

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	377A-01-70	1971	19	29

DESIGN NOTES

DESIGN SPECIFICATIONS AASHO

Standard Specifications for Highway Bridges (10th Edition) with subsequent Interim Specifications.

DESIGN LOADS: HS-20-44 or Interstate loading

DESIGN STRESSES:

1. R.C. beams & slabs - See AASHO Specifications and Special Provisions except as otherwise noted.

Class A

f'c = 3,000 psi

fc = 1,200 psi

n = 10

fs = ASTM AG15, see Special Provisions

2. Prestressed Girders

f'c = 5,500 psi | 1/2" dia. 7 wire strands

f'ci = 4,000 psi | Tensioning load = 28,900 lbs. per strand.

Design load = 23,550 lbs. per strand.

Forms must be removed and the beams inspected before the strands are cut

GENERAL NOTES

MATERIALS:

1. All concrete shall be class A except as otherwise noted on plans. Concrete for prestressed concrete girders see Standard Specifications and as noted under Design Stresses

2. Preformed fabric bridge bearing pads are incidental to concrete and will not be paid for separately.

3. See Special Provisions for admixture in concrete.

4. The limits of the structure fill or backfill material requiring a sand equivalent value of not less than 20 shall extend up to the bottom of the roadway subgrade lines.

CONSTRUCTION METHODS:

1. See Standard Specifications and Special Provisions

2. For Concrete finish see Special Provisions. Concrete seats to be poured monolithically with abutment wall. Top surfaces of conc. seats to have hard trowel finish.

3. See details for additional surface finish.

4. Backfilling for both abutments to be placed simultaneously at each abutment after the superstructure is cured.

5. All footing to be excavated and poured neat. In case of over excavation beyond footing line, the contractor shall backfill this area with minimum class D concrete at his own expense.

REFERENCE:

1. Refer to Standard Detailed Drawings for additional details not covered by detailed plans.

2. Typical Details drawing sheet Nos T-1 thru T-4 inclusive refers to both bridge structures except for modification as may be required by special conditions. For such modifications see corresponding detailed plans.

GENERAL:

1. All items noted incidental will not be paid for separately.

2. Plans of the existing Pohakuokaa & Waiale Bridges are available for review by the contractor at the office of the Highways Division, Department of Transportation, 869 Punchbowl Street.

SYMBOLS & ABBREVIATION

①② - Location concrete seat line number
(00.0) - Bottom footing elevation

Str. - Straight

Stirr. - StIRRup

Typ. - Typical

⊙ - Section Designation
7 - Sht. number detail is drawn on

a.c. - on center

Int. - Interior

Ext. - Exterior

T - Top

Bot, Bott. - Bottom

S.E. - Superelevation

G-1, G-2 - Girder numbers.

I.B. - Inbound

O.B. - Outbound

⊕ - Baseline

Pt. - Point

Exp. - Expansion

No. - Number

Cont. - Continuous

E.F. - Each Face

B.F. - Both Face

N.F. - Near Face

F.F. - Far Face

W.P. - Working Point

ea. - each

Bal. - Balance

Ⓐ - Column No

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL DETAILS
NOTES AND ABBREVIATIONS

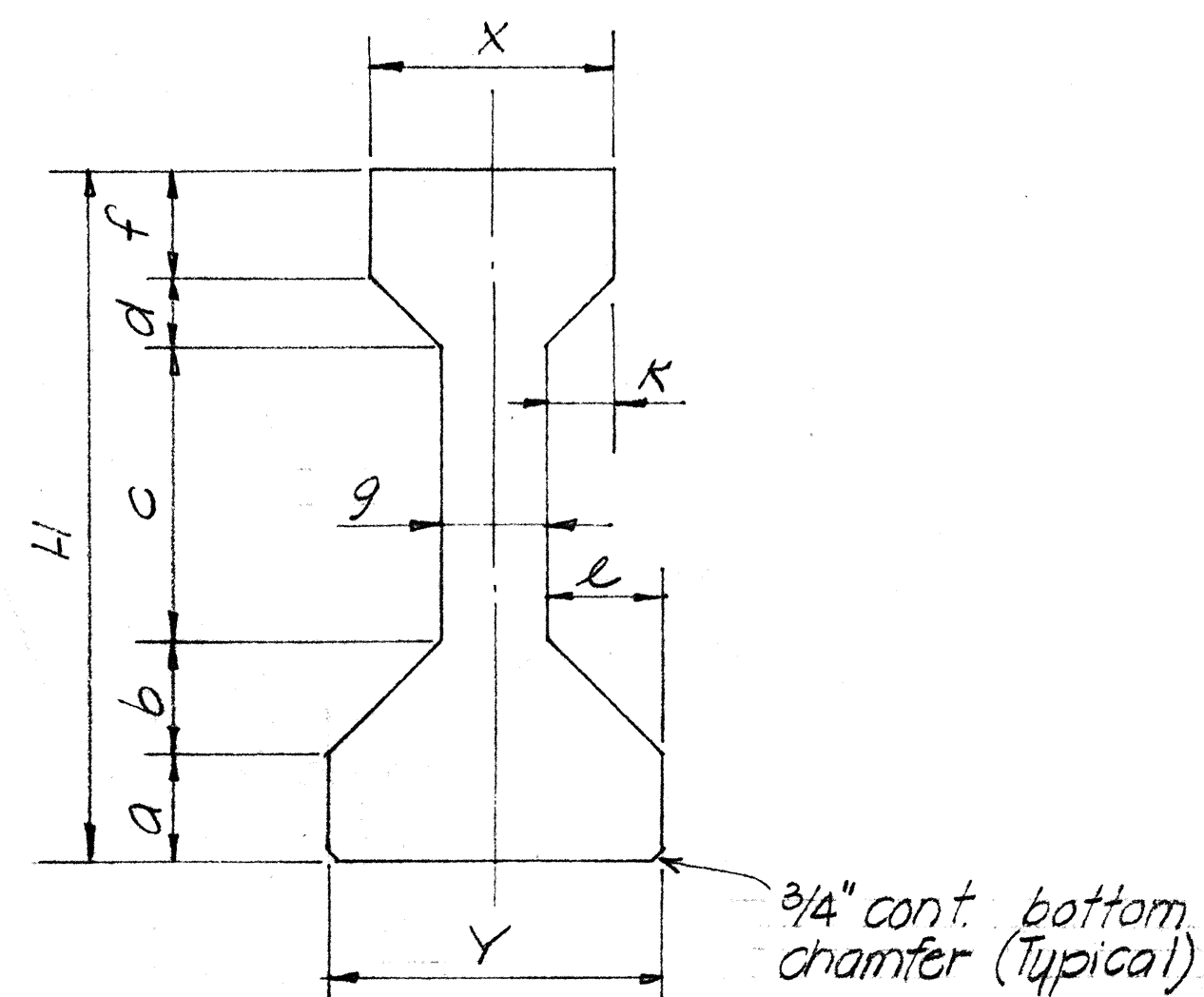
POHAKUOKAA & WAIALE
BRIDGE WIDENING

Proj. No 377A-01-70 Mar. 1971

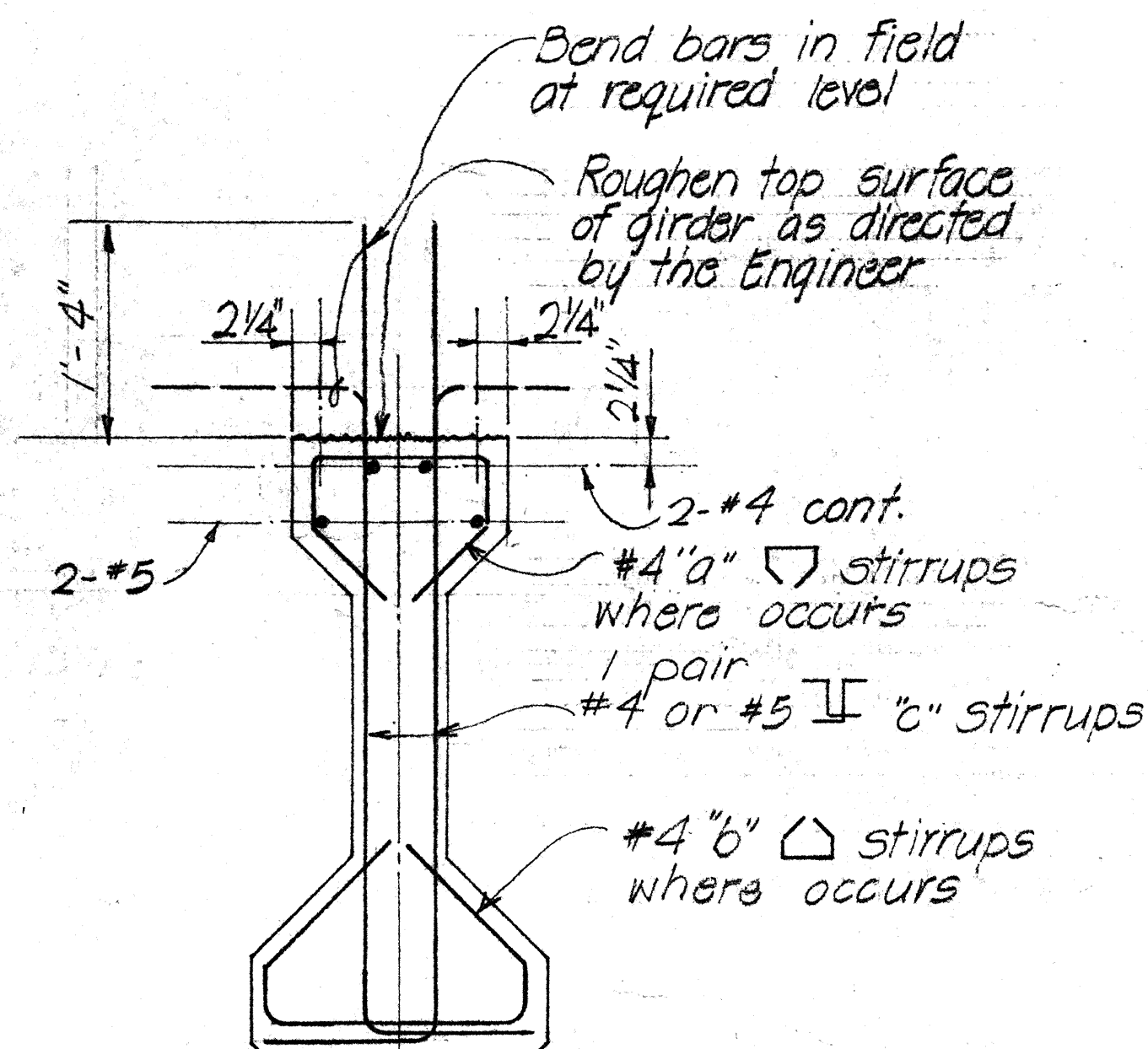
SHEET No. 11 OF 5 SHEETS

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AASHTO-PCI STANDARD BRIDGE GIRDER DIMENSION															
GIRDER TYPE	H	X	Y	a	b	c	d	e	f	g	J	K	L	m	n
PG I	2'-4"	1'-0"	1'-4"	5"	5"	11"	3"	—	4"	6"	—	3"	5"		
PG II	3'-0"	1'-0"	1'-6"	6"	6"	1'-3"	3"	—	6"	6"	—	3"	6"		
PG III	3'-9"	1'-4"	1'-10"	7"	7 1/2"	1'-7"	4 1/2"	—	7"	7"	—	4 1/2"	7 1/2"		
PG IV	4'-6"	1'-8"	2'-2"	8"	9"	1'-11"	6"	—	8"	8"	—	6"	9"		



