

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	93A-01-01 93A-02-01	2004	17	48

Vicinity of Nanakuli Avenue to Nanakuli Stream and Vicinity of Lualei Place to Princess Kahanu Avenue

DRAINAGE NOTES:

1. Existing drainage systems will be functional at all times during construction. The Contractor is to furnish materials, equipment, labor, tools and incidentals necessary to accomplish maintenance of flow. The cost shall be incidental to the various Contract Items.
2. The Contractor shall verify the locations of all existing culverts and utilities in the field. Any existing culverts and utilities damaged during construction shall be repaired or replaced by the Contractor at his own expense.
3. For added reinforcing around culverts and manholes at new drainage structures, see Standard Plan H-04.
4. Chamfer all exposed concrete edges 1".
5. For detail of culvert trench and pavement restoration, see sht. H22.
6. For detail of additional excavation below drainage structure, see sht. H22.
7. Capping end of 12" perforated culvert shall not be paid for separately, but shall be considered incidental to Item 603.1006 12" perforated culvert.

[illegible]

ORIGINAL PLAN	SURVEY PLOTTED BY _____	DATE _____
NOTE BOOK 0121Royal 0122Garnison 0123No.	DRAWN BY <u>χ</u>	• <u>χ</u>
	TRACED BY _____	• _____
	DESIGNED BY <u>χ</u>	• _____
	QUANTITIES BY _____	• _____
	CHECKED BY _____	• _____

DRAINAGE SUMMARY

PROJECT: FARRINGTON HIGHWAY DRAINAGE IMPROVEMENTS
Vicinity of Nanakuli Avenue to Stream and Vicinity of Lualei Place to Princess Kahanu Avenue

PROJECT NO. : 93A-01-01 and 93A-02-01

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	93A-01-01 93A-02-01	2004	18	48

ITEM NO.		206. 2020	206. 2025	503. 1210	603. 0010	603. 0020	603. 1006	603. 1008	603. 1010	604. 5010	604. 5012	604. 5020	604. 5022	604. 5106	604. 5272	604. 5252	604. 5253	604. 5254	604. 5255	604. 5262	604. 5275	604. 5285
UNIT USED		C.Y.	C.Y.	L.F.	C.Y.	C.Y.	L.F.	L.F.	L.F.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.
BASELINE STATION (FROM)	BASELINE STATION (TO)	Structure Excavation for Drainage System	Additional Excavation for Drainage Structures	Reinforced Concrete Jacket	Bed Course Material for Culvert	Filter Material for Perforated Culvert	12-Inch Perforated RCP, Class IV	18-Inch RCP Class III, or 18-Inch HDPP, Type S, or 18-Inch ASRP, "I"= 0.105 Inch	24-Inch RCP Class III, or 24-Inch HDPP, Type S, or 24-Inch ASRP, "I"= 0.105 Inch	Type "1" Drywell Cover, 3.00 feet to 3.99 feet	Type "2" Drywell Cover, 4.00 feet to 4.99 feet	Type "1" Drywell (20 feet deep)	Type "2" Drywell (20 feet deep)	Type "A" Storm Drain Manhole, 6.00 feet to 6.99 feet	Type 3(A-9P) Grated Drop Inlet, 5.00 feet to 5.99 feet	Type 1(A-9P) Grated Drop Inlet, 2.00 feet to 2.99 feet	Type 1(A-9P) Grated Drop Inlet, 3.00 feet to 3.99 feet	Type 1(A-9P) Grated Drop Inlet, 4.00 feet to 4.99 feet	Type 1(A-9P) Grated Drop Inlet, 5.00 feet to 5.99 feet	Type 2(A-9P) Grated Drop Inlet, 2.00 feet to 2.99 feet	Modified Type "121214P" GDI, 5.00 feet to 5.99 feet	Type "1" Outlet Structure, 5.00 feet to 5.99 feet
243+63 Lt.										1		20										
244+76 Lt.										1		20										
245+62 Lt.										1		20										
246+12 Lt.										1		20										
251+50 Rt.	252+17 Rt.	40				106	66				1		20									
252+29 Rt.	252+54 Rt.	15				38	24				1		20									
252+54 Rt.	253+50 Rt.	57				149	93				1		20									
256+10 Rt.	257+10 Rt.	60				155	97				2		40									
Subtotal		172	0	0	0	448	280	0	0	4	5	80	100	0	0	0	0	0	0	0	0	0
Totals		1,474	34	361	233	448	280	361	839	4	5	80	100	2	1	1	2	3	3	2	2	1

ORIGINAL
PLAN

NOTE BOOK
No.

SURVEY PLOTTED BY

DRAWN BY

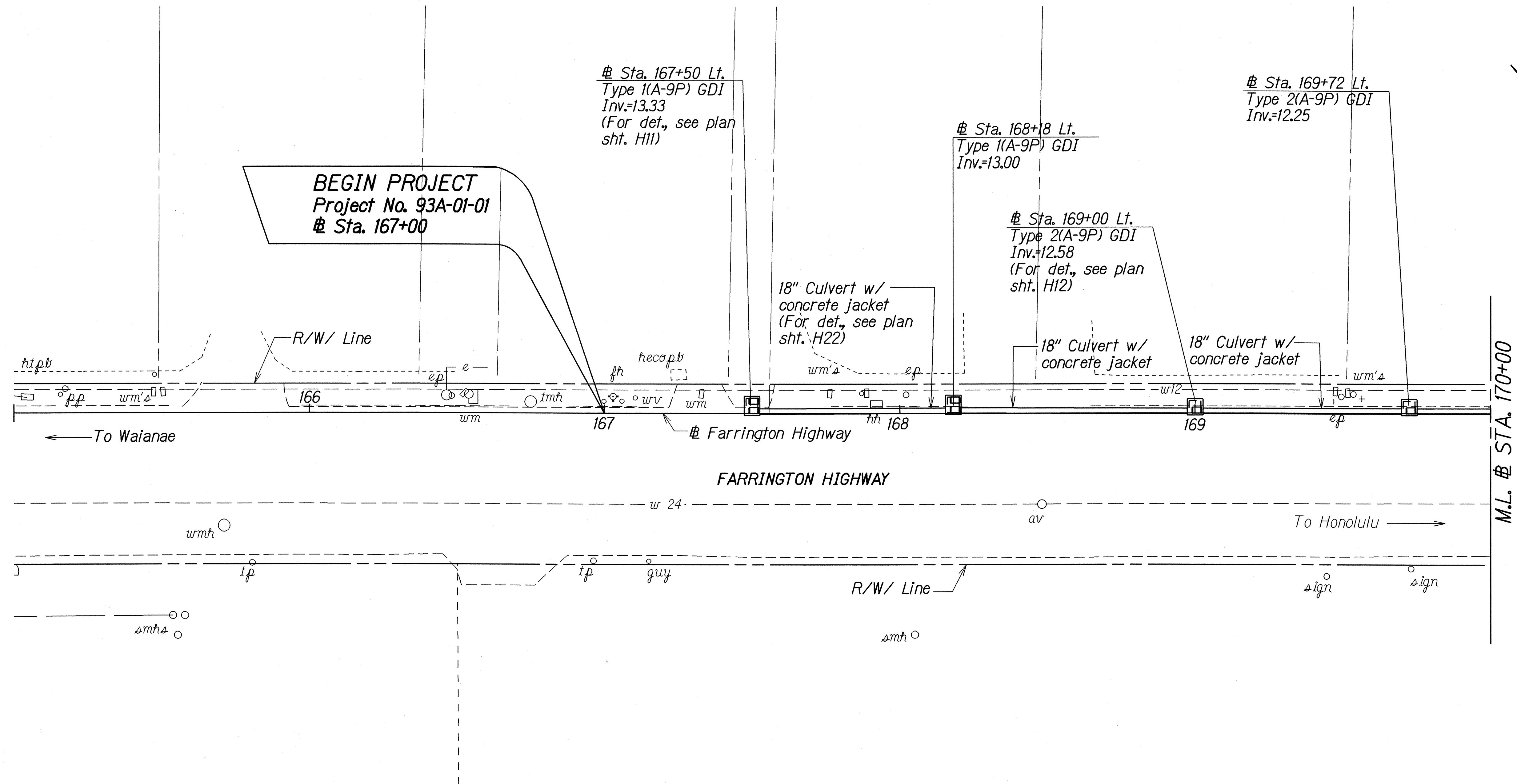
DESIGNED BY

QUANTITIES BY

CHECKED BY

DATE

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	93A-01-01 93A-02-01	2004	19	48



ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
4/3/04/000304	DESIGNED BY	
4/27/04/000304	QUANTITIES BY	
	CHECKED BY	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE PLANS

FARRINGTON HIGHWAY DRAINAGE IMPROVEMENTS

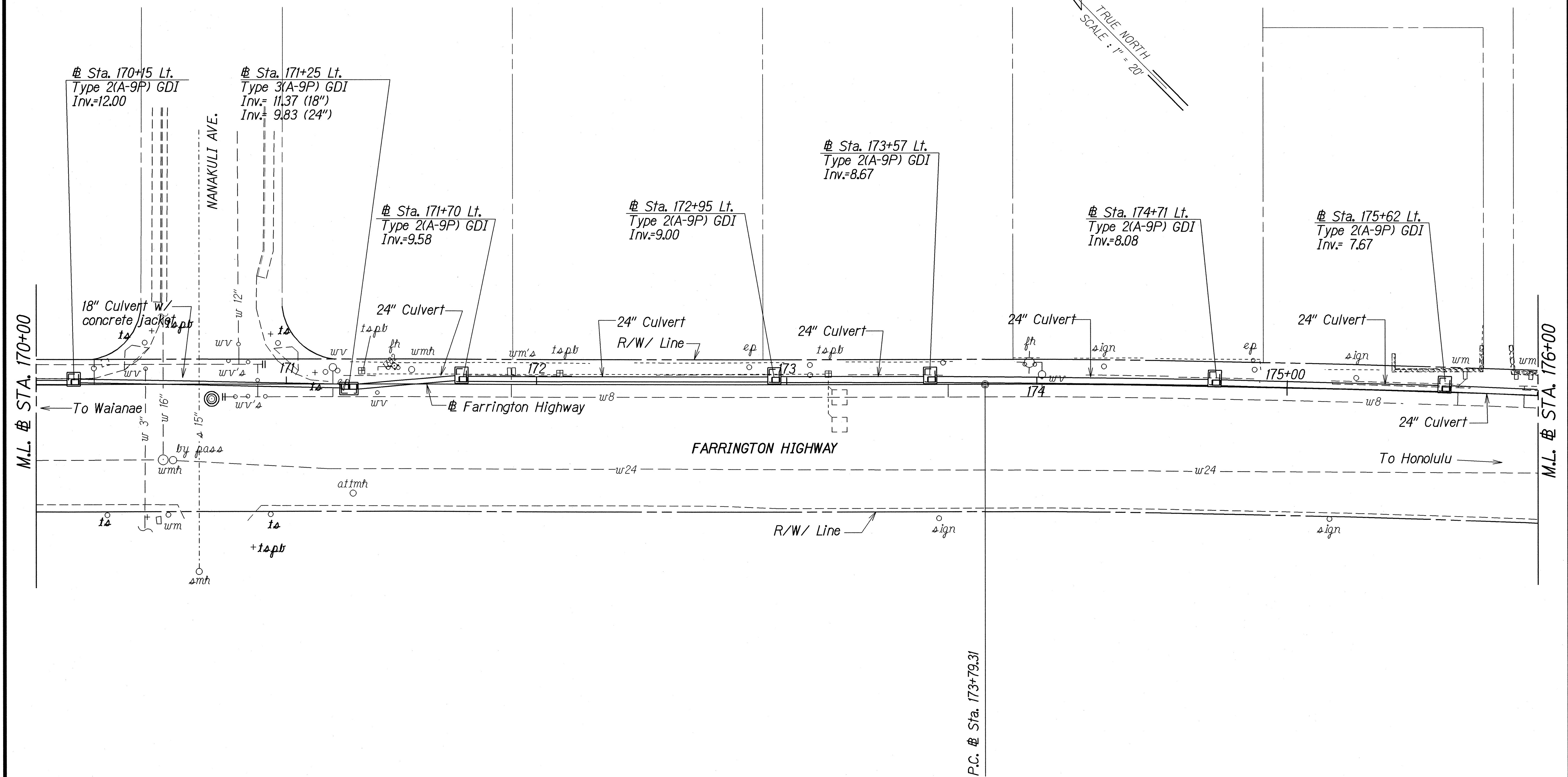
*Vicinity of Nanakuli Avenue to Nanakuli Stream and
Vicinity of Lualei Place to Princess Kahanu Avenue*

Project Nos. 93A-01-01 & 93A-02-01

Scale: 1" = 20'-0" Date: March, 2001

SHEET No. H3 OF 22 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	93A-01-01 93A-02-01	2004	20	48



ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
4/3/01/009304	DESIGNED BY	
8/2/02/0093	QUANTITIES BY	
	CHECKED BY	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE PLANS

FARRINGTON HIGHWAY DRAINAGE IMPROVEMENTS

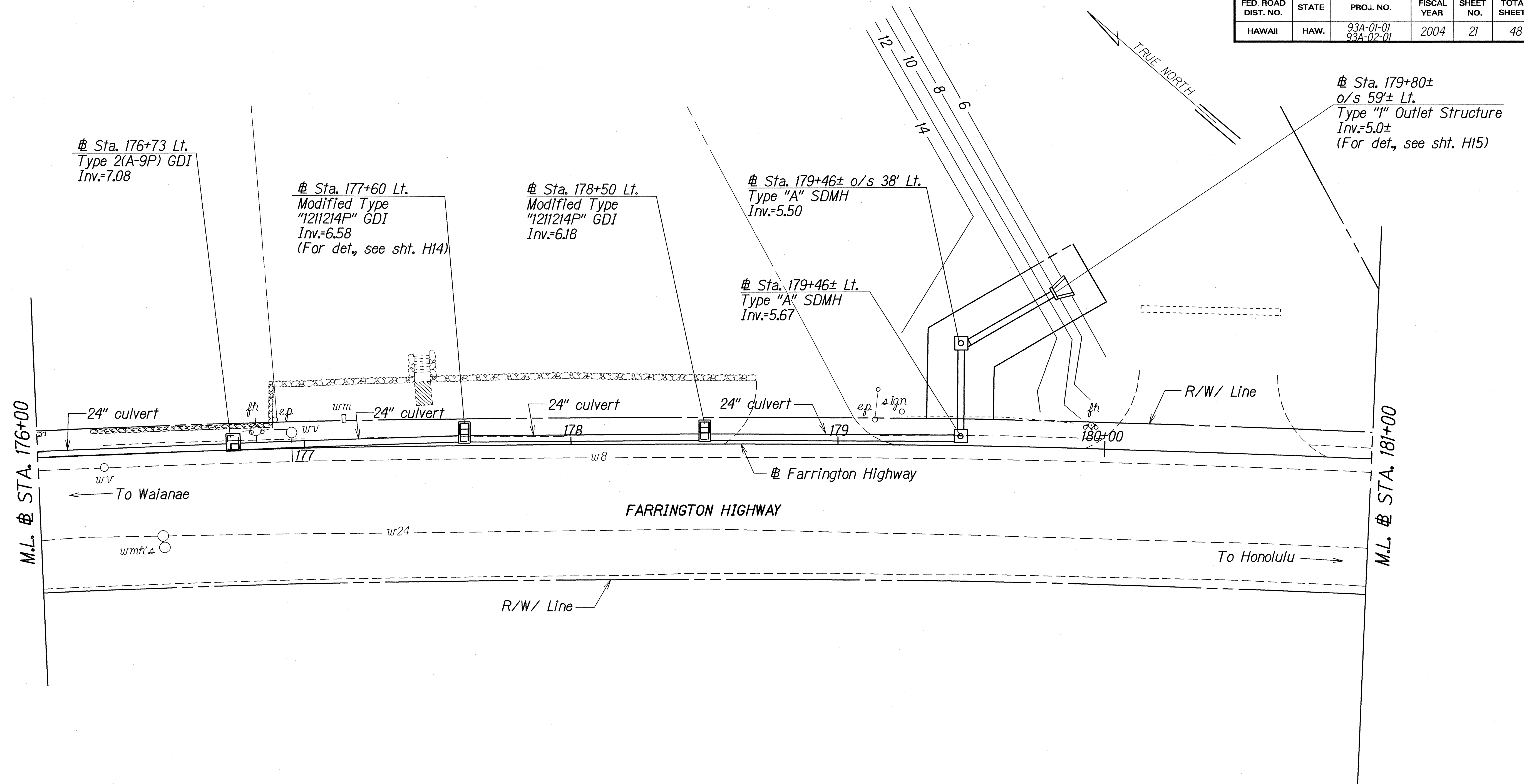
Vicinity of Nanakuli Avenue to Nanakuli Stream and
Vicinity of Lualei Place to Princess Kahanu Avenue

Project Nos. 93A-01-01 & 93A-02-01

Scale: 1" = 20'-0" Date: March, 2001

SHEET No. **H4** OF 22 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	93A-01-01 93A-02-01	2004	21	48



ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
DRAWN BY	DESIGNED BY	CHECKED BY
NOTE BOOK	QUANTITIES BY	
03/09/00	03/09/00	03/09/00
03/09/00	03/09/00	03/09/00

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE PLANS

FARRINGTON HIGHWAY DRAINAGE IMPROVEMENTS

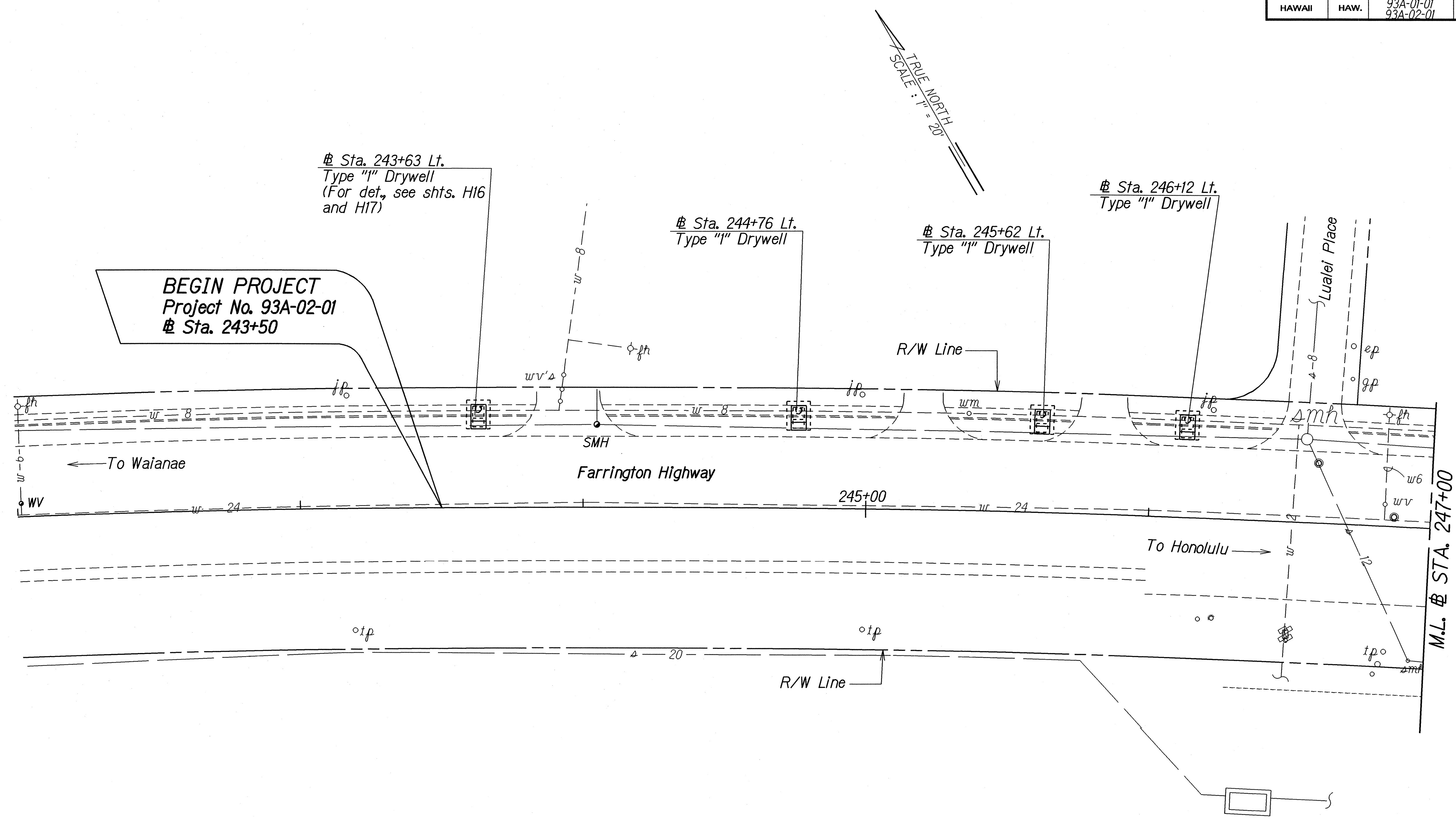
Vicinity of Nanakuli Avenue to Nanakuli Stream and
Vicinity of Lualei Place to Princess Kahanu Avenue

Project Nos. 93A-01-01 & 93A-02-01

Scale: 1" = 20'-0" Date: March, 2001

SHEET No. H5 OF 22 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	93A-01-01 93A-02-01	2004	22	48



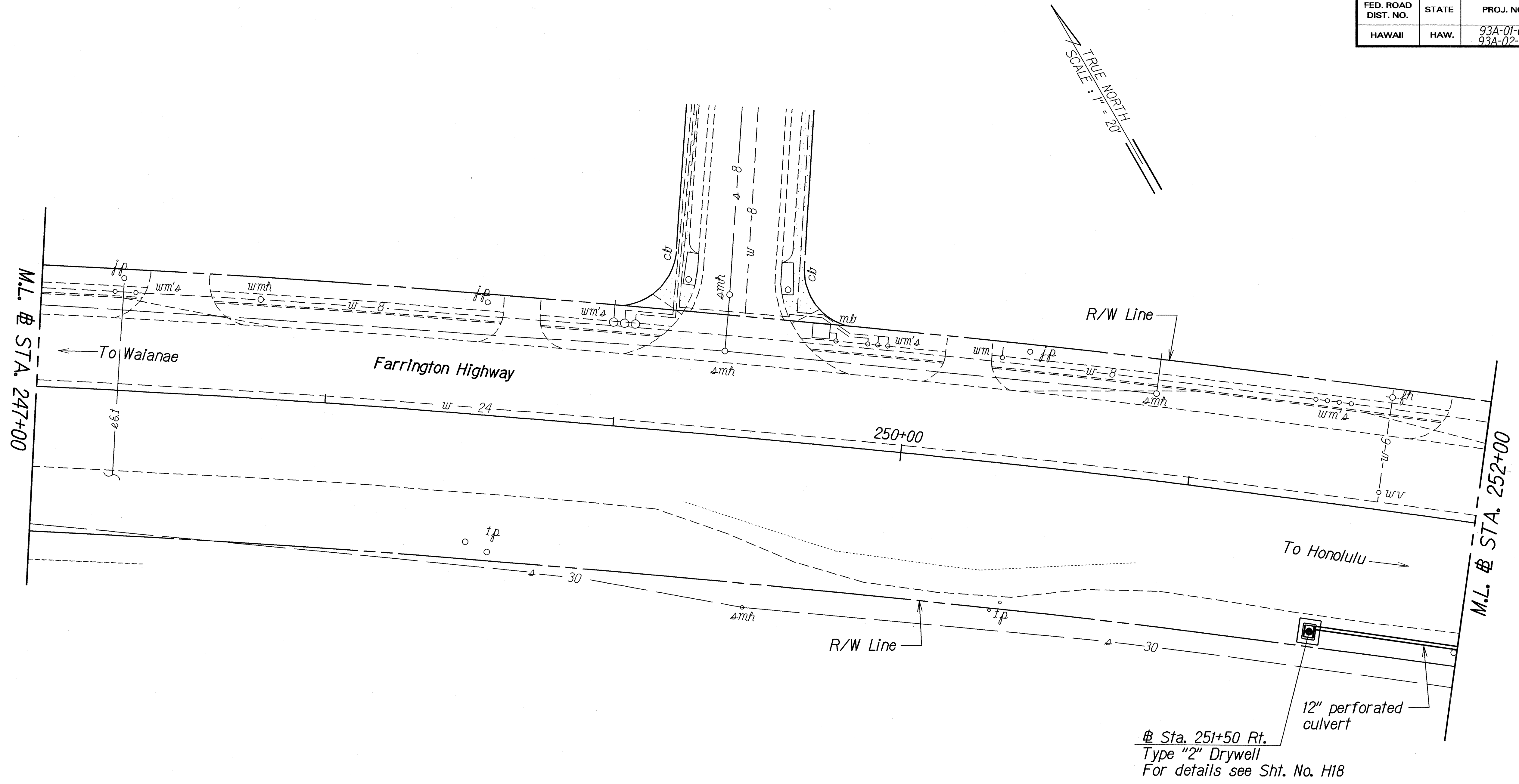
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DRAWN BY		
TRACED BY		
NOTED BY		
QUANTITIES BY		
CHECKED BY		

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE PLANS
FARRINGTON HIGHWAY DRAINAGE IMPROVEMENTS
 Vicinity of Nanakuli Avenue to Nanakuli Stream and
 Vicinity of Lualei Place to Princess Kahanu Avenue
 Project Nos. 93A-01-01 & 93A-02-01
 Scale: 1" = 20'-0" Date: March, 2001

SHEET No. H6 OF 22 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	93A-01-01 93A-02-01	2004	23	48



ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	4/4/00
CHIEF ENGINEER	TRACED BY	
DESIGNER	CHECKED BY	
4/4/00		

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE PLANS

FARRINGTON HIGHWAY DRAINAGE IMPROVEMENTS

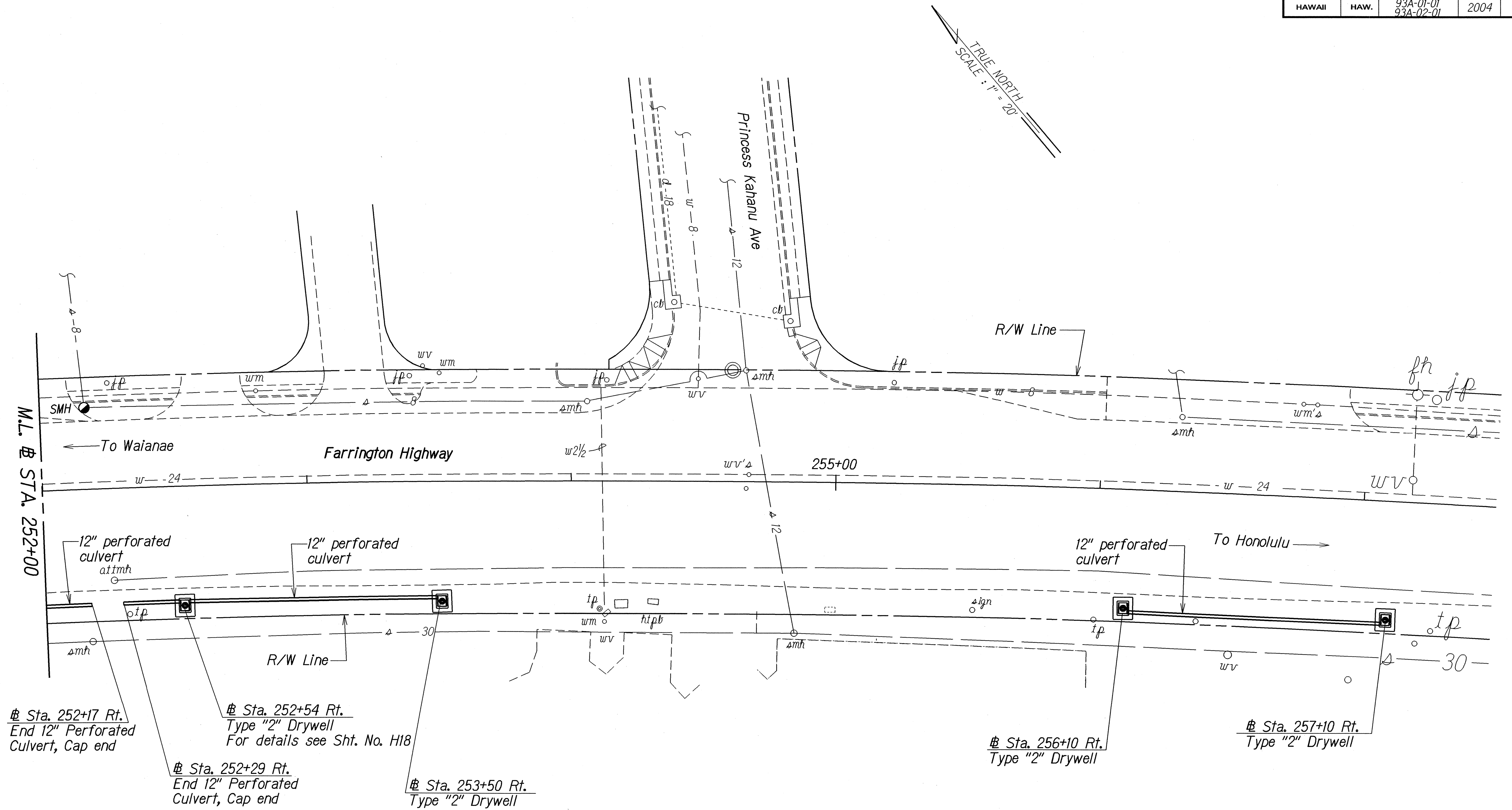
*Vicinity of Nanakuli Avenue to Nanakuli Stream and
Vicinity of Lualei Place to Princess Kahanu Avenue*

Project Nos. 93A-01-01 & 93A-02-01

Scale: 1" = 20'-0" Date: March, 2001

SHEET No. H7 OF 22 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	93A-01-01 93A-02-01	2004	24	48



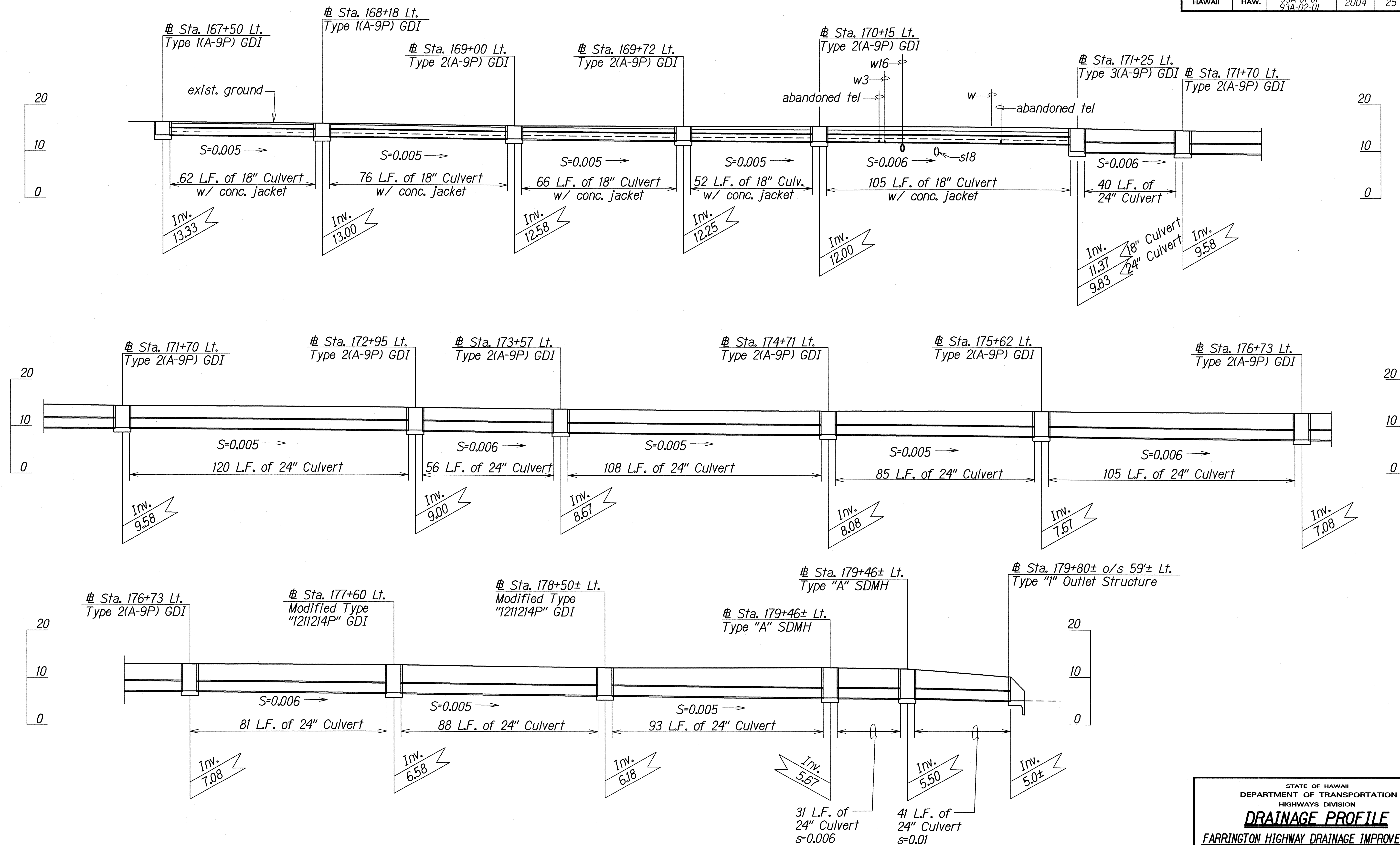
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NOTE BOOK	DRAWN BY	4/4/01
CH20/HAR	TRACED BY	
4/2/01/03/07	QUANTITIES BY	
	CHECKED BY	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE PLANS
FARRINGTON HIGHWAY DRAINAGE IMPROVEMENTS
 Vicinity of Nanakuli Avenue to Nanakuli Stream and
 Vicinity of Lualei Place to Princess Kahanu Avenue
 Project Nos. 93A-01-01 & 93A-02-01
 Scale: 1" = 20'-0" Date: March, 2001

SHEET No. H8 OF 22 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	93A-01-01 93A-02-01	2004	25	48



PROFILE - FARRINGTON HIGHWAY STA. 167+50 LT. TO STA. 179+80± o/s 59± LT.

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

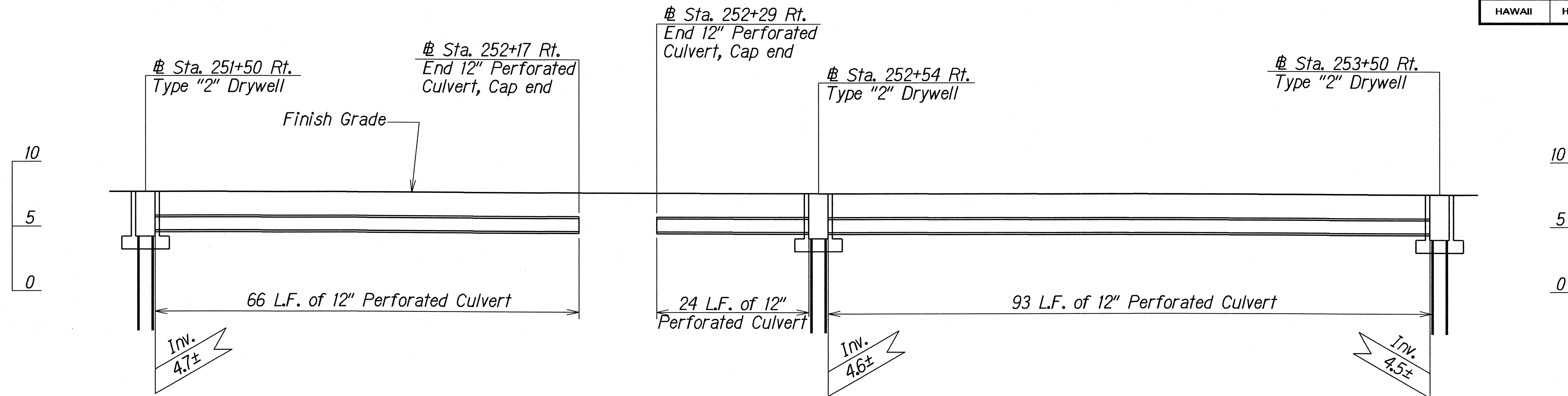
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE PROFILE

FARRINGTON HIGHWAY DRAINAGE IMPROVEMENTS
Vicinity of Nanakuli Avenue to Nanakuli Stream and
Vicinity of Lualei Place to Princess Kahanu Avenue
Project Nos. 93A-01-01 & 93A-02-01
Scale: As shown Date: March, 2001

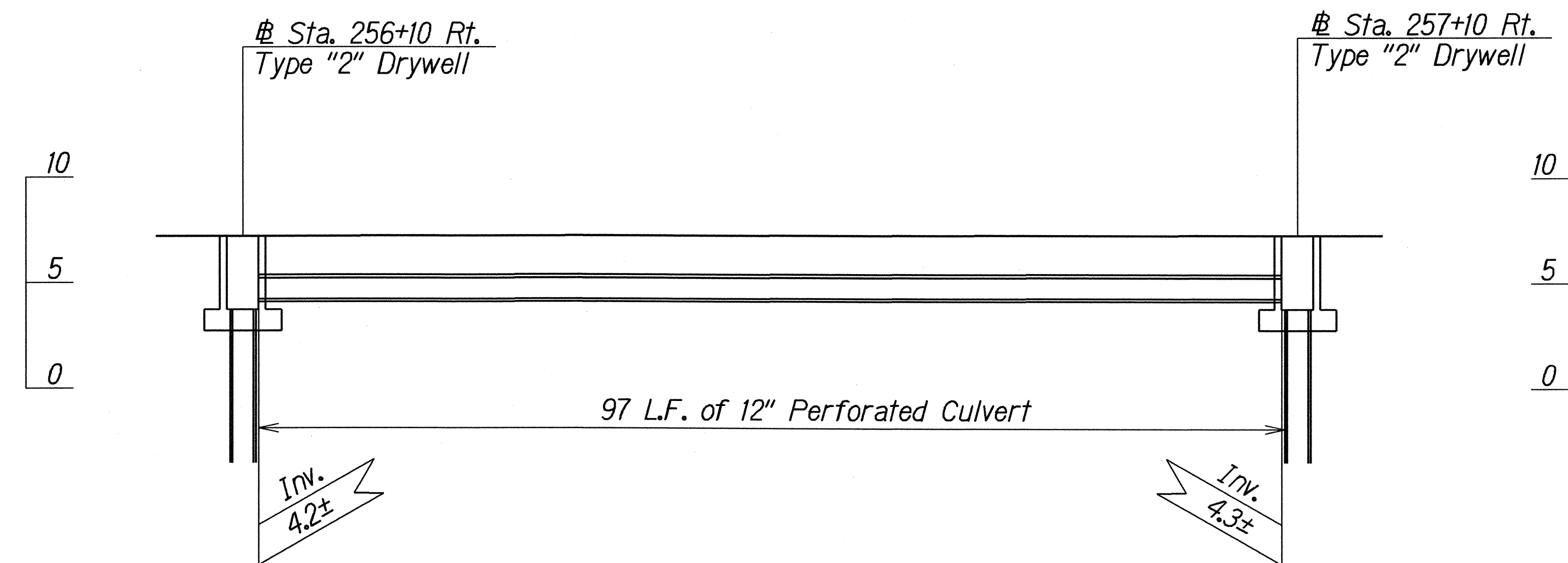
SHEET No. H9 OF 22 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	93A-01-01 93A-02-01	2004	26	48



CL PROFILE - FARRINGTON HIGHWAY # STA. 251+50 RT. TO # STA. 253+50 RT.

Scale: Horiz. 1"=10'
Vert. 1"=5'



CL PROFILE - FARRINGTON HIGHWAY # STA. 256+10 RT. TO # STA. 257+10 RT.

Scale: Horiz. 1"=10'
Vert. 1"=5'

ORIGINAL PLAN	DATE 9/16/00
SURVEY PLOTTED BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	

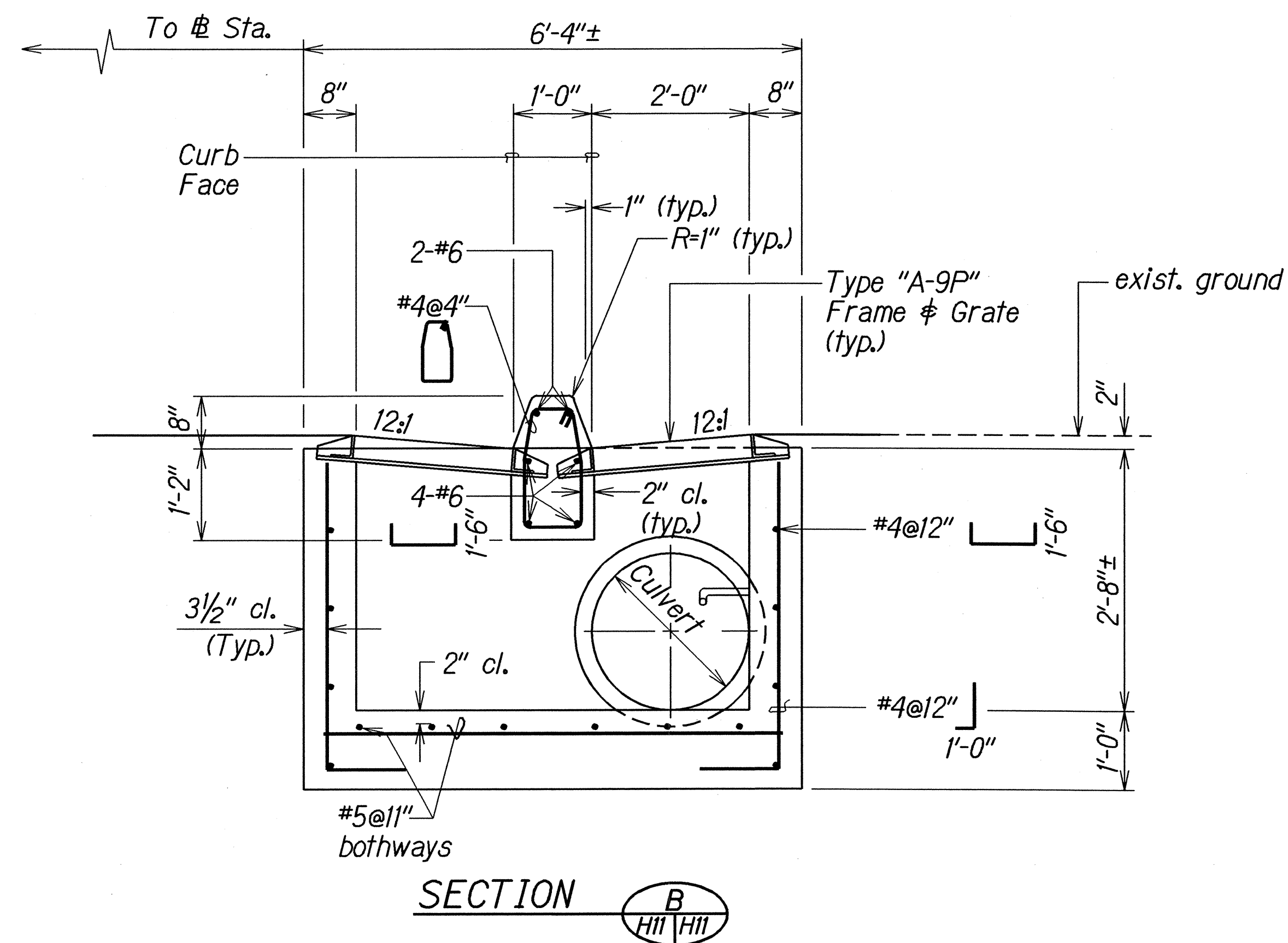
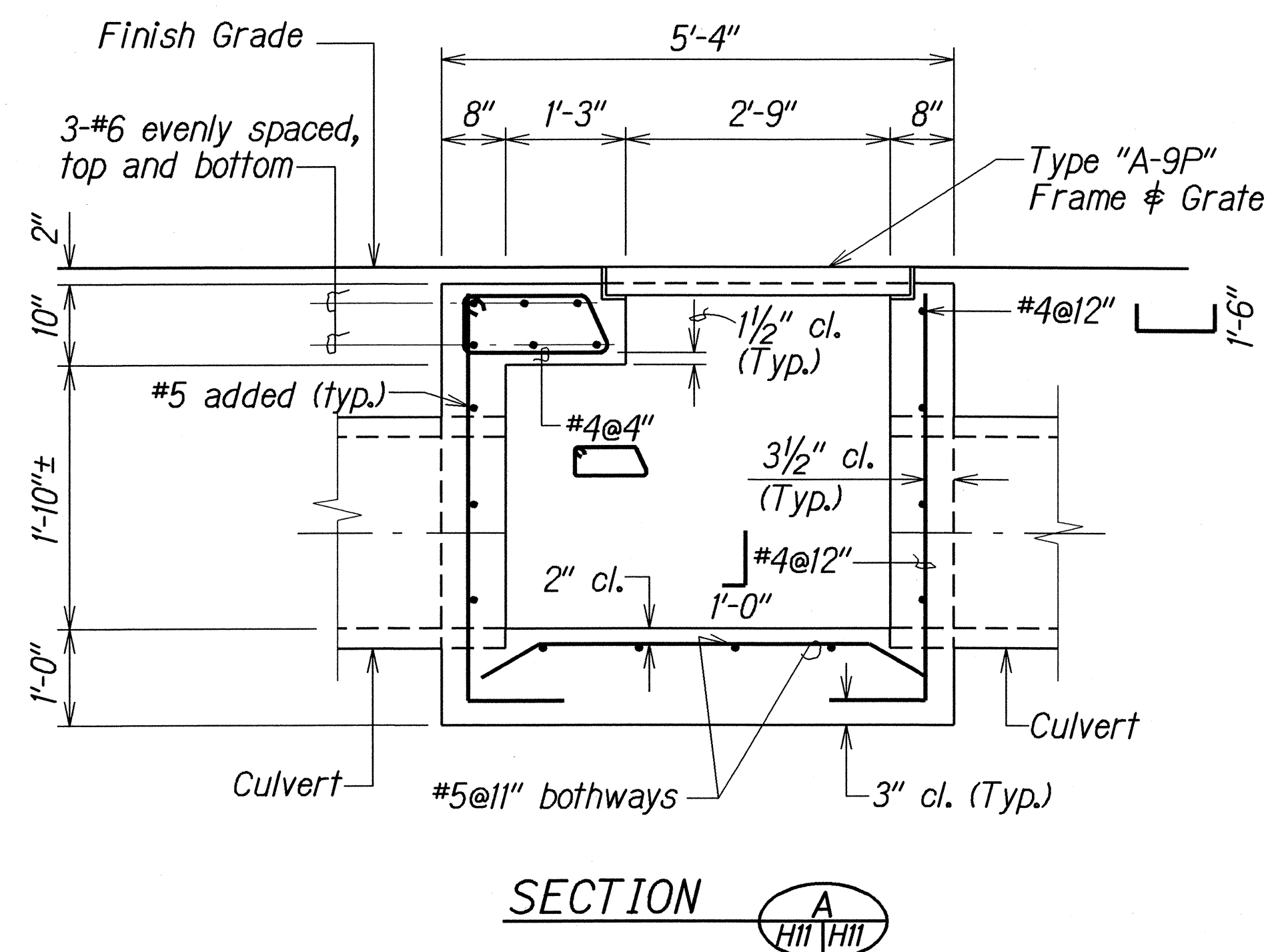
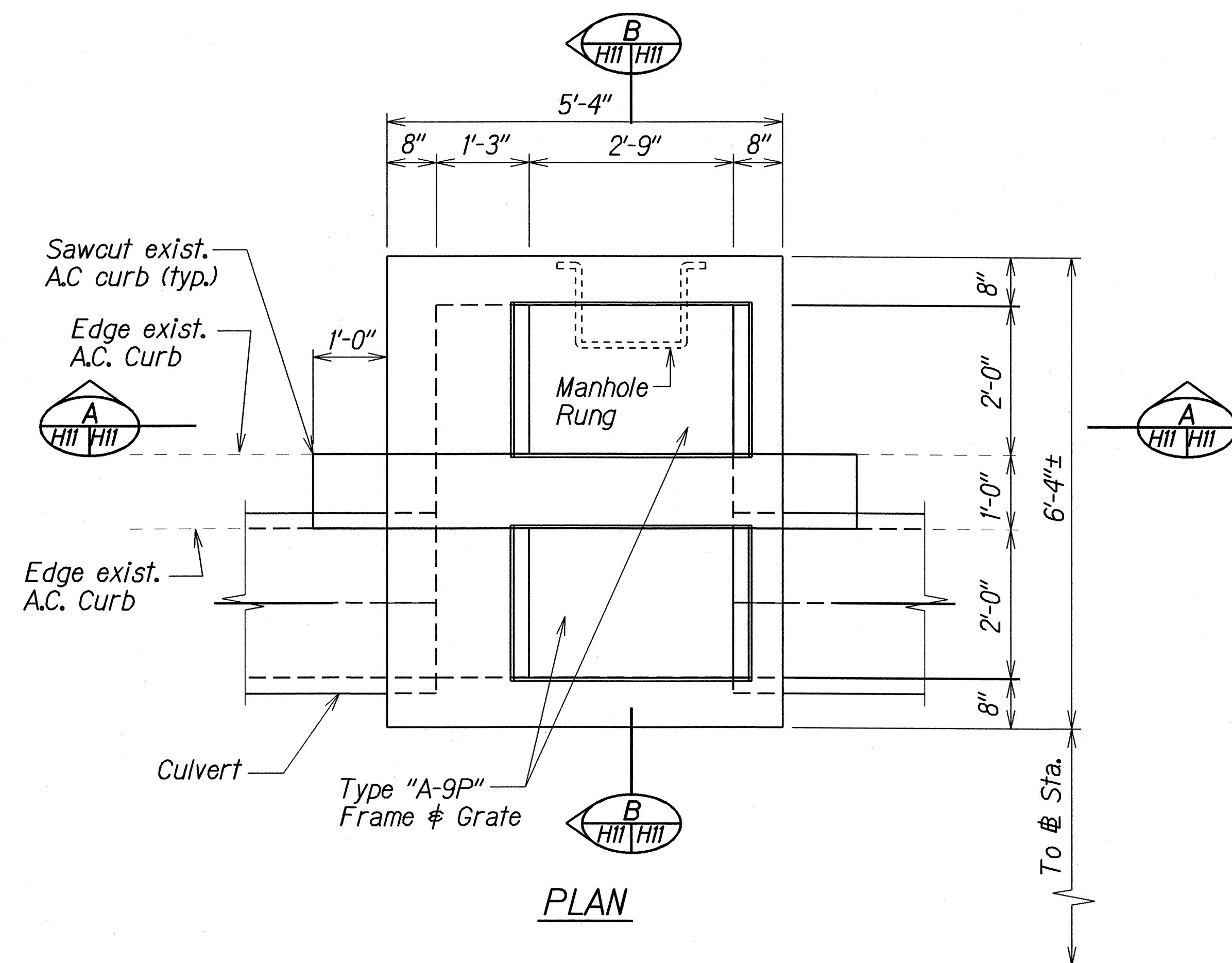
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE PROFILE

FARRINGTON HIGHWAY DRAINAGE IMPROVEMENTS
Vicinity of Nanakuli Avenue to Nanakuli Stream and
Vicinity of Lualei Place to Princess Kahana Avenue
Project Nos. 93A-01-01 & 93A-02-01
Scale: As shown Date: March, 2001

SHEET No. **H10** OF **22** SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	93A-01-01 93A-02-01	2004	27	48



