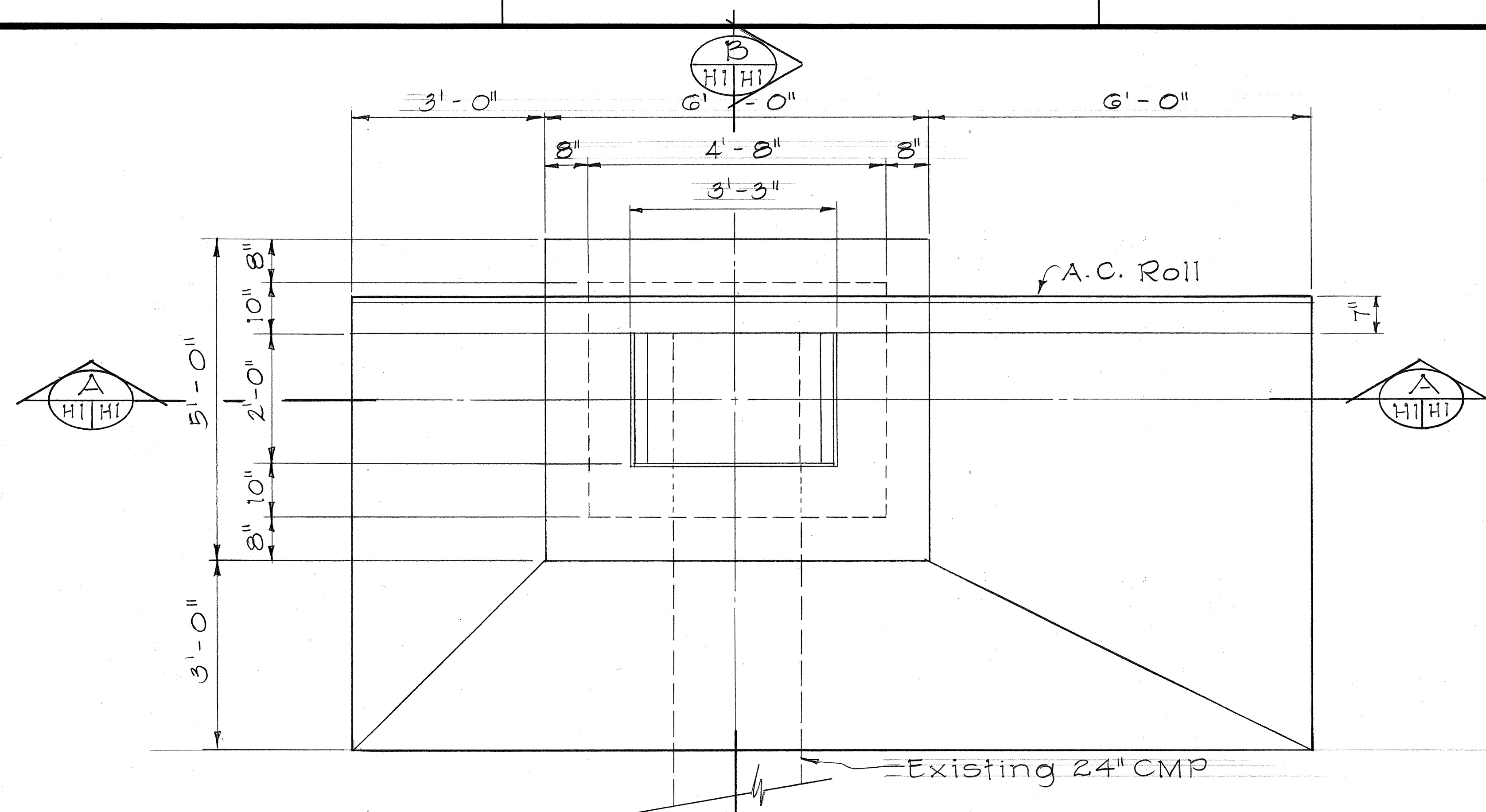
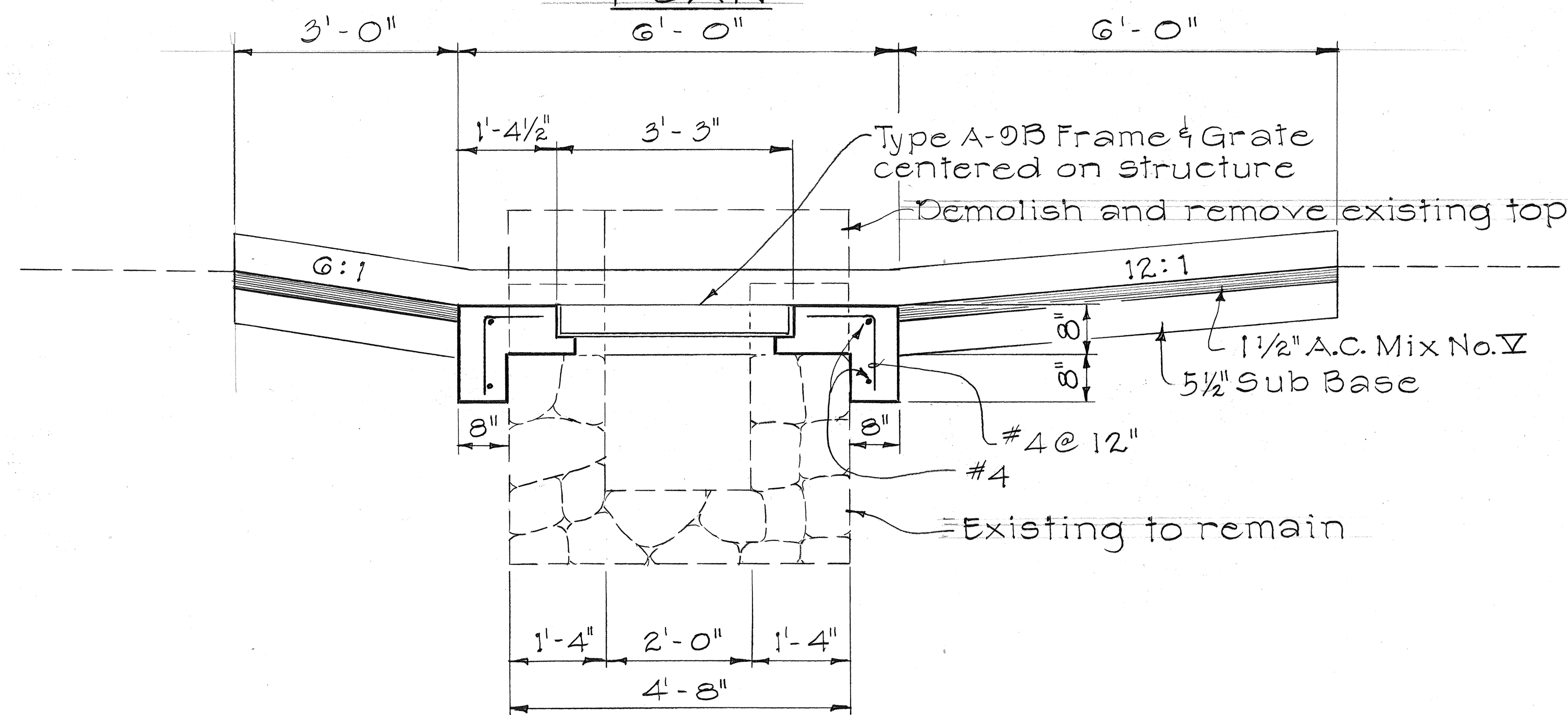


