



Agreement

Contract Title: Purchase of HVAC/Dehumidifier Pool Unit for Wakefield High School

This Contract **114FY23** is made and entered into this 26th day of June 2023, the date the Agreement is fully executed by the Procurement Director/Procurement Agent, by and between Arlington County School Board, operating as Arlington Public Schools (“APS” or “Owner”) and Environmental Products Inc. (“Contractor”), whose address is 57 W. Timonium Rd. Ste. 303 Timonium, MD 21093.

In consideration of the mutual stipulations, agreements and covenants contained herein, the parties hereby agree as follows:

1. Contract Term:

The Contract Term of this Contract shall commence on the date the Contract is fully executed by the Procurement Director/Procurement Agent and terminate upon completion of any and all applicable warranty periods, unless terminated earlier as in the Contract Documents.

2. Scope of Work:

The Scope of Work for this Contract generally is described as to provide as requested by APS the Equipment necessary for **Purchase of HVAC/Dehumidifier Pool Unit for Wakefield High School** as set forth in greater detail in Attachment A, The Equipment.

3. Contract Price:

The Contract Price shall be as set forth in Attachment B – Pricing Schedule.

APS will not compensate the Contractor for any Goods or Services beyond those included in Attachment B unless those additional Goods or Services are covered by a written Change Order amending this Contract.

The Contract Prices set forth in Attachment B include all costs, expenses, including reimbursable expenses, to provide the Goods or Services described in this Contract.

4. Contract Documents:

The documents which form the entire Contract between APS and the Contractor (“Contract Documents”) are as defined either in this Contract, in the Instructions to Bidders, or in the Terms and Conditions and are as set forth below.

4.1. In the case of a conflict, the order of precedence shall be as follows:

- 4.1.1. Agreement and all modifications properly incorporated in the Agreement
- 4.1.2. Attachment A – The Equipment
- 4.1.3. Attachment B – Pricing Schedule
- 4.1.4. Attachment C – Terms and Conditions
- 4.1.5. Attachment D – Sample Purchase Order
- 4.1.6. Attachment E – Certificate(s) of Insurance

4.1.7. Attachment F – Dectron Specification Sheets

4.1.8. ITB/Associated Documents

4.2. All provisions required by law to be included in this Contract or otherwise applicable to this Contract shall be deemed to be a part of this Contract, whether actually set forth herein or not.

4.3. The Contract Documents are complementary and what is called for by one is as binding as if called for by all. If the Contractor finds a conflict, error, ambiguity or discrepancy in the Contract Documents, it shall immediately, in writing call such conflict, error, ambiguity or discrepancy to the attention of the Owner before proceeding with the Work affected thereby. The Owner will promptly resolve the matter in writing. Work done by the Contractor after such conflicts, errors, ambiguities or discrepancies are discovered, or in the exercise of reasonable care reasonably should have been discovered, prior to written resolution thereof by the Owner shall be done at the Contractor's expense and risk. Any Work that may reasonably be inferred from the Contract Documents as being required to produce the intended result shall be supplied whether or not it is specifically called for. Work, materials or equipment described in words which so applied have a well-known technical or trade meaning shall be deemed to refer to such recognized standards.

4.4. The Contractor will be held to a standard of strict compliance with the requirements of the Contract Documents in the performance of the Work, for giving Notice of any type to the Owner, and for making any submittal required for any purpose. The Contractor acknowledges and agrees that all time requirements set forth in the Contract Documents for any purpose are of the essence.

5. Definitions:

All words and terms shall have the meanings and terms assigned to them in the Contract Documents, unless a different meaning is clear from the context.

6. Non-Appropriation:

All funds for payments by APS under any Contract awarded are subject to the availability of an annual appropriation for this purpose by the APS. In the event of non-appropriation of funds by the APS for the Goods or Services provided under the Contract, APS will terminate the Contract, without termination charge or other liability to APS, on the last day of the then current fiscal year or when the appropriation made for the then current year for the Services covered by this Contract is spent, whichever event occurs first. APS will endeavor to provide reasonable Notice of such termination, but no formal notice of such termination is required of APS, and APS shall not order any Goods or Services to be provided after such termination date.

7. Right to Terminate Contract:

APS has the right to terminate this Contract for convenience at any time, or for default, all pursuant to the provisions of the Terms and Conditions.

8. Direction to Proceed:

8.1. For Work to be performed by Contractor under this Contract, the Procurement Director/Procurement Agent will issue a Purchase Order. The Purchase Order will define the location of the Work to be performed and will define or, where specific definition cannot be provided, will estimate, the scope of the Work to be performed, the dates within which that Work is to be performed, and the price for that Work (collectively "Purchase Order Work"). A sample Purchase Order form is attached as Attachment E. Contractor shall not commence any Work until a written Purchase Order has been issued by the Procurement Director/Procurement Agent, and if it does so APS will be under no obligation to make payment for any Work performed prior to the issuance of the required Purchase Order. No employee or agent of APS other than the Procurement Director/Procurement Agent or his properly authorized designee has authority to make any purchases or otherwise bind APS contractually. If a Purchase Order is issued by anyone other than the Procurement Director/Procurement Agent, it shall be the responsibility of the Contractor to confirm the authority of that person to bind APS. Provided, however, if the Contractor has received from the Procurement Director/Procurement Agent prior written confirmation of a person's authority to bind APS,

the Contractor may rely upon all Purchase Orders issued by that person within the scope of the stated authority as authorized.

- 8.2. Notwithstanding the foregoing, if the circumstances are such that there is not sufficient time for issuance of a Purchase Order, APS through the Procurement Director/Procurement Agent or his authorized designee may direct the Contractor to proceed by less formal writing or electronic communication, to be replaced by a Purchase Order by 5:00 P.M. on the next regular APS working Day following issuance of such Owner directive. Further, if emergency conditions exist which necessitate that the Contractor act to avoid or mitigate damage to person or property, the Contractor shall proceed and give written Notice to APS of such emergency Work by 5:00 P.M. on the next regular APS Working Day following commencement of such emergency Work.

