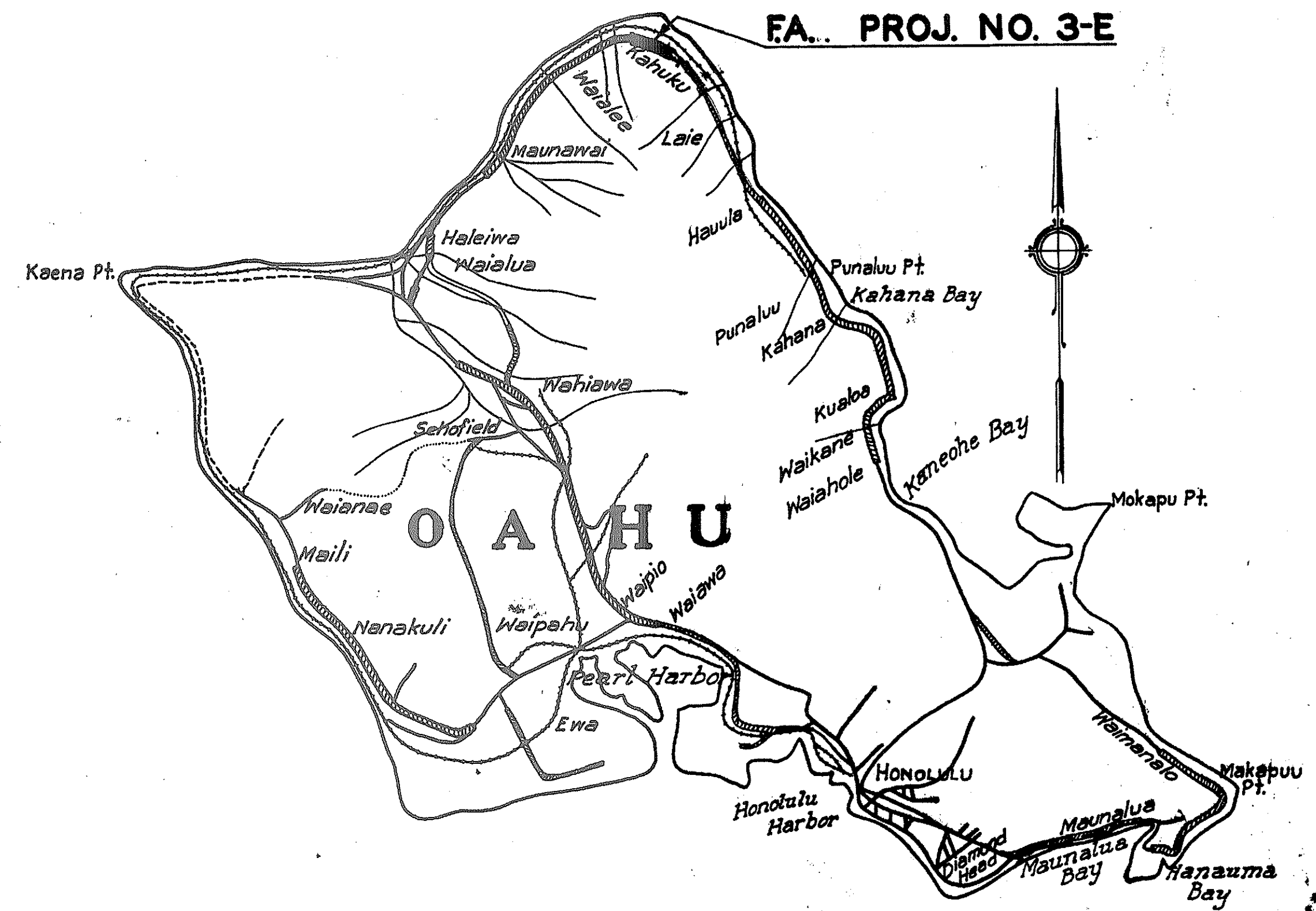


INDEX TO DRAWINGS	
SHEET NO.	DESCRIPTIONS
1	Title Sheet
2	Typical Road Section
3 - 9	Plan & Profile
10 - 11	Standard Details #1 & 2
12 - 13	Culvert Details
14 - 18	Bridge #1
19 - 30	Cross Section

TERRITORY OF HAWAII
TERRITORIAL HIGHWAY DEPARTMENT
HONOLULU T. H.

PLANS OF
KAMEHAMEHA HIGHWAY
KAHUKU SECTION

FEDERAL AID PROJECT NO. 3E
KOOLAULOA DISTRICT
OAHU, T. H.

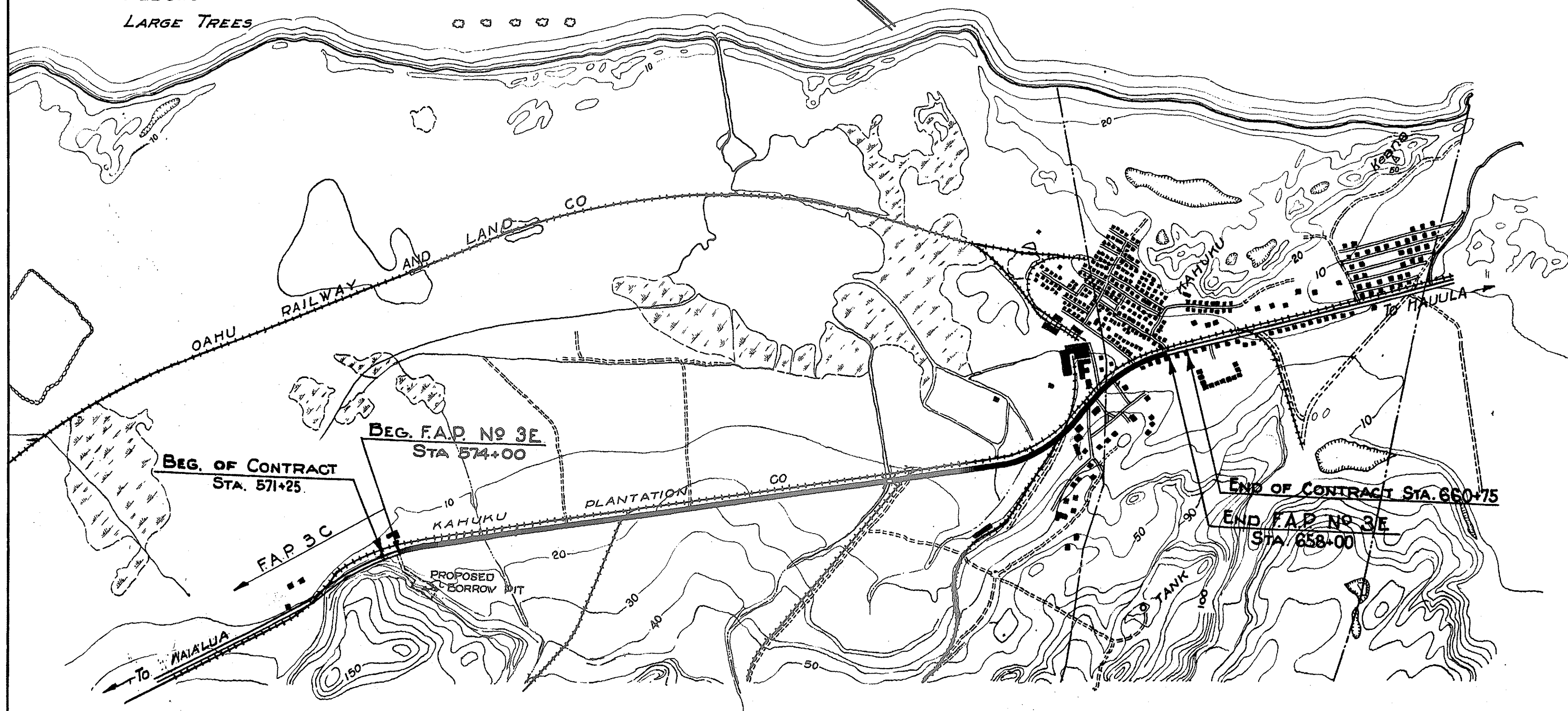


CONVENTIONAL SIGNS

PRESENT ROAD	
EXISTING FENCE	
EXISTING STONE FENCE	
RAILROAD	
CENTER LINE	
BRIDGES	
CULVERTS	
HEDGES	
LARGE TREES	

SCALE

PLAN	1 INCH	50 FEET
PROFILE	HOR. 1 INCH	50 FEET
	VER. 1 INCH	10 FEET
CROSS SECTION	1 INCH	5 FEET



LAYOUT OF PROJECT
Scale 1"=800'

GROSS LENGTH 1.591 Mi.
BRIDGES OVER 20' SPAN 0.007
NET LENGTH ROADWAY 1.584

FOR INFORMATIONAL
PURPOSES ONLY

Approved
[Signature]
DATE 8-21-36
TERRITORIAL HIGHWAY ENGINEER

RECOMMENDED FOR APPROVAL

PRINCIPAL HIGHWAY ENGINEER
Bureau of Public Roads
RECOMMENDED FOR APPROVAL

CHIEF ENGINEER, Bureau of Public Roads
Approved

Bureau of Public Roads

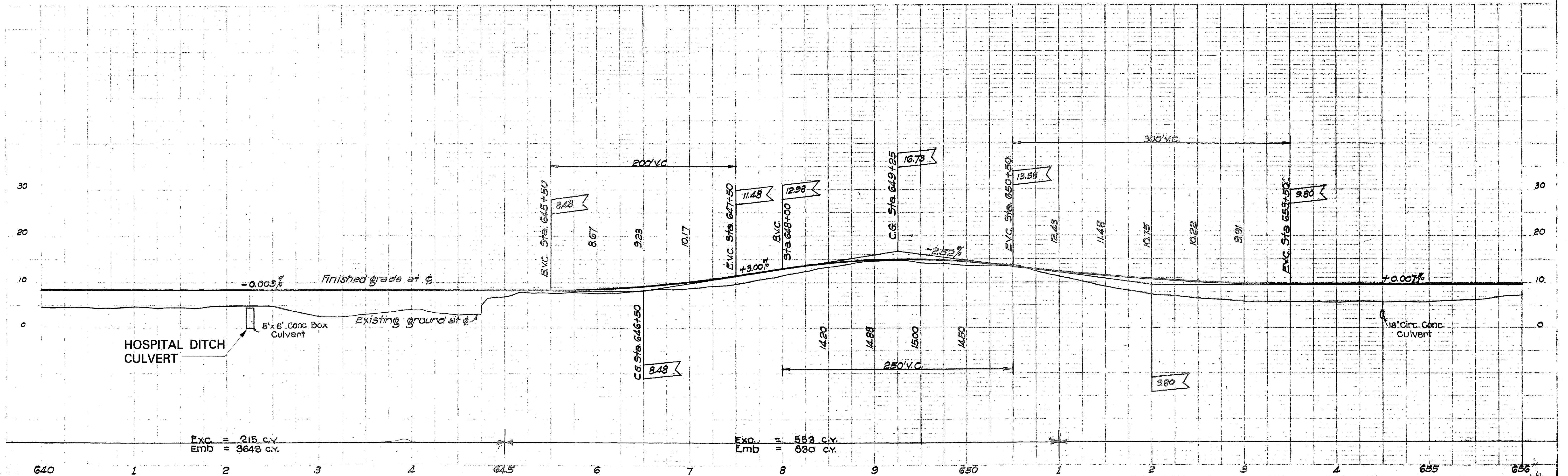
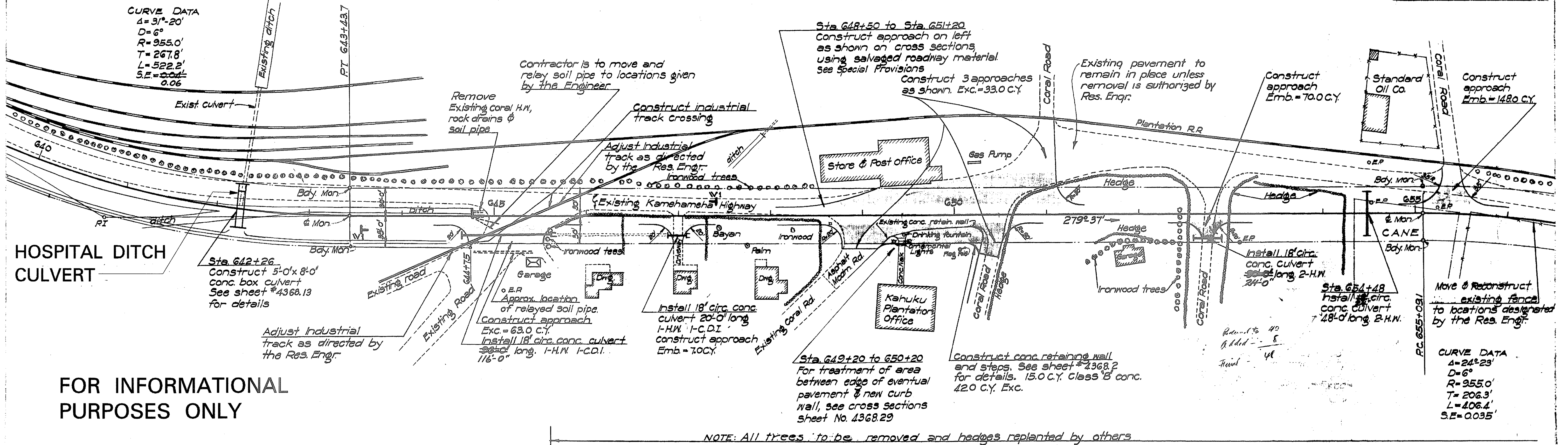
SURVEY PLOTTED BY DATE Apr. 36
DESIGNED BY
DRAWN BY H.I. P.E.S.
NOTED BY
QUANTITIES BY
CHECKED BY

ORIGINAL PLAN
NOTE BOOK
No.