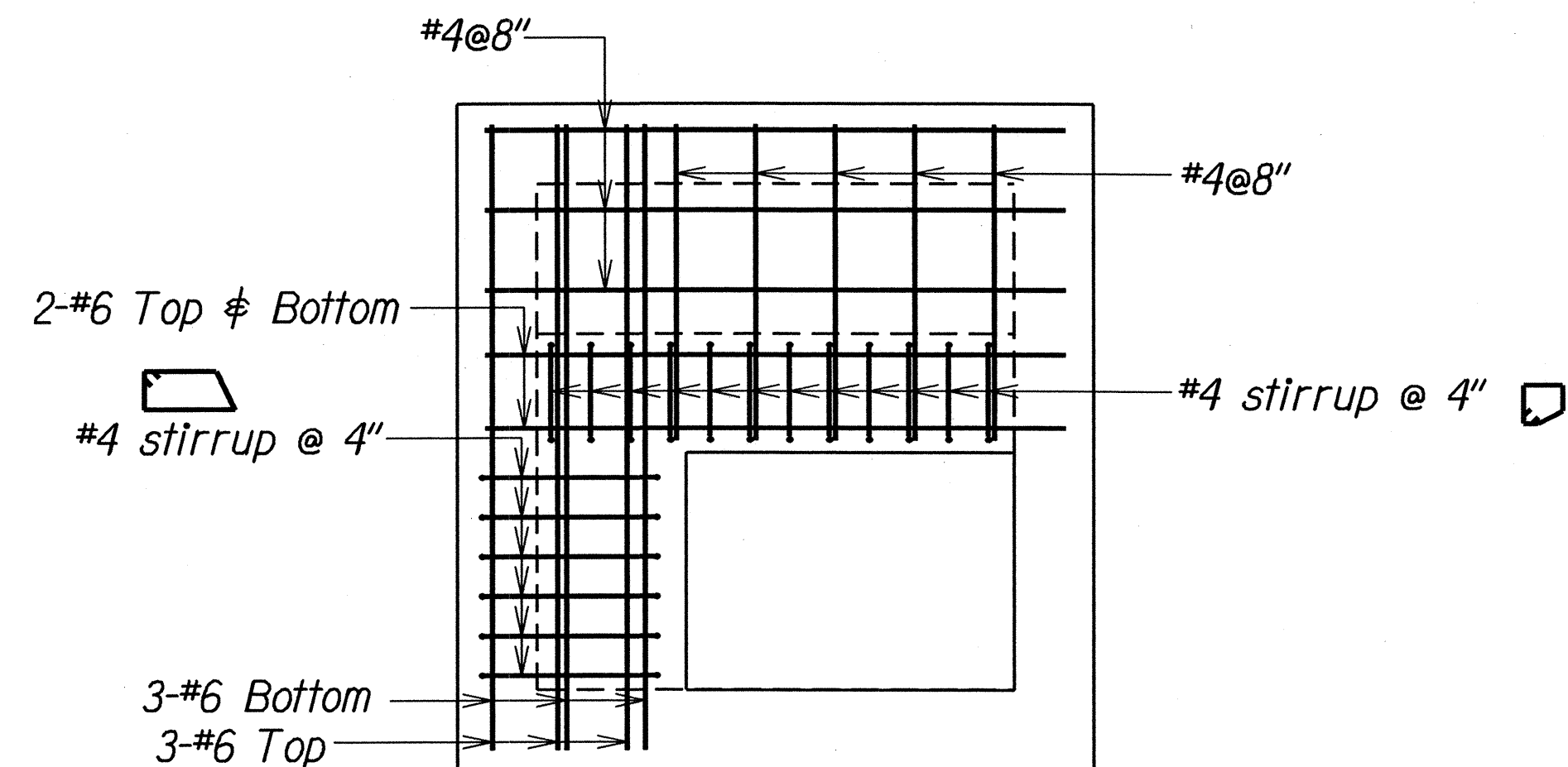
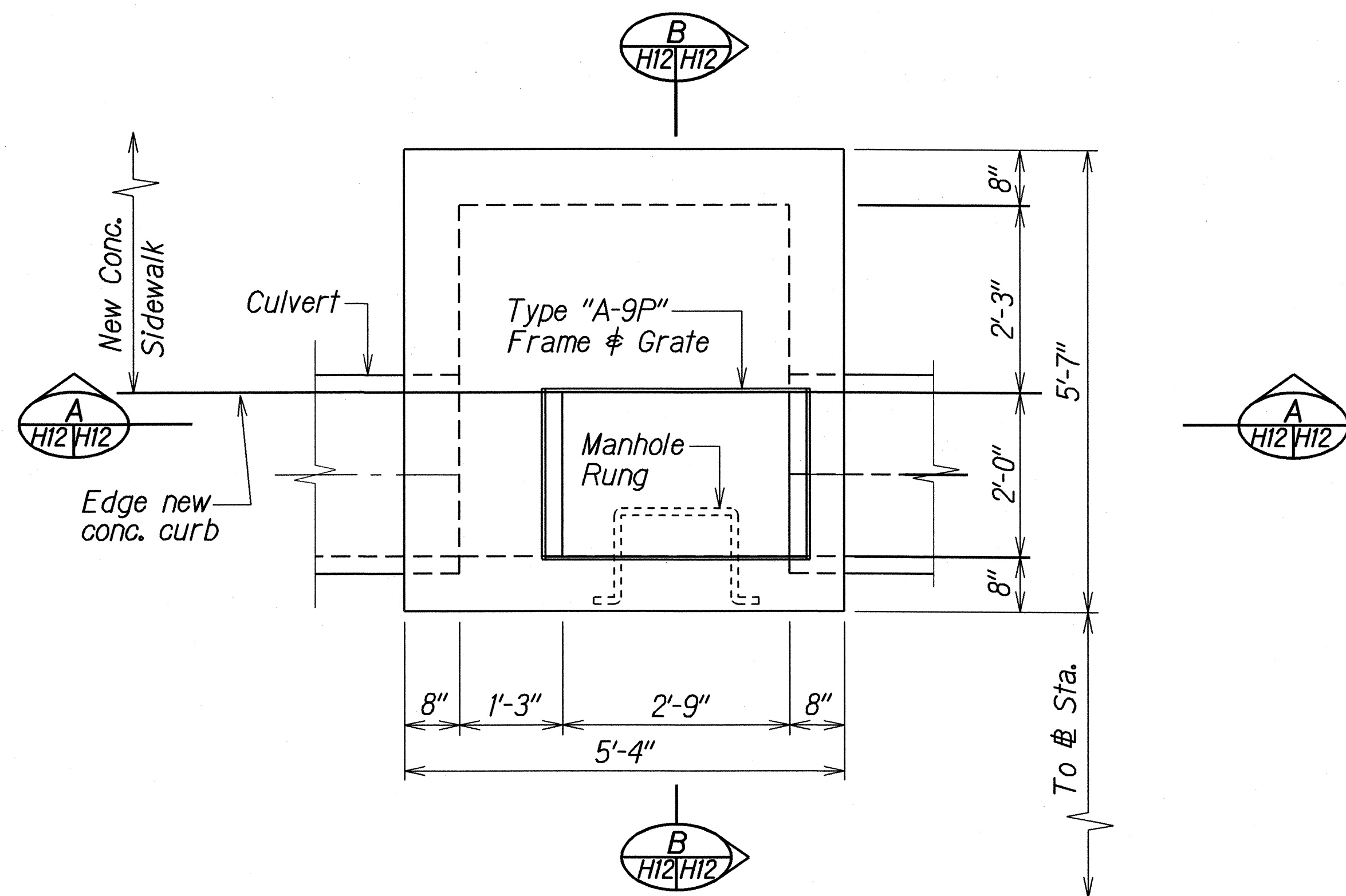
DETAILS OF TYPE 1(A-9P) GRATED DROP INLET

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE DETAILS
FARRINGTON HIGHWAY DRAINAGE IMPROVEMENTS
*Vicinity of Nanakuli Avenue to Nanakuli Stream and
Vicinity of Lualei Place to Princess Kahanu Avenue*
Project Nos. 93A-01-01 & 93A-02-01
Scale: 3/4" = 1'-0" Date: March, 2001

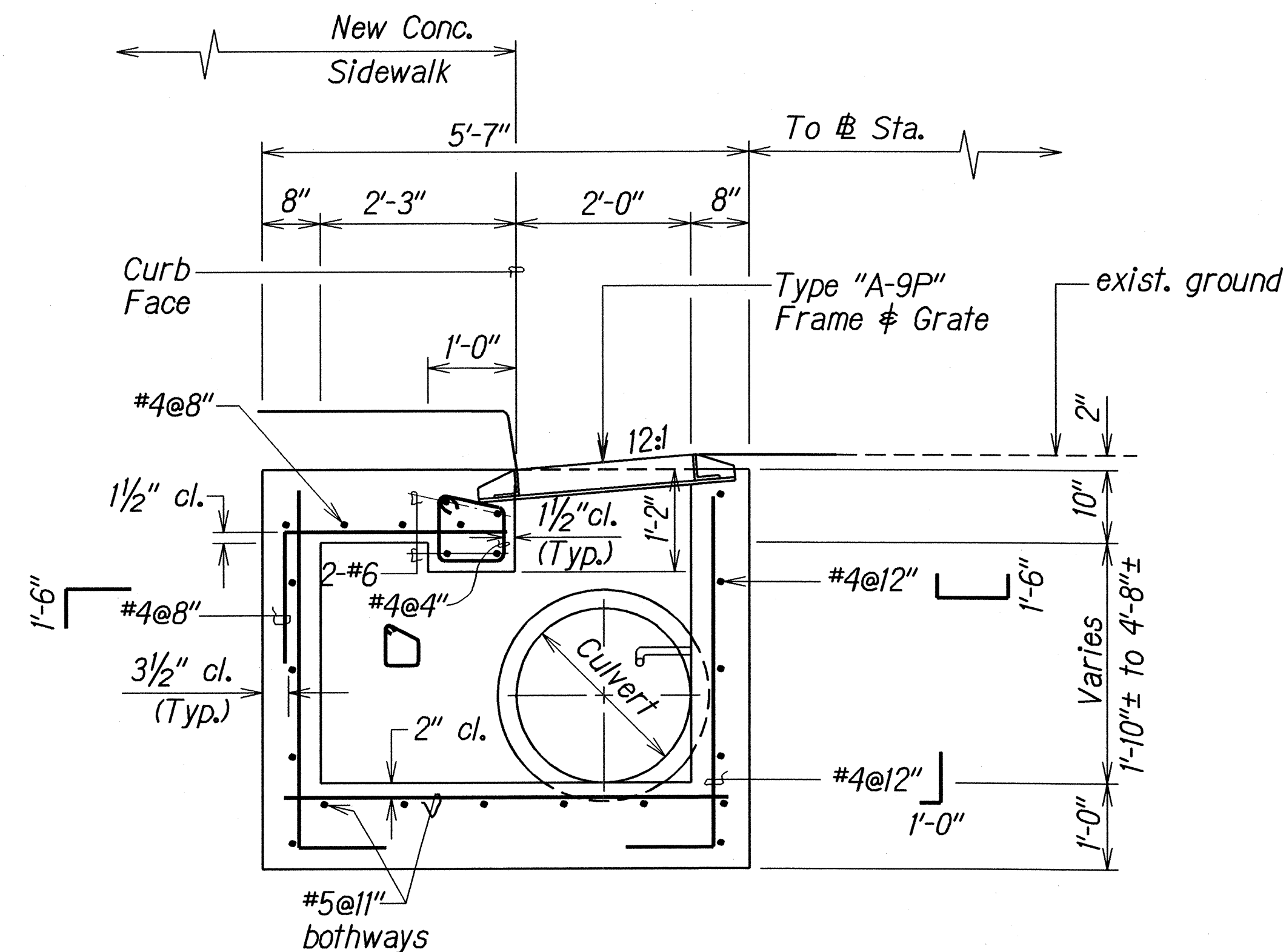
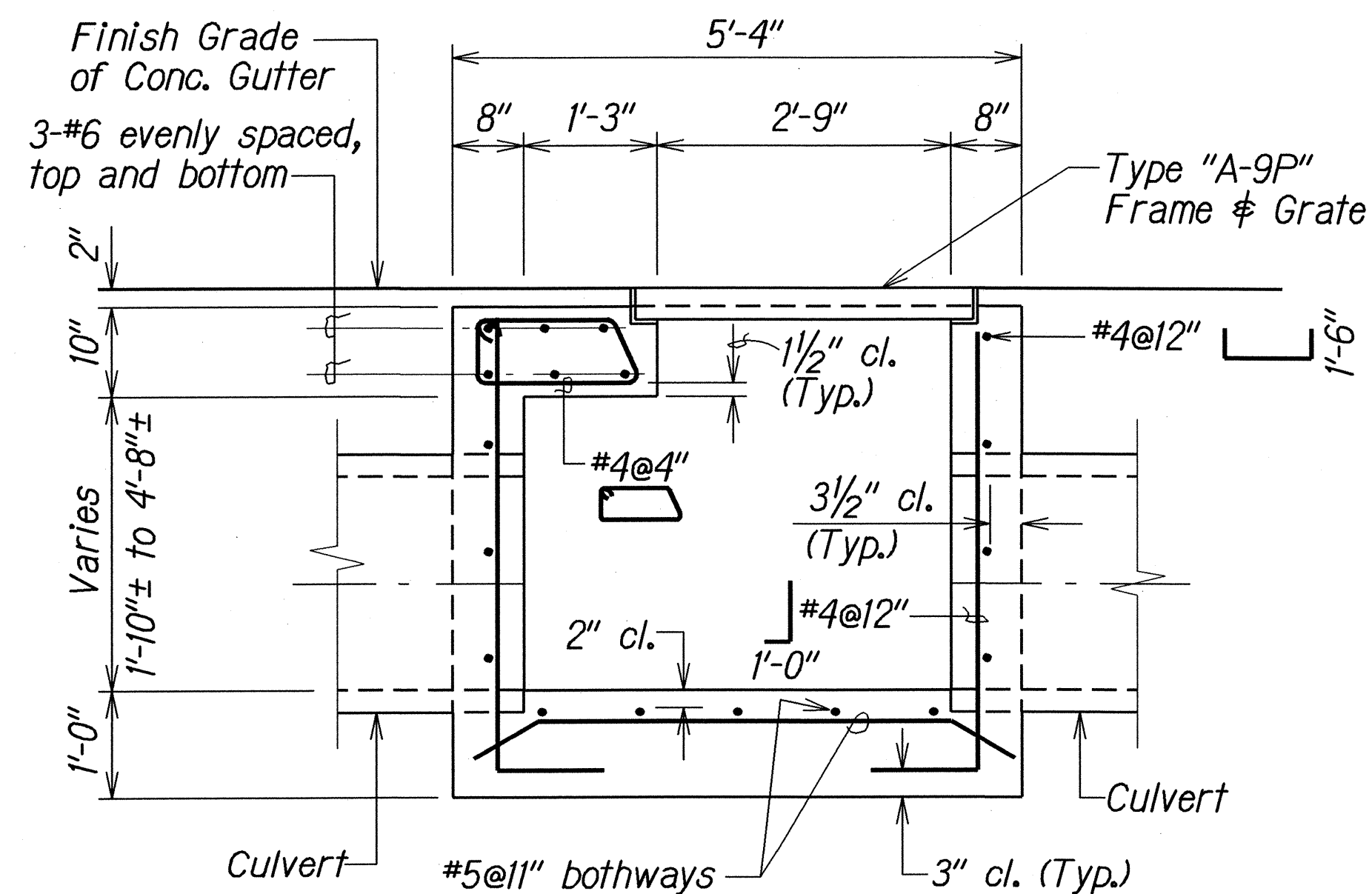
SHEET No. *HII* OF 22 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	93A-01-01 93A-02-01	2004	28	48



PLAN VIEW OF TOP SLAB REINFORCING

PLAN



SECTION B

SECTION A

TYPICAL DETAILS OF TYPE 2(A-9P) GRATED DROP INLET

ORIGINAL PLAN	DATE
SURVEY PLOTTED BY	
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	

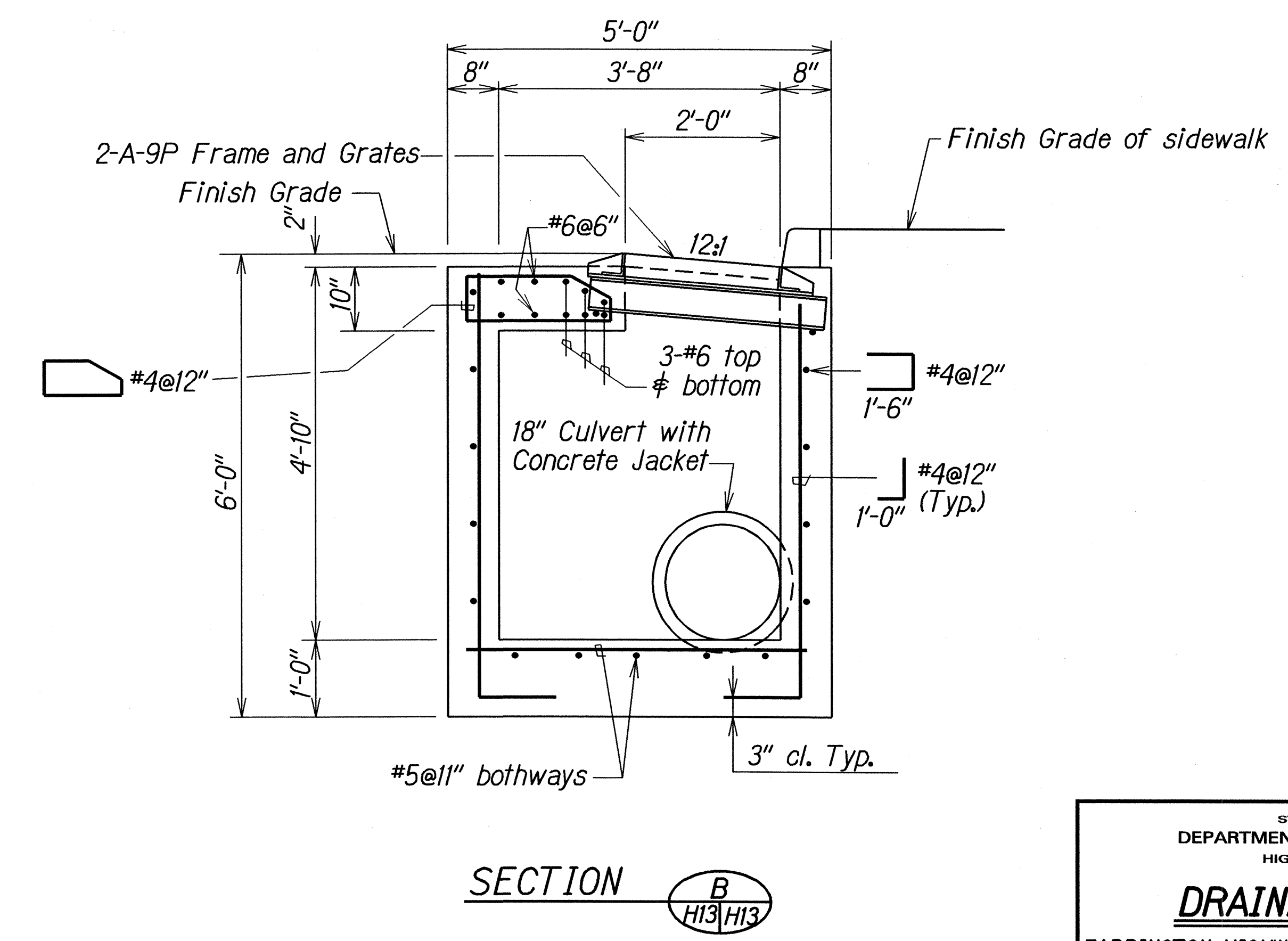
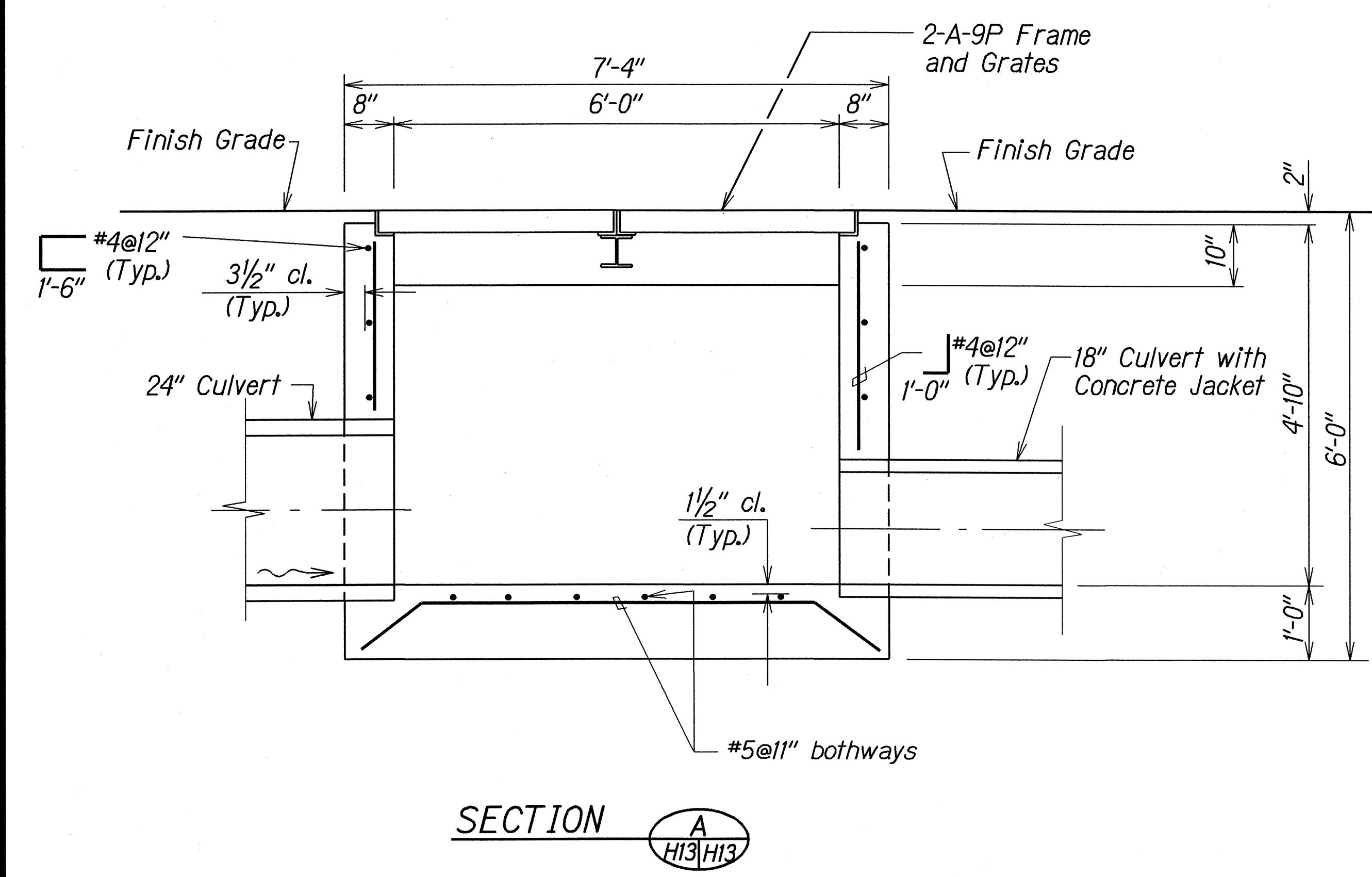
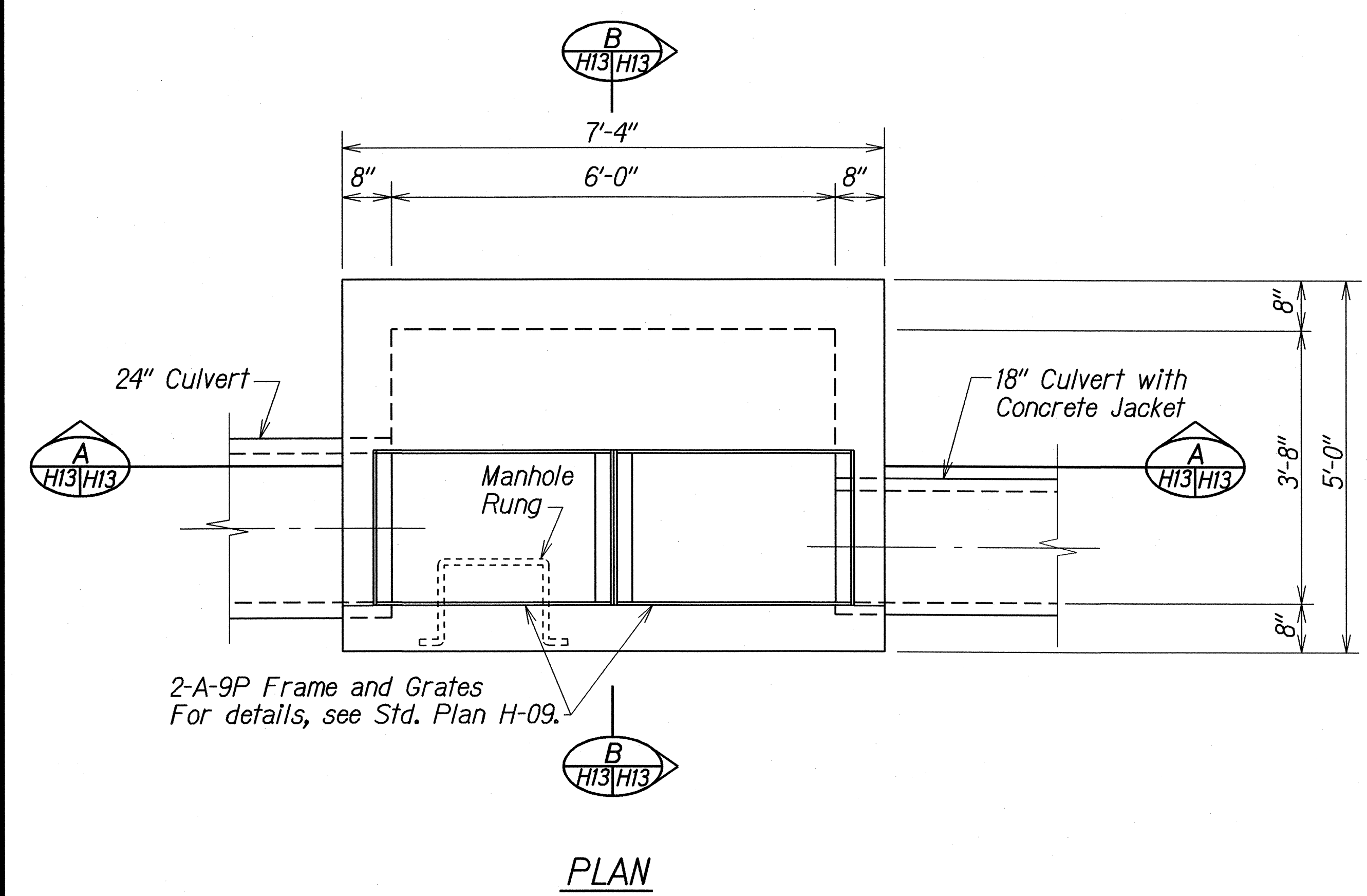
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE DETAILS

FARRINGTON HIGHWAY DRAINAGE IMPROVEMENTS
Vicinity of Nanakuli Avenue to Nanakuli Stream and
Vicinity of Lualei Place to Princess Kahanu Avenue
Project Nos. 93A-01-01 & 93A-02-01
Scale: 3/4" = 1'-0" Date: March, 2001

SHEET No. HI2 OF 22 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	93A-01-01 93A-02-01	2004	29	48



