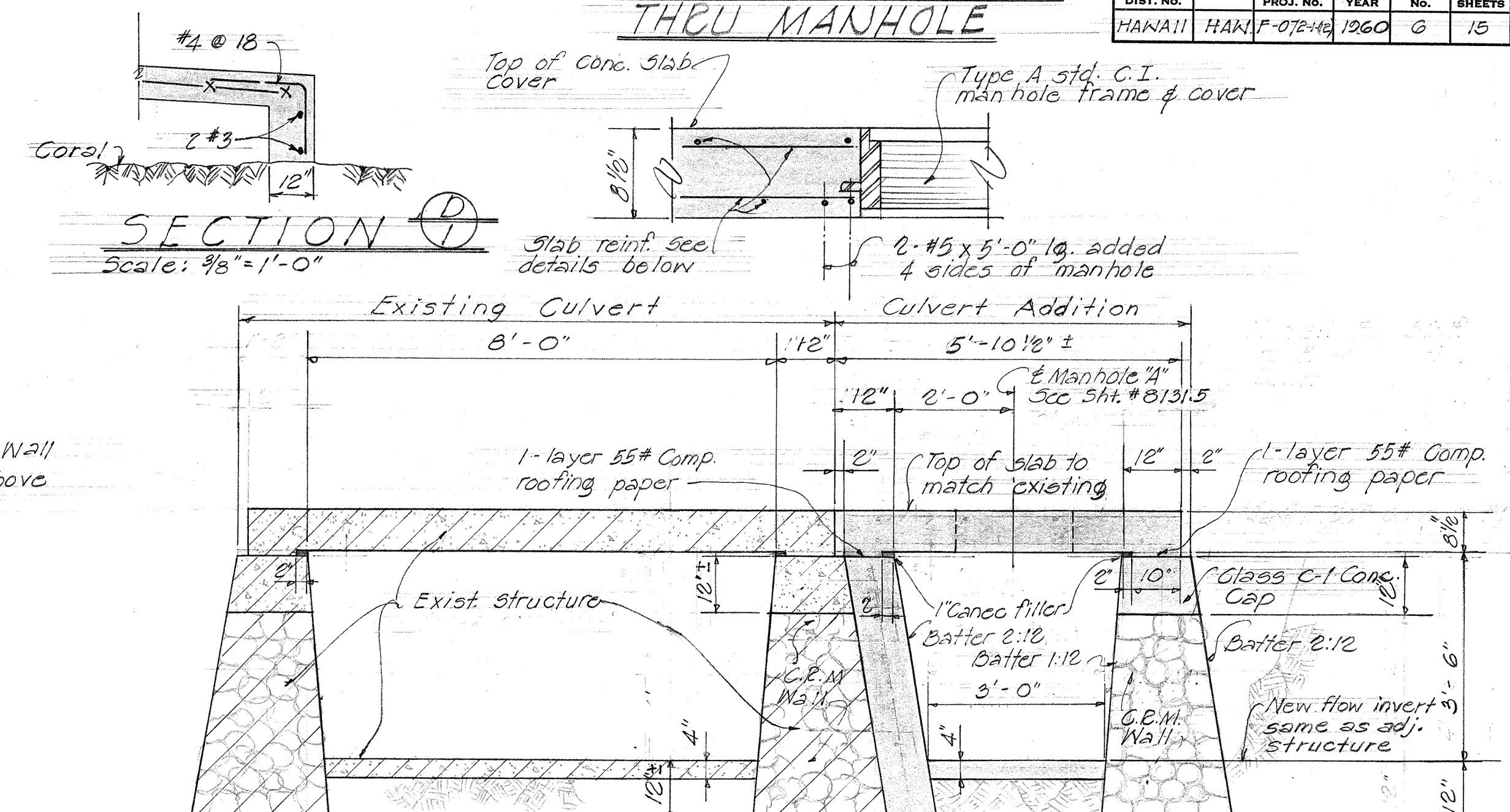
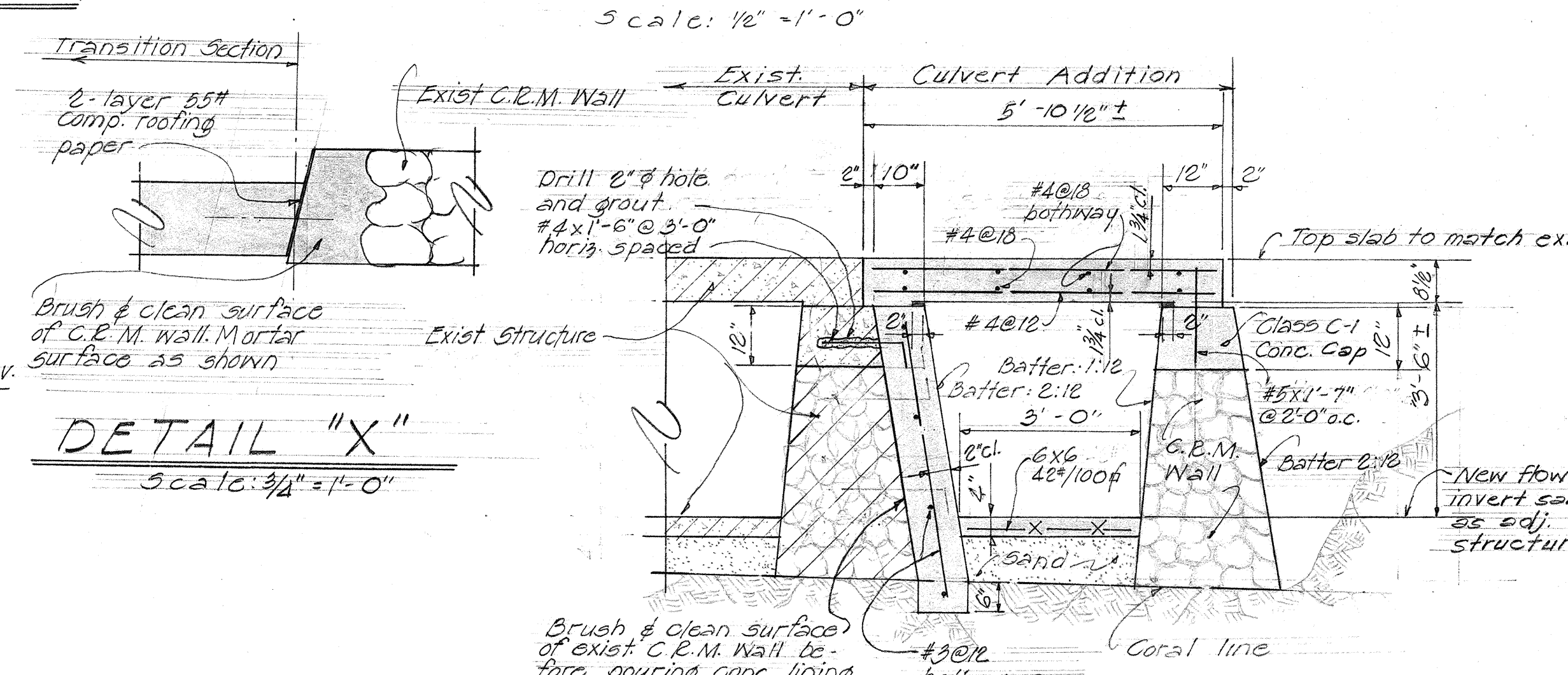


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HA	F-072-1	1960	6	15

TYPICAL SECTION THRU MANHOLE



INVERT BELOW CORAL LINE



TYP. CULVERT SECTION

ESTIMATED QUANTITIES

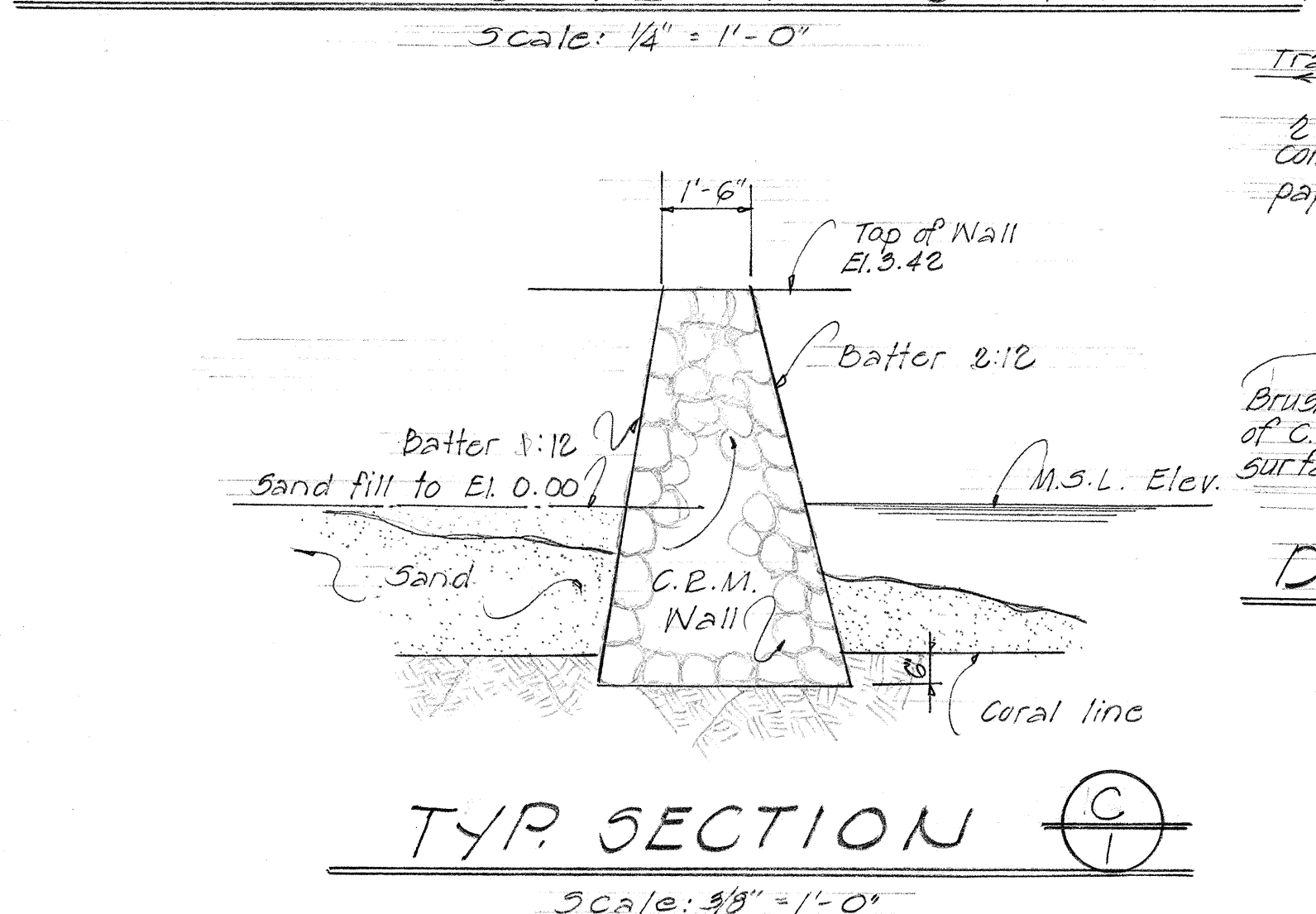
Class A-1 Conc.	(lump sum) 175.00 c.y.
Class C-1 Conc.	33.2 c.y.
Reinf. Steel	(lump sum) 9,650.0 lbs
Cement Rubble Masonry	176.5 c.y.
Structure Exc.	634.6 c.y.
Type 4" Std. Manhole Frame & Cover	3

HAWAII STATE HIGHWAY DEPARTMENT
STATE OF HAWAII
CONCRETE CULVERT ADDITION
KEAHIA WAY
KALANIANA'OLE HWY. DRAINAGE IMPROVEMENTS
PROJECT F-072-1(12)
Scale: As Noted Jan., 1960

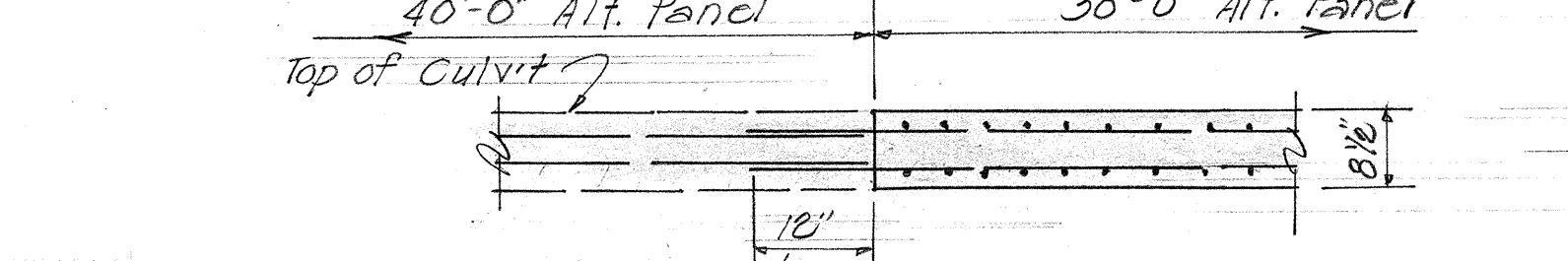
SHEET No. 1 OF 6 SHEETS

\$131.6

DETAIL "B" (PLAN AT CULVERT DISCHARGE)



