



CITY OF TAMPA

Pam Iorio, Mayor

CONTRACT ADMINISTRATION DEPARTMENT

David L. Vaughn, AIA, Director

ADDENDUM NO. 1

DATE: August 19, 2009

Contract No. 09-C-00038; Solid Waste HVAC Improvements

Bidders on the above referenced project are hereby notified that the following addendum is made to the Contract Documents. BIDS TO BE SUBMITTED SHALL CONFORM TO THIS NOTICE.

- Item 1: Replace Specification Section 15190 - Mechanical Identification
With the attached Specification Section 15190 - Mechanical Identification
- Item 2: Insert, after Specification Section 15911, the attached Specification Section 15932 - Terminal Units: Vav, Electric Resistance Heating Coil
- Item 3: Revise Sheet M-1.0 to include Ventilation statement, as indicated on the attached sketch SKM-1

Attachments: Specification Section 15190 - Mechanical Identification,
Specification Section 15932 - Terminal Units: Vav, Electric Resistance Heating Coil,
sketch SKM-1

This addendum shall be included in and attached to the inside cover of the Contract Documents by and upon which bids are submitted.

All other provisions of the Contract Documents and Specifications not in conflict with this Addendum shall remain in full force and effect.

Questions are to be e-mailed to ContractAdministration@tampagov.net.


Jim Greiner, P.E., Contract Manager
Contract Administration Department

306 E. Jackson Street, 4N • Tampa, Florida 33602 • (813) 274-8456 • FAX: (813) 274-8080


www.tampagov.net

SECTION 15190 - MECHANICAL IDENTIFICATION

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplementary Conditions, apply to work of this Section.

DESCRIPTION OF WORK:

Extent of mechanical identification work required by this Section is indicated on drawings and/or specified in other Division 15 sections. Types of identification devices specified in this Section include painted identification materials, plastic pipe markers, valve tags, valve schedule frames, and plastic equipment markers.

Refer to Division 16 sections for identification requirements of electrical work; not work of this Section.

Painting specifications and color coding for pipes and equipment are also included in this Section.

QUALITY ASSURANCE:

Manufacturer's Qualifications: Firms regularly engaged in the manufacture of identification devices of types and sizes required, whose products have been in satisfactory use in similar service for not less than five years.

Comply with ANSI A13.1 for lettering sizes, enamel paint and plastic tape colors, and pressure sensitive vinyl pipe markers.

SUBMITTALS:

Product Data: Submit manufacturer's technical product data and installation instructions for each identification material and device required.

PART 2 - PRODUCTS

ACCEPTABLE MANUFACTURERS:

Manufacturers offering mechanical identification materials which may be incorporated in the work include Allen Systems, Inc., Brady (W.H.) Co. (Signmark Div.), Industrial Safety Supply Co., Inc., and Seton Name Plate Corp.

MECHANICAL IDENTIFICATION MATERIALS:

Provide manufacturer's standard products of categories and types required for each application as referenced in other Division 15 sections. Provide single selection for each product category.

LETTERING AND GRAPHICS:

Designations used in mechanical identification work should correspond with those shown on plans. If not otherwise indicated, provide designations which allow proper identification and operation/maintenance of mechanical systems and equipment.

MECHANICAL SYSTEM IDENTIFICATION:

Provide a system of identification of all equipment, including dampers, and other appurtenances, to permit recognition of all components.

Piping System: Mark piping which is exposed, including concealed piping in accessible spaces i.e. lay-in ceilings, etc. Provide either pre-printed, color-coded plastic, self-sticking pipe markers; or color-coded stencil painted markers. Indicate each pipe system by its generic name (abbreviated) as shown/scheduled/specified.

Piping exposed in mechanical rooms and exterior to the building shall be painted using paint as specified and in accordance with the following Color Code Schedule.

Comply with ANSI A13.1 for colors as follows:

Color Code Schedule:

<u>Description</u>	<u>Color</u>	<u>Label</u>
Support Steel, etc.	Light gray	
Housekeeping Pads & Floors	Battleship grey (mechanical room)	
Chilled Water	Safety Blue	Chilled Water Supply
	Light Safety Blue	Chilled Water Return
Heating Hot Water	Safety Orange	Heating Hot Water Supply,
	Light Safety Orange	Heating Hot Water Return

Include arrows for direction of flow and content labels at twenty-foot maximum intervals. Locate markers at terminations of lines and near major branches; near control valves and at equipment connections; at wall, floor and ceiling penetrations; and at access doors where piping is in concealed spaces. Coat each pipe marker with at least one coating of water-resistant spray such as "Splac".

