

## PERFORMANCE WORK STATEMENT (PWS)

### HVAC DUCT CLEANING, MAINTENANCE AND REPAIR SERVICES CINCINNATI VA MEDICAL CENTER

#### Part 1

##### General Information

1. **GENERAL:** This is a non-personnel services contract to provide cleaning & inspection of all mechanical HVAC units, including the associated ductwork and filter changes, throughout the Cincinnati VA Medical Center, at both the Cincinnati and Fort Thomas Kentucky campuses. The Government shall not exercise any supervision or control over the contract service providers performing the services herein. Such contract service providers shall be accountable solely to the Contractor who, in turn, is responsible to the Government.

1.1 **Description of Services/Introduction:** The contractor shall provide all personnel, equipment, supplies (except those supplied), facilities, transportation, tools, materials, supervision, and other items and non-personal services necessary to perform Mechanical HVAC System Cleaning, as defined in this Performance Work Statement except for those items specified as government furnished property and services. The contractor shall perform to the standards in this PWS.

1.2 **Background:** The Cincinnati VA Medical Center, including the Fort Thomas, Kentucky Division, have a need for continued duct cleaning services in order to meet all air quality requirements as defined in the NADCA Standards for Assessment/Cleaning/Restoration of HVAC Systems (See Attachment # 2 – The ACR).

1.3 **Objectives:**

- Clean ductwork
- Clean and inspected HVAC equipment, such as air handling units, exhaust fans, induction units, etc.
- Air Filter changes
- Clean ceiling diffusers, air intakes, etc.

1.4 **Scope Summary:** The contractor shall provide the personal necessary to complete the required work under the contract and COR's direction in a timely manner and on schedule (excluding holidays – see Section 1.6.3). Please see the requirements for the contractor's Quality Control Plan in Section 1.6.1. The contractor is required to submit a schedule that details how the work will be completed in the time-frames listed below as a deliverable with the quote (Section 1.4.1). This schedule, once awarded, will be amended as needed and approved by the contracting officer before work begins and may be changed in the future as needed.

A site visit will be made available to any SDVOSBs interested on Wednesday, August 23, 2017, at 10:30 A.M. EST. Contractors interested must contact Luke Turner by August 21, 2017 at 12:00 P.M. EST, with intent to attend the site visit. No more than two (2) employees from an individual contractor will be permitted to attend. Contractors attending are responsible for parking offsite.

The location for the site visit will be as follows:

Main Entrance  
Cincinnati VA Medical Center  
3200 Vine Street  
Cincinnati, Ohio 45220-2637

Attending personal are to dress appropriately as provided in this solicitation. Contractor is liable for bringing any safety equipment that may be needed. The government is not liable for any injury sustained during this site visit. The contractor is not to discuss any sort of pricing with the government officials or other contractors throughout the site visit.

Please contact if interested in the site visit:


1.4.1 A listing of included equipment is provided below (See Section Part 3.5 for a list of supplies provided by the government):

A. The following areas on the Cincinnati Campus are to be cleaned on a quarterly basis:

- 1) Building 1, East Wing: Intakes on Generator Room.
- 2) Building 1, C-Section: Intakes on Generator Room
- 3) Building 1, Room A22: Transformer Room Intakes.
- 4) Building 1, Transformer Room A: Intakes
- 5) Building 1, Negative Pressure Rooms:
- 6) Building 1, Operator Rooms C-346, C-347, C-348, C-349, C-350, C-353, C-354;  
Diffusers and grilles in cysto and operating rooms. They shall be vacuumed and washed. Adjacent ceiling tiles (touching HVAC vents) shall be cleaned or replaced discolored or broken.
- 7) Building 8: Generator Room Intakes.

B. Cincinnati Campus: The following areas in Buildings 1, 2, 3, 8, 13, 14, 15, & The Fisher House are to be cleaned and inspected on a quarterly basis:


- 1) Clean all Air Handling Units (Supply, Return, and Exhaust): This includes pressure cleaning all intakes, coils, clean interiors, lubricate dampers and treat drain pans. Clean and lubricate all fans and fan housings. The contractor shall straighten or comb bent fins on HVAC units.
- 2) Complete Scheduled Filter Change:


- 3) Clean and inspect all ceiling and floor mounted induction units throughout the Cincinnati Division (Approximately 207 units). All units must be cleaned and checked for correct valve operations. Remove covers, clean coils, and inspect lint screens and diffusers on all induction units. Replace lint screens and diffusers where necessary. The contractor shall straighten or comb bent fins on HVAC units.
- 4) Clean and inspect all heat convectors throughout the Cincinnati Division (Approximately 840 units). All convectors shall be cleaned and checked for proper operation. Remove covers and clean coils. The contractor shall straighten or comb bent fins on heat convectors.
- 5) Clean and inspect all fan coils located throughout the Cincinnati Division (Approximately 269 units). The contractor shall clean coils and replace filters. The contractor shall treat drain pans, clean and lubricate blower motors, blower wheels and change v-belts on fan coils that are belt driven as necessary. The contractor shall straighten or comb bent fins on fan coil units.
- 6) Clean and inspect all mixing boxes throughout the Cincinnati Division (Approximately 89). The Contractor must vacuum and verify for proper operation.
- 7) Clean all diffusers and grilles throughout the Cincinnati Division (Approximately 3233 units). They shall be vacuumed and washed. All adjacent ceiling tile shall be cleaned or replaced as necessary.
- 8) Building3: The contractor shall remove all through-the-wall Air Conditioning Units (Approximately 55 units) and pressure clean condensers, evaporators, (Approximately 8 units) glycol coils and (Approximately 55 units) steam coils. The Contractor shall treat drain pans, lubricate and clean motors, blower wheels, and clean or change filters as needed. The contractor shall straighten or comb bent fins on units.
- 9) Clean and inspect all exhaust fans located throughout the Cincinnati Division (Approximately 121 units). Clean and lubricate all fan housings. Change belts as necessary.
- 10) Clean and inspect units being worked on located throughout the Cincinnati Division and related equipment (pulleys, belts, motor, etc.). Clean and lubricate all equipment clearly a part of the main unit.
- 11) Clean and inspect cooking hoods (Approximately 6). 

