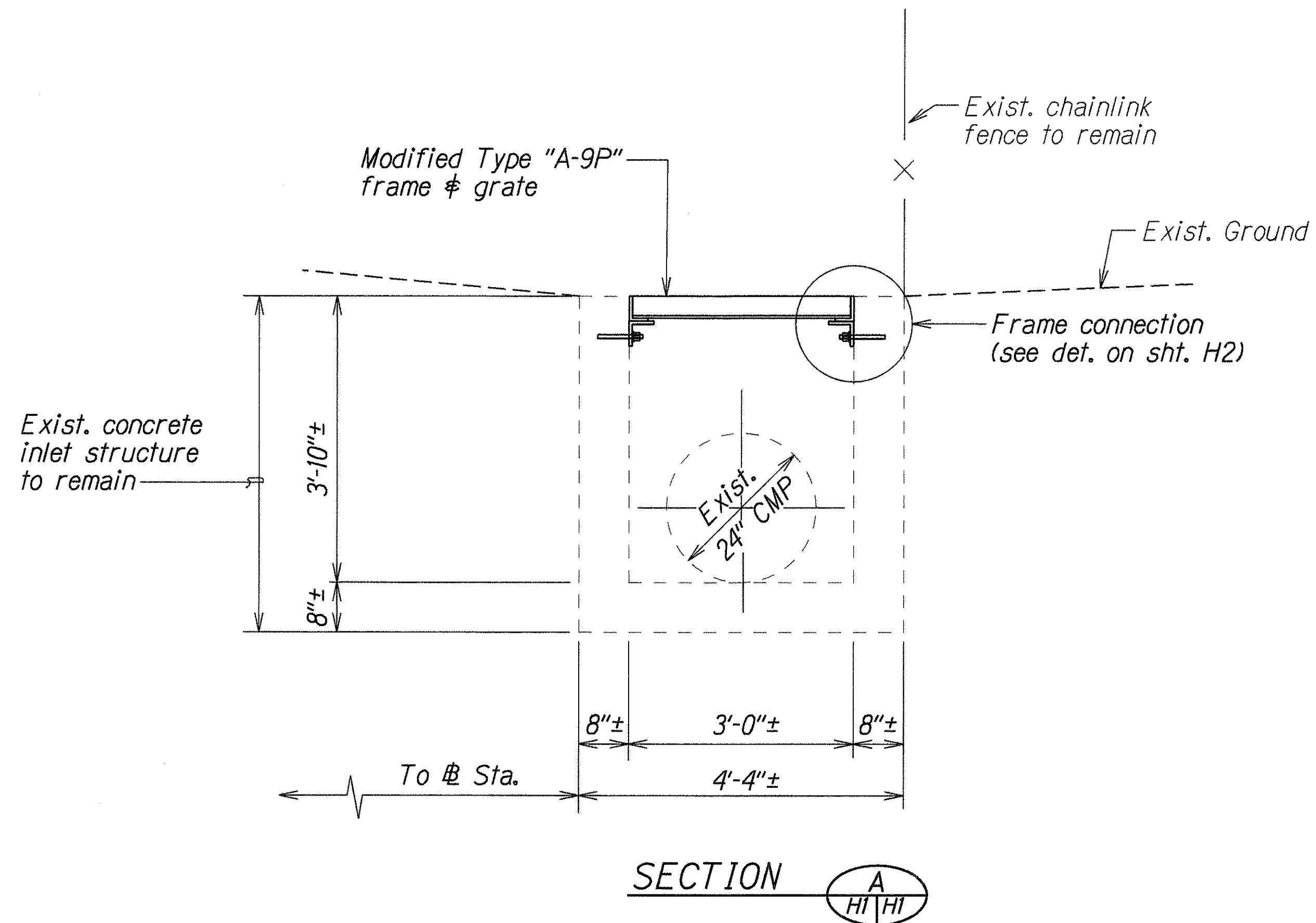
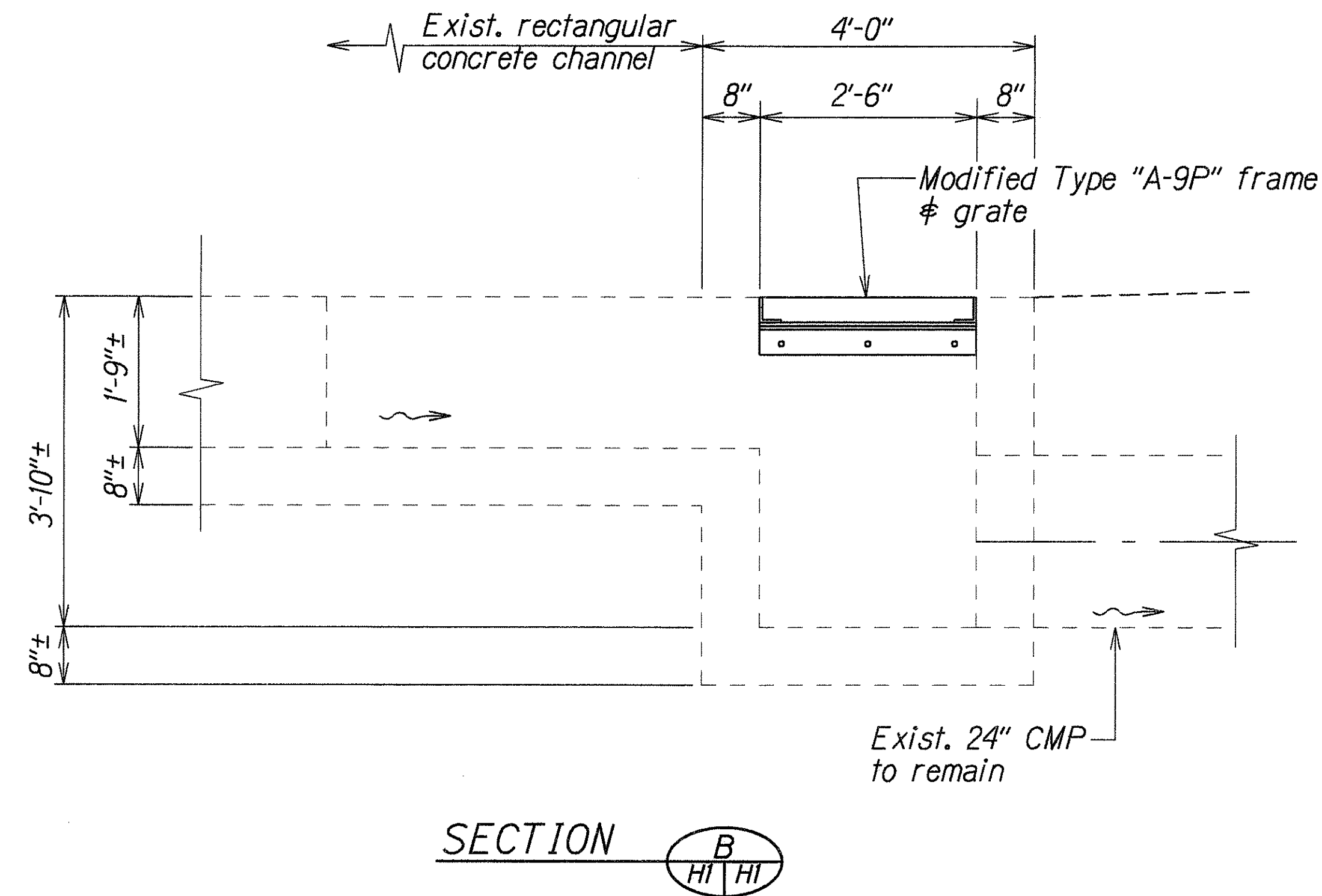
