

**Request for Qualifications**

**City University of New York**

**Medgar Evers College School of Science, Health & Technology  
Building Operation and Management Services**

**Project No.: N003005  
(nee ME-CUCF-09-10)**

**Issuance Date: January 15, 2010, 12:00 Noon**

**Site Visit: January 25, 2010, 4:00 P.M.**

**Submissions Due By: February 05, 2010, 12:00 Noon**

**[www.cuny.edu/constructionsolicitations](http://www.cuny.edu/constructionsolicitations)**

---

## **I. Purpose**

The purpose of this Request for Qualifications ("RFQ") is to elicit relevant information about your firm's capability to provide Building Operation and Management Services for the new School of Science, Health and Technology at Medgar Evers College. Based on an evaluation of the materials prescribed in Section VI, CUNY will establish a short list of proposers to be further considered in the second stage of the selection process. The short listed proposers will be required to respond to a Request for Additional Information ("RFAI") which will describe the submission requirements for a Technical Proposal, Fee Proposal and other materials.

The Project Scope which outlines the services required of the selected proposer is contained in Appendix A.

## **II. Introduction to CUNY**

The City University of New York ("CUNY" or "University") is the largest municipal college system and the third largest University in the nation. Founded in New York City in 1847 as the Free Academy, CUNY is comprised of eleven (11) senior colleges, six (6) community colleges, the William E. Macaulay Honors College, The Graduate School and University Center, The Graduate School of Journalism, CUNY School of Law, The CUNY School of Professional Studies, The CUNY School of Public Health, ("Colleges") and a central office. The University offers online baccalaureate degrees through the School of Professional Studies and individualized baccalaureate degrees through the CUNY Baccalaureate Degree.

The University's total operating budget approximated \$1.8 billion for the 2009 fiscal year, funded primarily through New York State and New York City appropriations, as well as student tuition and fees; the University's five year capital budget of \$1.6 billion is funded by proceeds from the sale of bonds.

The University has more than 30,000 instructional and non-instructional staff. During the Fall 2008 semester, the University had a total student headcount population of approximately 244,000, which equates to more than 178,000 full-time equivalent students ("FTE"). Additionally, another 240,000 adult, continuing and professional education students take courses across the University. College Now, the University's academic enrichment program for 32,500 high school students, is offered at CUNY campuses and more than 300 high schools throughout the five boroughs of the City of New York.

## **III. Project Background**

### **Medgar Evers History:**

Medgar Evers College has the distinction of being the youngest of the four-year senior colleges in The City University of New York. In the early 1960's, the Central Brooklyn community recognized the need and expressed a desire for a local public college. Through various community organizations including, but not limited to, the Bedford-Stuyvesant Restoration Corporation, the Central Brooklyn Coordinating Council, and the NAACP, and through their local elected officials, the residents of Central Brooklyn approached the Board of Higher Education of the City of New York with this request. Members of the various community-based organizations constituted the Bedford-Stuyvesant Coalition on Educational

Needs and Services, which served as the primary vehicle for interfacing with the Board of Higher Education. After many discussions and much involvement by community residents and the Coalition, the Board of Higher Education, on November 17, 1967, "approved the sponsorship of Community College Number VII, with the indication of an intention to admit students in the Fall of 1969."

The College is presently located in three buildings, 1150 Carroll Street ("The Carroll Street Building"), a four-story 166,000 GSF building, 1650 Bedford Avenue ("The Bedford Building"), a three story 142,000 GSF building completed in 1988, and The School of Business and Student Support Services Building, 1637 Bedford Avenue ("The 'S' Building"), a three-story 44,950 GSF building. Construction of Academic Complex I, the future home of its School of Science, Health, and Technology, is well underway. Upon completion, the building will be a seven-story 195,000 GSF brick structure on the northern side of Crown Street, and feature computer-enabled smart classrooms, labs, and a 350 person-dining hall. The College currently maintains other administrative offices elsewhere in Brooklyn.

**School of Science, Health & Technology:**

Location: 1638 Bedford Avenue, Brooklyn, NY 11210

Completion Date: The building will be fully completed and commissioned by May 2010 and shall be in full operation in June 2010.

Height: 7 Stories

Floors:

Basement Floor:	43,022
First Floor:	30,282
Second Floor:	31,265
Third Floor:	24,223
Fourth Floor:	24,223
Fifth Floor:	24,223
Penthouse:	13,876
Roof:	825

Total GSF: 195,000

GSF of Boiler Room/Chiller Room: 4,650

Overall Construction Cost: \$146,001,586

Overall MEP Cost: \$43,327,879

Anticipated start of building operation: May, 2010

Zoning: R6

The program of spaces for the School of Science, Health & Technology is as follows:

- 17 Research Labs / modules each approx 10' x 14'. They are spread over 4 floors. Right now they are identified as 14 Biology, 3 PECS (Physical Environmental and Computer Sciences).
- 13 Teaching Labs - 5 Biology, 4 PECS, and 4 Nursing
- Support Spaces for Research and Teaching - 13 Biology and 10 PECS
- 6 Computer Labs - 2 Math, 2 General Computer, 1 Tutorial, 1 PECS ( Unix Lab)

- 1 Large Lecture Hall (100 seat)
- 11 Classrooms
- 87 Offices - 70 Faculty, 3 IT, 4 Security, 9 Adjunct Offices (w/ multiple seats), 1 B&G
- 6 Seminar Rooms (1 First FL, 2 Second FL , 1 Third FL, 1 Fourth FL, and 1 Fifth FL)
- 1 Conference Room ( Fourth Floor)
- Dining & Faculty Dining

**IV. Non-Mandatory Site Visit Location, Date and Time**

January 25, 2010 at 4:00 PM

DASNY Field office (see map below, #24)

123 Crown Street, Brooklyn NY 11225. (Corner of Crown Street and Franklin Avenue)

**NO MORE THAN 2 PERSONS FROM EACH FIRM MAY ATTEND.  
THOSE ATTENDING MUST BRING A HARD HAT IN ORDER TO PARTICIPATE IN  
THE SITE VISIT.**