C. Building 64 (Fort Thomas Kentucky Division): All work at this division is performed on a Semi-Annual basis:


- 1) Clean and inspect 3 ea. Air Handler Units located in the penthouses the roof of Building No 64. Clean (Approximately 162) ceiling supply diffusers, and (Approximately 134) ceiling return grilles. All located in various rooms on the second and third floors of Building No 64. Clean intakes and vent grilles, and screens in the AHU Penthouses. Contractor shall change filters semi-annually. Clean all Air Handling Units (Supply, Return and Exhaust): This includes pressure cleaning all intakes, coils, clean interiors, lube dampers and treat drain pans. Clean,

inspect and lubricate all fan and fan housings. The contractor shall straighten or comb bent fins on fan coil units, heat convectors, and split HVAC units.

- 2) Clean (Approximately 5) roof mounted exhaust fans. This includes exhaust grilles in various areas on the first, second, and third floors.
- 3) Generator Room: Clean Air Intakes.
- 4) Clean and inspect Air Handler Units either in the Basement, First Floor or outside of Building No 64 at the Basement level. Clean associated ceiling diffusers and Return Air Grilles. This includes pressure cleaning all intakes, coils, clean interiors, lube dampers and treat drain pans. Clean, inspect and lubricate all fans and fan housings. The contractor shall straighten or comb bent fins on fan coil units, heat convectors, and split HVAC units.
- 5) **Clean and inspect cooking hoods** (Approximately 6) 

- D. **Inspect and clean interior and exterior of all Duct Work at both the Cincinnati and Fort Thomas campuses (once per year/annually).** 

- E. Provide services that are not generally completed (CLIN# 0002, 1002, 2002, 3002 & 4002) under the contract. These services will be unforeseen repair of HVAC systems that can be reasonably charged to the contract and under the current agreed upon (of the contract) labor hour rates. The determination of allowability will be determined by the administrative contracting officer and shall not exceed \$10,000.00 for the work to be performed for any task and **shall NOT include the purchase of supplies from the contractor.**

- F. **Provide an additional interior and exterior duct inspection/cleaning at both the Cincinnati and Fort Thomas locations as needed by the government. Please provide a price for this additional service in the price schedule for each year under the contract with submission of the quote for this solicitation (CLIN # 0003, 1003, 2003, 3003 & 4003).** 

1.5 **Period of Performance:** The period of performance shall be for one (1) Base Year of 12 months and four (4) 12-month option years summarized as follows:

- Base Year: From September 20, 2017 to September 19, 2018.
- Option Year #1: From September 20, 2018 to September 19, 2019.
- Option Year #2: From September 20, 2019 to September 19, 2020.
- Option Year #3: From September 20, 2020 to September 19, 2021.
- Option Year #4: From September 20, 2021 to September 19, 2022.

## 1.6 **General Information**

1.6.1 **Quality Control:** The contractor shall develop and maintain an effective quality control plan to ensure services are performed in accordance with this PWS. The contractor shall develop and implement procedures to identify, prevent, and ensure non-recurrence of defective services. The quality control program is how the contractor assures the government that his work complies with the requirement of the contract. The Contractor shall submit a draft QC plan with his quote for review (See Attachment # 1 - Performance Requirements Summary for the minimal areas that should be addressed) The Contractor shall submit a final written quality control plan within 30 days

after contract award for the Contracting Officer's approval. After acceptance of the quality control plan the contractor shall receive the contracting officer's acceptance in writing.

1.6.2 Quality Assurance: The government shall evaluate the contractor's performance under this contract in accordance with the approved quality control plan (See Attachment # 1 - Performance Requirements Summary for most important elements). This plan is primarily focused on what the

Government must do to ensure that the contractor has performed in accordance with the performance standards. It defines how the performance standards will be applied, the frequency of surveillance, and the minimum acceptable defect rate(s).

1.6.3 Recognized Holidays:

New Year's Day	Labor Day
Martin Luther King Jr.'s Birthday	Columbus Day
President's Day	Veteran's Day
Memorial Day	Thanksgiving Day
Independence Day	Christmas Day

1.6.4 Hours of Operation: The contractor is responsible for conducting business, in Basement floor Main Kitchen, 1<sup>st</sup> floor Canteen Kitchen and 3<sup>rd</sup> floor Surgical Suite (Bldg. 1) and Basement Kitchen (Bldg. 64), shall be performed 7 pm to 5 am. All other services and inspections shall be performed during regular working hours of regular working days which are 7:00 a.m. to 3:30 p.m., Monday through Friday, except Federal holidays or when the Government facility is closed due to local or national emergencies, administrative closings, or similar Government directed facility closings.