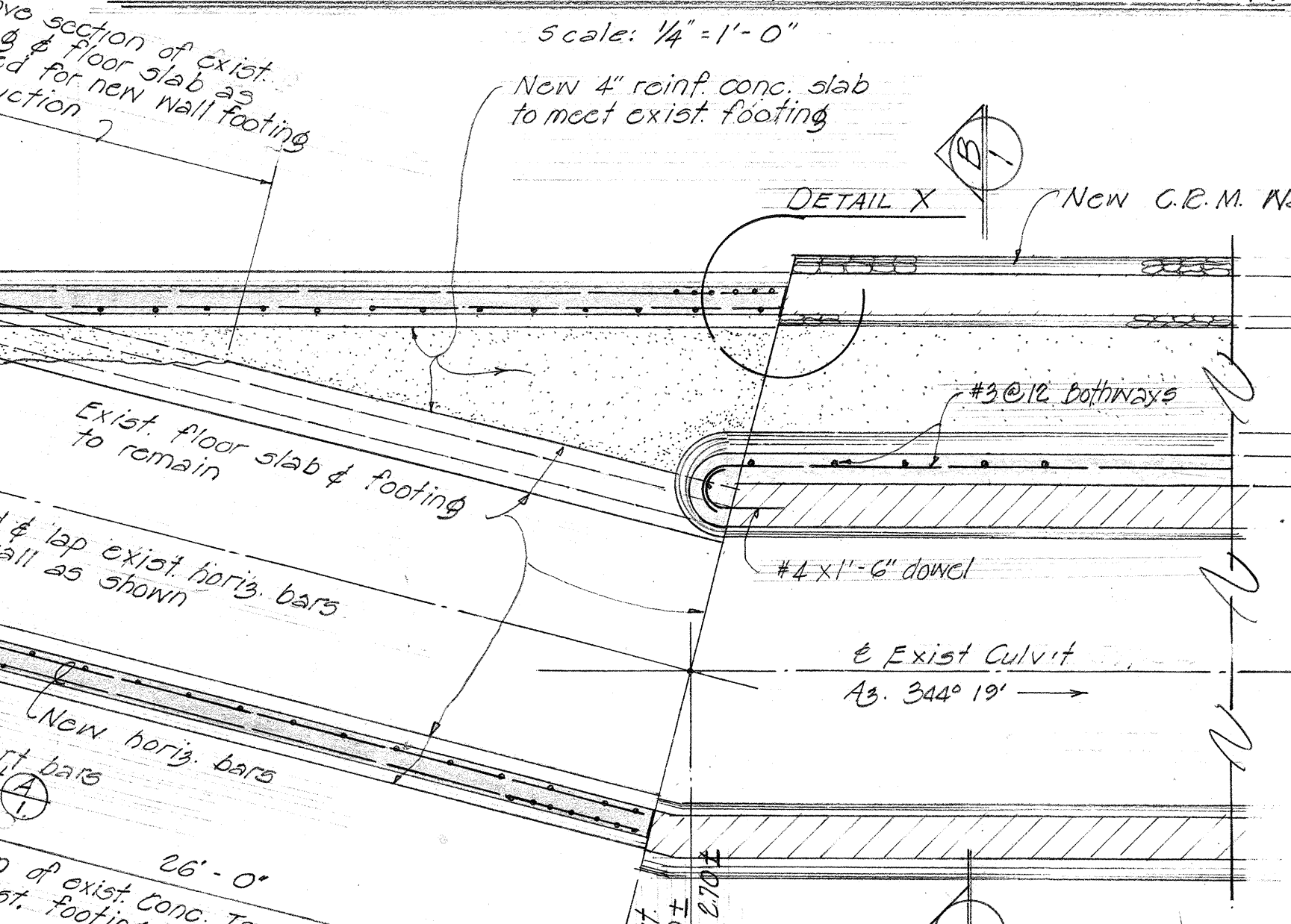
TYPICAL CONSTR. JOINT - NEW SLAB OVER CULVERT ADDITION



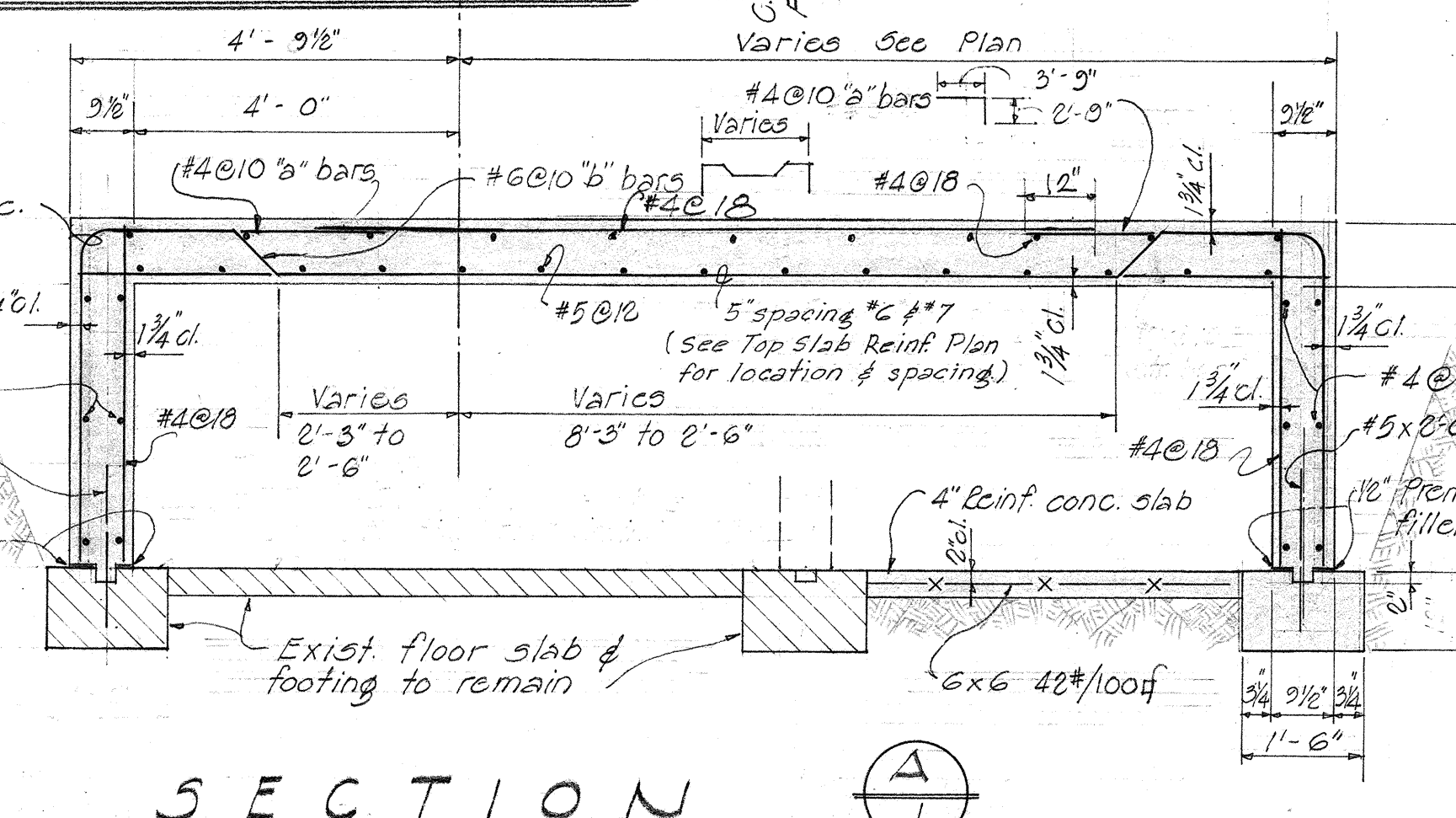
NOTES

REFERENCE:
For location & layout plan of Box Culvert
See Highway plan & profile, Sht. #3/31.5
All conc. to be class "A-1" except cont. cap
over grouted rubble masonry wall-to be
Class C-1.

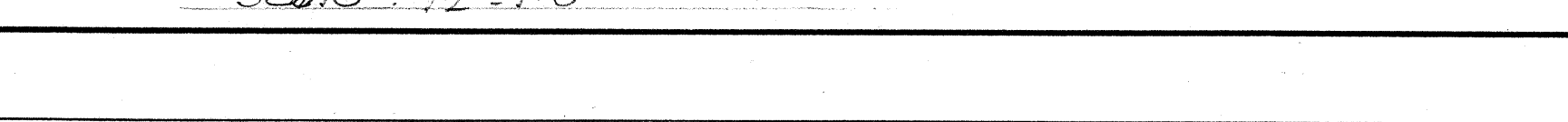
DETAIL "A" PLAN - INTAKE TOP SLAB REINF. SHOWING BOTTOM LAYER REINF. ONLY



DETAIL "A". CULVERT FLOOR PLAN



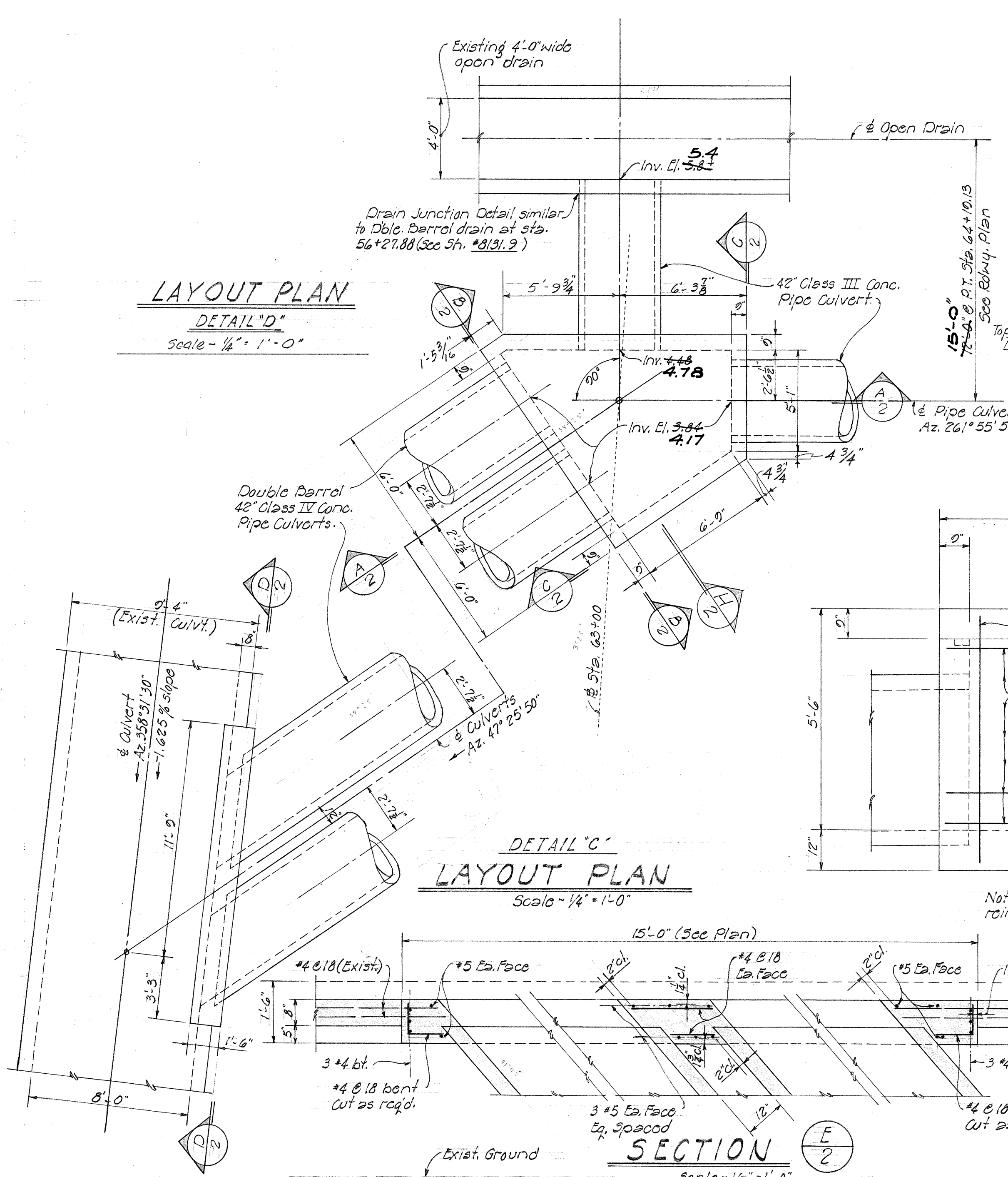
SECTION



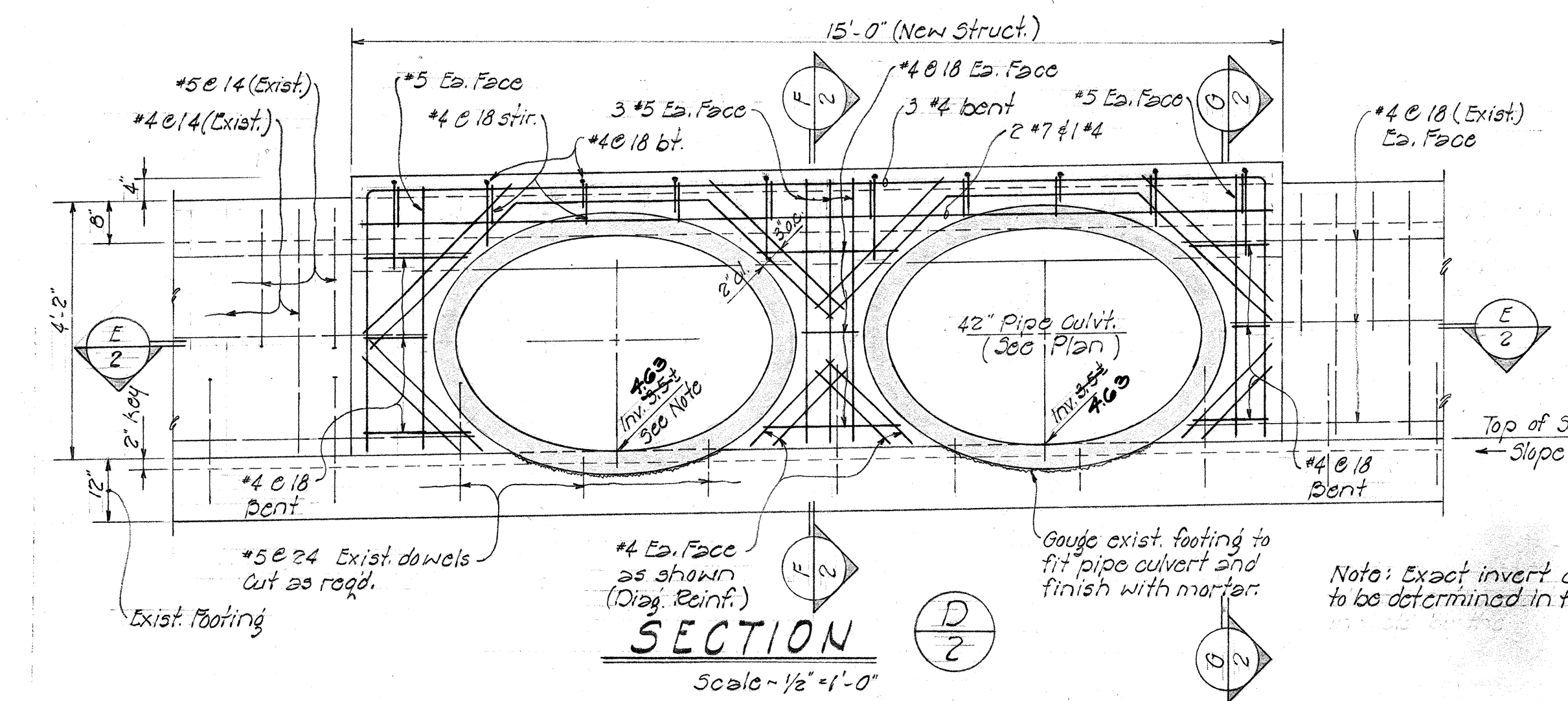
DESIGNED BY	DATE
DRAWN BY	
CHECKED BY	
QUANTITIES CHECKED BY	
NOTE BOOK	
NO.	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAWAII	F-072-1(12)	1960	7	15

