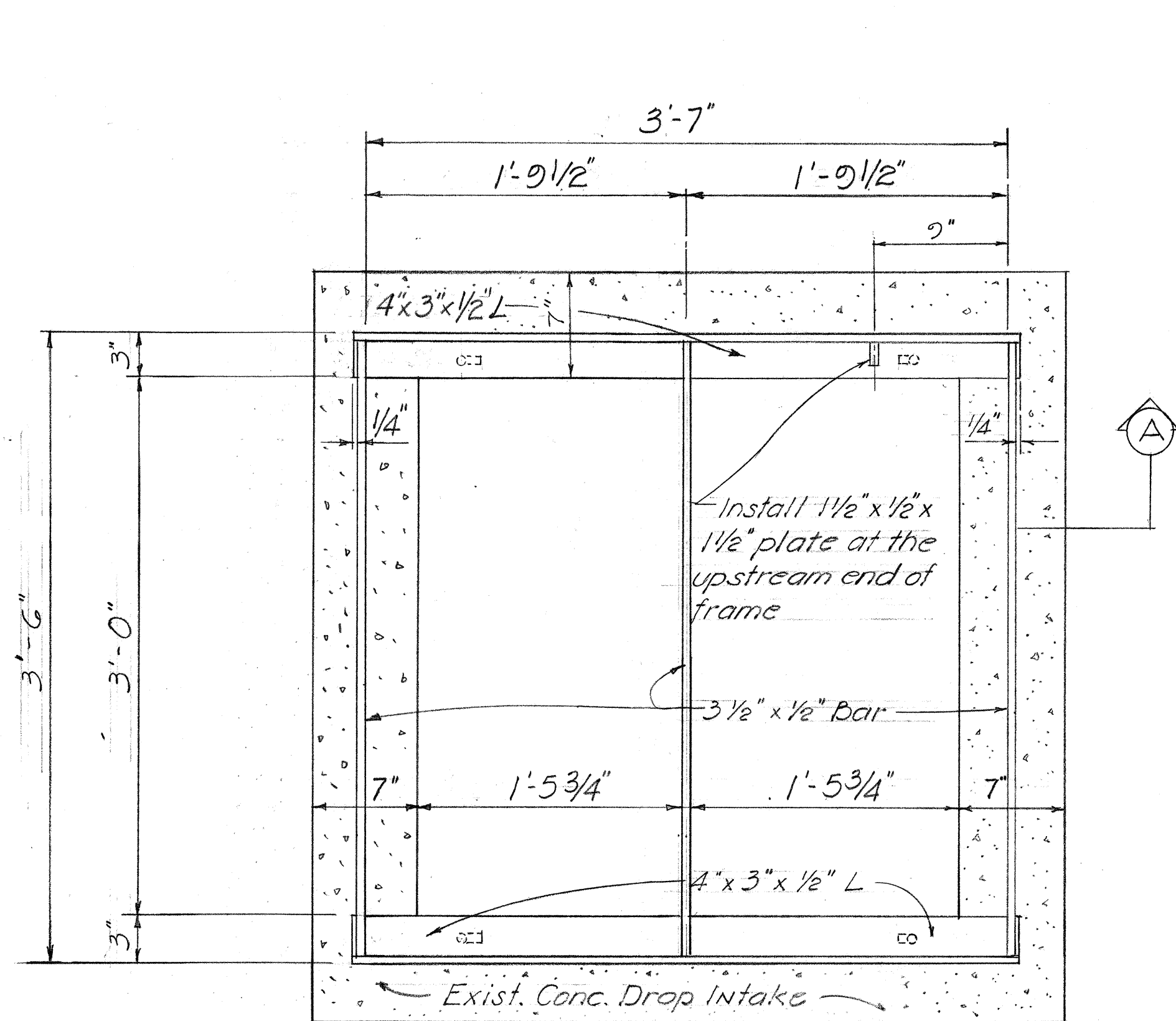
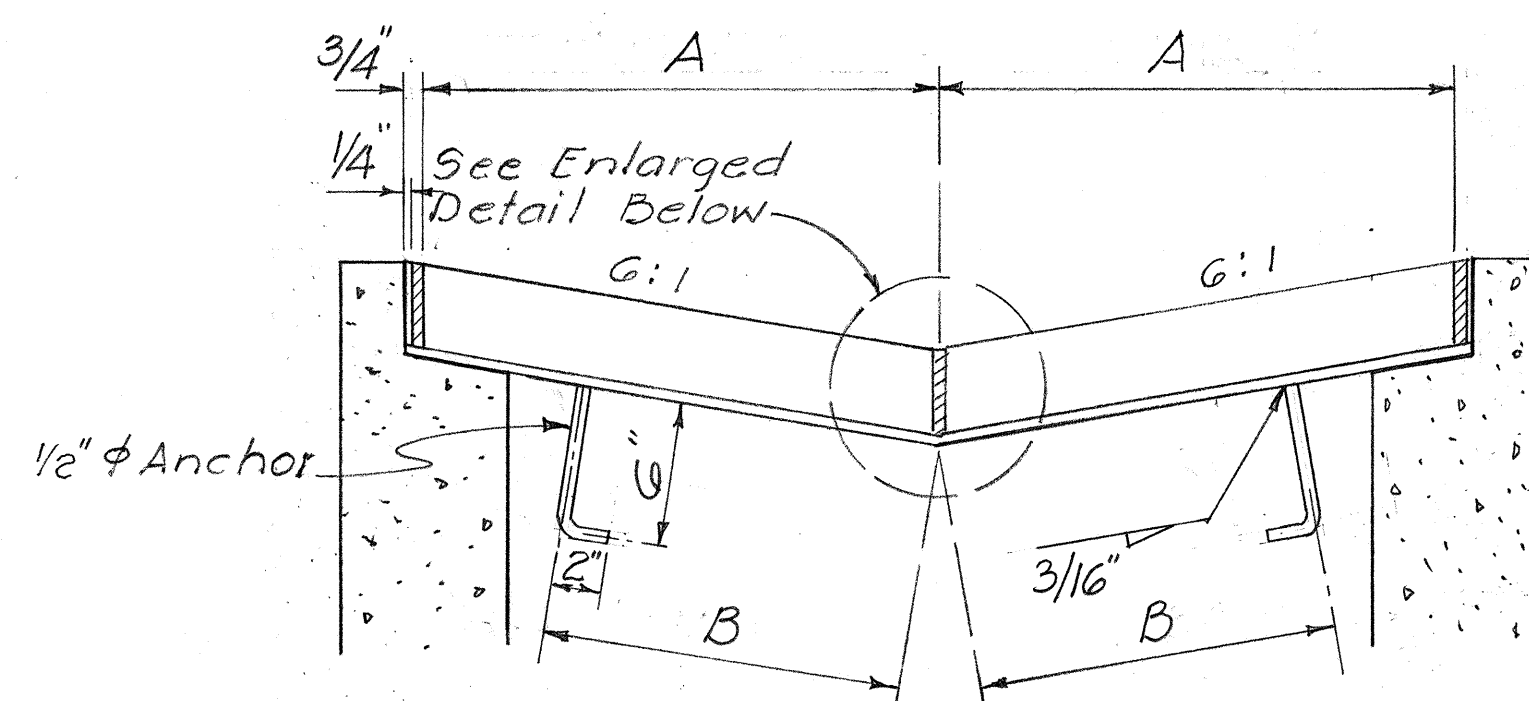


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ROS-030-1(14)	1978	10	33

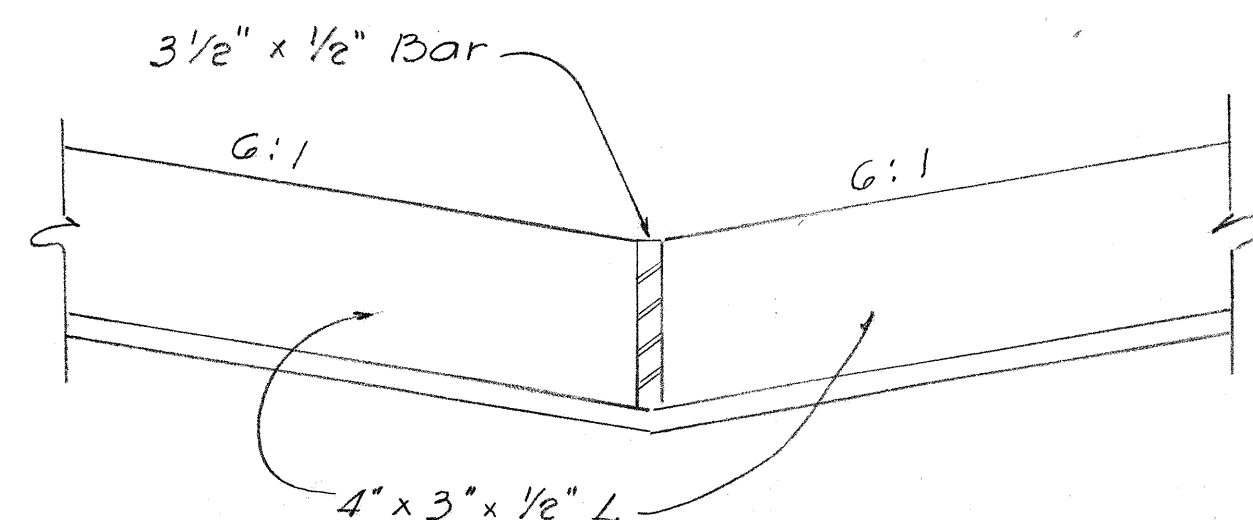


EXISTING DROP INTAKE
AT STA. 233+09.25 LT.

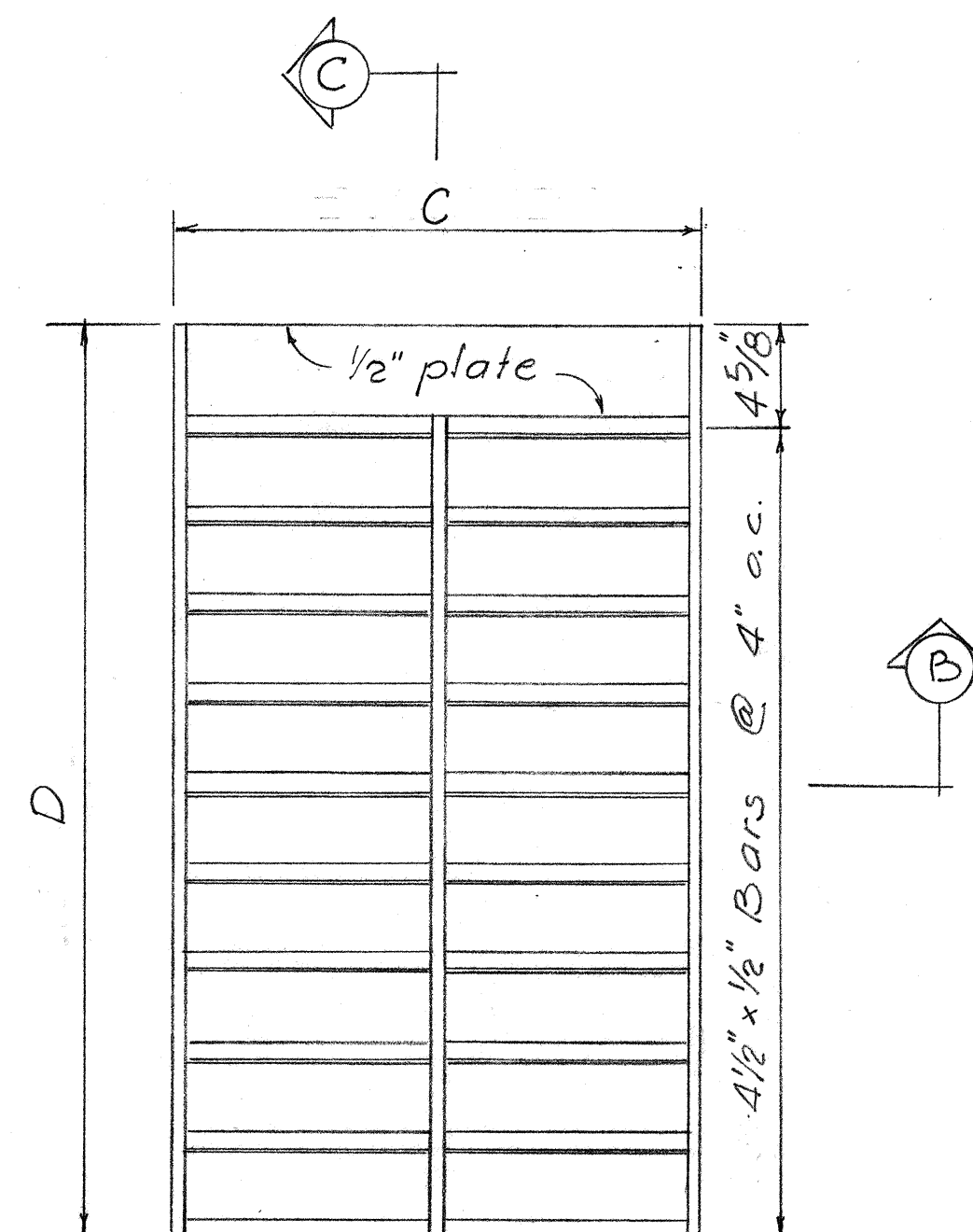
PLAN
Scale: 1/2" = 1'-0"



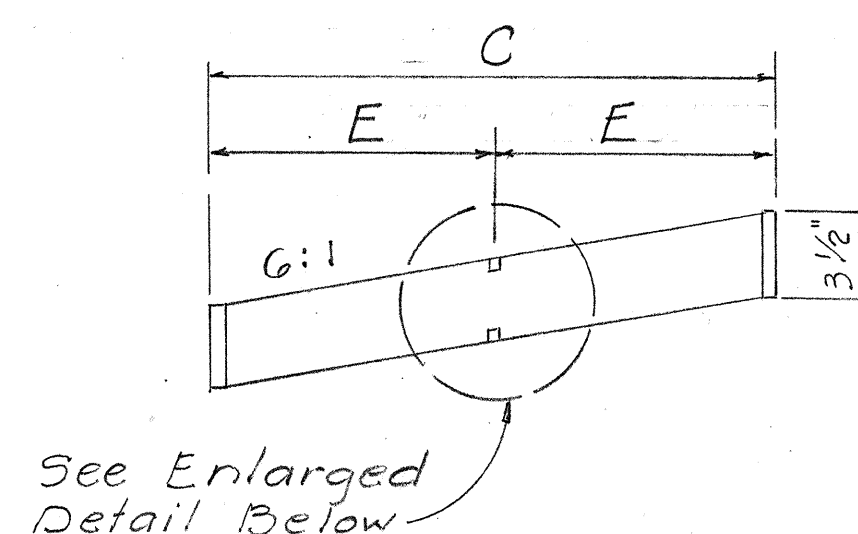
SECTION "A-A"
Scale: 1/2" = 1'-0"



