

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-065-1(011)	2017	ADD. 55	80

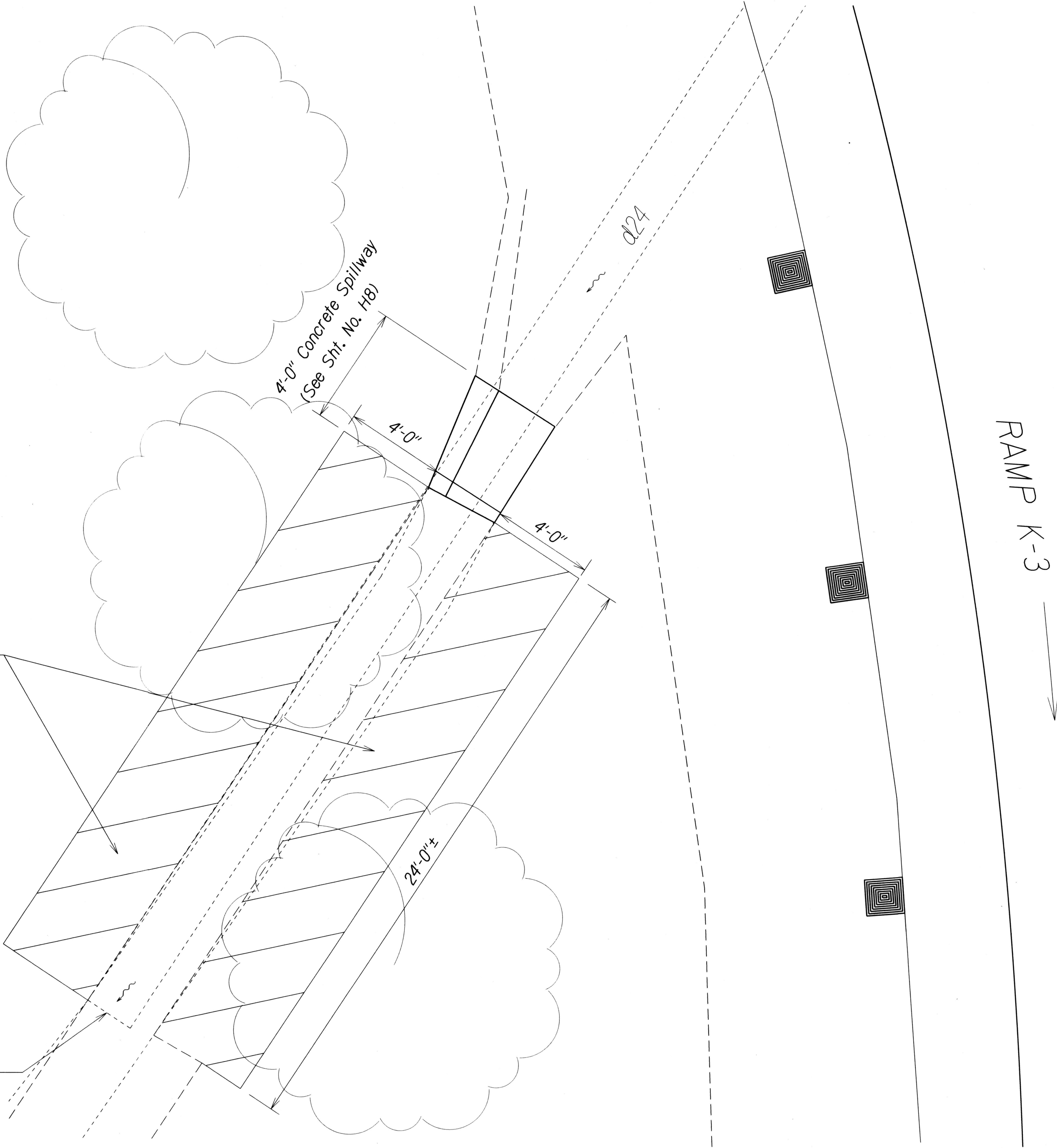
Note: Sawcutting, removal, and disposal of existing concrete spillway shall be incidental to "Item No. 640.2000 - Concrete Spillway" and will not be paid for separately.

Clear and grub all existing trees within 4 feet of the edge of exist. concrete ditch down to the outlet of the existing pipe. Grind stumps 24 inches below finish grade. Work shall be paid under Item 201.1000 - Clearing and Grubbing.

After tree removal, fine grade the area to a smooth surface and overlay with degradable double net straw blanket or jute net matting. Secure per Manufacturer's recommendations.

Restore with grass according to Section 641 - Hydro-mulch Seeding in the Standard Specifications. Matting and hydro-mulch to be paid under Item 641.1000 - Hydro-mulch Seeding.

outlet of exist 24" culvert to exist. concrete ditch



PLAN OF CONCRETE SPILLWAY, RAMP K-3 @ STA. 6+90± TO 6+94±

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

5/25/17  Revised note from "Cut stumps..." to "Grind stumps..."

DATE REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE DETAILS

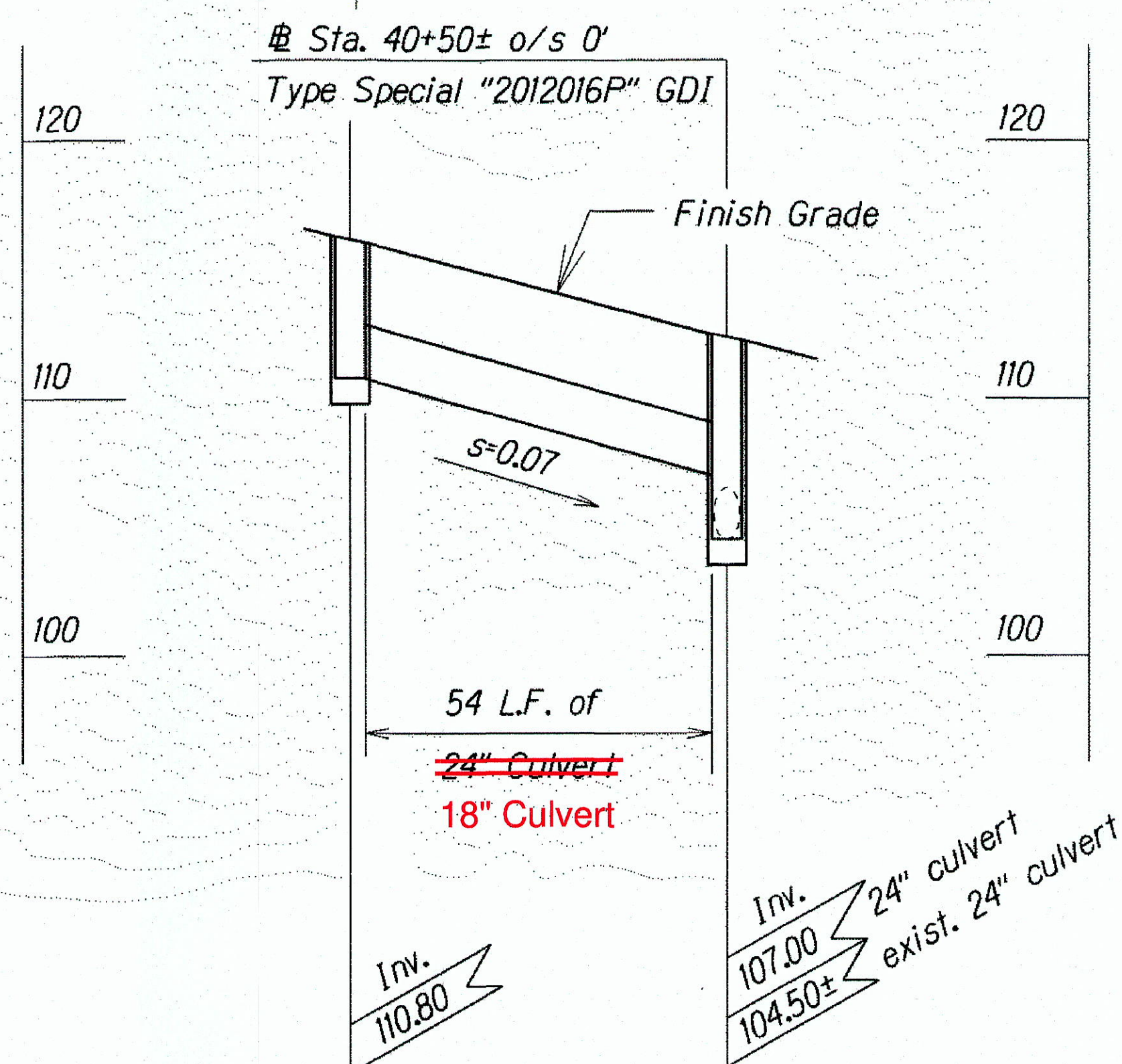
MOKAPU SADDLE ROAD REHABILITATION
Nanamoana Street to Oneawa Street
Federal Aid Project No. STP-065-1(011)

Scale: Not to Scale Date: March, 2017

SHEET No. 55 OF 80 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-065-1(011)	2017	57	80

Sta. 39+93± o/s 0'
Type Special "1211216P" GDI



PROFILE OF Sta. 39+93±, O/S 0'
TO Sta. 40+50±, O/S 0'

