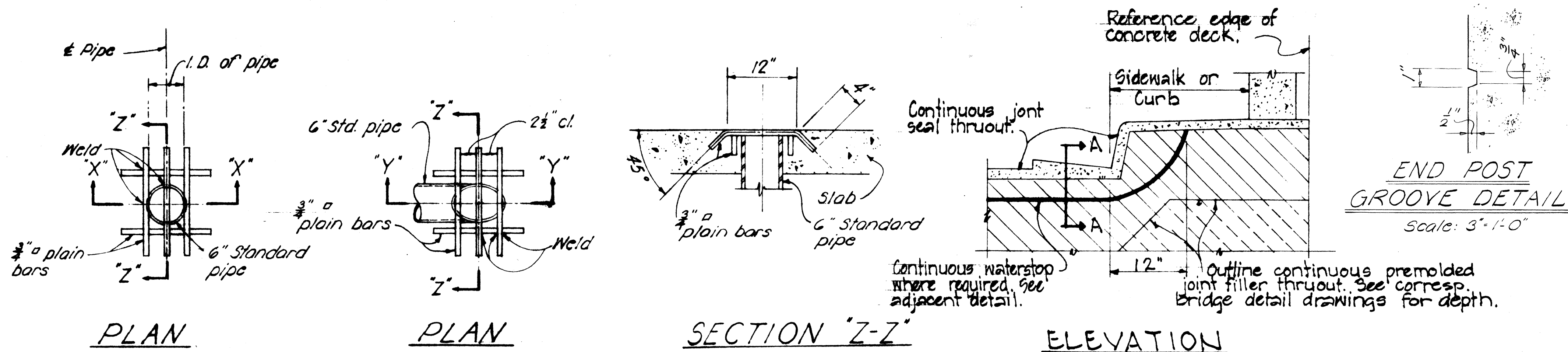


REVISION

Jan. '67

Feb. '67

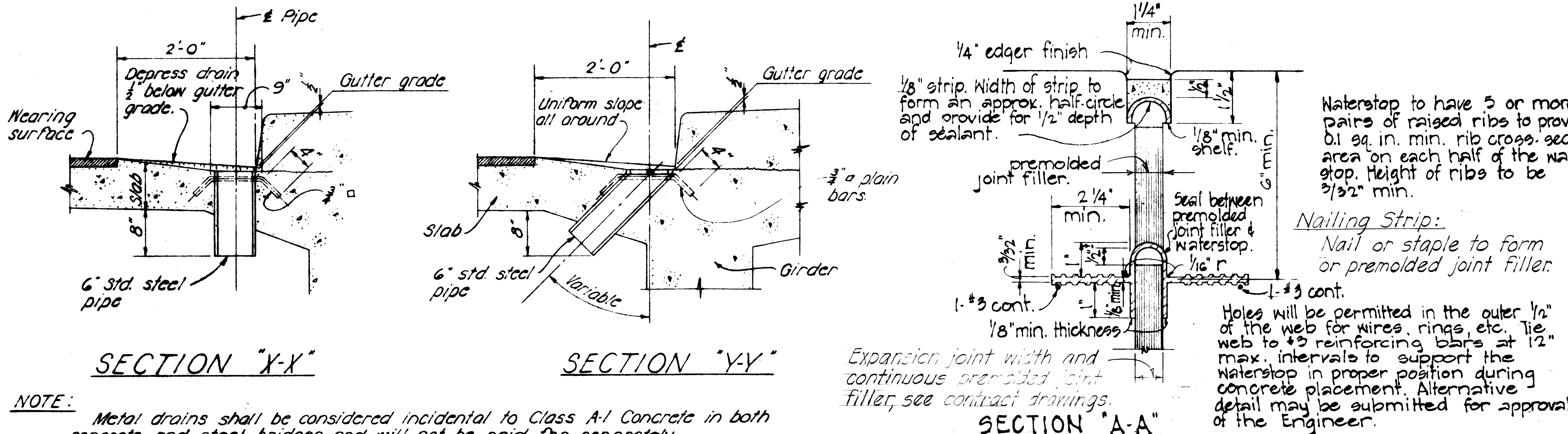
Apr. 67



GENERAL NOTES

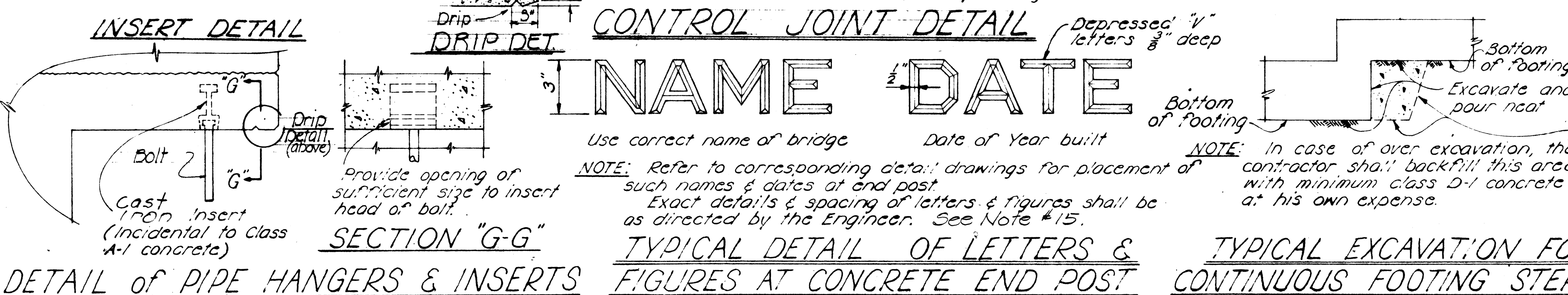
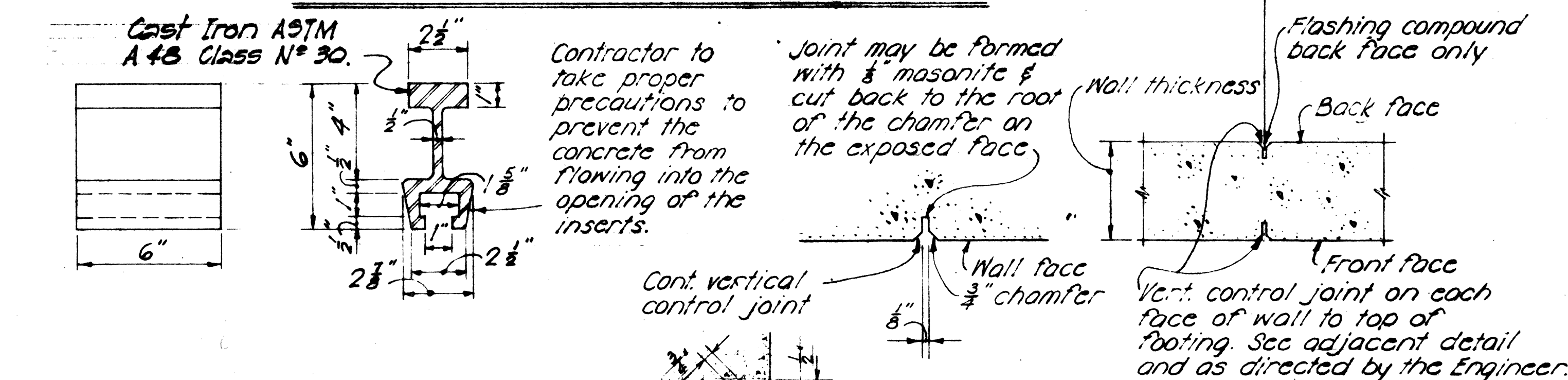
Elastomeric Pads: Top & bottom of bridge bearing pads shall be secured against displacement with adhesives approved by the Engineer. Pads shall be incidental to concrete and will not be paid for separately.

- The Contractor shall verify the location of all existing utility lines and notify the respective owners before commencing work of excavation.
- All concrete shall be Class A-1 unless otherwise noted.
- Clearance for reinforcing bars shall be as follows, unless otherwise noted:
 - 1 1/2" For stirrups of beams & pier caps.
 - 2" For ties of columns.
 - 2" For formed walls.
 - 3" For footings.
- Concrete seats receiving steel plates, lead plates or neoprene pads shall be poured monolithically with supporting structures & top surfaces of the concrete seats shall be finished with a steel trowel to a smooth level at the elevation shown on the plans.
- Reinforcing shall be detailed in accordance with A.C.I. Manual of Standard Practice for Detailing Reinforced Concrete Highway Structures unless otherwise noted.
- Reinforcing bars shall be securely tied at all intersections & lap splices & shall be held in place during pouring to maintain their proper locations as shown on plans.
- Splices of reinforcing - See Special Provisions.



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. Assembly of grillage and pipe shall be hot-dip galvanized after all welding is completed.

TYPICAL DRAINAGE DETAILS



- Minimum spacing between parallel bars shall be 2 1/2 times the diameter of bars, but in no case shall the clear distance between the bars be 1 1/2 times the maximum size of the coarse aggregate.
- All dimensions relating to reinforcing are to centers of bars unless otherwise noted.
- Forms for all exposed surfaces of separation structures and surfaces of retaining walls visible from a traveled way or from a populated area shall be plywood except that metal forms may be permitted provided a surface finish satisfactory to the Engineer can be obtained and the use of such forms is approved in writing by the Engineer. Forms for round columns shall be made of materials that will give a smooth finish and true dimensions as given in the plans. Forms for prestressed concrete members shall be either metal or plywood.
- Vertical column bars shall be arranged in such a manner as to miss pier cap bars above as directed by the Engineer.
- Except as otherwise noted on drawings, all exterior corners & re-entrant angles in concrete work shall be chamfered 3/4" x 3/4". See Standard Specifications.
- Concrete finish - See Special Provisions.
- All welders and welding procedures shall be qualified according to the requirements of the Special Provisions.
- Gothic letters and figures approximating dimensions shown will be acceptable if approved by the Engineer.

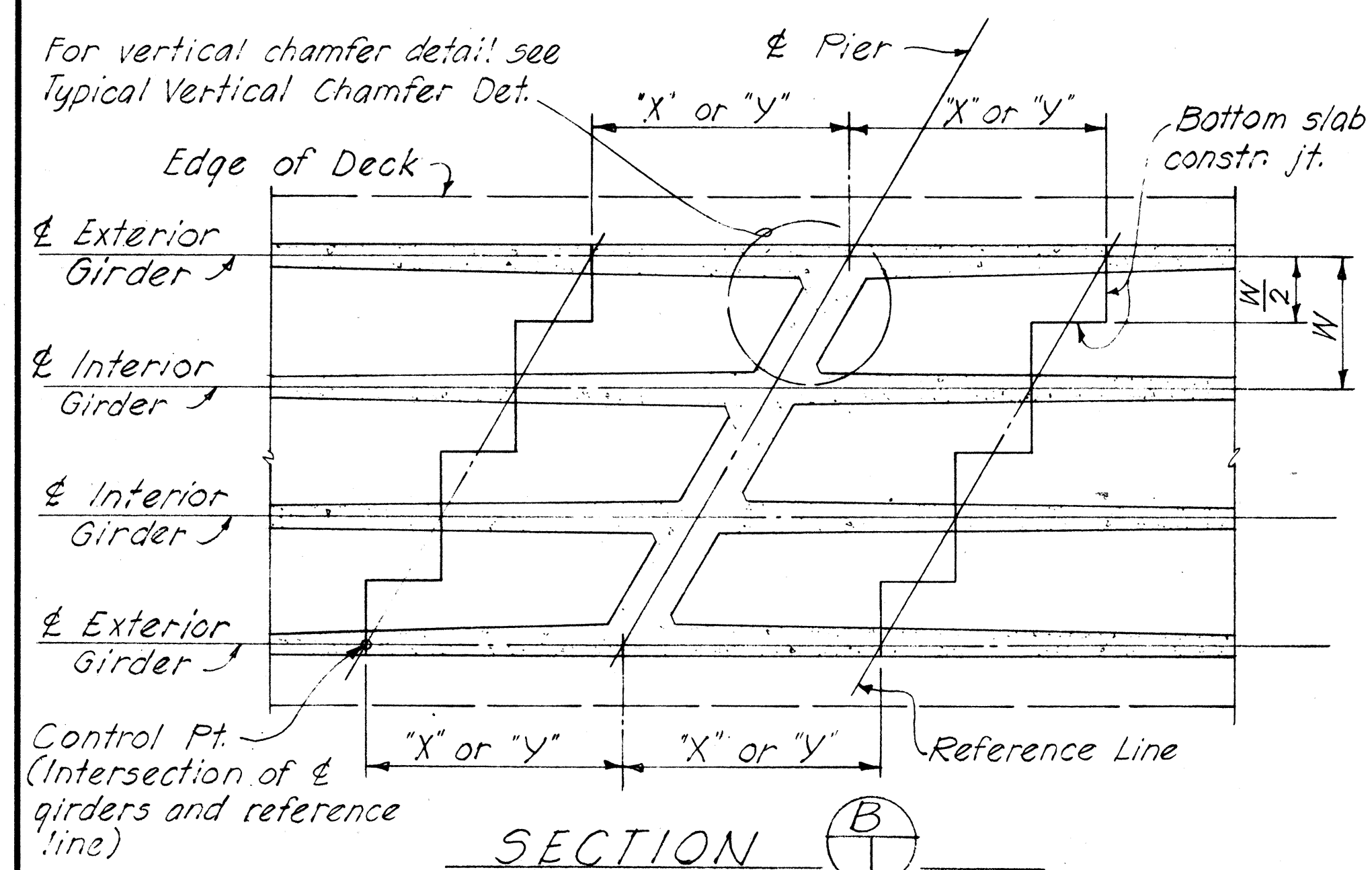
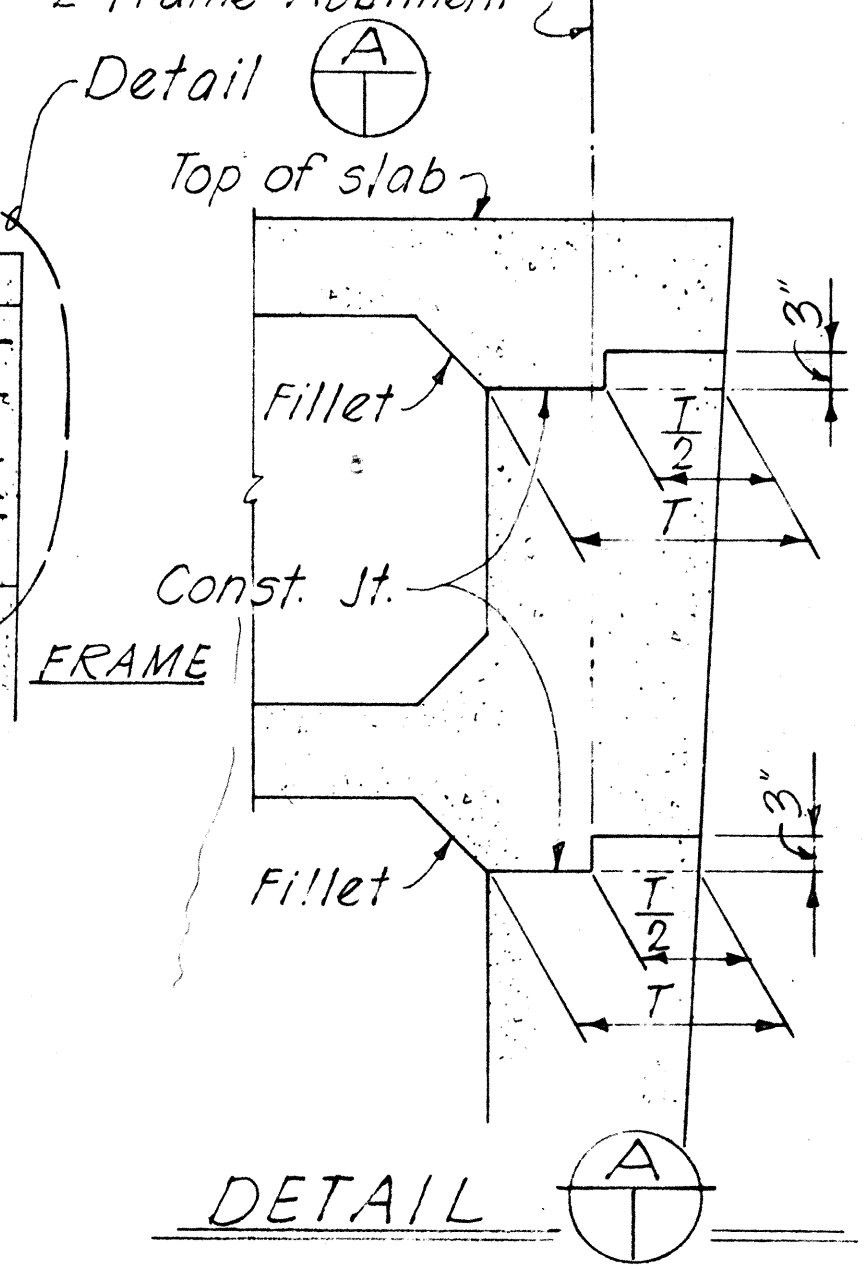
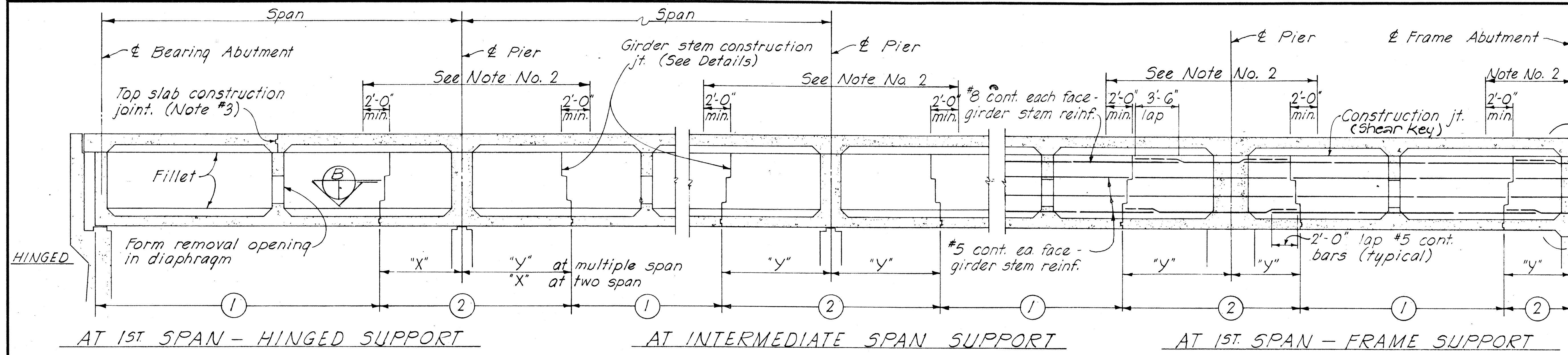
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD BRIDGE DETAILS