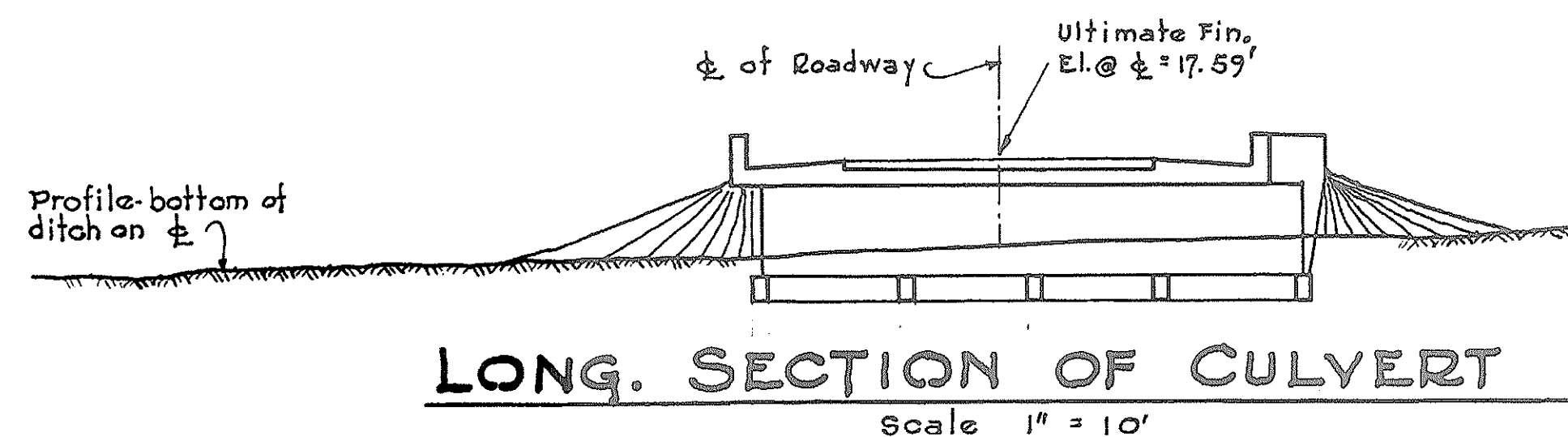
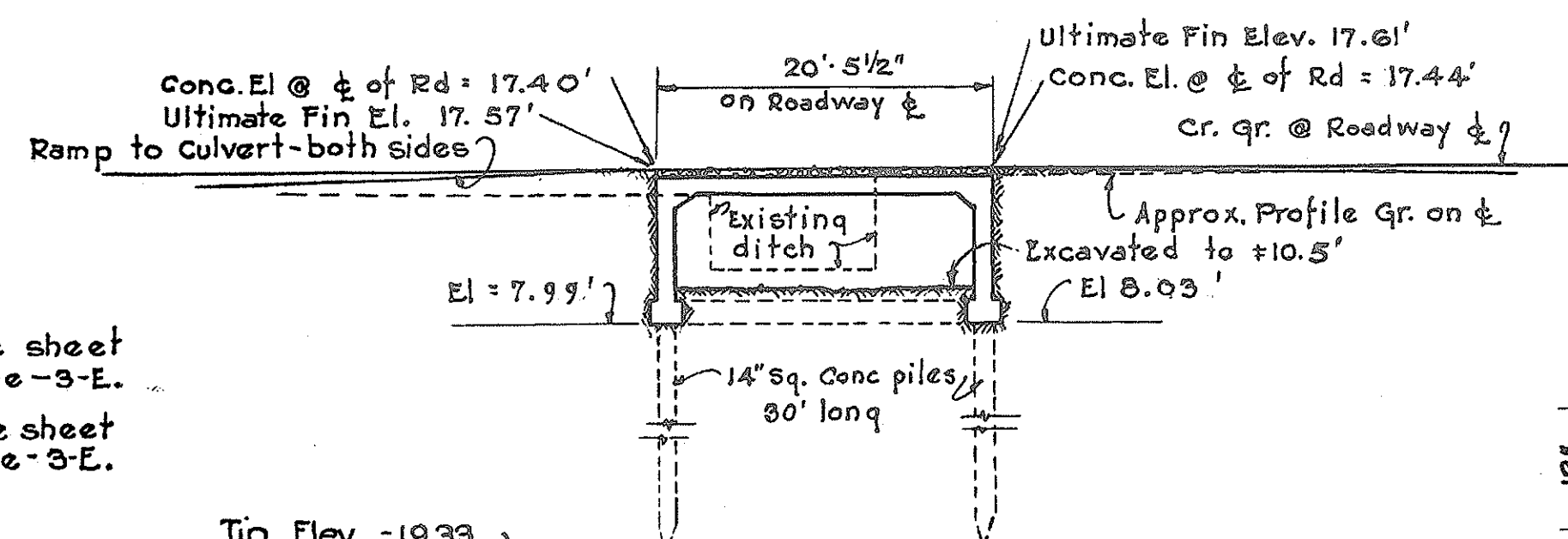
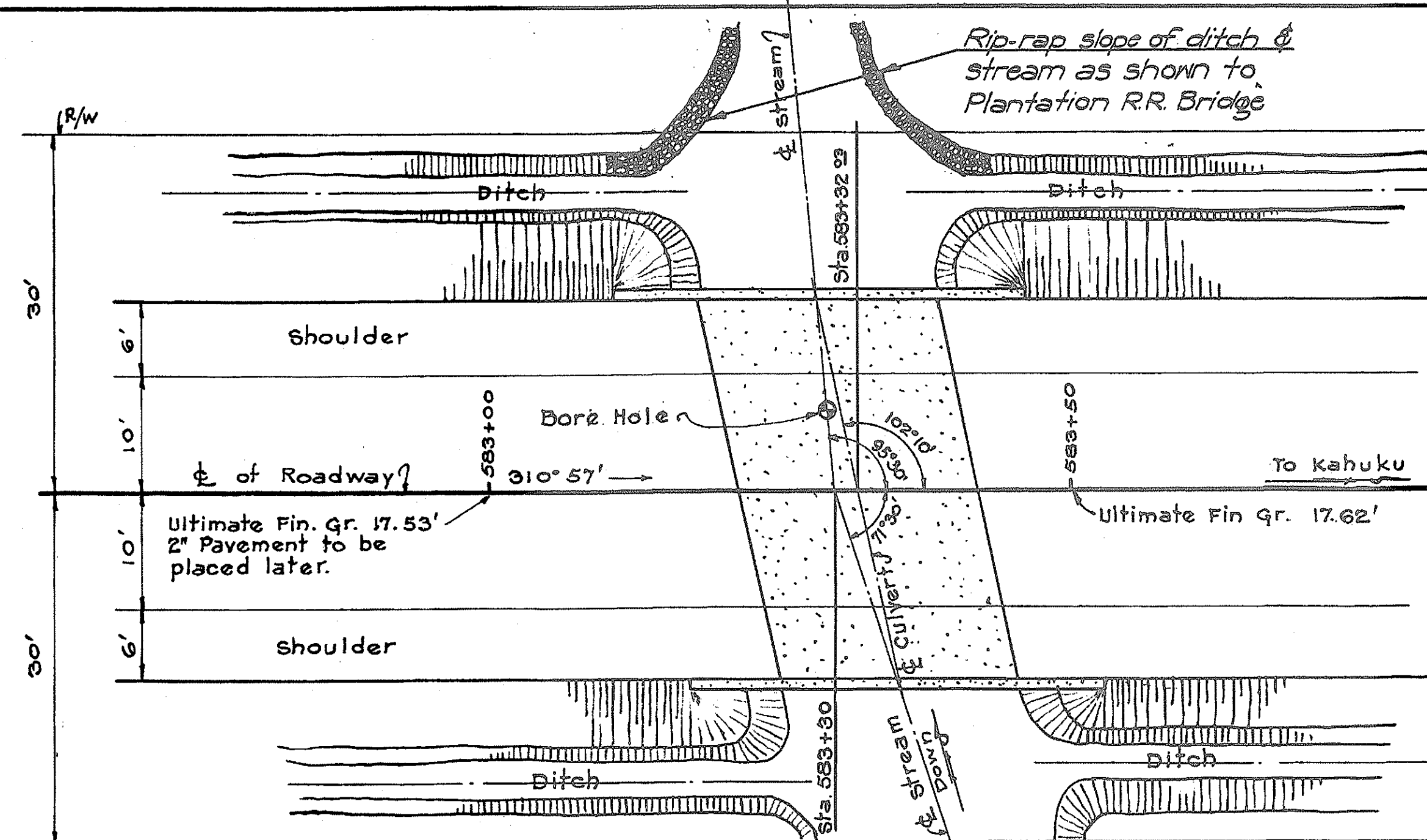
CURVE DATA
 $\Delta = 31^{\circ}-20'$
 $D = 6^{\circ}$
 $R = 955.0$
 $T = 267.8$
 $L = 522.2$
~~S.E. = 0.01~~
 0.06



FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
Hawaii	HAW.	FAP 3E	1996	2	26

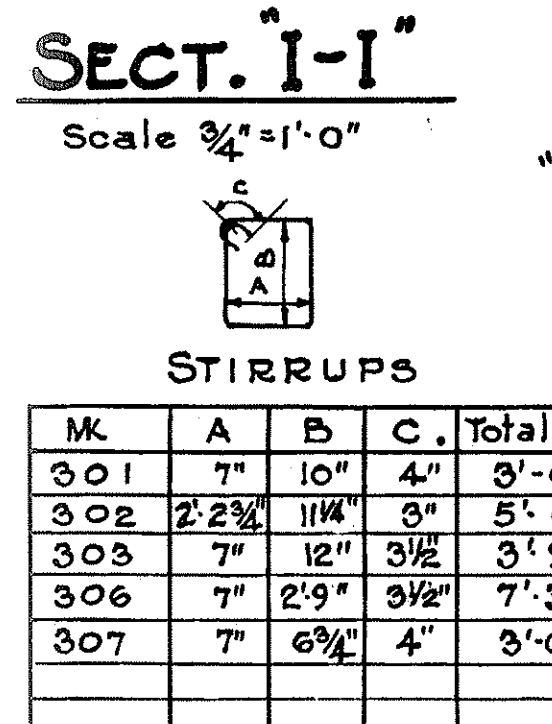
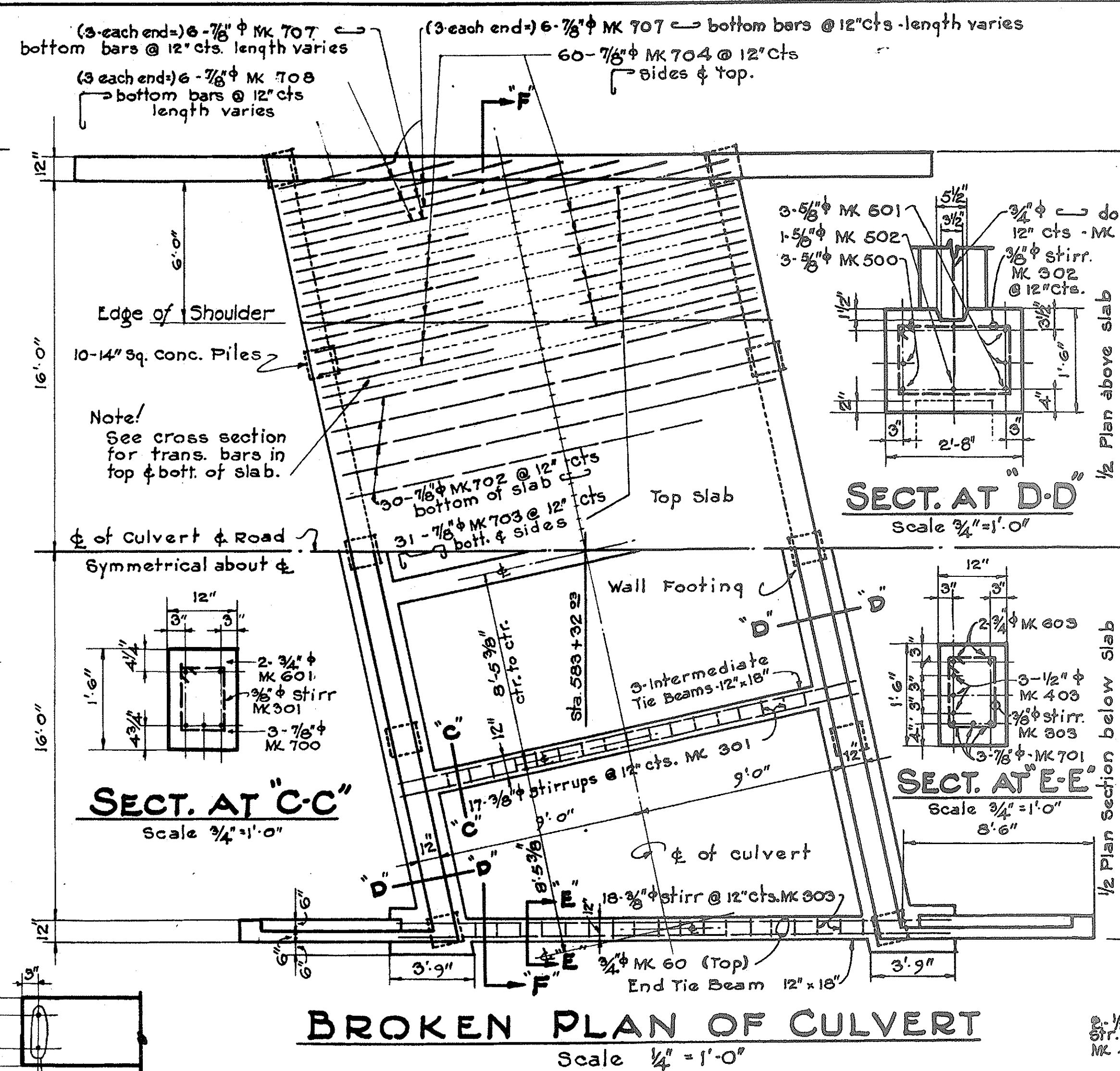


