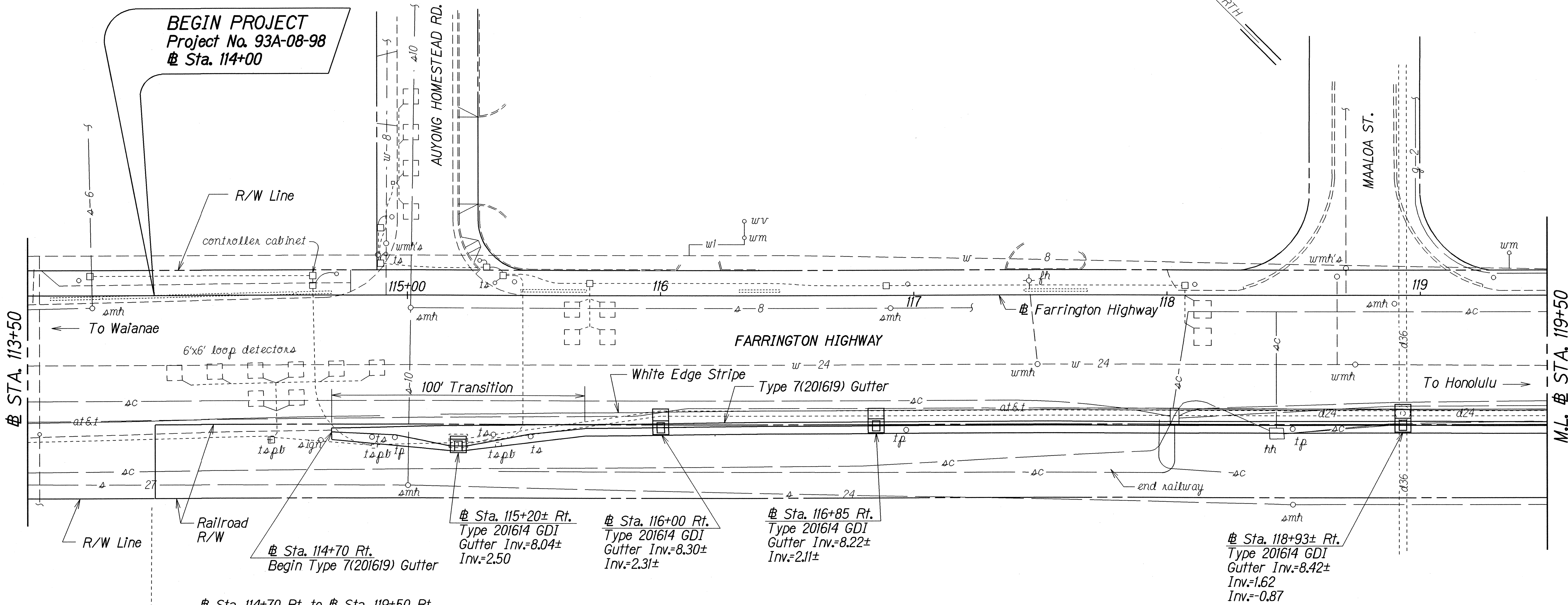


FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	93A-08-98	2000	6	18



@ Sta. 114+70 Rt. to @ Sta. 119+50 Rt.
 Construct: Type 7(201619) Gutter and Transition
 (For Details see Sht. No. H10)

Estimated Quantities
 Type 7(201619) Gutter = 480 L.F.

@ Sta. 115+20± Rt.
 Demolish and remove existing Type 2 GDI
 This work shall be considered incidental
 to Type 201614 GDI

@ Sta. 115+20± Rt.
 Construct: Type 201614 GDI
 (For Details see Sht. No. H8)

Estimated Quantities
 Type 201614 GDI,
 5.00 ft. to 5.99 ft. = 1 Ea.

@ Sta. 115+20± Rt.
 Remove: Existing Type A-9 Steel Grate
 Clean, galvanize and return to
 Department of Transportation,
 Oahu District, 727 Kakoi St.
 This work shall be considered
 incidental to Type A-10P Steel
 Grate

@ Sta. 118+93± Rt.
 Demolish and remove existing Type E
 Stormdrain Manhole. Salvage and clean
 manhole frame and cover. Return
 salvaged items to 727 Kakoi St.
 This work shall be considered
 incidental to Type 201614 GDI

@ Sta. 116+00 Rt.
 @ Sta. 116+85 Rt.
 Construct: Type 201614 GDI
 (For Details see Sht. No. H8)

Estimated Quantities
 Type 201614 GDI.
 6.00 ft. to 6.99 ft. = 2 Ea.

@ Sta. 118+93± Rt.
 Construct: Type 201614 GDI
 (For Details see Sht. No. H8)

Estimated Quantities
 Type 201614 GDI.
 9.00 ft. to 9.99 ft. = 1 Ea.

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
PLAN	DRAWN BY A. Manuia	4/21/98
NOTE BOOK	TRACED BY B. Sakamoto	
QUANTITIES	CHECKED BY	

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

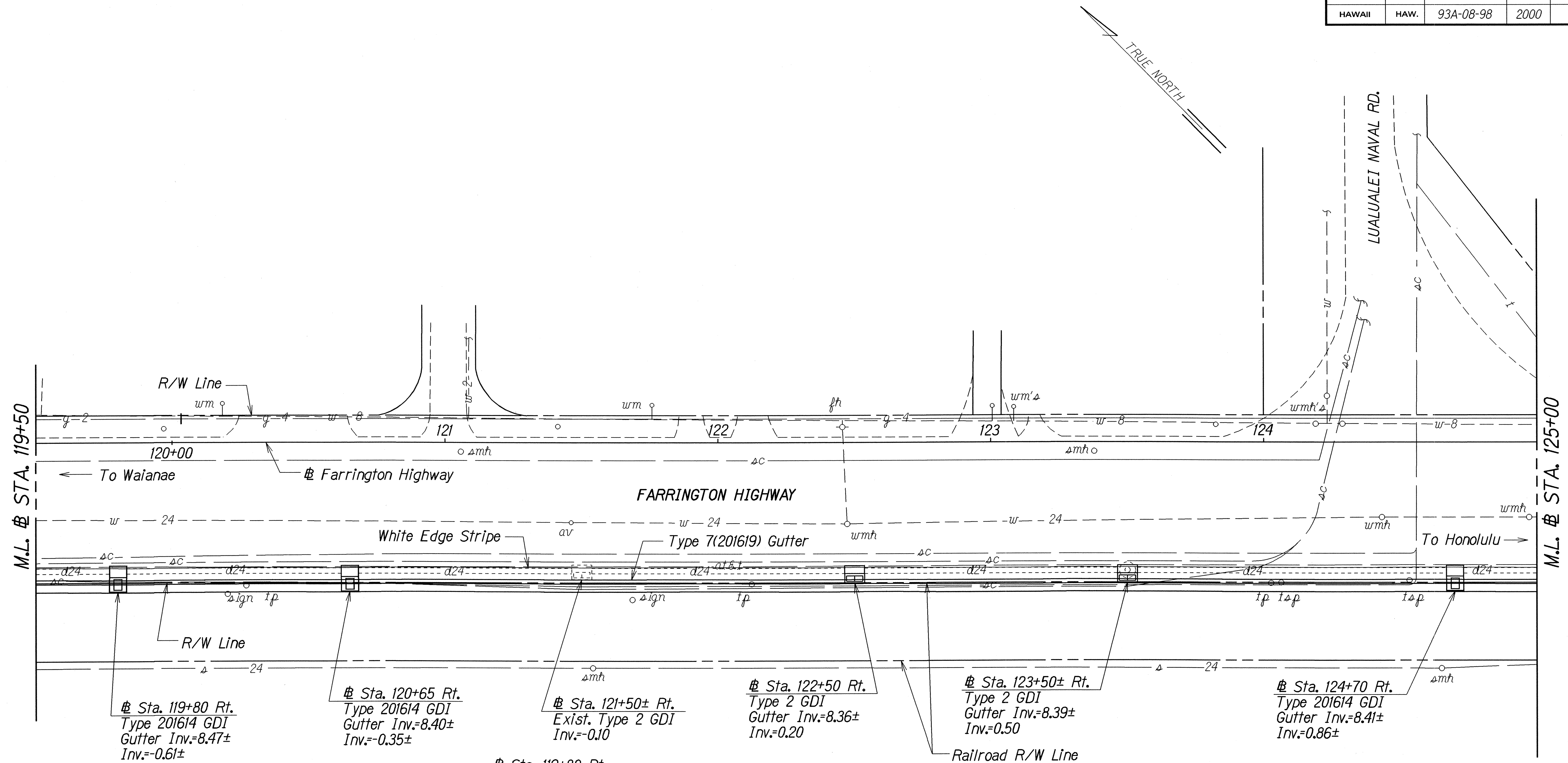
DRAINAGE PLAN

FARRINGTON HWY. DRAINAGE IMPROVEMENTS
 Auyong Homestead Road to Nanaikaola Street
 Project No. 93A-08-98

Scale: 1"=20' Date: Jan. 2000

SHEET No. *HI* OF 10 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	93A-08-98	2000	7	18



Sta. 119+50 Rt. to Sta. 125+00 Rt.
Construct: Type 7(201619) Gutter
(For Detail see Sht. No. H10)

Estimated Quantities
Type 7(201619) Gutter = 550 L.F.

Sta. 123+50± Rt.
Demolish and remove existing Type E Stormdrain Manhole. Salvage and clean manhole frame and cover. Return salvaged items to 727 Kakoi St. This work shall be considered incidental to Type 201614 GDI

Sta. 119+80 Rt.
Sta. 120+65 Rt.
Construct: Type 201614 GDI
(For Details see Sht. No. H8)

Estimated Quantities
Type 201614 GDI.
9.00 ft. to 9.99 ft. = 2 Ea.

Sta. 121+50± Rt.
Remove: Existing Type A-9 Steel Grate
Clean, galvanize and return to Department of Transportation, Oahu District, 727 Kakoi St. This work shall be considered incidental to Type A-10P Steel Grate

Install: Type A-10P Steel Grate
(For Details see Sht. No. H7)

Estimated Quantities
Type A-10P Steel Grate = 2 Ea.

Sta. 122+50 Rt.
Sta. 123+50 Rt.
Construct: Type 2 GDI
(For Details see Sht. No. H6)

Estimated Quantities
Type 2 GDI.
8.00 ft. to 8.99 ft. = 2 Ea.

Sta. 124+70 Rt.
Construct: Type 201614 GDI
(For Details see Sht. No. H8)

Estimated Quantities
Type 201614 GDI.
7.00 ft. to 7.99 ft. = 1 Ea.

ORIGINAL PLAN	DATE	4/21/99
TRACED BY	DATE	
NOTED BY	DATE	
QUANTITIES BY	DATE	
CHECKED BY	DATE	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE PLAN

FARRINGTON HWY. DRAINAGE IMPROVEMENTS
Auyong Homestead Road to Nanaikeola Street
Project No. 93A-08-98

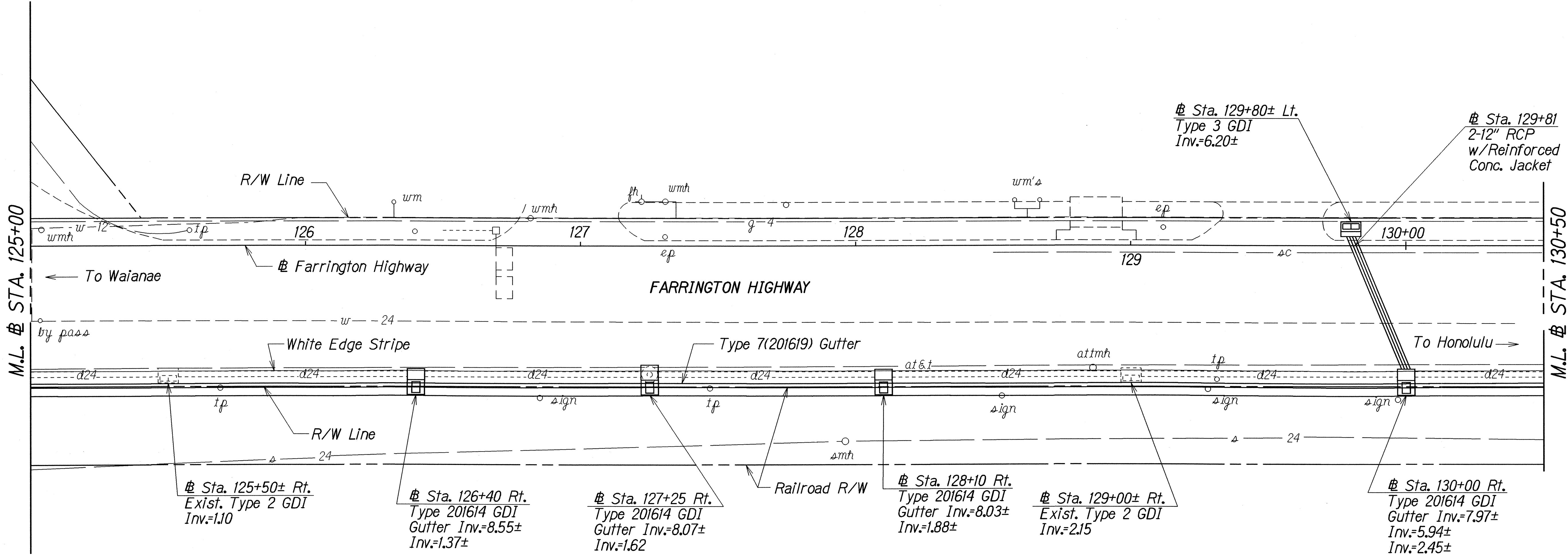
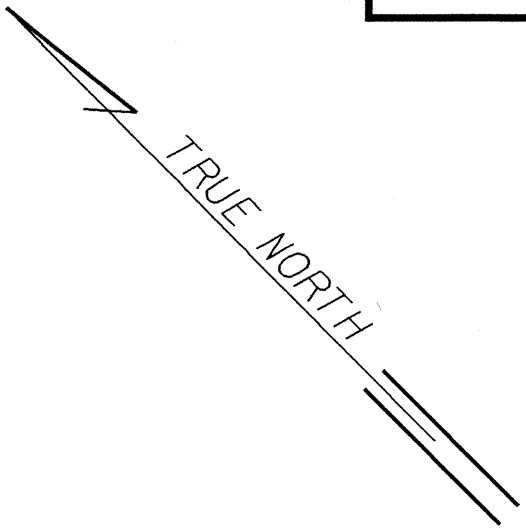
Scale: 1"=20' Date: Jan. 2000

SHEET No. H2 OF 10 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	93A-08-98	2000	8	18

Sta. 129+80± Lt.
Construct: Type 3 GDI, with Type ADA Steel Grate
(For Details see Sht. No. H6A)

Estimated Quantities
Excavation for Culvert = 31 C.Y.
Bed Course Material = 22 C.Y.
Reinforced Concrete Jacket = 52 L.F.
12" RCP, Class IV = 104 L.F.
Type 3 GDI, 2.00 ft. to 2.99 ft. = 1 Ea.



Sta. 125+00 Rt. to # Sta. 130+50 Rt.
Construct: Type 7 (201619) Gutter
(For Detail see Sht. No. H10)

Estimated Quantities
Type 7(201619) Gutter = 550 L.F.

Sta. 125+50± Rt.
Sta. 129+00± Rt.
Remove: Existing Type A-9 Steel Grate
Clean, galvanize and return to Department of Transportation, Oahu District, 727 Kakoi St.
This work shall be considered incidental to Type A-10P Steel Grate

Install: Type A-10P Steel Grate
(For Details see Sht. No. H7)

Estimated Quantities
Type A-10P Steel Grate = 4 Ea.

Sta. 126+40 Rt.
Construct: Type 201614 GDI
(For Details see Sht. No. H8)

Estimated Quantities
Type 201614 GDI, 7.00 ft. to 7.99 ft. = 1 Ea.

