

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEET ^c
HAWAII	HAW.	M-7600 (2)	1980	157	244

11/3/80	<i>Revised quantities for Item Nos. 206.2010, 648.0101 & 648.0604.</i>
DATE	REVISION

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

OAHU SUGAR CO.
IRRIGATION SUMMARY

FORT WEAVER ROAD
SOUTH OF FARRINGTON HIGHWAY
TO THE VICINITY OF RENTON ROAD

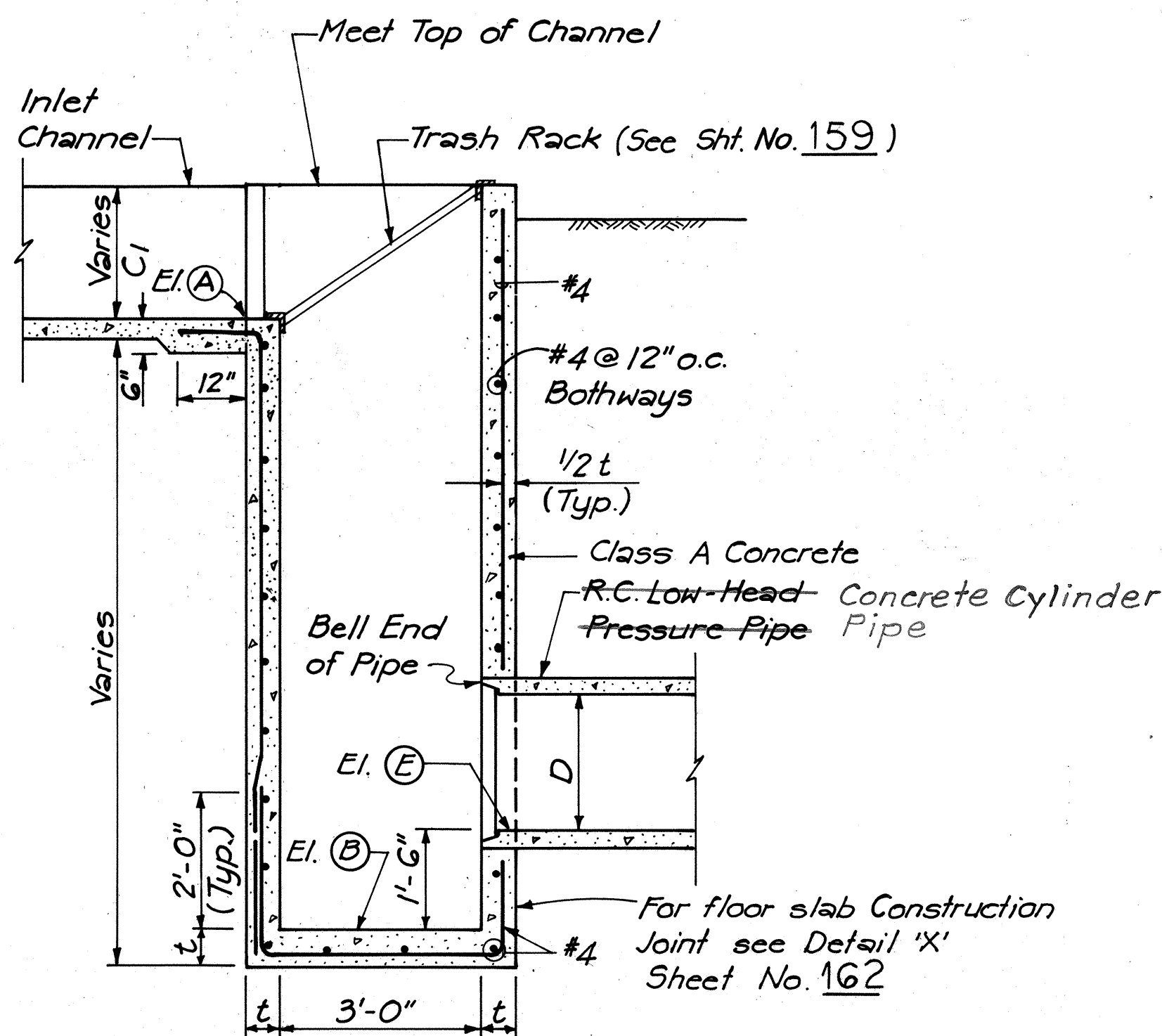
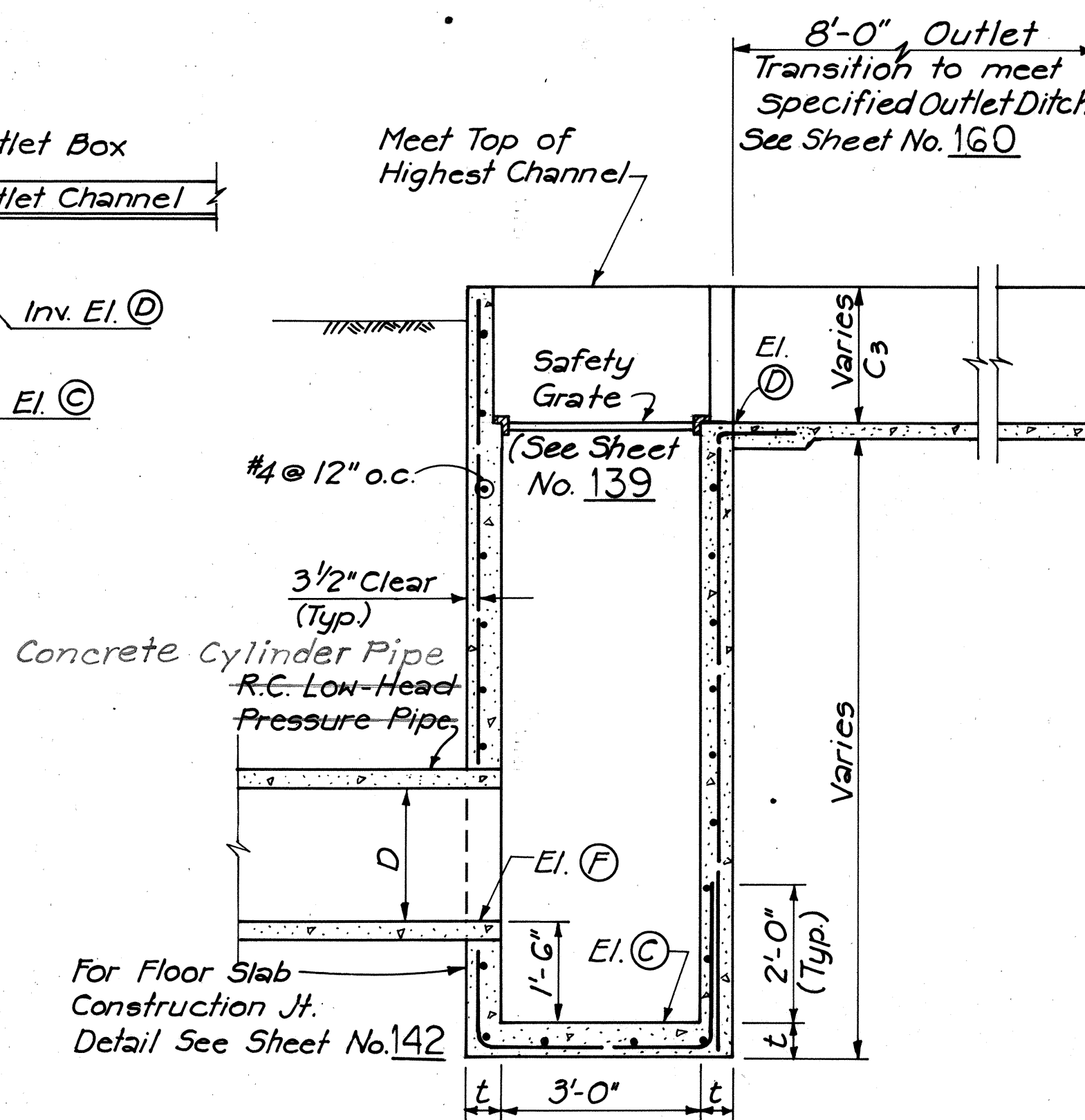
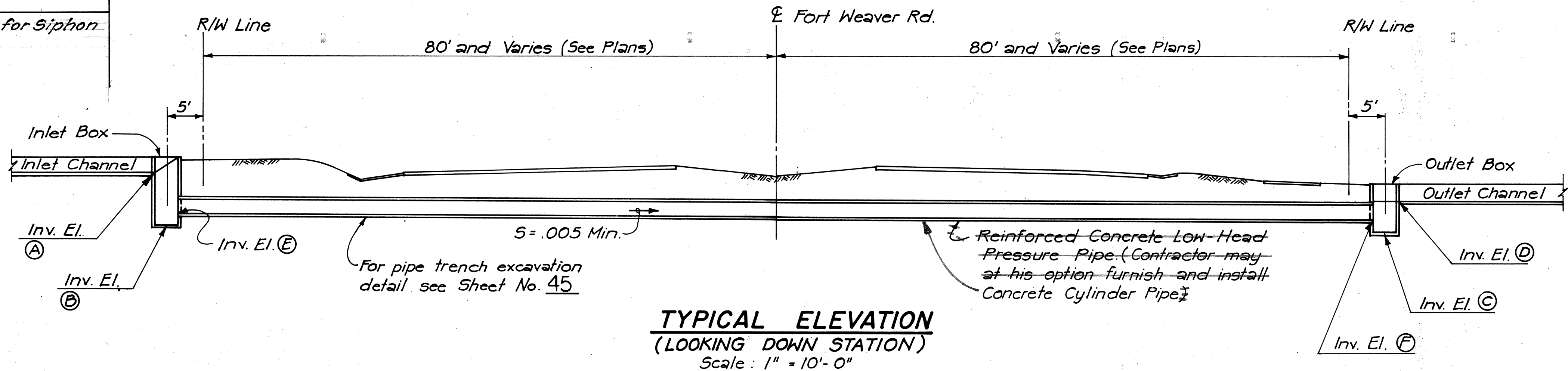
SCALE: NONE DATE: SEPT 1979

SHEET No. 1 OF 1 SHEETS

C.O.157

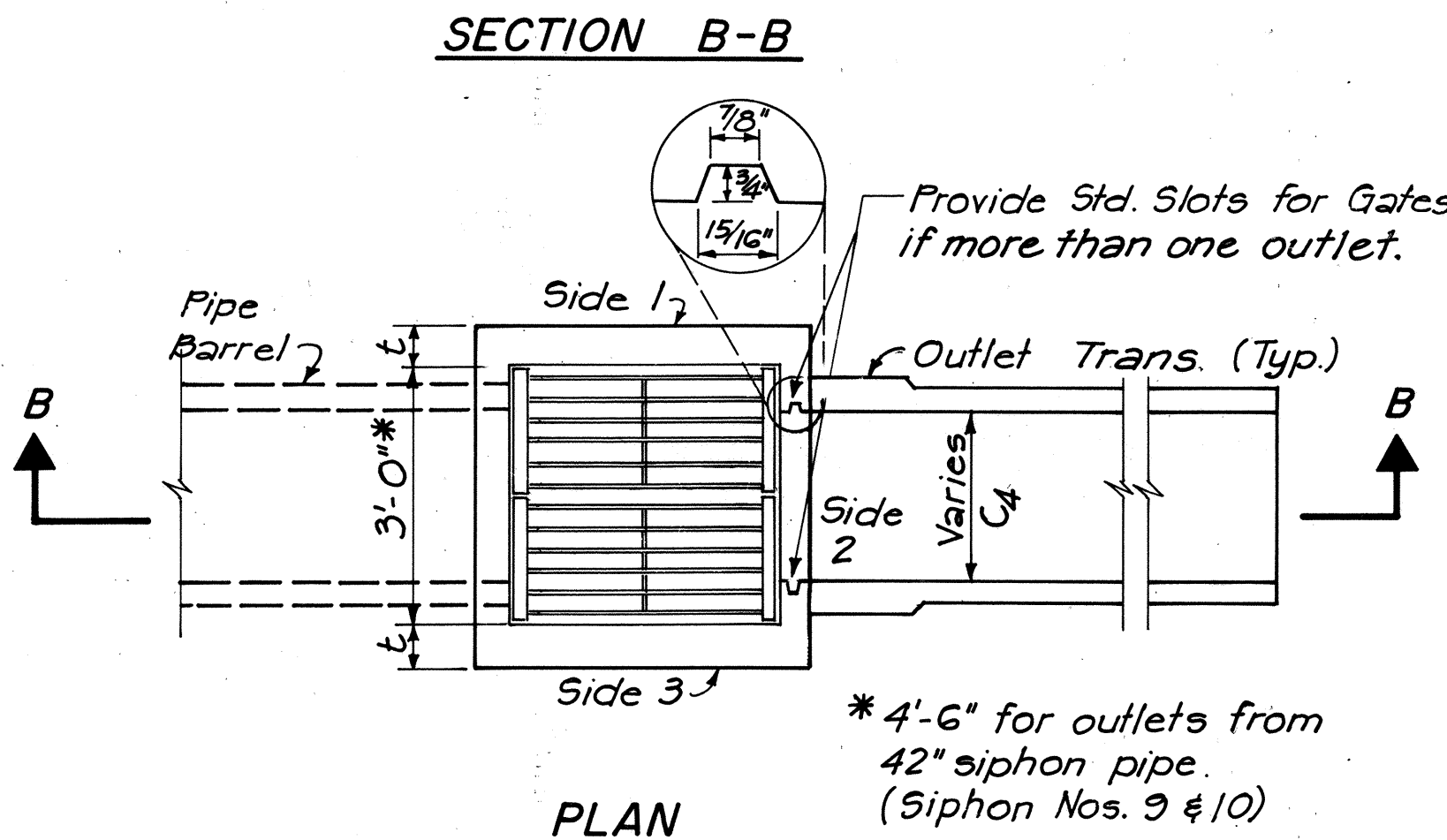
DATE	REVISION
11/3/80	Revised Elevations for Siphon Nos. 4 and 5.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	M-7600 (2)	1980	158	244

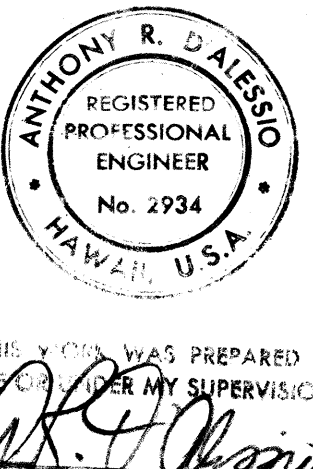


Siphon No.	Pipe Barrel E Station	PIPE BARREL			INLET BOX							
		D	El. (E)	El. (F)	Number	El. (A)	El. (B)	C ₁	C ₂	t	Special Details	Trash Racks
1	102 + 25	30"	52.40	50.60	S-1A	68.90	50.90	1.50	1.50 Top 1.00 Bott.	8"	—	2-TRI
2	109 + 00	30"	47.10	46.10	S-2A	57.00	45.60	1.50	3.00	8"	Provide Inlet Transition	2-TRI
3	112 + 40	30"	42.70	40.90	S-3A	54.60	41.20	1.50	1.50 Top 1.00 Bott.	8"	—	2-TRI
4	150 + 60	30"	2.00	7.80	S-4A	17.00	7.50	1.50	3.00	8"	S	2-TRI
5	157 + 40	30"	19.40	18.50	S-5A	22.00	17.90	1.50	2.50 Top 2.00 Bott.	8"	—	2-TRI
6	176 + 75	30"	45.90	45.50	S-6A	53.60	44.40	2.20	3.00	8"	Transition to Existing Channel	2-TRI
7	175 + 00	30"	45.50	44.50	See S-60							
8	190 + 50	30"	31.50	30.50	S-8A	43.50	30.00	2.50	3.00	10"	S	2-TRI
9	196 + 30	42"	29.70	28.80	S-9A	40.00	28.20	3.25	4.50	10"	Provide 8' Inlet Transition	3-TRI
10	196 + 45, 95' Lt. to 196 + 93, 130' Lt.	42"	32.30	31.70	See S-90							
11	T.R. Rd. 24 + 18, 39' Lt. to 24 + 83, 365' Lt.	30"	20.25	20.00	S-11A	26.85	10.75	1.50	1.50 Top 1.00 Bott.	8"	—	2-TRI

OUTLET BOX												
Number	El. (C)	Side 1			Side 2			Side 3			t	Special Details
		El. (D)	C ₃	C ₄	El. (D)	C ₃	C ₄	El. (D)	C ₃	C ₄		
S-1B	49.10	67.10	1.50	2.00	—	—	—	67.10	1.50	2.00	8"	—
S-2B	44.60	—	—	—	55.80	1.50	3.00	—	—	—	8"	—
S-3B	39.40	—	—	—	51.70	1.50	2.00	—	—	—	8"	—
S-4B	6.30	—	—	—	15.80	1.50	3.00	—	—	—	8"	S
S-5B	17.00	21.20	2.00	3.00	21.10	1.50	2.00	—	—	—	8"	—
S-6B	44.00	45.50	Siphon No. 7	54.00	1.50	2.00	—	—	—	—	8"	S
S-7B	43.00	51.80	24" R.C.P.	51.80	30" R.C.P.	51.80	1.50	2.00	—	—	8"	—
S-8B	29.00	43.50	1.5	2.00	43.50	2.00	2.00	—	—	—	8"	—
S-9B	27.30	39.70	2.00	2.00	—	—	—	32.30	Siphon No. 10	10"	—	—
S-10B	30.20	—	—	—	38.80	2.50	3.00	—	—	—	10"	—
S-11B	18.50	—	—	—	—	—	—	25.20	1.50	2.00	8"	—



TYPICAL OUTLET BOX
Scale: 1" = 2'-0"



