REQUEST FOR EXPRESSION OF INTEREST
ADMINISTRATION OF HVAC CONTROLS & REPAIRS
FOR WEST VIRGINIA NORTHERN COMMUNITY COLLEGE
EOI 20172

OVERVIEW

The West Virginia Council for Community and Technical College Education ("Council") is seeking Expressions of Interest ("EOI") from HVAC engineering firms experienced in designing and providing installation oversight services to HVAC control systems, equipment, as well as quality assurance of HVAC repairs of existing equipment associated with West Virginia Northern Community College ("WVNCC").

WVNCC is a public 2-year higher education institution. The College provides traditional classroom learning for degree seeking students, technical training in a variety of trades, and resources for workforce development meeting the needs of the local business and industry.

The Weirton and New Martinsville campuses each have a single building, while the Wheeling campuses operates six buildings, but the project will only be in five of those; the Maintenance Garage being excluded from the Wheeling campus buildings. WVNCC is experiencing challenges in regulating temperature and efficient equipment operations at all three of its campuses.

Over time, HVAC equipment of different brands have been installed by different vendors. Likewise, HVAC controls have been independently installed and are not necessarily compatible with existing equipment/systems. The multiple systems are creating inefficiencies in operation, maintenance, and energy efficiency. In addition, many components of the systems are failing because they have reached end of life.

WVNCC's goal is to make a significant investment to 1) unify controls across all campuses, 2) address malfunctioning equipment to provide stable environmental conditions, and 3) gain significant energy savings and efficiency.

WVNCC does not see the RFP process as a low-bid process, but cost will be an important consideration. Ultimately, the contract will be awarded to the vendor who offers the best overall solution based on our analysis of the proposals and negotiations with the vendor.

SCOPE OF SERVICES

An investment grade audit was commissioned by WVNCC and the scope of work for HVAC controls and HVAC repairs was created. The College looks to build on that audit. However, a firm responding to this EOI may differ in strategy and/or methodology to accomplish the goal. Firms may deviate from the scope of work provided it is clear and easily understandable.

The selected firm will work with Council staff and WVNCC's faculty and staff to: (1) Review, modifying where necessary, a previously developed scope of work for an HVAC controls system meeting all standard building codes, safety requirements, etc.; (2) Review, modifying where necessary, a previously developed scope of work for HVAC repairs of existing equipment; (3) Develop documents suitable for vendors to bid on the two work scopes: (a) HVAC Controls, and (b) Repairs of existing equipment; and (4) provide construction administration services.

EXPRESSIONS OF INTEREST AND EVALUATION

Firms interested in being considered for this engagement should provide the following which the Council and WVNCC staff will use to evaluate and select the firm that the staff believes to be the best qualified to provide the services requested:

1. Relevant prior experience of the firm and its proposed consultants (if any), the "project team," with similar projects.
2. Perceived quality of the firm's management and project team's capability to provide the services identified above. The firm will be expected to clearly demonstrate that it has the expertise and flexibility to work with Council and WVNCC staff to meet program objectives.
3. Determination that the firm and project team is of sufficient size and has the capability to handle the project by providing services on a timely basis and within the fee agreed to at the outset.
4. Firm's and project team's enthusiasm about this particular engagement; perceived ability to work effectively with the Council and WVNCC staff to produce an end product that is efficient and easily managed.

Interested firms should submit a brochure covering the evaluative criteria above as well as the firm's history, resumes of principals and proposed project team, organizational arrangement, and at least four references from recent clients with similar projects.

Expressions of interest will be used to select the most experienced and qualified firm and project team (in the Council and WVNCC staff's opinion). Firms under final consideration may be interviewed prior to final decision. A fee and a not-to-exceed amount for expenses will be negotiated with the selected firm.

OTHER INFORMATION

In the event that mutually acceptable terms cannot be reached within a reasonable period of time, the Council reserves the right to undertake negotiations with the next most advantageous firm or firms without undertaking a new procurement process. The project engineer shall be licensed to practice engineering in the State of West Virginia, and any consulting engineers of record shall be registered professional engineers in the State of West Virginia. The successful firm shall be a registered vendor with the Purchasing Division, WV Department of Administration, and have a valid vendor number. The form of agreement will be AIA Document B101-2017, Standard Form of Agreement Between Owner and Architect, with the State of West Virginia Supplementary Conditions to AIA Document B101. The successful firm shall provide professional liability, general liability, automobile liability, and workers compensation insurance for the duration of the project as identified below:

- Minimum limits of insurance required for this project are as follows:
  - General Liability: $1,000,000 per occurrence, $2,000,000 aggregate;
  - Automobile Liability: $1,000,000 combined single limit;
  - Workers Compensation: West Virginia Statutory requirements including WV Code §23-4-2 (Mandolidis); and
  - Professional Liability: $1,000,000 each occurrence on a claims made basis.

The following is a list of Exhibits that are attached and are applicable to this EOI:

- Exhibit A, Instructions to Bidders
- Exhibit B, Terms and Conditions
- Exhibit C, No-Debt Affidavit

- Exhibit D, State of West Virginia Supplementary Conditions to AIA Document B101
- Exhibit E, Investment Grade Audit
- Exhibit F, RFP Draft of HVAC Controls (Example)
- Exhibit G, RFP Draft of HVAC Repairs (Example)

SUBMITTING EXPRESSIONS OF INTEREST

Please submit an original Expression of Interest in a three-ring loose-binder suitable for photocopying, and one complete copy on a flash drive.

Faxed or emailed Expressions of Interest will not be accepted. All documents/information submitted in response to this solicitation will be considered public information after an award is made and will be subject to the West Virginia Freedom of Information Act.

The Council will not be responsible for expenses incurred in the preparation and/or presentation of Expressions of Interest, or for any oral interviews, or for the disclosure of any material or information received in connection with this request for proposals.

Written questions concerning the EOI will be received until 5:00 PM, Eastern Time, July 2, 2020, at the mailing address or email address below. Please reference EOI 20172 in the subject line of emailed questions. Questions will be answered by addendum posted on the following webpage by July 8, 2020. It is the responsibility of the vendor (A/E firm) to check this webpage for current information regarding the EOI: https://wvhepc.org/purchasing/

Expressions of Interest shall be submitted in a sealed envelope or package. Faxed or emailed EOIs will not be accepted. Expressions of Interest will be received until 3:00 PM, Eastern Time, July 16, 2020, by:

Chief Procurement Officer
EOI 20172
West Virginia Council for Community and Technical College Education
1018 Kanawha Boulevard, East, Suite 700
Charleston, West Virginia 25301
681-313-2212
Rich.Donovan@wvhepc.edu

INSTRUCTIONS TO BIDDERS

(Purchases greater than $25,000)

1. BIDDER'S REPRESENTATIONS: The bidder, by making a bid, represents that: (a) the bidder has read and understands the bidding documents, terms and conditions, and the bid is made in accordance therewith; and (b) the bid is based upon the materials, equipment, systems, printing and/or services specified.

2. QUALITY STANDARDS: Brand names, when identified, include the standard of quality, performance or use desired. Unless otherwise noted, bids by bidders on equivalents may be considered, provided the bidder furnishes descriptive literature and other proof required by the Institution. Samples, when required, must be furnished free of charge, including freight. In the event the Institution elects to contract for a brand purported to be an equivalent by the bidder, the acceptance of the item will be conditioned on the Institution's inspection and testing after receipt. If, in the sole judgment of the Institution, the item is determined not to be equivalent, the item will be returned at the Seller's expense and the contract terminated.

3. SUBMISSION OF BIDS: The bid, the bid security, if any, and other documents required to be submitted with the bid shall be enclosed in a sealed opaque envelope. The envelope shall be addressed to the party receiving the bids and shall be identified as a "Sealed Bid," and shall include the bid number, the bid opening time, and the bid opening date. Bids shall be delivered and deposited at the designated location prior to the time and date for receipt of bids. Bids received after the time and date for the bid opening will be returned unopened. The bidder shall assume full responsibility for timely delivery at the location designated for receipt of bids. Oral, telephonic, facsimile or telegraphic bids are invalid and will not receive consideration.

4. MODIFICATION OR WITHDRAWAL OF BIDS: Prior to the time and date designated for receipt of bids, a bid submitted may be modified or withdrawn by notice to the party receiving bids at the place designated for receipt of bids. Such notice shall be in writing over the signature of the bidder and shall be received prior to the designated time and date for receipt of bids. A modification shall be worded so as not to reveal the amount of the original bid. A withdrawal may be made by facsimile or electronic transmission. A modification may also be made by facsimile or electronic transmission if the final bid result is not revealed prior to the bid opening.

5. OPENING OF BIDS: Bids shall be publicly opened and read aloud at the designated location for receipt of bids shortly after the time and date bids are due.

6. REJECTION OF BIDS: The Institution shall have the right to reject any and all bids, in whole or part; to reject a bid not accompanied by a required bid security or other data required by the bidding documents; or reject a bid which is in any way incomplete or irregular.

7. ACCEPTANCE OF BID (AWARD): It is the intent of the Institution to award a contract to the lowest responsible and responsive bidder provided the bid does not exceed the funds available. The Institution shall have the right to waive informalities or irregularities in a bid received and to accept the bid, which in the Institution's judgment, is in the Institution's own best interests. All bids are governed by the West Virginia Code and the Procedural Rules of the Commission.

8. VENDOR REGISTRATION: Prior to any award for purchases exceeding $15,000, the apparent successful bidder must be properly registered with the W. Va. Department of Administration, Purchasing Division, and have paid the required vendor registration fee.

9. NON-FUNDING: All services performed or goods delivered under State Purchase Orders/Contracts are to be continued for the term of the Purchase Order/Contract, contingent upon funds being appropriated by the Legislature or otherwise being made available. In the event funds are not appropriated or otherwise available for these services or goods, this Purchase Order/Contract becomes void and of no effect after June 30.

10. PAYMENTS AND INTEREST ON LATE PAYMENTS: Payment may only be made after the delivery and acceptance of goods or services. Interest may be paid for late payment in accordance with the West Virginia Code.

11. RESIDENT VENDOR PREFERENCE: A resident vendor preference will be granted upon written request in accordance with the West Virginia Code.

12 TAX EXEMPTION: The State of West Virginia, the Commission, Governing Board and its institutions are exempt from federal and state taxes and will not pay or reimburse such taxes.

TERMS AND CONDITIONS

1. ACCEPTANCE: Vendor shall be bound by this Order and its terms and conditions upon receipt of this Order. This Order expressly limits acceptance to the terms and conditions stated herein. Additional or different terms proposed by the Vendor are objected to and are hereby rejected, unless otherwise provided for in writing by the Institution and approved by the Attorney General.

2. APPLICABLE LAW: The laws of the State of West Virginia and the Procedural Rules of the Higher Education Policy Commission shall govern all rights and duties under the Contract, including without limitation the validity of this Purchase Order/Contract.

3. ASSIGNMENT: Neither this Order nor any monies due, or to become due hereunder, may be assigned by the Vendor without the Institution's consent.

4. INSTITUTION: For the purposes of these Terms and Conditions, the "Institution" means the institution purchasing goods and services for which a Purchase Order has been lawfully issued to the Vendor.

5. CANCELLATION: The Institution may cancel any Purchase Order/Contract upon 30 days written notice to the Vendor.

6. COMPLIANCE: Vendor shall comply with all federal, state and local laws, regulations and ordinances including, but not limited to, the prevailing wage rates of the W. Va. Division of Labor, if applicable.

7. DELIVERY: For exceptions to the delivery date as specified in the Order, the Vendor shall give prior notification and obtain the approval of the Institution. Time is of the essence of this Order and it is subject to termination by the Institution for failure to deliver on time.

8. DISPUTES: Disputes arising out of the agreement shall be submitted to the West Virginia Court of Claims.

9. HOLD HARMLESS: The Institution will not agree to hold the Vendor or any other party harmless because such agreement is not consistent with state law.

10. MODIFICATIONS: This writing is the parties' final expression of intent. No modification of this Order shall be binding unless agreed to in writing by the Institution.

11. NON-FUNDING: All services performed or goods delivered under this Purchase Order/Contract are to be continued for the term of the Purchase Order/Contract, contingent upon funds being appropriated by the Legislature or otherwise being made available. In the event funds are not appropriated or otherwise available for these services or goods, this Purchase Order/Contract becomes void and of no effect after June 30.

12. ORDER NUMBERS: Contract Order numbers or Purchase Order numbers shall be clearly shown on all acknowledgments, shipping labels, packing slips, invoices and correspondence.

13. PAYMENTS AND INTEREST ON LATE PAYMENTS: Payments may only be made after the delivery of goods or services. Interest may be paid on late payments in accordance with the West Virginia Code.

14. RENEWAL: The Contract may be renewed only upon mutual written agreement of the parties.

15. REJECTION: All goods or materials purchased herein are subject to approval of the Institution. Any rejection of goods or materials resulting in nonconformity to the terms, conditions or specifications of this Order, whether held by the Institution or returned to the Vendor, will be at the Vendor's risk and expense.

16. VENDOR: For the purposes of these Terms and Conditions, the "Vendor" means the vendor whose quotation, bid, proposal or expression of interest has been accepted and has received a lawfully issued Purchase Order from the Institution.

17. SHIPPING, PACKING, BILLING & PRICING: Unless otherwise stated, all goods are to be shipped prepaid, FOB destination. No charges will be allowed for special handling, packing, wrapping, bags, containers, etc., unless otherwise specified. All goods or services shall be shipped on or before the date specified in this Order. Prices are those that are stated in this Order. No price increase will be accepted without written authority from the Institution.

18. TAXES: The State of West Virginia (the Institution) is exempt from Federal and State taxes and will not pay or reimburse such taxes.

19. TERMINATION: In the event of a breach by the Vendor of any of the provisions of this contract, the Institution reserves the right to cancel and terminate this contract forthwith upon giving written notice to the Vendor. The Vendor shall be liable for damages suffered by the Institution resulting from the Vendor's breach of contract.

20. WARRANTY: The Vendor expressly warrants that the goods and/or services covered by this Order will: (a) conform to the specifications, drawings, samples or other description furnished or specified by the Institution; (b) be merchantable and fit for the purpose intended; (c) be free and clear of all liens, claims and encumbrances of any kind; and/or (d) be free from defect in material and workmanship.

Exhibit C

STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

CONSTRUCTION CONTRACTS: Under W. Va. Code § 5-22-1(i), the contracting public entity shall not award a construction contract to any bidder that is known to be in default on any monetary obligation owed to the state or a political subdivision of the state, including, but not limited to, obligations related to payroll taxes, property taxes, sales and use taxes, fire service fees, or other fines or fees.

ALL OTHER CONTRACTS: Under W. Va. Code §5A-3-10a, no contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and: (1) the debt owed is an amount greater than one thousand dollars in the aggregate; or (2) the debtor is in employer default.

EXCEPTION: The prohibition listed above does not apply where a vendor has contested any tax administered pursuant to chapter eleven of the W. Va. Code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

DEFINITIONS:

"Debt" means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

"Employer default" means having an outstanding balance or liability to the old fund or to the uninsured employers' fund or being in policy default, as defined in W. Va. Code § 23-2c-2, failure to maintain mandatory workers' compensation coverage, or failure to fully meet its obligations as a workers' compensation self-insured employer. An employer is not in employer default if it has entered into a repayment agreement with the Insurance Commissioner and remains in compliance with the obligations under the repayment agreement.

"Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceed five percent of the total contract amount.

AFFIRMATION: By signing this form, the vendor's authorized signer affirms and acknowledges under penalty of law for false swearing (*W. Va. Code* §61-5-3) that: (1) for construction contracts, the vendor is not in default on any monetary obligation owed to the state or a political subdivision of the state, and (2) for all other contracts, that neither vendor nor any related party owe a debt as defined above and that neither vendor nor any related party are in employer default as defined above, unless the debt or employer default is permitted under the exception above.

WITNESS THE FOLLOWING SIGNATURE:

Vendor's Name: _____

Authorized Signature: _____ Date: _____

State of _____

County of _____, to-wit:

Taken, subscribed, and sworn to before me this ___ day of _____, 20___.

My Commission expires _____, 20___.

AFFIX SEAL HERE **NOTARY PUBLIC** _____

State of West Virginia

Supplementary Conditions to AIA Document B101-2017
Standard Form of Agreement Between Owner and Architect

The following Supplementary Conditions modify the Standard Form of Agreement Between Owner and Architect, AIA Document B101-2017 Edition. Where a portion of the Agreement is modified or deleted by these Supplementary Conditions, the unaltered portions of the Agreement shall remain in effect.

Order of Precedence: The documents contained in the contract to which this document has been attached shall be interpreted in the following order of precedence:

First Priority – Documents developed by the State or agency and utilized to provide public notice of the solicitation, along with other general terms and conditions shall be first in priority.

Second Priority – This document "Supplementary Conditions to the AIA Document B101-2017 Standard Form of Agreement Between Owner and Architect" shall be second in priority.

Third Priority – all other AIA documents including the AIA Document A201-2017 General Conditions of the Contract for Construction shall be third or lower in priority.

ARTICLE 1
INITIAL INFORMATION

§1.1.3 Section 1.1.3 is removed in its entirety.

§1.1.6.1 Section 1.1.6.1 is removed in its entirety.

§1.2 Make the following changes to Section 1.2:

In the second and third sentences, delete "shall" and substitute "may" and delete the period at the end of each sentence and add ", if applicable."

§1.3 Remove the last sentence from Section 1.3

§1.3.1 Make the following change to Section 1.3.1:

Remove the phrase "in AIA Document E203TM-2013, Building Information Modeling and Digital Data Exhibit, and the requisite AIA Document G2O2TM-2013, Project Building Information Modeling Protocol Form" and replace it with "in this Agreement"

ARTICLE 2
ARCHITECT'S RESPONSIBILITIES

§2.1 Add the following sentences to the end of Section 2.1. Notwithstanding the foregoing, Architect is not authorized to hire other design professionals unless doing so was expressly included in the scope of this agreement, or this agreement is appropriately modified by Change Order to include the hiring of other expressly identified design professionals. The Architect shall also satisfy the requirements for the lawful practice of architecture in the State of West Virginia.

§ 2.5 Make the following changes to Section 2.5:

Delete the section in its entirety and replace it with the following: "The Architect shall maintain the insurance specified in this Agreement either below or in other documentation included herewith.

§ 2.5.7 Make the following change to Section 2.5.7

Remove § 2.5.7 in its entirety and replace it with the following: "The Owner must be listed as an additional insured on all insurance mandated by this Agreement, excluding professional liability insurance."

Add the following Sections to Article 2:

§2.6 The format and minimum standard of quality to be used by the Architect in preparing specifications for the Project shall be AIA MASTERSPEC or equal, and the Architect shall use the CSI

Masterformat numbering system, unless a different standard is approved in writing by the owner

§2.7 The Architect shall review laws, codes and regulations applicable to the Architect's services and shall comply in the design of the Project with applicable provisions and standards of the West Virginia Building Code, the West Virginia Fire Code and the Americans with Disabilities Act (ADA). The most stringent application of these codes and standards shall apply. In the design of the Project, the Architect shall comply with the requirements imposed by governmental authorities having jurisdiction.

ARTICLE 3
SCOPE OF ARCHITECT'S BASIC SERVICES

§3.1.1 Add the phrase "consult with Owner," after the word "services" in the first sentence.

§3.1.2 Make the following change to Section 3.1.2:

In the third sentence, after "shall" add "thoroughly review the services and information for completeness and sufficiency and".

§3.1.6 Delete Section 3.1.6 in its entirety and substitute the following:

§3.1.6 The Architect shall furnish and submit substantially completed construction documents to all governmental agencies having jurisdiction over the Project, shall assist the Owner in securing their approval, and shall incorporate changes in the Construction Documents as may be required by such authorities.

Add the following Section to Article 3:

§3.1.7 The Architect is responsible for the coordination of all drawings and design documents relating to Architect's design used on the Project, regardless of whether such drawings and documents are prepared or provided by Architect, by Architect's consultants, or by others. If preliminary or design development Work has been performed by others, Architect is nevertheless fully responsible for and accepts full responsibility for such earlier Work when Architect performs subsequent phases of the basic services called for under this Agreement, as fully as if the preliminary, schematic, and design development Work had been performed by the Architect itself. Architect is responsible for coordination and internal checking of all drawings and for the accuracy of all dimensional and layout information contained therein, as fully as if each drawing were prepared by Architect. Architect is responsible for the completeness and accuracy of all drawings and specifications submitted by or though Architect and for their compliance with all applicable codes, ordinances, regulations, laws, and statutes.

§3.2 SCHEMATIC DESIGN PHASE SERVICES

§3.2.2 Make the following change to Section 3.2.2:

In the second sentence, after the word "Architect" add "shall review such information to ascertain that it is consistent with the requirements of the Project and".

§3.4 CONSTRUCTION DOCUMENTS PHASE SERVICES

§ 3.4.2 Delete Section 3.4.2 in its entirety and substitute the following:

§3.4.2 Construction drawings, specifications, or other Construction Documents submitted by Architect must be complete and unambiguous and in compliance with all applicable codes, ordinances, statutes, regulations, and laws. By submitting the same, Architect certifies that Architect has informed the Owner of any tests, studies, analyses, or reports that are necessary or advisable to be performed by or for the Owner at that point in time. Architect shall confirm these facts in writing to the Owner.

§3.5 BIDDING OR NEGOTIATION PHASE SERVICES

§ 3.5.1 Make the following change to Section 3.5.1:

In the first sentence, delete the period at the end of the sentence and add "which may include the development and implementation of a prequalification process."

§3.5.2 Make the following changes to § 3.5.2.

§3.5.2.2.1 Remove section 3.5.2.2.1 in its entirety and replace it with the following:

"§ 3.5.2.2.1 facilitating the distribution of plans and specifications (and in cases where Owner expressly authorizes it, distribution of bid documents) to prospective bidders per the Owner's instructions;"

§3.5.2.2.2 Remove section 3.5.2.2.2 in its entirety and replace it with

"§ 3.5.2.2.2 attending and assisting Owner in conducting a pre-bid conference for prospective bidders (and in cases where Owner expressly authorizes it, conduct the pre-bid conference);"

§3.5.2.2.3 Remove section 3.5.2.2.3 in its entirety and replace it with the following:

preparing responses to technical questions from prospective bidders and providing clarifications and interpretations of the Bidding Documents that will be released to the prospective bidders in the form of addenda by the Owner (and in cases where Owner expressly authorizes it, releasing the addenda on Owner's behalf).

§3.5.2.2.4 Remove Section 3.5.2.4 in its entirety and replace it with the following:

if expressly authorized by Owner, and permitted by applicable procedure and law, organizing and conducting the opening of bids, and subsequently documenting and distributing the bidding results, as directed by the Owner.

§3.5.2.3. Remove the phrase "and distribute" and include the phrase "for distribution by Owner (and in cases where Owner expressly authorizes it, distributing the addenda on Owner's behalf)" at the end of the sentence.

§3.5.3 Negotiated Proposals. Remove Section 3.5.3 in its entirety.