9. Payment Procedures:

Contractor shall submit invoices for its Work, and such invoices will be processed by APS, all in accordance with the provisions of the Terms and Conditions.

10. Assignments:

10.1. This Contract is not assignable by Contractor without the express written consent of APS, and APS shall be under no obligation to grant such consent. Sale, assignment or transfer of a controlling interest in the Contractor shall be deemed an assignment for purposes of this provision and shall be grounds for termination of this Contract if consent of APS is not obtained. It is understood by APS that Contractor may use Subcontractors for performance of parts of the Work. However, it is expected that Contractor will be performing the Work, and subcontracting of all or substantially all of the Work under any Purchase Order shall be deemed an assignment subject to the restrictions of this Section.

10.2. Contractor acknowledges that, if so stated in the Bid Documents, this Contract is subject to the joint procurement or cooperative procurement provisions of Va. Code Ann. § 2.2-4304.

11. Notices:

Unless otherwise provided herein, all notices and other communications hereunder shall be deemed to have been given when made in writing and either (a) delivered in person, (b) delivered to an agent, such as an overnight or similar delivery service, or (c) deposited in the United States mail, postage prepaid, certified or registered, addressed as follows:

To the Contractor: Steven C. Purvis
Executive Vice President Sales & Marketing
Environmental Products Inc.
57 W. Timonium Rd. Ste. 303
Timonium, MD 21093

To APS: Helena Machado
Director of Facilities and Operations
Arlington Public Schools
2770 South Taylor Street
Arlington, Virginia 22206
helena.machado@apsva.us

And David J. Webb, C.P.M.
Procurement Director / Procurement Agent
Arlington Public Schools
2110 Washington Blvd.
Arlington, Virginia 22204
david.webb@apsva.us

12. Governing Law:

This Contract, the Bid Documents, and the Contract Documents shall be governed by and construed in accordance with the laws of the Commonwealth of Virginia without reference to conflict of laws principles. The exclusive jurisdiction, forum and venue for any litigation with respect to this Contract, the Bid Documents, or the Contract Documents shall be in the state courts of Arlington County, Virginia.

13. Binding Agreement:

The Owner and the Contractor each binds itself, its successors and assigns to the other, its successors and assigns, in respect of all covenants, terms, conditions and obligations contained in each of the Contract Documents.

Signature Appears on Following Page

Arlington Public Schools

By: *David J. Webb*
David J. Webb, C.P.M.
Procurement Director/Procurement Agent

Date: June 26, 2023

Attachments:

Attachment A	The Equipment
Attachment B	Pricing Schedule
Attachment C	Terms and Conditions
Attachment D	Sample Purchase Order
Attachment E	Certificate(s) of Insurance
Attachment F	Dectron Specification Sheets

End of Agreement

Attachment A

The Equipment

1.0 Specifications:

Dectron Model LD-362-GB-X-A6FR6343G2E5ADDH – Model 80 Ton 2 – Compressor Dehumidifier and the O AFC Model # NG-V-32-EOCSMO-V

ITEMS INCLUDED:

- Horizontal 2-in Double Walled Cabinet with Bottom Return
- Corrosion Resistant Drain Pan
- 34000 CFM supplied by direct driven plug fan
- Designed for use with R410A
- 2.5” External Static Pressure
- Custom Cabinet Dual Supply -Right Hand & Horizontal Supply Orientation
- Heat Recovery Package with OA and Purge/Economizer Motorized Damper (in addition to OA Motorized Damper Option) located on left side away from bathroom exhaust
- Unit Mounted Exhaust Fan and Purge/Economizer Fan
- Unit Mounted Gas Heater (Furnace) with Modulating Control
- Remote Air-Cooled A/C Unit
- Supervisaire Microprocessor with Remote Panel
- Building Communication BACnet (IP and Ethernet)
- Utility Outlet (non GFCI)
- Coated Fins
- MERV 13 Air Filters
- Factory Assisted Startup
- Adaptor Curb (Field Measurements Must Be Verified with Manufacturer for Design of Adaptor Curb; Installing Contractor Must Sign and Approve Curb Drawing).

For additional details please see Dectron Specification Sheets found at Attachment F

2.0 Delivery Location

Rigging Company

(Details of the actual address of the Rigging Company shall be provided to the Manufacturer at a later date.

3.0 Delivery Date

Equipment shall be received by the Rigging Company which is under contract by the Installing Contractor by no later than December 1, 2023.

End of The Equipment

Attachment B

Pricing Schedule

Item No.	Description	Model	Voltage	Firm Fixed Price	Delivery
1A	Dectron – Outdoor 80 Ton 2 – Compressor Dehumidifier	LD-362-GB-X	460/3HP	\$523,688.00	No Later Than December 1, 2023
1B	Dectron – Remote Fluid Cooler with Integral Pump Package	NG-V-32	460/3HP	\$62,444.00	No Later Than December 1, 2023

The Manufacturer shall deliver the Equipment, so it is received by the Rigging Company on: December 1, 2023

Liquidated Damages:

4.7.1 APS specifies that time is of the essence under this Contract. Time being of the essence, it is essential for the Equipment to be received by the Rigging Company within the Northern Virginia area no later than December 1, 2023, APS and the Contractor agree that damages for failure for APS to receive the Equipment no later than December 1, 2023, are not susceptible to exact determination but that \$250.00 for each calendar day the Equipment is received beyond December 1, 2023, is in proportion to the actual loss that APS would suffer from such delay. Therefore, the Contractor will pay APS \$250.00 for each and every calendar day the Equipment has not been received beyond December 1, 2023, as damages caused by such delay and not as a penalty. The total damages the Contractor will pay APS will be calculated by multiplying the number of calendar days beyond December 1, 2023 taken for APS to receive the full quantity of HVAC/Pool dehumidification unit specifically designed for use in medium to large indoor swimming pools, multiplied by \$250.00.