436S.S



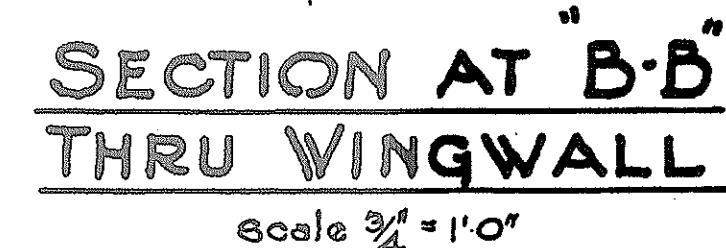
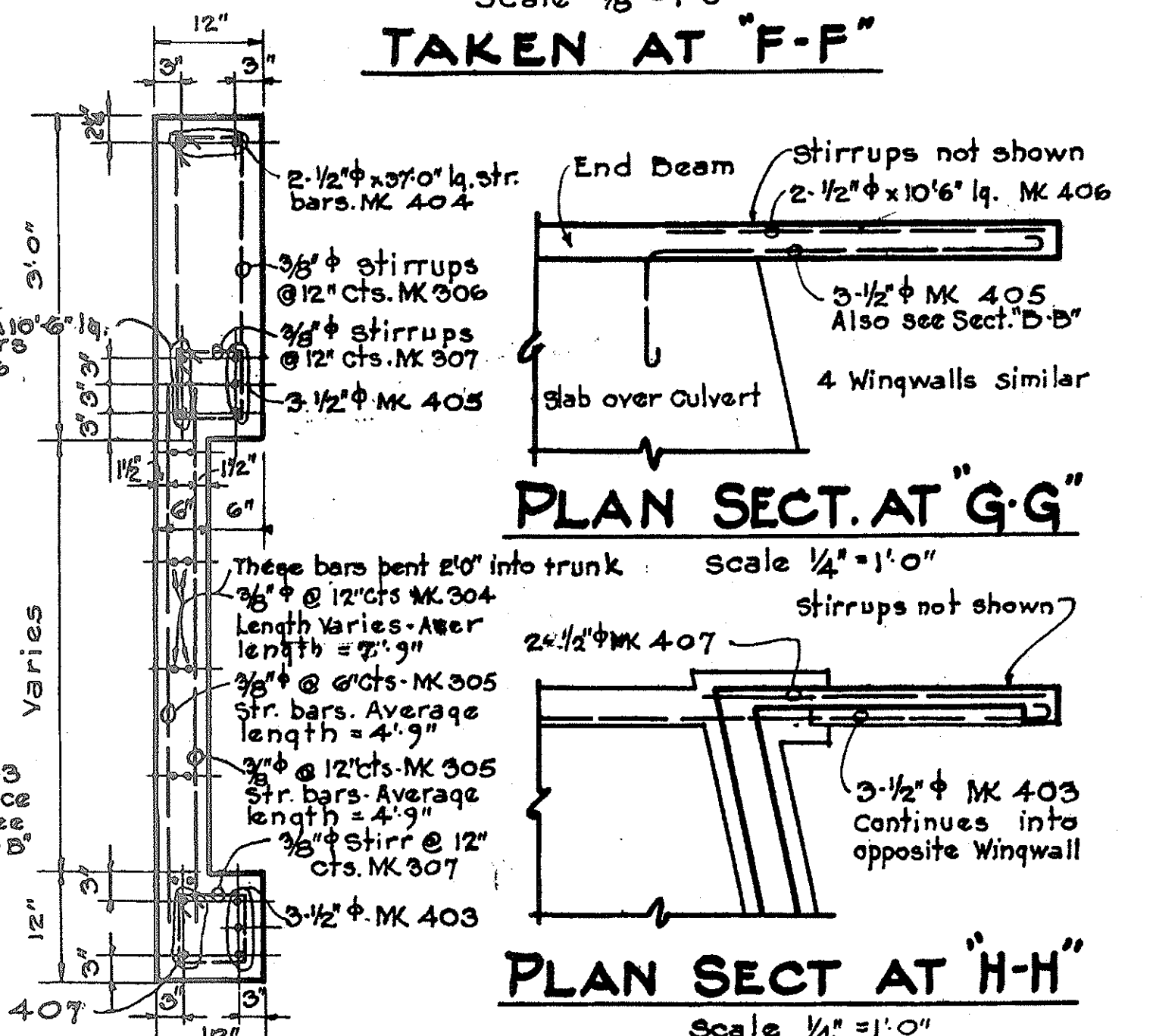
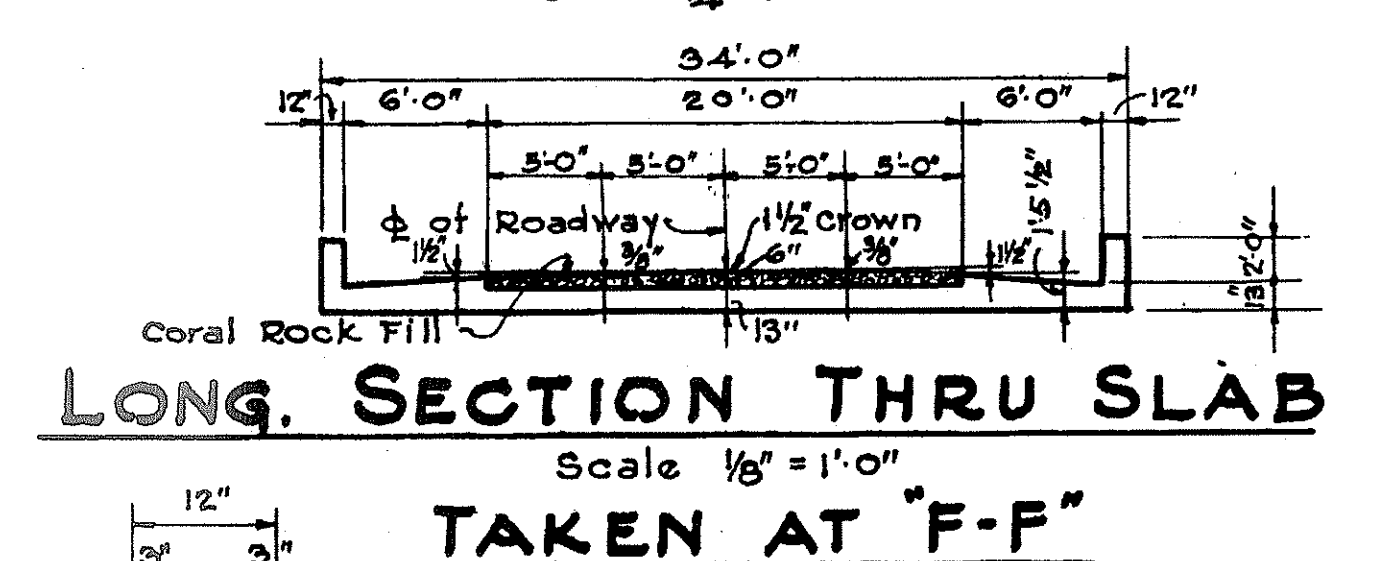
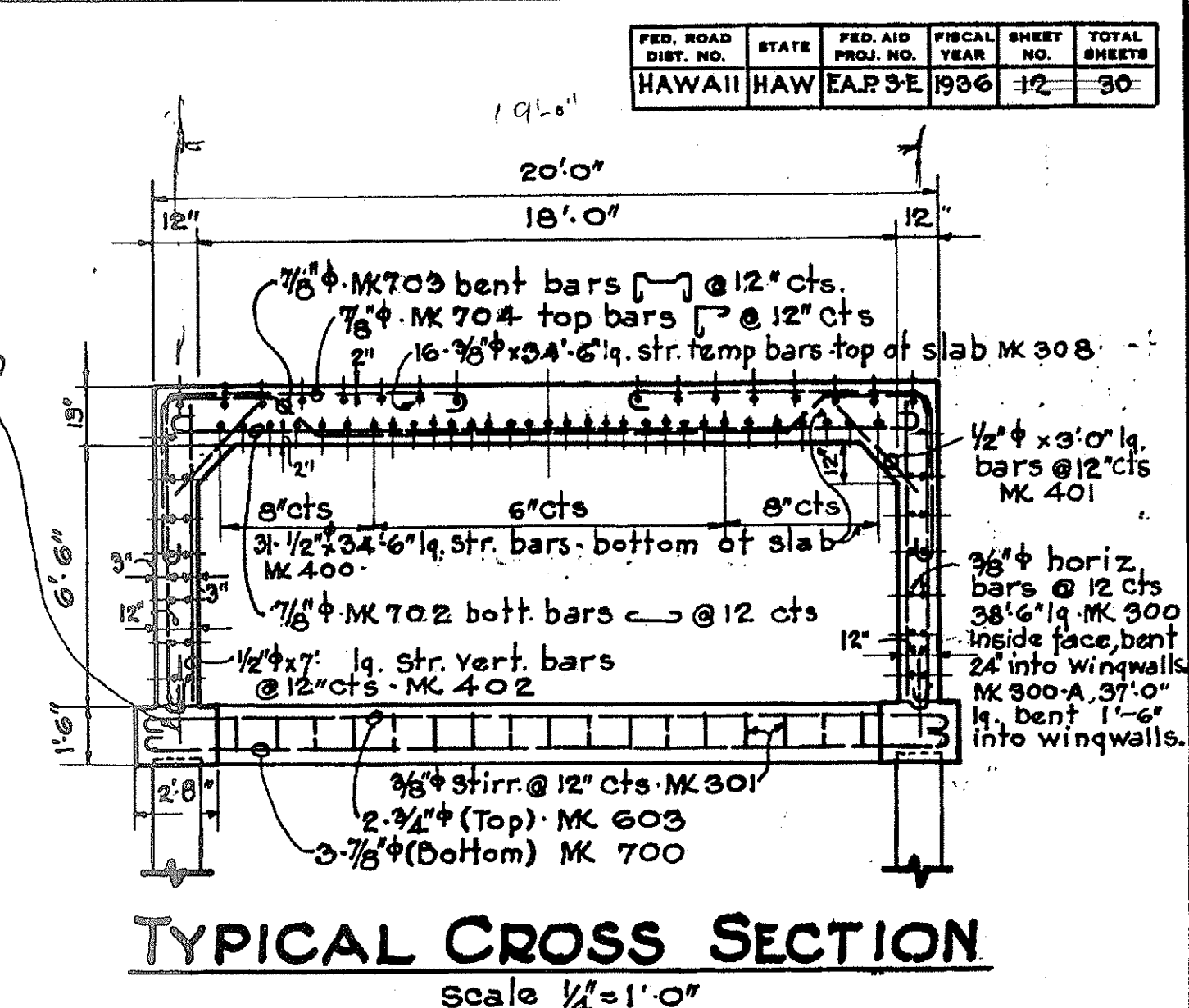
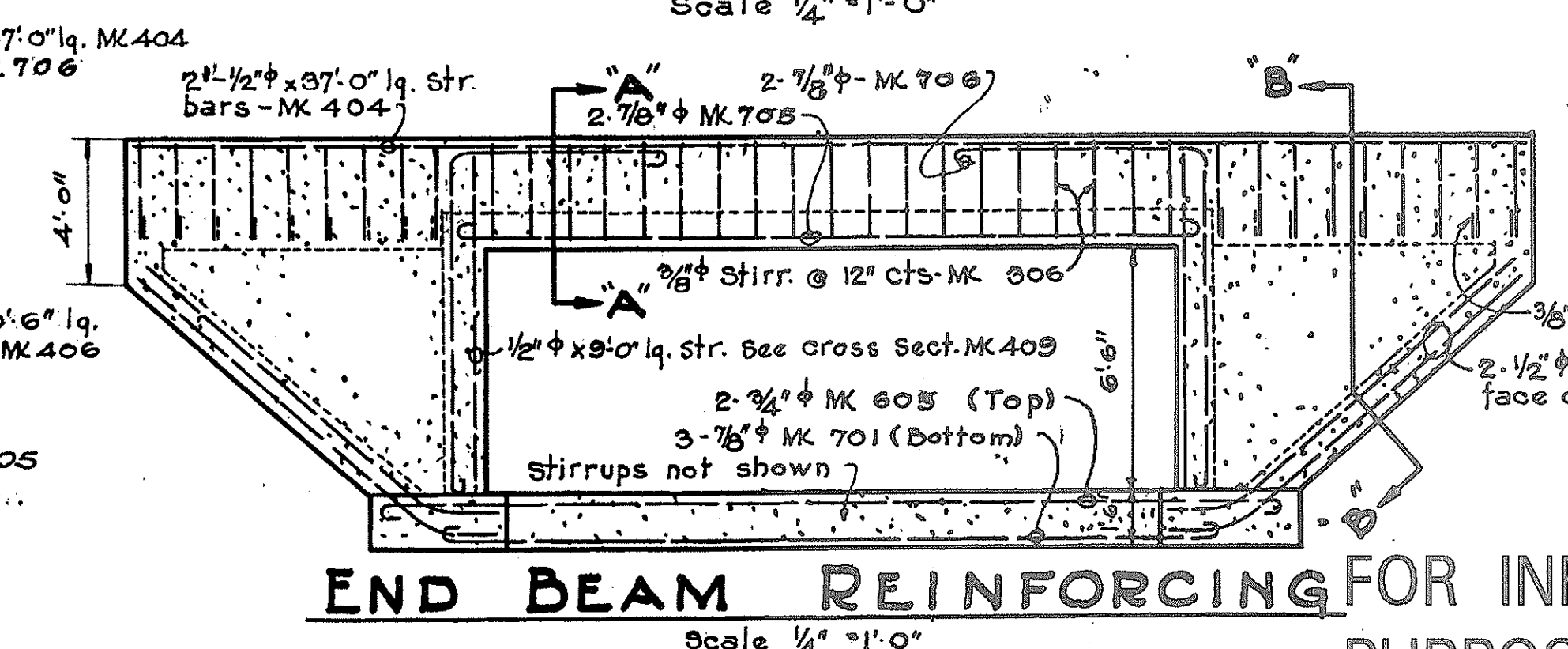
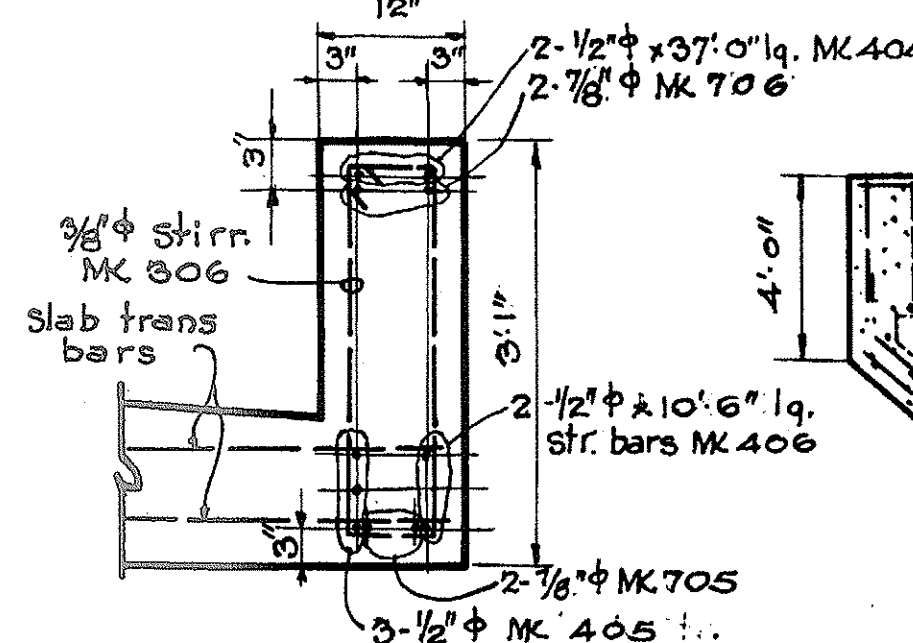
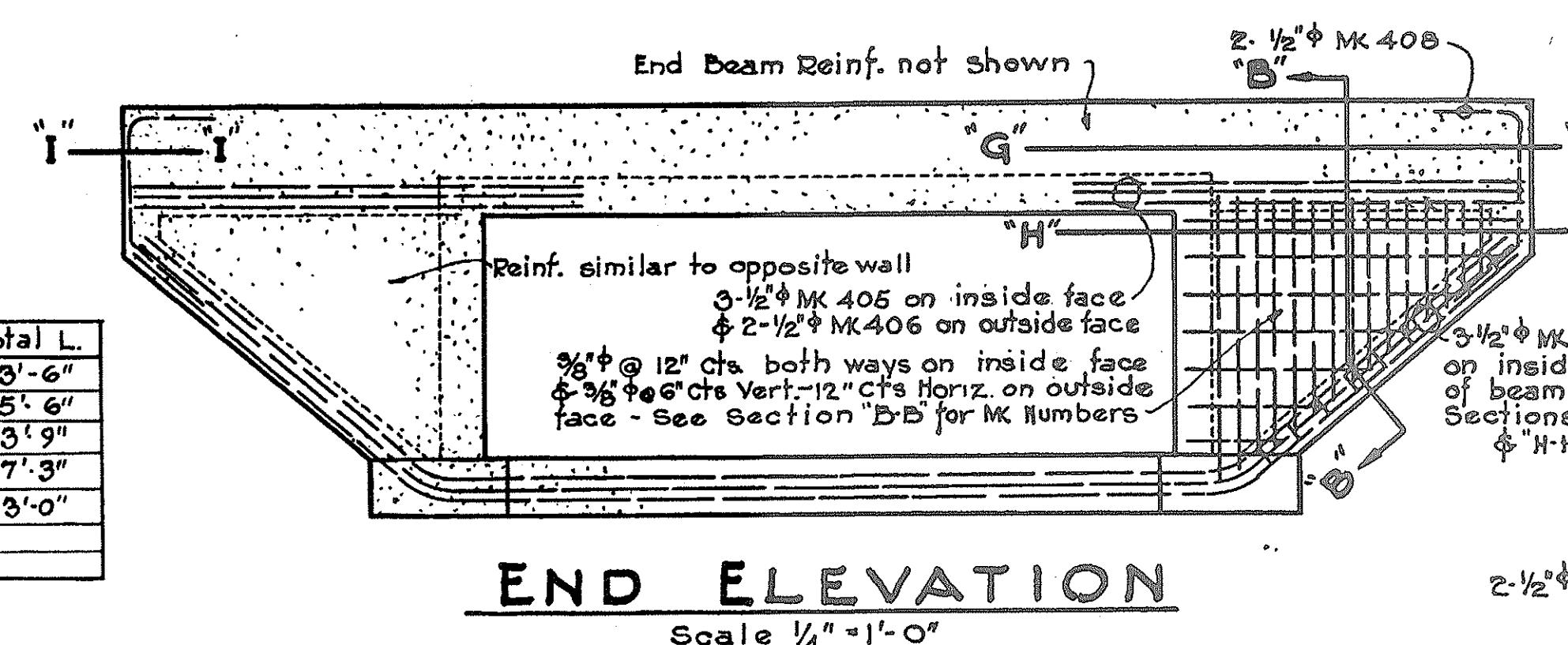
BORING DATA