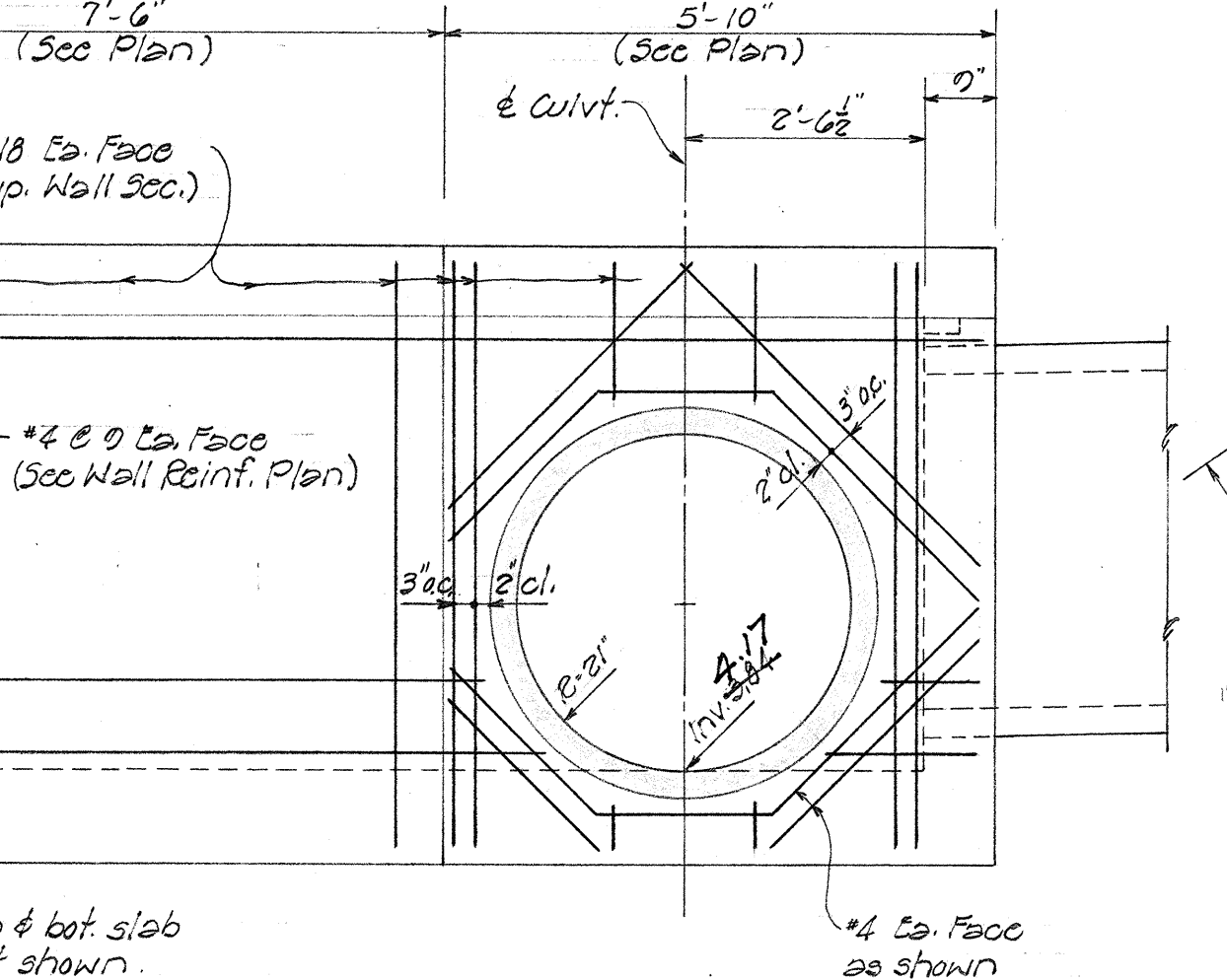
LAYOUT PLAN
DETAIL "D"
Scale - 1/4" = 1'-0"



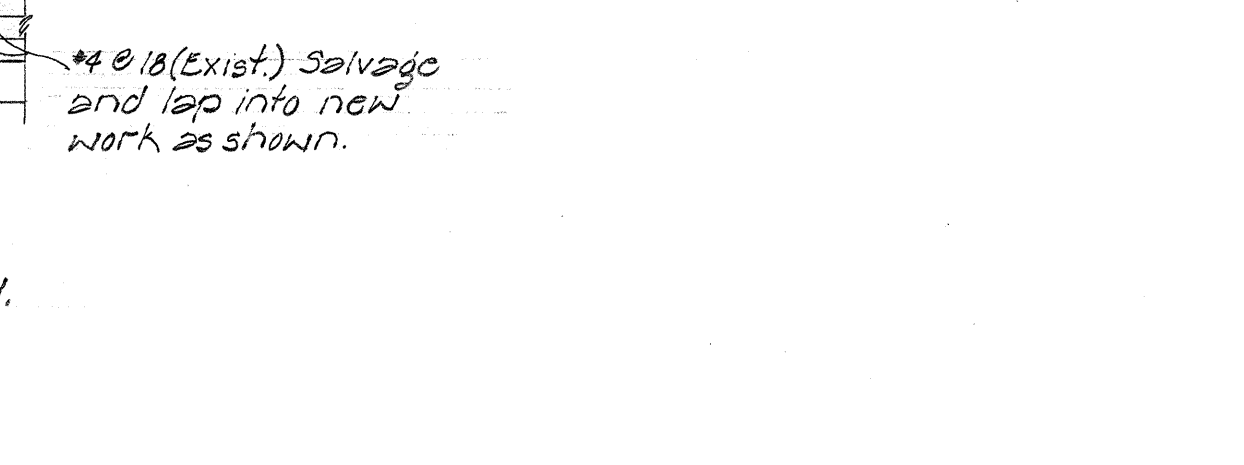
LAYOUT PLAN
DETAIL "C"
Scale - 1/4" = 1'-0"



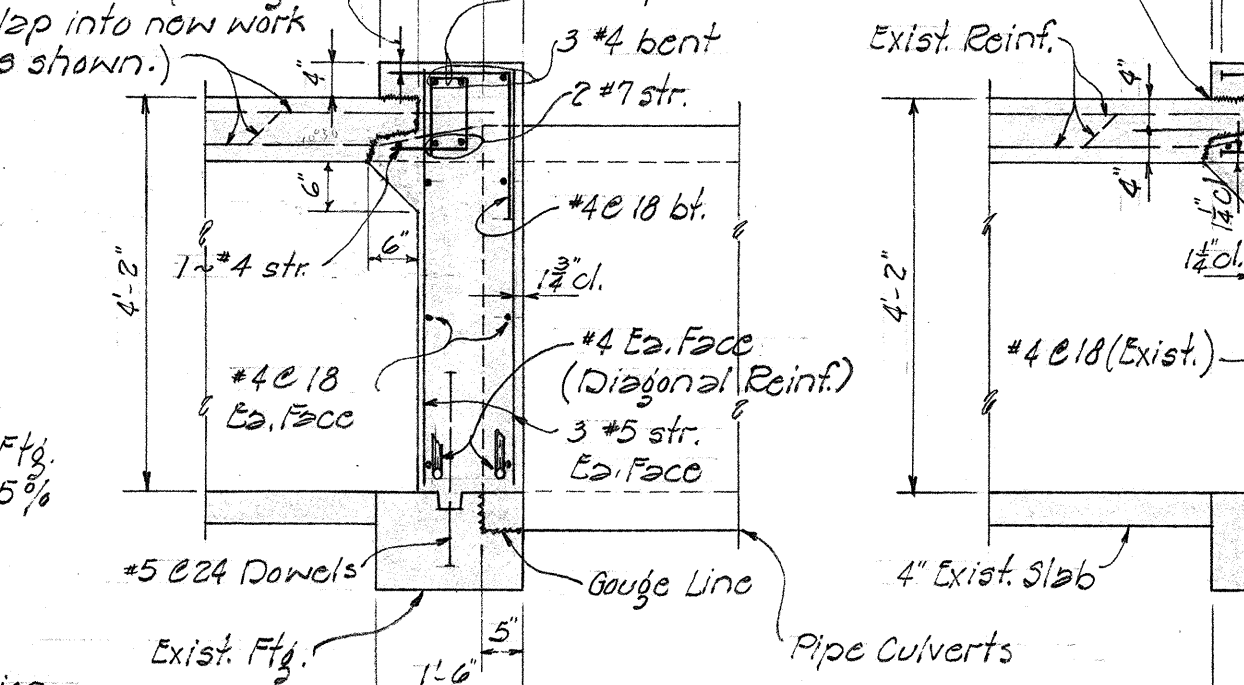
SECTION
Scale - 1/2" = 1'-0"



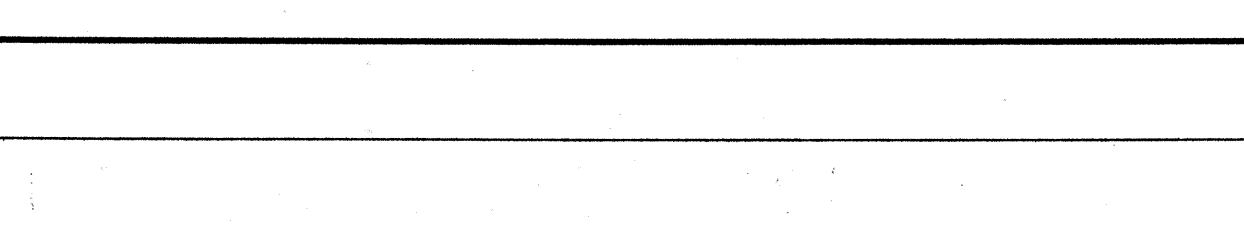
SECTION
Scale - 1/2" = 1'-0"



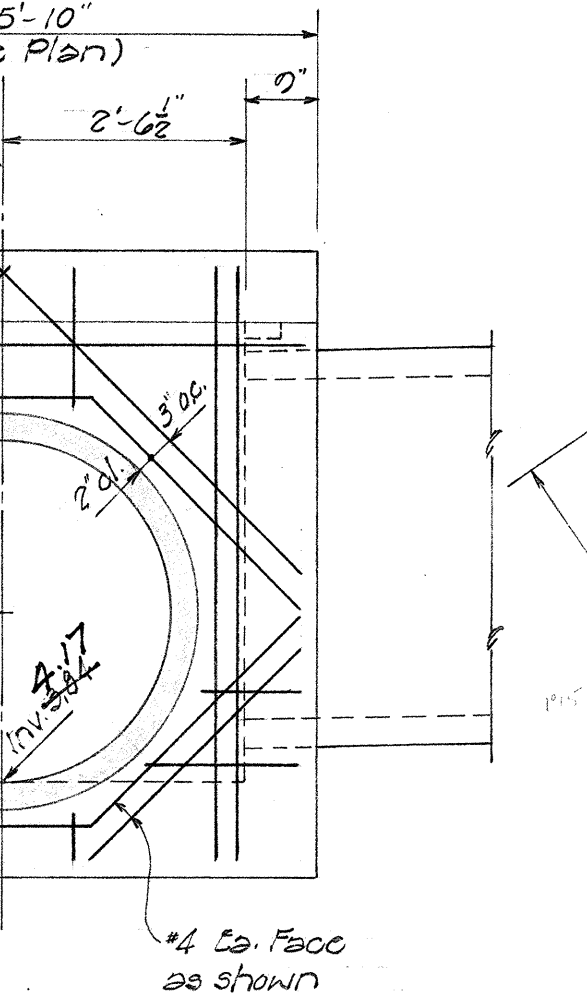
SECTION
Scale - 1/2" = 1'-0"



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



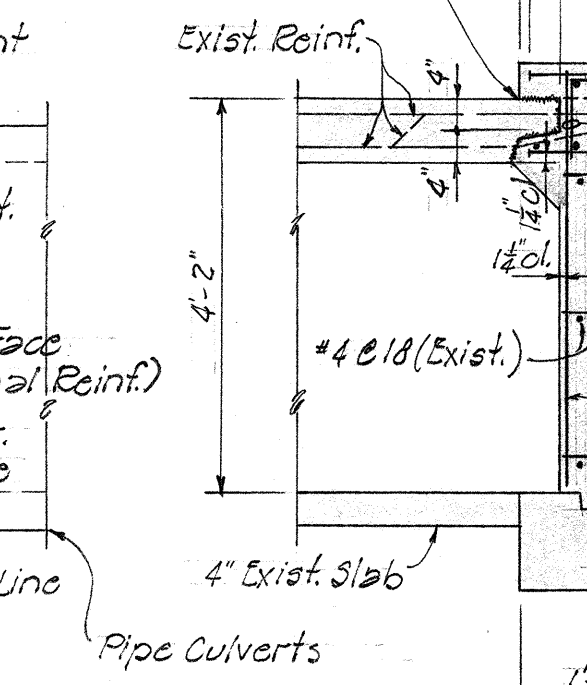
SECTION
Scale - 1/2" = 1'-0"



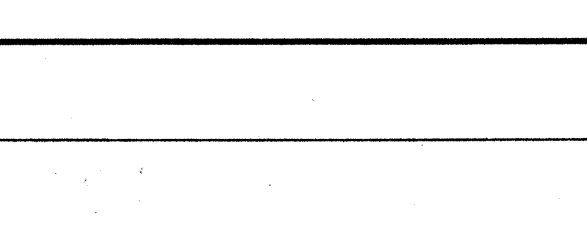
SECTION
Scale - 1/2" = 1'-0"



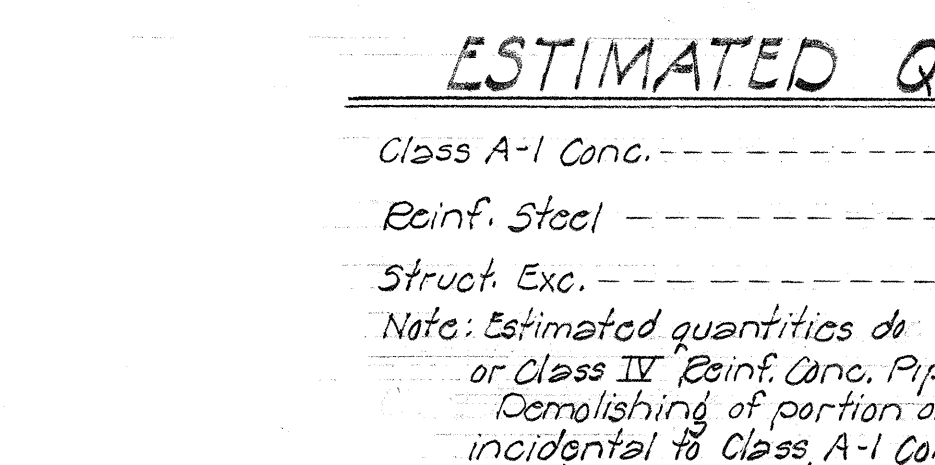
SECTION
Scale - 1/2" = 1'-0"



