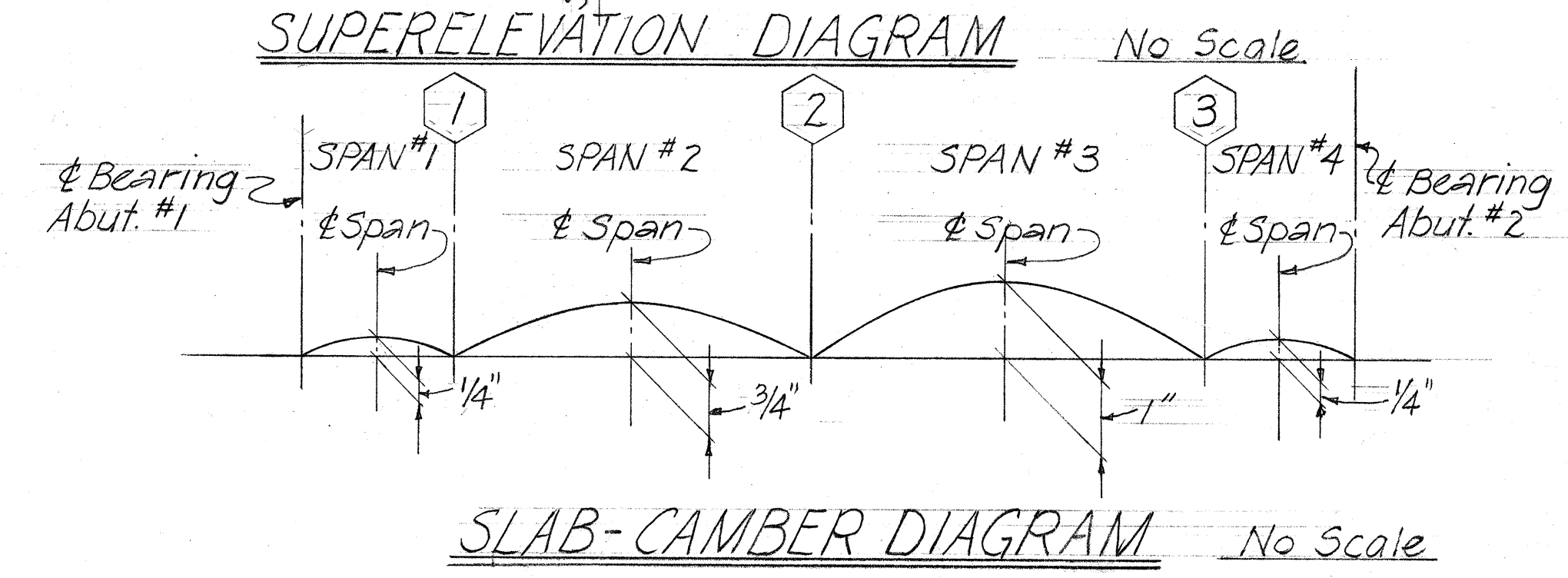
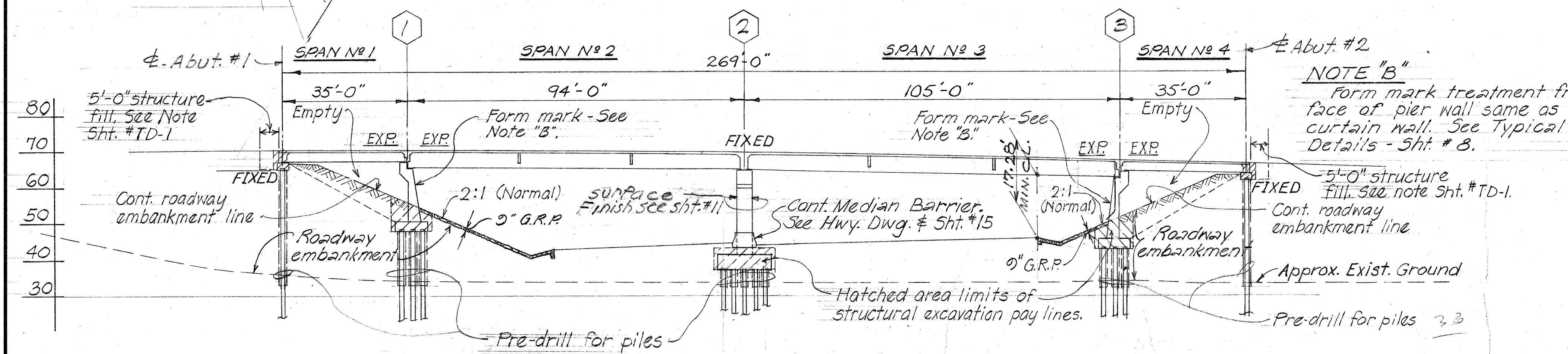
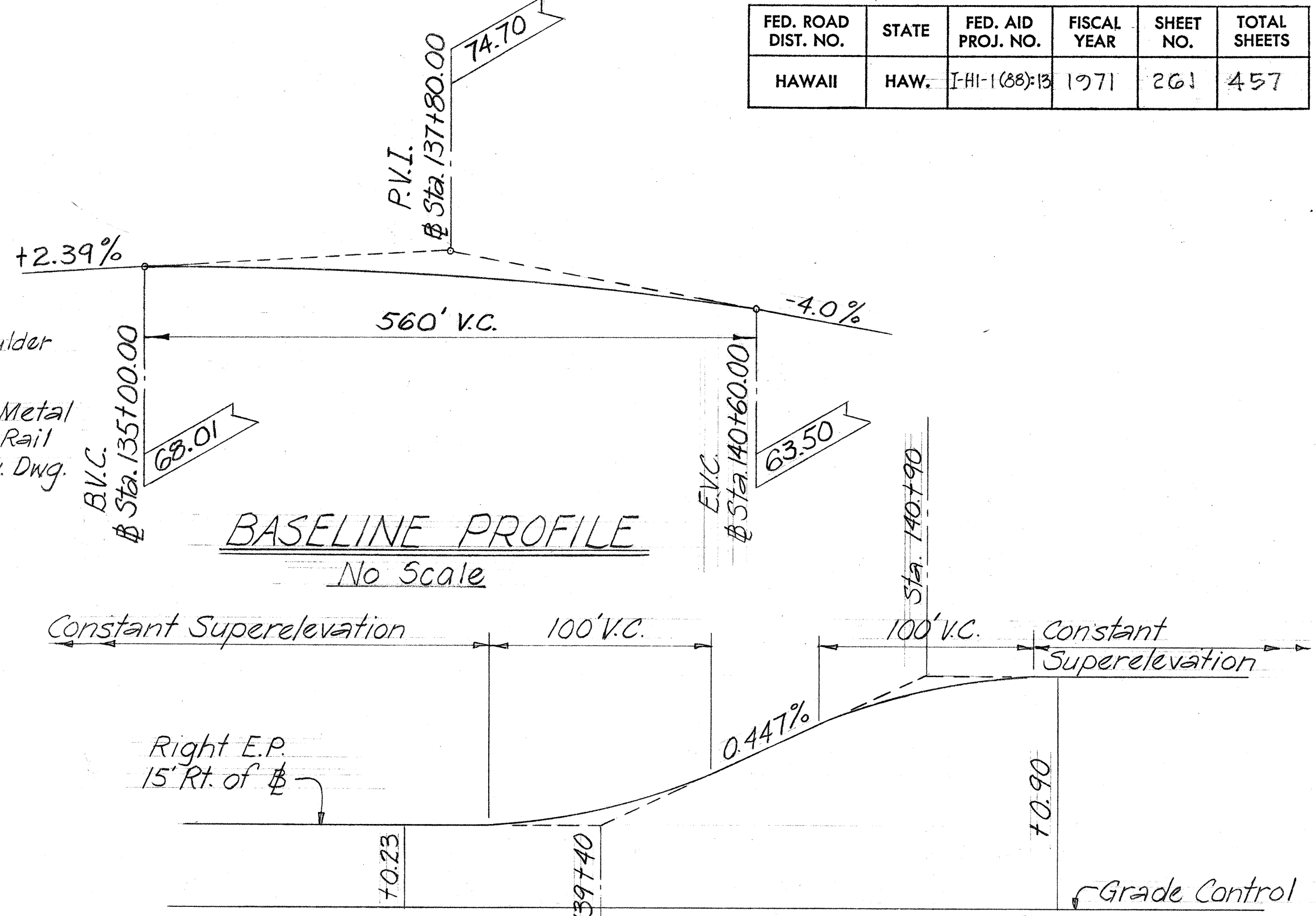
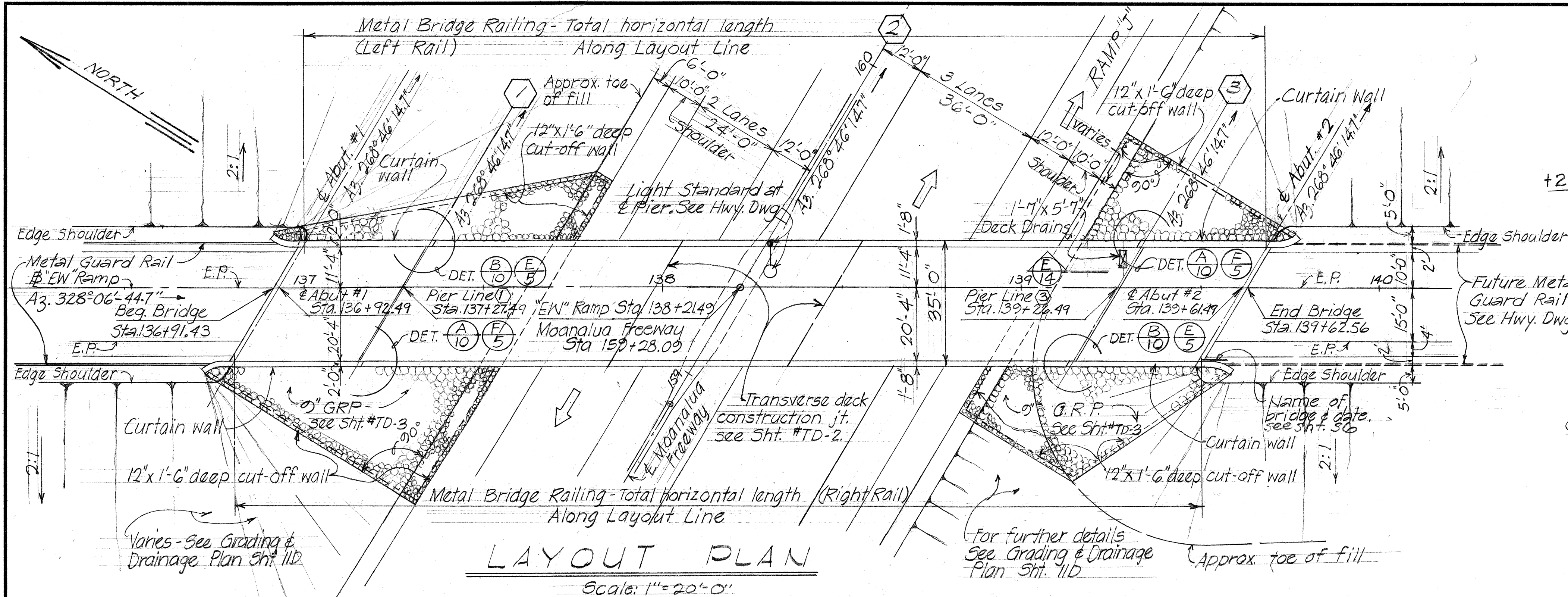


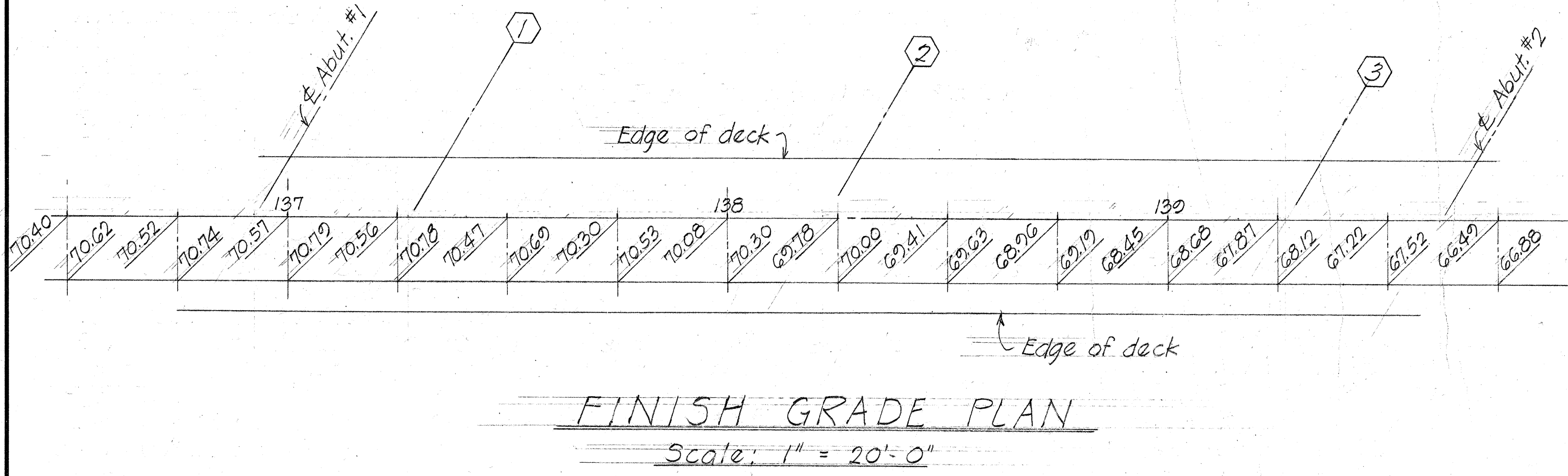
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H-1 (88) 13	1971	261	457



REFERENCE NOTES
For design notes, general notes, symbols and abbreviations, refer to sht. #TD-1.

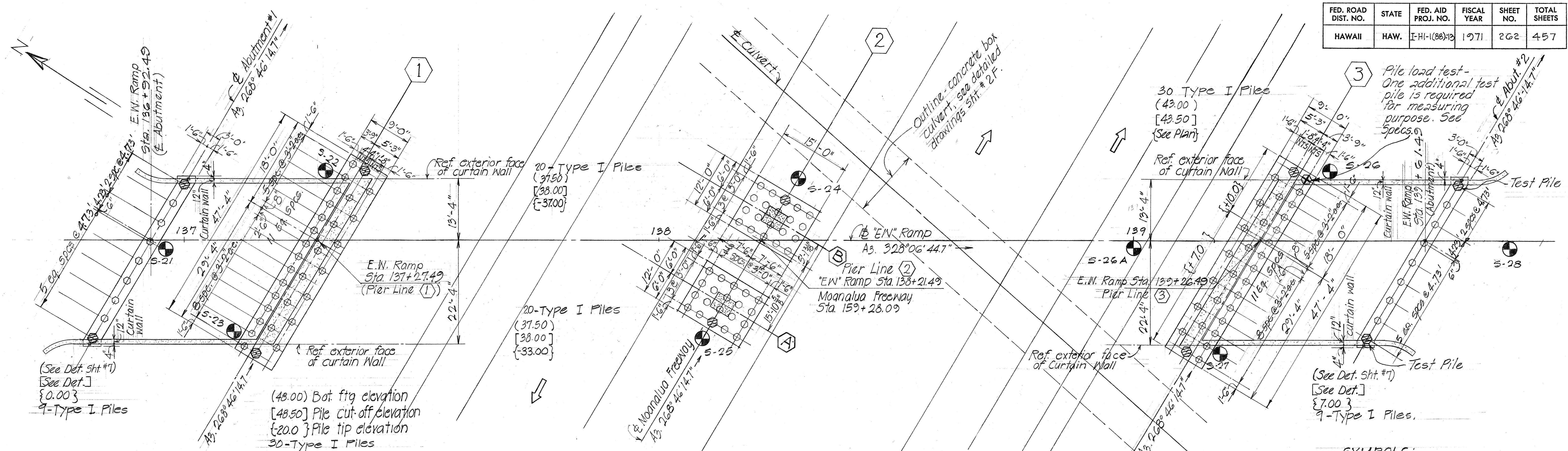
ESTIMATED QUANTITIES			
ITEM NO	ITEM	UNIT	QUANTITY
503.074	Concrete In Structure No. 7 Footings	L.S.	165 C.Y.
503.073	Concrete In Structure No. 7 (Except Footings)	L.S.	517 C.Y.
602.012	Reinforcing Steel In Structure No. 7	L.S.	131,500 Lbs.
612.01	Grouted Rubble Paving	C.Y.	268
504.11	Type I Prestressed Concrete Girders In Struct. No 7	L.S.	424 L.F.
504.322	Type IV Prestressed Concrete Girders In Struct. No 7	L.S.	1,189 L.F.
505.040	Precast, Type I Prestressed Concrete Piles, Furnished	L.F.	7,426
505.400	Precast, Type I Prestressed Concrete Piles, Driven	L.F.	5,199
505.800	Driving Test Piles For Structure	L.F.	432
505.700	Predrilled Holes For Piling For Structure	L.F.	1,481
507.10	Metal Bridge Railing - One Rail On Parapet	L.F.	542
507.70	Concrete Bridge Parapet, Including End Post	L.F.	582
505.001	Pile Load Test	EACH	1
206.60	Structure Excavation For Bridges	C.Y.	502

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
HALAWA INTERCHANGE
STRUCTURE No 7
"EW" RAMP OVER MOANALUA FREEWAY
LAYOUT PLAN
Sta. 136+01.43 to Sta. 139+62.56
Proj. No I-H-1 (88) 13 July 1970
SHEET No. 1 OF 15 SHEETS



ORIGINAL PLAN
DRAWN BY
DESIGNED BY
CHECKED BY
DATE 9/69

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(88)-13	1971	262	457



FOUNDATION PLAN
Scale: 1" = 10'-0"

SYMBOLS:
 — Pile Loaded Test
 — Test Pile

NOTE:
 1. Load test as directed by Engineer for 45 ton capacity. If load test shows that 45 ton capacity piles should be used, all pile foundations will be redesigned (See Specifications)
 2. Drive test pile for length determination.
 3. Test piles shall be driven before casting balance of piles.

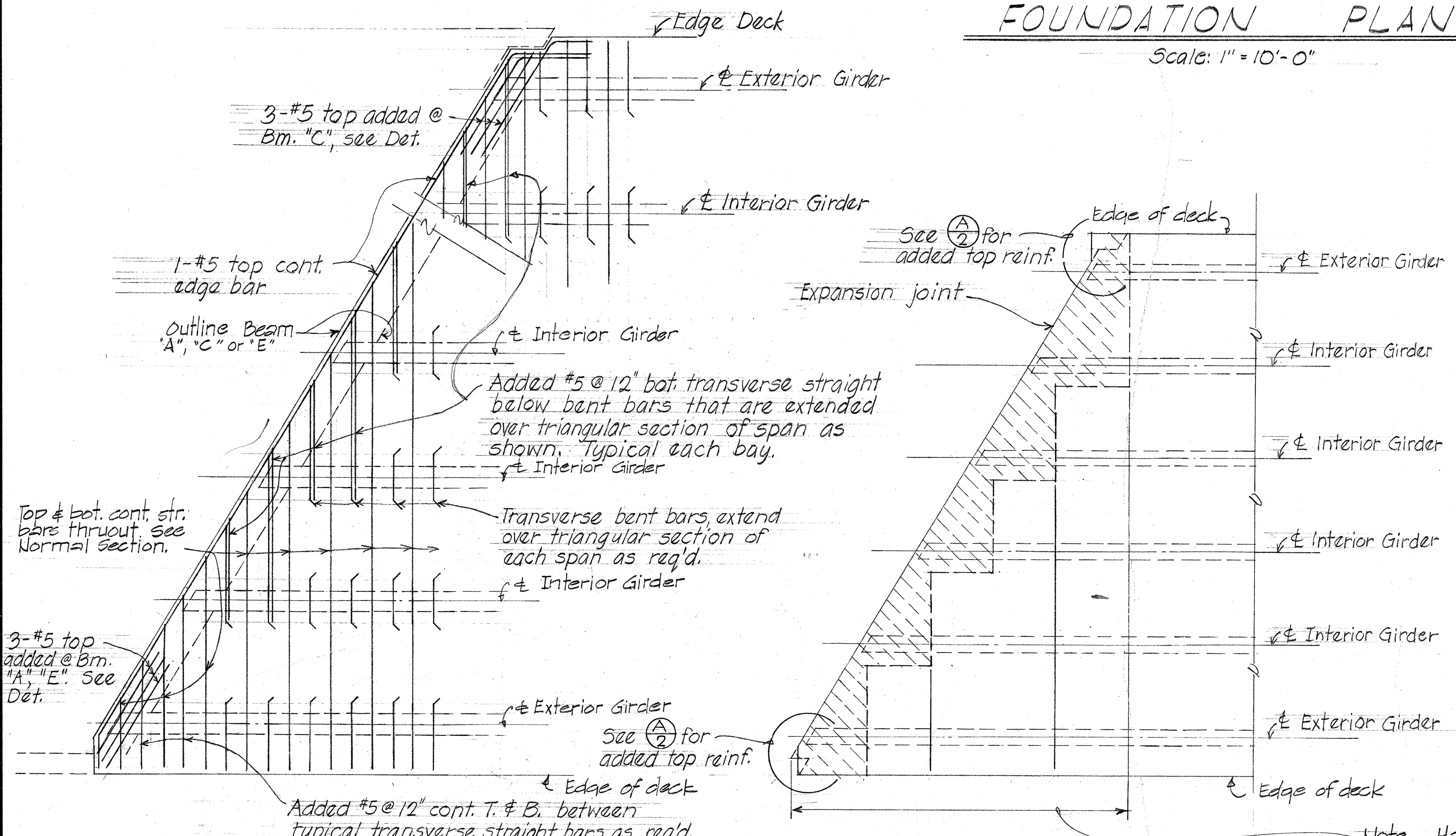
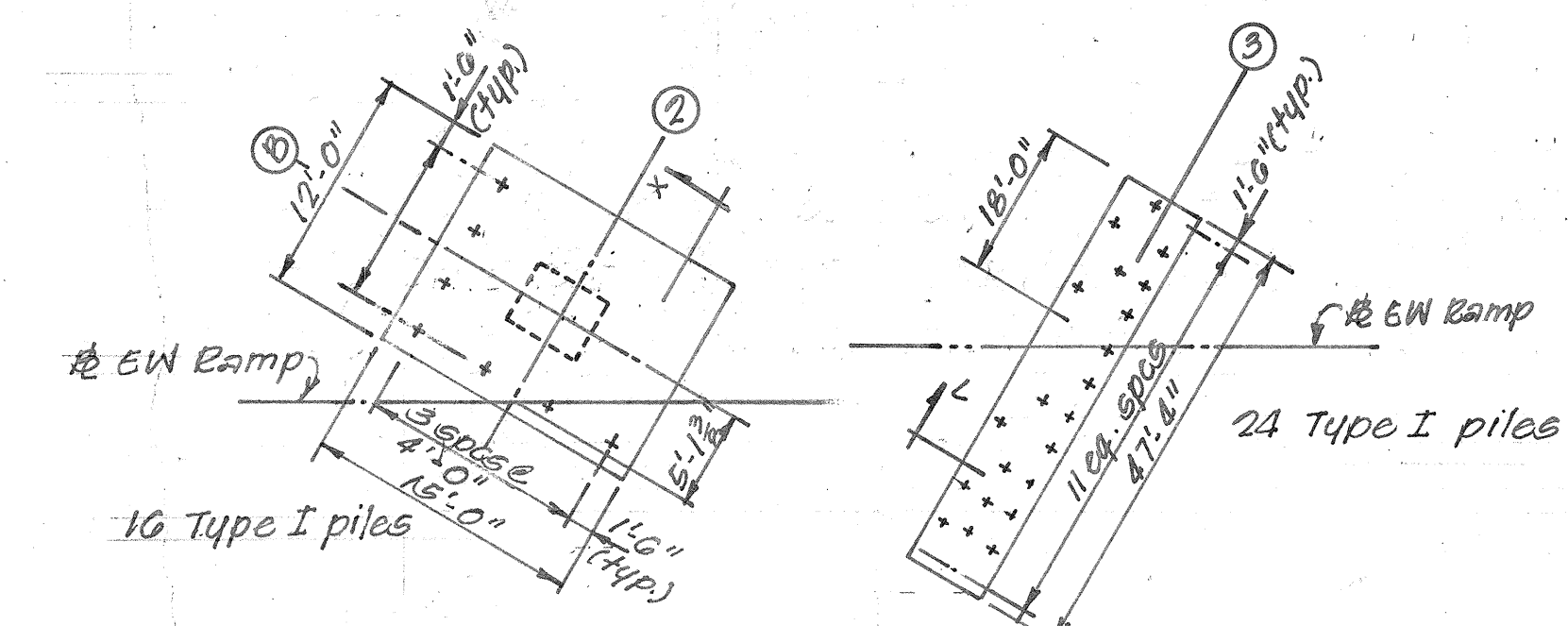
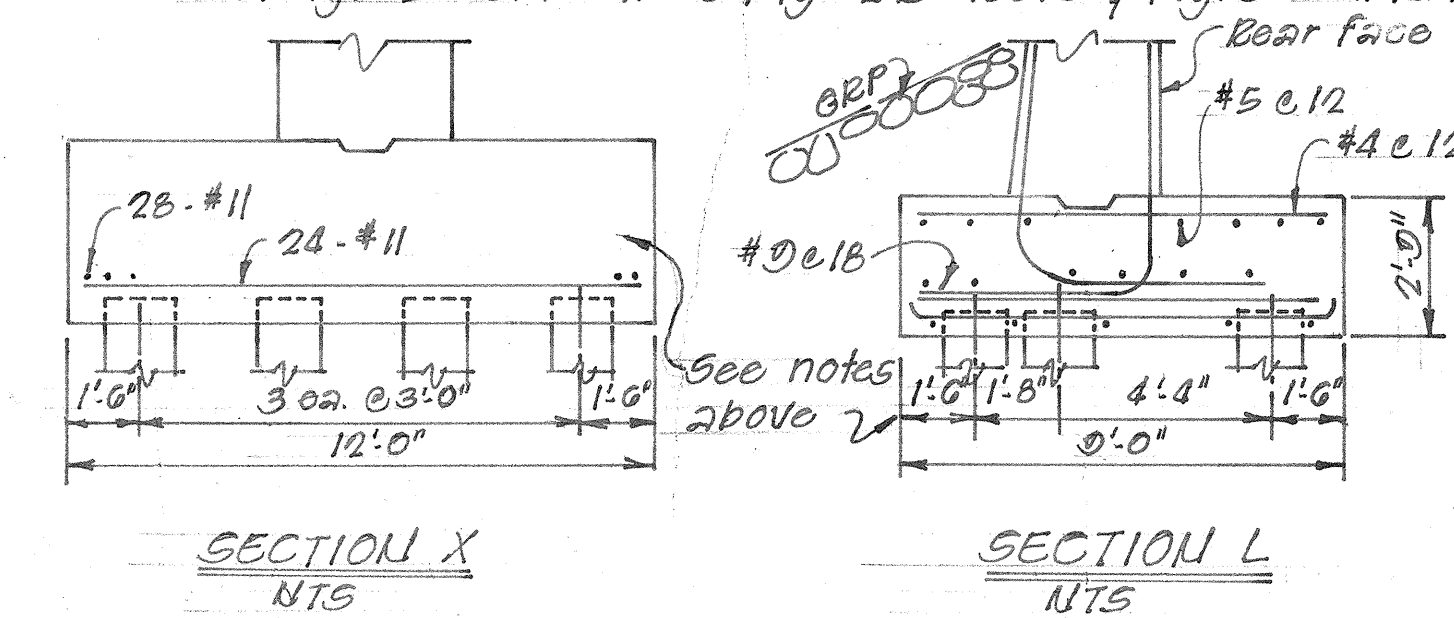


