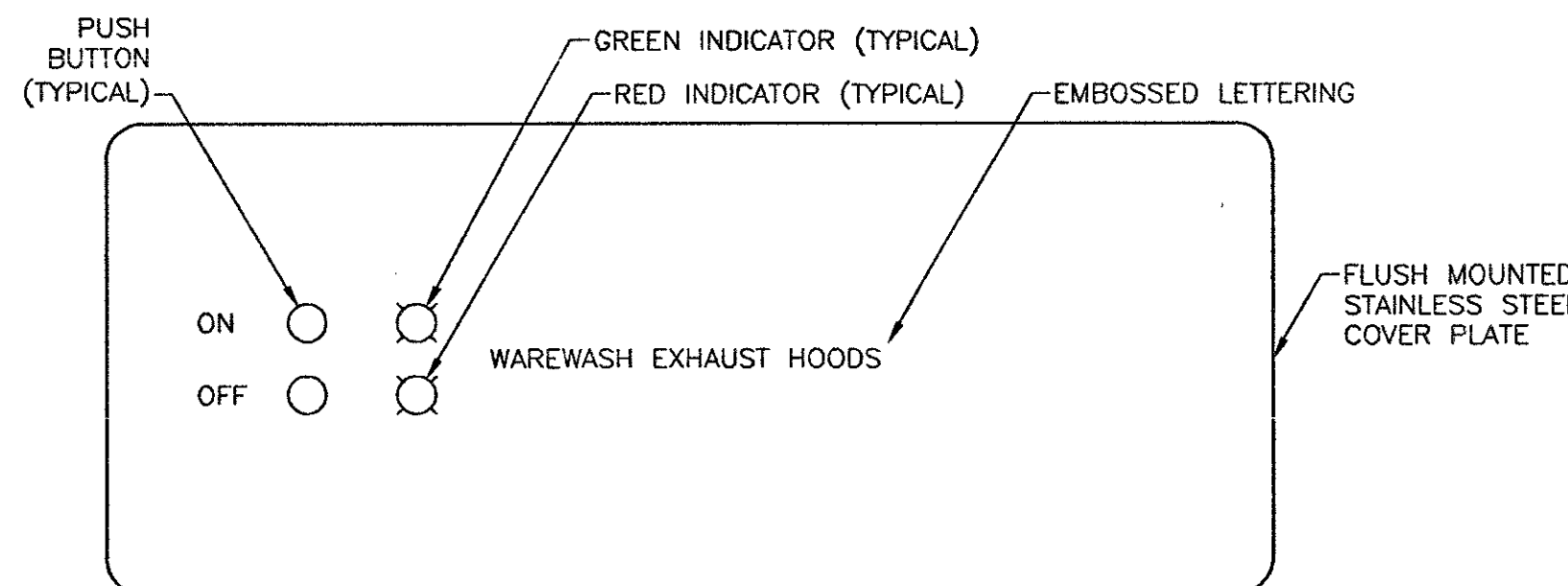
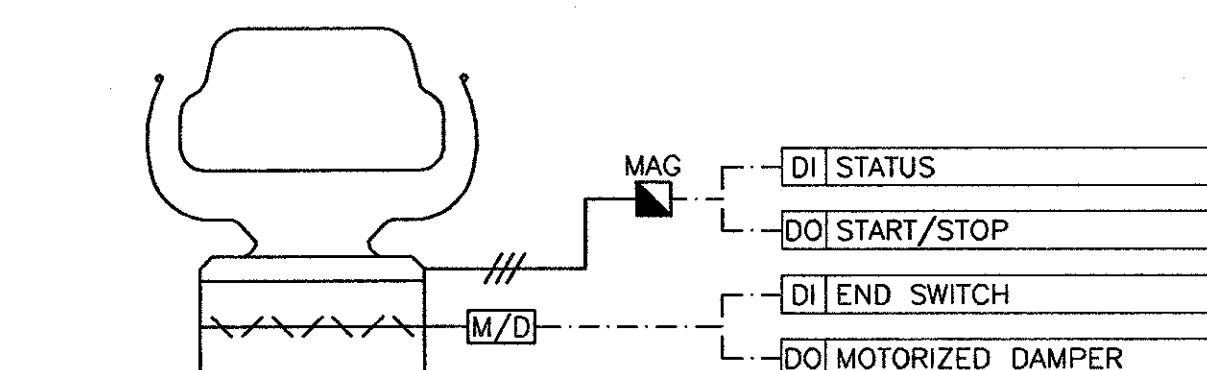
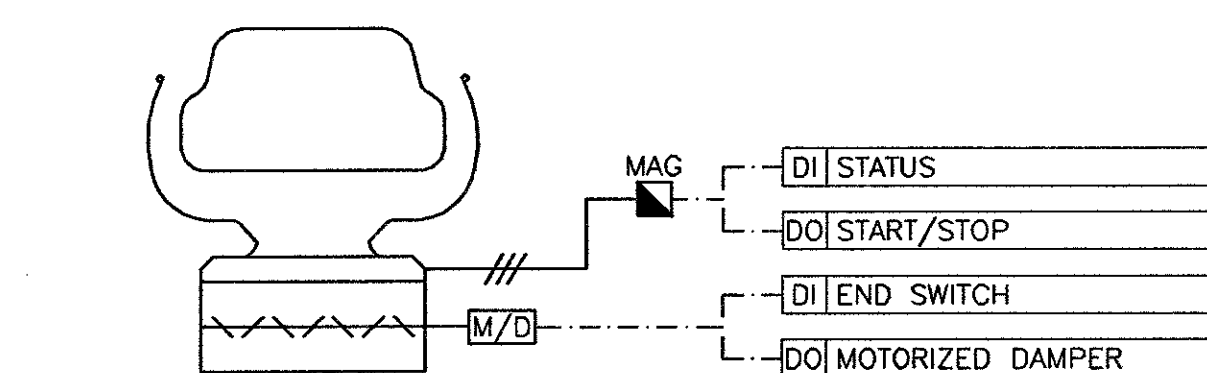
