

FEDERAL AID PROJECT

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**KAI**

**LEWIS AND CLARK MEMORIAL TOWER**  
**VILLAGE OF HARTFORD, ILLINOIS**  
HARTFORD, ILLINOIS 62049

SHEET TITLE:  
**MECHANICAL SCHEDULES**

REV. NO.	DATE	REMARKS
1	11-08-08	ISSUE FOR SUBMISSION

KENNEDY PROJECT NO  
KAI# 10-02048

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APRIL 11, 2008

SHEET NO

**M3-02**

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**AIR HANDLING UNIT**

MARK	AREA SERVED	MFR.	MODEL	SUPPLY FAN				OUTDOOR AIR				DX COOLING COIL CAPACITIES						ELECTRIC HEATING COIL CAPACITIES				ELECTRICAL	NOTES		
				NOM CFM	TSP "WC	ESP "WC	HP	CFM	DB °F	WB °F	SENS. MBH	TOT. MBH	EAT DB °F	EAT WB °F	LAT DB °F	LAT WB °F	AIR PD "WC	TOT. MBH	EAT DB °F	LAT DB °F	ELECTRICAL			AIR PD "WC	V/PH/HZ
AHU-1	CONCESSIONS/VENDING	CARRIER	39MN03	1700	2.17	1.00	3	MOD.	95	78	33.5	36.8	78	65	60	58	.56	58	56	88	17	208/3/60	.02	208/3/60	1 THRU 12

NOTES:  
1.) DX COOLING COIL  
2.) ELECTRIC HEATING COIL  
3.) COIL ACCESS SECTION  
4.) SUPPLY FAN SECTION  
5.) ANGLE FILTER MIXING BOX WITH 2" CARBON FILTERS  
6.) EXTENDED LUBRICATION LINES  
7.) 2" SPRING ISOLATORS ON FAN  
8.) 6" BASE RAIL (NEOPRENE PAD BETWEEN FLOOR AND RAIL)  
9.) BELT GUARD  
10.) FACTORY-MOUNTED STARTER AND DISCONNECT  
11.) CO2 SENSOR MOUNTED IN RETURN AIR DUCT  
12.) SEVEN DAY PROGRAMMABLE THERMOSTAT

**ELEVATOR ROOM UNIT**

MARK	AREA SERVED	MFR.	MODEL	FAN		COOLING CAPACITIES			ELEC. REHEAT		ELECTRICAL			OPER. WT. LBS.	NOTES	
				NOM CFM	ESP "WC	SENS. MBH	TOT. MBH	EAT DB °F	REFRIG. TYPE	BTUH	FAN HP	V/PH/HZ	INDOOR FLA			
AC-1	ELEVATOR EQUIPMENT	CARRIER	38NE018	726	-	-	10.5	88	67	R-22	18,000	1/10	208/1/60	.4	27.5	1,2

NOTES:  
1.) MICROPROCESSOR CONTROL/THERMOSTAT  
2.) REFRIGERANT LINE SET SIZED BY MANUFACTURER

**AIR COOLED CONDENSING UNIT**

MARK	UNIT SERVED	MFR.	MODEL	COOLING		O.A. TEMP.		COMPRESSOR		CONDENSER		UNIT SEER	REFR. R-	ELECTRICAL		OPER. WT. LBS.	NOTES
				CAP. MBH	CAP. MBH %	DES. AMB °F	MIN. AMB °F	QTY. TONS	QTY. EACH	QTY. FANS	HP EACH			V/PH/HZ	FLA (MCA)		
CU-1	AHU-1	CARRIER	38BRG036	36	-	95	0	1	3	1	1/5	12	22	208/3/60	(20)	186	1,2,3,4,5,6,7,8,9,10,11
CU-2	AG-1	CARRIER	36ND010	10	-	95	0	1	1.5	1	1/4	10	22	208/1/60	(11)	157	3,6

NOTES:  
1.) BALL-BEARING CONDENSER FAN MOTOR  
2.) START CAPACITOR AND RELAY  
3.) CRANKCASE HEATER  
4.) ANTI-SHORT CYCLE TIMER  
5.) EVAPORATOR FREEZE STAT  
6.) SUCTION AND LIQUID LINE FILTER DRIER(S)  
7.) HIGH PRESSURE CUT-OUT  
8.) LOW PRESSURE CUT-OUT  
9.) FAN SPEED CONTROL FOR LOW AMB. OPERATION  
10.) THERMOSTATIC EXPANSION VALVE  
11.) WINTER START CONTROLLER

