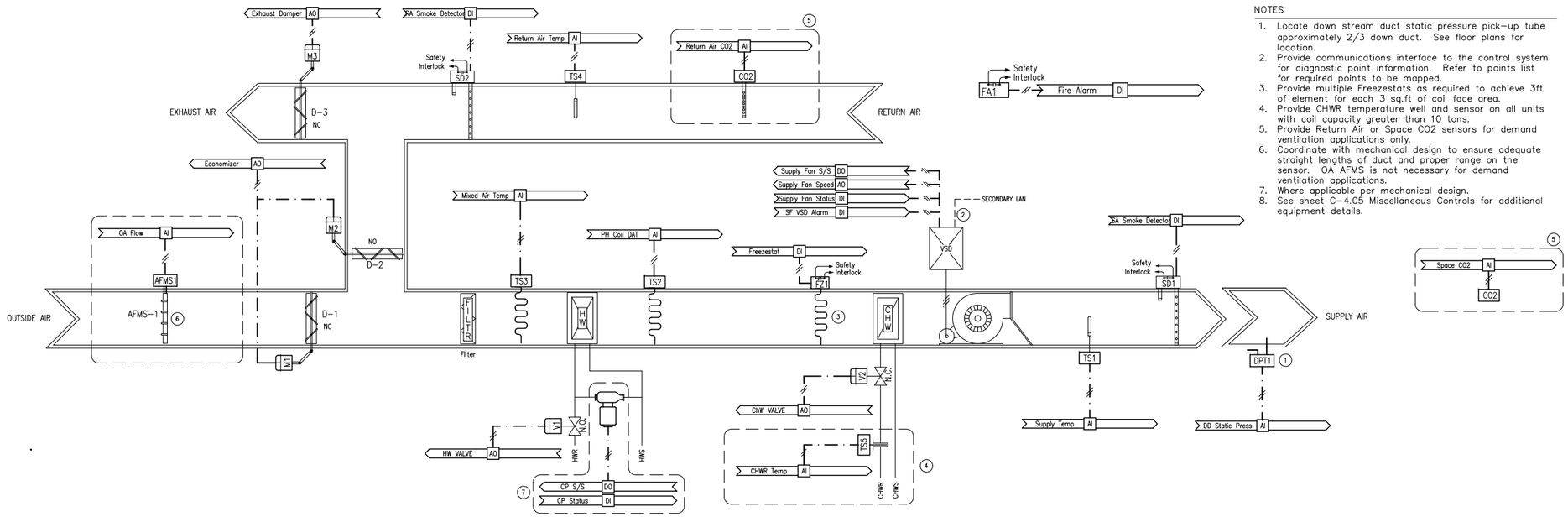
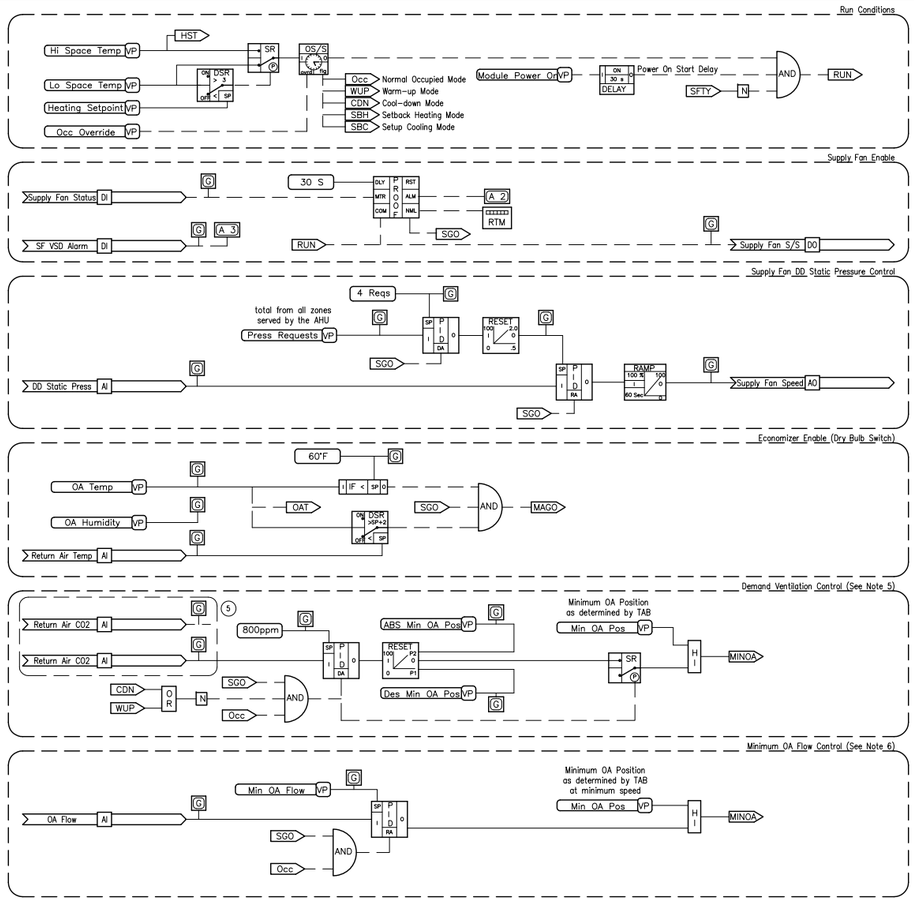