BENDING SCHEDULE										
Size	Type	MC	A	B	C	D	E	F	G	Total Lgth
7/8"		7 02	15"	19'-0"						21'-6"
"		7 03	15"	12'-6"	2'-9"	12 3/4"	4'-0 3/4"			36'-9"
"		7 04	15"		7'-2"		7'-1"			16'-9"
3/4"		6 01	13"	20'-1"						22'-3"
7/8"		7 00	15"	20'-7"						23'-3"
5/8"		5 00		32'-8"		15'		102°	78°	34'-9"
"		5 01		35'-8"		3'-0"		"	"	41'-3"
"		5 02		34'-9"		2'-0"		"	"	38'-0"
3/4"		6 02	13"	2'-1"						4'-3"
1/2"		4 03	8"	21'-3"		10'-0"		220°	220°	41'-6"
3/4"		6 03	13"	20'-8"						22'-10"
7/8"		7 01	15"	20'-0"						22'-6"
"		7 05	15"	19'-0"						22'-0"
1/2"		4 05	8"		11'-0"		3'-2"			15'-6"
"		4 07		1'-9"		10'-0"		222°		11'-9"
7/8"		7 06	15"		5'-7 1/2"		8'-10 1/2"			17'-0"
1/2"		4 08			3'-6"	2'-3"	2'-0"			7'-9"
7/8"		7 07	15"	11'-3"						13'-9"
"		7 08	15"		7'-8"		7'-1°			17'-3"



STIRRUPS

NO.	A	B	C	Total L.
301	7"	10"	4"	3'-6"
302	2'-2 $\frac{3}{4}$ "	11 $\frac{1}{4}$ "	3"	5'-6"
303	7"	12"	3 $\frac{1}{2}$ "	3'-9"
306	7"	2'-9"	3 $\frac{1}{2}$ "	7'-3"
307	7"	6 $\frac{3}{4}$ "	4"	3'-0"



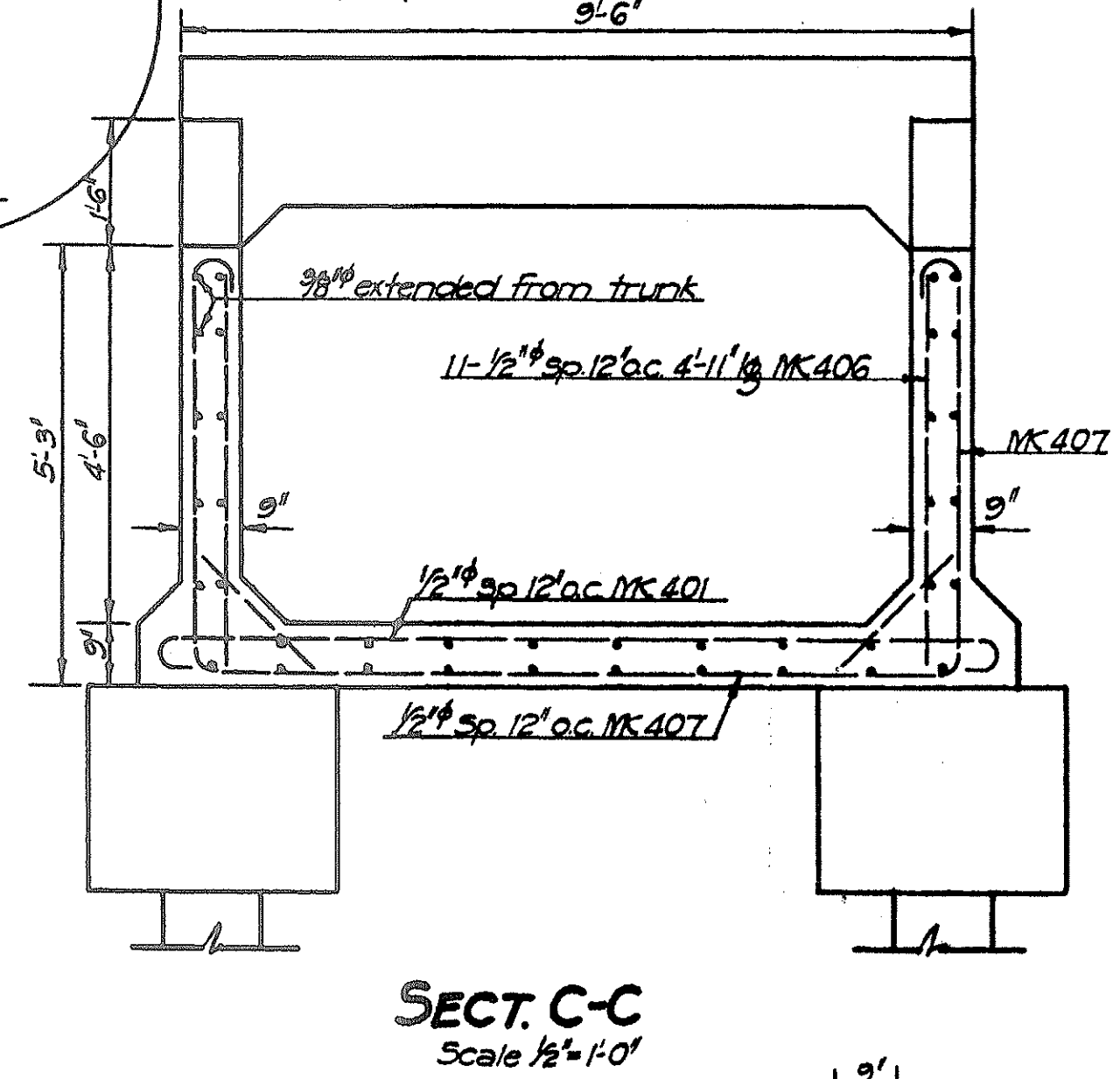
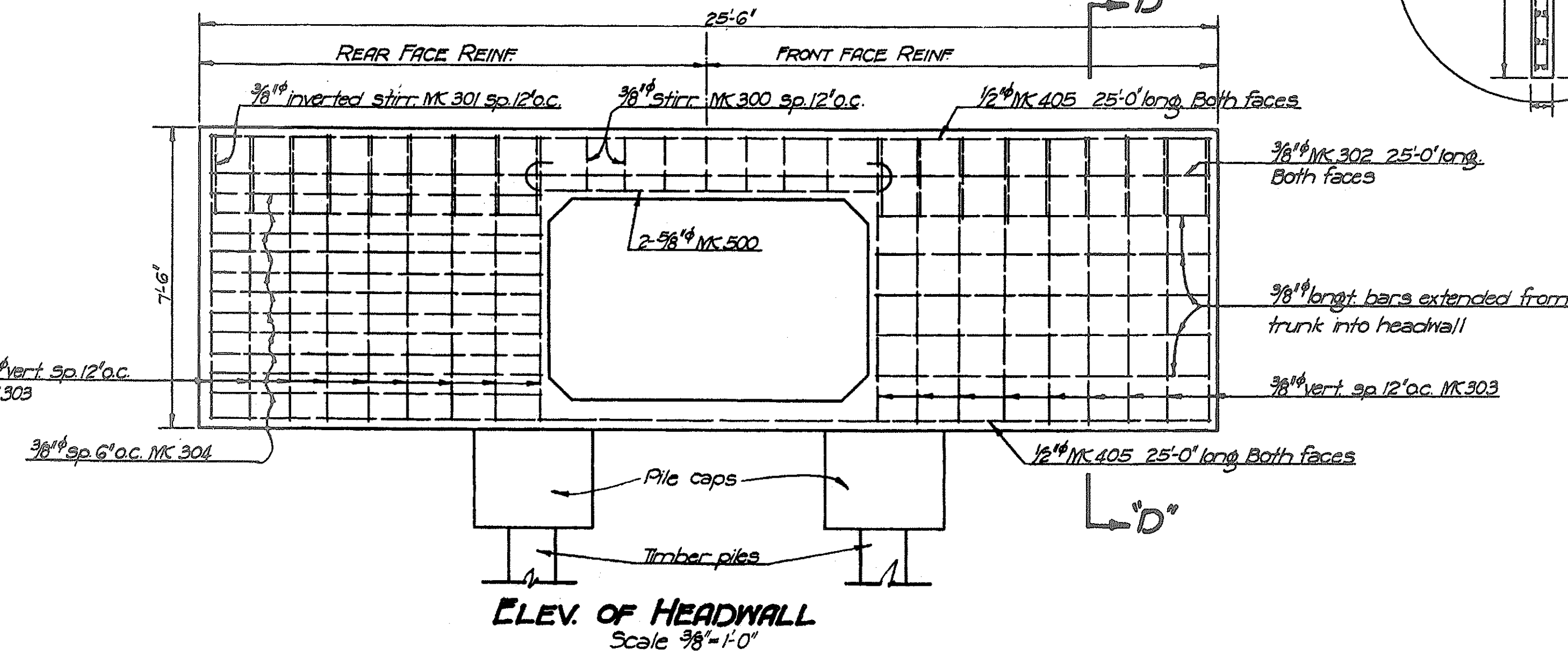
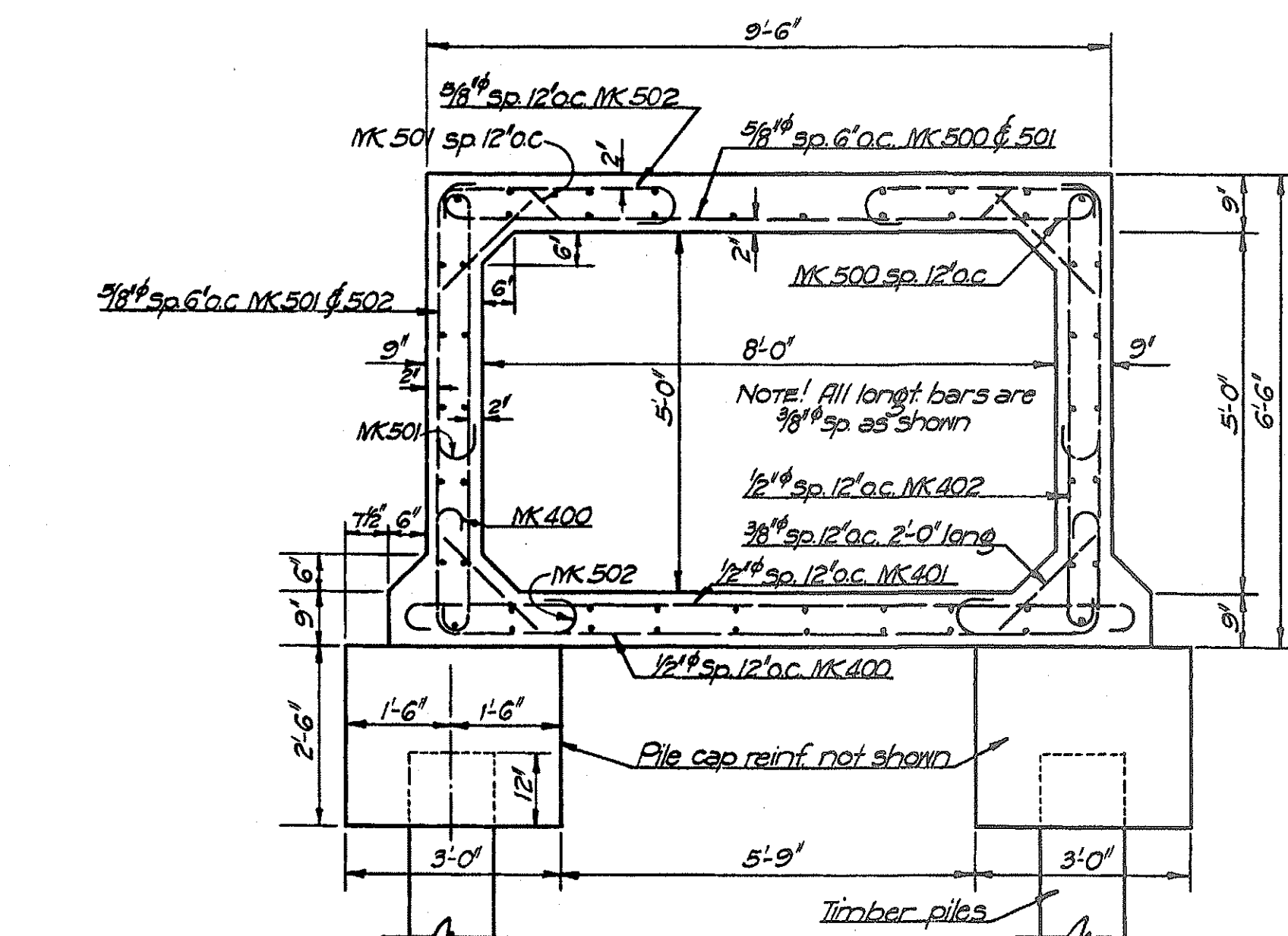
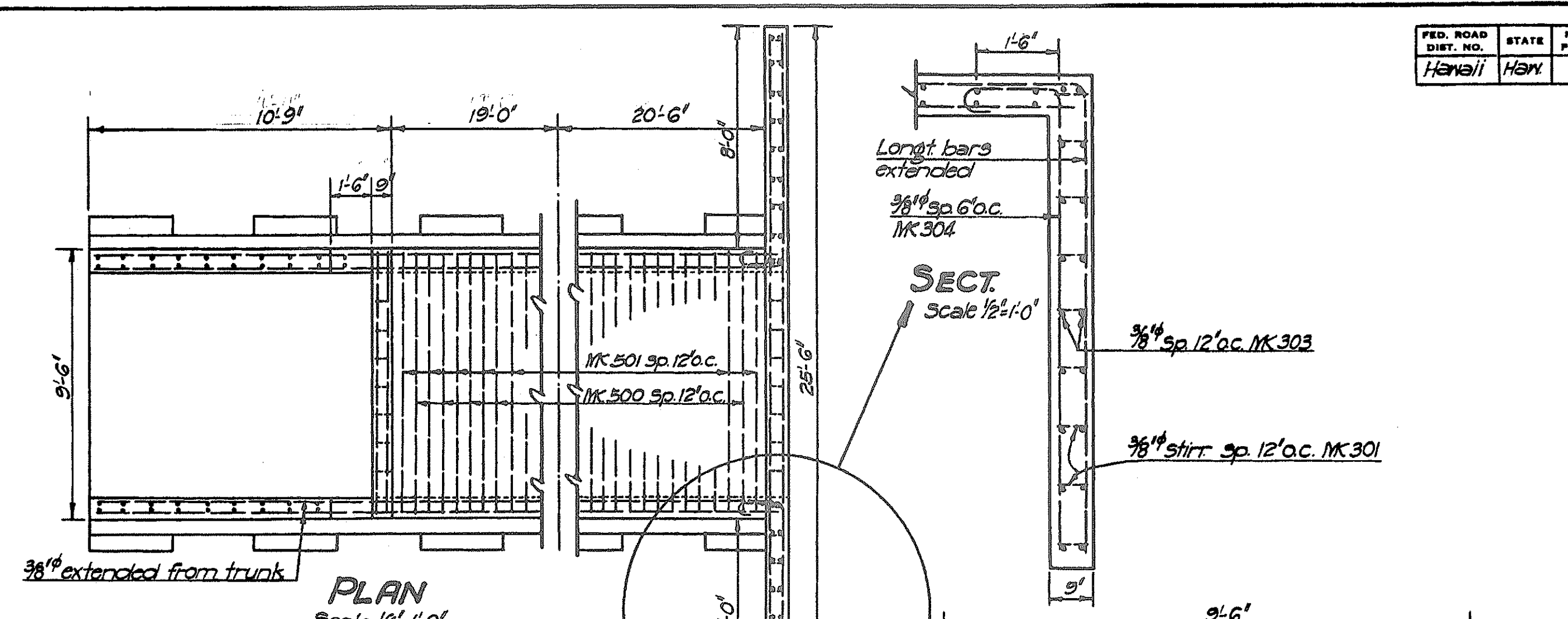
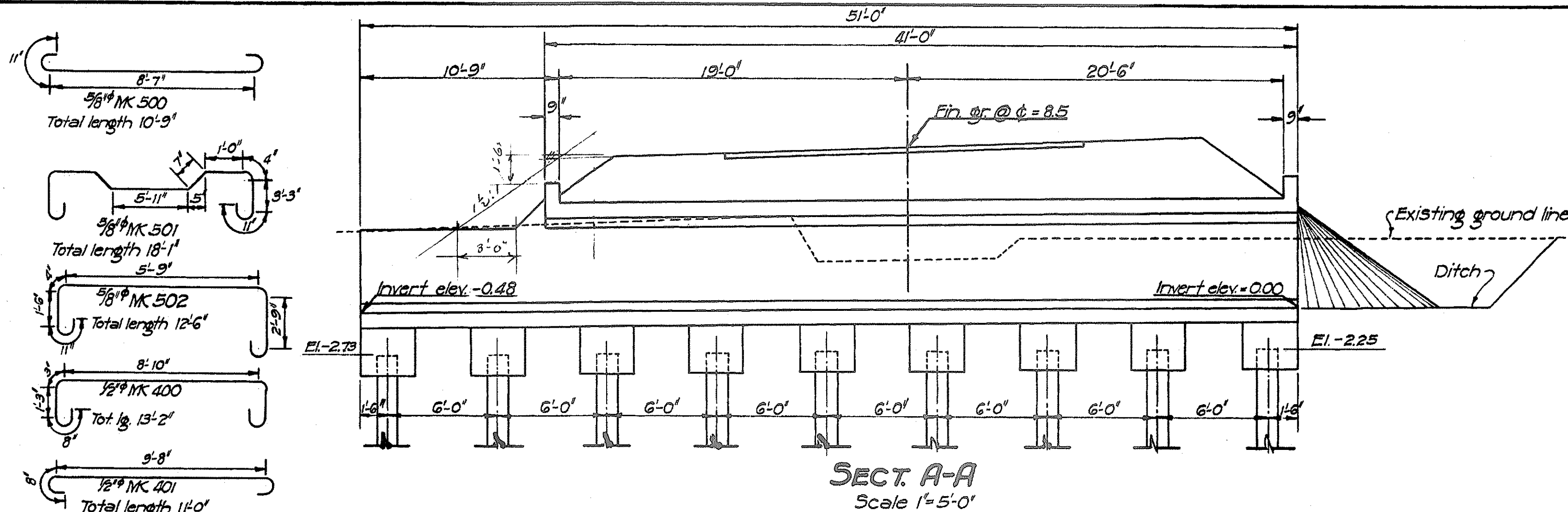
QUANTITIES	
ITEM	AMOUNT
Unclassified Exc.	229 C.Y.
Sstructural Exc.	85 C.Y.
14"x14" Conc. Piles	10
Class "A" Concrete	744 C.Y.
Reinf. Steel	11,733 lbs

