

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.

3. For added reinforcing around culverts at new drainage structures, see Standard Plan H-06.

5. Concrete shall be Class A unless otherwise noted.

7. The Contractor shall verify the location and depth of all utilities prior to fabricating drainage structures and grates.

9. ~~Splashblock at Sta. 23+57± Rt. and Lt. shall not be paid for separately, but shall be considered incidental to repair of downspout.~~

	Sta. 23+57± and 25+58± Lt. 3 Downspout Connection Install Splashblock at Sta. 23+57 Lt. (For Det., see sht. H5A)

EQ. H-1 @ P.I. Sta. 29+10.27 =
Lehua Avenue
@ P.I. Sta. 70+62.16

Lehua Avenue
P.I. Sta. 72+19.88
Second Street
P.I. Sta. 6+00.00

Sta. 23+12 Rt.
Type "C" SDMH
Inv. = 18.33
(For Detail, See
Std. Plan H-03)

Sta. 23+27 Rt.
Type "I" Grated
Ditch Inlet
Inv. = 21.73 (Ditch)
Inv. = 20.50 (18")
(For Detail, See
Sht. H6 and H7)

Sta. 23+56 Rt.
Type "I" Grated
Ditch Inlet
Inv. = 21.92
(For Detail, See
Sht. H6 and H7)

# Sta. 23+57± and 25+58± Rt.	r/w
Repair Downspout	
Install Splashblock at Sta. 23+57± Rt.	
(For Det., see sht. H5)	

Sta. 23+77 Rt.
Type "01014" GDI
Inv. = 22.36
(For Detail, See Std. Plan H-12
and Sht. H4)

Sta. 23+69 Rt.
Stormwater Treatment System
Inv. = 22.25

Sta. 23+62 Rt.
Begin Grass Ditch
(For Det., See Sht. H3)

Sta. 27+60± Rt.
Repair Downspout
(For Det., see sht. H5)

Sta. 27+16 o/s 69.5' Rt.
Grass Swale

Sta. 26+41 o/s 78' Rt.
End Grass Ditch
Begin Grass Swale
(For Detail, See Sht. H3)

Sta. 28+12 o/s 69.5' Rt.
End Grass Swale
(For Detail See Sht. H3)

Install GRP downstream of opening at column barriers at Sta. 25+58± Rt. and 27+60± Rt. (For Det., see Sht. H9)

	5/31/16	Added callout to 3 downspouts # added splashblock note
	3/23/18	Added Riprap Callout

DATE	REVISION
------	----------

END PROJECT
Examination Site
Project No. HWY-0-08-14
@ Sta. 29+00

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE PLAN

*COMMERCIAL DRIVER'S LICENSE AND
MOTORCYCLE LICENSE TESTING FACILITY
EXAMINATION SITE AND OFFICE RENOVATION*
Beneath Interstate Route H-1 Pearl City Viaduct

Project No. HWY-0-08-14

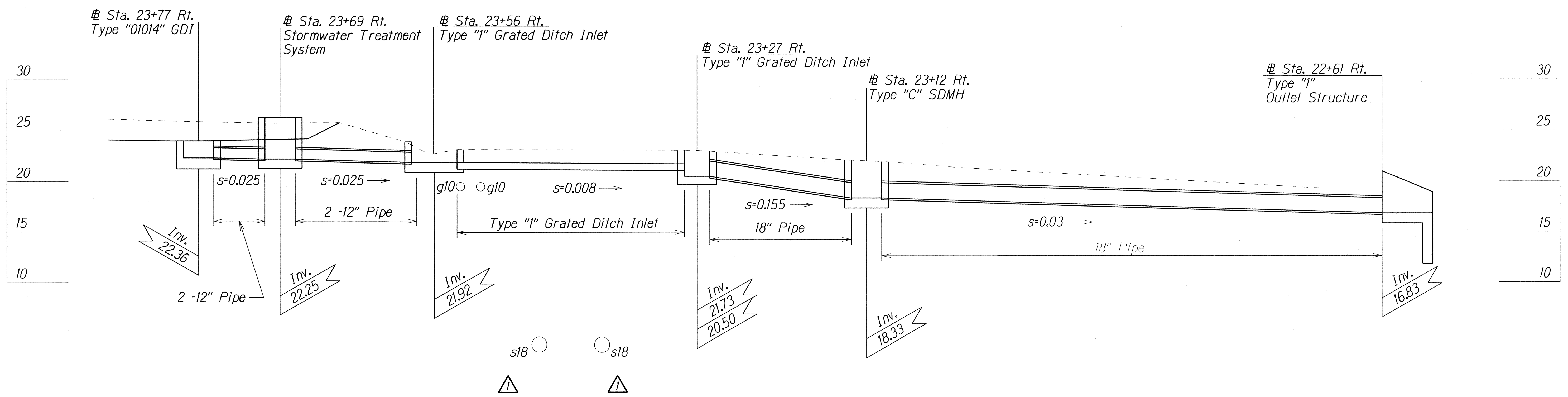
Scale: 1"=40' Date: May 2016

SHEET No. *H1* OF 9 SHEETS

C.O. ADD. 28

EXAMINATION SITE PLAN

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-08-14	2016	ADD. 29	88



DRAINAGE PROFILE

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

	5/31/16	Added Utility Locations X
	DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE PROFILE

**COMMERCIAL DRIVER'S LICENSE AND
MOTORCYCLE LICENSE TESTING FACILITY
EXAMINATION SITE AND OFFICE RENOVATION**

Beneath Interstate Route H-1 Pearl City Viaduct

Project No. HWY-0-08-14

Scale: 1"=5' Date: May 2016

SHEET No. H2 OF 9 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-08-14	2016	30	88

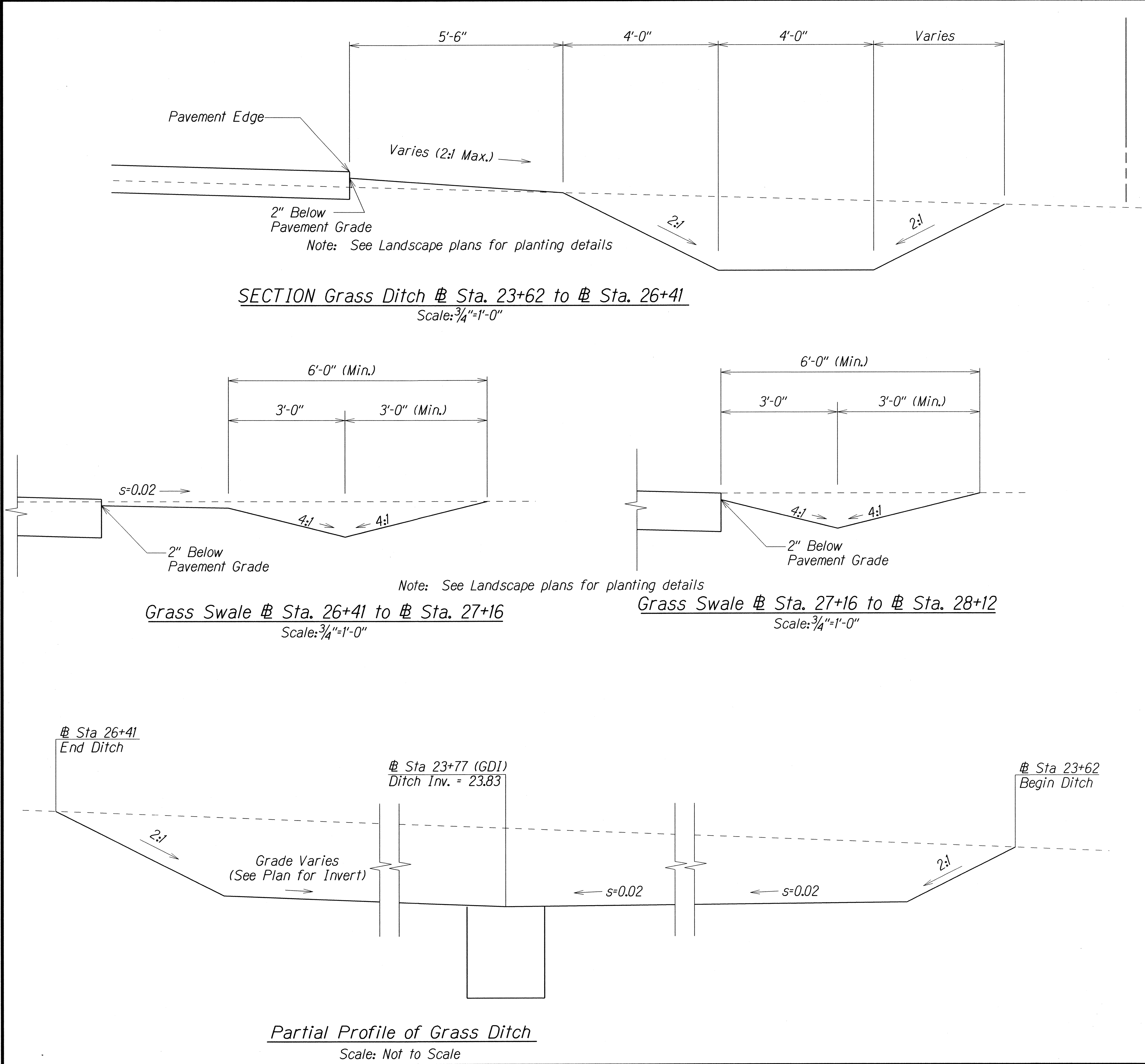
Sta.	Ditch Invert
23+62	Begin Ditch
23+69	24.03 (Water Quality Unit)
23+77	23.83
24+00	24.51
24+08	24.55
24+48	25.06
24+64.5	25.68
25+07.5	26.23
25+50.5	26.97
25+58	27.15
25+65.5	27.28
26+08.5	28.11
26+51.5	31.63
26+41	End Ditch

Sta.	Swale Invert
26+41	31.2 Begin Swale
26+51.5	31.61
26+59	31.66
26+66.5	33.41
27+09.5	34.25
27+52.5	35.24
27+60	36.07
27+67.5	36.96
28+02.5	37.65
28+12	37.75 End Swale

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

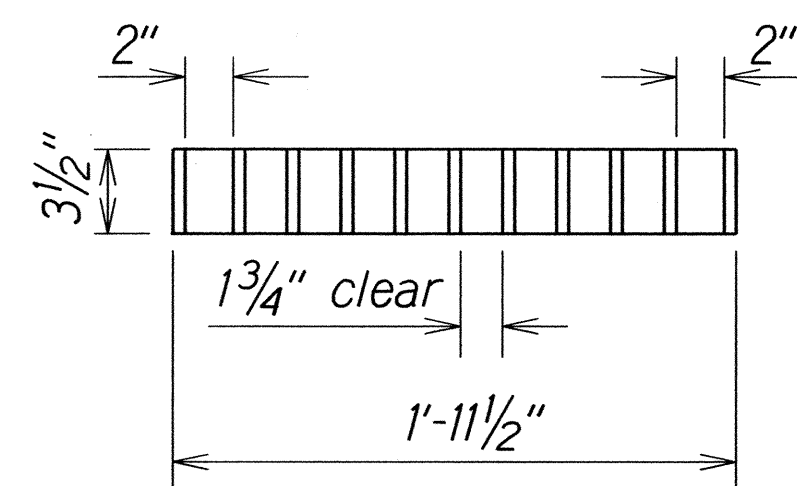
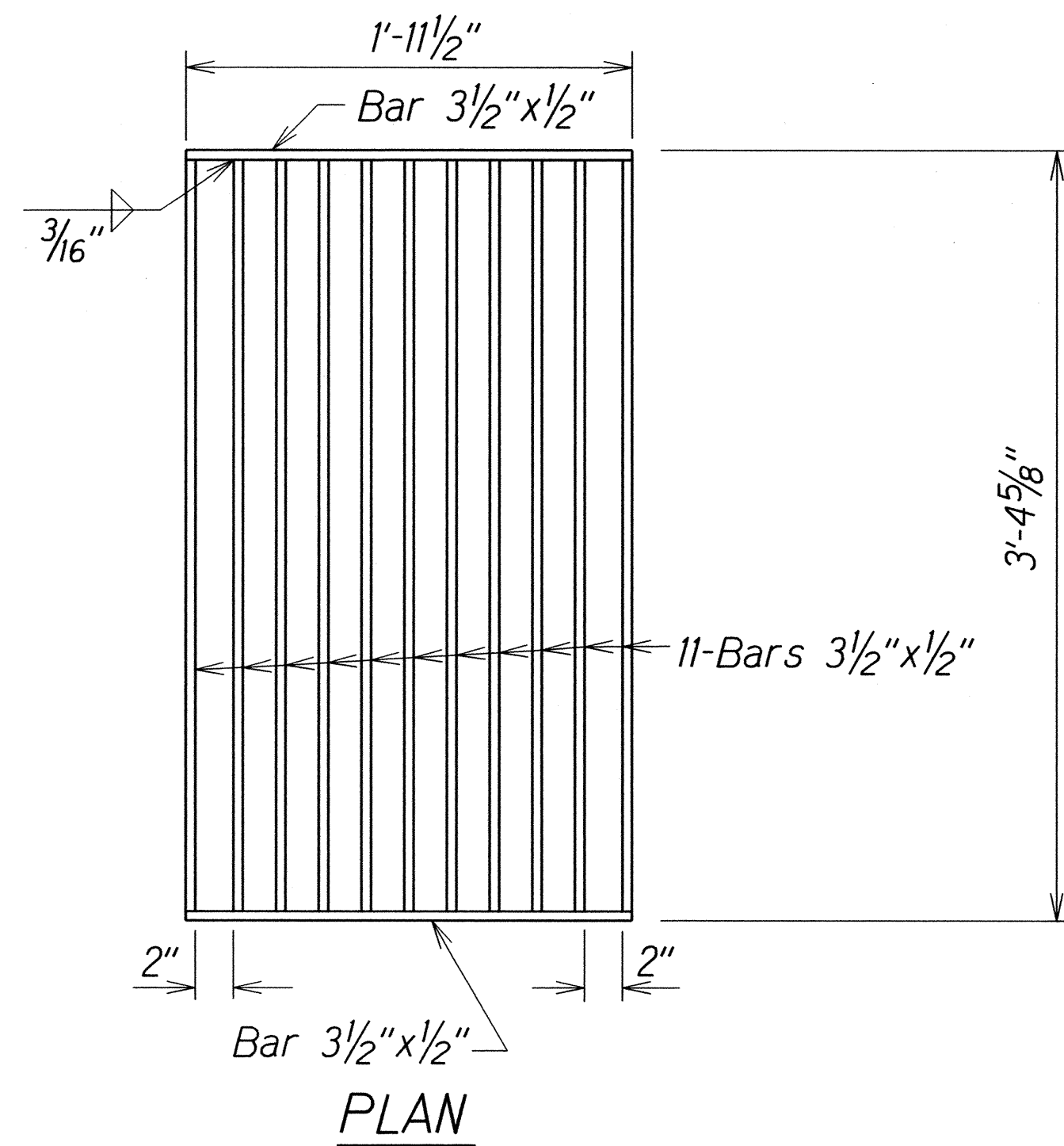
DRAINAGE DETAIL
COMMERCIAL DRIVER'S LICENSE AND
MOTORCYCLE LICENSE TESTING FACILITY
EXAMINATION SITE AND OFFICE RENOVATION
Beneath Interstate Route H-1 Pearl City Viaduct
Project No. HWY-0-08-14
Scale: As Shown Date: May 2016

