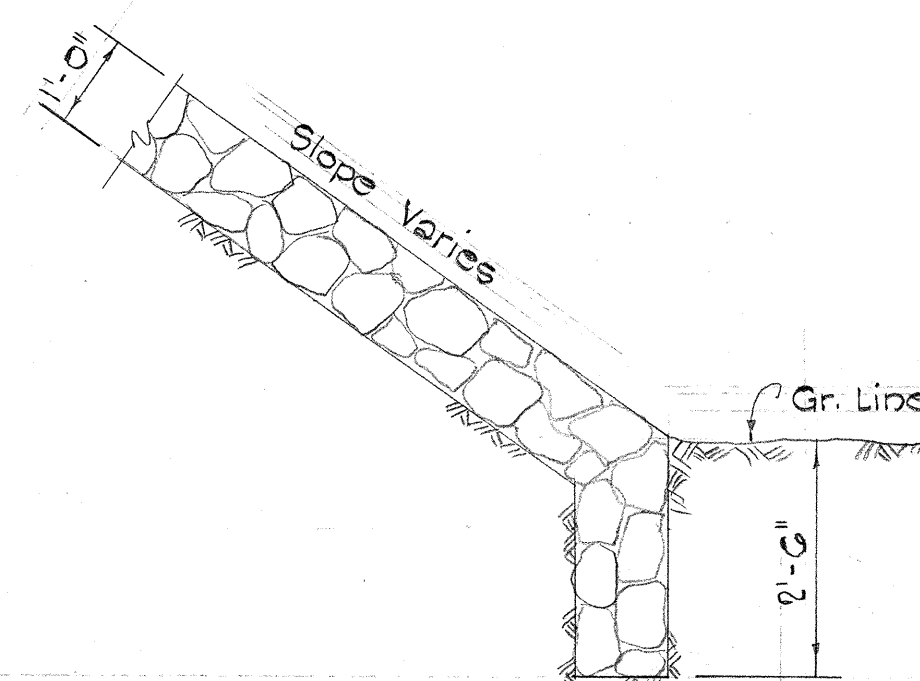
KEANANOIO STREAM BRIDGE
STA. 23+25.04 TO STA. 24+60.56
FARRINGTON HWY. PROJ. NO. 5-0900(3)
JUNE, 1964

SHEET No. 8 OF 12 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEET
HAWAII	HAW.	5-0700(3)	1965	117	162

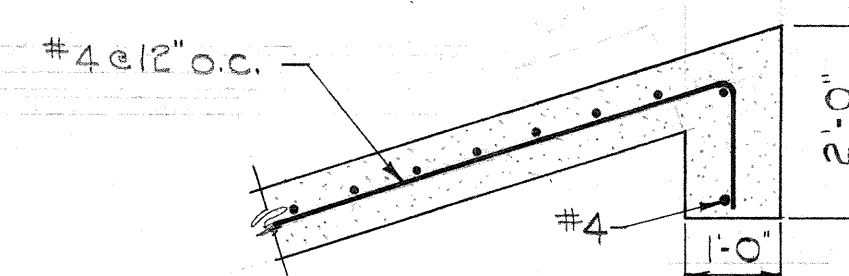


CUT-OFF WALL DETAIL
Scale: 1/2"=1'-0"

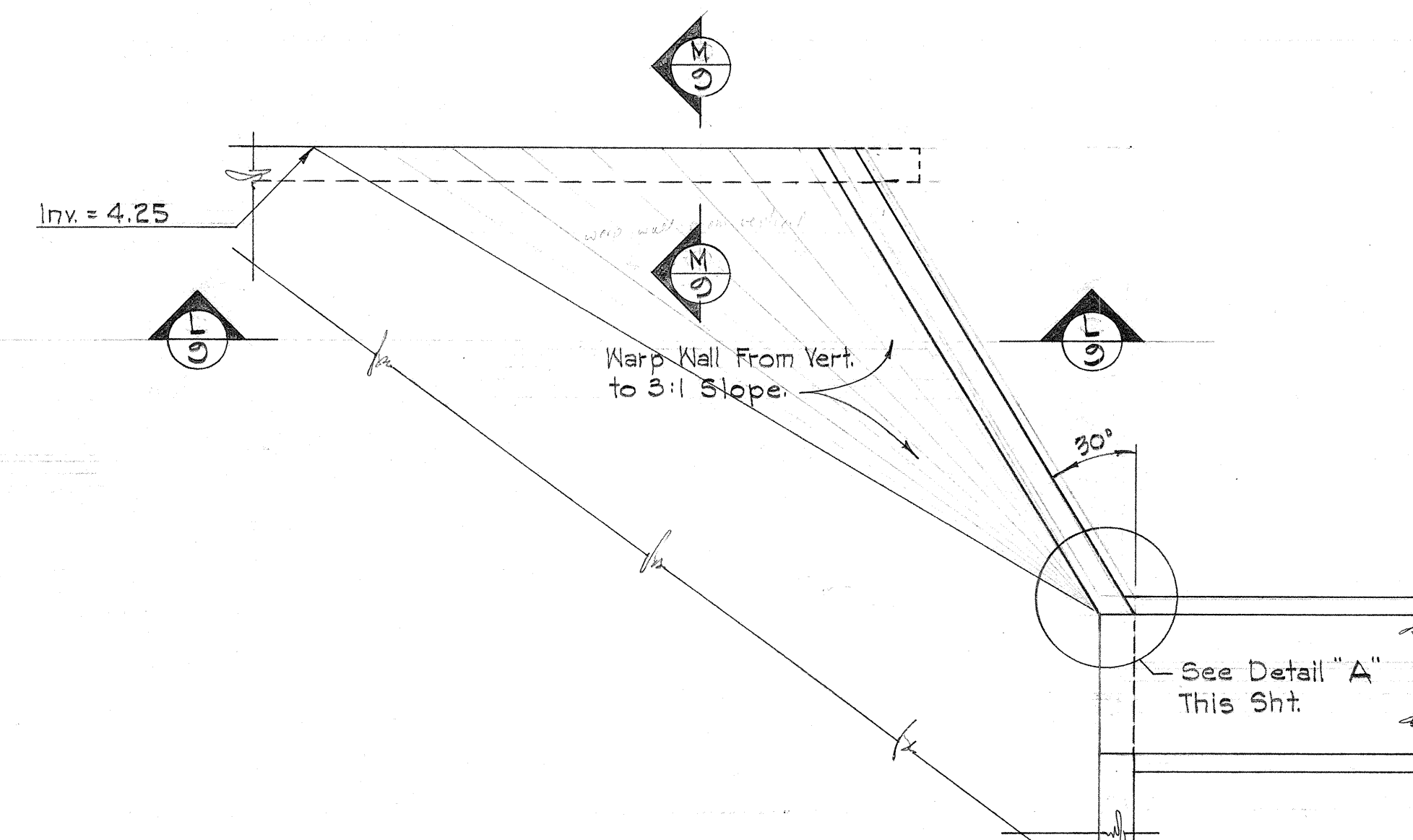


TYPICAL GRP CUT-OFF WALL DETAIL

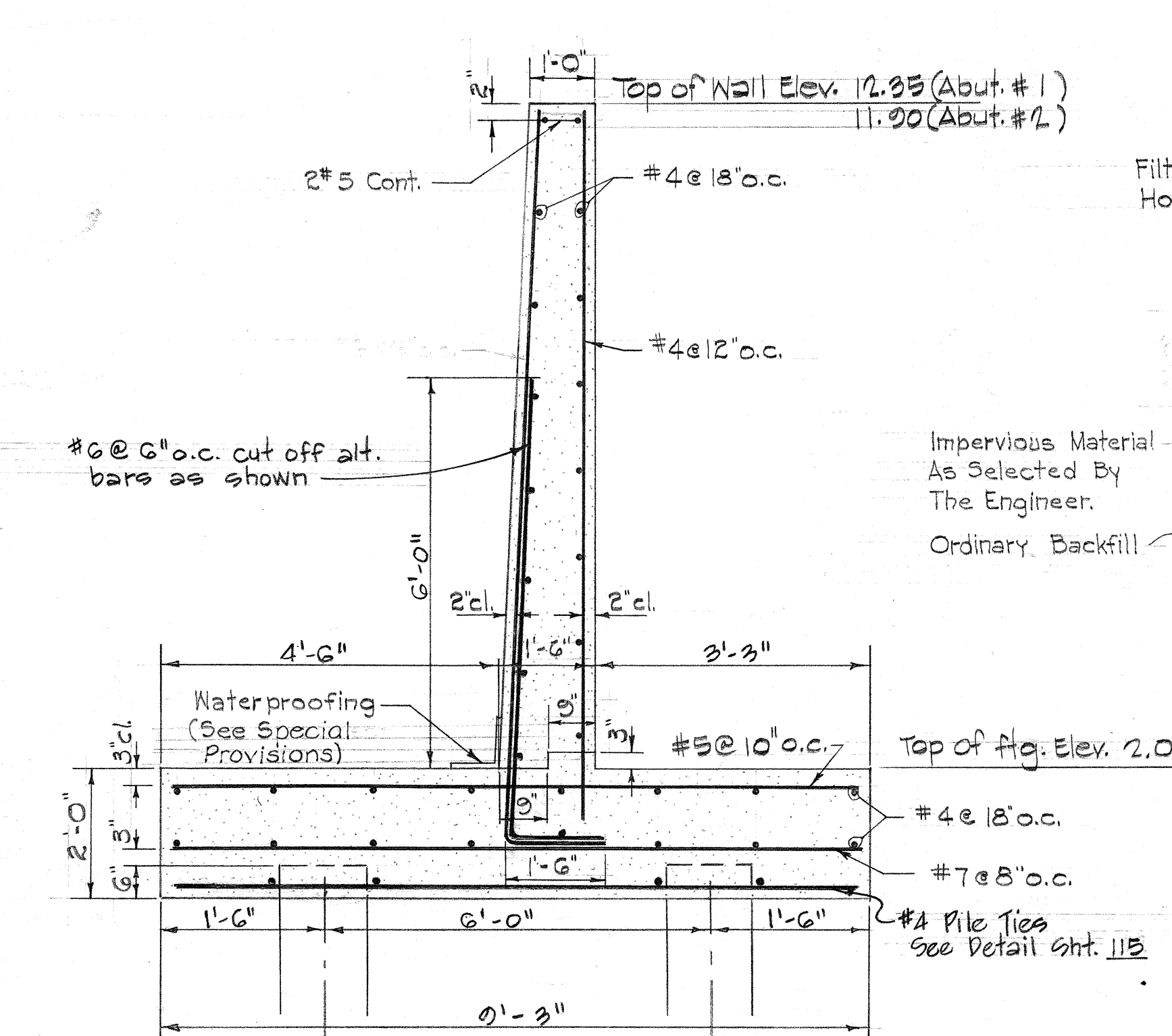
Scale: 1/4" = 1'-0"



