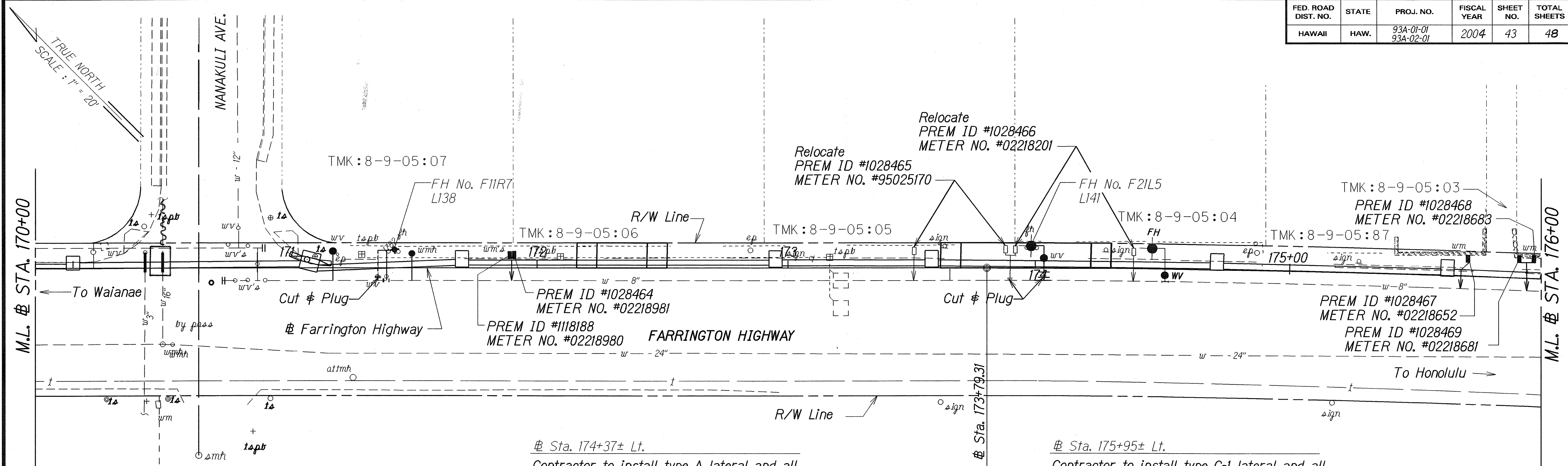


FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	93A-01-01 93A-02-01	2004	43	48



Sta. 170+43.68± Lt.
Install:
1 - 8'-0" - 9" X 9" Concrete Jacket
2 - 3", 45° Bend (Top)
2 - 3", 45° Bend (Bottom)
2 - 3'-0", 3" sched 150 Galv. Iron Pipe
1 - 2'-0", 3" sched 150 Galv. Iron Pipe

Sta. 170+50.70± Lt.
Install:
~~1 - 8'-0" - 23" X 23" Concrete Jacket~~
~~2 - 16", 45° Bend (Top)~~
~~2 - 16", 45° Bend (Bottom)~~
~~2 - 2'-0", 16" sched 150 Galv. Iron Pipe~~
~~1 - 2'-0", 16" sched 150 Galv. Iron Pipe~~

Sta. 170+88.47± Lt.
~~Install New WV and Connect WV to existing~~
~~8" water line. Remove existing 8" water valve.~~
~~1 - 6" size manhole frame and cover~~
~~1 - 16" steel sleeve~~
~~1 - brick leveling course~~
~~1 - 3' x 3' x 4" concrete slab~~

See Plan Sheet 45S-1 for Detail in lowering the existing 8-inch and 16" water Mains and their reconnection to existing water main.

Sta. 171+19± Lt.
Raise wv to new sidewalk finish grade and reconnect wv to existing 8" water.

Sta. 171+37± Lt.
Relocate fh to new sidewalk finish grade and reconnect fh to existing 8" water at wv.
FH Conn:
1-6" 90° Bend 1-8"x6" Tee 10 L.F. 8" D.I., cl 150
2-Conc BLK 1-6" G.V., Cl 150 1-8" sleeve, 12" long
1-FH Marker 1- Valve Box
10 L.F. 6" DI, Cl150
1- Conc. Block w/ Structural Struts
1-6" sleeve, 12" Long
1-FH extension piece

Sta. 171+50± Lt.
Raise wvh to new sidewalk finish grade and reconnect wvh to existing 8" water.

Sta. 171+90± Lt.
Contractor to install type C-1 lateral and all necessary fittings, type X meter box and all appurt. in accordance with BWS standards. Contractor to relocate the existing meters into new meter and reconnect to the existing property. Work to be coordinated with BWS inspector.

Sta. 174+03±, Lt.
Remove & Dispose Existing FH.
Demolish valve box and salvage CI frame and cover.

