

DEPARTMENT OF VETERANS AFFAIRS

Scope of work (SOW)

B-334, CHILLED WATER PUMPS & PIPING REPLACEMENT

Part 1

General Information

1. **GENERAL:** This is a non-personnel services contract to provide **Building B-334, Basement Chilled Water Pumps & Piping Replacement** located at 795 Willow Road, Menlo Park, CA 94025. 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, facilities, transportation, tools, materials, supervision, and other items and non-personal services necessary to perform **B-334, Chilled Water Pumps & Piping Replacement** 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 contract.
 - 1.2 **Background:** VA Medical Center Menlo Park, Building 334 Administration and Patient Care Facility operate three end suction 15 HP Chilled water and three condensate pumps. The six water pumps are leaking water around bad seals. Pumps motors are currently mix-matched causing issues with replacement parts. The six units are over the expected life expectancy and are at high risk of failing. Pumps are not providing adequate flow rates requiring upsized impellers to meet required flow rate. The Chilled water 5 and 6 inch piping near the pumps are corroding due to leaks and require replacement. The two Chillers controllers are obsolete or removed requiring an extension to existing Siemens system controls to control, and monitor chillers, chilled water pumps, condensate return pumps and condensing tower fans.
 - 1.3 **Objectives:**
 - 1.3.1. Conduct Chilled water flow test to determine Test and balance requirements per specification section 23-05-93 TESTING, ADJUSTING, AND BALANCING FOR HVAC before commencing work.
 - 1.3.2. Remove existing chilled and condensate water motors, pumps and skid mounts without interruption of service during afterhours or weekends
 - 1.3.3. Provide and install six new 15 hp motors, chilled & condenser water end suction pumps with minimum impeller diameter of 6.13 inch & skids in mechanical room 110 to include VFD's each.
 - 1.3.4. Remove and replace chilled water supply and return piping, valves, gages and associated components in B-334 Basement room 110 to horizontal mains per clouded drawings 334-H-80-0.91 and 334-H-80-0.10 without interrupting service
 - 1.3.5. Provide and install an extension to existing Siemens insight advanced system utilizing PXC Modular series controllers or equivalent for seamless integration of software, hardware to ensure that operability remains continual and decrease the probability of failure. Controllers shall extend to two chillers, three chilled water pumps, three condenser water pumps, and two cooling towers. Contractor shall provide AutoCAD 2014 electronic

drawings and PDF drawing to scale of single line diagrams, controller layouts and locations.

1.4. **Scope:** Contractor shall provide non-personnel services contract. Services include Project management, Plumbing, HVAC, Electrical, Equipment procurement/removal/installation, General Construction, programing, and Quality Control. The contractor shall accomplish including but not limited to the following tasks and section 5 of this SOW.

1.4.1. Mobilize

1.4.2. Site Preparation

1.4.3. Conduct chilled water flow test before commencing work and submit report to COR.

1.4.4. Removal of existing three chilled water pumps and three condenser water pumps and components

1.4.5. Installation of three new chilled water and three condenser water pumps, motors with VFD's each.

1.4.6. Installation of new 6 inch chilled water piping, valves, gages and associated components to horizontal service main.

1.4.7. Removal of existing 5 inch and 6 inch chilled water piping, valves, gages and components to horizontal service main.

1.4.8. Removal of abandoned Chiller controls

1.4.9. Installation of new Chiller controls to monitor and control two existing chillers, six water pumps, two cooling towers.

1.4.10. Provide all required construction documentation, reports, inspections.

1.4.11. Demobilization

1.6 **Period of Performance:** The period of performance shall be for ninety calendar days from the notice to proceed for all bid options.

1.7 **General Information**

1.7.1 **Quality Control:** The contractor shall develop and maintain an effective quality control program to ensure services are performed in accordance with this SOW. The contractor shall develop and implement procedures to identify, prevent, and ensure non-recurrence of defective services. The contractor's quality control program is the means by which he assures himself that his work complies with the requirement of the contract. The Contractor shall submit QCP on or before the scheduled preconstruction meeting. Three copies of a comprehensive written QCP shall be submitted to the KO and COR within 5 working days when changes are made thereafter. After acceptance of the quality control plan, the contractor shall receive the contracting officer's acceptance in writing of any proposed change to his QC system.

1.7.2 **Quality Assurance:** The government shall evaluate the contractor's performance under this contract in accordance with the Quality Assurance Surveillance Plan. 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).

- 1.7.3 **Recognized Holidays:** Contractor is not required to perform services on holidays listed below.
- | | |
|--|-------------------------|
| 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 |

1.7.4 **Hours of Operation:** The contractor is responsible for conducting business, between the hours of 0600-1800 Monday thru 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. Contractor is required to work afterhours or weekends for scheduled shutdowns to make utility service connections. For other than firm fixed price contracts, the contractor will not be reimbursed when the government facility is closed for the above reasons. The Contractor must at all times maintain an adequate workforce for the uninterrupted performance of all tasks defined within this SOW when the Government facility is not closed for the above reasons. When hiring personnel, the Contractor shall keep in mind that the stability and continuity of the workforce are essential.

1.7.5 **Place of Performance:** The work to be performed under this contract will be performed at Department of Veteran Affairs Bldg. 334 Chiller Mechanical Room 110, 795 Willow Road, Menlo Park CA, 94025.

1.7.6 **Type of Contract:** The government will award a (Type of contract to be determined by CCE and the customer).