Scale as Noted Date: April 1967

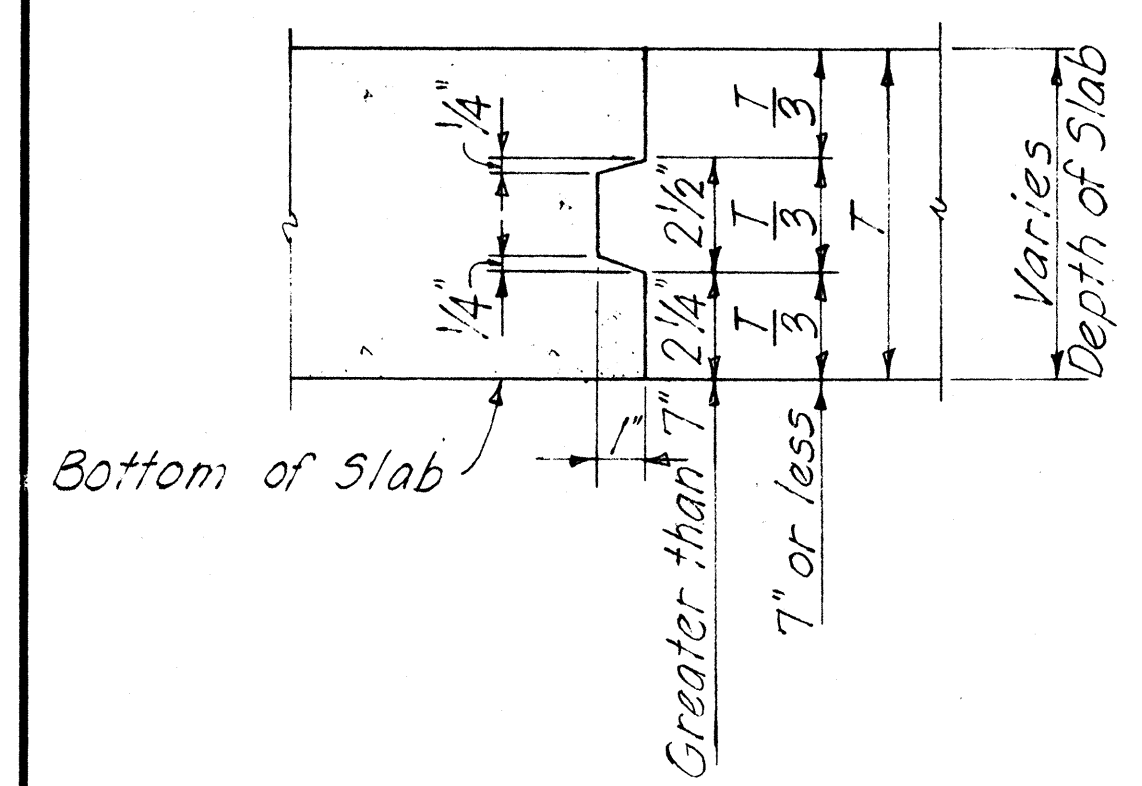
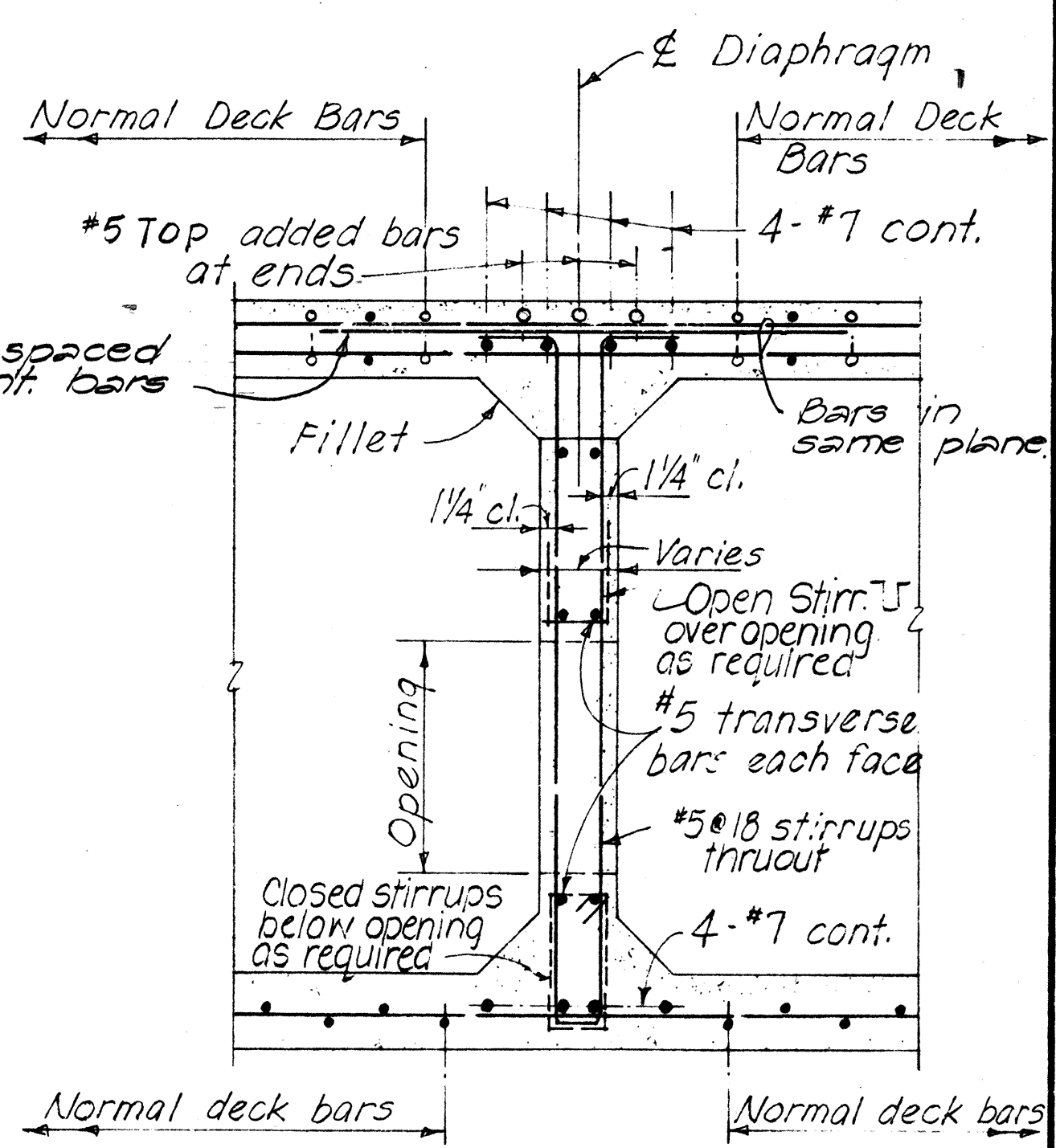
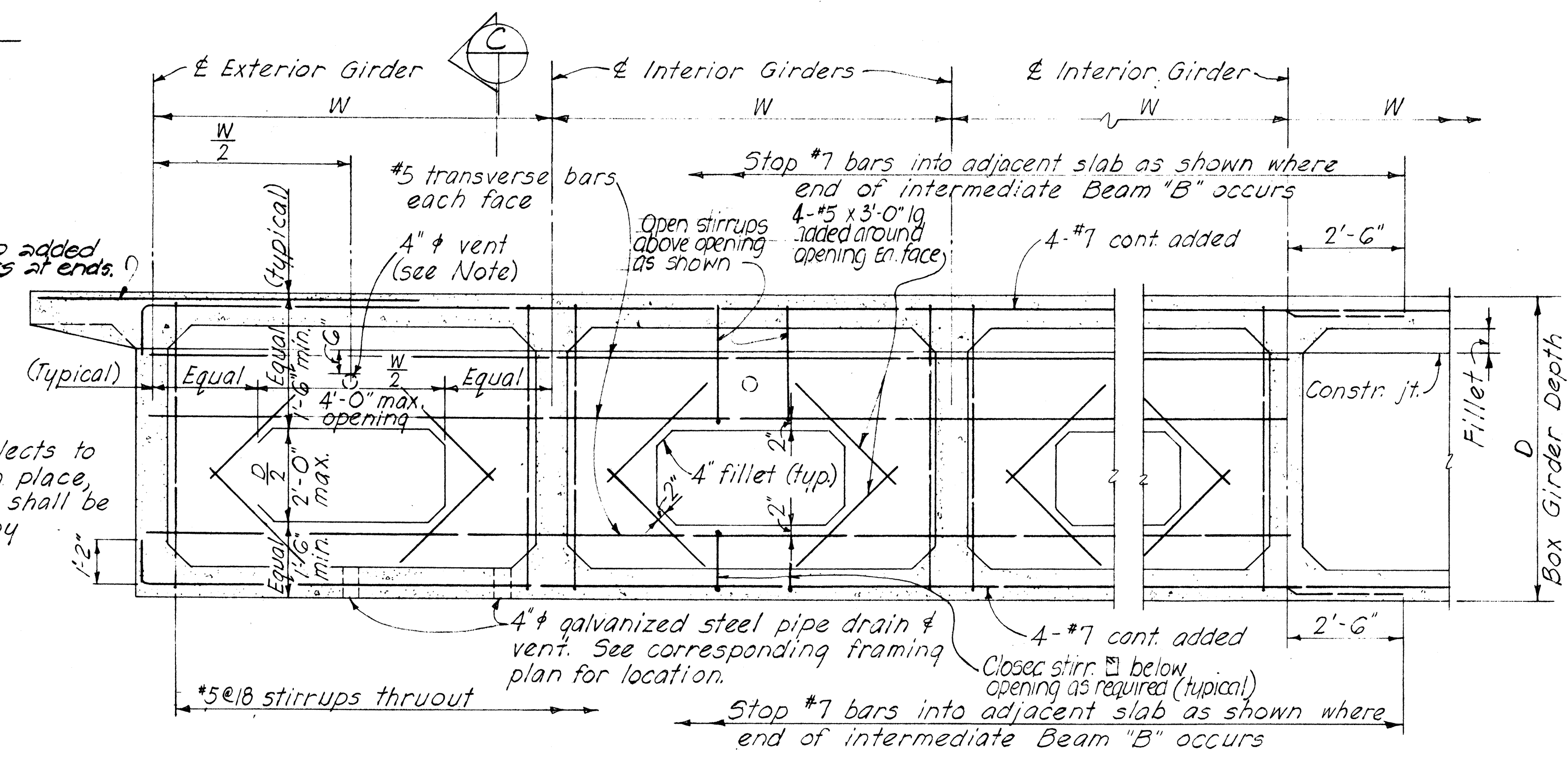
SHEET No. 51 OF 10 SHEETS

REVISION 27 MAR 67



- NOTE:**
- No. 1 - Numbers ① & ② indicate sequence of placing bottom slab & girder stem concrete. ② may be placed with ① when approved by the Engineer provided that the ① sections adjoining the ② sections are placed in this pour. For any deviation from the above the Contractor shall submit a diagram to the Engineer for approval.
 - No. 2 - No top slab construction joint or form removal opening shall be located in the region over the piers as noted.
 - No. 3 - When top slab forms are not removed, construction joint in top slab shall be located over an intermediate diaphragm.
 - No. 4 - Dimension "X" = 1/4 span "Y" = 1/5 span
 - No. 5 - No lapping of main girder bars shall be permitted at construction joints.

PLACING DIAGRAM FOR SUPERSTRUCTURE CONCRETE



NOTE: If Contractor elects to leave top slab forms in place, form removal opening shall be omitted and replaced by 4" ϕ vent.

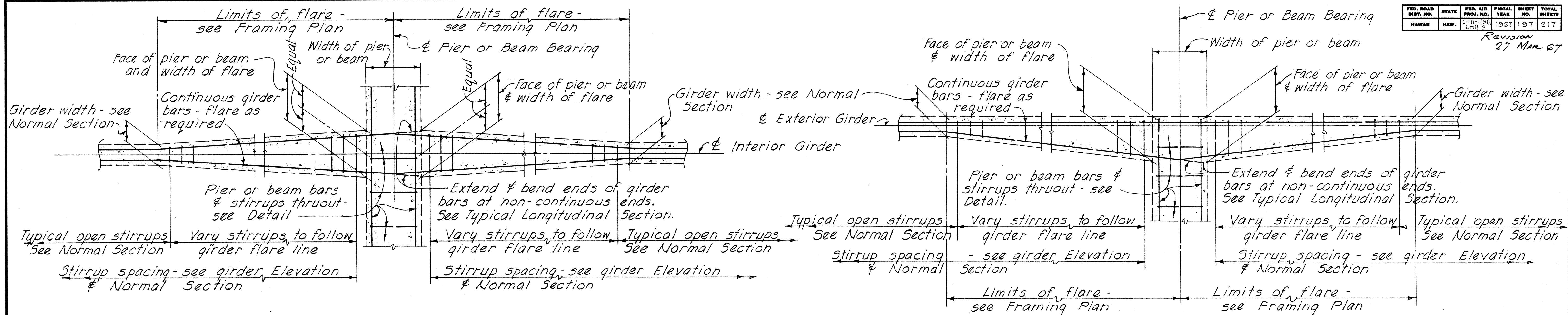
AT NON-CONTINUOUS ENDS TYPICAL INTERIOR SPAN
TYPICAL BEAM "B" DETAILS

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
CONCRETE BOX GIRDER

SCALE AS NOTED DATE: April 1967
SHEET No. 53 OF 10 SHEETS

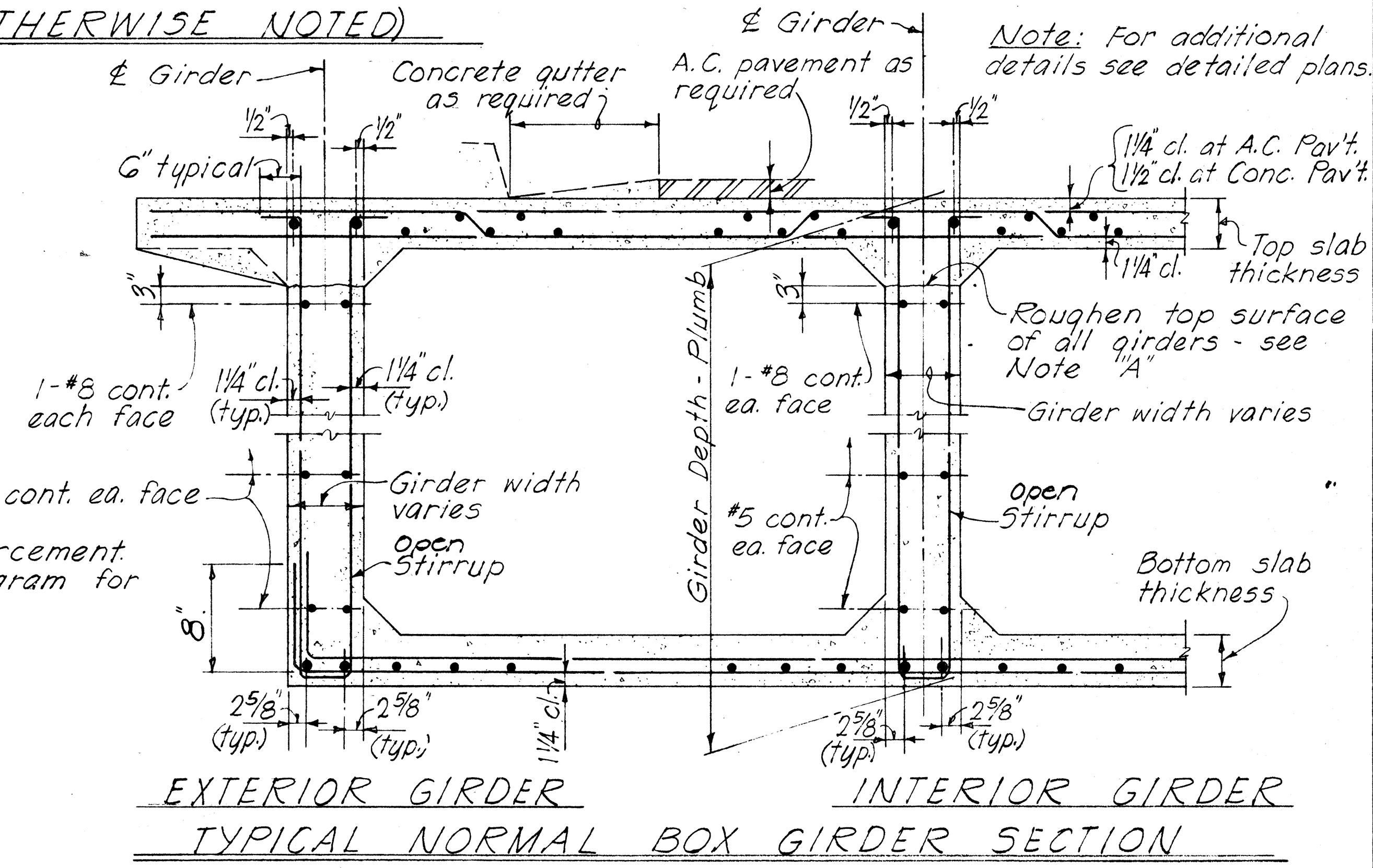
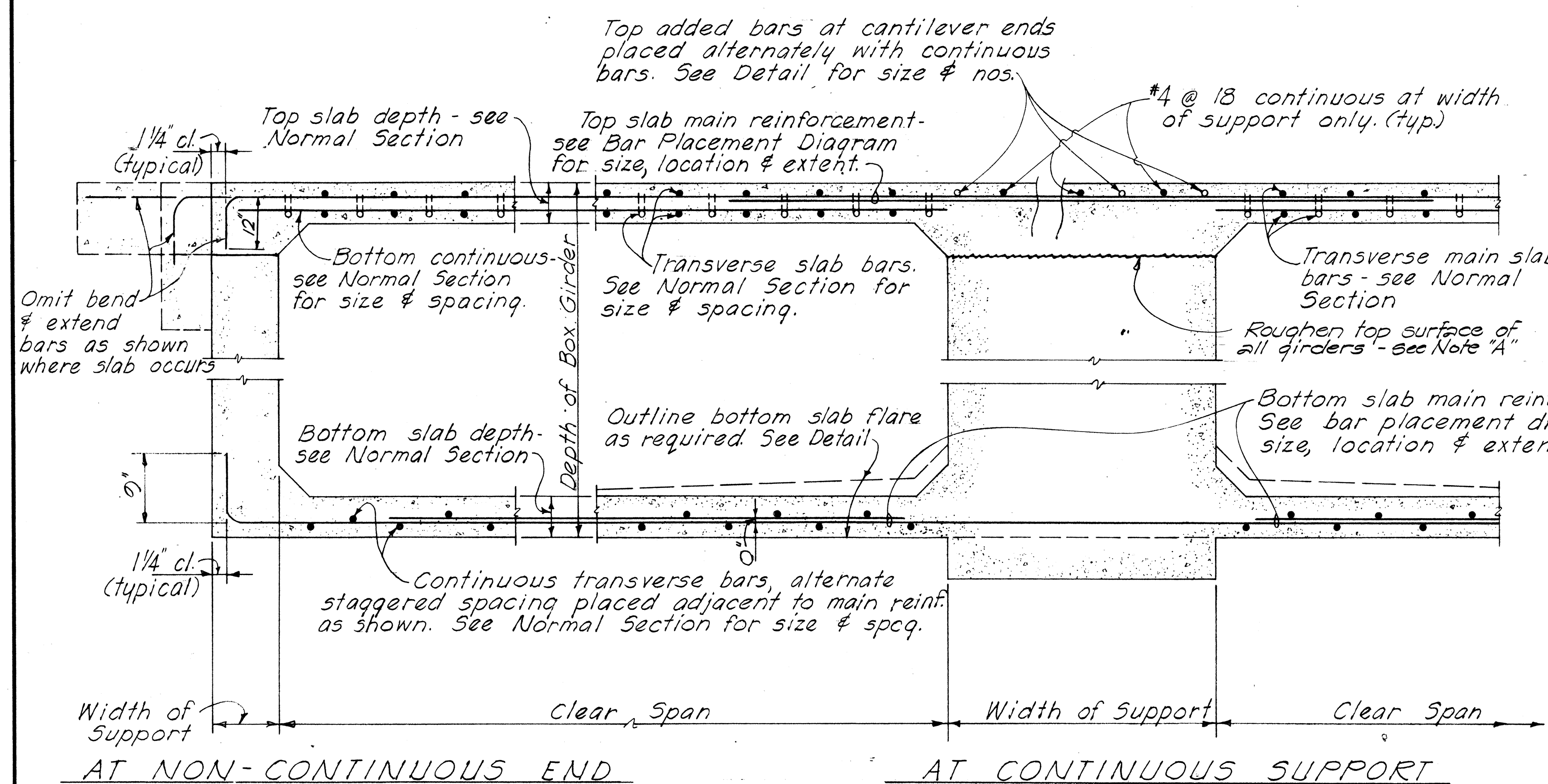
Revision
27 Mar 67