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	RS-0377(2)	1986	23	30

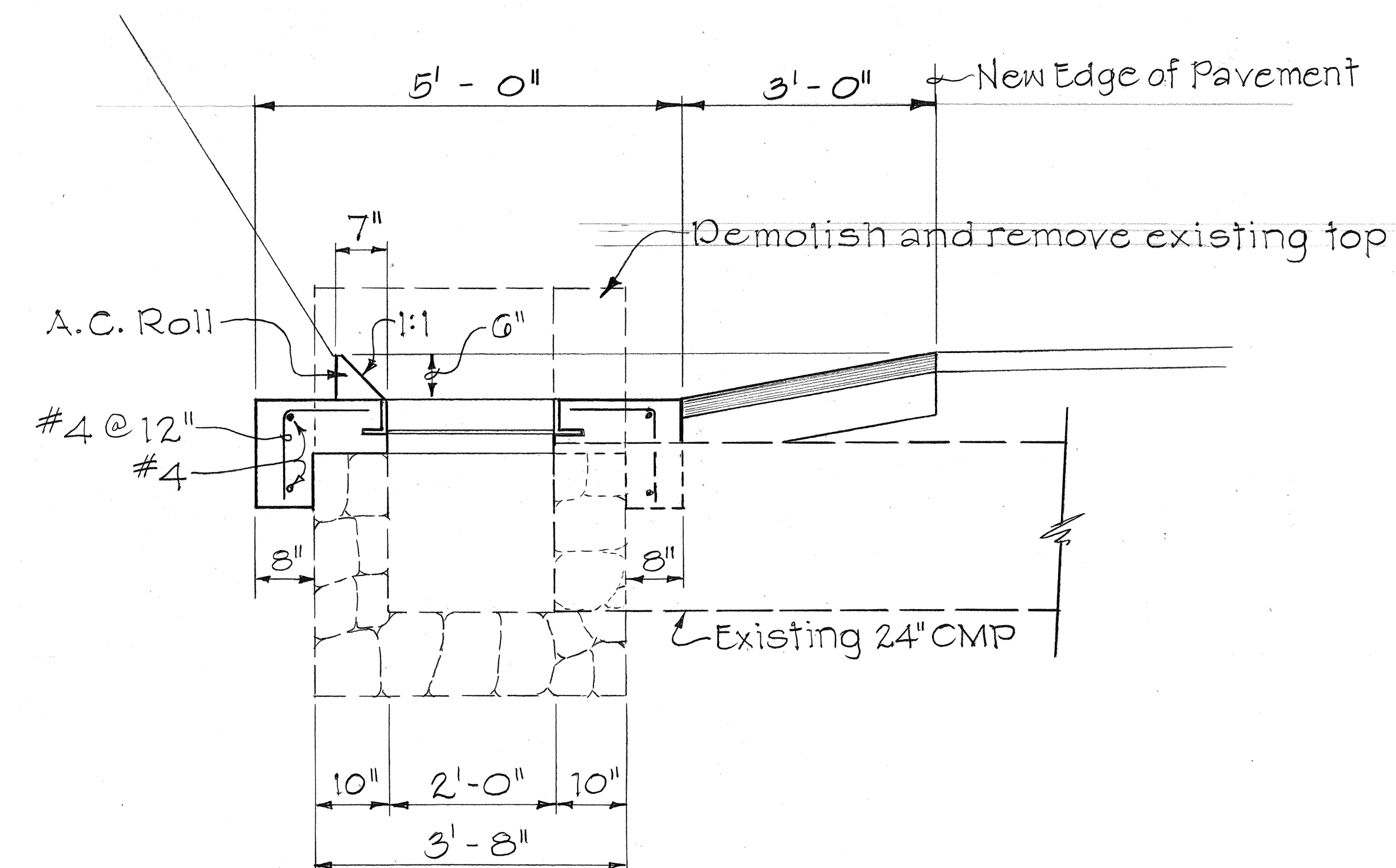


PLAN



SECTION A-A

MODIFIED TYPE A-9B GRATED DROP INLET AT STA. 15+72 ± LT



SECTION B-B

GENERAL NOTES:

- Existing drainage system will be functional at all times during construction. Contractor is to furnish materials, equipment, labor, tools and incidentals necessary to accomplish maintenance of flow, the cost of which shall be incidental to the various contract items.
- Demolishing and removing a portion or the entire existing structure shall not be paid for separately, but shall be considered incidental to the various contract items.
- Contractor shall verify the locations of all culverts and structures in the field. Any culvert damaged during construction shall be repaired or replaced by the Contractor at his expense.

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

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
DRAINAGE DETAILS
KEKAULIKE AVENUE IMPROVEMENTS HALEAKALA CRATER RD TO KULA HWY. F.A. Project No RS-0377(2)
Scale: Not to Scale Date June 1985
SHEET NO. 23 OF 30 SHEETS

A hand-drawn site plan showing a proposed rectangular structure. The plan includes the following details:

- Overall Dimensions:** The structure is 6'-0" wide and 4'-10" deep.
- Internal Dimensions:** The interior width is 3'-3" and the interior depth is 2'-2".
- Offsets:** There are 8" offsets from the interior dimensions to the outer walls on all sides.
- Orientation:** The plan is oriented with North (N) at the top, indicated by a compass rose.
- Existing Infrastructure:** An "Existing 24" RCP" (Rigid Concrete Pipe) is shown running vertically through the center of the structure.
- Proposed Features:** A "Grade to drain" line is shown on the right side of the structure.
- Labels:** The structure is labeled "A" and "B" in circles, with "H2/H2" written inside. The "Existing 24" RCP" is labeled with an arrow pointing to it.
- Other Markings:** A "C.E.P." (Center of Earth Point) is marked on the right side of the plan.

4'-10"

Demolish and remove existing top.

#4 @ 12"

#4

8"

8"

8"

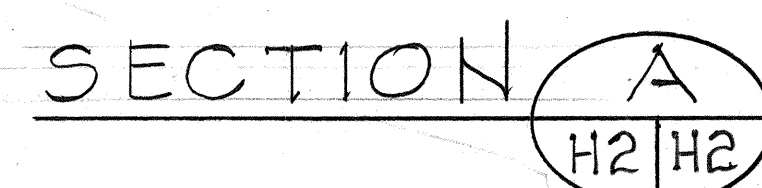
2'-2"

8"

3'-6"