Oahu Sugar Company

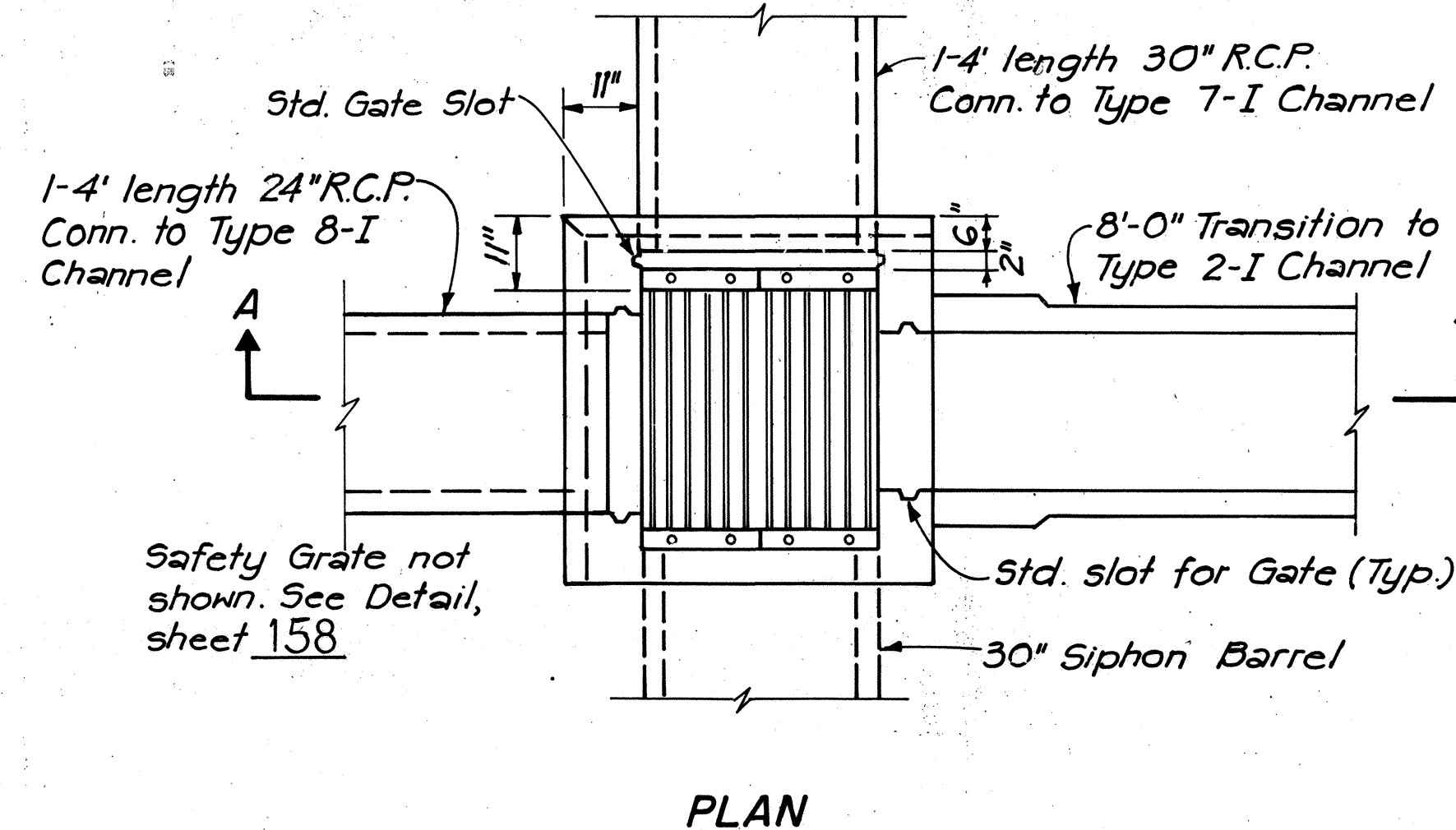
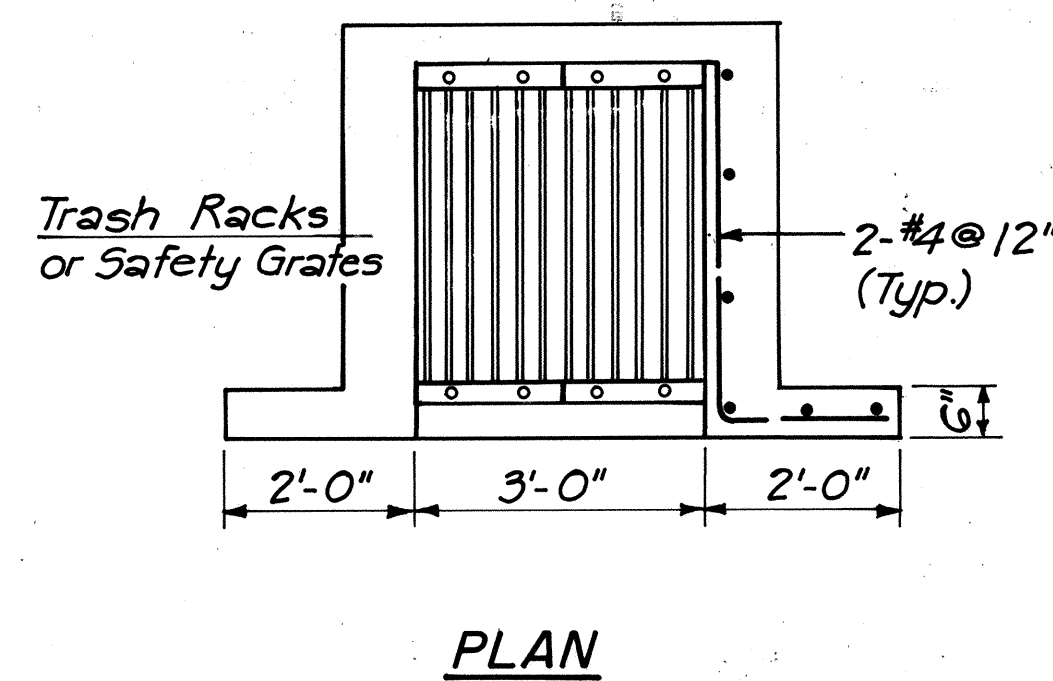
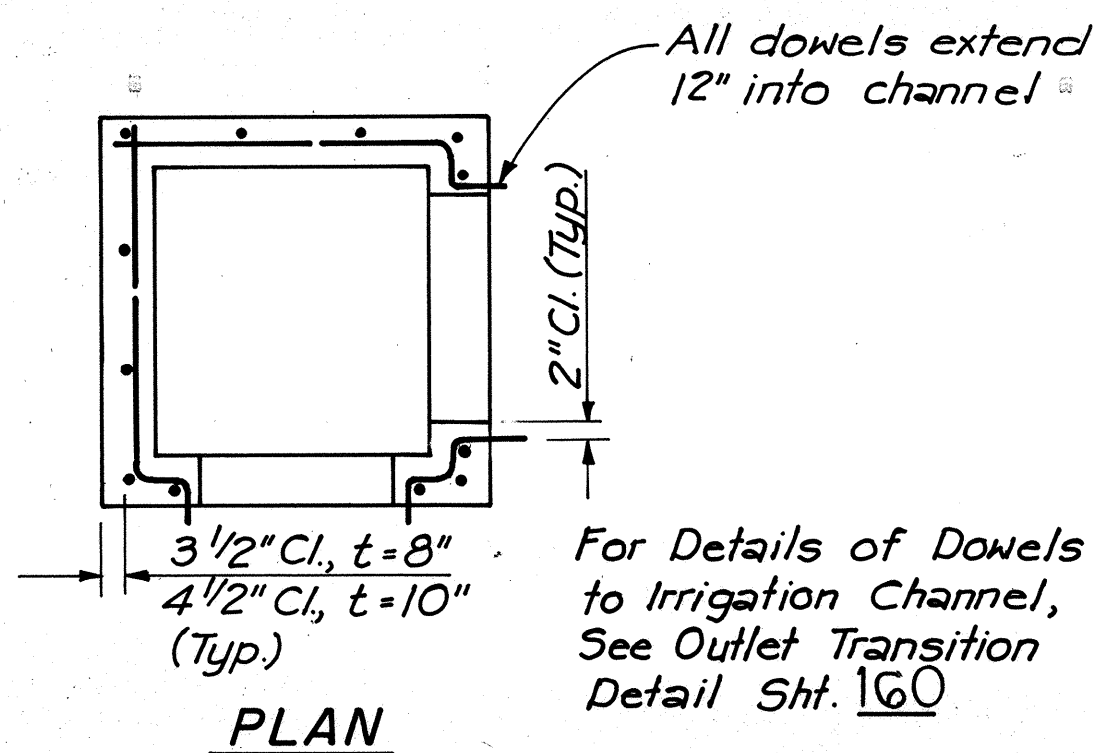
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

IRRIGATION SYSTEM DETAILS

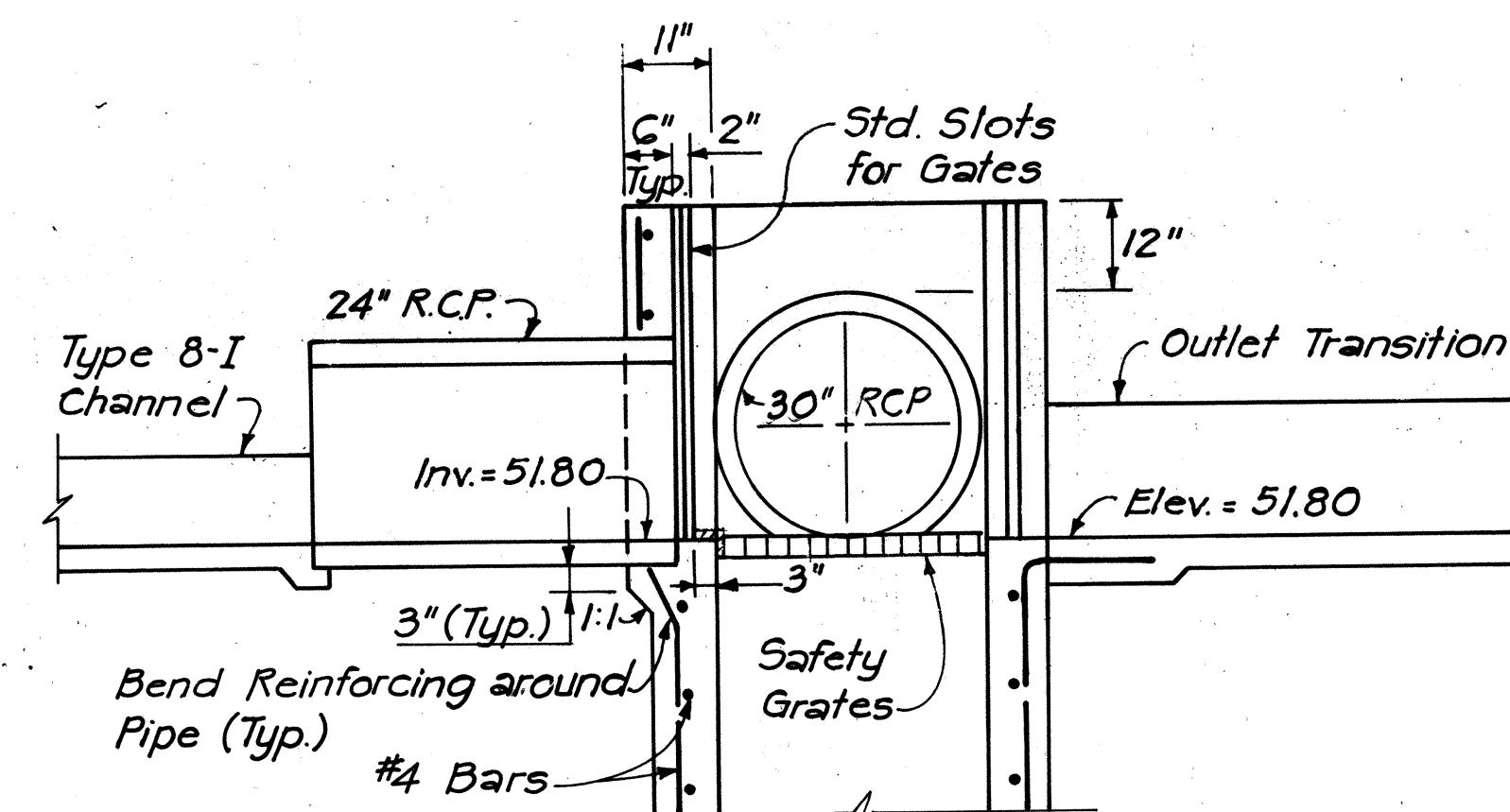
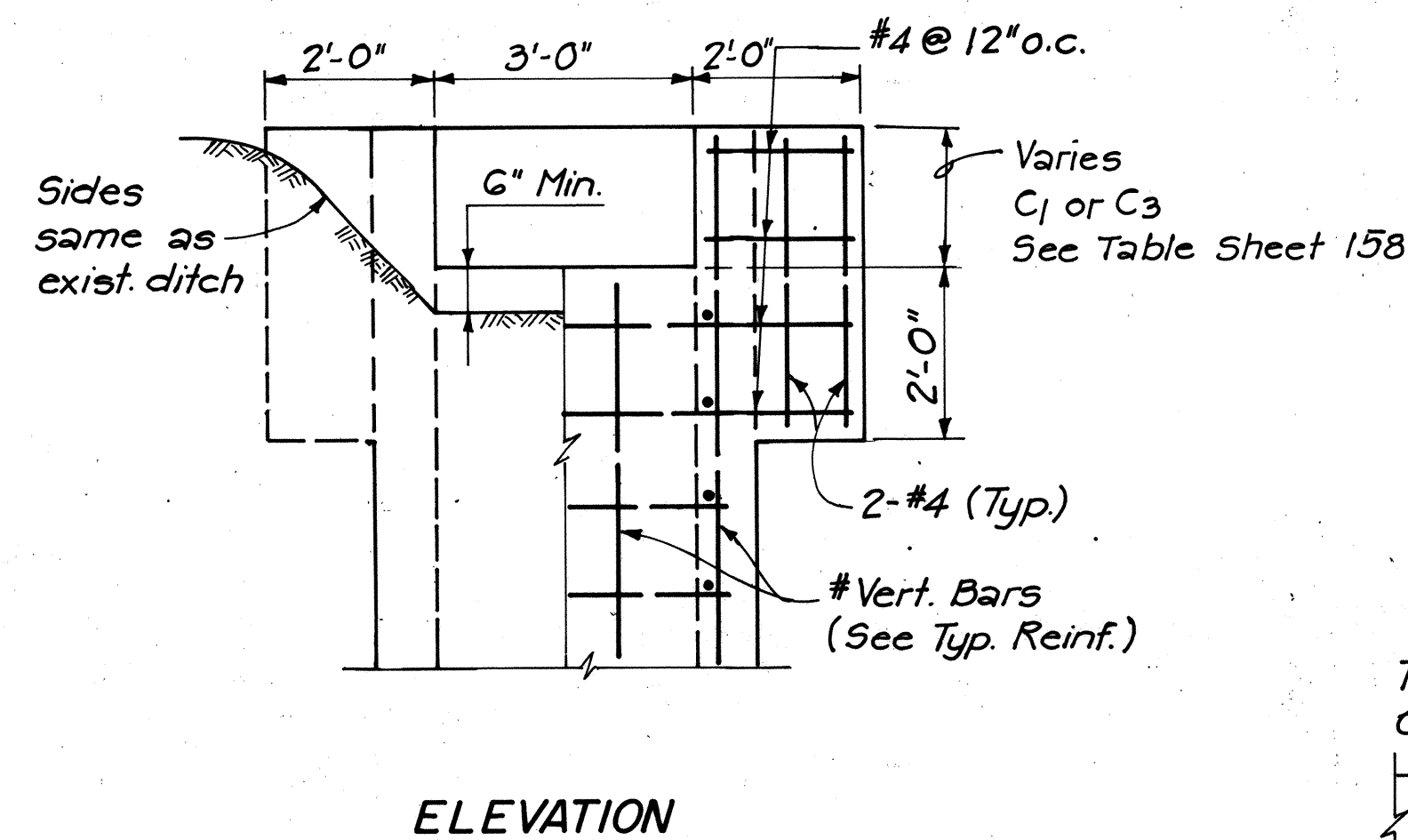
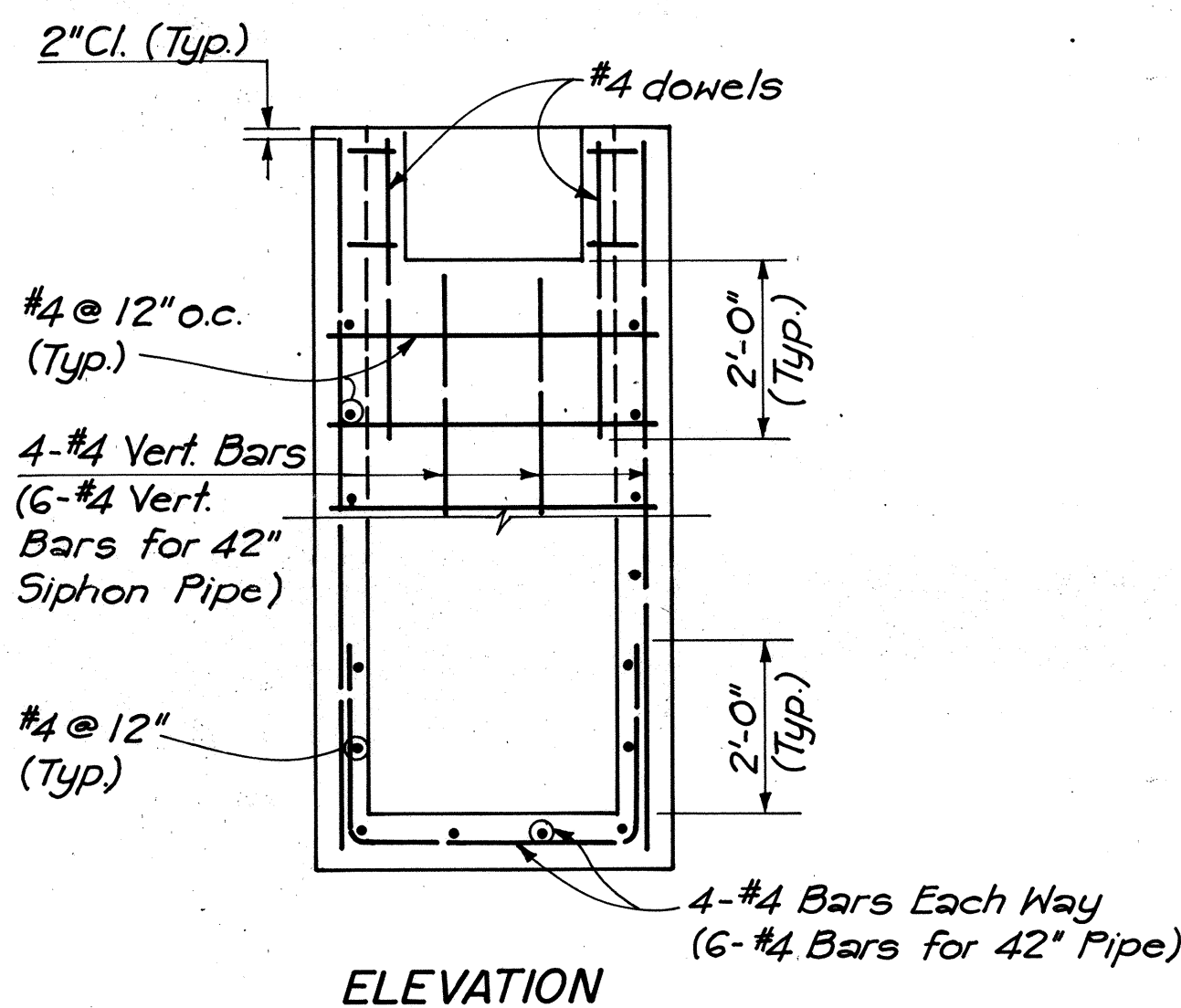
FORT WEAVER ROAD
SOUTH OF FARRINGTON HIGHWAY
TO THE VICINITY OF RENTON ROAD

SCALE: AS SHOWN DATE: SEPT 1979
SHEET No. 1 OF 3 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	M-7600 (2)	1980	159	244

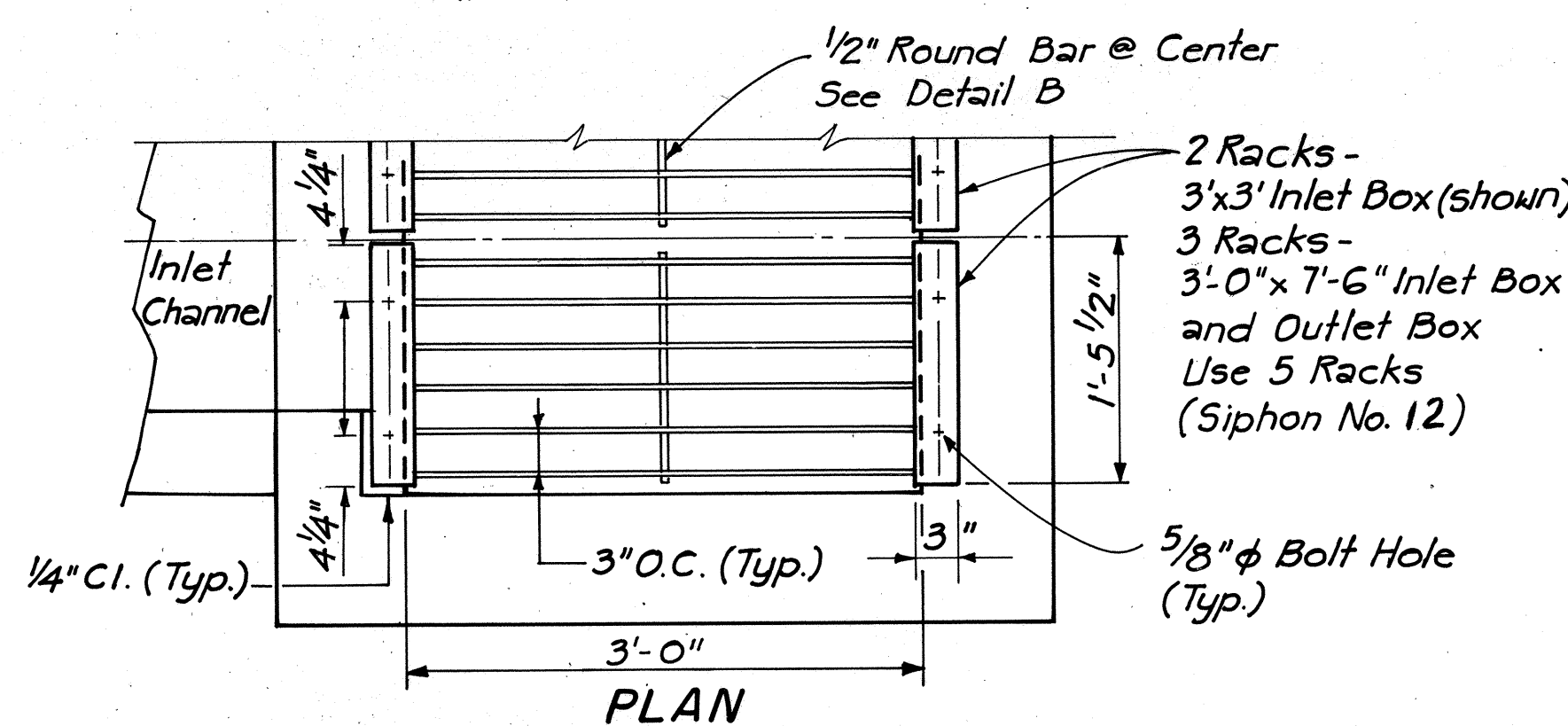


1. All concrete shall be Class A unless otherwise noted.
2. All reinforcing steel shall be ASTM A615 Grade 40
3. Grates and trash racks shall be fabricated of steel conforming to the requirements of ASTM A283, Grade D, and shall be hot dip galvanized after fabrication.
4. Manhole rungs at 12" o.c. are required in all structures where the depth from bottom of channel to top of floor slab exceeds 4'-6". One rung (12" from the bottom) is required if the depth is 4'-6" or less. For rung details, see sheet No. 47.
5. For Standard Gate Slot Detail, see Typical Outlet Box Plan, Sheet No. 158.