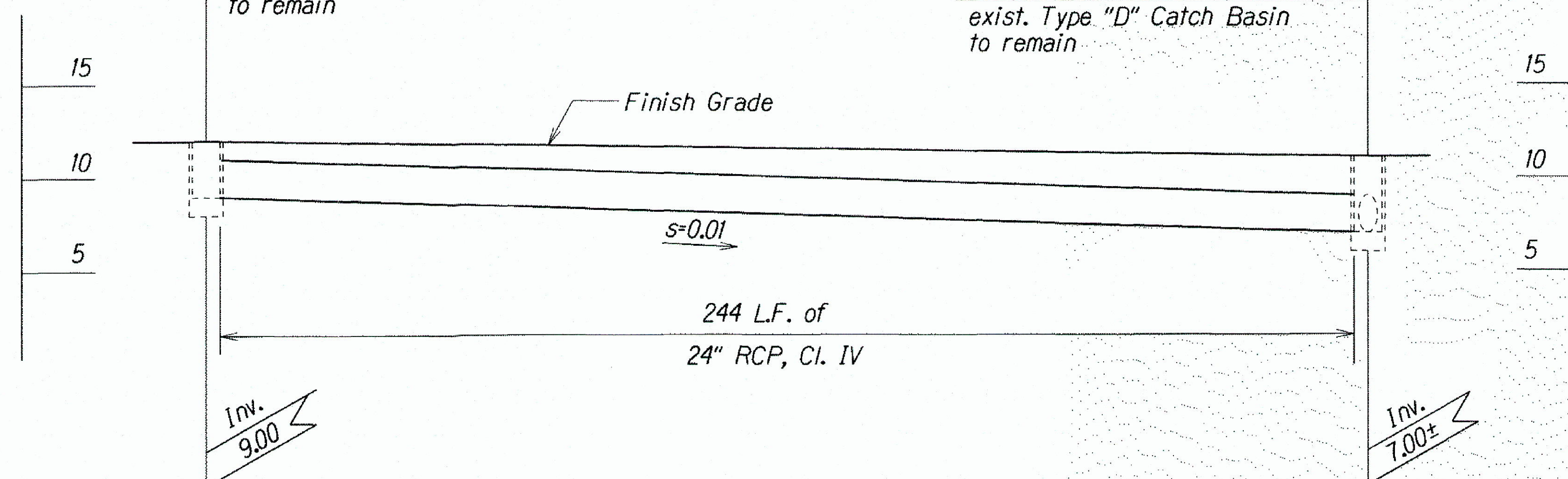
LEGEND FOR AS-BUILT POSTINGS

SQUIGGLY LINE FOR AS-BUILT DELETION

DOUBLE LINE FOR AS-BUILT DELETION

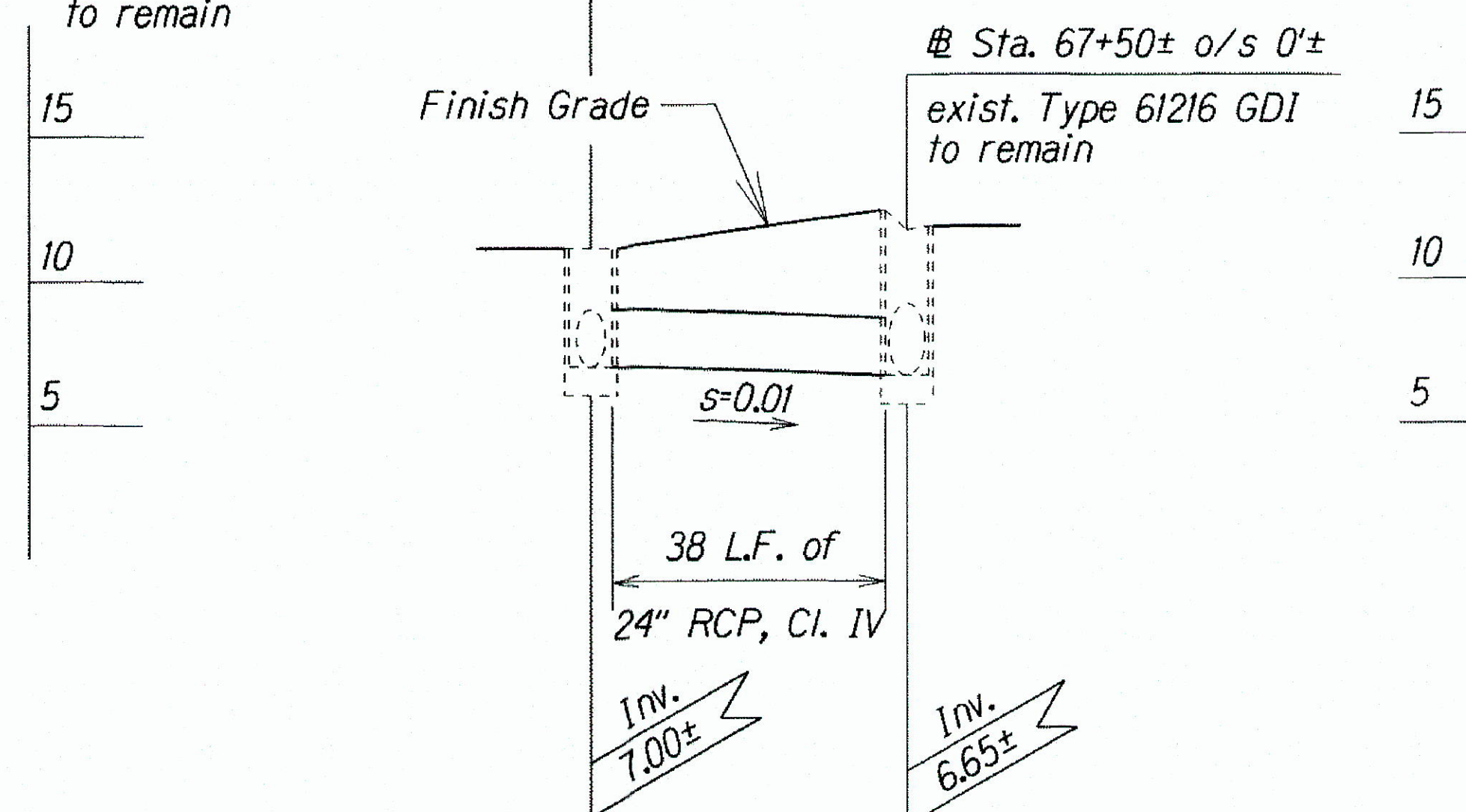
ROADWAY TEXT FOR AS-BUILT POSTING

Sta. 65+00± Lt.
exist. Type "D" Catch Basin
to remain



PROFILE OF Sta. 65+00±, O/S LT. TO Sta. 67+50±, O/S LT.

Sta. 67+50± Lt.
exist. Type "D" Catch Basin
to remain



PROFILE OF Sta. 67+50±, O/S LT. TO Sta. 67+50±, O/S 0'±

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE PROFILE

MOKAPU SADDLE ROAD REHABILITATION
Nanamoana Street to Oneawa Street
Federal Aid Project No. STP-065-1(011)

Scale: Horiz: 1" = 20'
Vert: 1" = 5'

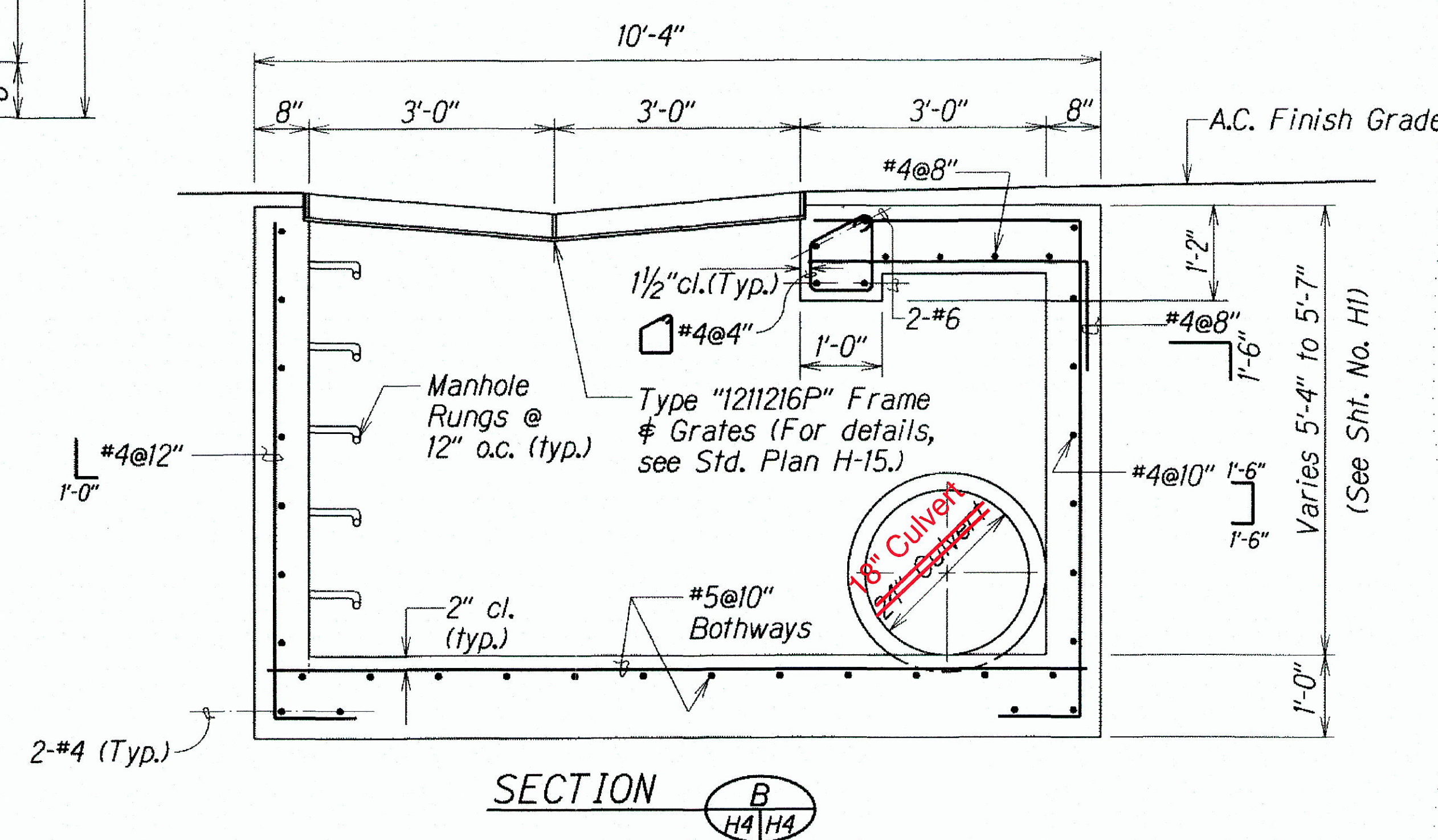
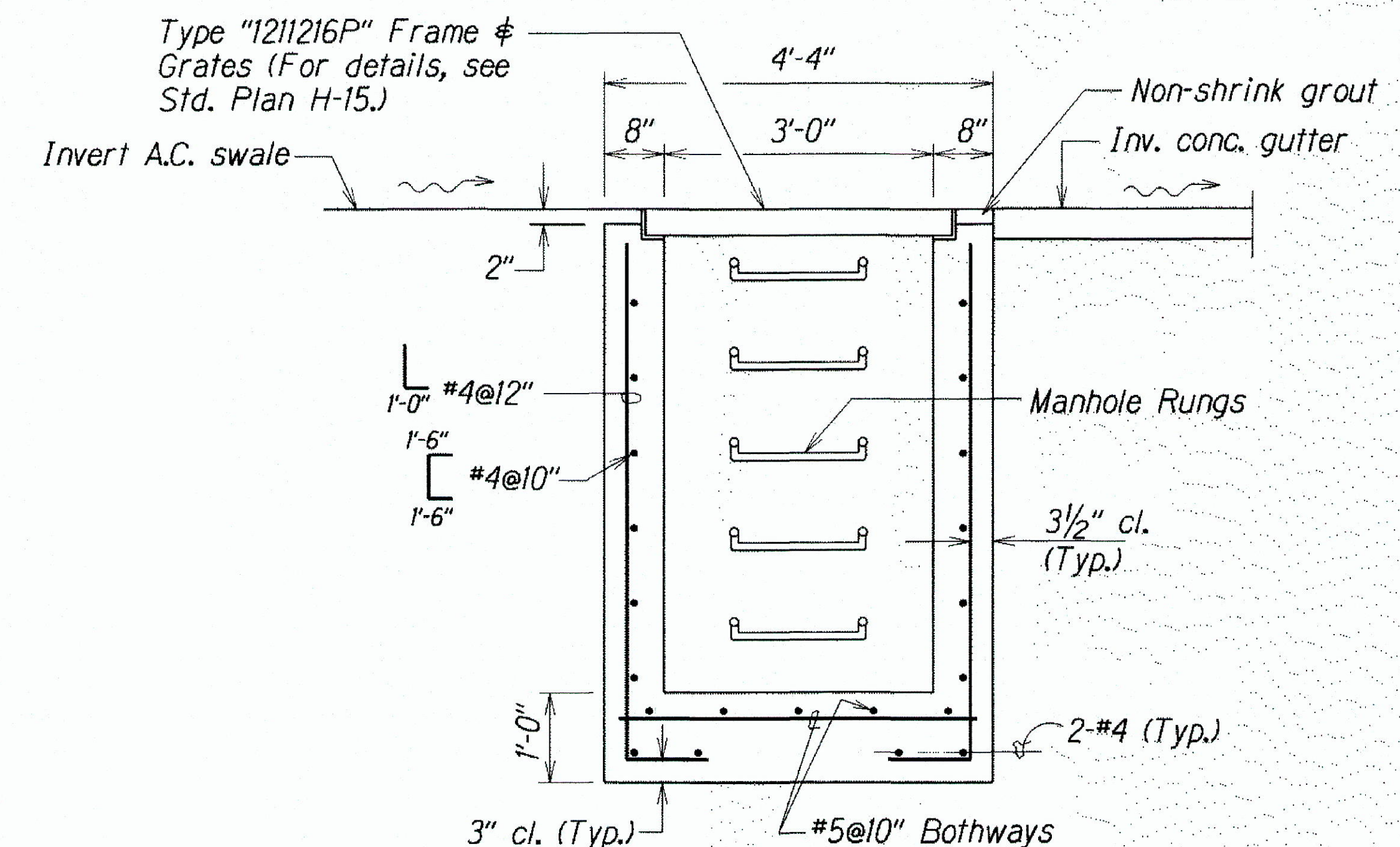
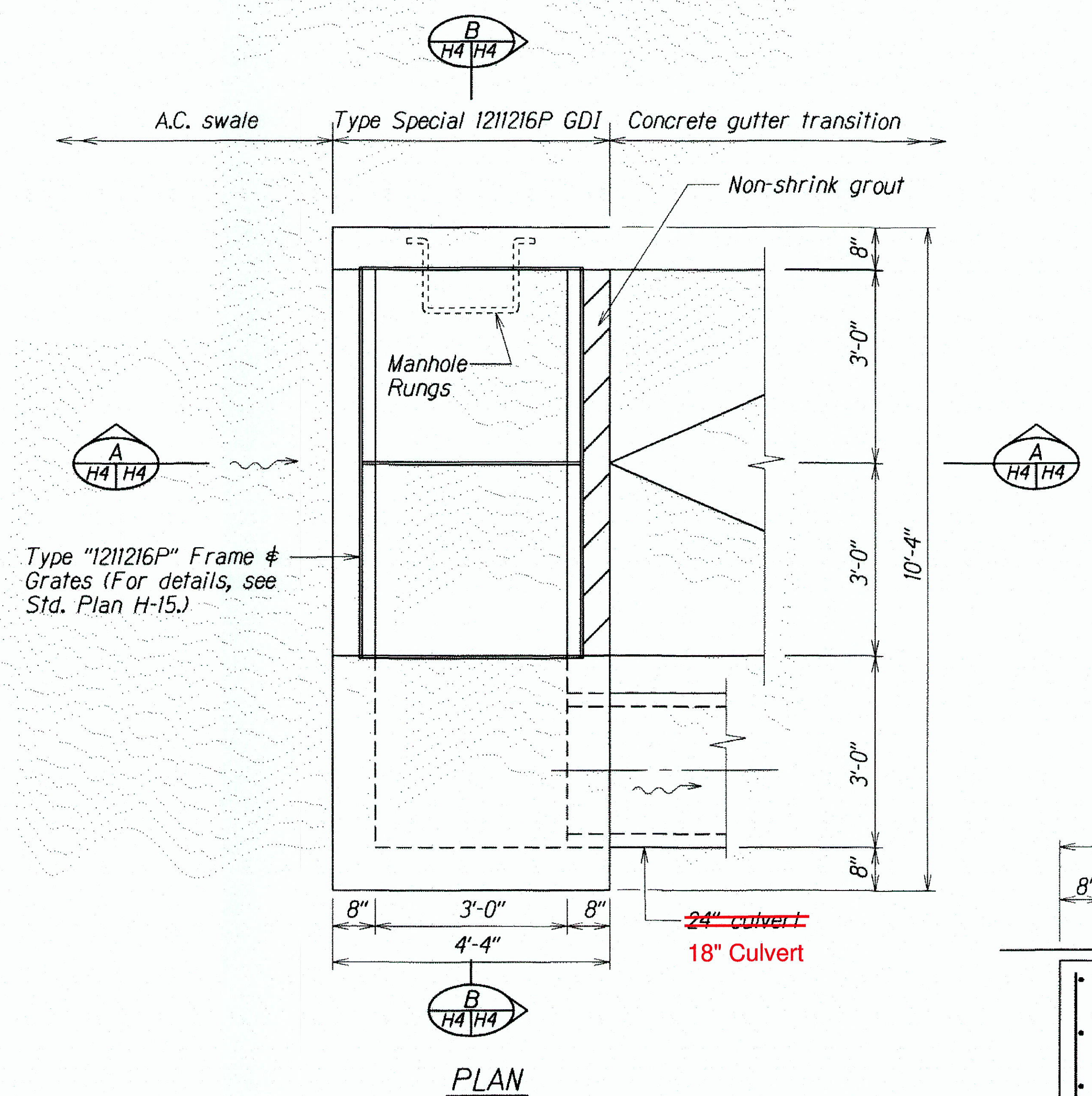
Date: March, 2017

SHEET No. H3 OF 9 SHEETS

AS-BUILT

57

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-065-1(011)	2017	58	80



Note: For Construction Joints & Waterproofing details, see Std. Plan H-05.

