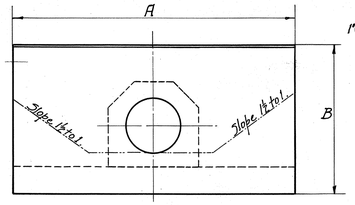
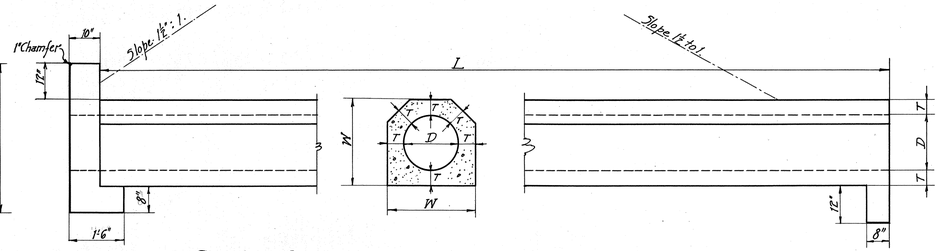
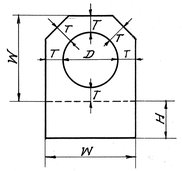
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	4A	1925	22	101

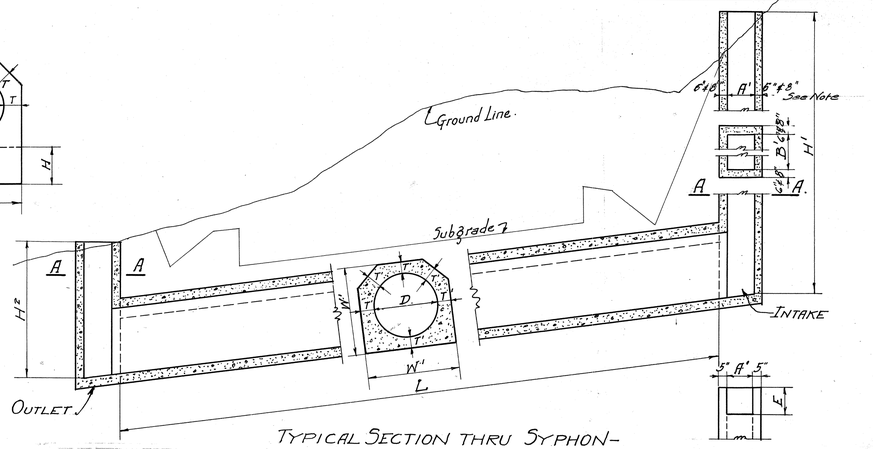


— FRONT ELEVATION —



— CIRCULAR CONCRETE CULVERT WITH HEADWALL INTAKE —

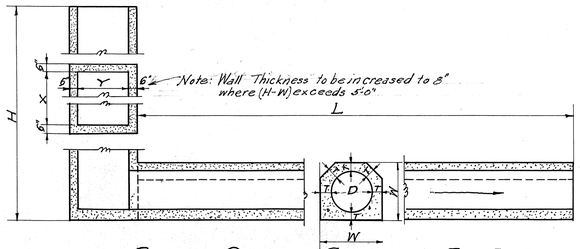




TYPICAL SECTION THRU SYPHON

— INTAKE & OUTLET —

Reinforcement for Box Intakes and Outlets for Culverts and Syphons
Vertical Bars ⅜" ϕ 8" o.c.c
Horizontal Bands ⅜" ϕ 12" o.c.



— CIRCULAR CONCRETE CULVERT WITH BOX INTAKE —

CROSS SECTION OF "HUME" PIPE CULVERT

Nominal Diameter	D	T
18"	17"-18"	2½"
24"	23"-24"	2⅝"
30"	29"-30"	3"

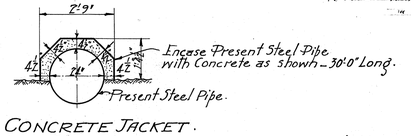
— SCHEDULE FOR CIRCULAR CONC. CULVERTS —