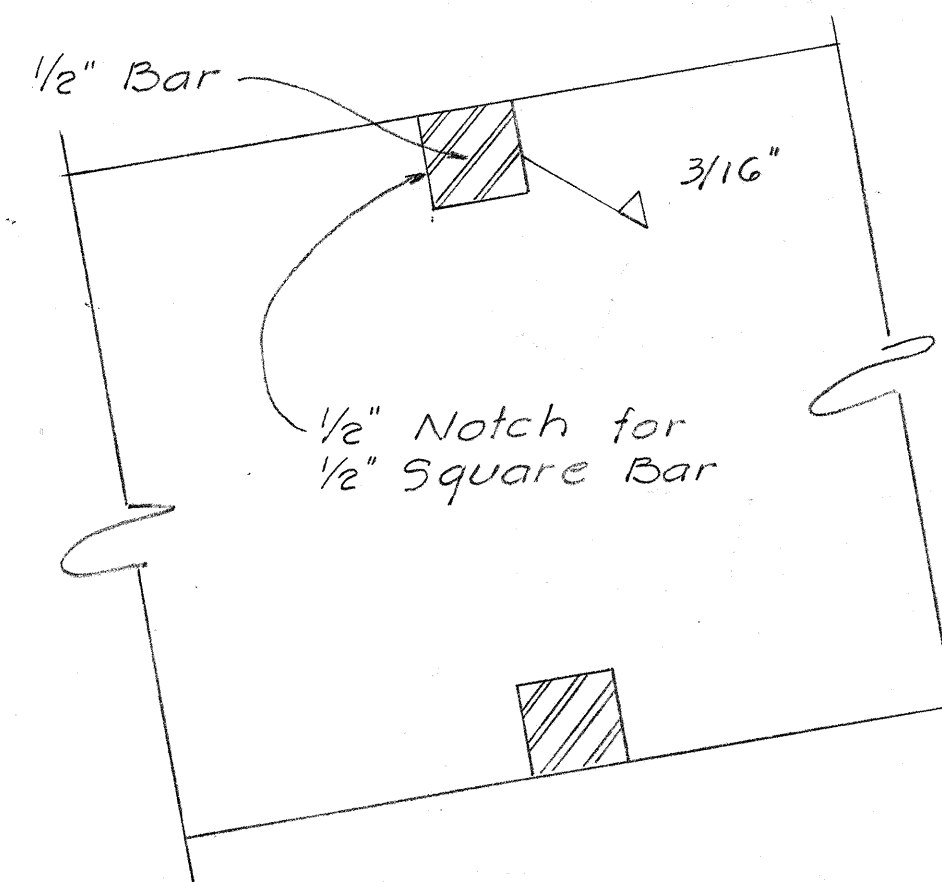
FRAME
Scale: 3" = 1'-0"



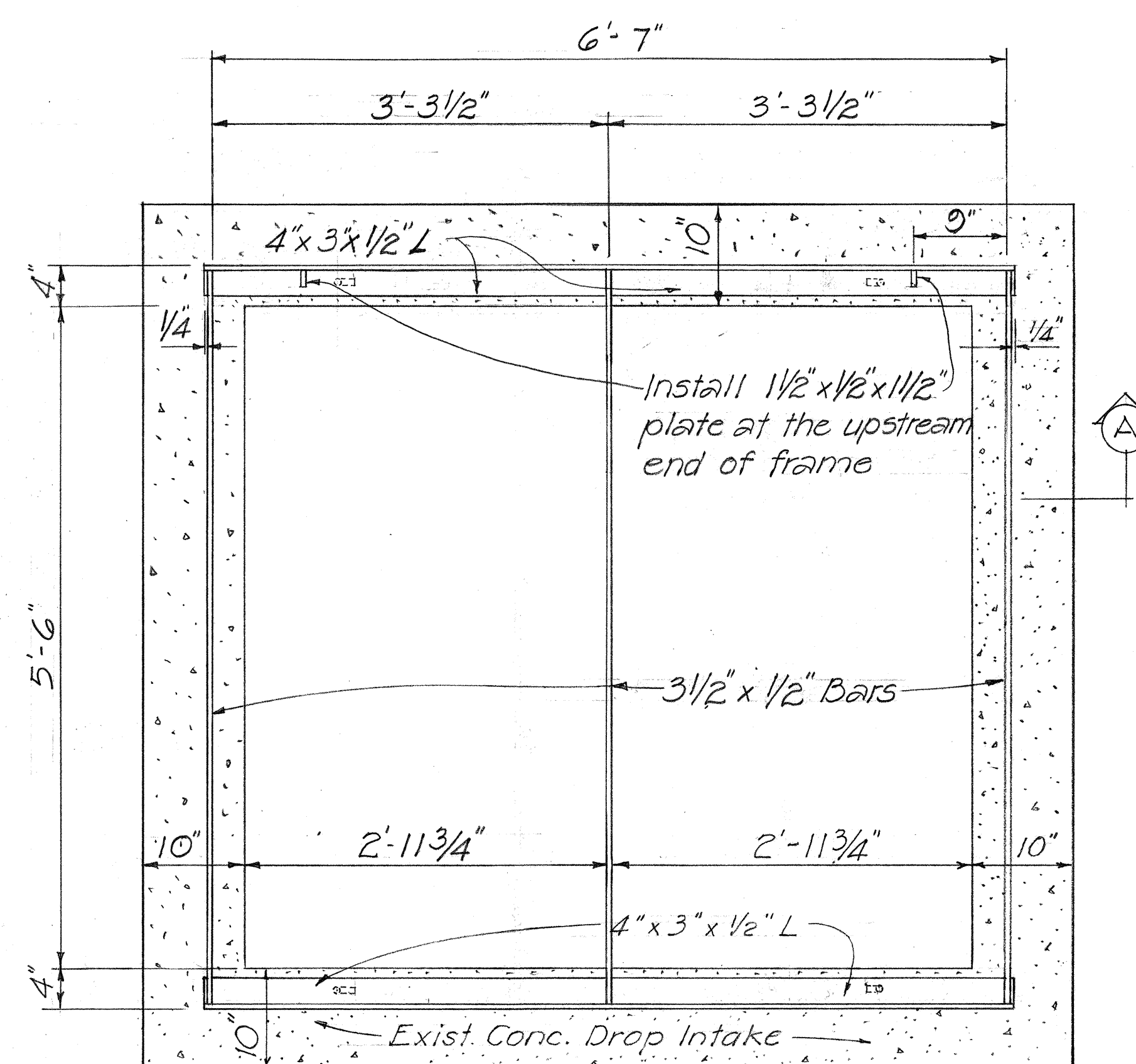
PLAN
Scale: 1/2" = 1'-0"



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

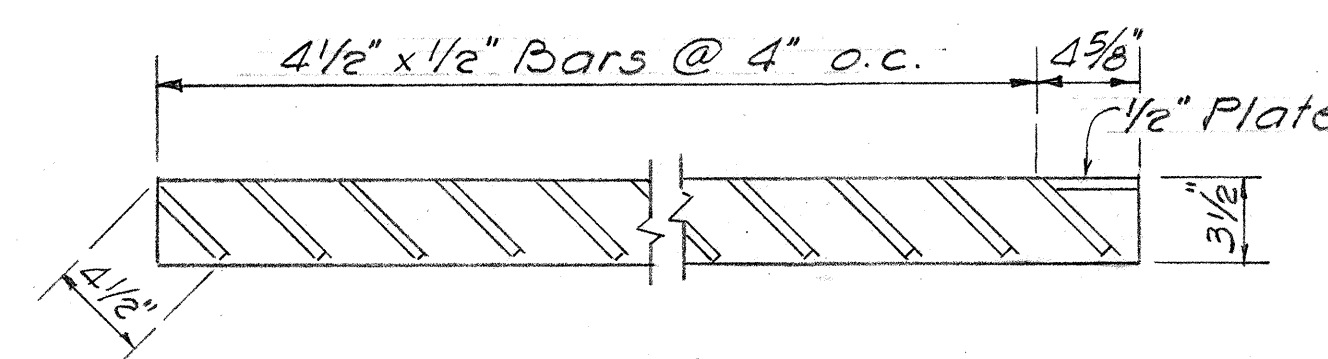


GRATE
Scale: Full Size



EXISTING DROP INTAKE
AT STA. 240+35 LT.

PLAN
Scale: 1" = 1'-0"



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

Station	A	B	C	D	E
233+09.25 Lt.	1'-0 1/2"	1'-3"	1'-9"	3'-4 5/8"	10 1/2"
240+35 Lt.	3'-3 1/2"	2'-3"	3'-3"	6'-0 5/8"	1'-7 1/2"

NOTES

- Grates and Frames shall be hot dip galvanized after fabrication, see specification.
- All welds 3/8" unless otherwise noted.
- The frame and grate materials shall conform to the specifications of ASTM Designation Structural Steel A283, Grade D and the Standard Specifications.
- Finish grade elevations of Conc. Drop Intake to be reconstructed are designated on plans by "H", height on top of grating from existing pipe inverts. Backfilling, excavating and grading shall be considered to be incidental to reconstructing or constructing of Conc. Drop Intake.
- New Conc. Drop Intakes at Sta. 107+13± Rt., Sta. 55+35 Rt. and Sta. 38+40 Rt., shall meet the requirements of Section 601, Structural Concrete and shall be class A and shall be cured in accordance with the requirements of Section 503, Concrete Structures.
- For additional notes, see sht. No 12.
- Reconstruction of Drop Intakes at Sta. 233+09.25 Lt., Sta. 240+35 Lt. and Sta. 79+17 Rt. will be paid for under Item 668.01.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE DETAILS
CONC. DROP INTAKE, FRAME & GRATE
HONOLULU HIGHWAY
F.A. Proj. No. ROS-030-1(14)

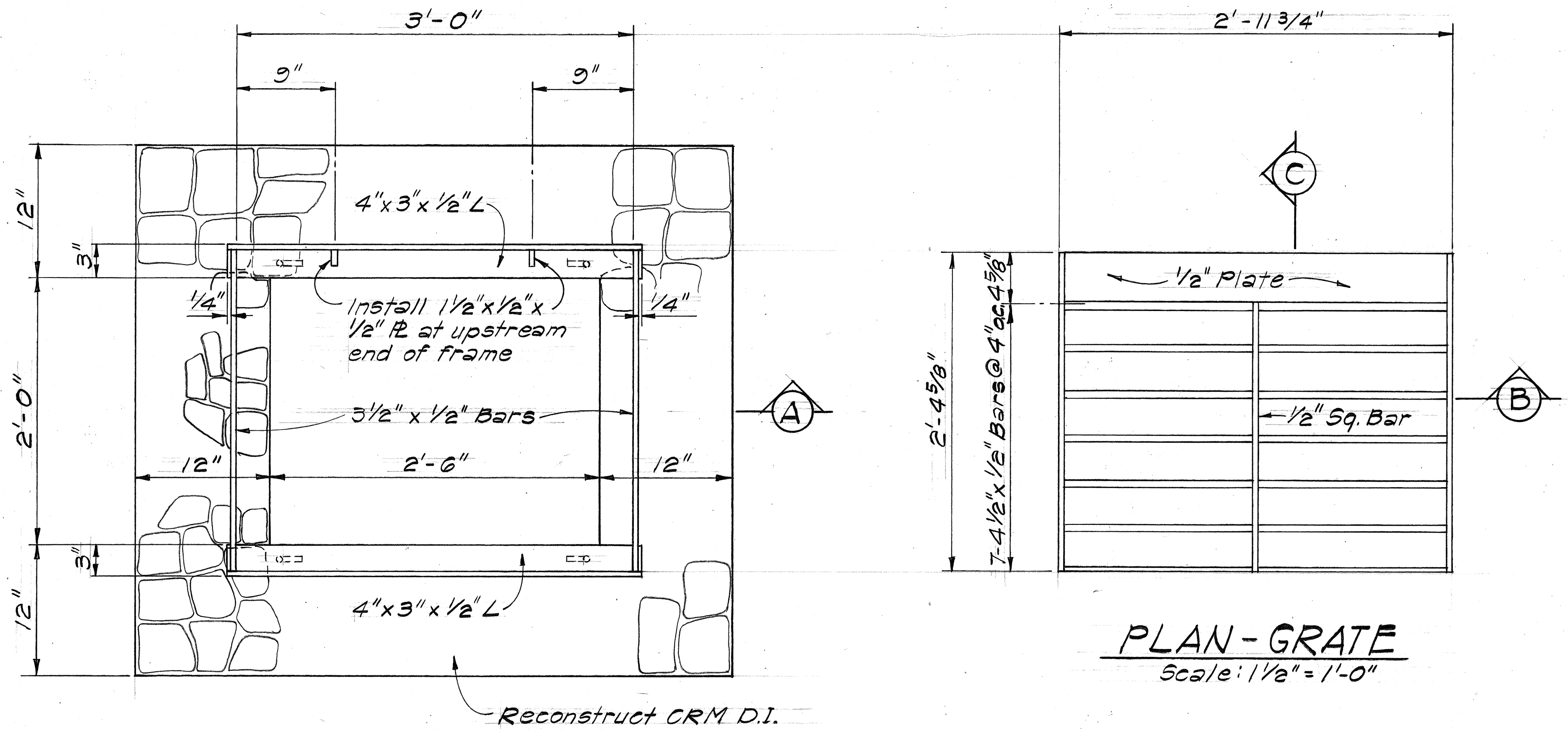
Scales: As Shown Aug. 1978

SHEET No. 1 OF 6 SHEETS

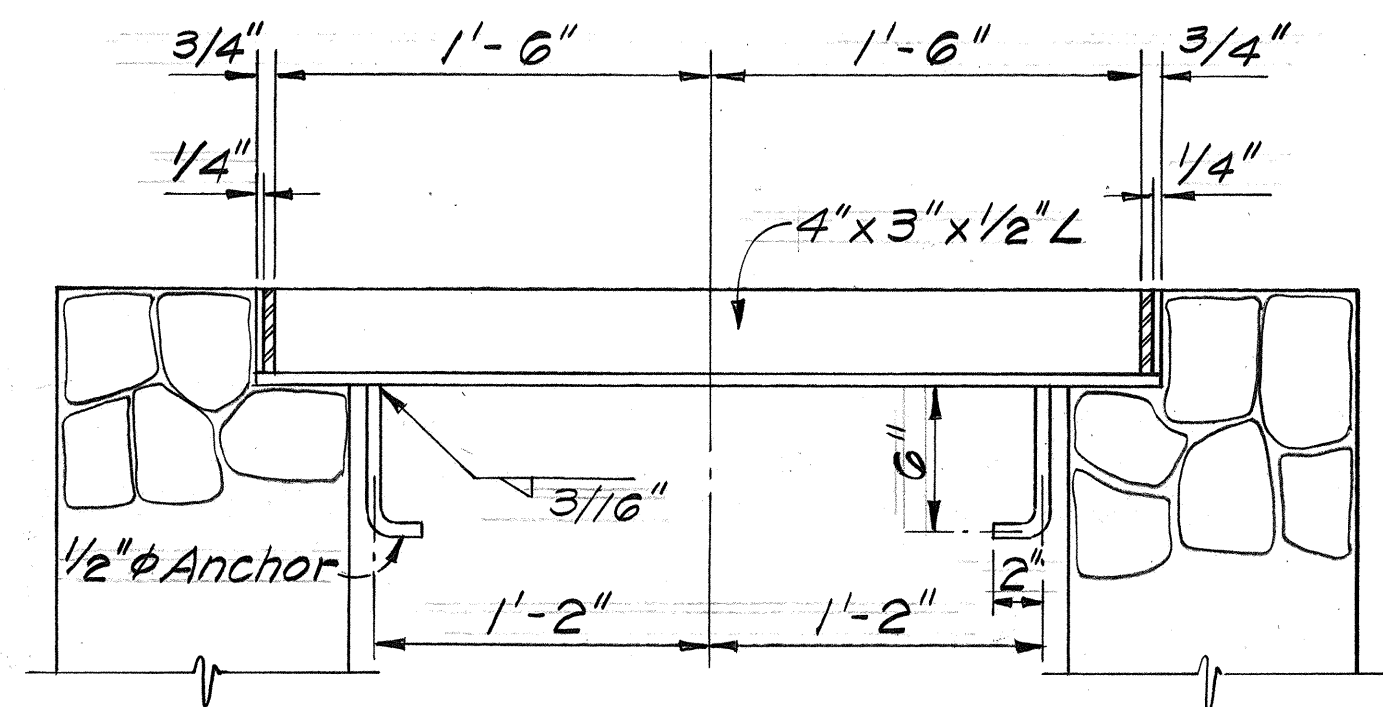
ORIGINAL PLAN	DATE
SURVEY PLOTTED BY	
DRAWN BY	
DESIGNED BY	
NOTED BY	
CHECKED BY	
NO.	