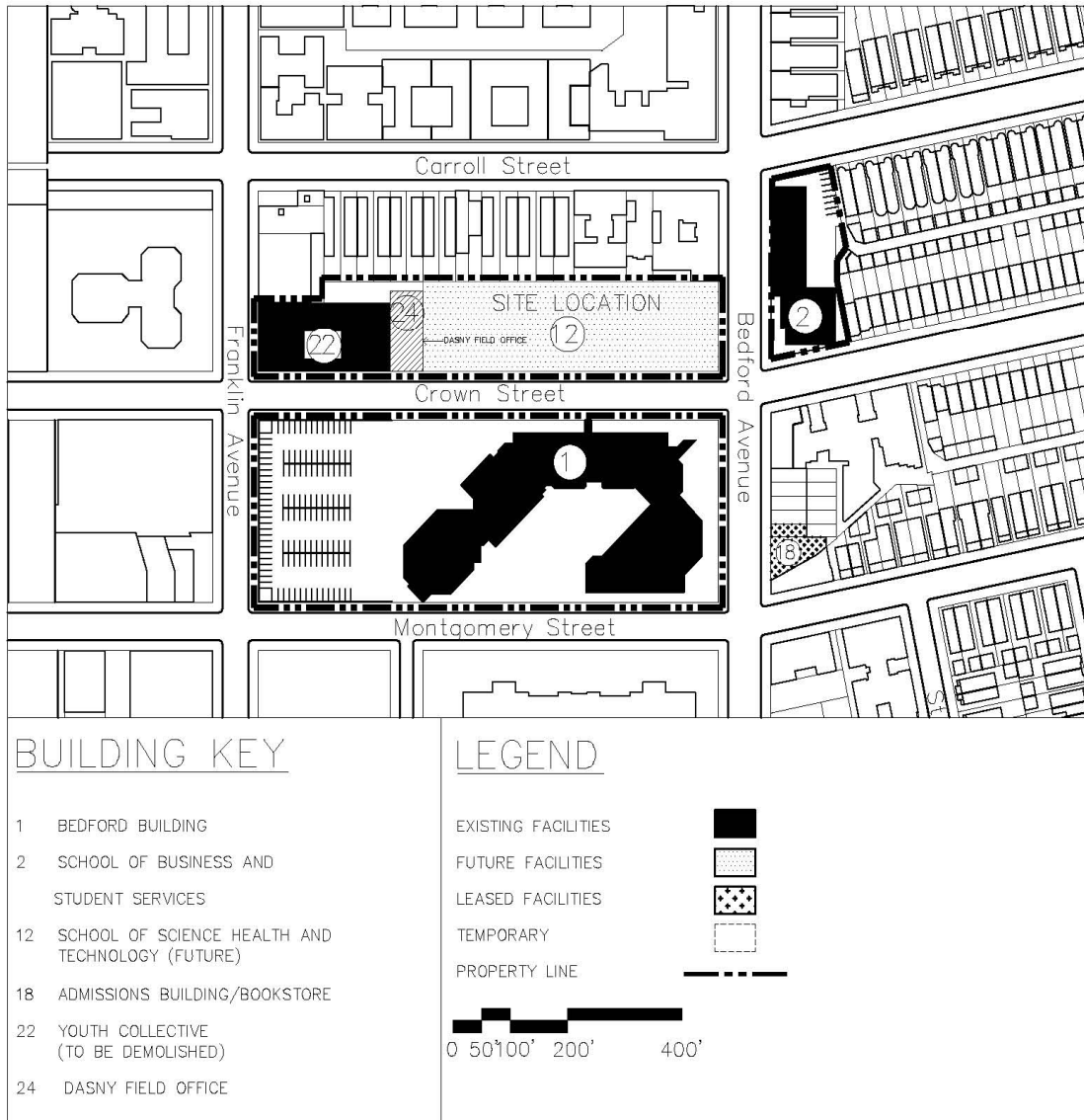
By Subway

No. 2, 3, 4 or 5 to Franklin Avenue, and proceed as per map below.

By Bus

No. 44 - Nostrand Avenue; or No. 49 to Rogers Avenue; or No. 43 to Empire Blvd.

SITE MAP



MEDGAR EVERS COLLEGE  
 The City University of New York

**V. Schedule of Key Events**

Task	Date
Advertised	1.11.10
Publish Document on Website	1.15.10
Site Visit	1.25.10
Inquiries /Questions (by 5:00 P.M.)	1.26.10
RFQ Submissions Due (by Noon)	2.5.10
Notice of Short List Firms	2.11.10
RFAI Due	3.4.10
Presentations and Interviews	3.10.10
Notice of Award and Release of Draft Contract	3.12.10
Fee Negotiation	3.17.10
Execution of Contract	3.24.10

**VI. Submissions to this Solicitation**

Firms that wish to be considered for this project should submit eight (8) sets of the items listed below to Michael Feeney, Chief of Consultant Contracts, CUNY Office of Facilities Planning, Construction and Management, Procurement Services, 555 West 57<sup>th</sup> Street, 11<sup>th</sup> Floor, Room 1140, New York, NY 10019, **no later than 12:00 Noon on February 05, 2010:**

- The firm's brochure;
- A list of similar, current & prior projects including for each project: description of the project; status & dates of operation; client name & contact information and; identification of Proposed Project Team members who participated in the project & their role.
- The proposed Project Team including their resumes.
- Documentation demonstrating compliance with the Minimum Qualification Requirements cited in Section VII, below.

**VII. Minimum Qualification Requirements**

CUNY will consider only those Proposers who are able to document their ability to meet the following minimum qualification requirements:

1. The proposer must have a minimum of 5 years of experience in the installation, operation, maintenance, and management of HVAC, mechanical, electrical, plumbing and control systems of science, health and/or technology buildings of higher education institutions or similar/related developments.
2. The proposer must have a minimum of 5 years' experience as an ongoing concern.

**VIII. Evaluation Criteria**

The following Criteria will be used by CUNY to evaluate the submissions to this RFQ solicitation. The selection of firms and submission of additional information, if any, will be made consistent with applicable laws and CUNY procedures.

<u>Criteria</u>	<u>Points</u>
Experience of firm	35
Experience with similar projects (science, health &/or technology buildings of higher education institutions)	35
Quality of proposed Project Team, including sub-contractors if any	30
<b>TOTAL</b>	<b>100</b>

**IX. General Information**

**Inquiries:** All questions pertaining to this solicitation shall be directed to Michael Feeney, the Authorized Agency Contact, by email to: [DDCM.ContractsDept@mail.cuny.edu](mailto:DDCM.ContractsDept@mail.cuny.edu) or postal mail to the address below by **5:00 PM on January 26, 2010**. Please place “Medgar Evers College School of Science, Health & Technology Building Operation and Management Services” in the subject heading of the email/mail. Answers of general applicability will be issued in the form of an Addendum to this solicitation.

**This solicitation, and any Addenda to this solicitation that may be issued by CUNY, are available for downloading at [www.cuny.edu/constructionsolicitations](http://www.cuny.edu/constructionsolicitations) . Please periodically check this website for any Addenda to this solicitation. This solicitation, and any Addenda to this solicitation that may be issued by CUNY, are also available for in-person pick-up during regular business hours at CUNY Office of Facilities Planning, Construction and Management, Procurement Services, 555 West 57<sup>th</sup>, Room 1140, 11<sup>th</sup> Floor, New York, NY 10019. Receipt of an Addendum to this RFQ by a Responder must be acknowledged by submitting an original signed copy of the Addendum with the firm’s Submission to this RFQ. All Addenda shall become part of the requirements of this RFQ.**

**MWBE:** NYS Certified Minority-owned business subcontracting goal: 7.25 percent. NYS Certified Women-owned business subcontracting goal: 4.75 percent.

