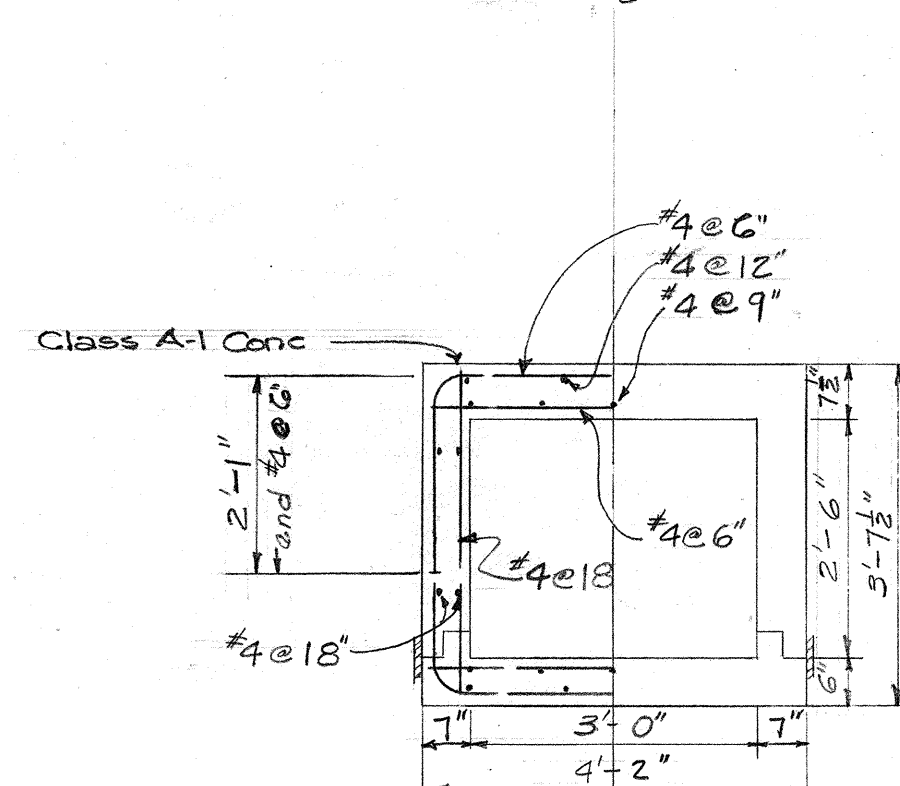
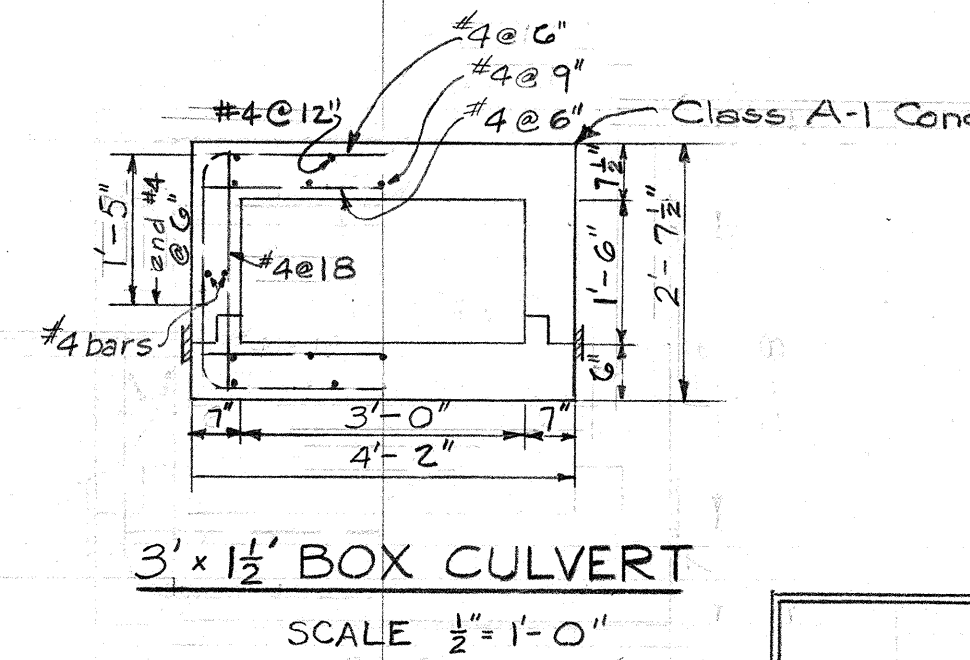
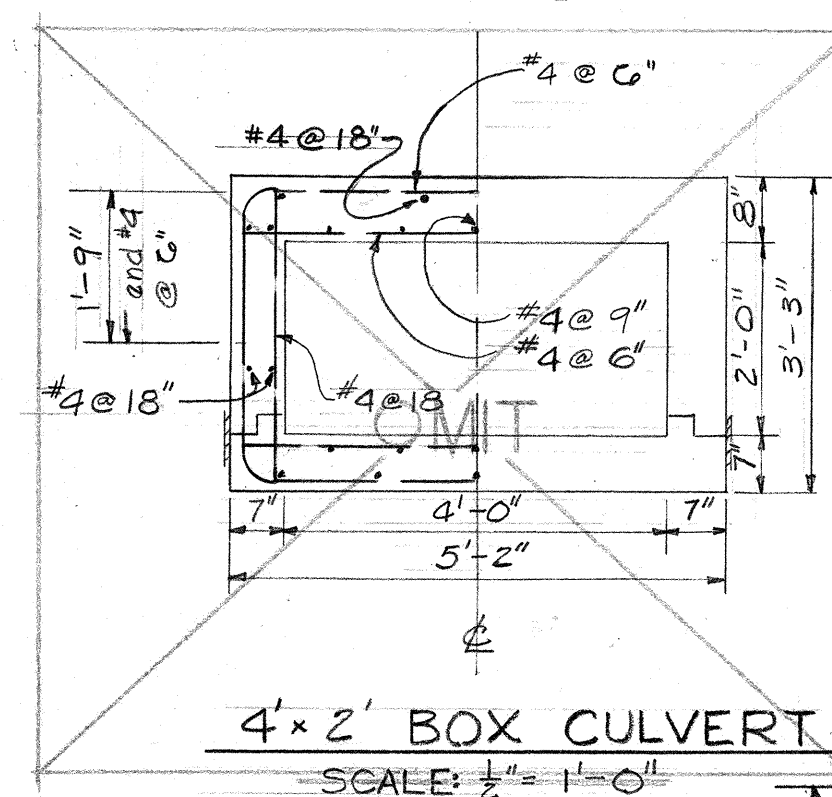
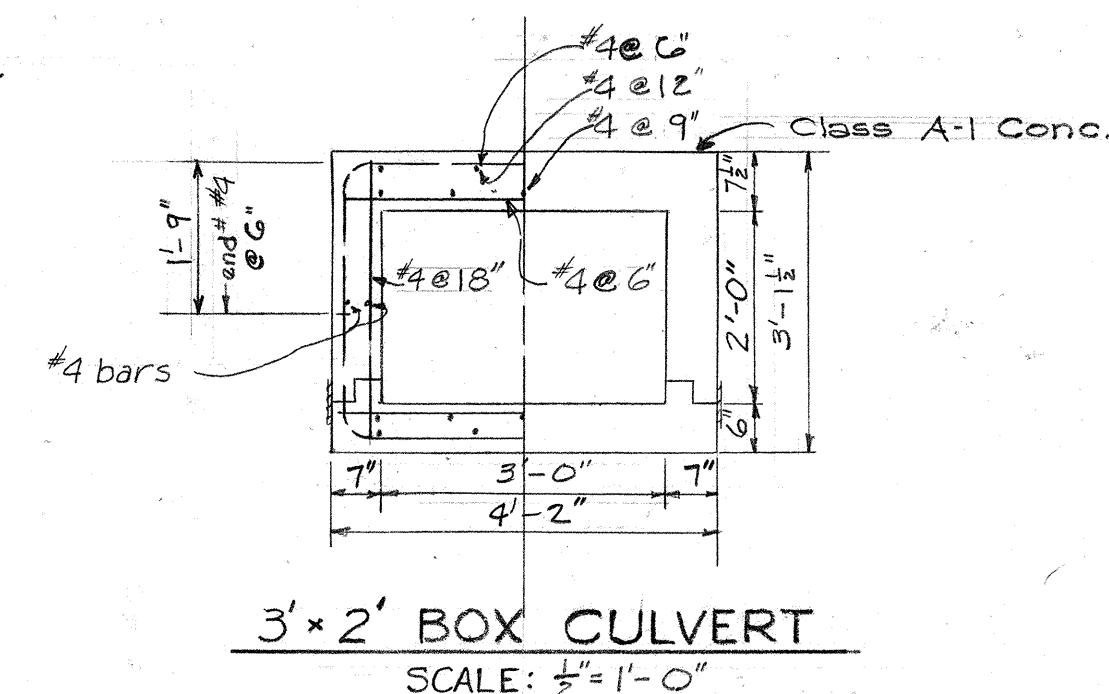
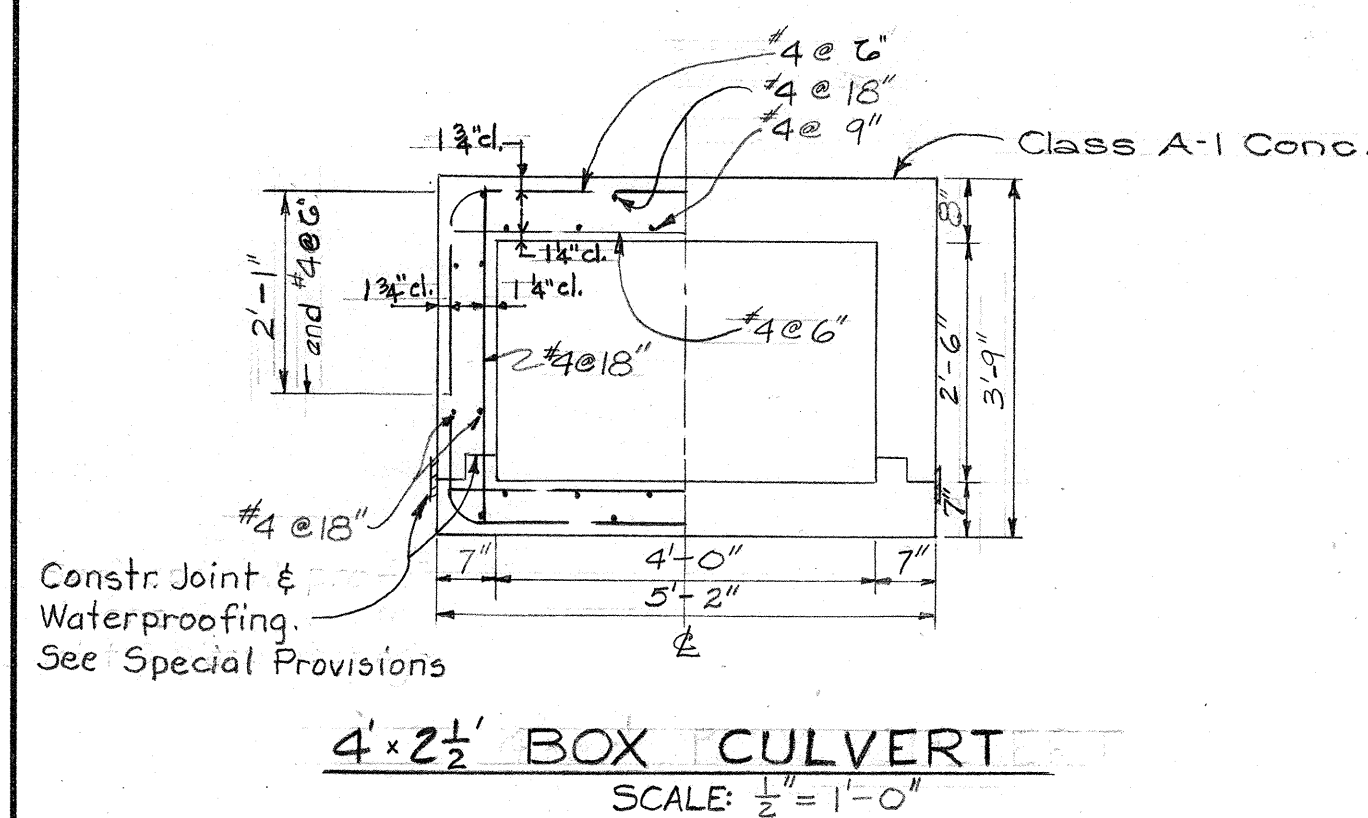
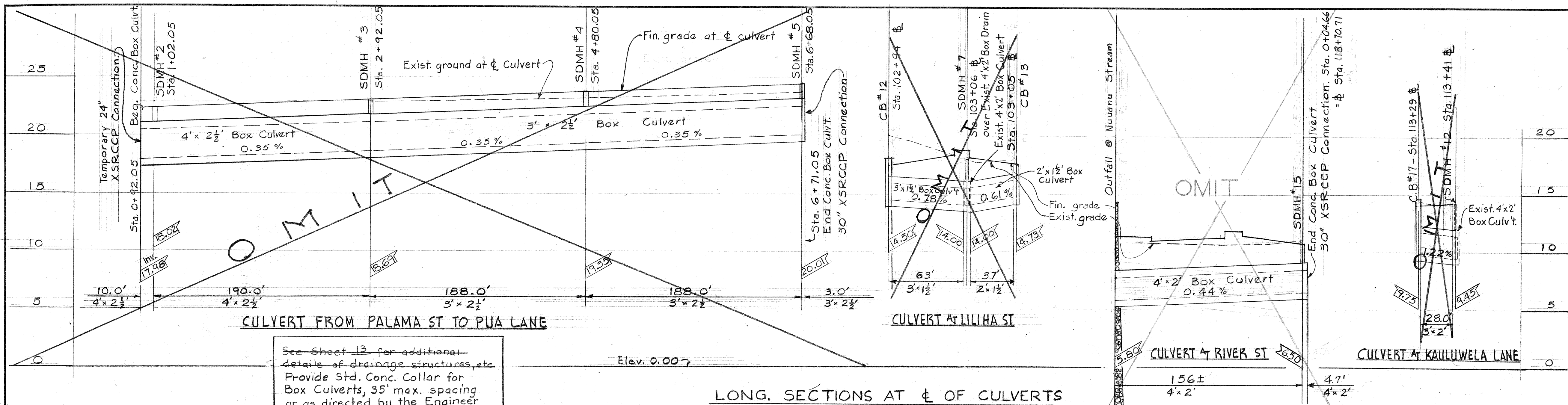
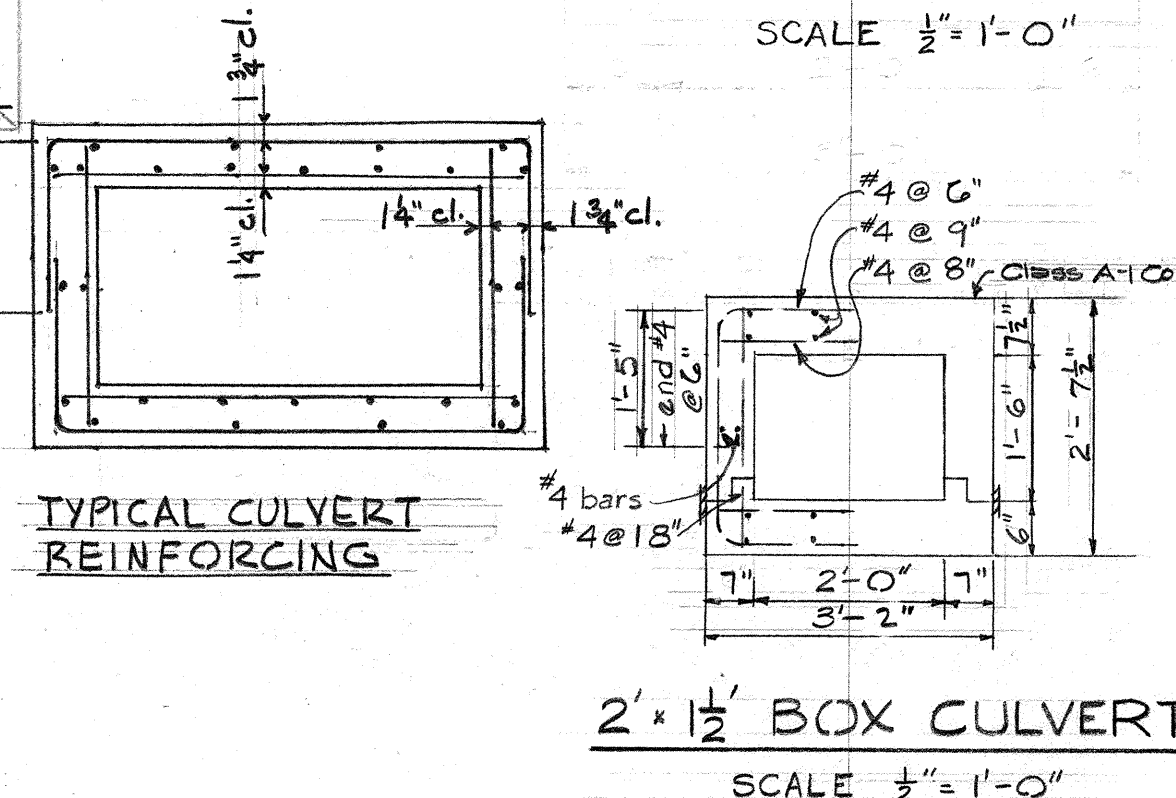


