



**Johnson Controls, Inc.  
Performance Contract**

## **PERFORMANCE CONTRACT**

This Performance Contract (this “Agreement”) is made this 22nd day of May 2019 between:

### **PARTIES**

JOHNSON CONTROLS, INC. (“JCI”)  
6 AERIAL WAY  
SYOSSET, NY 11791

and

BAYPORT-BLUE POINT SCHOOL DISTRICT (“Customer” or the “District”)  
189 ACADEMY STREET  
BAYPORT, NY 11705

### **RECITALS**

**WHEREAS**, Customer desires to retain JCI to perform the work specified in Schedule 1 (Scope of Work) hereto (the “Work”) relating to the installation of the improvement measures/energy efficient measures (the “Improvement Measures” or “ECMs”) described therein; and

**WHEREAS**, Customer is authorized and empowered under applicable Laws to enter into this Agreement, and has taken necessary action under applicable Laws to enter into this Agreement; and

**WHEREAS**, Customer has selected JCI to perform the Work after it determined JCI’s proposal was the most advantageous to Customer in accordance with all applicable procurement and other Laws.

**NOW, THEREFORE**, in consideration of the mutual promises set forth herein, the parties agree as follows:

## **AGREEMENT**

- 1. SCOPE OF THE AGREEMENT.** JCI shall perform the Work set forth in Schedule 1. After the Work is Substantially Complete (as defined below) and the Certificate of Substantial Completion is executed by Customer, the Engineer of Record (as defined below in paragraph 3), and JCI, JCI shall provide the assured performance guarantee (the “Assured Performance Guarantee”) and the measurement and verification services (the “M&V Services”) set forth in Schedule 2 (Assured Performance Guarantee). Customer shall make payments to JCI for the Work and the M&V Services in accordance with Schedule 4 (Price and Payment Terms). Prior to the commencement of the Work, JCI shall provide the Engineer of Record with a list of sub-contractors that JCI intends to use for the project for approval by the Customer and the Engineer of Record.

JCI will install the Equipment identified on Schedule 1 of this Agreement (Work) and provide services detailed on Schedule 1 and Schedule 2 of this Agreement (Services). JCI shall supervise and direct the Work and Services and shall be solely responsible for all construction means, methods, techniques, sequences, and procedures and for coordinating all portions of the Work and M&V Services under this Agreement. JCI shall be responsible to pay for all labor, materials, equipment, tools, construction equipment and machinery, transportation, and other facilities and services necessary for the proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work and Services.

- 2. AGREEMENT DOCUMENTS:** In addition to the terms and conditions of this Agreement, the following Schedules, Attachments and Appendices are incorporated into and shall be deemed part of this Agreement:

- Schedule 1 – Scope of Work
- Schedule 2 – Assured Performance Guarantee
- Schedule 3 – Customer Responsibilities
- Schedule 4 – Price and Payment Terms
- Attachment 1 – Notice to Proceed
- Attachment 2 – Change Order
- Attachment 3 – Certificate of Substantial Completion; Certificate of Final Completion
- Attachment 4 – Lighting Survey line-by-line
- Attachment 5 – Customer’s Request for Proposals (“RFP”)
- Attachment 6 – Contract between Customer and BBS Architects and Engineers
- Attachment 7 – JCI proposal in response to Customer’s RFP
- Attachment 8 – Detailed Energy Audit
- Attachment 9 – Customer’s AHERA Report and Asbestos Ceiling Tile Surveys
- Attachment 10 – Pro Forma Cash Flow
- Appendix 1- Scope of Architectural Services
- Appendix 2- Scope of Construction Services-General Conditions
- Appendix 3- Log of Option C Adjustments to Baseline
- Appendix 4- Option C Baseline Adjustment Form
- Appendix 5- Option C: A Sample Output of Metrix Software

**3. ARCHITECT OF RECORD.** The Customer has identified BBS Architects, Landscape Architects & Engineers, P.C. as the certified Architect of Record (the “Architect” or “Engineer”) to provide architectural/engineering services in connection with the Work to be performed by JCI (“Architectural/Engineering Services”). The fees and total compensation for such Architectural/Engineering Services shall be \$448,740 and shall be paid by JCI to the Architect in accordance with the terms of the contract between the Customer and BBS Architects & Engineers as attached hereto as Attachment 6 and as set forth in Schedule 4 hereof. The Architect’s fees are included in the Total Project Benefits and shall be covered by the Guaranteed Savings in all respects. Both JCI and Customer agree and acknowledge that the Architect owes its/his/her professional obligations and duties, including duties of care to the Customer. The Architect shall remain free from any financial interest in the Agreement which conflicts with the proper completion of its/his/her responsibilities under this Agreement and which conflicts with its/his/her responsibilities and duties to the Customer. JCI will coordinate all Work and activities under this Agreement with the Architect.

JCI will utilize the services of the Architect of record and issue payment as set forth herein and in Attachment 6.

**4. NOTICE TO PROCEED; SUBSTANTIAL COMPLETION; M&V SERVICES.** Pursuant to 8 NYCRR §155.20, this Agreement is subject to the approval of the Commissioner of Education of the State of New York. After receipt of written approval from the New York State Education Department (“SED”), and after Customer has secured financing subject to Section 32 of this Agreement, the Customer shall issue a Notice to Proceed, a form of which is attached hereto as Attachment 1 and which is in a form acceptable to SED. JCI shall commence performance of the Work within ten (10) business days of receipt of Customer’s Notice to Proceed, and shall achieve Substantial Completion of the Work by the Substantial Completion date, which shall be the date on which Customer and Architect execute a Certificate of Substantial Completion in the form attached hereto as Attachment 3.

Substantial Completion shall be achieved when the following items are completed by JCI and approved by Customer and the Architect:

- a. A written acknowledgement by the Customer that all of the Improvement Measures have been installed by JCI and completed to the satisfaction of the Customer and the Architect;
- b. A written acknowledgment by the Customer of receipt of manuals and training provided by JCI under the Agreement;
- c. A written acknowledgement by the Customer of the warranty start date and warranty period;
- d. The receipt of a punch list of items remaining to be completed by JCI;
- e. A written acknowledgement by the Customer of receipt of warranties, release of liens, and proof of payment to subcontractors; and,
- f. JCI is responsible for obtaining fire marshal approval, if such is required for this Project. JCI shall be responsible for any costs related to its failure to secure such approval.

The M&V Services shall commence on the first day of the month following the month in which Customer executes a Certificate of Substantial Completion for all ECMs and shall continue throughout the Guarantee Term, subject to earlier termination of the Assured Performance Guarantee as provided herein. Customer acknowledges and agrees that if, for any reason, it (i) cancels or terminates receipt of M&V Services, (ii) fails to pay for M&V Services in accordance with Schedule 4, (iii) fails to fulfill any of Customer's responsibilities necessary to enable JCI to complete the Work and provide the M&V Services, or (iv) otherwise cancels, terminates or materially breaches this Agreement, the Assured Performance Guarantee shall automatically terminate.

- 5. DELAYS AND IMPACTS.** If JCI is delayed in the commencement, performance, or completion of the Work and/or M&V Services by causes beyond its reasonable control and without its fault, including but not limited to inability to access property; concealed or unknown conditions encountered at the project, differing from the conditions represented by Customer in the proposal documents or otherwise disclosed by Customer to JCI prior to the commencement of the Work; a Force Majeure (as defined below) condition; failure by Customer to perform its obligations under this Agreement; or failure by Customer to cooperate with JCI in the timely completion of the Work, JCI shall provide written notice to Customer of the existence, extent of, and reason for such delays and impacts. Under such circumstances, an equitable adjustment in the time for performance may be made subject to the mutual written agreement of the parties.
- 6. ACCESS.** Customer shall provide JCI, its subcontractors, and its agents reasonable and safe access to all facilities and properties in Customer's control that are subject to the Work and M&V Services. Customer further agrees to assist JCI, its subcontractors, and its agents to gain access to facilities and properties that are not controlled by Customer but are necessary for JCI to complete the Work and provide the M&V Services. An equitable adjustment in the time for performance may be made as a result of any failure to grant such access, subject to the mutual written agreement of the parties. JCI shall be required to perform its Work between the hours of 2:30 p.m. to 10:30 p.m., Monday through Friday on school days when the buildings are open. During the summer, JCI shall be required to perform its work between the hours of 7:00am and 3:30pm Monday through Friday with no interruption to the District's operations, including its educational, administrative, business, special events and summer operations. All schedules must be approved by the District and its Architect in writing prior to commencing any work. Any work which will interfere with the District's operations and/or which is to be performed when the District's facilities are in operation shall be performed on evenings and weekends. Additionally, JCI shall conduct its Work during hours that are in compliance with federal, state, county or local, laws, rules, regulations, codes and ordinances. Provided that Customer allows JCI continuous access to the applicable facilities during normally scheduled custodial shifts, all costs incurred by the District, including overtime costs for District personnel, to make the facilities available during evening and weekends (Saturday and Sunday) shall be borne by JCI. The District reserves the right to determine what work will interfere with its operations and said determination shall be final. In addition, all overtime work that may be necessary must be pre-approved in writing by the Customer's Superintendent and the Assistant Superintendent. JCI shall be solely responsible for all costs associated with its failure to obtain such prior written approval. The Customer reserves the right to reject the use of any proposed subcontractors.

No drinking of alcoholic beverages, smoking or use of controlled substances is permitted on the grounds. JCI shall ensure that none of its employees, agents, consultants, or its Subcontractors' employees, agents, and/or consultant's report to the site impaired by alcohol or controlled substances. JCI bears the responsibility of determining if its employees, or its subcontractors', employees are in any way impaired and whether the safety of the public, the employees of JCI and its subcontractors, the Owner, Architect, or Construction Manager are jeopardized. Each contractor shall provide drinking water for its own employees. JCI's employees, representatives, agents and consultants, and all of its subcontractors' employees, representatives, agents and consultants at the site are to refrain from using indecent language. All doing so will be removed from the site. Artwork or decoration found on vehicles belonging to Contractor or Subcontractor employees parked on or near the school property which contain indecent language or pictures shall either be covered or removed from the location.

- 7. PERMITS, TAXES, AND FEES.** JCI shall be responsible for obtaining all building permits and related permit fees associated with the Work and Services. Customer represents that it is a governmental entity and that it will cooperate with JCI and provide JCI with appropriate documentation that Customer is not obligated to pay any taxes associated with this Agreement. JCI shall pay any applicable sales, consumer, use, and other similar taxes and shall secure and pay for the building permit and other permits and governmental fees, licenses, and inspections necessary for proper execution. The Customer shall be responsible for securing any necessary approvals, easements or assessments required for the Work or the ownership and use of the Improvement Measures.

JCI shall not be obligated to provide any changes to or improvement of the facilities or any portion thereof required under any applicable building, fire, safety, sprinkler or other applicable code, standard, law, regulation, ordinance or other requirement unless the same regulates the installation of the Improvement Measures. Without limiting the foregoing, JCI's obligations with respect to the Work is not intended to encompass any changes or improvements that relate to any compliance matters (whether known or unknown) that are not directly related to the installation of the Improvement Measures or which have been imposed or enforced because of the occasion or opportunity of review by any governmental authority. JCI shall be responsible for and shall pay when due all assessments, charges and sales, use, property, excise, or other taxes now or hereafter imposed by any governmental body or agency upon the provision of the Work or the M&V Services, implementation or presence of the Improvement Measures, the use of the Improvement Measures or payments due to JCI under this Agreement.

- 8. WARRANTY.** JCI warrants that materials and equipment furnished by JCI will be of good quality and new and of recent manufacture, unless otherwise required or permitted by the Agreement documents; that the Work will be free from defects not inherent in the quality required or permitted; and that the Work and M&V Services will conform to the requirements of the Agreement Documents. Work not conforming to these requirements including substitutions not properly approved and authorized may be considered defective.

If within two (2) years following Substantial Completion (except where longer periods of time are specified in Schedule 1 and/or the Detailed Energy Audit or provided for in any manufacturer's warranties or special warranties issued or obtained following the commencement of the Work, in which case such longer periods shall apply) any of the work

is found to be not in accordance with the requirements of the Agreement, JCI shall correct it promptly after receipt of written notice from the District and/or the Architect to do so, unless the District has previously given JCI a written acceptance of such condition. This period of two (2) years shall be extended with respect to portions of JCI's work first performed after Substantial Completion by the period of time between Substantial Completion and the actual performance of such work. The obligation set forth hereunder shall survive acceptance by the District of the work, and/or termination of JCI's agreement with the District. The District shall give such notice within a reasonable period of time after discovery of the condition.

Upon written notice from the Customer, JCI shall, at its option, repair or replace the defective Work or re-perform defective Services to the satisfaction of the Customer, as long as Customer provides written notice to JCI within two (2) years following Substantial Completion except where longer periods of time are specified in Schedule 1. These warranties do not extend to any Work that has been abused, altered, misused, or repaired by the Customer or third parties without the supervision and/or prior written approval of JCI, except in the case of an emergency; or if JCI serial numbers or warranty date decals have been removed or altered. If any Work is altered or repaired in an emergency, Customer will notify JCI immediately of such alterations or repairs. The Customer must promptly report any failure of the Equipment to JCI in writing. All replaced Equipment or parts remain Customer's property.

Customer understands that JCI is a provider of services under this Agreement. JCI shall not be considered a merchant or a vendor of goods. If JCI installs or furnishes a piece of equipment under this Agreement, and that equipment is covered by a warranty from the manufacturer, JCI will transfer the benefits of that manufacturer's warranty to Customer if this Agreement with Customer terminates before the equipment manufacturer's warranty expires.

JCI further warrants that the design, engineering, and installation services it performs will be performed consistent with good engineering practices and that all Work performed by JCI is warranted to be free from defects in materials and workmanship for a period of two (2) years from the date of execution of the Certificate of Substantial Completion by Customer. Any manufacturers' warranties which exceed this two (2) year period shall be assigned to Customer to the extent allowed by the manufacturer. The warranty provided in this Agreement shall be in addition to and not in limitation of any other warranty required by the contract documentation or otherwise prescribed by law. JCI shall procure and deliver to the District, no later than the date claimed by JCI as the date of final completion, all normal and special warranties required by the contract documents.

Prior to the commencement of the Work and issuance of the final cash flow statement as set forth herein, JCI shall be fully responsible for reviewing any and all existing warranties of equipment, fixtures and appurtenances located at the Customer's facilities, including but not limited to roofs, windows and boilers that may be directly and/or indirectly impacted by the work performed under the Agreement and any amendment to the Agreement to verify that the Work will not void any such existing warranties. In the event that its review uncovers a potential issue, JCI will notify the Customer in writing and the parties will agree upon a resolution. JCI shall coordinate with the existing manufacturers, including the roofing manufacturers for all roof PV installations, and have a pre-inspection of the equipment and/or materials performed prior to installation of any ECM, including the PV system. Further, JCI shall comply with all roof manufacturer and other manufacturer warranty(ies) continuation procedures and will be responsible for all fees, inspections and additional materials to maintain

the roof warranty(ies) or any other warranty(ies) that is directly and/or indirectly impacted by the work performed under the Agreement and any amendment. All inspections must be coordinated with the Customer and its Architect. Pre-inspection shall occur during the SED review phase. In the event that said work has any negative impact on the validity of any warranty, as determined by the applicable manufacturer(s), the Customer in its sole discretion shall have the right to terminate the Agreement or to reduce the scope of Work as necessary to achieve a positive cash flow for Customer during the term of the Agreement. In the event that the work proceeds as authorized by the manufacturer and said work is not installed in accordance with any manufacturer's requirements as set forth in the manufacturers' pre-inspection, JCI shall be full responsible for performing the necessary work to achieve the requirements of the manufacturer(s) for purposes of maintaining the existing warranties. JCI shall coordinate all pre and post installation inspections with the Customer's Architect of Record. In addition, all pre-inspection and post-inspection costs shall be borne solely by JCI. Notwithstanding the foregoing, if JCI (a) proceeds with any work that will impair or nullify any existing warranty(ies) and (b) the Customer has not been notified in writing of the potential issue and agreed to the performance of such work, JCI shall be fully liable for the warranty(ies). Upon completion of the work/services of the Agreement and any amendment thereto, JCI shall be fully responsible for reviewing and informing Customer of all warranties for equipment installed and/or replaced during the installation.

**9. CLEANUP.** JCI shall keep the premises and the surrounding area free from accumulation of waste materials or rubbish caused by the Work on a daily basis and, upon completion of the Work, JCI shall remove all waste materials, rubbish, tools, construction equipment, machinery, and surplus materials and shall clean up the Work, including any dust from the materials, and surrounding areas to the reasonable satisfaction of the Customer. In the event that JCI fails to clean up the Work and the surrounding areas, upon twenty-four (24) hours written notice to JCI, the Customer will have the same cleaned. All reasonable costs associated with such clean up shall be back charged to JCI.

**10. SAFETY; COMPLIANCE WITH LAWS.** JCI shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the performance of the Work and M&V Services. JCI shall comply with all applicable laws, ordinances, rules, regulations, and lawful orders of public authorities (collectively, "Laws") in connection with its performance hereunder.

**11. ASBESTOS-CONTAINING MATERIALS AND OTHER HAZARDOUS MATERIALS.**

Asbestos-Containing Materials: JCI shall be responsible for the abatement, cleanup, control, removal or disposal of asbestos-containing materials ("ACM") as identified in the Agreement, attachments and appendices. JCI hereby represents and warrants that it has reviewed the Customer's AHERA Report, asbestos ceiling tile surveys and any and all other testing results or documentation related to such materials that have been provided to JCI by Customer and shall ensure that its subcontractors review said Report, surveys and other documentation. ACM removal, abatement or clean-up identified therein or in the attached schedules or Attachments and Appendices hereof is being undertaken as part of the Agreement. JCI shall cause to be performed such removal/abatement and clean-up in accordance with all applicable Federal, State and local laws, codes, rules, regulations and ordinances. JCI shall be fully responsible for the failure of JCI and/or its subcontractors to perform the Work in accordance

with said requirements. JCI shall defend and hold harmless Customer, its officers, trustees, and employees from any and all actions, claims, costs, causes of action, damages, fines, fees, penalties, suits of any kind arising directly or indirectly from the performance of ACM related work and shall further cause its subcontractors to defend and hold harmless Customer, its officers, trustees, and employees from any and all actions, claims, costs, causes of action, damages, fines, fees, penalties, suits of any kind arising directly or indirectly from the performance of ACM related work. Customer shall provide in writing, and JCI and its subcontractors must review and become familiar with, the Customer's Asbestos Management Plan, AHERA Report, ceiling tile surveys and any other testing results or documentation provided to JCI. Consistent with applicable Laws, Customer shall supply JCI with any information in its possession relating to the presence of ACM in areas where JCI undertakes any Work or M&V Services that may result in the disturbance of ACM. If either Customer or JCI becomes aware of or suspects the presence of ACM that has not previously been identified in Customer's AHERA Report, the Customer's asbestos ceiling tile surveys, and other testing results or documentation set forth above and that may be disturbed by JCI's Work or M&V Services, it shall promptly stop the Work or M&V Services in the affected area and notify the other, and the parties shall meet to discuss how to proceed. Customer may request that JCI provide a calculation of the cost of enclosing, removing, encapsulating or otherwise abating such ACM in the areas in which Work or M&V Services are to be performed in accordance with applicable code, laws, rules, regulations, ordinances and guidelines. Upon receiving said calculation, the parties will meet and mutually agree upon how to proceed, including but not limited to the following options: (i) arranging to have said ACM abated at the Customer's cost; or (ii) Customer paying JCI to cause such ACM to be abated; and/or (iii) revising the scope of work to include additional ACM abatement subject to review and approval of SED.

Other Hazardous Materials: JCI shall be solely responsible for abating, removing or disposing of any Hazardous Materials (as defined below) associated with the Work or M&V Services ("JCI Hazardous Materials") and for the remediation of any areas impacted by the release of JCI Hazardous Materials. All costs for said abatement, disposal and/or removal of JCI Hazardous Materials, including all necessary and required testing, are solely the responsibility of JCI. For other Hazardous Materials that may be otherwise present at Customer's facilities ("Non-JCI Hazardous Materials"), Customer shall supply JCI with any information in its possession relating to the presence of such materials if their presence may affect JCI's performance of the Work or M&V Services. If either Customer or JCI becomes aware of or suspects the presence of Non-JCI Hazardous Materials that may interfere with JCI's Work or M&V Services other than those Non-JCI Hazardous Materials already identified by Customer and JCI in writing as part of this Agreement, it shall promptly stop the Work or M&V Services in the affected area and notify the other. For purposes of this Agreement, "Hazardous Materials" means any material or substance that, whether by its nature or use, is now or hereafter defined or regulated as a hazardous waste, hazardous substance, pollutant or contaminant under applicable Law relating to or addressing public or employee health and safety and protection of the environment, or which is toxic, explosive, corrosive, flammable, radioactive, carcinogenic, mutagenic or otherwise hazardous or which is or contains petroleum, gasoline, diesel, fuel, another petroleum hydrocarbon product, polychlorinated biphenyls or mercury. "Hazardous Materials" specifically includes mold. Should JCI and/or its subcontractors become aware of the presence of Non-JCI Hazardous Materials that may be disturbed by JCI's Work or M&V Services, JCI shall promptly notify Customer, and the



parties shall meet to discuss how to proceed. Customer may request that JCI provide a calculation of the cost of remediating such Non-JCI Hazardous Materials in the areas in which Work or M&V Services are to be performed in accordance with applicable code, laws, rules, regulations, ordinances and guidelines. Upon receiving said calculation, the parties will meet and mutually agree upon how to proceed, including but not limited to the following options: (i) arranging to have said Non-JCI Hazardous Materials remediated at the Customer's cost; or (ii) Customer paying JCI to cause such Non-JCI Hazardous Materials to be remediated; and/or (iii) revising the scope of work to include additional ACM abatement subject to review and approval of SED.

JCI shall not be responsible for any losses, costs, damages, expenses (including reasonable legal fees and defense costs), claims, causes of action or liability, directly or indirectly, relating to or arising from the Customer's use, or Customer's storage, release, discharge, handling or presence of mold or Non-JCI Hazardous Materials on, under or about the facilities, or Customer's failure to comply with this Section 11. Notwithstanding the foregoing, JCI shall indemnify and hold harmless the District from any and all liability associated with the removal, abatement and/or disposal of asbestos containing and hazardous materials undertaken by JCI, its employees, agents, representatives or its subcontractors or agents pursuant to this Agreement.

JCI shall coordinate any asbestos/hazardous material testing and sampling with the Customer's Environmental Consultant. All costs associated with such testing/sampling shall be the responsibility of JCI.

**12. CHANGE ORDERS.** The parties, without invalidating this Agreement, may request changes in the Work to be performed under this Agreement, consisting of additions, deletions, or other revisions to the Work ("Change Orders"). The price and payment terms, time for performance and, if necessary, the Assured Performance Guarantee, shall be equitably adjusted in accordance with the Change Order. Such adjustments shall be determined by mutual written agreement of the parties and shall be subject to the availability of funds and written approval of the Board of Education for Customer, the Architect, SED and leasing company, if necessary. Any Change Order will not be considered effective until it is signed by an authorized representative of each party and the Architect. Upon written consent of the Customer, JCI may delay performance of Work subject to the Change Order until adjustments arising out of the Change Order are clarified and agreed upon. If concealed or unknown conditions are encountered at the project, differing from the conditions represented by Customer in the proposal documents or otherwise disclosed by Customer to JCI prior to the commencement of the Work, price and payment terms, time for performance and, if necessary, the Assured Performance Guarantee, shall be equitably adjusted subject to the availability of funds and written approval of the Board of Education, the Architect and SED.

**13. TITLE TO THE EQUIPMENT.** Title to all completed or partially completed work at the job site, all materials to be used in connection with the work, and all materials delivered to and/or stored at said job site which are intended to become a part of the completed work covered by this Agreement shall be in the name of the Customer. Notwithstanding the foregoing, and prior to acceptance of the completed work by the Customer, JCI shall be liable for all loss of or damage to said completed work, partially completed work, materials furnished by JCI, and/or materials or equipment furnished by others, the custody of which has been given to JCI, arising from

any cause other than those against which the Customer herein undertakes to carry insurance. In the event of loss or damage from cause other than those against which the Customer undertakes to carry insurance, JCI shall replace or repair the said work or materials at its own cost and expense, to the complete satisfaction of the Customer and its Architect.

**14. CUSTOMER FINANCING; TREATMENT; TAXES.** The parties acknowledge and agree that JCI is not making any representation or warranty to Customer with respect to matters not expressly addressed in this Agreement, including, but not limited to:

- (a) Customer’s ability to obtain or make payments on any financing associated with paying for the Improvement Measures, related services, or otherwise; and
- (b) Customer’s proper legal, tax, accounting, or credit rating agency treatment relating to this Agreement.

**15. INSURANCE.**

A. Prior to commencing the Work, JCI shall provide a certificate of insurance with JCI showing its insurance coverage's, and JCI shall maintain such insurance in full force and effect at all times until the Work and Services have been completed, in the following minimum amounts:

COVERAGES	LIMITS OF LIABILITY
Errors & Omissions Policy	\$5,000,000.00 per occurrence \$5,000,000.00 aggregate
Workmen's Compensation Insurance or self-insurance, including Employer's Liability	Statutory \$1,000,000 each accident, disease each employee and disease policy limit
Commercial General Liability Insurance, including Contractual.	\$10,000,000 per Occurrence \$10,000,000 Aggregate on a per project basis
Products – Completed/Operations Personal & Advertising Injury	\$10,000,000 \$10,000,000 each occurrence
Fire Damage (any one fire) Medical Expenses (any one person)	\$1,000,000 \$500,000
Commercial Automobile Liability Insurance	\$10,000,000 Combined Single Limit

Installation floater insurance

Amount sufficient to repair or replace the work. The Customer must be listed as a loss payee on this policy.

The above limits are obtained through primary and excess policies.

Coverages shall be maintained without interruption from the date of commencement of the Work until the date of final payment and termination of any coverage required to be maintained after final payment.

- B. The insurance required to be procured by JCI pursuant to paragraph A of this section shall be purchased from and maintained by an insurance carrier authorized to do business in the State of New York, with an A. M. Best rating of "A" or better. JCI must submit the Certificate of Insurance to the Customer for its approval prior to the commencement of any work.
- C. All insurance coverage to be provided by JCI pursuant to paragraph A of this section shall include a cancellation pursuant to the terms of the policy (ies).
- D. All commercial general and automobile liability insurance coverage to be provided by JCI shall include the Customer and its Architect and Construction Manager as additional insureds on the policy (ies) with respect to operations performed for Customer by or on behalf of JCI. Additionally, the insurance coverage to be provided by JCI pursuant to paragraph A of this section shall state that JCI's coverage shall be the primary coverage for JCI's work. Additional insured status will be provided by both ISO additional insured endorsement CG 2033 and CG 20 37 or equivalent.
- E. In the event that any of the insurance coverage to be provided by JCI to the Customer contains a deductible, JCI shall indemnify and hold the Customer, Architect, Construction Manager, Consultant or Sub-Consultants and agents and employees of Customer, Architect, Construction Manager, Consultant or Sub-Consultants harmless from the payment of such deductible, which deductible shall in all circumstances remain the sole obligation and expense of JCI.
- F. JCI acknowledges that its failure to obtain or keep current the insurance coverage required by paragraph A of this section shall constitute a material breach of contract and subjects JCI to liability for damages the Customer sustains as a result of such breach. This indemnity obligation is in addition to any other indemnity obligation provided in the Agreement. In addition, JCI shall be responsible for the indemnification to the Customer of any and all costs associated with such lapse in coverage, including but not limited to reasonable attorney's fees.
- G. JCI shall require all subcontractors to carry appropriate insurance coverages and limits of liability similar to those set forth in paragraph A of this section and adjusted to the nature of subcontractors' operations and submit proof of same to the Customer for approval prior to start of any work. In the event that JCI fails to require its Subcontractors to carry such insurance and a claim is made or suffered, JCI shall indemnify, defend, and hold harmless the Customer, Architect, Construction Manager, Consultants, and Sub-Consultants, board, officers and their agents and employees from any and all claims for which the required insurance would have

provided coverage. This indemnity obligation is in addition to any other indemnity obligation that will be provided for the Contract.

- H. JCI assumes responsibility for all injury or destruction of JCI's materials, tools, machinery, equipment, appliances, shoring, scaffolding, false and form work, and personal property of JCI's employees. Any policy of insurance secured covering JCI or Subcontractors leased or hired by them and any policy of insurance covering JCI or Subcontractors against physical loss or damage to such property shall include an endorsement waiving the right of subrogation against the Customer for any loss or damage to such property.
- I. The Customer in good faith may adjust and settle a loss with JCI's insurance carrier.
- J. JCI waives all rights against the Customer, its board, officers, agents and employees for damages caused by fire or other perils to the extent of actual recovery of any insurance proceeds under any insurance policy procured or other property insurance applicable to JCI's work.
- K. In addition to the coverages required and under the same terms and requirements of such coverages, in the event that JCI undertakes any asbestos and/or hazardous material work under this Agreement, JCI shall provide hazardous material liability insurance as follows: \$2,000,000/occurrence/\$2,000,000 aggregate, including products and completed operations. Such insurance shall name the Customer, its Architect and Construction Manager as additional insureds and include coverage for JCI's operations including, but not limited to, removal, replacement, enclosure, encapsulation and/or disposal of asbestos, or any other hazardous material, along with any related pollution events, including coverage for third party liability claims for bodily injury, property damage and cleanup costs. If a retroactive date is used, it shall predate the inception of the Agreement. If motor vehicles are used for transporting hazardous materials, shall provide pollution liability broadened coverage (ISO endorsement CA 9948) as well as proof of MC90. Coverage shall fulfill all requirements set forth herein and shall extend for a period of three (3) years following acceptance by the Customer of the Certificate of Completion. In the event that JCI engages an environmental subcontractor for removal, replacement, enclosure, encapsulation and/or disposal of asbestos, or any other hazardous material, along with any related pollution events, JCI shall require said environmental subcontractor to provide the hazardous material liability insurance as described herein.
- L. In addition to the coverages required and under the same terms and requirements of such coverages, JCI shall require its environmental subcontractor to provide hazardous material liability insurance as follows: \$2,000,000/occurrence/\$2,000,000 aggregate, including products and completed operations. Such insurance shall name the Customer and its Architect as an additional insured and include coverage for the subcontractor's operations including, but not limited to, removal, replacement, enclosure, encapsulation and/or disposal of asbestos, or any other hazardous material, along with any related pollution events, including coverage for third party liability claims for bodily injury, property damage and cleanup costs. If a retroactive date is used, it shall predate the inception of the Agreement. If motor vehicles are used for transporting hazardous materials, JCI's environmental subcontractor shall provide pollution liability broadened coverage (ISO endorsement CA 9948) as well as proof of MC90.