Existing 24" RCP

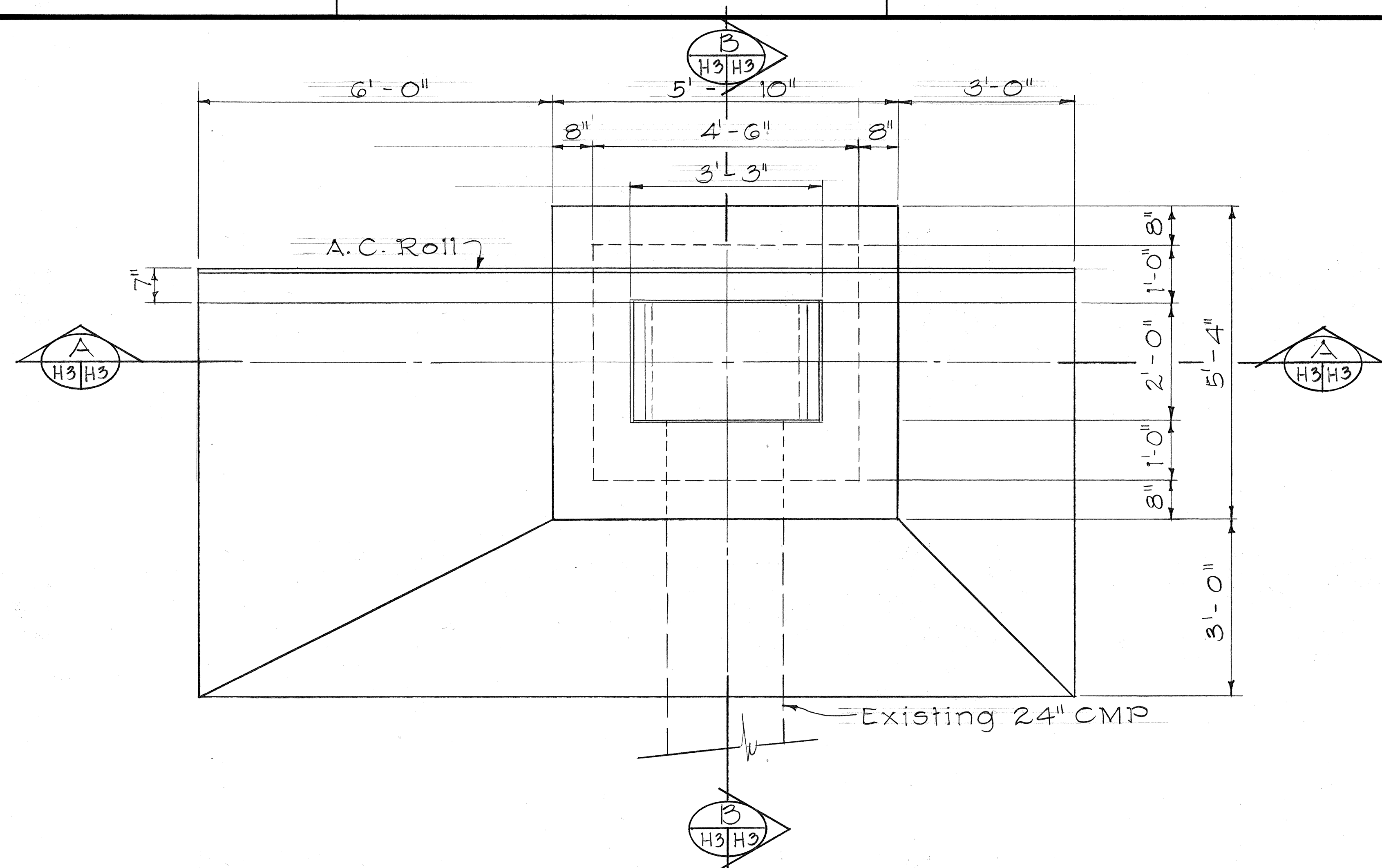
SECTION B
H2 | H2



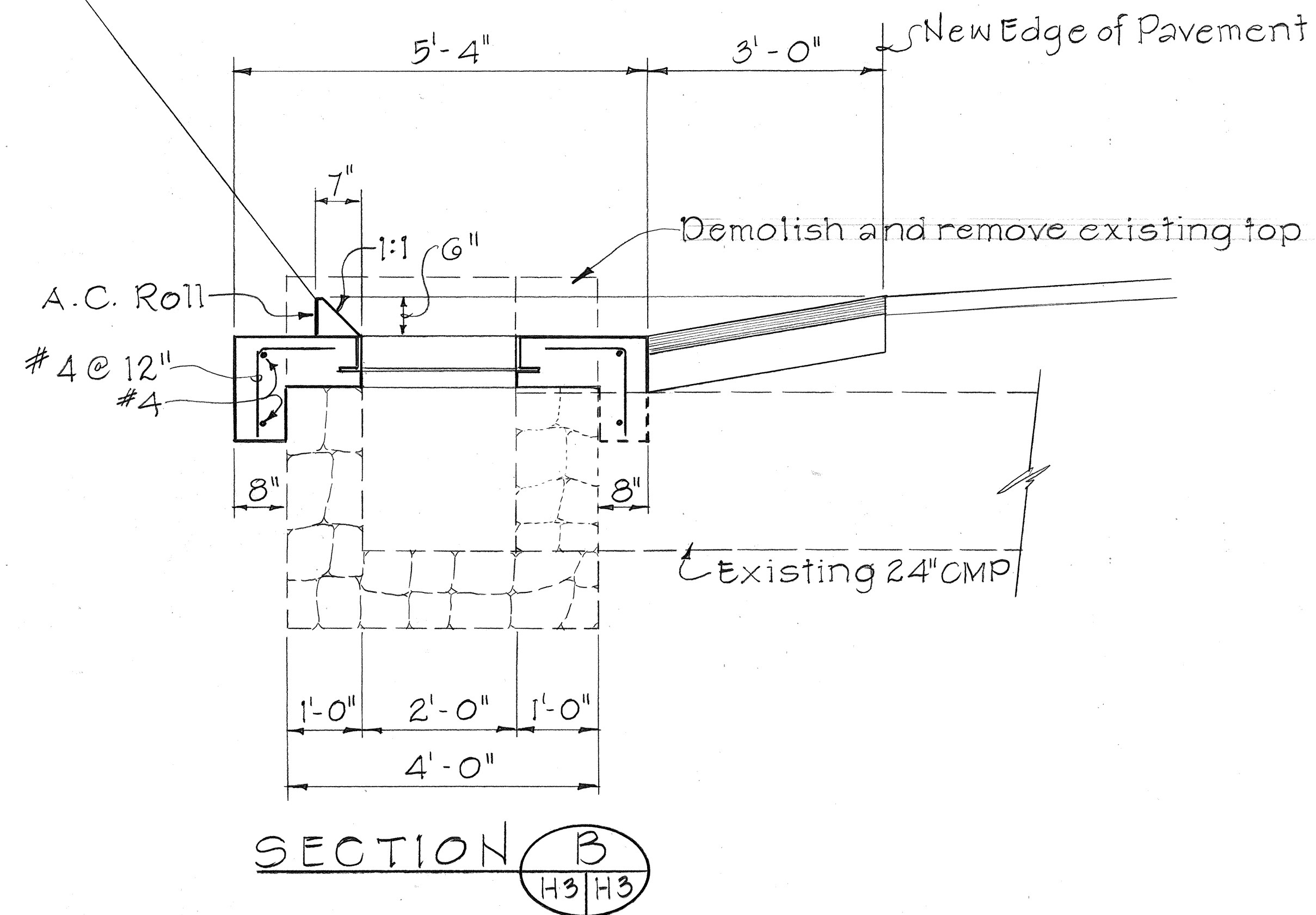
ORIGINAL PLAN	SURVEY PLOTTED BY _____ DATE _____	
	DRAWN BY _____	
	TRACED BY _____	
	DESIGNED BY _____	
	QUANTITIES BY _____	
No. _____	CHECKED BY _____	

SHEET No. H2 OF 5 SHEETS

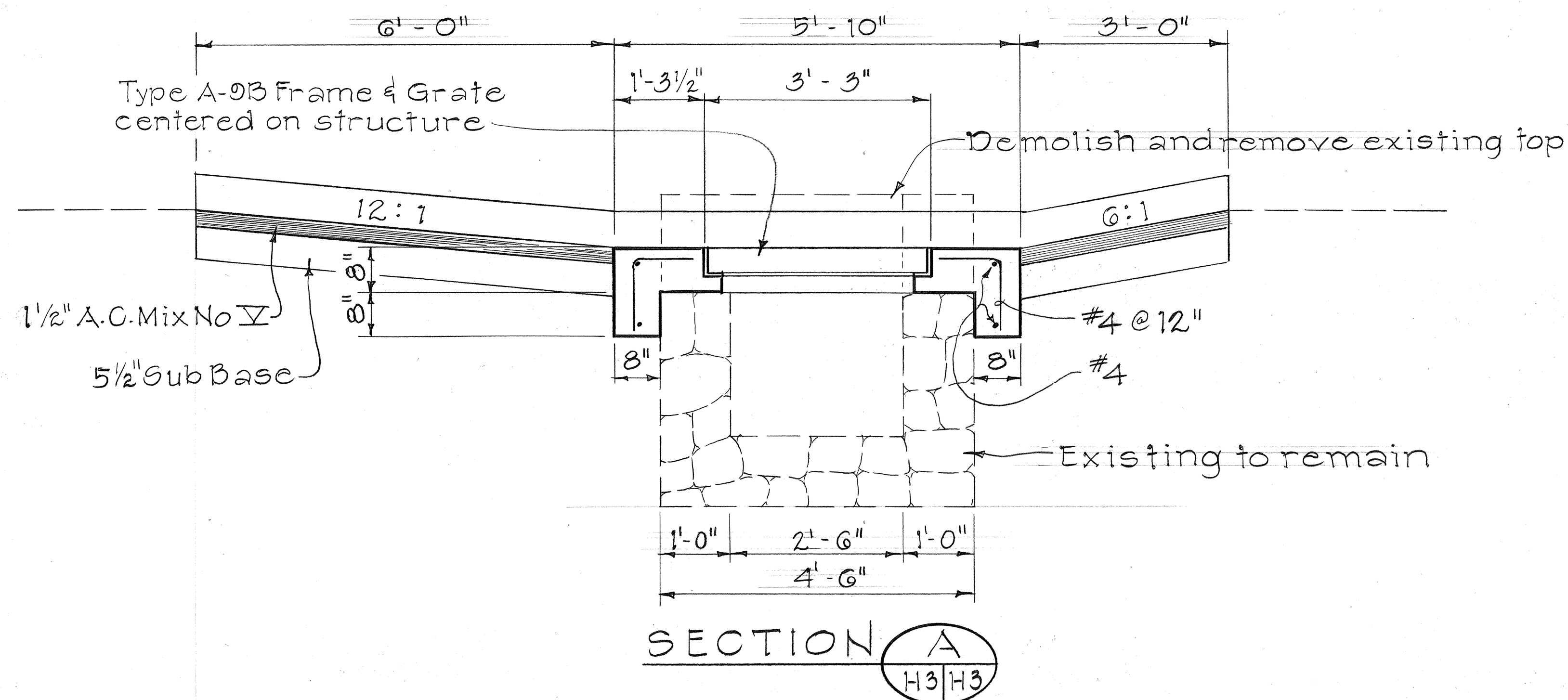
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	RS-0377(2)	1986	25	39



