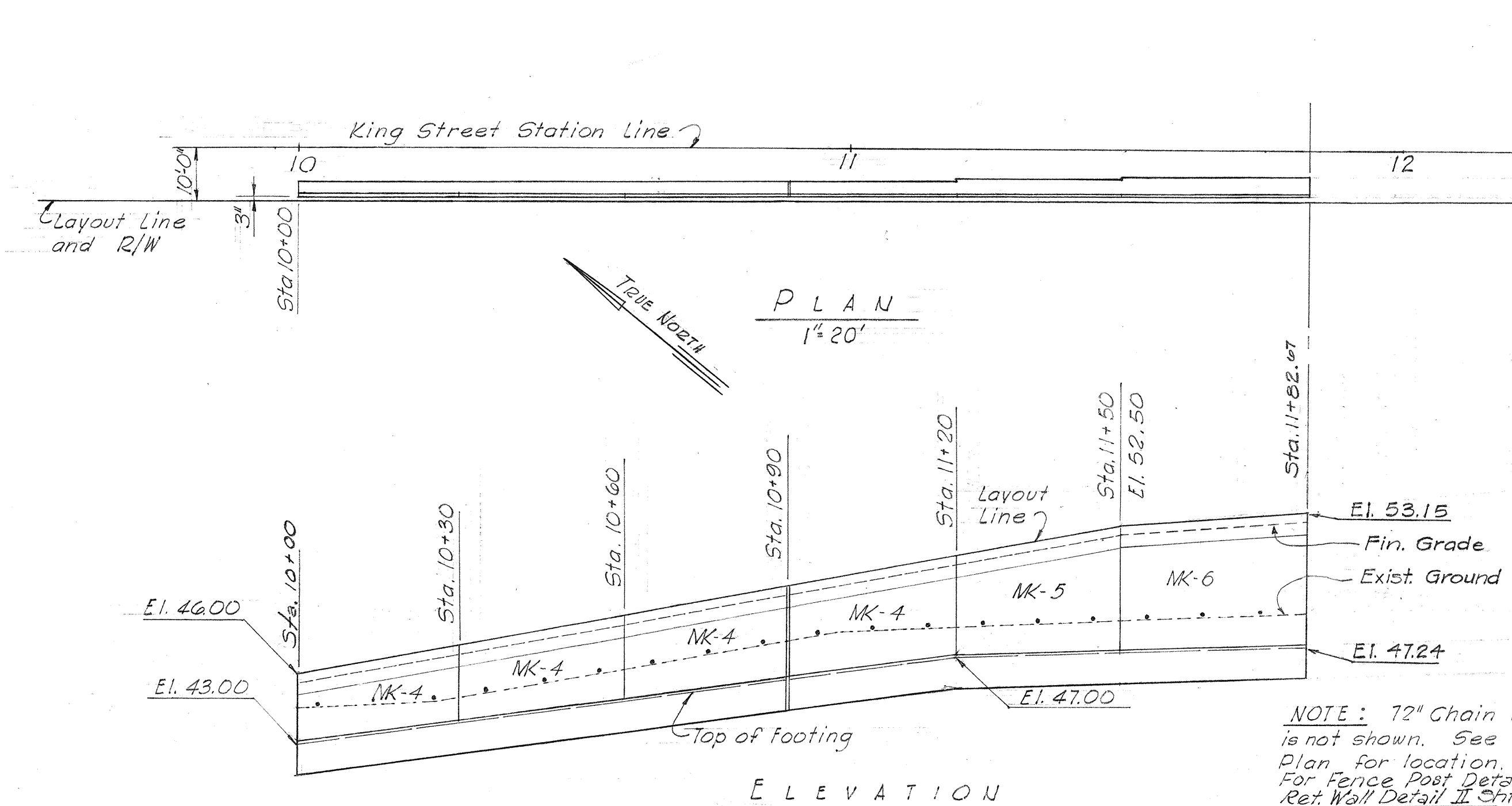


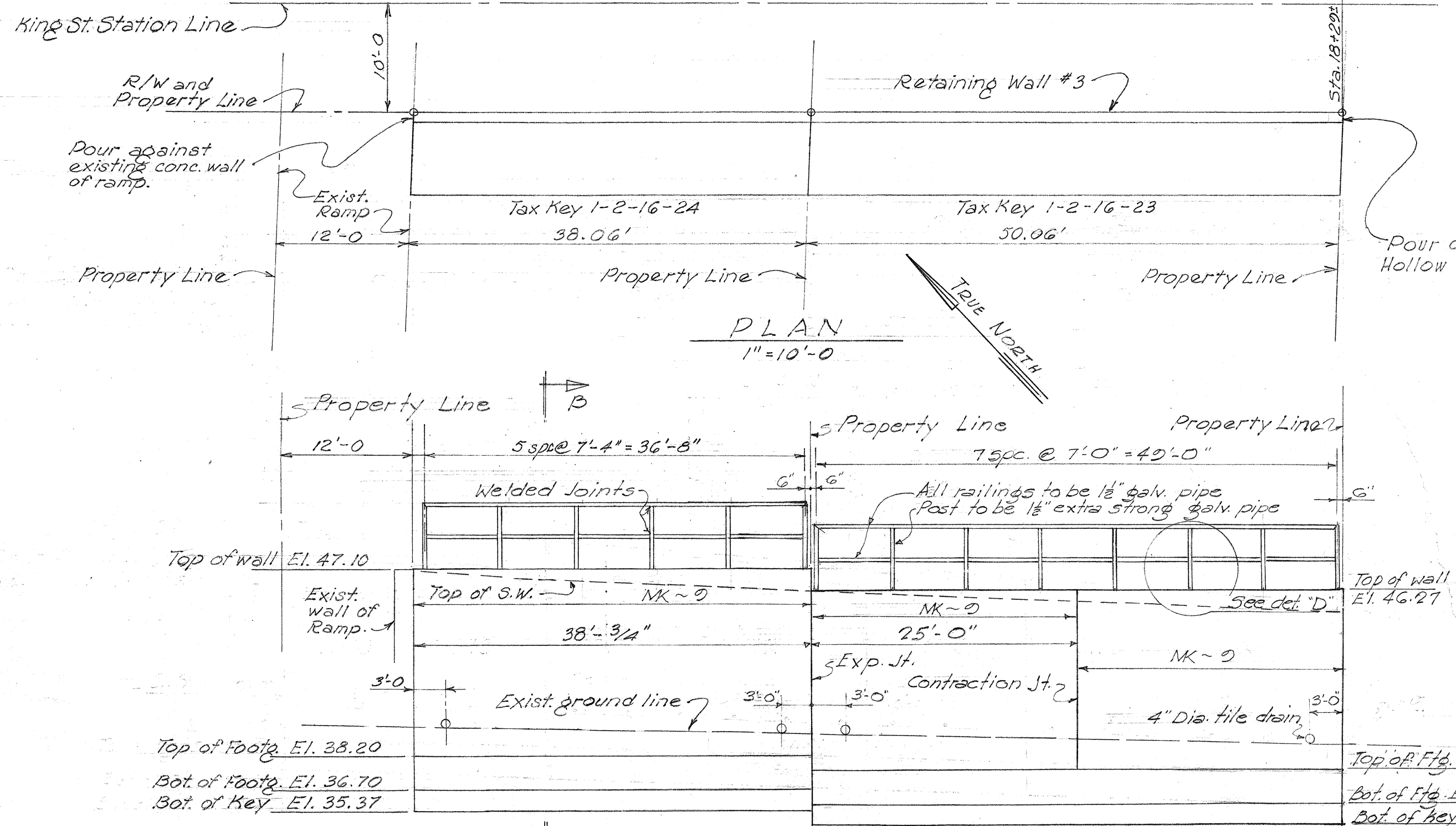
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
HAWAII	HAW.	US-50720	1960	30	77
		BU-072-1(1)	1960	40	113
		BU-065-1(1)	1960	47	113



NOTE: 12" Chain Link Fence is not shown. See Detail Roadway Plan for location. For Fence Post Detail, see Ret. Wall Detail II, Sht. 30.