Sta. 127+25± Rt.
Demolish and remove existing Type E Stormdrain Manhole. Salvage and clean manhole frame and cover. Return salvaged items to 727 Kakoi St.
This work shall be considered incidental to Type 201614 GDI

Sta. 127+25 Rt.
Sta. 128+10 Rt.
Construct: Type 201614 GDI
(For Details see Sht. No. H8)

Estimated Quantities
Type 201614 GDI, 6.00 ft. to 6.99 ft. = 2 Ea.

Sta. 130+00 Rt.
Construct: Type 201614 GDI
(For Details see Sht. No. H8)

Estimated Quantities
Type 201614 GDI, 5.00 ft. to 5.99 ft. = 1 Ea.

5/18/01	Revised Construction Note for # Sta. 129+80± Lt., to show installation of Type 3 GDI.
1/26/01	Revised Construction Note for # Sta. 129+80± Lt., to show installation of Type ADA Steel Grates.

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE PLAN

FARRINGTON HWY. DRAINAGE IMPROVEMENTS
Auyong Homestead Road to Nanaikeola Street
Project No. 93A-08-98

Scale: 1"=20' Date: Jan. 2000

SHEET No. H3 OF 10 SHEETS

ORIGINAL PLAN	DATE	4/21/98
SURVEY PLOTTED BY		
DRAWN BY A. Nomura		
CHECKED BY		
NOTES		
MANAGED BY B. Sakamoto		
QUANTITIES BY		
CHECKED BY		

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	93A-08-98	2000	9	18

Sta. 131+40± Lt.
Construct: Type 3 GDI, with Type ADA Steel Grate
(For Details see Sht. No. H6A)

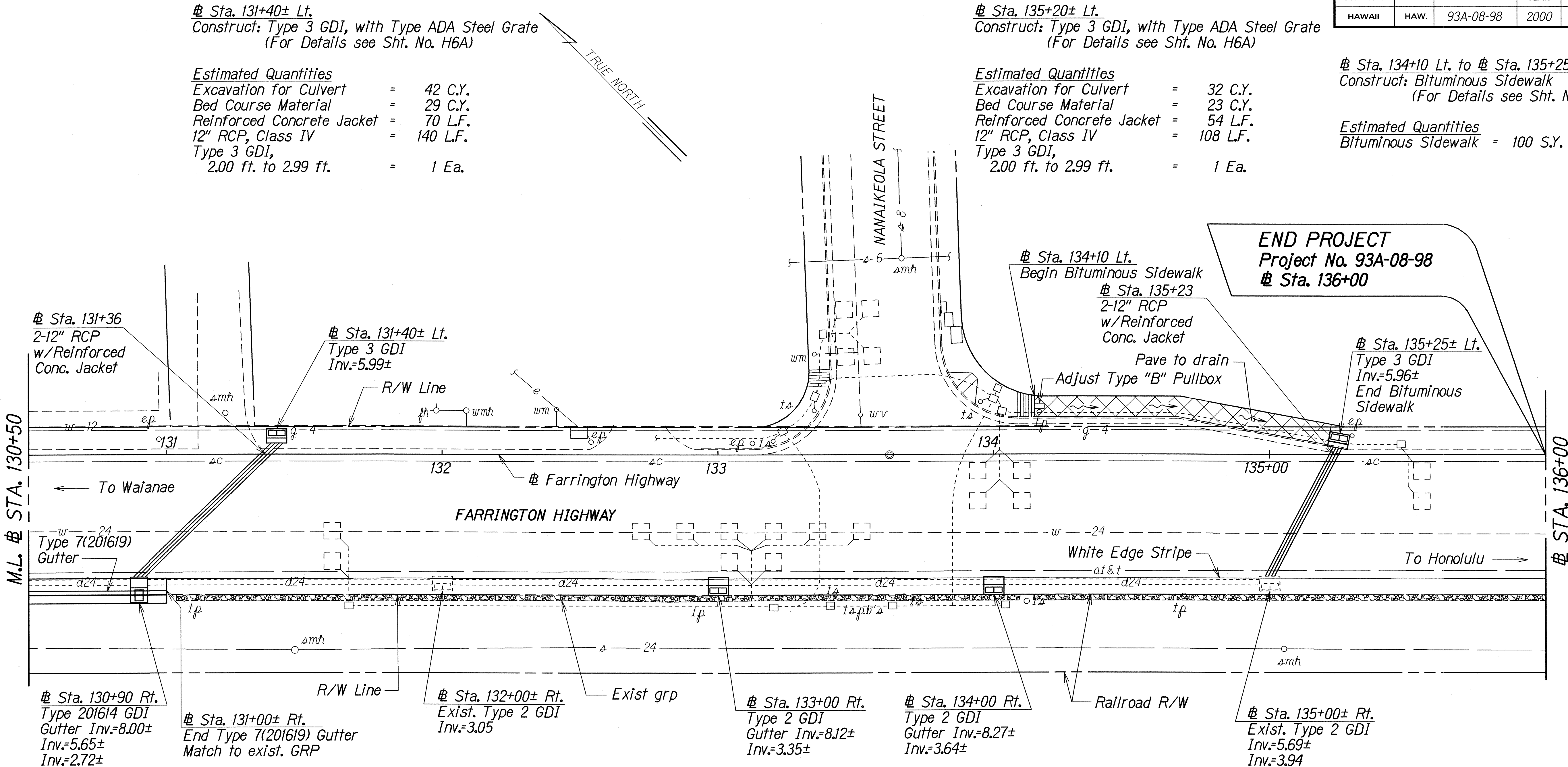
Estimated Quantities
Excavation for Culvert = 42 C.Y.
Bed Course Material = 29 C.Y.
Reinforced Concrete Jacket = 70 L.F.
12" RCP, Class IV = 140 L.F.
Type 3 GDI,
2.00 ft. to 2.99 ft. = 1 Ea.

Sta. 135+20± Lt.
Construct: Type 3 GDI, with Type ADA Steel Grate
(For Details see Sht. No. H6A)

Estimated Quantities
Excavation for Culvert = 32 C.Y.
Bed Course Material = 23 C.Y.
Reinforced Concrete Jacket = 54 L.F.
12" RCP, Class IV = 108 L.F.
Type 3 GDI,
2.00 ft. to 2.99 ft. = 1 Ea.

Sta. 134+10 Lt. to # Sta. 135+25 Lt.
Construct: Bituminous Sidewalk
(For Details see Sht. No. H5)

Estimated Quantities
Bituminous Sidewalk = 100 S.Y.



END PROJECT
Project No. 93A-08-98
Sta. 136+00

Sta. 130+50 Rt. to # Sta. 131+00± Rt.
Construct: Type 7(201619) Gutter
(For Detail see Sht. No. H10)

Estimated Quantities
Type 7(201619) Gutter = 50 L.F.

Sta. 132+00± Rt.
Sta. 135+00± Rt.
Remove: Existing Type A-9 Steel Grate
Clean, galvanize and return to
Department of Transportation,
Oahu District, 727 Kakoi St.
This work shall be considered
incidental to Type A-10P Steel Grate

Install: Type A-10P Steel Grate
(For Details see Sht. No. H7)

Estimated Quantities
Type A-10P Steel Grate = 4 Ea.

Sta. 130+90 Rt.
Construct: Type 201614 GDI
(For Details see Sht. No. H8)

Estimated Quantities
Type 201614 GDI,
5.00 ft. to 5.99 ft. = 1 Ea.

Sta. 133+00 Rt.
Construct: Type 2 GDI
(For Details see Sht. No. H6)

Estimated Quantities
Type 2 GDI,
5.00 ft. to 5.99 ft. = 1 Ea.

Sta. 134+00 Rt.
Construct: Type 2 GDI
(For Details see Sht. No. H6)

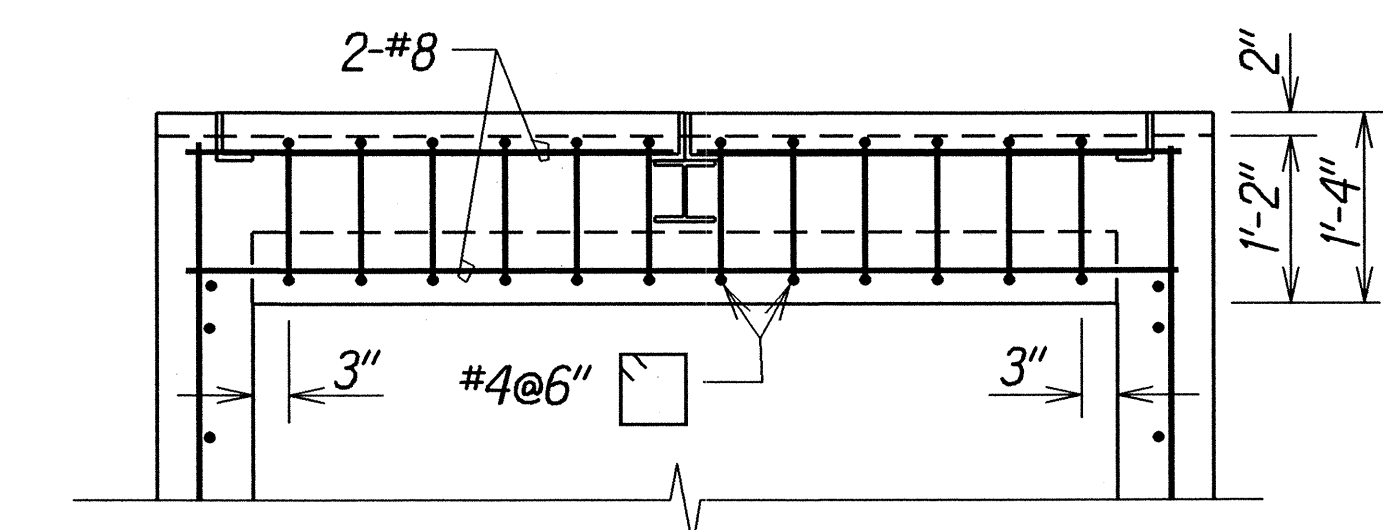
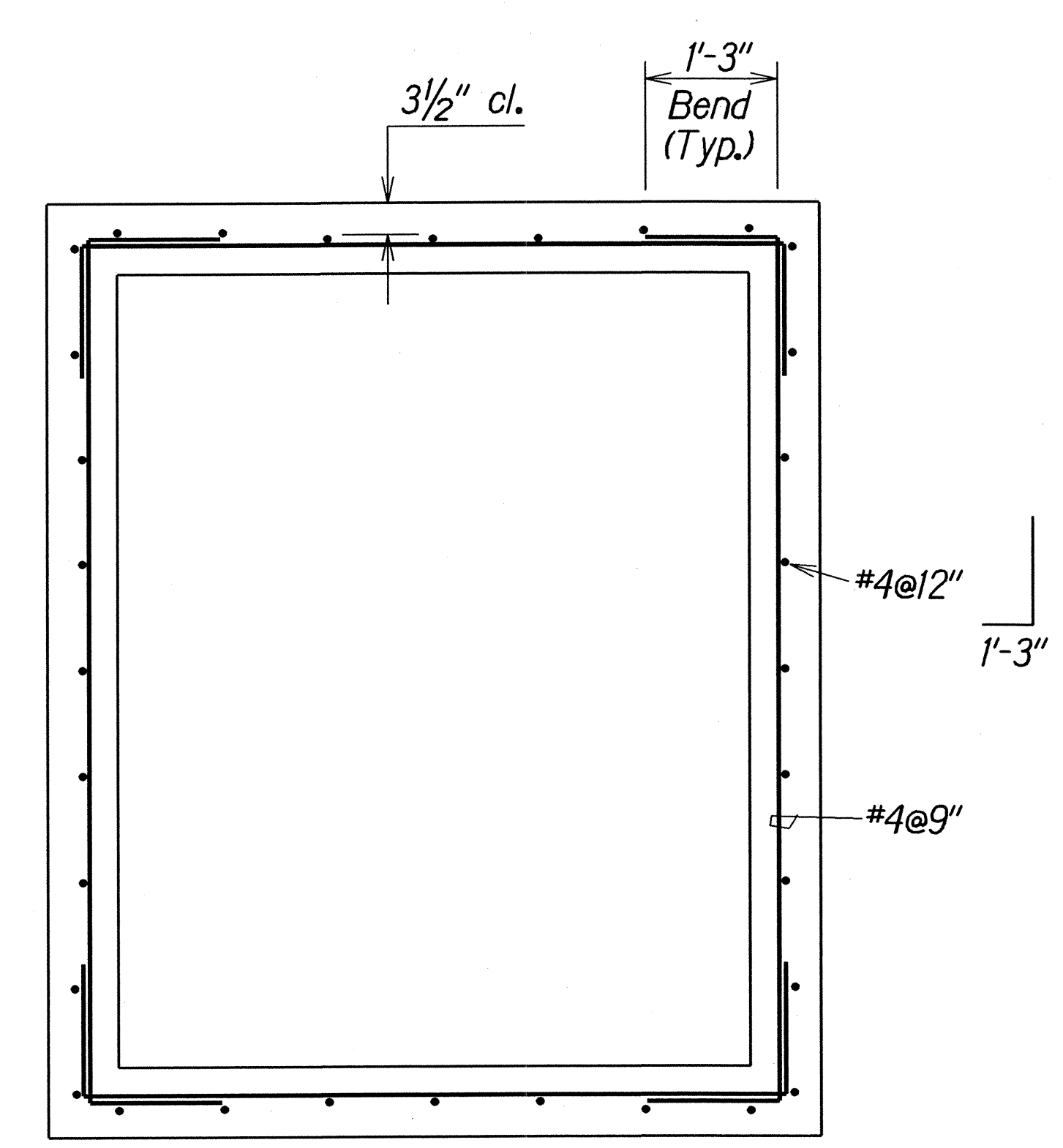
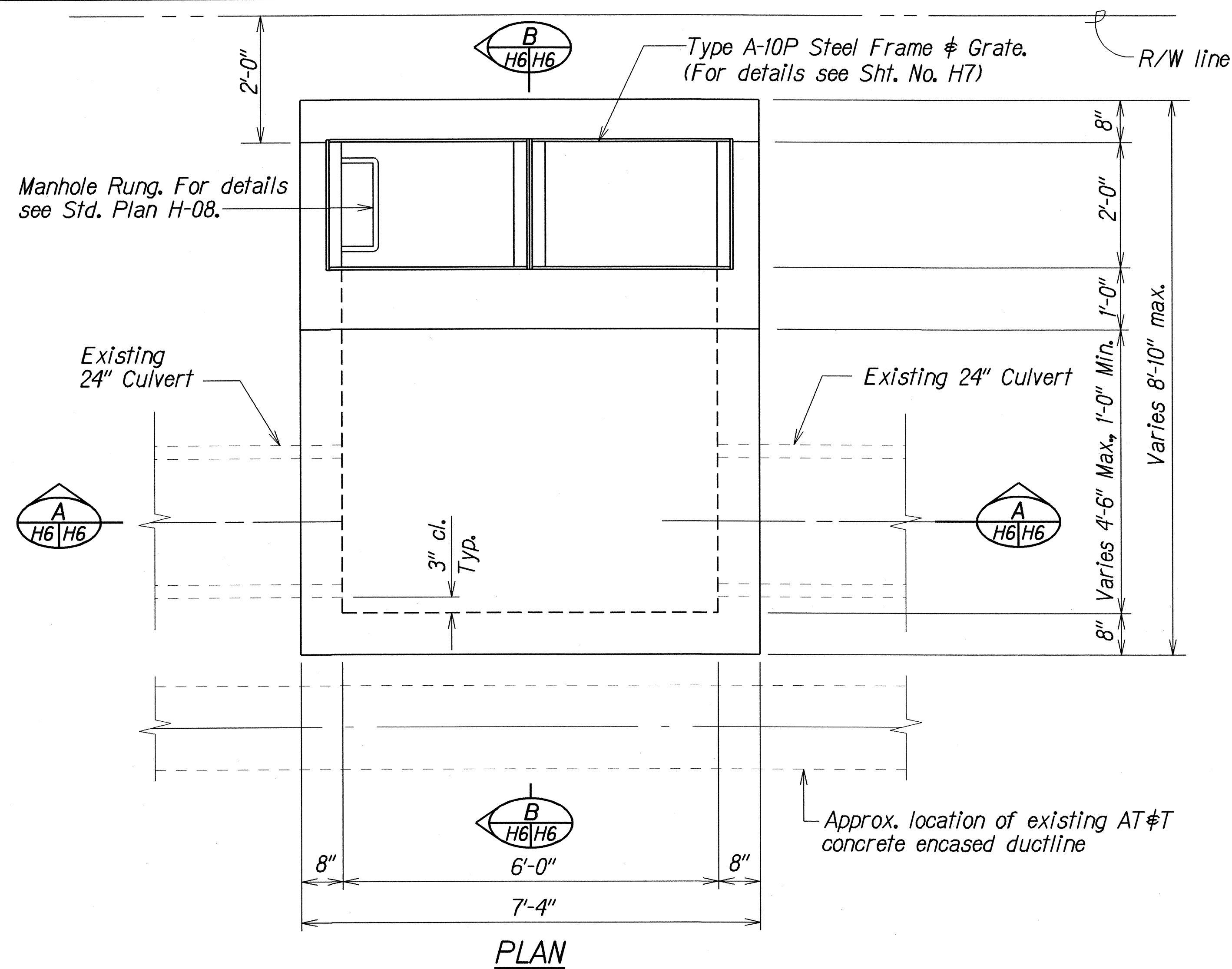
Estimated Quantities
Type 2 GDI,
4.00 ft. to 4.99 ft. = 1 Ea.

