

FLOOR HVAC FIRST PLAN

PROJECT NO. S17179

DATE SEPTEMBER 28, 2017

REVISIONS

STONE CREEK COFFEE

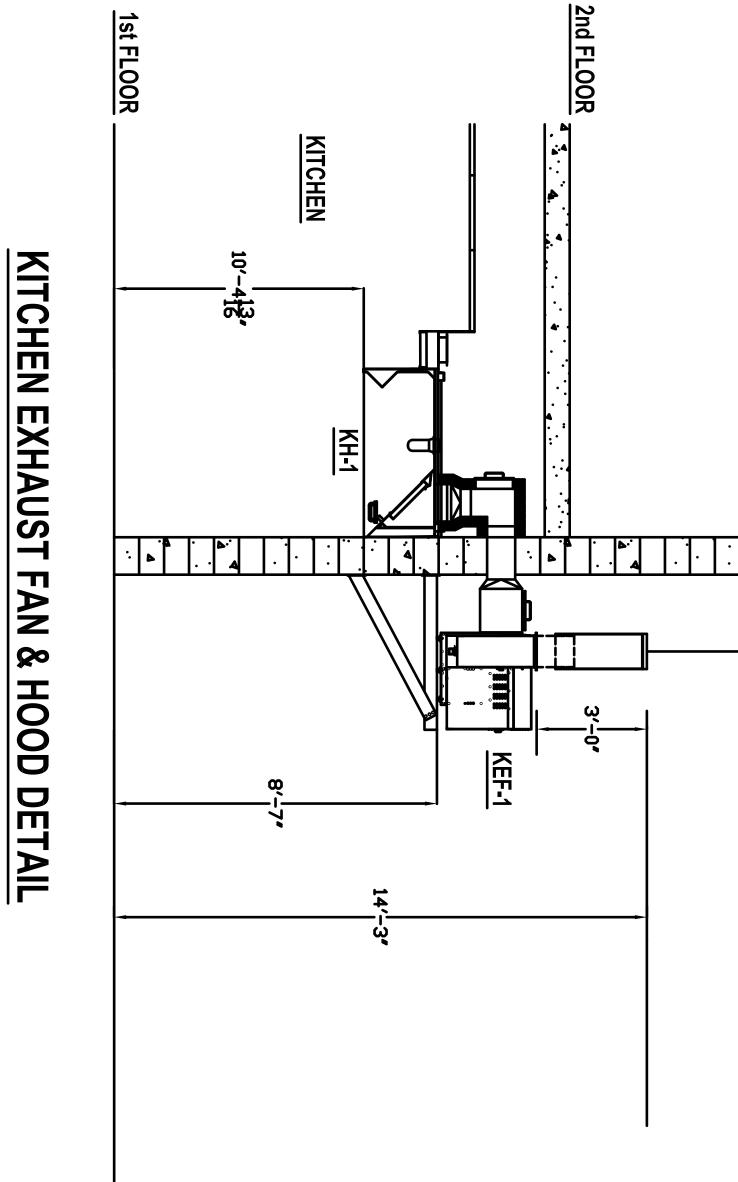
2650 N. DOWNER AVENUE MILWAUKEE, WI

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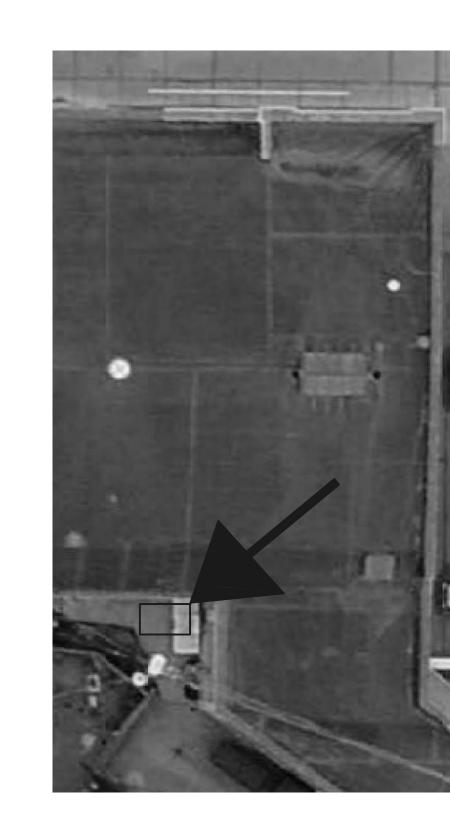