Sta. 173+50± Lt.
Contractor to install type A lateral and all necessary fittings to accommodate the relocation of the existing meter, type X meter box and all appurt. in accordance with BWS standards. Contractor to relocate the existing meter into new meter box and reconnect to the existing property. Work to be coordinated with BWS inspector.

Sta. 174+45± Lt.
Install New FH to new sidewalk finish grade and reconnect fh to existing 8" water at wv.
FH Conn:
1-6" 90° Bend 1-6" Sleeve, 12" long 8 L.F., 8" D.I., cl 150
2-Conc BLK 1-FH extension piece 1- 8" sleeve, 12" long
1-FH Marker
1-6" GV, Cl150; 1-Valve Box
1-WV Frame and Cover
1-8"x6" Tee
1-Conc. Block w/structural Struts
10-LF DI, 6" Cl150

Sta. 175+95± Lt.
Contractor to install type C-1 lateral and all necessary fittings, type X meter box and all appurtenance in accordance with BWS standards. Contractor to relocate the existing meters into new meter boxes and reconnect to the existing property. Work to be coordinated with BWS inspector.

Sta. 175+70± Lt.
Contractor to install type A lateral and all necessary fittings, type X meter box and all appurtenance in accordance with BWS standards. Contractor to relocate the existing meter into new meter box and reconnect to the existing property. Work to be coordinated with BWS inspector.

APPROVED:

Principal Executive Maintenance Unit, BWS DATE 5/21/03

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PERMANENT WATERLINE APPURTENANCE PLAN
FARRINGTON HIGHWAY DRAINAGE IMPROVEMENTS
Vicinity of Nanakuli Avenue to Nanakuli Stream and
Vicinity of Lualei Place to Princess Kahanu Avenue
Project No. 93A-01-01 & 93A-02-01
Scale: 1" = 20' Date: August, 2002

SHEET No. 43 OF 43 SHEETS

"AS-BUILT"

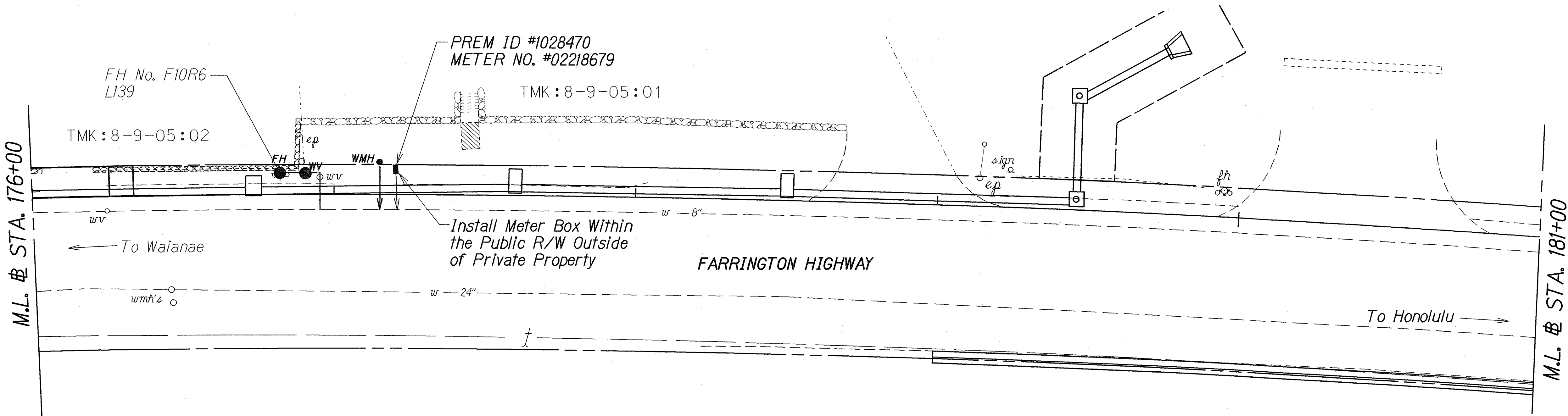
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	93A-01-01 93A-02-01	2004	44	48

Sta. 176+83± Lt.
Relocate fh to # Sta. 176+92± o/s 7'± LT.
and reconnect fh to exist 8" water at wv.
FH Conn:
1-6" 90° Bend 1-8"x6" Tee
2-Conc BLK 1-6" GV, CI 150 ; 1- Valve Box
2-Pipe Bollards 1-4"x4"x4" Conc. Pad
1-FH Marker
10 LF, 6" DI, CI150
1-Conc. Blk. w/structural struts
1-6" sleeve, 12" Long

Sta. 177+15± Lt.
Reconnect WMH to existing 8" waterline at NTP1.

NOTE:
For Fire Hydrant Testing temporary appurtenances for testing are:
1- cap w/2½" C.O.
1- Concrete Block

Sta. 177+20± Lt.
Contractor to install type A lateral and all necessary fittings, type X meter box and all appurtenance in accordance with BWS standards. Contractor to relocate the existing meter into new meter box and reconnect to the existing property. Work to be coordinated with BWS inspector.