TYPE PG I THRU TYPE PG IV



TYPE PG I THRU TYPE PG IV

TYPICAL SECTION PRESTRESSED CONC. GIRDERS

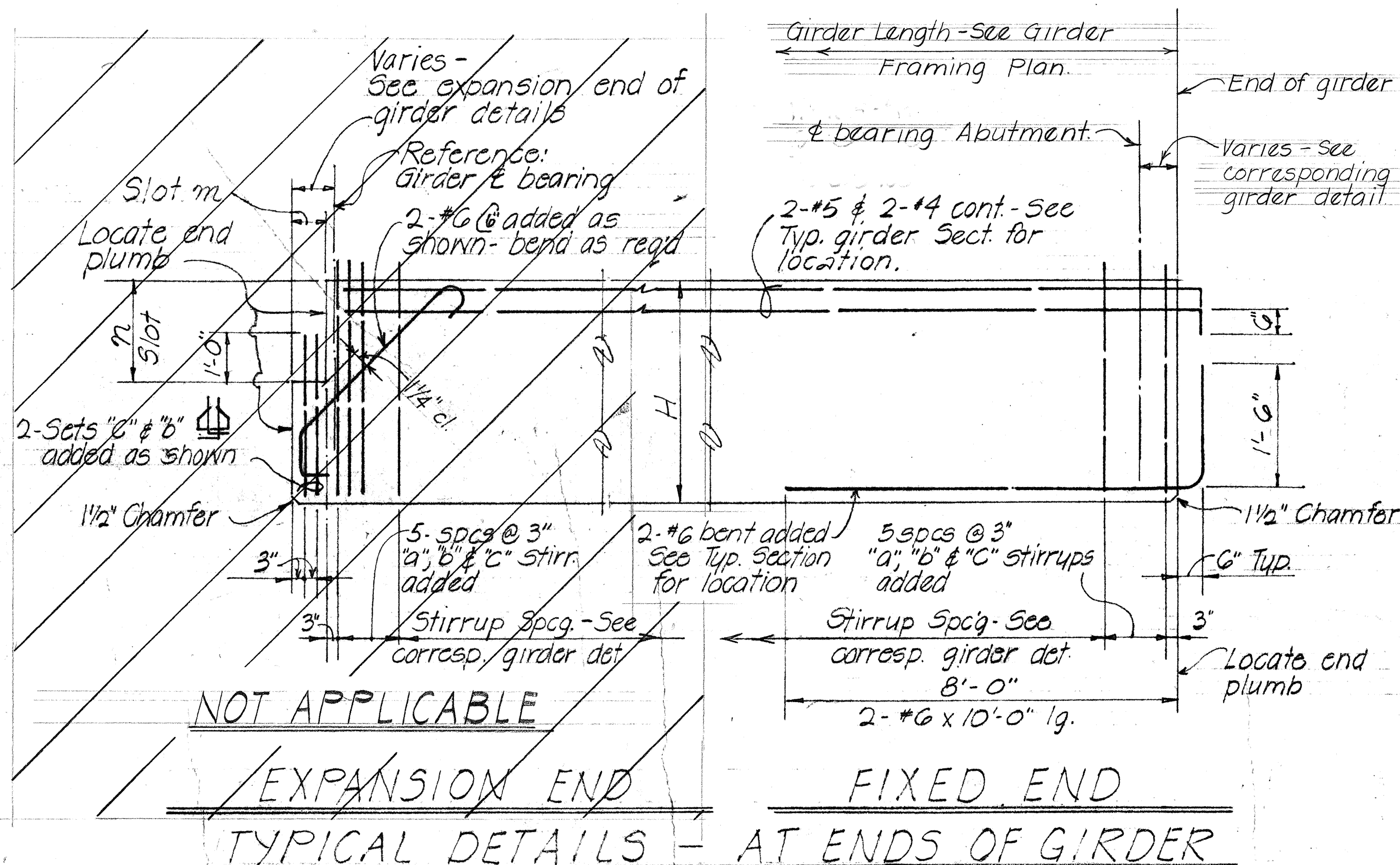
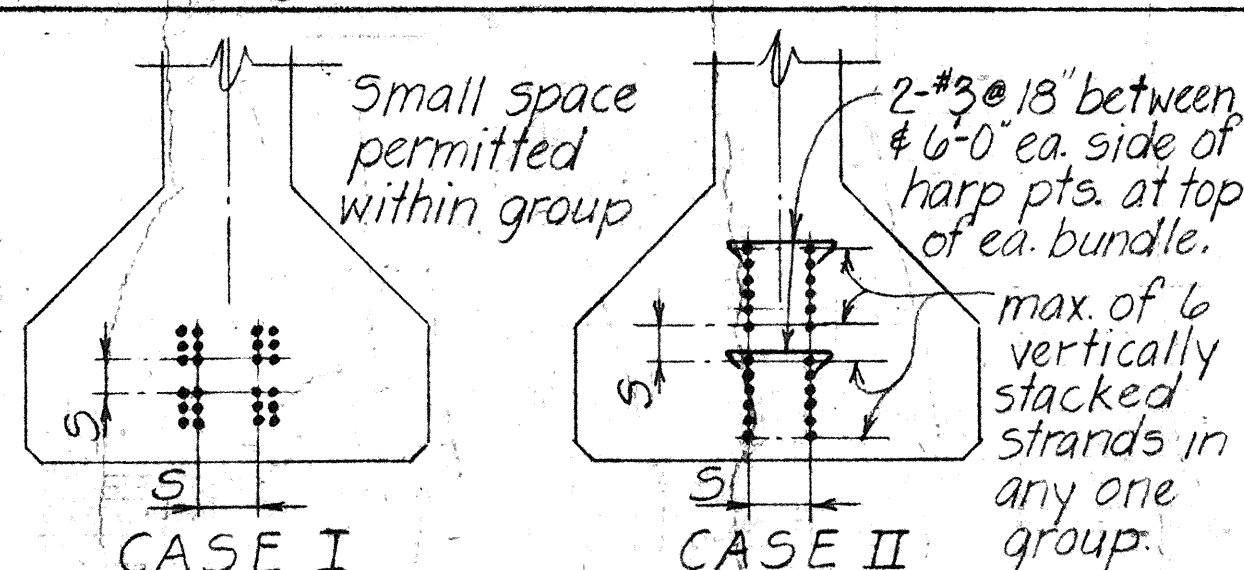
BUNDLING OF PRESTRESSING REINFORCEMENT

ARRANGEMENT AND CLEARANCE FOR POST TENSIONED UNITS

- Horizontal clearance between units equals 2" min.
- Units may be bundled vertically in groups of 3 maximum.
- Vertical clearance between bundled units equal 3" minimum.
- Approval of the Engineer is required for deviation.

ARRANGEMENT AND CLEARANCE FOR PRETENSIONED STRANDS

- Strands may be bundled in groups as shown.
- The minimum distance "S" between groups or individual strands is 2" for 1/2" strands.
- "S" is measured between centers of adjacent strands.



GENERAL NOTES

For holes and inserts in prestressed girders for beam connections, refer to corresponding beam details.

For design stresses refer to shts # T-1 and corresponding girder detail drawings.

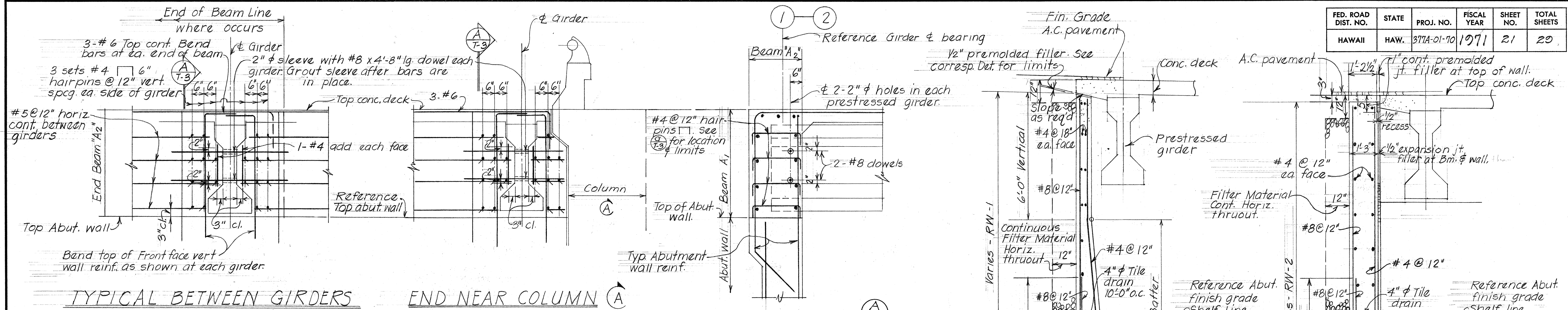
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HIGHWAYS DIVISION

