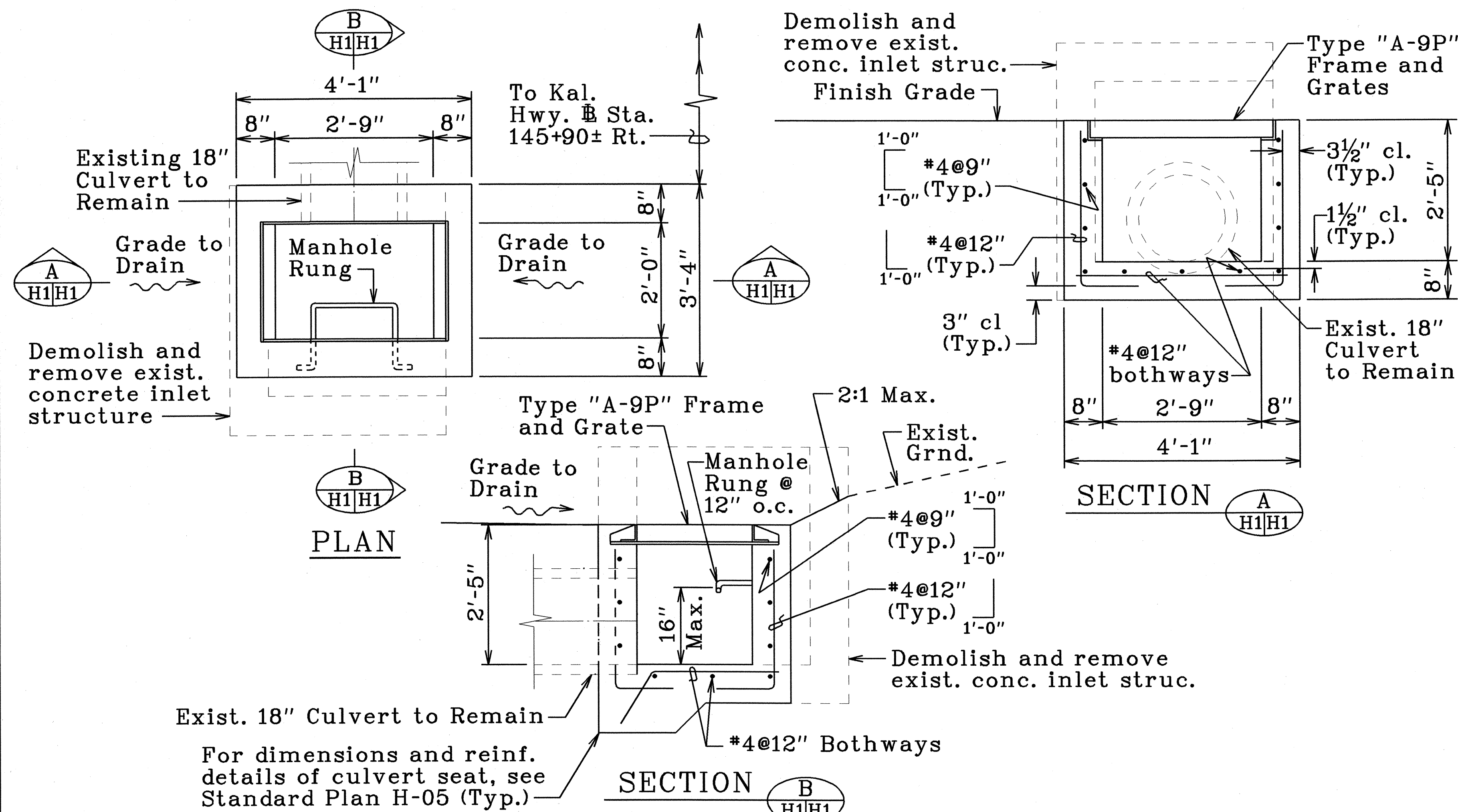
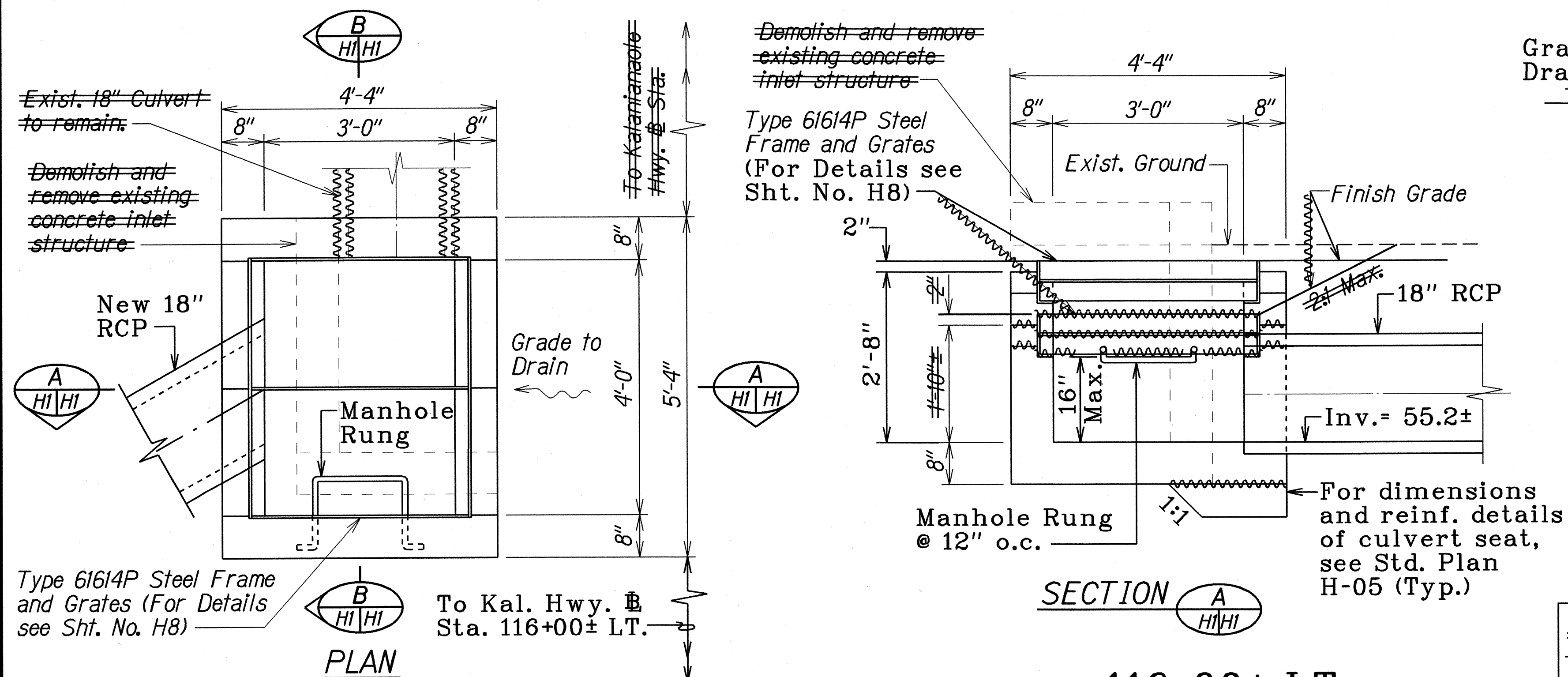


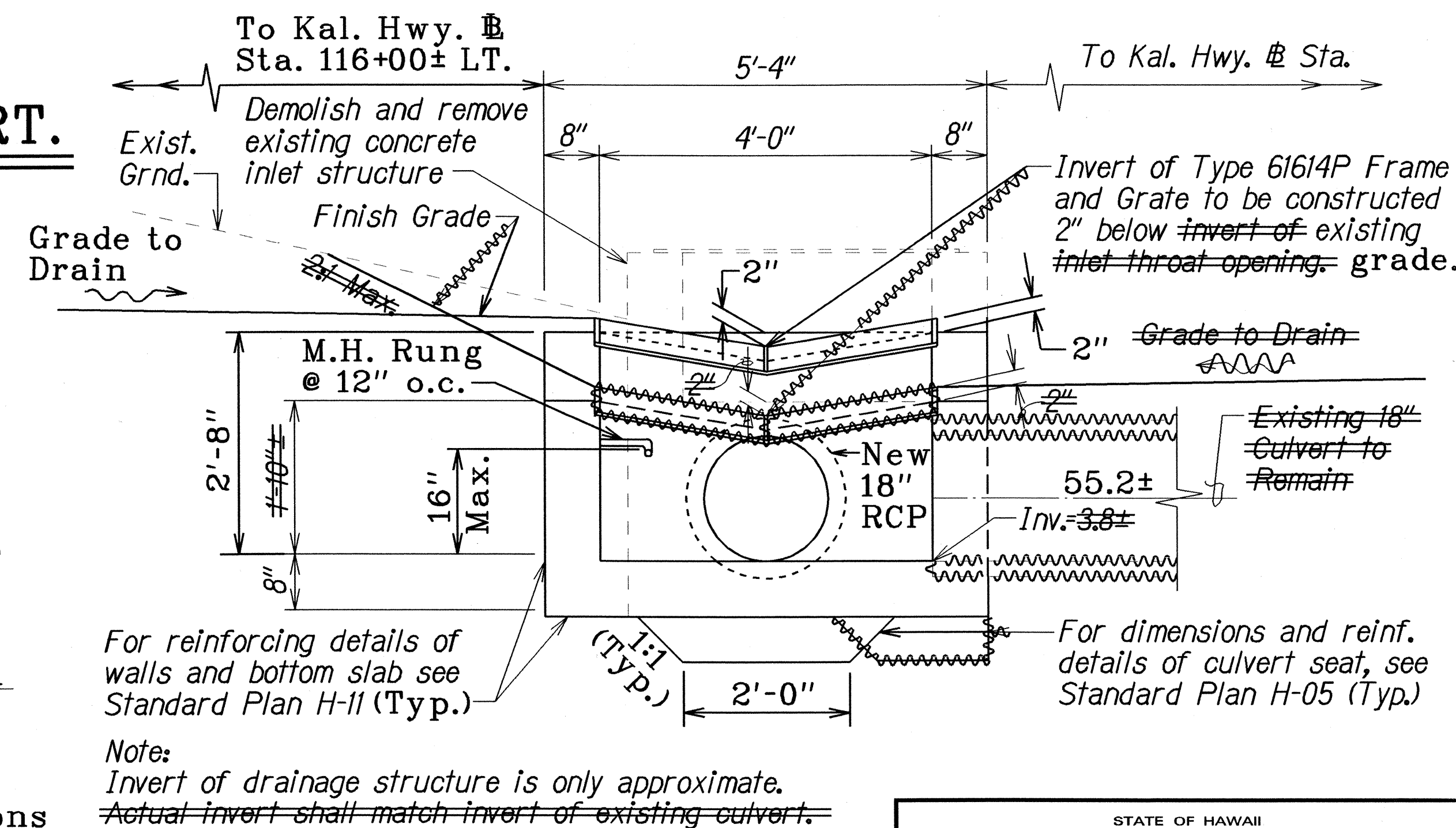


DETAILS OF TYPE A-9P GRATED DROP INLET AT STA. 145+90± RT.



DETAILS OF TYPE 61614P GRATED DROP INLET AT STA. 116+00± LT.

