

# ENERGY SERVICES CONTRACT

This is an Energy Services Contract (this "Contract") by and between Schneider Electric Buildings Americas, Inc. ("ESCO") and the Board of Education of the Township of Union Public Schools, NJ ("Customer"), dated \_\_\_\_\_, 20\_\_ (the "Effective Date") whereby ESCO agrees to provide and perform the energy conservation measures ("ECMs") set forth in the Contract Documents including the Schedules which are listed below and incorporated fully herein, subject to the terms and conditions set forth herein:

- Schedule A: Terms & Conditions
- Schedule B: Phase I Scope of Work
- Schedule C: Phase II Scope of Work
- Schedule D: Projected Savings & Operating Conditions

Board of Education of the  
Township of Union Public Schools,  
NJ

Schneider Electric Buildings Americas,  
Inc.

By _____ (Signature)	By _____ (Signature)
Print Name _____	Print Name _____
Title _____	Title _____

## DEFINITIONS

- "BPU" is the New Jersey Board of Public Utilities.
- "Change Order" is defined as a written change to the Project executed by both parties.
- "Contract Documents" consist of the Contract with the terms and conditions set forth herein, the Rider, other documents listed in the Contract and any mutually agreed upon written modification issued after execution of the Contract in a Change Order. The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by ESCO. The Contract Documents are correlative and complimentary, and ESCO'S performance shall be required only to the extent consistent with the Contract Documents, provided that to the extent there are inconsistencies between this Contract and the Rider, the Rider shall take precedence.
- "Date of Commencement" is the later of the Effective Date or the date funding occurs. There will be a different Date of Commencement for the Phase I Scope of Work (Schedule B) and the Phase II Scope of Work (Schedule C), based upon different dates for BPU approval and project funding.
- "Day" as used herein shall mean calendar day unless otherwise specifically designated.
- "Energy Savings Plan" refers to the report delivered by ESCO which details project scope, savings, and costs as required by the BPU.
- "Project" refers to scope of work, as set forth in Schedule A: Scope of Work, made to facilities of Customer.

8. "Substantial Completion" refers to and shall mean the date the individual scopes of work are sufficiently implemented in accordance with the Contract Documents that Customer may utilize the individual Energy Conservation Measure (ECM) for the use for which it is intended, and is fully complete except for minor items, adjustments and/or corrections.
9. "Warranty Period" is for one (1) year from the dates set forth in the substantial completion letter for each individual scope of work or Energy Conservation Measure.
10. "Work" means the services required by the Contract Documents, whether completed or partially completed and, includes all labor, materials, equipment and services provided or to be provided by ESCO to fulfill ESCO'S obligations. The Work may constitute the whole or a part of the Project.
11. "PASS Agreement" or "Performance Assurance Support Services Agreement" refers to a separate contract that provides for the measurement and verification, support services, and financial guarantee, if requested by Customer. ESIP law requires that ESCO offer to provide an optional guarantee to Customer under a separate agreement.

# **SCHEDULE A: TERMS & CONDITIONS**

## **ARTICLE 1 – DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION**

1.1 ESCO projects it will achieve Substantial Completion of the Work within 547 days from Date of Commencement (the “Contract Time”), subject to adjustments of the Contract Time as provided in the Contract Documents.

## **ARTICLE 2 – CONTRACT PAYMENTS**

2.1 ESCO shall invoice Customer for construction progress payments which shall be paid to ESCO monthly based on the percentage completion of items delineated on a “Schedule of Values” completed during the prior month. The Schedule of Values will be developed by ESCO and provided to Customer at the beginning of project implementation. The Schedule of Values will be based upon the project cost less the Project Mobilization Payment.

2.2 Payment of invoice is due thirty (30) days after the invoice application date. If receipt of any payment exceeds the thirty (30) days after the invoice application date. Customer shall pay to ESCO a 1% late penalty per month and ESCO reserves the right to terminate the Contract due to non-payment upon seven (7) days prior written notice.

2.3 Within ten (10) days of the Date of Commencement, Customer shall make payment to ESCO for expenses incurred to date and project mobilization expenses, including but not limited to engineering, project start-up mobilization, equipment and material procurement, bonds and other expenses incurred to date (“Project Mobilization Payment”) in the amount of 20% of the Contract Price.

2.4 Final payment for the Work shall not become due until ESCO has delivered to Customer a complete release of all liens arising out of the Contract covering all labor, materials, and equipment for which a lien could be filed, or a bond satisfactory to Customer to indemnify Customer against such lien.

2.5 The making of final payment shall constitute a waiver of claims by Customer except those arising from (1) liens, claims, security interests or encumbrances arising out of the Contract and which are unsettled, (2) failure of the Work to comply with the requirements of the Contract Documents, or (3) terms of special warranties required by the Contract Documents.

## **ARTICLE 3 – CUSTOMER**

3.1 Except for permits and fees that are explicitly the responsibility of ESCO under the Contract Documents, Customer shall secure and pay for necessary approvals, inspections, easements, assessments and charges required for the use or occupancy of permanent structures or permanent changes in facilities, including but not limited to inspections for concrete and/or earthen compaction, where applicable.

3.2 If ESCO fails to correct Work that is not in material accordance with the requirements of the Contract Documents within the Warranty Period (“Defective Work”) or repeatedly fails to carry out the Work in accordance with the Contract Documents, Customer shall provide written notice to ESCO detailing any alleged deficiencies. If the noticed deficiencies are not resolved or if ESCO does not diligently commence to address such deficiencies within thirty (30) days of receipt of the written notice, Customer may order ESCO to stop the Work, or any portion thereof, until the cause for such order has been eliminated. However, the right of Customer to stop the Work shall not give rise to a duty on the part of Customer to exercise this right for the benefit of ESCO or any other person or entity.

3.3 Customer agrees to repair or replace as necessary any defective existing equipment that is intended to be reused.

3.4 Information under Customer’s control shall be furnished by Customer with reasonable promptness as requested by ESCO.

3.5 Customer shall notify ESCO in writing of any or all uses or restrictions in usage of all areas of Customer's facility or the location of the Project, provided that ESCO shall adhere to all health and safety conditions imposed by the federal, state and municipal authorities governing COVID-19 and all other such regulations and advisories.

3.6 The foregoing are in addition to any other duties and responsibilities of Customer set forth herein or in any other Contract Documents.

3.7 Customer shall provide facility access adequate to the requirements of ESCO and their subcontractors. Keys, access cards, and/or escorts will be provided for all facilities involved in the scope of Work in a quantity sufficient to facilitate execution of scopes at multiple locations with multiple trades. Customer assumes all liability and risk of loss for providing such access. Customer is subject to change orders for delays resulting from limited or restricted access for scheduled or previously coordinated work. Keys and/or access cards will be issued to ESCO project personnel and subcontractor site foreman or lead personnel as necessary.

3.8 ESCO understands and acknowledges that the site of this Service Agreement is an active school and that all reasonable efforts will be made to secure the safety of students and staff. ESCO shall have all employees performing Services on the site of the school facilities wear a photo ID identifying their employment with ESCO. ESCO shall comply with all directives of the Customer regarding parking and entry to school facilities. In addition, ESCO will require all persons on site to have a criminal history record information background check performed, including fingerprint checking for each employee who will be performing work on school facilities, using records such as:

<https://www.nj.gov/education/crimhist/>

Customer holds the final determination on whether or not a person is excluded from site access due to criminal history.

#### **ARTICLE 4 – ESCO**

4.1 ESCO shall supervise and direct the Work, using ESCO's skill and attention. ESCO shall be solely responsible for and have control over means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract, unless Contract Documents give other specific instructions concerning these matters.

4.2 Unless otherwise provided in the Contract Documents, ESCO shall provide and pay for labor, materials, tools, equipment and machinery necessary for the proper execution and completion of the Work.

4.3 ESCO warrants to Customer for a period of one (1) year from the corresponding dates of each project substantial letter per scope of work that the materials and equipment manufactured by ESCO will be of good quality and new unless the Contract Documents require or permit otherwise, and further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. ESCO'S warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by or for ESCO, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. ESCO shall repair or replace defective material or equipment and re-perform Work to correct any defect within the Warranty Period. ESCO does not warrant products not manufactured by ESCO, but it will pass on to Customer any manufacturer's warranty to the extent permitted. THE FOREGOING WARRANTIES AND REMEDIES ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES AND REMEDIES WHETHER STATUTORY, EXPRESS OR IMPLIED (INCLUDING ALL WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSE AND ALL WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OR TRADE), AND ESCO WILL NOT BE RESPONSIBLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES OF CUSTOMER UNLESS REQUIRED BY APPLICABLE STATE LAW. ESCO'S RESPONSIBILITY IN WARRANTY OR CONTRACT SHALL NOT EXCEED THE CONTRACT PRICE PAID FOR THE SPECIFIC PRODUCT OR SERVICE THAT GIVES RISE TO THE CLAIM EXCLUDING THIRD PARTY CLAIMS FOR PERSONAL INJURY, DEATH OR PROPERTY DAMAGE OR AS MAY BE REQUIRED BY LAW.



4.4 Unless otherwise provided in the Contract Documents, ESCO shall pay sales, consumer, use, and other similar taxes which are legally enacted when bids are received or negotiations concluded, whether or not effective or merely scheduled to go into effect, and shall secure and pay for the building permit and other permits, licenses and inspections necessary for proper execution and completion of the Work.

4.5 ESCO shall comply with and give notices required by laws, ordinances, rules, regulations, and lawful orders of public authorities bearing on performance of the Work.

4.6 ESCO shall keep the premises and surrounding areas free from accumulation of waste materials or rubbish caused by operations under the Contract. At completion of the Work, ESCO shall remove from and about Project waste materials, rubbish, ESCO'S tools, equipment, machinery and surplus material.

4.7 ESCO shall provide Customer access to the Work in preparation and progress wherever located.

4.8 ESCO shall pay all royalties and license fees, shall defend Customer from suits or claims for infringement of patent rights, and shall hold Customer harmless from loss on account thereof.

4.9 Except to the extent of the negligence or willful misconduct of Customer, or its agents, representatives, employees, officers, directors or assigns, ESCO shall indemnify and hold harmless Customer, and agents and employees thereof from and against all third party claims, damages, losses and expenses, including, but not limited to, reasonable attorney's fees, arising out of or resulting from performance of the Work provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (including the Work itself), but only to the extent caused in whole or in part by negligent acts or omissions of ESCO, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable.

4.10 NOTWITHSTANDING ANYTHING TO THE CONTRARY CONTAINED HEREIN, ESCO SHALL NOT BE LIABLE IN CONTRACT, IN TORT (INCLUDING NEGLIGENCE OR STRICT LIABILITY) OR OTHERWISE FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES WHATSOEVER. CUSTOMER AGREES TO THE FOREGOING TO THE EXTENT PERMITTED BY THE CONSTITUTION AND LAWS OF THE STATE OF NEW JERSEY. The remedies of Customer set forth herein are exclusive where so stated and the total cumulative liability of ESCO with respect to the Contract or anything done in connection therewith, such as the use of any product covered by or furnished under the Contract, whether in contract, in tort (including negligence or strict liability) or otherwise, shall not exceed the Contract Price for the specific product, equipment, material or service work performed that gives rise to the claim, excluding third party claims for personal injury, death or property damage or as may be required by law.

## **ARTICLE 5 – DISPUTE RESOLUTION**

5.1 To the extent allowed by applicable law, any controversy or claim arising out of or relating to the Contract, or Contract Documents, or any breach thereof, shall be settled by binding arbitration in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association, and judgment upon the award rendered by the arbitrator(s) may be entered in any court having jurisdiction thereof.

5.2 The arbitration proceeding location shall be in the county in which the Project is located.

## **ARTICLE 6 – SUBCONTRACTS**

6.1 A Subcontractor is a person or entity who has a direct contract with ESCO to perform a portion of the Work at the site.

6.2 Unless otherwise stated in the Contract Documents or the bidding requirements ESCO, if requested in writing by Customer, shall furnish in writing to Customer the names of the Subcontractors to whom ESCO plans to award Work. Contracts between ESCO and Subcontractors shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to ESCO by the terms of the Contract Documents, and to

assume all the obligations and responsibilities which ESCO, by the Contract Documents, assumes toward Customer.

## **ARTICLE 7 – CHANGES IN THE WORK**

7.1 Customer may request changes in Work consisting of additions, deletions or modifications, whereby, the Contract Price and Contract Time shall be adjusted accordingly. Such changes in the Work shall be authorized by written Change Order that shall be mutually agreed to and signed by Customer and ESCO. The parties shall negotiate in good faith and use their best efforts to execute any Change Order, and any Change Order must be fully executed in writing by Customer and ESCO prior to any actual changes being implemented.

7.2 The cost or credit to Customer from a change in the Work shall be determined by mutual agreement and, in the absence of a mutual agreement being reached within a reasonable amount of time after the request for such Change Order was made, the cost or credit to Customer shall be decided by the dispute resolution process as provided in the Contract Documents.

7.3 In the event of any suspension or delay due to the acts or omissions of Customer or Customer directives to stop Work for any reason, through no fault of ESCO, the Contract Time for Substantial Completion shall be extended to reflect such period of interruption, with additional respect to seasonal access to complete work, and the Contract Price shall be equitably adjusted to recover ESCO'S costs of demobilization, delay and remobilization related to such suspension or delay. ESCO agrees it will cooperate with Customer and mitigate such costs to the extent and efforts commercially reasonable. If such suspension or delay continues for more than ninety (90) consecutive days, through no act or fault of ESCO, ESCO may terminate the Contract and recover from Customer payment for Work executed, including reasonable overhead and profit, costs incurred by reason of such termination and damages.

## **ARTICLE 8 – TIME**

8.1 The date of Substantial Completion is the date certified by ESCO in accordance with Article 9.3.

8.2 If ESCO is delayed at any time in progress of the Work by changes ordered in the Work, by labor disputes, fire, unusual delay in deliveries, abnormal adverse weather conditions not reasonably anticipatable, unavoidable casualties or any other causes which are beyond the control of ESCO, then the parties hereto agree to execute a Change Order allowing for a mutually agreeable extension of time for performance of ESCO'S Work to cover such delay.

8.3 **DISCLAIMER:** Customer acknowledges that the prevailing COVID-19 epidemic/pandemic and the evolving situation surrounding the same may trigger stoppages, hindrances and/or delays in ESCO's (or its subcontractors' or suppliers') ability or capacity to perform the contracted work and/or to produce, deliver, install or service any applicable products, irrespective of whether such stoppages, hindrances and/or delays are due to measures imposed by authorities or deliberately implemented by ESCO (or its subcontractors or suppliers) as preventive or curative measures to avoid harmful contamination or exposure of ESCO's (or its subcontractors' or suppliers') employees. Customer therefore recognizes that such circumstances shall be considered as a cause for excusable delay and shall not expose ESCO to contractual sanctions (including without limitation delay penalties, liquidated damages or other damages) or termination for default.

## **ARTICLE 9 – PAYMENTS AND COMPLETION**

9.1 Payments shall be made as provided in Article 2 of the Contract.

9.2 Payments may be withheld on account of (1) Defective Work not remedied per Article 3, (2) failure of ESCO to make payments properly to the Subcontractors or for labor, materials or equipment, or (3) repeated failure to carry out the Work in accordance with the Contract Documents.

9.3 Upon Substantial Completion of each portion of the Work, ESCO will issue a project substantial completion letter per scope of work to Customer.

9.4 Final payment shall not become due until ESCO has delivered to Customer a complete release of all liens arising out of the Contract covering all labor, materials, and equipment for which a lien could be filed.

9.5 The making of final payment shall constitute a waiver of claims by Customer except those arising from (1) liens, claims, security interests or encumbrances arising out of the Contract and which are unsettled, (2) failure of the Work to comply with the requirements of the Contract Documents, or (3) terms of special warranties required by the Contract Documents.

