# Request for Proposals

# Installment Purchase Contract (Lease/Purchase) Financing for "Energy Performance Contract"

Fiscal Advisors & Marketing, Inc. at the request of:

City School District of the City of Schenectady Schenectady County, New York (the "School District")

1. Requests for written, email, or fax bids for providing Installment Purchase Contract (Lease/Purchase) Financing are due no later than **Tuesday, November 17, 2020** at **12:00 P.M. Prevailing Time** at the office of:

Fiscal Advisors & Marketing, Inc. Corporate Headquarters 250 South Clinton Street – Suite 502 Syracuse, New York 13202

Attn: Elyse Andrews, Financial Analyst

(For financing questions call (315) 752-0051 Ext. 349)

Email: <a href="mailto:eandrews@fiscaladvisors.com">eandrews@fiscaladvisors.com</a> Fax Bid Number: (315) 752-0057

- 2. The principal amount of the installment purchase contract will be \$9,378,000.
- 3. The lease purchase financing will be used to fund various projects of the School District as defined in "Scope of Work" attached as "EXHIBIT A" to this Request for Proposals. The project cash flow is attached as "EXHIBIT B." The energy service company is Honeywell International, Inc., 115 Tabor Road, Morris Plains, New Jersey 07950.
- 4. The interest rate quoted will be fixed as of the time of the bid and will remain constant throughout the lease term and will include any and all fees or expenses associated with this financing.
- 5. The financing entity will be provided with an opinion of Bond Counsel to the effect that the interest component of payments to be made by the School District pursuant to the financing contract ("interest") is excluded from gross income for federal income tax purposes and is not an item of tax preference for purposes of the federal alternative minimum tax. The opinion set forth in the preceding sentence will be subject to the condition that the School District comply with all requirements of the Internal Revenue Code of 1986, as amended (the "Code") that must be satisfied subsequent to the date of the financing contract in order that interest be, or continue to be, excluded from gross income for federal income tax purposes. The School District will covenant to comply with all such requirements. Failure to comply with all such requirements may cause the interest to be included in gross income for federal income tax purposes retroactive to the date of closing. Bond Counsel will not express an opinion regarding other federal tax consequences arising with respect to the lease and the related documents. The installment purchase contract will not be designated by the School District as a "qualified tax-exempt obligation" pursuant to the provisions of Section 265 of the Code.
- 6. All bids shall remain in effect until December 31, 2020. It is anticipated that funds will need to be available on or about December 9, 2020. All quotes should be based upon this estimated time line.
- 7. Each bid should be accompanied by a repayment schedule listing principal, interest and total annual payments. Total annual payments are expected to provide for substantially level or declining annual debt service. In addition, each bidder is required to submit their standard sample form of lease purchase agreement and proposed escrow bank sample form of escrow agreement. No award is final until formally approved by the Board of Education at its meeting currently scheduled for December 2, 2020. The District anticipates State Education Department approval for the projects by November 30, 2020. Upon verbal or written notification of successful bid award, (which shall be conditional upon successful negotiation of all transactional documents and opinions), the successful bidder <a href="mailto:shall be required to deliver the proposed forms of the leasing documents to Fiscal Advisors & Marketing, Inc.">hall be required to deliver the proposed forms of the leasing documents to Fiscal Advisors & Marketing, Inc.</a> (address listed above) and to Bond Counsel and General Counsel at:

Orrick Herrington & Sutcliffe LLP Attention: Thomas E. Myers, Esq. 51 West 52<sup>nd</sup> Street, 15<sup>th</sup> Floor New York, New York 10019

Tel: (212) 506-5212 Fax: (212) 506-5151

Email: tmyers@orrick.com

Harris Beach PLLC Attention: Douglas E. Gerhardt, Esq. 677 Broadway, Suite 1101 Albany, New York 12207

Tel: (518) 701-2738 Fax: (315) 427-0235 Email: dgerhardt@harrisbeach.com

- 8. The School District requires the ability to prepay the proposed lease purchase agreement (the "Agreement") in full or in part on any date without payment penalty. Respondents to this Request for Proposals shall <u>clearly define</u> their methodology used for such prepayment of principal prior to maturity if any prepayment penalty is proposed. Determination of award will be based in part on the prepayment penalty, if any, which is most favorable to the School District.
- 9. The current Moody's Investors Service, Inc. rating of the School District is "A1 Enhanced" and "A2 Underlying."
- 10. The School District is in material compliance with its Continuing Disclosure requirements related to SEC Rule 15c2-12 for the past five years.
  - a. A copy of the School District's most recent Continuing Disclosure Statement for fiscal year ending June 30, 2019 can be found here: https://emma.msrb.org/ER1283922-ER1001384-ER1404954.pdf

A copy of the School District's fiscal year ending June 30, 2019 audited financial statements can be found here: https://emma.msrb.org/ER1283925-ER1001386-ER1404956.pdf

- Among other factors, the low bid/quote will be determined by the lowest amount indicated for a total of payments with the requirement that the quote will meet all other conditions listed herein that are not affirmatively waived by the School District.
- 12. Prior to complete delivery of equipment, it will be necessary to make partial payment to vendor(s). In this case, unexpended funds shall be held in an interest bearing escrow fund account established by the winning bidder (the "Lessor") in the name of School District. Interest earnings will begin to accrue to the School District on the date of the deposit to the escrow fund. All interest earnings shall be applied to reduce the last scheduled payment(s) at the end of the financing term. Any unexpended funds after payment to all vendors shall be recalculated to reduce remaining payment amounts equally unless otherwise authorized by the School District. The escrow agent must be a bank or trust company located in and authorized to do such business in New York State. The bank must have an office New York State which is stated in the proposed Escrow Contract. Investments shall be made solely at the direction of the School District and shall be made in accordance with the requirements of General Municipal Law Sections 10 and 11 and the School District's formal investment policy. The School District is not authorized to invest in mutual funds or similar liquid investment vehicles. All monies held in the escrow fund are monies of the School District and shall not be subject to levy, attachment or lien of the escrow agent. All charges of the escrow agent shall be paid by the Lessor.
- 13. The installment purchase contract financing will be in the amount of \$9,378,000.

Interest will be due and payable annually on December 1, 2021 through and including December 1, 2035.

Principal will be payable annually on December 1, 2022 through and including December 1, 2035.

The School District expects to receive State building aid of approximately 86.2% of debt service. The School District reserves the right to modify the above principal payments post sale, in any amounts as deemed necessary to achieve substantially level or declining annual debt service.

- 14. There shall be no additional fees or charges (including any Escrow Agent Fees) to the School District other than the annual debt service payments.
- 15. There shall be a \$1 (one dollar) buyout option in favor of the School District at lease expiration, in addition to optional buyout described in section #8 above.
- 16. All manufacturers' warranties shall be assigned by the Lessor to the School District.

17. The Agreement shall be subject to cancellation by the School District annually and shall include the following paragraph:

"Pursuant to the requirements of General Municipal Law section 109-b, the financing contract shall contain the appropriate executory clause which shall state that should financing contract payments not be appropriated by the School District the School District will not be obligated to pay the amounts due beyond the end of the last funded fiscal year. The financing contract shall be deemed executory only to the extent of monies appropriated and available therefor, and no liability on account thereof shall be incurred by the School District beyond the amount of such monies. The financing contract is not a general obligation of the School District. Neither the full faith and credit nor the taxing power of the School District are pledged to the payment of any amount due or to become due under the financing contract. In the case of a failure to appropriate, the sole security shall be the improvements that are the subject of the financing contract. It is understood that neither this contract nor any representation by any public employee or officer creates any legal or moral obligation to appropriate or make available monies available for the purpose of the financing contract. In the event that no funds or insufficient funds are appropriated by the School District the financed improvements may be acquired and sold by or on behalf of the financing entity entitled to receive payments, provided that any excess proceeds from such a sale, after deduction for and payment of fees, expenses and any taxes levied on the sale, shall be paid to the School District as provided in section 109-b of the General Municipal Law."

- 18. The sole security shall be the equipment, machinery or apparatus financed pursuant to the Agreement. In the event insufficient funds are appropriated to pay this obligation, such equipment, machinery and apparatus may be sold on behalf of the Lessor entitled to receive such payments, provided that any excess proceeds from such a sale shall be paid to the School District after deduction of obligations, taxes or other expenses of the Lessor.
- 19. Payments by the escrow agent shall be made only at the written direction of the School District and may likely require multiple payments. Payments may be required by either check or electronic wiring depending on equipment vendor requirements. All associated costs for these services must be included in the quote. See "EXHIBIT A" attached.
- 20. The installment purchase contract financing will be for upgrade, replacement, purchase and installation of energy management equipment and management and control systems.
- 21. Proposals will be evaluated based on total cost, ability to perform, requirements of the bidder, experience in New York State, and any other terms or conditions stipulated in each proposal.
- 22. The School District reserves the right to reject any or all bids/quotes, to waive any or all informalities, to request new proposals, negotiate with the lowest bidder and to award based upon the overall best interests of the School District. The attached Quote Proposal Form must be completed and included with each quote. The proposed forms of the lease purchase agreement, escrow contract and related documents must be submitted with the bid. Closing is subject to successful negotiation and approval of all such documents by counsel to the School District. The School District reserves the right to rescind an award due to failure of successful negotiation of the parties to agree to the terms and conditions thereof.
- All agreements and contractual conditions are required to conform with the laws of the State of New York, including, but not limited to, the General Municipal Law, the Local Finance Law, the Energy Law, the Education Law, and regulations of the State Education Department and the Office of the State Comptroller. All financing documents are subject to modification by School District counsel. Closing is subject to successful negotiation and approval of all documents by counsel to the School District. The School District reserves the right to rescind any award due to the unsuccessful negotiation by the parties of the terms and conditions of the financing documents and to recover its costs in connection therewith. The School District's legal counsel will review and approve all documents on behalf of the Board of Education.
- 24. The Lessor shall be responsible for all of the Lessor's legal, issuance and closing costs.
- 25. Annual Appropriation: The annual lease payments are subject to appropriation each year by the Board of Education of the School District.
- 26. The School District will not provide a legal description for each School District property in connection with this financing. In the event the Lessor requires this information for the purposes of making a fixture filing pursuant to the applicable provisions of the Uniform Commercial Code, the Lessor may obtain such information at its own effort and expense.
- 27. By submitting a bid/quote, each bidder is agreeing to abide by all provisions of this Request for Proposals. No terms or conditions of the Lessor may be imposed on the School District that supersede or contradict the terms set forth in this Request for Proposals.

# 28. Summary of Estimated Dates

RFP sent to providers:	November 10, 2020
Proposal and Response Form Due: 12:00 p.m.)	November 17, 2020
Selected Lessor Tentatively Approved: *	November 17, 2020 *
Credit Approval Completed:	November 25, 2020
Draft Documents Delivered:	November 25, 2020
Board of Education Meeting Date: Lease approved	December 2, 2020
Closing of Lease:	December 9, 2020

<sup>\*</sup> Subject to Board of Education approval

The District reserves the right to modify these dates.

Dated: November 10, 2020

# CITY SCHOOL DISTRICT OF THE CITY OF SCHENECTADY SCOPE OF WORK

# ATTACHMENT A SCOPE OF WORK

#### PART 1 – PRODUCTS & EXECUTION

All work performed under the energy performance contract will be in accordance with the provisions of Section 01050 – "Uniform Safety Standards for School Construction and Maintenance Projects – Commissioner's Regulations" specification incorporated herein by reference.

Plans and specifications, based on the scope below, will be produced for submission to the State Education Department for approval and are incorporated herein by reference.

Contractors will be required to pay prevailing wage rates in accordance with New York State Department of Labor regulations.

All work must be performed and installed in accordance with applicable laws, rules, regulations, codes, and ordinances.

# **ECM 1: LED Lighting and Lighting Controls Upgrade**

Table A-1.1 is a summary of the facilities included for lighting and lighting controls upgrades.

Building			
Hamilton Elementary School	Van Corlaer Elementary School		
Howe Elementary School	Central Park Jr. High School		
Lincoln Elementary School	Mont Pleasant Jr. High School		
Woodlawn Elementary School	Oneida Jr. High School		
Yates Elementary School	Schenectady High School		
Jesse T. Zoller Elementary School	Steinmetz Career & Leadership Academy		
Dr. Martin Luther King Elementary School	Washington Irving Educational Center		
Paige Elementary School	Fulton Early Childhood Center		
Pleasant Valley Elementary School			

*Table A-1.1* 

#### Scope of Work:

- 1) Honeywell shall provide all equipment, materials and labor, for the buildings listed in Table A-1.1, to implement the lighting retrofit project as specified in Exhibit D-5-1: Lighting Line by Line attached hereto and incorporated herein by reference
- 2) Coordinate all lighting retrofit activities with Customer's Engineer or Customer's designated representative to minimize disruptions
- 3) Properly dispose of and recycle replaced fixtures and lamps and provide a certificate to the Customer
- 4) Ensure all work meets applicable codes and standards
- 5) Repair or replacement of fixture lenses is not included
- 6) Provide training to Customer operating and maintenance personnel
- 7) The upgrades included in the contract are limited to those listed in Exhibit D-5-1; Honeywell shall provide a price for any additional work at the written request of the Customer
- 8) The customer shall contact the manufacturer directly for warranty replacement lamps and ballasts after the initial installation period is complete, any labor associated with the replacement after the initial installation is the responsibility of the customer
- 9) At completion of the work, the Customer will be supplied with a 2% maintenance stock
- 10) The warranty for the lighting is as follows:
  - a) Dimming linear LED/Driver Kits are covered by a manufacturer warranty for a period of ten (10) years
  - b) Exterior photocells are covered by a manufacturer warranty for a period of one (1) year
  - c) Fluorescent ballasts are covered by a manufacturer warranty for a period of five (5) years
  - d) LED battery back-up drivers are covered by a manufacturer warranty for a period of five (5) years

- e) LED exit signs with battery back-up are covered by a manufacturer warranty for a period of two (2) years
- f) LED exit signs with battery back-up and frog eyes are covered by a manufacturer warranty for a period of five (5) years
- g) LED exterior fixtures are covered by a manufacturer warranty for a period of five (5) to ten (10) years
- h) LED interior fixtures are covered by a manufacturer warranty for a period of five (5) years
- i) LED retrofit kits are covered by a manufacturer warranty for a period of five (5) years
- j) LED screw-ins are covered by a manufacturer warranty for a period of three (3) years
- k) Linear LED lamps (2', 3', and 4') are covered by a manufacturer warranty for a period of five (5) years
- 1) Occupancy sensors are covered by a manufacturer warranty for a period of five (5) years
- 11) LED retrofit work shall comply with items 1.a.i., 1.a.ii., and 1.a.iii. of the NY State Education Department's Document titled Eligibility of Building Aid for Fluorescent and LED Lighting Retrofits dated February 1, 2017

# **ECM 2: Building Management System Upgrades**

Honeywell shall provide necessary equipment, materials, and labor to implement the following Building Management System (BMS) upgrades for the facilities listed in Table A-2.1.

Building			
Hamilton Elementary School	Van Corlaer Elementary School		
Howe Elementary School	Central Park Jr. High School		
Lincoln Elementary School	Mont Pleasant Jr. High School		
Woodlawn Elementary School	Oneida Jr. High School		
Yates Elementary School	Schenectady High School		
Jesse T. Zoller Elementary School	Steinmetz Career & Leadership Academy		
Dr. Martin Luther King Elementary School	Washington Irving Educational Center		
Paige Elementary School	Fulton Early Childhood Center		
Pleasant Valley Elementary School			

*Table A-2.1* 

#### Scope of Work:

#### **District-Wide**

#### 1) Niagara 4 Software Training

Provide three-day training that explores Niagara 4 Workbench software. Training includes Niagara 4 station set up and navigation, trend and report configuration, global programming logic, and more.

#### 2) Field Controls Training

Provide three-day training to review the various hardware and software components installed throughout the District. This includes a review of the Schneider Electric engineering tool.

#### **Hamilton Elementary School**

#### 1) Install New N4 JACE Network Controller

Provide and install N4 JACE and integrate all DDC controls into the existing N4 Supervisor. Provide new graphics as well as new trending and alarming strategies.

#### 2) Retro-Commission Existing Schneider Electric Control Systems

Review the controls that will be installed as part of the District capital project and provide programming to update sequences of operation (primarily boiler plant changes, and discharge air reset programming on main AHUs), standardized setpoints and schedules, and sensor recalibration as needed.

#### 3) Replace Existing Barber Coleman Control Systems

Replace existing Barber Coleman controllers associated with one (1) rooftop unit, one (1) unit ventilator, four (4) cabinet heaters, and six (6) exhaust fans with new BACnet DDC controllers. Install a new comm bus as needed to connect all the new controllers to the building's JACE. Provide programming of sequences, graphics, trending, alarming, etc. to meet the contract requirements.