**Debriefings:** Any unsuccessful responder, upon request, will be given a debriefing as to why it was not selected for the award. The request for a debriefing shall be requested in writing within ten (10) business days of the date of notification of non-selection. The debriefing will be given as soon as practicable thereafter.

All information, descriptions, data, tables, calculations, examples, opinions or assumptions made in connection with this solicitation are made in good faith for information purposes only. The responder shall not rely on any such information without conducting its own independent research and verification. CUNY and its officers, agents and employees make no representations or warranties, including without limitation representations or warranties as to the accuracy of any information, opinions or assumptions contained in this solicitation or otherwise furnished to responders by CUNY, and will assume no responsibility or liability for any errors and omissions contained herein.

**Responders are advised that the ONLY Authorized Agency Contact for ALL matters concerning this RFQ and the individual who also serves as the Procurement Lobbying Act Designated Contact for this RFQ is Michael Feeney, Chief of Consultant Contracts. All contacts shall be sent by email to DDCM.ContractsDept@mail.cuny.edu or by postal mail to the address above. Place “Medgar Evers College School of Science, Health & Technology Building Operation and Management Services” in the subject heading of the email/mail.**

## APPENDIX A

### **Project Scope**

The City University of New York (Owner) seeks the Building Operation /Management Services of a Facility Management Company (CONTRACTOR) for the new School of Science, Health & Technology at Medgar Evers College.

The CONTRACTOR must have a minimum of 5 years of experience in the installation, operation, maintenance, and management of HVAC, mechanical, electrical, plumbing and control systems of science, health and/or technology buildings of higher education institutions or similar/related developments. The Contractor will be required to work with the College (Facility) in order to make them familiar with the methods and operations employed in maintaining the facility. The intent of this contract is for the College to be prepared and trained to assume the management of the facility.

The Contractor shall provide the operation/management services 24 hours per day, 365 days per year. The term of the Contract is three (3) years with the option to renew for two (2) years. CUNY has the option to terminate the Contract at the end of the first year.

The Contractor shall provide all required Scheduled (Preventive) Maintenance Services, Non Scheduled (Non Emergency) Services, and Emergency Services for all the systems described hereinafter and shall be covered by lump sump base bid.

All repair work up to \$10,000 shall be covered by the base bid. CUNY must be informed and approve all proposed repair work.

For all repair work more than \$10,000, the Contractor must submit a written report. The report must describe the problems, the required parts that need to be repaired and/or replaced including material and labor costs. CUNY shall notify the Contractor if he can proceed with the repair work described in the report. The proposed repair fee shall be subject to negotiation.

The Contractor shall be responsible for all emergency repair work and shall be covered by the base bid.

Scheduled maintenance work an only be performed from Monday thorough Friday 8:00 AM to 4:00 PM.

The Contractor's personnel must implement and familiarize themselves with and adhere to the maintenance procedure manual prepared by the Commission Agent. The copy of the maintenance procedure manual is attached.

The CONTRACTOR shall provide code required inspections, maintenance and testing.

The CONTRACTOR shall be responsible to provide for the uninterrupted and regulated delivery of gas, oil, electric, and, water to provide uninterrupted heating, cooling, ventilation, and domestic hot water services to the Building. CUNY shall pay for gas, oil, electric, and water.

In performing the Services, CONTRACTOR shall maintain all the operating design parameters, temperature, humidity, ventilation for all different spaces in the building, and comply with the preventive service and maintenance procedures as described hereinafter.

### **College Facility Management Personnel**

- The College Facility Management Administrators shall supervise the Contractor.
- The Contractor's personnel are required to fully cooperate with the College Facility Management Administrators to perform their daily work for the management, operation, and maintenance of the HVAC and control Systems.
- The Contractor's personnel are to report any damage, related incidents or hazardous conditions immediately to the Administrator.
- The College Facility Management Administrator will oversee all mandated New York State and New York City equipment tests and inspections with the Contractor's personnel.
- The Contractor( is required to handle and inform Facility Management Administrators/Personnel in the following areas:
  - a. Gas Curtailments; switchover to alternate fuel
  - b. Emergency Fuel Oil Deliveries
  - c. Fuel Spills Notification and Recovery Processes
  - d. Portable Boilers, hot water heater, chillers, etc.

### **College Site Safety and Security Personnel**

- The College site safety and security personnel shall be available to the Contractor(s) on a 24/7 basis for security and emergency situations.

### **Dual-Fuel (Interruptible)**

- The Contractor(s) is/are responsible for the managing of the AB1 building gas and #2 oil.
- It is mandatory that oil supply be maintained at 90% levels. The Contractor(s) must submit and manage oil orders from vendors to maintain 90% oil capacity in tanks.
- The Contractor(s) is/are obliged to follow CUNY's interruptible gas procedure.
- It is mandatory that boilers are switched over to oil on a timely basis upon such notification by Utility Company. The Contractor(s) must obtain permission from College Administrator before switching any boiler back to gas during a curtailment.

- The College Administrators must be notified immediately if any switchover problems occur.
- The Contractor(s) will be held responsible for any penalties incurred by Utility company for failing to adhere to the CUNY's Standard procedure.

### **Weekly Testing of Dual Fuel Boilers**

- The Contractor(s) is/are responsible for operating all boilers entirely on fuel oil for four hours continuously every Wednesday.

### **Fuel Oil Tank Monitoring System**

- Contractor shall use fuel monitoring system to manage the inventory of fuel oil.
- The Contractor must have personnel familiarize themselves with the operation, maintenance, reporting, requirements and capabilities of the Tank Monitoring System.

### **Receiving, Inspecting and Recording Fuel Oil Deliveries**

- The Contractor, in circumstances other than declared emergencies, is responsible for ordering oil from the appropriate vendor(s) according to their designated service area.
- The College Facility Management Department, under declared emergency circumstances (extreme weather conditions and/or curtailments) prioritizes and orders fuel oil deliveries; and coordinates deliveries with the Contractor(s).
- The Contractor's personnel is responsible to familiarize themselves with Receiving, Inspecting and Recording Fuel Oil Deliveries.
- The Contractor(s) is/are responsible to log/record all oil deliveries.
- The Contractor is to immediately notify the College Facility Management Department whenever a problem is encountered in any aspect of the procurement and receiving of oil deliveries.

### **Fuel Oil Storage Tanks**

- The Contractor must coordinate for the purpose of monthly fuel oil storage tank inspections as required by the New York State Department of Environmental Conservation.
- The Contractor must maintain Oil Pumps in good working order; operational at all times.