DETAILS OF TYPE GIGI4-45°
FRAME AND GRATES
Scale: As Shown

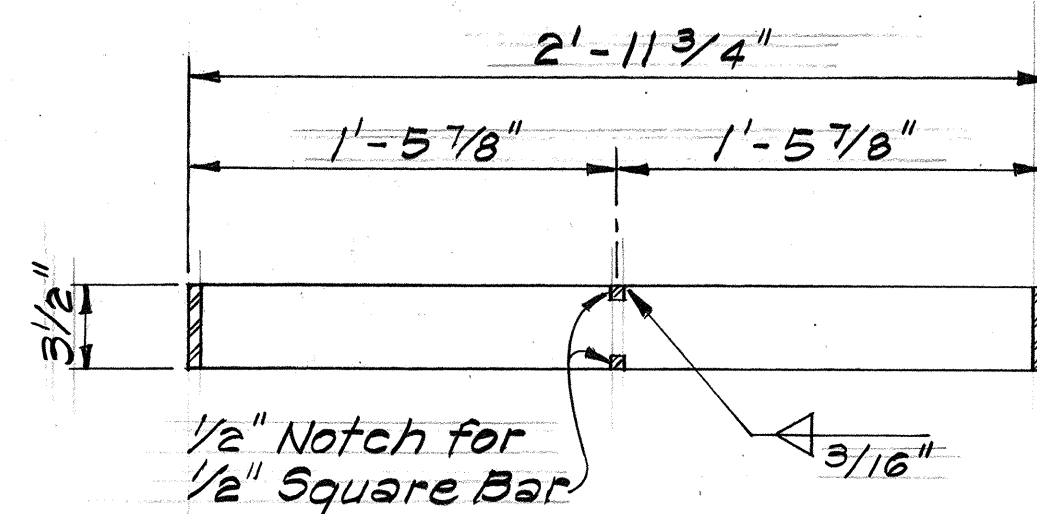
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ROS 0301(14)	1978	11	33



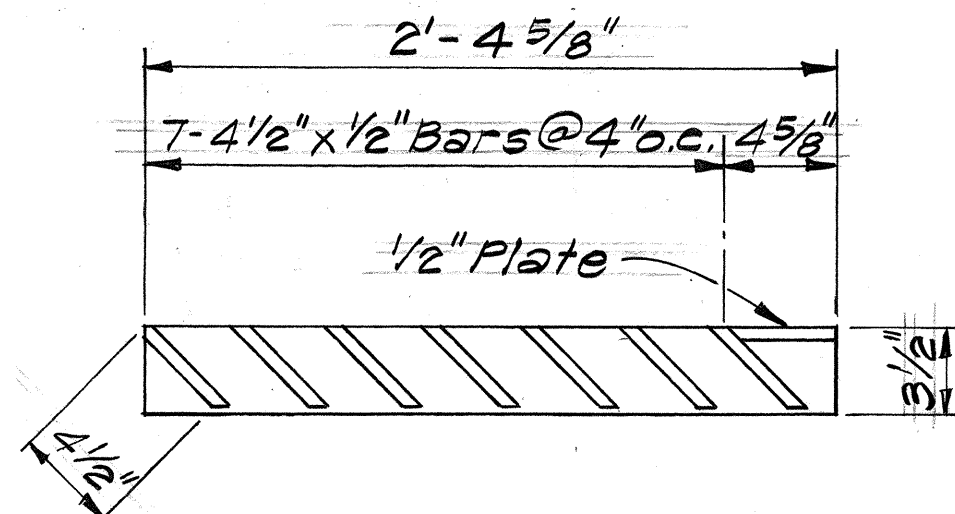
PLAN - FRAME
Scale: 1 1/2" = 1'-0"



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



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



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

EXISTING DROP INTAKE @ STA. 79 +17 RT.

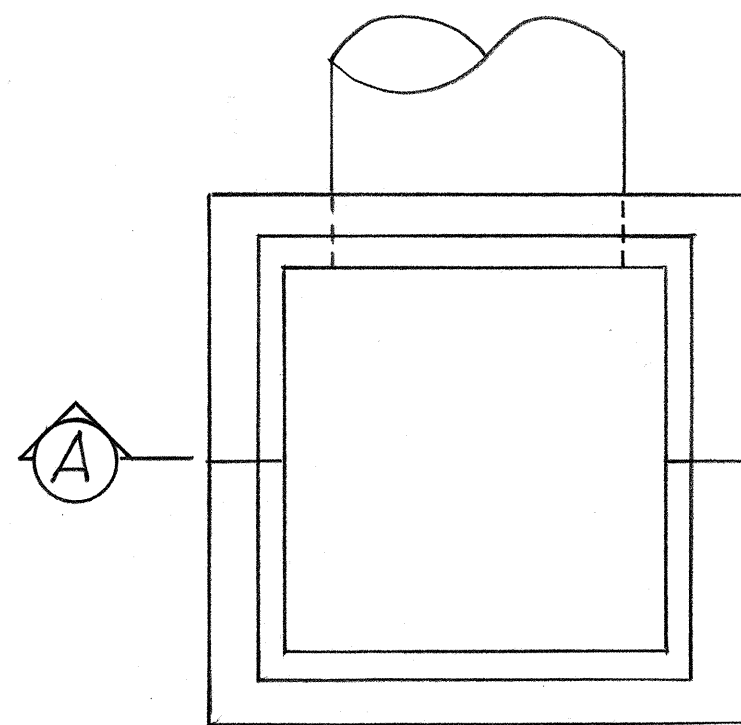
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

DRAINAGE DETAILS
CRM DROP INTAKE,
FRAME AND GRATE
HONOAPIILANI HIGHWAY
FA Proj. No. ROS-030-1(14)
Scale: As Shown Date: Jan., 1978

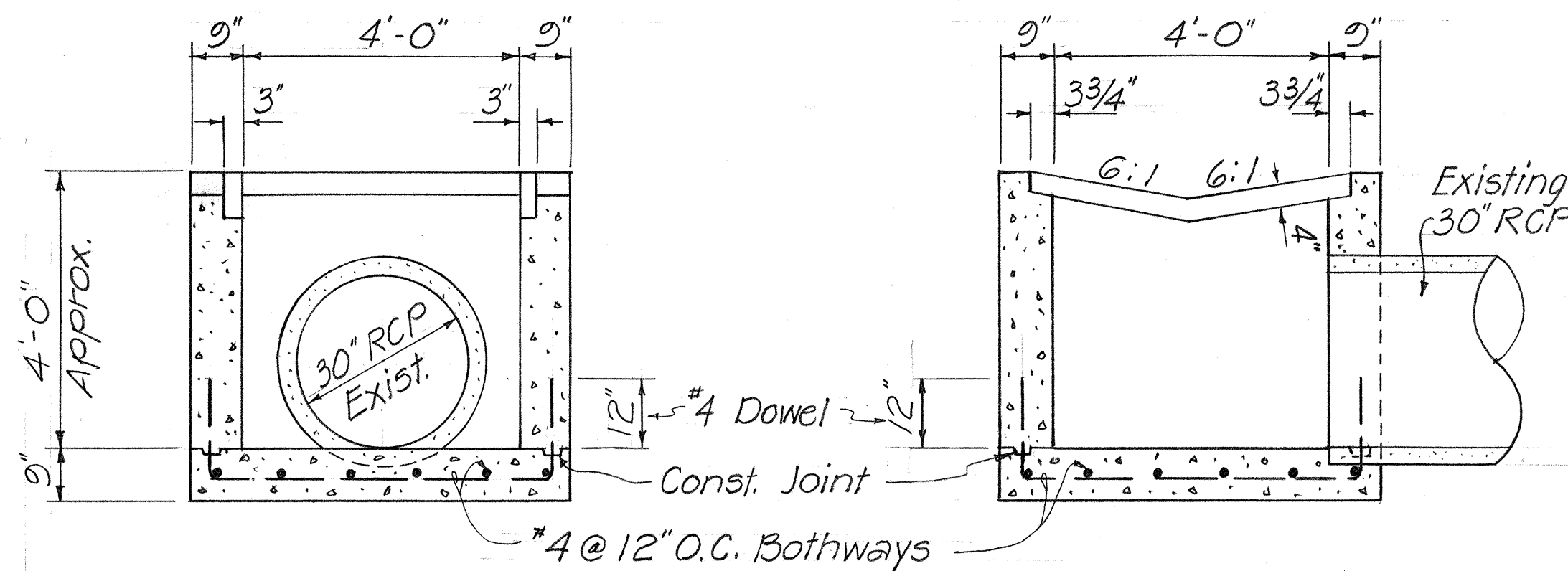
SHEET NO. 2 OF 6 SHEETS

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

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ROS-030-1(14)	1978	12	33

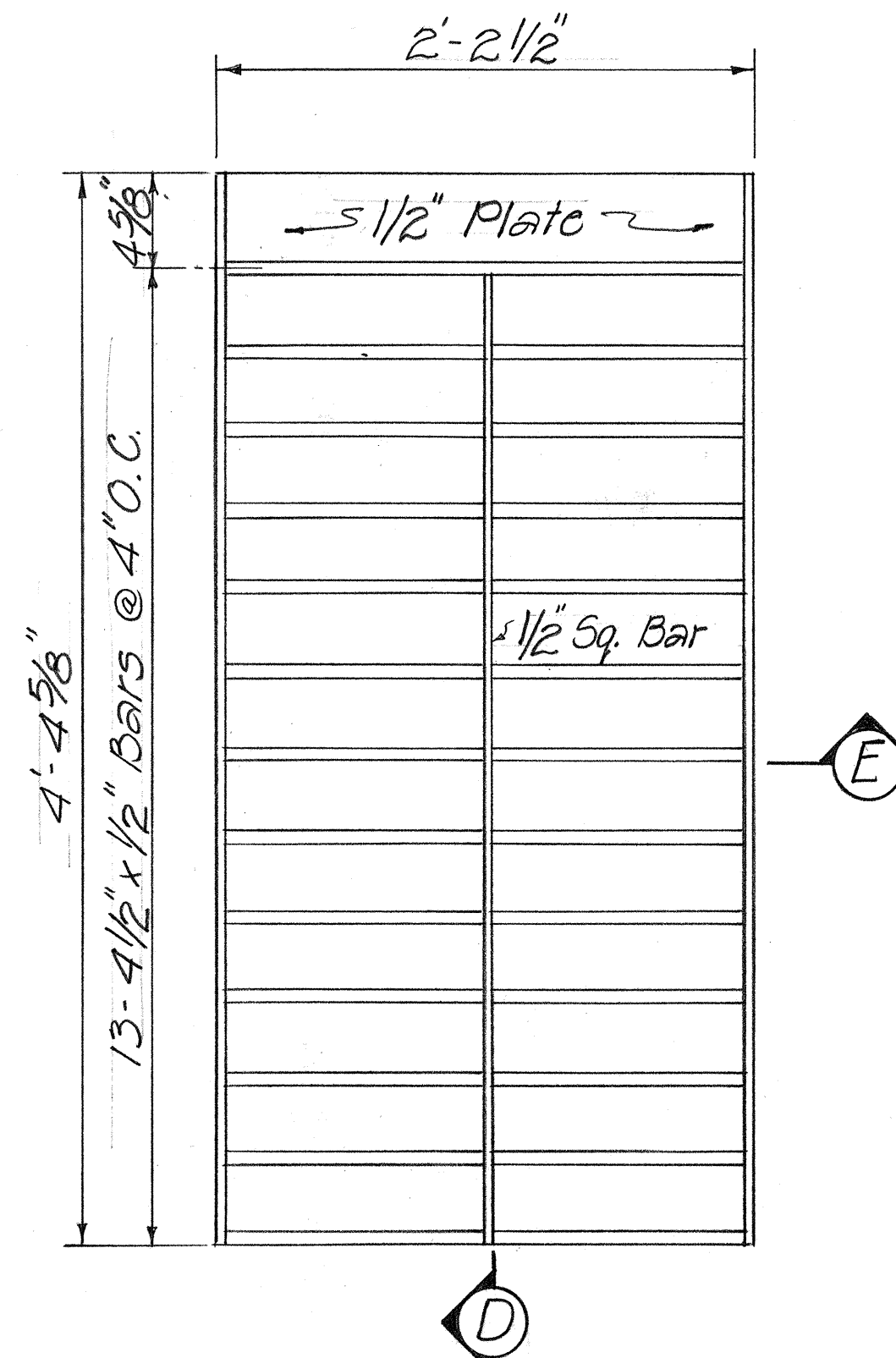


PLAN
Scale: 1/2"=1'-0"

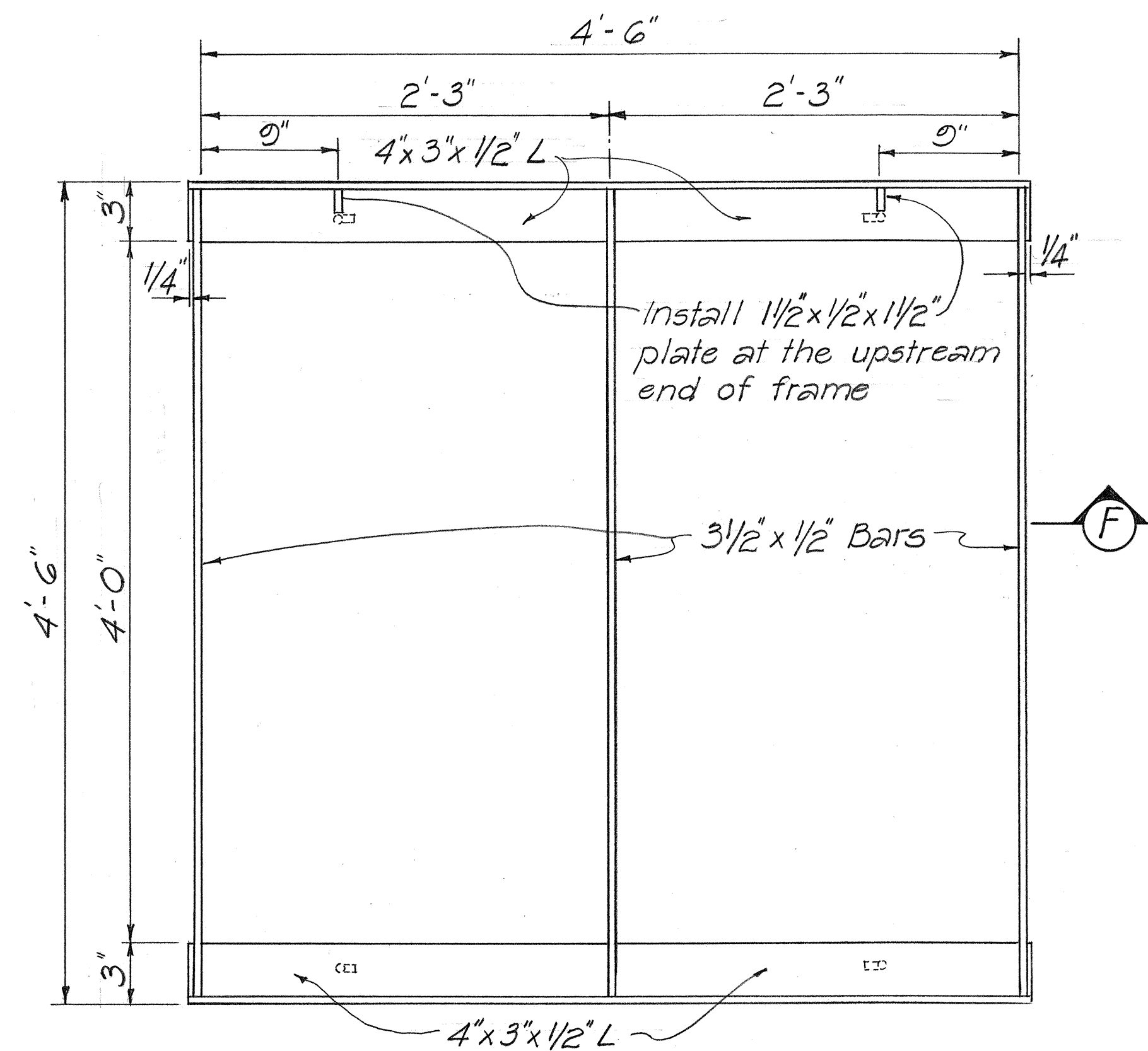


SECTION "A"
Scale: 1/2"=1'-0"