LEGEND FOR AS-BUILT POSTINGS	
	SQUIGGLY LINE FOR AS-BUILT DELETION
	DOUBLE LINE FOR AS-BUILT DELETION
	TEXT FOR AS-BUILT POSTING

DETAILS OF TYPE SPECIAL "1211216P" GRATED DROP INLET

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE DETAILS

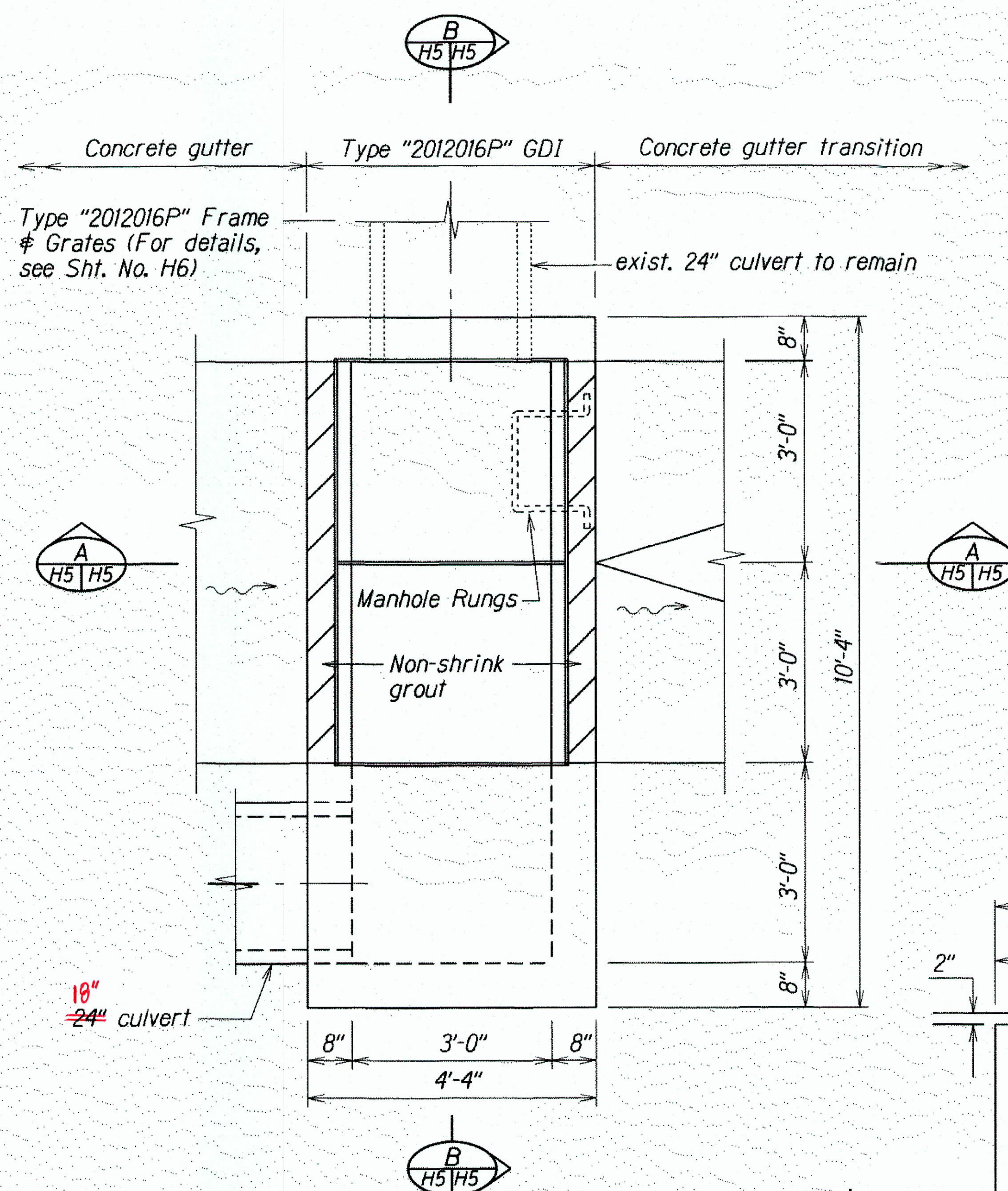
MOKAPU SADDLE ROAD REHABILITATION
Nanamoana Street to Oneawa Street
Federal Aid Project No. STP-065-1(011)

Scale: 3/4" = 1'-0" Date: March, 2017

SHEET No. H4 OF 9 SHEETS

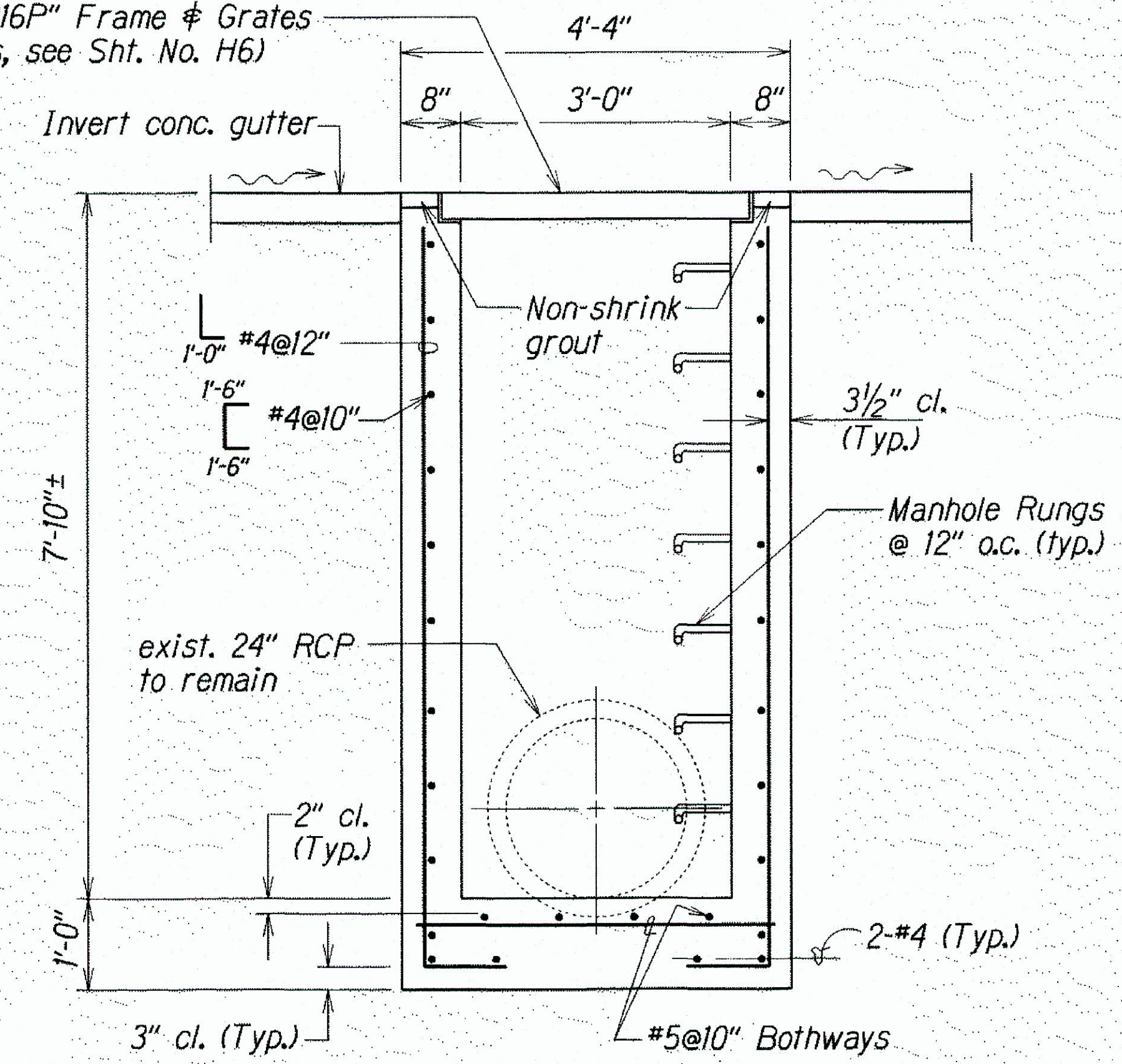
AS-BUILT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-065-1(011)	2017	59	80

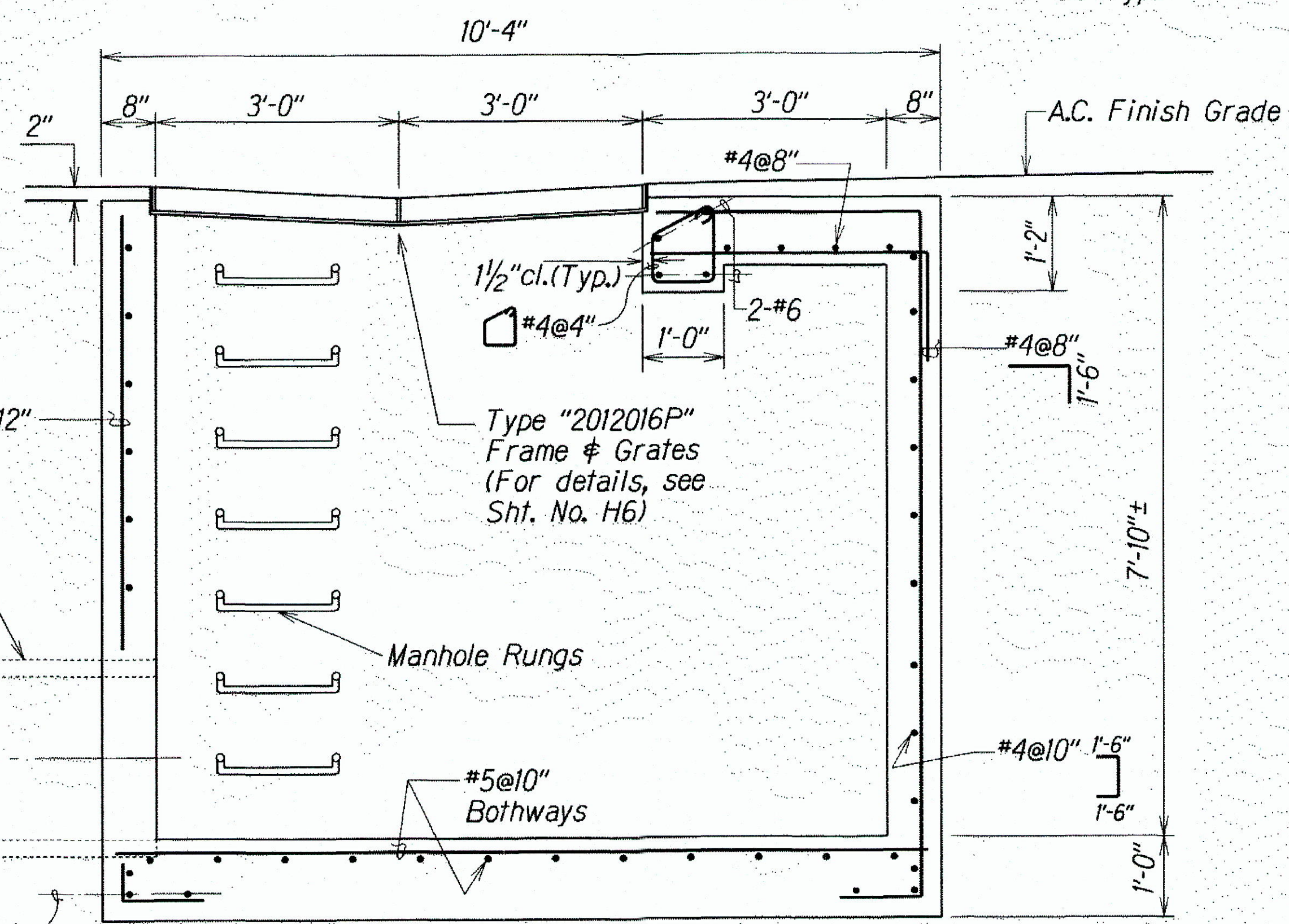


PLAN

Type "2012016P" Frame & Grates
(For details, see Sht. No. H6)



SECTION A



SECTION B

Note: For Construction Joints & Waterproofing Details, See Std. Plan H-05.