### **Operating Safety Tests and Controls**

The Contractor(s) must perform periodic boiler safety tests as detailed in Standard Procedure, Section XIX, Operating Safety Tests and Controls, as summarized below:

- Daily-Low Water Cut-off
- High Water Alarm

- Feedwater Regulators
- Flame Failure
- Vaporstat/Air Proving Switch
- Gas-Electric Ignition
- Magnetic Gas and Oil Valves
- Burner Interlocks
- Boiler Safety Valves
- Lubrication

The Contractor(s) must perform scheduled and unscheduled daily, weekly, monthly and annual tests as outlined in Table 8 through Table 11 (Standard Procedure, Section XIX, Operating Safety Tests and Controls, K. Test; 1. Scheduled and 2. Unscheduled).

### **Safety Rules and Regulations**

The Contractor must abide by all safety rules and regulations, specifically pertaining to:

- Lighting
- Ladders and Scaffolding
- Flammable Materials
- Lockout/Tagout
- Confined Spaces
- Boiler Room Entrances and Exits
- Emergency Communications
- Gas System Safety
  
- Fire Extinguishing Equipment
- Fire Emergency

### **Temporary Heating and Hot Water**

- The Contractor(s), upon determination that a temporary, portable boiler is required, must contact College facility management for consultation, approval, ordering and supervision of the boiler hook-up.

### **Required Permits, Registration and Certificates of Fitness**

- The Contractor is responsible for maintaining a current file which contains non-expired certificates, permits, registrations, and certificate of fitness as mandated by various governmental agencies.
- The Contractor must coordinate with the College Facility Management Department for the scheduling and witnessing of all inspections and must ensure that all affected Heating and Cooling Systems equipment is operating sufficiently to pass any inspection.

### **SCOPE OF SERVICES**

CONTRACTOR shall provide the management, supervision, labor, tools, materials, supplies and parts (except as otherwise herein provided) that are necessary to operate, maintain and repair the following systems and equipments:

**Heating System:** The heating system consists of the following equipment and components:

- Three (3) 300 HP Cleaver Brooks 4 pass dry back Scotch marine low temperature hot water boilers. The boilers are equipped with dual fuel burners burning natural gas and # 2 fuel oil. The boilers are located in the mechanical room (MER) in the cellar. The boilers are serving hot water heating systems.
- Three (3) 60 HP Fulton vertical fire tube low pressure steam boilers. The boilers are equipped with dual fuel burners. The boilers are located in the mechanical room in the cellar. The boilers are serving steam systems.
- Two (2) 5,000 gallon aboveground fuel oil tanks in the cellar.
- Fuel oil monitoring system located in MER.
- Duplex condensate returns pump system located in MER.
- Deaerator tank and pump system.
- Duplex fuel oil pumps system.
- Expansion tank system.
- Primary hot water heating pump system for hot water boilers.
- Secondary hot water heating pump system serving hot water coils.
- Heating coil freeze protection pumps
- Hot water heating distribution piping system throughout the building.
- Steam distribution piping system throughout the building.
- Heat recovery pumps system located in the Penthouse.
- Hot water heating coils.
- Hot water unit heaters.
- Heat exchangers.

**Cooling System:** The cooling system consists of the following equipment and components:

- Three (3) 400 tons York Centrifugal chillers located in chiller room in the cellar.
- Three Cells 1300 tons Baltimore Aircoil cooling tower located on the roof.
- Chilled water pump system located in the Mechanical room (MER) in the cellar.
- Condenser water (cooling tower) pumps system located in the MER in the cellar.
- Water cooled AC unit pump system located in the Penthouse.
- Chilled water piping distribution system throughout the building.

**Air Distribution System:** The building air distribution system consists of the following equipment and components:

- York air handling units located in the Cellar and Penthouse.
- York mixed air unit located in the Penthouse.
- York return fans located in the Cellar and Penthouse.
- Computer room Liebert DX AC units located in Cellar, roof MER and other floors.
- Computer room Cool Air DX AC units located in Cellar and roof MER.
- Liebert air cooled condensers.
- Cool air package air conditioning unit located in roof MER.
- Magic air blower coil units located in the cellar.

- Plastifier Roof mounted Exhaust fans.
- York Roof mounted Exhaust fan.
- Cook Exhaust fans.
- Plastifier Toilet Roof mounted Exhaust fans.
- Plastifier roof mounted dishwasher exhaust fan.
- Plastifier Kitchen Hood Exhaust fans.
- Cook transfer fans.
- Cook make-up air supply fans.
- Emergency exhaust fans located on the roof.
- Fume hood/laboratory exhaust fans.
- Fume hood/laboratory make-up air systems.

**Lab Equipments:**

The Contractor shall provide maintenance services for the lab equipments such as autoclaves, cage washers, steam kettles, firing ovens, and kilns.

**Water Treatment:**

**General requirements:**

- The Contractor shall retain a CUNY approved water treatment company to maintain water quality for each system described below. The water treatment Company shall visit the site and analyze the water quality at least once every two weeks. The water treatment company shall submit computerized water quality reports to the watch engineer and any other pertinent personnel as per the previously mentioned service schedule.
- The water treatment company shall provide operator training and professional services to the watch engineers and CUNY Facility Management staff for the proper handling and testing of chemicals as specified herein after.
- The water treatment company shall provide the necessary water quality test kits for the watch engineers with the proper testing procedures and a laminated copy of these procedures, so they can be posted in the boiler/chiller room.
- The Contractor's watch engineer must test and monitor boiler water treatment on a daily bases.
- .Water Treatment Company shall take water samples for analysis. Based upon results of analysis, modify the water treatment program (i.e. type of treatment, treatment intervals, equipment modifications, etc.) to correct any/all deficiencies identified.
- Water Treatment Company shall provide computerized report and field analysis documentation on parameters of each system (i.e. ph, hardness, etc.) and corrective action taken.
- Water Treatment Company shall provide all chemicals required to properly treat each system as indicated below.

- Water Treatment Company shall provide Material Safety Data Sheets (MSDS) to ensure a safe work place and comply with all State and Federal laws pertaining to the handling of hazardous materials. MSDS shall accompany all first time orders. MSDS shall include an emergency number to call in case of spills and/or accidents involving the chemical products supplied.

**Steam Boilers:**

Boiler water quality control limits shall be as follows:

Tests	Min. (ppm)	Max. (ppm)
Tests for Boiler Water		
Sulfite	30	60
Phosphate	30	60
P-Alkalinity	300	600
Neutral Conductivity (µmhos)	2,000	3,000
Tests for Condensate Return & Feedwater		
pH (no units)	7.5	9.0
Hardness		1

Note: Test for conductivity, pH, and hardness of the condensate return and feedwater shall also be performed. The sample of condensate return shall be taken from the steam drip assembly located in the farthest tank room of the building from the boiler plant. The pH must be above 7.5, the value less than that may indicate some concern with the treatment. Test the softened water for hardness not to exceed 0 ppm.