#### 4) <u>Unit Ventilator Control Upgrade</u>

Provide and install new DDC actuators for one (1) unit ventilator with existing Barber Coleman DDC-over-pneumatic devices. Add fan status input. Provide and install new valve.

#### 5) Radiator Control Upgrade

Provide and install new DDC for twenty-six (26) fin-tube radiators with existing pneumatic controls. Provide and install new valves. New DDC Points List:

Radiator	AI	AO	DI	DO
Space Temperature	26			
Push Button Override			26	
Heating Valve		26		

#### 6) <u>Demand Control Ventilation Control Upgrade</u>

Provide demand control ventilation for the Gymnatorium RTU with existing DDC controls. 2005 TBS installation shows dampers controlled by unit manufacturer. Add damper actuators, mixed air sensor, and CO<sub>2</sub> sensors as needed. For additional detail, please see ECM 3: Ventilation Upgrades below.

#### 7) Self-Contained Controls Upgrade

Provide and install self-contained controls for thirty-one (31) convectors serving hallways, entryways and other unoccupied areas. Thermostatic radiator valves shall be installed with remote bulb and locking cover. Implement reduced setpoint.

#### 8) Plug Load Controls

Provide Wi-Fi programmable plug load controllers to turn off equipment as per Table A-2.2 below.

PROPOSED PLUG LOAD CONTROLS		
Equipment	Hamilton Elementary School	
Projector	27	
Medium Printer	6	
Charging Cart	10	
AC Unit	1	
Copier	1	
Hot/Cold Water Dispenser	1	

*Table A-2.2* 

#### Additional Scope Details:

- Program Wi-Fi plug load controllers to turn off equipment during unoccupied periods as described in Exhibit D-1 & D-2
- Customer IT Department will provide a reliable Wi-Fi network on which the Wi-Fi plug load controllers will be programmed and controlled

#### **Howe Elementary School**

# 1) Retro-Commission Existing Schneider Electric Control Systems

Review the Schneider Electric controls that were installed as part of the District capital project and provide programming to update sequences of operation (primarily boiler plant changes, and discharge air reset programming on main AHUs), standardized setpoints and schedules, and sensor recalibration as needed.

#### 2) Plug Load Controls

Provide Wi-Fi programmable plug load controllers to turn off equipment as per Table A-2.3 below.

PROPOSED PLUG LOAD CONTROLS		
Equipment	Howe Elementary	
Equipment	School	
Projector	22	

PROPOSED PLUG LOAD CONTROLS		
Equipment	Howe Elementary School	
Medium Printer	9	
Charging Cart	3	
AC Unit	-	
Copier	1	
Hot/Cold Water Dispenser	1	

*Table A-2.3* 

- Program Wi-Fi plug load controllers to turn off equipment during unoccupied periods as described in Exhibit D-1 & D-2
- Customer IT Department will provide a reliable Wi-Fi network on which the Wi-Fi plug load controllers will be programmed and controlled

#### **Lincoln Elementary School**

#### 1) Install New N4 JACE Network Controller

Provide and install N4 JACE and integrate all DDC controls into the existing N4 Supervisor. Provide new graphics as well as new trending and alarming strategies.

#### 2) Replace Existing Barber Coleman Control Systems

Replace existing Barber Coleman controllers associated with the steam boiler plant, the domestic hot water system, one (1) rooftop unit, four (4) exhaust fans, and five (5) sample space temperature sensors with new BACnet DDC controllers. Install a new comm bus as needed to connect all the new controllers to the building's JACE. Provide programming of sequences, graphics, trending, alarming, etc. to meet the contract requirements.

# 3) Radiator Control Upgrade

Provide and install new DDC for eighty-three (83) steam valves with existing pneumatic controls. Provide and install new valves. New DDC Points List:

Radiator	AI	AO	DI	DO
Space Temperature	83			
Push Button Override			83	
Heating Valve		83		

#### 4) Fan Coil Unit Control Upgrade

Provide and install new DDC controls for two (2) fan coil units that serve the Gym and integrate to the existing N4 supervisor. Provide and install new valves. Units shall work in conjunction with the three (3) radiators serving the space that are counted in item two above. New DDC Points List:

Fan Coil Unit	AI	AO	DI	DO
Space Temperature	2			
Fan Start / Stop				2
Fan Status			2	
Push Button Override			2	
Heating Valve		2		

#### 5) Self-Contained Control Upgrade

Provide and install self-contained controls for fourteen (14) convectors and one (1) fan coil unit serving hallways, entryways and other unoccupied areas. Thermostatic radiator valves shall be installed with remote bulb and locking cover. The fan coil unit shall be equipped with an aquastat fan controller. Implement reduced setpoint.

#### 6) Plug Load Controls

Provide Wi-Fi programmable plug load controllers to turn off equipment as per Table A-2.4 below.

PROPOSED PLUG LOAD CONTROLS		
Equipment	Lincoln Elementary School	
Projector	11	
Medium Printer	6	
Charging Cart	10	
AC Unit	3	
Copier	1	
Hot/Cold Water Dispenser	-	

*Table A-2.4* 

#### Additional Scope Details:

- Program Wi-Fi plug load controllers to turn off equipment during unoccupied periods as described in Exhibit D-1 & D-2
- Customer IT Department will provide a reliable Wi-Fi network on which the Wi-Fi plug load controllers will be programmed and controlled.

#### **Woodlawn Elementary School**

# 1) Retro-Commission Existing Schneider Electric Control Systems

Review the controls that will be installed as part of the District capital project and provide programming to update sequences of operation (primarily boiler plant changes, and discharge air reset programming on main AHUs), standardized setpoints and schedules, and sensor recalibration as needed.

#### 2) Replace Existing Barber Coleman Control Systems

Replace existing Barber Coleman controllers associated with the hot water boiler plant, three (3) rooftop units, eight (8) reheat coils, three (3) close-off dampers, and six (6) radiator valves with new BACnet DDC controllers. Install a new comm bus as needed to connect all the new controllers to the building's JACE. Provide programming of sequences, graphics, trending, alarming, etc. to meet the contract requirements.

#### 3) Exhaust Fan Control Upgrade

Provide and install new DDC controls for eight (8) exhaust fans and integrate to the existing N4 supervisor. New DDC Points List:

Exhaust Fan	AI	AO	DI	DO
Fan Start/Stop				8
Fan Status			8	

# 4) <u>Demand Control Ventilation Control Upgrade</u>

Provide demand control ventilation for the Gymnasium and the Cafetorium. Add damper actuators, mixed air sensor, and CO<sub>2</sub> sensors as needed. For additional detail, please see ECM 3: Ventilation Upgrades below.

#### 5) <u>Self-Contained Control Upgrade</u>

Provide and install self-contained controls for two (2) cabinet unit heaters serving hallways, entryways and other unoccupied areas. Thermostatic radiator valves shall be installed with remote bulb and locking cover. The cabinet heaters shall be equipped with an aquastat fan controllers. Implement reduced setpoint.

#### 6) Plug Load Controls

Provide Wi-Fi programmable plug load controllers to turn off equipment as per Table A-2.5 below.

PROPOSED PLUG LOAD CONTROLS		
Equipment	Woodlawn	
Equipment	Elementary School	
Projector	4	

PROPOSED PLUG LOAD CONTROLS			
Equipment	Woodlawn Elementary School		
Medium Printer	7		
Charging Cart	2		
AC Unit	-		
Copier	1		
Hot/Cold Water Dispenser	-		

*Table A-2.5* 

- Program Wi-Fi plug load controllers to turn off equipment during unoccupied periods as described in Exhibit D-1 & D-2
- Customer IT Department will provide a reliable Wi-Fi network on which the Wi-Fi plug load controllers will be programmed and controlled

#### Yates Elementary School

#### 1) <u>Install New N4 JACE Network Controller</u>

Provide and install N4 JACE and integrate all DDC controls into the existing N4 Supervisor. Provide new graphics as well as new trending and alarming strategies.

#### 2) <u>Retro-Commission Existing Schneider Electric Control Systems</u>

Review the controls that will be installed as part of the District capital project and provide programming to update sequences of operation (primarily boiler plant changes, and discharge air reset programming on main AHUs), standardized setpoints and schedules, and sensor recalibration as needed.

# 3) Replace Existing Barber Coleman Control Systems

Replace existing Barber Coleman controllers associated with three (3) rooftop units, two (2) air handling units, four (4) unit ventilators, four (4) cabinet heaters, and six (6) exhaust fans with new BACnet DDC controllers. Install a new comm bus as needed to connect all the new controllers to the building's JACE. Provide programming of sequences, graphics, trending, alarming, etc. to meet the contract requirements.

#### 4) Air Handling Unit Control Upgrade

Provide and install new DDC actuators for two (2) air handling units with existing Barber Coleman DDC-over-pneumatic devices. Provide and install new valves. These two (2) AHUs serving the gym and auditorium are located in the first-floor mechanical room. There are two (2) reheat coils for the gym that will be replaced as part of the capital project.

#### 5) Fin Tube Radiator Control Upgrade

Provide and install new DDC for twenty-one (21) fin tube radiators with existing pneumatic controls. Provide and install new valves. New DDC Points List:

Radiator	AI	AO	DI	DO
Space Temperature	21			
Push Button Override			21	
Heating Valve		21		

#### 6) Demand Control Ventilation Control Upgrade

Provide demand control ventilation for the rooftop unit serving the Cafeteria as well as the air handlers serving the Gymnasium and Auditorium with existing DDC controls. For Cafeteria rooftop unit: 1999 TBS installation shows dampers controlled by unit manufacturer. Add damper actuators, mixed air sensor, and CO<sub>2</sub> sensors as needed. For additional detail, please see ECM 3: Ventilation Upgrades below.

#### 7) <u>Self-Contained Control Upgrades</u>

Provide and install self-contained controls for twenty-one (21) convectors and two (2) cabinet heaters serving hallways, entryways and other unoccupied areas. Thermostatic radiator valves shall be installed with remote bulb

and locking cover. The cabinet heater fans shall be equipped with an aquastat fan controller. Implement reduced setpoint.

#### 8) Plug Load Controls

Provide Wi-Fi programmable plug load controllers to turn off equipment as per Table A-2.6 below.

PROPOSED PLUG LOAD CONTROLS			
Equipment	Yates Elementary School		
Projector	5		
Medium Printer	5		
Charging Cart	2		
Projector/Smartboard Combo	6		
AC Unit	1		
Copier	1		
Hot/Cold Water Dispenser	2		

*Table A-2.6* 

#### Additional Scope Details:

- Program Wi-Fi plug load controllers to turn off equipment during unoccupied periods as described in Exhibit D-1 & D-2
- Customer IT Department will provide a reliable Wi-Fi network on which the Wi-Fi plug load controllers will be programmed and controlled

#### Jesse T. Zoller Elementary School

#### 1) Retro-Commission Existing Schneider Electric Control Systems

Review the controls that will be installed as part of the District capital project and provide programming to update sequences of operation (primarily boiler plant changes, and discharge air reset programming on main AHUs), standardized setpoints and schedules, and sensor recalibration as needed.

#### 2) Replace Existing Barber Coleman Control Systems

Replace existing Barber Coleman controllers associated with four (4) rooftop units, thirteen (13) exhaust fans, and five (5) cabinet heaters with new BACnet DDC controllers. Install a new comm bus as needed to connect all the new controllers to the building's JACE. Provide programming of sequences, graphics, trending, alarming, etc. to meet the contract requirements.

#### 3) Radiator Control Upgrade

Provide and install new DDC for twenty-nine (29) classroom radiators with existing electric controls. Each classroom radiator is currently equipped with an electric thermostat that controls one (1) valve and one (1) circulation pump. Provide and install new DDC two-way valves. New DDC Points List:

Radiator	AI	AO	DI	DO
Space Temperature	29			
Push Button Override			29	
Heating Valve		29		
Circulation Pump on/off				15
Circulation Pump Status			15	

#### 4) Fan Coil Unit Control Upgrade

Provide and install new DDC controls for three (3) fan coil units that serve the occupied offices with existing electric controls. Provide and install new valves. New DDC Points List:

Fan Coil Unit	AI	AO	DI	DO
Space Temperature	3			

Fan Coil Unit	AI	AO	DI	DO
Fan Start / Stop				3
Fan Status			3	
Push Button Override			3	
Heating Valve		3		

#### 5) <u>Unit Ventilator Control Upgrade</u>

Provide and install new DDC for eight (8) Unit Ventilators with existing pneumatic controls. Units have face and bypass control, no existing valves. Provide and install new DDC valves. New DDC Points List:

Unit Ventilator	AI	AO	DI	DO
Space Temperature	8			
Supply Temperature	8			
Fan Start / Stop				8
Freeze Stat			8	
Fan Status			8	
Heating Valve		8		
OA / RA Damper		8		
F&B Damper		8		

#### 6) Demand Control Ventilation

Provide demand control ventilation for the Cafeteria rooftop units with existing Barber Coleman controls. Add damper actuators, mixed air sensor, and CO<sub>2</sub> sensors as needed. For additional detail, please see ECM 3: Ventilation Upgrades below.

#### 7) <u>Self-Contained Control Upgrade</u>

Provide and install self-contained controls for ten (10) convectors and four (4) cabinet heaters serving hallways, entryways and other unoccupied areas. Thermostatic radiator valves shall be installed with remote bulb and locking cover. The cabinet heater fans shall be equipped with an aquastat fan controller. Implement reduced setpoint.

#### 8) Plug Load Controls

Provide Wi-Fi programmable plug load controllers to turn off equipment as per Table A-2.7 below.

PROPOSED PLUG LOAD CONTROLS			
Equipment	Jesse T. Zoller Elementary School		
Projector	5		
Medium Printer	11		
Charging Cart	1		
AC Unit	-		
Copier	1		
Hot/Cold Water Dispenser	-		

**Table A-2.7** 

#### Additional Scope Details:

- Program Wi-Fi plug load controllers to turn off equipment during unoccupied periods as described in Exhibit D-1 & D-2
- Customer IT Department will provide a reliable Wi-Fi network on which the Wi-Fi plug load controllers will be programmed and controlled

#### Dr. Martin Luther King Elementary School

#### 1) Retro-Commission Existing Schneider Electric Control Systems

Review the controls that will be installed as part of the District capital project and provide programming to update sequences of operation (primarily boiler plant changes, and discharge air reset programming on main AHUs), standardized setpoints and schedules, and sensor recalibration as needed.

#### 2) Replace Existing Barber Coleman Control Systems

Replace existing Barber Coleman controllers associated with the hot water boiler plant, three (3) rooftop units, three (3) reheat coils, six (6) heating and ventilation units, four (4) cabinet unit heaters, twenty-four (24) fin-tube radiators, nine (9) exhaust fans, and five (5) cabinet heaters with new BACnet DDC controllers. Install a new comm bus as needed to connect all the new controllers to the building's JACE. Provide programming of sequences, graphics, trending, alarming, etc. to meet the contract requirements.

#### 3) <u>Demand Control Ventilation</u>

Provide demand control ventilation for the Gymnatorium and Cafeteria. Add damper actuators, mixed air sensor, and CO<sub>2</sub> sensors as needed. For additional detail, please see ECM 3: Ventilation Upgrades below.

# 4) <u>Self-Contained Control Upgrade</u>

Provide and install self-contained controls for twenty-three (23) cabinet heaters serving hallways, entryways and other unoccupied areas. Thermostatic radiator valves shall be installed with remote bulb and locking cover. The cabinet heater fans shall be equipped with an aquastat fan controller. Implement reduced setpoint.

#### 5) Plug Load Controls

Provide Wi-Fi programmable plug load controllers to turn off equipment as per Table A-2.8 below.

PROPOSED PLUG LOAD CONTROLS				
Equipment	Dr. Martin Luther King Elementary School			
Projector	19			
Medium Printer	10			
Charging Cart	10			
AC Unit	-			
Copier	2			
Hot/Cold Water Dispenser	1			

*Table A-2.8* 

#### Additional Scope Details:

- Program Wi-Fi plug load controllers to turn off equipment during unoccupied periods as described in Exhibit D-1 & D-2
- Customer IT Department will provide a reliable Wi-Fi network on which the Wi-Fi plug load controllers will be programmed and controlled

#### **Paige Elementary School**

# 1) Install New N4 JACE Network Controller

Provide and install N4 JACE and integrate all DDC controls into the existing N4 Supervisor. Provide new graphics as well as new trending and alarming strategies.

#### 2) Retro-Commission Existing Schneider Electric Control Systems

Review the Schneider Electric controls that are installed in the new wing and provide programming to update sequences of operation (primarily boiler plant changes, and discharge air reset programming on main AHUs), standardized setpoints and schedules, and sensor recalibration as needed. – equipment includes: one (1) rooftop unit, five (5) reheat coils, one (1) cabinet unit heater, two (2) fin-tube radiators, and two (2) exhaust fans.