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

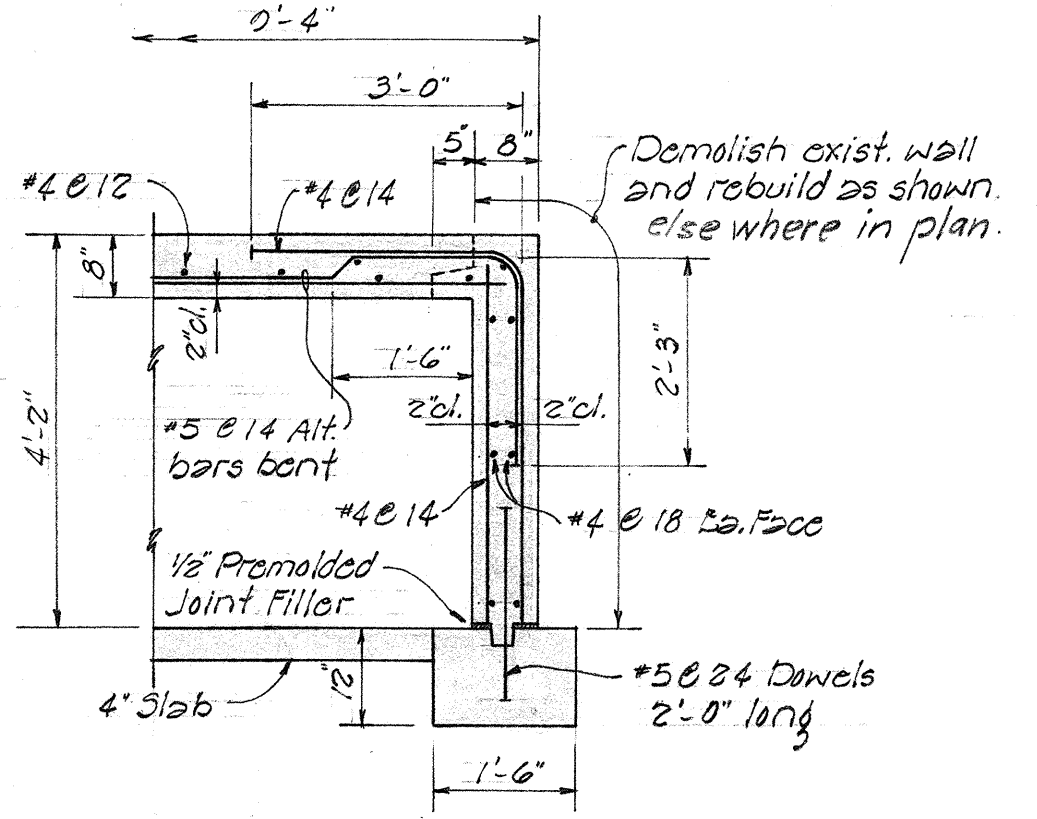


TOP SLAB REINF. PLAN
BOT. SLAB REINF. #4 @ 12 EA. WAY
Scale - 1/4" = 1'-0"



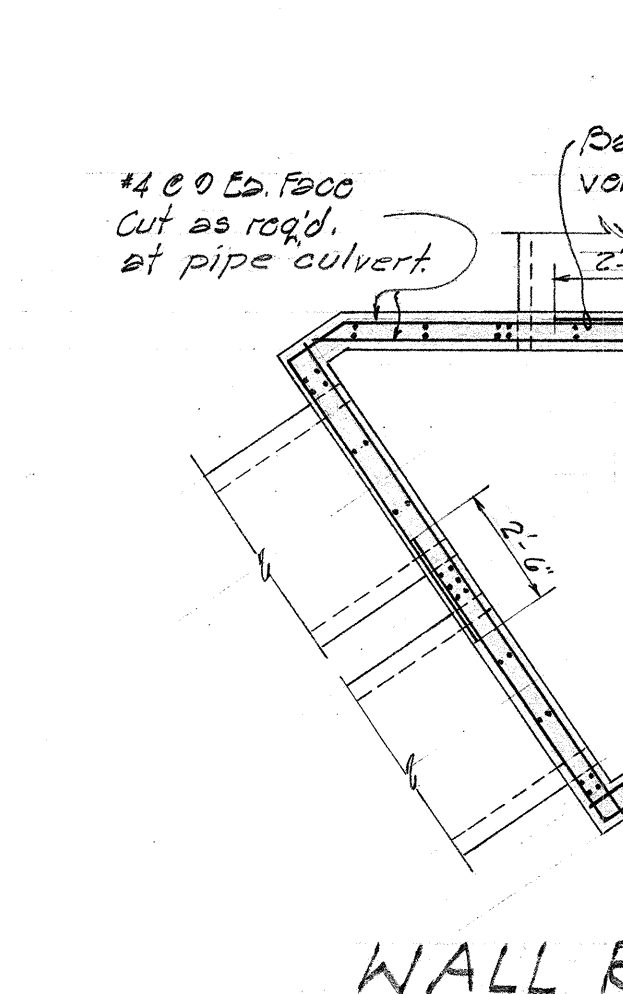
ESTIMATED QUANTITIES

Class A-1 Conc.	10.9
Reinf. Steel	1461.1451
Struct. Exc.	1376.163
Note: Estimated quantities do not include 42" Class III or Class IV Reinf. Conc. Pipe Culverts. Demolishing of portion of exist. box culvert incidental to Class A-1 Conc. and will not be paid for separately.	

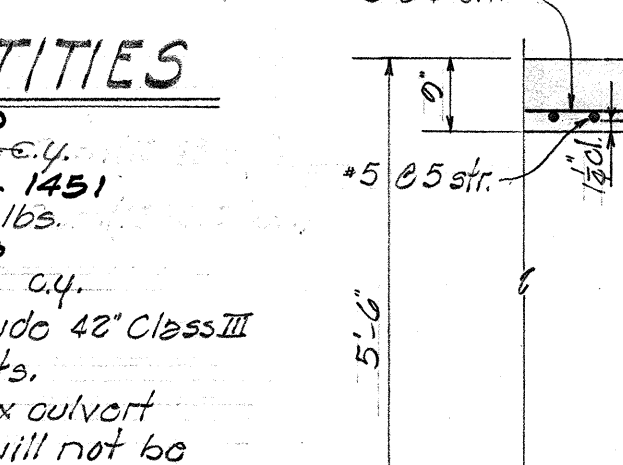


TYPICAL SECTION
EXIST. BOX CULVERT
Scale - 1/2" = 1'-0"

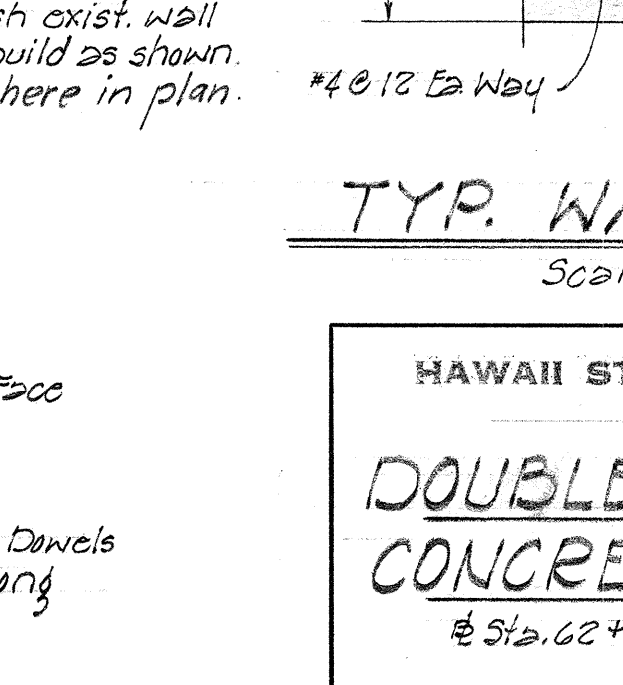
SECTION
Scale - 1/2" = 1'-0"



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

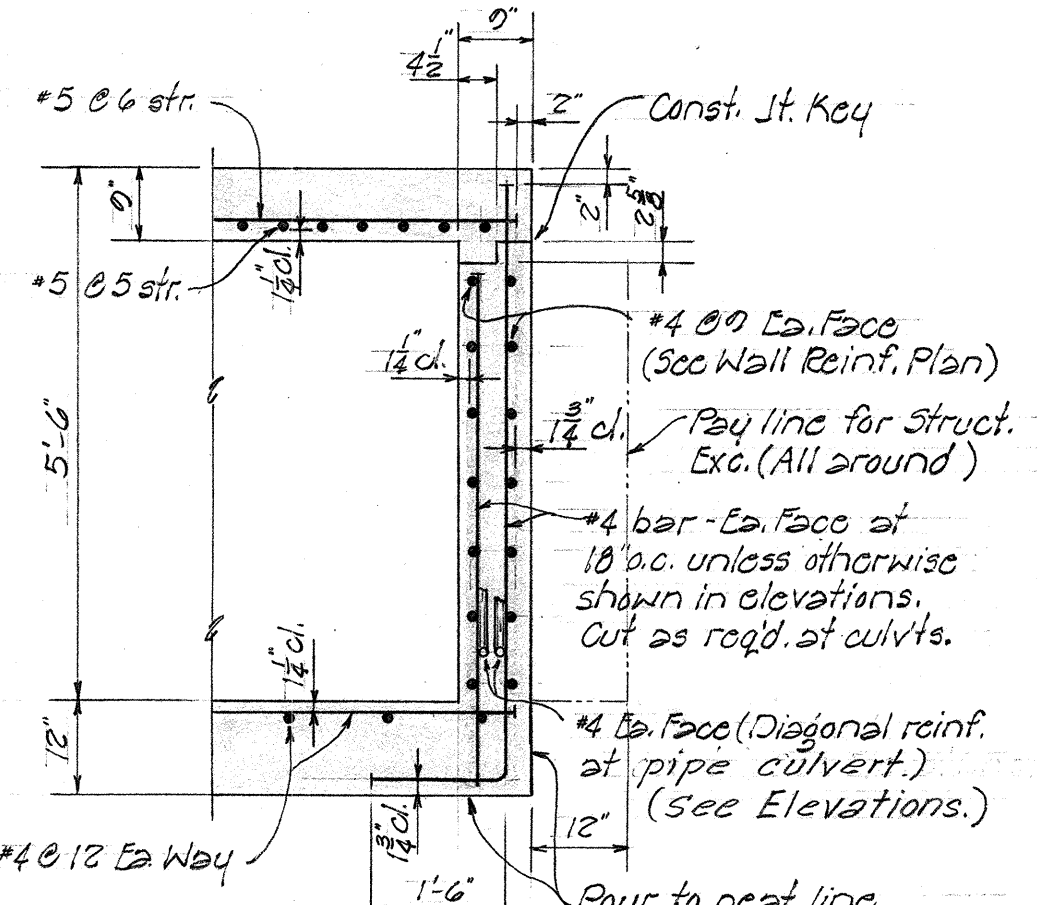


SECTION
Scale - 1/2" = 1'-0"



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

WALL REINF. PLAN
Scale - 1/4" = 1'-0"

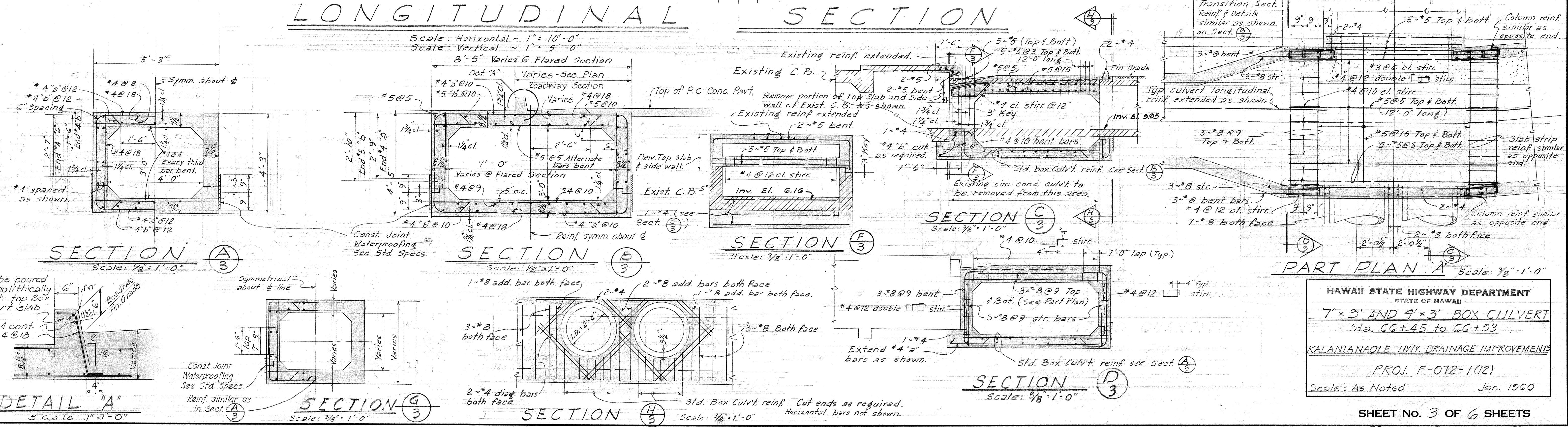
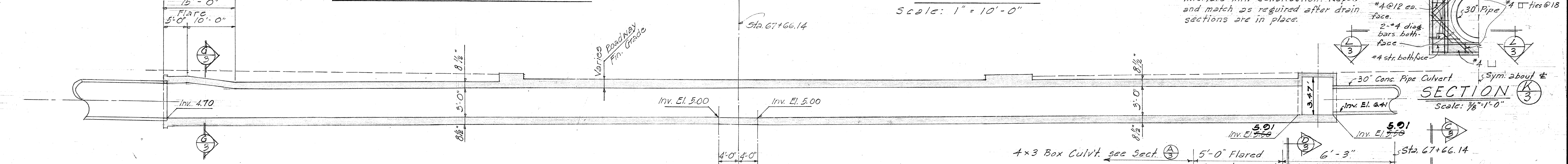
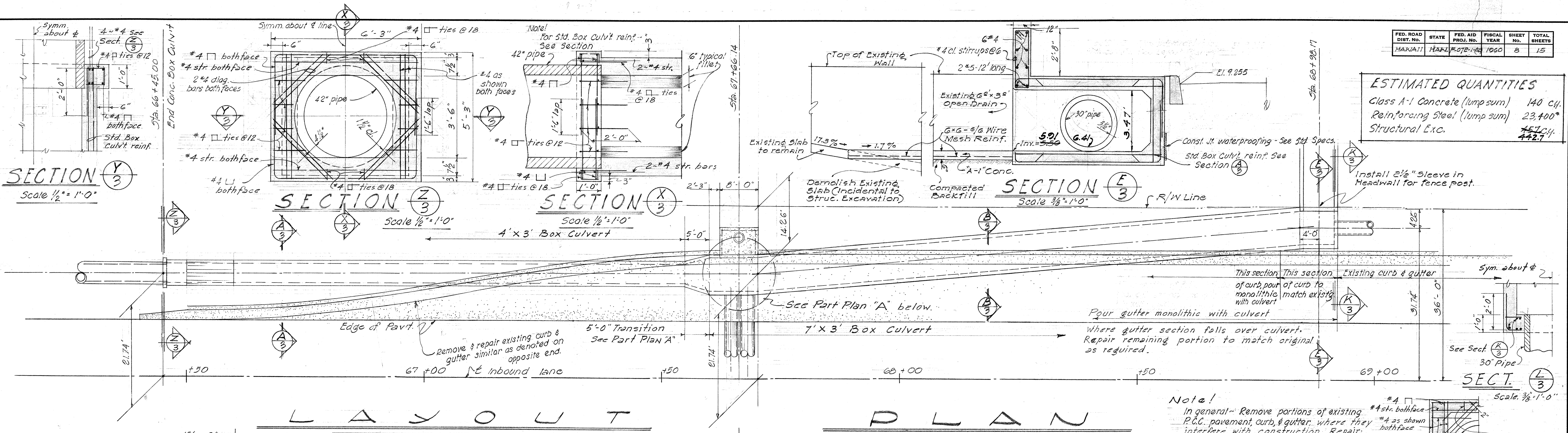


