



State of Utah

JON M. HUNTSMAN, JR.
Governor

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Department of Administrative Services

KIMBERLY K. HOOD
Executive Director

Division of Facilities Construction and Management

DAVID G. BUXTON
Director

ADDENDUM #1

Date: May 27, 2009

To: Contractors

From: Jeff Reddoor, Project Manager, DFCM

Reference: Steam Tunnel Ventilation
Southern Utah University – Cedar City, Utah
DFCM Project No.08111730

Subject: **Addendum No. 1**

Pages	Addendum	1 page
	<u>Engineers Addendum</u>	<u>7 pages</u>
	Total	8 pages

Note: *This Addendum shall be included as part of the Contract Documents. Items in this Addendum apply to all drawings and specification sections whether referenced or not involving the portion of the work added, deleted, modified, or otherwise addressed in the Addendum. Acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to Disqualification.*

While we contend that SB220 should only be potentially applicable to a contract issued after the effective date of said bill, this is to clarify that for purposes of this contract, regardless of the execution or effective dates of this contract, the status of Utah Law and remedies available to the State of Utah and DFCM, as it relates to any matter referred to or affected by said SB220, shall be the Utah law in effect at the time of the issuance of this Addendum.

1.1 **SCHEDULE CHANGES** – There are no changes to the project schedule.

1.2 **GENERAL** – WHW Engineers - Specifications

Utah!
Where ideas connect

ADDENDUM

Project Name: SUU Tunnel Ventilation

Addendum No.: 1

DFCM Project # 08111730

Date: 05-27-09

From: WHW Engineering Inc
8619 South Sandy Parkway
Sandy, Utah 84070
Phone (80) 466-4021 Fax (801) 466-8536

To: All bidders

This Addendum forms and becomes a part of the Contract Documents and modifies the original Bidding Documents dated May 2009 as noted below. Acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification.

This Addendum consists of 7 pages.

I - CHANGES TO PRIOR ADDENDA: NA

II - CHANGES/CLARIFICATIONS TO SPECIFICATIONS:

Item II-1. Replace section 15820 Duct Accessories with attached specification 15820. Please note Item 3.1.O which states:

- A. New Fire/Smoke dampers at each building shall be connected to the existing Simplex fire alarm control panel in the building. Work shall be performed by either of the following:
1. Authorized Simplex technician
 2. Fire Protection Services Mountain Alarm: contact Jeff Merriam 435-628-4255

Item II-2. Specification section 15900-1.2 Summary shall be modified to read as follows:

- A. Provide cooling only thermostat for new exhaust fans.
- B. Fresh air intakes will not have auto dampers. They will have manual dampers and a fire/smoke damper that will remain open unless there is fire alarm.
- C. **No** interlock between new fans and new intakes will be required.
- D. The new cooling only thermostats for each fan will **not** be tied into the central control system. As a result they will be stand alone thermostats, and will **not** need to be provided by one of the campus approved control systems.

III - CHANGES/CLARIFICATIONS TO DRAWINGS:

Item III-1. Sheet ME501: Door schedule: At a note 4 to the floor access door to include hold open/self closing cylinder per detail.

Item III-2. Sheet ME502-ME504: Where cable trays penetrate new rated walls, provide fire barrier

pillows (by 3M or approved equal) for the fire seal.

- Item III-3.** Sheet ME01, and ME502-ME504: Where fire dampers are called out at each new rated enclosure, they shall be combination fire/smoke dampers. See specifications.
- Item III-4.** Sheet ME504, detail D4: There is an existing fresh air duct that crosses the new fire rated wall. Provide a new fire/smoke damper in this existing duct. Duct is approximately 30"x12". Field verify exact size before ordering damper.
- Item III-5.** Sheet ME504, detail D4: There is another project that is providing an emergency power feed to the lighting in the tunnel at the administration building, through an existing electrical panel. This project shall provide a new emergency panel, and relocate the breaker from the other panel, and re-configure the 1-1/2" conduit and wiring in and out of the panel for the lighting emergency power. The new panel shall be a Square D QOB 30 space panel or approved equal.