DRAINAGE SUMMARY											
ITEM NO.	206.2020	603.0010	603.1006	603.2070	604.5102	604.5103	604.5201	604.5202	604.5203	604.5301	604.5302
UNIT USED	C.Y.	C.Y.	L.F.	L.F.	EA.	EA.	EA.	EA.	EA.	EA.	EA.
BASELINE STATION											
145+90± Rt.					1						
150+64± o/s 26± Rt.								1			
109+43± o/s 22± Lt.							1				
110+32± o/s 14± Lt.										1	
113+74± o/s 22± Lt.						1					
116+00± Lt.	2	2	5	8						1	1
142+16± o/s 24± Rt.									1		
TOTAL	2	2	5	8	1	1	1	1	1	1	1



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**

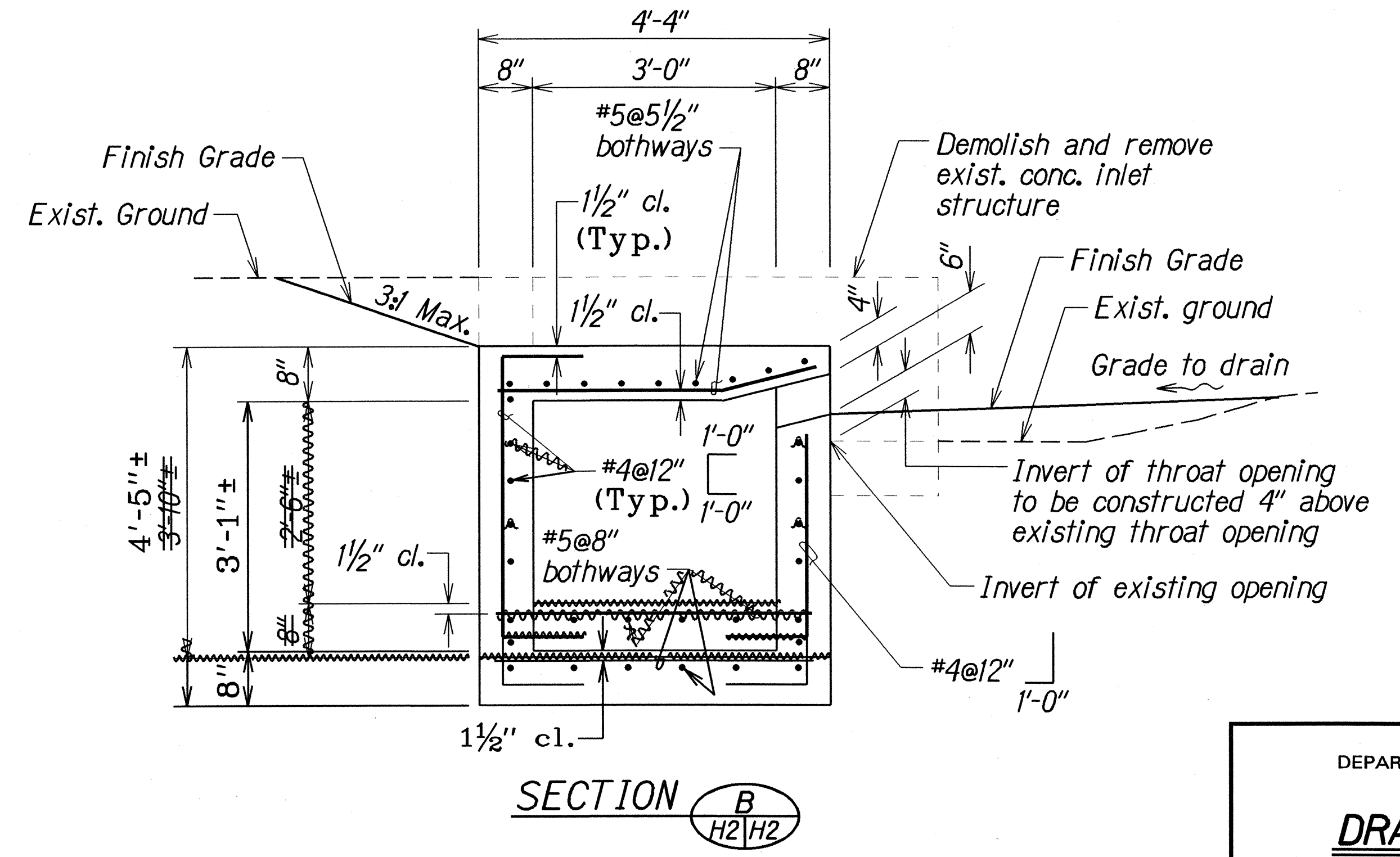
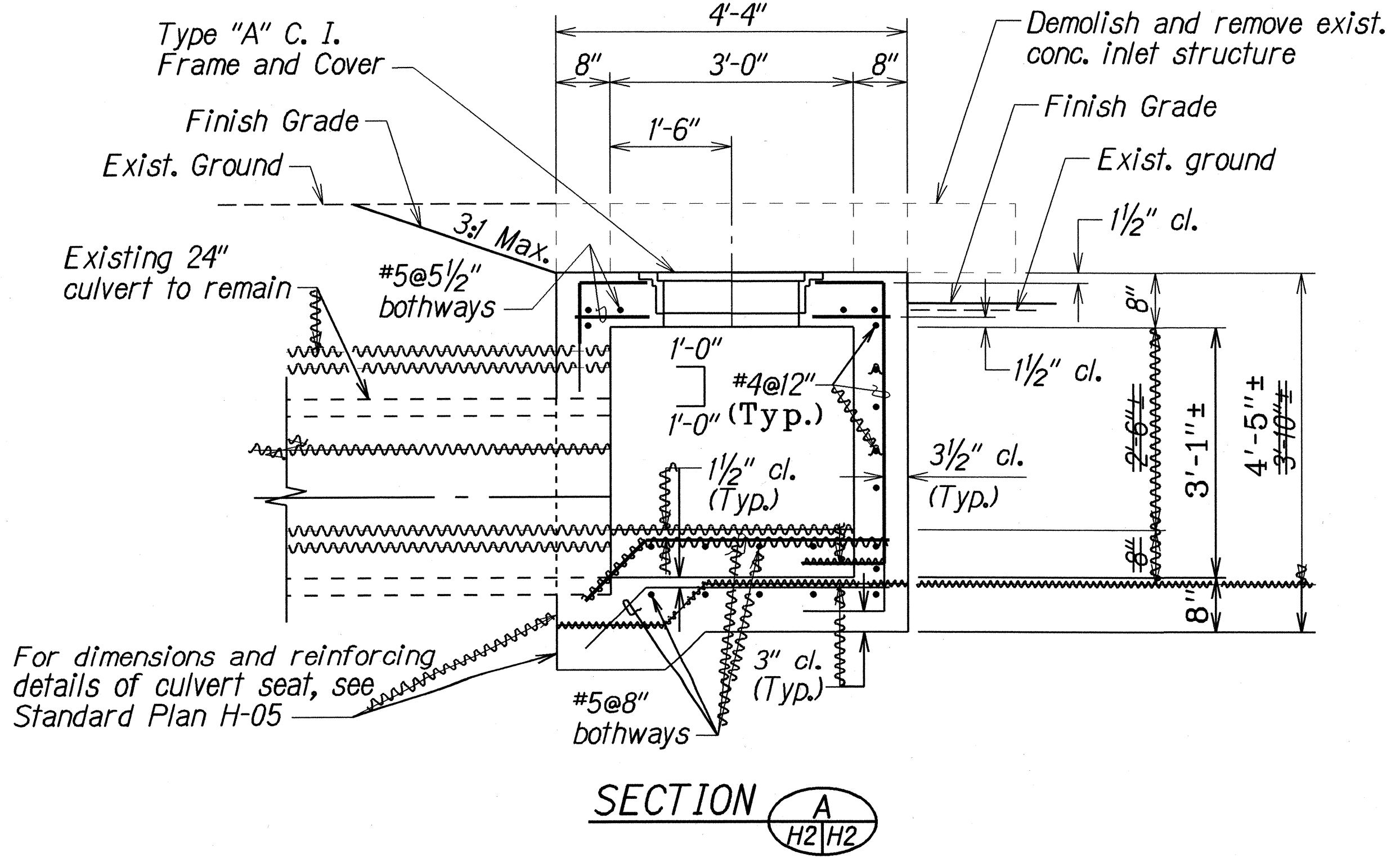
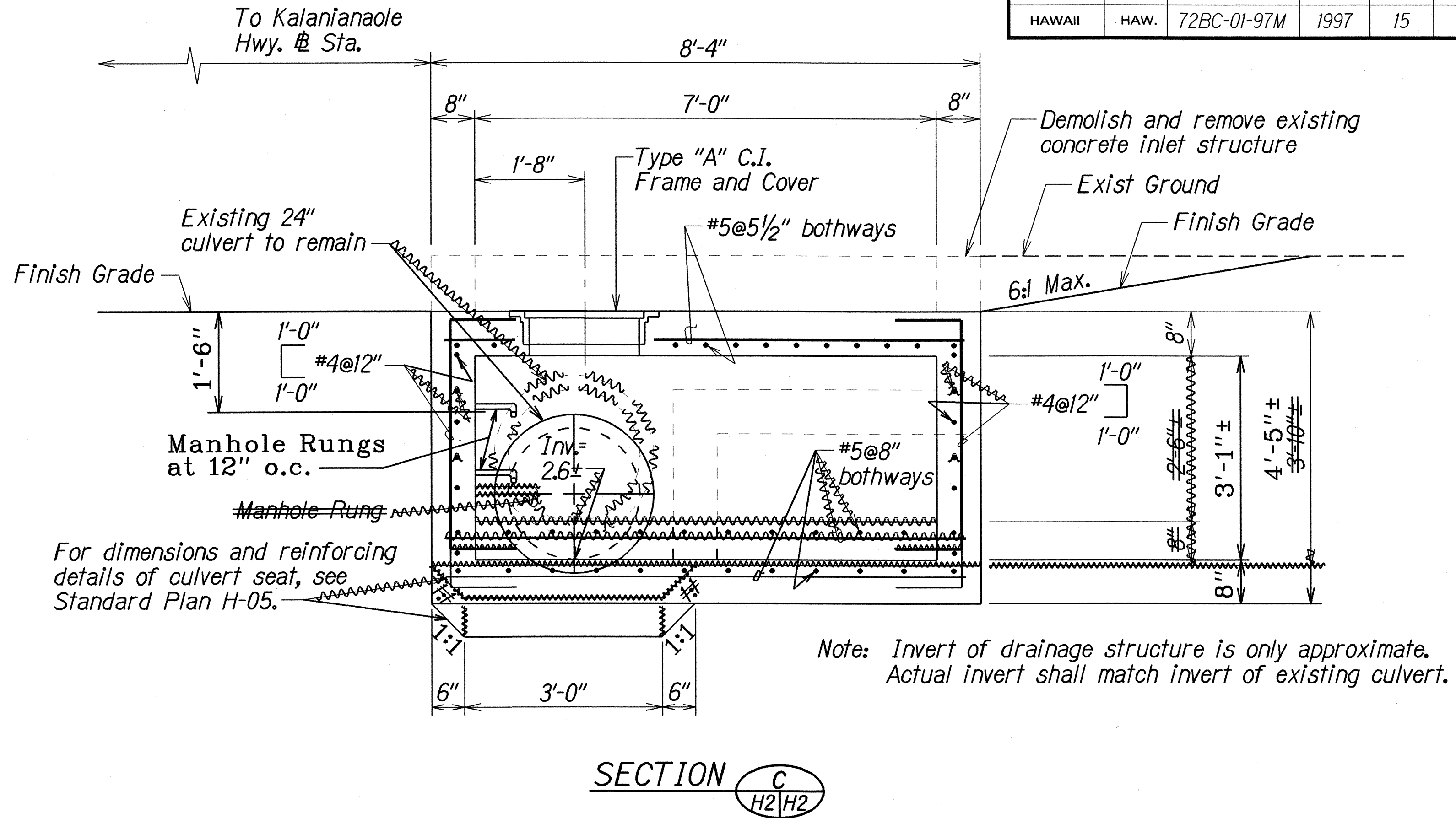
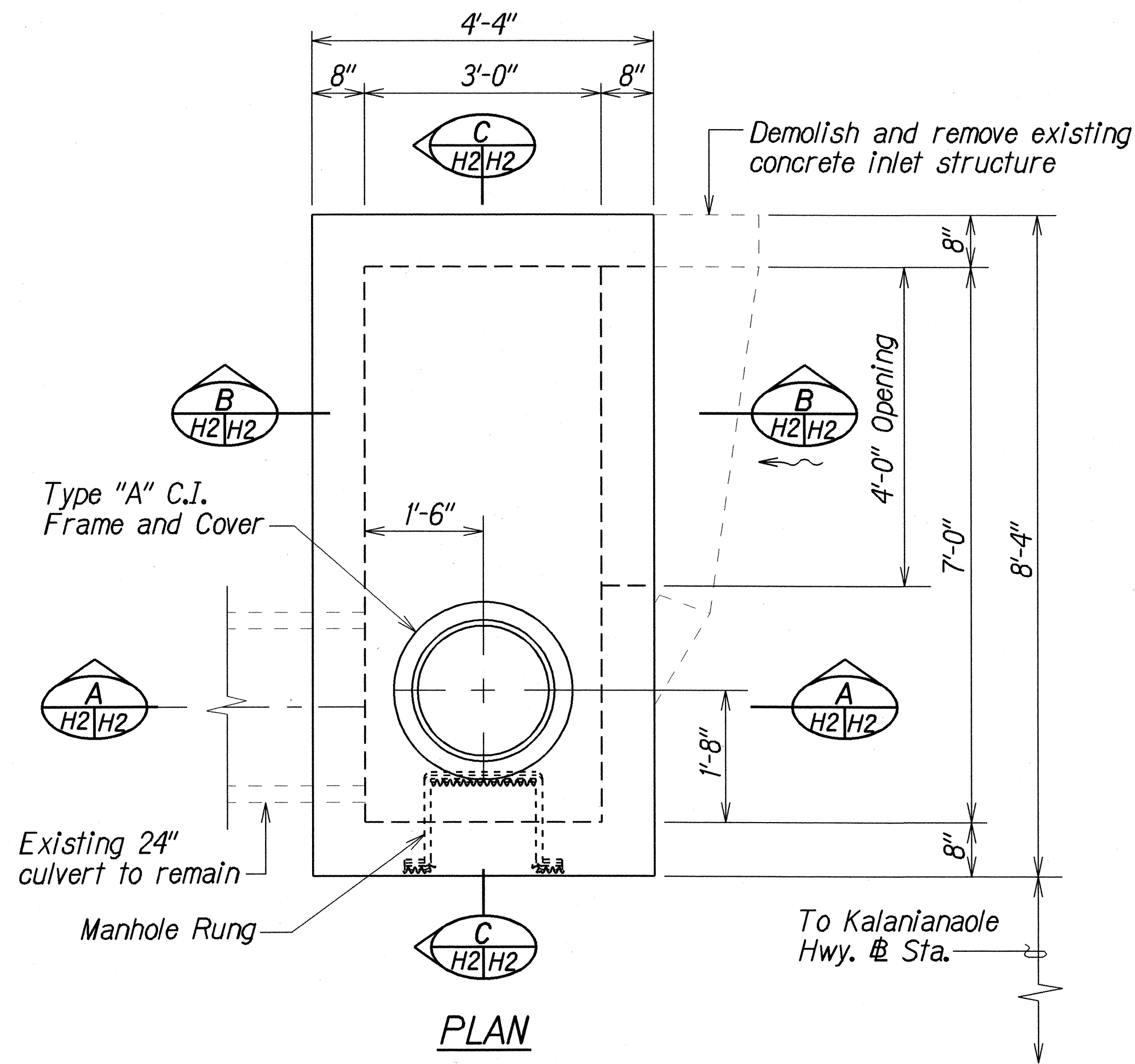
KALANIANA'OLE HIGHWAY RESURFACING  
Keahole St. to Hanauma Bay  
Project No. 72BC-01-97M