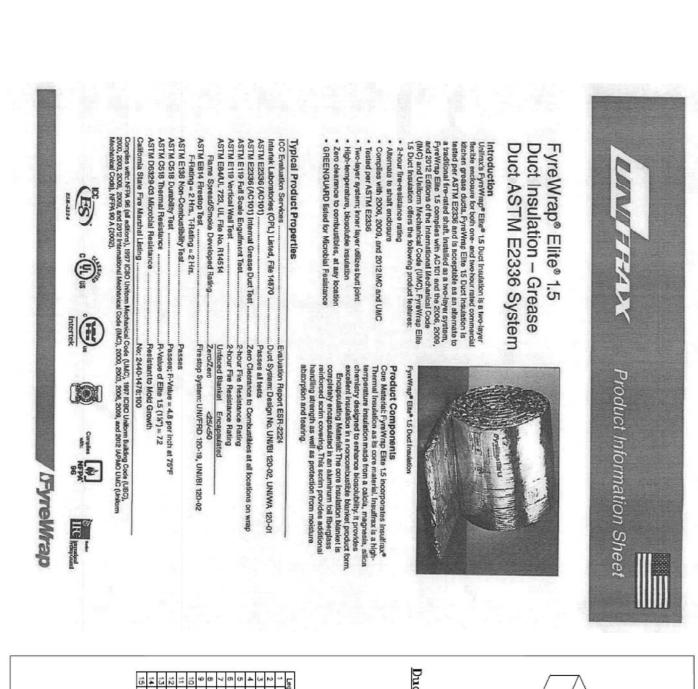


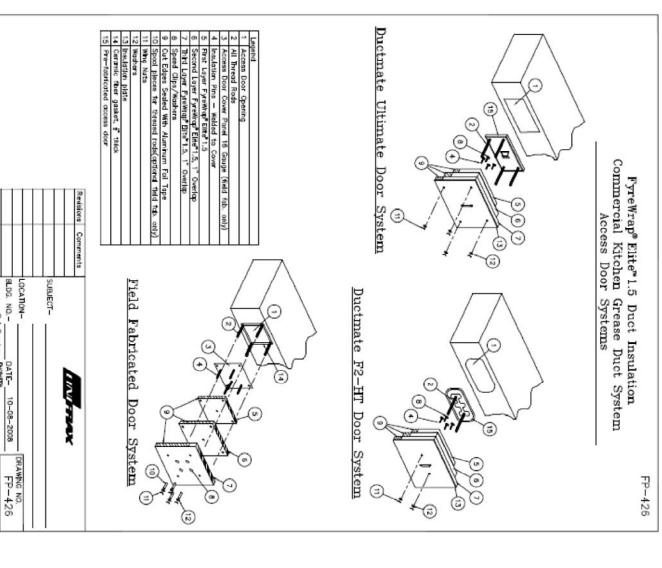












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1. Everything essential for the completion of the work implied to be covered by these notes to make the system ready for normal and proper operation must be furnished and installed by the HVAC Contractor.

2. Any omission from either; the plan, the equipment specifications, or the temperature control sequences of minor details necessary for the proper installation and operation of the systems shall not relieve the HVAC Contractor from furnishing such detail in full and

3. The HVAC Contractor shall take all necessary and sufficient precautions against the occurrence of any accidents causing injuries or damages to any person or property during the progress of the work. He shall be responsible for the payments of money for damages resulting in case of such accidents.

4. All hole cutting and patching required for ductwork and piping through all interior walls is the responsibility of the owner. All roof patching or hole cutting and patching of exterior walls is also by owner.