INTERIOR GIRDER

EXTERIOR GIRDER

TYPICAL DETAILS OF GIRDER FLARE AT NORMAL OR RADIAL SUPPORTS - CONTINUOUS ENDS AS SHOWN
(NON-CONTINUOUS ENDS SIMILAR EXCEPT AS OTHERWISE NOTED)

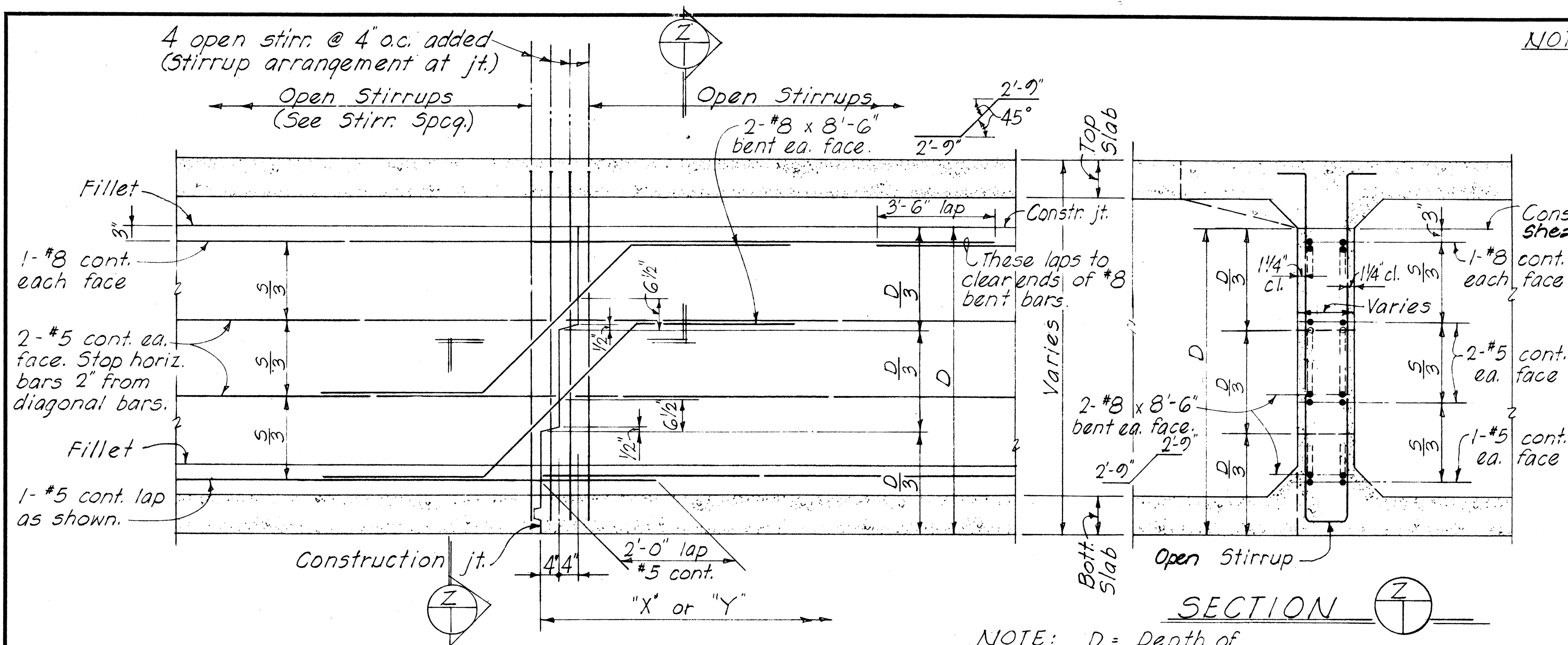


NOTE "A" - The entire surface of the joint shall be thoroughly cleaned of surface laitance, curing compound, and other material foreign to the concrete, and clean aggregate is exposed by abrasive blast cleaning after the curing period or immediately before placing concrete at the joint.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
STANDARD DETAILS
CONCRETE BOX GIRDER

SCALE AS NOTED DATE: April 1967
SHEET No. 54 OF 10 SHEETS

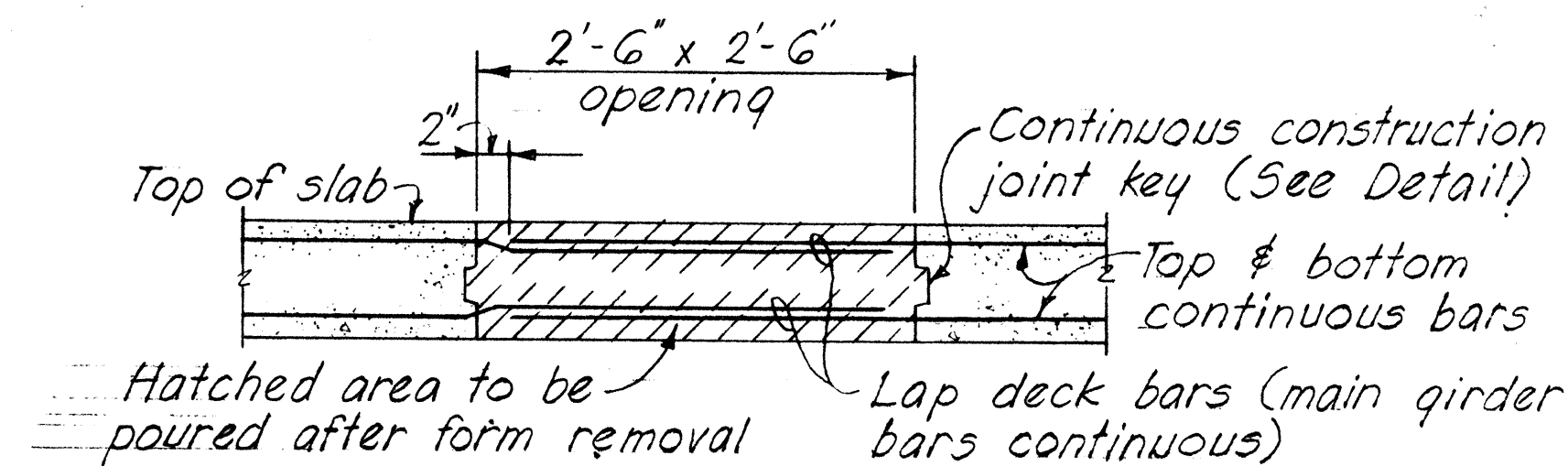
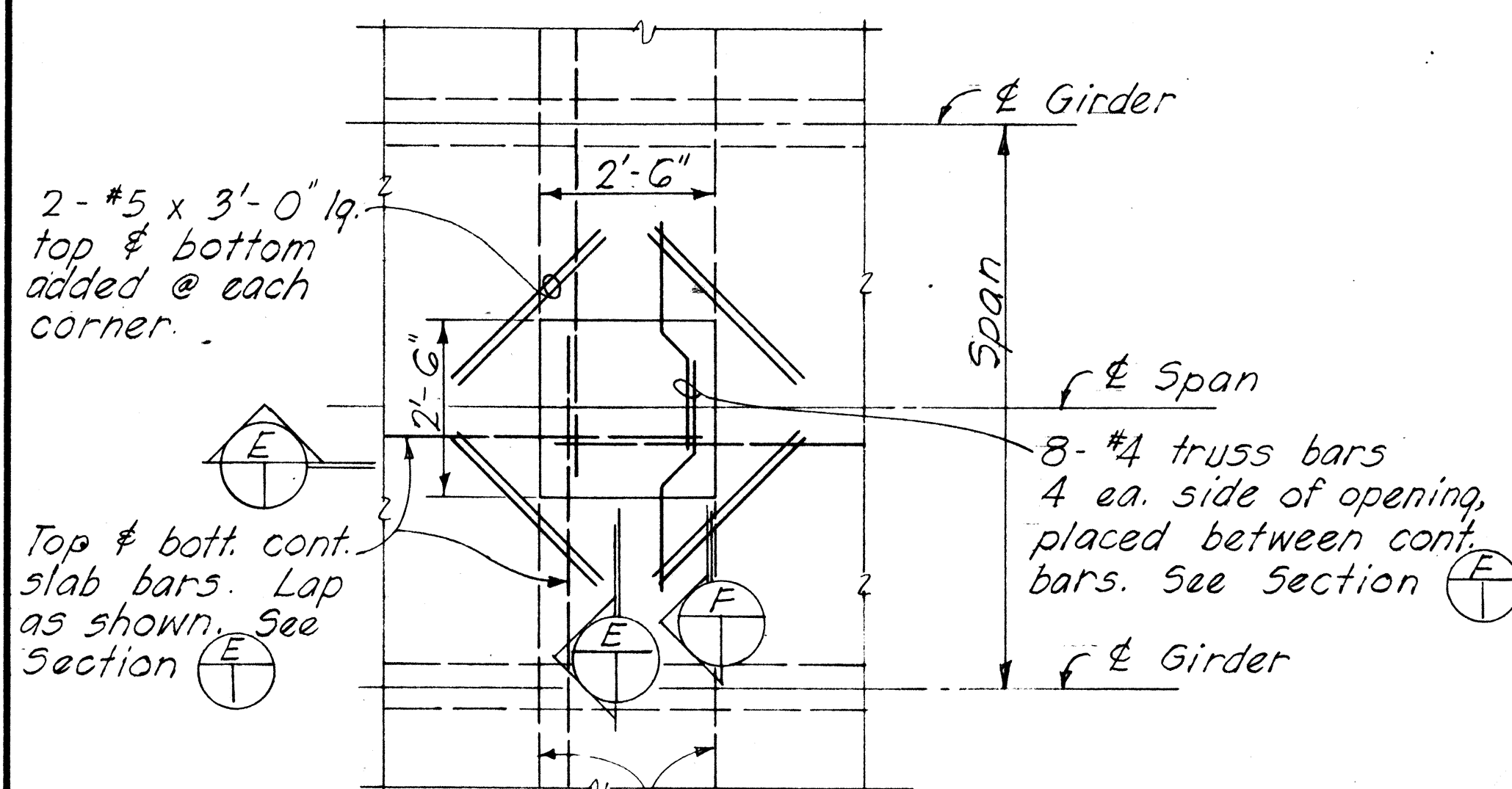
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-1-1(31) Unit 2	1967	198	217



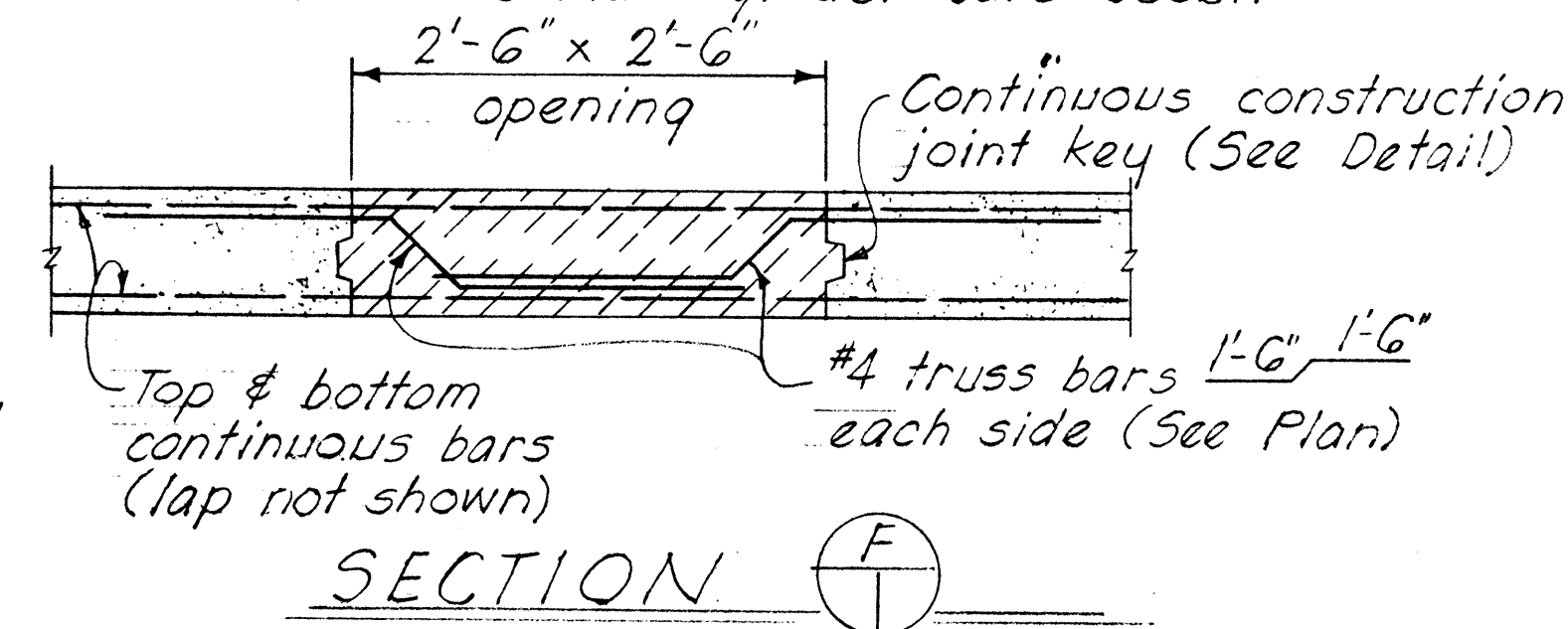
NOTE:
 D = Depth of girder stem to bottom of slab.
 S = Distance between top & bott. cont. girder stem longitudinal bars.
 For additional details see Normal Section of the Plans.

GIRDER STEM CONSTRUCTION JOINT

NOTE: D = Depth of girder stem to bott. of slab.

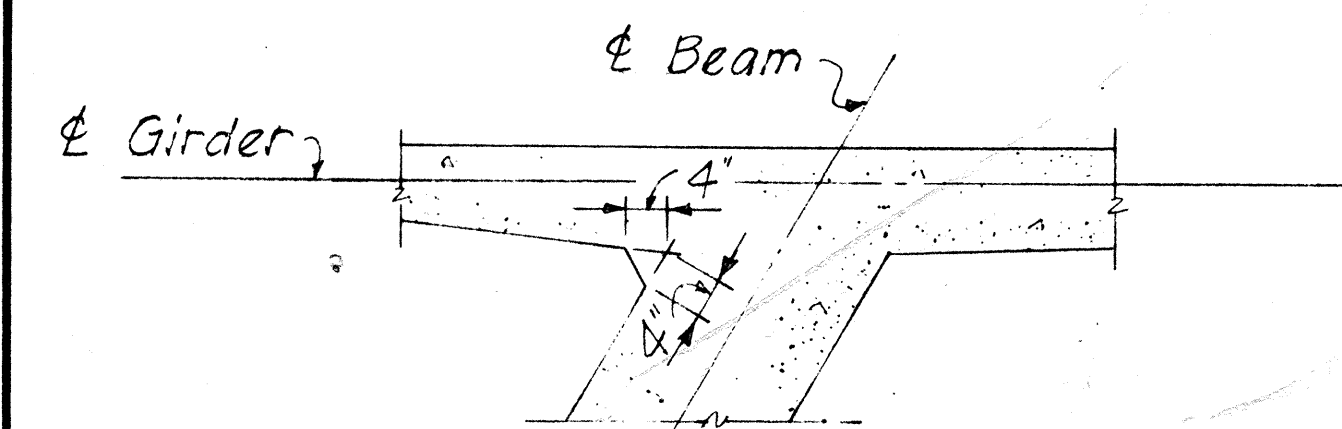


Note: Form removal opening at top slab shall not be located where main girder bars occur.



Note: Final location of opening shall be determined by the Engineer.

PART PLAN - DECK SHOWING FORM REMOVAL OPENING



TYPICAL DETAIL OF VERTICAL CHAMFER AT ACUTE INTERSECTION OF SKEWED CONCRETE MEMBER

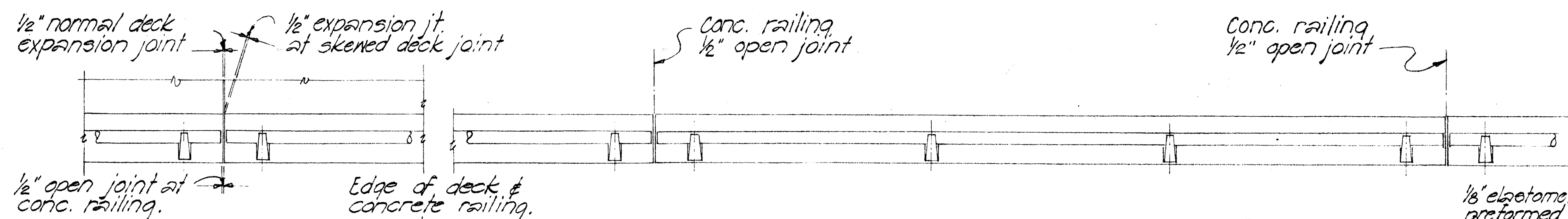
STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

STANDARD DETAILS
CONCRETE BOX GIRDER

SCALE AS NOTED DATE: April 1967
 SHEET No. 55 OF 10 SHEETS

1198

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.				



