ROOFTOP UNIT SCHEDULE

MARK	MFR.	MODEL	INDOOR FAN DATA: MAX SUPPLY CFM	OUTDOOR AIR CFM	SUPPLY EXT. S.P. "WC	RETURN EXT. S.P. "WC	SUPPLY FAN: FAN COUNT	HP (EACH)	MOTOR CONTROL	RETURN/EXHAUST FAN: FAN COUNT	BHP (TOTAL)	MOTOR CONTROL
RTU-1	DAIKIN	MPS-035	8,615	3,000	2.0	0.5	4	6.0	ECM	1	2.3	DIRECT DRIVE
RTU-2	DAIKIN	MPS-040	9,950	3,350	1.5	0.3	4	6.0	ECM	N/A	N/A	N/A
RTU-3	DAIKIN	MPS-030	8,000	2,550	0.5	0.3	1	5.0	ECM	N/A	N/A	N/A
RTU-4	DAIKIN	MPS-020	6,500	1,650	0.5	0.3	1	7.5	ECM	N/A	N/A	N/A
RTU-5	DAIKIN	MPS-H04	1,600	300	0.7	0.2	1	2.0	PSC	N/A	N/A	N/A

MARK	ENERGY RECOVERY WHEEL: O/A CFM	E/A CFM	SUMMER CONDITIONS: OA IN DB/WB	FA OUT DB/WB	R/A IN DB/WB	E/A OUT DB/WB	TOTAL CAPACITY (MBH)	WINTER CONDITIONS: OA IN DB/WB	FA OUT DB/WB	R/A IN DB/WB	E/A OUT DB/WB	TOTAL CAPACITY (MBH)
RTU-1	3,300	2,700	93/79	84/73	75/63	89/75	88	35/33	65/60	70/63	40/37	243
RTU-2	-	-	-	-	-	-	-	-	-	-	-	-
RTU-3	-	-	-	-	-	-	-	-	-	-	-	-
RTU-4	-	-	-	-	-	-	-	-	-	-	-	-
RTU-5	-	-	-	-	-	-	-	-	-	-	-	-

MARK	COOLING COIL DATA: TOTAL CAPACITY (MBH)	SENSIBLE CAPACITY (MBH)	EAT (°F)	LAT (°F)	REFRIGERANT	HEATING DATA: TYPE	SIZE	HEATING SUPPLY CFM	ELECTRICAL DATA: VOLTS	PHASE	MCA	MOCP	WEIGHT (LBS.)	NOTES
RTU-1	420	290	78/67	51/51	R410A	-	-	SEE VAV SCHED.	460 V	3	92.2	100	8,448	1-12,14
RTU-2	480	310	81/69	54/54	R410A	-	-	SEE VAV SCHED.	460 V	3	97.5	110	6,613	1-11,14
RTU-3	325	222	80/67	54/53	R410A	ELEC	54 KW	4,000	460 V	3	76.8	90	4,006	1-10,13,14
RTU-4	240	180	80/67	54/54	R410A	ELEC	40 KW	3,250	460 V	3	70	70	2,341	1-10,13,14
RTU-5	48	34	80/67	54/54	R410A	ELEC	15 KW	1,600	460 V	3	24	25	760	1-10,13,14

NOTES:
1. PROVIDE 2" COTTON MEDIA FILTER APRROX. 20% EFFICIENCY.
2. TIE ALL RTU'S INTO BUILDING AUTOMATION SYSTEM.
3. PROVIDE SMOKE DETECTOR IN SUPPLY DUCT OF ALL UNITS ABOVE 2000 CFM.
4. PROVIDE ENTHALPY CONTROLLED ECONOMIZERS ON ALL RTU'S.
5. PROVIDE HAIL GUARDS ON ALL RTU'S.
6. PROVIDE ALL RTU'S WITH COPPER TUBE AND ALUMINUM FAN (AL/CU).
7. PROVIDE ALL RTU'S WITH FACTORY INSTALLED CONDENSATE OVERFLOW SWITCHES.
8. PROVIDE ALL RTUS WITH DEMAND CONTROL VENTILATION. INTERLOCK WITH SPACE CO2 SENSORS.
9. PROVIDE ALL RTU'S WITH FAULT DETECTION DIAGNOTISTICS.
10. PROVIDE ALL RTU'S WITH 14" FACTORY ROOF CURB.
11. INTERLOCK RTU OPERATION WITH VAV OPERATION.
12. PROVIDE RTU WITH ENTHALPY WHEEL.
13. PROVIDE RTU WITH HOT GAS REHEAT COIL.
14. PROVIDE RTU WITH CORROSION PROTECTION.

