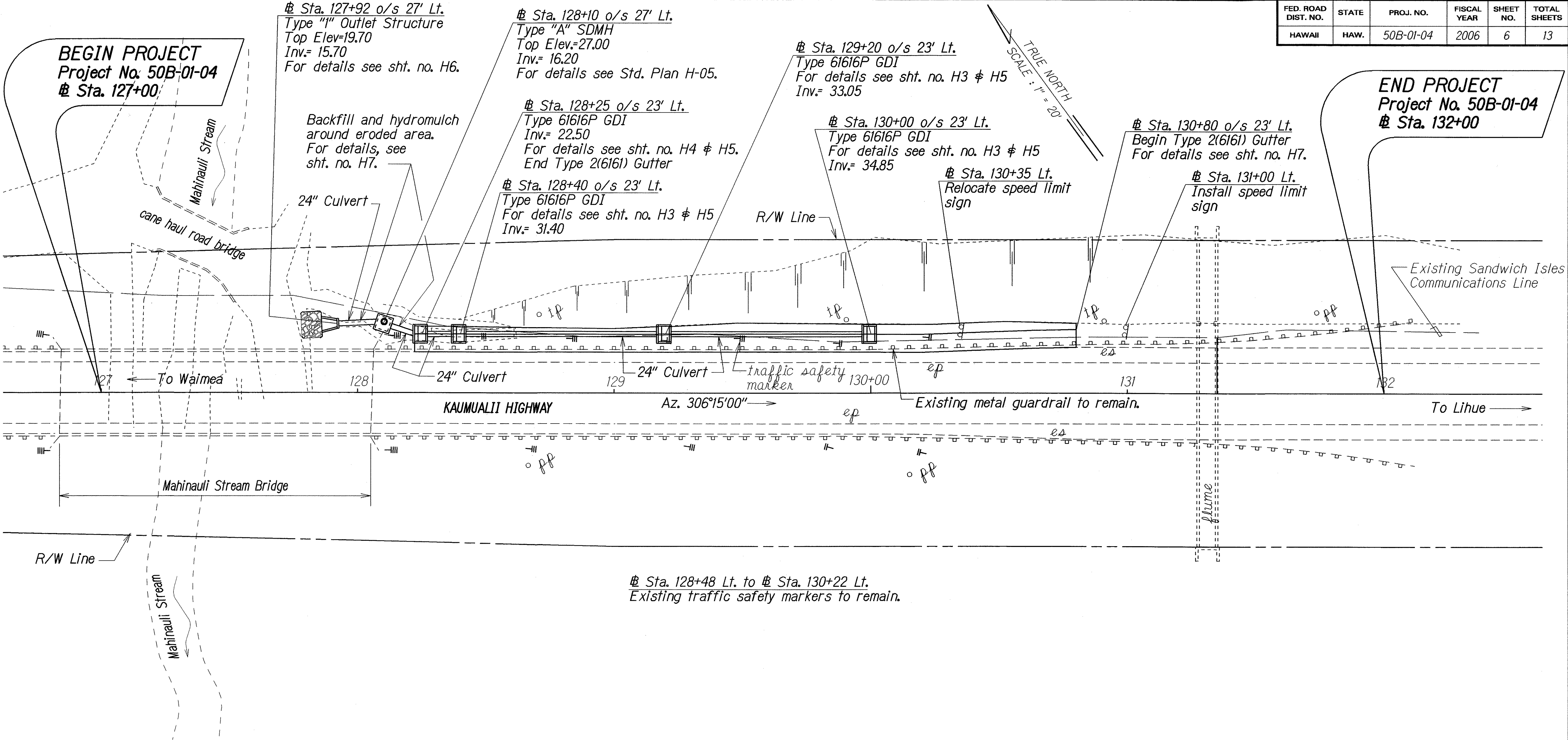


FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	50B-01-04	2006	6	13



ORIGINAL	SURVEY PLOTTED BY	DATE
PLAN	DRAWN BY LEC	12/7/04
NOTE BOOK	TRACED BY	
0134012-kauei-1003	DESIGNED BY BIL	
	CHECKED BY	
	CHECKED BY	

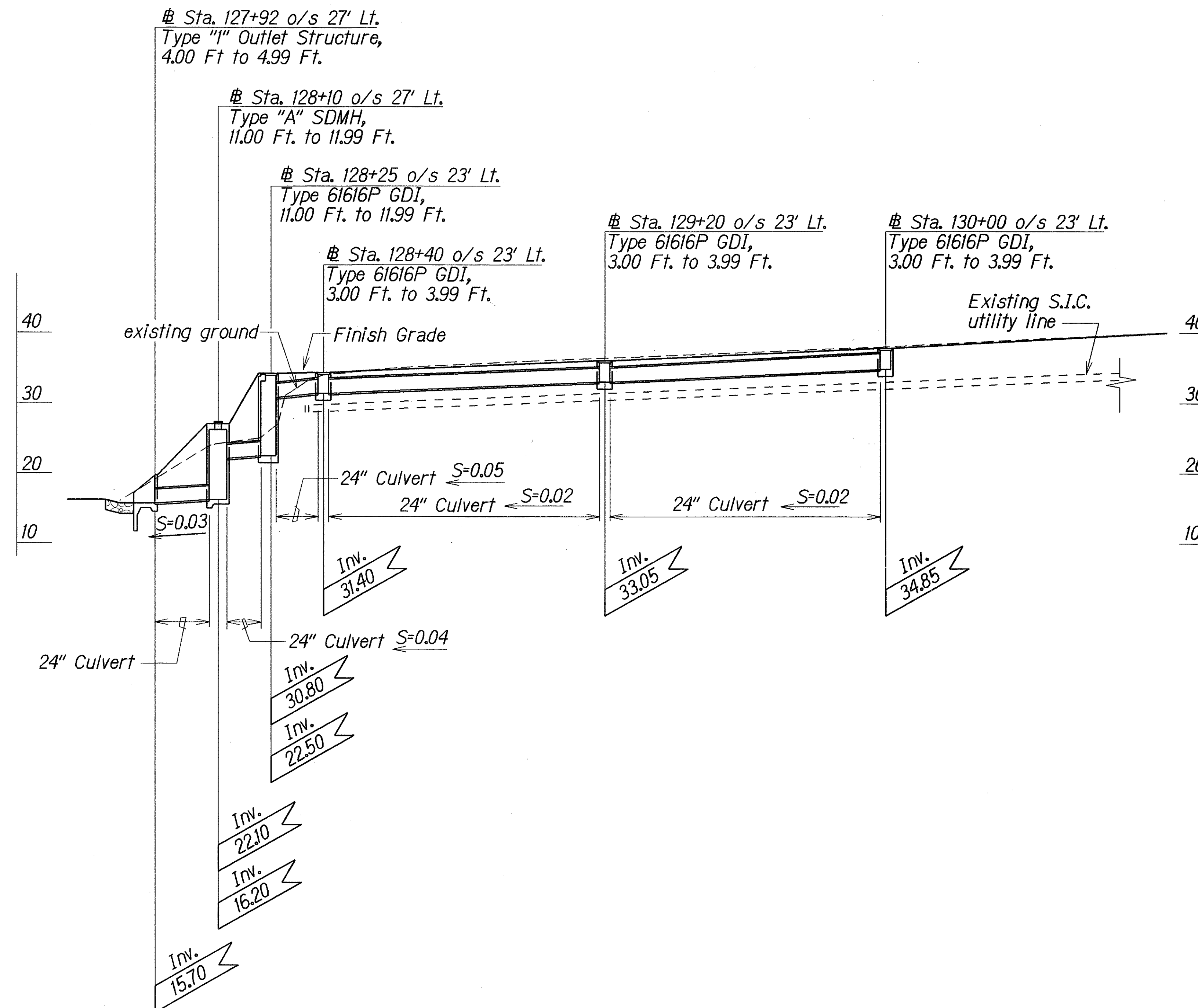
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE PLAN
KAUMUALII HIGHWAY DRAINAGE IMPROVEMENTS
Vicinity of Mahinauli Bridge
Proj. No. 50B-01-04

Scale: 1"=20'
Date: Dec, 2004

SHEET No. H1 OF 7 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	50B-01-04	2006	7	13



PROFILE - # STA. 127+92 O/S 27' LT. TO # STA. 130+00 O/S 24' LT.

Scale: Horiz. 1"=20'
Vert. 1"=10'

ORIGINAL PLAN	SURVEY PLOTTED BY _____	DATE _____
	DRAWN BY <u>LEC</u>	<u>3/16/2005</u>
NOTE BOOK	TRACED BY _____	
DESIGNED BY <u>ELT</u>		
QUANTITIES BY _____		
CHECKED BY _____		