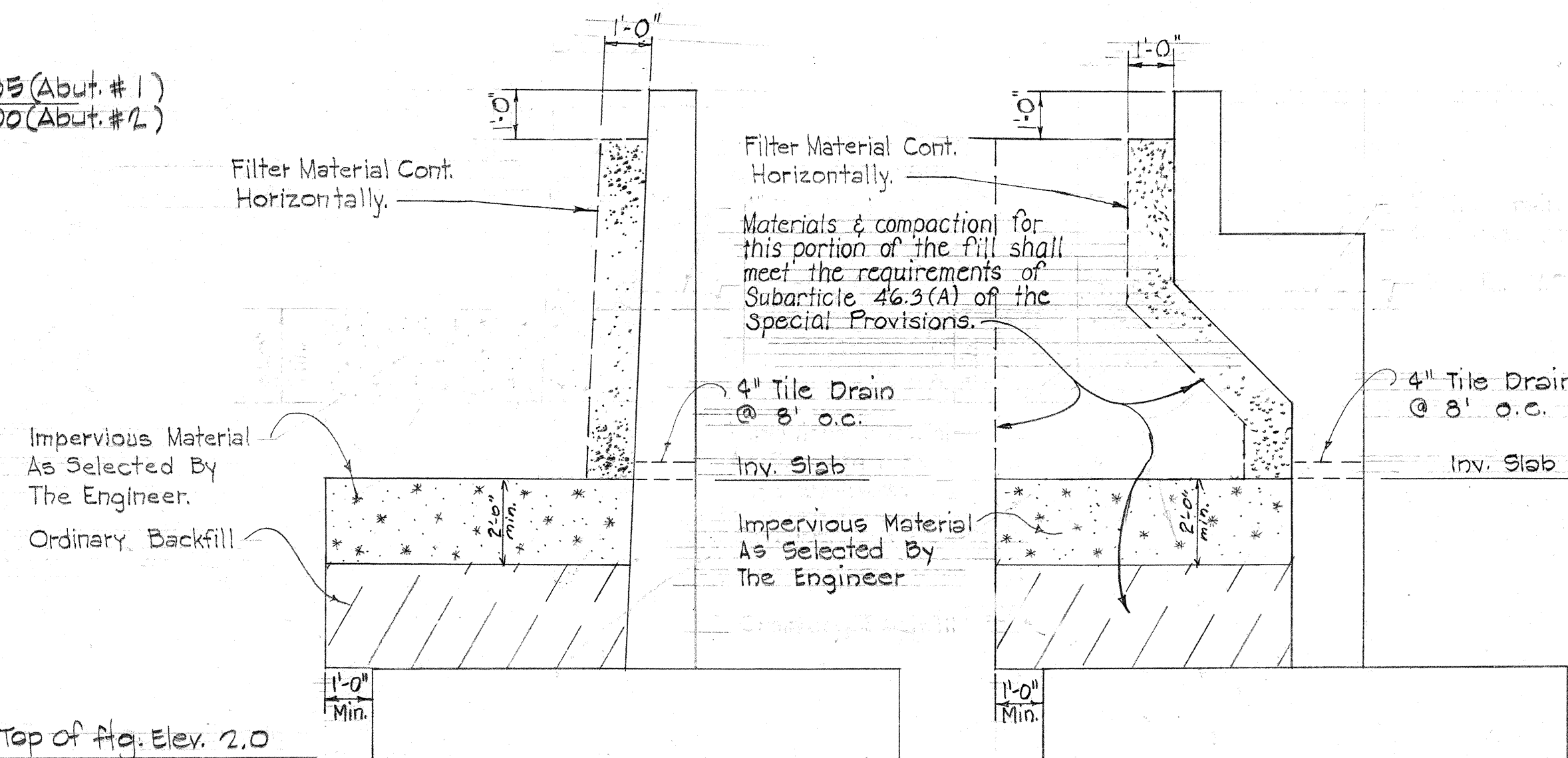
SECTION (M)
9
Scale: 1/2" = 1'-0"



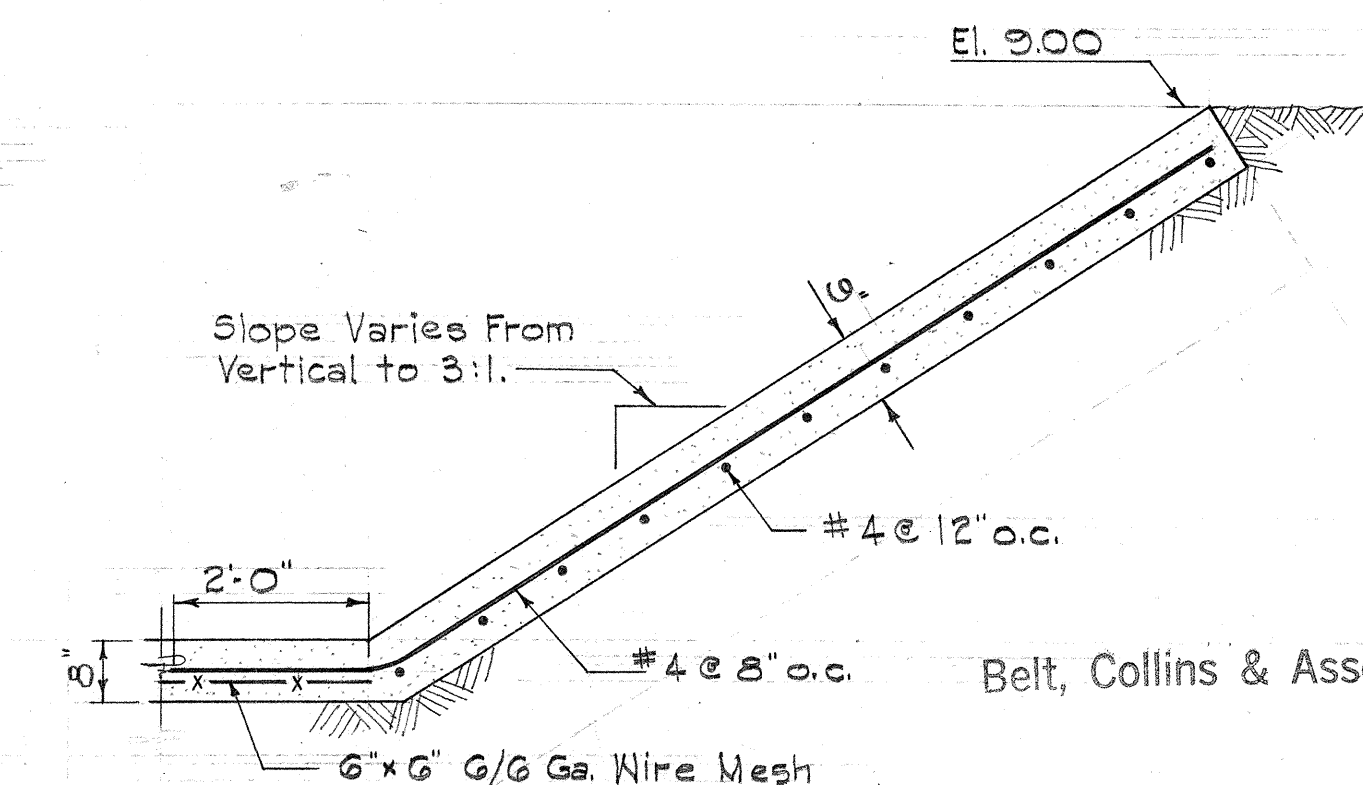
WINGWALL DETAIL "E"
Scale: $\frac{1}{4}" = 1'-0"$