5/18/01	Revised Construction Notes for # Sta. 131+40± Lt. # 135+20± Lt. to show installation of Type 3 GDI.
1/26/01	Revised Construction Notes for # Sta. 131+40± Lt. # 135+20± Lt. to show installation of Type ADA Steel Grates.

DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION DRAINAGE PLAN FARRINGTON HWY. DRAINAGE IMPROVEMENTS Auyong Homestead Road to Nanaikeola Street Project No. 93A-08-98 Scale: 1"=20' Date: Jan. 2000 SHEET No. H4 OF 10 SHEETS	

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
TRACED BY	4/21/99	
NOTE BOOK		
QUANTITIES BY		
CHECKED BY		

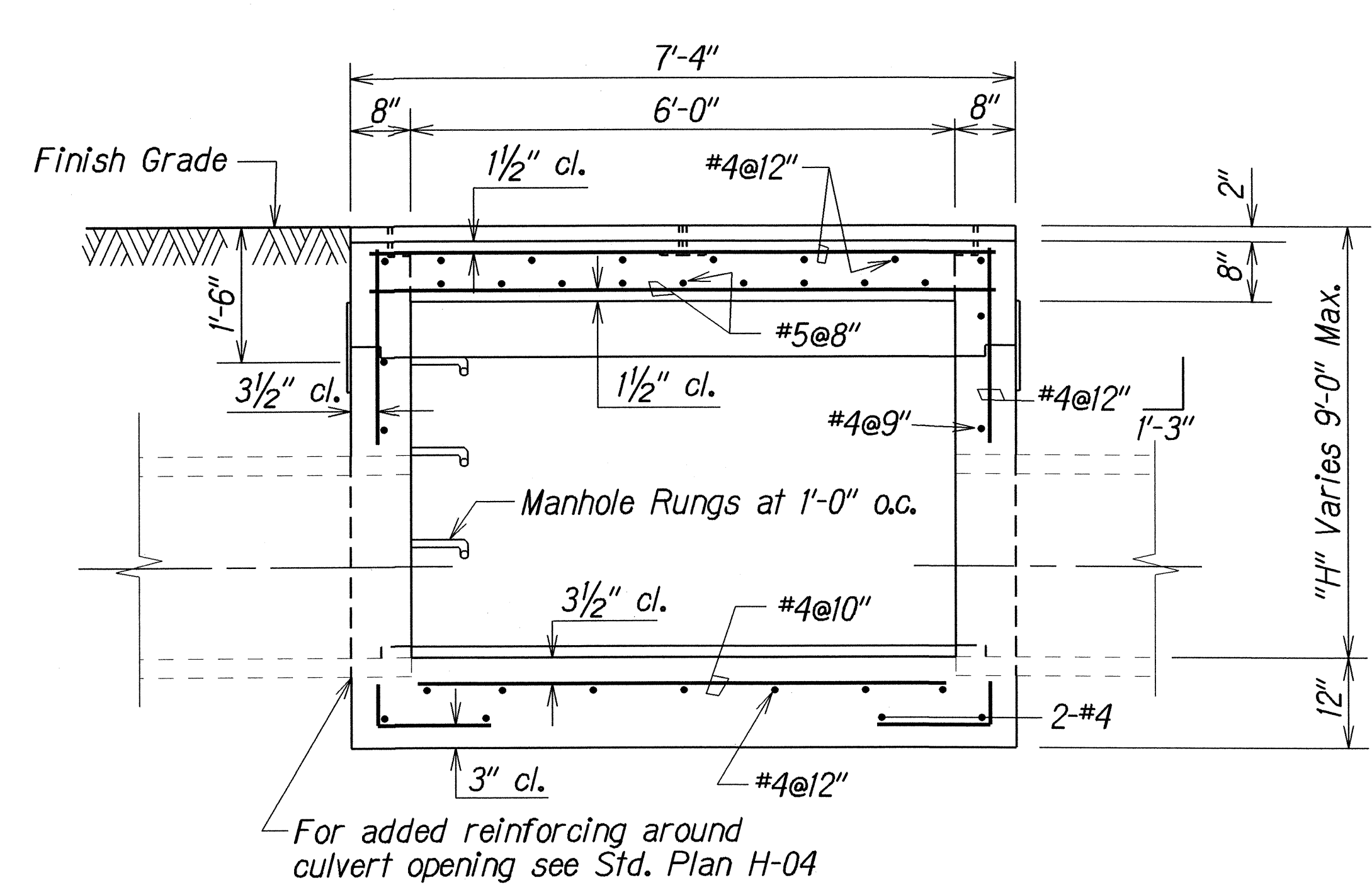
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	93A-08-98	2000	11	18



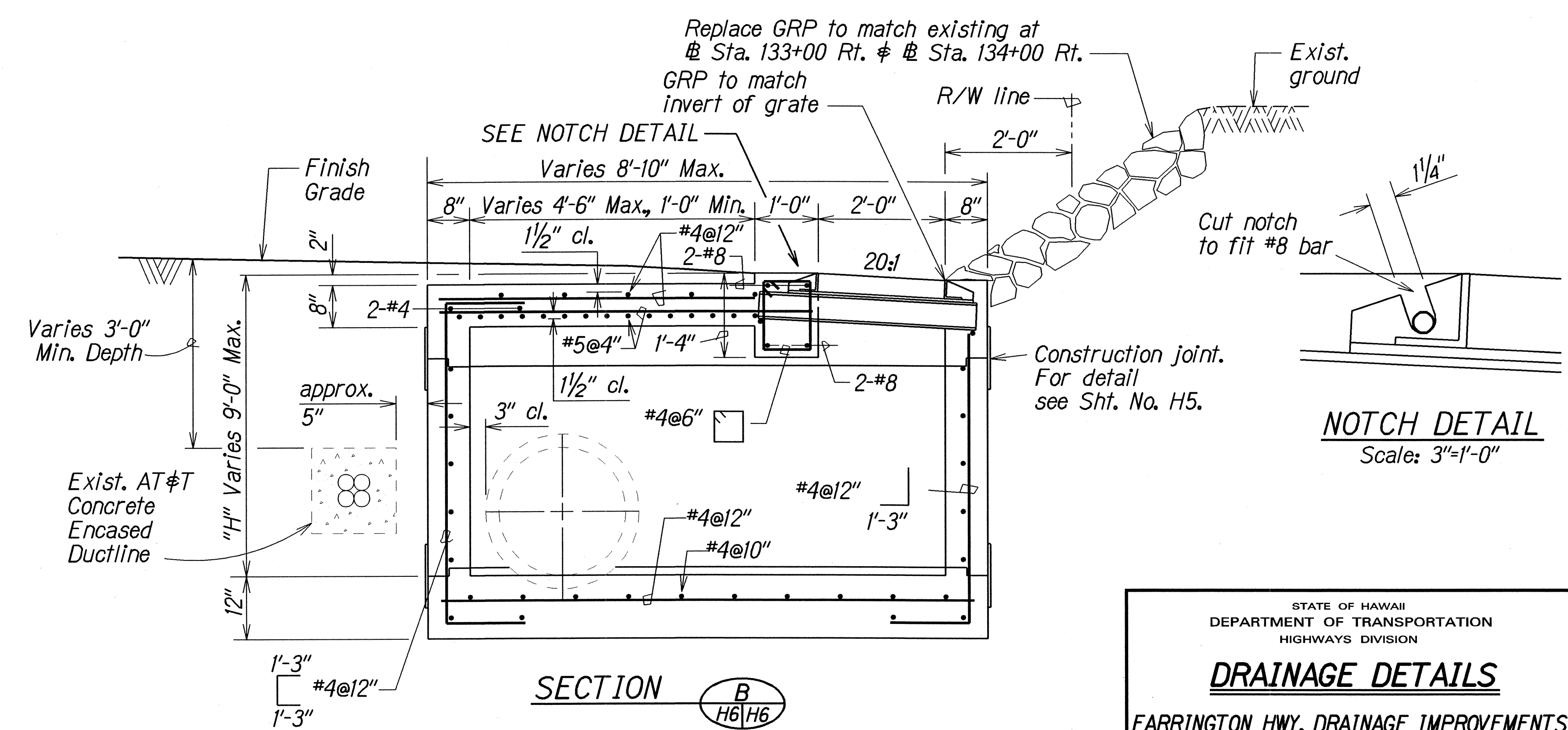
SECTION OF TOP SLAB BEAM

NOTES

- Concrete shall be Class A.
- Reinforcing steel shall be Grade 60 conforming with ASTM A615.
- Drainage Structure to be constructed over existing 24" culvert



SECTION A-A



SECTION B-B

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

TYPE 2 GRATED DROP INLET

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

DRAINAGE DETAILS

FARRINGTON HWY. DRAINAGE IMPROVEMENTS

Auyong Homestead Road to Nanaikeola Street

Project No. 93A-08-98

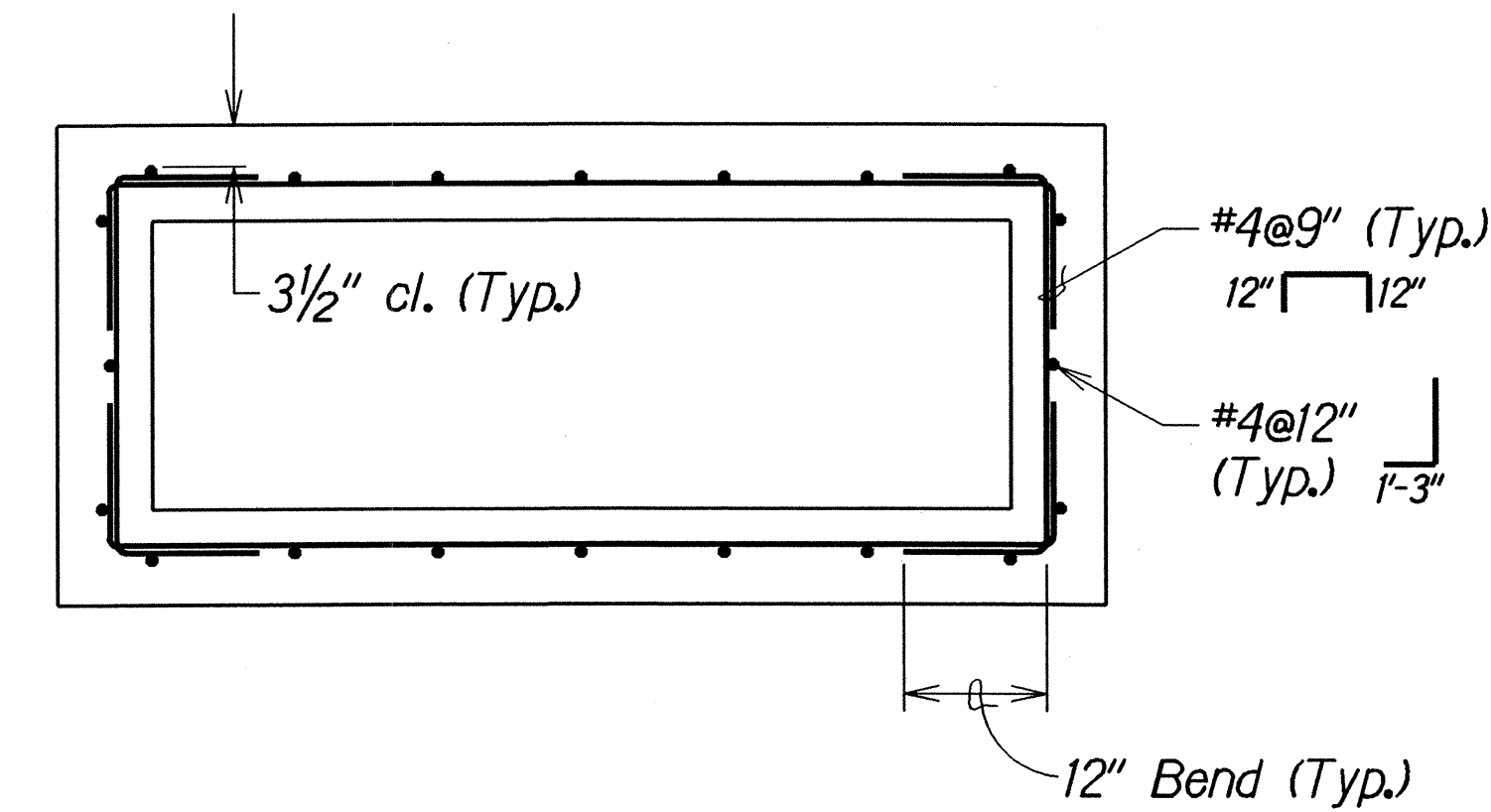
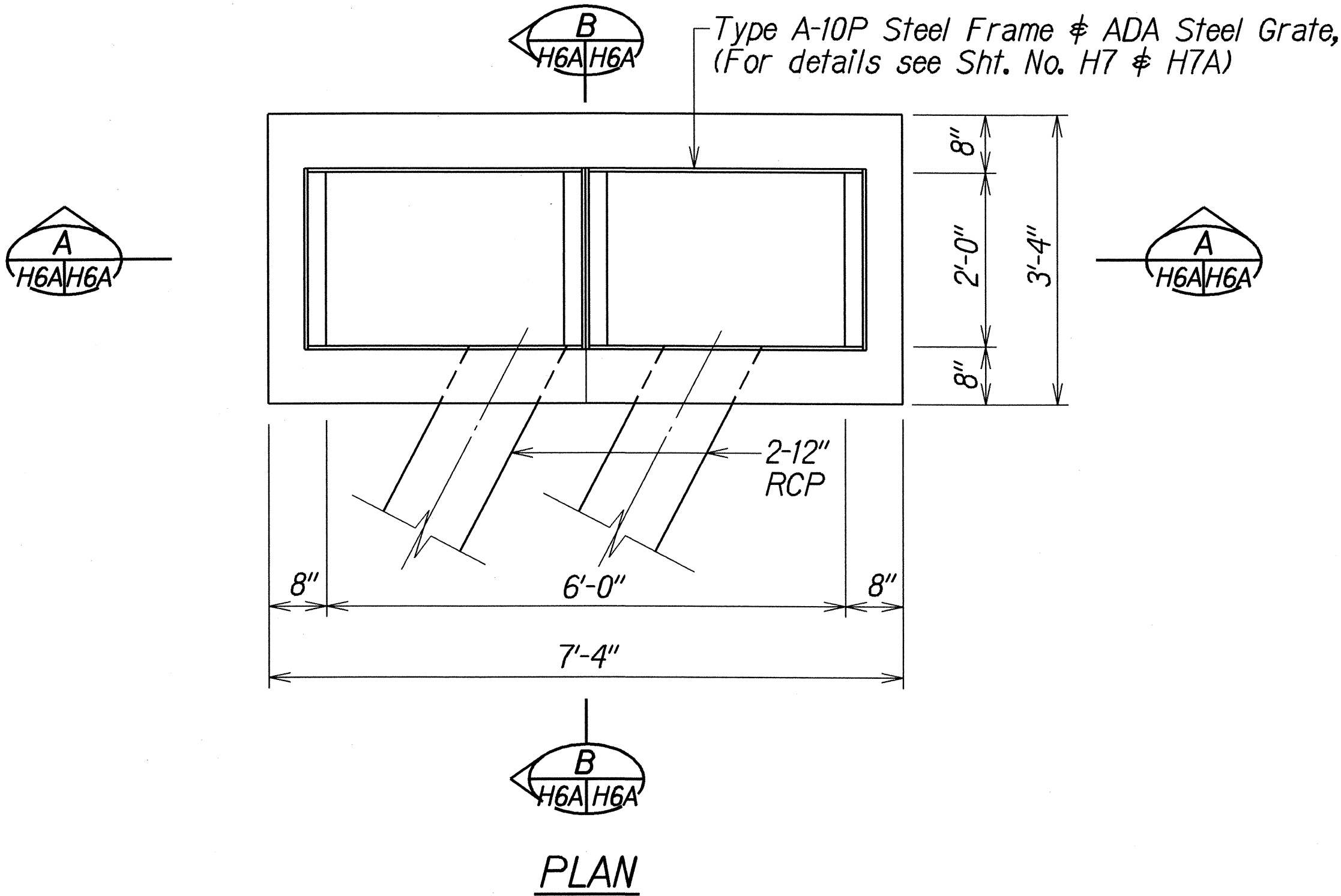
Scale: 3/4"=1'-0"