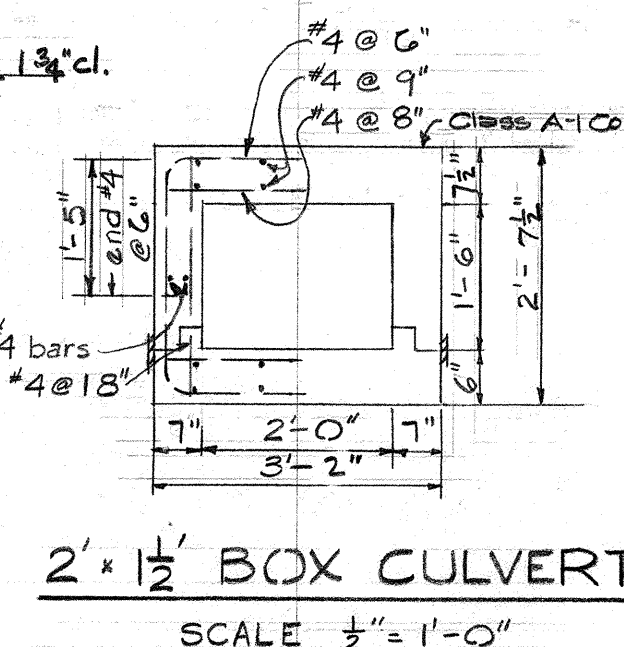
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	DF-098-1(5)	1958	31	115



3' x 2 1/2' BOX CULVERT
SCALE: 1/2" = 1'-0"

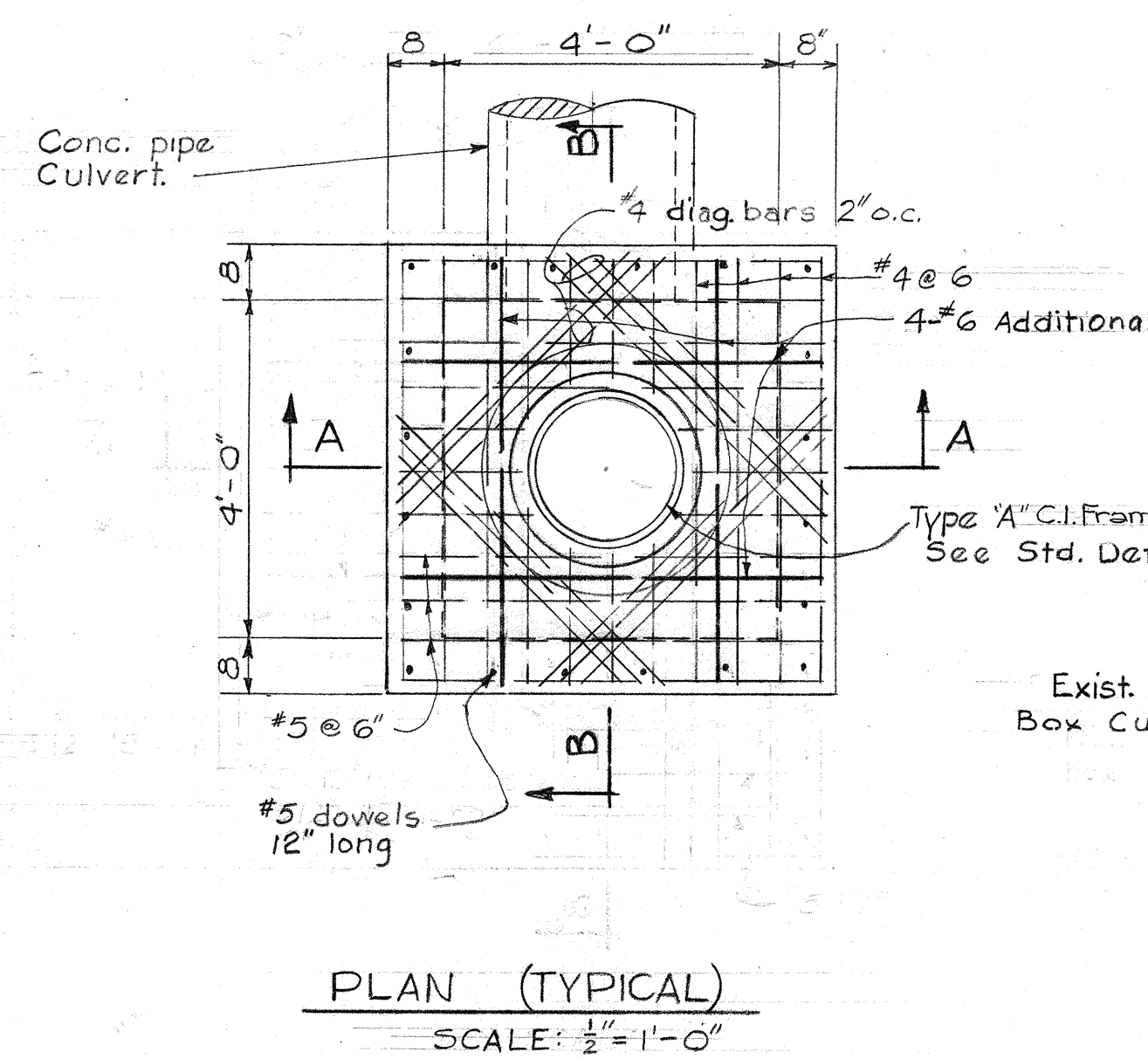


TYPICAL CULVERT REINFORCING

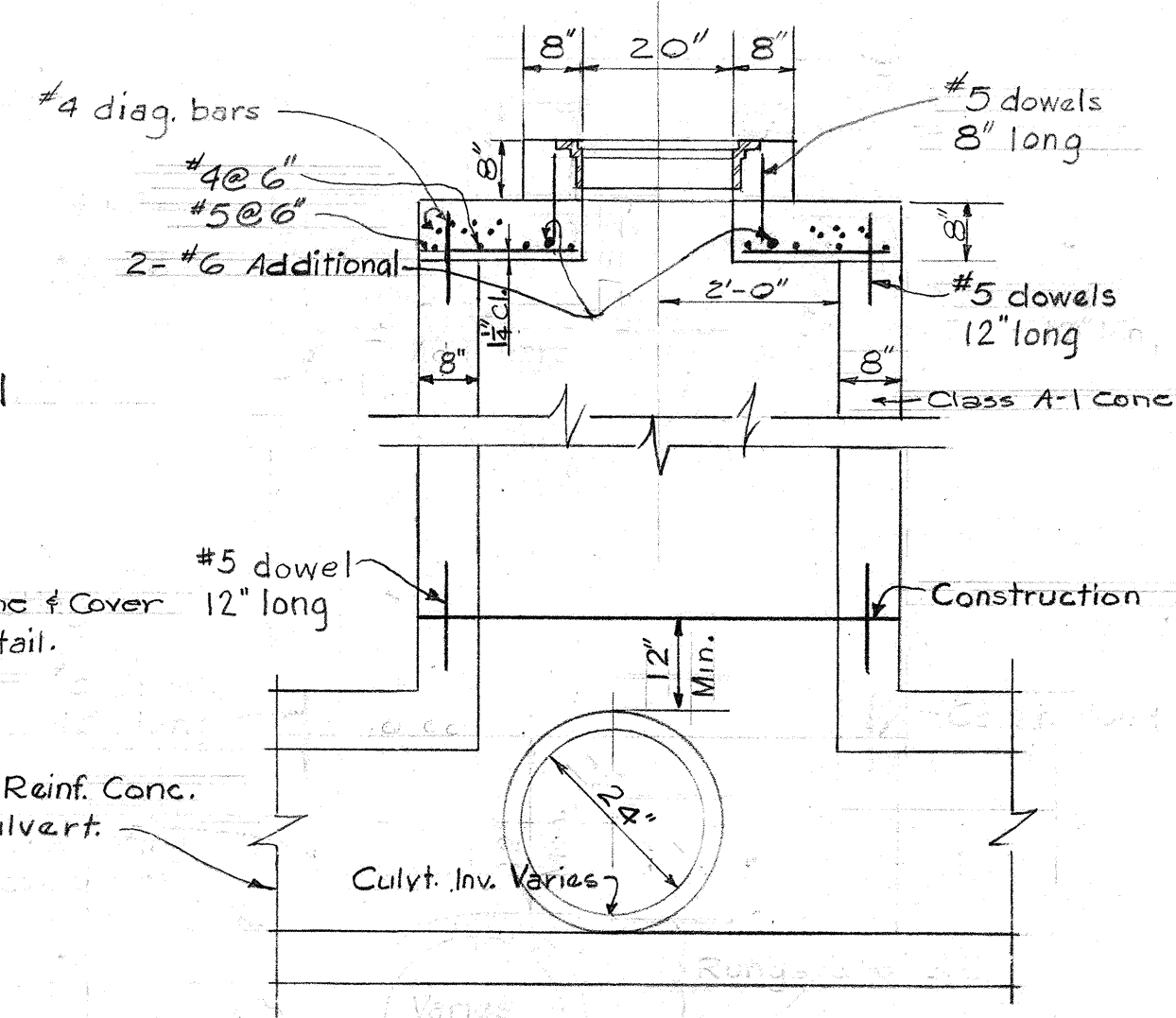


2' x 1 1/2' BOX CULVERT
SCALE: 1/2" = 1'-0"

SCALES: Horiz. 1" = 50'
Vert. 1" = 5'



PLAN (TYPICAL)
SCALE: 1/2" = 1'-0"

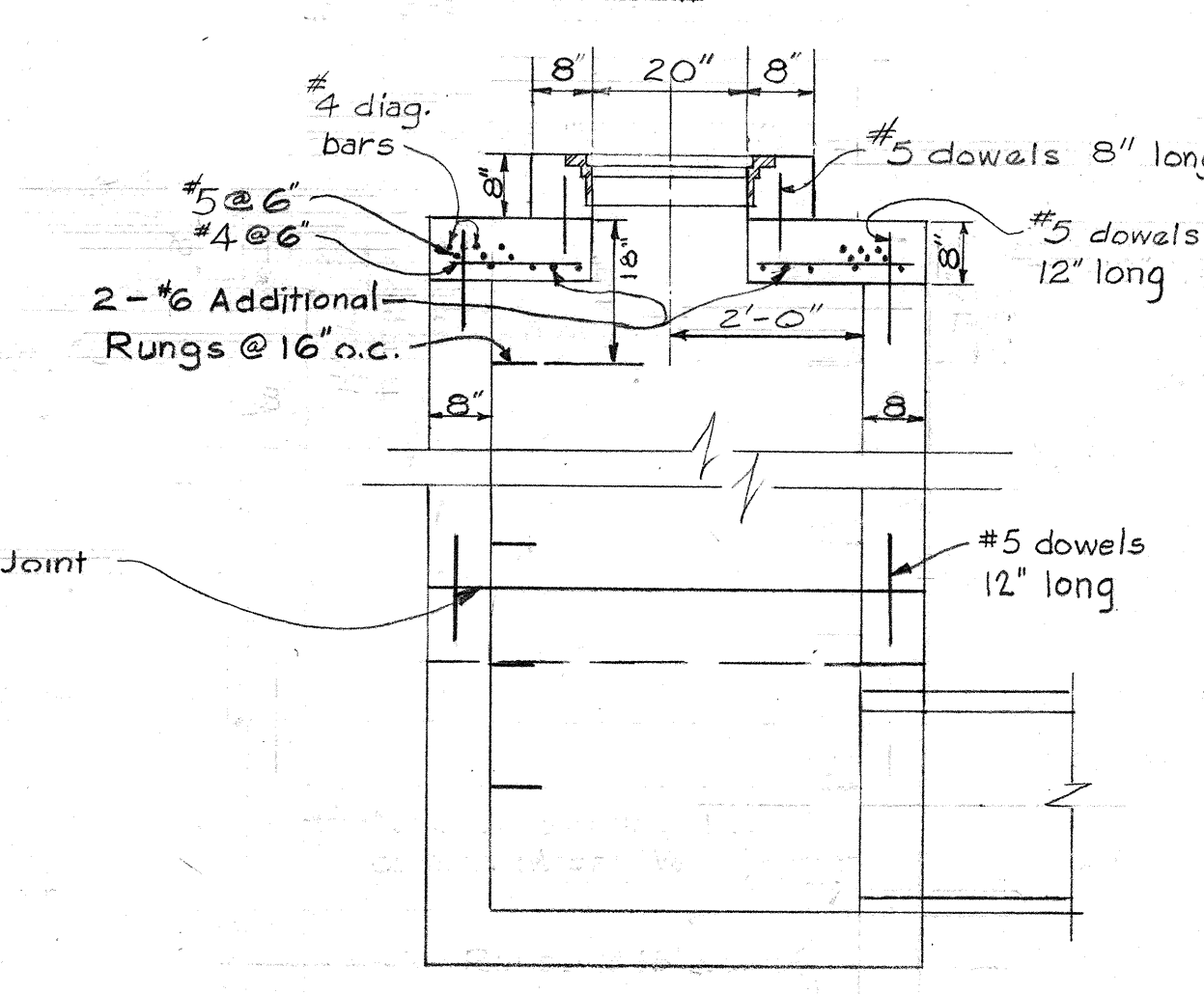


SECTION A-A
SCALE: 1/2" = 1'-0"

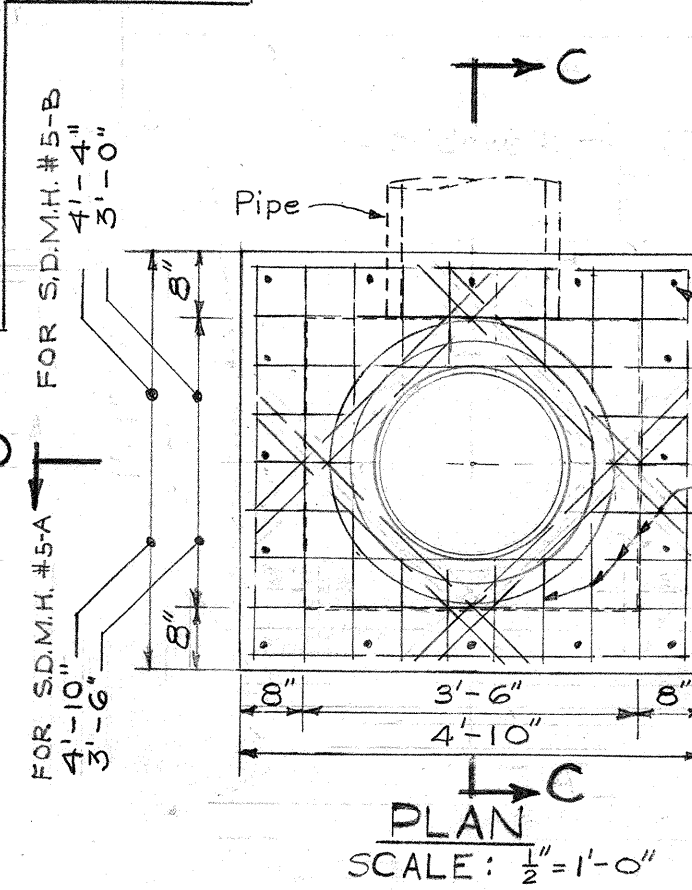
DETAIL OF S.D.M.H. #10 & #14

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

NOTE:
Height of M.H. varies to meet new pavement grade

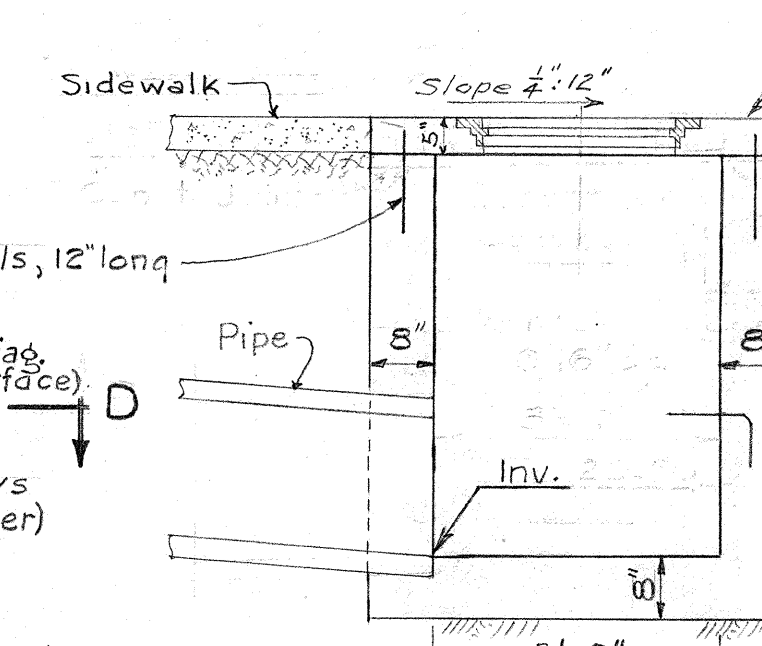


SECTION B-B
SCALE: 1/2" = 1'-0"



PLAN C
SCALE: 1/2" = 1'-0"

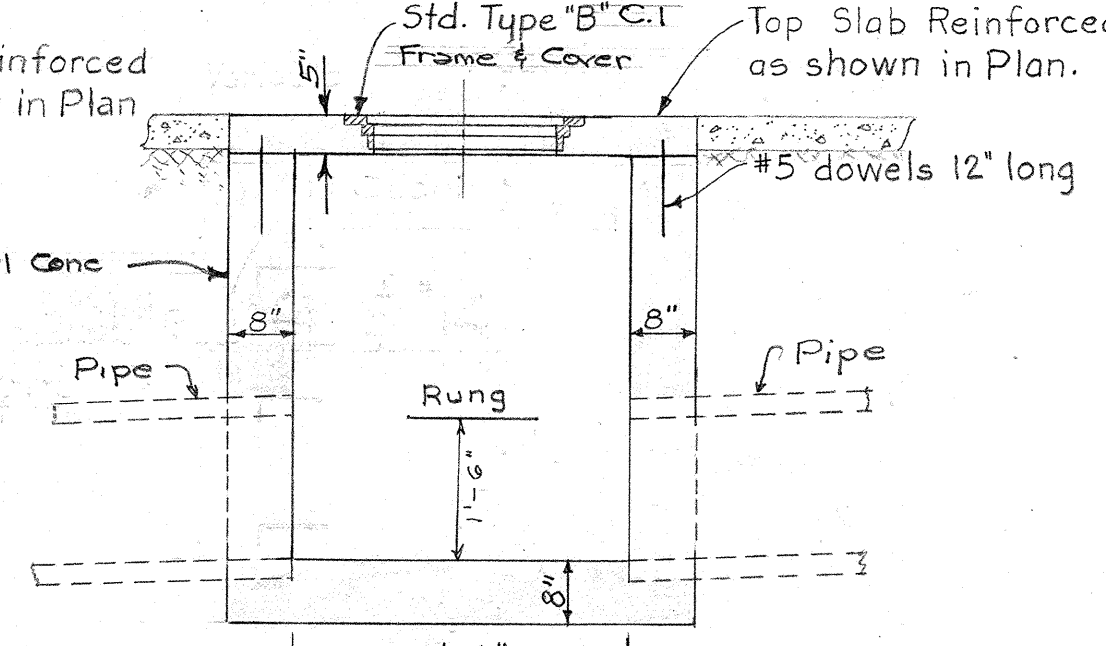
Note: See Sht 5882.10 for Invert, Size, Location and Direction of Incoming Pipes.