## **ARTICLE 10 – PROTECTION OF PERSONS AND PROPERTY**

10.1 ESCO shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the performance of the Contract. ESCO shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury or loss to (1) employees on the Work and other persons who may be affected thereby, (2) the Work and materials and equipment to be incorporated therein, and (3) other property at the site or adjacent thereto.

10.2 ESCO shall give notices and comply with applicable laws, ordinances, rules, regulations and lawful orders of public authorities bearing on safety of persons and property and their protection from damage, injury or loss.

10.3 The scope of work or service to be performed by ESCO pursuant to the Contract, and the compensation to be paid to ESCO hereunder for Work or services performed, expressly exclude any Work or service of any nature associated or connected with the identification, abatement, cleanup, control or removal of environmentally hazardous materials beyond what is specifically defined and identified in Schedule A of the Contract. "Hazardous Materials" to include, but not be limited to, asbestos and PCBs discovered in or on the premises. Customer agrees that all duties and obligations in connection with any hazardous materials located in or on the premises, other than those defined in Schedule A, are strictly the responsibility of Customer. Customer will provide any hazardous materials testing documentation and reports, and information from previous sources or vendors used in hazardous materials testing. Customer warrants and represents to the best of Customer's knowledge there are no hazardous materials in or on the premises which will affect, be affected by, come in contact with, or otherwise impact upon or interfere with the Work to be performed by ESCO pursuant to the Contract.

10.4 Should ESCO become aware or suspect the presence of hazardous materials beyond those to be addressed in Schedule A during performance of its Work under the Contract, ESCO will be authorized to cease Work in the affected area immediately, and will promptly notify Customer of the conditions discovered. Should ESCO stop Work because of the discovery or suspicion of hazardous materials, the time for performance of ESCO'S Work or service will be extended to cover the period required for abatement, cleanup, or removal of the hazardous materials. ESCO will not be held responsible for any claims, damages, costs, or expenses of any kind associated with the period during which ESCO has stopped Work as a result of hazardous materials. If appropriate, ESCO will be entitled to an equitable adjustment of the Contract Price for any increased costs or other charges incurred by ESCO in connection with the existence of its rights under this paragraph.

10.5 Customer will be responsible for taking all necessary steps to correct, abate, clean up, or control hazardous materials not addressed by ESCO in Schedule A in accordance with all applicable statutes and regulations. Customer specifically agrees, to the extent allowed by state law, to indemnify and to hold ESCO, its officers, agents and employees harmless from and against any and all claims, demands, damages, or causes of action in any way arising out of the release of hazardous materials into the air, soil, or any water system or water course, or any actions taken in connection with same, or any failure to act.

## **ARTICLE 11 – INSURANCE AND BONDS**

11.1 ESCO shall maintain adequate levels and types of insurance coverage appropriate to its business and profession and as may be required by applicable law and the Contract Documents. Such insurance shall be in companies authorized to do business in the jurisdiction in which the Project is located with an A.M. Best's rating of at least A- VII and as a minimum shall include Workers' Compensation and Employer's Liability at statutory limits, Automobile Liability covering all owned, hired and other non-owned vehicles and Commercial General Liability

covering public liability, property damage and completed operations with limits not less than \$2,000,000 per occurrence. Certificates of such insurance shall be provided to Customer prior to commencement of the Work.

11.2 If required in the Contract Documents, and upon Customer's request and expense, ESCO shall provide payment and performance bonds for 100% of the Contract Price to secure the faithful performance of the Work, compliance with the terms of the Contract and to insure ESCO'S payment obligations to its Subcontractors and suppliers related to the Work. Notwithstanding any provision to the contrary herein, any payment and performance bonds associated with the Contract guarantee only the performance of the installation portion of the Contract, and shall not be construed to guarantee the performance of: (1) any efficiency or energy savings guarantees, (2) any support or maintenance service agreement, or (3) any other guarantees or warranties with terms beyond one (1) year in duration from the completion of the installation portion of the Contract.

## **ARTICLE 12 – TERMINATION OF THE CONTRACT**

12.1 If Customer fails to make payments to ESCO as required in the Contract, through no fault of ESCO, ESCO may, upon seven (7) days written notice to Customer, terminate the Contract and recover from Customer payment for all Work executed and for proven loss with respect to materials, equipment, tools, and machinery, including reasonable overhead, profit and damages applicable to the Project.

12.2 If Customer fails to fulfill any of its other obligations or responsibilities under the Contract Documents, ESCO may, after delivery of written notice and providing Customer seven (7) days to cure, terminate the Contract.

12.3 If ESCO breaches a material provision of the Contract, Customer has provided written notice to ESCO detailing the alleged breach, and within thirty (30) days of receipt of the written notice the alleged breach is either not cured or ESCO has not diligently commenced to cure such breach, Customer may make good such deficiencies and may deduct the cost thereof from the payment then or thereafter due ESCO.

12.4 Termination of any of the Contract Documents shall release ESCO of all remaining obligations under all of the Contract Documents as of the effective date of such termination.

12.5 Any remedies provided for in this Article 12, shall not be exclusive of any additional remedies available to a party pursuant to the Contract, in equity or in the law.

12.6 The Contract is contingent upon obtaining approval of the Energy Savings Plan from the Customer's third-party reviewer and the BPU. If the review and approval process yield a revised scope of work, the Contract will be amended accordingly. In the event that these approvals are not obtained, Customer may terminate the Contract after delivery of written notice to ESCO.

## **ARTICLE 13 – OTHER CONDITIONS OR PROVISIONS**

13.1 If any provision of the Contract is determined to be invalid, illegal, or unenforceable as written, such provision shall be construed consistent with and to the fullest extent permitted under the law and any such determination shall not affect or impair the validity, legality and enforceability of the remaining provisions.

13.2 Nothing herein shall be deemed to establish a relationship of principal and agent between ESCO and Customer, or any of their respective agents or employees, and the Contract and the Contract Documents may not be construed as creating any form of legal association or arrangement that would impose liability upon one party for the act or failure to act of the other party.

13.3 The Contract shall be governed by the laws of the state where the Project is located.

13.4 As between Customer and ESCO, any applicable statute of limitation shall commence to run and any alleged cause of action shall be deemed to have accrued (1) not later than the date of Substantial Completion for acts or failures to act occurring prior to the relevant date of Substantial Completion, or (2) not later than the date of the relevant act or failure to act by either party for acts or failures to act occurring after the date of Substantial Completion.

13.5 ESCO shall prepare and provide and Customer agrees to participate in press release(s) and business case studies limited to the business relationship with ESCO and Customer's use of ESCO's services. Customer agrees to grant ESCO the right to use Customer's trademarks, for the term contained herein, in connection with press releases, case studies or website marketing, advertisement, promotion, sale, and distribution of ESCO's services. Prior written notice of use shall be provided to Customer by ESCO and Customer's written approval is necessary for any press releases or case studies.

13.6 The Contract sets forth the entire understanding between the parties and supersedes all prior oral or written understandings relating to the subject matter herein. The Contract may not be altered or modified except by a written instrument signed by a duly authorized representative of each party.



# SCHEDULE B: PHASE I SCOPE OF WORK

## CONTRACT PAYMENTS – PHASE I

The total of all implementation contract payments shall be \$8,473,225 (the “Contract Price”) for the Phase I Scope of Work. Payments shall be made in accordance with Article 2.

## ENERGY CONSERVATION MEASURES (ECMS) – PHASE I

Customer hereby acknowledges and agrees that the scope of work shall be limited to, and ESCO shall only perform, the following:

### ECM 2: BUILDING ENVELOPE IMPROVEMENTS

The following is a breakout of the Building Envelope scope by facility:

	Battle Hill ES	Administration	Burne MS	Connecticut Farms ES	Franklin ES	Hamilton	Hannah C. Howell ES	Jefferson ES	Kawantah MS	Livingston ES	Linton ES	Field House	Washington ES	Total
AC Unit Weatherization (Units)	48		52	20	9	29			31	32	18		18	257
Attic Air Barrier Retrofit (SF)				426			1,880			600				2,906
Attic Bypass Air Sealing (SF)					1,840					4,805				6,645
Attic Flat Insulation (SF)				19,467	3,565					12,100			9,904	45,036
Buck Frame Air Sealing (LF)							9	204						213
Caulking (LF)	808	60	18,850		7,842	4,785	43			13,847			12,526	58,761
Door - Install Jamb Spacer (Units)	15						4	1					8	28
Door Weather Stripping - Doubles (Units)	11	1	19	7	7	5	9	8	10	7	51	3	6	144
Door Weather Stripping - Singles (Units)	5	11	5	3	3	3	20	5	3	3	22	5	3	91
Overhang Air Sealing (LF)							105				10			115
Overhang Air Sealing (SF)							40							40
Overhead Door Weather Stripping (Units)		13	1						1		3			18
Roll-Up Door Weather Stripping (Units)							2							2
Roof-Wall Intersection Air Sealing (LF)	189					178	264	763			2,245	308		3,947
Unit Ventilator Air Sealing (Units)			25			8				12				45
Wall Air Sealing (LF)					102		351	279		470	1,044		359	2,605
Wall Air Sealing (SF)										60	390			450

### Clarifications & Exclusions:

- Locations that are inaccessible due to safety will be excluded.
- Electrical Hazards – testing and/ or repair of hazardous electrical components (knob and tube wiring, open junction boxes, etc) that are encountered are excluded from the scope of work and pricing. Others are responsible for testing and/ or repair of electrical hazards.
- Hazardous Materials – testing, remediation and/ or removal of any potentially hazardous material that is encountered is excluded from the scope of work and pricing. Others are responsible for testing, remediation and/ or removal of potentially hazardous material.
- Debris & Storage Removal – this report does not include recommendations or pricing calculations to remove, relocate, or dispose of debris or storage in spaces included in this scope of work. ESCO is able to



discuss removal alternatives with the client if self-removal is not a viable option for some or all of the areas to be treated.

- AC Chill Stop'R Covers – AC units installed into window panels and through walls are permanent fixtures in buildings. The Chill Stop'R covers recommended to be installed will need to be labeled and stored during summer months and reinstalled each heating season. The savings calculated in this report assume custodial and/or maintenance staff will be able to dedicate time to install and uninstall these units annually. After the first installation by a building envelope contractor, installation and removal will only involve twisting tabs to release or install covers from the wall.

### ECM 3: WATER FIXTURE RECOMMISSIONING

The following water conservation scope will be installed:

Site Information			Quantities							Scope of Work									
Building	Recommended Scope of Work Option #	In Scope of Work	Lavatory Sinks	General Use Sinks	Tank Toilets	Pressure Assist Toilets	Flushometer Toilets	Urinals	Wall Showers	Flushometer Fixtures					Tank Toilets		Sinks		
										Valve Recommissioning	Valve Rebuilding	Valve Replacement	Spud & Flushtube Replacement	Control Stop Modify/Replace	Handle-Mount Hands-Free	System Tuning	Retrofit Upgrade	Vandal Resistant Flow Control	Manual Faucet
Union HS & Field House	3	x	94	4	11	-	86	44	64	1	-	129	102	-	5	1	10	88	-
Barnet MS	3	x	15	-	-	-	59	28	-	-	-	55	51	-	3	-	-	23	-
Kawameeh MS	3	x	62	6	8	2	37	20	-	-	-	57	41	-	1	-	8	29	-
Jefferson ES	2	x	26	16	-	-	27	7	-	-	34	-	9	-	-	-	-	42	-
Battle Hill ES	3	x	29	16	13	-	30	14	-	-	-	44	23	-	-	-	13	45	-
Connecticut Farms ES	3	x	32	17	4	-	36	16	-	-	-	52	33	-	-	-	4	41	-
Franklin ES	3	x	21	22	-	-	36	10	-	-	-	46	27	-	-	-	-	38	-
Hannah Caldwell ES	3	x	44	39	2	-	48	9	-	-	-	57	35	-	-	-	2	83	-
Livingston ES	3	x	42	20	2	-	44	17	-	-	-	61	54	-	-	-	2	44	-
Washington ES	3	x	36	17	1	-	43	15	-	-	-	58	41	1	14	-	1	40	-
Administration Bldg	3	x	10	1	1	3	9	5	-	-	-	14	12	-	1	-	1	9	-
<b>Total</b>		x	441	159	43	5	455	185	64	1	34	599	428	1	24	1	42	499	0

China replacement is not included unless specified otherwise. Please refer to the Energy Savings Plan Appendices to see Fixture Line by Line.

**Clarifications & Exclusions:**

Scope excludes the following:

- Control Stops and Shut-Off Valves:
  - ESCO requires working flushometer control stops and shutoff valves at the time of implementation. Customer is responsible for ensuring control stop operation prior to installation commencement. Further, ESCO is not responsible for pre-existing conditions and is therefore not responsible for drips or non-function that results from normal exercise (open/close) of the control stops or shut-off valves. The Scope of Work hereunder entails rebuilding, adapting and/or replacing of non-functioning controls stops (flushometers) or shut-off valves (tank toilets and sinks) as shown in “Retrofit Quantities” in this scope. In all situations, Customer is responsible for shutting off building water as needed.
- Sink Faucets and Peripherals:
  - ESCO will replace aerators on sink faucets that will accommodate aerators. ESCO excludes work relating to sink faucets, faucet valves, and other faucet peripherals unless identified in “Retrofit Quantities”. Further, ESCO excludes aerator replacement on faucets where the condition does not accommodate replacement (e.g. threads are worn, aerators is seized and cannot be removed). Further, ESCO is not responsible for pre-existing conditions and is therefore not responsible for non-function of a faucet that results from normal aerator removal and/or installation.
- Shower Peripherals:
  - ESCO is excluding Shower Peripherals and shower head

- Cast Iron Flanges:
  - ESCO excludes cast-iron flange repair/replacement.
- Wall Carriers:
  - ESCO excludes carriers for wall-hung toilets.
  - ESCO excludes replacement of existing/isolation shutoff valves.
- Costs incurred due to lack of access to required areas
- Hazardous material testing
- Hazardous material abatement
- Repair of floor tile
- Repair of floor covering types besides floor tile
- Repair of pre-existing water damaged floors or surfaces
- Repair of wall tile
- Repair of other wall covering types besides wall tile
- Architectural or access modifications for Americans with Disabilities Act, ADA compliance
- ADA fixture heights for toilet rooms for single occupant use
- Supply piping beyond individual fixture isolation valve or stop
- Clogs in newly installed equipment due to deteriorated piping or debris from the water supply
- Drainage, waste, or sewer piping
- Repair and replacement of supply water riser isolation valves
- No drawings applicable to water conservation will be included
- Damage to installed equipment if found to be due to fluctuations in system pressure or due to turning off the water supply

**ECM 4: HIGH EFFICIENCY TRANSFORMERS**

A transformer survey was performed during the investment grade audit and an inventory of existing equipment was compiled. Savings were calculated based on replacing the below listed equipment with higher efficiency transformers.

kVA	Existing Qty	Replacement Qty	Manufactured Date	Locations
High School				
75	1	1	1970	C-Wing Substation – Locker Rm
112.5	1	1	1970	L Sub – Sub A
150	2	2	1970	A Wing Sub – CBP & Auditorium

*Clarifications & Exclusions:*

Scope of work was determined based on savings and costs. Any transformers not listed in the table above is excluded from the scope of work.

## **ECM 5: WALK-IN REFRIGERATION CONTROLS**

### **High School**

2 Cooltrol® zones will provide savings by controlling the temperature, evaporator fans and door heaters on the entry doors of a walk-in cooler and freezer. 1-Door Freezer will be controlled. One (1) electric defrost will be intelligently controlled. In addition, the motors will also be replaced with EC motors (2 motors total).

### **Burnet Middle School**

2 Cooltrol® zones will provide savings by controlling the temperature, evaporator fans and door heaters on the entry doors of a walk-in cooler and freezer. 1-Door Freezer will be controlled. In addition, the motors will also be replaced with EC motors (6 motors total).

### *Clarifications & Exclusions:*

- Customer to provide access to ESCO installers. There is no need to empty the cooler, reschedule deliveries, or make any special arrangements, unless the cooler is so full that our installers are unable to work in it.
- Installation to be performed by ESCO licensed electricians during normal business hours.