Coverage shall fulfill all requirements set forth herein and shall extend for a period of three (3) years following acceptance by the Customer of the Certificate of Completion.

- M. Before commencement of its work, JCI shall obtain and pay for such insurance as may be required to comply with the provisions outlined under the Agreement.
- N. Under no circumstance, shall JCI limit its liability to the amount of its primary general comprehensive policy limits.

## **16. INDEMNIFICATION.**

To the fullest extent permitted by applicable Law, JCI agrees to defend, indemnify and hold the District, its Board, officers, agents and employees, harmless from and against any and all claims, liabilities, actions, judgments, losses, costs, damages or expenses (including reasonable attorneys' fees) suits, actions or damages ("claims") arising by reason of bodily injury, death or damage to property to the extent caused by the negligence, misconduct or wrongful act of JCI, its officers, agents, subcontractors or employees.

JCI shall indemnify and hold harmless the District, its board, officers, employees, agents, representatives and assigns against any and all claims, actions, damages, liabilities, and expenses, including reasonable attorney's fees as determined by court order, arising out of or related to any claims of patent infringement and any claims of construction or materialman's lien made by any subcontractor or materialman.

JCI shall indemnify and hold harmless the District, its board, officers, employees, agents and assigns from and against all claims, actions, damages, liabilities and expenses, including reasonable attorney's fees, arising out of or related to JCI's, its officers, employees, agents, representatives, or its subcontractor's performance of this Agreement.

This paragraph 16 shall survive termination of this Agreement.

## **17. PAYMENT AND PERFORMANCE BOND.**

- A. JCI shall, prior to the commencement of construction, deliver to the Customer Performance and Payment Bonds in a sum equal to the contract amount with sureties licensed by the State of New York and satisfactory to the Customer, conditioned upon the faithful performance by JCI, for the implementation of the Improvement Measures, such bonds to be in such form of AIA Document A312, as modified, and shall contain such provisions as are reasonably satisfactory to the Customer. The Performance and Payments Bonds shall apply only to the Installation Period, as defined in Schedule 2. Such bonds shall not apply to the Assured Performance Guarantee. A rider including the following provisions shall be attached to each Bond:
  - 1. Surety hereby agrees that it consents to and waives notice of any addition, alteration, omission, change, or other modification of the Agreement Documents. Such addition, alteration, change, extension of time, or other modification of the Agreement Documents, or a forbearance on the part of either the Customer or JCI

to the other, shall not release the Surety of its obligations hereunder and notice to the Surety of such matters is hereby waived.

2. Surety further agrees that in event of any default by the Customer in the performance of the Customer's obligations to JCI under the Agreement, JCI or Surety shall cause written notice of such default (specifying said default in detail) to be given to the Customer, and the Customer shall have thirty (30) days from time after receipt of such notice within which to cure such default, or such additional reasonable period of time as may be required if the nature of such default is such that it cannot be cured within thirty (30) days. Such Notice of Default shall be sent by certified or registered U.S. Mail, return receipt requested, first class postage prepaid, to Lender and the Customer.

B. In addition to the payment and performance bond described herein, JCI shall deliver to the Customer an Energy Savings Guarantee Bond in an amount equal to 100% of the total cost of the guaranteed savings as set forth in this Agreement. The Energy Savings Guarantee Bond shall be issued for the term of the Guarantee Period as defined in Schedule 2 hereof.

C. If the financial lending institution selected by the District requires a Dual Obligee Rider, such Rider shall be subject to review and approval by the District and its legal counsel. In addition, JCI shall undertake all necessary efforts to expedite the issuance of said Dual Obligee Rider and the required modifications to said Rider, if any.

**18. REVIEW BY THE STATE EDUCATION DEPARTMENT/APPROVAL OF CONTRACT.** JCI and Customer acknowledge that this Agreement is subject to 8 NYCRR 155.20 and, as such, requires the approval of the Commissioner of Education of the State of New York. This Agreement shall not be executory until Commissioner's approval is obtained. Upon receiving SED approval and building permits, state aid runs, and all necessary approvals, the cash flow for the Project will be recalculated with current energy costs, utility rebates, building aid and current interest rates. If the recalculation of cash flow does not yield a positive cash flow for Customer, Customer reserves the right in its sole discretion and without any liability to JCI whatsoever, to terminate this Agreement in its entirety or reduce the scope of the Work as necessary to achieve a positive cash flow for the Customer during the term of the Agreement. Moreover, in the event that building aid for the Project is reduced and/or eliminated or, the necessary approvals referenced herein are not received or are substantially modified, Customer, in its sole discretion and without any liability to JCI whatsoever, shall have the right to terminate the Agreement or to reduce the scope of Work as necessary to achieve a positive cash flow for Customer during the term of the Agreement. The Price and Payment Terms set forth at Schedule 4 of this Agreement will be adjusted by Change Order or amendment to this Agreement to reflect any necessary modifications resulting therefrom. Upon request by Customer, JCI will assist Customer in obtaining additional aid for the Project which may include SED building aid and/or rebates.

In addition, this Agreement shall not be executory until Customer's attorneys' approval is obtained. Prior to SED approval, it shall be JCI's sole responsibility to validate each Improvement Measure with Customer and gain the final approval of the savings outlined in Schedule 2. This process may include the providing of mock-ups and/or site visits as well as

delivering additional presentations if necessary. Without final Customer approval of Schedule 2 and any requested mock-ups, this Agreement shall not be executory. If SED approval is not obtained within 365 days of the date of the Architect's submittal to SED, JCI reserves the right to propose modifying the terms of this Agreement, including but not limited to the cost to be financed under this Agreement, subject to Customer's approval in writing, which shall not be unreasonably withheld. JCI agrees to cooperate with Customer in obtaining necessary approvals, including approval by the Commissioner of Education. This shall include providing the certifications pursuant to 155.20 (d) (7) (ii), (iii) and (iv) of the Regulations of the Commissioner of Education. Notwithstanding the above, should any portion of this Agreement fail to be approved by SED, or, if the Scope of Work contained in this Agreement is not approved by SED in its entirety, Customer may, in its sole discretion, elect to terminate this Agreement. JCI shall have no remedy at law or in equity for such termination or for any costs incurred by JCI up to the effective date of termination.

In addition to the Customer's right to reduce the scope of work as set forth in this Section 18 and Section 19 herein or Customer's right to terminate this Agreement as described herein, the Customer further reserves the right, in its sole discretion and without any liability to JCI whatsoever, to reduce the scope of work if the Customer determines that any ECM, or portion thereof, is no longer necessary or if any ECM, or portion thereof, is undertaken by the Customer as part of a capital improvement project or bond referendum project. JCI shall schedule its work with BBS and shall be responsible for coordinating its work with any capital improvements undertaken at the District.

**19. CASH FLOW STATEMENTS.** It is understood and agreed that, at all times during the Guarantee Period, the annual savings set forth in the cash flow statements must remain positive. JCI shall provide the District with the required cash flow statements as set forth herein. Such cash flow statements shall be appended to this Agreement. The cash flow statement shall list the guaranteed rebates; however, all rebates shall inure to and be payable to the District. In addition, JCI shall provide the District with revised cash flow statements at the following intervals: (1) upon the New York State Education Department's approval of the Agreement and any amendment between the parties; (2) upon issuance of the State Aid report identifying the aid that will be allocated for the project; (3) upon receipt of any utility rebate or incentive; (4) upon the District's finalization of its financing of the project (the "Financing Period"); (5) prior to the commencement of any work under the Agreement and any amendments; and (6) at any other time as may be requested by the District. All revised cash flow statements shall be attached and become part of the contract documents. If the Project does not yield a positive cash flow to the District for any year of the contract term (as identified by the cash flow statements provided during the Financing Period), the District shall be permitted to reduce the scope of the Project without liability of any type so as to achieve a positive cash flow in each year of the contract term. The Project shall not commence until the District provides its written acceptance of the final cash flow statement, which must include the eligible building aid for the Project as provided by the New York State Education Department in writing and the applicable interest rate for the Project. Under no circumstance, shall the Project commence without written authorization from the District approving the cash flow for the Project. In the event that JCI commences without written approval of the final cash flow statement, JCI shall be liable for any negative cash flow of the District for the entire term of the Agreement and for any other loss incurred by the District resulting from its failure to produce a positive cash flow for each year of the Project.

**20. CORRESPONDENCE.** JCI shall provide copies of all correspondence and/or other communications by and/or between it, the Architect, Consultants and/or the New York State Education Department contemporaneously with its transmission or receipt of such communications. JCI shall be responsible for assuring that the District received the transmittals and correspondence, maintaining all correspondence and turning over the same after project completion.

**21. FORCE MAJEURE.** Neither party will be responsible to the other for damages, loss, injury, or delay caused by conditions that are beyond the reasonable control, and without the intentional misconduct or negligence of that party. Such conditions (each, a "Force Majeure") include, but are not limited to: acts of God; acts of government agencies; fires; explosions or other casualties; riots or war; acts of terrorism; electrical power outages; or interruptions or degradations in telecommunications, computer, or electronic communications systems.

**22. JCI'S PROPERTY.** Except as set forth in Schedule 1 – Scope of Work regarding materials to be furnished or installed as part of the Work, all materials and tools used by JCI personnel and/or JCI subcontractors or agents at the installation site, including documentation, schematics, test equipment, software and associated media, remain the exclusive property of JCI or such other third party. Customer agrees not to use such materials for any purpose at any time without the express authorization of JCI. Customer agrees to allow JCI personnel and/or JCI subcontractors or agents to retrieve and to remove all such materials remaining after installation or maintenance operations have been completed upon appointment during normal business hours. Customer acknowledges that any software furnished in connection with the Work and/or M&V Services is proprietary and subject to the provisions of any software license agreement associated with such software.

**23. GOVERNING LAW.** The Agreement shall be governed and construed in accordance with the laws of the State of New York without regard to choice of law principles. The parties agree that the sole jurisdiction and venue for actions related to the subject matter hereof shall be the State and U.S. Federal courts in the County of Suffolk, New York. Both parties consent to the jurisdiction of such courts and waive any objections regarding venue in such courts.

**24. MODIFICATIONS.** Additions, deletions, and modifications to this Agreement may be made upon the mutual agreement of the parties in writing. The parties contemplate that such modifications may include, but are not limited to, the installation of additional improvement measures, energy conservation measures, facility improvement measures, and operational efficiency improvements or furnishing of additional services within the identified facilities, as well as other facilities owned or operated by the Customer or the deletion or reduction of scope. These modifications may take the form of additional work or modifications to or deletion of the original scope of Work or Services.

**25. TERMINATION.** Customer reserves the right to terminate this Agreement for any reason, or no reason whatsoever, upon thirty (30) days written notice to JCI. In the event of such termination, the parties shall endeavor in an orderly manner to wind down activities hereunder. In the event of termination, all reports and services due to the Customer must be completed by JCI, its employees, and/or agents within thirty (30) days of the termination date. Customer shall pay to JCI all undisputed amounts due for Work satisfactorily completed up to the date of termination.



**26. WAGE AND HOURS PROVISIONS.** This is a public work contract covered by Article 8 of the Labor Law. Neither JCI's employees nor the employees of its subcontractors may be required or permitted to work more than the number of hours or days stated in said statutes, except as otherwise provided in the Labor Law and as set forth in prevailing wage and supplement schedules issued by the State Labor Department. Furthermore, JCI and its subcontractors must pay at least the prevailing wage rate and pay or provide the prevailing supplements, including the premium rates for overtime pay, as determined by the State Labor Department in accordance with the Labor Law. Accordingly, JCI and each of its subcontractors shall comply with Prevailing Wage Rates as issued by the State of New York Department of Labor for the location and duration of this Project and shall comply with all requirements governing its payments to its employees as set forth in section 220 et. seq. of the New York State Labor Law. JCI must submit the required certified payrolls with its requests for payment. The Customer will not make any payment to JCI unless the completed certified payrolls are submitted to the Customer.

**27. CONSENTS; APPROVALS; COOPERATION.** Whenever Customer's consent, approval, satisfaction or determination shall be required or permitted under this Agreement, and this Agreement does not expressly state that Customer may act in its sole discretion, such consent, approval, satisfaction or determination shall not be unreasonably withheld, qualified, conditioned or delayed, whether or not such a "reasonableness" standard is expressly stated in this Agreement. Whenever Customer's cooperation is required by JCI in order to carry out JCI's obligations hereunder, Customer agrees that it shall act in good faith and reasonably in so cooperating with JCI and/or JCI's designated representatives or assignees or subcontractors. Customer shall furnish decisions, information, and approvals required by this Agreement in a timely manner so as not to delay the performance of the Work or M&V Services.

**28. FURTHER ASSURANCES.** The parties shall execute and deliver all documents and perform all further acts that may be reasonably necessary to effectuate the provisions of this Agreement.

**29. INDEPENDENT CONTRACTOR.** JCI is an independent contractor in all respects with regard to this Agreement. Nothing contained in this Agreement shall be deemed to create a partnership, joint venture, fiduciary, or similar relationship between the parties. Nothing in this Agreement shall be construed as reserving to Customer any right to exercise any control over or to direct in any respect the conduct or management of business or operations of JCI on the Customer's property. The entire control or direction of such business and operations shall be in and shall remain in JCI, subject only to JCI's performance of its obligations under this Agreement. Neither JCI nor any person performing any duties or engaged in any Work on the Customer's property on behalf of JCI shall be deemed an employee or agent of Customer. Nothing in this Section shall be deemed to be a waiver of the Customer's right to use its property. Customer and JCI are independent of one another and shall have no other relationship relating to or arising out of this Agreement. Neither party shall have or hold itself out as having the right or authority to bind or create liability for the other by its intentional or negligent act or omission, or to make any contract or otherwise assume any obligation or responsibility in the name of or on behalf of the other party.

**30. NOTICE/SERVICE OF PROCESS.** In addition to the methods of service allowed by the New York State Civil Practice Law & Rules (“CPLR”), the parties hereby consent to service of process upon them by registered or certified mail, return receipt requested. Service hereunder shall be complete upon a party’s receipt of process or upon the sending party’s receipt of the return thereof by the United States Postal Service as refused or undeliverable. The parties must promptly notify each other, in writing, of each and every change of address to which service of process can be made. Service by a party to the last known address of the other party shall be sufficient.

**31. COMPLIANCE WITH LAW.** JCI shall comply with and obtain, at its expense, all licenses and permits required by Federal, State and local laws, rules, regulations and ordinances in connection with the installation of the Improvement Measures. To the extent that JCI agrees to perform operations and/or maintenance of specified Improvement Measures or other equipment, it shall comply with and obtain, at its expense, all licenses and permits which may be required by Federal, state and local laws, rules, regulations and ordinances in connection with the operation and/or maintenance of such specified Improvement Measures. In the event that JCI cannot procure any such license or permit in light of a requirement that Customer is required to do so, Customer will procure the same at JCI’s cost and expense. JCI shall comply with all applicable laws, ordinances, rules, regulations, and lawful orders of public authorities (collectively “Laws”) in connection with its performance hereunder.

**32. NON-APPROPRIATION.** Pursuant to New York State Energy Law section 109, et. seq. and 8 N.Y.C.R.R. 155.20, this Agreement shall be executory only to the extent of the monies appropriated and available for the purposes of this Agreement, and no liability on account therefor shall be incurred beyond the amount of such monies. It is understood that neither this Agreement nor any representation by any public employee or officer creates any legal or moral obligation to request, appropriate or make available monies for the purpose of the Agreement.

**33. ASSIGNMENT.** The parties agree not to assign, transfer, convey or sublet or otherwise dispose of this Agreement nor any duties or obligations hereunder or rights, title and interest therein or power to execute such Agreement, to any other person, firm or corporation without the previous consent in writing of the other party; provided, however, that JCI may subcontract any portion of the Work to be performed hereunder in accordance with the provisions set forth herein. JCI may not assign any monies due or to become due to it pursuant to its Agreement with Customer without Customer’s prior written consent. Any such assignment shall be in a form acceptable to Customer and the financial lending institution selected by the Customer, if necessary. If JCI attempts to make such an assignment without such consent from Customer, JCI shall nevertheless remain legally responsible for all obligations under its Agreement with Customer.

**34. SUBCONTRACTING.** JCI shall provide the Customer with a list of subcontractors that it proposes to use in meeting its obligations hereunder; however, all subcontractors must be approved by Customer in writing and in advance. JCI shall meet with the Customer to review the list of proposed subcontractors before any work commences. Customer shall have the right to reject the use of any subcontractor in its sole discretion. Subcontractors will not be acceptable unless evidence is furnished that the proposed subcontractor has satisfactorily completed similar subcontracts as contemplated under this prime contract, and has the necessary experience, personnel, equipment, plant, and financial ability to complete the

subcontract in accordance with the intent of this Agreement. JCI and its subcontractors will be required to wear photo identification and yellow safety vests at all times while on Customer's property. JCI and its subcontractors as necessary shall attend any meetings when reasonably required during the construction of the Project. By appropriate agreement, JCI shall require each subcontractor to be bound to JCI by the terms of this Agreement and shall further require its subcontractors to procure the required insurance as set forth herein at paragraph 15.

- 35. NOTIFICATIONS OF GOVERNMENTAL ACTION - Occupational Safety and Health.** The parties agree to notify each other as promptly as is reasonably possible upon becoming aware of an inspection under, or any alleged violation of, the Occupational Safety and Health Act or any other provision of Federal, state or local codes, laws, rule or regulation relating in any way to the undertakings of either Party under this Agreement. JCI represents and warrants that it will meet all applicable OSHA requirements applicable to this Agreement, including any required certification and training requirements for its employees and its subcontractors.
- 36. TRAINING.** JCI shall provide adequate training to Customer's employees to allow Customer or its employees to have sufficient knowledge with respect to the proper use and operation of the equipment and ECMs.
- 37. WAIVER.** The failure of either party to require compliance with any provision of this Agreement shall not affect that party's right to later enforce the same. It is agreed that the waiver by either party of performance of any other terms of this Agreement or of any breach thereof will not be held or deemed to be a waiver by that party of any subsequent failure to perform the same or any other term or condition of this Agreement or any breach thereof.
- 38. NON-DISCRIMINATION.** JCI agrees not to discriminate against any employee, or applicant for employment, to be employed in the performance of this Agreement, with respect to hire, tenure, terms, conditions or privileges of employment, or any matter directly or indirectly related to employment, because of age, sex, race, disability, color, religion, national origin, Vietnam era military service or ancestry in accordance with applicable Federal, New York State or local laws, rules, and ordinances.
- 39. INTERNATIONAL BOYCOTT.** In accordance with Section 220-f of the Labor Law and Section 139-h of the State Finance Law, if this Agreement exceeds \$5,000, JCI, as a material condition of the Agreement, represents that neither JCI nor any substantially owned or affiliated person, firm, partnership or corporation has participated, is participating, or shall participate in an international boycott in violation of the Federal Export Administration Act of 1979 (50 USC App. Sections 2401 et seq.) or regulations thereunder. If JCI, or any of the aforesaid affiliates of JCI, is convicted or is otherwise found to have violated said laws or regulations under the final determination of the United States Commerce Department or any other appropriate agency of the United States subsequent to the contractors execution, such contract, amendment or modification thereto shall be rendered forfeit and void. JCI shall so notify Customer within five (5) business days of such conviction, determination or disposition of appeal (2 NYCRR 105.4).
- 40. NON-COLLUSION.** JCI warrants, under penalty of perjury, that its proposal was arrived at independently and without collusion aimed at restricting competition. JCI further warrants that at the time it submitted its response to the Customer's RFP an authorized and responsible

person executed and delivered to the Customer a valid non-collusive, certification on JCI's behalf.

- 41. SET OFF RIGHTS.** Customer shall have all of its common law, equitable and statutory rights of setoff. These rights shall include, but not be limited to, Customer's option to withhold for the purposes of set-off any moneys due to JCI under this Agreement up to any amounts due and owing to Customer with regard to this Agreement, any other contract with Customer, including any contract for a term commencing prior to the term of this Agreement, plus any amounts due and owing to Customer for any other reason including, without limitation, tax delinquencies, fee delinquencies or monetary penalties relative thereto. Customer shall exercise its set-off rights in accordance with normal Customer practices including, in cases of set-off pursuant to an audit, the finalization of such Customer audit by a State agency, its representatives, or the State Comptroller.
- 42. BOOKS; RECORDS.** JCI shall establish and maintain complete and accurate books, records, documents, accounts and other evidence directly pertinent to performance under this Agreement (hereinafter, collectively the "Records"). The Records must be kept for the balance of the calendar year in which they were made and for six (6) additional years thereafter or such longer period as may be required by applicable Law. The State Comptroller, the Attorney General, the Commissioner of Education, and any other person or entity authorized to conduct an examination, as well as the agency or agencies involved in this Agreement, shall have access to the Records during normal business hours at an office of JCI within the State of New York or, if no such office is available, at a mutually agreeable and reasonable venue within the State, for the term specified above for the purposes of inspection, auditing and copying. Customer shall take reasonable steps to protect from public disclosure any of the Records which are exempt from disclosure under Section 87 of the Public Officers Law provided that: (i) JCI shall timely inform an appropriate Customer official, in writing, that said Records should not be disclosed; and (ii) said Records shall be sufficiently identified; and (iii) designation of said Records as exempt under the statute is reasonable. Nothing contained herein shall diminish, or in any way adversely affect, either party's right to discovery in any pending or future litigation.
- 43. THIRD PARTY BENEFICIARIES.** This Agreement does not create, and shall not be construed as creating, any rights or interests enforceable by any person not a party to this Agreement.
- 44. CUSTOMER POLICIES.** It is understood and agreed that JCI, its employees, agents, subcontractors and employees of such agents and subcontractors, shall adhere to Customer's policies with respect to conduct on the Customer's property as well as any and all Federal, State, and local laws, rules, ordinances, regulations, Customer's policies and procedures applicable to construction projects on Customer's premises, to the extent such policies are provided to JCI in writing.
- 45. POWER AND AUTHORITY.** Each party represents and warrants to the other that (i) it has all requisite power and authority to execute and deliver this Agreement and perform its obligations hereunder, (ii) all corporate, board, body politic, or other approvals necessary for its execution, delivery, and performance of this Agreement have been or will be obtained, and (iii) this Agreement constitutes its legal, valid, and binding obligation, except as provided in Section 32 hereof.

**46. SEVERABILITY.** In the event that any clause, provision, or portion of this Agreement or any part thereof shall be declared invalid, void, or unenforceable by any court having jurisdiction, such invalidity shall not affect the validity or enforceability of the remaining portions of this Agreement unless the result would be manifestly inequitable or materially impair the benefits intended to inure to either party under this Agreement.

**47. COMPLETE AGREEMENT.** It is understood and agreed that this Agreement contains the entire agreement between the parties relating to all issues involving the subject matter of this Agreement. In the event that any of the terms of this Agreement, any schedule, attachment or appendix hereto, except for those terms of Attachment 6 which do not apply to JCI, and except for any scope of work provisions in the RFP, conflict with one another or with the terms of the Customer's RFP for District-wide implementation of Energy Conservation Measures on a Performance Contracting basis, the terms more favorable to Customer shall prevail. No binding understandings, statements, promises or inducements contrary to this Agreement exist. This Agreement supersedes and cancels all previous agreements, negotiations, communications, commitments and understandings with respect to the subject matter hereof, whether made orally or in writing. Each of the parties to this Agreement expressly warrants and represents to the other that no promise or agreement which is not herein expressed has been made to the other, and that neither party is relying upon any statement or representation of the other that is not expressly set forth in this Agreement. Each party hereto is relying exclusively on the terms of this Agreement, its own judgment, and the advice of its own legal counsel and/or other advisors in entering into this Agreement. Customer acknowledges and agrees that any purchase order issued by Customer associated with this Agreement is intended only to establish payment authority for Customer's internal accounting purposes. No purchase order shall be considered a counteroffer, amendment, modification, or other revision to the terms of this Agreement.

**48. HEADINGS.** The captions and titles in this Agreement are for convenience only and shall not affect the interpretation or meaning of this Agreement.

**49. COUNTERPARTS.** This Agreement may be executed in any number of counterparts, all of which when taken together shall constitute one single agreement between the parties.

**50. NOTICES.** All notices or communications related to this Agreement shall be in writing and shall be deemed served if and when sent by facsimile (516-822-0592) or mailed by certified or registered mail: to Johnson Controls, Inc. at the address listed on the first page of this Agreement, ATTN: Regional Solutions Manager, with a copy to Johnson Controls, Inc., ATTN: General Counsel – Building Efficiency Americas, 507 East Michigan Street, Milwaukee, Wisconsin, 53202; and to Customer by mail or certified mail at the address listed on the first page of this Agreement.

51. EXECUTION. A copy of a signature on a facsimile and/or electronic transmission of this Agreement shall have the same force and effect as if it were an original signature.

IN WITNESS WHEREOF, the duly authorized officers or representatives of the Parties have set their hand on the date first written above with the intent to be legally bound.

**BAYPORT-BLUE POINT SCHOOL DISTRICT**

**JOHNSON CONTROLS, INC.**

Signature: 

Signature: 

Printed Name: Michael Miller

Printed Name: Charles K. McGinnis

Title: Pres.

Title: V.P. Sales N.A.

Date: 5/22/19

Date: 05.20.19

## Construction Management

All work set forth in the Agreement shall be coordinated with the Customer, approved by the Architect as set forth in the Agreement and attachments thereto and be carried out in accordance with this Agreement and all attachments and appendices hereto.

1. JCI will prepare and maintain an overall Project Management Plan and Construction Schedule which shall be provided to the Customer and Architect for approval. Updates will be provided by JCI to the Customer and the Architect on an on-going basis.
2. JCI shall maintain a staff to administer the contract terms and conditions with project subcontractors.
3. JCI will provide coordination and total supervision of the work of separate ECMs ensuring enforcement of all contract provisions, compliance with energy initiatives, and timely completion of the project. All such work shall be coordinated with the Customer and the Architect and shall further be scheduled and coordinated with any capital improvements undertaken at the District facilities. JCI shall be responsible for scheduling and coordinating all work identified within Schedule 1 with any capital improvement projects at the Customer's facilities.
4. JCI shall establish and maintain coordination procedures, including project meetings and documentation process. JCI shall attend project meetings as required by the Customer and/or the Architect.
5. JCI shall submit a site accessibility plan to the Customer, Architect and contractors/subcontractors to ensure continuous operation of school services and activities. All schedules and site accessibility plans require approval by the Customer and Architect.
6. JCI shall perform all inspection work necessary to assure the conformity to the plans and specifications until final completion and acceptance of the project by the Customer.
7. JCI shall coordinate post-completion activities including the assembly of guarantees, manuals, as-built drawings of all trade and subcontractors, and the Customer's final acceptance with the Architect. JCI shall coordinate training of the Customer's personnel by installers and vendors for the operations of the project with the Customer's Representative and Architect.
8. JCI shall coordinate all aspects of the project with the District-approved Architectural/Engineering firm, BBS Architects, Landscape Architects & Engineers, P.C. BBS will prepare and submit all necessary design work to the New York State Education Department for approval in accordance with the terms of the Agreement between the District and Architect attached hereto as Attachment 6 and Appendix 1, Scope of Architectural Services.

9. In addition to the terms set forth herein, Appendix 2, Scope of Construction Services delineates the terms and conditions of the construction services to be provided by JCI. JCI represents that it is aware of and bound by the terms and conditions of the services as provided said Appendices.
10. JCI and its subcontractors will be required to wear photo identification at all times while on School District property.
11. JCI and its subcontractors shall attend Customer Committee meetings at the request of the Customer, if any, during the construction of the project and meetings related to the District's capital improvements at its facilities. JCI is fully aware of all capital improvements being undertaken by the District which may have an impact on the energy performance project. JCI hereby further certifies that it has reviewed and examined all prior energy performance contracts undertaken at the Customer's facilities and hereby warrants and represents that the ECM's to be installed under this energy performance contract in no way conflict with and/or overlap with any ECM provided under previous energy performance contracts.
12. In addition to the terms set for the herein, Appendix 2, Scope of Construction Services delineates the terms and conditions of the construction services to be provided by JCI. JCI represents that it is aware of and bound by the terms and conditions of the services as provided said Appendices. Construction phase services will be performed according to the terms and conditions of Appendix 1, Scope of Architectural Services and Appendix 2, Scope of Construction Services.
13. Work will commence upon SED approval and the Customer's receipt of the necessary financing for the project. Hours of work shall be as set forth in paragraph six (6) of this Agreement. All costs incurred by the Customer, including overtime costs for District personnel, to make the facilities available during evening and weekends shall be borne solely by JCI.