End of Addendum

SECTION 15820 - DUCT ACCESSORIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Volume dampers.
 - 2. Combination fire and smoke dampers.

1.3 SUBMITTALS

- A. Product Data: For the following:
 - 1. Volume dampers.
 - 2. Combination fire and smoke dampers.

1.4 QUALITY ASSURANCE

- A. Comply with NFPA 90A, "Installation of Air Conditioning and Ventilating Systems," and NFPA 90B, "Installation of Warm Air Heating and Air Conditioning Systems."

1.5 EXTRA MATERIALS

- A. Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Fusible Links: Furnish quantity equal to 10 percent of amount installed.

PART 2 - PRODUCTS

2.1 SHEET METAL MATERIALS

- A. Comply with SMACNA's "HVAC Duct Construction Standards--Metal and Flexible" for acceptable materials, material thicknesses, and duct construction methods, unless otherwise indicated.

- B. Galvanized Sheet Steel: Lock-forming quality; complying with ASTM A 653/A 653M and having G60 coating designation; ducts shall have mill-phosphatized finish for surfaces exposed to view.
- C. Reinforcement Shapes and Plates: Galvanized-steel reinforcement where installed on galvanized sheet metal ducts; compatible materials for aluminum and stainless-steel ducts.
- D. Tie Rods: Galvanized steel, 1/4-inch minimum diameter for lengths 36 inches or less; 3/8-inch minimum diameter for lengths longer than 36 inches.

2.2 VOLUME DAMPERS

- A. Manufacturers:
 - 1. Air Balance, Inc.
 - 2. American Warming and Ventilating.
 - 3. Flexmaster U.S.A., Inc.
 - 4. McGill AirFlow Corporation.
 - 5. METALAIRE, Inc.
 - 6. Nailor Industries Inc.
 - 7. Penn Ventilation Company, Inc.
 - 8. Ruskin Company.
 - 9. Vent Products Company, Inc.
 - 10. Air Rite.
 - 11. Prior approved equal.
- B. General Description: Factory fabricated, with required hardware and accessories. Stiffen damper blades for stability. Include locking device to hold single-blade dampers in a fixed position without vibration. Close duct penetrations for damper components to seal duct consistent with pressure class.
 - 1. Pressure Classes of 3-Inch wg or Higher: End bearings or other seals for ducts with axles full length of damper blades and bearings at both ends of operating shaft.
- C. Standard Volume Dampers: Opposed-blade design, standard leakage rating, with linkage outside airstream, and suitable for horizontal or vertical applications.
 - 1. Steel Frames: Hat-shaped, galvanized sheet steel channels, minimum of 0.064 inch thick, with mitered and welded corners; frames with flanges where indicated for attaching to walls and flangeless frames where indicated for installing in ducts.
 - 2. Roll-Formed Steel Blades: 0.064-inch- thick, galvanized sheet steel.
 - 3. Aluminum Frames: Hat-shaped, 0.10-inch- thick, aluminum sheet channels; frames with flanges where indicated for attaching to walls; and flangeless frames where indicated for installing in ducts.
 - 4. Roll-Formed Aluminum Blades: 0.10-inch- thick aluminum sheet.
 - 5. Extruded-Aluminum Blades: 0.050-inch- thick extruded aluminum.
 - 6. Blade Axles: Galvanized steel.

7. Bearings: Oil-impregnated bronze.
 8. Tie Bars and Brackets: Aluminum.
 9. Tie Bars and Brackets: Galvanized steel.
- D. Damper Hardware: Zinc-plated, die-cast core with dial and handle made of 3/32-inch-thick zinc-plated steel, and a 3/4-inch hexagon locking nut. Include center hole to suit damper operating-rod size. Include elevated platform for insulated duct mounting.