1.7.7 **Security Requirements:** Contractor personnel performing work under this contract must have and display Temporary ID Badges provide by the VA Police in accordance with HEALTH CARE SYSTEM MEMORANDUM No. 07-10-14

1.7.7.1 **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.

1.7.7.2 **Key Control:** The 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. Contractors shall comply with HEALTH CARE SYSTEM MEMORANDUM No. 138-13-24.

1.7.7.2.1 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 option, 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 deducted from the monthly payment due the Contractor. 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 due the Contractor.

1.7.7.2.2 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.

1.7.7.3 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.

1.7.8 Qualifications of Personnel: The contractor shall be fully staffed on the first day of contract performance, and prepared to maintain a fully trained staff through the life of the contract. The contractor is expected to fully train newly hired personnel within 30 days of assignment to the contract.

1.7.8.1 Qualifications of Project Manager: The contractor shall provide a full-time Project Manager who shall be physically on-site all normal work hours, and be responsible for performance of all work. The project manager shall possess a minimum of three year's experience within the last five years simultaneously managing facilities of similar magnitude and scope of the total requirements of the contract.

1.7.8.2 Qualifications of supervisory employees: The contractor shall employ competent supervisory personnel capable of training employees on methods of accomplishing the work performance and quality standards in this contract. The supervisor shall have in-depth knowledge of performance based and prescriptive HVAC Mechanical systems and quality control processes, procedures, supplies, and equipment. The supervisor shall, at a minimum, have completed a supervisory training course for

this type of work and have prior HVAC Mechanical system experience in similar size and type facilities. The on-site supervisor(s) is required to be fully conversant in English.

- 1.7.9 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 contracting officer 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.
- 1.7.9.1** Contractor is required to attend all pre-shutdown safety meetings within 24 hours of scheduled shutdowns. Contractor personnel who do not attend the pre-shutdown safety meeting will not be allowed to work and asked to leave the work site.
- 1.7.10 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.
- 1.7.11 Key Personnel:** The government will determine what positions are considered key personnel. The contractor shall identify, by name, the key management and technical personnel who will work under this contract at the time the work is being negotiated. **If a key person becomes unavailable to complete the project, the proposed substitutions of key personnel shall be made only as approved directed by the Contracting Officer and the COR.** The government will not dictate specific experience and education requirements of the employees initially proposed to perform the work stated herein. The contractor shall

submit a resume of qualifications to the COR for key personnel proposed for the project. All Contractor employees will be approved by the COR prior to bringing on duty. If, at any time from date of award to the end of the contract, non-key Contractor personnel are no longer available, the Agency reserves the right to review qualifications of proposed replacement personnel and to reject individuals who do not meet the qualifications set forth in the contract or task order.

- 1.7.11.1 The contractor must notify the agency in advance and we will approve or reject proposed contractor key personnel for the performance of this contract. The contractor shall submit a resume of qualifications to the COR for key personnel proposed for the project. All Contractor employees will be approved by the COR prior to bringing on duty. If, at any time from date of award to the end of the contract, Contractor personnel are no longer available, the COR and CO will approve the qualifications of proposed replacement personnel and will reject individuals who do not meet the qualifications set forth herein. The contractor must inform the COR, Project Manager and the CO when personnel are removed from the contract for any reason.**
- 1.7.11.2** The Contractor shall remove any employee from the performance of this contract within five (5) workdays of receiving notice from the Contracting Officer that the employee's performance is unsatisfactory. All Contractor employees are subject to immediate removal from performance of this contract when they are involved in a violation of the law, VA security, confidentiality requirements and/or other disciplinary reasons.
- 1.7.11.3** The contractor must inform the COR, and Project Manager when personnel are removed from the contract for any reason.
- 1.7.11.4** If a key person becomes unavailable to complete the project, the proposed substitutions of key personnel shall be made only if approved by the COR and Project Manager.
- 1.7.11.5** The contractor shall submit a resume of qualifications to the COR for all direct employees proposed for the project. All Contractor employees will be approved by the COR prior to bringing on duty.
- 1.7.11.6** The agency shall not be liable for further payment of any Contractor employee that the Government requires the Contractor to remove from the performance of this contract. The Agency's payment liability, for unsuitable Contractor employees, ends five working days after Contractor's receipt of "removal request" for unsatisfactory performance and immediately for any violation of law, VA security, confidentiality requirements and/or other disciplinary action.

- 1.7.12 **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 identify themselves as such 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. Contractor personnel will be required to obtain and wear badges in the performance of this contract as stated in **section 1.6.7 Security Requirements.**
- 1.7.13 **Contractor Travel:** All travel shall be responsibility of the Contractor
- 1.7.14 **Data Rights:** The Government has unlimited rights to all documents/material produced under this contract. All documents and materials, to include the source codes of any software, produced under this contract shall be Government owned and are the property of the Government with all rights and privileges of ownership/copyright belonging exclusively to the Government. These documents and materials may not be used or sold by the contractor without written permission from the Contracting Officer. All materials supplied to the Government shall be the sole property of the Government and may not be used for any other purpose. This right does not abrogate any other Government rights.
- 1.7.15 **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.