## SCOPE OF WORK

- 1. SUMMARY OF WORK:** The following summarizes the Work to be provided by JCI under this Agreement, as further defined below:

ECM #	Measure	Bayport-Blue Point High School	James Wilson Young Middle School	Academy Street Elementary School	Blue Point Elementary School	Sylvan Avenue Elementary School
ECM 1	Lighting - Interior Lighting	x	x	x	x	x
ECM 2	Lighting - Exterior Lighting	x	x	x	x	x
ECM 3.1	Energy Management System - Temperature Setback	x	x	x	x	x
ECM 3.2	Energy Management System - Demand Controlled Ventilation	x	x			
ECM 3.3	Energy Management System - Optimal Start	x	x	x	x	x
ECM 4	Heating Distribution System - Pipe and Valve Insulation	x	x	x	x	x
ECM 5	Boiler - Replacements			x		
ECM 6	Window / Door - Replacements		x		x	
ECM 7	Motors - Replacements	x	x		x	x
ECM 8	Renewable Energy- Photovoltaic Electric Generation	x	x			x
ECM 9	Plug Load Controllers	x	x	x	x	x
ECM 10	Unit Ventilators - Refurbishment		x			
ECM 11	Air Conditioning Compressor Controllers	x	x	x	x	
ECM 12	Refrigeration Compressor Controllers	x				x

## GENERAL

All work to be undertaken and performed by JCI shall be performed in strict accordance with all applicable laws, rules, regulations and ordinances in effect at the time of contract signing. In the event that any applicable law, rule, regulation or ordinance is modified between the date of contract signing and the date of installation, JCI shall notify the Customer in writing. The parties shall meet to review such modifications prior to installation to determine whether a contract amendment is deemed necessary. In addition, all work undertaken by JCI shall be in strict accordance with the plans and specifications developed by the District Architect and approved by the SED. All work will be performed by JCI and its subcontractors in a neat and workman like manner.

***JCI shall be responsible for all removal, remediation and disposal of hazardous materials/wastes impacted by the scope of work included in this energy performance project, either directly or indirectly in accordance with paragraph 11 and the requirements set forth in the District's RFP. The guaranteed savings for the energy performance project must cover the costs for the removal, remediation and disposal of these hazardous materials/wastes. All abatement work impacted by this scope shall be included.***

All work to be performed by JCI under this Agreement shall be certified and signed by the District's Architect of Record before submission to SED. As built drawings, as required and deemed necessary by the Customer and the Customer's Architect shall be provided for the ECMs installed by JCI.

The following scope of work is included in this Agreement and shall be provided by JCI:

### ***ECM 1: Lighting – Interior Lighting***

Johnson Controls will furnish and install energy efficient LED lighting in specified areas in the facilities listed in Line by Line by retrofitting the existing fixture with new lamps and/or ballasts or by replacing with new lighting fixtures. Please refer to the detailed lighting survey in Attachment 4 for the retrofit type and locations.

### ***Demolition and Removal Work***

Existing lamps, ballasts and fixtures associated with the above-referenced scope of work will be removed and properly disposed according to applicable, laws, rules and regulations in effect at the time of contract signing.

### ***New Installation Work***

Johnson Controls will furnish necessary materials, labor and necessary equipment to complete the above Interior LED Retrofits. No reconfiguration of lighting systems is included. No Repair, replacement or upgrade of existing indoor or exterior emergency and/or egress lighting system is included unless otherwise noted in the Scope of Work.

Exclusions:

1. Repair or replacement of defective equipment, other than the equipment specifically described in the ECM description. Johnson Controls will identify the location of defective equipment and notify Customer in writing.

### ***ECM 2: Lighting – Exterior Lighting***

Johnson Controls will install energy efficient LED lighting in specified areas in the facilities listed in line by line either by retrofitting the existing fixture with new lamps and ballasts or by replacing with new lighting fixtures. Please refer to the detailed lighting survey in Attachment 4 for the retrofit type and locations.

#### ***Demolition and Removal Work***

Existing lamps, ballasts and fixtures associated with the above-referenced scope of work will be removed and properly disposed according to applicable, laws, rules and regulations in effect at the time of contract signing.

#### ***New Installation Work***

Johnson Controls will furnish necessary materials, labor and necessary equipment to complete the above exterior LED Retrofits.

Exclusions:

1. Existing poles shall be used therefore repair of wiring to poles or within poles is not included. Customer is responsible for pole maintenance, repair and replacement throughout the term of the guarantee.

### ***ECM 3: Energy Management System***

Johnson Controls will furnish, install and commission an upgraded Energy Management System (EMS) as outlined below.

#### **Temperature Setback**

#### **DDC Retrofit**

- Convert or migrate pneumatics listed below to DDC Control, including electronic end-devices.
- This includes the following points and sequences:
  - Economizer control, including outdoor air enthalpy change-over on cooling equipment
  - Heating
  - Cooling
  - Discharge control

- Freeze protection
- Local or remote set point control
- Warm-up/Cool-down
- Note that units converted to fully electronic type (new end devices) will no longer require a compressed air supply

Building	Unit Ventilators	Pneumatic T-Stat
High School	24	24
<b>Total</b>	<b>24</b>	<b>24</b>

Building	Location
High School	Room 101
High School	Room 103
High School	Room 105
High School	Room 107
High School	Room 109
High School	Room 121
High School	Room 108
High School	Room 112
High School	Room 219
High School	Room 217
High School	Room 215
High School	Room 213
High School	Room 209
High School	Room 207
High School	Room 205
High School	Room 203
High School	Room 201
High School	Room 204
High School	Room 206
High School	Room 208
High School	Room 210
High School	Room 320
High School	Room 328
High School	Room 308

### Pneumatic Repair and Refurbishment

Pneumatic repair & refurbishment includes:

- Provide complete repair and refurbishment of existing pneumatic controls.

- Verify piping and sequence of operations conforms to meet savings requirements
- Stroke all end devices; confirm full range of operation, tight seal-off and reliability. Repair or replace deficient control components. Free up, lubricate and adjust linkages of economizer dampers as necessary to achieve full range and reliable operations.
- Verify operation of all control devices including EP relays, switching valves, PE switches, receiver-controllers, thermostats, and specialty relays. Calibrate; replace devices which prove defective or unreliable.
- Inspect valve disks and seats, refurbish or replace device as necessary to achieve as-new performance.
- Inspect system for field leaks, repair.
- Prove operation of night setback controls.
- Replace indicating gauges at central stations and control panels.
- Replace compressors, as needed.

The following tables show locations where pneumatic repair and refurbishment will be performed:

<b>Building</b>	<b>Unit Ventilators</b>	<b>Pneumatic T-Stat</b>
Middle School	38	38
Sylvan Ave Elementary	14	14
<b>Total</b>	<b>52</b>	<b>52</b>

<b>Building</b>	<b>Location</b>
Middle School	Room 209
Middle School	Room 211
Middle School	Room 213
Middle School	Room 215
Middle School	Room 217
Middle School	Room 219
Middle School	Room 210
Middle School	Room 212
Middle School	Room 214
Middle School	Room 216
Middle School	Room 218
Middle School	Room 220
Middle School	Room 260
Middle School	Room 258
Middle School	Room 256
Middle School	Room 254
Middle School	Room 252
Middle School	Room 250
Middle School	Room 259

Building	Location
Middle School	Room 257
Middle School	Room 255
Middle School	Room 253
Middle School	Room 251
Middle School	Room 249
Middle School	Room 118
Middle School	Room 122
Middle School	Room 124
Middle School	Room 148
Middle School	Room 146
Middle School	Room 144
Middle School	Room 142
Middle School	Room 140
Middle School	Room 138
Middle School	Room 145
Middle School	Room 143
Middle School	Room 141
Middle School	Room 229
Middle School	Room 231
Sylvan Avenue	201
Sylvan Avenue	202
Sylvan Avenue	203
Sylvan Avenue	204
Sylvan Avenue	205
Sylvan Avenue	206
Sylvan Avenue	207
Sylvan Avenue	208
Sylvan Avenue	209
Sylvan Avenue	210
Sylvan Avenue	211
Sylvan Avenue	212
Sylvan Avenue	213
Sylvan Avenue	214

### Micro-Tech / Stand Alone Unit Ventilators Tied into EMS

The following tables show locations where Micro-tech / stand-alone units will tied into EMS:

Building	Unit Ventilators	T-Stats
Academy Street Elementary School	14	14
Blue Point Elementary	8	8
Total	22	22

Building	Location
Academy Street	Room 21
Academy Street	Room 22
Academy Street	Room 24
Academy Street	Room 26
Academy Street	Room 23
Academy Street	Room 25
Academy Street	Room 27
Academy Street	Room 29
Academy Street	Room 31
Academy Street	Room 33
Academy Street	Room 28
Academy Street	Room 30
Academy Street	Room 32
Academy Street	Room 34
Blue Point ES	Library
Blue Point ES	Library
Blue Point ES	Room 301
Blue Point ES	Room 302
Blue Point ES	Room 303
Blue Point ES	Room 304
Blue Point ES	Room 305
Blue Point ES	Room 306

**Demand Control Ventilation**

On the units listed below, demand control ventilation strategies will be employed.

Building	Location	Area Served	Fuel / Energy	Equipment	Heating Input	Heating Output	Supply CFM
Bayport - Blue Point High School	Roof	Auditorium	Electric/Gas	RTU	20 - 400 mbh		

Building	Location	Area Served	Fuel / Energy	Equipment	Heating Input	Heating Output	Supply CFM
Bayport - Blue Point High School	Roof	Auditorium	Electric/Gas	RTU	20 - 400 mbh		
Bayport - Blue Point High School	Roof	Small Gymnasium	Electric/Gas	RTU-E3	250 mbh	200 mbh	2450
Bayport - Blue Point High School	Roof	Small Gymnasium	Electric/Gas	RTU-E4	375 mbh	300 mbh	3800
Bayport - Blue Point High School	Roof	Gymnasium	Electric/HW	HV			
Bayport - Blue Point High School	Roof	Gymnasium	Electric/HW	HV			
James Wilson Young Middle School	Roof	Aux. Gymnasium	Electric/Gas	RTU	133 - 400 mbh		5000 min
James Wilson Young Middle School	Fan Room	Boy's Gymnasium	Electric/HW	AHU-1		272.1 mbh	6000
James Wilson Young Middle School	Fan Room	Girl's Gymnasium	Electric/HW	AHU-2		272.1 mbh	6000

For the systems in this section, new auto-calibrating CO<sub>2</sub> sensors will be installed to measure the concentration of CO<sub>2</sub> and vary the amount of outside air that is drawn into the space by modulating the outdoor and exhaust air dampers. New damper controls will be installed to interface with the existing control system. The sensors will be able to provide the building owner with a trend to show concentrations over time.

### Optimal Start

Johnson Controls will install programming for main school boilers as shown in ECM Matrix to achieve optimal start / warm-up cycle.

This strategy utilizes an Energy Management System (EMS) to determine the length of time required to bring each zone from its current temperature to the occupied set-point temperature. The system waits as long as possible before starting, so the temperature in each zone can reach the occupied set point just in time for occupancy.

This optimal starting time is determined using the difference between the actual zone temperature and occupied set point. It compares this difference with the historical performance of the zone warming up or cooling down.



The optimal-start strategy reduces the number of system operating hours and saves energy by avoiding the need to maintain the indoor temperature at the occupied set point even though the building is unoccupied.

A related strategy is called "optimal stop." As mentioned previously, at the end of an occupied period, the HVAC system is shut off and the temperature allowed to drift away from the occupied set point. However, the building occupants may not mind if the indoor temperature drifts just a few degrees before they leave for the day.

Optimal stop uses an EMS to determine how early heating and cooling can be shut off for each zone so that the indoor temperature drifts only a few degrees from the occupied set point. In this case, only cooling and heating are shut off. The supply fan continues to operate, and the outdoor-air damper remains open to continue ventilating the building.

The optimal-stop strategy also reduces the number of system operating hours, saving energy by allowing indoor temperatures to drift sooner .

**ECM 4: Heating Distribution System - Pipe and Valve Insulation**

Johnson Controls will install pipe and valve insulation and/or thermal jackets on existing hot water and steam systems to minimize heat loss according to the following table below:

Building	Type of Piping/Tank	Location	Quantity	Pipe Material	Line Size Diam. (in)	Length (ft) or Surface Area (sqft)
High School	Control Valve (HW)	Boiler Room 1	1	Steel	2.5	2.3
High School	Gate Valve (HW)	Boiler Room 1	2	Steel	2.5	2.3
High School	Strainer (HW)	Boiler Room 1	3	Steel	2.5	1.8
High School	Balancing Valve (DHW)	Boiler Room 1	1	Steel	3	2.4
High School	Balancing Valve (HW)	Boiler Room 1	4	Steel	3	2.4
High School	Check Valve (HW)	Boiler Room 1	3	Steel	3	2.3
High School	Control Valve (HW)	Boiler Room 1	2	Steel	3	2.4
High School	Elbow (HW)	Boiler Room 1	2	Steel	3	0.5
High School	Gate Valve (DHW)	Boiler Room 1	1	Steel	3	2.4
High School	Gate Valve (HW)	Boiler Room 1	11	Steel	3	2.4
High School	Strainer (Cond.)	Boiler Room 2	1	Steel	3	2.3
High School	Strainer (HW)	Boiler Room 1	8	Steel	3	2.3
High School	Tee (HW)	Boiler Room 1	1	Steel	3	1
High School	Balancing Valve (HW)	Boiler Room 1	8	Steel	4	3
High School	Control Valve (HW)	Boiler Room 1	1	Steel	4	3

**Schedule 1**

Building	Type of Piping/Tank	Location	Quantity	Pipe Material	Line Size Diam. (in)	Length (ft) or Surface Area (sqft)
High School	Gate Valve (HW)	Boiler Room 1	2	Steel	4	3
High School	Strainer (HW)	Boiler Room 1	2	Steel	4	2.8
High School	Balancing Valve (HW)	Boiler Room 2	2	Steel	5	3.8
High School	Butterfly Valve (HW)	Boiler Room 2	2	Steel	5	1.8
High School	Check Valve (HW)	Boiler Room 2	1	Steel	5	2.9
High School	Control Valve (HW)	Boiler Room 2	1	Steel	5	3.8
High School	Flex (HW)	Boiler Room 2	4	Steel	5	1
High School	Gate Valve (HW)	Boiler Room 2	2	Steel	5	3.8
High School	Strainer (HW)	Boiler Room 2	1	Steel	5	2.9
High School	Suction Strainer (HW)	Boiler Room 2	2	Steel	5	3.8
High School	Balancing Valve (HW)	Boiler Room 1	5	Steel	6	4.5
High School	Elbow (HW)	Boiler Room 1	3	Steel	6	1
High School	Elbow (Steam)	Boiler Room 2	1	Steel	6	1
High School	Flange (HW)	Boiler Room 1	4	Steel	6	2.3
High School	Flex (HW)	Boiler Room 1	6	Steel	6	1
High School	Gate Valve (HW)	Boiler Room 1	9	Steel	6	4.5
High School	Gate Valve (Steam)	Boiler Room 2	1	Steel	6	4.5
High School	Strainer (HW)	Boiler Room 1	2	Steel	6	3.2
High School	Suction Strainer (HW)	Boiler Room 1	3	Steel	6	4.5
High School	Elbow (Steam)	Boiler Room 2	2	Steel	8	1
High School	Gate Valve (Steam)	Boiler Room 2	2	Steel	8	5.7
High School	Flange Cap (Steam)	Boiler Room 2	2	Steel	10	2.8
High School	DHW Tank Head	Boiler Room 1	1	Steel	12	2
High School	Heat Exchanger Head	Boiler Room 2	1	Steel	14	2.5
High School	Vapor Separator	Boiler Room 1	1	Steel	2' x 1'	7.85
High School	Vapor Separator	Boiler Room 1	1	Steel	3' x 1'	10.99
High School	Vapor Separator	Boiler Room 2	1	Steel	3' x 1'	10.99
High School	Reducer (HW)	Boiler Room 1	4	Steel	3" to 1.5"	0.5
High School	Vapor Separator	Boiler Room 1	1	Steel	4' x 1.5'	22.3725
High School	Feed Water Tank	Boiler Room 2	1	Steel	4' x 2.5'	41.2125
High School	Reducer (HW)	Boiler Room 1	4	Steel	4" to 3"	1
High School	Reducer (HW)	Boiler Room 2	2	Steel	5" to 3"	1
High School	Reducer (HW)	Boiler Room 1	3	Steel	6" to 3"	1

**Schedule 1**

Building	Type of Piping/Tank	Location	Quantity	Pipe Material	Line Size Diam. (in)	Length (ft) or Surface Area (sqft)
Middle School	Balancing Valve (HW)	Boiler Room	2	Steel	2	1.8
Middle School	Balancing Valve (HW)	Boiler Room	2	Steel	3	2.4
Middle School	Control Valve (HW)	Boiler Room	1	Steel	3	2.4
Middle School	Control Valve (HW)	Boiler Room	1	Steel	4	3
Middle School	Butterfly Valve (HW)	Boiler Room	3	Steel	5	1.8
Middle School	Control Valve (HW)	Boiler Room	1	Steel	5	3.8
Middle School	Strainer (HW)	Boiler Room	5	Steel	5	2.9
Middle School	Flange (HW)	Boiler Room	4	Steel	6	2.3
Middle School	Vapor Separator	Boiler Room	1	Steel	3' x 1'	10.99
Middle School	Reducer (HW)	Boiler Room	2	Steel	5" to 4"	1
Academy Street ES	Strainer (Cond.)	Boiler Room	2	Steel	2	1
Academy Street ES	Balancing Valve (HW)	Boiler Room	2	Steel	4	3
Academy Street ES	Bonnet (Steam)	Boiler Room	4	Steel	4	2.8
Academy Street ES	Butterfly Valve (HW)	Boiler Room	2	Steel	4	1.5
Academy Street ES	Strainer (HW)	Boiler Room	2	Steel	4	2.8
Academy Street ES	Balancing Valve (HW)	Boiler Room	2	Steel	5	3.8
Academy Street ES	Butterfly Valve (HW)	Boiler Room	2	Steel	5	1.8
Academy Street ES	Flex (HW)	Boiler Room	4	Steel	5	1
Academy Street ES	Suction Strainer (HW)	Boiler Room	2	Steel	5	3.8
Academy Street ES	Bonnet (Steam)	Boiler Room	1	Steel	8	5.4
Academy Street ES	Gate Valve (Steam)	Boiler Room	1	Steel	8	5.7
Academy Street ES	Heat Exchanger Head	Boiler Room	2	Steel	12	2
Academy Street ES	Water Drum	Boiler Room	2	Steel	6' x 6"	9.8125
Academy Street ES	Steam Drum	Boiler Room	1	Steel	6' x 8"	13.2578
Blue Point ES	Condensate Piping	Fan Room (Custodial)	1	Steel	1.25	4

**Schedule 1**

Building	Type of Piping/Tank	Location	Quantity	Pipe Material	Line Size Diam. (in)	Length (ft) or Surface Area (sqft)
Blue Point ES	Balancing Valve (HW)	Boiler Room	2	Steel	1.5	1
Blue Point ES	Strainer (HW)	Boiler Room	2	Steel	1.5	1
Blue Point ES	Balancing Valve (HW)	Boiler Room	2	Steel	2	1.8
Blue Point ES	Balancing Valve (HW)	Modular Mech. Room	2	Steel	2	1.8
Blue Point ES	Control Valve (Steam)	Fan Room (Custodial)	1	Steel	2	1.8
Blue Point ES	Flex (HW)	Boiler Room	4	Steel	2	1
Blue Point ES	HW Piping	Boiler Room	1	Copper	2	15
Blue Point ES	HW Piping	Modular Mech. Room	1	Copper	2	4
Blue Point ES	Steam Piping	Attic	1	Steel	2	1
Blue Point ES	Strainer (HW)	Modular Mech. Room	2	Steel	2	1
Blue Point ES	Suction Strainer (HW)	Boiler Room	2	Steel	2	1.8
Blue Point ES	Control Valve (HW)	Boiler Room	1	Steel	3	2.4
Blue Point ES	Gate Valve (Steam)	Fan Room (Custodial)	1	Steel	3	2.4
Blue Point ES	Steam Piping	Fan Room (Custodial)	1	Steel	3	4
Blue Point ES	Steam Piping	Attic	1	Steel	3	8
Blue Point ES	Strainer (Steam)	Fan Room (Custodial)	1	Steel	3	2.3
Blue Point ES	Bonnet (Steam)	Boiler Room	4	Steel	6	3.2
Blue Point ES	Steam Piping	Attic	3	Steel	6	1
Blue Point ES	Steam Piping	Attic	1	Steel	6	2
Blue Point ES	DHW Tank Head	Boiler Room	1	Steel	12	2
Blue Point ES	Heat Exchanger Head	Boiler Room	1	Steel	12	2
Blue Point ES	Heat Exchanger Head	Boiler Room	1	Steel	14	2.5
Blue Point ES	Condensate Tank	Boiler Room	1	Steel	2' x 2' x 4'	40
Sylvan Avenue ES	Balancing Valve (HW)	Boiler Room	2	Steel	3	2.4
Sylvan Avenue ES	Bonnet (HW)	Boiler Room	4	Steel	3	2.3
Sylvan Avenue ES	Balancing Valve (HW)	Boiler Room	3	Steel	4	3
Sylvan Avenue ES	Bonnet (HW)	Boiler Room	6	Steel	4	2.8
Sylvan Avenue ES	Control Valve (HW)	Boiler Room	1	Steel	5	3.8

Building	Type of Piping/Tank	Location	Quantity	Pipe Material	Line Size Diam. (in)	Length (ft) or Surface Area (sqft)
Sylvan Avenue ES	Bonnet (HW)	Boiler Room	3	Steel	6	3.2
Sylvan Avenue ES	Elbow (HW)	Boiler Room	2	Steel	6	1
Sylvan Avenue ES	Flange (HW)	Boiler Room	4	Steel	6	2.3
Sylvan Avenue ES	Gate Valve (HW)	Boiler Room	2	Steel	6	4.5
Sylvan Avenue ES	Reducer (HW)	Boiler Room	1	Steel	6" to 5"	1

**ECM 5: Boilers – Replacement**

**Academy Street Elementary School**

Furnish and Install two (2), Fulton Model VTG-3000DF, dual fuel condensing boilers according to the following specifications:

- Remove existing firetube boiler (Boiler 2) and dispose of properly.
- Install new boiler(s) in same location as where Boiler 2 was removed.
- Convert existing steam sectional boiler (Boiler 1) to hot water and provide all level controls and safeties.
- Remove the two (2) existing steam to hot water heat exchangers and feed/condensate tank and associated piping.
- Tie in the new header to the hot water heating system for the building.
- Abatement will be required.
- Assemble and install boiler-burner unit(s) in compliance with manufacturer’s installation instructions. All work shall be done in a neat and workman like manner.
- New boilers shall be hydrostatically pressure tested at factory in accordance with ASME requirements.
- Install new make-up regulator and backflow preventer.
- New piping will be installed from the new boilers and tied into the existing header.
- New header isolation valves and boiler non-return valves will be installed as necessary for system operation.
- New breaching will be installed and sleeved entirely up the existing stack with drains and neutralization.
- Impacted piping and appurtenances will be abated within the boiler room and insulated with 2-inch fiberglass insulation.
- Plant start up and testing will be performed, and a report will be provided.
- Provide Pipe Supports, Hangers and Brackets on new piping systems
- Provide Valve Tags and ID Chart for new piping systems
- Provide Pipe Labeling and Directional Arrows on new piping systems
- Boilers will be equipped with lead lag control performed by the new DDC control system.

Regulatory Requirements

- Boiler(s) and controls to comply with applicable regulations in effect at the time of contract signing.
- Provide U.L. labeled burner(s).

Submittals

- Submit shop drawings and product data.
- Submittal packet to include boiler (and burner) manufacturer descriptive literature, installation instructions, operating instructions, and maintenance instructions.

Boiler foundation(s):

- Construct needed support and level concrete foundation(s) where boiler room floor is uneven or will not support the weight of the boiler(s).

Boiler trim:

New electrical components to bear the U.L. label.

Water boiler(s) controls furnished:

- Combination low temperature limit (operating) and manual reset high temperature limit control.
- Low temperature limit set according to system design. High temperature limit set at least 20°F higher than the low limit (240°F is the maximum allowable water temperature).
- Combination pressure-temperature gauge with dial clearly marked and easy to read.
- ASME certified pressure relief valve, set to relieve at 30 PSIG. Relief valves with side outlet discharge type; pipe outlet to floor drain or near floor, avoiding any area where freezing could occur.

Low water cut-off for water boiler(s):

- Boiler(s) to be furnished with U.L. labeled low water cut-off with ASME working pressure rating equal to the ASME rating of the relief valve.
- No quick-connect fittings on boiler(s).
- Install cut-off according to manufacturer's instructions.
- Locate so burner shuts down if boiler water level falls below allowable safe waterline.

Start-up and Service

- Obtain the services of a factory-authorized agent to provide burner light off and adjustment. The start-up agent shall provide a burner light-off report as written proof that the burner was adjusted to optimum performance.
- The authorized agent shall provide a one-year service warranty after start-up.

**ECM 6: Windows & Doors Replacement**

Johnson Controls shall furnish and install following scope as part of this measure:

Johnson Controls will furnish and install new exterior double pane energy efficient windows and new exterior energy efficient Fiber Reinforced plastic FRP style doors listed below as per the NYS Energy Code in effect at the time of contract signing.

**James Wilson Young Middle School**

- Replace Cafeteria Exit Doors

**Blue Point Elementary School**

- Replace West 1954/63 Windows
- Replace Gym Windows
- Replace Corridor Windows

The windows shall be Traco single hung windows. The doors shall be Vale FRP doors with Stanley/Best hardware including closers, hinges, panic bars, cylinders and saddles.

**ECM 7: Motors – Replacements**

Johnson Controls will furnish and install replace motors listed in the table below with new premium efficiency units.

The scope of work will be as follows:

- Remove and dispose of existing motor(s)
- Provide new premium efficiency open drip-proof type motors with 1.15 SF. Connect using existing electrical.
- Provide precision alignment for new motors, sheaves & pulleys
- Provide new belts to match existing

Building	Location	Equipment	Name	Frame	HP	RPM	Voltage	Amperage	Eff.
Bayport - Blue Point High School	Boiler Room 1	Burner	Burner 1	145TCZ	5	3450	200-208	14	81
Bayport - Blue Point High School	Boiler Room 1	Burner	Burner 2	145TCZ	5	3450	200-208	14	81
James Wilson Young Middle School	Fan Room	Air Handling Unit	AHU-4	213T	7.5	1765			
James Wilson Young Middle School	Boiler Room	Burner	Burner 1	182	5	3500	208-230	14.2-13.2	82.5

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Building	Location	Equipment	Name	Frame	HP	RPM	Voltage	Amperage	Eff.
James Wilson Young Middle School	Boiler Room	Burner	Burner 2	182	5	3500	208-230	14.2-13.2	82.5
James Wilson Young Middle School	Boiler Room	Hot Water Pump	P-2	S215T	10	1740	200	31.4	
Blue Point Elementary School	Gym Fan Room	Air Handling Unit	AHU	254T	7.5	1750	200-208	24	
Sylvan Avenue Elementary School	Boiler Room	Burner	Burner 1	213TC	10	3450	208-230/460	25.6-23.2/11.6	88.5
Sylvan Avenue Elementary School	Boiler Room	Burner	Burner 2	213TC	10	3450	208-230/460	25.6-23.2/11.6	88.5
Sylvan Avenue Elementary School	Boiler Room	Hot Water Pump	P4	184T	5	1750	208-230/460	13.2-12.5/6.4	87.5

### **ECM 8: Renewable Energy – Photovoltaic Electric Generation**

Johnson Controls will furnish, install and commission a total of 1,864.9 KW roof-mounted, carport and canopy photovoltaic electrical generation systems as detailed in the table below that will interconnect with the existing electrical distribution system at the associated schools.

The following table identifies the PV sizes and installation type at each location:

Locations	Carport / Canopy System (kW-DC)	Roof Mount (kW-DC)	Total (kW-DC)
Bayport - Blue Point High School	1124.9	0	1,124.9
James Wilson Young Middle School	0	375	375
Sylvan Ave Elementary School	72	293	365
<b>Total</b>	<b>1,196.9</b>	<b>668</b>	<b>1,864.9</b>

Turnkey installation includes the following specifications for new Roof Ballasted Systems:

- UL Certificate
- New wiring to meet the requirements of the 2014 National Electric Code, as amended.
- Solar Module to be 72 cell 400 watt Hyundai, LG, JA Solar or equal and as approved by Customer's Architect/Engineer.
- Inverters to be Solectria, SMA or equal 1000 volt family
- Balance of system to meet 2014 NEC Code, as amended.
- All required Interconnection to building system located as per 2014 NEC Code lineside tap as determined by the utility(ies) having jurisdiction. The Customer shall not be



responsible for any interconnection costs. All connection costs shall be the sole responsibility of JCI.

- Unirac RM, Ecofoot or equal self-ballasted racking system
- Web based dashboard for PV production for students and staff to use and access
- PV dashboard will be capable of logging 15 minute interval data for kW, kWh and solar irradiance.
- Furnish and install required ballast block
- One time training to the District
- District to support monitoring by supplying an IT drop to a gateway location and all necessary IP addresses that the District will maintain for 18 years.
- Protective slip sheet as roofing warranty certifications
- SED approved system design drawings

Turnkey installation includes the following specifications for Carport, Canopy Systems:

- Carport system to have a minimum height of 14 ft. in roadway areas
- Canopy system to have a minimum height of 10 ft.
- Solar Modules to be 72 cell 400 watt LG, Hyundai, JA Solar or equal
- Solar Inverters to be Solectria, SMA or equal 1500 volt family.
- Solar equipment to be mounted at no less than 10 ft above grade.
- Conduit work up to 10 ft. above grade will be hard wall galvanized.
- New switchgear required will be completely fenced in with access gate
- New underground conduit to be PVC
- All work to conform to PSEG and/or any other utility, regulatory or governmental agencies requirements. JCI is responsible for all costs necessary to conform with these requirements.
- Canopy Racking system, including all hardware and module mounting hardware to be RBI Solar or Equal
- New members and hardware are galvanized steel with Columns and Top Beams hot dipped to ASTM A123 and purlins pre-galvanized to a G140 minimum. Module hardware is stainless steel.
- New member connections shall be bolted. No on-site welding shall be required or undertaken without the prior written permission of the District and its Architect.
- Parking lot restoration in all affected areas to be saw cut and hot patched to match existing surface conditions.
- Columns to be set directly on concrete piers with chemical anchors or wet set anchor bolts.
- Temporary fencing, barricades or storage trailers necessary to secure site
- Disposal of soil/spoil created from the foundation installation is included. JCI shall undertake all necessary soil testing and properly dispose of all soil at its cost and expense in accordance with all applicable laws, rules, regulations and codes in effect at the time of contract signing.
- Grounding hardware for modules and racking
- Module grounding to be per module manufacturer's installation instructions.
- Base design includes pre-punched holes in the purlin for wire management.
- RBI Solar model CPT galvanized steel canopy systems have undergone testing with Intertek towards ETL Classification for bonding and grounding to UL Standard 2703. This

testing includes electrical bonding tests for PV module-to-racking connections, racking component- to-racking component connections, and canopy structure-to-grounding lug connections.