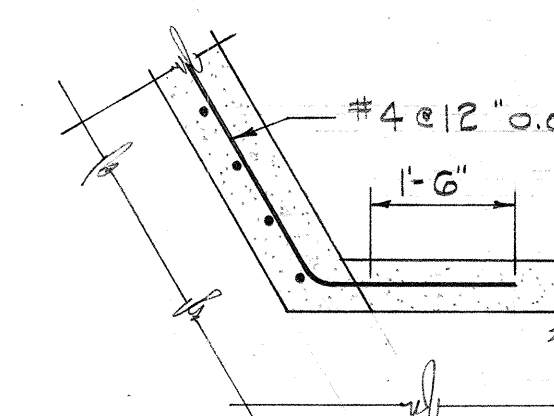
TYPICAL RETAINING WALL SECTION



TYPICAL BACKFILL DETAIL
Not to Scale

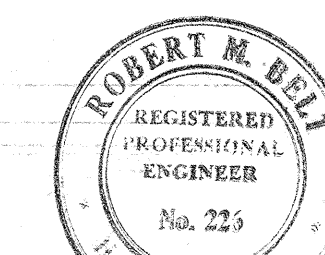


SECTION 
Scale: 1/2" = 1'-0"



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

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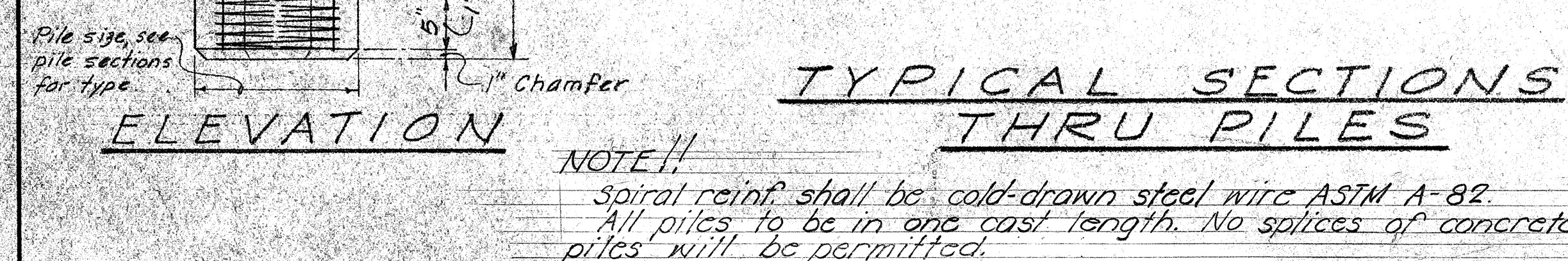
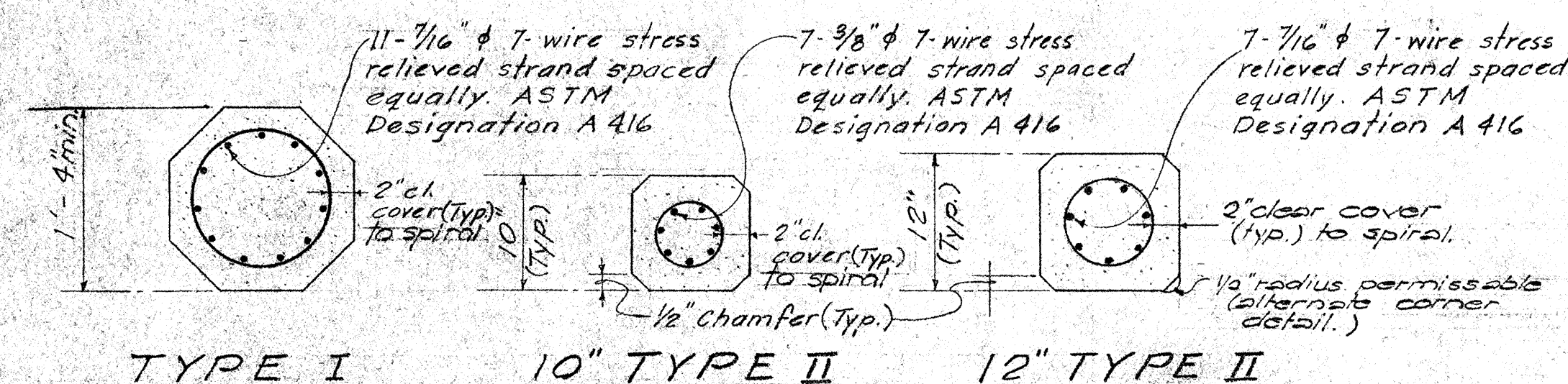
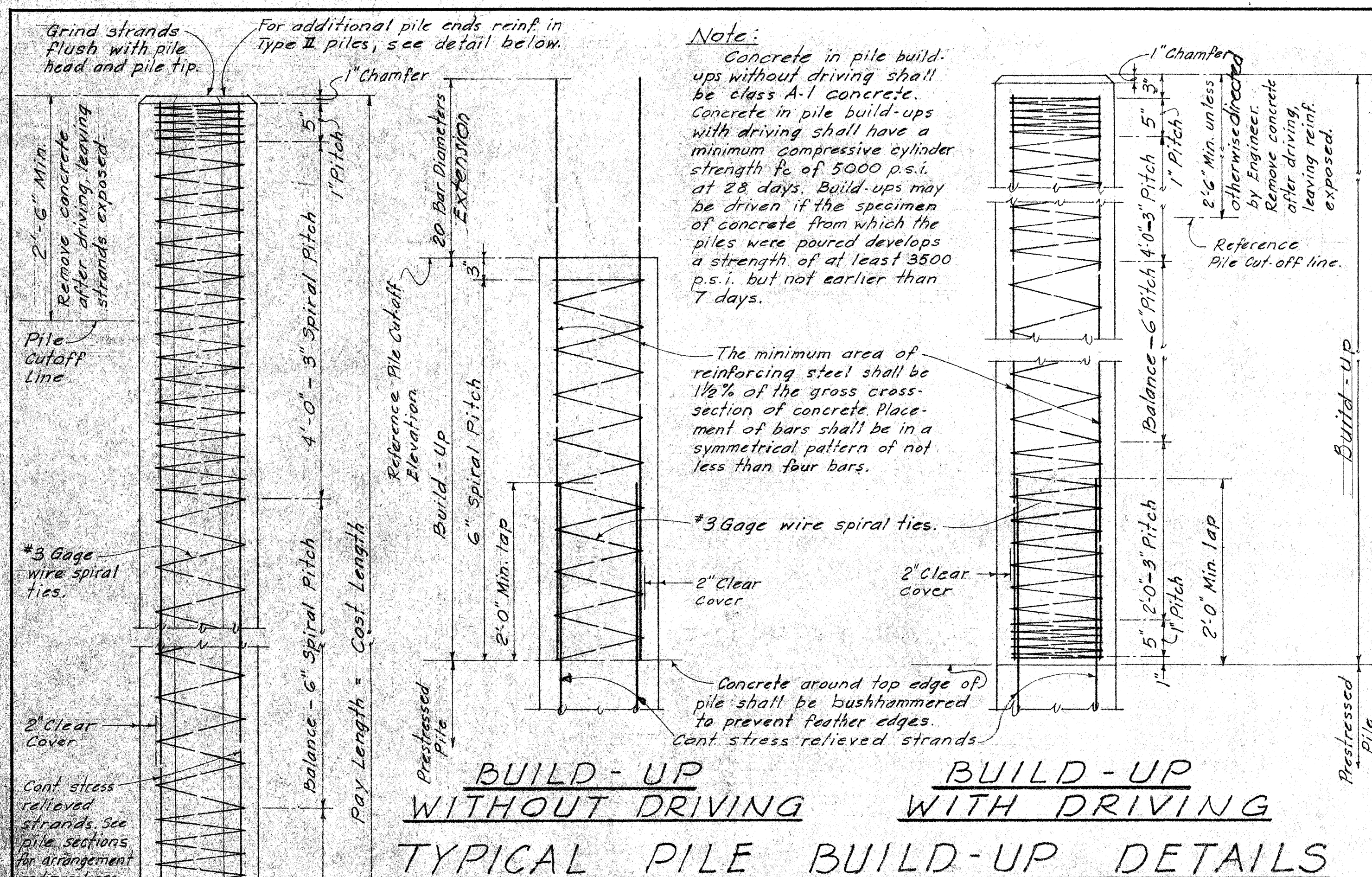
KEANANOIO STREAM BRIDGE