PART 2
DEFINITIONS & ACRONYMS

2. DEFINITIONS AND ACRONYMS:

2.1 DEFINITIONS:

- 2.1.1 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.
- 2.1.2 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.
- 2.1.3 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.
- 2.1.4 DEFECTIVE SERVICE.** A service output that does not meet the standard of performance associated with the Performance Work Statement.
- 2.1.5 DELIVERABLE.** Anything that can be physically delivered, but may include non-manufactured things such as meeting minutes or reports.
- 2.1.6 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 SOW. 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.
- 2.1.7 PHYSICAL SECURITY.** Actions that prevent the loss or damage of Government property.
- 2.1.8 QUALITY ASSURANCE.** The government procedures to verify that services being performed by the Contractor are performed according to acceptable standards.

- 2.1.9 QUALITY ASSURANCE Surveillance Plan (QASP).** An organized written document specifying the surveillance methodology to be used for surveillance of contractor performance.
- 2.1.10 QUALITY CONTROL.** All necessary measures taken by the Contractor to assure that the quality of an end product or service shall meet contract requirements.
- 2.1.11 SUBCONTRACTOR.** One that enters into a contract with a prime contractor. The Government does not have privity of contract with the subcontractor.
- 2.1.12 WORK DAY.** The number of hours per day the Contractor provides services in accordance with the contract.
- 2.1.13 WORK WEEK.** Monday through Friday, unless specified otherwise.
- 2.1.14 Random Sampling:** Appropriate for frequently recurring tasks. Evaluate randomly selected samples of the lot to determine the acceptability of the entire lot.
- 2.1.15 100 Percent Inspection:** Appropriate for tasks that occur infrequently. Inspect and evaluate performance each time task is performed
- 2.1.16 Periodic Surveillance:** Evaluation of samples selected on other than 100% or statistically random basis. (i.e., monthly, quarterly, semi-annually etc.)

2.2 ACRONYMS:

ACOR	Alternate Contracting Officer's Representative
AFARS	Army Federal Acquisition Regulation Supplement
AR	Army Regulation
CCE	Contracting Center of Excellence
CFR	Code of Federal Regulations
CONUS	Continental United States (excludes Alaska and Hawaii)
COR	Contracting Officer Representative
COTR	Contracting Officer's Technical Representative
COTS	Commercial-Off-the-Shelf
DA	Department of the Army
DD250	Department of Defense Form 250 (Receiving Report)
DD254	Department of Defense Contract Security Requirement List
DFARS	Defense Federal Acquisition Regulation Supplement
DMDC	Defense Manpower Data Center
DOD	Department of Defense
FAR	Federal Acquisition Regulation
HIPAA	Health Insurance Portability and Accountability Act of 1996
IAW	In Accordance With
KO	Contracting Officer
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
SOW	Performance Work Statement
QA	Quality Assurance
QAP	Quality Assurance Program

QASP	Quality Assurance Surveillance Plan
QC	Quality Control
QCP	Quality Control Program
TE	Technical Exhibit
VAPAHCS	VA Palo Alto Health Care System

PART 3

GOVERNMENT FURNISHED PROPERTY, EQUIPMENT, AND SERVICES

3. GOVERNMENT FURNISHED ITEMS AND SERVICES:

3.1 **Services:** The Government will provide manpower to assist in the shut down of any utility systems contractor is required to service only through approved utility shutdown request.

3.2 **Facilities:**

3.2.1 **Elevators/Corridors:** Contractors and workers may use corridors and elevators for travel to and from the job sites when in proper attire (shirt and shoes required) provided they don't track mud, wet cement or any form of "dirt" into the buildings. The COTR will assign specific routes, times and elevators to use for transportation of materials and equipment. The Contractor will clean-up any mess caused by their workmen. Elevators will not be used during an emergency.

3.2.2 **Toilets:** The Contractor is to provide their own toilet facilities, however, the COR will advise the Contractor which toilet facilities (if available) may be used by the Contractor's workers. The Contractor will ensure that the facilities are kept clean and will be responsible for any damage done by the Contractor's workers.

3.2.3 **Parking/Traffic:** Specific parking areas may be assigned for workers on larger construction projects. Workers on smaller construction or maintenance contracts may use any parking space that is not reserved if no parking area is designated. Contractors, including maintenance contractors and workers are specifically prohibited from parking in those spaces reserved for Engineering Vehicles or lawn areas. Further, the Contractor is not to "back in" the space.

3.2.4 **Deliveries:** The COR will assign routes for the delivery of materials and supplies to the job site. The Contractor or construction traffic will not block any Health Care System road or street, walk or building egress without requesting approval in a timely manner.

3.2.5 **Loading /Unloading:** Building loading docks and landings may be used to load or unload construction materials when approved by the COR. However, any vehicle left unattended for more than a few minutes may be cited by the VA Police. Some areas may be reserved for Health Care System operations only during certain hours.

3.2.6 **VA Police:** The VA Police are Federal Police Officers with full authority to make arrests, investigate crime, and to issue citations. Citations issued for driving, parking violations or other offenses may require an appearance in the Federal District Court and/or payment of a fine. FOR THE SAFETY OF PATIENTS,

speed limits and other driving and parking codes are strictly enforced. The speed limit on VA roads is 15 MPH under ideal conditions. In parking lots, the speed limit is 5 MPH.

3.2.7 Locked Areas. The Contractor is to coordinate access to locked areas with the COR, including obtaining keys required for access to work sites. All buildings at the Health Care System are locked during other than normal work hours. When the Contractor has approval to work other than normal work hours, he will need to make arrangements for his workers to have access to job sites.