PLAN



SECTION B
H3/H3



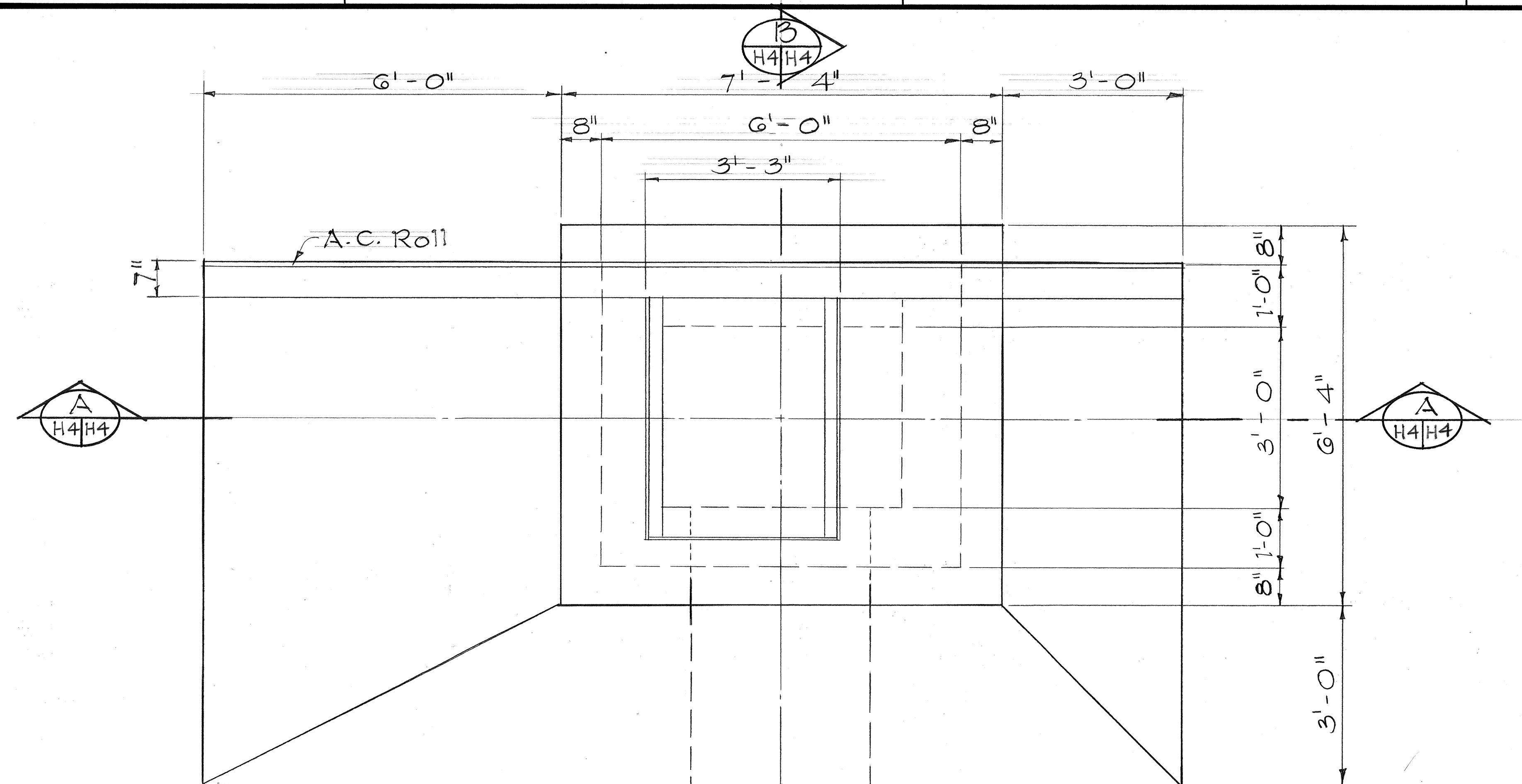
SECTION A
H3/H3

MODIFIED TYPE A-9B GRATED DROP INLET AT STA. 95+77.17

ORIGINAL PLAN	DATE
DESIGNED BY	
CHECKED BY	
NOTED BY	
NO.	

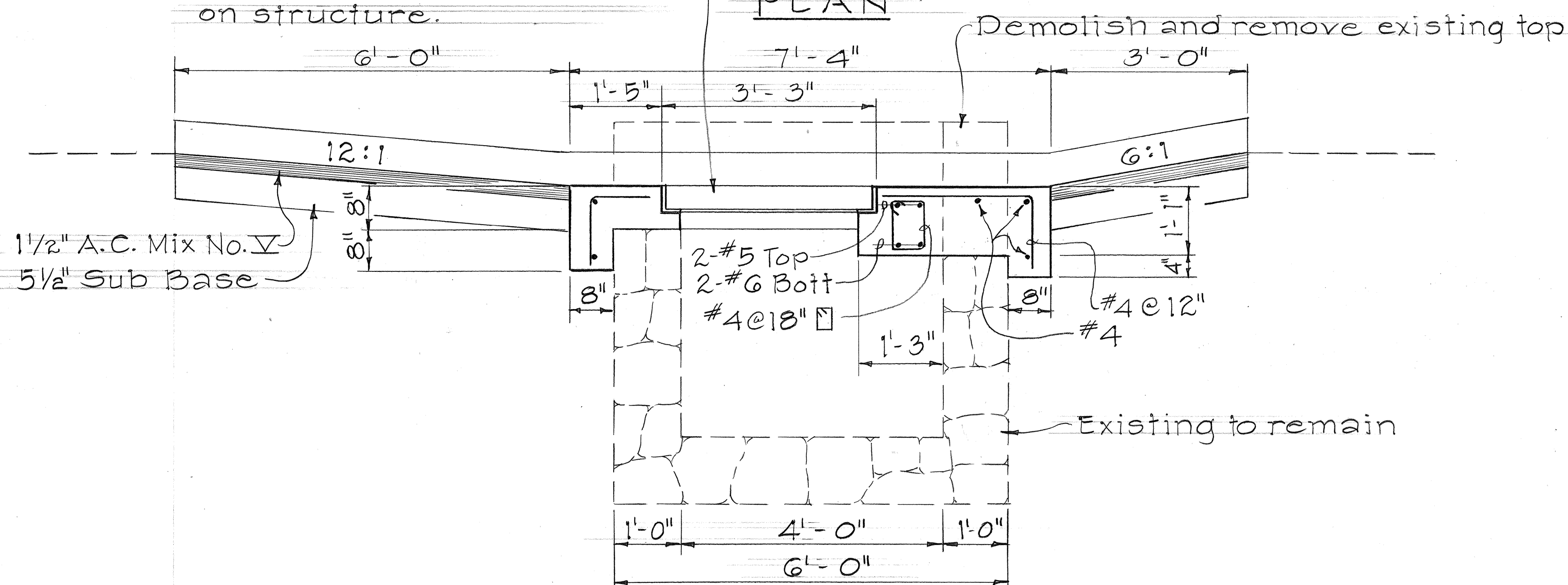
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
DRAINAGE DETAILS
KEKAULIKE AVENUE IMPROVEMENTS HALEAKALA CRATER RD TO KULA HWY. F.A. Project No RS-0377(2)
Scale: Not to Scale Date June 1986
SHEET NO. H3 OF 5 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	RS-0377(2)	1986	26	30



Modified Type A-9B Frame with 2-Type A-9B Grates centered on structure.