§3.6 CONSTRUCTION PHASE SERVICES

§ 3.6.1 GENERAL

§ 3.6.1.1 Delete the last sentence in its entirety and substitute the following:

The State of West Virginia's Supplementary Conditions to the General Conditions of the Contract for Construction shall be adopted as part of the Contract Documents and shall be enforceable under this Agreement.

Add the following Section to 3.6.1:

§3.6.1.4 The Architect shall be responsible for conducting progress meetings as needed and for the preparation, distribution, and accuracy of minutes pertaining thereto to all parties as directed by the Owner.

§3.6.2 EVALUATIONS OF THE WORK

§3.6.2.1 Delete the second sentence in its entirety and substitute the following:

Although the Architect is not required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work, the Architect shall carefully review the quality and quantity of the Work at appropriate intervals necessary for Architect to remain aware and knowledgeable of issues or problems that have developed, or could reasonably be foreseen, during construction as part of the Architect's design and contract administration services, shall issue written reports of such reviews to the Owner, Owner representatives, and the Contractor, and further shall conduct any additional reviews at any other time as reasonably requested by the Owner. The Architect shall neither have control over or charge of, nor be responsible for, the construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents

§ 3.6.2.2 Delete the first sentence of 3.6.2.2 in its entirety and substitute the following:

The Architect shall have the authority and obligation to reject Work that does not conform to the Contract Documents.

§3.6.2.4 Delete Section 3.6.2.4 it its entirety and substitute the following:

§3.6.2.4 The Architect shall render initial decisions on claims, disputes or other matters in question between the Owner and Contractor as provided in the Contract Documents. Architect shall also make initial decisions on matters relating to consistency with intent of contract documents, including aesthetic effect, however, the Owner, reserves the right make final decisions on issues of consistency with intent and aesthetic effect.

§3.6.4 SUBMITTALS

§3.6.4.2 Make the following changes to Section 3.6.4.2:

Delete the first sentence in its entirety and substitute the following:

The Architect shall review and approve or take other appropriate action upon the Contractor's submittals such as Shop Drawings, Product Data and Samples. The Architect's review of Contractor's submittals must determine the following: (1) if such submittals are in compliance with applicable laws, statutes, ordinances, codes, orders, rules, regulations; and (2) if the Work affected by and represented by such submittals is in compliance with the requirements of the Contract Documents. Architect shall promptly notify the Owner and Contractor of any submittals that do not comply with applicable laws, statutes, ordinances, codes, orders, rules, regulations, or requirements of the Contract Documents. Architect is responsible for determining what aspects of the Work will be the subject of shop drawings or submittals. Architect shall not knowingly permit such aspects of the Work to proceed in the absence of approved shop drawings and submittals. The Architect's action shall be taken with such reasonable promptness as to cause no delay in the Work or in the activities of the Owner, Contractor or separate contractors, while allowing sufficient time in the Architect's professional judgment to permit adequate review.

In the second sentence, delete the words "or performance".

§3.6.4.5 Make the following change to Section 3.6.4.5:

Add ", including a submittal log," after "The Architect shall maintain a record of submittals".

§3.6.5 CHANGES IN THE WORK

§3.6.5.2 Make the following changes to Section 3.6.5.2:

Section 3.6.5.2 shall now be Section 3.6.5.3. Section 3.6.5.2 shall read as follows:

§3.6.5.2 If the Architect and the Owner determine that the implementation of the requested change would result in a change to the Contract that may cause an adjustment in the Contract Time or Contract Sum, the Architect shall make a recommendation to the Owner who may authorize further investigation of such change.

§ 3.6.5.3 Add the following to the end of Section 3.6.5.3:

Additionally, the Architect shall review and, upon request by Owner, provide written documentation of the same of all change order requests and proposals with respect to the following criteria:

.1 confirm proposed change is a material change to the Contract;

.2 confirm appropriate credits are included for Work not completed;

.3 verify that the proposed additional cost or credit is reasonable with respect to industry standards. Cost verifications may, as authorized by Owner, include independent estimates and/or consultations with contractors and vendors; and

.4 confirm that the appropriate back up documentation is included and mathematically correct including mark ups and taxes pursuant to the requirements of the Contract Documents.

ARTICLE 4
ADDITIONAL SERVICES

§4.2 Architect's Additional Services

§4.2.1 Make the following changes to Section 4.2.1:

.6 Before the semicolon insert ", provided such alternate bids or proposals are not being used for budget control"

.9 Delete this provision in its entirety and replace it with "assist owner with owner's evaluation of the qualifications of entities providing bids or proposals.

§4.2.2 Make the following changes to Section 4.2.2:

.3 After the last sentence in the first paragraph, insert the following:

This provision only applies to the extent that such services required or requested from the Architect represent a material change in the services that are already required of the Architect for completion of the Project"

.4 Before the semicolon insert ", provided such claims are not the result of the Architect's action, inaction, errors, or omissions"

ARTICLE 5
OWNER'S RESPONSIBILITIES

§5.2 Make the following change to Section 5.2:

In the first sentence, after "The Owner" add ", with Architect's assistance,"

Add the following Section to Article 5:

§5.3.1 The Owner has the right to reject any portion of the Architect's Work on the Project, including but not limited to Schematic Design Documents, Design Development Documents, Construction Documents, or the Architect's provision of services during the construction of the Project, or any other design Work or documents on any reasonable basis, including, but not limited to aesthetics or because in the Owner's opinion, the construction cost of such design is likely to exceed the budget for Cost of the Work. If at any time the Architect's Work is rejected by the Owner, the Architect must proceed when requested by the Owner, to revise the design Work or documents prepared for that phase to the Owner's satisfaction. These revisions shall be made without adjustment to the compensation provided hereunder, unless revisions are made to Work previously approved by the Owner under previous phases, in which case such revision services will be paid as a Change in Services. Should there be substantial revisions to the original program after the approval of the Schematic Design Documents, which changes substantially increase the scope of design services to be furnished hereunder, such revision services will be paid as a Change in Services. The Architect must so notify the Owner of all Changes in Services in writing and receive approval from Owner before proceeding with revisions necessitated by such changes. No payment, of any nature whatsoever, will be made to the Architect for additional Work or Changes in Services without such written approval by Owner.

§5.5 Make the following changes to Section 5.5:

In the first sentence, delete "shall" and substitute "may".

Add the following sentence at the end of Section 5.5:

The Owner may, in its sole discretion, request that the Architect secure these services by contracting with a third party.

§5.8 Make the following change to Section 5.8:

In the third sentence, delete "shall" and substitute "may".

§5.9 Make the following change to Section 5.9:

At the beginning of this sentence, insert "Unless otherwise provided in this Agreement,"

§5.11 Add the following sentence to the beginning of Section 5.11:

The Owner shall be entitled to rely on the accuracy and completeness of services and information provided by the Architect.

§ 5.15 Remove § 5.15 in its entirety.

ARTICLE 6
COST OF WORK

§ 6.1 Delete the phrase "and shall include contractors' general conditions costs, overhead and profit" from Section 6.1. Delete the second sentence of Section 6.1 in its entirety and replace it with the following:

"In the event that Owner plans to utilize its own resources (labor, machinery, or materials) for part of the project, Owner and Architect must discuss the impact of that choice on the design and Cost of the Work prior to executing this Agreement. If Owner and Architect agree that such amounts will be included in the Cost of the Work, then that cost will be determined in advance and incorporated into this Agreement. Failure to do so will result in such costs being excluded from the Cost of the Work."

§6.3 Delete Section 6.3 in its entirety and substitute the following:

§6.3 In preparing estimates for the cost of the Work, the Architect shall be permitted to include contingencies for design, bidding and price escalation, and in consultation with the Owner, to determine what materials, equipment, component systems and types of construction to be included in the Construction Documents, to make reasonable adjustments in the scope of the Project and to include in the Contract Documents alternate bids as may be necessary to adjust the estimate of Cost of the Work to meet the Owner's adjusted budget. If an increase in the Contract Sum occurring after execution of the Contract for Construction caused the Project budget to be exceeded, the Project budget shall be increased accordingly.

§ 6.5 Remove the phrase "shall cooperate with the Architect in making such adjustments" and replace with "may cooperate with Architect in making such adjustments, at its sole discretion."

§6.6.2 After the word "renegotiating" insert "(renegotiation being limited ot instances where Owner is legally authorized to renegotiate)"

§6.7 Delete Section 6.7 in its entirety and substitute the following:

§6.7 If the Owner chooses to proceed under Section 6.6.2, the Architect, without additional compensation, shall assist the Owner in rebidding or renegotiating the Project within a reasonable time. If the Owner chooses to proceed under Section 6.6.4, the Architect, without additional compensation, shall modify the documents which the Architect is responsible for preparing under this Agreement as necessary to comply with the Owner's budget for the Cost of the Work, and shall assist the Owner in rebidding or renegotiating the Project within a reasonable time. The modification of such documents and the rebidding or renegotiating of the Project shall be the limit of the Architect's responsibility under Section 6.6.

ARTICLE 7
COPYRIGHTS AND LICENSES

§7.3 Make the following changes to Section 7.3:

In the first sentence, insert "irrevocable, royalty-free, right and" after the word "nonexclusive" and delete the words "solely and exclusively".

Delete the last sentence of Section 7.3 and substitute the following:

Upon completion of the Project, or upon termination of this Agreement for any reason prior to the completion of the Project, Owner shall be entitled to retain copies of all Instruments of Service and shall have an irrevocable, royalty-free, right and license to use all of the Instruments of Service for any and all purposes related to the Project in any manner the Owner deems fit, including the following:

a. Electronics Filing and Archiving for the purpose of record keeping at Owner designated areas;
b. Any future renovation, addition, or alteration to the Project; and
c. Any future maintenance or operations issue as it pertains to the Project.

Architect or Architect's Consultants shall not be responsible for any modifications to the Work made by Owner or Owner's representatives using the Architect's Instruments of Service.

§7.3.1 Delete the second sentence of Section 7.3.1.

ARTICLE 8
CLAIMS AND DISPUTES

§8.1 GENERAL

§8.1.1 Delete Section 8.1.1 in its entirety and substitute the following:

§8.1.1 Causes of action between the parties to this Agreement pertaining to acts or failures to act shall be deemed to have accrued

and the applicable statutes of limitations shall commence to run pursuant to applicable provisions of the West Virginia Code.

§8.1.3 Make the following change to Section 8.1.3:

At the beginning of the first sentence, insert "Unless otherwise agreed by the Parties,"

Add the following Section to Article 8.1:

§8.1.4 The Owner may suffer financial loss if the Architect's services are not completed within the schedule approved by the Owner in accordance with Section 3.1.3. If so provided, the Architect shall be liable for and shall pay the Owner, as liquidated damages and not as a penalty, any sum(s) stated in this Agreement.

Allowances may be made for delays beyond the control of the Architect. All delays and adjustments to the Architect's schedule must be properly documented and approved by the Owner in accordance with Section 3.1.3.

§8.2 MEDIATION

§8.2 Make the following changes to Section 8.2:

§8.2.1 In both instances where it appears, delete "binding dispute resolution" and substitute "litigation in a court of competent jurisdiction."

§8.2.2 Delete this Section in its entirety and substitute the following:

The parties shall endeavor to resolve their Claims by non-binding mediation which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Mediation Procedures in effect on the date of the Agreement.

§ 8.2.3 Add to the end of the first sentence in Section 8.2.3. the phrase

"unless fee sharing is prohibited due to a lack of a specific Legislative appropriation for the expenses. In the event that Owner determines that fee sharing is prohibited, the Architect may choose to mediate and pay the entire fee, or the parties will forgo mediation and pursue other available remedies."

§8.2.4 Delete this Section in its entirety and substitute the following:

If the parties do not resolve a dispute through mediation pursuant to this Section 8.2, the method of litigation shall be in accordance with Section 8.3.

§8.3 ARBITRATION

§8.3 Delete Section 8.3 in its entirety and substitute the following:

§8.3 SETTLEMENT OF CLAIMS

§8.3.1 The Parties understand that this sovereign immunity and the Constitution of the State of West Virginia prohibit the State and Owner, from entering into binding arbitration. Notwithstanding any provision to the contrary in the Contract Documents, all references to arbitration, regardless of whether they are included in the AIA Document B101-2017 or another related document are hereby deleted

§8.3.2 Any claim, dispute or other matter in question arising out of this Agreement which cannot be settled between the parties shall, in the case of the Architect, be submitted to the West Virginia Claims Commission, and in the case of the Owner, to the Circuit Court of Kanawha County or any other court of competent jurisdiction as the Owner may elect.

ARTICLE 9
TERMINATION OR SUSPENSION

§9.1 Make the following changes to Section 9.1:

In the first sentence, after "If the Owner fails to make payments to the Architect" add "of undisputed amounts". In the third sentence, after "In the event of a suspension of services," add "in accordance herewith". In the fourth sentence, after "Before resuming services, the Architect shall be paid all sums due prior to suspension and" add "shall negotiate with the Owner for".

§9.2 Make the following changes to Section 9.2:

In the first sentence, after "If the Owner suspends the Project" add "for more than 30 consecutive days".

Delete the last two sentences in Section 9.2 and substitute the following:

When the Project is resumed, the Owner and the Architect shall negotiate the amount of any compensation the Owner will pay the Architect for expenses incurred in the interruption and resumption of the Architect's services. The Owner and the Architect shall negotiate any adjustments to the Architect's fees for the remaining services and the time schedules for completion.

§9.6 Make the following changes to Section 9.6:

Delete "costs attributable to termination, including the costs attributable to the Architect's termination of consultant agreements".

§9.7 Delete Section 9.7 in its entirety and substitute the following:

§9.7 Service performed under this Agreement may be continued in succeeding fiscal years for the term of the Agreement contingent upon funds being appropriated by the Legislature for this service. In the event funds are not appropriated or otherwise available for this service, the Agreement shall terminate without penalty on June 30. After such date the Agreement becomes null and void.

Add the following Section to Article 9:

§9.10 In the event of any termination under this Article, the Architect consents to the Owner's selection of another architect of the Owner's choice to assist the Owner in any way in completing the Project. Architect further agrees to cooperate and provide any information requested by Owner in connection with the completion of the Project and consents to the making of any reasonable changes to the design of the Project by Owner and such other architect as Owner may desire in accordance with applicable practice laws contained in Chapter 30, Article 12 of the West Virginia Code, or elsewhere. Any services provided by Architect that are requested by Owner after termination will be fairly compensated by Owner in accordance with Article 11.

ARTICLE 10
MISCELLANEOUS PROVISIONS

§ 10.1 Make the following changes to Section 10.1:

Remove the last sentence referencing arbitration in it's entirety.

§10.2 Make the following changes to Section 10.2:

At the end of the sentence, delete the period and add ", as modified by the State of West Virginia Supplementary Conditions to the AIA Document A201-2017, General Conditions of the Contract for Construction."

§10.3 Add the following sentence to the end of Section 10.3:

The Architect shall execute all consents reasonably required to facilitate such assignment.

§10.6 Add the following sentence to the end of Section 10.6:

The Architect shall immediately report to the Owner's project manager the presence, handling, removal or disposal of, or exposure of persons to and location of any hazardous material which it discovers.

§10.8.1 Remove the phrases "after 7 days' notice to the other party," and "arbitrator's order" from Section 10.8.1.

ARTICLE 11

COMPENSATION

§11.4 Make the following changes to Section 11.4:

After the word "shall", insert "not exceed a multiple of 1.15 times the amount billed to the Architect for such Additional Services" and delete the rest of that sentence.

§11.6.1 Delete the last sentence of Section 11.6.1 in its entirety.

§11.7 Delete Section 11.7 in its entirety and substitute the following:

§11.7 The Architect's rates and multiples for service as set forth in this Agreement shall remain in effect for the life of this Agreement unless unforeseen events which are not the fault of the Architect delay the Project completion. In such event, an equitable adjustment in the Architect's rates may be negotiated with the Owner.

§11.8 COMPENSATION FOR REIMBURSABLE EXPENSES

§11.8.1 Delete Sections 11.8.1.4 and 11.8.1.5 in their entirety and substitute the following:

§11.8.1.4 The expense of reproductions, postage and handling of bidding documents shall be a Reimbursable Expense, however, the expense of reproductions, plots, standard form documents, postage, handling, and delivery of Instruments of Service for the Owner's use and for review of governmental agencies having jurisdiction over the Project shall not be a Reimbursable Expense but shall be covered in the Architect's Compensation under §11.1.

§11.8.2 Delete Section 11.8.2 in its entirety and substitute the following:

§11.8.2 For Reimbursable Expenses described in Section 11.8.1.1, compensation to the Architect shall be at actual cost and shall be made pursuant to the Owner's travel regulations. For those expenses described in Sections 11.8.1.2 through 11.8.1.11, the compensation shall be computed as a multiple of 1.15 times the expenses incurred by the Architect, the Architect's employees and consultants.

§11.9 Architect's Insurance

§11.9 Delete Section 11.9 in its entirety.

§11.10 PAYMENTS TO THE ARCHITECT

§11.10.1 Delete Section 11.10.1 in its entirety.

The Owner and Architect hereby agree to the full performance of the covenants contained herein.

IN WITNESS WHEREOF, the Owner and Architect have entered into this Agreement as of the date and year as written below.

Owner:		Architect:	
By:	_____	By:	_____
Title:	_____	Title:	_____
Date:	_____	Date:	_____

This Supplementary Conditions to AIA Document B101-2017, Standard Form of Agreement Between Owner and Architect, has been approved as to form on this 1st day of October, 2018, by the West Virginia Attorney General's office as indicated in the signature line below. Any modification of this document is void unless expressly approved in writing by the West Virginia Attorney General's Office.

PATRICK MORRISEY, ATTORNEY GENERAL

BY: _____

DEPUTY ATTORNEY GENERAL

ABM Building Value

WEST VIRGINIA NORTHERN COMMUNITY COLLEGE

West Virginia Northern Community College

Investment Grade Audit (IGA)

Presented by

ABM Building Solutions, LLC

Canonsburg, PA

December 6, 2019

ABM Building Solutions, LLC.
501 Technology Drive Ste 3000
Canonsburg PA 15317
412.439.4726
Erin.Stinner@abm.com

December 6, 2019

Mr. Jeffrey Sayre
Vice President of Administrative Services & CFO
West Virginia Northern Community College
1704 Market Street
Wheeling WV 26003

RE: Investment Grade Audit – Energy Project

Dear Mr. Sayre,

In February 2019, the West Virginia Northern Community College (WVNCC) authorized ABM Building Solutions, LLC, via a Letter of Intent, to conduct an investment grade audit (IGA) to measure and verify energy savings potential for the Energy Conservation Measures (ECMs) identified in the preliminary audit, which was completed this past spring.

The purpose of the IGA is to define the ECMs that can be included to the program to create a guaranteed budget neutral program, and to identify other measures that can be employed that will provide WVNCC energy savings and infrastructure improvements. In October 2019, you notified us that WVNCC will not be moving forward with a project, and therefore we are presenting this formal IGA document as the final step to conclude this effort.

We enjoyed working with WVNCC and wish you prosperity and success for the future.

Sincerely,

Erin Stinner
BES Sales Representative
ABM Building Solutions LLC

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Executive Summary

ABM's BES Team, consisting of energy, mechanical, and water conservation specialists has performed an Investment Grade Audit (IGA), of the facilities for West Virginia Northern Community College (WVNCC or College), along with significant participation from WVNCC's Jeff Sayre, Tricia Marker, and the staff who report to Tricia. This analysis was offered as part of ABM's competitive award by the College to perform an energy efficiency and asset renewal program for WVNCC, in an effort to identify Energy Conservation Measures (ECMs) that WVNCC would benefit from within a comprehensive project offered through ABM.

Over the course many months, ABM toured and documented all systems that consume energy and water at all College-owned facilities. Our team interviewed staff at length to fully understand how the facilities are used and operated. We reviewed the College's electrical, gas, and water consumption and costs. We benchmarked your facilities and have compared them to other like institutions to identify where the greatest opportunities could be found.

As part of our Investment Grade Audit, you will see that this report details a program that would have:

- Upgraded critical building equipment in College-owned buildings (HVAC, lighting, building automation, etc.)
- Replaced Heating, Ventilation & Air-Conditioning (HVAC) equipment at the "end-of-life" stage
- Identified the cost savings over time
- Reduced the College's significant capital risk using your existing budget

In order to meet the College's significant infrastructure needs and upgrade critical building systems, our team identified a package of ECMs that would satisfy these needs. This asset renewal program would have resulted in reduced volatility, smarter spending of the capital budget, and greater student and staff comfort with enhanced learning spaces.

Baseline Energy Consumption

Methodology

ABM collected utility bills for the calendar year 2018 to establish a baseline from which to measure project success. The summary data is presented in the following table. Key take-aways include the following:

- Overall Energy Utilization Index (EUI) of 71.68 thousand BTUs per square-foot per year (kBTU/sf) indicates strong opportunity for improving efficiencies.
- The ATC building and the Student Union (even though both are relatively modern) have very high energy consumption
- The B&O Building and Weirton Campus facility also project strong opportunity for energy conservation.
- Overall utility costs of $1.61 per square-foot (with electric rates averaging over $0.095/kWh) further support strong conservation opportunities.

Conclusions

Analysis of this baseline aided the ABM development team in focusing on high-value energy conservation measures (ECMs) that could not only pay for themselves, but also provide excess savings to fund other critical infrastructure needs.

Summary of WVNCC Utility Baseline

Facility	Sq-ft	Elec (kWh)	Elec ($)	NG (Therms)	$ NG	EUI (kBTU/sf)	Water (kGal)	Water ($)	Rate ($/kWh)	Rate ($/therm	Total Spend ($)	current ($/sf)
B&O	77,482	803,600	$75,762	31,096	$9,162	75.52	450	$4,973	$0.0943	$0.2946	$89,897	**$1.16**
ATC	16,500	391,760	$36,520	8,226	$7,668	130.87	61	$1,510	$0.0932	$0.9321	$45,697	**$2.77**
EC	80,000	1,083,200	$100,240	6,658	$3,047	54.52	320	$3,639	$0.0925	$0.4576	$106,926	**$1.34**
Student Union	12,600	372,600	$35,037			100.90	94	$1,147	$0.0940		$36,184	**$2.87**
Facilities	9,900	28,332	$3,002			9.76			$0.1060		$3,002	**$0.30**
Weirton	43,000	1,044,000	$99,881	2,054	$1,613	87.62	151	$2,073	$0.0957	$0.7852	$103,566	**$2.41**
New Martinsville	33,000	395,160	$42,908	6,758	$6,566	61.33	85	$3,544	$0.1086	$0.9716	$53,018	**$1.61**
TOTAL	**272,482**	**4,118,652**	**$393,350**	**54,791**	**$28,055**	**71.68**	**1,161**	**$16,886**	**$0.0955**	**$0.5120**	**$438,291**	**$1.61**

(calendar year 2018 data)

Investment-Grade ECM Cost & Savings

In collaboration with WVNCC staff, the ABM Team developed a base project that is largely focused on the following key elements:

- energy conservation measures with good to excellent return on investment (ROI)
- provision of comprehensive Building Automation System to minimize energy use and support HVAC preventive maintenance
- life extension (functional diagnostics, repairs, refurbishment) of critical HVAC infrastructure
- redesign of compromised building systems (heating boilers, domestic hot water)

This base program, as selected by WVNCC, represents a total investment of $1,550,727 with first year savings of $65,729 (energy only, excluding associated operational savings).