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE PROFILE

KAUMUALII HIGHWAY DRAINAGE IMPROVEMENTS

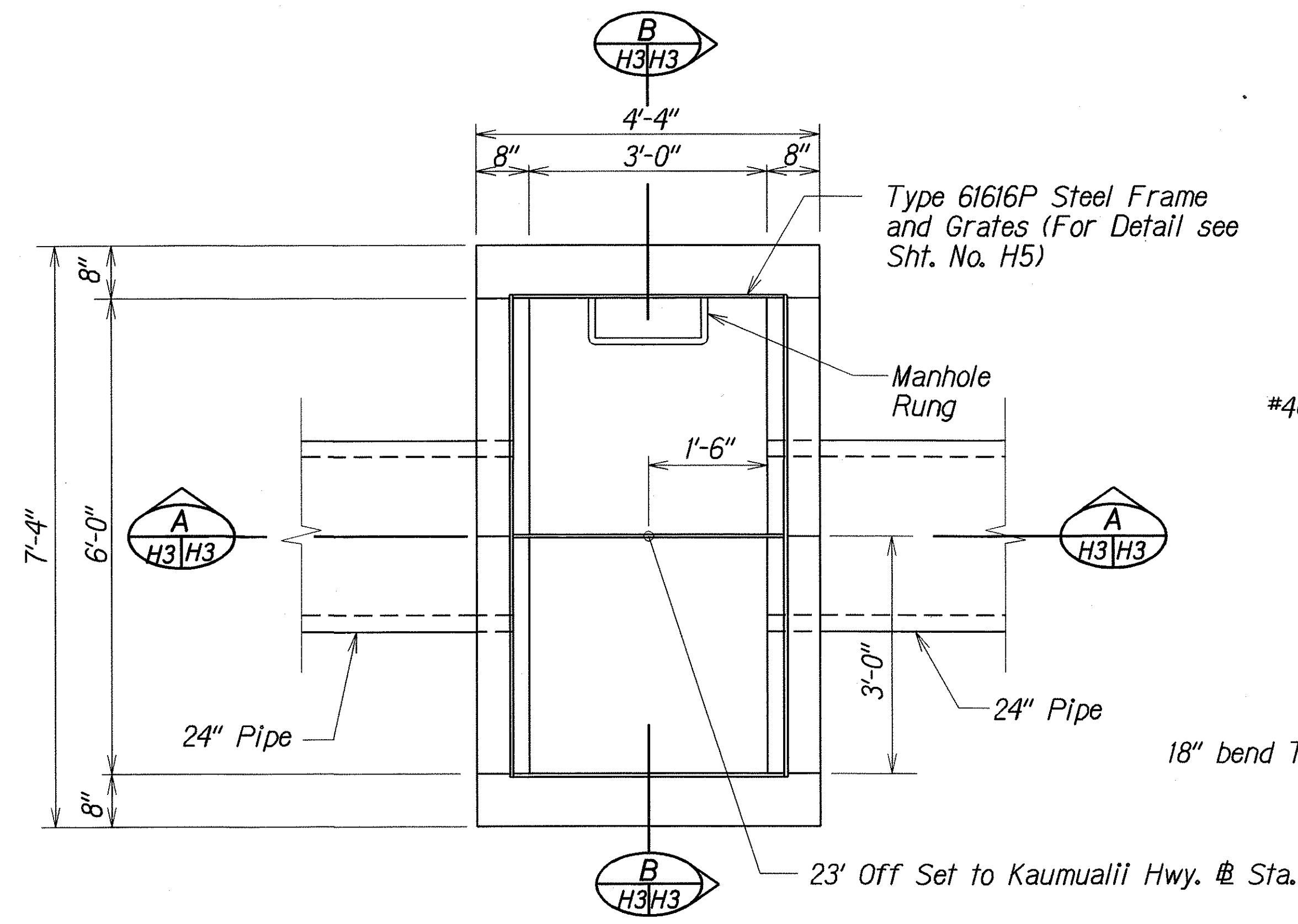
Vicinity of Mahinauli Bridge

Proj. No. 50B-01-04

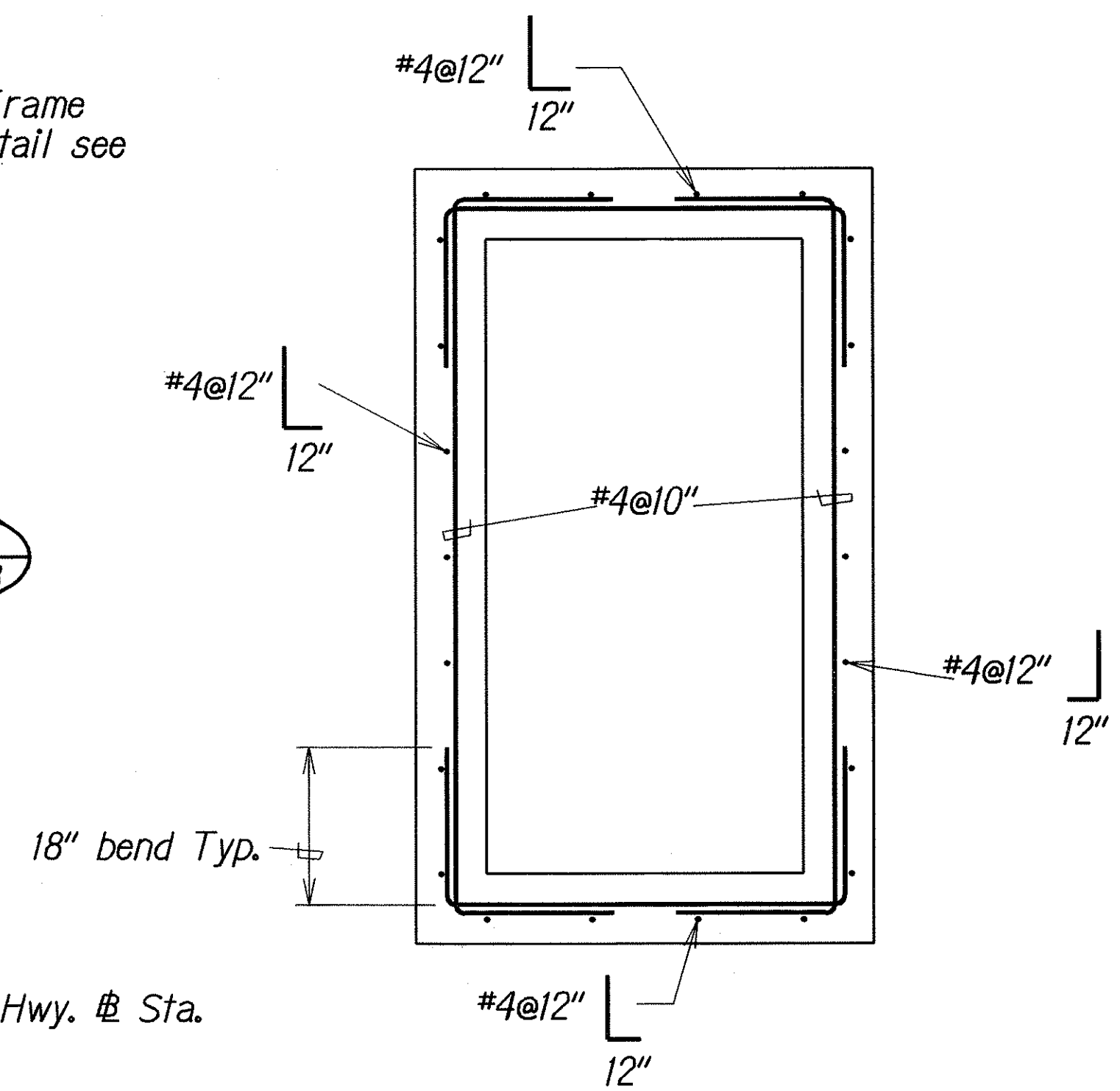
Scale: As Shown Date: March, 2005

SHEET No. **H2** OF **7** SHEETS

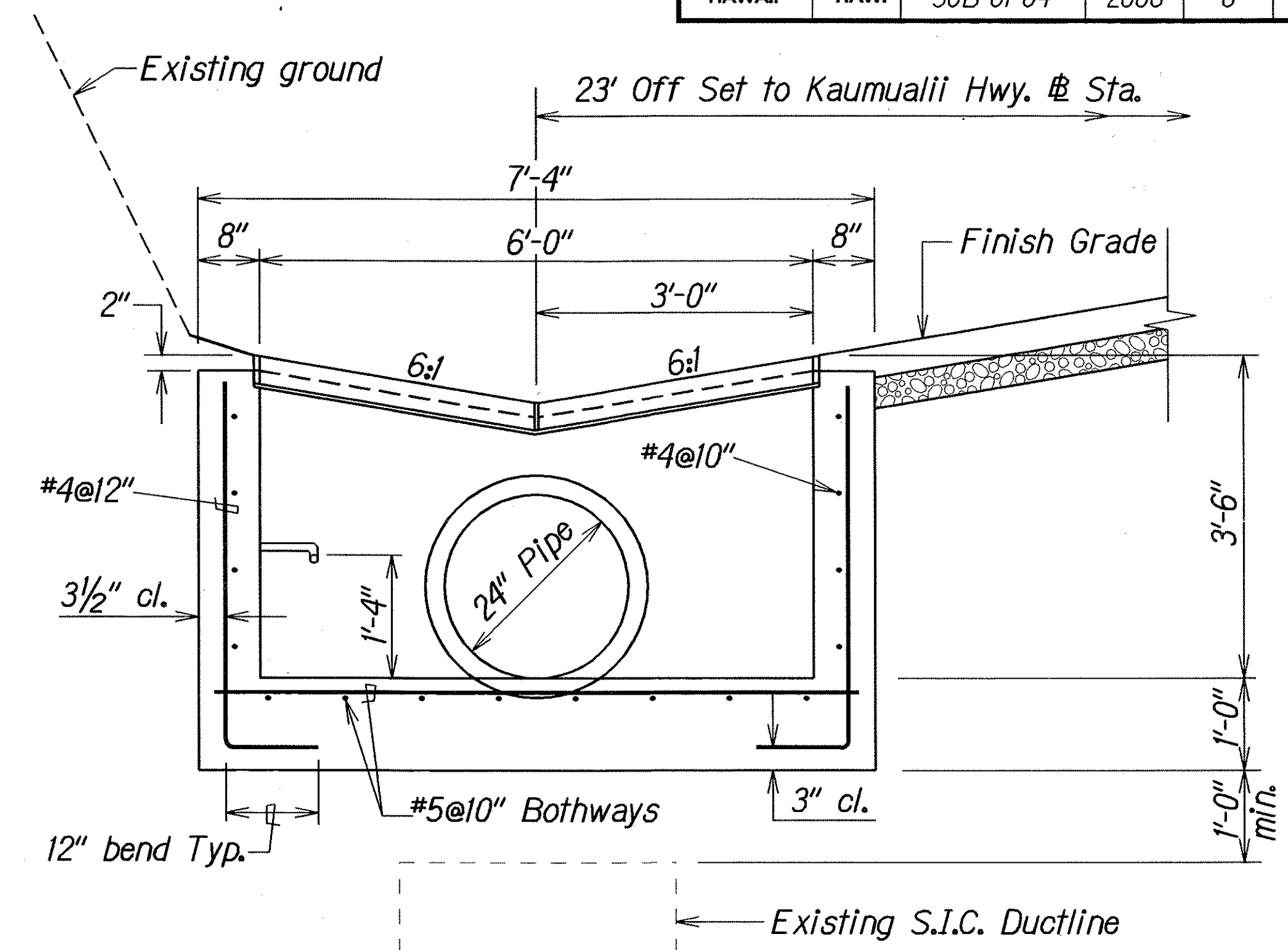
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	50B-01-04	2006	8	13