Valves:

All main and branch shut-off valves shall be tagged with a 2" diameter brass or laminated "Bakelite" plastic numbered disc, color code for each piping service. Exclude check valves, hose bibbs, faucets and shut-off valves for plumbing fixtures. Discs shall be stamped or engraved with letters at least 1/4" high. Securely attach discs with brass chains, nylon ties, or center hole mount on valve stem or handle. Provide typewritten chart with valve numbers, location and use. Mount in aluminum metal frame with plastic window for 8-1/2" by 11" chart format and mount on Mechanical Room wall where indicated. Provide duplicate copies of valve charts and include them in Maintenance and Operation Manuals.

Duct System:

Provide stencil-painted identification on ductwork, with lettering size sufficient for reading but not less than 3/4-inch and including arrows to show direction of flow. Indicate flow direction at fan housings, remote coils, fire and smoke dampers, control dampers, dehumidifiers and VAV boxes. On access doors, indicate service and equipment being accessed. Where ducts are concealed behind access doors or removable ceilings, identification may be by plasticized tags in lieu of stencil-painted markers.

Manual Volume Dampers: Spray paint a continuous minimum 6" wide fluorescent orange band around entire perimeter of the outside surface of the duct or when externally insulated, on the surface of the duct insulation, at all locations where manual volume air dampers are installed.

Equipment:

Provide tag identification with the equipment unit tag as indicated on the drawings for every piece of equipment. Tag identification shall be laminated phenolic plastic, chamfer edges, black front with white core, with lettering etched through the outer covering. White engraved 1/4" letters on black background.

Operational Tags:

Where needed for proper and adequate information on operation and maintenance of mechanical equipment, provide tags of plasticized cardstock, pre-printed to convey messages such as: "DO NOT CLOSE THIS VALVE EXCEPT WHEN BURNER IS OFF".

Nameplates:

Each unit of equipment shall be identified by a permanently factory attached nameplate bearing information pertaining specifically to the unit installed.

Dampers:

At each access door, provide a label with letters at least 1/2" high stating the damper number and purpose. Identify the dampers with red letters on a white background. Identify all other dampers with black letters on a white background.

Miscellaneous:

All switches, starters, pilot lights, remote gauges and control panels shall have attached or mounted adjacent thereto a black surface, white core Bakelite nameplate indicating which equipment it controls. Nomenclature shall be in accordance with a schedule submitted to and approved by the Owner.

Ceiling Tags:

Provide a 1/2" x 3" laminated phenolic coated plastic nameplate, black letters on white background for each VAV box, power ventilator, motorized damper, AHU or other equipment located in the ceiling space. If the equipment is located above a hard ceiling, locate nameplate on access door. If located above a ceiling, tile ceiling, locate on the T-bar next to the access tile.

PART 3 – EXECUTION

GENERAL INSTALLATION REQUIREMENTS:

Install identification after completion of surfacing covering and painting. Indicate direction or flow with arrows at 10'- 0 maximum intervals.

EQUIPMENT IDENTIFICATION:

Paint the equipment identification abbreviation as shown on the plans for all major pieces of mechanical equipment.

ADJUSTING AND CLEANING:

Adjusting: Relocate any mechanical identification device which has become visually blocked.

Cleaning: Clean face of identification devices.

PAINTING:

No paint containing lead will be allowed.

All paint materials and equipment used on the job shall be stored in a single space designated by the owner. The storage area shall be kept neat and clean. Floors shall be adequately protected from paint spillage. All cloths and cotton waste which might constitute a fire hazard shall be placed in metal containers and destroyed at the end of each work day. All damage caused to surfaces within the storage area shall be repaired. A fire extinguisher shall be provided and fully charged at all times for this area.

Provide primers and other undercoat paint produced by same manufacturer as finish coats. Primers shall be compatible with finish paints.

All work shall be guaranteed by this contractor against defects caused by use of inferior materials or workmanship for a period of 1 year from date of final acceptance of building.

