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Building #17  
Campus Expansion Child  
Day-care Center

777 Old Saw Mill River Road  
Mount Pleasant, NY 10591

Project No. B17-DAYCARE

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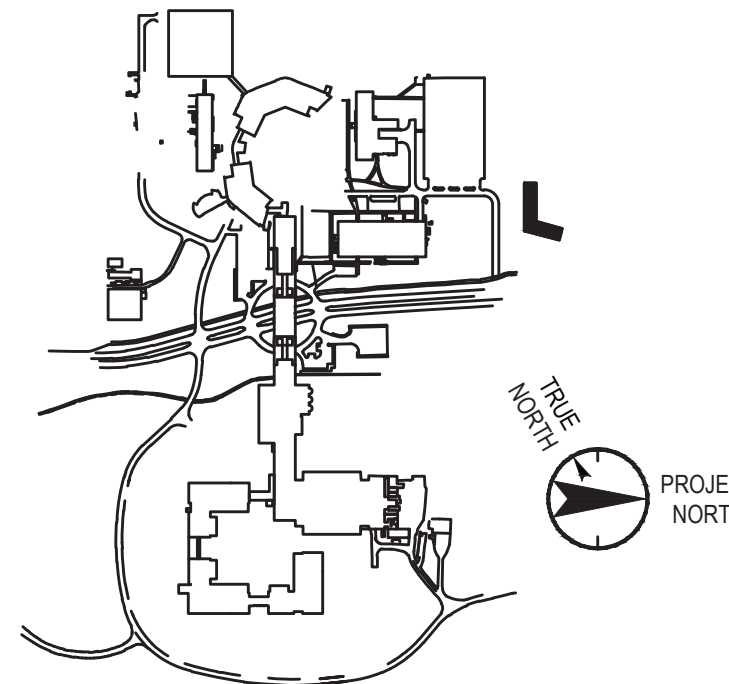
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Key Plan



No. Date Description

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Vendor Name:

Vendor Project No.:

Discipline: Drawn By:

MECHANICAL

EQUIPMENT

SCHEDULE

SHEET 1

Scale: NTS

Flow:

M-600

DEDICATED OUTSIDE AIR SYSTEM (DOAS) SCHEDULE

UNIT TAG	LOCATION	SERVICE	TOTAL SUPPLY CFM (DESIGN/ PEAK)	TOTAL EXHAUST CFM (DESIGN/ PEAK)	ENTHALPY WHEEL																AIR-COOLD HEAT PUMP COOLING DATA							HOT GAS REHEAT									
					SUMMER E.A.T. (DB/WB)		SUMMER RETURN AIR (DB/WB)		SUMMER L.A.T. (DB/WB)		EFFECTIVENESS		WINTER E.A.T. (DB)	WINTER RETURN AIR (DB/WB)		WINTER L.A.T. (DB/WB)		EFFECTIVENESS		HP	FLA	MINIMUM WHEEL DEPTH (IN.)	MAX P.D. (IN.)		TMBH	SMBH	TONS	E.A.T. (DEG F) (DB/WB)		L.A.T. (DEG F) (DB/WB)		EER @ AHRI	TMBH	L.A.T. (DEG F)			
											TOTAL	SENSIBLE						TOTAL	SENSIBLE				SUPPLY	EXHAUST				E.A.T.	E.A.T.								
899-DOAS-R-01	ROOF	VENTILATION/ SPILL AIR	2,900/ 3,700	2,100/ 2,900	95	78	78	62	86.1	71.5	65%	72%	0	72	55	38.8	34.4	74%	74%	0.17	0.4	6	0.12	0.06	171.6	104.5	14.3	86.1	71.5	53.2	53.2	11.0	53	70			
899-DOAS-R-02	ROOF	VENTILATION/ SPILL AIR	3,100/ 3,900	2,100/ 2,900	95	78	78	62	86.7	72	65%	72%	0	72	55	36.4	32.6	74%	75%	0.17	0.4	6	0.14	0.06	176.4	108.6	14.7	86.7	72	55	54.6	11.0	51.6	70			
NOTES:			1). REFER TO FLOORPLANS FOR LOCATION OF AIR CONNECTIONS 2). ONE ELECTRICAL POINT OF CONNECTION FOR THE 480V OPERATION OF THE UNIT, WITH A SEPARATE CONVENIENCE OUTLET POWERED THROUGH THE UNIT WITH ITS OWN DISCONNECT AND FUSING. 3). UNIT MOUNTED OUTSIDE AIR AND SPILL AIR DAMPER 4). R410A VARIABLE CAPACITY SCROLL COMPRESSOR 5). MODULATING HOT GAS REHEAT 6). ENLARGE OUTSIDE AIR CONNECTION TO PREVENT SNOW BEING PULLED IN. 7). CUSTOM SOUND ATTENUATED CURB BY KINETICS NOISE CONTROL, OR APPROVED EQUAL, AND SUPPLIED BY AHU MANUFACTURER 7). FULLY MODULATING SCR ELECTRIC HEAT CONTROL. PROVIDE VFD CONTROL OF WHEEL 8). BACNET COMMUNICATION CARD, AS REQUIRED BY BMS. REFER TO SPECIFICATION AND CONTROL DRAWING M-705. 9). HEAT PUMP PRIMARY HEAT SHALL BE PROVIDED. BACK UP HEAT SHALL BE AS SCHEDULED. CONTROLS SHALL AUTOMATICALLY USE BACK UP HEAT WHEN NEEDED AND LOCK OUT HEAT PUMP OPERATION WHEN AMBIENT IS TOO COLD. 10). A FACTORY INSTALLED, ENERGY 'CORE' SHALL BE PROVIDED COMPLETE WITH OA AND RA PREFILTERS, AND DEFROST CONTROL. PROVIDE ALL REQUIRED CONTROLS AS INDICATED IN CONTROL DIAGRAMS AND REQUIRED PER SEQUENCE																																		