5. All work shall be guarantied for a period of one year from time of completion by the installing HVAC Contractor. All air conditioning equipment shall have extended four year compressor warranties included.

Precedence in installing equipment, ductwork and piping in close quarters is established by the general contractor, but no contractor has exclusive right—of—way in installing his work.

Plumbing Contractor shall provide water connection at points shown on plan for extension by 4. Electrical Contractor:

B. Plumbing Contractor shall provide floor drains at locations indicated on drawings or as directed by HVAC Contractor for condensate removal. A. All interior and exterior wall cutting and patching is by the Owner. Coordination of all roof, interior and exterior wall cutting is by the HVAC contractor.

A. All required power 120V/1 phase, 277V/1 phase and 3 phase and 480V/3 phase wiring and disconnects are by Electrical Contractor. All auxiliary equipment such Bas selector switches, speed switches, contactors, etc. are installed by the Electrical Contractor. See temperature control sequences for further

HVAC Contractor shall provide all starters to Electrical Contractor for installation. Heaters shall be sized by the starter manufacturer for the rated full load amps of the motor. All starters shall have adequate interlocks for automatic temperature controls, including holding coils and transformers as required. See drawings for starter locations.

C. HVAC Contractor shall provide contactors as required for all electric heating interlock requirements.

HVAC Contractor shall provide electrical heaters to be installed by the Electrical Contractor, as shown on plan. See temperature controls

Shop Drawings and O&M Manuals:

1. HVAC Contractor shall provide 3 bound copies of shop drawings and wiring diagrams for all equipment to general contractor for reference only. HVAC Contractor shall also submit 3 complete bound sets of operation & maintenance manuals to owner upon completion of work. Contractor shall instruct owner's representative as to proper operation and maintenance use.

1. Contractor shall provide 3 complete sets of record drawings at completion of project for owners adjustments of all air handling and hydraulic equipment. These adjustments are to be made in cooperation with and as directed by the engineer.

2. Submit (3) three copies of a complete report to the engineer for approval. Report shall contain equipment specifications, design and actual conditions for all itemized equipment, all grilles, registers and diffusers, all fan RPM's, pump GPM's, pump heads, and all voltage characteristics for motor driven equipment.

1. All ductwork shall be sheet metal and shall conform with the latest edition of ASHRAE & SMACNA standards. All ductwork shall also be sealed to meet Class B requirements (all transverse and longitudinal joints). All autiside ductwork as well as ductwork located in unconditioned spaces shall meet Class C requirements. Provide a manual lockable volume damper at each inlet or outlet whether shown on plan or not. 2. If a return air plenum design is utilized then the plenum area and all materials within including all wiring, etc. shall be constructed of non-combustible materials.

3. Insulate all rectangular ductwork within 15 feet of all units, in unconditioned spaces, and all outdoor air ductwork with 1" accoustical duct liner, 1.5 LB/GF density, Equal to Joins-Manville Lina-Coustic and suitable for velocities up to 6000 FPM. All seams shall be butted and buttered together tight to prevent erosion by the air stream and condensation. Adhesive shall be B. Foster 81–20 or as recommended by insulation manufacturer. Mechanical fasteners shall be grip nails, welded pins, etc. 16" on center at top and sides when height exceeds 24". All ductwork sizes shown are clear inside dimensions.

4. All flexible ductwork shall be insulated low pressure ducts, Thermatlex type MK-E or approved equal. Ductwork shall meet the Class I requirements of NFPA 90-A and be labeled by Underwriters Laboratory, Inc. with a flame spread rating of 50 or less.

5. Volume dampers shall be as constructed of 22 gauge steel and manufactured by Safe Air or approved equal. Ductwork shall be lotted steel. Dampers shall be of same size as ducts they are installed in and come complete with quadrant operator constructed of plated steel with wing nut. Round butterfly type volume dampers shall be Safe Air Model SAH-2C. Access doors on insulated ductwork shall be constructed of 18 gauge sheet metal fastened to adjacent ductwork with sheetmetal screens on 1" centers.