TYP. WALL SECTION
Scale - 1/2" = 1'-0"

HAWAII STATE HIGHWAY DEPARTMENT
STATE OF HAWAII
DOUBLE BARREL 42" REINF. CONCRETE CULVERT PIPE
± Sta. 62+02.18 ± to ± Sta. 63+00 ±
KALANIANA'OLE HWY. PROJ. F-072-1 (12)
Scale: As Noted Jan. 1960

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAWAII	F-072-1(12)	1960	3	15

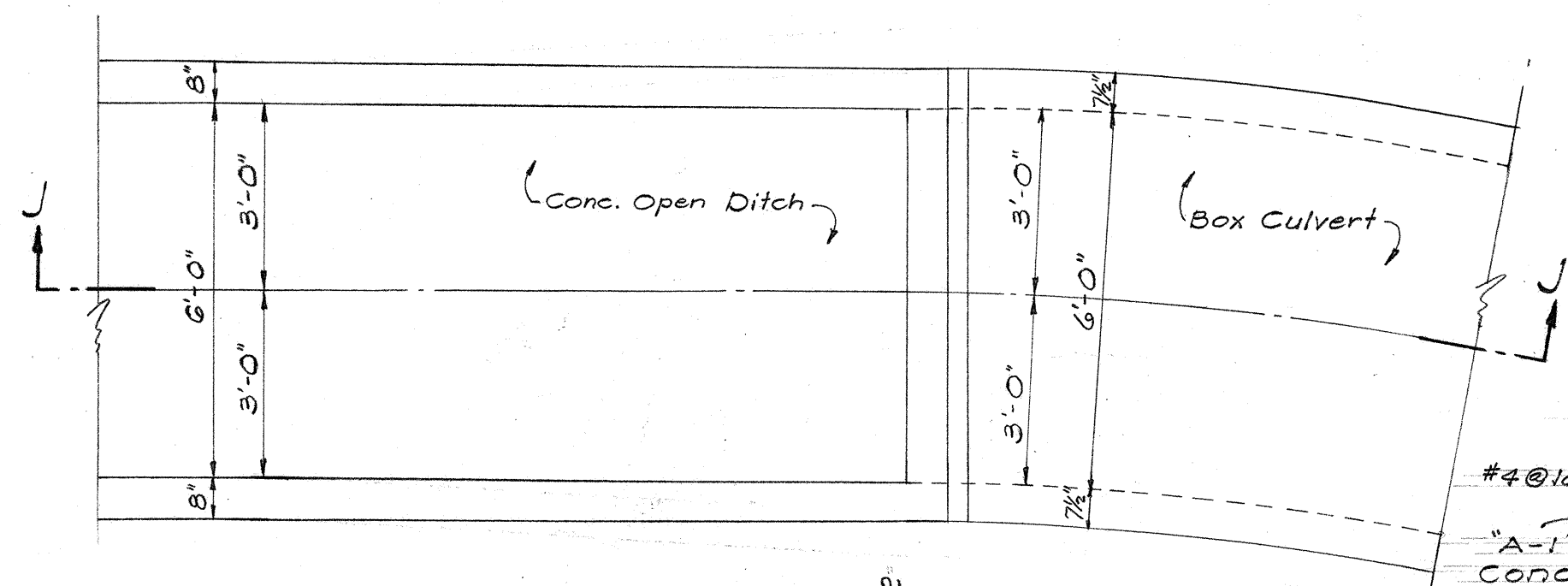
ESTIMATED QUANTITIES	
Class A-1 Concrete (lump sum)	140 cu.
Reinforcing Steel (lump sum)	23,400*
Structural Exc.	457 cu.
	442.7



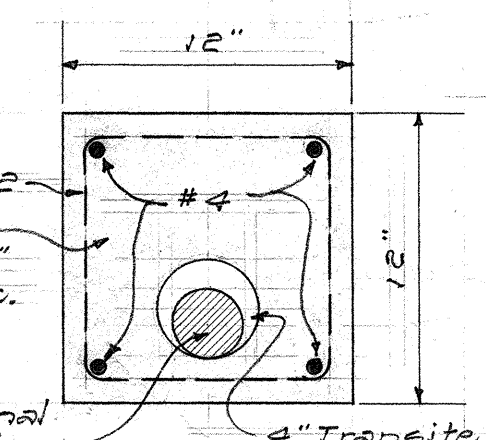
HAWAII STATE HIGHWAY DEPARTMENT
STATE OF HAWAII
7'x3' AND 4'x3' BOX CULVERT
Sta. 66+45 to 66+93
KALANIANAOLE HWY. DRAINAGE IMPROVEMENTS
PROJ. F-072-1(12)
Scale: As Noted Jan. 1960

ORIGINAL PLAN
DESIGNED BY
DRAWN BY
CHECKED BY
NOTE BOOK
QUANTITIES CHECKED BY
No.

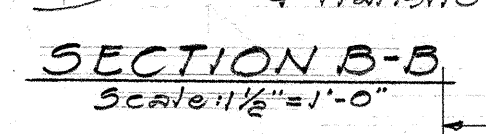
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-072-1(12)	1960	10	15



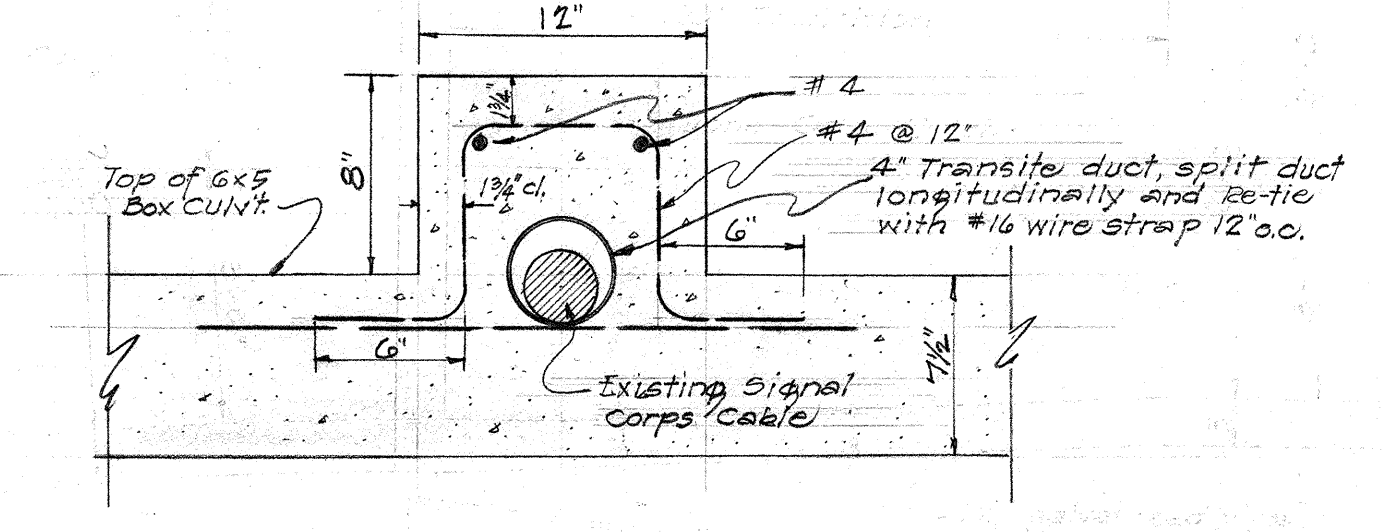
PLAN



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



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

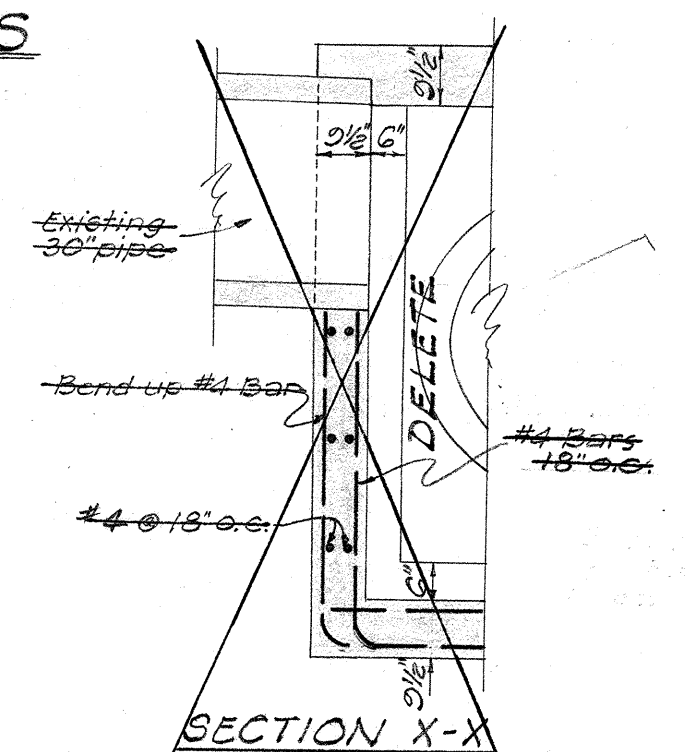
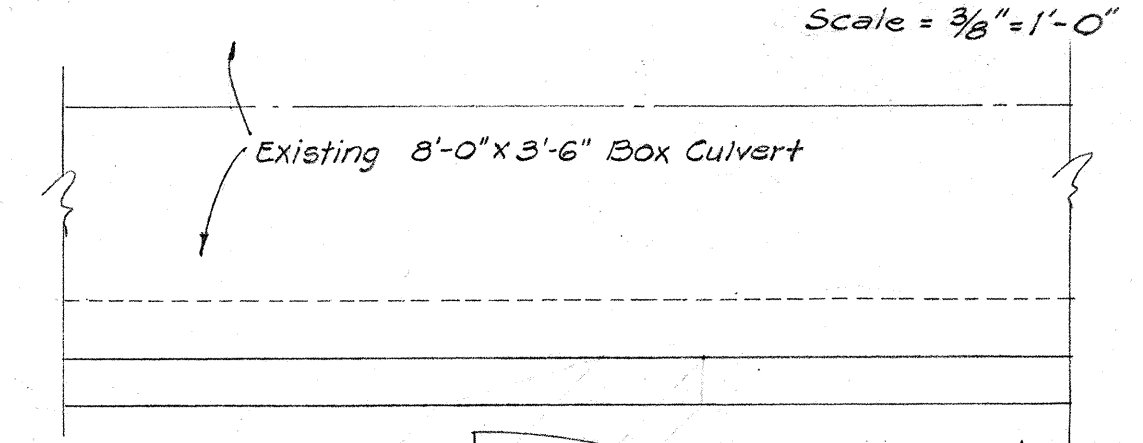


SECTION OF 6'x5' BOX CULVERT
AT SIGNAL CORPS CABLE CROSSING
Scale: 1 1/2" = 1'-0"

SECTION J-J

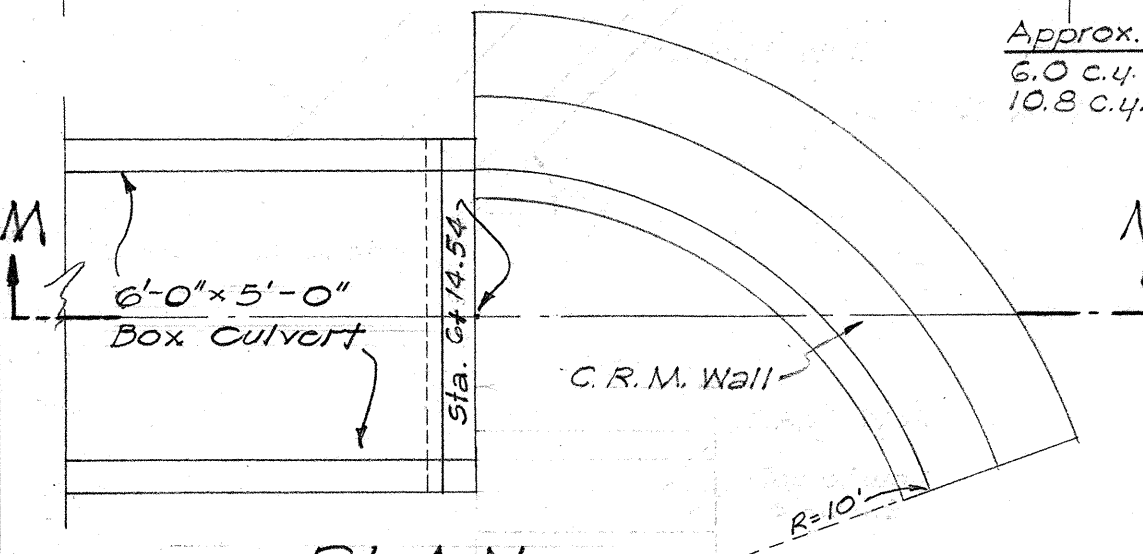
TRANSITION DETAILS
OPEN DITCH TO BOX DRAIN
STA. 60+01.22

Scale: 3/8" = 1'-0"