DETAILS OF TYPE 3(A-9P) GRATED DROP INLET

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE DETAILS

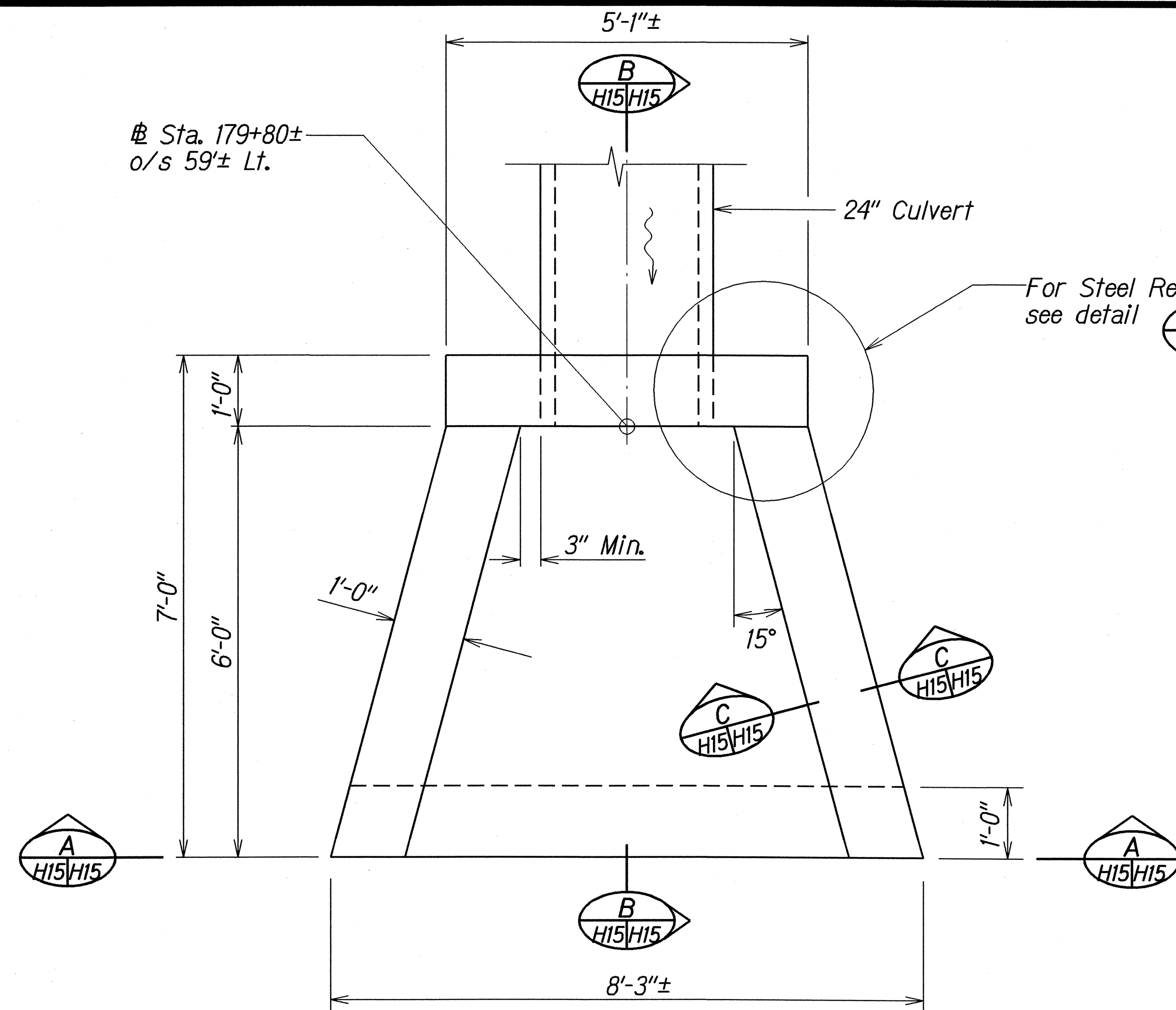
FARRINGTON HIGHWAY DRAINAGE IMPROVEMENTS
Vicinity of Nanakuli Avenue to Nanakuli Stream and
Vicinity of Lualei Place to Princess Kahanu Avenue
Proj Nos. 93A-01-01 & 93A-02-01

Scale: 3/4"=1'-0" Date: Sept. 2003

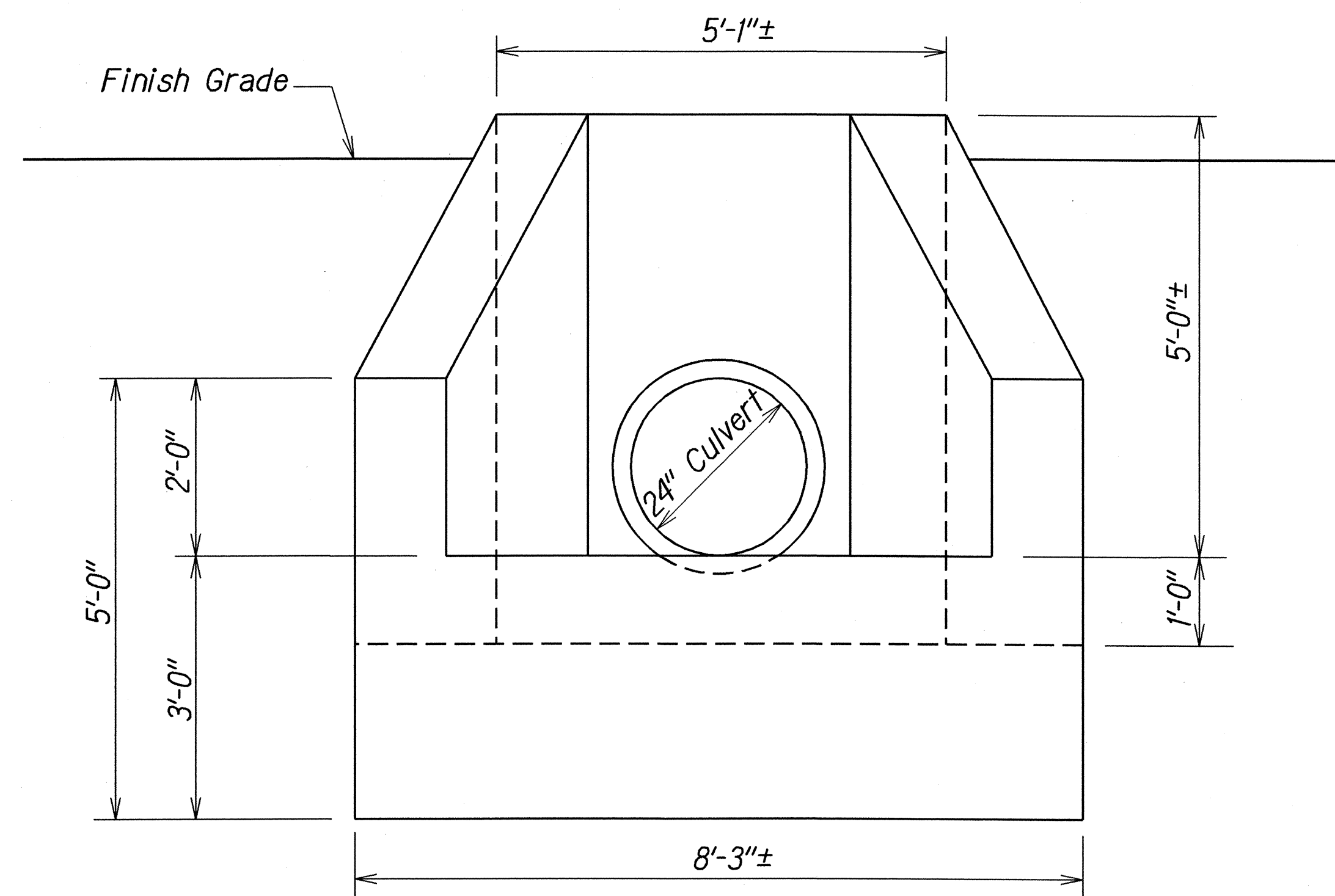
SHEET No. H13 OF 22 SHEETS

ORIGINAL	SURVEY PLOTTED BY	DATE
PLAN	DESIGNED BY	9/15/03
NOTE BOOK	DESIGNED BY	
QUANTITIES BY	QUANTITIES BY	
CHECKED BY	CHECKED BY	

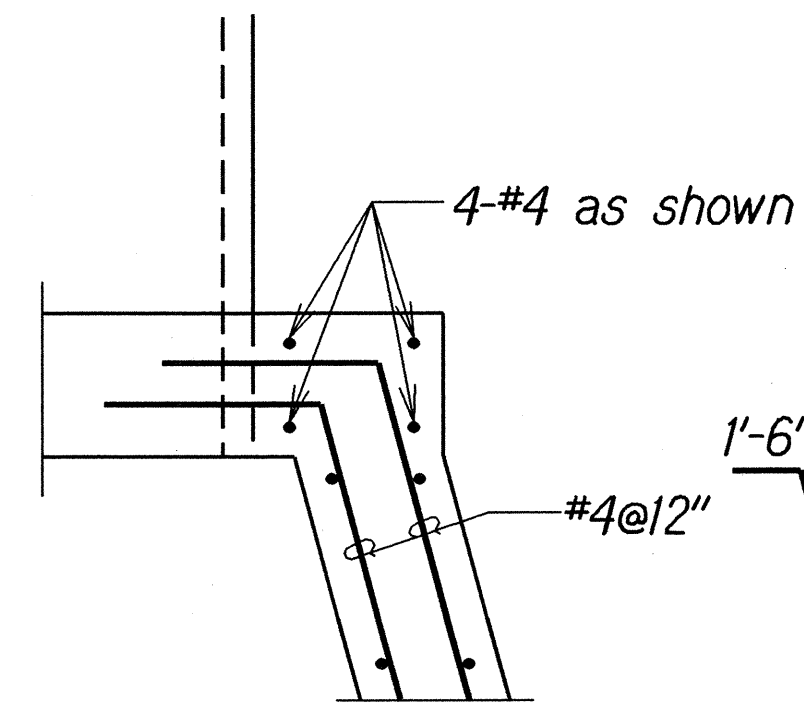
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	93A-01-01 93A-02-01	2004	31	48



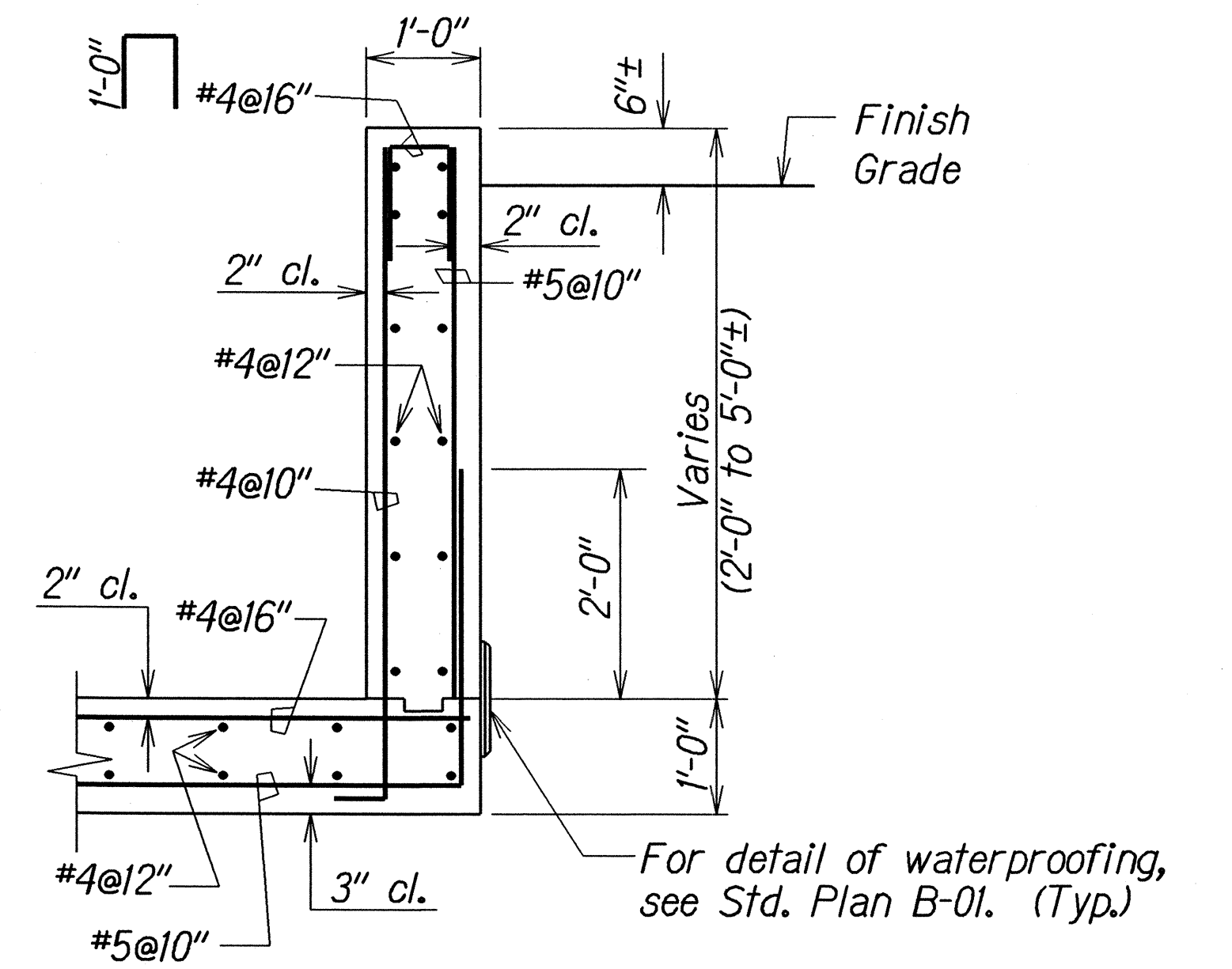
PLAN



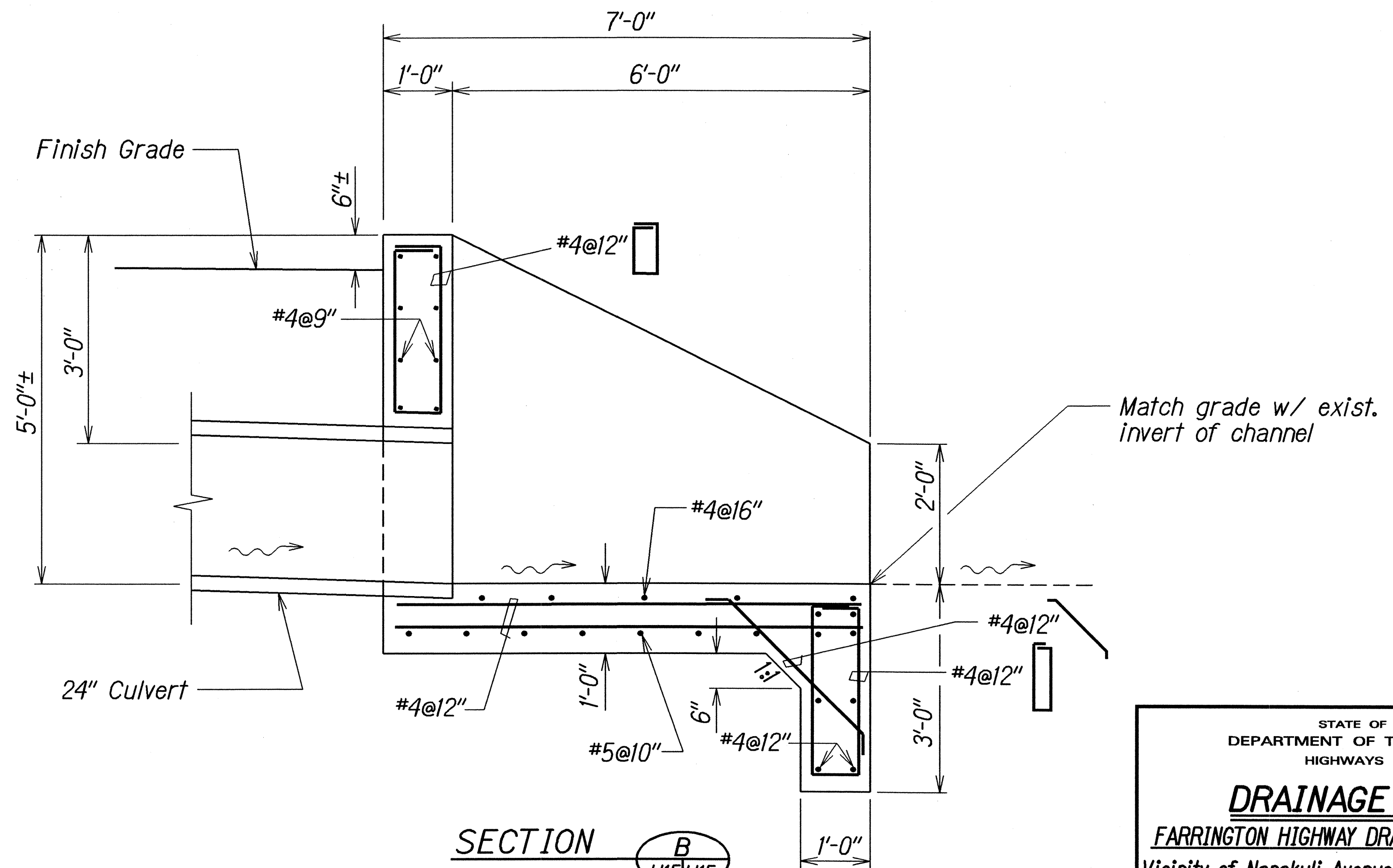
SECTION A
H15/H15



DETAIL D
H15/H15



SECTION C
H15/H15



SECTION B
H15/H15

DETAILS OF TYPE "I" OUTLET STRUCTURE

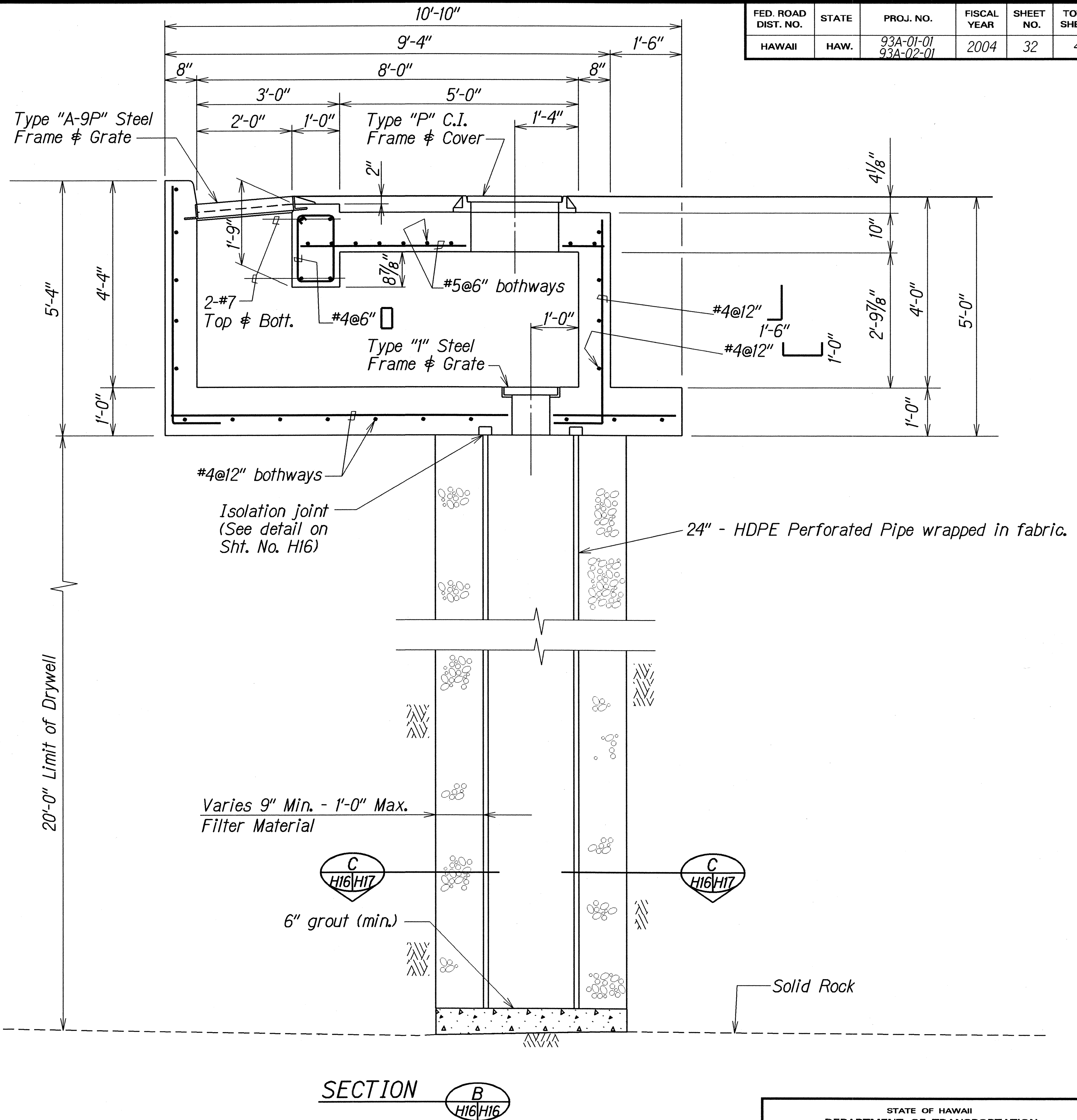
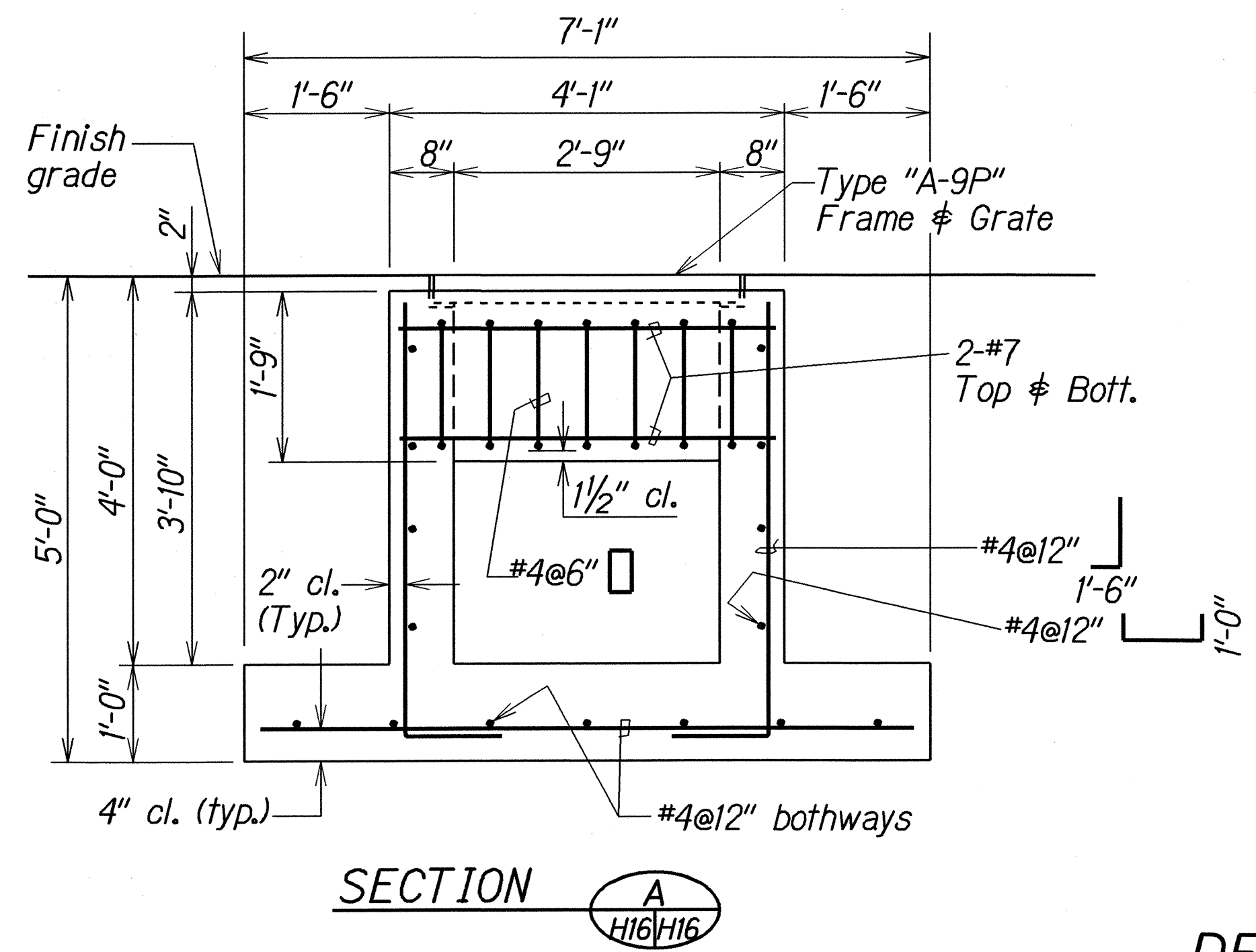
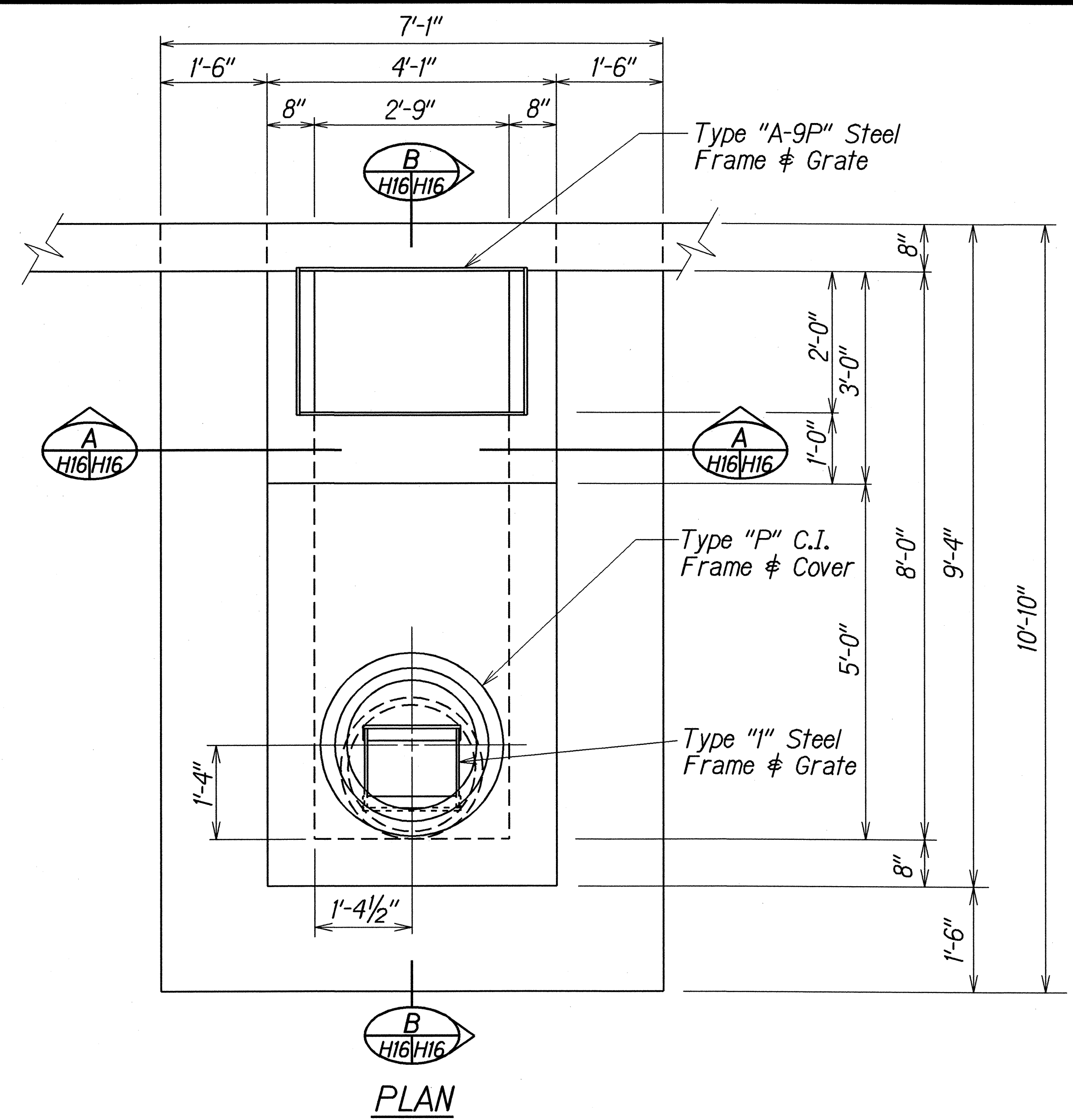
ORIGINAL PLAN	DATE
SURVEY PLOTTED BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE DETAILS
FARRINGTON HIGHWAY DRAINAGE IMPROVEMENTS
Vicinity of Nanakuli Avenue to Nanakuli Stream and
Vicinity of Lualei Place to Princess Kahanu Avenue
Project Nos. 93A-01-01 & 93A-02-01
Scale: 3/4" = 1'-0" Date: March, 2001