VAV SCHEDULE

MARK	MODEL	INLET SIZE	MAX COOLING AIRFLOW	MIN COOLING AIRFLOW	HEATING AIRFLOW	CONTROL TYPE	TOTAL HEATING CAPACITY	VOLTAGE	PHASE	MCA	MOCP	MANUFACTURER
VAV-1-1	SDV Series	8"	500 CFM	200 CFM	200 CFM	THERMOSTAT	2.5 kW	277 V	1	11.3 A	15 A	Price Industries
VAV-1-2	SDV Series	8"	400 CFM	150 CFM	150 CFM	THERMOSTAT	2.0 kW	277 V	1	9.0 A	15 A	Price Industries
VAV-1-3	SDV Series	6"	325 CFM	150 CFM	150 CFM	THERMOSTAT	2.0 kW	277 V	1	9.0 A	15 A	Price Industries
VAV-1-4	SDV Series	10"	925 CFM	220 CFM	650 CFM	THERMOSTAT	7.0 kW	277 V	1	31.5 A	35 A	Price Industries
VAV-1-5	SDV Series	6"	200 CFM	80 CFM	80 CFM	THERMOSTAT	1.0 kW	277 V	1	4.5 A	15 A	Price Industries
VAV-1-6	SDV Series	6"	260 CFM	80 CFM	80 CFM	THERMOSTAT	1.0 kW	277 V	1	4.5 A	15 A	Price Industries
VAV-1-7	SDV Series	10"	800 CFM	221 CFM	221 CFM	THERMOSTAT	3.0 kW	277 V	1	13.5 A	15 A	Price Industries
VAV-1-8	SDV Series	6"	350 CFM	80 CFM	80 CFM	THERMOSTAT	1.0 kW	277 V	1	4.5 A	15 A	Price Industries
VAV-1-9	SDV Series	10"	1150 CFM	410 CFM	410 CFM	THERMOSTAT	3.5 kW	277 V	1	15.8 A	20 A	Price Industries
VAV-1-10	SDV Series	6"	250 CFM	80 CFM	80 CFM	THERMOSTAT	1.0 kW	277 V	1	4.5 A	15 A	Price Industries
VAV-1-11	SDV Series	10"	750 CFM	310 CFM	310 CFM	THERMOSTAT	2.5 kW	277 V	1	11.3 A	15 A	Price Industries
VAV-1-12	SDV Series	10"	750 CFM	310 CFM	310 CFM	THERMOSTAT	2.5 kW	277 V	1	11.3 A	15 A	Price Industries
VAV-1-13	SDV Series	10"	800 CFM	310 CFM	310 CFM	THERMOSTAT	3.5 kW	277 V	1	15.8 A	20 A	Price Industries
VAV-1-14	SDV Series	6"	300 CFM	80 CFM	210 CFM	THERMOSTAT	3.0 kW	277 V	1	13.5 A	15 A	Price Industries
VAV-1-15	SDV Series	4"	130 CFM	40 CFM	50 CFM	THERMOSTAT	0.5 kW	277 V	1	2.3 A	15 A	Price Industries
VAV-1-16	SDV Series	10"	725 CFM	310 CFM	310 CFM	THERMOSTAT	2.5 kW	277 V	1	11.3 A	15 A	Price Industries
VAV-2-1	SDV Series	10"	1050 CFM	310 CFM	550 CFM	THERMOSTAT	6.5 kW	277 V	1	29.3 A	30 A	Price Industries
VAV-2-2	SDV Series	10"	800 CFM	310 CFM	325 CFM	THERMOSTAT	3.5 kW	277 V	1	15.8 A	20 A	Price Industries
VAV-2-3	SDV Series	10"	800 CFM	310 CFM	325 CFM	THERMOSTAT	3.5 kW	277 V	1	15.8 A	20 A	Price Industries
VAV-2-4	SDV Series	10"	800 CFM	310 CFM	325 CFM	THERMOSTAT	3.5 kW	277 V	1	15.8 A	20 A	Price Industries
VAV-2-5	SDV Series	10"	800 CFM	310 CFM	325 CFM	THERMOSTAT	3.5 kW	277 V	1	15.8 A	20 A	Price Industries
VAV-2-6	SDV Series	10"	800 CFM	220 CFM	220 CFM	THERMOSTAT	3.0 kW	277 V	1	13.5 A	15 A	Price Industries
VAV-2-7	SDV Series	8"	500 CFM	140 CFM	140 CFM	THERMOSTAT	2.0 kW	277 V	1	9.0 A	15 A	Price Industries
VAV-2-8	SDV Series	10"	775 CFM	310 CFM	325 CFM	THERMOSTAT	3.5 kW	277 V	1	15.8 A	20 A	Price Industries
VAV-2-9	SDV Series	12"	1225 CFM	500 CFM	650 CFM	THERMOSTAT	7.0 kW	277 V	1	31.5 A	35 A	Price Industries
VAV-2-10	SDV Series	10"	800 CFM	310 CFM	325 CFM	THERMOSTAT	3.5 kW	277 V	1	15.8 A	20 A	Price Industries
VAV-2-11	SDV Series	10"	800 CFM	310 CFM	325 CFM	THERMOSTAT	3.5 kW	277 V	1	15.8 A	20 A	Price Industries
VAV-2-12	SDV Series	10"	800 CFM	310 CFM	325 CFM	THERMOSTAT	3.5 kW	277 V	1	15.8 A	20 A	Price Industries