Date: Jan. 2000

ORIGINAL PLAN	DATE: 4/14/98
SURVEY PLOTTED BY: L. Coletti, A. Manu	
DRAWN BY: L. Coletti, A. Manu	
NOTE BOOK: 013-0447	
QUANTITIES BY: S. J. J. J. J.	
CHECKED BY: S. J. J. J. J.	

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	93A-08-98	2000	11	18

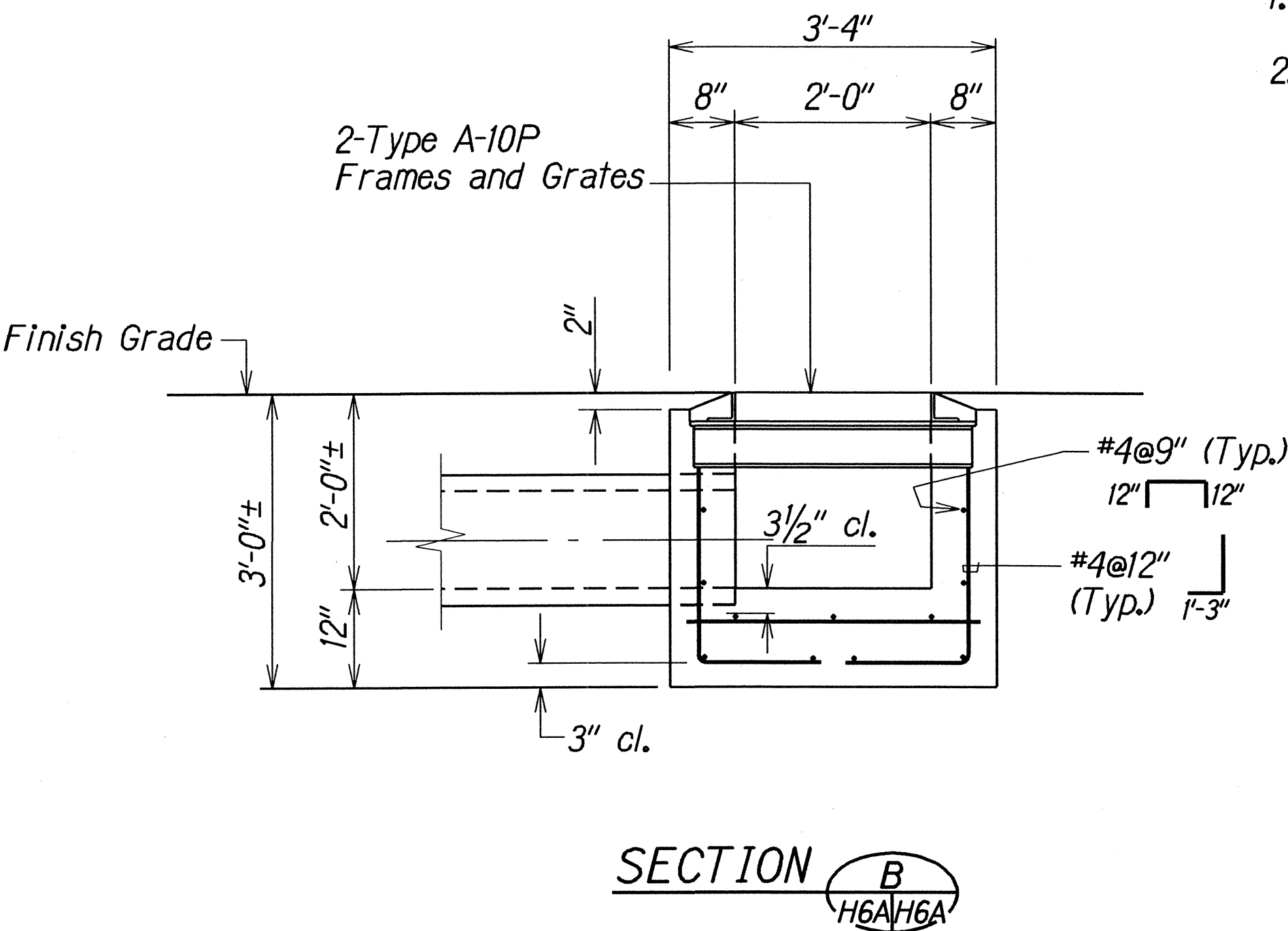
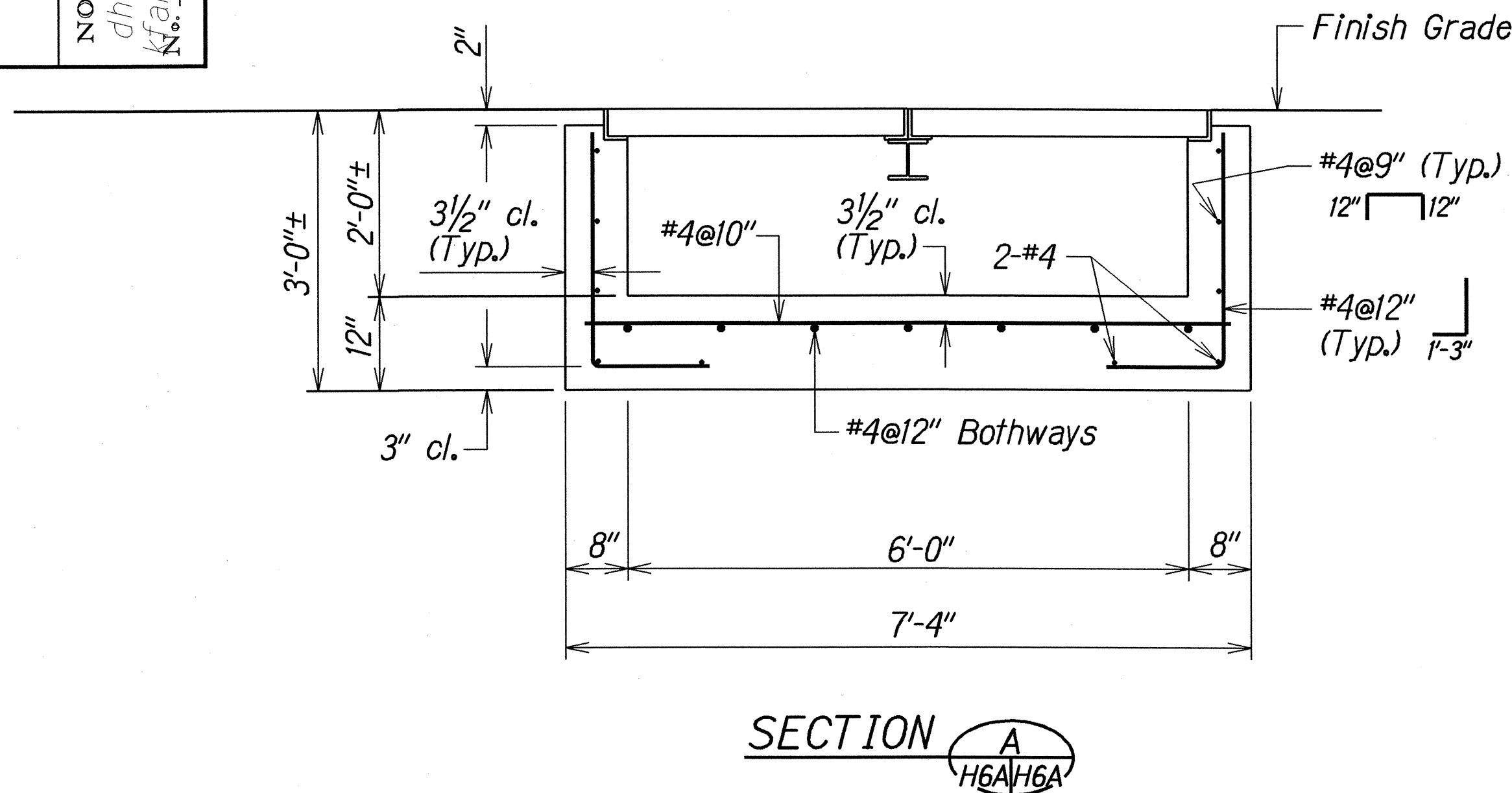
ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY <i>L. Cockett, A. Nomura</i>	"
	TRACED BY	"
	DESIGNED BY <i>R. Sakamoto</i>	"
	QUANTITIES BY	"
NOTE BOOK <i>dh3.roy.kfar</i> <i>kfarhdt03.dgn</i>	CHECKED BY	"
		"
		"
		"
		"



PLAN VIEW OF WALL REINFORCING

NOTES

- Concrete shall be Class A.
- Reinforcing steel shall be Grade 60 conforming with ASTM A615.

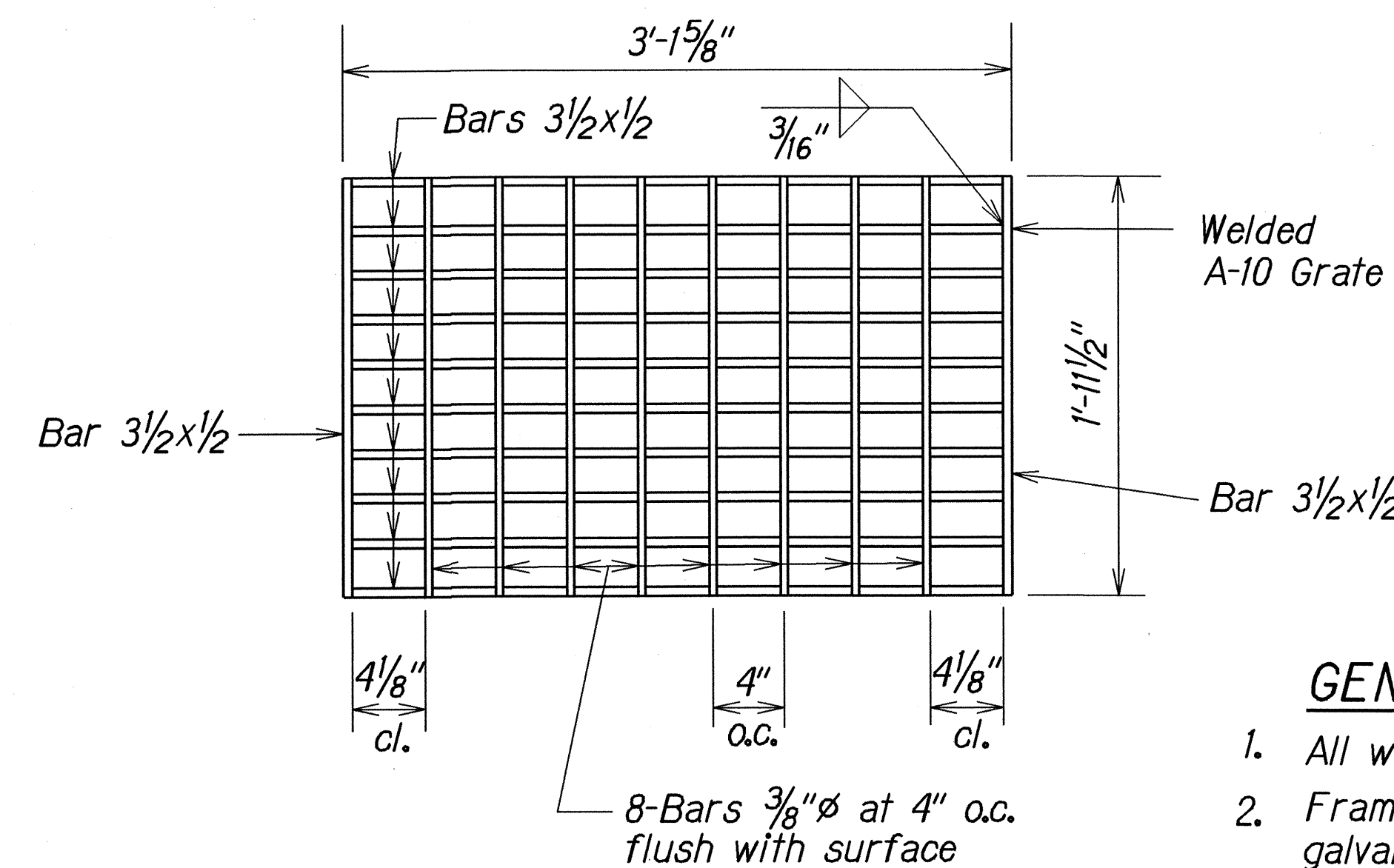


TYPE 3 GRATED DROP INLET

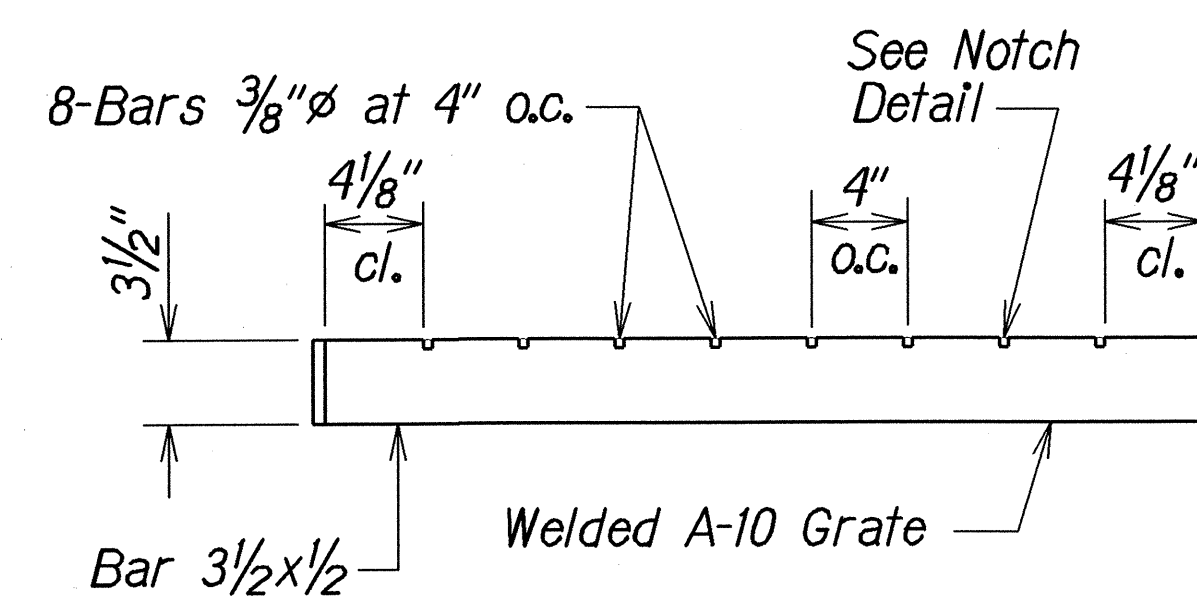
5/18/01	Add detail of Type 3 GDI.
DATE	REVISION