1.6.5 Place of Performance: The work to be performed under this contract will be performed at the Cincinnati VA Medical Center, at both the Cincinnati Ohio and Fort Thomas Kentucky locations.

Cincinnati VA Medical Center  
3200 Vine Street  
Cincinnati, Ohio 45220-2637

Fort Thomas VA Medical Division  
1000 S. Fort. Thomas Ave.  
Fort. Thomas, KY. 41075

1.6.6 Type of Contract: The government anticipates the award of a Base + 4 option years Firm-Fixed Price contract.

1.6.7 Security Requirements and Background Checks: Contractor personnel performing work under this contract must go thru the VA background check procedure to obtain Contractor ID badges at time of the proposal submission, and must maintain the level of security required for the life of the contract. Contractor ID badges are obtained thru the VA Police Service, to be coordinated by the COR (See Attachment # 6 for Guidelines/Requirements).

1.6.7.1 PHYSICAL Security: The contractor shall be responsible for safeguarding all government equipment, information and property provided for contractor use. At the close of each work period, government facilities, equipment, and materials shall be secured. The contractor is responsible for all personal property and equipment.

1.6.7.2 Key Control: Contractor shall establish and implement methods of making sure all keys/key cards issued to the Contractor by the Government are not lost or misplaced and are not used by unauthorized persons. NOTE: All references to keys include key cards. No keys issued to the Contractor by the Government shall be duplicated. The Contractor shall develop procedures covering key control that shall be included in the Quality Control Plan. Such procedures shall include turn-in of any issued keys by personnel who no longer require access to locked areas. The Contractor shall immediately report any occurrences of lost or duplicate keys/key cards to the Contracting Officer.

1.6.7.2.1. Key Control: In the event keys, other than master keys, are lost or duplicated, the Contractor shall, upon direction of the Contracting Officer, re-key or replace the affected lock or locks; however, the Government, at its discretion, may replace the affected lock or locks or perform re-keying. When the replacement of locks or re-keying is performed by the Government, the total cost of re-keying or the replacement of the lock or locks shall be placed in invoices for payment when submitted as a negative line item. In the event a master key is lost or duplicated, all locks and keys for that system shall be replaced by the Government and the total cost deducted from the monthly payment invoiced by the Contractor.

1.6.7.2.2. Key Control: The Contractor shall prohibit the use of Government issued keys/key cards by any persons other than the Contractor's employees. The Contractor shall prohibit the opening of locked areas by Contractor employees to permit entrance of persons other than Contractor employees engaged in the performance of assigned work in those areas, or personnel authorized entrance by the Contracting Officer.

1.6.7.3 Lock Combinations: The Contractor shall establish and implement methods of ensuring that all lock combinations are not revealed to unauthorized persons. The Contractor shall ensure that lock combinations are changed when personnel having access to the combinations no longer have a need to know such combinations. These procedures shall be included in the Contractor's Quality Control Plan.

1.6.8 Specifications and Special Qualifications: Refer to Part 5: Specific Task for the specifications for performing this work, and the required qualifications.

1.6.9 Post Award Conference/Periodic Progress Meetings: The Contractor agrees to attend any post award conference convened by the contracting activity or contract administration office in accordance with Federal Acquisition Regulation Subpart 42.5. The contracting officer, Contracting Officers Representative (COR), and other Government personnel, as appropriate, may meet periodically with the contractor to review the contractor's performance. At these meetings, the appropriate government official (CO/CS/COR) will apprise the contractor of how the government views the contractor's performance and the contractor will apprise the Government of problems, if any, being experienced. Appropriate action shall be taken to resolve outstanding issues. These meetings shall be at no additional cost to the government.

1.6.10 Contracting Officer Representative (COR): The (COR) will be identified by separate letter. The COR monitors all technical aspects of the contract and assists in contract administration. The COR is authorized to perform the following functions: assure that the Contractor performs the technical requirements of the contract; perform inspections necessary in connection with contract performance; maintain written and oral communications with the Contractor concerning technical aspects of the contract; issue written interpretations of technical requirements, including Government drawings, designs, specifications; monitor Contractor's performance and notifies both the Contracting Officer and Contractor of any deficiencies; coordinate availability of government furnished property, and provide site entry of Contractor personnel. A letter of designation issued to the COR, a copy of which is sent to the Contractor, states the responsibilities and limitations of the COR, especially with regard to changes in cost or price, estimates or changes in delivery dates. The COR is not authorized to change any of the terms and conditions of the resulting order.

1.6.11 Key Personnel (Government): The following personnel are considered key personnel by the government: Contracting Officer, Contracting Officer Representative, Maintenance and Operations Foreman, Utility Systems Supervisor, and A/C Shop Leader. The contractor shall provide a contract manager who shall be responsible for the performance of the work. The name of this person and an alternate who shall act for the contractor when the manager is absent shall be designated in writing to the contracting officer. The contract manager or alternate shall have full authority to act for the contractor on all contract matters relating to daily operation of this contract. The contract manager or alternate shall be available between 7 am to 3:30 pm, Monday thru Friday except Federal holidays or when the government facility is closed for administrative reasons.