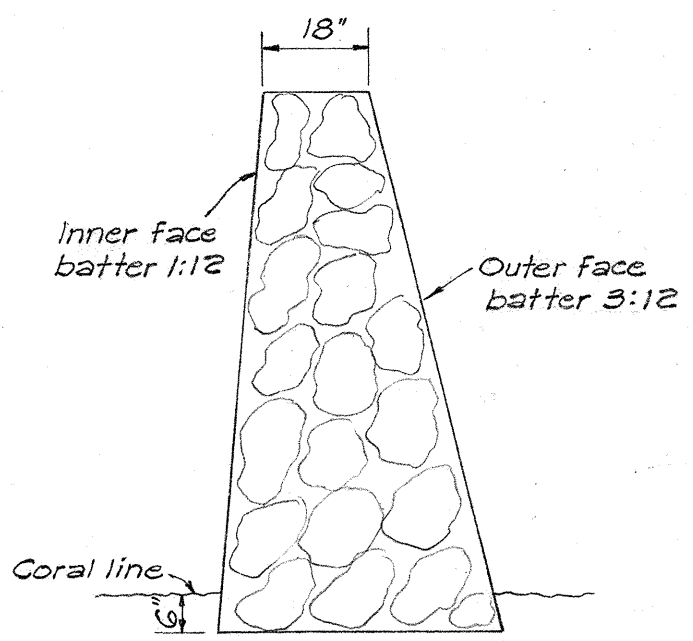


SECTION X-X
Scale: 3/8" = 1'-0"

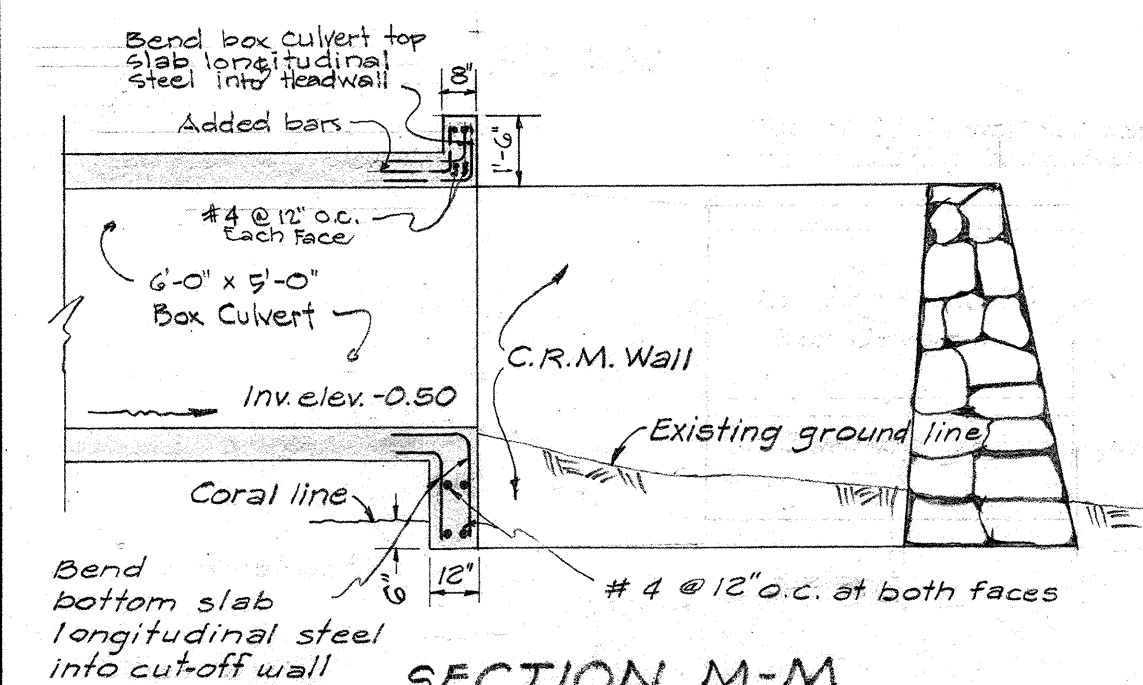
Approx. Qty.
6.0 c.y. Exc.
10.8 c.y. C.R.M.



PLAN



TYPICAL SECTION
C.R.M. WALL
Scale: 3/8" = 1'-0"

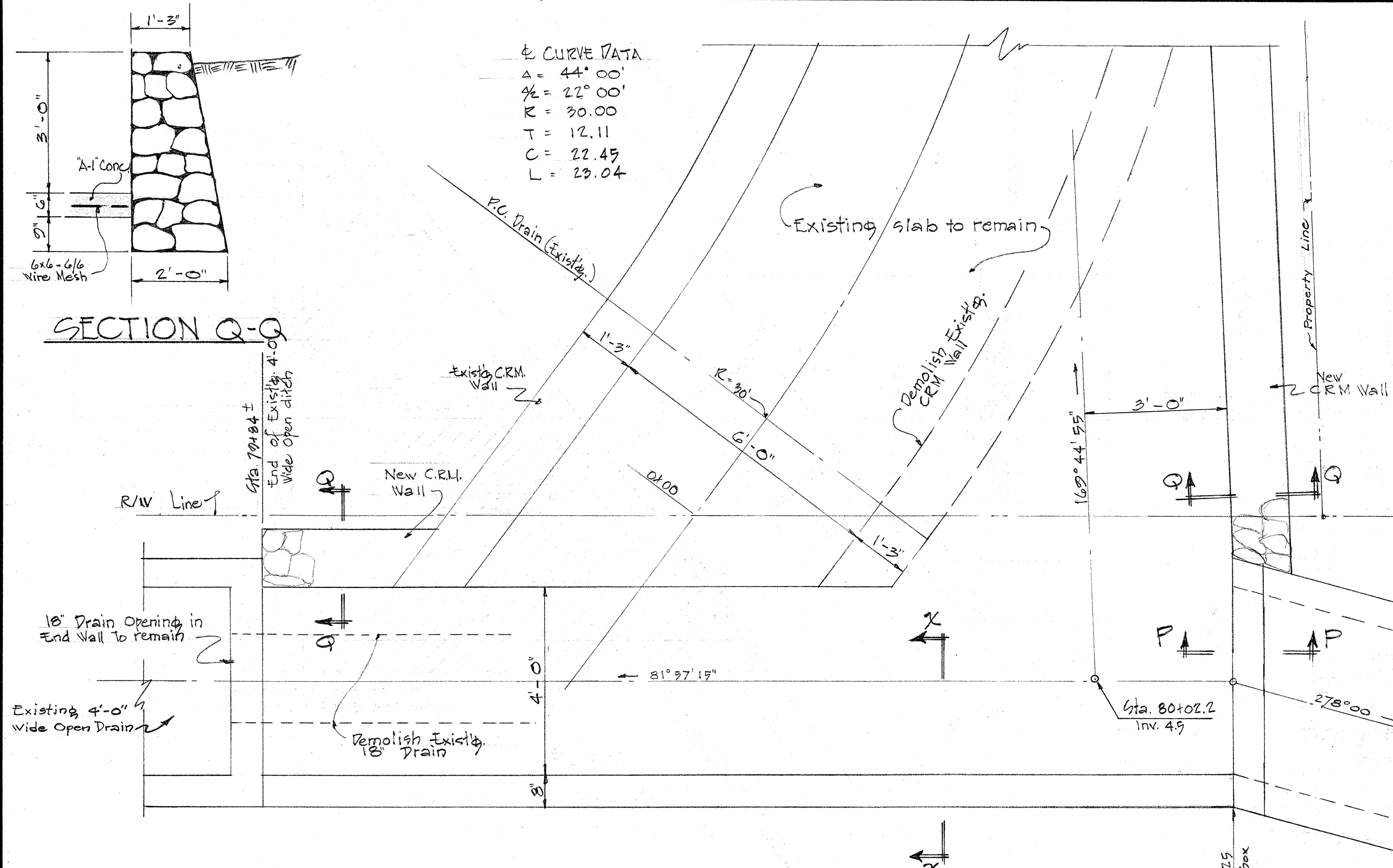


SECTION M-M
OUTFALL DETAILS
AT KEAHIA WAY
Scale: 1/4" = 1'-0"

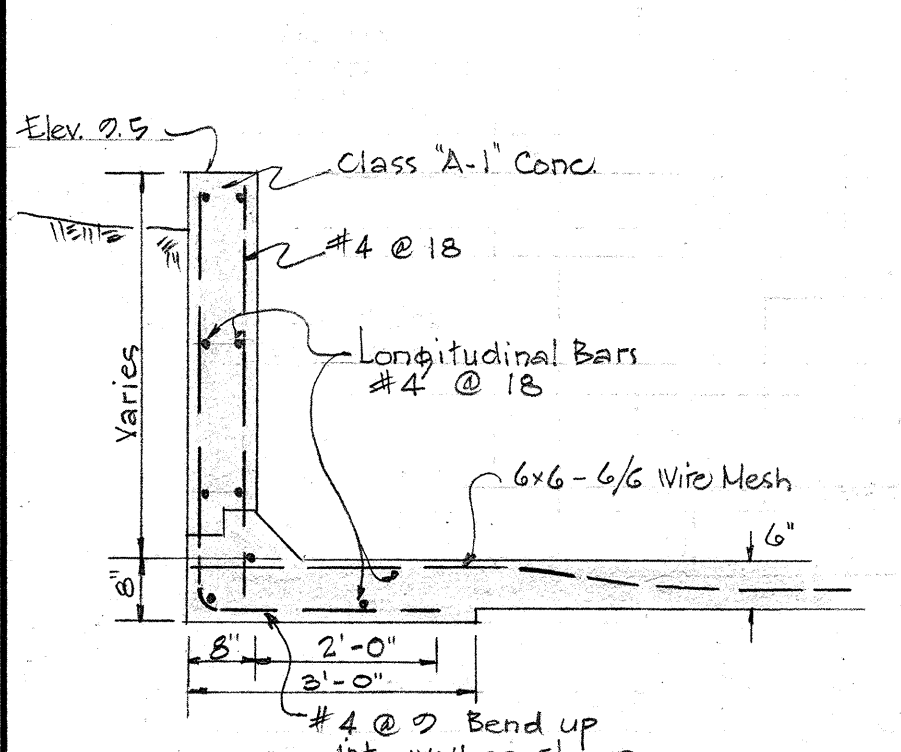
DATE	_____
SURVEY PLOTTED BY	_____
DESIGNED BY	_____
DRAWN BY	_____
CHECKED BY	_____
NOTED BY	_____
ORIGINAL PLAN	_____
NOTE BOOK	_____
NO.	_____

HAWAII STATE HIGHWAY DEPARTMENT
STATE OF HAWAII
SPECIAL DRAINAGE STRUCTURES
STATIONS 60+01.22,
KEAHIA WAY, 67+66.14 & 68+08.17
KALANIANA'OLE HWY. DRAINAGE IMPROVEMENTS
PROJECT F-072-1(12)
Scale: As Noted JAN. 1960

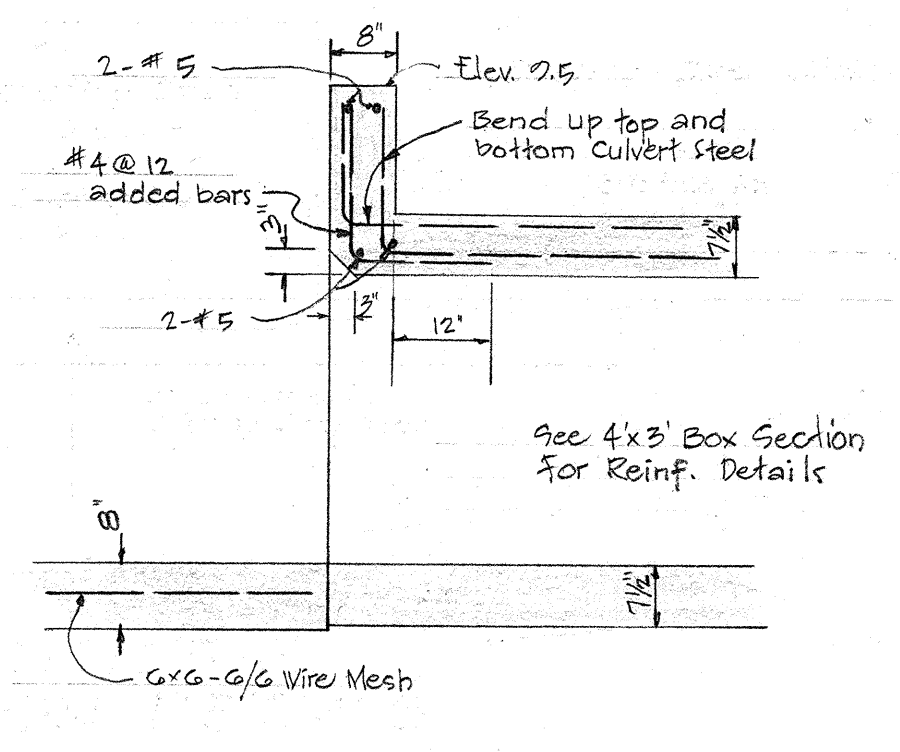
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-072-1(12)	1960	11	15



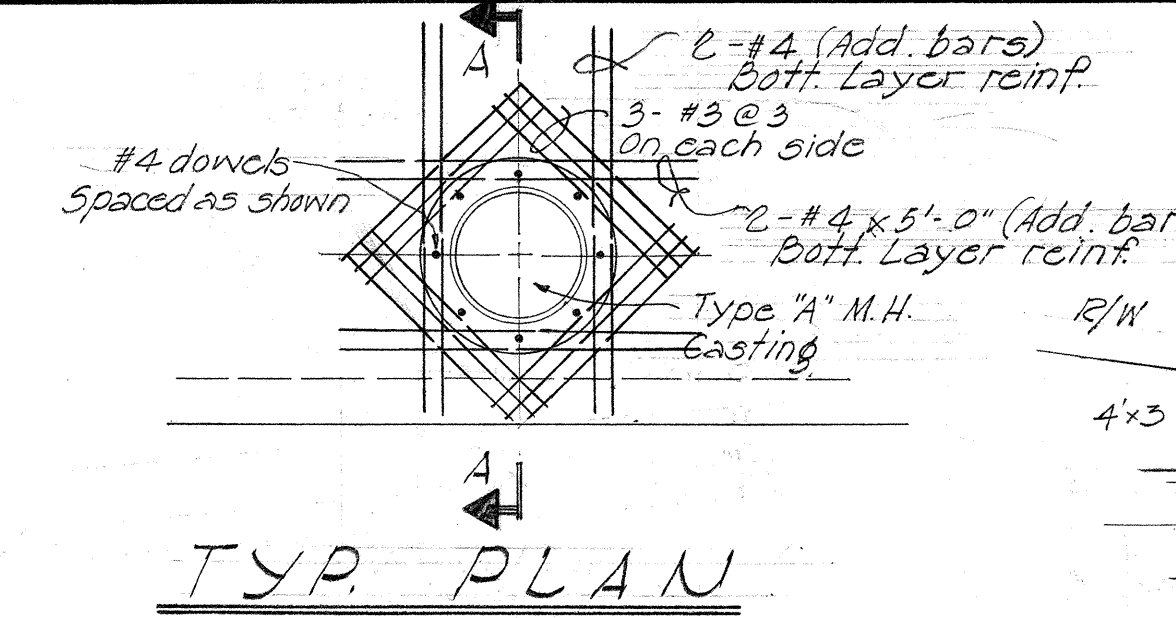
PLAN
4'x3' BOX JUNCTION DETAILS
Sta. 80+00
Scale: 1/2" = 1'-0"