4.7.2 The Contractor agrees that the sole relief for the Contractor for claims for damages for delays caused by APS shall be the Contractor's direct costs which result from unreasonable delay to the extent such unreasonable delay is caused by APS and is due to causes within APS control and only to the extent written notice of such delay and damages was given to APS at the time they were incurred. The sole relief for damages for reasonable delay caused by APS or for delay due to causes within its control shall be an extension of Contract time in accordance with the terms of the Contract Documents. The Contractor expressly agrees that all claims shall be subject to Virginia Code section 2.2-4336.

End of Pricing Schedule

Attachment C

Terms and Conditions

These Terms and Conditions are applicable to the Contract between Arlington Public Schools and Contractor resulting from the solicitation identified above, and to all Bid Documents and Contract Documents associated therewith.

1. Definitions:

- 1.1. Addendum:** A change to the Bid Documents or Contract Documents issued by the Owner prior to Bid Closing.
- 1.2. APS:** Arlington Public Schools, the owner of the property upon which the Work is to be performed or the entity for which the Work is to be performed. See also "Owner."
- 1.3. Apparent Low Bidder:** The responsible Bidder submitting the lowest responsive Bid.
- 1.4. Bid:** The offer of a Bidder to provide specific Goods or Services at specified prices and/or other conditions specified in the solicitation.
- 1.5. Bidder:** Any individual, company, firm, corporation, partnership or other organization bidding on solicitations issued by the Procurement Director/Procurement Agent and offering to enter into Contracts with APS. The term "Bidder" will be used throughout the Bid Documents and the Contract Documents and shall be construed to mean "offeror" where appropriate.
- 1.6. Bid Closing:** The time and date set by the Invitation for the deadline for receipt of Bids.
- 1.7. Bid Opening:** The time and date set by the Invitation for the opening of Bids.
- 1.8. Change Order:** A written order to the Contractor, signed by the Owner, which authorizes a change in the Work, and any resulting adjustment to the Contract Price and/or the Contract Time. A **Unilateral Change Order** is a Change Order signed only by the Owner addressing any Modification to the Contract Sum or the Contract Time to which the Owner agrees. A **Mutual Change Order** is a Change Order signed by both the Owner and by the Contractor reflecting agreement on all terms, conditions and requirements set forth therein. A Unilateral Change Order may be converted to a Mutual Change Order upon agreement being reached between the parties. Change Orders shall be initiated and processed as set forth in the Changes provisions of these Terms and Conditions. A Unilateral Change Order or a Mutual Change Order may affect the Contract, an individual Purchase Order, or both, depending on its terms.
- 1.9. Complete or Completion:** Work for which a Purchase Order has been issued will not be deemed complete until the subject of the Work is functioning as intended, cleanup has been completed, any required or applicable inspections or governmental approvals have been accomplished, and the Work is accepted by the Owner. More specific requirements for Completion may be set forth in the Scope of Work or the Purchase Order.
- 1.10. Contract:** The signed Contract between Owner and Contractor is the Contract.

- 1.11. Contract Documents:** The Contract Documents and the order of precedence in the event of a conflict therein are as defined in the Contract.
- 1.12. Contract Period:** See “Contract Time.”
- 1.13. Contract Price:** The total amount payable to the Contractor for performance of the Work. The Work under this Contract will involve multiple discrete Projects. The Contract Price is stated in the Purchase Order for the particular Work included in a discrete Project and shall include any adjustments granted in accordance with the provisions of the Contract Documents. The Contract Price may be determined based on unit prices or rates and quantities as provided in the Contract. May also be referred to as “Contract Sum.”
- 1.14. Contract Sum:** See “Contract Price.”
- 1.15. Contract Time:** The period allotted in the Purchase Order for Completion of the Work directed by that Purchase Order, together with any extension of time granted in accordance with the provisions of the Contract Documents. May also be referred to as “Contract Period.”
- 1.16. Contractor:** The individual, firm, or organization which Contracts with the Owner to perform the Work. As employed herein, the term "Contractor" may refer to an individual, firm or organization, or to the Contractor's authorized representative.
- 1.17. Day:** The term "day" or “Day” shall mean "calendar day" unless otherwise noted. When any provision in the Contract Documents establishes a time within which an action must be taken or a right must be exercised, if the last Day falls on a Saturday, Sunday, or holiday recognized by Arlington Public Schools, or on a day when Arlington Public Schools administrative offices are closed for any other reason, the deadline thereby established shall be extended to the first Arlington Public Schools Working Day thereafter when the Arlington Public Schools administrative offices are open.
- 1.18. Drawings:** The term “Drawings” or “Plans” shall mean any drawing, plan, sketch, photograph or similar document intended to provide to the Contractor graphic instruction or guidance regarding the Work to be performed.
- 1.19. Gender and Plural:** Whenever the Contract so admits or requires, all references to one number shall be deemed to extend to and include the other number, whether singular or plural, and the use of any gender shall be applicable to all genders. The terms “his” or “hers” or “he” or “she” shall include “its” if the referenced party is an entity rather than a person.
- 1.20. Goods:** All material, equipment, supplies, printing, and automated data processing/information technology hardware and software.
- 1.21. Holiday:** Holidays recognized by the Owner which shall not be considered Normal Working Hours are as follows: New Year’s Eve Day, New Year’s Day, Martin Luther King, Jr. Day, Presidents Day, Memorial Day, Independence Day, Labor Day, Columbus Day, Veterans Day, Thanksgiving Day and the following Friday, Christmas Eve Day, and Christmas Day. In the event any of the days designated as a Holiday fall on a Saturday, the Holiday shall be the preceding Friday; in the event any of the days designated as a Holiday fall on a Sunday, the Holiday shall be the following Monday.