1.6.12 Identification of Contractor Employees: All contract personnel attending meetings, answering Government telephones, and working in other situations where their contractor status is not obvious to third parties are required to wear their VA issued Contractor ID Badges to avoid creating an impression in the minds of members of the public that they are Government officials. They must also ensure that all documents or reports produced by contractors are suitably marked as contractor products or that contractor participation is appropriately disclosed.

1.6.13 Contractor Travel: The Contractor is required to provide travel for work completed under the contract. This cost is part of the contract award and not chargeable to the government.

1.6.14 Other Direct Costs: N/A

1.6.15 Data Rights: N/A

1.6.16 Organizational Conflict of Interest: Contractor and subcontractor personnel performing work under this contract may receive, have access to or participate in the development of proprietary or source selection information (e.g., cost or pricing information, budget information or analyses, specifications or work statements, etc.) or perform evaluation services which may create a current or subsequent Organizational Conflict of Interests (OCI) as defined in FAR Subpart 9.5. The Contractor shall notify the Contracting Officer immediately whenever it becomes aware that such access or participation may result in any actual or potential OCI and shall promptly submit a



plan to the Contracting Officer to avoid or mitigate any such OCI. The Contractor's mitigation plan will be determined to be acceptable solely at the discretion of the Contracting Officer and in the event the Contracting Officer unilaterally determines that any such OCI cannot be satisfactorily avoided or mitigated, the Contracting Officer may effect other remedies as he or she deems necessary, including prohibiting the Contractor from participation in subsequent contracted requirements which may be affected by the OCI.

1.6.17 Phase-In /Phase-Out Period: N/A

1.6.18 Dress Code Requirements: All contractor personal shall comply with the dress code policy (located in Attachment # 2). No business attire should be observed for this contract, but all other guidelines are applicable. Specific dress requirement for this contract are, but not limited to, as follows:

- No shorts
- Closed Toe Shoes
- Applicable Safety Equipment (Hard hats, Steel-Toe Boots, etc.)
- No cut-off / sagging clothing of any kind
- No offensive material on clothing

## **PART 2**

### **DEFINITIONS & ACRONYMS**

#### **2. DEFINITIONS AND ACRONYMS:**

##### **2.1. DEFINITIONS:**

- **CONTRACTOR.** A supplier or vendor awarded a contract to provide specific supplies or service to the government. The term used in this contract refers to the prime.
- **CONTRACTING OFFICER.** A person with authority to enter into, administer, and or terminate contracts, and make related determinations and findings on behalf of the government. Note: The only individual who can legally bind the government.
- **CONTRACTING OFFICER'S REPRESENTATIVE (COR).** An employee of the U.S. Government appointed by the contracting officer to administer the contract. Such appointment shall be in writing and shall state the scope of authority and limitations. This individual has authority to provide technical direction to the Contractor as long as that direction is within the scope of the contract, does not constitute a change, and has no funding implications. This individual does NOT have authority to change the terms and conditions of the contract.
- **DEFECTIVE SERVICE.** A service output that does not meet the standard of performance associated with the Performance Work Statement.
- **DELIVERABLE.** Anything that can be physically delivered, but may include non-manufactured things such as meeting minutes or reports.
- **KEY PERSONNEL.** Contractor personnel that are evaluated in a source selection process and that may be required to be used in the performance of a contract by the Key Personnel listed in the PWS. When key personnel are used as an evaluation factor in best value procurement, an offer can be rejected if it does not have a firm commitment from the persons that are listed in the proposal.
- **NOT TO EXCEED (NTE).** The price and/or quantity that the contract or purchase order shall not exceed.
- **PHYSICAL SECURITY.** Actions that prevent the loss or damage of Government property.
- **QUALITY ASSURANCE.** The government procedures to verify that services being performed by the Contractor are performed according to acceptable standards.
- **QUALITY ASSURANCE Surveillance Plan (QASP).** An organized written document specifying the surveillance methodology to be utilized by the government for surveillance of contractor performance.
- **QUALITY CONTROL.** All necessary measures taken by the Contractor to assure that the quality of an end product or service shall meet contract requirements.
- **SUBCONTRACTOR.** One that enters into a contract with a prime contractor. The Government does not have privity of contract with the subcontractor.
- **WORK DAY.** The number of hours per day the Contractor provides services in accordance with the contract.
- **WORK WEEK.** Monday through Friday, unless specified otherwise.

## 2.2. ACRONYMS:

ACOR	Alternate Contracting Officer's Representative
CFR	Code of Federal Regulations
CO	Contracting Officer
CONUS	Continental United States (excludes Alaska and Hawaii)
COR	Contracting Officer's Representative
COTR	Contracting Officer's Technical Representative
COTS	Commercial-Off-the-Shelf
FAR	Federal Acquisition Regulation
HIPAA	Health Insurance Portability and Accountability Act of 1996
NTE	Not to Exceed
OCI	Organizational Conflict of Interest
OCONUS	Outside Continental United States (includes Alaska and Hawaii)
ODC	Other Direct Costs
PIPO	Phase In/Phase Out
POC	Point of Contact
PRS	Performance Requirements Summary
PWS	Performance Work Statement
QA	Quality Assurance
QAP	Quality Assurance Plan
QASP	Quality Assurance Surveillance Plan
QC	Quality Control
QCP	Quality Control Program
TE	Technical Exhibit
VAAR	Veteran's Administration Acquisition Regulation
VHA PM	Veteran's Health Administration Procurement Manual