**Hot water Boilers:**

Boiler water quality control limits shall be as follows:

Tests	Min. (ppm)	Max. (ppm)
Tests for Boiler Water		
Nitrite	250	500
pH	8.5	10.5
Conductivity		Report Reading

**Chilled Water:**

Chilled water quality control limits shall be as follows:

Tests	Min. (ppm)	Max. (ppm)
Nitrite	350	700
pH	8.5	10.5
Conductivity		Report Reading

**Condenser Water:**

Condenser water quality control limits shall be as follows:

Tests	Min. (ppm)	Max. (ppm)
Phosphonate	5	10
pH	7.5	9.0
Cycles of Concentration	8	10

**Plumbing System:** Inspect, install, test, maintain and repair the building plumbing system as follow:

- Gas hot water heaters
- Building domestic back flow prevention devices
- Building storm drainage systems
- Sanitary sewer systems,
- Building plumbing systems’ including:
  - a. Restrooms
  - b. Custodial closets
  - c. Drinking fountains
  - d. Kitchens
  - e. Laboratory plumbing systems – does not apply to laboratory specialty equipment
- Regulators and relief valves
- Perform related code compliance inspections.
- First responder for all water leaks.

**Fire Suppression System:** Inspect, install, test, maintain and repair the following building fire suppression components:

- Fire Sprinkler back flow devices
- Sprinkler heads
- Control valves
- Dry pipe systems
- Pre-action system
- Stand pipe systems
- Piping and fire department connections
- Fire Sprinkler back flow devices

- Perform related code compliance test and inspections.

**Elevators:**

- Inspect, test, maintain and repair
- Building vertical lifting systems
- People and transit elevators
- Freight and dock elevators
- Elevator phones
- Respond to elevator entrapment during campus business hours.
- Perform related code compliance inspections.

**Electrical System:** Inspect, install, test, maintain, and repair,

- Electrical circuits
- Circuit breakers
- Electrical distribution equipment
- Emergency and stand-by generators
- Exit and emergency lights
- Interior and exterior lighting system
- Building light poles
- Re-lamping (spot and group re-lamping)
- Motors, motor controllers and motor starters
- Receptacles and switches
- Primary and secondary electrical systems.
- Perform related code compliance test and inspections.

**Sheet Metal/Fans/Welding:** Provide for

- Sheet metal repair and maintenance
- Welding
- Small job fabrication for maintenance support
- Indoor air quality
- Airflow issues that do not involve air temperature
- Fan vibration
- Air balance
- Fire Dampers

**Utility Services:**

- Utility locate services for all utilities in the building.
- Air and storm water permitting for the central Plant.
- Management Responsibility for Utility Infrastructure Programs and Maintenance including:
  - a. Hot water, Chilled Water, Electric, Steam, and Compressed Air Distribution Systems, Water, Storm Drainage, Sanitary, and Fire Distribution Systems
  - b. Utility Metering
  - c. Outdoor Lighting
  - d. Natural Gas and fuel oil

**Work Management:** Provide at the minimum the following work management services:

- Develop and, after approval of CUNY, implement a comprehensive operation and maintenance program for the HVAC and control systems for the AB1 building.
- Manage the Facilities Operations work order management system
- Schedule all equipment and facility PM's
- Maintain copy of all annual inspection results
- Repair /contract work documentation
- Maintain copies of all annual overhaul weekly, monthly, semi annual, and annual maintenance schedules.
- Maintain Copies of all oil/gas burner and boiler service reports.
- Authorization for welding repairs
- Copies of all hydrostatic test reports
- Create reports on work orders and maintenance projects
- Oversee work order status close out
- Maintain and update speed type billing on system equipment
- Validate equipment records
- Monitor and modify work order status as appropriate
- Enter warranty information into FAMIS equipment records, when provided
- Compile and distribute proctor quarterly work order reports
- Monitor emails from customer work order survey and report on results
- Work with IT group on key performance indicators (KPI)
- Create, modify and maintain:
  - a. Preventive maintenance (PM) procedures database
  - b. Equipment records database
  - c. Routes for PM's
  - d. Facility Management Preventive maintenance
  - e. Provide equipment ID tags and specialty labels for equipment.
  - f. Manage and monitor insurable loss processes.
  - g. Maintain hard copies of domestic back flow certifications.
  - h. Populate Auto CAD floor plans with building system equipment locations.

**Integrated BMS/Fire Alarm/Security System:** The Program plan is described as follow:

**Contractor's General Responsibilities**

1. Service technicians assigned by the CONTRACTOR shall be thoroughly trained and experienced to work on the equipment. The technicians will perform tests, checks, inspections, calibrations, adjustments, component replacements, repairs, and diagnostic assessment of the systems. The CONTRACTOR shall provide documentation to the FACILITY of the competency of the personnel assigned to provide this service. FACILITY reserves the right to review the CONTRACTOR'S technician qualifications and approve or reject all service providers based on their training and experience. FACILITY reserves the right to conduct a security background check or otherwise approve any employee, SubContractor or agent furnished by CONTRACTOR and to refuse access to or require replacement of any personnel for cause based on, including but not limited to, professional, technical or training qualifications, quality of work or change in

security status or non-compliance with the FACILITY's security or other requirements. Such approval shall not relieve the CONTRACTOR of the obligation to perform all work in compliance with the Contract terms. The FACILITY reserves the right to reject and/or bar from the FACILITY for cause any employee, SubContractor, or agents of the CONTRACTOR.

2. The FACILITY'S HVAC equipment in this contract is controlled by a Johnson Controls Metasys Building Management System. The Facility has a Johnson Controls IFC Fire Alarm System and an AMAG Access security system installed by JCI.
3. All systems, components, and equipment covered under this Contract shall be maintained at the highest level of efficiency compatible with current Energy Conservation Code requirements and maintained at an acceptable level throughout the Contract period. An acceptable level of maintenance is defined as that level of maintenance that will preserve the equipment in unimpaired operating condition (i.e., above the point where deterioration will begin, thereby diminishing the normal life expectancy of the equipment).
4. In the event of an emergency [normal working hours, off-hours, weekends, holiday, etc.] the FACILITY will contact the CONTRACTOR emergency response operator or dispatcher. The CONTRACTOR is expected to respond by telephone within one (1) hours of the initial call. If onsite service is requested by the FACILITY, a CONTRACTOR Service Technician shall arrive onsite within four (4) hours of the notification. The CONTRACTOR shall provide 24/7 notification contacts and contact numbers.
5. CONTRACTOR to provide a schedule matrix at the contract pre-award meeting for the performance of all maintenance tasks. The schedule shall be agreed to by the CONTRACTOR and the FACILITY prior to final contract award. The schedule will distribute the tasks such that their completion will be coincident with seasonal HVAC system requirements and ensure an ongoing presence of the CONTRACTOR on site so that emergency/acute situations arising can be dealt with expeditiously. All maintenance tasks shall be completed within the specified frequency as defined in the schedule matrix.
6. The FACILITY shall be contacted at least 72 hours in advance before work is scheduled to start.
7. Should it be identified that the quality of the maintenance services being performed is not satisfactory and that the requirements of this Agreement are not being met, the CONTRACTOR will be notified of these deficiencies in writing, and it shall be the CONTRACTOR'S responsibility to make the necessary corrections within ten (10) working days after receipt of such notice. The FACILITY has the right, at its sole discretion, to terminate the contract if the CONTRACTOR fails to meet these conditions. CONTRACTOR will be deemed Non-Responsible by FACILITY.
8. All parts, materials, components and equipment provided by the CONTRACTOR shall be new and of the same brand name and manufacturer as the item being replaced/repared or a FACILITY pre-approved equal. These parts, materials, components and equipment shall be fully warranted [replacement material] by the CONTRACTOR to be free of defects (manufacturing and workmanship) for one year from installation.