- 1.22. Informality:** A minor defect or variation of a Bid or proposal from the exact requirements of the Invitation to Bid or the Request for Proposal which does not affect the price, quality, quantity or delivery schedule for the Goods and Services being procured.
- 1.23. Invitation to Bid (ITB):** A request which is made to prospective Bidders for their Bids on Goods or Services desired by APS. The issuance of an ITB will contain or incorporate by reference the specifications and contractual terms and conditions applicable to the procurement.
- 1.25. Modification:** Any written change to any provision of the Contract Documents made after Bid Closing, whether by Work Order, Change Order or other means provided by the Contract Documents.
- 1.26. Normal Working Hours:** Unless otherwise specified in the Purchase Order Normal Working Hours shall be 6:00 A.M. through 2:30 P.M., Monday through Friday, excluding Holidays. See also Working Day.
- 1.27. Notice:** Notice or a requirement to “Notify” shall mean written notice. Written notice shall be deemed to have been duly served if:
- A. Written Notice to Contractor shall be deemed to have been fully served if delivered by United States Postal Service registered or certified return receipt mail, courier, generally recognized private mail or delivery service providing proof of delivery, e-mail, or facsimile transmission to the Contractor's office at the Project Site or to the business address of the Contractor as stated in its Proposal; or if delivered in person to the Contractor's foreman or superintendent for the Project, or to any officer or director of the Contractor.
 - B. Written Notice to APS shall be deemed to have been fully served if delivered by United States Postal Service registered or certified return receipt mail, courier, generally recognized private mail or delivery service providing proof of delivery, or hand delivered to the office of the Procurement Director/Procurement Agent, Arlington Public Schools, Syphax Education Center, 2110 Washington Blvd, Arlington, Virginia 22204.
 - C. Notice by registered or certified return receipt mail, courier, generally recognized private mail or delivery service, or by courier, will be deemed received on the date shown on the written delivery receipt. Notice given by email or facsimile transmission will be deemed received at 9:00 A.M. on the first business day after the date of transmission.
 - D. Attempted Notice given in any manner other than as designated herein shall not satisfy any Notice requirement.
- 1.28. Notice of Intent to Award:** A writing issued by the Owner which states the Owner’s intent to award the Apparent Low Bidder a Contract to execute the Work. The Notice of Intent to Award will be publicized as provided in the Bid Documents.
- 1.29. Notice to Proceed:** See Purchase Order.

- 1.30. Owner:** APS and employees authorized to represent APS. Reference to Owner requiring action by Owner or Notice to Owner shall be deemed to mean the Procurement Director/Procurement Agent unless otherwise stated specifically.
- 1.31. Pricing Schedule:** The pricing information appearing as Attachment B to the Contract setting the unit prices, rates, or other means of agreed pricing for performance of Work by the Contractor.
- 1.32 Procurement Director/Procurement Agent:** The employee of APS authorized to act on behalf of the Owner in this Contract. The Procurement Director/Procurement Agent may designate in writing others to act on his behalf, and such designation shall state any limitations on the authority of such designee. Contractor shall not rely upon and Owner shall not be bound by any statement or representation made on behalf of APS by any person not designated to the Contractor in writing as authorized to so act on behalf of the Procurement Director/Procurement Agent. It shall be the responsibility of the Bidder, and thereafter the Contractor, to establish the authority to act regarding any communication or action by any person other than the Procurement Director/Procurement Agent. Use of the term Procurement Agent or Procurement Director/Procurement Agent in the Contract Documents shall be deemed to include such properly authorized designee within the scope of that designee's authorization.
- 1.33 Project:** The Goods and/or Services provided or performed by the Contractor at any location as directed by Purchase Order, in accordance with the Contract Documents; collectively all of the Goods and Services contemplated by the Contract; synonymous with the term "Work" as the context may require.
- 1.34. Project Manager:** The Owner's representative for Contract coordination
- 1.35. Project Site or Site:** The location at which any Goods or Services are provided, delivered or performed by Contractor under this Contract.
- 1.36. Purchase Order:** A written directive issued by the Procurement Director/Procurement Agent or authorized designee directing the performance of a particular item or items of Work to be performed in accordance with the Pricing Schedule. A Purchase Order shall serve as the Contractor's Notice to Proceed with the specified portion of the Work as specified in the Purchase Order.
- 1.37. Responsible Bidder:** A person who has the capability, in all respects, to perform fully the Contract requirements and the moral and business integrity and reliability that will assure good faith performance, and who has been prequalified, if required.
- 1.38. Responsive Bidder:** A person or entity who or which has submitted a Bid that conforms in all material respects to the Invitation to Bid.
- 1.39. Services:** means any work performed by an independent Contractor wherein the service rendered does not consist primarily of acquisition of equipment or materials, or the rental of equipment, materials and supplies.
- 1.40. Specifications:** Written details provided to the Contractor by the Owner providing performance requirements, data instructions and guidance for performance of the Work.