SHEET No. H3 OF 9 SHEETS



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

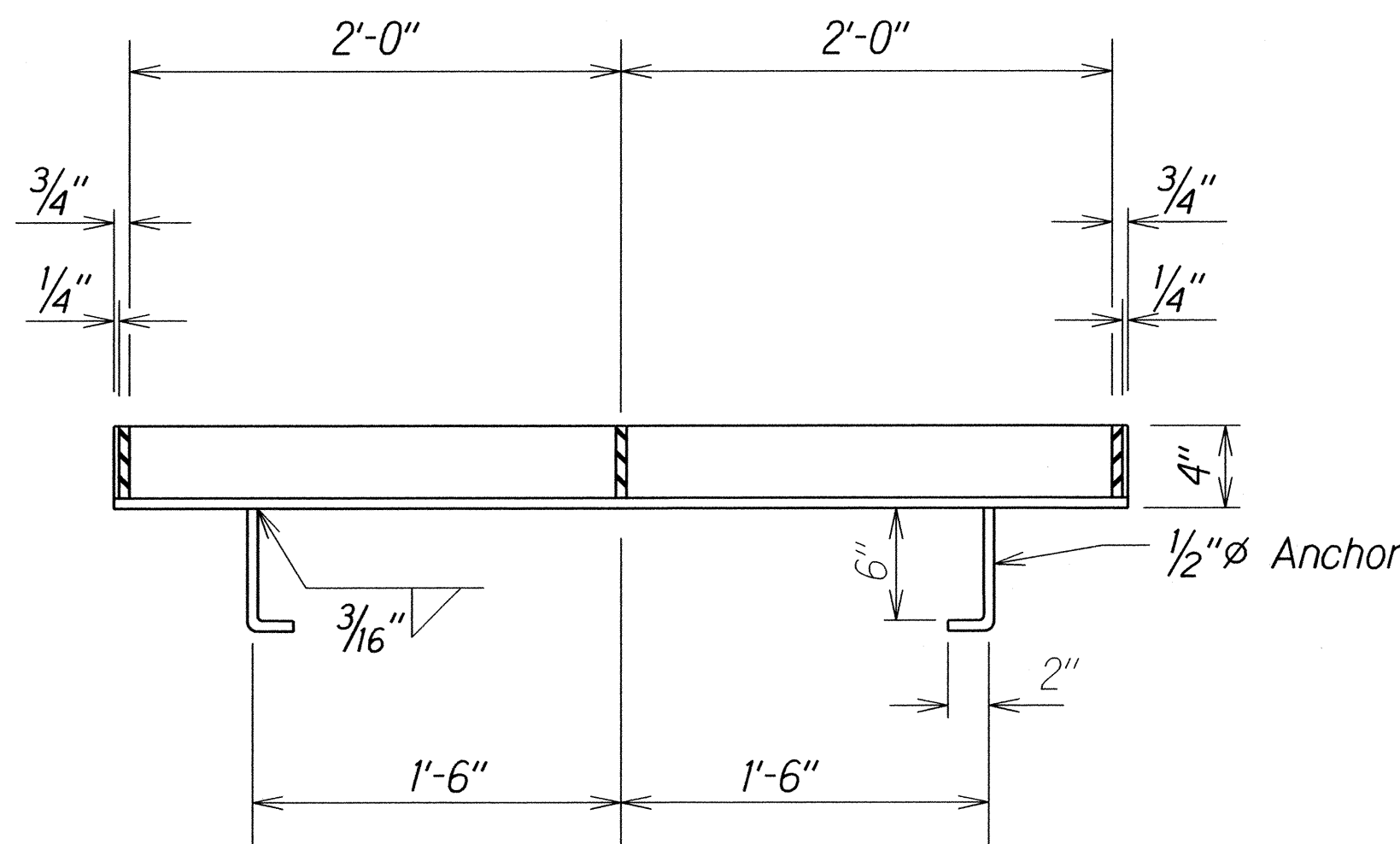
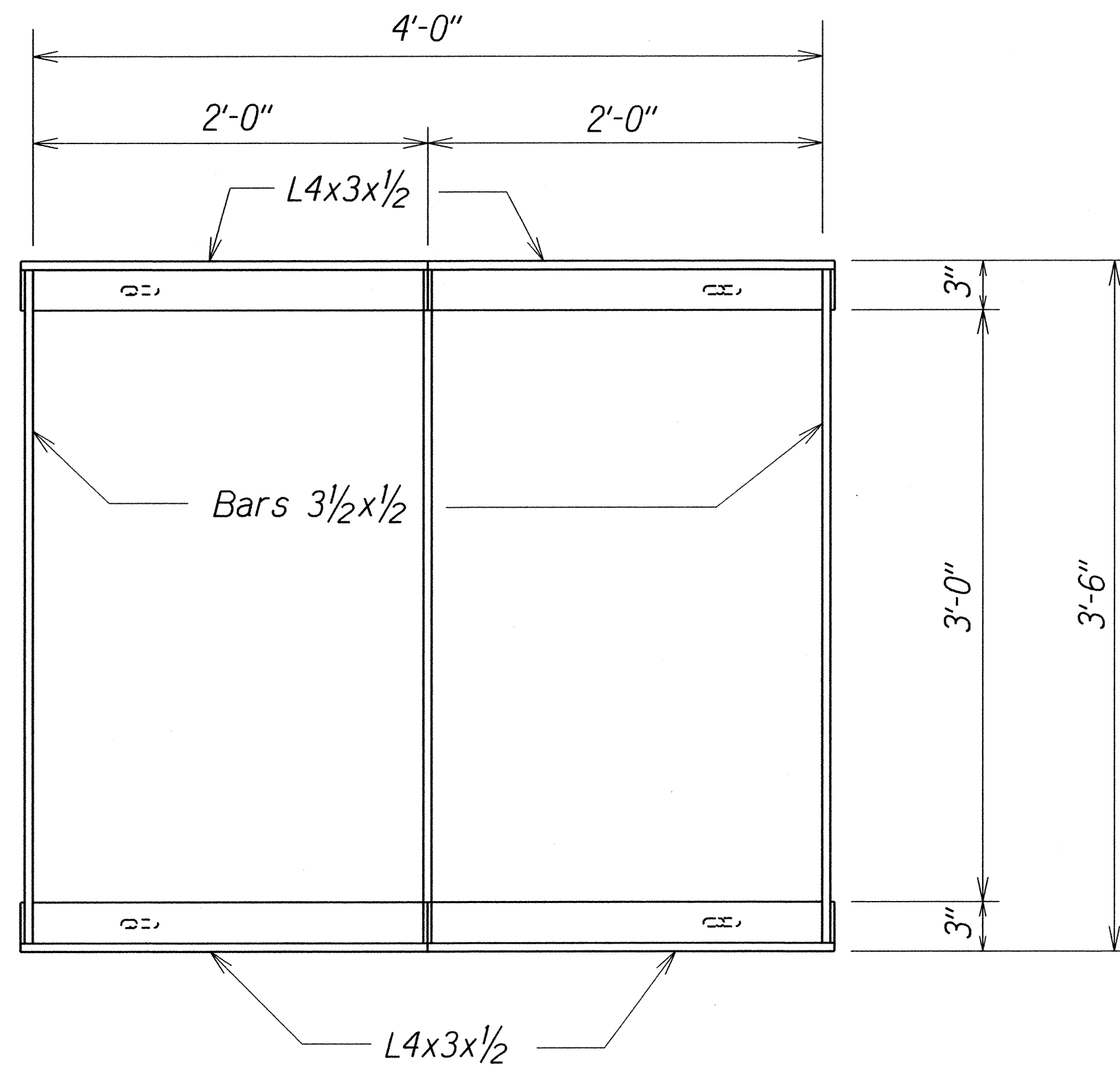
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-08-14	2016	31	88



SECTION

GRATE

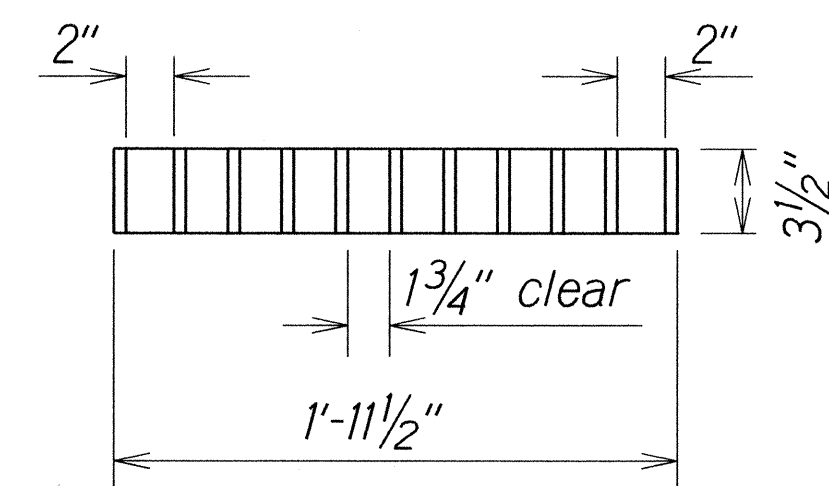
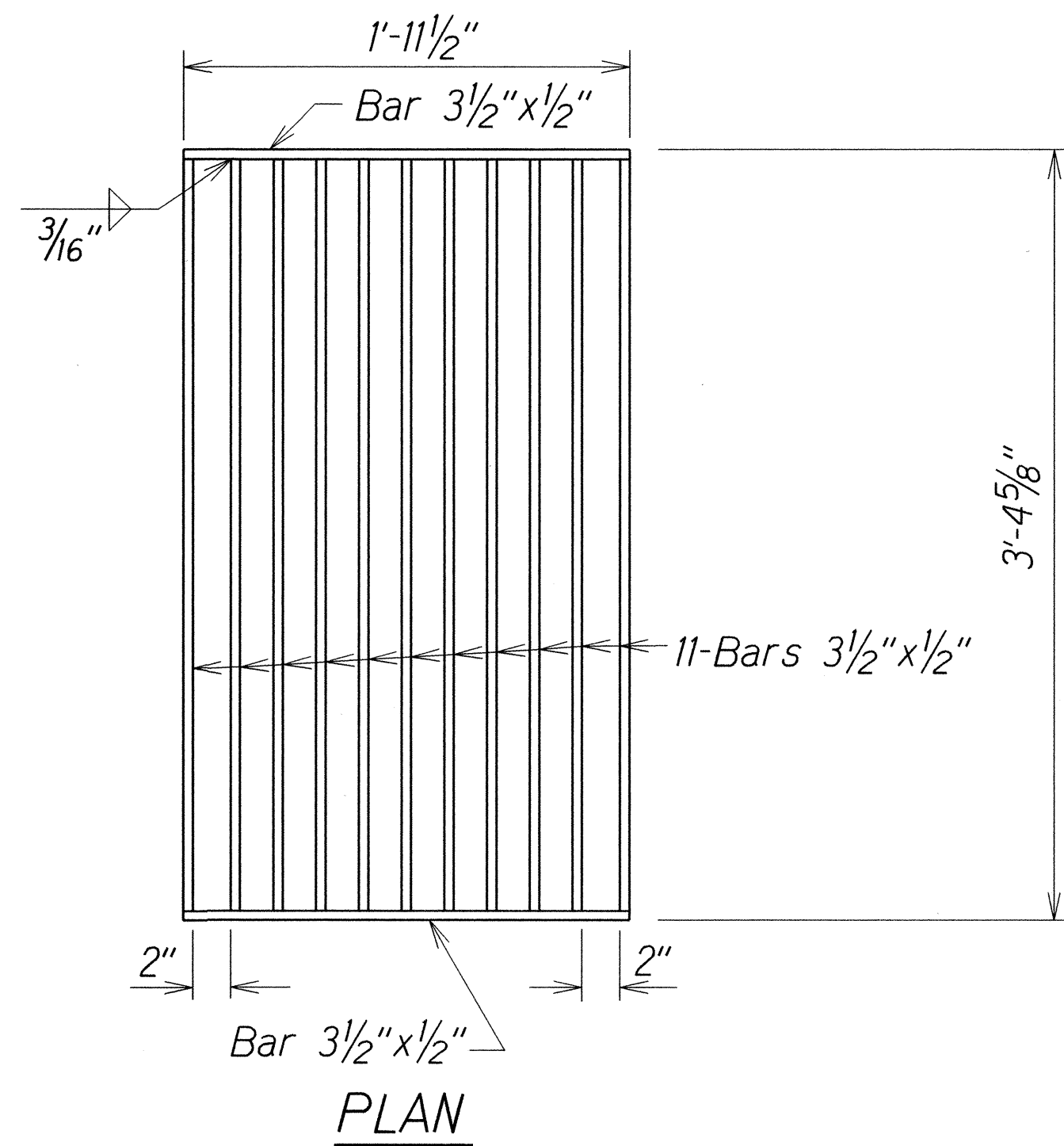
Scale: 1 1/2"=1'-0"



SECTION

FRAME

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



SECTION

GRATE

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

- General Notes:
1. All welds 3/8" unless otherwise noted.
 2. Grates and frames shall be zinc coated after fabrication.
 3. Anchors shall be ASTM A 307 and zinc coated.
 4. See Std. Plan Sht. B-01 for additional notes.

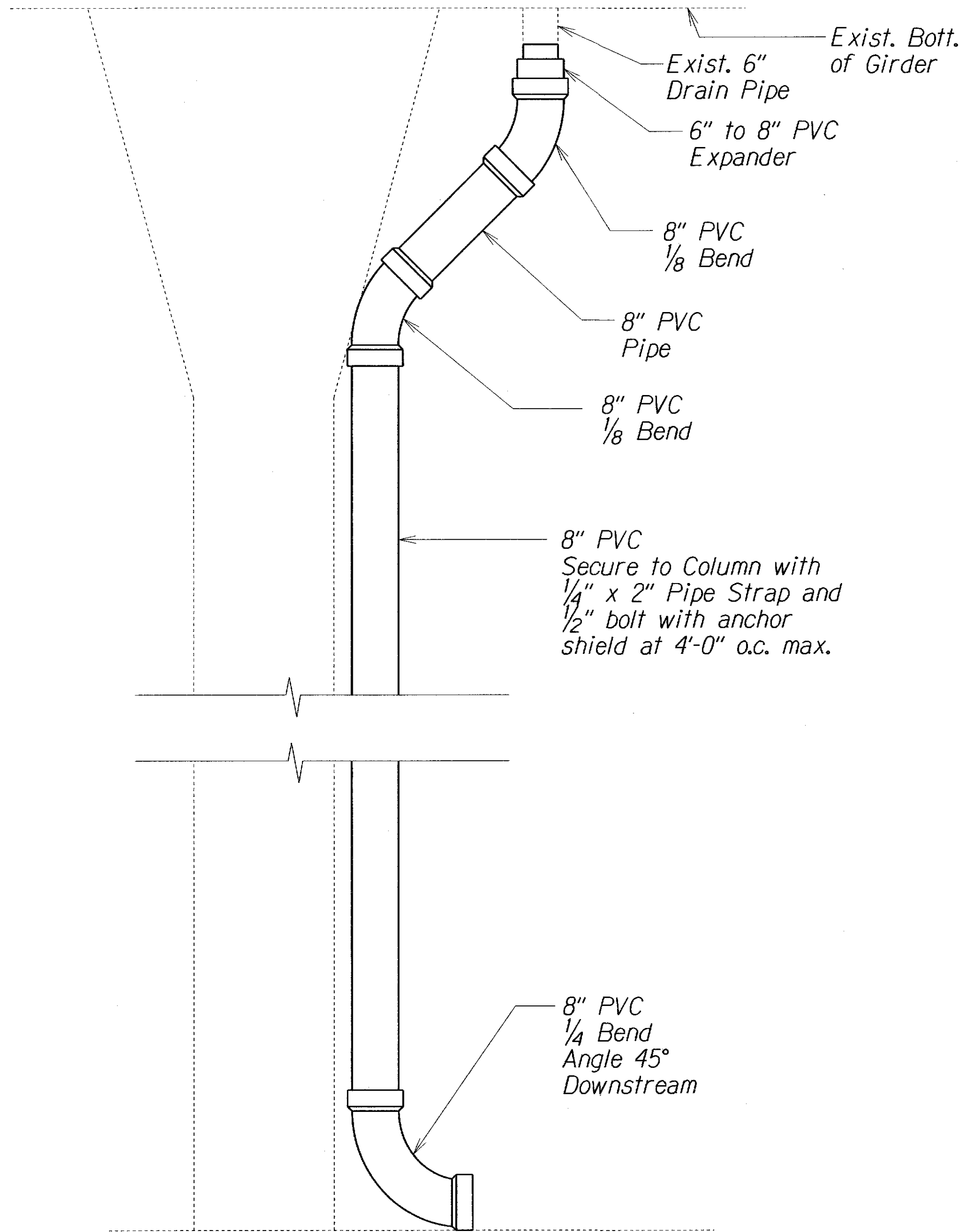
DETAILS OF TYPE "01014" STEEL FRAME AND GRATES

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
DRAINAGE DETAIL
COMMERCIAL DRIVER'S LICENSE AND
MOTORCYCLE LICENSE TESTING FACILITY
EXAMINATION SITE AND OFFICE RENOVATION
Beneath Interstate Route H-1 Pearl City Viaduct
Project No. HWY-0-08-14