DIAGRAM-TYPICAL ARRANGEMENT OF SLAB REINFORCING
No Scale

PLAN-DIAGRAM SHOWING LIMITS OF SPECIAL TREATMENT DECK TRANSVERSE REINFORCEMENTS (AT SKEWED EXPANSION ENDS ONLY)
No Scale

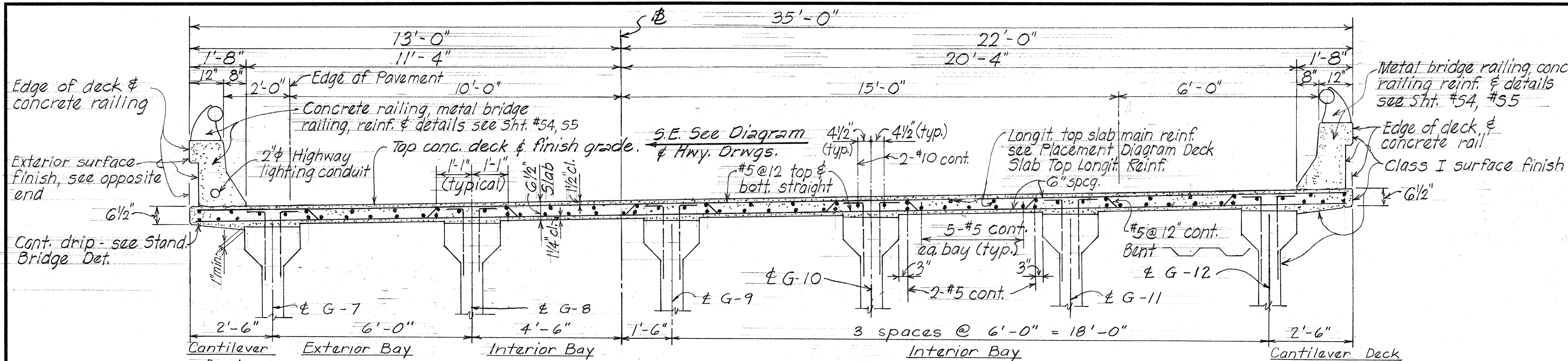


FOUNDATION PLAN NTS
 NOTES:
 1. For def. not shown see Contract Plans.
 2. Ftg. 2A similar to Ftg. 2B above & Ftg. 2C sim. to Ftg. 2D above



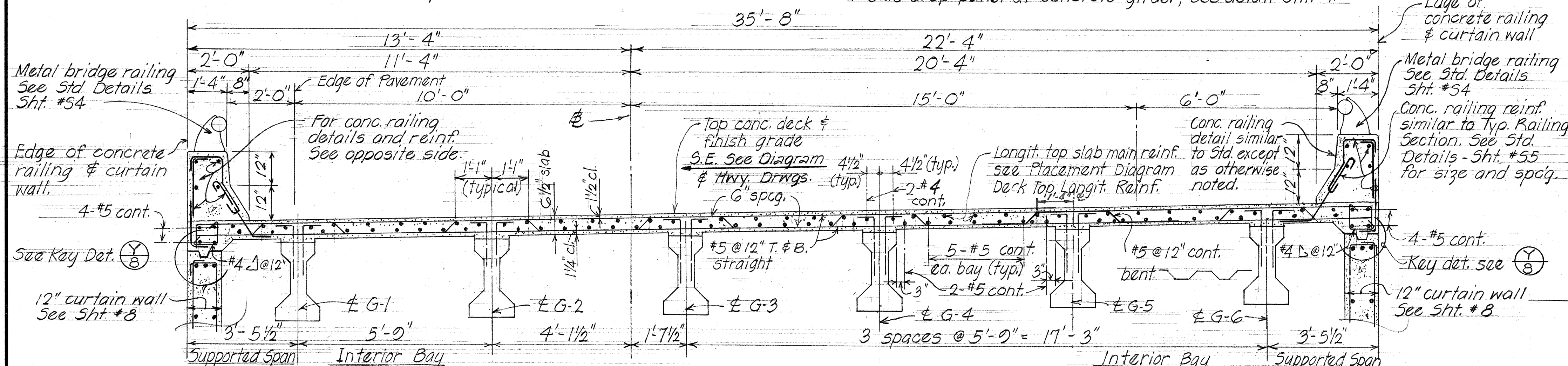
STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION
HALAWA INTERCHANGE
STRUCTURE NO. 7
"EW" RAMP OVER MOANALUA FREEWAY
FOUNDATION & MISCELLANEOUS DETAILS
 Proj. No. I-HI-1(88)-13 July 1970
SHEET No. 2 OF 15 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(88)13	1971	263	457



NORMAL DECK SECTION AT SPAN NOS 2 & 3 Scale: 1/2" = 1'-0"

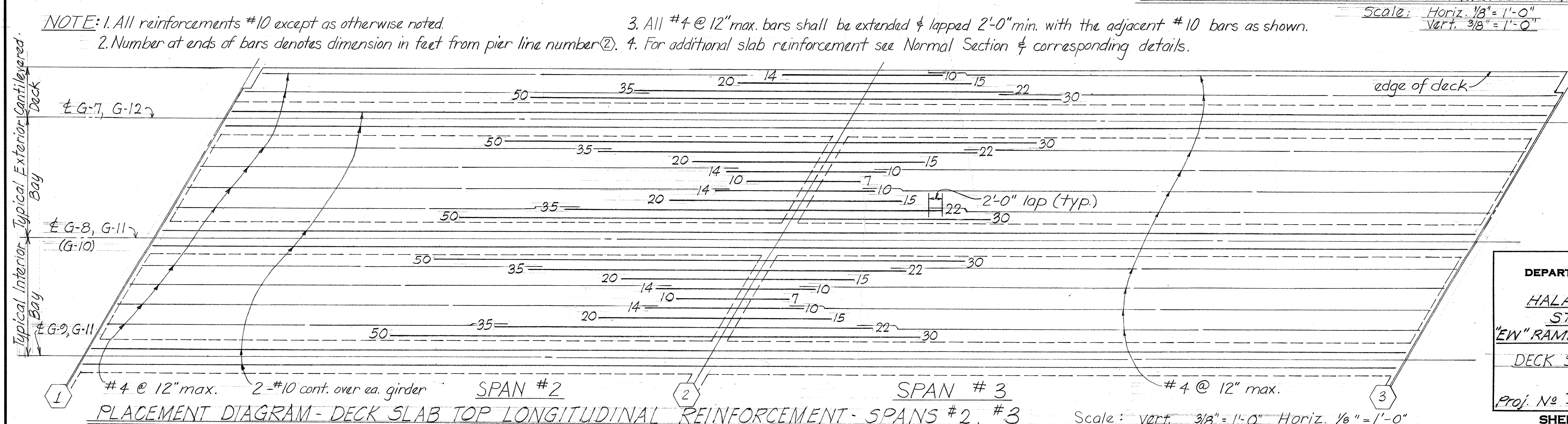
- NOTE: 1. For special deck transverse reinforcement details & arrangement see sht. #2.
2. All deck transverse bars to be placed normal to baseline.
3. All vertical dimensions are measured plumb.
4. Slab drop panel at concrete girder, see detail Sht. #7.



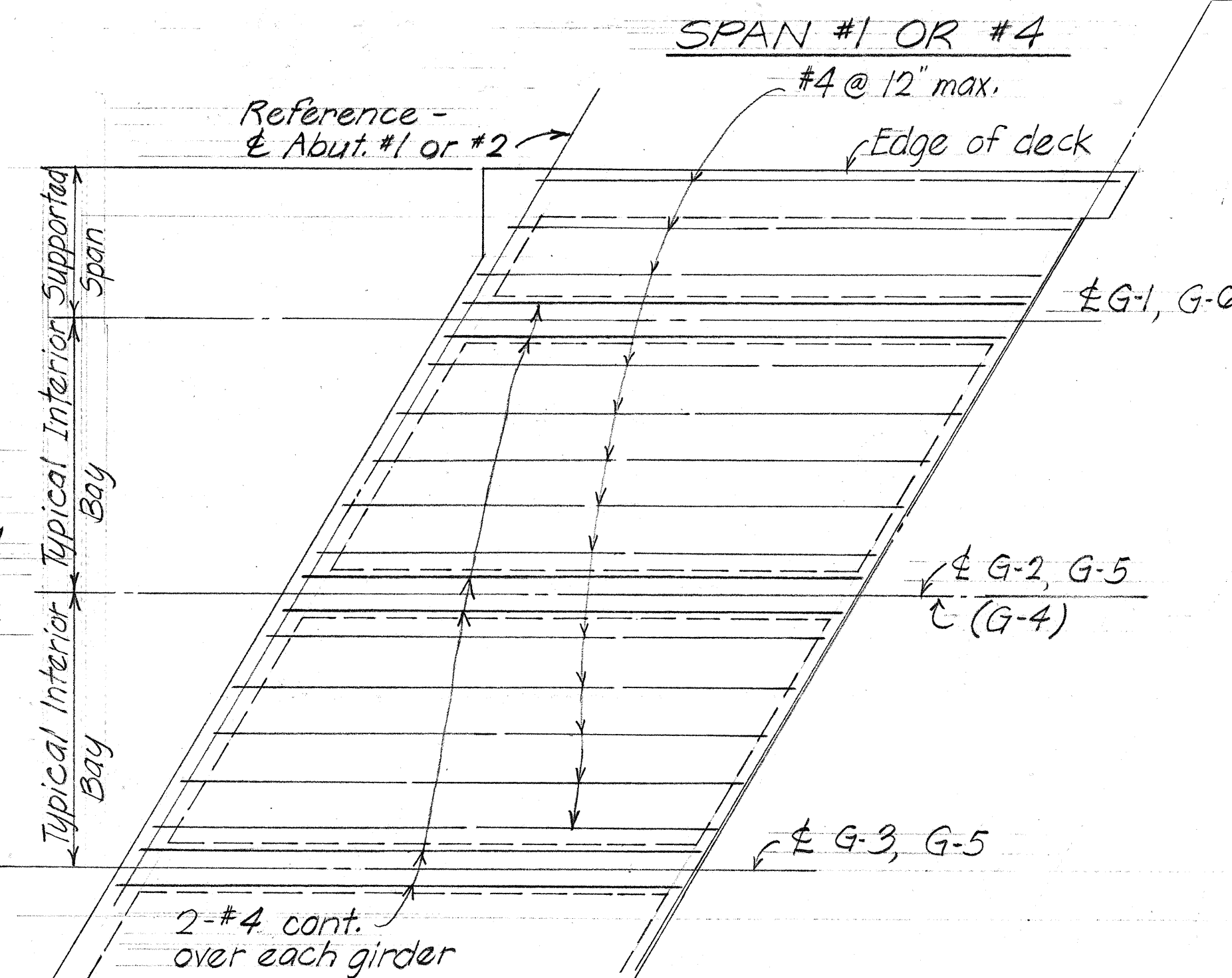
NORMAL DECK SECTION AT SPAN NOS 1 & 4 Scale: 1/2" = 1'-0"

- NOTE: 1. All reinforcements #10 except as otherwise noted.
2. Number at ends of bars denotes dimension in feet from pier line number (2).
3. All #4 @ 12" max. bars shall be extended & lapped 2'-0" min. with the adjacent #10 bars as shown.
4. For additional slab reinforcement see Normal Section & corresponding details.

PLACEMENT DIAGRAM - DECK SLAB TOP LONGITUDINAL REINFORCEMENT - SPANS #1 & #4 Scale: Horiz. 1/8" = 1'-0" Vert. 3/8" = 1'-0"



PLACEMENT DIAGRAM - DECK SLAB TOP LONGITUDINAL REINFORCEMENT - SPANS #2, #3 Scale: Vert. 3/8" = 1'-0" Horiz. 1/8" = 1'-0"

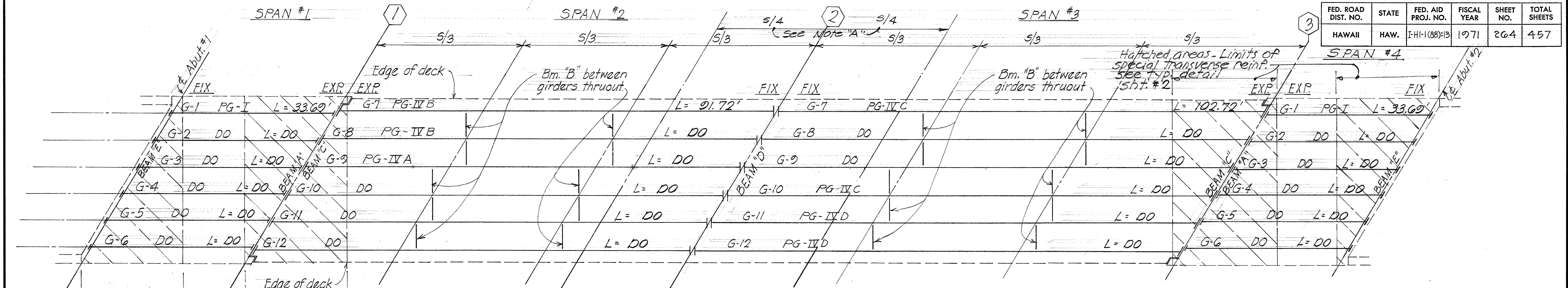


PLACEMENT DIAGRAM - DECK SLAB TOP LONGITUDINAL REINFORCEMENT - SPANS #1 & #4 Scale: Horiz. 1/8" = 1'-0" Vert. 3/8" = 1'-0"

SURVEY PLOTTED BY	DATE
PLAN	9/78
DESIGNED BY	
NOTED BY	
CHECKED BY	

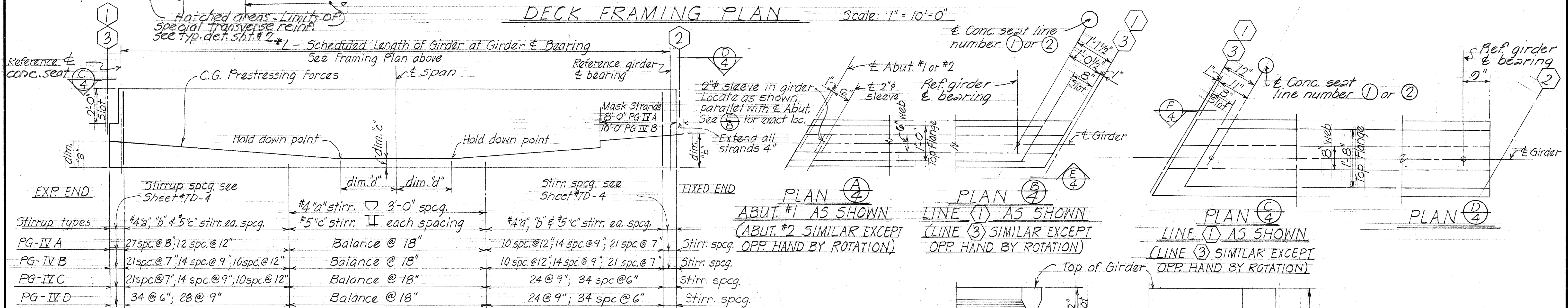
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
HALAWA INTERCHANGE
STRUCTURE NO 7
"EW" RAMP OVER MOANALUA FREEWAY
DECK SECTIONS & DETAILS
Proj. No IHI-1(88)13 July 1970
SHEET No. 3 OF 15 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(88)-13	1971	264	457



DECK FRAMING PLAN

Scale: 1" = 10'-0"



NOTE: Prestressed Girder

Refer to Standard Prestressed Girder Detail sht. # 5.2. for additional details & reinforcements not covered by these drawings.
* The contractor shall determine the total length of each girder. For additional anchor in prestressed girder for beam connection, see sht. # 6.

NOTE "A"

Water reducing and retarding admixture conforming to AASHTO Designation: M194 Type D, shall be added to the deck concrete over the pier within the indicated lines. The type of admixture shall be such that the amount of dosage used will produce the retardation required. The type and dosage of the admixture, and the method of pour shall be approved by the Engineer.

PRESTRESSED GIRDER SCHEDULE

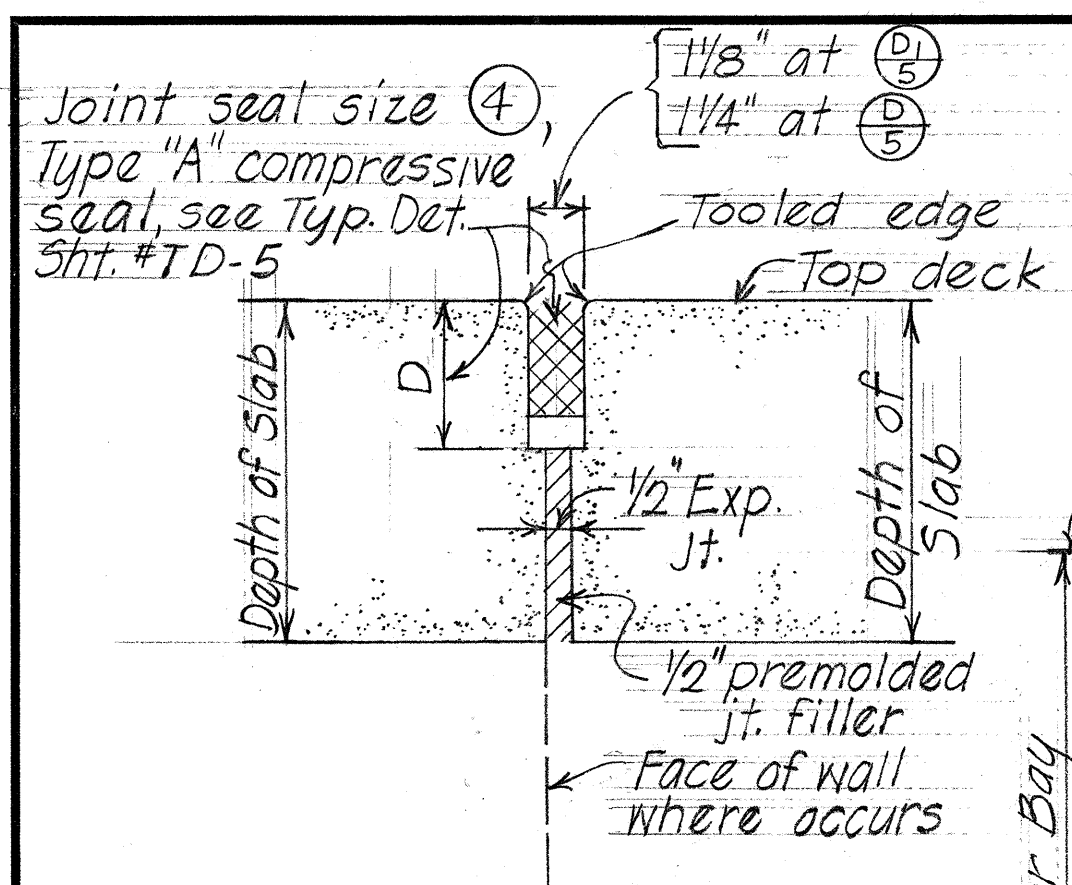
GIRDER TYPE	dim. "a"	dim. "b"	dim. "c"	dim. "d"	WORKING FORCES	
					P _F	P _F AT MASK END
PG IV A, IV B	18 1/2"	22 5/8"	6 3/4"	9'-6"	807K	645K
PG IV C, IV D	16 7/8"	19 1/8"	5 3/8"	10'-6"	1049K	847K
PG I	8 13/16"		4 3/4"	4'-0"	282K	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

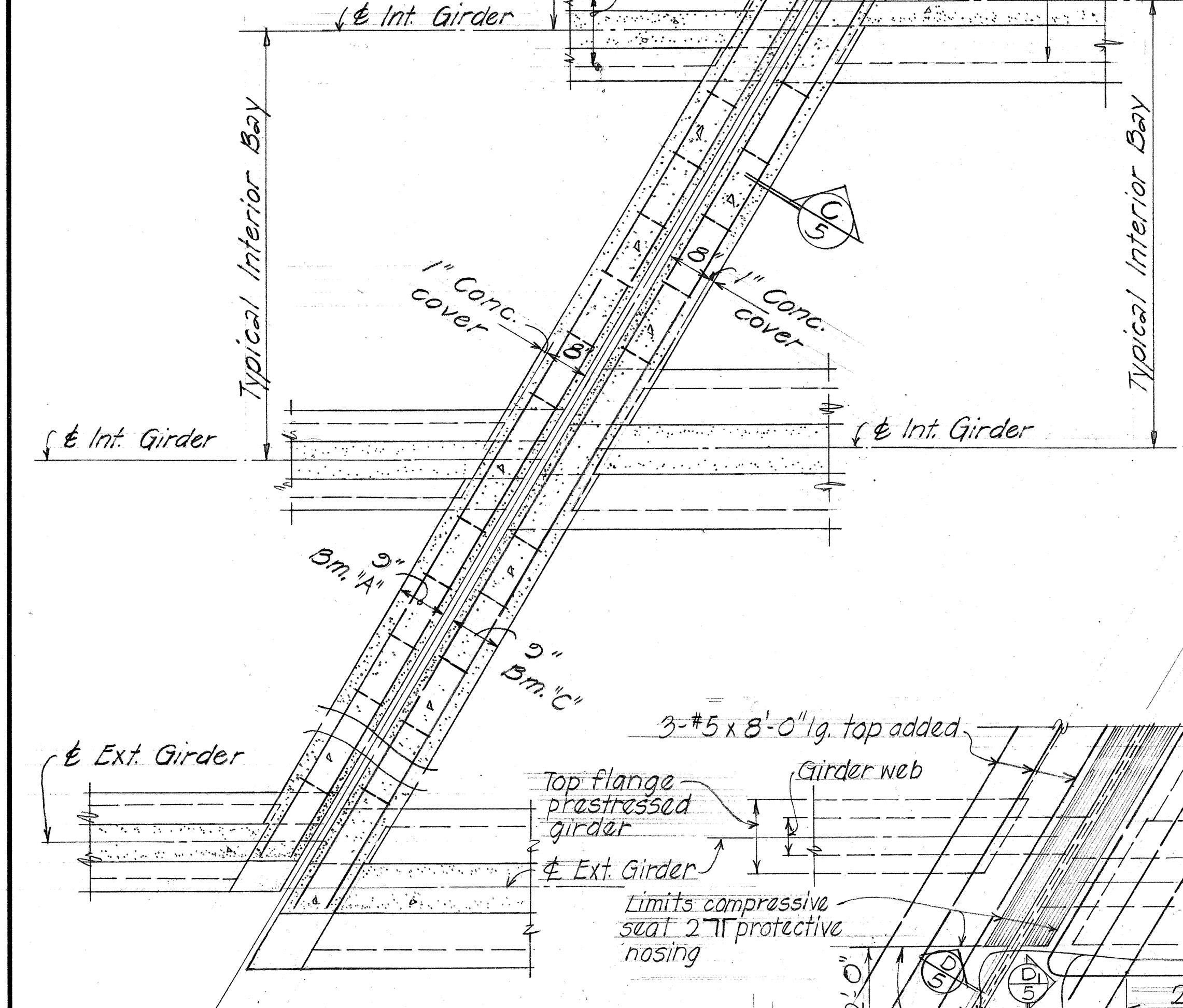
HALAWA INTERCHANGE
STRUCTURE NO. 7
"EW" RAMP OVER MOANALUA FREEWAY
DECK FRAMING PLAN & DETAILS

Proj. No. I-HI-1(88)-13 July 1970
SHEET No. 4 OF 15 SHEETS

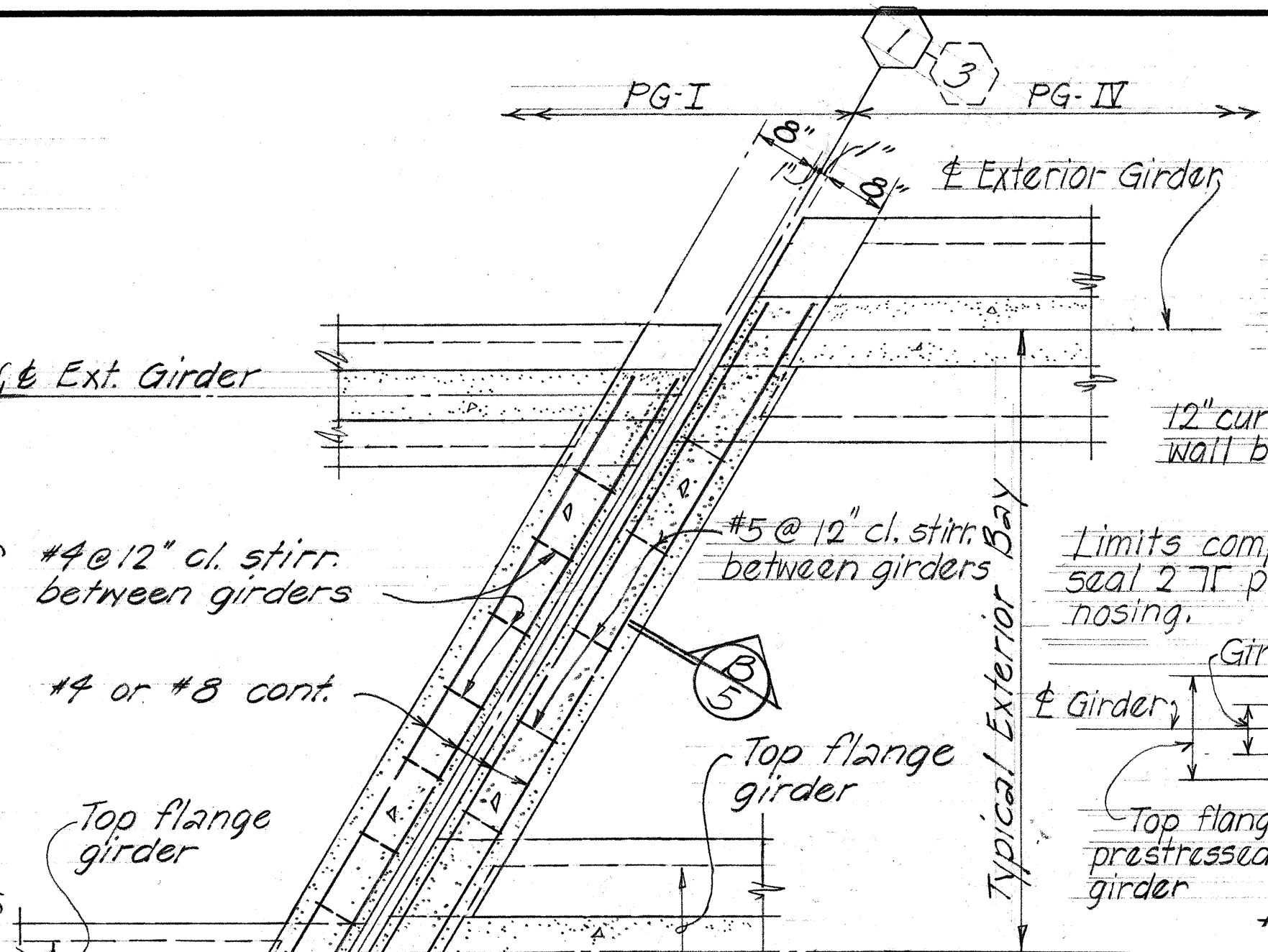
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(88)-13	1971	265	457