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

APPROVED:
Joseph W. Kahan
Principal Executive Maintenance Unit, BWS
DATE 5/21/03

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PERMANENT WATERLINE APPURTENANCE PLAN

FARRINGTON HIGHWAY DRAINAGE IMPROVEMENTS

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

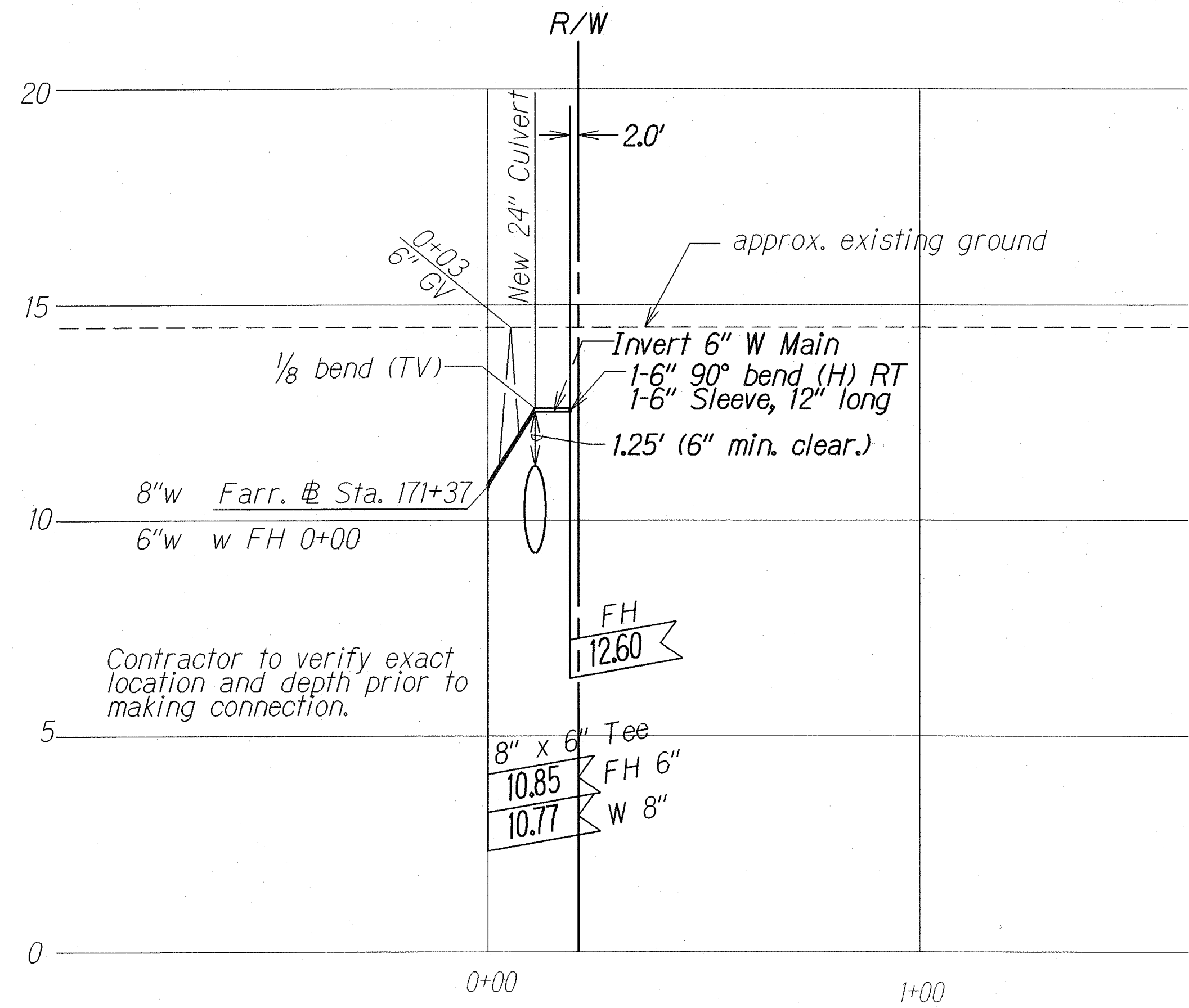
Project No. 93A-01-01 & 93A-02-01

Scale: 1" = 20' Date: August, 2002

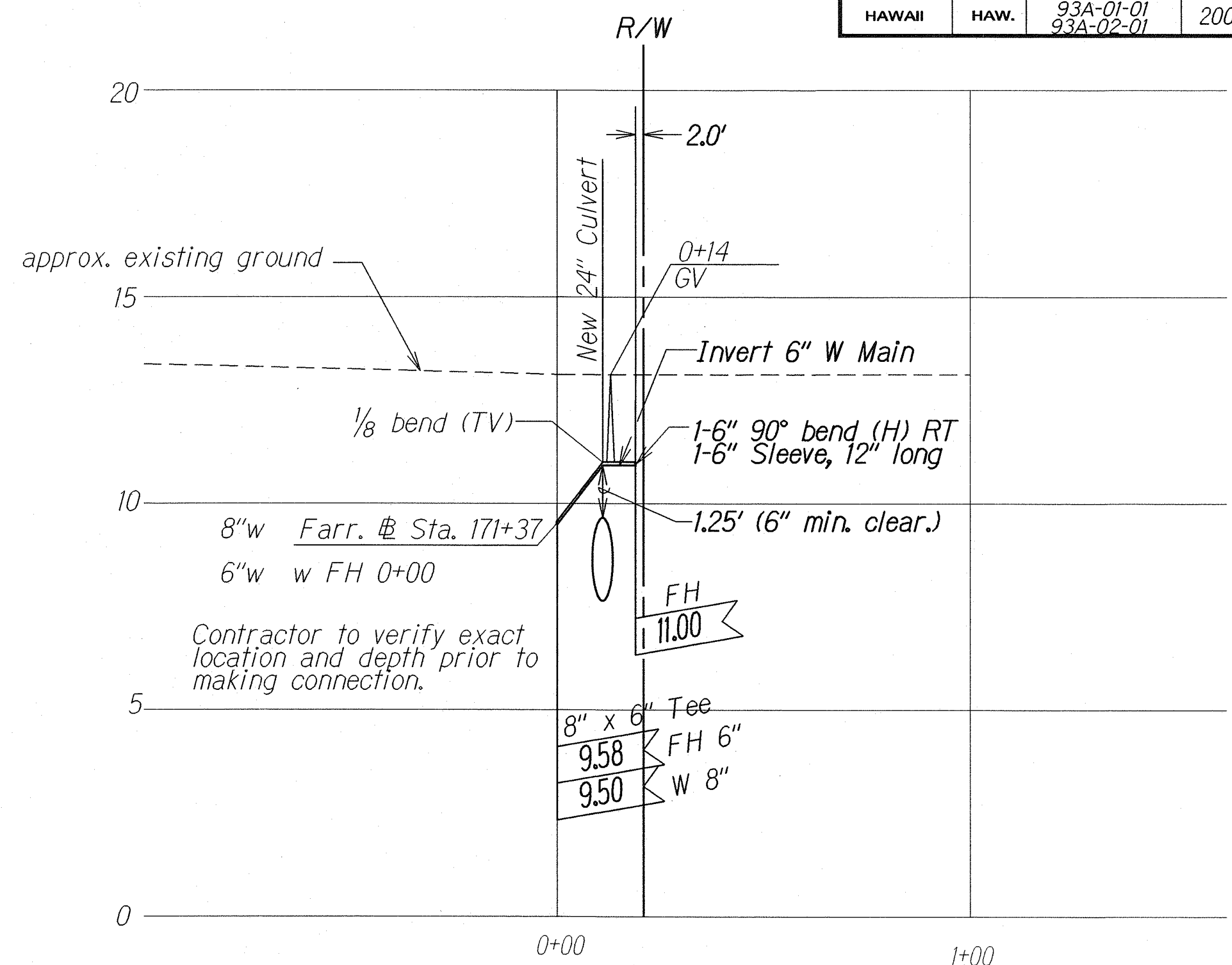
SHEET No. 42 OF 43 SHEETS

"AS-BUILT"