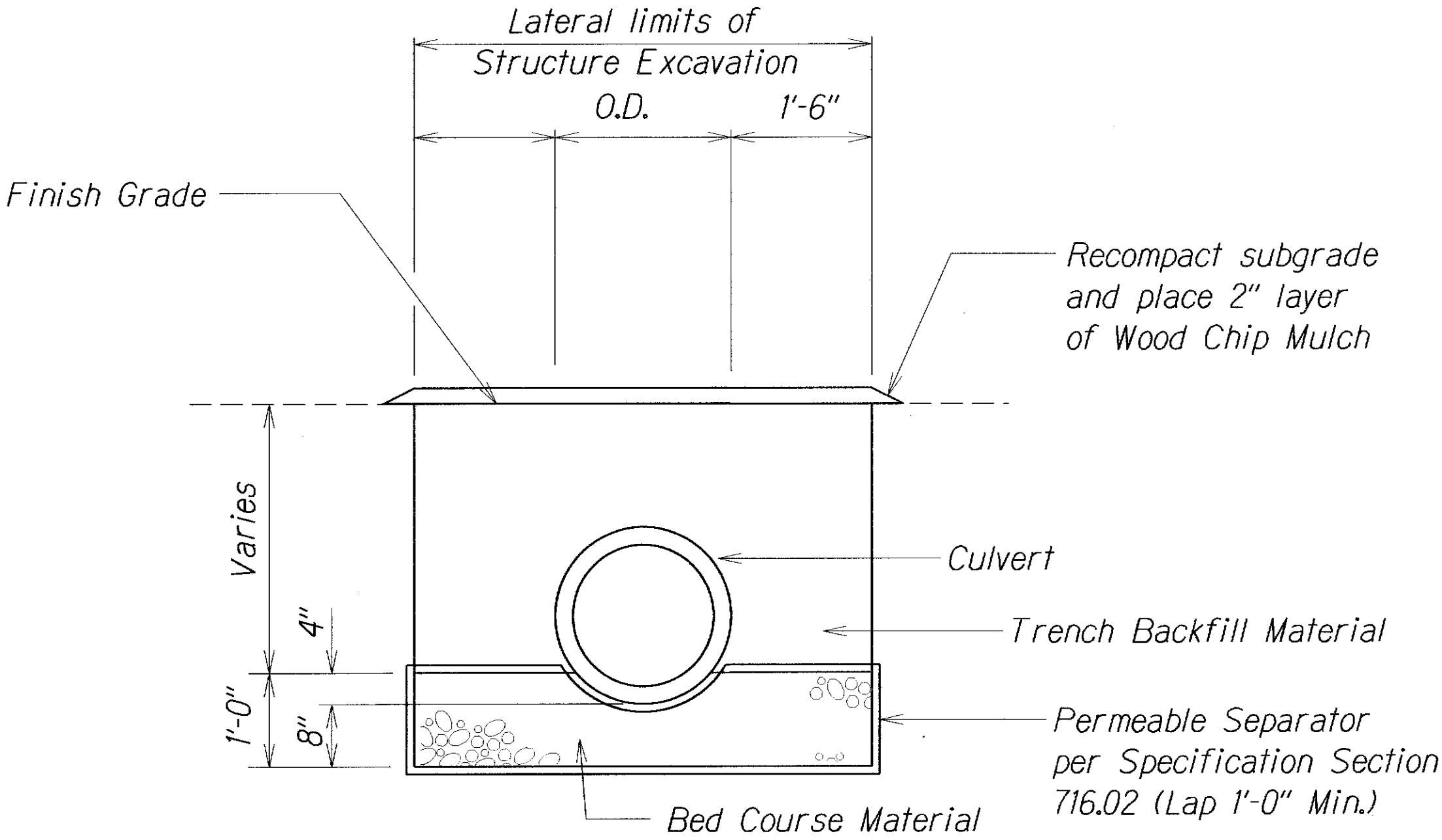
Scale: As Shown Date: May 2016

SHEET No. H4 OF 9 SHEETS

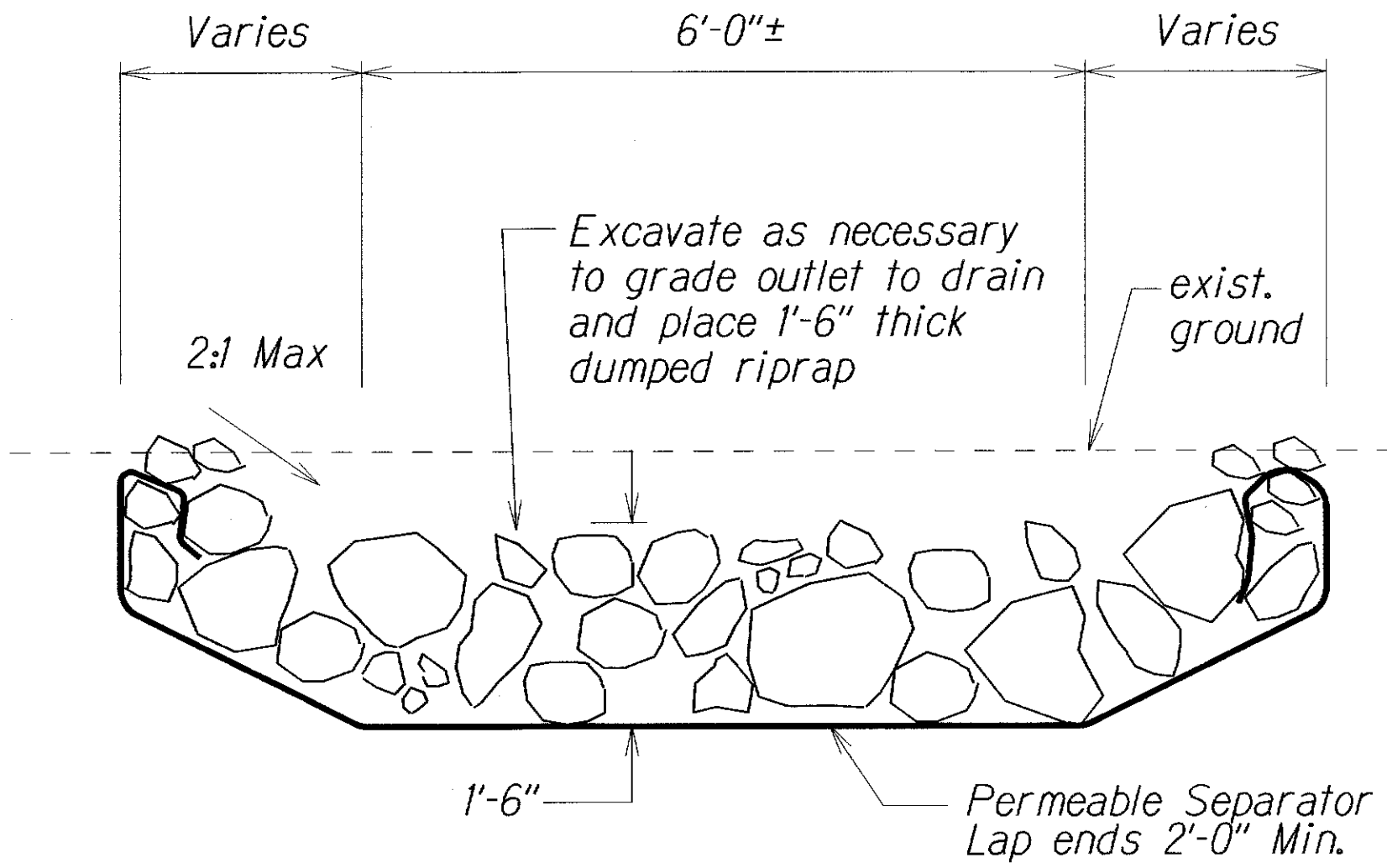
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-08-14	2016	C.O.32	88



EXAMINATION SITE DOWNSPOUT REPAIR DETAIL
Scale: Not to Scale



DETAILS OF CULVERT TRENCH RESTORATION
Scale: 3/4"=1'-0"



△ DUMPED RIPRAP DETAIL AT OUTLET STRUCTURE
Scale: 3/4"=1'-0"

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE DETAIL
COMMERCIAL DRIVER'S LICENSE AND
MOTORCYCLE LICENSE TESTING FACILITY
EXAMINATION SITE AND OFFICE RENOVATION
Beneath Interstate Route H-1 Pearl City Viaduct
Project No. HWY-0-08-14

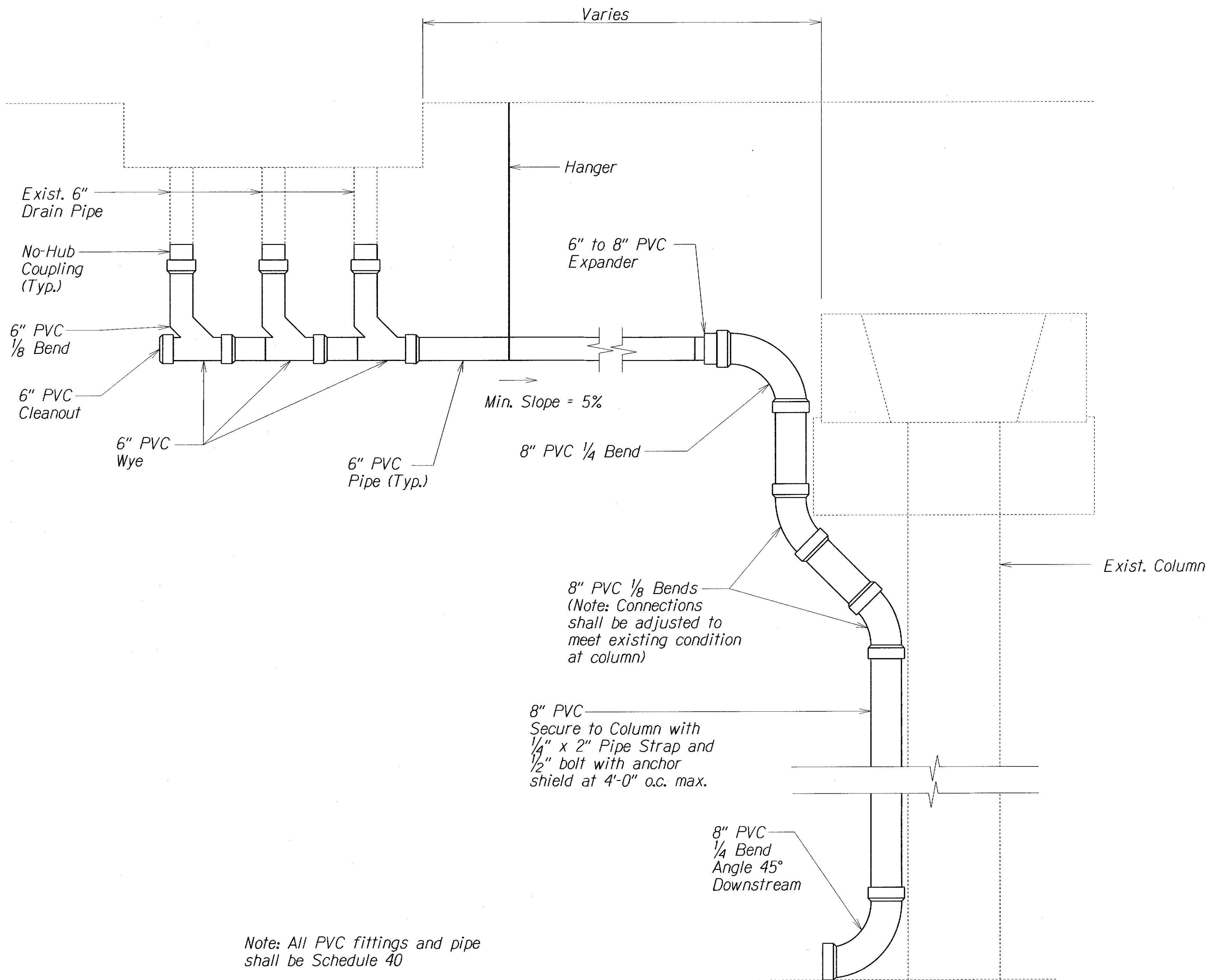
Scale: 3/4" = 1'-0"
Date: May 2016

SHEET No. H5 OF 9 SHEETS

ORIGINAL PLAN	DATE
NOTED BY	
DESIGNED BY	
CHECKED BY	
DATE	

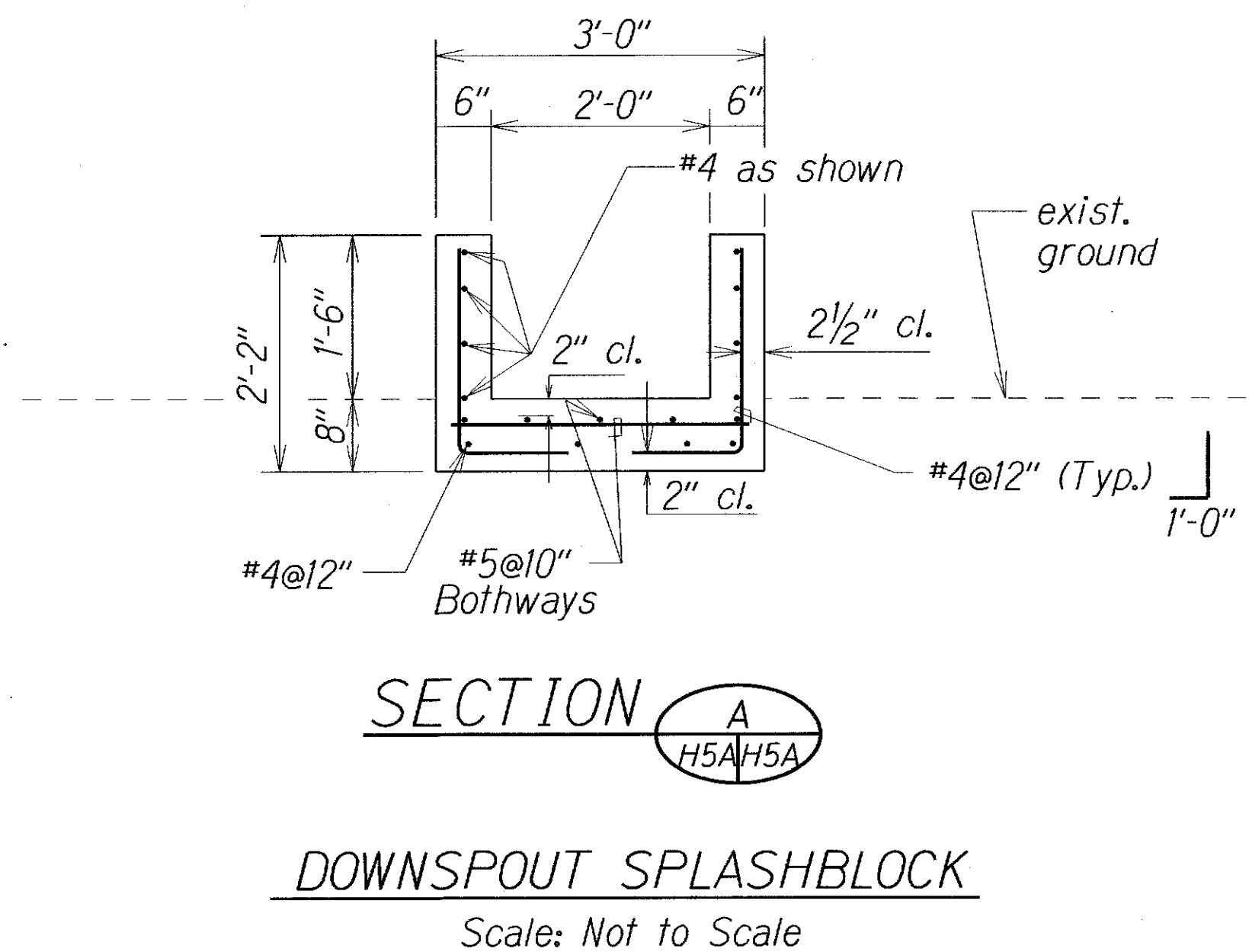
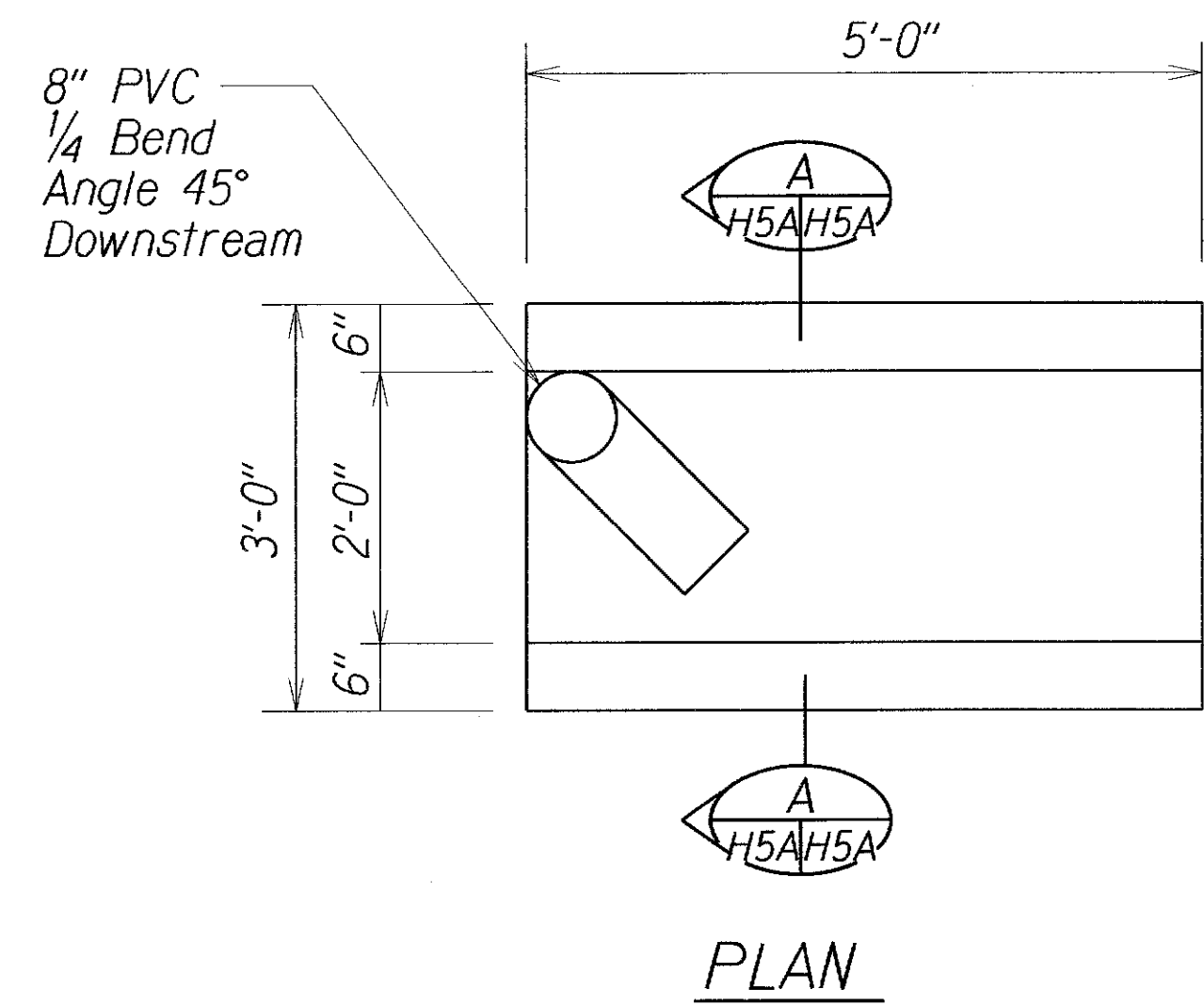
△	3/22/18	Added Riprap detail X
DATE	REVISION	