**PART 3**  
**GOVERNMENT FURNISHED PROPERTY, EQUIPMENT, AND SERVICES**

**3. GOVERNMENT FURNISHED ITEMS AND SERVICES:**

3.1. Services: NA

3.2 Facilities: The Government will provide the following to the Contractor:

- An area for the Contractor to store equipment used to complete the requirements under the contract. Storage space will not exceed 16' x 24' in total area.
- Toilet and washrooms for the technicians employed by the Contractor in the performance of this contract.
- Contractor will be allowed to use the VA Canteen Service for breaks and lunches. Contractor will not use any other location throughout the facility for such purposes.
- Contractor will be allowed to use Warehouse dock area to unload equipment (Both Cincinnati and Fort Thomas Locations). Coordination with the COR required 24 hours prior to loading and unloading at the two locations.
- Contractor will be allowed to use service elevators for transportation of equipment, materials, tools and waste.

Note\* There is no available on-site parking. Contractor will be responsible for parking off-site (will be allowed to load and unload on-site as needed for performance under the contract.

3.3 Utilities: The Government will provide the following to the Contractor:

- All electricity necessary to operate the contractor's power driven equipment, explosion proof and conventional droplights, tec.

The Contractor shall instruct employees in utilities conservation practices. The contractor shall be responsible for operating under conditions that preclude the waste of utilities, which include turning off the water faucets or valves.

3.4 Equipment: N/A – the contractor is responsible for all equipment needed to complete the services required under the contract.

3.5 Materials: The Government will provide the following supplies to perform the duties prescribed within. The government furnished supplies will be stored in Building # 8 (Boiler Plant) and the basement level of building # 15 (A/C Shop). Supplies will be located in the storage room of the 3<sup>rd</sup> floor of the Fort Thomas Facility. The contractor is required to report supplies used each week in the report described in Section 2.08(A)(1) and future needs for supplies to be stocked.

- filters
- screens
- diffusers
- charcoal
- purafil cells
- belts
- cleaning agents
- ceiling tile
- lubricants
- drain treatment materials
- trash bags
- dumpster use
- architectural floor plans

**PART 4**  
**CONTRACTOR FURNISHED ITEMS AND SERVICES**

**4. CONTRACTOR FURNISHED ITEMS AND RESPONSIBILITIES:**

4.1 General: The Contractor shall furnish all supplies (Except ones supplies by the government in Section 3.5), equipment, facilities and services required to perform work under this contract as listed in this PWS.

4.2. Materials: The contractor will provide any materials not listed in Part 3.5 above, that is required to complete their work.

4.3. Equipment: The contractor shall provide the equipment necessary to perform the work as described in this PWS.

**PART 5**  
**SPECIFIC TASKS**

**General Specifications**

**Part 1 -- Special Provisions**

**1.1 Qualification of the HVAC System Cleaning Contractor**

(A) Membership: The HVAC system cleaning contractor shall be a certified member of the National Air Duct Cleaners Association (NADCA), or shall maintain membership in a nationally recognized non-profit industry organization dedicated to the cleaning of HVAC systems.

(B) Certification: The HVAC system cleaning contractor shall have a minimum of one (1) Air System Cleaning Specialist (ASCS) certified by NADCA on a full-time basis, or shall have staff certified by a nationally recognized certification program and organization dedicated to the cleaning of HVAC systems.

(C) Supervisor Qualifications: A person certified as an ASCS by NADCA, or maintaining an equivalent certification by a nationally recognized program and organization, shall be responsible for the total work herein specified.

(D) Experience: The HVAC system cleaning contractor shall submit resumes reflecting 2 years of experience in the field of HVAC system cleaning for all employees to perform under the contract.

(E) Equipment, Materials and Labor: The HVAC system cleaning contractor shall possess and furnish all necessary equipment, materials and labor to adequately perform the specified services.

1. The contractor shall assure that its employees have received safety equipment training, medical surveillance programs, individual health protection measures, and manufacturer's product and material safety data sheets (MSDS) as required for the work by the U.S. Occupational Safety and Health Administration, and as described by this specification.

2. The contractor shall maintain a copy of all current MSDS documentation and safety certifications at the site at all times, as well as comply with all other site documentation requirements of applicable OSHA programs and this specification

3. Contractor shall submit to the **government** all Material Safety Data Sheets (MSDS) for all chemical products proposed to be used in the cleaning process.

4. Contractor Shall provide resumes of all employees, reflecting 2 years HVAC cleaning experience, that are to perform under the contract and shall do so to the COR 30 days after contract award. This requirement also applies to new employees that are hired throughout the duration of the contract.

(F) Licensing: The HVAC system cleaning contractor shall provide proof of maintaining the proper license(s), if any, as required to do work in this state. Contractor shall comply with all Federal, state and local rules, regulations, and licensing requirements.

## 1.2 Standards

(A) NADCA Standards: The HVAC system cleaning contractor shall perform the services specified here in accordance with the current published standards of the National Air Duct Cleaners Association (NADCA).

1. All terms in this specification shall have their meaning defined as stated in the NADCA Standards (See Attachment # 2 The ACR).