STA. 23+05.04 TO STA. 24+60.00

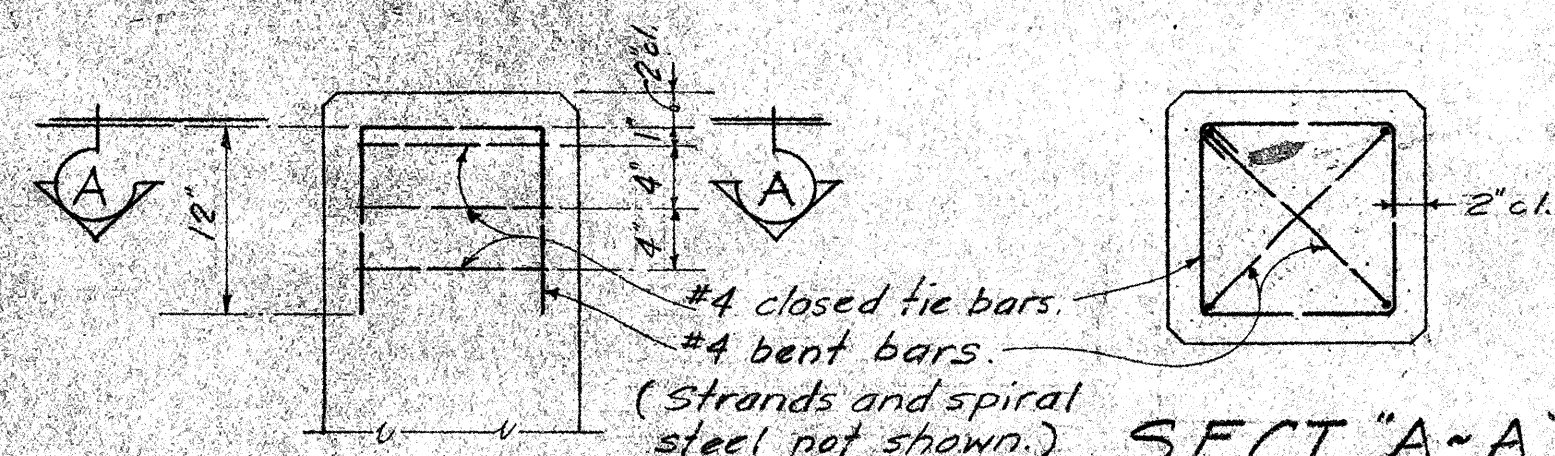
FARRINGTON HWY. PROJ. NO. S-000063

JUNE, 1964

SHEET No. 9 OF 12 SHEETS



STANDARD PRESTRESSED CONCRETE PILES



PART ELEV.

PILE ENDS REINFORCING IN TYPE II PILES

Note:

Unless special lifting devices are attached for pick-up, pick-up points shall be plainly marked on all piles after removal of the forms and all lifting shall be done at these points. The use of special embedded or attached lifting devices, the employment of other pick-up points or any other method of pick-up shall be subject to approval by the Engineer.

Max. Length "L" *	
Type I "L" = 53'-0"	
10" Type II "L" = 46'-0"	
12" Type II "L" = 50'-0"	
0.30 L	0.70 L

Max. Length "L" *	
Type I "L" = 75'-0"	
10" Type II "L" = 66'-0"	
12" Type II "L" = 72'-0"	
0.21 L	0.58 L
0.21 L	0.21 L

Length "L" *	
Type I "L" Over 75'-0"	
10" Type II "L" Over 66'-0"	
12" Type II "L" Over 72'-0"	
0.15 L	0.35 L
0.35 L	0.35 L
0.15 L	0.15 L

* The length "L" is the distance end to end of pile.

1 POINT PICK-UP

2 POINT PICK-UP

3 POINT PICK-UP

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

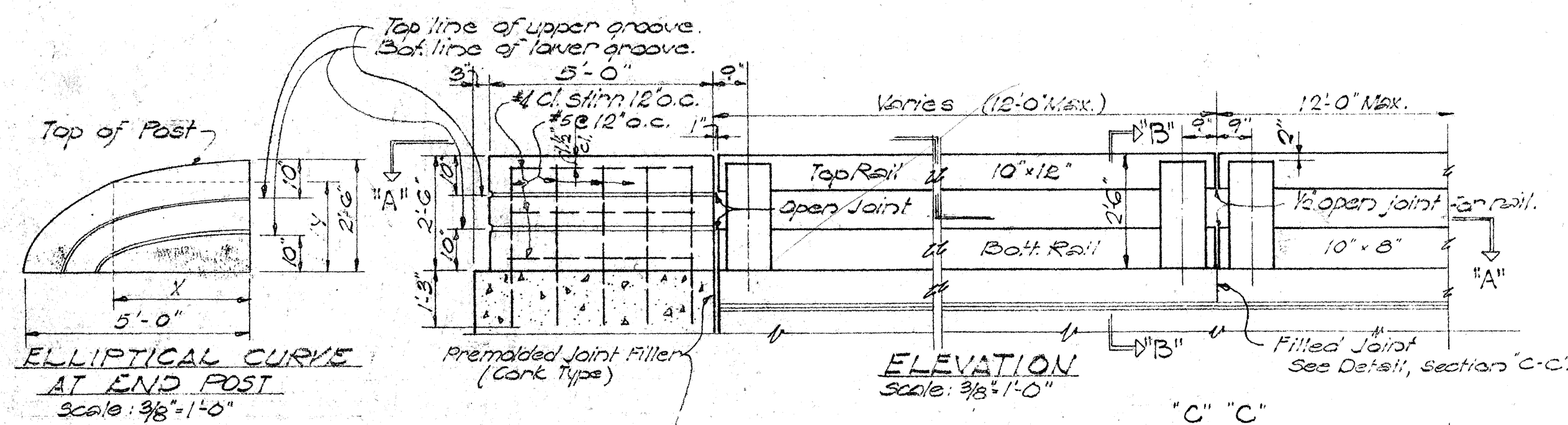
STANDARD PRESTRESSED CONCRETE PILES

FARRINGTON HIGHWAY
PROJECT No. 5-0200(3)

Date: Oct. 1965

SHEET No. 10 OF 12 SHEETS

Revised
June 64
April 65



Top of Post

X	0	1'-0"	1'-6"	2'-0"	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"	5'-0"
Y	2'-0"	2'-6"	2'-12"	2'-18"	2'-24"	2'-30"	2'-36"	2'-42"	2'-48"	2'-54"