#### 3) Replace Existing Barber Coleman Control Systems

Replace existing Barber Coleman controllers associated with the hot water boiler plant, one (1) air handling unit, one (1) heating and ventilation unit, twelve (12) unit ventilators, four (4) unit heaters, nine (9) fin-tube radiators, and thirteen (13) exhaust fans with new BACnet DDC controllers. Install a new comm bus as needed to connect all the new controllers to the building's JACE. Provide programming of sequences, graphics, trending, alarming, etc. to meet the contract requirements.

#### 4) Hot Water 3-Way Mixing Valve Control Upgrade

Provide DDC retrofit of 3-way hot water mixing valve with existing pneumatic actuator. Remove existing pneumatic transducer and provide wiring to new DDC actuator. Reuse existing valve.

#### 5) Auditorium H&V Control Upgrade

Provide and install new DDC actuators for the H&V unit that serves the Auditorium. Provide and install new valve. Provide new CO<sub>2</sub> sensor for DCV scope listed below.

#### 6) Unit Ventilator Control Upgrade

Provide and install new DDC for four (4) Unit Ventilators with existing pneumatic controls. Units have face and bypass control. Provide and install new valves. New DDC Points List:

Unit Ventilator	AI	AO	DI	DO
Space Temperature	4			
Supply Temperature	4			
Fan Start / Stop				4
Freeze Stat			4	
Fan Status			4	
Heating Valve		4		
OA / RA Damper		4		
F&B Damper		4		

#### 7) Fin Tube Radiator Control Upgrade

Provide and install new DDC for sixteen (16) fin tube radiators with existing pneumatic controls. Provide and install new valves. New DDC Points List:

Radiator	AI	AO	DI	DO
Space Temperature	16			
Push Button Override			16	
Heating Valve		16		

#### 8) Main Entrance Controls Upgrade

Provide and install new DDC for one (1) cabinet unit heater and one (1) electric baseboard that serve the main entrance. Provide and install new valve.

#### 9) <u>Demand Control Ventilation</u>

Provide demand control ventilation for the Auditorium and Cafeteria. Add damper actuators, mixed air sensor, and CO<sub>2</sub> sensors as needed. For additional detail, please see ECM 3: Ventilation Upgrades below.

#### 10) Self-Contained Control Upgrade

Provide and install self-contained controls for three (3) convectors and four (4) cabinet heaters serving hallways, entryways and other unoccupied areas. Thermostatic radiator valves shall be installed with remote bulb and locking cover. The cabinet heater fans shall be equipped with an aquastat fan controller. Implement reduced setpoint.

#### 11) Plug Load Controls

Provide Wi-Fi programmable plug load controllers to turn off equipment as per Table A-2.9 below.

PROPOSED PLUG LOAD CONTROLS			
Equipment	Paige Elementary School		
Projector	15		
Medium Printer	3		
Charging Cart	4		
AC Unit	-		
Copier	-		

PROPOSED PLUG LOAD CONTROLS			
Equipment	Paige Elementary School		
Hot/Cold Water Dispenser	-		

*Table A-2.9* 

- Program Wi-Fi plug load controllers to turn off equipment during unoccupied periods as described in Exhibit D-1 & D-2
- Customer IT Department will provide a reliable Wi-Fi network on which the Wi-Fi plug load controllers will be programmed and controlled

#### **Pleasant Valley Elementary School**

#### 1) Install New N4 JACE Network Controller

Provide and install N4 JACE and integrate all equipment into the existing N4 Supervisor. Provide new graphics as well as new trending and alarming strategies.

#### 2) Retro-Commission Existing Schneider Electric Control Systems

Review the controls that will be installed as part of the District capital project and provide programming to update sequences of operation (primarily boiler plant changes, and discharge air reset programming on main AHUs), standardized setpoints and schedules, and sensor recalibration as needed.

# 3) Replace Existing Barber Coleman Control Systems

Replace existing Barber Coleman controllers associated with the steam boiler plant and eight (8) exhaust fans with new BACnet DDC controllers. Install a new comm bus as needed to connect all the new controllers to the building's JACE. Provide programming of sequences, graphics, trending, alarming, etc. to meet the contract requirements.

#### 4) Radiator Control Upgrade

Provide and install new DDC for approximately sixty-six (66) radiators with existing pneumatic controls. Provide and install new valves. New DDC Points List:

Radiator	AI	AO	DI	DO
Space Temperature	66			
Push Button Override			66	
Heating Valve		66		

#### 5) Self-Contained Control Upgrade

Provide and install self-contained controls for eleven (11) radiators serving hallways, entryways and other unoccupied areas. Thermostatic radiator valves shall be installed with remote bulb and locking cover. Implement reduced setpoint.

#### 6) Plug Load Controls

Provide Wi-Fi programmable plug load controllers to turn off equipment as per Table A-2.10 below.

PROPOSED PLUG LOAD CONTROLS			
Equipment	Pleasant Valley Elementary School		
Projector	2		
Medium Printer	1		
Charging Cart	7		
AC Unit	20		
Copier	1		
Hot/Cold Water Dispenser	-		

**Table A-2.10** 

- Program Wi-Fi plug load controllers to turn off equipment during unoccupied periods as described in Exhibit D-1 & D-2
- Customer IT Department will provide a reliable Wi-Fi network on which the Wi-Fi plug load controllers will be programmed and controlled

#### Van Corlaer Elementary School

1) Retro-Commission Existing Schneider Electric Control Systems

Review the Schneider Electric controls that were installed as part of the District capital project and provide programming to update sequences of operation (primarily boiler plant changes, and discharge air reset programming on main AHUs), standardized setpoints and schedules, and sensor recalibration as needed.

2) Demand Control Ventilation Control Upgrade

Provide demand control ventilation for the air handling units serving the Cafeteria. Add damper actuators, mixed air sensor, and CO<sub>2</sub> sensors as needed. For additional detail, please see ECM 3: Ventilation Upgrades below.

3) Outside Air Reduction

Provide programming and balancing to reduce the ventilation as per code requirements for the Gymnasium units with existing Schneider Electric controls. Units have new controls from phase 1 of capital project. For additional detail, please see ECM 3: Ventilation Upgrades below.

4) Plug Load Controls

Provide Wi-Fi programmable plug load controllers to turn off equipment as per Table A-2.11 below.

PROPOSED PLUG LOAD CONTROLS			
Equipment	Van Corlaer Elementary School		
Projector	16		
Medium Printer	6		
Charging Cart	9		
AC Unit	-		
Copier	1		
Hot/Cold Water Dispenser	-		

*Table A-2.11* 

# Additional Scope Details:

- Program Wi-Fi plug load controllers to turn off equipment during unoccupied periods as described in Exhibit D-1 & D-2
- Customer IT Department will provide a reliable Wi-Fi network on which the Wi-Fi plug load controllers will be programmed and controlled

#### Central Park Jr. High School

1) Install New N4 JACE Network Controller

Provide and install N4 JACE and integrate all equipment into the existing N4 Supervisor. Provide new graphics as well as new trending and alarming strategies.

2) Retro-Commission Existing Schneider Electric Control Systems

Review the Schneider Electric controls that were installed as part of the District capital project and provide programming to update sequences of operation (primarily boiler plant changes, and discharge air reset programming on main AHUs), standardized setpoints and schedules, and sensor recalibration as needed.

3) Plug Load Controls

Provide Wi-Fi programmable plug load controllers to turn off equipment as per Table A-2.12 below.

PROPOSED PLUG LOAD CONTROLS			
Equipment	Central Park Jr. High School		
Projector	12		
Medium Printer	16		
Charging Cart	13		
AC Unit	-		
Copier	2		
Hot/Cold Water Dispenser	-		

*Table A-2.12* 

- Program Wi-Fi plug load controllers to turn off equipment during unoccupied periods as described in Exhibit D-1 & D-2
- Customer IT Department will provide a reliable Wi-Fi network on which the Wi-Fi plug load controllers will be programmed and controlled

#### Mont Pleasant Jr. High School

- 1) Upgrade Existing JACE Network Controllers
  - Provide new graphics as well as new trending and alarming strategies. Upgrade software and licensing as needed for three (3) existing JACEs to be integrated into the N4 Supervisor.
- 2) Retro-Commission Existing Schneider Electric Control Systems
  - Review the controls that will be installed as part of the District capital project and provide programming to update sequences of operation (primarily boiler plant changes, and discharge air reset programming on main AHUs), standardized setpoints and schedules, and sensor recalibration as needed.
- 3) Replace Existing Barber Coleman Control Systems
  - Replace existing Barber Coleman controllers with new BACnet DDC controllers. Install a new comm bus as needed to connect all the new controllers to the building's JACE. Provide programming of sequences, graphics, trending, alarming, etc. to meet the contract requirements.
- 4) Plug Load Controls
  - Provide Wi-Fi programmable plug load controllers to turn off equipment as per Table A-2.13 below.

PROPOSED PLUG LOAD CONTROLS			
Equipment	Mont Pleasant Jr. High School		
Projector	33		
Medium Printer	23		
Charging Cart	25		
Smartboard	1		
AC Unit	-		
Copier	7		
Hot/Cold Water Dispenser	3		
TV/Monitor Display	2		

*Table A-2.13* 

#### Additional Scope Details:

- Program Wi-Fi plug load controllers to turn off equipment during unoccupied periods as described in Exhibit D-1 & D-2
- Customer IT Department will provide a reliable Wi-Fi network on which the Wi-Fi plug load controllers will be programmed and controlled

#### Oneida Jr. High School

1) Upgrade Existing JACE Network Controller

Provide new graphics as well as new trending and alarming strategies. Upgrade software and licensing as needed for one (1) existing JACE to be integrated into the N4 Supervisor.

2) Retro-Commission Existing Schneider Electric Control Systems

Review the Schneider Electric controls that were installed as part of the District capital project and provide programming to update sequences of operation (primarily boiler plant changes, and discharge air reset programming on main AHUs), standardized setpoints and schedules, and sensor recalibration as needed.

3) Plug Load Controls

Provide Wi-Fi programmable plug load controllers to turn off equipment as per Table A-2.14 below.

PROPOSED PLUG LOAD CONTROLS			
Equipment	Oneida Jr. High School		
Projector	48		
Medium Printer	13		
Charging Cart	12		
AC Unit	-		
Copier	1		
Hot/Cold Water Dispenser	1		

*Table A-2.14* 

#### Additional Scope Details:

- Program Wi-Fi plug load controllers to turn off equipment during unoccupied periods as described in Exhibit D-1 & D-2
- Customer IT Department will provide a reliable Wi-Fi network on which the Wi-Fi plug load controllers will be programmed and controlled

#### **Schenectady High School**

1) Install New N4 JACE Network Controllers

Provide and install N4 JACE and integrate all DDC controls into the existing N4 Supervisor. Provide new graphics as well as new trending and alarming strategies. Upgrade software and licensing as needed for three (3) existing JACEs to be integrated into the N4 Supervisor.

2) Retro-Commission Existing Schneider Electric Control Systems

Review the controls that will be installed as part of the District capital project and provide programming to update sequences of operation (primarily boiler plant changes, and discharge air reset programming on main AHUs), standardized setpoints and schedules, and sensor recalibration as needed.

3) Replace Existing Barber Coleman Electric Control Systems

Replace existing Barber Coleman controllers with new BACnet DDC controllers. Install a new comm bus as needed to connect all the new controllers to the building's JACE. Provide programming of sequences, graphics, trending, alarming, etc. to meet the contract requirements.

4) Replace Pneumatic Actuators with New DDC

Provide and install DDC actuators for nine (9) air handling units, five (5) rooftop units, and two (2) heating and ventilation units. Provide and install new valves. Include DDC actuators for all AHU zone dampers.

5) Unit Ventilator Control Upgrade

Provide and install DDC actuators for twenty-nine (29) unit ventilators. Provide and install new valves. New DDC Points List:

Unit Ventilator	AI	AO	DI	DO
Space Temperature	29			
Supply Temperature	29			
Fan Start / Stop				29

Unit Ventilator	AI	AO	DI	DO
Freeze Stat			29	
Fan Status			29	
Heating Valve		29		
OA / RA Damper		29		
F&B Damper		29		

#### 6) Radiator Control Upgrade

Provide and install new DDC for approximately fifty-nine (59) radiators with existing pneumatic controls. Provide and install new valves. New DDC Points List:

Radiator	AI	AO	DI	DO
Space Temperature	59			
Push Button Override			59	
Heating Valve		59		

#### 7) <u>Demand Control Ventilation Control Upgrade</u>

Provide demand control ventilation for the air handling units serving the Cafeteria (one (1) AHU and two (2) RTUs), Auditorium AHU, Theater RTU. Add damper actuators, mixed air sensor, and CO<sub>2</sub> sensors as needed. For additional detail, please see ECM 3: Ventilation Upgrades below.

#### 8) Outside Air Reduction

Provide programming and balancing to reduce the ventilation as per code requirements for the Auxiliary Gym RTU, Weight Room RTU, and Wrestling Room RTU with existing Schneider Electric controls. Unit will have new controls from the capital project. For additional detail, please see ECM 3: Ventilation Upgrades below.

# 9) <u>Self-Contained Control Upgrade</u>

Provide and install self-contained controls for forty-seven (47) convectors and five (5) cabinet heaters serving hallways, entryways and other unoccupied areas. Thermostatic radiator valves shall be installed with remote bulb and locking cover. The cabinet heater fans shall be equipped with an aquastat fan controller. Implement reduced setpoint.

# 10) Plug Load Controls

Provide Wi-Fi programmable plug load controllers to turn off equipment as per Table A-2.15 below.

PROPOSED PLUG LOAD CONTROLS			
Equipment	Schenectady High School		
Projector	108		
Medium Printer	51		
Charging Cart	32		
AC Unit	2		
Copier	8		
Hot/Cold Water Dispenser	5		

*Table A-2.15* 

#### Additional Scope Details:

- Program Wi-Fi plug load controllers to turn off equipment during unoccupied periods as described in Exhibit D-1 & D-2
- Customer IT Department will provide a reliable Wi-Fi network on which the Wi-Fi plug load controllers will be programmed and controlled

#### **Steinmetz Career & Leadership Academy**

#### 1) Install New N4 JACE Network Controller

Provide and install N4 JACE and integrate all DDC controls into the existing N4 Supervisor. Provide new graphics as well as new trending and alarming strategies.

#### 2) Replace Existing Barber Coleman Control Systems

Replace existing Barber Coleman controllers associated with the hot water boiler plant, three (3) air handling units, four (4) heating and ventilation units, one (1) energy recovery unit, two (2) fan coil units, and fourteen (14) exhaust fans with new BACnet DDC controllers. Install a new comm bus as needed to connect all the new controllers to the building's JACE. Provide programming of sequences, graphics, trending, alarming, etc. to meet the contract requirements.

#### 3) H&V Control Upgrade

Provide and install new DDC actuators for the H&Vs units and six (6) associated reheat coils that serves the Gym, Cafeteria and Band Room. Provide and install new valves. Provide new CO<sub>2</sub> sensor for DCV scope listed below.

#### 4) Main Office Reheat Coil Control Upgrade

Provide and install new DDC actuators for the four (4) reheat coils associated with the Main Office energy recovery unit. Provide and install new valves. Equipment has existing Schneider Electric DDC-over-pneumatic controls.

#### 5) Radiator Control Upgrade

Provide and install new DDC for fifty-three (53) fin tube radiators serving classrooms and offices. Provide and install new valves. New DDC Points List:

Radiator	AI	AO	DI	DO
Space Temperature	53			
Push Button Override			53	
Heating Valve		53		

#### 6) Exhaust Fan Control Upgrade

Provide and install new DDC for four (4) exhaust fans. New DDC Points List:

Exhaust Fan	AI	AO	DI	DO
Fan Start/Stop				4
Fan Status			4	

#### 7) <u>Demand Control Ventilation Control Upgrade</u>

Provide demand control ventilation for the air handling units serving the Gymnatorium. Add damper actuators, mixed air sensor, and CO<sub>2</sub> sensors as needed. The Gymnatorium can be divided into quadrants and will need four (4) CO<sub>2</sub> sensors. For additional detail, please see ECM 3: Ventilation Upgrades below.

#### 8) Self-Contained Control Upgrade

Provide and install self-contained controls for eighteen (18) convectors and thirteen (13) cabinet heaters serving hallways, entryways and other unoccupied areas. Thermostatic radiator valves shall be installed with remote bulb and locking cover. The cabinet heater fans shall be equipped with an aquastat fan controller. Implement reduced setpoint.

#### 9) Plug Load Controls

Provide Wi-Fi programmable plug load controllers to turn off equipment as per Table A-2.16 below.