Potential follow-on scope (developed, but not selected by WVNCC) provided for additional ECMs and infrastructure work, including the following major elements:

- comprehensive LED lighting retrofits
- building envelope improvements (weather sealing)
- network power management software
- additional HVAC repairs and replacements
- additional indoor environmental quality and comfort improvements

These measures provided for an additional investment of $1,147,667 with first year savings of $48,230 (energy only, excluding associated operational savings).

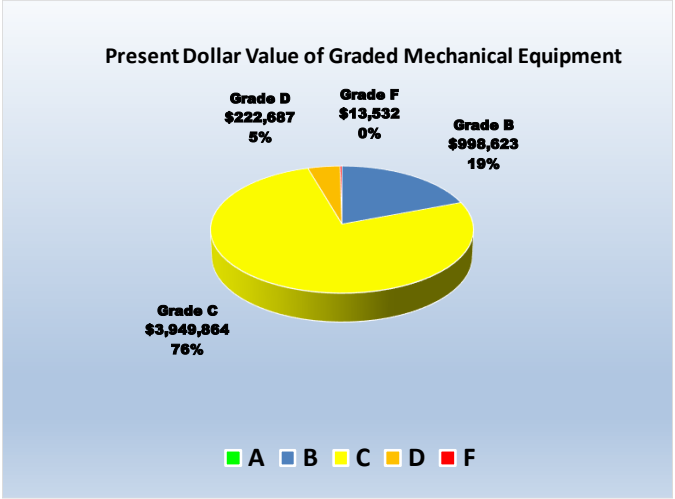
ABM Capital Volatility Analysis

ABM piloted a process that applies a budget stress test based on the exposure our clients have with unexpected mechanical failures. The importance of this process is based on industry statistics, which highlight that American schools, on average, are carrying $11,000 per student in unmet capital needs. This statistic is very similar in other government institutions we serve, including municipalities, state governments, and colleges, such as WVNCC.

The process of Capital Volatility Indexing required ABM to evaluate every piece of HVAC equipment, building fenestration, plumbing systems, and other infrastructure at WVNCC to apply a *Letter Condition Index* based on several criteria. The ABM Team, with input from WVNCC staff, developed a grade based on remaining asset life, maintenance records, environmental conditions, wear and tear, criticality of the system, value of the asset, and other details leading to an estimation of the value of each asset per letter grade. This grading allows WVNCC to see the specific condition of their assets and determine the volatility of the capital budget based on this assessment.

For the ABM Team, this process also provided us guidance on the type of solution to offer for each asset per letter grade and condition index. For example:

- **Condition Index Grade A & B Equipment**: Typically just requires that routine maintenance be performed by the appropriate expert.
- **Condition Index Grade C Equipment**: Depending on the collaborative efforts of our team and yours, this equipment may need some repairs and maintenance before putting back into service. If costs exceed the value of the equipment, our experts will advise on the best course of action. The goal for this asset class is to slow the speed of degradation and move the equipment into a B rating so its life expectancy can be extended.
- **Condition Index Grade D & F Equipment**: This equipment will be at or past its expected useful life and will therefore have only one possible future which is replacement.



The benefit of indexing this equipment is to measure the potential for budget integrity issues based on the exposure the client has. Weighting criteria is assigned to the equipment based on the criticality of the asset and the ability to fund a solution should a failure occur.

The Results

Detailed results of ABM's Capital Volatility Indexing exercise, and the output of our CVA Tool, are presented in Appendix A: CVA Tool Output. As shown in the summary charts below, WVNCC has some equipment rated "D" or "F", but also a large amount of equipment rated "C," suggesting that a substantial investment will be needed in infrastructure over the next 15 years to maintain the buildings systems at WVNCC. The table below breaks this down in five-year increments as follows:

Capital Exposure over 15 Years		
Yrs 0-5	**Yrs 6-10**	**Yrs 11-15**
$2,440,803	**$1,421,217**	**$539,910**

Recommended Energy Conservation Measures

ABM's development Team spent considerable time obtaining and validating investment-grade constructed cost figures for specific Energy Conservation Measures (ECMs). This section provides detailed descriptions of ECMs recommended for the College's sites as described herein and are organized by building. In general, the measures are grouped and numbered according to the following high-level descriptions:

ECM Number	ECM Title
ECM-01	Boiler Plant Improvements
ECM-03	Building Automation System Improvements
ECM-04	HVAC Upgrades
ECM-06	Building Envelope Modifications
ECM-17	Re-Commissioning (Functional Diagnostics)
ECM-20	Non-Energy / Infrastructure Improvements

Common Measures

(applicable to buildings as indicated)

ECM-03: Building Automation System Upgrades

General Scope

Building Management System

- Provide a system-wide server to integrate new JACES, the building management system will be accessible via the internet
- New ABM-provided JACES shall be open protocol with an open license
- Server will store trend data and alarms
- One (1) laptop or tablet (single unit for entire system) will be supplied for maintenance, trouble shooting and access
- A MAP gateway will be provided for school staff to access field controllers for trouble shooting and routine maintenance
- Functional Diagnostics will be performed on mechanical equipment that was retrofitted with new temperature controls
- Facilitate energy improvement measures pertaining to the temperature controls scope
- Verify existing histories and alarms have been setup
- Modify graphics for new control points added
- Add a single system-wide outdoor air enthalpy sensor
- Units that have outdoor air dampers shall have a reduced outdoor air minimum set point programmed at the existing building management system

B&O Building

VAV Boxes (45)

- Verify existing Honeywell VAV box operation
- Add programming to each VAV box to implement dual cooling minimum cfm set points to prevent VAV controlled spaces from overcooling when the boiler plant is disabled

AHUs (2)

- Replace existing Honeywell DDC controllers with open protocol BACnet DDC controllers
- Provide and install discharge air, return air, mixed air and supply air temperature sensors
- Provide and install new supply air static pressure sensor
- Relocate existing wiring from centralized control panel located in boiler room to each individual AHU
- Provide and install BACnet communication wiring to each AHU

- Program AHUs to operate in the following manner
    1. Single zone VAV
    2. Optimal Start/Stop
    3. Reset discharge air temperature based on space temperature
- Integrate BACnet controllers into web based N4 JACE
- Create AHU equipment graphics

RTUs (2)

- Replace existing Honeywell DDC controllers with open protocol BACnet DDC controllers
- Provide and install discharge air, return air, mixed air and supply air temperature sensors
- Provide and install new supply air static pressure sensor
- Relocate existing wiring from centralized control panel located in boiler room to each individual RTU
- Provide and install BACnet communication wiring to each RTU
- Program RTUs to operate in the following manner
    1. VAV
    2. Optimal Start/Stop
    3. Reset discharge air temperature based on average space temperature sensor readings
    4. Reset supply air static pressure based on VAV box damper position
- Integrate BACnet controllers into web based N4 JACE
- Create RTU equipment graphics

Boiler System

- Replace existing Honeywell DDC controllers with open protocol BACnet DDC controllers
- Provide and install hot water supply and return sensors
- Provide and hot water differential pressure transmitters
- Provide wiring and controls for new pump VFDs
- Re-use centralized control panel located in boiler room
- Provide and install BACnet communication wiring to boiler controller
- Program boilers to operate in the following manner
    1. Hot water reset based on outdoor air temperature
    2. Differential pressure reset based on heating demand of main equipment
    3. Occupied/Unoccupied control
-

- Integrate BACnet controllers into web based N4 JACE
- Create Boiler graphic

Misc. Equipment (FCU and FTR)

- Provide new BACnet controllers and sensors for fin tube radiation valves and fan coil unit controllers
- Integrate BACnet controllers into web based N4 JACE
- Create FTR and FCU graphics

Education Center Building

VAV Boxes (35)

- Verify existing Honeywell VAV box operation
- Add programming to each VAV box to implement dual cooling minimum cfm set points to prevent VAV controlled spaces from overcooling when the boiler plant is disabled

AHU-1 and 2

- Replace existing Honeywell DDC controllers with open protocol BACnet DDC controllers
- Provide and install discharge air, return air, mixed air and supply air temperature sensors
- Provide and install new supply air static pressure sensor
- Relocate existing wiring from centralized control panel to each individual AHU
- Provide and install BACnet communication wiring to each AHU
- Program AHUs to operate in the following manner
    1. Single zone VAV
    2. Optimal Start/Stop
    3. Reset discharge air temperature based on space temperature
- Integrate BACnet controllers into web based N4 JACE
- Create AHU equipment graphics

AHU-3 and 4

- Replace existing Honeywell DDC controllers with open protocol BACnet DDC controllers
- Provide and install, discharge air, return air, mixed air and supply air temperature sensors
- Provide and install new supply air static pressure sensor
- Relocate existing wiring from centralized control panel to each individual AHU

- Provide and install BACnet communication wiring to each AHU
- Program AHUs to operate in the following manner
    1. VAV
    2. Optimal Start/Stop
    3. Reset discharge air temperature based on average space temperature sensor readings
    4. Reset supply air static pressure based on VAV box damper position
- Integrate BACnet controllers into web based N4 JACE
- Create AHU equipment graphics

AHU-5 (Kitchen)/Kitchen Hoods

- Replace existing Honeywell DDC controllers with open protocol BACnet DDC controllers
- Provide and install discharge air, return air, mixed air and supply air temperature sensors
- Provide and install new supply air static pressure sensor
- Provide and install building static pressure transmitter
- Relocate existing wiring from centralized control panel to each individual AHU
- Provide and install BACnet controller for kitchen hood VFDs
- Provide and install BACnet communication wiring to AHU
- Program AHU to operate in the following manner
    1. Building static pressure control
    2. Optimal Start/Stop
    3. Reset discharge air temperature based on average space temperature sensor readings
- Integrate BACnet controllers into web based N4 JACE
- Create AHU equipment graphics

Boiler System

- Replace existing Honeywell DDC controllers with open protocol BACnet DDC controllers
- Provide and install, hot water supply and return sensors
- Provide and install hot water differential pressure transmitters
- Re-use centralized control panel located in boiler room
- Add additional wiring to allow DDC controls to modulate boilers for hot water reset
- Provide and install BACnet communication wiring to boiler controller

- Program boilers to operate in the following manner
    1. Hot water reset based on outdoor air temperature
    2. Differential pressure reset based on heating demand of main equipment
    3. Occupied/Unoccupied control
- Integrate BACnet controllers into web based N4 JACE
- Create Boiler graphic

Chilled Water System

- Replace existing Honeywell DDC controllers with open protocol BACnet DDC controllers
- Provide and install chilled water supply and return sensors
- Provide and install chilled differential pressure transmitters
- Relocate existing wiring from centralized control panel to new chilled water control panel
- Add additional wiring to allow DDC controls to modulate chiller for chilled water reset
- Provide and install BACnet communication wiring to chilled water system controller
- Program chiller to operate in the following manner
    1. Chilled water reset based on outdoor air temperature
    2. Differential pressure reset based on cooling demand of main equipment
    3. Occupied/Unoccupied control
- Integrate BACnet controllers into web based N4 JACE
- Create chilled water system graphic

Applied Technology Center

Web-Based Front-End

- Provide and install N4 JACE
- Create trends, schedules, and alarms
- Create equipment graphics

Functional Diagnostics

- See functional diagnostics, ECM-17

Student Union

Web-Based Front-End

- Provide and install N4 JACE
- Create trends, schedules, and alarms
- Create equipment graphics

VAVs and RTU

- Verify operation of RTU and identify VAV electric reheat issue, adjust minimum cfm as needed and verify air flow switch operation of each VAV reheat
- Program VAVs to have dual minimum cfm set points
- Program RTU to reset supply fan VFD based on cooling demand of each VAV box

Functional Diagnostics

- See functional diagnostics, ECM-17

ITC Building

Web-Based Front-End

- Integrate existing Honeywell controllers
- Provide and install N4 JACE
- Create trends, schedules, and alarms
- Create equipment graphics

Functional Diagnostics

- See functional diagnostics, ECM-17

Weirton Campus Building

Web-Based Front-End

- Provide and install N4 JACE
- Create trends, schedules, and alarms
- Create equipment graphics

Functional Diagnostics

- See functional diagnostics, ECM-17

New Martinsville Campus Building

Web-Based Front-End

- Provide and install N4 JACE
- Create trends, schedules, and alarms
- Create equipment graphics

Functional Diagnostics

- See functional diagnostics, ECM-17

ECM-17: DDC Functional Diagnostics – Controls (see also ECM-17 HVAC)

- Perform Functional Diagnostics on existing AHUs, include the following tasks
    1. Calibrate discharge, return, mixed and space temperature sensors
    2. Calibrate return and space humidity sensors
    3. Command every damper and verify damper goes fully closed and then open
    4. Check damper linkages to make sure they are tight and lubricated
    5. Command open heating and cooling control valves, make sure they go fully open and closed and verify discharge air temperature at each position
    6. Verify low limit operation by applying compressed air at any point on the capillary
    7. Verify fail safe algorithms after low limit is tripped or supply fan fails, such as heating valve fails open, chilled water valve fails close, outdoor air damper closes, and alarm is generated at the building management system
    8. Verify time of day scheduling commands the unit on/off (including night setback and setup)
    9. Verify hardware points are reading and accurate at the building management system and match what each controller is reading locally
- Perform Functional Diagnostics on existing RTUs, include the following tasks
    1. Calibrate discharge, return, mixed and space temperature sensors
    2. Calibrate return and space humidity sensors
    3. Command every damper and verify damper goes fully closed and then open
    4. Check damper linkages to make sure they are tight and lubricated
    5. Command open heating and cooling control valves, make sure they go fully open and closed and verify discharge air temperature at each position
    6. Verify low limit operation by applying compressed air at any point on the capillary
    7. Verify fail safe algorithms after low limit is tripped or supply fan fails, such as heating valve fails open, chilled water valve fails close, outdoor air damper closes, and alarm is generated at the building management system
    8. Request original design sequence of operations and verify unit is operating as designed
    9. Verify time of day scheduling commands the unit on/off (including night setback and setup)
    10. Verify hardware points are reading and accurate at the building management system and match what each controller is reading locally
    11. Provide the owner with a deficiency list
- Perform Functional Diagnostics on chilled water system, include the following tasks
    1. Calibrate chilled water supply and return water sensors
    2. Calibrate outdoor air temperature and humidity sensor
    3. Calibrate system differential pressure sensor
    4. Verify chiller operation, unit comes on when commanded and follows chilled water set point
    5. Simulate a local chiller alarm and make sure an alarm is generated at the building management system
    6. Verify pump operation; make sure pumps are set up to auto rotate (lead/lag)

7. Fail each pump to make sure the lag pump is enabled, and an alarm is generated at the building management system
8. Verify pump modulation, pump ramps up and down based on chilled water system differential pressure
9. Verify hardware points are reading and accurate at the building management system and match what each controller is reading locally
10. Provide the owner with a deficiency list and associated cost for defective items

- Perform Functional Diagnostics on exhaust fans controlled by the building management system, include the following tasks
  1. Verify fan is enabled/disabled via a space temperature sensor or time of day scheduling
  2. Verify damper operation if applicable
  3. Fail exhaust fan by turning disconnect in the “off” position, make sure an alarm is generated at the building management system
  4. Verify hardware points are reading and accurate at the building management system and match what each controller is reading locally
  5. Provide the owner with a deficiency list and associated cost for defective items
- Perform Functional Diagnostics on fin tube radiation controlled by the building management system, include the following tasks
  1. Calibrate space temperature sensors
  2. Verify FTR valve opens/closes (if applicable)
  3. Verify low temperature alarm is generated at building management system if applicable
  4. Verify hardware points are reading and accurate at the building management system and match what each controller is reading locally
  5. Provide the owner with a deficiency list and associated cost for defective items
- Perform Functional Diagnostics on VAV boxes, include the following tasks
  1. Calibrate discharge and space sensors
  2. Perform VAV box air flow test
  3. Command reheat valve open and closed and verify discharge at each position
  4. Add dual minimum cfm settings to VAV boxes; this will allow the spaces not to overcool when the boiler has been disabled during the summer months
  5. Verify hardware points are reading and accurate at the building management system and match what each controller is reading locally
  6. Provide the owner with a deficiency list and associated cost for defective items
- Perform Functional Diagnostics on heating hot water system, include the following tasks
  1. Calibrate hot water supply and return water sensors
  2. Calibrate outdoor air temperature and humidity sensor
  3. Calibrate system differential pressure sensor
  4. Verify boiler operation, unit comes on when commanded and follows hot water set point

5. Simulate a local boiler alarm and make sure an alarm is generated at the building management system
6. Verify pump operation; make sure pumps are set up to auto rotate (lead/lag)
7. Fail each pump to make sure the lag pump is enabled, and an alarm is generated at the building management system
8. Verify pump modulation, pump ramps up and down based on hot water system differential pressure
9. Verify hardware points are reading and accurate at the building management system and match what each controller is reading locally
10. Provide the owner with a deficiency list and associated cost for defective items

ECM-17: Functional Diagnostics - HVAC

HVAC equipment listed in the table below will have a functional diagnostic check that will include the following, as applicable to the specifics of the equipment item in question:

1. Check control system and devices for evidence of improper operation; clean, lubricate, or adjust as needed to endure proper operation.
2. Check low ambient head pressure control sequence for evidence of improper operation; modify software/algorithm to ensure proper operation
3. Check fan belt tension, wear, and replace if necessary, to ensure proper operation
4. Check the pulleys for evidence of improper alignment or evidence of wear
5. Check fan blades and housings, and if dirty, clean to ensure proper operation
6. Check motors for proper operation; check amperage to ensure the units are not at or near the max value, recommend replacement of motors that are at that point or if not operating at all
7. Check wiring connections, if loose, tighten, if frayed, repair
8. Check couplings on pumps for proper wear and alignment
9. Check pump seals for leaks
10. Check VFDs for proper operation and make any corrections required for proper operation
11. Check motor contactor for pitting or other signs of damage
12. Check refrigerant systems pressure and /or temperatures
13. Check open drive alignment, wear, seating and operation
14. Check serviceable bearings and lubricate if necessary
15. Check for evidence of buildup, fouling, or damage to heat exchangers surfaces; clean if needed
16. Check for proper fluid levels and or leaks
17. Inspect air cooled condenser coil surfaces for plugged fins, leaks, or crushed fins and clean as needed
18. Check evaporator coils for plugged fins, leaks, crushed fins and clean as needed
19. Check compressor oil level and/or pressure on refrigerant systems having oil level and/or pressure measurement means; adjust as needed to ensure proper control
20. Check for proper operation of control valves and vents, make any corrections as needed
21. Check P-traps for proper flow, prime large systems if needed, otherwise clean
22. Check pans and drains for any biological growth, clean or disinfect if needed
23. Check to see if there is any biological growth on the coils, clean or disinfect if needed
24. Check condensate pump for proper operation, ensure the drain line is clear, if not make the necessary corrections
25. Check the integrity of panels on the equipment; replace fasteners as needed to ensure proper integrity and fit/finish of the equipment
26. On cooling tower inspect the blow down or drain valve, clean debris to ensure proper operation
27. Check chemical injector device; clean as needed

28. Check tower fan open drive system couplings, bearings and seals for wear and proper alignment. Adjust or lubricate as needed
29. Visually inspect pumps and associated electrical components
30. Check tower motor(s) and pump(s) for proper operation
31. On humidifiers check the air filter and housing integrity; correct as needed
32. Check for particulate accumulation on filters; clean or replace as necessary to ensure proper operation
33. Check condition, setting, and operation of outdoor sensor, return air sensor, or change-over controller. Adjust components to ensure proper operation
34. Check condition, setting and operation of the mixed air/discharge sensor or changeover controller
35. Check the condition, setting, and operation of the economizer damper motors; adjust or lubricate component to ensure proper operation
36. Check line sets and water lines to ensure that the insulation is not damaged
37. Check combustion chamber, burner, and flue for deterioration or moisture problems, condensation, and combustion products; check for impingement on any part of the chamber. Clean, test and adjust combustion process for proper operation.
38. Check air/dirt separators
39. Check safety devices per the manufacturer's recommendations.
40. Check the makeup water valve to ensure proper operation
41. Check vents for proper operation
42. Check pressure relief for proper operation
43. Check freeze stats, relief valves, flow switches and float switches, low and high-water cutoffs, and other safety devices for proper operation and adjust as needed
44. Check the operation of the reversing valve on heat pumps
45. Check filters and filter racks; install new filters if needed

HVAC Equipment Recommended for Functional Diagnostics

ATC
Hot Water Boilers
Hot Water Pumps
RTUs
Terminal Boxes
Exhaust Fans

B&O Building
AHUs
Terminal Boxes
Hot Water Boilers and Pumps
AHUs
Split DX Condensing Units and AHU

Maintenance
Unit Heaters
Exhaust Fans
Domestic Water heater

EC Building
Hot Water Boilers and Pumps
Chiller and CHW Pumps
AHUs
Terminal Boxes
Exhaust Fans
Unit Heaters/Cabinet Unit Heaters

Student Union
RTUs
Terminal Boxes
Exhaust Fans
Domestic Water Heaters

Weirton Campus
Roof Top Units
Exhaust Fans
Condensing Units
Terminal Units
Domestic Water heater

New Martinsville Campus
Roof Top Units
Exhaust Fans
Domestic Water Heaters
Unit Heaters

Wheeling Campus: B&O Building

ECM-01: Boiler Improvements - Revised Pump Design

Contractor will provide and install three (3) new primary loop pumps for the hydronic heating system. This scope of work will include

- Size the new pumps for three existing boiler primary loops to match the head and flow per the manufacturer's specifications
- Provide and install three (3) new primary pumps one for each of the three (3) boilers
- Provide necessary piping and piping accessories for a properly working system
- Insulate new piping
- Provide new electrical service to each pump and interlock with the boilers per manufacturers specifications
- Add three (3) circuit setter balance valves and associated piping
- Add three (3) check valves and associated piping

Contractor will provide and install one (1) new backup secondary pump to match the existing secondary pump for the main building heating hydronic loop.