LEGEND FOR AS-BUILT POSTINGS	
	SQUIGGLY LINE FOR AS-BUILT DELETION
	DOUBLE LINE FOR AS-BUILT DELETION
Roadway	TEXT FOR AS-BUILT POSTING

AS-BUILT

DETAILS OF TYPE SPECIAL "2012016P" GRATED DROP INLET

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

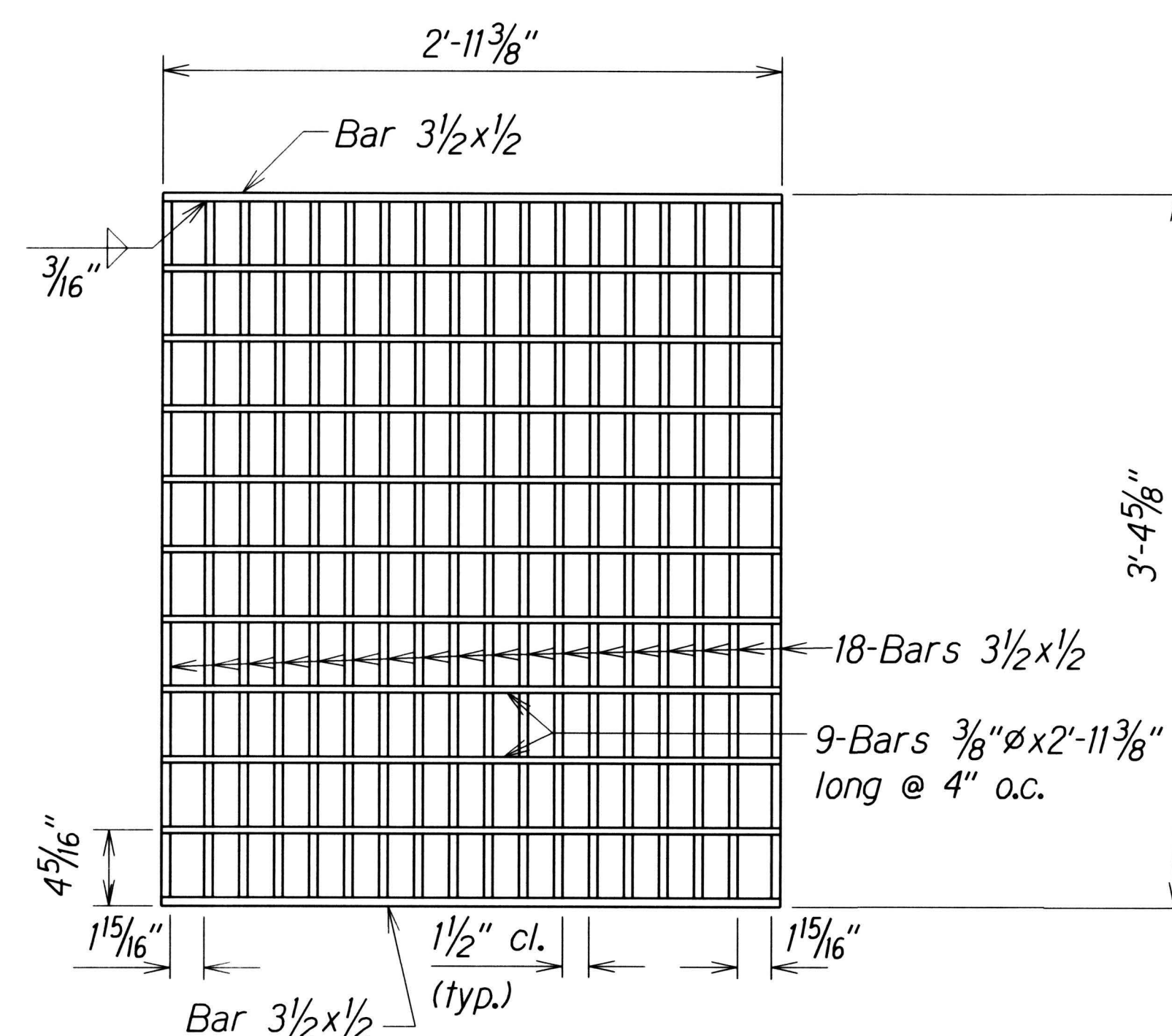
DRAINAGE DETAILS

MOKAPU SADDLE ROAD REHABILITATION
Nanamoana Street to Oneawa Street
Federal Aid Project No. STP-065-1(011)

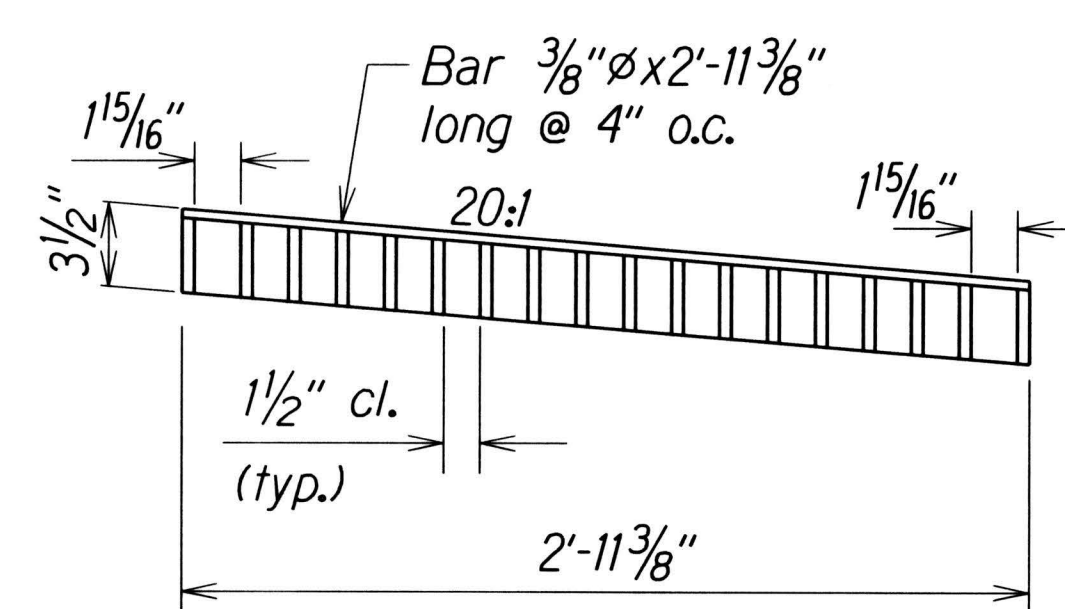
Scale: 3/4" = 1'-0" Date: March, 2017

SHEET No. H5 OF 9 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-065-1(011)	2017	60	80



PLAN



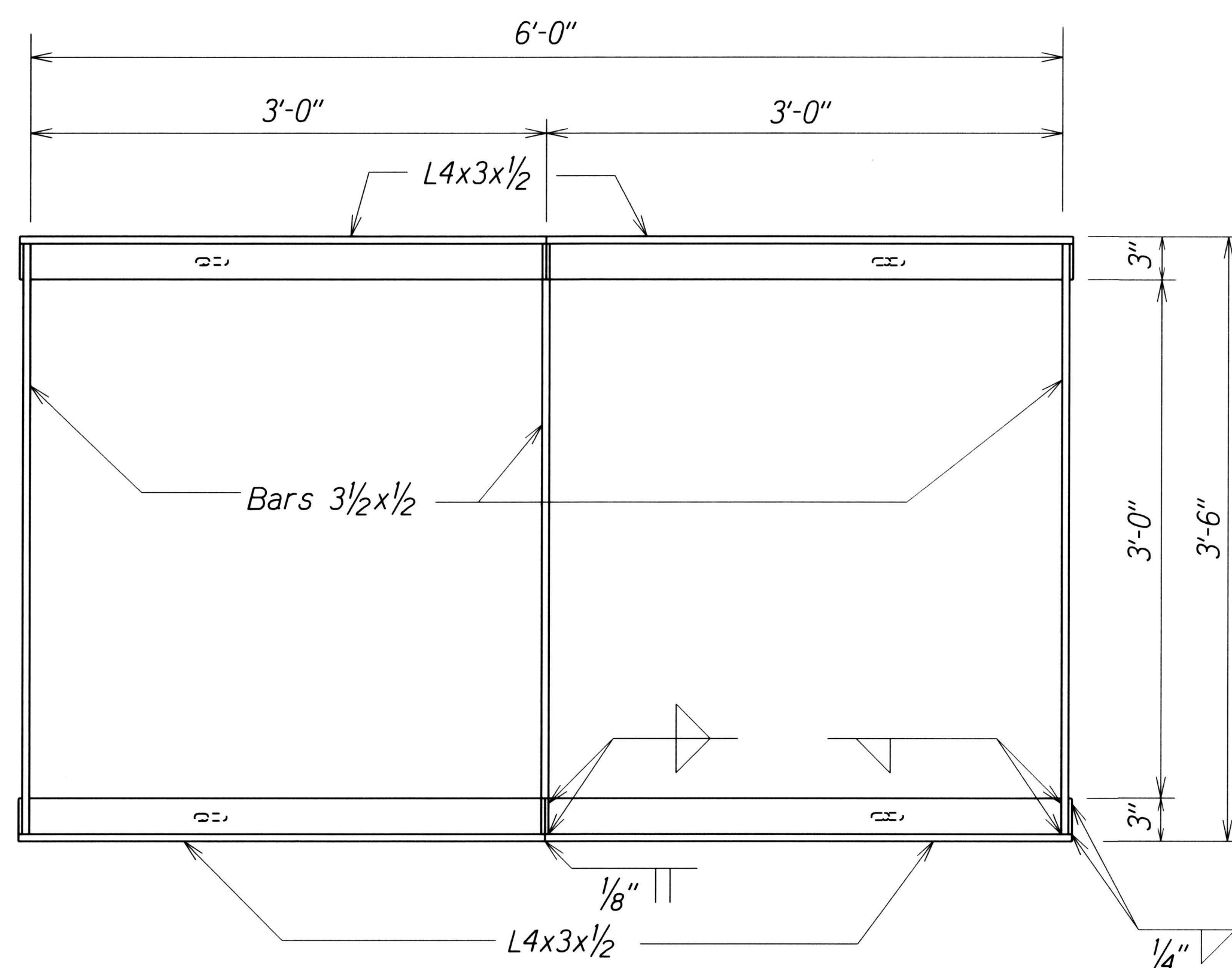
SECTION

GRATE

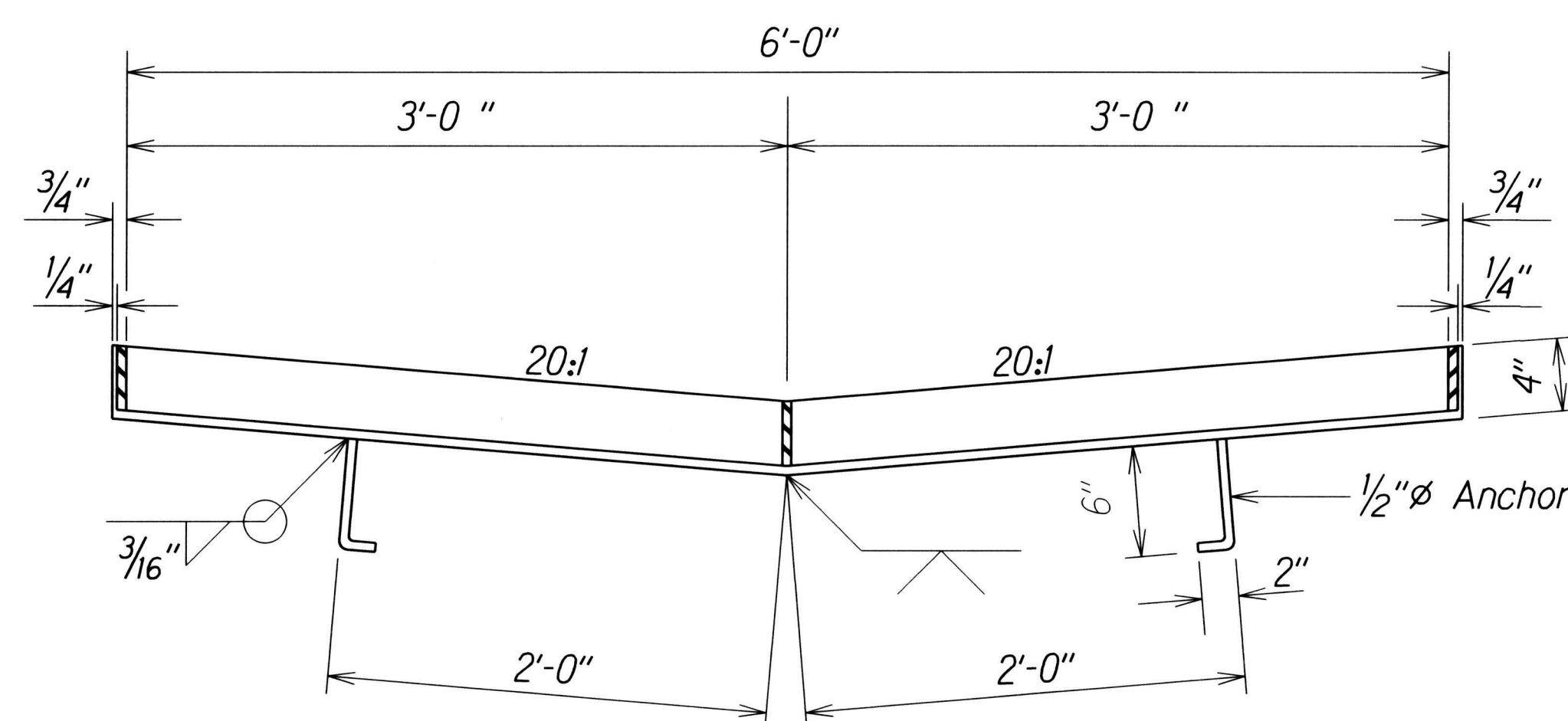
Scale: 1 1/2"=1'-0"

NOTES:

1. All welds 3/8" unless otherwise noted.
2. Grates and Frames shall be zinc coated after fabrication.
3. Anchor bolts shall be ASTM A307 and zinc coated.