2.3 COMBINATION FIRE AND SMOKE DAMPERS

- A. Manufacturers:
1. Air Balance, Inc.
 2. CESCO Products.
 3. Greenheck.
 4. Nailor Industries Inc.
 5. Penn Ventilation Company, Inc.
 6. Ruskin Company.
 7. Prior approved equal.
- B. General Description: Labeled according to UL 555S. Combination fire and smoke dampers shall be labeled according to UL 555 for 1-1/2-hour rating.
- C. Fusible Links: Replaceable, 165 deg F rated.
- D. Frame and Blades: 0.064-inch- thick, galvanized sheet steel.
- E. Mounting Sleeve: Factory-installed, 0.052-inch- thick, galvanized sheet steel; length to suit wall or floor application.
- F. Damper Motors: Modulating and two-position action.
1. Comply with requirements in Division 15 Section "Motors."
 2. Permanent-Split-Capacitor or Shaded-Pole Motors: With oil-immersed and sealed gear trains.
 3. Spring-Return Motors: Equip with an integral spiral-spring mechanism where indicated. Enclose entire spring mechanism in a removable housing designed for service or adjustments. Size for running torque rating of 150 in. x lbf and breakaway torque rating of 150 in. x lbf.
 4. Outdoor Motors and Motors in Outside-Air Intakes: Equip with O-ring gaskets designed to make motors weatherproof. Equip motors with internal heaters to permit normal operation at minus 40 deg F.
 5. Nonspring-Return Motors: For dampers larger than 25 sq. ft., size motor for running torque rating of 150 in. x lbf and breakaway torque rating of 300 in. x lbf.
 6. Electrical Connection: 115 V, single phase, 60 Hz.

PART 3 - EXECUTION

3.1 APPLICATION AND INSTALLATION

- A. Install duct accessories according to applicable details in SMACNA's "HVAC Duct Construction Standards--Metal and Flexible" for metal ducts and in NAIMA AH116, "Fibrous Glass Duct Construction Standards," for fibrous-glass ducts.
- B. Provide duct accessories of materials suited to duct materials; use galvanized-steel accessories in galvanized-steel and fibrous-glass ducts, stainless-steel accessories in stainless-steel ducts, and aluminum accessories in aluminum ducts.
- C. Install volume dampers in ducts with liner; avoid damage to and erosion of duct liner.
- D. Provide balancing dampers at points on supply, return, and exhaust systems where branches lead from larger ducts as required for air balancing. Install at a minimum of two duct widths from branch takeoff.
- E. Provide test holes at fan inlets and outlets and elsewhere as indicated.
- F. Install fire and smoke dampers, with fusible links, according to manufacturer's UL-approved written instructions.
- G. Install duct access doors to allow for inspecting, adjusting, and maintaining accessories and terminal units as follows:
 - 1. On both sides of duct coils.
 - 2. Adjacent to fire or smoke dampers, providing access to reset or reinstall fusible links.
 - 3. To interior of ducts for cleaning; before and after each change in direction, at maximum 50-foot spacing.
 - 4. On sides of ducts where adequate clearance is available.
- H. Label access doors according to Division 15 Section "Mechanical Identification."
- I. Install flexible connectors immediately adjacent to equipment in ducts associated with fans and motorized equipment supported by vibration isolators.
- J. For fans developing static pressures of 5-inch wg and higher, cover flexible connectors with loaded vinyl sheet held in place with metal straps.
- K. Connect terminal units to supply ducts with maximum 12-inch lengths of flexible duct. Do not use flexible ducts to change directions.
- L. Connect diffusers to low pressure ducts with maximum 60-inch lengths of flexible duct clamped or strapped in place.
- M. Connect flexible ducts to metal ducts with draw bands.
- N. Install duct test holes where indicated and required for testing and balancing purposes.

- O. New Fire/Smoke dampers at each building shall be connected to the existing Simplex fire alarm control panel in the building. Work shall be performed by either of the following:
 - 1. Authorized Simplex technician
 - 2. Fire Protection Services Mountain Alarm: contact Jeff Merriam 435-628-4255

3.2 ADJUSTING

- A. Adjust duct accessories for proper settings.
- B. Adjust fire and smoke dampers for proper action.
- C. Final positioning of manual-volume dampers is specified in Division 15 Section "Testing, Adjusting, and Balancing."

END OF SECTION 15820