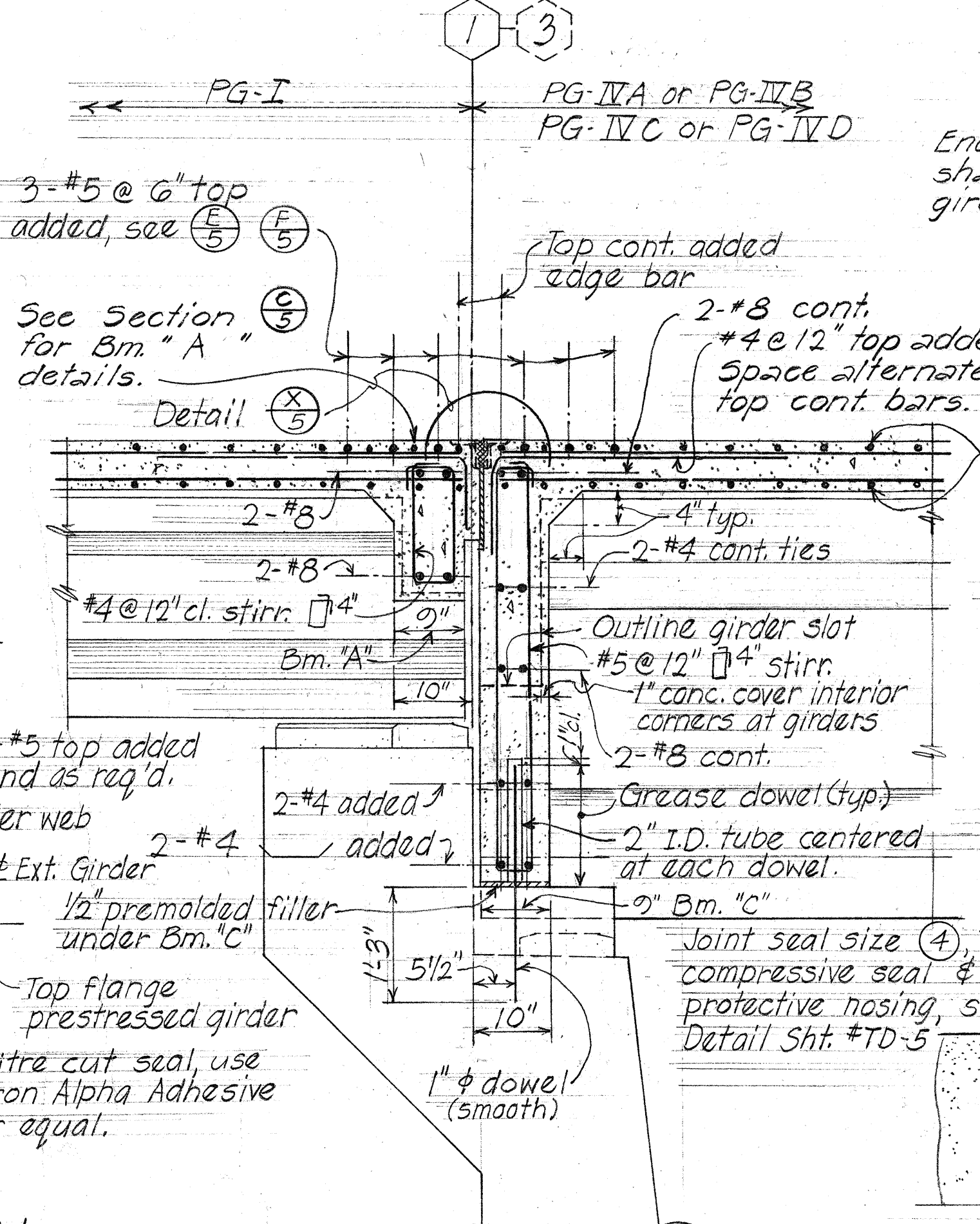
TYPICAL SECTION (D)
Scale: 3" = 1'-0"



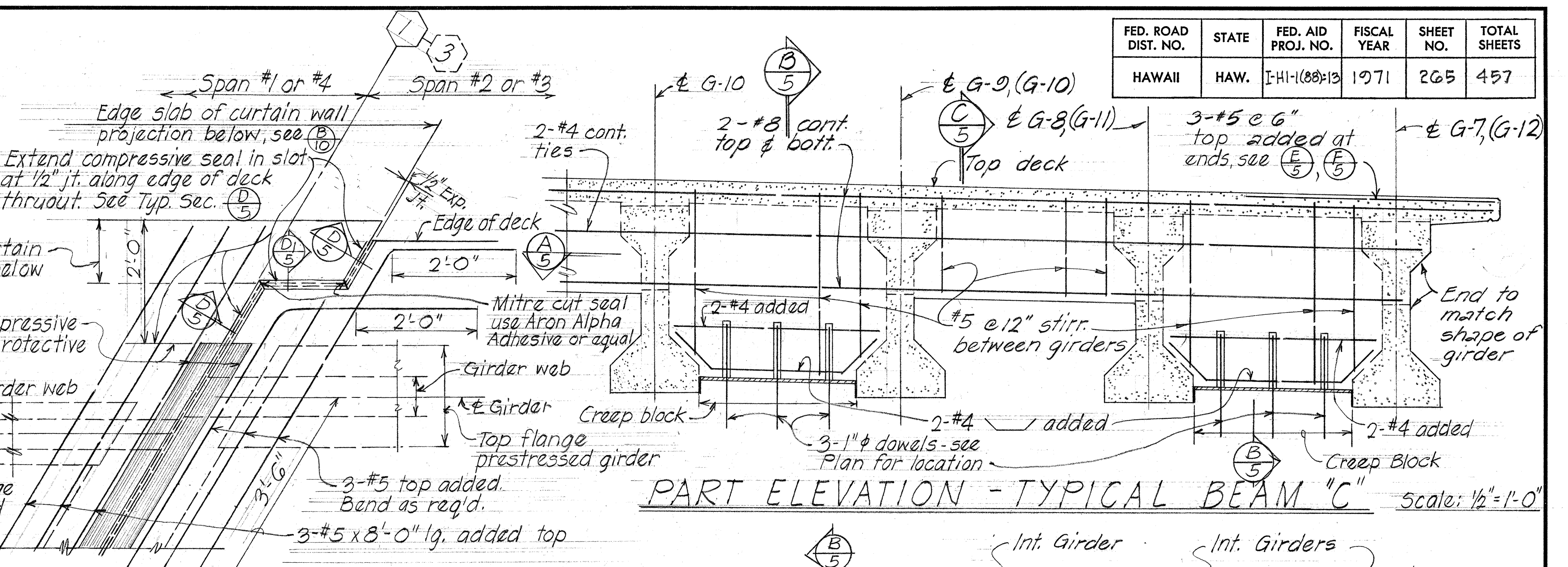
TYPICAL SECTION (A)
Scale: 3/4" = 1'-0"



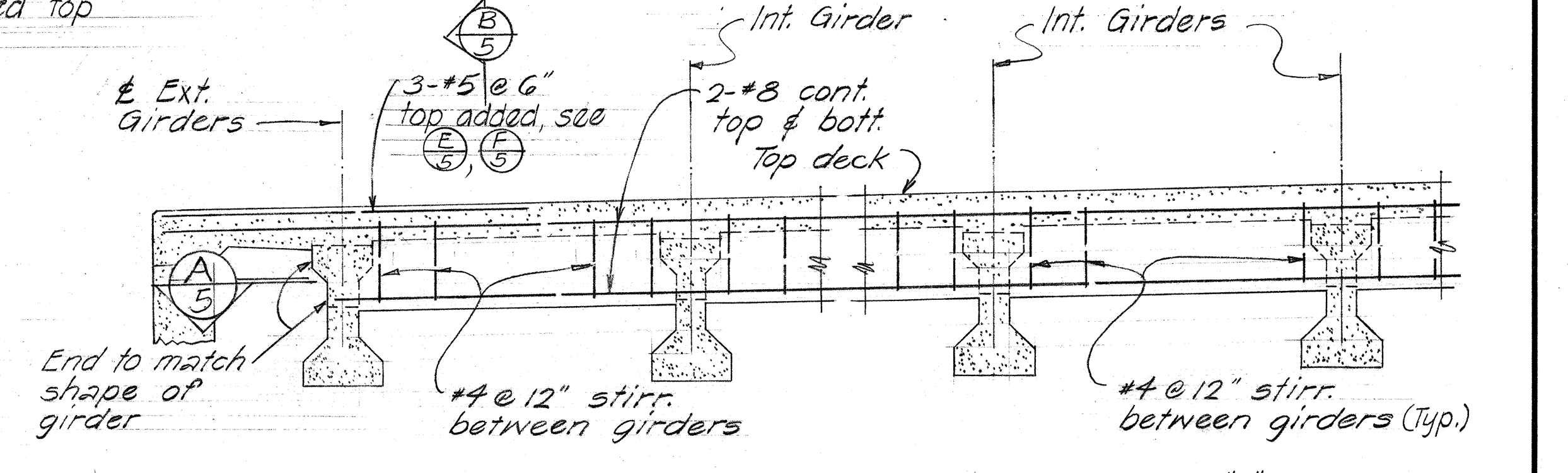
PART TOP DECK PLAN (E)
Scale: 3/4" = 1'-0"



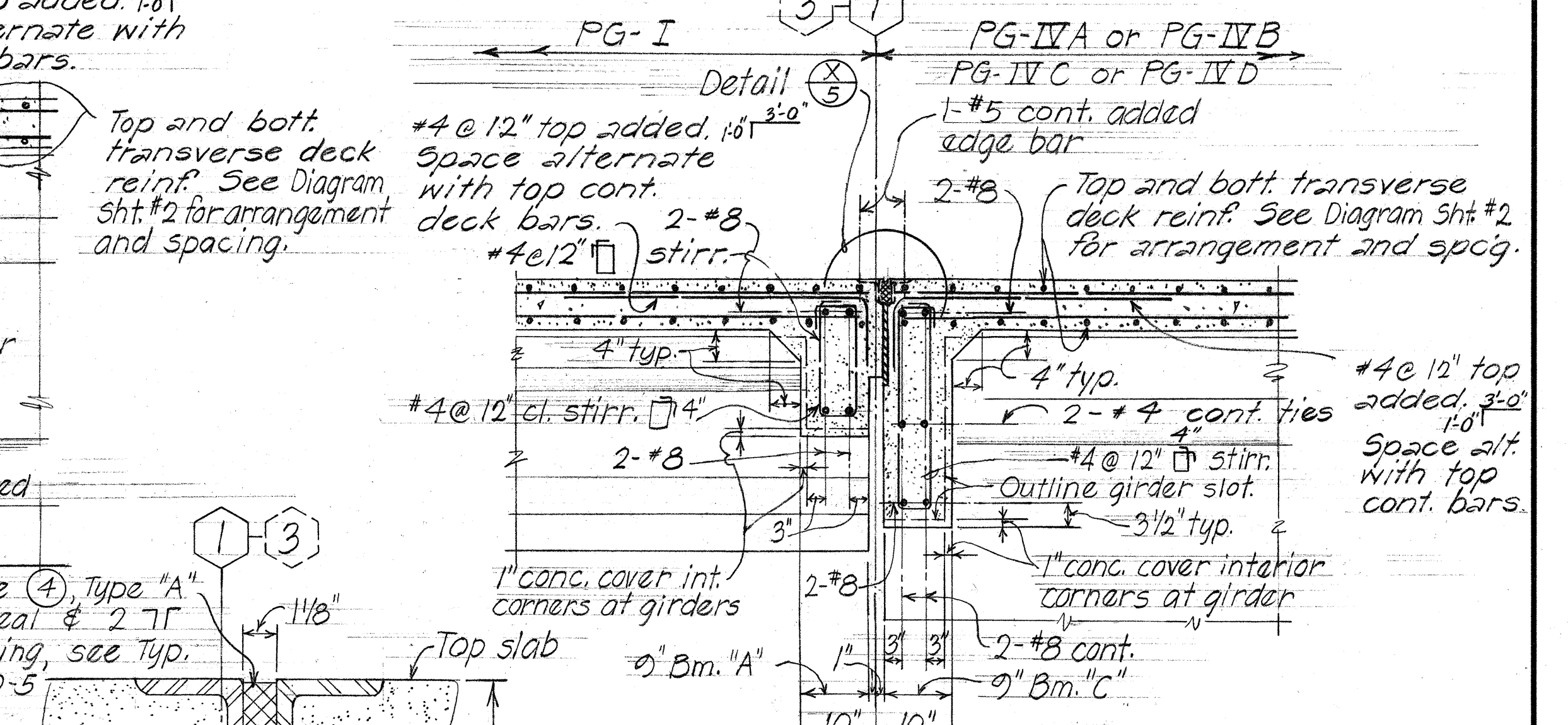
SECTION (B)
Scale: 3/4" = 1'-0"



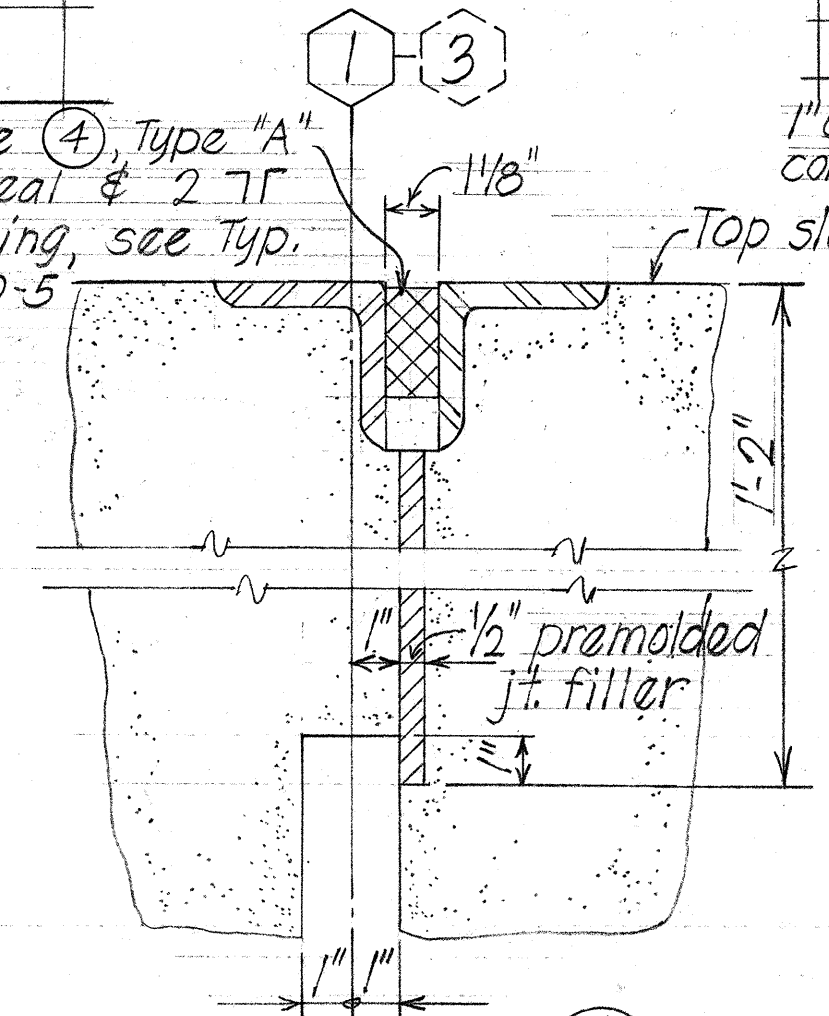
PART ELEVATION - TYPICAL BEAM "C" Scale: 1/2" = 1'-0"



PART ELEVATION - TYPICAL BEAM "A" Scale: 1/2" = 1'-0"



SECTION (C) Scale: 3/4" = 1'-0"

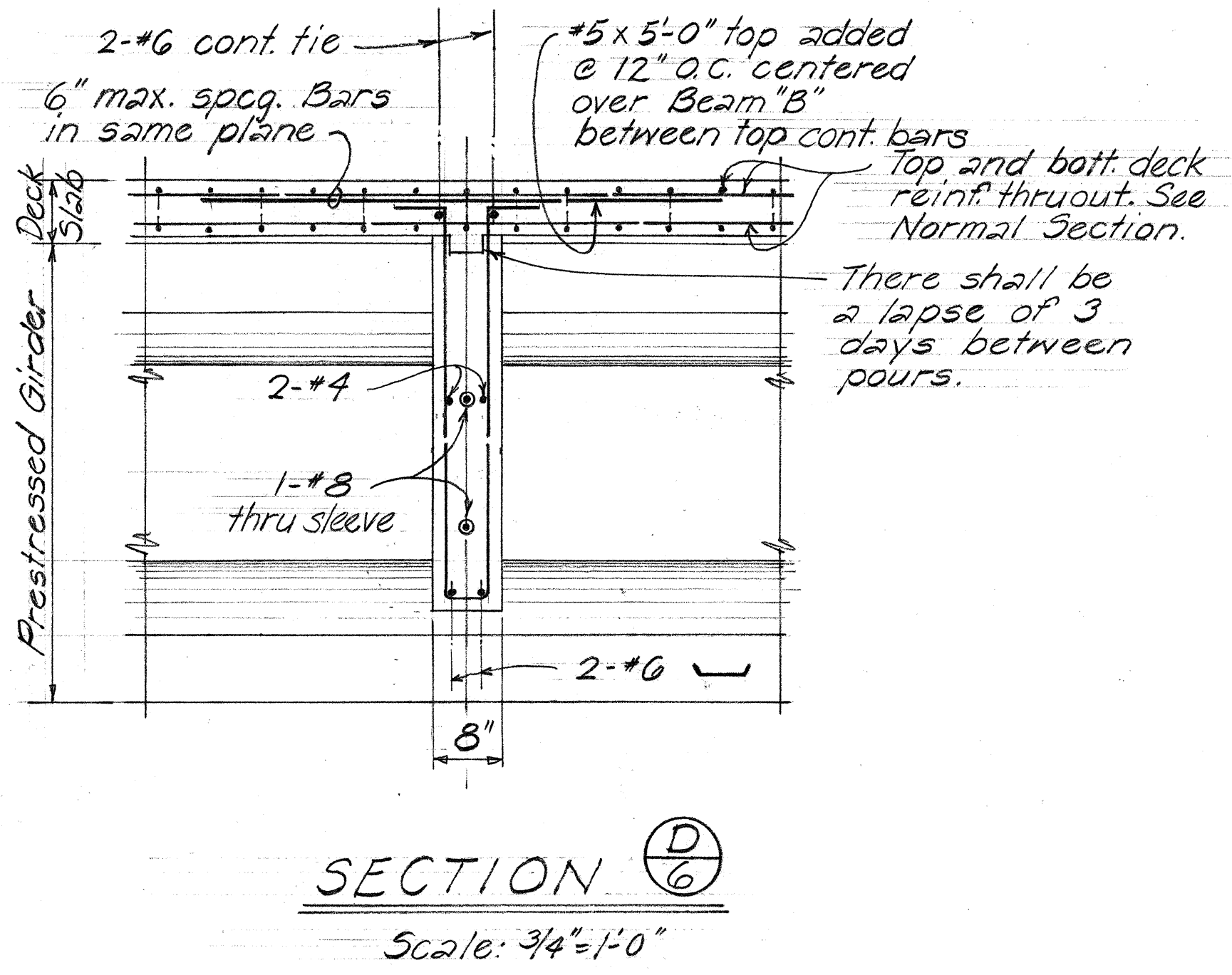
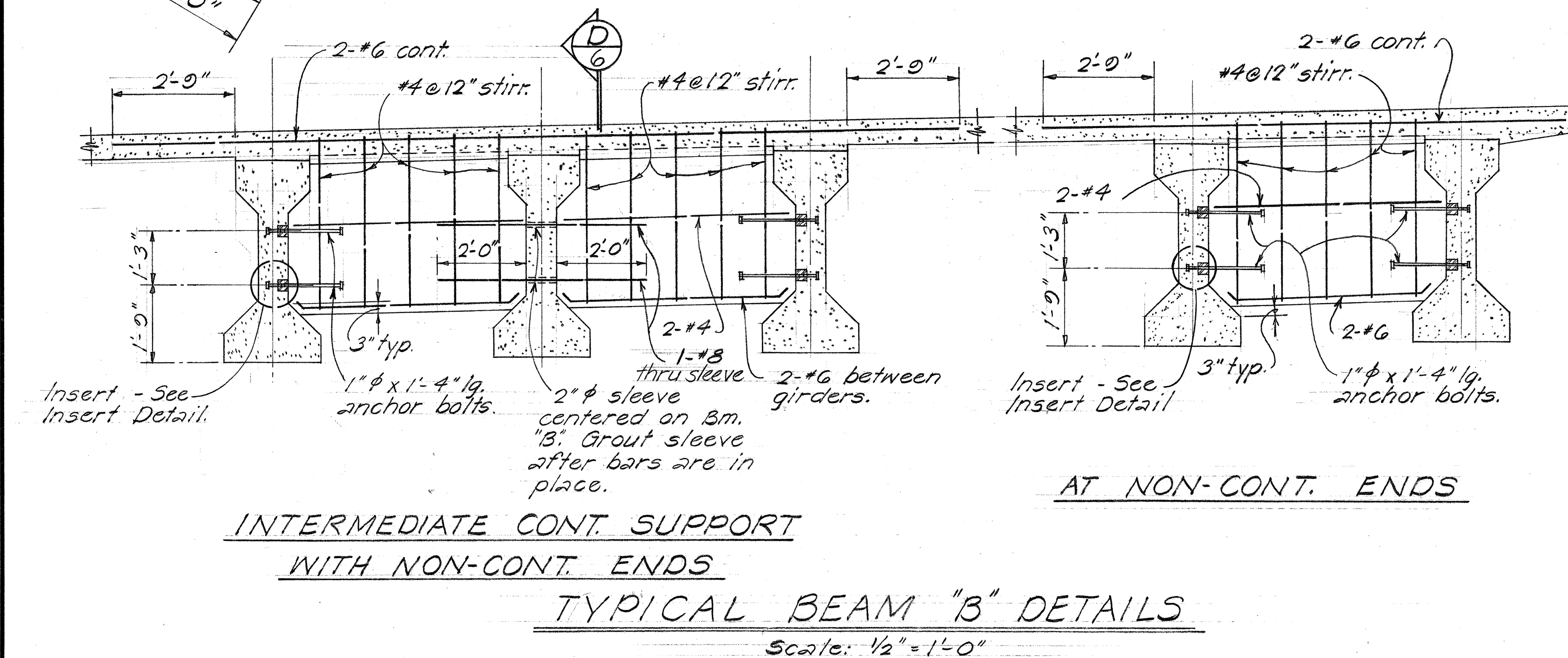
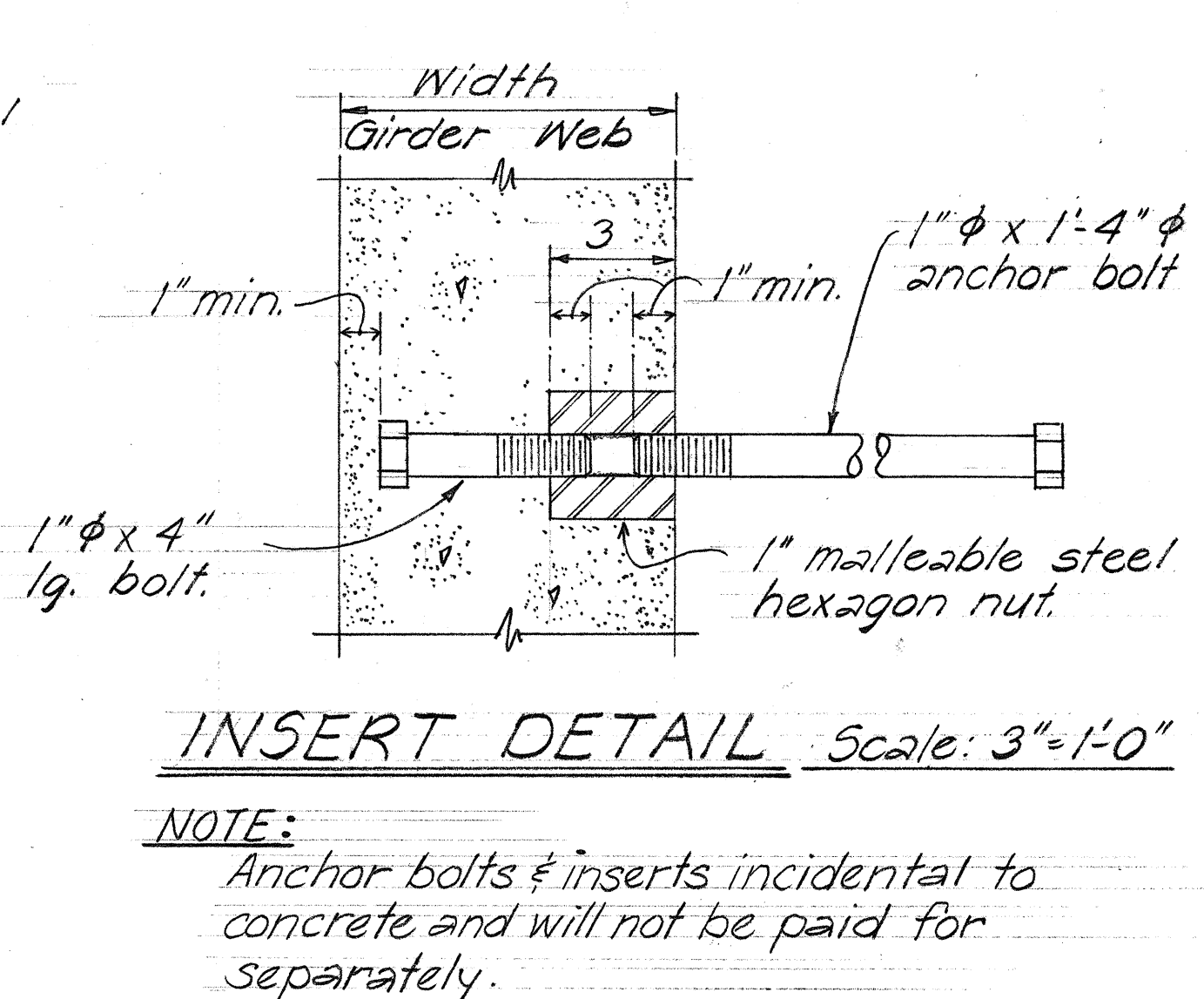
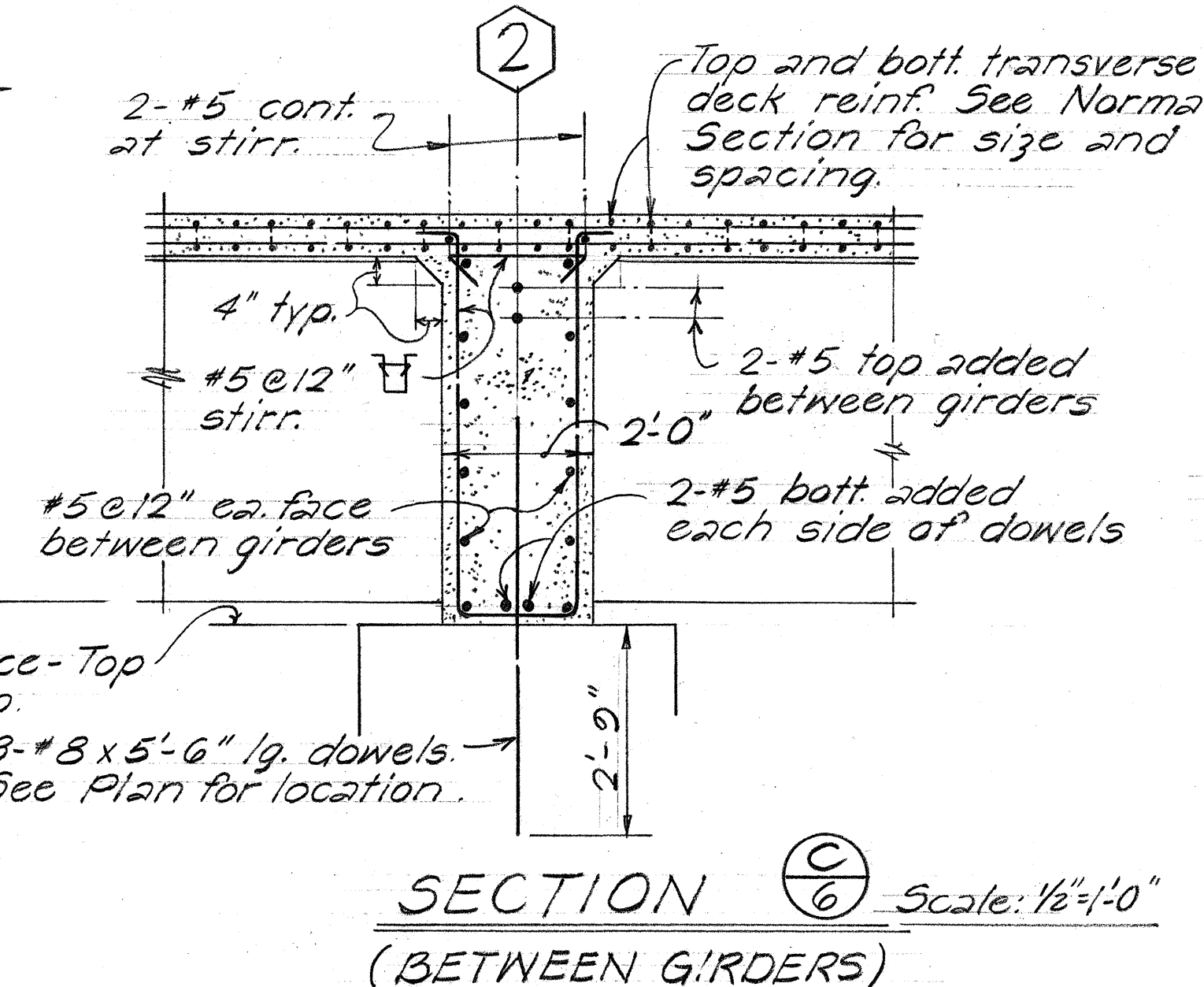
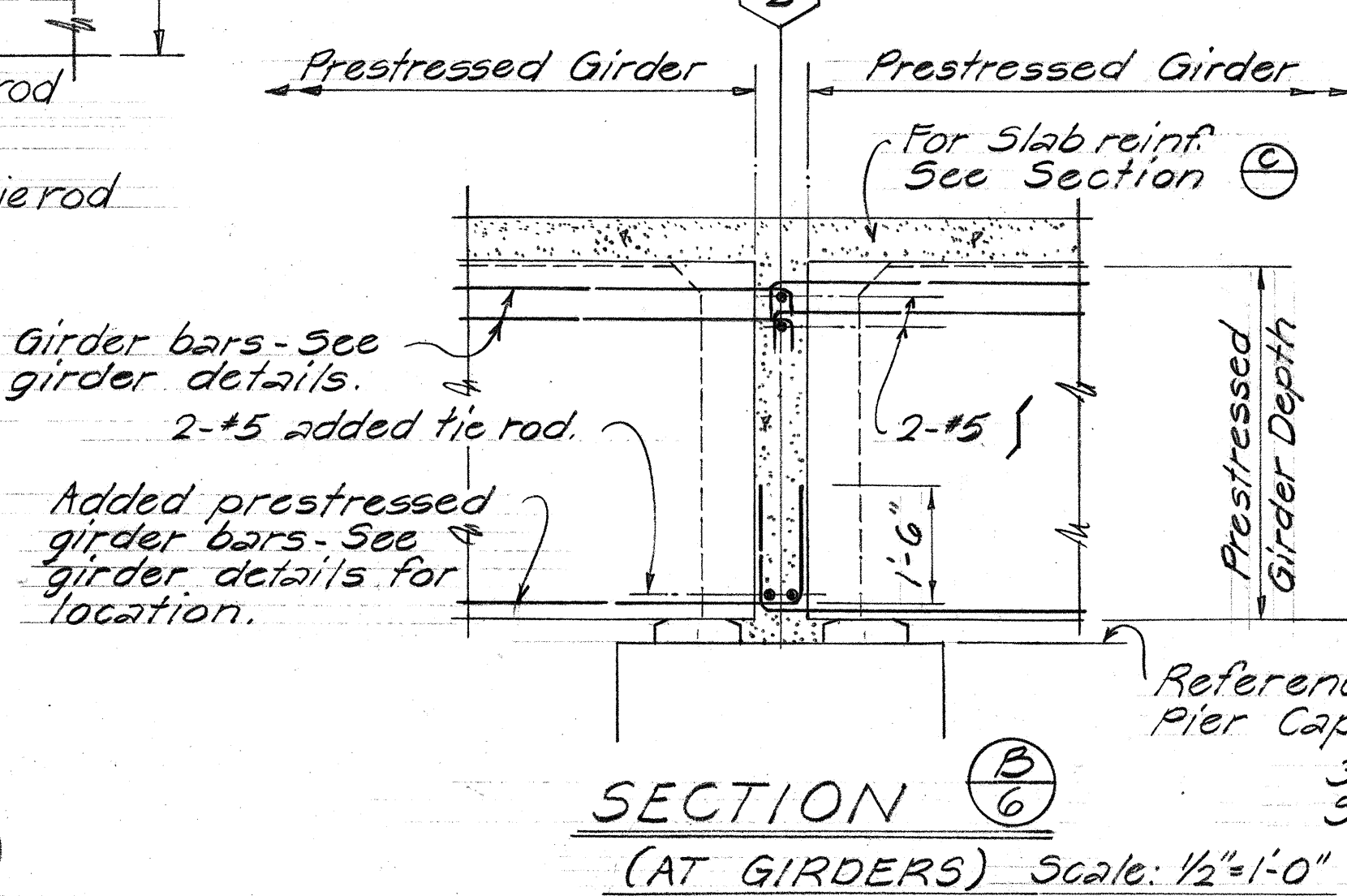
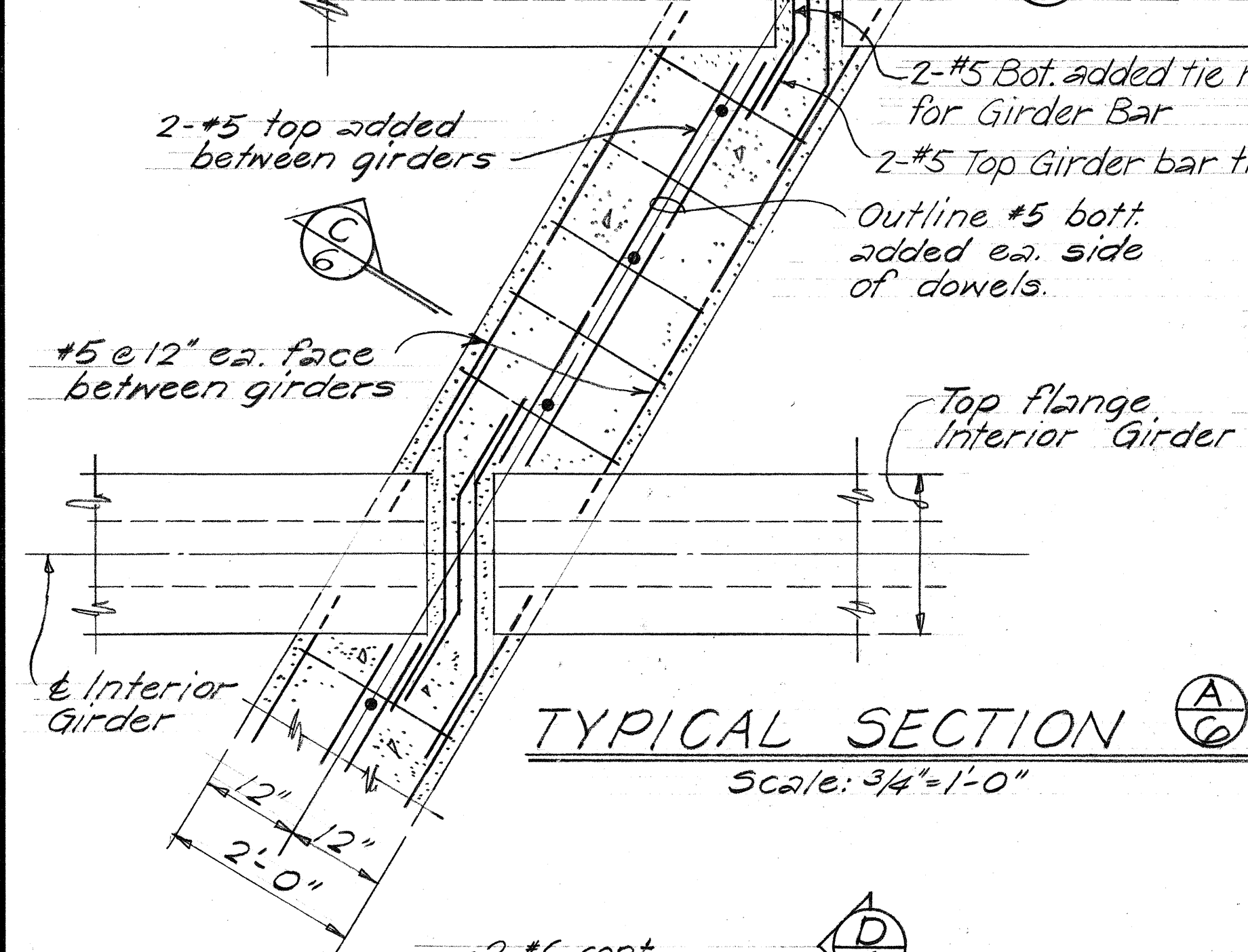
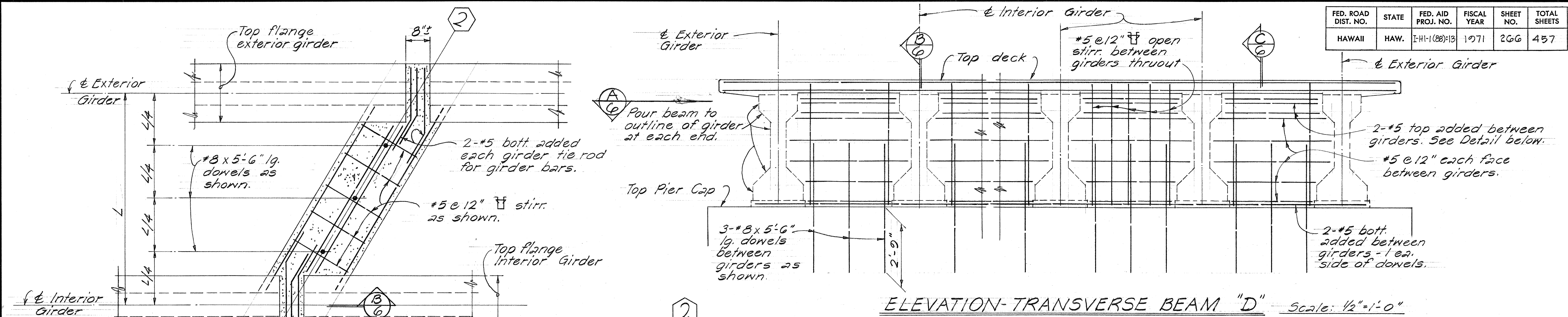