- Size the new secondary loop pump to match the existing secondary loop pump in head and flow
- Provide necessary piping and piping accessories for a properly working system
- Insulate new piping
- Provide new electrical service to the new pump
- Shaft grounding rings will be installed on new motors to prevent bearing failures
- Add hand / off / auto switch
- Add check valve and shut off valves as necessary

ECM-04.1: HVAC - Armor Coil Treatment + RSO (2 Outdoor Units)

CONTRACTOR will implement Armor DX coil treatment on the two (2) ground-mounted condenser units (Trane #TTA240B300FA, 20 tons and Carrier #38AKS028- - -501- -, 25 tons, both located on grade at building's south elevation), as follows:

- General clean-up of overall unit and wash-down of coils.
- Deep clean condenser coils to remove final materials in coils, and corrosion
- Disassemble equipment to perform deep clean of condenser coils, removing final materials in coils and corrosion
- Straighten aluminum fins
- Spray each condenser coil with HVAC Armor from both outside-in and inside-out, applying even coverage
- Assemble and ensure equipment is operating

CONTRACTOR will implement HVAC RSO refrigerant additive on units above as follows

- Install HVAC RSO to each refrigeration system in accordance with safety and installation standards of the equipment
- Return to site and change refrigerant filter 30 to 45 days after HVAC RSO run-time
- Includes potential of evacuating refrigerant, change of filter, and re-charge of refrigerant system
- Addition of HVAC Armor RSO product takes 1-3 hrs. depending on machine size
- Follow up, filter replacement and charge adjustments in 30-60 days can take 1-3 days with intermittent downtime for actual replacement of the filters

Not included in this scope of work

- Any maintenance or repairs to the above units not explicitly outlined above

ECM-04.2 ALT: HVAC - Refurbish 2 RTUs (Armor / Restore / FD)

CONTRACTOR will implement Armor DX coil treatment on the two (2) large RTUs (main McQuay units at high roof, East and West locations), as follows:

- General clean-up of overall unit and wash-down of coils.
- Deep clean condenser coils to remove final materials in coils, and corrosion
- Disassemble equipment to perform deep clean of condenser coils, removing final materials in coils and corrosion
- Straighten aluminum fins
- Spray each condenser coil with HVAC Armor from both outside-in and inside-out, applying even coverage
- Assemble and ensure equipment is operating

CONTRACTOR will implement HVAC RSO refrigerant additive on the two (2) large RTUs (main McQuay units at high roof, East and West locations), as follows:

- Install HVAC RSO to each refrigeration system in accordance with safety and installation standards of the equipment
- Return to site and change refrigerant filter 30 to 45 days after HVAC RSO run-time
- Includes potential of evacuating refrigerant, change of filter, and re-charge of refrigerant system
- Addition of HVAC Armor RSO product takes 1-3 hrs. depending on machine size

- Follow up, filter replacement and charge adjustments in 30-60 days can take 1-3 days with intermittent downtime for actual replacement of the filters

Not included in this scope of work

- Any maintenance or repairs to the RTUs not explicitly outlined above

ECM-04.4: HVAC - Add Cold Plasma Ionization to 2 RTUs

CONTRACTOR will furnish and install Cold Plasma Ionization devices on the two (2) large RTUs (main McQuay units at high roof, East and West locations), including transformers and required accessories for complete installation within each RTU. CONTRACTOR to select and size the devices as required based on equipment sizing and manufacturer's recommendations.

Unit	IU Quantity	Ionization Unit Type
RTU-1	1	IBAR (size to fit RTU coil
RTU-2	1	IBAR (size to fit RTU coil

Wheeling Campus: Student Union

ECM-04.1: HVAC - Armor Coil Treatment + RSO (2 RTUs)

CONTRACTOR will implement Armor DX coil treatment on the two (2) Roof Top Units (Daikin #MPS017FE2DV1CYBV, 17 ton and Daikin #MPS015FE2DV1CYBV, 15 ton), as follows

- General clean-up of overall unit and wash-down of coils.
- Deep clean condenser coils to remove final materials in coils, and corrosion
- Disassemble equipment to perform deep clean of condenser coils, removing final materials in coils and corrosion
- Straighten aluminum fins
- Spray each condenser coil with HVAC Armor from both outside-in and inside-out, applying even coverage
- Assemble and ensure equipment is operating

CONTRACTOR will implement HVAC RSO refrigerant additive on units above as follows

- Install HVAC RSO to each refrigeration system in accordance with safety and installation standards of the equipment
- Return to site and change refrigerant filter 30 to 45 days after HVAC RSO run-time
- Includes potential of evacuating refrigerant, change of filter, and re-charge of refrigerant system

- Addition of HVAC Armor RSO product takes 1-3 hrs. depending on machine size
- Follow up, filter replacement and charge adjustments in 30-60 days can take 1-3 days with intermittent downtime for actual replacement of the filters

Not included in this scope of work

- Any maintenance or repairs to the above units not explicitly outlined above

ECM-04.2: HVAC - Add Cold Plasma Ionization to 2 RTUs

CONTRACTOR will furnish and install Cold Plasma Ionization devices on the two (2) rooftop units at this location, including transformers and required accessories for complete installation within each RTU. CONTRACTOR to select and size the devices as required based on equipment sizing and manufacturer's recommendations.

Unit	IU Quantity	Ionization Unit Type
RTU-1	2	FC-48-AC
RTU-2	2	FC-48-AC

ECM-04.3: HVAC - Correct Operation of Reheat Units

CONTRACTOR will perform the following scope to correct Reheat Unit operation

- Verify the operation of electric reheats in terminal VAV reheat boxes and quote necessary repairs for a fully functional system. *** NOTE: Any repairs or replacement parts needed to correct operation of the reheats are excluded and will be quoted as additional work.
- Provide air balancing for the two (2) RTUs serving the student union including the reheat boxes to ensure minimum supply CFM to reheat boxes during heating mode. *** NOTE: Any repairs or replacement parts needed to allow proper balancing are excluded and will be quoted as additional work.

Wheeling Campus: ATC Building

ECM-04.1: HVAC - Add Cold Plasma Ionization to AAON RTU

CONTRACTOR will furnish and install Cold Plasma Ionization device on the single rooftop unit at this location, (AAON # RN-050-8-0-EB09-17A, 50 ton at North mezzanine roof) including transformers and required accessories for complete installation within the RTU. CONTRACTOR to select and size the devices as required based on equipment sizing and manufacturer's recommendations.

ECM-04.2: HVAC - Armor Coil Treatment + RSO (AAON Unit)

CONTRACTOR will implement Armor DX coil treatment on the one (1) Roof Top Units (AAON # RN-050-8-0-EB09-17A, 50 ton at North mezzanine roof), as follows

- General clean-up of overall unit and wash-down of coils.
- Deep clean condenser coils to remove final materials in coils, and corrosion
- Disassemble equipment to perform deep clean of condenser coils, removing final materials in coils and corrosion
- Straighten aluminum fins
- Spray each condenser coil with HVAC Armor from both outside-in and inside-out, applying even coverage
- Assemble and ensure equipment is operating

CONTRACTOR will implement HVAC RSO refrigerant additive on units above as follows

- Install HVAC RSO to each refrigeration system in accordance with safety and installation standards of the equipment
- Return to site and change refrigerant filter 30 to 45 days after HVAC RSO run-time
- Includes potential of evacuating refrigerant, change of filter, and re-charge of refrigerant system
- Addition of HVAC Armor RSO product takes 1-3 hrs. depending on machine size
- Follow up, filter replacement and charge adjustments in 30-60 days can take 1-3 days with intermittent downtime for actual replacement of the filters

Not included in this scope of work

- Any maintenance or repairs to the above units not explicitly outlined above

Wheeling Campus: EC Building

ECM-04.1a: HVAC - Armor Coil Treatment (Chiller)

CONTRACTOR will implement Armor DX coil treatment on one (1) Chiller, as follows

- General clean-up of overall unit and wash-down of coils
- Deep clean condenser coils to remove final materials in coils, and corrosion
- Disassemble equipment to perform deep clean of condenser coils, removing final materials in coils and corrosion
- Straighten aluminum fins
- Spray each condenser coil with HVAC Armor from both outside-in and inside-out, applying even coverage
- Assemble and ensure equipment is operating

Not included in this scope of work

- Any maintenance or repairs to the Chiller not explicitly outlined above

ECM-04.1b: HVAC - Correct Operation of AHU Dampers

CONTRACTOR will relocate the modulating damper actuators to the outside of the Air Handling Units serving all floors and also repair the actuators and dampers (if necessary). AHUs to be addressed are:

Floor	AHUs
1	AH-1
1	AH-2
2	AH-5
3	AH-3
4	AH-4

ECM-04.2: HVAC - Clean Ducts / Coils

CONTRACTOR will clean re-heat coils and install filters in thirty-two (32) Variable Air Volume (VAV) boxes.

Floor	VAV Count
1	2
2	2
3	13
4	15

ECM-04.3a: HVAC – Re-pipe DHW Exhaust

Contractor will extend the exhausts for the domestic hot water heaters located in the basement mechanical room to match the manufacturer recommended length

- Disconnect and remove the existing PVC fresh air intake and combustion air exhaust
- Reroute the fresh air intake over to where the current exhaust is located
- Reroute the exhaust over to where the intake is located
- Test system for proper operation

ECM-04.3b: HVAC – Replace DHW System

Contractor will replace the three (3) storage type domestic heaters (AO Smith 199 KBTUH / 100 gallon) with two (2) AO Smith 199 KBTUH / 100 gallon Smith heaters. This installation shall include the following

- Disconnect the hot water piping, from the water heater and storage tank, to the nearest point of isolation
- Disconnect the electrical service
- Removal and disposal of the existing equipment
- Re use the air intake as is and route exhaust to south elevation alleyway
- Installation of a new water heater and storage tank to provide a properly working system
- Re-pipe the hot water connections, including but not limited to: piping, pipe fittings, valves, wells, taps, ports, etc. for a complete and working system
- Installation of the new flue as necessary to meet local code requirements
- Reconnect the electrical service
- Insulate new hot water piping

ECM-04.6: HVAC - Add Cold Plasma Ionization to AHUs

CONTRACTOR will furnish and install Cold Plasma Ionization devices on the five (5) air handling units at this location, including transformers and required accessories for complete installation within each RTU. CONTRACTOR to select and size the devices as required based on equipment sizing and manufacturer's recommendations.

Unit	IU Quantity	GPS Model
AH-1	1	IBAR (sized for the coil size)
AH-2	1	IBAR (sized for the coil size)
AH-3	1	IBAR (sized for the coil size)
AH-4	1	IBAR (sized for the coil size)
AH-5	1	IBAR (sized for the coil size)

New Martinsville Campus Building

ECM-04.1a: HVAC - Add Disconnects to 4 RTUs

CONTRACTOR will install new electrical disconnects in compliance with current code for the authority having jurisdiction on four (4) rooftop units that do not currently have code-compliant disconnects.

ECM-04.1b: HVAC - Armor Coil Treatment + RSO (Six RTUs)

CONTRACTOR will implement Armor DX coil treatment on the following Roof Top Units

Unit	Make	Model
RTU-01	Carrier	48PMFC20-D-61-G6, 17.5 ton
RTU-02	Carrier	48TFE006-A-611--, 5 ton
RTU-03	Carrier	48PMFC16-C-60-G6, 15 ton
RTU-04	Carrier	48PGFC08-D-60-G6, 7.5 ton
RTU-05	Carrier	48TMF028---611AA, 25 ton
RTU-06	Carrier	48P2D030600003GT1N, 30 ton

The scope of work is as follows

- General clean-up of overall unit and wash-down of coils.
- Deep clean condenser coils to remove final materials in coils, and corrosion
- Disassemble equipment to perform deep clean of condenser coils, removing final materials in coils and corrosion
- Straighten aluminum fins
- Spray each condenser coil with HVAC Armor from both outside-in and inside-out, applying even coverage
- Assemble and ensure equipment is operating

CONTRACTOR will implement HVAC RSO refrigerant additive on the above six (6) RTUs as follows

- Install HVAC RSO to each refrigeration system in accordance with safety and installation standards of the equipment
- Return to site and change refrigerant filter 30 to 45 days after HVAC RSO run-time
- Includes potential of evacuating refrigerant, change of filter, and re-charge of refrigerant system

- Addition of HVAC Armor RSO product takes 1-3 hrs. depending on machine size
- Follow up, filter replacement and charge adjustments in 30-60 days can take 1-3 days with intermittent downtime for actual replacement of the filters

Not included in this scope of work

- Any maintenance or repairs to the above units not explicitly outlined above

ECM-04.4: HVAC - Add Cold Plasma Ionization to larger RTUs

CONTRACTOR will furnish and install Cold Plasma Ionization devices on the three (3) rooftop units at this location, including transformers and required accessories for complete installation within each RTU. CONTRACTOR to select and size the devices as required based on equipment sizing and manufacturer's recommendations. RTUs to be retrofit are:

Unit	IU Quantity	Ionization Unit Type
RTU-1	2	FC48-AC
RTU-5	2	FC48-AC
RTU-6	2	FC48-AC

Weirton Campus Building

ECM-04.2: HVAC - Armor Coil Treatment + RSO (RTUs)

CONTRACTOR will implement Armor DX coil treatment on the following sixteen (16) Roof Top Units

Make	Model	Serial#
Carrier	48P3K035610Z4XBXBR, 35 ton	3611U39991
Carrier	48TCFA05A2A6A0B0C0, 4 ton	1610G50279
Carrier	48TCFA05A2A6A0B0C0, 4 ton	1610G50280
Carrier	48TCFA05A2A6A0B0C0, 4 ton	1610G50281
Carrier	48TCFA05A2A6A0B0C0, 4 ton	1610G50283
Carrier	48TCFA05A2A6A0B0C0, 4 ton	1610G50282
Carrier	48TCFA06A2A6A0B0C0, 5 ton	1610G60170
Carrier	48TCFA06A2A6A0B0C0, 5 ton	1610G60171
Carrier	48TCFA07A2A6A0B0C0, 6 ton	1710G10122
Carrier	48TCFA07A2A6A0B0C0, 6 ton	1710G10121
Carrier	48TCFD12A2A6A0B0C0, 10 ton	1610G50559
Carrier	50P3B0605S00006348, 60 ton	2010U10903
Carrier	50PM-C24-C-6009413, 20 ton	2110G40033
Carrier	50TC-A05A2A6A0B0C0, 5 ton	1610G40243
Carrier	50TC-D08A2A6A0B0C0, 7.5 ton	1710F39586
Carrier	50TC-D12A2A6A0B0C0, 10 ton	1610G50563

The scope of work is as follows

- General clean-up of overall unit and wash-down of coils.
- Deep clean condenser coils to remove final materials in coils, and corrosion
- Disassemble equipment to perform deep clean of condenser coils, removing final materials in coils and corrosion
- Straighten aluminum fins

- Spray each condenser coil with HVAC Armor from both outside-in and inside-out, applying even coverage
- Assemble and ensure equipment is operating

CONTRACTOR will implement HVAC RSO refrigerant additive on the above ten (10) RTUs as follows

Make	Model	Serial#
Carrier	48P3K035610Z4XBXBR, 35 ton	3611U39991
Carrier	48TCFA06A2A6A0B0C0, 5 ton	1610G60170
Carrier	48TCFA06A2A6A0B0C0, 5 ton	1610G60171
Carrier	48TCFA07A2A6A0B0C0, 6 ton	1710G10122
Carrier	48TCFA07A2A6A0B0C0, 6 ton	1710G10121
Carrier	48TCFD12A2A6A0B0C0, 10 ton	1610G50559
Carrier	50P3B0605S00006348, 60 ton	2010U10903
Carrier	50PM-C24-C-6009413, 20 ton	2110G40033
Carrier	50TC-D08A2A6A0B0C0, 7.5 ton	1710F39586
Carrier	50TC-D12A2A6A0B0C0, 10 ton	1610G50563

The scope of work is as follows

- Install HVAC RSO to each refrigeration system in accordance with safety and installation standards of the equipment
- Return to site and change refrigerant filter 30 to 45 days after HVAC RSO run-time
- Includes potential of evacuating refrigerant, change of filter, and re-charge of refrigerant system
- Addition of HVAC Armor RSO product takes 1-3 hrs. depending on machine size
- Follow up, filter replacement and charge adjustments in 30-60 days can take 1-3 days with intermittent downtime for actual replacement of the filters

Not included in this scope of work

- Any maintenance or repairs to the above units not explicitly outlined above

ECM-04.4: HVAC - Add Cold Plasma Ionization to RTUs

CONTRACTOR will furnish and install Cold Plasma Ionization devices on the sixteen (16) rooftop units at this location, including transformers and required accessories for complete installation within each RTU. CONTRACTOR to select and size the devices as required based on equipment sizing and manufacturer's recommendations.

Make	Model	Serial#	CFM	IU Quantity	Ionization Unit Type
Carrier	48TCFA05A2A6A0B0C0, 4 ton	1610G50279	1440	1	FC48-AC
Carrier	48TCFA05A2A6A0B0C0, 4 ton	1610G50280	1400	1	FC48-AC
Carrier	48TCFA05A2A6A0B0C0, 4 ton	1610G50281	1600	1	FC48-AC
Carrier	48TCFA05A2A6A0B0C0, 4 ton	1610G50283	1600	1	FC48-AC
Carrier	48TCFA05A2A6A0B0C0, 4 ton	1610G50282	1480	1	FC48-AC
Carrier	48TCFA06A2A6A0B0C0, 5 ton	1610G60170	1440	1	FC48-AC
Carrier	48TCFA06A2A6A0B0C0, 5 ton	1610G60171	1800	1	FC48-AC
Carrier	50TC-A05A2A6A0B0C0, 5 ton	1610G40243	1900	1	FC48-AC
Carrier	48TCFA07A2A6A0B0C0, 6 ton	1710G10122	2100	1	FC48-AC
Carrier	48TCFA07A2A6A0B0C0, 6 ton	1710G10121	2120	1	FC48-AC
Carrier	50TC-D08A2A6A0B0C0, 7.5 ton	1710F39586	2700	1	FC48-AC
Carrier	48TCFD12A2A6A0B0C0, 10 ton	1610G50559	3820	1	FC48-AC
Carrier	50TC-D12A2A6A0B0C0, 10 ton	1610G50563	3800	1	FC48-AC
Carrier	50PM-C24-C-6009413, 20 ton	2110G40033	8435	2	FC48-AC
Carrier	48P3K035610Z4XBXBR, 35 ton	3611U39991	10085	1	IBAR (sized for coil)
Carrier	50P3B0605S00006348, 60 ton	2010U10903	12400	1	IBAR (sized for coil)

Appendix A: CVA Tool Output

(CVA Tool Spreadsheet is attached behind this cover sheet)

											Project Replacement Timeline		
BUILDING	**Tag:**	**Avg Grade**	**Mfr**	**Model**	**Serial**	**Install Date**	**Units Size**	**ASHRAE Life**	**Remaining Useful Life**	**Projected Replace Year**	**Yrs 1-5**	**Yrs 6-10**	**Yrs 11-15**
WHEELING - ATC:													
	HB-1	B	HPT, Inc	MOD CON 500, 470 MBH out	102412B1033054	2013	500	25	18	2038	$ -	$ -	$ -
	HB-2	B	HPT, Inc	MOD CON 500, 470 MBH out	110612B1057901	2013	500	25	18	2038	$ -	$ -	$ -
	HWCP-1	B	Taco	1941 w/VFD	W1210291832	2013	0.75	15	8	2028	$ -	$ 1,296	$ -
	HWCP-2	B	Taco	1941 w/VFD	MAT13037944	2013	0.75	15	8	2028	$ -	$ 1,296	$ -
	HWPP-1	B	Taco	1941	F1212052876	2013	3.00	15	8	2028	$ -	$ 5,179	$ -
	HWPP-2	B	Taco	1941		2013	3.00	15	8	2028	$ -	$ 5,179	$ -
	RTU-1	C	AAON	RN-050-8-0-EB09-17A, 50 ton, 60.1 kW elec (R410A)	201211-BNEW07849	2013	50	15	8	2028	$ -	$ 182,761	$ -
	FPV-1	B	Titus	DTFS-E-14-L		2013	1850	20	13	2033	$ -	$ -	$ 10,202
	FPV-2	B	Titus	DTFS-E-14-L		2013	1850	20	13	2033	$ -	$ -	$ 10,202
	FPV-3	B	Titus	DTFS-E-10-L		2013	940	20	13	2033	$ -	$ -	$ 5,184
	FPV-4	B	Titus	DTFS-E-12-L		2013	1280	20	13	2033	$ -	$ -	$ 7,059
	FPV-5	B	Titus	DTFS-E-12-L		2013	1550	20	13	2033	$ -	$ -	$ 8,548
	FPV-6	B	Titus	DTFS-E-14-L		2013	2060	20	13	2033	$ -	$ -	$ 11,360
	FPV-7	B	Titus	DTFS-E-10-L		2013	1020	20	13	2033	$ -	$ -	$ 5,625
	FPV-8	B	Titus	DTFS-E-14-L		2013	1900	20	13	2033	$ -	$ -	$ 10,478
	RT-1	B	Titus	DESV-16, 4000 cfm		2013	4000	20	13	2033	$ -	$ -	$ 18,283

											Project Replacement Timeline		
BUILDING	Tag:	Avg Grade	Mfr	Model	Serial	Install Date	Units Size	ASHRAE Life	Remaining Useful Life	Projected Replace Year	Yrs 1-5	Yrs 6-10	Yrs 11-15
	RT-2	B	Titus	DESV-10, 1400 cfm		2013	1400	20	13	2033	$ -	$ -	$ 6,400
	RT-3	B	Titus	DESV-05, 350 cfm		2013	350	20	13	2033	$ -	$ -	$ 1,601
	RT-4	B	Titus	DESV-05, 350 cfm		2013	350	20	13	2033	$ -	$ -	$ 1,601
	RT-5	B	Titus	DESV-04, 225 cfm		2013	225	20	13	2033	$ -	$ -	$ 1,029
	RT-6	B	Titus	DESV-05, 350 cfm		2013	350	20	13	2033	$ -	$ -	$ 1,601
	RT-7	B	Titus	DESV-08, 900 cfm		2013	900	20	13	2033	$ -	$ -	$ 4,115
	RT-8	B	Titus	DESV-04, 225 cfm		2013	225	20	13	2033	$ -	$ -	$ 1,029
	RT-9	B	Titus	DESV-05, 350 cfm		2013	350	20	13	2033	$ -	$ -	$ 1,601
	RT-10	B	Titus	DESV-05, 350 cfm		2013	350	20	13	2033	$ -	$ -	$ 1,601
	RT-11	B	Titus	DESV-05, 350 cfm		2013	350	20	13	2033	$ -	$ -	$ 1,601
	RT-12	B	Titus	DESV-08, 900 cfm		2013	900	20	13	2033	$ -	$ -	$ 4,115
	RT-13	B	Titus	DESV-08, 900 cfm		2013	900	20	13	2033	$ -	$ -	$ 4,115
	RT-14	B	Titus	DESV-08, 900 cfm		2013	900	20	13	2033	$ -	$ -	$ 4,115
	EF-1 (toilets 104)	C	Cook	dnr, .5 hp / 1100 cfm		2013	1	20	13	2033	$ -	$ -	$ 2,482
	EF-2 (elevator 204)	C	Cook	dnr, .25 hp / 200 cfm		2013	1	20	13	2033	$ -	$ -	$ 2,482
	EF-3 (elevator 212)	C	Cook	dnr, .25 hp / 200 cfm		2013	1	20	13	2033	$ -	$ -	$ 2,482
	EF-4 (welding hood)	C	Nederman	NCF 120/15, 15 hp / 6000 cfm w/VFD		2013	1	20	13	2033	$ -	$ -	$ 11,718
	EF-5 (soldering hood)	C	Cook	dnr, inline .5 hp / 200 cfm		2013	1	20	13	2033	$ -	$ -	$ 2,482