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-08-14	2016	ADD. 32 S-1	88



Note: All PVC fittings and pipe shall be Schedule 40

EXAMINATION SITE 3 DOWNSPOUT CONNECTION DETAIL
Scale: Not to Scale



5/31/16 Added Detail Sheet

DATE REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
DRAINAGE DETAIL
COMMERCIAL DRIVER'S LICENSE AND
MOTORCYCLE LICENSE TESTING FACILITY
EXAMINATION SITE AND OFFICE RENOVATION
Beneath Interstate Route H-1 Pearl City Viaduct
Project No. HWY-0-08-14

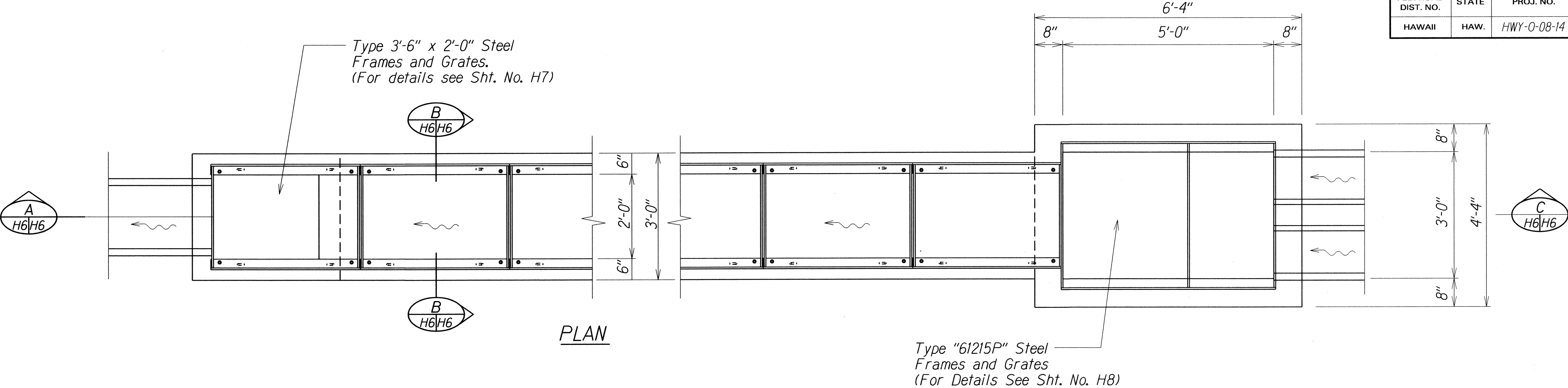
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SHEET No. H5A OF 9 SHEETS

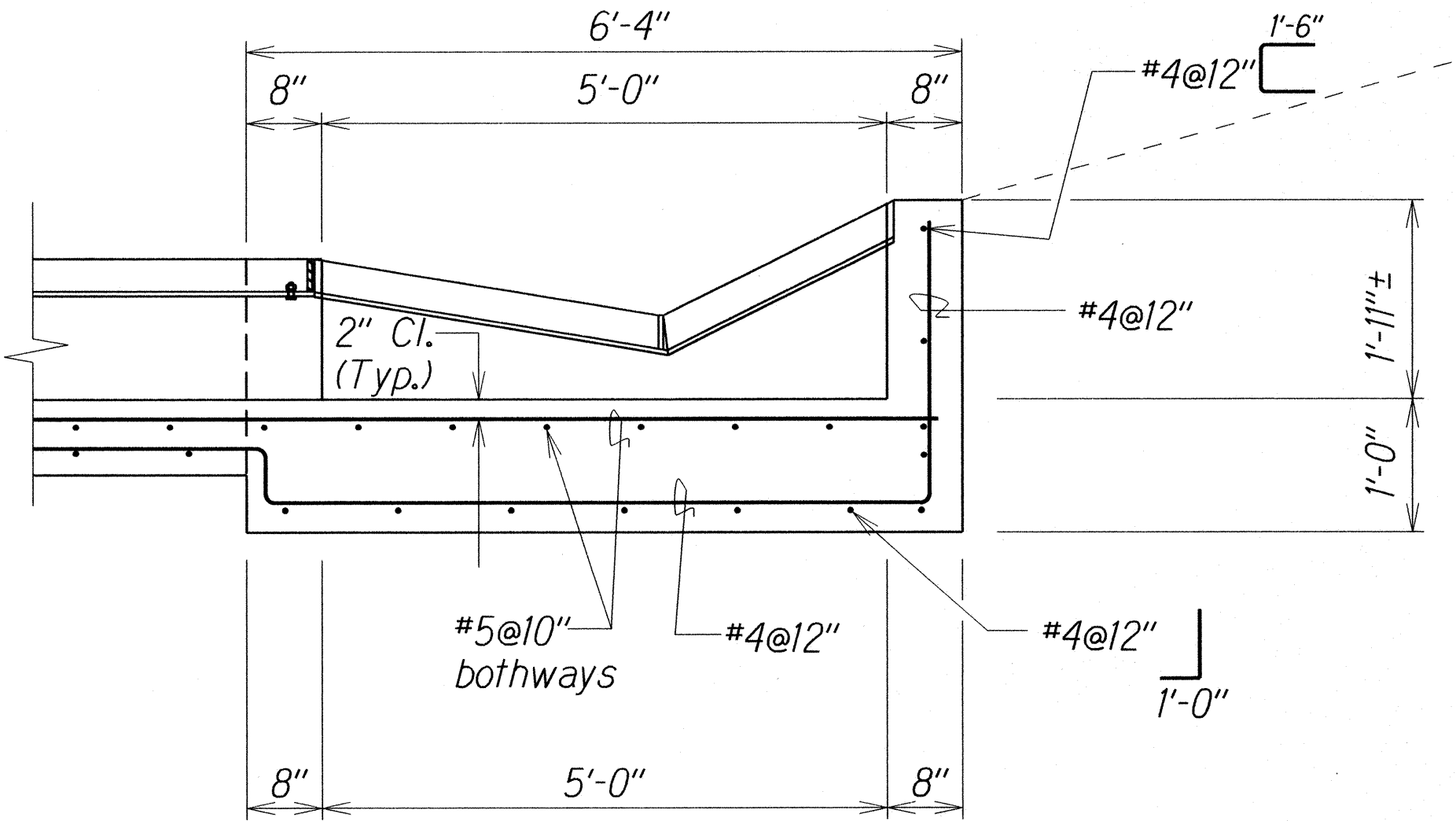
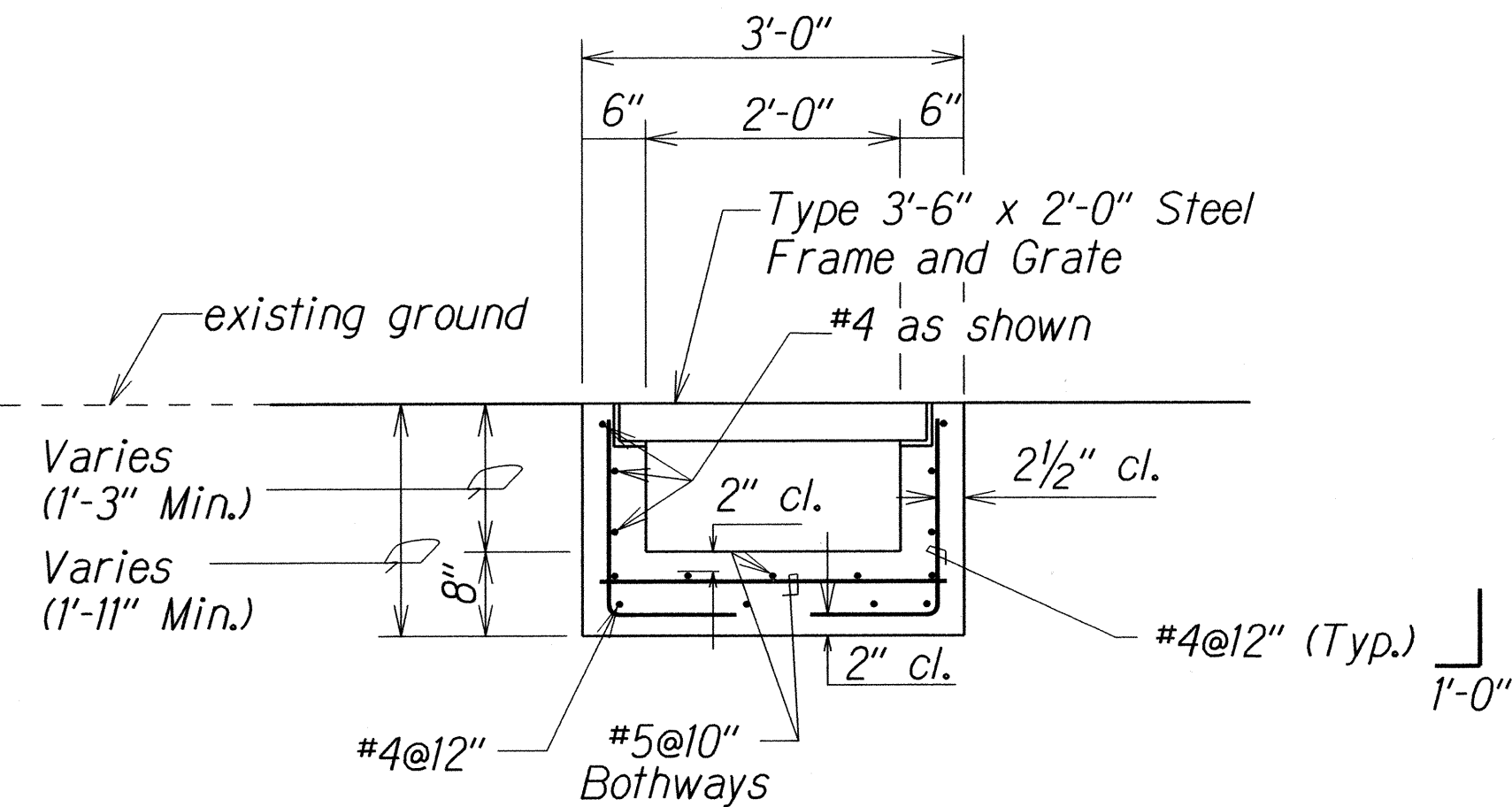
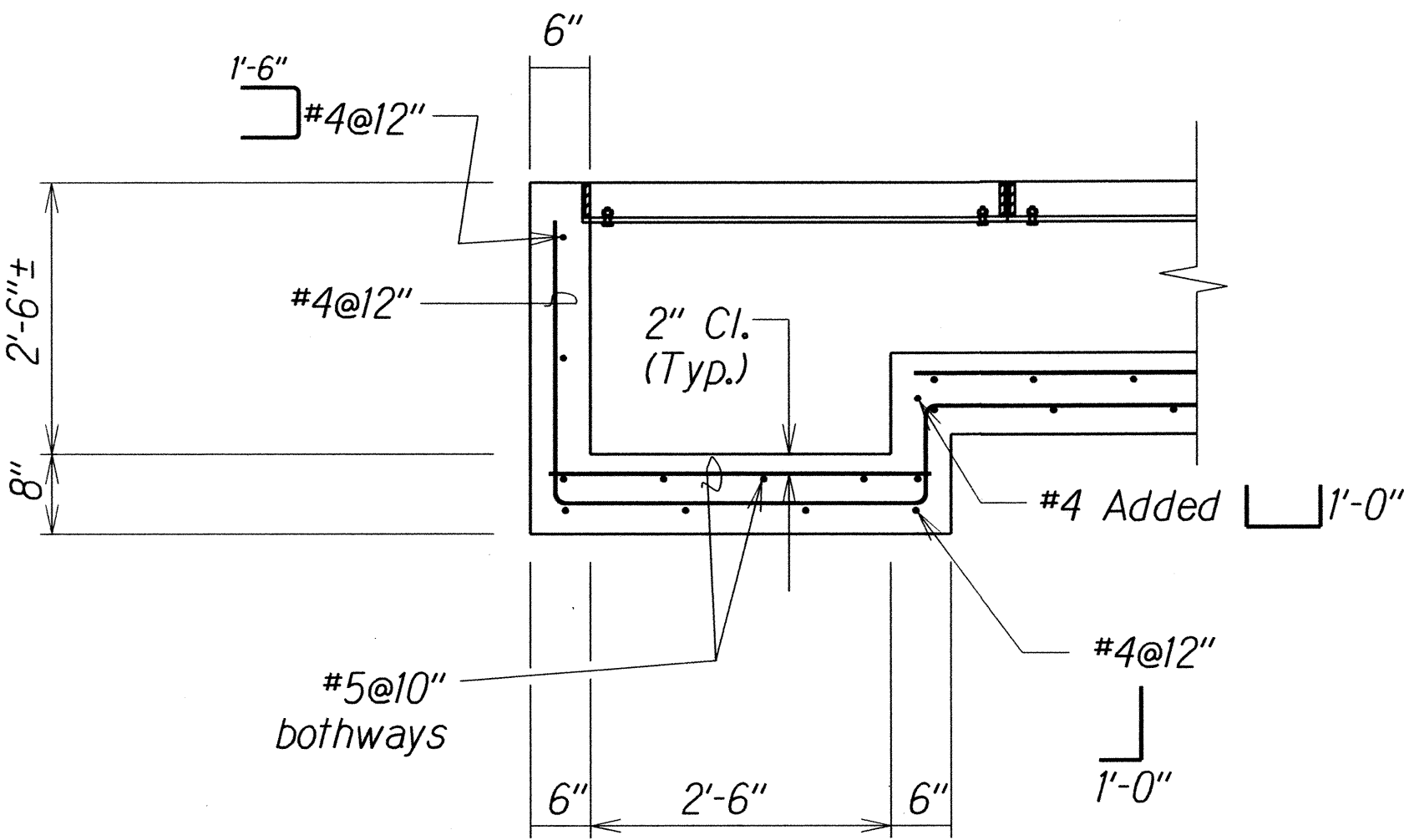
ADD. 32 S-1

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

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-08-14	2016	33	88



Note: Contractor to verify dimensions. End grate length shall be determined in the field.