RETAINING WALL 1 (TYPE "L-2")
Horizontal 1"=20'-0" Vertical 1"=5'-0"

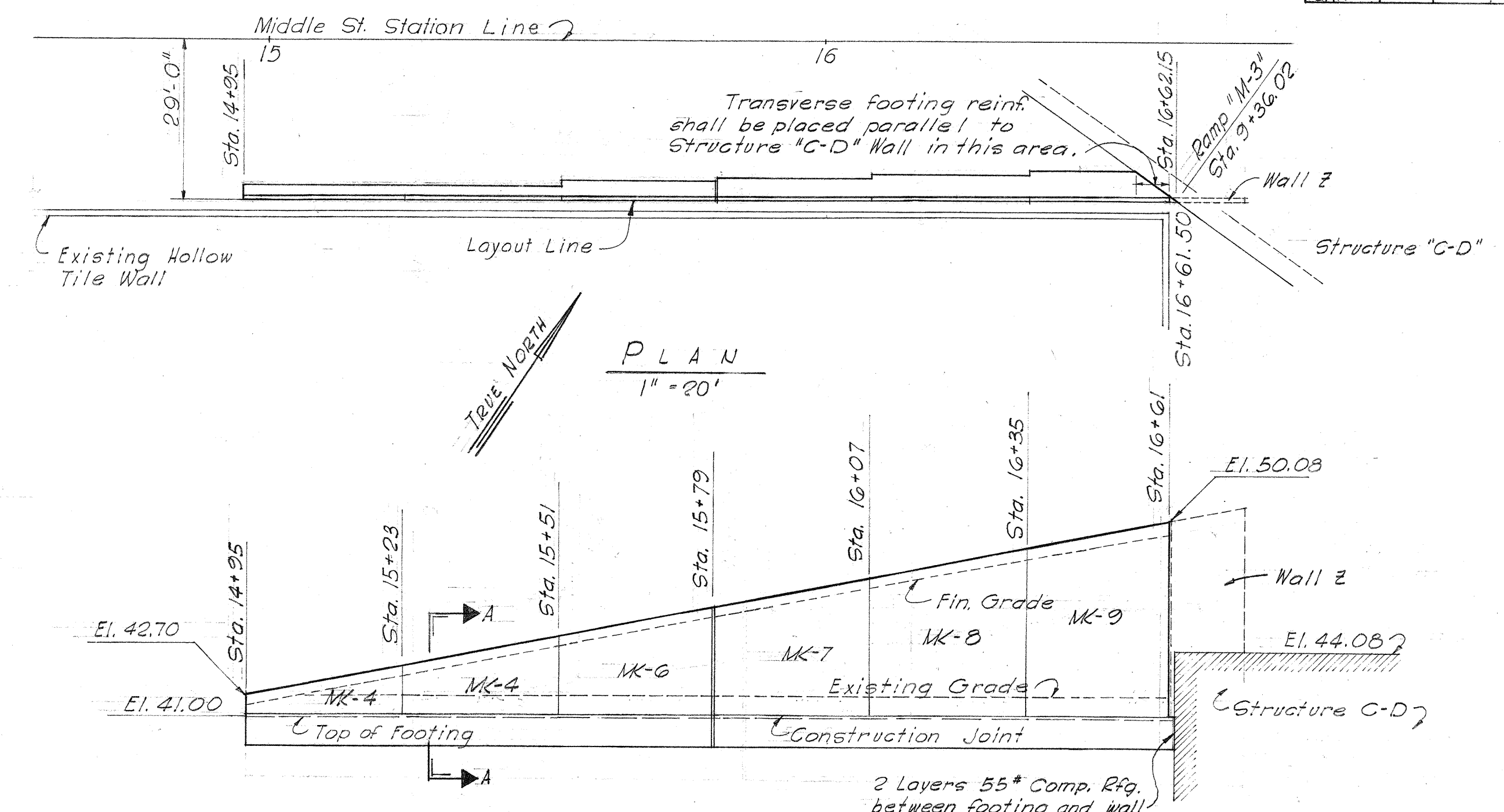
ITEM	QUANTITY
Class A-1 Concrete	6.5 Cubic Yds.
Reinf. Steel	2,343 Lbs.
Structural Exc.	91.29 Cubic Yds.
Filter Material	14.4 Cubic Yds.



ITEM	QUANTITY
Class A-1 Concrete	7.4 Cubic Yds.
Reinf. Steel	3,676 Lbs.
Structural Exc.	122.6 Cubic Yds.
Filter Material	10 Cubic Yds.
Galv. Pipe Rolling	85 Lin. Ft.

RETAINING WALL 3 (TYPE "L-1" OMIT DRIP CAP)
Horizontal 1"=10'-0" Vertical 1"=5'-0"

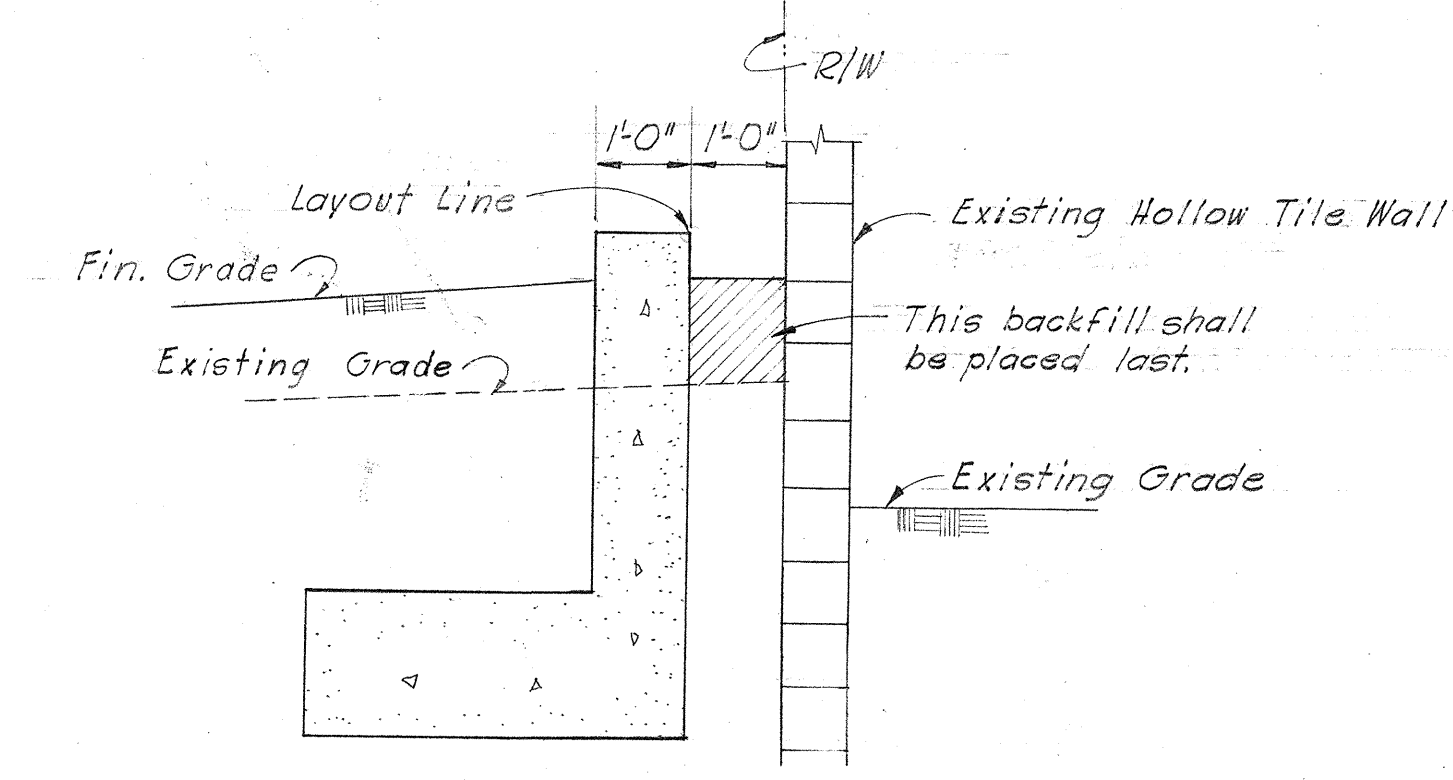
Note: Weep holes in Retaining Wall 3 to be closed after sidewalk construction.



