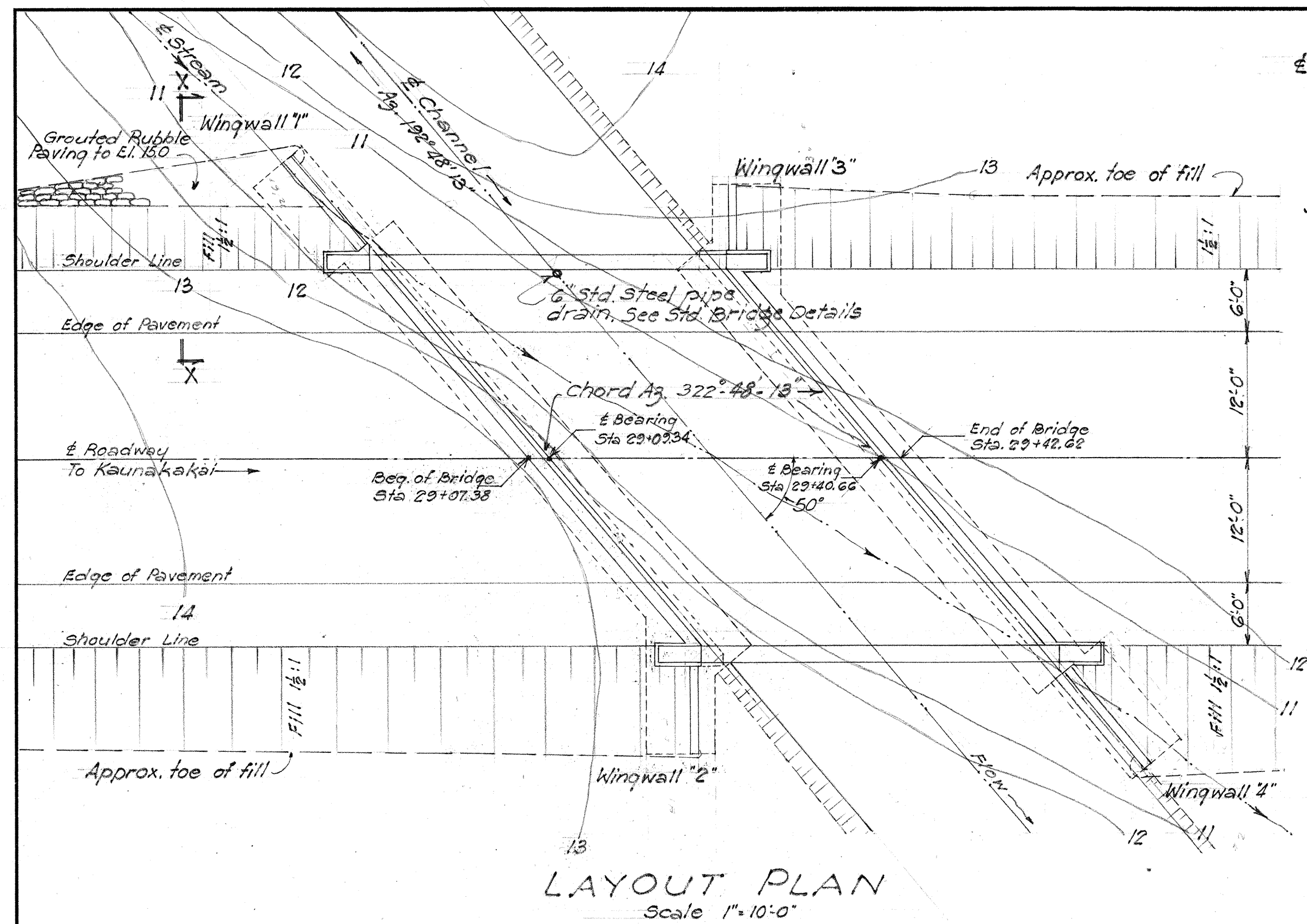
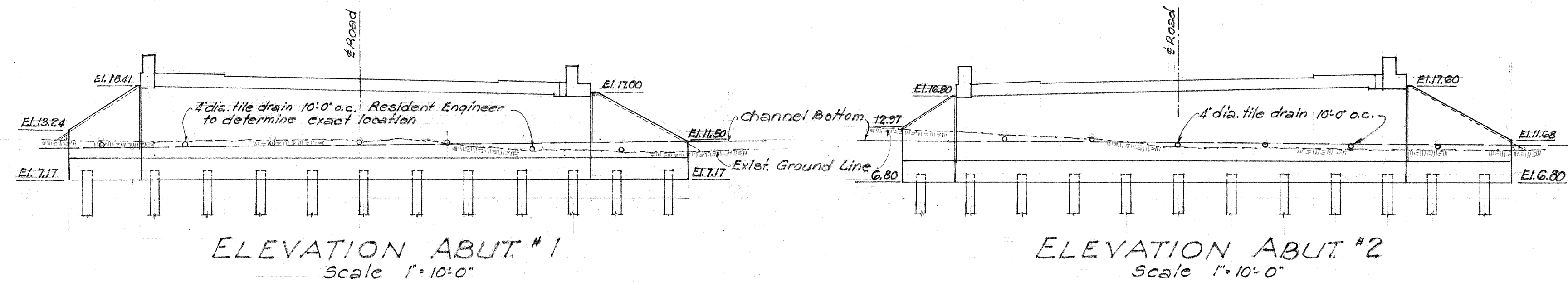




Curve Data
 $\Delta = 45^\circ 51' 50''$
 $D = 1^\circ 30'$
 $R = 3813.72'$
 $T = 1616.02'$
 $L = 3057.59'$
 $C = 2976.61'$
 $SE = 0.04$ per ft.



GENERAL NOTES

Design Data
 $H-20-5-16$ Loading
 $f_c = 1200$ psi.
 $f_s = 20,000$ psi
 $n = 10$

Materials

Concrete: All concrete except in piles
 Class A-1. Concrete in piles
 Class E-1.

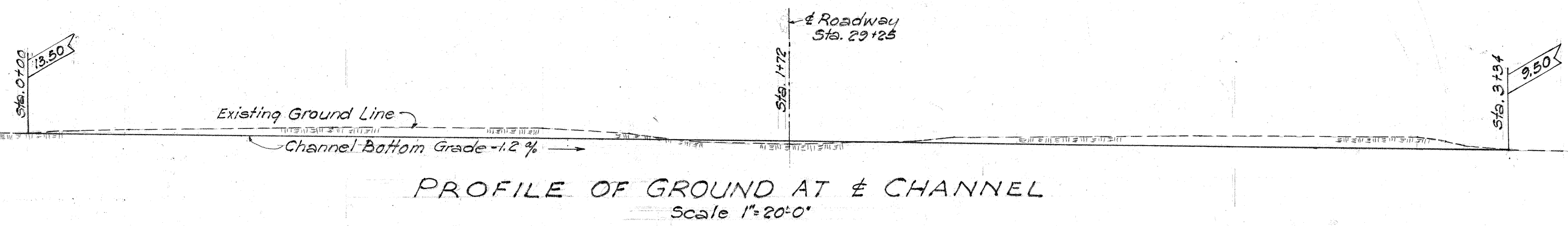
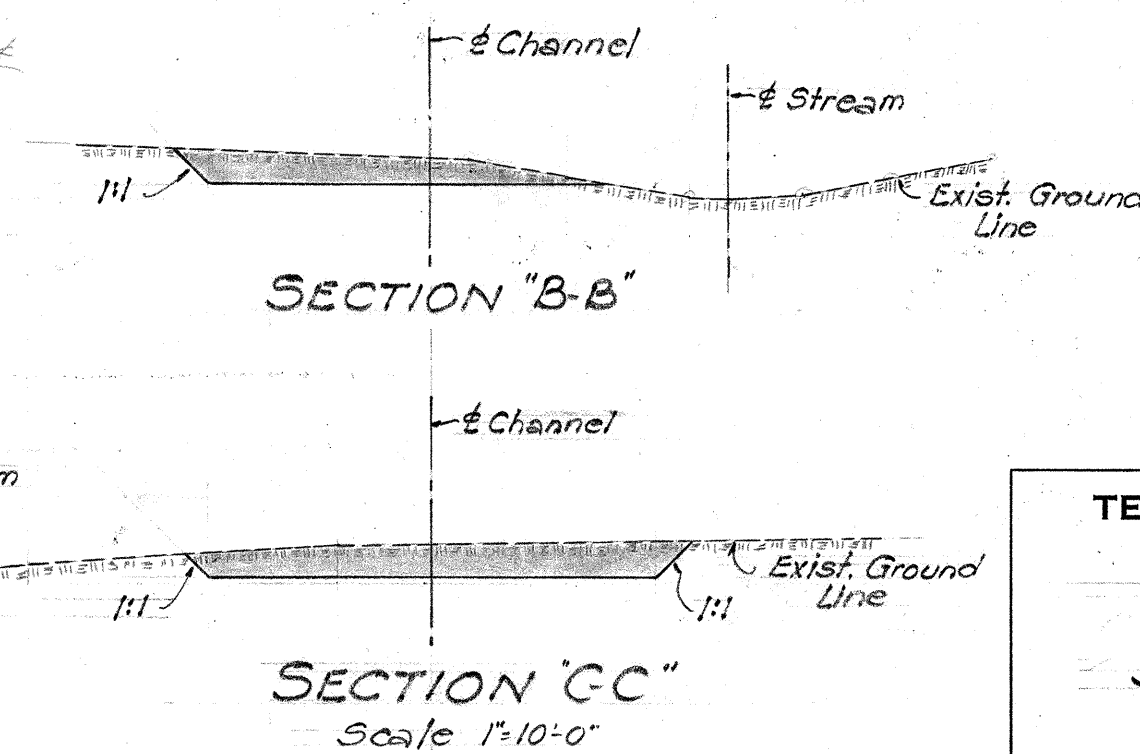
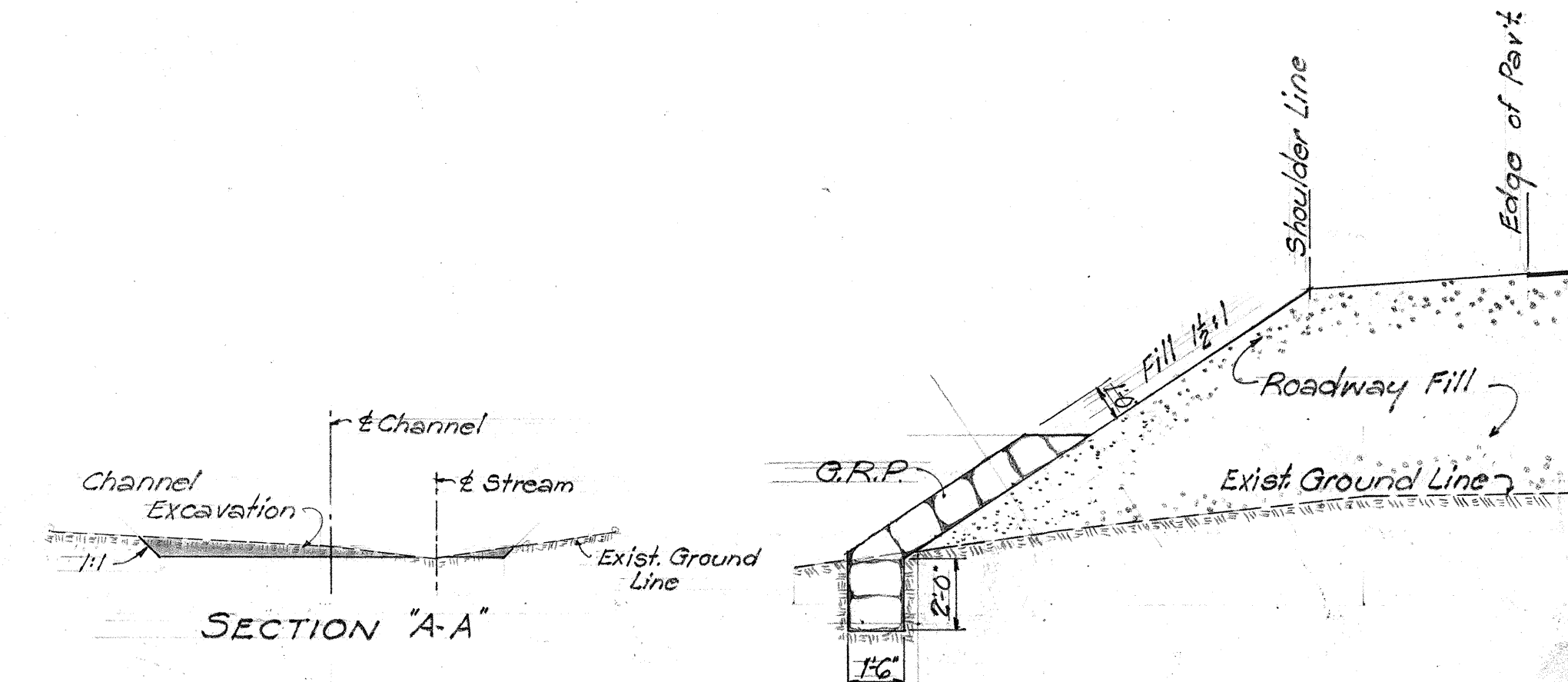
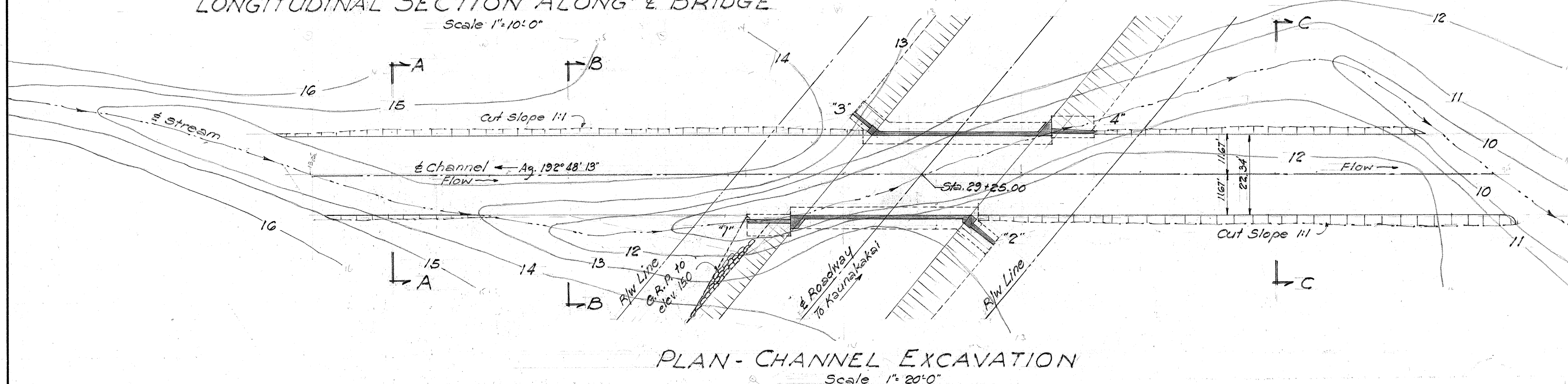
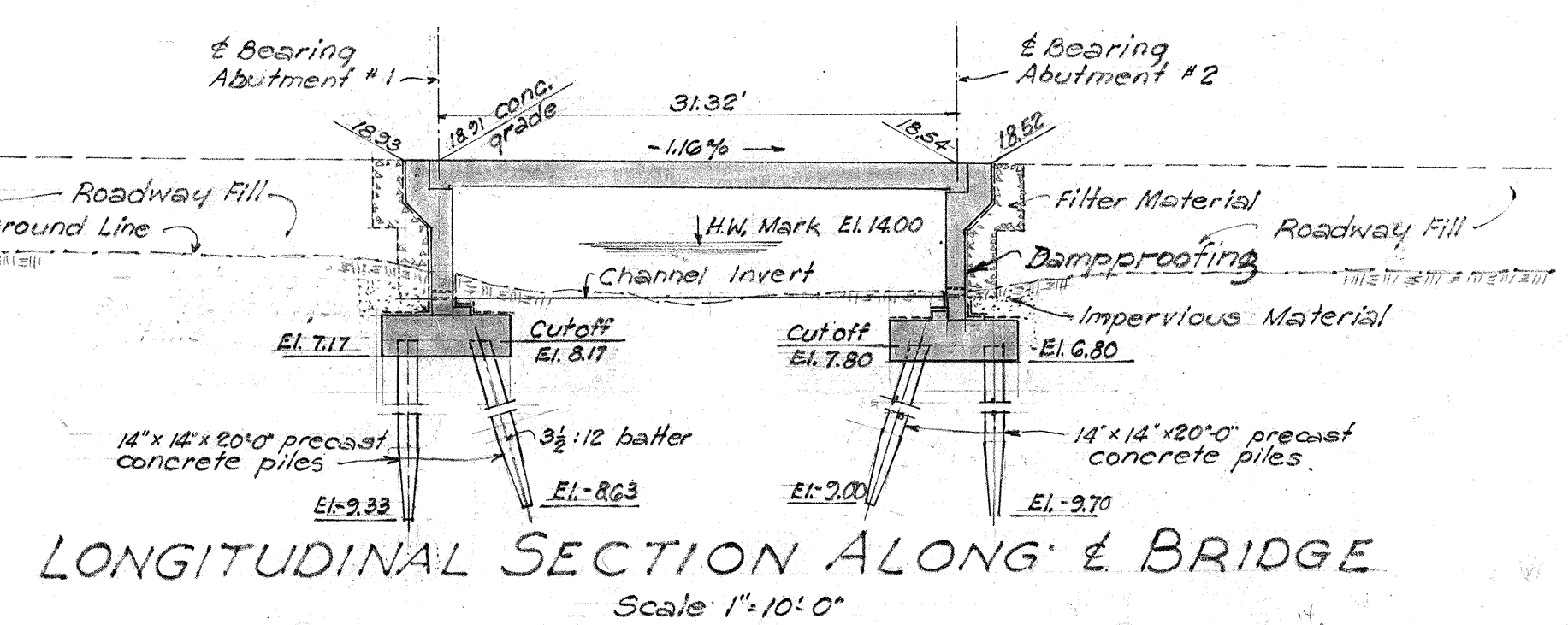
Reinf. Steel: See Standard Bridge Details
 Filter Material: See Special Provisions.

Construction Method

Embankment shall be placed uniformly and evenly behind both abutments to prevent one sided earth pressures. This fill shall not be placed until after the concrete in the walls has reached a strength of 3000 psi and also not until after the falsework for the deck has been removed.

* Applies to all bridges on this project.

ESTIMATED QUANTITIES					
Item	Location	Deck	Abutment No. 1 - Wingwall No. 1 & 2	Abutment No. 2 - Wingwall No. 3 & 4	Total
Class A-1 Concrete		75.3 c.y.	40.4 c.y.	29.3 c.y.	29.7 c.y.
Reinf. Steel		13,431 lbs.	2,995 lbs.	2,375 lbs.	22,186 lbs.
Struct. Exc.			105 c.y.	104 c.y.	209 c.y.
Dampproofing			145 s.y.	150 s.y.	295 s.y.
Filter Material			52 c.y.	49 c.y.	101 c.y.
Channel Exc.					340 c.y.
Grouted Rubble Paving					10 c.y.
Precast Conc. Piles					1000 lin. ft.
Keystone					522 c.y.
Chips					0.56 c.y.
Rocksand					0.38 c.y.
Binder					0.58 ton
Emulsified Asphalt for Tack Coat					23.49 gal.

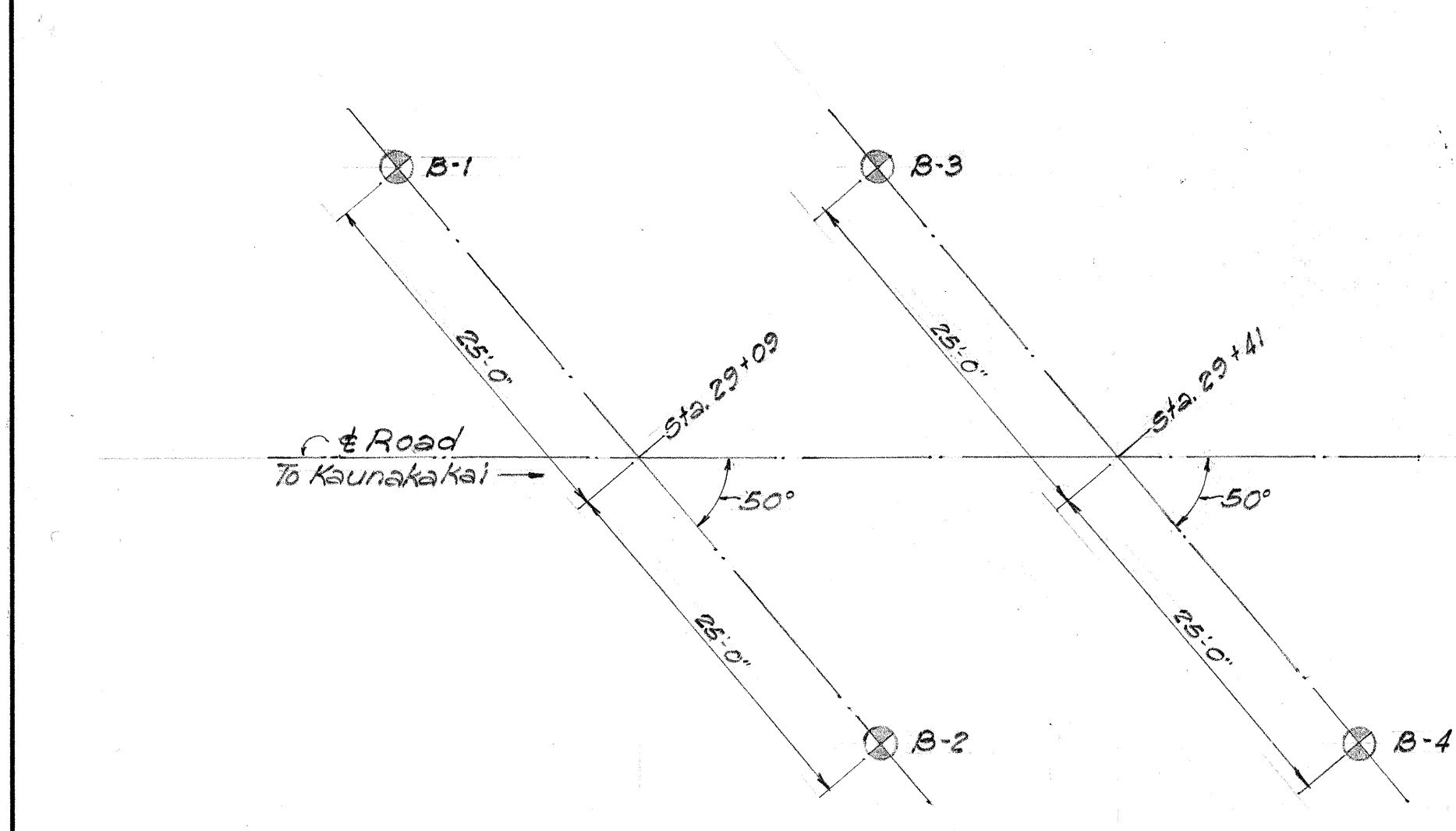


TERRITORIAL HIGHWAY DEPARTMENT
 TERRITORY OF HAWAII
BRIDGE No. 1
 Sta. 29+07.38 to Sta. 29+42.62
 Kaunakakai Kualapuu Road Proj. No. F19(4)
 January 1953