**AIR DEVICE**

SUPPLY DIFFUSERS									EXHAUST / RETURN / TRANSFER GRILLES										
PLAN MARK	MANUFACTURER & MODEL NO.	NECK SIZE	FACE SIZE	MOUNT	MATE-RIAL	ACCES-SORIES	FINISH	TYPE	NOTES	PLAN MARK	MANUFACTURER MODEL NO.	NECK SIZE	FACE SIZE	MOUNT	MATE-RIAL	ACCES-SORIES	FINISH	TYPE	NOTES
1	TITUS 300FS	12X10	14X12	DUCT SIDEWALL	AL	VC	BWE	DD		A	TITUS 350FL	24X24	-	DRYWALL SIDEWALL	AL	VC	BWE	FAB	
										B	TITUS 350FL	24X20	-	DRYWALL SIDEWALL	AL	-	BWE	FAB	
										C	TITUS 350FL	10X10	-	DRYWALL SIDEWALL	AL	VC	BWE	FAB	
										D	TITUS 350FL	12X12	-	DUCT SIDEWALL	AL	VC	BWE	FAB	

MATERIAL: AL - ALUMINUM  
FINISH: BWE - BAKED WHITE ENAMEL  
ACCESSORIES: VC - VOLUME CONTROL DAMPER  
TYPE: FAB - FIXED ANGLE BLADE, DD - DOUBLE DEFLECTION

**LOUVER**

MARK	MFR.	MODEL	SIZE HxWxD	FUNCTION	MATERIAL			FREE AREA VELOCITY	EFFECTIVENESS RATIO %	STATIC PRESS. DROP	NOTES
					FRAME	BLADE	FINISH				
L-1	RUSKIN	EMES20DD	12X40X5	INTAKE	ALUM.	ALUM.	CLEAR. ANODIZED	500	99.3	.04	1
L-2	RUSKIN	EMES20DD	12X40X5	INTAKE	ALUM.	ALUM.	CLEAR. ANODIZED	500	99.3	.04	1
L-3	RUSKIN	EMES20DD	24X24X5	EXHAUST	ALUM.	ALUM.	CLEAR. ANODIZED	500	99.3	.04	1
L-4	RUSKIN	EMES20DD	18X24X5	INTAKE	ALUM.	ALUM.	CLEAR. ANODIZED	500	99.3	.04	1
L-5	RUSKIN	EMES20DD	12X24X5	EXHAUST	ALUM.	ALUM.	CLEAR. ANODIZED	500	99.3	.05	1
L-6	RUSKIN	EMES20DD	12X24X5	EXHAUST	ALUM.	ALUM.	CLEAR. ANODIZED	500	99.3	.05	1
L-7	RUSKIN	EMES20DD	12X40X5	INTAKE	ALUM.	ALUM.	CLEAR. ANODIZED	500	99.3	.04	1
L-8	RUSKIN	EMES20DD	18X24X5	INTAKE	ALUM.	ALUM.	CLEAR. ANODIZED	500	99.3	.04	1

NOTES:  
1.) INSECT SCREEN

**ELECTRIC HEATER**

MARK	AREA SERVED	MFR.	MODEL	TYPE	CFM H/L	KW	STEPS	MBH	ELECTRICAL		OPER. WT. LBS.	NOTES
									V/PH/HZ	FLA (MCA)		
UH-1	PUMP/MECH.	MARKEL	5100	WALL-MOUNT	400	10	1	34.1	208/3/60	20.8	55	1,7,8,9,10
UH-2	JANITOR	MARKEL	5100	WALL-MOUNT	400	3.3	1	11.5	208/3/60	6.9	30	1,7,8,9,10
UH-3	ELEV. EQUIP.	MARKEL	5100	WALL-MOUNT	400	3.3	1	11.5	208/3/60	6.9	30	1,7,8,9,10
UH-4	ELECT.	MARKEL	5100	WALL-MOUNT	400	3.3	1	11.5	208/3/60	6.9	30	1,7,8,9,10
CUH-1	WOMEN'S	MARKEL	6333-06	FLOOR-MOUNT	250/230	6	2	20.4	208/3/60	17.6	118	1,2,3,4,5,6
CUH-2	MEN'S	MARKEL	6333-06	FLOOR-MOUNT	250/230	6	2	20.4	208/3/60	17.6	118	1,2,3,4,5,6

NOTES:  
1.) 3-POLE CIRCUIT BREAKER/DISCONNECT  
2.) 1" PLEATED MEDIA FILTER  
3.) KICK SPACE PEDESTAL  
4.) FRONT INLET/TOP OUTLET  
5.) FACTORY MOUNTED TRANSFORMER  
6.) INTEGRAL THERMOSTAT  
7.) WALL BRACKET WITH DUST SHIELD  
8.) OSHA FAN GUARD  
9.) LOW VOLTAGE THERMOSTAT  
10.) TRANSFORMER AND CONTACTOR