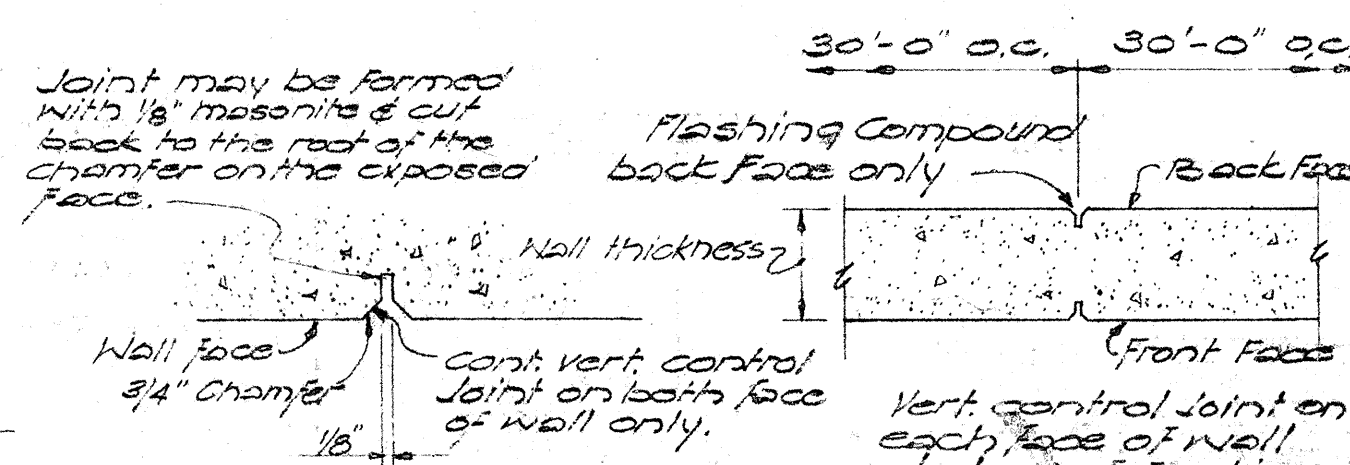
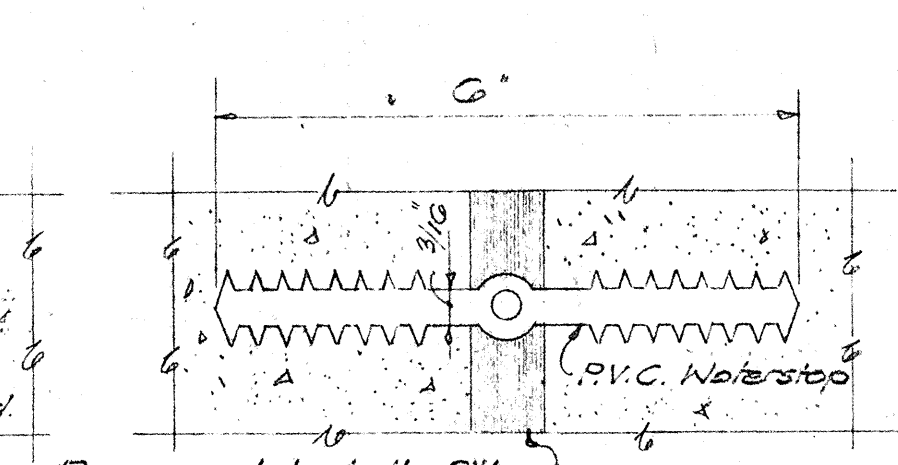
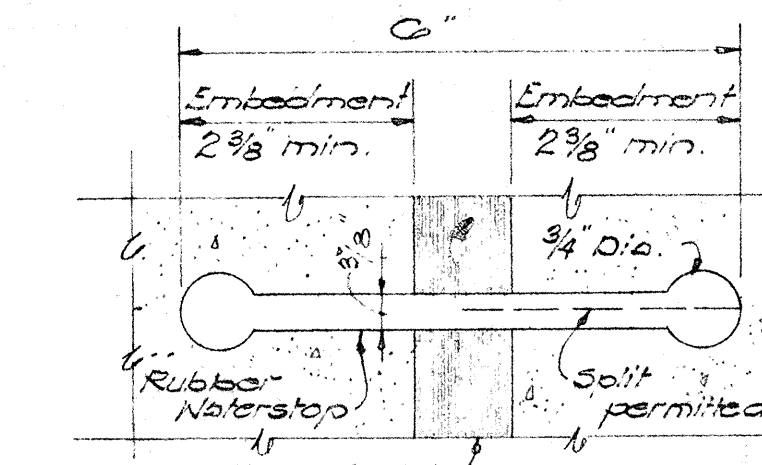
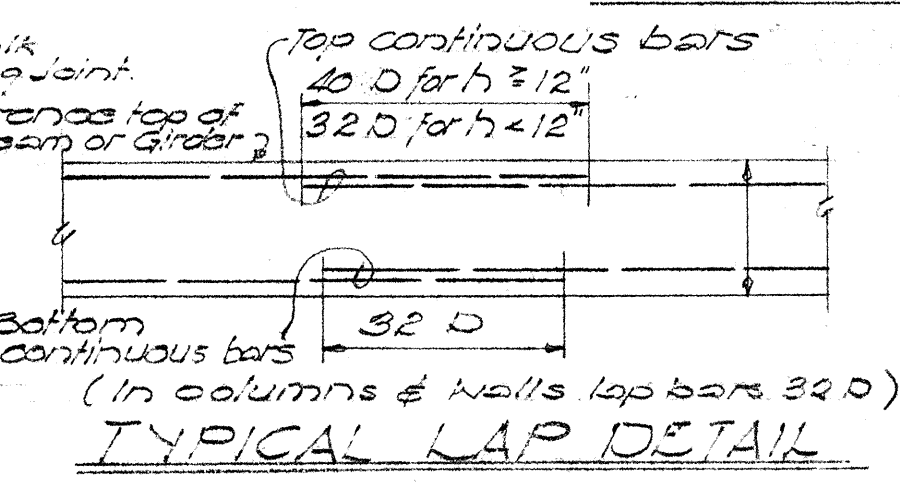
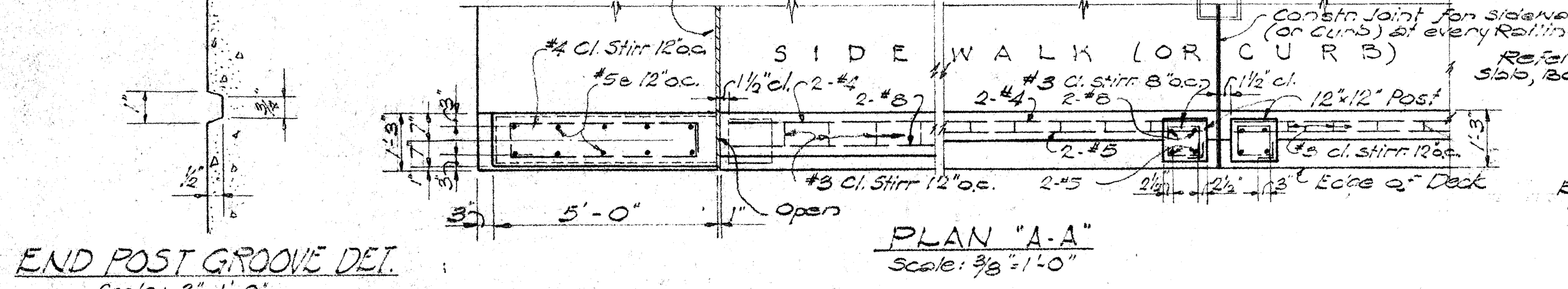
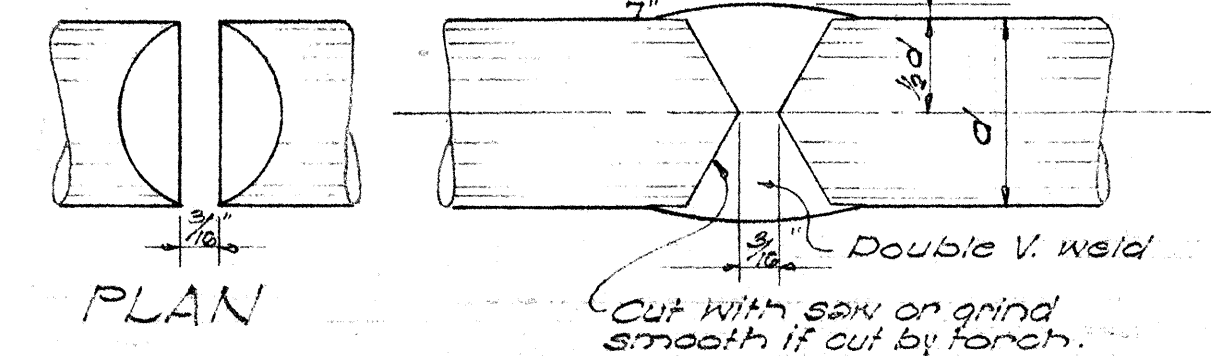
Top Line of Upper Groove

X	0	6"	1'-0"	1'-6"	2'-0"	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"
Y	1'-8"	1'-7 1/2"	1'-7 1/4"	1'-6 1/2"	1'-5 1/4"	1'-4 1/2"	1'-3 1/2"	1'-2 1/2"	1'-1 1/2"	0"