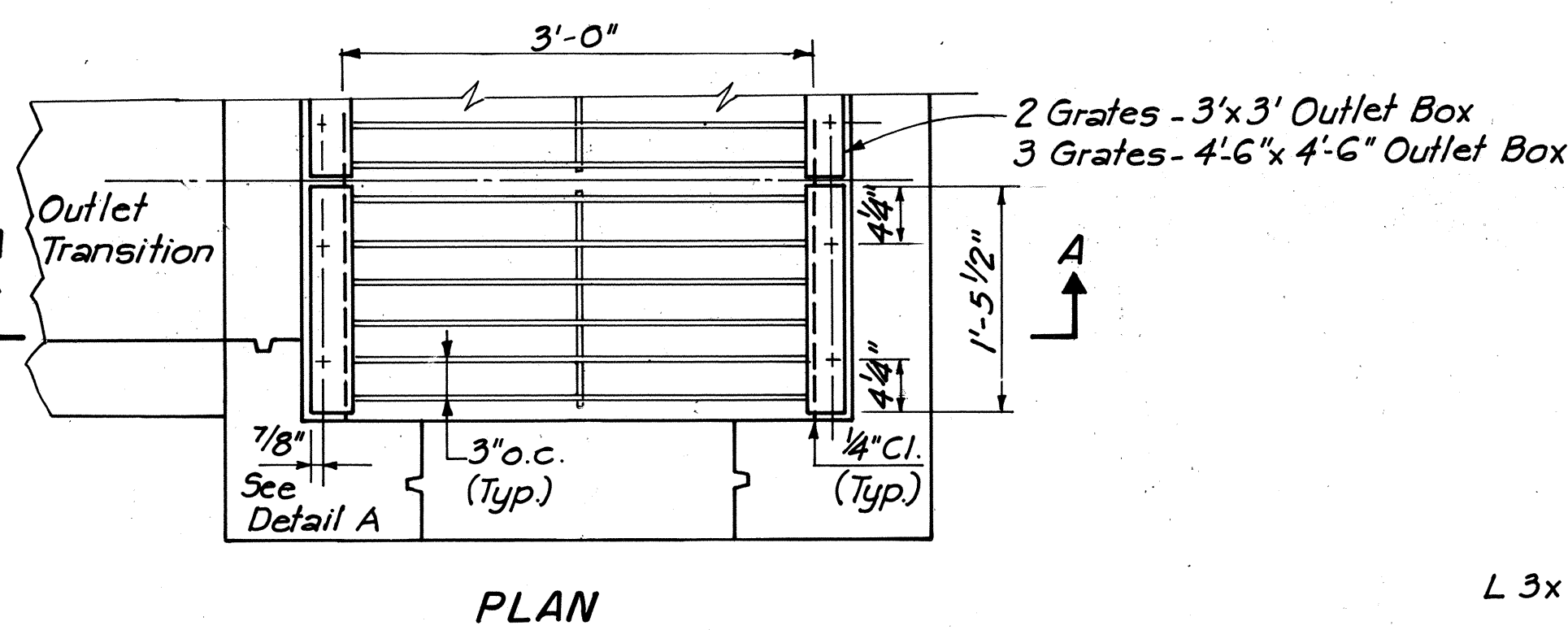
TYPICAL REINFORCING DETAILS

Scale: 1" = 2'-0"



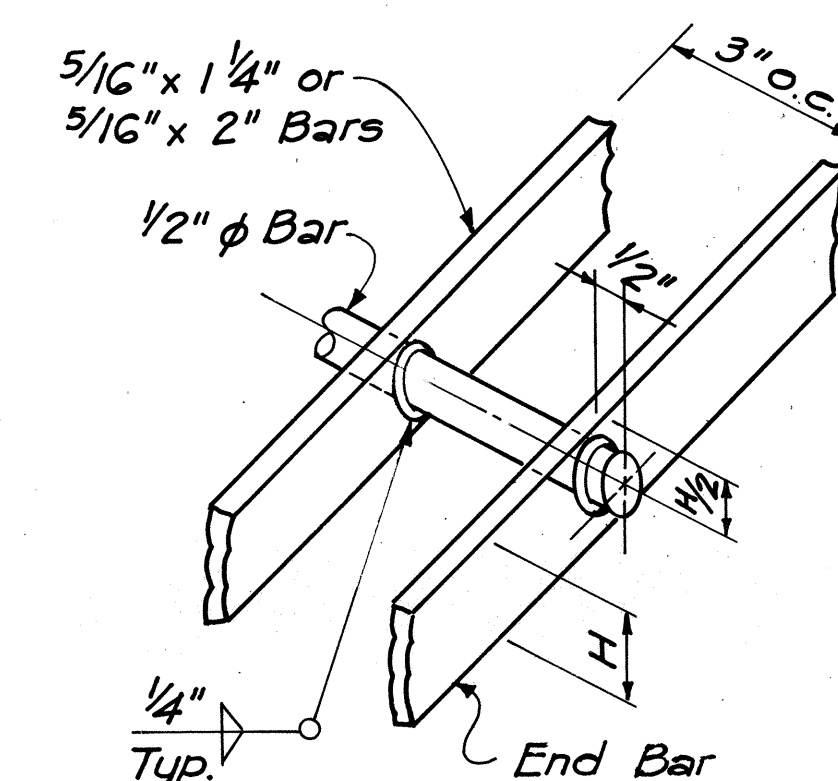
SPECIAL DETAIL 'S' EARTH INLET OR OUTLET CHANNEL

Scale: 1" = 2'-0"

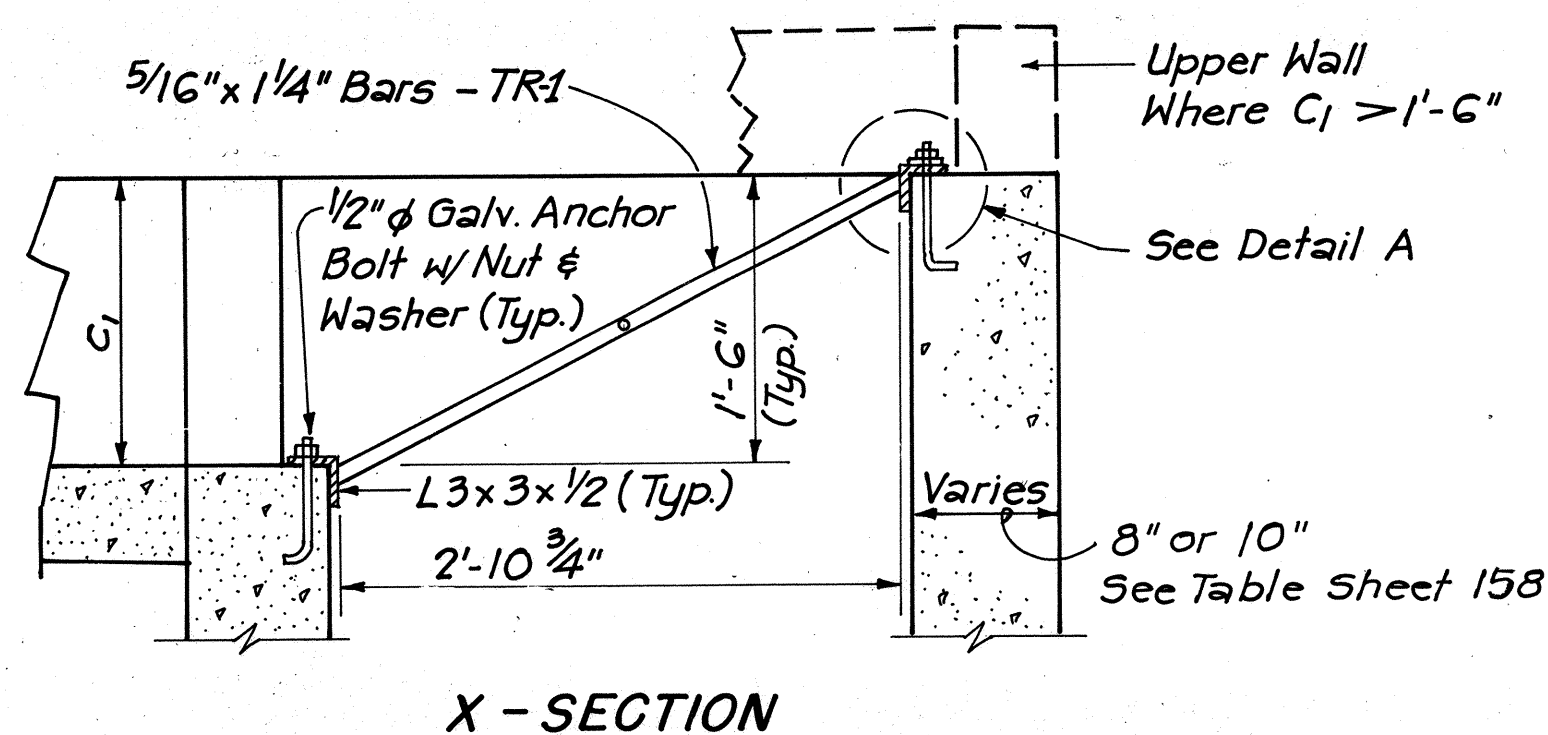


SPECIAL DETAIL 'T' OUTLET BOX S-7B

Scale: 1" = 2'-0"

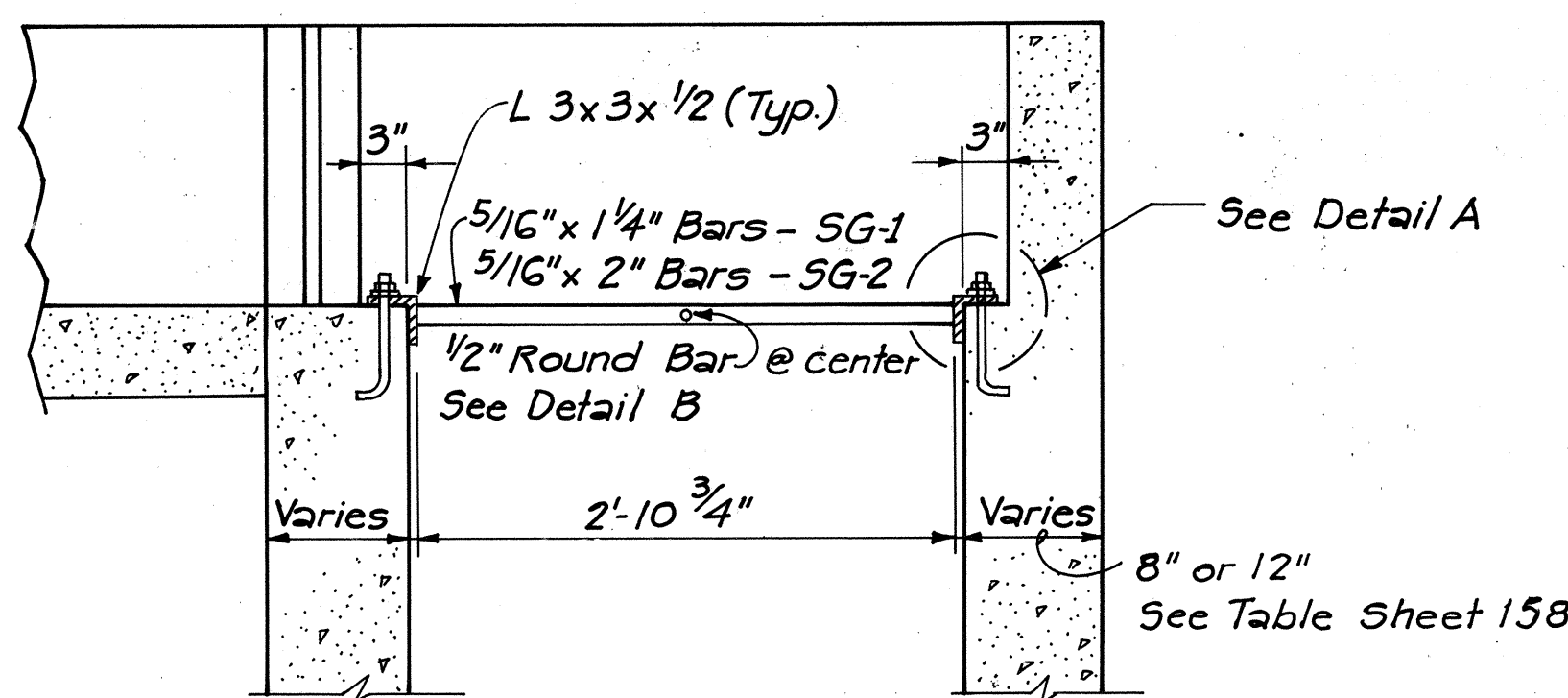


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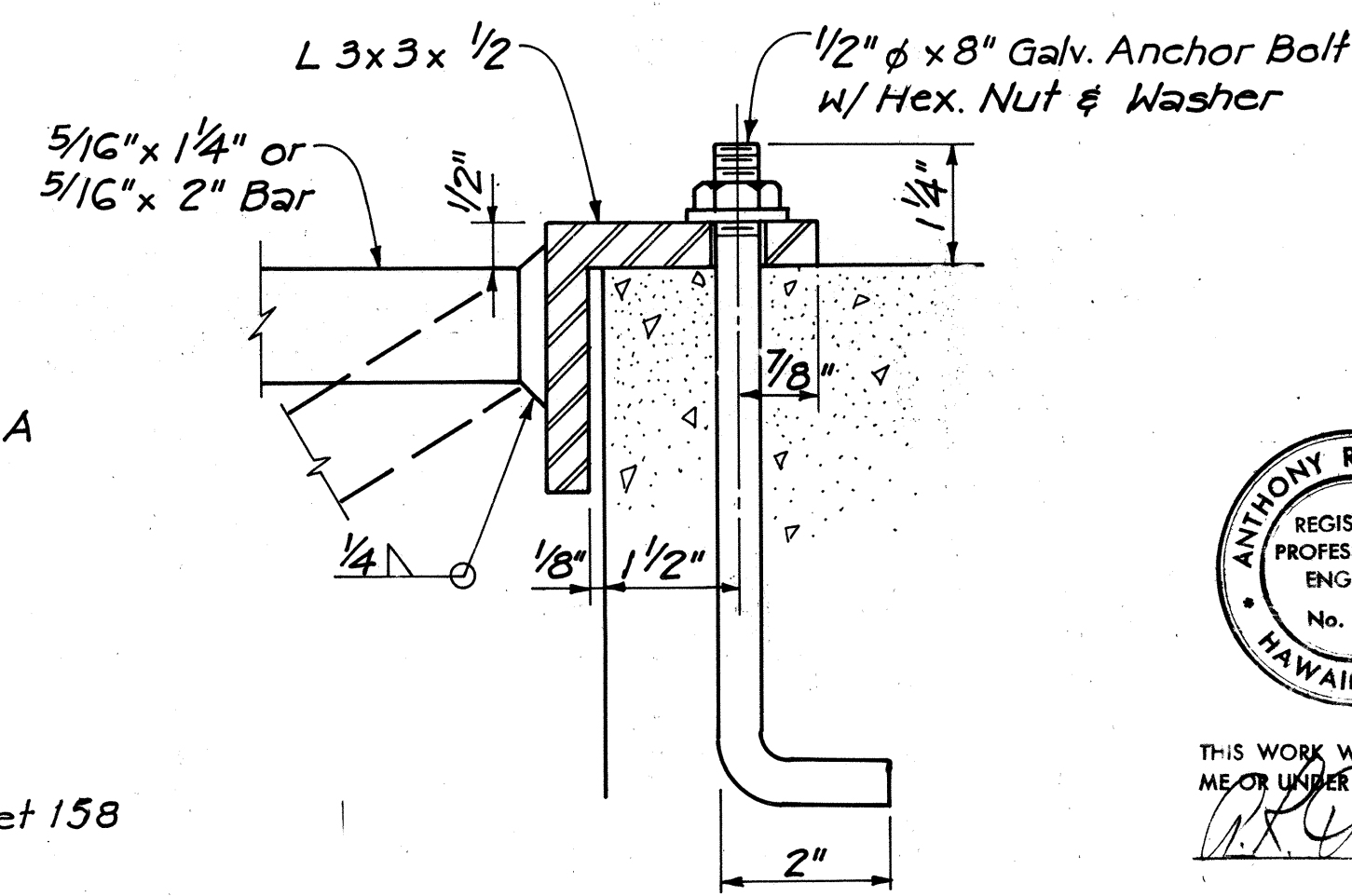
TRASH RACKS (TR-1)

Scale: 1" = 10'



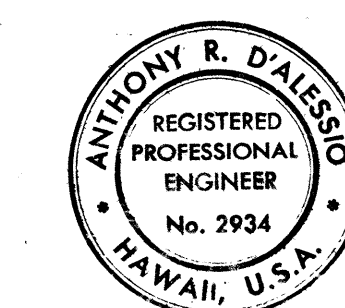
STEEL SAFETY GRATES (SG-1)

Scale: 1" = 1'-0"



DETAIL A

Scale: 1/2" = 1"



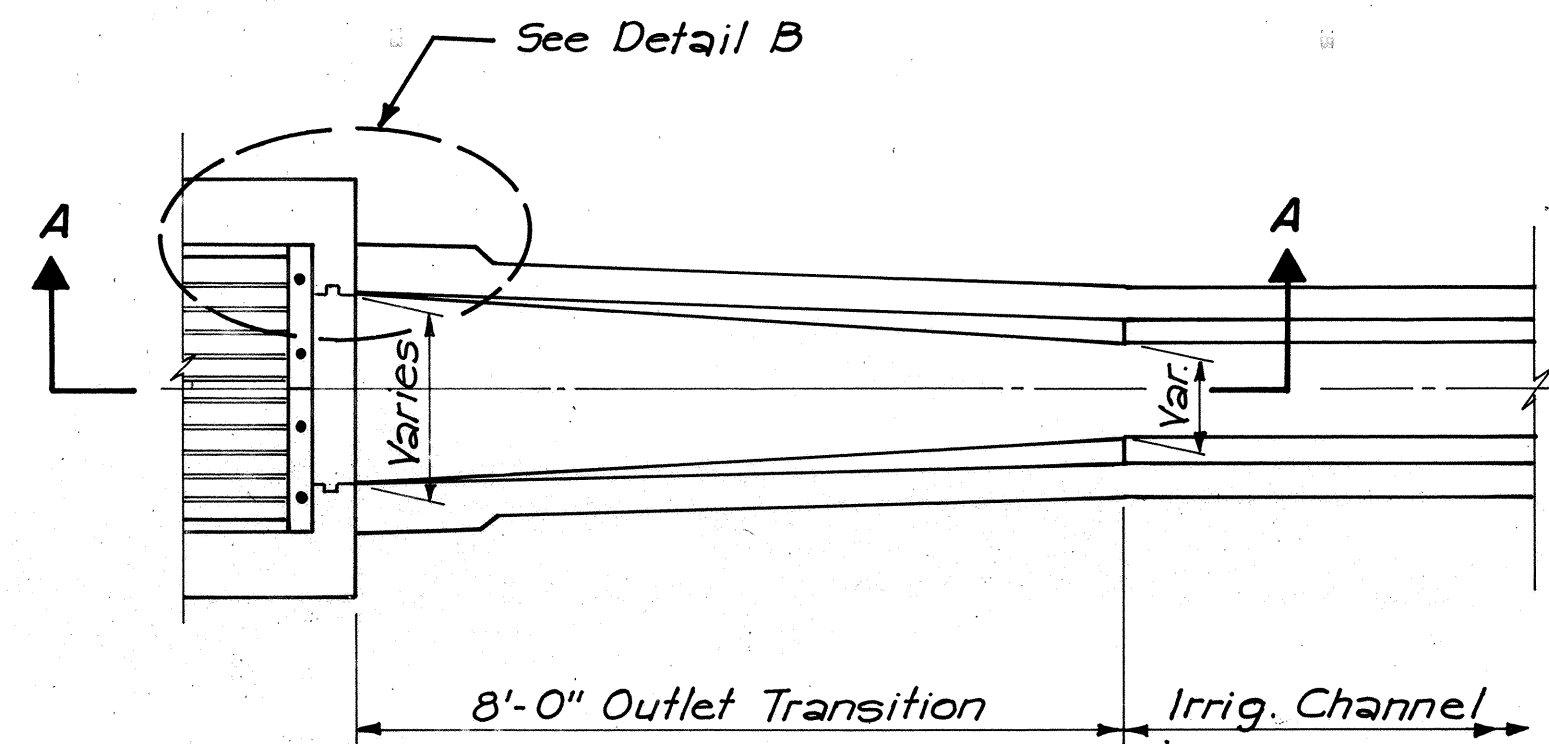
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Oahu Sugar Company