Transverse footing reinf. shall be placed parallel to Structure "C-D" Wall in this area.

RETAINING WALL 2 (TYPE "L-2" OMIT DRIP CAP)
Horizontal 1"=20'-0" Vertical 1"=5'-0"

ITEM	QUANTITY
Class A-1 Concrete	7.3 Cubic Yds.
Reinf. Steel	3,574 Lbs.
Structural Exc.	153.5 Cubic Yds.
Filter Material	0.7 Cubic Yds.



NOTE: Attention is directed to the requirements for Protection of Property. See General Structural Notes.

LEGEND
Indicates Contraction Joint
Indicates Expansion Joint

REFERENCE DRAWINGS.

- RETAINING WALL DETAILS.
- STANDARD DETAILS.
- TYPICAL DETAILS AND GENERAL STRUCTURAL NOTES.
- DETAIL ROADWAY PLANS.



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STATE OF HAWAII

RETAINING WALLS 1, 2 & 3

MOANALUA ROAD

LUNALILO FREEWAY

MIDDLE STREET

US-6-0720(3) UNIT 3

BU-072-1(2) UNIT 4

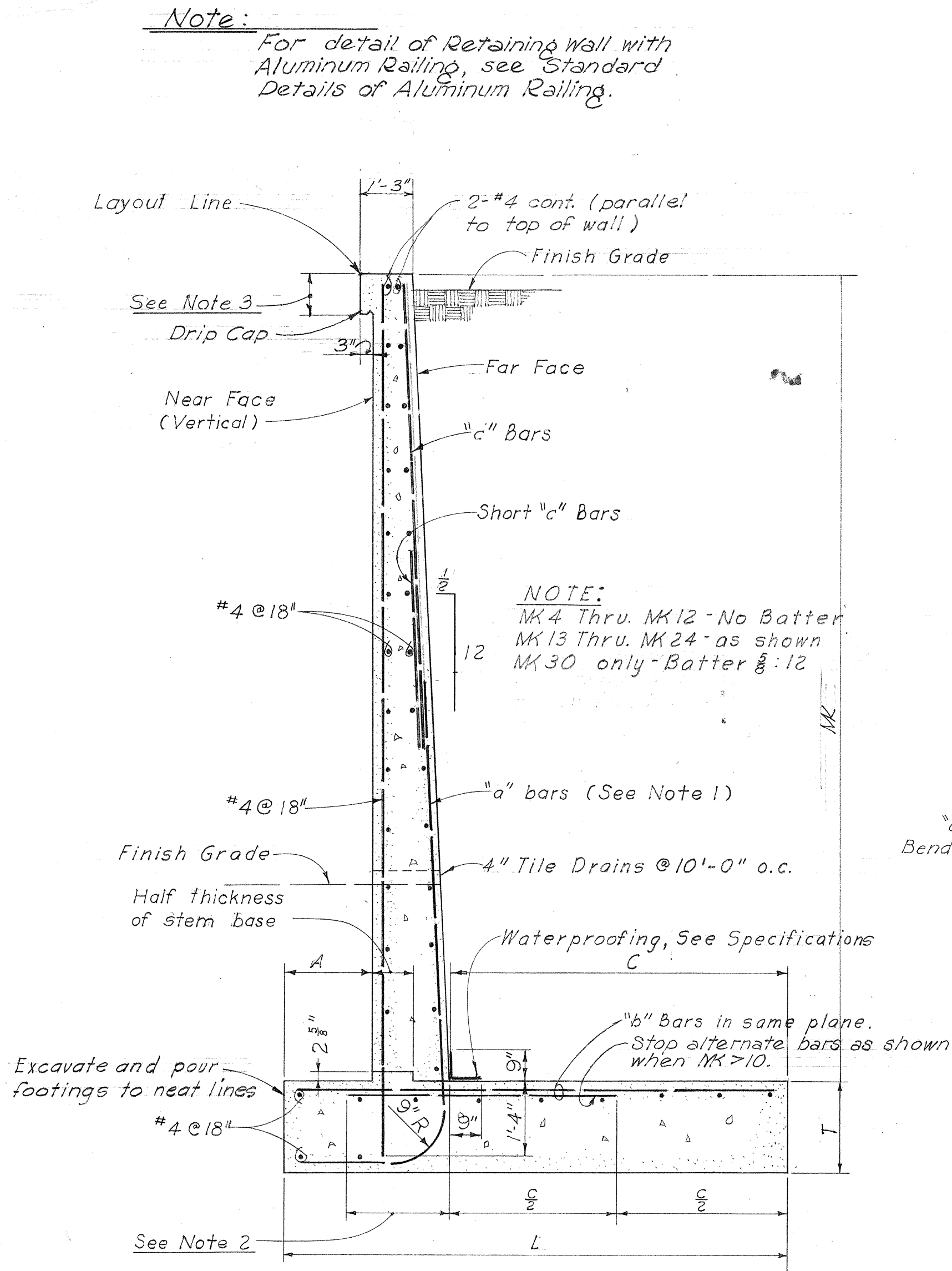
BU-065-1(1) UNIT 3

\$526.30 \$174.49 \$161.47

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW	US-0720(3)	1960	31	77
		US-0720(3)	1960	50	118
		US-065-1(1)	1960	48	115