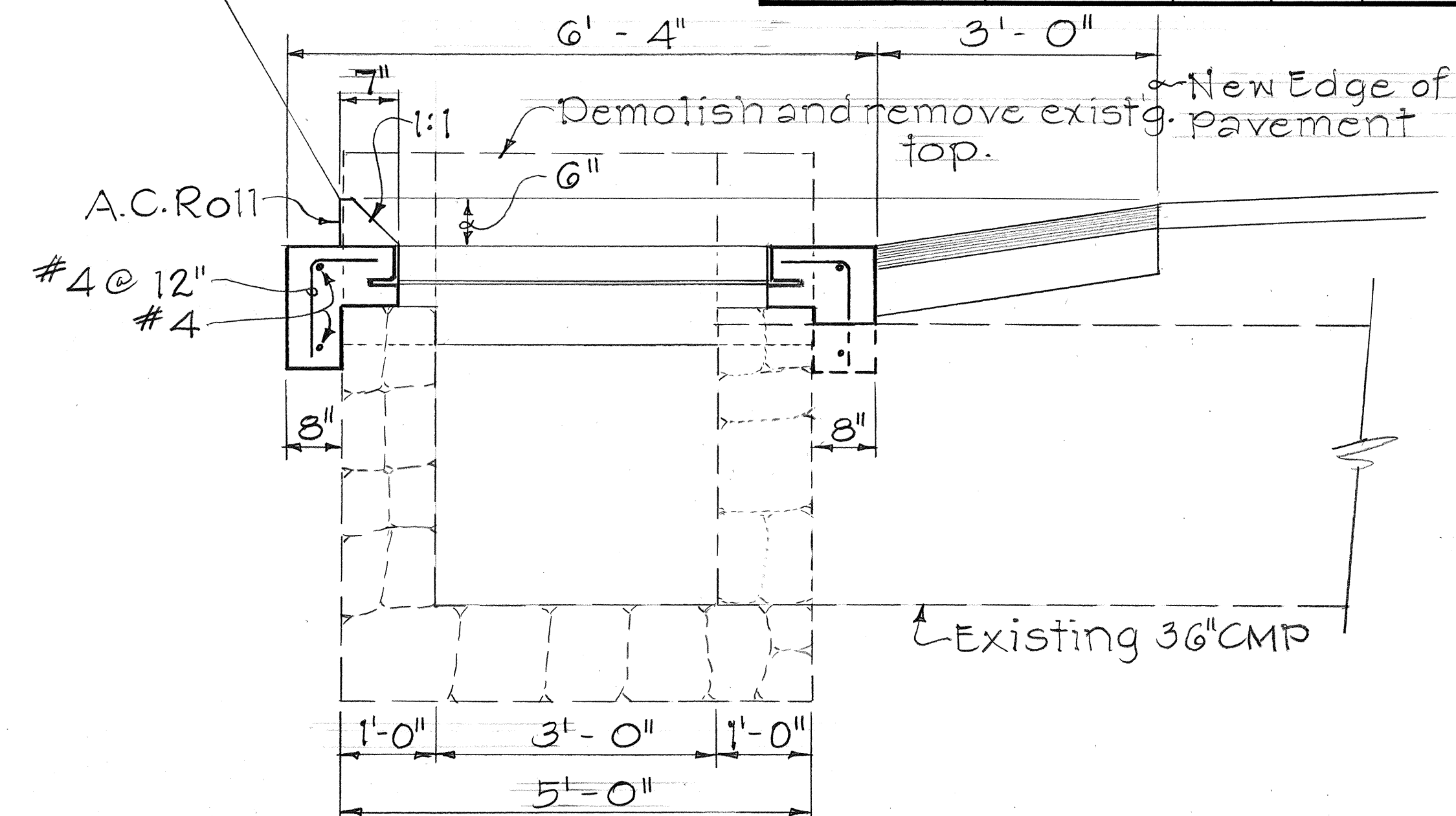
PLAN



SECTION A
H4/H4

MODIFIED TYPE A-9B GRATED DROP INLET AT STA. 104+72

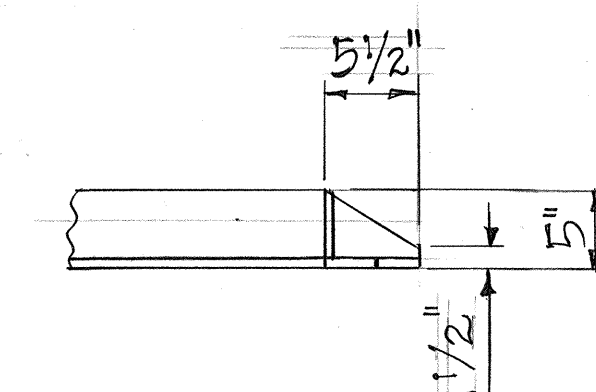
Scale: 3/4" = 1'-0"



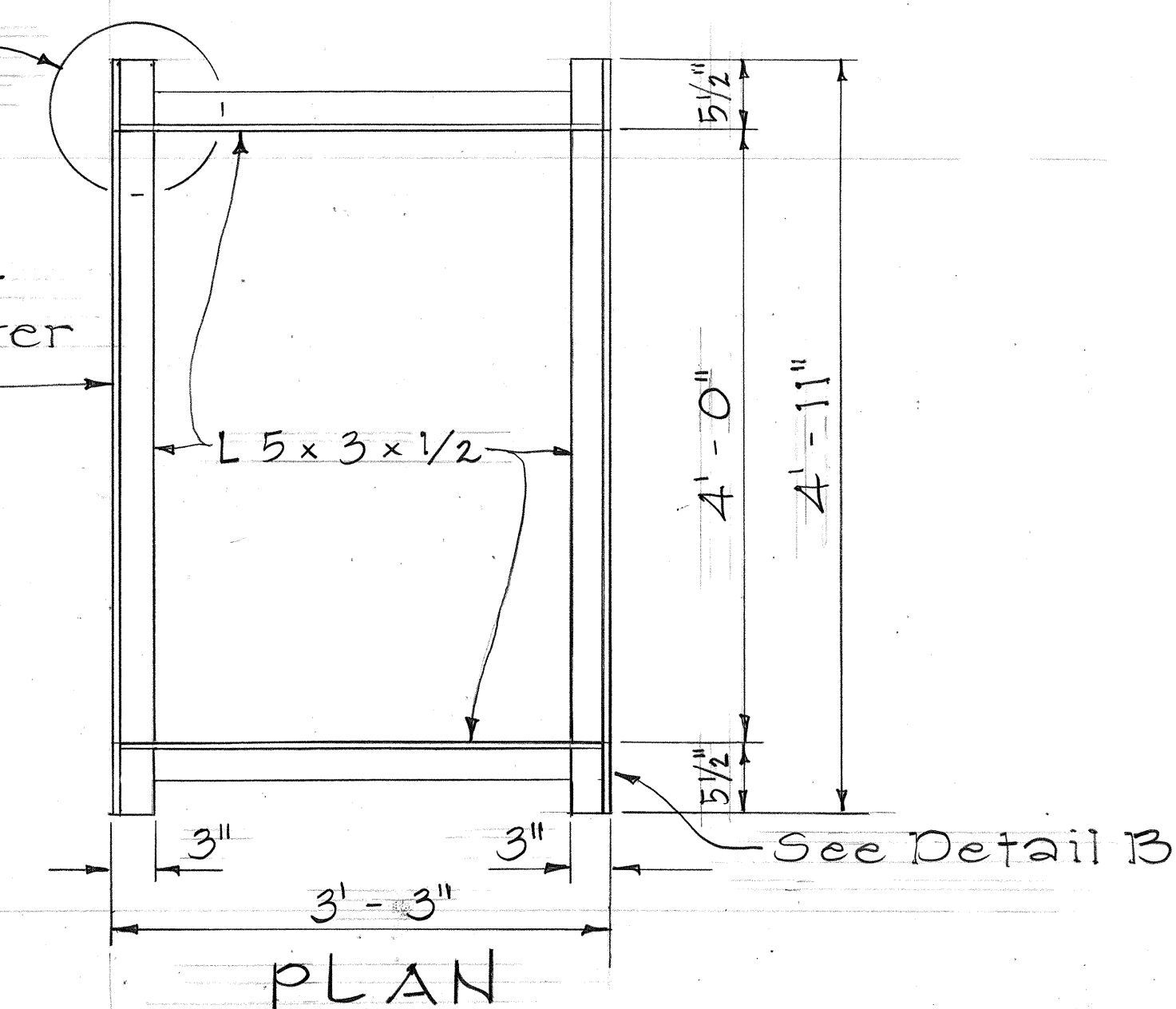
SECTION B
H4/H4

See Detail A on sht. no. H5

Frame shall be hot dip galvanized after fabrication.