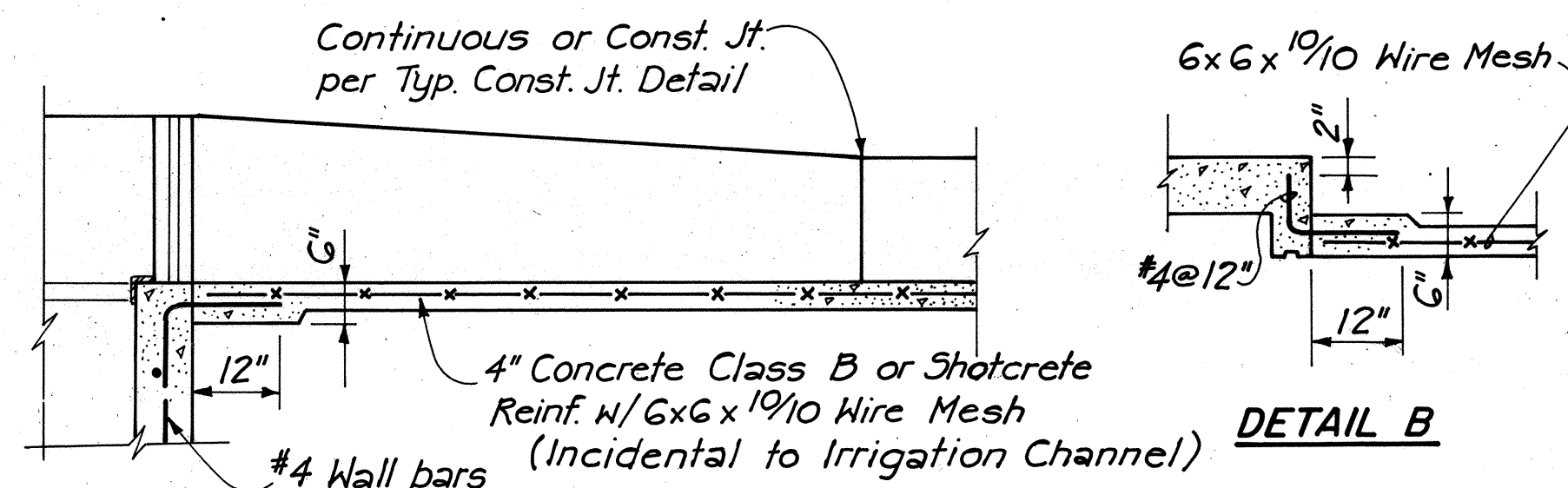
Date

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
IRRIGATION SYSTEM DETAILS
FORT WEAVER ROAD SOUTH OF FARRINGTON HIGHWAY TO THE VICINITY OF RENTON ROAD
SCALE: AS SHOWN DATE: SEPT 1979
SHEET NO. 2 OF 3 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	M-7600(2)	1980	160	244



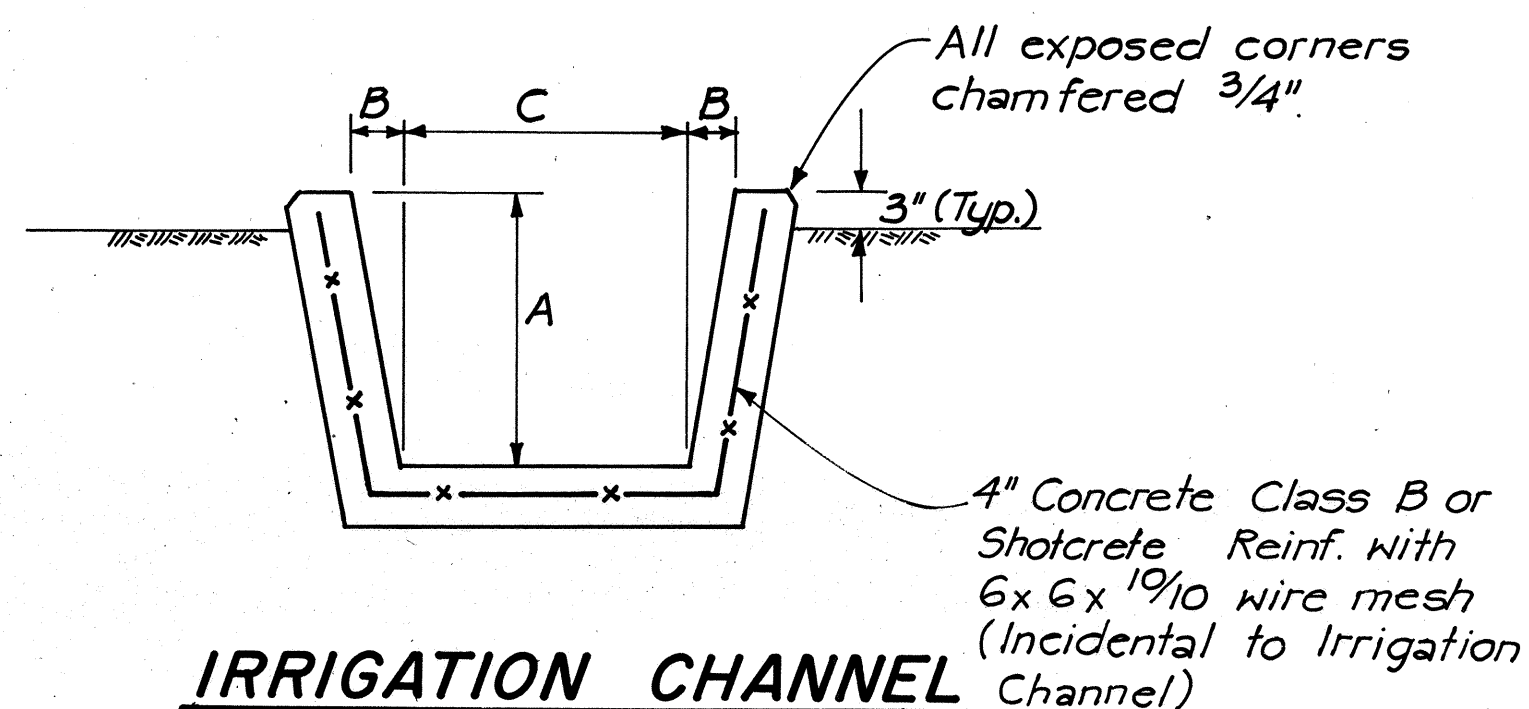
PLAN



SECTION A-A

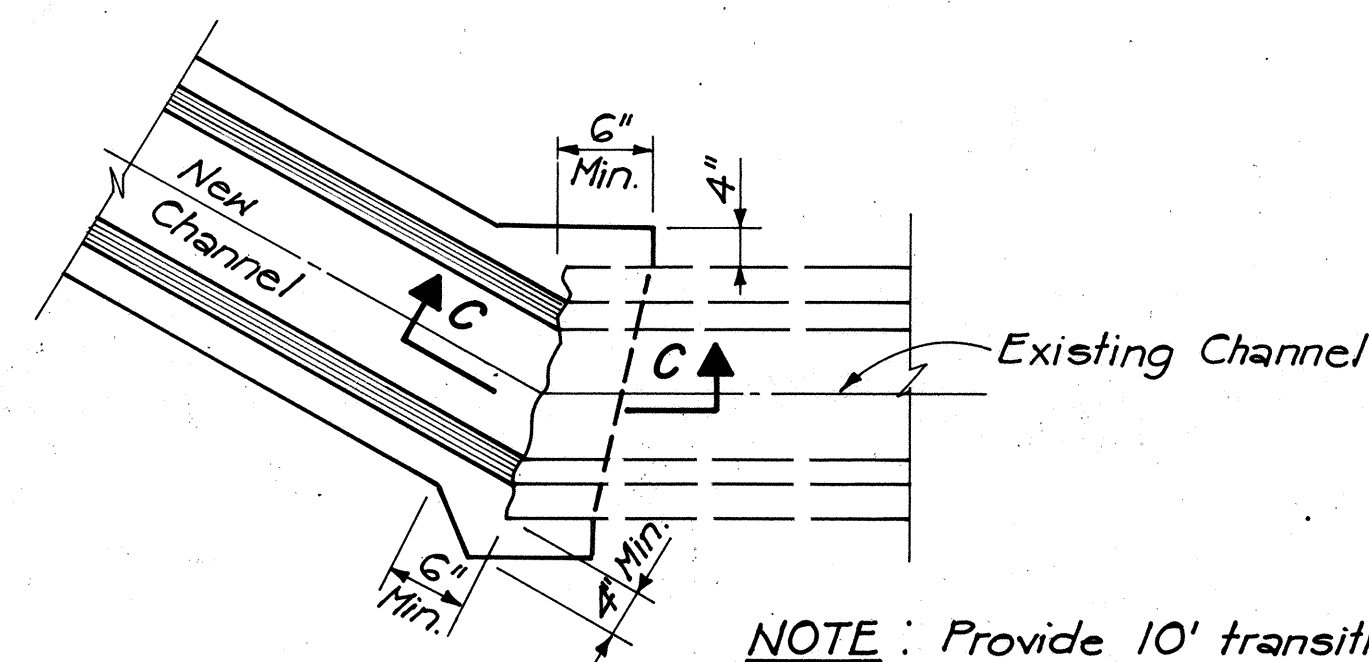
SIPHON OUTLET TRANSITION*

* Inlet Transition Similar where required
Scale: 1" = 2'-0"



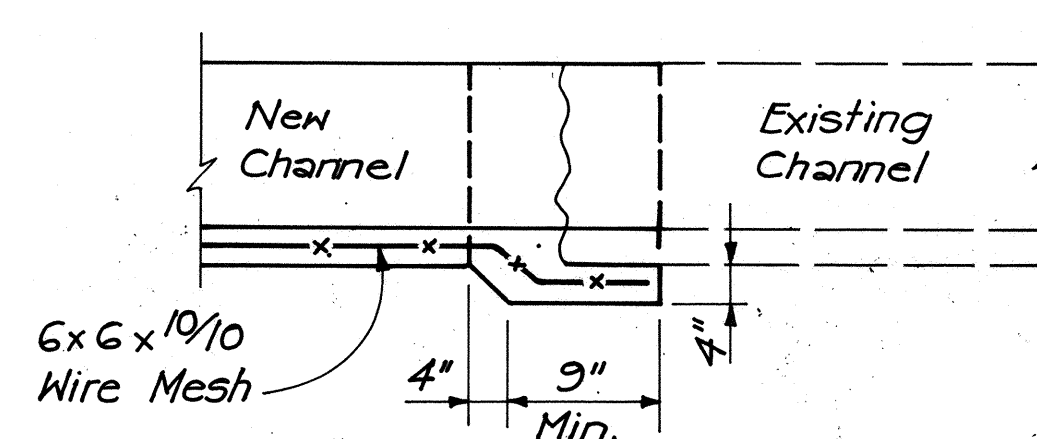
IRRIGATION CHANNEL
N.T.S.

IRRIGATION CHANNEL DIMENSIONS (Feet)						
TYPE	A	B	C	CONCRETE	REINFORCING	EXCAVATION
1-I	1.5	.25	1.0	0.0570 CY/LF	0.8550 #/LF	0.1420 CY/LF
2-I	1.5	.25	1.5	0.0632 CY/LF	0.950 #/LF	0.1790 CY/LF
3-I	1.0	.25	1.0	0.0448 CY/LF	0.570 #/LF	0.0946 CY/LF
4-I	1.5	.25	2.0	0.0693 CY/LF	1.045 #/LF	0.2161 CY/LF
5-I	3.25	.96	2.83	0.1222 CY/LF	1.7727 #/LF	0.5910 CY/LF



PLAN

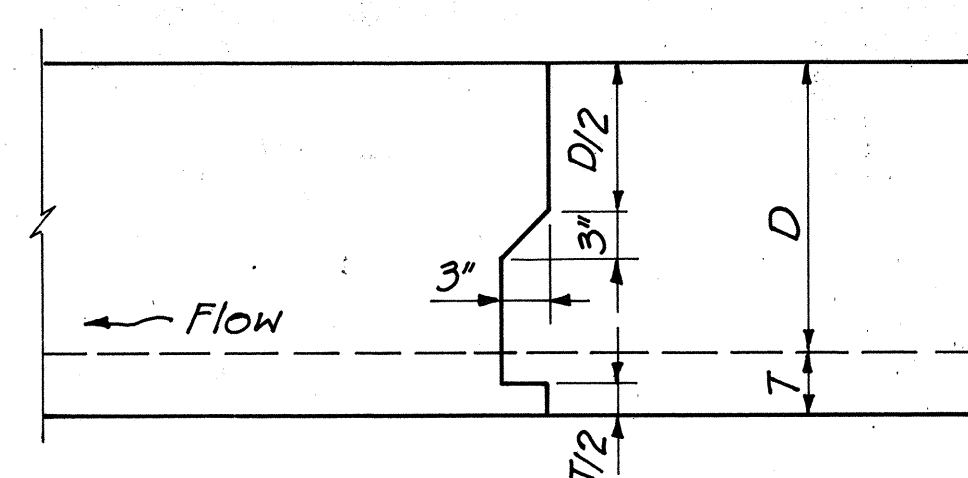
NOTE: Provide 10' transition in new channel where required to meet exist. channel.



SECTION C-C

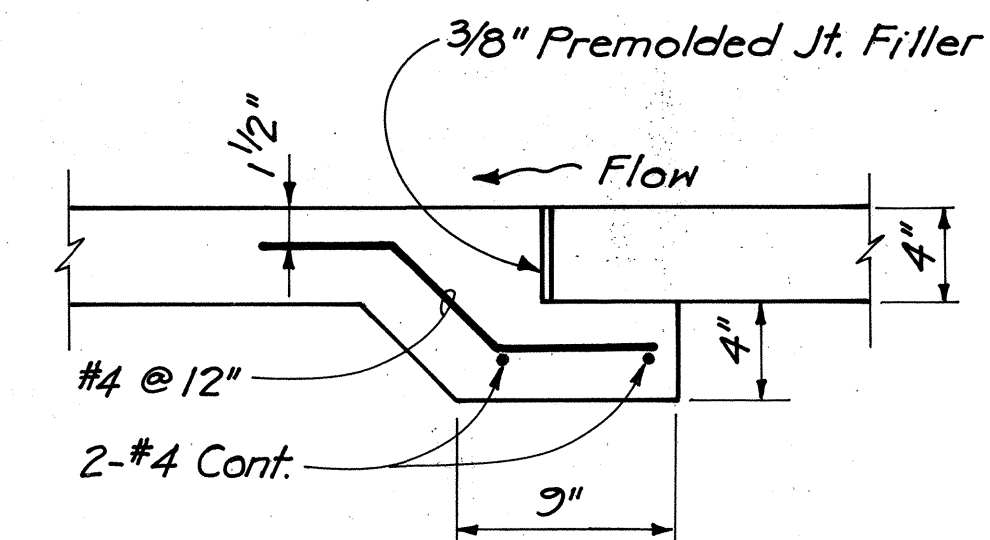
CONNECTION TO EXISTING CHANNEL

N.T.S.



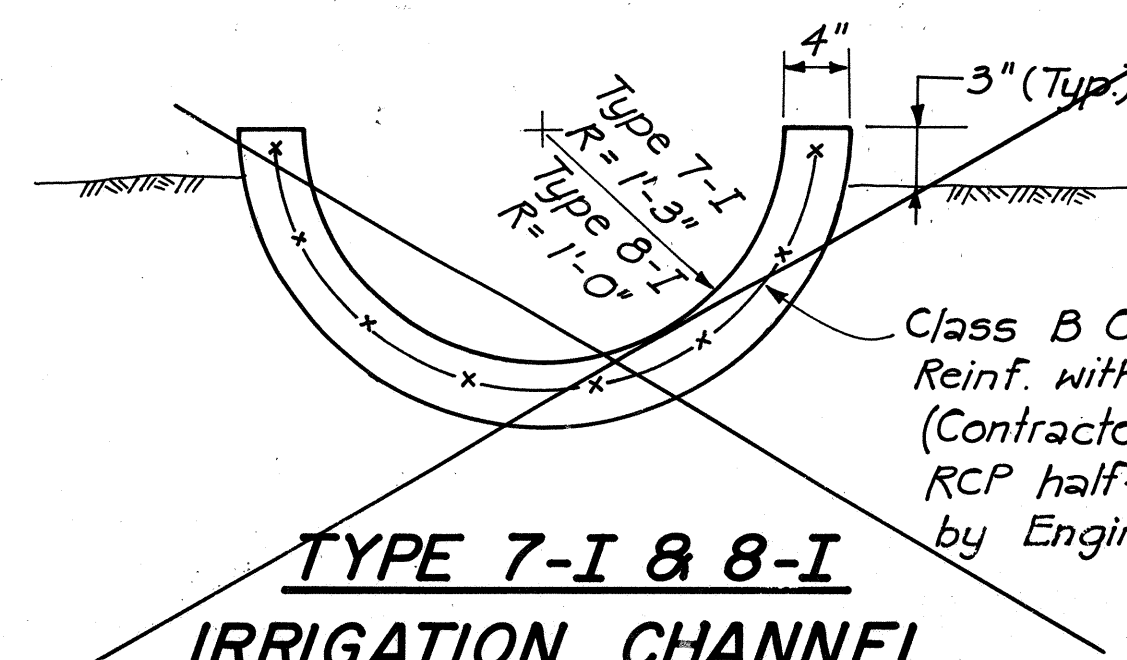
TYP. CONSTRUCTION JT. @ 30' O.C.

N.T.S.



TYP. EXPANSION JT. @ 90' O.C.

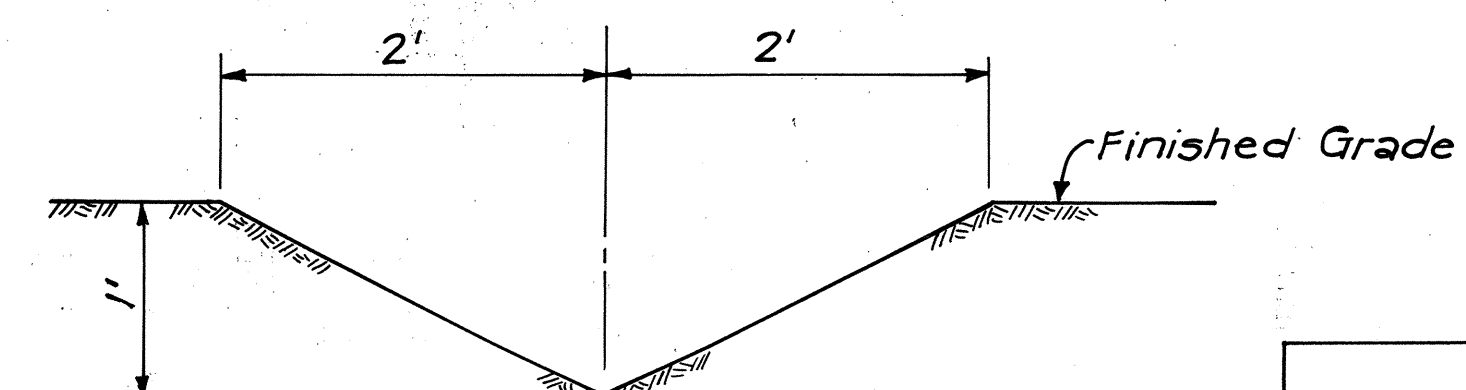
N.T.S.



TYPE 7-I & 8-I
IRRIGATION CHANNEL

N.T.S.

N.I.C.



TYPE 6-I
IRRIGATION CHANNEL

Oahu Sugar Company Date

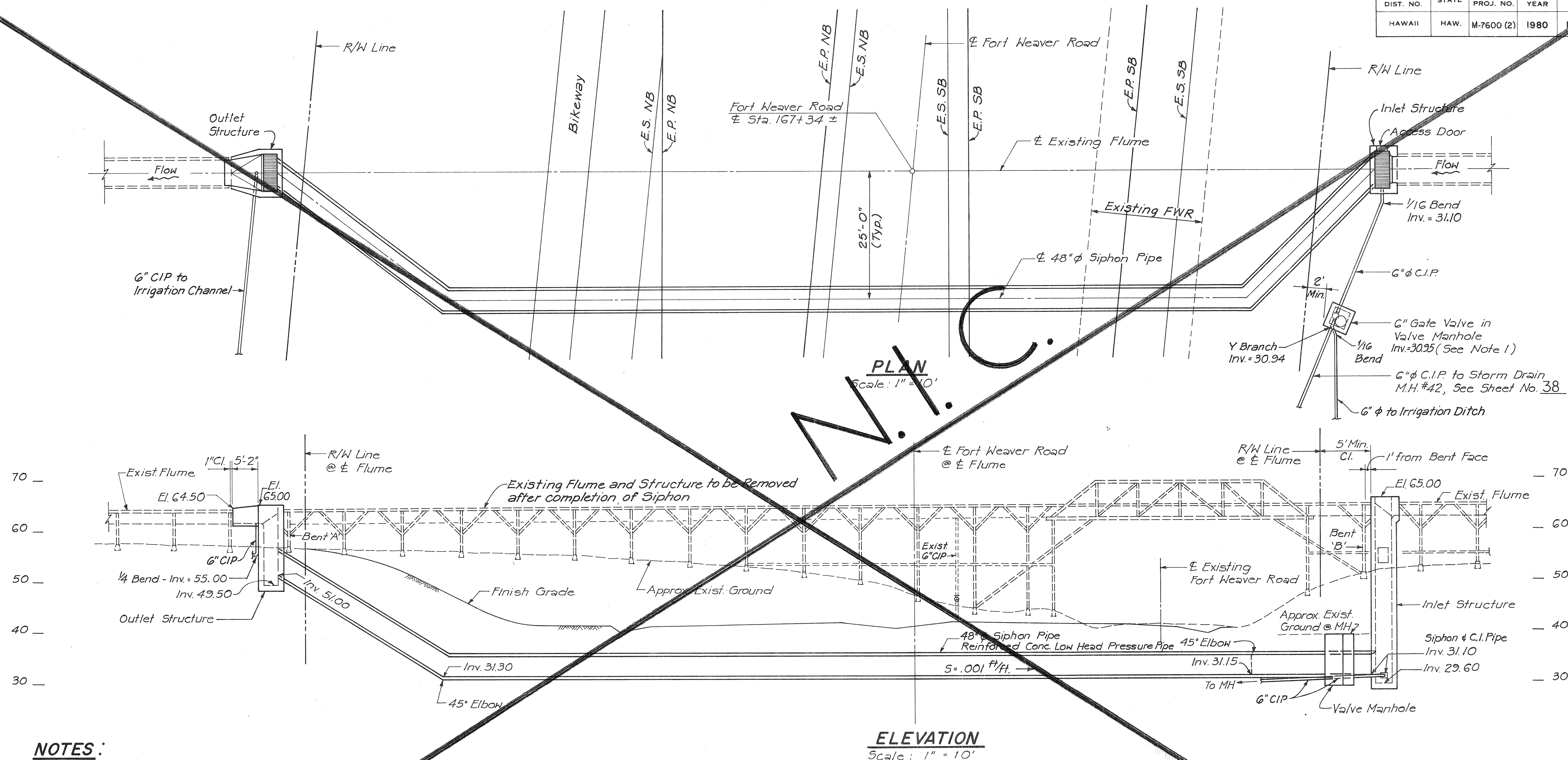
6/6/80	Deleted Type 5-I of the Irrigation Channel Dimensions & detail of Type 7-I & 8-I Irrigation Channel, per Addendum No. 1.
DATE	REVISION



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

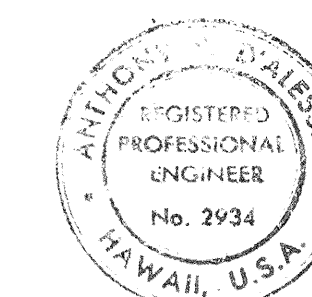
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
IRRIGATION CHANNEL DETAILS	
FORT WEAVER ROAD SOUTH OF FARRINGTON HIGHWAY TO THE VICINITY OF RENTON ROAD	
SCALE: AS SHOWN	DATE: SEPT 1979
SHEET NO. 3 OF 3 SHEETS	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	M-7600 (2)	1980	161	244



NOTES:

- For Details of Valve Manhole, See Sheet 163.
- The Storm Drainage System from MH #42 to the outfall at Sta. 158+00 shall be completed prior to completion and operation of the Siphon.
- Flow in the existing flume shall be maintained at all times prior to interruption for siphon completion as described hereafter. The siphon and all appurtenances shall be complete and fully operational within seven days from the time of initial interruption of the flume. The Contractor shall submit to the Engineer for approval at least seven days prior to flume interruption a detailed CPM schedule covering the period from the initial interruption of the flume to the completion of the siphon and its appurtenances. The Contractor shall be fully responsible for ensuring that flow is interrupted for no more than seven days, and shall be solely liable for any damages resulting from flow interruption exceeding the seven-day limit.
- Suggested Construction Staging:
 - Construct temporary bent supports at bents 'A' and 'B' and at other bents as required by planned construction method. Construct traffic detours.
 - Construct lower sections of inlet and outlet structures and construct siphon barrel, valve manhole and 6" CIP drain lines. Submit schedule for flow interruption period.
 - Interrupt flow. Complete construction of inlet and outlet structures. Remove temporary supports.
 - Demolish and remove existing flume and structure from Bent 'A' to Bent 'B'.
- Two traffic lanes shall be maintained open at all times.
- Siphon Pipe shall be Reinforced Concrete Low-Head Pressure Pipe.
- Sheeting or bracing for inlet structure excavation shall be designed by a Professional Engineer registered by the State of Hawaii as qualified in the Structural Branch. The design shall be submitted to the State Engineer for approval prior to the commencement of its construction.



THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION
A.J. Russo

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SIPHON NO. 12
F.W.R. @ STA. 167+34 ±

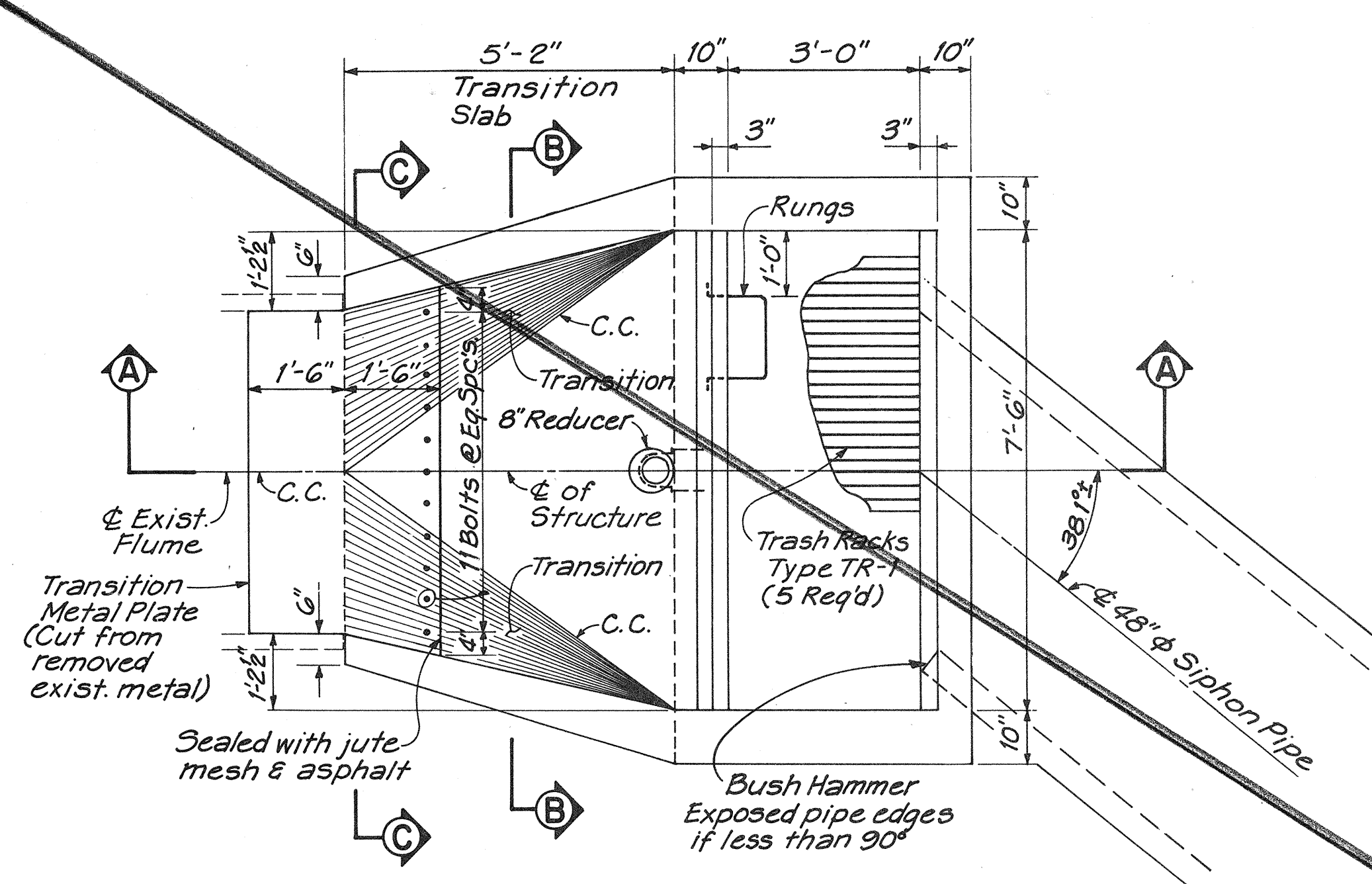
FORT WEAVER ROAD
SOUTH OF FARRINGTON HIGHWAY
TO THE VICINITY OF RENTON ROAD

SCALE: AS SHOWN DATE: SEPT 1979
SHEET NO. 1 OF 3 SHEETS

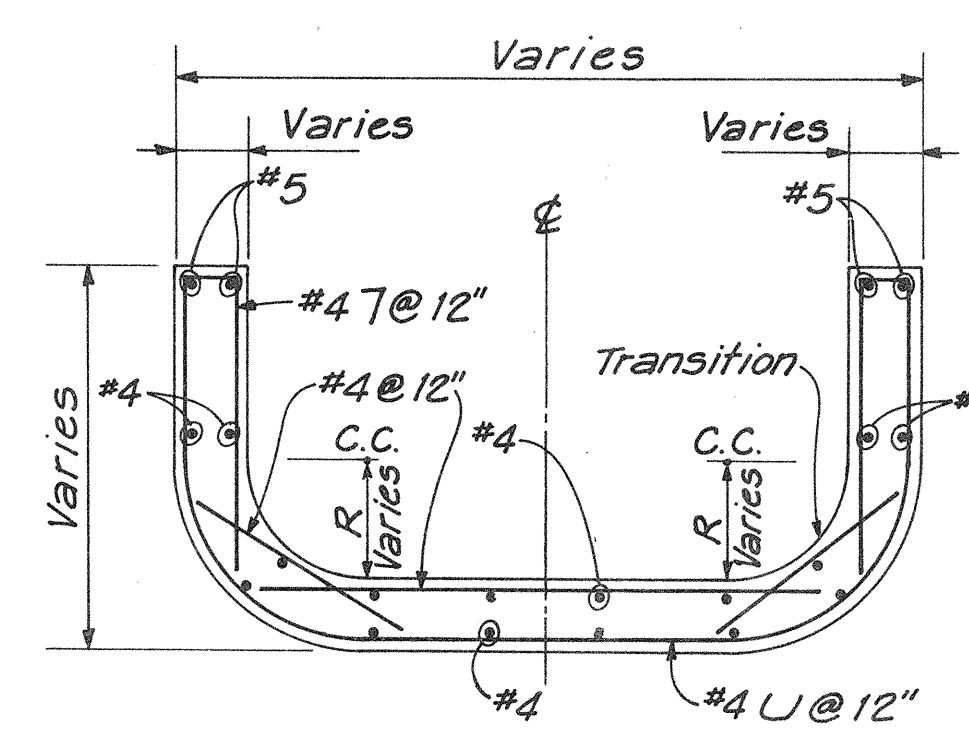
Oahu Sugar Company

Date

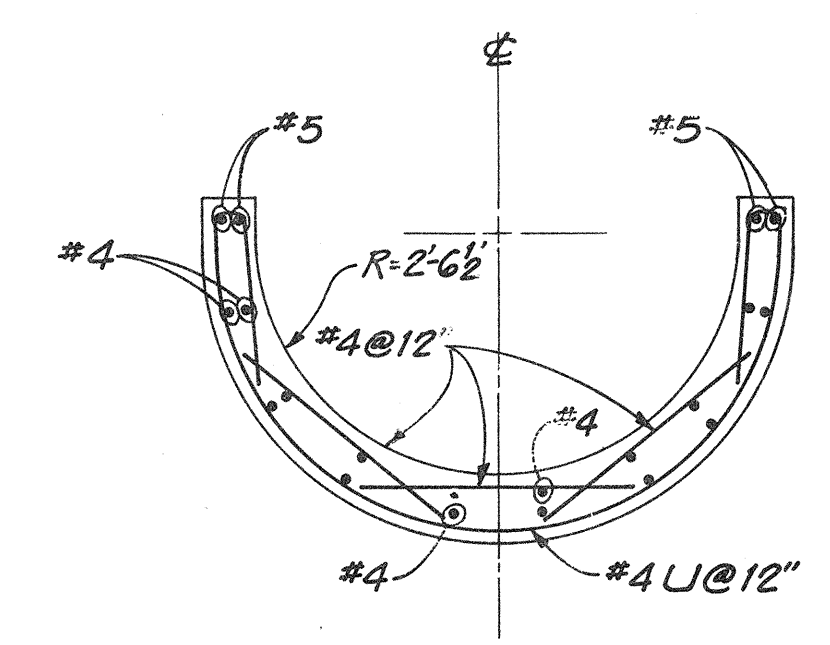
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	M-7600 (2)	1980	163	244



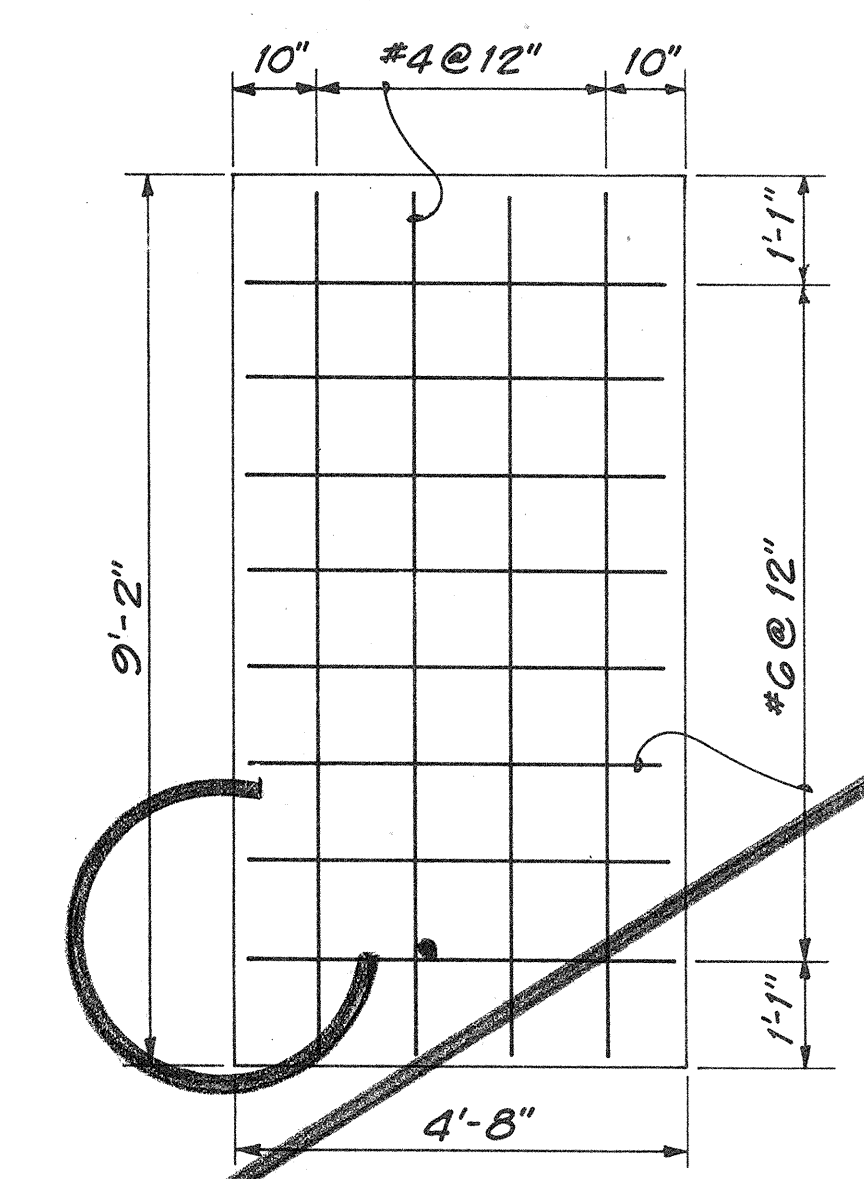
OUTLET PLAN
SCALE: 1/2" = 1'-0"



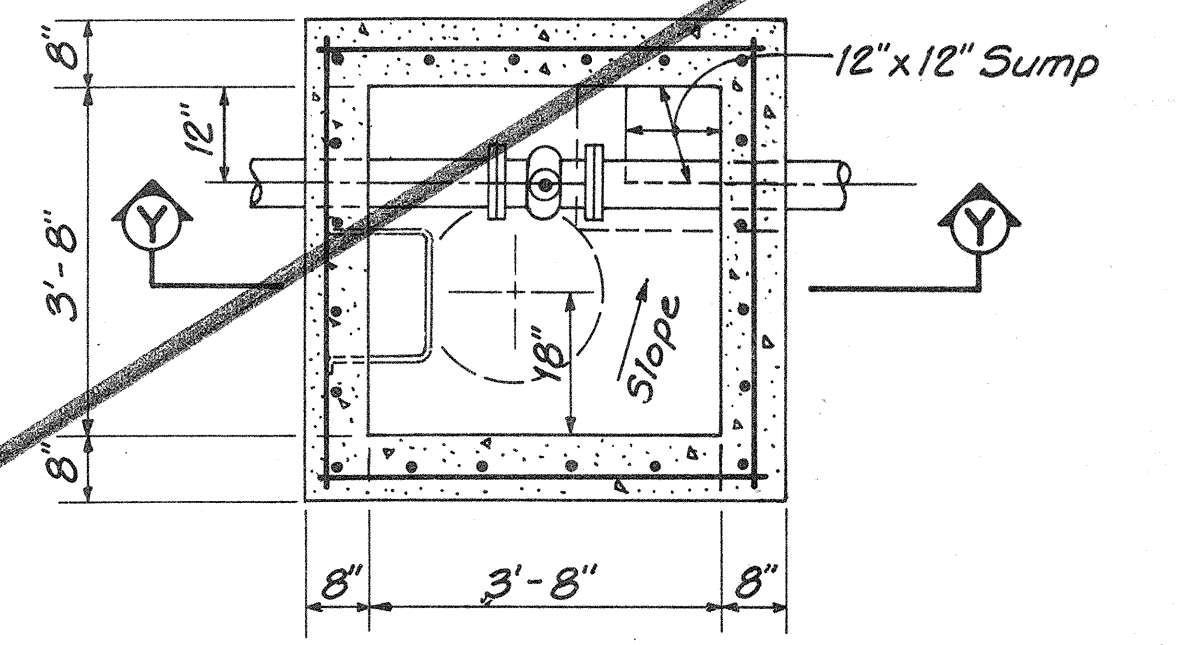
SECTION B-B
SCALE: 1/2" = 1'-0"



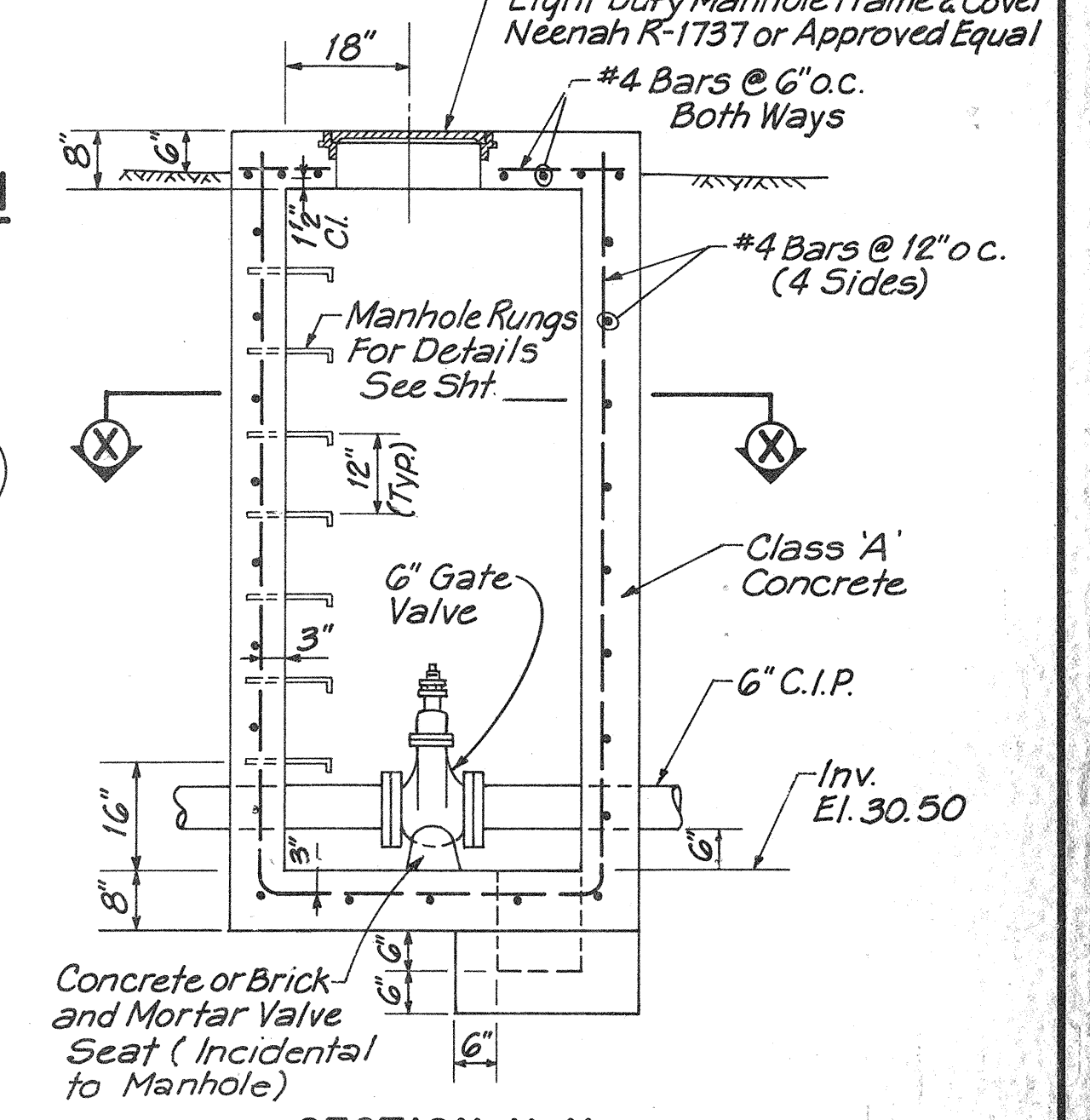
SECTION C-C
SCALE: 1/2" = 1'-0"