- 1.41. Subcontractor:** Any individual, firm or organization other than an employee of the Contractor, who Contracts with the Contractor to furnish or who actually furnishes labor, materials, Services or equipment, or any combination thereof to the Contractor in connection with the Work.
- 1.42. Sub-Subcontractor:** Any individual, firm or organization, other than an employee of the Contractor or of a Subcontractor, who Contracts with a Subcontractor to furnish, or who actually furnishes labor, materials, service or equipment, or any combination thereof to a Subcontractor. The Contractor shall be responsible for the performance of the Work by any person or entity below the level of Sub-subcontractor.
- 1.43. Warranty Period:** All warranties and guarantees against any defect in the Work shall apply from the date of acceptance by APS of the Completed Work and shall continue for a period of one (1) year thereafter, or the manufacturer’s standard warranty, whichever is longer. Provided, however, in the event the Contract Documents require a Warranty in excess of one (1) year, the longer term shall apply as applicable.
- 1.44. Work:** Everything explicitly or implicitly required to be furnished or performed to complete performance of any Purchase Order.
- 1.45. Work Order:** A written directive to the Contractor issued on or after issuance of the Purchase Order the Effective Date of the Agreement and signed by the Procurement Director/Procurement Agent ordering an addition, deletion, or revision in the Work described in a Purchase Order issued when in the sole discretion of the Owner the terms thereof do not impact the Contract Price or the Contract Time, or when in the sole discretion of the Owner the circumstances do not allow sufficient time for issuance of a Change Order.
- 1.46. Working Day:** See Normal Working Hours.
- 2. Independent Contractor:**
In the performance of this Contract and for all purposes related to APS, Contractor shall be an independent Contractor and neither the Contractor nor any of its employees will under any circumstances, be considered servants or agents of APS. Under no circumstances shall APS (i) be responsible for any failing or wrongdoing by the Contractor, its servants or agents; (ii) be under any obligation to withhold from the Contract payments to the Contractor or otherwise any federal or state unemployment taxes, federal or state income taxes, Social Security tax, or any other amounts for benefits of any kind; or (iii) provide any insurance coverage or other benefits, including but not limited to workers’ compensation, to any employees or agents of Contractor.
- 3. Intent of the Contract Documents:**
The intent of the Contract Documents is to include all items necessary for the proper management, execution and completion of the Work, including without limitation, all labor, materials, equipment and furnishings required in connection therewith, whether or not specifically identified in the Contract Documents. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all. Any doubt as to whether any work is within the scope of the Contract shall be resolved in favor of an interpretation that the work is within the scope of the Contract. Use of the term “include” or “including” shall be deemed to mean “include without limitation,” “including but not limited to,” and similar expansive intent.
- 4. Drawings and Specifications:**

Drawings or Specifications as necessary for performance of the Work will be identified in and provided with any Purchase Order issued by the Owner.

Any Specification provided shall serve to amplify the requirements of materials and assemblies. The mention in any Specification of any article or operation requires that the Contractor shall provide all such items indicated on, or reasonably inferred from, any Drawings provided to the Contractor, furnishing for such purpose all labor, materials and equipment required in connection therewith. Omission of any article, operation or detail does not relieve the Contractor of the responsibility for completion of the Work reasonably intended by any explanatory or informational documents provided by the Owner with a Purchase Order.

The Contractor shall exercise reasonable care and due diligence to discover any discrepancies in the Drawings or Specifications, and shall notify the Owner of discrepancies found in the Drawings or Specifications before materials are fabricated or Work performed.

The Contractor shall adhere to written dimensions though differing from scale measurements. In the absence of dimensions or in case of doubt as to the proper measurement, consult the Owner for clarification before proceeding with the Work. Actual field dimensions where applicable are to be verified by the Contractor in the field prior to proceeding.

5. Replacement of Personnel and Subcontractors:

APS has the right to reasonably reject staff or Subcontractors whom the Contractor assigns to the Contract. The Contractor must then provide replacement staff or Subcontractors satisfactory to APS in a timely manner and at no additional cost to APS. The day-to-day supervision and control of the Contractor's and its Subcontractor's employees is the sole responsibility of the Contractor.

The Contractor may not replace key personnel or Subcontractors identified in its Bid, including the project manager, without APS's written approval. The Contractor must submit any request to remove or replace key personnel or Subcontractors to the Owner's Project Manager at least fifteen (15) Days in advance of the proposed action. The request must contain a detailed justification, including the proposed replacement and his or her qualifications.

If the approved project manager resigns or is terminated by the Contractor, the Contractor will replace the project manager with an individual with similar qualifications and experience, subject to APS' written approval.

6. Contract Interpretations:

The Contractor may request Contract interpretations in writing from the Owner. Such requests for interpretations must be submitted sufficiently in advance of the date upon which the interpretation is actually required by the Contractor to allow the Owner to issue the interpretation so as not to delay the Work. Contractor shall be responsible for any delay resulting from failure to submit a request for interpretation in a timely manner. Written interpretations so requested shall be issued by the Owner in a manner commensurate with the timely execution of the Work, shall be consistent with the intent of the Contract Documents, and shall be in accordance with established time requirements for performance of the Work, but Owner shall be under no obligation to expedite its review and analysis of the question raised or to issue a response if the Contractor does not submit the request for interpretation in a timely manner.

7. Copies and Ownership of Contract Documents:

A. The Contractor will be provided with either electronic or hard copies of any Drawings, Specifications, or other documents referenced in a Purchase Order.

- B. All Drawings, Specifications, or similar technical data provided to the Contractor by the Owner are the property of the Owner, and the Contractor may not use such information for any purpose not relating to performance of the Work.

8. General Review of Contract Documents:

- A. The Contractor shall perform all Work and shall furnish, at its own cost and expense, all labor, materials, equipment, and other facilities, except as herein otherwise provided, as may be necessary and proper for performing and completing the Work. The Contractor shall be responsible for the entire Work until Completion of all Work has been achieved.
- B. Unless otherwise provided herein, the Work shall be performed in accordance with the best modern practice and with materials and workmanship of highest quality.
- C. Supervision and Coordination of the Work: The Contractor shall supervise and direct the Work and coordinate the Work with that of separate Contractors using Contractor's best skill and attention. Unless otherwise provided in the Contract Documents, the Contractor shall be solely responsible for and have control over means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract; provided, however, that the Contractor shall employ adequate and safe procedures, methods, structures and equipment. No approval or failure to exercise its right of approval by Owner shall relieve the Contractor of its obligation to accomplish the result intended by the Contract, or create a cause of action for damages against the Owner, or provide a defense by the Contractor in any case of action by the Owner against the Contractor.
- D. The Contractor shall study and review the Contract Documents and shall compare them with each other and with such information made available by the Owner. The Contractor shall be responsible for giving Notice to the Owner of any errors, inconsistencies or omissions discovered or which in the exercise of due diligence as a reasonably competent Contractor reasonably should have been discovered by it.
- E. The Contractor shall be responsible for all costs or delays resulting from the Contractor's or a Subcontractor's failure to obtain and review Contract Documents provided or made available by the Owner, or from the failure to discover any errors, inconsistencies or omissions in the Contract Documents which in the exercise of due diligence as a reasonably competent contractor the Contractor reasonably should have discovered.