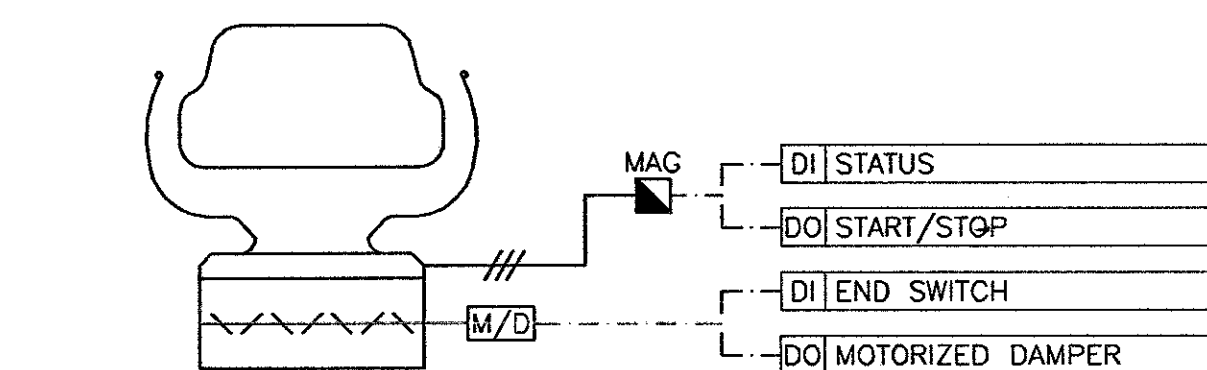
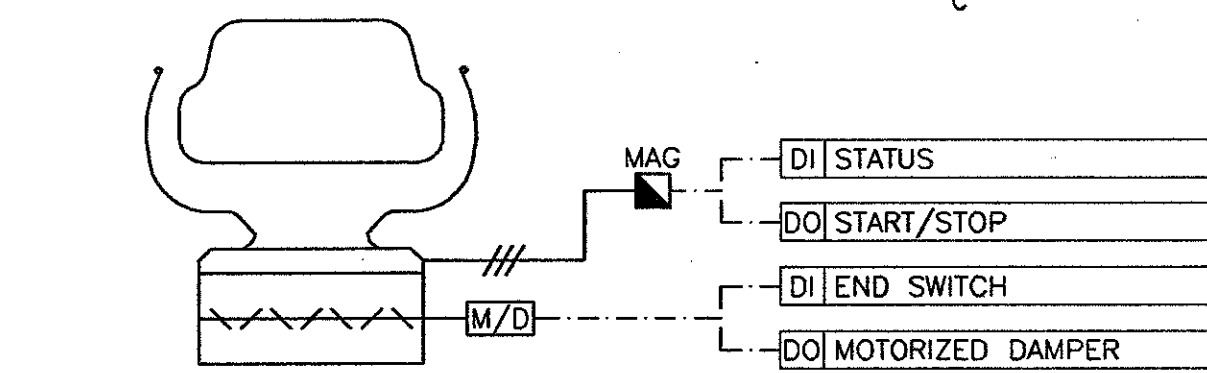


