

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-H3-1(60)	1990	17	24

FAN-MOTOR UNIT PERFORMANCE SCHEDULE

ABBREVIATIONS: A - AXIAL; P - PAD; FL - FLOOR; PRES - PRESSURE

EQUIPMENT NUMBER	SERVICE	AIR FLOW		DRIVE	WHEEL		MOTOR								ISOLATORS		ACCESSORIES					REMARKS
		VERTICAL	HORIZONTAL		MAX DIA IN	TYPE	MAX RPM	AIR FLOW ACFM	MAX AIR TEMP F	MAX TOTAL EXT PRESS IN WG	MAX MOTOR HP	MAX RPM	VOLTS	PHASE	HERTZ	TYPE	MIN DEFL IN	SUPPORT FROM	INLET SCREEN	INLET BELL	OUTLET CONE/EVASE	
TF-1 THRU 4	HALAWA IB SUPPLY	•	•		98	A	1200	210,000	105	4.7	300	1200	460	3	60	P	.25	FL	•	•	•	SEE NOTE #3
TF-5 THRU 8	HALAWA IB EXHAUST	•	•		98	A	1200	210,000	600	5.5	300	1200	460	3	60	P	.25	FL			•	SEE NOTE #2, 4
TF-9 THRU 12	HALAWA OB SUPPLY	•	•		98	A	1200	210,000	105	4.7	300	1200	460	3	60	P	.25	FL	•	•	•	SEE NOTE #3
TF-13 THRU 16	HALAWA OB EXHAUST	•	•		98	A	1200	210,000	600	5.5	300	1200	460	3	60	P	.25	FL			•	SEE NOTE #2, 4
TF-17 THRU 20	HAIKU IB SUPPLY	•	•		98	A	1200	210,000	105	4.7	300	1200	460	3	60	P	.25	FL	•	•	•	SEE NOTE #3
TF-21 THRU 24	HAIKU IB EXHAUST	•	•		98	A	1200	210,000	600	5.5	300	1200	460	3	60	P	.25	FL			•	SEE NOTE #2, 4
TF-25 THRU 28	HAIKU OB SUPPLY	•	•		98	A	1200	210,000	105	4.7	300	1200	460	3	60	P	.25	FL	•	•	•	SEE NOTE #3
TF-29 THRU 32	HAIKU OB EXHAUST	•	•		98	A	1200	210,000	600	5.5	300	1200	460	3	60	P	.25	FL			•	SEE NOTE #2, 4

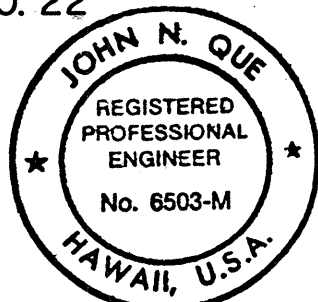
ATTENUATOR PERFORMANCE SCHEDULE

ABBREVIATIONS: HZ - HERTZ; IB - INBOUND; OB - OUTBOUND; PRES - PRESSURE

EQUIPMENT NUMBER (AMBIENT SIDE)	EQUIPMENT NUMBER (TUNNEL- SIDE)	UNIT SERVED	AIR FLOW	MAX AIR TEMP	MAX PRES DROP	NOMINAL OVERALL DIM		SOUND POWER LEVEL DECIBELS (REF. 10 ⁻¹² WATTS = 0 DB) (SEE NOTE 6)								REMARKS
			ACFM	F	WG IN	WIDTH IN	HEIGHT IN	OCTAVE BAND CENTER FREQUENCY -- HERTZ								
								63	125	250	500	1000	2000	4000	8000	
AA-1 THRU 4		TF-1 THRU 4	210,000	105	.35	120	120	107	103	98	94	92	90	89	88	NOTE 6
	AA-33 THRU 36	TF-1 THRU 4	210,000	105	.25	120	120	119	114	107	101	98	97	97	99	NOTE 6 & 8
AA-5 THRU 8		TF-5 THRU 8	210,000	600	.35	120	120	107	103	98	94	92	90	89	88	NOTE 6
	AA-37 THRU 40	TF-5 THRU 8	210,000	600	.25	120	120	119	114	107	101	98	97	97	99	NOTE 6 & 8
AA-9 THRU 12		TF-9 THRU 12	210,000	105	.35	120	120	107	103	98	94	92	90	89	88	NOTE 6
	AA-41 THRU 44	TF-9 THRU 12	210,000	105	.25	120	120	119	114	107	101	98	97	97	99	NOTE 6 & 8
AA-13 THRU 16		TF-13 THRU 16	210,000	600	.35	120	120	107	103	98	94	92	90	89	88	NOTE 6
	AA-45 THRU 48	TF-13 THRU 16	210,000	600	.25	120	120	119	114	107	101	98	97	97	99	NOTE 6 & 8
AA-17 THRU 20		TF-17 THRU 20	210,000	105	.35	120	120	107	103	98	94	92	90	89	88	NOTE 6
	AA-49 THRU 52	TF-17 THRU 20	210,000	105	.25	120	120	119	114	107	101	98	97	97	99	NOTE 6 & 8
AA-21 THRU 24		TF-21 THRU 24	210,000	600	.35	120	120	107	103	98	94	92	90	89	88	NOTE 6
	AA-53 THRU 56	TF-21 THRU 24	210,000	600	.25	120	120	119	114	107	101	98	97	97	99	NOTE 6 & 8
AA-25 THRU 28		TF-25 THRU 28	210,000	105	.35	120	120	107	103	98	94	92	90	89	88	NOTE 6
	AA-57 THRU 60	TF-25 THRU 28	210,000	105	.25	120	120	119	114	107	101	98	97	97	99	NOTE 6 & 8
AA-29 THRU 32		TF-29 THRU 32	210,000	600	.35	120	120	107	103	98	94	92	90	89	88	NOTE 6
	AA-61 THRU 64	TF-29 THRU 32	210,000	600	.25	120	120	119	114	107	101	98	97	97	99	NOTE 6 & 8