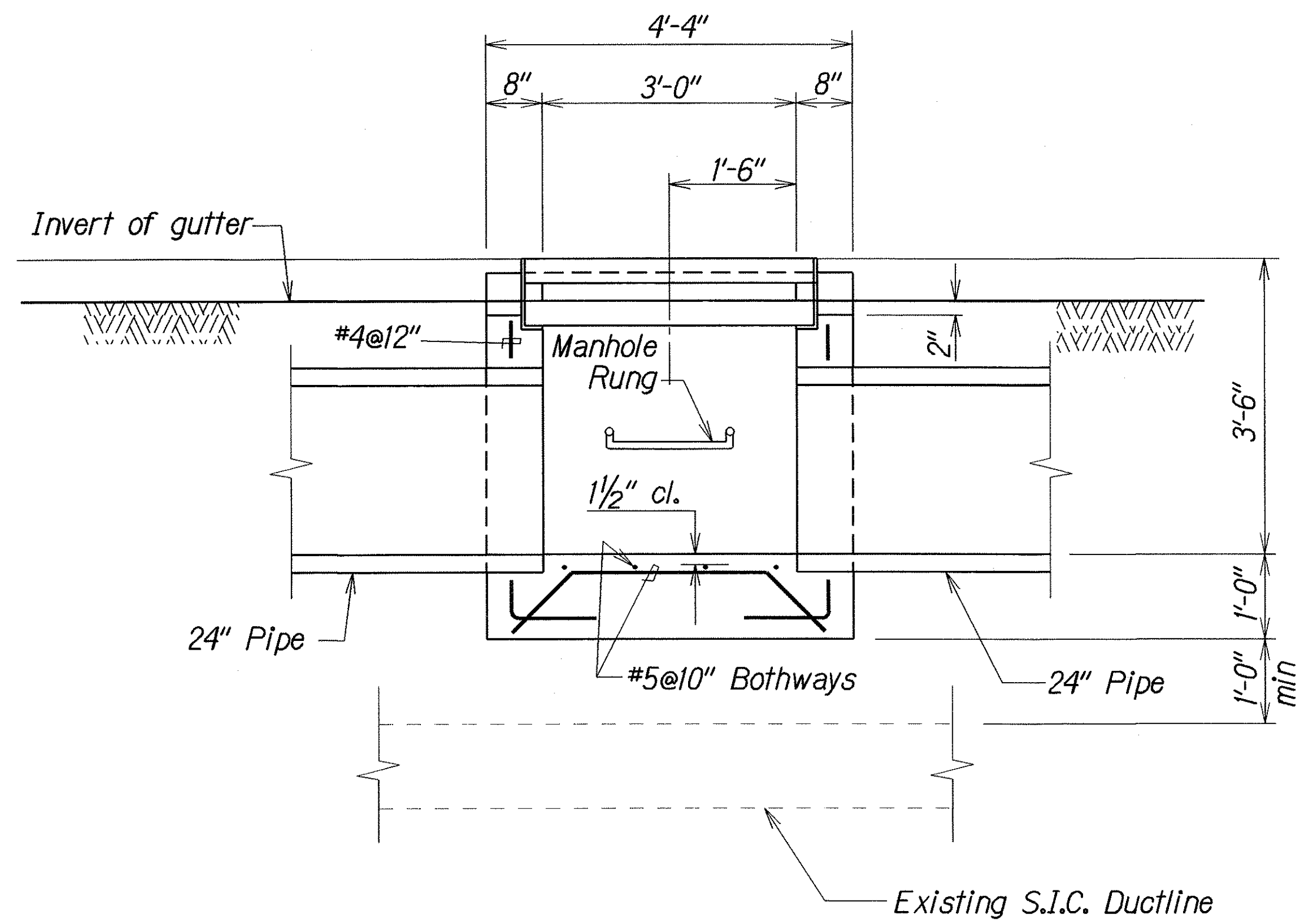
PLAN



PLAN VIEW OF WALL REINFORCING

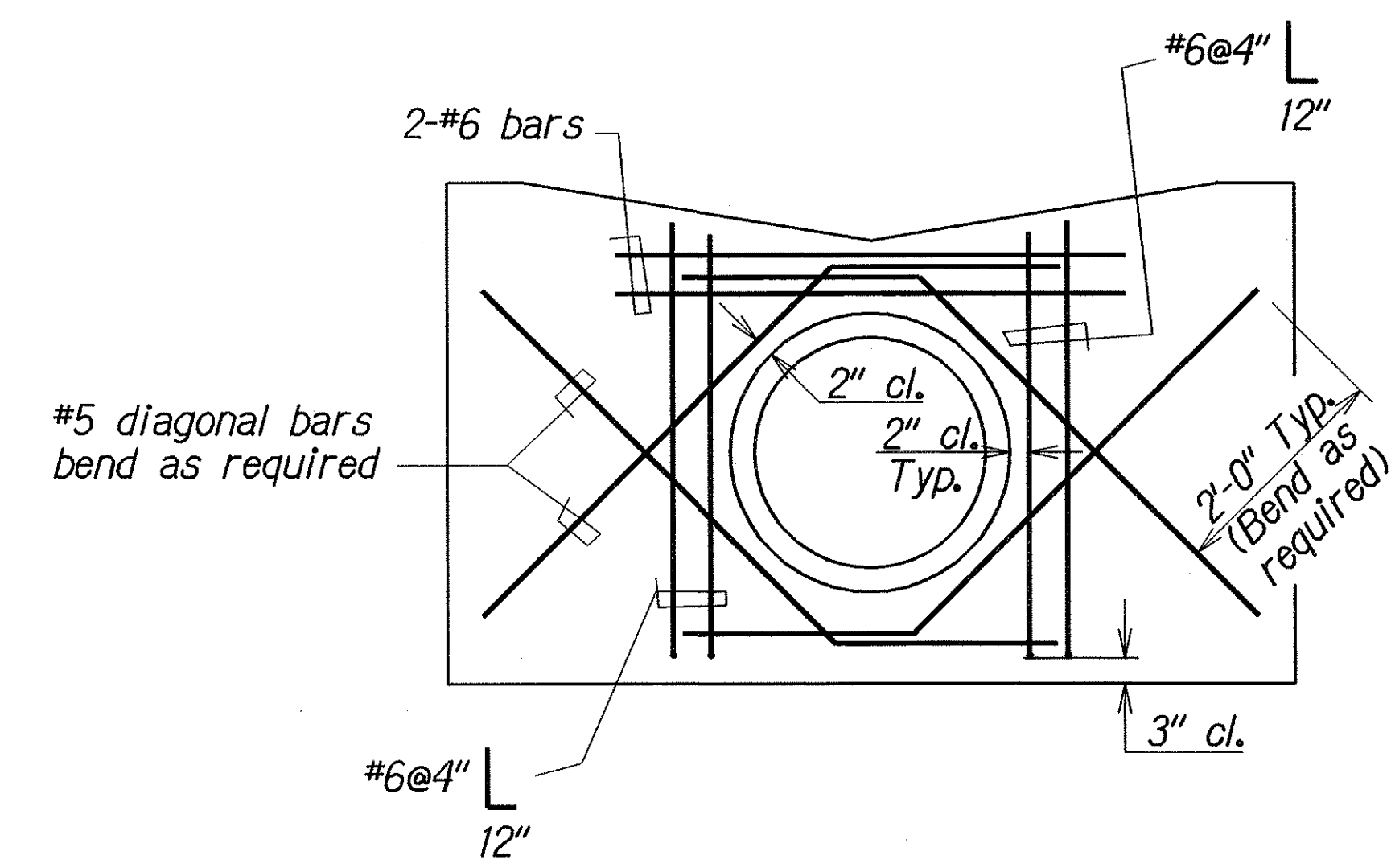


SECTION B H3/H3



SECTION A H3/H3

DETAILS OF TYPE 61616P GRATED DROP INLET



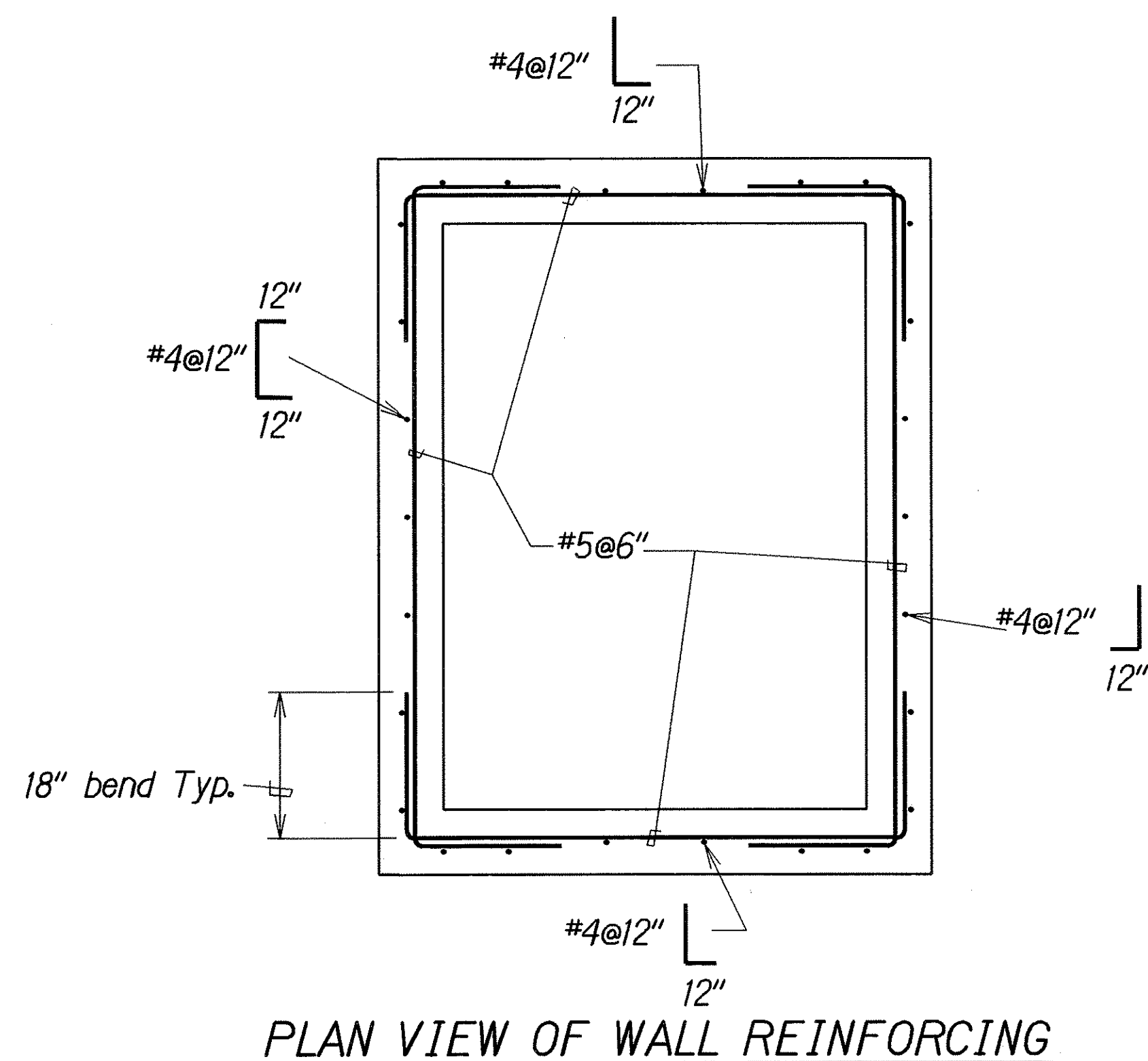
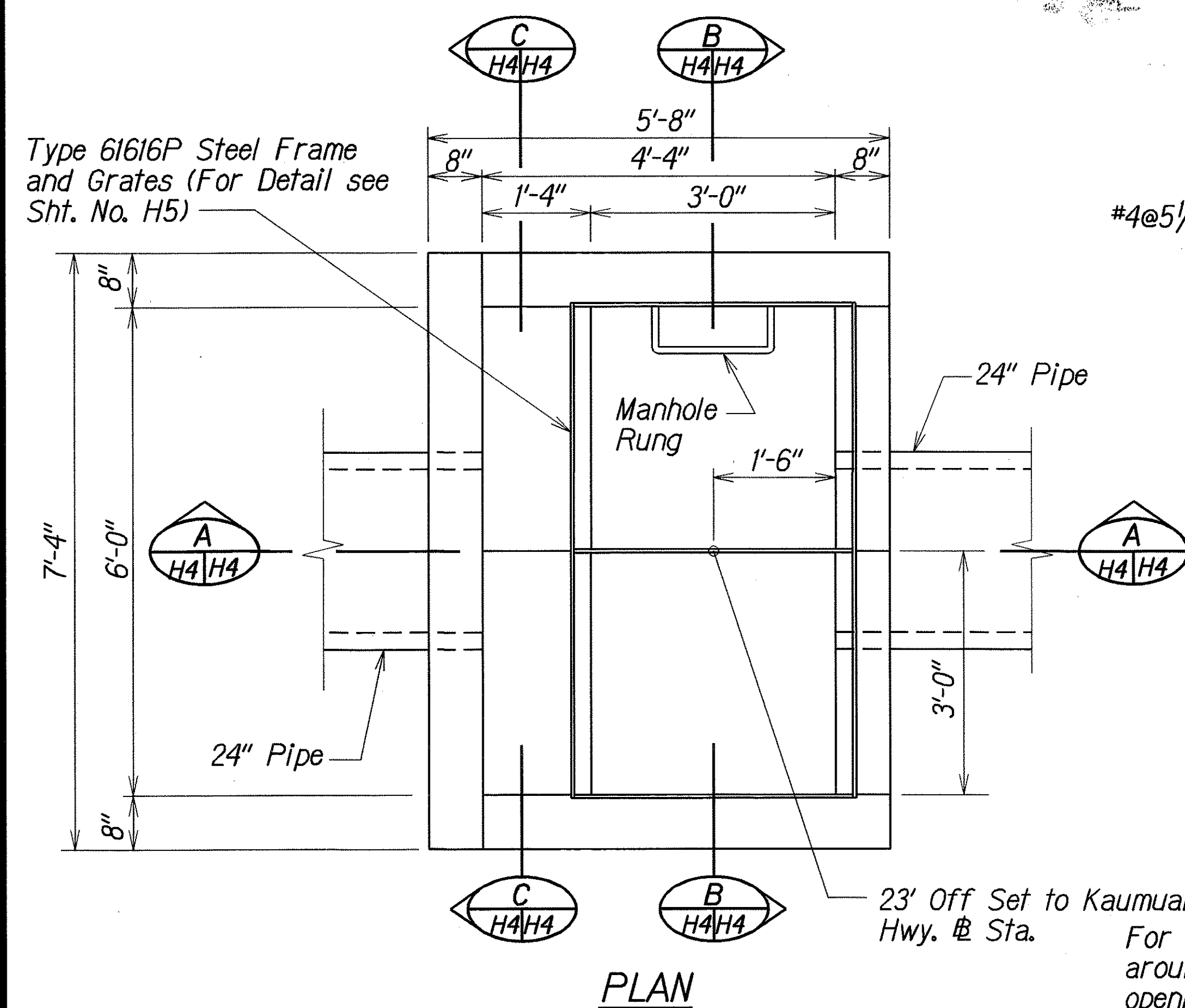
ADDED REINFORCING FOR CULVERT OPENING