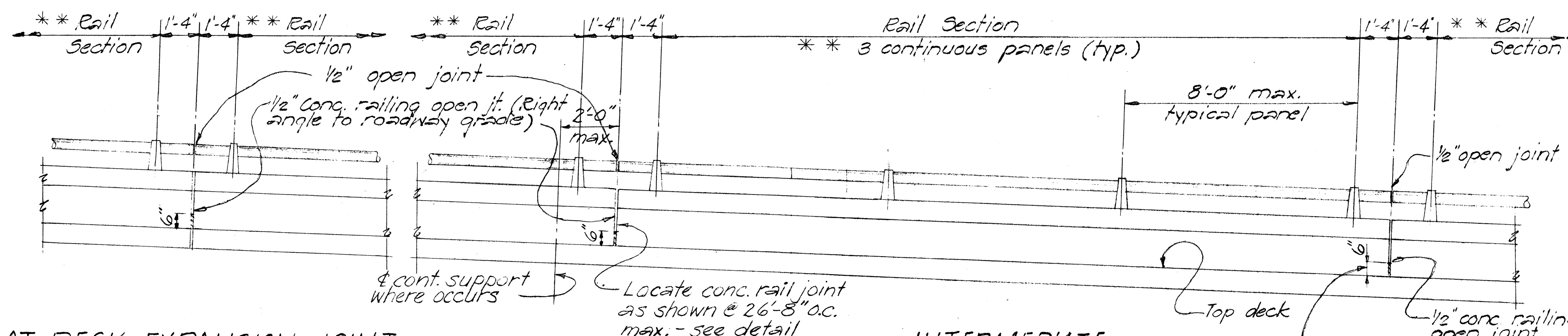
AT DECK EXPANSION JOINT

* * Note!!

1. The contractor shall layout the railing to provide 3 cont. panels whenever possible. 2 or 4 cont. panels will be permitted to complete the layout when 3 cont. panels cannot be made. Single panels will not be permitted.

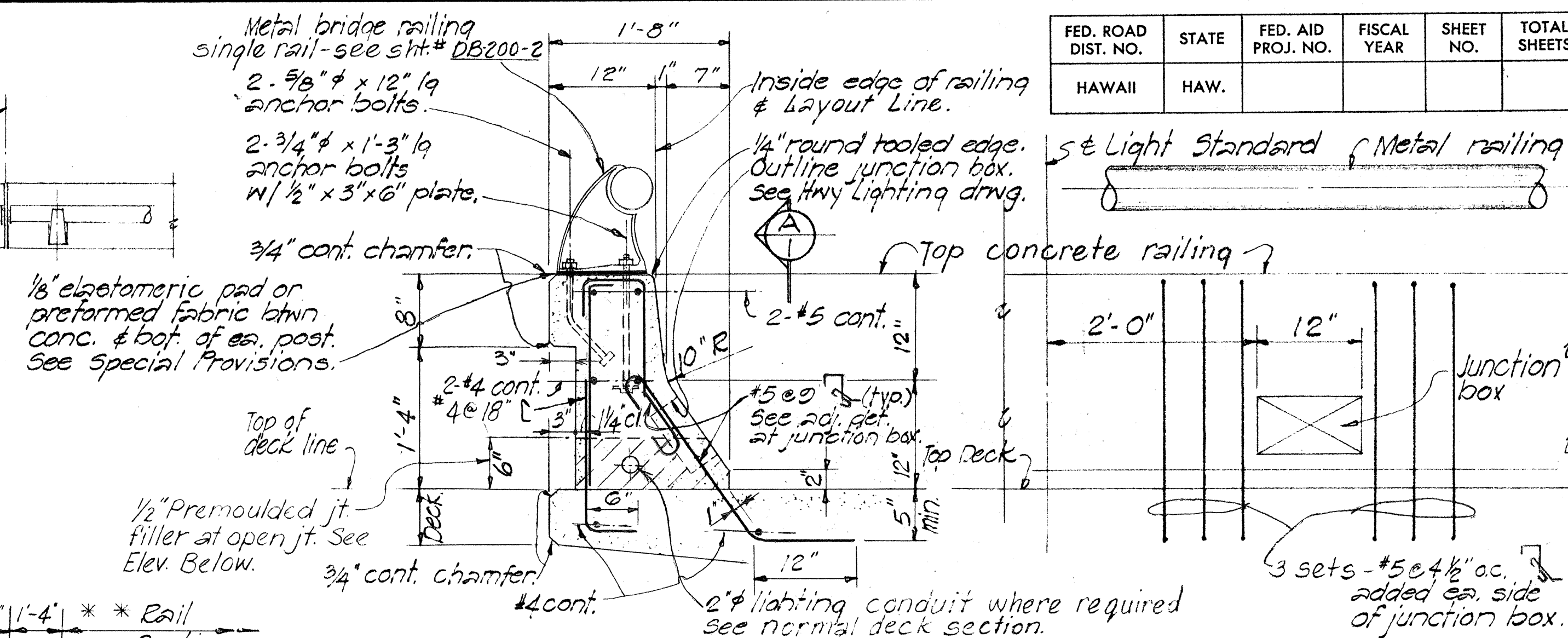
RAILING PLAN SCALE $\frac{3}{8}" = 1'-0"$

2. Rail Posts shall be normal to grade.
3. Provide double posts at each expansion jt., fixed bridge jt., continuous support, and as shown on detailed drawing.



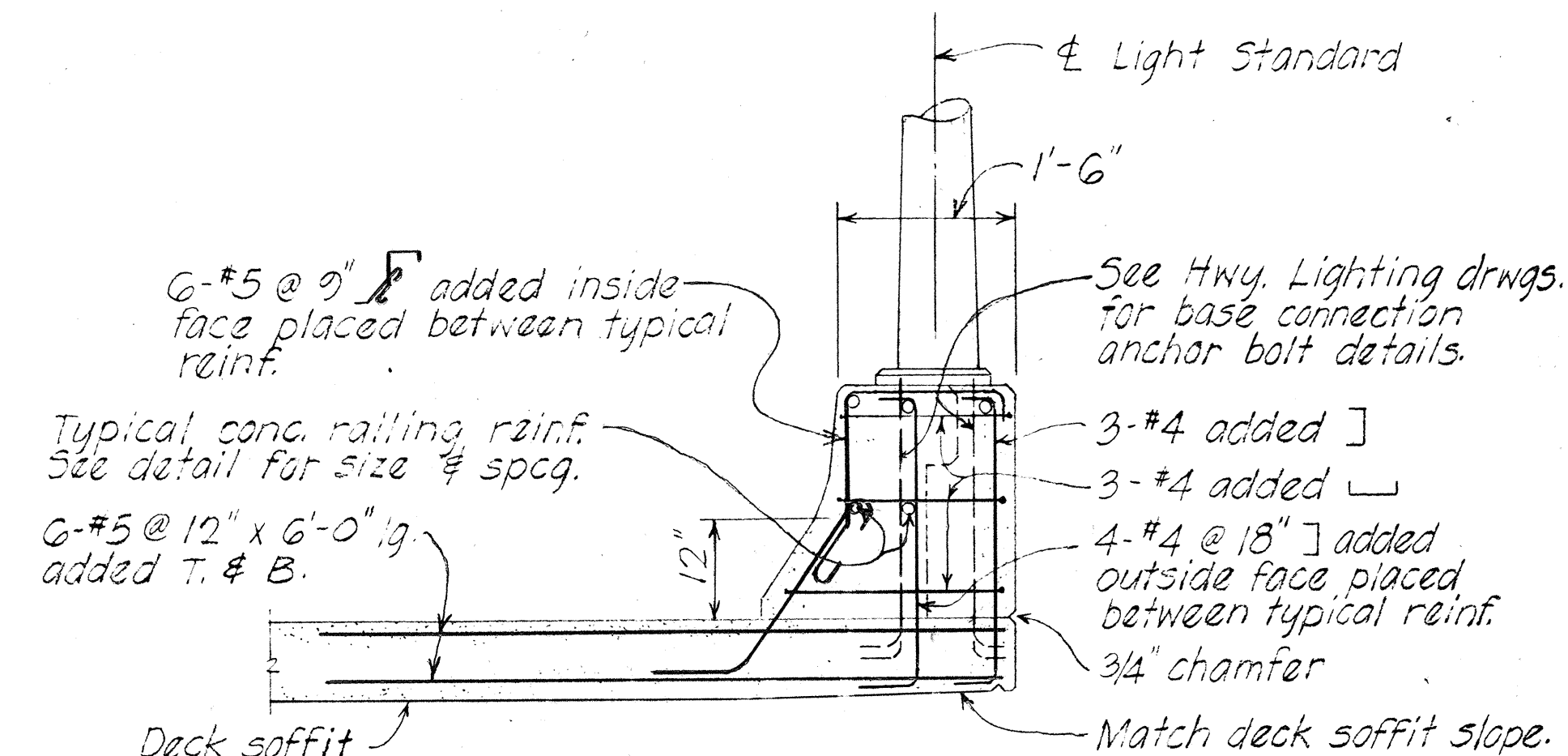
AT DECK EXPANSION JOINT

EXTERIOR RAILING ELEVATION SCALE: $\frac{3}{8}" = 1'-0"$



TYPICAL CONCRETE
RAILING SECTION

ELEVATION $\textcircled{\text{A}}$ SHOWING SPECIAL
REINFORCEMENT AT JUNCTION BOX
SCALE: 1" = 1'-0"



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

THIS SHEET PREPARED
DURING "AS-BUILT" POSTING

THIS SHEET IS A SUPPLEMENT
TO THE CONTRACT PLANS.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
METAL BRIDGE RAILING
ONE RAIL COMBINATION TYPE
ON PARAPET

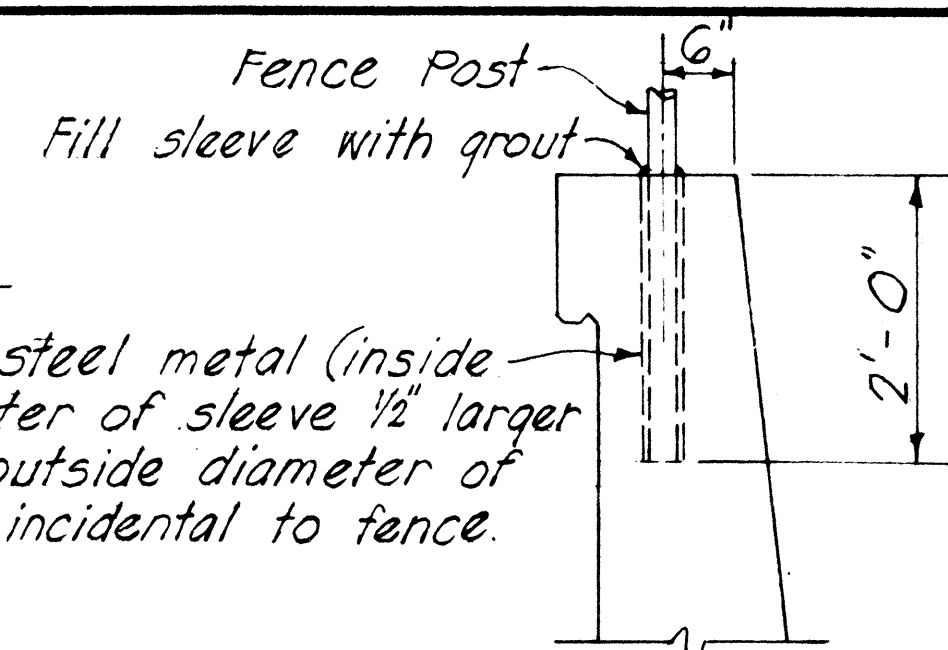
SHEET No. OF SHEETS

CO 1995 (1)

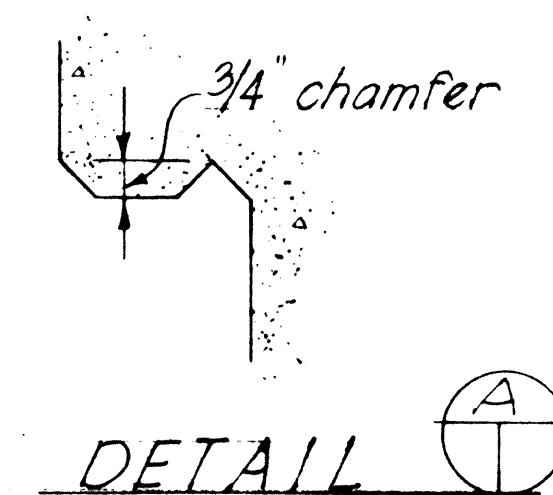
ORIGINAL PLAN	SURVEY PLOTTED BY _____	DATE _____
NOTE BOOK	DRAWN BY _____	" _____
	TRACED BY _____	" _____
	DESIGNED BY _____	" _____
	QUANTITIES BY _____	" _____
No. _____	CHECKED BY _____	" _____

200

PRINTED ON NO. 1090H CLEARBRIM



CHAIN LINK FENCE
POST DETAIL

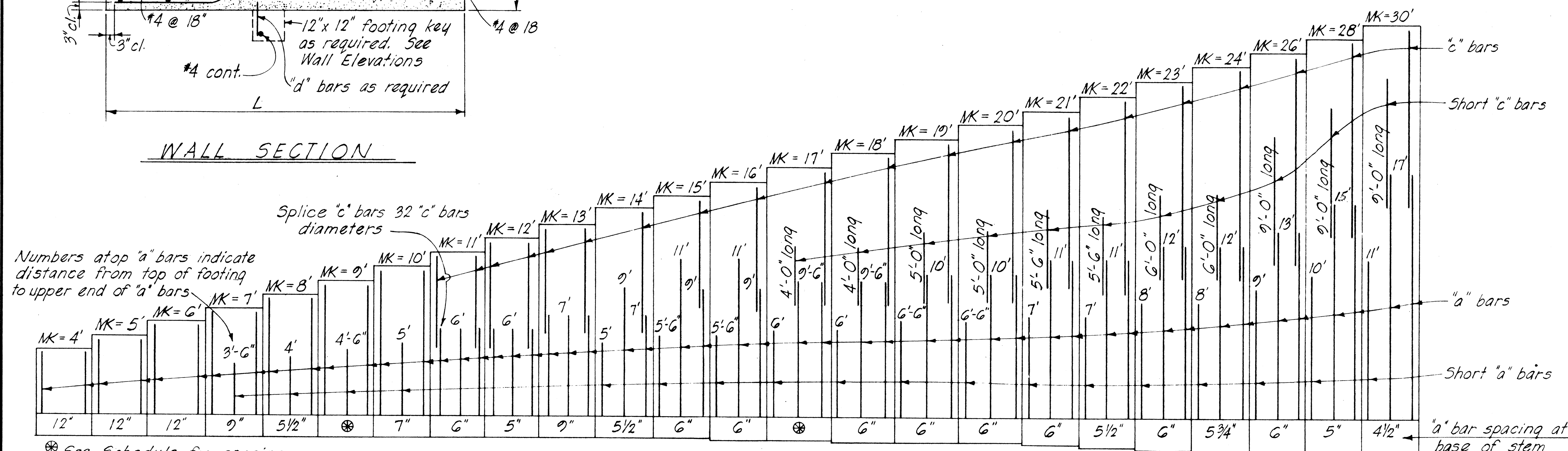


DETAIL

SCHEDULE OF DIMENSIONS AND REINFORCING STEEL

Maximum "M"	4R	5R	6R	7R	8R	9R	10R	11R	12R	13R	14R	15R	16R	17R	18R	19R	20R	21R	22R	23R	24R	26R	28R	30R
a	6"	6"	6"	12"	12"	12"	12"	12"	12"	12"	15"	18"	21"	21"	21"	21"	24"	24"	27"	30"	33"	39"	39"	51"
t	14"	14"	14"	14"	14"	14"	14"	18"	18"	18"	18"	18"	18"	18"	18"	21"	21"	21"	21"	24"	24"	27"	30"	36"
L	2.5'	3.0'	3.5'	4.0'	4.5'	5.0'	5.5'	6.0'	6.5'	6.75'	7.25'	7.75'	8.25'	8.75'	9.25'	9.75'	10.25'	10.5'	11.0'	11.5'	12.0'	13.0'	14.0'	15.0'
"a" bars	*3@12"	*3@12"	*4@12"	*4@9"	*4@5½"	*5@6"	*6@7"	*6@6"	*6@5"	*7@9"	*6@5½"	*7@6"	*8@6"	*8@6"	*9@6"	*9@6"	*10@6"	*10@6"	*10@5½"	*10@6"	*10@5¾"	*11@6"	*11@5"	*11@4½"
"b" bars	*3@12"	*3@12"	*3@12"	*3@9"	*4@11"	*4@6"	*5@7"	*5@6"	*5@5"	*7@9"	*6@5½"	*7@6"	*7@6"	*8@6"	*9@6"	*9@6"	*10@6"	*10@6"	*10@5½"	*10@6"	*10@5¾"	*10@6"	*10@5"	*9@4½"
"c" bars								*4	*4	*4	*4	*4	*5	*5	*5	*6	*6	*6	*7	*7	*7	*7	*7	*7
"d" bars	*3@12"	*3@12"	*3@12"	*3@12"	*4@18"	*4@15"	*4@15"	*4@12"	*4@11"	*4@9"	*5@12"	*5@12"	*5@10"	*5@9"	*5@9"	*5@8"	*6@10"	*6@9"	*7@12"	*7@11"	*7@10"	*7@9"	*7@9"	*7@9"