Scale: 3/4"=1'-0" Date: May, 1997

SHEET No. 14 OF 8 SHEETS

"AS-BUILT"

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	72BC-01-97M	1997	15	32



DETAILS OF MODIFIED TYPE "I" CATCH BASIN AT # STA. 150+64± o/s 26'± LT.

LEGEND FOR AS-BUILT POSTINGS	
	Squiggly line for as-built deletion
	Double line for as-built deletion
	Text for as-built posting

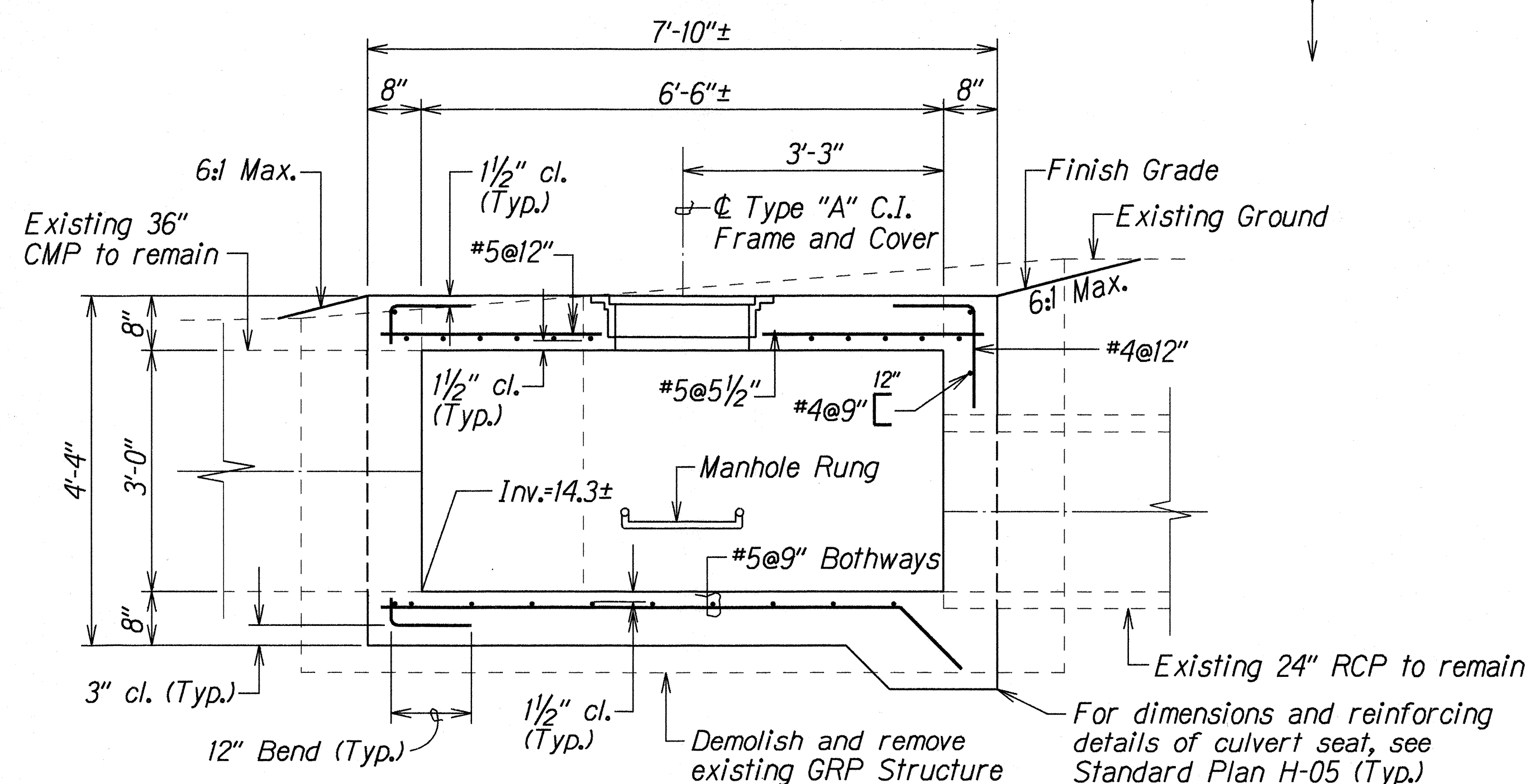
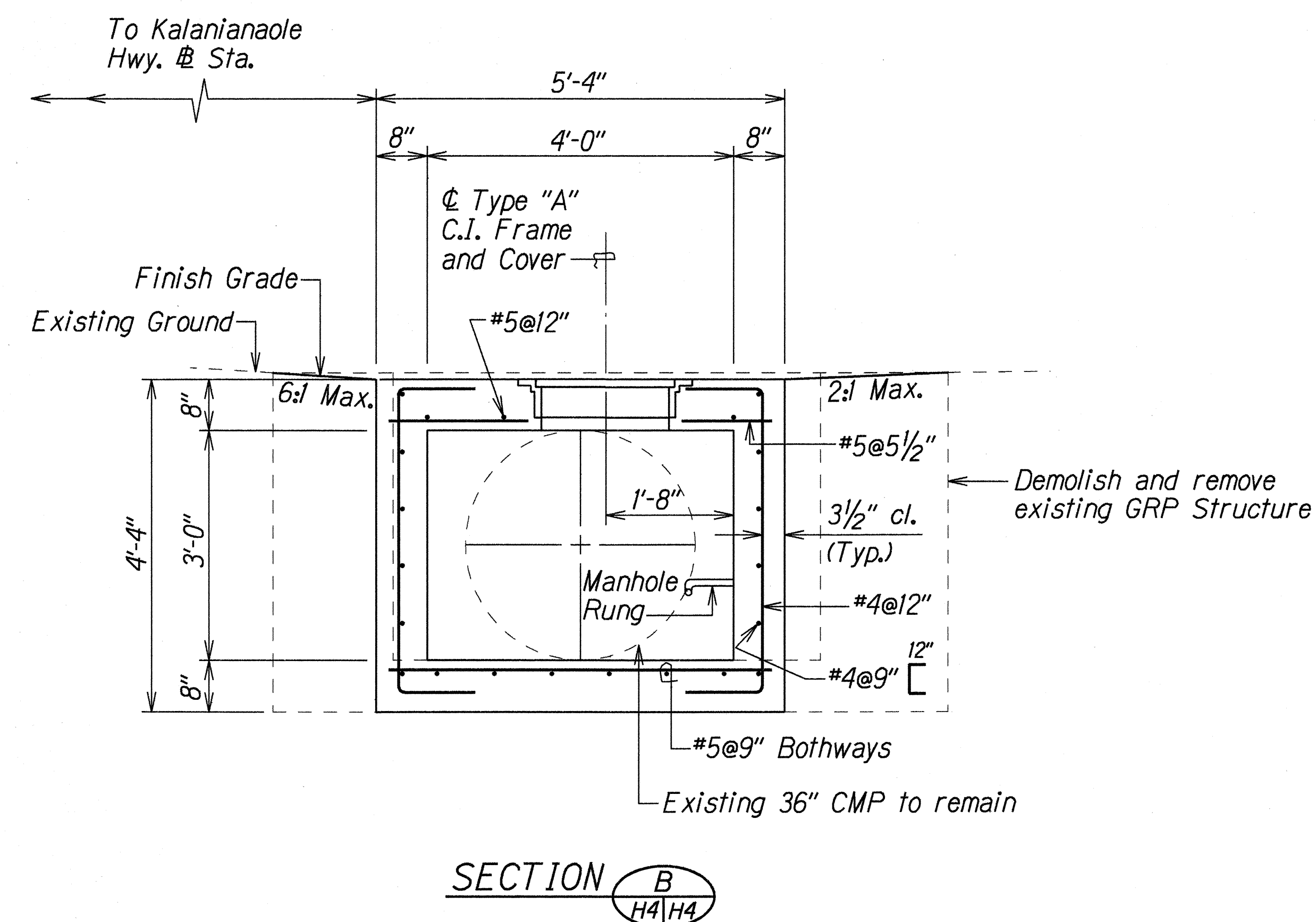
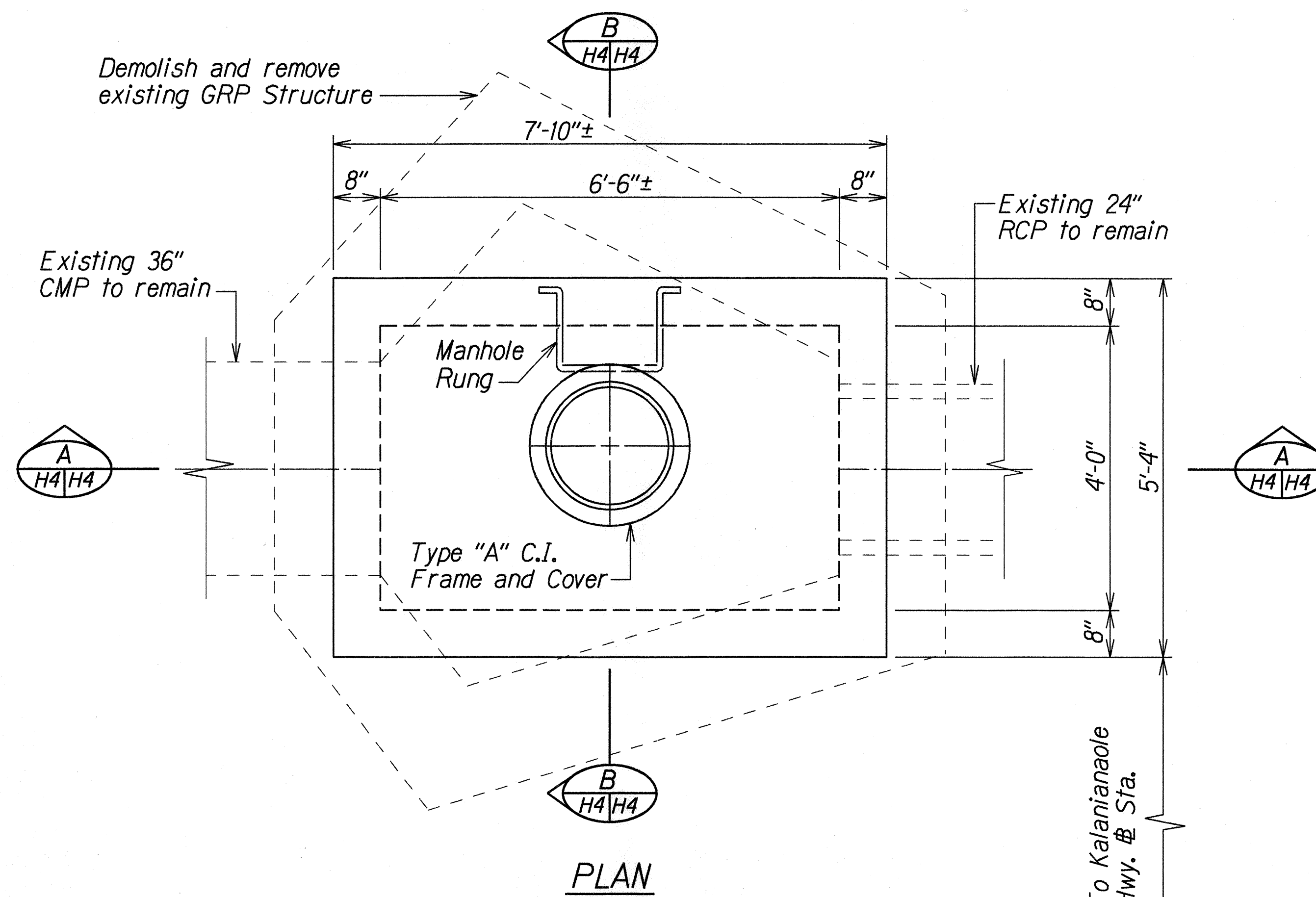
STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**DRAINAGE DETAILS**  
**KALANIANA'OLE HIGHWAY RESURFACING**  
**Keahole St. to Hanauma Bay**  
**Project No. 72BC-01-97M**  
Scale: 3/4"=1'-0"      Date: May 1997

