

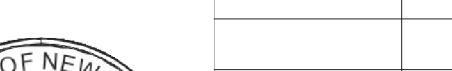
ROOFTOP AIR CONDITIONING UNIT SCHEDULE																															
TAG	MANUFACTURER	MODEL	LOCATION	NOM. CAP. (TONS)	MIN. OA (CFM)	MAX. OA (CFM)	SUPPLY FAN			FILTER		DX COOLING						HEATING		COMPRESSOR	CONDENSER			EER	ELECTRICAL			OPERATING WEIGHT (±LBS)	DIMENSIONS LxWxH (IN)	NOTES	
							AIR FLOW (CFM)	ESP (IN)	MOTOR BHP	TYPE	MERV	REFRIG TYPE	TOTAL CAP. (MBH)	SENSIBLE CAP. (MBH)	EAT DB (°F)	EAT WB (°F)	LAT DB (°F)	LAT WB (°F)	ELEC. KW		TOTAL CAP. (MBH)	TYPE/QTY	AMB. TEMP (°F)		FAN QTY	HP	MCA				MOCP
RTU-1	TRANE	VOYAGER 3	ROOF	35	435	3200	10500	1.50	8.18	2" PLEATED	13	R-410A	400.7	297.1	82.0	68.0	56.3	55.8	54.0	159.3	SCROLL/1	95	3	0.01	10.30	159	200	208-3-60	4343	180x90x70	
NOTES:																															
1. PROVIDE DOWNFLOW SUPPLY AND RETURN UNIT CONFIGURATION, OVERSIZE SUPPLY FAN MOTOR, MOTORIZED OUTSIDE AIR DAMPER, NON-FUSED DISCONNECT, ECONOMIZER, ECONOMIZER HOOD, BAROMETRIC RELIEF HOOD AND 14" ROOF CURB																															
2 FACTORY CONTROLS TO BE PROVIDED BY MANUFACTURE																															
3 PROVIDE WITH MERV 13 FILTERS AND OPTION FOR UV LIGHT FILTRATION KIT																															
4 PROVIDE DIGITAL CONTROLLER WITH DISPLAY CAPABLE OF DEMAND CONTROL VENTILATION AND ECONOMIZER MODE. CONTRACTOR TO PROVIDE TRANSFORMER AND POWER AS REQUIRED																															