Note: Pipes not shown for clarity

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

TYPE "1" GRATED DITCH INLET DETAILS

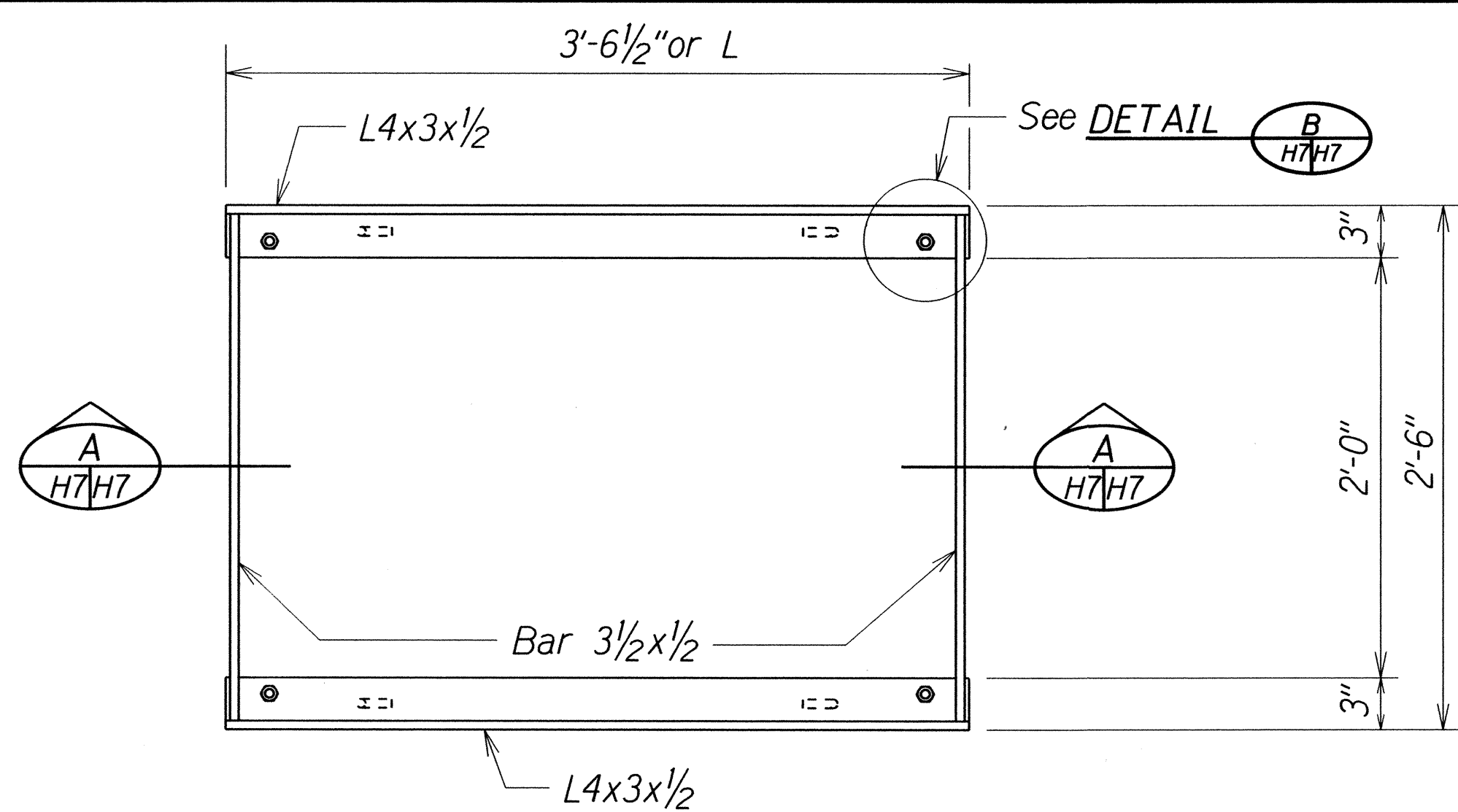
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE DETAIL

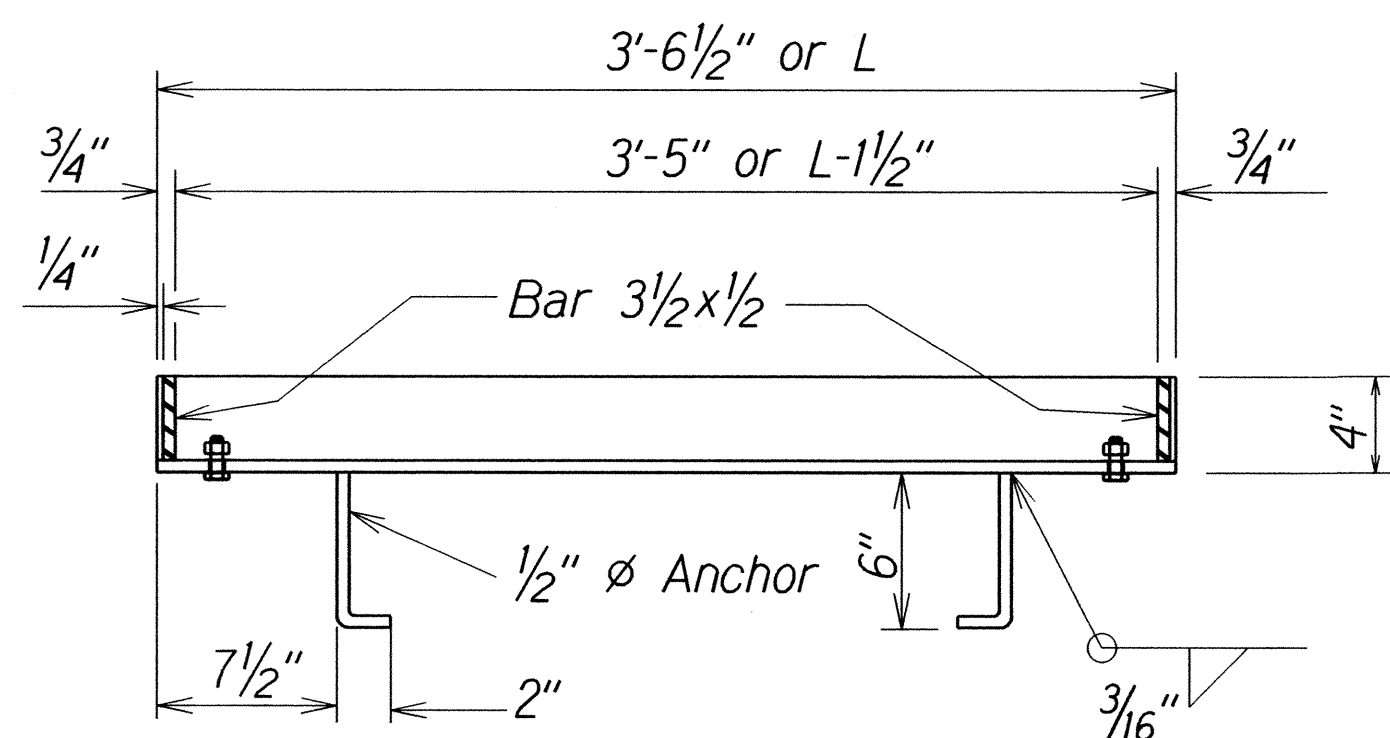
COMMERCIAL DRIVER'S LICENSE AND
MOTORCYCLE LICENSE TESTING FACILITY
EXAMINATION SITE AND OFFICE RENOVATION
Beneath Interstate Route H-1 Pearl City Viaduct
Project No. HWY-0-08-14