SHEET No. **H2** OF **8** SHEETS



FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	72BC-01-97M	1997	17	32



Note: Invert of drainage structure is only approximate.  
Actual invert shall match invert of existing 36" culvert.

# DETAILS OF TYPE "1" STORM DRAIN MANHOLE AT # STA. 110+32± o/s 14'± LT.

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

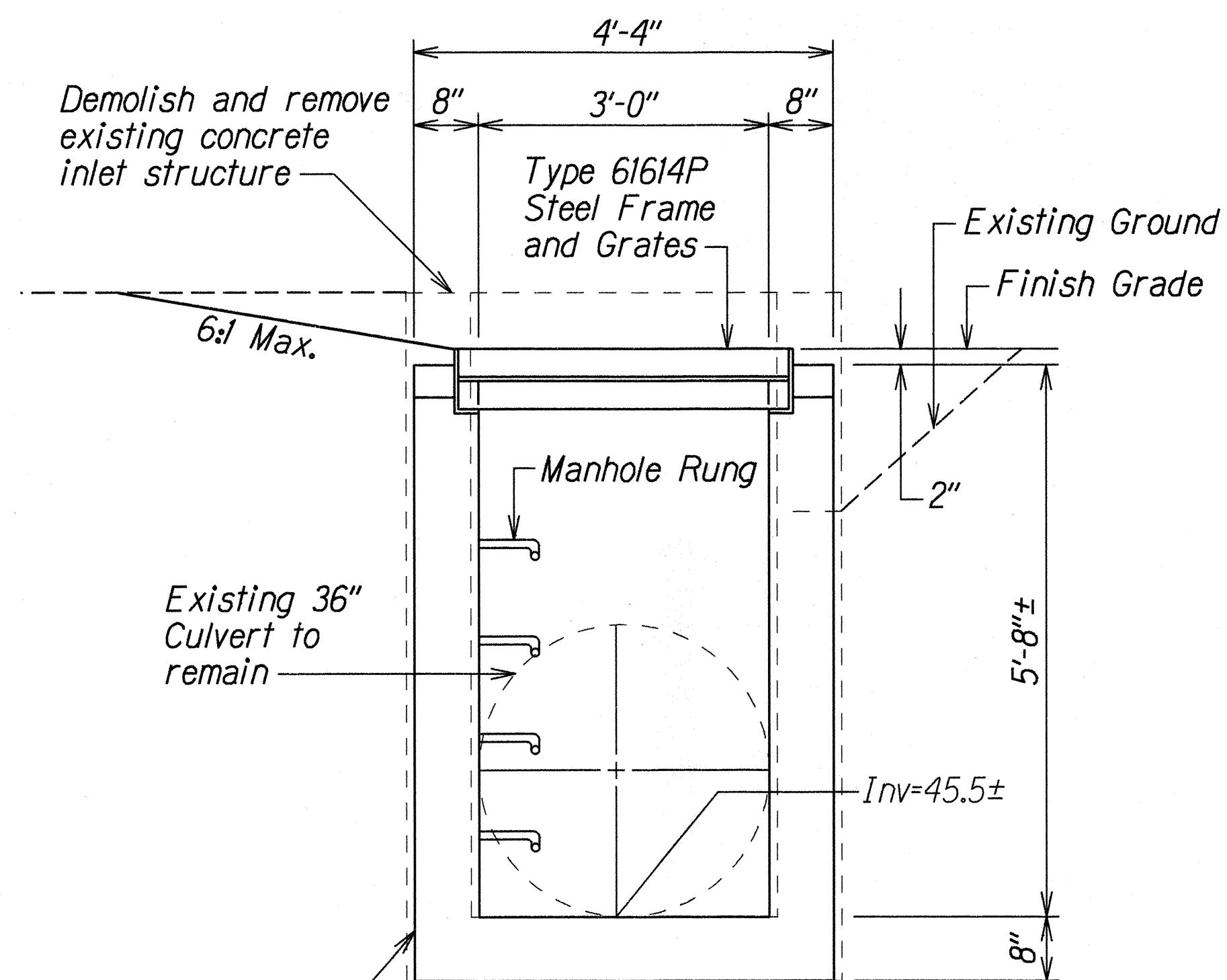
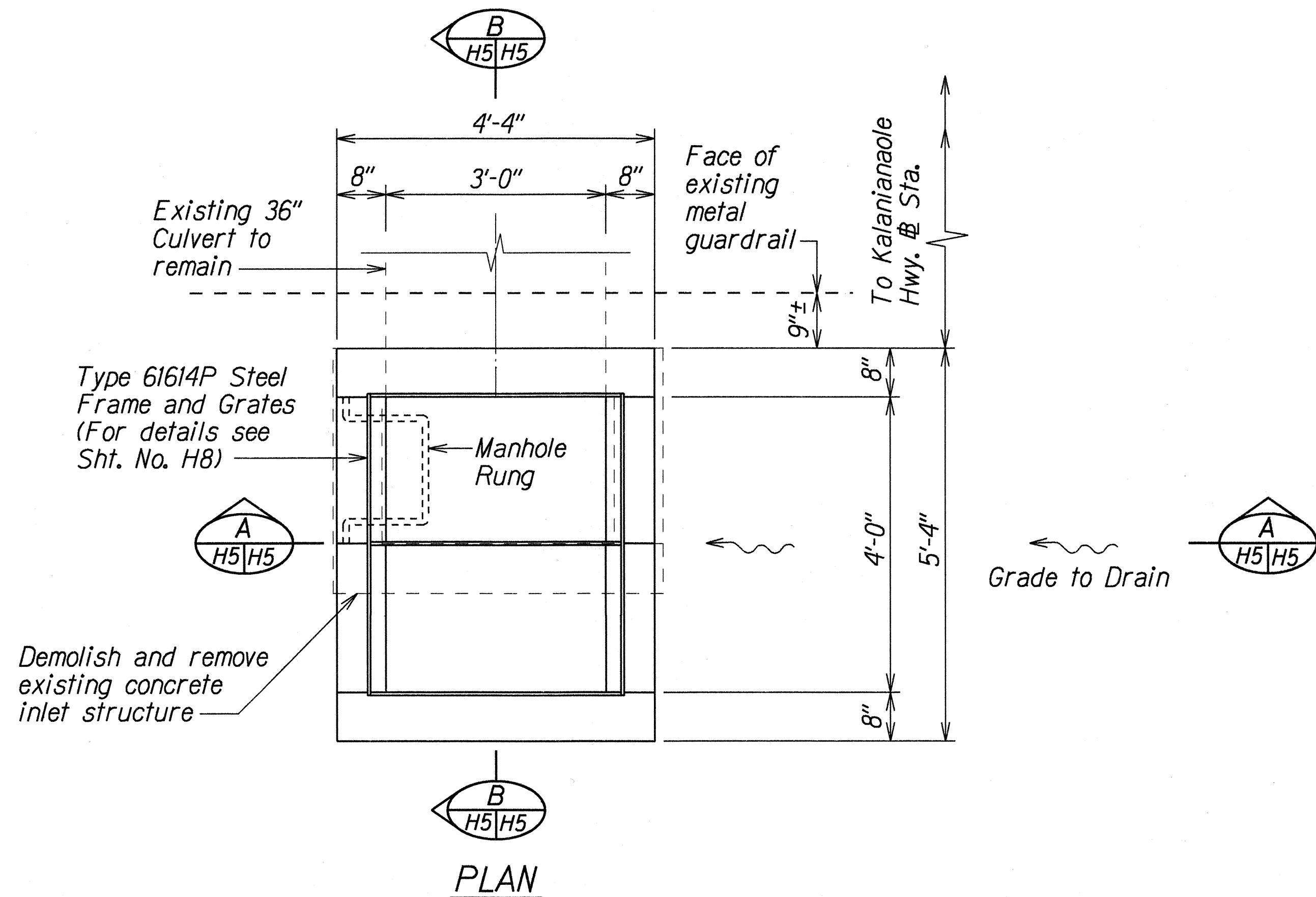
**DRAINAGE DETAILS**

KALANIANA'OLE HIGHWAY RESURFACING  
Keahole St. to Hanauma Bay  
Project No. 72BC-01-97M

Scale: 3/4"=1'-0" Date: May, 1997

SHEET No. H4 OF 8 SHEETS

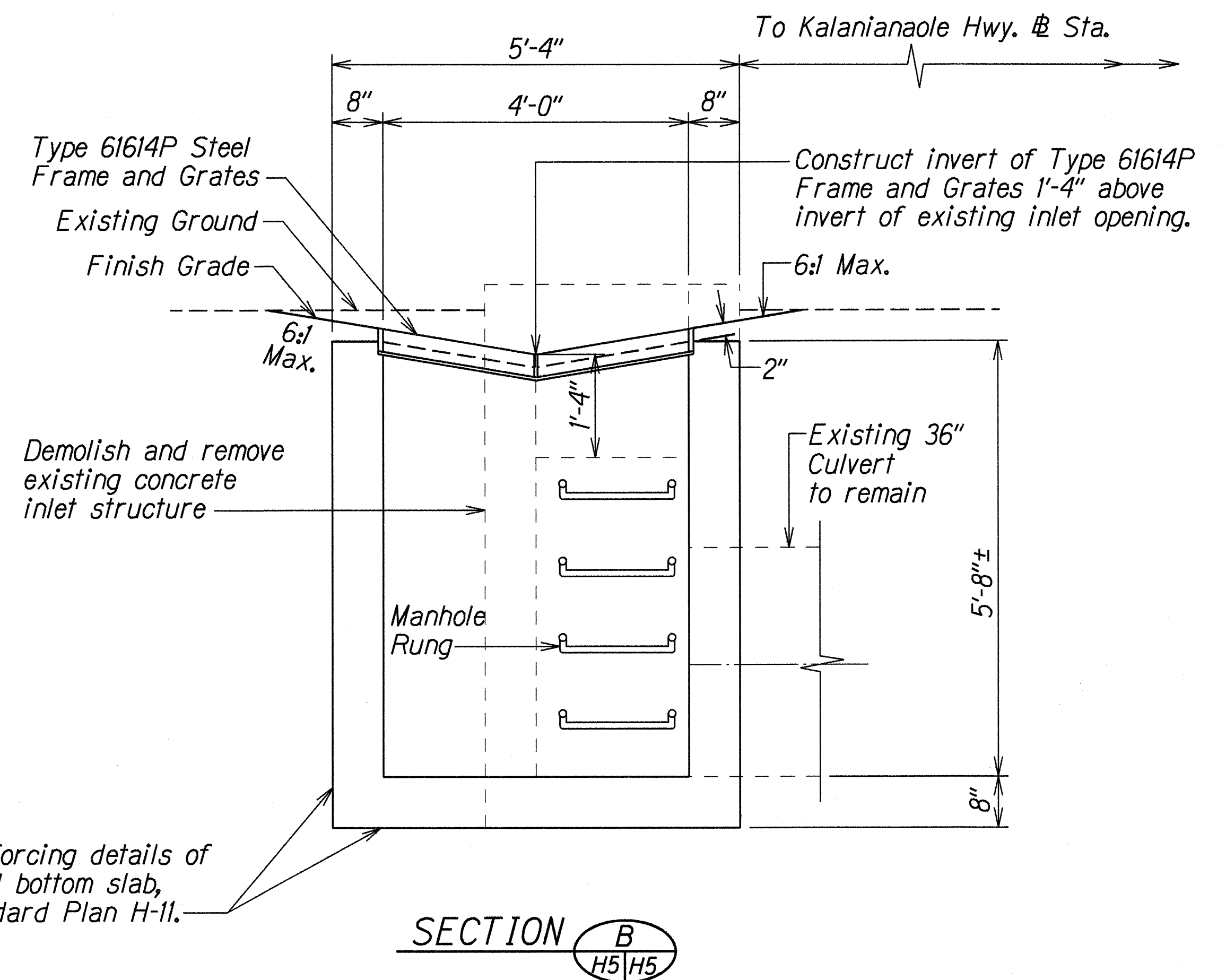
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	72BC-01-97M	1997	18	32



For reinforcing details of walls and bottom slab, see Standard Plan H-11.