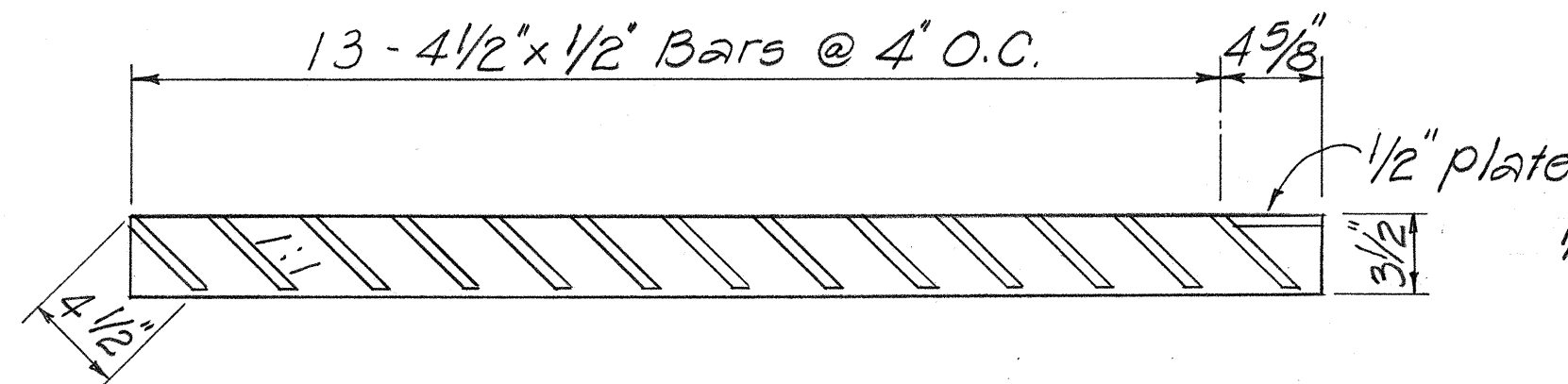
SECTION "B"
Scale: 1/2"=1'-0"



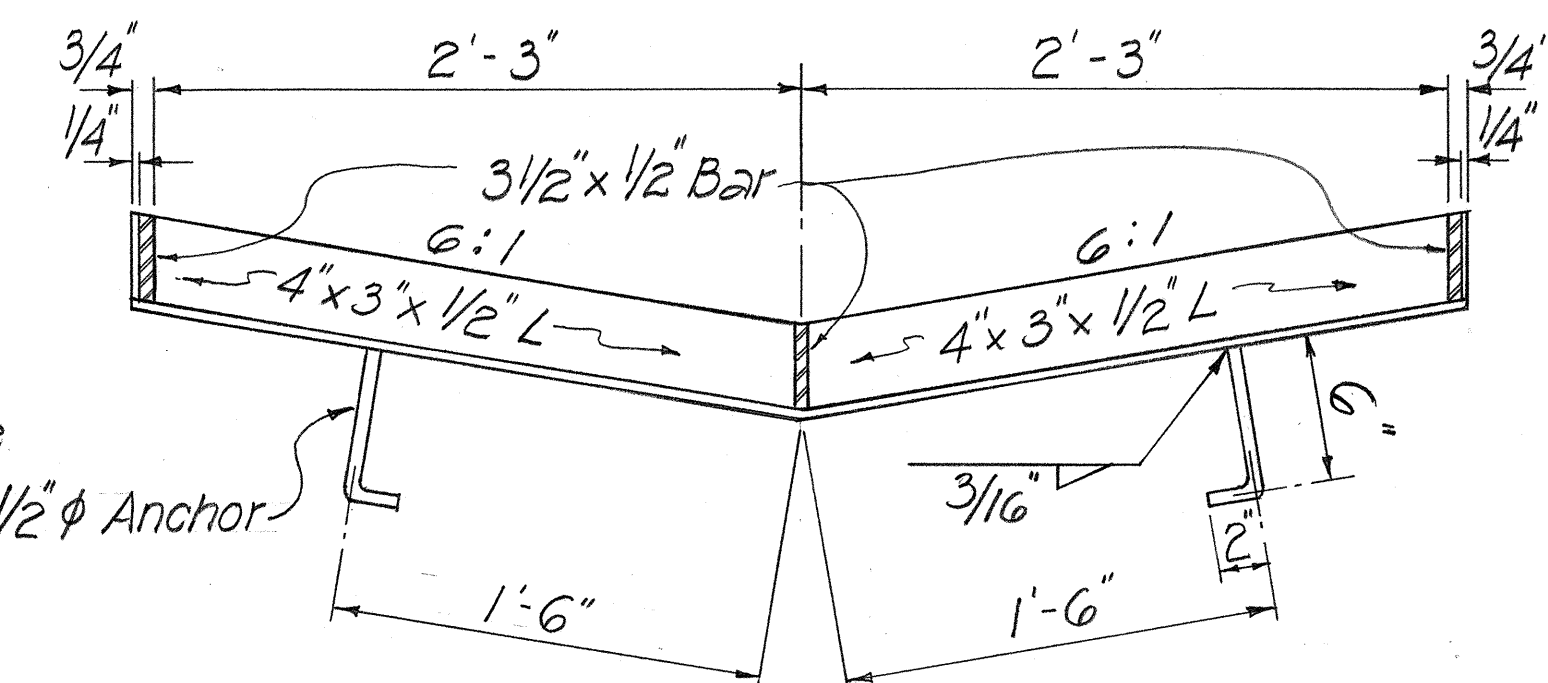
PLAN - GRATE
Scale: 1/2"=1'-0"



PLAN - FRAME
Scale: 1/2"=1'-0"



SECTION "D"
Scale: 1/2"=1'-0"



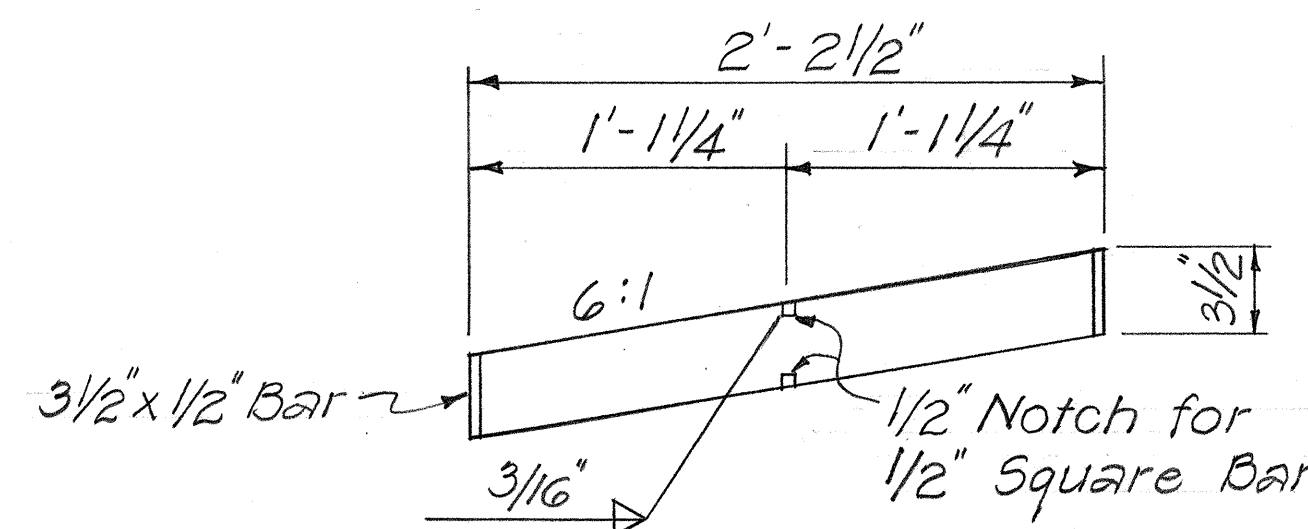
SECTION "F"
Scale: 1/2"=1'-0"

NOTES

- All concrete shall be Class A unless otherwise noted.
- Exposed edges of all drainage structures shall be chamfered one inch.
- Culvert shall enter and leave Drop Intake from any position and in the direction indicated by the plans or ordered by the Engineer.
- Manhole Rungs (12" o.c.) are required when "H" is greater than 4'-6". Only one rung (16" from the bottom) is required if "H" is 4'-6" or less. Manhole Rungs may be placed at any location as ordered by the Engineer. Manhole rungs to be incidental to item 503.0000
- All reinforced steel to be incidental to Class A Concrete, item 503.0000.
- For additional notes, see sht. No. 10

CONC. DROP INTAKE AT

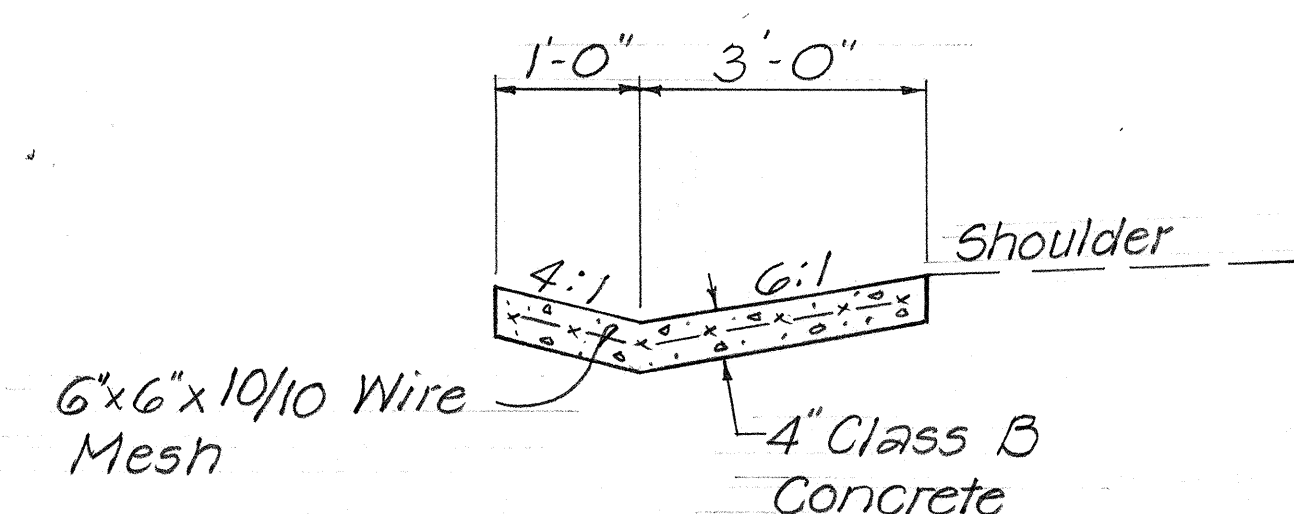
Sta. 55 + 35 ± R.I.
Sta. 38 + 40 ± R.I.
Sta. 107 + 13 ± R.I.



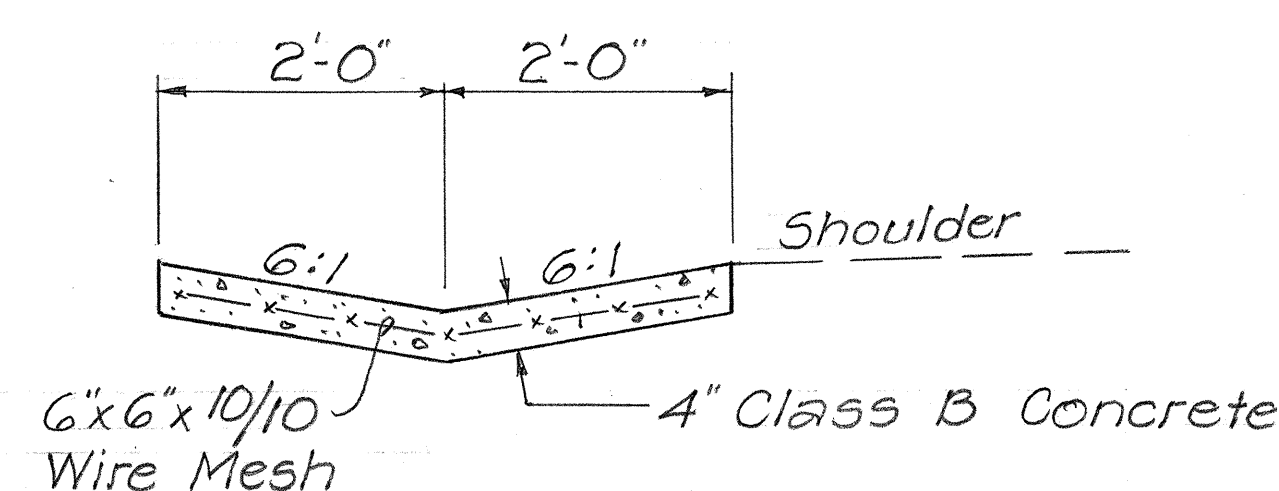
SECTION "E"
Scale: 1/2"=1'-0"

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
DRAINAGE DETAILS
CONC. DROP INTAKE,
FRAME AND GRATE
HONOLULU HIGHWAY
F.A. PROJ. NO. ROS-030-1(14)
SCALE: AS SHOWN DEC. 1976
SHEET NO. 3 OF 6 SHEETS

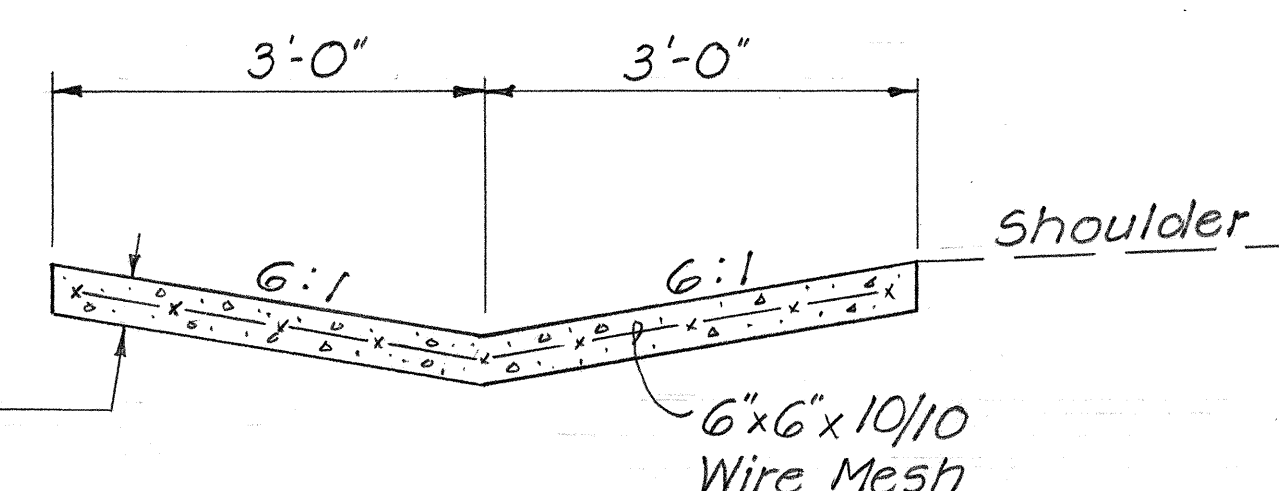
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ROS-030-1(14)	1978	13	33