### **General Requirements for All Service Visits**

1. Perform all work in a safe, organized manner.
2. Repairs and maintenance are to be performed with equipment properly tagged and locked out. The equipment is to be disabled and all switch or switchgear surveyed and positioned to prevent

shock hazards and the release of stored energy. Ensure that site personnel are aware of equipment status and potential hazards.

3. CONTRACTOR'S servicing technicians will be required to sign in and out in accordance with FACILITY established procedure.
4. The CONTRACTOR shall provide a supervisor, or designate a craftsman with five years experience as supervisor for all other craftsman on site. This supervisor will be responsible for all the activities of the crew and the adherence of all the FACILITY requirements as stipulated in this contract.
5. Report to the FACILITY any situations or observations, which could adversely affect the safety of FACILITY staff, building occupants, students or the operation of the Heating, Ventilation, Air Conditioning [HVAC], or Building Management Systems [BMS] Fire Alarm System [FAS], Security System and/or ancillary equipment.
6. Submit a completed Preventive Maintenance Checklist (all items initialed, including all recommendations) for each piece of equipment serviced at the end of each visit to the Plant Superintendent, or his assigned designee, for review prior to leaving the site. The Preventive Maintenance Checklist shall be provided to the CONTRACTOR by the FACILITY after contract award. Should both the Plant Superintendent and designee be unavailable prior to leaving the site, the CONTRACTOR shall submit the Preventive Maintenance Checklists via fax/e-mail to the Plant Superintendent, or his assigned designee within 24 hours of leaving the site. The technician must initial the Preventive Maintenance Checklist when each maintenance task is successfully completed. If a specific task is not applicable to a specific piece of equipment, note, "N/A" on the Checklist along with a written notation explaining the reason for the "N/A" entry. FACILITY assumes that all tasks not initialed, were not performed. The CONTRACTOR is required to provide written documentation describing why any task was not successfully performed. Either successful completion or written documentation justifying non-performance for all tasks is required before invoices will be paid.
7. The MEC SCHOOL OF SCIENCE, HEALTH & TECHNOLOGY Monthly Service Contract Report shall be provided to the FACILITY Plant Superintendent no later than five (5) business days after the end of each calendar month. CUNY reserves the right to change the format as needed. No contract payment will be approved without completion of this requirement.
8. During the performance of Preventive Maintenance Tasks (the CONTRACTOR shall note any repairs necessary and provide a T&M proposal for repairs or replacements not required by the terms of the Agreement. The CONTRACTOR will develop and submit a "Not to Exceed" cost for repair, including labor and material. If the FACILITY approves the proposal, the CONTRACTOR will be given a notification to proceed with the work. Any incurred cost over the approved "Not to Exceed" amount will not be paid. If the repair is of an urgent nature (if the failure of the equipment will impact client safety or comfort or will consequently cause extensive or expensive damage or loss to other equipment and/or furnishings), the CONTRACTOR is to notify the Plant Superintendent or Contract Compliance Officer (a FACILITY employee designated by the Plant Superintendent) immediately. If necessary, the FACILITY will direct the CONTRACTOR to perform tasks on an emergency basis. Subsequent to the emergency service, the CONTRACTOR will develop and submit, on the completed T&M Proposal Form, a description of the emergency work performed with actual hours and material charged to the emergency work. All backup documentation described above is required to be submitted with the emergency T&M for payment. The Time and Material invoice shall include documentation showing the actual labor hours and material cost charged to the T&M project. The invoice documentation shall also include the signed

proposal, time tickets including sub Contractors, repair service tickets, vendor material receipts, subcontract billing and test reports.

9. Repair any and all damage caused by CONTRACTOR to the FACILITY buildings or property, to the full satisfaction of FACILITY.
10. Cooperate with FACILITY administrators and personnel to prevent the entrance and exit of all workmen or others whose presence is forbidden or undesirable and in bringing, storing or removing of all materials and equipment, to observe all rules and regulations in force on the grounds, to avoid unnecessary dust, or accumulated debris or the undue interference with the convenience, sanitation or routine of the FACILITY (and to prevent the loss of, or damage to property of FACILITY and/or its employees).
11. At the FACILITY'S request, the CONTRACTOR shall provide training in BMS, Fire Alarm System, Security and/or Laboratory Controls operation as required under the T&M allowance. This training is to include software navigation, set point and scheduling modification, routine inspection requirements, starting and operating procedures, response to alarms, trending and problem diagnostics (controls/mechanical). Training to be provided on a T&M basis either on or off-site as agreed to by FACILITY. Hourly labor rate for training provided.
12. Routine contract meetings [monthly if requested], as scheduled by the FACILITY, will be held at the FACILITY with the CONTRACTOR to review issues such as recent work performed, quality of work, adherence to FACILITY requirements, past performance, outstanding deficiencies and outstanding T&M work. The CONTRACTOR will not receive additional compensation to attend these meetings.

## **Building Management System Preventive Maintenance Services**

### **Part 1. General**

1. The Building Management System (BMS) for the Medgar Evers School of Science, Health & Technology, supplied by Johnson Controls, Inc., is comprised of any and all components associated with the monitoring and control of all equipment and devices associated with it. This scope of work includes the end devices (i.e. all valves, dampers, etc.) and their sub-components (linkages, bearing/pivot points, etc) being controlled. For the purposes of this solicitation, Smoke Control/Purge Systems end devices (electric actuators being controlled by the BMS and or Fire Alarm System) including actuators for Combination Fire/Smoke Dampers, are considered components of the BMS system. For the purposes of this contract, Laboratory Control System (Laboratory VAV boxes, Phoenix Air Valves, Phoenix Fume Hood Monitors, Sash Sensors, etc.) including high speed actuators for Supply and General Exhaust Boxes, are considered components of the BMS system.
2. Contractor shall provide comprehensive maintenance and repair services for the Building Management System and all associated components. All Building Automation System repair parts shall be new as manufactured by Johnson Controls or match existing manufacturer.
3. Contractor shall maintain the Building Management System at the most current software release level. Contractor shall provide all such software upgrades at no additional cost.
4. Contractor shall provide remote monitoring and diagnostic services for the Building Management System via a remote operation center. The remote operation center shall be ISO-9000 certified. Access to the System from the Remote Operation Center shall be via internet.