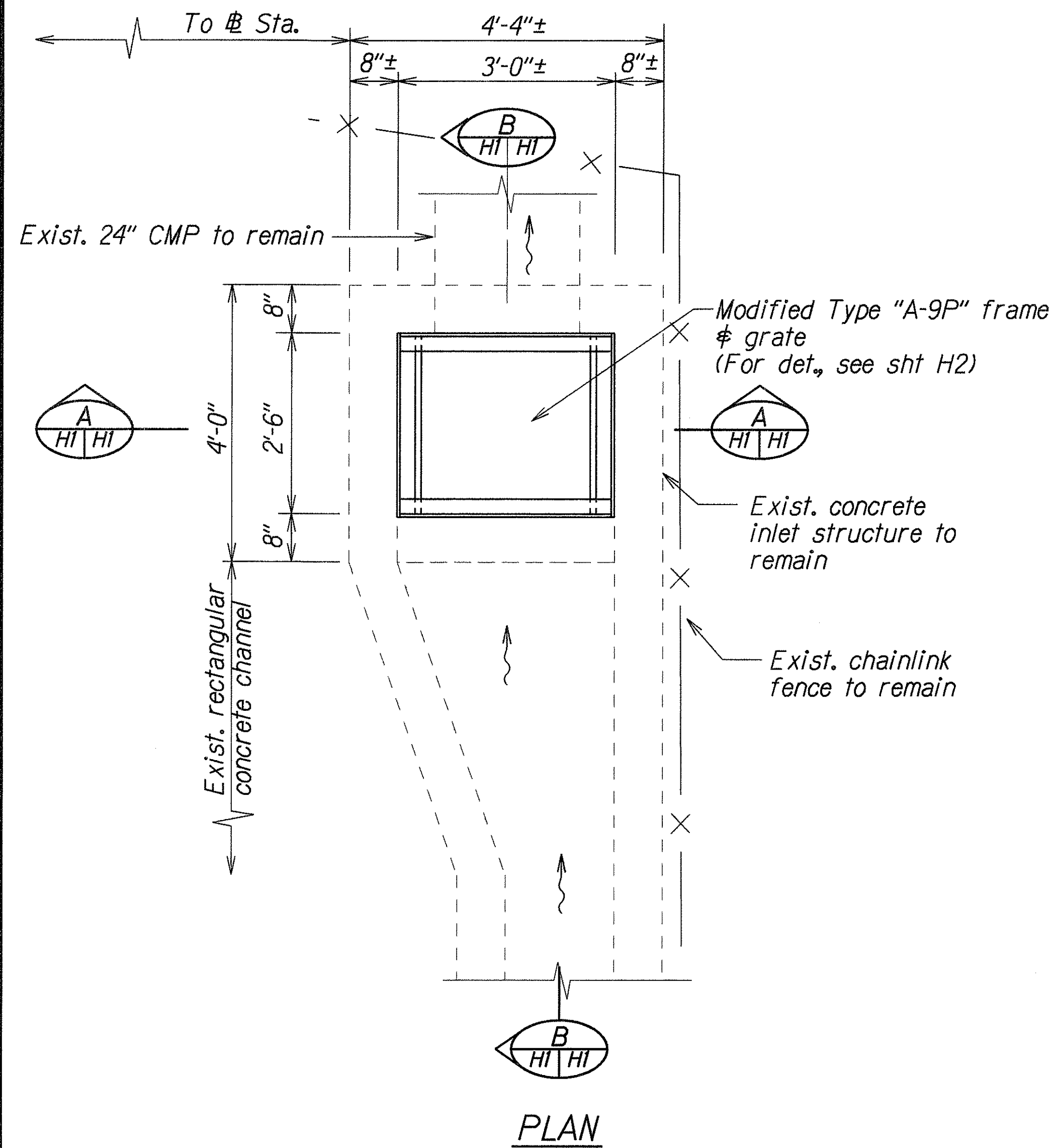