WALL SECTION



VERTICAL REINFORCING STEEL ARRANGEMENT

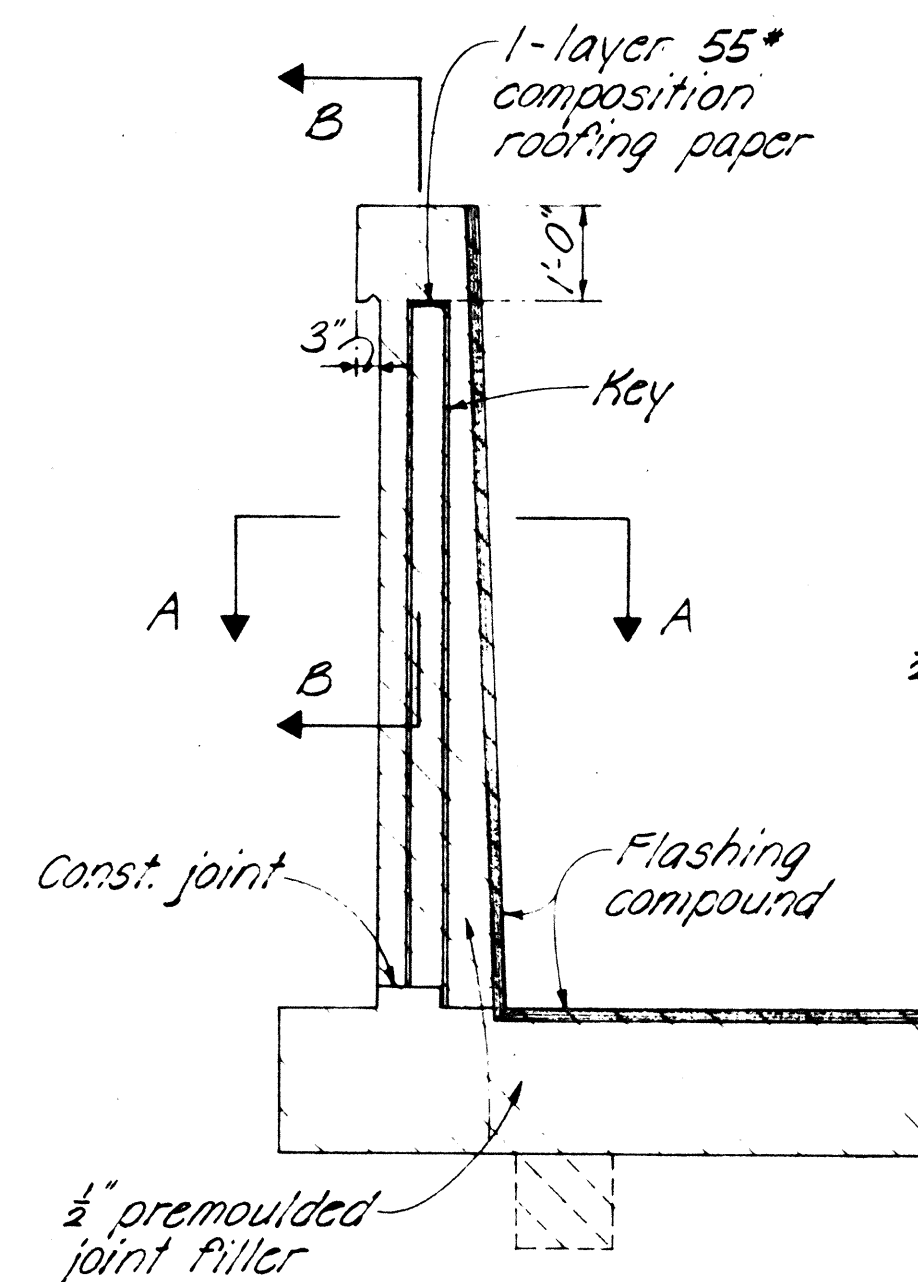
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
RETAINING WALL TYPE T-1

SCALE AS NOTED DATE: April 1967

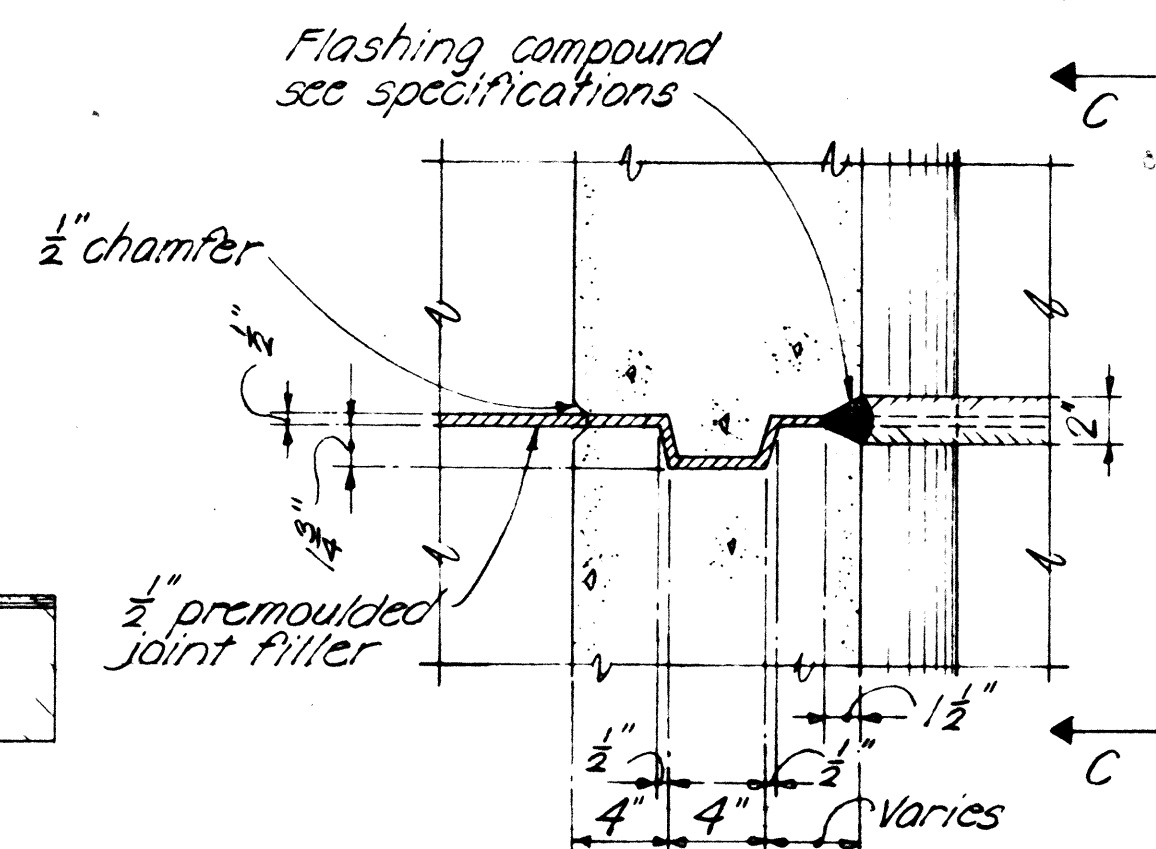
SHEET No. 58 OF 10 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-11111(87) CHY 2	1967	202	217

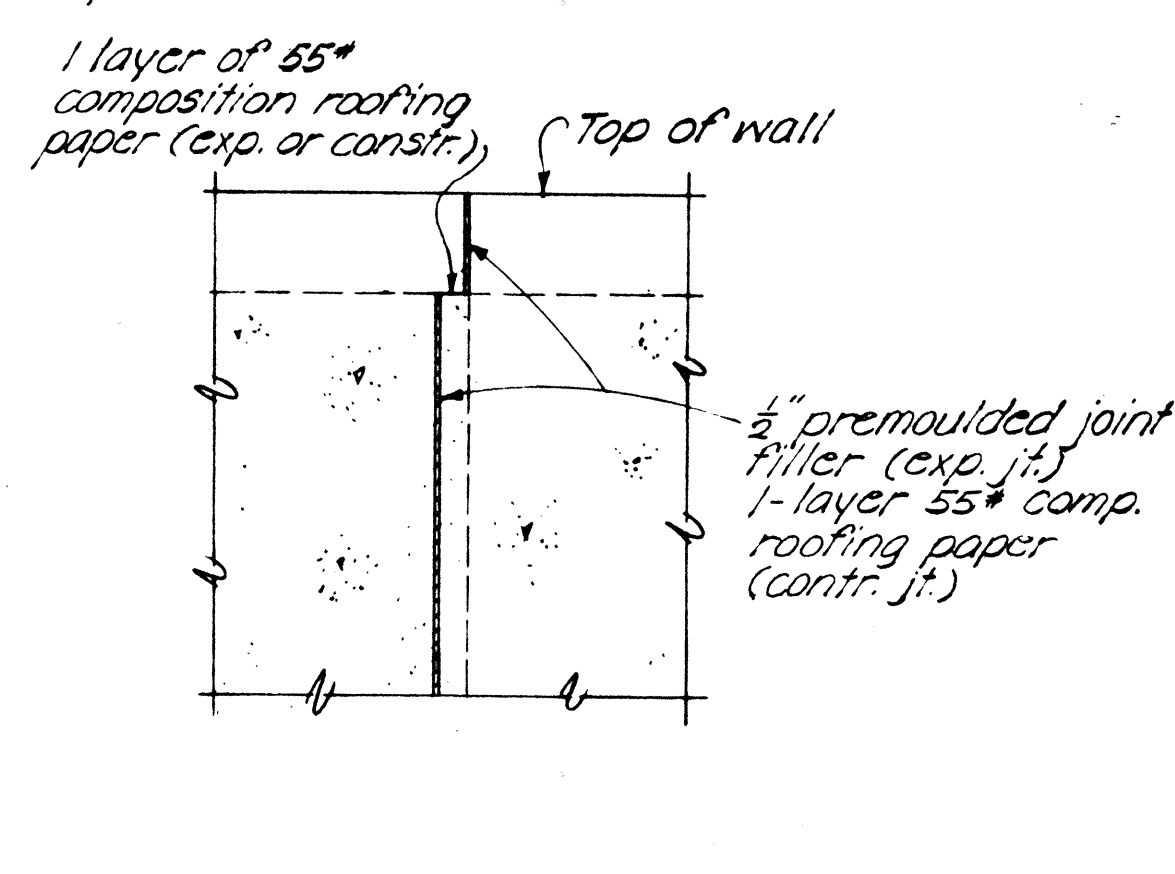


JOINT ELEVATION

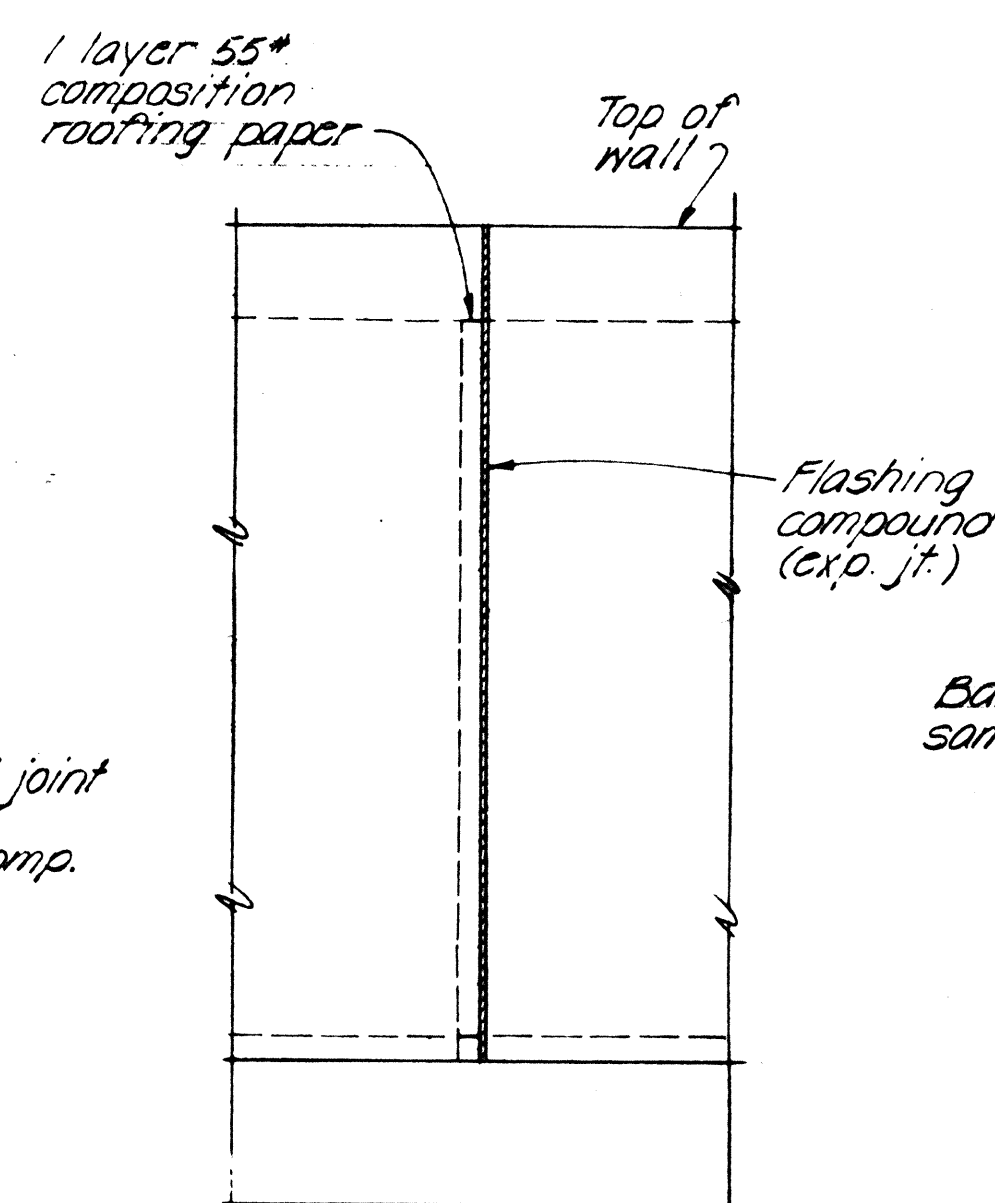
NOTE
Spacing of joints
Exp. = 90'-0" max.
Contr. = 30'-0" max.
For alternate contraction joint and control joint details-see Standard Bridge Details.



SECTION A-A

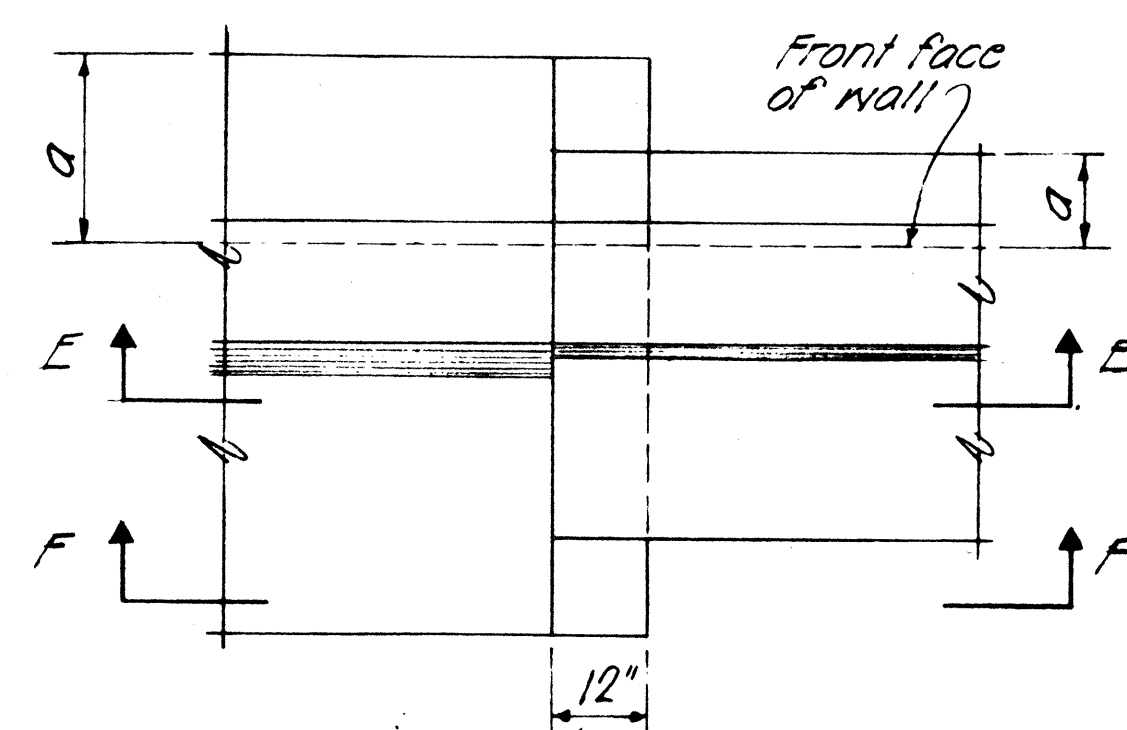


SECTION B-B

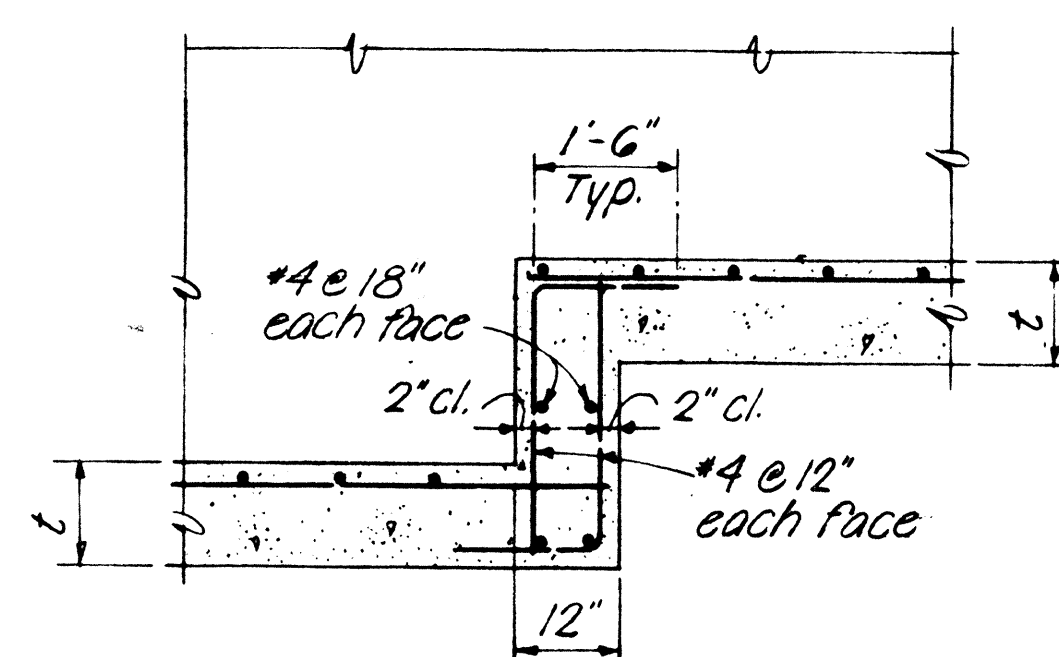


SECTION C-C

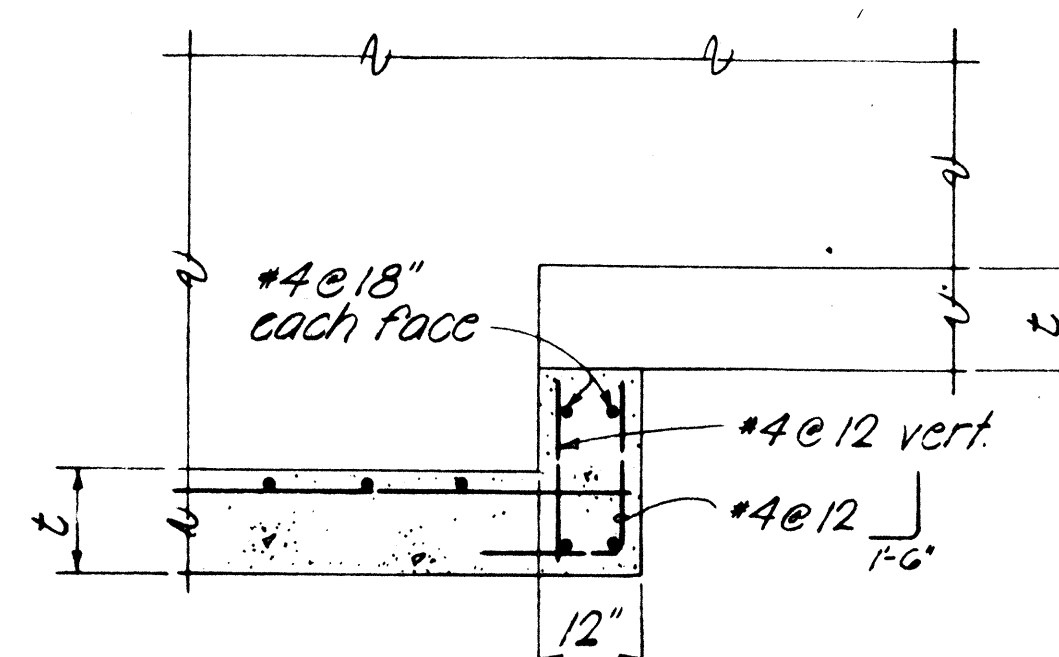
TYPICAL EXPANSION JOINT DETAILS No Scale



