

BULLETIN

Temperature Controls (Chilled Water) Phase III only

(3/11/2010)

This bulletin is to advise you of the fees and responsibilities associated with the tenant's temperature controls.

Tenant Responsibility:

1. Unit power is by tenant. Tenant to provide permanent power prior to Roth Bros. commissioning.
 - a. A power whip (wires enclosed in some form of flexible protection) from the unit's disconnect or a dedicated circuit from the tenant's breaker panel must be in place prior to installation.
2. Tenant shall provide a 2" x 4" junction box mounted vertically with conduit stubbed to ceiling space for each temperature sensor. **The location of this box must be the same as the location indicated of the final approved construction drawings. If relocation is necessary, this must be approved by the landlord and a change order issued by the tenant before the sensor will be moved.**
3. Tenant shall have ceiling, walls, ductwork and electrical equipment powered to HVAC equipment completed and ready for installation.
4. Tenant will manually open chilled water valves 100% before performing final system flushing.
5. GC/Tenant shall provide 72-hour written notice by tenant's contractor to Roth Bros., Inc. when tenant space is ready for temperature controls installation.
6. Tenant shall provide the following information for equipment purchase:
 - a. Tenant name and space number
 - b. Number AHU units.
 - c. AHU Submittals for units to be installed
 - d. GPM per AHU
 - e. Estimated start time.
 - f. Estimated completion date.
 - g. General contractor name and phone number
 - h. Mechanical contractor name and phone number.
7. Fax copy of all completed items to Roth Bros. at 330-799-3369 or email to *JBelcastro@rothbros.com*.

Note: If Roth Bros. or their subcontractor responds to tenant's request for temperature control installation and the above requirements are not complete applicable fees will be billed. See Appendix VI.

Roth Bros. Responsibility:

1. Provide Andover controller per unit.
2. Provide space temperature sensor per unit.
3. Provide supply air temperature sensor per unit.
4. Provide mixed air temperature sensor per unit.
5. Provide outside air temperature sensor per unit.
6. Provide following protection devices: duct low temperature (freezestat), duct high temperature (firestat), and duct smoke detector.
7. Provide control transformer.
8. Provide all control cable.
9. Provide chilled water valve.
10. Provide outside air/return air damper actuator.
11. Provide return water temperature sensor for all tenants.
12. All programming.
13. System commissioning.
14. Provide as-built drawing.
15. Provide installation labor after Tenant Electrical and Mechanical Rough in. See below Appendix I and III.
16. Tie-in of junction box to Landlord's system.

Simon Responsibility:

1. Facilitate work between tenant contractor and Roth Bros.

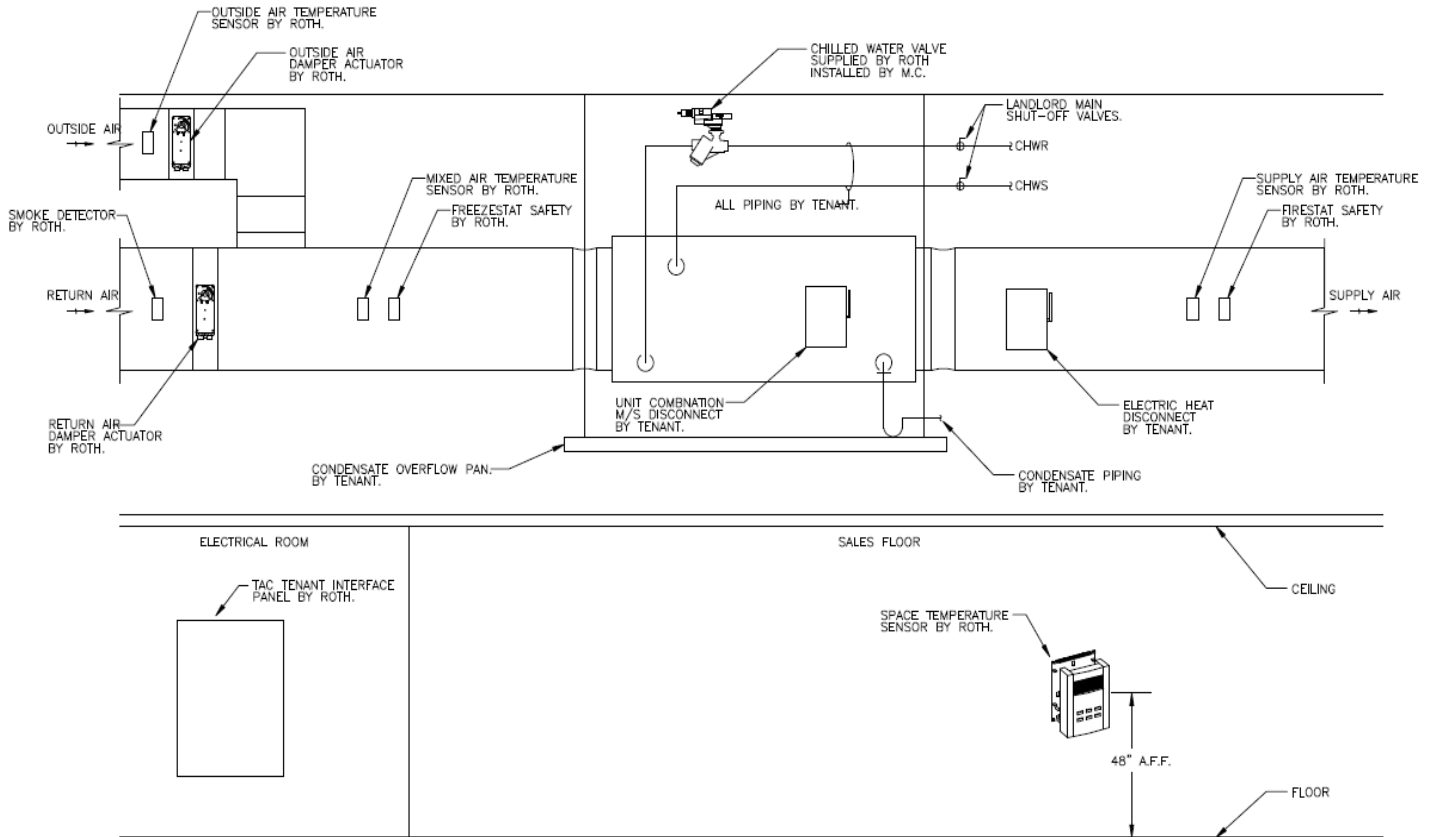
EXCLUSIONS:

The following items are not included:

1. Air Handler Coil Unit supplied by owner
2. Fire Alarm tie-in
3. Installation of Air Handler Unit
4. Air and water balance (by Simon contractor)
5. Disconnect/Motor Starter for unit
6. After hours labor. (All after hours labor will not commence until a signed purchase order has been sent to Roth Bros., Inc.)
7. Any scope deviations from the final bid set of Tenant Drawings provided to Roth Bros. by Tenant Architect or Engineers.

Appendix I

Typical Unit Layout



See appendix III for installation and supplier responsibilities.

Appendix II

EMS Equipment Specification and Cost Breakdown

Item	Note	Qty	Device	First Unit Cost	Cost Additional per AHU Unit
1	3	1	i2814 Fan Coil Andover controller	\$1100/unit (i2814)	\$1000/unit (i2814)
2	3	2	480/277/120/24 Transformer	\$75/unit	\$75/unit
3	3	1	Enclosure/Interface Panel Components	\$400/unit	\$400/unit
3	3	1	TTS-Led-1 Andover Led Digital Display Sensor(Optional from TTS-S)	\$45/unit	\$45/unit
4	3	1	Discharge Temp sensor	\$15/unit	\$15/unit
5	3	1	Mixed Air Temp sensor	\$70/unit	\$70/unit
6	3	1	Outside Air Temp sensor	\$15/unit	\$15/unit
7	3	1	CHW Return Temp Sensor (1 st unit)	\$20/unit	n/a
8	3	1	Freezestat	\$200/unit	\$200/unit
9	3	1	Firestat	\$50/unit	\$50/unit
10	3	1	Smoke detector	\$200/unit	\$200/unit
11	3	1	Fan Status CT	\$30/unit	\$30/unit
12	3	3	Fan/Control/Protection relays	\$155/unit	\$155/unit
13	3	2	Damper Actuator	\$500/unit	\$500/unit
14	3	1	Control Valve	\$350/unit	\$350/unit
15	2	250'	Infinet Communication Cable Model#D-73601-OR "Great Lakes Wire & Cable"	\$50/unit	\$50/unit
16	1	1000'	Control Cable: 2 conductor, 18 awg, plenum, stranded	\$225/unit	\$225/unit
17	1	500'	Control Cable: 4 conductor, 18 awg, plenum, stranded	\$225/unit	\$225/unit
18	3		Installation labor	\$2900/unit	\$2000/unit
19	3		Control engineering labor	\$300/unit	\$160/unit
20	3		Commissioning labor	\$600/unit	\$400/unit
21	3		Programming labor	\$350/unit	\$160/unit
22	3		Panel Labor	\$300/unit	\$300/unit
			Travel	\$300/unit	\$150/unit
			Total if purchased through Roth	\$8,475/unit	\$6,775/unit

**If a retail space requires a BTU Meter, please refer to Appendix III.

Notes:

1. Tenant may purchase from other vendor.

2. If in finet communication cable is not purchased through Roth Bros., Inc., contractor must follow cable specification. Please have Roth Bros., approve cable prior to purchase.
3. Item supplied by Roth Bros., Inc. – No Exception