**ECM 13: ROOF REPAIR, REPLACEMENT, & WARRANTY EXTENSION (DESIGN SERVICES)**

The following is a breakout of the existing roofs currently included for repair or replacement. ESCO will provide roofing design and creation of bid specifications with assistance from Customer's architect.

Building	Roof Area (sq. ft.) included for repair or replacement	Existing Roof Type
High School - Partial	76,207	Built-up w/ asphalt flood coat and aggregate
Burnet MS	82,840	Built-up w/ asphalt flood coat and aggregate
Kawameeh MS – Warranty Extension	44,210	Built-up w/ asphalt flood coat and aggregate
Battle Hill ES	53,350	Built-up w/ asphalt flood coat and aggregate
Hannah Caldwell ES	50,341	Aluma-coat
Washington ES (flat section)	18,200	Built-up w/ asphalt flood coat and aggregate

For more information on roof conditions, please visit the Appendices in the Energy Savings Plan.

*Clarifications & Exclusions:*

Roof areas are subject to change based on final engineering.

This scope of work is only for the design, engineering, and bidding of the roofing repair and replacement. Customer will award and contract directly with the roofing contractor for the implementation of this scope of work.



## **ECM 6: DROP CEILING INSTALLATION**

This ECM is to provide the installation of new drop ceilings to facilitate new LED lighting fixtures.

### **Burnet Middle School**

- Remove and Replace 12,700 square feet (SF) of acoustical ceiling in all the hallways of the 2 floor and the Lobby area of the 1<sup>st</sup> floor.

### **Battle Hill**

- Remove and Replace 8,100 square feet (SF) of acoustical ceiling in all the hallways of the 1<sup>st</sup> and 2nd floor.

#### *Clarifications & Exclusions:*

New Lighting Fixtures will be provided by the lighting contractor under the Direct Install Program.

Removal or modification of all other devices such as clocks, cameras, fire alarms, etc will be performed by Customer within a reasonable timeframe and coordinated with lighting installation contractor to minimize delays in the drop ceiling and LED lighting fixture installations.

Matching of ceiling tile color and pattern shall be limited by current commercial availability should replacement tile be required. Similar or complementary tiles shall be provided where exact matches are not available.

## **ECM 7: STEAM TRAP REPLACEMENT**

ESCO will replace the following counts of steam traps at the following locations:

- High School – 77 traps to be replaced, 3 new insulation jackets, 5 radiator valves
- Burnet MS – 64 traps to be replaced, 9 new insulation jackets, 5 radiator valves
- Kawameeh MS – 19 traps to be replaced, 3 new insulation jackets
- Connecticut Farms ES – 21 Traps to be replaced, 1 new insulation jacket, 6 radiator valves
- Franklin ES – 32 Traps to be replaced, 7 radiator valves
- Livingston ES – 55 Traps to be replaced, 4 new insulation jackets, 15 radiator valves
- Washington ES – 35 Traps to be replaced, 2 new insulation jackets, 6 radiator valves

### *Clarifications & Exclusions:*

- Existing isolation valves are excluded.
- Equipment shutdown is required for this scope of work.

## **ECM 8: BUILDING AUTOMATION SYSTEM (BAS) UPGRADE**

The following section outlines the existing HVAC systems that will be incorporated into the new Schneider Electric EcoStruxure BAS Platform. Any new HVAC equipment, meters, or other devices that will be incorporated into the new BAS are outlined in their associated ECM description.

### **Union High School**

The existing DDC controls for the main steam/hot water plant will be integrated into the new BAS. The following systems will receive new DDC controls as part of the BAS upgrade:

- Main chilled water plant
- Gymnasium hot water plant
- Two (2) rooftop units (RTU 15 & 16)
- Five (5) rooftop units (*Auditorium, Wrestling, Fitness, Cafeteria*)
- Two (2) heating and ventilation units (Gym)
- Two (2) unit ventilators (*Gym*)
- One (1) split-system air conditioning unit (*Library*)

The following systems will receive enable/disable control incorporated into the new BAS:

- 117 unit ventilators
- Five (5) air handling units
- Three (3) ductless split-systems
- Twenty (20) split-system air conditioning units
- Eleven (11) rooftop units

### **Burnet Middle School**

The following systems will receive new DDC controls as part of the BAS upgrade:

- Steam plant
- One (1) rooftop unit (*Auditorium*)

The following systems will receive enable/disable control incorporated into the new BAS:

- Fifty-nine (59) unit ventilators
- Two (2) air handling units

### **Kawameeh Middle School**

The following systems will receive new DDC controls as part of the BAS upgrade:

- Steam plant
- One (1) split-system air conditioning unit (*Auditorium*)
- Two (2) air handling units (*Gym & Cafeteria*)

### **Connecticut Farms Elementary School**

The following systems will receive new DDC controls as part of the BAS upgrade:

- Steam plant
- Cafeteria fan

The following systems will receive enable/disable control incorporated into the new BAS:

- Twenty-eight (28) unit ventilators
- Two (2) rooftop units

**Franklin Elementary School**

The following systems will receive new DDC controls as part of the BAS upgrade:

- Steam plant
- Two (2) unit ventilators (*Cafeteria*)
- Three (3) rooftop units (*Associated with Direct Install*)

The following systems will receive enable/disable control incorporated into the new BAS:

- Thirty (30) unit ventilators
- Twenty-eight (28) split-system air conditioning units
- One (1) unit heater

**Hannah Caldwell Elementary School**

The following systems will receive new DDC controls as part of the BAS upgrade:

- Hot water plant
- Chilled/condenser water plant
- Two (2) split-system air conditioning units
- Five (5) ductless split-systems
- Thirty-one (31) unit ventilators
- Three (3) VAV rooftop units
- Fourteen (14) VAV boxes
- Nine (9) rooftop units
- Four (4) air handling units
- Fourteen (14) fan coil units

**Washington Elementary School**

The following systems will receive new DDC controls as part of the BAS upgrade:

- Steam plant
- Four (4) split-system air conditioning units (*Associated with Direct Install*)

The following systems will receive enable/disable control incorporated into the new BAS:

- Thirty-five (35) unit ventilators
- Six (6) rooftop units
- Four (4) ductless split-systems

## **ECM 8: DEMAND CONTROLLED VENTILATION (DCV)**

The equipment associated with this scope of work will receive new DDC controls including a CO2 sensor and modulating electronic outside air damper actuator. The following is a breakout of the HVAC units included in the DCV scope by facility:

### **Union High School:**

- One (1) auditorium rooftop unit
- Two (2) large gymnasium heating and ventilation units
- Two (2) small gymnasium unit ventilators
- One (1) wrestling room rooftop unit
- One (1) fitness room rooftop unit
- One (1) library split-system air conditioning unit
- Two (2) cafeteria rooftop units

### **Burnet Middle School:**

- One (1) auditorium rooftop unit

### **Kawameeh Middle School:**

- One (1) auditorium split-system air conditioning unit
- One (1) gymnasium air handling unit
- One (1) cafeteria air handling unit

### **Connecticut Farms Elementary School:**

- One (1) cafeteria fan (*VFD instead of damper actuator*)

### **Franklin Elementary School:**

- Two (2) cafeteria unit ventilators

### **Hannah Caldwell Elementary School:**

- One (1) gymnasium air handling unit
- One (1) cafeteria air handling unit
- Two (2) auditorium air handling units

### **Livingston Elementary School:**

- One (1) gymnasium heating and ventilation unit (*new controller will be standalone from the new BAS*)

## ECM 9: ROOFTOP UNIT & SPLIT SYSTEM REPLACEMENT

This measure involves replacing the following unitary DX equipment:

### UNION HIGH SCHOOL

EQUIPMENT	EXISTING (QTY.) – CAPACITY	NEW (QTY.) – CAPACITY	DESCRIPTION
DX RTU with HW Heat + DDC Controls	(2) – 7 tons, 10.9 EER	(2) – 7 tons, 14.0 EER	Serves G-wing rooms adjacent to Library.  New equipment is more energy efficient and includes code-compliant economizers.

#### SCOPE INCLUDES:

- Disconnect/reconnect existing electrical feeders at RTUs, install new NEMA-3R disconnect switches
- Drain and fill of HW piping as needed
- Refrigerant recovery
- Disconnect HW piping
- Remove, reinstall, and reconnect existing duct smoke detector
- Install new curb adapters
- Install new RTUs in same location
- Minor duct modifications to connect new AHU to existing ductwork
- Connect RTUs to HW supply and return piping, and insulate
- Install new HW control valves
- Testing and balancing of AHU only
- Local temperature control, and remote temperature control through BAS

### HANNAH CALDWELL ELEMENTARY SCHOOL

EQUIPMENT	EXISTING (QTY.) – CAPACITY	NEW (QTY.) – CAPACITY	DESCRIPTION
DX VAV RTU w/ HW Heat + DDC Controls	(1) – 5 tons, 10.0 SEER	(1) – 5 tons, 17.2 SEER	Serves rooms adjacent to Media Rm.  New equipment is more energy efficient and includes code-compliant economizers.
DX CV RTU w/ HW Heat + DDC Controls	(1) – 10 tons, 9.0 EER	(1) – 10 tons, 12.5 EER, single- zone VAV	Serves Media Rm.  New equipment is more energy efficient and includes code-compliant economizers.

#### SCOPE INCLUDES:

- Disconnect/reconnect existing electrical feeders at RTU, install new NEMA-3R disconnect switches
- Refrigerant recovery
- Curb adapters as needed
- Install new RTUs in same location
- Duct smoke detectors
- Minor duct modifications to connect to new RTUs to existing ductwork
- Testing and balancing
- Local temperature control, and remote temperature control through BAS
- Existing duct-mounted HW coil to be reused

Additional split system and rooftop unit replacements will be performed by the Direct Install contractor. That scope of work is separate from this contract, and details can be found in the Appendix of the Energy Savings Plan.



## **ECM 10: HIGH SCHOOL MECHANICAL IMPROVEMENTS - NEW GYM AIR HANDLING UNITS W/ AC, HW CONVERTER REPLACEMENT, COMBINED HEAT AND POWER (CHP), & 40 TON CHILLER REPLACEMENT**

### **New Gym Air Handling Units with Air Conditioning**

The Gym HVAC units will be replaced with 2 packaged units that will sit on top of each of the locker room roofs. Connection to the existing air distribution system will be provided and the units will have DX Cooling and the existing heating coils in the space will be re-used for heating. The units combined will provide ventilation for 2500 occupants, which is the Fire Department's maximum occupancy for the space. For details of the design, please refer to the Appendix of the Energy Savings Plan.

### **Hot Water Converter Replacement**

This measure will demolish the existing steam-to-hot water exchanger and hot water distribution pumps in the mechanical closet, and tie piping into the existing plant loop served by two (2) existing condensing boilers across from the weight room. During the IGA, it was determined that the existing boilers have enough excess heating capacity to pick up the additional heating zones. New zone distribution pumps equipped with VFDs for soft start will be provided.

### **Combined Heat & Power (CHP) System**

ESCO will provide a combined heat and power (CHP) system. The CHP unit will be able to generate power and capture the byproduct heat to use for the DHW load year-round. A single 35 kW natural gas engine generator will feed power back to the main electrical feed for that school. The installation of a dedicated water loop between the engine and a new DHW exchanger will provide DHW heating to the locker rooms in both winter and summer and an additional level of redundancy to the existing Domestic hot water system.

### **40-Ton Chiller Replacement**

ESCO will provide an air-cooled replacement of the existing split barrel chiller. Demo of the existing chiller will be done by ESCO. New Chiller will be placed on rooftop and chilled water piping will be extended from mechanical space to new unit. Any exposed piping will be jacketed and insulated and provided with freeze protection.

**ECM 11: NEW CHILLER, COOLING TOWER, AND PUMPS WITH CONTROLS – HANNAH CALDWELL ES**

This measure involves replacing the chiller, cooling tower, primary pumps, and ancillary plant components identified below.

The following table identifies equipment quantity and sizes being upgraded:

EQUIPMENT	EXISTING (QTY.) – CAPACITY	NEW (QTY.) – CAPACITY	EFFICIENCY UPGRADE
Water-cooled Chiller	(1) – 180 tons	(1) – 180 tons	Variable speed screw compressor
Cooling Tower	(1) – 180 tons	(1) – 180 tons	Induced draft tower with variable speed fan
Chilled Water Pumps	(1) – 3 hp	(2) – 5 hp	Soft start VFDs; add standby pump and pad
Condenser Water Pumps	(1) – 10 hp	(2) – 7.5-10 hp	Soft start VFDs; add standby pump and pad
ADDITIONAL COMPONENTS BEING UPGRADED:			
Air Dirt Separator, Expansion Tank, Refrigerant Leak Detector, Emergency Ventilation Fan			

**SCOPE INCLUDES:**

- Disconnect/reconnect existing electrical feeders to cooling tower, install new NEMA-3R disconnect switch
- Disconnect/reconnect existing electrical feeders to existing condenser water pump location
- Disconnect existing electrical feeders to chiller, existing chilled water pump location, and existing exhaust fan location, install new feeders and breakers
- Run new electrical feeders and breakers to new chilled water and condenser water standby pumps
- Refrigerant recovery
- Disconnect chilled water, condenser water, makeup water and drain piping from chiller, chilled water pump, cooling tower, and condenser water pump as necessary
- Demo existing chiller, chilled water pump, air separator, expansion tank, cooling tower, condenser water pump, exhaust fan, and refrigerant leak detector
- Existing equipment pads will be reused, new equipment pads to be poured for standby chilled water and condenser water pumps
- Scrape, prime, and paint existing rooftop cooling tower structural steel and exposed condenser water piping
- Install new cooling tower, chiller, chilled water pumps, condenser water pumps, air and dirt separator, expansion tank, refrigerant leak detector, and exhaust fan
- Connect new equipment to existing piping, install new cooling tower drain and overflow, insulate chilled water piping
- Reuse existing exhaust fan louver, route new exhaust duct to chiller
- New DDC controls on new plant equipment, tied into BAS
- Testing and balancing of new equipment
- Existing secondary zone pumps and zone valves to remain
- Existing water treatment controller and metering pumps to remain
- No significant changes to plant control strategy (2-pipe HW/CHW changeover system)

## CLARIFICATIONS AND EXCLUSIONS:

- The Direct Install Program is sponsored by the NJ Clean Energy Program and the scope of work being performed within that program, as indicated in the Energy Savings Plan, is outside of this contract.
- Roofing scope will be conducted outside of this contract. This contract allows for the engineering and creation of bid packages for procurement, but the implementation contract with the winning bidder will be held by Customer.
- ESCO may reuse existing equipment including (but not limited to) valves, dampers, and actuators for the execution of this contract, and assumes the equipment or devices are in good working order. Should the equipment or devices require repair or replacement, this will be the responsibility of the owner unless specifically indicated otherwise in the scope of work. ESCO will create an equipment deficiency report (EDR) to provide the owner with written notification if such equipment or devices are identified.
- ESCO will only control equipment and/or devices shown in the Scope of Work. Equipment and devices not in the Scope of Work are excluded. ESCO is not responsible for the functionality of such equipment even if such equipment is operated by an existing BAS.
- Matching of ceiling tile color and pattern shall be limited by current commercial availability should replacement tile be required. Similar or complementary tiles shall be provided where exact matches are not available.
- Demolition of the existing HVAC controls / building automation equipment will be performed as needed to implement the new DDC system installation (reuse of enclosures, wire, and end devices will be solely at the discretion of ESCO). The total demolition of any remaining abandoned or obsolete control elements will be the responsibility of the owner, unless otherwise stated.
- ESCO is not responsible for safeties on existing equipment including smoke detectors, fire alarm interlocks, and low or high temperature cut-outs or any life safety equipment. Pre and post testing of smoke, fire, and life safety systems will be the responsibility of the customer and the sequence will be provided to ESCO. Where life safety equipment utilizes compressed air (pneumatics), the source of the air, logic, and actuators will not be removed or modified within the execution of the project.
- Exhaust fans controlled by occupancy sensors or local switches, that are process / life safety related, or that do not move air beyond the building envelope will not be integrated with the building management system.
- ESCO will not be responsible for any modification or expansion of the owner's existing WAN/LAN for the execution of this project. Owner to provide ESCO with designated open port(s) as required at existing network switches in all facilities within this scope of work. ESCO to provide CAT5e Ethernet cable from control equipment to Owner network switch.
- Where new control panels are to be installed, conduit will be installed from the panel knock-out to a height of 8' or the level of the finished ceiling if present – whichever is lower – for all low voltage wiring. Conduit will not be required in other applications unless otherwise indicated by the scope of work above. All wiring shall be in compliance with local codes and authorities having jurisdiction.
- Asbestos abatement of any kind is excluded.
- Hazardous material abatement of any kind is excluded.
- Costs of providing access, access control, or security escorts not specified in the Scope of Work are excluded.
- Hydronic / airflow testing and balancing on existing HVAC equipment will not be included as part of the controls scope of work.
- Repair of existing HVAC and control equipment beyond the scope of work above is excluded.
- Any repair patching of existing walls, sheetrock, plaster, brick, wood, etc due to the removal of existing thermostats (for retrofit with DDC Sensor or new thermostat) is excluded.