DETAIL B



PLAN

DETAILS OF MODIFIED TYPE A-9B FRAME

Scale: 1" = 1'-0"

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE DETAILS

KEKAULIKE AVENUE IMPROVEMENTS
HALEAKALA CRATER RD TO KULA HWY.
F.A. Project No RS-0377(2)

Scale: As Shown Date June 1985

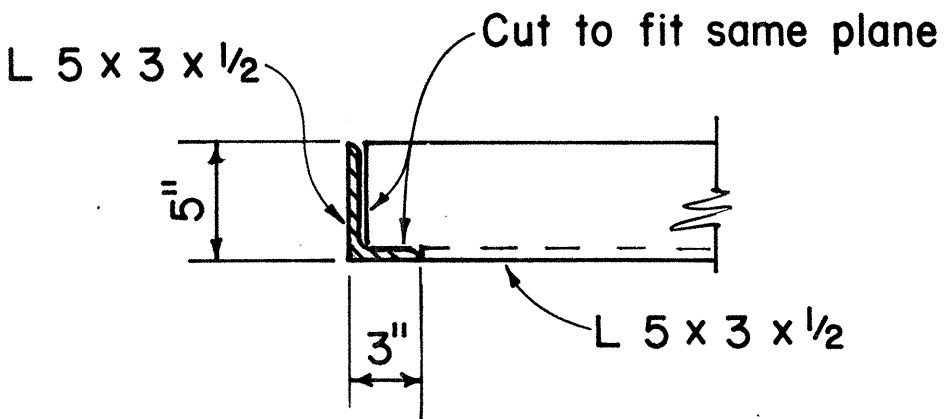
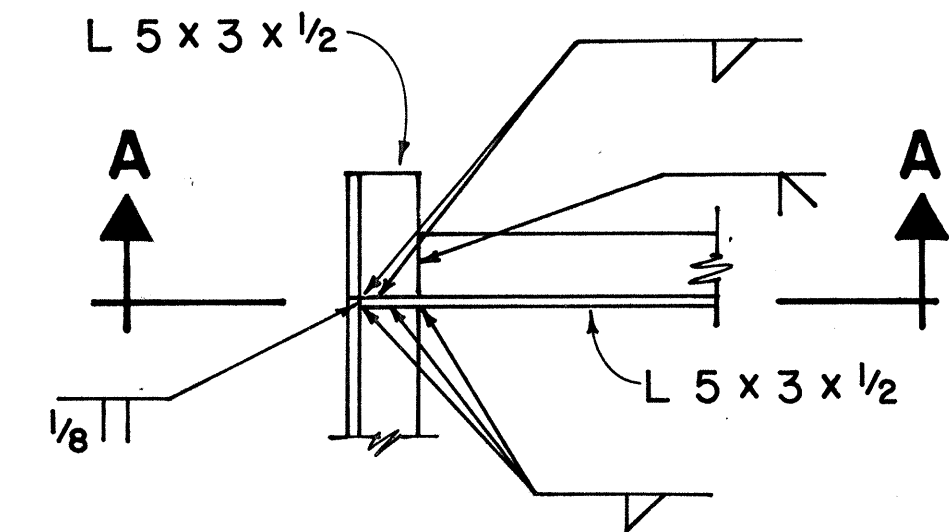
SHEET NO. H4 OF 5 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	RS-0377(2)	1986	27	30

GENERAL NOTES

1. All welds $\frac{5}{16}$ " unless otherwise noted.
2. Grates and Frames shall be hot dip galvanized after fabrication.
3. Center Support Assembly shall be used when two or more grates are specified. Incidental to Steel Frame and Grates.
4. Use in locations off the road bed on all types of highway. (Bicycle Grates)