**EXHAUST FAN**

MARK	AREA SERVED	MFR.	MODEL	TYPE	CFM	E.S.P. (" WC)	RPM	DRIVE	SONES	ELECTRICAL		OPER. WT. LBS.	NOTES	
										HP	V/PH/HZ			FLA (MCA)
EF-1	ELECTRICAL	COOK	60SQN-B	ILC	175	.25	1754	BELT	9.4	1/6	115/1/60	4.4	145	1,2,3,4,5,6,8,10,12
EF-2	TOL./PUMP	COOK	120SQN-B	ILC	1130	.35	1370	BELT	12.5	1/4	115/1/60	5.8	193	1,2,3,4,5,6,7,8,9,10,11,12

NOTES:  
1.) PRE-WIRED DISCONNECT SWITCH  
2.) EXTENDED LUBRICATION LINES  
3.) THERMAL OVERLOAD MOTOR  
4.) SPRING VIBRATION ISOLATION HANGERS  
5.) OSHA GUARD/MOTOR COVER  
6.) 24 HOUR TIME CLOCK  
7.) 115V MOTORIZED DAMPER  
8.) FLANGED INLET  
9.) FLANGED OUTLET  
10.) INLET COMPRESSION FLANGE  
11.) OUTLET COMPRESSION FLANGE  
12.) INLET/OUTLET FLEXIBLE DUCT CONNECTORS  
TYPE: ILC - INLINE CENTRIFUGAL EXHAUST OR SUPPLY FAN  
NOTE: FANS SELECTED BASED UPON A MEDIUM DRIVE LOSS FOR BELT DRIVEN MODELS. FANS ALSO SELECTED AT AN ALTITUDE OF 498 FT AND 70F.

**H.V.A.C. DAMPER SPECIFICATIONS**

	RUSKIN	RUSKIN	RUSKIN	RUSKIN	RUSKIN
MANUFACTURER	RUSKIN	RUSKIN	RUSKIN	RUSKIN	RUSKIN
MODEL	MD25	MD35	CD60	CD50	CD102
DAMPER TYPE	BALANCING OVER 12"	BALANCING OVER 12"	CONTROL	CONTROL	CONTROL
FUNCTION	BALANCING 12" DUCT AND UNDER	BALANCING 13" DUCT AND OVER	RETURN AIR	OUTSIDE AIR INTAKE	FAN DISCHARGE
SHAPE	RECTANGULAR	RECTANGULAR	RECTANGULAR	RECTANGULAR	RECTANGULAR
MAX. PRESSURE ("WG)	2" (36"W)	2" (36"W)	6.2" (48"W)	6.2"	12.0"
MAX. VELOCITY (FPM)	1500	1500	4000	4000	4000
MAX. PD @ MAX VELOCITY (24X24, 24"DIA)	0.05"WG	0.05"WG	0.03"WG	0.02"WG	0.01"WG
LEAKAGE @ 1"WG (CFM/SQ.FT.)	-	80@1.0"WG	2.0@1.0"WG	2.0@1.0"WG	8.5@1.0"WG
BLADE MATERIAL	GALV. STEEL	GALV. STEEL	GALV. STEEL	ALUMINUM	ALUMINUM
BLADE CONSTRUCTION	8" WIDE 16 GAGE REINFORCED	8" WIDE 16 GAGE REINFORCED	14 GAGE ROLL FORMED	6" WIDE 6063-T5 EXTRUDED	7.75" WIDE 0.080 6063-T5 EXTRUDED
BLADE TYPE	SINGLE SKIN	SINGLE SKIN	AIRFOIL	AIRFOIL	AIRFOIL
BLADE SEAL MATERIAL	NONE	NONE	NEOPRENE	NEOPRENE	SILICONE RUBBER
FRAME MATERIAL	GALV. STEEL	GALV. STEEL	GALV. STEEL	ALUMINUM	GALV. STEEL
FRAME CONSTRUCTION	5"x1" 16 GAGE	5"x1" 16 GAGE	16 GAGE HAT CHANNEL	5"x1" 0.125" EXTRUDED	10"x2" 12 GA. STEEL CHANNEL
AXLE MATERIAL	STEEL	STEEL	PLATED STEEL	PLATED STEEL	PLATED STEEL
AXLE DIAMETER	3/8" SQUARE	3/8" SQUARE	1/2"	1/2"	3/4"
BEARING MATERIAL (TYPE)	SYNTHETIC	SYNTHETIC	STAINLESS STEEL	SYNTHETIC	STAINLESS STEEL
NOTES	-	-	-	-	-