DETAIL (X) Scale: 3" = 1'-0"

SURVEY PLOTTED BY	DATE
DESIGNED BY	1/7/71
TRACED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
Re	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
HALAWA INTERCHANGE
STRUCTURE NO 7
EW RAMP OVER MOANALUA FREEWAY
BEAMS "A", "B", "C" DETAILS
Proj. No I-HI-1(88)-13 July 1970
SHEET No. 5 OF 15 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H-1(88)-13	1971	266	457



STRUCTURE #7

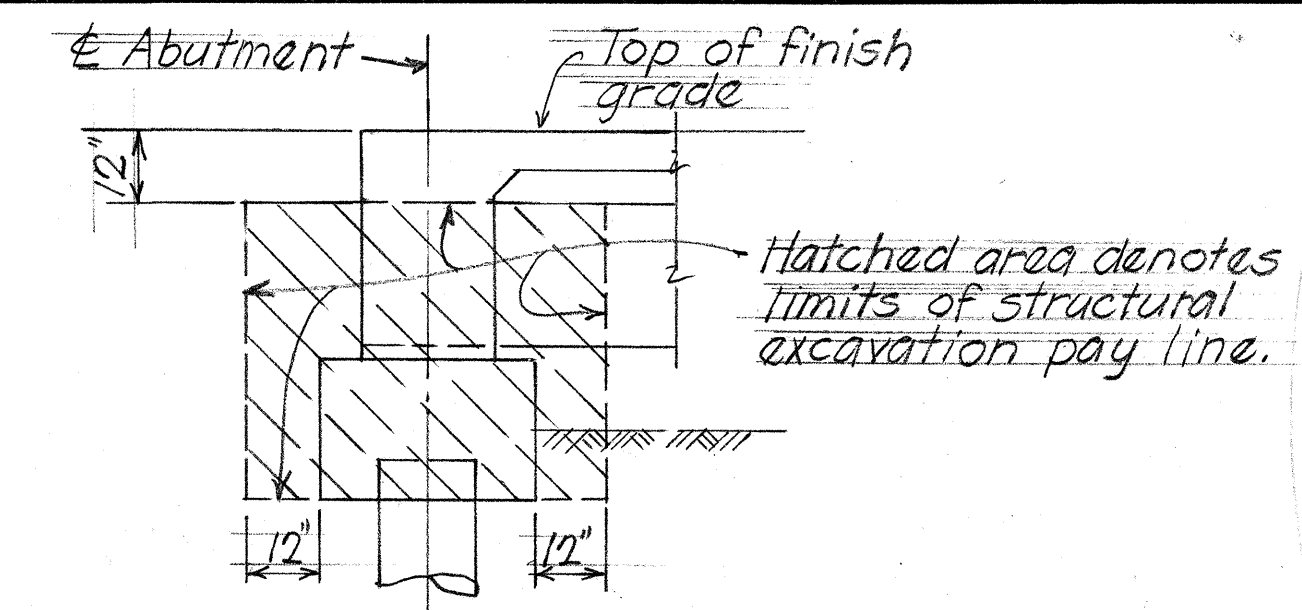
STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

HALAWA INTERCHANGE
 STRUCTURE NO. 7
 "EW" RAMP OVER MOANALUA FREEWAY
 BEAM "D" DETAILS

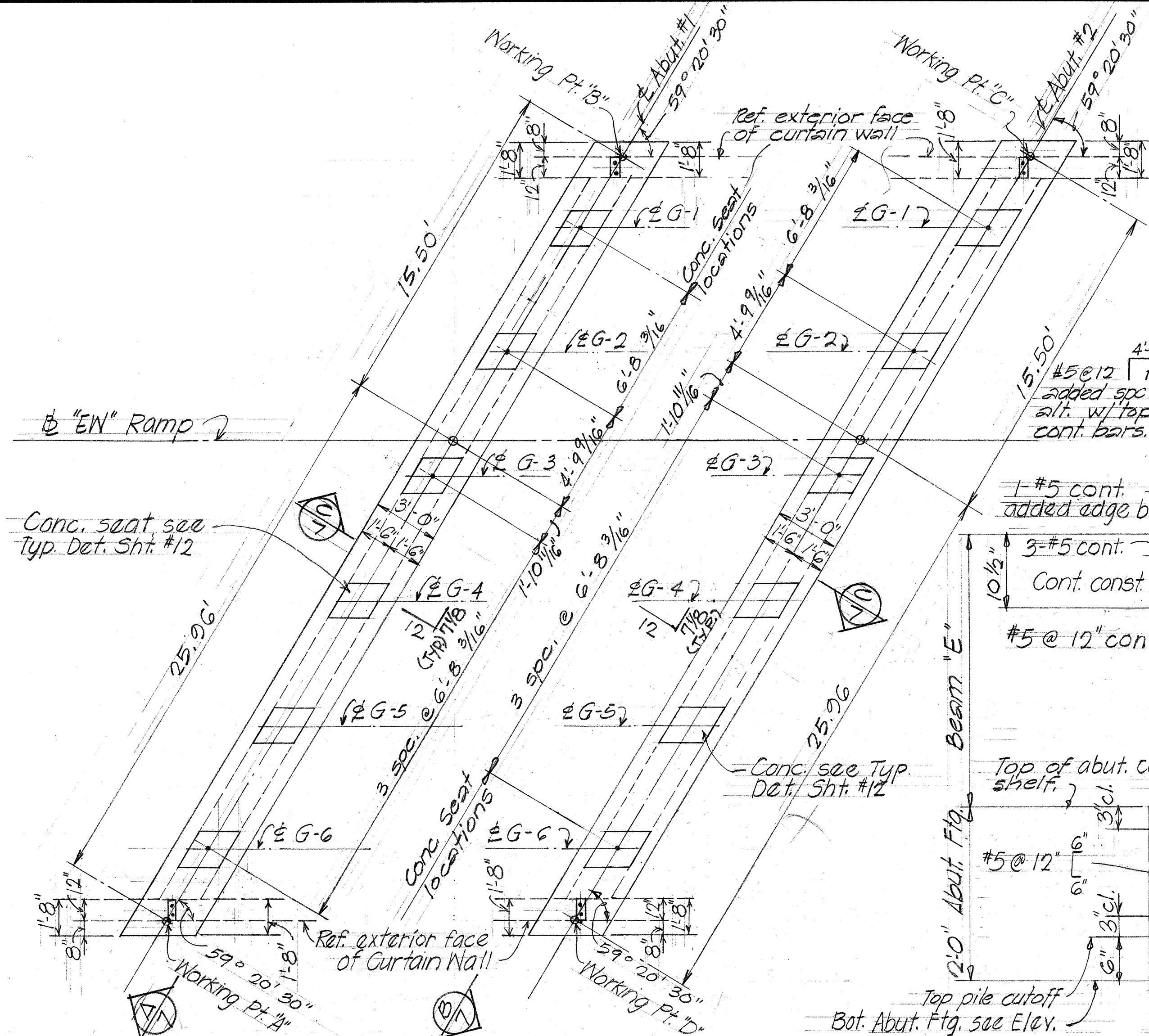
Proj. No. I-H-1(88)-13 July 1970
 SHEET No. 6 OF 15 SHEETS

DATE	6/6/69
SURVEY PLOTTED BY	TKM
DRAWN BY	TKM
CHECKED BY	TKM
ORIGINAL PLAN	NO. 1
NOTE BOOK	NO. 1

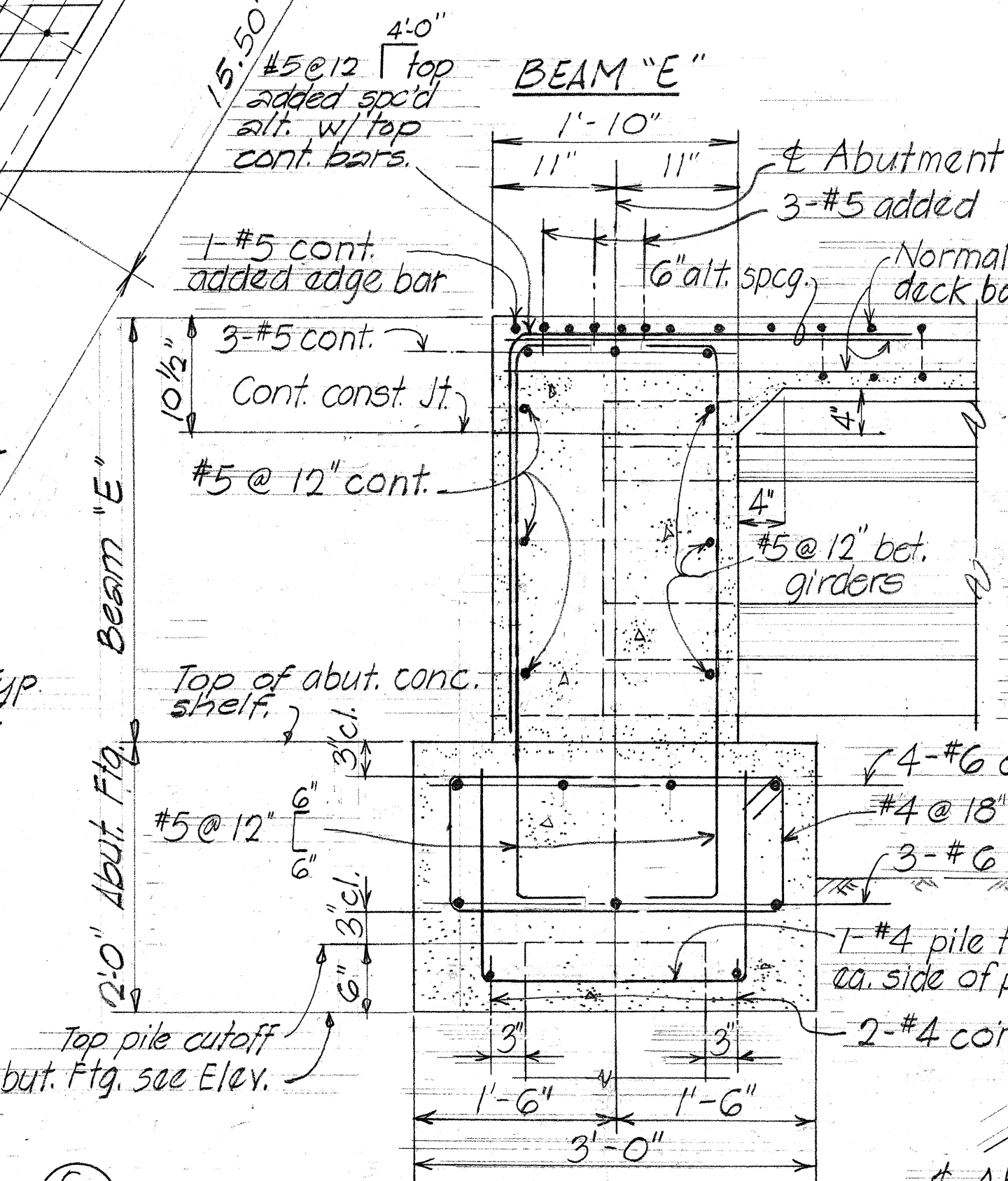
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(88)-13	1971	267	457



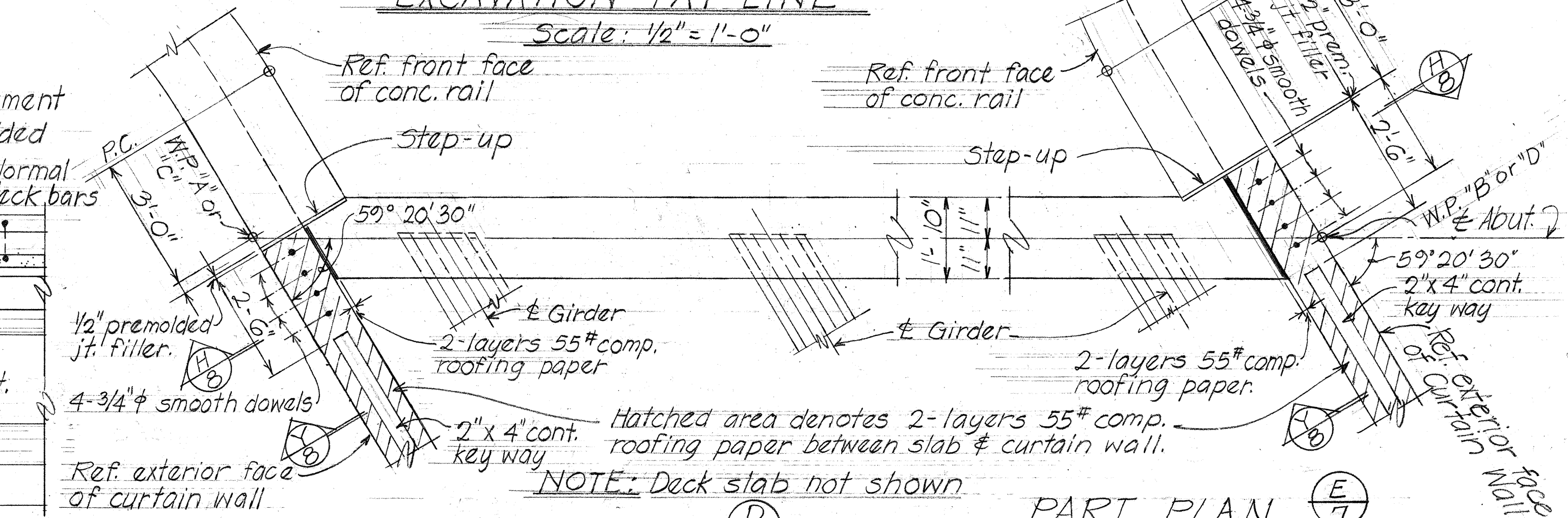
LIMITS STRUCTURAL EXCAVATION PAY LINE
Scale: 1/2" = 1'-0"



ABUTMENT #1 ABUTMENT #2
PLAN - ABUTMENT FOOTING
Scale: 1/4" = 1'-0"

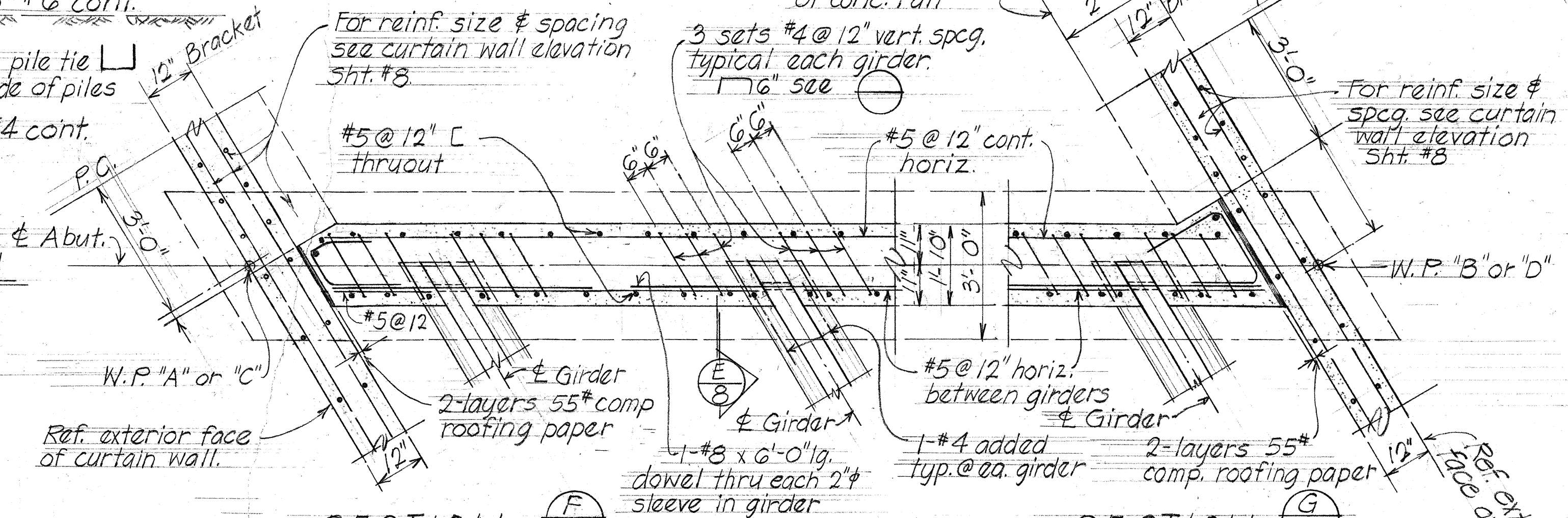


(C) NORMAL ABUTMENT SECTION
Scale: 1" = 1'-0"