Location Sta. ℄	Type of Intake	D	Dimensions: Main Section L	Main Section T	Main Section W	Head Wall A	Head Wall B	Box-Intake Y	Box-Intake X	Box-Intake H	Concrete Quantities: Relation of Culvert ℄ to Road ℄	Cu. Ft. per Ft. Main Section.	Cu. Ft. per Ft. Box Intake	Cu. Ft. in Head Wall.	Remarks
250+00	Box.	18"	37'-0"	4"	2'-2"			2'-6"	3'-0"	4'-0"	90°	2.52	6.5		
260+72		30"	67'-0"	5"	3'-4"						45°	5.23			
265+50		30"													Present Pipe to remain in place
270+66	H.W.	30"	44'-0"	5"	3'-4"	11'-0"	5'-0"				75°	5.23			
279+75	Box	18"	48'-0"	4"	2'-2"			2'-6"	3'-0"	8'-6"	90°	2.52	6.5		
283+00	Box.	18"	32'-0"	4"	2'-2"			2'-6"	3'-0"	4'-6"	90°	"	"		
290+75	Box	18"	34'-0"	4"	2'-2"			2'-6"	3'-0"	4'-0"	90°	"	"		
296+50	H.W.	18"	45'-0"	4"	2'-2"	7'-0"	3'-10"				90°	"		26.4	
320+50	H.W.	30"	45'-0"	5"	3'-4"	11'-0"	5'-0"				90°	5.23		49.24	
324+50	H.W.	24"	39'-0"	4½"	2'-9"	9'-0"	4'-5"				90°	3.77		36.4	
346+00	H.W.	24"	37'-0"	4½"	2'-9"	9'-0"	4'-5"				90°	"		"	
348+00	H.W.	24"	46'-0"	4½"	2'-9"	9'-0"	4'-5"				90°	"		"	
356+50	Box.	18"	36'-0"	4"	2'-2"			2'-6"	3'-0"	5'-0"	90°	2.52	6.5		
373+30	Box.	24"	36'-0"	4½"	2'-9"			2'-6"	3'-0"	4'-6"	90°	3.77	"		
377+00	Box	24"	37'-0"	4½"	2'-9"			2'-6"	3'-0"	5'-0"	90°	"	"		
381+50	H.W.	18"	51'-0"	4"	2'-2"	7'-0"	3'-10"					2.52		26.4	
386+00	Box	18"	32'-0"	4"	2'-2"			2'-6	3'-0"	4'-0"	90°	"	6.5		
393+50	Box	24	36'-0"	4½"	2'-9"			2'-6"	3'-0'.	5'-0"	90°	3.77	"		
407+50	Box	18"	35'-0"	4"	2'-2"			2'-6"	3'-0"	4'-0"	90°	2.52	"		
416+00	H.W.	18"	40'-0"	4"	2'-2"	7'-0"	3'-10"				90°	"		26.4	
437+00	H.W.	18"	38'-0"	4"	2'-2"	7'-0"	3'-10"				90°	"		"	
441+50	Box	18"	38'-0"	4"	2'-2"			2'-6"	3'-0"	4'-0"	90°	"	6.5		
460+00	Box	18"	31'-0"	4"	2'-2"			2'-6"	3'-0"	4'-0"	90°	"	"		
468+50	Box	18"	36'-0"	4"	2'-2"			2'-6"	3'-0"	4'-0"	90°	"	"		
474+00	Box	18"	39'-0"	4"	2'-2"			2'-6"	3'-0"	5'-0"	90°	"	"		
477+00	H.W.	18"	38'-0"	4"	2'-2"	7'-0"	3'-10"				90°	"		26.4	
482+00	Box	18"	43'-0"	4"	2'-2"			2'-6"	3'-0"	3'-6"	90°	"	6.5		
494+75	H.W.	24"	40'-0"	4½"	2'-9"	9'-0"	4'-5"				70°	3.77		36.4	
498+30	H.W.	24"	37'-0"	4½"	2'-9"	9'-0"	4'-5"				90°	"		"	
552+50	H.W.	18"	37'-0"	4"	2'-2"	7'-0"	3'-10"				90°	2.52		26.4	
563+50	Box.	18"	36'-0"	4"	2'-2"			2'-6"	3'-0"	3'-0"	90°	"	6.5		
577+00	Box	18"	36'-0"	4"	2'-2"			2'-6"	3'-0"	3'-0"	90°	"	"		
629+50	H.W.	18"	36'-0"	4"	2'-2"	7'-0"	3'-10"				90°	"		26.4	
635+50	H.W.	18"	38'-0"	4"	2'-2"	7'-0"	3'-10"				90°	"		"	
643+50	Box.	18"	36'-0"	4"	2'-2"			2'-6"	3'-0"	4'-0"	90°	"	6.5		
654+50	H.W.	18"	41'-0"	4"	2'-2"	7'-0"	3'-10"				90°	"		26.4	
662+50	Box.	18"	40'-0"	4"	2'-2"			2'-6"	3'-0"	4'-0"	90°	"	6.5		
668+50	Box	18"	39'-0"	4"	2'-2"			2'-6"	3'-0"	4'-0"	90°	"	"		
684+50	H.W.	24"	37'-0"	4½"	2'-9"	9'-0"	4'-5"				90°	3.77		36.4	
691+50		18"	41'-0"	4"	2'-2"						90°	2.52			
717+00	Box	18"	37'-0"	4"	2'-2"			2'-6"	3'-0"	4'-0"	90°	"	6.5		H.W. Makai Side
730+00	H.W.	18"	35'-0"	4"	2'-2"	7'-0"	3'-10"				90°	"		26.4	
736+00		18"	42'-0"	4"	2'-2"						90°	"			
767+00	H.W.	18	37'-0"	4"	2'-2"	7'-0"	3'-10"				90°	"		26.4	H.W. Makai Side.
783+90	H.W.	18"	37'-0"	4"	2'-2"	7'-0"	3'-10"				90°	"		"	
791+00	H.W.	18"	39'-0"	4"	2'-2"	7'-0"	3'-10"				90°	"		"	
820+50		18"	50'-0"	4"	2'-2"						90°	"			