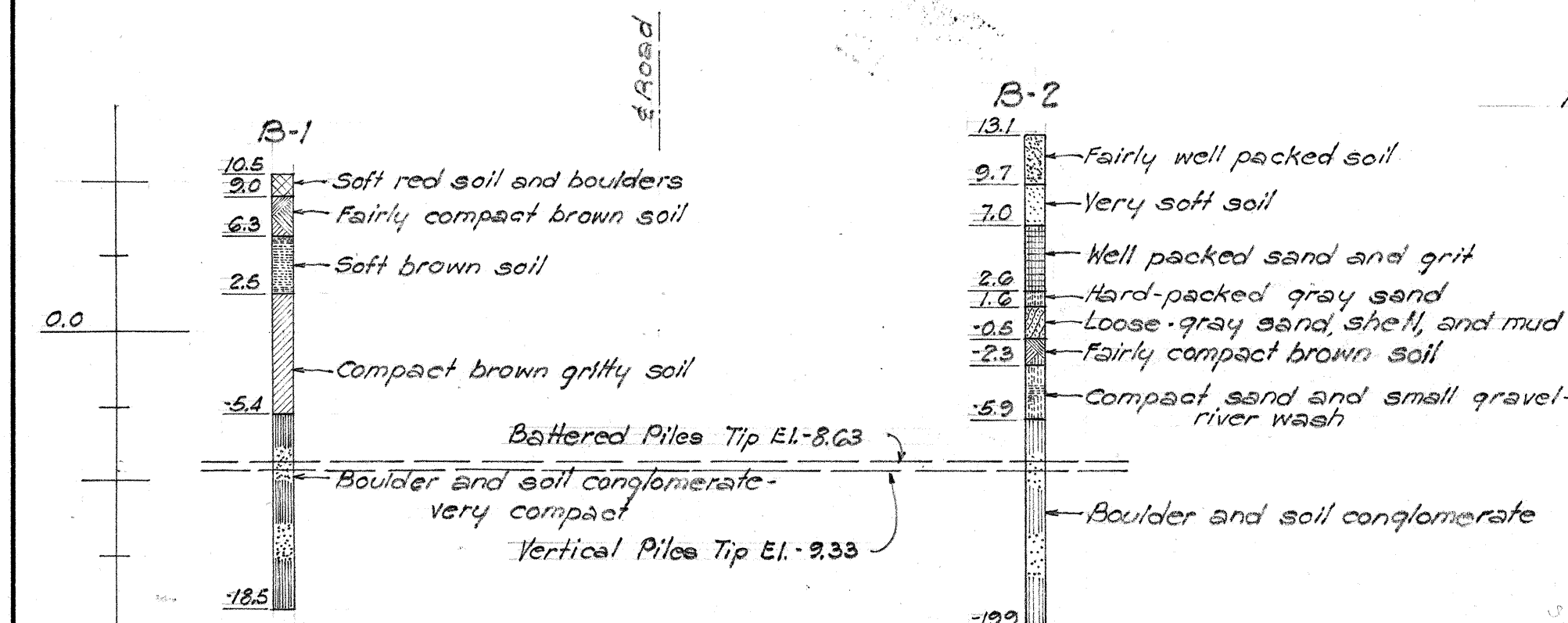
SHEET No. 1 OF 4 SHEETS

5605.17

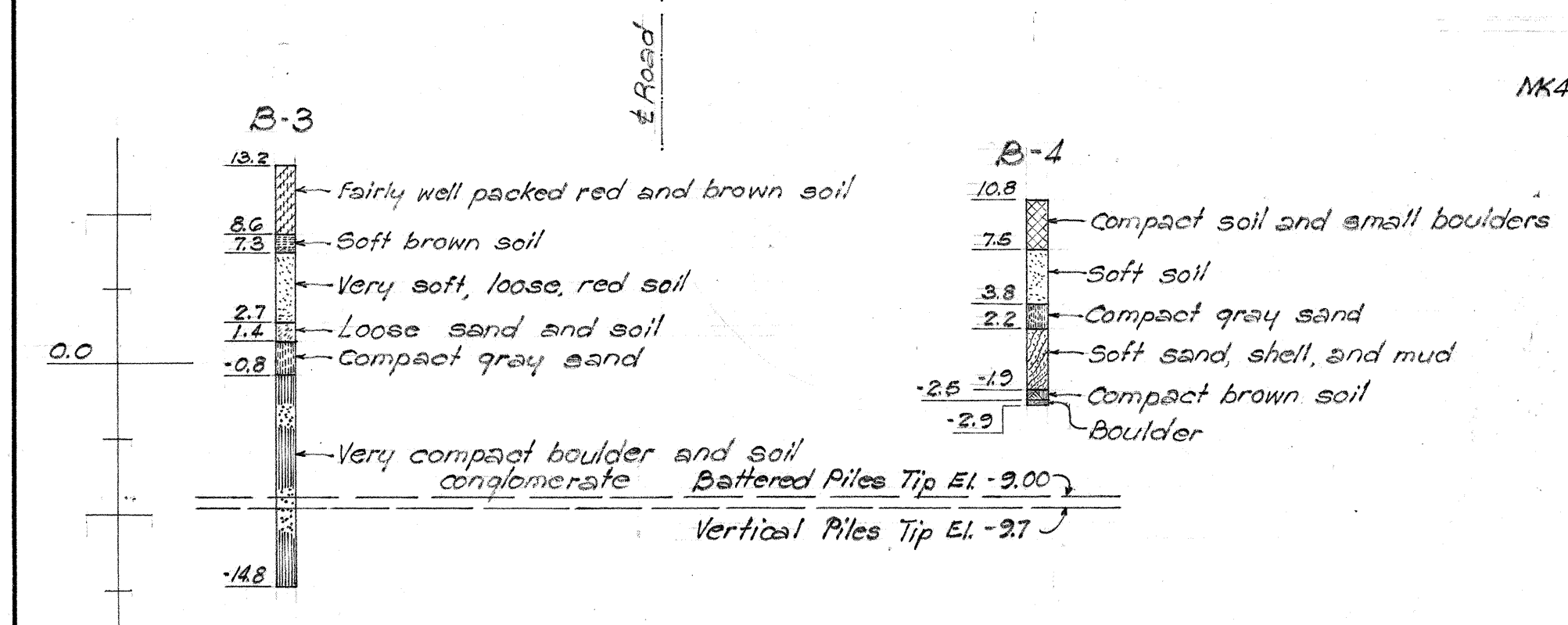
SURVEY PLOTTED BY: J. J. J.
 DESIGNED BY: J. J. J.
 TRACED BY: J. J. J.
 QUANTITIES CHECKED BY: J. J. J.
 NOTE BOOK No. 1-53



BORING PLAN
Scale 1"=10'

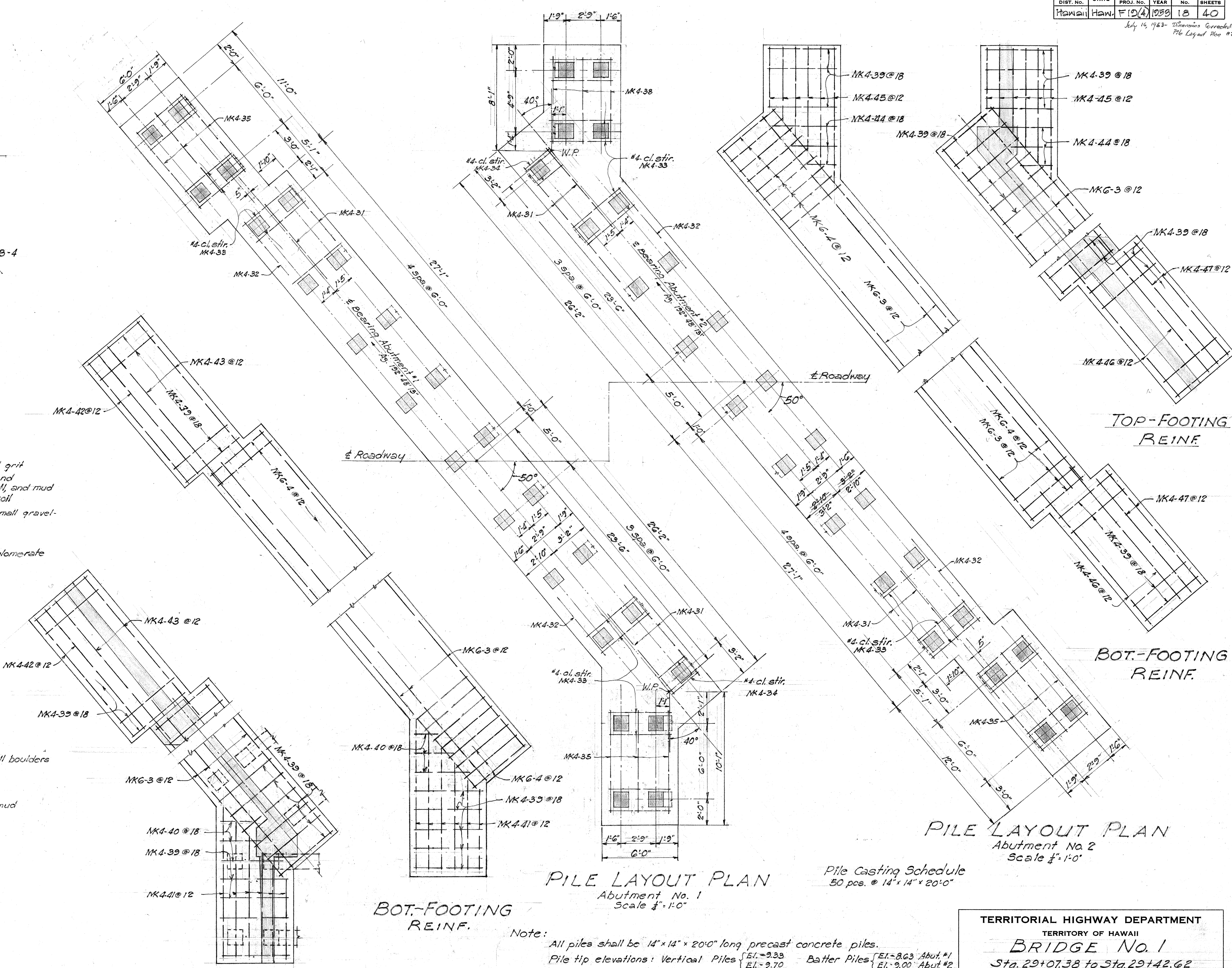


Sta. 29+09



Sta. 29+41

BORING DATA
Scale 1"=10'



TOP-FOOTING REINF.

BOT-FOOTING REINF.

PILE LAYOUT PLAN
Abutment No. 1
Scale 1/4"=1'0"

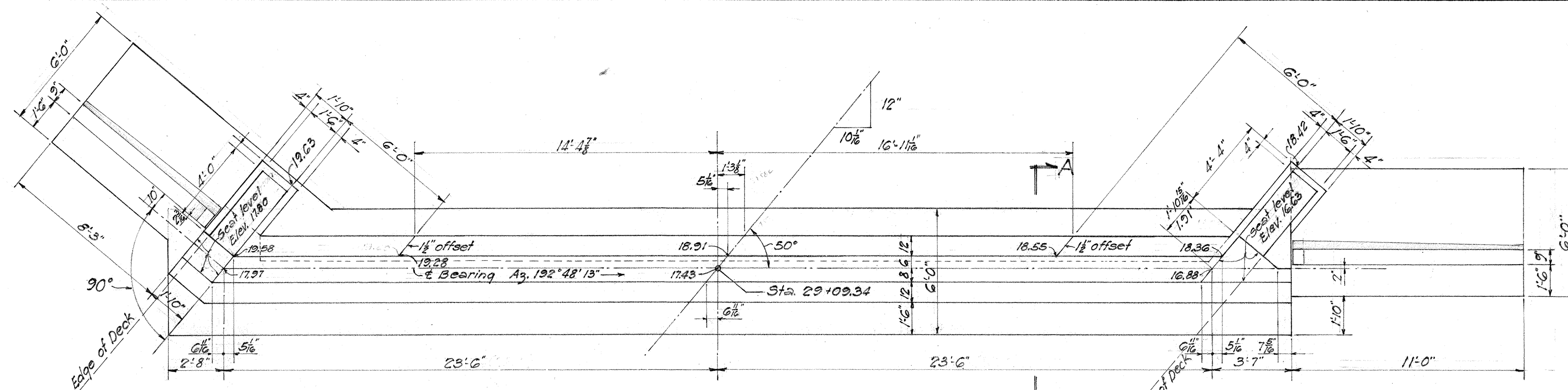
Pile Casting Schedule
50 pcs. @ 14" x 14" x 20'-0"

Note:
All piles shall be 14" x 14" x 20'-0" long precast concrete piles.
Pile tip elevations: Vertical Piles { El. -9.33 } Batter Piles { El. -8.63 Abut. #1 }
Substantial leads shall be used in the driving of all piles.
Contractor's attention is directed to Section 62.3C on page 278 of
Std. Specifications in which the figure 64.1 in line four(4) must
be replaced by 62.3.
Pile layout dimensions are measured at pile cut-off.
All batter piles are 3 1/2:12

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
BRIDGE No. 1
Sta. 29+07.38 to Sta. 29+42.62
Kaunakakai Kualapuu Road Proj. No. F10(4)
January 1953

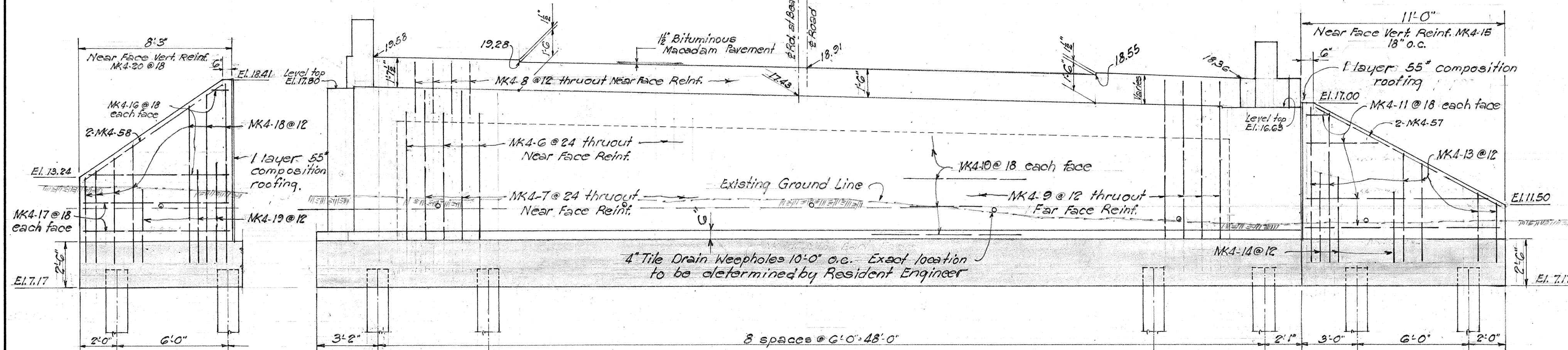
SURVEY PLOTTED BY: _____
CHECKED BY: _____
DATE: _____
ORIGINAL PLAN: _____
TRACED BY: _____
QUANTITIES CHECKED BY: _____
NOTE BOOK NO.: _____

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAWAII	F19(4)	1953	19	40



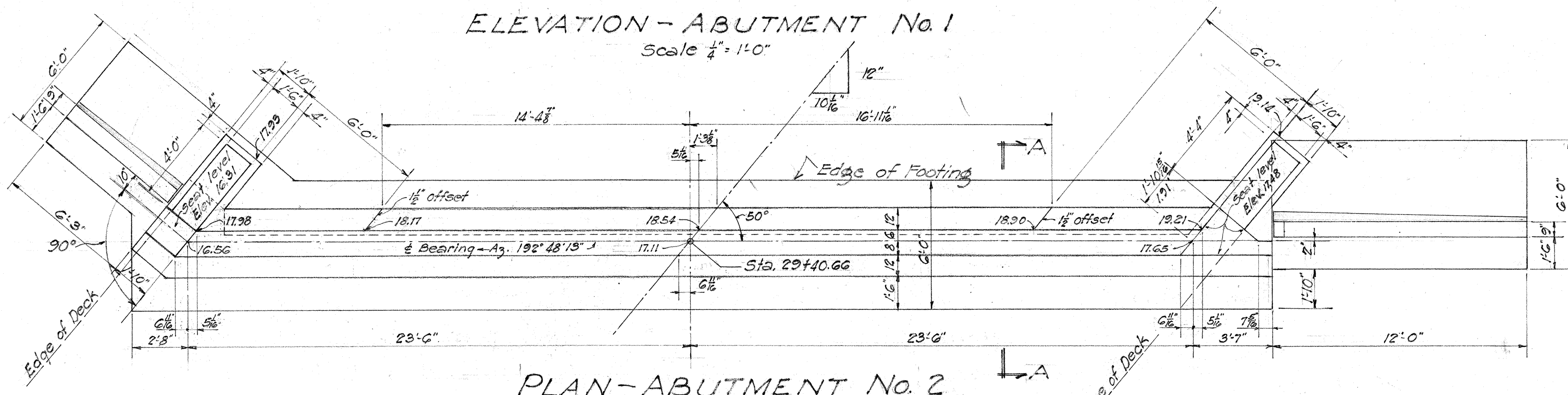
PLAN - ABUTMENT No. 1

Scale 1/4" = 1'-0"



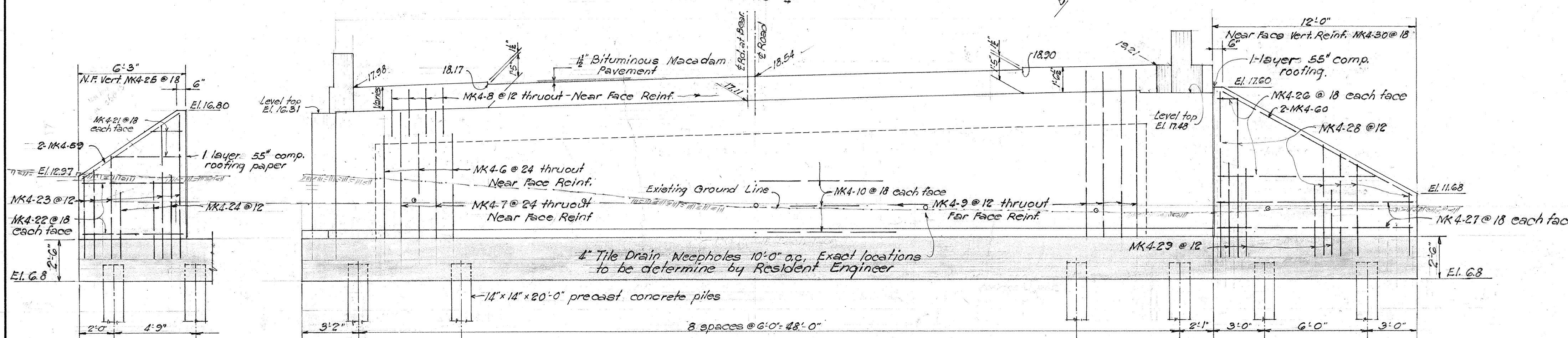
ELEVATION - ABUTMENT No. 1

Scale 1/4" = 1'-0"



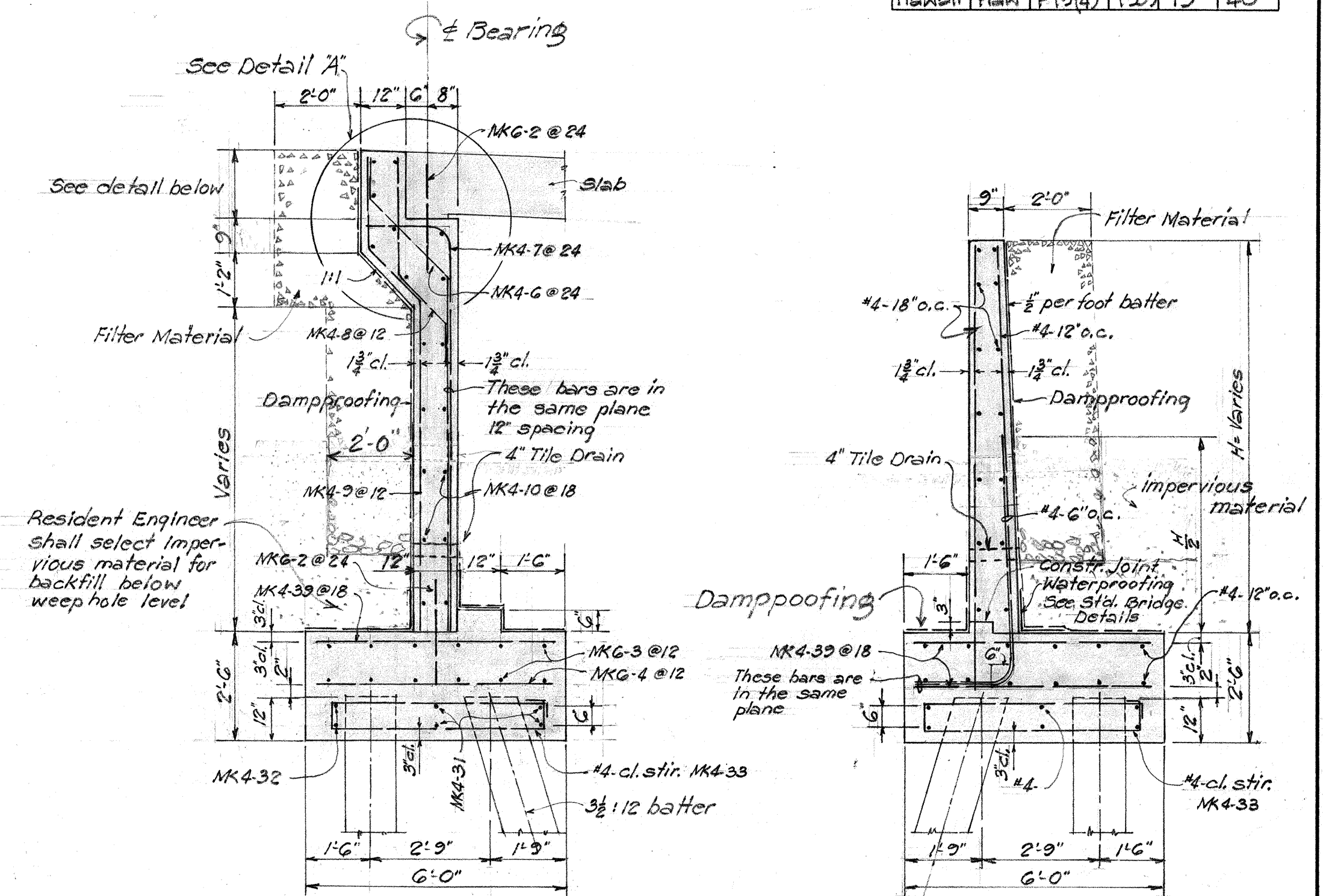
PLAN - ABUTMENT No. 2

Scale 1/4" = 1'-0"



ELEVATION - ABUTMENT No. 2

Scale 1/4" = 1'-0"

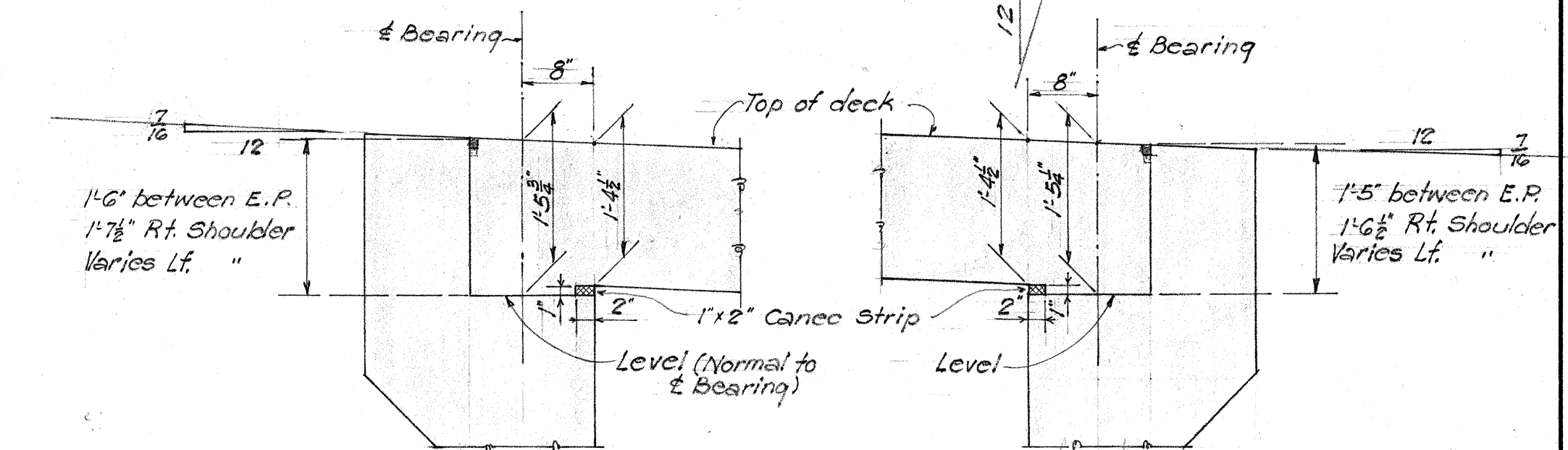


SECTION 'A-A'

Scale 3/8" = 1'-0"

TYPICAL W.W. SECT.

