BRANDT

Letter: #6579

August 29, 2016

City of San Marcos
Facilities Maintenance
1630 E. Hopkins Street
San Marcos, TX 78666

Attn: Oscar Hairell, Operations Manager

SUBJECT: SAN MARCOS POLICE DEPARTMRNT – HVAC SYSTEM UPGRADES

Thank you for the opportunity to offer our Proposal for the above subject project. Our bid includes the following items related to the HVAC modification and upgrades recommended by Brandt Engineering:

I. BID DOCUMENTS:

- Drawings: Brandt Drawing & HVAC equipment submittals, dated 12/15/15
- Specifications: Commercial Industry Standards; Code Compliant

II. SCOPE OF WORK:

- Provide Mechanical & Electrical engineering services for either Option
- Provide labor, material and equipment to install the HVAC & Electrical for either Option
- Provide demo and removal of existing HVAC equipment, duct, piping, and Electrical as required
- Provide rework and modifications to HVAC & Electrical systems as required for either Option
- Provide new HVAC equipment, ductwork and Refrigeration piping as required for either Option
- Provide Electrical conduit, wiring and devices required for either Option
- Provide new HVAC equipment start-up, Commissioning and Owner training
- Provide new T-stats as required for HVAC equipment stand-alone operation for either Option
- Provide motorized Control Damper for Outside Air duct (Option 2 only)
- Provide HVAC Piping & Duct Insulation
- Provide HVAC Certified Test & Balance
- Provide wall coring and/or saw-cutting for any new duct or piping penetrations for either Option
- Provide fire-stopping and/or architectural caulking of HVAC wall penetrations for either Option
- Provide removal and replacement of gypsum or lay-in ceilings for access to work areas
- Provide patching/sealing of existing exterior wall penetrations no longer being used
- Provide patching, painting and touch-up of any floors, walls or ceilings
- Provide barricades and/or plastic sheeting for safety, noise and dust control

III. EXCLUSIONS:

- Sales or Remodel Taxes
- Permit and License Fees
- Overtime or afterhours work
- Payment and Performance Bonds
- Mechanical or Structural Engineering services
- Maintenance, Warranty or repairs to existing equipment
- Relocation of furniture or equipment for access to work areas
- Roof penetrations and/or any roof patching, sealing, flashings or repairs
- Fire or Fire/Smoke Dampers, except where shown on Sketches
- Smoke detectors, sensors, strobes, wiring or interface with Fire Alarm system
- Modifications to HVAC-DDC Building Automation Controls
- Temporary utilities or spot cooling/heating during construction
- Cleaning of existing, remaining ductwork
- Indoor Air Quality Management or Testing
- Painting or priming of equipment, fixtures, ductwork or piping
- Installation of heat tracing for exposed piping
- Fire Protection piping, smoke or heat detectors, and alarms
- Chemical Water Treatment for hydronic piping systems
- Asbestos and mold testing, removal or remediation
- X-ray of walls for coring and saw-cutting

IV. DESIGN NARRATIVE:

A. GENERAL

This narrative describes the removal and replacement of the existing air handling unit and dehumidification unit currently being used to condition the vaults.

B. EXISTING CONDITIONS

Conditioned air is provided to the storage vaults by a constant volume Carrier air handler. An outside air preconditioning unit was installed to help maintain the desired humidity levels in the space while the existing air handler would maintain temperature in the space. It has been determined that due to existing facility infrastructure that the current chill water and hot water heating system cannot maintain operational at all times. This has made the current HVAC system unable to maintain the required temperature and/or humidity for the evidence vaults.

C. MECHANICAL

Brandt has met with Oscar Hairell to discuss a resolution to provide a solution. The requested space set point is 68°F at 40%RH. This set point limits the available options for equipment replacement. In an attempt to meet the set point requirements research was conducted with the following codes and standards:

- National Institute of Justice: The Biological Evidence Preservation Handbook.
- Texas Department of Safety: Best Practices for Collection, Packaging, Storage, Preservation, and Retrieval of Biological Evidence.
- American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc: HVAC Applications, Chapter 9 Justice Facilities Evidence Vaults.
- International Association for Property and Evidence, Inc. Professional Standards: Section 7 - Storage Facilities.
- California Commission of Peace Officer Standards and Training: Law Enforcement Evidence & Property Management Guide.
- U.S. Department of Justice, Federal Bureau of Investigation – Laboratory Division: Handbook of Forensic Services.
- American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc: Standard 170-2008 Ventilation of Health Care Facilities.

The research from these referenced standards concludes the following consensus for evidence rooms or spaces containing biological forensic samples:

- Limit temperature variation from 60º to 75º F.
- Maintain a relative humidity not to exceed 60% RH.
- Contain a ventilation system that changes the air in the storage room approximately 10-12 air changes per hour (ACH).
- Provide a minimum quantity of outside air that it is the equivalent of 2 ACH.

D. EQUIPMENT

In an effort to provide a replacement to the current system Brandt is offering the best option for replacement would be a new Munters air handler will be installed as shown on the sketch. The Munters air handler will meet the requested setpoint of 68°F at 40%RH by the use of an active dehumidification wheel, regeneration fan and regeneration coil. The unit will not require chilled water or hot water from the main facility as requested by Oscar. It will be a standalone piece of equipment. Supply and return duct will be routed above ceiling to the existing vault area. The Munters unit will have to be installed on an elevated rail to accommodate supply and return ductwork. The unit will be controlled by a single temperature/humidity sensor to control to the requested setpoints. Electrical power will be connected by Brandt to a panel located in the adjacent mechanical room. The panel and source power will be provided by others.

V. SUMMARY PRICING:

Provide & install a Munters Dehumidification Unit, and all associated HVAC ductwork, piping and Electrical as required for a full functioning system:

Base Bid – Turnkey: **$ 62,038.00**