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(72)	2000	45	60



**DETAILS OF MODIFIED TYPE "A-9P" STEEL FRAME AND GRATE
AT WAIALAE OUTBOUND FRONTAGE ROAD # STA. 9+70± RT.**

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE DETAILS

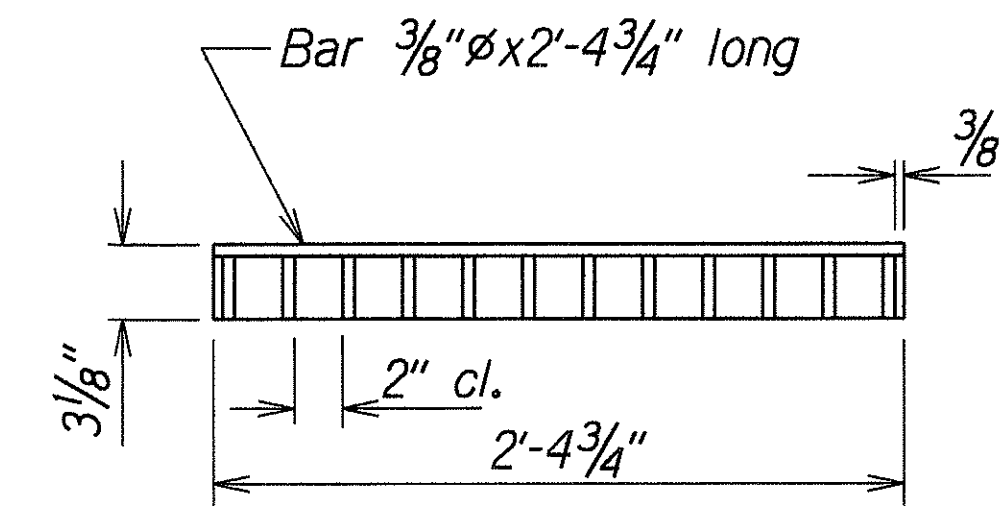
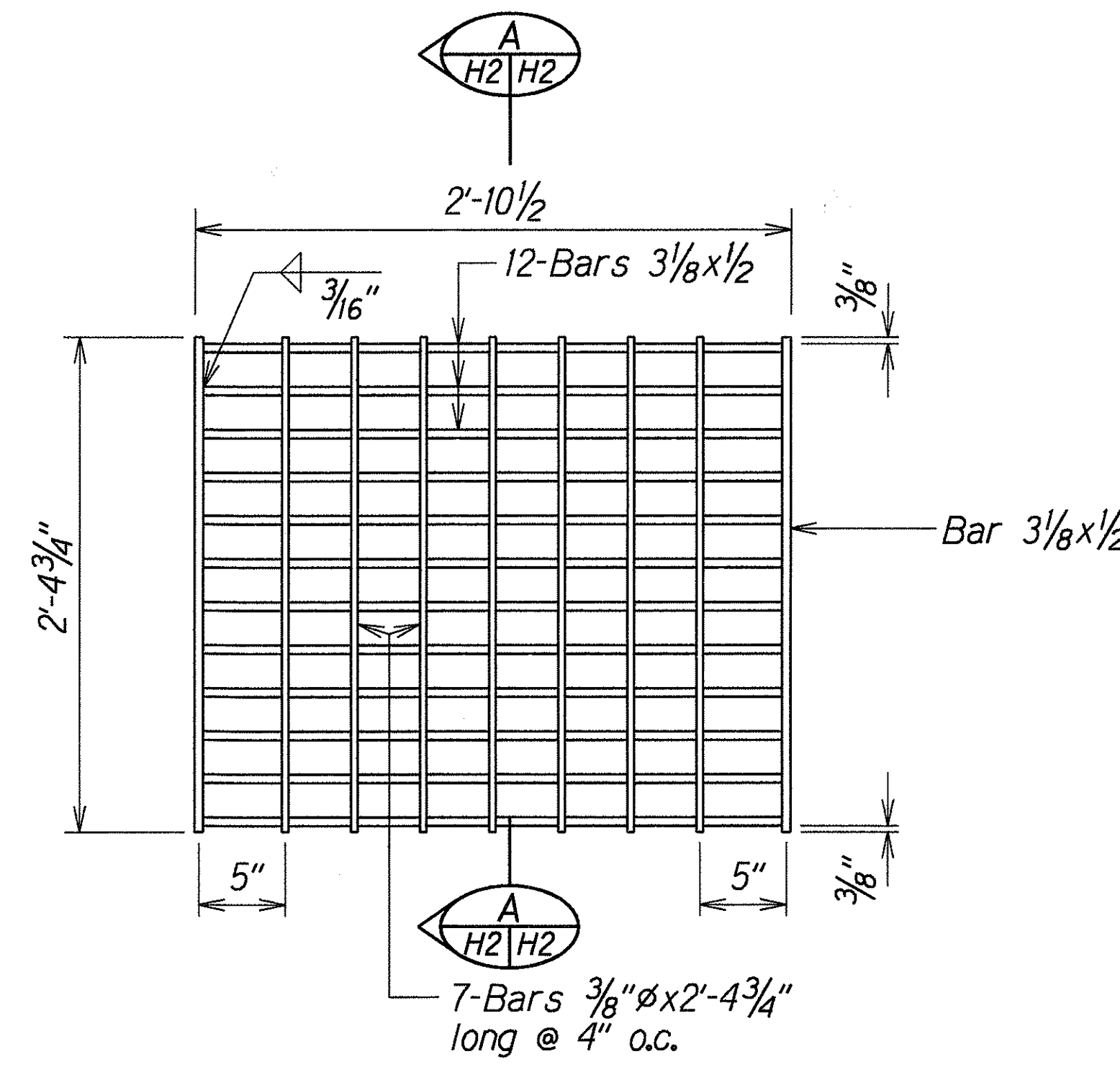
Waialae Avenue Shoulder Improvements
For Bicycle Lanes
Kealaolu Avenue to Kalanianaʻole Highway
and 17th Avenue to 21st Avenue
Federal Aid Project No. CMAQ-0300(72)