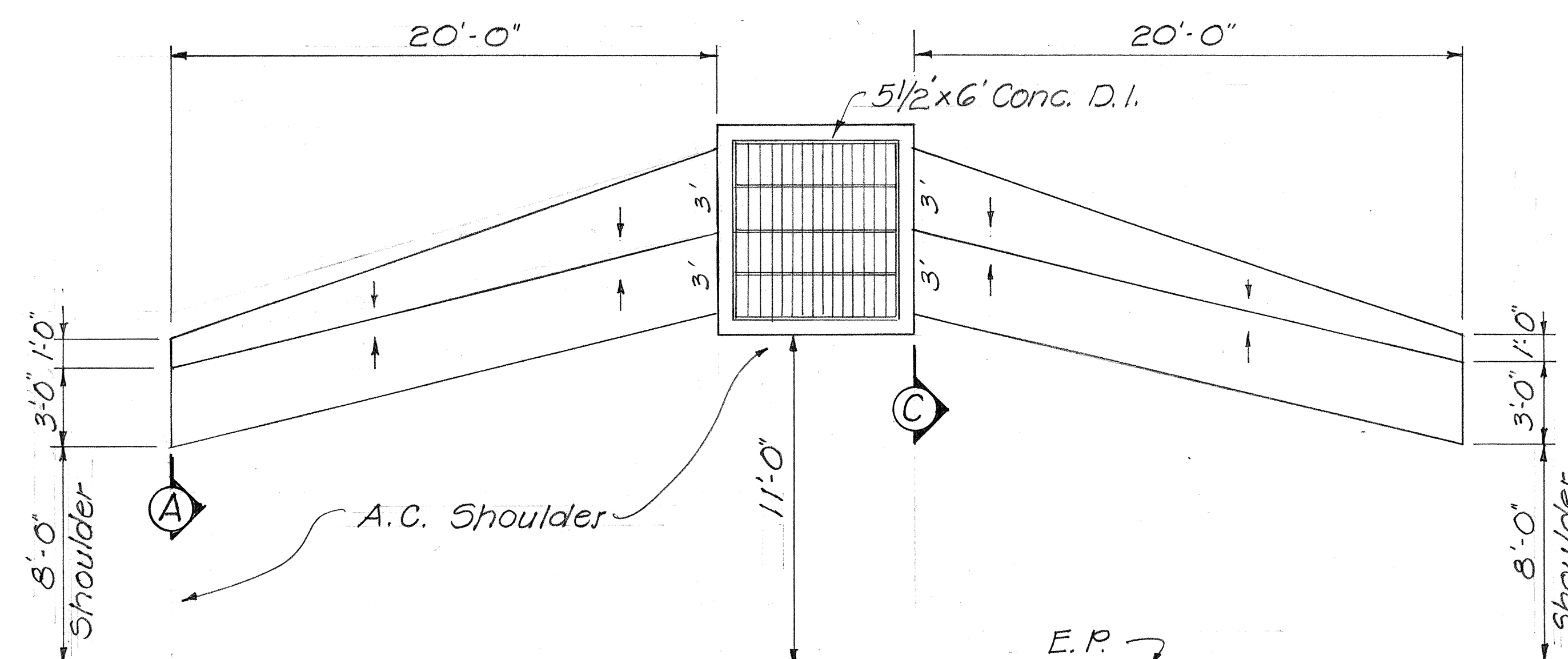
SECTION "A"
Scale: $\frac{3}{4}$ " = 1'-0"



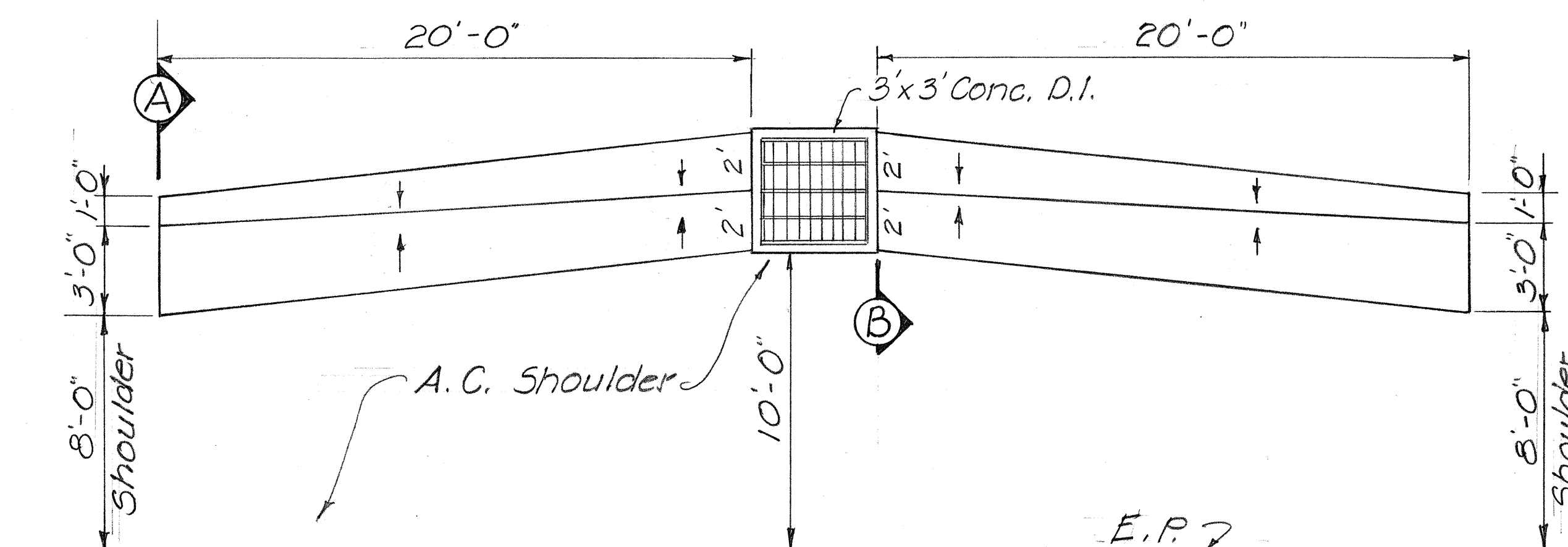
SECTION "B"
Scale: $\frac{3}{4}$ " = 1'-0"



SECTION "C"
Scale: $\frac{3}{4}$ " = 1'-0"

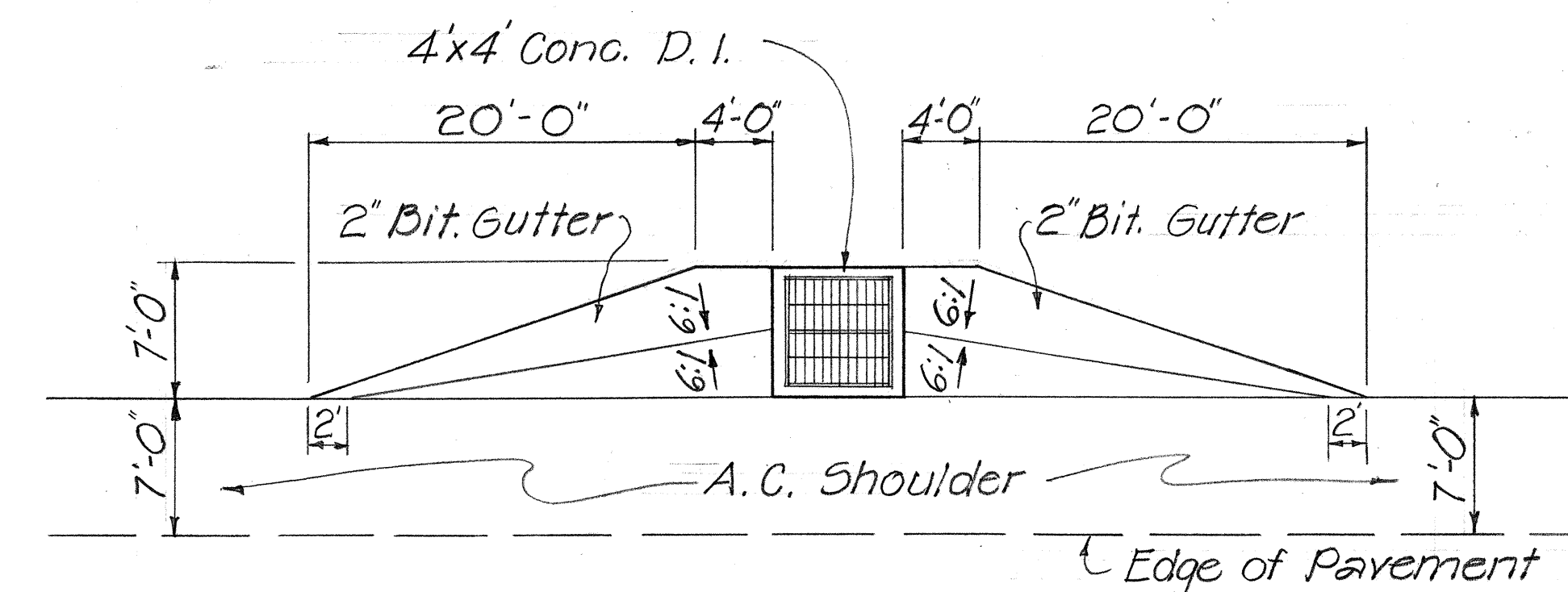
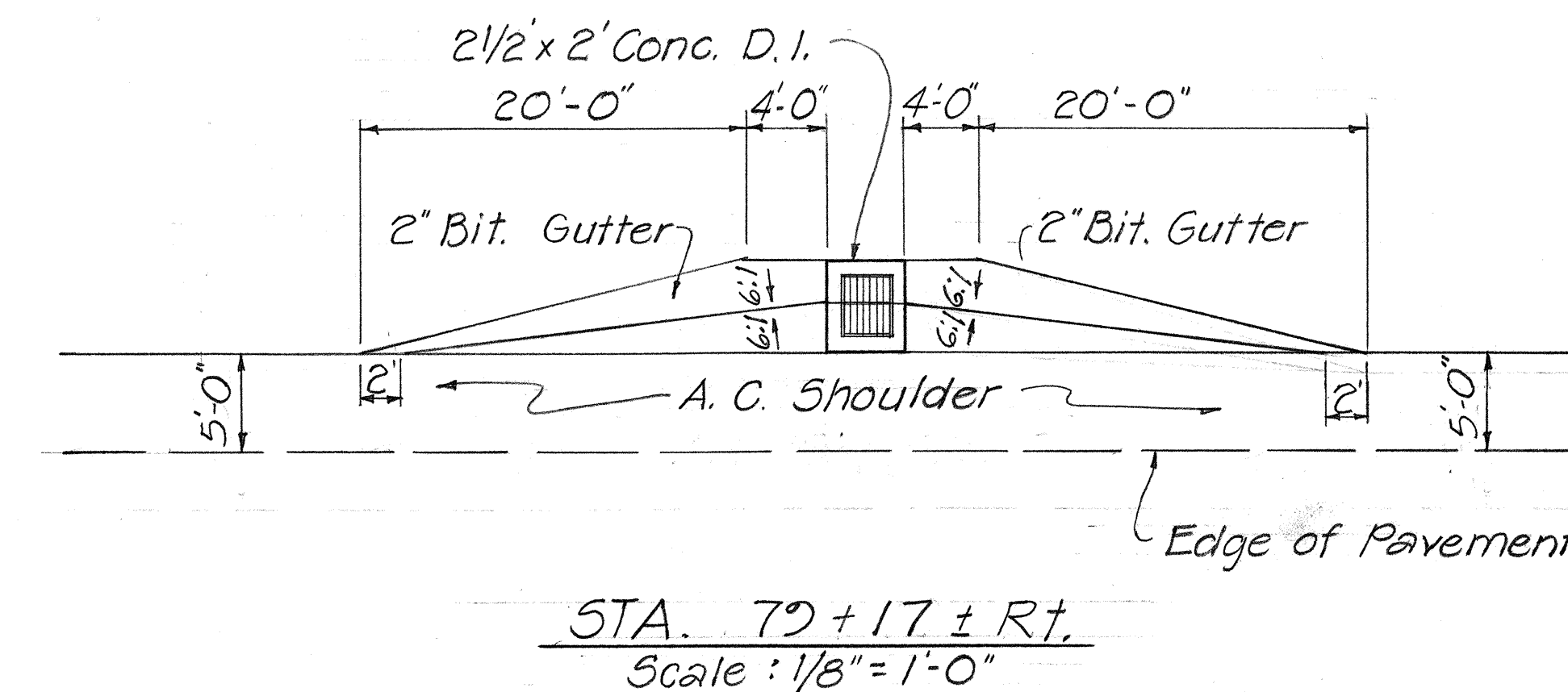
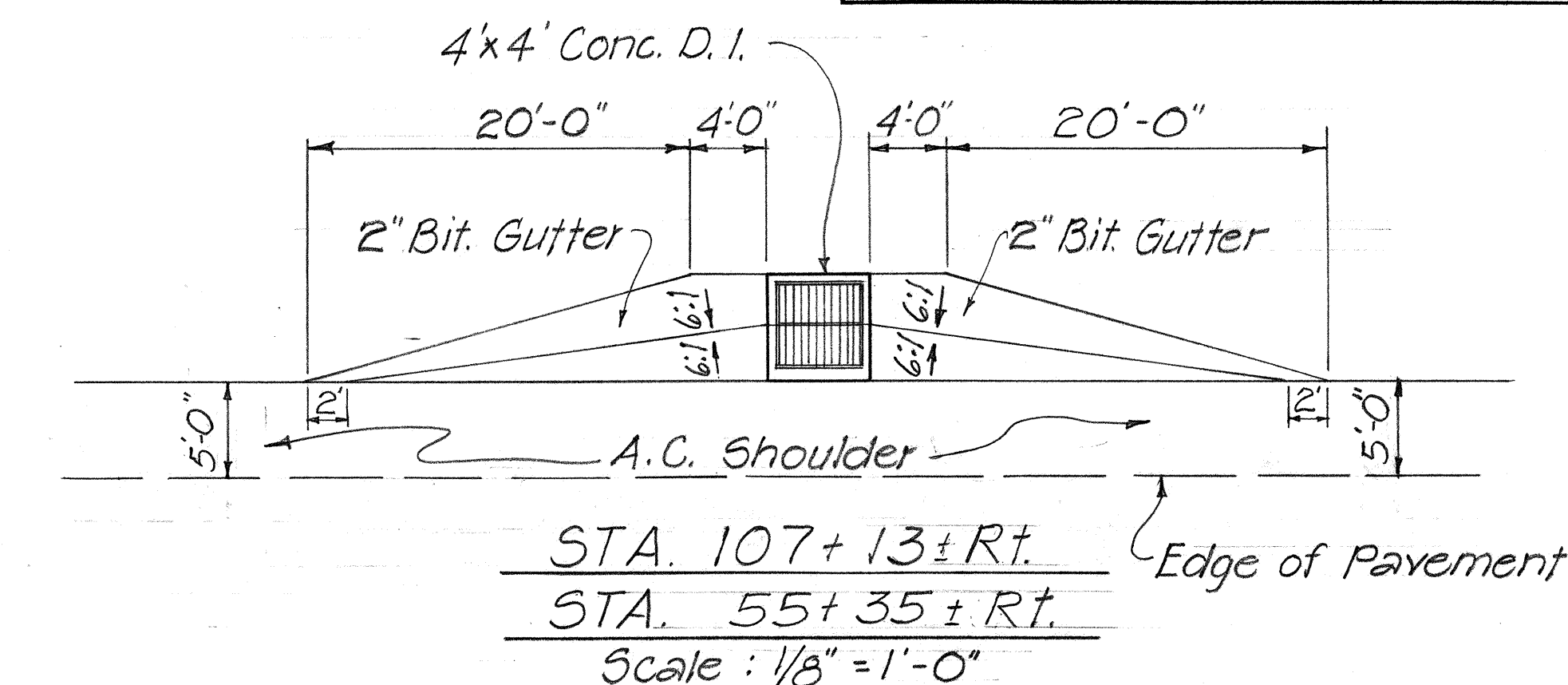


STA. 240+35 LT.
Scale: $\frac{1}{4}$ " = 1'-0"



STA. 233+02.25 LT.
Scale: $\frac{1}{4}$ " = 1'-0"

GUTTER TYPE 2 (MODIFIED)



STA. 38+40 ± R.L.
Scale: $\frac{1}{8}$ " = 1'-0"

BITUMINOUS GUTTER TYPE 7 (MODIFIED)