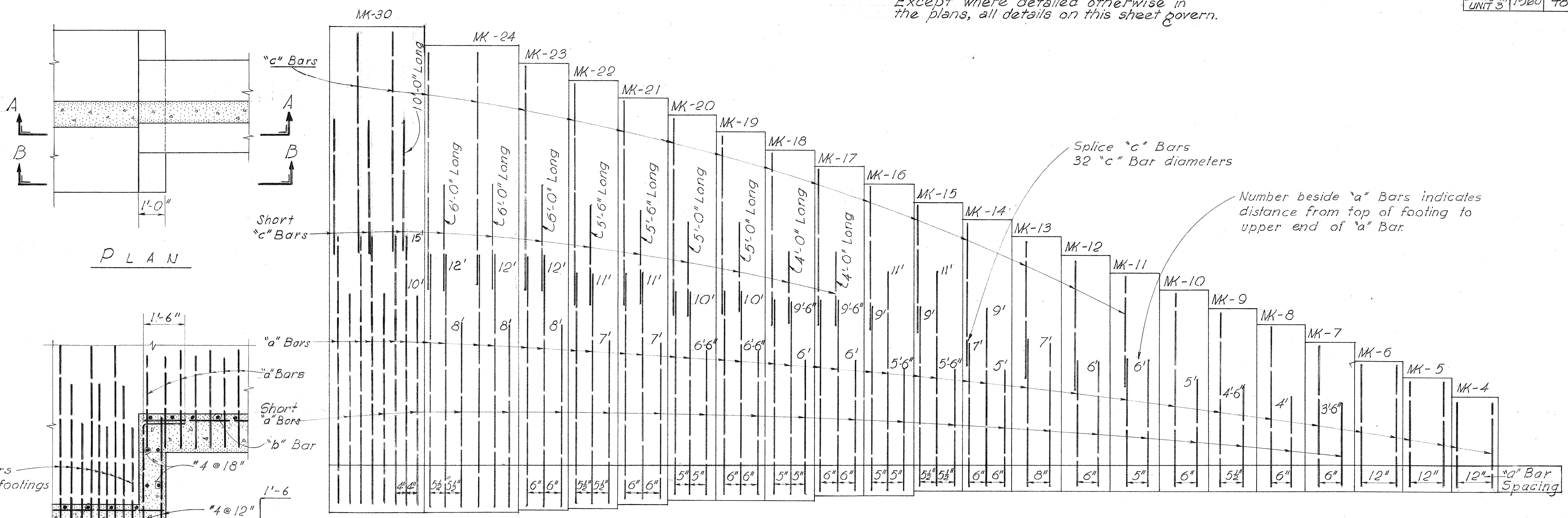
GENERAL NOTE

Except where detailed otherwise in the plans, all details on this sheet govern.

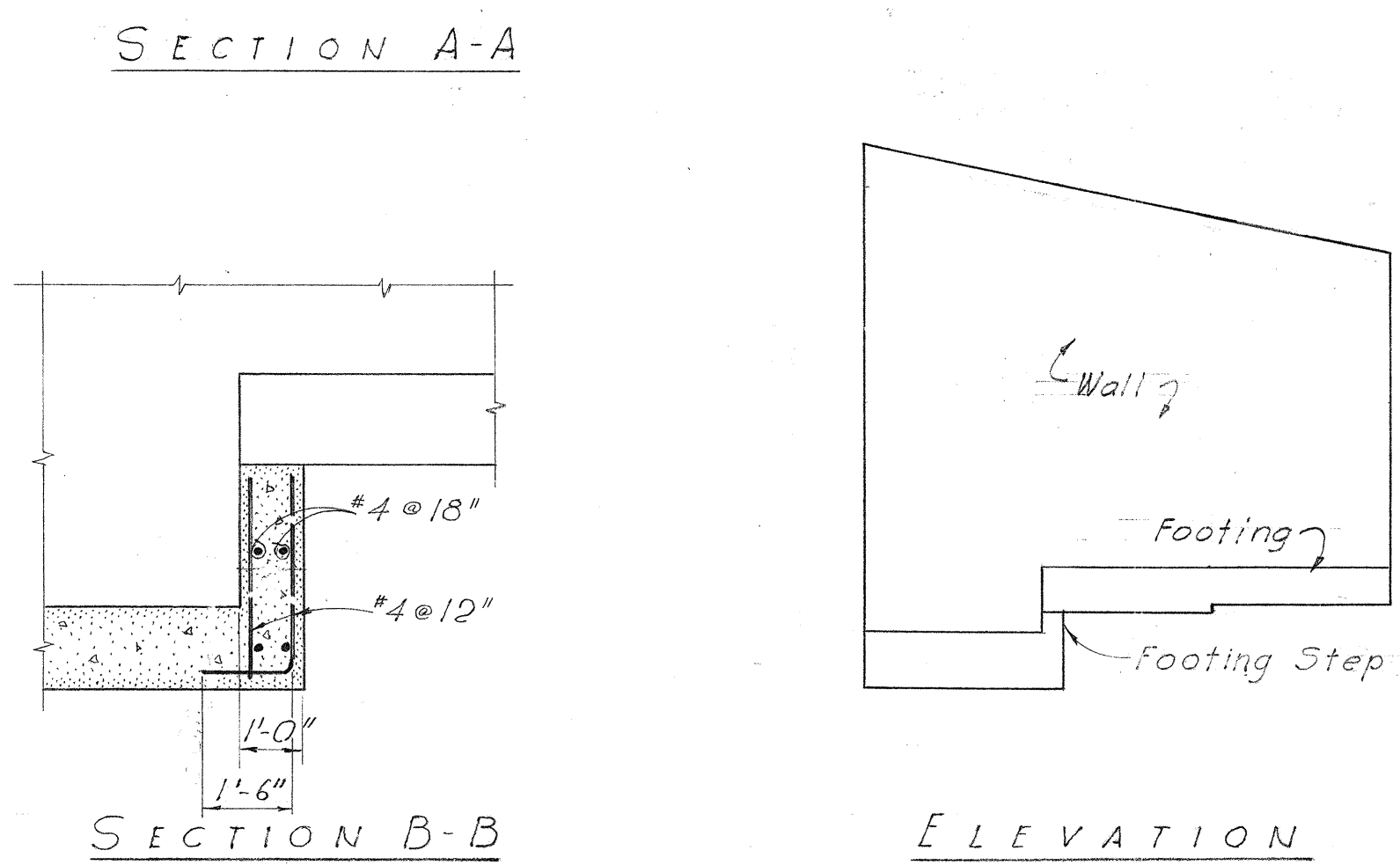


- NOTE 1:**
Spacing given in schedule is at base of stem.
- NOTE 2:**
For MK-16' or less, extend all "b" Bars to toe. For MK-17' and over, extend alternate "b" Bars 32 diameters.
- NOTE 3:**
Height of Drip Cap Varies for Wing Walls. Pour to match structure Drip Cap unless otherwise shown. Height for Retaining Wall Drip Cap = 1'-0" unless otherwise shown.