Scale: 3/4"=1'-0" Date: Dec. 1999

SHEET No. HI OF 2 SHEETS

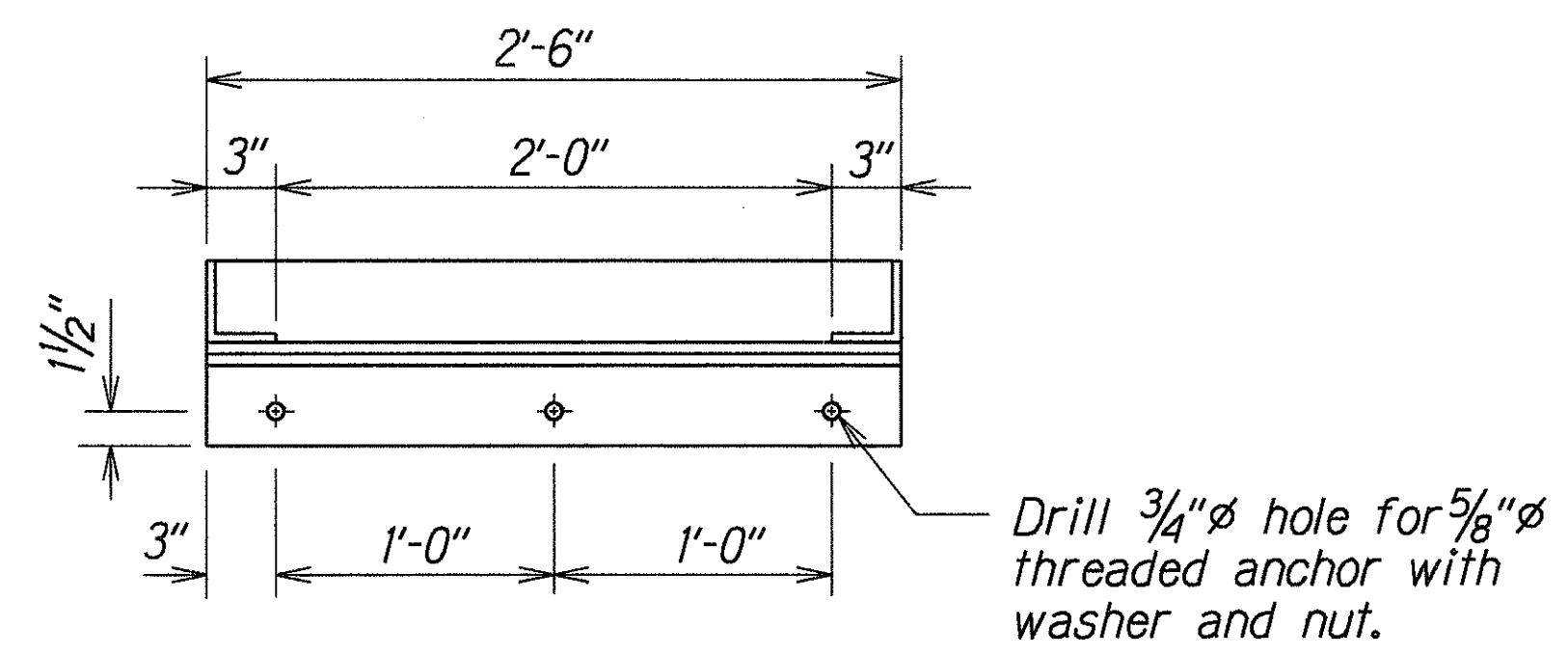
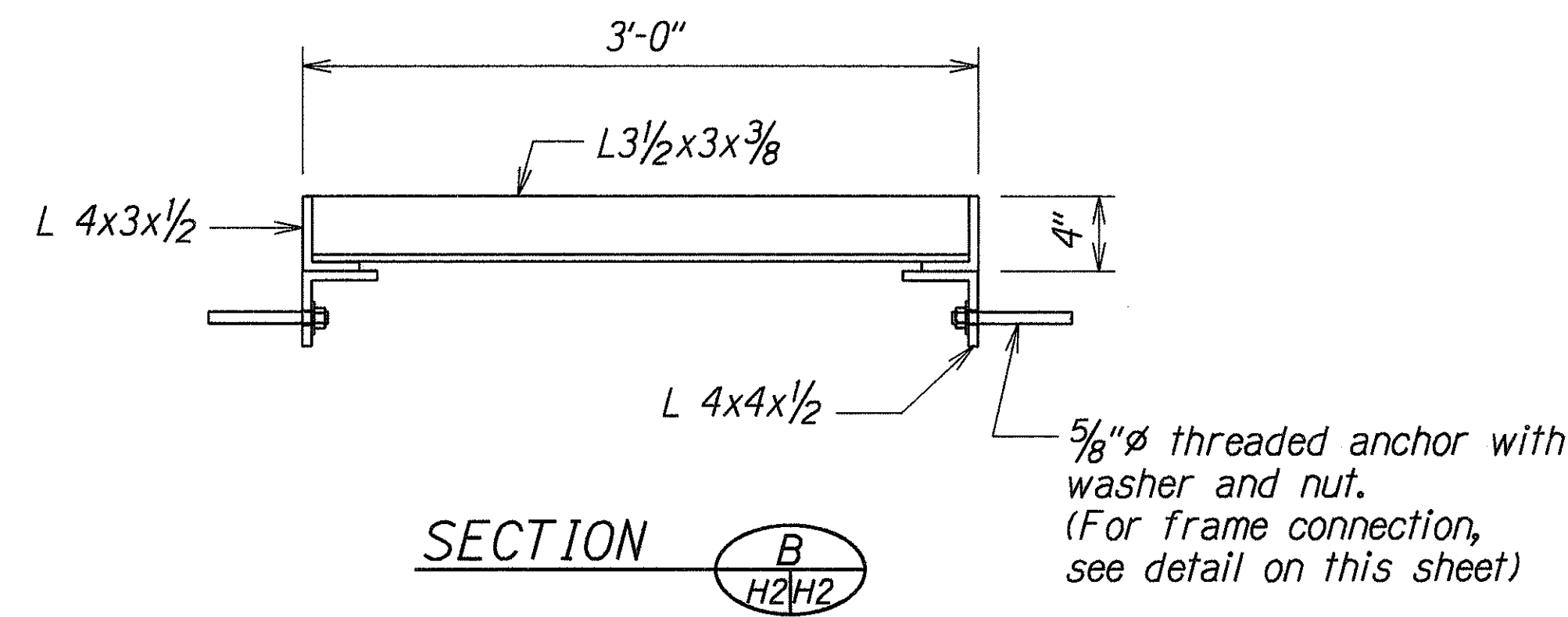