Scale 3/8" = 1'-0"



Abutment #1

Abutment #2

DETAIL 'A-A'

Scale 3/8" = 1'-0"

TERRITORIAL HIGHWAY DEPARTMENT

TERRITORY OF HAWAII

BRIDGE No. 1

Sta. 29+07.36 to Sta. 29+42.62

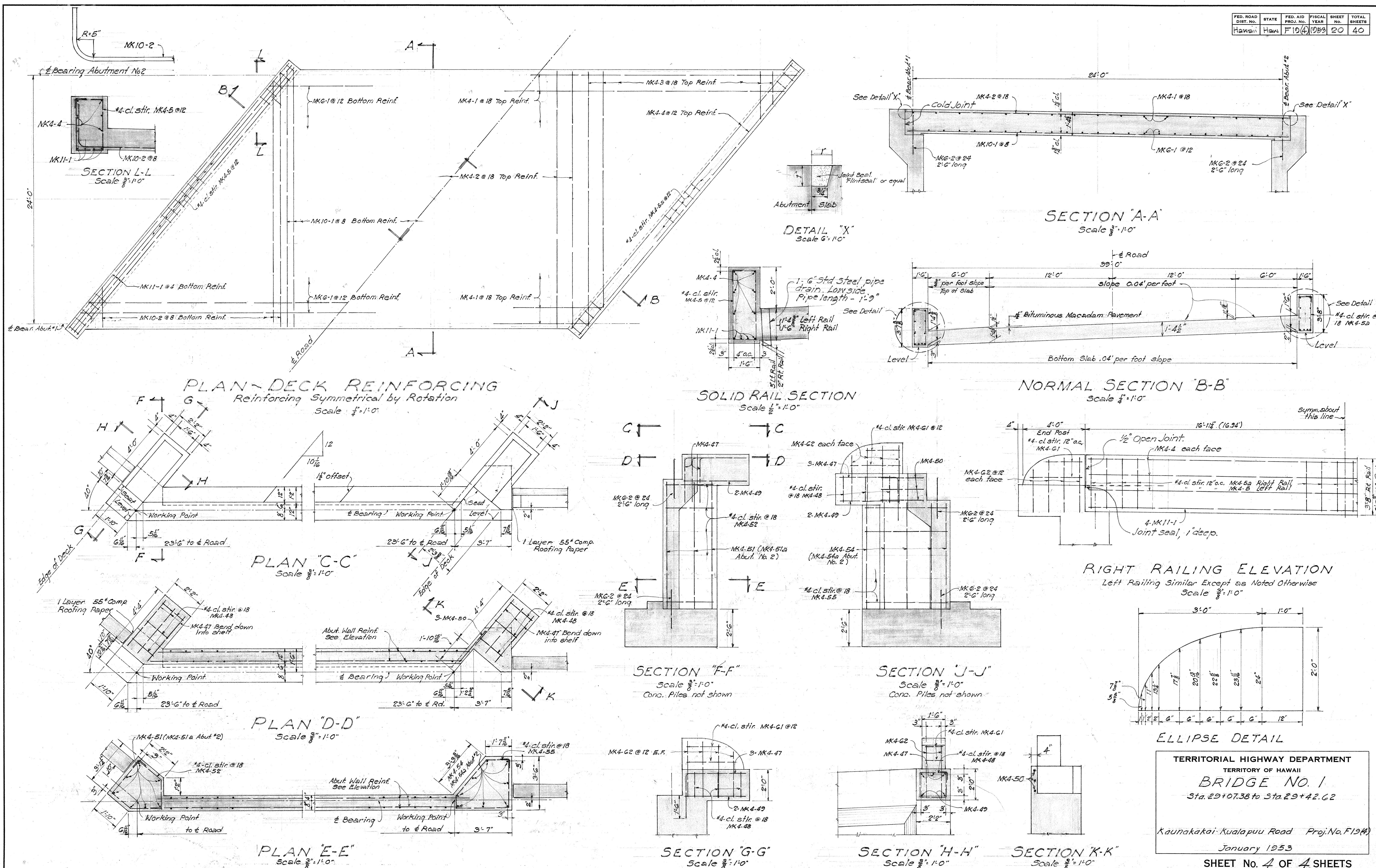
Kaunakakai Kualapuu Road Proj. No. F19(4)

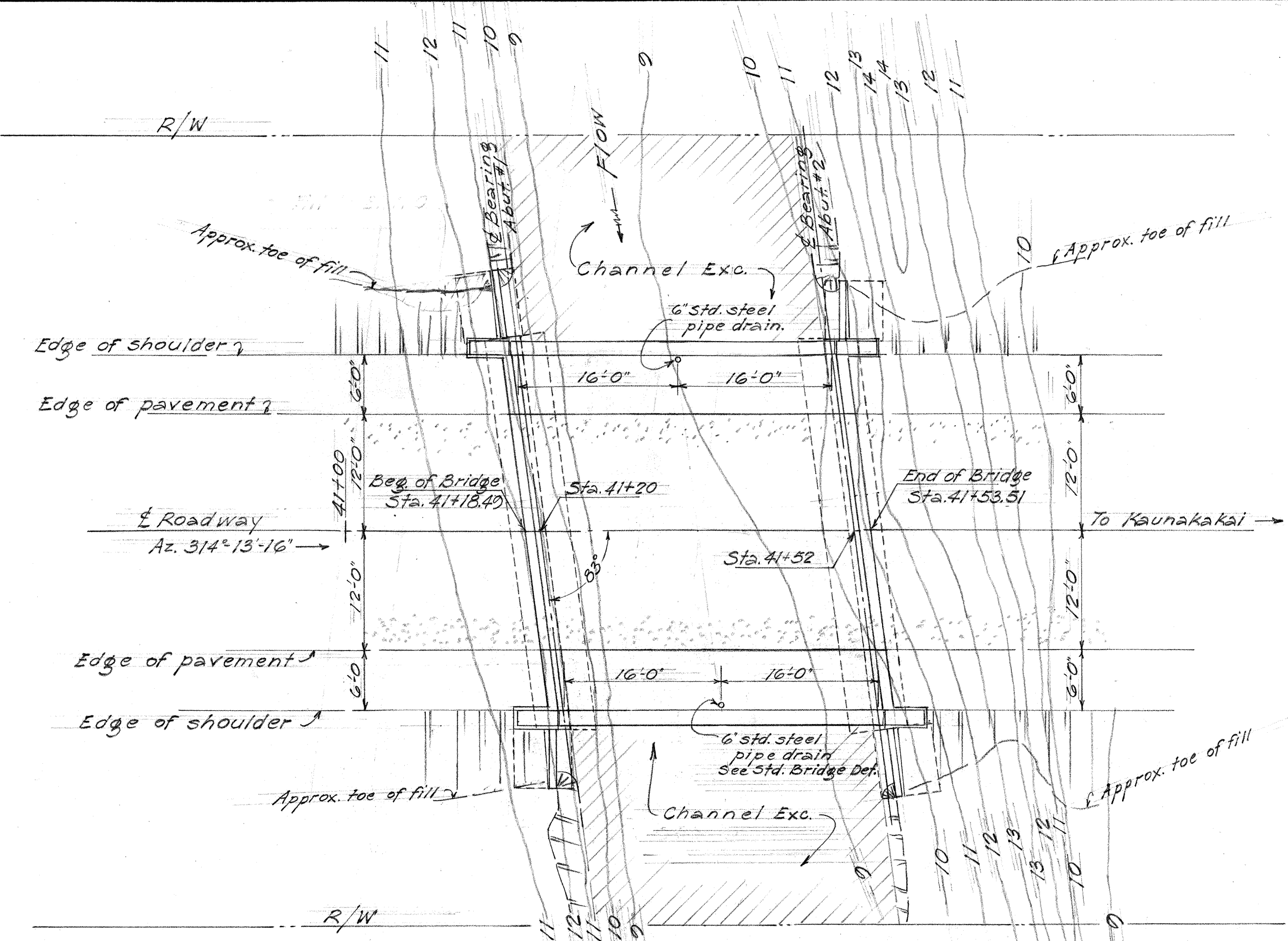
January 1953

SHEET No. 3 OF 4 SHEETS

5605.19

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

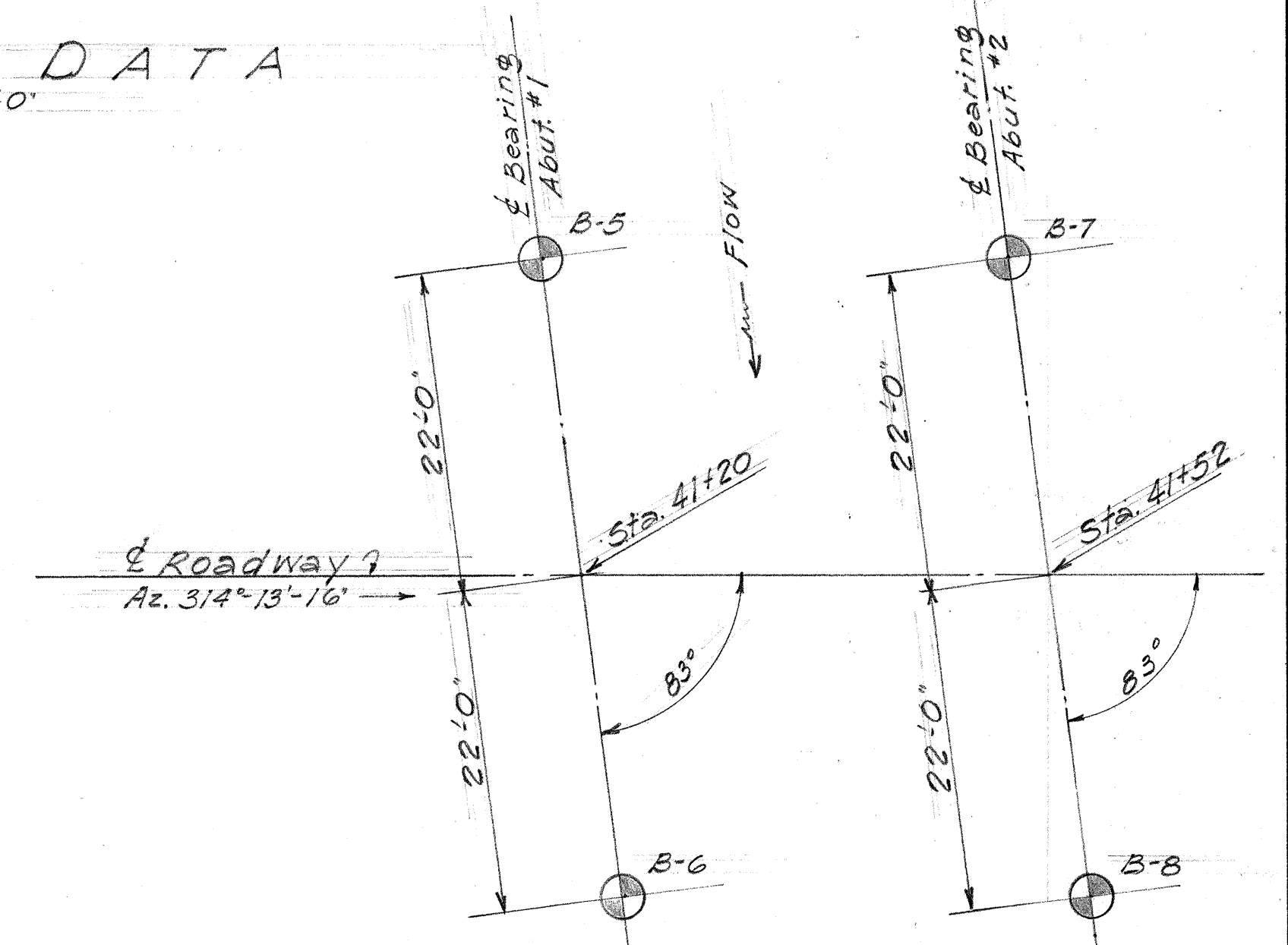




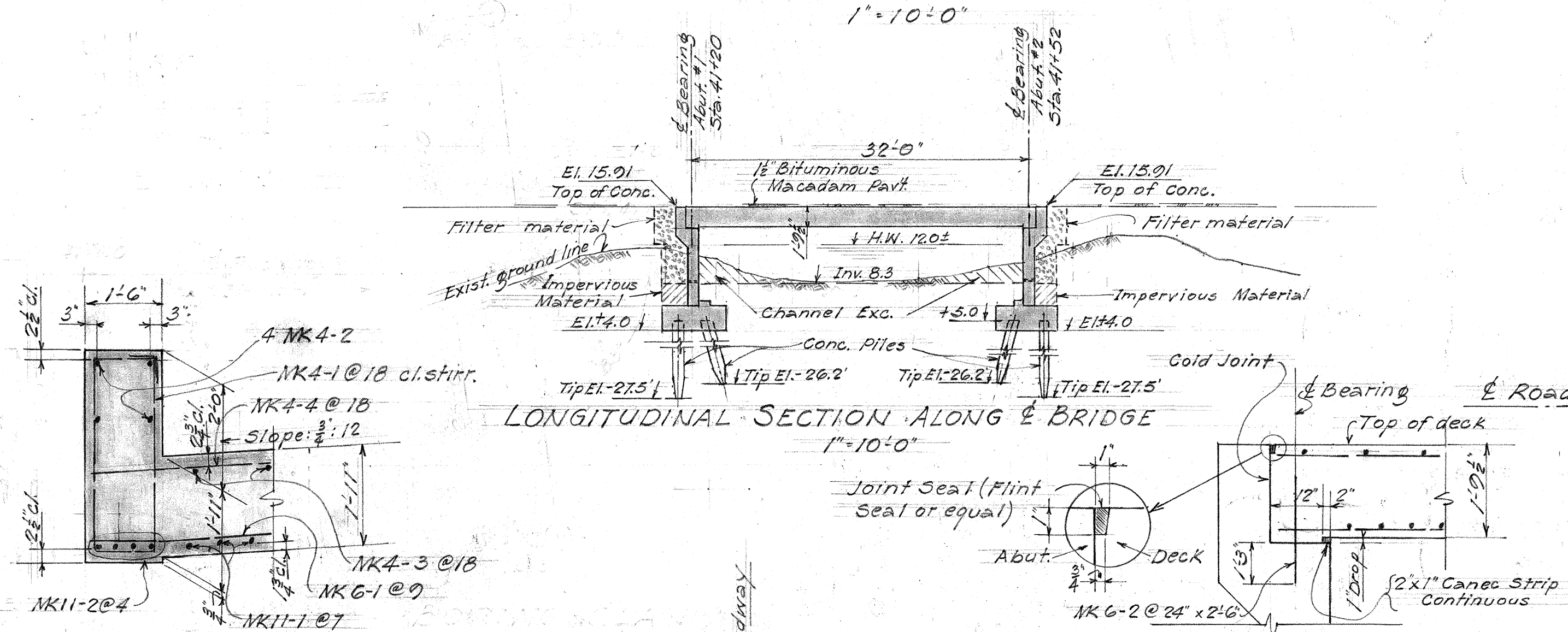
LAYOUT PLAN
1"=10'-0"

BORING DATA			
Boring No.	Station	Depth (ft)	Soil Description
Boring N°5	Sta. 41+20	10.0	Soft red soil.
		4.6	Fairly compact brown soil. Bott. Ftg. El. 4.00
		-0.2	Very soft red soil.
		-6.3	Very soft gray clay, sand, and rotten wood
		-8.2	Compact gray sand fairly well packed red sandy soil.
Boring N°6	Sta. 41+20	-12.0	Compact brown soil with very compact streaks alluvium.
		-27.7	Pile Tip
		-28.1	Hard Lava Rock or boulder.
		-10.5	Soft red soil.
		8.5	Very compact red soil.
Boring N°7	Sta. 41+52	10.8	Soft red soil.
		1.6	Fairly compact red soil. Bott. Ftg. El. 4.05
		-0.8	Ditto with rotten wood & sand
		-6.2	Very soft sand, shell, mud.
		-9.2	Fairly compact gray sand.
Boring N°8	Sta. 41+52	-13.2	Hardpacked gray sand & shell
		-28.1	Pile Tip
		-30.1	Hard Lava Rock or boulder.
		-10.9	Fairly hardpacked gray sand.
		-12.1	Soft sand, shell, mud.

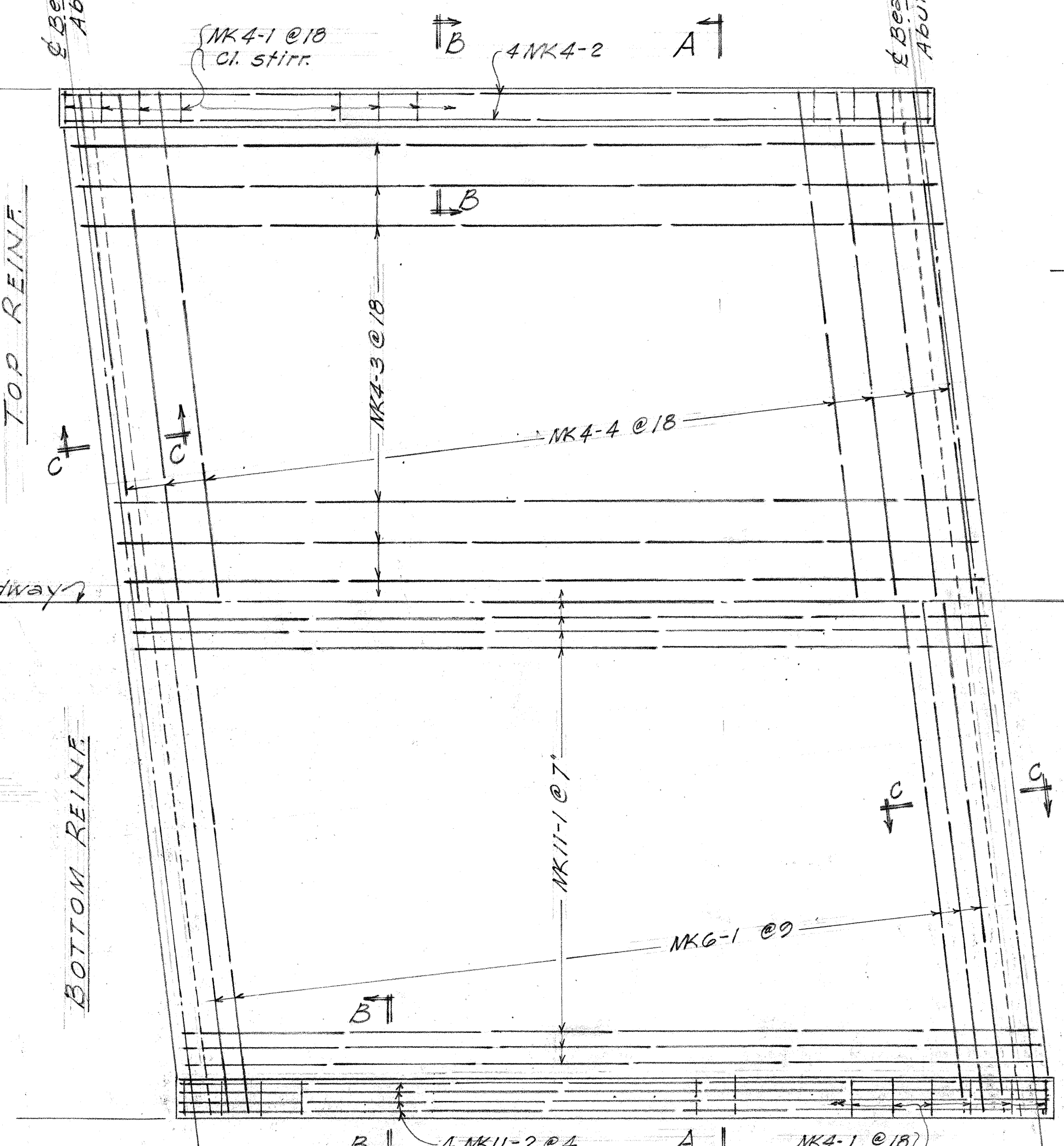
BORING DATA
1"=10'-0"



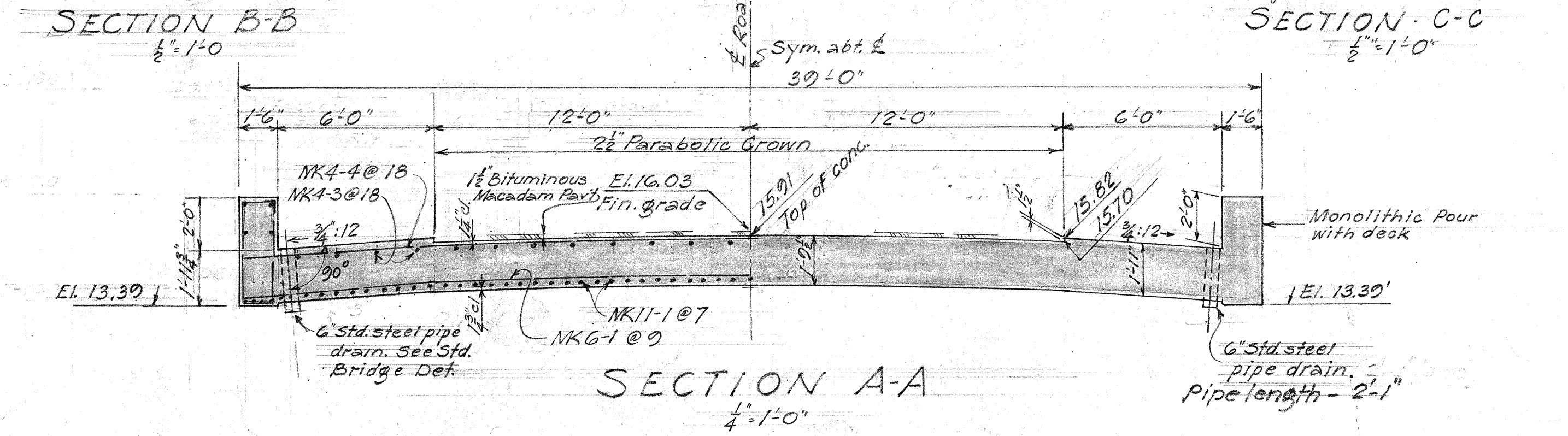
BORING PLAN
1"=10'-0"