DESIGNED BY	DATE
DRAWN BY	1/24/05
CHECKED BY	
NOTED BY	
QUANTITIES BY	
CHECKED BY	

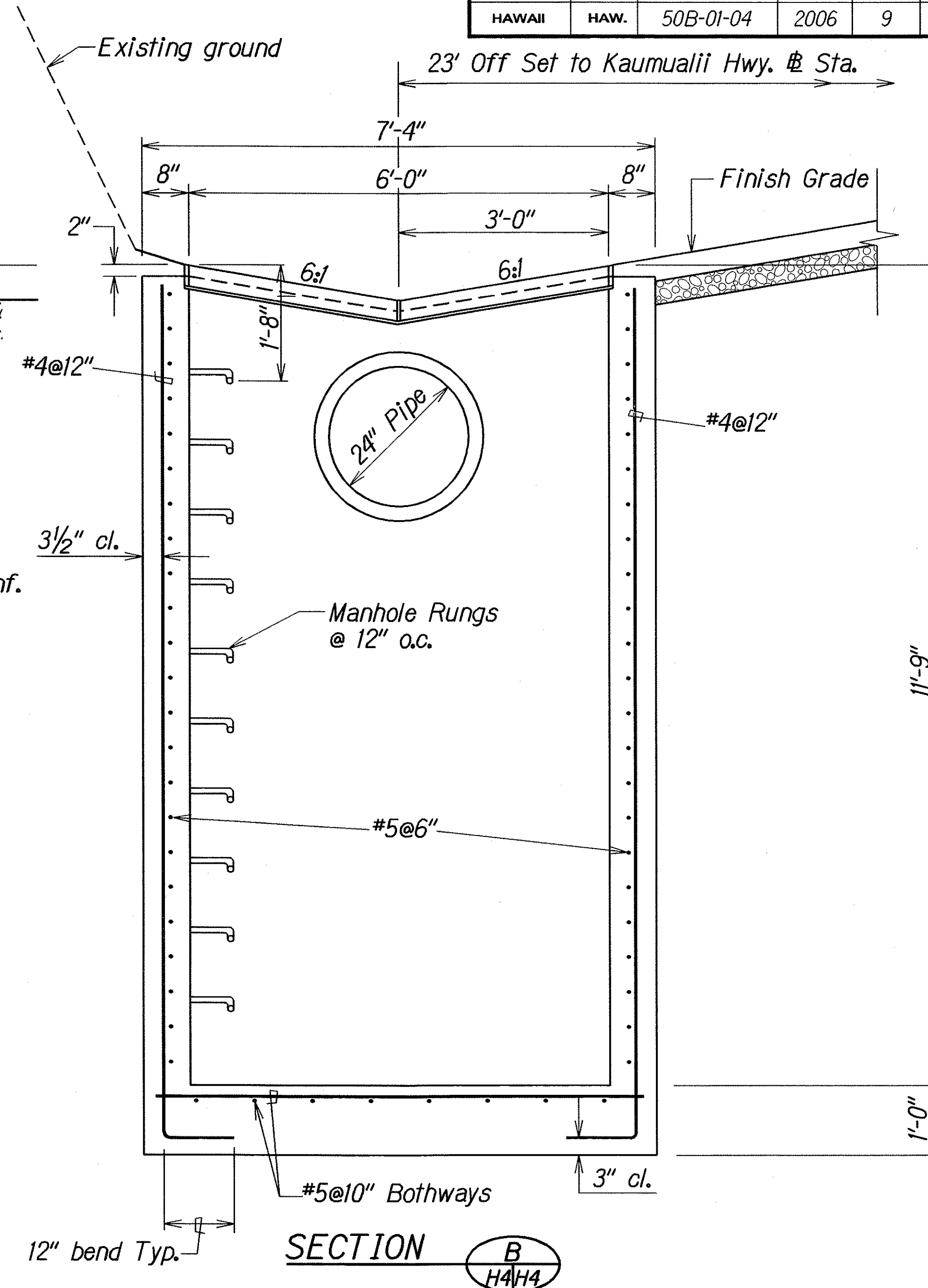
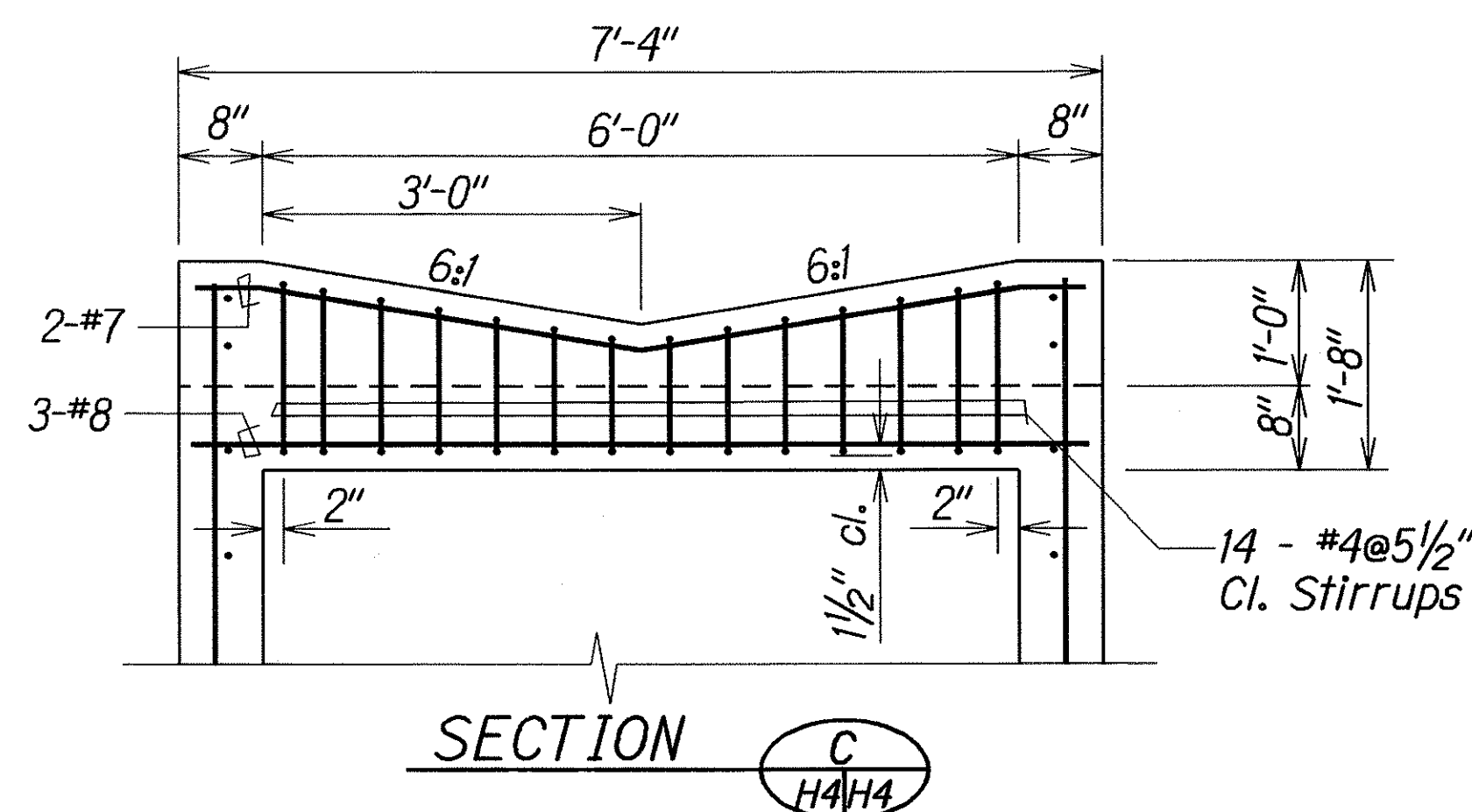
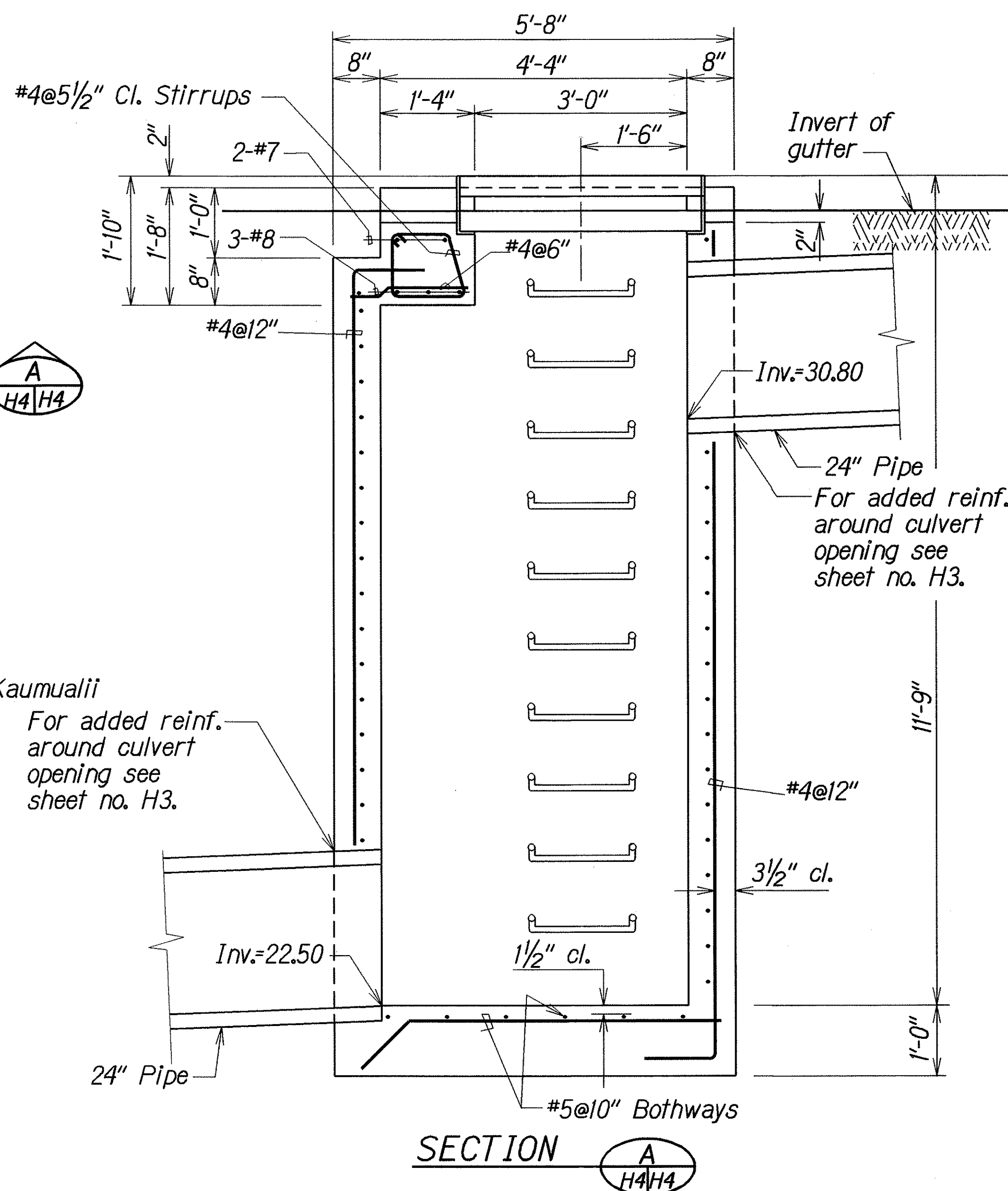
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE DETAILS
KAUMUALII HIGHWAY DRAINAGE IMPROVEMENTS
Vicinity of Mahinauli Bridge
Project No. 50B-01-04
Scale: 3/4" = 1'-0" Date: Jan. 2005
SHEET No. H3 OF 7 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	50B-01-04	2006	9	13



DETAILS OF TYPE 61616P GRATED DROP INLET AT STA. 128+25 O/S 23' LT.



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

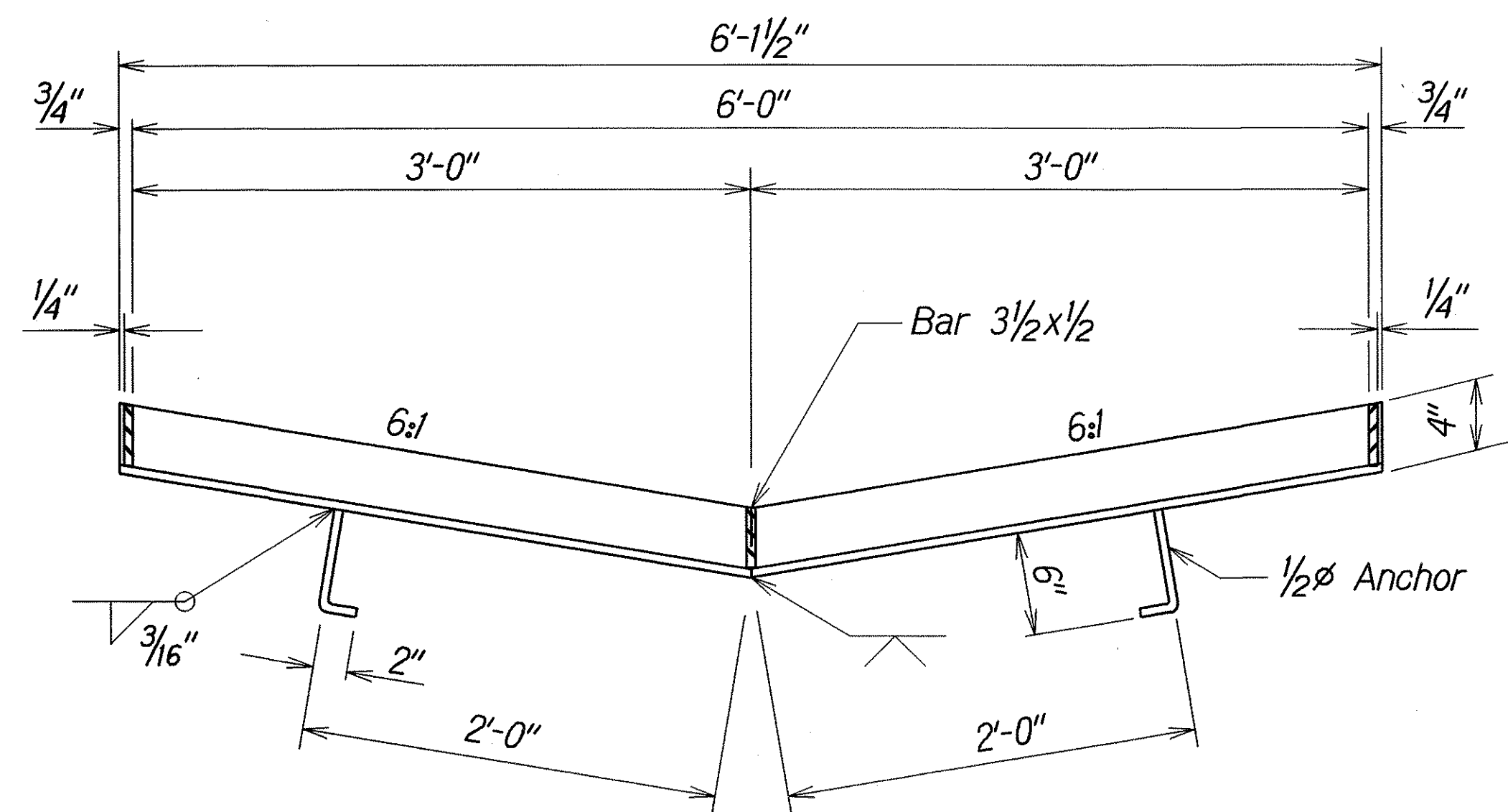
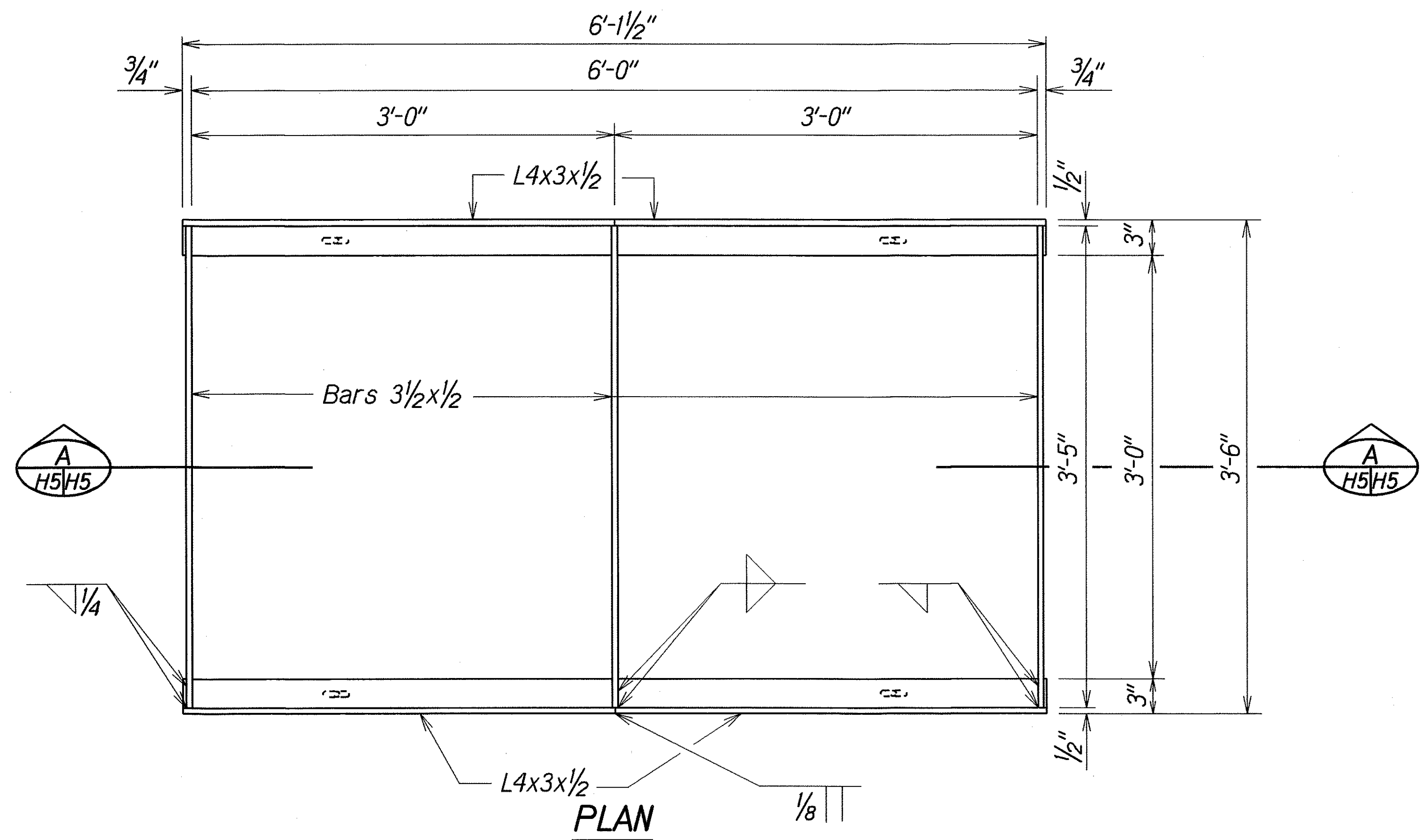
DRAINAGE DETAILS