2. NADCA Standards must be followed with no modifications or deviations being allowed.

## 1.3 Documents

(A) Mechanical Drawings: The **government** shall provide the HVAC system cleaning contractor with one copy of the following documents:

1. Project drawings and specifications.

2. Approved construction revisions pertaining to the HVAC system.

3. Any existing indoor air quality (IAQ) assessments or environmental reports prepared for the facility.

## Part 2 -- HVAC System Cleaning Specifications and Requirements

### 2.1 Scope of Work

(A) Scope: This section defines the **minimum** requirements necessary to render HVAC components clean, and to verify the cleanliness through inspection and/or testing in accordance with items specified herein and applicable NADCA Standards.

The Contractor shall be responsible for the removal of visible surface contaminants and deposits from within the HVAC system in strict accordance with these specifications.



## 2.2 HVAC System Component Inspections and Site Preparations

(A) HVAC System Component Inspections: Prior to the commencement of any cleaning work, the HVAC system cleaning contractor shall perform a visual inspection of the HVAC system to determine appropriate methods, tools, and equipment required to satisfactorily complete this project. The cleanliness inspection should include air handling units and representative areas of the HVAC system components and ductwork. In HVAC systems that include multiple air handling units, a representative sample of the units should be inspected.

The cleanliness inspection shall be conducted without negatively impacting the indoor environment through excessive disruption of settled dust, microbial amplification or other debris. In cases where contamination is suspected, and/or in sensitive environments where even small amounts of contaminant may be of concern, environmental engineering control measures should be implemented

1. Damaged system components found during the inspection shall be documented and brought to the attention of the **government**.

(B) Site Evaluation and Preparations: Contractor shall conduct a site evaluation, and establish a specific, coordinated plan which details how each area of the building will be protected during the various phases of the project.

(C) Inspector Qualifications: Contractor's Management under the contract will be responsible for inspecting work completed and reporting back to the COR/Engineering department as described in Attachment # 4: Deliverables.

## 2.3 General HVAC System Cleaning Requirements

(A) Containment: Debris removed during cleaning shall be collected and precautions must be taken to ensure that Debris is not otherwise dispersed outside the HVAC system during the cleaning process.

(B) Particulate Collection: Where the Particulate Collection Equipment is exhausting inside the building, HEPA filtration with 99.97% collection efficiency for 0.3-micron size (or greater) particles shall be used. When the Particulate Collection Equipment is exhausting outside the building, Mechanical Cleaning operations shall be undertaken only with Particulate Collection Equipment in place, including adequate filtration to contain Debris removed from the HVAC system. When the Particulate Collection Equipment is exhausting outside the building, precautions shall be taken to locate the equipment down wind and away from all air intakes and other points of entry into the building.

(C) Controlling Odors: Measures shall be employed to control odors and/or mist vapors during the cleaning process.

(D) Component Cleaning: Cleaning methods shall be employed such that all HVAC system components must be Visibly Clean as defined in applicable standards (see NADCA Standards). Upon completion, all components must be returned to those settings recorded just prior to cleaning operations.

(E) Air-Volume Control Devices: Dampers and any air-directional mechanical devices inside the HVAC system must have their position marked prior to cleaning and, upon completion, must be restored to their marked position.

(F) Service Openings: The contractor shall utilize service openings, as required for proper cleaning, at various points of the HVAC system for physical and mechanical entry, and inspection.

1. Contractor shall utilize the existing service openings already installed in the HVAC system where possible.
2. Other openings shall be created where needed and they must be created so they can be sealed in accordance with industry codes and standards.
3. Closures must not significantly hinder, restrict, or alter the airflow within the system.
4. Closures must be properly insulated to prevent heat loss/gain or condensation on surfaces within the system.
5. Openings must not compromise the structural integrity of the system.
6. Construction techniques used in the creation of openings should conform to requirements of applicable building and fire codes, and applicable NFPA, SMACNA and NADCA Standards.
7. Cutting service openings into flexible duct is not permitted. Flexible duct shall be disconnected at the ends as needed for proper cleaning and inspection.
8. Rigid fiber glass duct systems shall be resealed in accordance with NAIMA recommended practices. Only closure techniques that comply with UL Standard 181 or UL Standard 181a are suitable for fiber glass duct system closures.
9. All service openings capable of being re-opened for future inspection or remediation shall be clearly marked and shall have their location reported to the **government** in project report documents.

(G) Ceiling sections (tile): The contractor may remove and reinstall ceiling sections to gain access to HVAC systems during the cleaning process.

(H) Air distribution devices (registers, grilles & diffusers): The contractor shall clean all air distribution devices.

(I) Air handling units, terminal units (VAV, Dual duct boxes, etc.), blowers and exhaust fans: The contractor shall insure that supply, return, and exhaust fans and blowers are thoroughly cleaned. Areas to be cleaned include blowers, fan housings, plenums (except ceiling supply and return plenums), scrolls, blades, or vanes, shafts, baffles, dampers and drive assemblies. All visible surface contamination deposits shall be removed in accordance with NADCA Standards. Contractor shall:

1. Clean all air handling units (AHU) internal surfaces, components and condensate collectors and drains.
2. Assure that a suitable operative drainage system is in place prior to beginning wash down procedures.
3. Clean all coils and related components, including evaporator fins.

(J) Duct Systems. Contractor shall:

1. Create service openings in the system as necessary in order to accommodate cleaning of otherwise inaccessible areas.
2. Mechanically clean all duct systems to remove all visible contaminants, such that the systems are capable of passing Cleaning Verification Tests (see NADCA Standards).