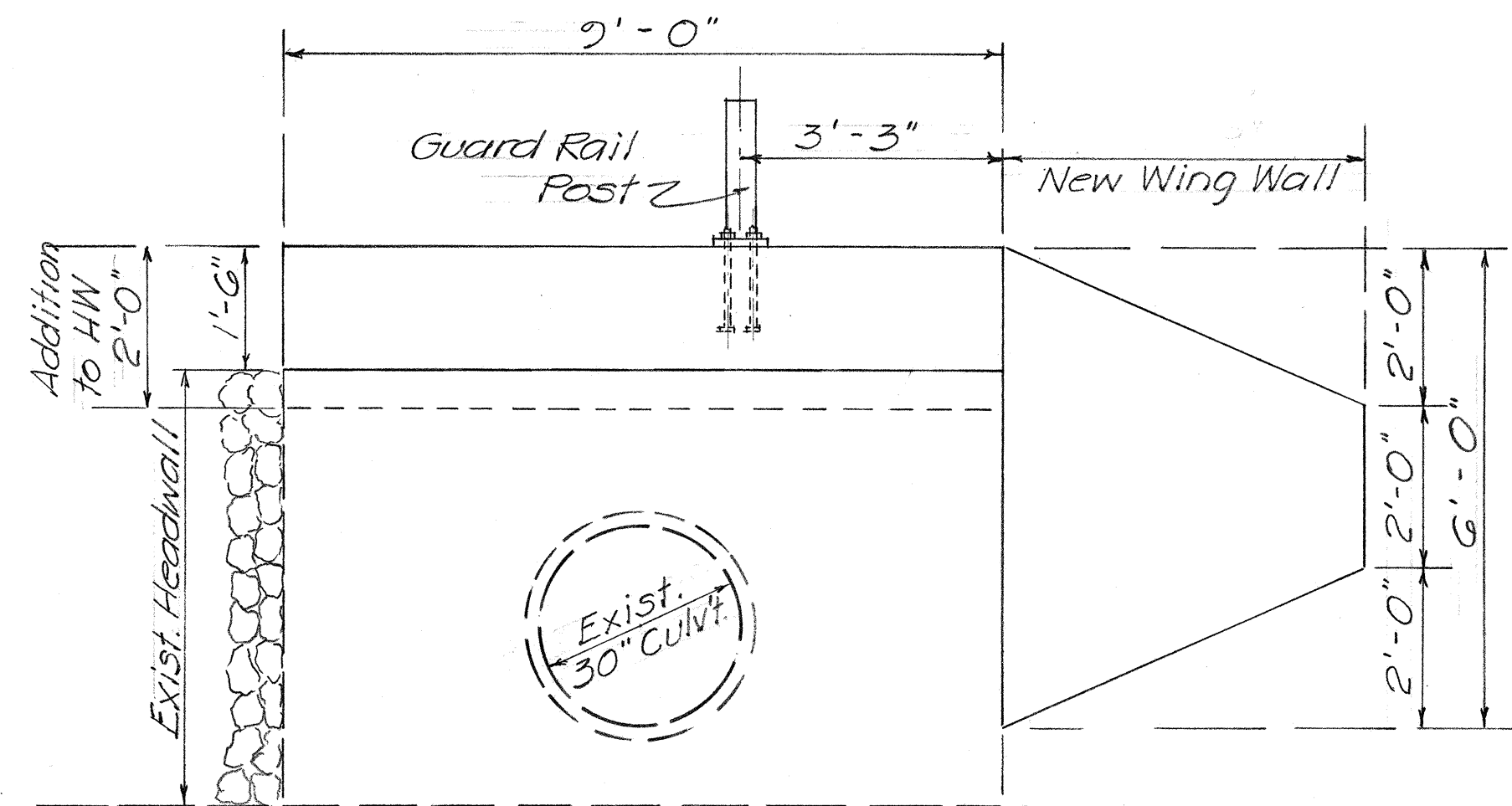
GUTTER NOTES

1. Wire mesh reinforcement shall be considered incidental to gutter.
2. For additional requirements, see Section 609 of the Specification.
3. Item 609.2617, 609.2618, and 609.7700-Concrete and Bituminous Gutters (Modified) shall require the same aggregate base course as the shoulder widening sections and in accordance with Section 609 of the Standard Specifications.

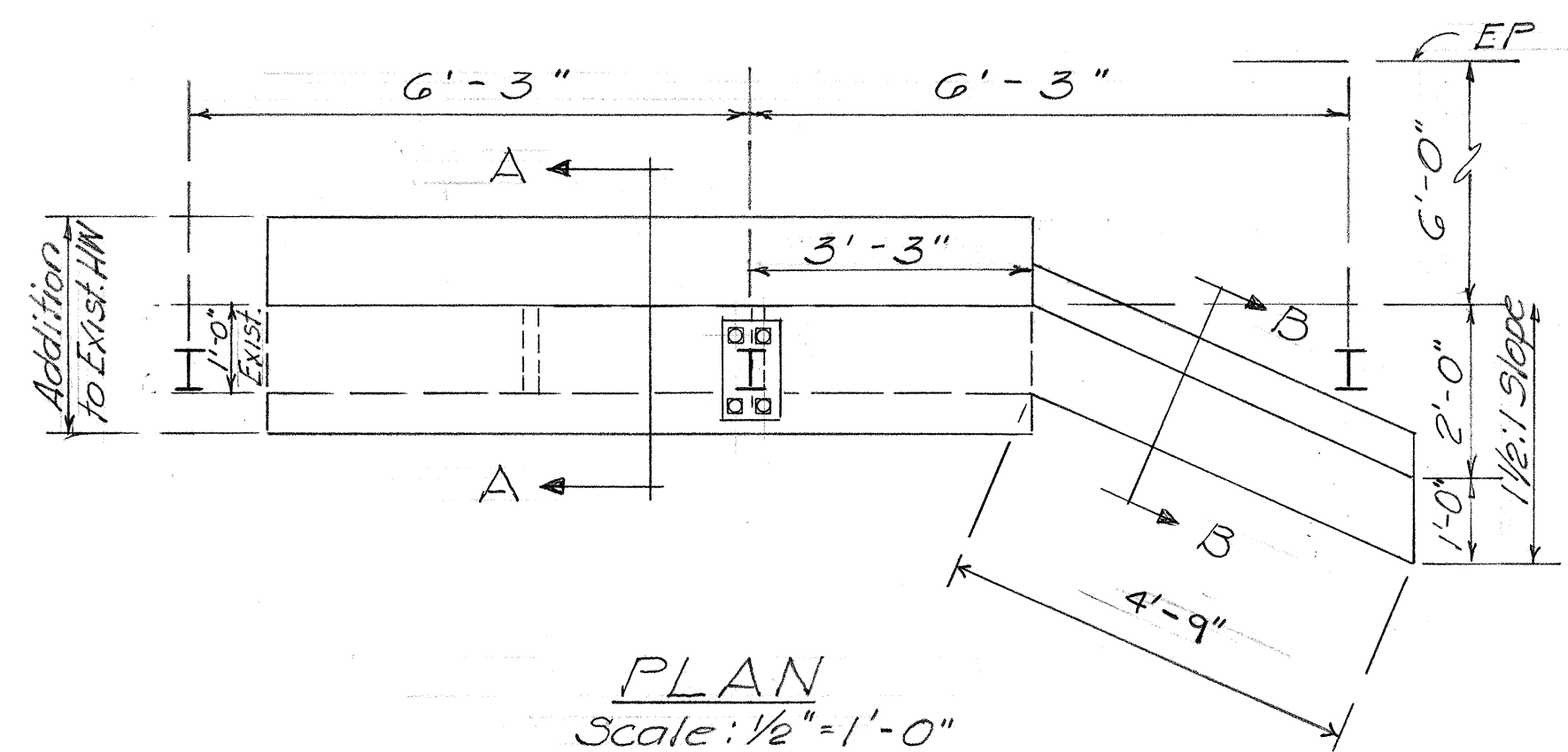
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
DRAINAGE DETAILS
CONCRETE & BIT. GUTTER
HONOAPIILANI HWY.
F.A. PROJ. NO. ROS-030-1(14)
SCALE: AS NOTED
JAN. 1977
SHEET NO. 4 OF 6 SHEETS

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

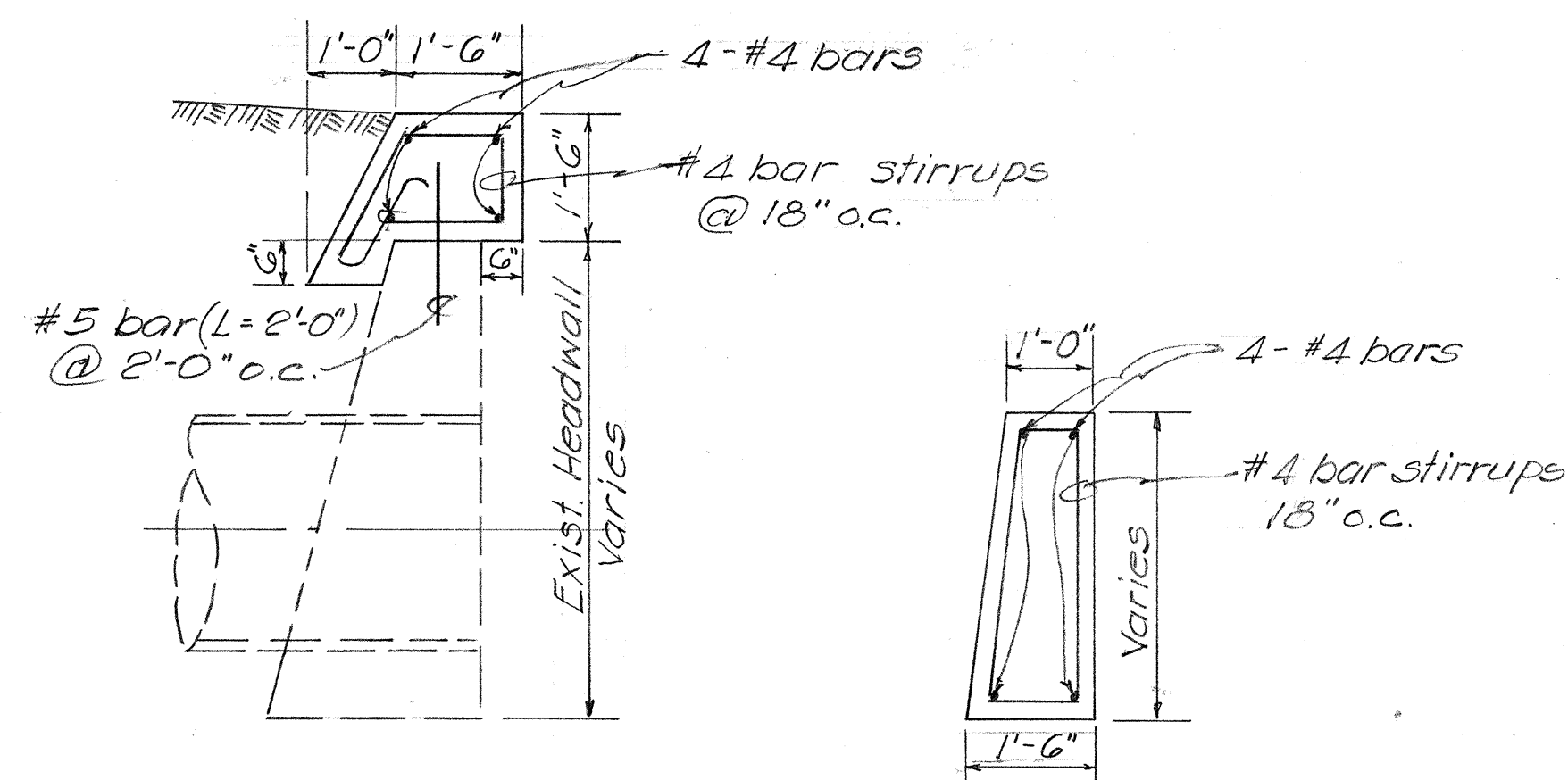
ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
	DESIGNED BY	
	QUANTITIES BY	
	CHECKED BY	
No.		



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



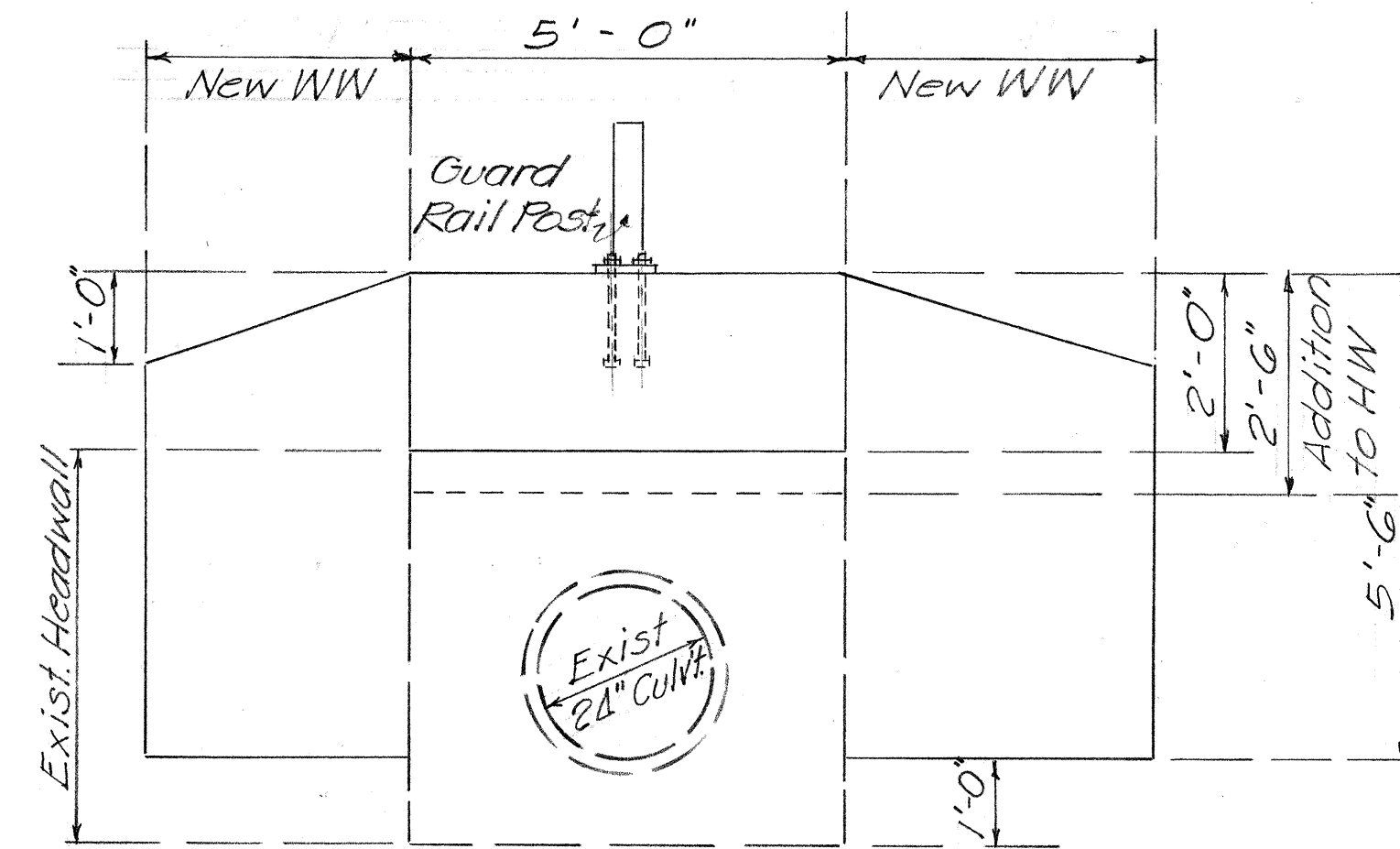
PLAN
Scale: 1/2" = 1'-0"