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

DETAIL OF S.D.M.H. #5-A & #5-B

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



SECTION D-D
SCALE: 1/2" = 1'-0"

APPROVED: *S. Kashiwagi* 1/3/57
STRUCTURAL ENGINEER
Reg. Eng. Cert. No. 5 6 8

(NO AS-BUILT CHANGES ON THIS SHEET)

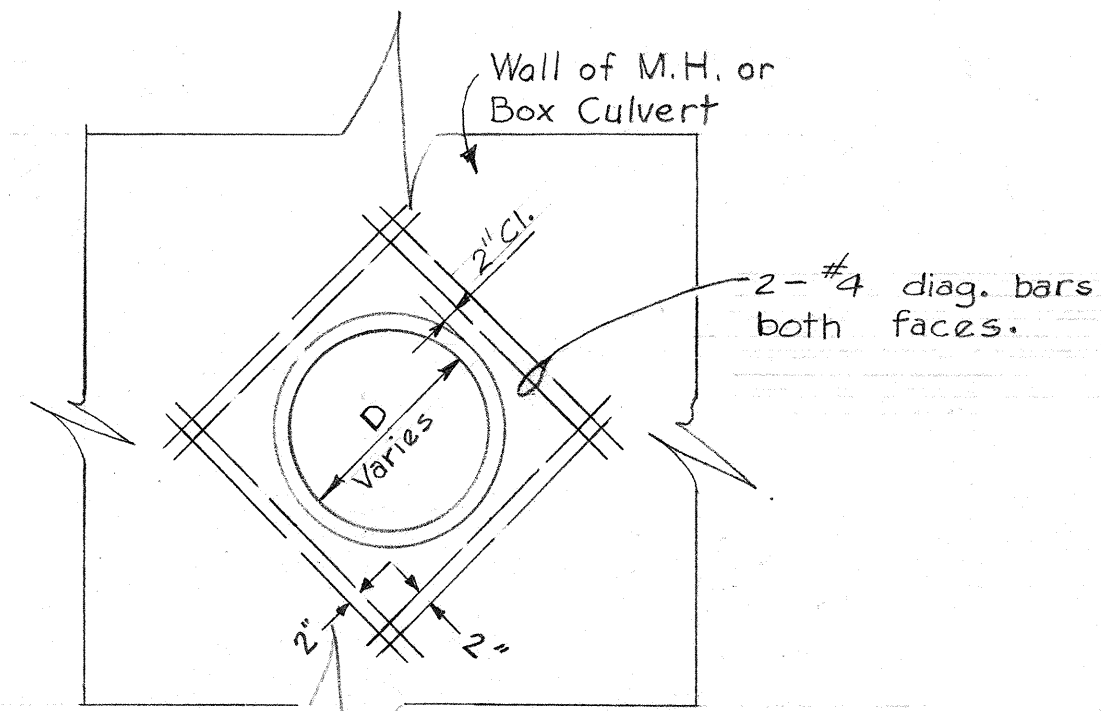
TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII

DETAIL OF DRAINAGE STRUCTURES

VINEYARD THOROUGHFARE
PALAMA ST. TO FORT ST.
PROJECT NO DF-098-1(5)
Scale: As Noted

SHEET NO. 1 OF 5 SHEETS

5882.31



TYPICAL REINFORCING AROUND PIPE AT ENTRY OF M.H. OR BOX CULV'T.
NO SCALE

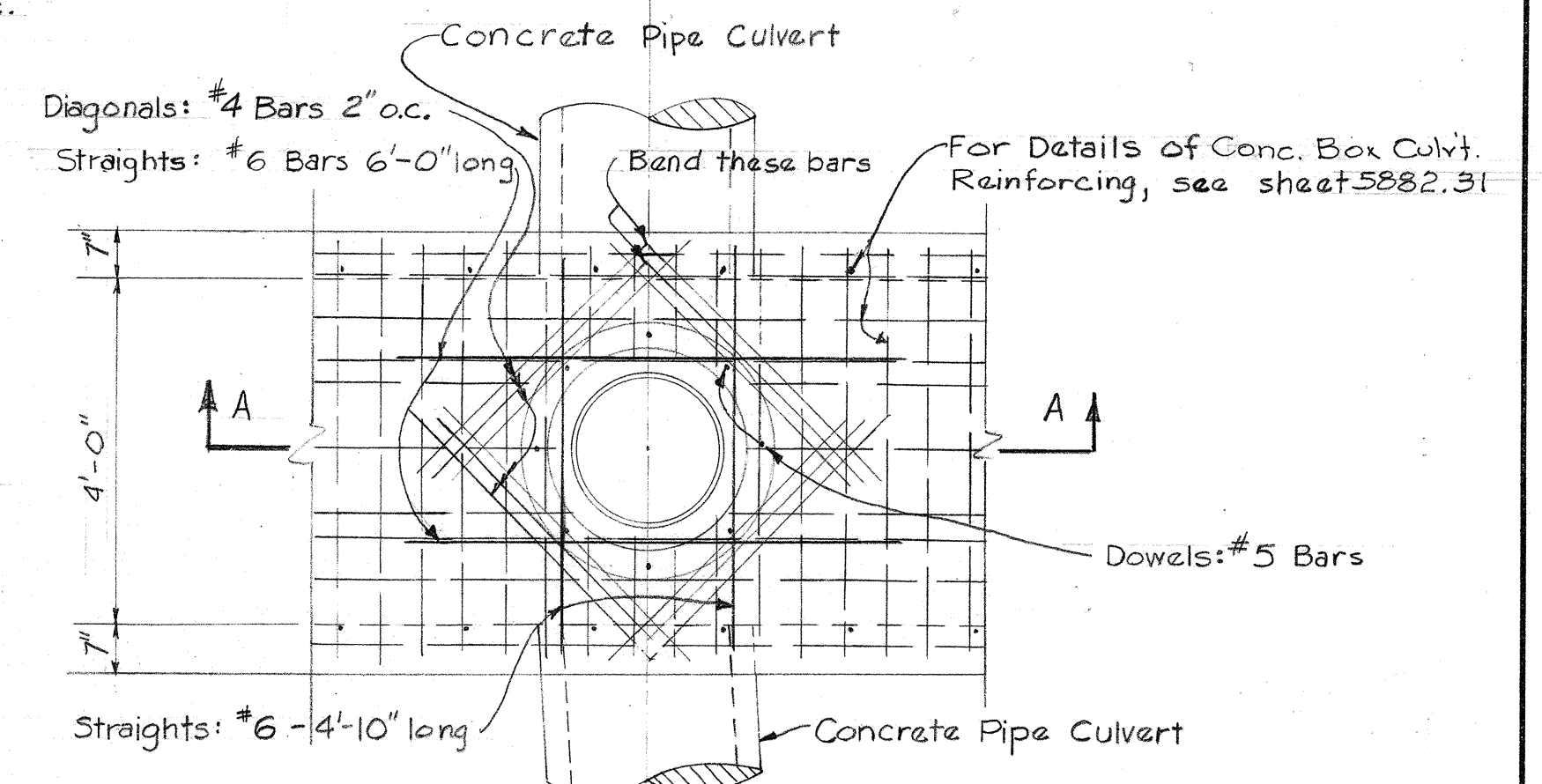
ESTIMATED QUANTITIES DRAINAGE STRUCTURES

CLASS A-1 CONCRETE
CONCRETE BOX CULVERTS
CLASS B-1 CONCRETE
REINFORCING STEEL
REINFORCING STEEL IN BOX CULVERTS
12" SSRCPP
18" SSRCPP
18" ESRCPP
24" SSRCPP
24" ESRCPP
30" ESRCPP
STRUCTURE EXCAVATION
TYPE 'A' C.I. FRAME & COVER
TYPE 'B' C.I. FRAME & COVER
TYPE 'C' C.I. FRAME & GRATING

205 cy.
L.S.
104 cy.
5,920 lb.
L.S.
8 Lf.
128 Lf.
24 Lf.
696 Lf.
1,504 Lf.
160 Lf.
2,815 cy.
20 Each
27 Each
9 Each

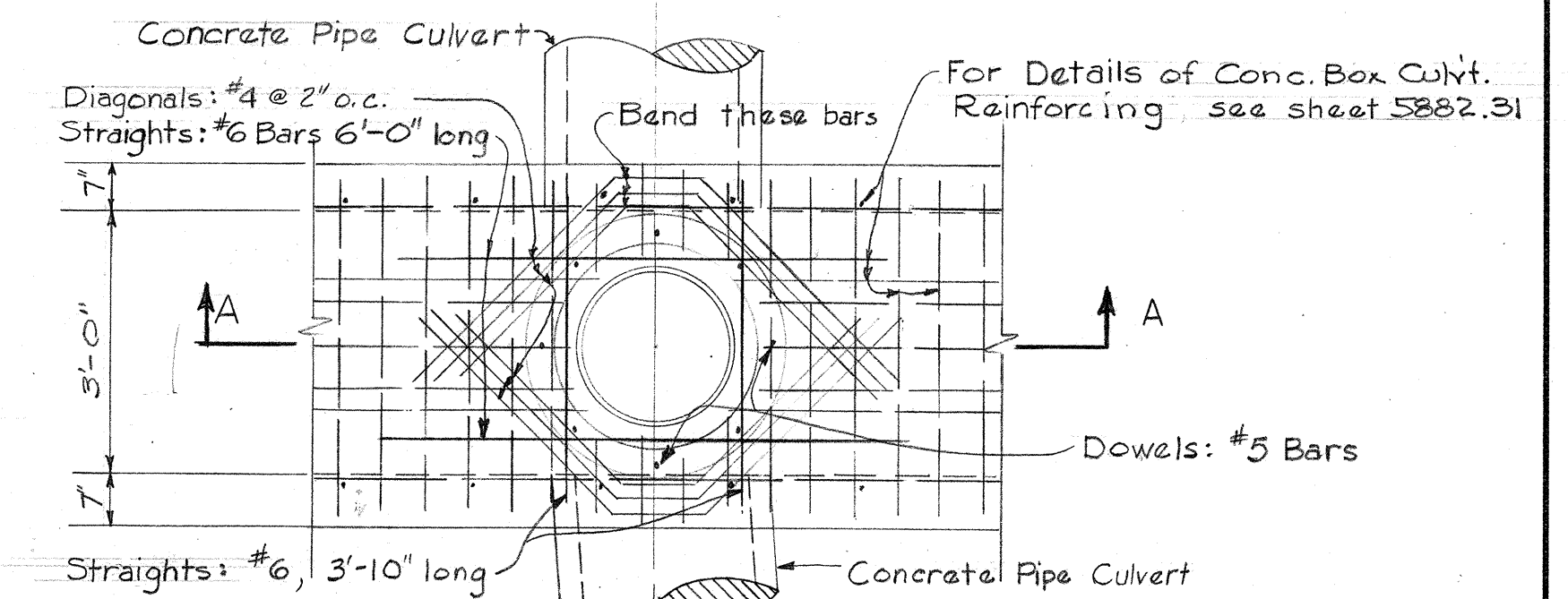
NOTES:

- Where shallow manhole is to be constructed over existing 4' x 2' Conc. Box Culvert, the existing Conc. for a portion of the top slab shall be removed for a min. distance of 3'-6" on each side of the manhole center to expose the existing reinforcing. The concrete slab shall then be replaced using Class A-1 concrete and a reinforcing arrangement exactly as given in the details for new 4' x 2' Conc. Box Culvert. See Details, this sheet. The Resident Engineer will study the disposition of the existing reinforcing and decide how it will be cut and tied into the new reinforcing.
- Where a new Conc. Box Culvert connects into exist. 4' x 2' Conc. Box Culvert, the exist. Conc. for a portion of the wall and slabs shall be removed for a min. distance of 2'-0" from the outsides of each wall of new Conc. Box Culvert to expose the exist. reinforcing. The concrete wall shall then be replaced using Class A-1 concrete after bending and extending the reinforcing for the walls and slabs of the new Conc. Box Culvert into the wall and slabs of the existing box. The Resident Engineer will study the disposition of the existing reinforcing and decide how it will be cut and tied into new reinforcing.
- Where a new RCC pipe connects into existing 4' x 2' Conc. Box Culvert, the exist. Conc. for a portion of the wall and slabs shall be removed for a min. distance of 2'-0" from outside wall of pipe to expose the existing steel. Steel shall be cut to allow a 2" clearance around pipe. Then extra reinforcing as per detail, this sheet, for pipe connection into Box Manhole shall be used.



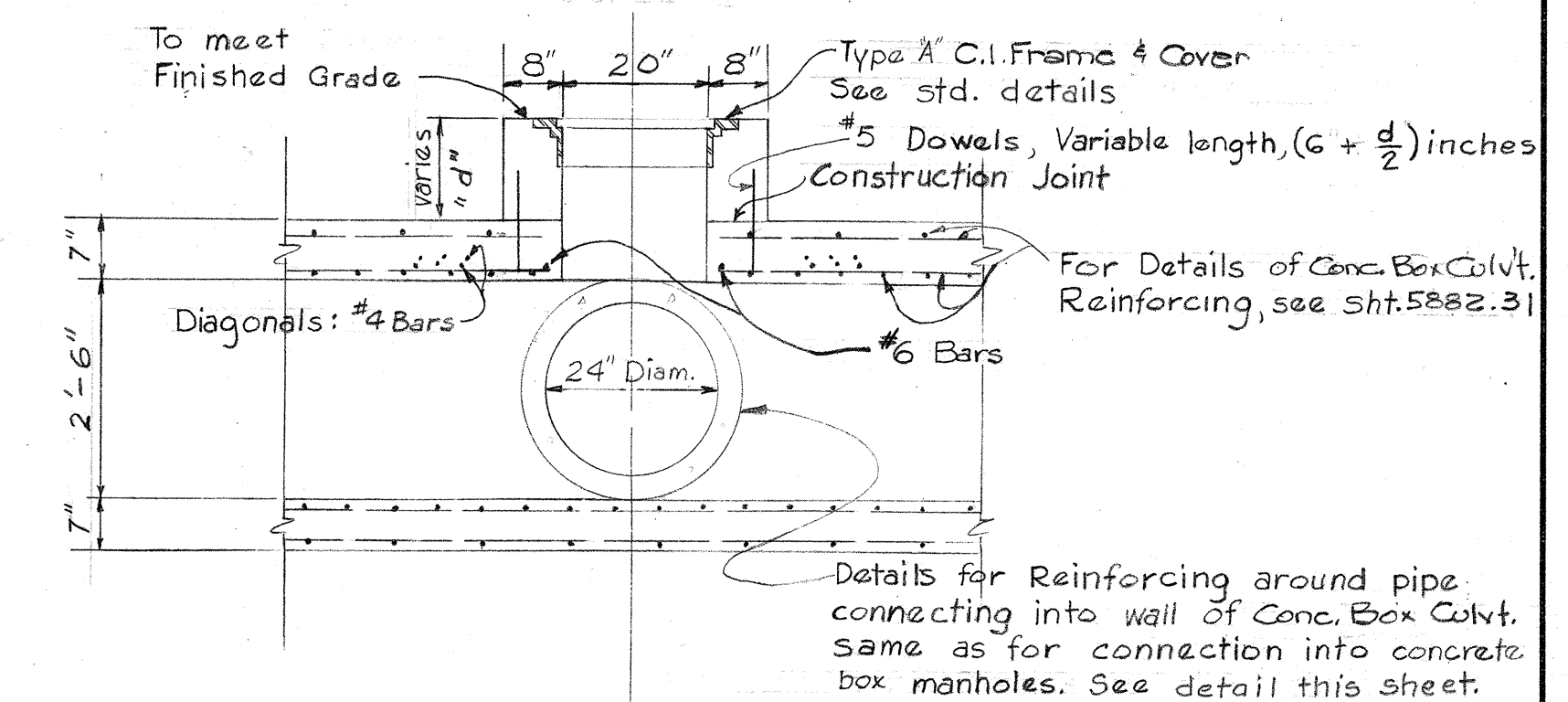
4' x 2' BOX DRAIN

(Same for Manhole over existing 4' x 2' Drain where only shallow manholes are reqd.)



3' x 2 1/2' BOX DRAIN

PLANS



SECTION "A-A"

DETAIL OF SHALLOW SDMHS NOS. 1A, 2, 3, 3A, 4, 4A, 5, 7

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

NOTE: For SDMHS #7, see Note 1 above.