### **Part 2. Preventative Maintenance – Annually**

1. Update Metasys software to latest software version. Train Customer on any functional or operational changes.

2. Create backup copy of System databases and System software. Store backup copies on site in a secure location.
3. Create backup copy of Field Controller databases. Store backup copies on site in a secure location.
4. Perform comprehensive System diagnostics using manufacturer's recommended procedure.
  - i) Identify communication and processing errors
  - ii) Check processor and memory usage
  - iii) Check network communication speed.
  - iv) Correct errors as required and re-perform diagnostics.
5. Confirm that all UPS devices (if so equipped) and backup batteries (if so equipped) are working properly and continues to provide power the event of a general power failure.
  - i) Replace or repair defective batteries or UPS devices.
  - ii) Replace all batteries at manufacturer recommended intervals.

**Part 3. Preventative Maintenance – Monthly**

1. Check System Log for System operational or functional issues. Interview Customer staff to identify System operational or functional issues.
2. Via System graphic user interface, review each HVAC system or other type system under BMS control as follows:
  - i) Confirm proper operation of all control loops, logic loops, reset schedules and control algorithms. Tune, adjust or modify as required for proper operation.
  - ii) Identify equipment failures and control malfunctions. Visually field inspect suspect equipment to confirm failure or malfunction. Repair or replace equipment as required.
  - iii) Identify control overrides. Interview Operator to identify root-cause of overrides and address via operator training, set point adjustment or logic adjustment.
  - iv) Review System alarm history to identify chronic alarms. Identify root-cause of chronic alarms and address as needed.
  - v) Identify temperature sensors, pressure sensors, current sensor, etc that require calibration. Calibrate as required.
3. Perform field inspection all System field control panels as follows:
  - i) Check incoming panel power voltage. Check internal power supply voltage. Address as required.
  - ii) Check all wire terminations for loose connections. Tighten as required.
  - iii) Check for disconnected wires or devices. Determine why wire or device was disconnected and address root-cause. Reconnect if required.
  - iv) Check for jumped terminals. Determine why jumper was installed and address root-cause. Remove if required.
  - v) Inspect for signs of overheated components. Check for discolored, hot or melted wiring. Check for discolored components due to excessive heat. Check for odor of overheated electronic equipment.

- vi) Inspect panel for indication of excessive moisture. Check overhead piping for leaks. Check area around panel for potential sources that may cause water damage to panel. Review findings with Customer and resolve.
- vii) Inspect panel for indication of abuse or neglect (unlocked panel, broken panel door lock, use of control panel as storage locker, etc). Review findings with Customer and resolve.

**Part 4. Repair Services**

- 1. The Contract shall provide Repair Services to repair or replace System devices and components as required to maintain full functionality of System(s).
- 2. Repair Services shall include all material and labor necessary to affect needed repairs.
- 3. All repair parts shall be manufactured or approved by the System manufacturer. "Or equal" parts may be substituted only if approved or required by owner.
- 4. The Contractor shall have on hand and maintain a supply of genuine manufacturer's parts sufficient for the normal maintenance and repair.
- 5. All labor and materials provided under Repair shall be guaranteed for a period of one year from date of repair.

**Part 5. Emergency Repair Services**

- 1. The Contractor shall provide Emergency Repair Service 24 hours per day, 365 days per year. Upon request for Emergency Repair Service, the Contractor shall cause one of his competent service personnel to be on premises within Four (4) hours after request.
- 2. In addition to the above, all requirements for "Repair Services" specified herein shall apply to "Emergency Repair Services".

**Fire Alarm system Preventive Maintenance Services**

**Part 1. GENERAL**

- 1. DESCRIPTION:
  - i) This section of the specification includes the service, maintenance and Testing of the Johnson Controls IFC 3030 Addressable Fire Alarm System. It shall include, but not be limited to, alarm initiating devices, alarm notification appliances, Fire Alarm Control Panel (FACP), auxiliary control devices, annunciators, and wiring as shown in the as-built contract documents and specified herein.

**Part 2. MAINTENANCE/TEST:**

- 1. Maintenance and testing shall be on a semi-annual schedule or as required by the local AHJ. A preventive maintenance schedule shall be provided by the Contractor describing the protocol for preventive maintenance. The schedule shall include:
  - i) Systematic examination, adjustment and cleaning of all detectors, manual fire alarm stations, control panels, power supplies, relays, waterflow switches and all accessories of the fire alarm system.
  - ii) Each circuit in the fire alarm system shall be tested semiannually.
  - iii) Each smoke detector shall be tested in accordance with the requirements of NFPA 72 Chapter 10.
- 2. As part of the RFAI, include a quote for a maintenance contract to provide maintenance, tests, and repairs described below. Include also a quote for unscheduled maintenance/repairs, including hourly rates for technicians trained on this equipment, and response travel costs for each year of the maintenance period.

3. The maintenance company shall employ National Institute for Certification in Engineering Technologies (NICET) Fire Alarm Technology Level IV certified technicians.
4. Emergency Service
  - i) Service Provider will provide telephone response within one (1) Hour, and will be on-site to provide emergency service within four (4) hours. Non-emergency calls, as mutually determined by CUNY and Service Provider will be scheduled for the next business day. CUNY defines business hours as 8AM-4 PM Monday – Friday excluding holidays.
5. Documentation
  - i) Service Provider will document each on-line and on-site service call and furnish a copy showing time, date, and a brief description of activity. Work orders for on-site system preventive maintenance will list the inspection date, individual to report to, equipment identification, equipment location, work to be performed and any special instructions. All documentation will be stored on an onsite service log.
6. Maintained Components
  - i) Fire Alarm System Equipment
  - ii) Control Panels
  - iii) Initiating Devices
  - iv) Notification Devices

**Part 3. APPLICABLE STANDARDS AND SPECIFICATIONS**

1. The specifications and standards listed below form a part of this specification. The Service Provider shall fully comply with the latest issue of these standards, if applicable.
  - i) National Fire Protection Association (NFPA) - USA:
  - ii) NFPA 72 National Fire Alarm Code
  - iii) NFPA 101 Life Safety Code
  - iv) Underwriters Laboratories Inc. (UL) - USA:
  - v) UL 268 Smoke Detectors for Fire Protective Signaling Systems
  - vi) UL 864 Control Units for Fire Protective Signaling Systems
  - vii) UL 268A Smoke Detectors for Duct Applications
  - viii) UL 521 Heat Detectors for Fire Protective Signaling Systems
  - ix) UL 464 Audible Signaling Appliances
  - x) UL 38 Manually Actuated Signaling Boxes
  - xi) UL 346 Waterflow Indicators for Fire Protective Signaling Systems
  - xii) UL 1076 Control Units for Burglar Alarm Proprietary Protective Signaling Systems
  - xiii) UL 1971 Visual Notification Appliances
  - xiv) Local and State Building Codes.
  - xv) All requirements of the Authority Having Jurisdiction (AHJ).