NOTES:
1. PROVIDE WIRELESS DIGITAL THERMOSTAT IN SPACE AS SHOWN. PROVIDE ELECTRIC REHEAT COIL WHERE SCHEDULED.
2. TIE BOX AND THERMOSTAT INTO BMS.
3. PROVIDE FACTORY INSTALLED 1/2" FIBER FREE FOAM SOUND LINING PACKAGE.
4. INSTALL BOX SUCH THAT CONTROLS PANEL, REHEAT COIL, ELECTRICAL DISCONNECTS, FILTERS, ETC. ARE ALL SERVICEABLE.
5. PROVIDE 277/24V CONTROLS TRANSFORMER.

AIR DEVICE SCHEDULE

MARK	SERVICE	TYPE	NECK	FACE	BALANCING DAMPER	MFR.	MODEL	NOTES
A	SUPPLY	CEILING	SEE DETAIL	24"x24" U.N.O	Yes	TITUS	TMSA	1-5
B	RETURN	CEILING	SEE PLANS	24"x24"	No	TITUS	8F	2,3,4,5,7
C	SUPPLY	CEILING	SEE DETAIL	24"x24" U.N.O	Yes	TITUS	OMNI-AA	1-5
D	EXHAUST	CEILING	SEE PLANS	24"x24" U.N.O.	Yes	TITUS	PAR-AA	1-5
E	SUPPLY	DROP BOX	36X36	6-WAY DRUM	No	CARNES	TDBA-D6	1-3

NOTES:
1. ALL GRILLES IN TOILET ROOM AND KITCHEN AREAS TO BE ALUMINUM. ALL OTHERS STEEL UNLESS NOTED OTHERWISE.
2. ALL AIR DEVICES COLOR TO BE SELECTED BY ARCHITECT.
3. CONTRACTOR IS RESPONSIBLE TO PROVIDE THE AIR DEVICE FRAME AND MOUNTING SYSTEM TO MATCH THE ARCHITECT CEILING TYPES. SEE ARCHITECTURAL DRAWINGS FOR COORDINATION.
4. PROVIDE RADIAL DAMPERS FOR DUCT MOUNTED AIR DEVICES AND FOR AIR DEVICES IN HARD CEILINGS/WALLS.
5. ENSURE ALL BALANCING DAMPERS ARE ACCESSIBLE. PLACE DAMPER ABOVE CEILING GRID WHERE POSSIBLE.