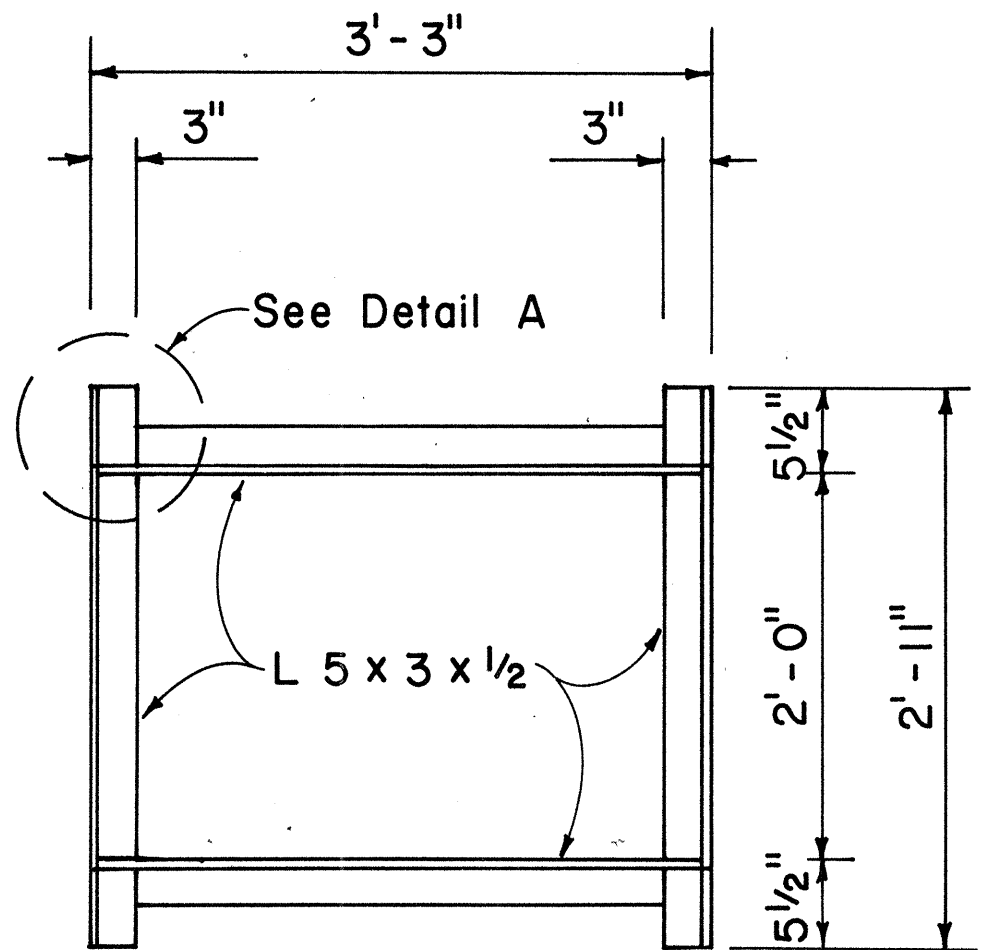
DETAIL A



SECTION A-A

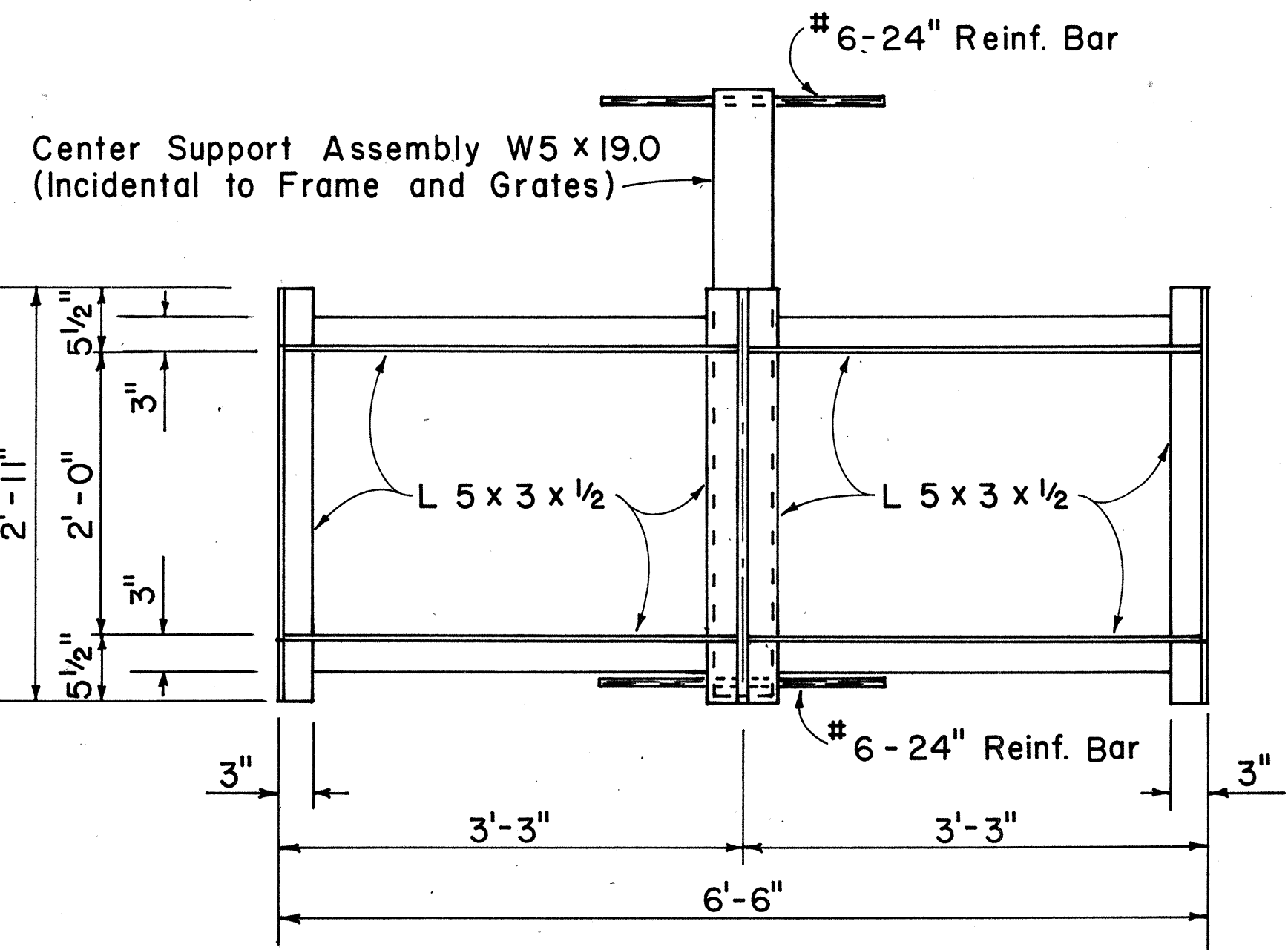
PLAN

(Single Grate)



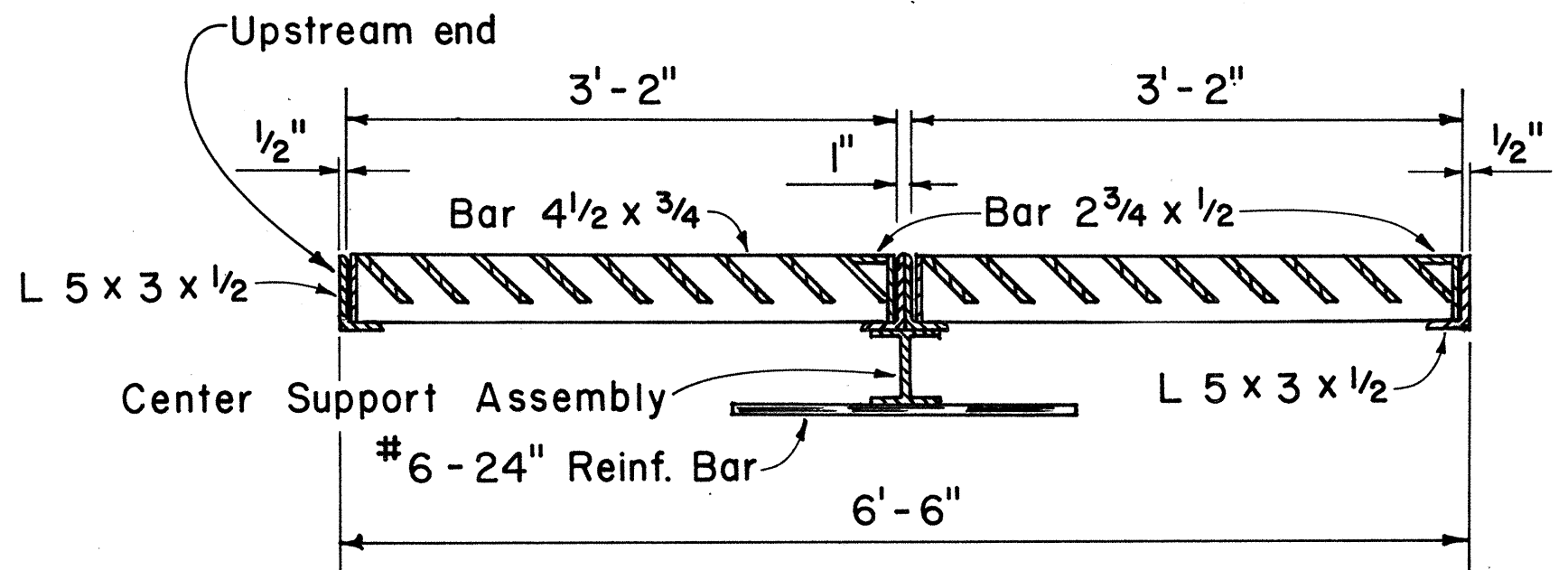
PLAN

(Two or More Grates)



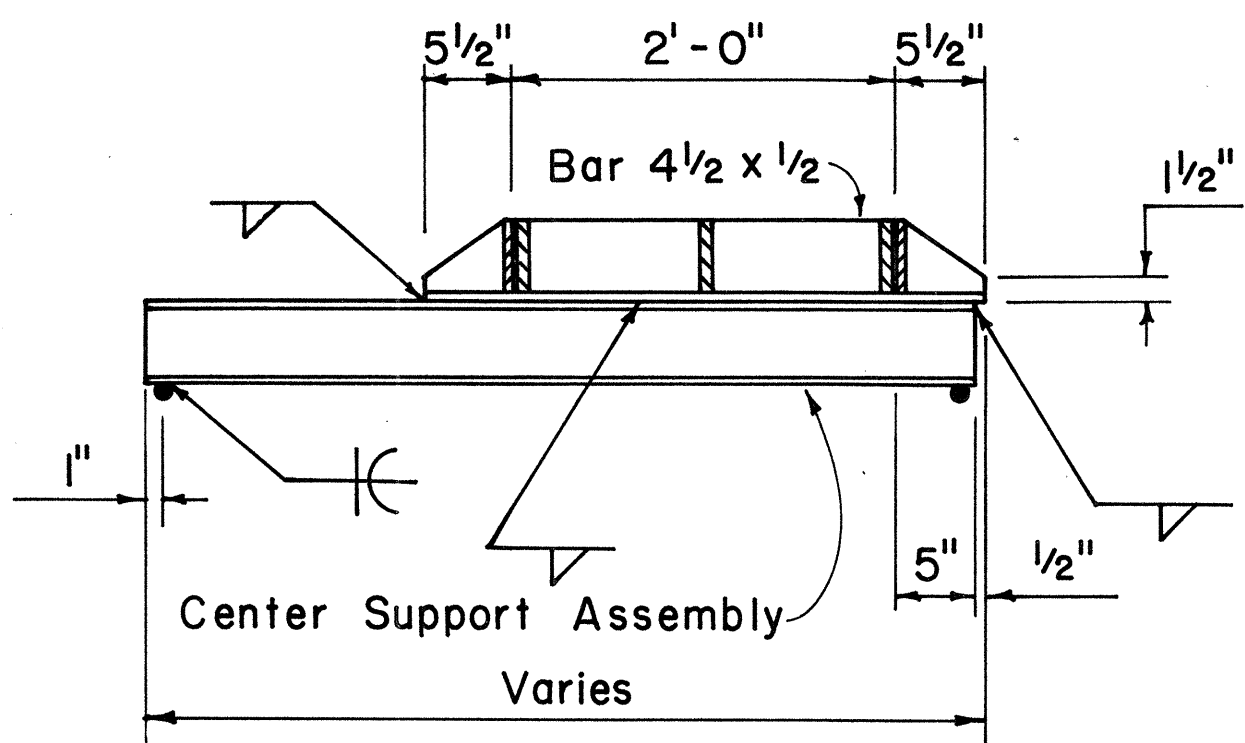
LONGITUDINAL SECTION

(Thru Frame & Grate)