7. Provide flexible duct connectors which are listed and approved for such use, that are not over 14 ft in length, and convey air with a temperature less than 250 deg. F.

8. Provide duct insulation as required per IECC 403.2.1/IECC 503.2.7. All supplenums shall be insulated with a minimum of R-5 insulation when located in unminimum of R-8 insulation when located outside the building. When located with assembly, the duct or plenum shall be separated from the building exterior or unspaces by a minimum of R-8 insulation. If the building is a low rise (3 stories abunits or more) residential building, a minimum of R-6 insulation is required when located in unconditioned spaces.

Outside Air Intakes
All outside air intakes openings shall follow IMC 401.4.
Provide outside air intake openings for ventilation, doors and openable windows at least 10ft horizontally from outlets that emit products of combustion & exhaust vents, or locate the intake openings a minimu of 3ft below contaminant source.

All gas piping installations shall comply with NFPA 54-2009 National Fuel Gas Code. All piping shall conform with ASME and ANSI

field.

C. Support gas piping on roof at 8 foot intervals and at every change in direction with Miro roller type pipe stands on top of supplemental piece of rubber membrane material 12"x 12".

D. Paint all exterior gas piping with (1) one coat of gray rustoleum paint.

E. Test all gas piping with soap and water solution.

F. Provide a shut-off gas cock, pressure regulator and 6" dirt leg for every piece of heating equipment. Make final connection to heating equipment with union.

G. Route gas vent piping from regulator through roof with "witches hat "roof penetration provided by roofing contractor. Provide all clamps, etc. as required for a complete water tight installation.

H. No gas piping shall be routed in or through a return air plenum.

3. Condensate Piping:

A. All condensate drain piping shall be schedule 40 fittings within building subject to condensation with 1 thick preformed fiberglass pipe insulation as manufactured by Manville, or equal, of 3 to 4 lb/cu ft density and "K" factor of .25 or below. Install as recommended by manufacturer.

4. Support all piping and equipment neatly and in approved manner to allow for expansion, contraction and vibration. Maximum spacing of supports for horizontal piping shall be 8-0" for sizes 1/2" to 2" and 10-0" for sizes 2 1/2" and larger. Also support piping at all changes of direction.

1. See equipment schedules for equipment types, sizes and areas served.

2. Install all equipment where indicated on drawings and per manufacturer's instructions.

3. Install all standard combustion gas fired equipment a minimum of 7-0" above the floor, hang from non-combustible supports, or support from structural support frames. High efficiency condensing type equipment may be located at floor level.

4. Provide duct silencers where indicated on the plans. Duct liner (2" min.) maybe substituted for the silencers if prior approval is received by the engineer.

5. All mechanical equipment shall also be listed and labeled by the listing agencies approved by the State of Wisconsin Department of Safety & Professional Services Division of Industry Services, whichever is more stringent

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Provide and install all line and low voltage control wiring in accordance with all state, local, and NEC codes. Line voltage wiring must be run in EMT conduit, and low voltage wiring in finished areas must be run conceded or in EMT conduit, if exposed.

Smoke Detection Systems shall comply with IMC 606 — Provide a duct smoke detection system in new duct systems, with appropriate controls, unless (1) the return air rate is 2,000 cfm or less (See balancing report SPS 364.0313), OR (2) the air distribution system is incapable of spreading smake beyond the enclosing walls, floor and ceiling of the room or space in which the smoke is generated. The smoke detectors shall be connected to a fire alarm system. The activation of a smoke detector shall activate a visible and audible supervisory signal at a constantly attended location unless exceptions are met. The detectors shall be located in the return duct. By definition in IMC 202, an air distribution system consists of "...air—handling equipment that circulates air within a space or spaces and includes systems made up of one or more air—handling units." Multiple systems shall have their return air added aggregately for any one space when determining application of the 2,000 cfm return air criteria.

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SPECIFICATION

STONE CREEK COFFEE **2650 N. DOWNER AVENUE**

MILWAUKEE, WI