PLAN

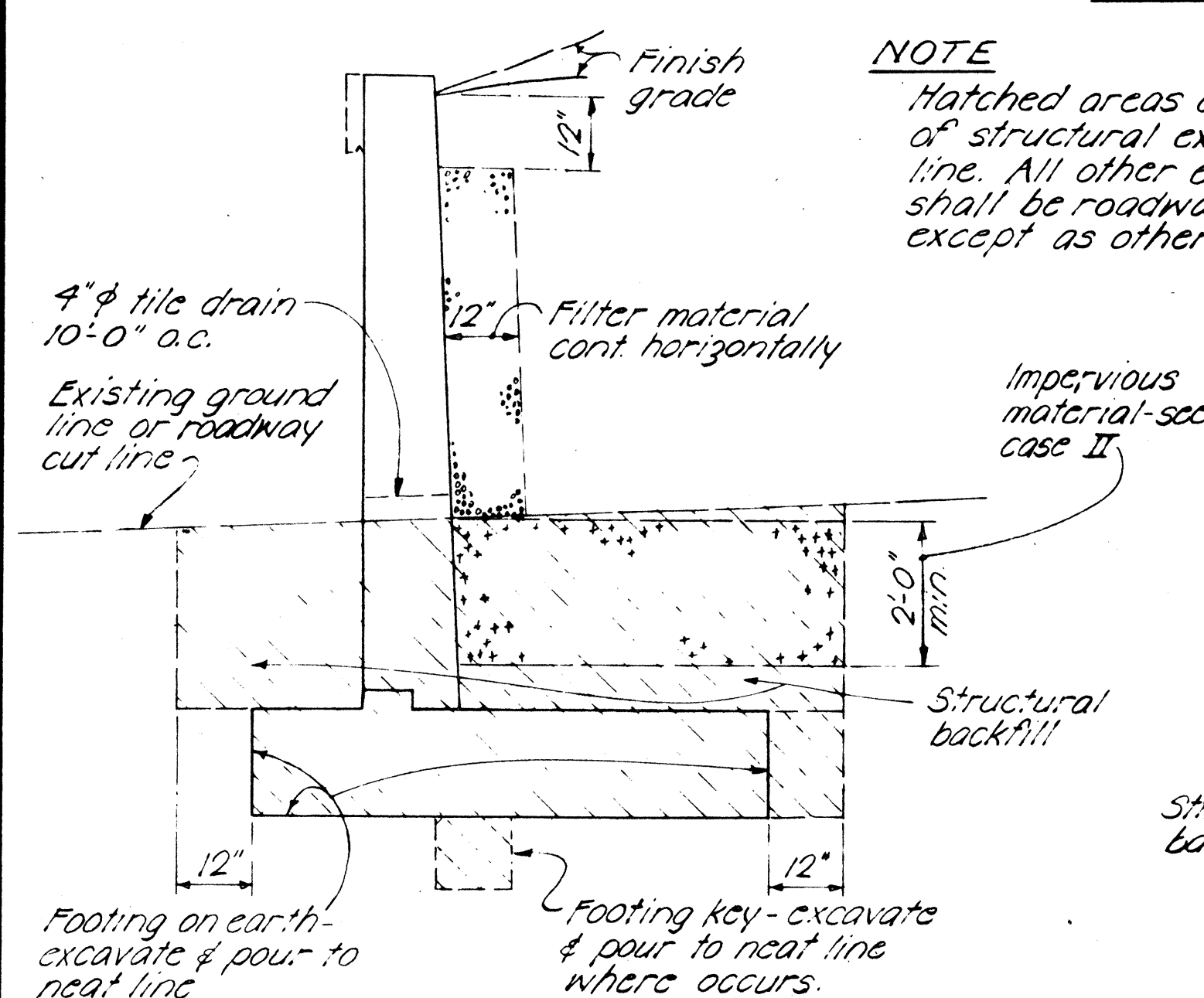


SECTION E-E

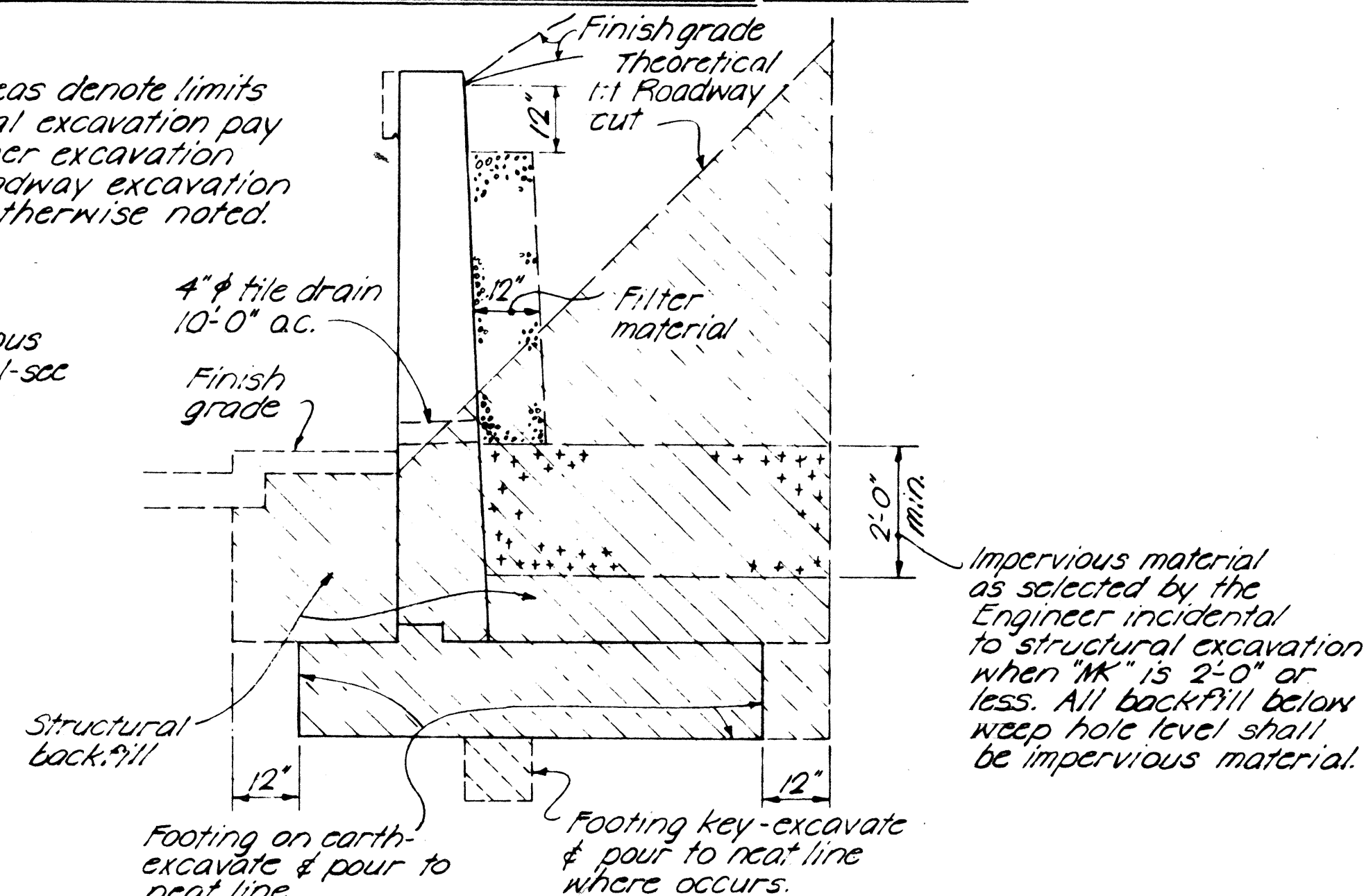


SECTION F-F

FOOTING STEP-UP DETAILS No Scale



NOTE
Hatched areas denote limits of structural excavation pay line. All other excavation shall be roadway excavation except as otherwise noted.

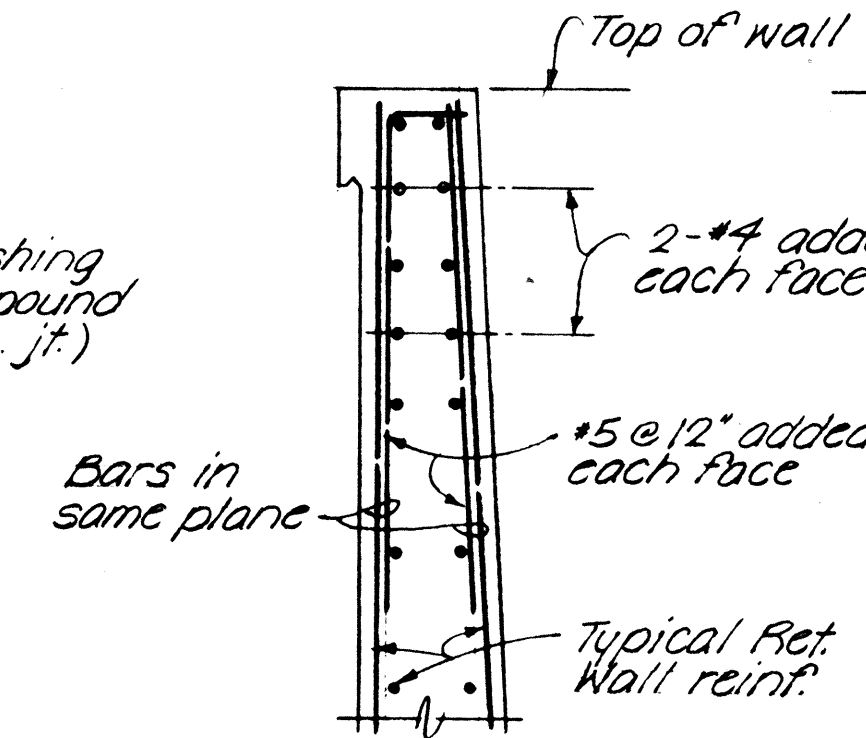


Impervious material as selected by the Engineer incidental to structural excavation when "M" is 2'-0" or less. All backfill below weep hole level shall be impervious material.

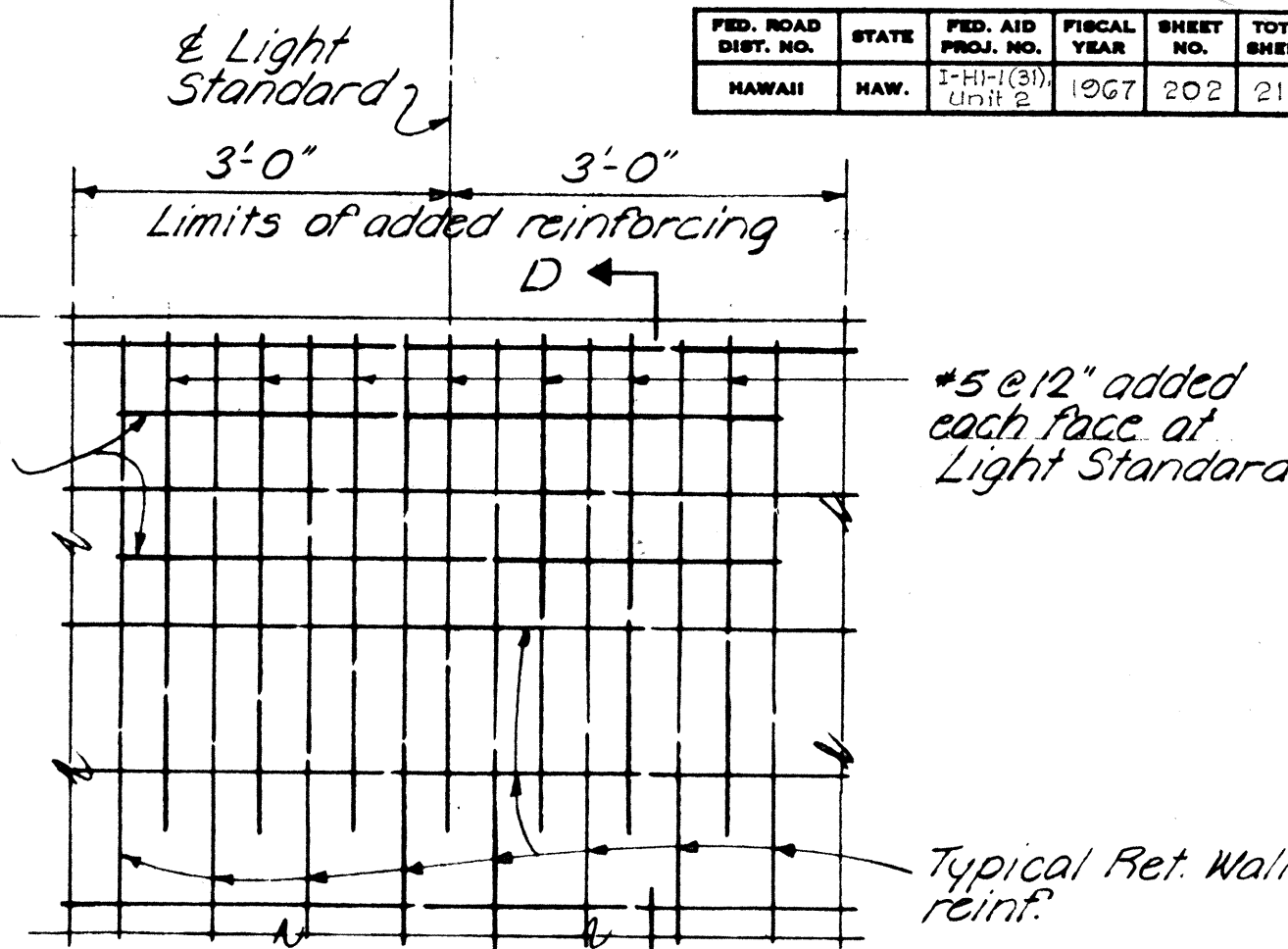
CASE I
STRUCTURAL EXCAVATION & DRAINAGE DETAILS No Scale

NOTE:

Limits of added reinf.
Height 0'-18' L = 1/2
Height 19'-30' L = 6'-0"



SECTION D-D



ELEVATION

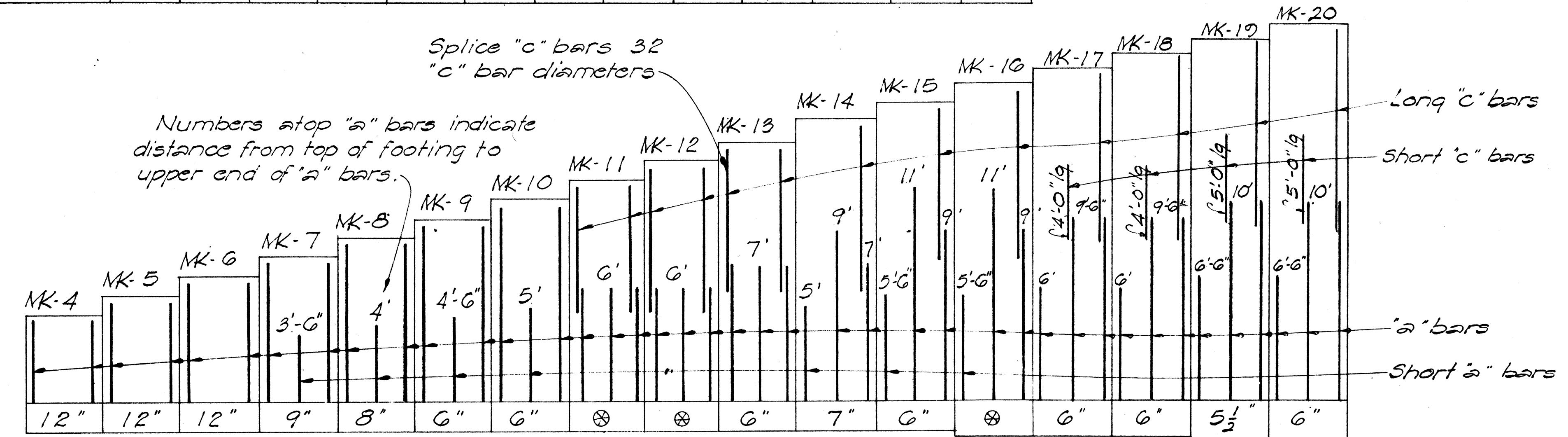
TYPICAL ADDED REINFORCEMENT AT LIGHT STANDARD BASE No Scale

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
STANDARD DETAILS
RETAINING WALL TYPE T-1
SCALE As NOTED DATE: April 1967
SHEET No. 59 OF 10 SHEETS

TYPE "L-1" WALL SCHEDULE OF DIMENSIONS AND REINFORCING STEEL

Maximum "MK"	4 E	5 E	6 E	7 E	8 E	9 E	10 E	11 E	12 E	13 E	14 E	15 E	16 E	17 E	18 E	19 E	20 E
L	3.0'	3.25'	3.5'	4.25'	4.75'	5.5'	6.0'	6.75'	7.5'	8.5'	9.25'	10.5'	12.0'	12.75'	14.00'	15.50'	17.00'
t	14"	14"	14"	14"	14"	14"	14"	18"	18"	18"	21"	24"	27"	27"	27"	30"	30"
"a"	#3@12"	#3@12"	#4@12"	#4@9"	#5@8"	#5@6"	#6@6"	#6@6"	#7@6"	#6@6"	#7@7"	#7@6"	#8@5 1/2"	#8@6"	#8@6"	#8@5 1/2"	#9@6"
"b"	#3@12"	#3@12"	#4@12"	#4@9"	#5@8"	#5@6"	#6@6"	#6@6"	#7@6"	#8@6"	#9@7"	#9@6"	#10@5 1/2"	#8@6"	#8@6"	#8@5 1/2"	#9@6"
"c"	—	—	—	—	—	—	—	#4	#4	#4	#4	#4	#5	#5	#5	#5	#5