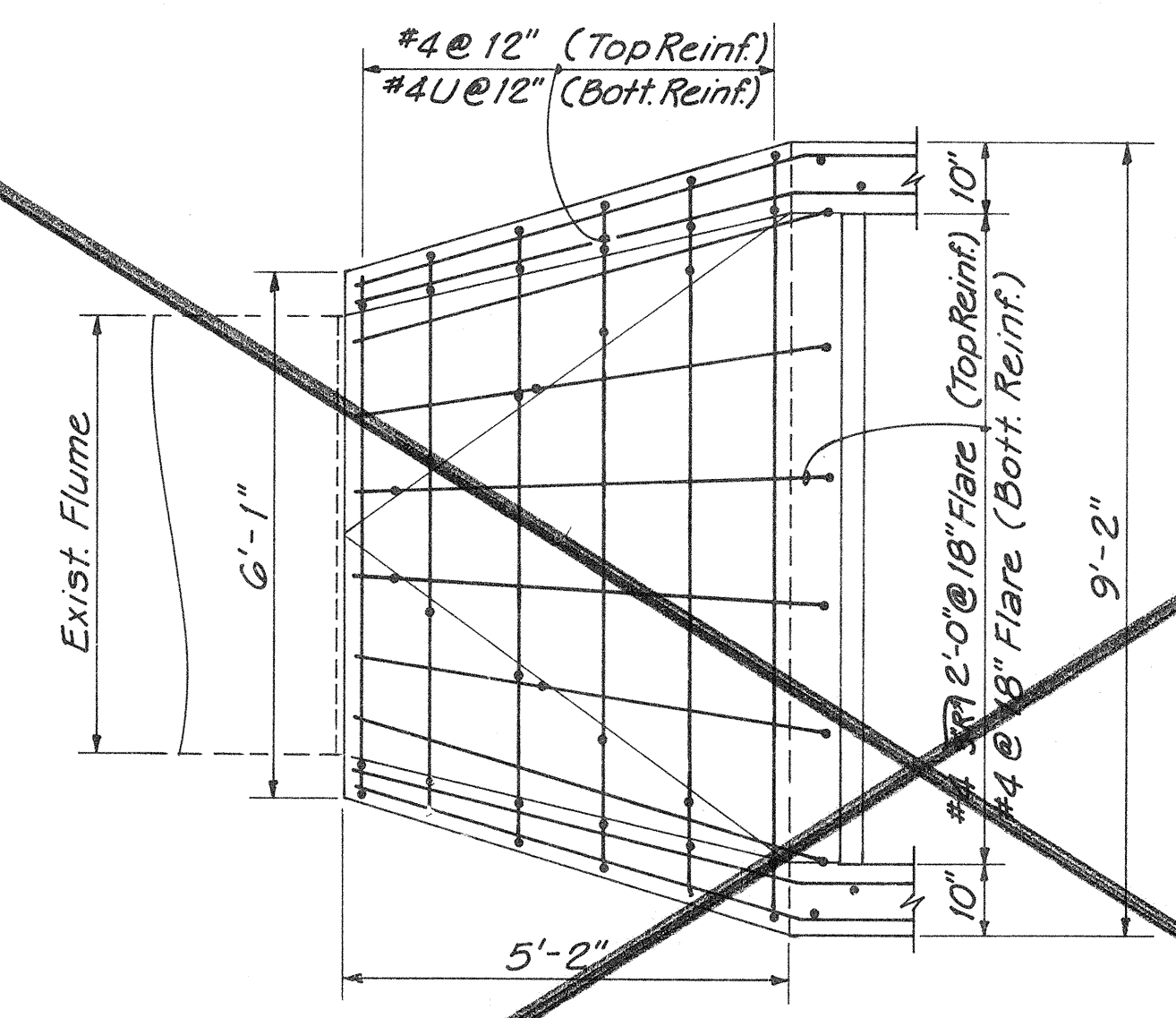
FLOOR SLAB REINFORCING PLAN
SCALE: 1/2" = 1'-0"



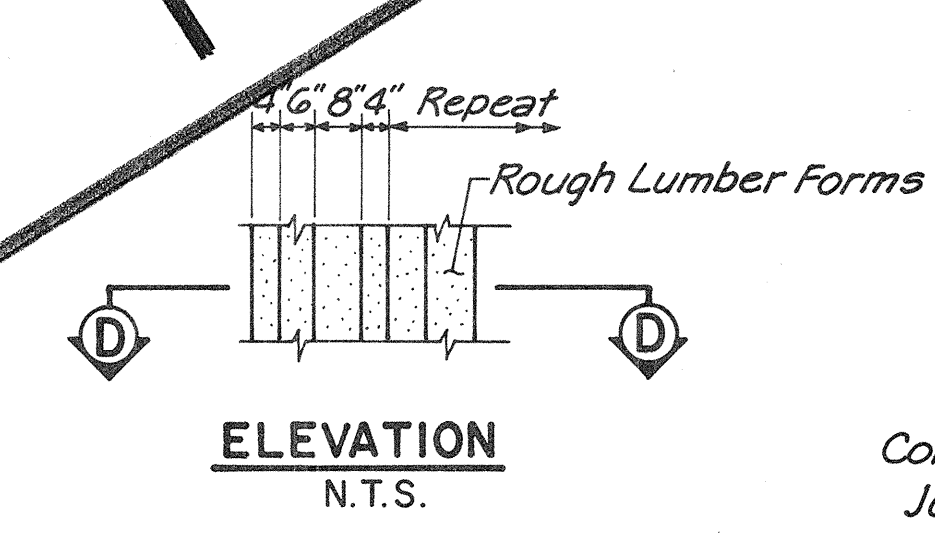
SECTION X-X
Cover Type I-2
Light Duty Manhole Frame & Cover
Neenah R-1737 or Approved Equal



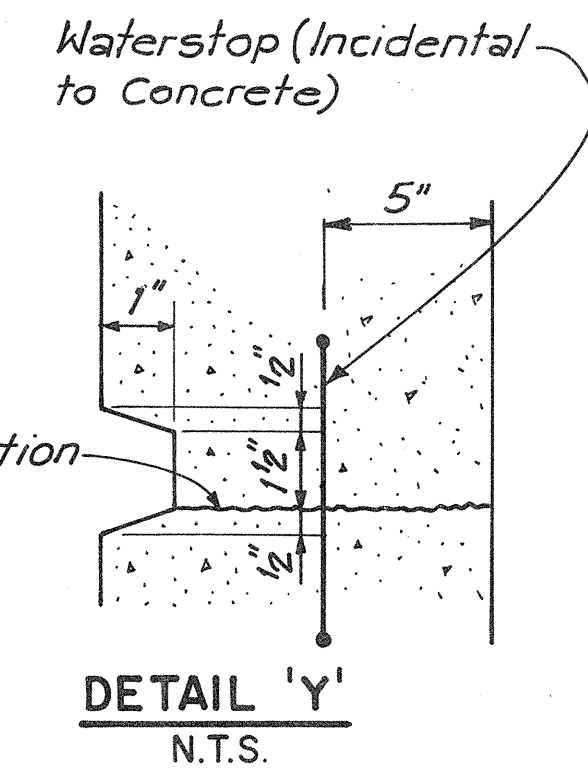
SECTION Y-Y
VALVE MANHOLE
SCALE: 1/2" = 1'-0"



TRANSITION SLAB REINFORCING PLAN
SCALE: 1/2" = 1'-0"



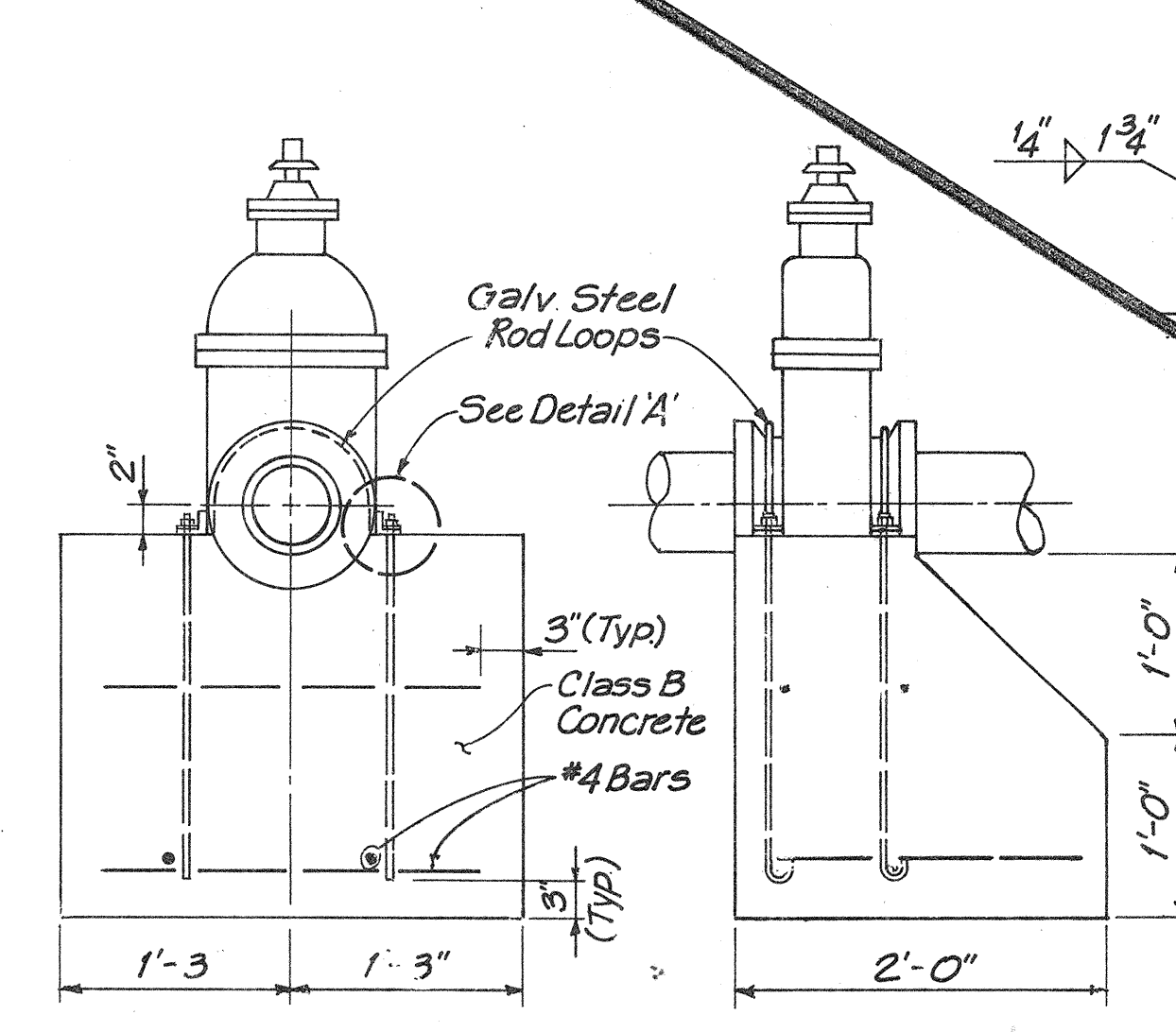
ELEVATION
N.T.S.



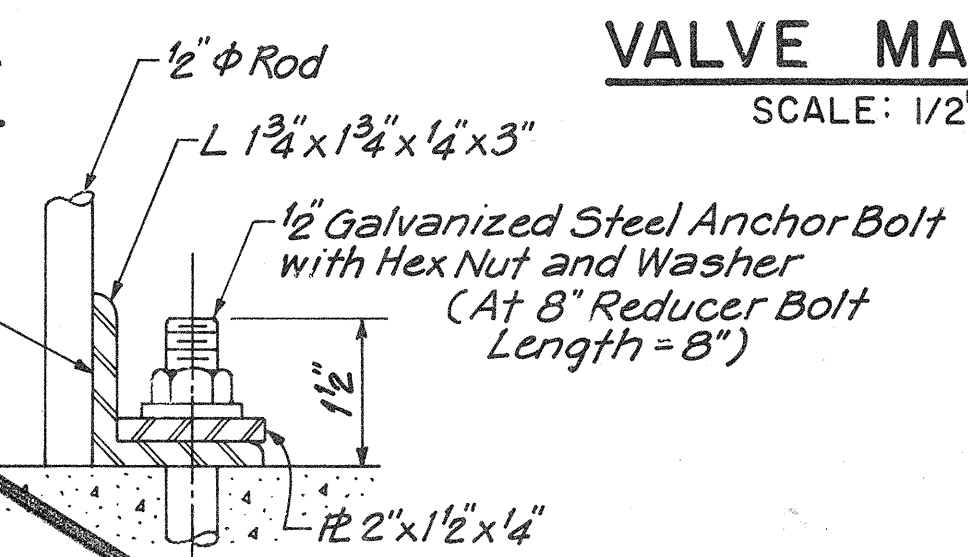
DETAIL 'Y'
N.T.S.

SECTION D-D
N.T.S.

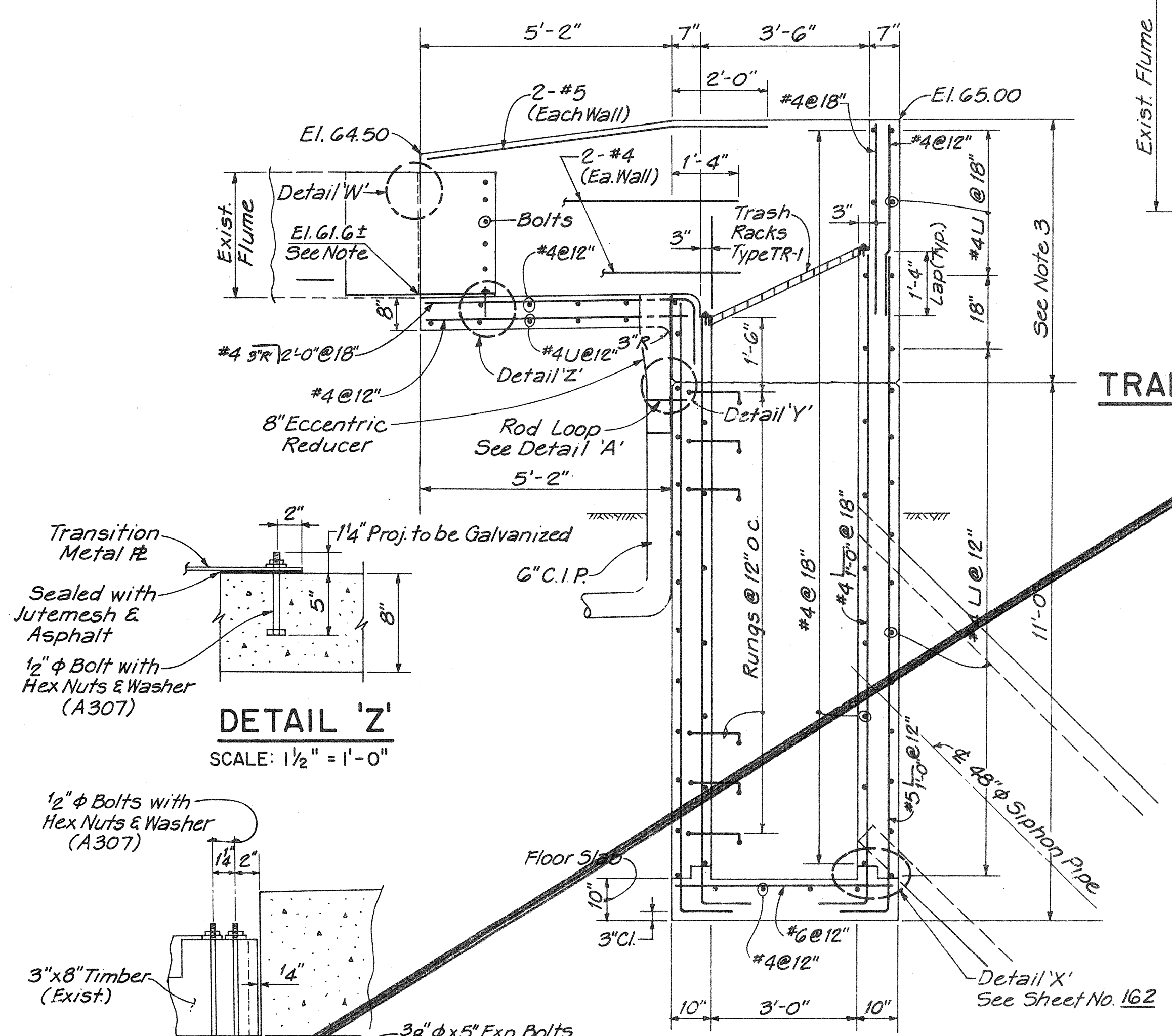
ARCHITECTURAL TREATMENT



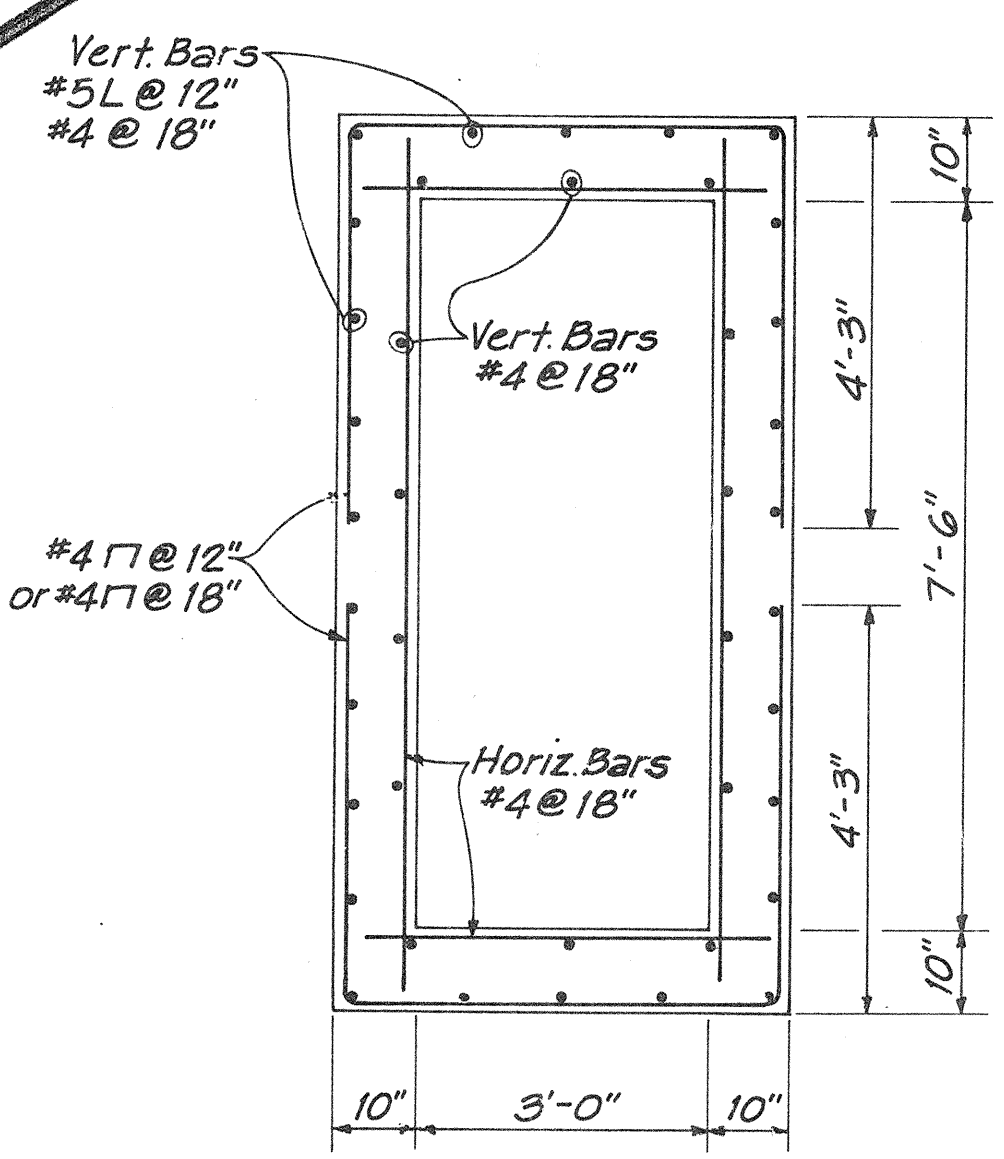
GATE VALVE ANCHOR BLOCK
SCALE: 1" = 1'-0"



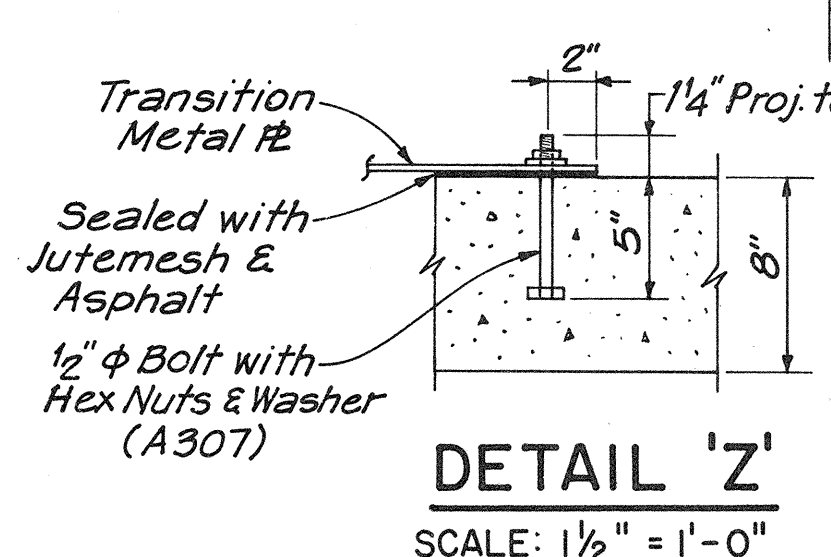
DETAIL 'A'
SCALE: 1/2" = 1'-0"