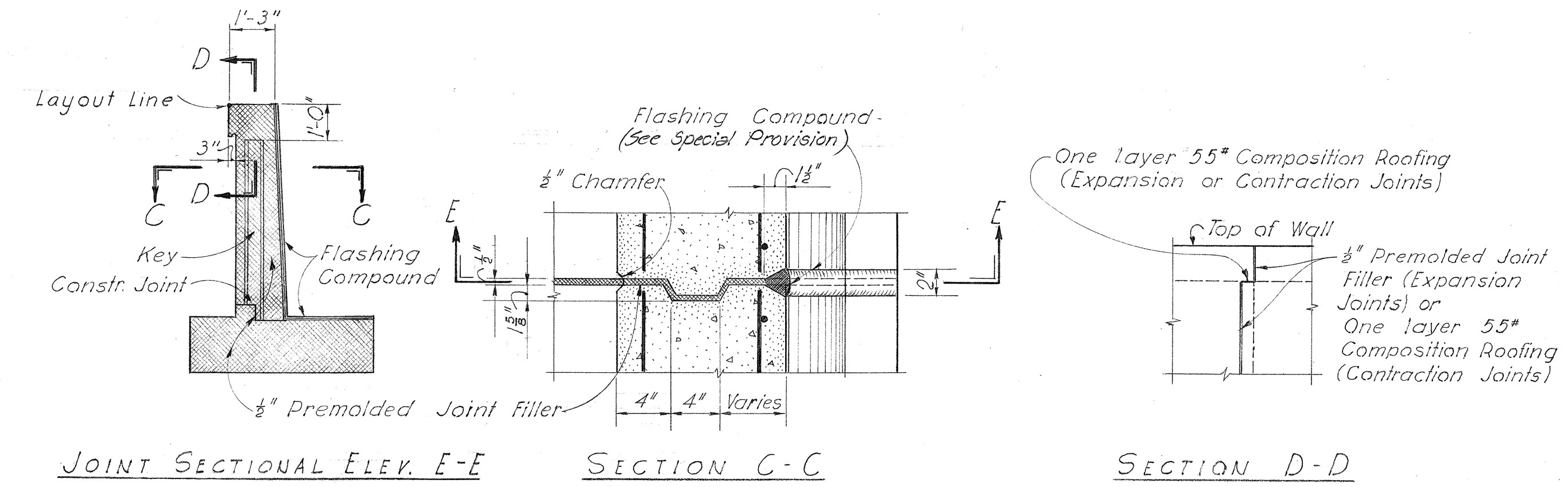
TYPE "T" WALL
TYPICAL SECTION



REINFORCING DIAGRAM
No Scale



FOOTING STEP DETAILS



TYPICAL JOINT DETAILS

NOTE:
Contraction Joint detail is similar except that one layer 55" Composition Roofing shall be used in place of Premolded Joint Filler and the joint shall extend through the stem only.

REFERENCE DRAWINGS
RETAINING WALL DETAILS II
TYPICAL DETAILS AND GENERAL STRUCTURAL NOTES

TYPE "T" WALL SCHEDULE																								
MK	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	30		
A	6"	6"	6"	12"	12"	12"	12"	12"	12"	12"	15"	18"	21"	24"	24"	24"	27"	30"	33"	36"	39"	5'-3"		
L	2.5'	3.0'	3.5'	4.0'	4.5'	5.0'	5.5'	6.0'	6.5'	7.0'	7.75'	8.25'	9.0'	9.75'	10.5'	11.5'	12.5'	13.5'	14.5'	15.25'	16.0'	18'-0"		
T	14"	14"	14"	14"	14"	14"	14"	18"	18"	18"	18"	18"	21"	21"	24"	24"	24"	27"	30"	31"	33"	36"		
"c" Bars *	—	—	—	—	—	—	—	*4	*4	*4	*4	*4	*4	*4	*4	*5	*5	*6	*6	*7	*7	*7		
"a" Bars **	*3@12"	*3@12"	*4@12"	*3@6"	*4@6"	*4@5½"	*5@6"	*5@5"	*6@6"	*6@8"	*6@6"	*6@5½"	*6@5"	*7@6"	*7@5"	*8@6"	*8@5"	*9@6"	*9@5½"	*10@6"	*10@5½"	*11@4"		
"b" Bars	*3@12"	*3@12"	*3@12"	*3@12"	*4@12"	*5@11"	*5@9"	*5@10"	*5@6"	*6@8"	*6@6"	*6@5½"	*6@5"	*7@6"	*7@5"	*9@6"	*9@5"	*10@6"	*10@5½"	*11@6"	*11@5½"	*11@6"		

- * See Reinforcing Diagram for reinforcing bar length and arrangement.
- ** Refer to Reinforcing Diagram for length and spacing of combined "a" and short "a" bars.

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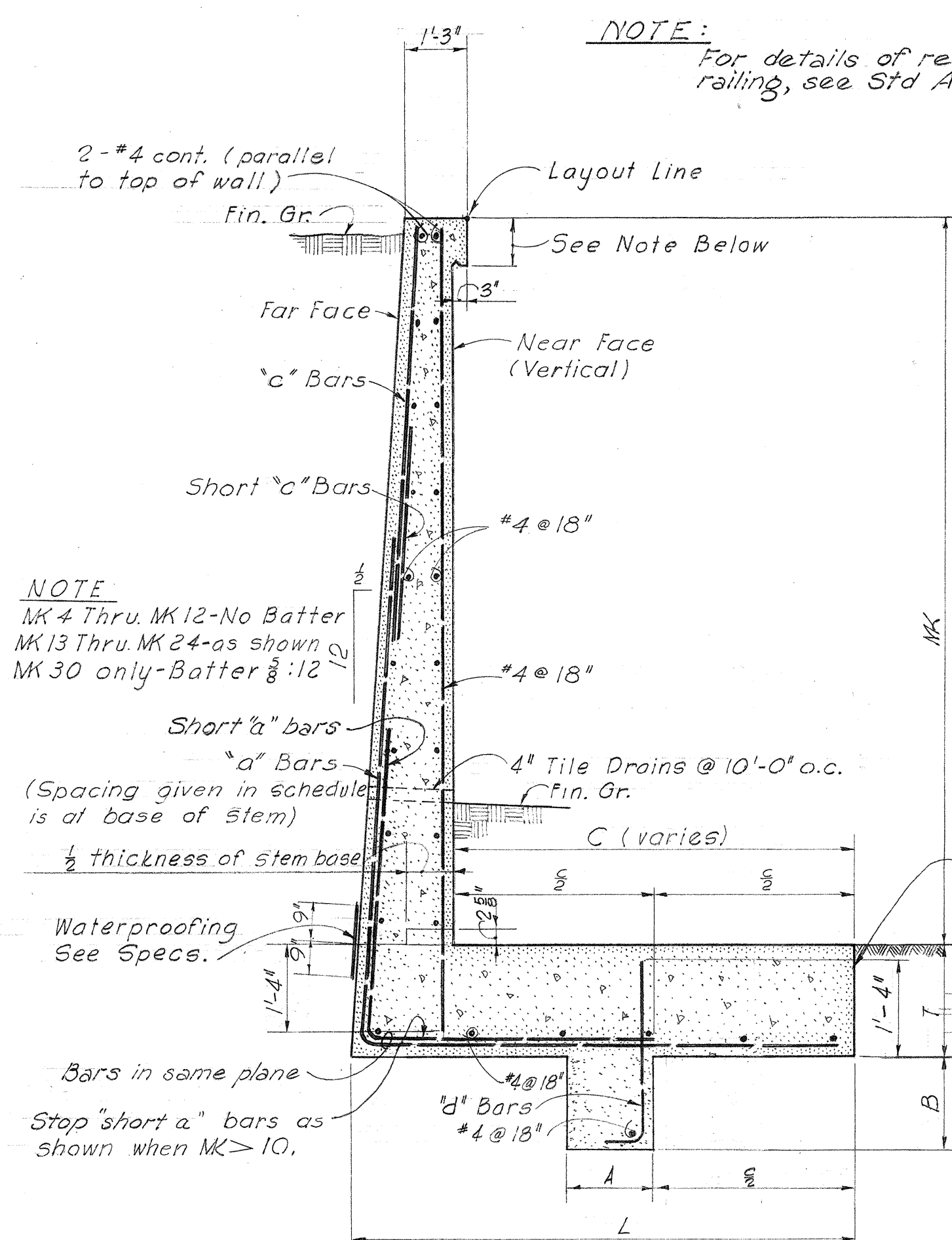
HAWAII STATE HIGHWAY DEPARTMENT
STATE OF HAWAII