Scale: 3/4" = 1'-0" Date: May 2016

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-08-14	2016	34	88



PLAN

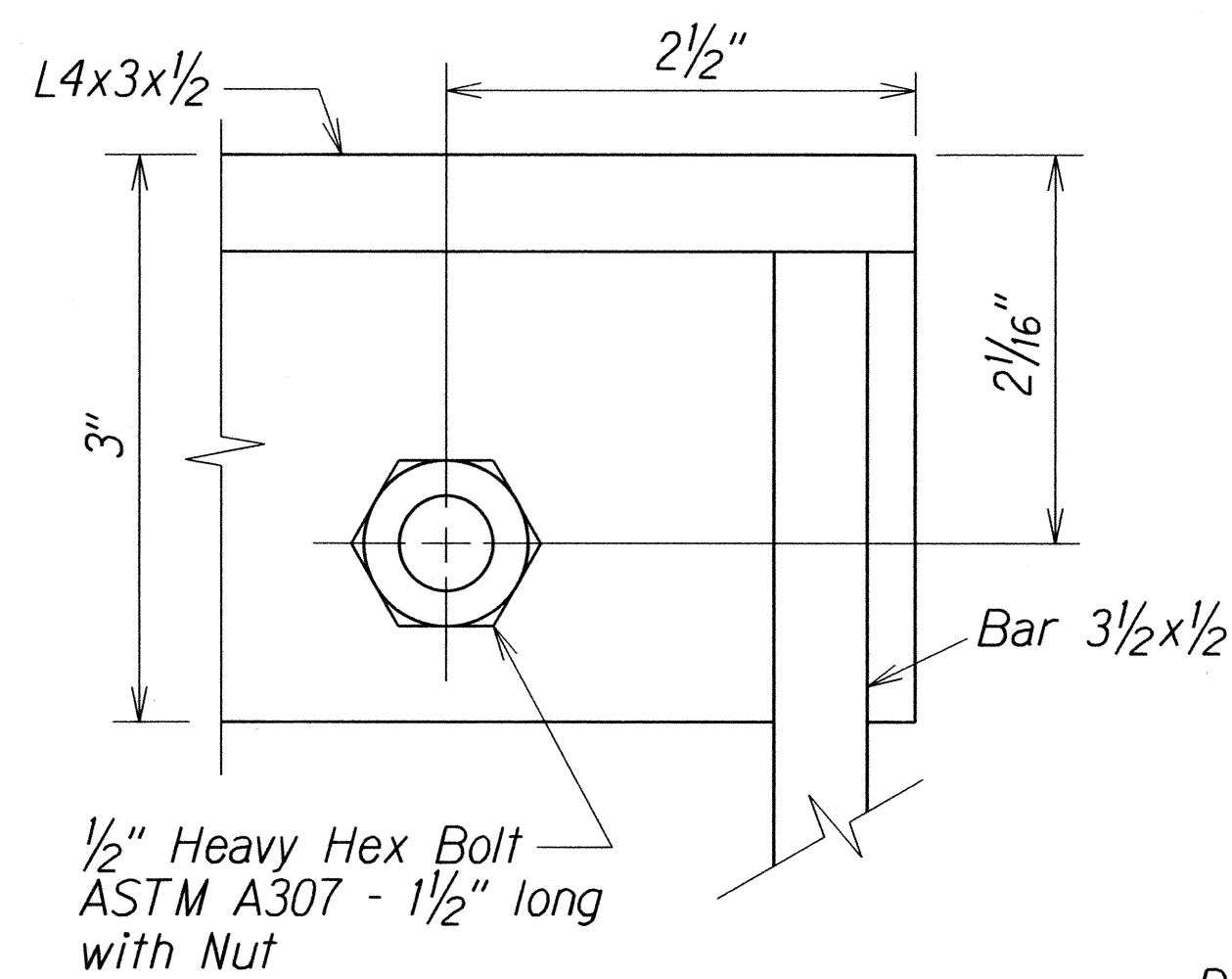


SECTION

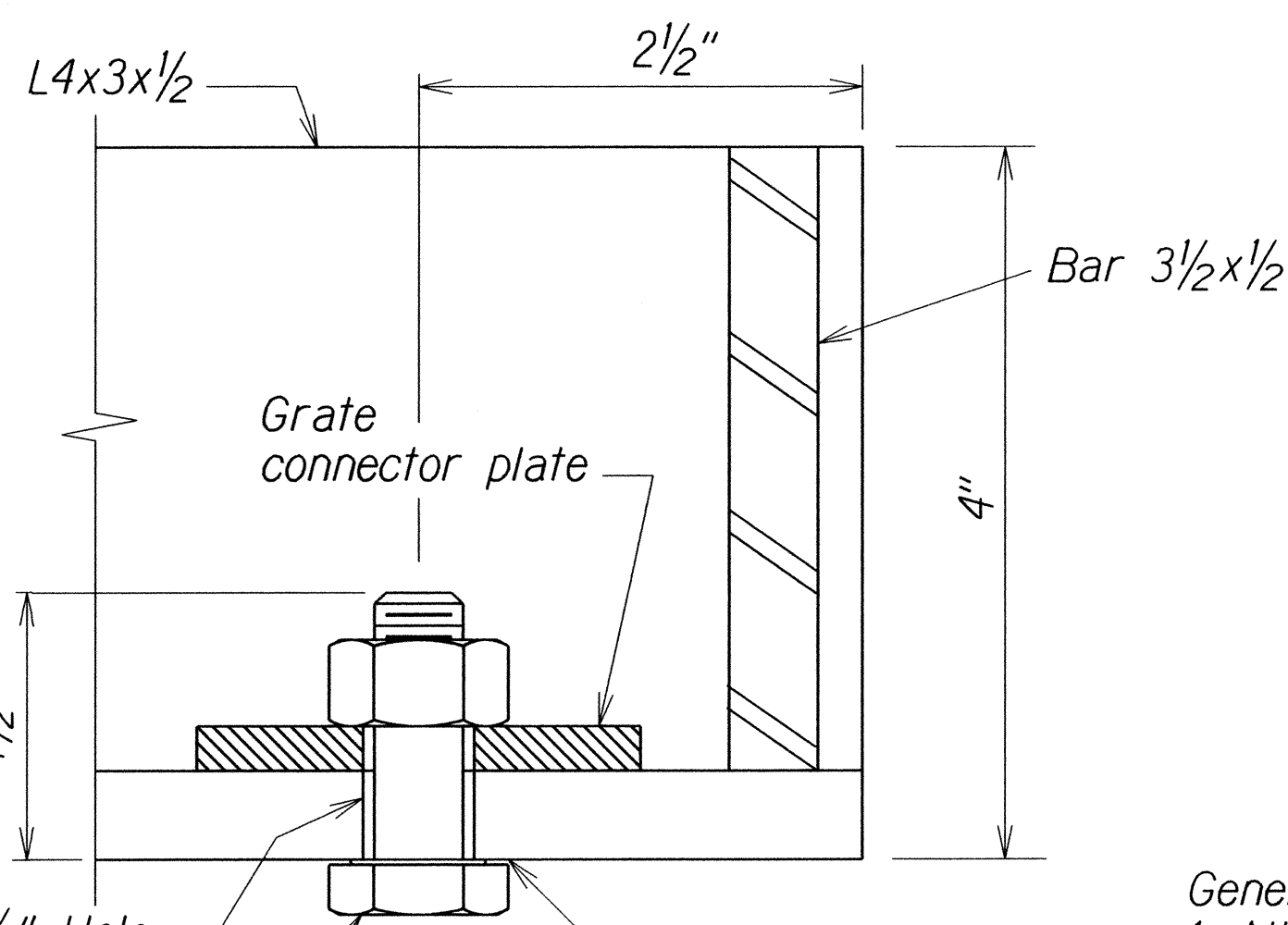
FRAME

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

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



PLAN

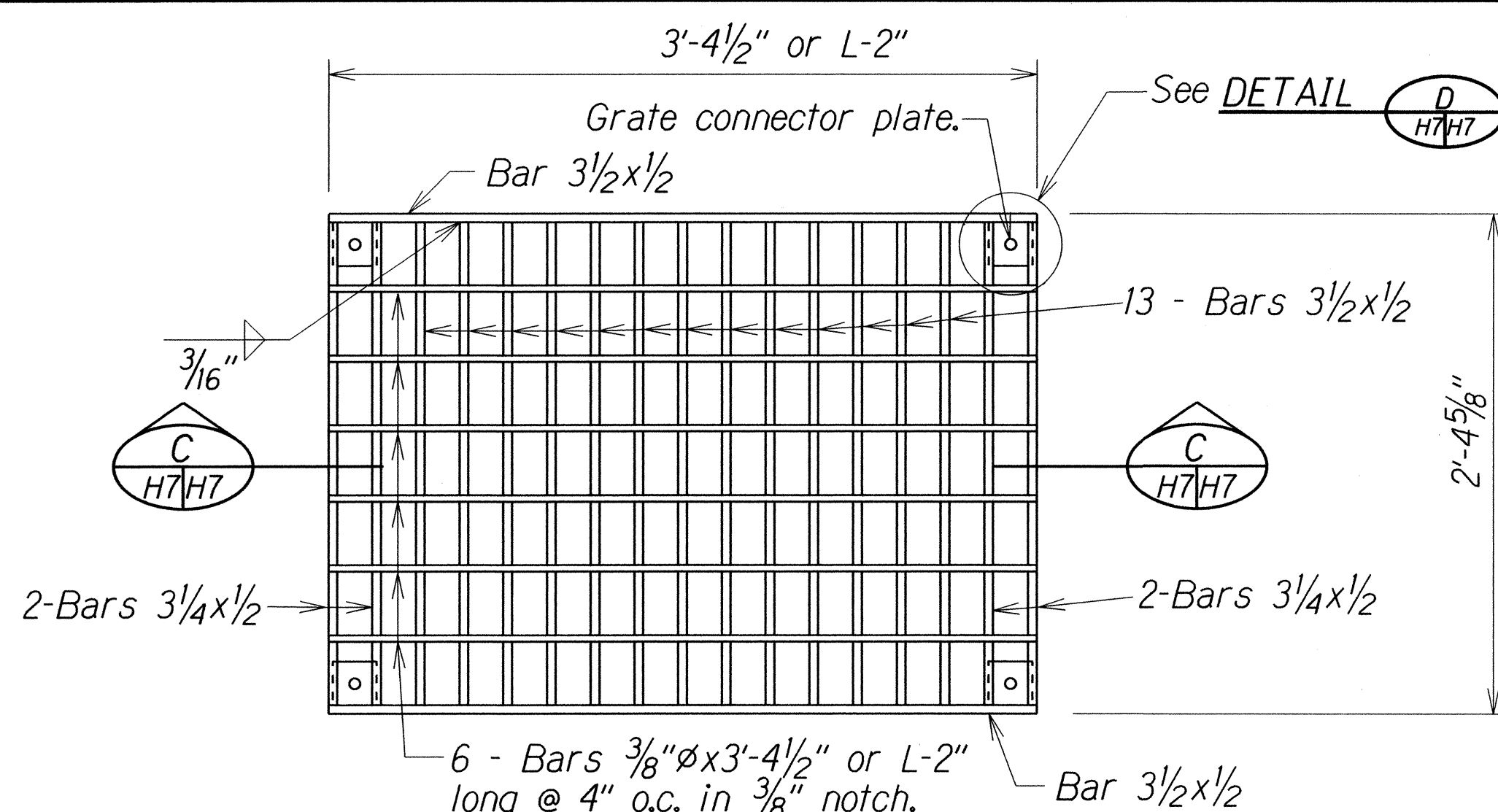


SECTION

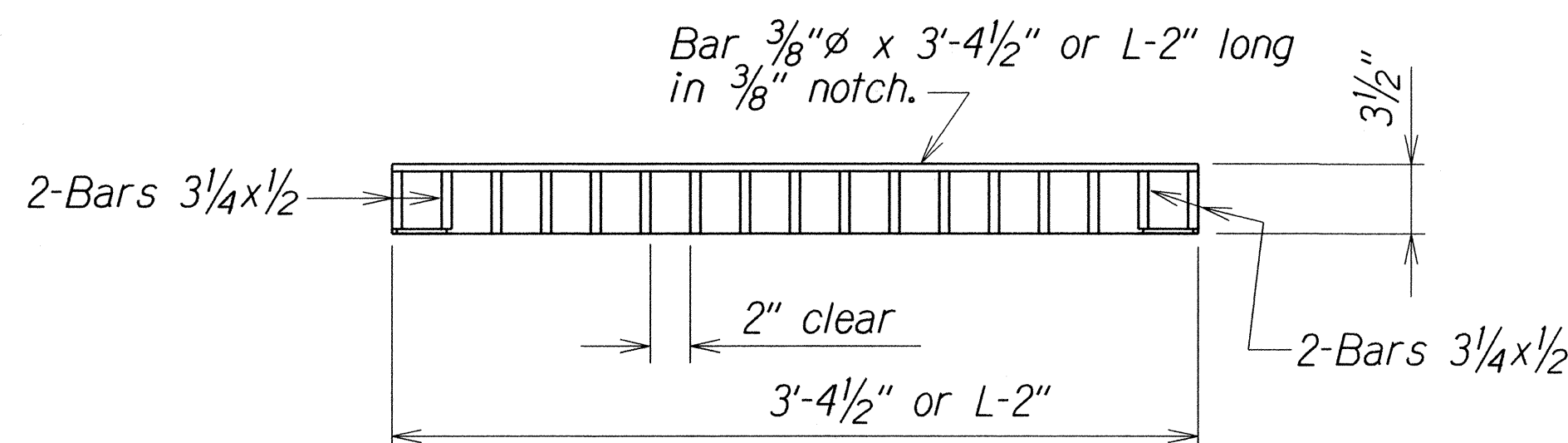
DETAIL

Full Size

DETAIL OF TYPE 3'-6" X 2'-0" STEEL FRAME AND GRATES



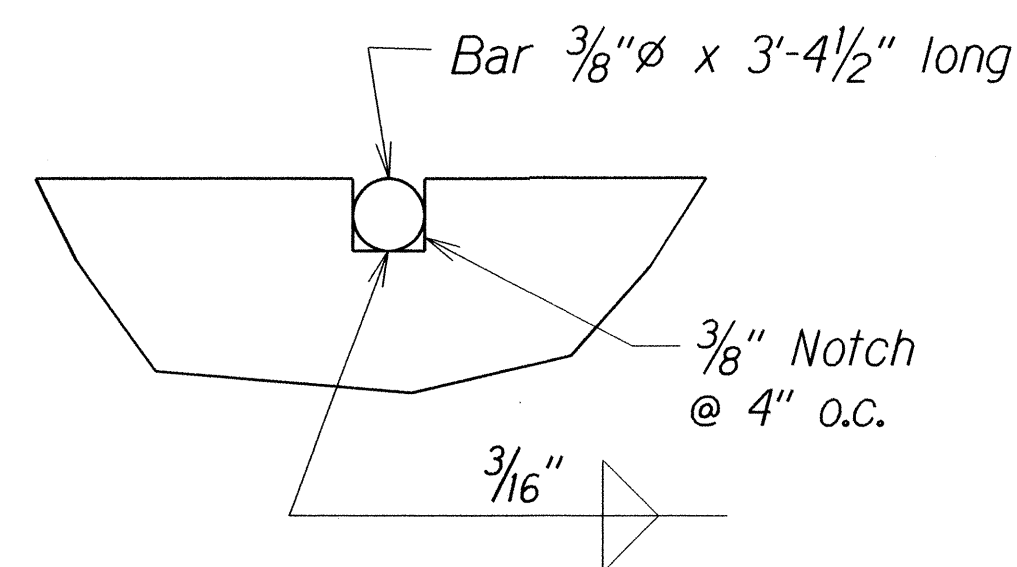
PLAN



SECTION

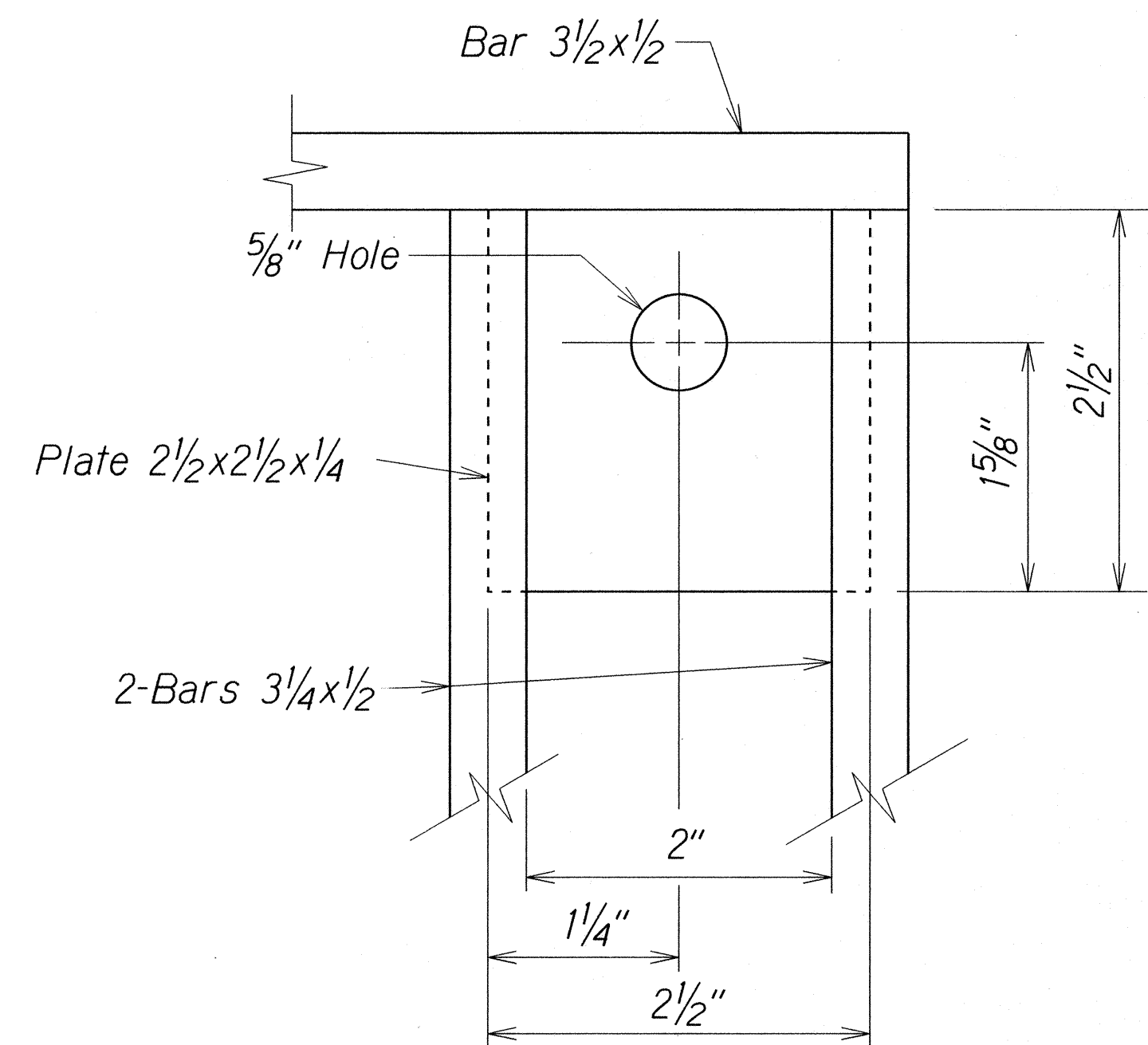
GRATE

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

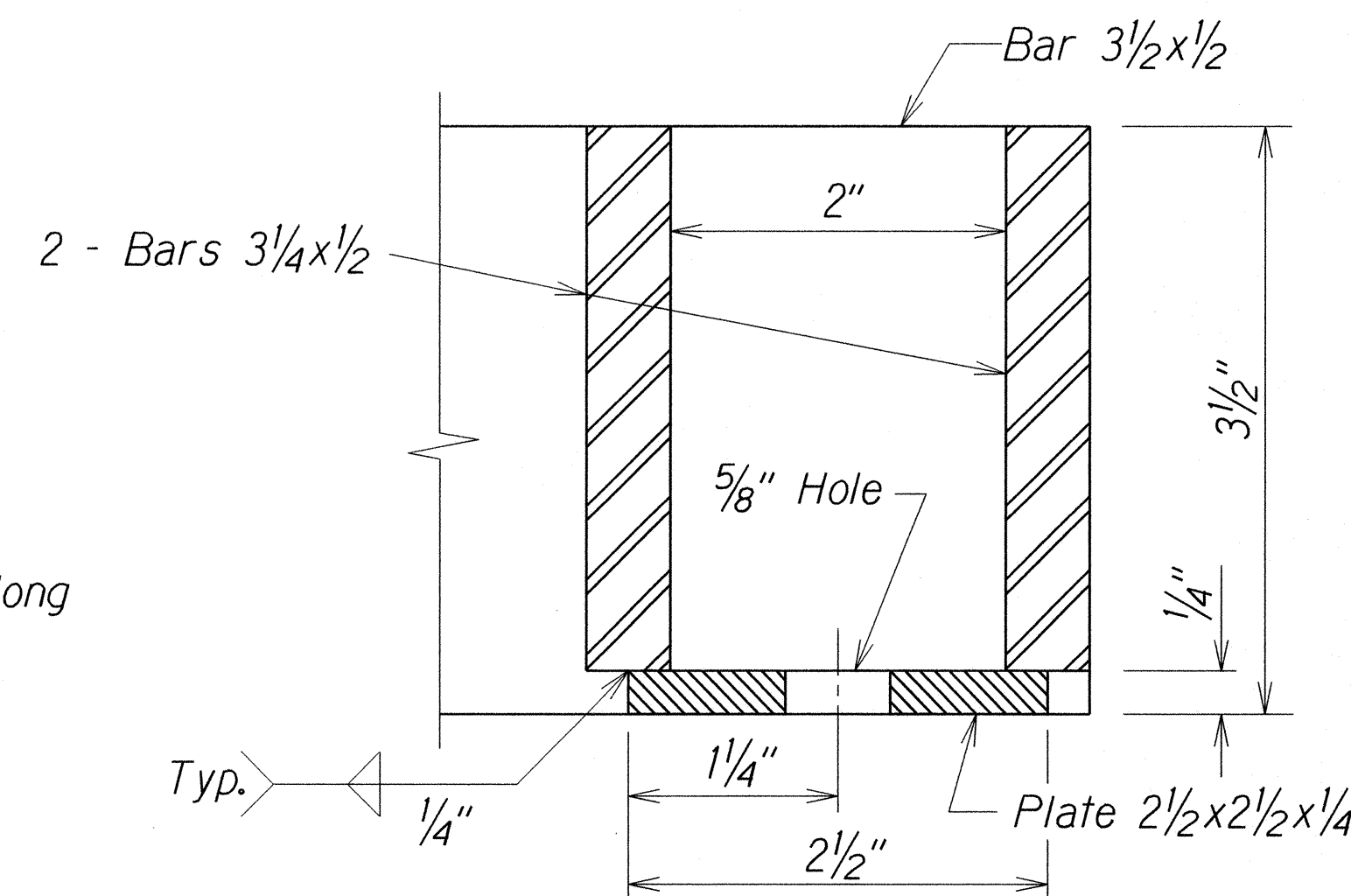


NOTCH DETAIL

Full Size



PLAN



SECTION

DETAIL

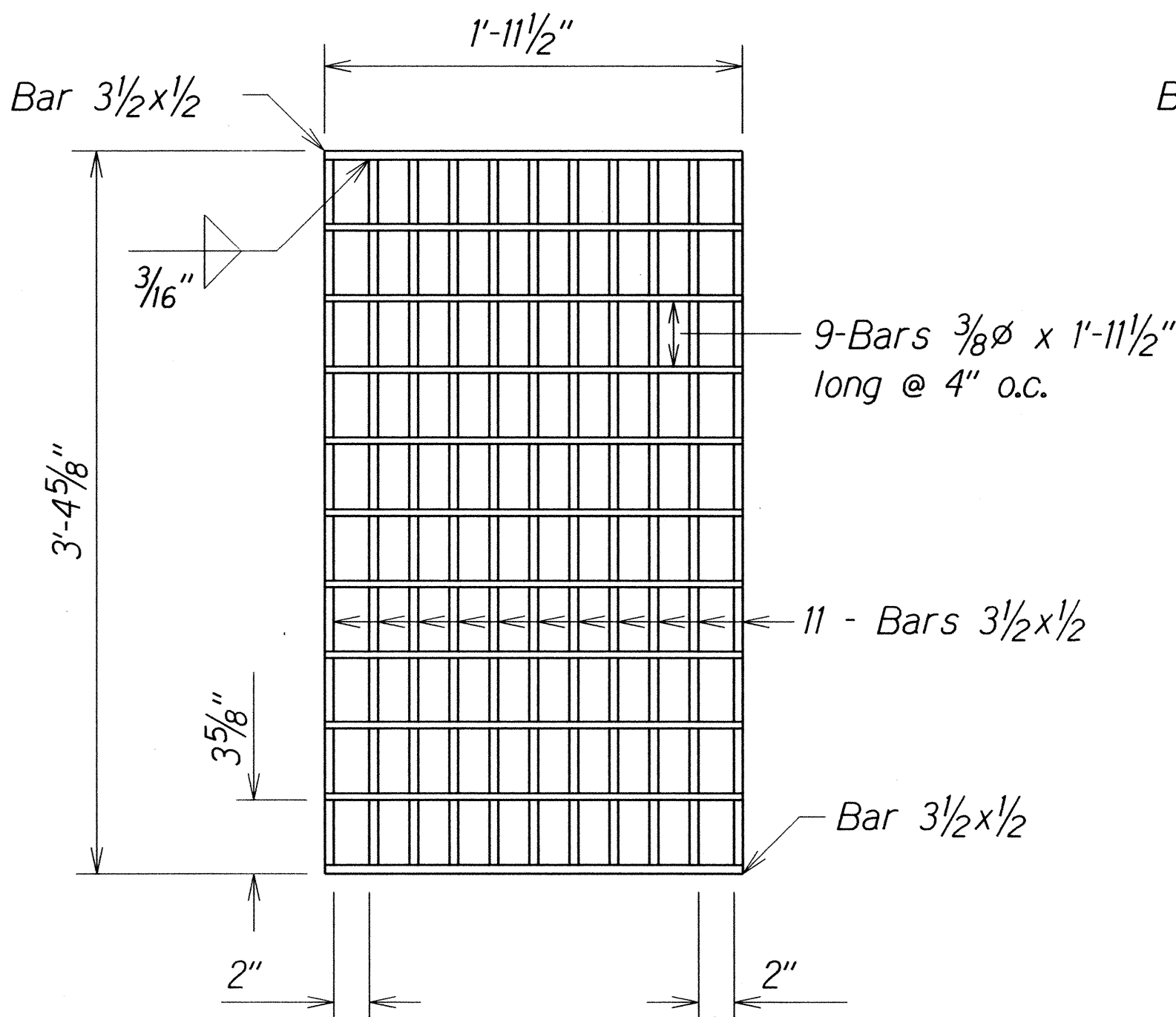
Full Size

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
DRAINAGE DETAIL
COMMERCIAL DRIVER'S LICENSE AND
MOTORCYCLE LICENSE TESTING FACILITY
EXAMINATION SITE AND OFFICE RENOVATION
Beneath Interstate Route H-1 Pearl City Viaduct
Project No. HWY-0-08-14