TYPICAL DETAILS
PRESTRESSED GIRDER
POHAKUOKAA & WAI'ALE
BRIDGE WIDENING

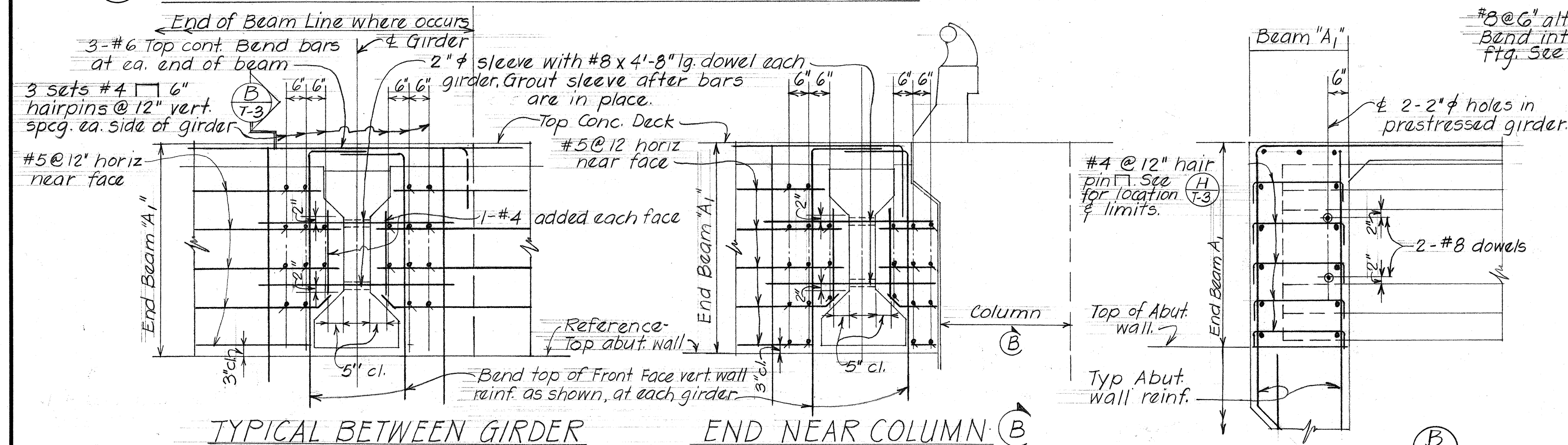
Proj. No. 377A-01-70, March 1971

SHEET No. T2 OF 5 SHEETS

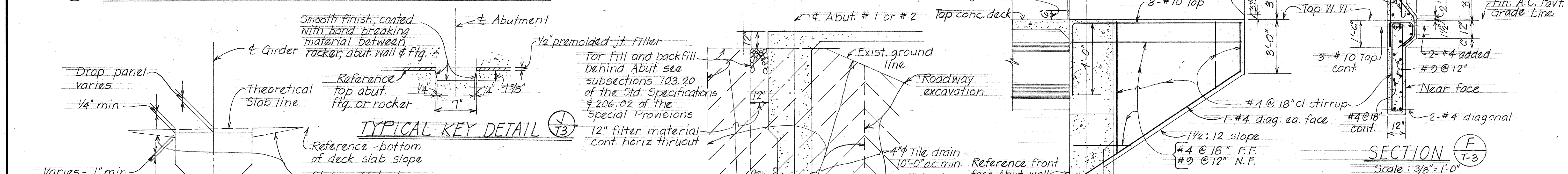
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(G)
T3 TYPICAL CAST IN PLACE BEAM "A2" DETAILS Scale: 1/2" = 1'-0"



(H)
73 TYPICAL CAST IN PLACE BEAM "A," DETAILS Scale: $\frac{1}{2}" = 1'-0"$



TYPICAL SLAB DROP PANEL DETAIL
AT PRESTRESSED GIRDER

No Scale



ELEVATION $\left(\frac{E}{T3}\right)$ AS SHOWN
ELEVATION $\left(\frac{E1}{T3}\right)$ SIMILAR EXCEPT
OPPOSITE HAND
(TYPICAL END POST)

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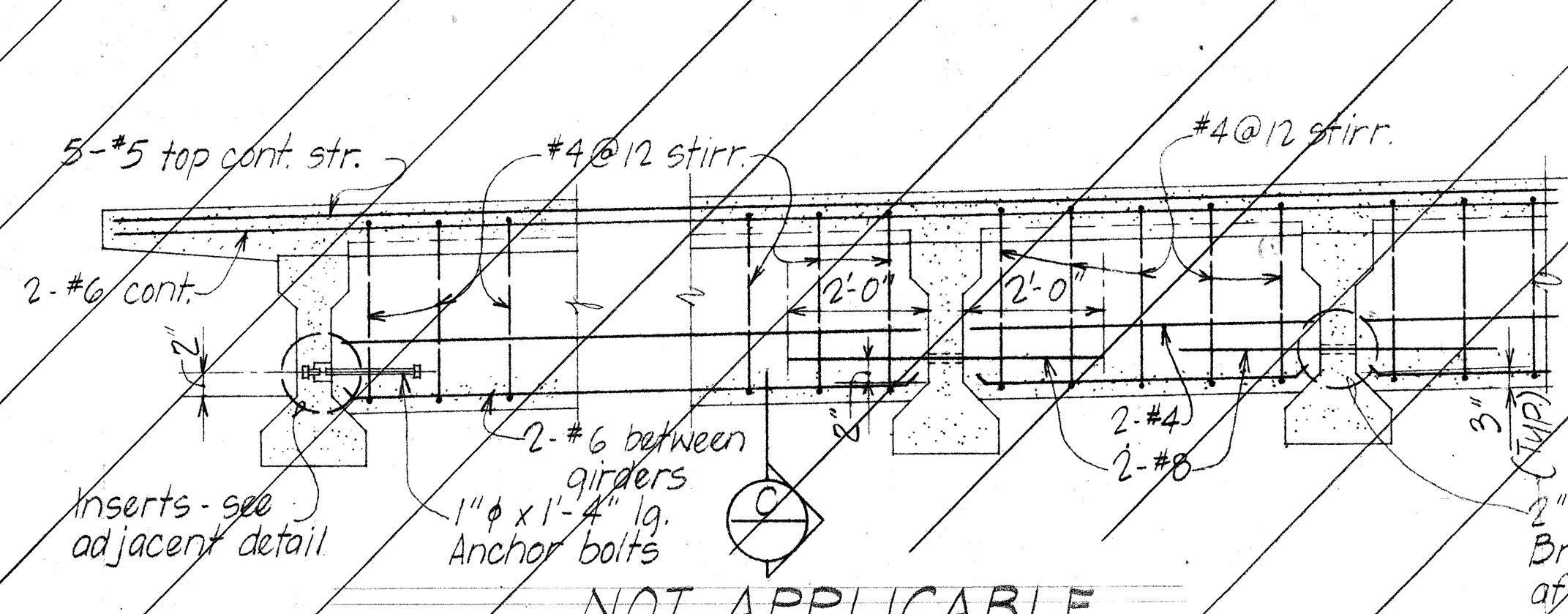
TYPICAL DETAILS
MISCELLANEOUS SECTIONS & DETAILS

POHAKUOKAA & WAI'ALE
BRIDGE WIDENING

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SHEET No. 13 OF 5 SHEETS

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HAWAII	HAW.	377A-01-70	1971	22	29