KAUMUALII HIGHWAY DRAINAGE IMPROVEMENTS
Vicinity of Mahinauli Bridge
Project No. 50B-01-04

Scale: 3/4" = 1'-0" Date: Jan. 2005

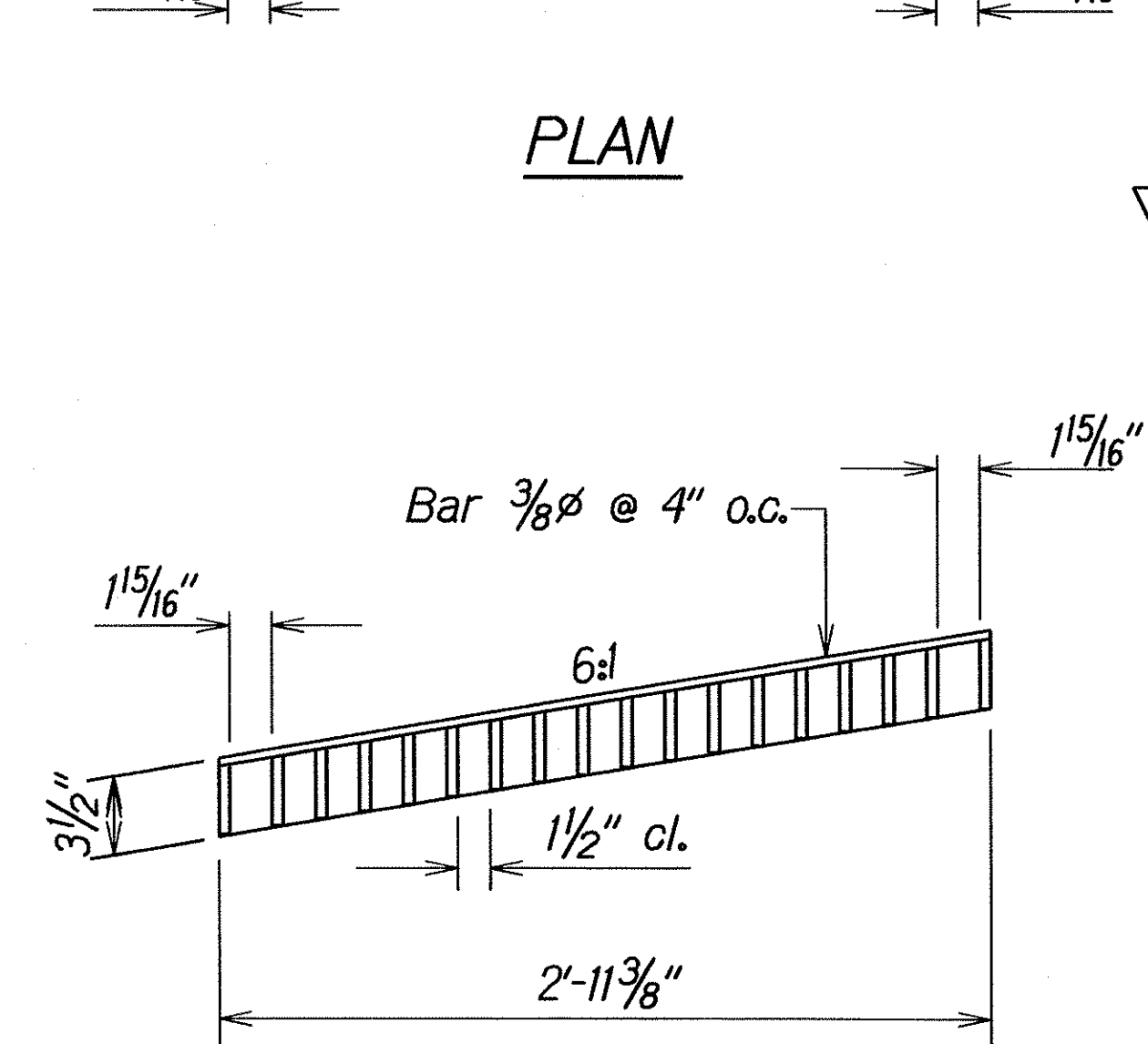
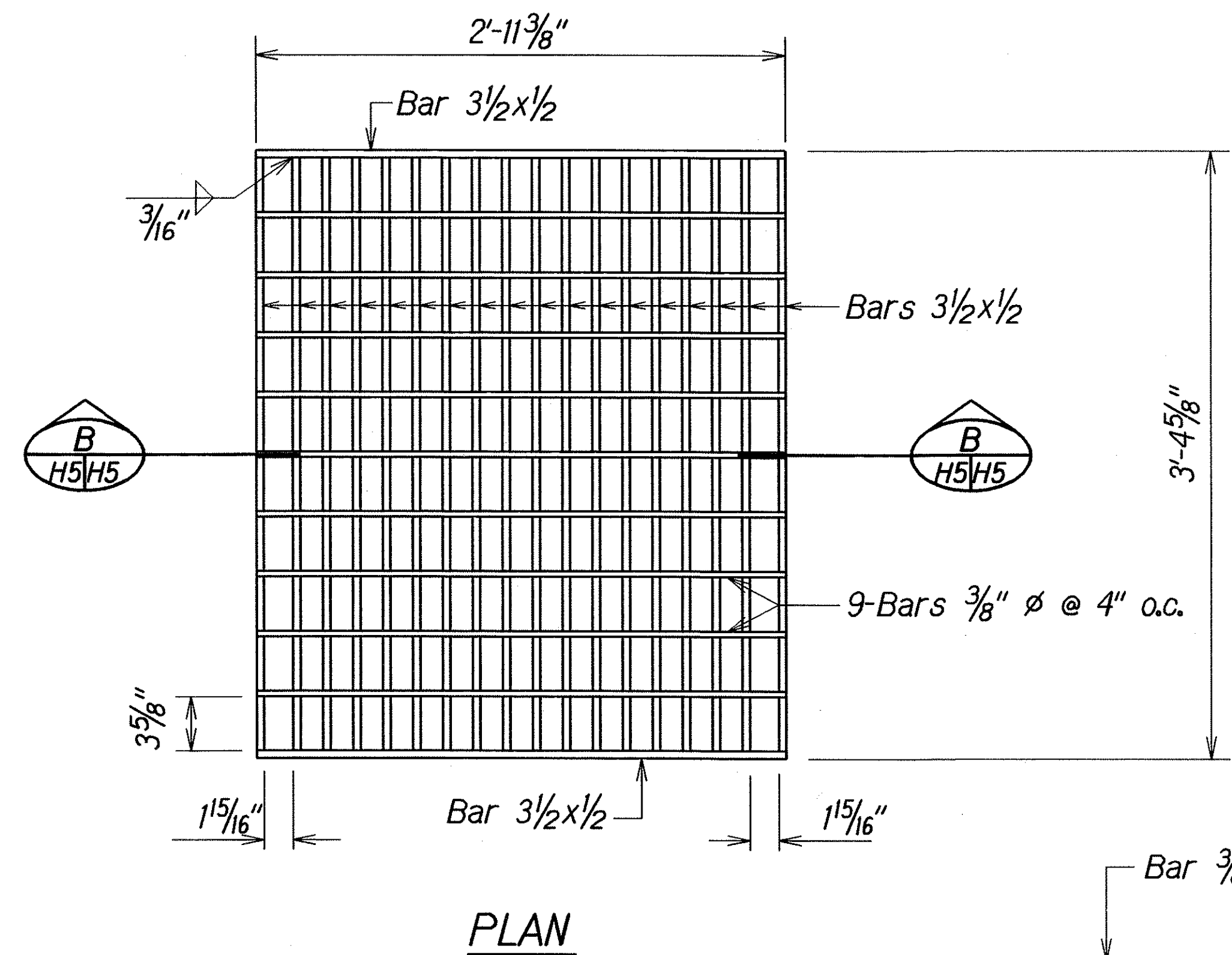
SHEET No. H4 OF 7 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	50B-01-04	2006	10	13

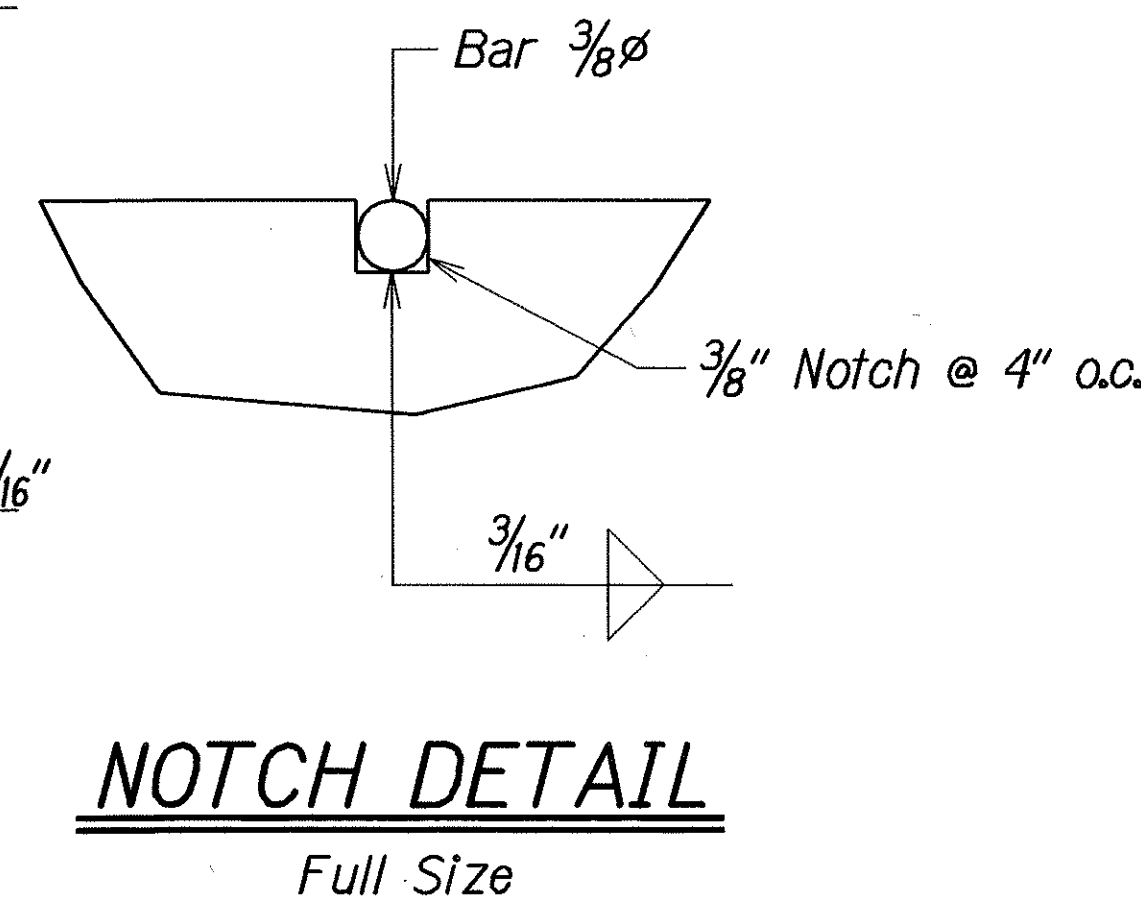


SECTION A-A
FRAME
Scale: 1 1/2"=1'-0"

NOTE:
1. All welds 3/8" unless otherwise noted.
2. Grates and Frames shall be hot dip galvanized after fabrication.