## SCHEDULE C: PHASE II SCOPE OF WORK

### CONTRACT PAYMENTS – PHASE II

The total of all implementation contract payments shall be \$10,877,850 (the “Contract Price”) for the Phase II Scope of Work. Payments shall be made in accordance with Article 2.

### ENERGY CONSERVATION MEASURES (ECMS) – PHASE II

Customer hereby acknowledges and agrees that the scope of work shall be limited to, and ESCO shall only perform, the following:

#### ECM 12: SOLAR PHOTOVOLTAIC (PV) SYSTEM

The following table summarizes the solar systems being provided as a part of this ESIP scope. This measure is a turn-key scope item that includes the engineering, procurement and construction of the scope item.

Building	PV System Size (kW)
High School	1,158.9
Burnet MS	398.5
Kawameeh MS	219
Jefferson CS	154.4
Battle Hill ES	172.3
CT Farms ES	174.6
Franklin ES	88.9
Hannah Caldwell ES	454.7
Livingston ES	111.3
Washington ES	78.6
<b>Total</b>	<b>3,011.2</b>

For solar panel layouts, please see the Appendix in the Energy Savings Plan.

#### *Clarifications & Exclusions:*

1. Final system size could vary based on structural analysis and final design.
2. System will require routine maintenance required by manufacturer.
3. For sites with required roofing upgrades, roofing scope must be complete before solar can be installed at those sites.

**ECM 14: BURNET AUDITORIUM HVAC RENOVATION WITH COOLING ADDITION**

**BURNET MIDDLE SCHOOL**

EQUIPMENT	EXISTING (QTY.) – CAPACITY	NEW (QTY.) – CAPACITY	DESCRIPTION
Split DX with Steam Heat – Auditorium + DDC Controls	(1) – 75 tons, Single-zone CV, steam heat	(1) – 75 tons, Single zone VAV with Steam Heat.	Serves Auditorium. New equipment is more energy efficient with VAV design and updated to current mechanical code.

**SCOPE INCLUDES:**

- Disconnect/reconnect existing electrical feeders to AHU, reuse existing AHU disconnect switch
- Disconnect/reconnect existing electrical feeders to rooftop equipment, install new NEMA-3R disconnect switch on roof
- Remove, reinstall, and reconnect existing duct smoke detector
- Remove existing steam supply and condensate return piping as needed to access equipment pad
- Refrigerant recovery
- Remove AHU, condensing unit, and all associated refrigerant piping
- Install new AHU, condensing unit, and refrigerant piping, gas piping
- Minor duct modifications to connect new AHU to existing ductwork
- Testing and balancing
- Local temperature control, and remote temperature control through BAS

**ECM 15: STEAM BOILER PLANT REPLACEMENT WITH CONTROLS**

This measure involves replacing or upgrading the steam generation components at Franklin Elementary School.

The following table identifies equipment quantity and sizes being upgraded:

SCHOOL	EXISTING (QTY.) – CAPACITY	NEW (QTY.) – CAPACITY	EFFICIENCY UPGRADE
Franklin ES	(2) – 80 hP, 3,350 MBH input, 78.1% efficient	(2) – 72 hP, 3,000 MBH input, 80% efficient	PLC Control, Parallel Positioning, O2 Trim, Variable Speed Blower

**SCOPE INCLUDES:**

- Disconnect existing electrical feeders to boilers, install new feeders to new boilers (reuse existing breakers)
- Remove/replace existing 6” water heater flue as needed for demo and installation of new boilers
- Demo existing steam boilers, boiler panels, and feedwater pump system
- Disconnect and save chemical tank, injection pump, and related tubing for reuse
- Use of old coal delivery chute for removal and installation of boiler room equipment
- Perform chimney inspection and report findings/recommendations to the Customer for necessary repairs
- Install new steam boilers, reusing existing pads
- Install new boiler feedwater system (dual pump), reusing existing condensate return and existing vent piping
- Connect boilers to existing steam supply, makeup water, gas piping, and new feedwater system
- Install new flue for each boiler, manifold together, and connect to existing chimney stack
- Install new boiler drain piping to existing floor drains
- Install new blowdown separator, condensate aftercooler, and backflow preventer
- Install drainable louver at existing 42”x36” OA louver location with OA duct to boilers
- Install new EPO switch at exit doorway
- New DDC controls on new plant equipment, tied into BAS
- Testing and balancing of new equipment



## **SCHEDULE D: PROJECTED SAVINGS AND OPERATING CONDITIONS**

### **PROJECTED ANNUAL SAVINGS**

The projected savings from the project is presented in the table below.

Annual Projected Savings			
Electricity	Natural Gas	Water	Operations & Maintenance
\$757,121	\$106,386	\$19,836	\$71,436

The projected savings in the table above are provided for reference only and are not intended to construe a savings guarantee by meter, facility, or energy unit.

### **COMMON ECM ASSUMPTIONS**

#### **WEATHER DATA SOURCE**

Data for weather compensation adjustments will be actual climate data obtained from the National Weather Service Station at Newark, NJ. In the event the specified weather station is de-activated, weather data will be collected from the nearest weather station with suitable observations. If the data source becomes unavailable or a superior source is identified, ESCO may select an alternative data source with Customer's approval.

#### **ANNUAL CALENDAR OF EVENTS**

Provided below is a table summarizing the annual calendar of events that will be used as a basis in calculations, unless otherwise specified. In the event that there are any changes or deviations to this annual calendar, an appropriate adjustment will be made in accordance with the "Adjustment Schedule" set forth in Schedule 5 of the PASS Agreement.

# 2019-2020 School Calendar

TOWNSHIP OF UNION PUBLIC SCHOOLS

2369 Morris Avenue  
 Union, New Jersey 07083  
 (Phone) 908.851.6400  
 (Fax) 908.851.6421



July 2019						
S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

August 2019						
S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

September 2019						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

October 2019						
S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

November 2019						
S	M	T	W	T	F	S
				1	2	
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

December 2019						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

- Sept 2 Closed - Labor Day
- Sept 3 Townwide Staff Meeting
- Sept 4 Staff Development Workshop
- Sept 5 First Day of School
- Sept 30 Closed - Rosh Hashanah
- Oct 9 Closed - Yom Kippur
- Oct 14 Closed - Columbus Day
- Oct 23 Half Day - Staff Development
- Nov 5 Closed - Election Day
- Nov 7-8 Closed - NJEA Convention
- Nov 27 Half Day - Thanksgiving Recess
- Nov 28-29 Closed - Thanksgiving Recess
- Dec 11 Half Day - Staff Development
- Dec 20 Half Day - Christmas Recess
- Dec 23-31 Closed - Christmas Recess
- Jan 1 Closed - New Year's Day
- Jan 8 Half Day - Staff Development
- Jan 20 Closed - Martin L. King Jr. Day
- Jan 22-26 Half Days - (UHS STUDENTS ONLY)
- Feb 12 Half Day - Staff Development
- Feb 17 Closed - President's Day
- Mar 18 Half Day - Staff Development
- Apr 10 Closed - Good Friday
- Apr 13-17 Closed - Spring Recess
- May 22 Half Day - Memorial Day Wknd
- May 25 Closed - Memorial Day
- June 19-24 Last 4 Half Days
- June 24 Last Day of School
- High School Graduation

January 2020						
S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

February 2020						
S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

March 2020						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

April 2020						
S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

May 2020						
S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

June 2020						
S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

**School Days: 185**  
**\*NOTE:** 185 School Days incorporates 5 days into the calendar for anticipated school closings due to inclement weather. If more days are needed, the emergency closing days will be made up as follows:

Closed	Make Up
6th day	April 17
7th day	April 16
8th day	April 15

In the event the 5 snow days are not utilized, the days will be subtracted from the school year as follows:

Legend	
<span style="background-color: #cccccc; border: 1px solid black; padding: 2px;"> </span>	School Closed
<span style="border: 1px solid black; padding: 2px;"> </span>	Half Day
<span style="border: 1px dashed black; padding: 2px;"> </span>	Half Day - Students Only
<span style="border: 2px solid black; border-radius: 50%; padding: 2px;"> </span>	First & Last Day of School

- 1st Remaining Day:  
School Closed - Friday, May 22nd
- 2nd Remaining Day:  
School Closed - Thursday, May 21st
- 3rd Remaining Day:  
School Closed - Tuesday, May 25th
- 4th Remaining Day:  
School Closed - Wednesday, May 27th
- 5th Remaining Day:  
School Closed - Thursday, May 28th

	2-Hour Delay	Early Dismissal
UHS	9:35am	11:35am
MIDDLE	10:03am	12:00pm
JEFF	10:10am	12:20pm
ELEM.	10:45am	1:00pm
PRE-K	no am class	11:30am

## BUILDING OCCUPANCY SCHEDULES

Provided below is a table summarizing the building occupancy schedules used within the calculations, unless otherwise specified. In the event that there are any changes or deviations to this occupancy schedule, an appropriate adjustment will be made in accordance with the Adjustment Schedule set forth in Schedule 5 of the PASS Agreement.

Space Type	Occupied Periods		
	Days	Start	End
Administration / Offices	M-F (ES, MS)	7:00 AM	4:00 PM
	M-F (Admin, HS)	7:00 AM	5:00 PM
	M-F	7:00 AM	4:00 PM
Media Centers	M-F (MS, HS)	7:00 AM	5:00 PM
	Sat-Sun (MS)	10:00 AM	2:00 PM
	M-F (ES, MS)	7:00 AM	4:00 PM
Classrooms	M-F (HS)	7:00 AM	5:00 PM
	M-F	7:00 AM	4:00 PM
Cafeterias	M-F (ES)	7:00 AM	4:00 PM
	M-F (MS)	7:00 AM	5:00 PM
	M-F (HS)	7:00 AM	7:00 PM
	Sat-Sun (MS)	10:00 AM	2:00 PM
	Sat-Sun (HS)	10:00 AM	3:00 PM
	M-F	7:00 AM	4:00 PM
Multi-purpose Rooms	Sat-Sun	10:00 AM	2:00 PM
	M-F	7:00 AM	4:00 PM
Gymnasiums	M-F	7:00 AM	4:00 PM
	Sat-Sun (MS)	10:00 AM	2:00 PM
	Sat-Sun (HS)	10:00 AM	3:00 PM
Auditoriums	M-F (ES)	7:00 AM	4:00 PM
	M-F (MS)	7:00 AM	5:00 PM
	M-F (HS)	7:00 AM	7:00 PM
	Sat-Sun (MS)	10:00 AM	2:00 PM
	Sat-Sun (HS)	10:00 AM	3:00 PM

HVAC

systems will be engaged prior to start of occupied times in order to meet occupied setpoints by start times listed above. All non-school days will be set at unoccupied temperatures with exception only for specific locations that are utilized.

## STANDARDS OF SERVICE AND COMFORT

Provided below is a table summarizing the temperature setpoints used within the calculations, unless otherwise specified. Customer agrees to operate the conditioned spaces in the facilities within the temperature ranges scheduled in the table below for sites that are able to maintain setpoints through the BAS. In the event that there are any changes or deviations to these standards of service and comfort, an appropriate adjustment will be made in accordance with the Adjustment Schedule set forth in Schedule 5 of the PASS Agreement.

	Heating	Cooling
Occupied	70°F	74°F
Unoccupied	55°F	85°F

## **MAINTENANCE RESPONSIBILITIES**

Customer acknowledges and agrees that proper maintenance is essential to any energy conservation program. Therefore, Customer agrees to undertake the following responsibilities:

Customer agrees to use its best efforts to maintain the ECMs in original operating condition (“Original Operating Condition”) with allowance for normal wear and tear. Customer will agree to maintain all parts of the Project site(s) where the ECM(s) reside including but not limited to components, equipment, machinery, energy management systems, structure of the facility(s), computer hardware, network and IT systems, either existing or newly installed. Customer must comply with the general maintenance requirements specified by equipment manufacturers and the maintenance tasking guidelines included in the operating and maintenance manual.





# ENERGY SERVICES CONTRACT

This is an Energy Services Contract (this "Contract") by and between Schneider Electric Buildings Americas, Inc. ("ESCO") and the Board of Education of the Township of Union Public Schools, NJ ("Customer"), dated \_\_\_\_\_, 20\_\_ (the "Effective Date") whereby ESCO agrees to provide and perform the energy conservation measures ("ECMs") set forth in the Contract Documents including the Schedules which are listed below and incorporated fully herein, subject to the terms and conditions set forth herein:

**Schedule A: Terms & Conditions**

**Schedule B: Phase I Scope of Work**

**Schedule C: Phase II Scope of Work**

**Schedule D: Projected Savings & Operating Conditions**

**Board of Education of the  
Township of Union Public Schools,  
NJ**

**Schneider Electric Buildings Americas,  
Inc.**

By	_____	By	_____
	(Signature)		(Signature)
Print Name	_____	Print Name	_____
Title	_____	Title	_____

## DEFINITIONS

1. "BPU" is the New Jersey Board of Public Utilities.
2. "Change Order" is defined as a written change to the Project executed by both parties.
3. "Contract Documents" consist of the Contract with the terms and conditions set forth herein, the Rider, other documents listed in the Contract and any mutually agreed upon written modification issued after execution of the Contract in a Change Order. The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by ESCO. The Contract Documents are correlative and complimentary, and ESCO'S performance shall be required only to the extent consistent with the Contract Documents, provided that to the extent there are inconsistencies between this Contract and the Rider, the Rider shall take precedence.
4. "Date of Commencement" is the later of the Effective Date or the date funding occurs. There will be a different Date of Commencement for the Phase I Scope of Work (Schedule B) and the Phase II Scope of Work (Schedule C), based upon different dates for BPU approval and project funding.
5. "Day" as used herein shall mean calendar day unless otherwise specifically designated.
6. "Energy Savings Plan" refers to the report delivered by ESCO which details project scope, savings, and costs as required by the BPU.
7. "Project" refers to scope of work, as set forth in Schedule A: Scope of Work, made to facilities of Customer.

8. "Substantial Completion" refers to and shall mean the date the individual scopes of work are sufficiently implemented in accordance with the Contract Documents that Customer may utilize the individual Energy Conservation Measure (ECM) for the use for which it is intended, and is fully complete except for minor items, adjustments and/or corrections.
9. "Warranty Period" is for one (1) year from the dates set forth in the substantial completion letter for each individual scope of work or Energy Conservation Measure.
10. "Work" means the services required by the Contract Documents, whether completed or partially completed and, includes all labor, materials, equipment and services provided or to be provided by ESCO to fulfill ESCO'S obligations. The Work may constitute the whole or a part of the Project.
11. "PASS Agreement" or "Performance Assurance Support Services Agreement" refers to a separate contract that provides for the measurement and verification, support services, and financial guarantee, if requested by Customer. ESIP law requires that ESCO offer to provide an optional guarantee to Customer under a separate agreement.