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII

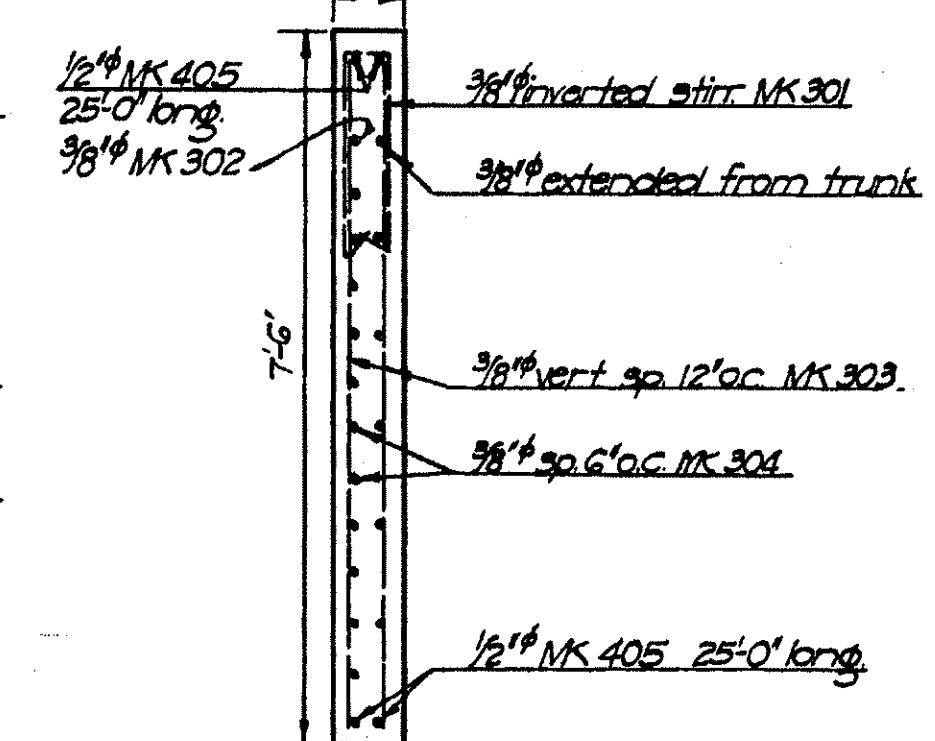
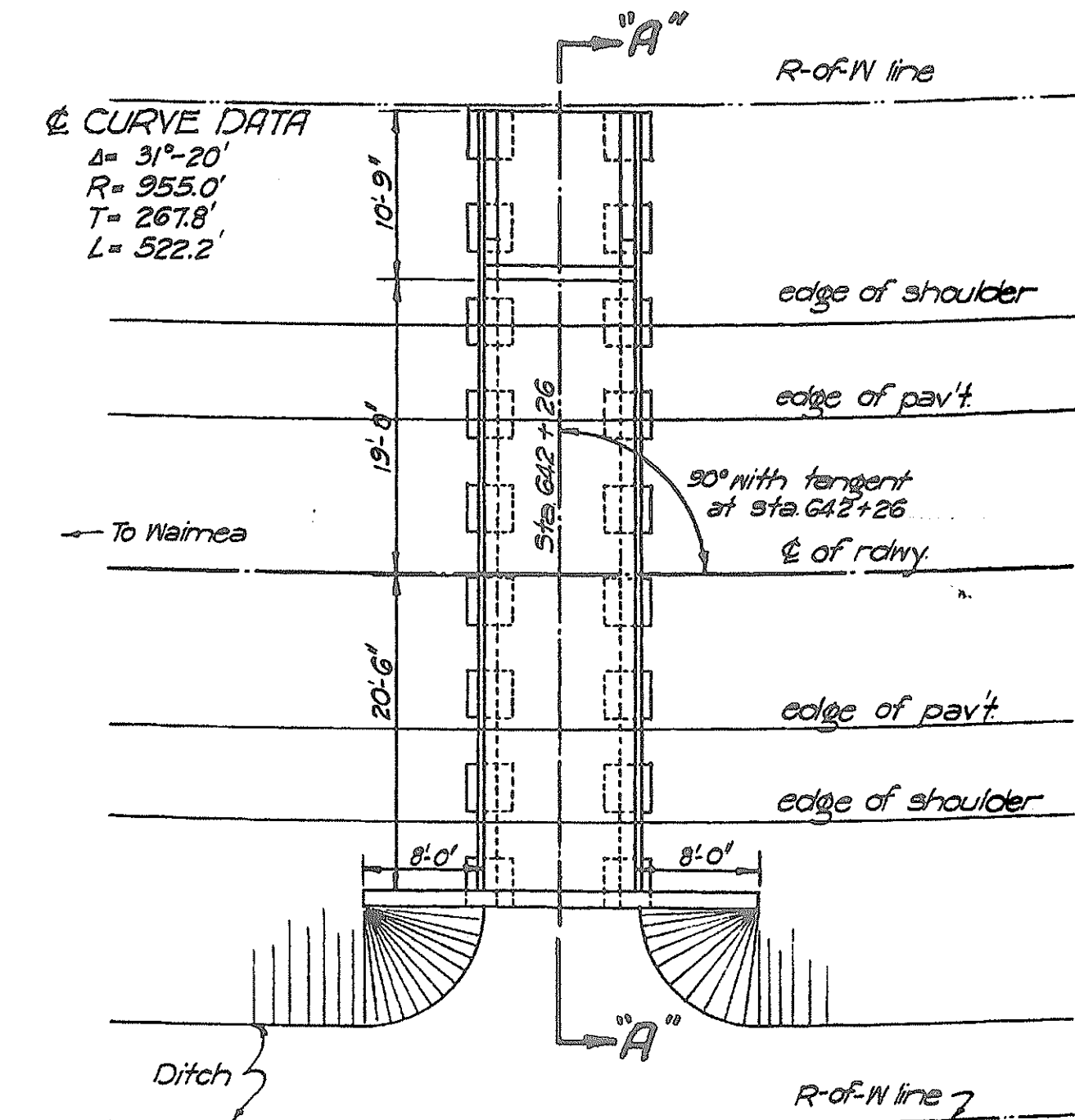
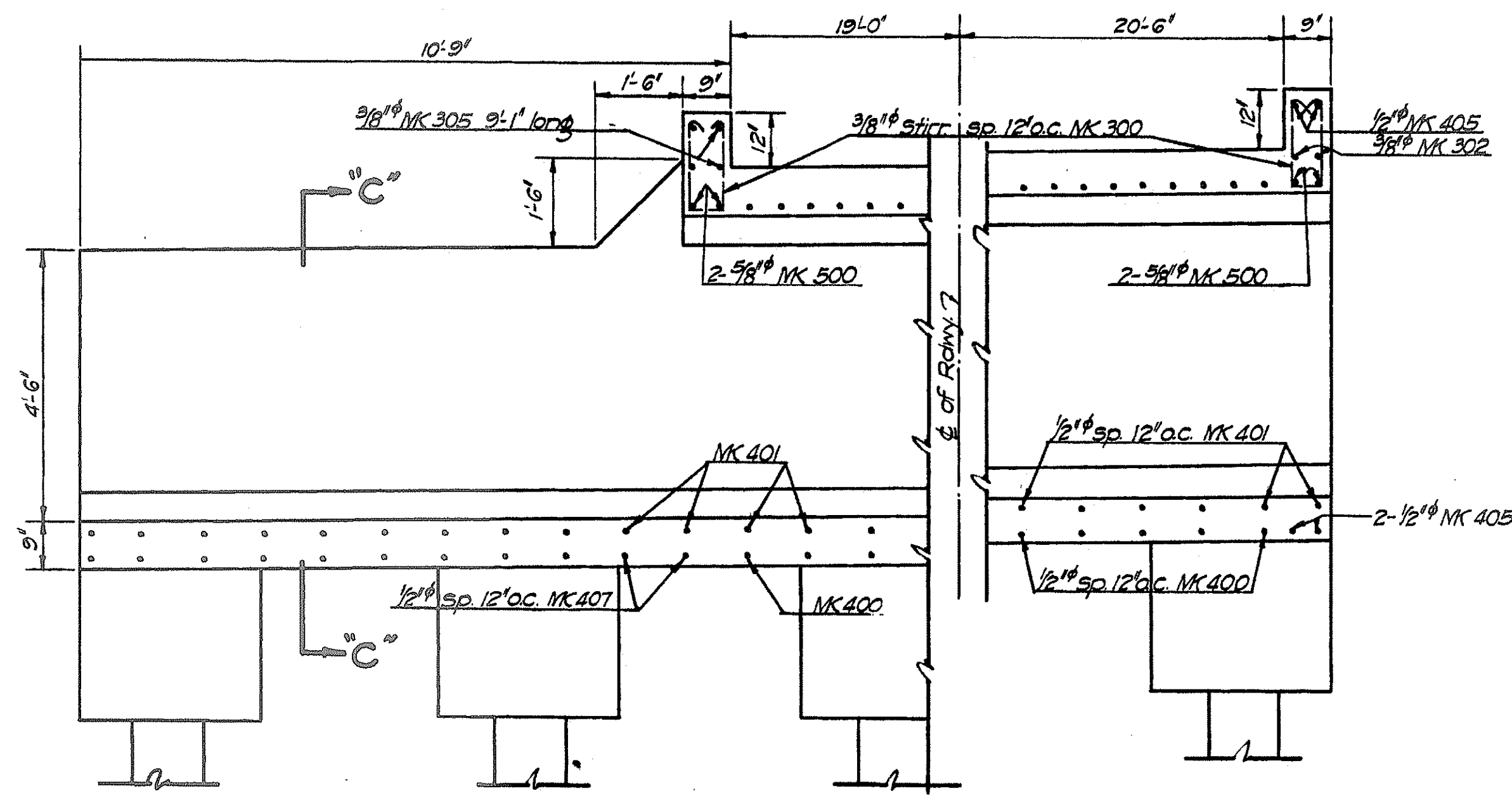
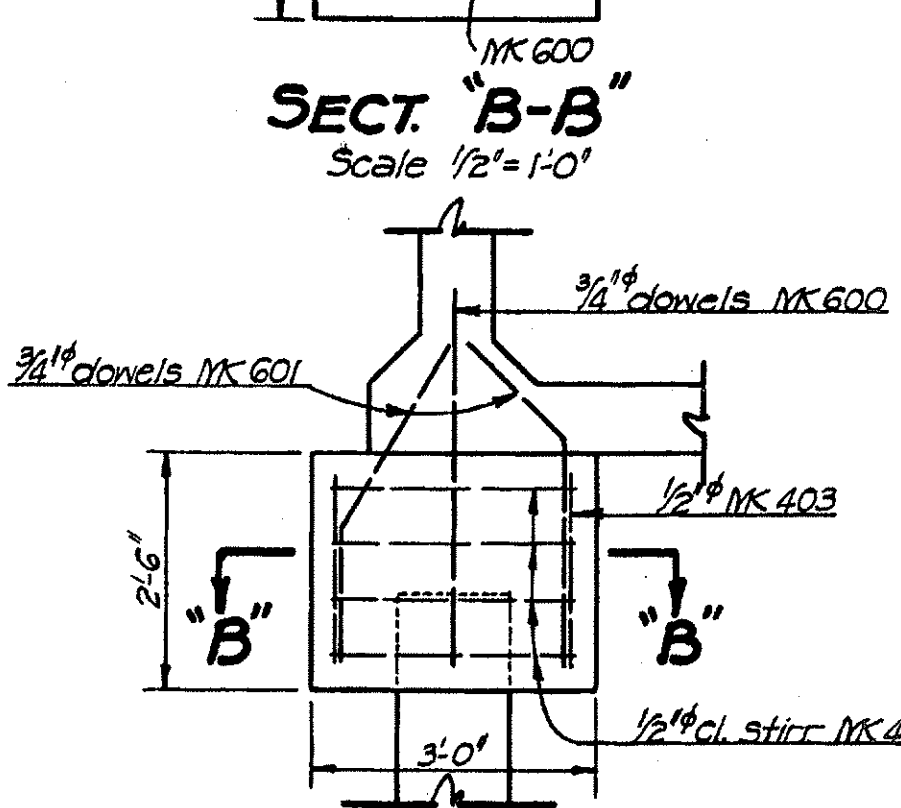
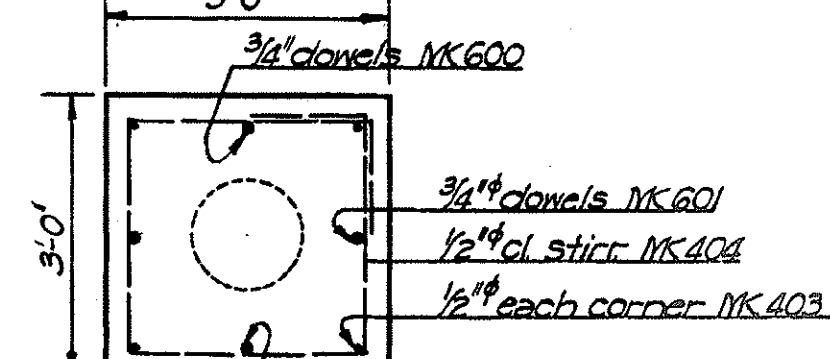
**CONCRETE CULVERT
DETAILS**

BETWEEN STA. 503+21.00 & 503+42.00
KAMEHAMEHA HIGHWAY

SHEET NO. 1 OF 1 SHEETS



TYPICAL SECT. THRU TRUNK
Scale 1/2"=1'-0"



QUANTITIES
Class 'A' Conc. 59 C.Y.
Reinf Steel 5800 lbs.
Struc. Exc. 196 C.Y.
Timber piles 30' long, 540 lin. ft.