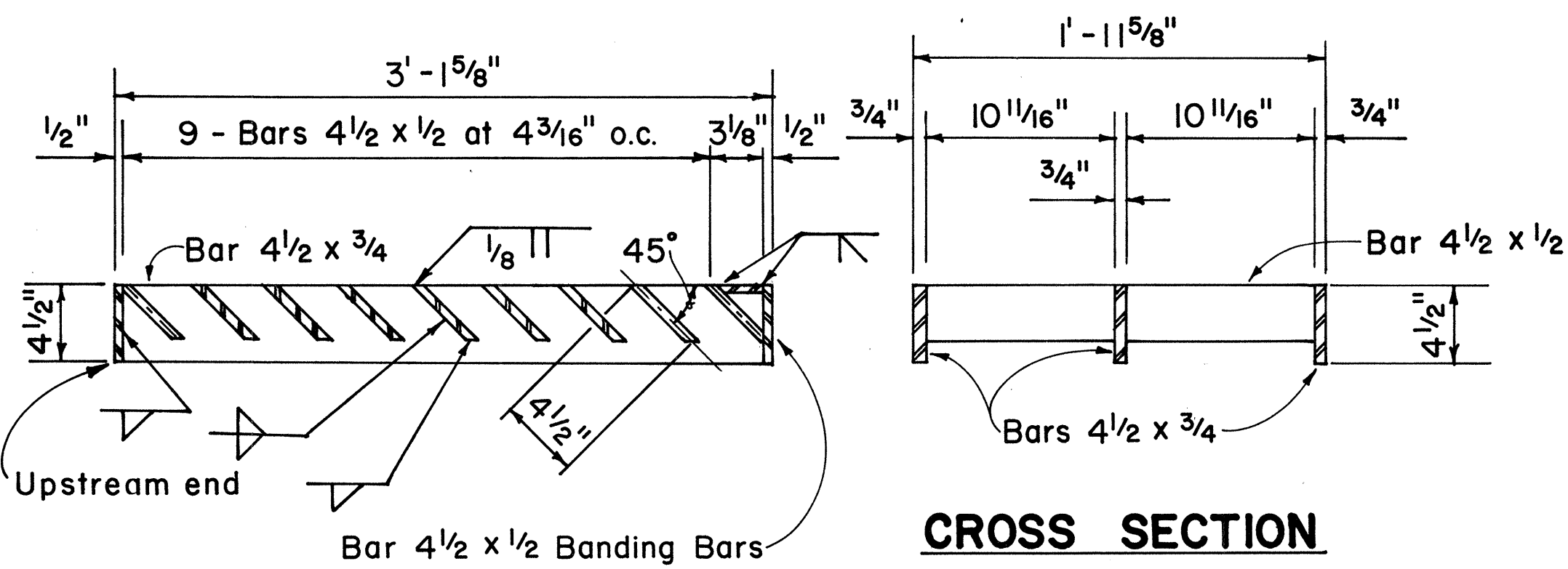
CROSS SECTION

(Thru Frame & Grate)



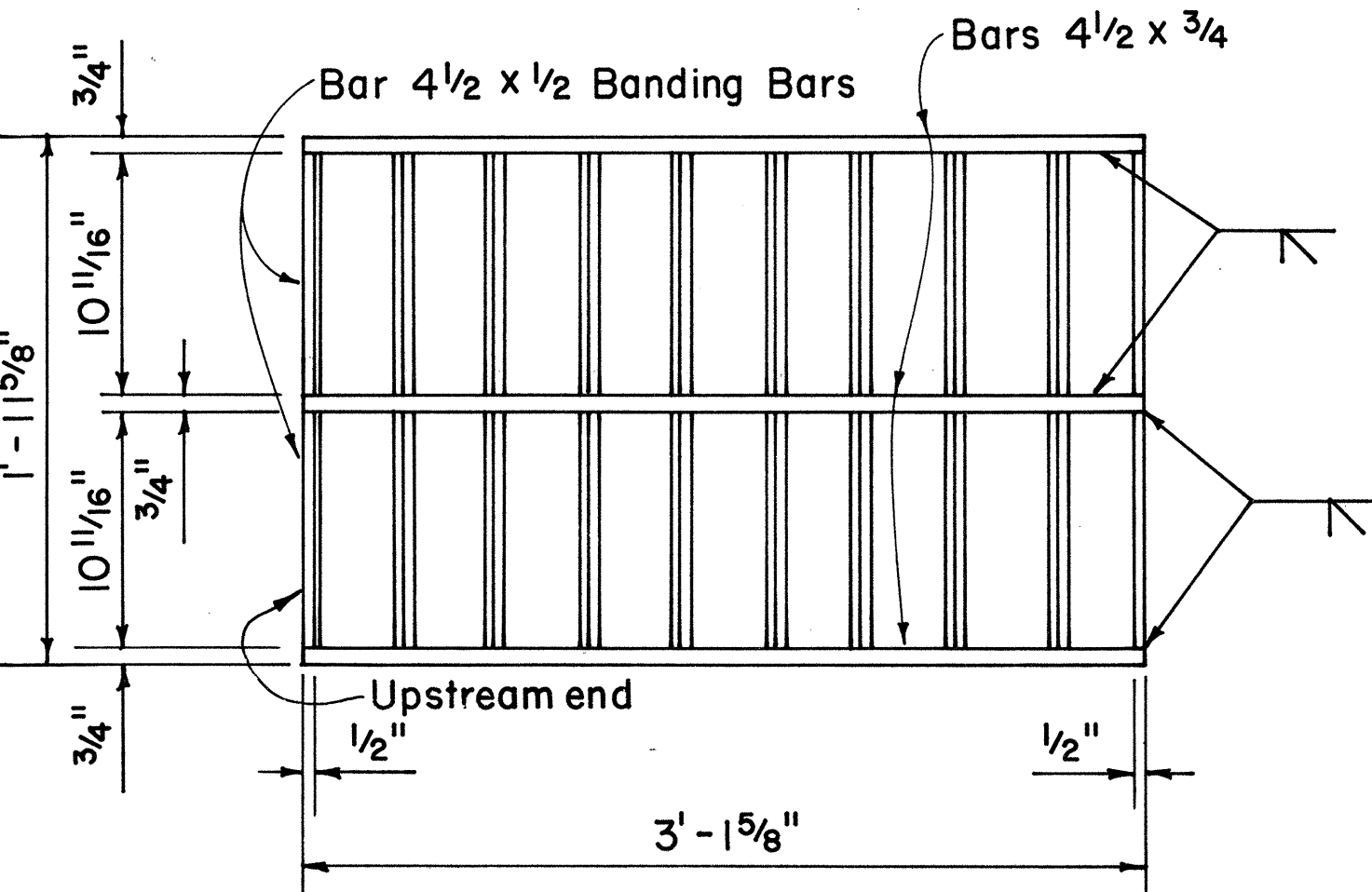
FRAME DETAILS

CROSS SECTION



LONGITUDINAL SECTION

PLAN



GRATE DETAILS

APPROVAL RECOMMENDED:
Carl M. L. 2/4/83
HYDRAULIC DESIGN ENGINEER DATE

APPROVED:
P. J. Jiyama 2-4-83
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE
1.	Notes added to denote alignment of grate.	<i>P. J. Jiyama</i>	7-25-84

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
STANDARD DETAILS TYPE A-9B FRAMES AND GRATES
Not To Scale Date: Feb. 1983

SHEET No. 15 OF 5 SHEETS DH 10