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
DRAINAGE DETAILS
FARRINGTON HWY. DRAINAGE IMPROVEMENTS Auyong Homestead Road to Nanaikeola Street Project No. 93A-08-98
Scale: 3/4"=1'-0" Date: May 2001
SHEET No. H6A OF 10 SHEETS

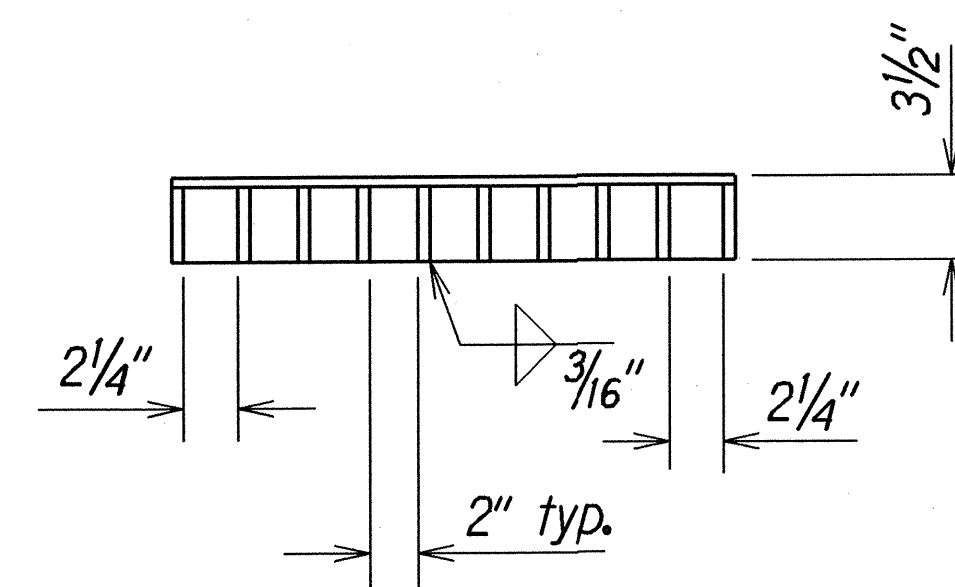
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	93A-08-98	2000	12	18



PLAN

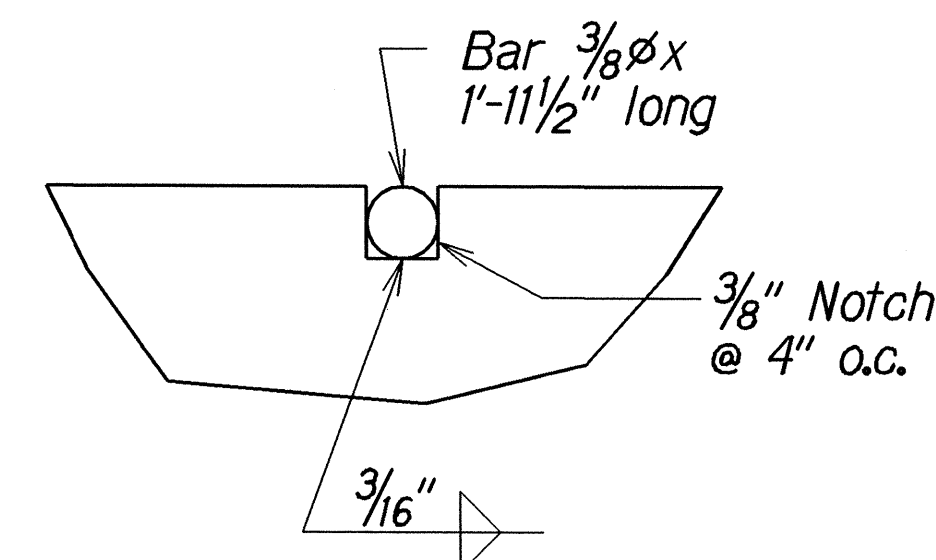


LONGITUDINAL SECTION



CROSS SECTION

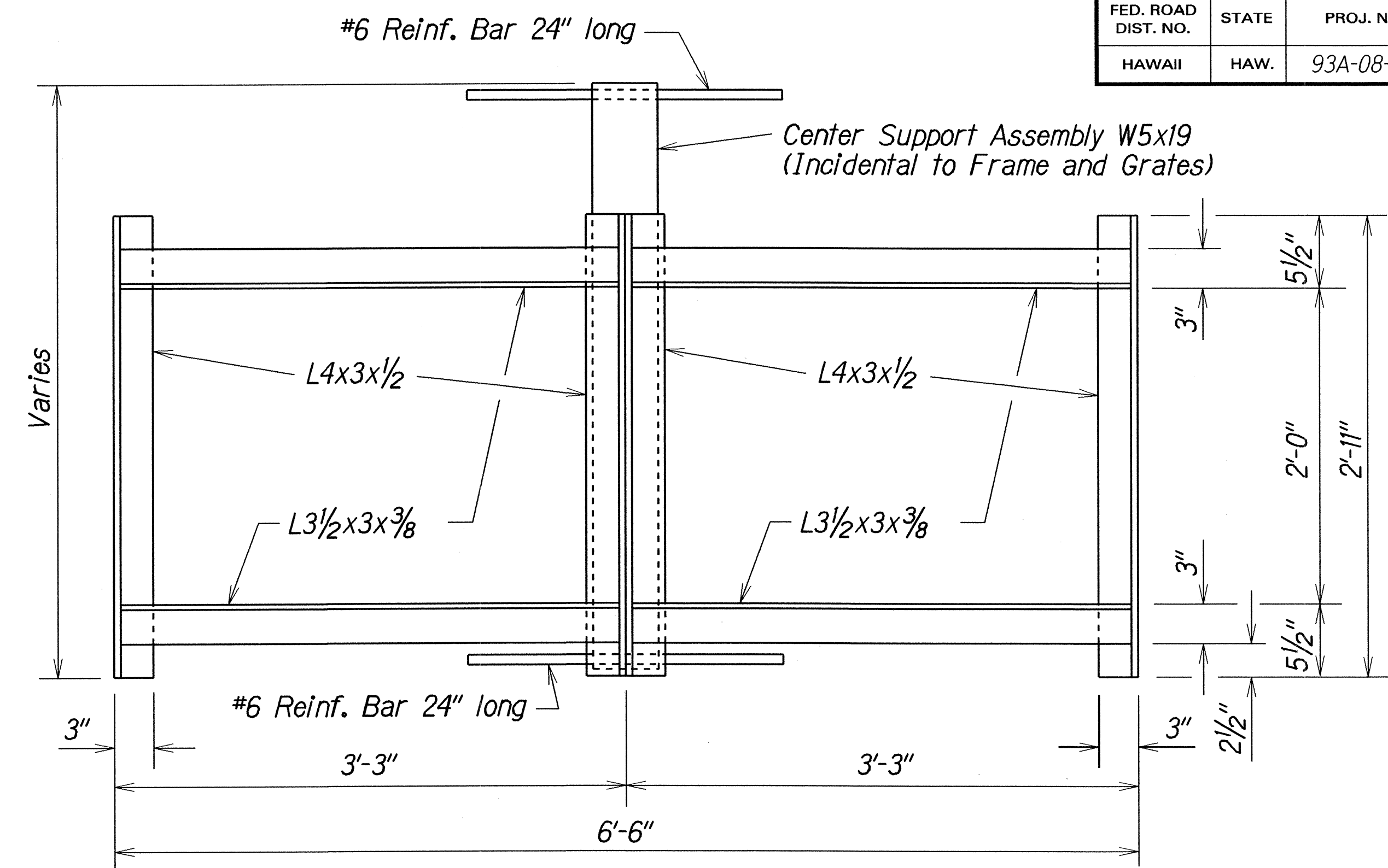
STEEL GRATE



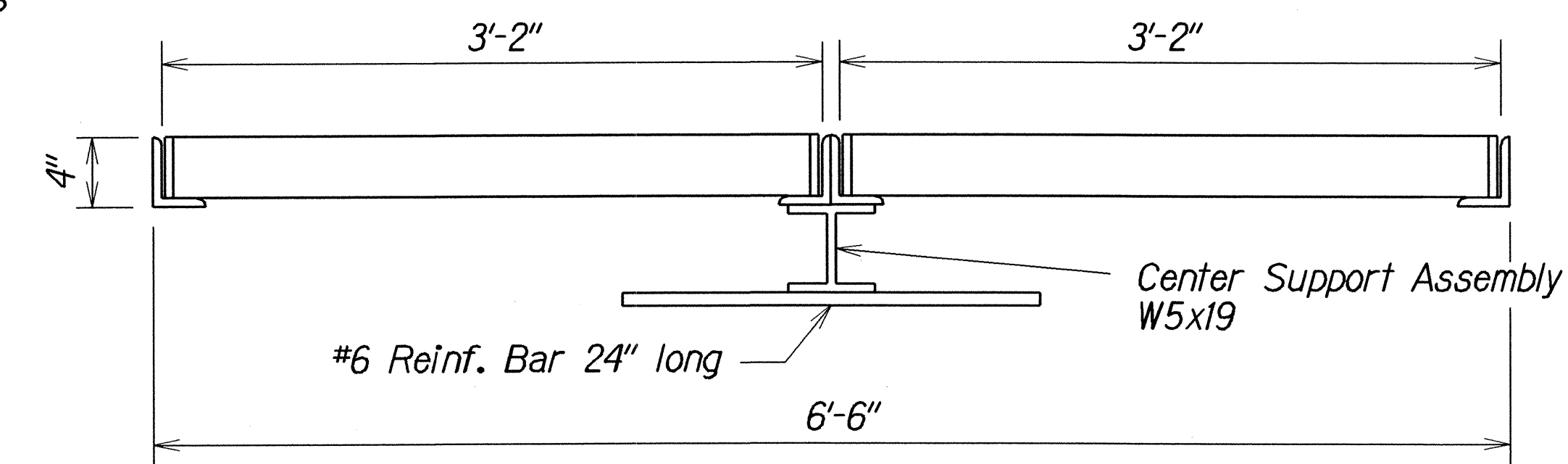
NOTCH DETAIL
Full Scale

GENERAL NOTES

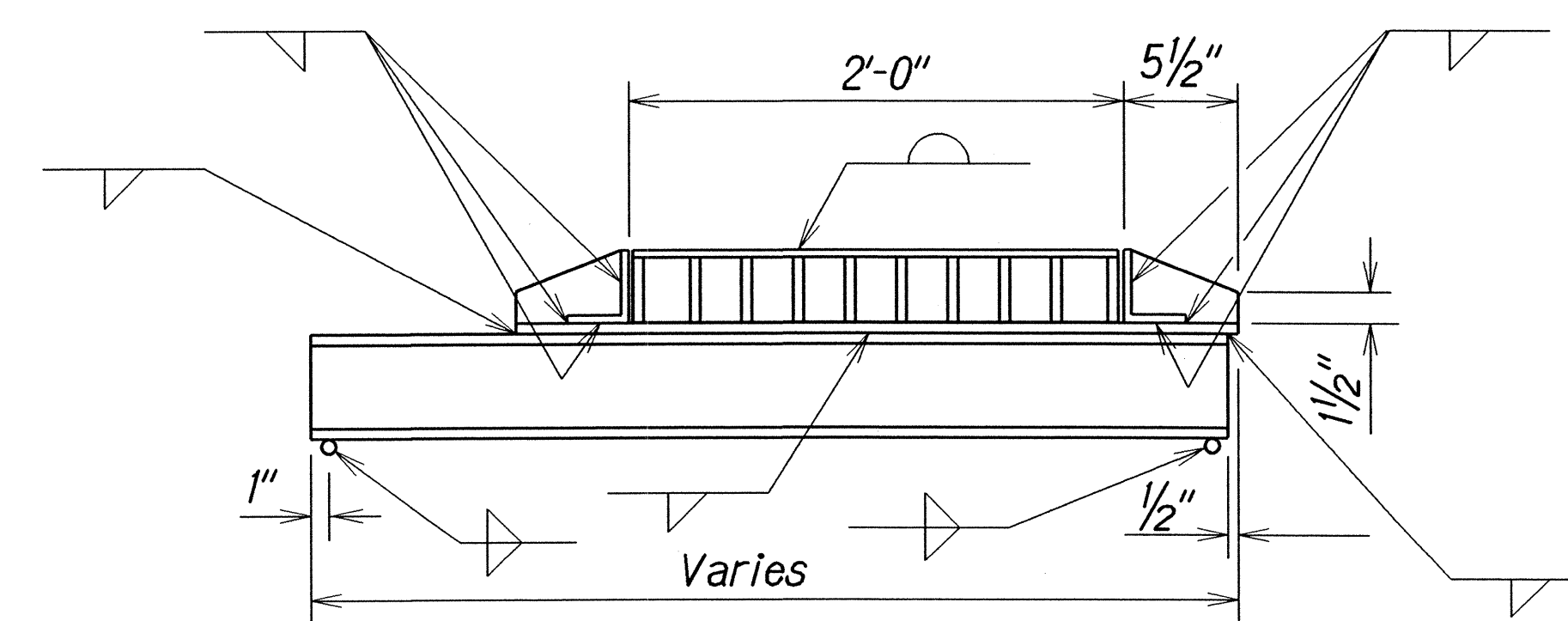
1. All welds $\frac{3}{8}$ " unless otherwise noted.
2. Frame and grates shall be hot dip galvanized after fabrication.
3. Grate shall be parallel to the direction of flow.
4. Reinforcing bar shall be Structural Grade, ASTM A615 Grade 60.
5. Steel bars and other structural members shall conform to ASTM A36.