9. Substitutions:

- A. The name of a certain brand, make, or manufacturer in the Contract Documents is to denote the quality standard of the article desired. The reference to a certain brand, make or manufacturer is to convey the general style, type, character and quality of article desired. If the Contractor desires to provide or use any other brand, make of materials, device, or equipment, it may do so only if it submits sufficient information to satisfy the Procurement Director/Procurement Agent that the proposed substitute is the equal of that specified in quality, workmanship, design and economy of operation, and is suitable for the purpose intended, and obtains the written approval from the Procurement Director/Procurement Agent by Change Order.
- B. To obtain approval of a substitute as equal, the Contractor shall submit to the Procurement Director/Procurement Agent all substantiating data upon which the Contractor relies to establish the substitute as an equal. If a sample is requested by the Owner, it shall be

provided at the Contractor's expense within seven (7) Days of the request and may be subjected to such testing, examination or analysis, including but not limited to destructive testing, as the Owner in its discretion deems necessary. If the Procurement Director/Procurement Agent approves the proposed substitute, a Change Order approving the change will be issued by the Procurement Director/Procurement Agent. Provided, however, the Contractor shall be fully responsible for all costs or other consequences related to or arising from implementation of the use of the substitute, whether foreseen or unforeseen and including but not limited to any adjustments or revisions which might be required to existing improvements, facilities or operations. Contractor shall not proceed with use of the substitute until the Change Order approving its use has been issued by Owner.

- C. Notwithstanding the foregoing, if the identification of a certain brand, make or manufacturer is designated as "required" or "no substitutes permitted" or any similarly clear language, there shall be no substitutions permitted.

10. Changes in the Work:

- A. Any change to an existing Purchase Order must be approved by written Change Order issued by the Procurement Director/Procurement Agent prior to the changed Work being performed. APS has no obligation to pay for any changed or extra Work not directed by written Change Order issued by the Procurement Director/Procurement Agent.
- B. If the Owner issues a Purchase Order which the Contractor deems to be beyond the scope of the Work so as to entitle the Contractor to compensation or to additional time for performance of the Work beyond the terms set forth in the Purchase Order, the Contractor shall so Notify the Owner within seven (7) Days following issuance of the Purchase Order and before beginning the Work directed by the Purchase Order. If no agreement is reached between the Owner and the Contractor regarding such Work within ten (10) Days after the Contractor gives such Notice, or if the Owner directs the Contractor to proceed immediately, the Contractor shall proceed with the Work as directed and pursue such remedies as it deems appropriate within the claims provisions set forth in these Terms and Conditions. The expiration of such ten (10) Day period, or direction by the Owner to proceed, shall be deemed the occurrence date for any claim the Contractor wishes to pursue related to the Work ordered by the Purchase Order. Performance of and payment for the Work directed by the Purchase Order thereafter shall be governed by the Claims for Damages provisions of these Terms and Conditions.

11. Administration of Contract:

The Owner's Project Manager shall provide administration of the Contract in accordance with the Contract, Contract Documents and Work.

The Owner's Project Manager for this Contract is:

Helena Machado, Director of Facilities and Operations
APS Facilities & Operations Department
2770 South Taylor Street
Arlington, VA 22206
Telephone: (703) 930-6264

12. Time of Start and Completion:

- A. Time is of the essence for any Purchase Order issued under this Contract. The Contractor

shall commence Work within ten (10) days after receipt of the Purchase Order, or such lesser time as may be directed in the Purchase Order under circumstances requiring immediate attention. Time being of the essence with respect to this Contract, the Contractor shall prosecute the Work diligently, using such means and methods of performance, scheduling and resources as will secure its full Completion in accordance with the requirements of the Contract Documents, and will Complete the Work within the time stated in the Purchase Order.

- B. APS may cancel any Purchase Order, or any part thereof, without obligation to Contractor other than to pay for acceptable Work in place, if completion is not achieved at the time specified in the Purchase Order.

13. Site Visits:

The Owner shall have access to Work in process on the Project Site at all times to determine the progress and to assess the quality of the Work. Except as may be required to comply with specific requirements of the Contract Documents, the Owner shall not have control over or charge of and shall not be responsible for means, methods, techniques, procedures, sequences or safety measures employed in connection with the Work, nor for the failure of the Contractor, Subcontractors, or Sub-subcontractors to perform the Work in accordance with the Contract Documents.

14. Use of Site and Site Information:

- A. The Contractor shall be responsible for inspection of existing conditions as satisfactory to receive subsequent Work. If existing conditions exist on the Project Site which in the opinion of the Contractor will require Work in excess of that anticipated by the Scope of Work and Price as set forth in the Purchase Order, the Contractor shall give Notice of such conditions and not proceed with the Work until receiving written direction from the Owner. If the Owner agrees that the existing conditions require Work in excess of that anticipated by the Scope of Work and Price as set forth in the Purchase Order, a Change Order to the Purchase Order will be issued stating the impact as agreed by Owner. If the Owner does not agree that the existing conditions require Work in excess of that anticipated by the Scope of Work and Price as set forth in the Purchase Order, the Contractor shall proceed with the Work. If the Contractor disagrees with the Owner's determination, the Contractor may submit a claim as provided in these Terms and Conditions. If the Contractor proceeds with such Work before receiving such written direction from the Owner, such action shall be deemed a failure to comply with this condition precedent for pursuit of any claim and such Work shall be at Contractor's expense.
- B. The Owner shall make available to the Contractor such information as the Owner has in its possession describing the physical characteristics, legal limitations and utility locations for the Project Site; provided, however, that the provisions of such information shall not relieve the Contractor from its obligation to inspect for itself and determine the Project Site conditions. The Owner makes no representations whatsoever concerning the quality or contents of any information so provided and the Contractor relies on such information solely at its own risk.