RETAINING WALL DETAILS I

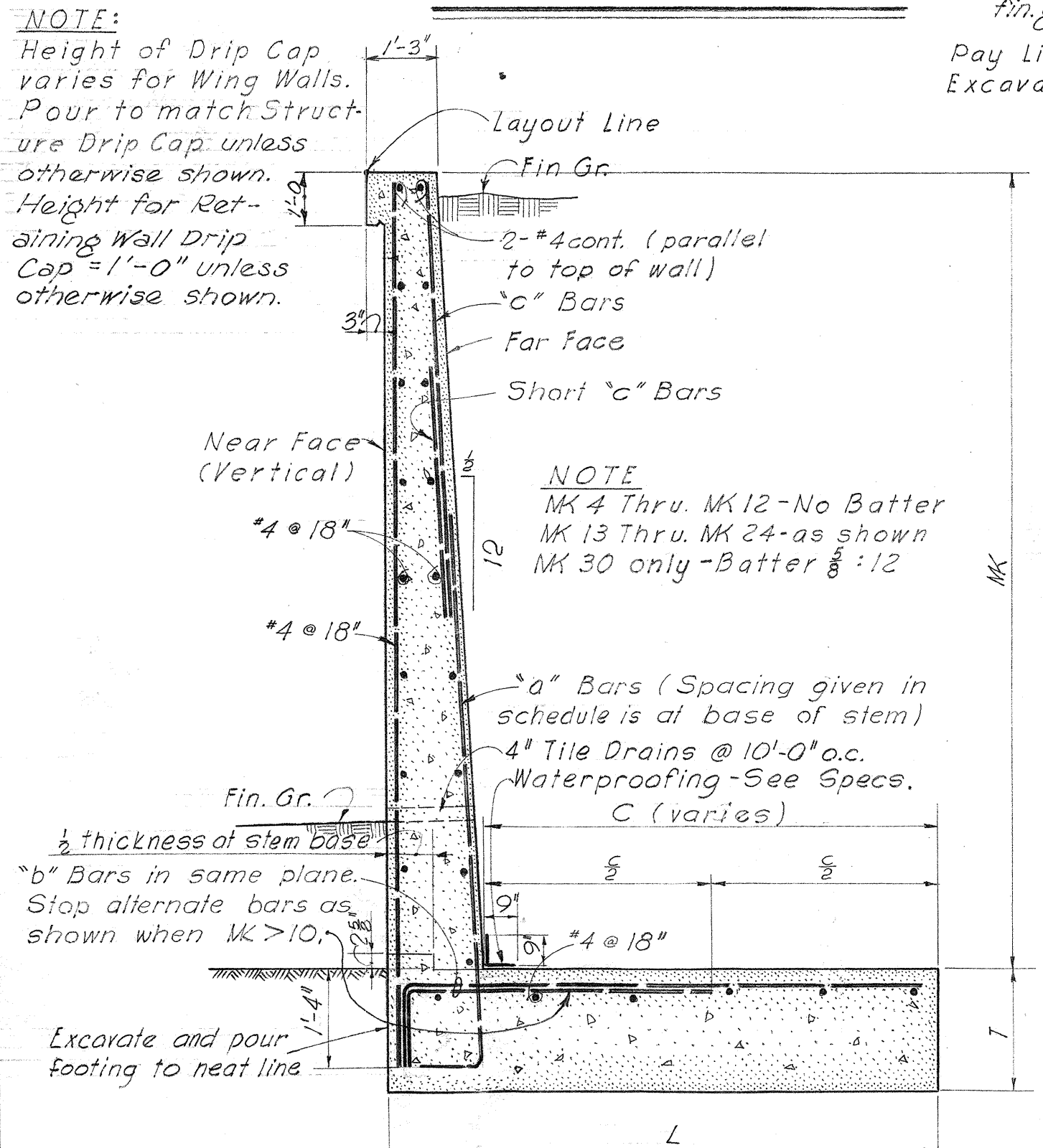
LUNALILO FREEWAY BU-072-1(2) UNIT 4
MOANALUA ROAD US-S-0720(3) UNIT 3
MIDDLE STREET BU-065-1(1) UNIT 3

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1060-1(1)	1960	32	77
		1060-1(2)	1960	51	118
		1060-1(3)	1960	45	115