- Electrical Underwriters Certificate
- Electrical installation to be installed as per the NEC 2014 code, as amended and updated.
- Electrical conduit will be installed outside of concrete piers and/or baseplates.
- Two (2) Electric Vehicle (EV) Charging Stations
- JCI will provide web based dashboard for PV production for students and staff to use and access
- District to support monitoring by supplying an IT drop to a gateway location and all necessary IP addresses that the District will maintain for 18 years.
- SED approved system design drawings

In the event that any of the building roofs, parking lots or walkways are determined to be unsuitable for roof mounted, carport, canopy PV arrays, Johnson Controls will attempt to move the arrays or portions of the arrays to another location that is suitable at any of the other buildings outlined above, subject to all necessary review and approvals.

Johnson Controls shall install the new PV systems with existing roof manufacturer standards to maintain current and any new roof warranty(ies) as it relates to the solar panel installation. At all locations, existing structural steel, joists, roof decks, parking lots, walkways are anticipated to be adequate for solar panel installation. If during the design phase the architect / engineer of record, BBS, encounter structural issues, geo-tech issues, drainage issues, septic system issues with any of roofs, roof framing, parking lots and walkways, JCI shall relocate the problem areas of solar arrays to a different location in order to maintain the 1864.9 kW DC of total system size. JCI shall be fully responsible for coordinating its work with ongoing capital work at the Customer's facilities, including roof, parking lot and walkways installations.

In the event that any of the proposed locations are determined to not be a viable option, the scope of work for this ECM shall be reduced subject to Customer's written approval by deduct change order and the costs associated with the reduced scope shall be credited to the Customer. The guaranteed savings would also be adjusted accordingly by a formal written amendment to the agreement. All adjustments require Customer's written approval and must maintain a positive cash flow as set forth in the contract documents.

The weather station monitoring is included through dashboard for the term of the contract. The weather station includes pyranometer at maximum of three (3) locations.

Power to the building will be temporarily shut down by the utility for up to four (4) hours during the tie-in. Co-ordination with the District will be required at the time of the tie-in.

To the extent that any trees or shrubbery interfere with the solar Canopy System at the Sylvan Ave. Elementary School, JCI shall remove said trees and shrubbery and replace the same at the sole cost and expense to JCI and at no cost to the Customer. The replaced trees and shrubbery shall be placed and installed at a location to be determined by the Customer. JCI further agrees to provide and install plantings, soil, etc. at the High School north parking lot location along the eastern fence line to shield the solar Carport as identified in the proposal from Bayport Flower

House, Inc. dated October 3, 2018 and drawings of the same date, all of the foregoing at the sole cost and expense of JCI and at no cost to the Customer.

**ECM 9: Plug Load Controllers**

Johnson Controls shall furnish and install 80 plug load management controllers that will gain control of specified plug load equipment listed below. The system will use an existing Wi-Fi network that will communicate to an energy management user interface. Through the user interface, equipment shall be monitored, scheduled and turned on / off. In areas where no Wi-Fi connection exists, plugs shall be programmed with the intended schedule for the equipment.

Building	Copier	Window AC
High School	5	13
Middle School	3	6
Academy Street Elementary	3	13
Blue Point Elementary	2	16
Sylvan Avenue Elementary	3	16
<b>Total</b>	<b>16</b>	<b>64</b>

Following is the scope of work for the plug load controllers:

- Provide plug load control devices as per final schedule of outlets
- Install and connect devices
- Load and configure software on an owner designated head custodian PC
- Start, test, and checkout the system

**ECM 10: Unit Ventilator – Refurbishments**

Johnson Controls shall refurbish the unit ventilators noted below.

Mechanical refurbishment is limited to:

- Vacuum cleaning of entire unit ventilator cabinet
- Vacuum cleaning of heating and (if applicable) cooling coils
- Repair/replacement of defective motors
- Replacement of damper bearing and edge seals
- Repair/replacement of speed switch and fan transformer
- Repair/replacement of fuses and disconnect
- Filter replacement

The following table lists the quantity of unit ventilators to be refurbished:

Building	Refurbish
James Wilson Young Middle School	38
Total	38

Building	Refurbish
Middle School	Room 209
Middle School	Room 211
Middle School	Room 213
Middle School	Room 215
Middle School	Room 217
Middle School	Room 219
Middle School	Room 210
Middle School	Room 212
Middle School	Room 214
Middle School	Room 216
Middle School	Room 218
Middle School	Room 220
Middle School	Room 260
Middle School	Room 258
Middle School	Room 256
Middle School	Room 254
Middle School	Room 252
Middle School	Room 250
Middle School	Room 259
Middle School	Room 257
Middle School	Room 255
Middle School	Room 253
Middle School	Room 251
Middle School	Room 249
Middle School	Room 118
Middle School	Room 122
Middle School	Room 124
Middle School	Room 148
Middle School	Room 146
Middle School	Room 144
Middle School	Room 142
Middle School	Room 140
Middle School	Room 138
Middle School	Room 145

Building	Refurbish
Middle School	Room 143
Middle School	Room 141
Middle School	Room 229
Middle School	Room 231

**ECM 11: Air Conditioning Compressor Controllers**

Johnson Controls shall furnish and install Intelligent Control Systems ICON-2400/2600 controllers on the existing individual compressor units located in the buildings listed below:

Location	No. of Compressors
Bayport - Blue Point High School	21
James Wilson Young Middle School	7
Academy Street Elementary School	4
Blue Point Elementary School	6
<b>Total</b>	<b>38</b>

Building	Location	Area Served	Name	Manufacturer	Compressor Data	No. of Compressors
Bayport - Blue Point High School	Roof	Admin Wing AH-1	ACC-1	McQuay	x3: 12.2 RLA ea.	3
Bayport - Blue Point High School	Roof	Air Conditioning	CU			1
Bayport - Blue Point High School	Roof	Air Conditioning	CU			1
Bayport - Blue Point High School	Outside	Air Conditioning	CU	Trane		1
Bayport - Blue Point High School	Roof	Air Conditioning	CU	Trane		1
Bayport - Blue Point High School	Roof	Auditorium AC	ACCU-	McQuay	x2: 23 RLA ea.	2
Bayport - Blue Point High School	Roof	Auditorium AC	ACCU-	McQuay	x2: 23 RLA ea.	2
Bayport - Blue Point High School	Roof	Auditorium Lobby	RTU	Lennox	x2: 17.3 RLA ea.	2
Bayport - Blue Point High School	Roof	Auditorium Lobby	RTU	Lennox	x2: 17.3 RLA ea.	2
Bayport - Blue Point High School	Roof	Area D	RTU	Lennox	17.3 RLA	1
Bayport - Blue Point High School	Roof	Area D	RTU	Lennox	17.3 RLA	1

Building	Location	Area Served	Name	Manufacturer	Compressor Data	No. of Compressors
Bayport - Blue Point High School	Roof	Area E	RTU-E5	Lennox	x2: 9 RLA ea.	2
Bayport - Blue Point High School	Roof	Library	RTU	Trane	x2: 24.3 RLA ea.	2
James Wilson Young Middle School	Roof	Auditorium	ACC-4	Trane	x4: 41.4 ea.	4
James Wilson Young Middle School	Roof	Library	ACC-5	Trane	x2: 41.4 & 60.5 RLA	2
James Wilson Young Middle School	Roof	Main Office	CU-6	Trane	19.0 RLA	1
Academy Street Elementary School	Roof	RTU-1	CU-1	McQuay	x3: 2 @ 22.4 RLA & 41 RLA	3
Academy Street Elementary School	Roof	RTU-2	CU-2	Lennox	18.6 RLA	1
Blue Point Elementary School	Roof	Air Conditioning	CU	Trane		1
Blue Point Elementary School	Outside	Air Conditioning	CU	Trane	9.5 RLA	1
Blue Point Elementary School	Roof	Air Conditioning	CU	Trane		1
Blue Point Elementary School	Roof	Air Conditioning	CU	Trane	32.1 RLA	1
Blue Point Elementary School	Outside	Air Conditioning	CU	Trane	25 RLA	1
Blue Point Elementary School	Roof	Air Conditioning	CU	Trane	32.1 RLA	1

The AC compressor controllers will maintain the required temperature setpoints during the hours of operation as indicated in Schedule 2, exhibit 7.

**ECM 12: Refrigeration Compressor Controllers**

Johnson Controls shall furnish and install Intelligent Control Systems ICON-2500 controllers on the existing individual compressor units located in the buildings listed below:


Location	No. of Compressors
Bayport - Blue Point High School	1
Sylvan Avenue Elementary School	4


Location	No. of Compressors
Bayport - Blue Point High School	1
Sylvan Avenue Elementary School	4
Total	5

Building	Location	Manufacturer	Compressor Data
Bayport - Blue Point High School			
Sylvan Avenue Elementary School	Basement	Copland	3.9 RLA
Sylvan Avenue Elementary School	Basement	Tecumseh	5.2 RLA
Sylvan Avenue Elementary School	Basement	Copland	5.9 RLA
Sylvan Avenue Elementary School	Basement	Copland	2.75 RLA

**BAYPORT-BLUE POINT SCHOOL DISTRICT**

**JOHNSON CONTROLS, INC.**

Signature:   
 Printed Name: Michael Miller  
 Title: Pres.  
 Date: 5/22/19

Signature:   
 Printed Name: Charles K. McGinnis  
 Title: V.P. Sales N.A.  
 Date: 05.20.19

## ASSURED PERFORMANCE GUARANTEE

### A. Certain Definitions

For purposes of this Agreement, the following terms have the meanings set forth below:

**Annual Project Benefits** are the portion of the projected Total Project Benefits to be achieved in any one year of the Guarantee Term.

**Annual Project Benefits Realized** are the Project Benefits actually realized for any one year of the Guarantee Term.

**Annual Project Benefits Shortfall** is the amount by which the Annual Project Benefits exceed the Annual Project Benefits Realized in any one year of the Guarantee Term.

**Annual Project Benefits Surplus** is the amount by which the Annual Project Benefits Realized exceed the Annual Project Benefits in any one year of the Guarantee Term.

**Baseline** is the mutually agreed upon energy consumption data, weather data and operating conditions data that reflect conditions prior to the installation of the Improvement Measures as set forth in Section III below.

**Base Line Model** illustrates the relationship(s) of consumption of each utility to independent variables (such as weather and building operating conditions) during a representative pre-retrofit tuning period.

**Adjusted Base Line** estimates post-retrofit utility consumption using the same Regression Analysis Calculation as shown on this Schedule 2 plus any modifications. The Adjusted Base Line represents an estimate of utility consumption had no ECMs been implemented under current weather and building operating conditions.

**Model Tuning** is the process of tuning the baseline model coefficients using actual pre-retrofit operating data so that the baseline model is a better function of weather and building operating conditions.

**Tuning Period** is the period whose weather and building operating conditions data is used for model tuning.

**Guarantee Period** is eighteen (18) years after substantial completion.

**Guarantee Term** will commence on the first day of the month next following the Substantial Completion date and will continue through the duration of the M&V Services, subject to earlier termination as provided in this Agreement.

**Installation Period** is the period beginning on JCI's receipt of Customer's Notice to Proceed and ending on the commencement of the Guarantee Term.



**Measured 'ECM' Savings** are the utility savings and cost avoidance calculated in accordance with the methodologies set forth in Exhibit 2 below.

**Measured 'Operation and Maintenance' Savings** are the O&M savings that is submitted to SED and will be verified on a one time basis during the first performance year, except in the event of failure to meet the Option C requirements in Year 1, in which case it need to be verified in subsequent years until Option C requirements are fully achieved. Guaranteed Rebate Project Benefits are rebate dollars offered through the local utility for installing energy efficient equipment and guaranteed by JCI as set forth in Exhibit 4.

Project Benefits are the Measured Project Benefits plus the Operational and Maintenance Project Benefits approved by the Customer to be achieved for a particular period during the term of this Agreement. M&V Services for the first five years shall be provided at no cost to the District.

Total Project Benefits are the projected Project Benefits to be achieved during the entire term of this Agreement.

**B. Guarantee Details**

The following Exhibits are attached and made part of this Schedule 2, Section B:

**Table 2.1.1: Exhibits Summary**

Exhibit 1	Total Project Benefits
Exhibit 2	Measurement and Verification Methodologies
Exhibit 3	Measured Project Benefits
Exhibit 4	Operational Cost Avoidance and Guaranteed Rebate Project Benefits
Exhibit 5	Change in Use or Condition
Exhibit 6	Baseline Calculations and Utility Rates
Exhibit 7	Primary Operations Schedules Pre & Post Retrofit
Exhibit 8	Measurement and Verification Services

**EXHIBIT 1: Total Project Benefits**

Subject to the terms and conditions of this Agreement, JCI guarantees that Customer will achieve a total of \$11,540,903 in Measured Project Benefit (Utility Cost Avoidance Measurable Savings), \$667,614 in Operations Cost Avoidance Savings and \$251,000 in Guaranteed Energy Rebates during the term of this Agreement, for Total Guaranteed Project Benefits of \$12,459,518 as set forth in the Total Project Benefits Table below.

**Table 2.1.2: Total Project Benefits**

<b>Year</b>	<b>Utility Cost Avoidance* Measurable Savings</b>	<b>Operations &amp; Maintenance Cost Avoidance**</b>	<b>Energy Rebate- Non Recurring Savings***</b>	<b>Total Guaranteed Project Benefits</b>
1	\$538,984	\$31,179	\$251,000	\$821,163
2	\$549,764	\$31,803		\$581,567
3	\$560,759	\$32,439		\$593,198
4	\$571,975	\$33,087		\$605,062
5	\$583,414	\$33,749		\$617,163
6	\$595,082	\$34,424		\$629,507
7	\$606,984	\$35,113		\$642,097
8	\$619,124	\$35,815		\$654,939
9	\$631,506	\$36,531		\$668,037
10	\$644,136	\$37,262		\$681,398
11	\$657,019	\$38,007		\$695,026
12	\$670,159	\$38,767		\$708,927
13	\$683,563	\$39,543		\$723,105
14	\$697,234	\$40,333		\$737,567
15	\$711,179	\$41,140		\$752,319
16	\$725,402	\$41,963		\$767,365
17	\$739,910	\$42,802		\$782,712
18	\$754,708	\$43,658		\$798,366
	<b>\$11,540,903</b>	<b>\$667,614</b>	<b>\$251,000</b>	<b>\$12,459,518</b>

\*Utility Cost Avoidance is a Measured Project Benefit. Utility Cost Avoidance figures in the table above are based on anticipated 2% increase in unit energy costs as set forth in the table in Exhibit 6.

\*\*Operational and maintenance cost avoidance figures in the table above are based on anticipated 2% increase of material cost.

\*\*\* See Exhibit 4 for rebate source.

## Annual Measurement and Verification (M&V) Services

JCI shall provide M&V Services for a period of five (5) years starting on the first day of the month next following the Substantial Completion date and any other period requested by Customer in writing for years 6-18. Within sixty (60) days of the commencement of the Guarantee Term, JCI will calculate the Measured Project Benefits achieved during the Installation Period. Within sixty (60) days of each anniversary of the commencement of the Guarantee Term, JCI will calculate the Measured Project Benefits achieved for the applicable year plus any Operational Cost Avoidance. JCI agrees to provide a presentation of the Annual Measurement & Verification Report to the Customer at a public meeting annually for five years at the request of the Customer.

As set forth in the Certification provided by JCI to the NY State Education Department, JCI guarantees recovery of costs of the Agreement from energy savings realized by the Customer during a period of 18 years after Substantial Completion.

***Customer acknowledges and agrees that if, for any reason during the agreed-upon period of M&V Services for years 6-18, after Option C methodology for thermal measures has been achieved to substantiate and prove guaranteed savings, it (i) cancels or terminates receipt of M&V Services, or (ii) cancels or terminates this Agreement, it shall be assumed (in accordance with Option A and Option B of the North American Energy Measurement and Verification Protocol (NEMVP), and based upon the equipment continuing to operate in accordance with specified criteria) that the Annual Project Benefits will be met during each year of the Guarantee Period.***

***Customer further acknowledges and agrees that if, for any reason, it (i) fails to pay for M&V Services in accordance with Schedule 4 – Price and Payment Terms, (ii) fails to fulfill any of Customer’s responsibilities necessary to enable JCI to complete the Work and provide the M&V Services, including but not limited to Customer’s failure to operate and maintain the equipment and/or systems pursuant to manufacturer instructions provided by JCI, or (iii) otherwise materially breaches this Agreement, JCI shall issue a written notice to the Customer stating the nature of the alleged breach and shall provide Customer with a twenty (20) day period to cure such breach. If the Customer fails to cure such breach within such twenty (20) day period, Customer acknowledges and agrees that the Assured Performance Guarantee shall automatically terminate.***

### **C. Project Benefits Shortfalls or Surpluses.**

(1) During the period in which JCI is providing M&V Services, the following shall apply:

- (a) *Project Benefits Shortfalls.* If an Annual Project Benefits Shortfall occurs for any one year of the Guarantee Term, JCI shall, (a) pay to Customer the amount of such shortfall, or (b) subject to Customer’s written agreement, provide to Customer additional products or services, in the value of such shortfall, at no additional cost to Customer in accordance with all applicable laws, rules and regulations.

- (b) Project Benefits Surpluses. If an Annual Project Benefits Surplus occurs for any one year of the Guarantee Term, the surplus, in its entirety, shall inure to the benefit of the Customer and shall not be applied to any shortfall during any year of the Guarantee term.
  - (c) Installation Period: Any Project Benefits achieved during the Installation Period shall inure to the benefit of the Customer and shall not be allocated to any subsequent year of the Guarantee Term.
- (2) If Customer elects M&V Services over a period of time shorter than the Guarantee Period, or if Customer terminates M&V Services early as set forth above, then the following shall apply:
- (a) If the Annual Project Benefits are met in each year during the period that M&V Services are provided, after Option C methodology for thermal measures has been achieved to substantiate and prove guaranteed savings, it shall be assumed (in accordance with Option A and Option B of the NEMVP, and based upon the equipment continuing to operate in accordance with specified criteria) that the Annual Project Benefits will be met during each year of the Guarantee Period.
  - (b) If there is an Annual Project Benefits Shortfall in any one year during the period that M&V Services are provided and such Shortfall is the result of the equipment not operating in accordance with specified criteria, then Customer shall allow JCI access to the property to conduct repairs or make adjustments to the equipment as necessary to resolve the cause of the Shortfall. Once the cause of the Shortfall is fully resolved to the reasonable satisfaction of the Customer and its Engineer and payment for the Shortfall is received by the Customer, it shall be assumed (based upon the equipment continuing to operate in accordance with the specified criteria) that the Annual Project Benefits will be met during each year of the Guarantee Period. If the Shortfall continues to exist notwithstanding the equipment operating in accordance with the specified criteria, JCI shall pay the amount of the Shortfall to Customer from the time that the Shortfall occurred through the remainder of the Guarantee Period.
  - (c) If there is an Annual Project Benefits Shortfall in any one year during the period that M&V Services are provided and such Shortfall is not the result of the equipment not operating in accordance with specified criteria, then JCI shall pay the amount of the Shortfall to Customer from the time the Shortfall occurred through the remainder of the Guarantee Period.

All payments to Customer for any Shortfall shall be payable to Customer in the form of a certified check.

## **EXHIBIT 2: Measurement and Verification Methodologies**

*The following is a brief overview of the measurement and verification methodologies applicable to the Improvement Measures set forth below. JCI shall apply these methodologies, as more fully detailed in the guidelines and standards of the North American Energy Measurement and Verification Protocol (NEMVP), in connection with the provision of M&V Services hereunder.*

### **2.1 Summary of M&V Methodologies for the Project:**

- Guarantee Year 1 project benefits will be calculated using NEMVP Option-C methodology for thermal and Option A & B for all electric ECMs. Table 2.2.1 shows the M&V Option that will be applied to each ECM during Guarantee Year 1, except as otherwise stated below relative to Option C.
- Construction period project benefits and guarantee Year 2-18 project benefits will be calculated using NEMVP Option A/B methodology as shown in Table 2.2.2 shows the M&V details, except as otherwise stated below relative to Option C. For avoidance of doubt, the construction period projects benefits inure to the benefit of the Customer and are not included in the Guaranteed Savings.
- In the event of a shortfall during Year 1, the Option C M&V for thermal measures (as detailed in Schedule 2 Section 2) will be extended into Year 2. The foregoing shall apply in subsequent years until the Guaranteed Savings is achieved under Option C for thermal measures. After guaranteed savings are achieved and verified using Option C methodology for thermal measures, all future guarantee reconciliations will be done using Option A and Option B M&V methodology (as detailed in Schedule 2 Exhibit 2).

**Table 2.1.1: Summary of M&V Options for Calculating Guarantee Year 1 Project Benefits**

ECM #	PROPOSED MEASURES	Electricity Savings			M&V Option	Thermal		M&V Option	Total Savings \$/yr
		kW	kWh/yr	\$/yr		MMBtu/yr	\$/yr		
ECM 1	Lighting - Interior Lighting	190	630,348	\$101,308	A	(682)	(\$5,832)	C	\$95,476
ECM 2	Lighting - Exterior Lighting	0	49,795	\$6,755	A	0	\$0		\$6,755
ECM 3.1	Energy Management System - Temperature Setback	0	0	\$0		1,937	\$16,460	C	\$16,460
ECM 3.2	Energy Management System - Demand Controlled Ventilation	0	6,827	\$915	A	584	\$4,896	C	\$5,811
ECM 3.3	Energy Management System - Optimal Start	0	0	\$0		1,446	\$12,317	C	\$12,317
ECM 4	Heating Distribution System - Pipe and Valve Insulation	0	0	\$0		1,186	\$10,216	C	\$10,216
ECM 5	Boiler - Replacements	0	0	\$0		552	\$4,846	C	\$4,846
ECM 6	Window / Door - Replacements	0	809	\$107	A	159	\$1,387	C	\$1,494
ECM 7	Motors - Replacements	3	7,860	\$1,389	A	0	\$0		\$1,389
ECM 8	Renewable Energy- Photovoltaic Electric Generation	373	2,417,342	\$377,324	B	0	\$0		\$377,324
ECM 9	Plug Load Controllers	0	12,646	\$1,723	B	0	\$0		\$1,723
ECM 10	Unit Ventilators - Refurbishment	0	0	\$0		177	\$1,442	C	\$1,442
ECM 11	Air Conditioning Compressor Controllers	0	24,120	\$3,236	A	0	\$0		\$3,236
ECM 12	Refrigeration Compressor Controllers	0	3,624	\$495	A	0	\$0		\$495
	<b>TOTALS</b>	<b>566</b>	<b>3,153,370</b>	<b>\$493,252</b>		<b>5,358</b>	<b>\$45,732</b>		<b>\$538,984</b>

**Table 2.1.2: Summary of M&V Options for Calculating Construction Period and Guarantee Years 2-18 Project Benefits**

ECM #	PROPOSED MEASURES	Electricity Savings			Thermal		Total Savings \$/yr	M&V Option
		kW	kWh/yr	\$/yr	MMBtu/yr	\$/yr		
ECM 1	Lighting - Interior Lighting	190	630,348	\$101,308	(682)	(\$5,832)	\$95,476	A
ECM 2	Lighting - Exterior Lighting	0	49,795	\$6,755	0	\$0	\$6,755	A
ECM 3.1	Energy Management System - Temperature Setback	0	0	\$0	1,937	\$16,460	\$16,460	B
ECM 3.2	Energy Management System - Demand Controlled Ventilation	0	6,827	\$915	584	\$4,896	\$5,811	B
ECM 3.3	Energy Management System - Optimal Start	0	0	\$0	1,446	\$12,317	\$12,317	B
ECM 4	Heating Distribution System - Pipe and Valve Insulation	0	0	\$0	1,186	\$10,216	\$10,216	A
ECM 5	Boiler - Replacements	0	0	\$0	552	\$4,846	\$4,846	A
ECM 6	Window / Door - Replacements	0	809	\$107	159	\$1,387	\$1,494	A
ECM 7	Motors - Replacements	3	7,860	\$1,389	0	\$0	\$1,389	A
ECM 8	Renewable Energy- Photovoltaic Electric Generation	373	2,417,342	\$377,324	0	\$0	\$377,324	B
ECM 9	Plug Load Controllers	0	12,646	\$1,723	0	\$0	\$1,723	B
ECM 10	Unit Ventilators - Refurbishment	0	0	\$0	177	\$1,442	\$1,442	A
ECM 11	Air Conditioning Compressor Controllers	0	24,120	\$3,236	0	\$0	\$3,236	A
ECM 12	Refrigeration Compressor Controllers	0	3,624	\$495	0	\$0	\$495	A
	<b>TOTALS</b>	<b>566</b>	<b>3,153,370</b>	<b>\$493,252</b>	<b>5,358</b>	<b>\$45,732</b>	<b>\$538,984</b>	

## **2.2 Details of M&V Methodologies for the Project:**

### **2.2.1 NEMVP Option C M&V Plan:**

#### **NEMVP Option C**

Industry standard NEMVP Option C Methodology of Calculating Savings will be applied. Option C involves use of utility meters or whole building sub-meters to assess the energy performance of a total building. Option C assesses the impact of any type of Improvement Measure, but not individually if more than one is applied to an energy meter. This option determines the collective Measured Project Benefits of all Improvement Measures applied to the part of the facility monitored by the energy meter. Also, since whole building meters are used, Measured Project Benefits reported under Option C include the impact of any other change made in facility energy use (positive or negative).

Guaranteed savings for Option C measures will be verified using Metrix software and manual calculations, as applicable. Metrix will be used to normalize guarantee period consumption against baseline consumption using weather data. The process to record changes in building use and the customer responsibilities are detailed in the Schedule 3.

**Table 2.2.1.1: Option C Measures (For Guarantee Year 1 Thermal Savings)**

<b>ECM #</b>	<b>Measure</b>	<b>M&amp;V Option</b>
ECM 1	Lighting - Interior Lighting	C
ECM 3.1	Energy Management System - Temperature Setback	C
ECM 3.2	Energy Management System - Demand Controlled Ventilation	C
ECM 3.3	Energy Management System - Optimal Start	C
ECM 4	Heating Distribution System - Pipe and Valve Insulation	C
ECM 5	Boiler - Replacements	C
ECM 6	Window / Door - Replacements	C
ECM 10	Unit Ventilators - Refurbishment	C

### **2.2.1. Option C Calculation Methodology**

#### **A. Overview**

In order to accurately calculate energy-related Savings under this Agreement, it is necessary to be able to make comparisons of pre-retrofit and post-retrofit conditions under similar terms. To do this, Base Lines are established (Schedule 2, Section IV – Baseline Information) to document pre-retrofit conditions and serve as the basis for post-retrofit analysis.

The following methodology will be used to calculate energy-related unit Savings:

- a. The software program applies base line data for the specified “tuning period” to the regression calculation detailed in below Section B - 1(c) and 1(d).
- b. The program establishes a relationship between utility consumption or demand and the independent variable(s) (e.g. HDD, CDD, etc.). Coefficient(s) of consumption per unit will be tuned and documented for variables where such a relationship can be established.
- c. During the post retrofit period, the pre-retrofit coefficients and the post retrofit variable data will be applied to the regression calculation to adjust for differences in conditions. This will give an adjusted base line which represents what would have been consumed had no facility improvement measures been implemented.
- d. The units saved are equal to this adjusted base line minus the actual consumption for the billing period.

The regression analysis methodology used in this agreement is capable of making adjustments for changes in base load, heating degree-days, cooling degree-days, and up to three other variables.

**B. Application of Regression Analysis Calculation**

Regression Analysis is the means by which the relationship(s) between utility consumption and other variables is determined. The relationships documented on this schedule were established using a utility accounting software program. Following is the equation utilized to both establish the Base Line and serve as the basis for post-retrofit analysis:

The inputs and outputs to the equation vary depending on whether the equation is being applied to the pre-retrofit tuning period or the post retrofit tracking period. Once the coefficients  $B$ ,  $D_H$ ,  $D_I$ , and the base temperature  $T_{B_H}$  have been obtained by regression, they remain fixed and are used to derive adjusted meter consumption for all future time periods.

$$E = B \cdot \Delta t + D_H \cdot HDD(T_{B_H}) + D_I \cdot U_i$$

where:

- E = Adjusted Base Line Consumption throughput through meter. During the post retrofit period this value represents what the consumption would have been under current conditions (weather, etc.) had no Facility Improvement Measures (ECMs) been implemented.
- B = Base load consumption per unit of time (Utility Units/day), that part of the meter consumption that is independent of (cannot be correlated to) any of the independent variables, including the degree-days. This consumption will be present no matter what the weather conditions or other independent variables are. This fixed value, dependent only on the number of days in the period being evaluated, is determined when defining the Base Line.
- $\Delta t$  = Time interval (days) in analysis period.



- $D_H$  = Coefficients for Heating Degree-days (Utility units/deg-day). These fixed values, which are determined when defining the Base Line, define the sensitivity of consumption to changes in weather.
- HDD = Heating degree-days (°F-day) for the period being analyzed;
- TB<sub>H</sub> = Heating degree-day base (or balance point) temperatures (°F or °C) upon which the HDD values are derived. These balance point temperatures represent the outdoor air temperature at which utility consumption or demand begins to react to any further change in outdoor temperature. When outdoor air temperature is equal to balance point temperature heat loss = heat gain.
- $D_i$  = Coefficients for user defined variable I (I=1,2,3 for any one meter). These coefficients (or relationships) are determined when defining the Base Line.
- $U_i$  = Value of independent user variable I (I=1,2,3 for any one meter) for the period being analyzed.

The main variables in the project are, but not limited to, HDD, building operating hours and HVAC setpoints.