											Project Replacement Timeline		
BUILDING	**Tag:**	**Avg Grade**	**Mfr**	**Model**	**Serial**	**Install Date**	**Units Size**	**ASHRAE Life**	**Remaining Useful Life**	**Projected Replace Year**	**Yrs 1-5**	**Yrs 6-10**	**Yrs 11-15**
	EF-6 (diesel lab)	C	Cook	135 ACRU 125R17DEC, .75 hp / 1200 cfm	239SE30372-00/0005401	2013	1	20	13	2033	$ -	$ -	$ 2,482
	CUH1	B				2013	1	13	6	2026	$ -	$ 3,480	$ -
	CUH2	B				2013	1	13	6	2026	$ -	$ 3,480	$ -
	Air Curtain	B				2013	1	13	6	2026	$ -	$ 3,480	$ -
	Infrastrcuture - Grounds	D		Unsafe drainage pool, needs fencing		0	50	25	0	2020	$ 2,210	$ -	$ -
WHEELING CAMPUS													
B&O Building:													
	HWB-1	B	HPT, Inc	MOD CON 850	123P31526	2009	850	25	14	2034	$ -	$ -	$ 81,671
	HWB-2	B	HPT, Inc	MOD CON 850	102P27896	2009	850	25	14	2034	$ -	$ -	$ 81,671
	HWB-3	B	HPT, Inc	MOD CON 850	115P29966	2009	850	25	14	2034	$ -	$ -	$ 81,671
	HWP-1	D	Thrush	3x4x9PF-2G, 15 hp (Crown Triton motor)	(may be older)	2009	15	15	4	2019	$ -	$ -	$ -
	Cond1 (roof, serves IT)	C	Carrier	24ABB360A0032010, 3 ton	3609E12659	2009	3	15	4	2024	$ 13,247	$ -	$ -
	Cond2 (roof, serves IT)	D	Heat Controller	RS1036-1L, 3 ton	95B-C54035	2005	3	15	0	2020	$ 12,000	$ -	$ -
	Cond3 (roof, defunct)		Carrier	38AKS016- - -521- -, 15 ton (abandoned)	2803F40725	2003		15	-2	2020	$ -	$ -	$ -
	RTU1 (R22)	C	McQuay	RDT075CLY /X9 751394 010	FB0U030700598 02	2003	75	15	-2	2019	$ -	$ -	$ -
	RTU1 (R22)	C	McQuay	RDT075CLY /X9 751394 010	FB0U030700525 02	2003	75	15	-2	2019	$ -	$ -	$ -

											Project Replacement Timeline		
BUILDING	**Tag:**	**Avg Grade**	**Mfr**	**Model**	**Serial**	**Install Date**	**Units Size**	**ASHRAE Life**	**Remaining Useful Life**	**Projected Replace Year**	**Yrs 1-5**	**Yrs 6-10**	**Yrs 11-15**
	AH-A (IT Room)	B	Carrier	FY4ANB060T00AAAA	5109A82029	2009	5	15	4	2024	$ 22,077	$ -	$ -
	AH-B (IT Room)	D	York	F2RP030H06G, backup	A0N5517159	2005	3	15	0	2020	$ 12,000	$ -	$ -
	AHU-1 (1st floor)	C	Trane	M-2I, 20 tons, 10500 cfm	K76G03796	1976	20	15	-29	2019	$ -	$ -	$ -
	Cond-1 (grade,south)	C	Trane	TTA240B300FA, 20 tons	6483LYPAD	2006	20	15	1	2019	$ -	$ -	$ -
	AHU-2 (Library)	B	Trane	LPCAD17D2F0RBP, 25 ton, 8500 cfm			25	15	0	2020	$ 100,000	$ -	$ -
	Cond-2 (grade, south)	C	Carrier	38AKS028- - -501- -, 25 tons	2610Q60219	2010	25	15	5	2025	$ 113,142	$ -	$ -
	AHU-3 (Business Office, ceiling)	C		4 ton, NO HEAT			4	15	0	2019	$ -	$ -	$ -
	Cond-3 (grade, south)	D	Carrier	PA13NR048000AEAA	3007X70275	2007	4	15	2	2019	$ -	$ -	$ -
	DHW-1 (@ boiler room)	C	AO Smith	BTR 197 110 (BTR-197-M00N000000)	MA03-2209557-110	2003	199	25	8	2028	$ -	$ 16,488	$ -
	DHW-2 (@ 3L lab 302A)	C	AO Smith	ECS 40 200 (electric, 4.5 kw / 40 gal)	E06A156471	2006	4.5	15	1	2021	$ 3,123	$ -	$ -
	EF / Lab Hood (3L lab 302)	C	DNR			2005	1	20	5	2025	$ 2,038	$ -	$ -
	EF-1 (DB, roof)	C	Dayton	6D593		2005	1	20	5	2025	$ 2,038	$ -	$ -
	VAV-01	C	Krueger	LMHS 09, 1160 cfm		2007	1160	20	7	2027	$ -	$ 4,573	$ -

											Project Replacement Timeline		
BUILDING	Tag:	Avg Grade	Mfr	Model	Serial	Install Date	Units Size	ASHRAE Life	Remaining Useful Life	Projected Replace Year	Yrs 1-5	Yrs 6-10	Yrs 11-15
	VAV-02	C	Krueger	LMHS 09, 1160 cfm		2007	1160	20	7	2027	$ -	$ 4,573	$ -
	VAV-03	C	Krueger	LMHS 06, 515 cfm		2007	515	20	7	2027	$ -	$ 2,031	$ -
	VAV-04	C	Krueger	LMHS 09, 1160 cfm		2007	1160	20	7	2027	$ -	$ 4,573	$ -
	VAV-05	C	Krueger	LMHS 08, 920 cfm		2007	920	20	7	2027	$ -	$ 3,627	$ -
	VAV-06	C	Krueger	LMHS 07, 700 cfm		2007	700	20	7	2027	$ -	$ 2,760	$ -
	VAV-07	C	Krueger	LMHS 10, 1430 cfm		2007	1430	20	7	2027	$ -	$ 5,637	$ -
	VAV-08	C	Krueger	LMHS 12, 2060 cfm		2007	2060	20	7	2027	$ -	$ 8,120	$ -
	VAV-09	C	Krueger	LMHS 10, 1430 cfm		2007	1430	20	7	2027	$ -	$ 5,637	$ -
	VAV-10	C	Krueger	LMHS 09, 1160 cfm		2007	1160	20	7	2027	$ -	$ 4,573	$ -
	VAV-11	C	Krueger	LMHS 09, 1160 cfm		2007	1160	20	7	2027	$ -	$ 4,573	$ -
	VAV-12	C	Krueger	LMHS 09, 1160 cfm		2007	1160	20	7	2027	$ -	$ 4,573	$ -
	VAV-13	C	Krueger	LMHS 14, 2800 cfm		2007	2800	20	7	2027	$ -	$ 11,036	$ -
	VAV-14	C	Krueger	LMHS 10, 1430 cfm		2007	1430	20	7	2027	$ -	$ 5,637	$ -
	VAV-15	C	Krueger	LMHS 09, 1160 cfm		2007	1160	20	7	2027	$ -	$ 4,573	$ -
	VAV-16	C	Krueger	LMHS 10, 1430 cfm		2007	1430	20	7	2027	$ -	$ 5,637	$ -
	VAV-17	C	Krueger	LMHS 09, 1160 cfm		2007	1160	20	7	2027	$ -	$ 4,573	$ -
	VAV-18	C	Krueger	LMHS 09, 1160 cfm		2007	1160	20	7	2027	$ -	$ 4,573	$ -
	VAV-19	C	Krueger	LMHS 16, 3660 cfm		2007	3660	20	7	2027	$ -	$ 14,426	$ -
	VAV-20	C	Krueger	LMHS 12, 2060 cfm		2007	2060	20	7	2027	$ -	$ 8,120	$ -
	VAV-21	C	Krueger	LMHS 10, 1430 cfm		2007	1430	20	7	2027	$ -	$ 5,637	$ -
	VAV-22	C	Krueger	LMHS 12, 2060 cfm		2007	2060	20	7	2027	$ -	$ 8,120	$ -

											Project Replacement Timeline		
BUILDING	**Tag:**	**Avg Grade**	**Mfr**	**Model**	**Serial**	**Install Date**	**Units Size**	**ASHRAE Life**	**Remaining Useful Life**	**Projected Replace Year**	**Yrs 1-5**	**Yrs 6-10**	**Yrs 11-15**
	VAV-23	C	Krueger	LMHS 12, 2060 cfm		2007	2060	20	7	2027	$ -	$ 8,120	$ -
	VAV-24	C	Krueger	LMHS 07, 700 cfm		2007	700	20	7	2027	$ -	$ 2,760	$ -
	VAV-25	C	Krueger	LMHS 12, 2060 cfm		2007	2060	20	7	2027	$ -	$ 8,120	$ -
	VAV-26	C	Krueger	LMHS 16, 3660 cfm		2007	3660	20	7	2027	$ -	$ 14,426	$ -
	VAV-27	C	Krueger	LMHS 08, 920 cfm		2007	920	20	7	2027	$ -	$ 3,627	$ -
	VAV-28	C	Krueger	LMHS 08, 920 cfm		2007	920	20	7	2027	$ -	$ 3,627	$ -
	VAV-29	C	Krueger	LMHS 07, 700 cfm		2007	700	20	7	2027	$ -	$ 2,760	$ -
	VAV-30	C	Krueger	LMHS 07, 700 cfm		2007	700	20	7	2027	$ -	$ 2,760	$ -
	VAV-31	C	Krueger	LMHS 08, 920 cfm		2007	920	20	7	2027	$ -	$ 3,627	$ -
	VAV-32	C	Krueger	LMHS 12, 2060 cfm		2007	2060	20	7	2027	$ -	$ 8,120	$ -
	VAV-33	C	Krueger	LMHS 08, 920 cfm		2007	920	20	7	2027	$ -	$ 3,627	$ -
	VAV-34	C	Krueger	LMHS 12, 2060 cfm		2007	2060	20	7	2027	$ -	$ 8,120	$ -
	VAV-35	C	Krueger	LMHS 12, 2060 cfm		2007	2060	20	7	2027	$ -	$ 8,120	$ -
	ACUR-1	C	Fantech	AS6008/3, 8 kW electric	air curtain	2007	8	13	0	2020	$ 1,417	$ -	$ -
	CUH-1	C	Rittlings	RW-270-02, 230 CFM / HW coil / 17 mbh		2007	230	13	0	2020	$ 3,910	$ -	$ -
WHEELING - EC Building:													
	HWB-1	C	Lochinvar	CHN2071, 1739 / 2070 mbh	F05H00177351	2005	2070	25	10	2030	$ -	$ 180,186	$ -
	HWB-2	C	Lochinvar	CHN2071, 1739 / 2070 mbh	F05H00177193	2005	2070	25	10	2030	$ -	$ 180,186	$ -

											Project Replacement Timeline		
BUILDING	**Tag:**	**Avg Grade**	**Mfr**	**Model**	**Serial**	**Install Date**	**Units Size**	**ASHRAE Life**	**Remaining Useful Life**	**Projected Replace Year**	**Yrs 1-5**	**Yrs 6-10**	**Yrs 11-15**
	Ch-1	C	Carrier	30GXR204-A-661AM, 200 ton	2205F15863	2005	200	15	0	2020	$ 306,944	$ -	$ -
	ChWP-1	C	Taco	15hp		2005	15	15	0	2020	$ 21,250	$ -	$ -
	HWP-2	C	Taco	15hp		2005	15	15	0	2019	$ -	$ -	$ -
	HWP-3	C	Taco	15hp		2005	15	15	0	2019	$ -	$ -	$ -
	HWCP-1	C	Armstrong	12B, 90gmp@15ft, .5hp		2005	0.5	15	0	2020	$708	$ -	$ -
	HWCP-2	C	Armstrong	12B, 90gmp@15ft, .5hp		2005	0.5	15	0	2020	$708	$ -	$ -
	DHW-1	D	AO Smith	BTH 199 970, 199 mbh / 100 gal	J05M004511	2005	199	25	10	2019	$ -	$ -	$ -
	DHW-2	D	AO Smith	BTH 199 970, 199 mbh / 100 gal	J05M004513	2005	199	25	10	2019	$ -	$ -	$ -
	DHW-3	F	AO Smith	BTH 199 970, 199 mbh / 100 gal	J05M004514	2005	199	25	10	2019	$ -	$ -	$ -
	Walk-In Outdoor Unit (combined)	C	ColdZone	CZ4S2A (2 circuit cooler/freezer)	W06E327508	2005	10	15	0	2020	$ 40,000	$ -	$ -
	AHU-1 1Fl Mech (dining + back 1st)	C	Carrier	39MN25, 11000 cfm 15 hp		2005	25	15	0	2020	$ 50,000	$ -	$ -
	AHU-2 1Fl Mech (gym etc.)	C	Carrier	39MN25, 11000 cfm 20 hp		2005	25	15	0	2020	$ 50,000	$ -	$ -
	AHU-3 3Fl Mech (3rd floor)	C	Carrier	39MN36, 17000 cfm 30 hp		2005	36	15	0	2020	$ 72,000	$ -	$ -

											Project Replacement Timeline		
BUILDING	**Tag:**	**Avg Grade**	**Mfr**	**Model**	**Serial**	**Install Date**	**Units Size**	**ASHRAE Life**	**Remaining Useful Life**	**Projected Replace Year**	**Yrs 1-5**	**Yrs 6-10**	**Yrs 11-15**
	AHU-4 4Fl Mech (4th floor)	C	Carrier	39MN50, 22440 cfm 40 hp		2005	50	15	0	2020	$ 100,000	$ -	$ -
	AHU-5 Kitchen / Kitchen	C	Carrier	39MN12, 6020 cfm 7.5 hp		2005	12	15	0	2020	$ 24,000	$ -	$ -
	AHU-6 Kitchen (MAU?)	C	Carrier	39MN21, 13012 cfm 15 hp		2005	21	15	0	2020	$ 42,000	$ -	$ -
	VAV-1	B	Carrier	35E, 3000 cfm		2005	3000	15	0	2020	$ 9,947	$ -	$ -
	VAV-2	B	Carrier	35E, 3250 cfm		2005	3250	15	0	2020	$ 10,776	$ -	$ -
	VAV-3	B	Carrier	35E, 5000 cfm		2005	5000	15	0	2020	$ 16,578	$ -	$ -
	VAV-4	B	Carrier	35E, 1250 cfm		2005	1250	15	0	2020	$ 4,145	$ -	$ -
	VAV-5	B	Carrier	35E, 1250 cfm		2005	1250	15	0	2020	$ 4,145	$ -	$ -
	VAV-6	B	Carrier	35E, 1000 cfm		2005	1000	15	0	2020	$ 3,316	$ -	$ -
	VAV-7	B	Carrier	35E, 1125 cfm		2005	1125	15	0	2020	$ 3,730	$ -	$ -
	VAV-8	B	Carrier	35E, 350 cfm		2005	350	15	0	2020	$ 1,160	$ -	$ -
	VAV-9	B	Carrier	35E, 1495 cfm		2005	1495	15	0	2020	$ 4,957	$ -	$ -
	VAV-10	B	Carrier	35E, 900 cfm		2005	900	15	0	2020	$ 2,984	$ -	$ -
	VAV-11	B	Carrier	35E, 1780 cfm		2005	1780	15	0	2020	$ 5,902	$ -	$ -
	VAV-12	B	Carrier	35E, 1450 cfm		2005	1450	15	0	2020	$ 4,808	$ -	$ -
	VAV-13	B	Carrier	35E, 1200 cfm		2005	1200	15	0	2020	$ 3,979	$ -	$ -
	VAV-14	B	Carrier	35E, 1200 cfm		2005	1200	15	0	2020	$ 3,979	$ -	$ -
	VAV-15	B	Carrier	35E, 1700 cfm		2005	1700	15	0	2020	$ 5,637	$ -	$ -
	VAV-16	B	Carrier	35E, 2450 cfm		2005	2450	15	0	2020	$ 8,123	$ -	$ -

											Project Replacement Timeline		
BUILDING	Tag:	Avg Grade	Mfr	Model	Serial	Install Date	Units Size	ASHRAE Life	Remaining Useful Life	Projected Replace Year	Yrs 1-5	Yrs 6-10	Yrs 11-15
	VAV-17	B	Carrier	35E, 1350 cfm		2005	1350	15	0	2020	$ 4,476	$ -	$ -
	VAV-18	B	Carrier	35E, 1400 cfm		2005	1400	15	0	2020	$ 4,642	$ -	$ -
	VAV-19	B	Carrier	35E, 1100 cfm		2005	1100	15	0	2020	$ 3,647	$ -	$ -
	VAV-20	B	Carrier	35E, 1250 cfm		2005	1250	15	0	2020	$ 4,145	$ -	$ -
	VAV-21	B	Carrier	35E, 2100 cfm		2005	2100	15	0	2020	$ 6,963	$ -	$ -
	VAV-22	B	Carrier	35E, 1290 cfm		2005	1,290	15	0	2020	$ 4,277	$ -	$ -
	VAV-23	B	Carrier	35E, 750 cfm		2005	750	15	0	2020	$ 2,487	$ -	$ -
	VAV-24	B	Carrier	35E, 1550 cfm		2005	1550	15	0	2020	$ 5,139	$ -	$ -
	VAV-25	B	Carrier	35E, 1850 cfm		2005	1850	15	0	2020	$ 6,134	$ -	$ -
	VAV-26	B	Carrier	35E, 1600 cfm		2005	1600	15	0	2020	$ 5,305	$ -	$ -
	VAV-27	B	Carrier	35E, 1600 cfm		2005	1600	15	0	2020	$ 5,305	$ -	$ -
	VAV-28	B	Carrier	35E, 3000 cfm		2005	3000	15	0	2020	$ 9,947	$ -	$ -
	VAV-29	B	Carrier	35E, 2000 cfm		2005	2,000	15	0	2020	$ 6,631	$ -	$ -
	VAV-30	B	Carrier	35E, 1100 cfm		2005	1,100	15	0	2020	$ 3,647	$ -	$ -
	VAV-31	B	Carrier	35E, 600 cfm		2005	600	15	0	2020	$ 1,989	$ -	$ -
	CUH-1	B	Airtherm	F-1020-06, 630 cfm, 49.4 mbh		2005	630	13	-2	2020	$ 10,710	$ -	$ -
	CUH-2	B	Airtherm	F-1020-06, 630 cfm, 49.4 mbh		2005	630	13	-2	2020	$ 10,710	$ -	$ -
	CUH-3	B	Airtherm	F-1020-03, 335 cfm, 23.5 mbh		2005	335	13	-2	2020	$ 5,695	$ -	$ -
	CUH-4	B	Airtherm	RC-1200-06, 335 cfm, 23.5 mbh		2005	335	13	-2	2020	$ 5,695	$ -	$ -

											Project Replacement Timeline		
BUILDING	**Tag:**	**Avg Grade**	**Mfr**	**Model**	**Serial**	**Install Date**	**Units Size**	**ASHRAE Life**	**Remaining Useful Life**	**Projected Replace Year**	**Yrs 1-5**	**Yrs 6-10**	**Yrs 11-15**
	EF-1	B	Greenheck	GB-180-10	05E33291	2005	1	20	5	2025	$ 2,038	$ -	$ -
	EF-2	B	Penn Vent	Z8SRA, 350 cfm, fractional		2005	1	20	5	2025	$ 2,038	$ -	$ -
	EF-3	B	Penn Vent	Z8SRA, 350 cfm, fractional		2005	1	20	5	2025	$ 2,038	$ -	$ -
	EF-4	B	Greenheck	CUBE-360XP-75-6	06E33032	2005	1	20	5	2025	$ 2,038	$ -	$ -
	EF-5	B	Greenheck	CUBE-300XP-30-6	05E33007	2005	1	20	5	2025	$ 2,038	$ -	$ -
	EF-6	B	Greenheck	CUBE-200HP-30-6	05E32992	2005	1	20	5	2025	$ 2,038	$ -	$ -
	EF-7	B	Penn Vent	WFX11Q, 450 cfm, .2 hp		2005	1	20	5	2025	$ 2,038	$ -	$ -
	EF-8	B	Penn Vent	Z121RSA, 1000 cfm, .5 hp		2005	1	20	5	2025	$ 2,603	$ -	$ -
	UH-1	B	Reznor	WS 18/24, 270 cfm, 13 mbh		2005	1	13	-2	2020	$ 2,300	$ -	$ -
	UH-2	B	Reznor	WS 18/24, 270 cfm, 13 mbh		2005	1	13	-2	2020	$ 2,300	$ -	$ -
	UH-3	B	Reznor	WS 60/85, 1250 cfm, 64 mbh		2005	1	13	-2	2020	$ 2,300	$ -	$ -
	FAH-1	B	Penn Vent	Airette, 93x148		2005	1	13	-2	2020	$ 2,500	$ -	$ -
WHEELING - Maintenance:													
	UH-1	C	Reznor	dnr (~75 kbtuh)		2000	1	13	-7	2020	$ 2,500	$ -	$ -
	UH-2	C	Reznor	dnr (~75 kbtuh)		2000	1	13	-7	2020	$ 2,500	$ -	$ -
	UH-3	B	Reznor	dnr (~75 kbtuh)		2010	1	13	3	2023	$ 2,693	$ -	$ -

											Project Replacement Timeline		
BUILDING	**Tag:**	**Avg Grade**	**Mfr**	**Model**	**Serial**	**Install Date**	**Units Size**	**ASHRAE Life**	**Remaining Useful Life**	**Projected Replace Year**	**Yrs 1-5**	**Yrs 6-10**	**Yrs 11-15**
	EF-1	C	dnr	dnr (~ 30" belt drive fan)		2000	1	15	-5	2020	$ 1,800	$ -	$ -
	EF-2	C	dnr	dnr (~ 30" belt drive fan)		2000	1	15	-5	2020	$ 1,800	$ -	$ -
	DHW	C	HydroJet	dnr (~40 kbtuh / 40 gal)		2010	40	25	15	2035	$ -	$ -	$ -
WHEELING - Student Union													
	DHW-1 (utility rm)	B	White	LD50S33B090, 9 kW / 50 gal	KD18193746	2013	9	15	8	2028	$ -	$ 7,423	$ -
	EH-1 (utility rm)	B	Qmark	fractional, electric		2013	2	15	8	2028	$ -	$732	$ -
	EF-1 (utility rm)	B	Cook	fractional		2013	1	15	8	2028	$ -	$ 2,194	$ -
	RTU-1	B	Daikin	MPS017FE2DV1CYBV	FBOU130300409	2013	17.5	15	8	2028	$ -	$ 106,611	$ -
	RTU-2	B	Daikin	MPS015FE2DV1CYBV	FBOU130300408	2013	15.5	15	8	2028	$ -	$ 94,427	$ -
	EF-2 (roof)	B	Cook	150 ACRUH 150RH17DEC, .5hp / 640 cfm	158SE54180-00/0002201	2013	1	15	8	2028	$ -	$ 2,194	$ -
	EF-3 (back wall)	B	Cook	dnr (back alley, probably B&N kitchen)		2013	1	15	8	2028	$ -	$ 2,194	$ -
	EH-5 (B&N storage)	B	ComfortZone	dnr, electric (very small unit)		2016	1	15	11	2031	$ -	$ -	$ 2,363
	RT-01	C	TItus	DESV 05, 270 cfm / coil L63 (check SIZE)		2013	270	20	13	2033	$ -	$ -	$ 1,235