SHEET No. H15 OF 22 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	93A-01-01 93A-02-01	2004	32	48



DETAILS OF TYPE "1" DRYWELL

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

DRAINAGE DETAIL

FARRINGTON HIGHWAY DRAINAGE IMPROVEMENTS

Vicinity of Nanakuli Avenue to Nanakuli Stream and

Vicinity of Lualei Place to Princess Kahanu Avenue

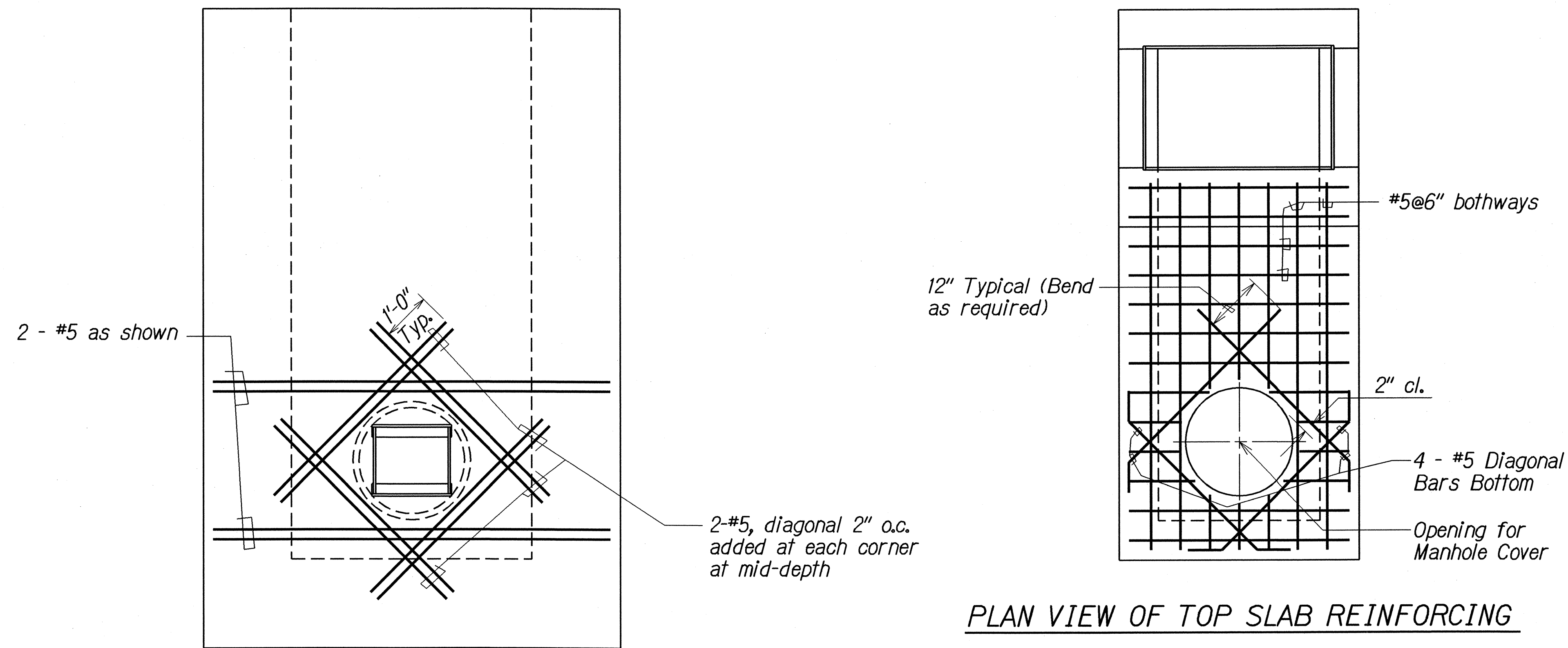
Project Nos. 93A-01-01 & 93A-02-01

Scale: 3/4" = 1'-0" Date: March, 2001

SHEET No. H16 OF 22 SHEETS

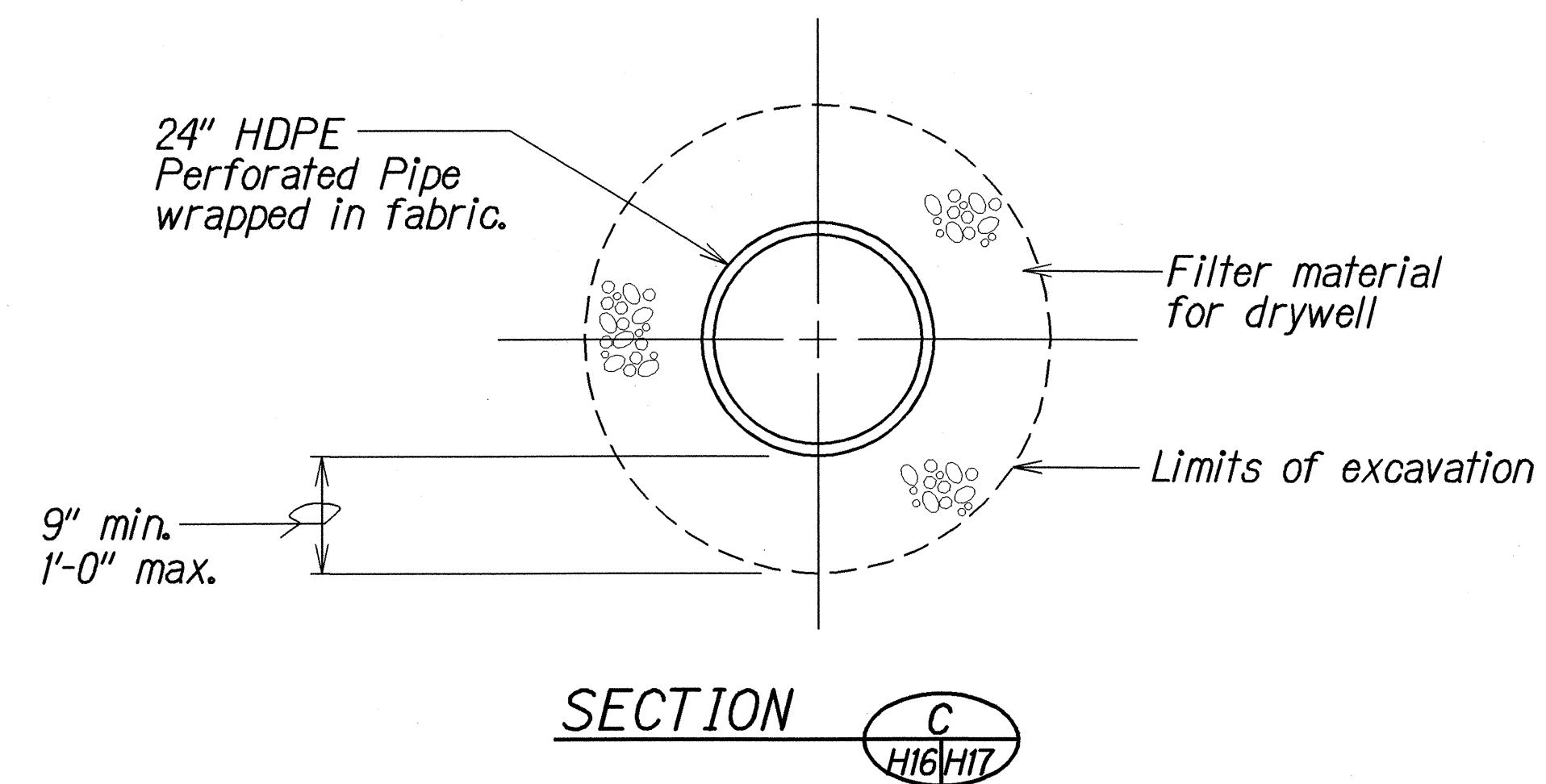
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FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	93A-01-01 93A-02-01	2004	33	48

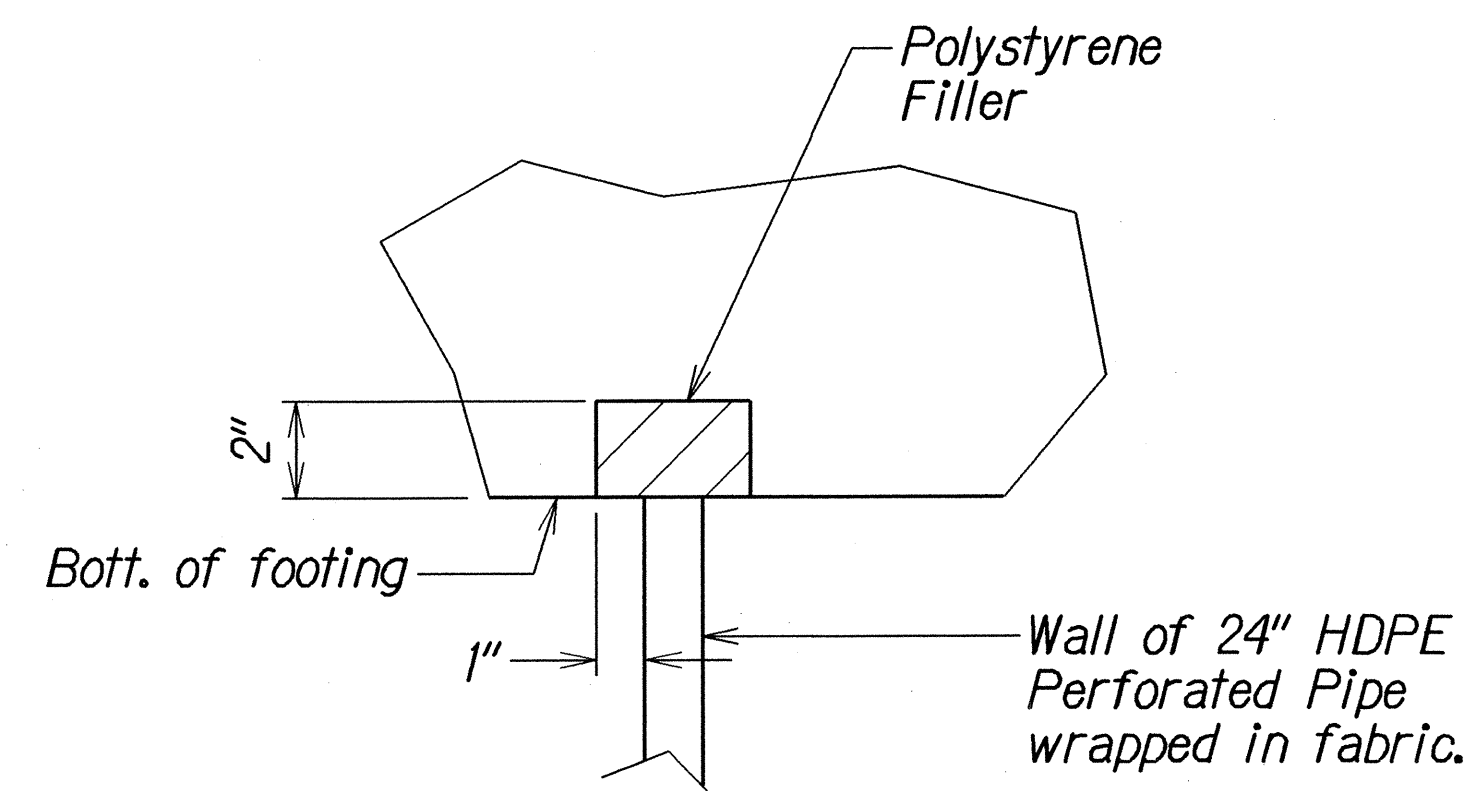


ADDED REINFORCING FOR BOTTOM SLAB

PLAN VIEW OF TOP SLAB REINFORCING



SECTION C
H16/H17



ISOLATION JOINT DETAIL
Scale: 3/4"=1'-0"

DETAILS OF TYPE "1" DRYWELL

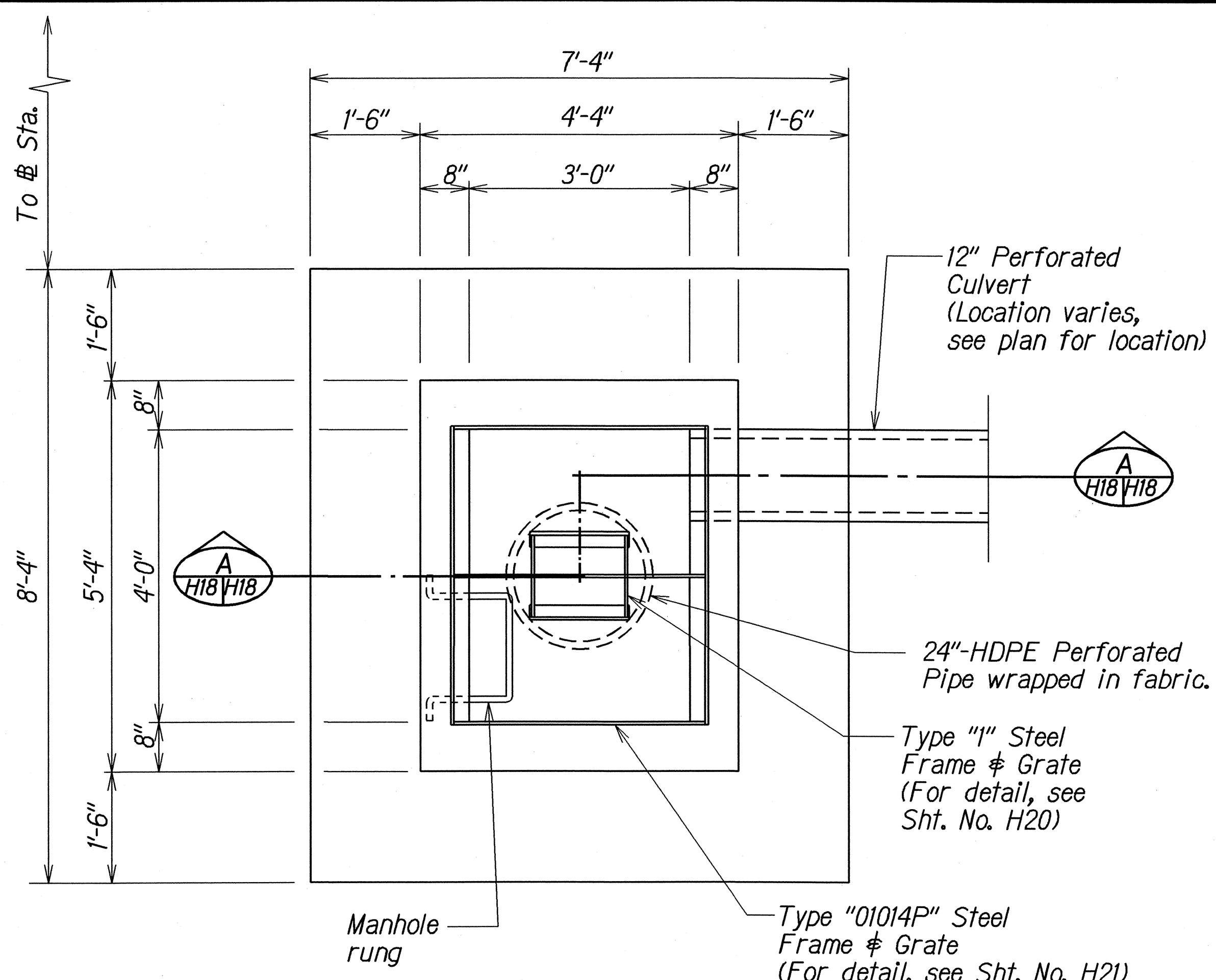
ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
DESIGNED BY	CHECKED BY	
QUANTITIES BY		
CHECKED BY		

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

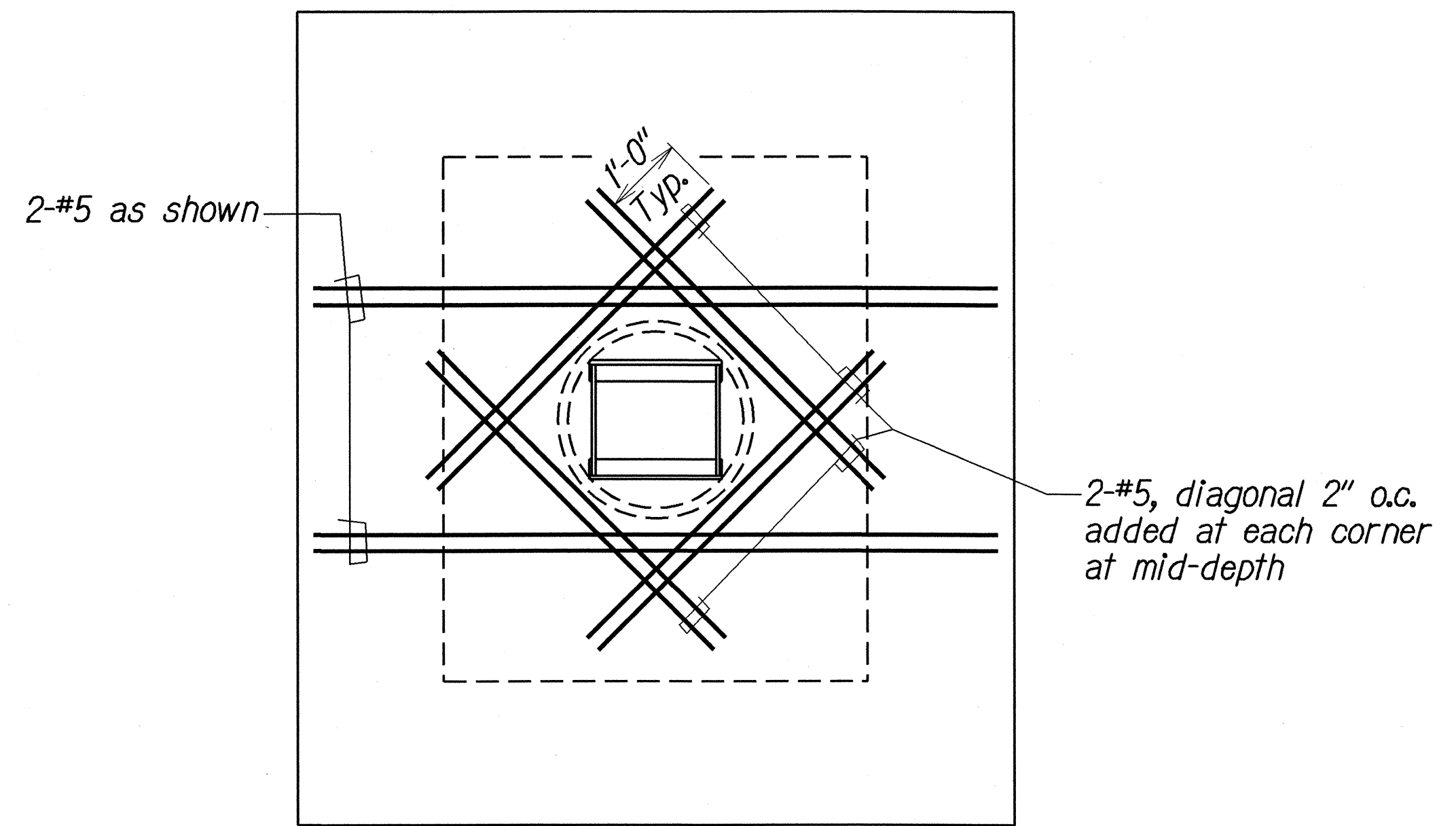
DRAINAGE DETAIL
FARRINGTON HIGHWAY DRAINAGE IMPROVEMENTS
Vicinity of Nanakuli Avenue to Nanakuli Stream and
Vicinity of Lualei Place to Princess Kahanu Avenue
Project Nos. 93A-01-01 & 93A-02-01
Scale: 3/4"=1'-0" Date: March, 2001

SHEET No. H17 OF 22 SHEETS

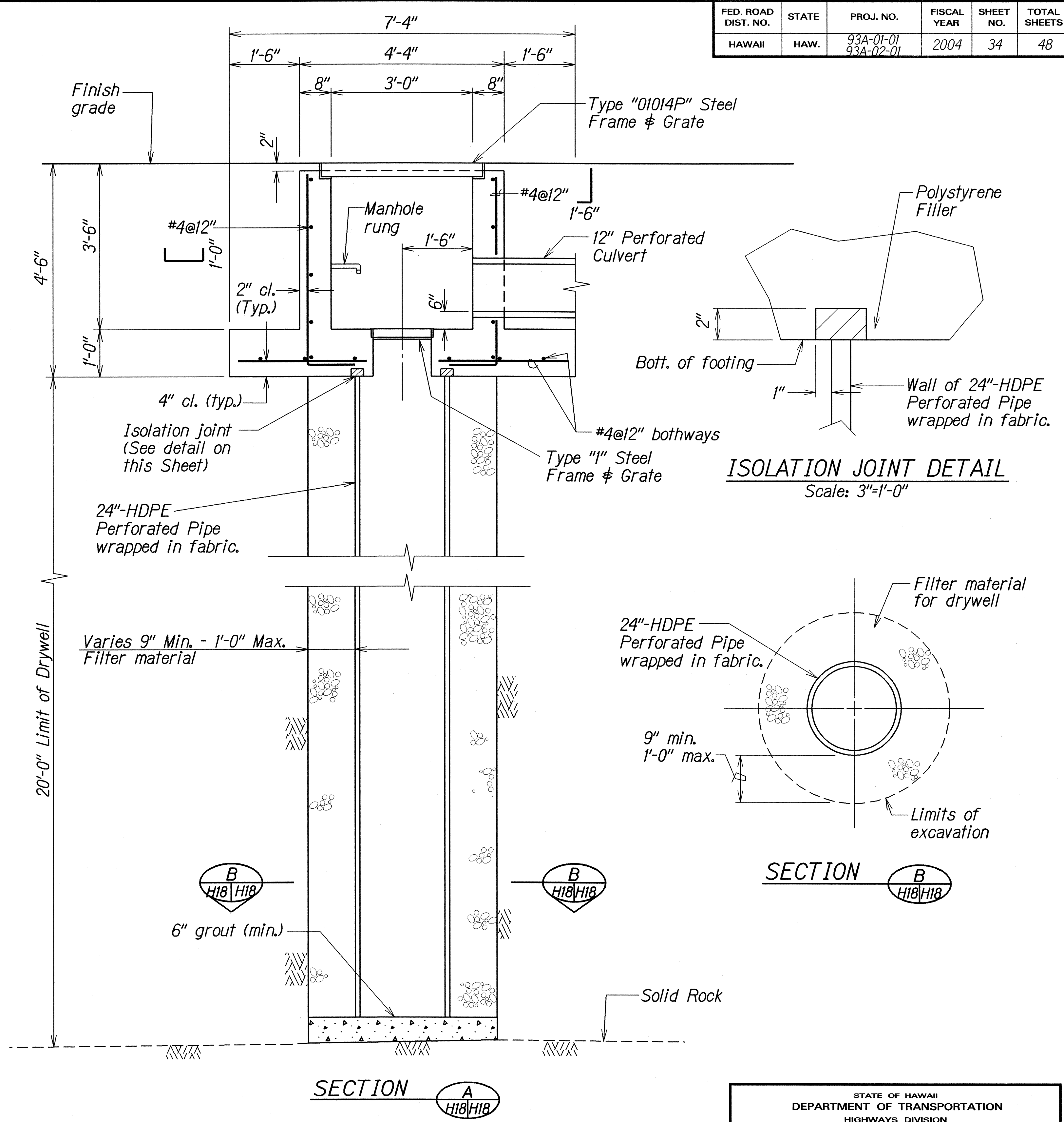
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	93A-01-01 93A-02-01	2004	34	48