Note: Invert of drainage structure is only approximate. Actual invert shall match invert of existing culvert.

SECTION A  
H5/H5



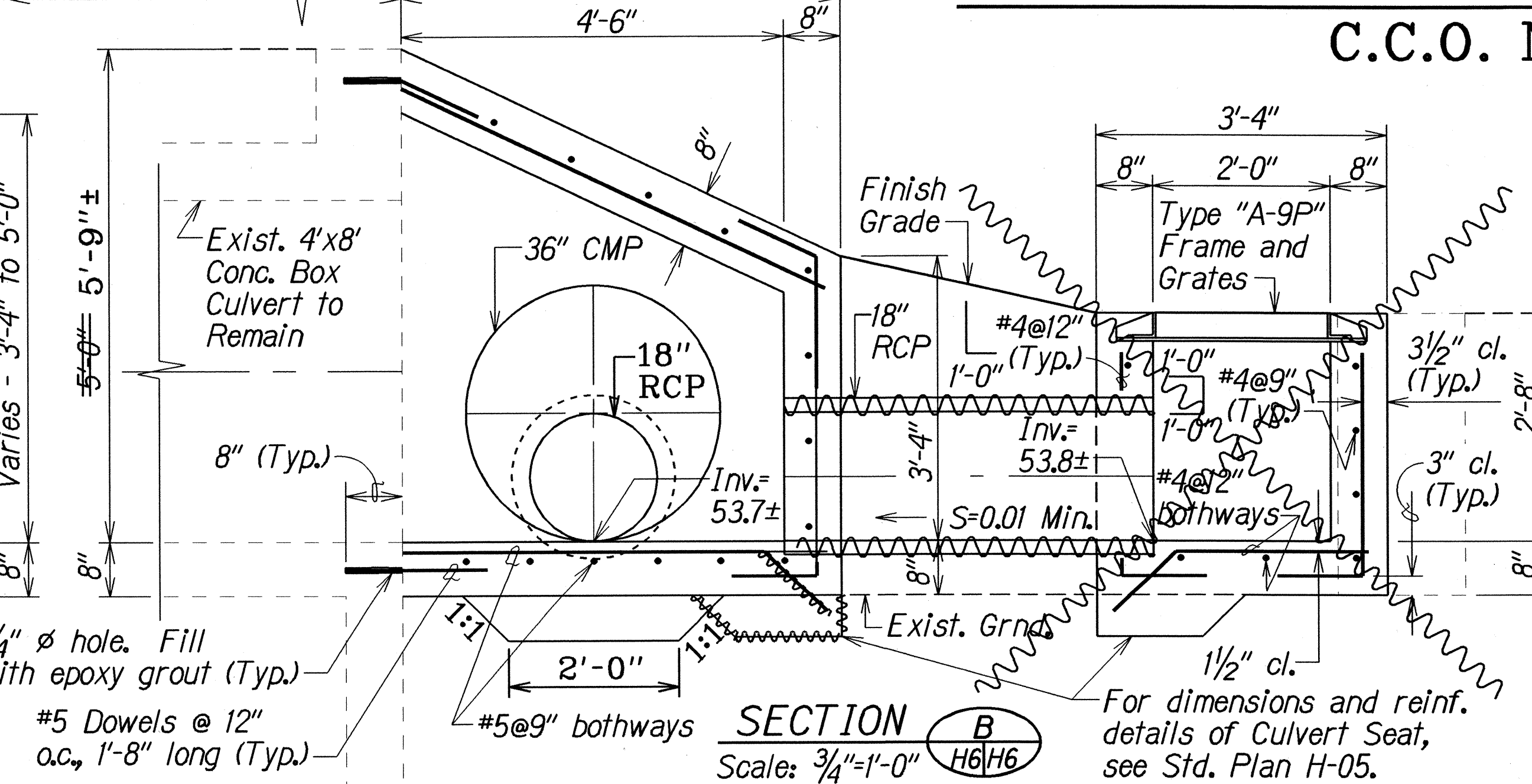
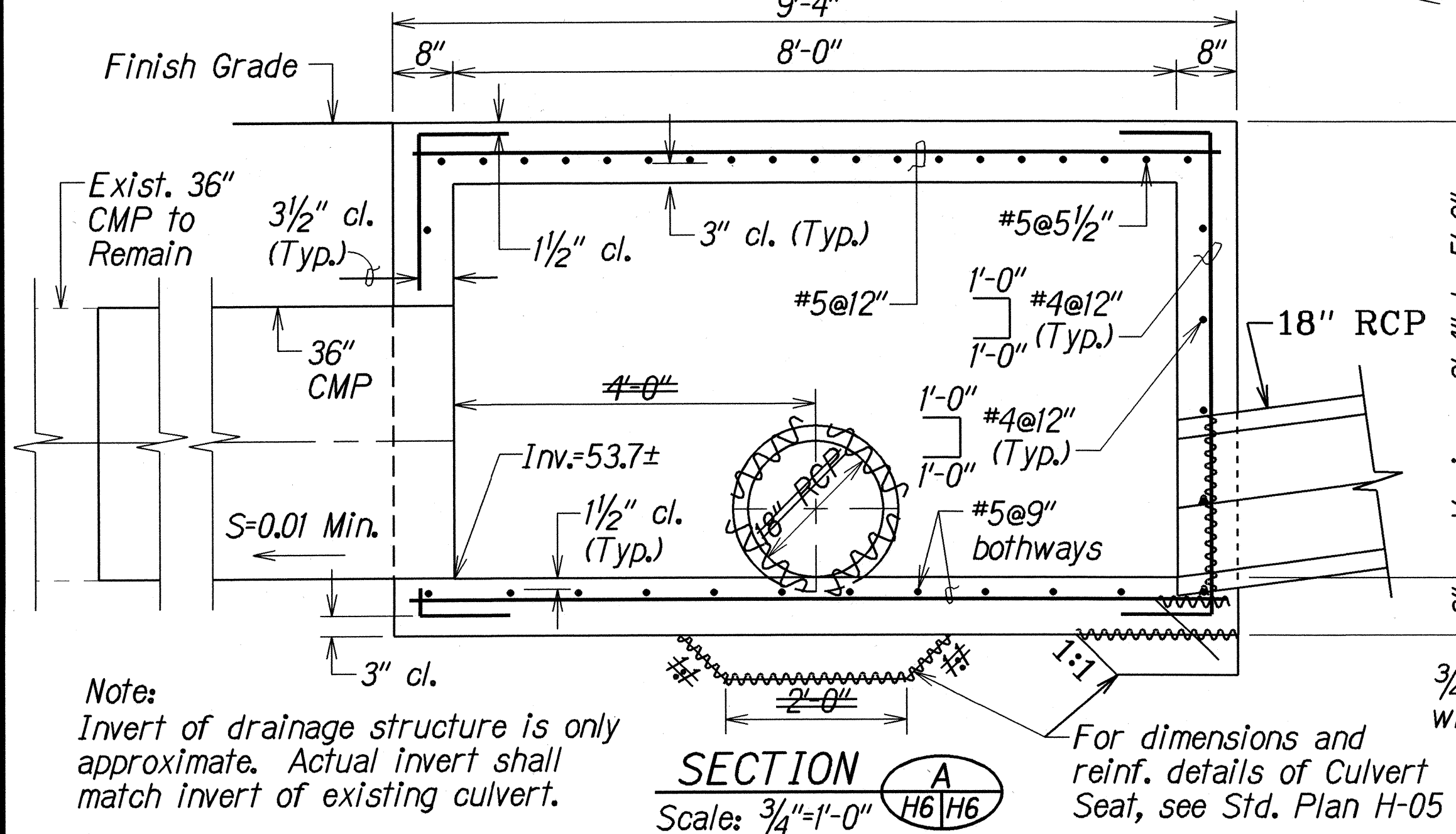