											Project Replacement Timeline		
BUILDING	Tag:	Avg Grade	Mfr	Model	Serial	Install Date	Units Size	ASHRAE Life	Remaining Useful Life	Projected Replace Year	Yrs 1-5	Yrs 6-10	Yrs 11-15
	RT-02	C	TItus	DESV 05, 270 cfm / coil L63 (check SIZE)		2013	270	20	13	2033	$ -	$ -	$ 1,235
	RT-03	C	TItus	DESV 05, 270 cfm / coil L63 (check SIZE)		2013	270	20	13	2033	$ -	$ -	$ 1,235
	RT-04	C	TItus	DESV 05, 270 cfm / coil L63 (check SIZE)		2013	270	20	13	2033	$ -	$ -	$ 1,235
	RT-05	C	TItus	DESV 05, 270 cfm / coil L63 (check SIZE)		2013	270	20	13	2033	$ -	$ -	$ 1,235
	RT-06	C	TItus	DESV 05, 270 cfm / coil L63 (check SIZE)		2013	270	20	13	2033	$ -	$ -	$ 1,235
	RT-07	C	TItus	DESV 05, 270 cfm / coil L63 (check SIZE)		2013	270	20	13	2033	$ -	$ -	$ 1,235
	RT-08	C	TItus	DESV 05, 270 cfm / coil L63 (check SIZE)		2013	270	20	13	2033	$ -	$ -	$ 1,235
	RT-09	C	TItus	DESV 05, 270 cfm / coil L63	F/N A-938747-10	2013	270	20	13	2033	$ -	$ -	$ 1,235
	RT-10	C	TItus	DESV 05, 270 cfm / coil L63	F/N A-938747-13	2013	270	20	13	2033	$ -	$ -	$ 1,235
	RT-11	C	TItus	DESV 05, 270 cfm / coil L63 (check SIZE)		2013	270	20	13	2033	$ -	$ -	$ 1,235
	FPV-01	C	TItus			2013	1900	20	13	2033	$ -	$ -	$ 10,478
	FPV-02	C	TItus			2013	1900	20	13	2033	$ -	$ -	$ 10,478
	FPV-03	C	TItus	DTFS-D-12-L, 1500/1900 cfm, 1/3 hp fan, 9.0 kW heat		2013	1900	20	13	2033	$ -	$ -	$ 10,478
	FPV-04	C	TItus			2013	1900	20	13	2033	$ -	$ -	$ 10,478

											Project Replacement Timeline		
BUILDING	**Tag:**	**Avg Grade**	**Mfr**	**Model**	**Serial**	**Install Date**	**Units Size**	**ASHRAE Life**	**Remaining Useful Life**	**Projected Replace Year**	**Yrs 1-5**	**Yrs 6-10**	**Yrs 11-15**
	FPV-05	C	TItus			2013	1900	20	13	2033	$ -	$ -	$ 10,478
	FPV-06	C	TItus	DTFS-C-10-L, 1050/1200 cfm, 1/4 hp fan, 6.0 kW heat		2013	1900	20	13	2033	$ -	$ -	$ 10,478
	EH-2	B				2013	12	13	6	2026	$ -	$ 4,176	$ -
	EH-3	B				2013	12	13	6	2026	$ -	$ 4,176	$ -
	EH-4	B				2013	12	13	6	2026	$ -	$ 4,176	$ -
WEIRTON CAMPUS :													
	RTU	B	Carrier	48P3K035610Z4XBXBR, 35 ton / 15 kcfm, gas heat	3611U39991	2011	35	15	6	2026	$ -	$ 202,947	$ -
	RTU	C	Carrier	50P3B0605S00006348, 60 ton, electric heat	2010U10903	2010	60	15	5	2025	$ 339,423	$ -	$ -
	RTU	C	Carrier	48TCFD12A2A6A0B0C0, 10 ton, gas heat	1610G50559	2010	10	15	5	2025	$ 56,571	$ -	$ -
	RTU	C	Carrier	50TC-D08A2A6A0B0C0, 7.5 ton, electric heat	1710F39586	2010	7.5	15	5	2025	$ 42,429	$ -	$ -
	RTU	C	Carrier	48TCFA05A2A6A0B0C0, 4 ton	1610G50279	2010	4	15	5	2025	$ 22,629	$ -	$ -
	RTU	C	Carrier	48TCFA05A2A6A0B0C0, 4 ton	1610G50280	2010	4	15	5	2025	$ 22,629	$ -	$ -

											Project Replacement Timeline		
BUILDING	Tag:	Avg Grade	Mfr	Model	Serial	Install Date	Units Size	ASHRAE Life	Remaining Useful Life	Projected Replace Year	Yrs 1-5	Yrs 6-10	Yrs 11-15
	RTU	C	Carrier	50TC-D12A2A6A0B0C0, 10 ton, electric heat	1610G50563	2010	10	15	5	2025	$ 56,571	$ -	$ -
	RTU	C	Carrier	48TCFA06A2A6A0B0C0, 5 ton	1610G60170	2010	5	15	5	2025	$ 28,286	$ -	$ -
	RTU	C	Carrier	48TCFA06A2A6A0B0C0, 5 ton	1610G60171	2010	5	15	5	2025	$ 28,286	$ -	$ -
	RTU	C	Carrier	48TCFA07A2A6A0B0C0, 6 ton	1710G10122	2010	6	15	5	2025	$ 33,943	$ -	$ -
	RTU	C	Carrier	48TCFA05A2A6A0B0C0, 4 ton	1610G50281	2010	4	15	5	2025	$ 22,629	$ -	$ -
	RTU	C	Carrier	48TCFA05A2A6A0B0C0, 4 ton	1610G50283	2010	4	15	5	2025	$ 22,629	$ -	$ -
	RTU	C	Carrier	50TC-A05A2A6A0B0C0, 5 ton, electric heat	1610G40243	2010	5	15	5	2025	$ 28,286	$ -	$ -
	RTU	C	Carrier	48TCFA05A2A6A0B0C0, 4 ton	1610G50282	2010	4	15	5	2025	$ 22,629	$ -	$ -
	RTU	C	Carrier	48TCFA07A2A6A0B0C0, 6 ton	1710G10121	2010	6	15	5	2025	$ 33,943	$ -	$ -
	EF-1 (welding fume hoods)	C	Nederman	NCF 30/15, 1000 cfm, 3 hp, VFD	1198346	2010	1	20	10	2030	$ -	$ 6,401	$ -
	EF	C	Greenheck	G-097-B Mark 1	12627403 1110	2010	1	20	10	2030	$ -	$ 6,401	$ -
	EF	C	Cook	210C5B 50 (LCC ACE)	239S5496820000007010599	2010	1	20	10	2030	$ -	$ 6,401	$ -
	RF-2 (Roof Exhaust)	C	PennVent	BB-65?		2010	1	20	10	2030	$ -	$ 6,401	$ -

											Project Replacement Timeline		
BUILDING	**Tag:**	**Avg Grade**	**Mfr**	**Model**	**Serial**	**Install Date**	**Units Size**	**ASHRAE Life**	**Remaining Useful Life**	**Projected Replace Year**	**Yrs 1-5**	**Yrs 6-10**	**Yrs 11-15**
	RF	C	PennVent	BB-45		2010	1	20	10	2030	$ -	$ 6,401	$ -
	RF-4 (Roof Exhaust)	C	PennVent	BB-45		2010	1	20	10	2030	$ -	$ 6,401	$ -
	EF-5	C	Cook	100C10DH	239S5496820000054010599	2010	1	20	10	2030	$ -	$ 6,401	$ -
	EF-6	C	Cook	210C5B 33	239S5496820000063010599	2010	1	20	10	2030	$ -	$ 6,401	$ -
	EF-3	D	Cook	100 CPV	239S5580800000007010699	2010	1	20	10	2030	$ -	$ 6,401	$ -
	EF-4	C	Cook	365C9B 50	239S5496820000043010599	2010	1	20	10	2030	$ -	$ 6,401	$ -
	EF-2	C	Cook	70C3B	239S5496820000018010599	2010	1	20	10	2030	$ -	$ 6,401	$ -
	SFC	C	Mitsubishi	PLH36FK, 3 ton		2010	3	15	5	2025	$ 6,789	$ -	$ -
	Cond	C	Mitsubishi	PU42EK2, 3 ton	none	2010	3	15	5	2025	$ 6,789	$ -	$ -
	RTU	C	Carrier	50PM-C24-C-6009413, 20 tons electric heat	2110G40033	2010	20	15	5	2025	$ 90,514	$ -	$ -
	ECH-1	C	Brasch	C404L Type A, 17.1 mbh / 5 kW		2010	5	13	3	2023	$ 1,616	$ -	$ -
	ECH-2	C	Brasch	C304L Type A, 17.1 mbh / 5 kW		2010	5	13	3	2023	$ 1,616	$ -	$ -
	EUH-1	C	Indeeco	237-F24U-0086U, 7.5 kW		2010	7.5	13	3	2023	$ 2,424	$ -	$ -
	EUH-2	C	Indeeco	237-F24U-0106U, 10 kW		2010	10	13	3	2023	$ 3,232	$ -	$ -
	EWH-1	C	Brasch	FRA-1527, 4.8 kW		2010	5	13	3	2023	$ 1,616	$ -	$ -
	EWH-2	C	Brasch	FRA-1527, 4.8 kW		2010	5	13	3	2023	$ 1,616	$ -	$ -
	EDC-01	C	Indeeco	QUA, 12.5 kW / 790 cfm		2010	790	20	10	2030	$ -	$ 3,354	$ -

											Project Replacement Timeline		
BUILDING	Tag:	Avg Grade	Mfr	Model	Serial	Install Date	Units Size	ASHRAE Life	Remaining Useful Life	Projected Replace Year	Yrs 1-5	Yrs 6-10	Yrs 11-15
	EDC-02	C	Indeeco	QUA, 10.0 kW / 725 cfm		2010	725	20	10	2030	$ -	$ 3,078	$ -
	EDC-03	C	Indeeco	QUA, 3.0 kW / 205 cfm		2010	205	20	10	2030	$ -	$871	$ -
	EDC-04	C	Indeeco	QUA, 6.0 kW / 380 cfm		2010	380	20	10	2030	$ -	$ 1,614	$ -
	EDC-05	C	Indeeco	QUA, 8.0 kW / 560 cfm		2010	560	20	10	2030	$ -	$ 2,378	$ -
	EDC-06	C	Indeeco	QUA, 12.5 kW / 800 cfm		2010	800	20	10	2030	$ -	$ 3,396	$ -
	EDC-07	C	Indeeco	QUA, 2.5 kW / 150 cfm		2010	150	20	10	2030	$ -	$638	$ -
	EDC-08	C	Indeeco	QUA, 5.0 kW / 300 cfm		2010	300	20	10	2030	$ -	$ 1,274	$ -
	EDC-09	C	Indeeco	QUA, 40.0 kW / 2820 cfm		2010	2820	20	10	2030	$ -	$ 11,970	$ -
	EDC-10	C	Indeeco	QUA, 8.0 kW / 550 cfm		2010	550	20	10	2030	$ -	$ 2,335	$ -
	EDC-11	C	Indeeco	QUA, 3.0 kW / 200 cfm		2010	200	20	10	2030	$ -	$850	$ -
	EDC-12	C	Indeeco	QUA, 6.0 kW / 400 cfm		2010	400	20	10	2030	$ -	$ 1,699	$ -
	EDC-13	C	Indeeco	QUA, 15.0 kW / 1060 cfm		2010	1060	20	10	2030	$ -	$ 4,500	$ -
	EDC-14	C	Indeeco	QUA, 17.5 kW / 1175 cfm, 3ph/480	990402/140-497282-14	2010	1175	20	10	2030	$ -	$ 4,988	$ -

											Project Replacement Timeline		
BUILDING	**Tag:**	**Avg Grade**	**Mfr**	**Model**	**Serial**	**Install Date**	**Units Size**	**ASHRAE Life**	**Remaining Useful Life**	**Projected Replace Year**	**Yrs 1-5**	**Yrs 6-10**	**Yrs 11-15**
	EDC-15	C	Indeeco	QUA, 17.5 kW / 1190 cfm		2010	1190	20	10	2030	$ -	$ 5,052	$ -
	EDC-16	C	Indeeco	QUA, 3.0 kW / 180 cfm		2010	180	20	10	2030	$ -	$765	$ -
	EDC-17	C	Indeeco	QUA, 3.0 kW / 180 cfm		2010	180	20	10	2030	$ -	$765	$ -
	EDC-18	C	Indeeco	QUA, 20.0 kW / 1300 cfm		2010	1300	20	10	2030	$ -	$ 5,519	$ -
	EDC-19	C	Indeeco	QUA, 17.5 kW / 1200 cfm		2010	1200	20	10	2030	$ -	$ 5,094	$ -
	EDC-20	C	Indeeco	QUA, 6.0 kW / 350 cfm		2010	350	20	10	2030	$ -	$ 1,486	$ -
	FPV-01	C	Titus	DTFS-F D12, 0.5 hp, 500/1600 cfm, 14.0 kW heat		2013	1600	20	13	2033	$ -	$ -	$ 8,823
	FPV-02	C	Mestek	EZTE 16", 200/1150 cfm w/Tutco Heater		2013	1150	20	13	2033	$ -	$ -	$ 6,342
	FPV-03	C	Titus	DTFS-F B06, 1/3 hp, 100/500 cfm, 6.0 kW heat		2013	500	20	13	2033	$ -	$ -	$ 2,758
	FPV-04	C	Titus	DTFS-F B08, 1/3 hp, 100/570 cfm, 5.0 kW heat		2013	570	20	13	2033	$ -	$ -	$ 3,144
	FPV-05	C	Titus	DTFS-F C08, 1/3 hp, 400/880 cfm, 8.0 kW heat		2013	880	20	13	2033	$ -	$ -	$ 4,853

											Project Replacement Timeline		
BUILDING	Tag:	Avg Grade	Mfr	Model	Serial	Install Date	Units Size	ASHRAE Life	Remaining Useful Life	Projected Replace Year	Yrs 1-5	Yrs 6-10	Yrs 11-15
	FPV-06	C	Titus	DTFS-F C10, 1/3 hp, 300/935 cfm, 7.0 kW heat		2013	935	20	13	2033	$ -	$ -	$ 5,157
	FPV-07	C	Titus	DTFS-F B08, 1/3 hp, 400/1010 cfm, 8.0 kW heat		2013	1010	20	13	2033	$ -	$ -	$ 5,570
	RT-01, rm 104	C	Titus	DESV 8 340/680 cfm, 4.0 kW heat		2013	680	20	13	2033	$ -	$ -	$ 3,109
	RT-02, rm 107	C	Titus	DESV 14 835/1665 cfm, 10.0 kW heat		2013	1665	20	13	2033	$ -	$ -	$ 7,611
	RT-03, rm 108	C	Titus	DESV 5 60/120 cfm, 1.0 kW heat		2013	120	20	13	2033	$ -	$ -	$549
	RT-04, rm 200	C	Titus	DESV 6 150/300 cfm, 1.5 kW heat		2013	300	20	13	2033	$ -	$ -	$ 1,372
	RT-05, rm 201	C	Titus	DESV 6 80/160 cfm, 1.0 kW heat		2013	160	20	13	2033	$ -	$ -	$732
	RT-06, rm 205/213	C	Titus	DESV 6 120/215 cfm, 2.5 kW heat		2013	215	20	13	2033	$ -	$ -	$984
	RT-07, rm 207	C	Titus	DESV 6 145/285 cfm, 2.5 kW heat		2013	285	20	13	2033	$ -	$ -	$ 1,304
	RT-08, rm 208	C	Titus	DESV 6 95/185 cfm, 1.5 kW heat		2013	185	20	13	2033	$ -	$ -	$847
	RT-09, rm 211	C	Titus	DESV 8 380/380 cfm, 4.5 kW heat		2013	380	20	13	2033	$ -	$ -	$ 1,738
	RT-10, rm 110/210	C	Titus	in panel confirm		2013	350	20	13	2033	$ -	$ -	$ 1,601
	EH-01	C	QMark	10.0 kW		2013	10	13	6	2026	$ -	$ 3,480	$ -

										Project Replacement Timeline		
BUILDING	**Tag:**	**Avg Grade**	**Mfr**	**Model**	**Serial**	**Install Date**	**Units Size**	**ASHRAE Life**	**Remaining Useful Life**	**Projected Replace Year**	**Yrs 1-5**	**Yrs 6-10**	**Yrs 11-15**
	EH-02	C	QMark	5.0 kW		2013	5	13	6	2026	$ -	$ 1,741	$ -
	EH-03	C	QMark	5.0 kW		2013	5	13	6	2026	$ -	$ 1,741	$ -
	EH-04	C	QMark	10.0 kW		2013	10	13	6	2026	$ -	$ 3,480	$ -
	DHW (elec rm, new sect)	B	Rheem/Ruud	ES85-15-G, 82 gal, 15 kW electric	A301803198	2018	15	15	13	2033	$ -	$ -	$ 13,997
	Solar PV System	C	SMA / Sunny Boy	SB 6000US, 6000 W(ac)	2001543402	2010	6000	20	10	2030	$ -	$ 46,084	$ -
	Lighting Control Panel	C	Lutron	XPS12-FTm 12 circuit @16A, 120/277v	184869001	2010	12	15	5	2025	$ 4,809	$ -	$ -
	DHW (maint shop /shipping)	B	Bradford White	RE350S6, 240v, 50 gal, 4.5/4.5 kW	MF36313420	2015	15	15	10	2030	$ -	$ 12,997	$ -
	surge protection	B	United Power	ESP		2010	1	15	5	2025	$ 8,015	$ -	$ -
	DHW (women's rm closet)	B	Bradford White	E32-50S3-3C18, 18 kW 3 element, 480v	FC11649386	2010	15	15	5	2025	$ 11,488	$ -	$ -
	DHW (libe bathroom)	C	EemaX	EX95, 9.5/7.1 kW	7895	2010	15	15	5	2025	$ 1,504	$ -	$ -
NEW MARTINSVILLE CAMPUS:													
	RTU-04	C	Carrier	48PGFC08-D-60-G6, 7.5 ton, 185 MBH (R410A)	1710G40012	2010	7.5	15	5	2019	$ -	$ -	$ -
	RTU-05	D	Carrier	48TMF028---611AA, 25 ton, 292 MBH (R22)	2906U16201	2006	25	15	1	2019	$ -	$ -	$ -

											Project Replacement Timeline		
BUILDING	**Tag:**	**Avg Grade**	**Mfr**	**Model**	**Serial**	**Install Date**	**Units Size**	**ASHRAE Life**	**Remaining Useful Life**	**Projected Replace Year**	**Yrs 1-5**	**Yrs 6-10**	**Yrs 11-15**
	RTU-03	C	Carrier	48PMFC16-C-60-G6, 15 ton, 205 MBH (R410A)	1710G50005	2010	15	15	5	2025	$ 67,885	$ -	$ -
	RTU-06	C	Carrier	48P2D030600003GT1N, 30 ton, 260 MBH (R410A)	1910U10090	2010	30	15	5	2025	$ 135,770	$ -	$ -
	RTU-01	C	Carrier	48PMFC20-D-61-G6, 17.5 ton, 205 MBH (R410A)	1710G30033	2010	17.5	15	5	2025	$ 79,200	$ -	$ -
	RTU-02	D	Carrier	48TFE006-A-611--, 5 ton, 92 MBH (R22)	2405G10197	2005	5	15	0	2019	$ -	$ -	$ -
	EF-01	C	Cook	1210 CFM / 1/2 HP (ROOF)		2005	1	20	5	2025	$ 2,038	$ -	$ -
	EF-02	C	Cook	100 CFM / 60W (CEILING)		2005	1	20	5	2025	$ 2,038	$ -	$ -
	EF-03	C	Cook	100 CFM / 60W (CEILING)		2005	1	20	5	2025	$ 2,038	$ -	$ -
	EF-04A	C	Cook	1550 CFM / 1/3 HP (ROOM)		2005	1	20	5	2025	$ 2,038	$ -	$ -
	EF-04B	C	Cook	1550 CFM / 1/3 HP (ROOM)		2005	1	20	5	2025	$ 2,038	$ -	$ -
	EF-05	C	Cook	150 CFM / 115W (CEILING)		2005	1	20	5	2025	$ 2,038	$ -	$ -
	EF-06	C	Cook	1000 CFM / 1/6 HP (WALL)		2005	1	20	5	2025	$ 2,038	$ -	$ -
	EF-07	C	Cook	210 CFM / 81W (INLINE)		2005	1	20	5	2025	$ 2,038	$ -	$ -

											Project Replacement Timeline		
BUILDING	**Tag:**	**Avg Grade**	**Mfr**	**Model**	**Serial**	**Install Date**	**Units Size**	**ASHRAE Life**	**Remaining Useful Life**	**Projected Replace Year**	**Yrs 1-5**	**Yrs 6-10**	**Yrs 11-15**
	EF-08	C	Cook	375 CFM / 155W (CEILING)		2005	1	20	5	2025	$ 2,038	$ -	$ -
	SC1 (IT Room)	C	MovinCool	OfficePro 24, 2 ton		2010	2	15	5	2019	$ -	$ -	$ -
	DHW (closet / roof access)	C	EnviroTemp	gas, 50 MBH		2010	50	25	15	2035	$ -	$ -	$ -
	DHW (1ST FL)	A	Rheem	ClassicPlus PRO+G75-76N RH, 75 gal, 75.1 MBH, gas	Q191829534	2018	75	25	23	2043	$ -	$ -	$ -
	HWP-1	C	B&G	SC75B, 1/12 hp, 5 gpm		2005	1.00	15	0	2020	$ 1,417	$ -	$ -
	ECUH-1	C	Trane	B-2E002, 1/12 hp fan, 220 cfm, 3.75 kW, 208/3/60		2005	4	13	-2	2020	$ 1,200	$ -	$ -
											$2,440,803	**$1,421,217**	**$ 539,910**

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SECTION ONE: GENERAL INFORMATION AND INSTRUCTIONS

1. Purpose: West Virginia Northern Community College (hereinafter referred to as the "WVNCC") is soliciting proposals pursuant to **West Virginia Code** §5A-3-10b to provide GOODS/SERVICES.

2. By signing and submitting its proposal, the successful Vendor agrees to be bound by all the terms contained in this Request for Proposal ("RFP"). An RFP is generally used for the procurement of services in situations where price is not the sole determining factor and the award will be based on a combination of cost and technical factors (Best Value). Through its proposal, the bidder offers a solution to the objectives, problem, or need specified in the RFP, and defines how it intends to meet (or exceed) the RFP requirements.

3. Schedule of Events:
   Required Advertising…….…….. January 27, 2020
   Mandatory Onsite Meeting……..February 12, 2020
   Vendor's Written Questions Submission Deadline…….……..... February 24, 2020
   All Written Questions Shall be Answered……..;…..... March 2, 2020
   Bid Opening Date……..…..... March 23, 2020

SECTION TWO: INSTRUCTIONS TO VENODRS SUBMITTING BIDS

Interested vendors should submit their proposal **no later than 3:00PM on March 23rd, 2020.** Bids can be hand delivered, mailed, or e-mailed:

West Virginia Northern Community College
RFP NO. 2020XX "**WVNCC – Building Management System"**
ATTN: Lyndsie Scott-Guzek
Room 102
1704 Market Street
Wheeling, WV 26003
lguzek@wvncc.edu

All proposals should be clearly marked "**WVNCC – Building Management System**".