PLAN



LONGITUDINAL SECTION
(Thru Frame & Grate)



CROSS SECTION
(Thru Frame & Grate)

STEEL FRAME

TYPE A-10P STEEL FRAME AND GRATES

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

1/26/01	Revised General Notes no. 4 & 5.
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE DETAILS

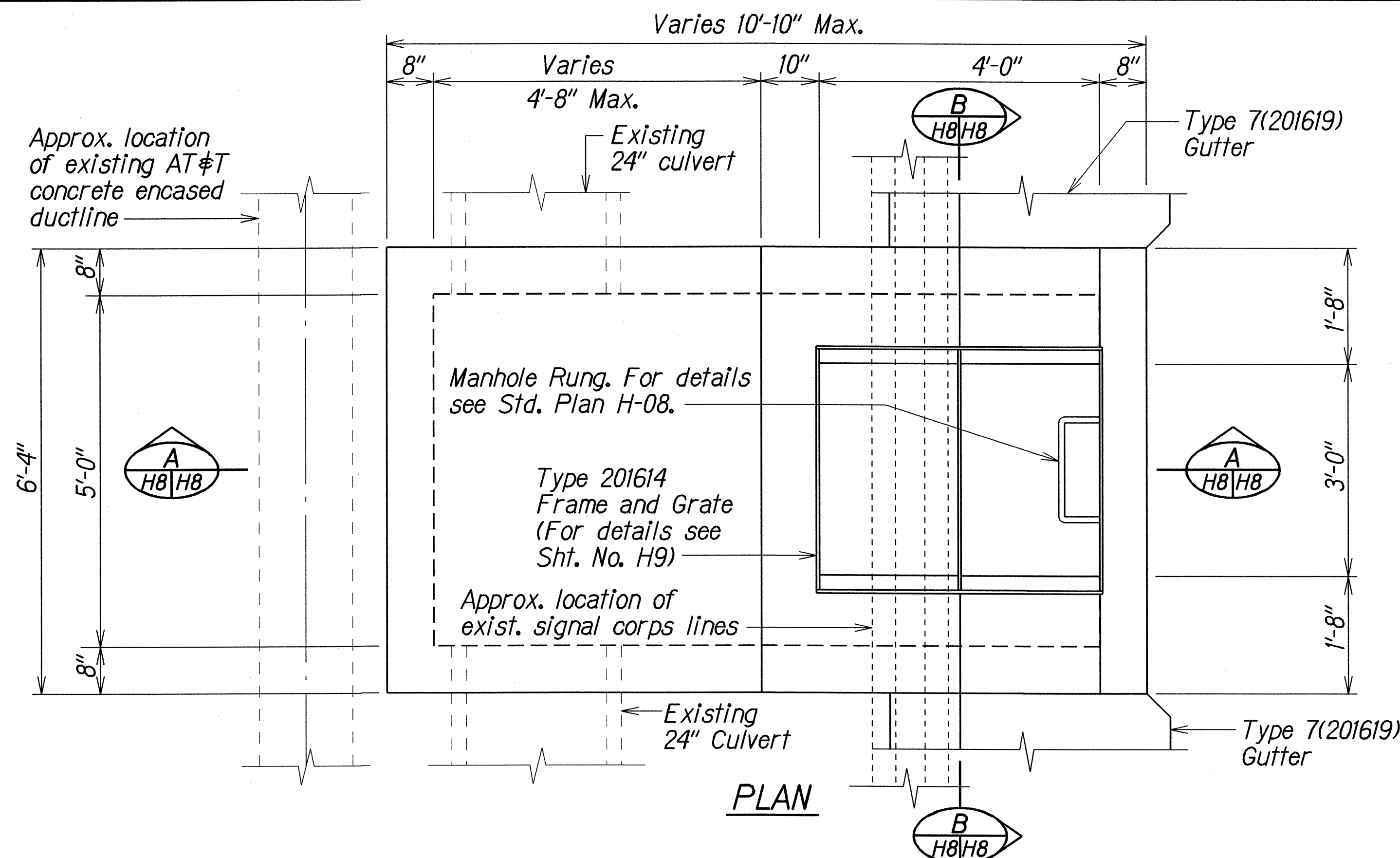
FARRINGTON HWY. DRAINAGE IMPROVEMENTS
Auyong Homestead Road to Nanaikaola Street
Project No. 93A-08-98

Scale: As Shown

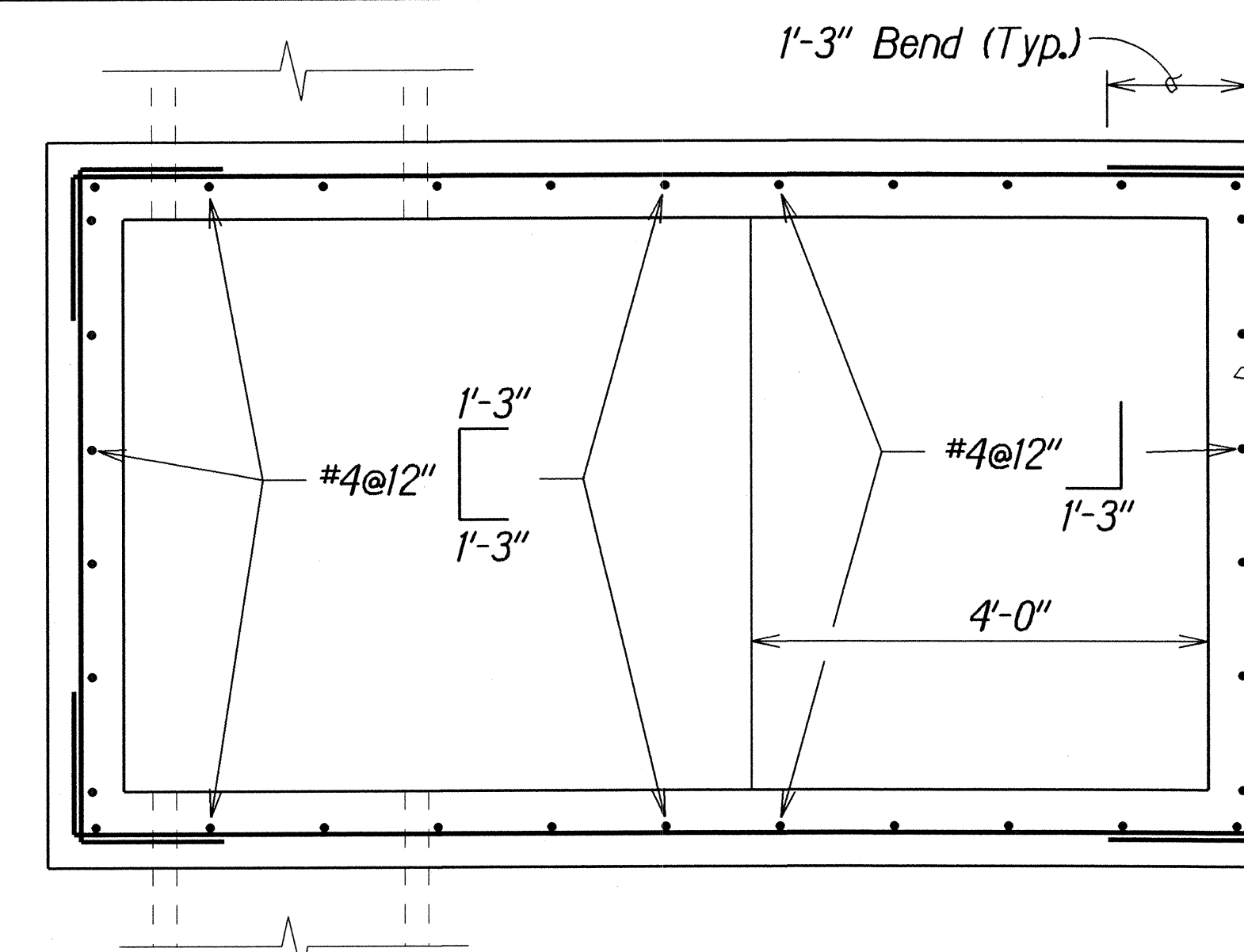
Date: Jan. 2000

SHEET No. H7 OF 10 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	93A-08-98	2000	13	18