June 1960



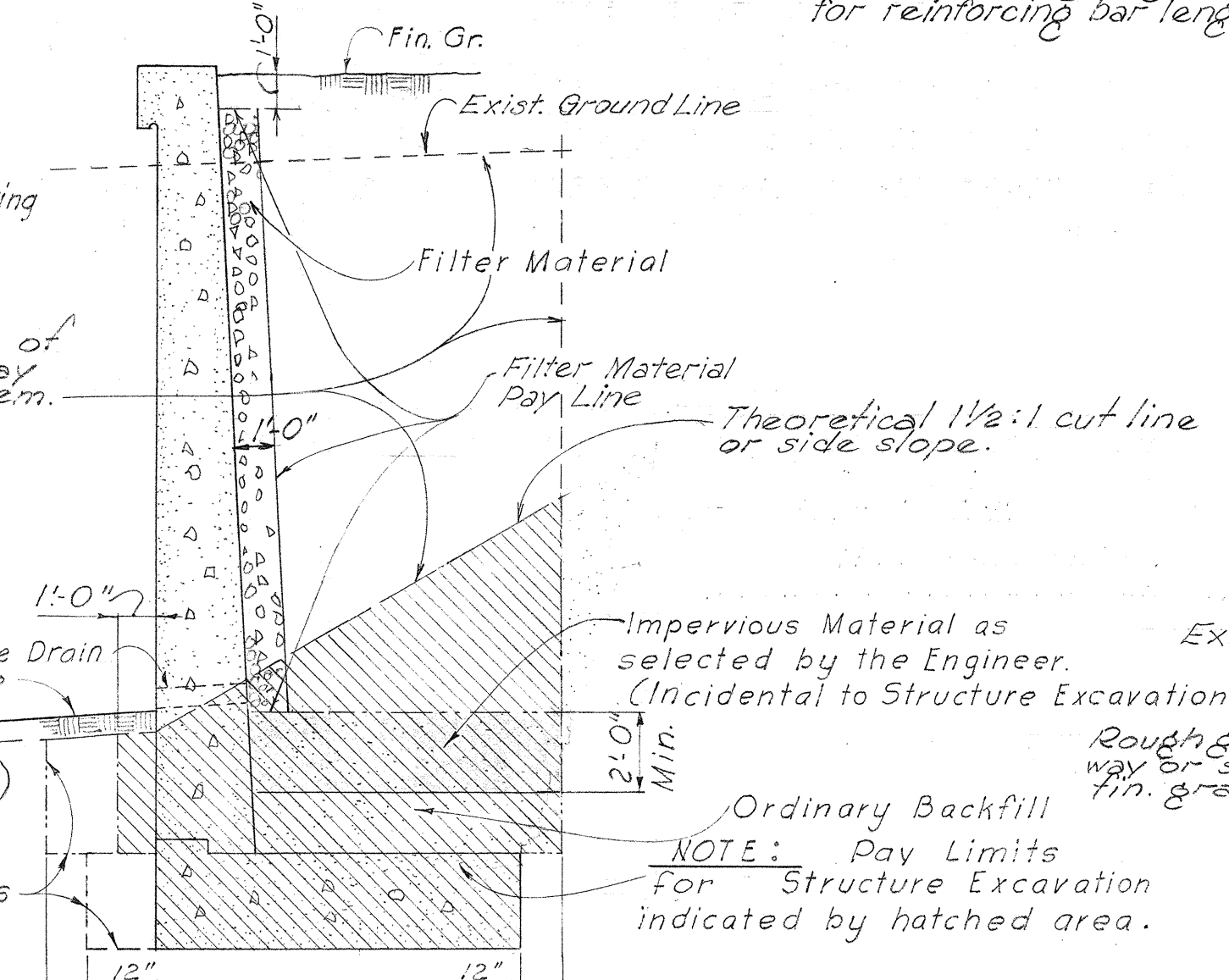
TYPICAL SECTION TYPE "L-1" WALL



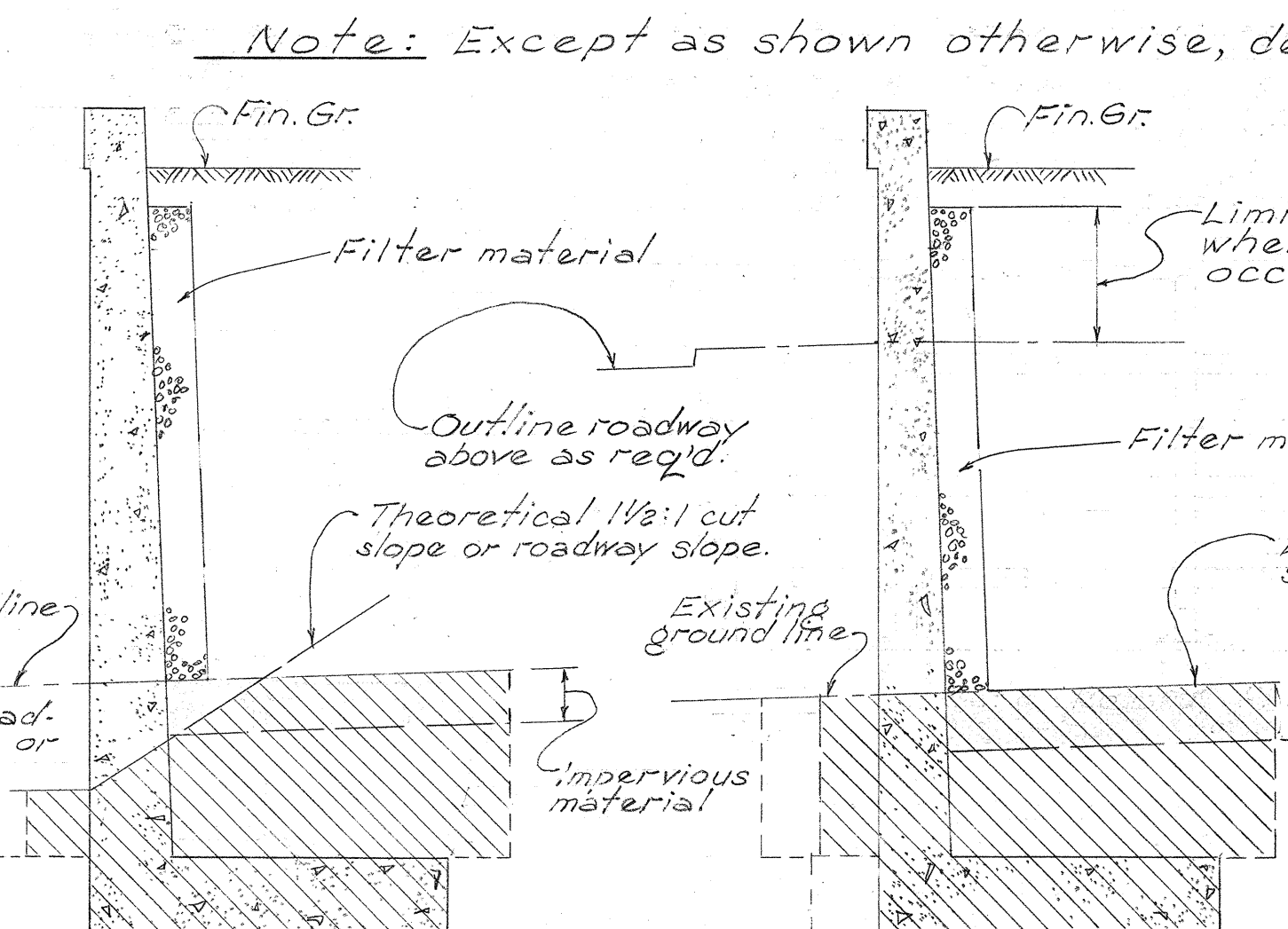
TYPICAL SECTION TYPE "L-2" WALL

TYPE "L-1" WALL SCHEDULE																				
MK	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21		
L	3.5'	4.5'	5.5'	6.5'	7.5'	8.0'	8.5'	9.5'	10.0'	10.5'	11.0'	12.0'	12.5'	13.5'	14.0'	15.0'	16.0'	17.5'		
T	18"	18"	18"	18"	18"	18"	18"	18"	18"	18"	18"	20"	22"	24"	24"	26"	28"	30"		
A	12"	14"	14"	14"	14"	16"	16"	18"	20"	20"	20"	24"	24"	24"	24"	24"	24"	24"		
B	12"	14"	14"	14"	14"	16"	16"	18"	20"	20"	20"	24"	24"	26"	26"	28"	30"			
"c" Bars								#4	#4	#4	#4	#4	#4	#4	#4	#5	#5	#6		
"a" Bars	#3	#3	#4	#3	#4	#4	#5	#5	#6	#6	#6	#6	#6	#7	#7	#8	#8	#9		
Short "a" Bars				#4	#4	#4	#5	#5	#6	#7	#7	#7	#7	#8	#8	#9	#8	#9		
"d" Bars	#3 @ 12"	#3 @ 12"	#3 @ 12"	#3 @ 12"	#3 @ 12"	#3 @ 10"	#4 @ 12"	#4 @ 10"	#4 @ 12"	#4 @ 12"	#4 @ 12"	#4 @ 11"	#4 @ 10"	#5 @ 12"	#5 @ 10"	#6 @ 10"	#6 @ 10"	#7 @ 12"		
Spacing of type "a" bars at base of stem (c to c.)	12"	12"	12"	6"	6"	5 1/2"	6"	5"	6"	8"	6"	5 1/2"	5"	6"	5"	6"	5"	6"		