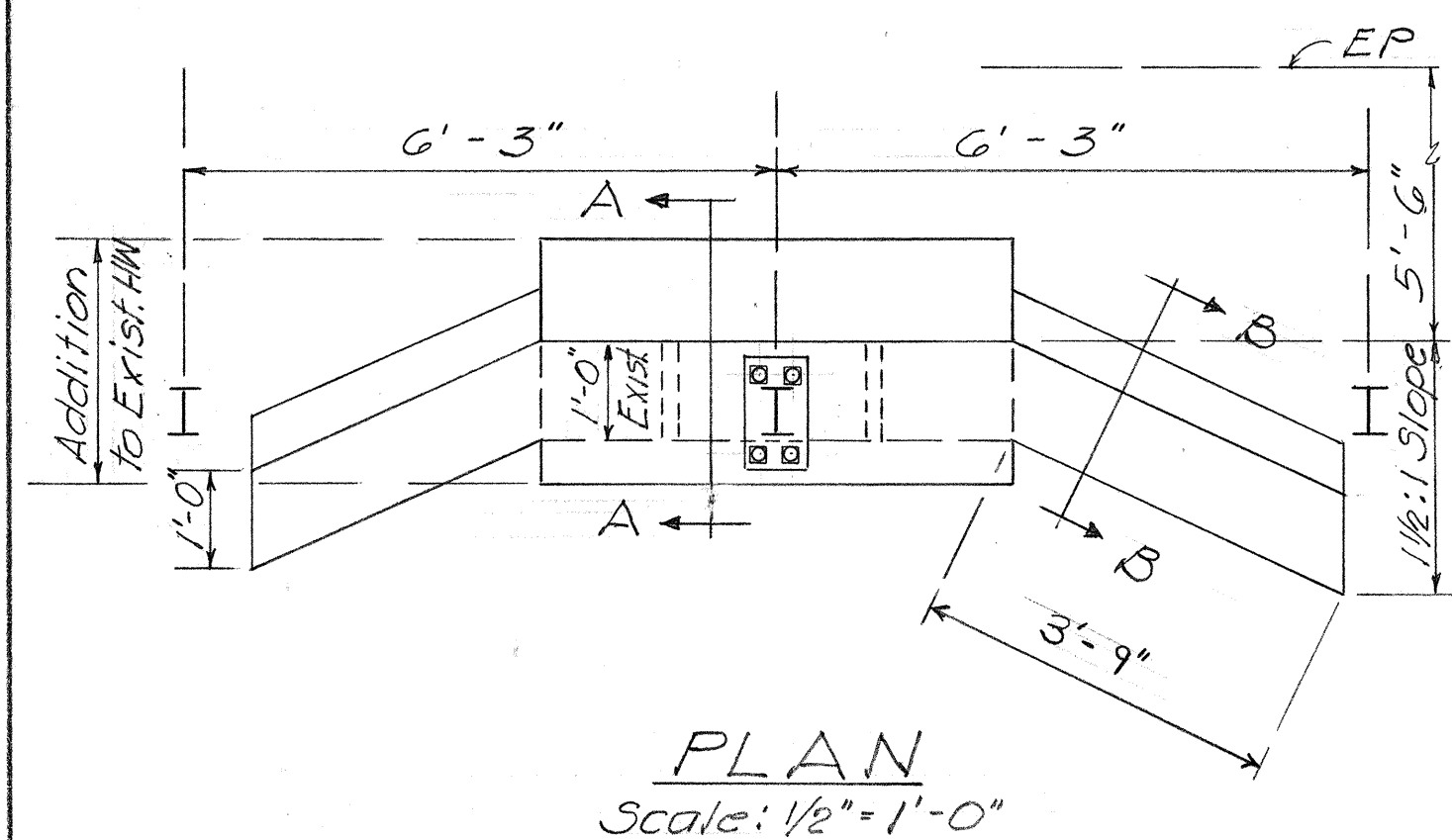
SECTION A-A
Scale: 1/2" = 1'-0"

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

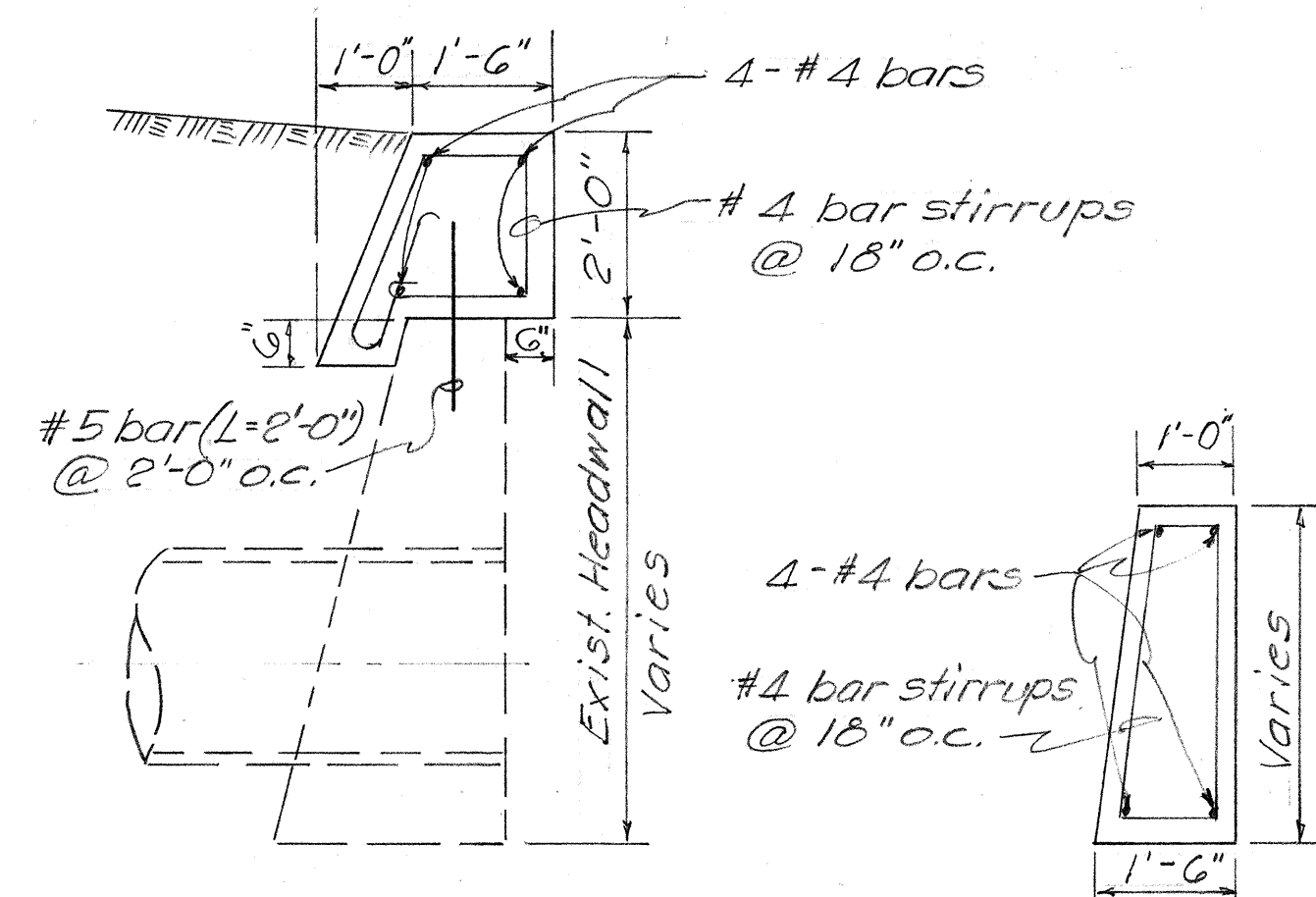
STA. 66 + 50 RT.
30" CONC. PIPE CULVERT HEADWALL



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



PLAN
Scale: 1/2" = 1'-0"



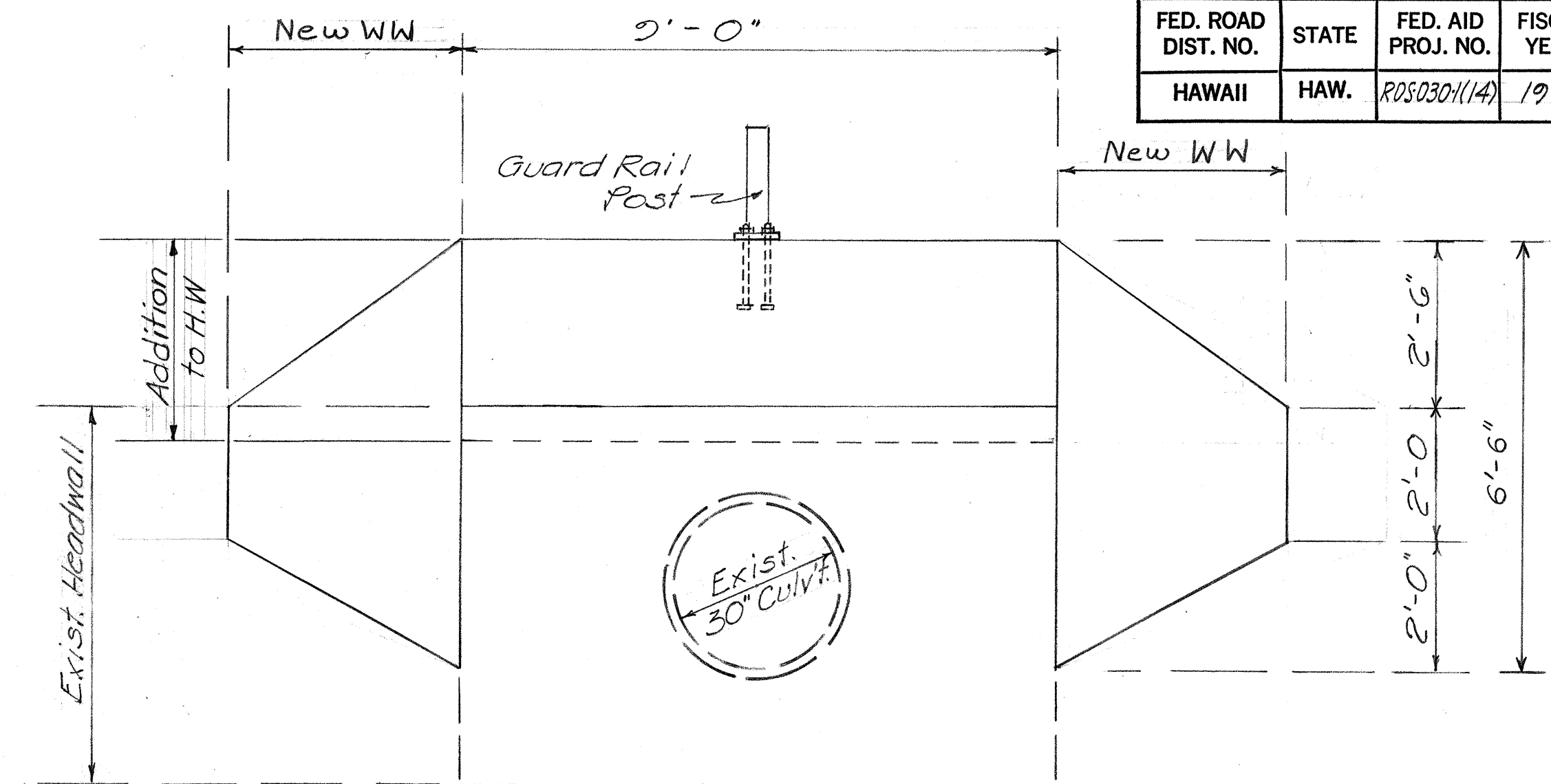
SECTION A-A
Scale: 1/2" = 1'-0"

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

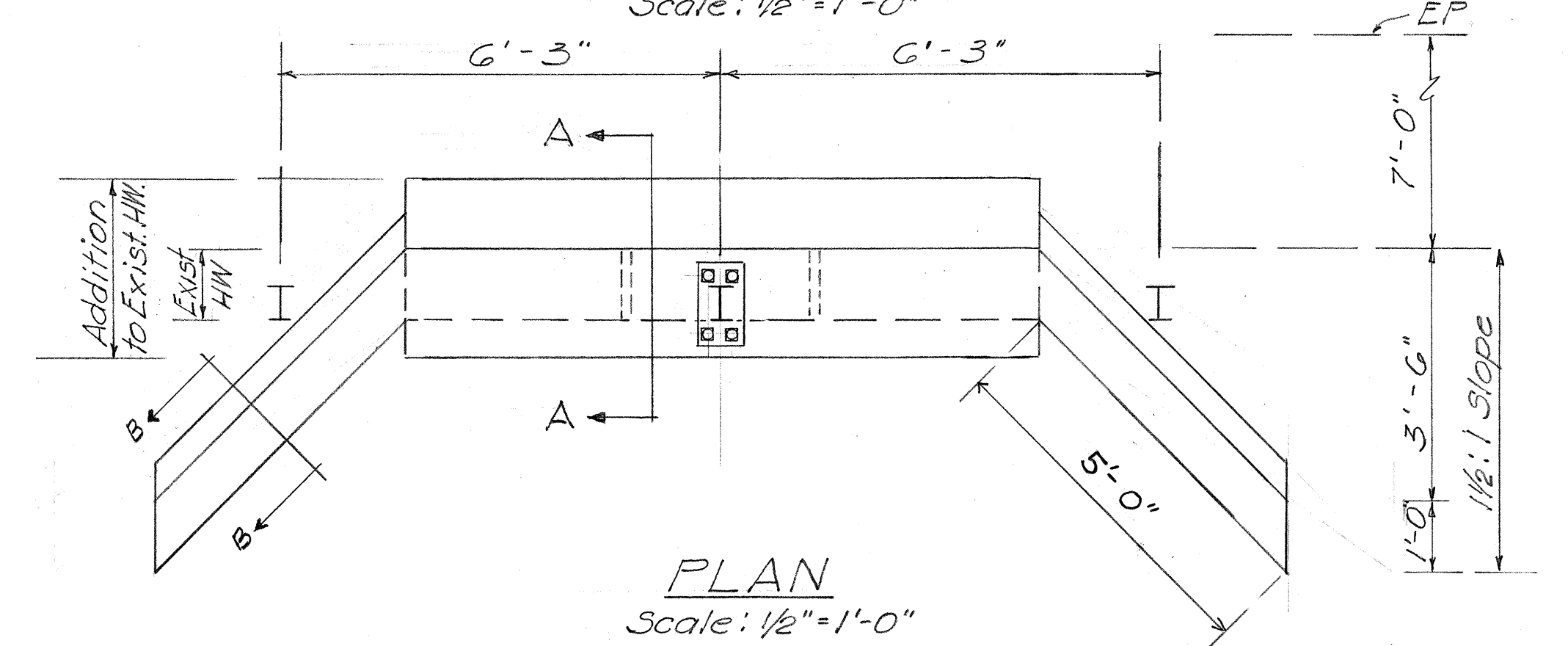
STA. 70 + 50 RT.
24" CONC. PIPE CULVERT HEADWALL

NOTE:

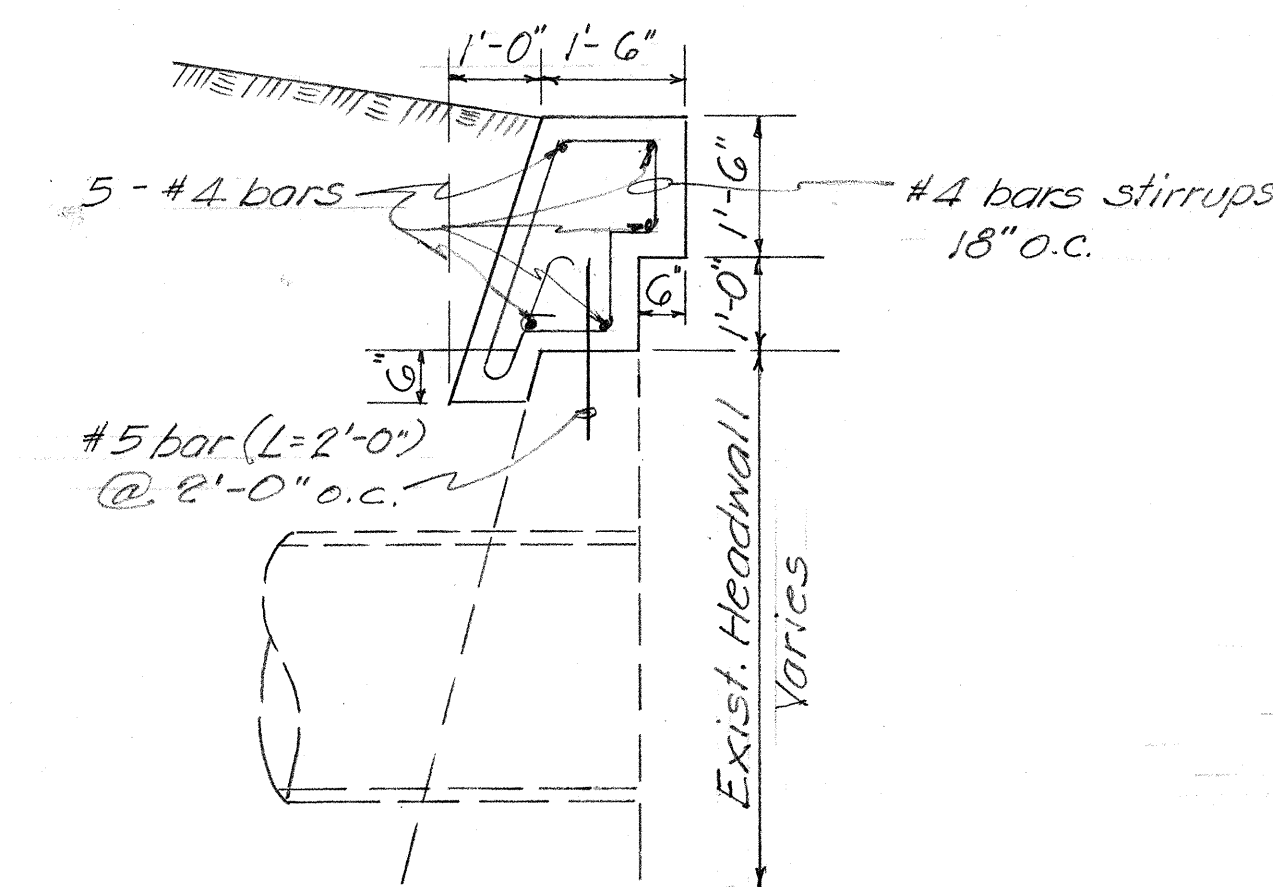
For further details on guardrail post in concrete headwall, see sheet no. 15.