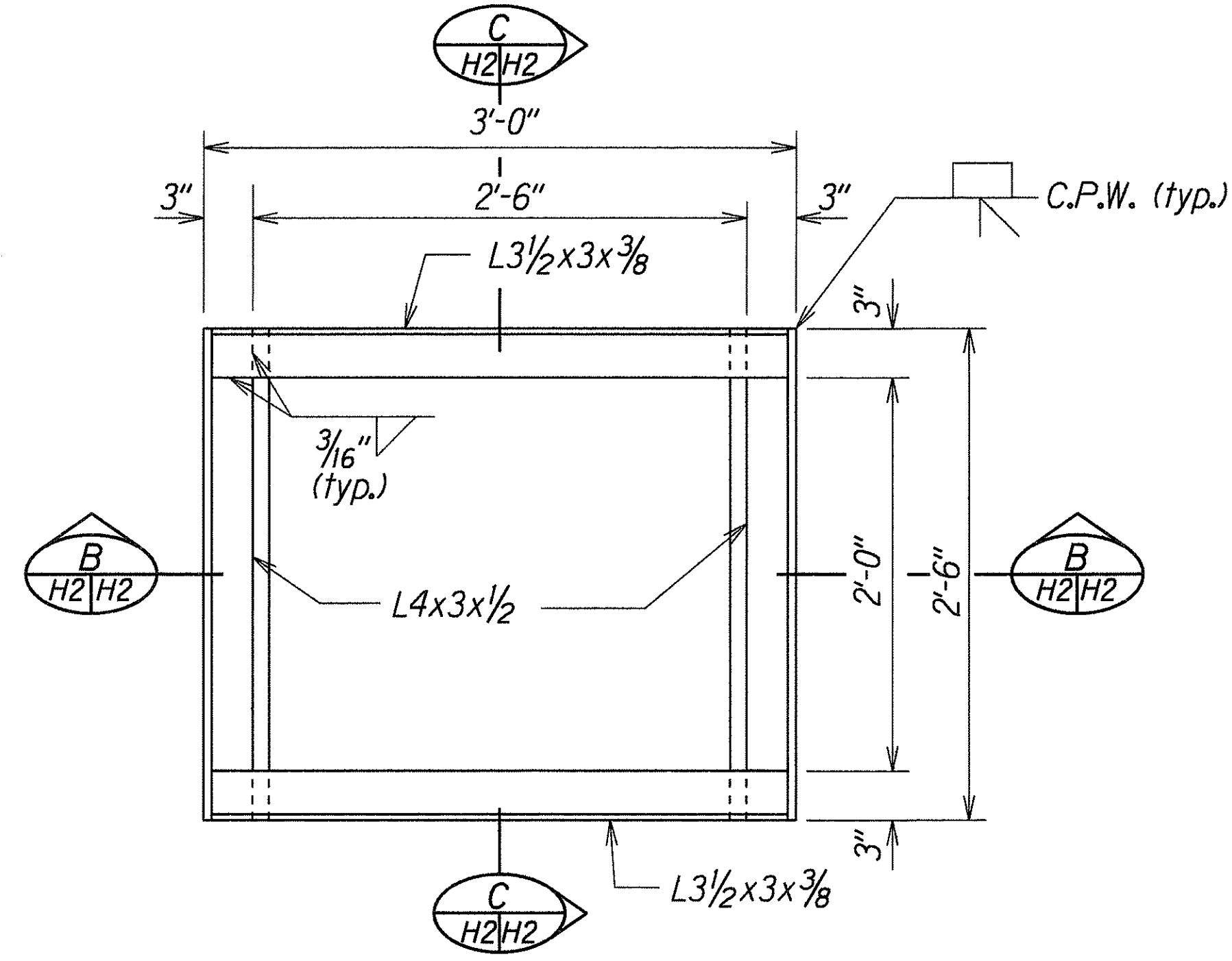
ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTED BOOK	DRAWN BY A. Noma	12/15/99
DESIGNED BY C. Matsuda	CHECKED BY	
APPROVED BY		