All hangers and pipe support floor stands shall be painted. The system shall be painted up to but not including the flanges attached to the mechanical equipment nor the flexible conduit connected to electrical motors. Colors shall be as noted in the Color Code Schedule.

All systems which are an integral part of the equipment, that is originated from the equipment and returning to the same piece of equipment, shall be painted between and up to but not including the fixed flanges or connections on the equipment.

All metal surfaces to be painted shall be thoroughly cleaned of objectionable matter before priming or field coat are applied. Wire brushes shall not be used on galvanized and shop painted surfaces.

Unpainted Ferrous Metal: Surfaces shall be cleaned with wire brushes or by other proper and acceptable means. Grease and oil shall be removed with benzene, or other similar volatile cleaners. The surface shall be free from moisture.

Zinc-Coated (Galvanized) Surfaces: Grease and oil shall be removed with benzene, or other similar volatile

cleaner. Surfaces shall then be treated with an approved chemical compound such as phosphoric acid wash. The chemical compound shall be completely removed with clean, fresh water, and the surfaces thoroughly dried prior to priming.

Zinc-Chromate Shop Painted Ferrous Metal: Grease and oil shall be removed with benzine, or other similar volatile cleaner.

Structural and miscellaneous metals are specified to be shipped to the job site with prime coat. Items shall be touched-up as necessary at the job site prior to erection.

Ferrous materials delivered to the job site without shop coats shall be thoroughly cleaned and primed in the field. Cleaning shall be in accordance with Steel Structures Painting Council Surface Preparations Specifications #2. After cleaning, all surfaces except galvanized shall be primed with zinc-chromate iron oxide primer, equal to Pittsburgh's formulation 17-6. Galvanized surfaces shall be prepared as previously specified and given a special galvanized primer.

After erection, all weld splatter shall be removed and additional cleaning done, as required, to ensure a proper paint bond. The prime shall be applied to all surfaces as soon as possible after cleaning.

Pipe and equipment insulation such as canvas jacket insulation to be painted shall be cleaned of all loose foreign and objectionable material prior to priming.

Wherever previously primed or painted surfaces have been destroyed or defaced, they shall be restored with materials of like kind. Gouges or scratches in factory-applied finishes shall be filled with suitable fillers and sanded smooth prior to priming and painting or for special finishes, refinished in accordance with manufacturer's recommendations.

The premises shall at all times be kept free from accumulation of waste material and rubbish by employees or work. At the completion of the painting remove all tools, scaffolding, surplus materials, and all rubbish from and about the buildings and leave work area "broom clean" unless more exactly specified.

Upon completion, remove all paint where it has been spilled, splashed, or splattered on floors, fixtures, equipment, furniture, and all other surfaces, leaving the work ready for inspection.

EXTRA STOCK:

Furnish minimum of five percent extra stock of each mechanical identification material required, including additional numbered valve tags for each piping system, additional piping system identification markers, and additional plastic laminate engraving blanks of assorted sizes.

This contractor shall furnish the owner with one full gallon can of each finished color and complete manufacturer label and formula, and color chip with manufacturer's color name and/or code and location at which paint occurs.

END OF SECTION 15190

SECTION 15932 - TERMINAL UNITS: VAV, ELECTRIC RESISTANCE HEATING COIL

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Special Conditions and Division-1 Specification sections, apply to work of this section.

SCOPE:

Provide single inlet, variable air volume (VAV) terminal units of types, sizes and capacities indicated.

RELATION TO OTHER WORK:

Refer to the section, "General Mechanical Provisions", for related requirements. Refer to other sections of Division 15 and to all other applicable portions of the Drawings and Specifications.

SHOP DRAWINGS:

Refer to Section entitled "General Mechanical Provisions". Include: complete performance data at the scheduled operating conditions; dimensions; performance data; pressure losses; descriptions; discharge and radiated sound power levels at the stated conditions.

MANUFACTURER:

Products listed in this Section or on the plans are based on a specific manufacturer to establish the desired style, quality and type. Equivalent products, complying with the requirements of this Section and the installation requirements of the plans are acceptable.

The Basis of Design for this equipment is Envirotec.

TERMINOLOGY:

The word "box" or "terminal unit" used throughout this section without any modifying adjective shall mean the entire terminal unit assembly including all other accessories integral therewith, unless otherwise indicated. Terminal units may be referred to as "TU".