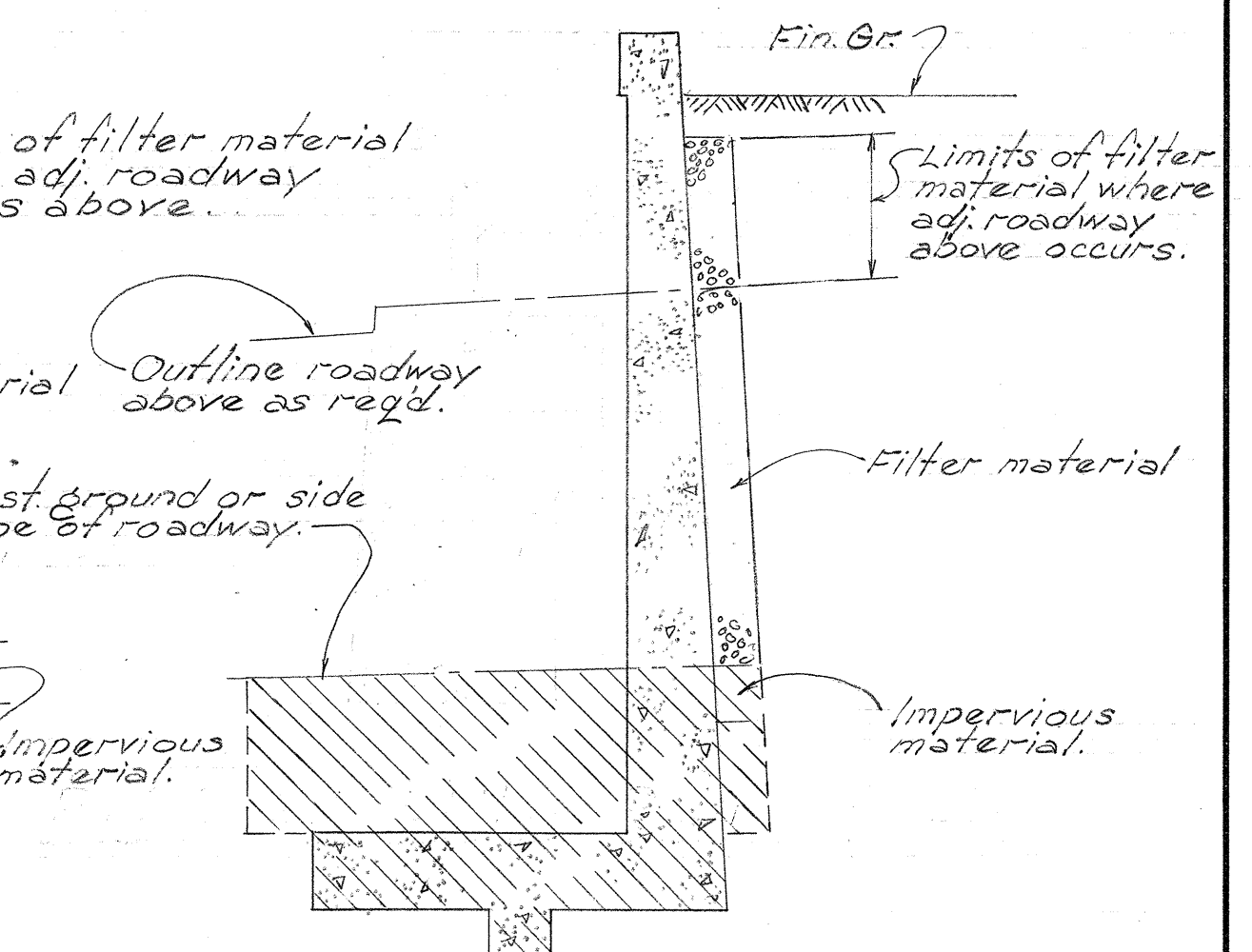
*** See Reinforcing Diagram on Retaining Wall Details I for reinforcing bar length and arrangement.



CASE I



CASE II



CASE III

TYPE "L-2" AND TYPE "T" WALLS
TYPICAL DETAILS OF LIMITS OF STRUCTURAL EXCAVATION

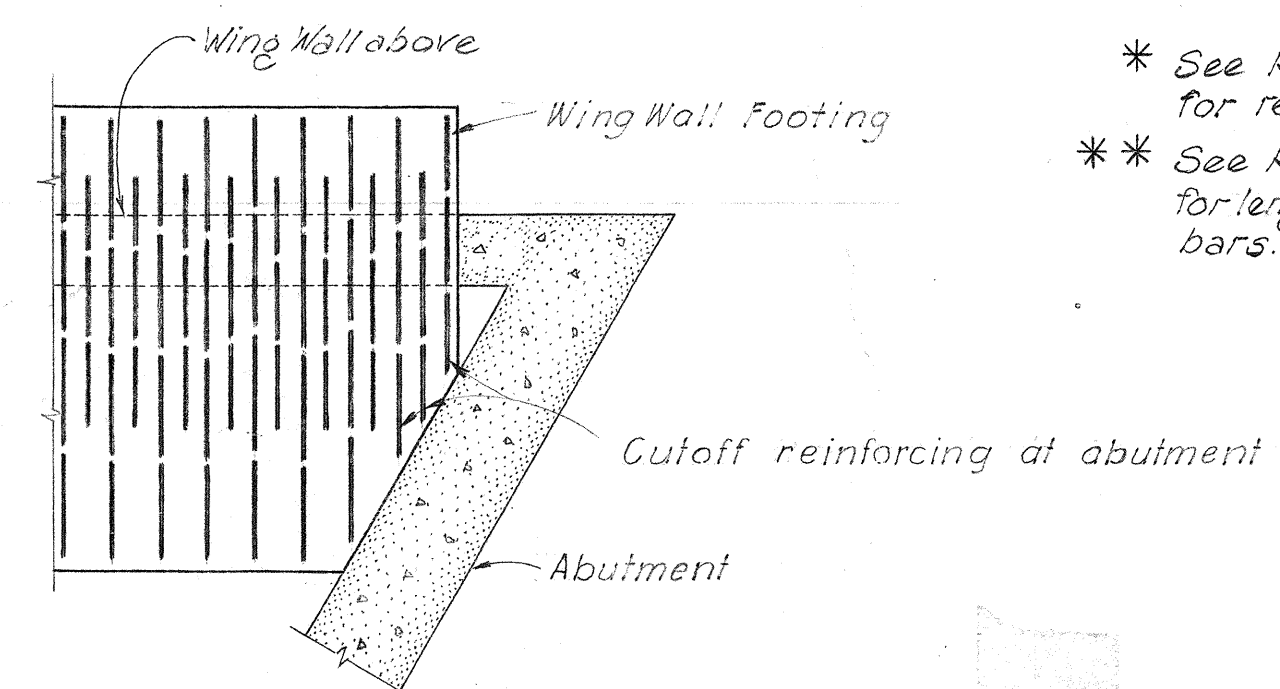
TYPE "L-2" WALL SCHEDULE																				
MK	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20			
L	3.5'	4.0'	4.5'	4.5'	5.0'	5.5'	6.0'	6.5'	7.5'	8.0'	9.0'	10.0'	11.0'	12.25'	13.5'	14.75'	16.0'			
T	18"	18"	18"	18"	18"	18"	18"	18"	20"	20"	22"	22"	22"	24"	24"	24"	24"			
"c" Bars *								#4	#4	#4	#4	#4	#4	#4	#4	#5	#5			
"a" Bars **	#3 @ 12"	#3 @ 12"	#4 @ 12"	#3 @ 6"	#4 @ 6"	#4 @ 5 1/2"	#5 @ 6"	#5 @ 5"	#6 @ 6"	#6 @ 8"	#6 @ 6"	#6 @ 5 1/2"	#6 @ 5"	#7 @ 6"	#7 @ 5"	#8 @ 6"	#8 @ 5"			
"b" Bars	#3 @ 12"	#3 @ 12"	#4 @ 12"	#3 @ 6"	#4 @ 6"	#4 @ 5 1/2"	#5 @ 6"	#5 @ 5"	#6 @ 6"	#8 @ 8"	#8 @ 6"	#8 @ 5 1/2"	#8 @ 5"	#9 @ 6"	#8 @ 5"	#9 @ 6"	#8 @ 5"			

GENERAL NOTE

Except where detailed otherwise in the plans, all details on this sheet governs.

REFERENCE DRAWINGS

RETAINING WALL DETAILS I
TYPICAL DETAILS AND GENERAL
STRUCTURAL NOTES



WING WALL FOOTING CUTOFF DETAIL
No Scale



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STATE OF HAWAII

RETAINING WALL DETAILS II

LUNALILO FREEWAY BU-072-1(2) UNIT 4
MOANALUA ROAD US-S-0720(3) UNIT 3
MIDDLE STREET BU-065-1(1) UNIT 3

DESIGNED BY	DATE
TRACED BY	12/25/57
QUANTITIES BY	
CHECKED BY	
NO.	