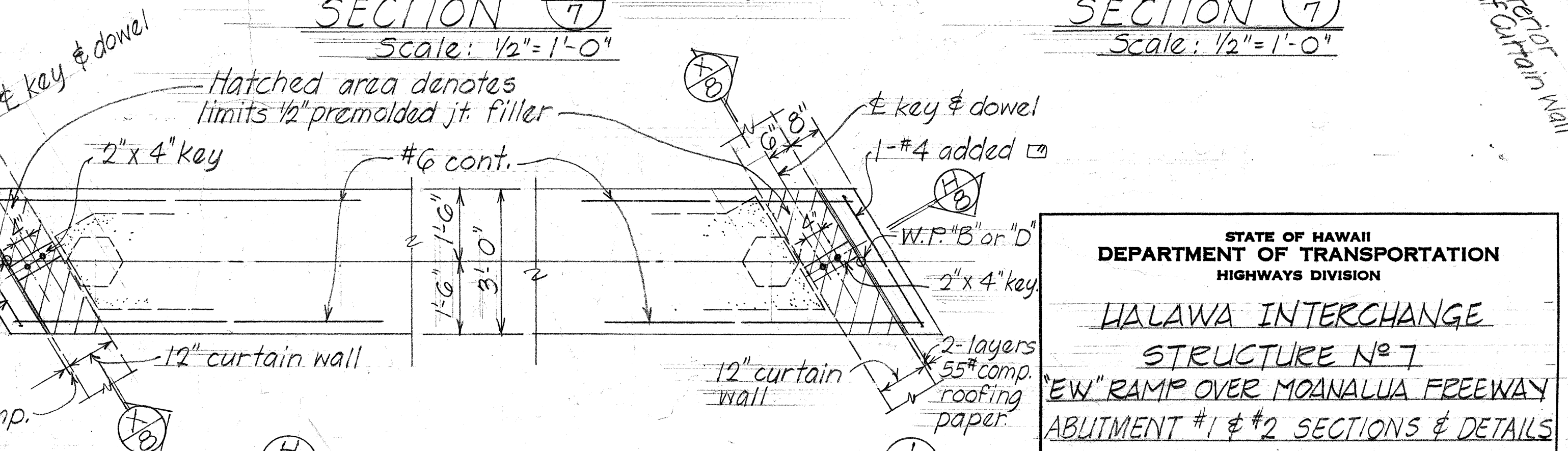
PART PLAN (D)
Scale: 1/2" = 1'-0"

PART PLAN (E)
Scale: 1/2" = 1'-0"



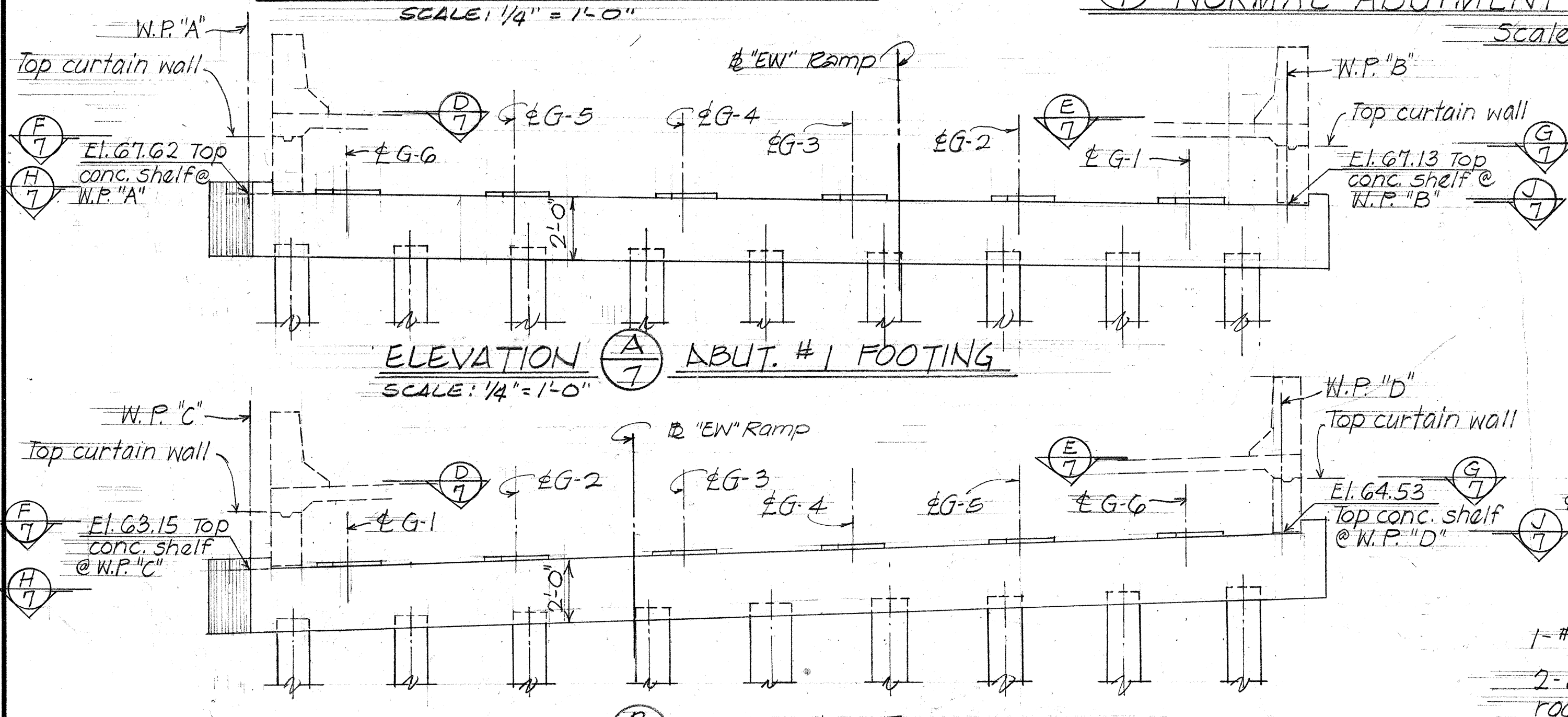
SECTION (F)
Scale: 1/2" = 1'-0"

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

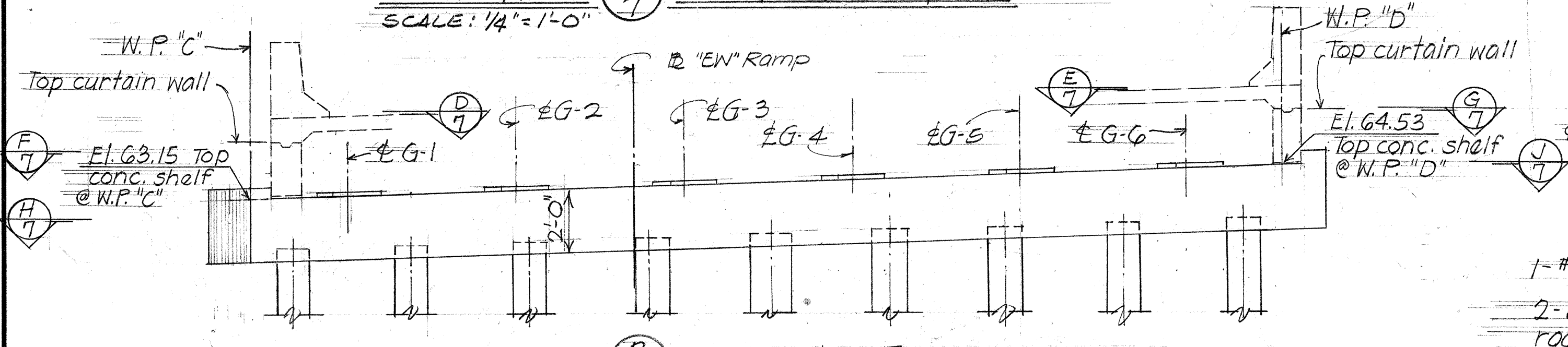


SECTION (H)
Scale: 1/2" = 1'-0"

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



ELEVATION (A) ABUT. #1 FOOTING
Scale: 1/4" = 1'-0"



ELEVATION (B) ABUT. #2 FOOTING
Scale: 1/4" = 1'-0"

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

HALAWA INTERCHANGE
STRUCTURE NO. 7
EW RAMP OVER MOANALUA FREEWAY
ABUTMENT #1 & #2 SECTIONS & DETAILS

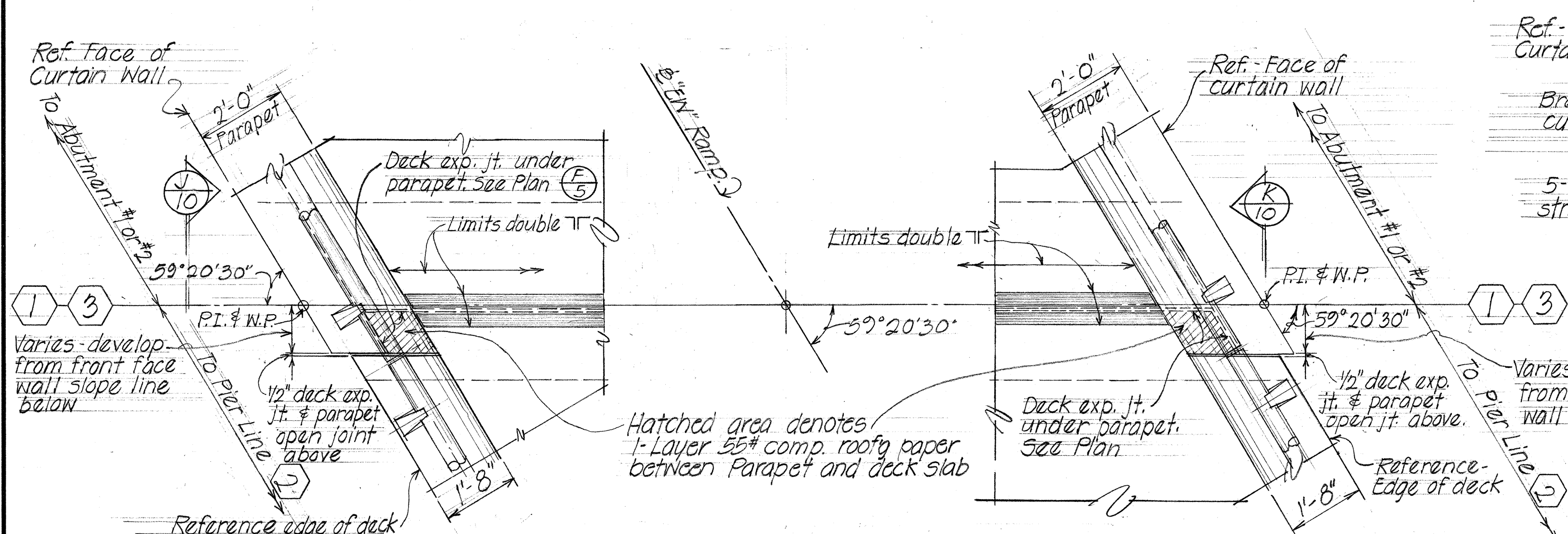
Proj. No. I-HI-1(88)-13 July 1970
SHEET No. 7 OF 15 SHEETS

DATE	9/68
DESIGNED BY	W. J. H. S.
CHECKED BY	W. J. H. S.
NOTED BY	W. J. H. S.
ORIGINAL PLAN	W. J. H. S.
NO.	W. J. H. S.

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

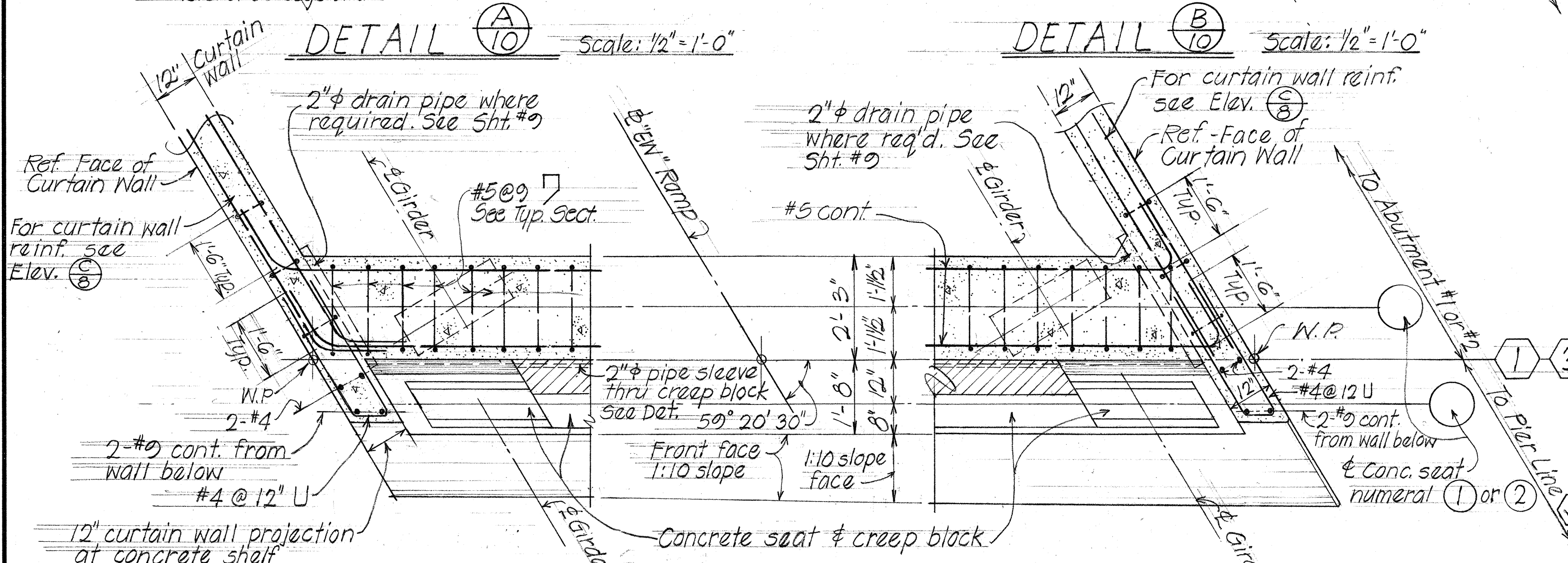


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IHI-1(88)13	1971	270	457



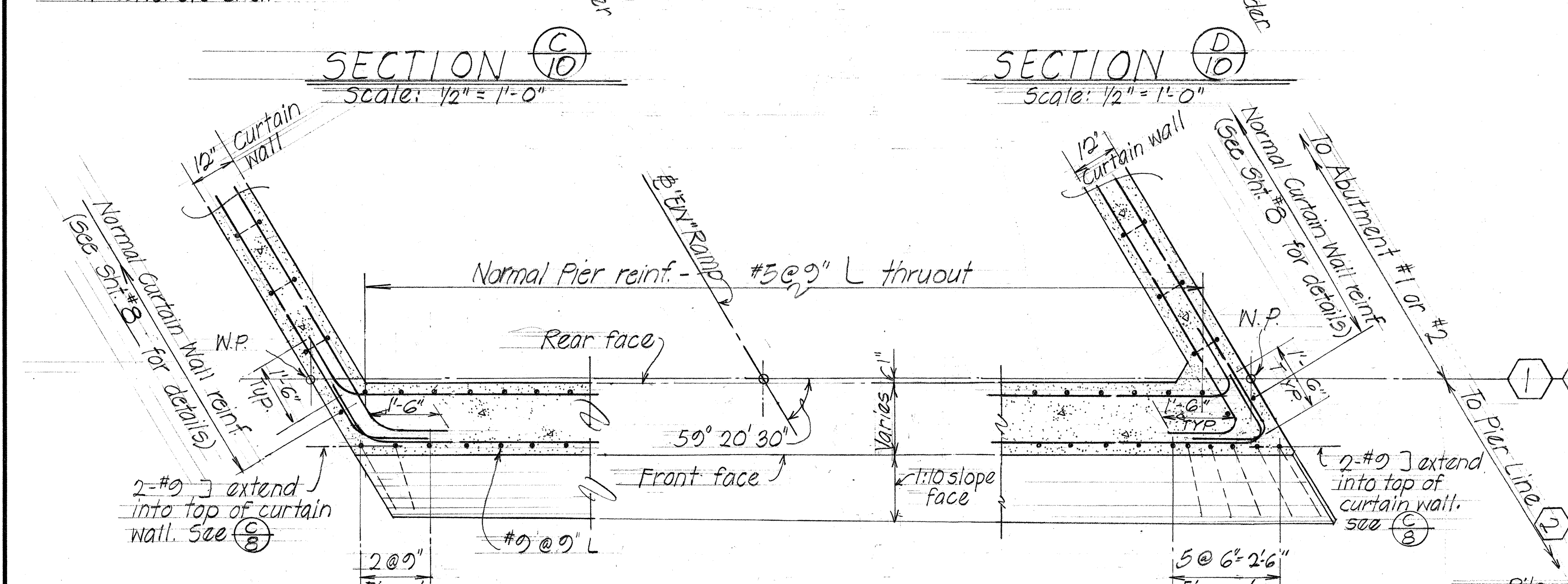
DETAIL A Scale: 1/2" = 1'-0"

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



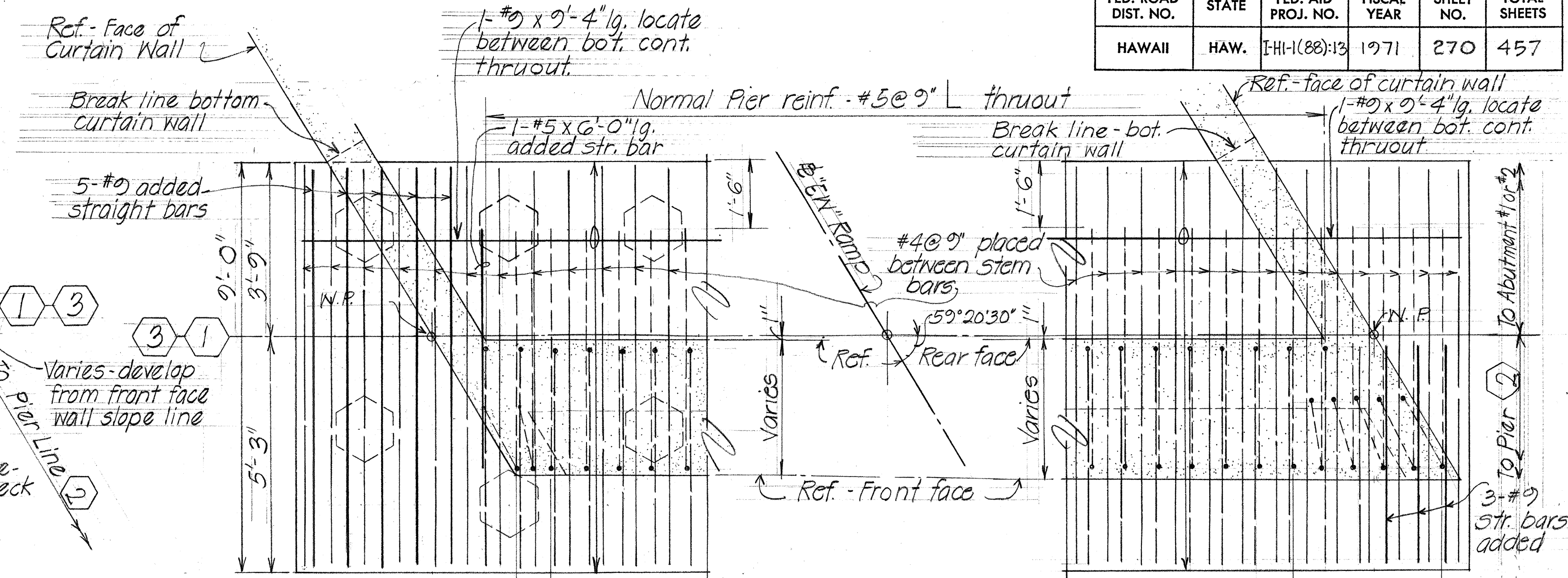
SECTION C Scale: 1/2" = 1'-0"

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



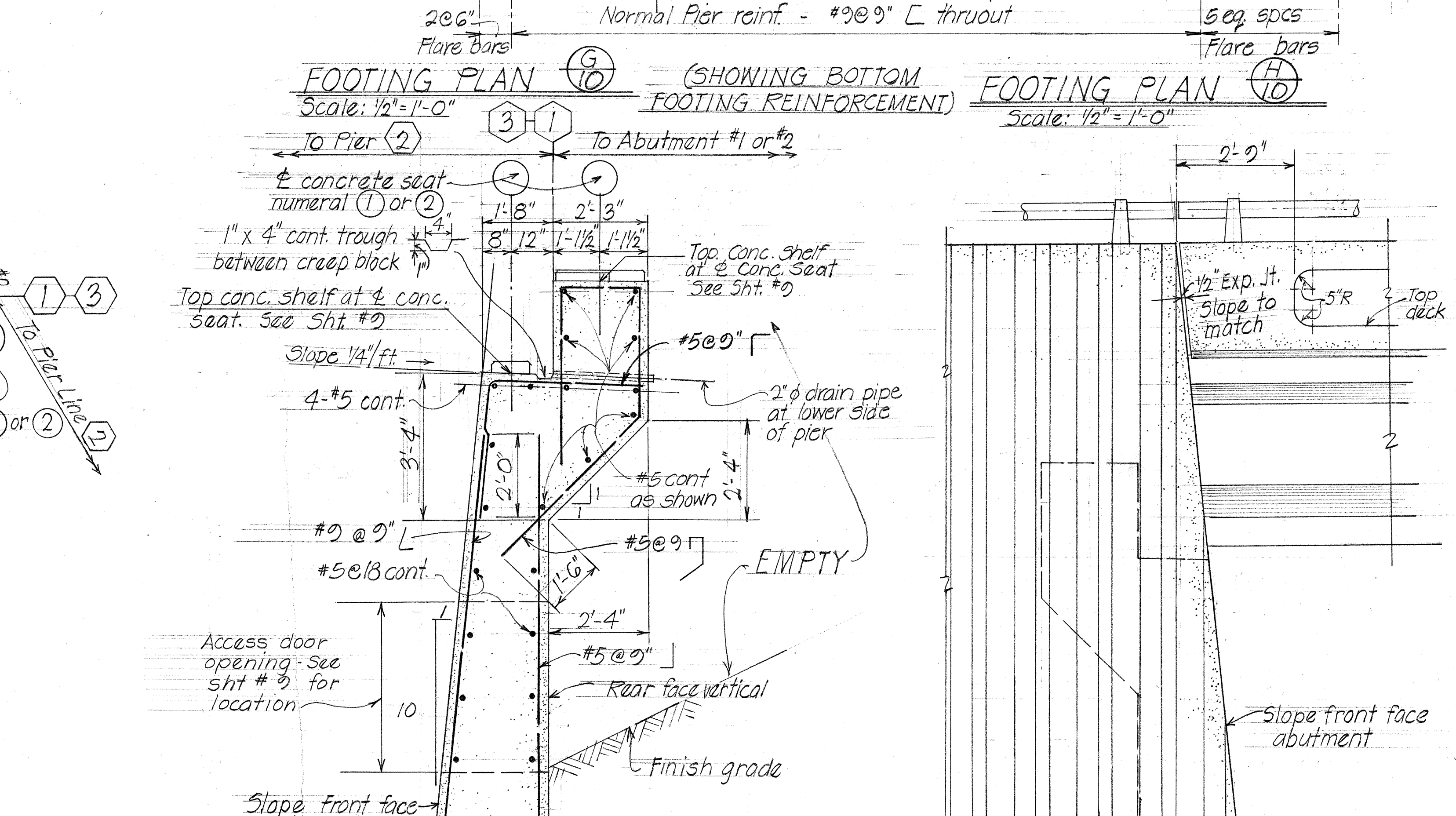
SECTION E Scale: 1/2" = 1'-0"

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

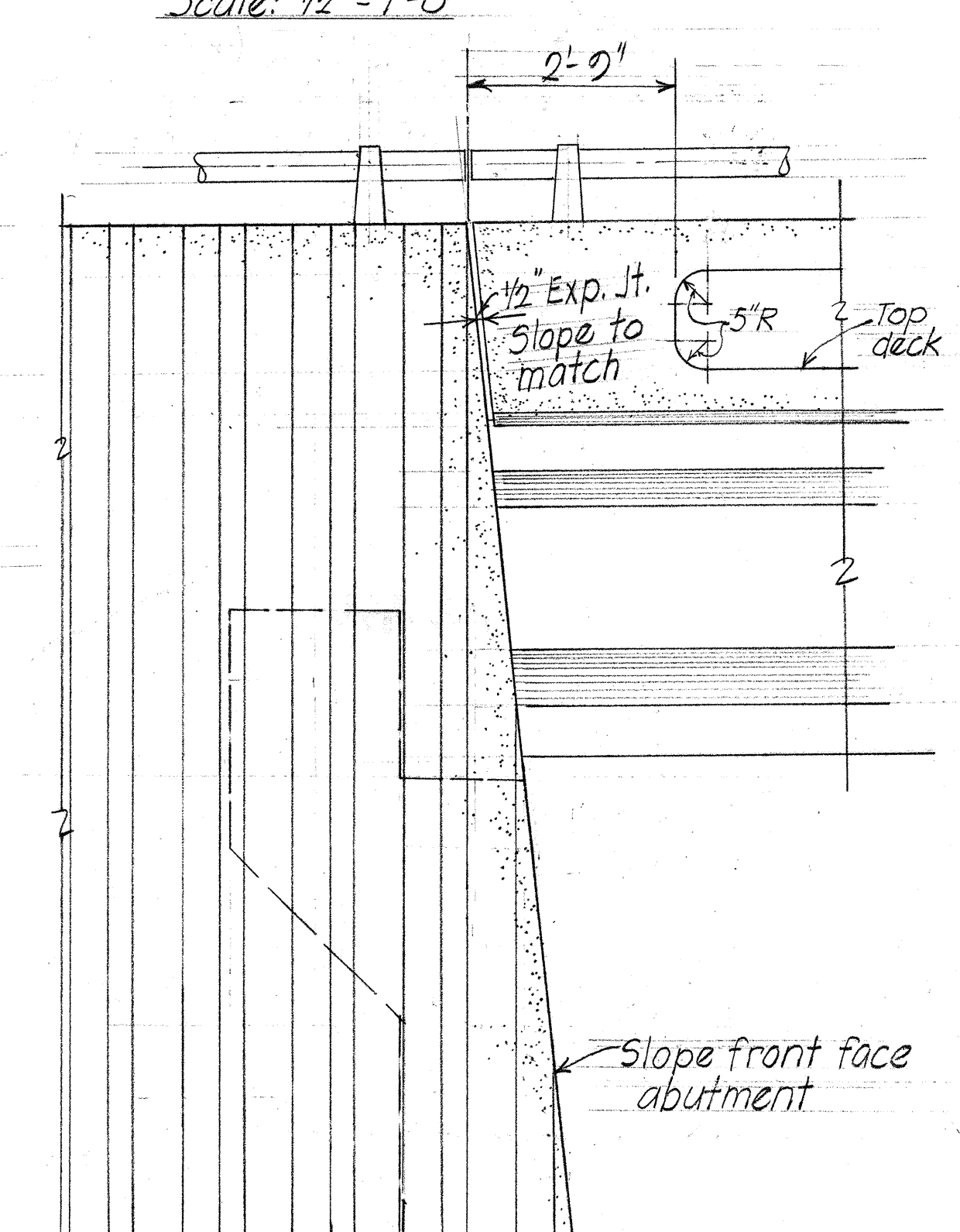


FOOTING PLAN G (SHOWING BOTTOM FOOTING REINFORCEMENT) Scale: 1/2" = 1'-0"