(NO AS-BUILT CHANGES ON THIS SHEET)

APPROVED:

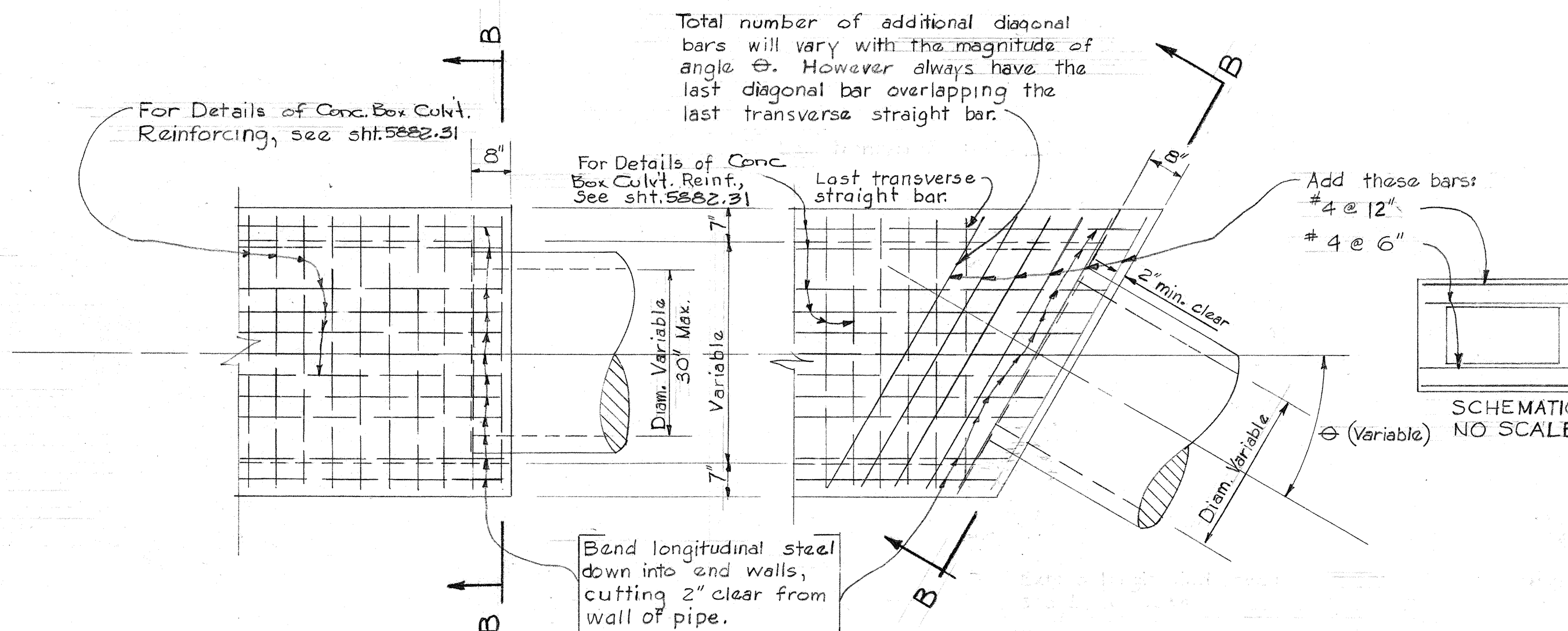
S. Kashiwagi
STRUCTURAL ENGINEER
Reg. Eng. Cert. No. 568

1/3/57
DATE

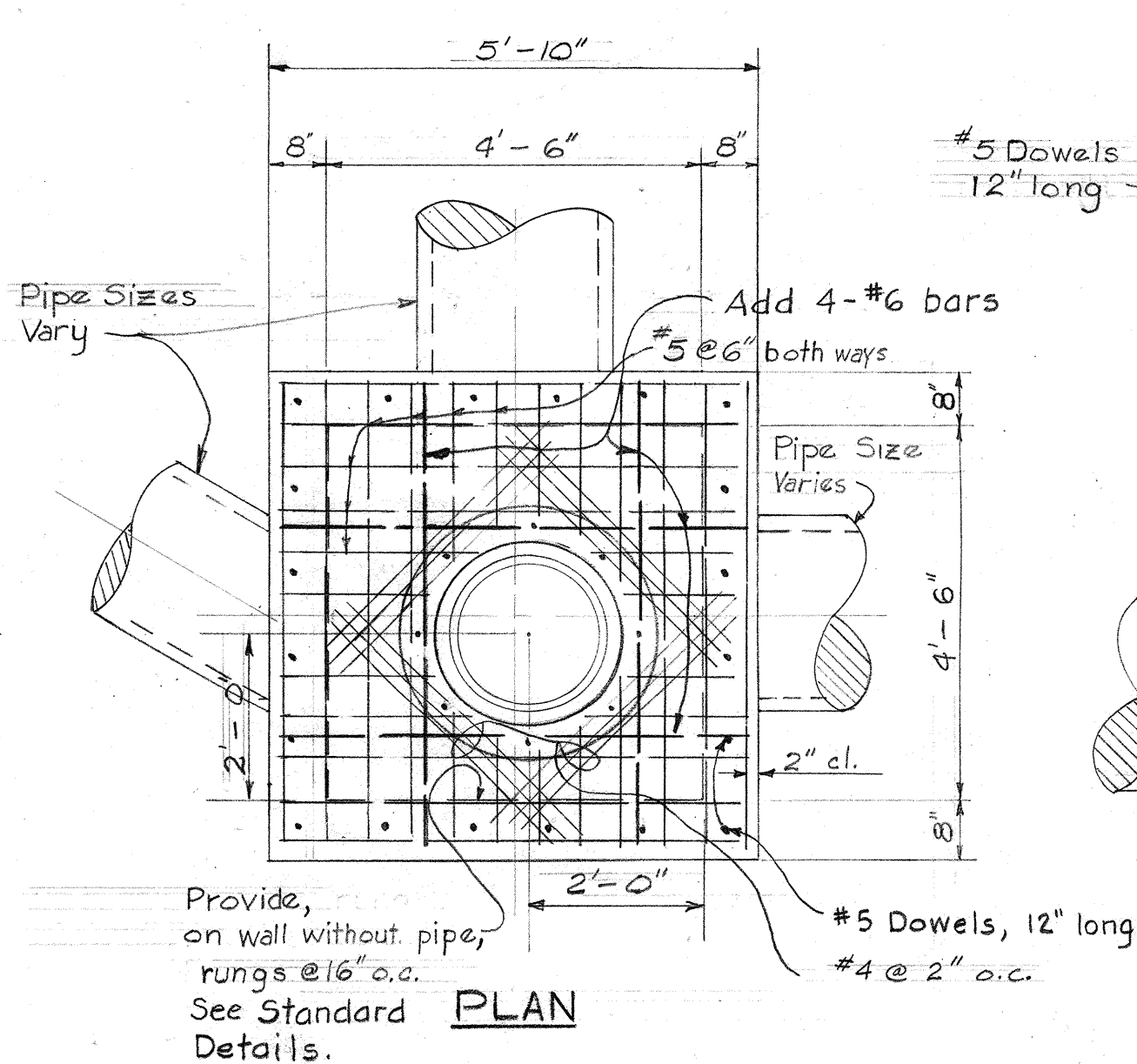
TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
DETAIL OF DRAINAGE STRUCTURES
VINEYARD THOROUGHFARE
PALAMA ST. TO FORT ST.
PROJECT NO DF-098-1(5)
Scale: As Noted

SHEET NO. 2 OF 5 SHEETS

5882.32

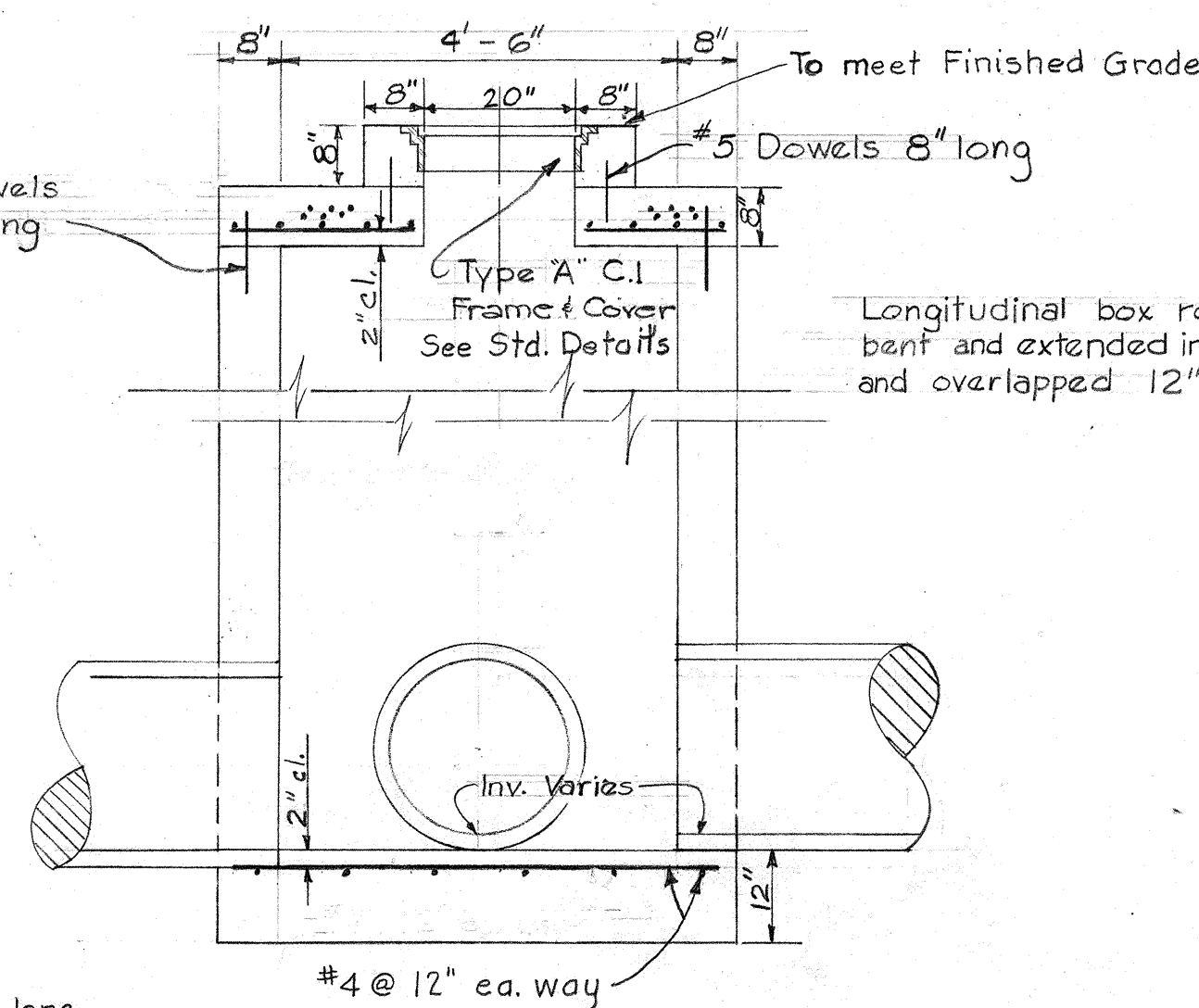


PLANS



DETAIL OF SDMHS NOS. 8, 8A, 9, 9A, 11, 15

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



SECTION

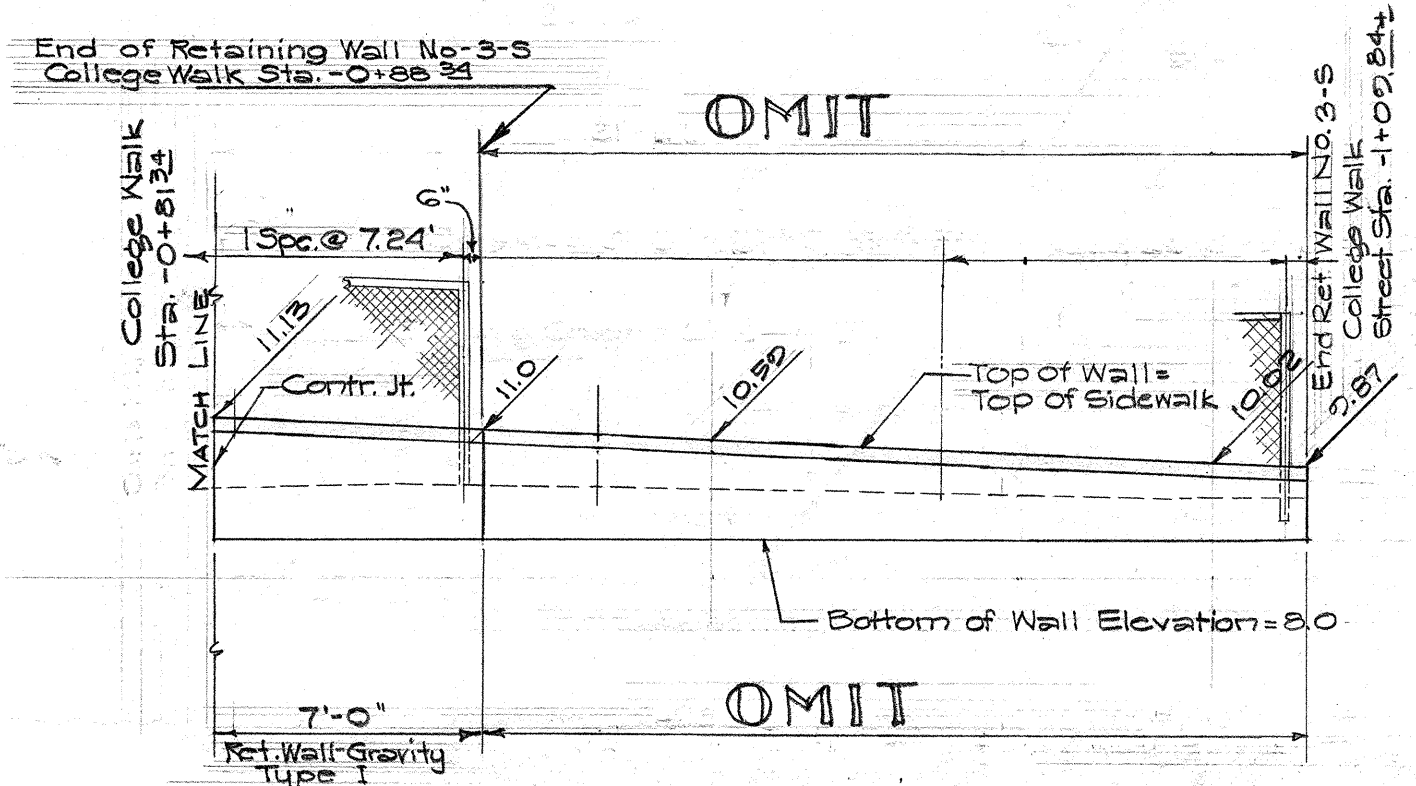
SECTION B-B

DETAIL OF PIPE CONNECTION INTO ENDS OF CONC. BOX CULVERTS

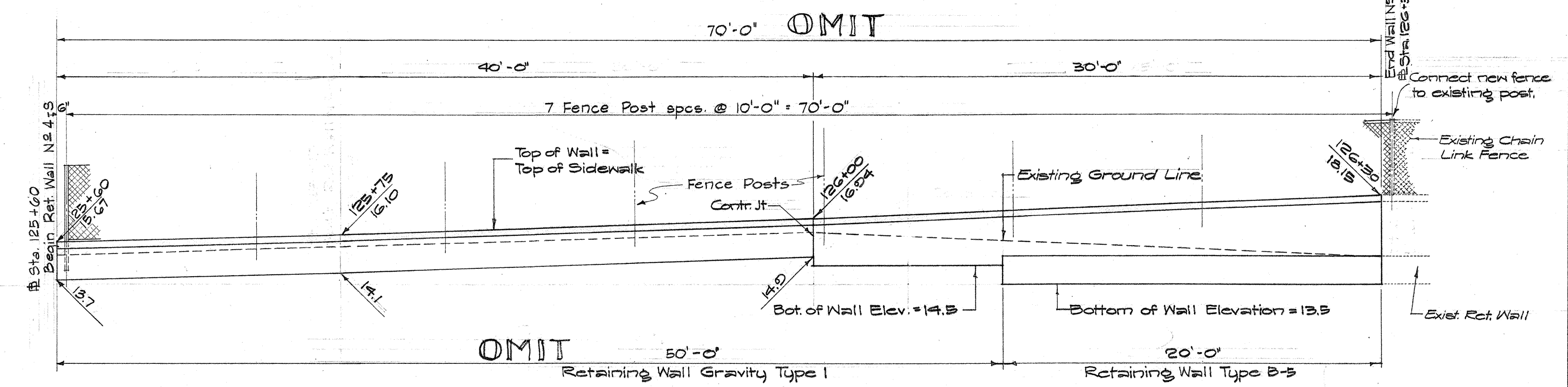
Scale: 1/2" = 1'-0"

SURVEY PLOTTED BY: J.L.M.
DESIGNED BY: J.L.M.
DRAWN BY: J.L.M.
CHECKED BY: J.L.M.
ORIGINAL PLAN
NOTE BOOK
No.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW	DF-098-1(5)	1958	33	175