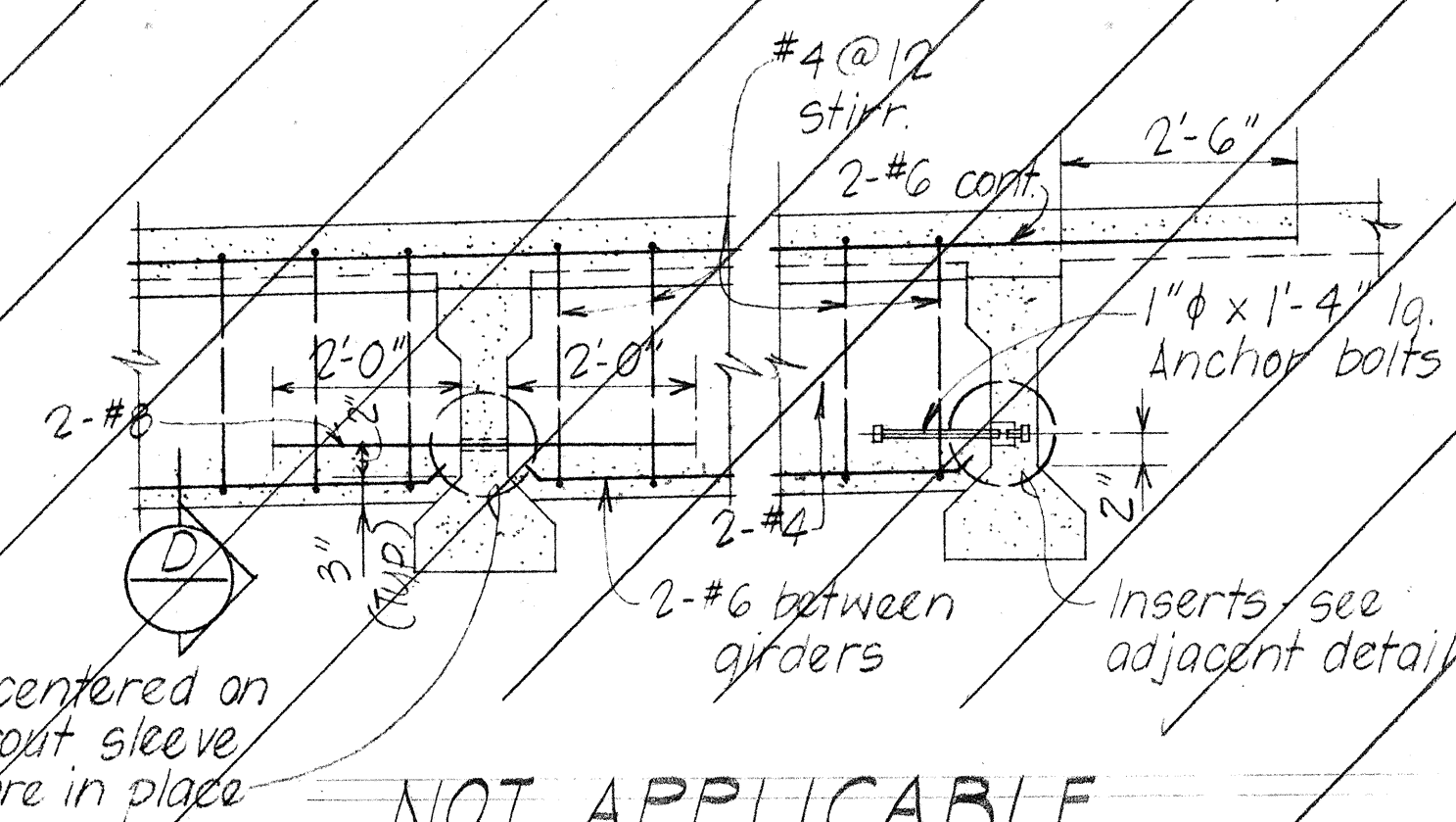


NOT APPLICABLE

AT EXTERIOR GIRDERS

BETWEEN INTERIOR GIRDERS

AT TYPE I or II GIRDERS

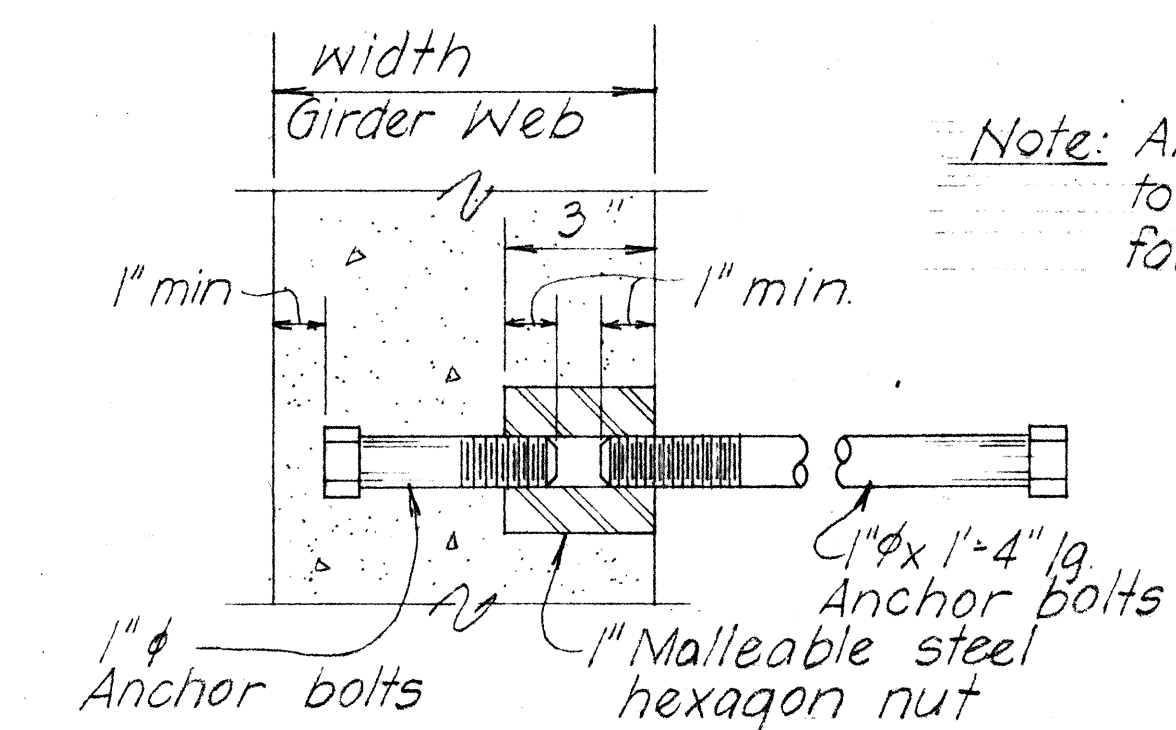


NOT APPLICABLE

BETWEEN INTERIOR GIRDERS

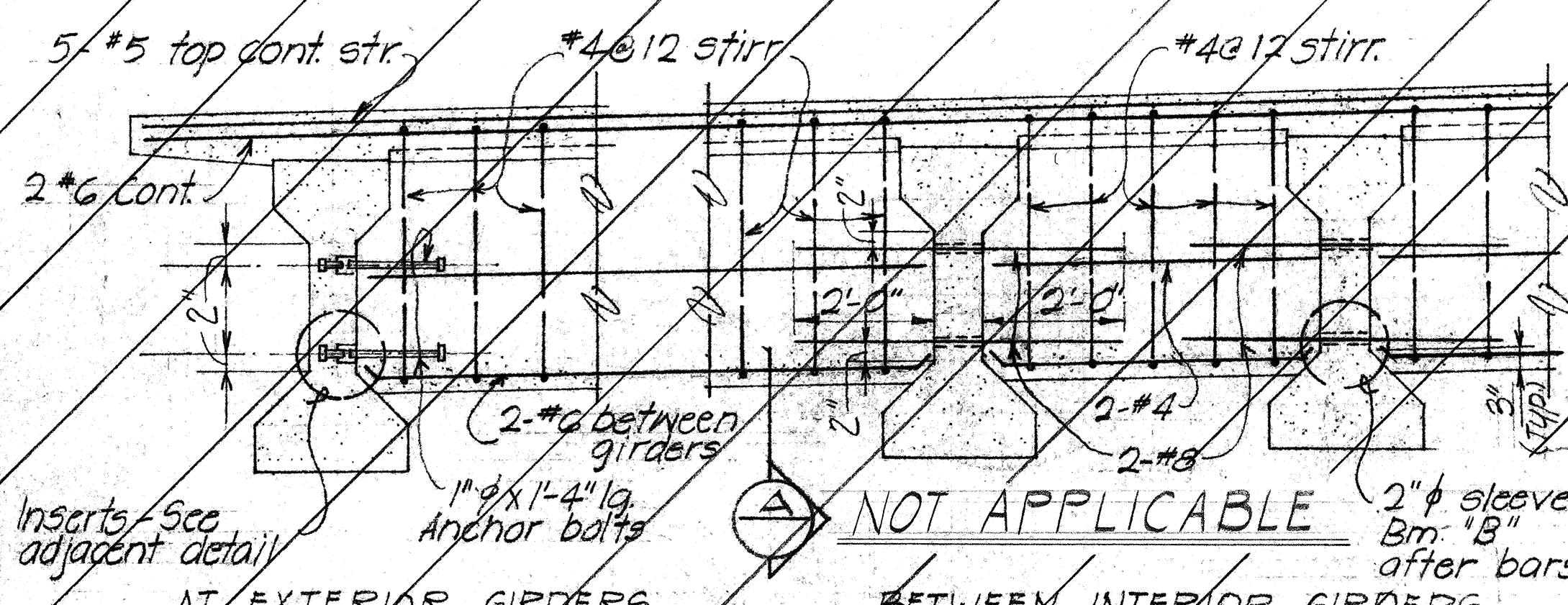
AT NON-CONT. END

AT TYPE I or II GIRDERS



Note: Anchor bolts & inserts incidental to concrete and will not be paid for separately.

(E) TYPICAL INSERT DETAIL
Scale: 3"=1'-0"