DEDICATED OUTSIDE AIR SYSTEM (DOAS) SCHEDULE (CONTINUED)

UNIT TAG	AIR-COOLD HEAT PUMP HEATING DATA				AUXILIARY HEAT  KW (0 DEG F - 60 DEG F)	SUPPLY FAN								EXHAUST FAN								PRE FILTERS	FINAL FILTERS	PRE FILTERS	ELECTRICAL INFO				WEIGHT (LBS)	MODEL NO.	NOTES
	TMBH	EAT (DEG F)	LAT (DEG F)	COP @ 47 DEG_F		TYPE	CFM	E.S.P. (IN. W.C.)	T.S.P. (IN. W.C.)	RPM	BHP	HP	FLA/ MOTOR	TYPE	CFM	E.S.P. (IN. W.C.)	T.S.P. (IN. W.C.)	RPM	BHP	HP	FLA/ MOTOR	SUPPLY ONLY	SUPPLY ONLY	RETURN ONLY	FLA	MCA	MOP	V/PH/Hz			
899-DOAS-R-01	164.2	45.0	97.2	3.64	72	SWSI AF, ECM DIRECT DRIVE	2,900/ 3,700	2.5	3.9	1,550	3.3	8	6.1	SWSI AF, ECM DIRECT DRIVE	2,100/ 2,900	2.5	3.8	2,050	1.67	4	4	2" MERV 8	4" MERV 14	2" MERV 8	119	122	125	460/3/60	2,800	DP0515A	1 TO 10
899-DOAS-R-02	165.5	45.00	94.2	3.64	72	SWSI AF, ECM DIRECT DRIVE	3,100/ 3,900	2.5	4	1,600	3.5	8	6.1	SWSI AF, ECM DIRECT DRIVE	2,100 2,900	2.5	3.8	2,100	1.7	4	4	2" MERV 8	4" MERV 14	2" MERV 8	119	122	125	460/3/60	2,800	DP0515A	1 TO 10