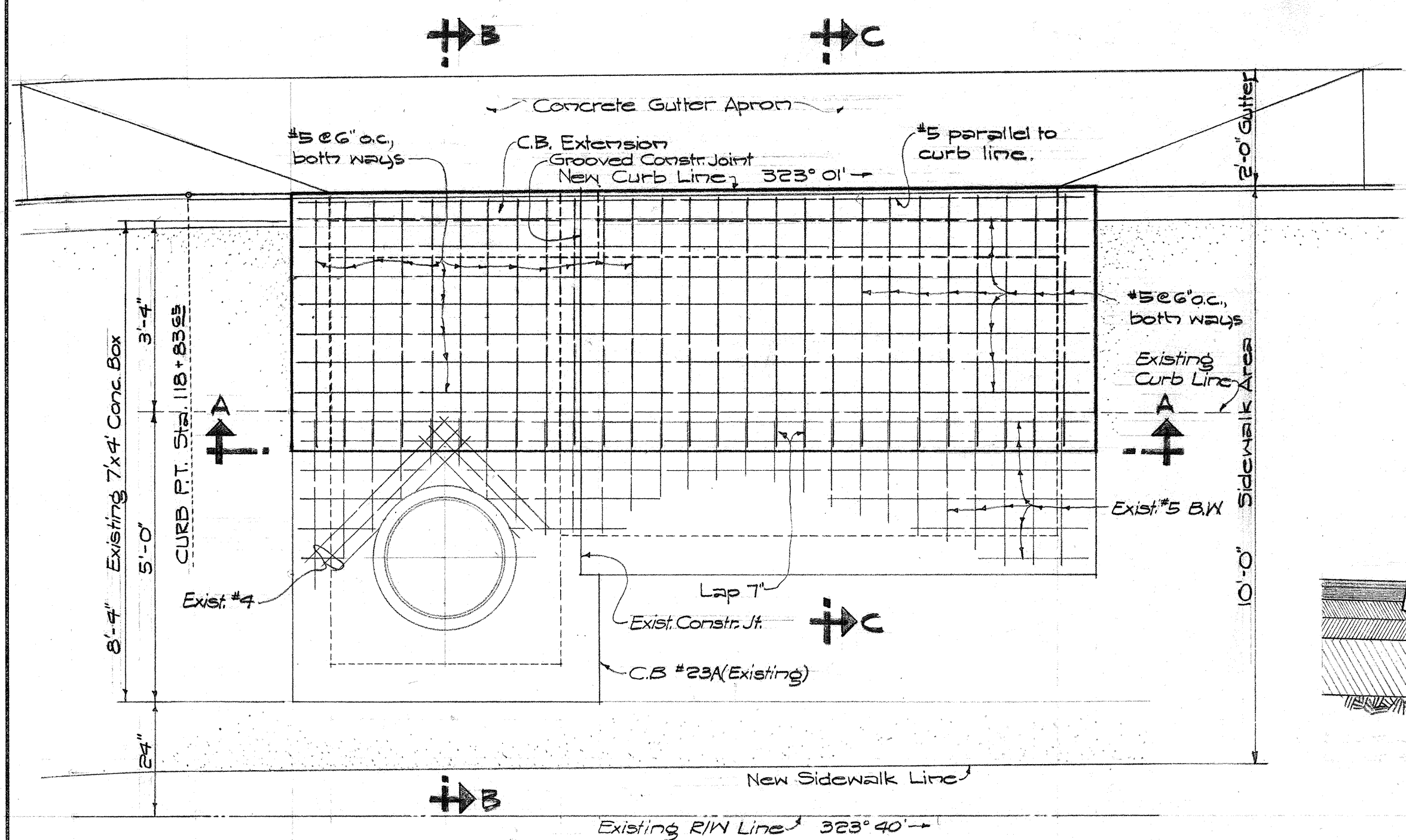


CONCRETE RETAINING WALL NO 3-S (SOUTH)

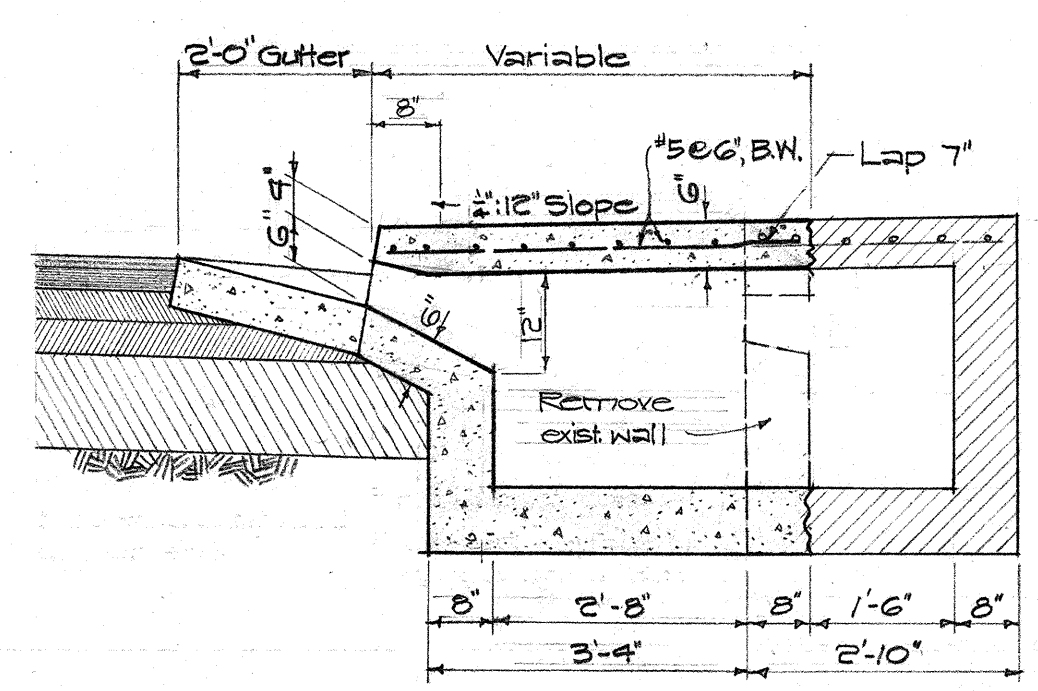


CONCRETE RETAINING WALL NO 4-S (SOUTH)

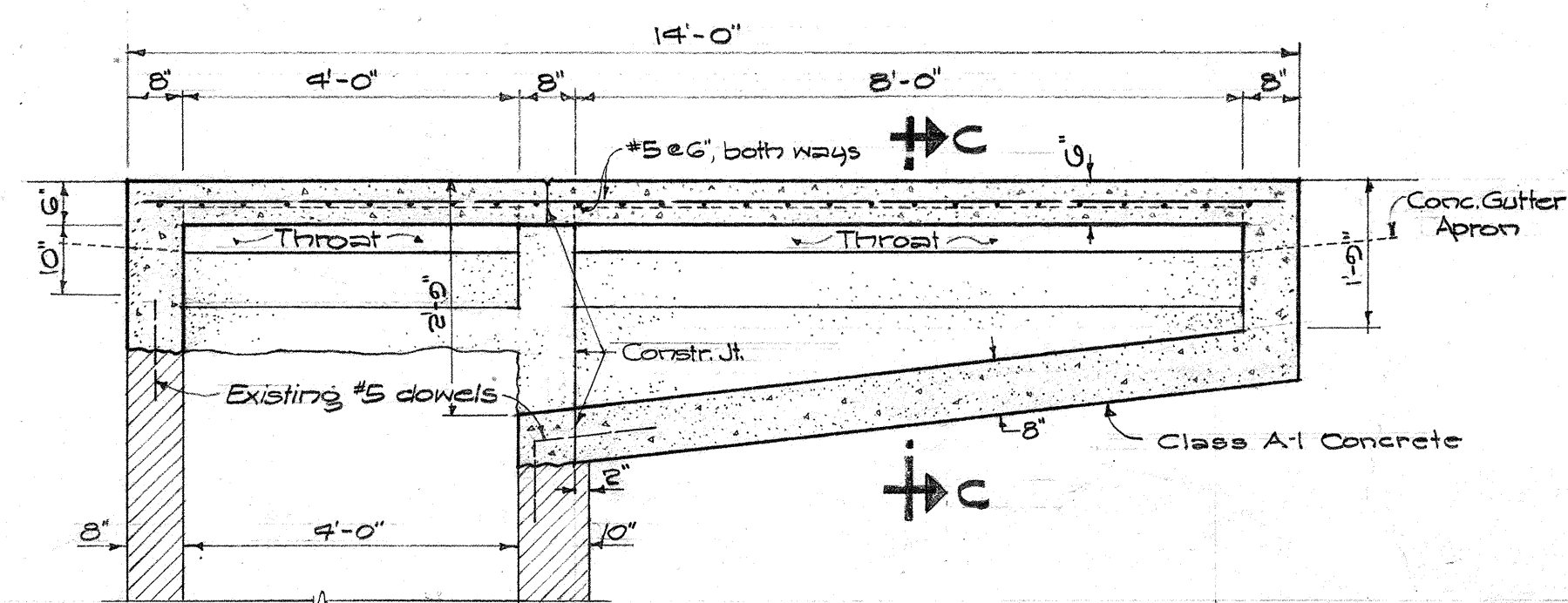
RETAINING WALL DETAILS Scale: 1" = 5'-0"



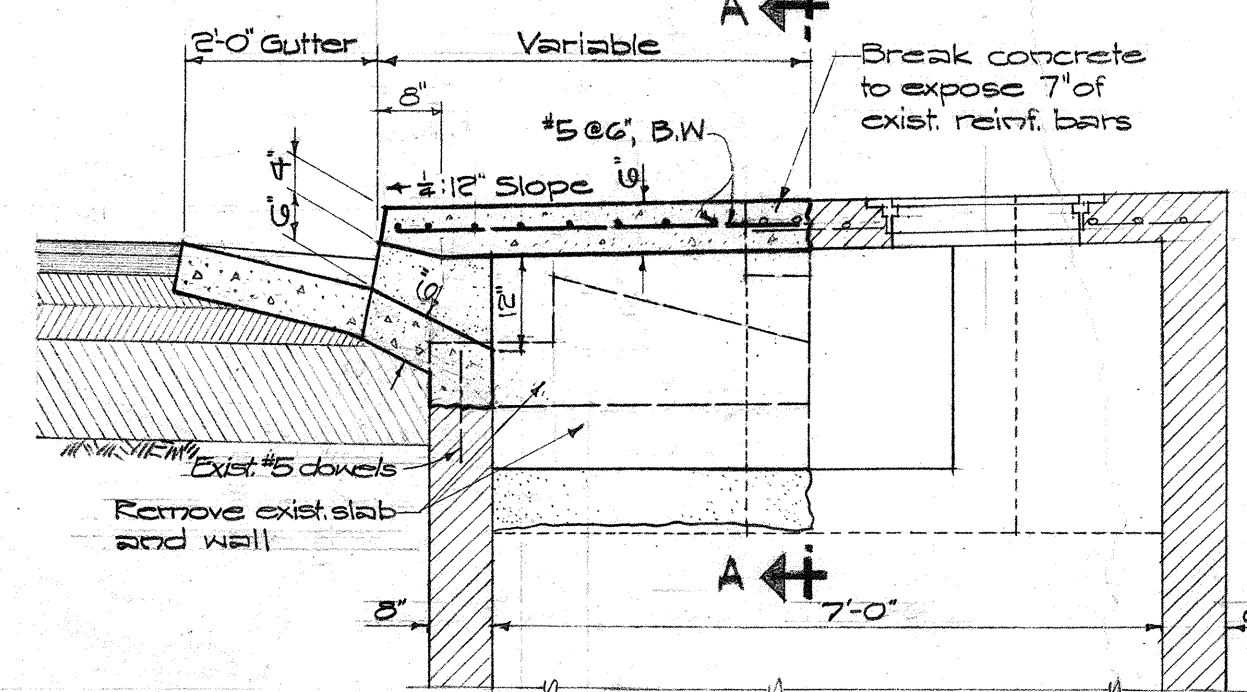
PLAN



SECTION C-C

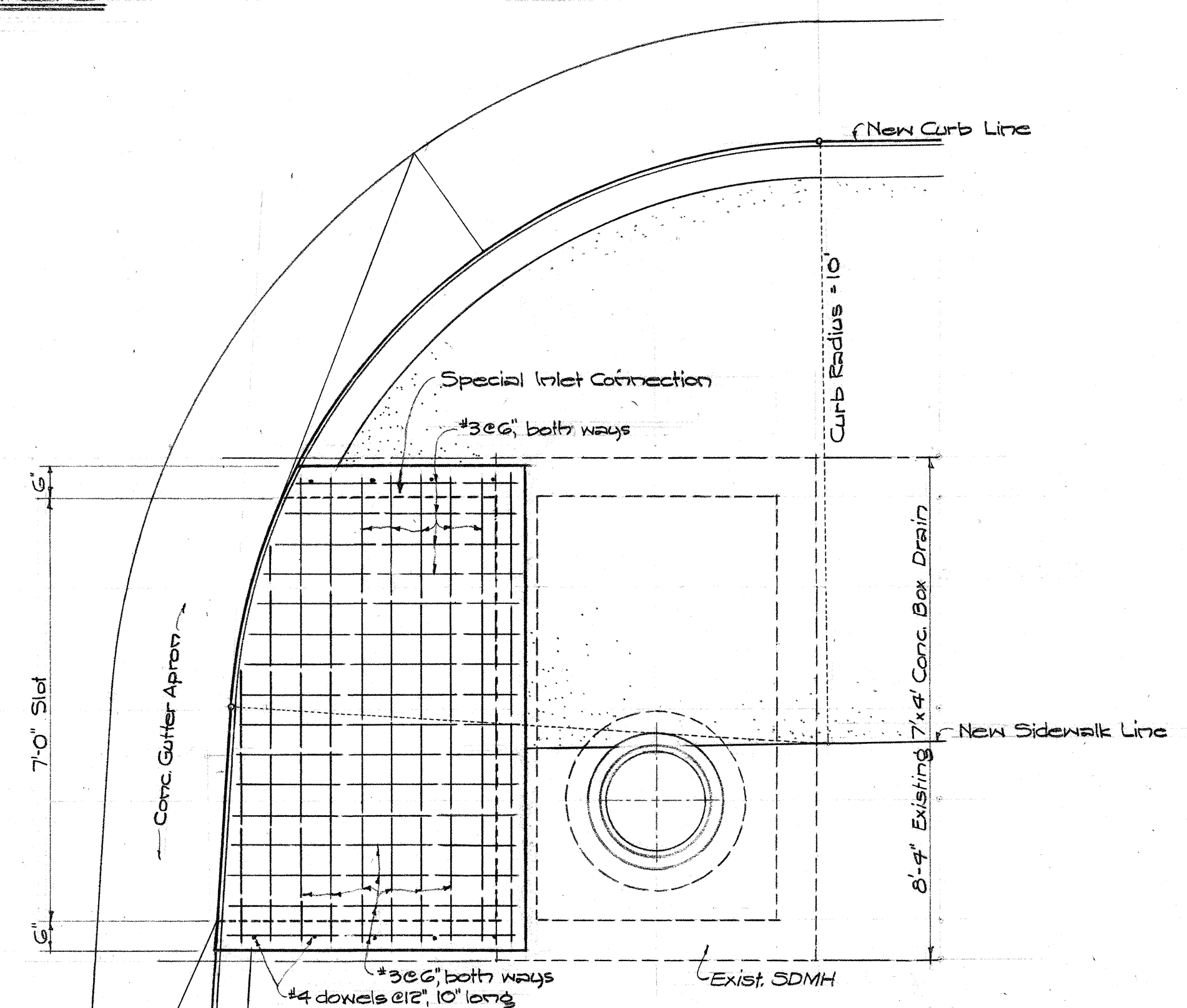


SECTION A-A

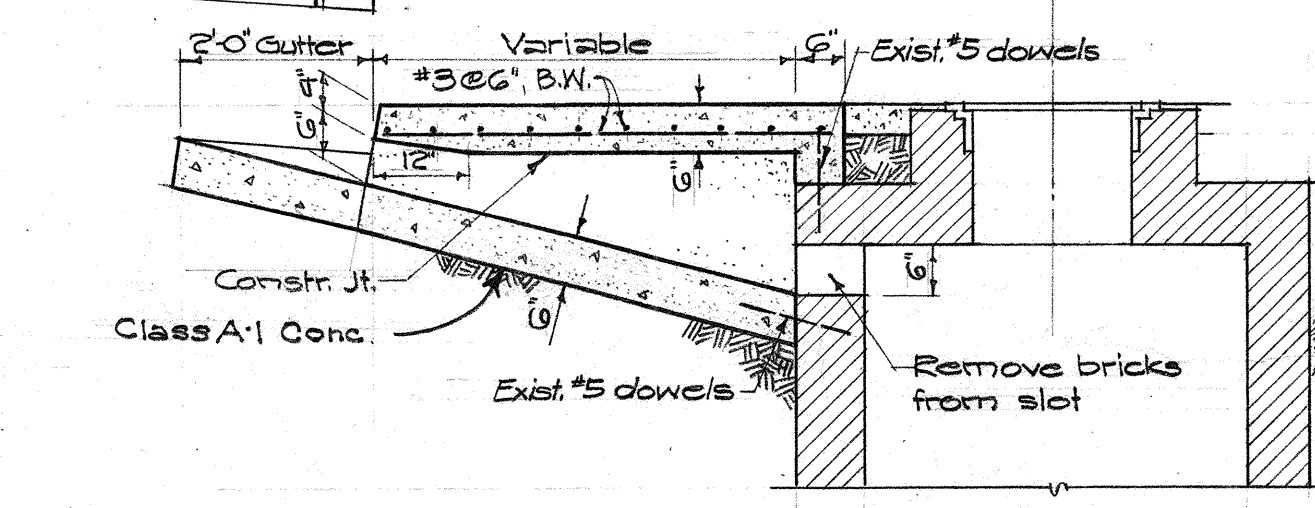


SECTION B-B

DETAILS OF EXTENSION TO C.B. #23A-STA. 118+88 Scale: 1/2" = 1'-0"



PLAN



SECTION SPECIAL INLET CONNECTION

(NO AS-BUILT CHANGES ON THIS SHEET)

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII

DETAIL OF DRAINAGE STRUCTURES

VINEYARD THOROUGHFARE
PALAMA ST. TO FORT ST.
PROJECT NO DF-098-1(5)