## 2.4 Health and Safety

(A) Safety Standards: Cleaning contractors shall comply with applicable federal, state, and local requirements for protecting the safety of the contractor's employees, building occupants, and the environment. In particular, all applicable standards of the Occupational Safety and Health Administration (OSHA) shall be followed when working in accordance with this specification.

(B) Occupant Safety: No processes or materials shall be employed in such a manner that they will introduce additional hazards into occupied spaces.

(C) Disposal of Debris: All Debris removed from the HVAC System shall be disposed of in accordance with applicable federal, state and local requirements.

## 2.5 Mechanical Cleaning Methodology

(A) Source Removal Cleaning Methods: The HVAC system shall be cleaned using Source Removal mechanical cleaning methods designed to extract contaminants from within

the HVAC system and safely remove contaminants from the facility. It is the contractor's responsibility to select Source Removal methods that will render the HVAC system Visibly Clean and capable of passing cleaning verification methods (See applicable NADCA Standards) and other specified tests, in accordance with all general requirements. No cleaning method, or combination of methods, shall be used which could potentially damage components of the HVAC system or negatively alter the integrity of the system.

1. All methods used shall incorporate the use of vacuum collection devices that are operated continuously during cleaning. A vacuum device shall be connected to the downstream end of the section being cleaned through a predetermined opening. The vacuum collection device must be of sufficient power to render all areas being cleaned under negative pressure, such that containment of debris and the protection of the indoor environment are assured.
2. All vacuum devices exhausting air inside the building shall be equipped with HEPA filters (minimum efficiency), including hand-held vacuums and wet-vacuums.
3. All vacuum devices exhausting air outside the facility shall be equipped with Particulate Collection including adequate filtration to contain Debris removed from the HVAC system. Such devices shall exhaust in a manner that will not allow contaminants to re-enter the facility. Release of debris outdoors must not violate any outdoor environmental standards, codes or regulations.
4. All methods require mechanical agitation devices to dislodge debris adhered to interior HVAC system surfaces, such that debris may be safely conveyed to vacuum collection devices. Acceptable methods will include those, which will not potentially damage the integrity of the ductwork, nor damage porous surface materials such as liners inside the ductwork or system components.

#### (B) Methods of Cleaning Fibrous Glass Insulated Components

1. Fibrous glass thermal or acoustical insulation elements present in any equipment or ductwork shall be thoroughly cleaned with HEPA vacuuming equipment, while the HVAC system is under constant negative pressure, and not permitted to get wet in accordance with applicable NADCA and NAIMA standards and recommendations.
2. Cleaning methods used shall not cause damage to fibrous glass components and will render the system capable of passing Cleaning Verification Tests (see NADCA Standards).

#### (C) Damaged Fibrous Glass Material

1. Evidence of damage: If there is any evidence of damage, deterioration, delaminating, friable material, mold or fungus growth, or moisture such that fibrous glass materials cannot be restored by cleaning or resurfacing with an acceptable insulation repair coating, they shall be identified for replacement.

2. Replacement: When requested or specified, Contractor must be capable of remediating exposed damaged insulation in air handlers and/or ductwork requiring replacement.

3. Replacement material: In the event fiber glass materials must be replaced, all materials shall conform to applicable industry codes and standards, including those of UL and SMACNA.

Replacement of damaged insulation is **not** covered by this specification.

#### (D) Cleaning of coils

1. Any cleaning method may be used which will render the Coil Visibly Clean and capable of passing Coil Cleaning Verification (see applicable NADCA Standards). Coil drain pans shall be subject to Non-Porous Surfaces Cleaning Verification. The drain for the condensate drain pan shall be operational. Cleaning methods shall not cause any appreciable damage to, displacement of, inhibit heat transfer, or erosion of the coil surface or fins, and shall conform to coil manufacturer recommendations when available. Coils shall be thoroughly rinsed with clean water to remove any latent residues.

#### (E) Antimicrobial Agents and Coatings

1. EPA registered and FDA approved antimicrobial agents for hospital use shall be applied to prevent fungal growth.

2. Application of any antimicrobial agents used to control the growth of fungal or bacteriological contaminants shall be performed after the removal of surface deposits and debris.

3. When used, antimicrobial treatments and coatings shall be applied in strict accordance with the manufacturer's written recommendations and EPA registration listing.

4. Antimicrobial coatings shall be applied according to the manufacturer's written instructions. Coatings shall be sprayed directly onto interior ductwork surfaces, rather than "fogged" downstream onto surfaces.

### 2.6 Cleanliness Verification

(A) General: Verification of HVAC System cleanliness will be determined after mechanical cleaning and before the application of any treatment or introduction of any treatment-related substance to the HVAC system, including biocidal agents and coatings.

(B) Visual Inspection: The HVAC system shall be inspected visually to ensure that no visible contaminants are present.

1. If no contaminants are evident through visual inspection, the HVAC system shall be considered clean; however, the **owner** reserves the right to further verify system cleanliness through Surface Comparison Testing or the NADCA vacuum test specified in the NADCA standards.

2. If visible contaminants are evident through visual inspection, those portions of the system where contaminants are visible shall be re-cleaned and subjected to re-inspection for cleanliness.