# SCHEDULE A: TERMS & CONDITIONS

## ARTICLE 1 – DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

1.1 ESCO projects it will achieve Substantial Completion of the Work within 547 days from Date of Commencement (the “Contract Time”), subject to adjustments of the Contract Time as provided in the Contract Documents.

## ARTICLE 2 – CONTRACT PRICE AND PAYMENTS

2.1 ~~The total of all implementation contract payments shall be \$19,351,076 (the “Contract Price”).~~ ESCO shall invoice Customer for construction progress payments which shall be paid to ESCO monthly based on the percentage completion of items delineated on a “Schedule of Values” completed during the prior month. The Schedule of Values will be developed by ESCO and provided to Customer at the beginning of project implementation. The Schedule of Values will be based upon the project cost less the Project Mobilization Payment.

2.2 Payment of invoice is due thirty (30) days after the invoice application date. If receipt of any payment exceeds the thirty (30) days after the invoice application date. Customer shall pay to ESCO a 1% late penalty per month and ESCO reserves the right to terminate the Contract due to non-payment upon seven (7) days prior written notice.

2.3 Within ten (10) days of the Date of Commencement, Customer shall make payment to ESCO for expenses incurred to date and project mobilization expenses, including but not limited to engineering, project start-up mobilization, equipment and material procurement, bonds and other expenses incurred to date (“Project Mobilization Payment”) in the amount of 20% of the Contract Price.

2.4 Final payment for the Work shall not become due until ESCO has delivered to Customer a complete release of all liens arising out of the Contract covering all labor, materials, and equipment for which a lien could be filed, or a bond satisfactory to Customer to indemnify Customer against such lien.

2.5 The making of final payment shall constitute a waiver of claims by Customer except those arising from (1) liens, claims, security interests or encumbrances arising out of the Contract and which are unsettled, (2) failure of the Work to comply with the requirements of the Contract Documents, or (3) terms of special warranties required by the Contract Documents.

## ARTICLE 3 – CUSTOMER

3.1 Except for permits and fees that are explicitly the responsibility of ESCO under the Contract Documents, Customer shall secure and pay for necessary approvals, inspections, easements, assessments and charges required for the use or occupancy of permanent structures or permanent changes in facilities, including but not limited to inspections for concrete and/or earthen compaction, where applicable.

3.2 If ESCO fails to correct Work that is not in material accordance with the requirements of the Contract Documents within the Warranty Period (“Defective Work”) or repeatedly fails to carry out the Work in accordance with the Contract Documents, Customer shall provide written notice to ESCO detailing any alleged deficiencies. If the noticed deficiencies are not resolved or if ESCO does not diligently commence to address such deficiencies within thirty (30) days of receipt of the written notice, Customer may order ESCO to stop the Work, or any portion thereof, until the cause for such order has been eliminated. However, the right of Customer to stop the Work shall not give rise to a duty on the part of Customer to exercise this right for the benefit of ESCO or any other person or entity.

3.3 Customer agrees to repair or replace as necessary any defective existing equipment that is intended to be reused.

3.4 Information under Customer’s control shall be furnished by Customer with reasonable promptness as

requested by ESCO.

3.5 Customer shall notify ESCO in writing of any or all uses or restrictions in usage of all areas of Customer's facility or the location of the Project, provided that ESCO shall adhere to all health and safety conditions imposed by the federal, state and municipal authorities governing COVID-19 and all other such regulations and advisories.

3.6 The foregoing are in addition to any other duties and responsibilities of Customer set forth herein or in any other Contract Documents.

3.7 Customer shall provide facility access adequate to the requirements of ESCO and their subcontractors. Keys, access cards, and/or escorts will be provided for all facilities involved in the scope of Work in a quantity sufficient to facilitate execution of scopes at multiple locations with multiple trades. Customer assumes all liability and risk of loss for providing such access. Customer is subject to change orders for delays resulting from limited or restricted access for scheduled or previously coordinated work. Keys and/or access cards will be issued to ESCO project personnel and subcontractor site foreman or lead personnel as necessary.

3.8 ESCO understands and acknowledges that the site of this Service Agreement is an active school and that all reasonable efforts will be made to secure the safety of students and staff. ESCO shall have all employees performing Services on the site of the school facilities wear a photo ID identifying their employment with ESCO. ESCO shall comply with all directives of the Customer regarding parking and entry to school facilities. In addition, ESCO will require all persons on site to have a criminal history record information background check performed, including fingerprint checking for each employee who will be performing work on school facilities, using records such as:

<https://www.nj.gov/education/crimhist/>

Customer holds the final determination on whether or not a person is excluded from site access due to criminal history.

#### **ARTICLE 4 – ESCO**

4.1 ESCO shall supervise and direct the Work, using ESCO's skill and attention. ESCO shall be solely responsible for and have control over means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract, unless Contract Documents give other specific instructions concerning these matters.

4.2 Unless otherwise provided in the Contract Documents, ESCO shall provide and pay for labor, materials, tools, equipment and machinery necessary for the proper execution and completion of the Work.

4.3 ESCO warrants to Customer for a period of one (1) year from the corresponding dates of each project substantial letter per scope of work that the materials and equipment manufactured by ESCO will be of good quality and new unless the Contract Documents require or permit otherwise, and further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. ESCO'S warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by or for ESCO, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. ESCO shall repair or replace defective material or equipment and re-perform Work to correct any defect within the Warranty Period. ESCO does not warrant products not manufactured by ESCO, but it will pass on to Customer any manufacturer's warranty to the extent permitted. THE FOREGOING WARRANTIES AND REMEDIES ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES AND REMEDIES WHETHER STATUTORY, EXPRESS OR IMPLIED (INCLUDING ALL WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSE AND ALL WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OR TRADE), AND ESCO WILL NOT BE RESPONSIBLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES OF CUSTOMER UNLESS REQUIRED BY APPLICABLE STATE LAW. ESCO'S RESPONSIBILITY IN WARRANTY OR CONTRACT SHALL NOT EXCEED THE CONTRACT PRICE PAID FOR THE SPECIFIC PRODUCT OR SERVICE THAT GIVES RISE TO THE CLAIM EXCLUDING THIRD PARTY CLAIMS FOR PERSONAL INJURY, DEATH OR

## PROPERTY DAMAGE OR AS MAY BE REQUIRED BY LAW.

4.4 Unless otherwise provided in the Contract Documents, ESCO shall pay sales, consumer, use, and other similar taxes which are legally enacted when bids are received or negotiations concluded, whether or not effective or merely scheduled to go into effect, and shall secure and pay for the building permit and other permits, licenses and inspections necessary for proper execution and completion of the Work.

4.5 ESCO shall comply with and give notices required by laws, ordinances, rules, regulations, and lawful orders of public authorities bearing on performance of the Work.

4.6 ESCO shall keep the premises and surrounding areas free from accumulation of waste materials or rubbish caused by operations under the Contract. At completion of the Work, ESCO shall remove from and about Project waste materials, rubbish, ESCO'S tools, equipment, machinery and surplus material.

4.7 ESCO shall provide Customer access to the Work in preparation and progress wherever located.

4.8 ESCO shall pay all royalties and license fees, shall defend Customer from suits or claims for infringement of patent rights, and shall hold Customer harmless from loss on account thereof.

4.9 Except to the extent of the negligence or willful misconduct of Customer, or its agents, representatives, employees, officers, directors or assigns, ESCO shall indemnify and hold harmless Customer, and agents and employees thereof from and against all third party claims, damages, losses and expenses, including, but not limited to, reasonable attorney's fees, arising out of or resulting from performance of the Work provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (including the Work itself), but only to the extent caused in whole or in part by negligent acts or omissions of ESCO, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable.

4.10 NOTWITHSTANDING ANYTHING TO THE CONTRARY CONTAINED HEREIN, ESCO SHALL NOT BE LIABLE IN CONTRACT, IN TORT (INCLUDING NEGLIGENCE OR STRICT LIABILITY) OR OTHERWISE FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES WHATSOEVER. CUSTOMER AGREES TO THE FOREGOING TO THE EXTENT PERMITTED BY THE CONSTITUTION AND LAWS OF THE STATE OF NEW JERSEY. The remedies of Customer set forth herein are exclusive where so stated and the total cumulative liability of ESCO with respect to the Contract or anything done in connection therewith, such as the use of any product covered by or furnished under the Contract, whether in contract, in tort (including negligence or strict liability) or otherwise, shall not exceed the Contract Price for the specific product, equipment, material or service work performed that gives rise to the claim, excluding third party claims for personal injury, death or property damage or as may be required by law.

## ARTICLE 5 – DISPUTE RESOLUTION

5.1 To the extent allowed by applicable law, any controversy or claim arising out of or relating to the Contract, or Contract Documents, or any breach thereof, shall be settled by binding arbitration in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association, and judgment upon the award rendered by the arbitrator(s) may be entered in any court having jurisdiction thereof.

5.2 The arbitration proceeding location shall be in the county in which the Project is located.

## ARTICLE 6 – SUBCONTRACTS

6.1 A Subcontractor is a person or entity who has a direct contract with ESCO to perform a portion of the Work at the site.

6.2 Unless otherwise stated in the Contract Documents or the bidding requirements ESCO, if requested in writing by Customer, shall furnish in writing to Customer the names of the Subcontractors to whom ESCO plans to award Work. Contracts between ESCO and Subcontractors shall require each Subcontractor, to the extent of the

Work to be performed by the Subcontractor, to be bound to ESCO by the terms of the Contract Documents, and to assume all the obligations and responsibilities which ESCO, by the Contract Documents, assumes toward Customer.

## **ARTICLE 7 – CHANGES IN THE WORK**

7.1 Customer may request changes in Work consisting of additions, deletions or modifications, whereby, the Contract Price and Contract Time shall be adjusted accordingly. Such changes in the Work shall be authorized by written Change Order that shall be mutually agreed to and signed by Customer and ESCO. The parties shall negotiate in good faith and use their best efforts to execute any Change Order, and any Change Order must be fully executed in writing by Customer and ESCO prior to any actual changes being implemented.

7.2 The cost or credit to Customer from a change in the Work shall be determined by mutual agreement and, in the absence of a mutual agreement being reached within a reasonable amount of time after the request for such Change Order was made, the cost or credit to Customer shall be decided by the dispute resolution process as provided in the Contract Documents.

7.3 In the event of any suspension or delay due to the acts or omissions of Customer or Customer directives to stop Work for any reason, through no fault of ESCO, the Contract Time for Substantial Completion shall be extended to reflect such period of interruption, with additional respect to seasonal access to complete work, and the Contract Price shall be equitably adjusted to recover ESCO'S costs of demobilization, delay and remobilization related to such suspension or delay. ESCO agrees it will cooperate with Customer and mitigate such costs to the extent and efforts commercially reasonable. If such suspension or delay continues for more than ninety (90) consecutive days, through no act or fault of ESCO, ESCO may terminate the Contract and recover from Customer payment for Work executed, including reasonable overhead and profit, costs incurred by reason of such termination and damages.

## **ARTICLE 8 – TIME**

8.1 The date of Substantial Completion is the date certified by ESCO in accordance with Article 9.3.

8.2 If ESCO is delayed at any time in progress of the Work by changes ordered in the Work, by labor disputes, fire, unusual delay in deliveries, abnormal adverse weather conditions not reasonably anticipatable, unavoidable casualties or any other causes which are beyond the control of ESCO, then the parties hereto agree to execute a Change Order allowing for a mutually agreeable extension of time for performance of ESCO'S Work to cover such delay.

8.3 **DISCLAIMER:** Customer acknowledges that the prevailing COVID-19 epidemic/pandemic and the evolving situation surrounding the same may trigger stoppages, hindrances and/or delays in ESCO's (or its subcontractors' or suppliers') ability or capacity to perform the contracted work and/or to produce, deliver, install or service any applicable products, irrespective of whether such stoppages, hindrances and/or delays are due to measures imposed by authorities or deliberately implemented by ESCO (or its subcontractors or suppliers) as preventive or curative measures to avoid harmful contamination or exposure of ESCO's (or its subcontractors' or suppliers') employees. Customer therefore recognizes that such circumstances shall be considered as a cause for excusable delay and shall not expose ESCO to contractual sanctions (including without limitation delay penalties, liquidated damages or other damages) or termination for default.

## **ARTICLE 9 – PAYMENTS AND COMPLETION**

9.1 Payments shall be made as provided in Article 2 of the Contract.

9.2 Payments may be withheld on account of (1) Defective Work not remedied per Article 3, (2) failure of ESCO to make payments properly to the Subcontractors or for labor, materials or equipment, or (3) repeated failure to carry out the Work in accordance with the Contract Documents.

9.3 Upon Substantial Completion of each portion of the Work, ESCO will issue a project substantial completion letter per scope of work to Customer.



9.4 Final payment shall not become due until ESCO has delivered to Customer a complete release of all liens arising out of the Contract covering all labor, materials, and equipment for which a lien could be filed.

9.5 The making of final payment shall constitute a waiver of claims by Customer except those arising from (1) liens, claims, security interests or encumbrances arising out of the Contract and which are unsettled, (2) failure of the Work to comply with the requirements of the Contract Documents, or (3) terms of special warranties required by the Contract Documents.

## **ARTICLE 10 – PROTECTION OF PERSONS AND PROPERTY**

10.1 ESCO shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the performance of the Contract. ESCO shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury or loss to (1) employees on the Work and other persons who may be affected thereby, (2) the Work and materials and equipment to be incorporated therein, and (3) other property at the site or adjacent thereto.

10.2 ESCO shall give notices and comply with applicable laws, ordinances, rules, regulations and lawful orders of public authorities bearing on safety of persons and property and their protection from damage, injury or loss.

10.3 The scope of work or service to be performed by ESCO pursuant to the Contract, and the compensation to be paid to ESCO hereunder for Work or services performed, expressly exclude any Work or service of any nature associated or connected with the identification, abatement, cleanup, control or removal of environmentally hazardous materials beyond what is specifically defined and identified in Schedule A of the Contract. "Hazardous Materials" to include, but not be limited to, asbestos and PCBs discovered in or on the premises. Customer agrees that all duties and obligations in connection with any hazardous materials located in or on the premises, other than those defined in Schedule A, are strictly the responsibility of Customer. Customer will provide any hazardous materials testing documentation and reports, and information from previous sources or vendors used in hazardous materials testing. Customer warrants and represents to the best of Customer's knowledge there are no hazardous materials in or on the premises which will affect, be affected by, come in contact with, or otherwise impact upon or interfere with the Work to be performed by ESCO pursuant to the Contract.

10.4 Should ESCO become aware or suspect the presence of hazardous materials beyond those to be addressed in Schedule A during performance of its Work under the Contract, ESCO will be authorized to cease Work in the affected area immediately, and will promptly notify Customer of the conditions discovered. Should ESCO stop Work because of the discovery or suspicion of hazardous materials, the time for performance of ESCO'S Work or service will be extended to cover the period required for abatement, cleanup, or removal of the hazardous materials. ESCO will not be held responsible for any claims, damages, costs, or expenses of any kind associated with the period during which ESCO has stopped Work as a result of hazardous materials. If appropriate, ESCO will be entitled to an equitable adjustment of the Contract Price for any increased costs or other charges incurred by ESCO in connection with the existence of its rights under this paragraph.

10.5 Customer will be responsible for taking all necessary steps to correct, abate, clean up, or control hazardous materials not addressed by ESCO in Schedule A in accordance with all applicable statutes and regulations. Customer specifically agrees, to the extent allowed by state law, to indemnify and to hold ESCO, its officers, agents and employees harmless from and against any and all claims, demands, damages, or causes of action in any way arising out of the release of hazardous materials into the air, soil, or any water system or water course, or any actions taken in connection with same, or any failure to act.