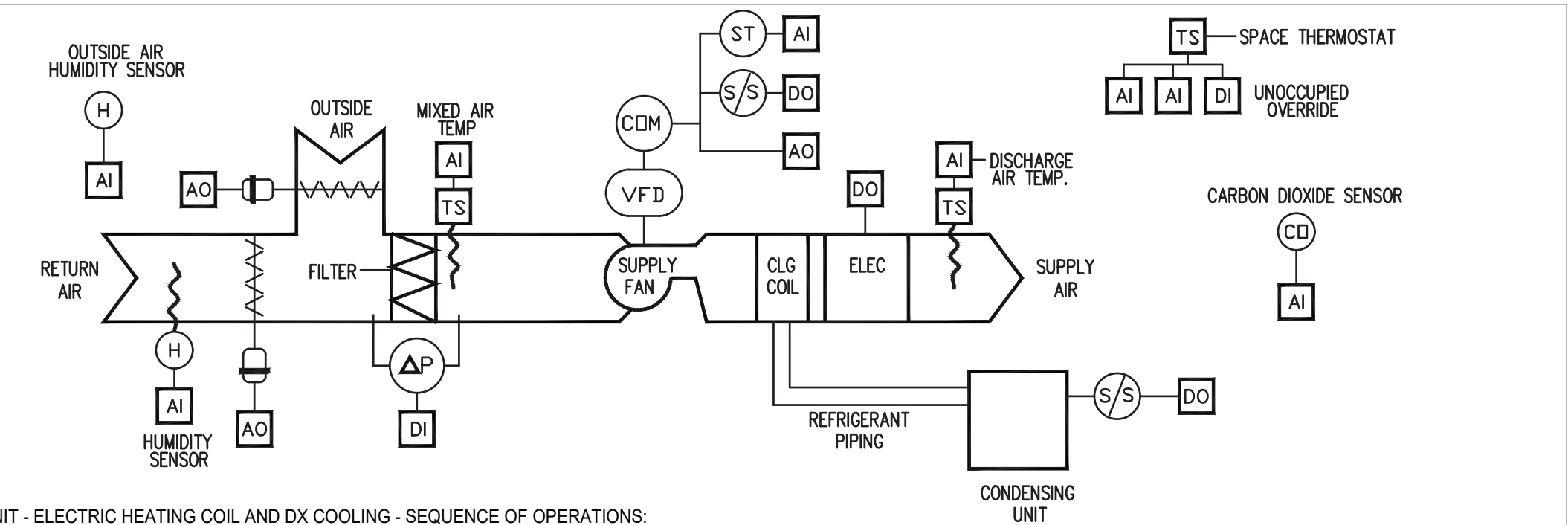
FAN SCHEDULE														
TAG	MANUFACTURER	MODEL	LOCATION	SERVICE	TYPE	DRIVE	AIR FLOW (CFM)	TSP (IN. WG)	ELECTRICAL				OPERATING WEIGHT (±LBS)	DIMENSIONS DxDH (IN)
									HP	BHP	RPM	V-PH-HZ		
EF-1	GREENHECK	G-095	ROOF	KITCHEN EXHAUST (GENERAL)	CENTRIFUGAL	DIRECT	775	0.50	1/4	-	1725	208-1-60	30	22x27
EF-2	GREENHECK	G-070	ROOF	BATHROOM EXHAUST	CENTRIFUGAL	DIRECT	200	0.25	0.03	-	1550	115-1-60	24	19x24
NOTES:														
1. PROVIDE ALL CONTACTS, RELAYS, AND DEVICES NECESSARY FOR BMS CONTROL OF FANS PER SEQUENCE OF OPERATIONS.														
2. PROVIDE PREMIUM EFFICIENCY MOTORS.														
3. PROVIDE THERMAL OVERLOAD FOR ALL SINGLE PHASE MOTORS.														
4. PROVIDE SALT WATER RESISTANT HI-PRO POLYESTER COATING FOR ALL FANS.														
5. FAN SHALL BE FURNISHED WITH NON FUSED DISCONNECT.														
6. PROVIDE 12" ROOF CURBS FOR ALL ROOF MOUNTED FANS. INCLUDE 1.5" INSULATION ON CURB.														

CABINET UNIT HEATER SCHEDULE									
EQUIP. NO.	MANUFACTURER	MODEL	LOCATION	SERVICE	TYPE	KW			UNIT DIMENSIONS (LxDxH)
							V-P-HZ	AMPS	
CUH-1	QMARK	CU935	REAR ENTRY WAY	WALL MOUNTED	5	208-3-60	14.0		35x10x27
CUH-2	QMARK	CU935	LOBBY	WALL MOUNTED	5	208-3-60	14.0		35x10x27
NOTES:									
1. PROVIDE WITH 2 STAGE BUILT-IN THERMOSTAT.									

ELECTRIC UNIT HEATER SCHEDULE						
TAG	MANUFACTURER	MODEL	SERVICE	TYPE	KW	V-PH-HZ
UH-1	QMARK	MUH03	SPRINKLER ROOM	WALL HUNG	3.0	208-1-60
NOTES:						
1. PROVIDE UNIT MOUNTED THERMOSTATS.						