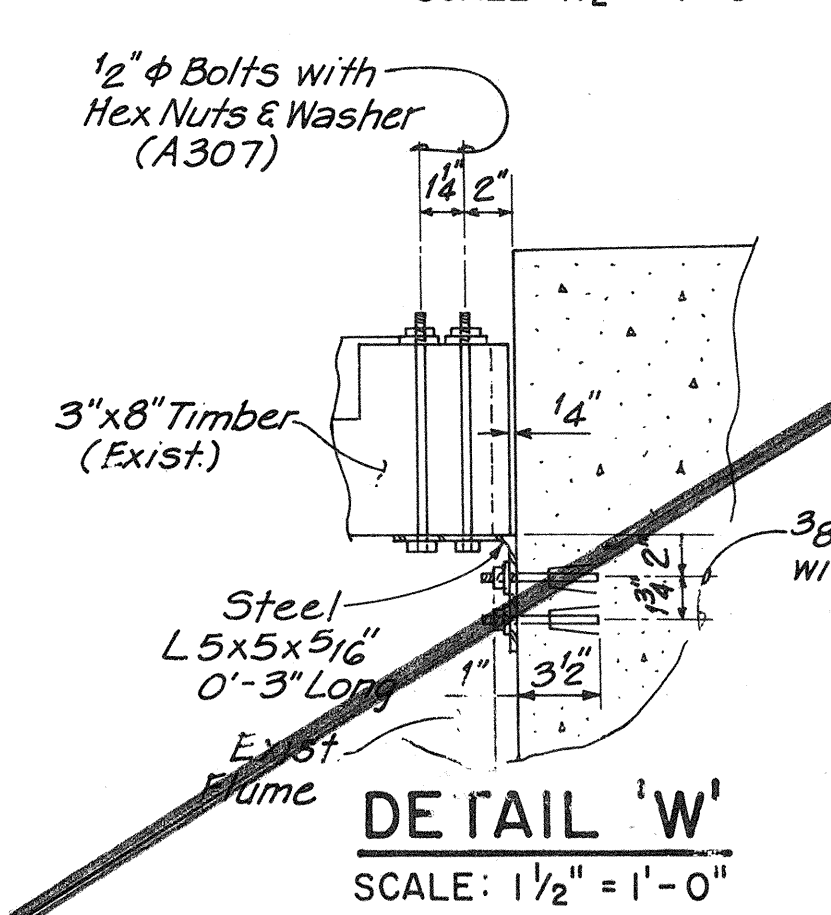
SECTION A-A
SCALE: 1/2" = 1'-0"



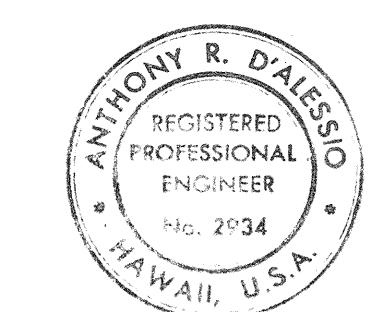
OUTLET TYPICAL SECTION
SCALE: 1/2" = 1'-0"



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



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



Oahu Sugar Company Date

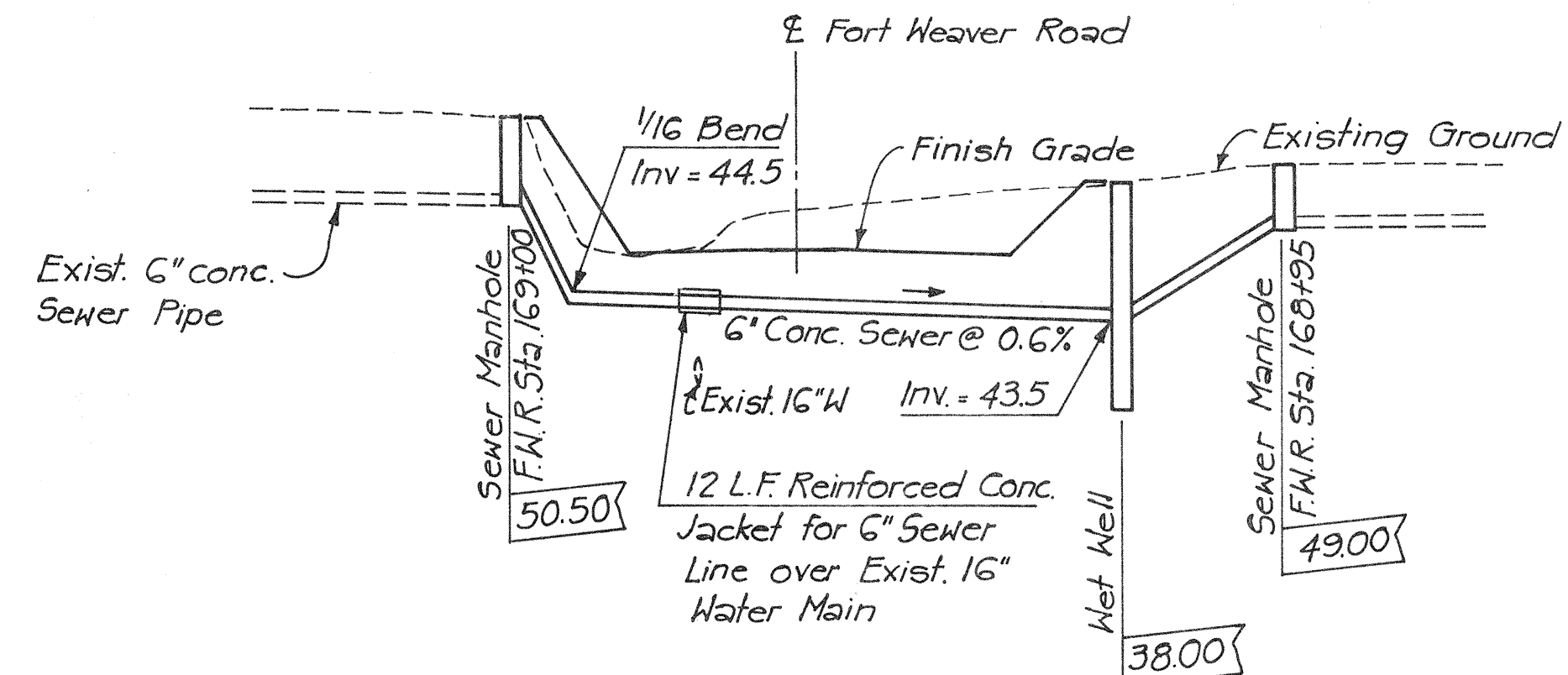
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**SIPHON NO. 12 DETAILS
OUTLET STRUCTURE S-12B**

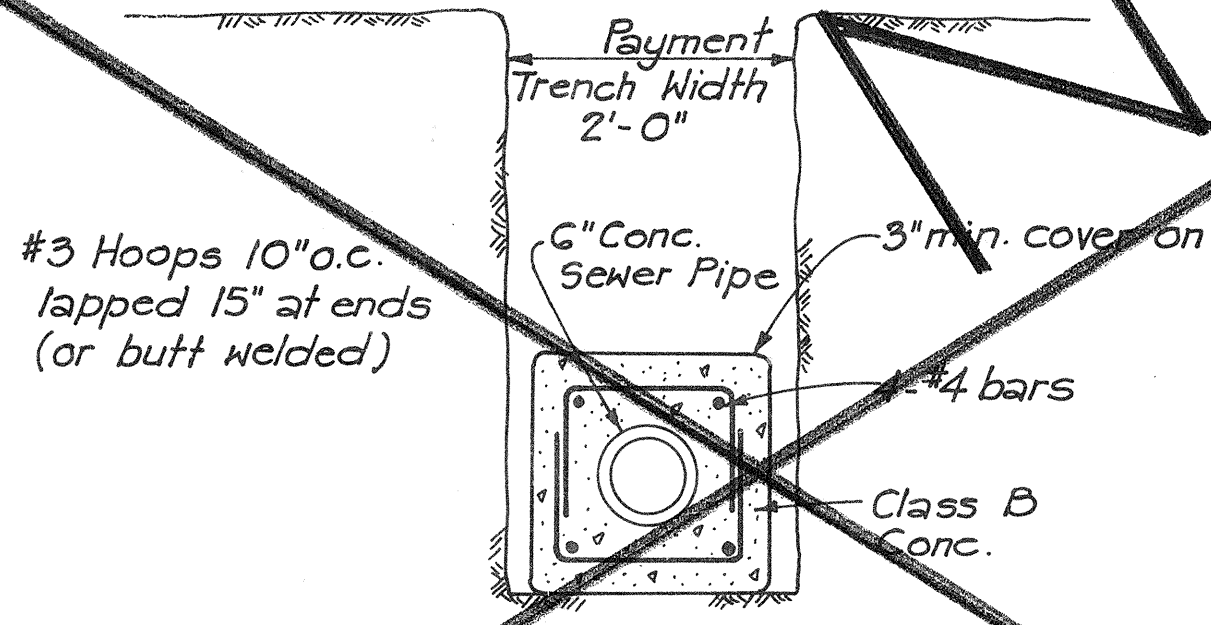
FORT WEAVER ROAD
SOUTH OF FARRINGTON HIGHWAY
TO THE VICINITY OF RENTON ROAD

SCALE: AS SHOWN DATE: SEPT 1979
SHEET NO. 3 OF 3 SHEETS

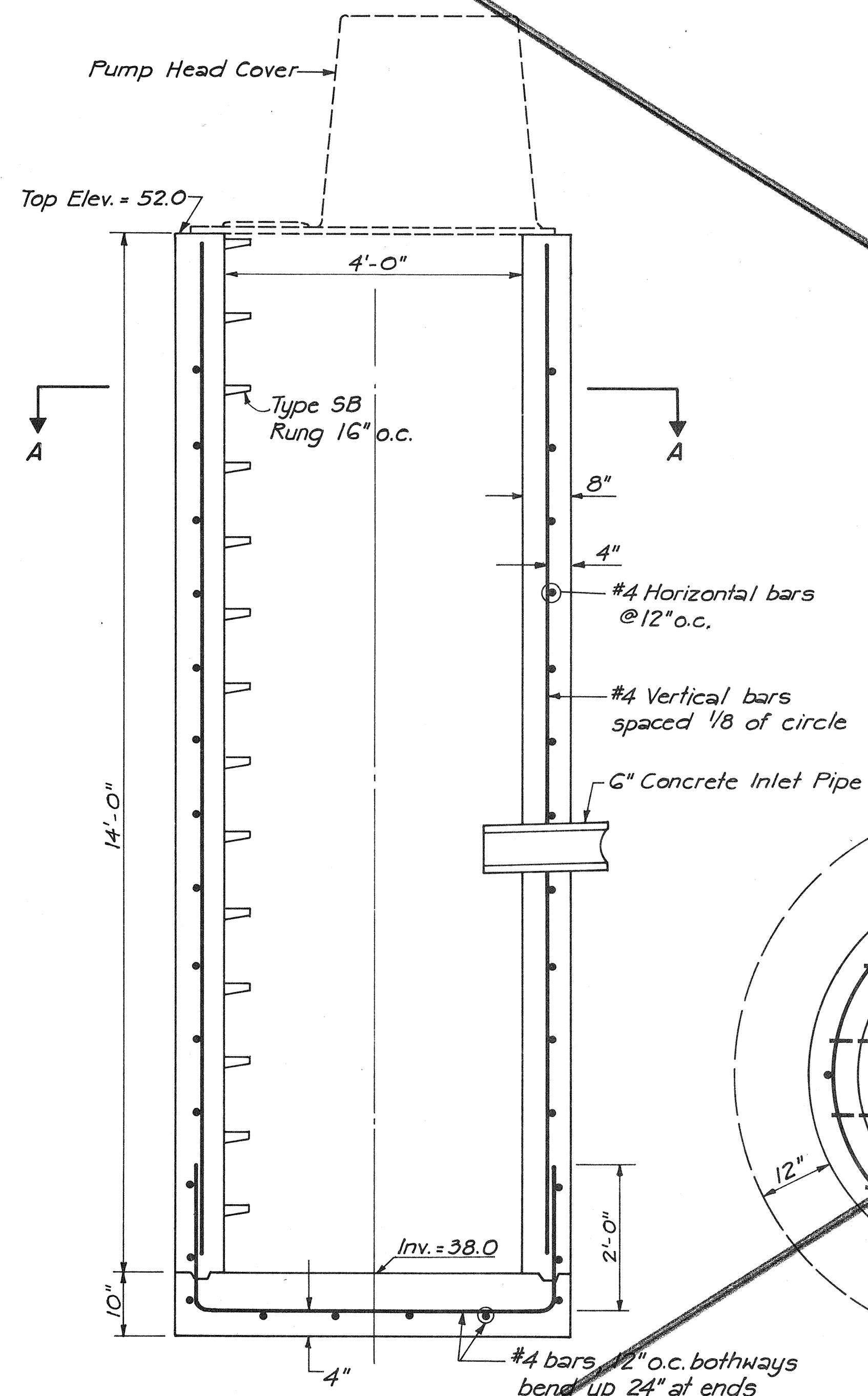
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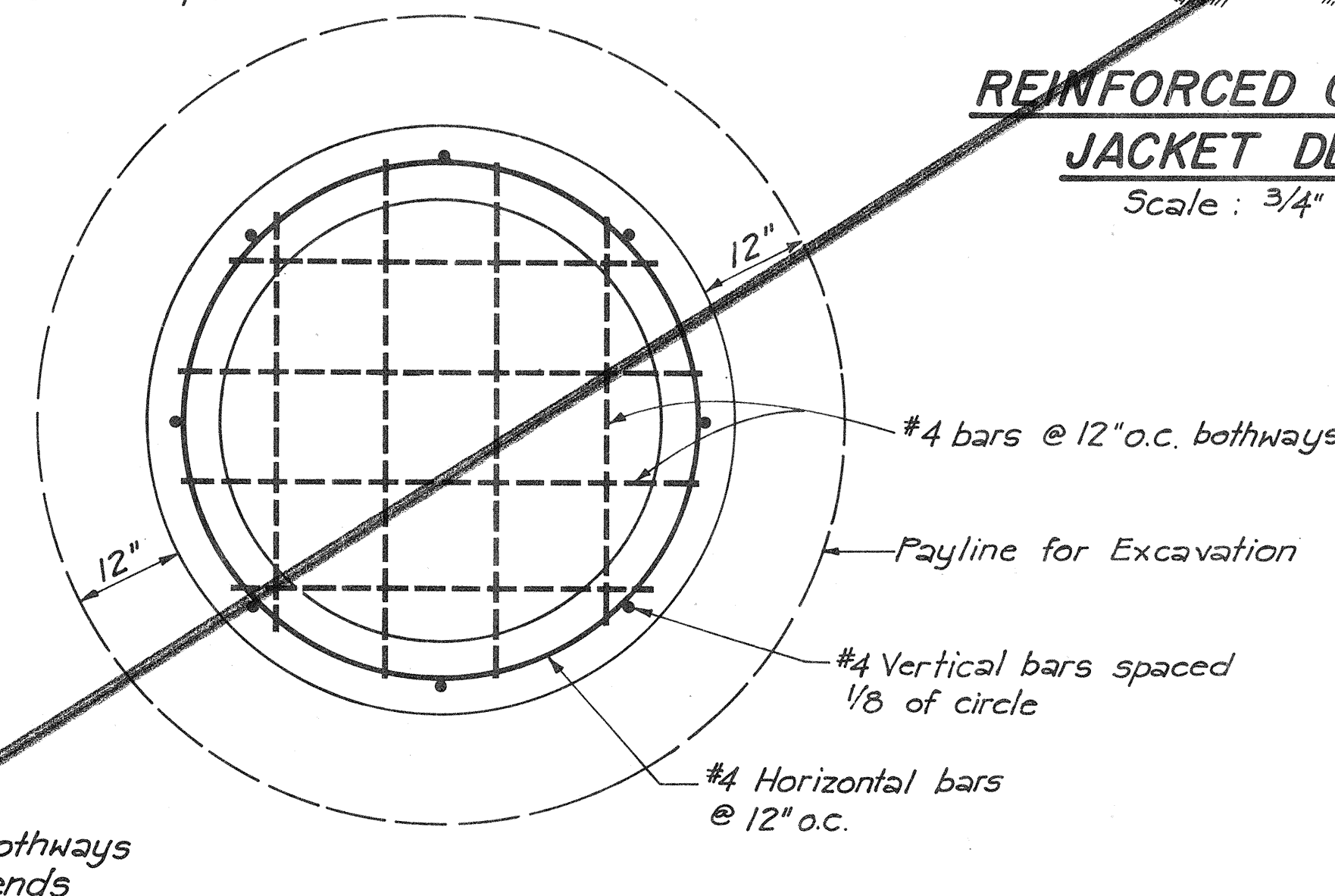
**PROFILE OF RELOCATED
OAHU SUGAR COMPANY SEWER LINES**
Scale: Horiz. 1" = 50'
Vert. 1" = 10'



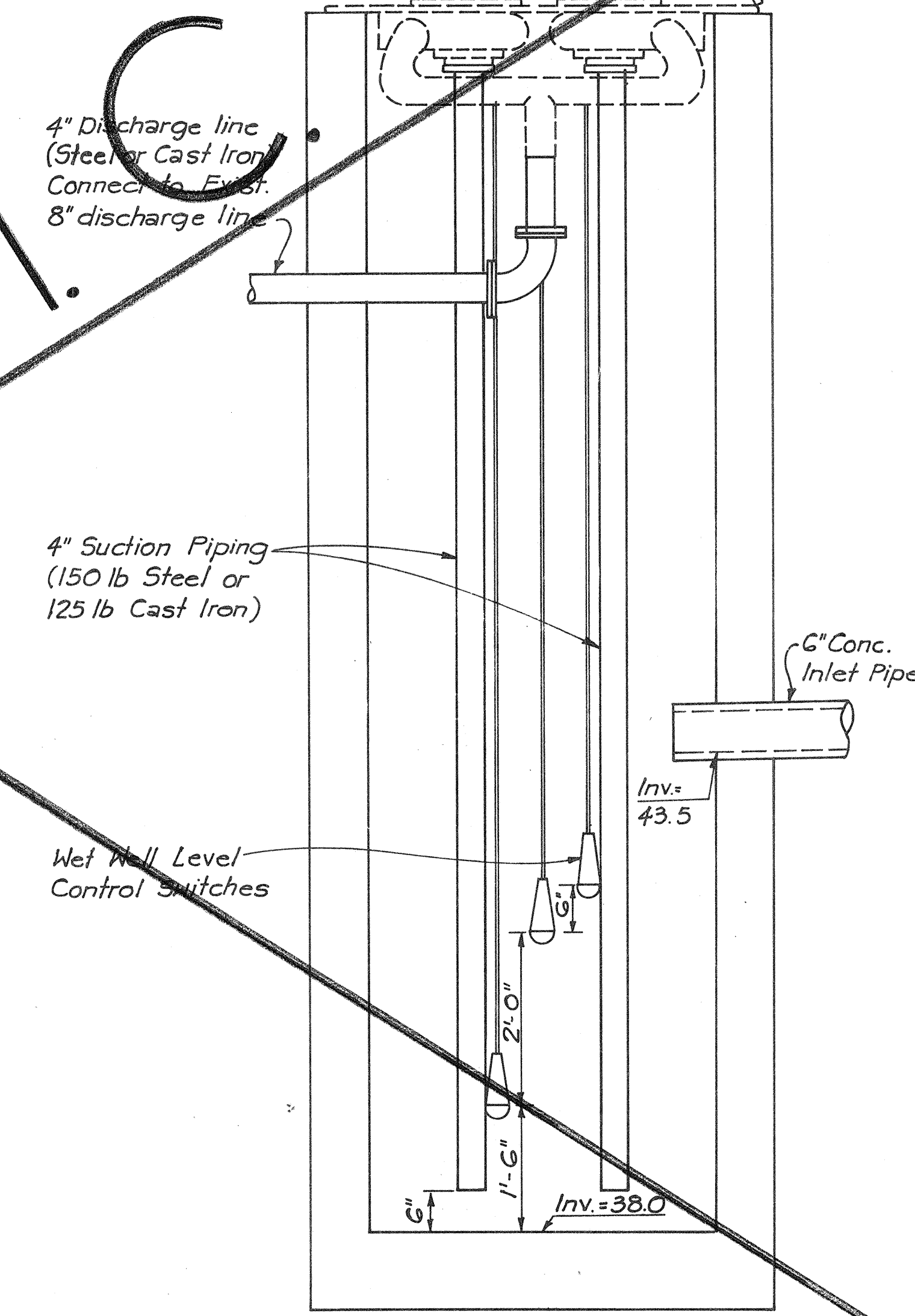
**REINFORCED CONCRETE
JACKET DETAILS**
Scale: 3/4" = 1'-0"