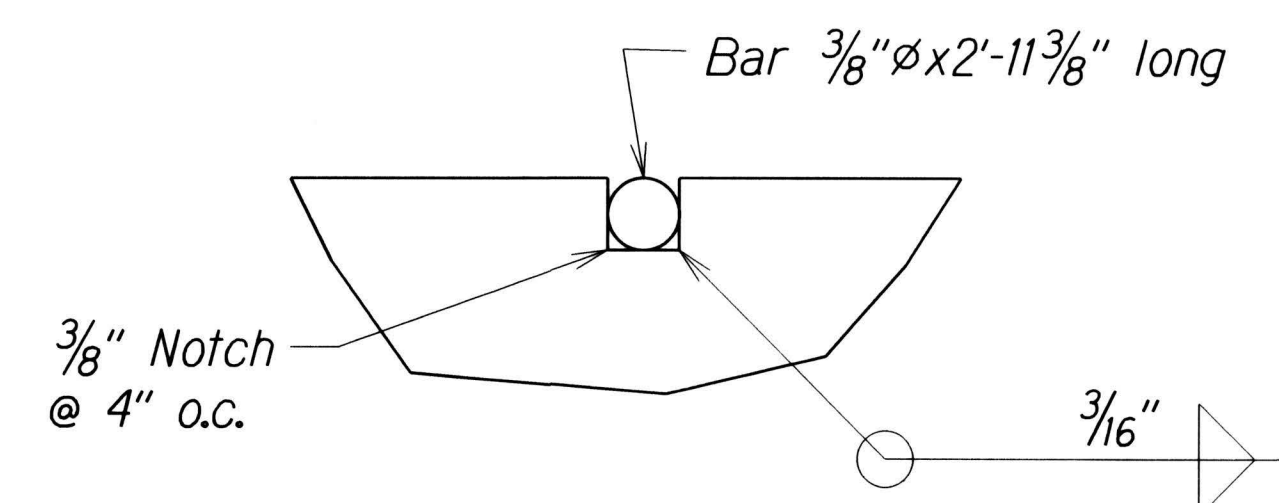
PLAN



SECTION

FRAME

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



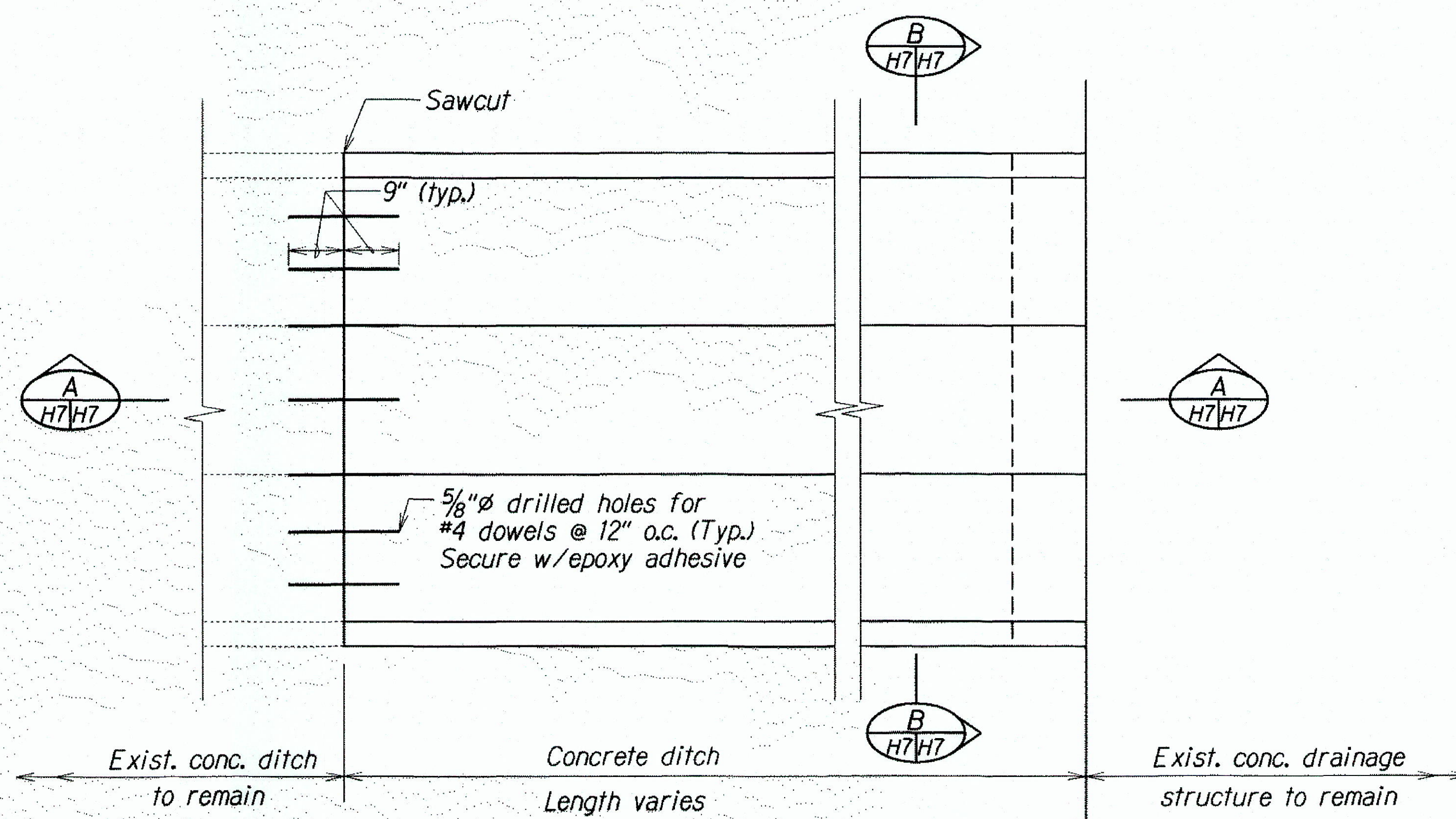
NOTCH DETAIL

Full Size

TYPE SPECIAL "2012016P" STEEL FRAME AND GRATES

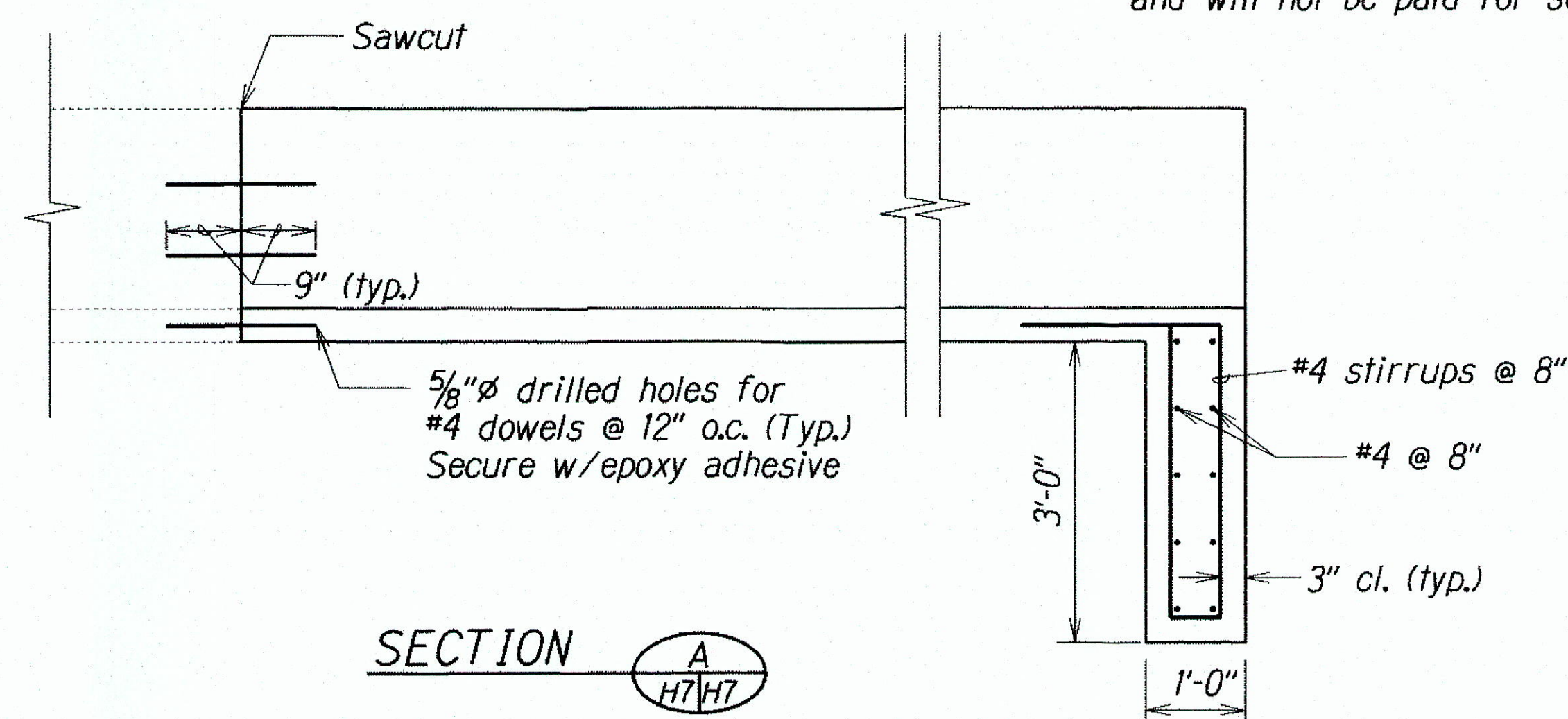
STATE OF HAWAII	
DEPARTMENT OF TRANSPORTATION	
HIGHWAYS DIVISION	
<u>DRAINAGE DETAILS</u>	
MOKAPU SADDLE ROAD REHABILITATION	
Nanamoana Street to Oneawa Street	
Federal Aid Project No. STP-065-1(011)	
Scale: As Shown	Date: March, 2017
SHEET No. H6 OF 9 SHEETS	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-065-1(011)	2017	61	80