NOISE CRITERIA:

Unless otherwise indicated on drawings, the following noise criteria comprise the basis upon which the selected terminal units must be rated in order to comply with the design limits for allowable NC levels:

All sound power level decibels are referenced to 10 to the minus 12 watts.

Room outlet NC sound pressure levels specified for these TUs are based on 10db room absorption.

Room radiated NC sound pressure levels specified for these TUs are based on 10db room absorption plus 13 NC ceiling sound transmission loss.

The maximum allowable NC level in any occupied space (unless otherwise indicated) shall not exceed NC35 as a result of radiated or discharge noise from any terminal unit.

SELECTION:

Terminal units shall be selected for maximum air discharge within the mid-range of the TU rating so that field adjustment of maximum indicated discharge air quantity may be made plus and minus 15%

LEAKAGE:

Terminal units intended for full shut-off operation shall not have air leakage of more than 2% of nominal box capacity when inlet pressure is 6.0 inches w.g.

PRESSURE DROP:

Maximum allowable static pressure drop across the control box portion of any terminal unit (i.e., excluding any applicable companion sound attenuator or heating coil) shall not exceed 0.20 inches w.g. or the value(s)

scheduled on drawings. Maximum allowable minimum operating pressure of the entire unit shall not exceed 0.50 inches w.g.

PART 2 - PRODUCTS

TERMINAL UNITS:

Control Unit: Galvanized steel or aluminum casing; insulated internally to prevent condensation (comply with NFPA 90A); acoustically treated to reduce noise level; air quantity indicator; access panel(s) for complete access to all parts of the assembly which may require service, maintenance and repair.

Sound Attenuators: Factory made companion items to the control box. Provide when either of the following conditions exist:

If companion sound attenuators are indicated on the drawing schedule.

If companion sound attenuator must be provided in order to comply with the noise criteria limits indicated.

ELECTRIC RESISTANCE HEATING COILS:

Performance: Provide electric resistance heating coils, of the capacities scheduled, as integral factory mounted and wired equipment. Heating coils shall be of heavy duty nickel chromium wire and incorporated manual and auto reset high limit protection devices and air flow interlock devices. Heaters shall be UL labeled.

Coordinative Requirements: Coils shall be an integral component of the TU assembly and shall be factory installed and coordinated to function with the TU as described.

Other Coil Requirements:

Of proper size(s) as shown on the Drawings and/or as specified. Correlate size(s) of enclosing ductwork and/or other enclosure(s) with size(s) of actual coil(s) provided.

Be suitable for installation in location shown on the Drawings and/or where specified.

CONTROL REQUIREMENTS:

Pressure Independent Operation: Terminal units must operate independent of inlet pressure fluctuations in the main or branch duct system. Units must have controls which are factory installed, factory calibrated and factory tested to be pressure-independent. This pressure-independent feature must be a standard catalogued feature or available and provided as a standard catalogued option.

Units shall maintain constant discharge flow for any given setpoint with any variation in inlet static pressure between 0.2 inches w.g. and 6.0- inches w.g.

All terminal units must be factory set for design air flow and for minimum air flow.

Adjustment: Unit must have capability for easy field adjustment of maximum and minimum air quantities by resetting of control mechanism(s) on terminal unit.

Operation:

Discharge volume setting shall be controlled throughout indicated variable volume operating range as dictated by the controller which signals air flow requirements.

Controls integral with the terminal unit shall be provided by the terminal unit manufacturer. This includes damper motors and similar items. These controls shall not consume more than 0.020-scfm at 20-psig control supply air pressure if controls are pneumatic.

Controls must be completely compatible in all respects with the related components of the building temperature control system.

Refer to section describing control operation and to control diagrams for coordination.

Sensor: In addition to other requirements, the terminal unit shall have an inlet flow/pressure sensor which is designed to operate in conjunction with variable air volume exhaust hood control systems where applicable.

PART 3 - EXECUTION

INSTALLATION:

Coordinate location with all ducts, beams, joists, conduit, lights, piping, air distribution devices and other items in immediate vicinity of indicated locations. Make minor adjustments in exact locations shown to best fit available space.