LONGITUDINAL SECTION ALONG BRIDGE
1"=10'-0"



DECK SLAB REINF.
1/2"=1'-0"



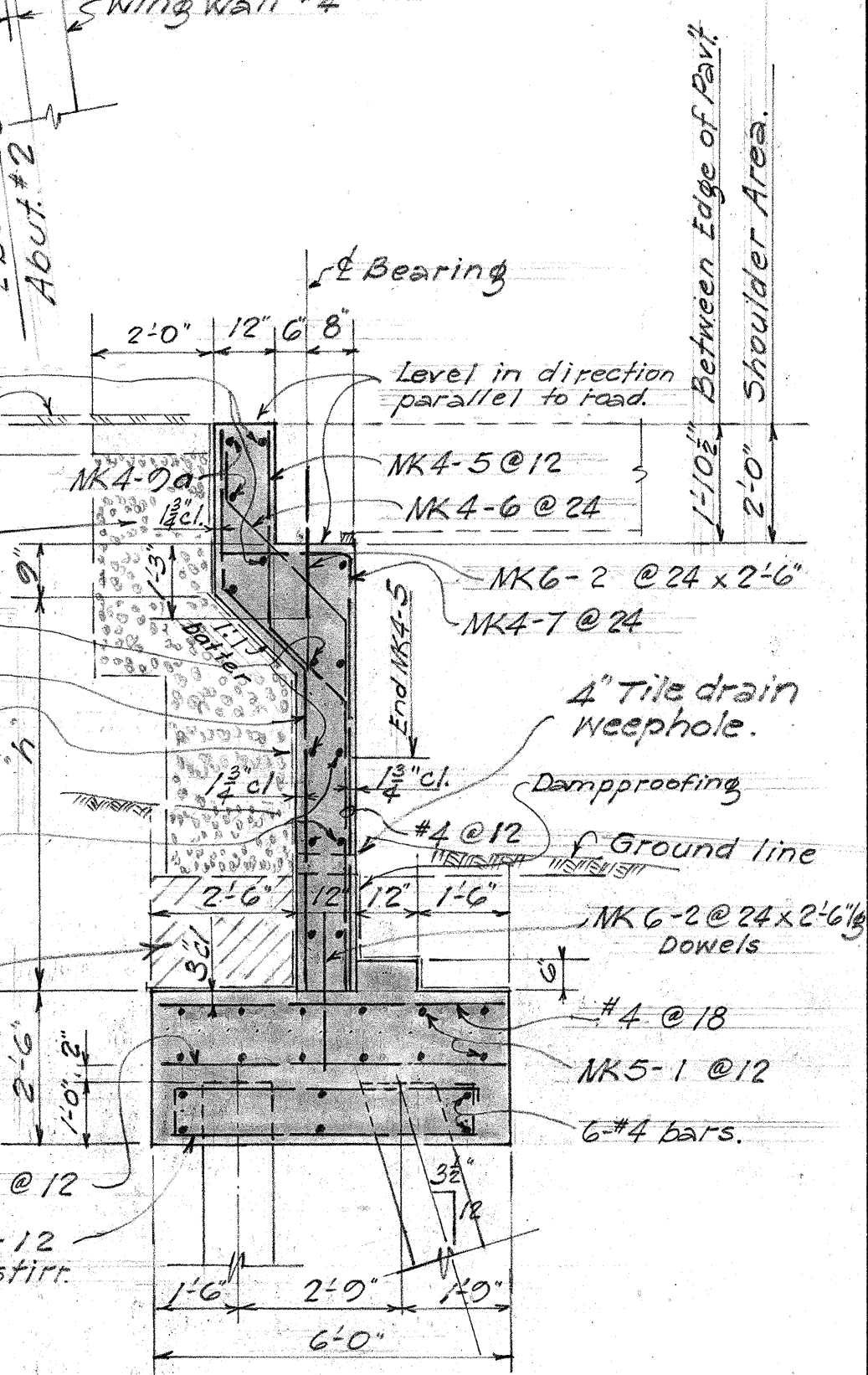
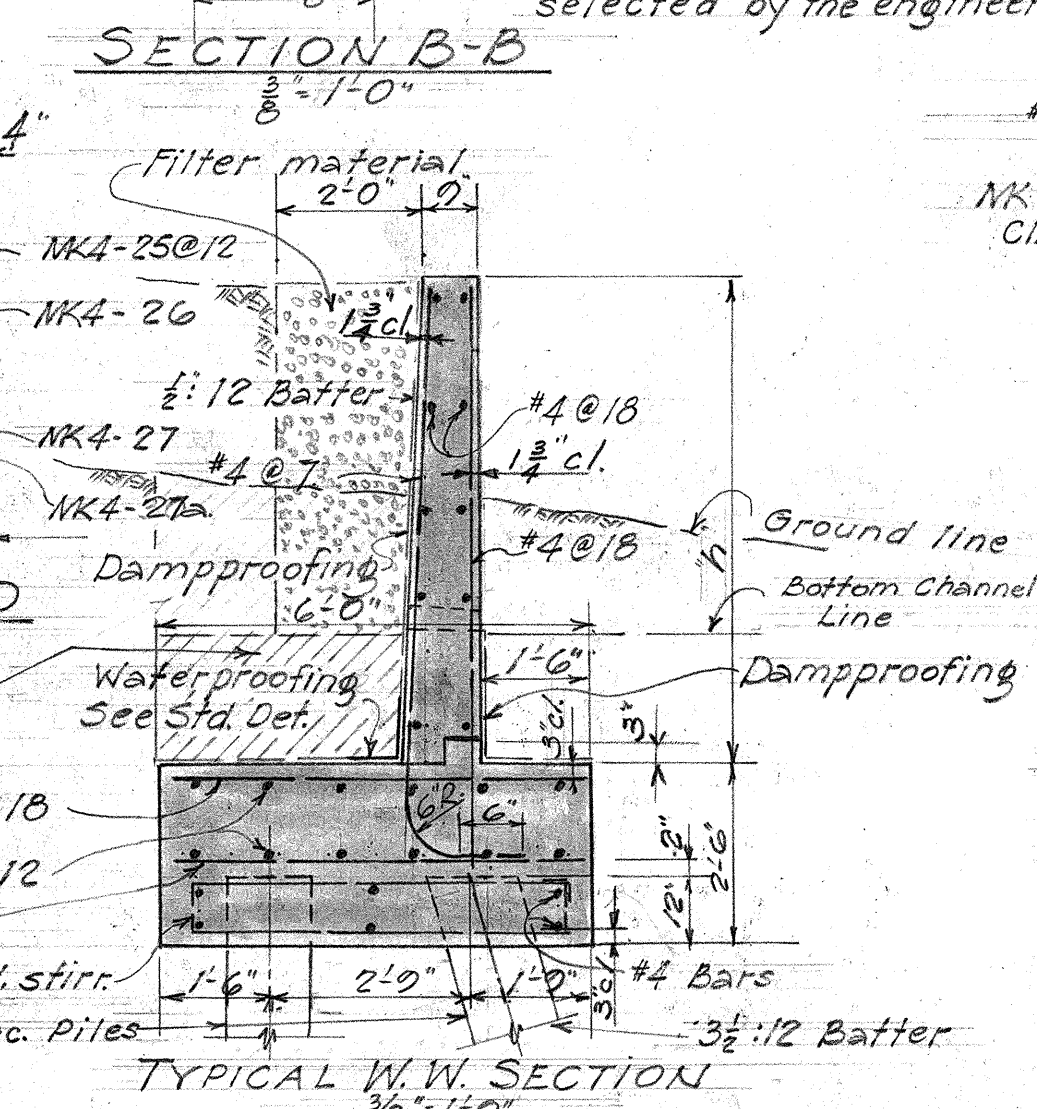
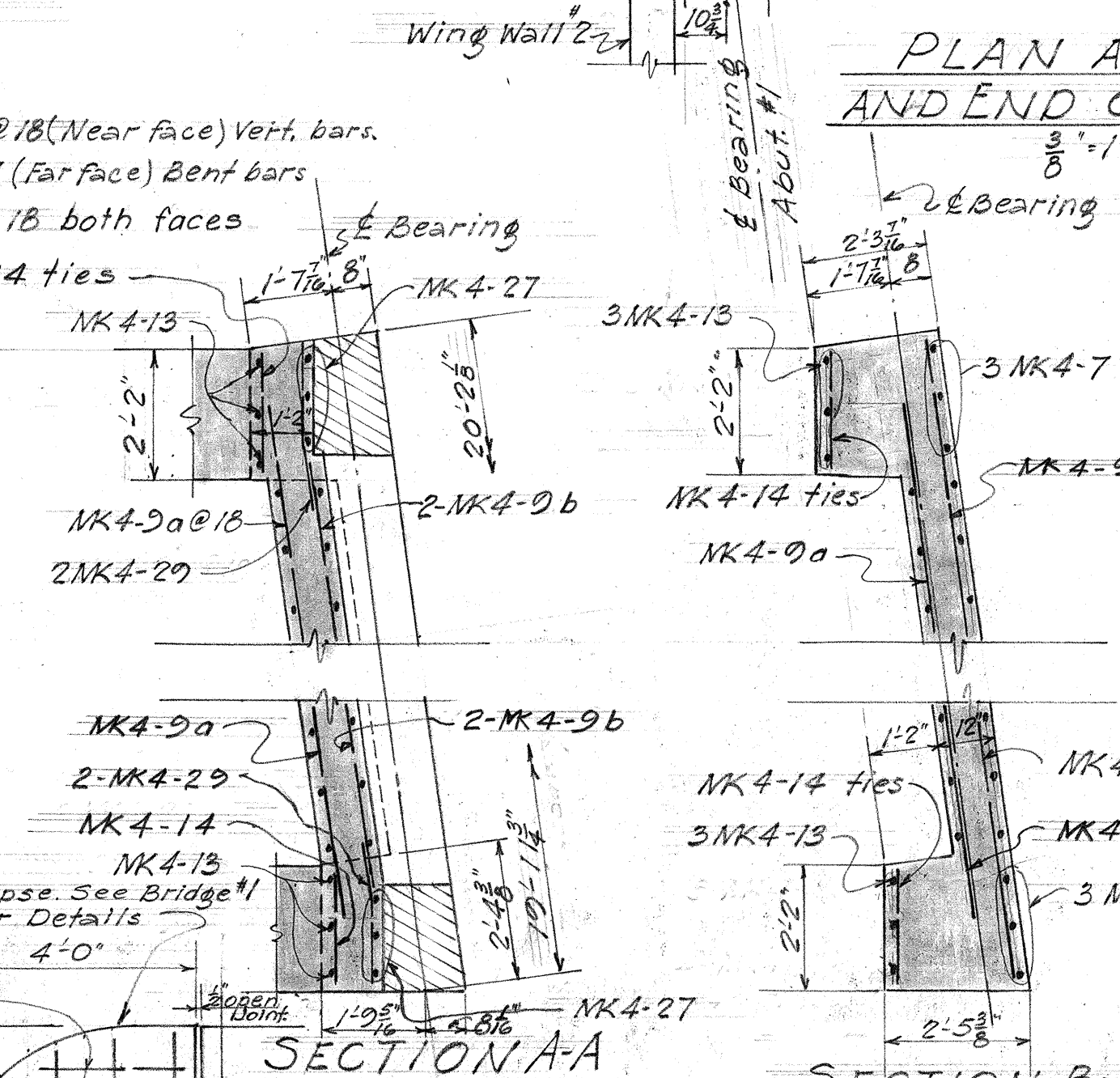
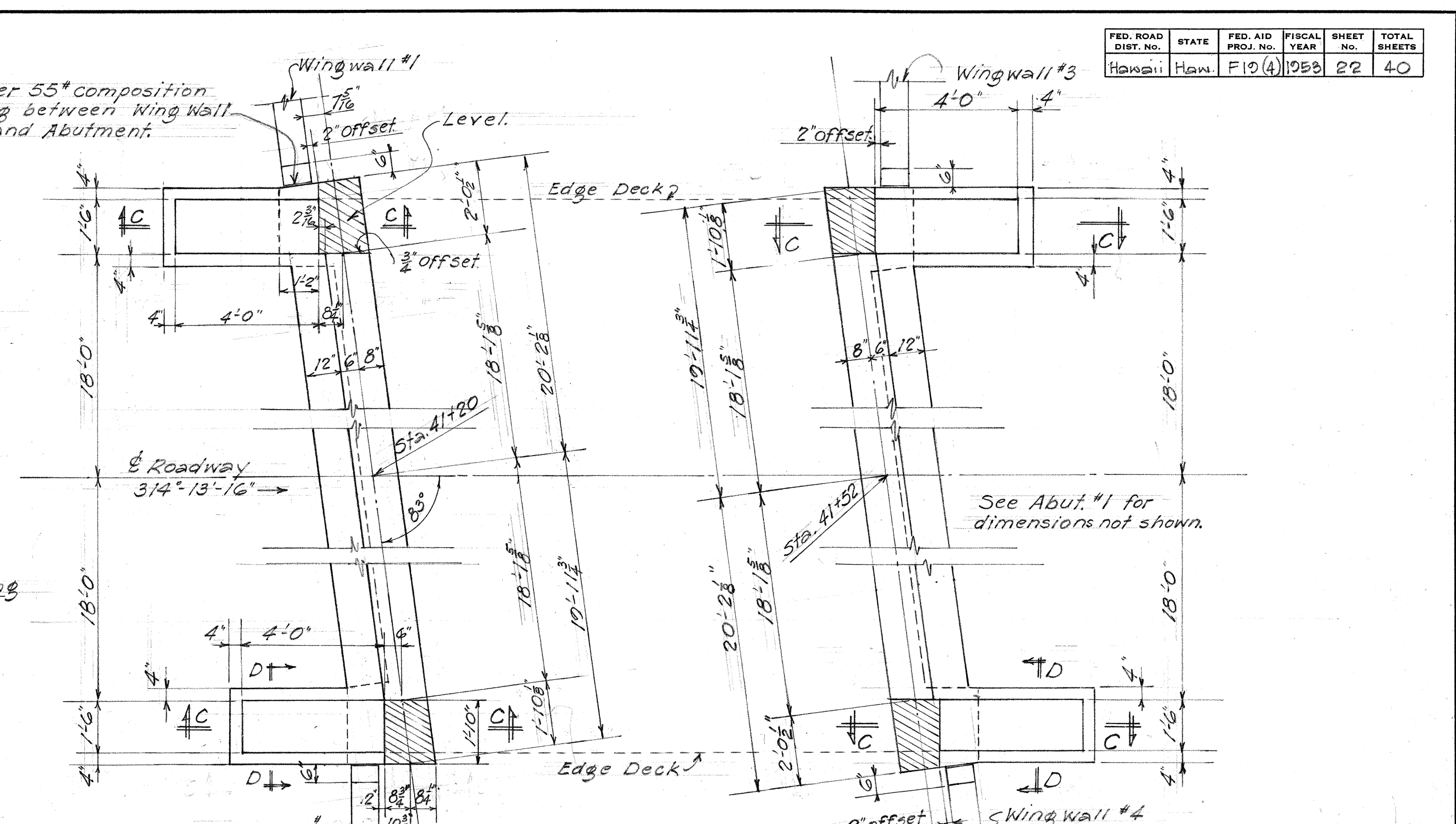
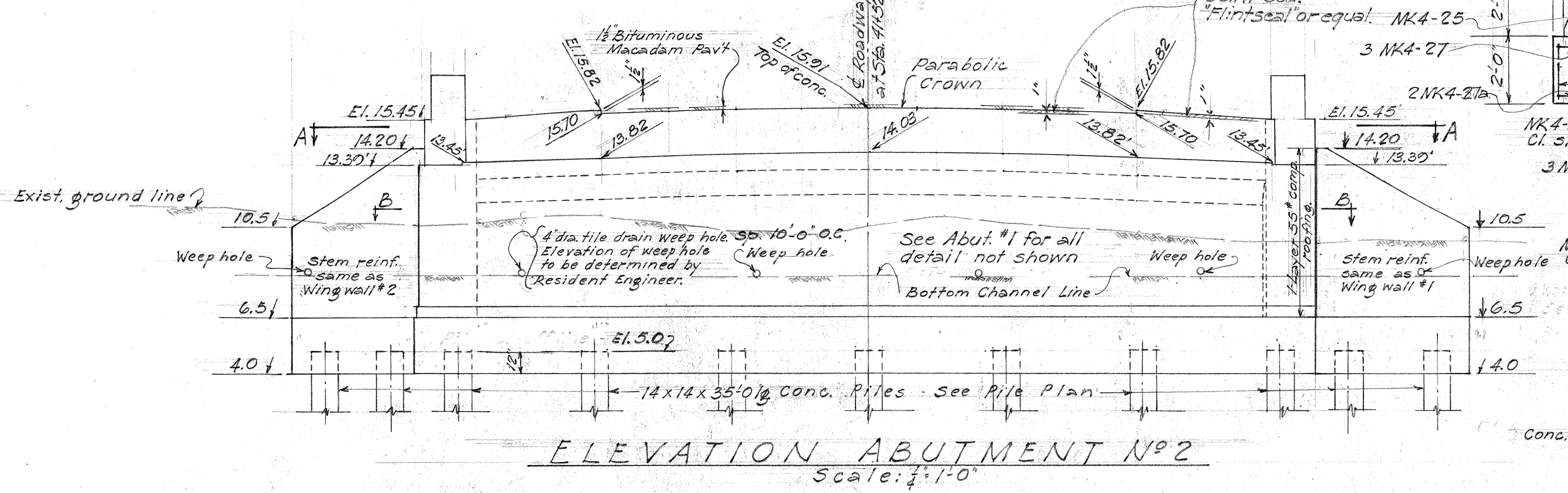
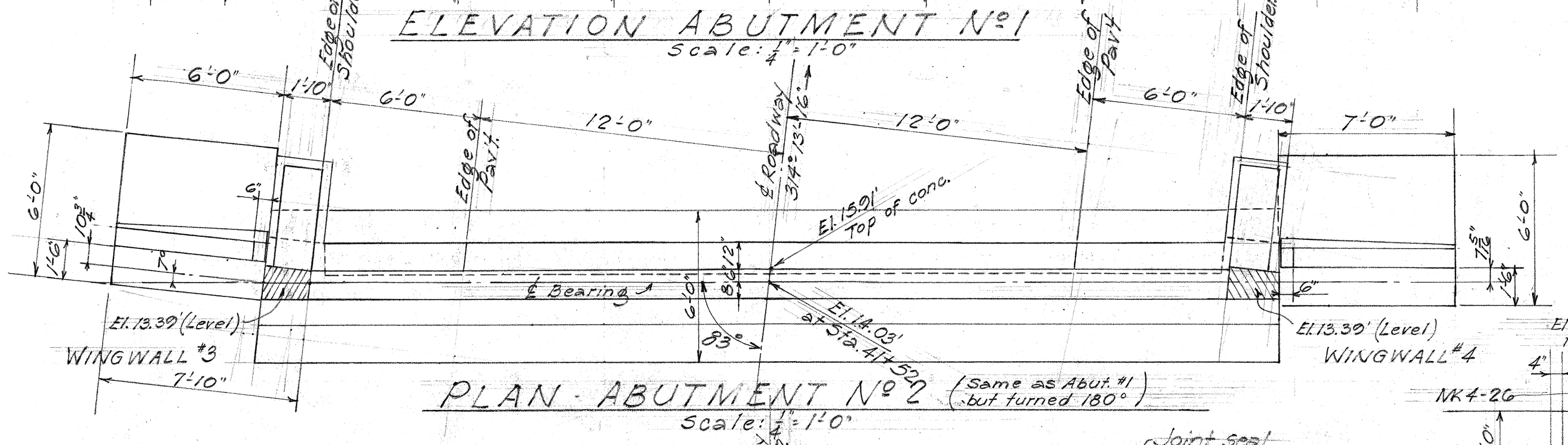
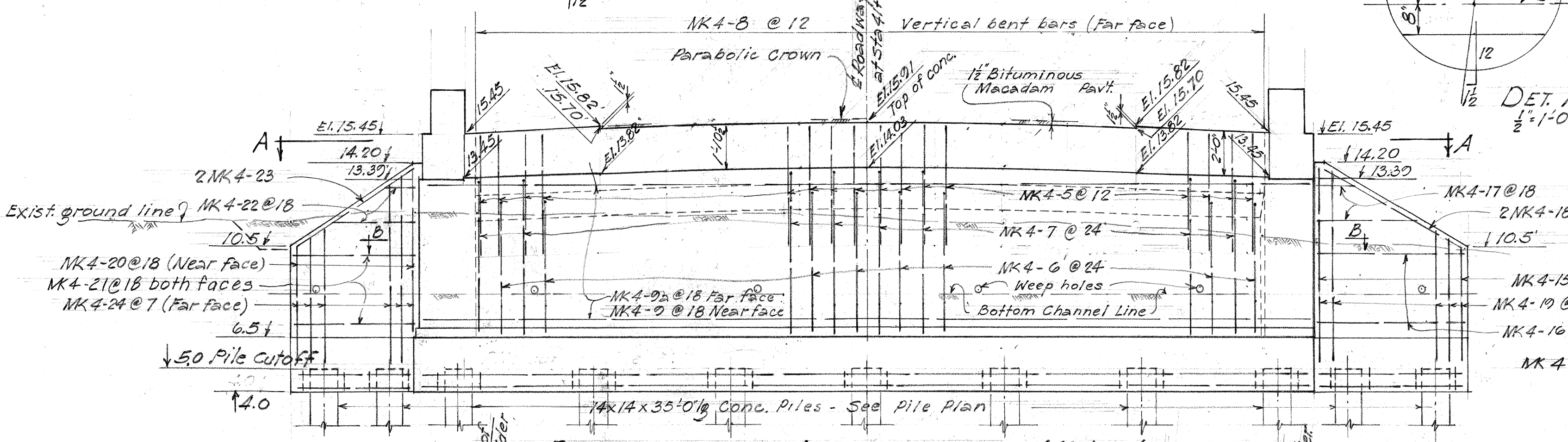
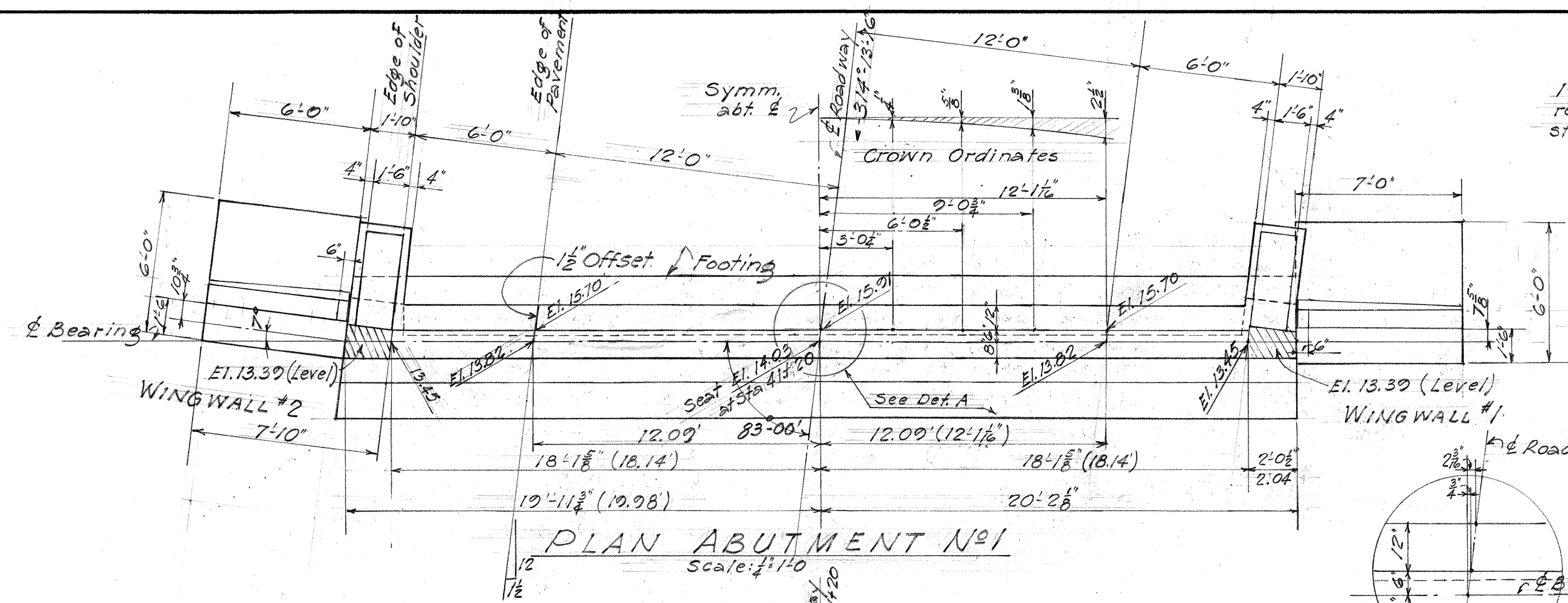
SECTION A-A
1/2"=1'-0"