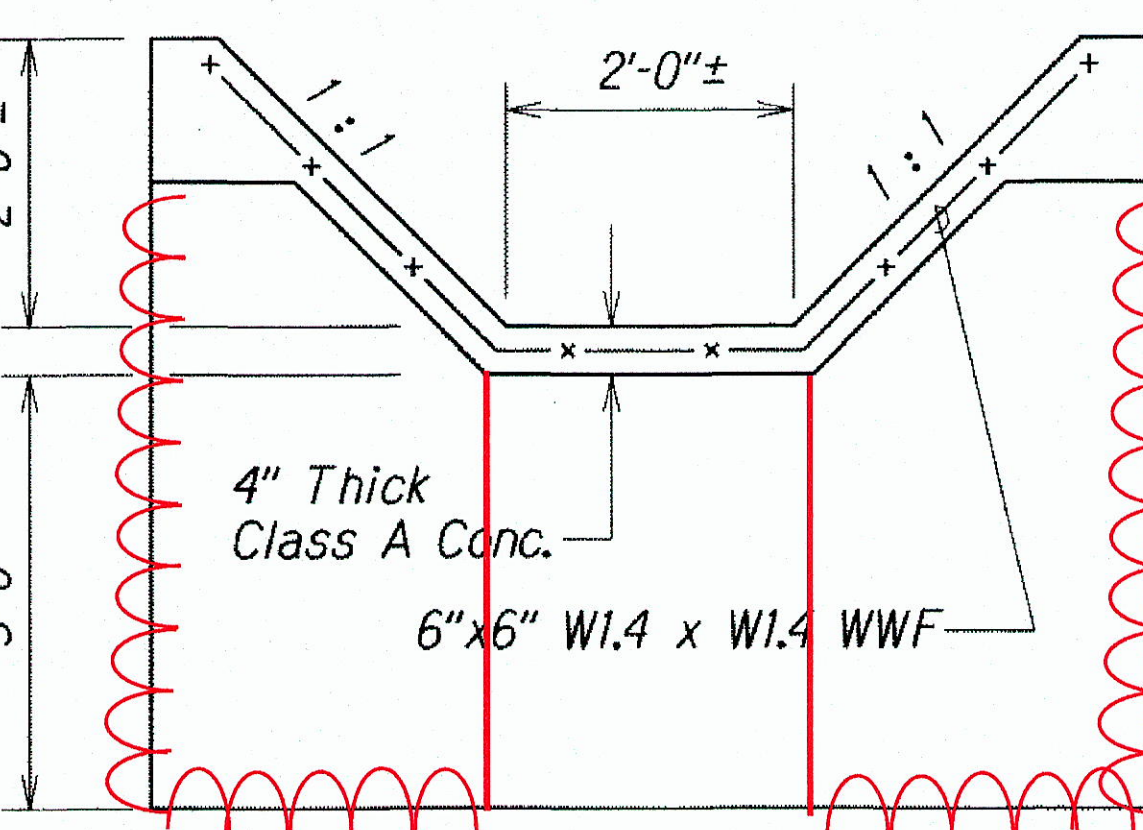


PLAN

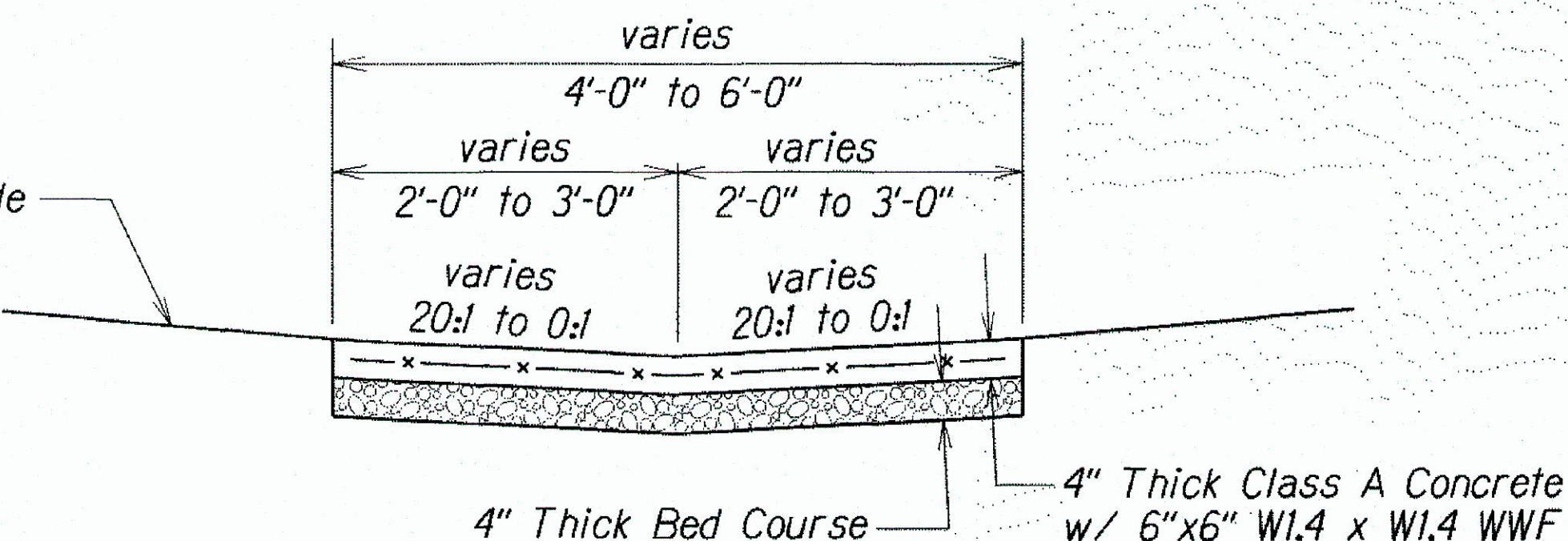
Note: Sawcutting, removal & disposal of exist. conc. ditch shall be incidental to Item 640.1000 - Lined Drainage Ditch and will not be paid for separately.



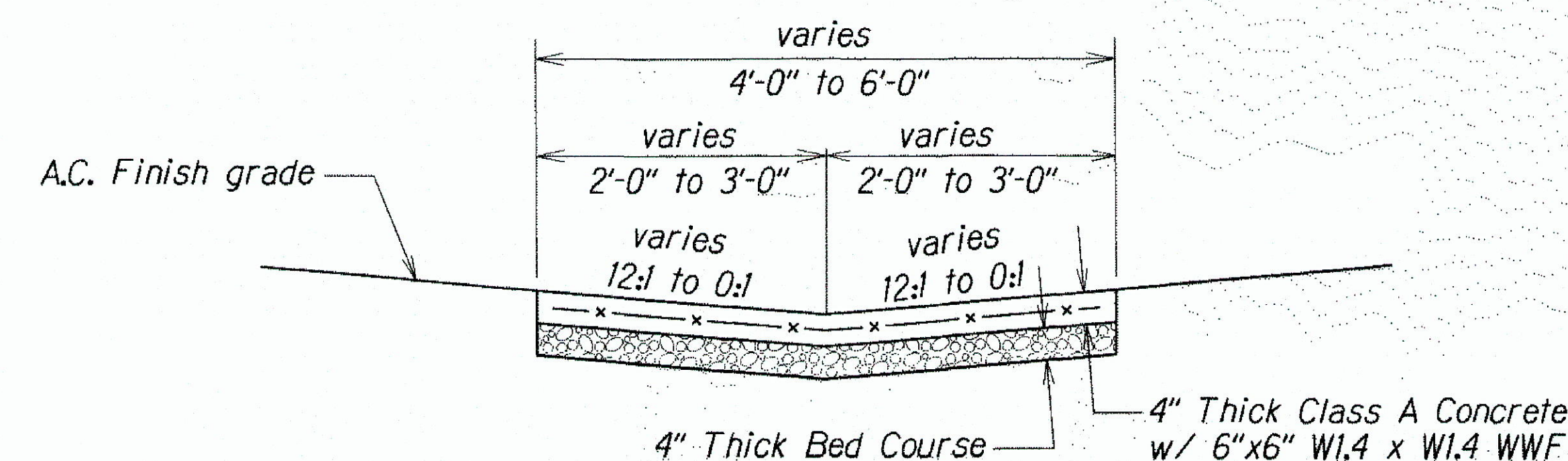
SECTION A



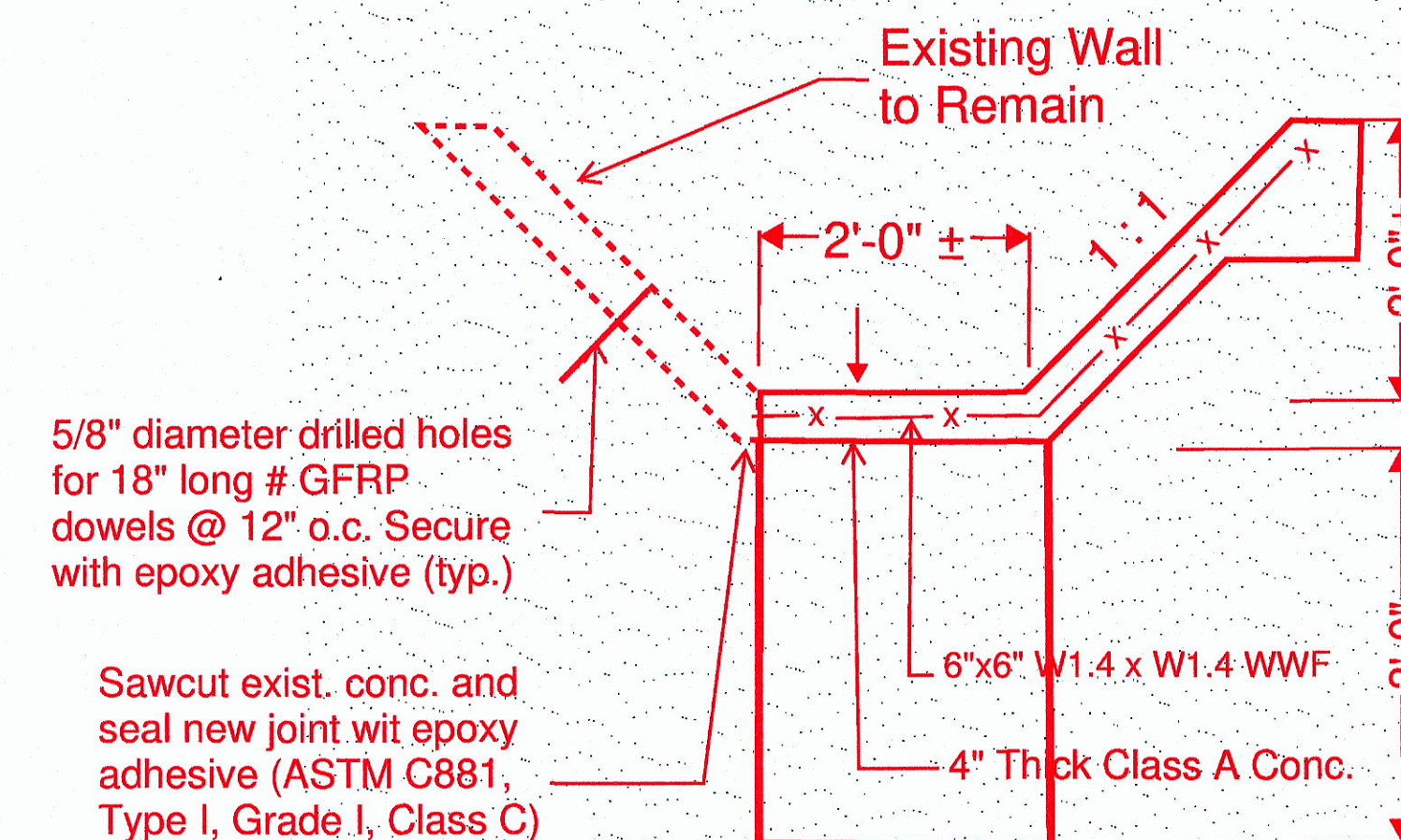
SECTION B



GUTTER, TYPE 2 (2012016) AND TRANSITION



GUTTER, TYPE 2 (1211216) AND TRANSITION



SECTION B
STA. 2+20 TO 3+05

CONCRETE LINED DITCH REPAIR, NANAMOANA ST. @ STA. 2+20± TO @ STA. 3+05± &
MOKAPU SADDLE RD. @ STA. 57+07± LT. TO @ STA. 57+52± LT.

LEGEND FOR AS-BUILT POSTINGS
SQUIGGLY LINE FOR AS-BUILT DELETION
DOUBLE LINE FOR AS-BUILT DELETION
Roadway TEXT FOR AS-BUILT POSTING

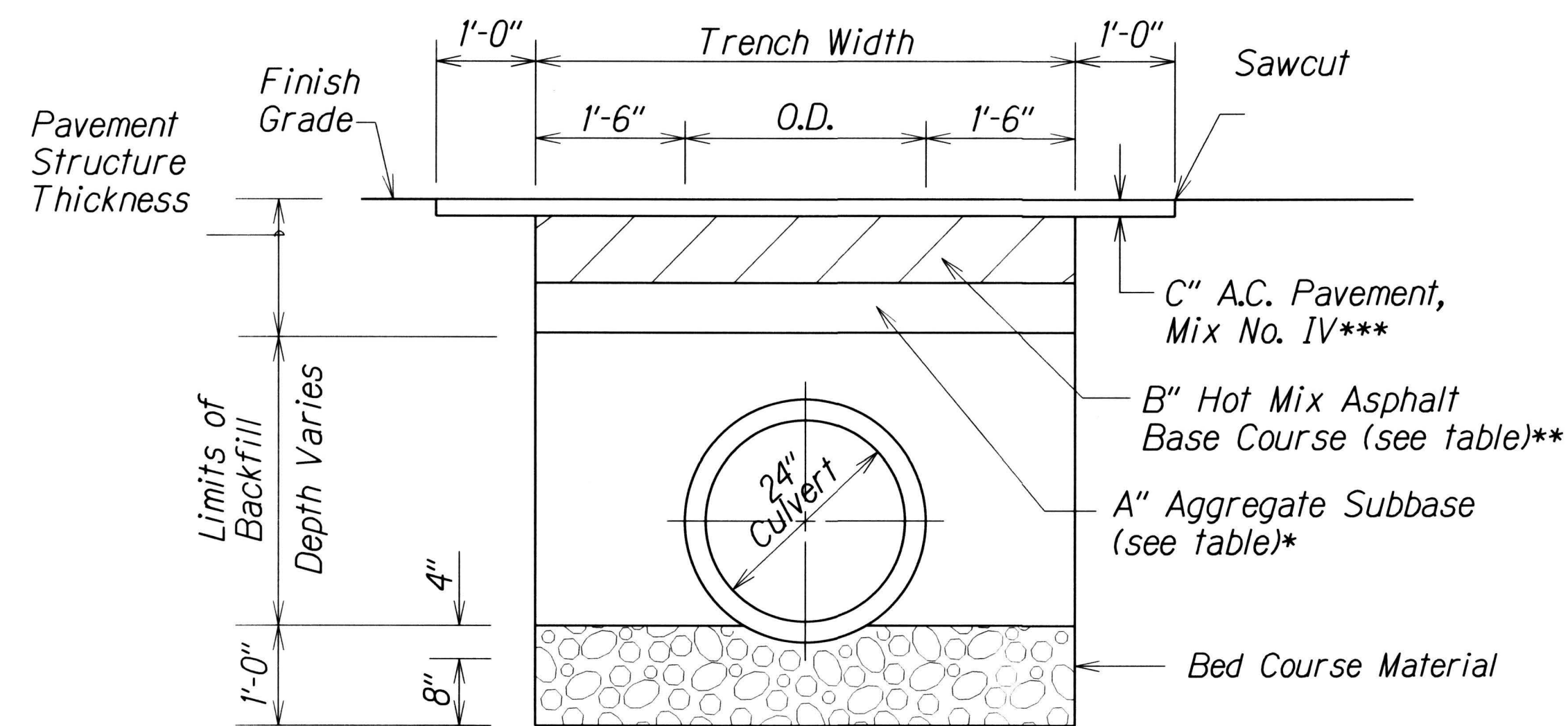
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
DRAINAGE DETAILS
MOKAPU SADDLE ROAD REHABILITATION
Nanamoana Street to Oneawa Street
Federal Aid Project No. STP-065-1(011)
Scale: 3/4"=1'-0" Date: March, 2017
SHEET No. H7 OF 9 SHEETS

