

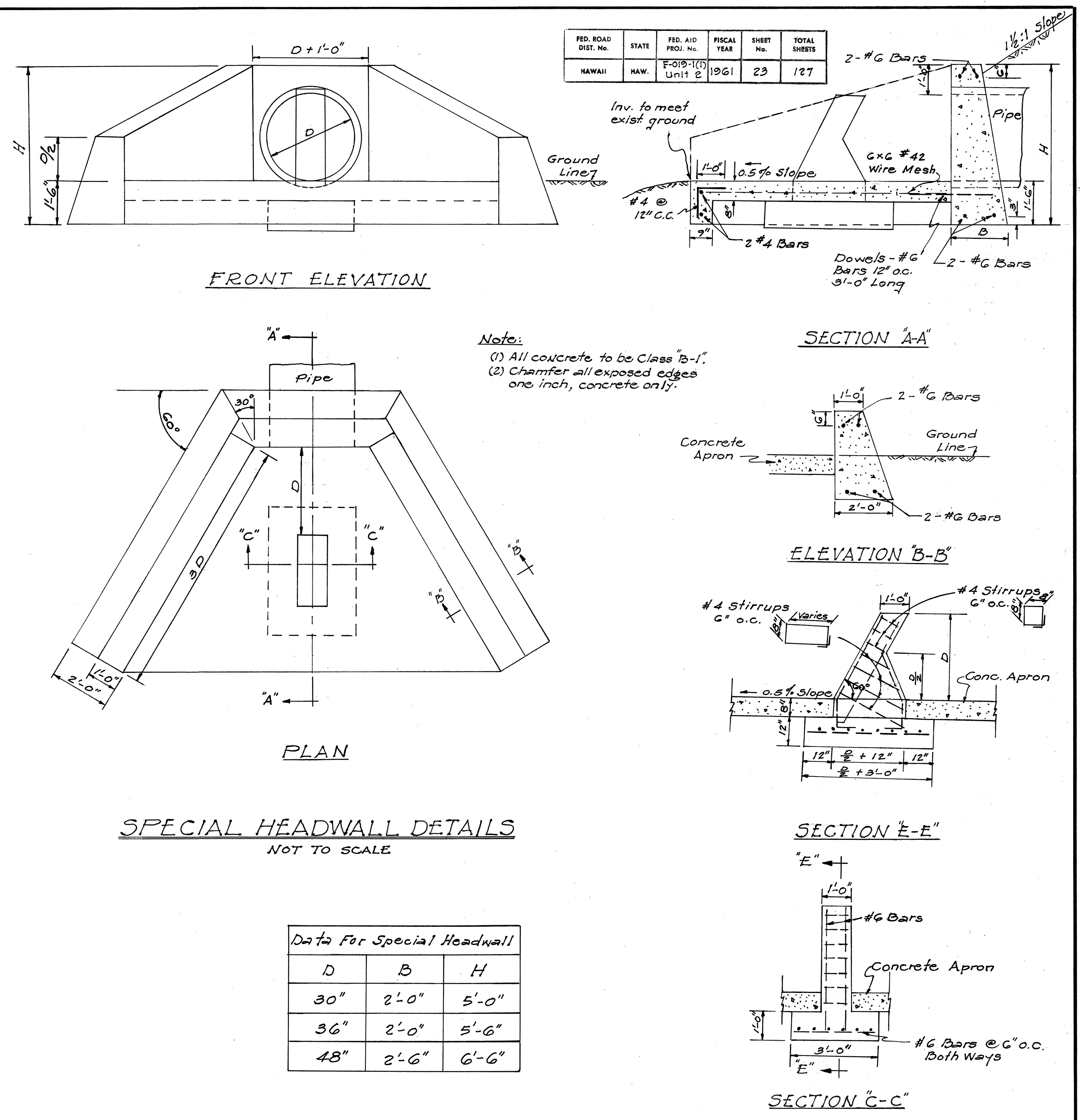
SUMMARY OF CULVERT PIPES																							
Stations	ALTERNATE "A"					ALTERNATE "B"								Rdwy Exc.	Str. Exc.	Ditch # Chan. Exc.	"B-1" Conc.	Reinf. Steel lbs.	36" Half Round CMP	Grouted Rubble Paving	Sel. Borrow	Remarks	
	Class IV Reinforced Concrete Culvert Pipes with Concrete Collars (Lin. Ft.)					Asphalt Coated Corrugated Galvanized Metal Culvert Pipes (Lin. Ft.)																	
	24"	30"	36"	42"	48"	14 Ga.	14 Ga.	12 Ga.	12 Ga.	8 Ga.	12 Ga.	8 Ga.	12 Ga.										
399 + 33	64					14 Ga.	14 Ga.	12 Ga.	12 Ga.	8 Ga.	12 Ga.	8 Ga.	12 Ga.	c.y.	c.y.	c.y.	c.y.	lbs.	l.f.	C.Y.	c.y.	2-CHW	
409 + 38	60					60										2	2.76	84			8	2-CHW	
417 + 38	52					90										6	2.76	84			20	2-CHW	
420 + 80	84					82											2.76	84			3	2-CHW	
431 + 00	76					74											2.76	84			3	2-CHW	
442 + 50	48					46										16	2.76	84				2-CHW	
451 + 15			84					84								3	5.48	120			4	2-CHW	
459 + 50			48					48									5.48	120				2-CHW	
506 + 65			72					70								3	5.48	120			61	2-CHW	
519 + 50	No Alternate											110					2	13.28	174		30	2-CHW	
528 + 82	60					60											2.76	84			29	2-CHW	
533 + 75	60					60										33	2.76	84			29	2-CHW	
534 + 75	60					60										1	2.76	84			41	2-CHW	
561 + 00			48					46								4	5.48	120				2-CHW	
567 + 50					56						54					1	9.32	156				2-CHW	
578 + 50	60				56									5		47	2.76	84			16	1-CHW; 1-CDI	
588 + 60			100					* 78								3	5.48	120			70	2-CHW	
593 + 50					56					56						35	9.32	156			52	2-CHW	
597 + 25	No Alternate											120					13.28	174				2-CHW	
611 + 50	56				54									7		24	3.10	42				1-CHW; 1-CDI	
661 + 50			48					52								23	5.48	120				2-CHW	
666 + 50	72					70										1	2.76	84			44	2-CHW	
673 + 50		72						70								32	4.34	102			62	2-CHW	
677 + 50			72					72									5.48	120				2-CHW	
685 + 50					52					52						2	9.32	156			48	2-CHW	
688 + 15	80				80											8	2.76	84				2-CHW	
696 + 25			48					48								2	5.48	120				2-CHW	
706 + 50	No Alternate											* 96					13.28	174				2-CHW	
711 + 35	52					50										2	2.76	84				2-CHW	
715 + 82	64				* 62											1	2.76	84				2-CHW	
719 + 63	No Alternate											54	18			82	13.64	158				1-CHW; 1-CS	
724 + 50		48				46										8	4.34	102			15	2-CHW	
736 + 75					68					74						1	9.32	156				2-CHW	