Should a prospective bidder fail to submit a proposal on or before the appointed time at the address shown above, WVNCC will not consider the proposal regardless of the reason for the late submission. WVNCC will keep copies of the proposals in accordance with their record retention policies.

Specifications and any questions can be directed in writing to Lyndsie Scott-Guzek by email at lguzek@wvncc.edu. The proposer's question and WVNCC's response will become public record. Deadline for submitting questions is **February 24th, 2020.** All questions and answers will be final as of **March 2nd, 2020.** WVNCC reserves the right to waive any irregularities and reject any or all proposals and to determine the lowest and best bid. Any unauthorized contact will disqualify the vendor from further consideration of this RFP.

Any vendor wishing to receive updates regarding questions asked may do so by forwarding their email address to lguzek@wvncc.edu

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SECTION THREE: GENERAL TERMS AND CONDITIONS

Length of commitment may be part of the proposal to factor in capital investment that may occur to meet WVNCC requirements.

An addendum required for all WV State Agency will accompany any agreement and have the following conditions:

1) **DISPUTES** - Any references in the agreement to arbitration or to the jurisdiction of any court are hereby deleted. Disputes arising out of the agreement shall be presented to the West Virginia Court of Claims.

2) **HOLD HARMLESS** - Any provision requiring the Agency to indemnify or hold harmless any party is hereby deleted in its entirety.

3) **GOVERNING LAW** - The agreement shall be governed by the laws of the State of West Virginia. This provision replaces any references to any other State's governing law.

4) **TAXES** - Provisions in the agreement requiring the Agency to pay taxes are deleted. As a State entity, the Agency is exempt from Federal, State, and local taxes and will not pay taxes for any Vendor including individuals, nor will the Agency file any tax returns or reports on behalf of Vendor or any other party.

5) **PAYMENT** - Any references to prepayment are deleted. Fees for software licenses, subscriptions, or maintenance are payable annually in advance. Payment for services will be in arrears.

6) **INTEREST** - Any provision for interest or charges on late payments is deleted. The Agency has no statutory authority to pay interest or late fees.

7) **NO WAIVER** - Any language in the agreement requiring the Agency to waive any rights, claims or defenses is hereby deleted.

8) **FISCAL YEAR FUNDING** - Service performed under the agreement may be continued in succeeding fiscal years for the term of the agreement, contingent upon funds being appropriated by the Legislature or otherwise being available for this service. In the event funds are not appropriated or otherwise available for this service, the agreement shall terminate without penalty on June 30. After that date, the agreement becomes of no effect and is null and void. However, the Agency agrees to use its best efforts to have the amounts contemplated under the agreement included in its budget. Non-appropriation or non-funding shall not be considered an event of default.

9) **STATUTE OF LIMITATION** - Any clauses limiting the time in which the Agency may bring suit against the Vendor, lessor, individual, or any other party are deleted.

10) **SIMILAR SERVICES** - Any provisions limiting the Agency's right to obtain similar services or equipment in the event of default or non-funding during the term of the agreement are hereby deleted.

11) **FEES OR COSTS** - The Agency recognizes an obligation to pay attorney's fees or costs only when assessed by a court of competent jurisdiction. Any other provision is invalid and considered null and void.

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12) **ASSIGNMENT** - Notwithstanding any clause to the contrary, the Agency reserves the right to assign the agreement to another State of West Virginia agency, board or commission upon thirty (30) days written notice to the Vendor and Vendor shall obtain the written consent of Agency prior to assigning the agreement.

13) **LIMITATION OF LIABILITY** - The Agency, as a State entity, cannot agree to assume the potential liability of a Vendor. Accordingly, any provision in the agreement limiting the Vendor's liability for direct damages is hereby deleted. Vendor's liability under the agreement shall not exceed three times the total value of the agreement. Limitations on special, incidental or consequential damages are acceptable. In addition, any limitation is null and void to the extent that it precludes any action for injury to persons or for damages to personal property.

14) **RIGHT TO TERMINATE** - Agency shall have the right to terminate the agreement upon thirty (30) days written notice to Vendor. Agency agrees to pay Vendor for services rendered or goods received prior to the effective date of termination. In such event, Agency will not be entitled to a refund of any software license, subscription or maintenance fees paid.

15) **TERMINATION CHARGES** - Any provision requiring the Agency to pay a fixed amount or liquidated damages upon termination of the agreement is hereby deleted. The Agency may only agree to reimburse a Vendor for actual costs incurred or losses sustained during the current fiscal year due to wrongful termination by the Agency prior to the end of any current agreement term.

16) **RENEWAL -** Any reference to automatic renewal is deleted. The agreement may be renewed only upon mutual written agreement of the parties.

17) **INSURANCE -** Any provision requiring the Agency to purchase insurance for Vendor's property is deleted. The State of West Virginia is insured through the Board of Risk and Insurance Management, and will provide a certificate of property insurance upon request.

18) **RIGHT TO NOTICE** - Any provision for repossession of equipment without notice is hereby deleted. However, the Agency does recognize a right of repossession with notice.

19) **ACCELERATION** - Any reference to acceleration of payments in the event of default or non-funding is hereby deleted.

20) **CONFIDENTIALITY** -Any provision regarding confidentiality of the terms and conditions of the agreement is hereby deleted. State contracts are public records under the West Virginia Freedom of Information Act.

21) **AMENDMENTS** - All amendments, modifications, alterations or changes to the agreement shall be in writing and signed by both parties. No amendment, modification, alteration or change may be made to this addendum without the express written approval of the Purchasing Division and the Attorney General.

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SECTION FOUR: PROJECT SPECIFICATIONS

1) **Locations:**

New Martinsville Campus	Weirton Campus	Wheeling Campus
141 Main St.	150 Park Ave.	1704 Market St. (& others)
New Martinsville, WV 26155	Weirton, WV 26062	Wheeling, WV 26003

2) **Background and Current Operating Environment:** WVNCC is a public 2-year higher education institution. The College provides traditional classroom learning for degree seeking students, technical training in a variety of trades, and resources for workforce development meeting the needs of the local business and industry.

   The Weirton and New Martinsville campuses each have a single building, while the Wheeling campuses operates six buildings, but the project will only be in five of those, the Maintenance Garage being excluded from the Wheeling campus buildings. The College is experience challenges in regulating temperature.

   Over time, HVAC equipment of different brands have been installed from different vendors. Likewise, HVAC controls have been independently, not compatible with existing systems. The multiple systems are creating inefficiencies in mastery and administration. In addition, many components of the systems are failing because they have reached end of life.

   The College's goal is to make a significant investment to 1) unify controls and 2) address malfunctioning equipment to provide stable environmental conditions.

   An investment grade audit was commissioned by the College and the scope of work parallels those findings. A bidding vendors may differ in strategy and/or methodology to accomplish the goal. Vendors are welcome to deviate from the scope of work provided a clear, easily understandable explanation of all proposed work is detailed.

   WVNCC does not see the RFP process as a low-bid process, but cost will be an important consideration. Ultimately, the contract will be awarded to the vendor who offer the best overall solution based on our analysis of the proposals and negotiations with the vendor.

3) **Scope of Services:** WVNCC is seeking a Building Management System to increase the reliability, and increase control, of the College's HVAC systems. An appropriate BMS would have the following components and specifications:
   1. A system-wide server to integrate new JACES, the building management system will be accessible via the internet
   2. New JACES shall be open protocol with an open license
   3. Server to store trend data and alarms
   4. One (1) laptop or table (single unit for entire system) will be supplied for maintenance, trouble shooting and access
   5. A MAP gateway will be provided for College staff to access field controllers for trouble shooting and routine maintenance
   6. Functional Diagnostics will be performed on mechanical equipment that was retrofitted with new temperature controls
   7. Facilitate energy improvement measures pertaining to the temperature controls scope
   8. Verify existing histories and alarms have been setup
   9. Modify graphics for new control points added
   10. Add a single system-wide outdoor air enthalpy sensor

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11. Units that have outdoor air dampers shall have a reduced outdoor air minimum set point programmed at the existing building management system.
12. Note – Equipment lists with make, model & serial number will be provided at the mandatory meeting.

To ensure that new Building Management System operates properly and at full efficiency, the following items are to be completed:

1. B&O building - VAV Boxes (45)
    a. Verify operation
    b. Add programming to each VAV box to implement dual cooling minimum cfm set points to prevent VAV controlled spaces from overcooling when the boiler plant is disabled
2. B&O building - Air Handling Units (2)
    a. Replace existing Honeywell DDC controllers with open protocol BACnet DDC controllers
    b. Provide and install discharge air, return air, mixed air and supply air temperature sensors
    c. Provide and install new supply air static pressure sensor
    d. Relocate existing wiring from centralized control panel located in boiler room to each individual AHU
    e. Provide and install BACnet communication wiring to each AHU
    f. Program AHUs to operate in the following manner
        i. Single zone VAV
        ii. Optimal Start/Stop
        iii. Reset discharge air temperature based on space temperature
    g. Integrate BACnet controllers into web based N4 JACE
    h. Create AHU equipment graphics
3. B&O Building – Roof Top Units (2)
    a. Replace existing Honeywell DDC controllers with open protocol BACnet DDC controllers
    b. Provide and install discharge air, return air, mixed air and supply air temperature sensors
    c. Provide and install new supply air static pressure sensor
    d. Relocate existing wiring from centralized control panel located in boiler room to each individual RTU
    e. Provide and install BACnet communication wiring to each RTU
    f. Program RTUs to operate in the following manner
        i. VAV
        ii. Optimal Start/Stop
        iii. Reset discharge air temperature based on average space temperature sensor readings
        iv. Reset supply air static pressure based on VAV box damper position
    g. Integrate BACnet controllers into web based N4 JACE
    h. Create RTU equipment graphics
4. B&O – Boiler System
    a. Replace existing Honeywell DDC controllers with open protocol BACnet DDC controllers
    b. Provide and install hot water supply and return sensors
    c. Provide and hot water differential pressure transmitters
    d. Provide wiring and controls for new pump VFDs
    e. Re-use centralized control panel located in boiler room
    f. Provide and install BACnet communication wiring to boiler controller
    g. Program boilers to operate in the following manner
        i. Hot water reset based on outdoor air temperature
        ii. Differential pressure reset based on heating demand of main equipment

iii. Occupied/Unoccupied control
h. Integrate BACnet controllers into web based n4 JACE
i. Create Boiler graphic

5. B&O – Diagnostic
    a. See "HVAC Functional Diagnostic Procedure"
        i. AHUs
        ii. Terminal Boxes
        iii. Hot Water Boilers and Pumps
        iv. AHUs
        v. Split DX Condensing Units and AHU
6. B&O – Miscellaneous (FCU and FTR)
    a. Provide new BACnet controllers and sensors for fin tube radiation valves and fan coil unit controllers
    b. Integrate BACnet controllers into web based N4 JACE
    c. Create FTR and FCU graphics
7. Education Center – VAV Boxes (35)
    a. Verify operation
    b. Add programming to each VAV box to implement dual cooling minimum cfm set points to prevent VAV controlled spaces from overcooling when the boiler plant is disabled
8. Education Center - Air Handler 1 and 2
    a. Replace existing Honeywell DDC controllers with open protocol BACnet DDC controllers
    b. Provide and install discharge air, return air, mixed air and supply air temperature sensors
    c. Provide and install new supply air static pressure sensor
    d. Relocate existing wiring from centralized control panel to each individual AHU
    e. Provide and install BACnet communication wiring to each AHU
    f. Program AHUs to operate in the following manner
        i. Single zone VAV
        ii. Optimal Start/Stop
        iii. Reset discharge air temperature based on space temperature
    g. Integrate BACnet controllers into web based N4 JACE
    h. Create AHU equipment graphics
9. Education Center - Air Handler 3 and 4
    a. Replace existing Honeywell DDC controllers with open protocol BACnet DDC controllers
    b. Provide and install discharge air, return air, mixed air and supply air temperature sensors
    c. Provide and install new supply air static pressure sensor
    d. Relocate existing wiring from centralized control panel to each individual AHU
    e. Provide and install BACnet communication wiring to each AHU
    f. Program AHUs to operate in the following manner
        i. VAV
        ii. Optimal Start/Stop
        iii. Reset discharge air temperature based on average space temperature sensor readings
        iv. Reset supply air static pressure based on VAV box damper position
    g. Integrate BACnet controllers into web based N4 JACE
    h. Create AHU equipment graphics
10. Education Center – Air Handler 5
    a. Replace existing Honeywell DDC controllers with open protocol BACnet DDC controllers
    b. Provide and install discharge air, return air, mixed air and supply air temperature sensors
    c. Provide and install new supply air static pressure sensor
    d. Provide and install building static pressure transmitter

e. Relocate existing wiring from centralized control panel to each individual AHU
f. Provide and install BACnet controller for kitchen hood VFDs
g. Provide and install BACnet communication wiring to AHU
h. Program AHU to operate in the following manner
    i. Building static pressure control
    ii. Optimal Start/Stop
    iii. Reset discharge air temperature based on average space temperature sensor readings
i. Integrate BACnet controllers into web based N4 JACE
j. Create AHU equipment graphics

11. Education Center – Boiler System
    a. Replace existing Honeywell DDC controllers with open protocol BACnet DDC controllers
    b. Provide and install, hot water supply and return sensors
    c. Provide and install hot water differential pressure transmitters
    d. Re-use centralized control panel located in boiler room
    e. Add additional wiring to allow DDC controls to modulate boilers for hot water reset
    f. Provide and install BACnet communication wiring to boiler controller
    g. Program boilers to operate in the following manner
        i. Hot water reset based on outdoor air temperature
        ii. Differential pressure reset based on heating demand of main equipment
        iii. Occupied/Unoccupied control
    h. Integrate BACnet controllers into web based N4 JACE
    i. Create Boiler graphic
12. Education Center – Chilled Water System
    a. Replace existing Honeywell DDC controllers with open protocol BACnet DDC controllers
    b. Provide and install chilled water supply and return sensors
    c. Provide and install chilled differential pressure transmitters
    d. Relocate existing wiring from centralized control panel to new chilled water control panel
    e. Add additional wiring to allow DDC controls to modulate chiller for chilled water reset
    f. Provide and install BACnet communication wiring to chilled water system controller
    g. Program chiller to operate in the following manner
        i. Chilled water reset based on outdoor air temperature
        ii. Differential pressure reset based on cooling demand of main equipment
        iii. Occupied/Unoccupied control
    h. Integrate BACnet controllers into web based N4 JACE
    i. Create chilled water system graphic
13. Education Center - Diagnostic
    a. See “HVAC Functional Diagnostic Procedure”
        i. Hot Water Boilers and Pumps
        ii. Chiller and CHW Pumps
        iii. AHUs
        iv. Terminal Boxes
        v. Exhaust Fans
        vi. Unit Heaters / Cabinet Unit
        vii. Heaters
14. Applied Technology Center – Web-Based Front End
    a. Provide and install N4 JACE
    b. Create trends, schedules, and alarms
    c. Create equipment graphics
15. Applied Technology Center - Diagnostic
    a. See “DDC Functional Diagnostic Procedure”

b. See "HVAC Functional Diagnostic Procedure"
   i. Hot Water Boilers
   ii. Hot Water Pumps
   iii. RTU's
   iv. Terminal Boxes
   v. Exhaust Fans

16. Student Union – Web-Based Front End
    a. Provide and install N4 JACE
    b. Create trends, schedules, and alarms
    c. Create equipment graphics
17. Student Union – VAVs and Roof Top Units
    a. Verify operation of RTU and identify VAV electric reheat issue, adjust minimum cfm as needed and verify air flow switch operation of each VAV reheat
    b. Program VAVs to have dual minimum cfm set points
    c. Program RTU to reset supply fan VFD based on cooling demand of each VAV box
18. Student Union –Diagnostic
    a. See "DDC Functional Diagnostic Procedure"
    b. See "HVAC Functional Diagnostic Procedure"
       i. RTUs
       ii. Terminal Boxes
       iii. Exhaust Fans
       iv. Domestic Water Heaters
    c. Industrial Technology Center – Web-Based Front End
    d. Integrate existing Honeywell controllers
    e. Provide and install N4 JACE
    f. Create trends, schedules, and alarms
    g. Create equipment graphics
19. Industrial Technology Center - Diagnostic
    a. See "DDC Functional Diagnostic Procedure"
    b. See "HVAC Functional Diagnostic Procedure"
20. Weirton Campus – Web-Based Front-End
    a. Provide and install N4 JACE
    b. Create trends, schedules, and alarms
    c. Create equipment graphics
21. Weirton Campus - Diagnostic
    a. See "DDC Functional Diagnostic Procedure"
    b. See "HVAC Functional Diagnostic Procedure"
       i. RTUs
       ii. Exhaust Fans
       iii. Condensing Units
       iv. Terminal Units
       v. Domestic Water heaters
22. New Martinsville Campus – Web-Based Front-End
    a. Provide and install N4 JACE
    b. Create trends, schedules, and alarms
    c. Create equipment graphics
23. New Martinsville Campus - Diagnostic
    a. See "DDC Functional Diagnostic Procedure"
    b. See "HVAC Functional Diagnostic Procedure"
       i. RTUs
       ii. Exhaust Fans
       iii. Domestic Water Heaters
       iv. Unit Heaters

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1. Existing AHUs
    a. Calibrate discharge, return, mixed and space temperature sensors
    b. Calibrate return and space humidity sensors
    c. Command every damper and verify damper goes fully closed and then open
    d. Check damper linkages to make sure they are tight and lubricated
    e. Command open heating and cooling control valves, make sure they go fully open and closed and verify discharge air temperature at each position
    f. Verify low limit operation by applying compressed air at any point on the capillary
    g. Verify fail safe algorithms after low limit is tripped or supply fan fails, such as heating valve fails open, chilled water valve fails close, outdoor air damper closes, and alarm is generated at the building management system
    h. Verify time of day scheduling commands the unit on/off (including night setback and setup)
    i. Verify hardware points are reading and accurate at the building management system and match what each controller is reading locally
2. Existing RTUs
    a. Calibrate discharge, return, mixed and space temperature sensors
    b. Calibrate return and space humidity sensors
    c. Command every damper and verify damper goes fully closed and then openCheck damper linkages to make sure they are tight and lubricated
    d. Command open heating and cooling control valves, make sure they go fully open and closed and verify discharge air temperature at each position
    e. Verify low limit operation by applying compressed air at any point on the capillary
    f. Verify fail safe algorithms after low limit is tripped or supply fan fails, such as heating valve fails open, chilled water valve fails close, outdoor air damper closes, and alarm is generated at the building management system
    g. Request original design sequence of operations and verify unit is operating as designed
    h. Verify time of day scheduling commands the unit on/off (including night setback and setup)
    i. Verify hardware points are reading and accurate at the building management system and match what each controller is reading locally
    j. Provide the owner with a deficiency list
3. Chilled water system
    a. Calibrate chilled water supply and return water sensors
    b. Calibrate outdoor air temperature and humidity sensor
    c. Calibrate system differential pressure sensor
    d. Verify chiller operation, unit comes on when commanded and follows chilled water set point
    e. Simulate a local chiller alarm and make sure an alarm is generated at the building management system
    f. Verify pump operation; make sure pumps are set up to auto rotate (lead/lag)
    g. Fail each pump to make sure the lag pump is enabled, and an alarm is generated at the building management system
    h. Verify pump modulation, pump ramps up and down based on chilled water system differential pressure
    i. Verify hardware points are reading and accurate at the building management system and match what each controller is reading locally
    j. Provide the owner with a deficiency list and associated cost for defective items
4. Exhaust fans controlled by the building management system
    a. Verify fan is enabled/disabled via a space temperature sensor or time of day scheduling

   b. Verify damper operation if applicable
   c. Fail exhaust fan by turning disconnect in the "off" position, make sure an alarm is generated at the building management system
   d. Verify hardware points are reading and accurate at the building management system and match what each controller is reading locally
   e. Provide the owner with a deficiency list and associated cost for defective items
5. Fin tube radiation controlled by the building management system
   a. Calibrate space temperature sensors
   b. Verify FTR valve opens/closes (if applicable)
   c. Verify low temperature alarm is generated at building management system if applicable
   d. Verify hardware points are reading and accurate at the building management system and match what each controller is reading locally
   e. Provide the owner with a deficiency list and associated cost for defective items
6. VAV boxes, include the following tasks
   a. Calibrate discharge and space sensors
   b. Perform VAV box air flow test
   c. Command reheat valve open and closed and verify discharge at each position
   d. Add dual minimum cfm settings to VAV boxes; this will allow the spaces not to overcool when the boiler has been disabled during the summer months
   e. Verify hardware points are reading and accurate at the building management system and match what each controller is reading locally
   f. Provide the owner with a deficiency list and associated cost for defective items
7. Heating hot water system, include the following tasks
   a. Calibrate hot water supply and return water sensors
   b. Calibrate outdoor air temperature and humidity sensor
   c. Calibrate system differential pressure sensor
   d. Verify boiler operation, unit comes on when commanded and follows hot water set point
   e. Simulate a local boiler alarm and make sure an alarm is generated at the building management system
   f. Verify pump operation; make sure pumps are set up to auto rotate (lead/lag)
   g. Fail each pump to make sure the lag pump is enabled, and an alarm is generated at the building management system
   h. Verify pump modulation, pump ramps up and down based on hot water system differential pressure
   i. Verify hardware points are reading and accurate at the building management system and match what each controller is reading locally
   j. Provide the owner with a deficiency list and associated cost for defective items

HVAC Functional Diagnostic Procedure (Equipment listed in building sections above)

1. Check control system and devices for evidence of improper operation; clean, lubricate, or adjust as needed to endure proper operation.
2. Check low ambient head pressure control sequence for evidence of improper operation; modify software/algorithm to ensure proper operation
3. Check fan belt tension, wear, and replace if necessary, to ensure proper operation
4. Check the pulleys for evidence of improper alignment or evidence of wear

5. Check fan blades and housings, and if dirty, clean to ensure proper operation
6. Check motors for proper operation; check amperage to ensure the units are not at or near the max value, recommend replacement of motors that are at that point or if not operating at all
7. Check wiring connections, if loose, tighten, if frayed, repair
8. Check couplings on pumps for proper wear and alignment
9. Check pump seals for leaks
10. Check VFDs for proper operation and make any corrections required for proper operation
11. Check motor contactor for pitting or other signs of damage
12. Check refrigerant systems pressure and /or temperatures
13. Check open drive alignment, wear, seating and operation
14. Check serviceable bearings and lubricate if necessary
15. Check for evidence of buildup, fouling, or damage to heat exchangers surfaces; clean if needed
16. Check for proper fluid levels and or leaks
17. Inspect air cooled condenser coil surfaces for plugged fins, leaks, or crushed fins and clean as needed
18. Check evaporator coils for plugged fins, leaks, crushed fins and clean as needed
19. Check compressor oil level and/or pressure on refrigerant systems having oil level and/or pressure measurement means; adjust as needed to ensure proper control
20. Check for proper operation of control valves and vents, make any corrections as needed
21. Check P-traps for proper flow, prime large systems if needed, otherwise clean
22. Check pans and drains for any biological growth, clean or disinfect if needed
23. Check to see if there is any biological growth on the coils, clean or disinfect if needed
24. Check condensate pump for proper operation, ensure the drain line is clear, if not make the necessary corrections
25. Check the integrity of panels on the equipment; replace fasteners as needed to ensure proper integrity and fit/finish of the equipment
26. On cooling tower inspect the blow down or drain valve, clean debris to ensure proper operation
27. Check chemical injector device; clean as needed
28. Check tower fan open drive system couplings, bearings and seals for wear and proper alignment. Adjust or lubricate as needed.
29. Visually inspect pumps and associated electrical components
30. Check tower motor(s) and pump(s) for proper operation
31. On humidifiers check the air filter and housing integrity; correct as needed
32. Check for particulate accumulation on filters; clean or replace as necessary to ensure proper operation
33. Check condition, setting, and operation of outdoor sensor, return air sensor, or change-over controller. Adjust components to ensure proper operation
34. Check condition, setting and operation of the mixed air/discharge sensor or changeover controller
35. Check the condition, setting, and operation of the economizer damper motors; adjust or lubricate component to ensure proper operation
36. Check line sets and water lines to ensure that the insulation is not damaged

37. Check combustion chamber, burner, and flue for deterioration or moisture problems, condensation, and combustion products; check for impingement on any part of the chamber. Clean, test and adjust combustion process for proper operation.
38. Check air/dirt separators
39. Check safety devices per the manufacturer's recommendations.
40. Check the makeup water valve to ensure proper operation
41. Check vents for proper operation
42. Check pressure relief for proper operation
43. Check freeze stats, relief valves, flow switches and float switches, low and high-water cutoffs, and other safety devices for proper operation and adjust as needed
44. Check the operation of the reversing valve on heat pumps
45. Check filters and filter racks; install new filters if needed

Warranty and Service / Maintenance Agreement

1. Warranty information including scope and time period should be clearly presented
2. Service / Maintenance Agreement options should not be included in the bid cost. However, if possible support through an annual agreement is available, information on the scope and price should be included in the submission.