PROPOSED PLUG LOAD CONTROLS				
Equipment	Steinmetz Career & Leadership Academy			
Projector	21			
Medium Printer	20			
Charging Cart	2			
AC Unit	-			

PROPOSED PLUG LOAD CONTROLS			
Equipment	Steinmetz Career &		
Equipment	Leadership Academy		
Copier	2		
Hot/Cold Water Dispenser	-		

*Table A-2.16* 

- Program Wi-Fi plug load controllers to turn off equipment during unoccupied periods as described in Exhibit D-1 & D-2
- Customer IT Department will provide a reliable Wi-Fi network on which the Wi-Fi plug load controllers will be programmed and controlled

#### **Washington Irving Educational Center**

#### 1) Install New N4 JACE Network Controller

Provide and install N4 JACE and integrate all DDC controls into the existing N4 Supervisor. Provide new graphics as well as new trending and alarming strategies.

#### 2) Replace Existing Barber Coleman Control Systems

Replace existing Barber Coleman controllers associated with the steam boiler plant with new BACnet DDC controllers. Install a new comm bus as needed to connect all the new controllers to the building's JACE. Provide programming of sequences, graphics, trending, alarming, etc. to meet the contract requirements.

#### 3) Radiator Control Upgrade

Provide and install new DDC for fifty-four (54) radiators serving classrooms and offices. Provide and install new valves. New DDC Points List:

Radiator	AI	AO	DI	DO
Space Temperature	54			
Push Button Override			54	
Heating Valve		54		

#### 4) Fan Coil Unit Control Upgrade

Provide and install new DDC controls for two (2) fan coil units that serve the Auditorium with existing Barber Coleman controls. Provide and install new valves. New DDC Points List:

Fan Coil Unit	AI	AO	DI	DO
Space Temperature	2			
Fan Start / Stop				2
Fan Status			2	
Push Button Override			2	
Heating Valve		2		

#### 5) Exhaust Fan Control Upgrade

Provide and install new DDC for three (3) exhaust fans. New DDC Points List:

Exhaust Fan	AI	AO	DI	DO
Fan Start/Stop				3
Fan Status			3	

#### 6) Self-Contained Control Upgrade

Provide and install self-contained controls for seventeen (17) convectors serving hallways, entryways and other unoccupied areas. Thermostatic radiator valves shall be installed with remote bulb and locking cover. Implement reduced setpoint.

#### 7) Plug Load Controls

Provide Wi-Fi programmable plug load controllers to turn off equipment as per Table A-2.17 below.

PROPOSED PLUG LOAD CONTROLS				
Equipment	Washington Irving Educational Center			
Projector	14			
Medium Printer	9			
Charging Cart	-			
AC Unit	25			
Copier	4			
Hot/Cold Water Dispenser	1			
TV/Monitor Display	3			

**Table A-2.17** 

#### Additional Scope Details:

- Program Wi-Fi plug load controllers to turn off equipment during unoccupied periods as described in Exhibit D-1 & D-2
- Customer IT Department will provide a reliable Wi-Fi network on which the Wi-Fi plug load controllers will be programmed and controlled

#### **Fulton Early Childhood Center**

#### 1) Install New N4 JACE Network Controller

Provide and install N4 JACE and integrate all DDC controls into the existing N4 Supervisor. Provide new graphics as well as new trending and alarming strategies.

#### 2) Replace Existing Barber Coleman Control Systems

Replace existing Barber Coleman controllers associated with the steam boiler plant, one (1) heat exchanger and corresponding pumps with new BACnet DDC controllers. Install a new comm bus as needed to connect all the new controllers to the building's JACE. Provide programming of sequences, graphics, trending, alarming, etc. to meet the contract requirements.

#### 3) H&V Control Upgrade

Provide and install new DDC for the H&V unit that serves the Gym and three (3) adjacent zones. Equipment has existing Barber Coleman DDC-over-pneumatic controls. Reuse existing hot water valve. New DDC Points List:

Heating and Ventilation Unit	AI	AO	DI	DO
Zone Space Temperature	4			
Zone Discharge Temperature	4			
Zone Mixing Damper		4		
Supply Fan Start / Stop				1
Supply Fan Status			1	
Freeze Stat			1	
Heating Valve		1		
Coil Pump Start/Stop				1
Coil Pump Status			1	
Hot Deck Supply Temperature	1			

Heating and Ventilation Unit	AI	AO	DI	DO
Cold Deck Supply Temperature	1			
OA / RA Damper		1		

# 4) <u>Unit Ventilator Control Upgrade</u>

Provide and install new DDC for one (1) Unit Ventilator with existing pneumatic controls. Provide and install new valve. New DDC Points List:

Unit Ventilator	AI	AO	DI	DO
Space Temperature	1			
Supply Temperature	1			
Fan Start / Stop				1
Freeze Stat			1	
Fan Status			1	
Heating Valve		1		
OA / RA Damper		1		
F&B Damper		1		

# 5) Fin Tube Radiator Control Upgrade

Provide and install new DDC for seventeen (17) fin tube radiators serving classrooms and offices. Provide and install new valves. New DDC Points List:

Radiator	AI	AO	DI	DO
Space Temperature	17			
Push Button Override			17	
Heating Valve		17		

#### 6) Self-Contained Control Upgrade

Provide and install self-contained controls for twelve (12) convectors and three (3) cabinet heaters serving hallways, entryways and other unoccupied areas. Thermostatic radiator valves shall be installed with remote bulb and locking cover. The cabinet heater fans shall be equipped with an aquastat fan controller. Implement reduced setpoint.

# 7) Plug Load Controls

Provide Wi-Fi programmable plug load controllers to turn off equipment as per Table A-2.18 below.

PROPOSED PLUG LOAD CONTROLS				
Equipment	Fulton Early Childhood Center			
Projector	5			
Medium Printer	2			
Charging Cart	7			
AC Unit	-			
Copier	2			
Hot/Cold Water Dispenser	-			

*Table A-2.18* 

#### Additional Scope Details:

 Program Wi-Fi plug load controllers to turn off equipment during unoccupied periods as described in Exhibit D-1 & D-2 • Customer IT Department will provide a reliable Wi-Fi network on which the Wi-Fi plug load controllers will be programmed and controlled

# **ECM 3: Ventilation Upgrades**

#### A. <u>DEMAND CONTROL VENTILATION:</u>

	I	PROPOS	SED DCV UPGRA	DES
Building	Unit Type	Unit Qty	Area Served	Install Motor VFD(s)
Hamilton Elementary School	RTU	1	Gymnatorium	No
Woodlawn Flamentamy School	RTU	2	Gymnasium	No
Woodlawn Elementary School	RTU	1	Cafetorium	No
	AHU	1	Gymnasium	No
Yates Elementary School	AHU	1	Auditorium	No
	RTU	1	Cafeteria	No
Jesse T. Zoller Elementary School	RTU	2	Cafeteria	No
Do Martin Lather Vine Elementers Calcal	H&V	2	Gymnatorium	No
Dr. Martin Luther King Elementary School	RTU	1	Cafeteria	No
Deign Elementers Calcal	AHU	1	Auditorium	No
Paige Elementary School	AHU	1	Cafeteria	No
Van Corlaer Elementary School	AHU	1	Cafeteria	No

	AHU	1	Auditorium	No
Schenectady High School	AHU/RTU	1/2	Cafeteria	No
	RTU	1	Theater	No
Steinmetz Career & Leadership Academy	H&V	2	Gymnatorium	No

*Table A-3.1* 

# Scope of Work

- 1) Furnish and install CO<sub>2</sub> sensors in the spaces identified in Table A-3.1 above
- 2) Provide one (1) CO<sub>2</sub> sensor to record outdoor air CO<sub>2</sub> levels at each location
- 3) Outdoor air damper in the units will be modulated based on the CO<sub>2</sub> levels in the space as indexed to the outdoor air CO<sub>2</sub>
- 4) Provide startup, testing and commissioning

#### B. OUTSIDE AIR VOLUME REDUCTION:

	PROPOSED OA REDUCTIONS							
Building	Unit Type	Unit Qty	Area Served					
Van Corlaer Elementary School	AHU	2	Gymnasium					
	RTU	1	Auxiliary Gymnasium					
Schenectady High School	RTU	1	Wrestling Room					
	RTU	1	Weight Room					

*Table A-3.2* 

# Scope of Work

- 1) Provide air balancing for the units listed in Table A-3.2 above to reduce outside air flowrates to the minimum allowed by the 2015 International Mechanical Code
- 2) Re-start units, and provide testing and commissioning

# **ECM 4: Building Envelope Improvements**

The following facilities will be upgraded as part of this project:

Bui	lding
Hamilton Elementary School	Van Corlaer Elementary School
Howe Elementary School	Central Park Jr. High School
Lincoln Elementary School	Mont Pleasant Jr. High School
Woodlawn Elementary School	Oneida Jr. High School
Yates Elementary School	Schenectady High School
Jesse T. Zoller Elementary School	Steinmetz Career & Leadership Academy
Dr. Martin Luther King Elementary School	Washington Irving Educational Center
Paige Elementary School	Fulton Early Childhood Center
Pleasant Valley Elementary School	

*Table A-4.1* 

# **Scope of Work:**

- 1) Honeywell shall provide all equipment, materials and labor to implement the building envelope improvements detailed below for the buildings listed in Tables A-4.2, A-4.3, and A-4.4; all linear footages and square footages shown are approximate values
- 2) Coordinate all retrofit activities with all building personnel to minimize disruptions
- 3) No painting, patching, door, door operator, or floor repair is included, unless otherwise damaged by Honeywell during installation

Building	Caulking (Linear Ft)	Door Weather Stripping – Double (Units)	Door Weather Stripping – Single (Units)
Hamilton Elementary School	-	-	27
Howe Elementary School	34	6	9
Lincoln Elementary School	12,418	-	12
Woodlawn Elementary School	1,166	-	19
Yates Elementary School	8,600	4	9
Jesse T. Zoller Elementary School	529	12	17
Dr. Martin Luther King Elementary School	-	7	20
Paige Elementary School	361	11	4
Pleasant Valley Elementary School	12,203	4	4
Van Corlaer Elementary School	6,972	5	9
Central Park Jr. High School	12,281	8	17
Mont Pleasant Jr. High School	17,726	25	22
Oneida Jr. High School	22,675	9	5
Schenectady High School	-	34	56
Steinmetz Career & Leadership Academy	3,060	7	14
Washington Irving Educational Center	-	3	6
Fulton Early Childhood Center	657	4	4

*Table A-4.2* 

Building	Door Weather Stripping – Overhead (Units)	Roof Wall Intersection Air Sealing (Linear Ft)	Wall Air Sealing (Linear Ft)
Hamilton Elementary School	-	-	-
Howe Elementary School	-	205	-
Lincoln Elementary School	-	-	-
Woodlawn Elementary School	1	524	-
Yates Elementary School	-	-	-
Jesse T. Zoller Elementary School	-	464	368
Dr. Martin Luther King Elementary School	-	-	5
Paige Elementary School	-	363	-
Pleasant Valley Elementary School	-	-	-
Van Corlaer Elementary School	-	-	-
Central Park Jr. High School	-	158	-
Mont Pleasant Jr. High School	3	366	30
Oneida Jr. High School	-	527	-
Schenectady High School	1	2,274	-
Steinmetz Career & Leadership Academy	-	637	-
Washington Irving Educational Center	-	-	144
Fulton Early Childhood Center	-	-	-

*Table A-4.3* 

Building	AC Sealing (Units)	Window Weatherization (Linear Ft)	Buck Frame Air Sealing (Linear Ft)	Overhang Air Sealing (Linear Ft)
Hamilton Elementary School	22	-	-	-
Howe Elementary School	-	-	-	-
Lincoln Elementary School	1	-	-	-
Woodlawn Elementary School	-	-	-	-
Yates Elementary School	1	-	-	-
Jesse T. Zoller Elementary School	-	-	72	-
Dr. Martin Luther King Elementary School	-	406	-	1,124
Paige Elementary School	-	-	9	-
Pleasant Valley Elementary School	-	-	-	-
Van Corlaer Elementary School	-	-	-	-
Central Park Jr. High School	2	18	108	-
Mont Pleasant Jr. High School	-	-	-	-
Oneida Jr. High School	-	-	-	-
Schenectady High School	-	-	-	-
Steinmetz Career & Leadership Academy	-	154	912	24
Washington Irving Educational Center	-	-	-	-
Fulton Early Childhood Center	1	1,679	-	-

Table A-4.4

# **ECM 5: Pipe Insulation**

# Scope of Work:

- 1) Install pipe insulation as detailed in Table A-5.1, A-5.2, A-5.3, and A-5.4 below; the equivalent linear footages shown are approximate values
- 2) Insulation is based on having a conductivity (k) not exceeding 0.27 BTU per inch/hr·ft².°F

3) Insulation will be in conformance with the Energy Conservation Construction Code of New York State in effect as of the date of contract signature

	Equivalent Linear Feet of Pipe [ft.] per Pipe Diameter Size [in]										
			HEA	TING H	OT WA	TER					
Building	14" +	10"	8"	6"	5"	4"	3"	2.5"	2"	1.5"	1"
Hamilton Elementary School	11.0	-	-	47.5	-	-	ı	188.4	-	-	-
Howe Elementary School	16.5	-	-	-	88.1	64.0	-	-	-	-	-
Woodlawn Elementary School	15.8	8.0	-	-	47.3	61.2	-	-	-	-	-
Yates Elementary School	17.7	-	5.4	24.6	-	232.6	ı	10.2	-	-	ı
Jesse T. Zoller Elementary School	ı	-	-	-	15.9	181.4	9.5	-	45.1	-	ı
Dr. Martin Luther King Elementary School	17.7	-	ı	-	ı	90.2	ı	8.2	-	-	ı
Paige Elementary School	23.7	-	3.0	-	-	63.0	4.1	-	-	4.1	ı
Pleasant Valley Elementary School	19.5	-	ı	-	ı	84.3	1	-	-	-	1
Central Park Jr. High School	-	-	-	11.3	-	38.6	-	143.8	-	-	ı
Mont Pleasant Jr. High School	72.1	10.0	11.3	128.7	-	203.8	15.9	8.2	-	-	ı
Oneida Jr. High School	54.2	-	ı	25.5	ı	ı	108.6	170.8	6.0	80.9	1
Schenectady High School	27.8	-	83.9	132.0	-	84.0	ı	4.1	-	-	ı
Steinmetz Career & Leadership Academy	-	-	-	42.4	-	119.8	22.5	-	-	-	-
Fulton Early Childhood Center	4.7	-	-	1.8	-	-	27.8	-	-	5.6	22.2

*Table A-5.1* 

Equivalent Lines	Equivalent Linear Feet of Pipe [ft.] per Pipe Diameter Size [in]										
STEAM											
Building	14" +	8"	6"	5"	4"	3"	2"	1.5"	1"		
Lincoln Elementary School	-	-	5.4	-	-	4.8	-	-	-		
Pleasant Valley Elementary School	-	11.6	-	5.0	49.0	-	-	-	-		
Van Corlaer Elementary School	-	-	17.2	62.6	-	19.2	10.0	-	14.1		
Washington Irving Educational Center	-	-	125.6	-	77.0	-	-	-	-		
Fulton Early Childhood Center	3.6	3.6	6.8	10.8	-	2.8	-	-	44.2		

*Table A-5.2* 

Equivalent Linear Feet of Pipe [ft.] per Pipe Diameter Size [in]											
CONDENSATE											
Building	14" +	10"	8"	6"	4"	3"	2.5"	2"	1.5"	1"	0.75"
Lincoln Elementary School	96.6	-	-	-	-	-	15.8	82.0	67.2	191.8	68.8
Pleasant Valley Elementary School	36.0	-	-	3.8	1.8	-	34.2	202.6	111.0	16.1	29.4
Van Corlaer Elementary School	34.5	-	1	1	30.4	ı	7.8	34.6	106.6	17.3	31.8

	Equivalent Linear Feet of Pipe [ft.] per Pipe Diameter Size [in]										
CONDENSATE											
Building	14" +	10"	8"	6"	4"	3"	2.5"	2"	1.5"	1"	0.75"
Washington Irving Educational Center	70.7	10.0	-	-	-	107.8	-	67.6	15.8	260.0	27.0
Fulton Early Childhood Center	34.6	-	8.0	-	16.2	-	-	29.9	33.2	371.2	-

*Table A-5.3* 

	MINIMUM PIPE INSULATION (thickness in inches)												
FLUID	INSULATION C	ONDUCTIVITY	NON	IINAL	PIPE D	IAME	ΓER						
OPERATING TEMPERATURE RANGE	Conductivity Btu-in./(h-ft²-°F)	Mean Rating Temperature, °F	≤1.0 <b>"</b>	1.0" to < 1.5"	1.5" to < 4.0"	4.0" to < 8.0"	≥ 8.0"						
>350°F	0.32-0.34	250	4.5	5.0	5.0	5.0	5.0						
251°F - 350°F	0.29-0.32	200	3.0	4.0	4.5	4.5	4.5						
201°F - 250°F	0.27-0.30	150	2.5	2.5	2.5	3.0	3.0						
141°F - 200°F	0.25-0.29	125	1.5	1.5	2.0	2.0	2.0						
105°F - 140°F	0.22-0.28	100	1.0	1.0	1.5	1.5	1.5						