### C. Base Line Model Calculations

Following is a summary of how a Base Line Model is developed:

- (1) **Model Tuning** – Additional model tuning data (equipment usage, plug load usage, building operating hours, heating degree days and wind velocity data) will be collected after the execution of the contract (but before the project retrofit) for purposes of tuning the Metrix model.
- (2) **Identify Relationships of Consumption to Independent Variables** - The Regression Analysis Calculation shown in section 1(c) or 1(d) is then applied to each individual utility item during the selected Tuning Period against one or more independent variables. The resultant relationship(s) of utility consumption as a function of time, weather, and other independent variable(s) is represented by the Regression Analysis Calculation as shown on this schedule.

### D. Modifications to the Base Line Model

A modification is made up of# of units to be applied, a time period to apply the units, and a description of why the modification is being applied.

- (1) Annual Periodic Modifications. Annual Periodic Modifications are used to adjust the base line consumption for anomalies that occurred during the Tuning Period because of operational procedures or abnormal conditions that occurred. These “out of line” consumption periods cause the regression equation to over or under predict consumption. A modification helps to fit the equation’s predicted value to the actual value that occurred during the tuning period. Future consumption can be predicted with a high degree of confidence once the predicted and actual tuning period

consumption is matched properly. Annual Periodic Modifications for the Project are identified on this schedule.

(2) Additional Modifications. During the term of the Agreement, it may also be necessary to make modifications to the base line, as a result of physical or operational changes within the premises that are beyond the agreed upon conditions as shown on this schedule and as implied by the base line values of any independent user variable as defined in this schedule. The savings impact due to baseline modifications will be calculated using a combination of engineering savings calculation outlined in the DEA and industry standard engineering calculations, as applicable.

## **E. Utility Cost Savings**

For each time period being evaluated, an Adjusted Base Line is calculated by performing the Regression Analysis and applying to it any necessary modifications. This Adjusted Base Line represents the utility consumption that would have occurred if the retrofits had not been implemented. Guarantee period actual savings is the difference between the Adjusted Base Line consumption and the actual post-retrofit consumption for the same period. During the guarantee period, the guaranteed savings will be adjusted for factors that are out of JCI's control such as weather variations and changes in non-routine factors such as building operation and building foot print. This adjusted guaranteed savings will be the target for that guarantee year as required in this Agreement. The savings adjustment will be determined using industry standard savings calculation. The guarantee period actual savings will be compared with target guaranteed savings to reconcile the project savings guarantee. All adjustments are subject to review and approval of the Customer and its Engineer.

The method of selecting unit costs is documented on Schedule 2 Exhibit 3 and will be used throughout the guarantee period.

## **F. Miscellaneous Adjustments**

**4a.** The various obligations and commitments undertaken by JCI in this Agreement are based in part on the assumption that Customer's facilities are and will remain in full compliance with all applicable building codes and Customer does not alter or interfere with any ECMs effectuated by JCI. In the event JCI determines or becomes aware that building codes are not being adhered to or that any ECMs effectuated by the Customer have been altered or interfered with by Customer or its subcontractors or that any portion of the Premises or its contents is not being operated in accordance with Schedule 2 Section IV, JCI shall notify Customer and may, after discussion and mutual written agreement, make such adjustments as may be necessary to the calculations used to determine energy Savings in order to reflect the effects of non-compliance with building codes or the impact on ECMs effectuated by JCI.

**4b.** The Services, including the ECMs, provided by JCI under this Agreement are intended to operate and be used as a total package to achieve optimum energy efficiency for Customer. In the event Customer disables, disconnects, or otherwise ceases to use or overrides any or all Service(s) or ECMs provided by JCI under this Agreement, JCI shall be entitled to make such adjustments as may be necessary to the calculations used to determine energy Savings in order to reflect the effects of such

action by Customer, subject to written approval of the Customer, which shall not be unreasonably withheld.

**4c.** The Customer hereby acknowledges that the method of billing used by the applicable utility providing the energy source may be modified or subject to variation during the term of this Agreement. In such event, the calculations used to determine energy Savings shall be subject to such adjustments as necessary to equate the modified or varied method of billing to the method in effect at the time the relevant billing variables were incorporated into this Agreement.

## **G. Option C Metering Strategy**

In general, for a fixed ECM, the ECM will have more effect on the consumption and demand savings when metering on the primary side, as opposed to, metering on the secondary side. Also, primary service utility rate structure is lower than secondary service utility rate structure. These factors were taken into account when the savings calculations were performed for the High School, Middle School and Administration Building.

Data from all existing utility meters will be used to reconcile Option-C guaranteed savings. JCI will acquire interval data for meters that account for more than 20% of the annual consumption of the building. If interval data is not readily available from the utility, JCI will install pulse metering capability to existing meters, provided existing meters have pulse capability. It is the customer's responsibility to work with the utility to ensure they have pulse capable meters.

There are two types of gas meters in each building. The first type is the main gas meter which is used to measure the natural gas fed to the boilers that supply the building heat. The second type of meters are those that are not used by the boilers. Only the main gas meter will be used in to reconcile guaranteed and actual savings.

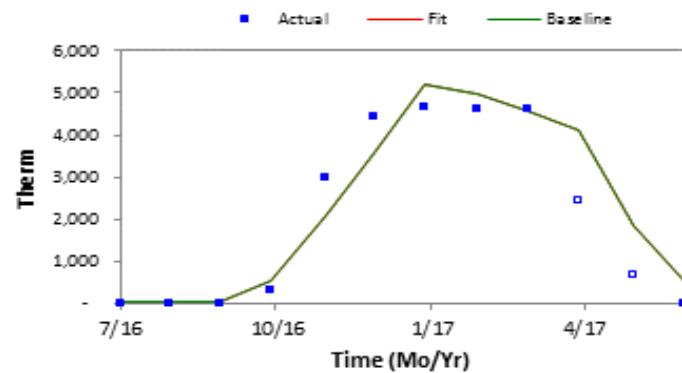
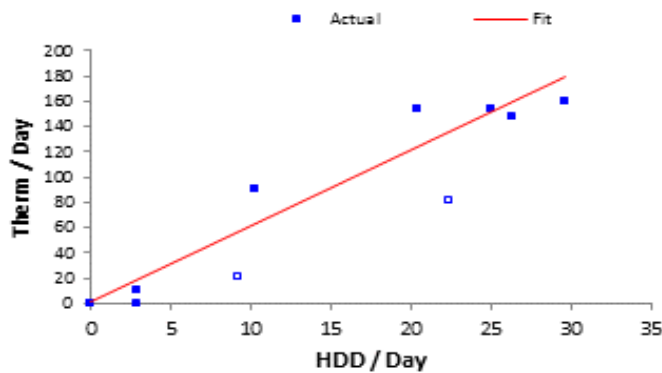
The Customer will be responsible for the performance, maintenance and accuracy of all metering equipment which includes gas meters, electric meters, pulse outputs, data loggers, building management system and oil meters. JCI will not be responsible for the subsequent portion of the guarantee that corresponds to the location and time period where the metering equipment is not performing. In the event that the metering data is lost, JCI will work with the Customer to use average consumption data (weather adjusted) for the same period from previous guarantee years.

The project was developed with the Customer's assurance that gas will be the primary fuel for heating. When more than 5% of fuel usage is accounted to oil, oil consumption will be translated to equivalent gas consumption using standard engineering calculations and evaluated at the project utility rate for gas (as shown in Section 2.3).

Meter Tuning Contract

Project: Bayport-Blue Point SD  
 Area: Academy Street ES  
 Account: 14181-25006

Site: Bayport-Bluepoint SD  
 Meter: ASES Natural Gas 1  
 Unit: Therm(Qty OnPk)



From	To	# Days	Reading	Incl?	HDD	CDD	Offset	Baseline	Deviation
06/13/16	07/15/16	33	-		0.0	0.0	-	42	0.0%
07/16/16	08/13/16	29	-		0.0	0.0	-	37	0.0%
08/14/16	09/12/16	30	-		0.0	0.0	-	38	0.0%
09/13/16	10/11/16	29	307		81.5	0.0	-	528	71.9%
10/12/16	11/13/16	33	2,973		339.5	0.0	-	2,086	-29.8%
11/14/16	12/12/16	29	4,442		590.0	0.0	-	3,589	-19.2%
12/13/16	01/10/17	29	4,651		860.0	0.0	-	5,214	12.1%
01/11/17	02/10/17	31	4,601		818.5	0.0	-	4,967	8.0%
02/11/17	03/12/17	30	4,620		750.0	0.0	-	4,553	-1.4%
03/13/17	04/11/17	30	2,461		673.5	0.0	-	4,093	66.3%
04/12/17	05/14/17	33	696		302.5	0.0	-	1,863	167.7%
05/15/17	06/12/17	29	-		83.5	0.0	-	540	0.0%
<b>Sum/Average/Max</b>		<b>365</b>	<b>24,751</b>		<b>4499.0</b>	<b>0.0</b>	-	<b>27,550</b>	<b>0% +/- 23.5%</b>

**ASES Natural Gas 1 (Account # 14181-25006): Tuning Period is 365 days from 6/13/2016 until 6/12/2017.**

Below is the equation used to calculate the Baseline values for the tuning period and all future periods:

$$\text{Baseline (Therm)} = 1.27 \times \text{\#Days} + 6.02 \times \text{HDD}$$

The Baseline Equation has a Net Mean Bias of 0% and a Monthly Mean Error of +/-23.5%. The underlying regression has a R<sup>2</sup>=0.951

Baseline Costs are calculated using Average Total Cost/Consumption.

**Explanations and Assumptions:**

(empty checkbox) under 'Incl?' indicates that the bill is excluded from the regression. However the Baseline Equation is always applied for all billing periods, even those excluded from the regression.

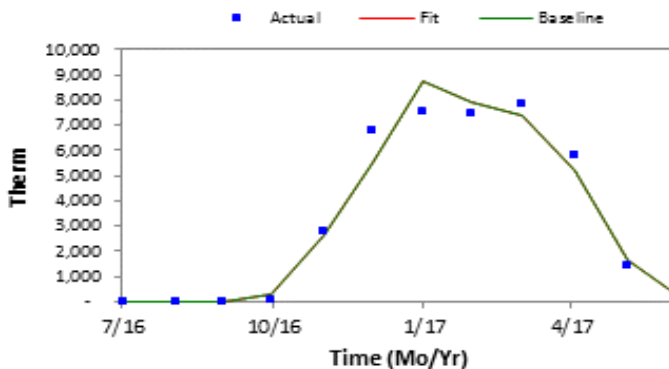
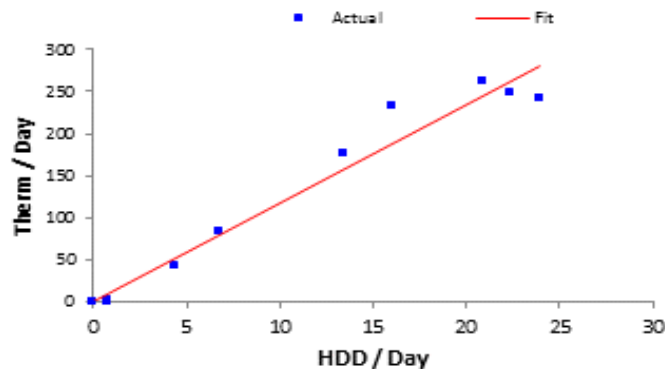
HDD = Heating Degree-Days calculated for NEW YORKNY for a 66.0 F<sup>0</sup> balance point.

Multiplier is derived from Modification(s) in effect during the tuning period and is replicated annually for all future periods.

Meter Tuning Contract

Project: Bayport-Blue Point SD  
 Area: Bayport-Blue Point HS  
 Account: 51562-19005

Site: Bayport-Bluepoint SD  
 Meter: BBHS Natural Gas 2  
 Unit: Therm(Qty OnPk)



From	To	# Days	Reading	Incl?	HDD	CDD	Offset	Baseline	Deviation
06/16/16	07/15/16	30	-		0.0	0.0	-	17	0.0%
07/16/16	08/16/16	32	-		0.0	0.0	-	19	0.0%
08/17/16	09/14/16	29	-		0.0	0.0	-	17	0.0%
09/15/16	10/13/16	29	34		20.5	0.0	-	258	657.5%
10/14/16	11/15/16	33	2,754		223.0	0.0	-	2,638	-4.2%
11/16/16	12/14/16	29	6,760		465.5	0.0	-	5,483	-18.9%
12/15/16	01/14/17	31	7,514		741.0	0.0	-	8,719	16.0%
01/15/17	02/13/17	30	7,483		672.0	0.0	-	7,908	5.7%
02/14/17	03/15/17	30	7,840		625.5	0.0	-	7,362	-6.1%
03/16/17	04/17/17	33	5,819		443.0	0.0	-	5,221	-10.3%
04/18/17	05/19/17	32	1,389		141.5	0.0	-	1,680	21.0%
05/20/17	06/17/17	29	-		21.5	0.0	-	269	0.0%
<b>Sum/Average/Max</b>		<b>367</b>	<b>39,593</b>		<b>3353.5</b>	<b>0.0</b>	-	<b>39,591</b>	<b>0% +/- 18.4%</b>

**BBHS Natural Gas 2 (Account # 51562-19005): Tuning Period is 367 days from 6/16/2016 until 6/17/2017.**

Below is the equation used to calculate the Baseline values for the tuning period and all future periods:

$$\text{Baseline (Therm)} = 0.58 \times \text{\#Days} + 11.74 \times \text{HDD}$$

The Baseline Equation has a Net Mean Bias of 0% and a Monthly Mean Error of +/-18.4%. The underlying regression has a R<sup>2</sup>=0.969

Baseline Costs are calculated using Average Total Cost/Consumption.

**Explanations and Assumptions:**

(empty checkbox) under 'Incl?' indicates that the bill is excluded from the regression. However the Baseline Equation is always applied for all billing periods, even those excluded from the regression.

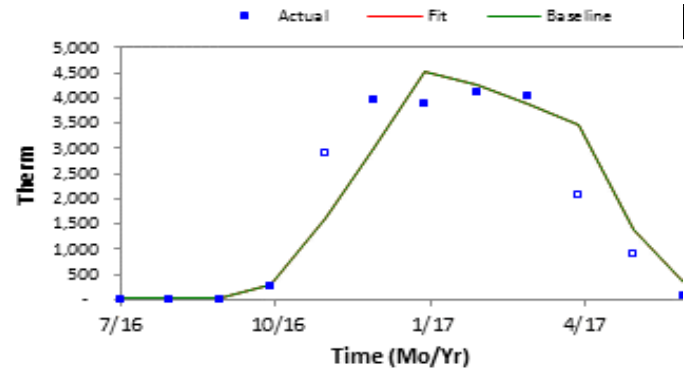
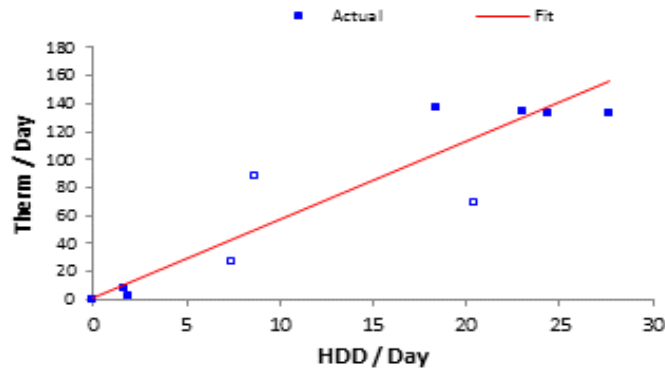
HDD = Heating Degree-Days calculated for NEW YORKNY for a 61.0 F° balance point.

Multiplier is derived from Modification(s) in effect during the tuning period and is replicated annually for all future periods.

Meter Tuning Contract

Project: Bayport-Blue Point SD  
 Area: Bayport-Blue Point HS  
 Account: 64032-52000

Site: Bayport-Bluepoint SD  
 Meter: BBHS Natural Gas 3  
 Unit: Therm(Qty OnPk)



From	To	# Days	Reading	Incl?	HDD	CDD	Offset	Baseline	Deviation
06/13/16	07/15/16	33	-		0.0	0.0	-	19	0.0%
07/16/16	08/13/16	29	-		0.0	0.0	-	16	0.0%
08/14/16	09/12/16	30	-		0.0	0.0	-	17	0.0%
09/13/16	10/11/16	29	243		49.5	0.0	-	294	20.8%
10/12/16	11/13/16	33	2,899		284.5	0.0	-	1,612	-44.4%
11/14/16	12/12/16	29	3,956		532.0	0.0	-	2,995	-24.3%
12/13/16	01/10/17	29	3,868		802.0	0.0	-	4,507	16.5%
01/11/17	02/10/17	31	4,121		756.5	0.0	-	4,253	3.2%
02/11/17	03/12/17	30	4,047		690.0	0.0	-	3,881	-4.1%
03/13/17	04/11/17	30	2,069		613.5	0.0	-	3,452	66.9%
04/12/17	05/14/17	33	886		245.0	0.0	-	1,390	56.9%
05/15/17	06/12/17	29	71		55.0	0.0	-	324	356.8%
<b>Sum/Average/Max</b>		<b>365</b>	<b>22,160</b>		<b>4028.0</b>	<b>0.0</b>	-	<b>22,760</b>	<b>0% +/- 23.5%</b>

**BBHS Natural Gas 3 (Account # 64032-52000): Tuning Period is 365 days from 6/13/2016 until 6/12/2017.**

Below is the equation used to calculate the Baseline values for the tuning period and all future periods:

$$\text{Baseline (Therm)} = 0.56 \times \text{\#Days} + 5.6 \times \text{HDD}$$

The Baseline Equation has a Net Mean Bias of 0% and a Monthly Mean Error of +/-23.5%. The underlying regression has a  $R^2=0.956$

Baseline Costs are calculated using Average Total Cost/Consumption.

**Explanations and Assumptions:**

(empty checkbox) under 'Incl?' indicates that the bill is excluded from the regression. However the Baseline Equation is always applied for all billing periods, even those excluded from the regression.

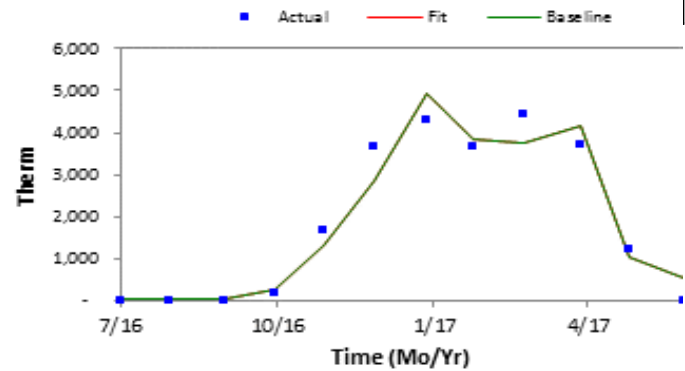
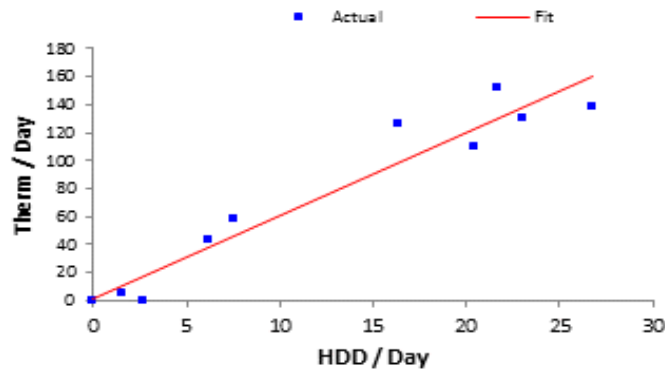
HDD = Heating Degree-Days calculated for NEW YORKNY for a 64.0 F° balance point.

Multiplier is derived from Modification(s) in effect during the tuning period and is replicated annually for all future periods.

Meter Tuning Contract

Project: Bayport-Blue Point SD  
 Area: Blue Point ES  
 Account: 81109-12008

Site: Bayport-Bluepoint SD  
 Meter: BPES Natural Gas 1  
 Unit: Therm(Qty OnPk)



From	To	# Days	Reading	Incl?	HDD	CDD	Offset	Baseline	Deviation
06/17/16	07/15/16	29	-		0.0	0.0	-	24	0.0%
07/16/16	08/13/16	29	-		0.0	0.0	-	24	0.0%
08/14/16	09/14/16	32	-		0.0	0.0	-	26	0.0%
09/15/16	10/13/16	29	162		44.5	0.0	-	287	77.4%
10/14/16	11/11/16	29	1,692		219.5	0.0	-	1,324	-21.8%
11/12/16	12/10/16	29	3,661		475.5	0.0	-	2,840	-22.4%
12/11/16	01/10/17	31	4,276		831.0	0.0	-	4,947	15.7%
01/11/17	02/07/17	28	3,661		645.5	0.0	-	3,846	5.0%
02/08/17	03/08/17	29	4,415		629.0	0.0	-	3,749	-15.1%
03/09/17	04/11/17	34	3,721		694.5	0.0	-	4,141	11.3%
04/12/17	05/09/17	28	1,202		174.0	0.0	-	1,053	-12.4%
05/10/17	06/10/17	32	-		85.0	0.0	-	530	0.0%
<b>Sum/Average/Max</b>		<b>359</b>	<b>22,790</b>		<b>3798.5</b>	<b>0.0</b>	<b>-</b>	<b>22,790</b>	<b>0% +/- 23.7%</b>

**BPES Natural Gas 1 (Account # 81109-12008): Tuning Period is 359 days from 6/17/2016 until 6/10/2017.**

Below is the equation used to calculate the Baseline values for the tuning period and all future periods:

$$\text{Baseline (Therm)} = 0.82 \times \text{\#Days} + 5.92 \times \text{HDD}$$

The Baseline Equation has a Net Mean Bias of 0% and a Monthly Mean Error of +/-23.7%. The underlying regression has a R<sup>2</sup>=0.944

Baseline Costs are calculated using Average Total Cost/Consumption.

**Explanations and Assumptions:**

(empty checkbox) under 'Incl?' indicates that the bill is excluded from the regression. However the Baseline Equation is always applied for all billing periods, even those excluded from the regression.

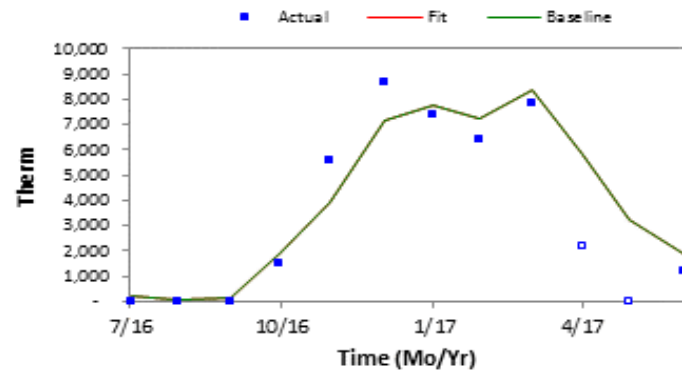
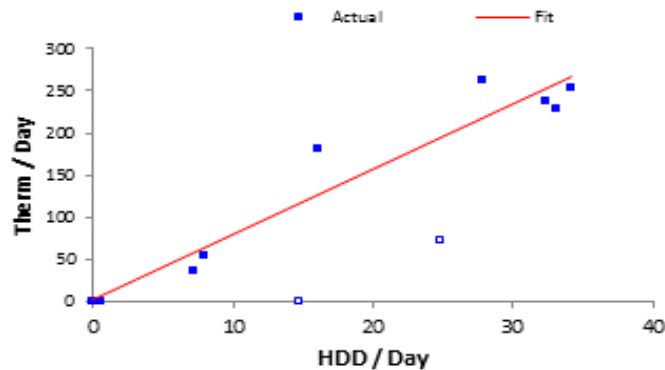
HDD = Heating Degree-Days calculated for NEW YORKNY for a 63.0 F<sup>o</sup> balance point.

Multiplier is derived from Modification(s) in effect during the tuning period and is replicated annually for all future periods.

Meter Tuning Contract

Project: Bayport-Blue Point SD  
 Area: JWY Middle School  
 Account: 54019-61005

Site: Bayport-Bluepoint SD  
 Meter: JWYMS Natural Gas 1  
 Unit: Therm(Qty OnPk)



From	To	# Days	Reading	Incl?	HDD	CDD	Offset	Baseline	Deviation
06/16/16	07/15/16	30	-		17.0	0.0	-	196	0.0%
07/16/16	08/13/16	29	-		0.5	0.0	-	66	0.0%
08/14/16	09/14/16	32	-		5.5	0.0	-	112	0.0%
09/15/16	10/13/16	29	1,536		230.5	0.0	-	1,847	20.2%
10/14/16	11/13/16	31	5,579		500.5	0.0	-	3,941	-29.4%
11/14/16	12/16/16	33	8,633		919.0	0.0	-	7,185	-16.8%
12/17/16	01/14/17	29	7,367		990.5	0.0	-	7,729	4.9%
01/15/17	02/11/17	28	6,382		927.5	0.0	-	7,240	13.4%
02/12/17	03/16/17	33	7,863		1069.5	0.0	-	8,350	6.2%
03/17/17	04/15/17	30	2,173		743.0	0.0	-	5,816	167.6%
04/16/17	05/13/17	28	-		413.5	0.0	-	3,261	0.0%
05/14/17	06/15/17	33	1,195		235.0	0.0	-	1,890	58.2%
<b>Sum/Average/Max</b>		<b>365</b>	<b>40,728</b>		<b>6052.0</b>	<b>0.0</b>	<b>-</b>	<b>47,632</b>	<b>0% +/- 22.1%</b>

**JWYMS Natural Gas 1 (Account # 54019-61005): Tuning Period is 365 days from 6/16/2016 until 6/15/2017.**

Below is the equation used to calculate the Baseline values for the tuning period and all future periods:

$$\text{Baseline (Therm)} = 2.15 \times \text{\#Days} + 7.74 \times \text{HDD}$$

The Baseline Equation has a Net Mean Bias of 0% and a Monthly Mean Error of +/-22.1%. The underlying regression has a R<sup>2</sup>=0.945

Baseline Costs are calculated using Average Total Cost/Consumption.

**Explanations and Assumptions:**

(empty checkbox) under 'Incl?' indicates that the bill is excluded from the regression. However the Baseline Equation is always applied for all billing periods, even those excluded from the regression.

HDD = Heating Degree-Days calculated for NEW YORKNY for a 72.0 F<sup>0</sup> balance point.

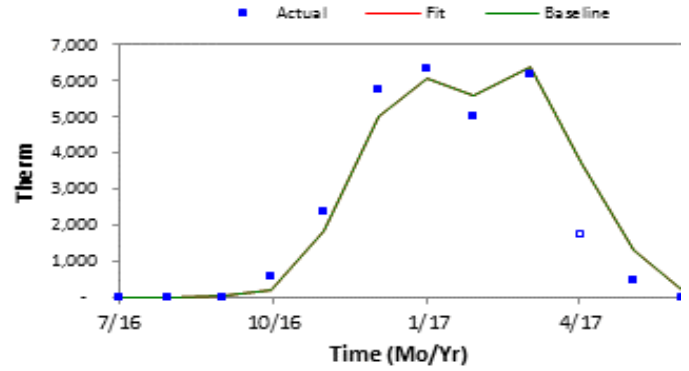
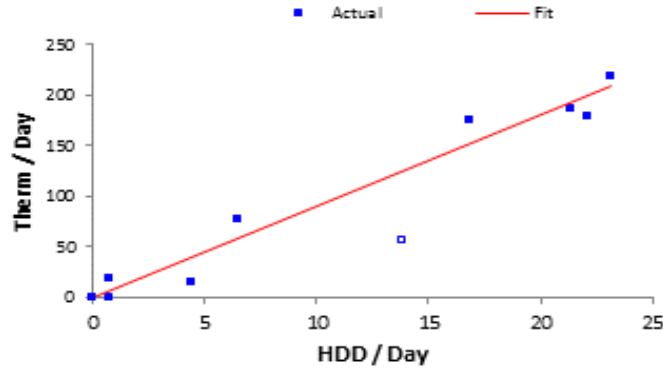
Multiplier is derived from Modification(s) in effect during the tuning period and is replicated annually for all future periods.



**Meter Tuning Contract**

**Project: Bayport-Blue Point SD**  
**Bluepoint SD Area: Sylvan Avenue ES**  
**Account: 41565-58006**

**Site: Bayport-**  
**Meter: SAES Natural Gas 1**  
**Unit: Therm(Qty OnPk)**



From	To	# Days	Reading	Incl?	HDD	CDD	Offset	Baseline	Deviation
06/16/16	07/15/16	30	-		0.0	0.0	-	19	0.0%
07/16/16	08/13/16	29	-		0.0	0.0	-	19	0.0%
08/14/16	09/14/16	32	-		0.0	0.0	-	21	0.0%
09/15/16	10/13/16	29	554		20.5	0.0	-	203	-63.3%
10/14/16	11/13/16	31	2,387		202.0	0.0	-	1,838	-23.0%
11/14/16	12/16/16	33	5,768		556.0	0.0	-	5,026	-12.9%
12/17/16	01/14/17	29	6,335		671.5	0.0	-	6,063	-4.3%
01/15/17	02/11/17	28	4,989		619.5	0.0	-	5,594	12.1%
02/12/17	03/16/17	33	6,169		706.5	0.0	-	6,380	3.4%
03/17/17	04/15/17	30	1,717		414.5	0.0	-	3,750	118.4%
04/16/17	05/17/17	32	465		141.5	0.0	-	1,294	178.3%
05/18/17	06/14/17	28	-		21.5	0.0	-	211	0.0%
<b>Sum/Average/Max</b>		<b>364</b>	<b>28,384</b>		<b>3353.5</b>	<b>0.0</b>	<b>-</b>	<b>30,417</b>	<b>0% +/-</b>
								<b>19.3%</b>	

**SAES Natural Gas 1 (Account # 41565-58006): Tuning Period is 364 days from 6/16/2016 until 6/14/2017.**

Below is the equation used to calculate the Baseline values for the tuning period and all future periods:

$$\text{Baseline (Therm)} = 0.64 \times \text{\#Days} + 9 \times \text{HDD}$$

The Baseline Equation has a Net Mean Bias of 0% and a Monthly Mean Error of +/-19.3%. The underlying regression has a R<sup>2</sup>=0.972

Baseline Costs are calculated using Average Total Cost/Consumption.