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



NOTCH DETAIL
Full Size

DETAILS OF TYPE 61616P STEEL FRAME AND GRATES

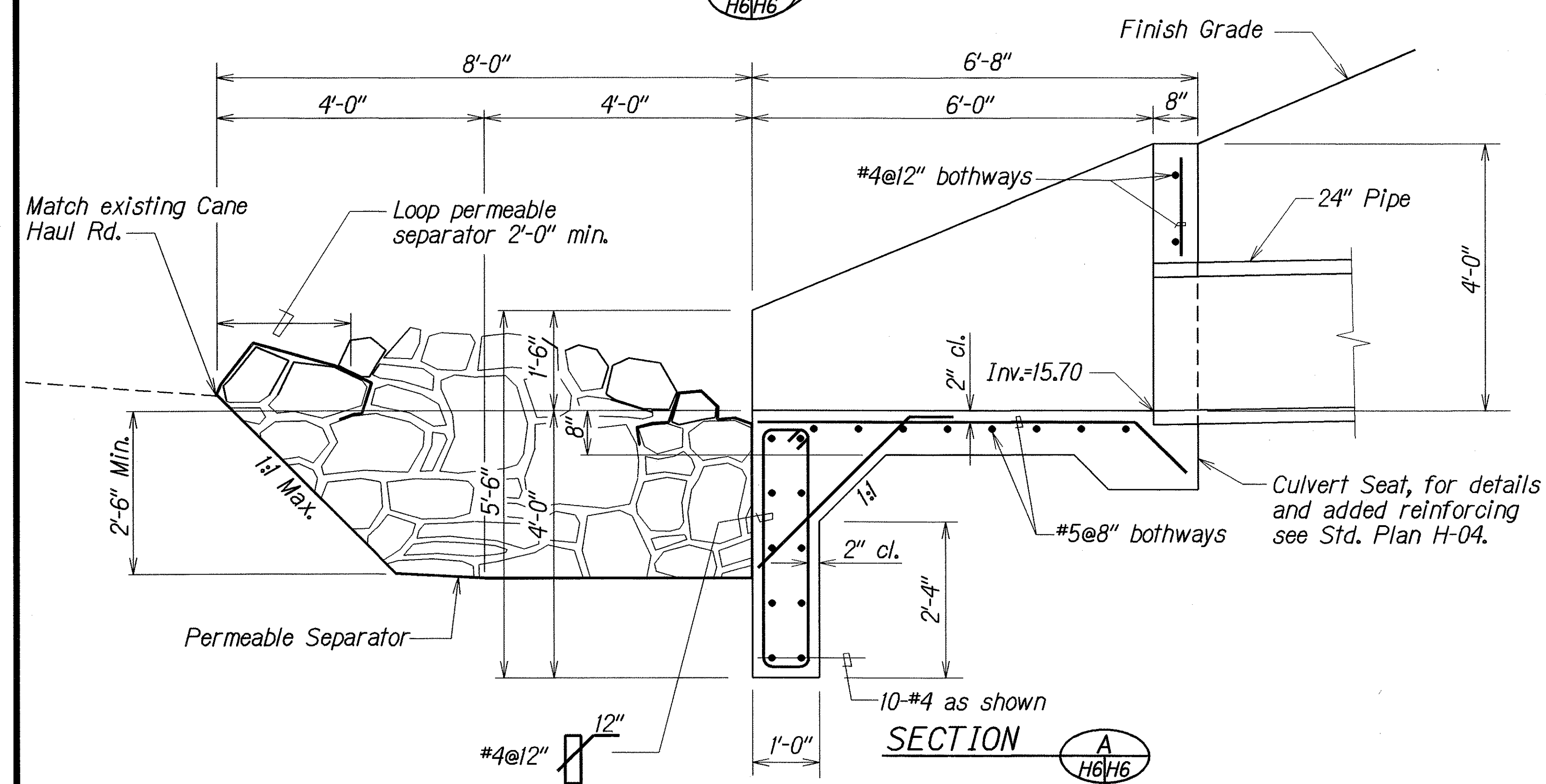
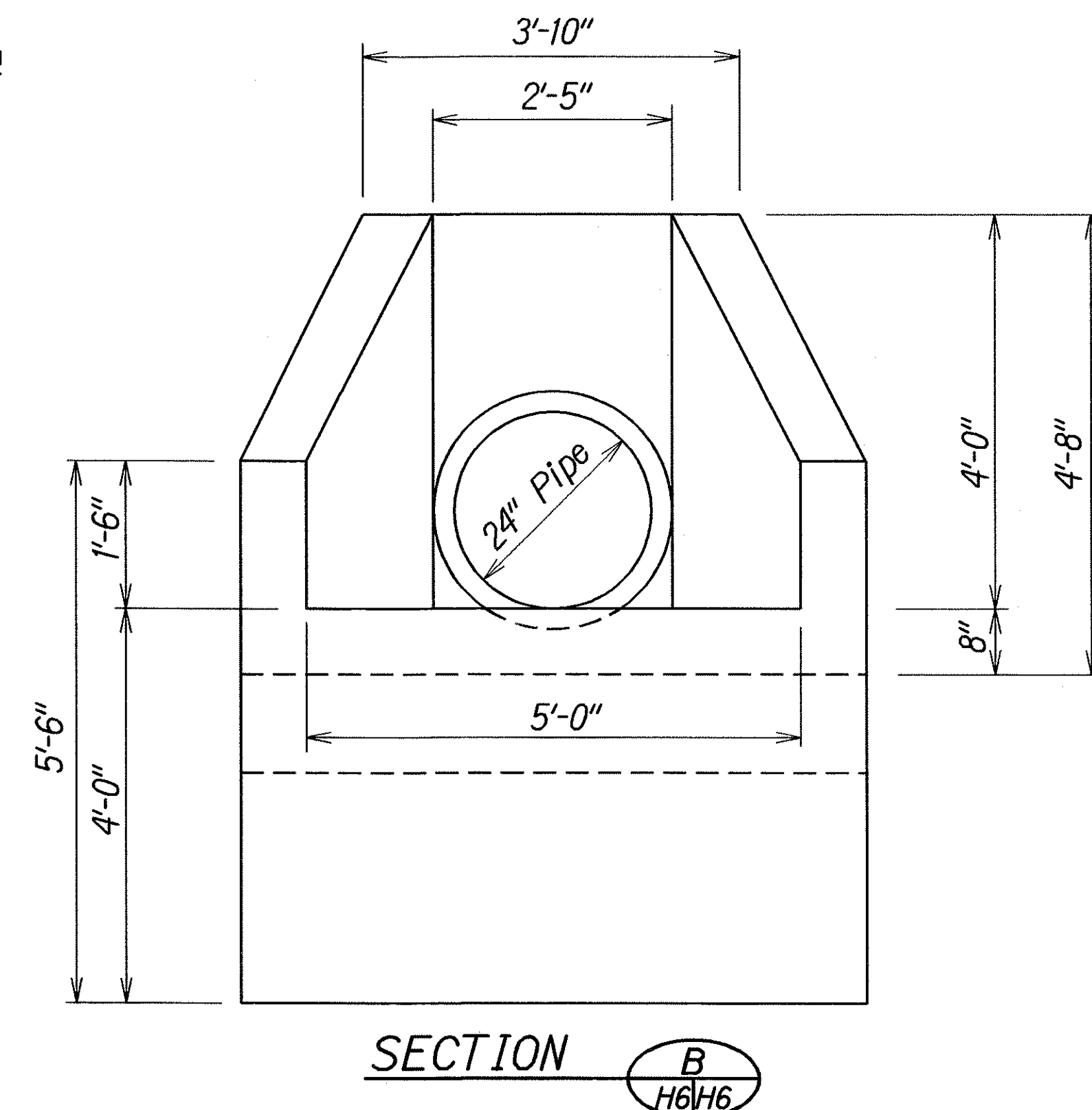
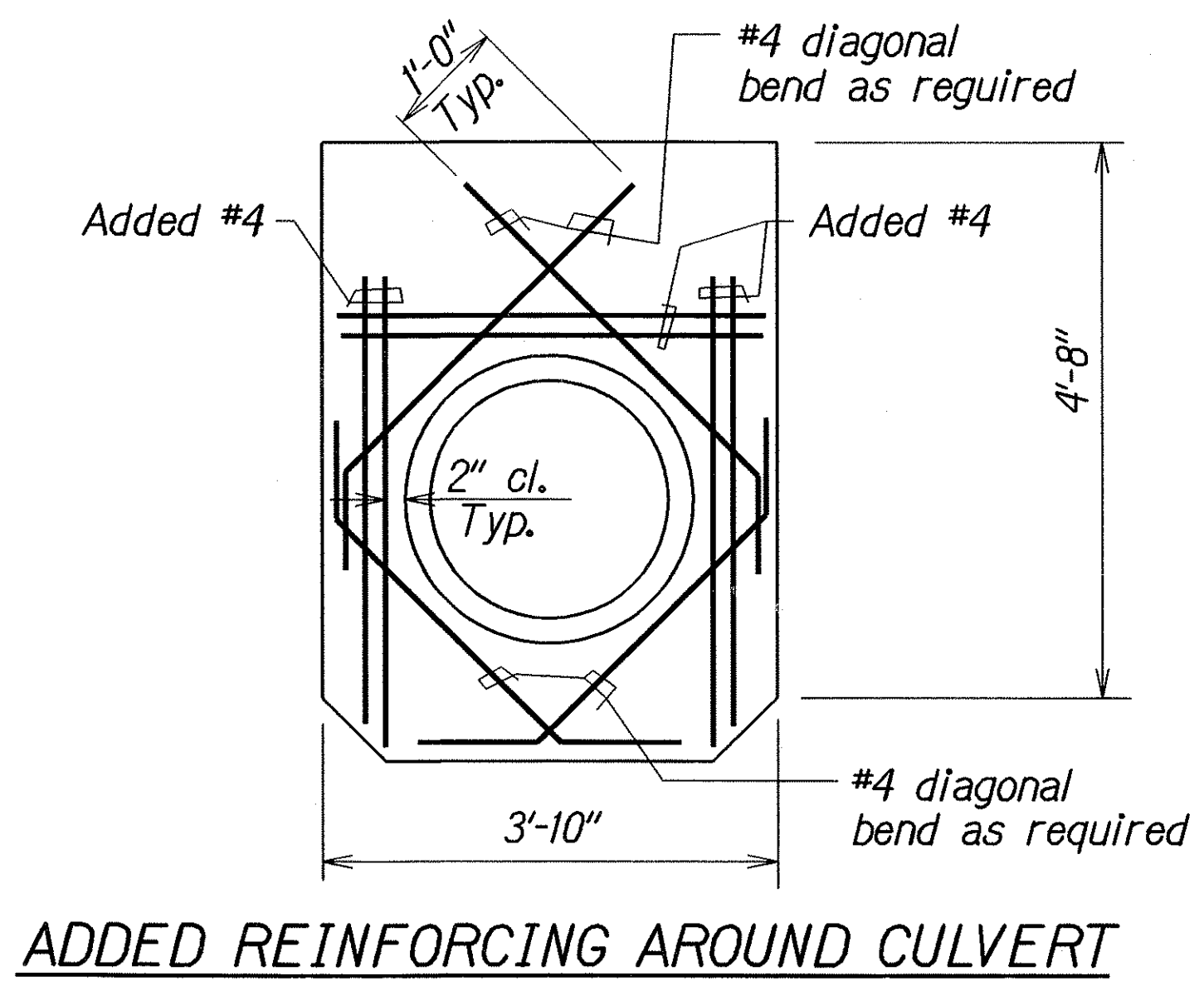
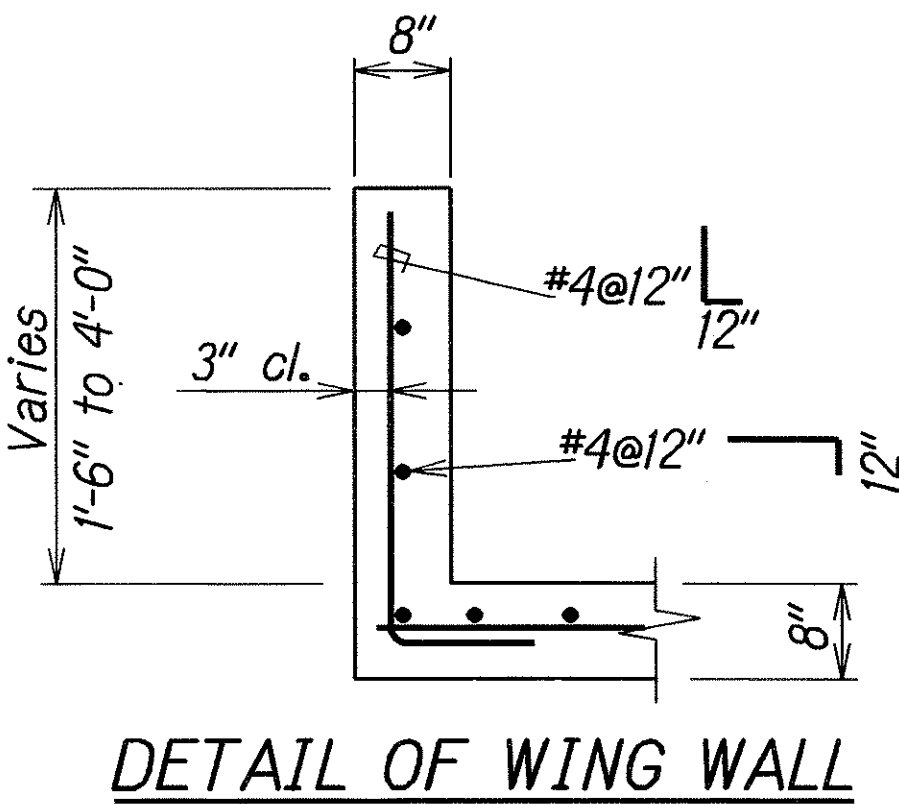
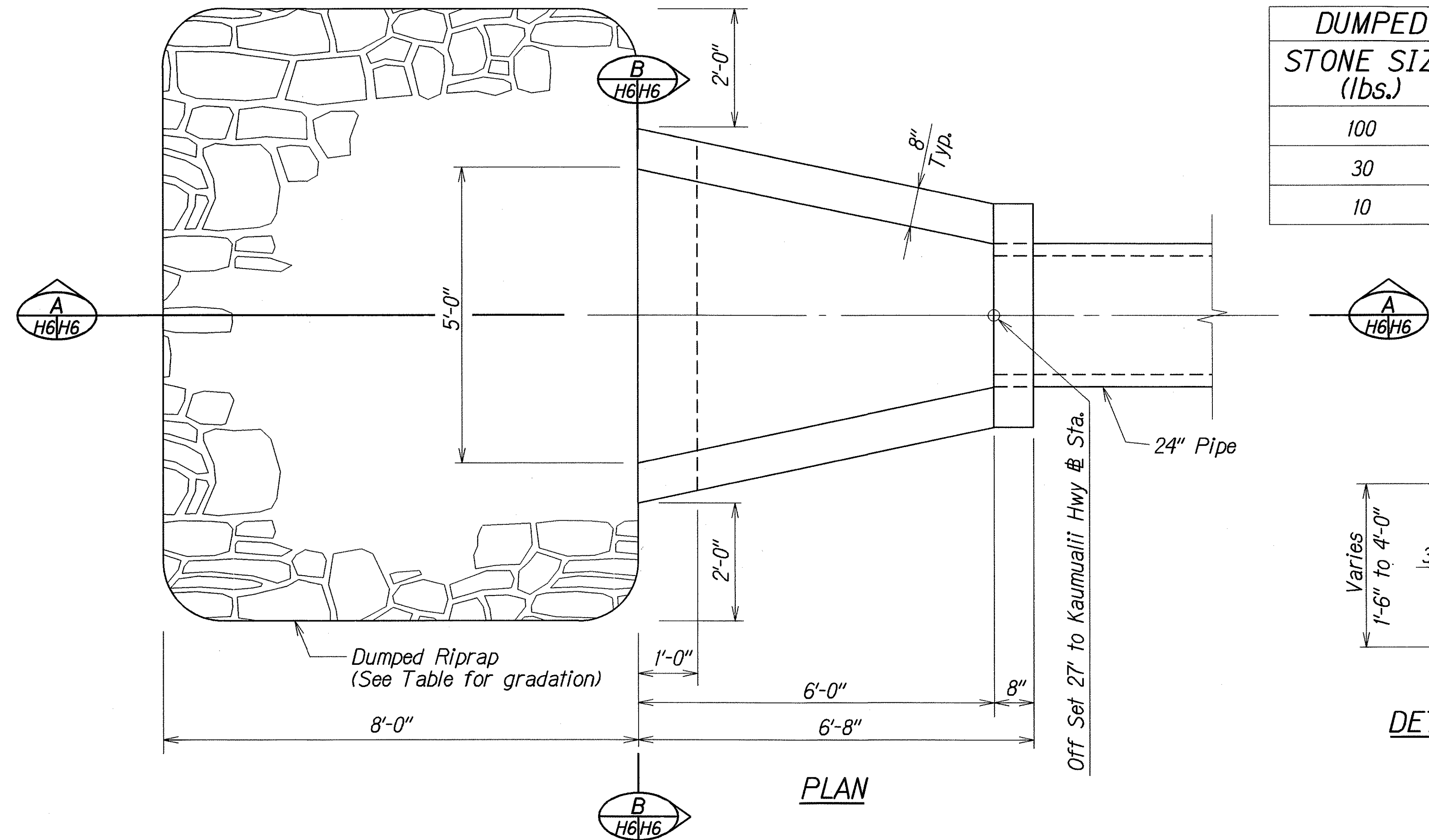
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE DETAILS
KAUMUALII HIGHWAY DRAINAGE IMPROVEMENTS
Vicinity of Mahinauli Bridge
Project No. 50B-01-04
Scale: As Shown Date: March 2005
SHEET No. H5 OF 7 SHEETS