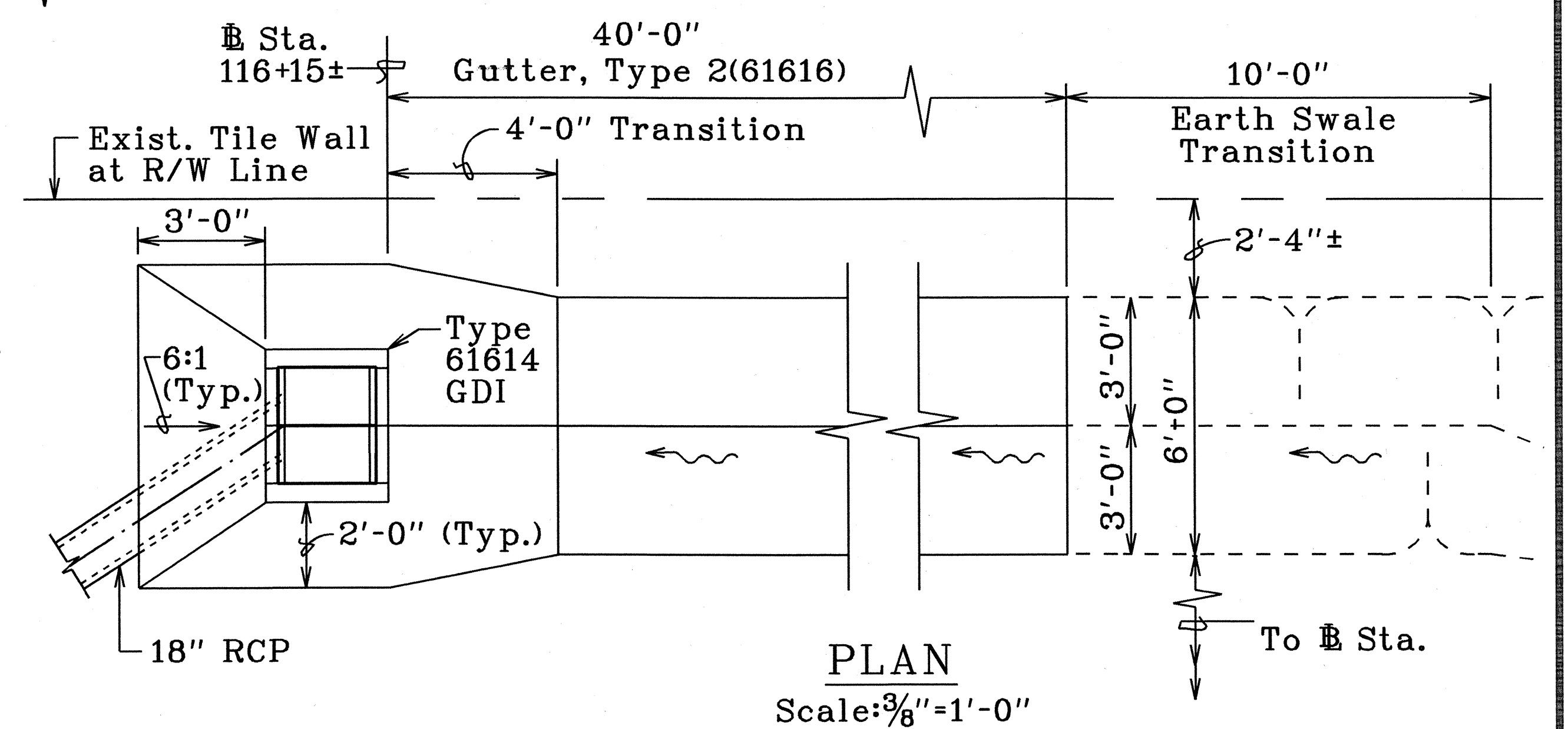
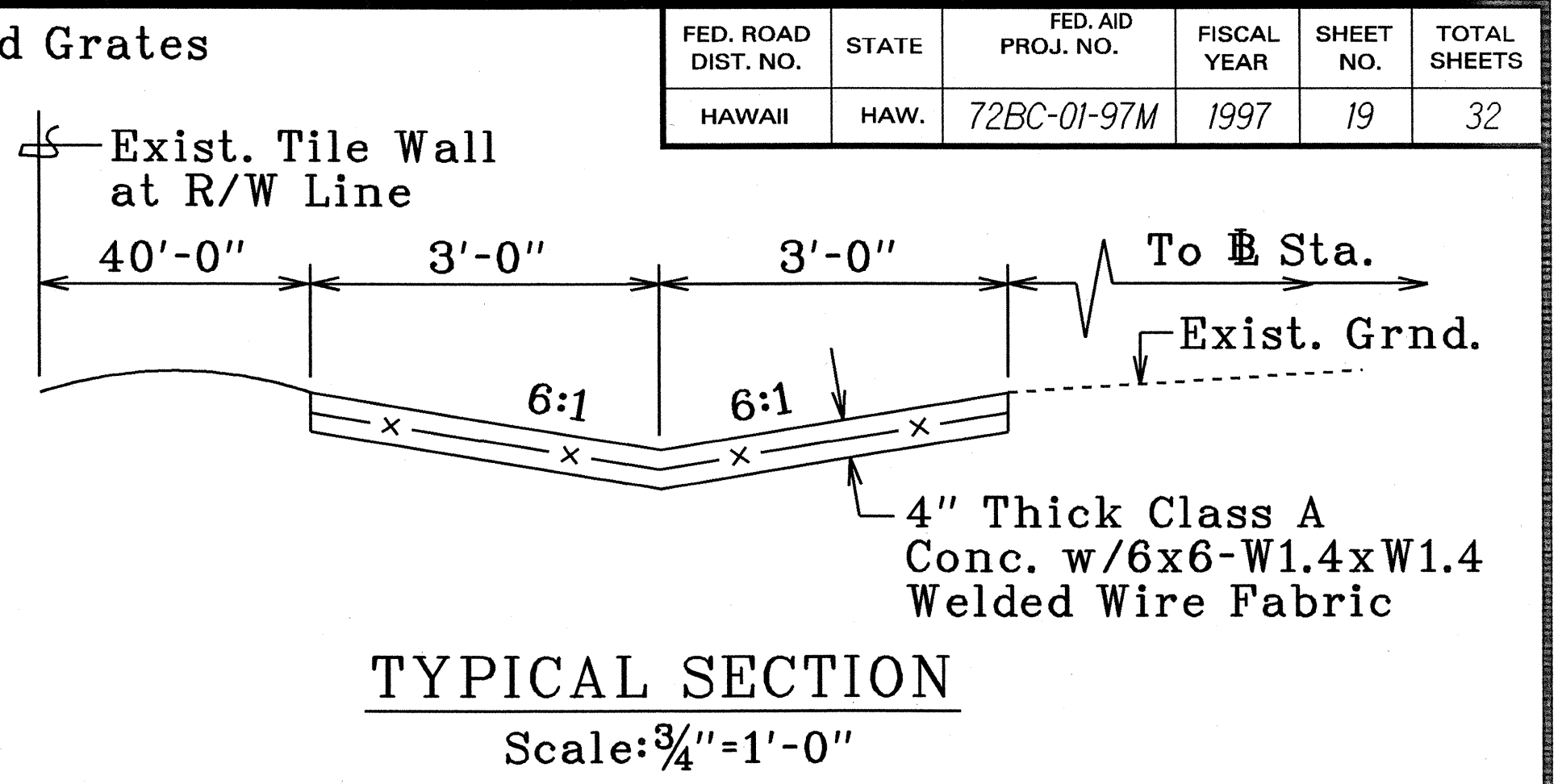
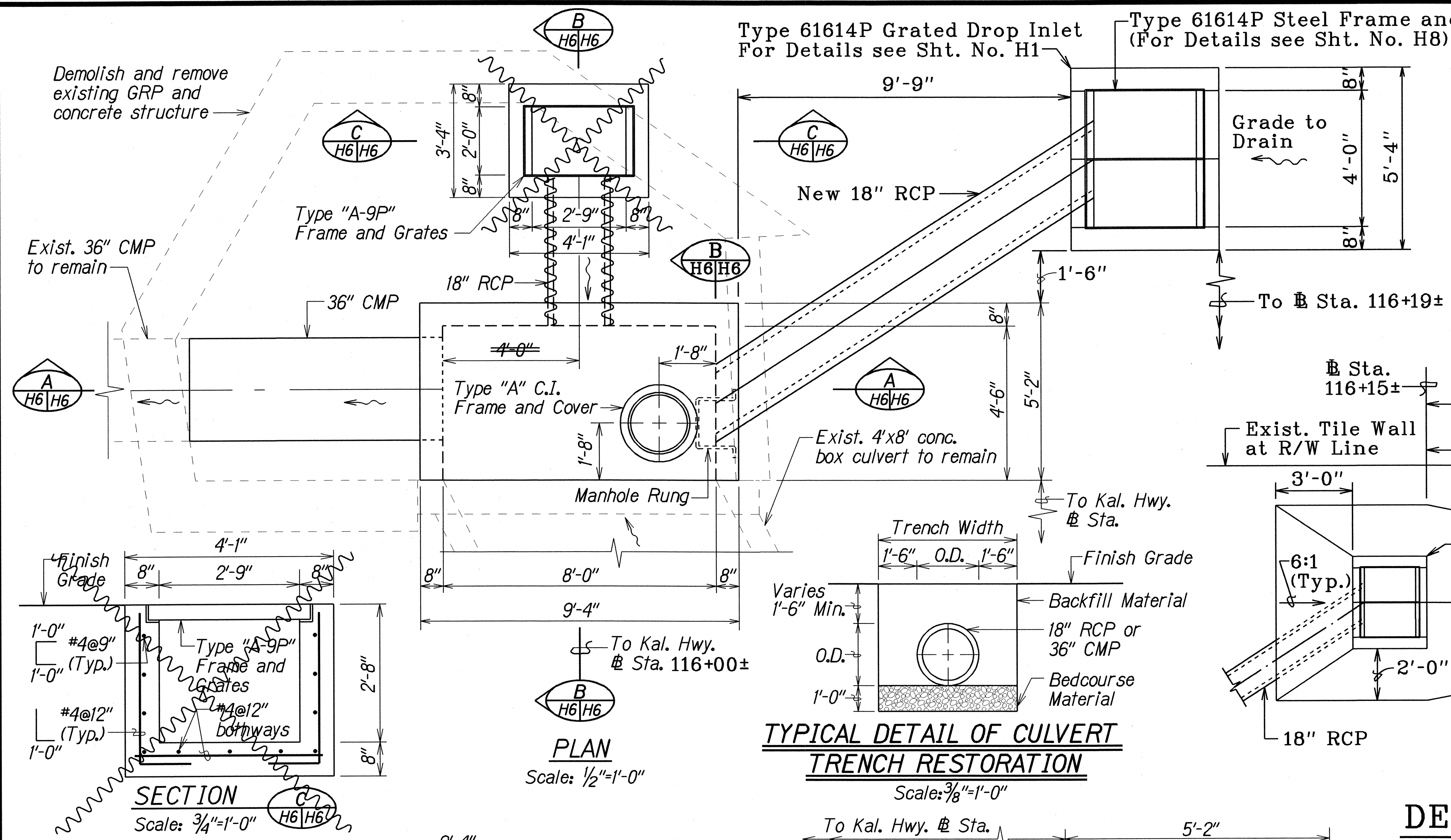
For reinforcing details of walls and bottom slab, see Standard Plan H-11.