NOTES

- ALL SUPPLY AND EXHAUST FANS WILL BE OPERATED AT FULL SPEED AND ONE-HALF SPEED
- MOTOR FOR AUXILIARY COOLING FAN SHALL BE NOMINAL 7-1/2 HP. 460 VOLTS, 3 PHASE, 60 HERTZ.
- FOR SUPPLY FAN ASSEMBLIES, SEE SHEET NO. 19.
- FOR EXHAUST FAN ASSEMBLIES, SEE SHEET NO. 20.
- TOTAL EXTERNAL PRESSURE EQUALS THE TOTAL MAXIMUM ALLOWABLE PRESSURE DROPS FOR VENTILATION EQUIP. & TUNNEL DUCT EXT. TO FAN MOTOR UNIT. TOTAL PRESSURE DROP FOR ENTIRE VENTILATION SYSTEM OTHER THAN EQUIPMENT IN THIS CONTRACT, IS TO BE ASSUMED AT 2.9" W.G. FOR SUPPLY AIR SYSTEM AND 3.6" W.G. FOR EXHAUST AIR SYSTEM WITH ALL FANS OPERATING IN PARALLEL AT HIGH SPEED.
- THE SOUND POWER LEVELS IN THE ATTENUATOR PERFORMANCE SCHEDULE ARE THE RESULT OF THE ESTIMATED SOUND POWER LEVEL OF A SINGLE FAN FOR EACH OCTAVE BAND LESS THE DYNAMIC INSERTION LOSS FOR ITS ATTENUATORS. THESE RESULTANT VALUES SHALL NOT BE EXCEEDED.
- FOR BULKHEAD DAMPER DIMENSIONS AND LOCATIONS, SEE SHEET NO. 22
- ATTENUATORS IN THE CONCRETE DUCTS SHALL BE 84 INCHES MAXIMUM LENGTH.



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

REVISED FAN MOTOR UNIT MAX WHEEL DIAMETER, ATTENUATOR PERFORMANCE SCHEDULE AND NOTE 6	
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
TUNNEL VENTILATION EQUIPMENT SCHEDULES F & I VENTILATION FANS INTERSTATE ROUTE H-3 F.A.I. PROJ. NO. 1-H3-1(60)	
SCALE: NONE	DATE: NOV 1989
SHEET NO. 17 OF 24 SHEETS	

DAMPER PERFORMANCE SCHEDULE

ABBREVIATIONS: P - PARALLEL BLADE; H - HORIZONTAL; V - VERTICAL; PRES - PRESSURE

EQUIPMENT NUMBER	UNIT SERVED	AIR FLOW ACFM	MAX AIR TEMP F	MAX PRES DROP WG IN	NOMINAL OVERALL DIMENSIONS			MOTOR								REMARKS
					WIDTH IN	HEIGHT IN	LENGTH IN	TYPE	POSITION	MAX SECTIONS	MAX NUMBER	MAX MOTOR HP	VOLTS	PHASE	HERTZ	
CD-1 THRU 4	TF-1 THRU 4	210,000	105	.15	120	120	18	P	V	1	1	1	460	3	60	
CD-5 THRU 8	TF-5 THRU 8	210,000	600	.15	120	120	18	P	H	1	1	1	460	3	60	
CD-9 THRU 12	TF-9 THRU 12	210,000	105	.15	120	120	18	P	V	1	1	1	460	3	60	
CD-13 THRU 16	TF-13 THRU 16	210,000	600	.15	120	120	18	P	H	1	1	1	460	3	60	
CD-17 THRU 20	TF-17 THRU 20	210,000	105	.15	120	120	18	P	V	1	1	1	460	3	60	
CD-21 THRU 24	TF-21 THRU 24	210,000	600	.15	120	120	18	P	H	1	1	1	460	3	60	
CD-25 THRU 28	TF-25 THRU 28	210,000	105	.15	120	120	18	P	V	1	1	1	460	3	60	
CD-29 THRU 32	TF-29 THRU 32	210,000	600	.15	120	120	18	P	H	1	1	1	460	3	60	
CD-33 THRU 36	TUNNEL BULKHEADS	157,500	600	.15	120	90	18	P	V	2	2	1	460	3	60	SEE NOTE 7

ORIGINAL PLAN	DATE	1/23/88
SURVEY PLOTTED BY	M. SOPER	
DRAWN BY	R. MATRISIAN	
CHECKED BY	J. QUE	
NOTED BY		
NO.		