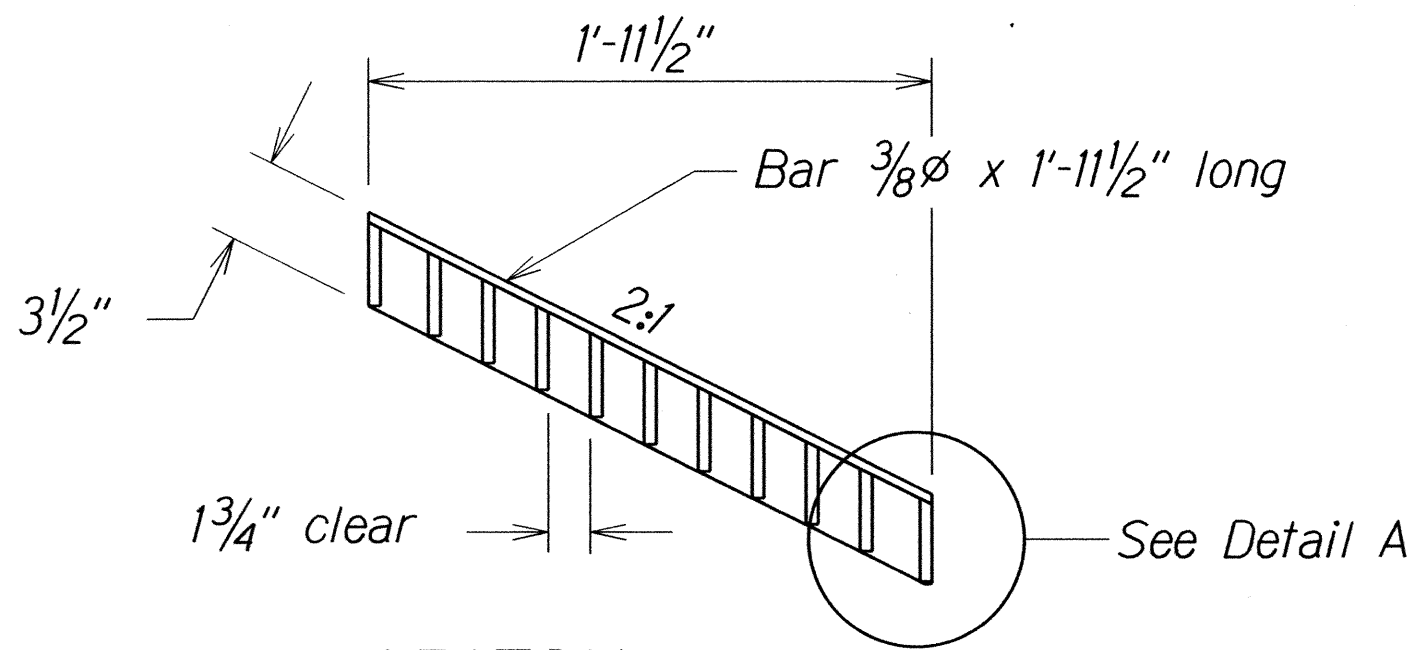
Scale: As Shown Date: May 2016

SHEET No. H7 OF 9 SHEETS

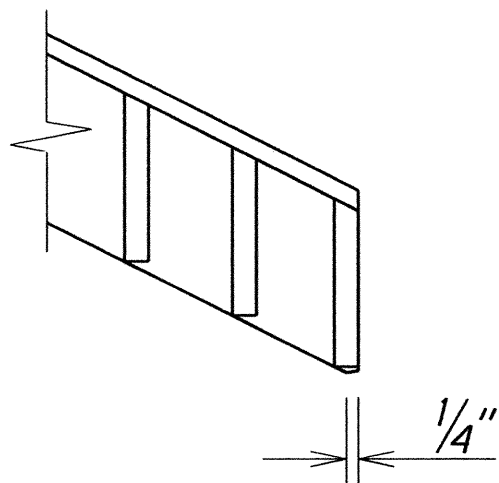
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-08-14	2016	35	88



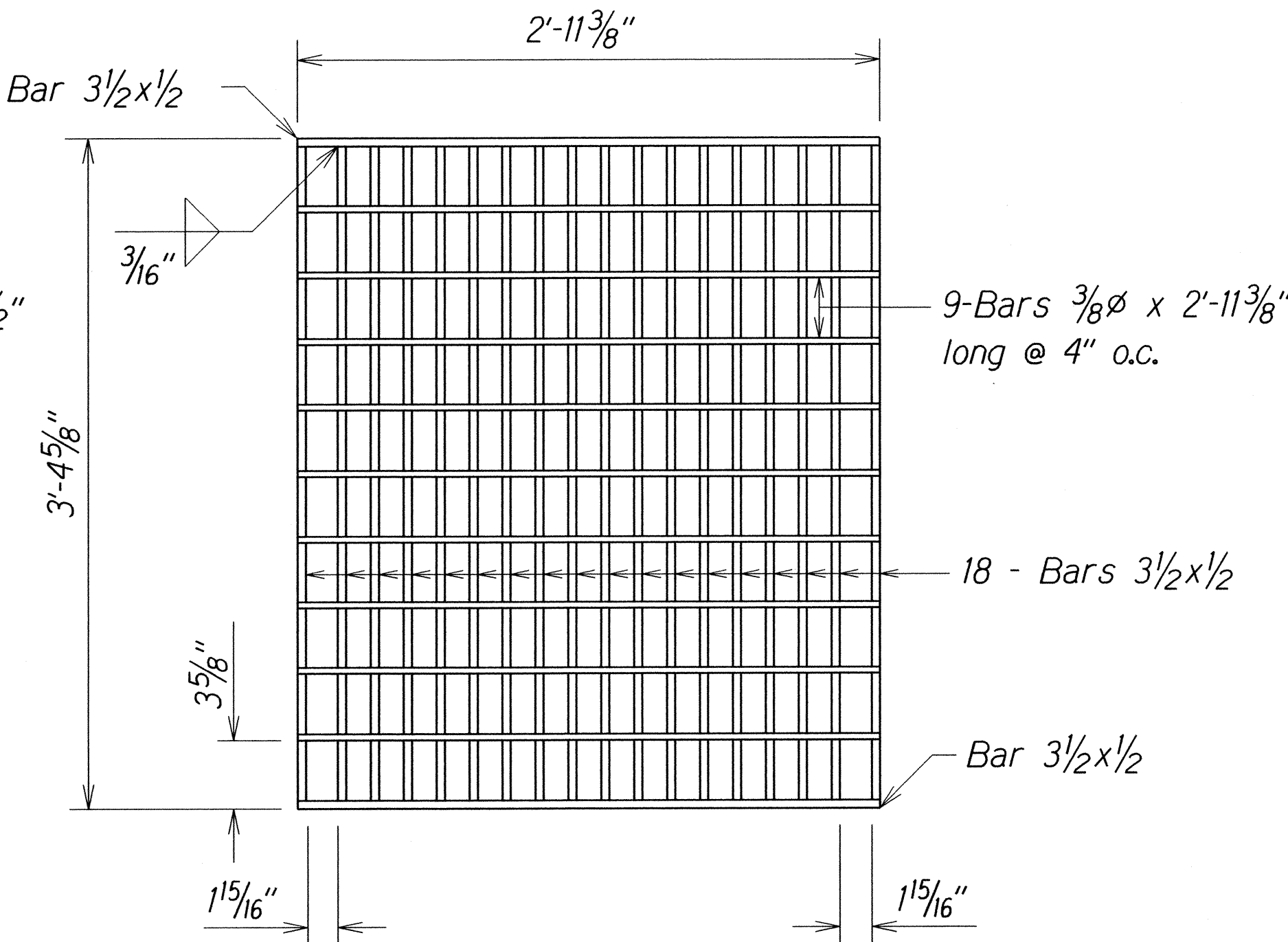
PLAN



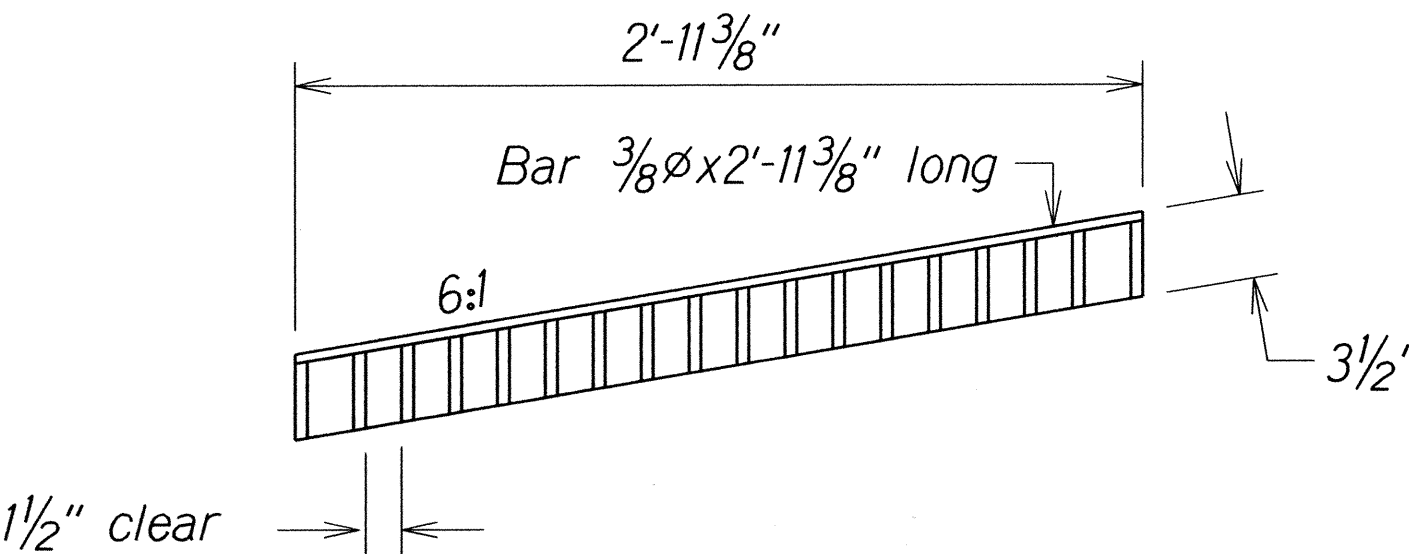
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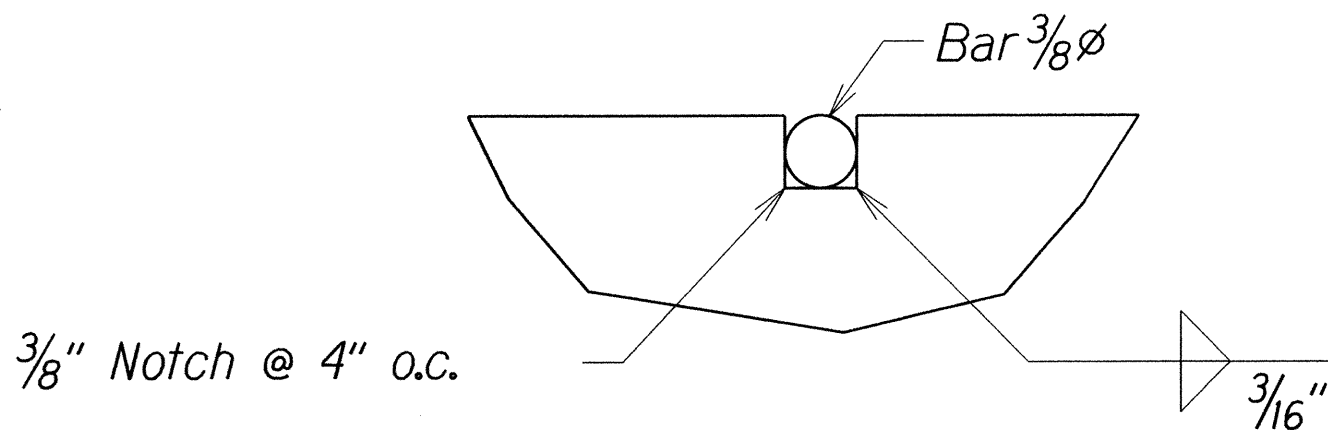
DETAIL A
Half Size