DIFFUSER SCHEDULE									
TAG	MANUFACTURER	MODEL	SERVICE	CFM	NECK SIZE (IN)	FACE SIZE (IN)	MAX PD (wg)	MAX NC	NOTES
SD-1	PRICE	ASPD	SUPPLY	<200	6" ROUND	12X12	0.15	20	ALUMINUM TYPE 31 T BAR/4C.
SG-1	PRICE	SDG	SUPPLY	-	-	10X10	0.06	-	ALUMINUM, NO SCREW HOLES, 45 DEG DEFLECTION, 3/4" (13) BLADE SPACING.
SG-2	PRICE	630	SUPPLY	-	6" ROUND	12X12	0.02	18	ALUMINUM TYPE TB, NO SCREW HOLES, 45 DEG DEFLECTION, 3/4" (13) BLADE SPACING.
RG-1	PRICE	630	RETURN	-	-	24X16	-0.1	27	ALUMINUM TYPE TB, NO SCREW HOLES, 45 DEG DEFLECTION, 3/4" (13) BLADE SPACING.
EG-1	PRICE	630	EXHAUST	-	-	12X12	-0.044	18	ALUMINUM TYPE TB, NO SCREW HOLES, 45 DEG DEFLECTION, 3/4" (13) BLADE SPACING.
NOTES:									
1. COORDINATE AND CONFIRM CEILING MOUNT (T-BAR, SURFACE, ETC) WITH ARCHITECT BEFORE ORDERING EQUIPMENT.									
2. BASE PRICE FOR BIDDING MUST CONTAIN DIFFUSERS/GRILLES BY PRICE. CONTRACTOR CAN SUBMIT A DEDUCT/ALTERNATE FOR DIFFUSERS/GRILLES BY A DIFFERENT MANUFACTURER.									

<div>CONSULTANT INFORMATION</div> <div><div><div>LiRo Engineers, Inc.</div><div>A LiRo Group Company</div><div>Syosset, N.Y. 516-214-8157[T]</div></div></div>	<div>CONSULTANT SEAL</div> <div><div><div>3/26/2021</div><div>FRANK F. ULISSE</div><div>PROFESSIONAL ENGINEER</div></div></div>							<div>RECORD DRAWING CERTIFICATION</div> <div><input type="checkbox"/> AS BUILT – CHANGES AS NOTED<input type="checkbox"/> AS BUILT – NO CHANGES</div>				<div>WESTCHESTER COUNTY, NEW YORK</div> <div>DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION</div> <div>DIVISION OF ENGINEERING</div>				<div>CONTRACT NUMBER</div> <div>20-530</div>		<div>SHEET NUMBER</div> <div>PR-M-61</div>	
									<div>CONTRACTOR</div>		<div>PROJECT COORDINATOR</div>		<div>INFRASTRUCTURE REHABILITATION - PHASE 2</div> <div>PLAYLAND PARK, RYE, NEW YORK</div> <div>PLAZA RESTAURANT</div> <div>MECHANICAL SCHEDULES AND DETAILS</div>				<div>DWG. NO.:</div> <div>Page 154 of 288</div>		
									<div>NAME</div> <div>SIGNATURE</div> <div>TITLE</div>		<div>NAME</div> <div>SIGNATURE</div> <div>TITLE</div>		<div>SCALE:</div> <div>AS NOTED</div>						
									<div>DATE</div>		<div>DATE</div>		<div>DATE:</div> <div>MAY 26, 2021</div>						
									<div>REVISION</div>		<div>REVISION</div>		<div>DPW FILE NUMBER</div> <div>1-118-M-541</div>		<div>REV. NO.</div> <div>0</div>				

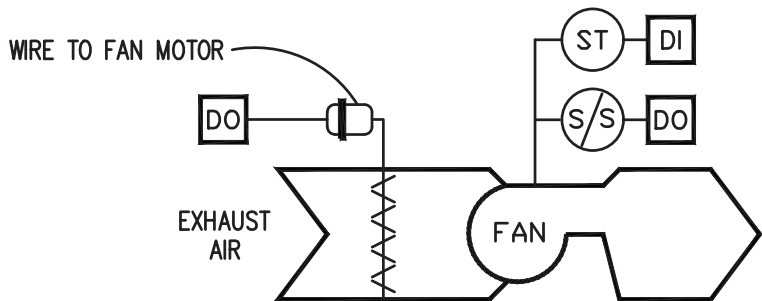


ROOFTOP UNIT - ELECTRIC HEATING COIL AND DX COOLING - SEQUENCE OF OPERATIONS:

- OCCUPIED MODE:
 - SUPPLY FAN AND ASSOCIATED EXHAUST FANS SHALL RUN CONTINUOUSLY. THE SUPPLY FAN SHALL RUN AT THE FREQUENCY DETERMINED BY THE BALANCING CONTRACTOR.
 - THE OUTSIDE AIR DAMPER SHALL OPEN TO THE POSITION REQUIRED TO MAINTAIN THE MINIMUM OUTSIDE AIR QUANTITY INDICATED. OUTSIDE AIR DAMPER SHALL NEVER BE POSITIONED BELOW THIS MINIMUM POSITION EXCEPT IN CASE OF ALARM.
 - WHEN THE SPACE TEMPERATURE IS AT OR BELOW THE HEATING SETPOINT, THE ELECTRIC COIL SHALL MODULATE TO MAINTAIN SPACE HEATING SETPOINT SUBJECT TO A DISCHARGE HIGH LIMIT OF 120 DEG. F (ADJUSTABLE) AND DISCHARGE LOW LIMIT OF 70 DEG. F (ADJUSTABLE).
 - WHEN THE SPACE TEMPERATURE RISES 3 DEG. F (ADJUSTABLE) ABOVE THE SPACE HEATING SETPOINT, AND THE OUTSIDE AIR ENTHALPY IS LOWER THAN THE SPACE ENTHALPY, THE OUTSIDE AIR DAMPER SHALL MODULATE OPEN AND THE ASSOCIATED RELIEF DAMPER SHALL OPEN TO MAINTAIN THE OCCUPIED SETPOINT. THIS SHALL BE DONE SUBJECT TO LOW LIMIT OF 55 DEG. F (ADJUSTABLE) AND WITH THE GAS FURNACE DISABLED.
 - WHEN THE SPACE TEMPERATURE IS 3 DEG. F (ADJUSTABLE) ABOVE THE COOLING SETPOINT, AND THE OUTSIDE AIR CANNOT COOL THE SPACE, THE RESPECTIVE CONDENSING UNIT SHALL BE CYCLED WITH THE ELECTRIC HEATING COIL DISABLED TO MAINTAIN SPACE TEMPERATURE. USE 5 DEG. F (ADJUSTABLE) DEADBAND BETWEEN HEATING AND COOLING SETPOINTS.
- ECONOMIZER OPERATION
 - ECONOMIZER OPERATION IS ENABLED WHEN OUTDOOR AIR ENTHALPY IS LESS THAN RETURN AIR ENTHALPY.
 - THE OUTSIDE AIR AND RETURN AIR DAMPERS SHALL MODULATE AS REQUIRED TO OPTIMIZE SUPPLY AIR TEMPERATURE SETPOINT VIA FREE COOLING. THIS IS TYPICALLY A FULLY OPEN OUTSIDE AIR DAMPER DURING SUMMER MONTHS, AND PARTIALLY OPEN OUTSIDE AIR AND RETURN AIR DAMPERS DURING WINTER MONTHS.
 - IF ECONOMIZER MODE CAN NOT FULLY PROVIDE THE REQUIRED DISCHARGE AIR TEMPERATURE, THE DX COOLING COIL SHALL SUPPLEMENT AS REQUIRED.
- DEMAND CONTROL VENTILATION (CO2) OPERATION
 - SPACE CO2 LEVELS SHALL BE CONTINUOUSLY MONITORED IN OCCUPIED MODE.
 - A CO2 SENSOR SHALL BE INSTALLED IN THE RETURN AIR DUCT AND ANOTHER CO2 SENSOR SHOULD BE INSTALLED OUTDOORS BY THE UNIT. CO2 LEVEL OF BOTH SHALL BE MONITORED AND COMPARED THE BY UNIT CONTROLLER.