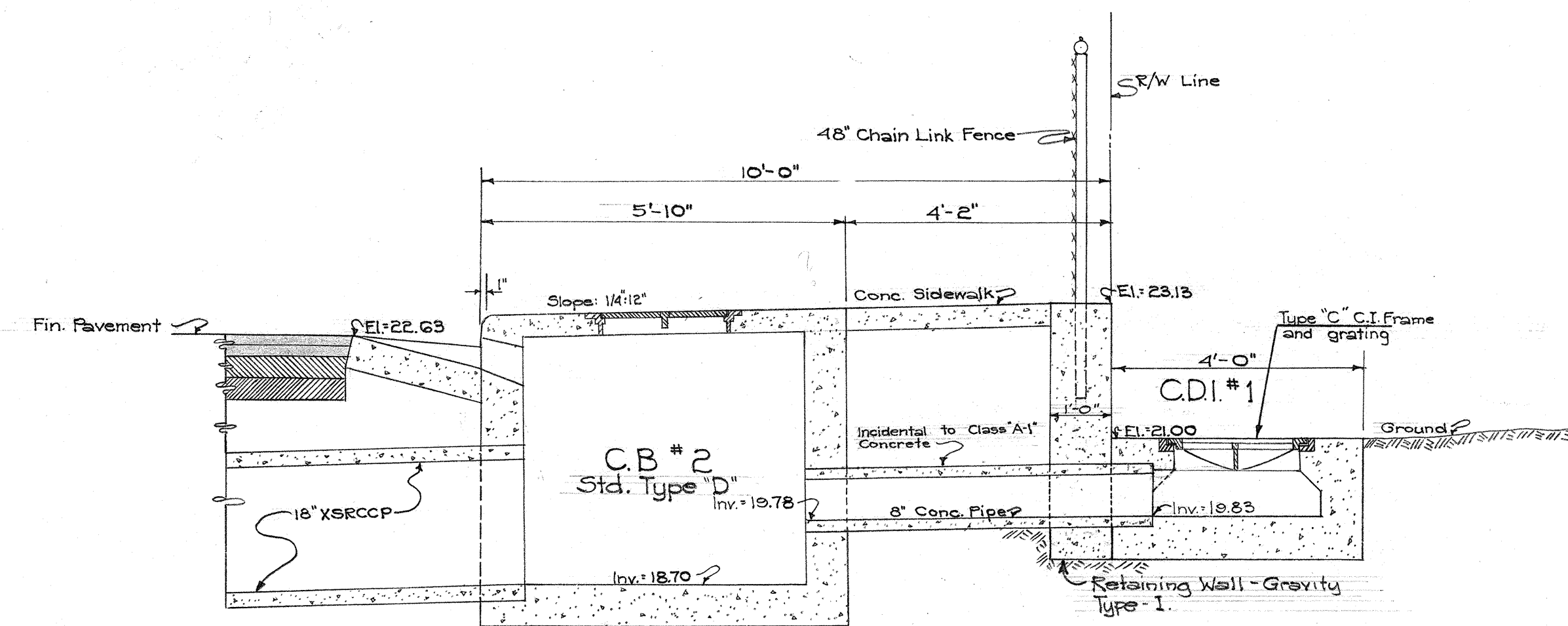
Scale: 1" = 5'

SHEET NO. 3 OF 5 SHEETS

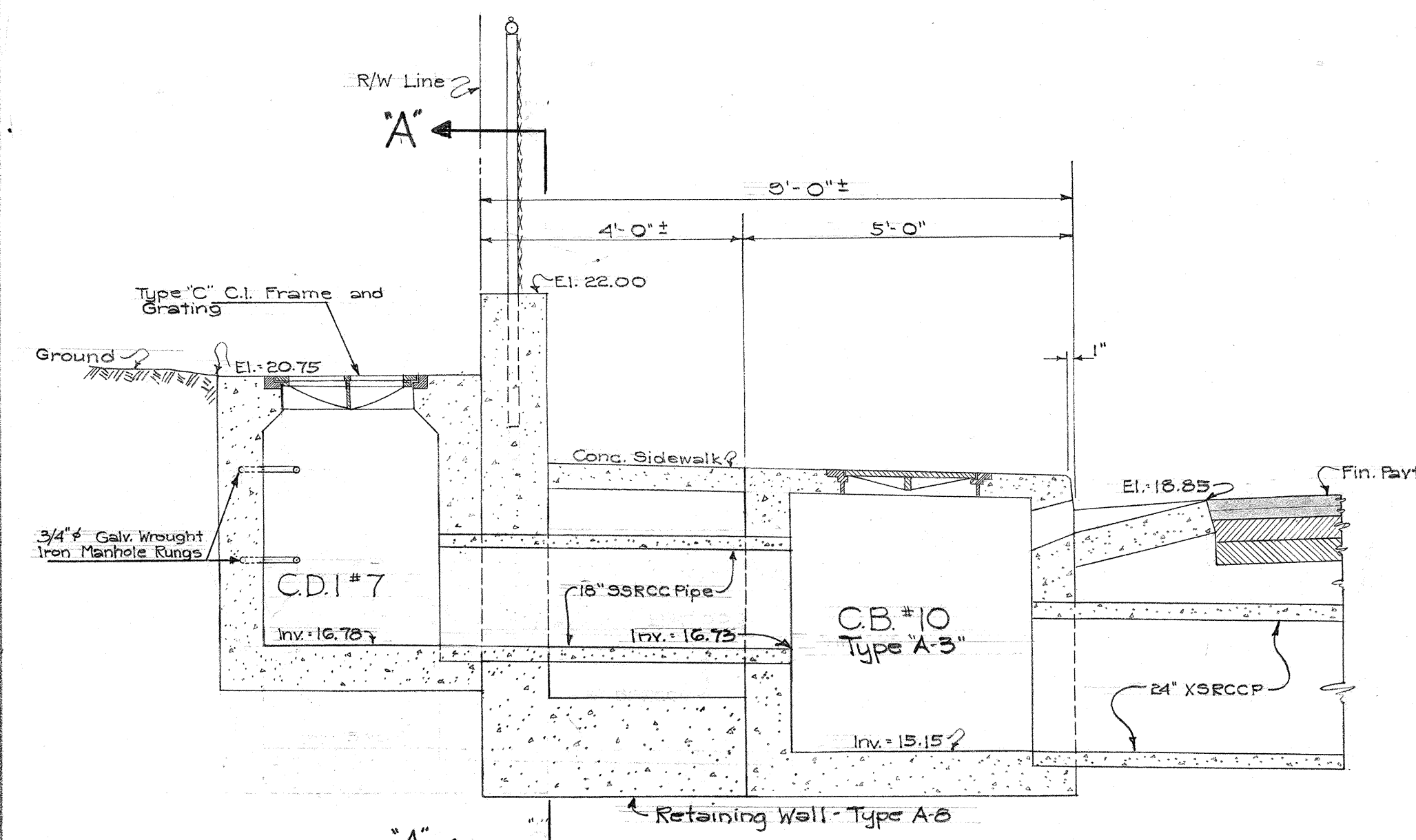
5882.33

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

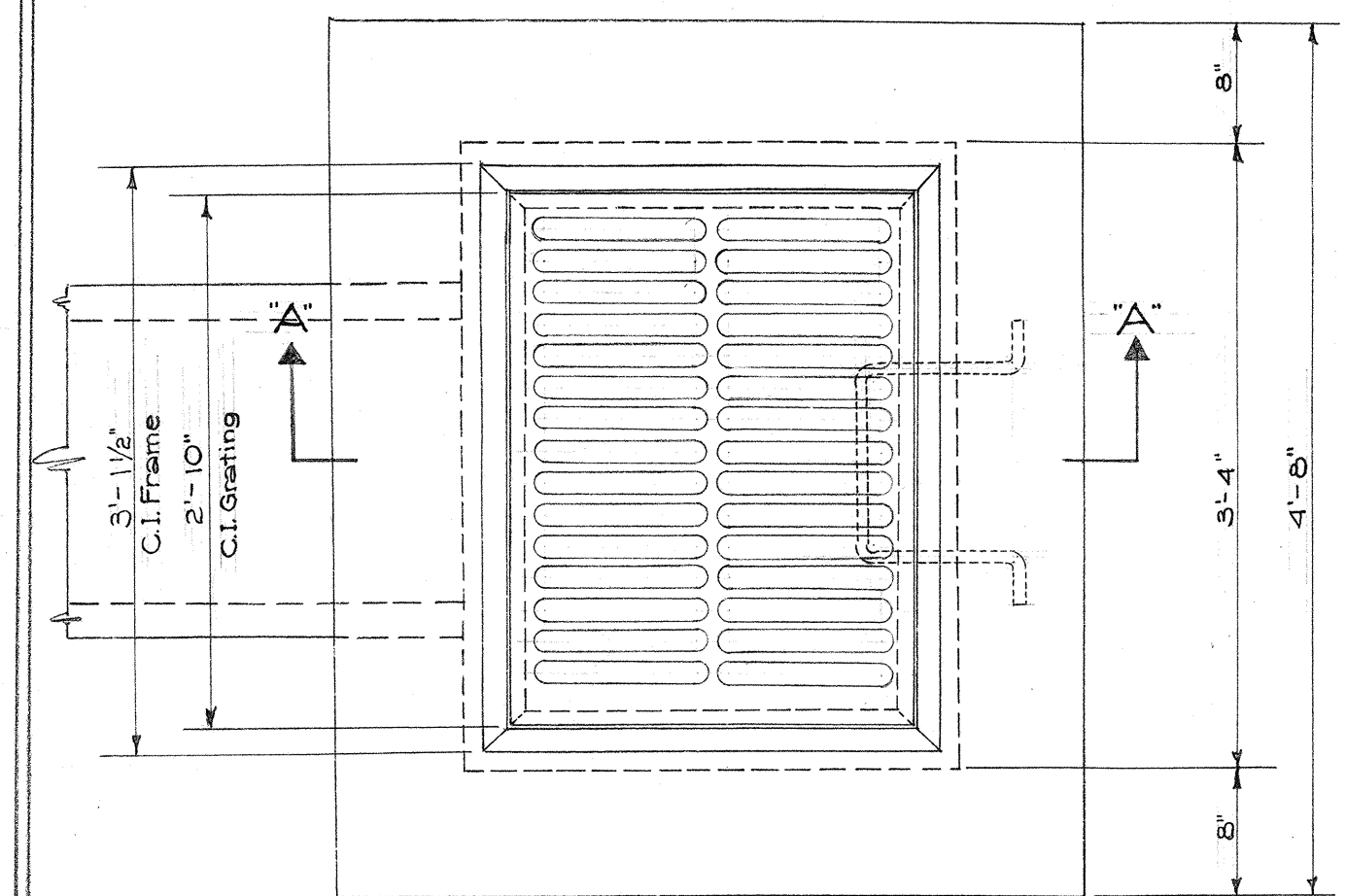
FED. ROAD DIST. No.	STATE	FED. AID PROJ. No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
Hawaii	HAW	DF-098-1(5)	1958	34	115



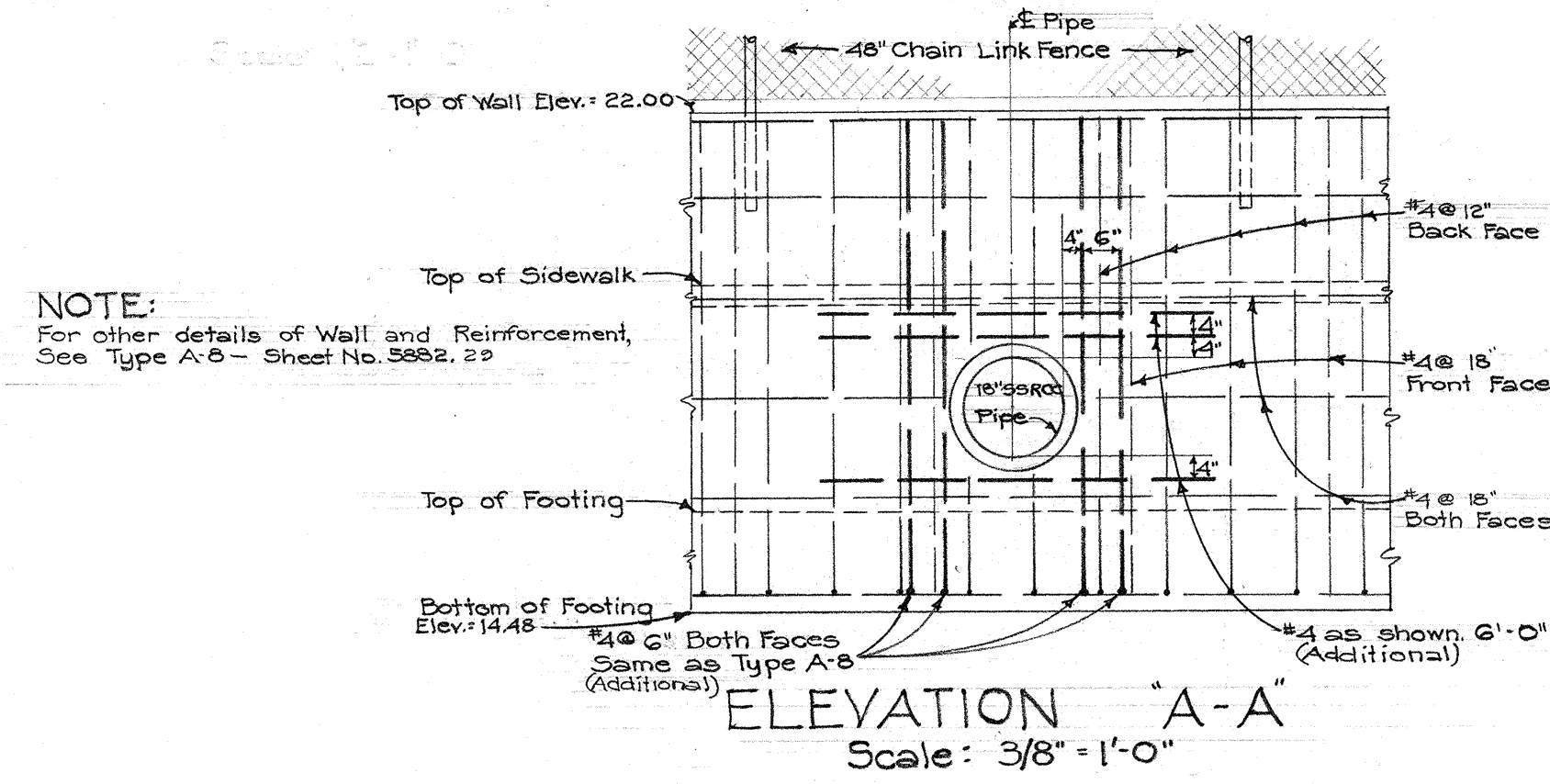
SECTION THRU DRAINAGE STRUCTURE AT STA. 87+39 R
Scale: 1/2" = 1'-0"



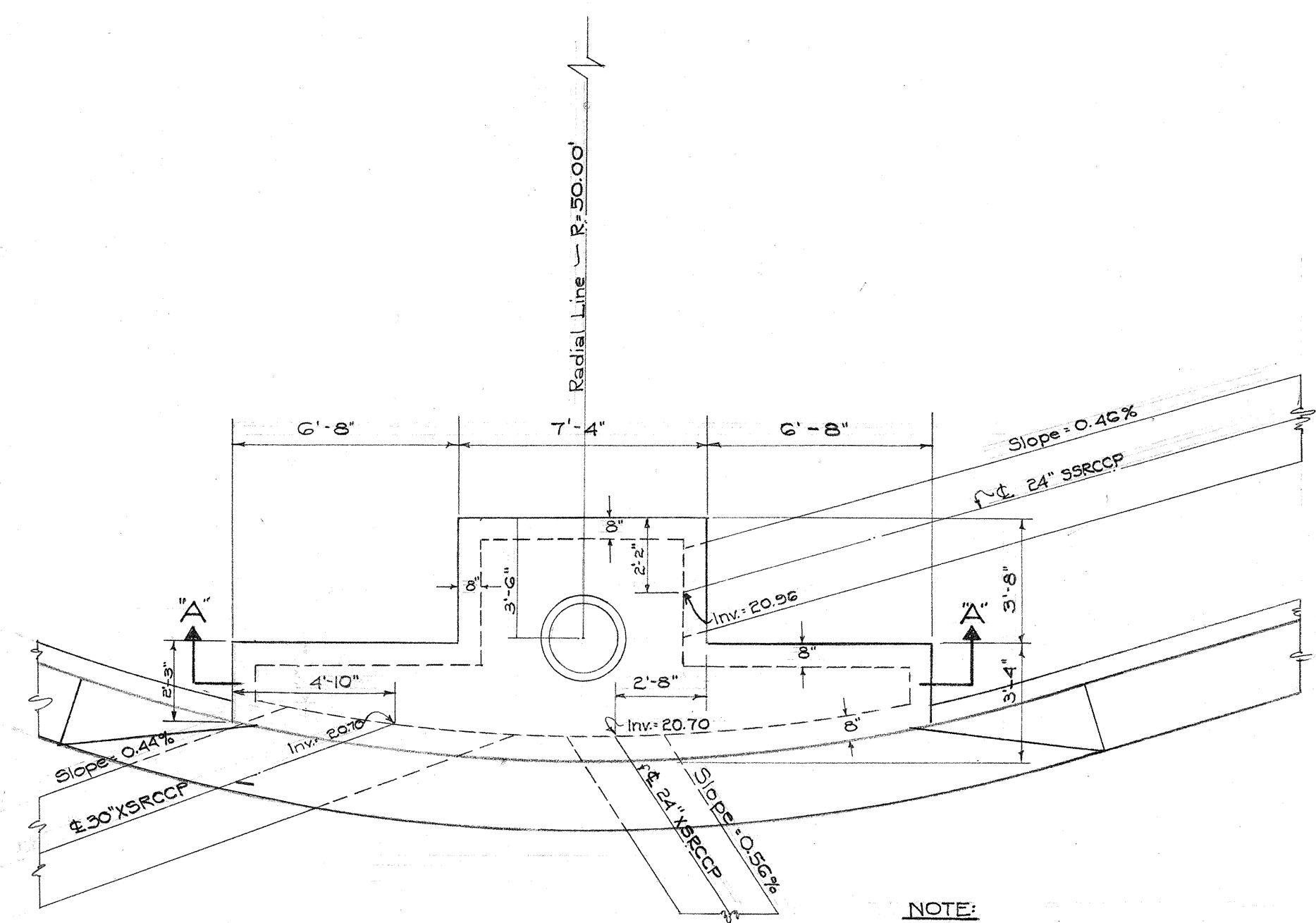
SECTION THRU DRAINAGE STRUCTURE AT STA. 101+75 L
Scale: 1/2" = 1'-0"