*Table A-5.4* 

# **ECM 6: Steam Trap Retrofit**

# Scope of Work:

- 1) Replacement/retrofit of steam traps listed in Table A-6.1 below
- 2) Thermostatic steam traps shall be rebuilt with new inserts and new caps; any thermostatic steam traps that cannot be rebuilt will be replaced with a new trap
- 3) Float & thermostatic steam traps shall be rebuilt with new internal components; any float & thermostatic steam traps that cannot be rebuilt will be replaced with a new trap
- 4) Steam traps associated with new heat exchangers and air handling units are excluded
- 5) Isolation valves, check valves and associated piping are assumed to be in good working order and replacement, or repair is excluded

	STEAM TRAP QUANTITIES					
Building	Thermostatic Traps	F&T or Bucket Traps				
Lincoln Elementary School	96	7				
Van Corlaer Elementary School	65	25				
Washington Irving Educational Center	78	34				
Fulton Early Childhood Center	21	9				

*Table A-6.1* 

# **ECM 7: Computer Power Management**

Building	Desktop Computer Count
District Wide	3,200
TOTAL	3,200

*Table A-7.1* 

Device Management Policies									
Day	Time	Display Timeout	CPU Timeout						
	12:00a – 7:30a	15 minutes idle	30 minutes idle						
Monday – Friday	7:30a – 4:00p	20 minutes idle	120 minutes idle						
	4:00p – 12:00a	15 minutes idle	30 minutes idle						
Saturday – Sunday	12:00a – 12:00a	15 minutes idle	30 minutes idle						

*Table A-7.2* 

#### Scope of Work:

- 1) Furnish three thousand two hundred (3,200) licenses for Verdiem Surveyor software, or equivalent
- 2) Honeywell shall provide a price proposal for additional licenses requested by Customer
- 3) Honeywell will work with the Customer to provide technical assistance to expedite the installation of the new software; the Customer shall install the software and push it down to the end-user machines
- 4) Furnish one (1) year of software maintenance; Customer to work directly with Verdiem (or equivalent software vendor) on any on-going support, maintenance issues, or software upgrades during this period
- 5) No new servers, network device hardware or upgrades are included
- 6) Verdiem software is provided subject to the terms and conditions in the Verdiem Software License

#### **Exclusions:**

- a) Installation of the Verdiem Surveyor software
- b) Any computer BIOS or other software modifications for the Verdiem Surveyor software to operate properly

# **ECM 8: Boiler Replacement**

	PROPOSED STEAM BOILERS									
Building	Boiler	Boiler	Qty	Input (Each)	Fuel	Burner	Burner			
	Make	Model	Qty	input (Eacil)	ruci	Make	Model			
Washington Irving	Weil	LGB-16-S	2	1,950 MBH	Natural	Inte	ara1			
Educational Center	McLain	LGB-10-3	2	1,930 MD11	Gas	THIC	giai			

**Table A-8.1** 

#### Scope of Work

- 1) Disconnect piping, fuel lines, power and control wiring from existing steam boilers
- 2) Remove and dispose of all asbestos containing materials within the Boiler Room; scope of work is confined to the immediate Boiler Room area only, rooms attached to the Boiler Room are not included
- 3) Remove and dispose of two (2) existing steam boilers including associated breeching and piping back to the main trunk and header valves
- 4) Remove and dispose of two (2) condensate tanks
- 5) Furnish and install boilers and burners as shown in Table A-8.1 above
- 6) Furnish and install new condensate return/feedwater system
- 7) Furnish and install power wiring and reconnection of existing control wiring
- 8) Rigging and setting in place the new equipment
- 9) Reuse existing concrete housekeeping pad
- 10) Reuse existing boiler venting
- 11) Reconnect steam and condensate piping
- 12) Furnish and install power wiring and re-connection of exiting control wiring
- 13) Furnish and install pipe insulation on new piping
- 14) Connect natural gas piping to the new boiler burners
- 15) Provide startup, testing and commissioning

# **ECM 9: Pool Water Heater Replacement**

		PROPOSED POOL WATER HEATER									
Building	Heater Make	Heater Model	Qty	Input (Each)	Fuel	Burner Make	Burner Model				
Schenectady High School	Lochinvar	APN850	1	850 MBH	Natural Gas	Inte	gral				

**Table A-9.1** 

# Scope of Work

- 1) Disconnect piping, fuel lines, power and control wiring from existing pool water heater
- 2) Demolish and legally dispose of the existing pool water heater
- 3) Furnish and install high efficiency condensing pool water heater and burners as per Table A-9.1 above
- 4) Furnish and install power wiring and reconnection of existing control wiring
- 5) Furnish and install new pool water heat exchanger
- 6) Rigging and setting in place the new equipment
- 7) Reuse existing concrete housekeeping pad
- 8) Furnish and install new AL29-4C double wall stack venting per manufacturer's requirements for condensing pool water heater
- 9) Furnish and install power wiring and reconnection of exiting control wiring
- 10) Reconnect to pool water heating header
- 11) Furnish and install pipe insulation on new piping
- 12) Connect natural gas piping to the new pool water heater burner
- 13) Provide startup, testing and commissioning

# **ECM 10: Air Handling Unit Replacement**

Building	PROPOSED AIR HANDLING UNITS									
Dunuing	Area Served	Make	Model	Qty	Type	Capacity				
	Gymnasium	Daiken	CAH030GHGC	2.	Hot Water	20,000 CFM Each				
Steinmetz	Gymnasium	Daikeii	CAHOSOGIIGC	2	110t Water	1,933 MBH Each				
Career &	Band Room Daiker		CAH010GHGC	1	Hot Water	4,000 CFM				
Leadership	Dana Kooni	Daikeii	CAROTOGRAC	1	not water	399 MBH				
Academy	Cafeteria	Daiken	CAH010GHGC	1	Hot Water	5,000 CFM				
	Caleteria	Daiken	CARUIOURUC	1	not water	510 MBH				

**Table A-10.1** 

# Scope of Work

- 1) Disconnect piping, duct, wiring and control connections to the existing Air Handling Units
- 2) Remove and dispose of asbestos containing materials on 1-1/2" piping on two (2) Gymnasium Air Handling Units (HV-1 and HV-2); this work will consist of approximately three (3) minor size tents with up to eight (8) fittings in each tent
- 3) Remove and dispose of existing Air Handling Units
- 4) Provide new Air Handling Units per Table A-10.1 above
- 5) Rigging and setting in place of all new equipment
- 6) Reconnect existing piping, wiring and ducts to the new Air Handling Units
- 7) Modifications to existing duct work are limited to making Air Handling Unit connections; no new ductwork downstream is included
- 8) Provide insulation on new piping and on adjacent piping damaged during construction
- 9) Provide start up, testing and commissioning

# PART 2 – GENERAL

#### A. GENERAL CONDITIONS

- 1. Honeywell is not responsible for bringing existing lighting/electrical systems up to code.
- 2. A five (5) year warranty will be provided by the lamp manufacturer. The five (5) year warranty on the lamps operates by the Customer sending the old ballasts back to the manufacturer and in return a new ballast will be provided to be installed by the Customer's work force.
- 3. If Honeywell encounters any materials or substances classified as toxic or hazardous in performance of the Work, including asbestos, Honeywell will notify Customer and will stop work in that area until such area has been made safe by the Customer, or Customer's Representative, at Customer's expense. In the event such conditions cause a delay in Honeywell's performance, Honeywell shall be entitled to recovery of all costs associated with such delay, as well as an extension of time of performance.
- 4. Where demolition of certain areas of a building are required for removal and installation of equipment and that demolition is included in the scope of work defined herein, Honeywell will make every effort to replace such areas with similar materials as available. If such materials are not available, materials of similar quality will be supplied and installed.
- 5. Electrical: Honeywell will only be responsible for repairing existing electrical wiring problems that occur within three feet (36 inches) of the device being installed or the nearest wall or ceiling penetration, whichever is smaller.
- 6. Piping: Honeywell will only be responsible for repairing existing piping problems that occur within two feet (24 inches) of the device being installed or the nearest wall or ceiling penetration, whichever is smaller. Piping includes, but is not limited to, domestic hot and cold water, cooling cold water, heating hot water, condensate, fuel oil, and cooling tower condensing water.
- 7. Routine Maintenance: Routine maintenance such as vacuuming, coil cleaning and filter change of air handling devices, etc. is the responsibility of the Customer, or as included in Attachment D.
- 8. Utility Meter: If new utility meters are required, provision and coordination of utility meters is the responsibility of the customer.
- 9. Remote Access: CUSTOMER is responsible for implementation and costs for remote Honeywell access through CUSTOMER's firewall(s) to the controllers and front-end computer(s) by one (1) remote user designated by Honeywell using one or more of the following processes:
  - TCP/IP Remote Access: A dedicated static IP address, installation and on-going maintenance and subscription and licensing fees for access hardware and software and one (1) station license dedicated to the remote user, or
  - Phone Lines: To be provided by customer for off-site monitoring, up to two (2) lines for each front end, as needed, one (1) line for each separate remote bus, as well as on-going maintenance of the lines.

If remote access is interrupted, at any time during the Guarantee Term, Honeywell reserves the right to suspend any reporting requirements until remote access has been restored.

- 10. Efficiency Values: Honeywell will install equipment and lighting components (hereto referred as "equipment") under the scope described herein with specific energy and water efficiency values. The customer is required to replace any failed "equipment" no longer warranted by Honeywell or a Honeywell subcontractor, with "equipment" of equal or greater efficiency for the full contract guarantee term.
- 11. Limitation of Liability Security Systems, Fire Alarm Systems and/or Components Honeywell's total liability for damages of any kind or nature arising out of or relating to any aspect or component of the security or fire alarm systems and/or components provided under this Agreement is limited to \$100,000.
- 12. Honeywell will provide information necessary to apply for utility incentives. Actual dollar amount of incentive will be determined by the Utility and is not guaranteed by Honeywell.
- 13. The following areas are specifically excluded from this scope of work. Correction of problems in these areas, if required by Federal, State or local law or ordinance, will be considered additional work and will be chargeable (with approval) to the Customer.
  - a. Any work not specifically stated and outlined in this scope of work.
  - b. Painting and patching of areas beyond those areas directly related to work.

- c. Existing non-code conditions (examples: existing electrical wiring which requires correction or approval by appropriate inspectors, existing penetrations in need of fire stopping, etc.).
- 14. Extended Warranties or Service Plans: Honeywell will transfer to the Customer manufacturer warranties and service plans to the extent they extend beyond the one year Honeywell warranty. Following the one year Honeywell warranty the Customer will contact the manufacturer directly for warranty or service issues. Honeywell does not guarantee that the manufacturer or service provider will be available throughout the term of the manufacturer's warranty.

# B. RELATED WORK SPECIFIED ELSEWHERE

1. Provision of equipment, material, and labor to provide functional measurement and verification systems coordinated under Attachment D – Guarantee and Support Services Agreement.

# ATTACHMENT C INSTALLATION SCHEDULE

The Installation Schedule showing the achievement of all major project responsibilities included in the Scope of Work is inserted behind this cover page.	milestones,	tasks	and	associated

# Attachment C - Project Schedule Schenectady City School District

ID	0	Task Name	Duration	Start	Finish	2021 2022
1	<u>.</u>	SED Approval and Financing Close	0 days	Thu 12/31/20	Thu 12/31/20	u e Oct o e Jan e MarApr a Jun Jul u e Oct o e Jan e MarApr
2		ECM 1 - LED Lighting and Lighting Control Upgrades	278 days	Tue 3/2/21	Thu 3/24/22	
3	<b>1</b>	Schenectady Hgh School	45 days	Tue 3/2/21	Mon 5/3/21	· · · · · · · · · · · · · · · · · · ·
4		Cental Park Jr. High School	25 days	Tue 5/4/21	Mon 6/7/21	
5		Mont Pleasant Jr. High School	25 days	Tue 6/8/21	Mon 7/12/21	
6		Oneida Jr. High School	25 days	Tue 7/13/21	Mon 8/16/21	
7		Steinmetz Career & Leadership Academy	19 days	Tue 8/17/21	Fri 9/10/21	
8		Hamilton Elementary	12 days	Mon 9/13/21	Tue 9/28/21	
9		Howe Elementary	10 days	Wed 9/29/21	Tue 10/12/21	
10		Lincoln Elementary	13 days	Wed 10/13/21	Fri 10/29/21	
11		Woodlawn Elementary	14 days	Mon 11/1/21	Thu 11/18/21	
12		Yates Elementary	14 days	Fri 11/19/21	Wed 12/8/21	
13		Jesse T. Zoller Elementary	10 days	Thu 12/9/21	Wed 12/22/21	
14		Dr. Martin Luther King Elementary	11 days	Thu 12/23/21	Thu 1/6/22	
15		Paige Elementary	14 days	Fri 1/7/22	Wed 1/26/22	
16		Pleasant Valley Elementary	12 days	Thu 1/27/22	Fri 2/11/22	
17		Van Corlaer Elementary	12 days	Mon 2/14/22	Tue 3/1/22	
18		Washington Irving Educational Center	9 days	Wed 3/2/22	Mon 3/14/22	
19		Fulton Early Childhood Center	8 days	Tue 3/15/22	Thu 3/24/22	
20		ECM 2 - Building Management System Upgrades	297 days	Mon 2/1/21	Tue 3/22/22	
21	111	Schenectady Hgh School	50 days	Mon 2/1/21	Fri 4/9/21	
22		Cental Park Jr. High School	10 days	Mon 4/12/21	Fri 4/23/21	<u> </u>
23		Mont Pleasant Jr. High School	17 days	Mon 4/26/21	Tue 5/18/21	
24		Oneida Jr. High School	16 days	Wed 5/19/21	Wed 6/9/21	
25		Steinmetz Career & Leadership Academy	17 days	Thu 6/10/21	Fri 7/2/21	
26		Hamilton Elementary	18 days	Mon 7/5/21	Wed 7/28/21	
27		Howe Elementary	10 days	Thu 7/29/21	Wed 8/11/21	
28		Lincoln Elementary	18 days	Thu 8/12/21	Mon 9/6/21	
29		Woodlawn Elementary	16 days	Tue 9/7/21	Tue 9/28/21	
30		Yates Elementary	18 days	Wed 9/29/21	Fri 10/22/21	
31		Jesse T. Zoller Elementary	20 days	Mon 10/25/21	Fri 11/19/21	
32		Dr. Martin Luther King Elementary	16 days	Mon 11/22/21	Mon 12/13/21	
33		Paige Elementary	16 days	Tue 12/14/21	Tue 1/4/22	
34		Pleasant Valley Elementary	18 days	Wed 1/5/22	Fri 1/28/22	
35		Van Corlaer Elementary	9 days	Mon 1/31/22	Thu 2/10/22	
36		Washington Irving Educational Center	15 days	Fri 2/11/22	Thu 3/3/22	
37		Fulton Early Childhood Center	13 days	Fri 3/4/22	Tue 3/22/22	
38		ECM 3 - Ventilation Upgrades	224 days	Mon 4/12/21	Thu 2/17/22	
		Task	Milestor	ne 🔷		External Tasks
		- Project Schedule City School District Split	 ,,,,,,, Summa	ry 🖵		External Milestone ♦
	-	Progress	Project	Summary 🖵		<b>Deadline</b>
		Project Schedul	e will be adjusted	d based on actua	al SED approval	and financing dates.