SECTION B-B
1/2"=1'-0"

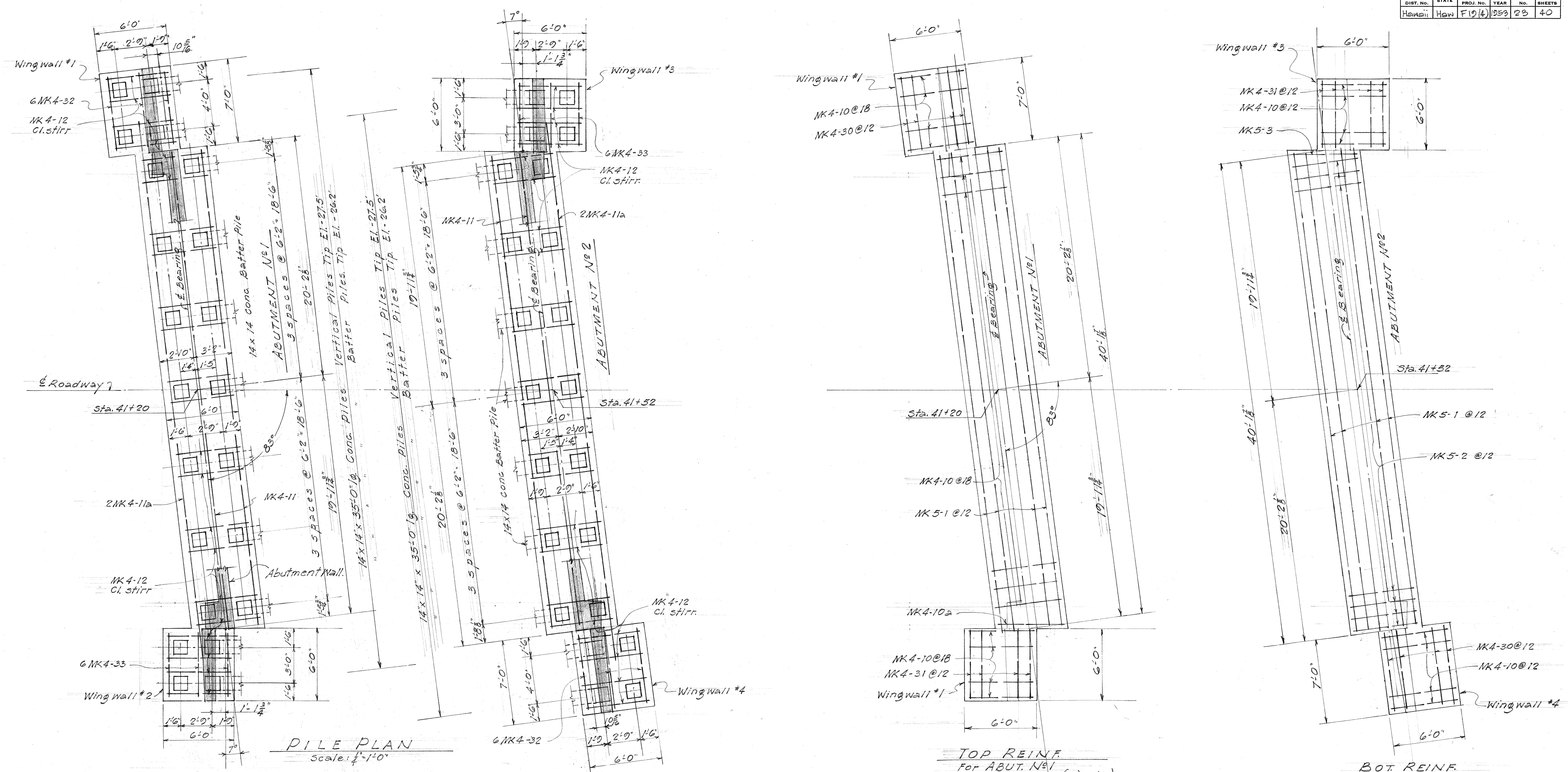
TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
BRIDGE N°2
Sta. 41+18.40 to Sta. 41+53.51
Kaunakakai-Kualapuu Road Proj. N° F10(4)
December 1952

SURVEY PLOTTED BY: J.L.S.
DATE: 11-52
DESIGNED BY: R.H.S.
TRACED BY: R.H.S.
QUANTITIES BY: P.M.S.
CHECKED BY: P.M.S.
NOTE BOOK NO. 12-52

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F10(4)	1953	22	40



TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
BRIDGE No 2
Sta. 41+18.49 to Sta. 41+53.51
Kaunakakai-Kualapuu Road. Proj. No. F10(4)
December 1952



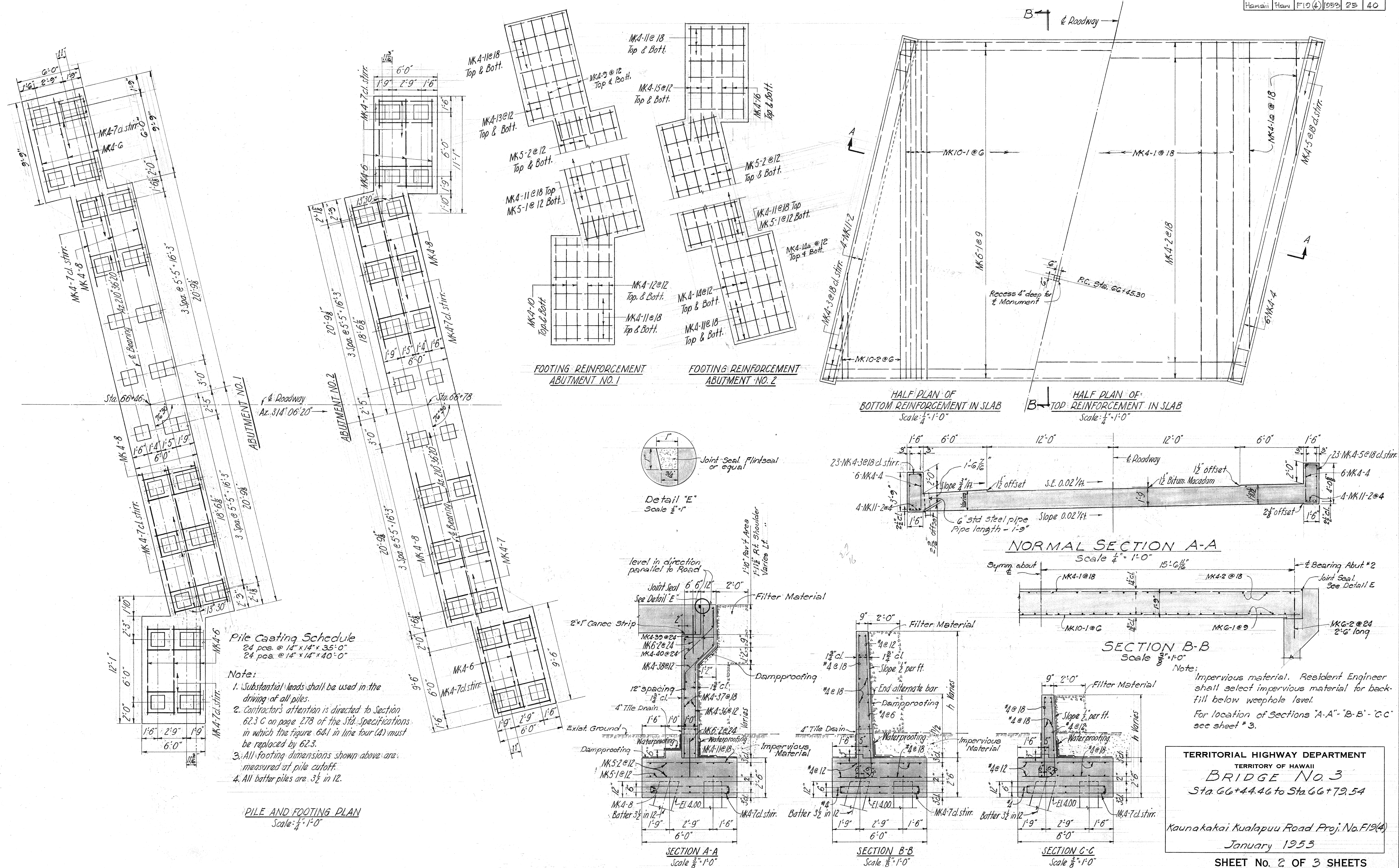
Note:
For Pile details see Std. Bridge Detail.

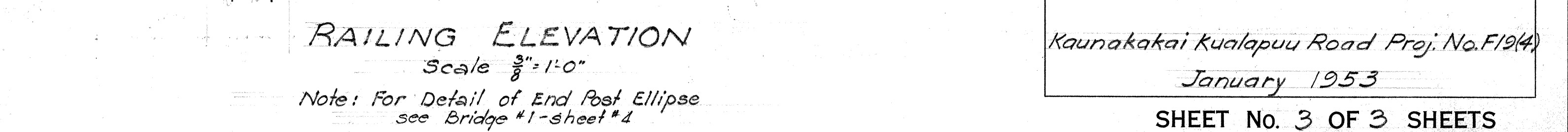
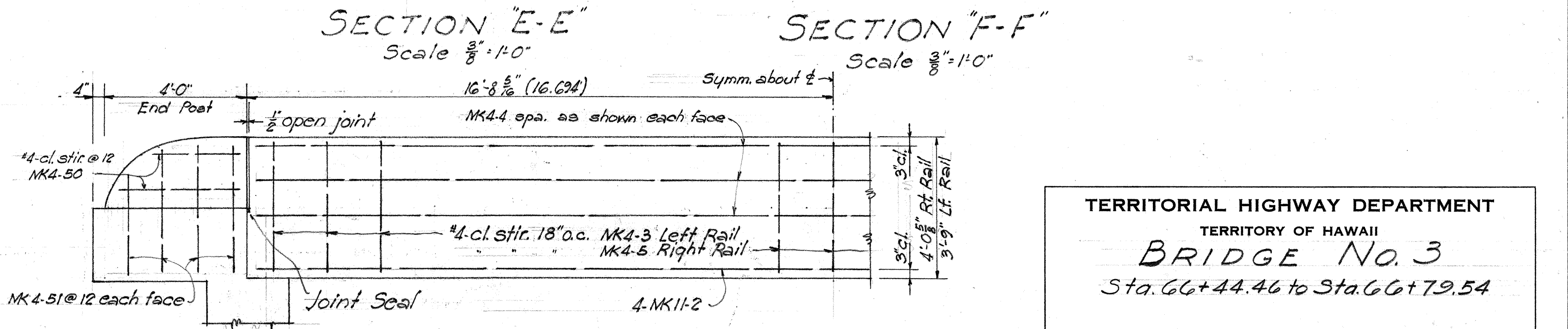
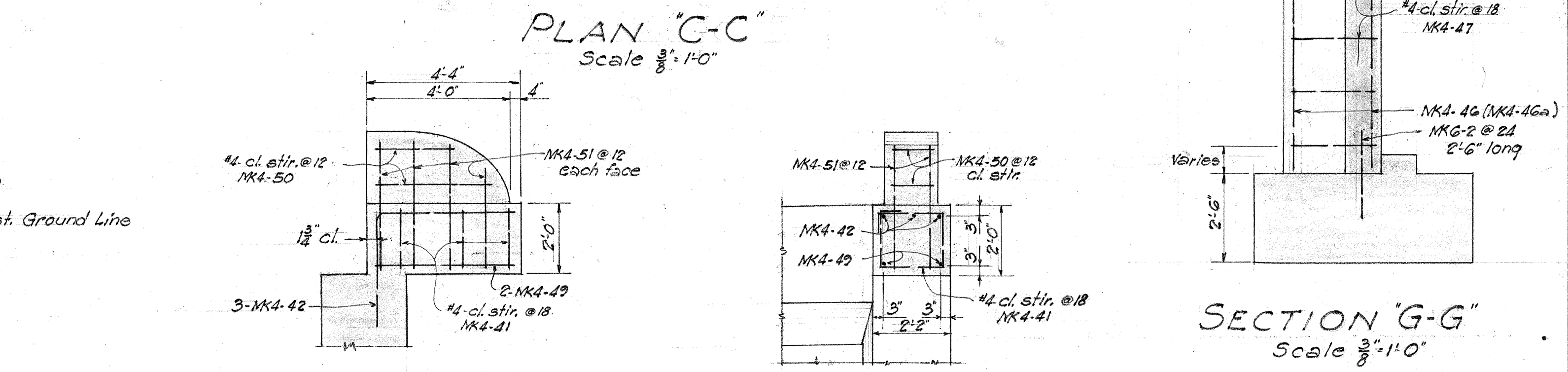
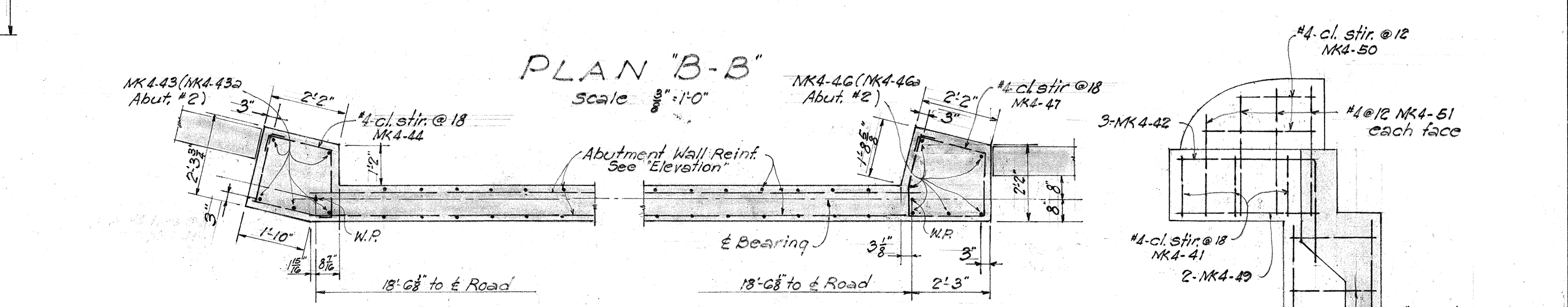
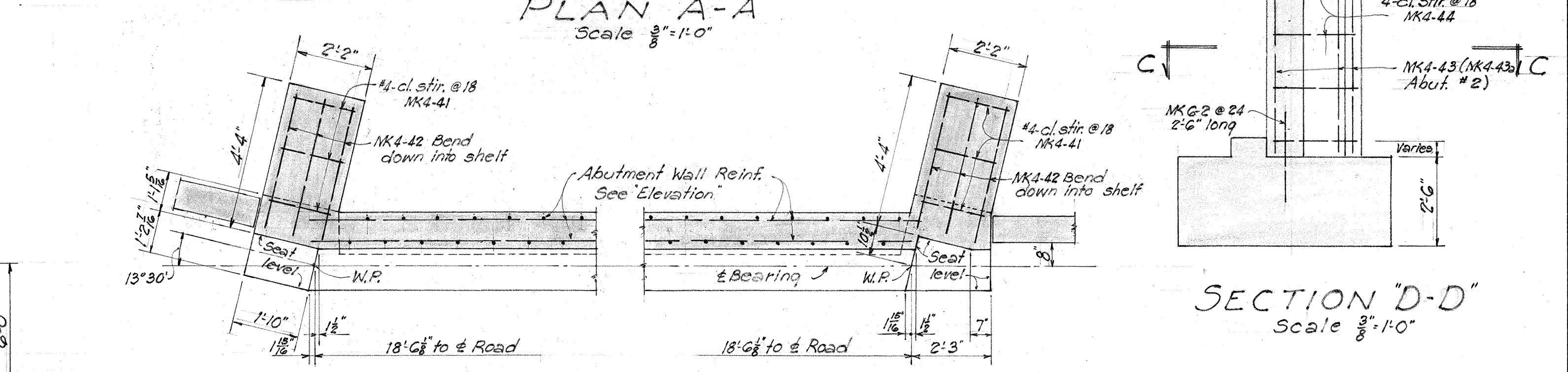
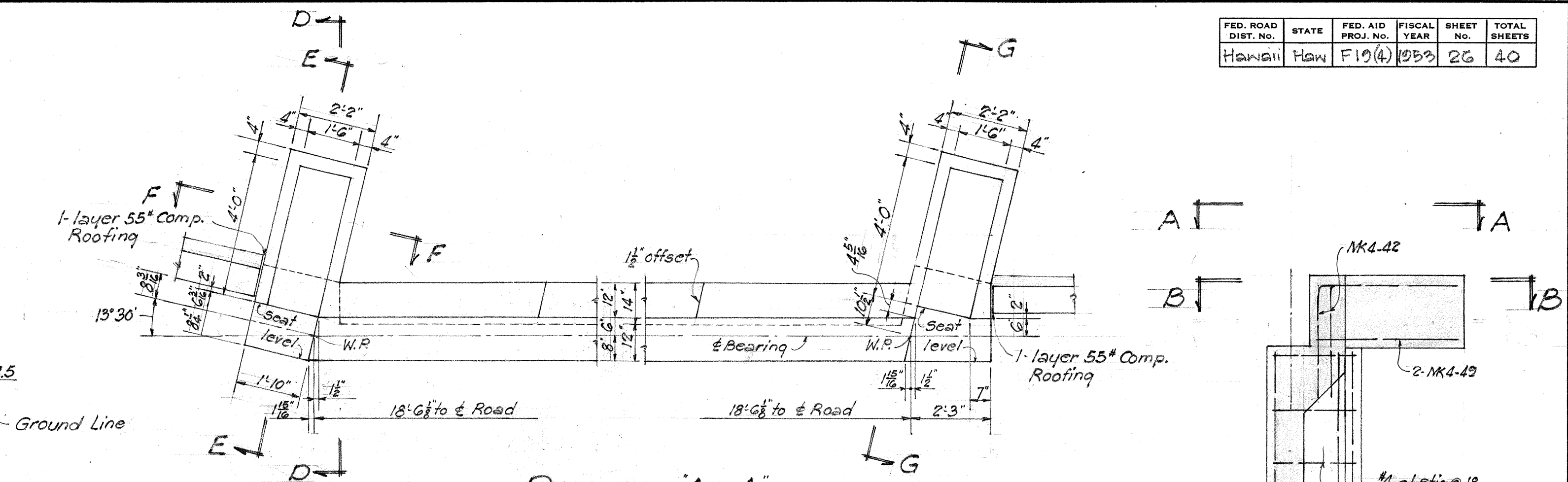
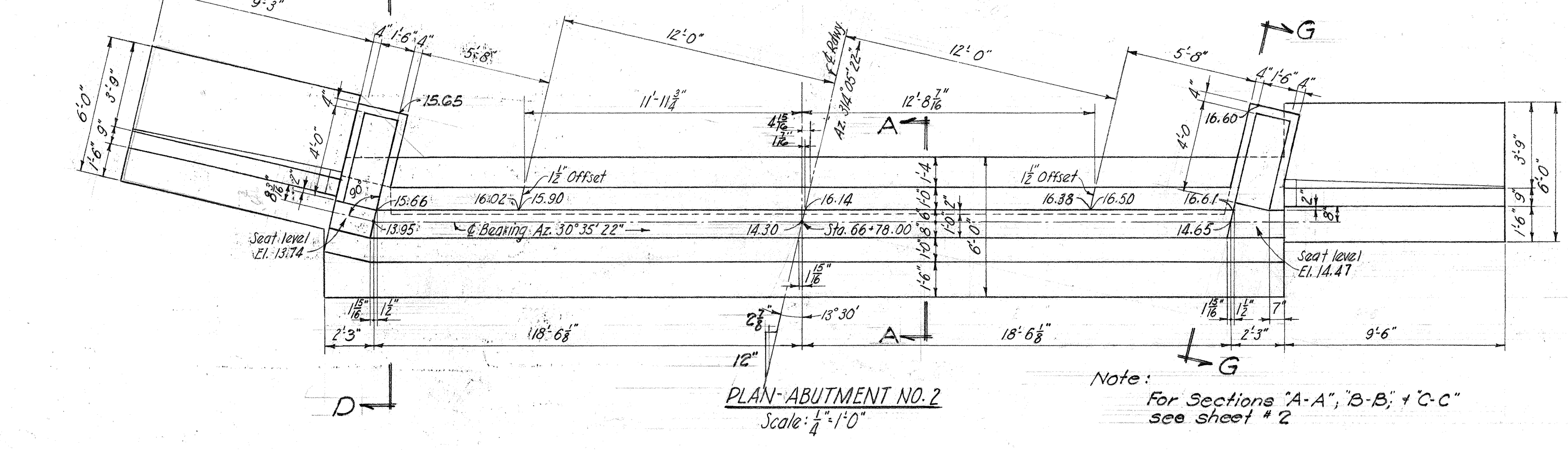
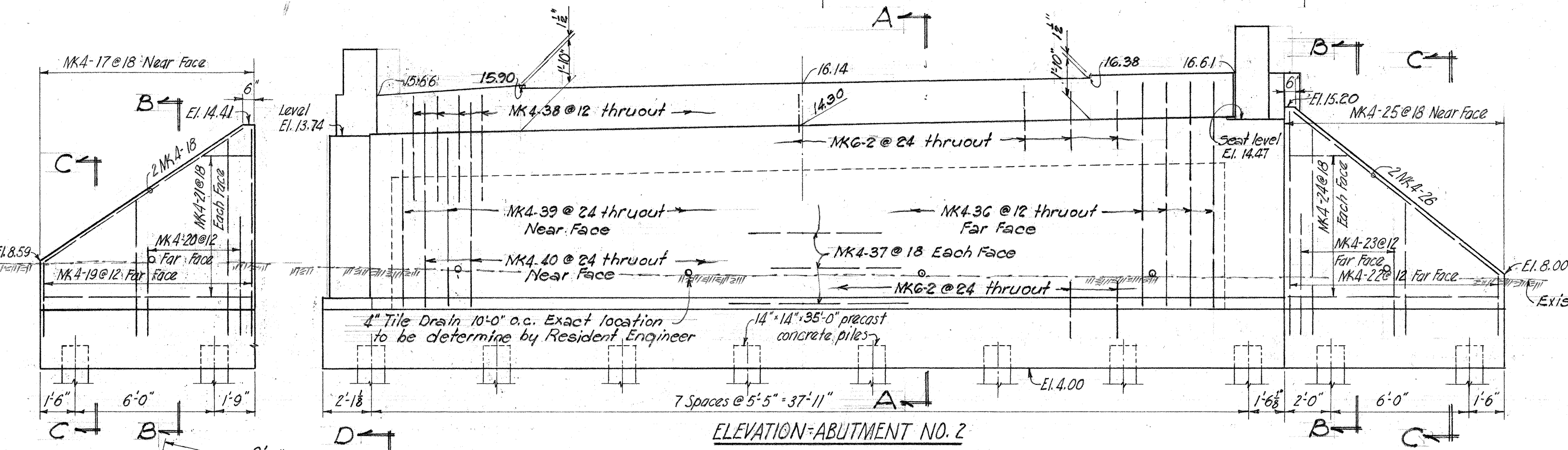
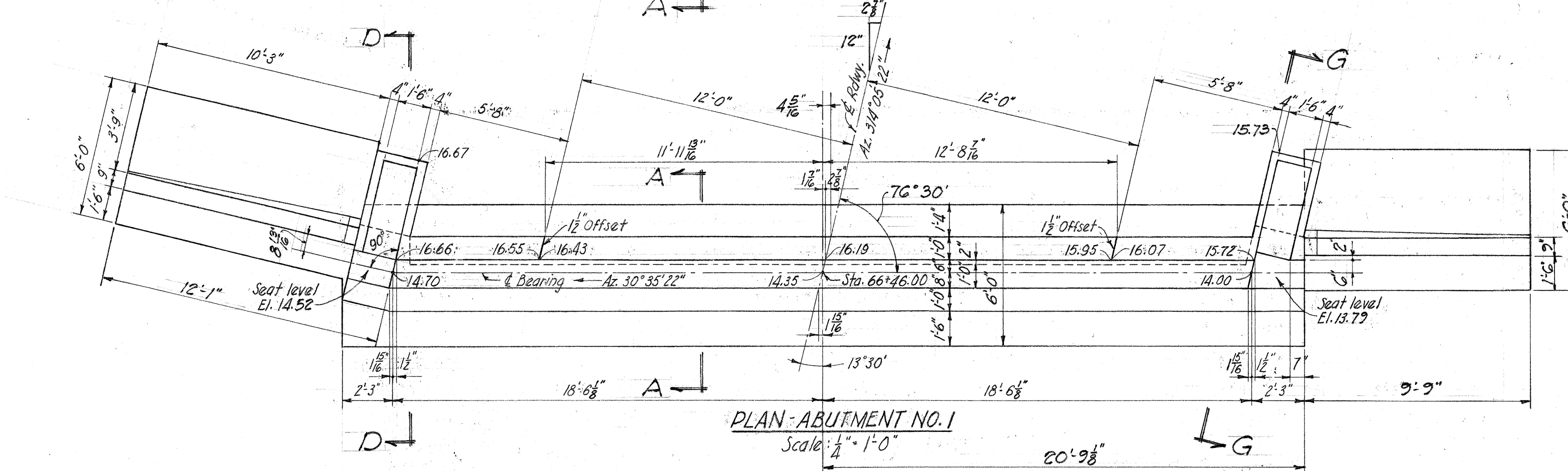
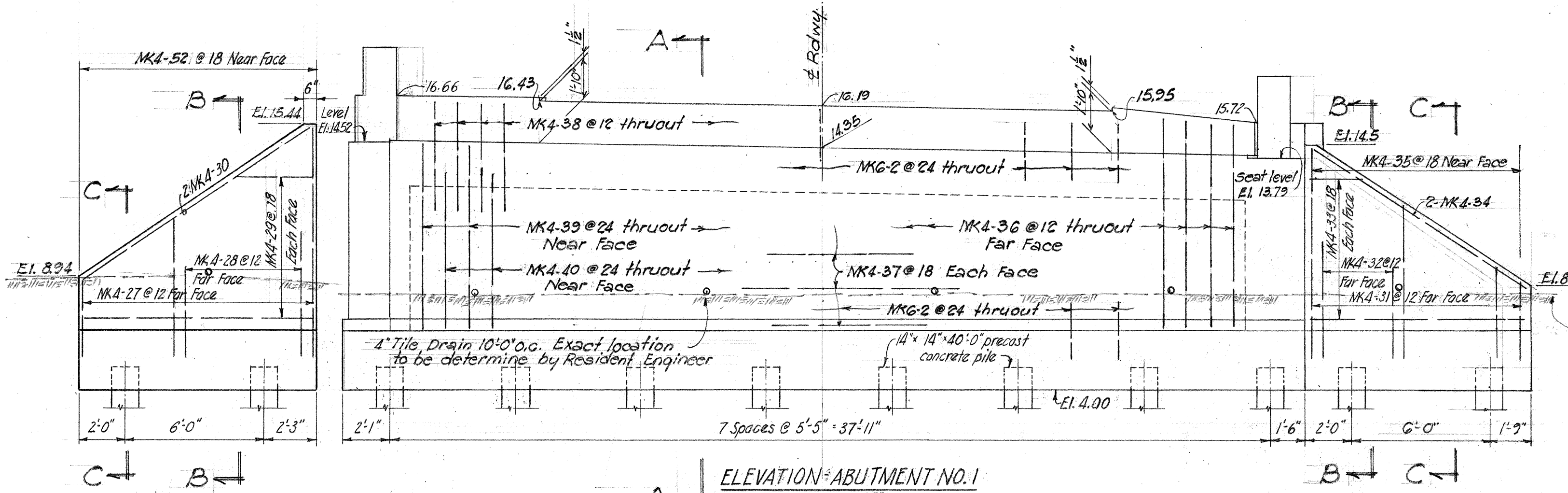
- Substantial leads shall be used in the driving of all Piles.
- Contractors attention is directed to Section G23c on page 278 of the Std. Specification in which the figure G4.1 in line four (4) must be replaced by G2.3
- Pile Casting Schedule:
44 pos. @ 14"x14"x35'-0"lg.