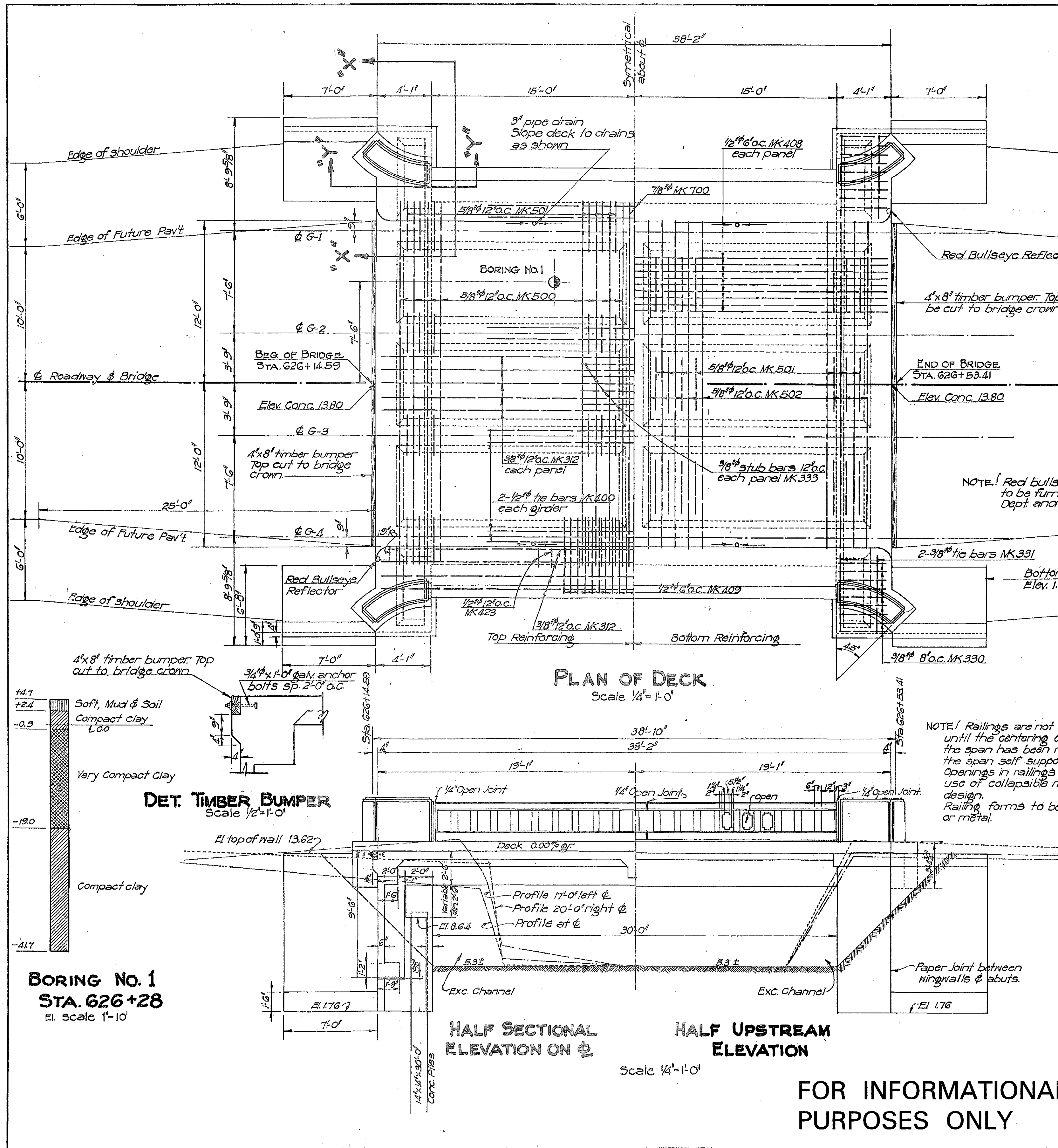
TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
5'x8' CONC. BOX CULVERT
STA. 642+26
KAMEHAMEHA HIGHWAY F.A.P. 3-E

FOR INFORMATIONAL
PURPOSES ONLY

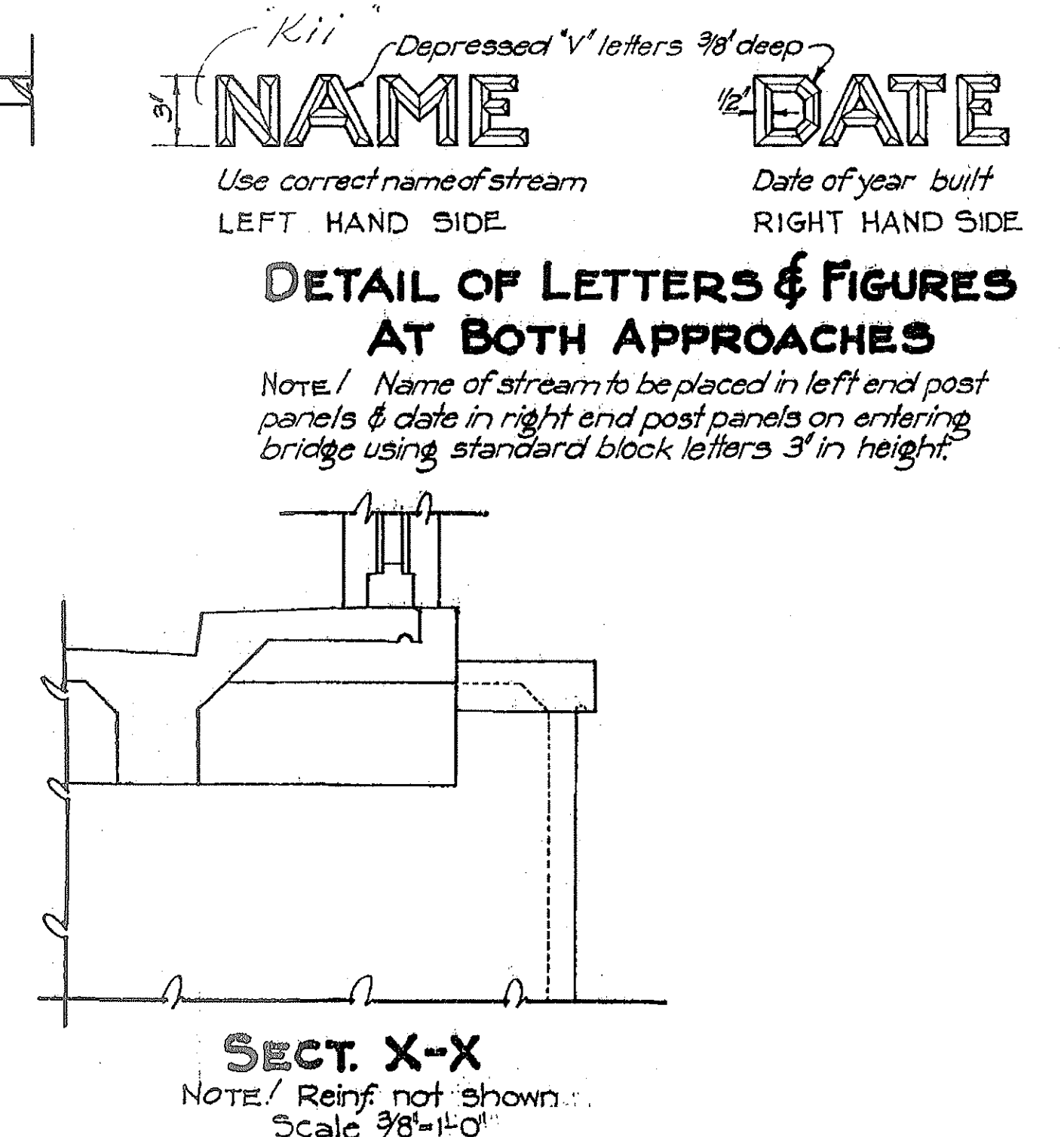
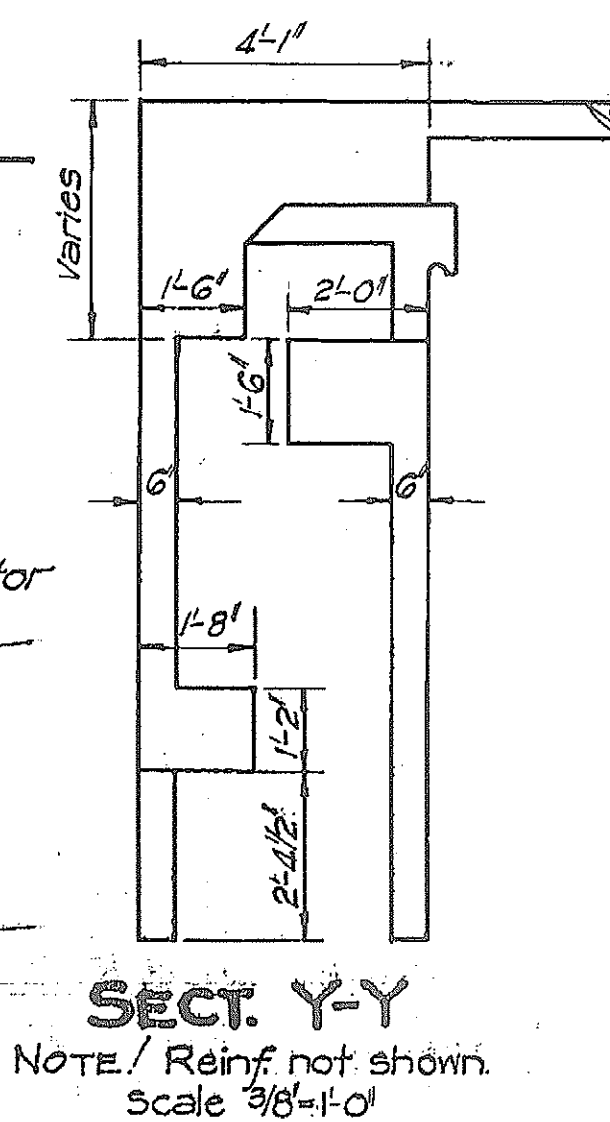
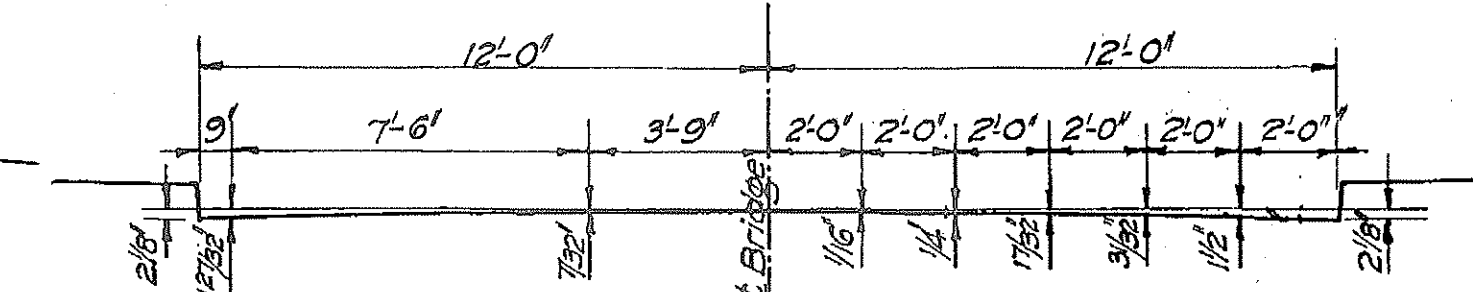
NOTE! This sheet supercedes
Sheet 4368.13

DESIGNED BY: R. B. Bartels
DRAWN BY: M. R. Bartels
CHECKED BY: M. R. Bartels
DATE: Jan. 1936

DATE 1/15/66
DESIGNED BY H. B. S.
DRAWN BY H. B. S.
CHECKED BY C. F. Wagner
ORIGINAL PLAN
NOTE BOOK
No.