3.2.8 Operations and Storage Areas: will be confined to areas designated by the contract or approved in writing by the COR or the Contacting Officer. The Government will not be responsible for any tools, equipment or VAPAHCS Rules of the Station (3/16/2011) materials left or stored on Government facilities, unless exceptions are provided in the contract.

3.3 Utilities:

3.3.1 The Government will provide all utilities in the facility and will be available for the contractor's use in performance of tasks outlined in this SOW. 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 after using the required amount to accomplish cleaning vehicles and equipment. Contractor is required to utilize GFCI protectors with all plugged in equipment. Contractor is required to hardwire temporary power distribution boxes when large electrical loads are required to prevent tripping breakers and interrupting service.

3.3.2 No utility service such as water, gas, medical air and gas, steam, sewer, electric, fire protection or communication shall be interrupted without prior approval of the COTR. This includes those interruptions required by the contract. Construction contracts include provisions for maintaining utility systems or providing temporary facilities. Written requests for utility shutdowns shall be completed by the contractor and submitted to the COR at least two weeks before the scheduled work. Lock-out / tag-out (LOTO) must be follow Health Care System Memorandum No. 138-09-28, on any disruption or shut-down of any energy source. Any **EMERGENCY REQUIRING AN IMMEDIATE SHUTDOWN WILL BE REPORTED IMMEDIATELY** to the COR. The COR will in turn immediately notify the Engineering Office and the appropriate Chief, Maintenance and Repair or site designee. The Contractor will prepare and forward to the Chief, Engineering Service, a written report of the situation, why it happened, a schedule of any further corrective work needed, and what, if any steps are being taken to prevent a recurrence. The request for utility shutdown is found

in Attachment A, A1, A2, and A3 of HEALTH CARE SYSTEM
MEMORANDUM No. 138-13-14 UTILITY SHUTDOWN PROCEDURES.

3.3.3 Equipment: Government will not provide any equipment
in this contract

3.3.4 Materials: The Government will provide Standard
Operating Procedures and Policies upon request from
the contractor.

PART 4
CONTRACTOR FURNISHED ITEMS AND SERVICES

4. CONTRACTOR FURNISHED ITEMS AND RESPONSIBILITIES:

- 4.1 General:** The Contractor shall furnish all supplies, equipment, facilities and services required to perform work under this contract that are not listed under Section 3 of this SOW.
- 4.2 Secured worksites:** Contractor will be responsible to secure their worksite and provide construction safety and/or infection control barriers, including but not limited to temporary fencing, trench covers, etc. wherever work could cause injury to workers, visitors, VA personnel, or dependents. The Contractor shall conform to the rules and regulations as set forth by OSHA Safety and Health Standards, 29 CFR Part 1926 - Safety and Health Regulations for Construction and Title 8, California Administrative Code - Construction Standards. When the standards differ, the more restrictive standard shall apply. Construction site signage is required. Construction sites outside of existing structures shall be enclosed by 6 feet tall metal fencing.
- 4.3 Materials:** The Contractor shall furnish all materials, supplies, and equipment necessary to meet the requirements under this SOW.
- 4.4 Equipment:** The Contractor shall furnish all equipment to meet the requirements under this SOW.
- 4.4.1 Protective Clothing/Equipment.** All workers will wear and/or use protective clothing and gear when required. This includes hard hats, goggles, protective shoes, gloves, masks or breathing apparatus, etc. The Contractor shall provide any protective equipment that may be required.
- 4.4.2 Telephones.** Contractors will provide their own telephones. Government telephones will not be used for private business or personal calls. Contractors or their workers may use the Government telephones to call/page the COR, the Engineering Service office, or when authorized by the COR - to call their office concerning contract matters. Telephone calls for contract workers will not be accepted by the Health Care System.
- 4.4.3 Construction Waste and Debris:** is the property of the contractor and will not be disposed of on station or in Health Care System trash containers or dumpsters. The Contractor may provide his own bin or dumpster, however, the use and location of such must be approved in writing by the COR. Construction waste and debris will not be accumulated in corridors or other building areas where it might cause a fire or safety hazard. Debris will be covered when taken from work sites to dump area. This is critical when carried through patient care areas.

4.4.4 Removed equipment: equipment removed from service shall be returned to the Government.

PART 5

SPECIFIC TASKS

5. Specific Tasks:

- 5.1 Basic Services.** The contractor shall provide all personnel, equipment, supplies, facilities, transportation, tools, materials, supervision, and other items and non-personal services necessary to perform the removal and replacement of existing chilled water pumps, condensate water pumps and chilled water piping. Removal of abandoned chiller controls, conduit, and components and extend new controls to six water pumps, two chillers, two cooling towers to meet the requirements under this SOW.
- 5.2 Mobilization**
- 5.2.1** COR shall identify Contractor Laydown and parking location.
- 5.2.2** Install Temporary Fencing per specification 01-00-00-6 section 1.6.(F) operations and storage areas (Construction Fence) Fencing is only required if contractor requires laydown space.
- 5.2.3** Install Temporary Power connection as required
- 5.2.4** Water supply and Sanitation as required by OSHA
- 5.2.5** Safety equipment
- 5.2.6** Contractor shall determine storage requirements and install in designated laydown area identified by COR.
- 5.2.7** Contractor shall gather all tools, machinery and equipment to perform required services within this SOW securing in storage container/area.
- 5.2.8** Provide Construction documents as stated in section 5.7 of this SOW
- 5.2.9** Install Safety signage per specification 10-00-00-21 section 1.30 Safety sign(s)
- 5.2.10** Mobilization shall include all activities and associated costs for transportation of contractor's personnel, equipment, and operating supplies to the site; establishment of offices, buildings, and other necessary general facilities for the contractor's operations at the site; premiums paid for performance and payment bonds including coinsurance and reinsurance agreements as applicable; and other items specified in section 4 of this SOW.
- 5.3 Site Preparation**
- 5.3.1** COR shall identify work zones with contractor
- 5.3.2** COR shall identify new Equipment Locations and location constraints
- 5.3.3** Contractor shall identify work hazards in accordance with OSHA Hazard communication standard (29 CFR 1910.1200)
- 5.3.4** Install critical barriers as required per ICRA Matrix requirements in identified work zones.
- 5.3.5** Contractor shall protect existing vegetation, structures, equipment, utilities, and improvements per specification 01 00 00.1.10