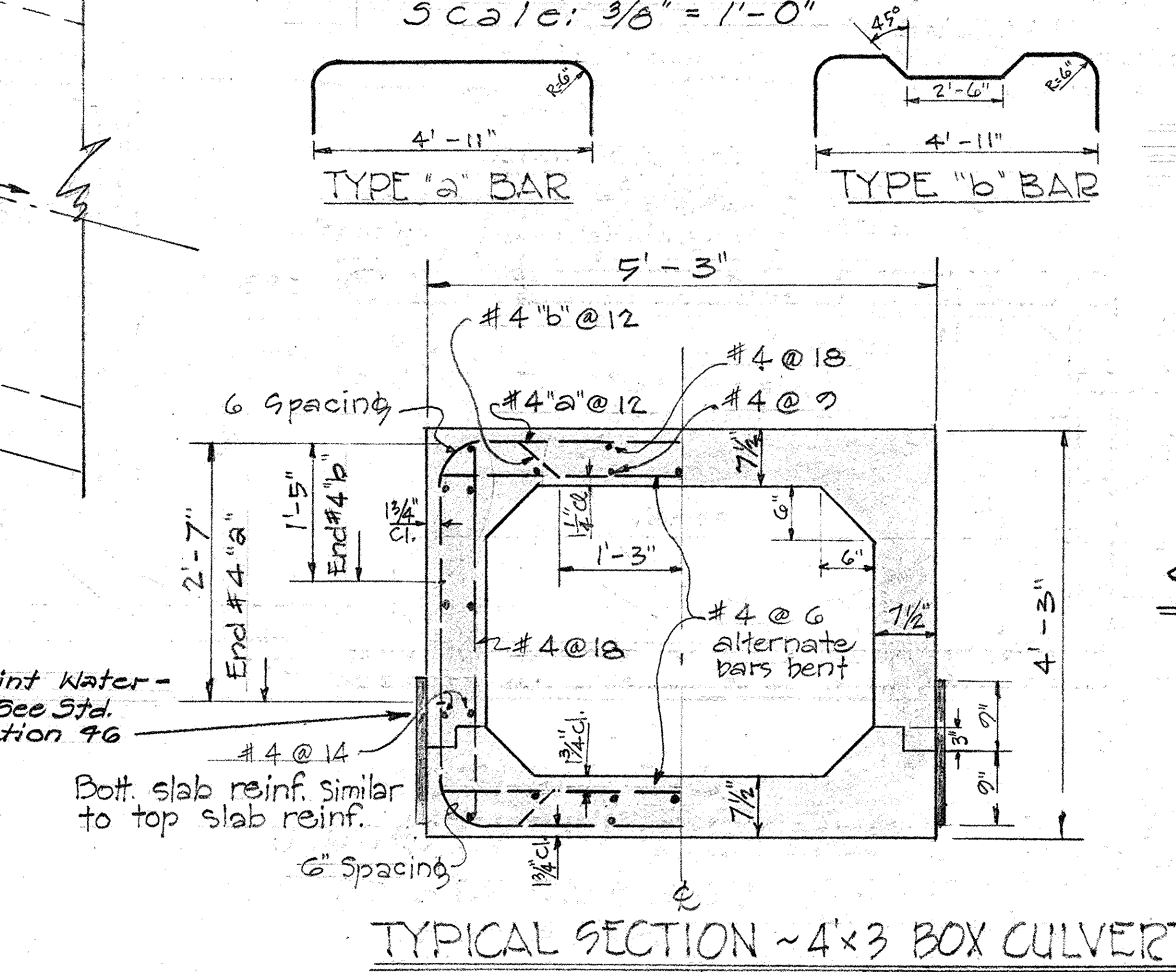
SECTION X-X
Scale: 1/2" = 1'-0"



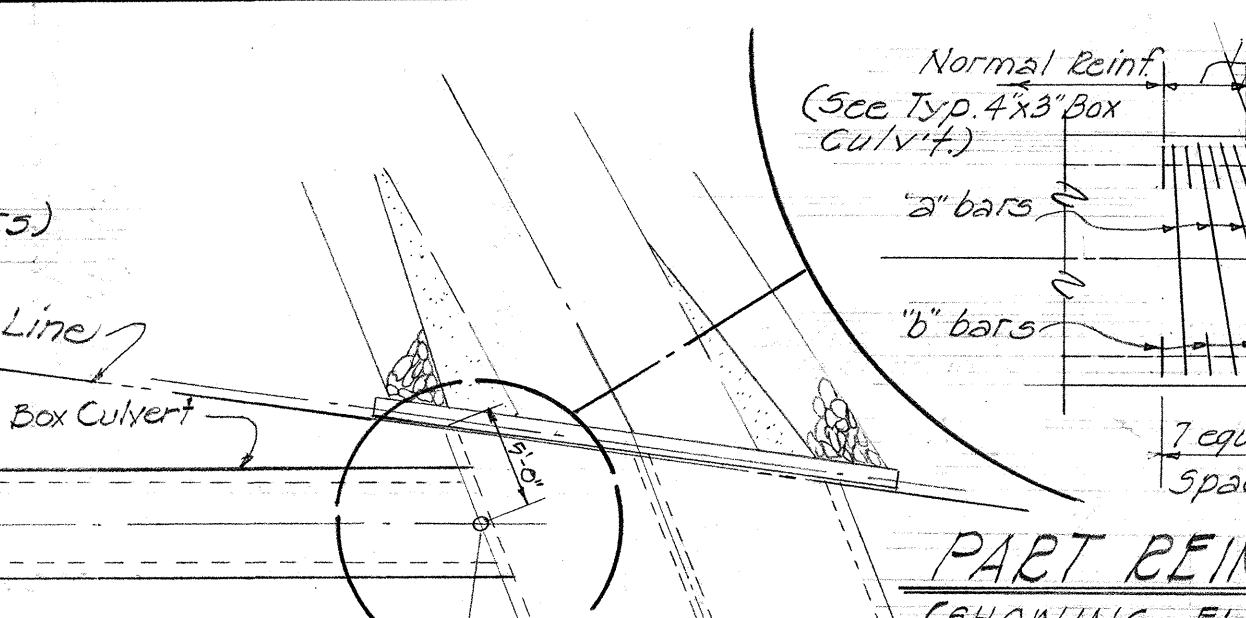
SECTION P-P
Scale: 1/2" = 1'-0"



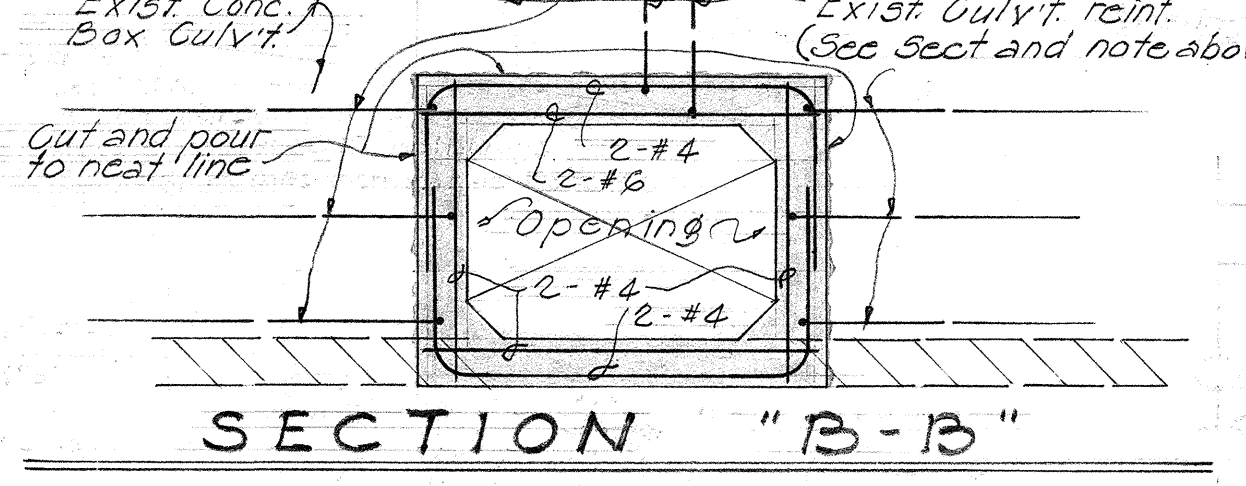
TYP. PLAN
TYP. M.H. DET. FOR BOX CULV'T.
Scale: 3/8" = 1'-0"



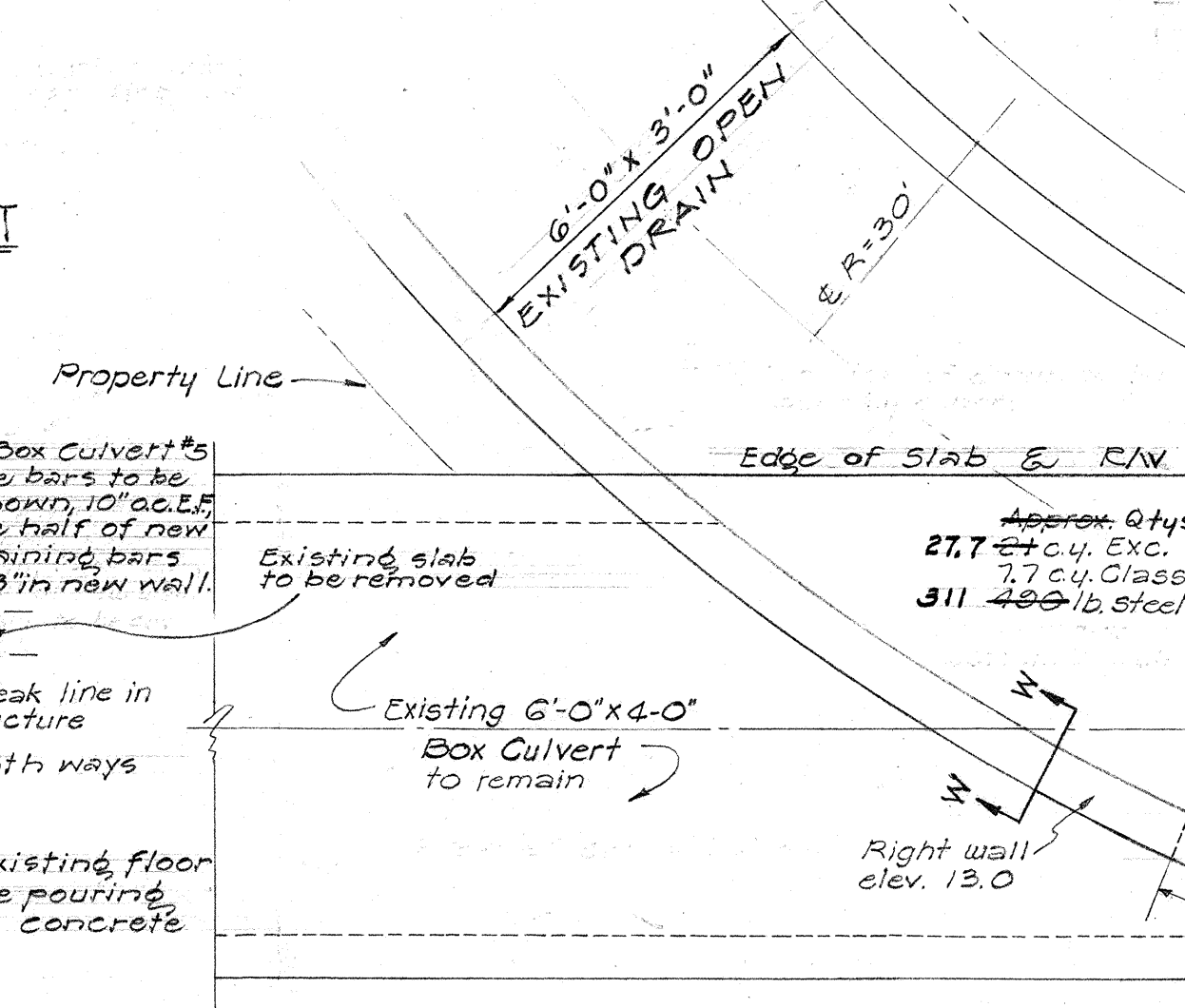
TYPICAL SECTION ~4'x3' BOX CULVERT
Scale: 1/2" = 1'-0"



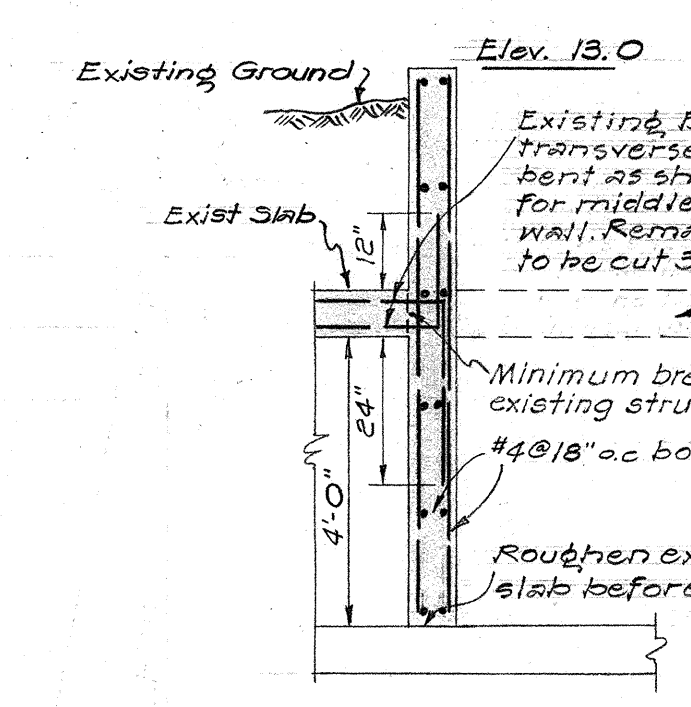
PART BEINF PLAN
(SHOWING FLARE SECTION)
Scale: 1/4" = 1'-0"