**Explanations and Assumptions:**

(empty checkbox) under 'Incl?' indicates that the bill is excluded from the regression. However the Baseline Equation is always applied for all billing periods, even those excluded from the regression. HDD = Heating Degree-Days calculated for NEW YORKNY for a 61.0 F<sup>0</sup> balance point. Multiplier is derived from Modification(s) in effect during the tuning period and is replicated annually for all future periods

**2.2.2 NEMVP Option A M&V Plan (For Guarantee Year 1 Option A Measures (Table 2.1.1) and Guarantee Year 2-18 Option A Measures (Table 2.1.2), provided Option C is achieved in Year 1 for ECMs 1, 4, 5, 6, and 10):**

**NEMVP Option A  
Potential to Perform Verification and Performance Calculation**

Option A is a verification approach designed for projects where the potential to perform needs to be verified, but the actual performance (savings) can be calculated based on the results of the “potential to perform and generate savings” verification and engineering calculations. Option A involves procedures for verifying that:

- Baseline conditions have been properly defined.
- The equipment and/or systems that were contracted to be installed have been installed.
- The installed equipment/systems meet the specifications of the contract in terms of quantity, quality and rating.
- The installed equipment is operating and performing in accordance with the specifications in the contract and meeting functional tests.
- The installed equipment/systems continue, during the term of the contract, to meet the specifications of the contract in terms of quantity, quality and rating, operation and functional performance.

The potential to perform may be verified through inspections and/or spot or short-term metering conducted immediately before and/or immediately after project installation. Annual (or some other regular interval) inspections may also be conducted to verify an ECM’s continued potential to perform and generate savings. With Option A, actual achieved energy or cost savings are not verified; they are predicted using engineering or statistical methods that do not involve long-term measurements.

**Table 2.2.2.1: Option A Measures**

<b>ECM #</b>	<b>Measure</b>	<b>M&amp;V Option</b>
ECM 1	Lighting - Interior Lighting	A
ECM 2	Lighting - Exterior Lighting	A
ECM 4	Heating Distribution System - Pipe and Valve Insulation	A
ECM 5	Boiler - Replacements	A
ECM 6	Window / Door - Replacements	A
ECM 7	Motors - Replacements	A
ECM 10	Unit Ventilators - Refurbishment	A
ECM 11	Air Conditioning Compressor Controllers	A
ECM 12	Refrigeration Compressor Controllers	A

**ECM 1: Lighting - Interior Lighting****M&V Option for Guarantee Year 1-18 for electrical savings:** NEMVP-A (One Time)**M&V Option for Guarantee Year 1 for thermal savings:** NEMVP-C**M&V Option for Guarantee Year 2-18 for thermal savings:** NEMVP-A (One Time), only if Option C Guarantee in Year 1 is achieved**Measurement Boundary:** Retrofit isolation – Project savings will be determined within the measurement boundary that encompasses only the light fixtures subject to the lighting retrofit project.**Measured Key Parameter:** Wattage of selected circuits**Assumptions:** Pre kW data is based on NYSERDA approved wattage tables. Pre and post hours of operation is based on information from customer as set forth in Exhibit 7 of Schedule 2.**Interaction:** Lighting kW reduction leads to increase in heat energy usage during winter and decrease in cooling energy usage during summer. The net energy usage due interaction will be accounted during pre-retrofit and post-retrofit savings calculation.**Measuring Equipment:** True-RMS Wattmeter (kW measurement) and light meter (light level measurement)**Measuring Equipment Accuracy:**True RMS Watt Meter:  $\pm 3\%$  of measurement rangeLight Meter:  $\pm 3\%$  of measurement range**Measuring Equipment Calibration:** Equipment will be quality checked for calibration at the time of measurement and documented in the M&V report.**Measurement Period:** One-minute average**Measurement Frequency:** One-time post-retrofit measurement. Annual visual inspection checks for rest of the guarantee term.**Measurement and Verification Details:*****Sampling Procedure:***

To reduce M&V cost, all fixtures installed will not be measured, an effective NEMVP recommended sampling method will be used. Lighting fixture types that account for greater than 10% of the total fixtures installed will be measured. Lighting fixtures will be separated to homogenous groups and sampled to achieve  $\pm 10\%$  precision with 90% confidence.

An initial sample size will be used based on an assumption of 0.5 for coefficient of variance. Additional samples will be measured until the 0.5 coefficient of variance is achieved. The average savings calculated will be used as the true savings and the uncertainty will have no effect on true savings.

**Measurement Procedure:**

True RMS power measurements will be taken at the light switch that energizes the circuit containing only the sampled fixture types.

**Quality Check Procedure:**

In order to ensure that a room is not under lit due to lighting kw reduction, a sample of light levels pre and post retrofit will be measured . This data will be compared against the ASHRAE/IES recommended light levels for each user type. The installation team will check the lighting installation line by line.

**Pre-Installation Activities:**

Pre-retrofit lighting kW data from the line by line will be used for pre-retrofit savings calculation.

**Post-Installation Activities:**

Post-kW measurements will be sampled and measured once after retrofit and will be used for rest of the guarantee term. Light level will be quality checked annually throughout the guarantee term. Inspection results and JCI warranty commitments will be communicated to the Customer in writing to maximize warranty benefits. Warranty claim procedure will be the responsibility of the Customer with the assistance of JCI.

**Formulas, lighting Wattages and run hours in the Detailed Energy Audit (DEA) will be used to calculate the savings**

**ECM 2: Lighting - Exterior Lighting**

**M&V Option:** NEMVP-A (One Time)

**Measurement Boundary:** Retrofit isolation – Project savings will be determined within the measurement boundary that encompasses only the light fixtures subject to the lighting retrofit project.

**Measured Key Parameter:** Wattage of selected circuits

**Assumptions:** Pre kW data is based on NYSERDA approved wattage tables. Pre and post hours of operation is based on information from customer as set forth in Exhibit 7 of Schedule 2.

**Interaction:** Lighting kW reduction leads to increase in heat energy usage during winter and decrease in cooling energy usage during summer. The net energy usage due interaction will be accounted during pre-retrofit and post-retrofit savings calculation.

**Measuring Equipment:** True-RMS Wattmeter (kW measurement) and light meter (light level measurement)

**Measuring Equipment Accuracy:**

True RMS Watt Meter:  $\pm 3\%$  of measurement range

Light Meter:  $\pm 3\%$  of measurement range

**Measuring Equipment Calibration:** Equipment will be quality checked for calibration at the time of measurement and documented in the M&V report.

**Measurement Period:** One-minute average

**Measurement Frequency:** One-time post-retrofit measurement. Inspection checks for rest of the guarantee period.

**Measurement and Verification Details:*****Sampling Procedure:***

Effective NEMVP recommended sampling method will be used. Lighting fixture types that account for greater than 10% of the total fixtures installed will be measured. Lighting fixtures will be separated to homogenous groups and sampled to achieve  $\pm 10\%$  precision with 90% confidence.

A sample size will be used based on an assumption of 0.5 for coefficient of variance. Additional samples will be measured until the 0.5 coefficient of variance is achieved. The average savings calculated will be used as the true savings and the uncertainty will have no effect on true savings.

***Measurement Procedure:***

True RMS power measurements will be taken at the light switch that energizes the circuit containing only the sampled fixtures.

***Quality Check Procedure:***

In order to ensure that a room is not under lit due to lighting kW reduction, a sample of light levels pre and post retrofit will be measured. This data will be compared against the ASHRAE/IES recommended light levels for each user type. The installation team will check the lighting installation line by line. The M&V team will quality check the line by line and take photographs for documentation.

***Pre-Installation Activities:***

Pre-retrofit lighting kW data from the line by line will be used for pre-retrofit savings calculation.

***Post-Installation Activities:***

Post-kW measurements will be sampled and measured once after retrofit and will be used for rest of the guarantee term. Light level will be quality checked one time. Inspection results and JCI warranty commitments will be communicated to the Customer in writing to maximize warranty benefits. Warranty claim procedure will be the responsibility of the Customer with the assistance of JCI.

**Formulas, lighting Wattages and run hours in the DEA will be used to calculate the savings**

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**ECM 4: Heating Distribution System - Pipe and Valve Insulation****M&V Option for Guarantee Year 1 for thermal savings: NEMVP-C****M&V Option for Guarantee Year 2-18 for thermal savings: NEMVP-A (One Time)**, only if Option C Guarantee in Year 1 is achieved**Measurement Boundary:** Retrofit isolation – Project savings will be determined within the measurement boundary that encompasses only the items that are subject to this Pipe and Valve Insulation project.**Verification Equipment:** Thermal gun (or infrared camera) and measuring tape**Verification Frequency & Period:** One time during both pre-retrofit period and post-retrofit period. Inspection checks for rest of the guarantee term.**Pre-Installation Activities:**

A thermal gun will be used to measure surface temperatures or an infrared camera will be used to capture the thermo graphic image of pre-retrofit thermal leaks.

**Post- Installation Activities:**

Accuracy of the as-built will be verified (sampling will be conducted as detailed in the sampling procedure). A digital camera will be used to document the post-retrofit conditions. A thermal gun or an infrared camera will be used to verify installation.

**Formulas and values in the DEA will be used to calculate the savings****ECM 5: Boiler - Replacements****M&V Option for Guarantee Year 1-18 for electrical savings: NEMVP-A (One Time)****M&V Option for Guarantee Year 1 for thermal savings: NEMVP-C****M&V Option for Guarantee Year 2-18 for thermal savings: NEMVP-A (One Time)**, only if Option C Guarantee in Year 1 is achieved**Verification Boundary:** Retrofit isolation – Project savings will be determined within the measurement boundary that encompasses only the items that are subject to this FIM.**Measurement:** Combustion efficiency**Verification Period & Frequency:** One-time the first post-retrofit year. Inspection checks for rest of the guarantee term.

**Post- Verification Procedure:**

Combustion analyzer will be used to measure combustion efficiency. A digital camera will be used to document the post- retrofit conditions. Verify if it performs in accordance with the functional specifications in the Detailed Energy Audit (DEA) and meeting all functional tests.

**Formulas and values in the DEA will be used to calculate the savings****ECM 6: Window / Door - Replacements**

**M&V Option for Guarantee Year 1 for thermal savings:** NEMVP-C

**M&V Option for Guarantee Year 2-18 for thermal savings:** NEMVP-A (One Time), only if Option C Guarantee in Year 1 is achieved

**Verification Boundary:** Retrofit isolation – Project savings will be determined within the measurement boundary that encompasses only the items that are subject to this Doors and Windows replacements project.

**Verification Period & Frequency:** One time during both pre-retrofit period and post-retrofit period. Inspection checks for rest of the guarantee term.

**Pre-Installation Activities:** Document the existing conditions of the old door and windows using a digital camera or a thermal camera.

**Post- Installation Activities:**

A thermal camera will be used to document the post- retrofit conditions. Inspect and verify the installed doors and windows to see if they meet the specifications of the DEA in terms of quantity.

**Formulas and values in the DEA will be used to calculate the savings****ECM 7: Motors - Replacements**

**M&V Option:** NEMVP-A (One Time)

**Verification Boundary:** Retrofit isolation – Project savings will be determined within the measurement boundary that encompasses only the items that are subject to this motor replacement project.

**Interaction:** None.

**Pre-Installation Activities:** Document the existing conditions of the old motors using a digital camera.

**Post- Installation Activities:**

JCI will verify the efficiency of the newly installed motor. A digital camera will be used to document the post- retrofit conditions one time. Inspection checks for rest of the guarantee term.

**Formulas and values in the DEA will be used to calculate the savings****ECM 10: Unit Ventilators - Refurbishment**

**M&V Option for Guarantee Year 1-18 for electrical savings:** NEMVP-A (One Time)

**M&V Option for Guarantee Year 1 for thermal savings:** NEMVP-C

**M&V Option for Guarantee Year 2-18 for thermal savings:** NEMVP-A (One Time), only if Option C Guarantee in Year 1 is achieved

**Verification Boundary:** Retrofit isolation – Project savings will be determined within the measurement boundary that encompasses only the items that are subject to this unit ventilator refurbishment project.

**Interaction:** All thermal ECMs.

**Verification Period & Frequency:** One time during both pre-retrofit period and post-retrofit period. Inspection checks for rest of the guarantee term.

**Pre-Installation Activities:**

A digital camera will be used to document the existing conditions.

**Post-Installation Activities:**

A digital camera will be used to document the post- retrofit conditions. Inspect and verify the unit ventilator refurbishment to see if they meet the specifications of the DEA in terms of quantity. Verify if they perform in accordance with the functional specifications in the contract and meeting all functional tests.

**Formulas and values in the DEA will be used to calculate the savings****ECM 11: Air Conditioning Compressor Controllers**

**M&V Option:** NEMVP-A (One Time)

**Verification Boundary:** Retrofit isolation – Project savings will be determined within the measurement boundary that encompasses only the items that are subject to air conditioning compressor controller project.

**Interaction:** Electric ECMs.



**Verification Period & Frequency:** One time during both pre-retrofit period and post-retrofit period. Inspection checks for rest of the guarantee term.

**Post-Installation Activities:**

A digital camera will be used to document that a controller does not exist.

**Post-Installation Activities:**

A digital camera will be used to document the post- retrofit conditions. Inspect and verify the air conditioning compressor controller installation to see if they meet the specifications of the DEA in terms of quantity. Verify if they perform in accordance with the functional specifications in the contract and meeting all functional tests.

**Formulas and values in the DEA will be used to calculate the savings**

**ECM 12: Refrigeration Compressor Controllers**

**M&V Option:** NEMVP-A (One Time)

**Verification Boundary:** Retrofit isolation – Project savings will be determined within the measurement boundary that encompasses only the items that are subject to the refrigeration compressor controller project.

**Verification Period & Frequency:** One time during both pre-retrofit period and post-retrofit period. Inspection checks for rest of the guarantee term.

**Pre-Installation Activities:**

Document with the digital camera that the compressor controllers are not installed.

**Post-Installation Activities:**

A digital camera will be used to document the post- retrofit conditions. Inspect and verify the refrigeration compressor controller installation to see if they meet the specifications of the DEA in terms of quantity. Verify if they perform in accordance with the specifications in the DEA and meeting all functional tests

**Formulas and values in the DEA will be used to calculate the savings**

**2.2.3 NEMVP Option B M&V Plan:****NEMVP Option B: Retrofit Isolation  
Potential to Perform Verification and Continuous Performance Measurement**

Option B is for projects where: i) the potential to perform and generate savings needs to be verified, and ii) actual performance during the term of the contract needs to be measured (verified). Option B involves procedures for verifying the same items as Option A plus actual achieved energy savings during the term of the M&V period. Performance verification techniques involve engineering calculations with metering and monitoring. Option B:

- Confirms that the proper equipment/systems were installed and that they have the potential to generate the predicted savings.
- Determines an energy (and cost) savings value using measured data taken throughout the term of the contract.

Methods employed in this option will involve the use of long-term measurement of one or more variables.

**Table 2.2.3.1: Option B Measures**

<b>ECM #</b>	<b>Measure</b>	<b>M&amp;V Option</b>
ECM 3.1	Energy Management System - Temperature Setback	B
ECM 3.2	Energy Management System - Demand Controlled Ventilation	B
ECM 3.3	Energy Management System - Optimal Start	B
ECM 8	Renewable Energy- Photovoltaic Electric Generation	B
ECM 9	Plug Load Controllers	B

**ECM 3.1: Energy Management System - Temperature Setback**

**M&V Option for Guarantee Year 1 for thermal savings:** NEMVP-C

**M&V Option for Guarantee Year 2-18 for thermal savings:** NEMVP-B (Continuous), only if Option C Guarantee in Year 1 is achieved

**Measurement Boundary:** Retrofit isolation – Project savings will be determined within the measurement boundary that encompasses only the spaces temperatures affected by the energy project.

**Measured Parameter:** Continuous measurement of a sample set of space temperature, space temperature set point and outdoor air temperature

**Interaction:** with Optimal Start and DCV

**Measuring Equipment:** Energy Management System

**Measuring Equipment Accuracy:**  $\pm 3\%$  of measurement range

**Measuring Equipment Calibration:** Not applicable.

**Measurement Period:** 15 minute samples

**Measurement Frequency:** Continuous measurement

**Measurement and Verification Details:**

**Pre-Installation Activities:**

During detail audit on site it was documented that the interior temperature was maintained at occupied levels all day and night.

**Post-Installation Activities:**

Energy Management system will continuously monitor post-retrofit space temperature and outside air temperature. The date-time stamp will be included to differentiate occupied/unoccupied and summer/winter periods. Johnson Controls will also monitor and record the setpoint changes during the Measurement and Verification (M&V) period.

**Formulas and values in the DEA will be used to calculate the savings**

**ECM 3.2: Energy Management System – Demand Controlled Ventilation**

**M&V Option for Guarantee Year 1 for thermal savings:** NEMVP-C

**M&V Option for Guarantee Year 2-18 for thermal savings:** NEMVP-B (Continuous), only if Option C Guarantee in Year 1 is achieved

**Measurement Boundary:** Retrofit isolation – Project savings will be determined within the measurement boundary that encompasses only the spaces temperatures and unit status affected by the energy project.

**Measured Parameter:** Continuous measurement of a sample set of CO<sub>2</sub> levels and damper position (if available).

**Interaction:** with temperature setback and optimal start.

**Measuring Equipment:** Energy Management System

**Measuring Equipment Accuracy:**  $\pm 3\%$  of measurement range

**Measuring Equipment Calibration:** Not applicable.

**Measurement Period:** 15 minute samples

**Measurement Frequency:** Continuous measurement

**Measurement and Verification Details:**

**Pre-Installation Activities:**

During detail audit on site it was documented via interviews that there is no CO2 sensors installed on mechanical systems.

**Post-Installation Activities:**

Energy Management system will continuously monitor post-retrofit CO2 levels, outside air temperature, and outside air damper position (if available). The date-time stamp will be included to differentiate occupied/unoccupied and summer/winter periods.

**Formulas and values in the DEA will be used to calculate the savings**

**ECM 3.3: Energy Management System - Optimal Start**

**M&V Option for Guarantee Year 1 for thermal savings:** NEMVP-C

**M&V Option for Guarantee Year 2-18 for thermal savings:** NEMVP-B (Continuous), only if Option C Guarantee in Year 1 is achieved

**Measurement Boundary:** Retrofit isolation – Project savings will be determined within the measurement boundary that encompasses only the spaces temperatures and unit status affected by the energy project.

**Measured Parameter:** Continuous measurement of a sample set of outdoor air temperature, space temperature and unit status.

**Interaction:** with DCV and Temperature Setback

**Measuring Equipment:** Energy Management System

**Measuring Equipment Accuracy:**  $\pm 3\%$  of measurement range

**Measuring Equipment Calibration:** Not applicable.

**Measurement Period:** 15 minute samples

**Measurement Frequency:** Continuous measurement

**Measurement and Verification Details:**

**Pre-Installation Activities:**

During detail audit on site it was documented via interviews that the systems were manually started based on building operating schedule.

**Post-Installation Activities:**

Energy Management system will continuously monitor post-retrofit outdoor air, space temperature and unit status. The date-time stamp will be included to differentiate occupied/unoccupied and summer/winter periods.

**Formulas and values in the DEA will be used to calculate the savings**

**ECM 8: Renewable Energy- Photovoltaic Electric Generation**

**M&V Option:** NEMVP-B (Continuous)

**Verification Boundary:** Retrofit isolation – Project savings will be determined within the measurement boundary that encompasses only the items that are subject to this photovoltaic electric generation project.

**Measuring Equipment:** PV dashboard will be capable of logging 15 minute interval data for kW, kWh and solar irradiance.

**Interaction:** Electrical System

Key Parameter	Measurement Frequency	Measurement Description (including sampling plan)
Electricity Generated (kW and kWh)	Continuous	The amount of electricity generated (kW and kWh) will be verified using data from the inverter. Measurements from all the panels installed by the project will be used.
Sunshine for Normalization (Measured as irradiance (kWh/m <sup>2</sup> ))	Continuous	<p>Average expected Irradiance data for Long Island, NY is used to calculate the contract savings.</p> <p>During the guarantee years, the actual Irradiance will be measured using a pyrometer. The value will be totalized, and the totalized value will be recorded on an hourly basis. Data will be reviewed at least quarterly.</p> <p>The actual generated power will be normalized using the expected irradiance assumption in the contract (shown in the Table below) and the actual measured irradiance.</p>

Month	Contract Assumption for Expected Irradiance in Long Island, NY Area (kWh/m <sup>2</sup> )
January	61.6
February	80.3
March	129.7
April	147.1
May	169.3
June	178.4
July	185.4
August	162.8
September	133.4
October	99.4
November	61.0
December	53.8
<b>Annual</b>	<b>1462.2</b>

The energy production guarantee shall assume the monthly baseline (reference) solar irradiance as shown above. On a monthly basis, the average amount of electricity produced per kWh/m<sup>2</sup> of solar irradiance will be calculated and the savings will be adjusted accordingly:

$$kWh_{Adjusted} = (kWh_{measured}) \left( \frac{kWh/m^2_{contract}}{kWh/m^2_{measured}} \right)$$

Where kWh/m<sup>2</sup> is the irradiance. The achieved dollar savings shown in Table 2.3 are based on the rates shown in Exhibit 6.

Demand savings will be verified using historical interval data to determine monthly peak load contribution to the building electric load demand.

### **ECM 9: Plug Load Controllers**

**M&V Option:** NEMVP-B (Short Term)

**Verification Boundary:** Retrofit isolation – Project savings will be determined within the measurement boundary that encompasses only the items that are subject to the plug load Management project.

**Measured Key Parameter:** Operating Schedule

**Measuring Equipment:** Plug load devices.

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**Verification Period & Frequency:** One time two weeks prior to programming and one time two weeks after programming.

**Pre-Installation Activities:** Once the plug load devices are installed monitor equipment without schedule for two weeks during normal school hours.

**Post-Installation Activities:** A digital camera will be used to document the post- retrofit conditions. Inspect and verify the plug load device installation to see if they meet the specifications of the contract in terms of quantity, quality and rating. Once the plug load devices are installed, schedules are established and operational; we will collect usage schedule data for one, two week period and compare it to the baseline to validate savings.

**Formulas and values in the DEA will be used to calculate the savings**

**EXHIBIT 3: Measured Project Benefits**

Table 2.3 below defines and describes the ECMs included in this guarantee that comprise Measured Utility Cost Avoidance savings:

**Table 2.3: Measured Project Benefits Summary**

FIM #	PROPOSED MEASURES	Electricity Savings			Thermal		Total Savings
		kW	kWh/yr	\$/yr	MMBtu/yr	\$/yr	\$/yr
ECM 1	Lighting - Interior Lighting	190	630,348	\$101,308	(682)	(\$5,832)	\$95,476
ECM 2	Lighting - Exterior Lighting	0	49,795	\$6,755	0	\$0	\$6,755
ECM 3.1	Energy Management System - Temperature Setback	0	0	\$0	1,937	\$16,460	\$16,460
ECM 3.2	Energy Management System - Demand Controlled Ventilation	0	6,827	\$915	584	\$4,896	\$5,811
ECM 3.3	Energy Management System - Optimal Start	0	0	\$0	1,446	\$12,317	\$12,317
ECM 4	Heating Distribution System - Pipe and Valve Insulation	0	0	\$0	1,186	\$10,216	\$10,216
ECM 5	Boiler - Replacements	0	0	\$0	552	\$4,846	\$4,846
ECM 6	Window / Door - Replacements	0	809	\$107	159	\$1,387	\$1,494
ECM 7	Motors - Replacements	3	7,860	\$1,389	0	\$0	\$1,389
ECM 8	Renewable Energy- Photovoltaic Electric Generation	373	2,417,342	\$377,324	0	\$0	\$377,324
ECM 9	Plug Load Controllers	0	12,646	\$1,723	0	\$0	\$1,723
ECM 10	Unit Ventilators - Refurbishment	0	0	\$0	177	\$1,442	\$1,442
ECM 11	Air Conditioning Compressor Controllers	0	24,120	\$3,236	0	\$0	\$3,236
ECM 12	Refrigeration Compressor Controllers	0	3,624	\$495	0	\$0	\$495
	<b>TOTALS</b>	<b>566</b>	<b>3,153,370</b>	<b>\$493,252</b>	<b>5,358</b>	<b>\$45,732</b>	<b>\$538,984</b>



**Table 2.3.2: Detailed breakdown required by 8 N.Y.C.R.R. §155.20(d)(4)**

**Table 2.3.2 represents the detailed breakdown set forth in 8 N.Y.C.R.R. §155.20(d). Said chart is subject to modification based upon review by SED. All modifications to this Table must be submitted to the Customer for its written approval.**

<b>ECM #</b>	<b>Measure</b>	<b>Cost</b>	<b>Savings</b>	<b>Payback</b>
ECM 1	Lighting - Interior Lighting	\$1,607,477	\$95,476	16.8
ECM 2	Lighting - Exterior Lighting	\$72,887	\$6,755	10.8
ECM 3.1	Energy Management System - Temperature Setback	\$289,133	\$16,460	17.6
ECM 3.2	Energy Management System - Demand Controlled Ventilation	\$91,535	\$5,811	15.8
ECM 3.3	Energy Management System - Optimal Start	\$32,691	\$12,317	2.7
ECM 4	Heating Distribution System - Pipe and Valve Insulation	\$65,091	\$10,216	6.4
ECM 5	Boiler - Replacements	\$679,971	\$4,846	140.3
ECM 6	Windows & Doors - Replacements	\$291,749	\$1,494	195.3
ECM 7	Motors - Replacements	\$28,405	\$1,389	20.4
ECM 8	Renewable Energy- Photovoltaic Electric Generation	\$6,690,612	\$377,324	17.7
ECM 9	Plug Load Controllers	\$19,179	\$1,723	11.1
ECM 10	Unit Ventilators - Refurbishment	\$54,107	\$1,442	37.5
ECM 11	Air Conditioning Compressor Controllers	\$43,341	\$3,236	13.4
ECM 12	Refrigeration Compressor Controllers	\$5,812	\$495	11.7
	O&M Savings		\$31,179	
	Arch./Engineering Fees	\$448,740		
	<b>Totals</b>	<b>\$10,420,729</b>	<b>\$570,163</b>	
	Rebates	\$251,000		
	<b>Simple Payback (Years)</b>	<b>17.8</b>		

\*\*The Architectural/Professional Fees as set forth at Schedule 4 are included within the above costs.

**EXHIBIT 4: Operational & Maintenance (O&M) AND Rebate Project Benefits****Operational Cost Avoidance:****M&V Option: NEMVP-A**

For measures where the baseline (or boundary) is well understood, and measure operating hours are not currently expected to change, only the “change in equipment performance” is needed in order to calculate the savings (or cost avoidance). Therefore, the Operation and Maintenance savings accruing to the benefit of the School District is as follows:

Lighting Operational Cost Avoidance is calculated by comparing the existing lamp and ballast average failure rate and replacement cost with the proposed project replacement lamp and ballast average failure rate and replacement cost. Lighting operating hours are not expected to change. The total average annual savings is \$23,433.

Unit ventilators which were constantly being maintained by the staff will be refurbished to operate like new and will not require the degree of maintenance as in the past. Savings are calculated based on an average annual excess maintenance cost per uninvent for repair of broken valves, motors, dampers fans and other components. The total average annual savings is \$2,946.

Energy Management System Operational Cost Avoidance is calculated by comparing the cost of maintaining the existing pneumatic controls system and all associated components versus the new direct digital controls. Savings are based on reducing the cost of responding to and fixing temperature complaints. The average annual savings for all schools is determined to be \$1,435.

Boiler Operational Cost Avoidance is calculated by comparing the cost of maintaining the existing boilers versus the newly installed boilers. The reduction in maintaining the new boilers is deemed to be the cost avoidance. The average annual savings for all schools is determined to be \$3,365.

**Total Operational Cost Avoidance: \$ 31,179**

**Guaranteed Energy Rebates/Incentives:**

**PSEGLI/National Grid Rebates: \$ 251,000**

*JCI will apply for utility company rebates programs at the time of application. JCI hereby guarantees the rebate amount of \$251,000 and if the Customer receives a rebate less than the guaranteed amount then JCI will pay the difference in rebates to the Customer within thirty (30) days after the last rebate has been processed. All rebates and incentives shall inure to the benefit of Customer. All rebates and/or incentives shall be payable to Customer. JCI shall be responsible for assuring that said rebates/incentives and payments for rebate deficits are promptly distributed to Customer within or before the time periods specified in the cash flow statement at Attachment 10 as modified and approved by the Customer. In the event that the guaranteed rebates are not received by the Customer within the time periods specified in the cash flow statements, JCI shall immediately pay to the District the amount of such rebate within the time period specified in the*

*cash flow statement. Notwithstanding the foregoing, if (a) the rebate is not distributed to the Customer within the specified time period, (b) JCI therefore pays \$251,000 to the Customer and (c) the rebate is subsequently issued for the Project, the Customer shall transfer and pay to JCI the amount of such rebate, provided that the Customer retains any rebate amount in excess of \$251,000.*

*Accordingly, if the rebate amount is greater than \$251,000, such excess shall inure to the benefit of the Customer and such excess shall not be counted toward the Annual Project Benefits for any year of the Agreement or the Total Project Benefits. JCI shall be responsible for providing all documentation concerning rebates to the Customer and for providing the Customer with an accounting of all rebates applied for and received.*

**179D Tax Incentives or Other Tax Incentives:** JCI represents and warrants that it will not be applying for any 179d incentives, or other incentives, tax rebates and/or any other credits that may be available to JCI as a result of the work performed under this Agreement.

**EXHIBIT 5: Changes in Use or Condition****ADJUSTMENT TO BASELINE  
AND/OR ANNUAL PROJECT BENEFITS**

Customer agrees to notify JCI, within fourteen (14) days, of (i) any actual or intended change, whether before or during the Guarantee Term, in the use of any facility, equipment, or Improvement Measure to which this Schedule applies; (ii) any proposed or actual expansions or additions to the premises or any building or facility at the premises, except for those capital improvements for which JCI is aware of as of the date of the execution of this Agreement, including the bond referendum project being undertaken by the Customer; (iii) a change to utility services to all or any portion of the premises; or (iv) any other change or condition arising before or during the Guarantee Term that reasonably could be expected to change the amount of Project Benefits realized under this Agreement.