Roth contact information:

Roth Bros., Inc.
Jason Belcastro
3821 Crum Road
Youngstown, Ohio 44515
Toll Free: 800-872-7684
Office: 330-270-2537
Fax: 330-799-3369

Appendix III

Responsibility Matrix

Task Description	Tenant Mech. Furnish	Tenant Mech. Install	Roth DDC Furnish	Roth Elec. DDC Install	Tenant Elect. Furnish	Tenant Elect. Install
HVAC Controls						
Hardware (Control Panels)			x	x		
PCIV 2 way CHW Control Valve		x	x			
Conduits and back box for T-Stat/Sensor					x	x
BAS Communication cabling			x	x		
120v to Control Panel					x	x
AHUs	x	x				
Duct Heater	x	x				
Minimum OA Damper provided	x	x				
All Other Control Dampers or VAV/FPB's	x	x	x			
Control Valves		x	x			
Starters and or Contactors	x			x		
Test and Balance	x					
Terminal Boxes VAV / FPB	x	x				
DDC Controller			x	x		
Flow Transmitter			x	x		
Flow Cross	x	x				
120v/240v/277v/480v to Control Panel					x	x
Conduits and back box for T-Stat/Sensor					x	x
Test and Balance	x	x				
Fan Coil Units						
Conduits and back box for T-Stat/Sensor					x	x
120v/240v/277v/480v to Control Panel					x	x
CHW Control Valves	x	x				
Test and Balance	x	x				
Fire Alarm System / Smoke Detectors						
Hardware - Smoke Duct Detectors			x	x		
Addressable equipment shut down relays					x	x
Power / Shutdown Cabling					x	x
Remote Reset	x					x
Commissioning	x	x	x	x	x	x

Appendix IV

Potential construction change order items

Description of problem	Cost/event
Transformer replaced due to Tenant improper Power Wiring	\$140.00
Replace Andover Microprocessors Controllers	\$350.00
Rewire units contactors	\$75.00
Rewire Unit Factory Controls due to Tenant altering	\$75.00
Remobilization to site after the Initial Installation Checkout *	\$500.00
Replace the Rewired Damage Cabling (Comm or other)	\$90.00
Rework Factory Mounted Dampers not to Simon Spec	\$65.00
Power Control Box (Item #1 Bulletin #2 of Simon TC Doc.)	\$125.00
Adding Space Sensor if initial rough in was not performed	\$90.00
Premium Labor	\$87.00
Lift charge if not provided by Tenant G.C.	\$125.00

* Not a per unit charge See Change Order below.



CHANGE ORDER

Request

3847 Crum Rd.
 Youngstown, Ohio 44515
 Phone: (330) 793-5571
 Fax: (330) 799-3369

No

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C.O. Request Submitted To:		Phone:	Date:
Street:		Job Name:	
City, State and Zip Code:		Job Location:	
Contact:	Date of Plans:		Job Phone:

We hereby propose the furnished material and labor necessary for the completion of:

Total \$0.00

QTY.	Unit Cost		
Tax			inc.
Shipping (Overnight)			inc.
Total			\$0.00

WE PROPOSE hereby the furnished material and labor - complete in accordance with above specifications, for the sum of:

Payments to be made as follows:

All material is guaranteed to be completed in a substantial workmanlike manner according to specifications submitted, per standard practices. Any alterations or deviations from above specifications involving extra cost will be executed only upon written orders, and will become an extra charge over and above the estimate. All agreements contingent upon strikes, accidents, or delays beyond our control. Owner to carry fire, tornado and other necessary insurance. Our workers are fully covered by Workman's Compensation Insurance.

Authorized Signature _____
James H. Fitzgerald

Note: This proposal may be withdrawn by us if not accepted within 30 days.

ACCEPTANCE OF CHANGE ORDER The above prices, specifications and conditions are satisfactory and are hereby accepted. You are authorized to do the work as specified. Payments will be made as outlined above.

Date of Acceptance: _____ Signature _____

Appendix VII

Sequence of Events

1. Elec. rough-in temperature sensor conduits prior to sheetrock and stub-out above ceiling.
2. Mechanical rough-in of ductwork
3. Control rough-in of communication and stat wiring
4. Mechanical equipment installation
5. Mechanical complete piping, ductwork, smoke detectors, & drain pan.
6. Control power installed adjacent to controller location, unit and duct heater power completed and smoke detectors wired to unit for shutdown.
7. Prior to ceiling grid, the control panel, unit sensors, dampers and valves should all be installed.
8. Complete mechanical start-up – fan rotation, etc. are completed by unit manufacturer or certified mechanical contractor.

I have read this bulletin and understand all of its contents

General Contractor - _____

Representative - _____

Mechanical Contractor - _____

Representative - _____

Electrical Contractor - _____

Representative - _____