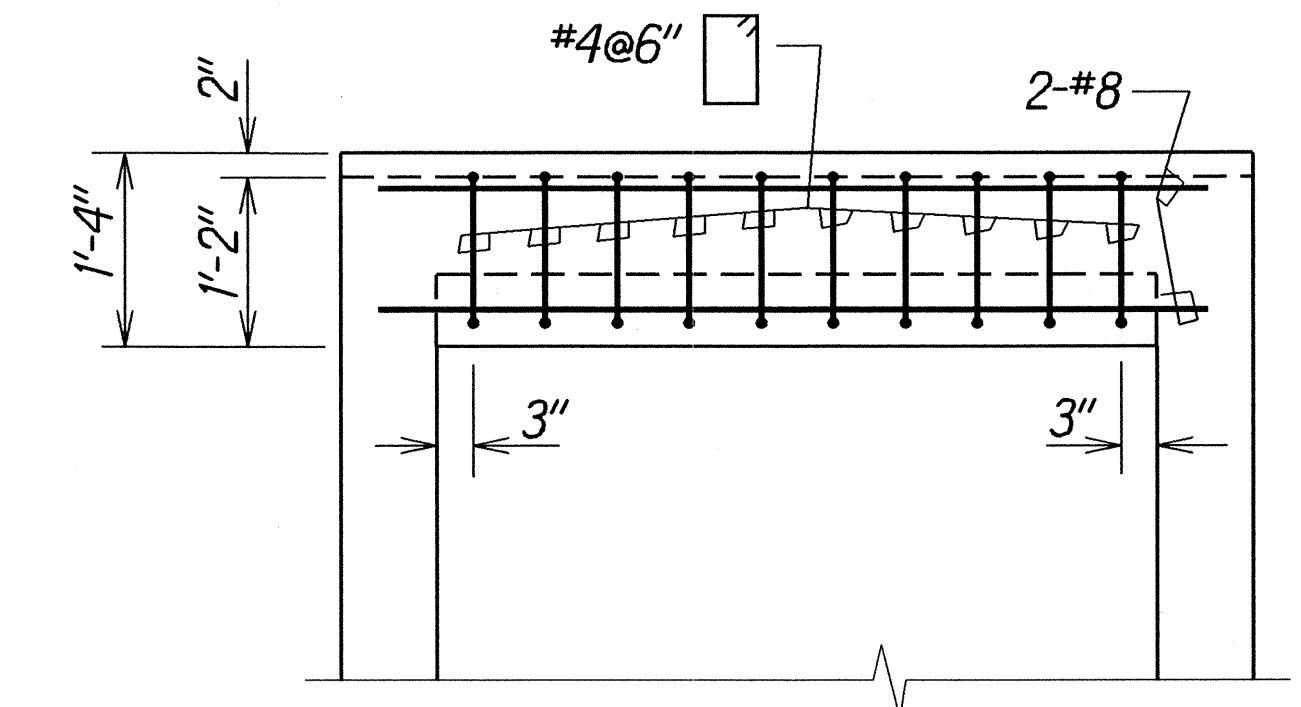


PLAN

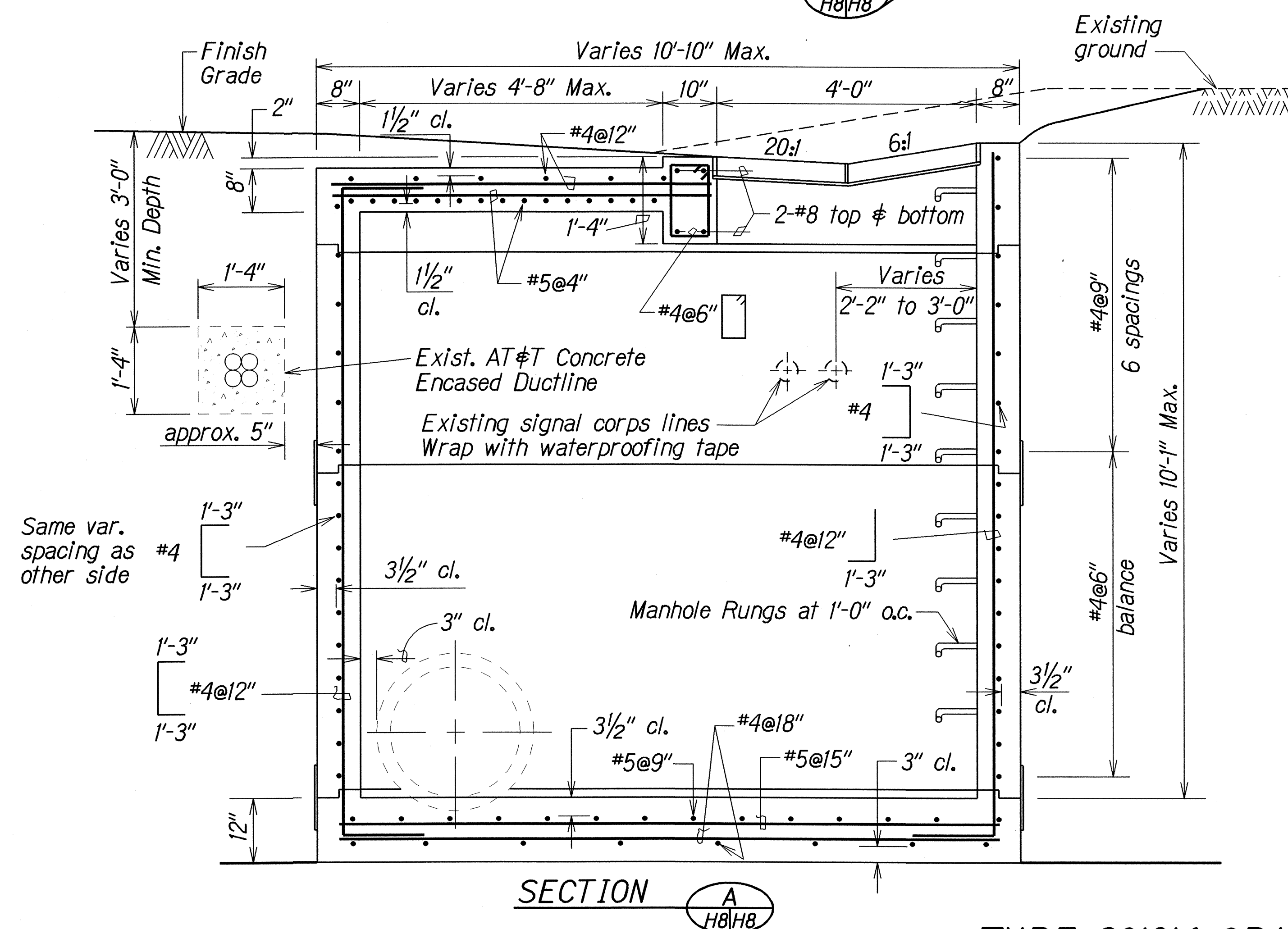


PLAN VIEW OF WALL REINFORCING

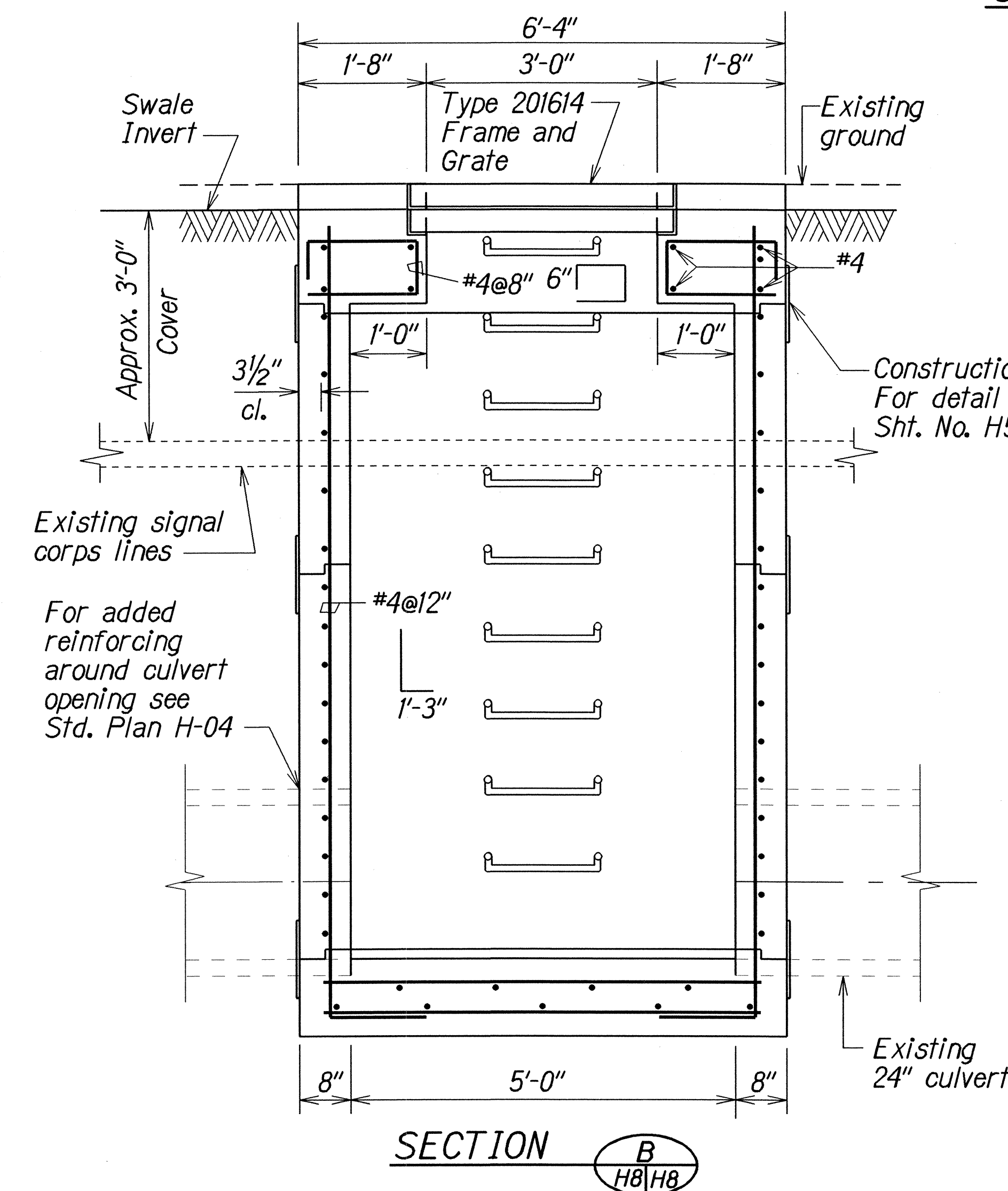
#4 Horizontal bars
See SECTION A



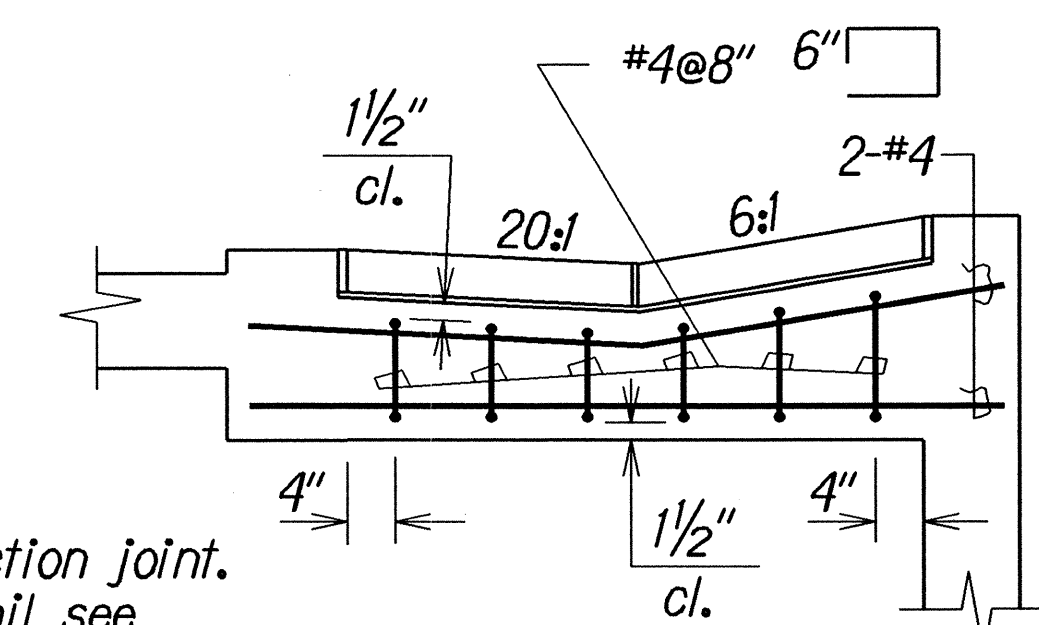
SECTION OF TOP SLAB BEAM



SECTION A



SECTION B



SECTION OF WALL BEAM

NOTES

- Concrete shall be Class A.
- Reinforcing steel shall be Grade 60 conforming with ASTM A615.
- Drainage Structure to be constructed over existing 24" culvert
- GDI shall be constructed around existing signal corps lines at Sta. 118+93 Rt. Sta. 119+80 Rt. and Sta. 120+65 Rt.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE DETAILS

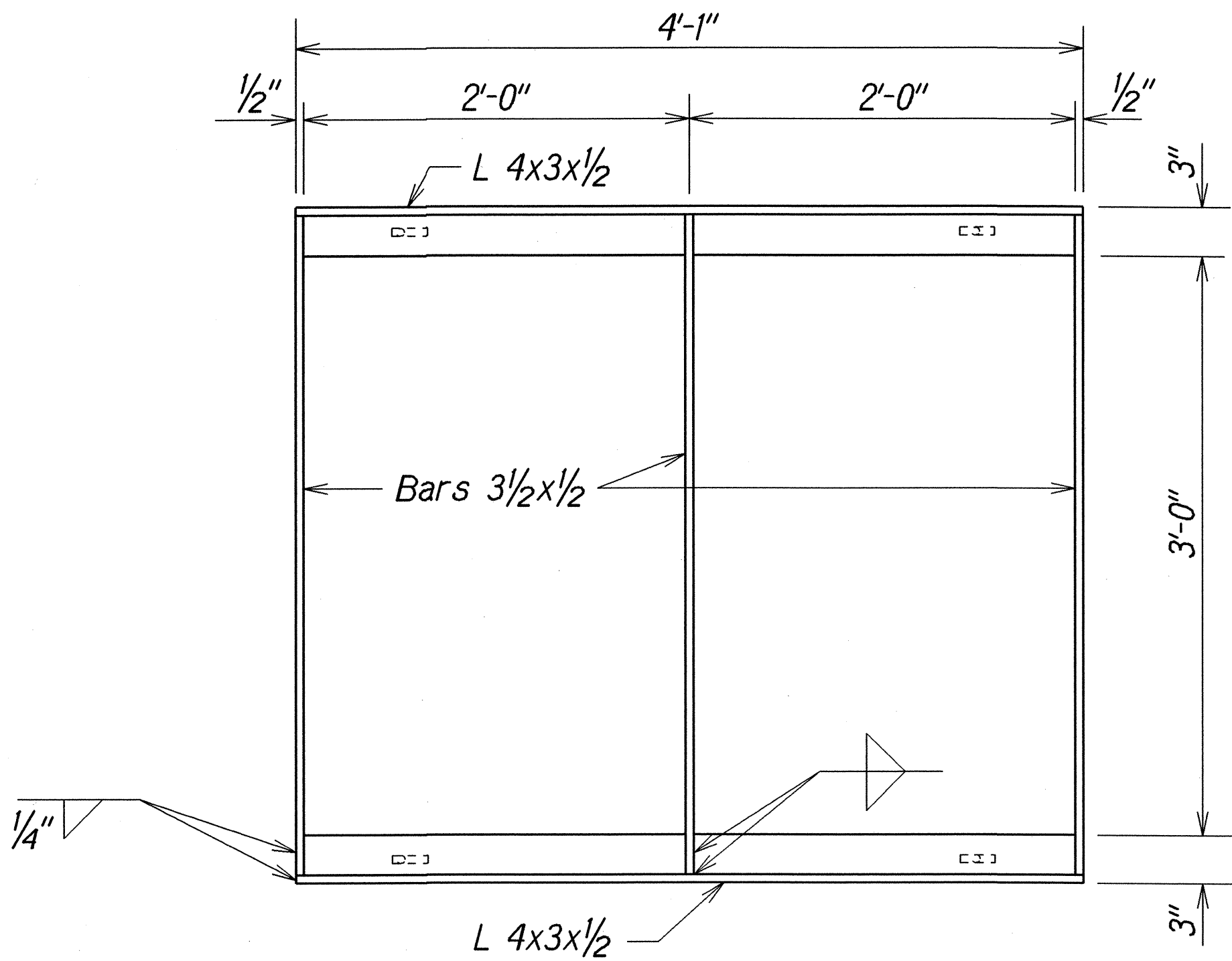
FARRINGTON HWY. DRAINAGE IMPROVEMENTS
Auyong Homestead Road to Nanaieola Street
Project No. 93A-08-98

Scale: 3/4"=1'-0" Date: Jan. 2000

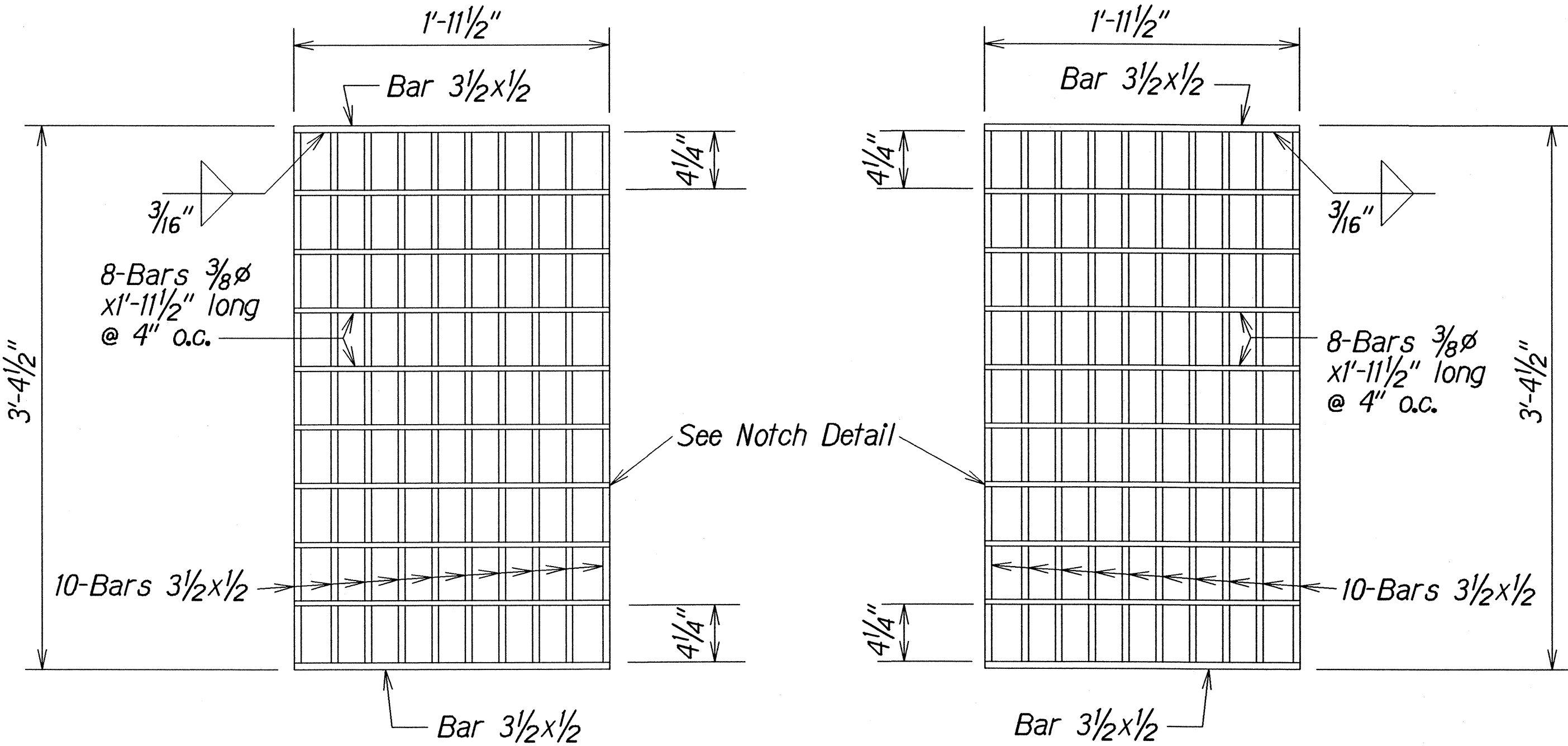
SHEET No. H8 OF 10 SHEETS

TYPE 201614 GRATED DROP INLET

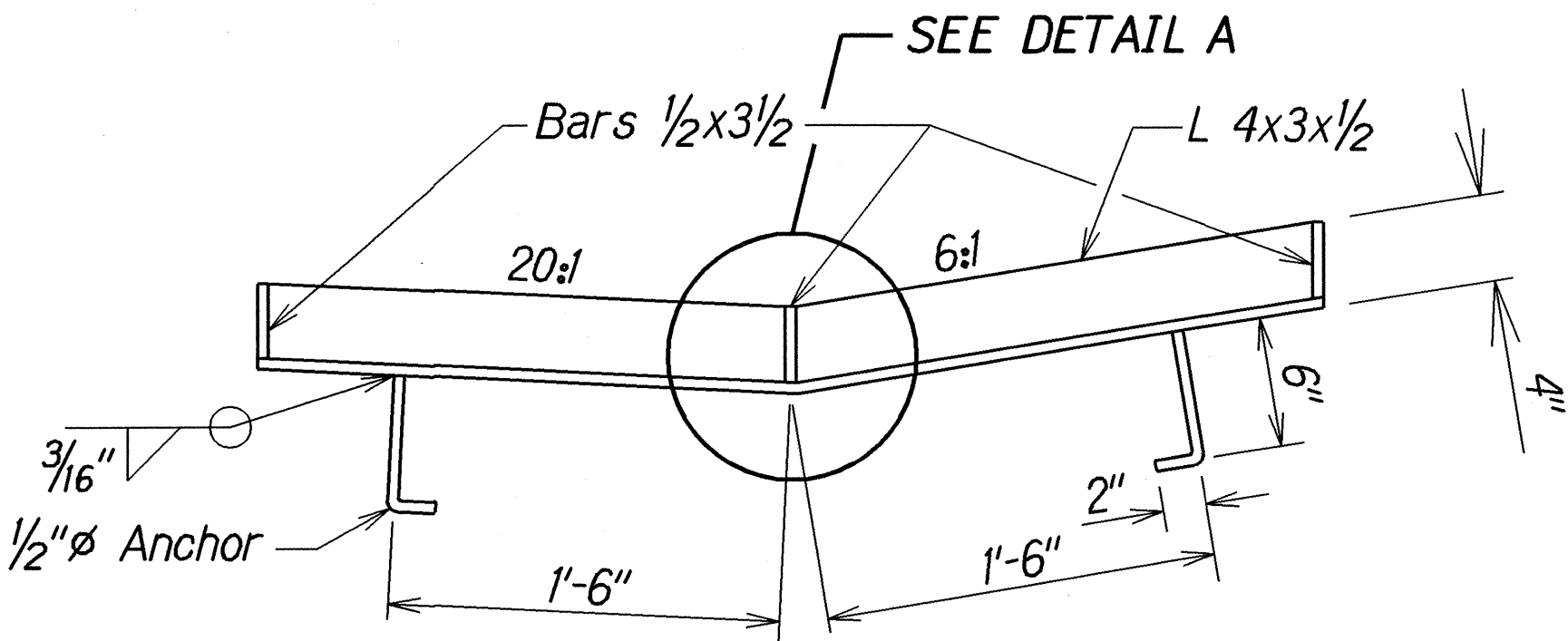
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	93A-08-98	2000	14	18