**Part 4. REPLACEMENT/ SERVICE EQUIPMENT AND MATERIAL, GENERAL:**

1. All defective equipment and components replaced shall be new, and the manufacturer's (Johnson Controls/IFC) current model. The materials, appliances, equipment and devices shall be tested and listed by a nationally recognized approvals agency for use as part of a fire protective signaling system, meeting the National Fire Alarm Code.
2. All equipment and components shall be installed in strict compliance with manufacturers' recommendations. Consult the manufacturer's installation manuals for all wiring diagrams, schematics, physical equipment sizes, etc., before beginning system installation.
3. All equipment shall be attached to walls and ceiling/floor assemblies and shall be held firmly in place (e.g., detectors shall not be supported solely by suspended ceilings). Fasteners and supports shall be adequate to support the required load.

**Part 5. SOFTWARE MODIFICATIONS**

1. Provide the services of a factory trained and authorized technician to perform all system software modifications, upgrades or changes. Response time of the technician to the site shall not exceed 4 hours.
2. All Software modifications or equipment adds shall be by a factory trained technician certified by the manufacturer to program the IFC 3030 system. Provide all hardware, software, programming tools and documentation necessary to modify the fire alarm system on site. Modification includes addition and deletion of devices, circuits, zones and changes to system operation and custom label changes for devices or zones. The system structure and software shall place no limit on the type or extent of software modifications on-site.

**Security/CCTV System Preventive Maintenance Services**

**Part 1. GENERAL**

1. DESCRIPTION:
  - i) This section of the specification includes the service, maintenance and testing of the Medgar Evers Academic Building 1 Access Control/CCTV System. It shall include, but not be limited to the following systems installed by JCI:
    - (1) Access Control and Alarm Point Monitoring/Control System Equipment:
    - (2) Security System Intrusion/Environmental Detectors
    - (3) CCTV System
    - (4) Digital Video Recording System
    - (5) Video Imaging and ID Badge System
2. LICENSING/COMPETENCY
  - i) This Contractor to be a bona fide security systems Contractor, licensed by the State of New York for the installation of the low voltage security and signal communication systems, and engaged in security system maintenance, service and contracting for at least the last ten years. The Contractor shall employ technicians who have been trained by the factory to install service the MEC SCHOOL OF SCIENCE, HEALTH & TECHNOLOGY.
3. SPECIAL CONFIDENTIALITY REQUIREMENT

- i) The Work is critical to the security of the Owner's facility. All Documents and other material and information about the Work are confidential information and must remain secure and confidential at all times. Confidential information must not be deliberately or inadvertently disclosed to anyone other than the Contractor's personnel and sub Contractors who require disclosure to perform their portion of the Work.
- ii) The Contractor shall keep track of all confidential information at all times and shall ensure that all copies are accounted for at all times. The Contractor shall not permit any persons to have access to the confidential information of the Work unless and until the Contractor has assured itself of the trustworthiness of such persons.

**Part 2. PREVENTATIVE MAINTENANCE**

- 1. Preventative maintenance shall include, but not be limited to, the following.

- i) Annual Preventative Maintenance:

- (1) Test and adjust System sensors.

- ii) Semi-Annual Preventive Maintenance

- (1) Inspect, test, clean, and adjust UPS. Replace batteries as necessary.
    - (2) Inspect and clean all panels.
    - (3) Inspect, test, and clean power supplies. Replace batteries as necessary.
    - (4) Inspect, clean and vacuum all consoles and equipment racks.
    - (5) Test and adjust all CCTV System pan, tilt, zoom, and preset functions.
    - (6) Inspect, clean, and adjust CCTV System.

- iii) Quarterly Preventive Maintenance

- (1) a. Inspect and clean the Access Control file server, printers, and System workstations.
    - (2) Perform hardware, firmware, software, and disk drive maintenance as required to ensure optimum performance.
    - (3) Run Access Controls System diagnostics and perform file maintenance to insure optimal performance.
    - (4) Inspect, clean, and adjust digital video recorders.
    - (5) Clean all camera housings.
    - (6) Visually observe all cameras and monitor displays and adjust as needed for optimal performance.

**Part 3. Emergency Service**

- 1. Service Provider will provide telephone response within one (1) Hour, and will be on-site to provide emergency service within four (4) hours. Non-emergency calls, as mutually determined by CUNY and Service Provider will be scheduled for the next business day. CUNY defines business hours as 8AM-4 PM Monday – Friday excluding holidays.
- 2. Documentation
  - i) Service Provider will document each on-line and on-site service call and furnish a copy showing time, date, and a brief description of activity. Work orders for on-site system preventive maintenance will list the inspection date, individual to report to, equipment identification, equipment location, work to be performed and any special instructions. All documentation will be stored on an onsite service log.

**Part 4. APPLICABLE STANDARDS AND SPECIFICATIONS**

1. The specifications and standards listed below form a part of this specification. The Service Provider shall fully comply with the latest issue of these standards, if applicable.
  - i) National Fire Protection Association, (NFPA 70)
  - ii) National Fire Protection Association Life Safety Code, (NFPA 101)
  - iii) National Electrical Code (NEC)
  - iv) Building Officials & Code Administrators International, Inc. (BOCA) National Building Code
  - v) Americans with Disabilities Act (ADA)
  - vi) Underwriters Laboratories (UL) Applicable Standards for Safely
  - vii) Underwriters Laboratories (UL) Applicable Standards for Proprietary Security Systems
  - viii) Uniform Building Code, (UBC)
  - ix) Local Governing Authorities Having Jurisdiction

**Part 5. REPLACEMENT/ SERVICE EQUIPMENT AND MATERIAL, GENERAL:**

1. All defective equipment and components replaced shall be new, and the manufacturer's current model. The materials, appliances, equipment and devices shall be tested and listed by a nationally recognized approvals agency for use as part of a Security system.
2. All equipment and components shall be installed in strict compliance with manufacturers' recommendations. Consult the manufacturer's installation manuals for all wiring diagrams, schematics, physical equipment sizes, etc., before beginning system installation.
3. All equipment shall be attached to walls and ceiling/floor assemblies and shall be held firmly in place (e.g., detectors shall not be supported solely by suspended ceilings). Fasteners and supports shall be adequate to support the required load.

**Part 6. SOFTWARE MODIFICATIONS**

1. Provide the services of a factory trained and authorized technician to perform all system software modifications, upgrades or changes. Response time of the technician to the site shall not exceed 4 hours.
1. All Software modifications or equipment adds shall be by a factory trained technician certified by the manufacturer to program the AMAG system. Provide all hardware, software, programming tools and documentation necessary to modify the fire alarm system on site. Modification includes addition and deletion of devices, circuits, zones and changes to system operation and custom label changes for devices or zones. The system structure and software shall place no limit on the type or extent of software modifications on-site.