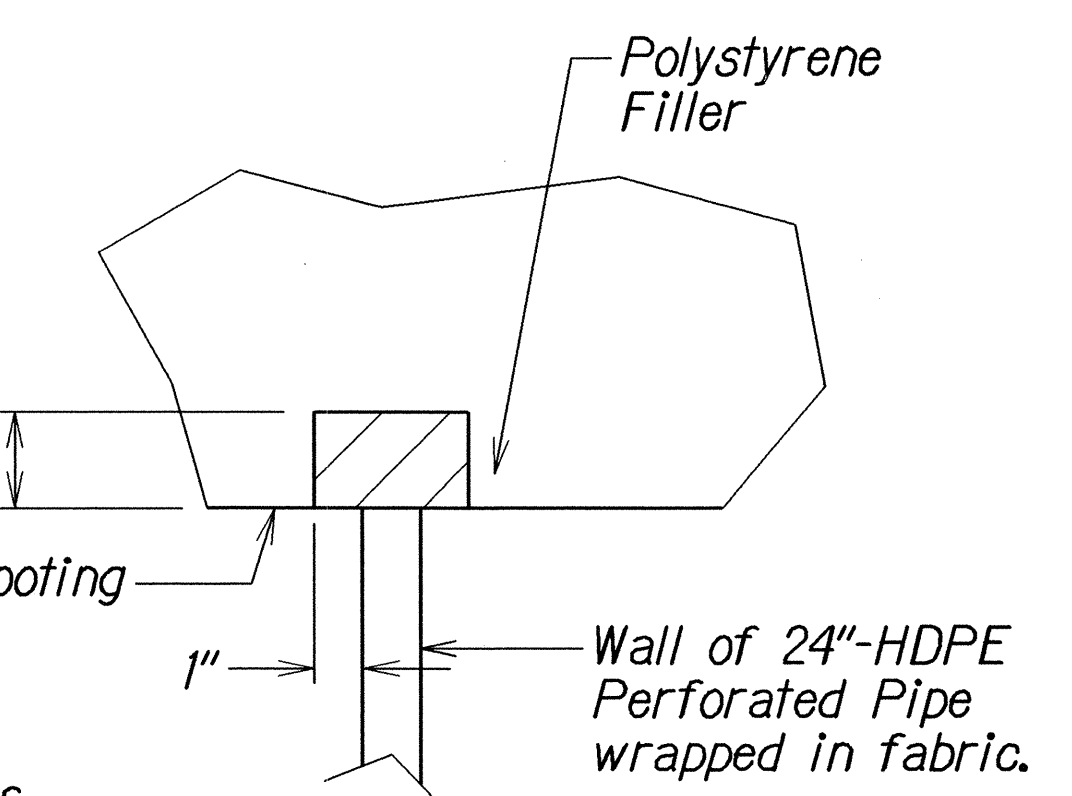
PLAN



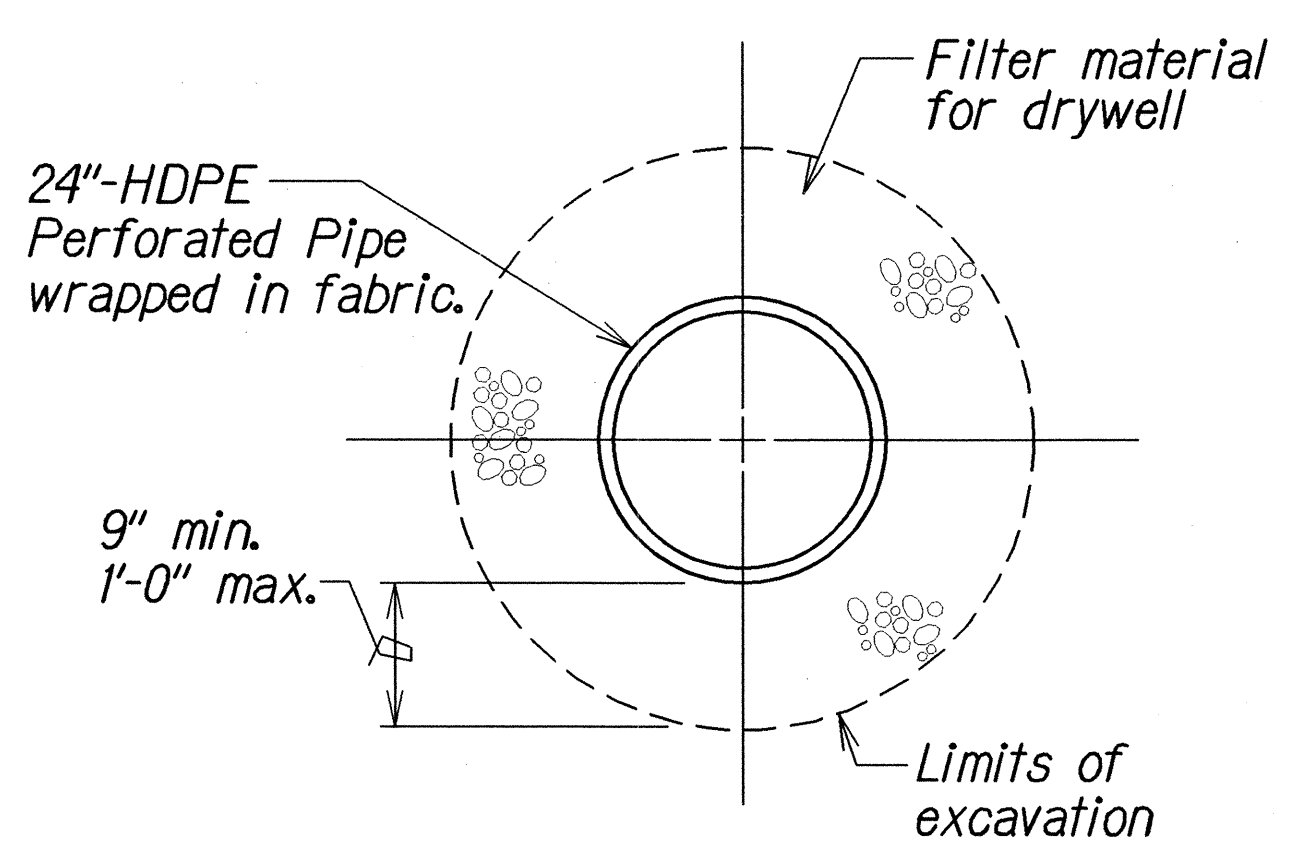
ADDED REINFORCING FOR BOTTOM SLAB



SECTION A H18/H18



ISOLATION JOINT DETAIL
Scale: 3"=1'-0"



SECTION B H18/H18

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE DETAIL

FARRINGTON HIGHWAY DRAINAGE IMPROVEMENTS

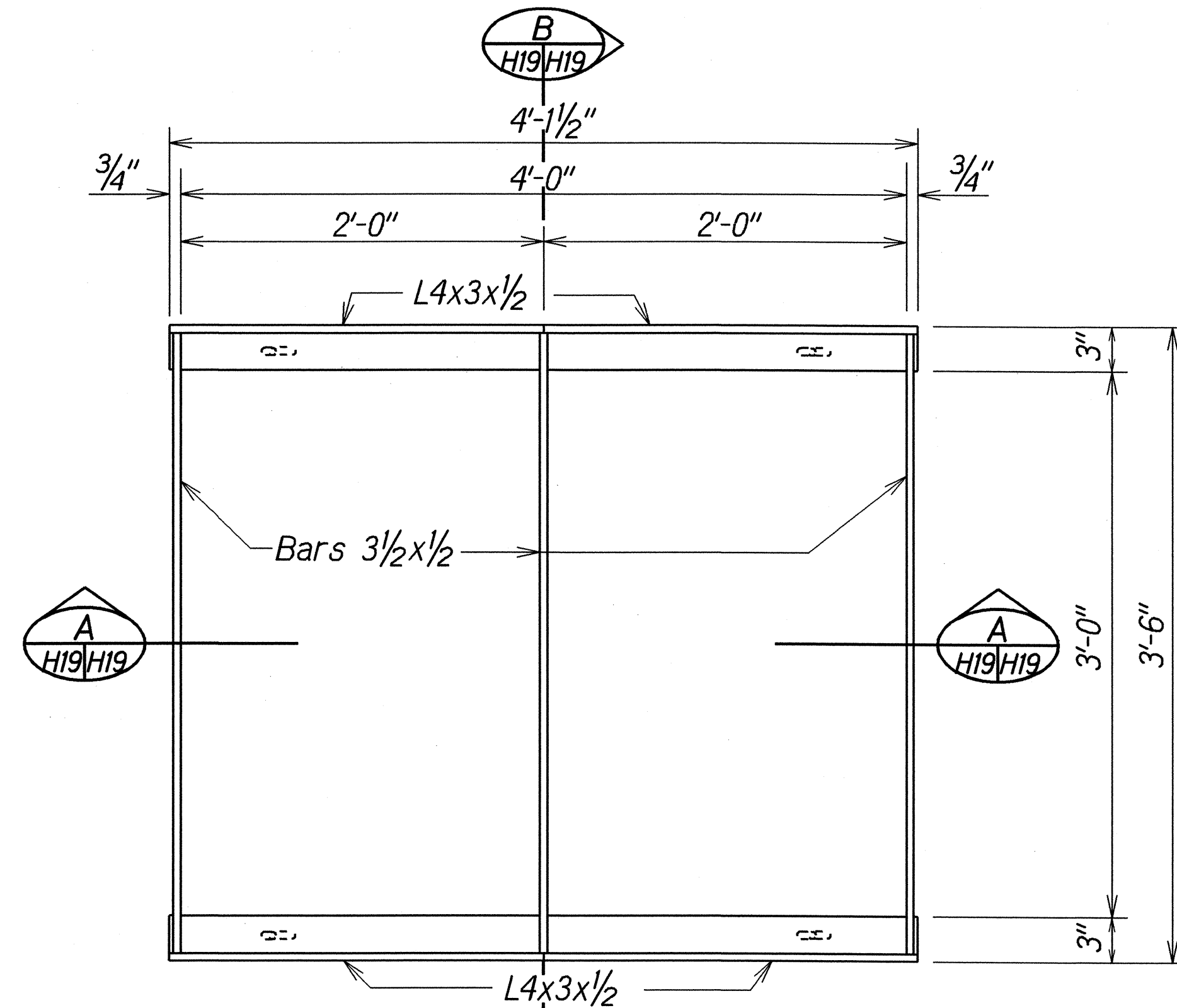
Vicinity of Nanakuli Avenue to Nanakuli Stream and
Vicinity of Lualei Place to Princess Kahanu Avenue

Project Nos. 93A-01-01 & 93A-02-01

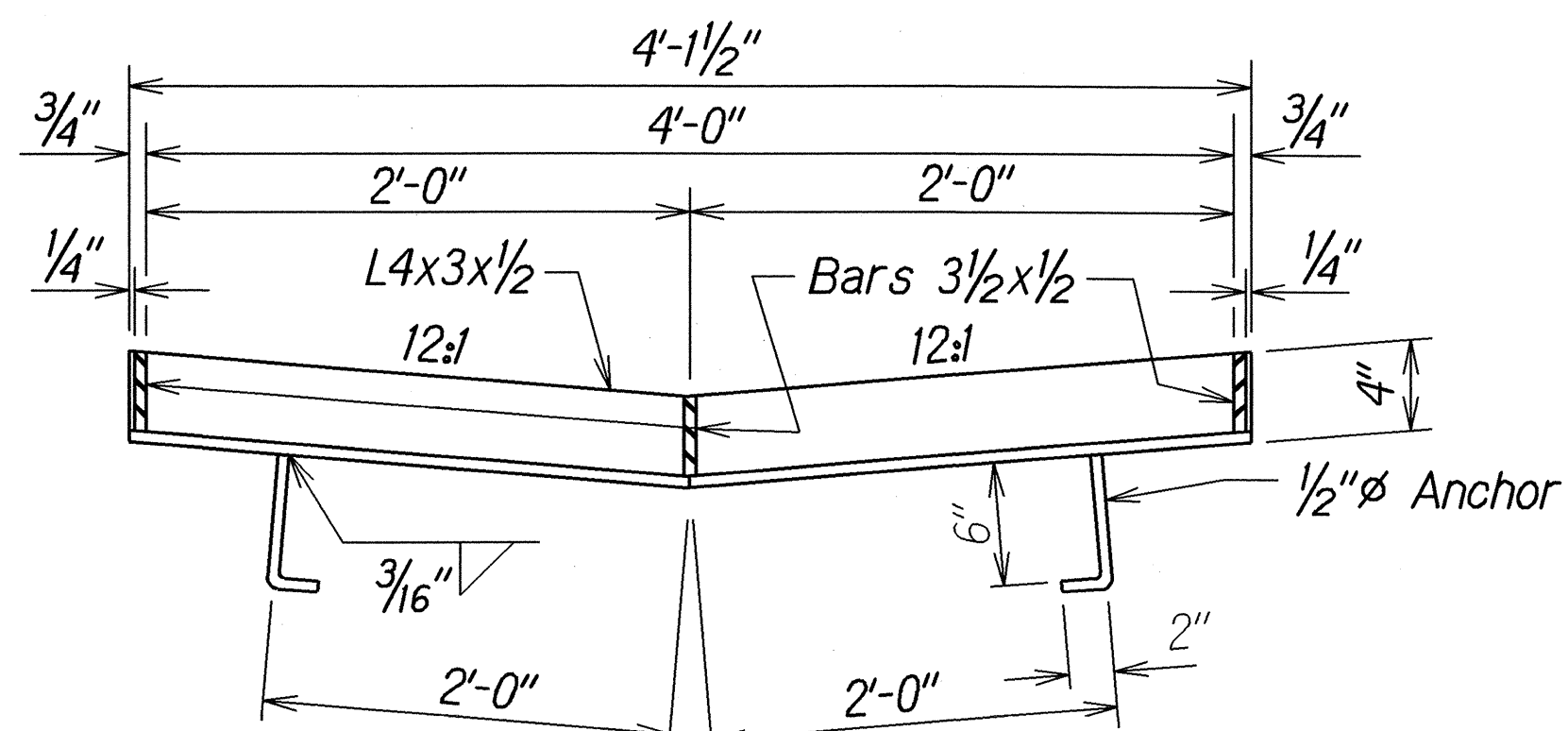
Scale: 3/4" = 1'-0" Date: March, 2001

ORIGINAL PLAN	DATE
DESIGNED BY	
TRACED BY	
QUANTITIES BY	
CHECKED BY	

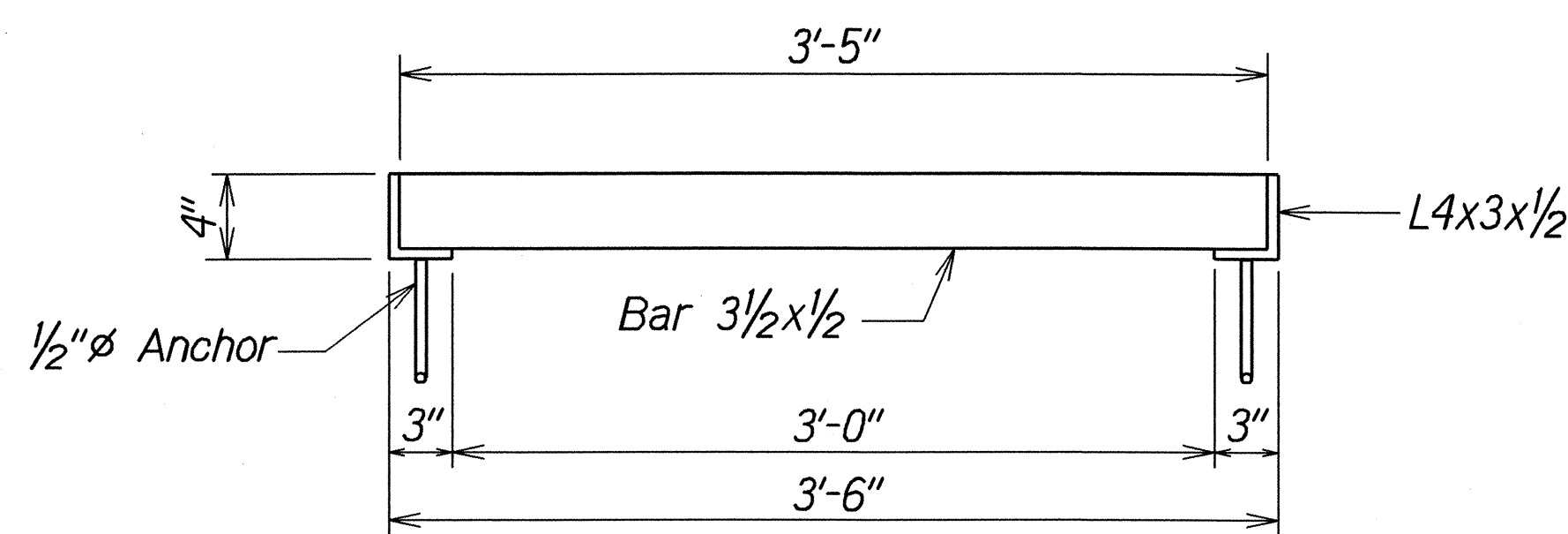
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	93A-01-01 93A-02-01	2004	35	48