FAN SCHEDULE

"GREENHECK" AS STANDARD

FAN TAG	LOCATION	SERVICE	CFM	STATIC PRESS. (IN.W.G.)	RPM	OUTLET VELOC. (FPM)	TYPE	DRIVE	MODEL NO.	MOTOR			WEIGHT (LBS.)	VIBRATION ISOLATION		ECM/ EMERGENCY POWER	NOTES
										BHP (AMPS)	HP (WATTS)	VOLT/PH/HZ		SPEC. TYPE	DEFLECTION (IN.)		
899-TXF-R-01	ROOF	TOILET ROOM EXHAUST	400	0.6	1,450	600	UTILITY - UNIVERSAL SINGLE WIDTH FAN	ECM	USF-06	0.09	0.25	208/1/60	100	SEE SPECS		YES/ NO	1.2
899-TXF-R-02	ROOF	TOILET ROOM EXHAUST	650	1.0	1,750	1,000	UTILITY - UNIVERSAL SINGLE WIDTH FAN	ECM	USF-08	0.19	0.50	208/1/60	100	SEE SPECS		YES/ NO	1.2
899-GXF-R-01	ROOF	WARMING KITCHEN	225	0.4	1,225	350	UTILITY - UNIVERSAL SINGLE WIDTH FAN	ECM	USF-04	0.04	0.25	208/1/60	100	SEE SPECS		YES/ NO	1.2
899-TF-1-01	ELECTRICAL CLOSET	CLOSET HEAT TRANSFER	225	0.10	875	-	CEILING EXHAUST FAN	ECM	SP-A390-VG	(.8)	(100)	277/1/60	25	SEE SPECS		YES/ YES	1.3
899-TF-1-02	IDF ROOM	BACK-UP HEAT TRANSFER	225	0.10	875	-	CEILING EXHAUST FAN	ECM	SP-A390-VG	(.8)	(100)	277/1/60	25	SEE SPECS		YES/ YES	1.3
899-TF-1-03	ELECTRICAL ROOM	BACK-UP HEAT TRANSFER	675	0.20	1,025		INLINE CABINET	ECM	CSP-A700-VG	(4.1)	(104)	120/1/60	40	SEE SPECS		YES/ YES	1.3

GENERAL NOTES: A). PROVIDE UNIT-MOUNTED DISCONNECT  
NOTES: 1) VARI-GREEN E.C. MOTOR.  
2) PROVIDE WITH MOTORIZED EXHAUST DAMPER TO BE INTERLOCKED WITH FAN OPERATION.  
3) VARI-GREEN MOTOR TO INCLUDE MANUAL DIAL FOR BALANCING. CONTRACTOR TO PROVIDE NECESSARY CONTROLS FOR ON/OFF OPERATION VIA SPACE TEMPERATURE SENSOR.

AIR OUTLET & INLET SCHEDULE

MANUFACTURER "TITUS"

TAG	SERVICE	SPEC. TYPE	SIZE IN INCHES			MAX CFM	TOTAL PRESSURE (IN. W.C.)	VELOCITY PRESSURE (IN. W.C.)	THROW	MAX NC	MODEL NUMBER	NOTES
			FACE	NECK/ DUCT SIZE	BLADE SPACING							
CD-1	SUPPLY AIR	SQUARE CEILING DIFFUSER	12x12	4" Ø	-	75	0.134	0.040	2-3-6	21	OMNI	
CD-2	SUPPLY AIR	SQUARE CEILING DIFFUSER	12x12	6" Ø	-	157	0.194	0.040	4-6-12	21	OMNI	
CD-3	SUPPLY AIR	SQUARE CEILING DIFFUSER	12x12	8" Ø	-	244	0.213	0.031	5-8-16	17	OMNI	
CD-4	SUPPLY AIR	SQUARE CEILING DIFFUSER	24x24	6" Ø	-	160	0.044	0.040	2-4-7	13	OMNI	
CD-5	SUPPLY AIR	SQUARE CEILING DIFFUSER	24x24	8" Ø	-	280	0.072	0.040	4-6-12	17	OMNI	
CD-6	SUPPLY AIR	SQUARE CEILING DIFFUSER	24x24	10" Ø	-	450	0.107	0.040	5-8-14	20	OMNI	
CR-1	EXHAUST/RETURN AIR	CEILING REGISTER (SQUARE PANEL)	12x12	-	-	350					OMNI	
CR-2	EXHAUST/RETURN AIR	CEILING REGISTER (SQUARE PANEL)	24x24	-	-	800					OMNI	
SG-1	SUPPLY AIR	SUPPLY GRILLE	8x8	6x6	3/4"	150	0.131	0.040	10-12-18	24	301RL	
SG-2	SUPPLY AIR	SUPPLY GRILLE	10x10	8x8	3/4"	300	0.131	0.040	14-17-25	27	301RL	
SG-3	SUPPLY AIR	SUPPLY GRILLE	12x12	10x10	3/4"	450	0.131	0.040	18-22-31	29	301RL	
EG-1	EXHAUST AIR	EXHAUST GRILLE	8x8	6x6	3/4"	150	-	0.040	-	25	350RL	
EG-2	EXHAUST AIR	EXHAUST GRILLE	14x12	12x10	3/4"	360	0.051	0.016	-	11	350RL	
EG-3	EXHAUST AIR	EXHAUST GRILLE	20x14	18x12	3/4"	675	0.051	0.016	-	13	350RL	