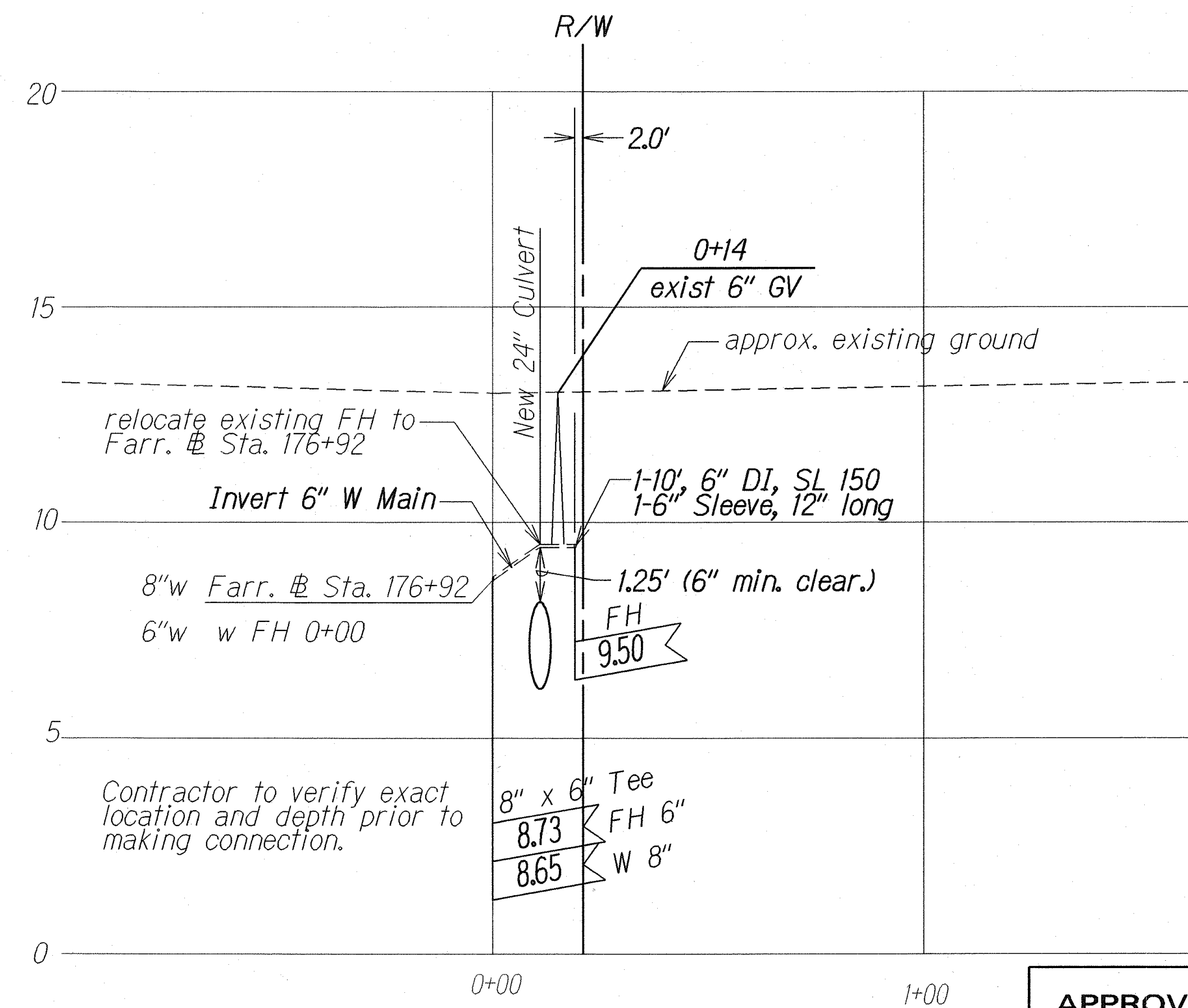
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	93A-01-01 93A-02-01	2004	45	48



PROFILE - FH CONNECTION
AT # STA. 171+37± LT.
 Scale: Horiz.: 1"=5'
 Vert.: 1"=2.5'



PROFILE - FH CONNECTION
AT # STA. 174+45± LT.
 Scale: Horiz.: 1"=5'
 Vert.: 1"=2.5'



PROFILE - FH CONNECTION
AT # STA. 176+92± LT.
 Scale: Horiz.: 1"=5'
 Vert.: 1"=2.5'

APPROVED:
 [Signature] W Kahan
 Principal Executive Maintenance Unit, BWS
 DATE 5/21/03