DESIGNED BY	DATE
CHECKED BY	
APPROVED BY	
NOTED BY	
ORIGINAL PLAN	

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	50B-01-04	2006	11	13

DUMPED RIPRAP GRADATION	
STONE SIZE (lbs.)	PERCENT OF STONE SMALLER THAN
100	100
30	50
10	10



DETAILS OF TYPE "I" OUTLET STRUCTURE AT STA. 127+92 O/S 27' LT.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE DETAILS

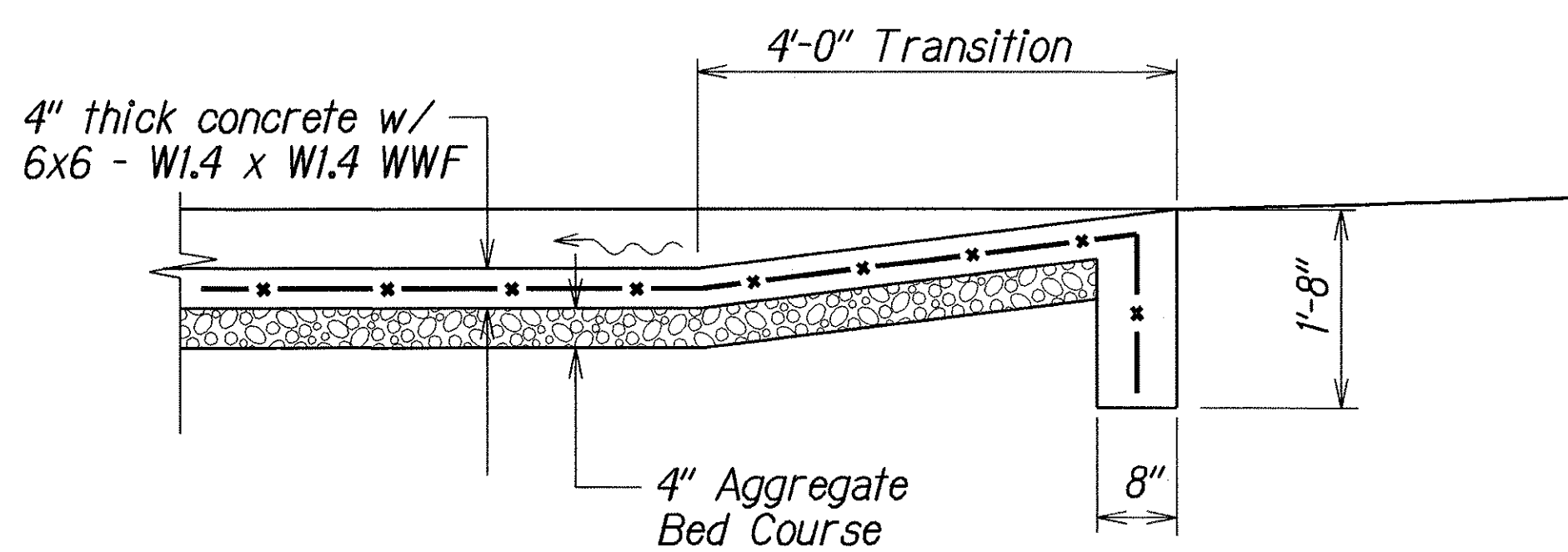
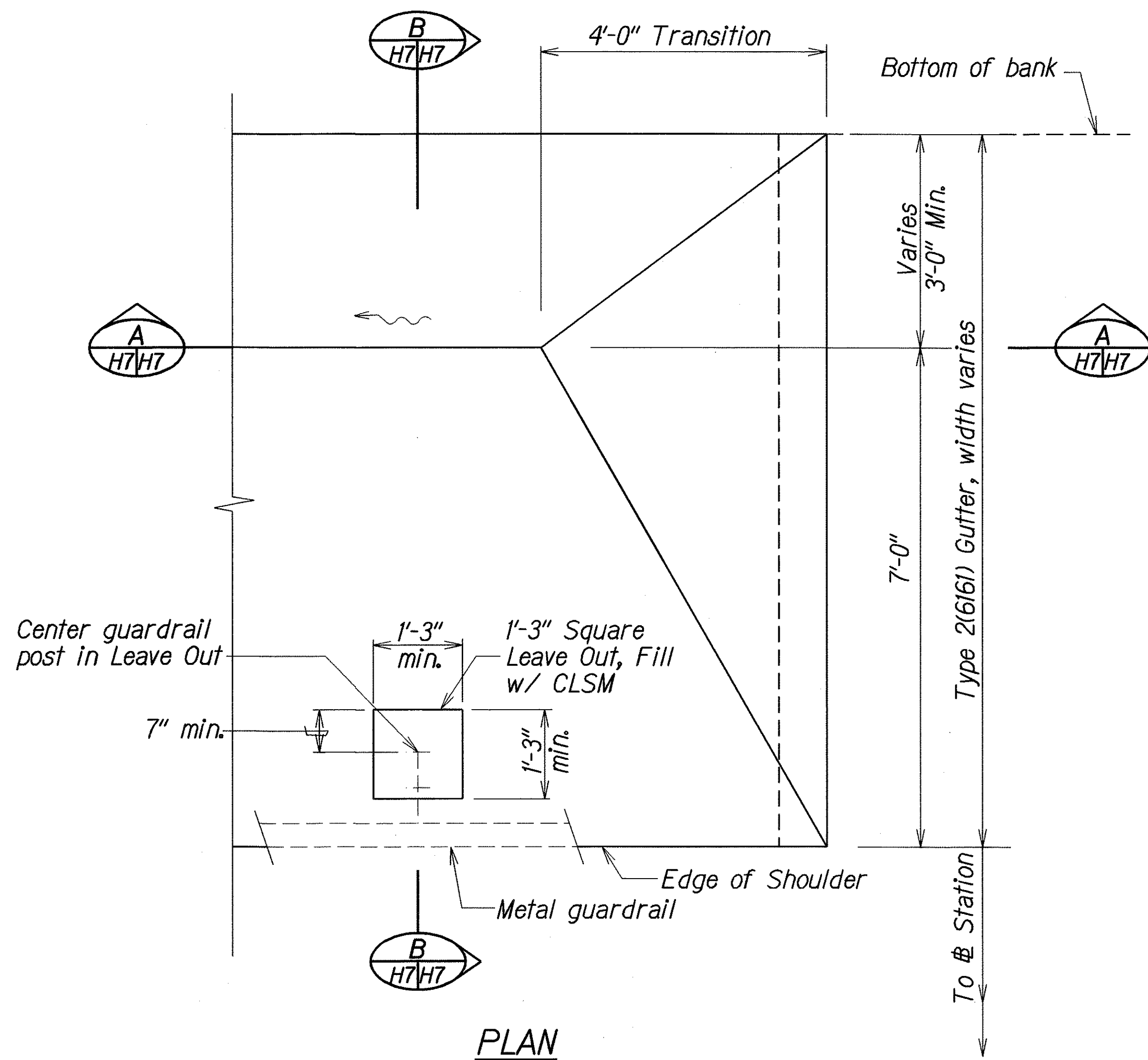
KAUNUALII HIGHWAY DRAINAGE IMPROVEMENTS
Vicinity of Mahinauli Bridge
Project No. 50B-01-04