4) **Mandatory Requirements:** The following mandatory requirements must be met by the Vendor as a part of the submitted proposal. Failure on the part of the Vendor to meet any of the mandatory specifications shall result in the disqualification of the proposal. The terms "must", "will", "shall", "minimum", "maximum", or "is/are required" identify a mandatory item or factor. Decision regarding compliance with any mandatory requirements shall be at the sole discretion of the Purchasing Division. Vendors will provide:

1. All interested vendors will attend a mandatory pre-bid meeting on February 12th, 2020 at 9:00 AM at the B&O Auditorium located at 1704 Market St., Wheeling WV.
2. Vendors will provide information regarding their firm, qualifications and experience in completing similar projects; descriptions of past projects completed inclusive of project goals & objectives and how they were met in **Attachment A**.
3. Reference information for three prior clients will be provide with a brief description of the project in **Attachment B**.
4. A mock timeline will be demonstrated in conjunction with project strategy to complete the scope of service in Section Four Subsection 3 in **Attachment C.**
5. Itemized pricing schedule displayed that will encompass items outlined in Section Four Subsection in **Attachment D.**
6. Warranty information and possible ongoing maintenance/service agreements, with pricing, provided in **Attachment E.**
7. Signed certification in **Attachments F.**

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SECTION FIVE: VENDOR PROPOSAL

1) **Preparation:** Proposals should be prepared simply and economically providing a straightforward, concise description of the Vendor's abilities to satisfy the requirements of the RFP. Emphasis should be placed on completeness and clarity of the content.

2) **Incurring Cost:** Neither the State nor any of its employees or officers shall be held liable for any expenses incurred by any Vendor responding to this RFP, including but not limited to preparation, delivery, or travel.

3) **Proposal Format:** Vendors should provide responses in the format listed below:

    1. **Title Page:** State the RFP subject, number, Vendor's name, business address, telephone number, fax number, name of contact person, e-mail address, and Vendor signature and date.
    2. **Table of Contents:** Clearly identify the material by section and page number.
    3. **Attachment A -** Information regarding the firm, their connection to the local community, general qualifications, and knowledge of higher education if applicable.
    4. **Attachment B –** Reference information of three prior clients accompanied by brief description of work completed.
    5. **Attachment C** – Mock timeline and description of strategies for completion of the work outlined in Section Four Subsection 3 with particular emphasis the transition and minimizing disruption of normal activity.
    6. **Attachment D -** Pricing schedule encompassing items outlined in Section Four Subsection 3**.**
    7. **Attachment E** – Warranty and maintenance / service agreement options with pricing.
    8. **Attachment F** – Signed certification of agreement.

4) **Proposal Submission:** Proposals will be reviewed in two distinct parts: technical and cost.
    1. All proposals will be evaluated based on lowest cost and best comparison to specs in Section 4.
    2. All proposals must be submitted **prior** to the date and time stipulated in the RFP as the opening date. All bids will be dated and time stamped to verify official time and date of receipt. All submissions must be in accordance with the provisions listed below and in Section 2: Instructions to Bidders Submitting Bids above.

5) **Bid Opening:** The Evaluation Committee shall publicly open and announce cost proposals on **March 23rd, 2020** at 3:00 PM. All bids for qualifying proposals will be opened. A proposal may be deemed non-qualifying for a number of reasons including, but not limited to, the bidder's technical proposal failing to meet the minimum acceptable score and the bidder's technical proposal failing to meet a mandatory requirement of the contract. Certain information, such as technical scores and reasons for disqualification, will not be available until after the contract award, pursuant to ***West Virginia Code*** §5A-3-11(h) and ***West Virginia Code of State Rules*** §148-1-6.2.5.

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SECTION SIX: EVALUATION AND AWARD

1) **Evaluation Process:** Proposals will be evaluated by an "Evaluation Committee" against the established criteria with points deducted for deficiencies. The Vendor who demonstrates that they meet all of the mandatory specifications required; and has appropriately presented within their written response their understanding in meeting the goals and objectives of the project; and attains the highest overall point score of all Vendors shall be awarded the contract. The selection of the successful Vendor will be made by a consensus of the evaluation committee.

2) **Evaluation Criteria:** All evaluation criteria is defined in the specifications section and based on a 100 point total score.

   1. The following are the evaluation factors and maximum points possible for technical point scores:

General Qualifications	20 Points Possible
References	20 Points Possible
Timeline & Strategy	10 Points Possible
Cost	40 Points Possible
Warranty / Service Options	10 Points Possible
Total	**100** Points Possible

3) Minimum Acceptable Score: Vendors must score a minimum of 80% (80 points) of the total points possible. All Vendors not attaining the minimum acceptable score (MAS) shall be considered as non-qualifying. A proposal may be deemed non-qualifying for a number of reasons including but not limited to, the bidder's technical proposal failing to meet the minimum acceptable score and the bidder's technical proposal failing to meet a mandatory requirement of the contract. Cost bids for non-qualifying proposals will also be opened but shall not be considered. Certain information, such as technical scores and reasons for disqualification, will not be available until after the contract award, pursuant to ***West Virginia Code*** §5A-3-11(h) and ***West Virginia Code of State Rules*** §148-1-6.2.5.

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Attachment A – General Firm Information: Section Four, Subsection 4.2:

Vendor Response:

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Attachment B – References: Section Four, Subsection 4.3:

Vendor Response:

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Attachment C – Timeline & Strategies: Section Four, Subsection 4.4:

Vendor Response:

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Attachment D – Pricing: Section Four, Subsection 4.5:

Vendor Response:

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Attachment E – Warranty and Maintenance/Service Agreement Options: Section Four, Subsection 4.6:

Vendor Response:

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Attachment F – Signed Certification: Section Four, Subsection 4.7:

By signing below, I certify that I have reviewed this Request for Proposal in its entirety; understand the requirements, terms and conditions, and other information contained herein; that I am submitting this proposal for review and consideration; that I am authorized by the bidder to execute this bid or any documents related thereto on bidder's behalf; that I am authorized to bind the bidder in a contractual relationship; and that, to the best of my knowledge, the bidder has properly registered with any State agency that may require registration.

_____
(Company)

_____
(Representative Name, Title)

_____
(Contact Phone/Fax Number)

_____
(Contact E-mail)

_____
(Date)

West Virginia Northern Community College Acceptance

From the evaluation of all qualified submissions, the above vendor has been deemed most capable of accomplishing the College's goal with quality work and competitive price.

_____
(Company)

_____
(Representative Name, Title)

_____
(Contact Phone/Fax Number)

_____
(Contact E-mail)

_____
(Date)

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TABLE OF CONTENTS

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Section 4: Project Specifications

Section 5: Vendor Proposal

Section 6: Evaluation and Award

Certification and Signature Page

REQUEST FOR PROPOSAL

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SECTION ONE: GENERAL INFORMATION AND INSTRUCTIONS

1. Purpose: West Virginia Northern Community College (hereinafter referred to as the "WVNCC") is soliciting proposals pursuant to **West Virginia Code** §5A-3-10b to provide GOODS/SERVICES.

2. By signing and submitting its proposal, the successful Vendor agrees to be bound by all the terms contained in this Request for Proposal ("RFP"). An RFP is generally used for the procurement of services in situations where price is not the sole determining factor and the award will be based on a combination of cost and technical factors (Best Value). Through its proposal, the bidder offers a solution to the objectives, problem, or need specified in the RFP, and defines how it intends to meet (or exceed) the RFP requirements.

3. Schedule of Events:
   Required Advertising……..…… February 3rd, 2020
   Mandatory Onsite Meeting……..February 12th, 2020
   Vendor's Written Questions Submission Deadline…….……..... February 24th, 2020
   All Written Questions Shall be Answered……..;…..... March 2nd, 2020
   Bid Opening Date……..…..... March 23rd, 2020

SECTION TWO: INSTRUCTIONS TO VENODRS SUBMITTING BIDS

Interested vendors should submit their proposal **no later than 3:00PM on March 23, 2020.** Bids can be hand delivered, mailed, or e-mailed:

West Virginia Northern Community College
RFP NO. 2020XX "**WVNCC – HVAC Repair & Maintenance"**
ATTN: Lyndsie Scott-Guzek
Room 102
1704 Market Street
Wheeling, WV 26003
lguzek@wvncc.edu

All proposals should be clearly marked "**WVNCC – HVAC Repair & Maintenance**".

Should a prospective bidder fail to submit a proposal on or before the appointed time at the address shown above, WVNCC will not consider the proposal regardless of the reason for the late submission. WVNCC will keep copies of the proposals in accordance with their record retention policies.

Specifications and any questions can be directed in writing to Lyndsie Scott-Guzek by email at lguzek@wvncc.edu. The proposer's question and WVNCC's response will become public record. Deadline for submitting questions is **February 24, 2020.** All questions and answers will be final as of **March 2, 2020.** WVNCC reserves the right to waive any irregularities and reject any or all proposals and to determine the lowest and best bid. Any unauthorized contact will disqualify the vendor from further consideration of this RFP.

Any vendor wishing to receive updates regarding questions asked may do so by forwarding their email address to lguzek@wvncc.edu

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SECTION THREE: GENERAL TERMS AND CONDITIONS

Length of commitment may be part of the proposal to factor in capital investment that may occur to meet WVNCC requirements.

An addendum required for all WV State Agency will accompany any agreement and have the following conditions:

1) **DISPUTES** - Any references in the agreement to arbitration or to the jurisdiction of any court are hereby deleted. Disputes arising out of the agreement shall be presented to the West Virginia Court of Claims.

2) **HOLD HARMLESS** - Any provision requiring the Agency to indemnify or hold harmless any party is hereby deleted in its entirety.

3) **GOVERNING LAW** - The agreement shall be governed by the laws of the State of West Virginia. This provision replaces any references to any other State's governing law.

4) **TAXES** - Provisions in the agreement requiring the Agency to pay taxes are deleted. As a State entity, the Agency is exempt from Federal, State, and local taxes and will not pay taxes for any Vendor including individuals, nor will the Agency file any tax returns or reports on behalf of Vendor or any other party.

5) **PAYMENT** - Any references to prepayment are deleted. Fees for software licenses, subscriptions, or maintenance are payable annually in advance. Payment for services will be in arrears.

6) **INTEREST** - Any provision for interest or charges on late payments is deleted. The Agency has no statutory authority to pay interest or late fees.

7) **NO WAIVER** - Any language in the agreement requiring the Agency to waive any rights, claims or defenses is hereby deleted.

8) **FISCAL YEAR FUNDING** - Service performed under the agreement may be continued in succeeding fiscal years for the term of the agreement, contingent upon funds being appropriated by the Legislature or otherwise being available for this service. In the event funds are not appropriated or otherwise available for this service, the agreement shall terminate without penalty on June 30. After that date, the agreement becomes of no effect and is null and void. However, the Agency agrees to use its best efforts to have the amounts contemplated under the agreement included in its budget. Non-appropriation or non-funding shall not be considered an event of default.

9) **STATUTE OF LIMITATION** - Any clauses limiting the time in which the Agency may bring suit against the Vendor, lessor, individual, or any other party are deleted.

10) **SIMILAR SERVICES** - Any provisions limiting the Agency's right to obtain similar services or equipment in the event of default or non-funding during the term of the agreement are hereby deleted.

11) **FEES OR COSTS** - The Agency recognizes an obligation to pay attorney's fees or costs only when assessed by a court of competent jurisdiction. Any other provision is invalid and considered null and void.

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12) **ASSIGNMENT** - Notwithstanding any clause to the contrary, the Agency reserves the right to assign the agreement to another State of West Virginia agency, board or commission upon thirty (30) days written notice to the Vendor and Vendor shall obtain the written consent of Agency prior to assigning the agreement.

13) **LIMITATION OF LIABILITY** - The Agency, as a State entity, cannot agree to assume the potential liability of a Vendor. Accordingly, any provision in the agreement limiting the Vendor's liability for direct damages is hereby deleted. Vendor's liability under the agreement shall not exceed three times the total value of the agreement. Limitations on special, incidental or consequential damages are acceptable. In addition, any limitation is null and void to the extent that it precludes any action for injury to persons or for damages to personal property.

14) **RIGHT TO TERMINATE** - Agency shall have the right to terminate the agreement upon thirty (30) days written notice to Vendor. Agency agrees to pay Vendor for services rendered or goods received prior to the effective date of termination. In such event, Agency will not be entitled to a refund of any software license, subscription or maintenance fees paid.

15) **TERMINATION CHARGES** - Any provision requiring the Agency to pay a fixed amount or liquidated damages upon termination of the agreement is hereby deleted. The Agency may only agree to reimburse a Vendor for actual costs incurred or losses sustained during the current fiscal year due to wrongful termination by the Agency prior to the end of any current agreement term.

16) **RENEWAL -** Any reference to automatic renewal is deleted. The agreement may be renewed only upon mutual written agreement of the parties.

17) **INSURANCE -** Any provision requiring the Agency to purchase insurance for Vendor's property is deleted. The State of West Virginia is insured through the Board of Risk and Insurance Management, and will provide a certificate of property insurance upon request.

18) **RIGHT TO NOTICE** - Any provision for repossession of equipment without notice is hereby deleted. However, the Agency does recognize a right of repossession with notice.

19) **ACCELERATION** - Any reference to acceleration of payments in the event of default or non-funding is hereby deleted.

20) **CONFIDENTIALITY** -Any provision regarding confidentiality of the terms and conditions of the agreement is hereby deleted. State contracts are public records under the West Virginia Freedom of Information Act.

21) **AMENDMENTS -** All amendments, modifications, alterations or changes to the agreement shall be in writing and signed by both parties. No amendment, modification, alteration or change may be made to this addendum without the express written approval of the Purchasing Division and the Attorney General.

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SECTION FOUR: PROJECT SPECIFICATIONS

1) **Location:** CAMPUS(ES)_ADDRESS(ES)

2) **Background and Current Operating Environment:** WVNCC is a public 2-year higher education institution. The College provides traditional classroom learning for degree seeking students, technical training in a variety of trades, and resources for workforce development meeting the needs of the local business and industry.

   The College is looking to NARRATIVE

   It is understood that approaches to the solution may vary. Therefore, WVNCC does not see the RFP process as a low-bid process, but cost will be an important consideration. Ultimately, the contract will be awarded to the vendor who offer the best overall solution based on our analysis of the proposals and negotiations with the vendor.

3) **Scope of Services:** WVNCC is seeking a qualified HVAC vendor to conduct prescribed repairs and maintenance to the College's HVAC systems. The following should be included:
   1. B&O – Roof Top Units (2)
      i. Refurbish
      ii. Armor coil + RSO
      iii. Add GPS
      iv. West unit evaluate and repair
   2. B&O – Outdoor Units (2)
      i. Armor coil treatment + RSO
      ii. Evaluation & repair (compressor)
   3. Education Center – Air Handling Unit
      i. Correct operation of dampers / relocate
      ii. Add GPS (except kitchen MAU)
   4. Education Center – Chiller
      i. Armor Coiler Treatment
      ii. Evaluation and repair (gasket)
   5. Applied Technology Center – AAON Roof Top Unit
      i. Armor coil treatment + RSO
      ii. Add GPS
   6. Student Union – Roof Top Units (2)
      i. Armor Coil Treatment + RSO
      ii. Add GPS
      iii. Air Balance RTUs/Reheat
   7. New Martinsville – RTUs (4)
      i. Add disconnects
      ii. Armor coil treatment + RSO
      iii. Add GPS (larger RTUs)
      iv. Roof top unit evaluation & repair (leak)
      v. Roof top unit evaluation & repair (compressor)
   8. Weirton – Roof Top Units
      i. Armor coil treatment + RSO
      ii. Add GPS (larger RTUs)

iii. Roof top unit evaluation (compressor and coil)

4) **Mandatory Requirements:** The following mandatory requirements must be met by the Vendor as a part of the submitted proposal. Failure on the part of the Vendor to meet any of the mandatory specifications shall result in the disqualification of the proposal. The terms "must", "will", "shall", "minimum", "maximum", or "is/are required" identify a mandatory item or factor. Decision regarding compliance with any mandatory requirements shall be at the sole discretion of the Purchasing Division. Vendors will provide:

1. PRE_BID_MEETING All interested vendors will attend a mandatory pre-bid meeting on SELECT_DATE_TIME_AND_LOCATION.
2. Vendors will provide information regarding their firm, qualifications and experience in completing similar projects; references, descriptions of past projects completed entailing the location of the project, type of project, and what the project goals and objectives were and how there were met in **Attachment A**.
3. Pricing schedule for items under Scope of Service in Section Four Subsection 3 in **Attachment B.**
4. Signed certification in **Attachments C.**

SECTION FIVE: VENDOR PROPOSAL

1) **Preparation:** Proposals should be prepared simply and economically providing a straightforward, concise description of the Vendor's abilities to satisfy the requirements of the RFP. Emphasis should be placed on completeness and clarity of the content.

2) **Incurring Cost:** Neither the State nor any of its employees or officers shall be held liable for any expenses incurred by any Vendor responding to this RFP, including but not limited to preparation, delivery, or travel.

3) **Proposal Format:** Vendors should provide responses in the format listed below:

1. **Title Page:** State the RFP subject, number, Vendor's name, business address, telephone number, fax number, name of contact person, e-mail address, and Vendor signature and date.
2. **Table of Contents:** Clearly identify the material by section and page number.
3. **Attachment A -** Information regarding the firm, their connection to the local community, general qualifications, and knowledge of higher education if applicable.
4. **Attachment B -** Pricing schedule encompassing items outlined in Section Four Subsection 3**.**
5. **Attachment C** – Signed certification of agreement.

4) **Proposal Submission:** Proposals will be reviewed in two distinct parts: technical and cost.
1. All proposals will be evaluated based on lowest cost and best comparison to specs provided in Section 4.

2. All proposals must be submitted **prior** to the date and time stipulated in the RFP as the opening date. All bids will be dated and time stamped to verify official time and date of receipt. All

submissions must be in accordance with the provisions listed below and in Section 2: Instructions to Bidders Submitting Bids above.

5) **Bid Opening:** The Evaluation Committee shall publicly open and announce cost proposals on **OPENING_DATE** at 3:00 PM. All bids for qualifying proposals will be opened. A proposal may be deemed non-qualifying for a number of reasons including, but not limited to, the bidder's technical proposal failing to meet the minimum acceptable score and the bidder's technical proposal failing to meet a mandatory requirement of the contract. Certain information, such as technical scores and reasons for disqualification, will not be available until after the contract award, pursuant to ***West Virginia Code*** §5A-3-11(h) and ***West Virginia Code of State Rules*** §148-1-6.2.5.

SECTION SIX: EVALUATION AND AWARD

1) Evaluation Process: Proposals will be evaluated by an "Evaluation Committee" against the established criteria with points deducted for deficiencies. The Vendor who demonstrates that they meet all of the mandatory specifications required; and has appropriately presented within their written response their understanding in meeting the goals and objectives of the project; and attains the highest overall point score of all Vendors shall be awarded the contract. The selection of the successful Vendor will be made by a consensus of the evaluation committee.

2) Evaluation Criteria: All evaluation criteria is defined in the specifications section and based on a 100 point total score.

1. The following are the evaluation factors and maximum points possible for technical point scores:

SAMPLE CRITERIA	
Availability of Features	25 Points Possible
User Friendly / Intuitive	10 Points Possible
Service & Support	5 Points Possible
Delivery and Install Timeline	5 Points Possible
Reliability / Service Warranty	5 Points Possible
Cost	50 Points Possible
Total	**100** Points Possible

3) Minimum Acceptable Score: Vendors must score a minimum of 80% (80 points) of the total points possible. All Vendors not attaining the minimum acceptable score (MAS) shall be considered as non-qualifying. A proposal may be deemed non-qualifying for a number of reasons including but not limited to, the bidder's technical proposal failing to meet the minimum acceptable score and the bidder's technical proposal failing to meet a mandatory requirement of the contract. Cost bids for non-qualifying proposals will also be opened but shall not be considered. Certain information, such as technical scores and reasons for disqualification, will not be available until after the contract award, pursuant to ***West Virginia Code*** §5A-3-11(h) and ***West Virginia Code of State Rules*** §148-1-6.2.5.

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Attachment A – General Firm Information: Section Four, Subsection 4.3:

Vendor Response:

Attachment B – Pricing (Non-Alternatives): Section Four, Subsection 4.3:

Vendor Response:

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Attachment C – Signed Certification: Section Four, Subsection 4.1:

Vendor Response (If Applicable):

By signing below, I certify that I have reviewed this Request for Proposal in its entirety; understand the requirements, terms and conditions, and other information contained herein; that I am submitting this proposal for review and consideration; that I am authorized by the bidder to execute this bid or any documents related thereto on bidder's behalf; that I am authorized to bind the bidder in a contractual relationship; and that, to the best of my knowledge, the bidder has properly registered with any State agency that may require registration.

_____
(Company)

_____
(Representative Name, Title)

_____
(Contact Phone/Fax Number)

_____
(Date)