PLAN

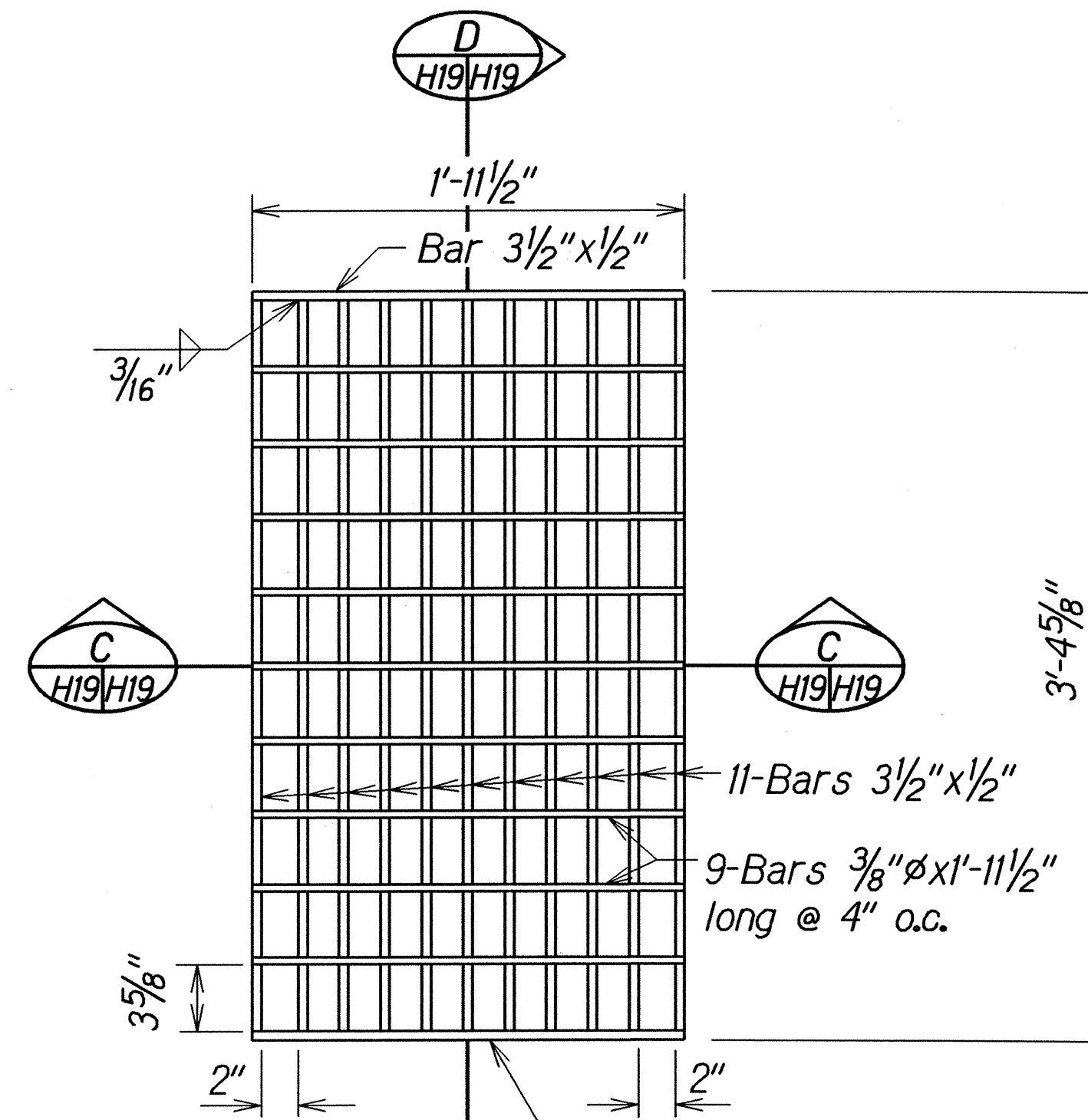


SECTION A

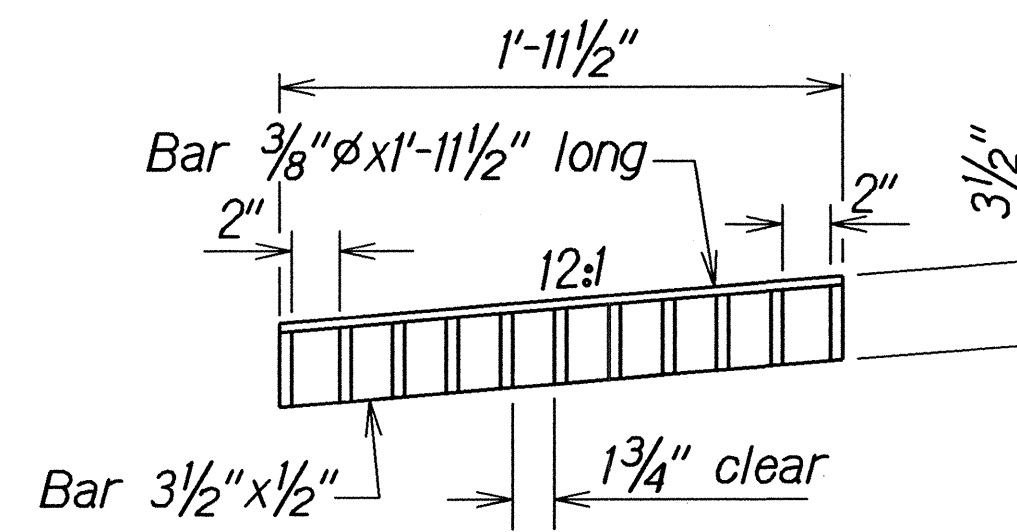


SECTION B

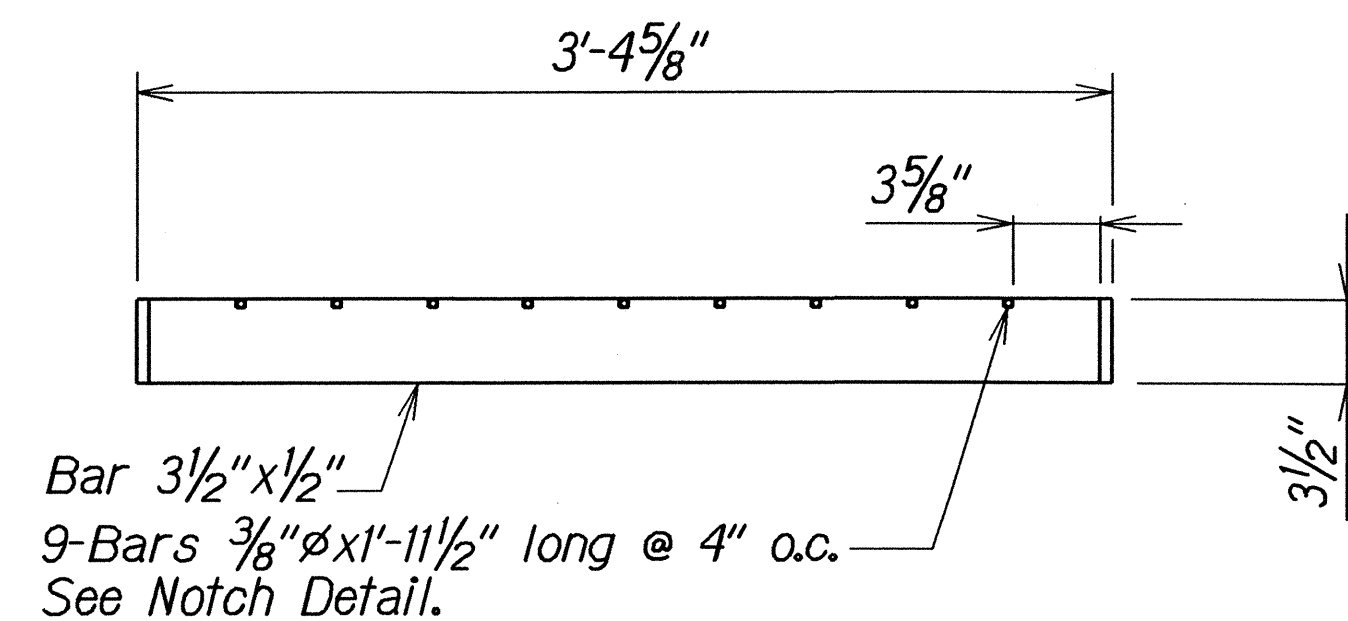
FRAME



PLAN

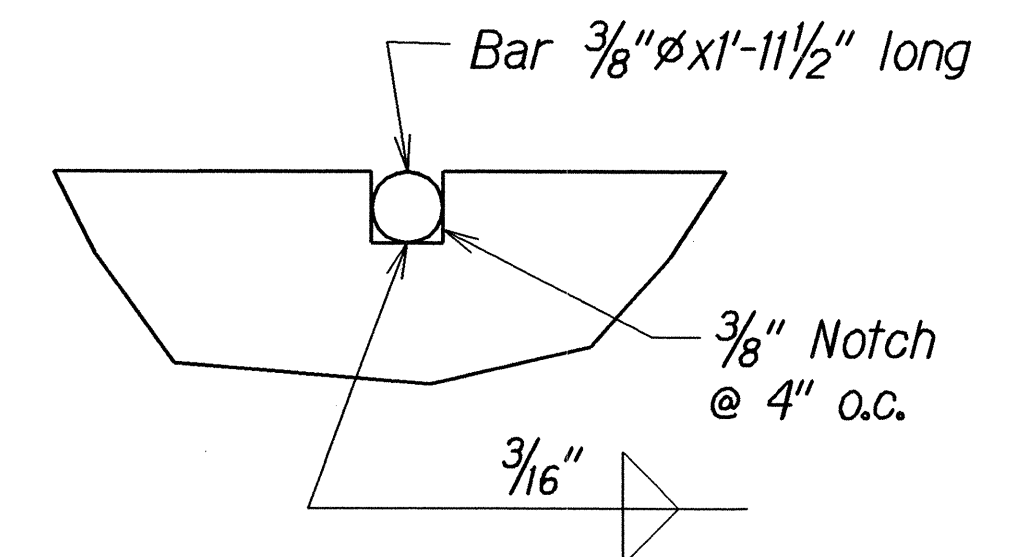


SECTION C



SECTION D

GRATE



NOTCH DETAIL

Full Size

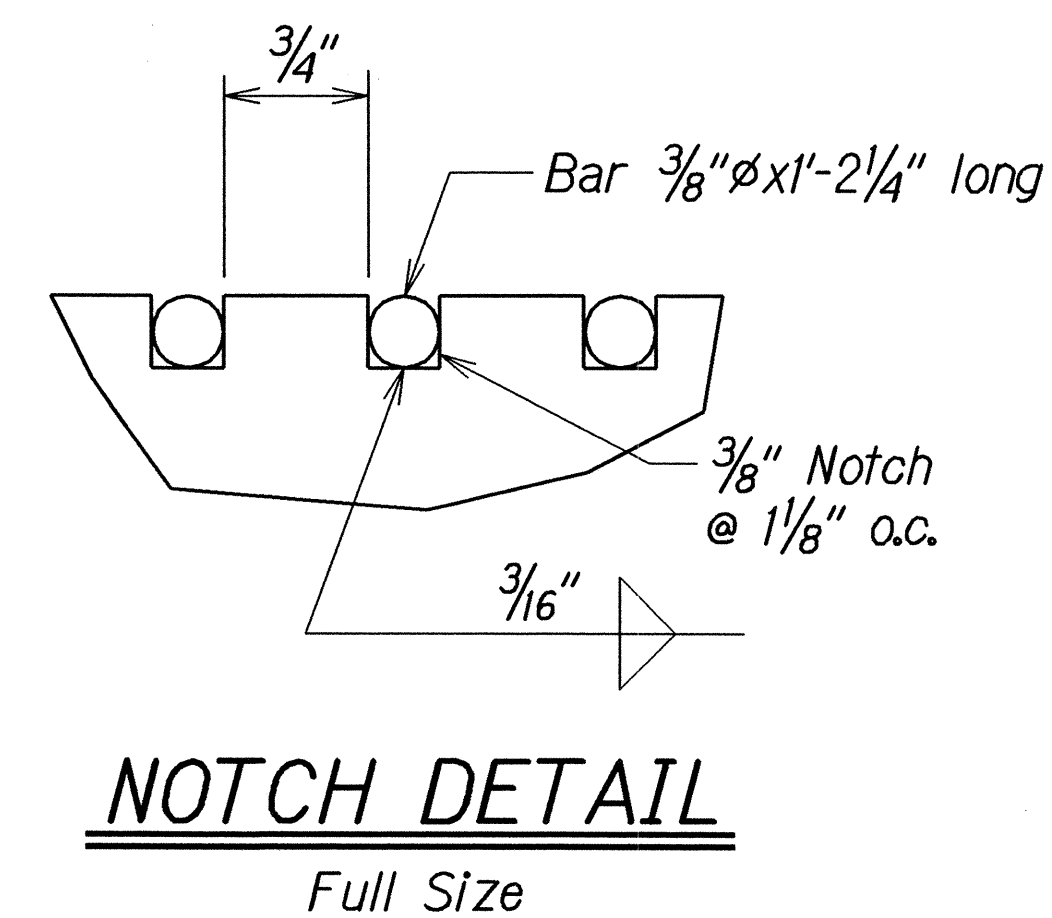
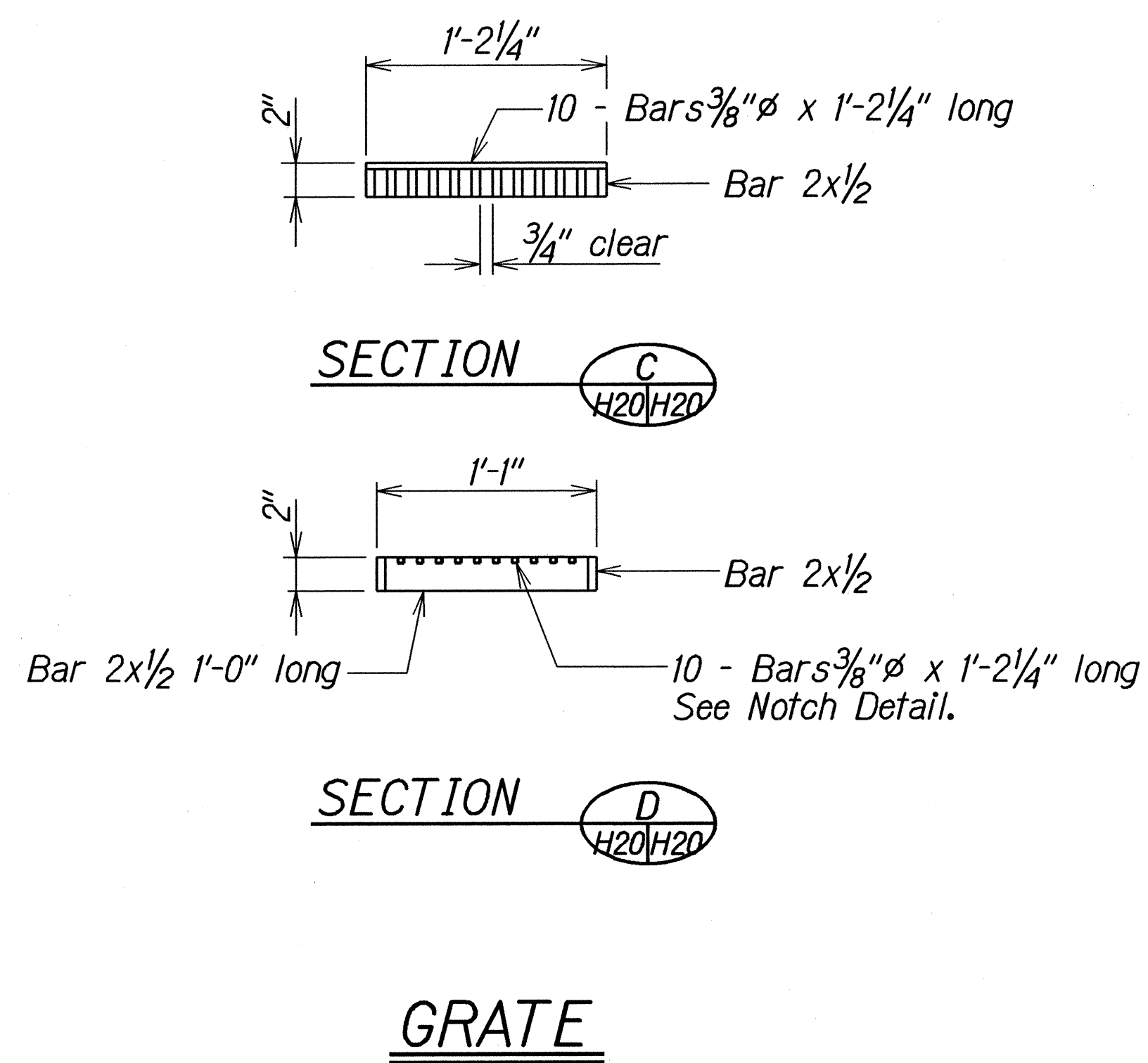
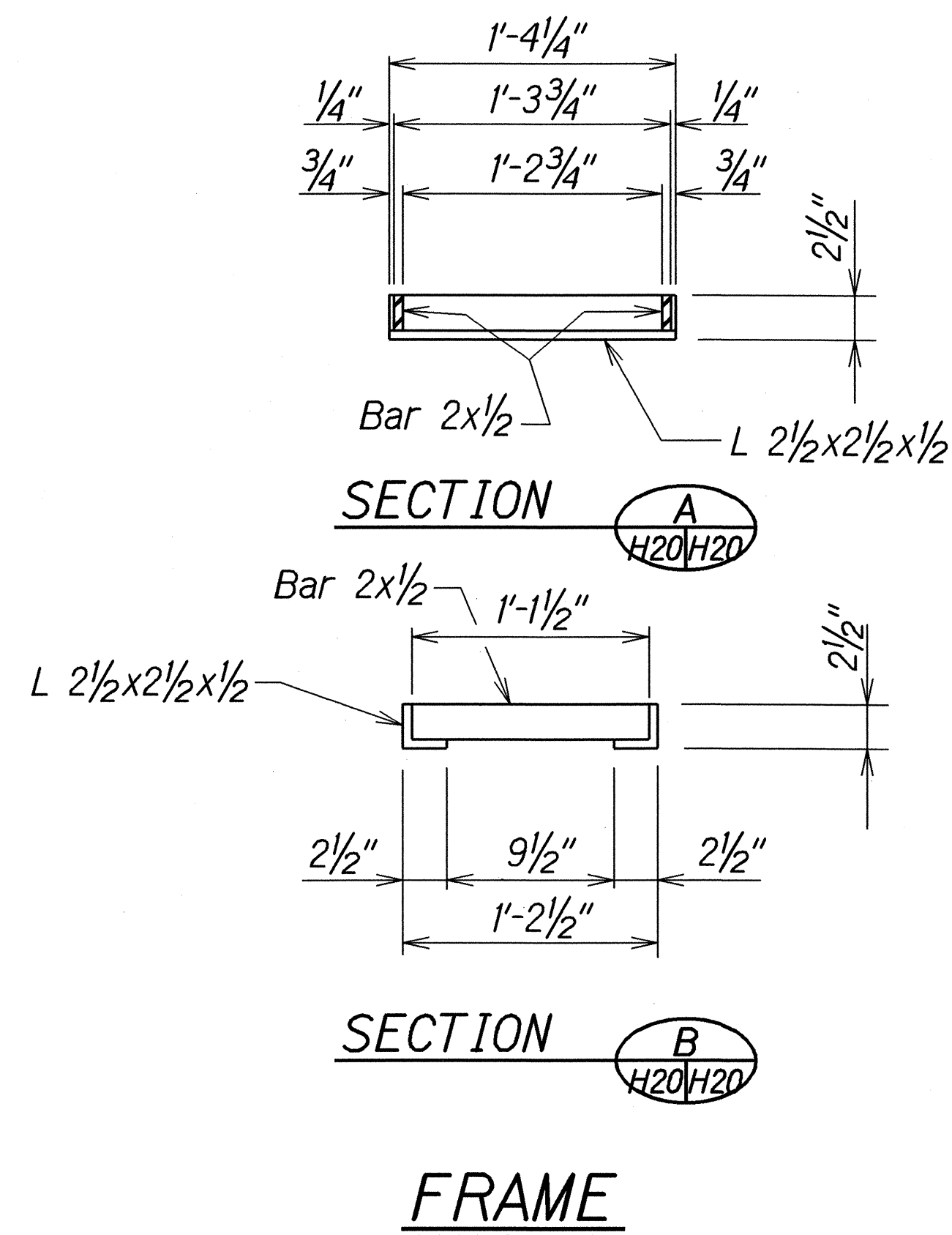
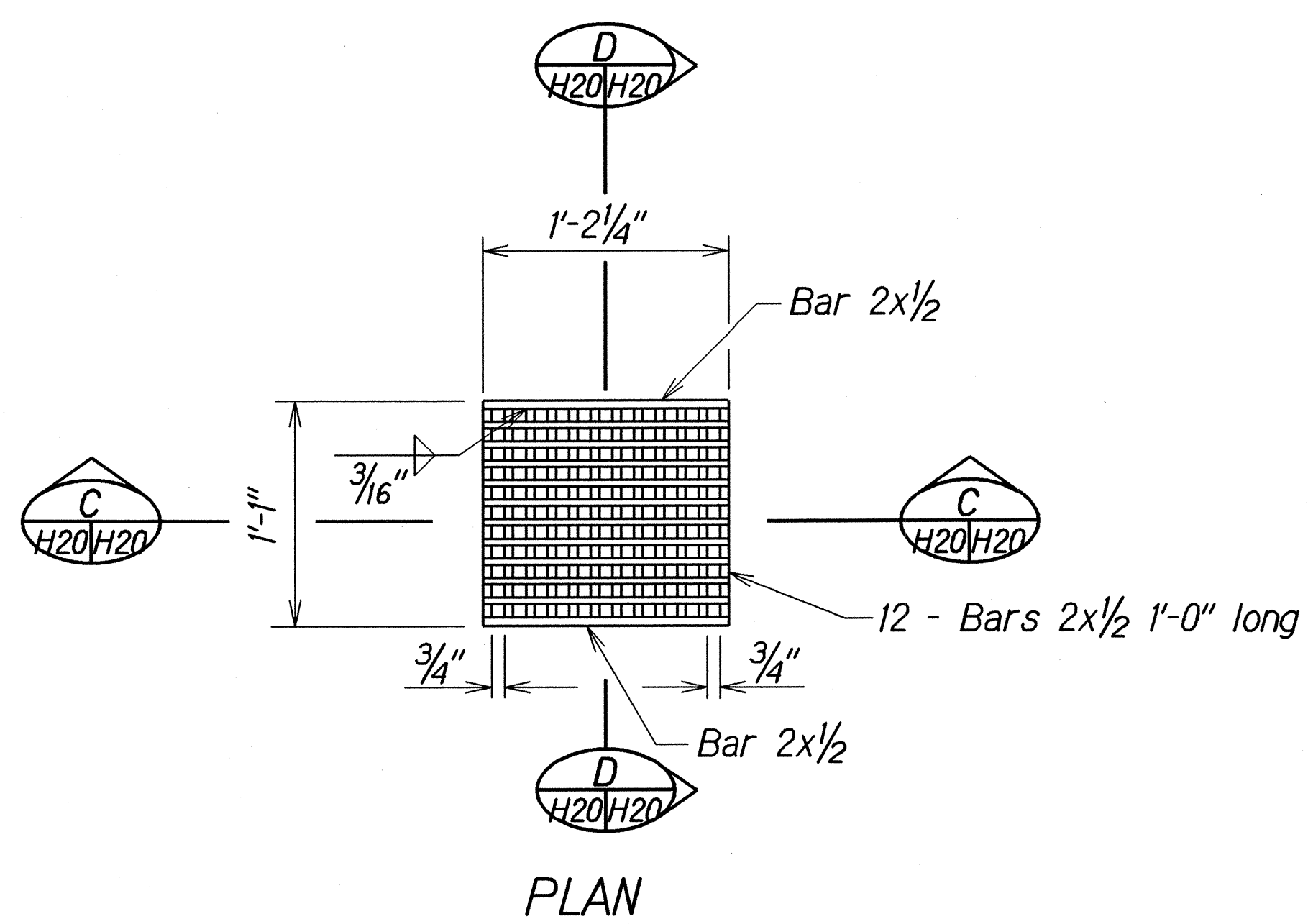
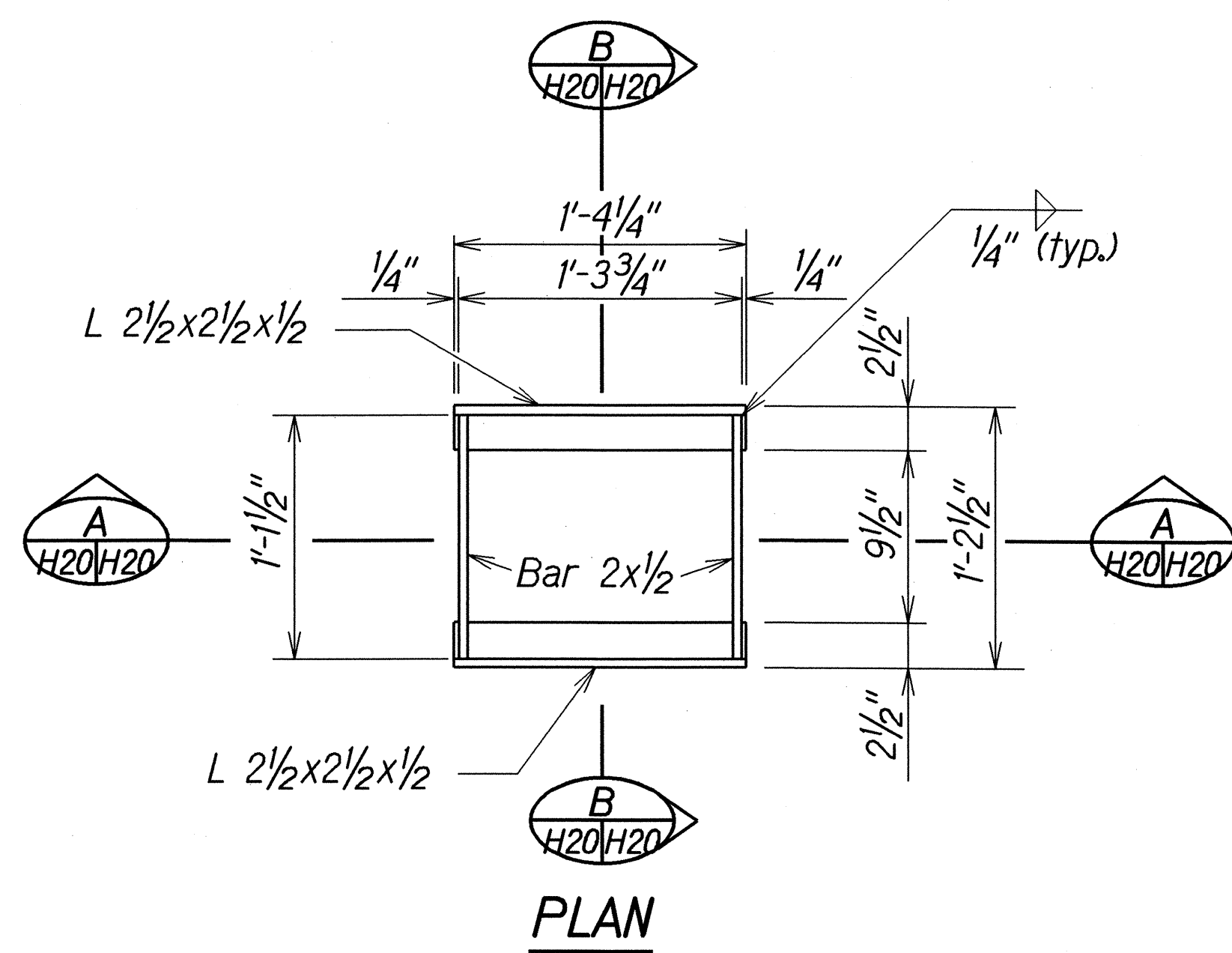
NOTE:
All welds 3/8" unless otherwise noted.

DETAILS OF TYPE "1211214P" STEEL FRAME AND GRATES

DESIGNED BY	DATE
2/19/03	
CHECKED BY	
2/19/03	
NOTED BY	
2/19/03	
QUANTITIES BY	
2/19/03	
TRACED BY	
2/19/03	
DESIGNED BY	
2/19/03	
CHECKED BY	
2/19/03	

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
DRAINAGE DETAILS
FARRINGTON HIGHWAY DRAINAGE IMPROVEMENTS
Vicinity of Nanakuli Avenue to Nanakuli Stream and
Vicinity of Lualei Place to Princess Kahanu Avenue
Project Nos. 93A-01-01 & 93A-02-01
Scale: 1/2" = 1'-0" Date: March, 2001
SHEET No. H19 OF 22 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	93A-01-01 93A-02-01	2004	36	48

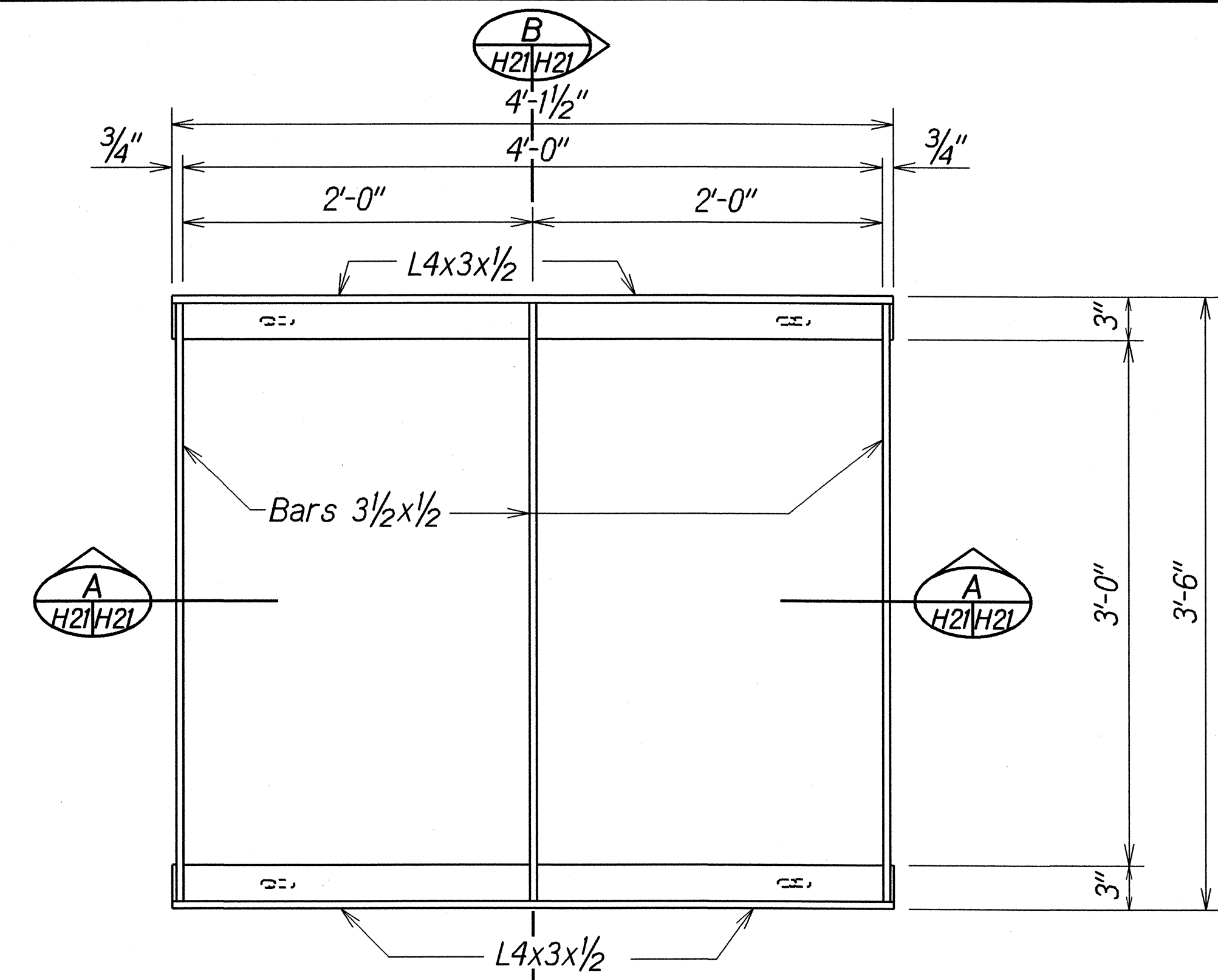


DETAIL OF TYPE "1" STEEL FRAME AND GRATE

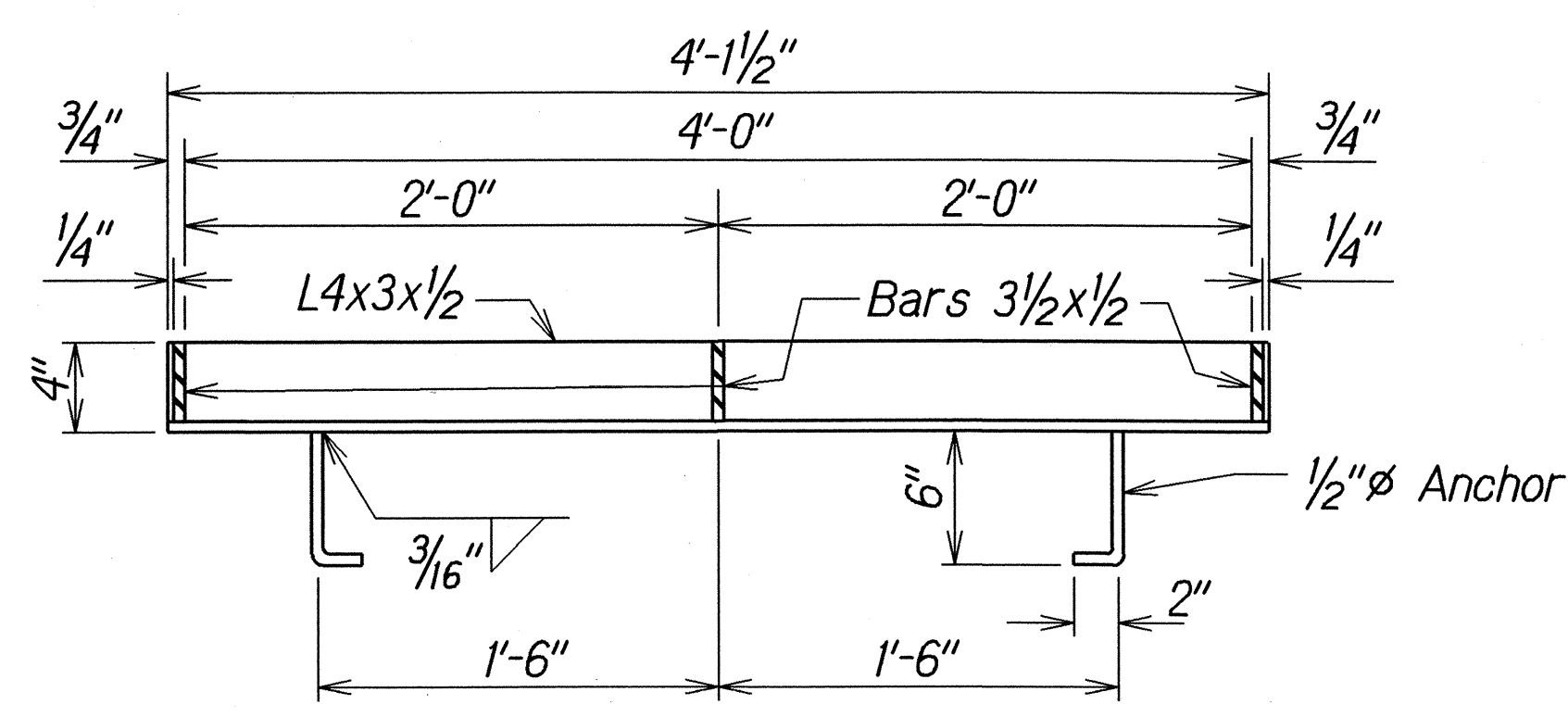
ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	2/19/03
DESIGNED BY	CHECKED BY	
DATE		

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
DRAINAGE DETAIL
FARRINGTON HIGHWAY DRAINAGE IMPROVEMENTS
Vicinity of Nanakuli Avenue to Nanakuli Stream and
Vicinity of Lualei Place to Princess Kahanu Avenue
Project Nos. 93A-01-01 & 93A-02-01
Scale: 1/2"=1'-0" Date: March, 2001
SHEET No. H20 OF 22 SHEETS

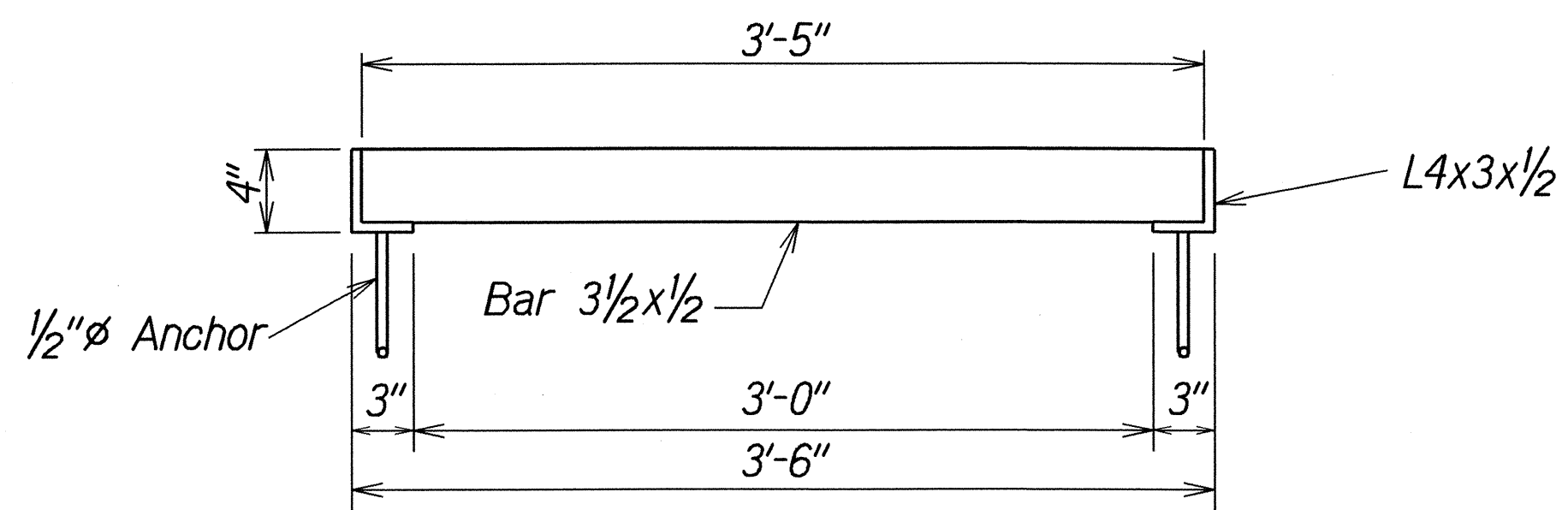
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	93A-01-01 93A-02-01	2004	37	48