AS-BUILT

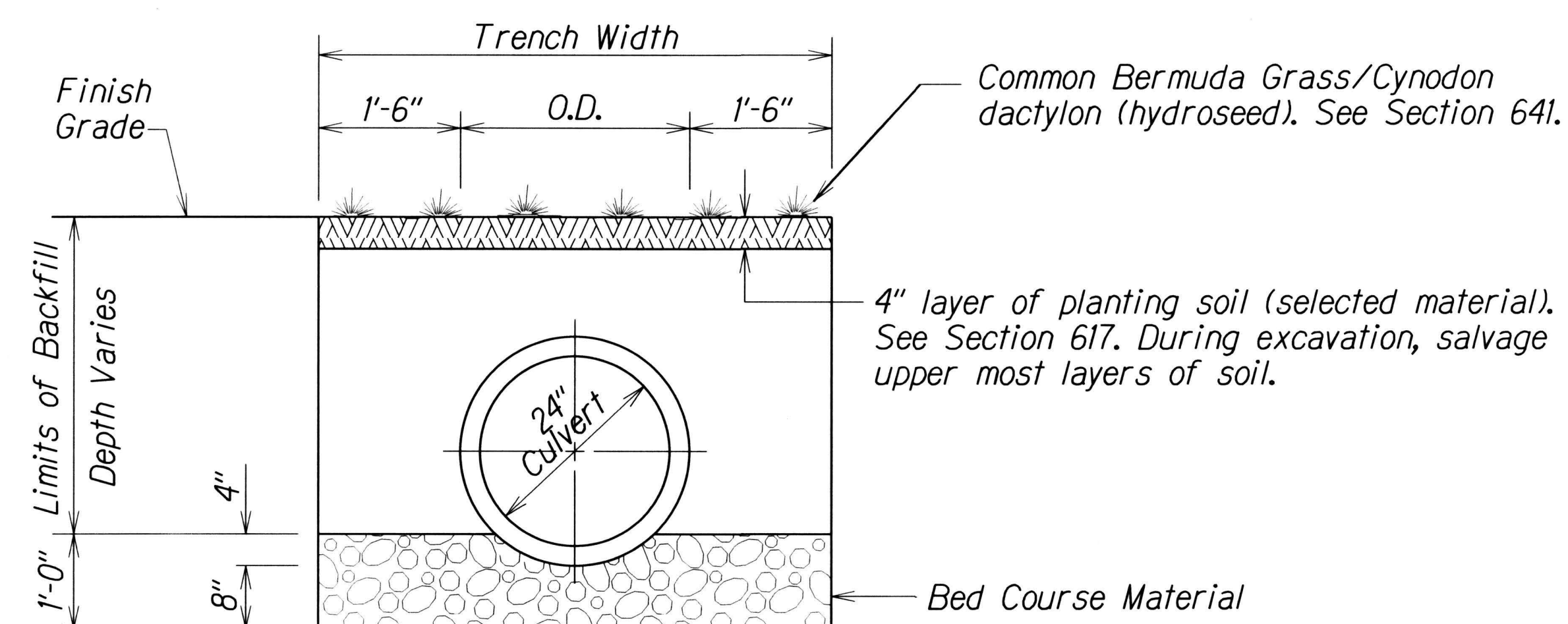
61

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-065-1(011)	2017	62	80

# Sta.	A*	B**	C***
39+95± to 40+48±	8.5"	0"	varies, 3.5" min.
67+50±	8"	6"	2"



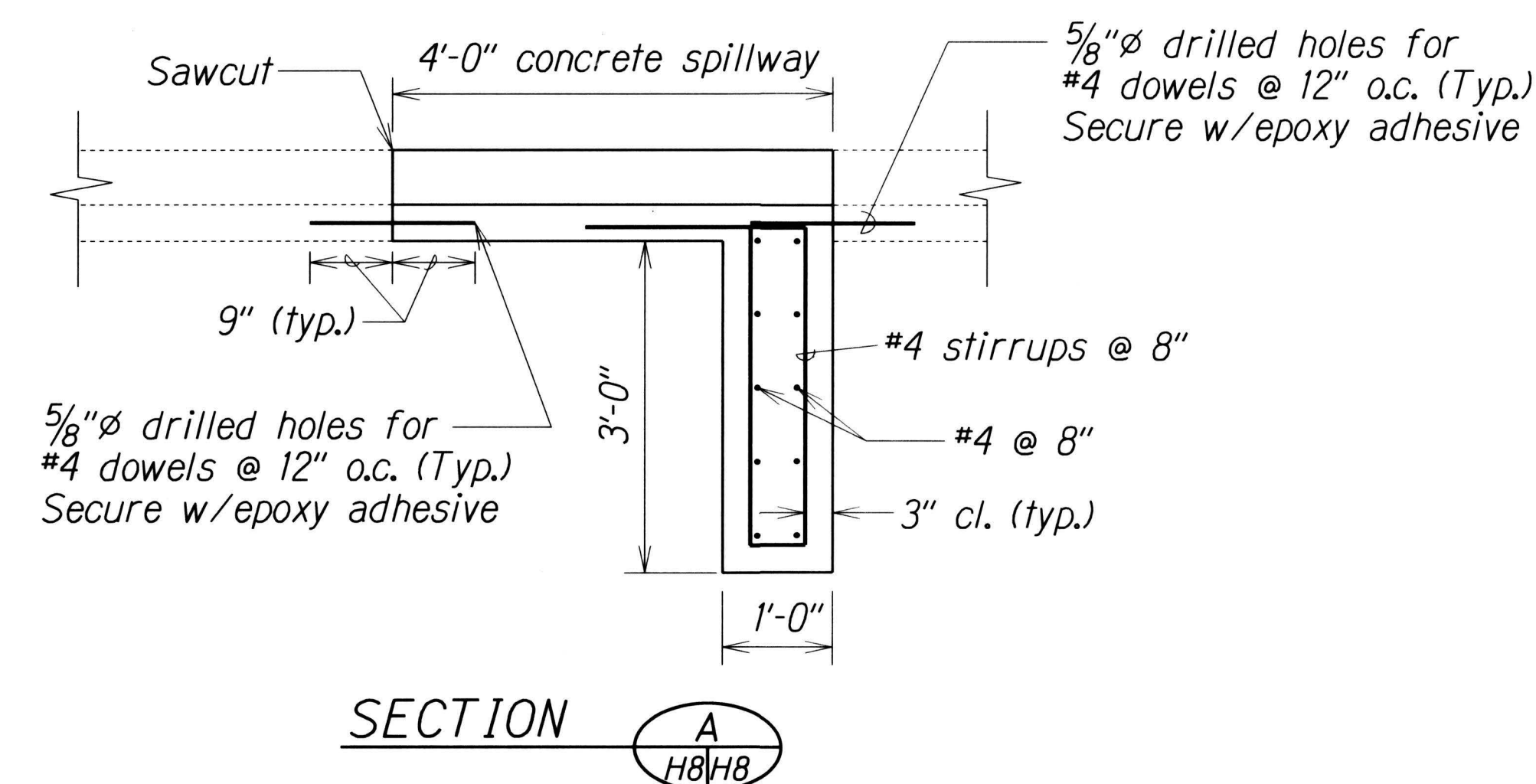
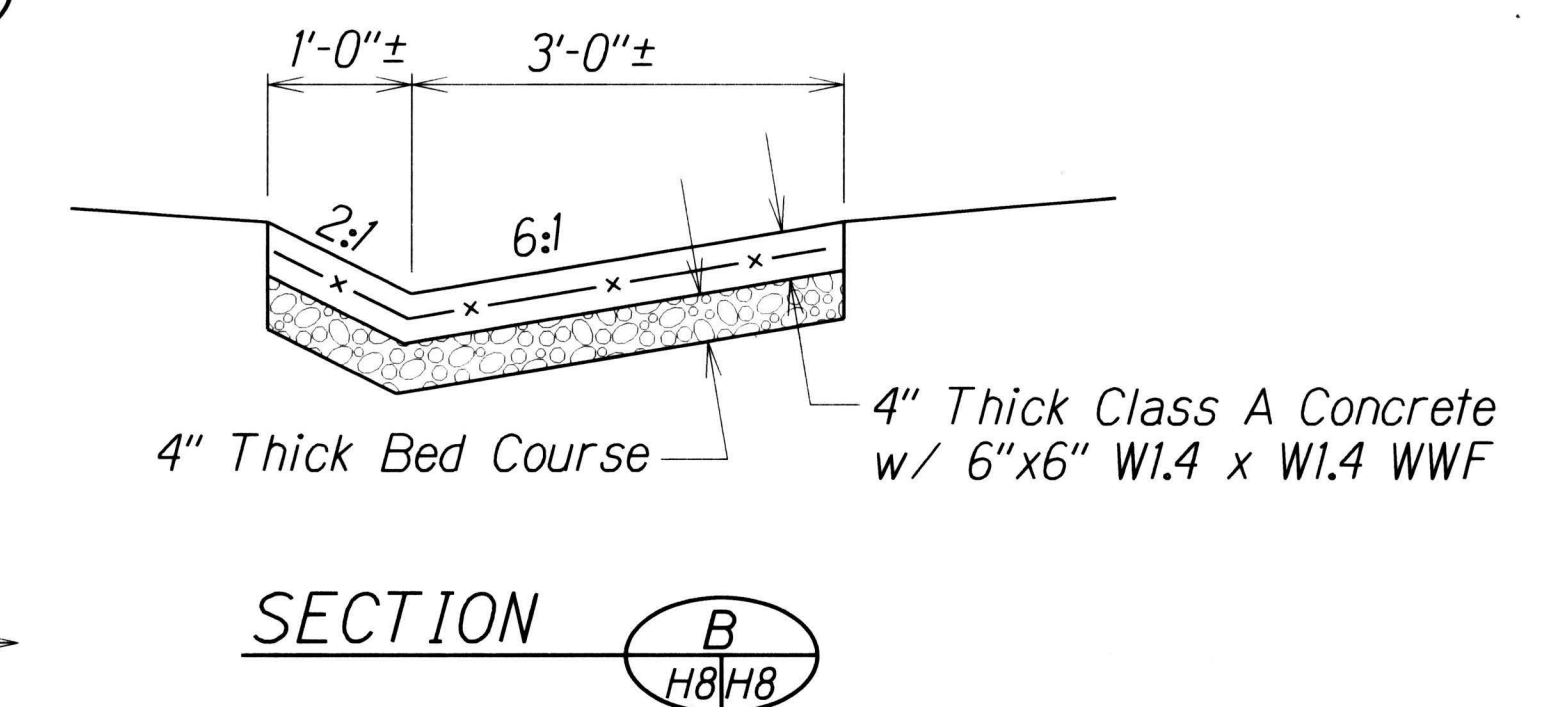
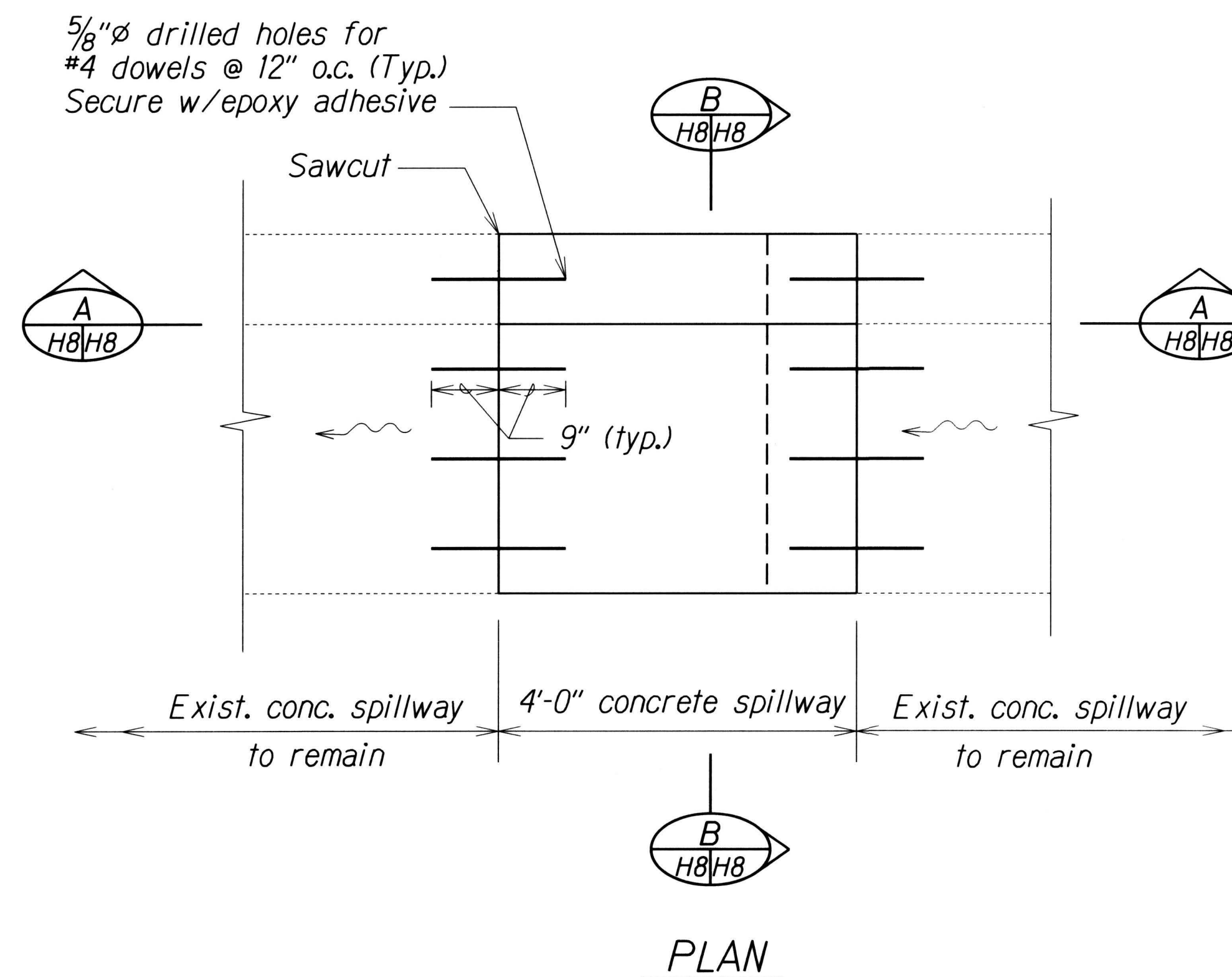
**TYPICAL DETAIL OF CULVERT
TRENCH AND BACKFILL
RESTORATION IN ROADWAY**