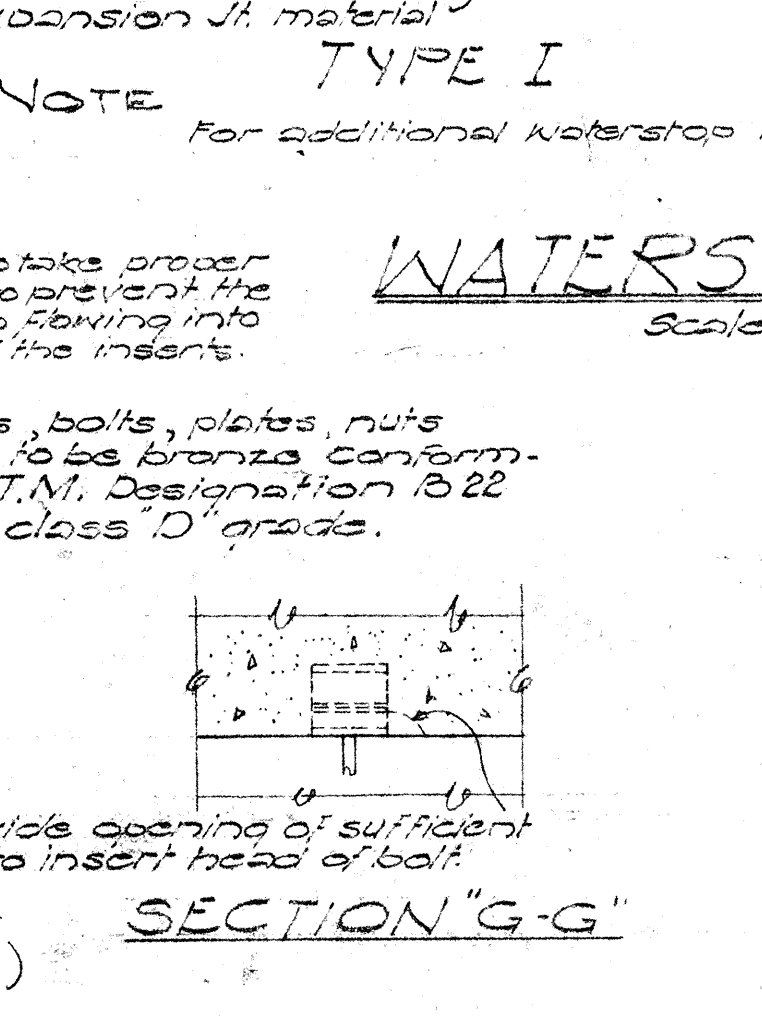
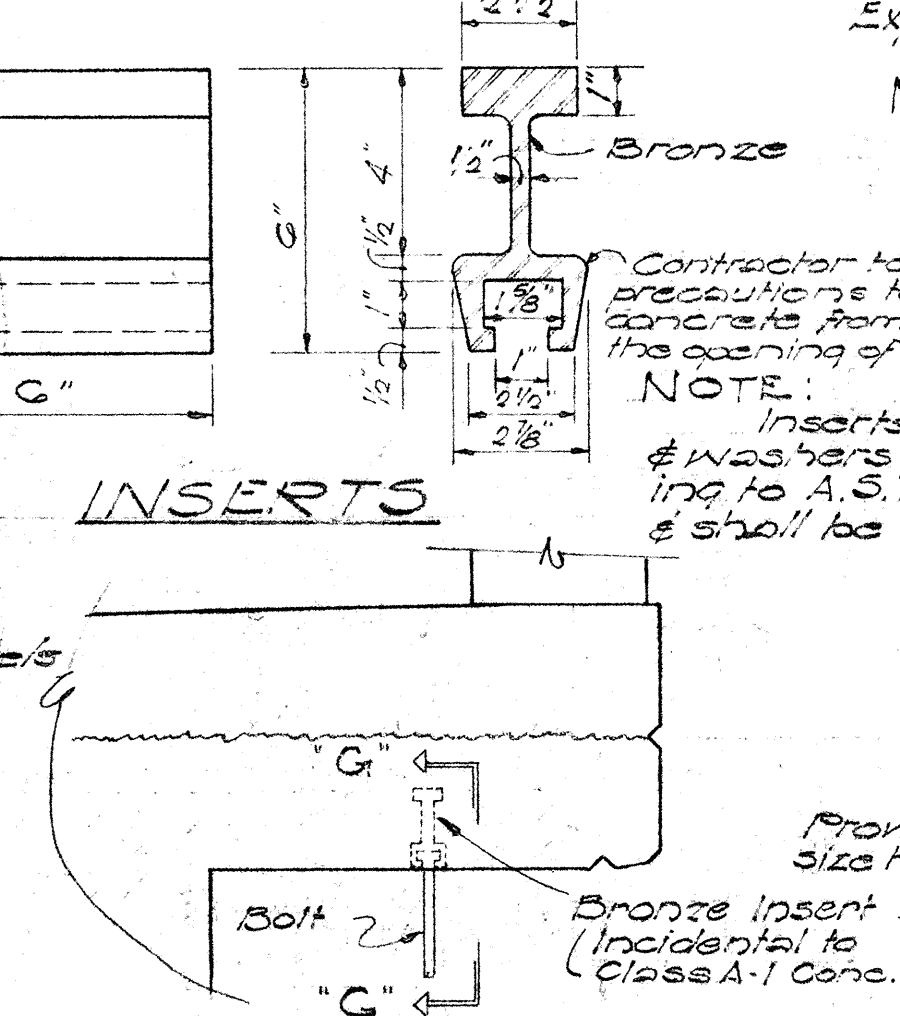
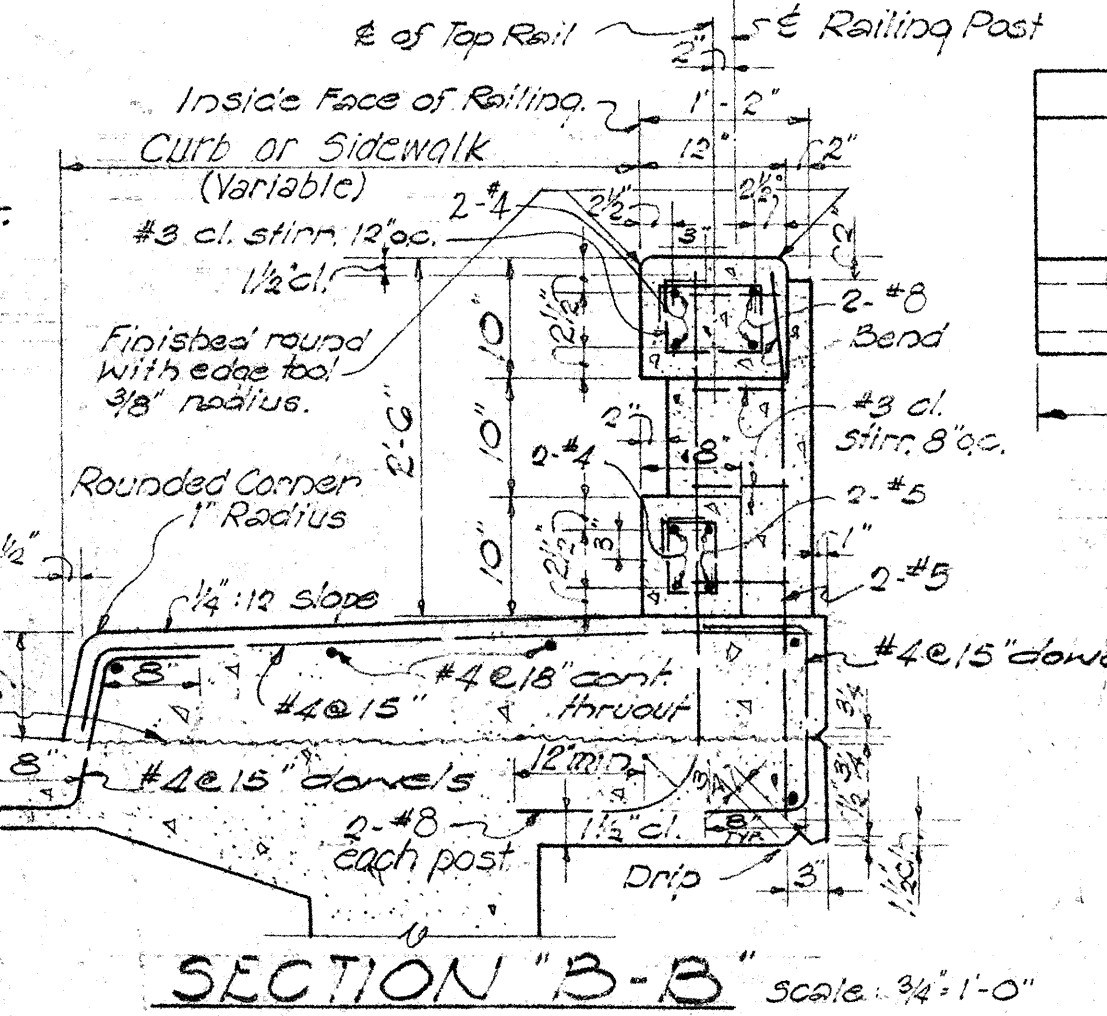
Bottom Line of Lower Groove

X	0	6"	1'-0"	1'-6"	2'-0"	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"
Y	10"	9 3/8"	8 1/2"	7 1/4"	6 1/4"	5 1/4"	4 1/4"	3 1/4"	2 1/4"	0"

ELLIPSE COORDINATES



NOTE: Sidewalk, Curb and Railing to be poured after release of plywood. Forms for railing and endpost to be made of plywood. Bottom forms for top rails shall be kept in place a minimum of 14 days from date of pour.

