

BULLETIN

Temperature Controls

(10/2013)

This bulletin is to advise you of the fees and responsibilities associated with the tenant's temperature controls. **This applies to Phase I & II only.**

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 units disconnect or a dedicated circuit from the tenants breaker panel must be in place prior to installation.
2. Tenant shall provide a 2" x 4" junction box mounted vertical with conduit stubbed to ceiling space for each temperature sensor (installed by division 16). **The location of this box must be the same as the location indicated of the final approved construction drawings. If relocation is necessary then 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 condenser water valves 100% before performing final system flushing.
5. CA/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 Heat Pumps units.
 - c. Heat Pump Submittals for units to be installed
 - d. Estimated start time.
 - e. Estimated completion date.
 - f. General contractor name and phone number
 - g. Mechanical contractor name and phone number.
7. Fax copy of all completed items to Roth at 330-799-3369 or email to *krowley@RothBros.com*..
8. Submit complete payment to Roth Bros in order to initiate equipment order and schedule work. Fax 330-799-3369 or email *krowley@RothBros.com*.
9. A **check** is to be issued for the Total Price before Roth proceeds with parts order.
10. The payment must be in the form of a certified check or company check (no personal checks). Please send checks attention - *Laura Fonce*

11. All low voltage step-down transformers will be factory mounted and ordered by the tenant. A 75va transformer is required with terminations provided for EMS 24vac power.
12. Provide installation labor after Tenant Electrical and Mechanical Rough in. See below Appendix I and III.
13. Tie-in of junction box to Landlord's system.

Note: If Roth Bros. or their subcontractor responds to tenant's request for temperature control installation and the above requirements are not complete or requires partial installation of the control system or any problems are created by other contractors the applicable fees will be billed. See Appendix IV.

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 control transformer.
6. Provide all control cable.
7. All programming.
8. System commissioning.
9. Provide as-built drawing.

Simon Responsibility:

1. Facilitate work between tenant contractor and Roth Bros.

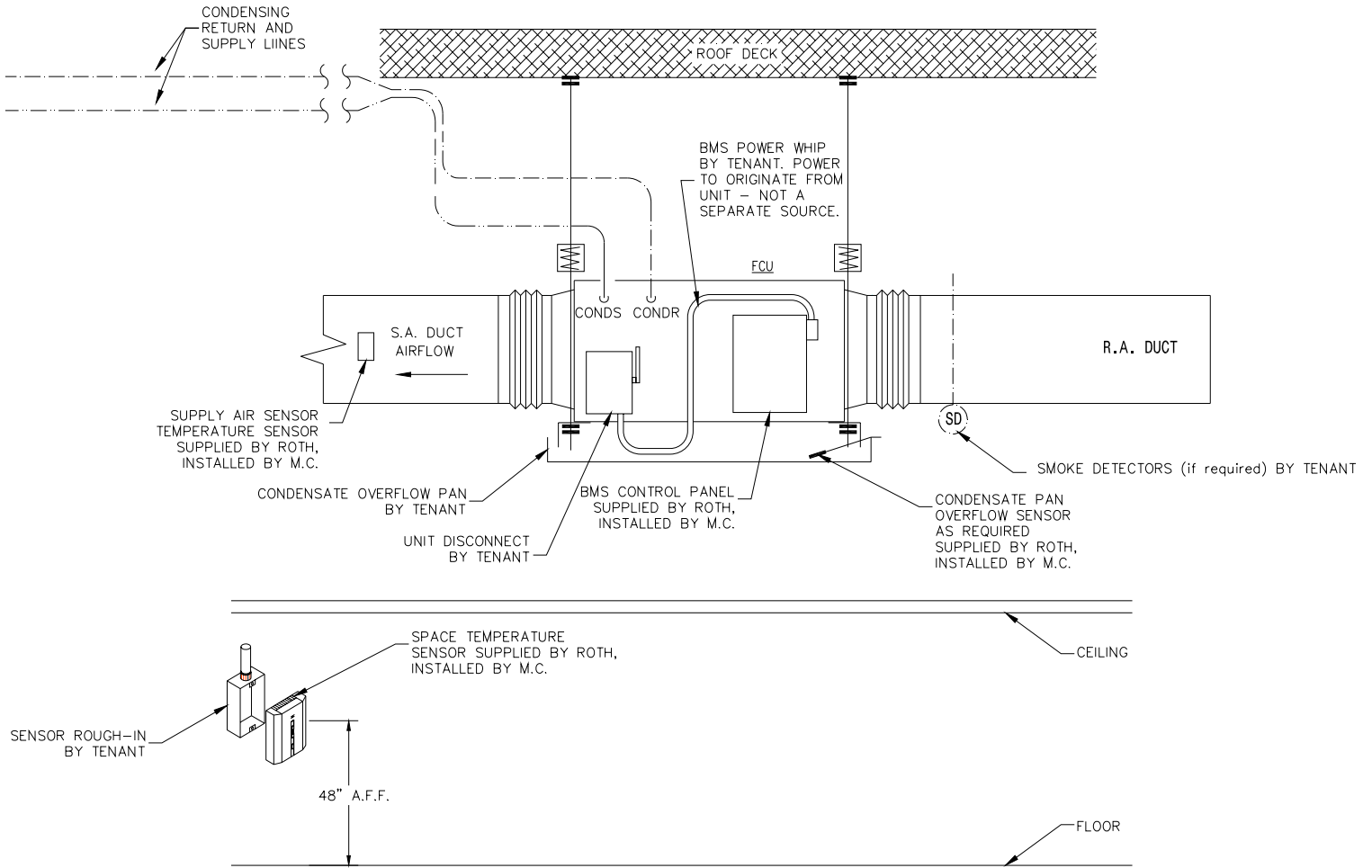
EXCLUSIONS:

The following items are not included:

1. Installation labor by tenant mechanical/electrical contractor. If required, Roth will quote installation labor on a per tenant basis.
2. Heat Pump Unit supplied by owner
3. Smoke detectors or the installation and/or interlock wiring of smoke detectors
4. Fire Alarm tie-in
5. Installation of Fan Coil Unit
6. Air and water balance (by Tenant contractor)
7. Disconnect/Starter for unit
8. After hours labor (All after hours labor will not commence until a signed purchase order has been sent to Roth Bros., Inc.)
9. Any scope deviations from the final bid set of Tenant Drawings provided to Roth 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 FCU Unit
1	3	1	i2867 Fan Coil Andover controller	\$287/unit (i2867)	\$287/unit (i2867)
2	3	1	TTS-S Andover space sensor	\$16/unit	\$16/unit
3	3	1	TTS-Led-1 Andover Led Digital Display Sensor(Optional from TTS-S)	\$61/Unit	\$61/Unit
4	3	2	Discharge/Mixed Air Temp sensor	\$32/unit	\$32/unit
5	3	1	Condensate Pan Overflow	\$21/unit	\$21/unit
6	1	1	Enclosure	\$74/unit	\$74/unit
7	1	3	Fan/Heat relays	\$58/unit	\$58/unit
8	2	100'	Infinet Communication Cable Model#D-73601-OR "Great Lakes Wire & Cable"	\$27/unit	\$27/unit
9	1	200'	Control Cable: 2 conductor, 18 awg, plenum, stranded	\$32/unit	\$32/unit
10	1	100'	Control Cable: 4 conductor, 18 awg, plenum, stranded	\$21/unit	\$21/unit
11	1		Installation labor not included		
12	3		Control engineering labor	\$85/unit	\$70/unit
13	3		Commissioning labor	\$315/unit	\$160/unit
14	3		Programming labor	\$186/unit	\$85/unit
15	3		Panel Labor	\$53/unit	\$53/unit
16	1	12pt	Terminal strip communication	\$16/unit	\$16/unit
17	3	1	Fan Status CT	\$32/unit	\$32/unit

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.
Kristina Rowley
3821 Crum Road
Youngstown, Ohio 44515
Toll Free: 800-872-7684
Office: 330-270-4905
Fax: 330-799-3369
krowley@rothbros.com

Appendix III

Responsibility Matrix

Task Description	Tenant Mech. Furnish	Tenant Mech. Install	Roth DDC Furnish	Tenant Elect. Furnish	Tenant Elect. Install
HVAC Controls					
Hardware (Control Panels)			x		x
Conduits and back box for T-Stat/Sensor				x	x
BAS Communication cabling			x		x
120v/240v/277v/480v to Control Panel				x	x
AHUs	x	x			
Duct Heater	x	x	x		
Minimum OA Damper provided	x	x			
All Other Control Dampers or VAV/FPB's	x	x			
Control Valves and OA Damper Actuator		x	x		
Starters and or Contactors	x			x	x
Test and Balance	x				
Terminal Boxes VAV / FPB	x	x			
DDC Controller			x		
Flow Transmitter			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			
Heat Pump Units					
Conduits and back box for T-Stat/Sensor				x	x
120v/240v/277v/480v to Control Panel				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

Appendix IV

Potential construction change order items

Description of problem	Cost/event
Transformer replaced due to Tenant improper Power Wiring	\$148.00
Replace Andover Microprocessors Controllers	\$370.00
Rewire units contactors	\$80.00
Rewire Unit Factory Controls due to Tenant altering	\$80.00
Remobilization to site after the Initial Installation Checkout *	\$530.00
Replace the Rewired Damage Cabling (Comm or other)	\$95.00
Rework Factory Mounted Dampers not to Simon Spec	\$69.00
Power Control Box (Item #1 Bulletin #2 of Simon TC Doc.)	\$132.00
Adding Space Sensor if initial rough in was not performed	\$95.00
Premium Labor	\$92.00
Lift charge if not provided by Tenant G.C.	\$125.00

- Not a per unit charge See Change Order below.

Appendix V

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 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 - _____



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 _____
Kevin Callahan

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 _____