FOOTING PLAN H Scale: 1/2" = 1'-0"



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



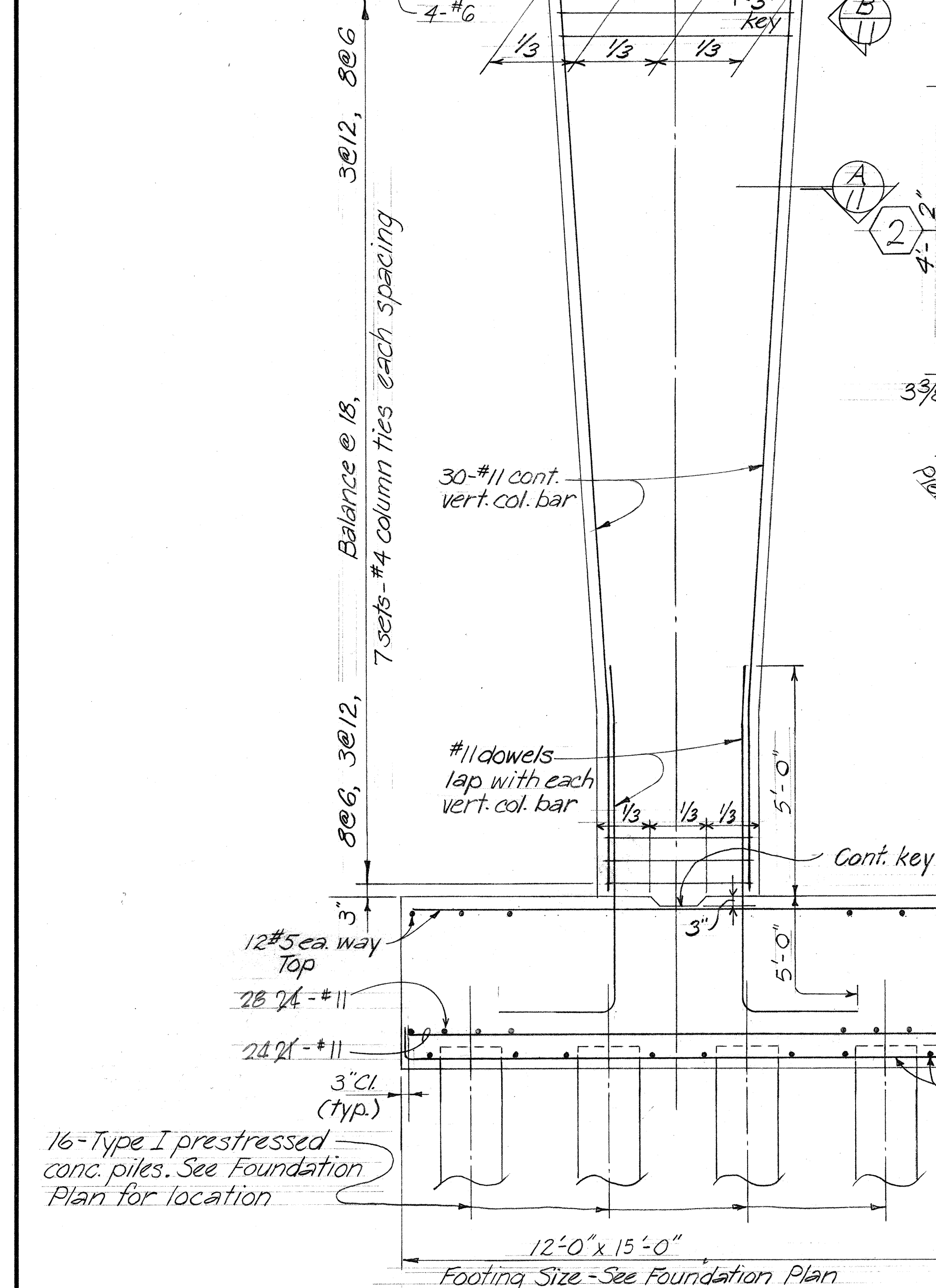
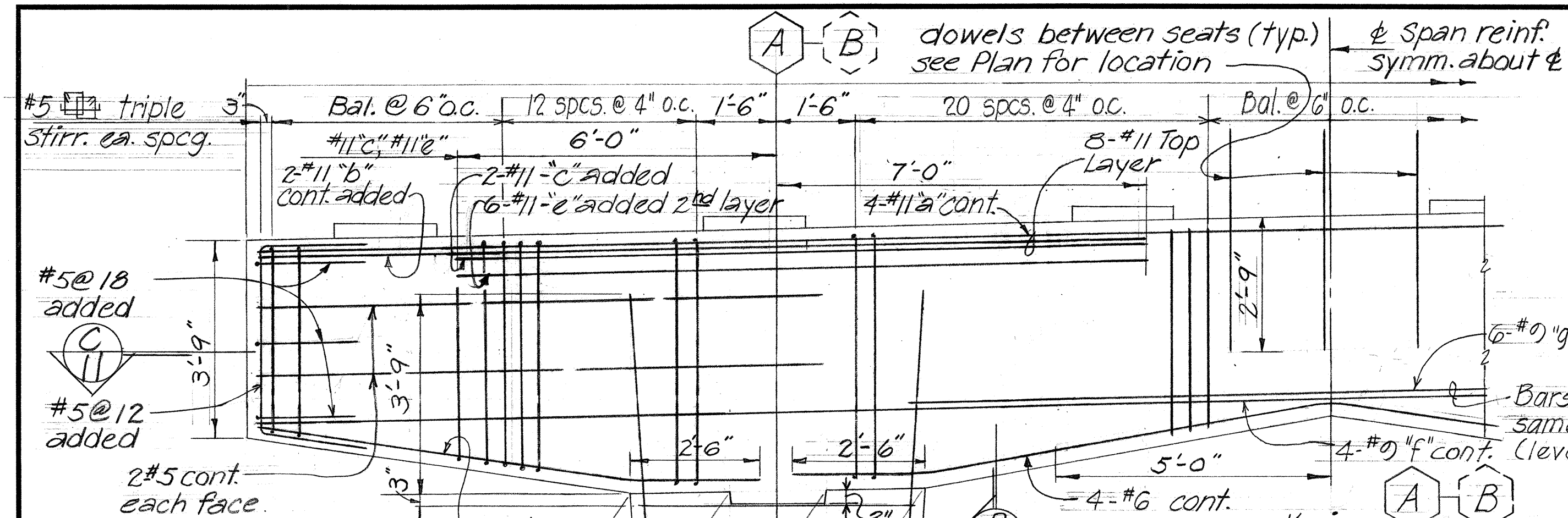
ELEVATION J Scale: 1/2" = 1'-0"

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

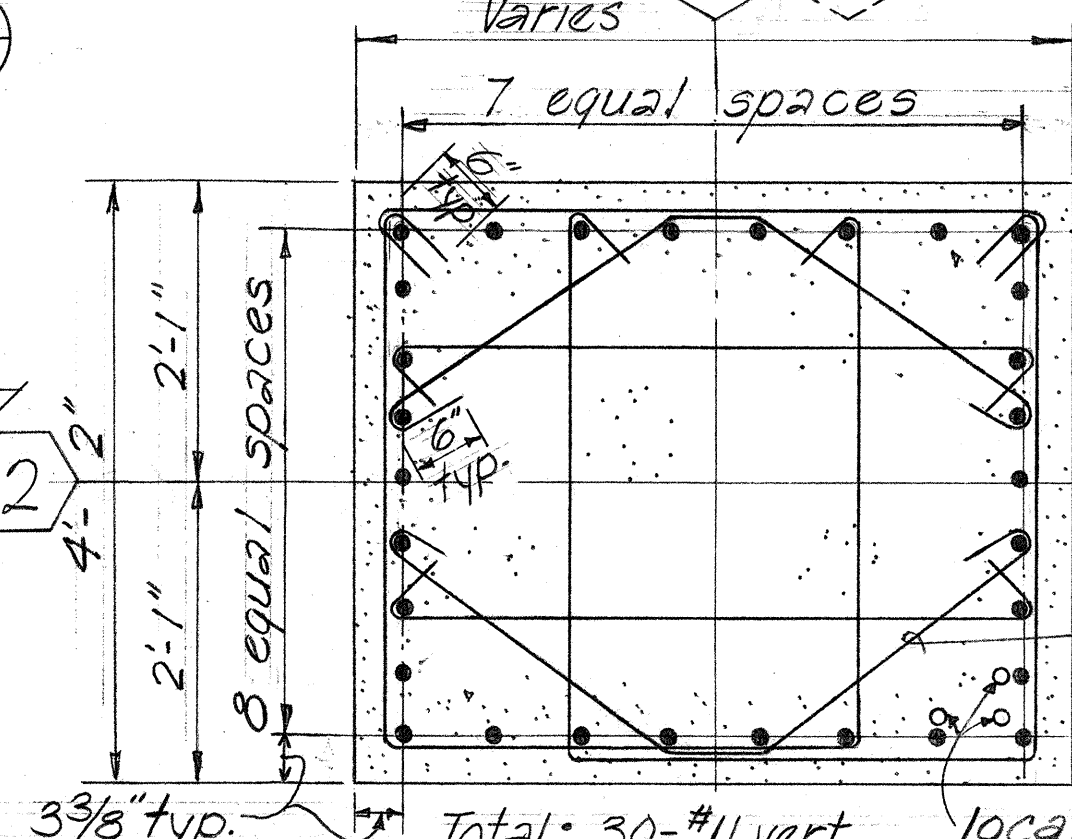
LIALAWA INTERCHANGE
STRUCTURE NO 7
"EW" RAMP OVER MOANALUA FREEWAY
PIER LINE NOS 1 3 DETAILS
Proj. No IHI-1(88)13 July 1970
SHEET No. 10 OF 15 SHEETS

DATE	10/1/70
DESIGNED BY	W. J. B.
CHECKED BY	W. J. B.
NOTED BY	W. J. B.
ORIGINAL PLAN	NO. 10

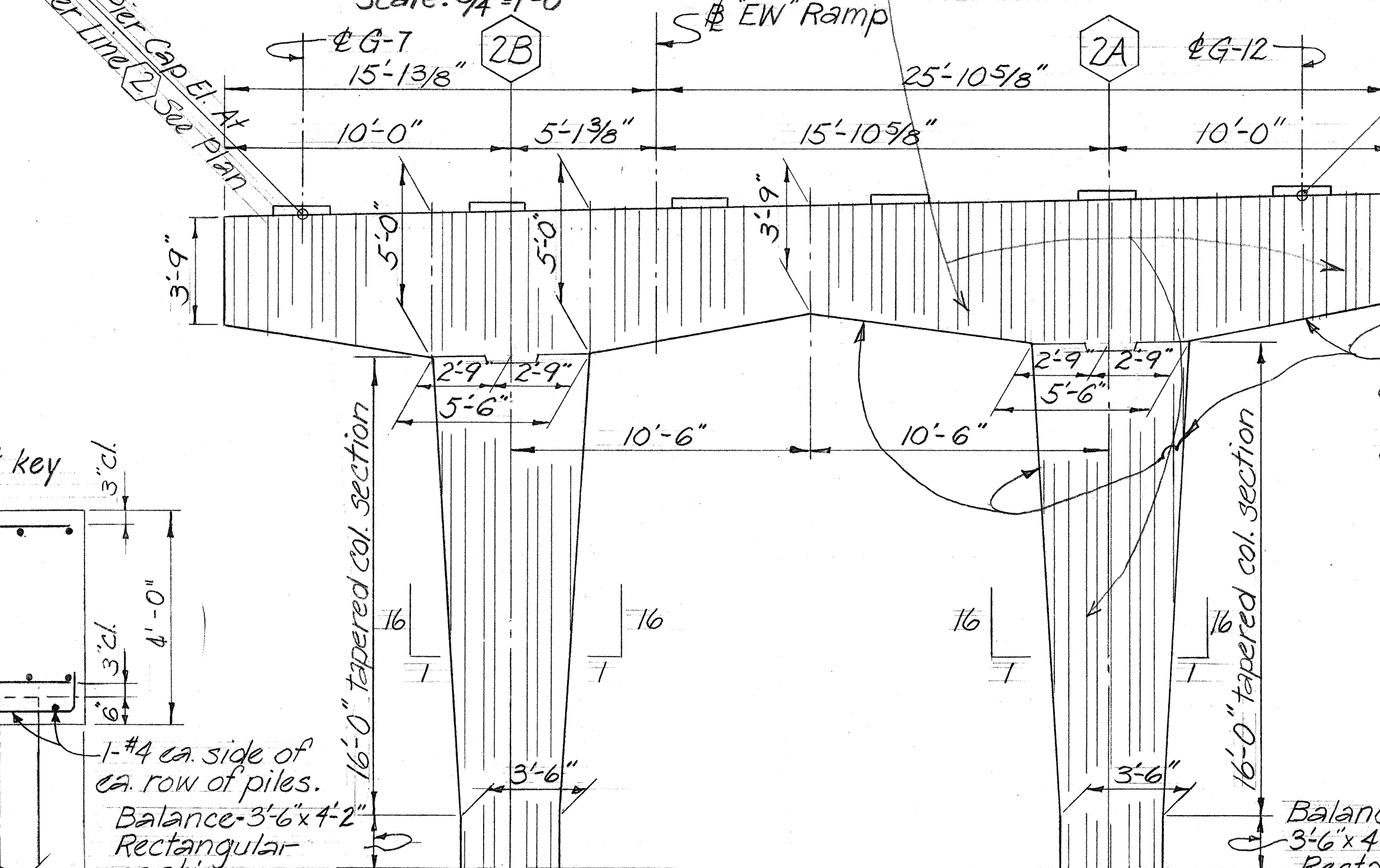
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-(88)-13	1971	271	457



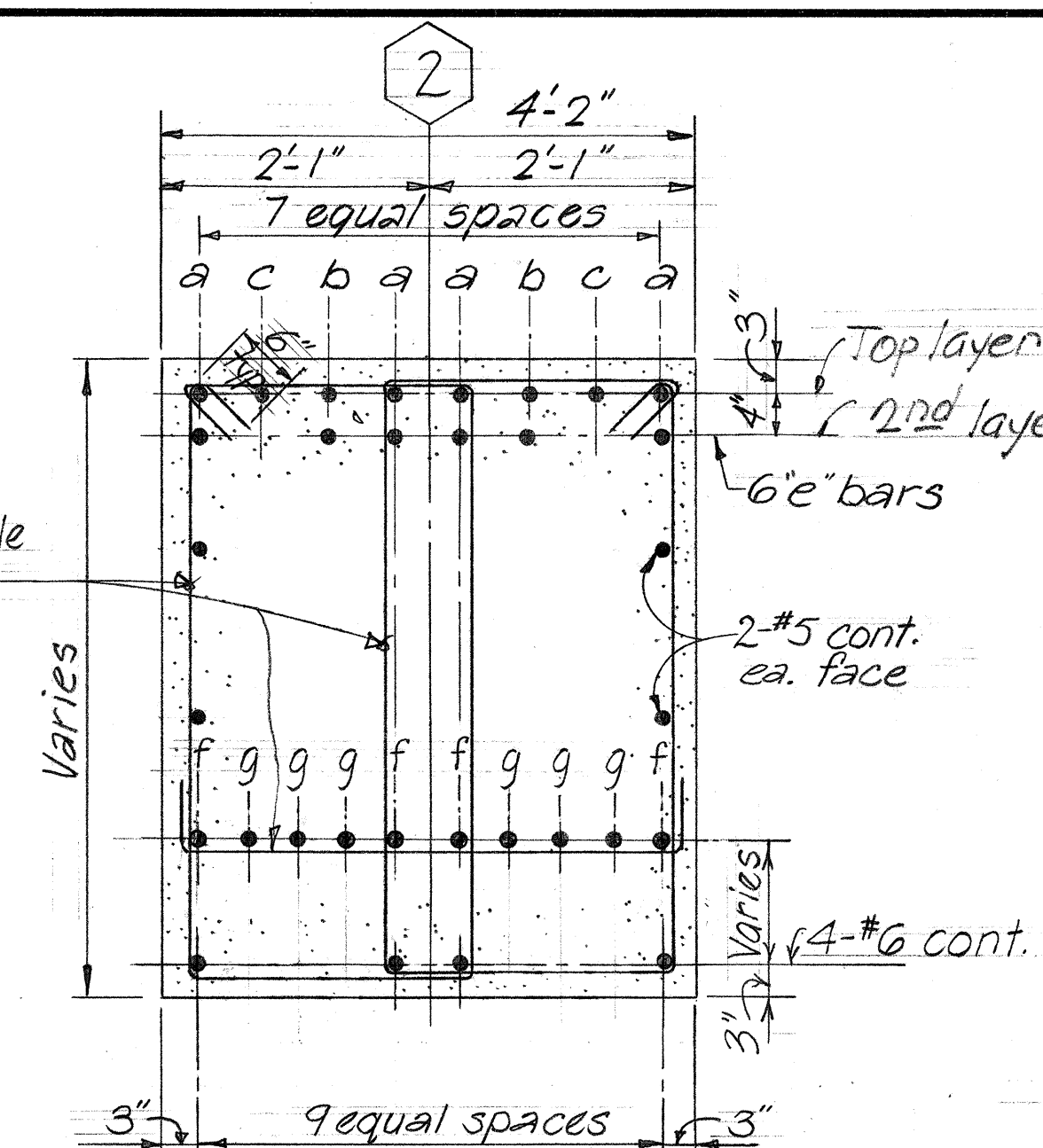
ELEVATION-PIER LINE 2 FRAME REINFORCEMENT
Scale: 1/2" = 1'-0"



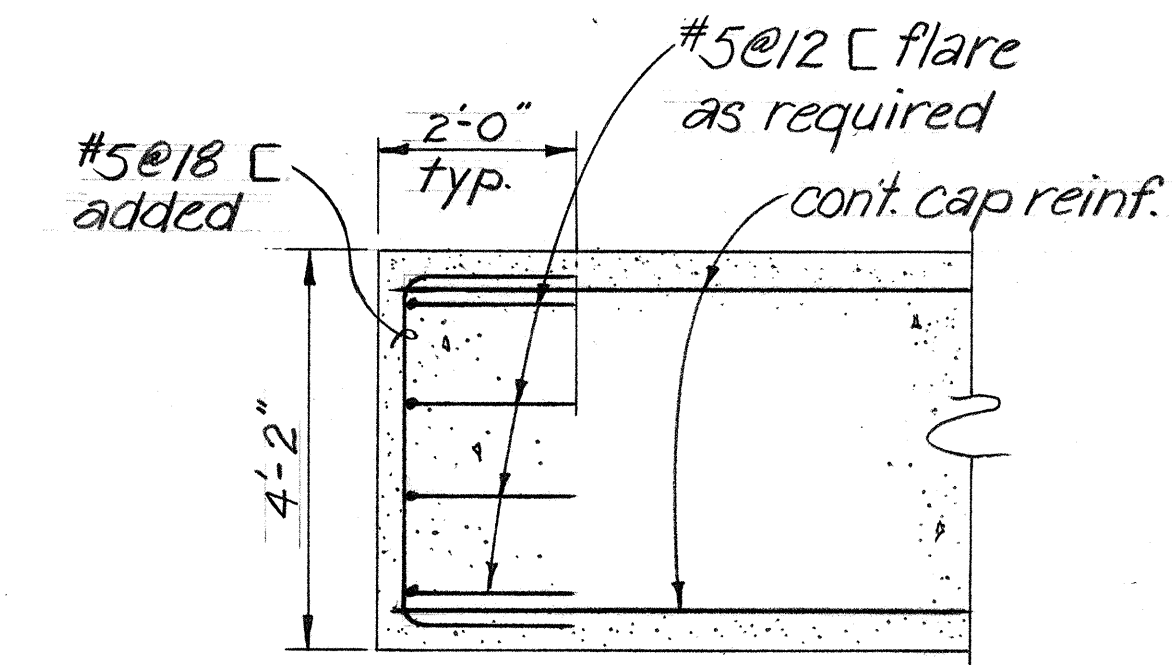
TYPICAL COLUMN SECTION
Scale: 3/4" = 1'-0"



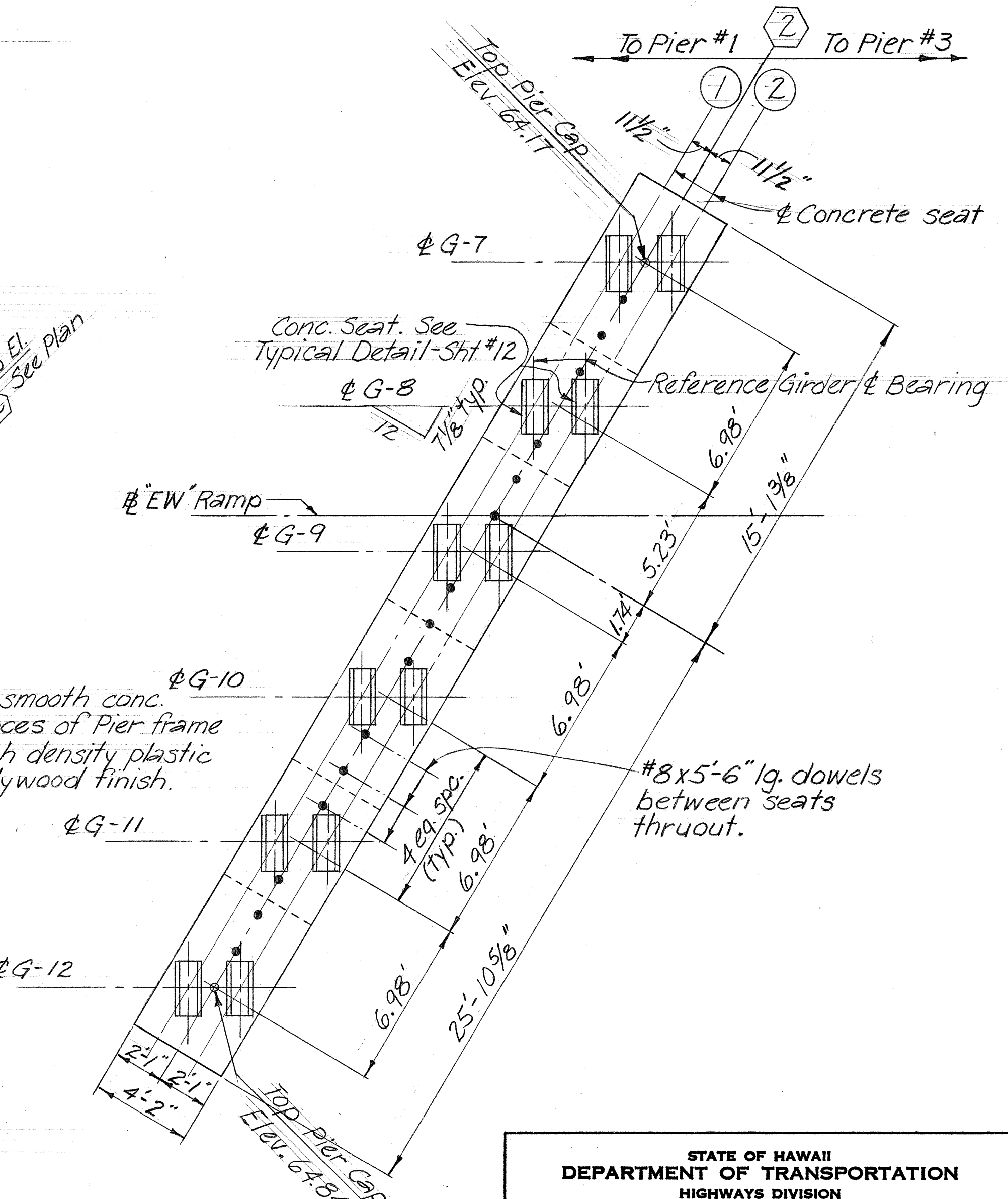
ELEVATION-PIER LINE 2 FRAME
Scale: 1/4" = 1'-0"



PIER CAP-SECTION
Scale: 3/4" = 1'-0"



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



PLAN-PIER LINE 2
Scale: 1/4" = 1'-0"

NOTE:
All exposed corners of Pier to have 3/4" continuous chamfer.