ESTIMATED QUANTITIES						
Location	Uncl. Exc. c.y.	Str. Exc. c.y.	Class 'A' Conc. c.y.	Reinf. Steel lbs.	25' Conc. Piles 14" x 14"	30' Conc. Piles 14" x 14"
Footings	70	317	10.4	1,112.0	16	
Abutment			55.2	8,908.0		14
Superstr.			56.5	15,099.0		
Railing			8.0	535.0		
TOTALS	70	317	130.1	25,654.0	16	14



GENERAL NOTES

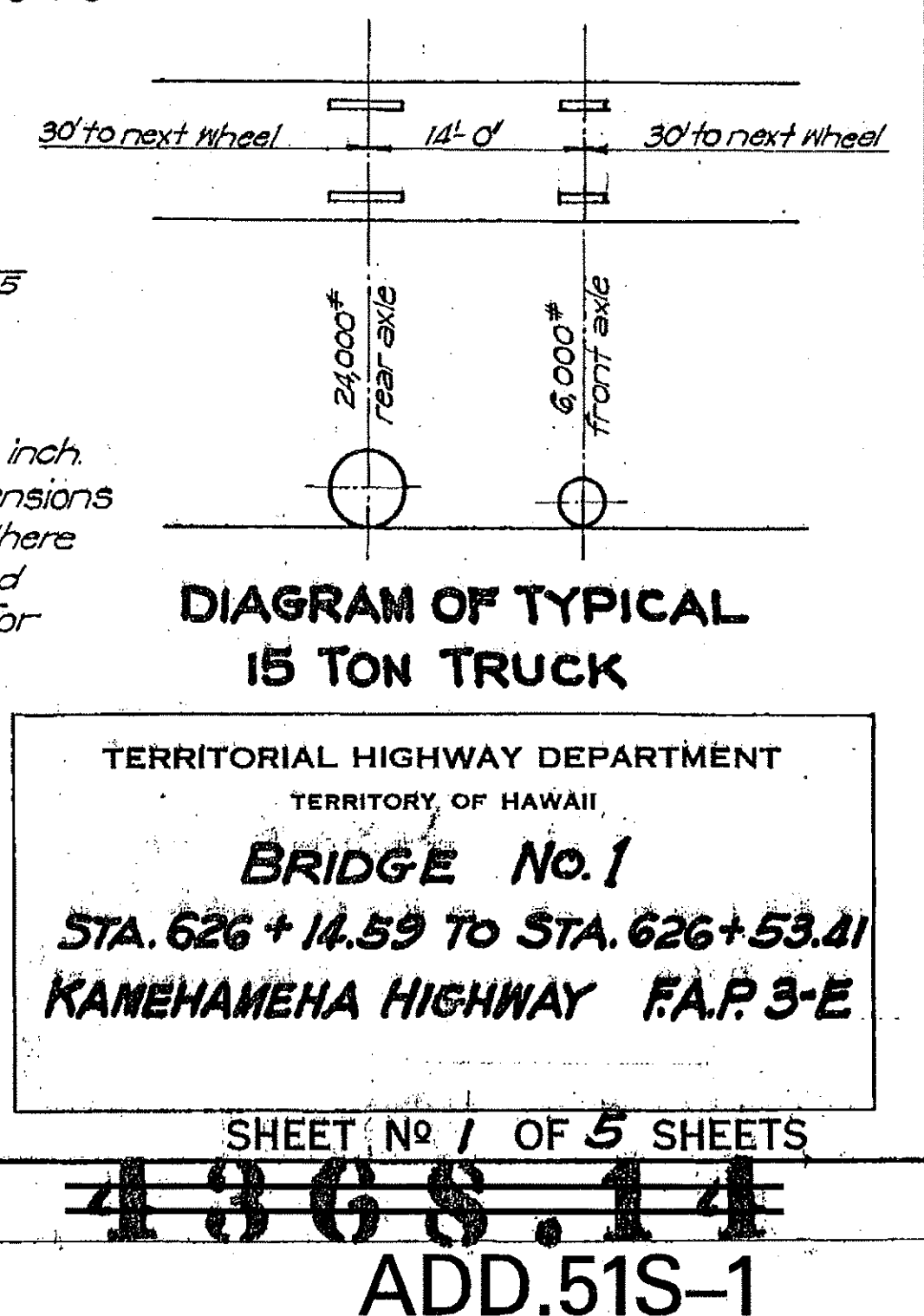
Dead Load: Concrete at 150* per cu. ft.
Live Load: Train of 15 ton trucks in two traffic lanes. Impact allowance $L+125$
Spacing of trucks as per diagram.

Concrete: Class 'A' (1:2:4) with all exposed edges chamfered 3/4" unless otherwise noted. Allowable compression 900* per sq. inch.

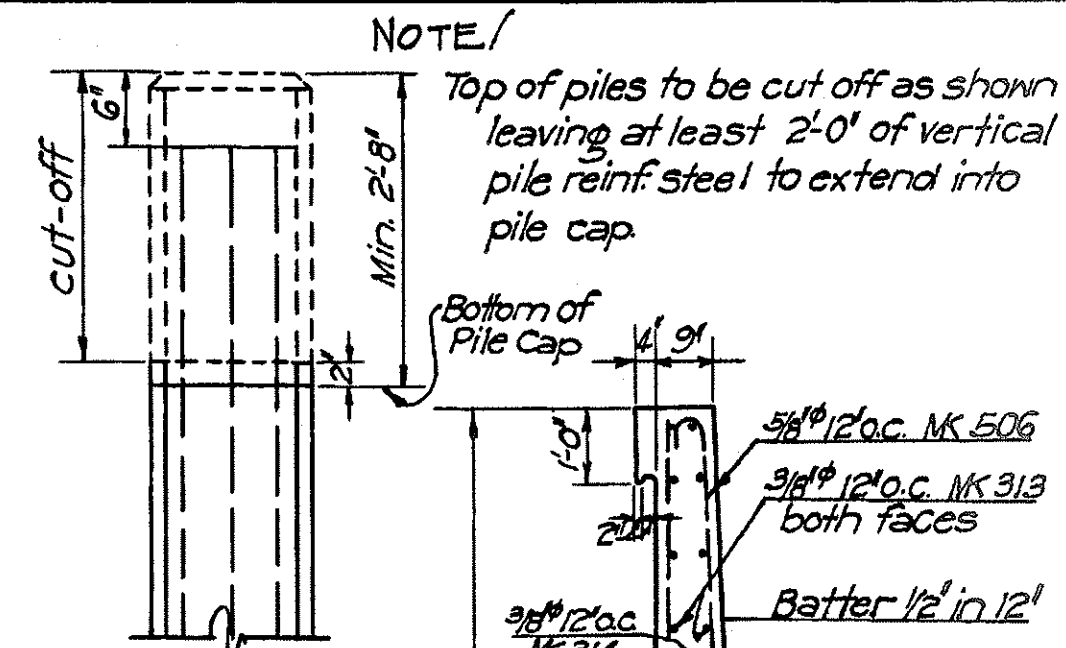
Reinforcing Steel: Intermediate grade, allowable tensile stress 18,000* per sq. inch. All steel to be round or square, deformed bars of approved design. All dimensions relating to reinforcing are to centers of bars unless otherwise noted. Where splicing of reinforcing is necessary, bars are to be lapped 40 diameters and splices are to be staggered. No allowance will be made in the quantities for extra weight of steel required for splicing. Unless otherwise noted the minimum covering measured from the surface of concrete to the face of any steel shall be not less than 2 1/2" in abutments and abutment footings, 2" in beams, girders and handrails and 1" in slabs. Steel to be held rigidly & accurately in place before & during placing of concrete.

Brush Coat Waterproofing: Remove all projections, cement film, dirt etc. Apply Waterproofing as specified. Waterproofing is incidental to the concrete used, and will not be paid for separately.

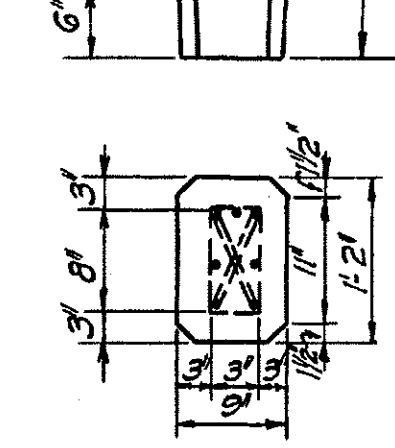
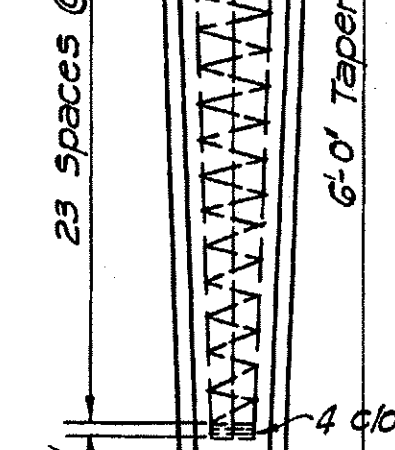
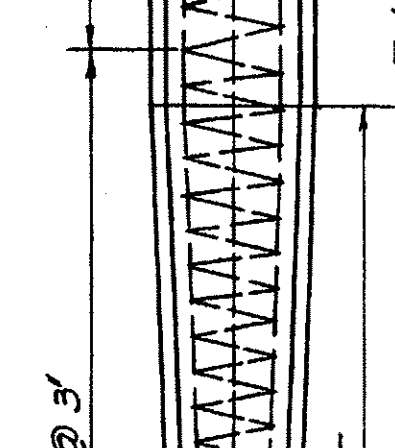
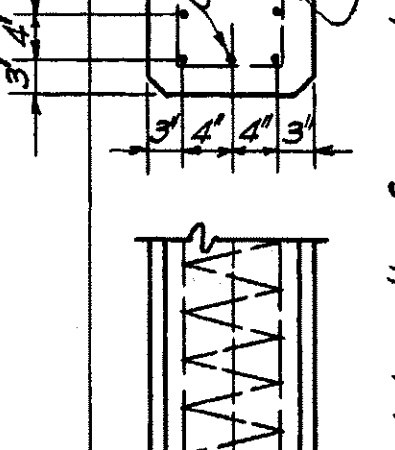
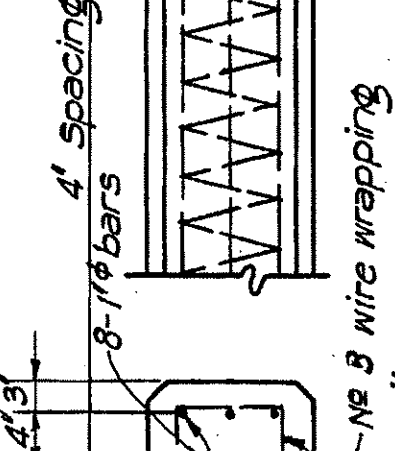
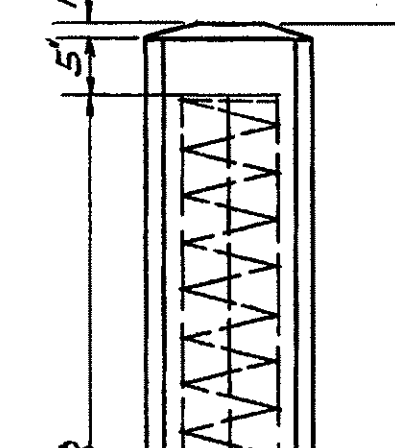
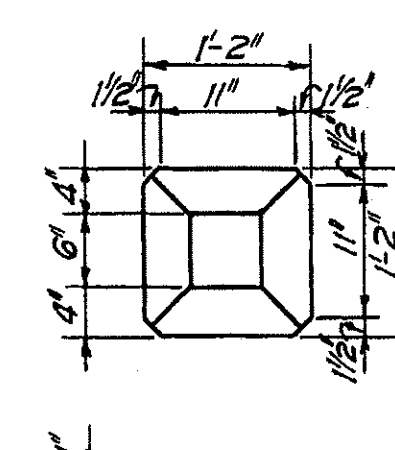
Construction Joints: All construction joints to have surface roughened and 1:2 cement grout applied immediately before second pour.



FOR INFORMATIONAL PURPOSES ONLY



DETAIL OF PILE CUT-OFF



DETAIL 14'x14' PRECAST CONCRETE PILE
Scale 3/8"-1'-0"

SECT. THRU WINGWALL
Scale 3/8"-1'-0"

Elev. tip all wingwall piles = -200

4" Spacing

8" wire wrapping

No. 3 wire wrapping

Total length of concrete pile

6'-0" Taper

4 close turns

23 Spaces @ 3'

6'-0" Taper

4 close turns

23 Spaces @ 3'

6'-0" Taper

4 close turns

23 Spaces @ 3'

6'-0" Taper

4 close turns

23 Spaces @ 3'

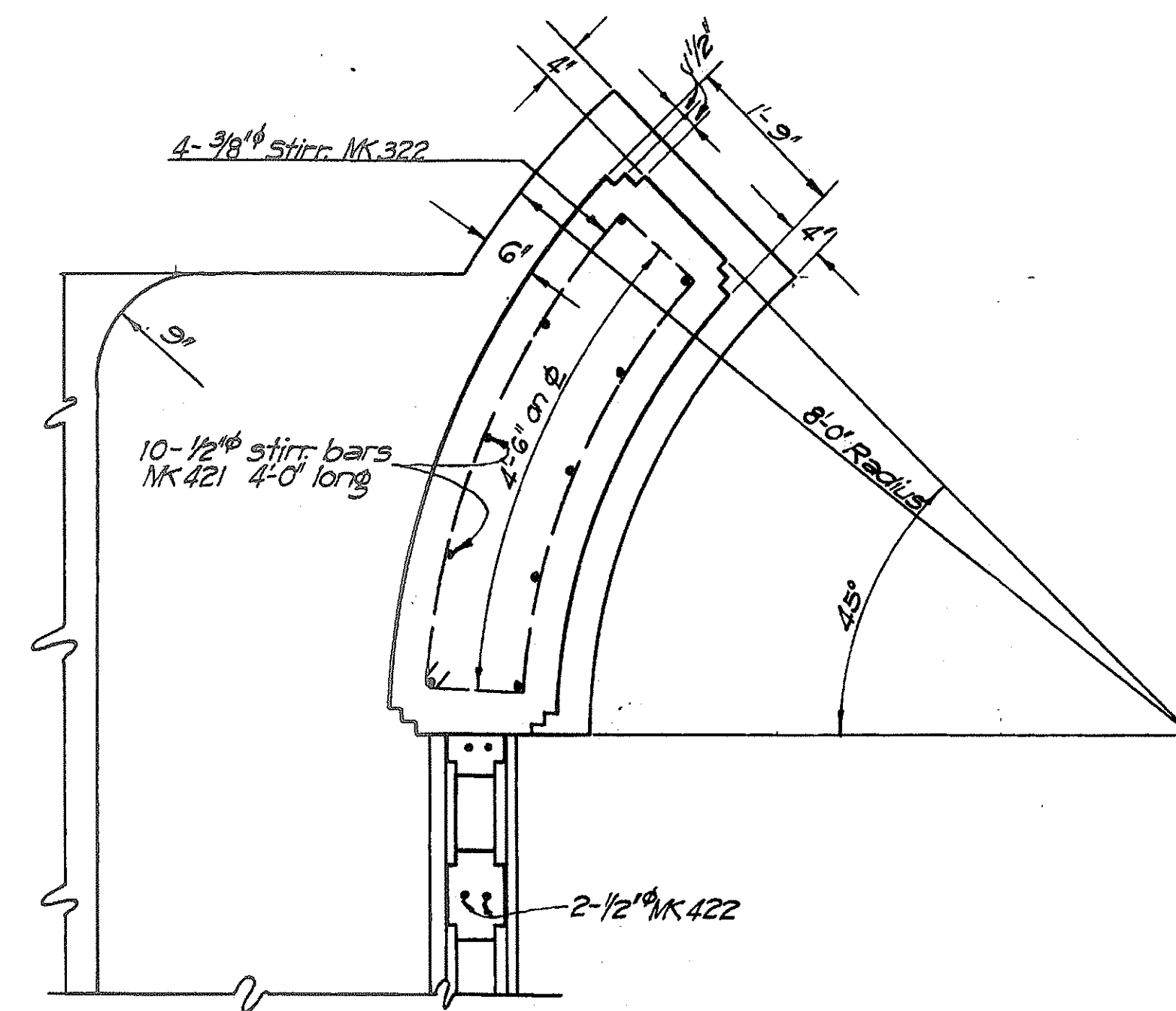
6'-0" Taper

4 close turns

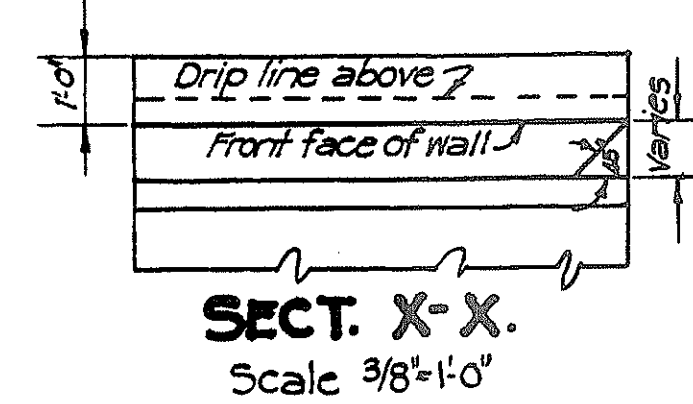
23 Spaces @ 3'

6'-0" Taper

4 close turns



END POST DETAIL
Scale 3/4"-1'-0"



SECT. X-X
Scale 3/8"-1'-0"

NOTE!
All wingwalls and wingwall footings are to be separated from main structure walls, brackets, post, etc. by a paper joint.