- 5.3.6 Contractor shall Inspect area of work to identify any damage to equipment or surrounding structures prior to starting work and submit report to COR
 - 5.3.7 Conduct Chilled water flow test to determine Test and balance requirements per specification section 23-05-93 TESTING, ADJUSTING, AND BALANCING FOR HVAC prior to commencing work.
- 5.4 Removal of existing chilled water pumps & components**
- 5.4.1 Contractor shall provide Shutdown notifications in accordance with HEALTH CARE SYSTEM MEMORANDUM No. 138-13-14 UTILITY SHUTDOWN PROCEDURES
 - 5.4.2 Contractor shall perform Lock out Tag out procedures to safe off electrical disconnect for pumps in accordance with HEALTH CARE SYSTEM MEMORANDUM No. 138-11-28 LOCK-OUT / TAG-OUT.
 - 5.4.3 Contractor shall remove pipe insulation as required to prepare for work
 - 5.4.4 Contractor shall isolate water by existing valves not scheduled for removal with approved shutdown notification.
 - 5.4.5 Contractor shall remove existing chilled water and condensate water pumps and components without interruption of service one at a time per specification section 10 00 00.1.27 RELOCATED EQUIPMENT AND ITEMS, and SECTION 01 00 00.1.9 DISPOSAL AND RETENTION.
 - 5.4.6 Contractor shall remove piping and Fittings scheduled for removal per Specification SECTION 23 05 11 COMMON WORK RESULTS FOR HVAC
 - 5.4.7 Contractor shall determine appropriate pump skid for site per manufactures requirements.
 - 5.4.8 Contractor shall be responsible for any modifications to pump mounts, pump skids, concrete pump pads that include but not limited to cutting existing pipe/concrete, welded flanges to meet contractor supplied pumps.
- 5.5 Installation of chilled/condensate water pumps**
- 5.5.1 Contractor shall prepare pump site per pump manufactures specifications
 - 5.5.2 Contractor shall provide motors & pumps with VFD and install pump per manufactures installation requirements, specification section 23 05 41 NOISE AND VIBRATION CONTROL FOR HVAC PIPING AND EQUIPMENT and SECTION 23 21 23 HYDRONIC PUMPS.
 - 5.5.3 Contractor shall connect pump to new piping per pump manufactures specifications and SECTION 23 21 13 HYDRONIC PIPING.
 - 5.5.4 Provide and install new pipe insulation as required per SECTION 23 07 11 HVAC AND BOILER PLANT INSULATION
 - 5.5.5 Contractor shall reconnect electrical per manufactures installation requirements and Section 22 05 12, GENERAL MOTOR REQUIREMENTS FOR PLUMBING EQUIPMENT and LOW-VOLTAGE MOTOR STARTERS.
 - 5.5.6 Contractor shall commission each chilled water pump, components, electrical and piping per SECTION 01 91

- 00 GENERAL COMMISSIONING REQUIREMENTS prior to replacing additional chilled water pumps.
- 5.5.7 Provide operational checkout of new pump before removal of next pump
 - 5.5.8 Contactor shall perform testing and balancing and provide TAB reports to COR.
- 5.6 Installation of new chilled water piping**
- 5.6.1 Contractor shall install chilled water supply and return piping per SECTION 23 21 13 HYDRONIC PIPING, SECTION 23 05 11 COMMON WORK RESULTS FOR HVAC and SECTION 23 07 11 HVAC AND BOILER PLANT INSULATION. Contractor shall coordinate pipe replacement to minimize down time.
 - 5.6.2 Contractor shall provide Shutdown notifications in accordance with HEALTH CARE SYSTEM MEMORANDUM No. 138-13-14 UTILITY SHUTDOWN PROCEDURES
 - 5.6.3 Contractor shall perform Lock out Tag out procedures in accordance with HEALTH CARE SYSTEM MEMORANDUM No. 138-11-28 LOCK-OUT / TAG-OUT.
 - 5.6.4 Contractor shall make final connections per pump manufactures specifications, SECTION 23 21 13 HYDRONIC PIPING, SECTION 23 05 11 COMMON WORK RESULTS FOR HVAC and SECTION 23 07 11 HVAC AND BOILER PLANT INSULATION
 - 5.6.5 Contractor shall commission piping, components, and electrical per SECTION 01 91 00 GENERAL COMMISSIONING REQUIREMENTS prior to replacing additional compressors.
- 5.7 Removal of existing chilled water piping**
- 5.7.1 Contractor shall provide Shutdown notifications in accordance with HEALTH CARE SYSTEM MEMORANDUM No. 138-13-14 UTILITY SHUTDOWN PROCEDURES prior to disconnecting and removing piping
 - 5.7.2 Contractor shall remove piping, associated hangers, supports, restraints and seismic supports scheduled for removal per SECTION 02 41 00 DEMOLITION.
 - 5.7.3 Contractor shall close off penetrations from demolished pipes in walls, floors, and roof decks against penetration of flame, heat, and smoke or gases in fire resistant rated construction per SECTION 07 84 00 FIRESTOPPING
 - 5.7.4 Contractor shall maintain and clean and clear work site per SECTION 01 00 00 GENERAL REQUIREMENTS
- 5.8 Removal and installation of Chiller Controls**
- 5.8.1 Contractor shall provide an extension of the existing BAS system in Building 334 to control and monitor two chillers, six water pumps in room 110 mechanical room, two cooling towers on roof. Contractor shall supply and install all required wiring, conduit and SIEMENS Insight Advanced Workstation and PXC Modular Series controllers or equivalent to maintain system integrity
 - 5.8.2 Contractor shall connect the following points to the campus BAS system.
 - 5.8.2.1 Chillers:
 - 5.8.2.1.1 AI-Chilled Water System Supply Temperature
 - 5.8.2.1.2 AI-Chilled Water System Return Temperature
 - 5.8.2.1.3 AI-Chiller 1 Supply Temperature