## **ARTICLE 11 – INSURANCE AND BONDS**

11.1 ESCO shall maintain adequate levels and types of insurance coverage appropriate to its business and profession and as may be required by applicable law and the Contract Documents. Such insurance shall be in companies authorized to do business in the jurisdiction in which the Project is located with an A.M. Best's rating of at least A- VII and as a minimum shall include Workers' Compensation and Employer's Liability at statutory limits,

Automobile Liability covering all owned, hired and other non-owned vehicles and Commercial General Liability covering public liability, property damage and completed operations with limits not less than \$2,000,000 per occurrence. Certificates of such insurance shall be provided to Customer prior to commencement of the Work.

11.2 If required in the Contract Documents, and upon Customer's request and expense, ESCO shall provide payment and performance bonds for 100% of the Contract Price to secure the faithful performance of the Work, compliance with the terms of the Contract and to insure ESCO'S payment obligations to its Subcontractors and suppliers related to the Work. Notwithstanding any provision to the contrary herein, any payment and performance bonds associated with the Contract guarantee only the performance of the installation portion of the Contract, and shall not be construed to guarantee the performance of: (1) any efficiency or energy savings guarantees, (2) any support or maintenance service agreement, or (3) any other guarantees or warranties with terms beyond one (1) year in duration from the completion of the installation portion of the Contract.

## **ARTICLE 12 – TERMINATION OF THE CONTRACT**

12.1 If Customer fails to make payments to ESCO as required in the Contract, through no fault of ESCO, ESCO may, upon seven (7) days written notice to Customer, terminate the Contract and recover from Customer payment for all Work executed and for proven loss with respect to materials, equipment, tools, and machinery, including reasonable overhead, profit and damages applicable to the Project.

12.2 If Customer fails to fulfill any of its other obligations or responsibilities under the Contract Documents, ESCO may, after delivery of written notice and providing Customer seven (7) days to cure, terminate the Contract.

12.3 If ESCO breaches a material provision of the Contract, Customer has provided written notice to ESCO detailing the alleged breach, and within thirty (30) days of receipt of the written notice the alleged breach is either not cured or ESCO has not diligently commenced to cure such breach, Customer may make good such deficiencies and may deduct the cost thereof from the payment then or thereafter due ESCO.

12.4 Termination of any of the Contract Documents shall release ESCO of all remaining obligations under all of the Contract Documents as of the effective date of such termination.

12.5 Any remedies provided for in this Article 12, shall not be exclusive of any additional remedies available to a party pursuant to the Contract, in equity or in the law.

12.6 The Contract is contingent upon obtaining approval of the Energy Savings Plan from the Customer's third-party reviewer and the BPU. If the review and approval process yield a revised scope of work, the Contract will be amended accordingly. In the event that these approvals are not obtained, Customer may terminate the Contract after delivery of written notice to ESCO.

## **ARTICLE 13 – OTHER CONDITIONS OR PROVISIONS**

13.1 If any provision of the Contract is determined to be invalid, illegal, or unenforceable as written, such provision shall be construed consistent with and to the fullest extent permitted under the law and any such determination shall not affect or impair the validity, legality and enforceability of the remaining provisions.

13.2 Nothing herein shall be deemed to establish a relationship of principal and agent between ESCO and Customer, or any of their respective agents or employees, and the Contract and the Contract Documents may not be construed as creating any form of legal association or arrangement that would impose liability upon one party for the act or failure to act of the other party.

13.3 The Contract shall be governed by the laws of the state where the Project is located.

13.4 As between Customer and ESCO, any applicable statute of limitation shall commence to run and any alleged cause of action shall be deemed to have accrued (1) not later than the date of Substantial Completion for acts or failures to act occurring prior to the relevant date of Substantial Completion, or (2) not later than the date of the relevant act or failure to act by either party for acts or failures to act occurring after the date of Substantial

Completion.

13.5 ESCO shall prepare and provide and Customer agrees to participate in press release(s) and business case studies limited to the business relationship with ESCO and Customer's use of ESCO's services. Customer agrees to grant ESCO the right to use Customer's trademarks, for the term contained herein, in connection with press releases, case studies or website marketing, advertisement, promotion, sale, and distribution of ESCO's services. Prior written notice of use shall be provided to Customer by ESCO and Customer's written approval is necessary for any press releases or case studies.

13.6 The Contract sets forth the entire understanding between the parties and supersedes all prior oral or written understandings relating to the subject matter herein. The Contract may not be altered or modified except by a written instrument signed by a duly authorized representative of each party.

## SCHEDULE B: PHASE I SCOPE OF WORK

### CONTRACT PAYMENTS – PHASE I

The total of all implementation contract payments shall be \$8,473,225~~19,351,076~~ (the “Contract Price”) for the Phase I Scope of Work. Payments shall be made in accordance with Article 2.

### ENERGY CONSERVATION MEASURES (ECMS) – PHASE I

Customer hereby acknowledges and agrees that the scope of work shall be limited to, and ESCO shall only perform, the following:

#### ECM 2: BUILDING ENVELOPE IMPROVEMENTS

The following is a breakout of the Building Envelope scope by facility:

Task	Battle Hill ES	Administration	Bumet MS	Connecticut Farms ES	Franklin ES	Hamilton	Hannah Caldwell ES	Jefferson ES	Kawameed MS	Livingston ES	Union HS	Field House	Washington ES	Total
AC Unit Weatherization (Units)	48		52	20	9	29			31	32	18		18	257
Attic Air Barrier Retrofit (SF)				426			1,880			600				2,906
Attic Bypass Air Sealing (SF)					1,840					4,805				6,645
Attic Flat Insulation (SF)				19,467	3,565					12,100			9,904	45,036
Buck Frame Air Sealing (LF)							9	204						213
Caulking (LF)	808	60	18,850		7,842	4,785	43			13,847			12,526	58,761
Door - Install Jamb Spacer (Units)	15						4	1					8	28
Door Weather Stripping - Doubles (Units)	11	1	19	7	7	5	9	8	10	7	51	3	6	144
Door Weather Stripping - Singles (Units)	5	11	5	3	3	3	20	5	3	3	22	5	3	91
Overhang Air Sealing (LF)							105				10			115
Overhang Air Sealing (SF)							40							40
Overhead Door Weather Stripping (Units)		13	1						1		3			18
Roll-Up Door Weather Stripping (Units)							2							2
Roof-Wall Intersection Air Sealing (LF)	189					178	264	763			2,245	308		3,947
Unit Ventilator Air Sealing (Units)			25			8				12				45
Wall Air Sealing (LF)					102		351	279		470	1,044		359	2,605
Wall Air Sealing (SF)										60	390			450

#### Clarifications & Exclusions:

- Locations that are inaccessible due to safety will be excluded.
- Electrical Hazards – testing and/ or repair of hazardous electrical components (knob and tube wiring, open junction boxes, etc) that are encountered are excluded from the scope of work and pricing. Others are responsible for testing and/ or repair of electrical hazards.
- Hazardous Materials – testing, remediation and/ or removal of any potentially hazardous material that is encountered is excluded from the scope of work and pricing. Others are responsible for testing, remediation and/ or removal of potentially hazardous material.



- Debris & Storage Removal – this report does not include recommendations or pricing calculations to remove, relocate, or dispose of debris or storage in spaces included in this scope of work. ESCO is able to discuss removal alternatives with the client if self-removal is not a viable option for some or all of the areas to be treated.
- AC Chill Stop'R Covers – AC units installed into window panels and through walls are permanent fixtures in buildings. The Chill Stop'R covers recommended to be installed will need to be labeled and stored during summer months and reinstalled each heating season. The savings calculated in this report assume custodial and/or maintenance staff will be able to dedicate time to install and uninstall these units annually. After the first installation by a building envelope contractor, installation and removal will only involve twisting tabs to release or install covers from the wall.

### ECM 3: WATER FIXTURE RECOMMISSIONING

The following water conservation scope will be installed:

Site Information			Quantities							Scope of Work									
Building	Recommended Scope of Work Option #	In Scope of Work	Lavatory Sinks	General Use Sinks	Tank Toilets	Pressure Assist Toilets	Flushometer Toilets	Urinals	Wall Showers	Flushometer Fixtures					Tank Toilets		Sinks		
										Valve Recommissioning	Valve Rebuilding	Valve Replacement	Spud & Flushtube Replacement	Control Stop Modify/Replace	Handle-Mount Hands-Free	System Tuning	Retrofit Upgrade	Vandal Resistant Flow Control	Manual Faucet
Union HS & Field House	3	x	94	4	11	-	86	44	64	1	-	129	102	-	5	1	10	88	-
Burnet MS	3	x	45	1	1	-	59	28	-	-	-	81	51	-	3	-	1	40	-
Kawameeh MS	3	x	62	6	8	2	37	20	-	-	-	57	41	-	1	-	8	29	-
Jefferson ES	2	x	26	16	-	-	27	7	-	-	34	-	9	-	-	-	-	42	-
Battle Hill ES	3	x	29	16	13	-	30	14	-	-	-	44	23	-	-	-	13	45	-
Connecticut Farms ES	3	x	32	17	4	-	36	16	-	-	-	52	33	-	-	-	4	41	-
Franklin ES	3	x	21	22	-	-	36	10	-	-	-	46	27	-	-	-	-	38	-
Hannah Caldwell ES	3	x	44	39	2	-	48	9	-	-	-	57	35	-	-	-	2	83	-
Livingston ES	3	x	42	20	2	-	44	17	-	-	-	61	54	-	-	-	2	44	-
Washington ES	3	x	36	17	1	-	43	15	-	-	-	58	41	1	14	-	1	40	-
Administration Bldg	3	x	10	1	1	3	9	5	-	-	-	14	12	-	1	-	1	9	-
<b>Total</b>		x	<b>441</b>	<b>159</b>	<b>43</b>	<b>5</b>	<b>455</b>	<b>185</b>	<b>64</b>	<b>1</b>	<b>34</b>	<b>599</b>	<b>428</b>	<b>1</b>	<b>24</b>	<b>1</b>	<b>42</b>	<b>499</b>	<b>0</b>

China replacement is not included unless specified otherwise. Please refer to the Energy Savings Plan Appendices to see Fixture Line by Line.

#### Clarifications & Exclusions:

Scope excludes the following:

- Control Stops and Shut-Off Valves:
  - ESCO requires working flushometer control stops and shutoff valves at the time of implementation. Customer is responsible for ensuring control stop operation prior to installation commencement. Further, ESCO is not responsible for pre-existing conditions and is therefore not responsible for drips or non-function that results from normal exercise (open/close) of the control stops or shut-off valves. The Scope of Work hereunder entails rebuilding, adapting and/or replacing of non-functioning controls stops (flushometers) or shut-off valves (tank toilets and sinks) as shown in "Retrofit Quantities" in this scope. In all situations, Customer is responsible for shutting off

building water as needed.

- Sink Faucets and Peripherals:
  - ESCO will replace aerators on sink faucets that will accommodate aerators. ESCO excludes work relating to sink faucets, faucet valves, and other faucet peripherals unless identified in “Retrofit Quantities”. Further, ESCO excludes aerator replacement on faucets where the condition does not accommodate replacement (e.g. threads are worn, aerators is seized and cannot be removed). Further, ESCO is not responsible for pre-existing conditions and is therefore not responsible for non-function of a faucet that results from normal aerator removal and/or installation.
- Shower Peripherals:
  - ESCO is excluding Shower Peripherals and shower head
- Cast Iron Flanges:
  - ESCO excludes cast-iron flange repair/replacement.
- Wall Carriers:
  - ESCO excludes carriers for wall-hung toilets.
  - ESCO excludes replacement of existing/isolation shutoff valves.
- Costs incurred due to lack of access to required areas
- Hazardous material testing
- Hazardous material abatement
- Repair of floor tile
- Repair of floor covering types besides floor tile
- Repair of pre-existing water damaged floors or surfaces
- Repair of wall tile
- Repair of other wall covering types besides wall tile
- Architectural or access modifications for Americans with Disabilities Act, ADA compliance
- ADA fixture heights for toilet rooms for single occupant use
- Supply piping beyond individual fixture isolation valve or stop
- Clogs in newly installed equipment due to deteriorated piping or debris from the water supply
- Drainage, waste, or sewer piping
- Repair and replacement of supply water riser isolation valves
- No drawings applicable to water conservation will be included
- Damage to installed equipment if found to be due to fluctuations in system pressure or due to turning off the water supply

#### ECM 4: HIGH EFFICIENCY TRANSFORMERS

A transformer survey was performed during the investment grade audit and an inventory of existing equipment was compiled. Savings were calculated based on replacing the below listed equipment with higher efficiency transformers.

kVA	Existing Qty	Replacement Qty	Manufactured Date	Locations
High School				
75	1	1	1970	C-Wing Substation – Locker Rm
112.5	1	1	1970	L Sub – Sub A
150	2	2	1970	A Wing Sub – CBP & Auditorium

*Clarifications & Exclusions:*

Scope of work was determined based on savings and costs. Any transformers not listed in the table above is excluded from the scope of work.

## **ECM 5: WALK-IN REFRIGERATION CONTROLS**

### **High School**

2 Cooltrol® zones will provide savings by controlling the temperature, evaporator fans and door heaters on the entry doors of a walk-in cooler and freezer. 1-Door Freezer will be controlled. One (1) electric defrost will be intelligently controlled. In addition, the motors will also be replaced with EC motors (2 motors total).

### **Burnet Middle School**

2 Cooltrol® zones will provide savings by controlling the temperature, evaporator fans and door heaters on the entry doors of a walk-in cooler and freezer. 1-Door Freezer will be controlled. In addition, the motors will also be replaced with EC motors (6 motors total).

### *Clarifications & Exclusions:*

- Customer to provide access to ESCO installers. There is no need to empty the cooler, reschedule deliveries, or make any special arrangements, unless the cooler is so full that our installers are unable to work in it.
- Installation to be performed by ESCO licensed electricians during normal business hours.

## **ECM 6: SOLAR PHOTOVOLTAIC (PV) SYSTEM**

The following table summarizes the solar systems being provided as a part of this ESIP scope. This measure is a turn-key scope item that includes the engineering, procurement and construction of the scope item.

Building	PV System Size (kW)
High School	1,158.9
Burnet MS	398.5
Kawameeh MS	219
Jefferson CS	154.4
Battle Hill ES	172.3
CT Farms ES	174.6
Franklin ES	88.9
Hannah Caldwell ES	454.7
Livingston ES	111.3
Washington ES	78.6
<b>Total</b>	<b>3,011.2</b>

For solar panel layouts, please see the Appendix in the Energy Savings Plan.

### **Clarifications & Exclusions:**

1. Final system size could vary based on structural analysis and final design.
2. System will require routine maintenance required by manufacturer.
3. For sites with required roofing upgrades, roofing scope must be complete before solar can be installed at those sites.

**ECM 137: ROOF REPAIR, REPLACEMENT, & WARRANTY EXTENSION (DESIGN SERVICES)**

The following is a breakout of the existing roofs currently included for repair or replacement. ESCO will provide roofing design and creation of bid specifications with assistance from Customer’s architect.

Building	Roof Area (sq. ft.) included for repair or replacement	Existing Roof Type
High School - Partial	76,207	Built-up w/ asphalt flood coat and aggregate
Burnet MS	82,840	Built-up w/ asphalt flood coat and aggregate
Kawameeh MS – Warranty Extension	44,210	Built-up w/ asphalt flood coat and aggregate
Battle Hill ES	53,350	Built-up w/ asphalt flood coat and aggregate
Hannah Caldwell ES	50,341	Aluma-coat
Washington ES (flat section)	18,200	Built-up w/ asphalt flood coat and aggregate

For more information on roof conditions, please visit the Appendices in the Energy Savings Plan.

*Clarifications & Exclusions:*

Roof areas are subject to change based on final engineering.

This scope of work is only for the design, engineering, and bidding of the roofing repair and replacement. Customer will award and contract directly with the roofing contractor for the implementation of this scope of work.

## **ECM 68: DROP CEILING INSTALLATION**

This ECM is to provide the installation of new drop ceilings to facilitate new LED lighting fixtures.