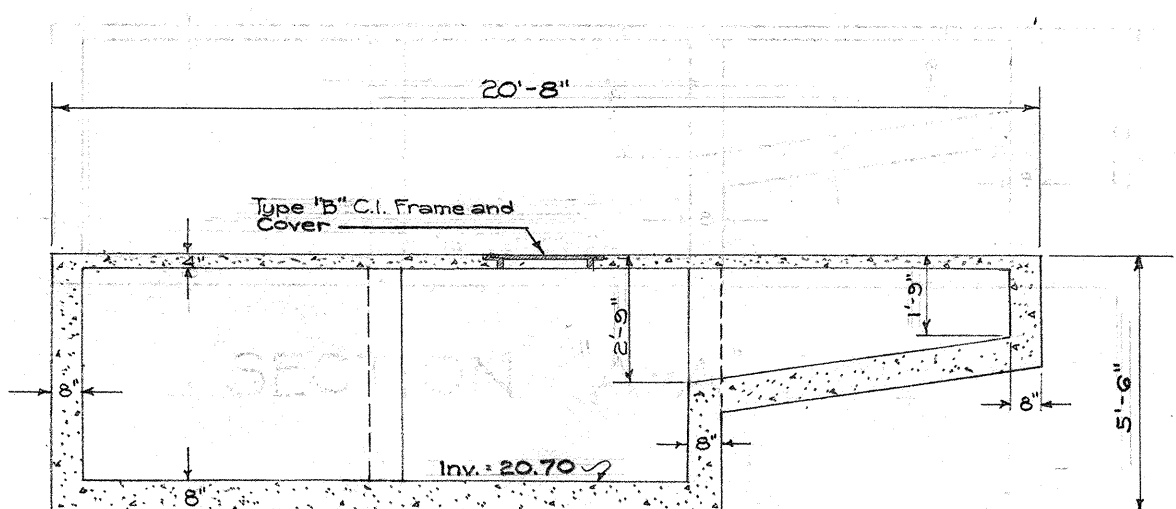
PLAN



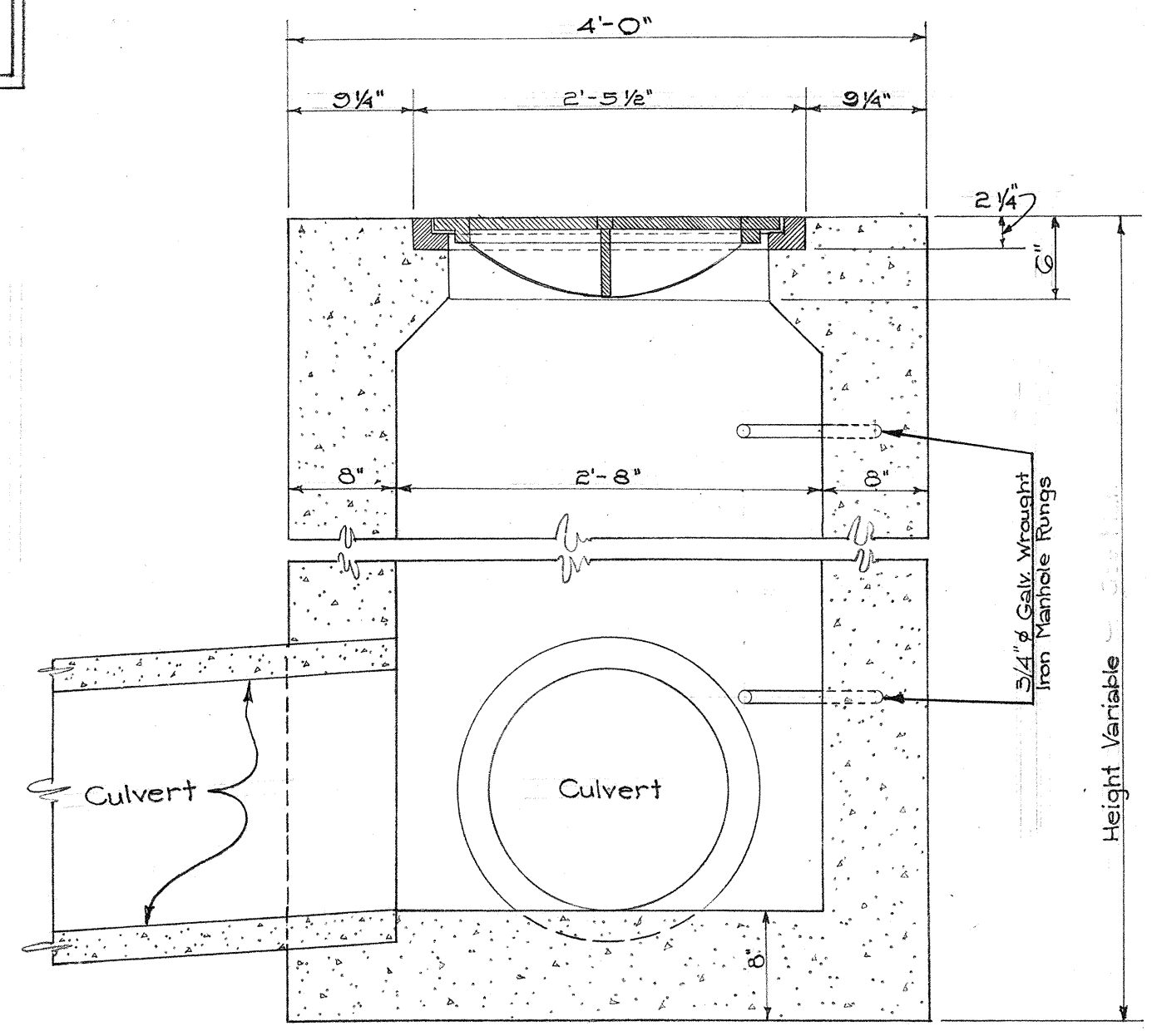
ELEVATION "A-A"
Scale: 3/8" = 1'-0"



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



SECTION "A-A"
DETAIL OF CB No. 7 AT PUA LANE INTERSECTION
Scale: 1/4" = 1'-0"



SECTION "A-A"
TYPICAL DETAIL OF CONCRETE DROP INTAKE
Scale: 1" = 1'-0"

NOTE:
Conc. shall be Class 'A-1' for C.B.'s and Class 'B-1' for C.D.I.'s
For number, size and direction of culverts, see Roadway Detail Plans.
Manhole Rungs is incidental to concrete.

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
DETAIL OF DRAINAGE STRUCTURES
VINEYARD THOROUGHFARE
PALAMA ST. TO FORT ST.
PROJECT NO DF-098-1(5)
Scale: As Noted

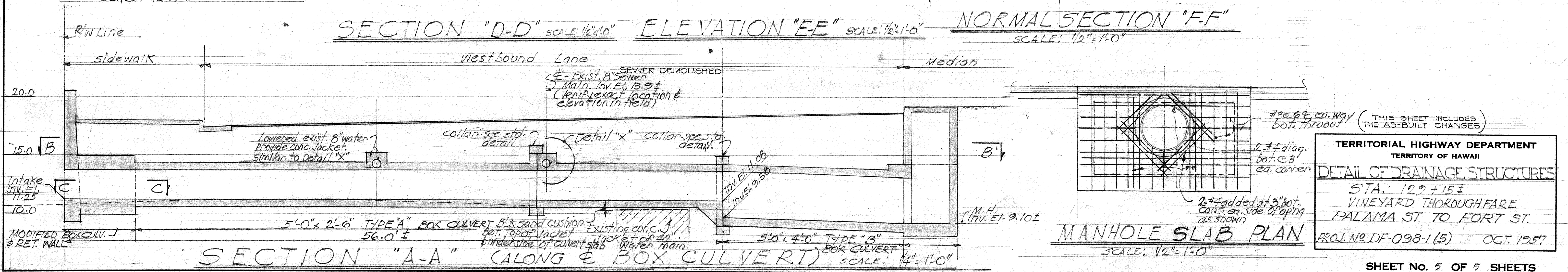
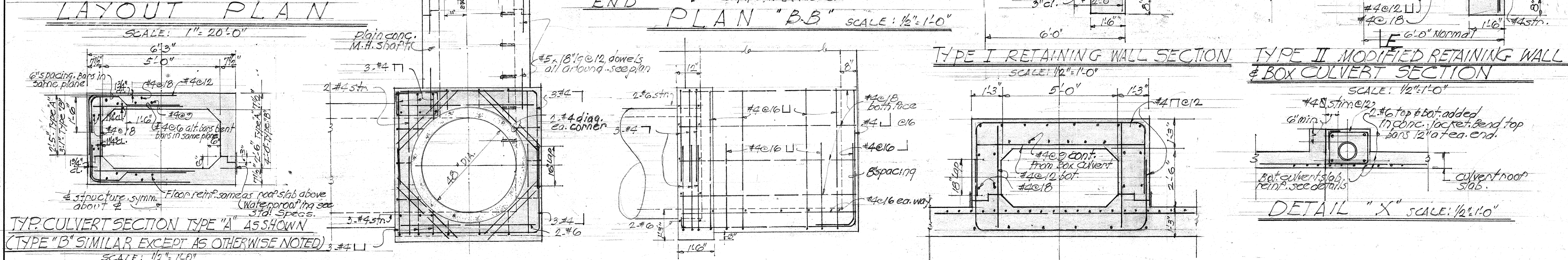
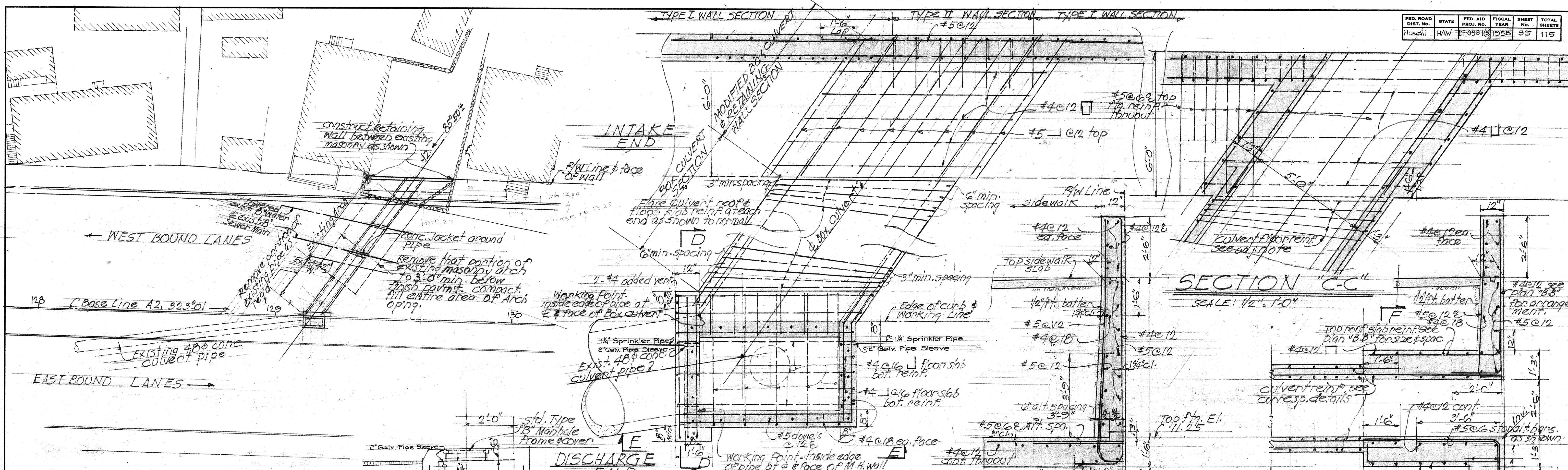
(NO AS-BUILT CHANGES ON THIS SHEET)

SHEET NO. 4 OF 5 SHEETS

5882.34

34

DATE: _____
DESIGNED BY: _____
CHECKED BY: _____
ORIGINAL PLAN: _____
NOTE BOOK No.: _____



TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII

DETAIL OF DRAINAGE STRUCTURES

STA. 129+15±
VINEYARD THOROUGHFARE
PALAMA ST. TO FORT ST.