- 5.8.2.1.4 AI-Chiller 2 Supply Temperature
- 5.8.2.1.5 AI-Chiller 1 Kw
- 5.8.2.1.6 AI-Chiller 2 Kw
- 5.8.2.1.7 AO-Chiller 1 Setpoint
- 5.8.2.1.8 AO-Chiller 2 Setpoint
- 5.8.2.1.9 DI-Chiller 1 Alarm Status Relay
- 5.8.2.1.10 DI-Chiller 2 Alarm Status Relay
- 5.8.2.1.11 DO-Chiller 1 Start/Stop
- 5.8.2.1.12 DO-Chiller 2 Start/Stop
- 5.8.2.1.13 DO-Chiller 1 chilled water isolation valve
- 5.8.2.1.14 DO-Chiller 2 chilled water isolation valve
- 5.8.2.1.15 DO-Chiller 1 condenser water isolation valve
- 5.8.2.1.16 DO-Chiller 2 condenser water isolation valve
- 5.8.2.2 Chilled Water Pumps; (For each of (3) Chilled water pumps)
 - 5.8.2.2.1 DO - Pump start/stop
 - 5.8.2.2.2 DI - Pump DP switch - status
- 5.8.2.3 Alternate: VSD Control of pumps
 - 5.8.2.3.1 Networked connection to Pump VSD plus DP sensor at furthest load for pumps
 - 5.8.2.3.2 Mapped points: Start/stop, Alarm, speed reference, kW, run status
- 5.8.2.4 Pumps: (For each of (3) Condenser water pumps)
 - 5.8.2.4.1 DO - Pump start/stop
 - 5.8.2.4.2 DI - Pump DP switch - status
- 5.8.2.5 Cooling tower: (Each tower is dedicated to a chiller)
 - 5.8.2.5.1 AI - Cooling tower water supply temp
 - 5.8.2.5.2 AI - Cooling tower water return temp
 - 5.8.2.5.3 DO - Tower fan start/stop
 - 5.8.2.5.4 AO - Tower bypass valve control
- 5.8.2.6 Condenser Water Pumps
 - 5.8.2.6.1 DO - Pump start/stop
 - 5.8.2.6.2 DI - Pump DP switch - status
- 5.8.2.7 Alternate: VSD Control of pumps
 - 5.8.2.7.1 Networked connection to Pump VSD - control pump to maintain delta temperature across chiller
 - 5.8.2.7.2 Requires adding return water sensors at each chiller and rebalancing of water flows
 - 5.8.2.7.3 Mapped points: Start/stop, Alarm, speed reference, kW, run status
- 5.8.3 Contractor shall add a chiller system graphics with all listed points
- 5.8.4 All graphics to conform to new Apogee system standards
- 5.8.5 Program chillers to start/stage based on OSA temperature
- 5.8.6 Program chillers rotate lead on failure
- 5.8.7 Provide user lead chiller selection option
- 5.8.8 Setup trending of all points on 15 minute intervals
- 5.8.9 Configure operational alarms for equipment failure or temperature out setpoint range in alarm notification system
- 5.8.10 Provide AutoCAD 2014 drawings electronic drawings and PDF drawing to scale of single line diagrams, controller layouts and locations on CD. Provide operation manuals (3) sets

5.9 Demobilization

5.9.1 Demobilization shall include all activities and costs for transportation of personnel, equipment, and supplies not required or included in the contract from the site; including the disassembly, removal, and site cleanup of offices, buildings, and other facilities assembled on the site specifically for this contract.

5.9.2 Contractor shall conduct final Clean up in accordance section 01 00 00.1.8 INFECTION PREVENTION MEASURES and clean up sections of related work specifications.

5.9.3 Contractor shall restore any damage to vegetation, structures, equipment, utilities, and improvements per section 01 00 00.1.11

5.10 Documentation

5.10.1 Work plan: Contractor shall submit work plan outlining the plan by which the company plans to complete a quality project within a given amount of time and in compliance with a set budget.