3. NADCA vacuum test analysis should be performed by a qualified third party experienced in testing of this nature. To be considered clean by the NADCA vacuum test, the net weight of the debris on the sample filter media collected on a non-porous surface shall not exceed 0.75 mg/100 cm<sup>2</sup>.

4. Representative post cleaning surface fungal sampling shall be conducted and results shall be in the range of none to rare fungal structures for the representative samples collected.

5. Representative post cleaning lead wipe samples shall be collected on horizontal interior surfaces and results shall not exceed 40 micrograms of lead per square foot.

6. Each portion of the HVAC system, which does not meet the cleanliness verification test criteria shall be thoroughly re-cleaned and then re-inspected. The process shall be repeated until the system passes the test. Additional inspection and testing will be at the expense of the Contractor.

(C) Verification of Coil Cleaning

1. Cleaning must restore the coil pressure drop to within 10 percent of the pressure drop measured when the coil was first installed. If the original pressure drop is not known, the coil will be considered clean only if the coil is free of foreign matter and chemical residue, based on a thorough visual inspection (see NADCA Standards).

## 2.7 Pre-existing System Damage

(A) Contractor is not responsible for problems resulting from prior inappropriate or careless cleaning techniques of others.

## 2.8 Post-project Report (See Attachment 4: Deliverables Schedule)

(A) The Contractor shall provide a report to the **government** indicating the following:

1. Weekly Written Reports on the work completed that include the following:
  - a. Location of Equipment/Ducts
  - b. Any damage found/concerns
  - c. Type of Cleaning performed (regular/Microbial/Lead/Etc.)
  - d. Any special test performed and the results of those test
  - e. Any other concerns (future operation/safety/Etc.)
2. Monthly Written Reports:
  - a. Report should contain information above consolidated for the month of work that was completed.
3. Anything Reports which should include:
  - a. Major equipment malfunctions (Immediately)
  - b. Current/future safety hazard/concerns (Immediately)
  - c. Anything that causes concern (as needed)

\*Note: All work must be authorized by the government.

2.9 Applicable Standards and Publications: The following current standards and publications of the issues currently in effect form a part of this specification to the extent indicated by any reference thereto:

(A) International Kitchen Exhaust Cleaning Association (IKECA): Candidates Guide to International Kitchen Exhaust Cleaning Association Certified Exhaust System Inspection (CESI) Examination Program.

(B) National Air Duct Cleaners Association (NADCA): "Assessment, Cleaning & Restoration of HVAC Systems (ACR 2013)," 2013.

(C) National Air Duct Cleaners Association (NADCA): "NADCA General Specifications.

(D) National Air Duct Cleaners Association (NADCA): "Understanding Microbial Contamination in HVAC Systems," 1996.

(E) National Air Duct Cleaners Association (NADCA): "Introduction to HVAC System Cleaning Services," 2004.

(F) National Air Duct Cleaners Association (NADCA): Standard 05 "Requirements for the Installation of Service Openings in HVAC Systems," 2004.

(G) Underwriters' Laboratories (UL): UL Standard 181.

(H) American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE): Standard 62-89, "Ventilation for Acceptable Indoor Air Quality".

(I) Environmental Protection Agency (EPA): "Building Air Quality," December 1991.

(J) Sheet Metal and Air Conditioning Contractors' National Association (SMACNA): "HVAC Duct Construction Standards - Metal and Flexible," 1985.



(K) North American Insulation Manufacturers Association (NAIMA): "Cleaning Fibrous Glass Insulated Air Duct Systems," 1993.

(L) National Fire Protection Association (NFPA) 96: Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations, 2001 Edition.

(M) American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE), Chapter 30, Kitchen Ventilation.

(N) Occupational Safety & Health Administration (OSHA) Regulations.

## **PART 6**

### **APPLICABLE PUBLICATIONS**

#### **6. APPLICABLE PUBLICATIONS (CURRENT EDITIONS):**

The following current standards and publications of the issues currently in effect form a part of this specification to the extent indicated by any reference thereto:

(A) International Kitchen Exhaust Cleaning Association (IKECA): Candidates Guide to International Kitchen Exhaust Cleaning Association Certified Exhaust System Inspection (CESI) Examination Program.

(B) National Air Duct Cleaners Association (NADCA): "Assessment, Cleaning & Restoration of HVAC Systems (ACR 2005)," 2004.

(C) National Air Duct Cleaners Association (NADCA): "NADCA General Specifications.

(D) National Air Duct Cleaners Association (NADCA): "Understanding Microbial Contamination in HVAC Systems," 1996.

(E) National Air Duct Cleaners Association (NADCA): "Introduction to HVAC System Cleaning Services," 2004.

(F) National Air Duct Cleaners Association (NADCA): Standard 05 "Requirements for the Installation of Service Openings in HVAC Systems," 2004.

(G) Underwriters' Laboratories (UL): UL Standard 181.

(H) American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE): Standard 62-89, "Ventilation for Acceptable Indoor Air Quality".

(I) Environmental Protection Agency (EPA): "Building Air Quality," December 1991.

(J) Sheet Metal and Air Conditioning Contractors' National Association (SMACNA): "HVAC Duct Construction Standards - Metal and Flexible," 1985.

(K) North American Insulation Manufacturers Association (NAIMA): "Cleaning Fibrous Glass Insulated Air Duct Systems," 1993.

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(M) American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE), Chapter 30, Kitchen Ventilation.