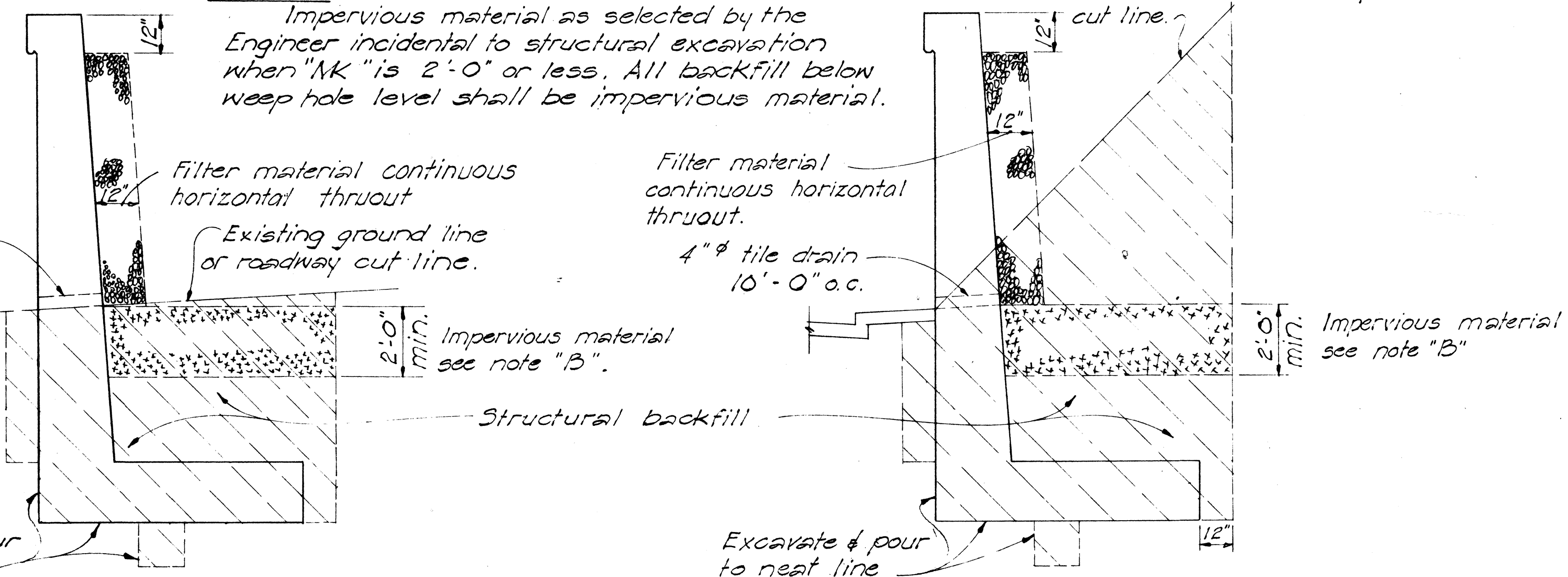
Maximum "MK"	4 R	5 R	6 R	7 R	8 R	9 R	10 R	11 R	12 R	13 R	14 R	15 R	16 R
L	2.5'	3.0'	3.5'	4.0'	4.5'	5.0'	5.5'	6.0'	6.5'	7.0'	7.5'	8.0'	8.5'
t	14"	14"	14"	14"	14"	14"	14"	14"	14"	18"	18"	18"	18"
"a"	#3@12"	#3@12"	#4@12"	#4@9"	#5@8"	#5@6"	#6@6"	#7@7"	#8@7"	#6@6"	#7@7"	#7@6"	#8@6"
"b"	#3@12"	#3@12"	#4@12"	#4@9"	#5@8"	#5@6"	#6@6"	#7@7"	#8@7"	#7@6"	#8@7"	#8@6"	#9@6"
"c"	—	—	—	—	—	—	—	#4	#4	#4	#4	#4	#5



VERTICAL REINFORCING STEEL ARRANGEMENT

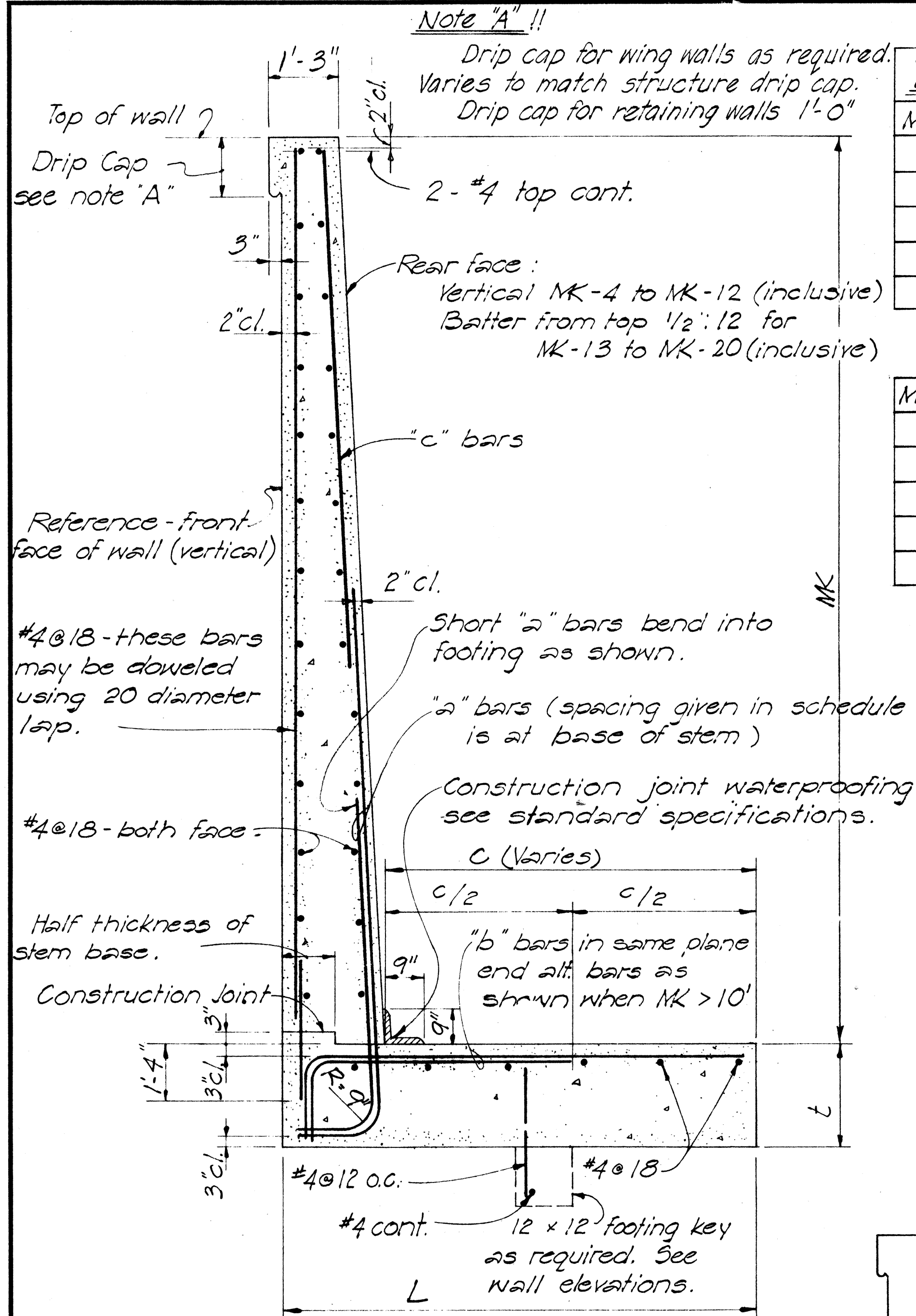
Note "B" !!

Impervious material as selected by the Engineer incidental to structural excavation when "MK" is 2'-0" or less. All backfill below weep hole level shall be impervious material.



STRUCTURAL EXCAVATION & DRAINAGE DETAILS

TYPICAL SECTION TYPE "L-1" WALL



Note:

Hatched areas denotes limits of structural excavation pay line. All other excavation shall be roadway excavation except as otherwise noted.

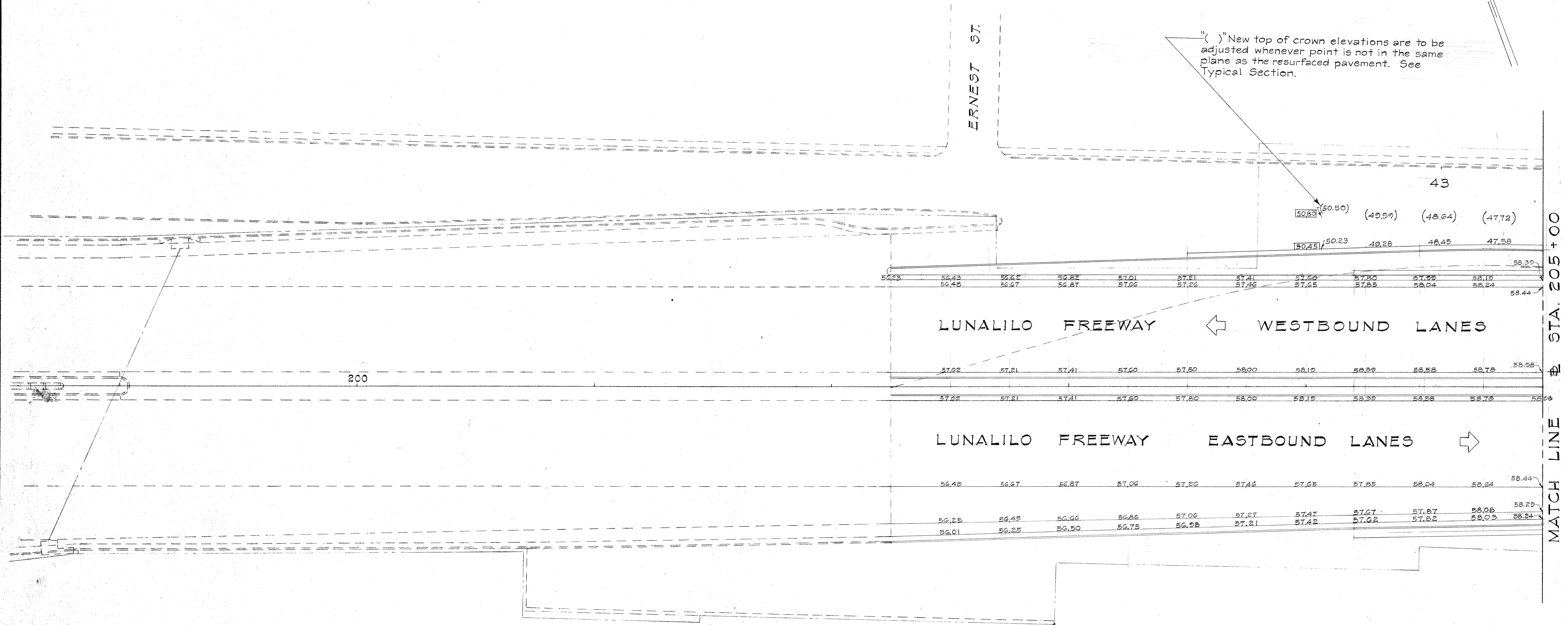
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**STANDARD RETAINING WALL
TYPE - L-1**

SCALE AS NOTED DATE: APR 1967
SHEET No. 570 OF 10 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H1-1(31), Unit 2	1967		

True North
Scale: 1"=20'

"()" New top of crown elevations are to be adjusted whenever point is not in the same plane as the resurfaced pavement. See Typical Section.



SURVEY PLOTTED BY	DATE
DESIGNED BY	
TRACED BY	
NOTE BOOK	
QUANTITIES BY	
CHECKED BY	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT GRADE PLAN
(FREEWAY)

INTERSTATE ROUTE H-1
Victoria St. to Keeaumoku St.
F.A.I. Proj. No. I-H1-1(31), Unit 2

Scale: 1"=20' Date: Jan. 1967

SHEET No. 1 OF 6 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H1-1(31), Unit 2	1967		

MATCH LINE STA. 205+00

STA. 211+25 MATCH LINE

PENSACOLA ST.

True North
Scale: 1" = 20'

LUNALILO FREEWAY WESTBOUND LANES

LUNALILO FREEWAY EASTBOUND LANES

210

DESIGNED BY	DATE
DRAWN BY	
CHECKED BY	
NOTED BY	
NO.	

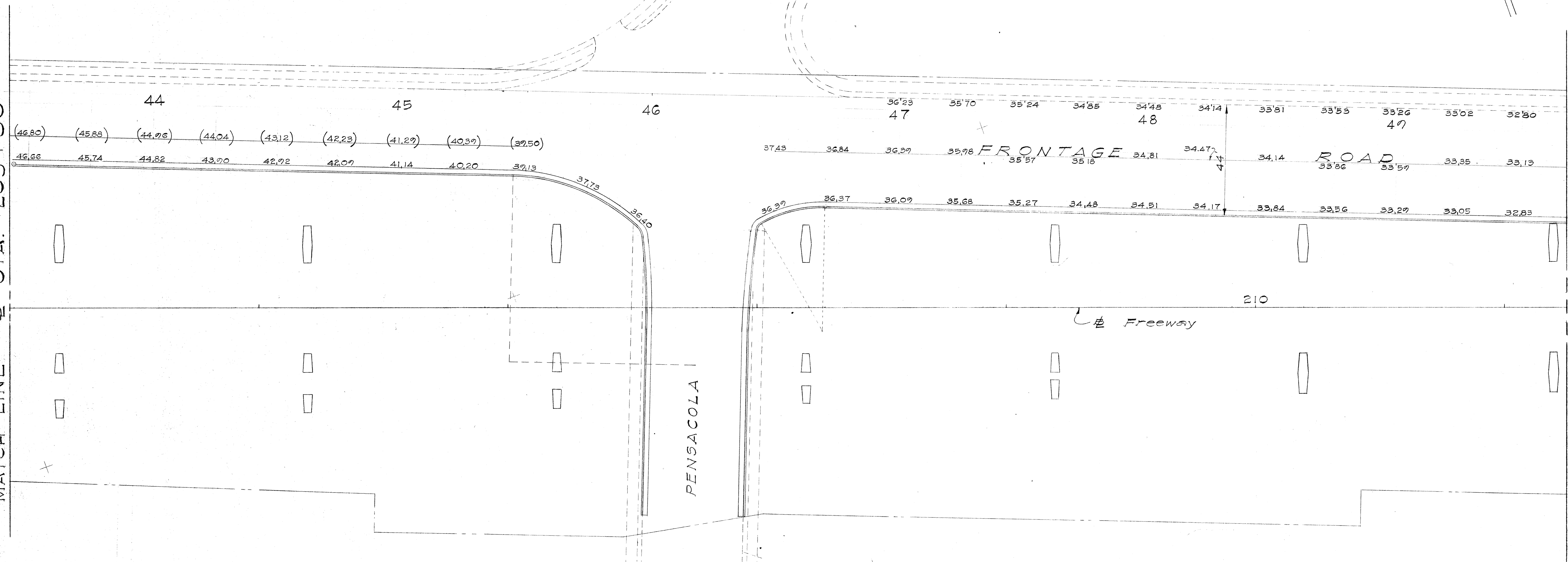
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
PAVEMENT GRADE PLAN
(FREEWAY)
INTERSTATE ROUTE H-1
Victoria St. to Keeaumoku St.
F.A.I. Proj. No. I-H1-1(31), Unit 2
Scale: 1" = 20' Date: Jan. 1967
SHEET No. 2 OF 6 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(31) Unit 2	1967		

TRUE NORTH
Scale: 1"=20'

MATCH LINE STA. 205 + 00

MATCH LINE STA. 211 + 25



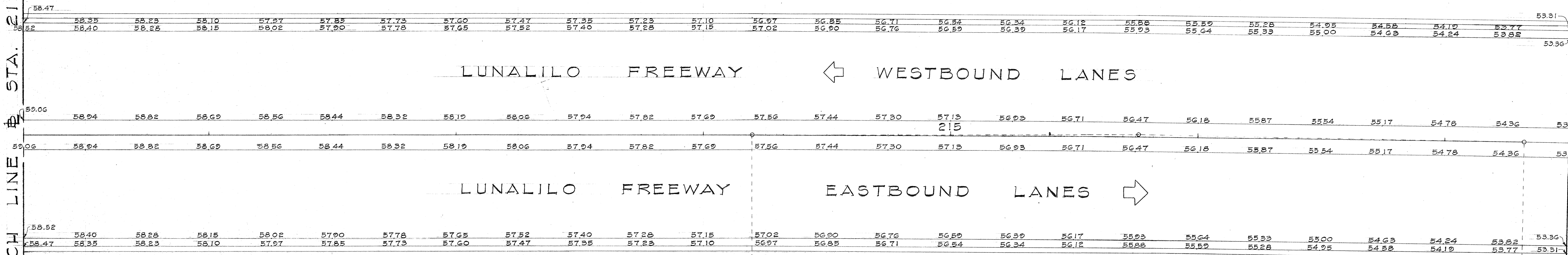
DESIGNED BY	DATE
DRAWN BY	
CHECKED BY	
NOTED BY	
NO.	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
PAVEMENT GRADE PLAN
(LOCAL STREETS)
INTERSTATE ROUTE H-1
Victoria St. to Keeaumoku St.
F.A.I. Proj. No. I-HI-1(31), Unit 2
Scale: 1"= 20' Date: Jan. 1967
SHEET No. 2A OF 6 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H-1-(31), Unit 2	1967		

MATCH LINE STA. 211 + 25

MATCH LINE STA. 217 + 50



SURVEY PLANNED BY	DATE
DESIGNED BY	
NOTED BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
QUANTITIES BY	
CHECKED BY	