The Contractor shall confirm locations of existing utilities by performing such tests or other measures as may be required, including but not limited to compliance with all Commonwealth of Virginia Miss Utility laws, at the Contractor's sole expense and no increase to the Contract Price. If the Contractor discovers, or in the exercise of reasonable care should have discovered, circumstances at the Project Site which the Contractor contends may cause Work beyond that contemplated by the applicable Purchase Order, the Contractor shall give Notice to the Owner of

such circumstances before commencing Work affected thereby and shall await Owner's written instructions, which shall include a statement of whether or not the Owner agrees that such circumstance will cause extra Work and how that extra Work is to be compensated. If the Contractor proceeds with the affected Work prior to receipt of the Owner's written instructions, such action shall be deemed a failure to comply with this condition precedent for pursuit of any claim and such Work shall be at Contractor's expense.

The Contractor shall be responsible for damages to property, whether owned by APS or others, caused by or resulting from performance of the Work. The Contractor shall repair to proper working order or replace, to the satisfaction of APS, any property so damaged.

The Contractor shall confine the Work to areas of the Project Site permitted by the Contract Documents and shall comply with all applicable laws, ordinances, and permits related to the Project Site.

The Contractor shall be responsible for all safety and security procedures required to protect Work in process and the safety of the public until the Work is accepted by Owner.

- C. Contractor workers shall not be present in any building owned or controlled by Owner without an Owner employee present. In the event the Contractor desires to perform Work outside Normal Working Hours or on Holidays in a building owned or controlled by Owner, Contractor shall notify the Owner in writing at least two (2) working days prior to the intended Work. Upon approval from the Owner, which Owner may in its sole discretion decline to grant, the Work can be scheduled and the Owner will provide an employee to deactivate the building security system and remain present while Contractor workers are present. The cost for Owner employee support for Contractor Work outside Normal Working Hours or on a Holiday shall be paid by the Contractor to the Owner at a rate of \$40 per hour per Owner employee required to remain present while the Contractor's workers are present. The cost of custodial support for Sunday or Holiday work shall be paid by the Contractor to the Owner at a rate of \$70 per hour per Owner employee required to remain present while the Contractor workers are present. The Owner shall submit employee time sheets to the Contractor for review and verification.
- D. The Contractor shall maintain its Work area in a clean and orderly state and shall exercise dust control when required. If in the Owner's sole discretion, the Project Site requires cleaning or excess material removal, in total or in part, the Owner may direct the Contractor to conduct the necessary cleaning and removal. Should the Contractor fail to accomplish the directed cleaning within three (3) business days, the Owner reserves the right to use outside sources to conduct the cleaning or maintenance and to charge the Contractor for all costs incurred by the use of the outside sources, plus a markup of ten percent (10%) to cover administrative costs.

15. Safety:

The Contractor must ensure that it and its employees and Subcontractors comply with all applicable local, state, and federal policies, regulations and standards relating to safety and health, including the standards of the Virginia Occupational Safety and Health program of the Department of Labor and Industry for General Industry and for the Construction Industry and the applicable Federal Environmental Protection Agency and Virginia Department of Environmental Quality standards. The Contractor shall be responsible for compliance with all safety procedures and programs set forth in its Bid.

16. Warranties:

- A. The Contractor warrants to the Owner that all materials and equipment furnished under the Contract will be new unless otherwise specified, free of defects, of the latest model, of the best quality, and in strict compliance with the requirements of the Contract Documents.
- B. The Contractor warrants to the Owner that all workmanship will be of the best quality and in strict compliance with the requirements of the Contract Documents.
- C. All materials and equipment furnished under the Contract shall be free and clear of all liens or other claims of any type by any third parties.
- D. All workmanship, materials or equipment not conforming to the foregoing standards may be deemed defective. APS has no obligation to pay the Contractor for Work, materials or equipment rejected as defective until satisfactory correction has been accomplished by Contractor.
- E. All Warranties shall be in effect for the entirety of the Warranty Period, or the manufacturer's standard warranty, whichever is longer. In the event corrective work is required during the Warranty Period, the Warranty on the repaired Work shall extend for one (1) year from the date of acceptance by APS of the completed repairs. The Warranty shall include all parts, labor, transportation, and any other costs necessary to keep the product in good operating condition, but shall not be applicable to damage caused by Owner's misuse of the item or due to normal wear and tear. If seasonal limitations prevent any required performance testing of the completed Work, the Warranty Period for such Work shall begin after the performance tests have been successfully performed.

17. Correction of Defective Work Before and During Warranty Period:

- A. In the event the Work, or any portion thereof, is determined during the Warranty Period to be defective, incomplete or to have been improperly performed, the Contractor shall, within three (3) Days after written notice from the Owner, commence to remove all defective and deteriorated Work and materials and replace it at the Contractor's expense with Work and materials in accordance with the requirements of the Contract Documents and to complete all incomplete Work in accordance with the Contract Documents within a reasonable time period.
- B. In the event the Contractor fails to commence the removal, replacement, completion or correction of such Work within three Days after the date of written notice from the Owner and to complete such Work within a reasonable time period thereafter, the Owner will cause such Work to be performed by other Contractors and the Contractor will be obligated to pay the Owner all costs incurred in the performance of such Work plus an administrative fee of ten percent (10%) within thirty (30) Days following submission by Owner to Contractor of such demand for payment.
- C. The Contractor's Warranty obligations shall remain in full force and effect regardless of whether the Warranty Work was performed by the Contractor or by the Owner.
- D. Defects or nonconformities which are remedied as a result of Warranty obligations shall subject the remedied portion of the Work to an extended Warranty Period of one (1) year from the date upon which such defect or nonconformity was fully remedied or from the date of Final Completion of the Project as a whole, whichever is later, whether such Warranty Work was performed by the Contractor or by the Owner. Any repetitive defect,

failure or malfunction identified within the Warranty Period shall remain under Warranty until it has been fully corrected and has performed without defect, failure or malfunction for a period of one (1) year.