**SEQUENCE OF OPERATION:**

- EF-4 SHALL NORMALLY OPERATE WHEN AHU-1 IS ENABLED.



**NOTES:**

- MOUNT CONTROL PANEL AT 1200mm AFF AT LOCATION SHOWN ON DRAWINGS.
- PROVIDE CUSTOMIZED, CSA CERTIFIED CONTROL PANEL AS SHOWN.
- REFER TO CONTROL SEQUENCES FOR CONTROL OF EXHAUST HOODS AND FANS.

**SEQUENCE OF OPERATION:**

- USER SHALL ENABLE/DISABLE SYSTEM USING CONTROL PANEL IN WARE WASH AREA.
- UPON ACTIVATION AHU-1 SEQUENCE SHALL BE INITIATED.

**CONTROLS SCHEMATIC — COOK/CHILL CONTROL PANEL**  
SCALE: N.T.S.

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**AHU-1 SEQUENCE OF OPERATION:**

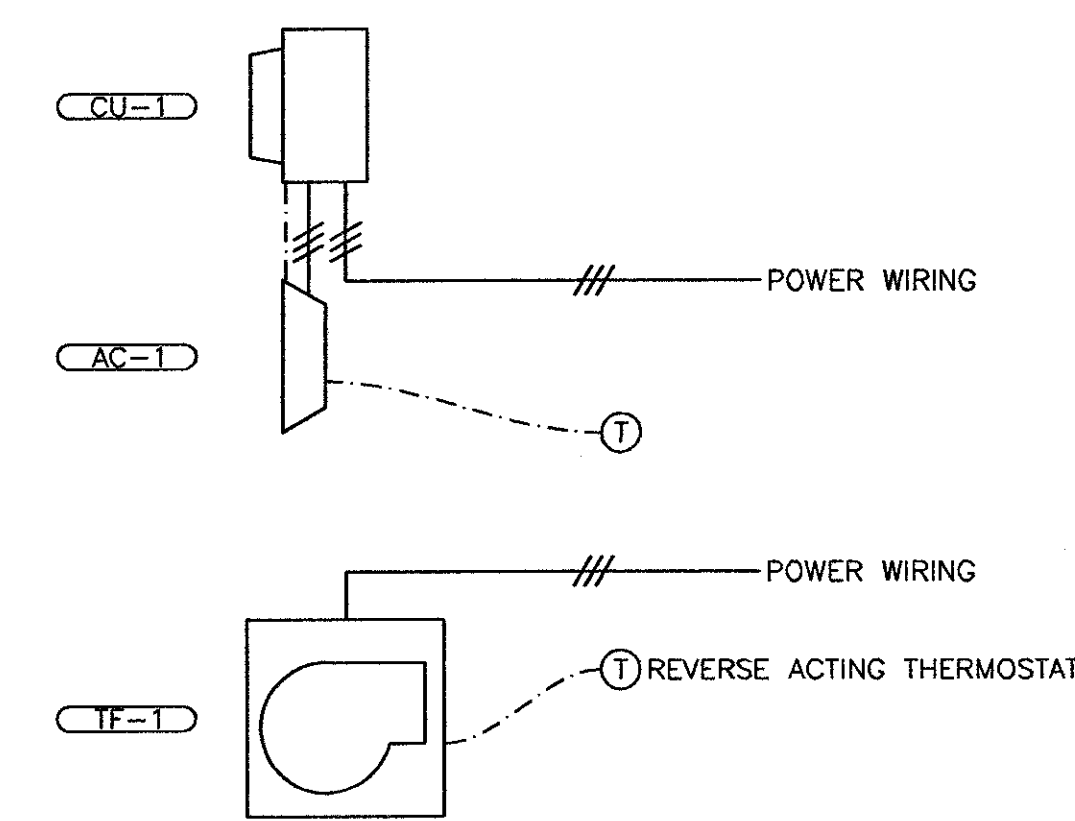
- THE VENTILATION SYSTEM FOR THE COOK/CHILL AREA CONSISTS OF AHU-1, EF-1, EF-2, EF-3, EF-4, EF-5, VAV-101, VAV-102, VAV-103, VAV-104, AND VAV-105 AS WELL AS ASSOCIATED HEATING VALVES, TEMPERATURE SENSORS AND FAN CONTROL PANELS.
- THE VENTILATION SYSTEM SHALL BE ENERGIZED VIA THE EXHAUST HOOD CONTROL PANEL LOCATED IN THE COOK/CHILL OR WARE WASH AREAS.
- UPON ACTIVATION OF THE SYSTEM, AHU-1'S OUTDOOR AIR DAMPER SHALL MODULATED FULLY OPEN AND PROVE POSITION THROUGH AN END SWITCH.
- WHEN THE OUTDOOR AIR TEMPERATURE IS BELOW 5°C, THE HEATING CONTROL VALVE SHALL OPEN TO 100% FOR 120SEC TO PREHEAT THE COIL PRIOR TO OPENING THE O/A DAMPER. THE CONTROL VALVE SHALL THEN MODULATE AS REQUIRE TO MAINTAIN SETPOINT.