5.10.2 Schedule: Contractor shall submit Project schedule in accordance with SECTION 01 32 13 16.15 PROJECT SCHEDULES and simplified three-week lookahead schedule.

5.10.3 Submittals: Contractor shall submit project submittals per SECTION 01 03 23 SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES

5.10.4 Quality control plan: Contractor shall outline the procedures that the contractor will use to ensure that a high quality product is produced for this contract.

5.10.5 Safety plan: Contractor shall outline the safety procedures that comply with all federal, state and local laws, the Occupational, Safety and Health Act (OSHA) (Public Law 91-596) and the resulting standards, OSHA Standards 29 CFR 1910 and 1926, as applicable, and the protection of their employees. Additionally, the Contractor is responsible for the safety and health of all subcontractor employees.

5.10.6 As-built drawings: Contractor shall provide AutoCAD 2014 scaled drawings to COR after project completion on CD.

5.10.7 Meeting minutes: Contractor shall record and track meeting minutes and submit to COR for editing and approval.

5.10.8 Inspection records: Contractor shall submit all inspection testing and reports to COR

PART 6
APPLICABLE PUBLICATIONS

6. **APPLICABLE PUBLICATIONS**

- 6.1 The Contractor must abide by all applicable regulations, publications, manuals, and local policies and procedures.
- A. SECTION 01 42 19 REFERENCE STANDARDS
 - B. HEALTH CARE SYSTEM MEMORANDUM No. 138-11-28 LOCK-OUT / TAG-OUT
 - C. HEALTH CARE SYSTEM MEMORANDUM No. 138-12-29 CONSTRUCTION SAFETY PROGRAM
 - D. HEALTH CARE SYSTEM MEMORANDUM No. 138-13-14 UTILITY SHUTDOWN PROCEDURES
 - E. HEALTH CARE SYSTEM MEMORANDUM No. 138-13-24 KEY CONTROL AND DISTRIBUTION
 - F. HEALTH CARE SYSTEM MEMORANDUM No. SAFE-12-02 PERSONAL PROTECTIVE EQUIPMENT (PPE)
 - G. HEALTH CARE SYSTEM MEMORANDUM No. SAFE-12-06 HOT WORK PROGRAM
 - H. HEALTH CARE SYSTEM MEMORANDUM No. SAFE-12-04 LIFE SAFETY MANAGEMENT PROGRAM
 - I. HEALTH CARE SYSTEM MEMORANDUM No. SAFE-13-23 INTERIM LIFE SAFETY MEASURES

PART 7
ATTACHMENT/TECHNICAL EXHIBIT LISTING

7. Attachment/Technical Exhibit List:

- 7.1. Attachment 1/Technical Exhibit 1 - Performance Requirements Summary
- 7.2. Attachment 2/Technical Exhibit 2 - Deliverables Schedule
- 7.3 Attachment 3/Technical Exhibit 3 - Estimated Workload Data

TECHNICAL EXHIBIT 1

Performance Requirements Summary

The contractor service requirements are summarized into performance objectives that relate directly to mission essential items. The performance threshold briefly describes the minimum acceptable levels of service required for each requirement. These thresholds are critical to mission success.

Performance Objective	Standard	Performance Threshold	Method of Surveillance
<p>PRS # 1. The contractor shall provide all supplies, equipment, facilities and services required to perform work in Sec. 3, 4 & 5.</p>	<p>The contractor provided all supplies, equipment, facilities and services required to perform work</p>	<p>Zero deviation from standard (100% compliance)</p>	<p>100 Percent Inspection Customer Complaint</p>
<p>PRS # 2 Contractor shall Mobilize all required activities, contractor personnel, equipment and operating supplies to site as stated in Sec. 5.2</p>	<p>The contractor provided Mobilization included all activities and associated costs for transportation of contractor's personnel, equipment, and operating supplies to the site; establishment of offices, buildings, and other necessary general facilities for the contractor's operations at the site within ten business days of NTP</p>	<p>Zero deviation from standard (100% compliance)</p>	<p>100 Percent Inspection</p>
<p>PRS # 3 Contractor shall provide Project management and on-site supervision Sec. 1.6.8.1, 1.6.8.2</p>	<p>Contractor provided sufficient onsite project management and supervision as is essential to carry out all the terms and conditions for this contract and present onsite at all times during scheduled work hours and as needed to fulfill contractual obligations</p>	<p>5% deviation from standard</p>	<p>Periodic Surveillance</p>