7'-0"

9'

2'-7"

10'-4 5/16"

1'-2"

4'-0"

1'-6"

1'-2"

1'-6"

1'-6"

1'-6"

1'-6"

1'-6"

1'-6"

1'-6"

1'-6"

1'-6"

1'-6"

1'-6"

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1'-6"

1'-6"

1'-6"

1'-6"

1'-6"

1'-6"

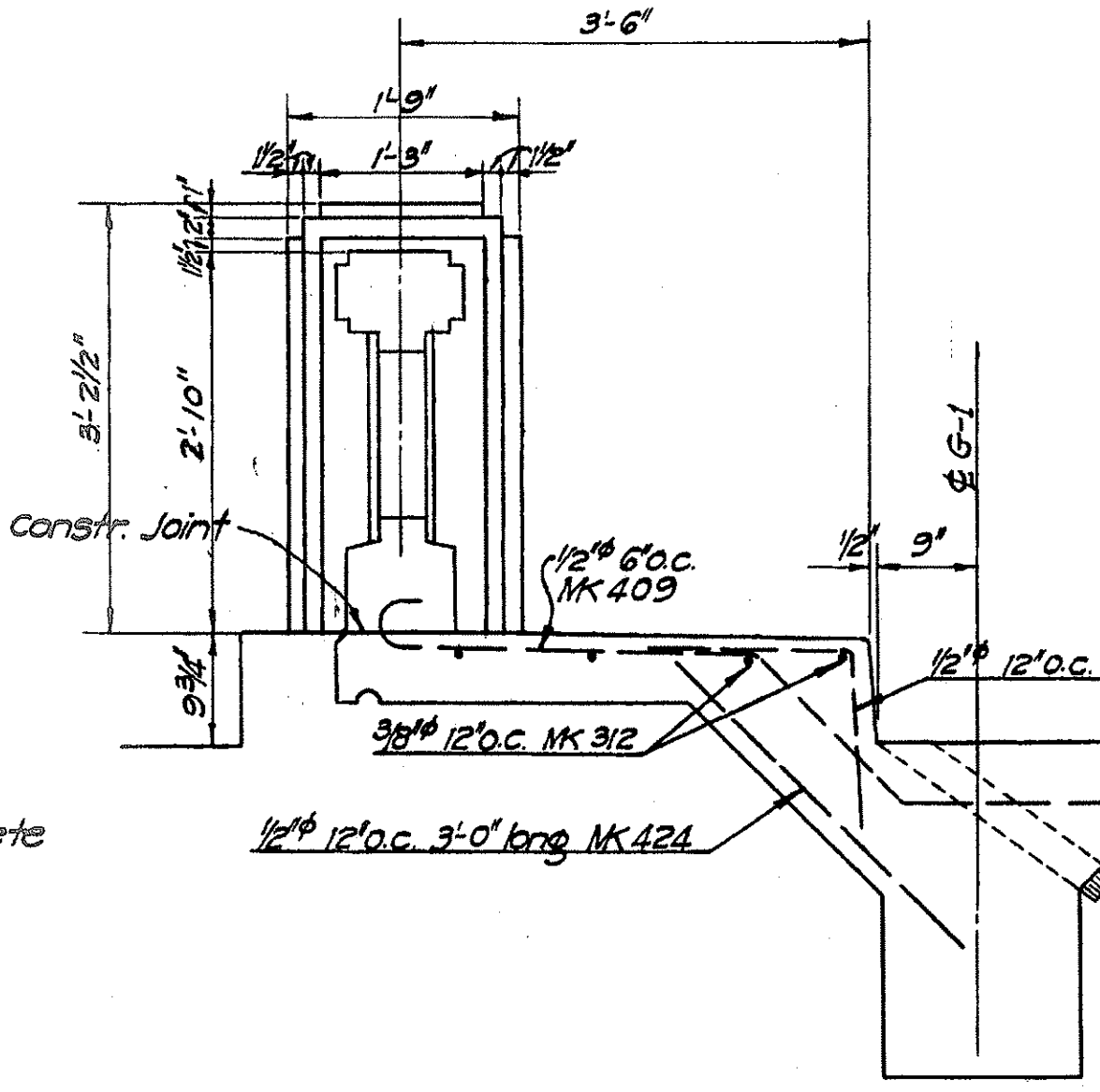
1'-6"

1'-6"

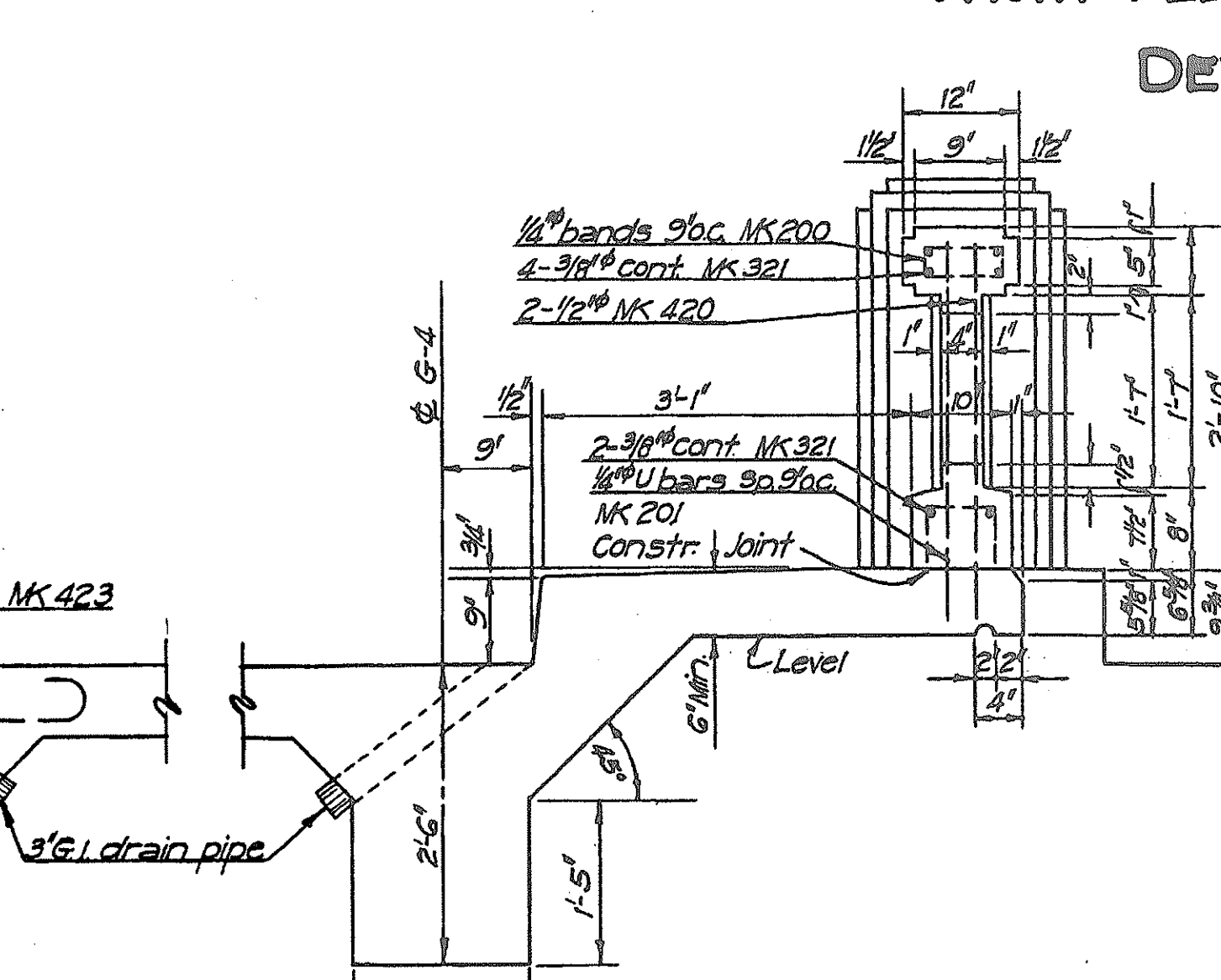
1'-6"

1'-6"

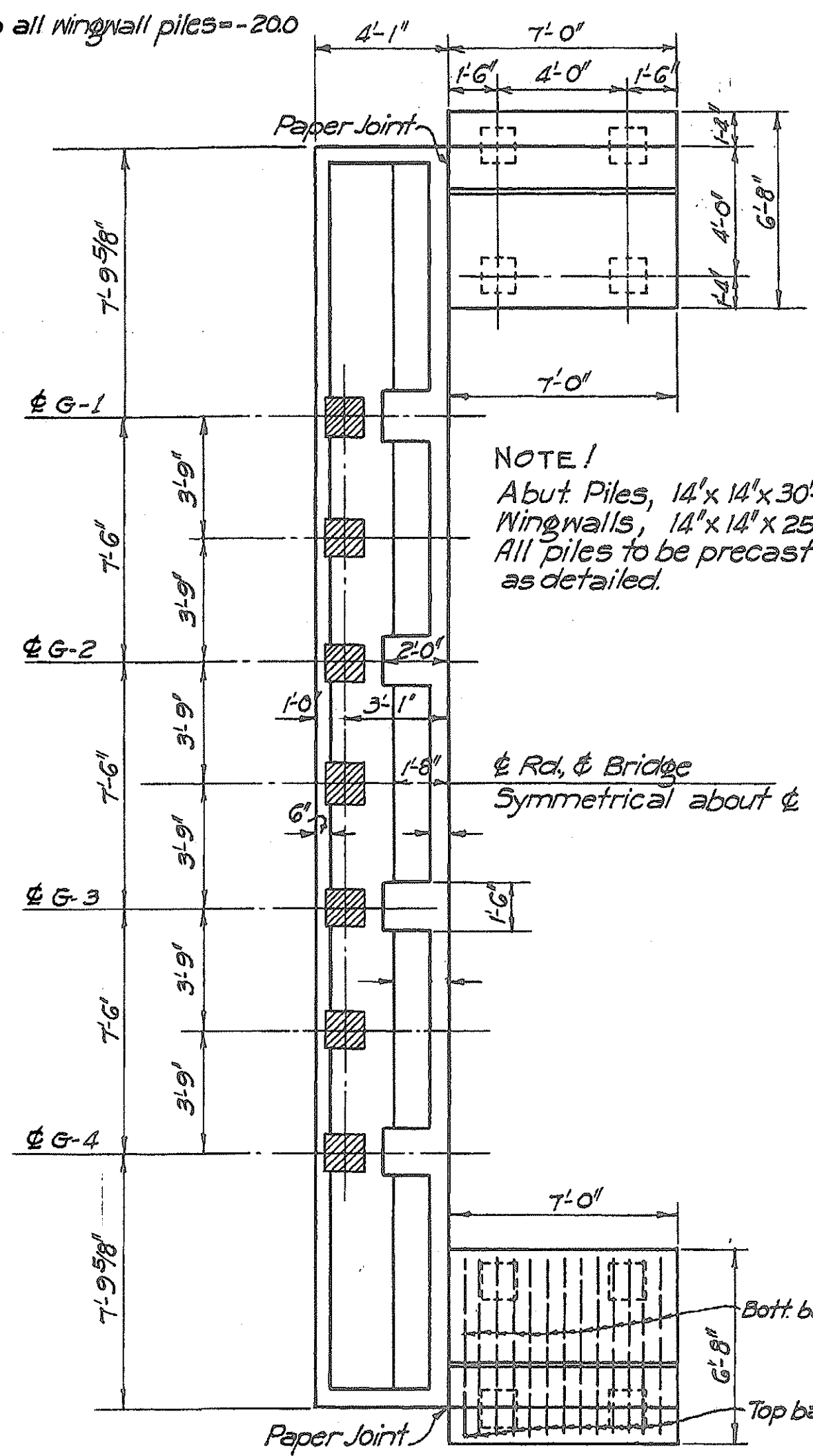
1'-6"



DETAIL SHOWING SIDEWALK REINF
Scale 3/4"-1'-0"

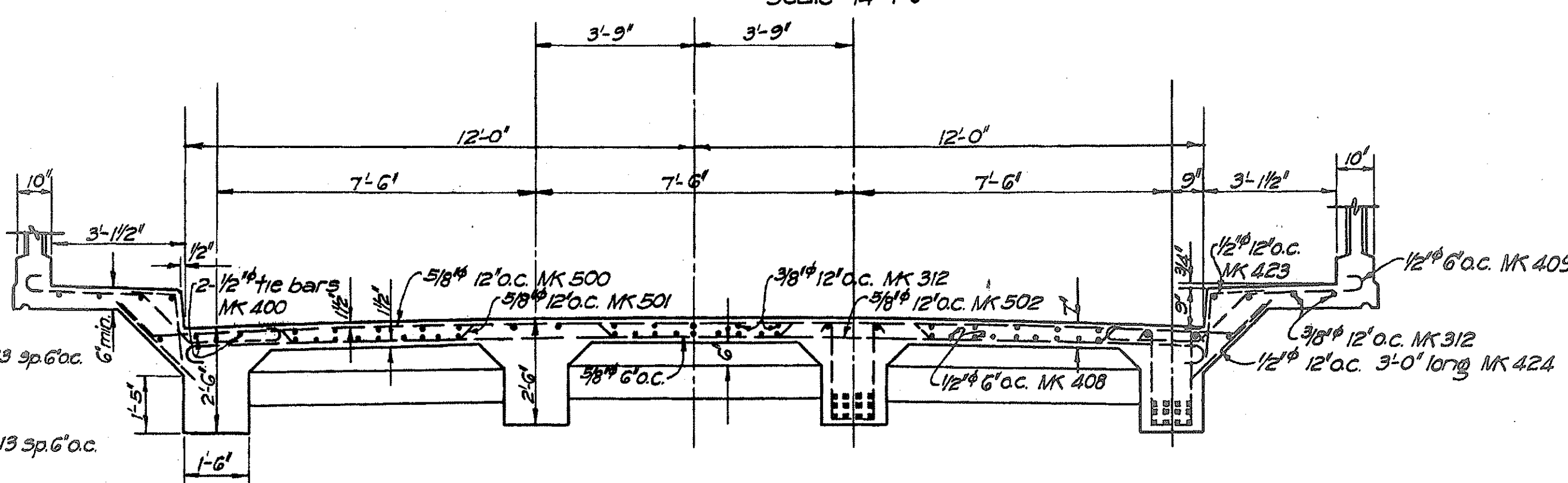


RAILING DETAILS



PILE LAYOUT PLAN

Detail shown is for end of Bridge. Beg. of Br. Similar
Scale 1/4"-1'-0"



TYPICAL SECT. THRU DECK

Scale 3/8"-1'-0"

FOR INFORMATIONAL PURPOSES ONLY

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
BRIDGE No. 1
STA. 626 + 14.59 TO STA. 626 + 53.41
KAMEHAMEHA HIGHWAY F.A.P. 3-E
Oct 1936

SHEET No. 3 OF 5 SHEETS

4368.16