# Attachment C - Project Schedule Schenectady City School District

ID	_	Task Name	[	Duration	Start	Finish		2021			2022
	0						u e Oct o e	Jan e MarApr	a Jun Jul	u e Oct c	e Jan e MarApr
39	<b>III</b>	Schenectady High School		5 days	Mon 4/12/21	Fri 4/16/21		<u>o</u>	$\downarrow$		
40	<b>III</b>	Steinmetz Career & Leadership Academy		5 days	Mon 7/5/21	Fri 7/9/21			Ĭ,	<b>↓</b>	
41		Hamilton Elementary		5 days	Thu 7/29/21	Wed 8/4/21				<u> </u>	
42		Woodlawn Elementary		5 days	Wed 9/29/21	Tue 10/5/21				Ŭ ⊥	
43		Yates Elementary		5 days	Mon 10/25/21	Fri 10/29/21					
44		Jesse T. Zoller Elementary		5 days	Mon 11/22/21	Fri 11/26/21					ĭШ
45		Dr. Martin Luther King Elementary		5 days	Tue 12/14/21	Mon 12/20/21					ī ĭ⊥ I
46	1	Paige Elementary		5 days	Wed 1/5/22	Tue 1/11/22					T Y L
47		Van Corlear Elementary		5 days	Fri 2/11/22	Thu 2/17/22					
48		ECM 4 - Building Envelope Improvements		168 days	Mon 2/1/21	Wed 9/22/21					_
49	<b>III</b>	Schenectady Hgh School		14 days	Mon 2/1/21	Thu 2/18/21					
50	1	Cental Park Jr. High School		13 days	Fri 2/19/21	Tue 3/9/21					
51		Mont Pleasant Jr. High School		12 days	Wed 3/10/21	Thu 3/25/21					
52	1	Oneida Jr. High School		10 days	Fri 3/26/21	Thu 4/8/21					
53	i	Steinmetz Career & Leadership Academy		10 days	Fri 4/9/21	Thu 4/22/21					
54		Hamilton Elementary		9 days	Fri 4/23/21	Wed 5/5/21			,		
55		Howe Elementary		9 days	Thu 5/6/21	Tue 5/18/21		_	<u>*</u>		
56	1	Lincoln Elementary		8 days	Wed 5/19/21	Fri 5/28/21					
57	1	Woodlawn Elementary		8 days	Mon 5/31/21	Wed 6/9/21					
58		Yates Elementary		10 days	Thu 6/10/21	Wed 6/23/21					
59		Jesse T. Zoller Elementary		9 days	Thu 6/24/21	Tue 7/6/21					
60	1	Dr. Martin Luther King Elementary		10 days	Wed 7/7/21	Tue 7/20/21					
61		Paige Elementary		12 days		Thu 8/5/21				ζ.	
62		Pleasant Valley Elementary		10 days	Fri 8/6/21	Thu 8/19/21			_	*	
63	1	Van Corlaer Elementary		9 days	Fri 8/20/21	Wed 9/1/21					
64	1	Washington Irving Educational Center		9 days	Thu 9/2/21	Tue 9/14/21					
65	1	Fulton Early Childhood Center		6 days	Wed 9/15/21	Wed 9/22/21				<b>-</b>	
66		ECM 5 - Pipe Insulation		167 days	Tue 9/1/20	Wed 4/21/21				_	
67	<b></b>	Schenectady Hgh School		14 days	Tue 9/1/20	Fri 9/18/20		•			
68	-	Cental Park Jr. High School		13 days	Mon 9/21/20	Wed 10/7/20	<b>-</b>				
69	-	Mont Pleasant Jr. High School		12 days	Thu 10/8/20	Fri 10/23/20	<b>-</b>				
70	-	Oneida Jr. High School		10 days		Fri 11/6/20	<b>-</b> }				
71	-	Steinmetz Career & Leadership Academy		9 days	Mon 11/9/20	Thu 11/19/20	<b>■</b>				
72	-	Hamilton Elementary		9 days	Fri 11/20/20	Wed 12/2/20	<b></b>				
73	-	Howe Elementary		9 days	Thu 12/3/20	Tue 12/15/20					
74	-	Lincoln Elementary		,	Wed 12/16/20	Fri 12/25/20	<u> </u>				
75	-	Woodlawn Elementary		10 days		Fri 1/8/21	-	<b>X</b>			
76	-	Yates Elementary		9 days		Thu 1/21/21		<b>*</b>			
10		i ales Elementary		9 days	IVIUIT 1/11/21	111u 1/21/21		<u> </u>			
		Task		Milestor	ne 🔷		External Tasks				
	Attachment C - Project Schedule Schenectady City School District Split			Summa	•		External Milest				
Scrient	Colady				Summary $ abla$		Deadline	⊕ Oue ♠			
		Progress		Project	Summary V		Deadiline	$\nabla$			
			Project Schedule will	be adjuste	d based on actua	al SED approval	and financing dates	S.			

# Attachment C - Project Schedule Schenectady City School District

ID		Task Name	Duration	Start	Finish	2021	2022
	0					u e Oct o e Jan e MarApr a Jun Jul u	e Oct o e Jan e MarApr a J
77		Jesse T. Zoller Elementary	10 days	Fri 1/22/21	Thu 2/4/21		
78		Dr. Martin Luther King Elementary	12 days	Fri 2/5/21	Mon 2/22/21	<u> </u>	
79		Paige Elementary	10 days	Tue 2/23/21	Mon 3/8/21		
80		Pleasant Valley Elementary	9 days	Tue 3/9/21	Fri 3/19/21	<u> </u>	
81		Van Corlaer Elementary	9 days	Mon 3/22/21	Thu 4/1/21	<u> </u>	
82		Washington Irving Educational Center	8 days	Fri 4/2/21	Tue 4/13/21		
83	1	Fulton Early Childhood Center	6 days	Wed 4/14/21	Wed 4/21/21	T T	
84	1	ECM 6 - Steam Trap Retrofits	100 days	Thu 4/1/21	Wed 8/18/21	<del>-</del>	J
85	<b>III</b>	Lincoln Elementary	30 days	Thu 4/1/21	Wed 5/12/21		
86		Van Corlaer Elementary	25 days	Thu 5/13/21	Wed 6/16/21		
87	1	Washington Irving Education Center	30 days	Thu 6/17/21	Wed 7/28/21		
88	1	Fulton Early Childhood Center	15 days	Thu 7/29/21	Wed 8/18/21		
89	<b></b>	ECM 7 - Computer Power Management	10 days	Mon 7/12/21	Fri 7/23/21		
90		ECM 8 - Boiler Replacement	90 days	Mon 7/5/21	Fri 11/5/21		<del></del>
91	<b></b>	Washington Irving Educational Center	90 days	Mon 7/5/21	Fri 11/5/21		
92		ECM 9 - Pool Water Heater Replacement	20 days	Mon 7/12/21	Fri 8/6/21		
93	<b>111</b>	Schenectady High School	20 days	Mon 7/12/21	Fri 8/6/21		
94	1	ECM 10 - Air Handling Unit Replacement	85 days	Mon 4/5/21	Fri 7/30/21	<b>—</b>	
95	<b>111</b>	Steinmetz Career & Leadership Academy	85 days	Mon 4/5/21	Fri 7/30/21		
96	<b>111</b>	Walkthroughs/Punchlist	42 days	Tue 2/1/22	Wed 3/30/22		
97	<b>111</b>	Project Acceptance	0 days	Thu 3/31/22	Thu 3/31/22		♦ 3/31

Attachment C - Project Schedule Schenectady City School District

Task
Split
Summary
External Tasks
External Milestone

Frogress
Project Summary
Deadline

# ATTACHMENT D GUARANTEE AND SUPPORT SERVICES AGREEMENT

# (INCLUDING M&V SERVICES, GUARANTEE TERMS, AND SCHEDULE OF GUARANTEED SAVINGS)

Project Name: Schenectady CSD - Energy Performance Contract

Proposal Number: SCSD050820

Date: 05-08-20

("Honeywell")("Customer")Honeywell International Inc.Schenectady CSD115 Tabor Road108 Education DriveMorris Plains, NJ 07950Schenectady, NY 12303

## **Service Locations and Addresses:**

Hamilton Elementary School	1091 Webster Street, Schenectady, NY 12303
Howe Elementary School	1065 Baker Street, Schenectady, NY 12309
Lincoln Elementary School	2 Robinson Street, Schenectady, NY 12304
Woodlawn Elementary School	3311 Wells Avenue, Schenectady, NY 12304
Yates Elementary School	725 Salina Street, Schenectady, NY 12308
Jesse T. Zoller Elementary School	1880 Lancaster Street, Schenectady, NY 12308
Dr. Martin Luther King Elementary School	918 Stanley Street, Schenectady, NY
Paige Elementary School	104 Elliot Avenue, Schenectady, NY 12304
Pleasant Valley Elementary School	1097 Forest Road, Schenectady, NY 12303
Van Corlaer Elementary School	2300 Guilderland Avenue, Schenectady, NY 12306
Central Park Jr. High School	421 Elm Street, Schenectady, NY 12304
Mont Pleasant Jr. High School	1121 Forest Street, Schenectady, NY 12303
Oneida Jr. High School	1629 Oneida Street, Schenectady, NY 12308
Schenectady High School	1445 The Plaza, Schenectady, NY 12308
Steinmetz Career & Leadership Academy	880 Oakwood Avenue, Schenectady, NY 12303
Washington Irving Educational Center	422 Mumford Street, Schenectady, NY 12307
Fulton Early Childhood Center	408 Elanor Street, Schenectady, NY 12306

<u>Summary</u> - The following summary is for informational purposes only. The specific terms, conditions and other specifications set forth in the details of this Guarantee and Support Services Agreement shall take precedence over this summary.

☐ Preferred Temperature Control Services	☐ Air Filter Services
☐ Flex Temperature Control Services	☐ Water Treatment Services
☐ Preferred Automation Maintenance Services	☐ Critical Parts Stocking
☐ Flex Automation Services	☐ Thermography Services
☐ Preferred Fire Alarm Maintenance Services	☐ Emergency Generator Services
☐ Fire Alarm Test and Inspect Services	☐ In Suite Services
☐ Preferred Security System Inspect Services	☐ Remote Monitoring/Radionics
☐ Flex Security System Services	☐ Indoor Air Quality Auditing Services
☐ Preferred Mechanical Maintenance Services	☐ Service Management Software
☐ Flex Mechanical Maintenance Services	☐ FM Worksite
☐ ServiceNet™ Remote Monitoring and Control Services	<b>⊠</b> Guarantee Special Provisions
☐ EBI Services	Other/Special Provisions
	☐ Honeywell Users Group
☐ Online Services	☐ Attune <sup>™</sup> Advisory Services - Operations
☐ Advanced Support	☐ Attune <sup>™</sup> Advisory Services - Energy Optimization
☐ Site Services	☐ Attune <sup>TM</sup> Advisory Services – Energy Awareness
☐ Honeywell Energy Analysis Reporting	☐ Attune <sup>™</sup> Advisory Services – Lobby Digital Signage

**Support Services Agreement Term ("Support Services Term"):** Eighteen (18) years from the Support Services Effective Date.

**Support Services Agreement Effective Date ("Support Services Effective Date"):** The first day of the following month after the Attachment J Final Project Acceptance Certificate Execution Date.

**Price for Year 1:** Ten Thousand One Hundred Twenty Seven Dollars, (\$10,127), (plus applicable taxes). See Section A.6.2 for price in subsequent years.

Payment Terms: Semi-annual in Advance		
☐ Sales/Use Tax will be Invoiced Separately	☐ Sales/Use Tax is Included in the Price	☐ This Sale is Tax Exempt

Honeywell International Inc., through its Honeywell Building Solutions strategic business unit ("Honeywell"), will provide, or cause to be provided, to Customer the services (the "Support Services") set forth in the attached work scope documents in Part B of this Attachment D ("Support Services Scope") with respect to the Service Location(s) in accordance with the Support Services Scope, and the terms and conditions set forth in Part A of this Attachment D, which together with the guarantee terms and Schedule of Guaranteed Savings set forth in Part C and Part D, respectively, of this Attachment D, constitute this Guarantee and Support Services Agreement (the "Support Services Agreement"). This Support Services Agreement is entered into as Attachment D to, and by execution of, the accompanying Honeywell Agreement between Honeywell and Customer (the "Main Agreement"). Together, the Main Agreement and Support Services Agreements are the "Agreement."

Part A – Support Services Terms & Conditions

**Part B** – Support Services Scope Description, including M&V Services

Part C – Guarantee Terms

Part D – Schedule of Guaranteed Savings

**Exhibits** – The following Exhibits are attached hereto and are made a part of the Agreements:

Exhibit D-1 & D-2 Baseline Operating Parameters & Guarantee Period Operating Parameters

Exhibit D-3 Contractual Baseline Conditions, Utility Use, Utility Unit Costs

Exhibit D-4 Baseline Regression for Option C Meters

Exhibit D-5 Energy Savings Calculations

Exhibit D-6 Operations Cost Avoidance Methodology

Exhibit D-7 M&V Plan Descriptions Exhibit D-8 Data Logging Results

# PART A. STANDARD TERMS AND CONDITIONS FOR SUPPORT SERVICES

The following terms and conditions, in Sections A.1 to A.8, apply to all Support Services, including M&V Services.

# A.1 Terms Incorporated from Main Agreement

The following provisions set forth in the Main Agreement shall apply to the Support Services:

- **A.1.1** The Patent Indemnity provision in Section 2.3.
- **A.1.2** The Hazardous Substances provision in Section 3.8.
- **A.1.3** The Taxes provision in Section 3.9.
- **A.1.4** The Software License provision in Section 3.10.
- **A.1.5** The Force Majeure provision in Section 5.2.
- **A.1.6** The Price Adjustment provision in Section 6.1.3.
- **A.1.7** The Insurance provision in Section 8.2 shall apply through the final completion of the Support Services.
- **A.1.8** The Indemnity provisions in Article 8.
- **A.1.9** The Assignment, Governing Law and Miscellaneous provisions in Article 10 and Article 11.
- **A.1.10** Disputes related to the Support Services shall be resolved in accordance with Article 12 of the Main Agreement.

# A.2 Working Hours

**A.2.1** Unless otherwise stated, all Support Services will be performed during the hours of 8:00am - 4:30pm local time Monday through Friday, excluding federal or state holidays. If for any reason Customer requests Honeywell to perform Support Services outside such hours, any overtime or additional expenses incurred by Honeywell will be billed to and paid by Customer.

# A.3 Proprietary Information

**A.3.1** All proprietary information (as defined herein) obtained by Customer from Honeywell in connection with this Support Services Agreement will remain the property of Honeywell, and Customer will not divulge such information to any third party or use such information (except as necessary to comply with its obligations under this Agreement) without prior written consent of Honeywell. The term "proprietary information" means confidential or non-public information, including but not limited to, software supplied to Customer, disclosed or made available to Customer by Honeywell. The electronic platform, code and arrangement upon which the legible Energy Savings Calculations are published is "Proprietary." The provisions set forth in Section 11.2 of the Main Agreement shall apply to the "proprietary information."

## A.4 Limitation of Liability

A.4.1 THE LIMITATIONS OF LIABILITY AND APPLICATION THEREOF, AS SET FORTH IN ARTICLE 2 AND ARTICLE 8 OF THE MAIN AGREEMENT, SHALL APPLY TO THE PROVISION OF THE SUPPORT SERVICES. NOTWITHSTANDING ANY OTHER PROVISION OF THIS AGREEMENT, THE AGGREGATE LIABILITY OF HONEYWELL FOR ANY CLAIMS ARISING OUT OF OR RELATED TO THIS SUPPORT SERVICES AGREEMENT WILL IN NO CASE EXCEED THE ANNUAL SUPPORT SERVICES AGREEMENT PRICE; PROVIDED, HOWEVER, THAT THIS LIMITATION SHALL NOT APPLY TO THE SPECIFIC SAVINGS GUARANTEE OBLIGATIONS OF HONEYWELL SET FORTH IN THIS ATTACHMENT D.

## A.5 Coverage of Support Services

- **A.5.1** Customer agrees to provide Honeywell access to all equipment and software necessary to Honeywell's performance of the Support Services. Honeywell will be free to start and stop all equipment incidental to the operation of the mechanical, control, automation, and life safety system(s) as arranged with Customer's representative.
- **A.5.2** Honeywell has no obligation to repair or replace non-maintainable parts of any systems, including, but not limited to, ductwork, piping, shell and tube (for boilers, evaporators, condensers, and chillers), unit cabinets, boiler refractory material, heat exchangers, insulating material, electrical wiring, hydronic and pneumatic piping, structural supports and other non-moving parts. Costs to repair or replace such non-maintainable parts will be the sole responsibility of Customer.

- **A.5.3** Honeywell will not reload software, or make repairs or replacements necessitated by reason of negligence or misuse of any equipment by persons other than Honeywell or its employees, or necessitated by lightning, electrical storm, or other violent weather or by any other cause beyond Honeywell's control. Honeywell will provide such services at Customer's request and at an additional charge.
- **A.5.4** Honeywell is not responsible for maintaining a supply of, furnishing and/or replacing lost or needed chlorofluorocarbon (CFC) based refrigerants not expressly required to be provided by Honeywell under this Agreement. Customer is solely responsible for the cost of material and labor relating to any such refrigerant.
- **A.5.5** Honeywell is not obligated to provide replacement software, equipment, components and/or parts that represent a significant betterment or capital improvement to Customer's system(s) hereunder.
- **A.5.6** Unless otherwise expressly provided in this Support Services Agreement, Customer retains all responsibility for maintaining LANs, WANs, leased lines and/or other communication mediums incidental or essential to the operation of the system(s) or Covered Equipment.