- THE SUPPLY FAN SHALL START AND RAMP UP TO THE DESIRED SPEED, DEPENDING ON WHICH ZONES ARE ACTIVATED.
- SIMULTANEOUSLY TO THE SUPPLY FAN STARTING, BASED ON WHICH EXHAUST FAN (EF-1, EF-2, EF-3 OR EF-5) HAS BEEN ACTIVATED BY THE CONTROL PANEL, THE APPROPRIATE EXHAUST FAN'S MOTORIZED DAMPER SHALL OPEN AND PROVE POSITION VIA ITS END SWITCH AND THE EXHAUST FAN SHALL START.
- EF-4 SHALL START AND ITS MOTORIZED DAMPER SHALL OPEN WHEN SYSTEM HAS BEEN ENERGIZED.
- THE HEATING COIL OR DX COOLING SYSTEM SHALL MODULATE AS REQUIRED TO MAINTAIN SUPPLY AIR SETPOINT.
- THE SUPPLY AIR SETPOINT SHALL INITIALLY BE 55°F WHEN IN COOLING MODE AND 65°F WHEN IN HEATING MODE AND THE REHEAT COILS SHALL MODULATE TO MAINTAIN SETPOINT. THE SETPOINT SHALL RESET BASED ON THE ZONE WITH THE MOST COOLING DEMAND. FOR EXAMPLE, THE SETPOINT SHALL MODULATE UP AND DOWN UNTIL ONE ZONE DOES NOT REQUIRE REHEAT.
- THE SYSTEM SHALL SHUT DOWN AUTOMATICALLY AT 5:00PM DAILY, UNLESS OVERRIDDEN BY THE CONTROL PANEL.
- THE FILTER DIFFERENTIAL PRESSURE SWITCH SHALL ALARM WHEN A DIRTY FILTER CONDITION IS SENSED.
- UPON ACTIVATION OF THE FREEZE STAT, THE BMS SHALL ALARM AND AHU-1 AND EXHAUST FANS SHALL SHUT DOWN.