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(72)	2000	46	60

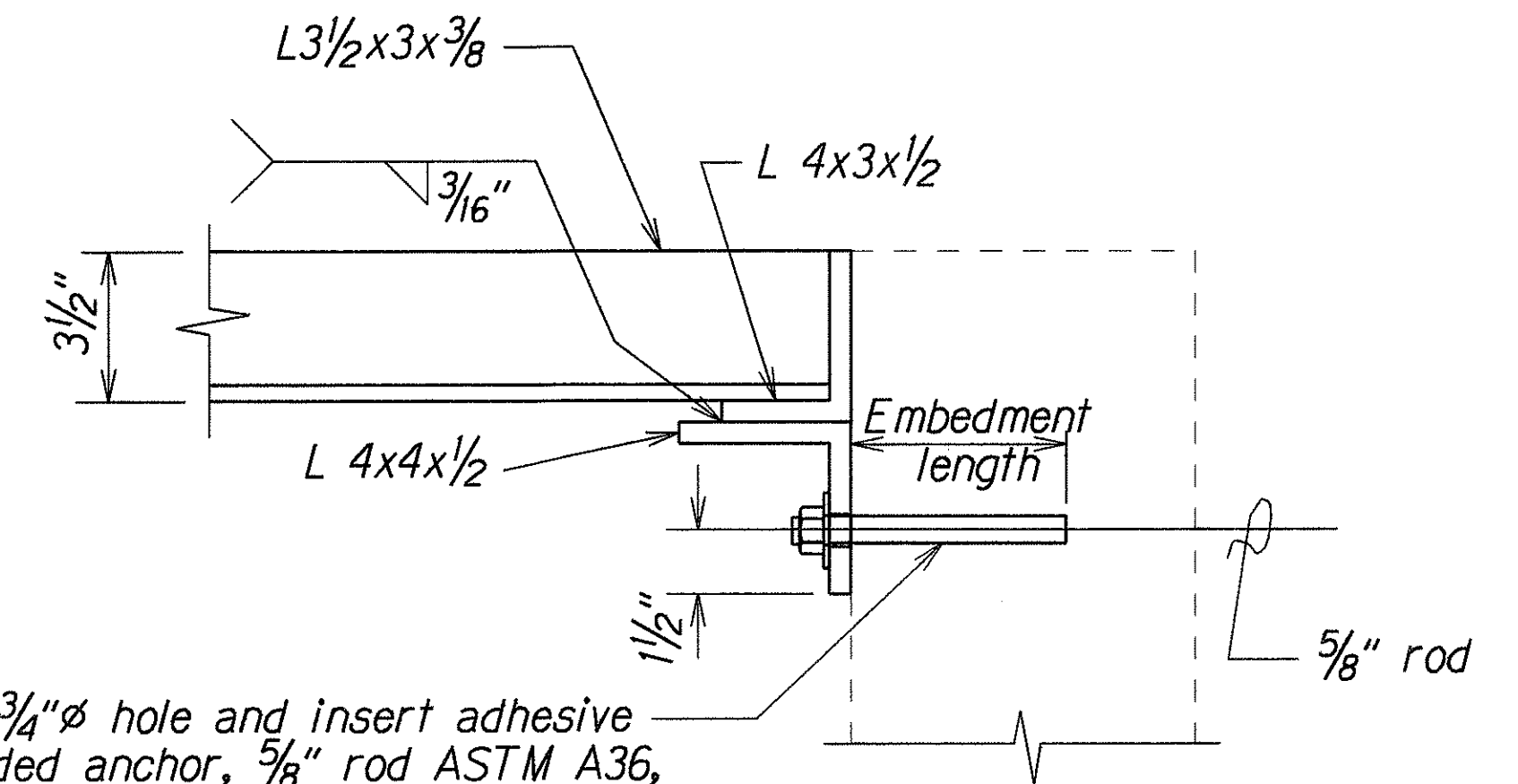


GRATE
Scale: 1 1/2"=1'-0"

NOTE:
All welds 3/8" unless otherwise noted.

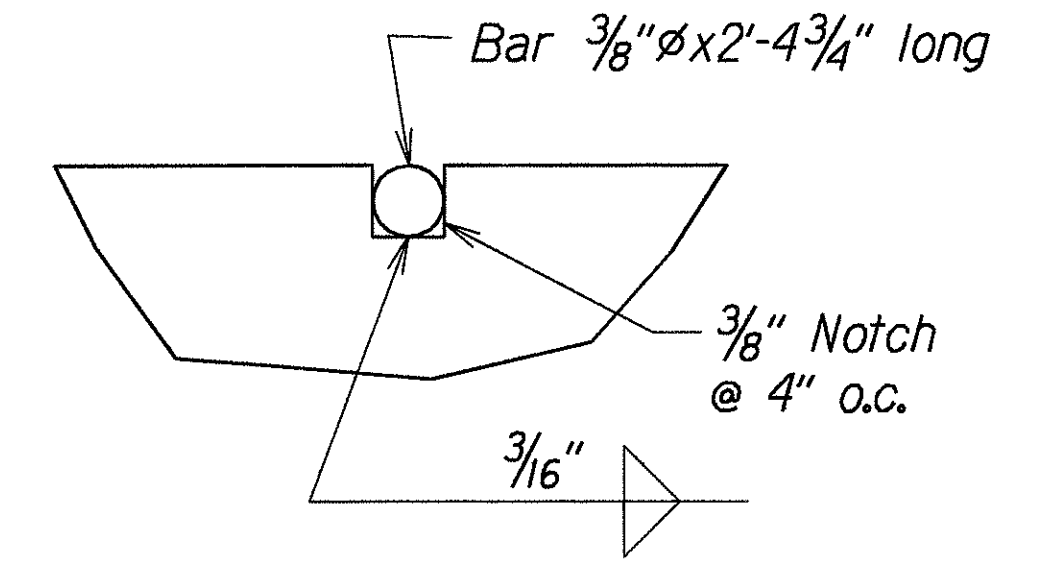


FRAME
Scale: 1 1/2"=1'-0"



Drill 3/4" hole and insert adhesive threaded anchor, 5/8" rod ASTM A36, washer, and nut. Steel shall be hot-dipped galvanized. Embedment length shall conform to manufacturer's recommendation, but not less than 5". Adhesive shall be of pre-mixed type.

FRAME CONNECTION DETAIL
Scale: 3"=1'-0"