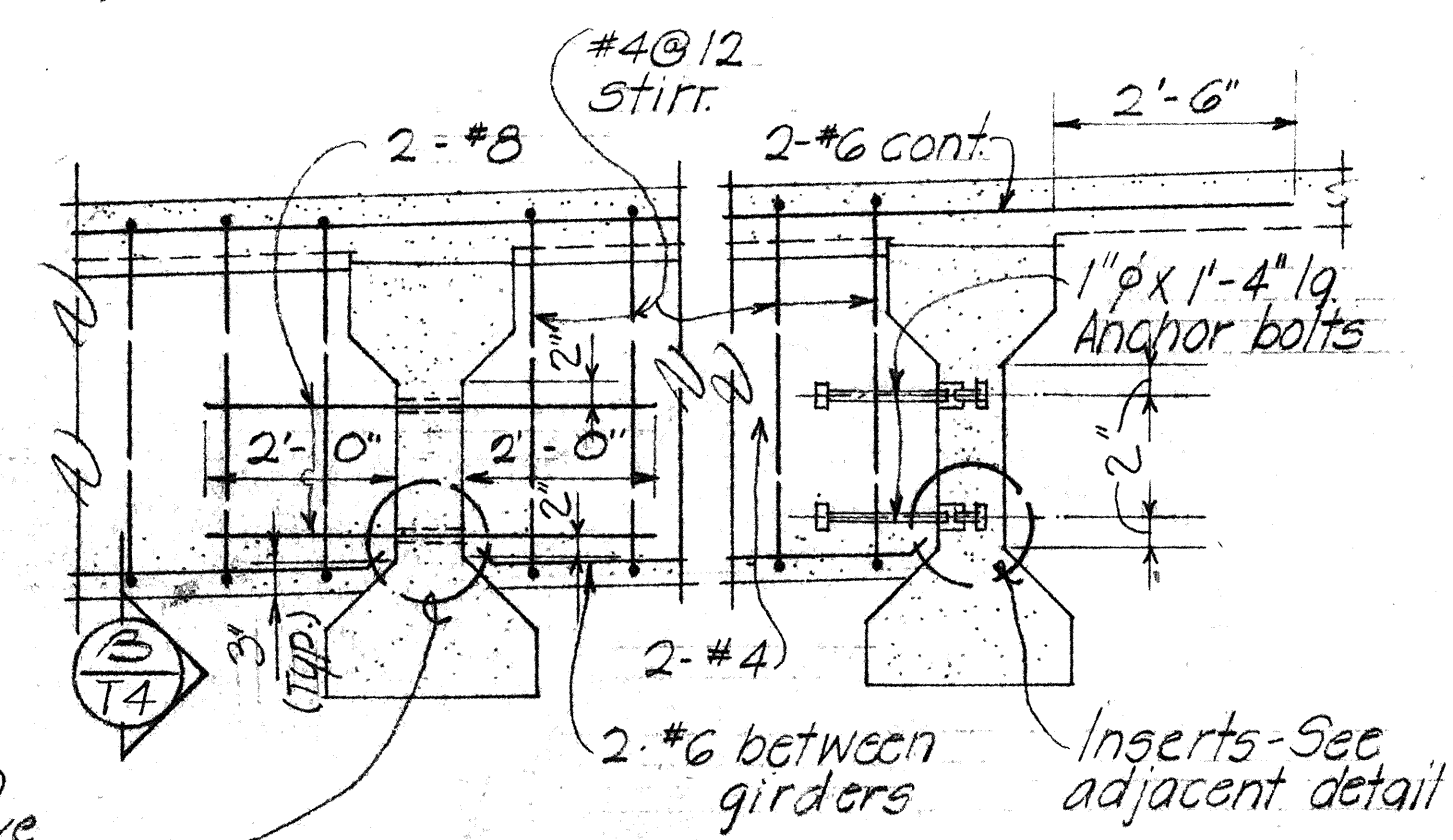


NOT APPLICABLE

AT EXTERIOR GIRDERS

BETWEEN INTERIOR GIRDERS

AT TYPE III or IV GIRDERS

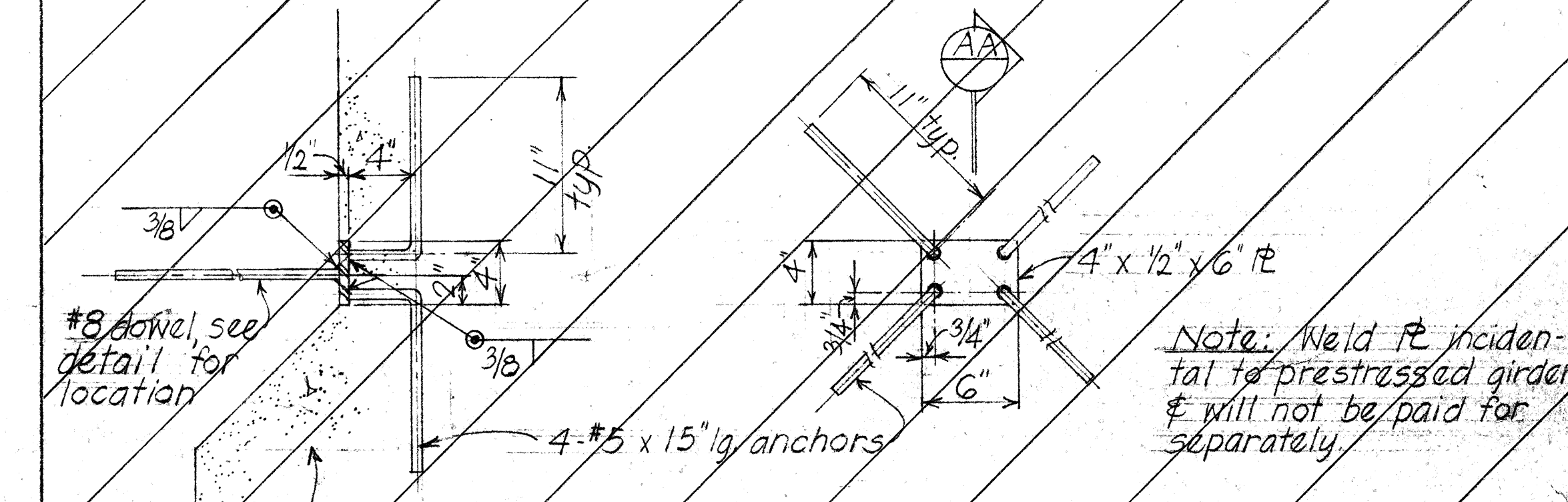


Inserts-See adjacent detail

BETWEEN INTERIOR GIRDERS

AT NON-CONT. ENDS

AT TYPE III or IV GIRDERS

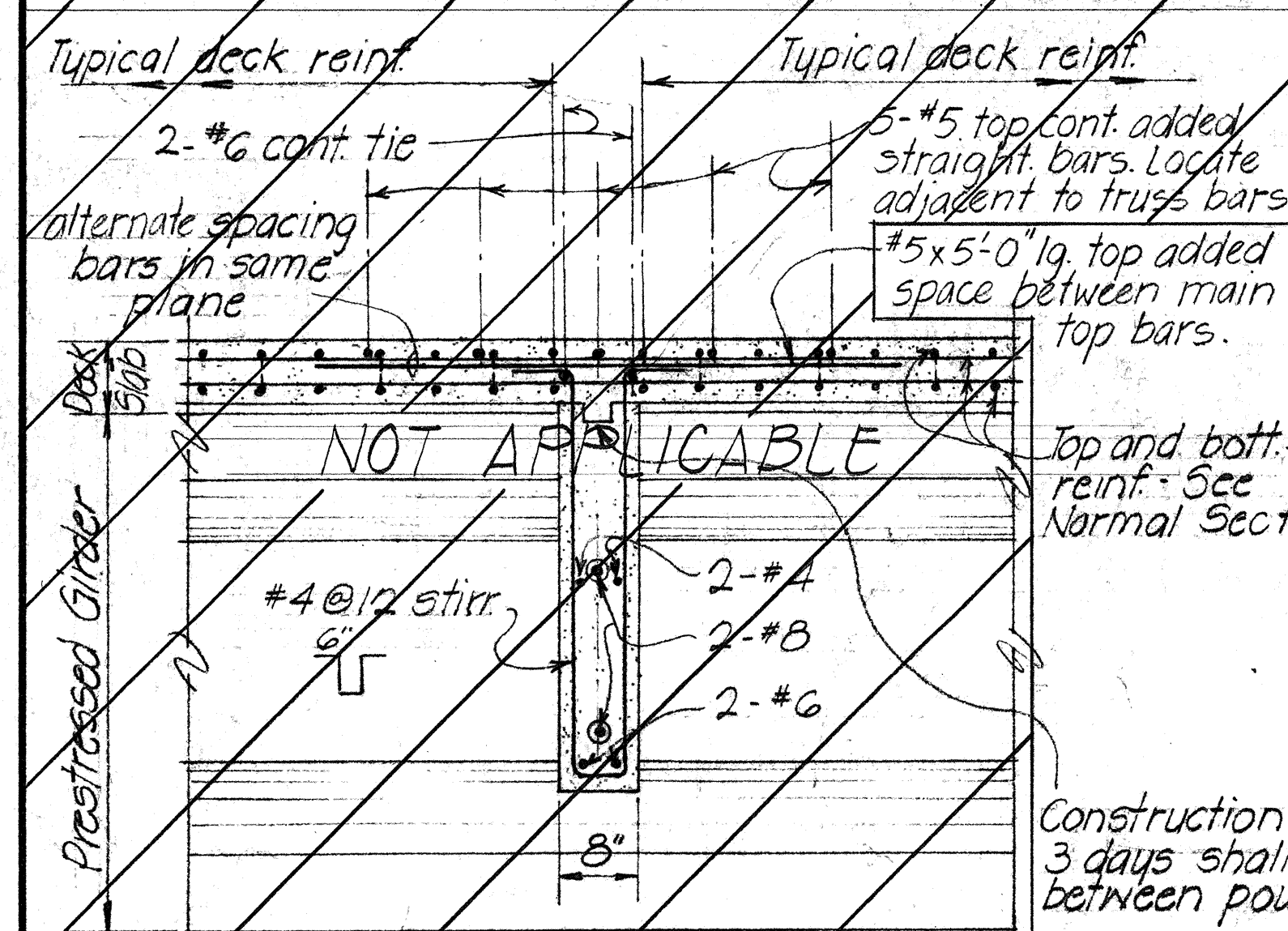


Note: Weld rebar incidental to prestressed girder & will not be paid for separately.

SECTION AA NOT APPLICABLE
(F) TYPICAL WELD REBAR DETAIL
Scale: 1/2"=1'-0"

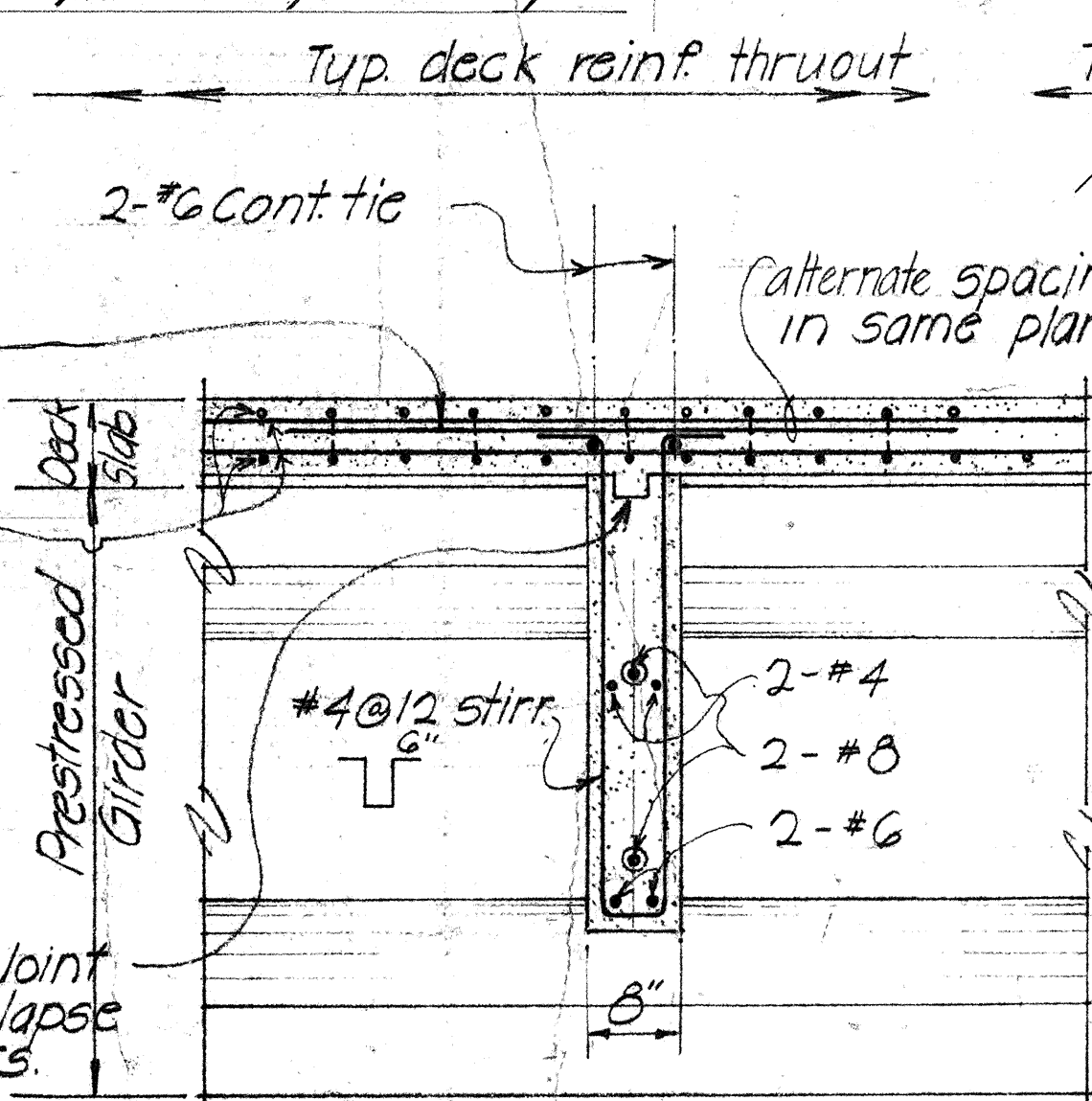
TYPICAL BEAM "B" DETAIL
Scale: 1/2"=1'-0"

TYPICAL BEAM "Ba" DETAIL
Scale: 1/2"=1'-0"