COMMON NOTES:  
A. DATA OBTAINED FROM TESTS CONDUCTED IN ACCORDANCE WITH ANSI/ASHRAE STANDARD 70-1991.  
B. THROW VALUES ARE GIVEN FOR TERMINAL VELOCITIES OF 150, 100 AND 50 FPM AND FOR ISOTHERMAL CONDITIONS.  
C. NC VALUES BASED ON OCTAVE BAND 2 TO 7 SOUND POWER LEVELS MINUS A ROOM ABSORPTION OF 10 DB.  
D. EACH NC VALUE REPRESENTS THE NOISE CRITERIA CURVE WHICH WILL NOT BE EXCEEDED BY THE SOUND PRESSURE IN ANY OF THE OCTAVE BANDS, 2 THROUGH 7, WITH A ROOM ABSORPTION OF 10 DB, RE 10<sup>-12</sup> WATTS.  
E. DATA UNDER TOTAL PRESSURE FOR RETURN GRILLES IS NEGATIVE STATIC PRESSURE.  
F. COORDINATE BORDER TYPE WITH ARCHITECTURAL REFLECTED CEILING PLANS. OFFICE BATHROOMS TO HAVE BORDER TYPE 3.  
G. PROVIDE CABLE OPERATED DAMPER THRU DIFFUSER IN UN-ACCESSIBLE CEILING (SEE DETAIL).  
H. PROVIDE LIGHT SHIELD FOR RETURN GRILLES  
NOTES:  
1) THROW AND PRESSURE DROP INFO PROVIDED FOR 45 DEG DEFLECTION ANGLE.  
2) BORDER TYPE 7. INSTALL AS PER MANUFACTURER'S RECOMMENDATIONS. GRILLE TO BE HEAVY DUTY CONSTRUCTION. DAMPER ACCESS IS THROUGH THE GRILLE. FINISH BY ARCHITECT.  
3) PROVIDE WITH REMOTE CABLE OPERATED DAMPER FOR AIR OUTLETS NEAR UNACCESSIBLE CEILINGS.  
4) THROW AND PRESSURE DROP INFO PROVIDED FOR 22.05CG DEFLECTION ANGLE.

LINEAR DIFFUSER SCHEDULE

(TITUS AS STANDARD)

TAG	LOCATION	MODEL NO.	MAX CFM PER FT OF ACTIVE LENGTH	ACTIVE LENGTH	NO. OF SLOTS	SLOT WIDTH (IN.)	MAXIMUM STATIC PRESSURE (IN. W.C.)	MAXIMUM DIFFUSER NC	PATTERN	THROW DIRECTION	SIZE OF DUCT CONNECTION TO PLENUM (IN.)	NOTES
LD-1	REFER TO PLANS	ML-39	25	SEE PLAN	1	1	0.05	20	ADJUSTABLE	VERTICAL &/OR HORIZONTAL	SEE PLANS	1,2,3,4,5
LD-2	REFER TO PLANS	ML-39	50	SEE PLAN	2	1	0.05	23	ADJUSTABLE	VERTICAL &/OR HORIZONTAL	SEE PLANS	1,2,3,4,5
LR-1	OFFICE SPACE	MLR-39	25 (50)	SEE PLAN	1	1		10 (25)	NA	SEE PLAN	N/A	1,2,3
LR-2	OFFICE SPACE	MLR-39	50 (100)	SEE PLAN	2	1		12 (28)	NA	SEE PLAN	N/A	1,2,3