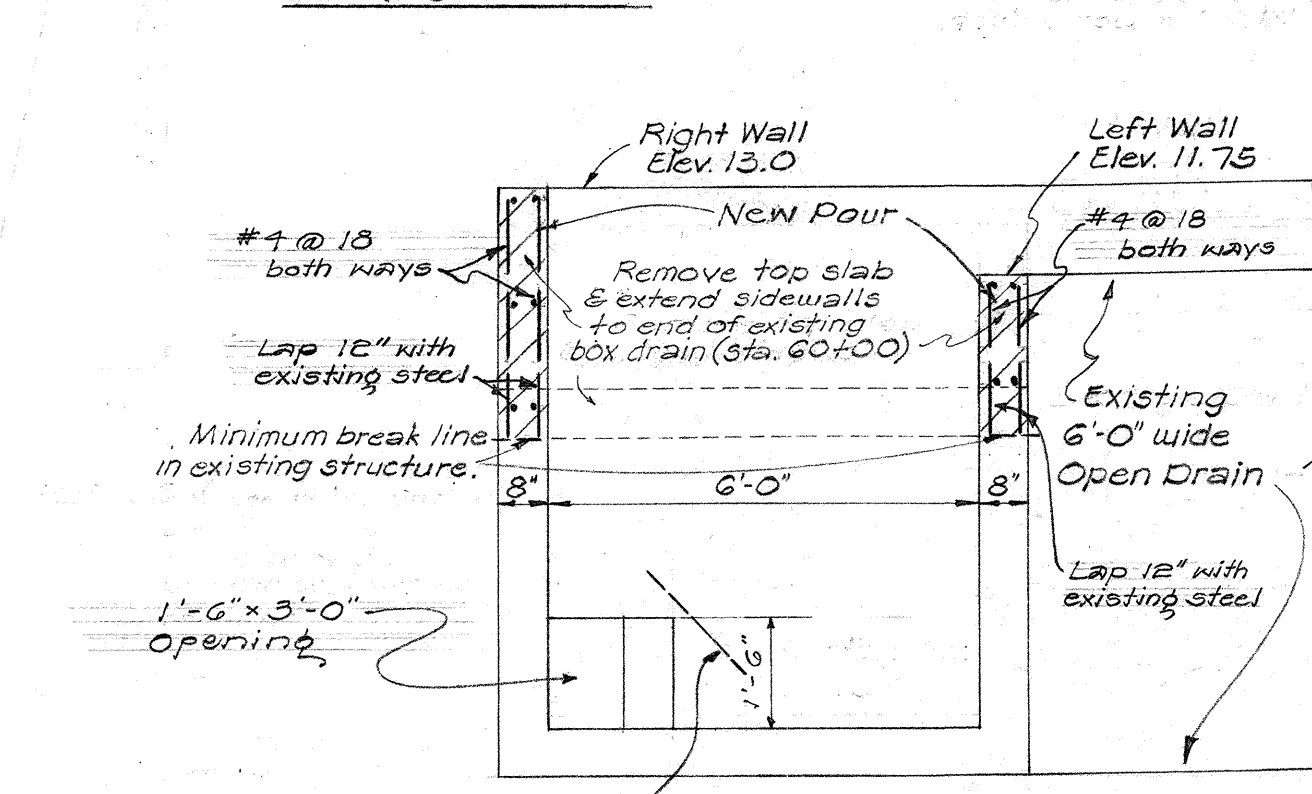
SECTION "B-B"
4'x3' BOX JUNCTION DETAILS
Scale: 3/8" = 1'-0"



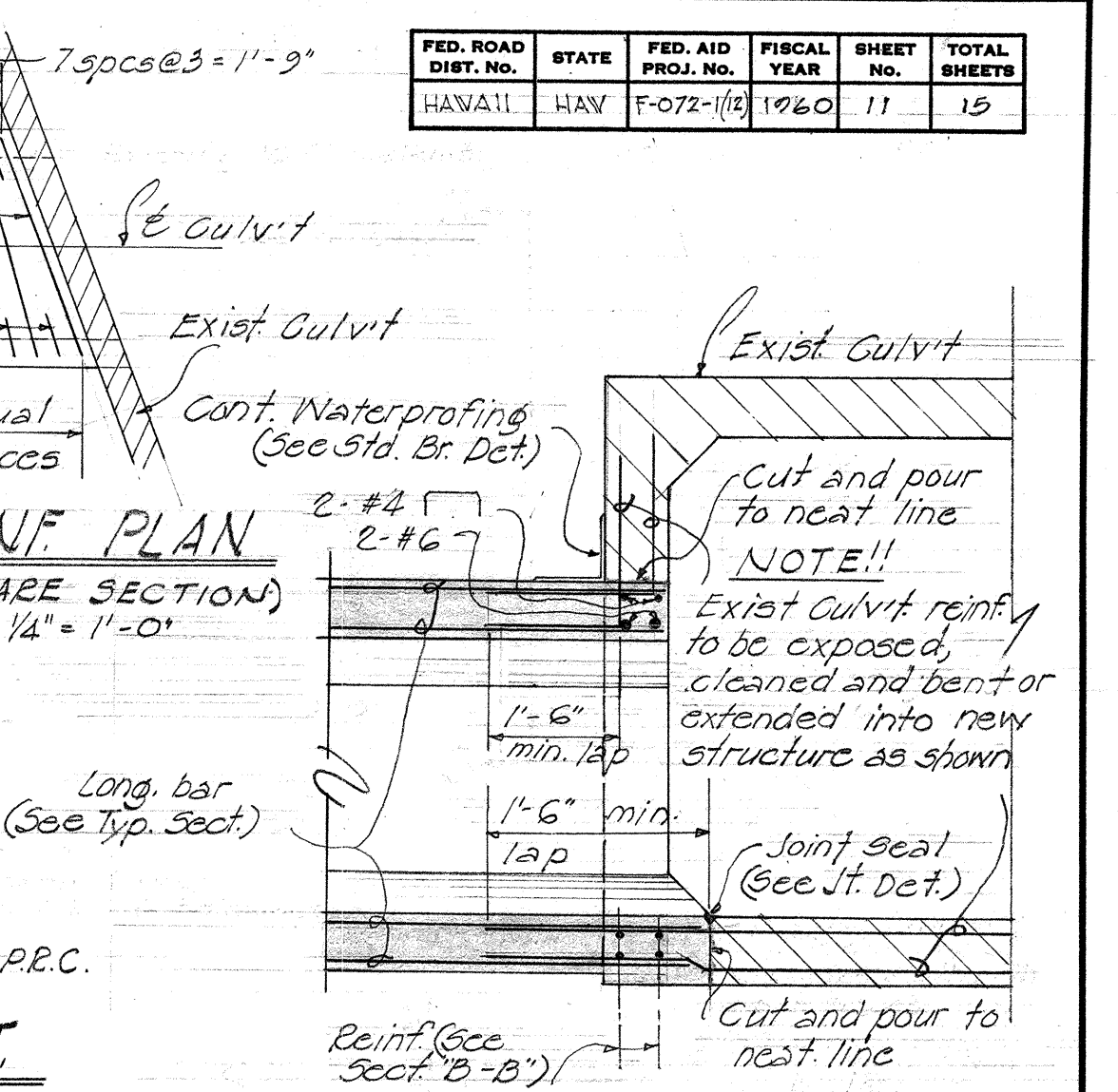
PLAN
JUNCTION DETAILS
AT STA. 80+00 TO 82+25
Scale: 3/8" = 1'-0"



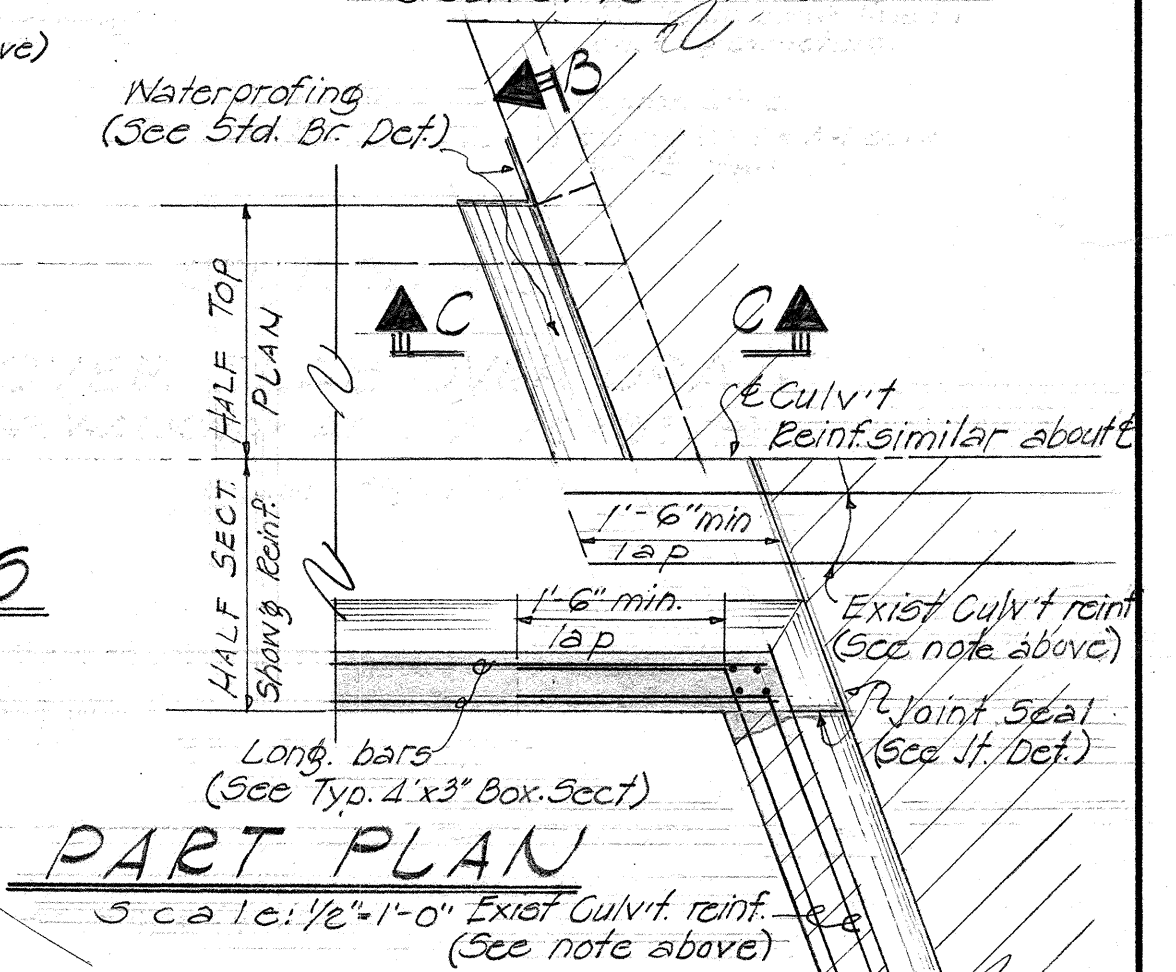
SECTION W-W



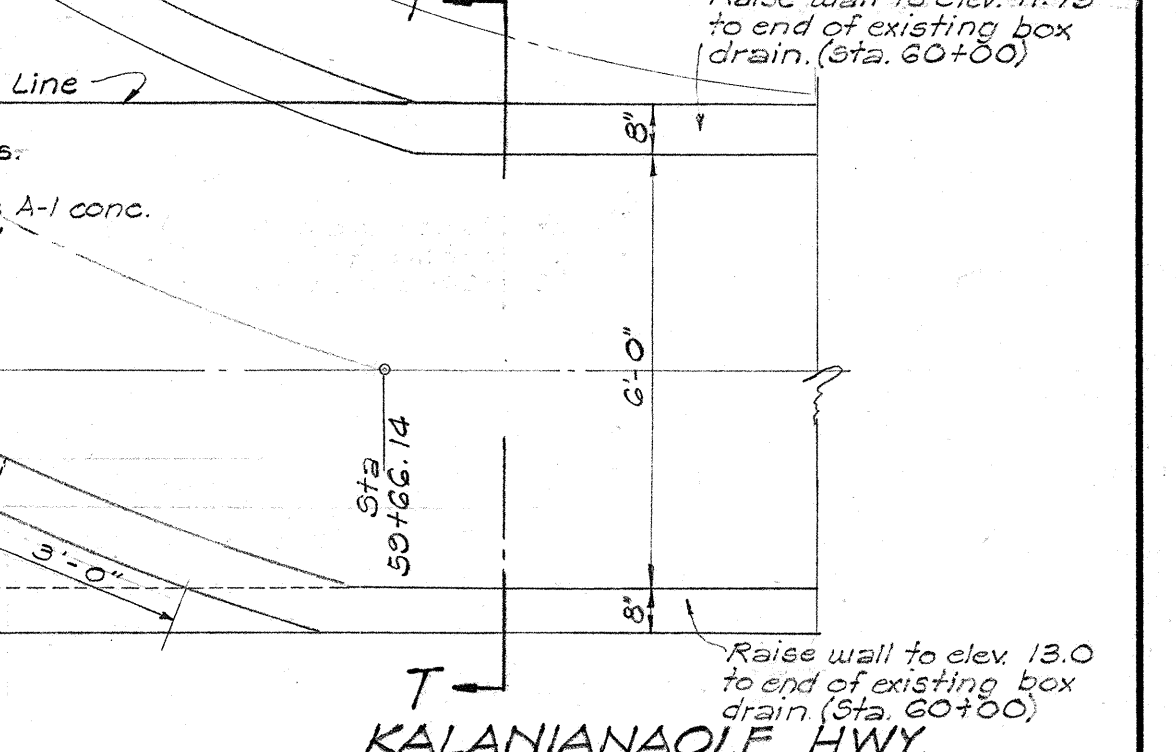
SECTION T-T
Scale: 3/8" = 1'-0"



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



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



PLAN
KALANIANA'OLE HWY.

HAWAII STATE HIGHWAY DEPARTMENT
STATE OF HAWAII
SPECIAL DRAINAGE STRUCTURES
STATIONS 80+00 TO 82+25,
& 82+66.14
KALANIANA'OLE HWY. DRAINAGE IMPROVEMENTS
PROJECT F-072-1(12)
Scale: As Noted Jan. 1960

SHEET No. 6 OF 6 SHEETS

8/31.11

DESIGNED BY	DATE
TRACED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	