<p>PRS # 4 Quality of Management Commitment and Employee Involvement in the Work Plan Sec. 5.10.1</p>	<p>Managing Day-To-Day Operations As Specified In The Work Plan, Handling All Employment Matters (Including Training And Security) Relating To Contractor Employees, Ensuring That The Contractor Employee Relationship With Department of Veteran Affairs Government Employees Is In Accordance With (IAW) The Contractor's Work Plan, And That All Delivered Services Meet The Performance Standards Identified In The Contract.</p>	<p>2 Incidents Incidents include but are not limited to each safety mishap, failure to provide quality control of program activities, failure to implement an element of the VAPAHCS or NCA values, recurrence of process problems, failure to meet requirements of VA Medical Center memorandums and procedures, and failure of employees to comply with applicable regulations and directives</p>	<p>Customer Comments, Periodic Inspections, Audit Findings, Weekly Reports</p>
<p>PRS # 5 Reports (overall SOW)</p>	<p>Quality Reports Meet The Content Requirements As Specified In SOW</p> <p>Timeliness Reports Are Submitted NLT (5) Business days after meeting/inspection/testing.</p>	<p>2 Incidents Incidents include but are not limited to each late submission of reports and each error discovered in reports.</p>	<p>Periodic Inspections, Review of Weekly Reports</p>
<p>PRS # 6 Contractor Quality Control (QC) Program/Quality Assurance (QA) Sec. 5.10.4</p>	<p>Perform QC As Specified In QC/QA Plan</p> <p>No Major QC Audit Findings</p> <p>No QC Activity Differences From QC/QA Plan</p> <p>Recurrence Control Root Cause Analysis Performed And Implemented To Prevent Nonconformance's</p> <p>Quality 95 Percent Customer Satisfaction From Survey Assessments In Determining Service Performance For All Contracted Tasks</p>	<p>0 Incidents (100% compliance)</p>	<p>Customer Comments, Periodic Inspections, Audit Findings, weekly Reports</p>

<p>PRS # 7 Hazardous & Controlled Waste Management 10000 General Requirements</p>	<p>Timeliness of Container Pickup and Issue Within 48 Calendar Hours Of Request.</p>	<p>1 Incident</p>	<p>Weekly reports and spot check</p>
<p>PRS # 8 Execute Order Requirements (Overall SOW)</p>	<p>Timeliness <i>Work Is Started And Completed Per Negotiated Schedule</i></p> <p>Quality <i>Work Meets All Specification Requirements In The SOW As To Materials And Workmanship.</i></p>	<p>0 Incidents (100% compliance)</p>	<p>Contractor Reports, Customer Comments, and Periodic Inspection</p>
<p>PRS # 9 Provide timely Notification on items requiring government action (overall SOW)</p>	<p>No more than 5% of the reports to appropriate Government contact may be later than the specified time period</p>	<p>1 Incidents</p>	<p>Review operational logs, databases, or metrics.</p>
<p>PRS # 10 Establish, implement, and maintain a comprehensive safety program. Sec. 5.10.5</p>	<p>Establish, implement, and maintain a comprehensive safety program. Sec. 5.10.5</p>	<p>Safety Program resulting in: 1) No OSHA-reportable violations resulting from contractor action or inaction. 2) Mishap frequency and severity rate shall not exceed the base three year average.</p>	<p>Periodic Surveillance , Customer Complaint</p>

TECHNICAL EXHIBIT 2

DELIVERABLES SCHEDULE

<u>Deliverable</u>	<u>Frequency</u>	<u># of Copies</u>	<u>Medium/Format</u>	<u>Submit To</u>
Work plan Sec. 5.10.1	Initial work plan shall be submitted to CO with Proposal. Post Award Updated weekly submissions	Quantities specified in solicitation for proposal Post Award Two copies provided during weekly meetings	specified in solicitation for proposal Post Award Electric format and hard copy in MS Word/ Excel Spreadsheet	VA CO AND COR
Schedule Sec. 5.10.2	Initial schedule shall be submitted to CO submitted with proposal. Post Award Updated weekly submissions	Quantities specified in solicitation for proposal Post Award Two copies provided during weekly meetings	specified in solicitation for proposal Post Award Electric format and hard copy in MS Projects, MS Word/ Excel Spreadsheet	VA CO AND COR
Submittals Sec. 5.10.3	Initial Submittals shall be submitted to CO with proposal Post Award Daily	Quantities specified in solicitation for proposal Post Award One hard copy One electronic copy	Electric format and hard copy in MS Projects, MS Word, Excel Spreadsheet, CD/DVD	VA CO AND COR
Quality control plan Sec. 5.10.4	Submitted with Proposal	Quantities specified in solicitation for proposal	specified in solicitation for proposal	VA CO AND COR
Safety plan Sec. 5.10.5	Submitted with Proposal	Quantities specified in solicitation for proposal	specified in solicitation for proposal	VA CO AND COR
As-built drawings Sec. 5.10.6	Submitted with close out package	One hard copy One electronic copy	Electric format and hard copy in MS Projects, MS Word, Excel Spreadsheet, PDF CD/DVD	VA CO AND COR
Meeting minutes Sec. 5.10.7	weekly	One hard copy One electronic copy	Electric format and hard copy in MS Projects, MS Word, Excel	VA CO AND COR

<u>Deliverable</u>	<u>Frequency</u>	<u># of Copies</u>	<u>Medium/Format</u>	<u>Submit To</u>
			Spreadsheet, CD/DVD	
Inspection records Sec. 5.10.8	Daily as completed	One hard copy One electronic copy	Electric format and hard copy in MS Projects, MS Word, Excel Spreadsheet, CD/DVD	VA CO AND COR
Shutdown notice Sec. 5.10.1	three weeks prior to requested shutdown target date	One hard copy One electronic copy	Electric format and hard copy in MS Word,	COR

TECHNICAL EXHIBIT 3
ESTIMATED WORKLOAD DATA

ITEM	NAME	ESTIMATED QUANTITY	
1	Field personnel, project manager	240	hrs
2	Field personnel, superintendent	340	hrs.
3	Field personnel, general purpose laborer	340	hrs.
4	Field personnel, Electrician	40	hrs.
5	Field personnel, Plumber	160	hrs.
6	Field personnel, Steam Fitters	240	Hrs.