## DETAILS OF TYPE 61614P GRATED DROP INLET AT # STA. 113+74± o/s 22'± RT.

SURVEY PLATTED BY	DATE
DRAWN BY	
DESIGNED BY	
CHECKED BY	
NOTED BY	
APPROVED BY	

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
<b>DRAINAGE DETAILS</b>	
KALANIANA'OLE HIGHWAY RESURFACING	
Keahole St. to Hanauma Bay	
Project No. 72BC-01-97M	
Scale: 3/4"=1'-0"	Date: May 1997
SHEET No. H5 OF 8 SHEETS	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	72BC-01-97M	1997	19	32



**LEGEND FOR AS-BUILT POSTINGS**

	Squiggly line for as-built deletion
	Double line for as-built deletion
	Text for as-built posting

**Note:**  
Invert of drainage structure is only approximate. Actual invert shall match invert of existing culvert.

For dimensions and reinf. details of Culvert Seat, see Std. Plan H-05

For dimensions and reinf. details of Culvert Seat, see Std. Plan H-05.

**DETAILS OF TYPE "2" STORM DRAIN MANHOLE STA. 116+00± LT. AND TYPE A-9P 61614P GRATED DROP INLET AT STA. 116+00± LT.**

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**DRAINAGE DETAILS**

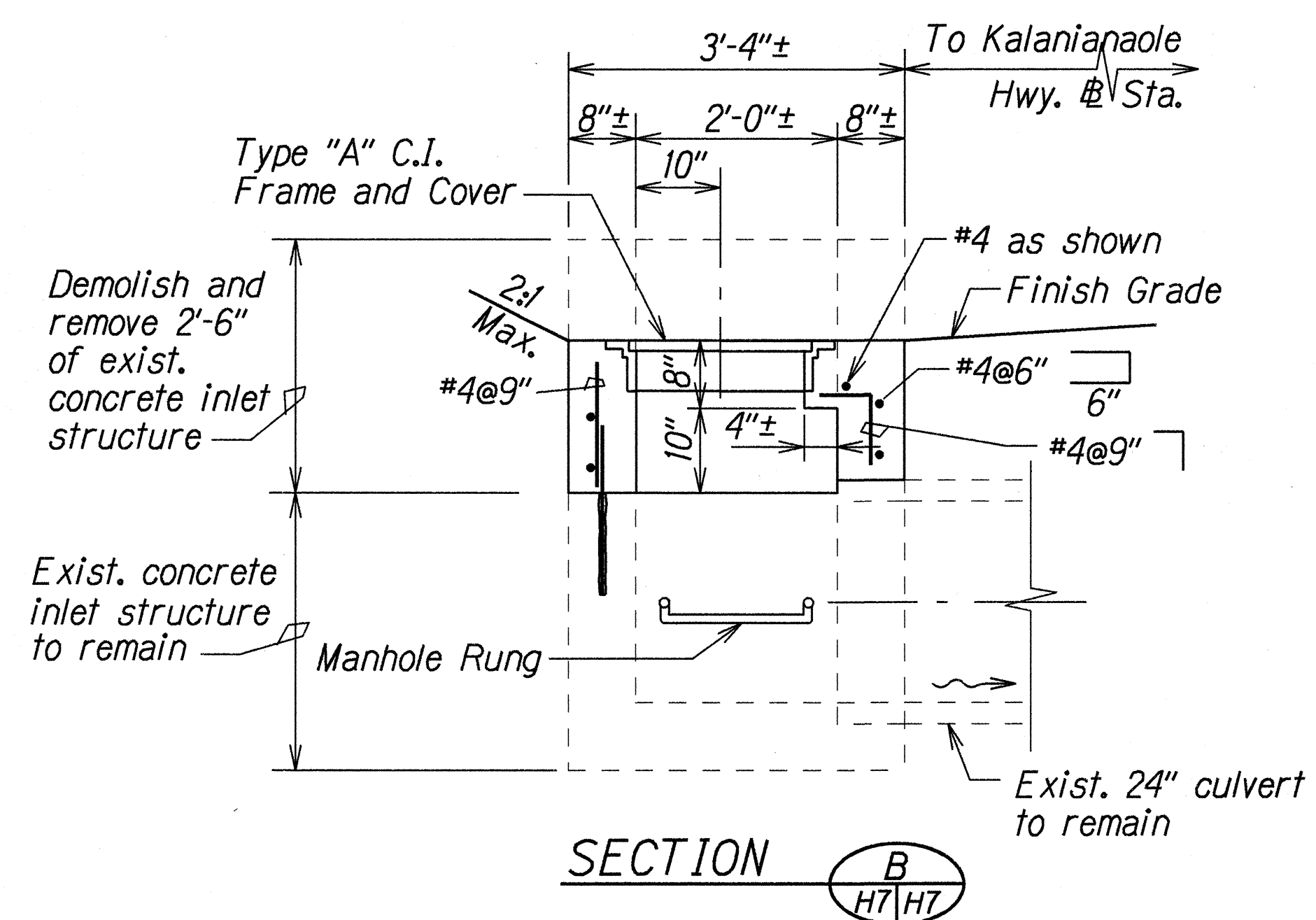
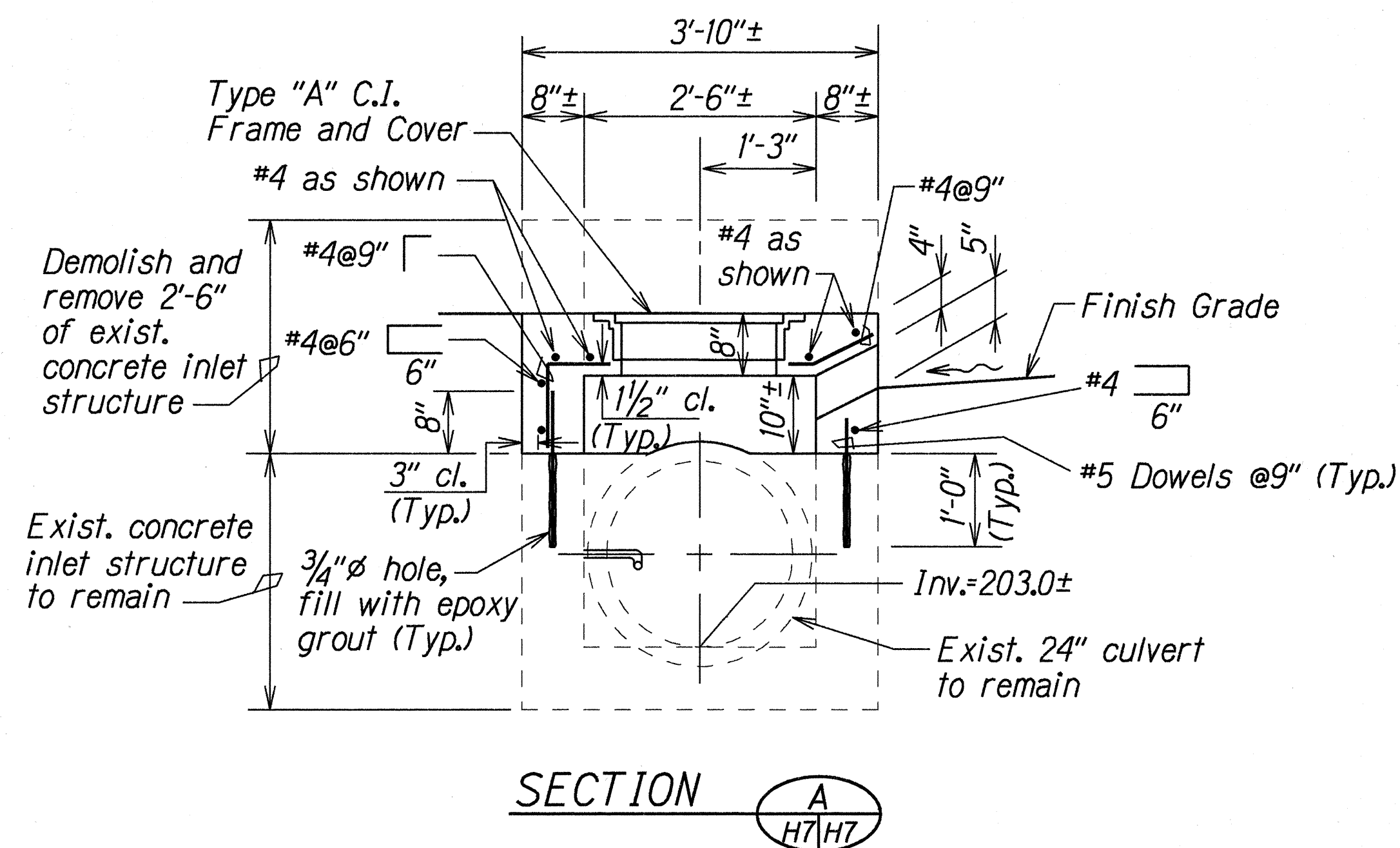
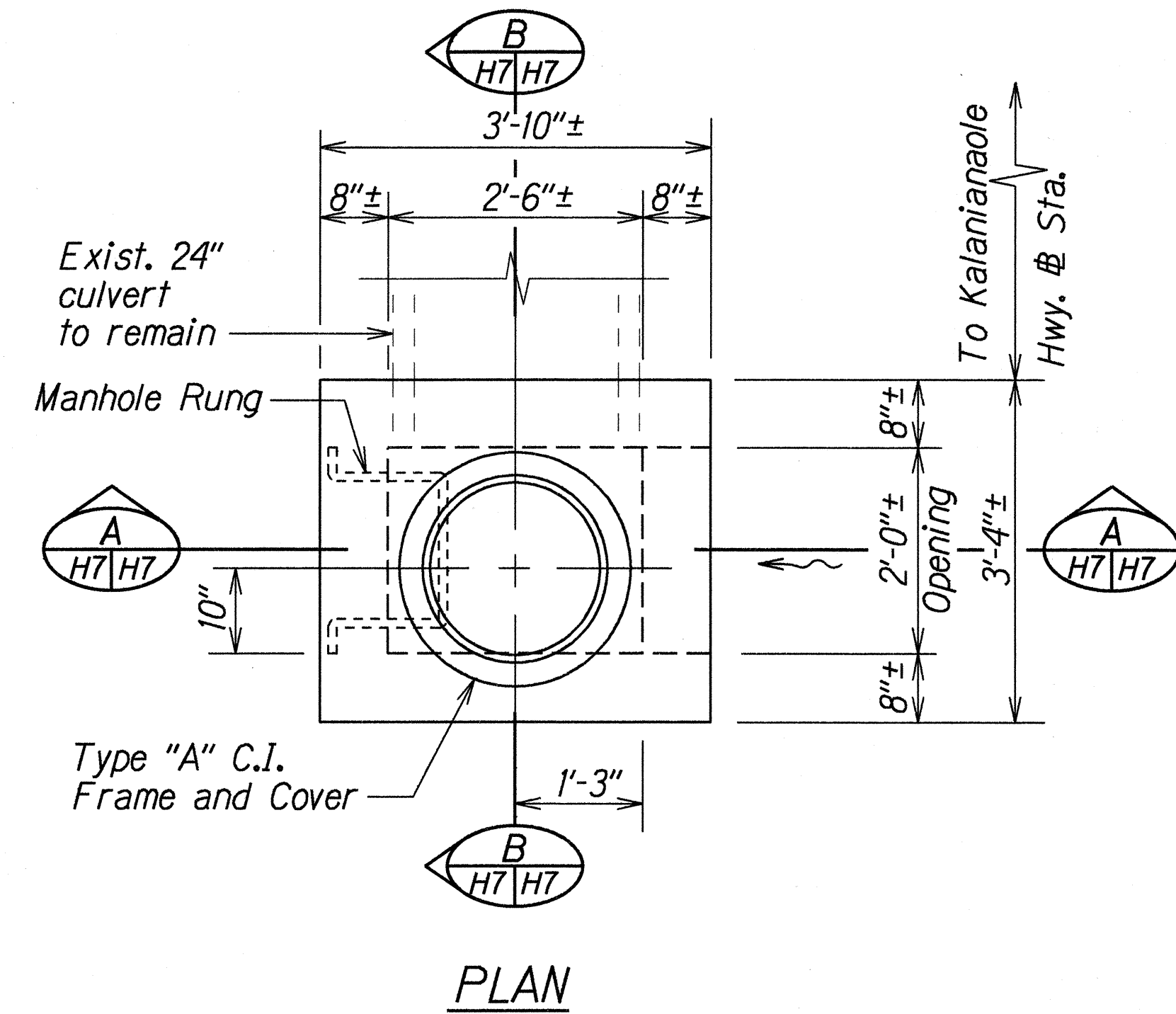
**KALANIANA'OLE HIGHWAY RESURFACING**  
Keahole St. to Hanauma Bay  
Project No. 72BC-01-97M

Scale: As Shown Date: May 1997

SHEET No. H6 OF 8 SHEETS

"AS-BUILT"

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	72BC-01-97M	1997	20	32



Note: Invert of drainage structure is only approximate.  
Actual invert shall match invert of existing culvert.

## DETAILS OF MODIFIED TYPE "2" CATCH BASIN AT # STA. 142+16± o/s 24'± RT.

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

### DRAINAGE DETAILS

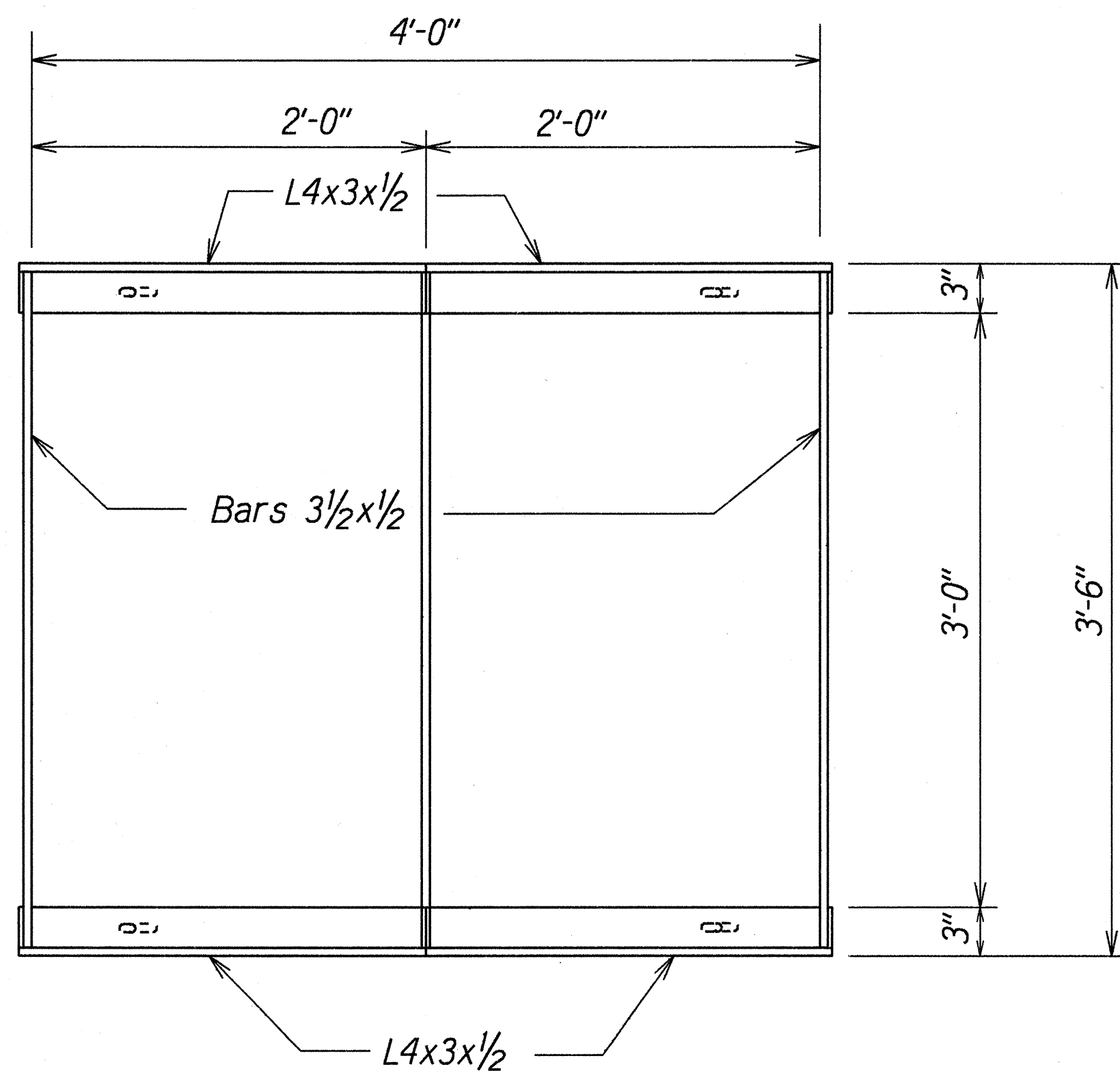
KALANIANA'OLE HIGHWAY RESURFACING  
Keahole St. to Hanauma Bay  
Project No. 72BC-01-97M