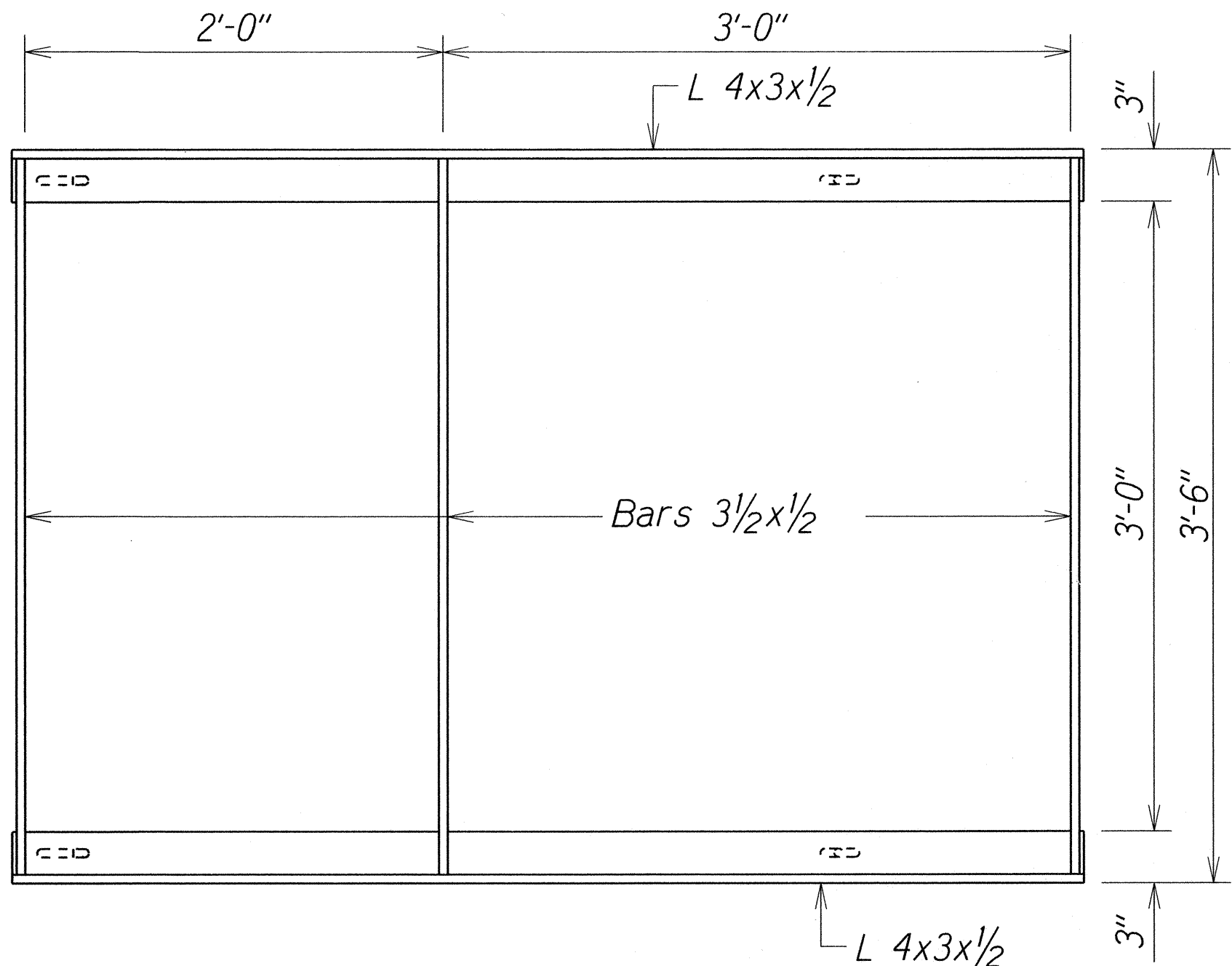
PLAN



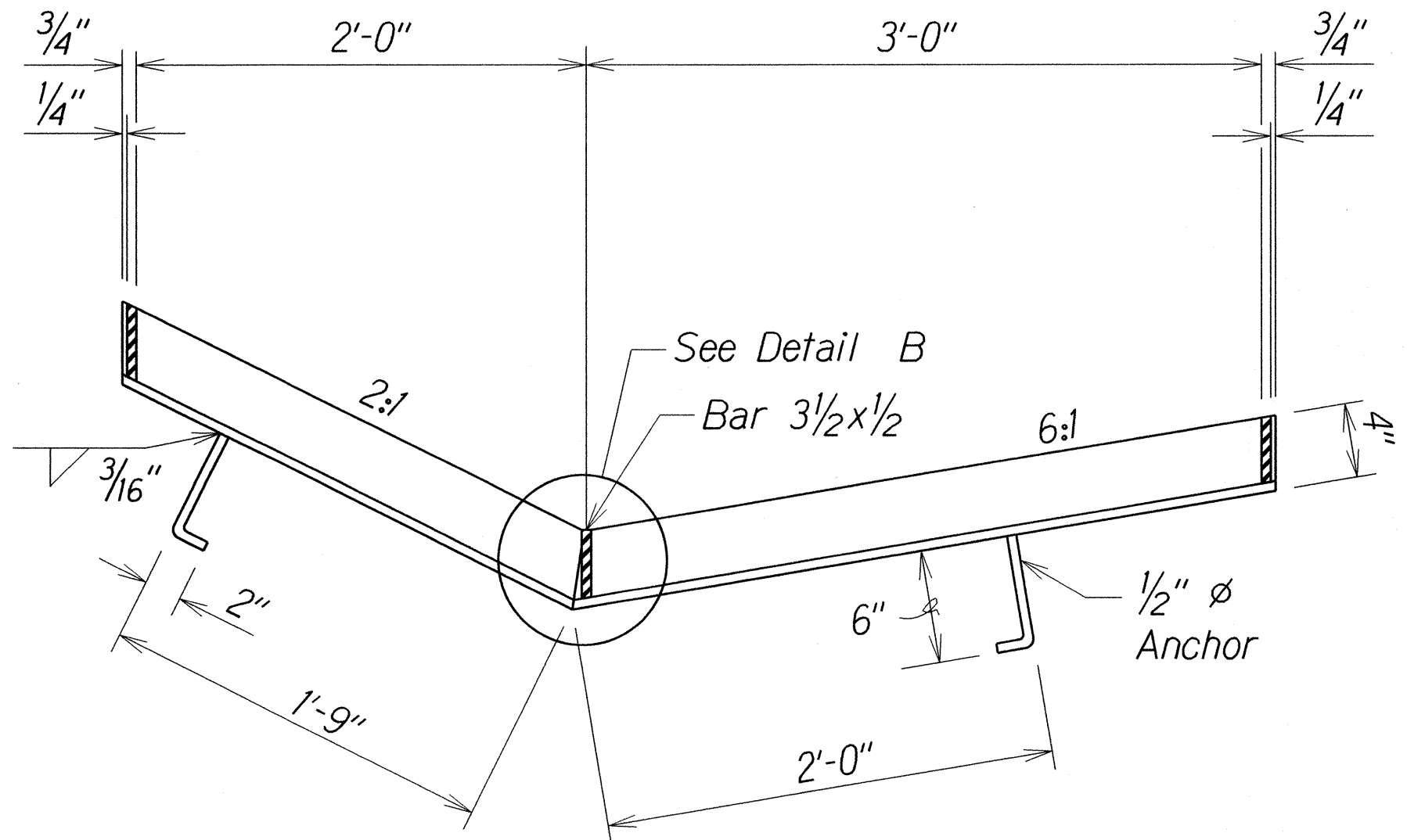
SECTION



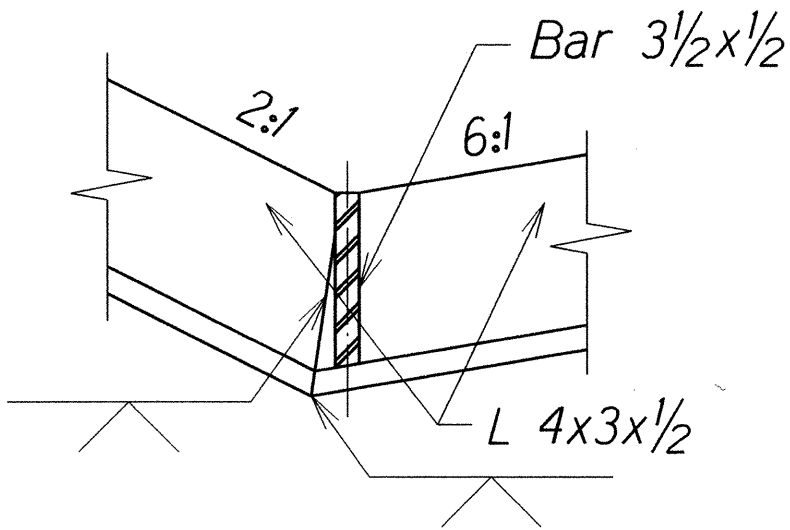
NOTCH DETAIL
Full Size



PLAN



SECTION



DETAIL B
Half Size
FRAME

TYPE 61215P STEEL FRAME AND GRATES

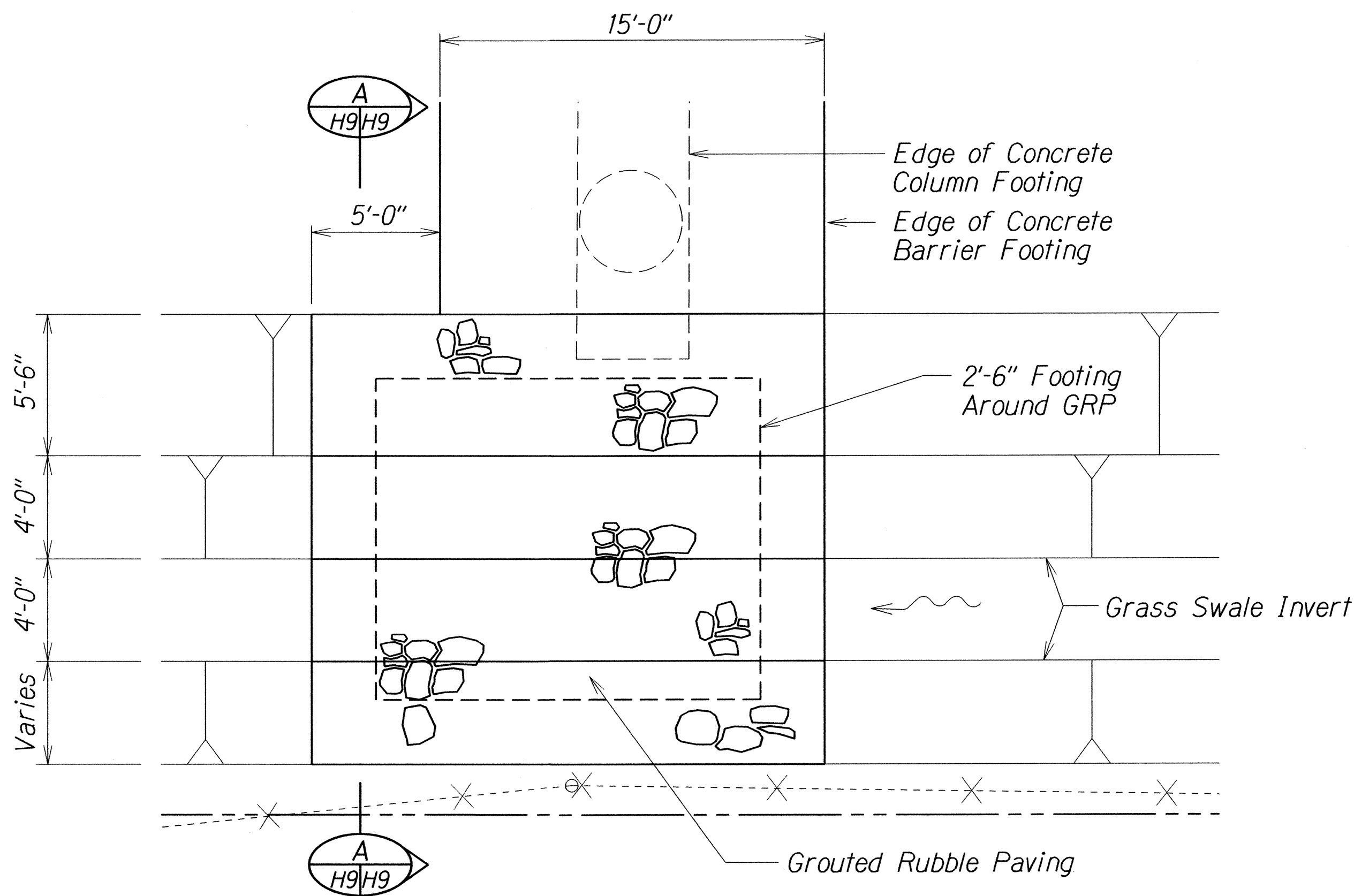
Scale: 1 1/2"=1'-0"

- General Notes:
1. All welds 3/8" unless otherwise noted.
 2. Grates and frames shall be zinc coated after fabrication.
 3. Anchors shall be ASTM A 307 and zinc coated.
 4. See Std. Plan Sht. B-01 for additional notes.

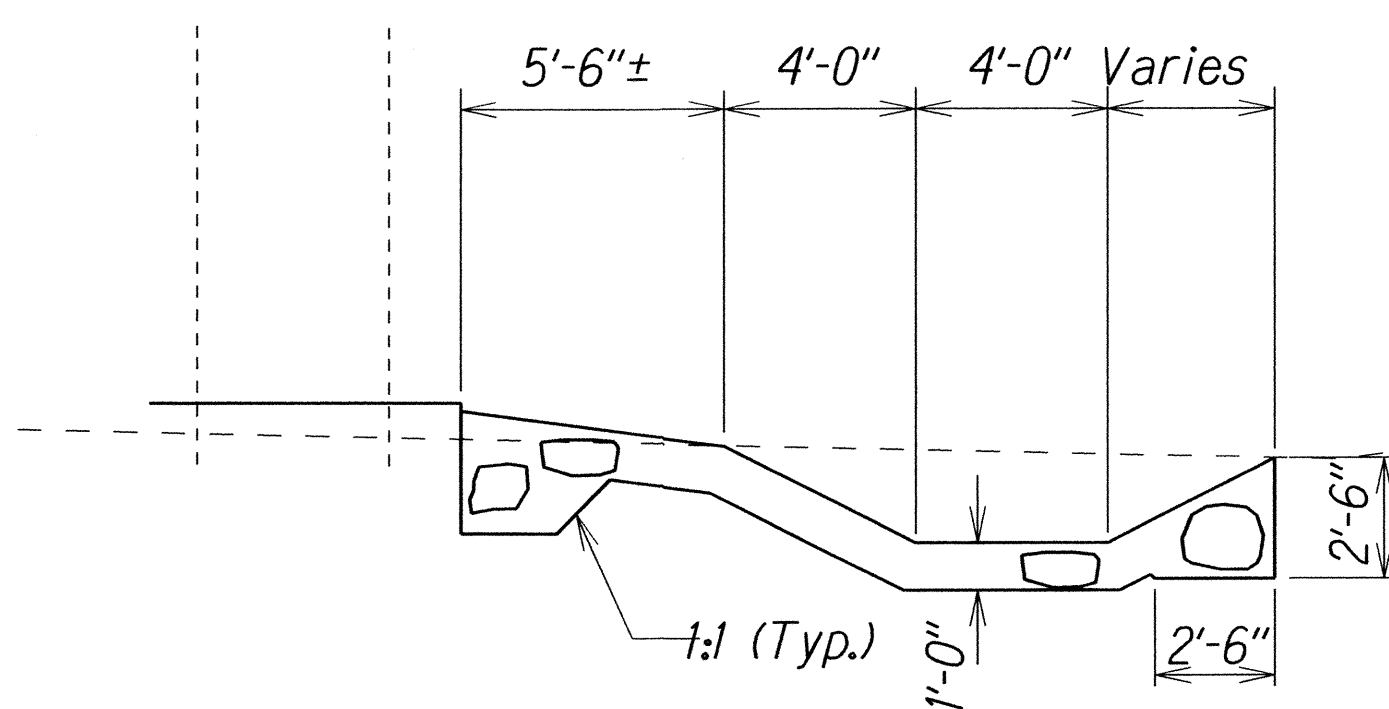
ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY	
	DESIGNED BY	
	CHECKED BY	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
DRAINAGE DETAIL
COMMERCIAL DRIVER'S LICENSE AND
MOTORCYCLE LICENSE TESTING FACILITY
EXAMINATION SITE AND OFFICE RENOVATION
Beneath Interstate Route H-1 Pearl City Viaduct
Project No. HWY-0-08-14
Scale: 1 1/2"=1'-0" Date: May 2016
SHEET No. H8 OF 9 SHEETS

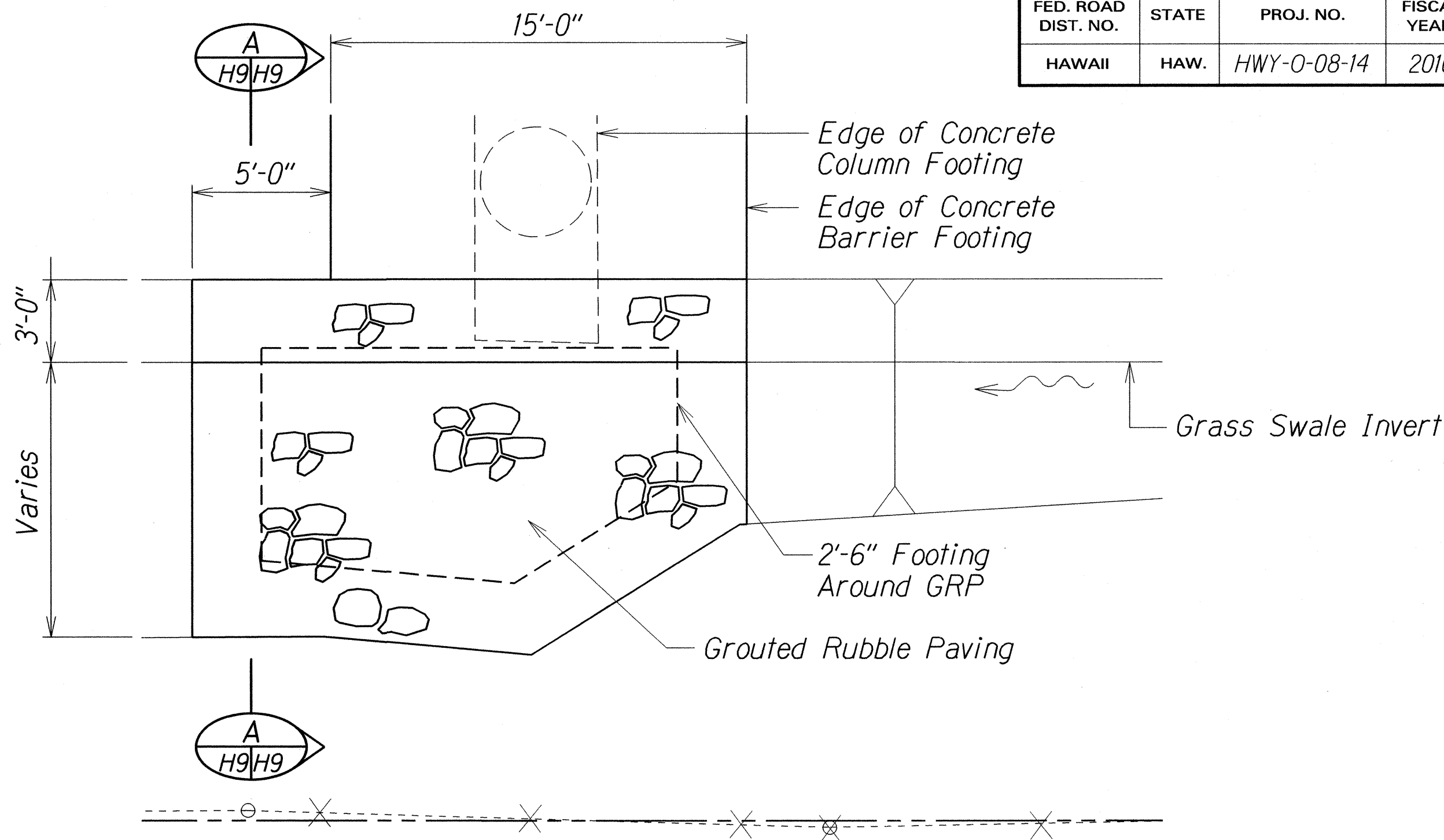
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-08-14	2016	36	88



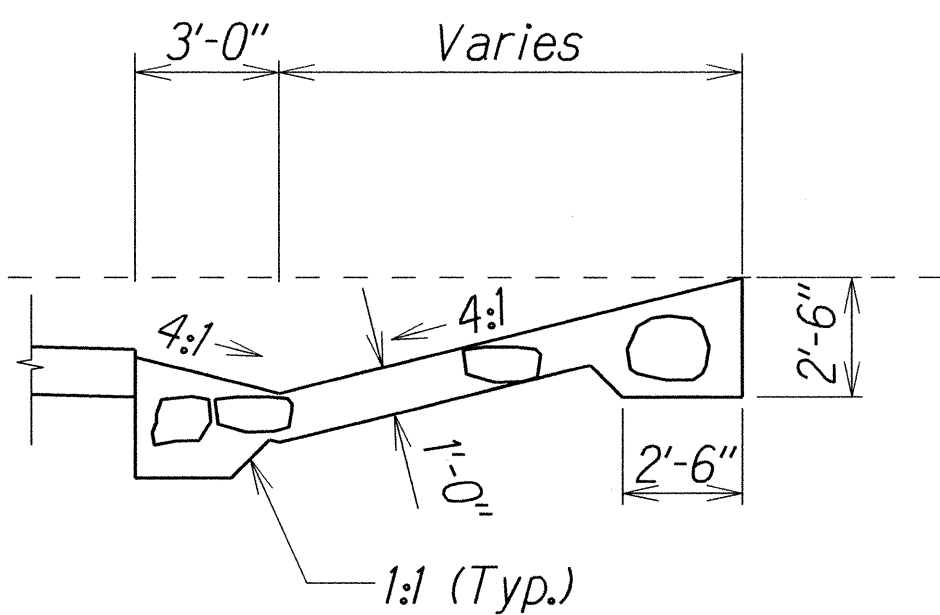
GRP DETAIL AT # STA. 25+58± RT.



SECTION A
H9/H9



GRP DETAIL AT # STA. 27+60± RT.



SECTION A
H9/H9

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE DETAIL
COMMERCIAL DRIVER'S LICENSE AND
MOTORCYCLE LICENSE TESTING FACILITY
EXAMINATION SITE AND OFFICE RENOVATION
Beneath Interstate Route H-1 Pearl City Viaduct
Project No. HWY-0-08-14

Scale: 1/4" = 1'-0"
Date: May 2016

SHEET No. H9 OF 9 SHEETS