**AHU-2 & ERV-1 SEQUENCE OF OPERATION:**

- AHU-2 AND ERV-1 SERVE THE ADMINISTRATION, WASHROOM AND OTHER SUPPORT AREAS AND SHALL OPERATE OFF OF TIME OF DAY SCHEDULE, INITIALLY SET TO 8:00AM TO 5:00PM, MONDAY TO FRIDAY.
- UPON START-UP OF THE SYSTEM, THE OUTDOOR AIR DAMPERS ON ERV-1 SHALL OPEN, THE MOTORIZED DAMPERS ON AHU-2 SHALL OPEN AND THE FANS IN ERV-1 AND AHU-2 SHALL START.
- WHEN THE OUTDOOR AIR TEMPERATURE IS BELOW 5°C, THE HEATING CONTROL VALVE SHALL OPEN TO 100% FOR 60SEC PRIOR TO OPENING THE O/A DAMPER TO PREHEAT THE COIL. THE CONTROL VALVE SHALL THEN MODULATE AS REQUIRE TO MAINTAIN SETPOINT.
- THE HEATING COIL OR DX COOLING SYSTEM SHALL MODULATE AS REQUIRED TO MAINTAIN SUPPLY AIR SETPOINT.
- THE SUPPLY AIR SETPOINT SHALL INITIALLY BE 55°F WHEN IN COOLING MODE AND 65°F WHEN IN HEATING MODE AND THE REHEAT COILS AND RADIANT PANELS SHALL MODULATE TO MAINTAIN SETPOINT. THE SETPOINT SHALL RESET BASE ON THE ZONE WITH THE MOST COOLING DEMAND. FOR EXAMPLE, THE SETPOINT SHALL MODULATE UP AND DOWN UNTIL ONE ZONE DOES NOT REQUIRE REHEAT.
- THE FILTER DIFFERENTIAL PRESSURE SWITCH SHALL ALARM WHEN A DIRTY FILTER CONDITION IS SENSED.
- UPON ACTIVATION OF THE FREEZE STAT, THE BMS SHALL ALARM AND AHU-1 AND EXHAUST FANS SHALL SHUT DOWN.