## A.6 Terms of Payment

- **A.6.1** Customer will pay or cause to be paid to Honeywell the full price for the Support Services, as specified on the first year line of the Support Services Pricing Table (Section A.6.2) and such price may be adjusted in accordance with this Support Services Pricing Table. Honeywell will submit invoices to Customer in advance for Support Services to be performed during the subsequent billing period, and payment shall be due after Customer's receipt of each such invoice, as set forth in the "Payment Terms" provisions at the beginning of this Attachment D. Payments for Support Services past due more than five (5) days shall accrue interest from the due date to the date of payment at the rate of one and one-half percent (1.5%) per month, compounded monthly, or the highest legal rate, whichever is lower. Customer will pay all attorney and/or collection fees incurred by Honeywell in collecting any past due amounts.
- **A.6.2** Honeywell may annually adjust the amounts charged for the Support Services provided under the Support Services Agreement as set forth in the schedule below. In addition, Honeywell reserves the right, in its discretion, to increase the price payable by Customer in the event that tariffs (or similar governmental charges) imposed by the United States or other countries result in any increase in the costs that Honeywell used to determine such price.

YEAR	PRICE
1	\$10,127
2	\$10,431
3	\$10,744
4	\$11,066
5	\$11,398
6	\$11,740
7	\$12,092
8	\$12,455
9	\$12,829
10	\$13,214
11	\$13,610
12	\$14,018
13	\$14,439
14	\$14,872
15	\$15,318
16	\$15,778
17	\$16,251
18	\$16,739

# A.7 Termination

**A.7.1** Customer may terminate this Support Services Agreement for cause if Honeywell defaults in the performance of any material term of this Support Services Agreement, or fails or neglects to carry forward the Support Services in accordance with this Support Services Agreement, after giving Honeywell written notice of its intent to terminate. If, within thirty (30) days following receipt of such notice, Honeywell fails to cure such default, Customer may, by written notice to Honeywell, terminate this Support Services Agreement.

- **A.7.2** Honeywell may terminate this Agreement for cause (including, but not limited to, Customer's failure to make payments as agreed herein) if Customer breaches this Agreement. If, within thirty (30) days following Honeywell's notice of breach, Customer fails to make the payments then due, or otherwise fails to cure such breach, Honeywell may, by written notice to Customer, terminate this Agreement and recover from Customer payment for Work performed and for losses sustained, including but not limited to, reasonable overhead, profit and applicable damages.
- **A.7.3** Honeywell may terminate this Support Services Agreement in the event Honeywell equipment on Customer's premises is destroyed or substantially damaged. Likewise, Customer may terminate this Support Services Agreement in the event Customer's premises are destroyed. In the event of such termination under this Section A.9.4, neither party shall be liable for damages or subject to any penalty, except that Customer will remain liable for Support Services performed to the date of termination.

## A.8 Appropriations and Essential Use

- **A.8.1** Customer reasonably believes that sufficient funds can be obtained to make all payments for the initial term, as described in the summary at the beginning of this Support Services Agreement. Customer hereby covenants that it shall do all things lawfully within its power to obtain funds from which such payments may be made, including making provisions for such payments, to the extent necessary, in each budget submitted for the purpose of obtaining funding, using its bona fide best efforts to have such portion of the budget approved and exhausting all available administrative reviews and appeals in the event such portion of the budget is not approved. It is Customer's intent to make the payments for the initial term if funds are legally available therefore and in that regard Customer represents that (a) the use of the Covered Equipment and Support Services is essential to its proper, efficient and economic functioning or to the services that is provided to its citizens; (b) Customer has an immediate need for and expects to make immediate use of substantially all the Covered Equipment and Support Services, which need is not temporary or expected to diminish in the foreseeable future; and (c) the Covered Equipment and Support Services shall be used by Customer only for the purpose of performing one or more of its governmental or proprietary functions consistent with the permissible scope of its authority.
- A.8.2 In the event no funds or insufficient funds are appropriated and budgeted for the acquisition, retention or operation of the Covered Equipment and Support Services under the Support Services Agreement, then Customer shall, not less than sixty (60) days prior to the end of such applicable fiscal period, in writing, notify Honeywell (and its assignee, if any) of such occurrence. The Support Services Agreement shall thereafter terminate and be rendered null and void on the last day of the fiscal period for which appropriations were made without penalty, liability or expense to Customer of any kind, except as to (i) the portions of the payments herein agreed upon for which funds have been appropriated and budgeted or are otherwise available, and (ii) Customer's other obligations and liabilities under the Agreement relating to, accruing or arising prior to such termination. In the event of such termination, Customer agrees to peaceably surrender to Honeywell (or its assignee, if any) possession of any equipment that is provided by Honeywell under the Support Services Agreement, on the date of such termination, packed for shipment in accordance with manufacturer's specifications and eligible for manufacturer's maintenance, and freight prepaid and insured to any location in the continental United States designated by Honeywell, all at Customer's expense. Honeywell (or its assignee, if any) may exercise all available legal and equitable rights and remedies in retaking possession of any equipment provided by Honeywell under this Support Services Agreement.
- **A.8.3** Notwithstanding the foregoing, Customer agrees (a) that if the Support Services Agreement is terminated in accordance with the preceding paragraph, Customer shall not purchase, lease or rent equipment which performs the same functions as, or functions taking the place of, those performed by the Covered Equipment nor shall it contract for any services similar to or that take the place of the Support Services provided under the Support Services Agreement, and shall not permit such functions to be performed by its own employees or by any agency or entity affiliated with or hired by Customer for the balance of the fiscal period in which such termination occurs or the next succeeding fiscal period thereafter, and (b) that it shall not, during the initial term, give priority in the application of funds to any other functionally similar equipment or services.

The following terms and conditions, in Sections A.9 to A.12, apply to all Support Services, except for the M&V Services.

# A.9 Warranty

Any equipment provided as part of the Support Services shall be covered by the warranties set forth in Section 2.4 of the Main Agreement. The warranty term for such equipment shall commence upon installation.

#### A.10 Refrigerant

**A.10.1** Customer is responsible for the containment of any and all refrigerant stored on or about the premises. Customer accepts all responsibility for and agrees to indemnify and hold harmless Honeywell from and against any and all claims, damages, or causes of action that arise out of the storage, consumption, loss and/or disposal of refrigerant, except to the extent Honeywell has brought refrigerant onsite and is directly and solely negligent for its mishandling.

# A.11 Coverage of Support Services (other than M&V Services)

- **A.11.1** It is understood that the repair, replacement, and emergency service provisions of this Support Services Agreement, if any, apply only to the Covered Equipment. "Covered Equipment" means the equipment covered by the Support Services other than M&V Services, if any, to be performed by Honeywell under this Support Services Agreement, and is limited to the equipment expressly identified as such in the Scope of Support Services.
- **A.11.2** Customer agrees to use Covered Equipment and software covered by the Support Services in accordance with the manufacturer's specifications.
- **A.11.3** Honeywell may install diagnostic devices and/or software at Honeywell's expense to enhance system operation and support. Upon termination or expiration of this Support Services Agreement, Honeywell may remove these devices and return the applicable system(s) to their original operation. Customer agrees to provide, at its sole expense, connection to the switched telephone network for the diagnostic devices and/or software.
- **A.11.4** This Support Services Agreement assumes that the applicable systems and/or Covered Equipment and applicable software are in maintainable condition. If repairs are necessary upon initial inspection or initial seasonal start-up, repair charges will be submitted for approval. Should these charges be declined, those non-maintainable items will be eliminated from coverage under this Support Services Agreement and the Support Services Price adjusted accordingly.
- **A.11.5** In the event that any applicable system or any equipment component thereof is altered, modified, changed or moved, this Support Services Agreement may be immediately adjusted or terminated, at Honeywell's sole option. Honeywell is not responsible for any damages resulting from such alterations, modifications, changes or movement.
- **A.11.6** Maintenance, repairs, and replacement of equipment parts and components are limited to restoring to proper working condition.
- **A.11.7** Customer will promptly notify Honeywell of any malfunction in the system(s) or Covered Equipment that comes to Customer's attention.

# A.12 Automatic Renewal

**A.12.1** After the initial Support Services Term, and only with respect to Support Services other than M&V Services, this Support Services Agreement will automatically renew for consecutive terms of one (1) year each unless terminated by either party by the delivery of written notice to the other at least sixty (60) days prior to the end of the Support Services Term or any renewal period thereof or unless terminated as otherwise provided herein.

# PART B. SUPPORT SERVICES SCOPE DESCRIPTION

# **B.1** Guarantee Analysis Services

**B.1.1** Scope – Honeywell will implement the guarantee analysis services outlined in Section B.1.3 (the "M&V Services") for the following ECMs. The M&V Services are to be performed consistent with the terms of the guarantee set forth in Part C, and the Schedule of Guaranteed Savings and related provisions set forth in Part D, in each case of this Attachment D. Certain defined terms are set forth in Part C.

List of Covered Facilities, Meters, Energy Conservation Measures ("ECMs") by Service Offering:

(a)	(b)	(c)	(d)
Facility	LDC-Meter # / Utility Type	ECMs (only ECMs associated with meter listed in Column (b))	Related M&V Services Subsection
Hamilton	Electric: National Grid Account #: 72825-65107 Meter #: 57531587	ECM 1 – LED Lighting and Lighting Controls Upgrade ECM 2 – Building Management System Upgrades ECM 4 – Building Envelope Improvements ECM 7 – Computer Power Management	1.4.1
Elementary School	Natural Gas: National Grid Account #: 93990-95105 Meter #: 01334182	ECM 1 – LED Lighting and Lighting Controls Upgrade ECM 2 – Building Management System Upgrades ECM 3 – Ventilation Upgrades ECM 4 – Building Envelope Improvements ECM 5 – Pipe Insulation	1.4.2
Howe Elementary	Electric: National Grid Account #: 15040-26109 Meter #: 25087182	ECM 1 – LED Lighting and Lighting Controls Upgrade ECM 2 – Building Management System Upgrades ECM 4 – Building Envelope Improvements ECM 7 – Computer Power Management	1.4.1
School	Natural Gas: National Grid Account #: 15040-26109 Meter #: 01635619 / 01454142	ECM 1 – LED Lighting and Lighting Controls Upgrade ECM 2 – Building Management System Upgrades ECM 4 – Building Envelope Improvements ECM 5 – Pipe Insulation	1.4.2
Lincoln	Electric: National Grid Account #: 22376-69100 Meter #: 05521178	ECM 1 – LED Lighting and Lighting Controls Upgrade ECM 2 – Building Management System Upgrades ECM 4 – Building Envelope Improvements ECM 7 – Computer Power Management	1.4.1
Elementary School	Natural Gas: National Grid Account #: 22376-69100 Meter #: 00148464	ECM 1 – LED Lighting and Lighting Controls Upgrade ECM 2 – Building Management System Upgrades ECM 4 – Building Envelope Improvements ECM 5 – Pipe Insulation ECM 6 – Steam Trap Retrofit	1.4.2
Woodlawn	Electric: National Grid Account #: 34340-30102 Meter #: 60100635	ECM 1 – LED Lighting and Lighting Controls Upgrade ECM 2 – Building Management System Upgrades ECM 4 – Building Envelope Improvements ECM 7 – Computer Power Management	1.4.1
Elementary School	Natural Gas: National Grid Account #: 34340-30102 Meter #: 1454171	ECM 1 – LED Lighting and Lighting Controls Upgrade ECM 2 – Building Management System Upgrades ECM 3 – Ventilation Upgrades ECM 4 – Building Envelope Improvements ECM 5 – Pipe Insulation	1.4.2
Votes	Electric: National Grid Account #: 57801-48106 Meter #: 05521214	ECM 1 – LED Lighting and Lighting Controls Upgrade ECM 2 – Building Management System Upgrades ECM 4 – Building Envelope Improvements ECM 7 – Computer Power Management	1.4.1
Yates Elementary School	Natural Gas: National Grid Account #: 57801-48106 Meter #: 09433723	ECM 1 – LED Lighting and Lighting Controls Upgrade ECM 2 – Building Management System Upgrades ECM 3 – Ventilation Upgrades ECM 4 – Building Envelope Improvements ECM 5 – Pipe Insulation	1.4.2

(a)	(b)	(c)	(d)
Facility	LDC-Meter # / Utility Type	ECMs (only ECMs associated with meter listed in Column (b))	Related M&V Services Subsection
Jesse T. Zoller	Electric: National Grid Account #: 30440-30107 Meter #: 57551342	ECM 1 – LED Lighting and Lighting Controls Upgrade ECM 2 – Building Management System Upgrades ECM 4 – Building Envelope Improvements ECM 7 – Computer Power Management	1.4.1
Elementary School	Natural Gas: National Grid Account #: 30440-30107 Meter #: 00432323	ECM 1 – LED Lighting and Lighting Controls Upgrade ECM 2 – Building Management System Upgrades ECM 3 – Ventilation Upgrades ECM 4 – Building Envelope Improvements ECM 5 – Pipe Insulation	1.4.2
Dr. Martin Luther King	Electric: National Grid Account #: 40576-69104 Meter #: 35475148	ECM 1 – LED Lighting and Lighting Controls Upgrade ECM 2 – Building Management System Upgrades ECM 4 – Building Envelope Improvements ECM 7 – Computer Power Management	1.4.1
Elementary School	Natural Gas: National Grid Account #: 40576-69104 Meter #: 01212877	ECM 1 – LED Lighting and Lighting Controls Upgrade ECM 2 – Building Management System Upgrades ECM 3 – Ventilation Upgrades ECM 4 – Building Envelope Improvements ECM 5 – Pipe Insulation	1.4.2
Paige	Electric: National Grid Account #: 53940-29107 Meter #: 41340575	ECM 1 – LED Lighting and Lighting Controls Upgrade ECM 2 – Building Management System Upgrades ECM 4 – Building Envelope Improvements ECM 7 – Computer Power Management	1.4.1
Elementary School	Natural Gas: National Grid Account #: 53940-29107 Meter #: 01711649	ECM 1 – LED Lighting and Lighting Controls Upgrade ECM 2 – Building Management System Upgrades ECM 3 – Ventilation Upgrades ECM 4 – Building Envelope Improvements ECM 5 – Pipe Insulation	1.4.2
Pleasant Valley	Electric: National Grid Account #: 17825-68102 Meter #: 39959820	ECM 1 – LED Lighting and Lighting Controls Upgrade ECM 2 – Building Management System Upgrades ECM 4 – Building Envelope Improvements ECM 7 – Computer Power Management	1.4.1
Elementary School	Natural Gas: National Grid Account #: 17825-68102 Meter #: 00229131	ECM 1 – LED Lighting and Lighting Controls Upgrade ECM 2 – Building Management System Upgrades ECM 4 – Building Envelope Improvements ECM 5 – Pipe Insulation	1.4.2
Van Corlaer	Electric: National Grid Account #: 51352-47107 Meter #: 60100650	ECM 1 – LED Lighting and Lighting Controls Upgrade ECM 2 – Building Management System Upgrades ECM 4 – Building Envelope Improvements ECM 7 – Computer Power Management	1.4.1
Elementary School	Natural Gas: National Grid Account #: 02352-46107 Meter #: 08277274	ECM 1 – LED Lighting and Lighting Controls Upgrade ECM 2 – Building Management System Upgrades ECM 3 – Ventilation Upgrades ECM 4 – Building Envelope Improvements ECM 5 – Pipe Insulation ECM 6 – Steam Trap Retrofit	1.4.2
Central Park	Electric: National Grid Account #: 33740-30111 Meter #: 25018882	ECM 1 – LED Lighting and Lighting Controls Upgrade ECM 2 – Building Management System Upgrades ECM 4 – Building Envelope Improvements ECM 7 – Computer Power Management	1.4.1
Jr. High School	Natural Gas: National Grid Account #: 89790-95128 Meter #: 01224959	ECM 1 – LED Lighting and Lighting Controls Upgrade ECM 2 – Building Management System Upgrades ECM 4 – Building Envelope Improvements ECM 5 – Pipe Insulation	1.4.2