ESTIMATED QUANTITIES									
ITEM	LOCATION	DECK	FOOTING		S T E M		W I N G W A L L		TOTAL
			ABUT. #1 & WINGWALL #1	ABUT. #2 & WINGWALL #2	ABUT. #1	ABUT. #2	WINGWALL #1	WINGWALL #2	
Class A-1 Conc.		96. cy	27.8 cy	20.8 cy	19. cy	1.4 cy	1.2 cy	1.4 cy	198.8 cy
Reinf. Steel		16286 lbs.	1,490 lbs.	1,490 lbs.	1,200 lbs.	120 lbs.	110 lbs.	135 lbs.	22,312 lbs.
Dampproofing					28 sq.	24 sq.	12 sq.	10 sq.	237 sq.
Structural Exc.			128 cy	108 cy					236 cy
Channel Exc.									428 cy
Filter Material					34 cy	34 cy	2.8 cy	2.8 cy	70.2 cy
Precast Conc. Piles							2.8 cy	2.8 cy	1,540 lin. ft.
Keystone									5.2 cy
Chips									0.56 cy
Rocksand									0.37 cy
Binder									0.58 ton
Emulsified Asphalt for Tack Coat									23.4 gal.

Note:
Top & bot. reinf. for Wingwall #1 & #3 same, and for Wingwall #2 & #4 same.

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
BRIDGE N°2
Sta. 41+18.49 to Sta. 41+53.51
Kaunakakai-Kualapuu Road Proj. N° F104
December 1952



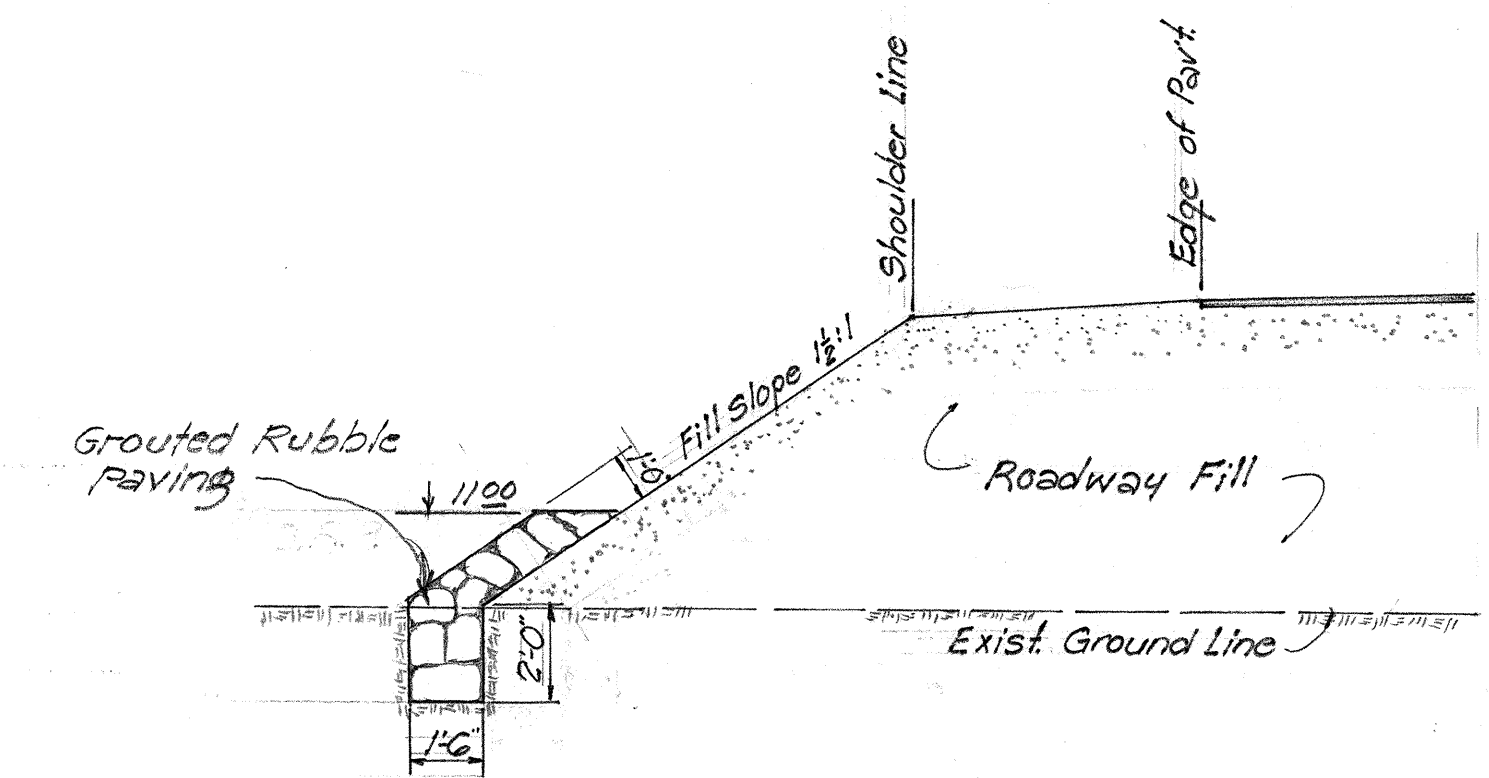
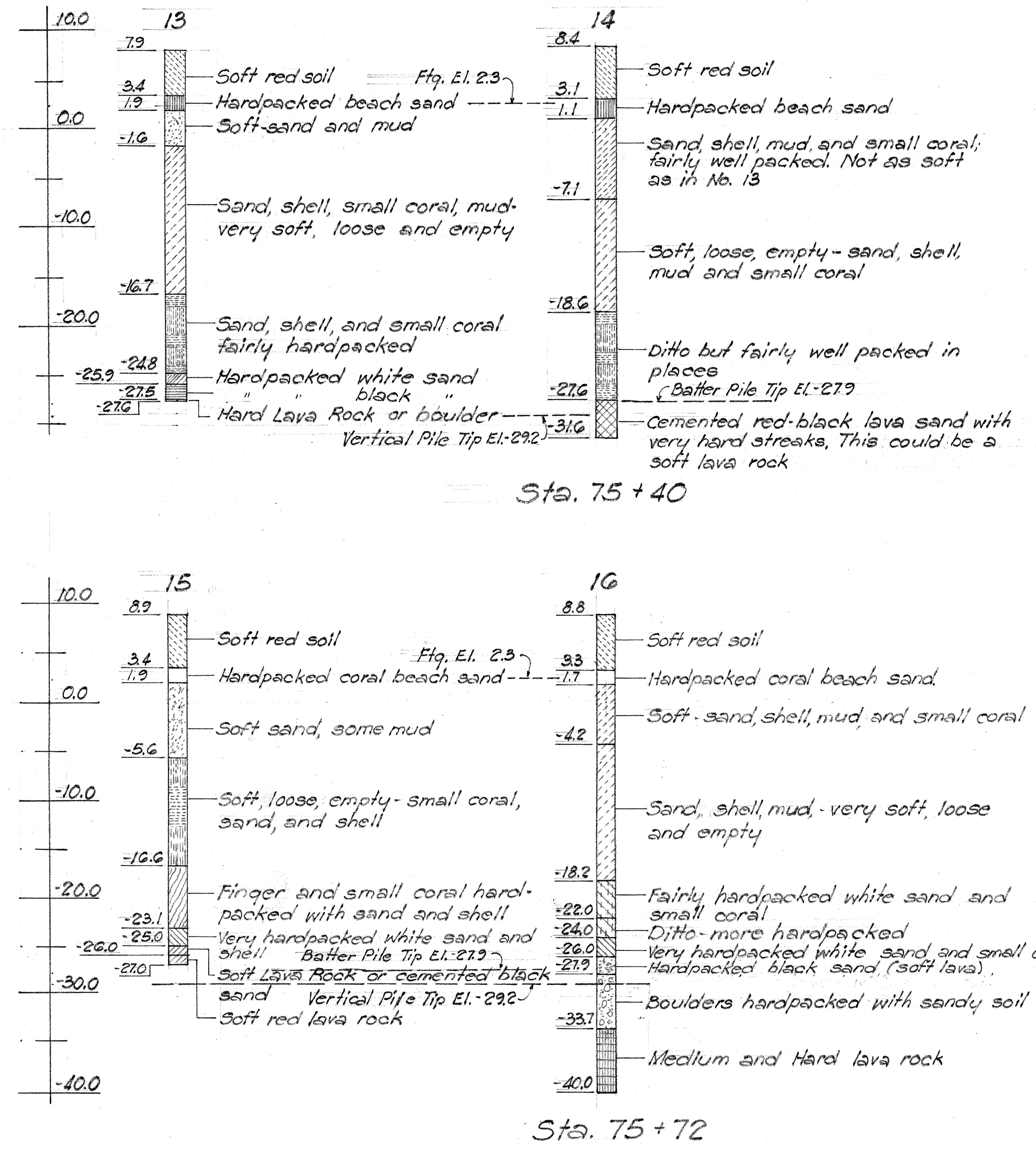
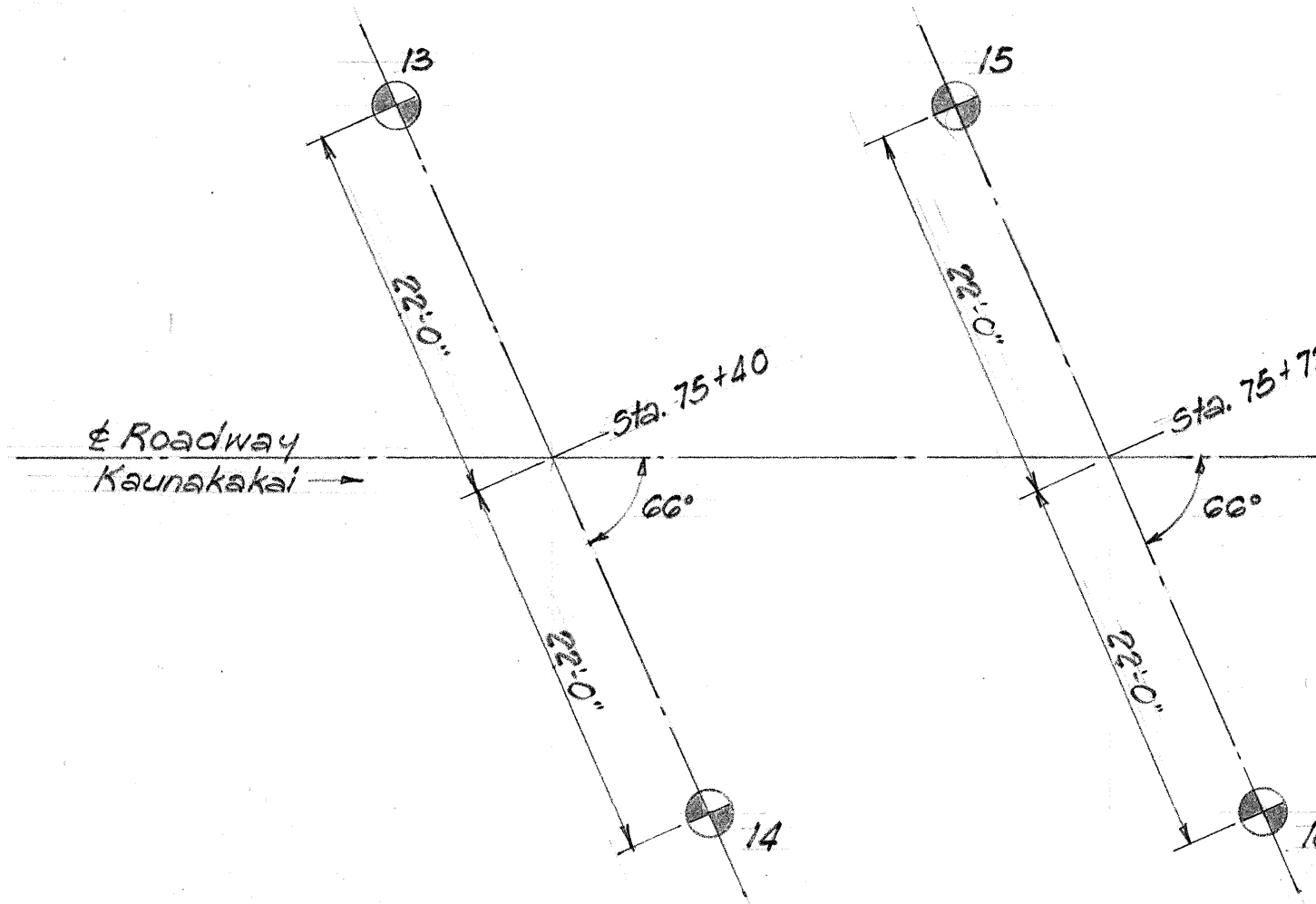


TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
BRIDGE No. 3
Sta. 66+44.46 to Sta. 66+79.54
Kaunakakai Kualapuu Road Proj. No. F10(4)
January 1953

± Curve Data
 $\Delta = 31^\circ 12' 05''$
 $D = 1^\circ 30'$
 $R = 3817.72$
 $T = 1066.53$
 $L = 2080.09$
 $C = 2054.49$
 $SE = 0.02$ per ft.

General Note:
 See Bridge No.1 - sheet No.1

Item	Location	Deck	Footing				Stem	Total
			Abut #1 - W.W.#19*2	Abut #2 - W.W.#3*2	Abut #1 - W.W.#19*2	Abut #2 - W.W.#3*2		
Class 'A-1' Concrete		89.3 c.y.	36.4 c.y.	35.0 c.y.	29.4 c.y.	29.2 c.y.		219.3 c.y.
Reinf. Steel		15,631 lbs.	1863 lbs.	1801 lbs.	1996 lbs.	1961 lbs.		23,252 lbs.
Struct. Exc.			121 c.y.	125 c.y.				246 c.y.
Dampproofing					140 s.y.	136 s.y.		276 s.y.
Filter Material					50 c.y.	51 c.y.		101 c.y.
Channel Exc.								35 c.y.
Grouted Rubble Paving								17 c.y.
Precast Conc. Piles								1645 lin. ft.
Key Stone								5.23 c.y.
Chips								0.56 c.y.
Rocksand								0.38 c.y.
Binder								0.58 ton
Emulsified Asphalt for Tack Coat								23.52 gal.
Removing Exis. Concrete Bridge								Lump Sum



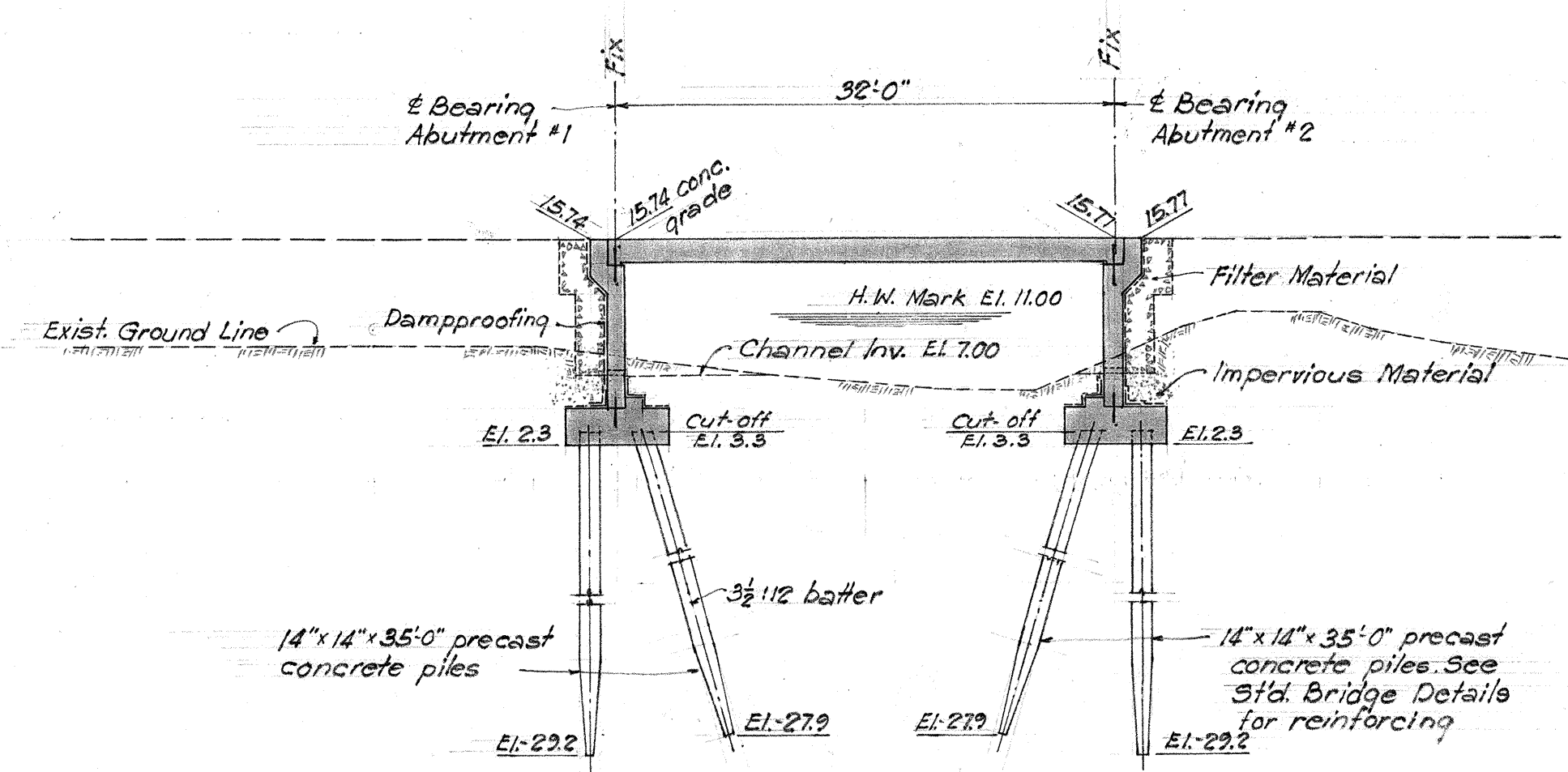
SECTION A-A
 Scale 1/4"=1'0"