NOTES:  
1). NC VALUE REPRESENTS THE NOISE CRITERIA THAT WILL NOT BE EXCEEDED BY THE SOUND PRESSURE IN ANY OF THE OCTAVE BANDS, 2 THROUGH 7, WITH A ROOM ABSORPTION OF 10 DB, RE 10<sup>-12</sup> WATTS.  
2). DATA OBTAINED FROM TESTS CONDUCTED IN ACCORDANCE WITH ASHRAE STANDARD 70-1991 "METHOD OF TESTING FOR RATING THE PERFORMANCE OF AIR OUTLETS AND INLETS."  
3). COORDINATE BORDER TYPE WITH ARCHITECTURAL REFLECTED CEILING PLANS.  
4). CONTRACTOR SHALL FIELD SET PATTERN DEFLECTORS AS REQUIRED. 5). PROVIDE WITH REMOTE CABLE OPERATED DAMPER

VARIABLE REFRIGERANT VOLUME AIR CONDITIONING UNIT SCHEDULE - CRITICAL SPACES

MANUFACTURER "DAIKIN" OR APPROVED EQUAL

INDOOR UNIT TAG	OUTDOOR CONDENSING UNIT TAG	SERVICE	TYPE	OUTDOOR UNIT												INDOOR UNIT										REFRIGERANT				PIPING				VIBRATION ISOLATION		REMARKS
				OPERATING RANGE		ELECTRICAL			QUANTITY	MAX AIR FLOW RATE (CFM)	SOUND PRESSURE (DBA)	WEIGHT (LBS)	EER	SEER	Region IV HSFP RATING (HEATING)	MODEL NO.	TOTAL COOLING CAPACITY (BTU/HR)	SENSIBLE COOLING CAPACITY (BTU/HR)	HEATING CAPACITY (BTU/HR)	ELECTRICAL			FAN AIR FLOW (CFM) HL	SOUND PRESSURE (DBA) HL	WEIGHT (LBS)	MODEL NO.	TYPE	CHARGE (LBS)	LIQUID LINE (IN., OD)	VAPOR LINE (IN., OD)	MAX PIPE LENGTH (FT.)	MAX ELEVATION (FT.)	TYPE	DEFLECTION (IN.)		
				COOLING DB	HEATING DB	V / PH / HZ	MOP	MCA												V / PH / HZ	MOP	MCA														
899-AC-1-06	899-CU-R-06	ELECTRICAL ROOM	SINGLE ZONE EXTENDED PIPE	95	5	208 / 1 / 60	20	18.25	1	2,800	59	150	9.1	15.9	9.2	RX36RMVJU	34,400	22,800	15,740	208 / 1 / 60	64 WATTS	37 FLA	915 / 575	54/40	40	FTX36N1JU	410A	3.96	1/4	5/8	98	65	SEE SPECS			
899-AC-1-07	899-CU-R-07	IT CLOSET	SINGLE ZONE EXTENDED PIPE	95	0	208 / 1 / 60	20	16.5	1	2,900	58	175	10.2	17.6	8.4	FAQ24TAVJU	24,000	18,000	27,000	208 / 1 / 60	15	0.6	635 / 470	43 / 37	35	RZQ24TAVJUA	410A	6.44	3/8	5/8	25	-	SEE SPECS			
NOTES:																																				
PROVIDE UNITS WITH THE FOLLOWING: a) PROVIDE TEMPERATURE SENSOR AND BAGNET INTERFACES TO BE MONITORED BY BMS b) PROVIDE CONDENSATE PUMP TO BE POWERED THROUGH THE UNIT. PROVIDE SILENCE ON WALL FOR PUMP c) VIBRATION ISOLATORS d) DISCONNECT SWITCHES																																				