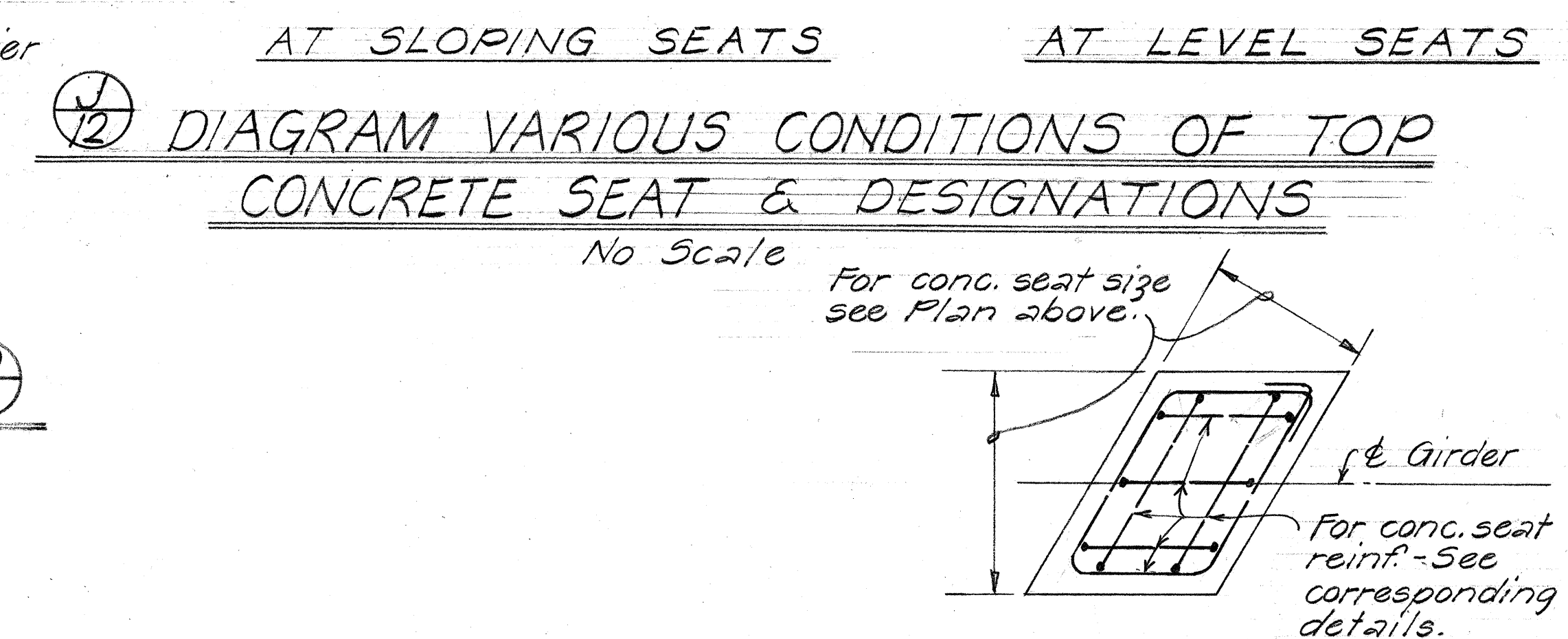
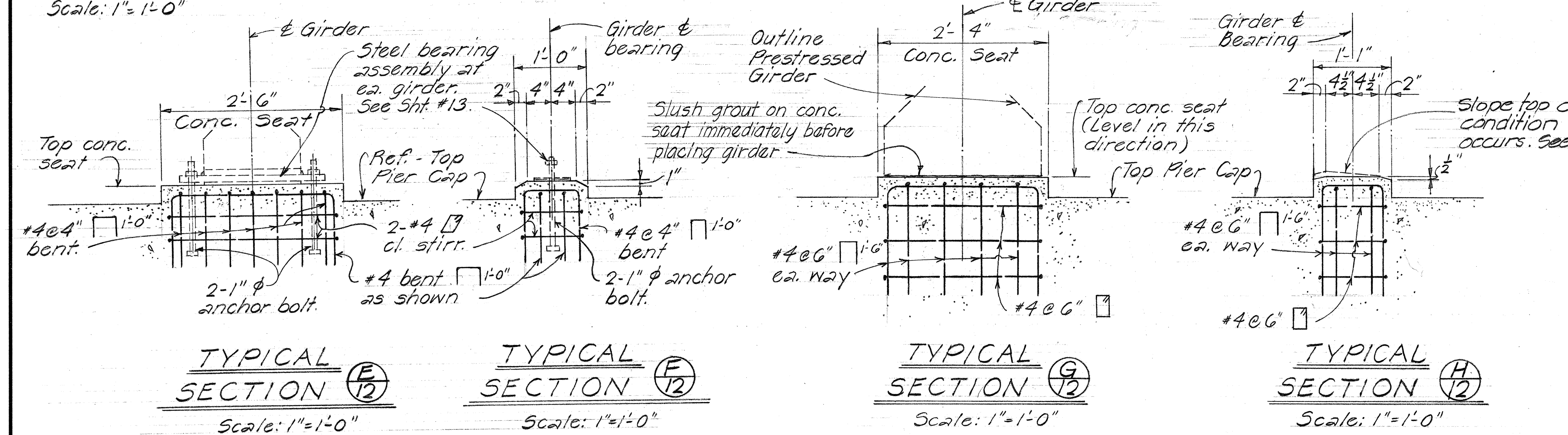
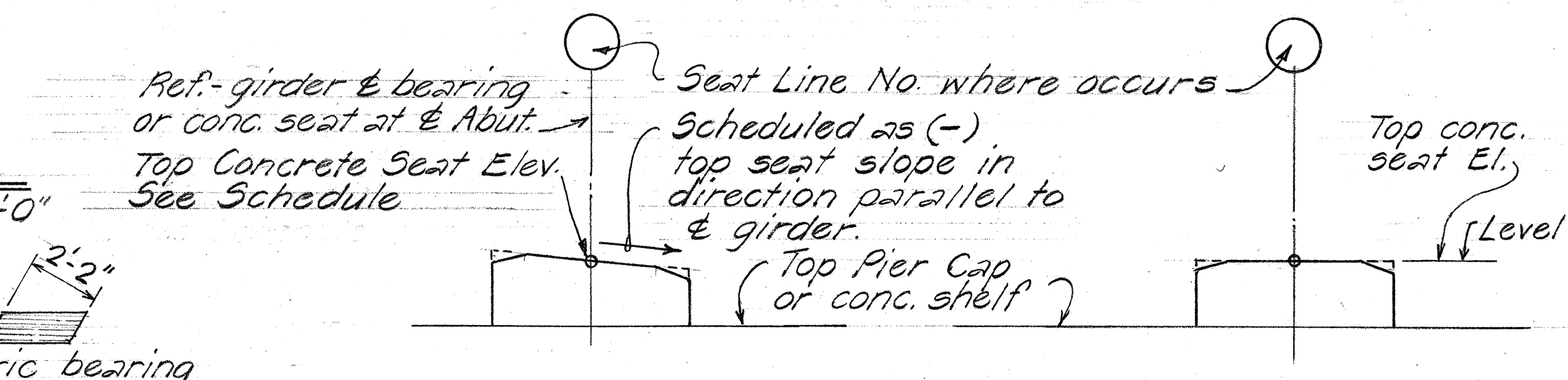
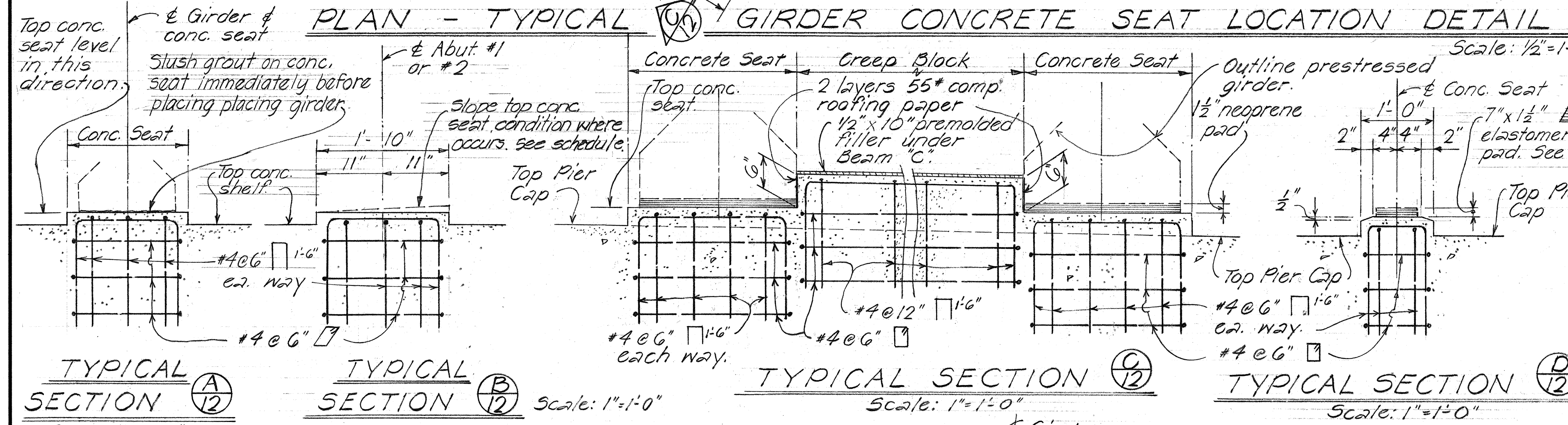
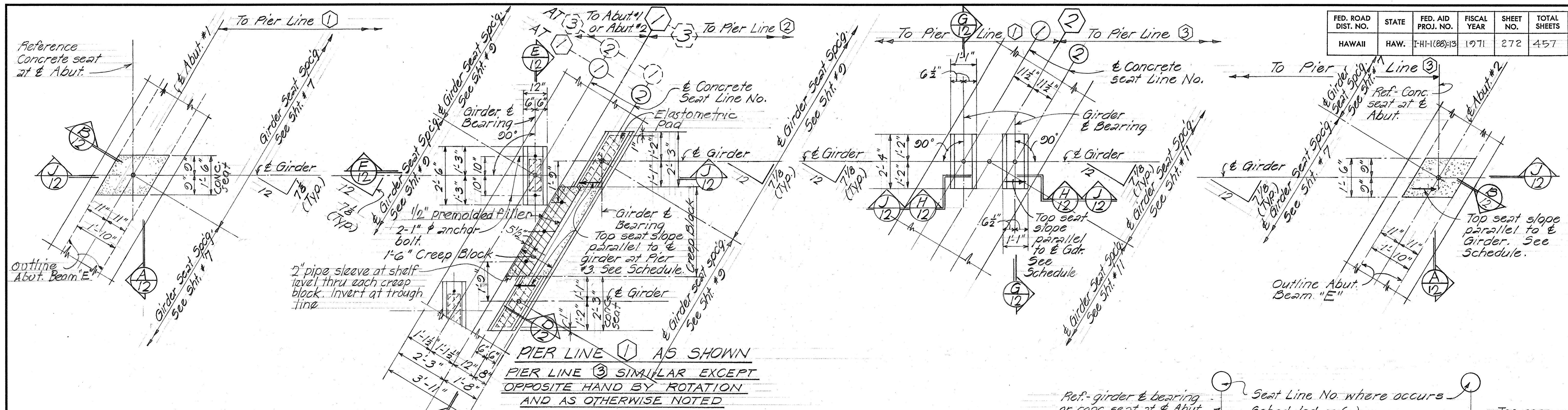
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**HALAWA INTERCHANGE
STRUCTURE N°7
"EW" RAMP OVER MOANALUA FREEWAY
PIER LINE 2 DETAILS**

Proj. N° I-HI-(88)-13 July 1970
SHEET No. 11 OF 15 SHEETS

DESIGNED BY	DATE
DRIVEN BY	9/79
NOTED BY	
QUANTITIES BY	
CHECKED BY	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(88)13	1971	272	457



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
HALAWA INTERCHANGE
STRUCTURE No. 7
"EN" RAMP OVER MOANALUA FREEWAY
TYPICAL CONCRETE SEAT & DETAILS
Proj. No. I-HI-1(88)13 July 1970
SHEET No. 12 OF 15 SHEETS

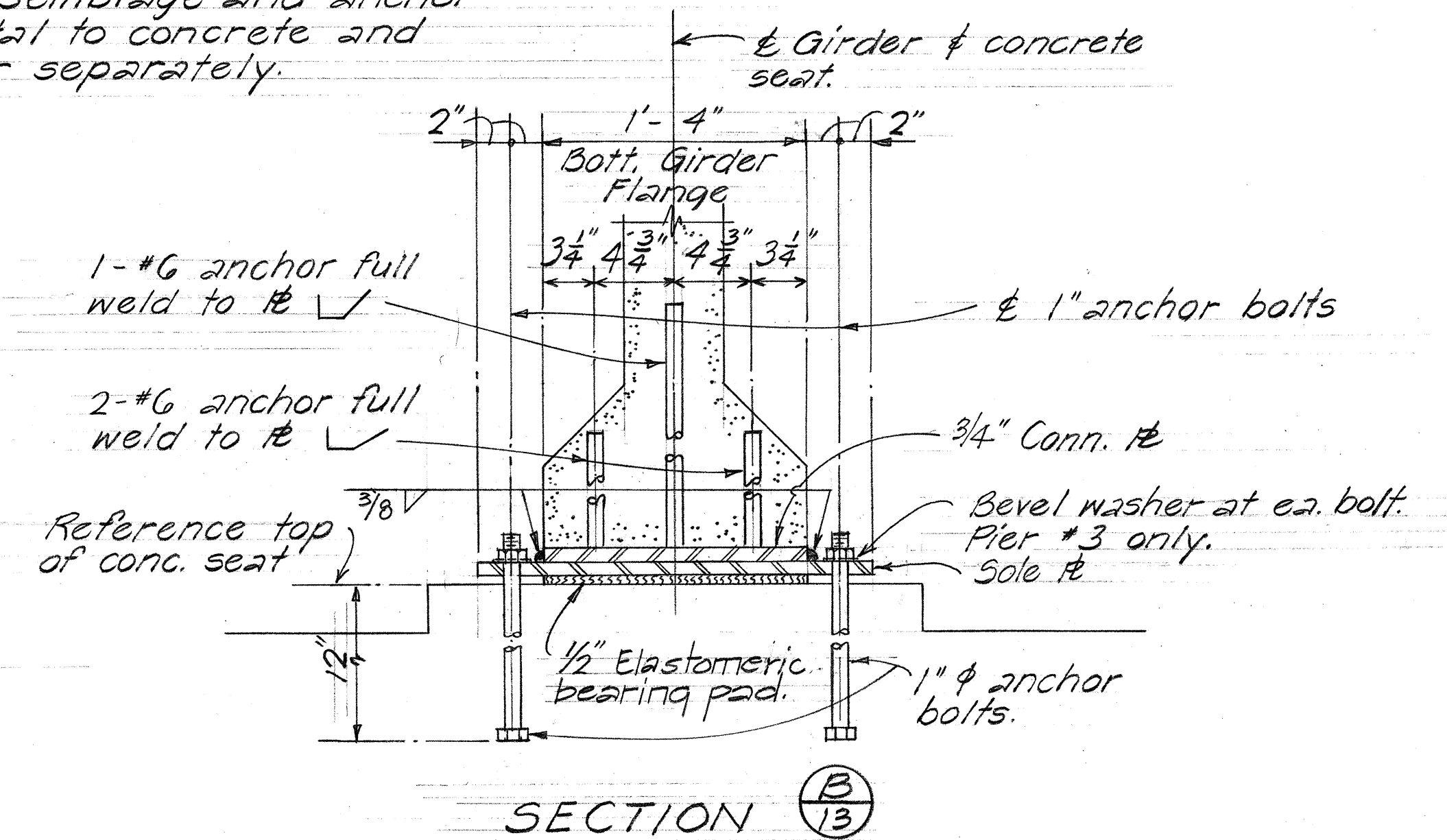
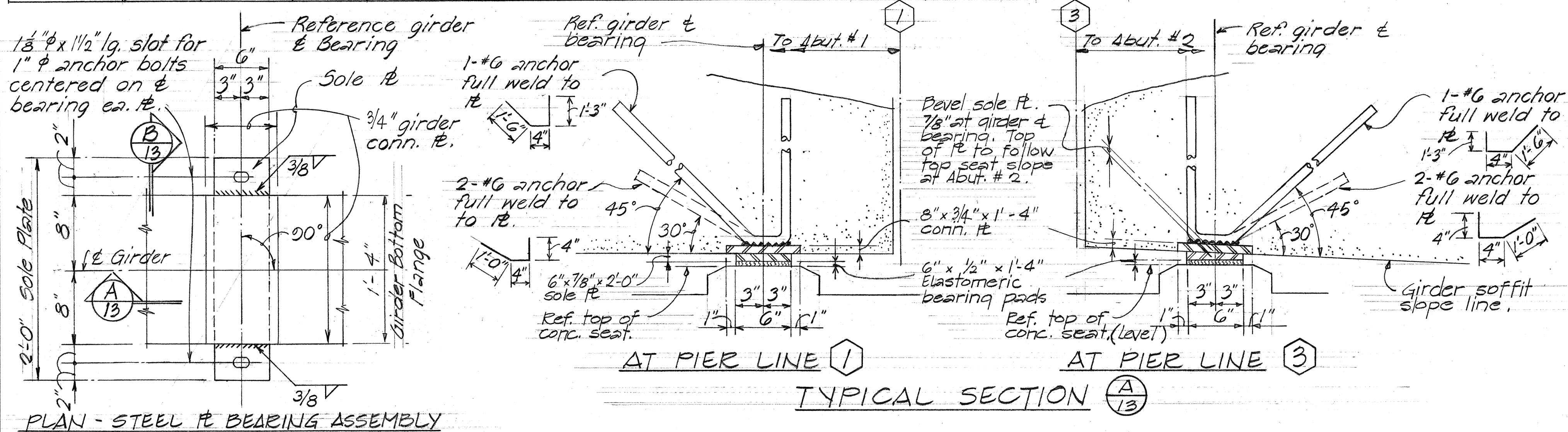
DATE: 7/68
DRAWN BY: KCM
DESIGNED BY: KCM
CHECKED BY: KCM
ORIGINAL PLAN
NOTE BOOK
No.

GIRDER CONCRETE SEAT ELEVATION SCHEDULE (AT GIRDER BEARING)

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(88):13	1971	273	457

ABUTMENT #1		1		2		3		ABUTMENT #2	
AT GIRDER		1	2	1	2	TOP SEAT SLOPE		TOP SEAT SLOPE	AT GIRDER
G-1	67.35 (LEVEL)	67.21 (LEVEL)						11/32:12 (-)	63.47
G-2	67.43 (LEVEL)	67.31 (LEVEL)							63.71
G-3	67.51 (LEVEL)	67.40 (LEVEL)						5/16:12	63.94
G-4	67.59 (LEVEL)	67.49 (LEVEL)							64.16
G-5	67.66 (LEVEL)	67.58 (LEVEL)						9/32:12	64.37
G-6	67.74 (LEVEL)	67.67 (LEVEL)							64.58
G-7		65.06 (LEVEL)		64.43 (LEVEL)	64.31 (-)	1/4:12 (-)			
G-8		65.16 (LEVEL)		64.57 (LEVEL)	64.45	7/32:12			
G-9		65.26 (LEVEL)		64.70 (LEVEL)	64.58				
G-10		65.35 (LEVEL)		64.84 (LEVEL)	64.72				
G-11		65.45 (LEVEL)		64.97 (LEVEL)	64.85				
G-12		65.54 (LEVEL)		65.10 (LEVEL)	64.98				

NOTE: Hinged bearing steel fls, bolts & washers to be galvanized.
Steel bearing assemblage and anchor bolts to be incidental to concrete and will not be paid for separately.



TYPICAL PRESTRESSED GIRDER PG-I EXPANSION STEEL BEARING DETAILS Scale: 1/2" = 1'-0"

DESIGNED BY	DATE
DRIVEN BY	2/7/71
NOTED BY	
CHECKED BY	
APPROVED BY	

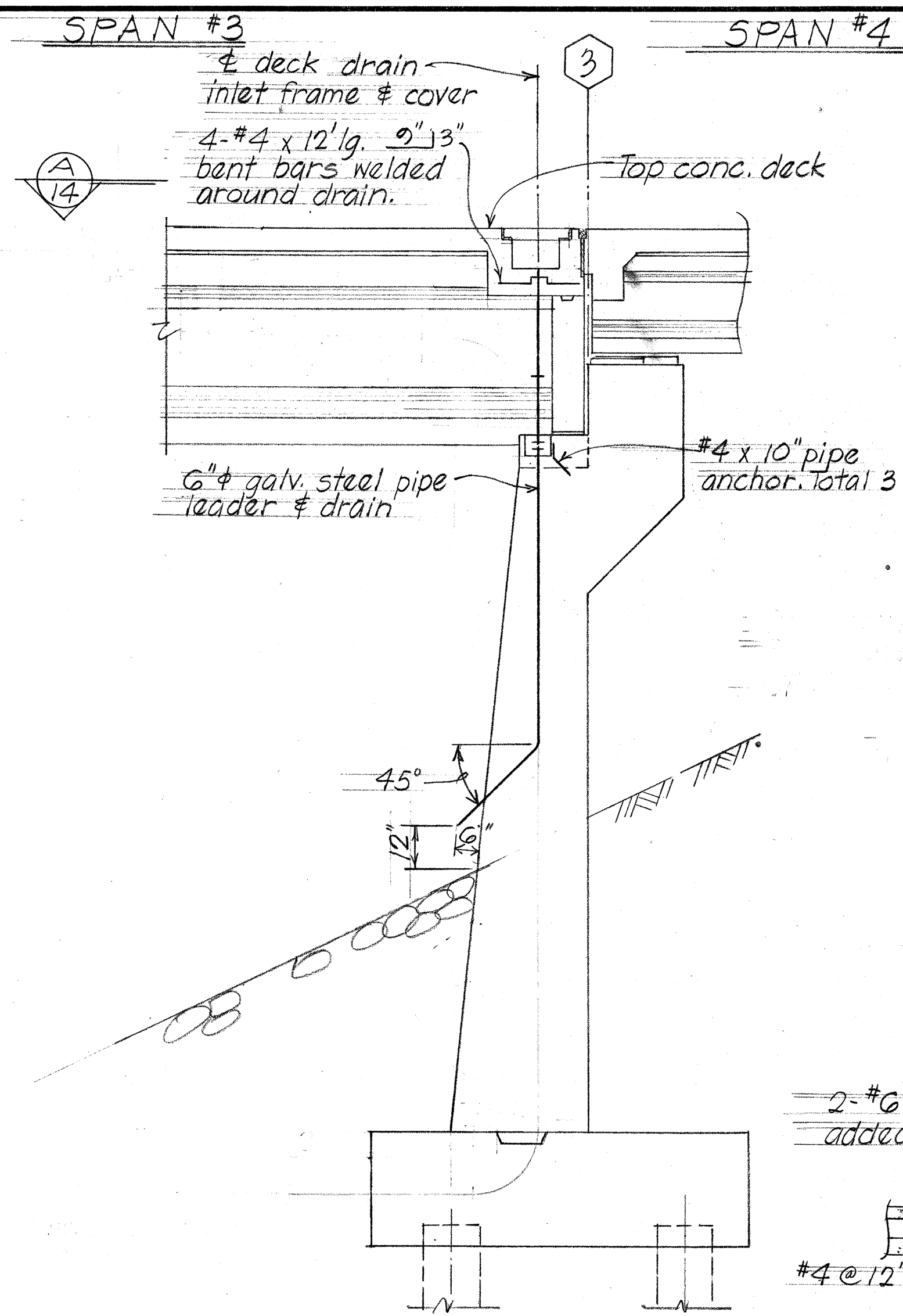
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

HALAWA INTERCHANGE
STRUCTURE No. 7
EW RAMP OVER MOANALUA FREEWAY
SCHEDULE & MISCELLANEOUS DETAILS

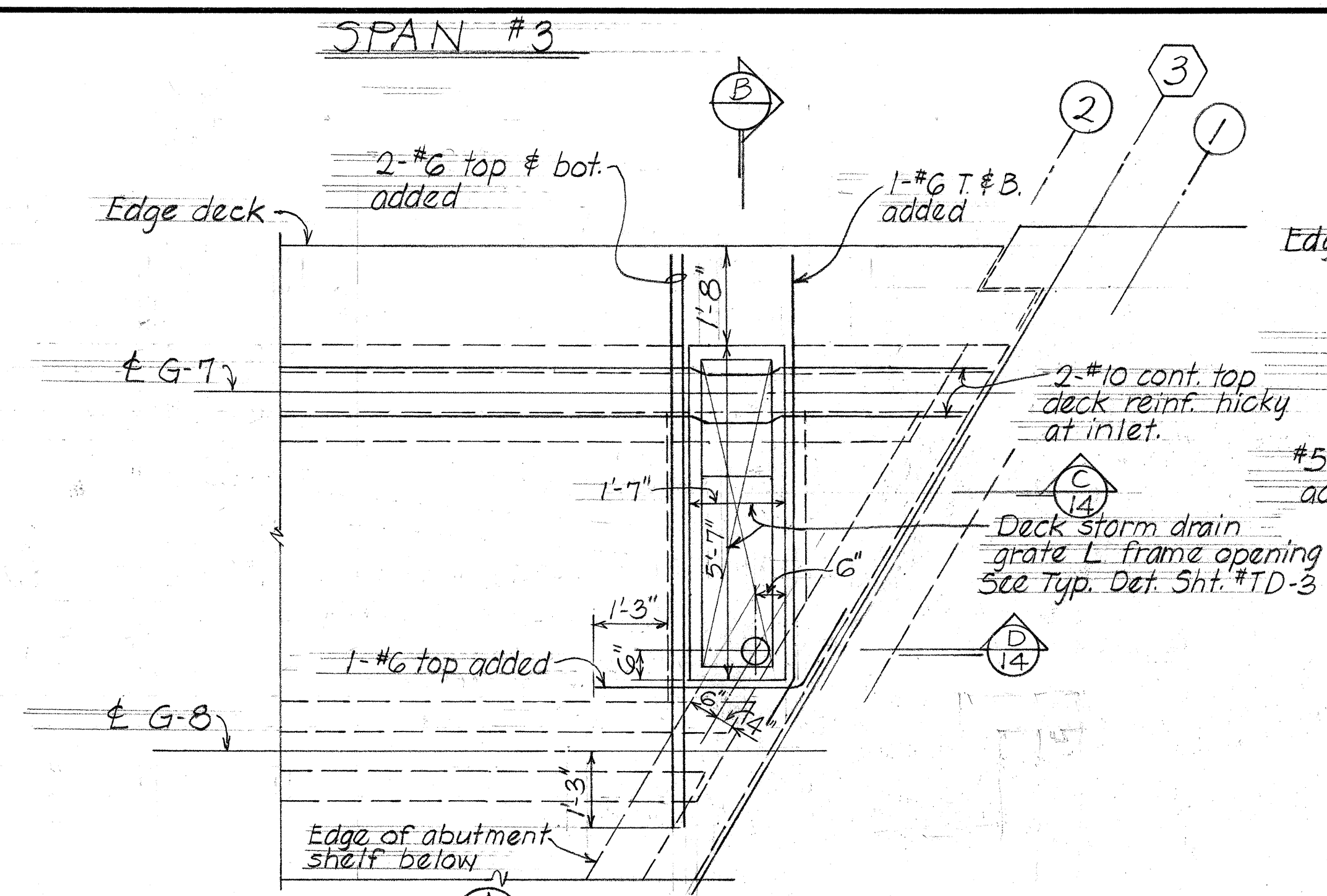
Proj. No. I-HI-1(88):13 July 1970

SHEET No. 13 OF 15 SHEETS

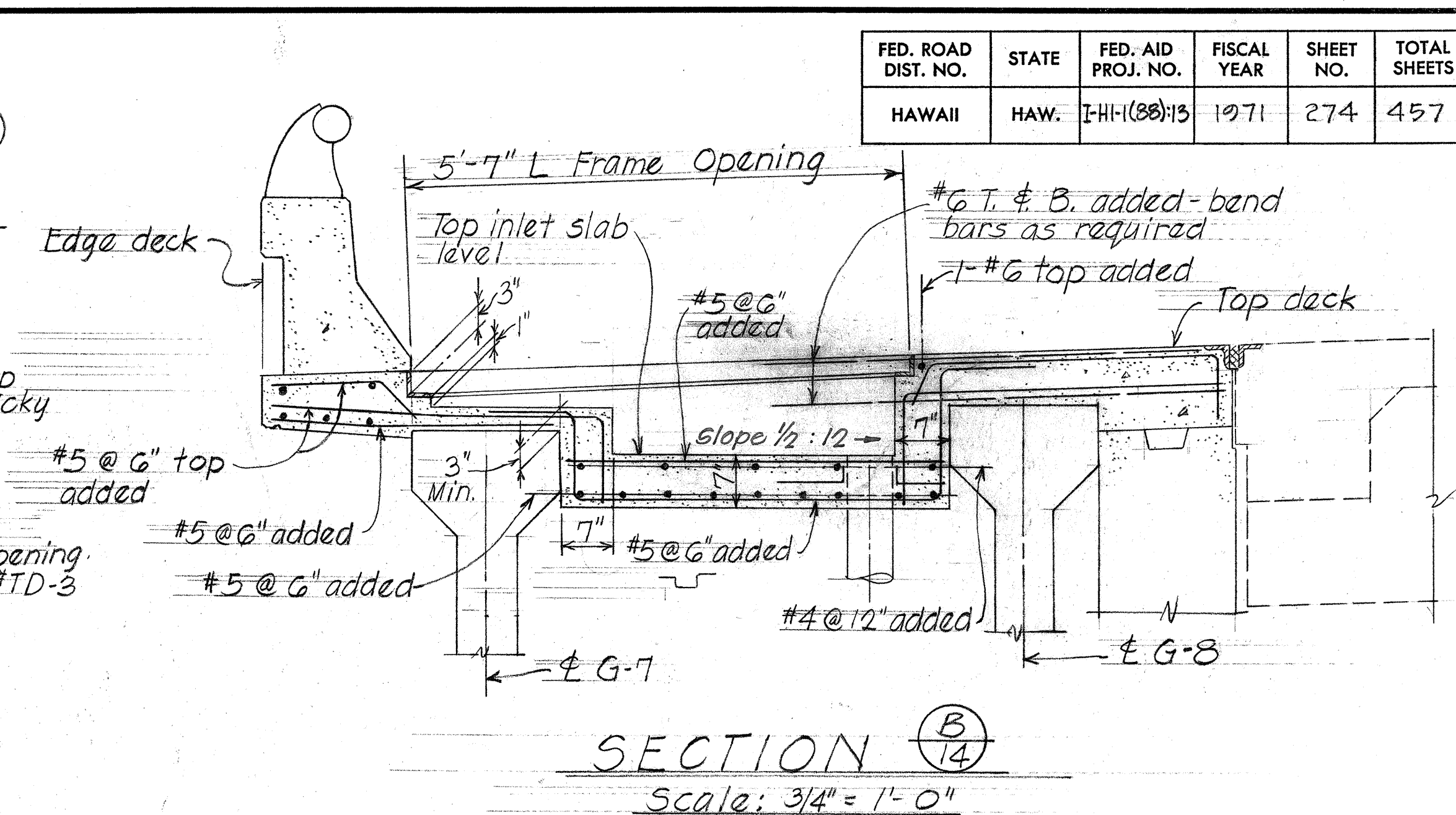
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IHI-1(88)13	1971	274	457