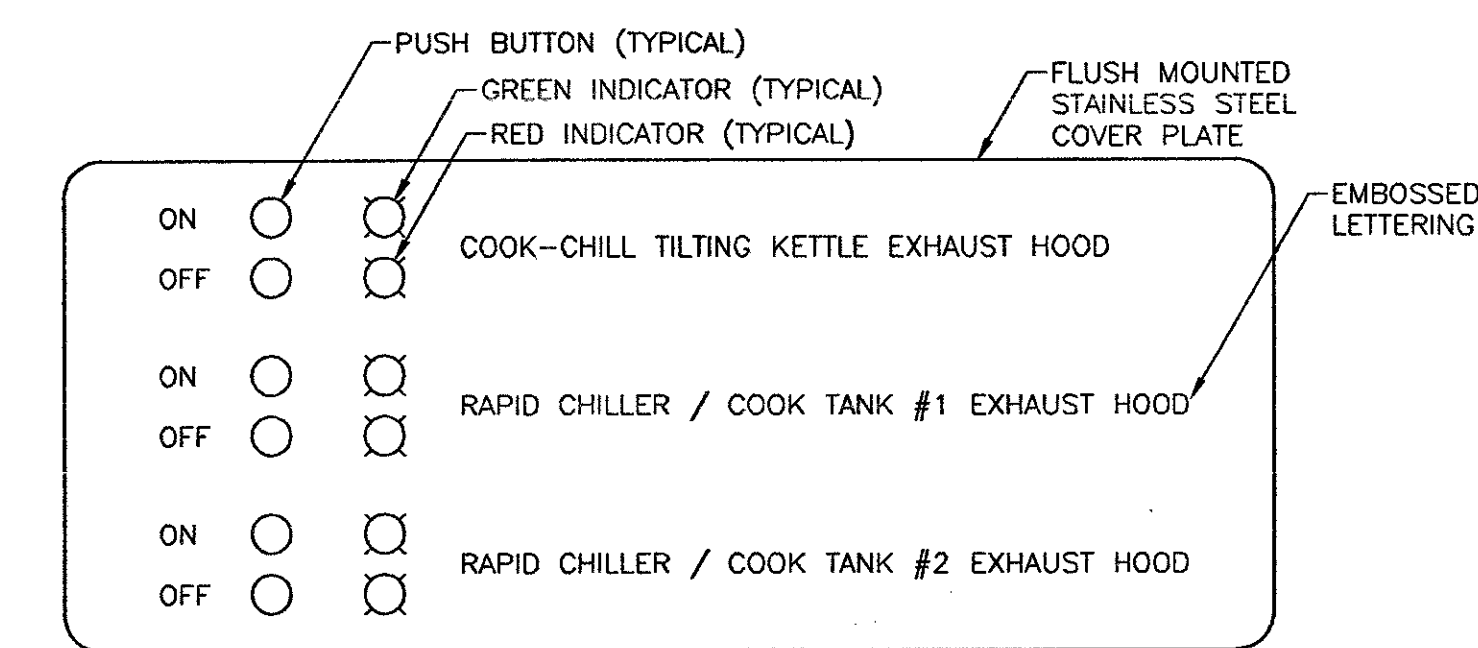
**AIR CURTAIN SEQUENCE OF OPERATION:**

- THE AIR CURTAIN SHALL BE ACTIVATED BY A DOOR SWITCH AND CONTROL PANEL PROVIDED WITH THE AIR CURTAIN AND MOUNTED BY THE CONTROLS CONTRACTOR.



**DETAIL — COOK-CHILL EXHAUST HOOD CONTROL PANEL**  
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**NOTES:**

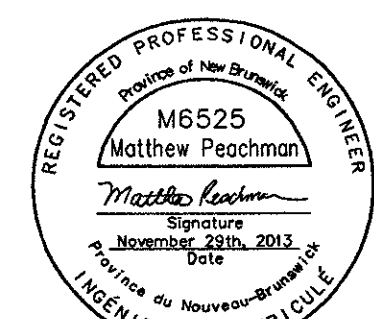
- MOUNT CONTROL PANEL AT 1200mm AFF AT LOCATION SHOWN ON DRAWINGS.
- PROVIDE CUSTOMIZED, CSA CERTIFIED CONTROL PANEL AS SHOWN.
- REFER TO CONTROL SEQUENCES FOR CONTROL OF EXHAUST HOODS AND FANS.

**SEQUENCE OF OPERATION:**

- USER SHALL ENABLE/DISABLE SYSTEM USING CONTROL PANEL IN COOK/CHILL AREA.
- UPON ACTIVATION AHU-1 SEQUENCE SHALL BE INITIATED.

**CONTROLS SCHEMATIC — COOK/CHILL CONTROL PANEL**  
SCALE: N.T.S.

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0	ISSUED FOR TENDER	NOV. 28, 2013
revisions		date
project	NEW FOOD SERVICES BUILDING WESTMORLAND INSTITUTION	
project	DORCHESTER, NB	
drawing	MECHANICAL CONTROLS HVAC	
dessein		
designed MCP	conçu	
date	Oct. 21, 2013	
drown	PSA	dessein
date	Oct. 21, 2013	
approved MCP	approuvé	
date	Nov. 29, 2013	
Target	13.12.10	
Project Manager	Administrateur de projets TPSSC	
project number	R.061828.001	
drawing no.	M4.2	
no. du dessin		