(a)	(b)	(c)	(d)
Facility	LDC-Meter # / Utility Type	ECMs (only ECMs associated with meter listed in Column (b))	Related M&V Services Subsection
Mont Pleasant Jr.	Electric: National Grid Account #: 79625-71112 Meter #: 25096381	ECM 1 – LED Lighting and Lighting Controls Upgrade ECM 2 – Building Management System Upgrades ECM 4 – Building Envelope Improvements ECM 7 – Computer Power Management	1.4.1
High School	Natural Gas: National Grid Account #: 92790-95107 Meter #: 09626500	ECM 1 – LED Lighting and Lighting Controls Upgrade ECM 2 – Building Management System Upgrades ECM 4 – Building Envelope Improvements ECM 5 – Pipe Insulation	1.4.2
Oneida Jr.	Electric: National Grid Account #: 72044-93002 Meter #: 25016860	ECM 1 – LED Lighting and Lighting Controls Upgrade ECM 2 – Building Management System Upgrades ECM 4 – Building Envelope Improvements ECM 7 – Computer Power Management	1.4.1
High School	Natural Gas: National Grid Account #: 94390-95109 Meter #: 01456782	ECM 1 – LED Lighting and Lighting Controls Upgrade ECM 2 – Building Management System Upgrades ECM 4 – Building Envelope Improvements ECM 5 – Pipe Insulation	1.4.1
	Electric: National Grid Account #: 82840-29105 Meter #: 11135262	ECM 1 – LED Lighting and Lighting Controls Upgrade ECM 2 – Building Management System Upgrades ECM 4 – Building Envelope Improvements ECM 7 – Computer Power Management	1.4.1
Schenectady High School	Natural Gas: National Grid Account #: 94590-95105 & 19284-15008 Meter #: 09535992 & 00616847	ECM 1 – LED Lighting and Lighting Controls Upgrade ECM 2 – Building Management System Upgrades ECM 3 – Ventilation Upgrades ECM 4 – Building Envelope Improvements ECM 5 – Pipe Insulation ECM 9 – Pool Water Heater Replacement	1.4.2
Steinmetz	Electric: National Grid Account #: 79825-71109 Meter #: 40877698	ECM 1 – LED Lighting and Lighting Controls Upgrade ECM 2 – Building Management System Upgrades ECM 4 – Building Envelope Improvements ECM 7 – Computer Power Management	1.4.1
Career & Leadership Academy	Natural Gas: National Grid Account #: 89990-95106 Meter #: 09429548	ECM 1 – LED Lighting and Lighting Controls Upgrade ECM 2 – Building Management System Upgrades ECM 3 – Ventilation Upgrades ECM 4 – Building Envelope Improvements ECM 5 – Pipe Insulation ECM 10 – Air Handling Unit Replacement	1.4.2
Washington	Electric: National Grid Account #: 95976-63109 Meter #: 60034458	ECM 1 – LED Lighting and Lighting Controls Upgrade ECM 2 – Building Management System Upgrades ECM 4 – Building Envelope Improvements ECM 7 – Computer Power Management	1.4.1
Irving Educational Center	Natural Gas: National Grid Account #: 95976-63109 Meter #: 01619600	ECM 1 – LED Lighting and Lighting Controls Upgrade ECM 2 – Building Management System Upgrades ECM 4 – Building Envelope Improvements ECM 5 – Pipe Insulation ECM 6 – Steam Trap Retrofit ECM 8 – Boiler Replacement	1.4.2
Fulton Early	Electric: National Grid Account #: 26952-43122 Meter #: 57531586	ECM 1 – LED Lighting and Lighting Controls Upgrade ECM 2 – Building Management System Upgrades ECM 4 – Building Envelope Improvements	1.4.1
Childhood Center	Natural Gas: National Grid Account #: 26952-43122 Meter #: 00432262 / 00432258	ECM 1 – LED Lighting and Lighting Controls Upgrade ECM 2 – Building Management System Upgrades ECM 4 – Building Envelope Improvements ECM 5 – Pipe Insulation ECM 6 – Steam Trap Retrofit	1.4.2

**B.1.1.1 General Descriptions** – The following are general descriptions of one or more approaches to providing guarantee analysis services. The specific details of the M&V Services relating to the Retrofit as set forth in this Support Services Agreement take precedence over these descriptions.

## **Option A—Retrofit Isolation with Key Parameter Measurement**

This option is based on a combination of measured and estimated factors when variations in factors are not expected. Measurements are spot or short-term and are taken at the component or system level, both in the baseline and post-installation cases. Measurements should include the key performance parameter(s) which define the energy use of the ECM. Estimated factors are supported by historical or manufacturer's data. Savings are determined by means of engineering calculations of baseline and post-installation energy use based on measured and estimated values. Savings are calculated using direct measurements and estimated values, engineering calculations and/or component or system models often developed through regression analysis. Adjustments to models are not typically required.

## Option B—Retrofit Isolation with All Parameter Measurement

This option is based on periodic or continuous measurements of energy use taken at the component or system level when variations in factors are expected. Energy or proxies of energy use are measured continuously. Periodic spot or short-term measurements may suffice when variations in factors are not expected. Savings are determined from analysis of baseline and reporting period energy use or proxies of energy use. Savings are calculated using direct measurements, engineering calculations, and/or component or system models often developed through regression analysis. Adjustments to models may be required.

# Option C – Utility Data Analysis

This option is based on long-term, continuous, whole-building utility meter, facility level, or sub-meter energy (or water) data. Savings are determined from analysis of baseline and reporting period energy data. Typically, regression analysis is conducted to correlate with and adjust energy use to independent variables such as weather, but simple comparisons may also be used. Savings calculations use regression analysis of utility meter data to account for factors that drive energy use. Adjustments to models are typically required.

## **Option D—Calibrated Computer Simulation**

Computer simulation software is used to model energy performance of a whole facility (or sub-facility). Models must be calibrated with actual hourly or monthly billing data from the facility. Implementation of simulation modeling requires engineering expertise. Inputs to the model include facility characteristics; performance specifications of new and existing equipment or systems; engineering estimates, spot-, short-term, or long-term measurements of system components; and long-term whole-building utility meter data. After the model has been calibrated, savings are determined by comparing a simulation of the baseline with either a simulation of the performance period or actual utility data. Savings calculations are done based on computer simulation model (such as eQUEST) calibrated with whole-building or end-use metered data or both. Adjustments to models are required.

**B.1.2** Coverage – The M&V Services includes all labor, travel, and expenses to perform the services and frequency described in Section B.1.3. In general, and subject to details of the M&V Plan, Honeywell will provide a single (1) reporting submission of the determination of the amount of Cost Avoidance for each Guarantee Year. Services not explicitly described in Section B.1.3, including Customer Guarantee Responsibilities, are not included.

# B.1.3 Reserved

- **B.1.4 M&V Offerings** In coordination with section B.1.1, HONEYWELL will perform the Measurement & Verification (M&V) offerings checked below:
- 1.4.1 Retrofit Isolation Energy Audit for Option A Verified ECMs HONEYWELL will provide Option A energy guarantee auditing services as detailed in Part C. Guarantee Terms, Part D. Schedule of Guaranteed Savings, and Exhibits to Attachment D for specific Energy Conservation Measures (ECMs) identified in Attachment D and/or Exhibits to Attachment D as using Option A methodologies for Measurement and Verification. HONEYWELL will provide this one-time determination of the quantity of energy avoidance of the CUSTOMER'S facility for the First Guarantee Year only. Option A methods will be applied on an ECM specific basis (i.e., isolated to the retrofit) and Energy Cost Avoidance for a Guarantee Year will be quantified and summarized on an ECM basis. After the ECM's potential-to-save has been verified HONEYWELL shall either stipulate the quantity of cost avoidance or determine the cost avoidance from engineering calculations and measurement of specific variables. Utility bill auditing (Option C) and reconciliation of Option A results to utility meter bill data is not included. The Option A retrofit isolation method was selected by the CUSTOMER to provide an economical reconciliation method and to minimize the interactive effects on the determination of cost avoidance due changes to the site or facilities from the baseline conditions.

HONEYWELL will provide a single (1) reporting submission of the determination of energy avoidance for the First Guarantee Year. The Energy Avoidance quantified in the First Guarantee Year will be stipulated as the annual Energy Avoidance for each Guarantee Year of the remaining contract term. Reporting of Cost Avoidance will occur each year of the term and the monetization of Cost Avoidance will be determined as described in Section D.1.1.1.

Work Coverage: <u>Electric and Fuel Savings for All A</u> Term Coverage: <u>Year 1 Verification; Year 2 to End</u>		
Option A Audit Report section will be submitted:	1-Time Only	Quarterly
	Semi-Annually	Annually
energy guarantee auditing services as detailed in Part and Exhibits to Attachment D for specific Energy Co-Exhibits to Attachment D as using <i>Option C</i> methodo Energy Cost Avoidance of the CUSTOMER's facil CUSTOMER'S energy use and costs against an "esta Savings and Exhibits to Attachment D. HONEYWE costs, energy consumption, and Energy Cost Avoidan changes in billing periods and weather. HONEYWE conditioned building area, equipment operation, and Terms and Part D. Schedule of Guaranteed Savings. It report subject to CUSTOMER review and approval calculated using industry-standard engineering calculations.	C. Guarantee Terms, Part nservation Measures (ECM logies for Measurement an lity. Under <i>Option C</i> seablished baseline" describe ELL will use energy auditince and to quantify and reposite ELL will adjust the baselin illing periods, weather, proscheduling methodologies Baseline Adjustments shall I. These routine and non-lations. HONEYWELL will assure the season of	Is) identified in Attachment D and/ord Verification to quantify the derived rvices, HONEYWELL will analyzed in Part D. Schedule of Guaranteeding software to track monthly facility ort on changes in energy usage due to e for changes in energy usage due to coduction, occupancy, building load etc. as defined in Part C. Guaranteed be shown in the annual reconciliation routine baseline adjustments will be all adjust the energy cost baseline for
Work Coverage: Fuel Savings Only for All Application Term Coverage: Year 1 to End of Term	ole ECMs per table in B.1.1	_
Option C Audit Report section will be submitted:	1-Time Only	Quarterly
	Semi-Annually	Annually
<b>B.2 M&amp;V Plan</b> : In general, the M&V Services:		
The details of the M&V Services are set forth in the precedence over the general description in this Sectio		in detail in Exhibit D-7, which takes

# CITY SCHOOL DISTRICT OF THE CITY OF SCHENECTADY PROJECT CASH FLOW

# Schenectady CSD - 5-27-20 - Comprehensive Scope

# Honeywell

# BUDGET PRO FORMA PERFORMANCE CONTRACTING PROJECT 18 YEAR FINANCIAL ANALYSIS

	Project Cost Interest Rate Term		\$9,378,000 2.50% 18		Building Aid R Savings Inflati M&V Inflation	on Rate	86.20% 2.00% 3.00%												
Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	TOTAL
Baseline Energy Costs Post Improvement Energy Costs	\$1,108,327 \$776,338	\$1,130,494 \$791,865	\$1,153,103 \$807,702	\$1,176,165 \$823,856	\$1,199,689 \$840,333	\$1,223,683 \$857,140	\$1,248,156 \$874,283	\$1,273,119 \$891,768	\$1,298,582 \$909,604	\$1,324,553 \$927,796	\$1,351,044 \$946,352	\$1,378,065 \$965,279	\$1,405,627 \$984,584	\$1,433,739 \$1,004,276	\$1,462,414 \$1,024,362	\$1,491,662 \$1,044,849	\$1,521,495 \$1,065,746	\$1,551,925 \$1,087,061	\$23,731,844 \$16,623,192
Energy Savings	\$331,989	\$338,629	\$345,401	\$352,309	\$359,356	\$366,543	\$373,874	\$381,351	\$388,978	\$396,758	\$404,693	\$412,787	\$421,042	\$429,463	\$438,052	\$446,813	\$455,750	\$464,865	\$7,108,652
Maintenance and Repair Savings	\$161,037	\$164.258	\$167,543	\$170.894	\$174.312	\$177,798	\$181,354	\$184.981	\$188,681	\$192.454	\$196,303	\$200,229	\$204,234	\$208,319	\$212,485	\$216.735	\$221,069	\$225.491	\$3,448,175
TOTAL SAVINGS	\$493,026	\$502,887	\$512,944	\$523,203	\$533,667	\$544,341	\$555,227	\$566,332	\$577,659	\$589,212	\$600,996	\$613,016	\$625,276	\$637,782	\$650,537	\$663,548	\$676,819	\$690,355	\$10,556,827
Project Costs Project Financing	\$763,008	\$763,008	\$763,008	\$763,008	\$763,008	\$763,008	\$763,008	\$763,008	\$763,008	\$763,008	\$763,008	\$763,008	\$763,008	\$763,008	\$763,008	\$0	\$0	\$0	\$11,445,120
Comprehensive Honeywell M&V (Measurement	Ç. 00,000	ψ, σσ,σσσ	ψ. σσ,σσσ	ψ, σσ,σσσ	<b>Ç</b> . 00,000	ψ. σσ,σσσ	ψ. σσ,σσσ	ψ. σσ,σσσ	ψ. σσ,σσσ	<b>Ç</b> . 00,000	<b>.</b>	ψ. σσ,σσσ	ψ. σσ,σσσ	ψ. σσ,σσσ	ψ. σσ,σσσ	•	<b>4</b> 0	•	
& Verification	\$10,127	\$10,431	\$10,744	\$11,066	\$11,398	\$11,740	\$12,092	\$12,455	\$12,829	\$13,213	\$13,610	\$14,018	\$14,439	\$14,872	\$15,318	\$15,778	\$16,251	\$16,738	\$237,118
TOTAL COSTS	\$773,135	\$773,439	\$773,752	\$774,074	\$774,406	\$774,748	\$775,100	\$775,463	\$775,837	\$776,221	\$776,618	\$777,026	\$777,447	\$777,880	\$778,326	\$15,778	\$16,251	\$16,738	\$11,682,238
NET BENEFIT WITHOUT STATE AID	(\$280,109)	(\$270,552)	(\$260,807)	(\$250,871)	(\$240,739)	(\$230,407)	(\$219,873)	(\$209,131)	(\$198,178)	(\$187,010)	(\$175,622)	(\$164,010)	(\$152,171)	(\$140,098)	(\$127,789)	\$647,771	\$660,568	\$673,617	(\$1,125,411)
Rebates	\$685,829																	į	\$685,829
SED Building Aid* NET BENEFIT WITH STATE AID		\$383,498			\$383,498	\$383,498	\$383,498		\$383,498			\$383,498	\$383,498	\$383,498		\$0 \$647.774	\$0	\$0	\$5,752,470
NET BENEFIT WITH STATE AID	\$789,218	\$112,946	\$122,691	\$132,627	\$142,759	\$153,091	\$163,625	\$174,367	\$185,320	\$196,488	\$207,876	\$219,488	\$231,327	\$243,400	\$255,709	\$647,771	\$660,568	\$673,617	\$5,312,888
CUMULATIVE CASH FLOW	\$789,218	\$902,164	\$1,024,854	\$1,157,481	\$1,300,240	\$1,453,331	\$1,616,956	\$1,791,323	\$1,976,643	\$2,173,131	\$2,381,008	\$2,600,495	\$2,831,823	\$3,075,223	\$3,330,932	\$3,978,703	\$4,639,271	\$5,312,888	İ

\*Aid estimate excludes any aid for Woodlawn, MLK, Howe, Hamilton, Yates, and Pleasant Valley - the aid breakdown is as follows:

Building Name	Estimated Cost (Aid Eligible)	Annual Aid Estimate
Lincoln ES	\$571,002	\$40,547
Zoller ES	\$410,780	\$29,169
Paige ES	\$359,977	\$25,562
Van Corlaer ES	\$178,906	\$12,704
Central Park MS	\$213,456	\$15,157
Mont Pleasant MS	\$323,926	\$23,002
Oneida MS	\$112,263	\$7,972
Schenectady HS	\$2,120,934	\$150,607
Steinmetz Academy	\$1,109,393	\$78,778
Totals	\$5,400,637	\$383,498

# Quote Proposal Form:

# Installment Purchase Contract (Lease/Purchase) Financing for "Energy Performance Contract"

# City School District of the City of Schenectady Schenectady County, New York

Fiscal Advisors & Marketing, Inc.
Corporate Headquarters
250 South Clinton Street – Suite 502
Syracuse, New York 13202
Attn: Elyse Andrews, Financial Analyst
(Call with questions: (315) 752-0051 Ext. 349)
Fax Number: (315) 752-0057

Email: eandrews@fiscaladvisors.com

Lessor/Agent:	
Address:	
Phone No.	Fax No
E-mail address:	
Contact Person:	
Title:	
Annual Interest Rate:	
Payment Amounts Years	1-15
Total of Payments:	
Cost for each Additional	\$1,000
Signature:	Date:

# \*\*\*NOTE: PLEASE ATTACH A REPAYMENT SCHEDULE WITH YOUR QUOTE\*\*\*\*

Upon verbal or written notification of successful bid award, the successful bidder <u>shall be required to overnight deliver the leasing documents to both Fiscal Advisors & Marketing, Inc., General Counsel and Bond Counsel at:</u>

FA Fiscal Advisors & Marketing, Inc.
Corporate Headquarters
Attention: Elyse Andrews, Financial Analyst
250 South Clinton Street • Suite 502
Syracuse, New York 13202

Tel: (315) 752-0051 Ext. 349 Fax: (315) 752-0057 Email Address: eandrews@fiscaladvisors.com

Orrick Herrington & Sutcliffe LLP Attention: Thomas E. Myers, Esq. 51 West 52<sup>nd</sup> Street, 15<sup>th</sup> Floor New York, New York 10019

Tel: (212) 506-5212 Fax: (212) 506-5151

Email: <a href="mailto:tmyers@orrick.com">tmyers@orrick.com</a>

Harris Beach PLLC Attention: Douglas E. Gerhardt, Esq. 677 Broadway, Suite 1101 Albany, New York 12207

Tel: (518) 701-2738 Fax: (315) 427-0235 Email: dgerhardt@harrisbeach.com