Make all duct connections to and from boxes in as streamlined a manner as practical so that air pressure drop is minimized. Make such connections air tight at operating pressures encountered. Coordinate exact box location and inlet duct connection so that any straight diameters of inlet duct are provided as may be required by the terminal unit manufacturer for proper operation.

Locate boxes so that access for repair, maintenance and adjustment is easily facilitated without removal of other permanently located items which are in the immediate vicinity of boxes (this excludes removable ceiling panels, removable air distribution devices attached to flexible ductwork and other similar items).

No terminal unit outlet (including companion sound attenuator, if needed) shall be nearer than 60-inches from the first flexible duct connection take-off to the first downstream air distribution device.

Coordinate controls to take into account reverse or direct acting thermostats, whether TUs are normally open or normally closed, and similar interfacing.

END OF SECTION 15932

DESIGN CONDITIONS

SUMMER:		
OUTDOOR	92.0°FDB	77.0°FWB
INDOOR	73.0°FDB	50.0°FGRH
WINTER:		
OUTDOOR	36.0°FDB	
INDOOR	70.0°FDB	
DAILY RANGE:		15.4

VENTILATION STATEMENT

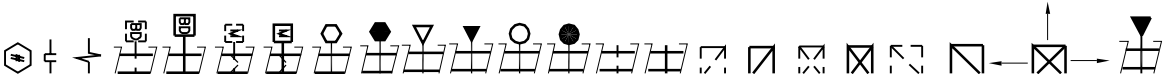
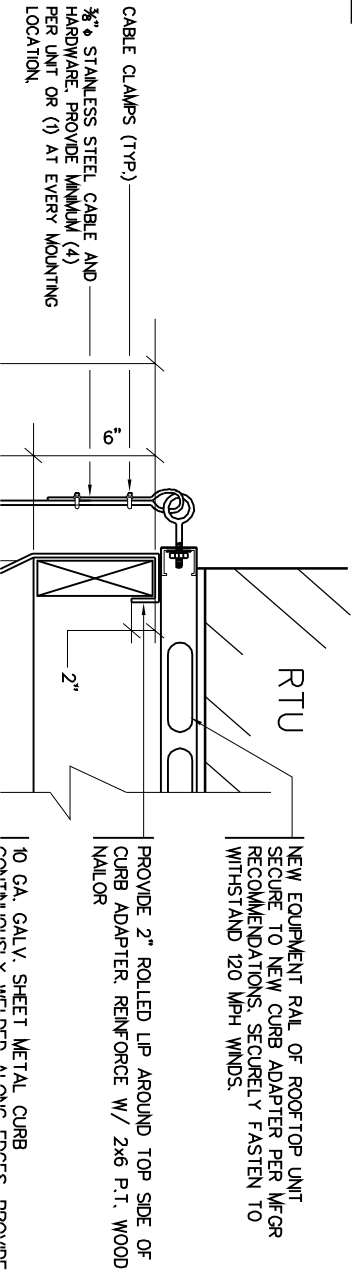
ADMINISTRATION BUILDING:

RTU		
TOTAL SUPPLY AIR	8500 CFM	
TOTAL OUTDOOR AIR	880 CFM	
TOTAL RETURN AIR	7650 CFM	
SYSTEM AREA EXHAUST AIR	650 CFM	
	200 CFM POSITIVE	
UNIT	AVG. NO. PERSONS	CFM/PERSON
RTU-1	42	20.0
		O.A. REQUIRED
		840.0

BALANCING NOTE

THIS CONTRACTOR SHALL REBALANCE EXISTING EXHAUST FANS AS FOLLOWS:

FAN	CFM
EF-1	200 CFM
EF-2	250 CFM
EF-3	100 CFM
EF-4	100 CFM
TOTAL:	100 CFM



HVAC LEGEND AND NOTES

project: SOLID WASTE ADMIN BUILDING
4010 W. SPRUCE STREET
TAMPA, FL 33607

sheet title	A. TRAVS	NONE
scale	DATE	08/18/09
designed by	STEPHENS	
checked by		
approved by	PARKER	SKM-1
date	10/20/09	

PS parker stephens, incorporated

4917 EHRlich RD., SUITE 204, TAMPA, FL 33624
PH. (813) 964-9114 FAX (813) 964-1002

CONSULTING ENGINEERS: EB-0007499