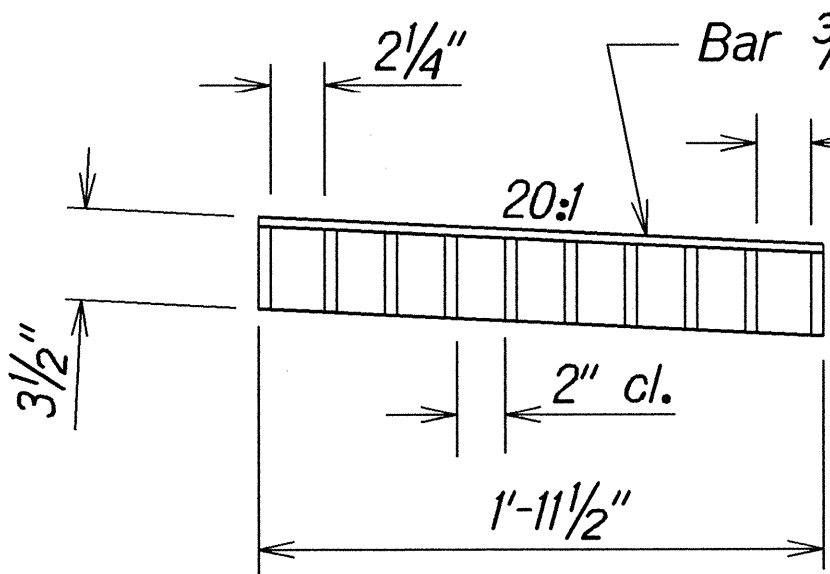
PLAN



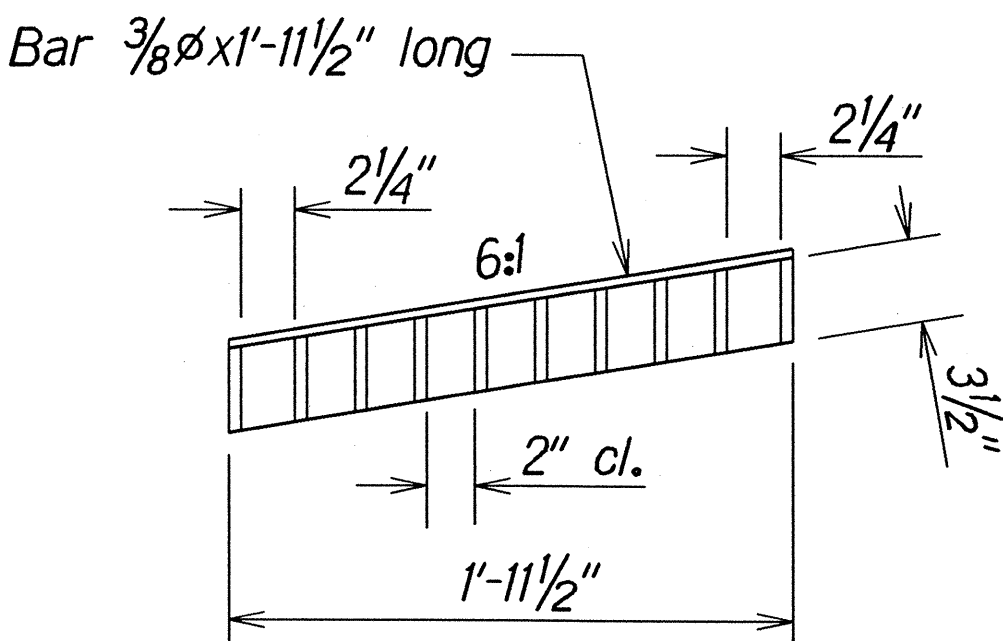
PLAN



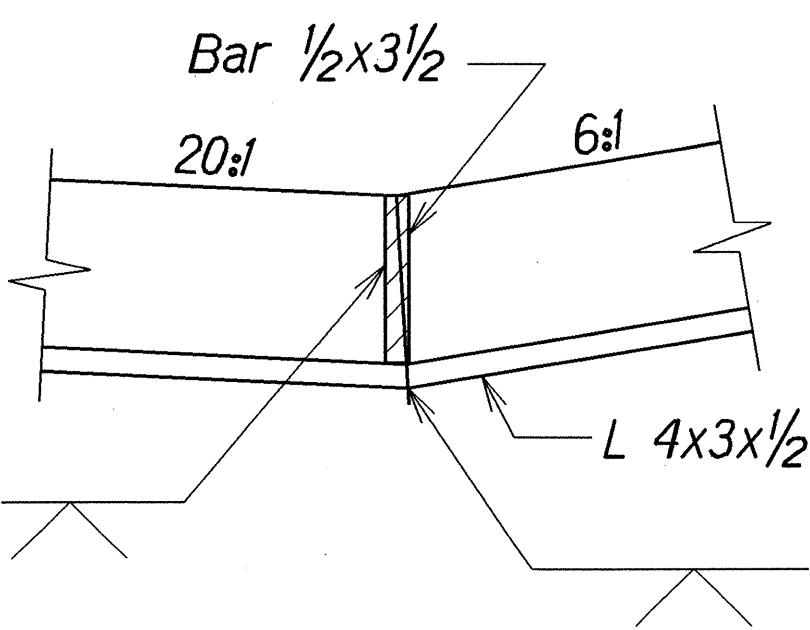
SECTION



SECTION



GRATES

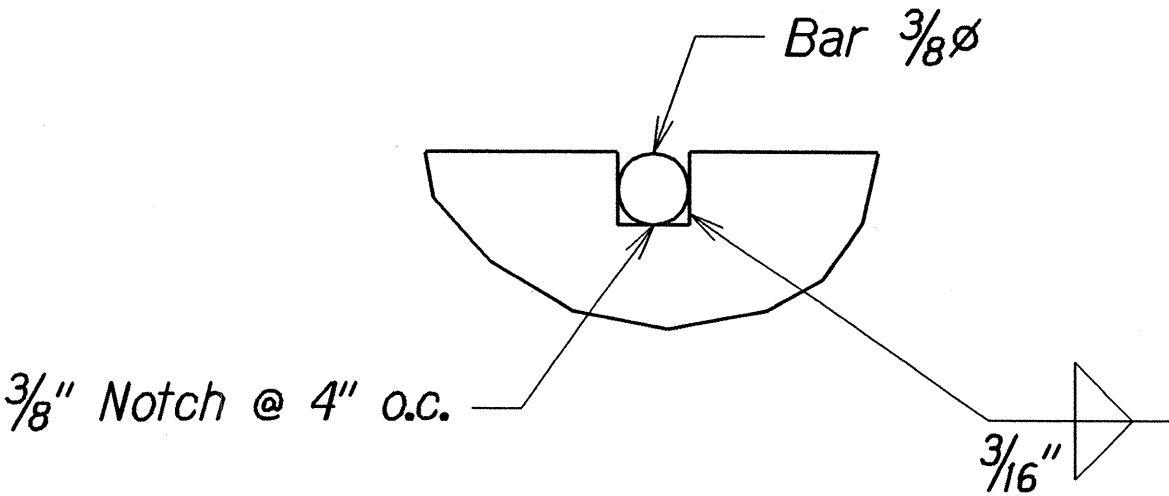


DETAIL A
Scale: 3"=1'-0"

FRAME

NOTES

- All welds 3/8" unless otherwise shown.
- Frame and grates shall be hot dip galvanized after fabrication.
- All steel shall be Structural Grade, ASTM A615 Grade 60.
- Steel bars shall conform with ASTM A36.



NOTCH DETAIL
Full Size

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE DETAILS

FARRINGTON HWY. DRAINAGE IMPROVEMENTS
Auyong Homestead Road to Nanaikeola Street
Project No. 93A-08-98

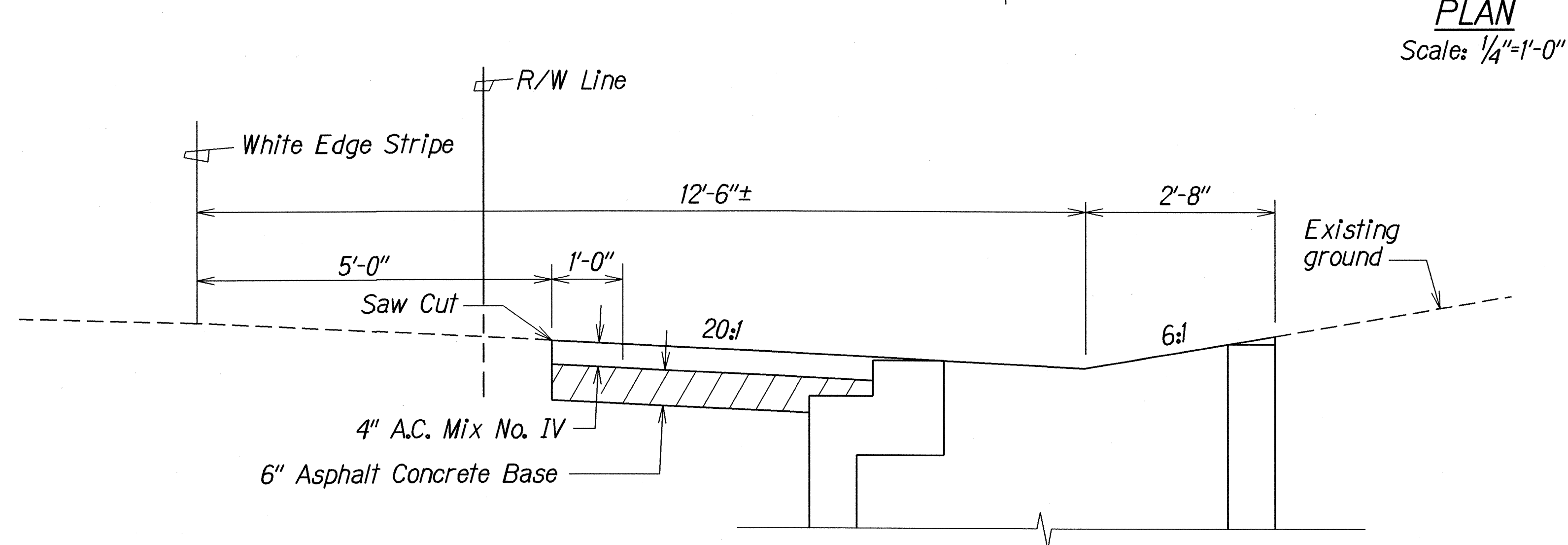
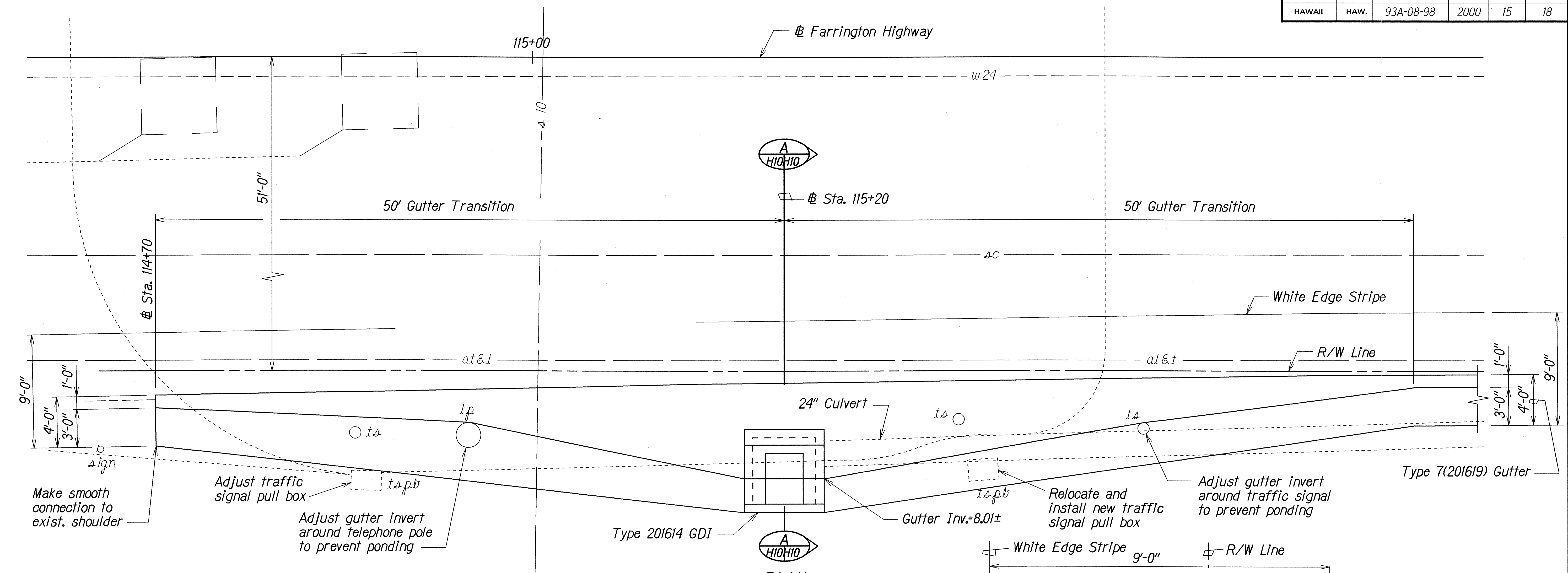
Scale: 1 1/2"=1'-0" Date: Jan. 2000

SHEET No. H9 OF 10 SHEETS

ORIGINAL PLAN	DATE
4/12/98	
NOTES	
BY: R. Sakamoto	
CHECKED BY:	

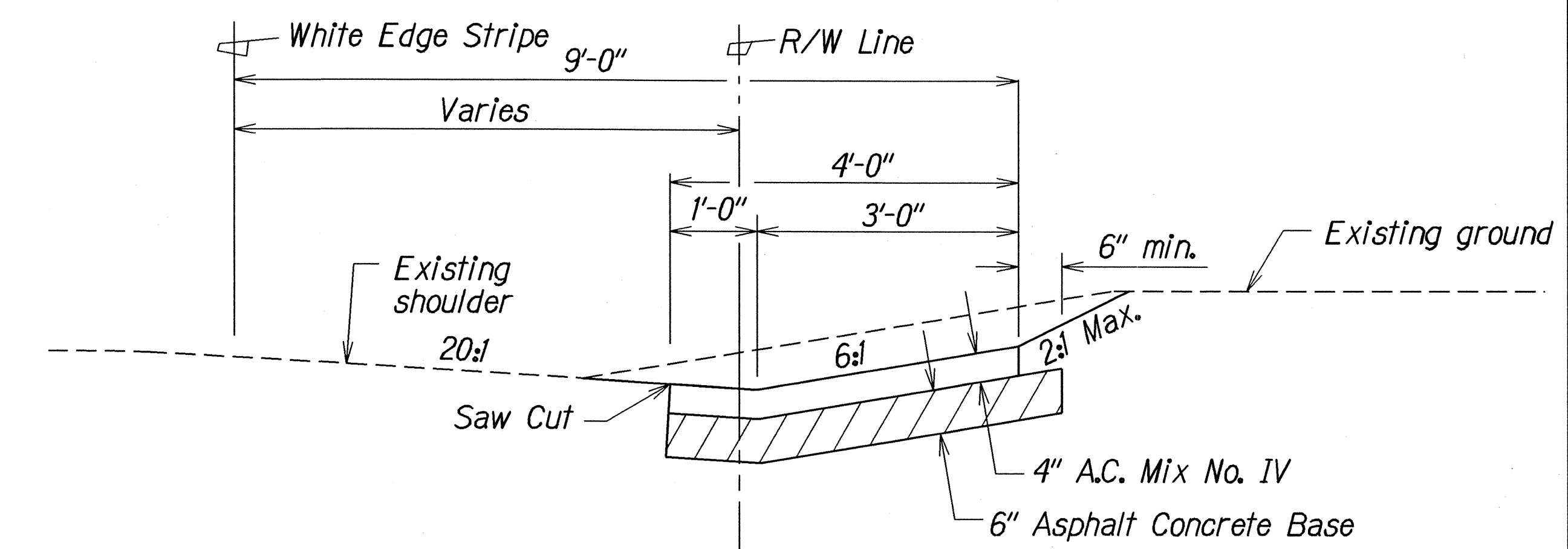
TYPE 201614 FRAME AND GRATE

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	93A-08-98	2000	15	18



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

TYPICAL GUTTER TRANSITION



TYPICAL TYPE 7(201619) GUTTER
Scale: 3/4"=1'-0"

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE DETAILS

FARRINGTON HWY. DRAINAGE IMPROVEMENTS
Auyong Homestead Road to Nanaikeola Street
Project No. 93A-08-98

Scale: As Shown
Date: Jan. 2000

SHEET No. H10 OF 10 SHEETS

ORIGINAL	DATE
PLAN	4/26/99
NOTES	
QUANTITIES	
CHECKED BY	
DRAWN BY	
DESIGNED BY	
IN CHARGE	
APPROVED	