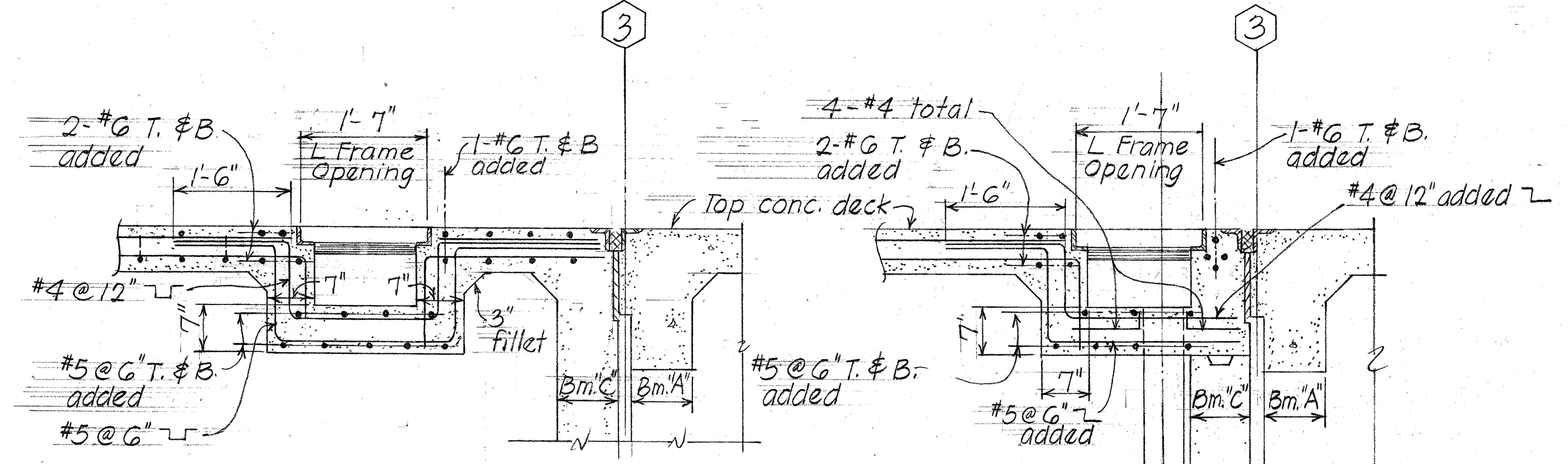
SECTION E/14
DECK DRAIN DETAILS
Scale: 3/8" = 1'-0"



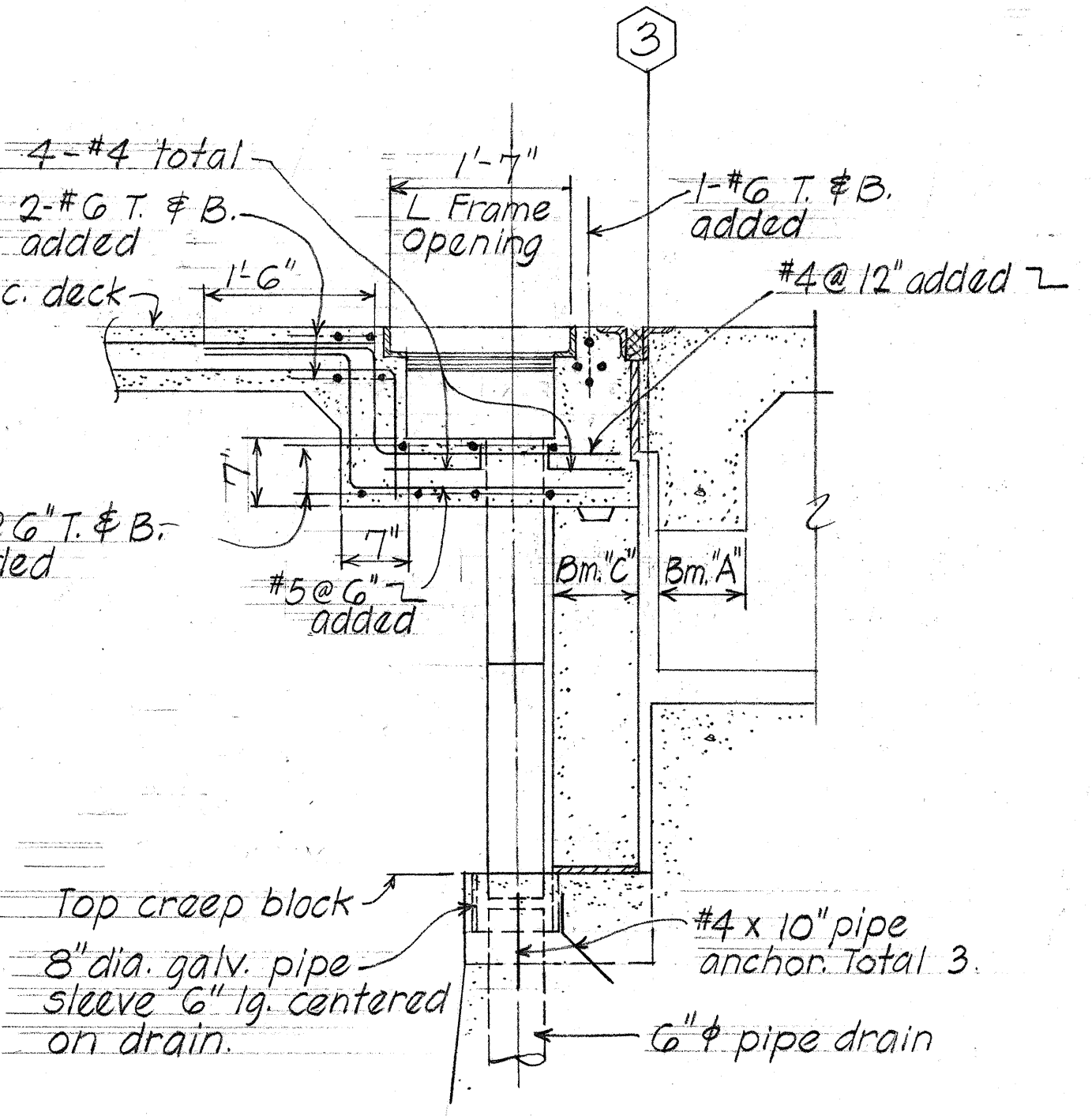
PLAN A/14
Scale: 1/2" = 1'-0"



SECTION B/14
Scale: 3/4" = 1'-0"



SECTION C/14
Scale: 3/4" = 1'-0"



SECTION D/14
Scale: 3/4" = 1'-0"

NOTE: Deck drains & pipe leader incidental to concrete & will not be paid for separately.

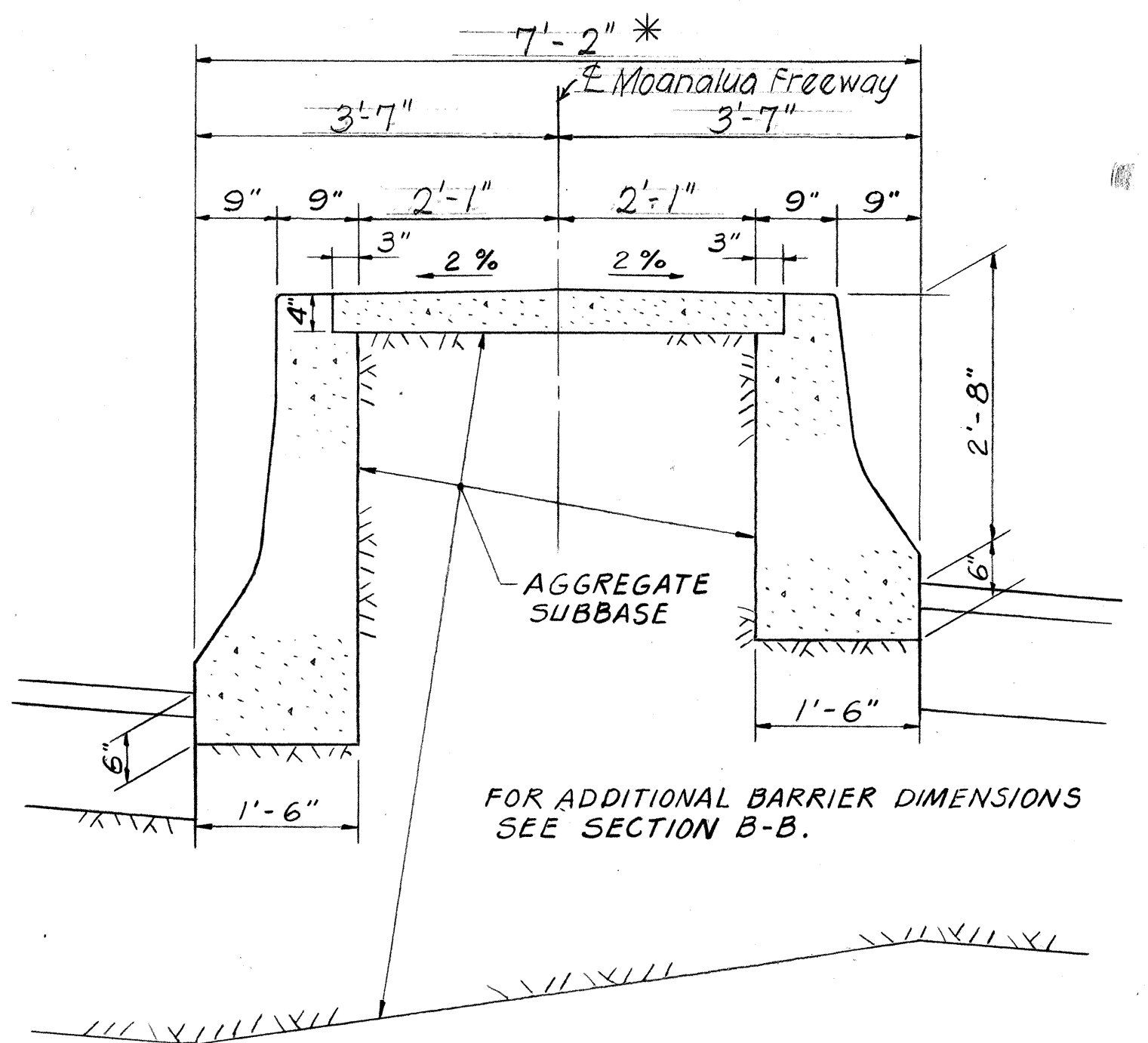
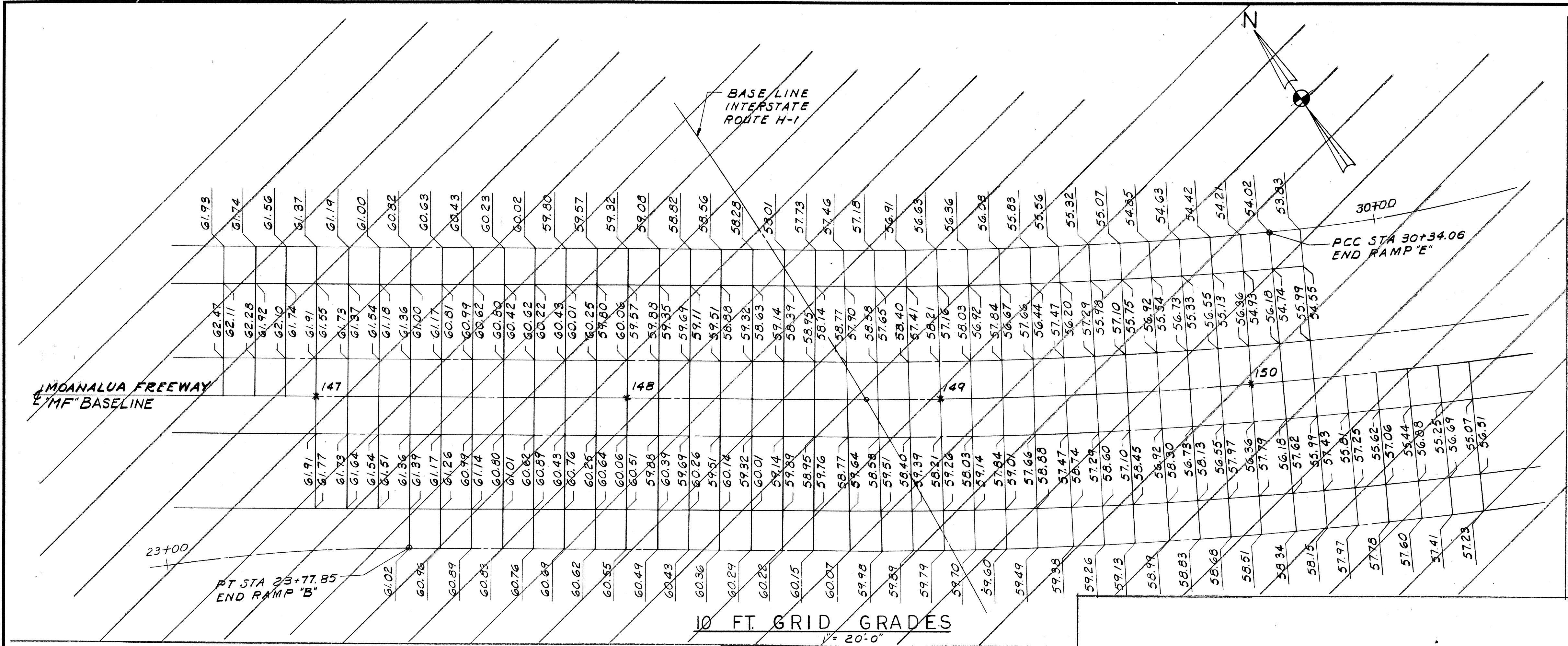
DATE	_____
DESIGNED BY	_____
TRACED BY	_____
NOTED BY	_____
CHECKED BY	_____
ORIGINAL PLAN	_____
NOTE BOOK	_____
No.	_____

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

HALAWA INTERCHANGE
STRUCTURE No. 7
EW RAMP OVER MOANALUA FREEWAY

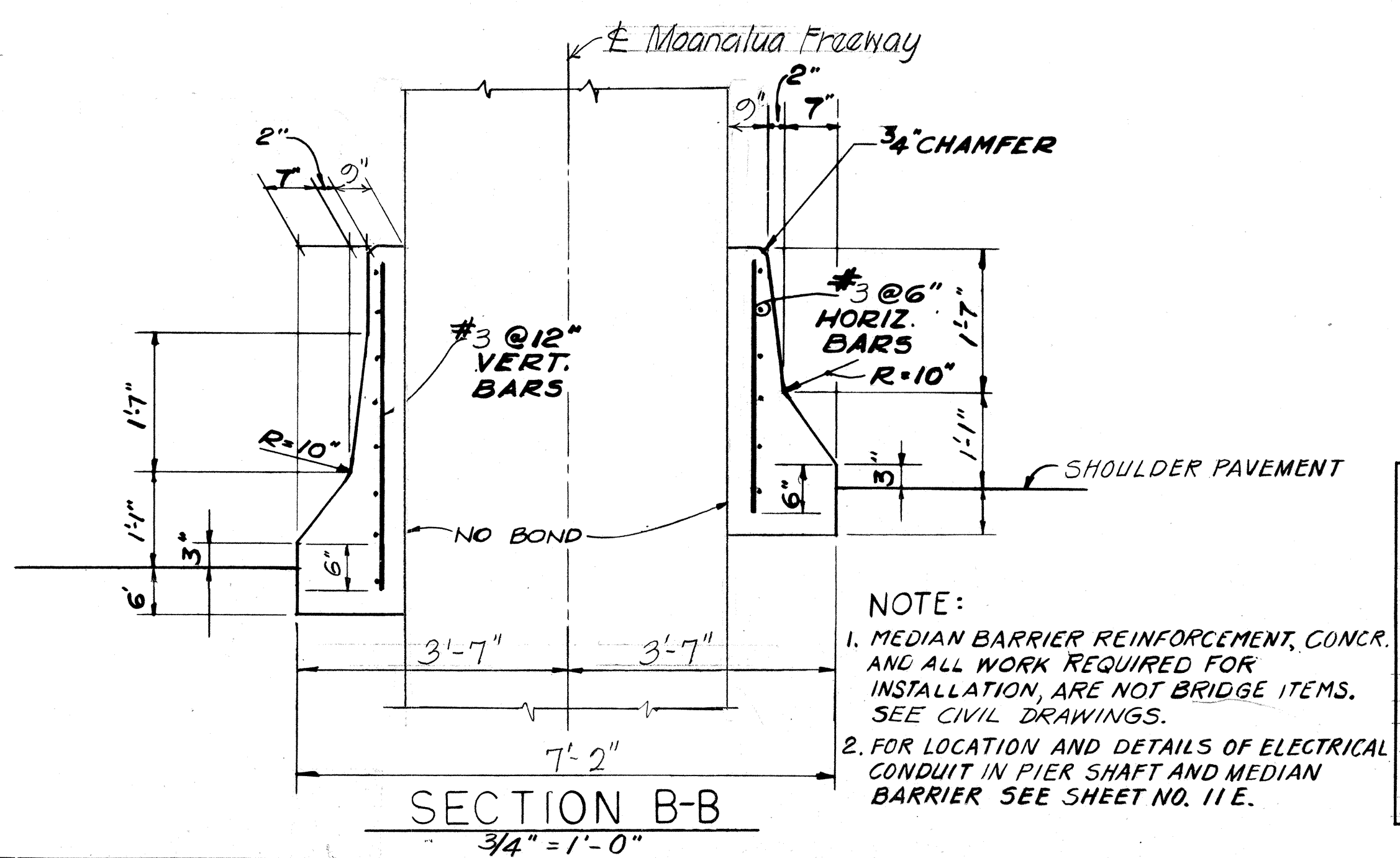
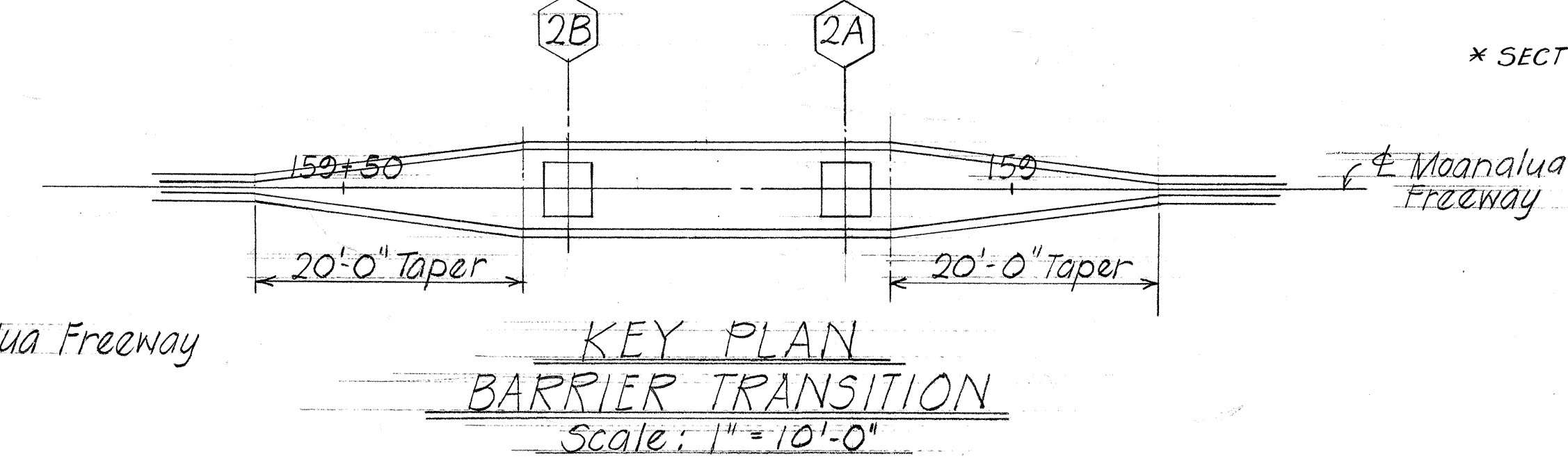
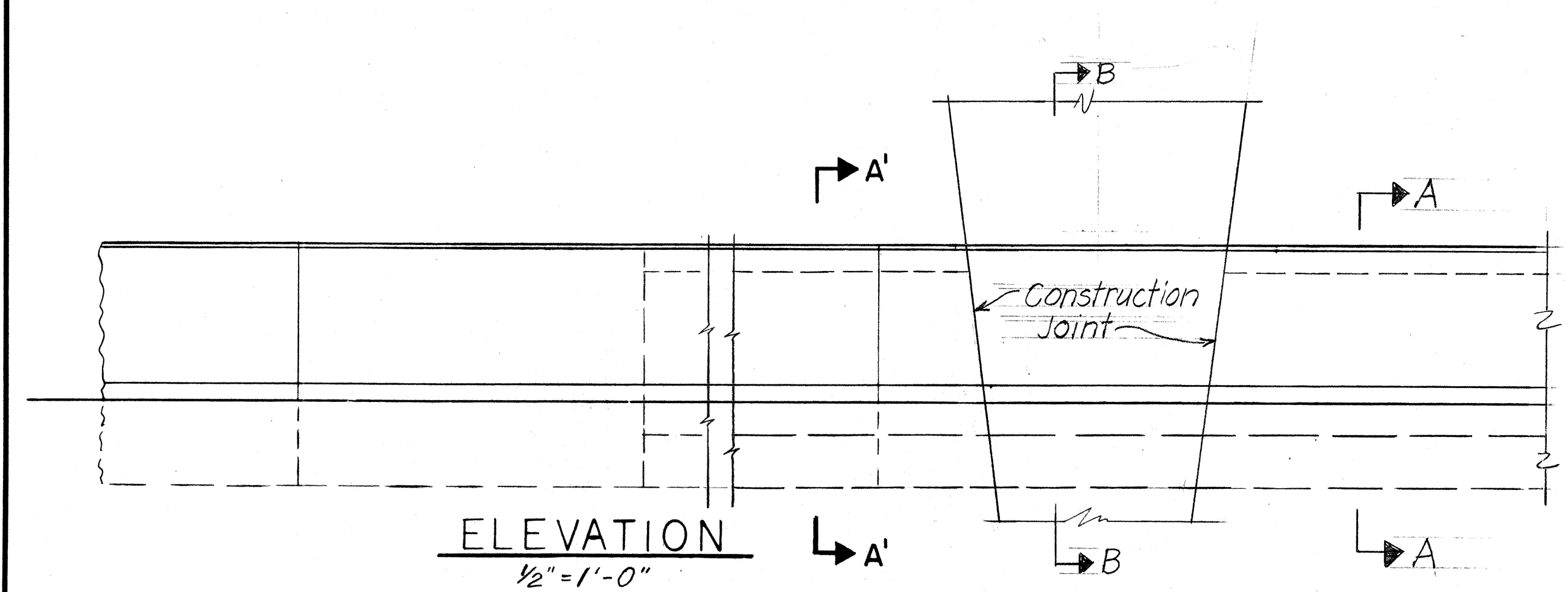
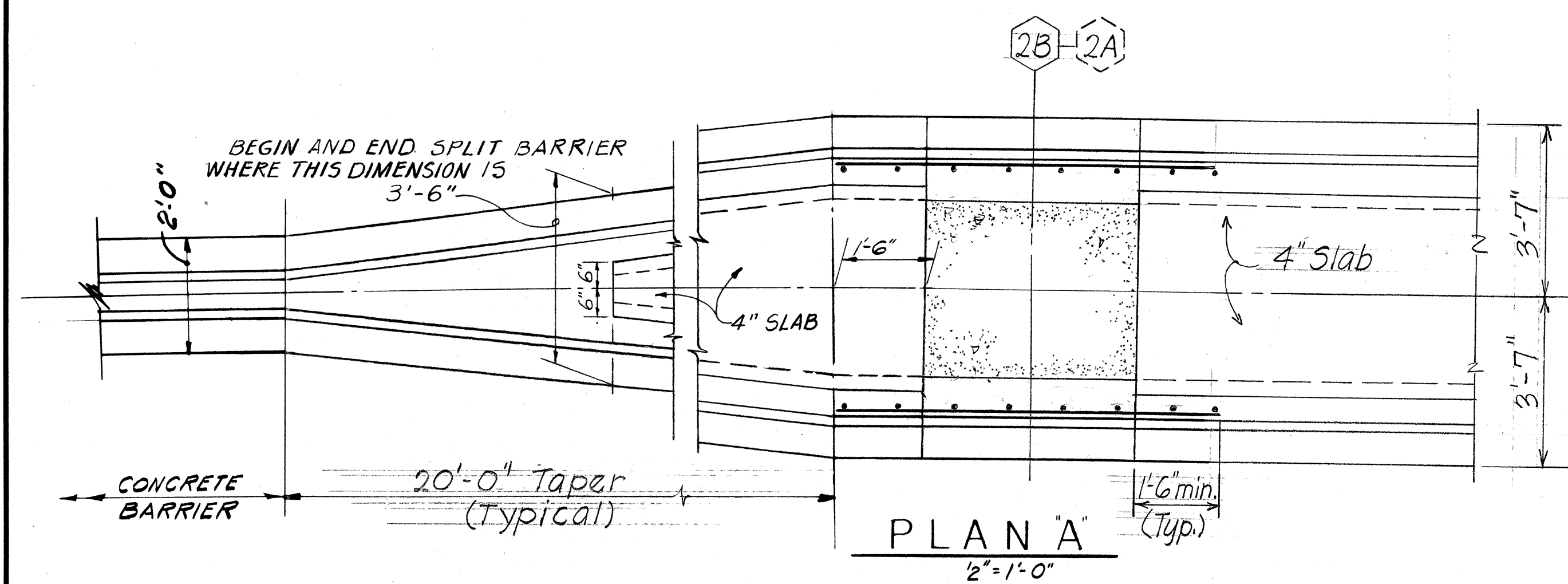
Proj. No. IHI-1(88)13 July 1970
SHEET No. 14 OF 15 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(88):13	1971	275	457



SECTION A-A

$\frac{3}{4}'' = 1'-0''$
* SECTION A'-A' SIMILAR EXCEPT WIDTH VARIES.



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

HALAWA INTERCHANGE
STRUCTURE NO. 7
"EW" RAMP OVER MOANALUA FREEWAY
MEDIAN BARRIER DETAILS

Proj. No. I-HI-1(88):13 July 1970
SHEET No. 15 OF 15 SHEETS

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
	DESIGNED BY	
	CHECKED BY	