GENERAL EXHAUST FAN SCHEDULE

MARK	MFR.	MODEL	LOCATION/AREA SERVED	CFM	EXT S.P.	MOTOR HP	RPM	VOLTAGE	PHASE	WEIGHT	NOTES
EF-1	Loren Cook Company	DB	PLENUM/FIRST FLOOR RR	700 CFM	0.38 in-wg	0	850	115 V	1	70	1,3
EF-2	Loren Cook Company	DB	PLENUM/LOCKERS	975 CFM	0.25 in-wg	1/4	850	115 V	1	70	1,3
EF-3	Loren Cook Company	GC	CEILING/STAFF RR	75 CFM	0.10 in-wg	26W	705	115 V	1	11	2
EF-4	Loren Cook Company	ACEB	ROOF/SECOND FLOOR RR	800 CFM	0.25 in-wg	1/6	1600	115 V	1	38	1,3
EF-5	Loren Cook Company	GC	CEILING/STAFF RR	75 CFM	0.10 in-wg	26W	705	115 V	1	11	2,4

NOTES:
1. EXHAUST FAN TO RUN CONTINUOUSLY DURING OCCUPIED HOURS.
2. INTERLOCK FAN OPERATION WITH LIGHTSWITCH.
3. PROVIDE EXHAUST FAN WITH BACKDRAFT DAMPER.
4. PROVIDE EXHAUST FAN WITH CEILING RADIATION DAMPER ACCESSORY.

OUTSIDE AIR CALCULATIONS

ZONE	AREA (FT^2) (Az)	AREA O/A RATE (Ra)	AREA OUTDOOR (RaAz)	OCCUPANT DENSITY RATE (PEOPLE/1,000 SQ. FT.)	OCCUPANCY (Pz)	OCCUPANT O/A RATE (Rp)	OCCUPANT O/A (RpPz)	BREATHING ZONE AIR (Vbz) (RpPz + RaAz)	ZONE AIR DISTRIBUTION EFF. (Ez)	REQUIRED ZONE O/A (Voz) (Vbz/Ez)	OUTSIDE AIR DESIGN (Vpz)
CLASSROOM (AGE 9 PLUS)	9,691	0.12	1,163	35	339	10	3,392	4,555	0.8	5,693	5,700
OFFICE SPACE	1,151	0.06	69	5	6	5	29	98	0.8	122	150
LOBBY	548	0.06	33	30	16	7.5	123	156	0.8	195	200
CORRIDOR	3,103	0.06	186	0	-	0	-	186	0.8	233	240
STORAGE ROOM	845	0.12	101	0	-	0	-	101	0.8	127	130
GYM	7,800	0.18	1,404	7	55	20	1,092	2,496	0.8	3,120	3,120
CAFETERIA	1,605	0.18	289	-	150	7.5	1,125	1,414	0.8	1,767	1,770
MUSIC	1,007	0.06	60	35	35	10	352	413	0.8	516	520
RECEPTION	180	0.06	11	30	5	5	27	38	0.8	47	50

DIRECT EXPANSION MINI AIR HANDLING UNIT SCHEDULE

MARK	CFM	O/A CFM	MOTOR HP	MCA	MOCP	VOLTAGE	PHASE	EXT S.P. "WC	EAT DB	EAT WB	TOTAL COOLING CAPACITY	SENSIBLE COOLING CAPACITY	REFRIGERANT TYPE	HEATING TYPE	TOTAL HEATING CAPACITY	UNIT WEIGHT	MANUFACTURER	MODEL
MAHU-1	364 CFM	0 CFM	30 W	1.0 A	15 A	208 V	1	0	80 °F	67 °F	9000 Btu/h	6750 Btu/h	R410A	HEAT PUMP	9000 Btu/h	22 lb	Mitsubishi Electric	MSY-GL09NA-U1
MAHU-2	364 CFM	0 CFM	30 W	1.0 A	15 A	208 V	1	0	80 °F	67 °F	9000 Btu/h	6750 Btu/h	R410A	HEAT PUMP	9000 Btu/h	22 lb	Mitsubishi Electric	MSY-GL09NA-U1