Such a change, expansion, addition, or condition is defined as: (a) changes in the primary use of any facility, Improvement Measure, or portion of the premises; (b) changes to the hours of operation of any facility, Improvement Measure, or portion of the premises; (c) changes or modifications to the Improvement Measures or any related equipment; (d) changes to the M&V Services provided under this Agreement; (e) known failure of any portion of the premises to meet building codes; (f) changes in utility suppliers, utility rates, known method of utility billing, or method of utility purchasing; (g) insufficient or improper maintenance not in accordance with manufacturers recommendations of the Improvement Measures or any related equipment at any facility or portion of the premises (other than by JCI); (h) changes to the Improvement Measures or any related equipment or to any facility or portion of the premises required by building codes or any governmental or quasi-governmental entity; or (i) additions or deletions of Improvement Measures or any related equipment at any facility or portion of the premises. The Option C Baseline Adjustment form at Appendix 4 shall be utilized for identifying the foregoing changes, expansions, additions, or conditions for Option C verification methodology years.

Upon receipt of such notice, or if JCI independently learns of any such change or condition, JCI shall calculate and send to Customer a notice of adjustment to the Baseline and/or Annual Project Benefits to reflect the impact of such change or condition, and the adjustment shall become effective as of the date the change or condition first arose provided, however that Customer shall have thirty (30) days following its receipt of the notice to review and approve such adjustment, which approval shall not be unreasonably withheld, conditioned or delayed.

## **EXHIBIT 6: Baseline Calculations and Utility Rates**

The unit utility costs for the Baseline period are set forth below as “Base Utility Cost” and shall be used for all calculations made under this Schedule. The Base Utility Cost shall be escalated annually by the actual utility cost escalation but such escalation shall be no less than the mutually agreed “floor” escalation rate of two percent (2%). The Base Utility Cost for each type of utility represents the 12 month average utility costs from July 1, 2016 through June 30, 2017, unless the time period used is otherwise modified by SED or requested by the Customer.

**Table 2.6.1: Baseline Electrical Consumption Data & Rates**

School Building	Demand kW	Avg kW Cost	Electric Usage kWh	Usage kWh Cost	Unblended \$/kWh	Total Electric Cost	Cost per kWh (BEER)
Bayport-Blue Point High School	383	\$ 11.01	1,466,700	\$ 198,635	\$ 0.14	\$ 253,453	\$ 0.17
JWY Middle School	187	\$ 12.55	639,900	\$ 82,158	\$ 0.13	\$ 110,375	\$ 0.17
Academy Street Elementary	124	\$ 11.02	398,480	\$ 55,704	\$ 0.14	\$ 72,114	\$ 0.18
Blue Point Elementary	80	\$ 12.09	283,600	\$ 38,804	\$ 0.14	\$ 50,347	\$ 0.18
Sylvan Avenue Elementary	102	\$ 13.20	333,760	\$ 45,764	\$ 0.14	\$ 61,872	\$ 0.19
	<b>887</b>	<b>\$ 12.01</b>	<b>3,167,160</b>	<b>\$ 427,725</b>	<b>\$ 0.14</b>	<b>\$ 556,454</b>	<b>\$ 0.18</b>

The above rates shown in Table 2.6.1 will be known as **Floor Electrical Rates**, for the purpose of the Assured Performance Guarantee. The annual calculated electric rates are expected to increase every year. In the event that the annual rates are lower than the above baseline rates, the 2% escalated floor rates will be substituted for the annual calculated rate.

The Electric Rates will be averaged over the course of the one-year baseline period, as provided by Customer. In turn, the Incremental Electric Rate (IER), and the Demand Rate (DR) will be averaged annually over the course of the reporting periods, as reflected on actual utility invoices, for equitable cost avoidance savings reporting.

The following formula will be used to calculate the current reporting period Incremental Energy Rate (IER):

**FORMULA B-2**

$$\text{IER} = \frac{\sum \text{TKC}_{1-12}}{\sum \text{TKWH}_{1-12}}$$

Where:

IER: Incremental Electrical Rate (Dollars per kWh)

$\sum \text{TKC}_{1-12}$ : Sum Total of Monthly Electrical Utility Costs (Dollars) for kWh included Fuel Adjustment Cost and other related Energy Charges for Months 1 Through 12 of the current reporting period.

$\sum \text{TKWH}_{1-12}$ : Sum Total of Monthly Electrical Incremental Use (kWh) for Months 1 Through 12 of the current reporting period.

The following formula will be used to calculate the current reporting period Incremental Demand Rate (DR):

**FORMULA B-3**

$$\text{DR} = \frac{\sum \text{TKC}_{1-12}}{\sum \text{TKW}_{1-12}}$$

Where:

DR: Demand Electrical Rate (Dollars per kW)

$\sum \text{TKC}_{1-12}$ : Sum Total of Monthly Electrical Utility Costs (Dollars) for kW included Fuel Adjustment Cost and other related Energy Charges for Months 1 Through 12 of the current reporting period.

$\sum \text{TKW}_{1-12}$ : Sum Total of Monthly Electrical Demand Use (kW) for Months 1 Through 12 of the current reporting period.

**Table 2.6.2: Baseline Gas Consumption Data & Rates**

School Building	Gas Usage Therms	Gas Cost	Cost per Therm
Bayport-Blue Point High School	76,775	\$ 65,412	\$ 0.85
JWY Middle School	42,547	\$ 34,732	\$ 0.82
Academy Street Elementary	25,258	\$ 22,185	\$ 0.88
Blue Point Elementary	28,476	\$ 25,429	\$ 0.89
Sylvan Avenue Elementary	28,824	\$ 24,797	\$ 0.86
	<b>201,880</b>	<b>\$ 172,555</b>	<b>\$ 0.85</b>

The above rates shown above in Table 2.6.2 will be known as **Floor Natural Gas Rates**, for the purpose of the Assured Performance Guarantee. The annual calculated natural gas rates are expected to increase every year. In the event that the annual rates are lower than the above baseline rates, the 2% escalated floor rates will be substituted for the annual calculated rate.

The natural gas unit costs have been averaged over the course of the one-year period. In turn, unit costs will be averaged over the course of the reporting period, as reflected on utility invoices, for equitable cost avoidance savings reporting.

The following formulas will be used to calculate the current reporting period Fuel Rate(s) for Natural Gas:

**FORMULA G-1**

<b>NGR = <math>\frac{\sum_{1-12} \text{OBJ} \sum \text{TGU}_{1-12}}{\sum_{1-12} \text{Sum Total of Monthly Gas Purchased (Therms) for Months 1 Through 12 of the reporting period.}}</math></b>	
Where:	
NGR:	Natural Gas Rate (\$/Therm)
$\sum_{1-12} :$	Sum Total of Monthly Gas Costs (\$)
$\sum_{1-12} :$	Sum Total of Monthly Gas Purchased (Therms) Sum Total of Monthly Gas Purchased (Therms) for Months 1 Through 12 of the reporting period.

## **EXHIBIT 7: Primary Operations Schedule Pre & Post Retrofit**

**Table 2.7.1: District Wide Pre and Post Temperature Schedule & District wide Operational Schedule**

This Section documents the pre-retrofit and post-retrofit set points, building operation hours, equipment list, and building occupancy. The Customer understands that it needs to operate the post-retrofit building as documented in this section to achieve the guaranteed project savings.

### ***Building Space Temperature Set points:***

Building	Summer Inside Setpoint (F)			
	Existing Occupied	Existing Unoccupied	Proposed Occupied	Proposed Unoccupied
Bayport-Blue Point High School	70	74	72	78
James Wilson Young Middle School	70	74	72	78
Academy Street Elementary School	70	74	72	78
Blue Point Elementary School	70	74	72	78
Sylvan Avenue Elementary School	70	74	72	78

Building	Winter Inside Setpoint (F)			
	Existing Occupied	Existing Unoccupied	Proposed Occupied	Proposed Unoccupied
Bayport-Blue Point High School	72	68	70	60
James Wilson Young Middle School	72	68	70	60
Academy Street Elementary School	72	68	70	60
Blue Point Elementary School	72	68	70	60
Sylvan Avenue Elementary School	72	68	70	60

### ***Baseline and Post-Retrofit Occupancy/HVAC Schedules:***

Building	Occupancy Hours		
	Midnight - 8 AM	8 AM - 4 PM	4 PM - Midnight
Bayport-Blue Point High School	2	8	2
James Wilson Young Middle School	2	8	2
Academy Street Elementary School	2	8	2
Blue Point Elementary School	2	8	2
Sylvan Avenue Elementary School	2	8	2

Total number of occupied days to be used for the school year is 180. Total number of occupied days to be used for summer school is 35.



**Building occupancy each month:**

	<b>Weeks/Month</b>
Jan	4
Feb	4
Mar	4
Apr	4
May	4
Jun	4
Jul	4
Aug	2
Sep	4
Oct	4
Nov	4
Dec	4

**Baseline Facility Foot Print:**

<b>Name</b>	<b>Sq-ft</b>
Bayport-Blue Point High School	217,108
JWY Middle School	121,570
Academy Street Elementary	74,638
Blue Point Elementary	44,715
Sylvan Avenue Elementary	66,461
	<b>524,492</b>

**Baseline Student Population:**

<b>Name</b>	<b># of Students</b>	<b># of Teachers/ Professional Staff</b>
Bayport-Blue Point High School	756	66
JWY Middle School	559	51
Academy Street Elementary	342	29
Blue Point Elementary	231	26
Sylvan Avenue Elementary	320	30
<b>TOTAL</b>	<b>2,279</b>	<b>159</b>

**Baseline Equipment List:**

Note: Any equipment that was not operated during the baseline and is operated during guarantee years will be considered a baseline adjustment. This also applies to equipment that was not operated per code.

Building	Area-System Served	Equipment Type	Name	Heating Input	Heating Output	Supply Air (CFM)	GPM	HP
Academy Street Elementary School	Control Air	Air Compressor	Air Compressor		515 mbh	12000	51.35	0
Academy Street Elementary School	Control Air	Air Dryer	Air Dryer					0
Academy Street Elementary School	Auditorium/Gym	Air Handling Unit	AH-1					15
Academy Street Elementary School	Hot Water Heating	Boiler	Boiler 1	5372 mbh, 37 gph	3687 mbh(water), 3292 mbh(steam)			0
Academy Street Elementary School	Steam Heating	Boiler	Boiler 2					0
Academy Street Elementary School	Boiler 1	Burner	Burner 1	1300 - 5372 mbh, 10.1 - 37 gph				3
Academy Street Elementary School	Boiler 2	Burner	Burner 2	2580 - 4200 mbh, 18 - 30 gph				3
Academy Street Elementary School	RTU-1	Condensing Unit	CU-1					0
Academy Street Elementary School	RTU-2	Condensing Unit	CU-2					0
Academy Street Elementary School	Domestic Hot Water	DHW Heater	DHW Heater	315 mbh, 2.25 gph				0
Academy Street Elementary School	Domestic Hot Water(Kitchen)	DHW Heater	DHW Heater	199.9 mbh				0
Academy Street Elementary School	A101,A102	Exhaust Fan	REF-11			450/104 5		.25
Academy Street Elementary School	A101,A102	Exhaust Fan	REF-10			450/104 5		.25
Academy Street Elementary School	A102B	Exhaust Fan	REF-3			1000		.25
Academy Street Elementary School	A104,A105,A106,A107,A108	Exhaust Fan	REF-8			450/104 5		.25
Academy Street Elementary School	A104,A105,A106,A107,A108	Exhaust Fan	REF-7			450/104 5		.25
Academy Street Elementary School	A104,A105,A106,A107,A108	Exhaust Fan	REF-6			450/104 5		.25

## Schedule 2

Building	Area-System Served	Equipment Type	Name	Heating Input	Heating Output	Supply Air (CFM)	GPM	HP
Academy Street Elementary School	A104,A105,A106,A107,A108	Exhaust Fan	REF-5			450/1045		.25
Academy Street Elementary School	A104,A105,A106,A107,A108	Exhaust Fan	REF-4			450/1045		.25
Academy Street Elementary School	A104,A105,A106,A107,A108	Exhaust Fan	REF-9			450/1045		.25
Academy Street Elementary School	A111,A112,A115,A116,A117,A118	Exhaust Fan	REF-12			450/1045		.25
Academy Street Elementary School	A111,A112,A115,A116,A117,A118	Exhaust Fan	REF-13			450/1045		.25
Academy Street Elementary School	A111,A112,A115,A116,A117,A118	Exhaust Fan	REF-14			450/1045		.25
Academy Street Elementary School	A111,A112,A115,A116,A117,A118	Exhaust Fan	REF-15			450/1045		.25
Academy Street Elementary School	A111,A112,A115,A116,A117,A118	Exhaust Fan	REF-16			450/1045		.25
Academy Street Elementary School	A111,A112,A115,A116,A117,A118	Exhaust Fan	REF-17			450/1045		.25
Academy Street Elementary School	A119,A119A,A121	Exhaust Fan	REF-1			1290		.25
Academy Street Elementary School	A122,A123	Exhaust Fan	REF-2			150		.133
Academy Street Elementary School	A135A,A136B,A137	Exhaust Fan	REF-18			565		.25
Academy Street Elementary School	A144A	Exhaust Fan	REF-19			120		.133
Academy Street Elementary School	B102,B103,B104	Exhaust Fan	REF-21			600		.25
Academy Street Elementary School	B113	Exhaust Fan	REF-23			150/750		.25
Academy Street Elementary School	B114	Exhaust Fan	REF-22			150/750		.25
Academy Street Elementary School	B115,B116,B117	Exhaust Fan	REF-20B			1395		.25
Academy Street Elementary School	B115,B116,B117	Exhaust Fan	REF-20A			1395		.25
Academy Street Elementary School	Classrooms Area B	Exhaust Fan	REF-28			450/1045		.25

## Schedule 2

Building	Area-System Served	Equipment Type	Name	Heating Input	Heating Output	Supply Air (CFM)	GPM	HP
Academy Street Elementary School	Classrooms Area B	Exhaust Fan	REF-27			450/1045		.25
Academy Street Elementary School	Classrooms Area B	Exhaust Fan	REF-25			450/1045		.25
Academy Street Elementary School	Classrooms Area B	Exhaust Fan	REF-26			450/1045		.25
Academy Street Elementary School	Classrooms Area B	Exhaust Fan	REF-24			450/1045		.25
Academy Street Elementary School	Kitchen	Exhaust Fan	REF-29			2215		.5
Academy Street Elementary School	Locker Rooms	Exhaust Fan	REF-30			2300		.33
Academy Street Elementary School	Boiler 2	Feed Water Pump	Feed Water Pump				15	1/2
Academy Street Elementary School	Boiler 2	Feed Water Pump	Feed Water Pump				15	1/2
Academy Street Elementary School	Standby	Feed Water Pump	Feed Water Pump				15	1/2
Academy Street Elementary School	Fuel Oil	Fuel Oil Pump	Fuel Oil Pump					.75
Academy Street Elementary School	Heating	Heat Exchanger	HX-B					0
Academy Street Elementary School	Heating	Heat Exchanger	HX-A					0
Academy Street Elementary School	AH-1	Hot Water Pump	P-AH-1				51.35	.5
Academy Street Elementary School	Heating	Hot Water Pump	P-12B				400	25
Academy Street Elementary School	Heating	Hot Water Pump	P-6				235	1
Academy Street Elementary School	Heating	Hot Water Pump	P-7				235	1
Academy Street Elementary School	Heating	Hot Water Pump	P-12A				400	25
Academy Street Elementary School	A128	Make-Up Air Unit	MUA-1		64 - 120 mbh			.50
Academy Street Elementary School	A109,A126	Rooftop Unit	RTU-4		140.3 mbh	2800	14.1	3
Academy Street Elementary School	A114,A110	Rooftop Unit	RTU-3		215 mbh	3010	23.2	3
Academy Street Elementary School	A114A,A112,A131,A100B	Rooftop Unit	RTU-5		182.2 mbh	2800	19.7	3

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## Schedule 2

Building	Area-System Served	Equipment Type	Name	Heating Input	Heating Output	Supply Air (CFM)	GPM	HP
Academy Street Elementary School	B110	Rooftop Unit	RTU-6		182.6 mbh	2440	19.8	3
Academy Street Elementary School	Cafeteria	Rooftop Unit	RTU-1		376.3 mbh	8230	34.9	7.5
Academy Street Elementary School	Office	Rooftop Unit	RTU-2		71.77 mbh	2282	7.77	3
Academy Street Elementary School	Electrical System	Transformer	Transformer					0
Bayport - Blue Point High School	Control Air	Air Compressor	Air Compressor					3
Bayport - Blue Point High School	Control Air	Air Compressor	Air Compressor					1.5
Bayport - Blue Point High School	Control Air	Air Dryer	Air Dryer					0
Bayport - Blue Point High School	Administration Wing	Air Handling Unit	AH-1			14200		7.5
Bayport - Blue Point High School	Boiler 1	Blend Pump	P8-B				650	5
Bayport - Blue Point High School	Boiler 2	Blend Pump	P8-A				650	5
Bayport - Blue Point High School	Hot Water Heating	Boiler	Boiler 2	6300 mbh, 45 gph	5021 mbh, 150 HP			0
Bayport - Blue Point High School	Hot Water Heating	Boiler	Boiler 1	6300 mbh, 45 gph	5021 mbh, 150 HP			0
Bayport - Blue Point High School	Hot Water Heating (Admin Wing)	Boiler	Boiler 3	250 mbh	206 mbh			0
Bayport - Blue Point High School	Steam Heating	Boiler	Boiler 1	3508 mbh, 24.5 gph	2146 mbh(steam), 2403 mbh(water)			0
Bayport - Blue Point High School	Steam Heating	Boiler	Boiler 2	3508 mbh, 24.5 gph	2146 mbh(steam), 2403 mbh(water)			0
Bayport - Blue Point High School	Boiler 1	Burner	Burner 2	3508 mbh, 24.5 gph				1.5
Bayport - Blue Point High School	Boiler 1	Burner	Burner 1	2092 - 6276 mbh, 15 - 45 gph				5
Bayport - Blue Point High School	Boiler 2	Burner	Burner 2	2092 - 6276 mbh, 15 - 45 gph				5
Bayport - Blue Point High School	Boiler 2	Burner	Burner 1	3508 mbh, 24.5 gph				1.5
Bayport - Blue Point High School	DHW Heater	Burner	Burner	540 mbh, 3.8 gph				0
Bayport - Blue Point High School	Admin Wing AH-1	Condensing Unit	ACC-1		402 mbh			0

**Schedule 2**

Building	Area-System Served	Equipment Type	Name	Heating Input	Heating Output	Supply Air (CFM)	GPM	HP
Bayport - Blue Point High School	Air Conditioning	Condensing Unit	CU					0
Bayport - Blue Point High School	Air Conditioning	Condensing Unit	CU					0
Bayport - Blue Point High School	Air Conditioning	Condensing Unit	CU					0
Bayport - Blue Point High School	Air Conditioning	Condensing Unit	CU					0
Bayport - Blue Point High School	Auditorium AC	Condensing Unit	ACCU-					0
Bayport - Blue Point High School	Auditorium AC	Condensing Unit	ACCU-					0
Bayport - Blue Point High School	Boy's Locker room	DHW Heater	DHW Heater	199 mbh				0
Bayport - Blue Point High School	Domestic Hot Water	DHW Heater	DHW Heater	360 mbh				0
Bayport - Blue Point High School	Domestic Hot Water	DHW Heater	DHW Heater	525 mbh				0
Bayport - Blue Point High School	Domestic Hot Water (Kitchen)	DHW Heater	DHW Heater	42 mbh				0
Bayport - Blue Point High School	Girl's Locker room	DHW Heater	DHW Heater	199 mbh				0
Bayport - Blue Point High School	DHW Heating	DHWH Tank	DHWH Tank					0
Bayport - Blue Point High School	Emergency Power	Emergency Generator	Emergency Generator					0
Bayport - Blue Point High School	Band / Choral Rooms	Exhaust Fan	F-4			1800		.33
Bayport - Blue Point High School	Boy's Locker	Exhaust Fan	REF-E1			2310		.5
Bayport - Blue Point High School	C111,C211	Exhaust Fan	REF-C3			150		.133
Bayport - Blue Point High School	C115	Exhaust Fan	REF-C2			125		.133
Bayport - Blue Point High School	C120A,C113,C213	Exhaust Fan	REF-C1			875		.25
Bayport - Blue Point High School	C126	Exhaust Fan	REF-C9			3850		2
Bayport - Blue Point High School	C216	Exhaust Fan	PH-C1			75		
Bayport - Blue Point High School	C216	Exhaust Fan	PH-C2			75		
Bayport - Blue Point High School	Classrooms Area C	Exhaust Fan	REF-C7			900/2158		.25
Bayport - Blue Point High School	Classrooms Area C	Exhaust Fan	REF-C8			900/2158		.25
Bayport - Blue Point High School	Classrooms Area C	Exhaust Fan	REF-C4			900/2158		.25

## Schedule 2

Building	Area-System Served	Equipment Type	Name	Heating Input	Heating Output	Supply Air (CFM)	GPM	HP
Bayport - Blue Point High School	Classrooms Area C	Exhaust Fan	REF-C6			900/2158		.25
Bayport - Blue Point High School	Classrooms Area C	Exhaust Fan	REF-C5			900/2158		.25
Bayport - Blue Point High School	Custodial Closet	Exhaust Fan	EH-1			1800		
Bayport - Blue Point High School	E108,109	Exhaust Fan	REF-E2			840		.25
Bayport - Blue Point High School	E122	Exhaust Fan	REF-E3			100		.133
Bayport - Blue Point High School	E125	Exhaust Fan	PH-E3			80		
Bayport - Blue Point High School	E125	Exhaust Fan	PH-E4			80		
Bayport - Blue Point High School	E131A	Exhaust Fan	PH-E1			150		
Bayport - Blue Point High School	E131A	Exhaust Fan	PH-E2			150		
Bayport - Blue Point High School	Girl's Locker	Exhaust Fan	REF-E4			1246		.25
Bayport - Blue Point High School	Ice Machine Room	Exhaust Fan	REF-E5			300		.133
Bayport - Blue Point High School	Boiler	Feed Water Pump	Feed Water Pump					1
Bayport - Blue Point High School	Boiler	Feed Water Pump	Feed Water Pump					1
Bayport - Blue Point High School	Fuel Oil	Fuel Oil Pump	Fuel Oil Pump					.5
Bayport - Blue Point High School	Fuel Oil	Fuel Oil Pump	Fuel Oil Pump					.5
Bayport - Blue Point High School	Fuel Oil	Fuel Oil Pump	Fuel Oil Pump					.5
Bayport - Blue Point High School	Fuel Oil	Fuel Oil Pump	Fuel Oil Pump					.5
Bayport - Blue Point High School	Heating	Heat Exchanger	Heat Exchanger					0
Bayport - Blue Point High School	Area C Existing	Hot Water Pump	P3-A				65	3
Bayport - Blue Point High School	Area C Existing	Hot Water Pump	P3-B				65	3
Bayport - Blue Point High School	Area C New	Hot Water Pump	P6-B				92	1
Bayport - Blue Point High School	Area C New	Hot Water Pump	P6-A				92	1
Bayport - Blue Point High School	Area D South	Hot Water Pump	P2-B				230	7.5
Bayport - Blue Point High School	Area D South	Hot Water Pump	P2-A				230	7.5
Bayport - Blue Point High School	Area E	Hot Water Pump	P4-B				130	5

## Schedule 2

Building	Area-System Served	Equipment Type	Name	Heating Input	Heating Output	Supply Air (CFM)	GPM	HP
Bayport - Blue Point High School	Area E	Hot Water Pump	P4-A				130	5
Bayport - Blue Point High School	Auditorium Fan Coils	Hot Water Pump	F-1					1
Bayport - Blue Point High School	Auditorium Fan Coils	Hot Water Pump	F-2					1
Bayport - Blue Point High School	Heating	Hot Water Pump	P7-A					5
Bayport - Blue Point High School	Heating	Hot Water Pump	HW P1				319	7.5
Bayport - Blue Point High School	Heating	Hot Water Pump	HW P2				319	7.5
Bayport - Blue Point High School	Heating	Hot Water Pump	P7-B					5
Bayport - Blue Point High School	Heating	Hot Water Pump	P10-A					.5
Bayport - Blue Point High School	Heating	Hot Water Pump	P10-A					.5
Bayport - Blue Point High School	Heating	Hot Water Pump	P9-A					2
Bayport - Blue Point High School	Primary Pump	Hot Water Pump	P1-B				350	3
Bayport - Blue Point High School	Primary Pump	Hot Water Pump	P1-A				350	3
Bayport - Blue Point High School	Primary Pump	Hot Water Pump	P9-B					2
Bayport - Blue Point High School	Heating	Plate & Frame HX	Plate & Frame HX					0
Bayport - Blue Point High School	Walk-In Refrigeration Unit	Refrigeration Compressor	Refrigeration Compressor					0
Bayport - Blue Point High School	Administration Wing	Return Fan	F-1			127000		3
Bayport - Blue Point High School	Area D	Rooftop Unit	RTU	78 mbh				0
Bayport - Blue Point High School	Area D	Rooftop Unit	RTU	78 mbh				0
Bayport - Blue Point High School	Auditorium	Rooftop Unit	RTU	20 - 400 mbh				7.5
Bayport - Blue Point High School	Auditorium	Rooftop Unit	RTU	20 - 400 mbh				7.5
Bayport - Blue Point High School	Auditorium Lobby	Rooftop Unit	RTU	235 mbh				3
Bayport - Blue Point High School	Auditorium Lobby	Rooftop Unit	RTU	235 mbh				3
Bayport - Blue Point High School	C125	Rooftop Unit	RTU-C2		73 mbh	1710	7.65	0



**Schedule 2**

Building	Area-System Served	Equipment Type	Name	Heating Input	Heating Output	Supply Air (CFM)	GPM	HP
Bayport - Blue Point High School	C125	Rooftop Unit	RTU-C3		127 mbh	3000	13.4	0
Bayport - Blue Point High School	C202,C205,C212	Rooftop Unit	RTU-C1		112.5 mbh	4934	11.2	0
Bayport - Blue Point High School	E102,E127,E107,E121	Rooftop Unit	RTU-E3	250 mbh	200 mbh	2450		0
Bayport - Blue Point High School	E104,E105,E106	Rooftop Unit	RTU-E5	156 - 240 mbh	192 mbh	4800		0
Bayport - Blue Point High School	E111	Rooftop Unit	RTU-E4	375 mbh	300 mbh	3800		0
Bayport - Blue Point High School	E129	Rooftop Unit	RTU-E1	450 mbh	360 mbh	8525		15
Bayport - Blue Point High School	E129,E103,E110,E122,E128	Rooftop Unit	RTU-E2	450 mbh	360 mbh	8525		15
Bayport - Blue Point High School	Library	Rooftop Unit	RTU					0
Blue Point Elementary School	Control Air	Air Compressor	Air Compressor					1
Blue Point Elementary School	Control Air	Air Dryer	Air Dryer					0
Blue Point Elementary School	Auditorium/Gym	Air Handling Unit	AHU					7.5
Blue Point Elementary School	Heating Modulators	Boiler	Boiler	72-333 mbh	293 mbh			0
Blue Point Elementary School	Steam Heating	Boiler	Boiler 1	5320 mbh, 38 gph	4184 mbh, 125 HP			0
Blue Point Elementary School	Steam Heating	Boiler	Boiler 2	5320 mbh, 38 gph	4184 mbh, 125 HP			0
Blue Point Elementary School	Boiler 1	Burner	Burner 1	2800 - 5250 mbh, 24 - 37.5 gph				3
Blue Point Elementary School	Boiler 2	Burner	Burner 2	2800 - 5250 mbh, 24 - 37.5 gph				3
Blue Point Elementary School	Air Conditioning	Condensing Unit	CU					0
Blue Point Elementary School	Air Conditioning	Condensing Unit	CU					0
Blue Point Elementary School	Air Conditioning	Condensing Unit	CU					0
Blue Point Elementary School	Air Conditioning	Condensing Unit	CU					0
Blue Point Elementary School	Air Conditioning	Condensing Unit	CU					0
Blue Point Elementary School	Air Conditioning	Condensing Unit	CU					0
Blue Point Elementary School	Domestic Hot Water	DHW Heater	DHW Heater	4.5 kW				0
Blue Point Elementary School	Domestic Hot Water	DHW Heater	DHW Heater	240 mbh				0

Schedule 2

Building	Area-System Served	Equipment Type	Name	Heating Input	Heating Output	Supply Air (CFM)	GPM	HP
Blue Point Elementary School	Boiler	Feed Water Pump	Feed Water Pump					1.5
Blue Point Elementary School	Boiler	Feed Water Pump	Feed Water Pump					1.5
Blue Point Elementary School	Fuel Oil	Fuel Oil Pump	Fuel Oil Pump					.75
Blue Point Elementary School	Fuel Oil	Fuel Oil Pump	Fuel Oil Pump					.75
Blue Point Elementary School	Heating	Heat Exchanger	Heat Exchanger					0
Blue Point Elementary School	Heating (Café/Northside )	Heat Exchanger	Heat Exchanger					0
Blue Point Elementary School	Heating	Hot Water Pump	P5-B					1
Blue Point Elementary School	Heating	Hot Water Pump	P1-B					1
Blue Point Elementary School	Heating	Hot Water Pump	P5-A					1
Blue Point Elementary School	Heating	Hot Water Pump	P4-B					.33
Blue Point Elementary School	Heating	Hot Water Pump	P4-A					.33
Blue Point Elementary School	Heating	Hot Water Pump	P3-B					.75
Blue Point Elementary School	Heating	Hot Water Pump	P1-A					1
Blue Point Elementary School	Heating	Hot Water Pump	P3-A					.75
Blue Point Elementary School	Room 105	Unit Ventilator	Unit Ventilator					0
Blue Point Elementary School	Room 106	Unit Ventilator	Unit Ventilator					0
Blue Point Elementary School	Room 207	Unit Ventilator	Unit Ventilator					0
Blue Point Elementary School	Room 208	Unit Ventilator	Unit Ventilator					0
Blue Point Elementary School	Room 209	Unit Ventilator	Unit Ventilator					0
Blue Point Elementary School	Room 211	Unit Ventilator	Unit Ventilator					0
Blue Point Elementary School	Room 212	Unit Ventilator	Unit Ventilator					0
Blue Point Elementary School	Room 213	Unit Ventilator	Unit Ventilator					0
Blue Point Elementary School	Room 301	Unit Ventilator	Unit Ventilator					0
Blue Point Elementary School	Room 302	Unit Ventilator	Unit Ventilator					0