TERRITORIAL HIGHWAY DEPARTMENT
 TERRITORY OF HAWAII
BRIDGE No.4
 Sta. 75+38.36 to Sta. 75+73.64

Kaunakakai Kualapuu Road Proj. No. F19(4)
 January 1953

SHEET No. 1 OF 3 SHEETS

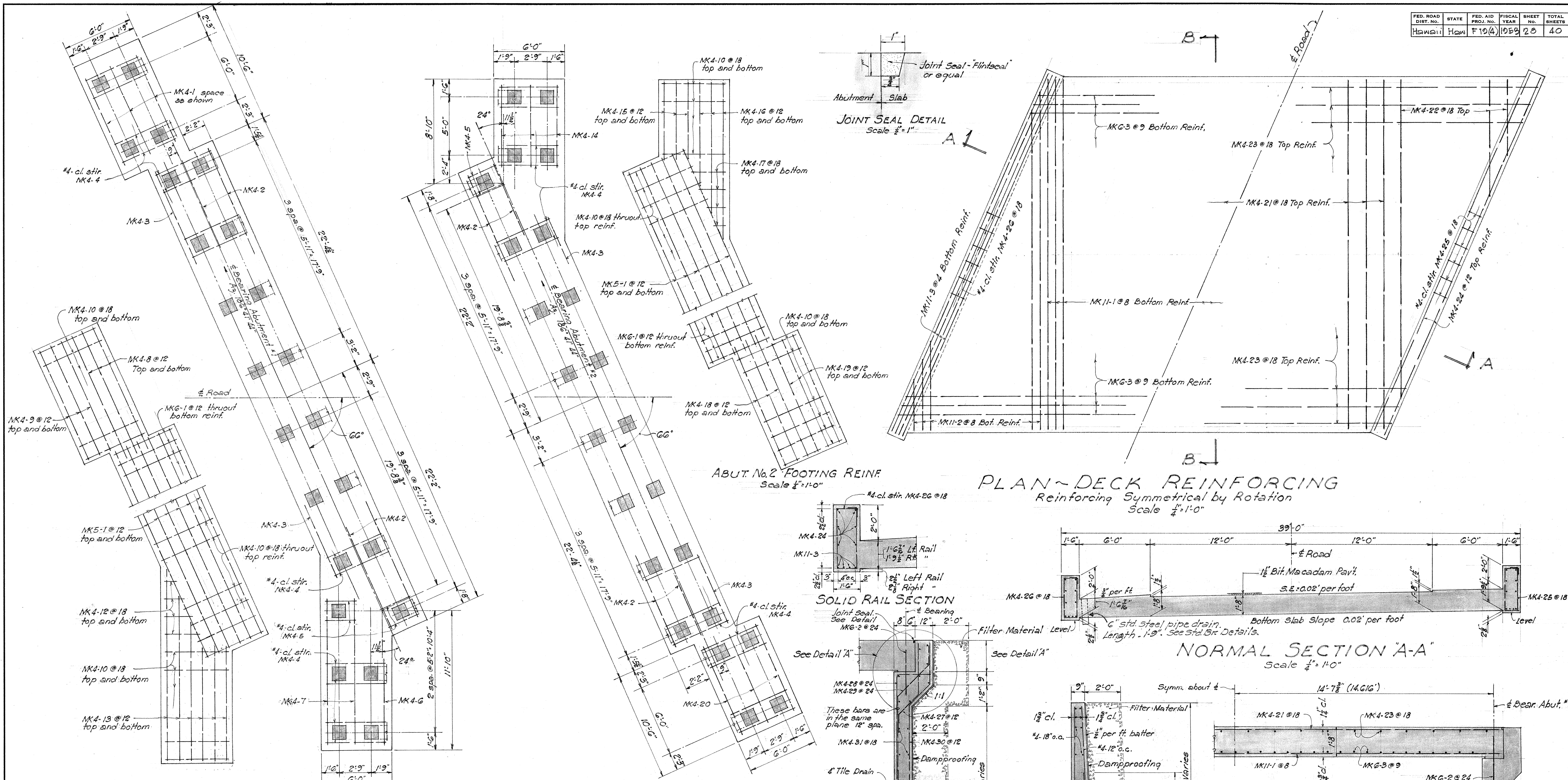
LAYOUT PLAN
 Scale 1"=10'



LONGITUDINAL SECTION ALONG ± BRIDGE
 Scale 1"=10'

BORING DATA
 Scale 1"=10'

SURVEY PLOTTED BY: *Chas. J. Uehara*
 DATE: *1-5-53*
 TRACED BY: *Chas. J. Uehara*
 QUANTITIES CHECKED BY: *Chas. J. Uehara*
 NOTE BOOK NO. *1-53*

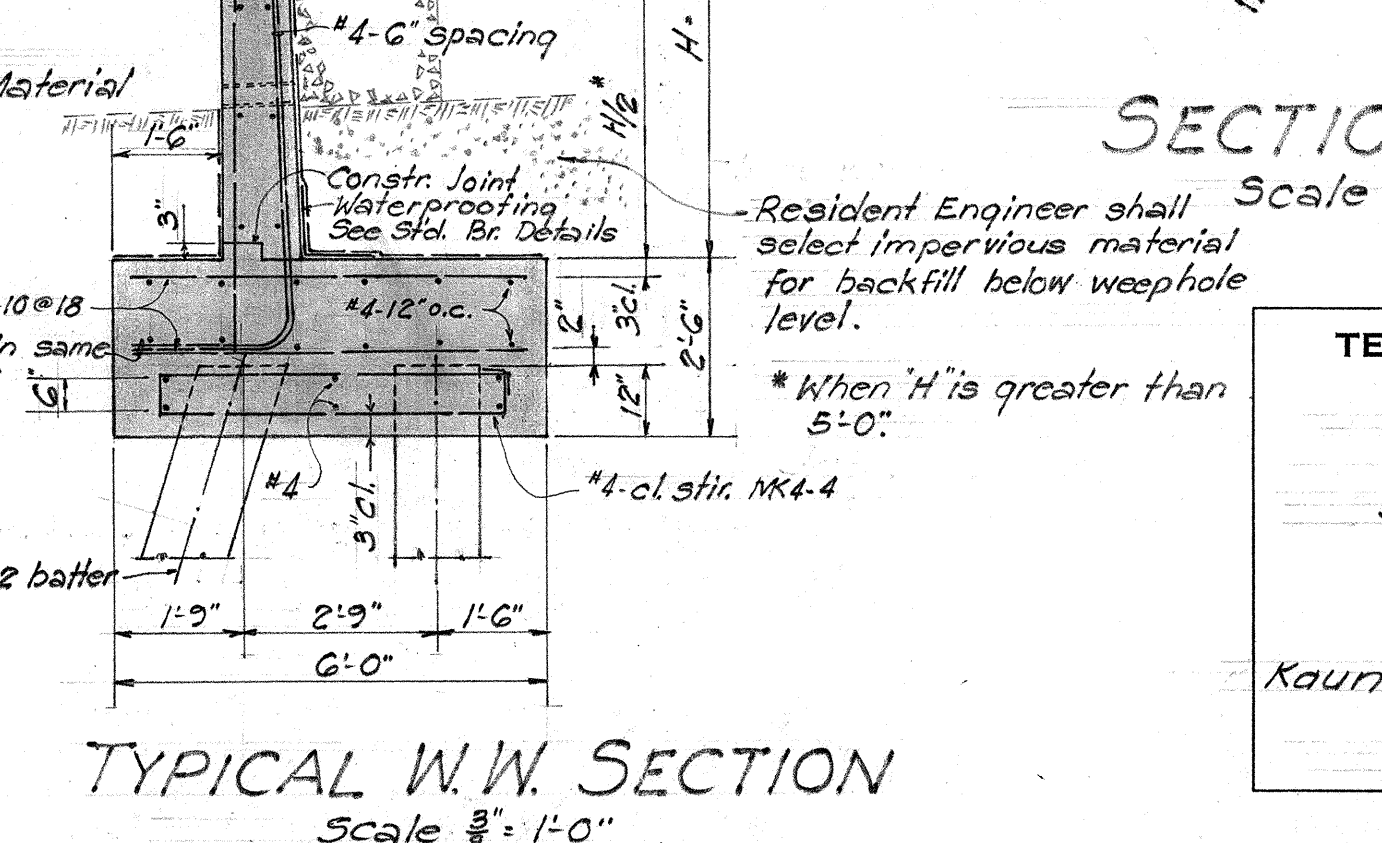
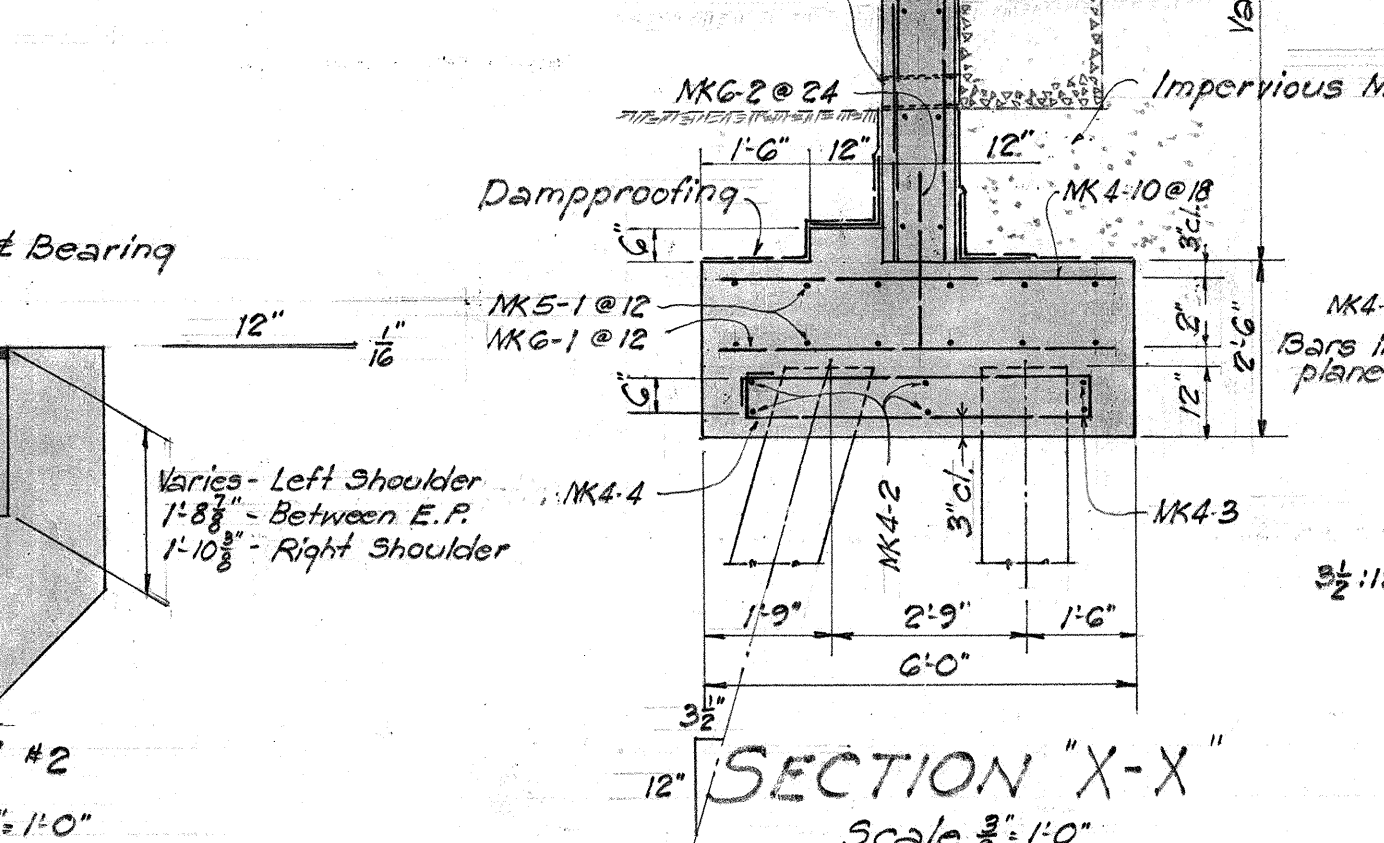
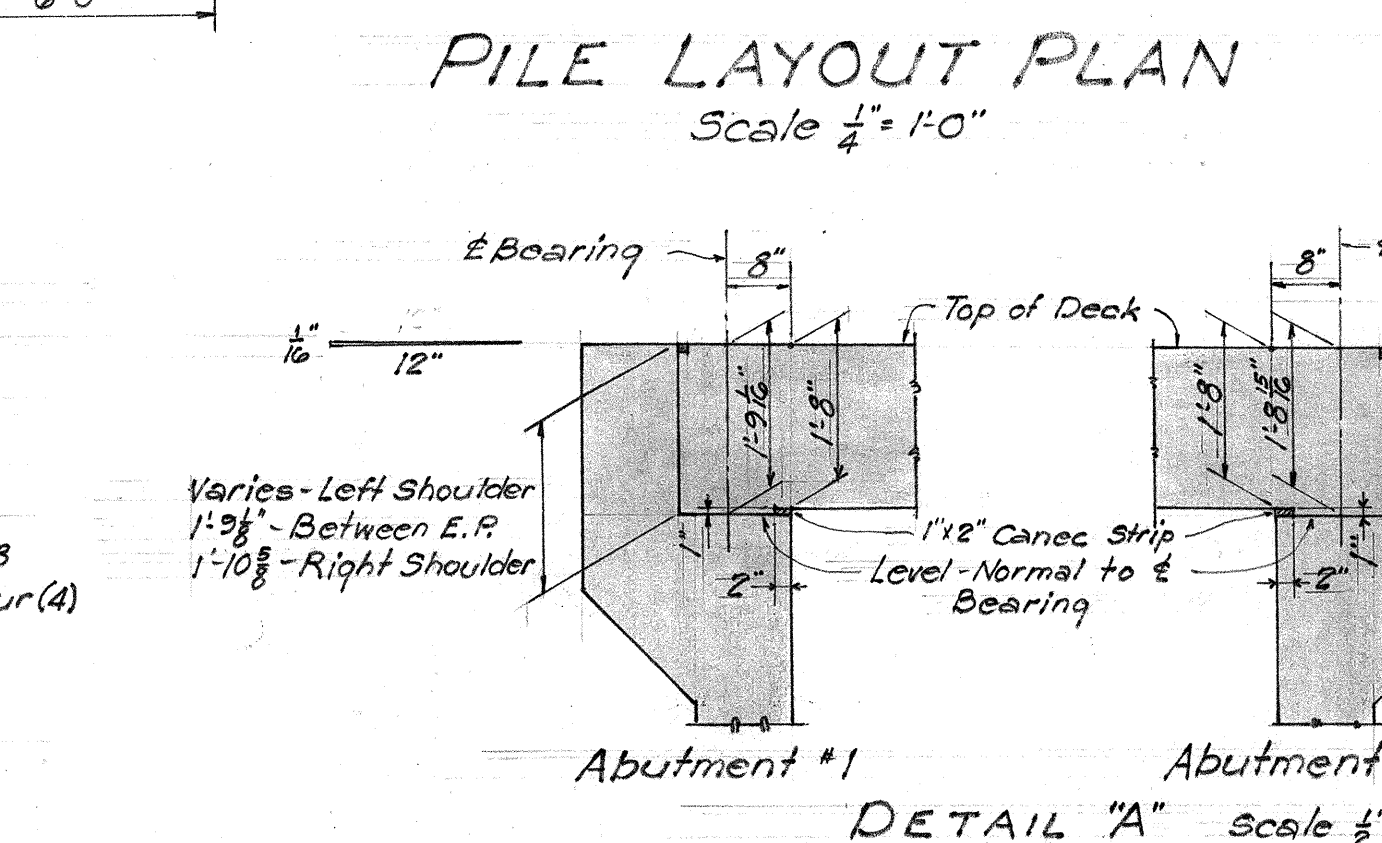


ABUT. No.1 FOOTING REINF.
Scale $\frac{1}{4}" = 1'-0"$

PILE LAYOUT PLAN
Scale $\frac{1}{4}" = 1'-0"$

Note:
All piles shall be 14" x 14" x 35'-0" long precast concrete piles.
Pile layout dimensions are measured at pile cut-off.
All batter piles 3 1/2' 12".
Pile tip elevations: Batter Piles - 279 Vertical Piles - 292.
Substantial leads shall be used in the driving of all piles.
Contractor's attention is directed to Section 62.3C on page 278 of Std. Specifications in which the figure 64.1 in line four (4) must be replaced by 62.3.