NOTCH DETAIL
Full Size

**DETAILS OF MODIFIED TYPE "A-9P" STEEL FRAME AND GRATE
AT WAIALAE OUTBOUND FRONTAGE ROAD @ STA. 9+70± RT.**

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

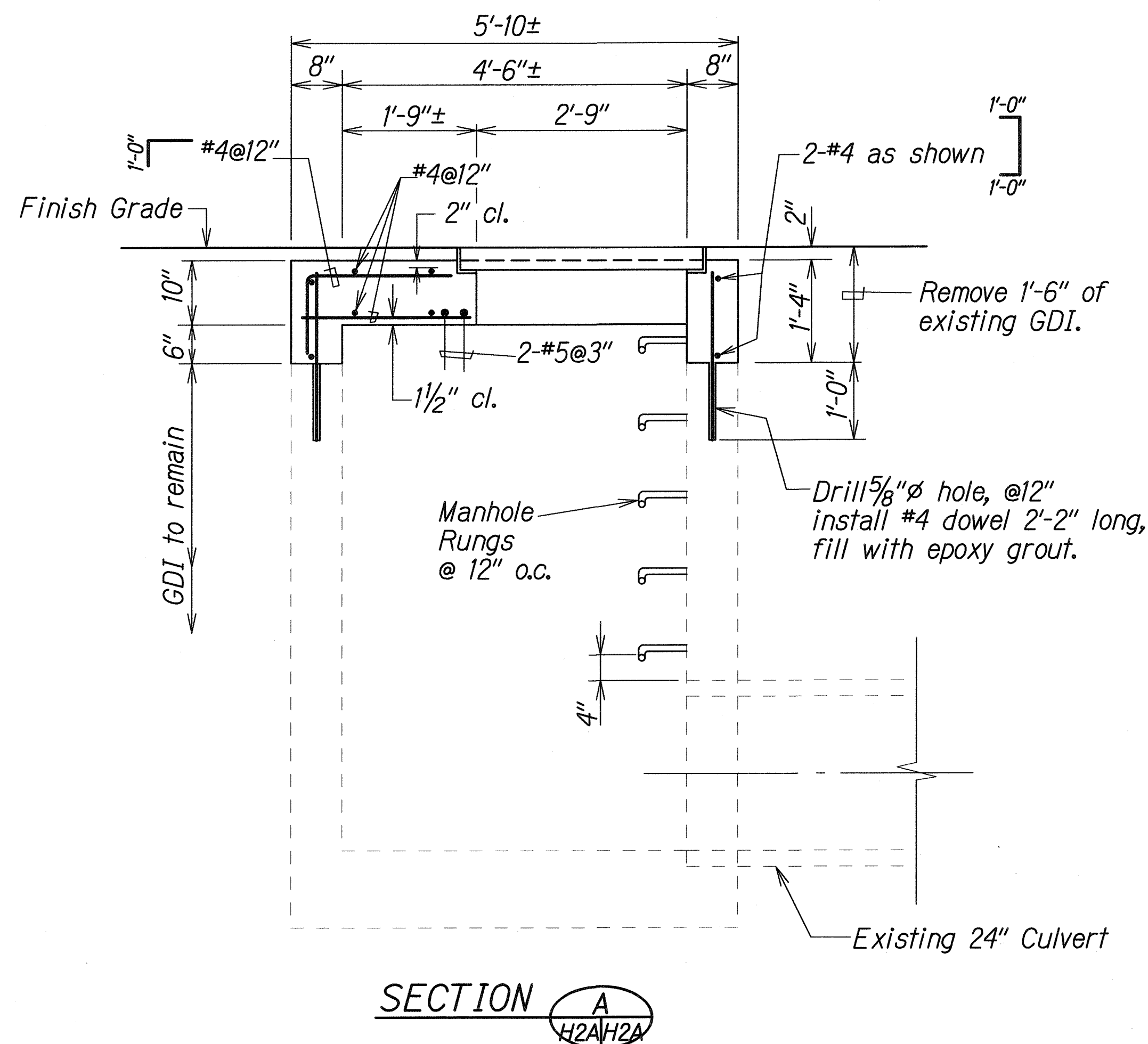
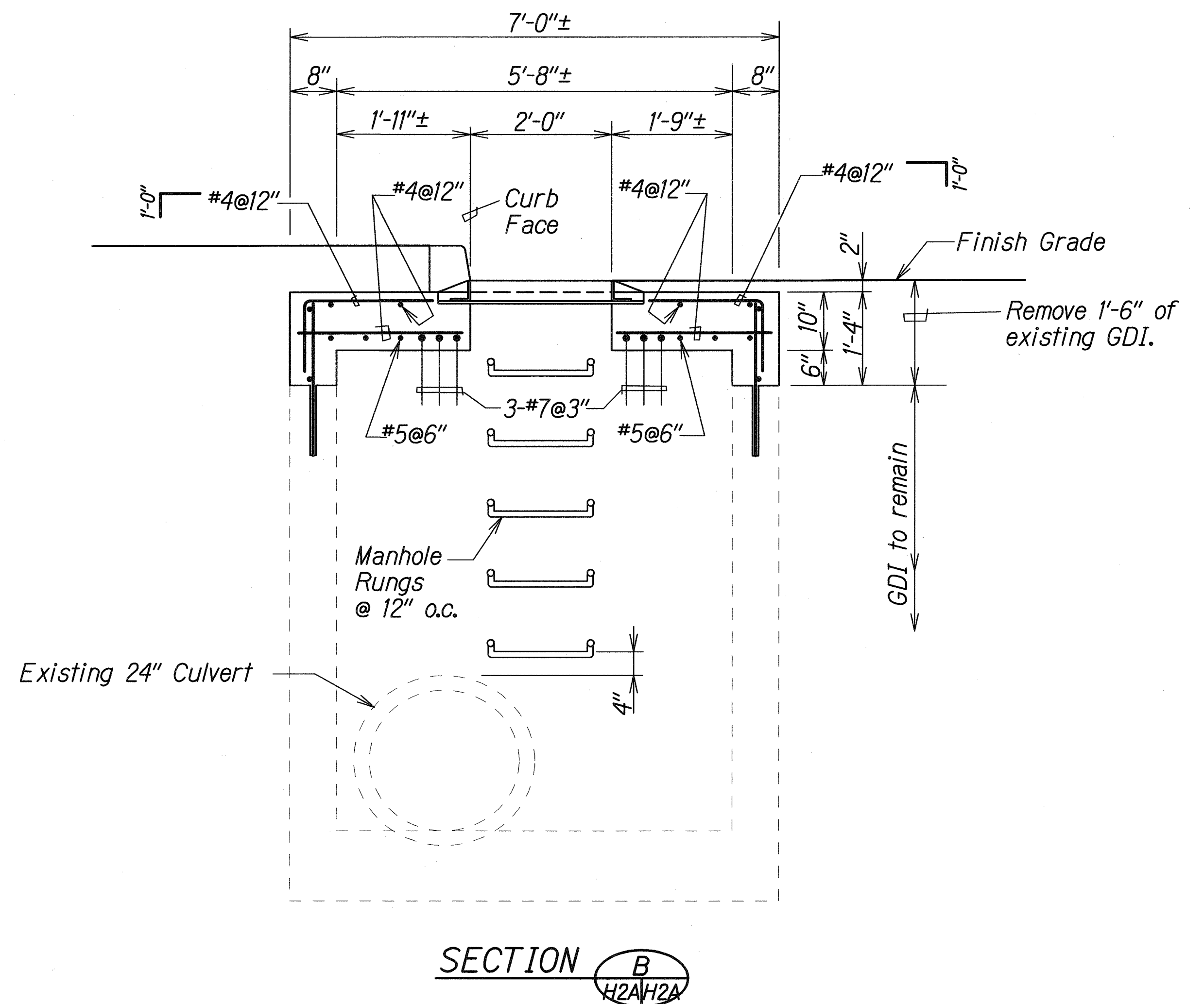
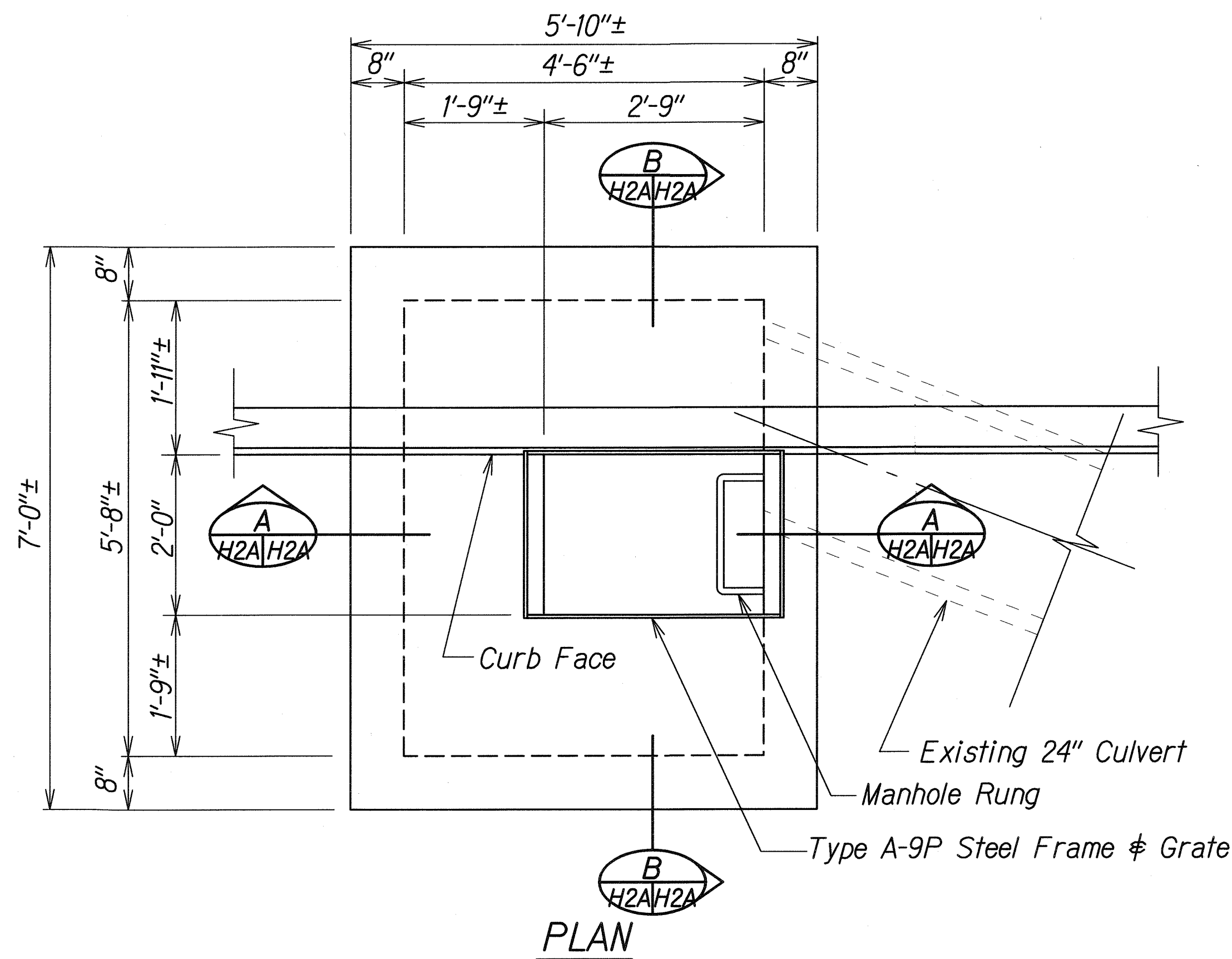
DRAINAGE DETAILS

Waiālae Avenue Shoulder Improvements
For Bicycle Lanes
Kealaolu Avenue to Kalanianaʻole Highway
and 17th Avenue to 21st Avenue
Federal Aid Project No. CMAQ-0300(72)

Scale: As Shown Date: Dec. 1999

SHEET No. H2 OF 2 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(72)	2000	46 S-1	60



RECONSTRUCTION OF TYPE "A-9P" GRATED DROP INLET

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

9/25/01	Revised location of curb face and A-9P Frame & Grate on top of the GDI.
10/27/00	Sheet added to show detail of Type A-9P GDI.
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION DRAINAGE DETAILS Waialae Avenue Shoulder Improvements For Bicycle Lanes Kealahou Avenue to Kalanianaʻole Highway and 17th Avenue to 21st Avenue Federal Aid Project No. CMAQ-0300(72) Scale: 3/4"=1'-0" Date: Dec. 1999	
SHEET No. H2A OF 2 SHEETS	