 - WHEN CO2 LEVEL IN RETURN AIR DUCT IS 700 PPM (ADJUSTABLE), ABOVE OUTSIDE AIR CO2 LEVEL, THE OUTSIDE AIR, AND RETURN AIR DAMPERS SHALL MODULATE AS REQUIRED TO INCREASE OUTSIDE AIR INTAKE IN ORDER TO MAINTAIN SPACE CO2 SETPOINT.
 - OUTSIDE AIR AND RETURN AIR DAMPER ECONOMIZER TEMPERATURE CONTROL FUNCTIONALITY SHALL BE SECONDARY DURING DEMAND CONTROL VENTILATION OPERATION. THE DX COOLING & HEATING COIL SHALL CONTINUE TO MAINTAIN SUPPLY AIR DISCHARGE SETPOINT.
 - WHEN OCCUPIED CO2 SETPOINT PLUS DEADBAND IS REACHED THE SYSTEM DAMPERS SHALL RETURN MINIMUM OUTSIDE AIR/ECONOMIZER OPERATION. MINIMUM OUTSIDE AIR SHALL BE SET TO 450-CFM.
- UNOCCUPIED MODE:
 - THE SUPPLY AND ASSOCIATED EXHAUST FAN SHALL BE OFF.
 - THE OUTSIDE AIR DAMPER AND THE ASSOCIATED RELIEF AIR HOOD DAMPER SHALL BE FULLY CLOSED AND THE RETURN AIR DAMPER SHALL BE FULLY OPEN.
 - ON DROP IN SPACE TEMPERATURE BELOW THE UNOCCUPIED HEATING SETPOINT, CYCLE THE FAN ON AND ELECTRICAL COIL SHALL OPERATE AT THE FULL RATE TO MAINTAIN REDUCED SPACE TEMPERATURE. USE 5 DEG. F (ADJUSTABLE) DEADBAND TO MINIMIZE SHORT CYCLING.
 - A TIMED LOCAL OVERRIDE CONTROL SHALL ALLOW AN OCCUPANT TO OVERRIDE THE SCHEDULE AND PLACE THE UNIT IN OCCUPIED MODE FOR 1 HOUR (ADJUSTABLE). AT EXPIRATION OF THIS TIME, CONTROL OF THE UNIT SHALL AUTOMATICALLY RETURN TO THE SCHEDULE.
- WARM-UP MODE:
 - THE UNIT SHALL START PER AN OPTIMUM START PROGRAM.
 - THE OUTSIDE AIR DAMPER AND THE ASSOCIATED RELIEF HOOD DAMPER SHALL BE FULLY CLOSED, THE RETURN AIR DAMPER SHALL BE FULLY OPEN, AND THE ASSOCIATED EXHAUST FAN SHALL BE OFF.
 - THE SUPPLY FAN SHALL RUN AND THE GAS FURNACE SHALL MODULATE TO MAINTAIN OCCUPIED SETPOINT.
- SAFETIES:
 - DIFFERENTIAL PRESSURE ACROSS THE AIR FILTERS SHALL GENERATE AN ALARM WHENEVER THE DIFFERENTIAL PRESSURE EXCEEDS ITS ADJUSTABLE SETPOINT.
 - IF THE DISCHARGE AIR TEMPERATURE DROPS BELOW 35 DEG F (ADJUSTABLE), THE SUPPLY FAN SHALL TURN OFF AND SHALL BE LOCKED OUT, AND AN ALARM SHALL BE ACTIVATED.
 - IF THE DISCHARGE AIR TEMPERATURE RISES ABOVE 120 DEG. F (ADJUSTABLE), THE GAS FURNACE SHALL TURN OFF AND AN ALARM SHALL BE ACTIVATED.
 - COORDINATE SMOKE DETECTION SHUTDOWN WITH FIRE ALARM CONTRACTOR