PLAN

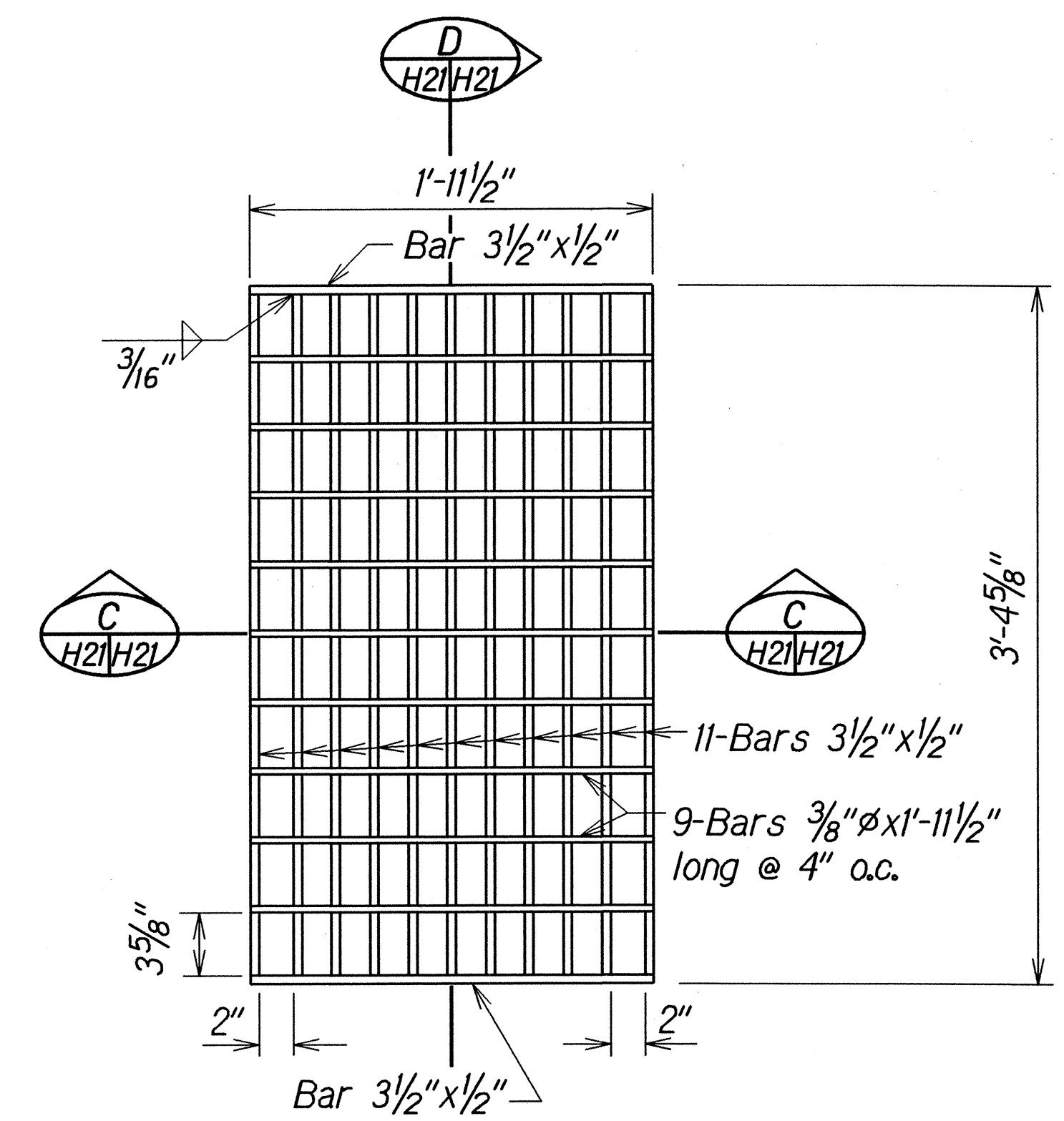


SECTION A-A

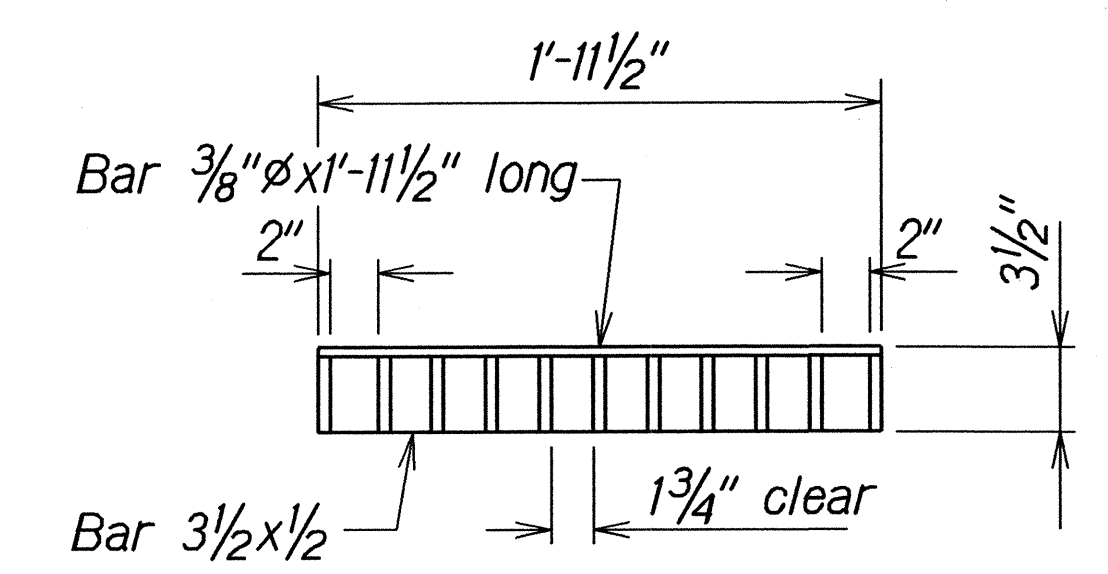


SECTION B-B

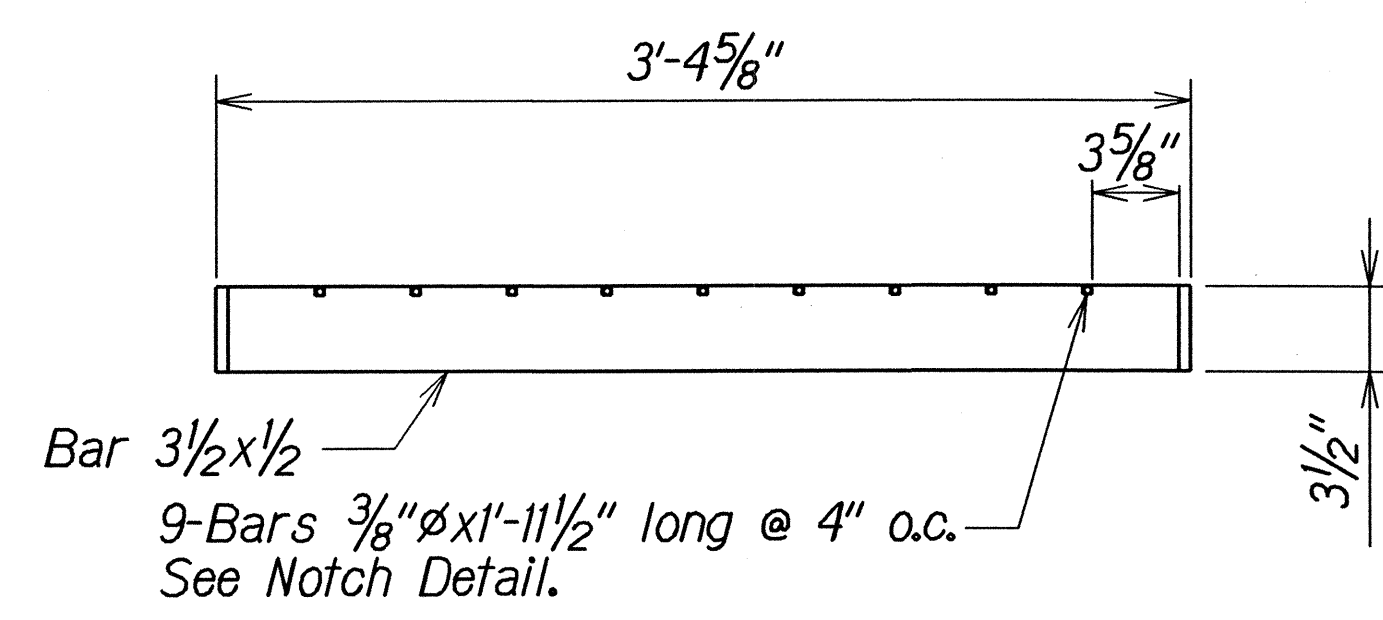
FRAME



PLAN

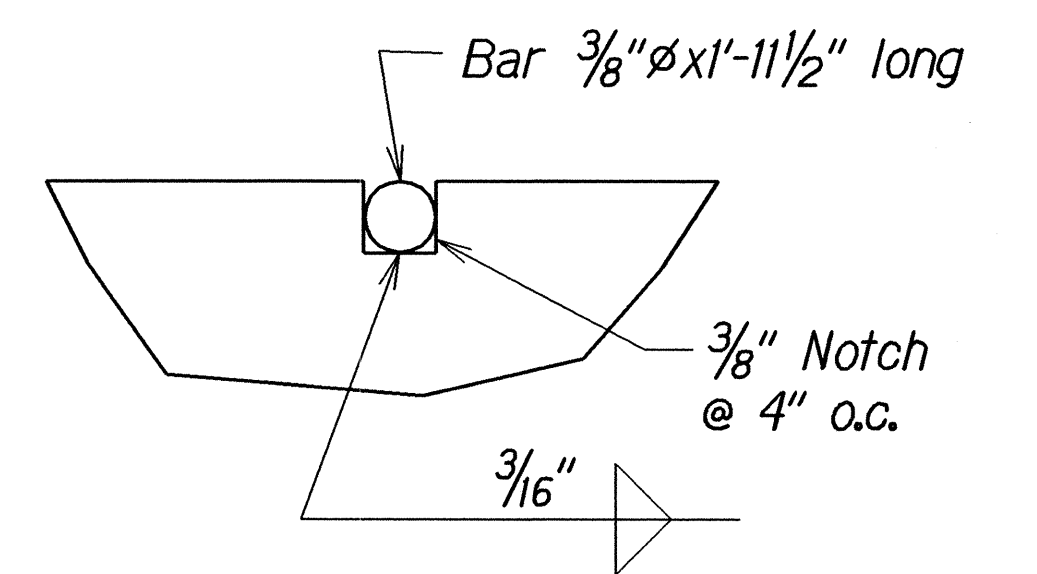


SECTION C-C



SECTION D-D

GRATE



NOTCH DETAIL
Full Size

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

DETAILS OF TYPE "01014P" STEEL FRAME AND GRATES

SURVEY PLOTTED BY	DATE
DESIGNED BY	2/19/03
CHECKED BY	
NOTED BY	
QUANTITIES BY	
CHECKED BY	

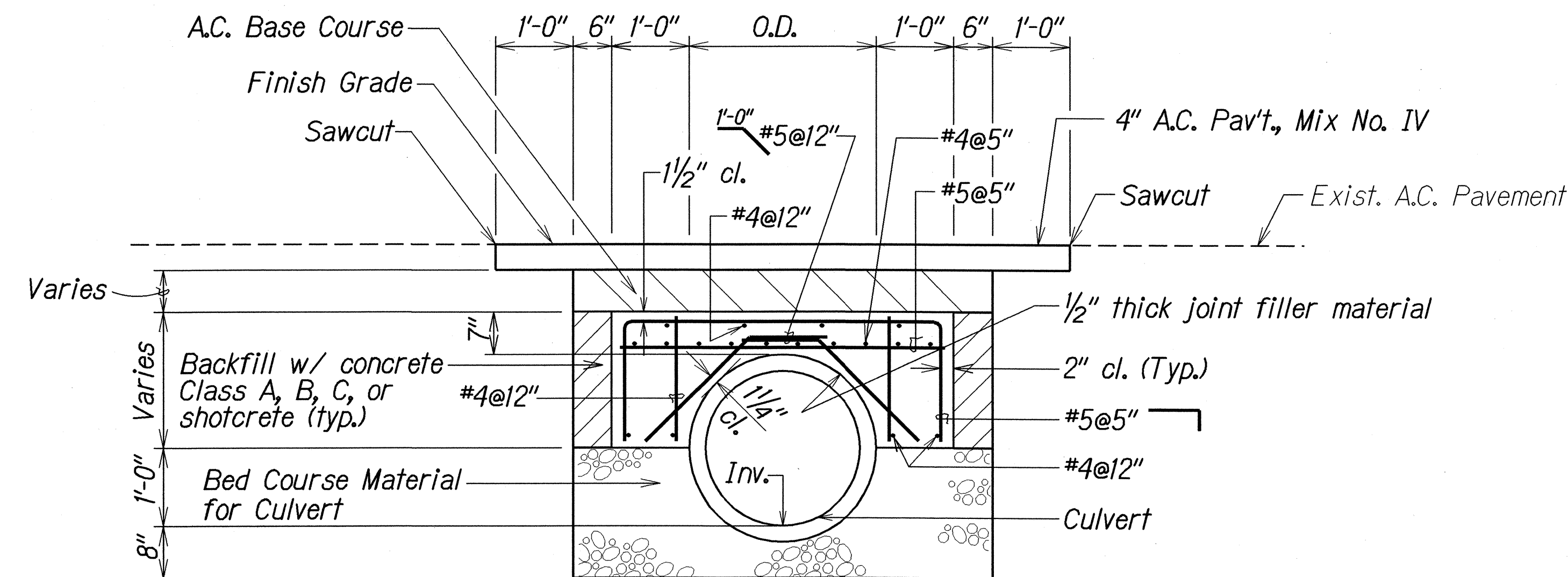
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE DETAIL

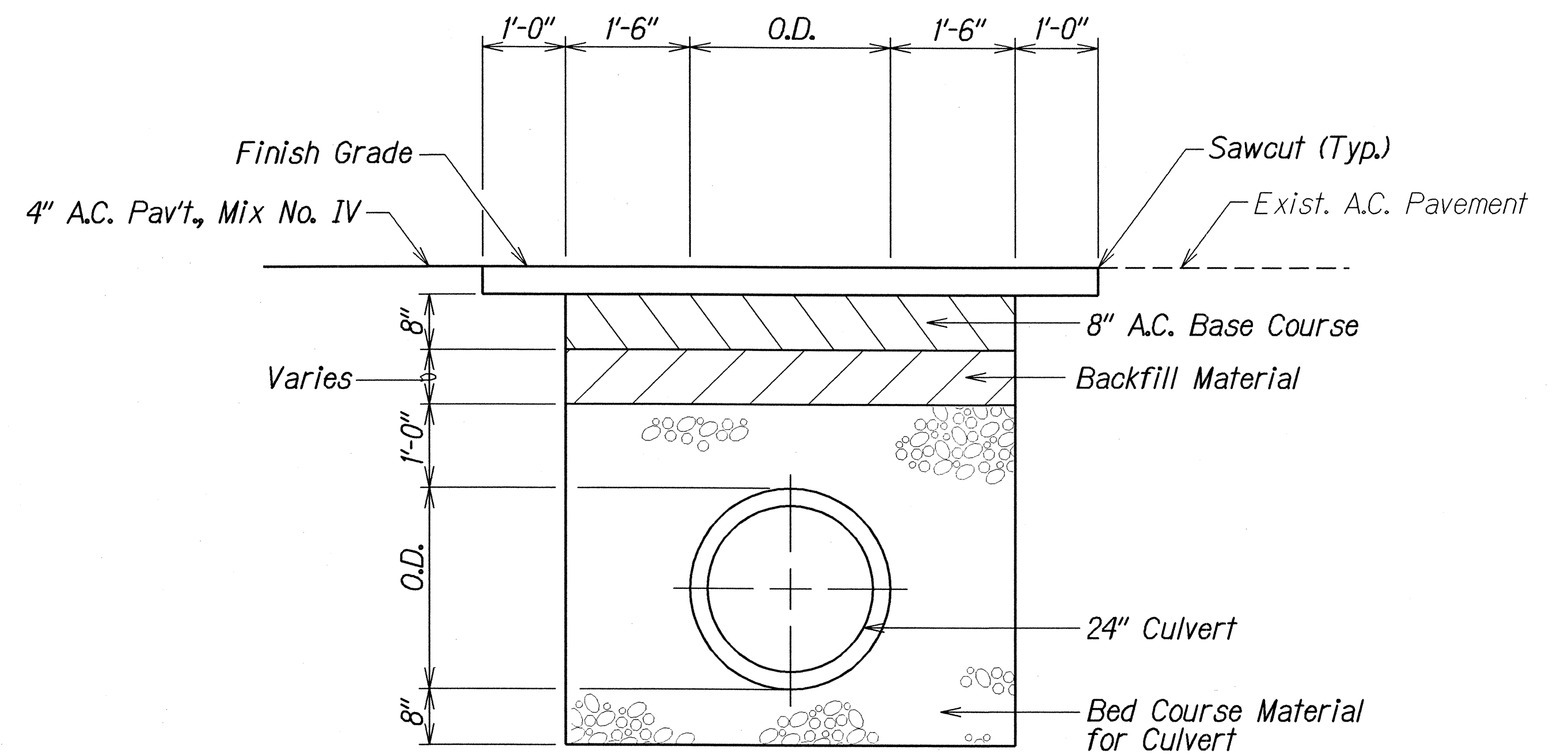
FARRINGTON HIGHWAY DRAINAGE IMPROVEMENTS
Vicinity of Nanakuli Avenue to Nanakuli Stream and
Vicinity of Lualei Place to Princess Kahanu Avenue
Project Nos. 93A-01-01 & 93A-02-01
Scale: 1 1/2"=1'-0" Date: March, 2001

SHEET No. H21 OF 22 SHEETS

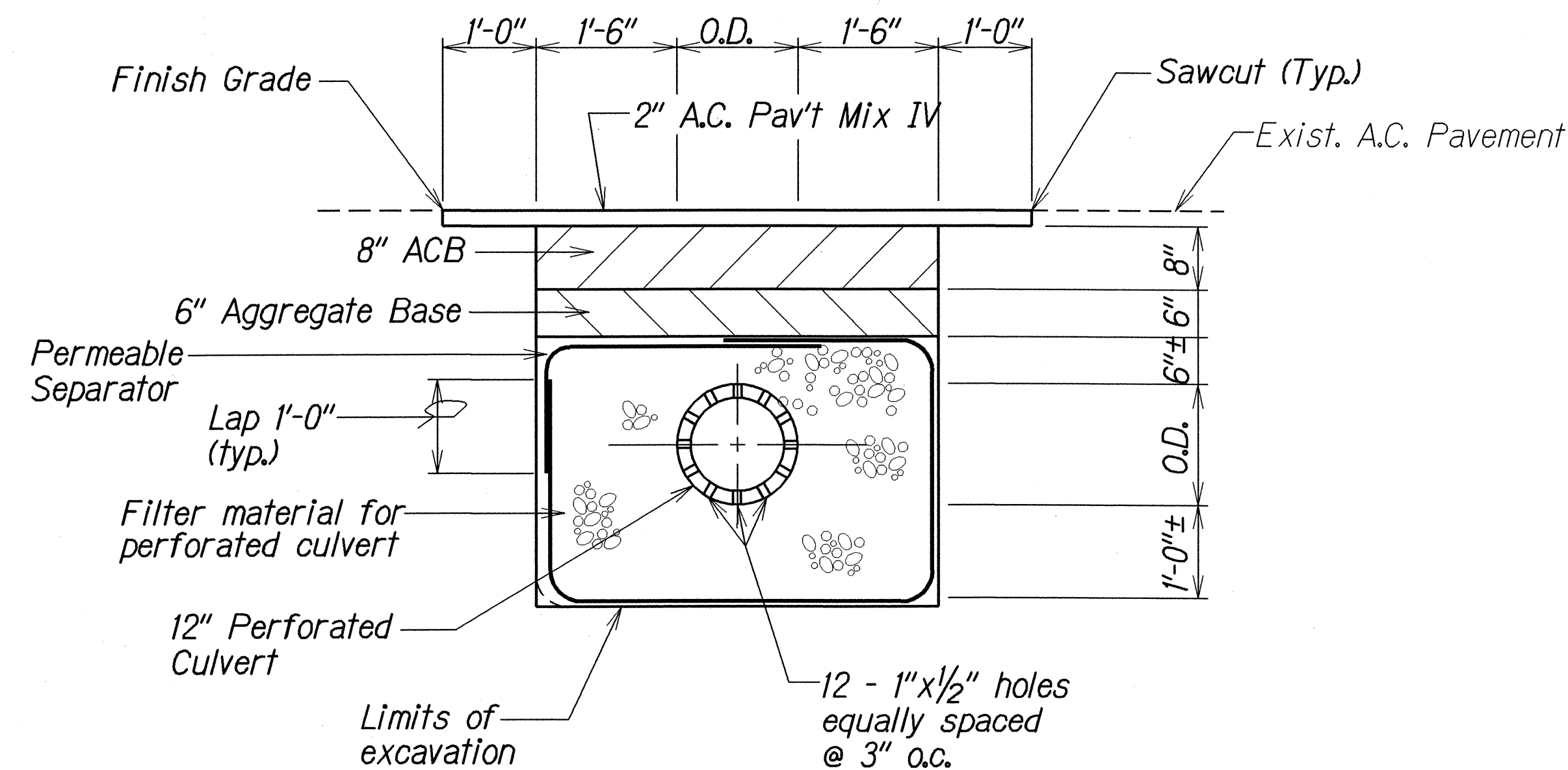
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	93A-01-01 93A-02-01	2004	38	48



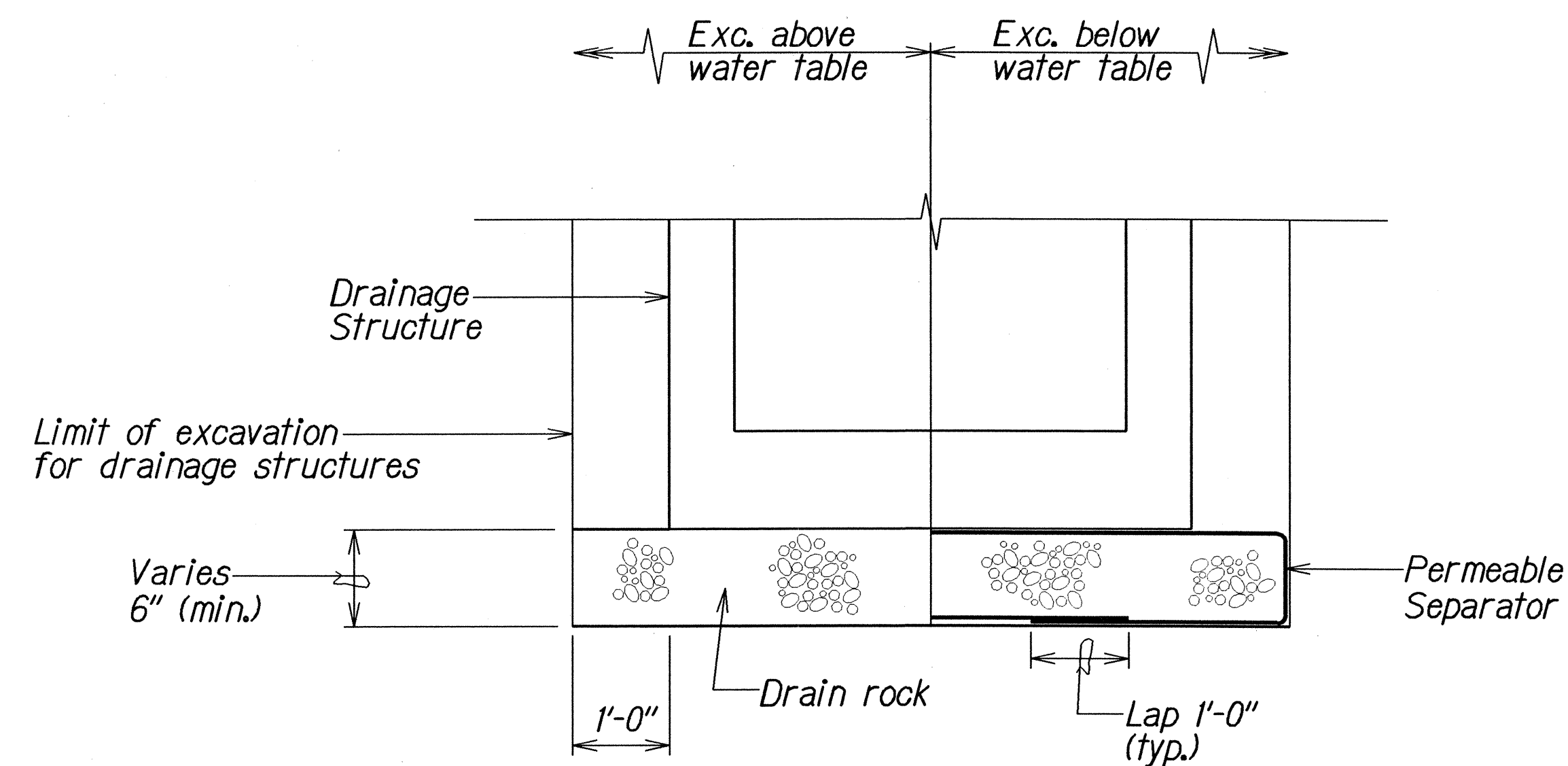
TYPICAL DETAILS OF CULVERT TRENCH RESTORATION
WITH REINFORCED CONCRETE JACKET



TYPICAL DETAILS OF CULVERT TRENCH RESTORATION
WITHOUT REINFORCED CONCRETE JACKET



TYPICAL PERFORATED CULVERT TRENCH DETAIL



TYPICAL DETAILS OF ADDITIONAL EXCAVATION
BELOW DRAINAGE STRUCTURES

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE DETAILS
FARRINGTON HIGHWAY DRAINAGE IMPROVEMENTS
Vicinity of Nanakuli Avenue to Nanakuli Stream and
Vicinity of Lualei Place to Princess Kahanu Avenue
Project Nos. 93A-01-01 & 93A-02-01
Scale: 3/4" = 1'-0" **Date: March, 2001**

SHEET No. H22 OF 22 SHEETS