Scale: 3/4" = 1'-0" Date: Mar. 2005

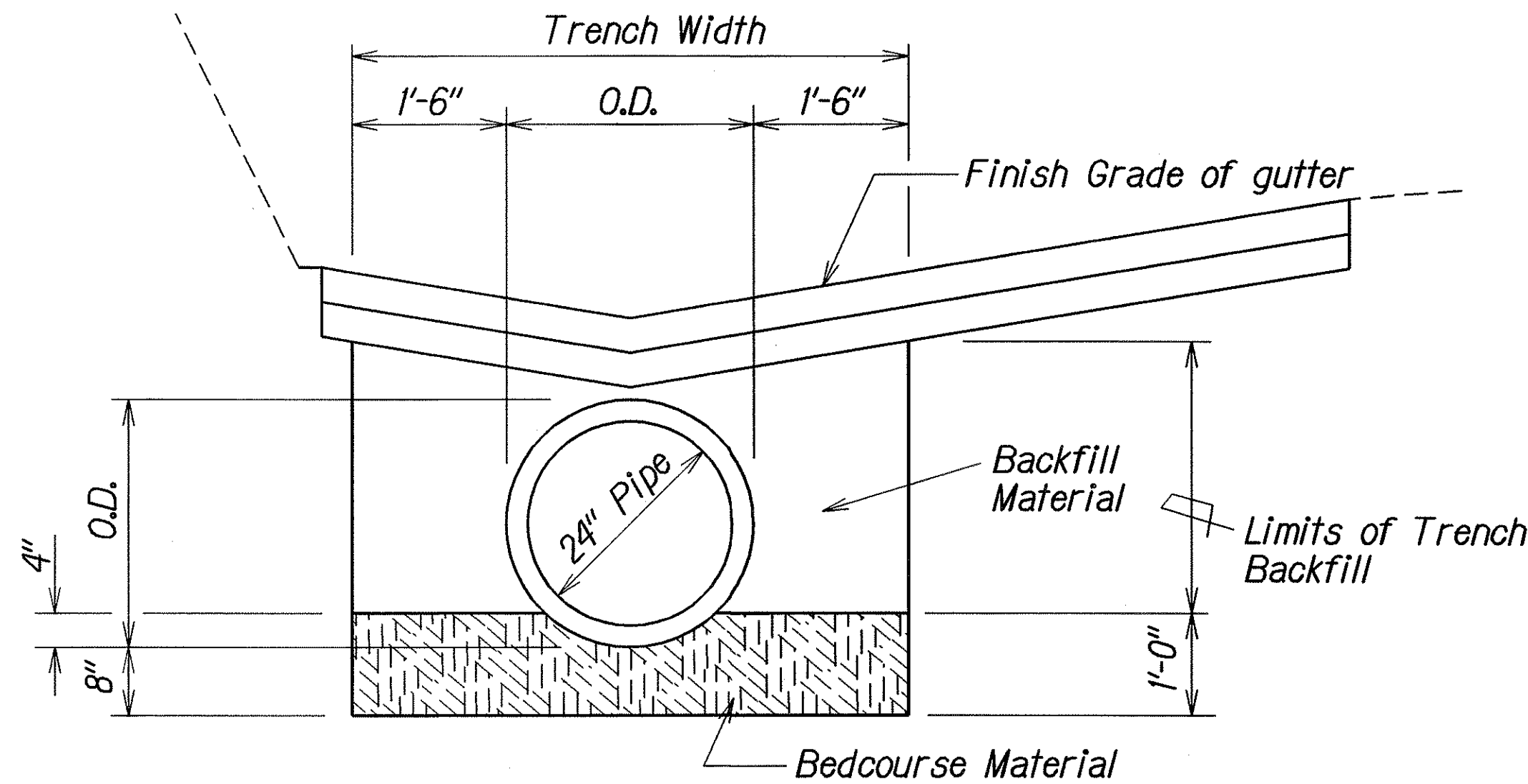
SHEET No. H6 OF 7 SHEETS

ORIGINAL PLAN	DATE: 3/23/05
SURVEY PLOTTED BY: LBC	
DRAWN BY: LBC	
DESIGNED BY: BT	
CHECKED BY: BT	
NOTED BY: BT	

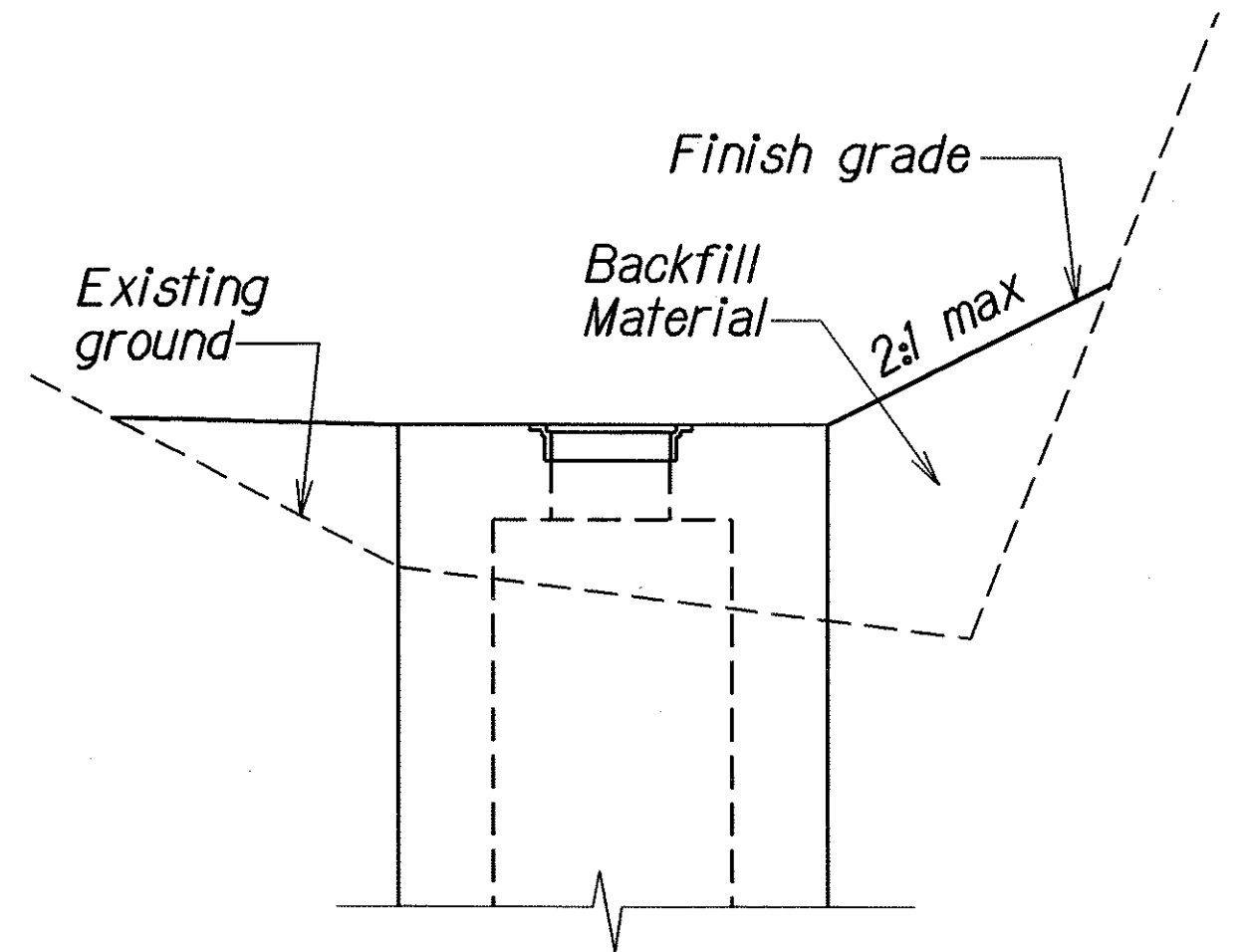
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	50B-01-04	2006	12	13



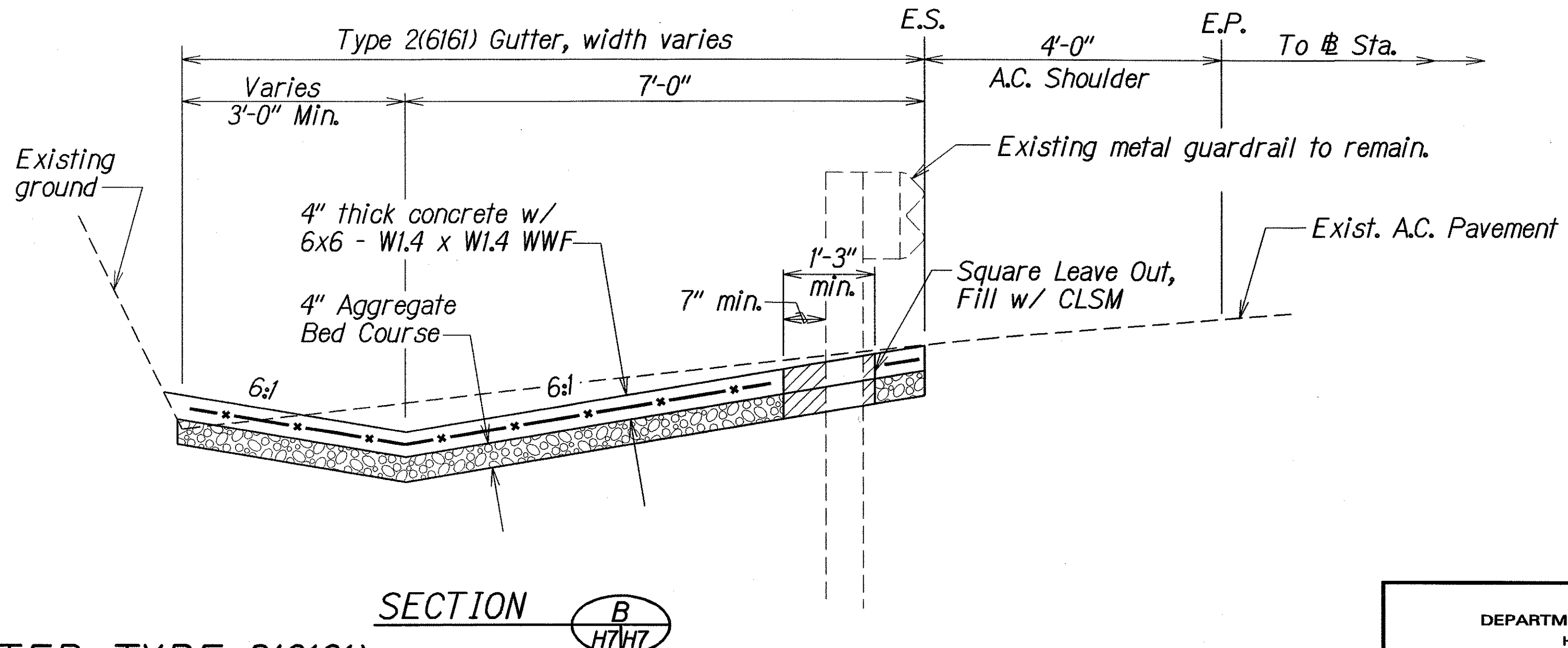
SECTION A
H7|H7



DETAIL OF CULVERT TRENCH RESTORATION
Scale: $\frac{3}{4}"=1'-0"$



DETAIL OF BACKFILL AT SDMH
Scale: $\frac{3}{8}" = 1'-0"$



SECTION B
H7 | H7

DETAIL OF GUTTER, TYPE 2(6161)
Scale: $\frac{3}{4}"=1'-0"$

ORIGINAL PLAN	SURVEY PLOTTED BY _____ DRAWN BY <u>L.R.C.</u>	DATE <u>3/24/05</u>
NOTE BOOK <u>33 total x 50 Kgs</u>	TRACED BY _____ DESIGNED BY <u>E.T. & C.M.</u>	*
	QUANTITIES BY _____	*
	CHECKED BY _____	*
		<u>44 gms/dt/04.dgr</u>

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE DETAILS

KAUMUALII HIGHWAY DRAINAGE IMPROVEMENTS
Vicinity of Mahinauli Bridge
Project No. 50B-01-04

Scale: As Shown Date: July 2005

SHEET No. ***H7*** OF ***7*** SHEETS