744 + 27	84				82					70						10	2.76	84				2-CHW	
745 + 50					60					70						8	9.32	156			67	2-CHW	
747 + 50	96				94											17	2.76	84			46	2-CHW	
760 + 00	No Alternate									110						2	2.76	84			42	1-CHW; 1-SHW	
773 + 50	96				* 96											17	2.76	84			91	2-CHW	
782 + 50	No Alternate									* 152	(See Change Order No 2)					21	18.41	240				1-CHW; 1-SHW	
794 + 50					60					60						15	9.32	156				2-CHW	
801 + 50			56					* 56								6	5.48	120				2-CHW	
809 + 75			60					60								10	11.42	148			46	1-CHW; 1-SHW	
815 + 00	No Alternate									126						8	18.41	240			208	1-CHW; 1-SHW	
819 + 50			68					* 68								5	11.42	148			20	1-CHW; 1-SHW	
826 + 50			48					48								1	7.34	101				1-CHW; 1-CS	
835 + 30			52					50								54	6.60	82				1-CHW; 1-CS	
837 + 71					60					60						15	8.87	101				1-CHW; 1-CS	
837 + 82					80					78						1	5.48	120			90	2-CHW	
842 + 15			72					* 72								31	5.48	120			1.6	132	2-CHW
854 + 50			68					* 66								6	5.48	120				2-CHW	
857 + 50			74					* 74								10	11.42	148				1-CHW; 1-SHW	
864 + 00			48					48								3	6.60	82				1-CHW; 1-CS	
866 + 75	No Alternate									52						11	18.50	240			13	1-CS; 1-SHW w/ Metal Spwy.	
880 + 20			64					62								15	9.32	156				2-CHW	
880 + 39.36 Rt. S.R. Conn. 0+14	64				55											77	3.70	42				1-CHW; 1-CDI	
Totals No Alternate						110	52			278			326	54	81	1511	371	367.35	8257	72	1.261		
Totals Alternate	1228	120	1,210	60	352	1233	116	1228	60	366													
Grand Totals	1,228	120	1,210	60	352	1233	226	1280	60	278	366	326	54	74	1511	371	367.35	8257	72	1.6	1,261		

*With paved invert.

CHW --- Concrete Headwall --- See Standard Details
CDI --- Concrete Drop Intake --- See Standard Details
SHW --- Special Headwall --- See this sheet for details
CS --- Concrete Spillway --- See Sht No. 2 for details

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Note:
 (1) All concrete to be Class "B-1".
 (2) Chamfer all exposed edges one inch, concrete only.

SPECIAL HEADWALL DETAILS
 NOT TO SCALE

Data For Special Headwall		
D	B	H
30"	2'-0"	5'-0"
36"	2'-0"	5'-6"
48"	2'-6"	6'-6"

DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 STATE OF HAWAII
 SPECIAL HEADWALL DETAILS
 AND
 SUMMARY OF CULVERT PIPES
 HAWAII BELT ROAD PROJ. NO. F-019-1(1) Unit 2
 Scale: As Noted February, 1961