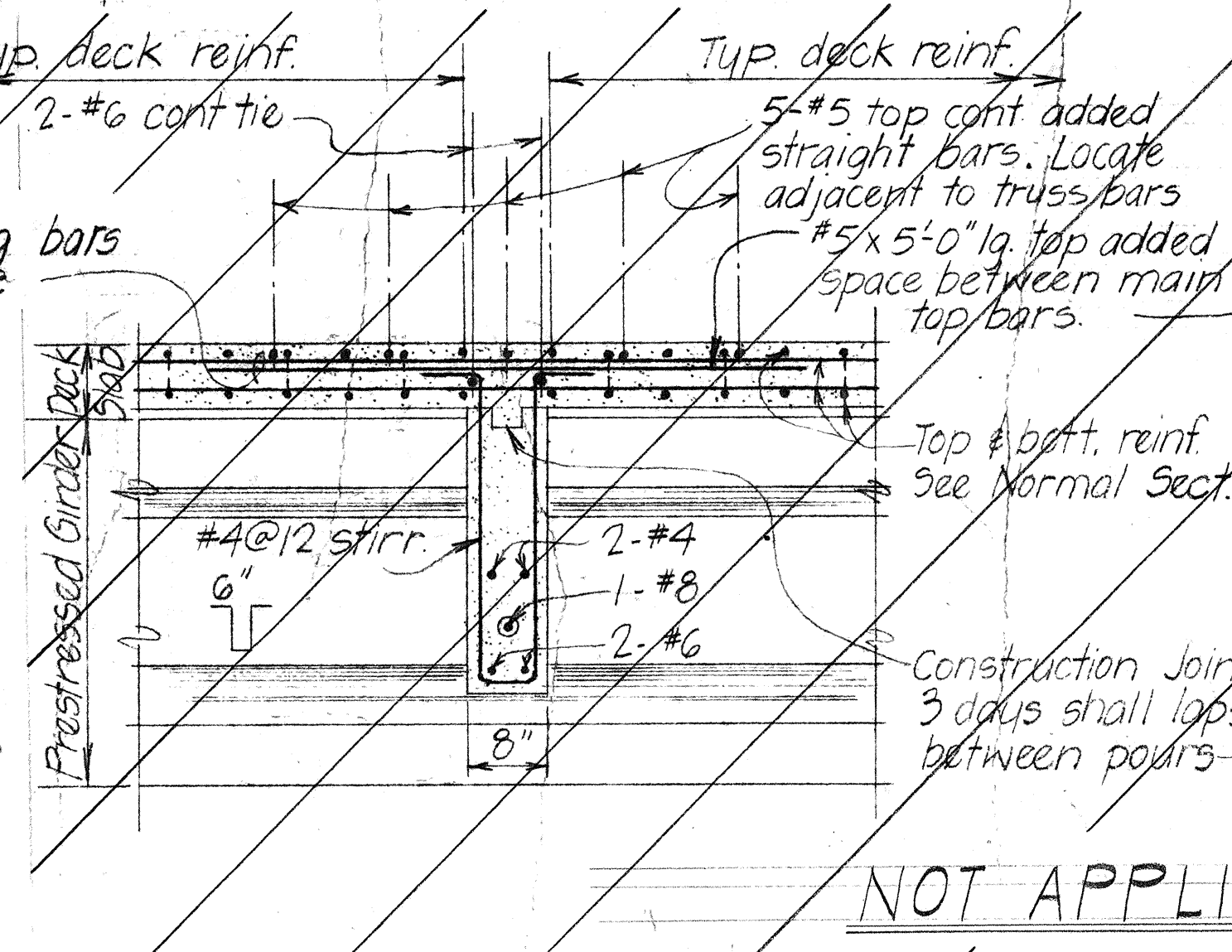


NOT APPLICABLE

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

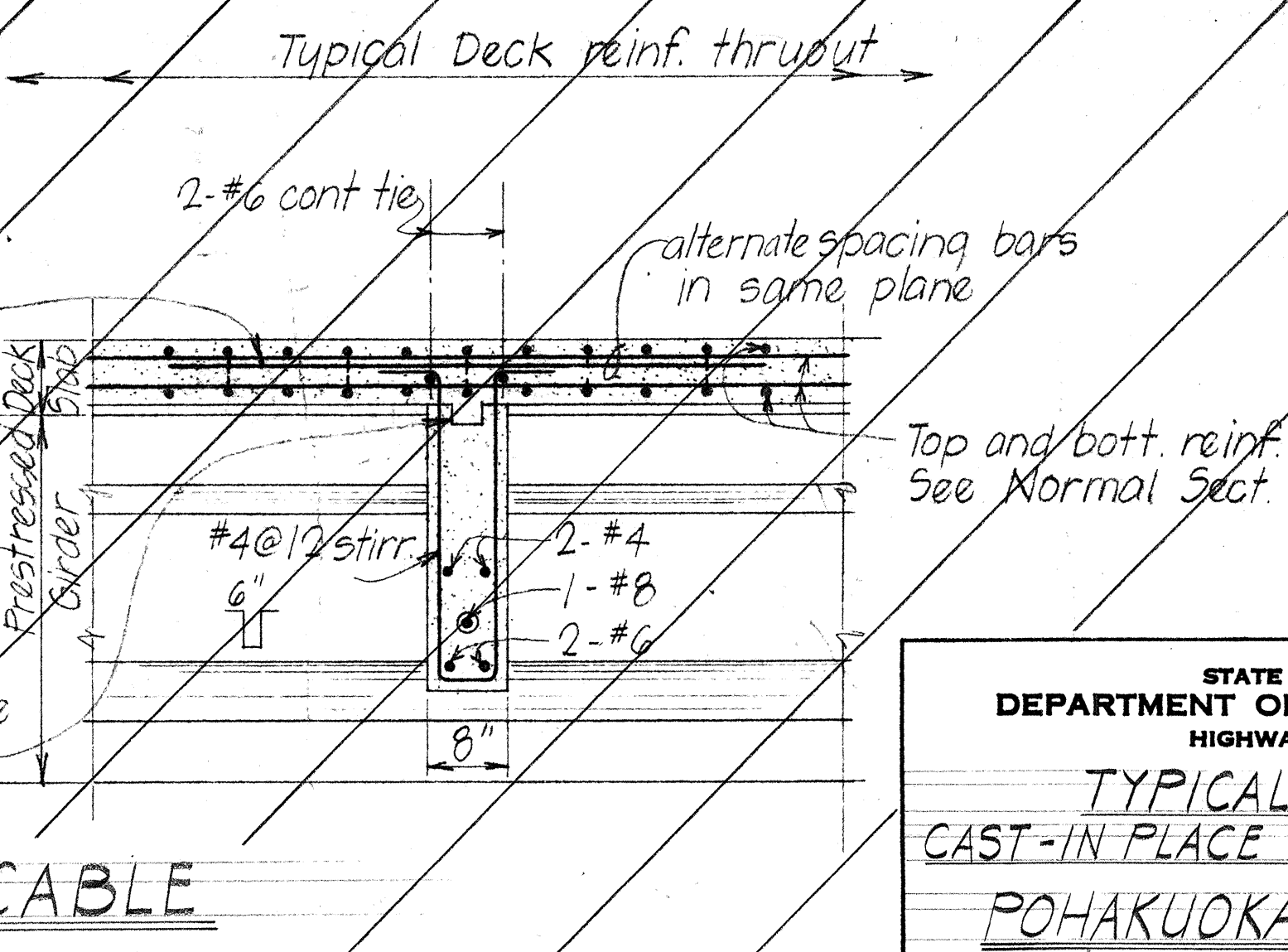


SECTION B
Scale: 3/4"=1'-0"



NOT APPLICABLE

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

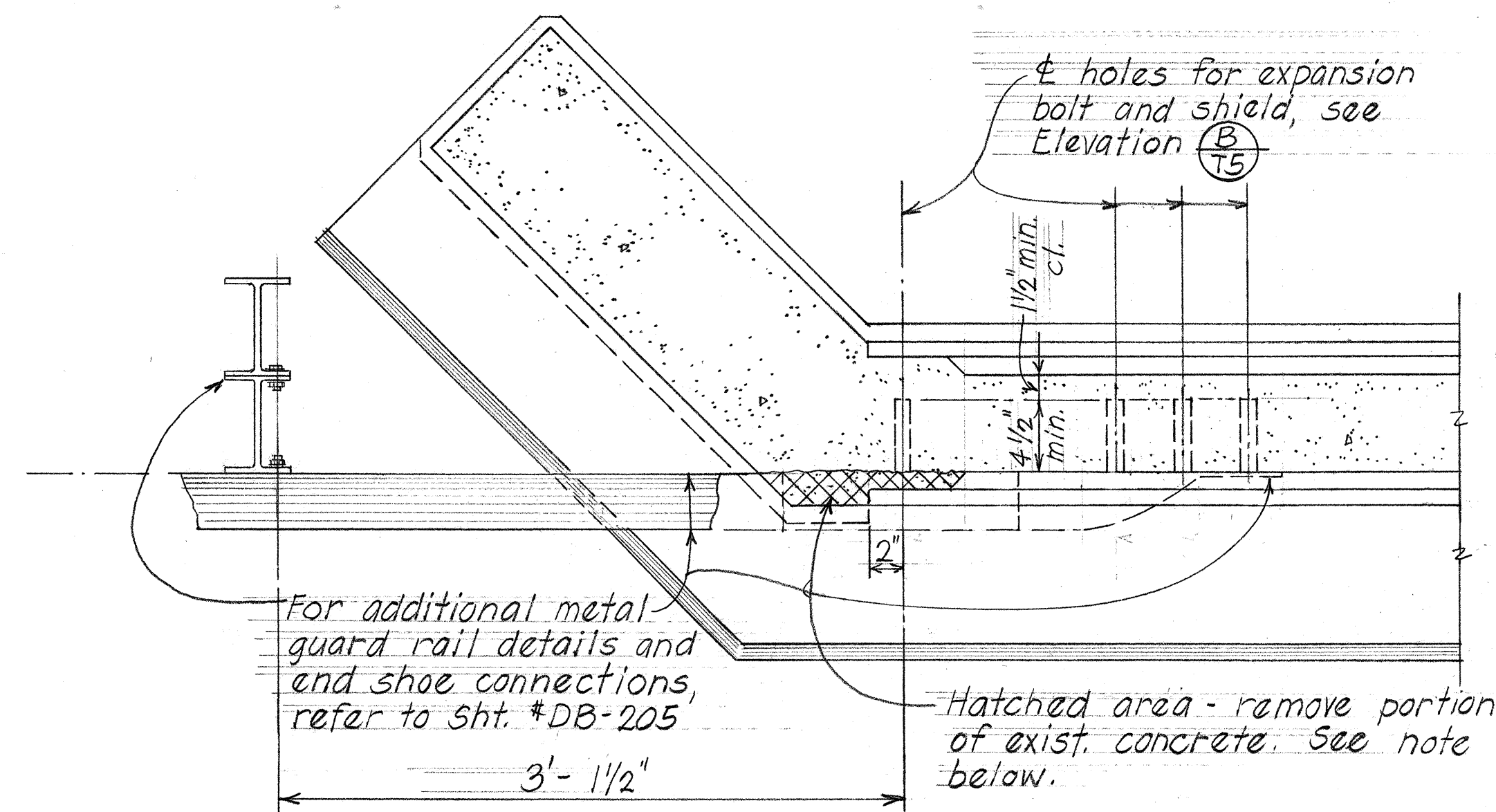


SECTION D
Scale: 3/4"=1'-0"