**TYPICAL DETAIL OF CULVERT
TRENCH AND BACKFILL
RESTORATION IN GRASS**

Note: Planting soil and Bermuda grass shall be incidental to Item No. 206.1000 - Excavation for Drainage System and will not be paid for separately.

Removal and disposal of exist. pipe shall be incidental to Item No. 603.4000 - 24-Inch Reinforced Concrete Pipe, Class IV and will not be paid for separately.

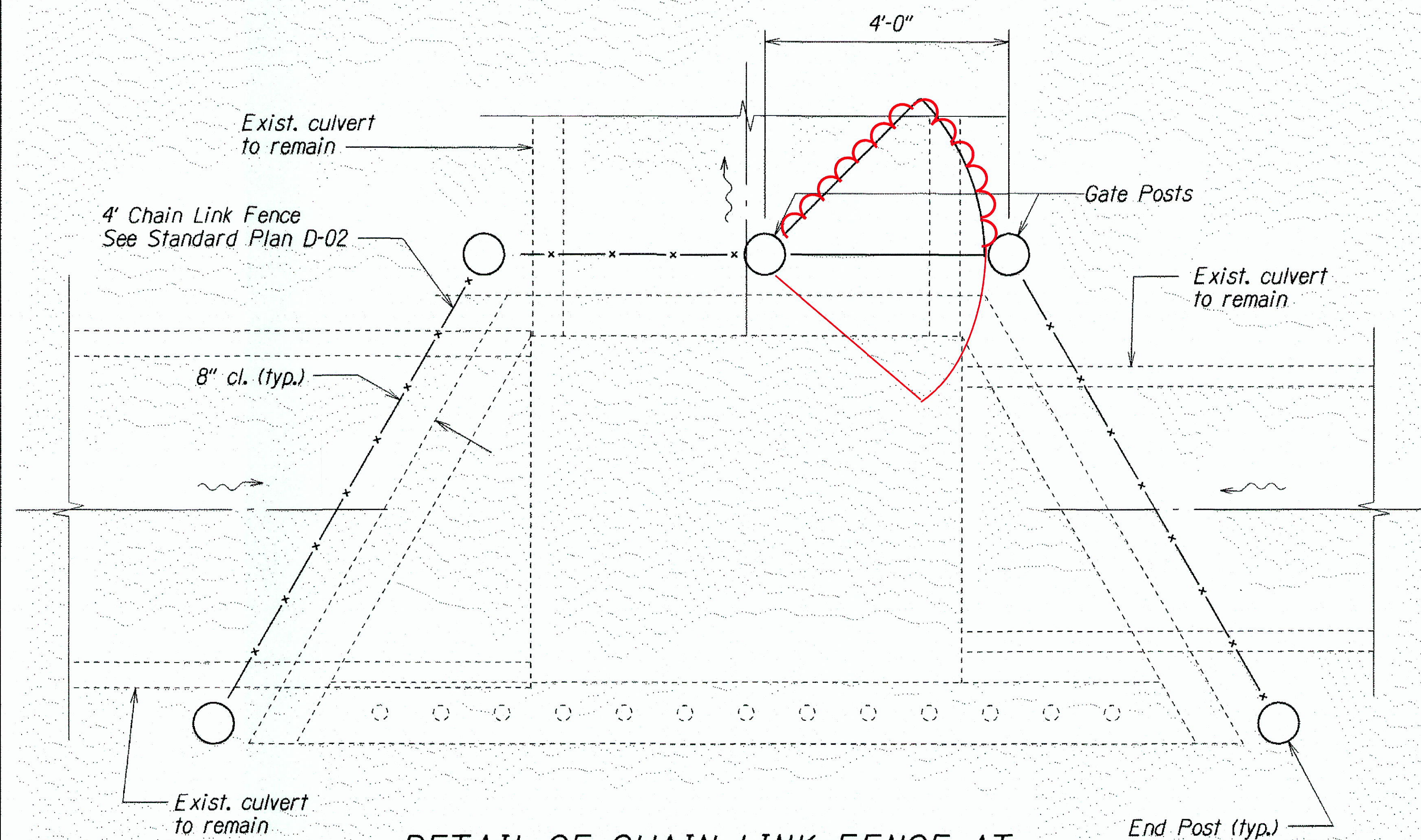


**CONCRETE SPILLWAY REPAIR,
RAMP K-3 # STA. 6+90± TO # STA. 6+94±**

SURVEY PLOTTED BY	DATE
DESIGNED BY	
TRACED BY	
NOTED BY	
CHECKED BY	
DATE	

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
DRAINAGE DETAILS
MOKAPU SADDLE ROAD REHABILITATION Nanamoana Street to Oneawa Street Federal Aid Project No. STP-065-1(011)
Scale: 3/4"=1'-0" Date: March, 2017
SHEET No. H8 OF 9 SHEETS

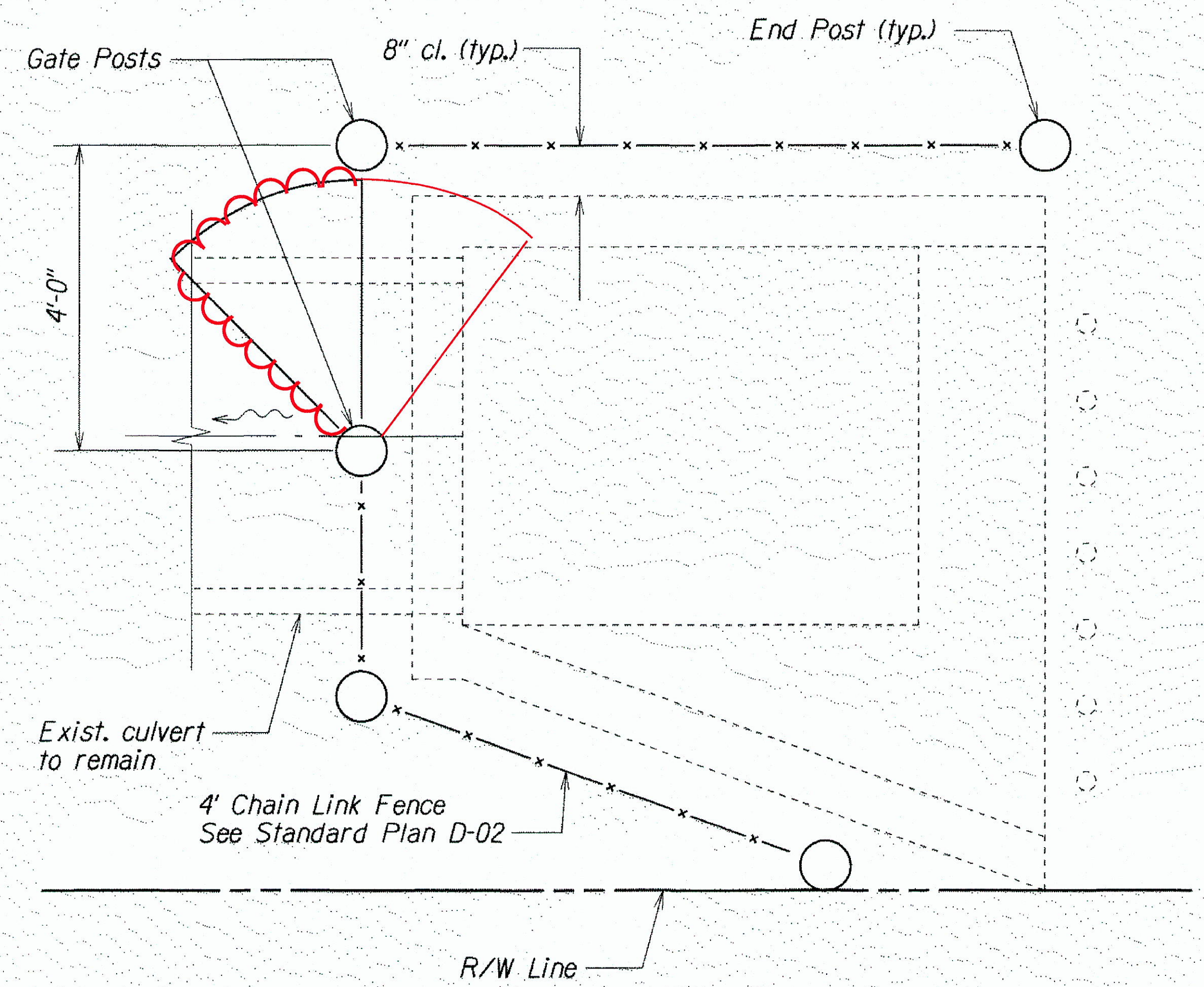
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-065-1(011)	2017	63	80



**DETAIL OF CHAIN LINK FENCE AT
EXIST. INLET STRUCTURE @ STA. 2+78± O/S 27± LT.**

Notes:

1. For chain link fence detail, see Std. Plan D-02. Use 4' height with soil type Stiff Clay.
2. Tree roots greater than two inches in diameter shall not be disturbed. Cutting of tree roots larger than two inches in diameter must be approved by an ISA Certified Arborist with a minimum of 10 years of continuous licensure and experience. Contractor to submit arborist's qualifications and a tree root assessment report to the Engineer for approval, prior to cutting tree roots. Root pruning shall be in conformance with ANSI A300 (part 8) latest edition. Root pruning shall take place under the supervision of the approved arborist at all times. Clearing and grubbing shall be paid for by Item No. 201.1000 - Clearing and Grubbing. Arborist shall be paid for by Item No. 201.2000 - Arborist Services.



**DETAIL OF CHAIN LINK FENCE AT
EXIST. INLET STRUCTURE @ STA. 2+28± O/S 37± LT.**

LEGEND FOR AS-BUILT POSTINGS	
	SQUIGGLY LINE FOR AS-BUILT DELETION
	DOUBLE LINE FOR AS-BUILT DELETION
	TEXT FOR AS-BUILT POSTING

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE DETAILS

MOKAPU SADDLE ROAD REHABILITATION
Nanamoana Street to Oneawa Street
Federal Aid Project No. STP-065-1(011)

Scale: 3/4"=1'-0" Date: March, 2017

SHEET No. H9 OF 9 SHEETS

AS-BUILT

DESIGNED BY	DATE
DRAWN BY	
CHECKED BY	
IN CHARGE	
APPROVED BY	