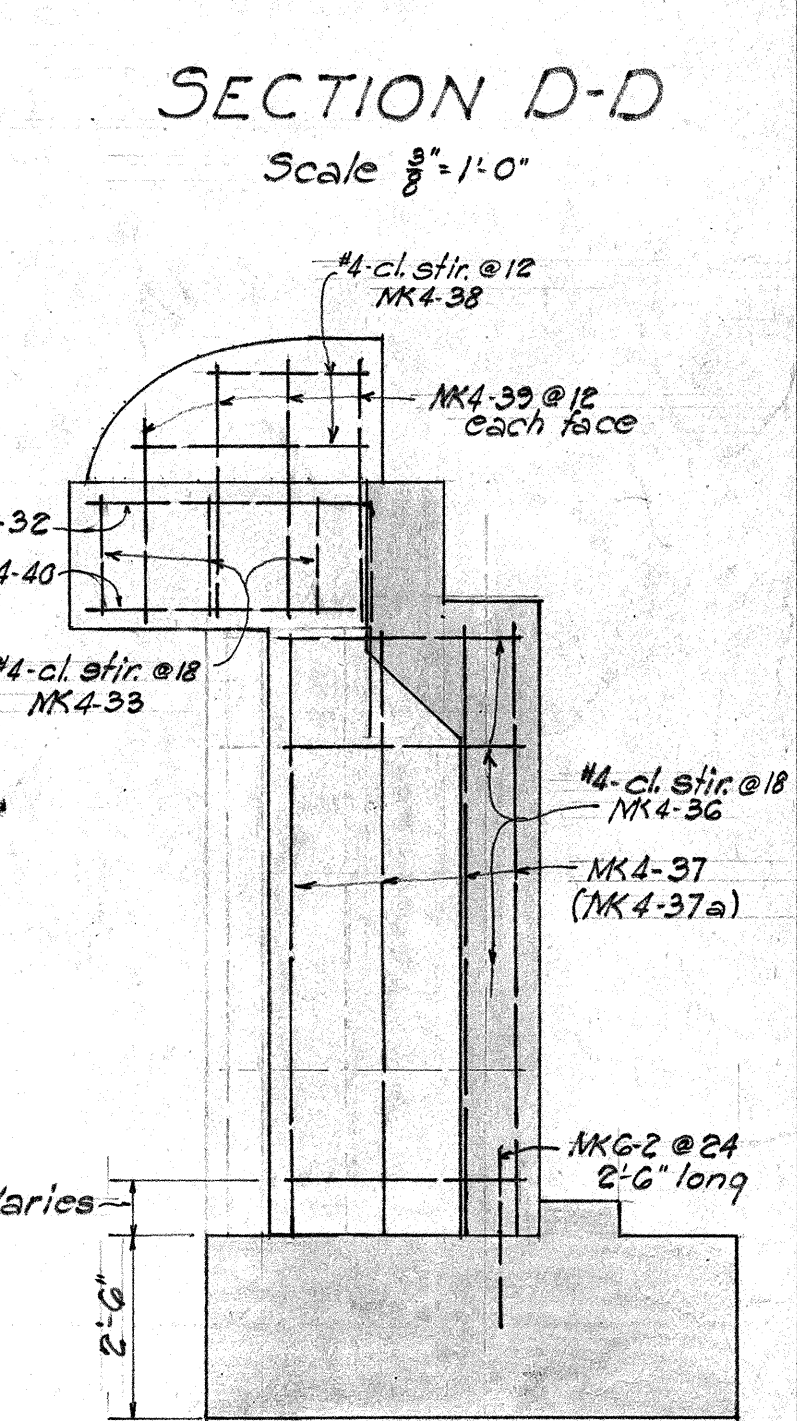
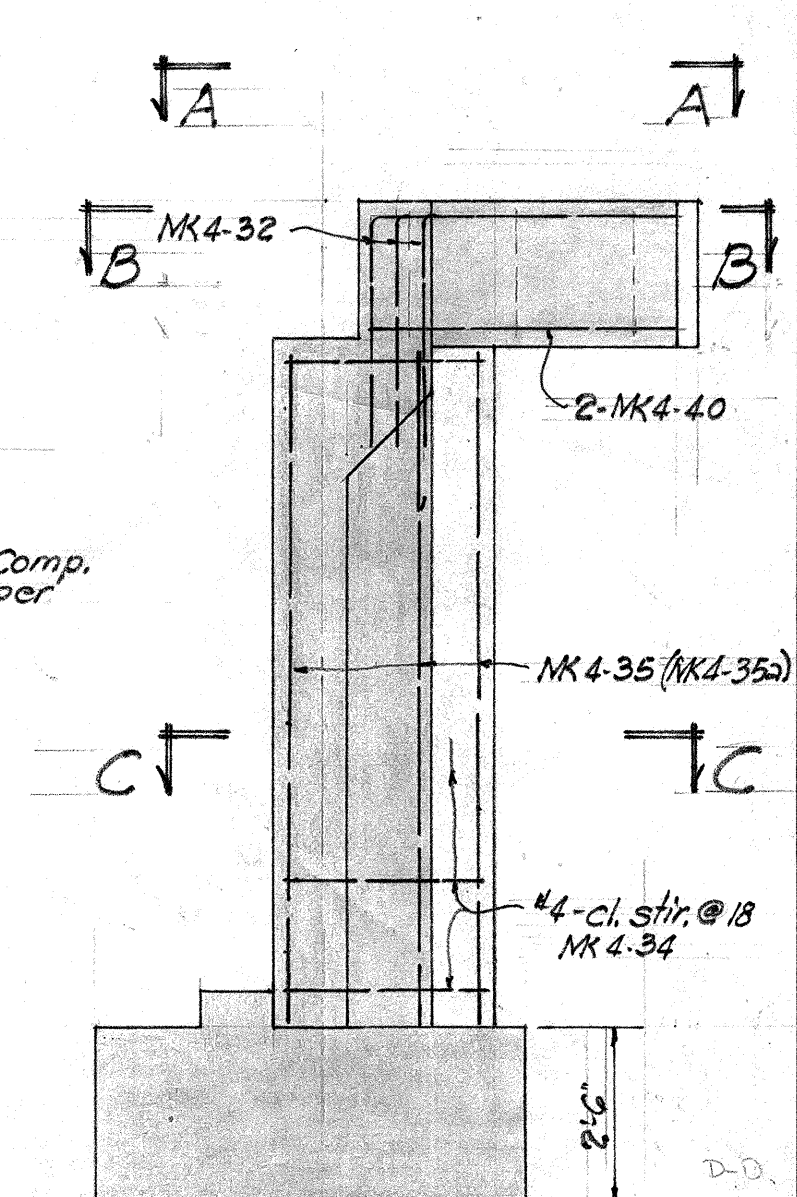
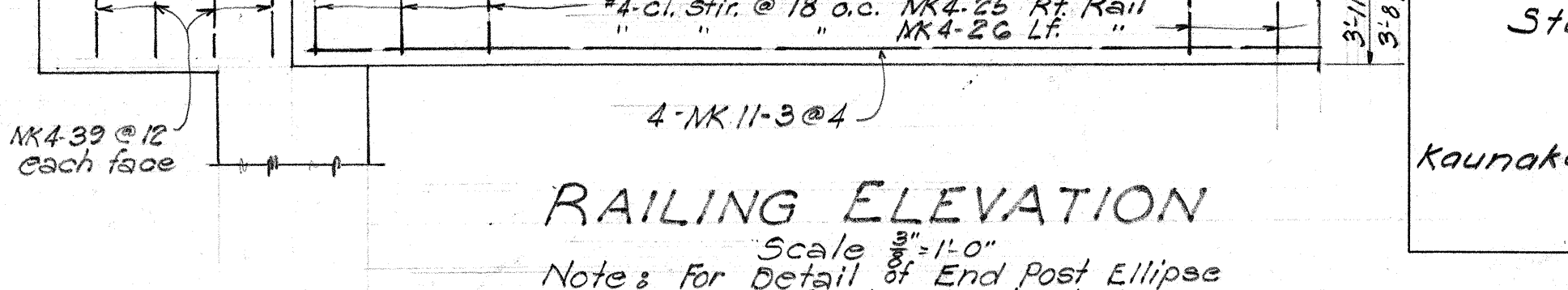
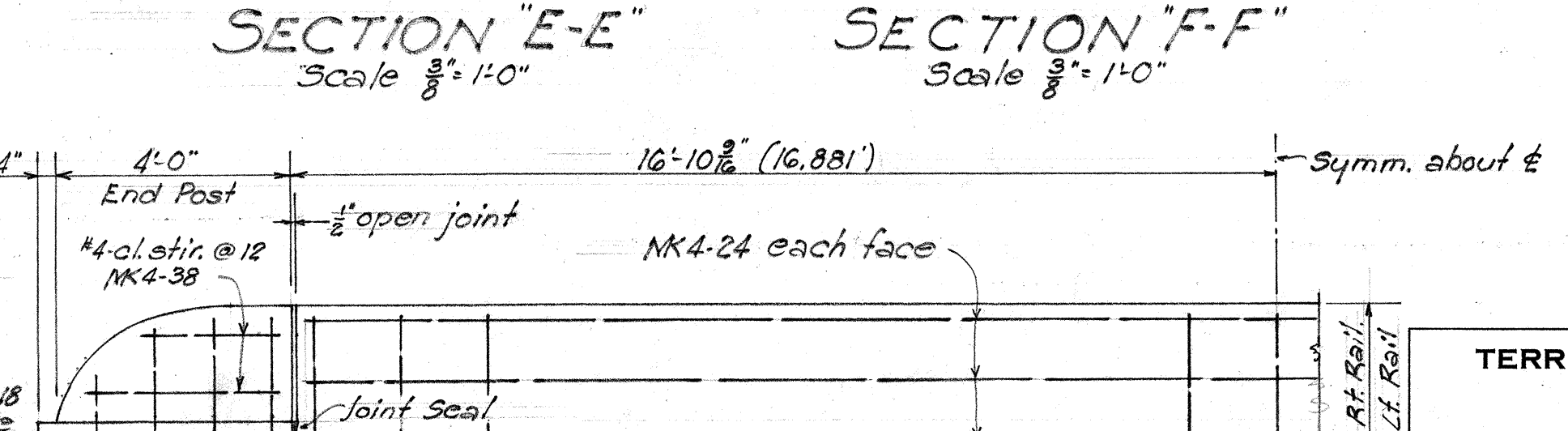
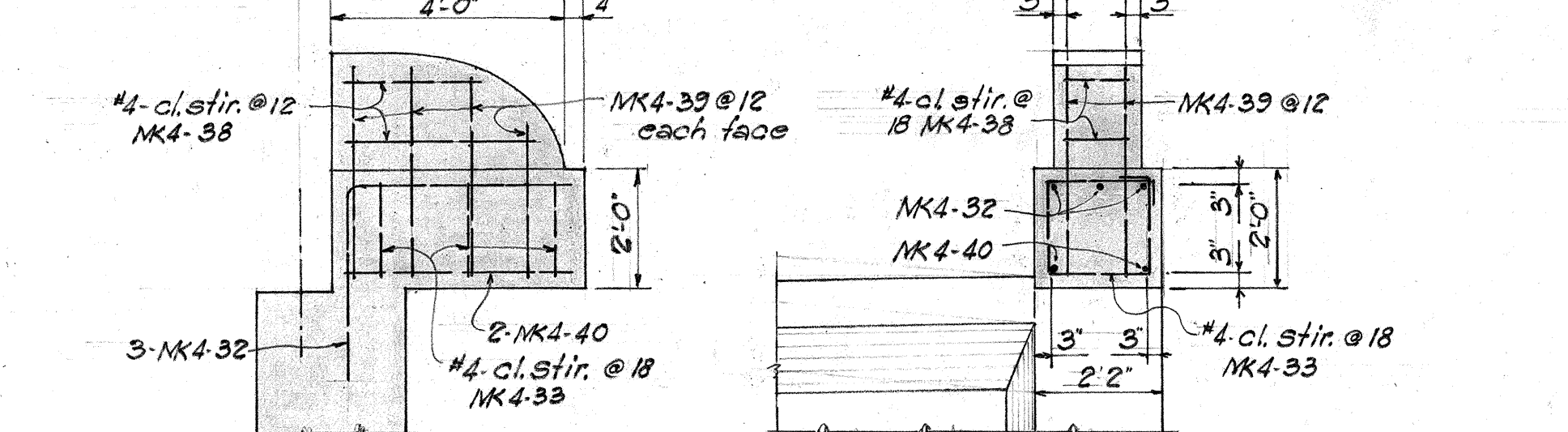
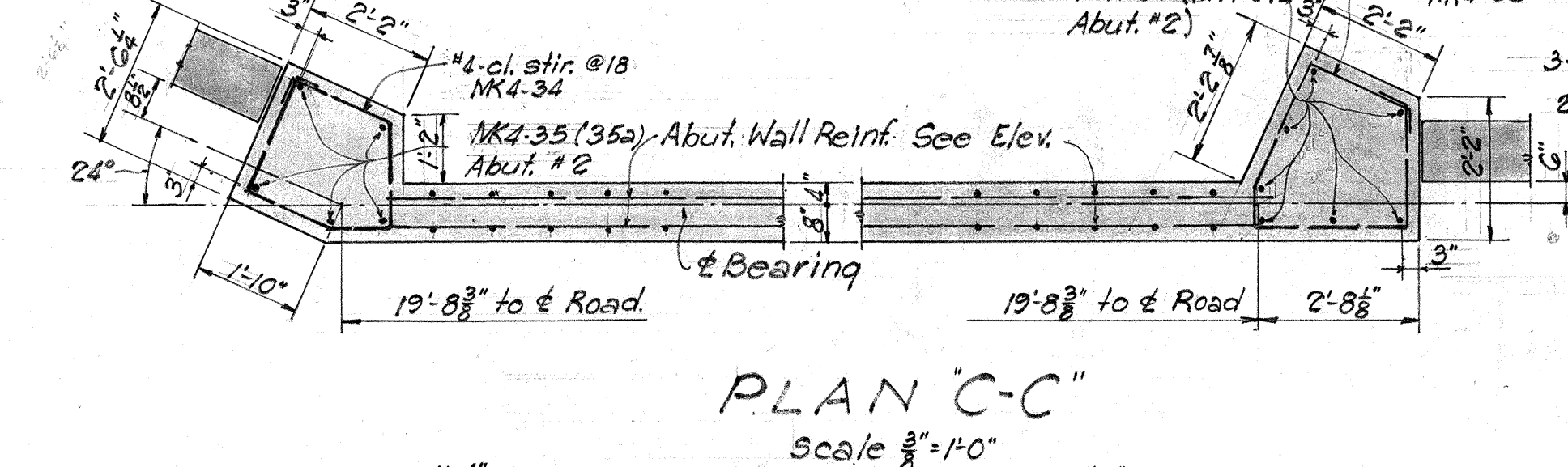
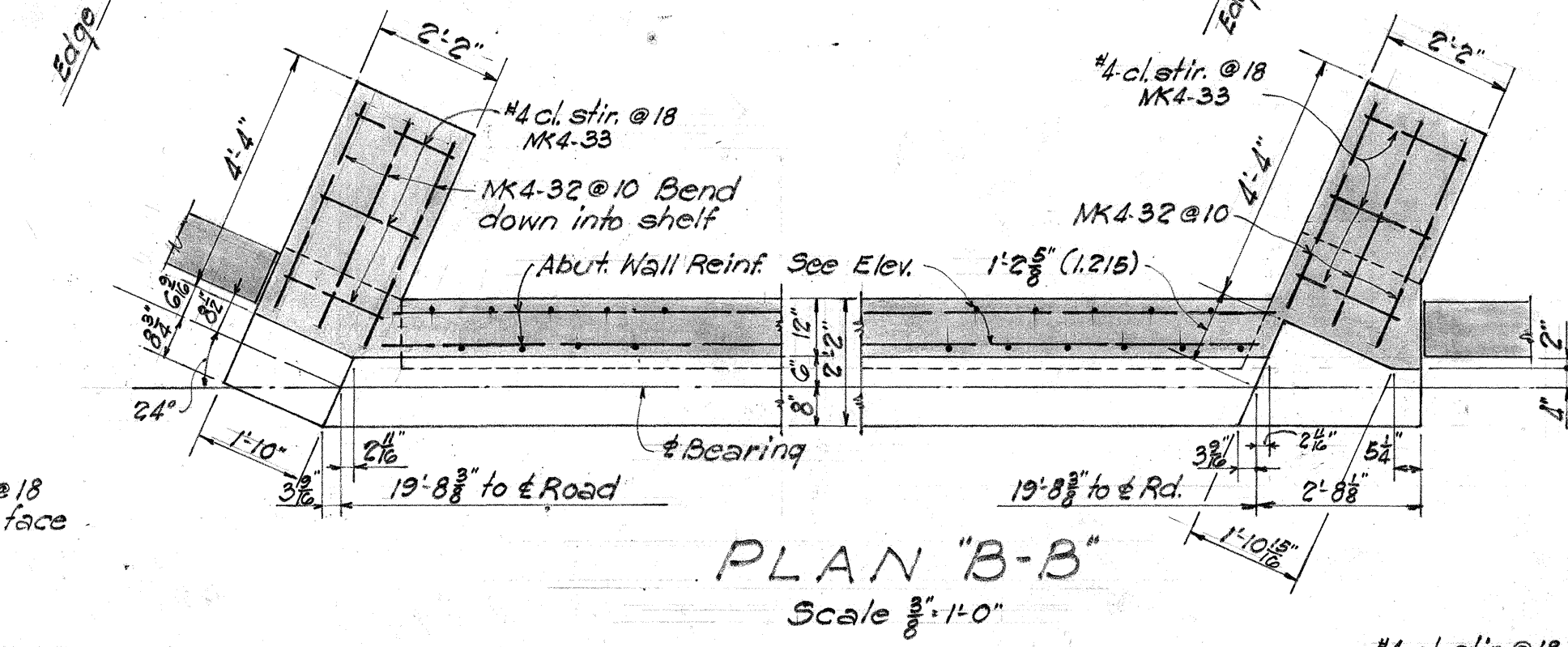
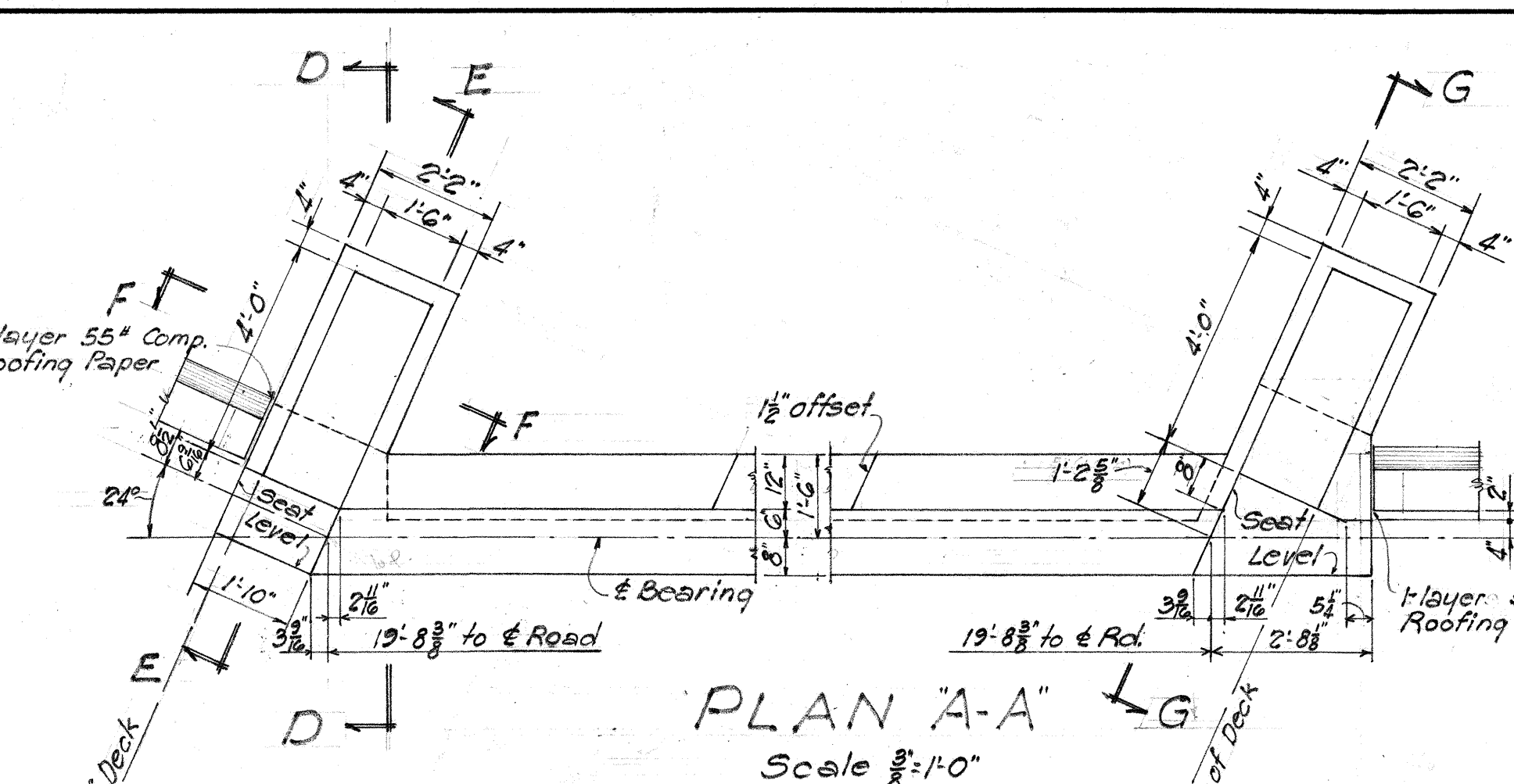
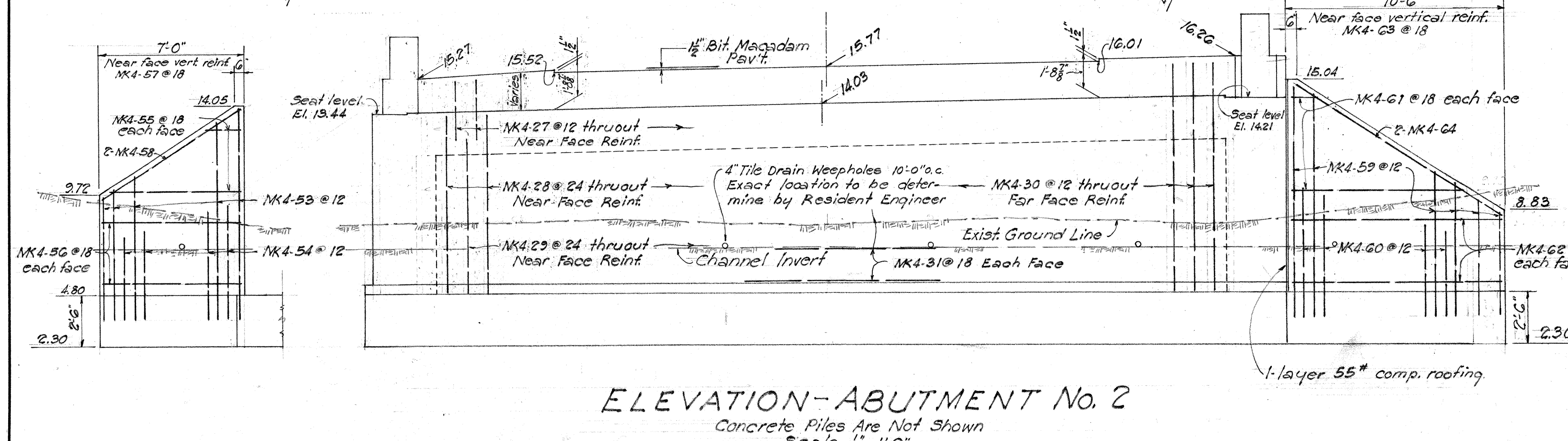
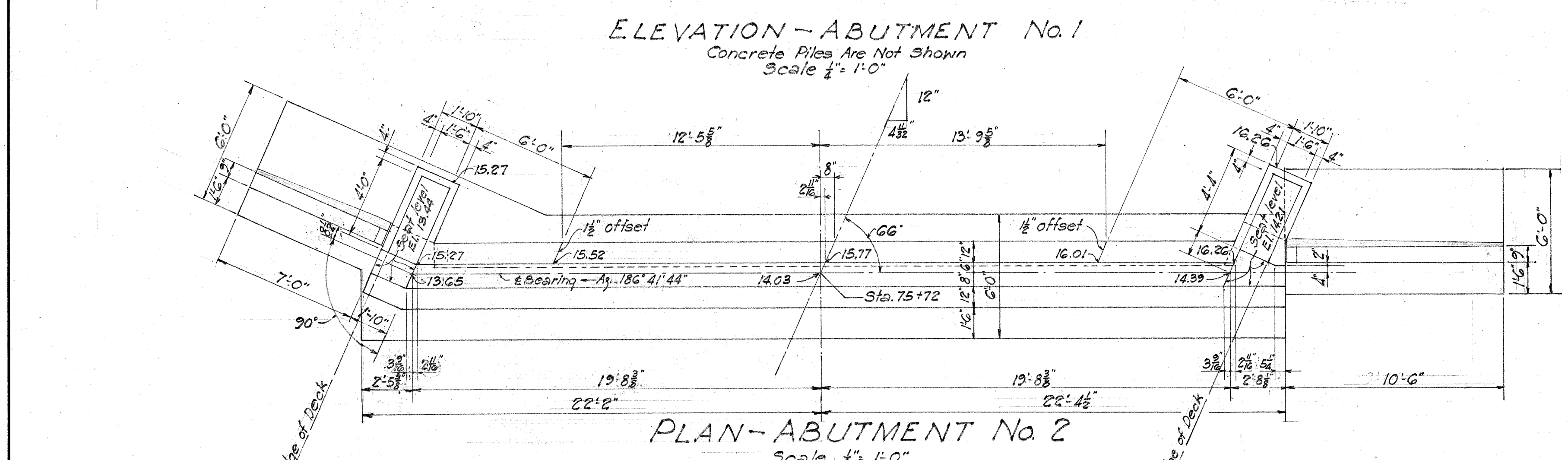
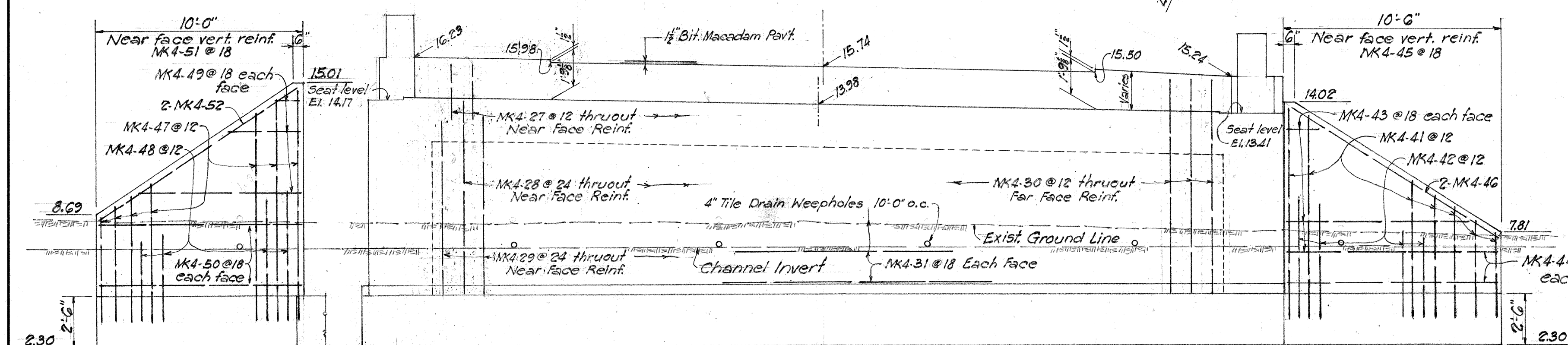
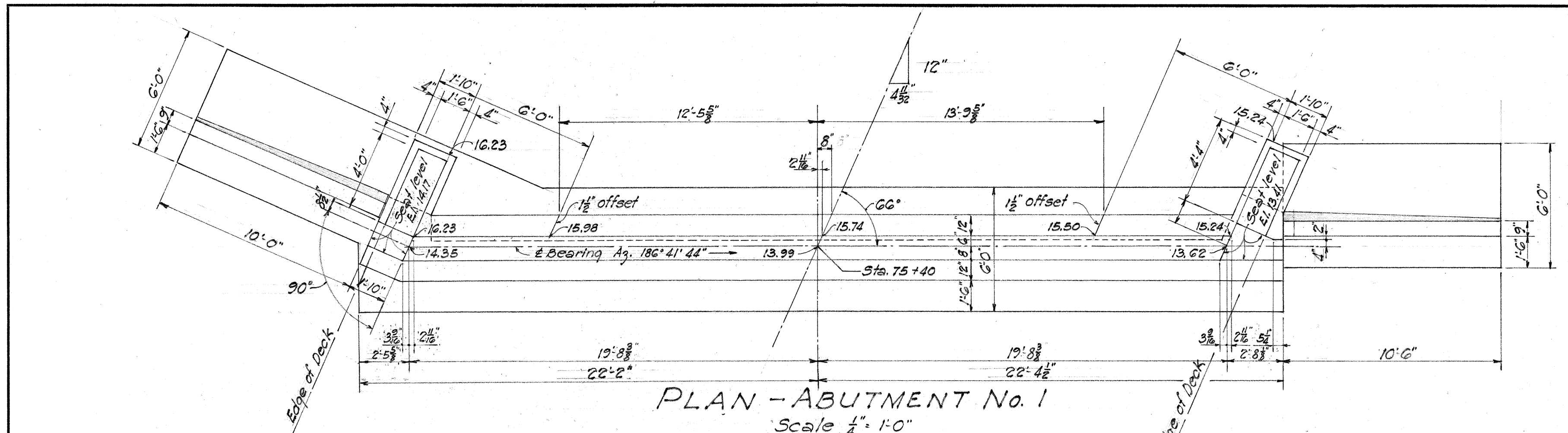
Pile Casting Schedule
47 pcs. @ 14" x 14" x 35'-0"



SECTION "A-A"
Scale $\frac{1}{4}" = 1'-0"$

SECTION "B-B"
Scale $\frac{3}{8}" = 1'-0"$

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
BRIDGE No. 4
Sta. 75+38.36 to Sta. 75+73.64
Kaunakakai Kualapuu Road Proj. No. F10(4)
January 1953
SHEET No. 2 OF 3 SHEETS
5605.28



TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
BRIDGE No. 4
Sta. 75+38.36 to Sta. 75+73.64
Kaunakakai Kualapuu Road Proj. No. F19(4)
January 1953

SURVEY PLOTTED BY: _____
DESIGNED BY: _____
CHECKED BY: _____
DATE: _____
ORIGINAL PLAN NO. _____
NOTE BOOK NO. _____