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## Schedule 2

Building	Area-System Served	Equipment Type	Name	Heating Input	Heating Output	Supply Air (CFM)	GPM	HP
Blue Point Elementary School	Room 303	Unit Ventilator	Unit Ventilator					0
Blue Point Elementary School	Room 304	Unit Ventilator	Unit Ventilator					0
Blue Point Elementary School	Room 305	Unit Ventilator	Unit Ventilator					0
Blue Point Elementary School	Room 306	Unit Ventilator	Unit Ventilator					0
James Wilson Young Middle School	Control Air	Air Compressor	Air Compressor					3
James Wilson Young Middle School	Control Air	Air Dryer	Air Dryer					0
James Wilson Young Middle School	Admin. Office	Air Handling Unit	AHU-6		47.5 mbh	1410	2.3	0
James Wilson Young Middle School	Auditorium	Air Handling Unit	AHU-4		668.7 mbh	12000	25.9	7.5
James Wilson Young Middle School	Boy's Gymnasium	Air Handling Unit	AHU-1		272.1 mbh	6000	13	0
James Wilson Young Middle School	Cafeteria	Air Handling Unit	AHU-3		260.4 mbh	5600	12.1	0
James Wilson Young Middle School	Girl's Gymnasium	Air Handling Unit	AHU-2		272.1 mbh	6000	13	0
James Wilson Young Middle School	Library	Air Handling Unit	AHU-5		405.9 mbh	8000	17.3	0
James Wilson Young Middle School	Boiler 1	Blend Pump	Blend Pump 1				145.3	1
James Wilson Young Middle School	Boiler 2	Blend Pump	Blend Pump 2				145.3	1
James Wilson Young Middle School	Hot Water Heating	Boiler	Boiler 1					0
James Wilson Young Middle School	Hot Water Heating	Boiler	Boiler 2					0
James Wilson Young Middle School	Dish Washer	Booster Heater	Booster Heater	45 kW				0
James Wilson Young Middle School	Boiler 1	Burner	Burner 1	2011 - 6300 mbh, 14.5 - 45gph				5

## Schedule 2

Building	Area-System Served	Equipment Type	Name	Heating Input	Heating Output	Supply Air (CFM)	GPM	HP
James Wilson Young Middle School	Boiler 2	Burner	Burner 2	2011 - 6300 mbh, 14.5 - 45gph				5
James Wilson Young Middle School	DHW Heater	DHWH Burner	DHWH Burner	.50 - .75 gph				0
James Wilson Young Middle School	Auditorium	Centrifugal Exhaust Fan	Fan 2			12000		2
James Wilson Young Middle School	Cafeteria	Centrifugal Exhaust Fan	Fan 1			5600		.75
James Wilson Young Middle School	Library	Centrifugal Exhaust Fan	Fan 3			8000		1.5
James Wilson Young Middle School	Air Conditioning Auditorium	Condensing Unit	ACC-4					0
James Wilson Young Middle School	Air Conditioning Library	Condensing Unit	ACC-5					0
James Wilson Young Middle School	Air Conditioning Main Office	Condensing Unit	CU-6					0
James Wilson Young Middle School	Domestic Hot Water	DHW Heater	DHW Heater	1.25 gph				0
James Wilson Young Middle School	Boy's Gymnasium	Exhaust Fan	REF-9			6000		.75
James Wilson Young Middle School	Class Room Area B	Exhaust Fan	REF-19			3500		.05
James Wilson Young Middle School	Class Room Area B	Exhaust Fan	REF-18			3750		.5
James Wilson Young Middle School	Class Rooms Area B	Exhaust Fan	REF-10			600		.142
James Wilson Young Middle School	Class Rooms Area C	Exhaust Fan	REF-2			3600		.5
James Wilson Young Middle School	Class Rooms Area C	Exhaust Fan	REF-1			3000		.5
James Wilson Young Middle School	Dishwashing	Exhaust Fan	REF-15			600		.142
James Wilson Young Middle School	Finishing Room	Exhaust Fan	REF-23			1000		.125

**Schedule 2**

Building	Area-System Served	Equipment Type	Name	Heating Input	Heating Output	Supply Air (CFM)	GPM	HP
James Wilson Young Middle School	Girl's Gymnasium	Exhaust Fan	REF-8			6000		.75
James Wilson Young Middle School	Kitchen Hood	Exhaust Fan	REF-13			1350		.133
James Wilson Young Middle School	Locker & Toilets Area A	Exhaust Fan	REF-21			2000		.125
James Wilson Young Middle School	Locker Room Area A	Exhaust Fan	REF-25			1000		.125
James Wilson Young Middle School	Locker Room Area A	Exhaust Fan	REF-24			1050		.125
James Wilson Young Middle School	Locker Room Area B	Exhaust Fan	REF-11			1000		.125
James Wilson Young Middle School	Locker Rooms Area B	Exhaust Fan	REF-6			3550		.5
James Wilson Young Middle School	Locker Rooms Area C	Exhaust Fan	REF-4			4250		.75
James Wilson Young Middle School	Office Area C	Exhaust Fan	REF-7			200		.02
James Wilson Young Middle School	Projection Booth	Exhaust Fan	REF-22			500		.142
James Wilson Young Middle School	Science Room Hood B-209	Exhaust Fan	REF-17			600		.142
James Wilson Young Middle School	Serving	Exhaust Fan	REF-14			300		.05
James Wilson Young Middle School	Serving	Exhaust Fan	REF-16			300		.05
James Wilson Young Middle School	Shop Hood B-102	Exhaust Fan	REF-20			2700		.5
James Wilson Young Middle School	Switchgear Room Area A	Exhaust Fan	REF-26			6000		.75
James Wilson Young Middle School	Toilets Area B	Exhaust Fan	REF-12			2750		.5
James Wilson Young Middle School	Toilets Area C	Exhaust Fan	REF-5			950		.125

**Schedule 2**

Building	Area-System Served	Equipment Type	Name	Heating Input	Heating Output	Supply Air (CFM)	GPM	HP
James Wilson Young Middle School	Toilets Area C	Exhaust Fan	REF-3			550		.142
James Wilson Young Middle School	Fuel Oil	Fuel Oil Pump	Fuel Oil Pump					.5
James Wilson Young Middle School	Fuel Oil	Fuel Oil Pump	Fuel Oil Pump					.5
James Wilson Young Middle School	Heating	Hot Water Pump	P-1					10
James Wilson Young Middle School	Heating	Hot Water Pump	P-2					10
James Wilson Young Middle School	Aux. Gymnasium	Rooftop Unit	RTU	133 - 400 mbh		5000 min		0
James Wilson Young Middle School	Locker Rooms	Rooftop Unit	RTU					0
James Wilson Young Middle School	Room 118	Unit Ventilator	Unit Ventilator					0
James Wilson Young Middle School	Room 122	Unit Ventilator	Unit Ventilator					0
James Wilson Young Middle School	Room 124	Unit Ventilator	Unit Ventilator					0
James Wilson Young Middle School	Room 138	Unit Ventilator	Unit Ventilator					0
James Wilson Young Middle School	Room 140	Unit Ventilator	Unit Ventilator					0
James Wilson Young Middle School	Room 141	Unit Ventilator	Unit Ventilator					0
James Wilson Young Middle School	Room 142	Unit Ventilator	Unit Ventilator					0
James Wilson Young Middle School	Room 143	Unit Ventilator	Unit Ventilator					0
James Wilson Young Middle School	Room 144	Unit Ventilator	Unit Ventilator					0
James Wilson Young Middle School	Room 145	Unit Ventilator	Unit Ventilator					0

Schedule 2

Building	Area-System Served	Equipment Type	Name	Heating Input	Heating Output	Supply Air (CFM)	GPM	HP
James Wilson Young Middle School	Room 146	Unit Ventilator	Unit Ventilator					0
James Wilson Young Middle School	Room 148	Unit Ventilator	Unit Ventilator					0
James Wilson Young Middle School	Room 209	Unit Ventilator	Unit Ventilator					0
James Wilson Young Middle School	Room 210	Unit Ventilator	Unit Ventilator					0
James Wilson Young Middle School	Room 211	Unit Ventilator	Unit Ventilator					0
James Wilson Young Middle School	Room 212	Unit Ventilator	Unit Ventilator					0
James Wilson Young Middle School	Room 213	Unit Ventilator	Unit Ventilator					0
James Wilson Young Middle School	Room 214	Unit Ventilator	Unit Ventilator					0
James Wilson Young Middle School	Room 215	Unit Ventilator	Unit Ventilator					0
James Wilson Young Middle School	Room 216	Unit Ventilator	Unit Ventilator					0
James Wilson Young Middle School	Room 217	Unit Ventilator	Unit Ventilator					0
James Wilson Young Middle School	Room 218	Unit Ventilator	Unit Ventilator					0
James Wilson Young Middle School	Room 219	Unit Ventilator	Unit Ventilator					0
James Wilson Young Middle School	Room 220	Unit Ventilator	Unit Ventilator					0
James Wilson Young Middle School	Room 229	Unit Ventilator	Unit Ventilator					0
James Wilson Young Middle School	Room 231	Unit Ventilator	Unit Ventilator					0
James Wilson Young Middle School	Room 249	Unit Ventilator	Unit Ventilator					0

## Schedule 2

Building	Area-System Served	Equipment Type	Name	Heating Input	Heating Output	Supply Air (CFM)	GPM	HP
James Wilson Young Middle School	Room 250	Unit Ventilator	Unit Ventilator					0
James Wilson Young Middle School	Room 251	Unit Ventilator	Unit Ventilator					0
James Wilson Young Middle School	Room 252	Unit Ventilator	Unit Ventilator					0
James Wilson Young Middle School	Room 253	Unit Ventilator	Unit Ventilator					0
James Wilson Young Middle School	Room 254	Unit Ventilator	Unit Ventilator					0
James Wilson Young Middle School	Room 255	Unit Ventilator	Unit Ventilator					0
James Wilson Young Middle School	Room 256	Unit Ventilator	Unit Ventilator					0
James Wilson Young Middle School	Room 257	Unit Ventilator	Unit Ventilator					0
James Wilson Young Middle School	Room 258	Unit Ventilator	Unit Ventilator					0
James Wilson Young Middle School	Room 259	Unit Ventilator	Unit Ventilator					0
James Wilson Young Middle School	Room 260	Unit Ventilator	Unit Ventilator					0
Sylvan Avenue Elementary School	Control Air	Air Compressor	Air Compressor					1
Sylvan Avenue Elementary School	Control Air	Air Dryer	Air Dryer					0
Sylvan Avenue Elementary School	Hot Water Heating	Boiler	Boiler 1					0
Sylvan Avenue Elementary School	Hot Water Heating	Boiler	Boiler 2					0
Sylvan Avenue Elementary School	Dish Washer	Booster Heater	Booster Heater	45 kW				0
Sylvan Avenue Elementary School	Boiler 1	Burner	Burner 1	2671 - 10500 mbh, 24 - 75 gph				10
Sylvan Avenue Elementary School	Boiler 2	Burner	Burner 2	2671 - 10500 mbh, 24 - 75 gph				10



## Schedule 2

Building	Area-System Served	Equipment Type	Name	Heating Input	Heating Output	Supply Air (CFM)	GPM	HP
Sylvan Avenue Elementary School	Domestic Hot Water	DHW Heater	DHW Heater	.75 gph, 104 mbh				0
Sylvan Avenue Elementary School	Domestic Hot Water	DHW Heater	DHW Heater	4.5 kW				0
Sylvan Avenue Elementary School	Domestic Hot Water	DHW Heater	DHW Heater	2 gph, 277 mbh				0
Sylvan Avenue Elementary School	Kitchen	Exhaust Fan	RF-7			8250		.75
Sylvan Avenue Elementary School	Ventilation	Exhaust Fan	RF-14			1000		.375
Sylvan Avenue Elementary School	Ventilation	Exhaust Fan	RF-8			1500		.5
Sylvan Avenue Elementary School	Ventilation	Exhaust Fan	RF-5			325		.125
Sylvan Avenue Elementary School	Ventilation	Exhaust Fan	RF-4			2300		.5
Sylvan Avenue Elementary School	Ventilation	Exhaust Fan	RF-6			4500		.25
Sylvan Avenue Elementary School	Ventilation	Exhaust Fan	RF-9			900		.375
Sylvan Avenue Elementary School	Ventilation	Exhaust Fan	RF-10			1000		.375
Sylvan Avenue Elementary School	Ventilation	Exhaust Fan	RF-11			200		.25
Sylvan Avenue Elementary School	Ventilation	Exhaust Fan	RF-13			4200		.25
Sylvan Avenue Elementary School	Ventilation	Exhaust Fan	RF-15			1650		.5
Sylvan Avenue Elementary School	Ventilation	Exhaust Fan	RF-16			1500		.5
Sylvan Avenue Elementary School	Ventilation	Exhaust Fan	RF-17			100		.25
Sylvan Avenue Elementary School	Ventilation	Exhaust Fan	RF-3			4500		.75
Sylvan Avenue Elementary School	Ventilation	Exhaust Fan	RF-2			4500		.75
Sylvan Avenue Elementary School	Ventilation	Exhaust Fan	RF-1			4500		.75
Sylvan Avenue Elementary School	Ventilation	Exhaust Fan	RF-12			4200		.25
Sylvan Avenue Elementary School	Fuel Oil	Fuel Oil Pump	Fuel Oil Pump					.5

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Schedule 2

Building	Area-System Served	Equipment Type	Name	Heating Input	Heating Output	Supply Air (CFM)	GPM	HP
Sylvan Avenue Elementary School	Fuel Oil	Fuel Oil Pump	Fuel Oil Pump					.5
Sylvan Avenue Elementary School	Kitchen & Basement	Heating & Ventilating Unit	HV-1			11190	42	5
Sylvan Avenue Elementary School	Multi Purpose	Heating & Ventilating Unit	HV-4			4500	17	3
Sylvan Avenue Elementary School	Play Room	Heating & Ventilating Unit	HV-3			4200	16	2
Sylvan Avenue Elementary School	Play Room	Heating & Ventilating Unit	HV-2			4200	16	2
Sylvan Avenue Elementary School	Classrooms	Hot Water Pump	P1					5
Sylvan Avenue Elementary School	Classrooms, Library, and Multi-Purpose	Hot Water Pump	P4					5
Sylvan Avenue Elementary School	Hot Water Heater	Hot Water Pump	P6					5
Sylvan Avenue Elementary School	Locker Rooms and Playroom	Hot Water Pump	P3					3
Sylvan Avenue Elementary School	Office First Floor	Hot Water Pump	P2					1
Sylvan Avenue Elementary School	Stand-By	Hot Water Pump	P5					0
Sylvan Avenue Elementary School	Walk-In Refrigeration Unit	Refrigeration Compressor	Refrigeration Compressor					0
Sylvan Avenue Elementary School	Walk-In Refrigeration Unit	Refrigeration Compressor	Refrigeration Compressor					0
Sylvan Avenue Elementary School	Walk-In Refrigeration Unit	Refrigeration Compressor	Refrigeration Compressor					0
Sylvan Avenue Elementary School	Walk-In Refrigeration Unit	Refrigeration Compressor	Refrigeration Compressor					0
Sylvan Avenue Elementary School	Copy Room	Unit Ventilator	Unit Ventilator					0
Sylvan Avenue Elementary School	Kindergarten	Unit Ventilator	Unit Ventilator					0
Sylvan Avenue Elementary School	Kindergarten	Unit Ventilator	Unit Ventilator					0
Sylvan Avenue Elementary School	Kindergarten	Unit Ventilator	Unit Ventilator					0

Schedule 2

Building	Area-System Served	Equipment Type	Name	Heating Input	Heating Output	Supply Air (CFM)	GPM	HP
Sylvan Avenue Elementary School	Library	Unit Ventilator	Unit Ventilator					0
Sylvan Avenue Elementary School	Music Room	Unit Ventilator	Unit Ventilator					0
Sylvan Avenue Elementary School	Office	Unit Ventilator	Unit Ventilator					0
Sylvan Avenue Elementary School	Room 101	Unit Ventilator	Unit Ventilator					0
Sylvan Avenue Elementary School	Room 102	Unit Ventilator	Unit Ventilator					0
Sylvan Avenue Elementary School	Room 103	Unit Ventilator	Unit Ventilator					0
Sylvan Avenue Elementary School	Room 104	Unit Ventilator	Unit Ventilator					0
Sylvan Avenue Elementary School	Room 105	Unit Ventilator	Unit Ventilator					0
Sylvan Avenue Elementary School	Room 106	Unit Ventilator	Unit Ventilator					0
Sylvan Avenue Elementary School	Room 107	Unit Ventilator	Unit Ventilator					0
Sylvan Avenue Elementary School	Room 108	Unit Ventilator	Unit Ventilator					0
Sylvan Avenue Elementary School	Room 109	Unit Ventilator	Unit Ventilator					0
Sylvan Avenue Elementary School	Room 110	Unit Ventilator	Unit Ventilator					0
Sylvan Avenue Elementary School	Room 111	Unit Ventilator	Unit Ventilator					0
Sylvan Avenue Elementary School	Room 112	Unit Ventilator	Unit Ventilator					0
Sylvan Avenue Elementary School	Room 113	Unit Ventilator	Unit Ventilator					0
Sylvan Avenue Elementary School	Room 114	Unit Ventilator	Unit Ventilator					0
Sylvan Avenue Elementary School	Room 201	Unit Ventilator	Unit Ventilator					0
Sylvan Avenue Elementary School	Room 202	Unit Ventilator	Unit Ventilator					0
Sylvan Avenue Elementary School	Room 203	Unit Ventilator	Unit Ventilator					0
Sylvan Avenue Elementary School	Room 204	Unit Ventilator	Unit Ventilator					0

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**Schedule 2**

Building	Area-System Served	Equipment Type	Name	Heating Input	Heating Output	Supply Air (CFM)	GPM	HP
Sylvan Avenue Elementary School	Room 205	Unit Ventilator	Unit Ventilator					0
Sylvan Avenue Elementary School	Room 206	Unit Ventilator	Unit Ventilator					0
Sylvan Avenue Elementary School	Room 207	Unit Ventilator	Unit Ventilator					0
Sylvan Avenue Elementary School	Room 208	Unit Ventilator	Unit Ventilator					0
Sylvan Avenue Elementary School	Room 209	Unit Ventilator	Unit Ventilator					0
Sylvan Avenue Elementary School	Room 210	Unit Ventilator	Unit Ventilator					0
Sylvan Avenue Elementary School	Room 211	Unit Ventilator	Unit Ventilator					0
Sylvan Avenue Elementary School	Room 212	Unit Ventilator	Unit Ventilator					0
Sylvan Avenue Elementary School	Room 213	Unit Ventilator	Unit Ventilator					0
Sylvan Avenue Elementary School	Room 214	Unit Ventilator	Unit Ventilator					0

**EXHIBIT 8: Measurement & Verification Services**

JCI will provide the M&V Services set forth below in connection with the Assured Performance Guarantee.

1. During the Installation Period, a JCI Performance Assurance Specialist will track Measured Project Benefits. JCI will report the Measured Project Benefits achieved during the Installation Period, to Customer within 60 days of the commencement of the Guarantee Term.
2. Within 60 days of each anniversary of the commencement of the Guarantee Term, JCI will provide Customer with an annual written report containing:
  - A. an executive overview of the project's performance and Project Benefits achieved to date;
  - B. a summary analysis of the Measured Project Benefits accounting; and
  - C. depending on the M&V Option, a detailed analysis of the Measured Project Benefits calculations.
3. During the Guarantee Term, a JCI Performance Assurance Engineer will monitor the on-going performance of the Improvement Measures, as specified in this Agreement, to determine whether anticipated Measured Project Benefits are being achieved. In this regard, the Performance Assurance Specialist will periodically assist Customer, on-site or remotely, with respect to the following activities:
  - A. review of information furnished by Customer from the facility management system to confirm that control strategies are in place and functioning;
  - B. advise Customer's designated personnel of any performance deficiencies based on such information;
  - C. coordinate with Customer's designated personnel to address any performance deficiencies that affect the realization of Measured Project Benefits; and
  - D. inform Customer of opportunities to further enhance project performance and of opportunities for the implementation of additional Improvement Measures.
4. For specified Improvement Measures and its applicable M&V Option, JCI will:
  - A. conduct pre and post installation measurements required under this Agreement;
  - B. confirm the building management system employs the control strategies and set points specified in this Agreement; and
  - C. analyze actual as-built information and adjust the Baseline and/or Measured Project Benefits to conform to actual installation conditions (e.g., final lighting and water benefits calculations will be determined from the as-built information to reflect the actual mix of retrofits encountered during installation).

- D. confirm that the appropriate metering and data points required to track the variables associated with the applicable Improvement Measures' benefits calculation formulas are established; and
- E. set up appropriate data capture systems (e.g., trend and totalization data on the facility management system) necessary to track and report Measured Project Benefits for the applicable Improvement Measure.
- F. Trend data records maintained in the ordinary course of system operation shall be used and relied upon by Johnson Controls in connection with Project Benefit calculations. Johnson Controls will use commercially reasonable efforts to ensure the integrity of the data collected to calculate the required metrics. In the event data are lost due to equipment failure, power failure or other interruption in data collection, transmission or storage, Johnson Controls will advise the Customer and if agreed upon, JCI shall use reasonable engineering methods to estimate or replace the lost data.

### CUSTOMER RESPONSIBILITIES

In order for JCI to perform its obligations under this Agreement with respect to the Work, the Assured Performance Guarantee, and the M&V Services, Customer shall be responsible for:

1. Providing JCI, its subcontractors, and its agents reasonable and safe access to all facilities and properties that are subject to the Work and/or M&V Services;
2. Providing for shut down and scheduling of affected locations during installation, including timely shutdowns of chilled water and hot water systems as needed to accomplish the Work and/or M&V Services, provided said shut downs shall not interrupt Customer's daily operations;
3. Providing assistance to JCI in obtaining any permits, approvals, and licenses required under this Agreement [Note: JCI is responsible for obtaining all permits, etc. as per the terms of the Agreement] that are JCI's responsibility to obtain as set forth in Schedule 1];
4. Properly maintaining, and performing appropriate preventative maintenance on, all equipment and building systems affecting the Assured Performance Guarantee in accordance with manufacturers' standards and specifications and training provided by JCI;
5. Providing the utility bills, reports, and similar information reasonably necessary for administering JCI's obligations under the Assured Performance Guarantee within fifteen (15) days of Customer receipt and/or generation or JCI's request therefor; and,
6. Providing all records relating to energy and/or water usage and related maintenance of the premises and relevant equipment requested by JCI.
7. If any equipment under control is changed out it is the responsibility of the customer to move the controls and the controls programming to the new equipment.

## PRICE AND PAYMENT TERMS

Customer shall make payments to JCI pursuant to this Schedule 4.

**Total Project Costs.** The total cost of the Project is \$10,420,729 and is broken down as follows:

Johnson Controls, Inc.:	\$9,971,989
BBS Architects and Engineers:	\$448,740

Under no circumstance shall this project exceed the total cost of \$12,455,956 (**NTE Price**), as approved by the voters in the October 23, 2018 referendum. The District is expected to perform bond work under a capital project. JCI shall be responsible for coordinating all of the work under this Agreement with any capital improvements being undertaken by the Customer, including the bond project. Further, it is expected that the bond work may increase the District's electric consumption. When the scope of the bond work is completed, Johnson Controls will re-baseline the utility consumption for the District. To the extent that the updated electric consumption will support additional EPC scope, JCI will generate a contract amendment with cost and savings that are consistent with the requirements of SED and compliant with the NTE Price. Any contract amendment is subject to all necessary reviews and approvals as determined solely by the Customer. When the scope of the bond work is completed, JCI will re-baseline the utility consumption of the District, subject to review and approval of the Customer and its Engineer. ***Under no circumstance, shall any re-baseline made resulting from the scope of the bond work reduce or revise JCI's obligation to guarantee the savings as set forth at Schedule 2, Exhibit 1 herein.***

1. **Payments shall be made to JCI as follows:** within fifteen (15) days after execution of this Agreement, JCI shall submit for the Architect's review and approval a Schedule of Values for all of the Work to be performed under the Agreement. Such Schedule will (i) subdivide the Work into its respective parts; (ii) include values for all items comprising the Work; and (iii) serve as the basis for monthly progress payments made to JCI throughout the Work. The Work will commence upon approval of SED, the securing of the necessary financing by the Customer for the Work and the Customer's receipt of all necessary documents, including the final cash flow statement.

Customer shall make payment to JCI against monthly invoices for work completed and approved in accordance with the agreed upon Schedule of Values. Payments will be made on a progress payment basis for work completed and accepted by the Customer and the Architect using the AIA format. JCI must attach certified payrolls to each application for payment, together with supporting documents as required by the Customer and Architect. All communications related to payment for work performed shall be directed to the Customer. Under no circumstance, shall JCI contact the District's financial representatives or selected financial institutions.

2. **Payments for Architectural/Engineering Services.** JCI shall be responsible for making payments for Architectural/Engineering services directly to the Architect as set forth herein. The total fee to be paid to the Architect is \$448,740. JCI will make payments to the Architect according to the following schedule:



- a. 25% upon District signing contract with ESCO;
- b. 35% upon submittal of plans and specifications to NYSED;
- c. 20% upon approval of plans and specifications by NYSED;
- d. 15% paid monthly during the construction administration phase; and
- e. 5% upon completion of post construction services.
- f. At the completion of post-construction services, the District shall withhold the amount of \$5,000 from the Engineer's final payment identified above. In accordance therewith, the District will direct the ESCO to deduct \$5,000 from the last invoice submitted by the Engineer. The Owner will further require the ESCO to issue payment for the remaining \$5,000 directly to the District. This amount shall be paid to the Engineer by the District upon completion of its evaluation of the actual energy saving\ realized at the conclusion of the first and second year of the ESCO guarantee period. The Engineer will receive two (2) annual payments of \$2,500 in connection with these services. Such payments shall be issued by the District within thirty (30) days of the District's receipt of BBS's evaluation report.

3. **M&V Services.** JCI shall provide Measurement & Verification services for the project from the construction period through Year 5. The first five years of M&V Services will be at no cost to the District. The District may request additional years of M&V services beyond Year 5 before the end of that report year. The cost for years 6-18, if requested by the Customer are shown in the schedule below. These incremental periods of M&V services is NOT included in the Total Project Cost as set forth above. Invoices for all additional services will be sent annually in advance with remittance expected within 30 days of receipt of the invoice.

Guarantee Year	M&V Sell Price
6	\$38,106
7	\$38,868
8	\$39,645
9	\$40,438
10	\$41,247
11	\$42,072
12	\$42,913
13	\$43,771
14	\$44,646
15	\$45,539
16	\$46,450
17	\$47,379
18	\$48,327

**Attachment 1  
NOTICE TO PROCEED**

Johnson Controls, Inc.  
6 Aerial Way  
Syosset, New York

ATTN: Danny Haffel

Re: Notice to Proceed for BAYPORT-BLUE POINT SCHOOL DISTRICT

Dear Mr. Haffel:

This Notice to Proceed is being issued by BAYPORT-BLUE POINT SCHOOL DISTRICT ("Customer") to Johnson Controls, Inc. ("JCI") pursuant to that certain Performance Contract entered into between Customer and JCI for the purpose of notifying JCI to commence work under such contract. This Notice to Proceed shall not relieve JCI of its responsibility to perform any and all duties, tasks and/or obligations required by the Agreement, as may be amended in writing by the parties that may be required prior to commencement of the Work.

By signing and dating this Notice to Proceed, the parties hereto agree to these terms and represent and warrant they have the authority to execute this Notice to Proceed on behalf of their respective organizations.

**BAYPORT-BLUE POINT SCHOOL DISTRICT**

Signature: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

***ACKNOWLEDGED & AGREED TO:***

**JOHNSON CONTROLS, INC.**

Signature: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

**CHANGE ORDER  
AIA G701 Change Order Form to be used**

**CERTIFICATE OF SUBSTANTIAL COMPLETION  
AIA G704 Form to be used**

**CERTIFICATE OF FINAL COMPLETION**

**PARTIES:** JOHNSON CONTROLS, INC. ("JCI")  
6 AERIAL WAY  
SYOSSET, NEW YORK 11791

BAYPORT-BLUE POINT SCHOOL DISTRICT ("Customer")  
189 ACADEMY STREET  
BAYPORT, NY 11705

**PROJECT:** BAYPORT-BLUE POINT SCHOOL DISTRICT; Performance Contract dated \_\_\_\_\_, 20\_\_ between JCI and Customer

By executing this Certificate of Final Completion, Customer acknowledges the following:

The work set forth in the Performance Contract has been reviewed and determined by Customer to be fully complete.

The Work performed under this performance contract has been reviewed and found to be complete. The date of final completion of the Project designated above is hereby established as \_\_\_\_\_. In accordance with the Agreement documents, based upon on-site observations and all data submitted in connection with the Project, the Architect certifies to Customer that to the best of the Architect's knowledge, information and belief, the Work has progressed as indicated, the quality of the Work is in accordance with the Agreement documents, and JCI is entitled to payment in accordance with the Agreement documents.

Amount Certified: \_\_\_\_\_

BBS Architects and Engineers.

By: \_\_\_\_\_ Date: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Dated \_\_\_\_\_, 20\_\_ .

**BAYPORT-BLUE POINT SCHOOL DISTRICT**

**JOHNSON CONTROLS, INC.**

Signature: \_\_\_\_\_

Signature: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Title: \_\_\_\_\_

Title: \_\_\_\_\_