NOTES:
1. PROVIDE WITH SINGLE POINT ELECTRICAL CONNECTION.
2. PROVIDE WITH THERMAL EXPANSION VALVE (TXV). SET SUPERHEAT APPROXIMATELY 12° OR AS DIRECTED BY MANUFACTURER.
3. PROVIDE MINIMUM 3/4" CONDENSATE TO NEAREST HUB DRAIN OR MOP SINK. SEE PLUMBING SHEETS.
4. PROVIDE REFRIGERANT PIPING TO CONDENSING UNIT. SIZES AND ROUTING IN ACCORDANCE TO MANUFACTURER'S RECOMMENDATIONS.
5. PROVIDE ALL AIR HANDLERS WITH HONEYWELL VISIONPRO 7-DAY PROGRAMMABLE THERMOSTAT. CONNECT ALL AIR HANDLERS TO BMS.
6. ALL AIR HANDLERS TO RECEIVE POWER FROM HEAT PUMPS THROUGH FIELD SUPPLIED INTERCONNECTED WIRING.
7. PROVIDE ALL AIR HANDLERS WITH INTEGRAL CONDENSATE PUMP.

HEAT PUMP SCHEDULE

MARK	SERVES	CAPACITY (TONS)	COP	HSPF	SEER	EER	AMBIENT AIR TEMP	REFRIGERANT TYPE	STAGES OF COOLING	MCA	MOCP	VOLTAGE	PHASE	UNIT WEIGHT	MANUFACTURER	MODEL
HP-1	MAHU-1	0.75	4.44	11.8	24.6	15.4	105 °F	R410A	1	7 A	15 A	208 V	1	81 lb	Mitsubishi Electric	MUZ-GL09NA-U8
HP-2	MAHU-2	0.75	4.44	11.8	24.6	15.4	105 °F	R410A	1	7 A	15 A	208 V	1	81 lb	Mitsubishi Electric	MUZ-GL09NA-U8

NOTES:
1. FOR ROOF MOUNTED EQUIPMENT SECURE TO UNISTRUT CHANNEL SEALED TO ROOF MEMBRANE.
2. SEAL AND FLASH ROOF PENETRATIONS. SEE ARCH/STRUCT DRAWINGS.
3. PROVIDE REFRIGERANT PIPING TO EVAPORATOR COIL SIZED AND ROUTED IN ACCORDANCE TO MANUFACTURER'S RECOMMENDATIONS.
4. PROVIDE WITH SINGLE POINT ELECTRICAL POWER CONNECTION.
5. PROVIDE WITH HIGH AND LOW PRESSURE SAFETIES.
6. PROVIDE WITH LOW AMBIENT CAPABILITY TO 20° F.

EXHAUST AIR CALCS

	SQ. FT.	FIXTURES	CFM/SQ. FT.	CFM/FIXTURE	EXHAUST CFM REQUIRED	EXHAUST CFM SUPPLIED
TOILET	-	32	0	50	1600	1,925
LOCKER	391	0	0.25	50	98	475
JANITOR	0	-	0.0	-	0	100
ERV	-	-	-	-	2700	2,700
TOTAL					4,398	5,200

AIR BALANCE

	REQUIRED	SUPPLIED	
OUTSIDE AIR	11,821	11,880	
EXHAUST AIR	4,398	5,200	
DIFFERENCE	-	6,680	(+)

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CONSULTANT LOGO

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JAMES F. TURNER, II LICENSE NO. 73441 STATE OF FLORIDA PROFESSIONAL ENGINEER 2022-10-07

TCCA HIGH SCHOOL BUILDING
1400 SE COVE RD
STUART FLORIDA 34997

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PROJECT ARCHITECT: AWJ
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