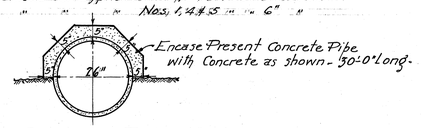
— SCHEDULE FOR SYPHONS —

Ref No.	Location Station.	Dimensions: Main Section D.	Main Section L	Main Section W'	Main Section T'	Box Intake B'	Box Intake A'	Box Intake H'	Box Intake E	Box Outlet B'	Box Outlet A'	Box Outlet H2	Concrete Quantities: Relation of Culvert ℄ to Ft. Road ℄	Cu. Ft. Per Ft. Main Section.	Cu. Ft. per Ft. Box Intake	Remarks
1	246+30	24"	52'-0"	2'-9"	4½"	3'-0"	2'-6"	5'-6"	2'-6"	3'-0"	2'-6"	3'-0"	90°	3.77	6.5	
2	272+00	24"	46'-0"	2'-9"	4½"	3'-0"	2'-6"	11'-0"	2'-6"	3'-0"	2'-6"	6'-0"	"	"	9.0	
3	281+50	24"	43'-0"	2'-9"	4½"	3'-0"	2'-6"	9'-0"	2'-6"	3'-0"	2'-6"	5'-0"	"	"	9.0	
4	300+19	24"	41'-0"	2'-9"	4½"	3'-0"	2'-6"	6'-6"	2'-6"	3'-0"	2'-6"	4'-6"	"	"	6.5	
5	301+26	24"	41'-0"	2'-9"	4½"	3'-0"	2'-6"	4'-6"	2'-6"	3'-0"	2'-6"	3'-0"	"	"	9.0	
6	307+68	24"	41'-0"	2'-9"	4½"	3'-0"	2'-6"	9'-0"	2'-6"	3'-0"	2'-6"	7'-0"	"	"	9.0	

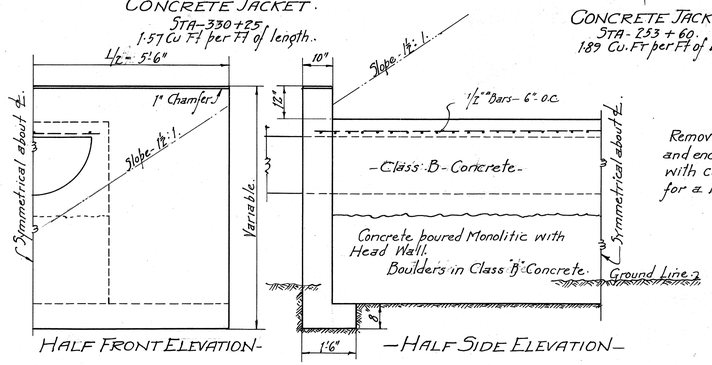
Note:- Walls & Intake for Syphons Nos. 2, 3 & 6 to be 8" thick.
" " " " Nos. 1, 4 & 5 " " 6" "



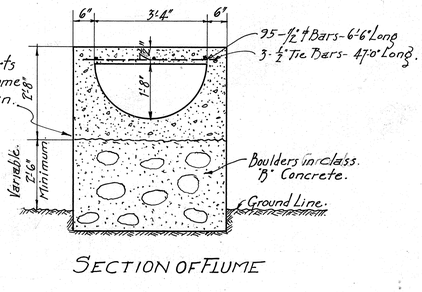
CONCRETE JACKET.
STA- 330+25
1.57 Cu Ft per Ft of length.



CONCRETE JACKET.
STA- 253 + 60.
1.89 Cu. Ft per Ft of length.



HALF FRONT ELEVATION — HALF SIDE ELEVATION



SECTION OF FLUME

CONCRETE SUPPORT FOR STEEL FLUME
STA- 268+06.

Approx Cu Ft per Ft Main Section = 17.81.
Approx Cu Ft in 2 Head Walls = 14.2 = 5½ Cu Yds.

4000.22

FILE	POCKET	FOLDER	NO.
6	16	3	