NOTES

1. Locate down stream duct static pressure pick-up tube approximately 2/3 down duct. See floor plans for location.
2. Provide communications interface to the control system for diagnostic point information. Refer to points list for required points to be mapped.
3. Provide multiple Freezestats as required to achieve 3ft of element for each 3 sq.ft of coil face area.
4. Provide CHWR temperature well and sensor on all units with coil capacity greater than 10 tons.
5. Provide Return Air or Space CO2 sensors for demand ventilation applications only.
6. Coordinate with mechanical design to ensure adequate straight lengths of duct and proper range on the sensor. OA AFMS is not necessary for demand ventilation applications.
7. Where applicable per mechanical design.
8. See sheet C-4.05 Miscellaneous Controls for additional equipment details.

SINGLE DUCT VAV AH WITH PREHEAT & CHW COIL, NO RETURN FAN



Software Logic Diagram

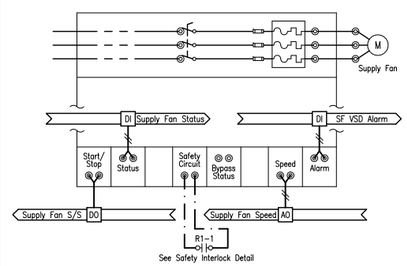
POINTS LIST

ADDRESS	POINT DESCRIPTOR	POINT TYPE DI	AI	DO	AO	VP	REMARKS
	Supply Fan S/S			•			
	Supply Fan Status	•					
	SF VSD Alarm	•					
	Supply Fan Speed				•		
	DD Stgic Press		•				
	Supply Temp		•				
	SA Smoke Detector	•					
	RA Smoke Detector	•					
	PH Coil DAT		•				
	Freezestat	•					
	Mixed Air Temp		•				
	Return Air Temp		•				
	Return Air CO2		•				See Note 5
	Space CO2		•				See Note 5
	OA Flow		•				See Note 6
	CHW Valve				•		
	CHWR Temp		•				See Note 4
	HW Valve				•		
	Circ Pump S/S			•			See Note 7
	Circ Pump Status	•					See Note 7
	Economizer				•		
	Exhaust Damper				•		
	Fire Alarm	•					
	SF VFD FAULT	•				•	Interface Point
	SF VFD FAULT CODE		•			•	Interface Point
	SF VFD FEEDBACK		•			•	Interface Point
	SF VFD KW		•			•	Interface Point
	SF VFD BYPASS	•				•	Interface Point

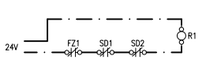
LOGIC VARIABLES

BINARY	ANALOG	DESCRIPTION
Occ		ON WHEN OCCUPIED MODE ACTIVE
RUN		ON WHEN UNIT COMMANDED TO START
SBH		ON WHEN SETBACK HEATING MODE ACTIVE
SBC		ON WHEN SETBACK COOLING MODE ACTIVE
WUP		ON WHEN WARM-UP MODE ACTIVE
CDN		ON WHEN COOL-DOWN MODE ACTIVE
SGO		ON WHEN SUPPLY FAN ENERGIZED AND STATUS PROVEN
MAGO		ON WHEN OA CONDITIONS ALLOW ECONOMIZER CONTROL
SMK		ON WHEN EITHER SMOKE DETECTOR IS IN ALARM
FRZ		ON WHEN FREEZESTAT IS IN ALARM
Fire		ON WHEN FIRE ALARM IS ACTIVE
SFTY		ON WHEN "FRZ", "Fire" OR "SMK" ARE ON
	HST	VARIABLE CALCULATED VALUE OF HIGHEST SPACE TEMPERATURE
	OAT	VARIABLE VALUE OF OUTSIDE AIR TEMPERATURE
	SAT	VARIABLE VALUE OF SUPPLY AIR TEMPERATURE
	PHT	VARIABLE VALUE OF PREHEAT AIR TEMPERATURE
	MAT	VARIABLE VALUE OF MIXED AIR TEMPERATURE
	MINOA	VARIABLE VALUE OF MIN OA DAMPER POSITION
	DASP	VARIABLE CALCULATED VALUE OF DISCHARGE TEMPERATURE SETPOINT
	CPCT	VARIABLE CALCULATED VALUE OF CHW VALVE POSITION
	HPCT	VARIABLE CALCULATED VALUE OF HW VALVE POSITION
	EPCT	VARIABLE CALCULATED VALUE OF ECONOMIZER PID OUTPUT

ELECTRIC LADDER DIAGRAMS



SUPPLY FAN VSD



SAFETY INTERLOCK DETAIL

REVISIONS

NO.	DESCRIPTION	DATE

The University of North Carolina at Chapel Hill

Standard Control Drawings

Eng	HJN
Drawn	HJN
Chkd	---
Appd	---
Issued	2/18/2008
Job No.	-----
Scale	N/A
Proj. Code	

100% Design Review (REV 3)

SINGLE DUCT VAV AH WITH PREHEAT & CHW COIL, NO RETURN FAN

00 OF 00 SHEET NUMBER

C-1.00 DWG NUMBER