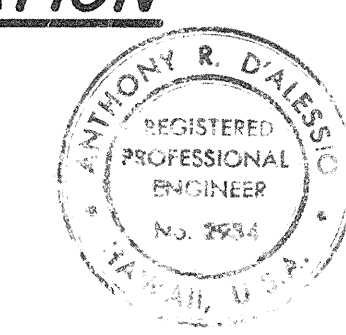
**OAHU SUGAR COMPANY
SEWERAGE PUMP STATION**
Scale: 3/4" = 1'-0"



SECTION A-A
Scale: 3/4" = 1'-0"



PUMP & PIPING ELEVATION
Scale: 3/4" = 1'-0"



THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION.
[Signature]

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

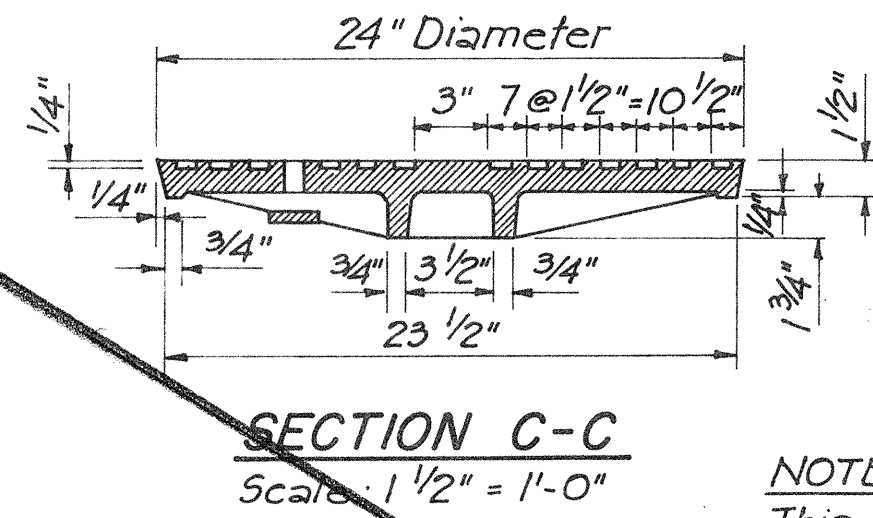
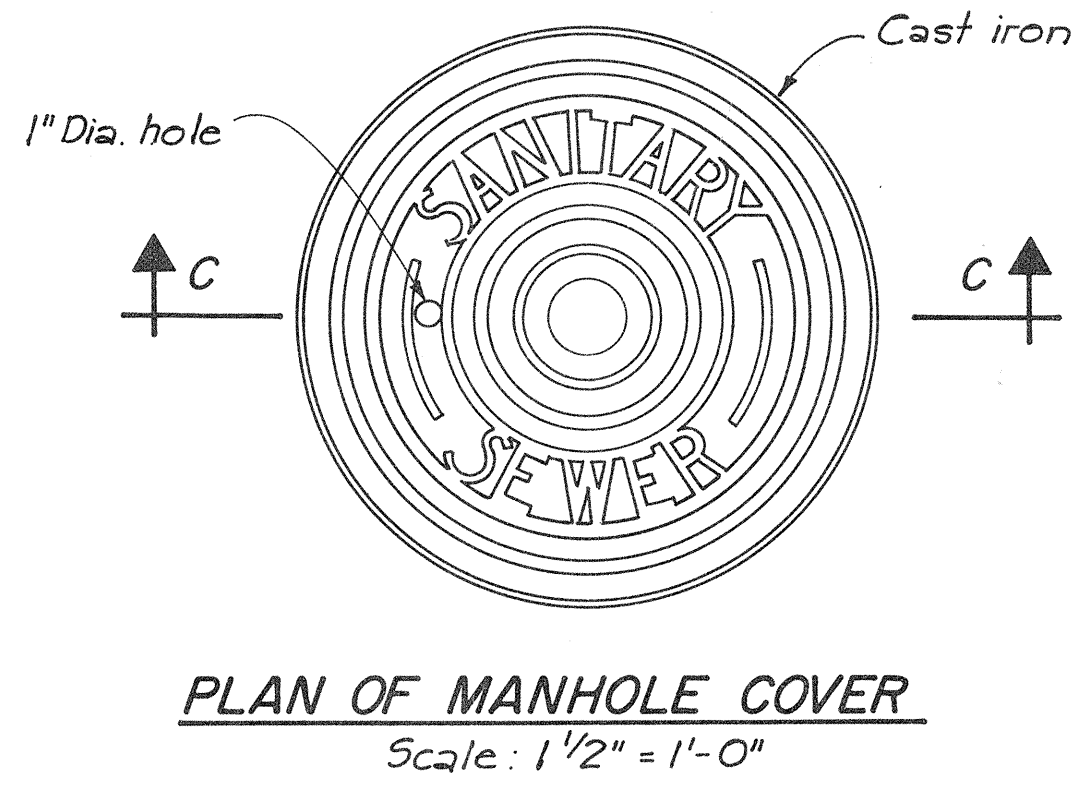
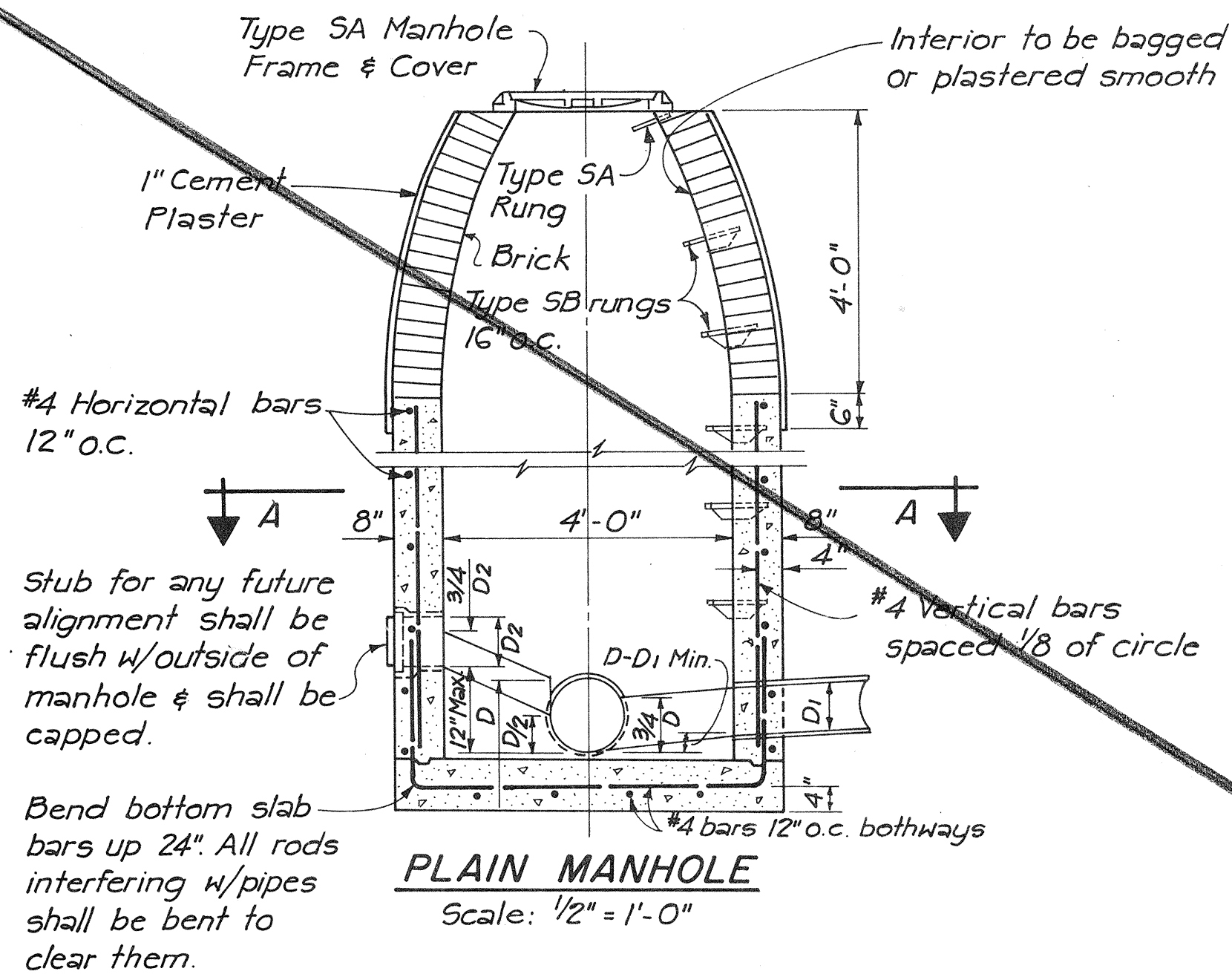
**SEWERAGE PUMP STATION
DETAILS**

FORT WEAVER ROAD
SOUTH OF FARRINGTON HIGHWAY
TO THE VICINITY OF RENTON ROAD

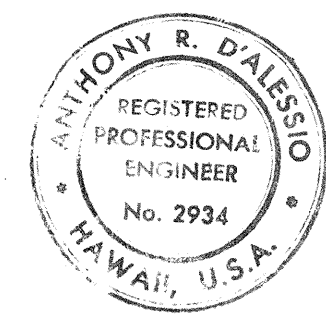
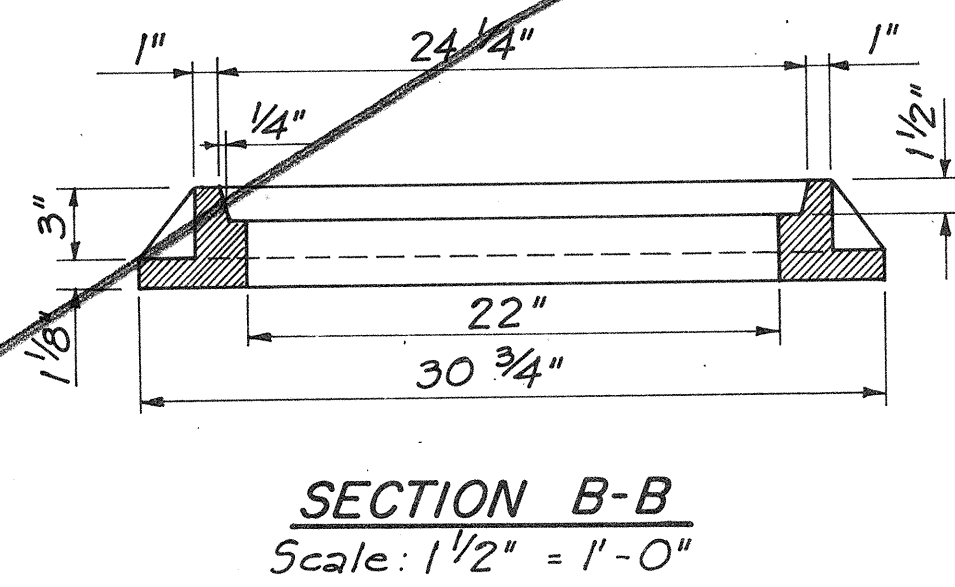
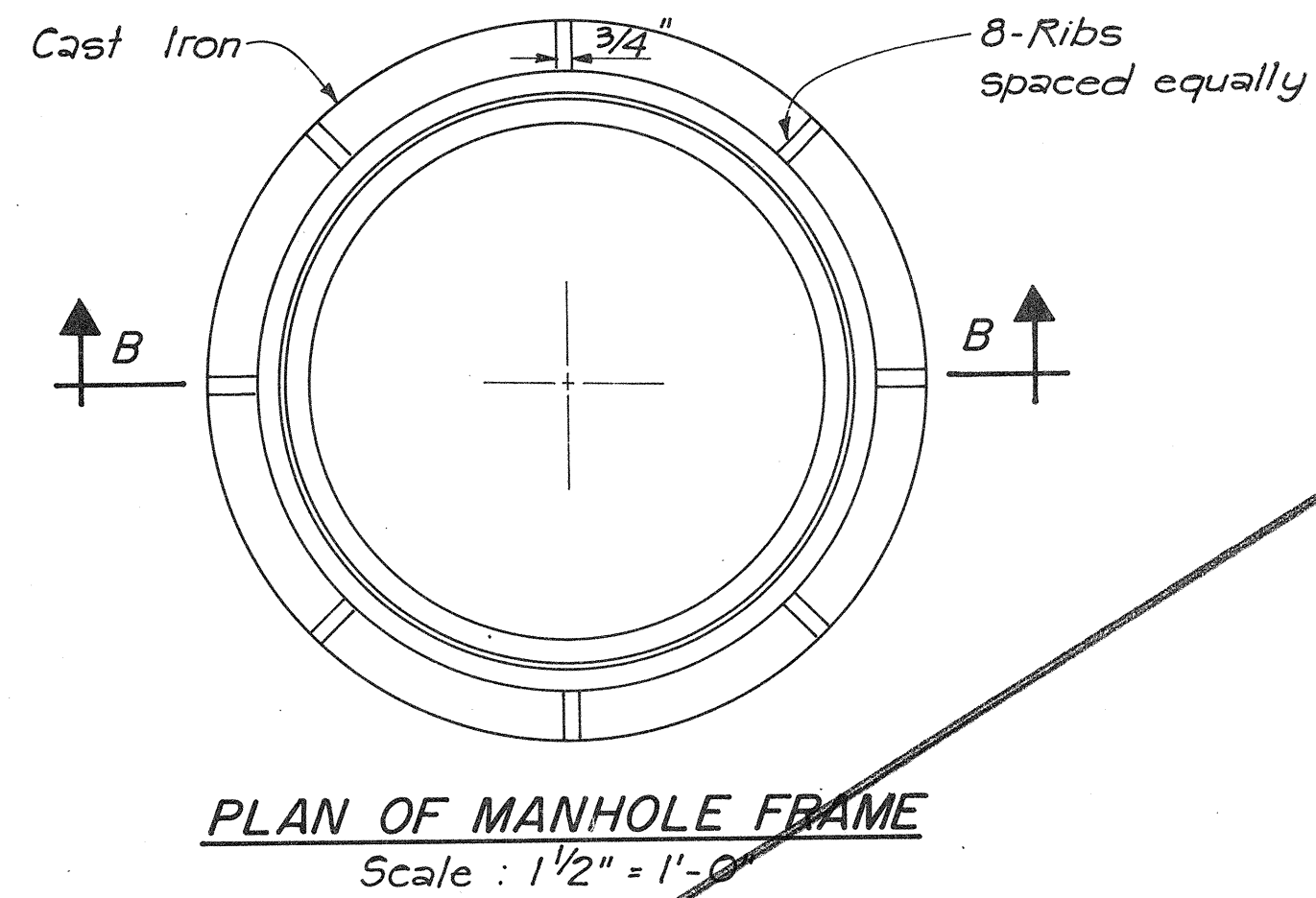
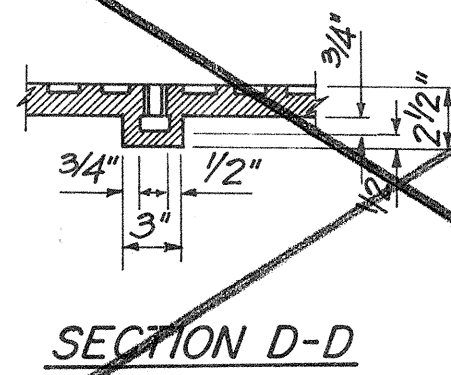
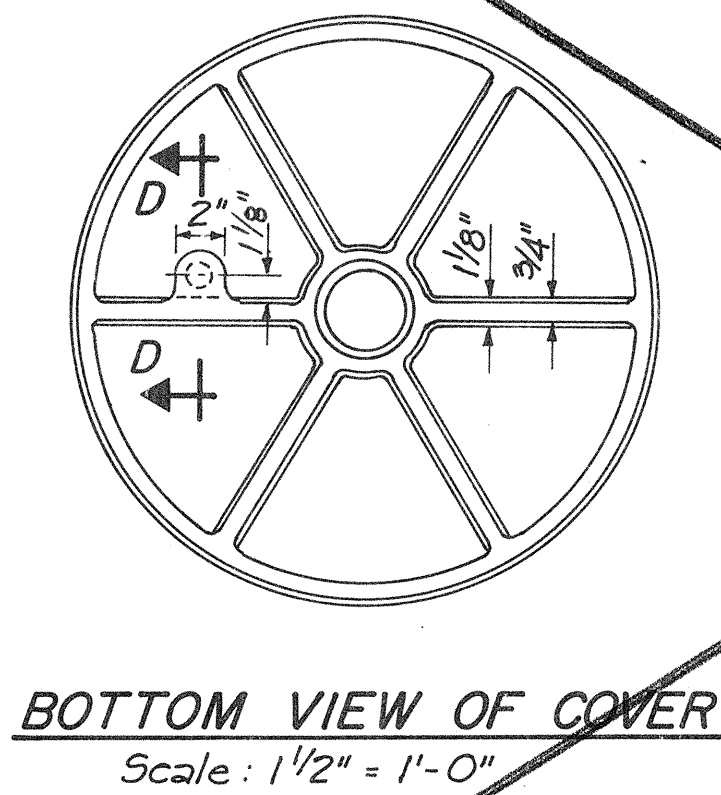
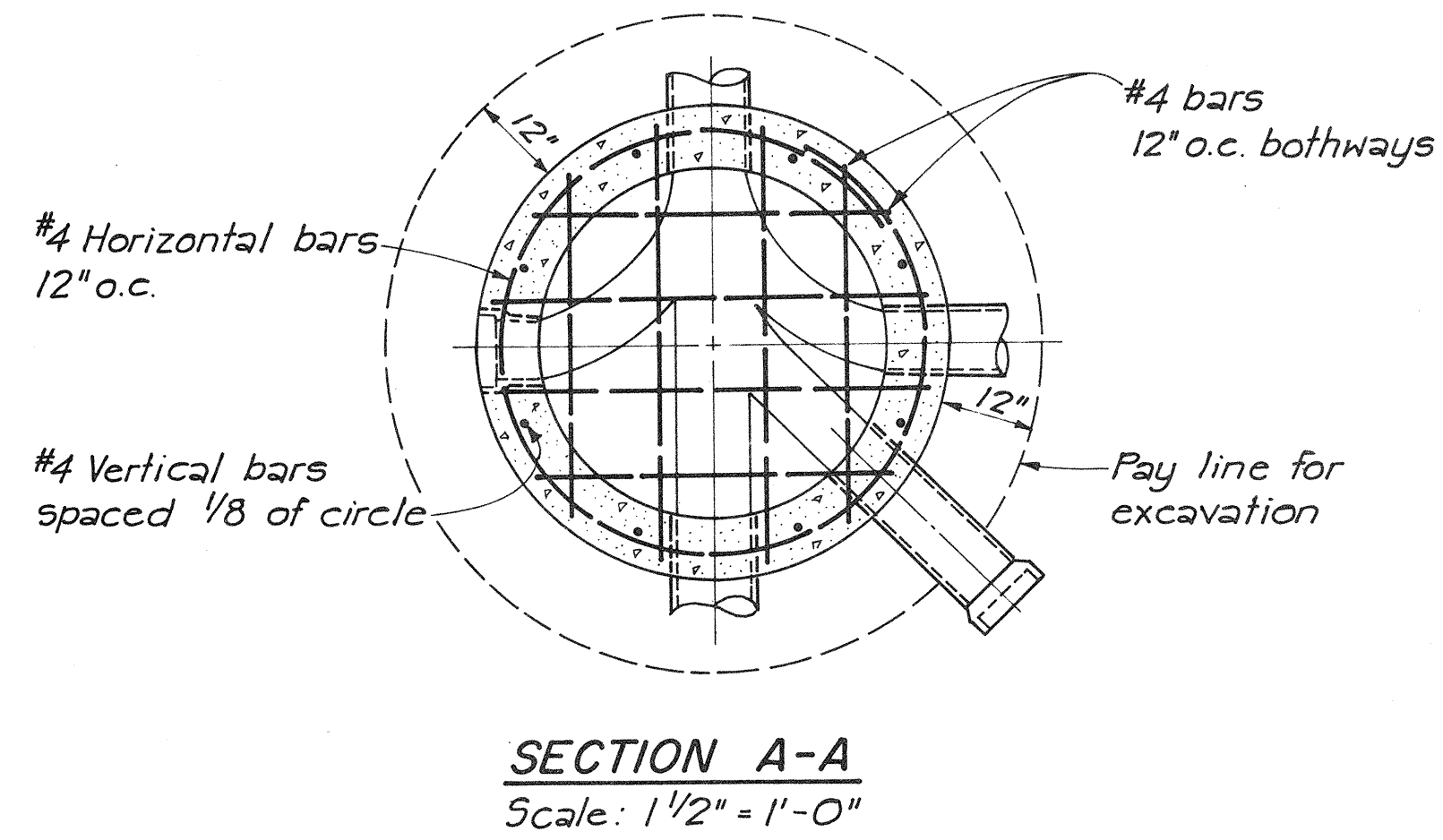
SCALE: AS SHOWN DATE: SEPT 1979
SHEET No. 1 OF 1 SHEETS

Oahu Sugar Company Date

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	M-7600(2)	1980	185	244



NOTE:
This cover is used with the SA or SD Frame.



THIS WORK WAS PREPARED BY
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HAWAII, U.S.A.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SEWER MANHOLE DETAILS

FORT WEAVER ROAD
SOUTH OF FARRINGTON HIGHWAY
TO THE VICINITY OF RENTON ROAD

SCALE: AS SHOWN DATE: SEPT 1979
SHEET NO. 1 OF 1 SHEETS

Oahu Sugar Company Date