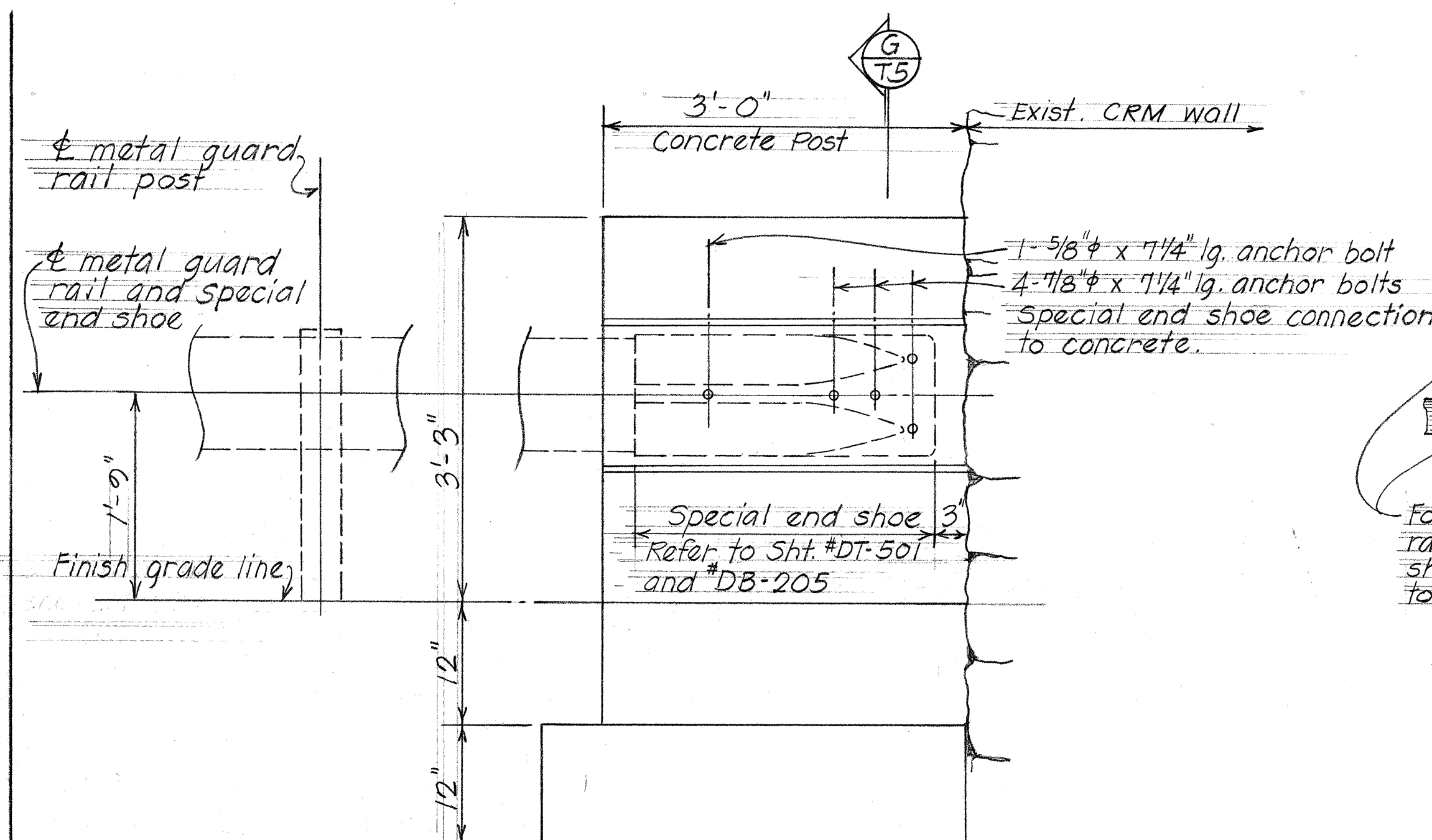
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
TYPICAL DETAILS
CAST-IN PLACE BEAM Ba DETAILS
POHAKUOKAA & WAI'ALE
BRIDGE WIDENING
Proj. No. 377A-01-70 Mar. 1971
SHEET No. T4 OF 5 SHEETS

DATE	_____
SURVEY PLATTED BY	_____
DRAWN BY	_____
DESIGNED BY	_____
QUANTITIES BY	_____
CHECKED BY	_____
ORIGINAL PLAN	_____
NOTE BOOK	_____
NO.	_____

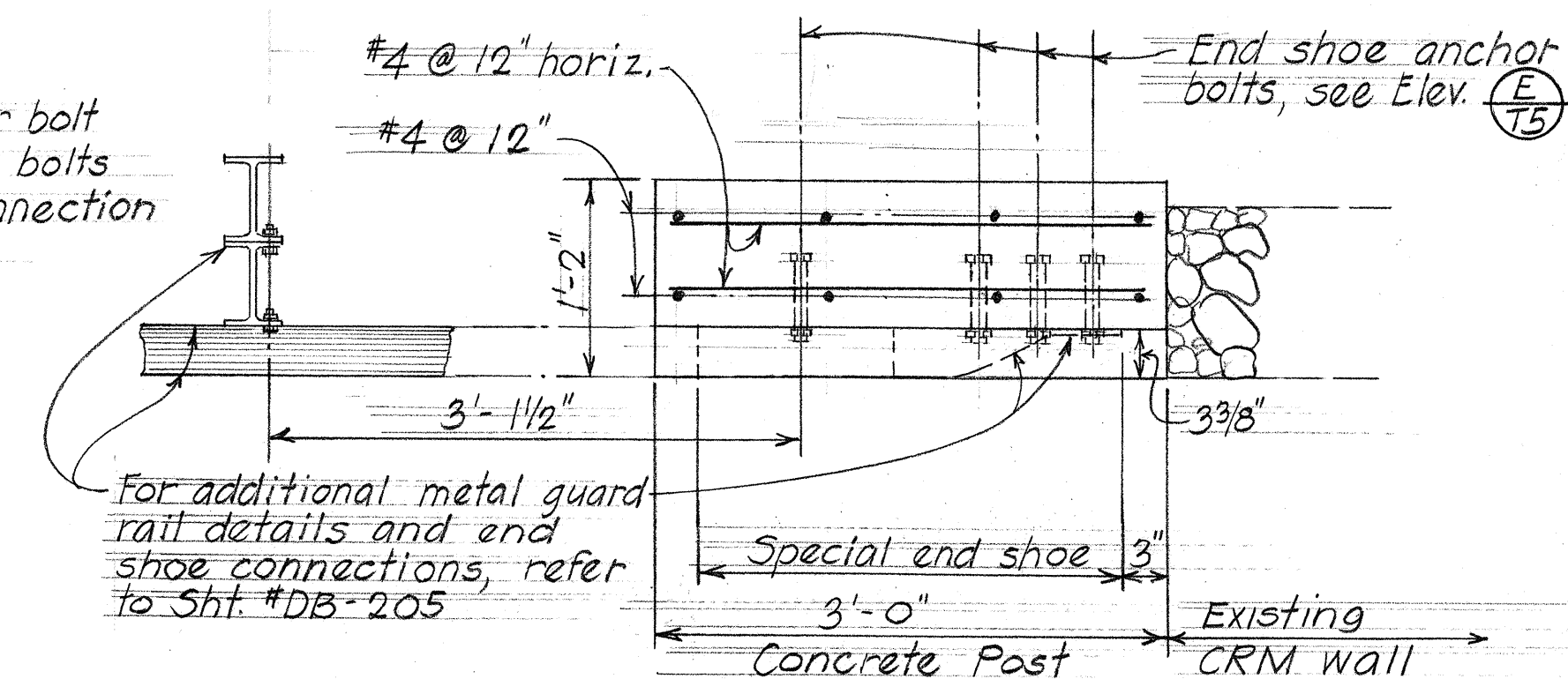
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SECTION A
T5
Scale: 1 1/2" = 1'-0"