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

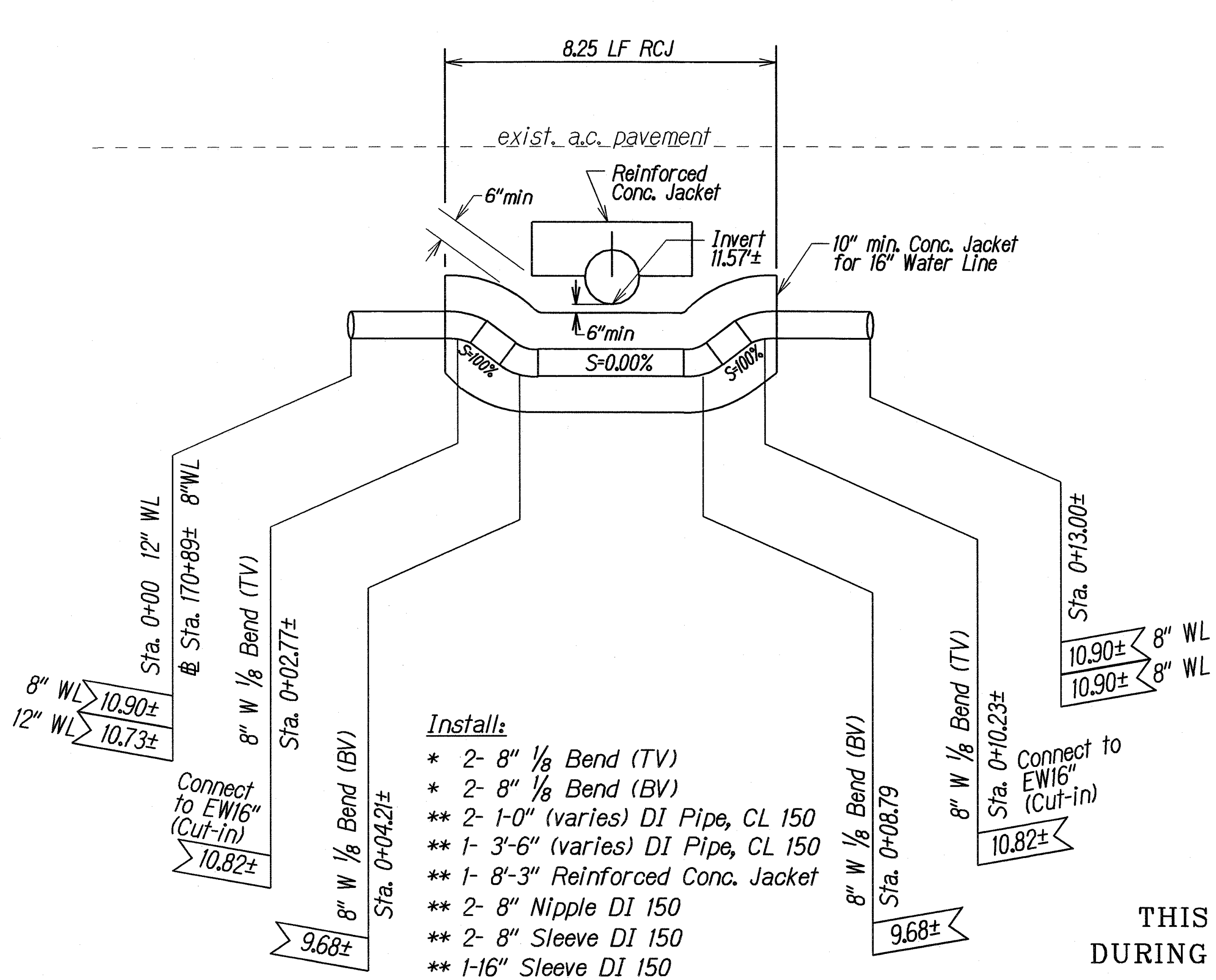
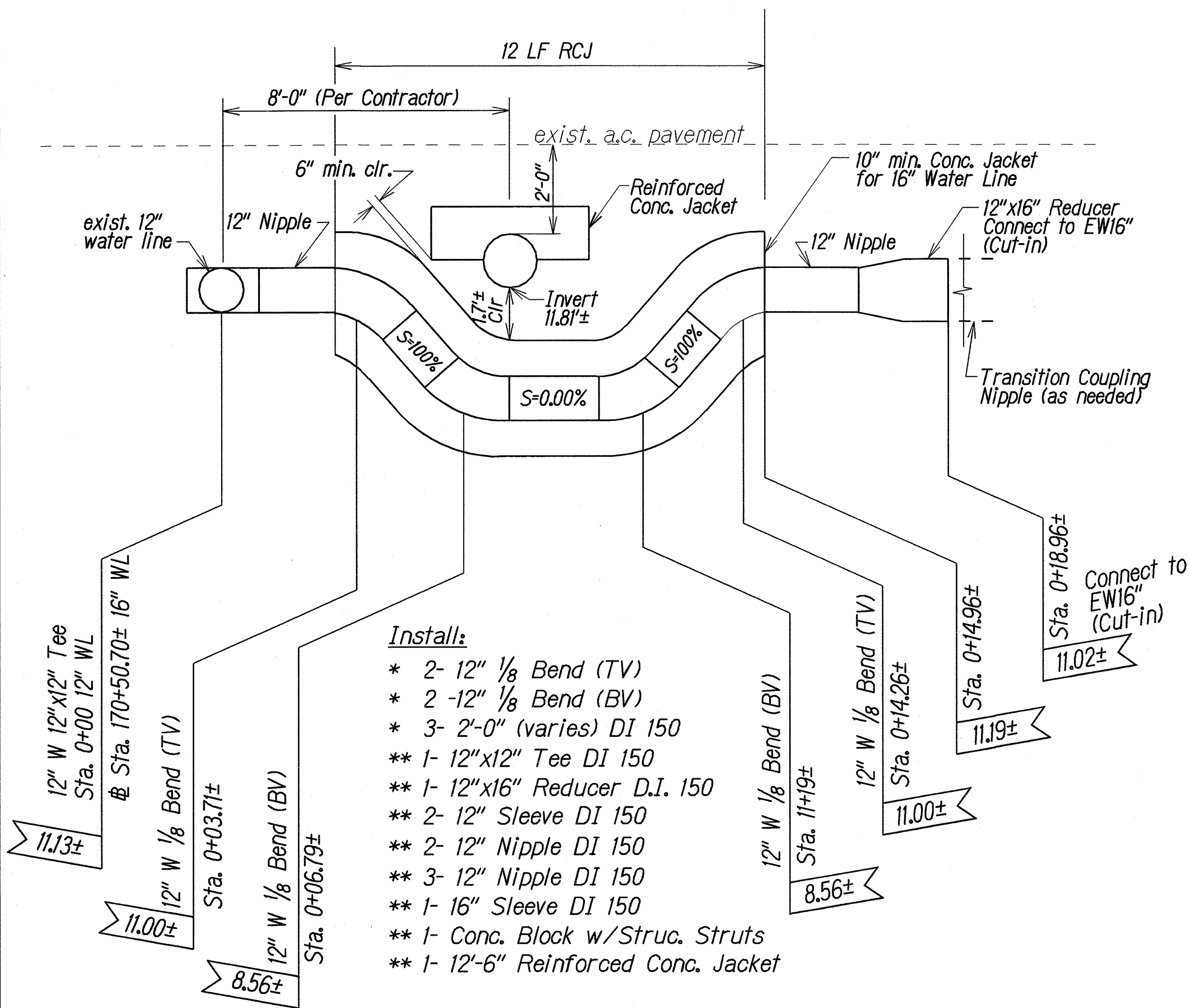
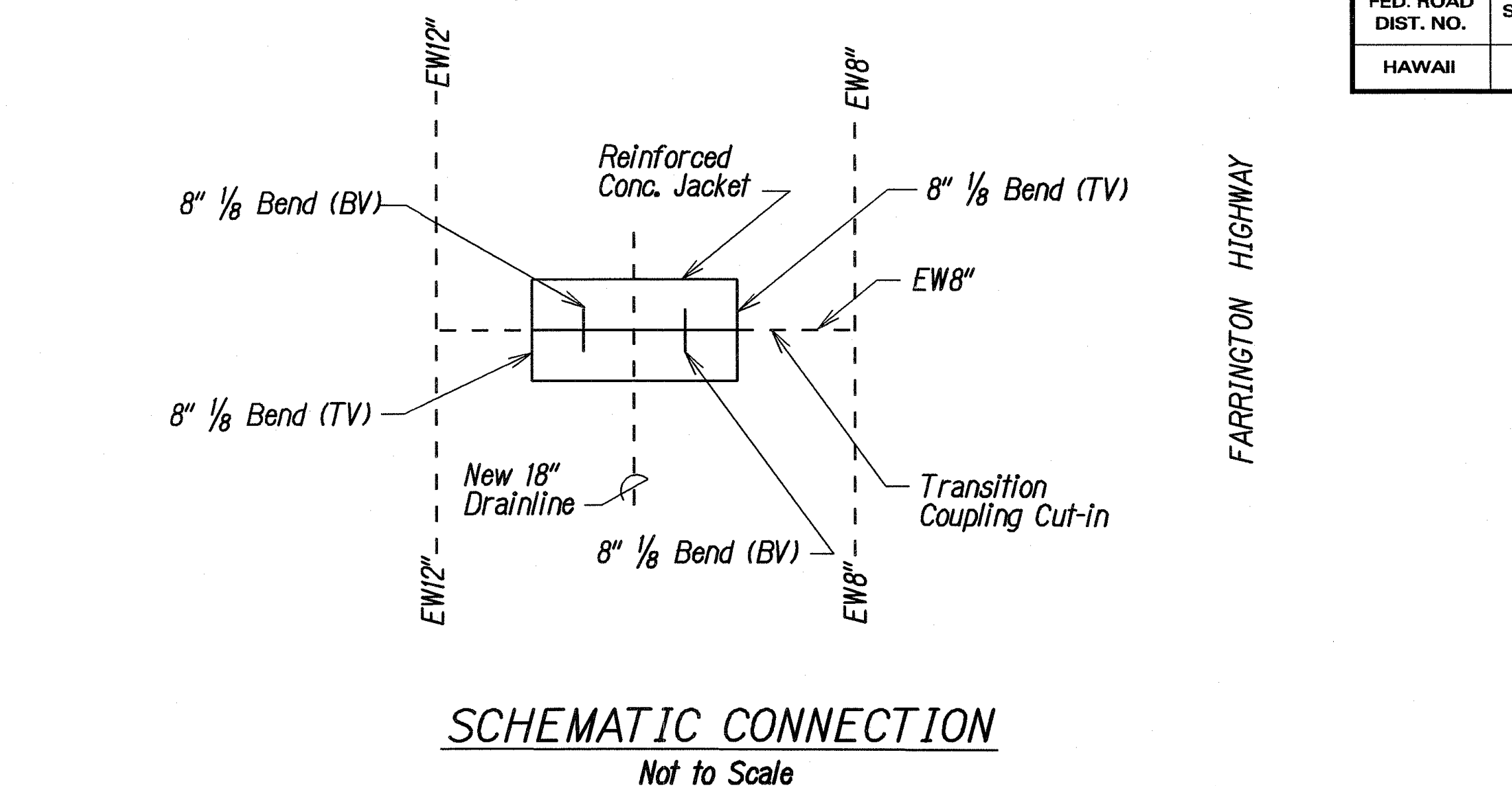
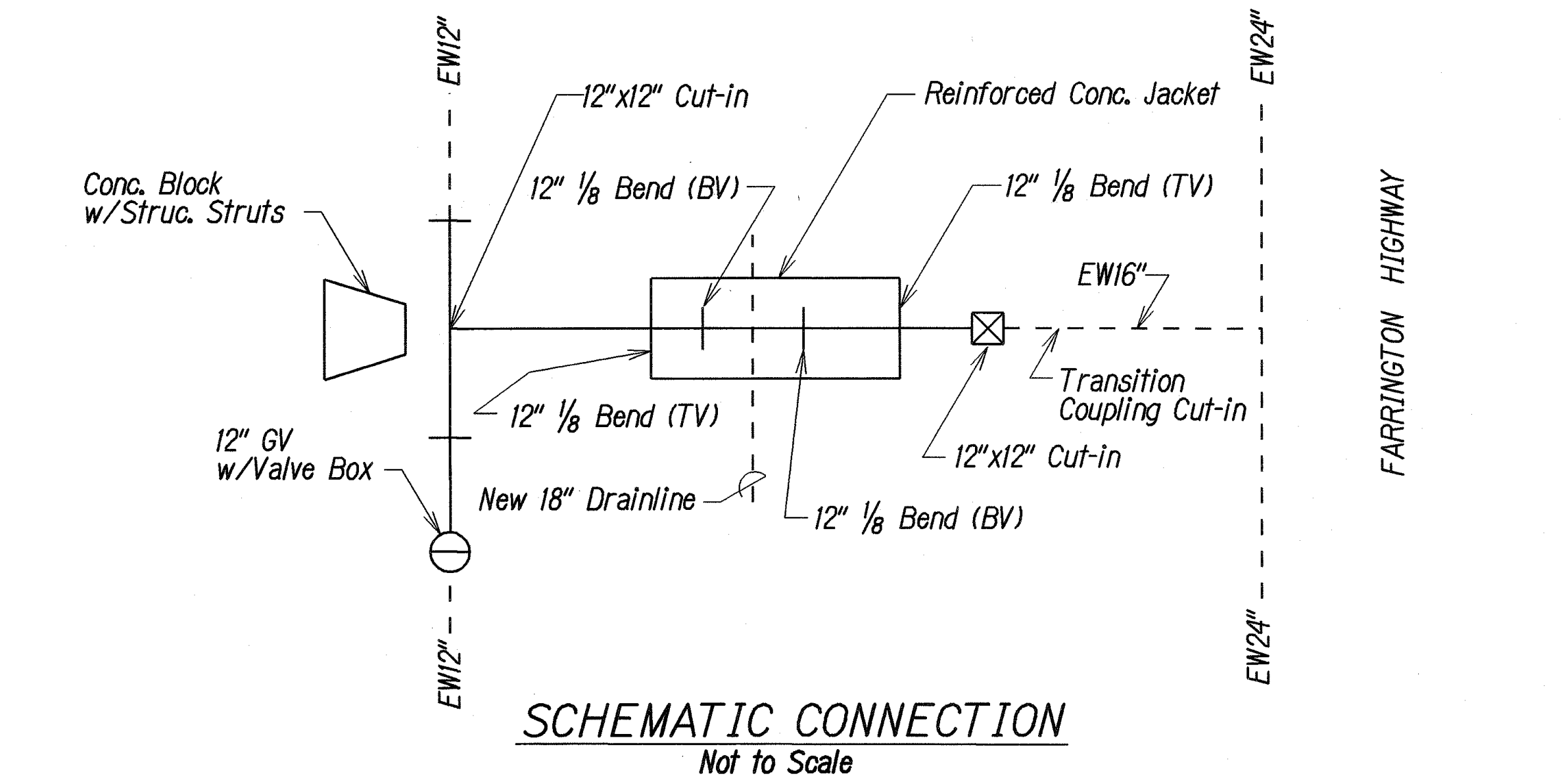
UTILITY DETAILS
FARRINGTON HIGHWAY DRAINAGE IMPROVEMENTS
Vicinity of Nanakuli Avenue to Nanakuli Stream and
Vicinity of Lualei Place to Princess Kahanu Avenue
Project Nos. 93A-01-01 & 93A-02-01
Date: December, 2002

SHEET No. 43 OF 43 SHEETS

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

"AS-BUILT"

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	93A-01-01 93A-02-01	2004	46S-1	48



THIS SHEET PREPARED
DURING "AS-BUILT" POSTING

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
UTILITY 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: As Shown Date: September, 1999
SHEET No. 1 OF 1 SHEETS

"AS-BUILT"

45S-1

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	7/28/06
QUANTITIES BY	TRACED BY	
CHECKED BY	NOTED BY	