### **Burnet Middle School**

- Remove and Replace 12,700 square feet (SF) of acoustical ceiling in all the hallways of the 2 floor and the Lobby area of the 1<sup>st</sup> floor.

### **Battle Hill**

- Remove and Replace 8,100 square feet (SF) of acoustical ceiling in all the hallways of the 1<sup>st</sup> and 2nd floor.

#### *Clarifications & Exclusions:*

New Lighting Fixtures will be provided by the lighting contractor under the Direct Install Program.

Removal or modification of all other devices such as clocks, cameras, fire alarms, etc will be performed by Customer within a reasonable timeframe and coordinated with lighting installation contractor to minimize delays in the drop ceiling and LED lighting fixture installations.

Matching of ceiling tile color and pattern shall be limited by current commercial availability should replacement tile be required. Similar or complementary tiles shall be provided where exact matches are not available.

## **ECM 97: STEAM TRAP REPLACEMENT**

ESCO will replace the following counts of steam traps at the following locations:

- High School – 77 traps to be replaced, 3 new insulation jackets, 5 radiator valves
- Burnet MS – 64 traps to be replaced, 9 new insulation jackets, 5 radiator valves
- Kawameeh MS – 19 traps to be replaced, 3 new insulation jackets
- Connecticut Farms ES – 21 Traps to be replaced, 1 new insulation jacket, 6 radiator valves
- Franklin ES – 32 Traps to be replaced, 7 radiator valves
- Livingston ES – 55 Traps to be replaced, 4 new insulation jackets, 15 radiator valves
- Washington ES – 35 Traps to be replaced, 2 new insulation jackets, 6 radiator valves

### *Clarifications & Exclusions:*

- Existing isolation valves are excluded.
- Equipment shutdown is required for this scope of work.



## **ECM 810: BUILDING AUTOMATION SYSTEM (BAS) UPGRADE**

The following section outlines the existing HVAC systems that will be incorporated into the new Schneider Electric EcoStruxure BAS Platform. Any new HVAC equipment, meters, or other devices that will be incorporated into the new BAS are outlined in their associated ECM description.

### **Union High School**

The existing DDC controls for the main steam/hot water plant will be integrated into the new BAS. The following systems will receive new DDC controls as part of the BAS upgrade:

- Main chilled water plant
- Gymnasium hot water plant
- Two (2) rooftop units (RTU 15 & 16)
- Five (5) rooftop units (*Auditorium, Wrestling, Fitness, Cafeteria*)
- Two (2) heating and ventilation units (Gym)
- Two (2) unit ventilators (*Gym*)
- One (1) split-system air conditioning unit (*Library*)

The following systems will receive enable/disable control incorporated into the new BAS:

- 117 unit ventilators
- Five (5) air handling units
- Three (3) ductless split-systems
- Twenty (20) split-system air conditioning units
- Eleven (11) rooftop units

### **Burnet Middle School**

The following systems will receive new DDC controls as part of the BAS upgrade:

- Steam plant
- One (1) rooftop unit (*Auditorium*)

The following systems will receive enable/disable control incorporated into the new BAS:

- Fifty-nine (59) unit ventilators
- Two (2) air handling units

### **Kawameeh Middle School**

The following systems will receive new DDC controls as part of the BAS upgrade:

- Steam plant
- One (1) split-system air conditioning unit (*Auditorium*)
- Two (2) air handling units (*Gym & Cafeteria*)

### **Connecticut Farms Elementary School**

The following systems will receive new DDC controls as part of the BAS upgrade:

- Steam plant
- Cafeteria fan

The following systems will receive enable/disable control incorporated into the new BAS:

- Twenty-eight (28) unit ventilators
- Two (2) rooftop units

**Franklin Elementary School**

The following systems will receive new DDC controls as part of the BAS upgrade:

- Steam plant
- Two (2) unit ventilators (*Cafeteria*)
- Three (3) rooftop units (*Associated with Direct Install*)

The following systems will receive enable/disable control incorporated into the new BAS:

- Thirty (30) unit ventilators
- Twenty-eight (28) split-system air conditioning units
- One (1) unit heater

**Hannah Caldwell Elementary School**

The following systems will receive new DDC controls as part of the BAS upgrade:

- Hot water plant
- Chilled/condenser water plant
- Two (2) split-system air conditioning units
- Five (5) ductless split-systems
- Thirty-one (31) unit ventilators
- Three (3) VAV rooftop units
- Fourteen (14) VAV boxes
- Nine (9) rooftop units
- Four (4) air handling units
- Fourteen (14) fan coil units

**Washington Elementary School**

The following systems will receive new DDC controls as part of the BAS upgrade:

- Steam plant
- Four (4) split-system air conditioning units (*Associated with Direct Install*)

The following systems will receive enable/disable control incorporated into the new BAS:

- Thirty-five (35) unit ventilators
- Six (6) rooftop units
- Four (4) ductless split-systems

**ECM 810: DEMAND CONTROLLED VENTILATION (DCV)**

The equipment associated with this scope of work will receive new DDC controls including a CO2 sensor and modulating electronic outside air damper actuator. The following is a breakout of the HVAC units included in the DCV scope by facility:

**Union High School:**

- One (1) auditorium rooftop unit
- Two (2) large gymnasium heating and ventilation units
- Two (2) small gymnasium unit ventilators
- One (1) wrestling room rooftop unit
- One (1) fitness room rooftop unit
- One (1) library split-system air conditioning unit
- Two (2) cafeteria rooftop units

**Burnet Middle School:**

- One (1) auditorium rooftop unit

**Kawameeh Middle School:**

- One (1) auditorium split-system air conditioning unit
- One (1) gymnasium air handling unit
- One (1) cafeteria air handling unit

**Connecticut Farms Elementary School:**

- One (1) cafeteria fan (*VFD instead of damper actuator*)

**Franklin Elementary School:**

- Two (2) cafeteria unit ventilators

**Hannah Caldwell Elementary School:**

- One (1) gymnasium air handling unit
- One (1) cafeteria air handling unit
- Two (2) auditorium air handling units

**Livingston Elementary School:**

- One (1) gymnasium heating and ventilation unit (*new controller will be standalone from the new BAS*)

**ECM 944: ROOFTOP UNIT & SPLIT SYSTEM REPLACEMENT**

This measure involves replacing the following unitary DX equipment:

**UNION HIGH SCHOOL**

EQUIPMENT	EXISTING (QTY.) – CAPACITY	NEW (QTY.) – CAPACITY	DESCRIPTION
DX RTU with HW Heat + DDC Controls	(2) – 7 tons, 10.9 EER	(2) – 7 tons, 14.0 EER	Serves G-wing rooms adjacent to Library.  New equipment is more energy efficient and includes code-compliant economizers.

**SCOPE INCLUDES:**

- Disconnect/reconnect existing electrical feeders at RTUs, install new NEMA-3R disconnect switches
- Drain and fill of HW piping as needed
- Refrigerant recovery
- Disconnect HW piping
- Remove, reinstall, and reconnect existing duct smoke detector
- Install new curb adapters
- Install new RTUs in same location
- Minor duct modifications to connect new AHU to existing ductwork
- Connect RTUs to HW supply and return piping, and insulate
- Install new HW control valves
- Testing and balancing of AHU only
- Local temperature control, and remote temperature control through BAS

~~**BURNET MIDDLE SCHOOL**~~

EQUIPMENT	EXISTING (QTY.) – CAPACITY	NEW (QTY.) – CAPACITY	DESCRIPTION
<del>Split DX with Steam Heat Auditorium + DDC Controls</del>	<del>(1) – 75 tons, Single zone CV, steam heat</del>	<del>(1) – 75 tons, Single zone VAV with Steam Heat.</del>	<del>Serves Auditorium.  New equipment is more energy efficient with VAV design and updated to current mechanical code.</del>

~~**SCOPE INCLUDES:**~~

- ~~▪ Disconnect/reconnect existing electrical feeders to AHU, reuse existing AHU disconnect switch~~
- ~~▪ Disconnect/reconnect existing electrical feeders to rooftop equipment, install new NEMA 3R disconnect switch on roof~~
- ~~▪ Remove, reinstall, and reconnect existing duct smoke detector~~
- ~~▪ Remove existing steam supply and condensate return piping as needed to access equipment pad~~
- ~~▪ Refrigerant recovery~~
- ~~▪ Remove AHU, condensing unit, and all associated refrigerant piping~~
- ~~▪ Install new AHU, condensing unit, and refrigerant piping, gas piping~~
- ~~▪ Minor duct modifications to connect new AHU to existing ductwork~~
- ~~▪ Testing and balancing~~
- ~~▪ Local temperature control, and remote temperature control through BAS~~

**HANNAH CALDWELL ELEMENTARY SCHOOL**

EQUIPMENT	EXISTING (QTY.) – CAPACITY	NEW (QTY.) – CAPACITY	DESCRIPTION
DX VAV RTU w/ HW Heat	(1) – 5 tons,	(1) – 5 tons,	Serves rooms adjacent to Media Rm.

+ DDC Controls	10.0 SEER	17.2 SEER	New equipment is more energy efficient and includes code-compliant economizers.
DX CV RTU w/ HW Heat +DDC Controls	(1) – 10 tons, 9.0 EER	(1) – 10 tons, 12.5 EER, single-zone VAV	Serves Media Rm. New equipment is more energy efficient and includes code-compliant economizers.

**SCOPE INCLUDES:**

- Disconnect/reconnect existing electrical feeders at RTU, install new NEMA-3R disconnect switches
- Refrigerant recovery
- Curb adapters as needed
- Install new RTUs in same location
- Duct smoke detectors
- Minor duct modifications to connect to new RTUs to existing ductwork
- Testing and balancing
- Local temperature control, and remote temperature control through BAS
- Existing duct-mounted HW coil to be reused

Additional split system and rooftop unit replacements will be performed by the Direct Install contractor. That scope of work is separate from this contract, and details can be found in the Appendix of the Energy Savings Plan.

## **ECM 102: HIGH SCHOOL MECHANICAL IMPROVEMENTS - NEW GYM AIR HANDLING UNITS W/ AC, HW CONVERTER REPLACEMENT, COMBINED HEAT AND POWER (CHP), & 40 TON CHILLER REPLACEMENT**

### **New Gym Air Handling Units with Air Conditioning**

The Gym HVAC units will be replaced with 2 packaged units that will sit on top of each of the locker room roofs. Connection to the existing air distribution system will be provided and the units will have DX Cooling and the existing heating coils in the space will be re-used for heating. The units combined will provide ventilation for 2500 occupants, which is the Fire Department's maximum occupancy for the space. For details of the design, please refer to the Appendix of the Energy Savings Plan.

### **Hot Water Converter Replacement**

This measure will demolish the existing steam-to-hot water exchanger and hot water distribution pumps in the mechanical closet, and tie piping into the existing plant loop served by two (2) existing condensing boilers across from the weight room. During the IGA, it was determined that the existing boilers have enough excess heating capacity to pick up the additional heating zones. New zone distribution pumps equipped with VFDs for soft start will be provided.

### **Combined Heat & Power (CHP) System**

ESCO will provide a combined heat and power (CHP) system. The CHP unit will be able to generate power and capture the byproduct heat to use for the DHW load year-round. A single 35 kW natural gas engine generator will feed power back to the main electrical feed for that school. The installation of a dedicated water loop between the engine and a new DHW exchanger will provide DHW heating to the locker rooms in both winter and summer and an additional level of redundancy to the existing Domestic hot water system.

### **40-Ton Chiller Replacement**

ESCO will provide an air-cooled replacement of the existing split barrel chiller. Demo of the existing chiller will be done by ESCO. New Chiller will be placed on rooftop and chilled water piping will be extended from mechanical space to new unit. Any exposed piping will be jacketed and insulated and provided with freeze protection.

## ECM 113: NEW CHILLER, COOLING TOWER, AND PUMPS WITH CONTROLS – HANNAH CALDWELL ES

This measure involves replacing the chiller, cooling tower, primary pumps, and ancillary plant components identified below.

The following table identifies equipment quantity and sizes being upgraded:

EQUIPMENT	EXISTING (QTY.) – CAPACITY	NEW (QTY.) – CAPACITY	EFFICIENCY UPGRADE
Water-cooled Chiller	(1) – 180 tons	(1) – 180 tons	Variable speed screw compressor
Cooling Tower	(1) – 180 tons	(1) – 180 tons	Induced draft tower with variable speed fan
Chilled Water Pumps	(1) – 3 hp	(2) – 5 hp	Soft start VFDs; add standby pump and pad
Condenser Water Pumps	(1) – 10 hp	(2) – 7.5-10 hp	Soft start VFDs; add standby pump and pad
ADDITIONAL COMPONENTS BEING UPGRADED:			
Air Dirt Separator, Expansion Tank, Refrigerant Leak Detector, Emergency Ventilation Fan			

### SCOPE INCLUDES:

- Disconnect/reconnect existing electrical feeders to cooling tower, install new NEMA-3R disconnect switch
- Disconnect/reconnect existing electrical feeders to existing condenser water pump location
- Disconnect existing electrical feeders to chiller, existing chilled water pump location, and existing exhaust fan location, install new feeders and breakers
- Run new electrical feeders and breakers to new chilled water and condenser water standby pumps
- Refrigerant recovery
- Disconnect chilled water, condenser water, makeup water and drain piping from chiller, chilled water pump, cooling tower, and condenser water pump as necessary
- Demo existing chiller, chilled water pump, air separator, expansion tank, cooling tower, condenser water pump, exhaust fan, and refrigerant leak detector
- Existing equipment pads will be reused, new equipment pads to be poured for standby chilled water and condenser water pumps
- Scrape, prime, and paint existing rooftop cooling tower structural steel and exposed condenser water piping
- Install new cooling tower, chiller, chilled water pumps, condenser water pumps, air and dirt separator, expansion tank, refrigerant leak detector, and exhaust fan
- Connect new equipment to existing piping, install new cooling tower drain and overflow, insulate chilled water piping
- Reuse existing exhaust fan louver, route new exhaust duct to chiller
- New DDC controls on new plant equipment, tied into BAS
- Testing and balancing of new equipment
- Existing secondary zone pumps and zone valves to remain
- Existing water treatment controller and metering pumps to remain
- No significant changes to plant control strategy (2-pipe HW/CHW changeover system)

**~~ECM 14: STEAM BOILER PLANT REPLACEMENT WITH CONTROLS~~**

~~This measure involves replacing or upgrading the steam generation components at Franklin Elementary School.~~

~~The following table identifies equipment quantity and sizes being upgraded:~~

SCHOOL	EXISTING	NEW	EFFICIENCY UPGRADE
	(QTY.) CAPACITY	(QTY.) CAPACITY	
Franklin ES	<del>(2) 80 hP, 3,350 MBH input, 78.1% efficient</del>	<del>(2) 72 hP, 3,000 MBH input, 80% efficient</del>	<del>PLC Control, Parallel Positioning, O2 Trim, Variable Speed Blower</del>

**~~SCOPE INCLUDES:~~**

- ~~▪ Disconnect existing electrical feeders to boilers, install new feeders to new boilers (reuse existing breakers)~~
- ~~▪ Remove/replace existing 6" water heater flue as needed for demo and installation of new boilers~~
- ~~▪ Demo existing steam boilers, boiler panels, and feedwater pump system~~
- ~~▪ Disconnect and save chemical tank, injection pump, and related tubing for reuse~~
- ~~▪ Use of old coal delivery chute for removal and installation of boiler room equipment~~
- ~~▪ Perform chimney inspection and report findings/recommendations to the Customer for necessary repairs~~
- ~~▪ Install new steam boilers, reusing existing pads~~
- ~~▪ Install new boiler feedwater system (dual pump), reusing existing condensate return and existing vent piping~~
- ~~▪ Connect boilers to existing steam supply, makeup water, gas piping, and new feedwater system~~
- ~~▪ Install new flue for each boiler, manifold together, and connect to existing chimney stack~~
- ~~▪ Install new boiler drain piping to existing floor drains~~
- ~~▪ Install new blowdown separator, condensate aftercooler, and backflow preventer~~
- ~~▪ Install drainable louver at existing 42"x36" OA louver location with OA duct to boilers~~
- ~~▪ Install new EPO switch at exit doorway~~
- ~~▪ New DDC controls on new plant equipment, tied into BAS~~
- ~~▪ Testing and balancing of new equipment~~