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



PLAN
Scale: 1/2" = 1'-0"



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

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

STA. 77 + 00 RT.
30" CONC. PIPE CULVERT HEADWALL

NOTE:

All new conc. surfaces will be connected to the existing structure w/ #5 bar (L=2'-0") @ 2'-0" spacing.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ROS0301(14)	1978	14	33

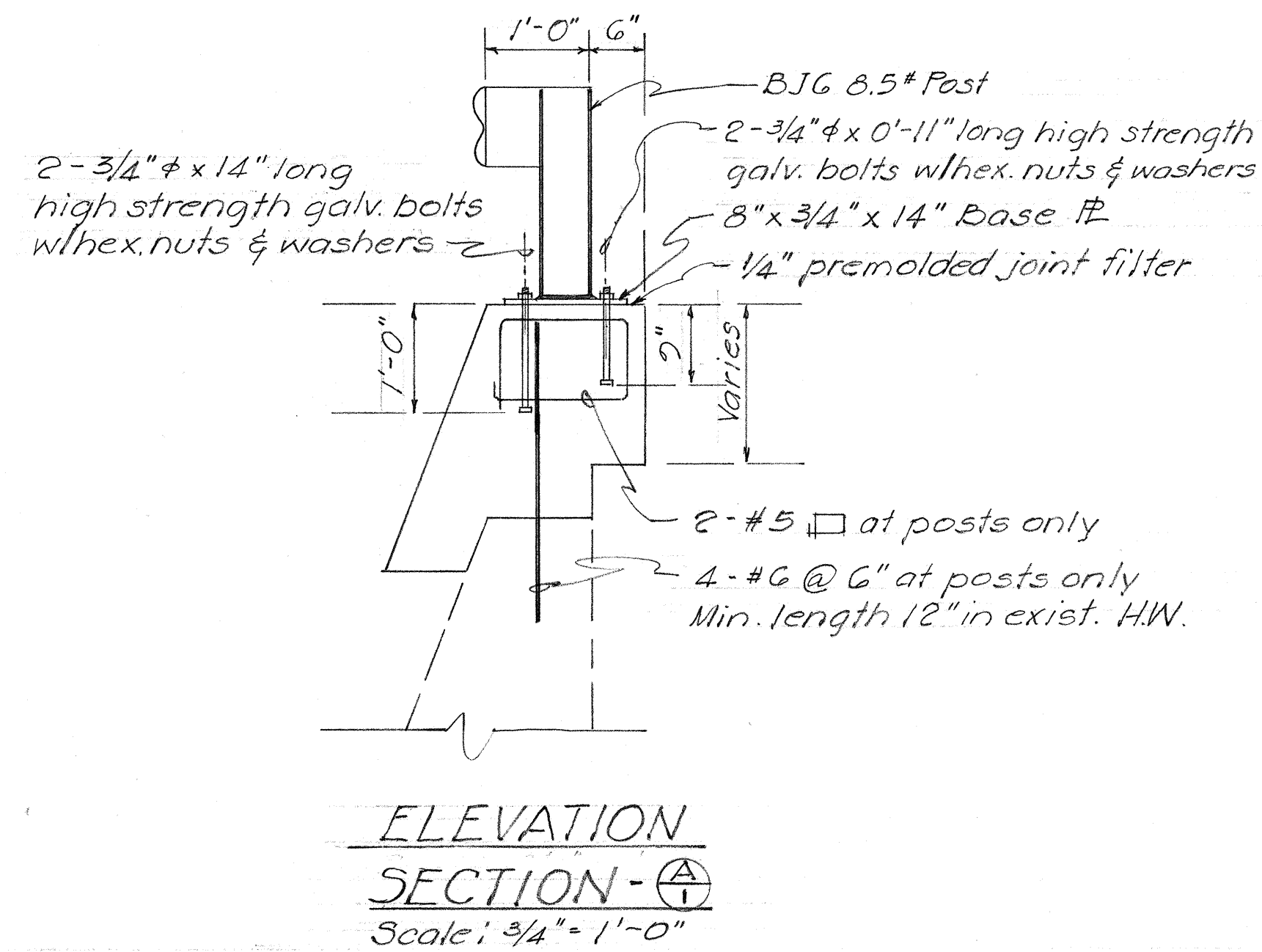
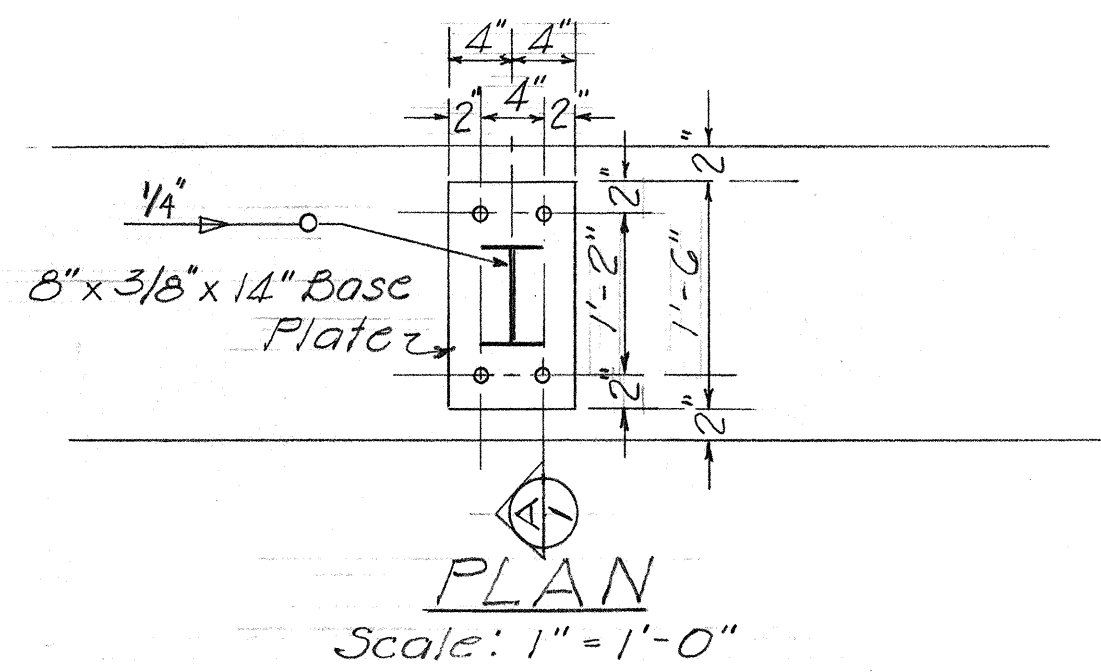
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

RAISING EXIST. HEADWALLS
and CONSTRUCT WINGWALLS

HONOAPIILANI HIGHWAY
PROJ. NO. ROS - 030 - 1(14)

SCALE: AS NOTED DEC 1977
SHEET No. 5 OF 6 SHEETS

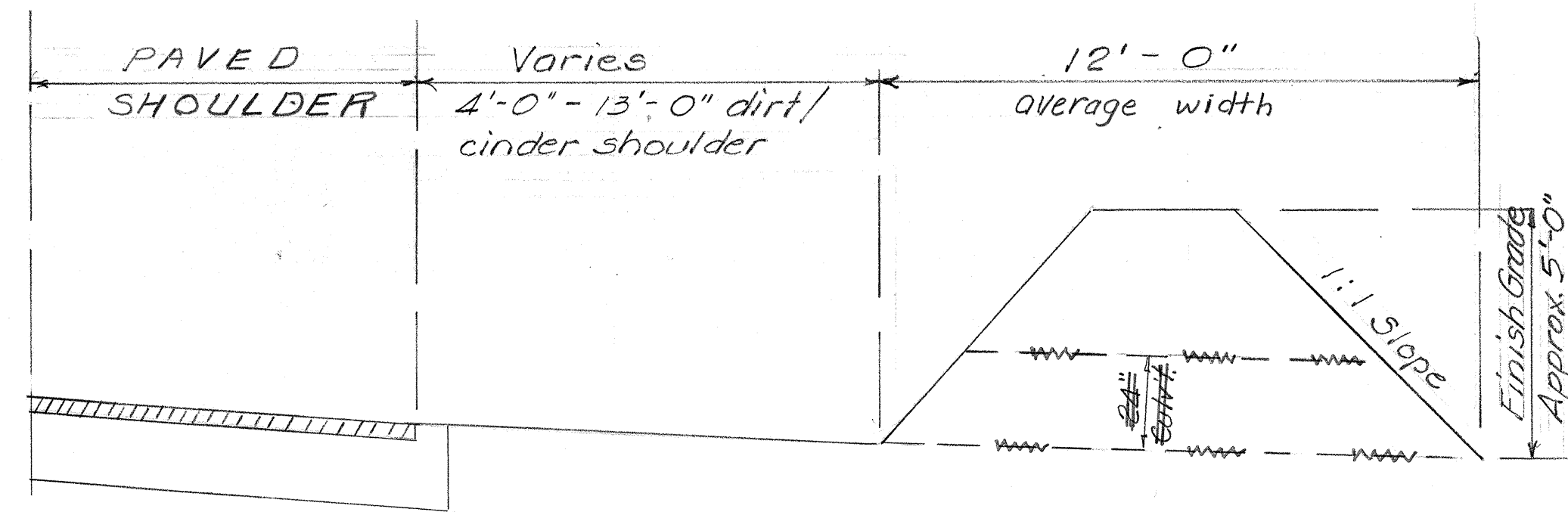
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	R05030-1(14)	1978	15	33



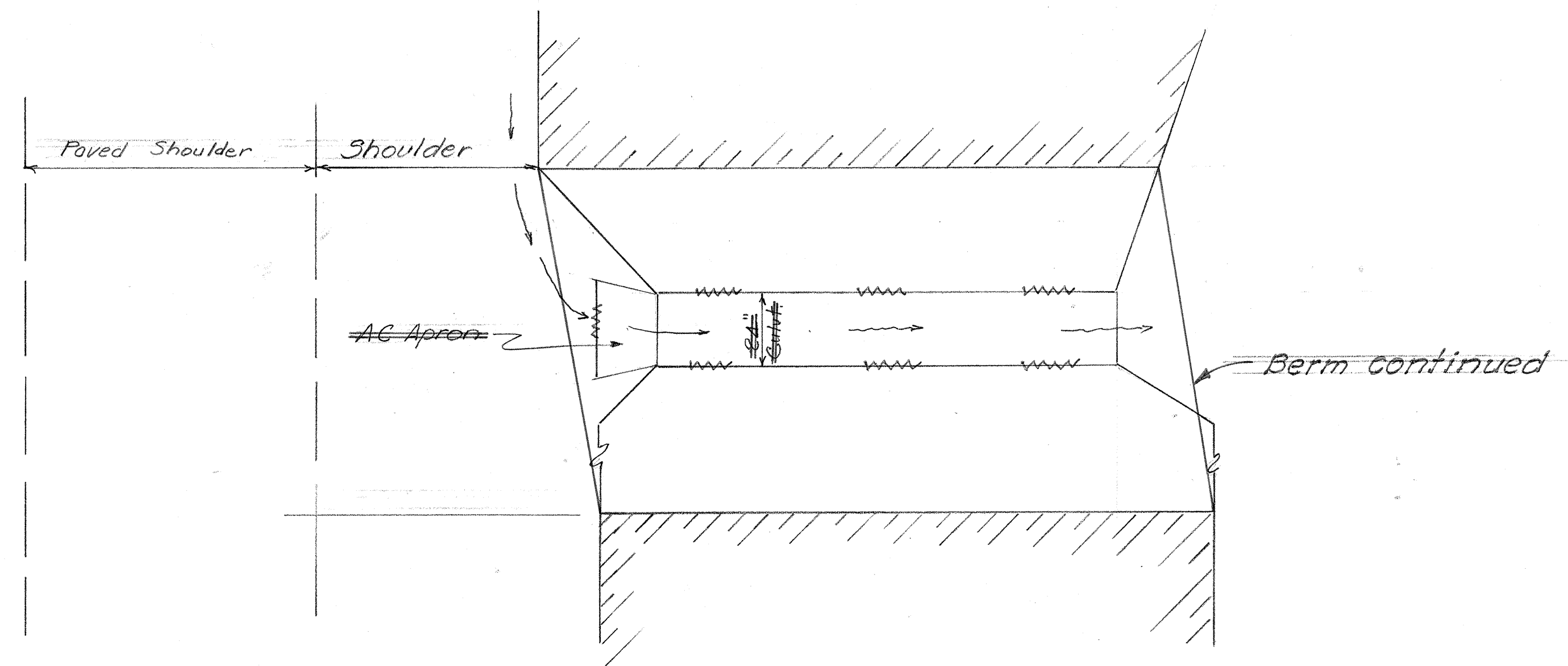
NOTE:

1. Joint filter material shall conform to Section 705 - Joint Materials of Standard Specifications for Road and Bridge Construction, 1976
2. Reinforcing bars, high strength bolts, & excavation shall be considered as incidental to Item No. 503.0000 Class A concrete other than at bridges.
3. Guardrail and post on Headwall shall be paid as cost item 606.3111. Base plate and pre-molded filter shall be considered as incidental to Item 606.3111
4. BJC 8.5# Post shall be welded to 8"x 3/8"x 14" base plate w/ 1/4" weld all surface. Contractor shall submit shop drawings for Engineer's approval. Height of rails shall be verified by the Contractor.

TYPICAL METAL GUARD RAIL SUPPORT ON CULVERT H.W.



Exist. berm approx. 2'-0" high.



DRAINAGE PLAN BETWEEN STA. 244+00 and 245+87.5 Rt. Not to scale

NOTE:

1. Grade to drain dirt/cinder shoulder
2. Install 24" conc. pipe culv't. Contractor shall pick up culv't. at the State Baseyard and locate culv't. as directed by Engr. Construct AC apron (L=10') at inlet
3. Construct earth berm approx. 5'-0" high.
4. All work shall be incidental to cost Item 203.0100, AC shall be paid by cost Item 401.0510

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
TYPICAL METAL GUARD RAIL SUPPORT and DRAINAGE PLAN BETWEEN STA. 244+00 - 245+87.5 HONOAPILANI HIGHWAY PROJ. NO. R05-030-1(14)	
Scale: As Shown	Date: Jan., 1978
SHEET No. 6 OF 6 SHEETS	

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