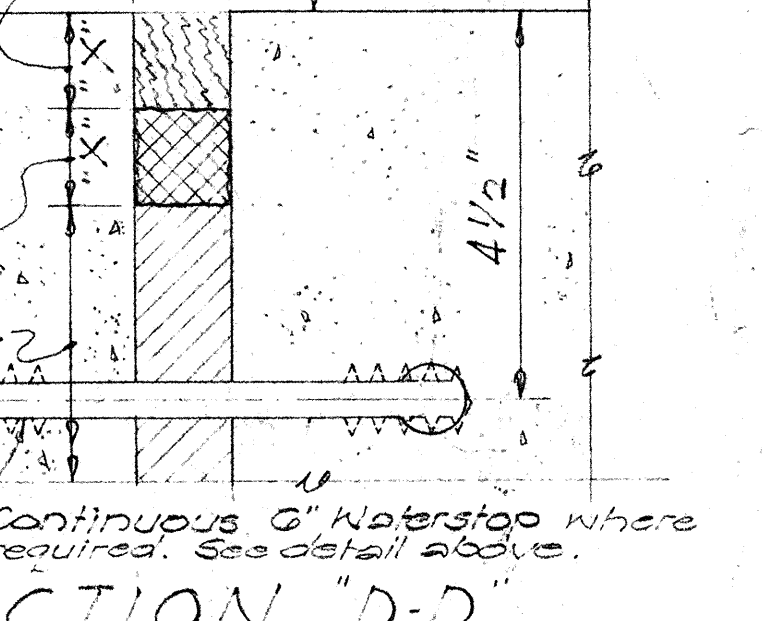
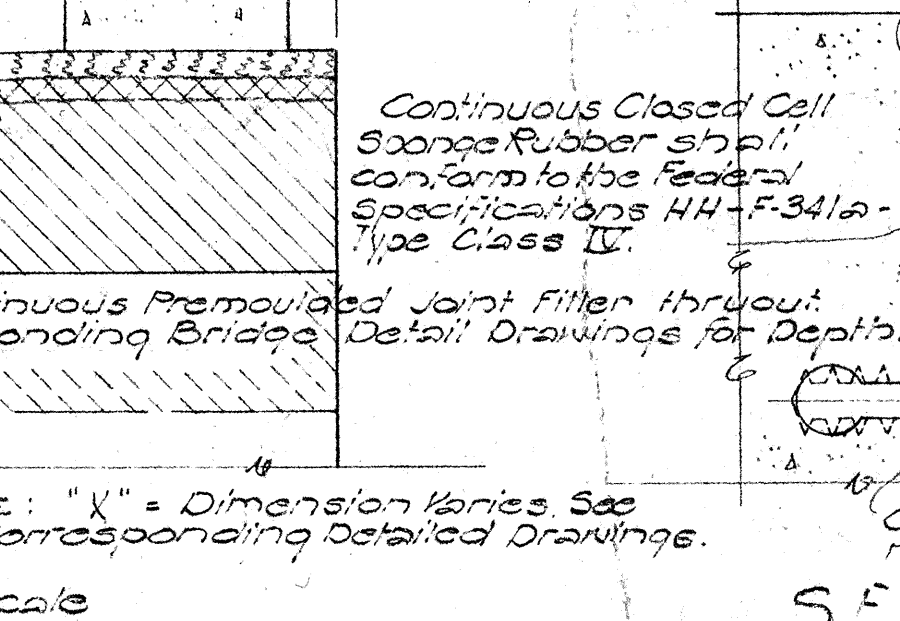
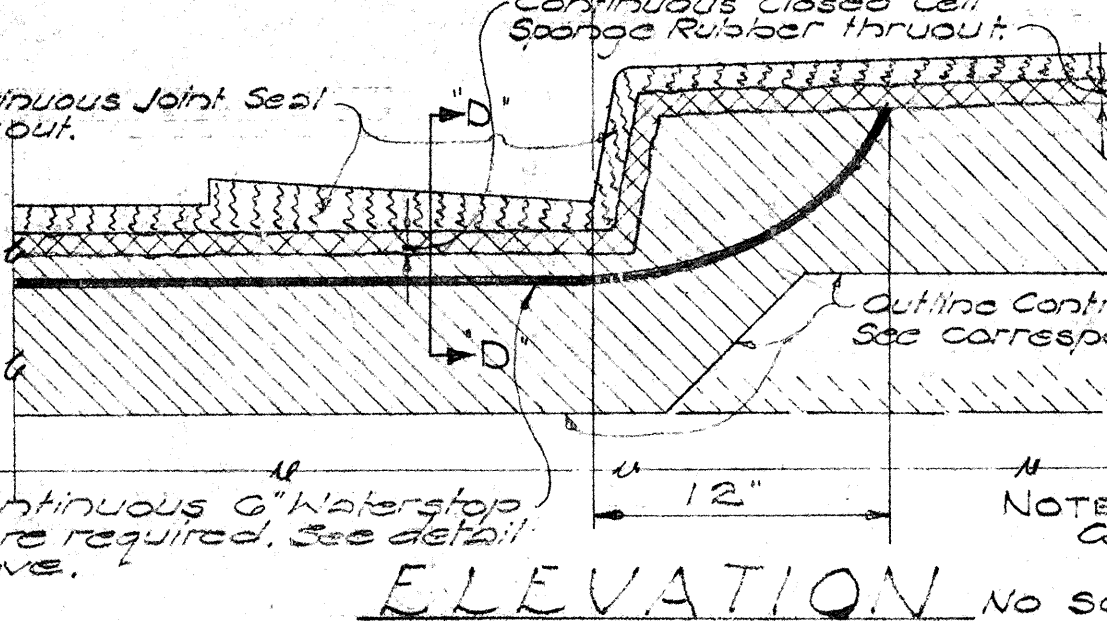
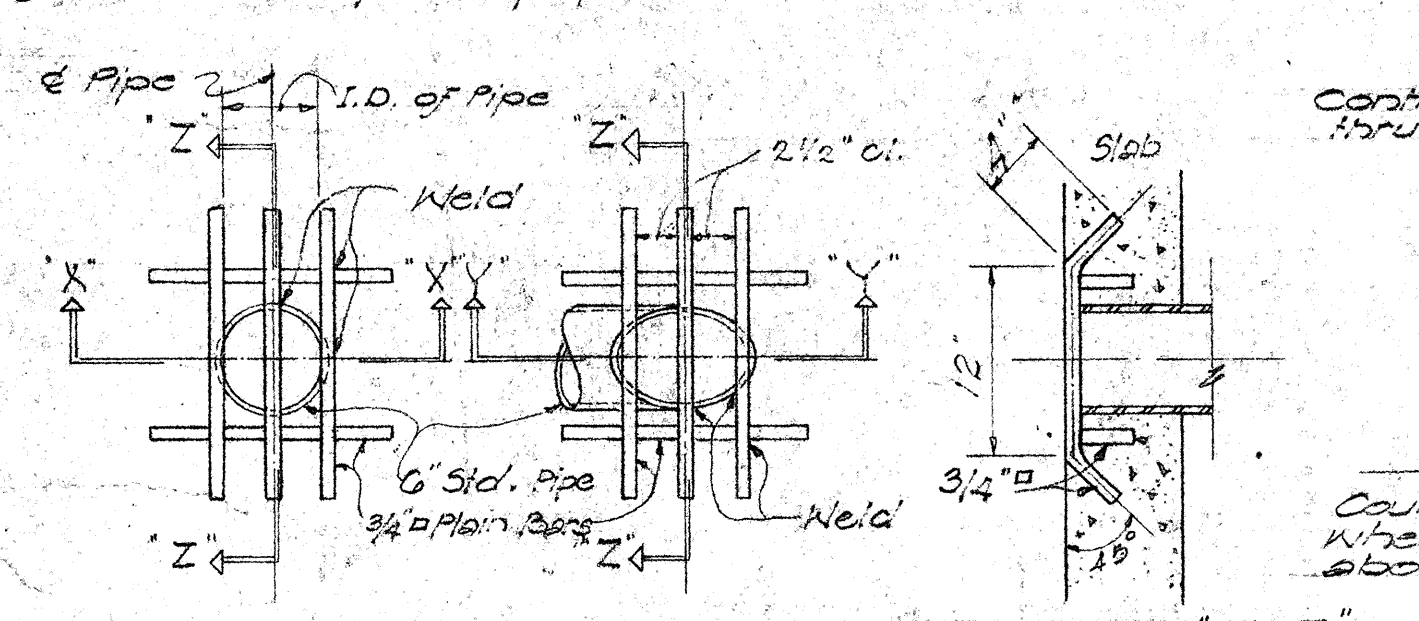


NOTE: Inserts, bolts, plates, nuts & washers to be bronze conforming to A.S.T.M. Designation B22 & shall be class 'D' grade.