Scale: 3/4"=1'-0" Date: May 1997

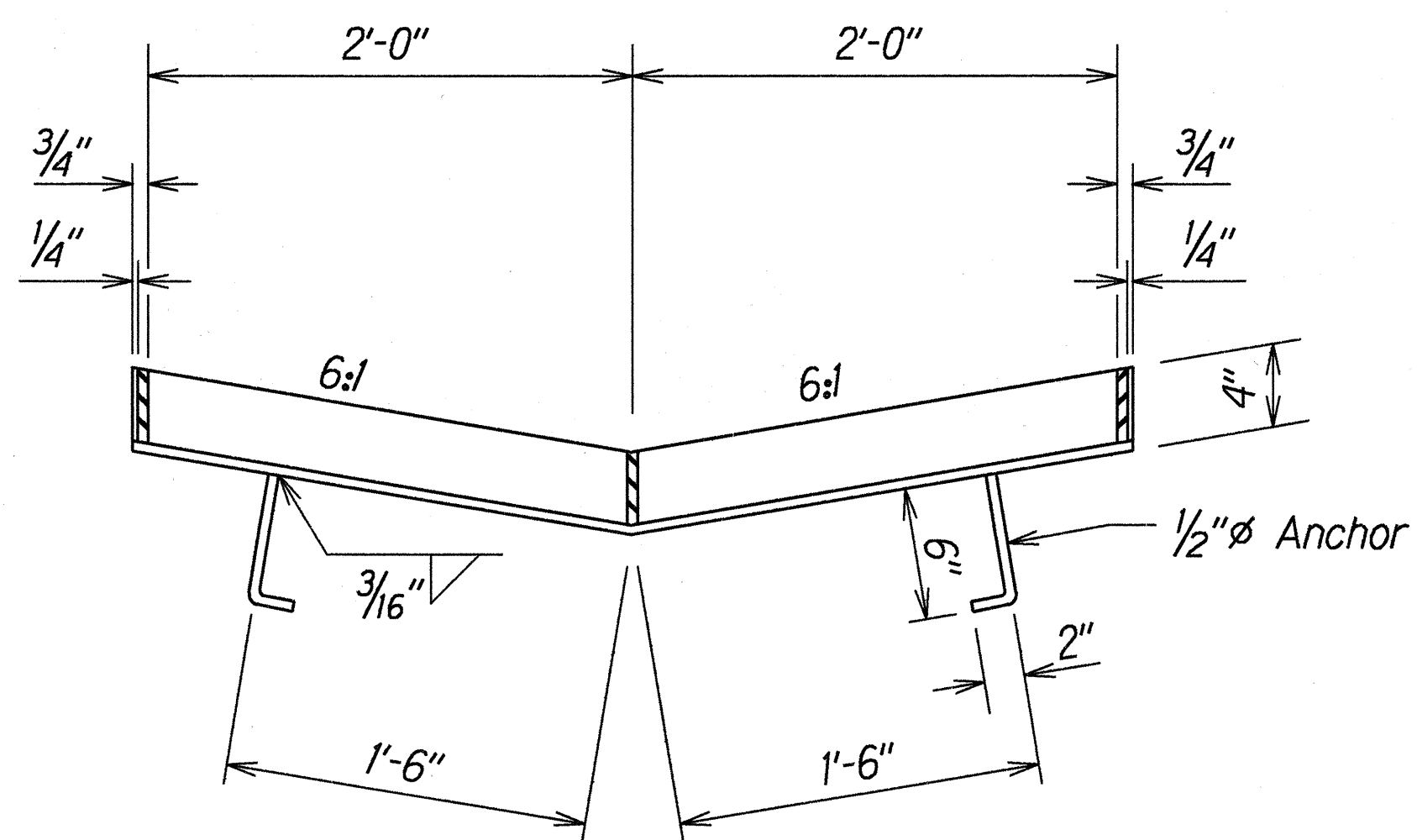
SHEET No. H7 OF 8 SHEETS

ORIGINAL	SURVEY PLOTTED BY	DATE
PLAN	DRAWN BY A. Namura	4/18/97
NOTE BOOK	CHECKED BY C. Matsuda	
012100a/01a	DESIGNED BY	
012100a/01a	CHECKED BY	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	72BC-01-97M	1997	21	32



PLAN

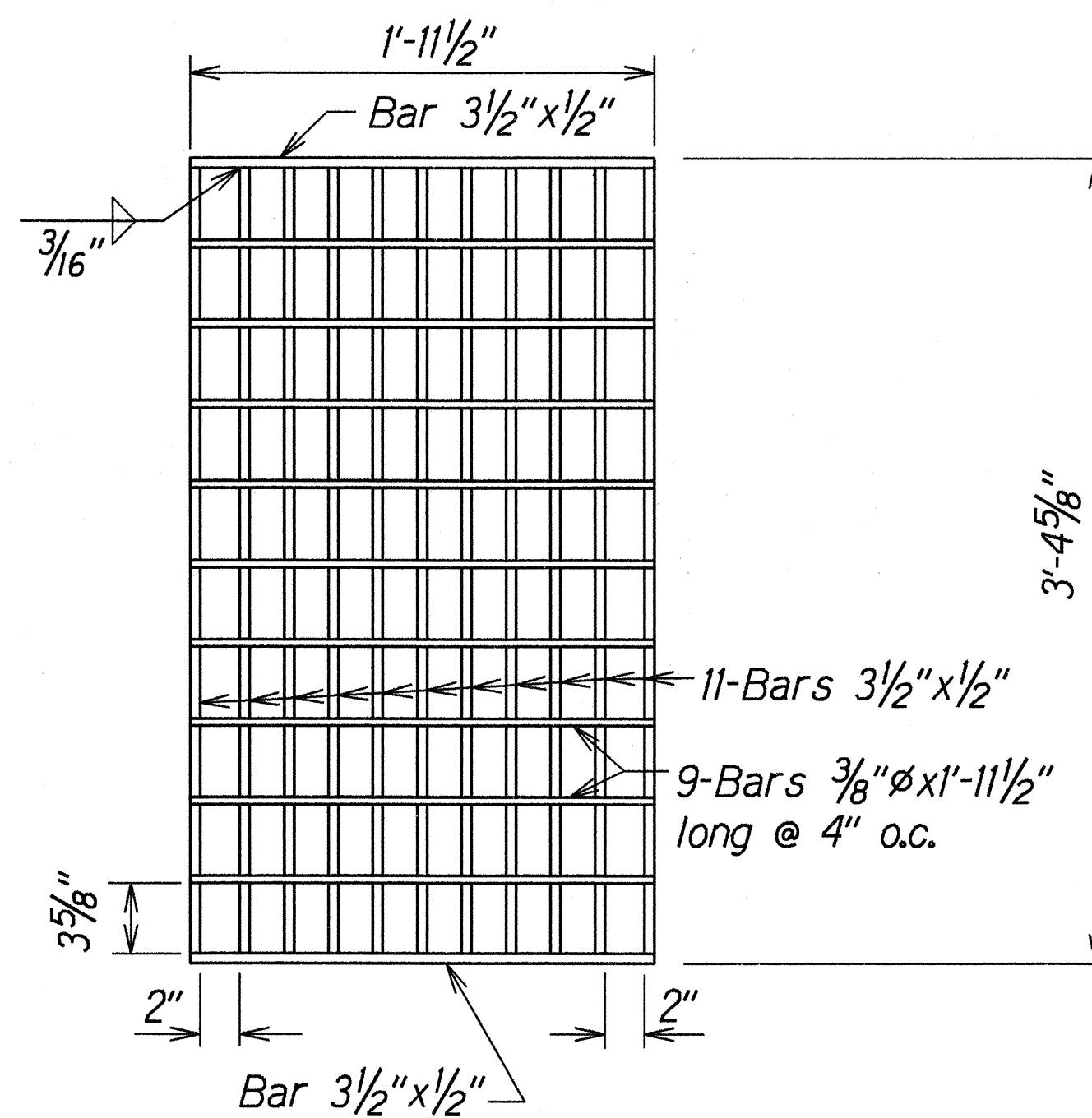


SECTION

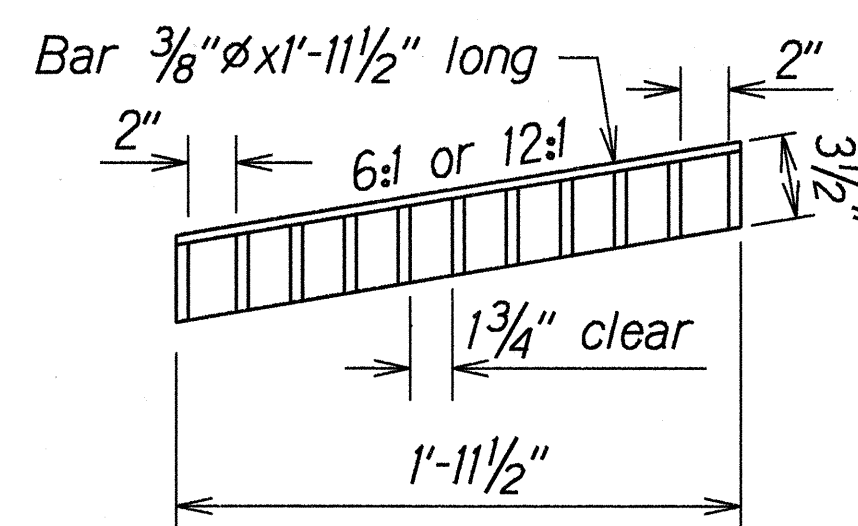
FRAME

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

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



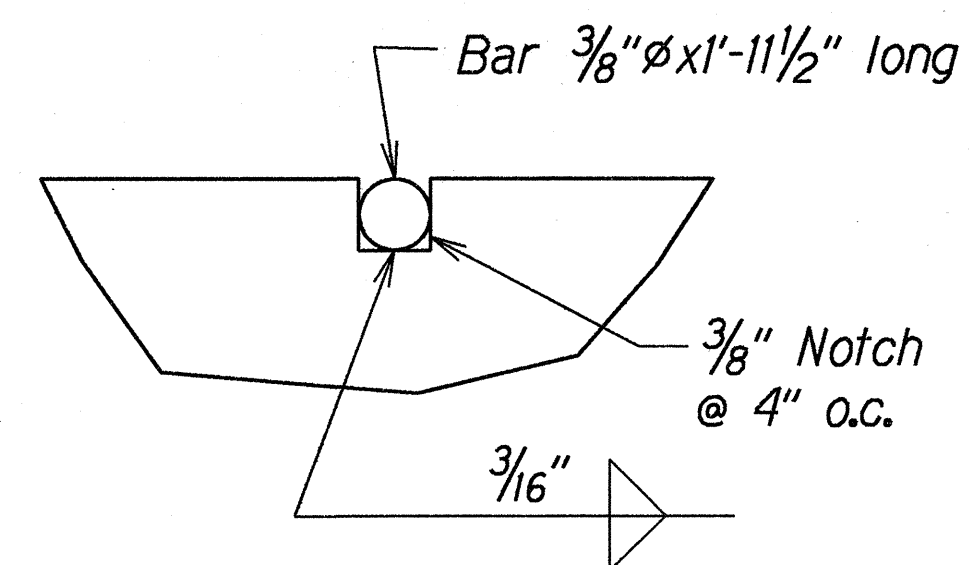
PLAN



SECTION

GRATE

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



NOTCH DETAIL

Full Size

TYPICAL DETAILS OF TYPE 61614P STEEL FRAME AND GRATES

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY A. Moulton	5/1/97
NOTES	CHECKED BY C. Matsuda, B. Toba	
REVISIONS	DESIGNED BY	
	CHECKED BY	

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**DRAINAGE DETAILS**

KALANIANA'OLE HIGHWAY RESURFACING  
Keahole St. to Hanauma Bay  
Project No. 72BC-01-97M

Scale: As Shown Date: May 1997

SHEET No. H8 OF 8 SHEETS