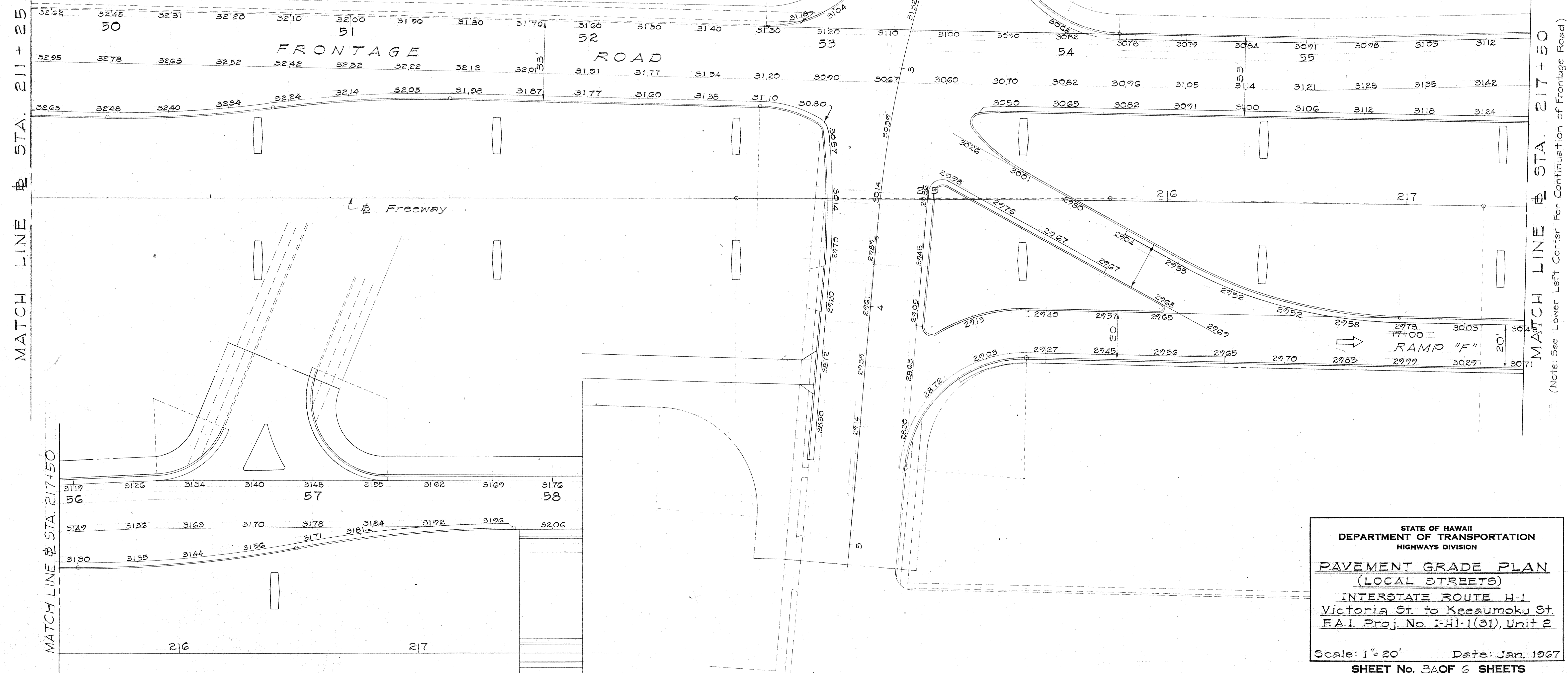
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT GRADE PLAN
(FREEWAY)
INTERSTATE ROUTE H-1
Victoria St. to Keeaumoku St.
F.A.I. Proj. No. I-H-1-(31), Unit 2

Scale: 1"= 20'
Date: Jan. 1967
SHEET No. 3 OF 6 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H-1(31), Unit 2	1967		

TRUE NORTH
Scale: 1"=20'

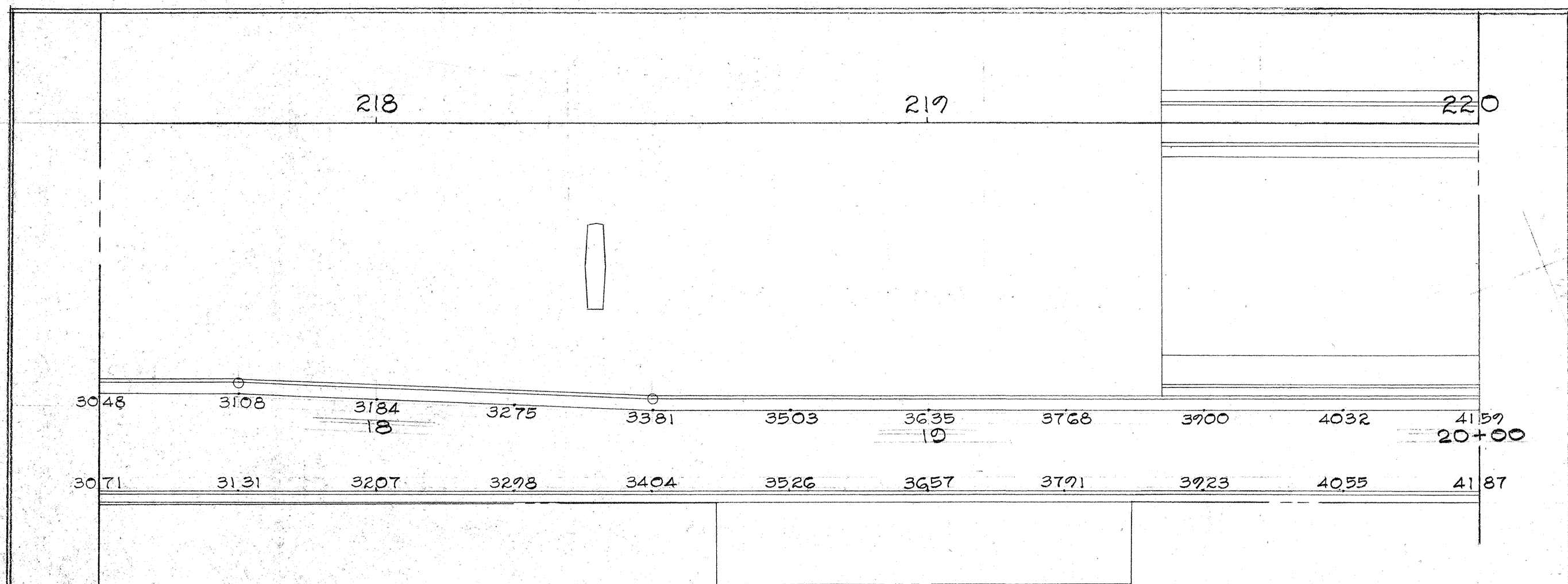
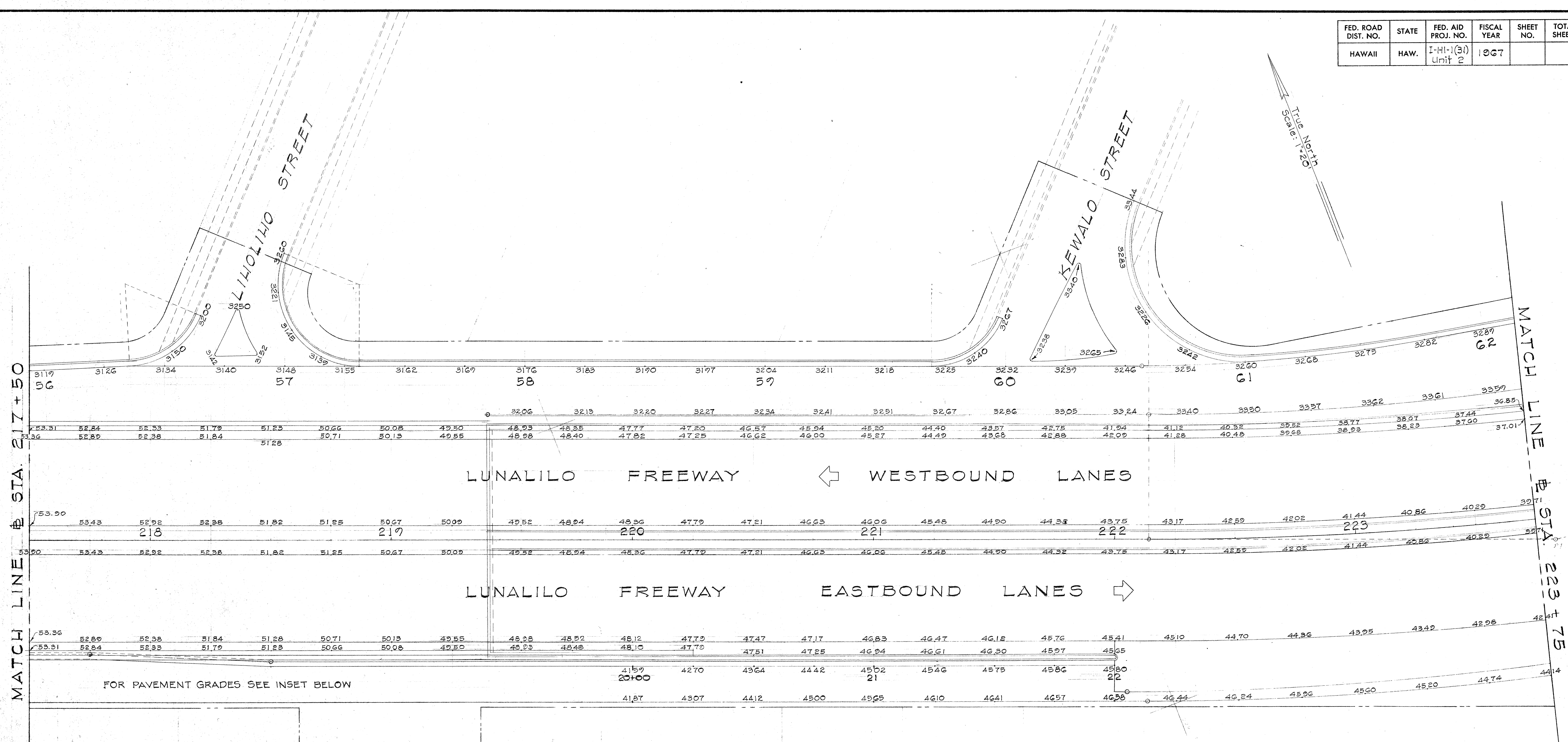


(Note: See Lower Left Corner For Continuation of Frontage Road)

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
PAVEMENT GRADE PLAN
(LOCAL STREETS)
INTERSTATE ROUTE H-1
Victoria St. to Keeaumoku St.
F.A.I. Proj. No. I-H-1(31), Unit 2
Scale: 1"=20' Date: Jan. 1967
SHEET No. 3AOF 6 SHEETS

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

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H1-1(31) Unit 2	1967		



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT GRADE PLAN
(FREEWAY AND LOCAL STREETS)

INTERSTATE ROUTE H-1
Victoria St. to Keeaumoku St.
F.A.I. Proj. No. I-H1-1(31), Unit 2

Scale: 1" = 20' Date: Jan. 1967

SHEET No. 4 OF 6 SHEETS

DATE: _____

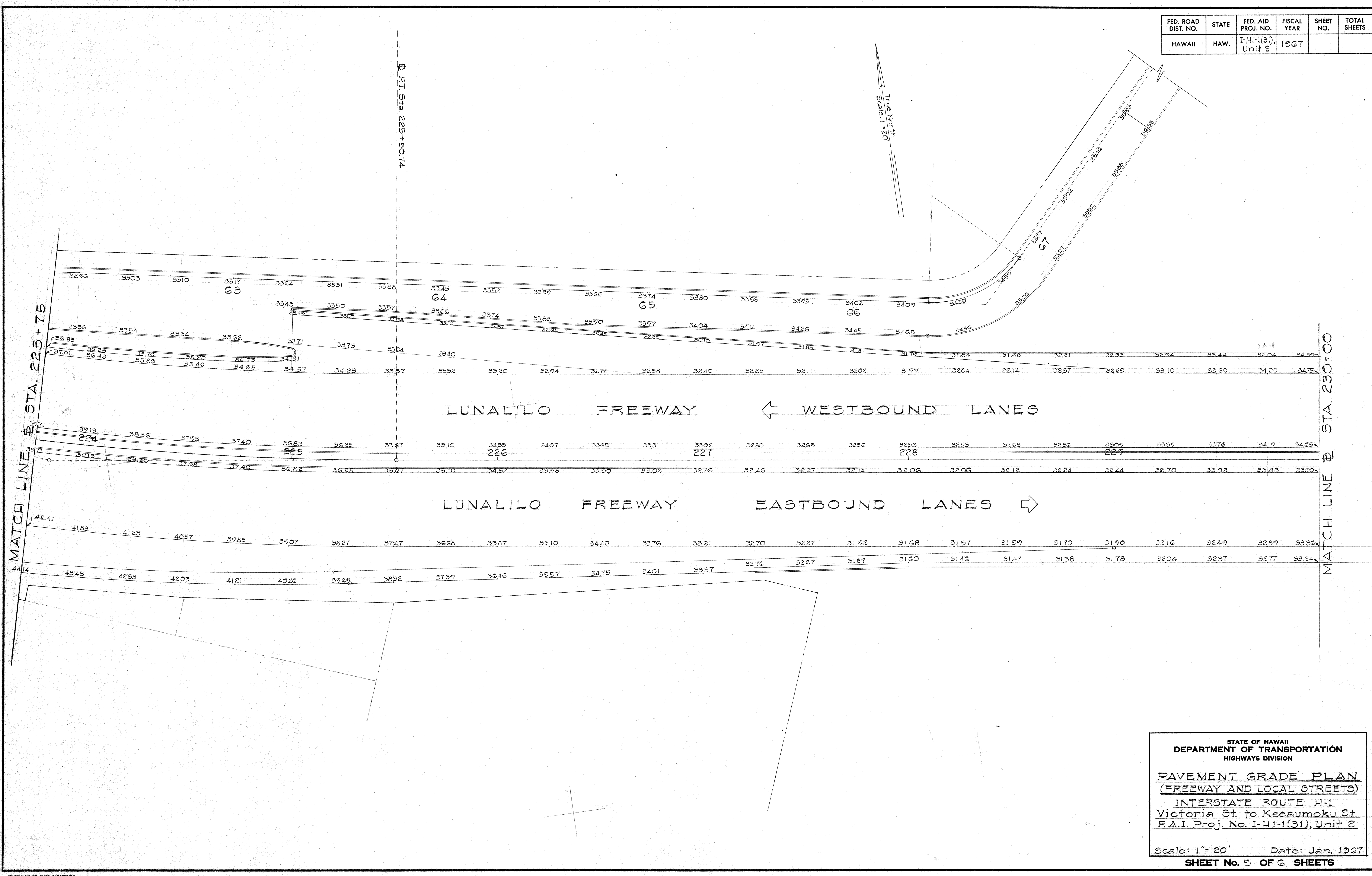
DESIGNED BY: _____

CHECKED BY: _____

NOTED BY: _____

DATE: _____

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H1-1(31), Unit 2	1967		



DESIGNED BY	DATE
DRAWN BY	
CHECKED BY	
NOTED BY	
NO.	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT GRADE PLAN
(FREEWAY AND LOCAL STREETS)

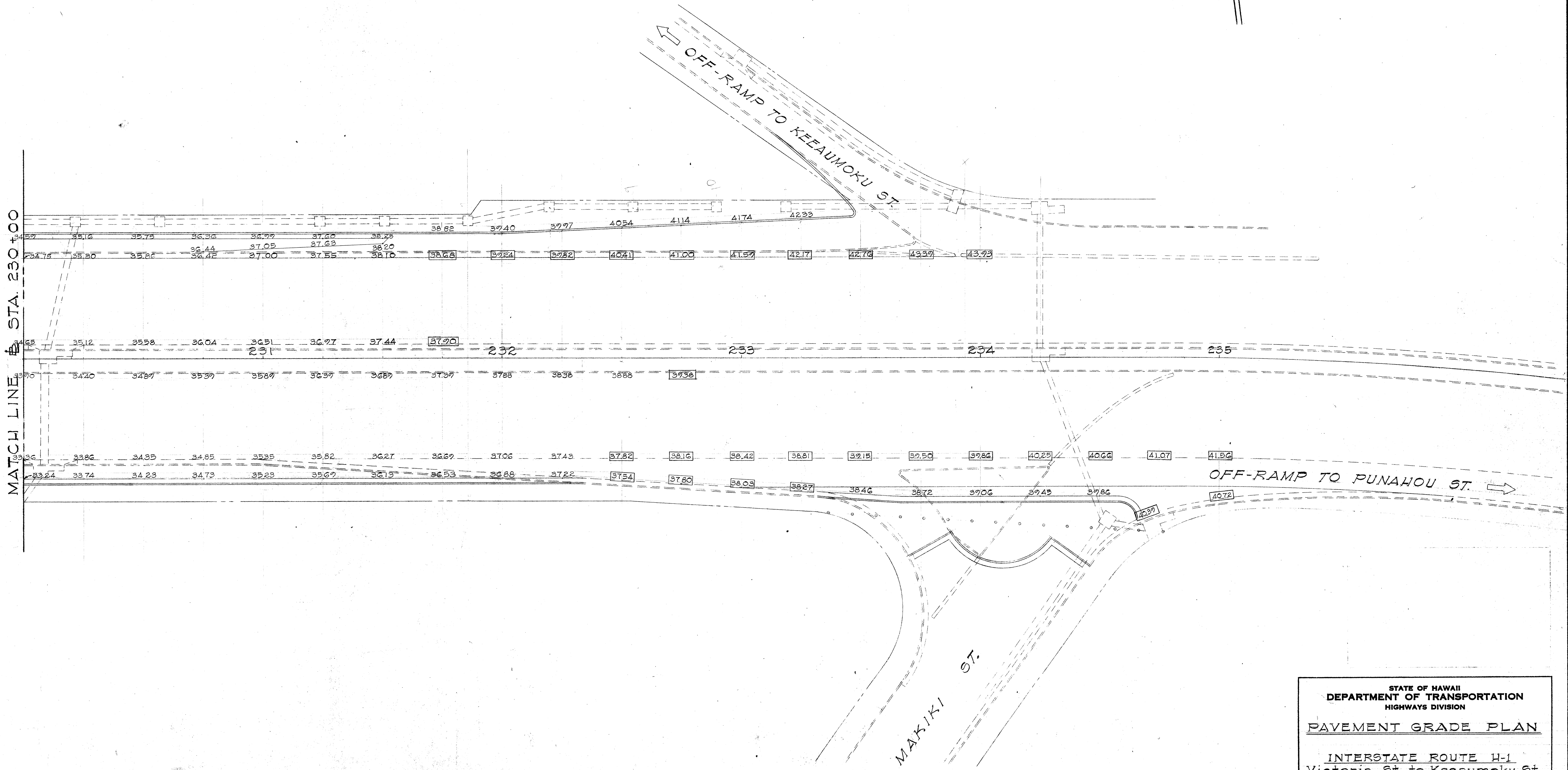
INTERSTATE ROUTE H-1
Victoria St. to Keeaumoku St.
F.A.I. Proj. No. I-H1-1(31), Unit 2

Scale: 1" = 20' Date: Jan. 1967

SHEET No. 3 OF 6 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H1-1(31) Unit 2	1967		

TRUE NORTH
Scale: 1"=20'



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT GRADE PLAN

INTERSTATE ROUTE H-1
Victoria St. to Keeaumoku St.
F.A.I. Proj. No. I-H1-1(31), Unit 2

Scale: 1"=20' Date: Jan. 1967

SHEET No. 6 OF 6 SHEETS

ORIGINAL PLAN	DATE
DESIGNED BY	
TRACED BY	
NOTED BY	
CHECKED BY	