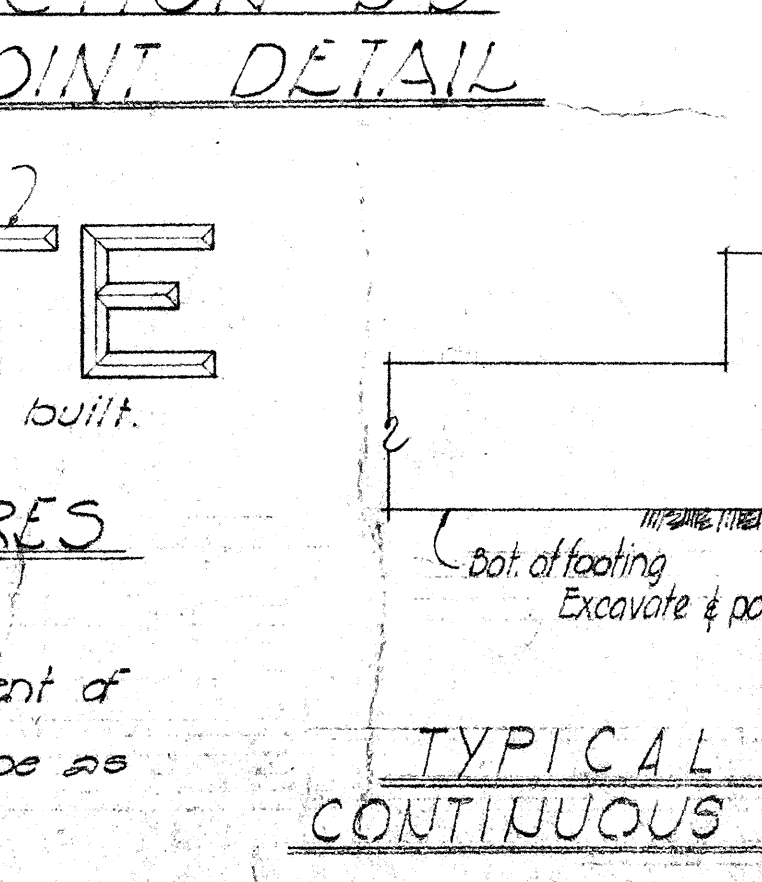
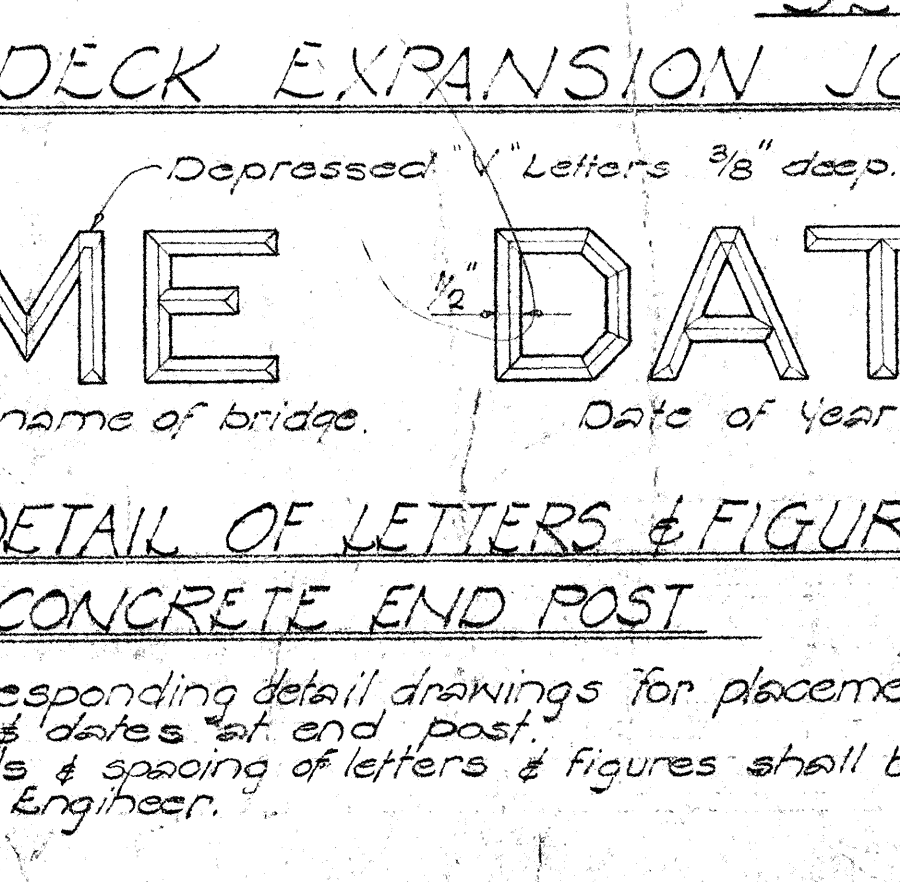
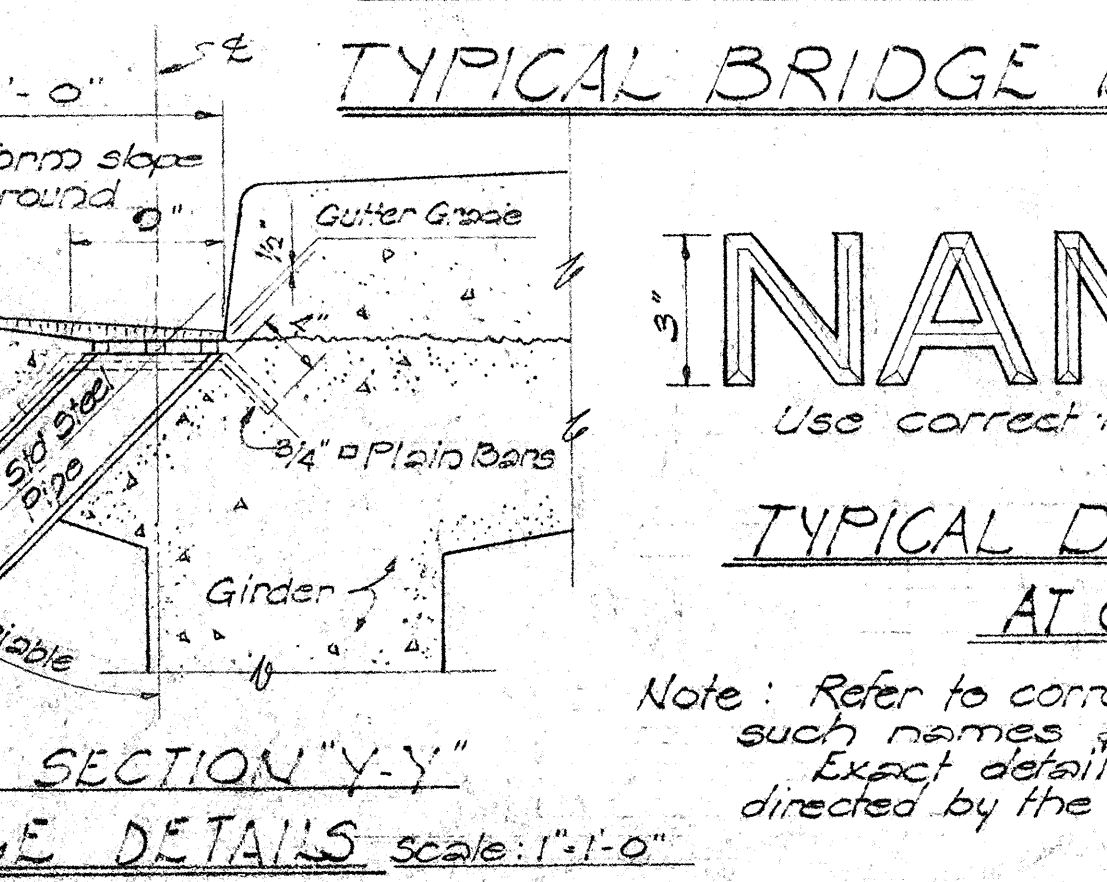
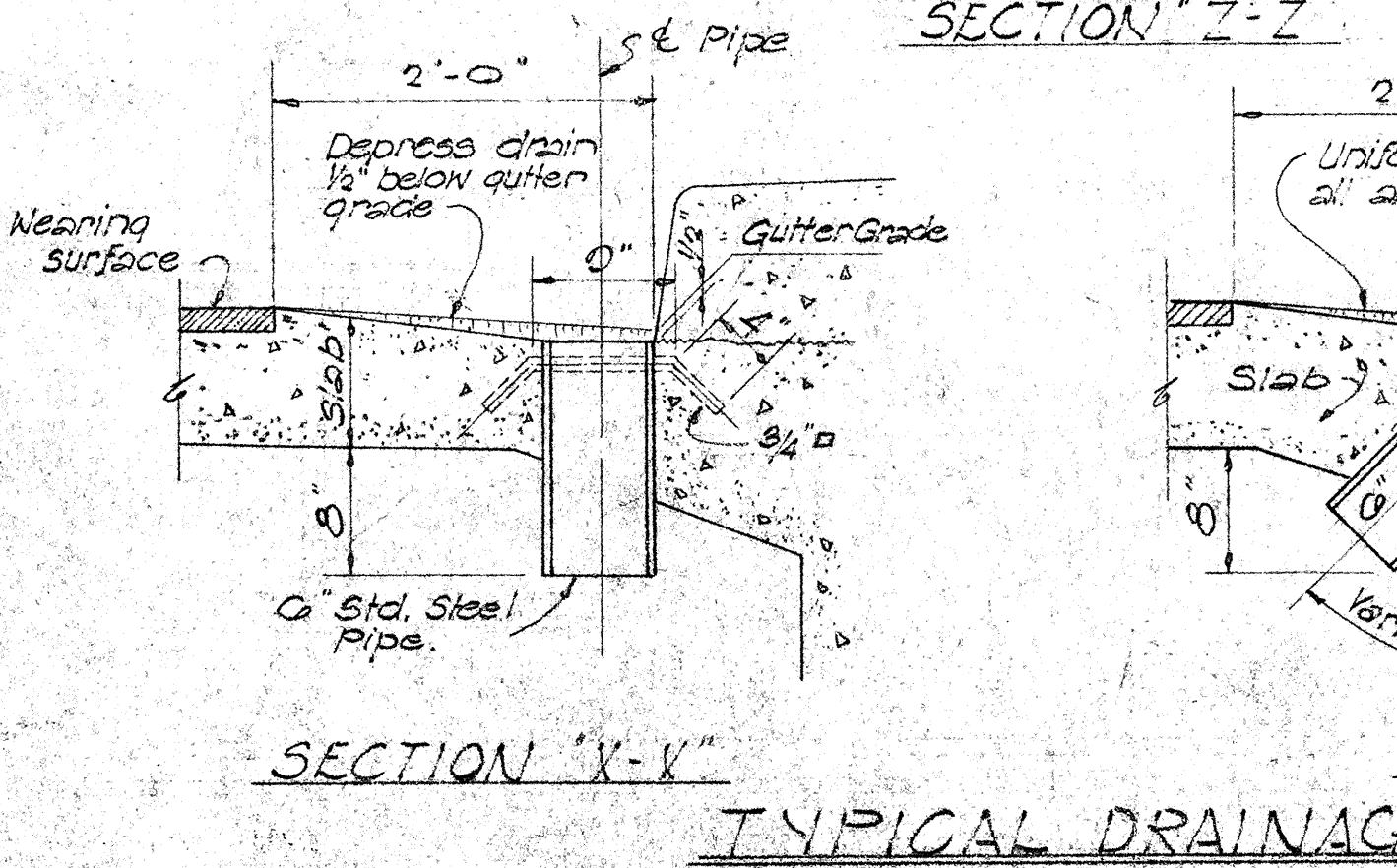
TYPICAL CONCRETE RAILING DETAILS Scale: As Noted

DETAIL OF PIPE HANGERS and INSERTS Scale: 3/4" = 1'-0"

NOTE: Metal drains shall be considered incidental to Class A-1 Concrete in both concrete and steel bridges and will not be paid for separately. Assemblies of grilles and pipe shall be hot-dip galvanized after all welding is completed.



NOTE: "N" = Dimension varies See Corresponding Detailed Drawings.



NOTE: In case of over excavation, the contractor shall backfill this area with minimum class D-1 concrete at his own expense.

DATE: _____

SURVEY PLOTTED BY: _____

DESIGNED BY: _____

TRACED BY: _____

QUANTITIES BY: _____

CHECKED BY: _____

ORIGINAL PLAN NO. _____

NOTE BOOK NO. _____