1 Rooftop Unit With Return Fan - Electric Coil and Dx Cooling

M-601 SCALE: NOT TO SCALE



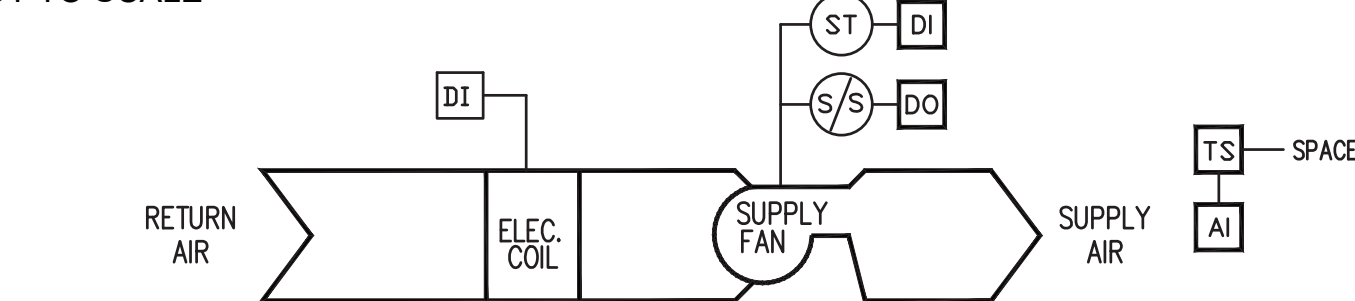
EXHAUST FAN - CONSTANT SPEED - SEQUENCE OF OPERATIONS:

INTERLOCK THE OPERATION OF THE EXHAUST FANS AND AUTOMATIC DAMPERS WITH THEIR RESPECTIVE HEATING AND COOLING EQUIPMENT.

- OCCUPIED MODE:
 - THE EXHAUST FAN SHALL RUN CONTINUOUSLY AND THE AUTOMATIC AIR DAMPER SHALL OPEN.
- UNOCCUPIED MODE:
 - THE EXHAUST FAN SHALL BE OFF AND THE AUTOMATIC AIR DAMPER SHALL BE CLOSED.
- WARM-UP MODE:
 - THE EXHAUST FAN SHALL BE OFF AND THE AUTOMATIC AIR DAMPER SHALL BE CLOSED.
- SAFETIES:
 - UPON A FAILURE OF THE FAN, AS SENSED BY A CURRENT SENSING STATUS SWITCH, AN ALARM SHALL BE ACTIVATED.

1 Exhaust Fan - Constant Speed

M-601 SCALE: NOT TO SCALE



UNIT HEATER - ELECTRIC - SEQUENCE OF OPERATIONS:

- OCCUPIED MODE:
 - ON DROP IN SPACE TEMPERATURE BELOW OCCUPIED HEATING SETPOINT, CYCLE THE FAN ON AND MODULATE (2 STAGE) ELECTRIC COIL TO MAINTAIN SPACE OCCUPIED SETPOINT. FAN SHALL HAVE DELAYED SHUT OFF AFTER VALVE CLOSURE. USE 5 DEG. F (ADJUSTABLE) DEADBAND TO MINIMIZE SHORT CYCLING.
- UNOCCUPIED MODE:
 - ON DROP IN SPACE TEMPERATURE BELOW UNOCCUPIED HEATING SETPOINT, CYCLE THE FAN OFF AND POWER OFF ELECTRIC COIL. USE 5 DEG. F (ADJUSTABLE) DEADBAND TO MINIMIZE SHORT CYCLING.
- SAFETIES:
 - PROVIDE CURRENT SENSOR TO SENSE THE STATUS OF THE FANS. WHEN FAN MOTOR AMP DRAW IS OUT OF NORMAL RANGE, GENERATE AN ALARM AT THE OWS.

1 Unit Heater - Electric

M-601 SCALE: NOT TO SCALE