#### **CLARIFICATIONS AND EXCLUSIONS:**

- The Direct Install Program is sponsored by the NJ Clean Energy Program and the scope of work being performed within that program, as indicated in the Energy Savings Plan, is outside of this contract.
- Roofing scope will be conducted outside of this contract. This contract allows for the engineering and creation of bid packages for procurement, but the implementation contract with the winning bidder will be held by Customer.
- ESCO may reuse existing equipment including (but not limited to) valves, dampers, and actuators for the execution of this contract, and assumes the equipment or devices are in good working order. Should the equipment or devices require repair or replacement, this will be the responsibility of the owner unless specifically indicated otherwise in the scope of work. ESCO will create an equipment deficiency report (EDR) to provide the owner with written notification if such equipment or devices are identified.
- ESCO will only control equipment and/or devices shown in the Scope of Work. Equipment and devices not in the Scope of Work are excluded. ESCO is not responsible for the functionality of such equipment even if such equipment is operated by an existing BAS.
- Matching of ceiling tile color and pattern shall be limited by current commercial availability should replacement tile be required. Similar or complementary tiles shall be provided where exact matches are not available.
- Demolition of the existing HVAC controls / building automation equipment will be performed as needed to implement the new DDC system installation (reuse of enclosures, wire, and end devices will be solely at the discretion of ESCO). The total demolition of any remaining abandoned or obsolete control elements will be the responsibility of the owner, unless otherwise stated.
- ESCO is not responsible for safeties on existing equipment including smoke detectors, fire alarm interlocks, and low or high temperature cut-outs or any life safety equipment. Pre and post testing of smoke, fire, and life safety systems will be the responsibility of the customer and the sequence will be provided to ESCO. Where life safety equipment utilizes compressed air (pneumatics), the source of the air, logic, and actuators will not be removed or modified within the execution of the project.
- Exhaust fans controlled by occupancy sensors or local switches, that are process / life safety related, or that do not move air beyond the building envelope will not be integrated with the building management system.
- ESCO will not be responsible for any modification or expansion of the owner's existing WAN/LAN for the execution of this project. Owner to provide ESCO with designated open port(s) as required at existing network switches in all facilities within this scope of work. ESCO to provide CAT5e Ethernet cable from control equipment to Owner network switch.
- Where new control panels are to be installed, conduit will be installed from the panel knock-out to a height of 8' or the level of the finished ceiling if present – whichever is lower – for all low voltage wiring. Conduit will not be required in other applications unless otherwise indicated by the scope of work above. All wiring shall be in compliance with local codes and authorities having jurisdiction.
- Asbestos abatement of any kind is excluded.
- Hazardous material abatement of any kind is excluded.
- Costs of providing access, access control, or security escorts not specified in the Scope of Work are excluded.
- Hydronic / airflow testing and balancing on existing HVAC equipment will not be included as part of the controls scope of work.
- Repair of existing HVAC and control equipment beyond the scope of work above is excluded.
- Any repair patching of existing walls, sheetrock, plaster, brick, wood, etc due to the removal of existing thermostats (for retrofit with DDC Sensor or new thermostat) is excluded.

## SCHEDULE C: PHASE II SCOPE OF WORK

### CONTRACT PAYMENTS – PHASE II

The total of all implementation contract payments shall be \$10,877,850 (the “Contract Price”) for the Phase II Scope of Work. Payments shall be made in accordance with Article 2.

### ENERGY CONSERVATION MEASURES (ECMS) – PHASE II

Customer hereby acknowledges and agrees that the scope of work shall be limited to, and ESCO shall only perform, the following:

#### ECM 126: SOLAR PHOTOVOLTAIC (PV) SYSTEM

The following table summarizes the solar systems being provided as a part of this ESIP scope. This measure is a turn-key scope item that includes the engineering, procurement and construction of the scope item.

<u>Building</u>	<u>PV System Size (KW)</u>
<u>High School</u>	<u>1,158.9</u>
<u>Burnet MS</u>	<u>398.5</u>
<u>Kawameeh MS</u>	<u>219</u>
<u>Jefferson CS</u>	<u>154.4</u>
<u>Battle Hill ES</u>	<u>172.3</u>
<u>CT Farms ES</u>	<u>174.6</u>
<u>Franklin ES</u>	<u>88.9</u>
<u>Hannah Caldwell ES</u>	<u>454.7</u>
<u>Livingston ES</u>	<u>111.3</u>
<u>Washington ES</u>	<u>78.6</u>
<u>Total</u>	<u>3,011.2</u>

For solar panel layouts, please see the Appendix in the Energy Savings Plan.

#### Clarifications & Exclusions:

4. Final system size could vary based on structural analysis and final design.
5. System will require routine maintenance required by manufacturer.
6. For sites with required roofing upgrades, roofing scope must be complete before solar can be installed at those sites.

## ECM 14: BURNET AUDITORIUM HVAC RENOVATION WITH COOLING ADDITION

### BURNET MIDDLE SCHOOL

<u>EQUIPMENT</u>	<u>EXISTING</u> (QTY.) – CAPACITY	<u>NEW</u> (QTY.) – CAPACITY	<u>DESCRIPTION</u>
<u>Split DX with Steam Heat – Auditorium + DDC Controls</u>	<u>(1) – 75 tons, Single-zone CV, steam heat</u>	<u>(1) – 75 tons, Single zone VAV with Steam Heat.</u>	<u>Serves Auditorium. New equipment is more energy efficient with VAV design and updated to current mechanical code.</u>

#### SCOPE INCLUDES:

- Disconnect/reconnect existing electrical feeders to AHU, reuse existing AHU disconnect switch
- Disconnect/reconnect existing electrical feeders to rooftop equipment, install new NEMA-3R disconnect switch on roof
- Remove, reinstall, and reconnect existing duct smoke detector
- Remove existing steam supply and condensate return piping as needed to access equipment pad
- Refrigerant recovery
- Remove AHU, condensing unit, and all associated refrigerant piping
- Install new AHU, condensing unit, and refrigerant piping, gas piping
- Minor duct modifications to connect new AHU to existing ductwork
- Testing and balancing
- Local temperature control, and remote temperature control through BAS

## ECM 154: STEAM BOILER PLANT REPLACEMENT WITH CONTROLS

This measure involves replacing or upgrading the steam generation components at Franklin Elementary School.

The following table identifies equipment quantity and sizes being upgraded:

<u>SCHOOL</u>	<u>EXISTING</u> (QTY.) – CAPACITY	<u>NEW</u> (QTY.) – CAPACITY	<u>EFFICIENCY UPGRADE</u>
<u>Franklin ES</u>	<u>(2) – 80 hP, 3,350 MBH input, 78.1% efficient</u>	<u>(2) – 72 hP, 3,000 MBH input, 80% efficient</u>	<u>PLC Control, Parallel Positioning, O2 Trim, Variable Speed Blower</u>

### SCOPE INCLUDES:

- Disconnect existing electrical feeders to boilers, install new feeders to new boilers (reuse existing breakers)
- Remove/replace existing 6” water heater flue as needed for demo and installation of new boilers
- Demo existing steam boilers, boiler panels, and feedwater pump system
- Disconnect and save chemical tank, injection pump, and related tubing for reuse
- Use of old coal delivery chute for removal and installation of boiler room equipment
- Perform chimney inspection and report findings/recommendations to the Customer for necessary repairs
- Install new steam boilers, reusing existing pads
- Install new boiler feedwater system (dual pump), reusing existing condensate return and existing vent piping
- Connect boilers to existing steam supply, makeup water, gas piping, and new feedwater system
- Install new flue for each boiler, manifold together, and connect to existing chimney stack
- Install new boiler drain piping to existing floor drains
- Install new blowdown separator, condensate aftercooler, and backflow preventer
- Install drainable louver at existing 42”x36” OA louver location with OA duct to boilers
- Install new EPO switch at exit doorway
- New DDC controls on new plant equipment, tied into BAS
- Testing and balancing of new equipment

Testing and balancing of new equipment

# **SCHEDULE DC: PROJECTED SAVINGS AND OPERATING CONDITIONS**

## **PROJECTED ANNUAL SAVINGS**

The projected savings from the project is presented in the table below.

Annual Projected Savings			
Electricity	Natural Gas	Water	Operations & Maintenance
\$757,121	\$106,386	\$19,836	\$71,436

The projected savings in the table above are provided for reference only and are not intended to construe a savings guarantee by meter, facility, or energy unit.

## **COMMON ECM ASSUMPTIONS**

### **WEATHER DATA SOURCE**

Data for weather compensation adjustments will be actual climate data obtained from the National Weather Service Station at Newark, NJ. In the event the specified weather station is de-activated, weather data will be collected from the nearest weather station with suitable observations. If the data source becomes unavailable or a superior source is identified, ESCO may select an alternative data source with Customer's approval.

### **ANNUAL CALENDAR OF EVENTS**

Provided below is a table summarizing the annual calendar of events that will be used as a basis in calculations, unless otherwise specified. In the event that there are any changes or deviations to this annual calendar, an appropriate adjustment will be made in accordance with the "Adjustment Schedule" set forth in Schedule 5 of the PASS Agreement.

# 2019-2020 School Calendar

## TOWNSHIP OF UNION PUBLIC SCHOOLS

2369 Morris Avenue  
 Union, New Jersey 07083  
 (Phone) 908.851.6400  
 (Fax) 908.851.6421



July 2019						
S	M	T	W	T	F	S
		1	2	3	4	5
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

August 2019						
S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

September 2019						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

Days: 17

October 2019						
S	M	T	W	T	F	S
			1	2	3	4
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

Days: 21

November 2019						
S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

Days: 16

December 2019						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

Days: 15

Sept 2	Closed - Labor Day
Sept 3	Townwide Staff Meeting
Sept 4	Staff Development Workshop
Sept 5	First Day of School
Sept 30	Closed - Rosh Hashanah
Oct 9	Closed - Yom Kippur
Oct 14	Closed - Columbus Day
Oct 23	Half Day - Staff Development
Nov 5	Closed - Election Day
Nov 7-8	Closed - NJEA Convention
Nov 27	Half Day - Thanksgiving Recess
Nov 28-29	Closed - Thanksgiving Recess
Dec 11	Half Day - Staff Development
Dec 20	Half Day - Christmas Recess
Dec 23-31	Closed - Christmas Recess
Jan 1	Closed - New Year's Day
Jan 6	Half Day - Staff Development
Jan 20	Closed - Martin L. King Jr. Day
Jan 22-28	Half Days - (UHS STUDENTS ONLY)
Feb 12	Half Day - Staff Development
Feb 17	Closed - President's Day
Mar 18	Half Day - Staff Development
Apr 10	Closed - Good Friday
Apr 13-17	Closed - Spring Recess
May 22	Half Day - Memorial Day Wknd
May 25	Closed - Memorial Day
June 19-24	Last 4 Half Days
June 24	Last Day of School High School Graduation

### School Days: 185

**\*NOTE:** 185 School Days incorporates 5 days into the calendar for anticipated school closings due to inclement weather. If more days are needed, the emergency closing days will be made up as follows:

Closed	Make Up
6th day	April 17
7th day	April 16
8th day	April 15

June 23rd is confirmed as High School Graduation

January 2020						
S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

Days: 27

February 2020						
S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

Days: 19

March 2020						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

Days: 22

April 2020						
S	M	T	W	T	F	S
				1	2	3
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

Days: 16

May 2020						
S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

Days: 20

June 2020						
S	M	T	W	T	F	S
						1
2	3	4	5	6		
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

Days: 18

In the event the 5 snow days are not utilized, the days will be subtracted from the school year as follows:

Legend	
<span style="background-color: #cccccc; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span>	School Closed
<span style="background-color: #e0e0e0; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span>	Half Day
<span style="background-color: #d3d3d3; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span>	Half Day - Students Only
<span style="border: 2px solid black; border-radius: 50%; display: inline-block; width: 10px; height: 10px;"></span>	First & Last Day of School

<b>1st Remaining Day:</b>	School Closed - Friday, May 22nd
<b>2nd Remaining Day:</b>	School Closed - Thursday, May 21st
<b>3rd Remaining Day:</b>	School Closed - Tuesday, May 26th
<b>4th Remaining Day:</b>	School Closed - Wednesday, May 27th
<b>5th Remaining Day:</b>	School Closed - Thursday, May 28th

	2-Hour Delay	Early Dismissal
UHS	9:35am	11:35am
MIDDLE	10:03am	12:00pm
JEFF	10:10am	12:20pm
ELEM.	10:45am	1:00pm
PRE-K	no am class	11:30am

**BUILDING OCCUPANCY SCHEDULES**

Provided below is a table summarizing the building occupancy schedules used within the calculations, unless otherwise specified. In the event that there are any changes or deviations to this occupancy schedule, an appropriate adjustment will be made in accordance with the Adjustment Schedule set forth in Schedule 5 of the PASS Agreement.

Space Type	Occupied Periods		
	Days	Start	End
Administration / Offices	M-F (ES, MS)	7:00 AM	4:00 PM
	M-F (Admin, HS)	7:00 AM	5:00 PM
	M-F	7:00 AM	4:00 PM
Media Centers	M-F (MS, HS)	7:00 AM	5:00 PM
	Sat-Sun (MS)	10:00 AM	2:00 PM
Classrooms	M-F (ES, MS)	7:00 AM	4:00 PM
	M-F (HS)	7:00 AM	5:00 PM
Kitchens	M-F	7:00 AM	4:00 PM
Cafeterias	M-F (ES)	7:00 AM	4:00 PM
	M-F (MS)	7:00 AM	5:00 PM
	M-F (HS)	7:00 AM	7:00 PM
	Sat-Sun (MS)	10:00 AM	2:00 PM
	Sat-Sun (HS)	10:00 AM	3:00 PM
Multi-purpose Rooms	M-F	7:00 AM	4:00 PM
	Sat-Sun	10:00 AM	2:00 PM
Gymnasiums	M-F	7:00 AM	4:00 PM
	Sat-Sun (MS)	10:00 AM	2:00 PM
	Sat-Sun (HS)	10:00 AM	3:00 PM
Auditoriums	M-F (ES)	7:00 AM	4:00 PM
	M-F (MS)	7:00 AM	5:00 PM
	M-F (HS)	7:00 AM	7:00 PM
	Sat-Sun (MS)	10:00 AM	2:00 PM
	Sat-Sun (HS)	10:00 AM	3:00 PM

HVAC

systems will be engaged prior to start of occupied times in order to meet occupied setpoints by start times listed above. All non-school days will be set at unoccupied temperatures with exception only for specific locations that are utilized.

**STANDARDS OF SERVICE AND COMFORT**

Provided below is a table summarizing the temperature setpoints used within the calculations, unless otherwise specified. Customer agrees to operate the conditioned spaces in the facilities within the temperature ranges scheduled in the table below for sites that are able to maintain setpoints through the BAS. In the event that there are any changes or deviations to these standards of service and comfort, an appropriate adjustment will be made in accordance with the Adjustment Schedule set forth in Schedule 5 of the PASS Agreement.

	Heating	Cooling
Occupied	70°F	74°F
Unoccupied	55°F	85°F

## **MAINTENANCE RESPONSIBILITIES**

Customer acknowledges and agrees that proper maintenance is essential to any energy conservation program. Therefore, Customer agrees to undertake the following responsibilities:

Customer agrees to use its best efforts to maintain the ECMs in original operating condition (“Original Operating Condition”) with allowance for normal wear and tear. Customer will agree to maintain all parts of the Project site(s) where the ECM(s) reside including but not limited to components, equipment, machinery, energy management systems, structure of the facility(s), computer hardware, network and IT systems, either existing or newly installed. Customer must comply with the general maintenance requirements specified by equipment manufacturers and the maintenance tasking guidelines included in the operating and maintenance manual.