PROJ. NO. DF-098-1(5) OCT. 1957

SHEET NO. 5 OF 5 SHEETS

5882.35

DATE: _____

SURVEY PLOTTED BY: _____

DESIGNED BY: _____

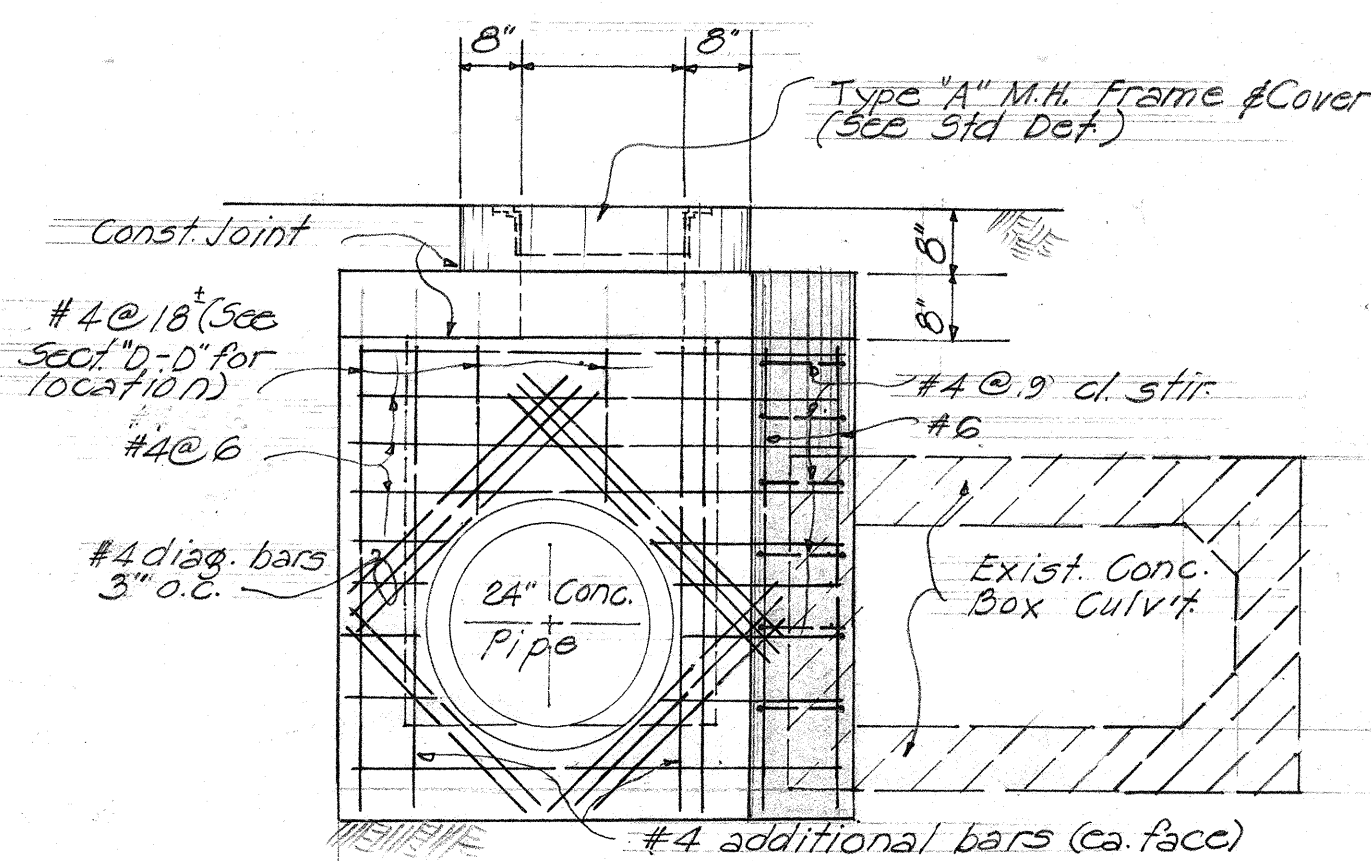
DRAWN BY: _____

NOTE BOOK NO. _____

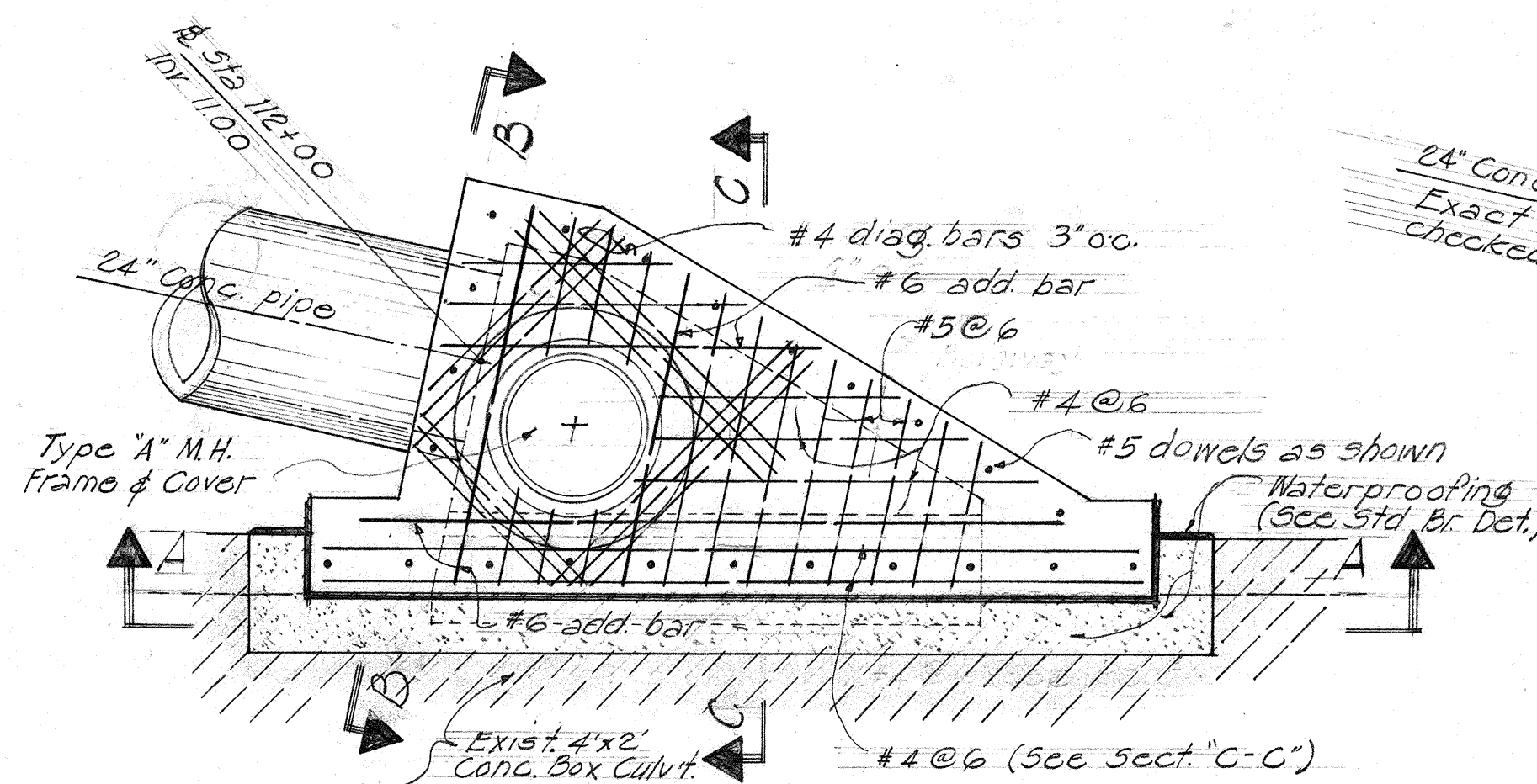
QUANTITIES CHECKED BY: _____

CHECKED BY: _____

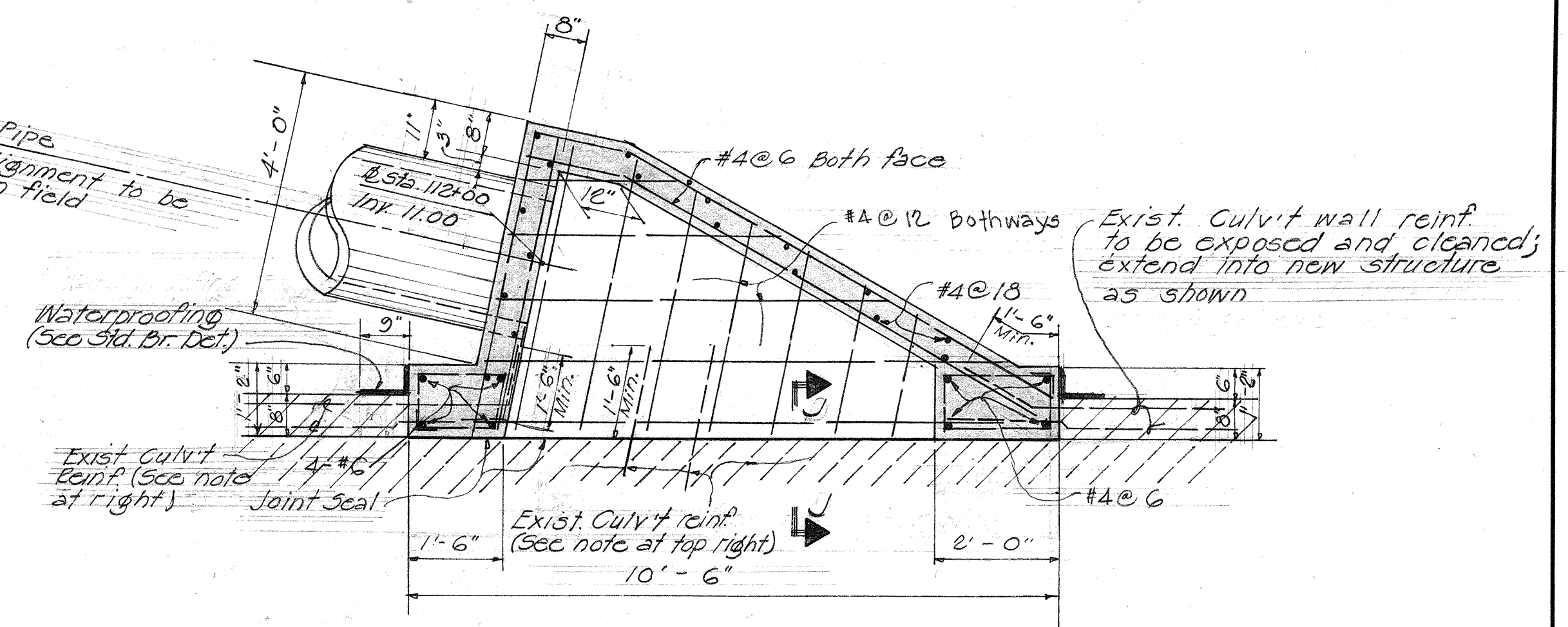
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	DF-098-1(5)	1958	35-A	115



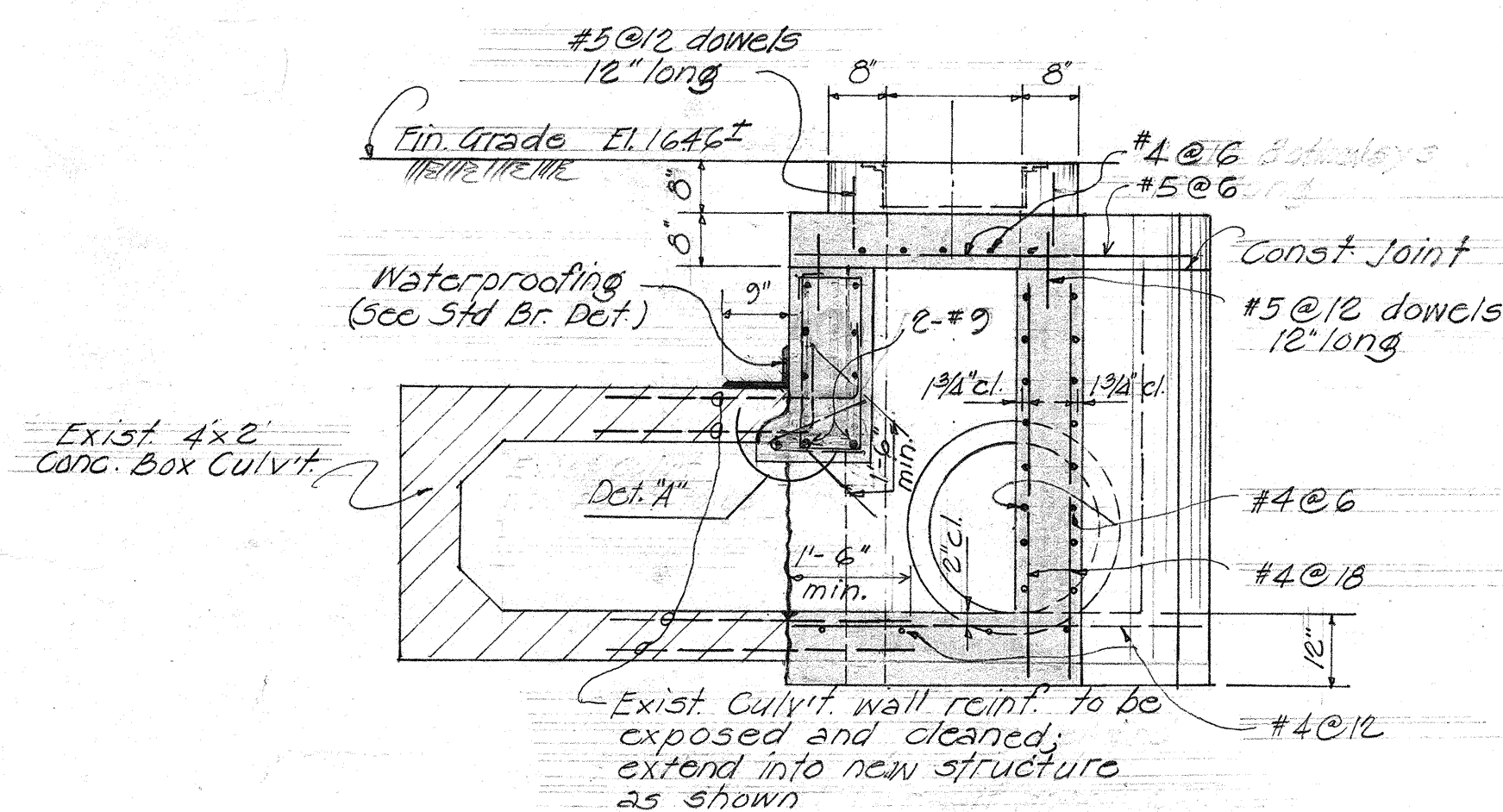
SECTION "B-B"
Scale: 1/2" = 1'-0"



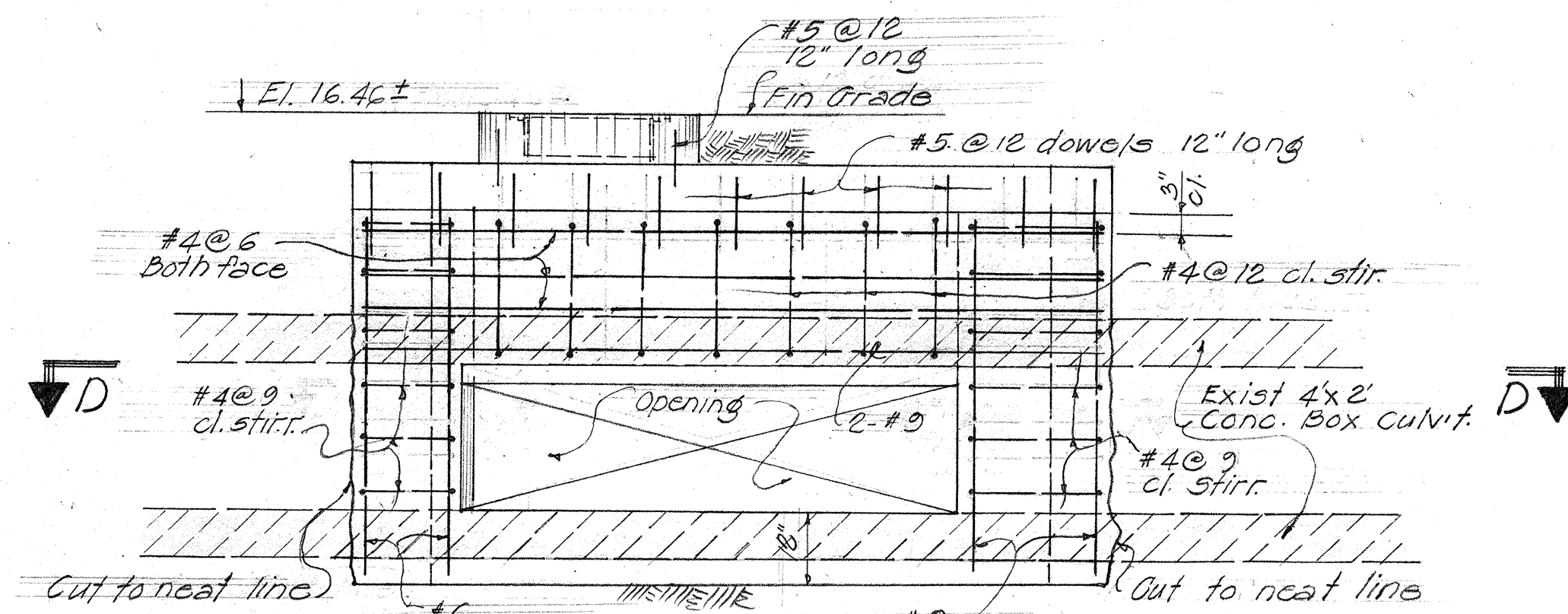
PLAN
Scale: 1/2" = 1'-0"



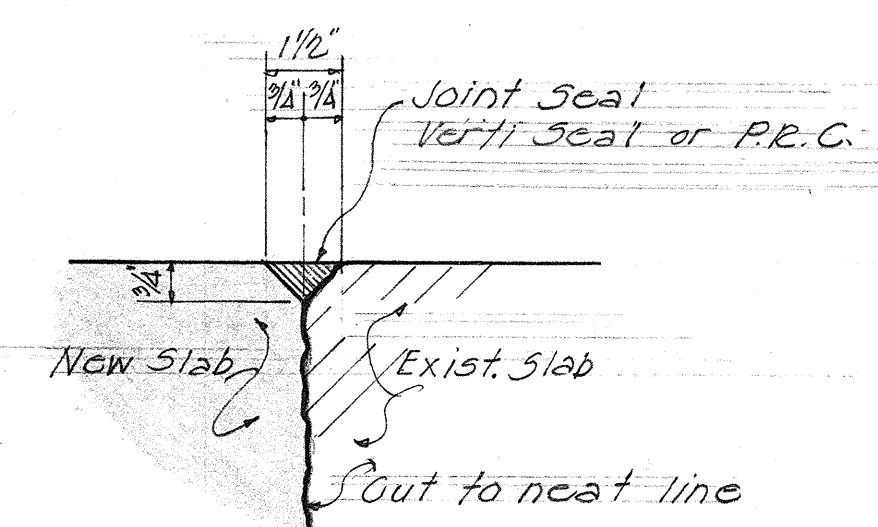
SECTION "D-D"
Scale: 1/2" = 1'-0"



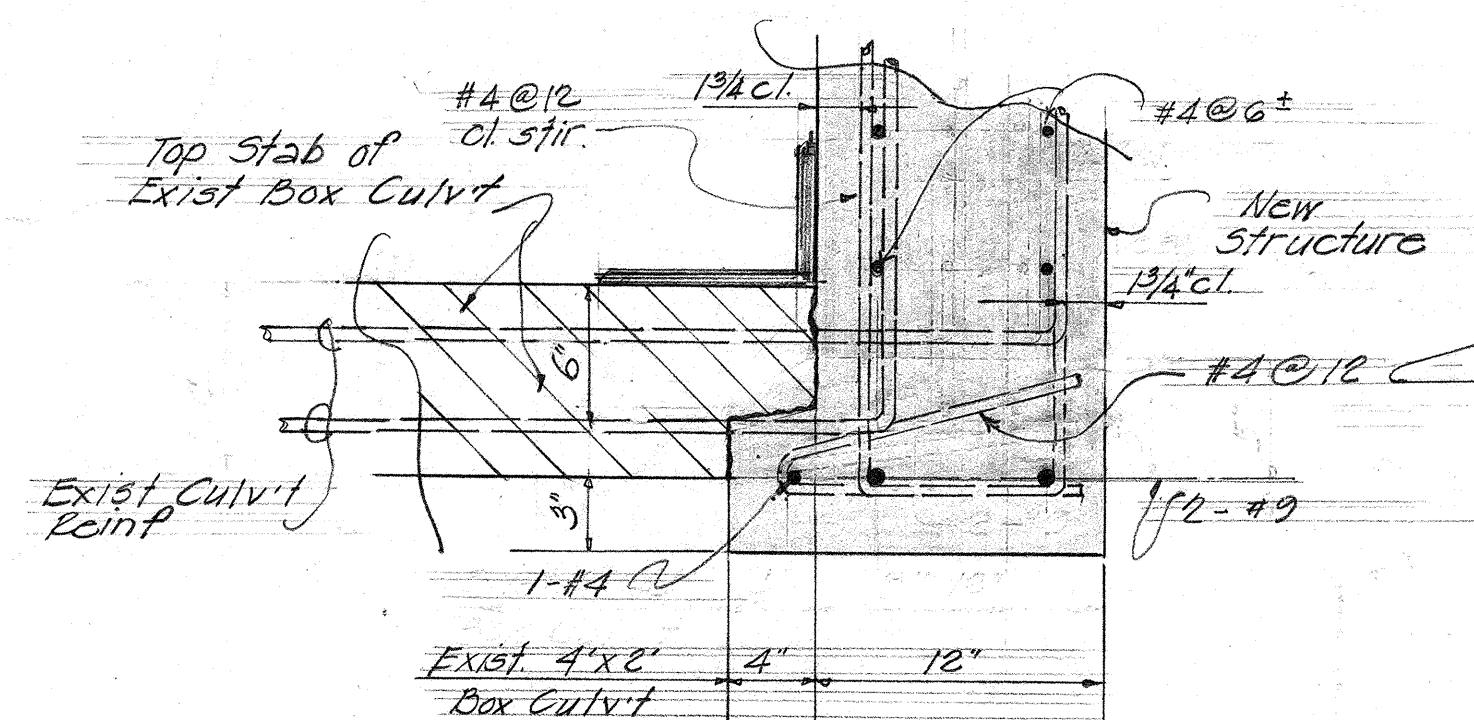
SECTION "C-C"
Scale: 1/2" = 1'-0"



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



SECTION "J-J"
SHOWING JOINT SEAL
Scale: 3'-0"



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

ESTIMATED QUANTITIES

Class A-1 Conc. --- 5.0 c.y.
Reinf. Steel --- 705.0 lbs.
Struct. Exc. --- 6.5 c.y.

(NO AS-BUILT CHANGES ON THIS SHEET)

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
SDMH AT STA. #2+00
VINEYARD THOROUGHFARE
PALAMA ST. TO FORT ST.
PROJECT NR DF-098-1(5)

SHEET NO. 1 OF 1 SHEETS

5882.35A

5882.35-A

DESIGNED BY	DATE
TRACED BY	DATE
QUANTITIES BY	DATE
CHECKED BY	DATE
ORIGINAL PLAN NO.	