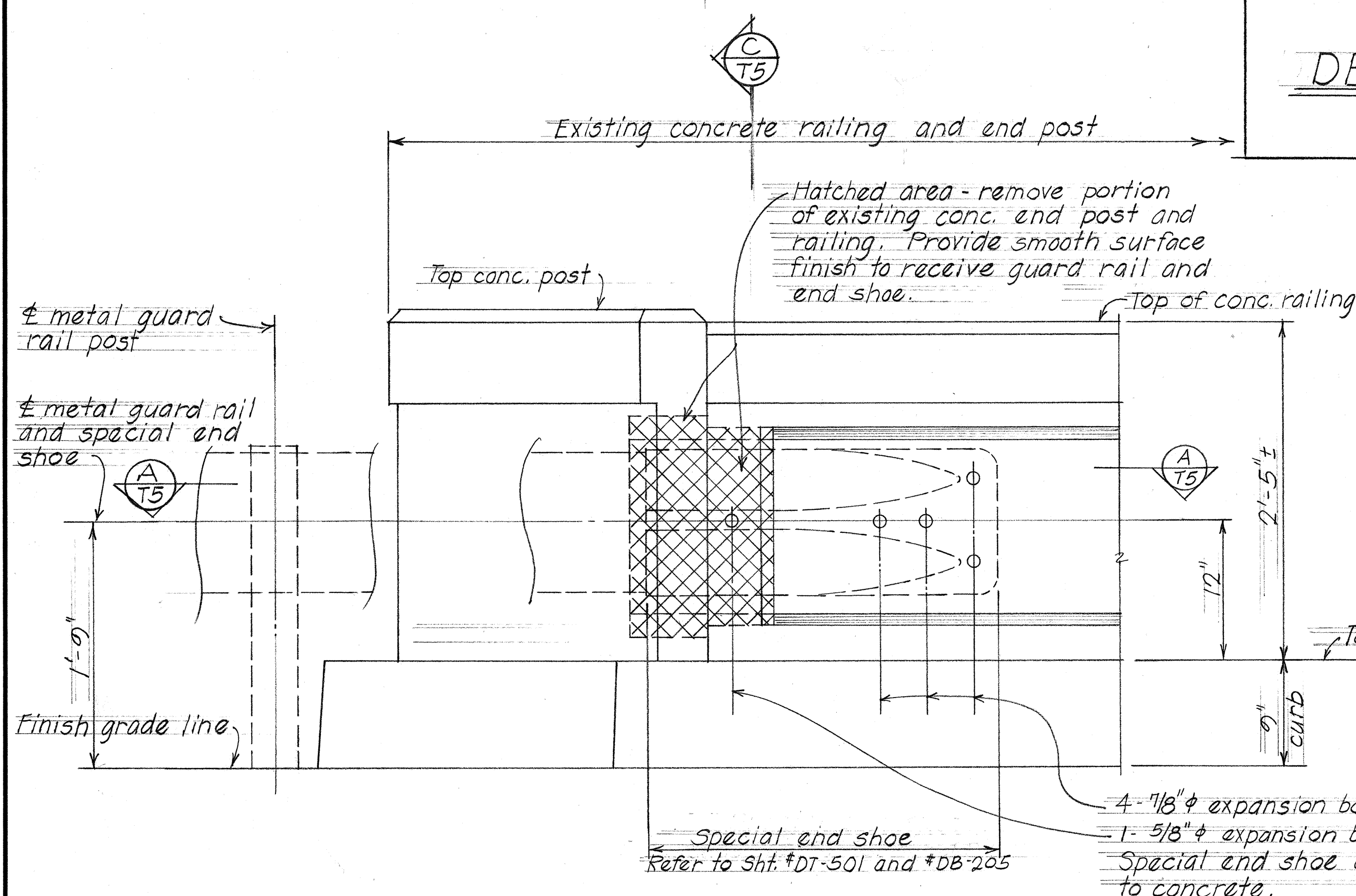


ELEVATION E
T5
Scale: 1" = 1'-0"

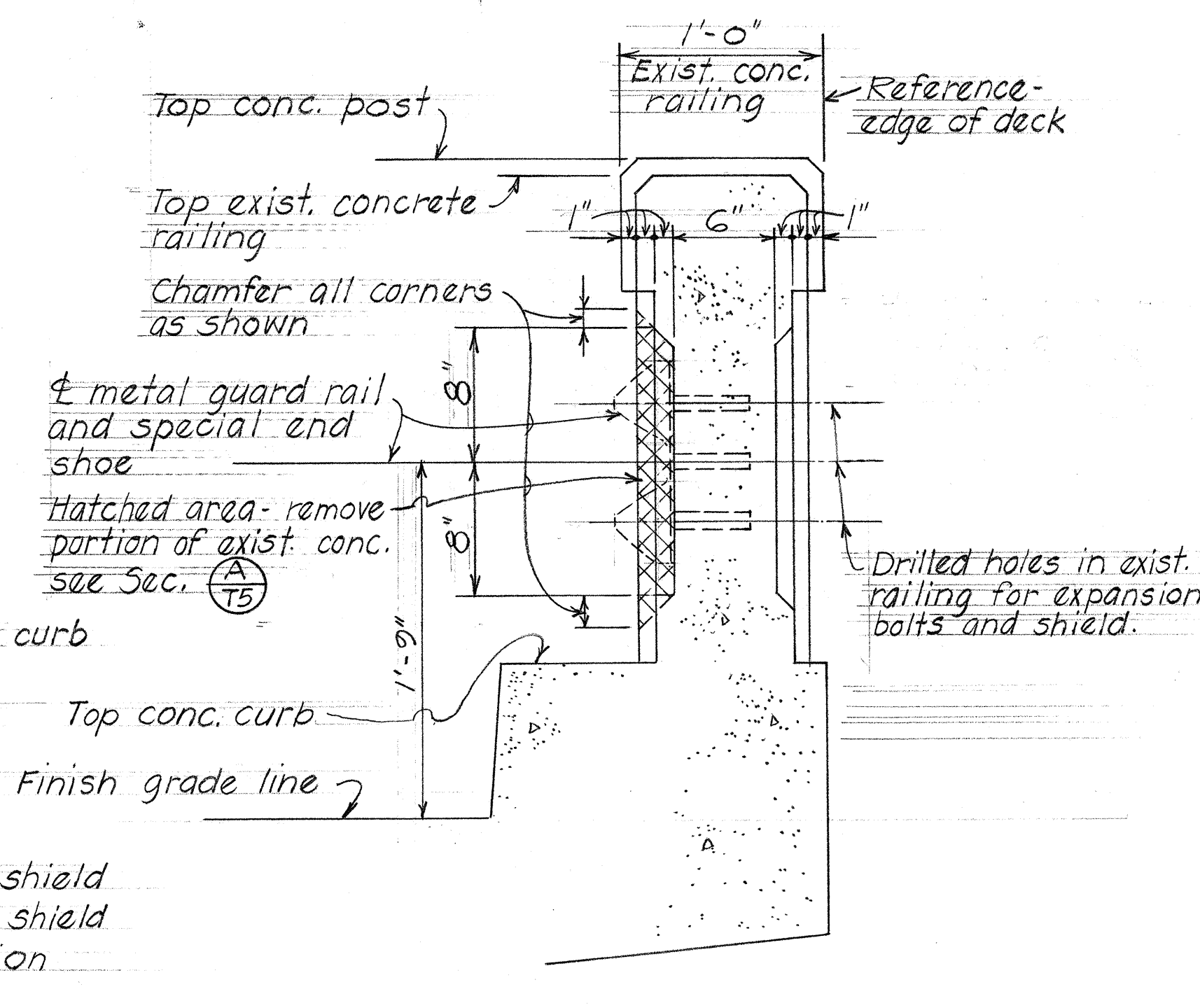


SECTION F
T5
Scale: 1" = 1'-0"

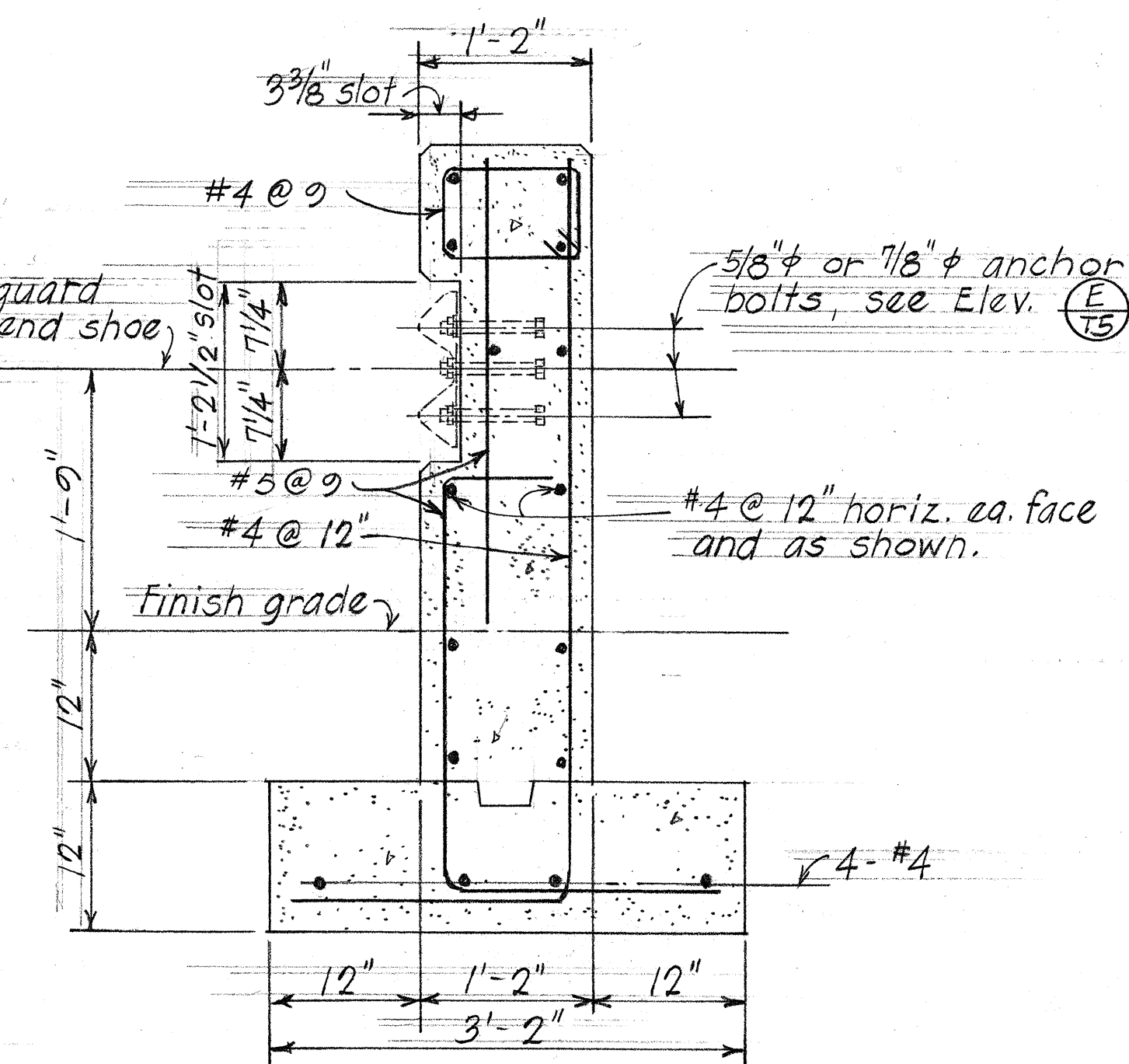
DETAIL H T5 GUARD RAIL CONNECTION



ELEVATION B
T5
Scale: 1 1/2" = 1'-0"



SECTION C
T5
Scale: 1 1/2" = 1'-0"



SECTION G
T5
Scale: 1" = 1'-0"

DETAIL D T5 GUARD RAIL CONNECTION

STATE OF HAWAII
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TYPICAL DETAILS

METAL GUARD RAIL CONNECTION
AT EXISTING BRIDGE

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