18. Contractor Requirements:

- A. The Contractor and all of its Subcontractors for the duration of the Contract are required to comply with all laws regarding authorization to do business in Virginia, licensing, and other regulatory requirements as applicable; to be financially stable; and to provide for performance of the Work a sufficient work force, all of whom are qualified for and experienced in the Work.
- B. The Owner, upon written Notice to the Contractor, and in the Owner's sole discretion, shall have the right to direct the Contractor and its Subcontractors to remove an employee permanently from the Project for any reason. Any individual who is removed from the Project pursuant to this Section may not return without specific permission of the Owner.
- C. The Contractor will ensure that no Work shall be performed in occupied areas on a Project Site during school hours unless express written approval has been granted by the Owner and proper safety precautions have been exercised to isolate the area of the Work.
- D. Tobacco products, alcoholic beverages, illegal drugs, and weapons are prohibited on the Project Site and will constitute grounds for immediate removal of any employee of the Contractor or of any Subcontractor from the Project Site. Sexual harassment, profanity, and inappropriate behavior are not permitted on the Project Site and will constitute grounds for immediate removal of any employee of the Contractor or of any of its Subcontractors.
- E. No Smoking Policy on Arlington Public Schools' property: Contractors and Subcontractors, including their employees or agents, performing work on APS property shall abide by the no smoking policies applicable to the property.
- F. Drug-Free Workplace. For the purposes of this Contract "drug-free workplace" means a Project Site in connection with a specific Purchase Order. All, the employees, Subcontractors and other representatives of Contractor of whom are prohibited from engaging in the unlawful manufacture, sale, distribution, dispensation, possession or use of any controlled substance or marijuana during the performance of the Contract on any Project Site. During the performance of this Contract, the Contractor agrees to:
 - 1. Provide a drug-free workplace for the Contractor's employees;
 - 2. Post in conspicuous places, available to employees and applicants for employment, a statement notifying employees that the unlawful manufacture, sale, distribution, dispensation, possession, or use of a controlled substance or marijuana is prohibited in the Contractor's workplace and specifying the actions that will be taken against employees for violations of such prohibition;
 - 3. State in all solicitations or advertisements for employees placed by or on behalf of the Contractor that the Contractor maintains a drug-free work place; and
 - 4. Include the provisions of the foregoing clauses in every subcontract or purchase order of over \$10,000, so that the provisions will be binding upon each Subcontractor.

- G. Contractor Certification Regarding Criminal Convictions. By signing this Contract, the Contractor affirms the continuing accuracy of the Contractor Certification Regarding Criminal Convictions submitted as Attachment D to its Bid and that it will remain in force throughout the performance of any Work under the Contract. The Contractor acknowledges that its Contractor Certification Regarding Criminal Convictions is applicable not only to Contractor or its employees, but also to its Subcontractors or their employees and Sub-subcontractors or their employees. Contractor shall upon demand from APS provide to APS all information which allowed for the Contractor's certification and which supports that the certification remains current, and further certifies that:

All Contracts with Arlington County School Board, where the Contractor or its employees, or its Subcontractors or their employees, will have direct contact with students on school property during regular school hours, or during school-sponsored activities, shall require the Contractor to certify that neither it nor any of its employees nor any of its Subcontractors' nor any of its Subcontractors' employees, who will have direct contact with students, have been:

- (1) convicted of a felony or of a sexually violent offense as defined in Va. Code Ann. § 9.1-902 as mandated by Va. Code Ann. § 18.2-370.5,
- (2) convicted of an offense occurring on or after July 1, 2006, where the offender was more than three years older than the victim involving:
 - (a) the rape of a child under age 13 pursuant to Va. Code Ann. § 18.2-61.A(iii),
 - (b) forcible sodomy of a child less than 13 years of age pursuant to Va. Code Ann. § 18.2-67.1.A.1,
 - (c) object sexual penetration of a child under 13 years of age pursuant to Va. Code Ann. § 18.2-67.2.A.1, or
 - (d) any similar offense under the laws of any foreign country or any political subdivision thereof, or the United States or any political subdivision thereof.

This requirement is applicable without exception for a person convicted of a felony or of a sexually violent offense as defined in Va. Code Ann. § 9.1-902, but for all other offenses set forth above this requirement does not apply unless the qualifying offense was done in the commission of, or as a part of the same course of conduct of, or as part of a common scheme or plan as a violation of:

- (a) abduction or kidnapping in violation of Va. Code Ann. § 18.2-47.A,
- (b) abduction with intent to extort money of for immoral purpose in violation of Va. Code Ann. § 18.2-48,
- (c) burglary in violation of Va. Code Ann. § 18.2-89,

- (d) entering a dwelling house with intent to commit murder, rape, robbery or arson in violation of Va. Code Ann. § 18.2-90,
- (e) aggravated malicious wounding in violation of Va. Code Ann. § 18.2-51.2, or
- (f) any similar offense under the laws of any foreign country or any political subdivision thereof, or the United States or any political subdivision thereof.

H. Contractor Prohibited in Assisting Person for New Job if Engaged in Misconduct with Minor.

As a condition of being awarded a Contract, or Contract renewal, the Contractor acknowledges it is prohibited from assisting the elected and appointed officials of APS, its officers, current and former employees?, agents, departments, agencies, boards, and commissions employee, and contractors, including all levels of subcontractors, in obtaining a new job if the Contractor knows or has probable cause to believe that the elected and appointed officials of APS, its officers, current and former employees?, agents, departments, agencies, boards, and commissions employee, and contractors, including all levels of subcontractors, engaged in sexual misconduct regarding a minor or student in violation of law.

19. Permits, Fees and Notices:

- A. The Contractor shall comply with all local, state and federal laws, regulations, rules or ordinances applicable to this Contract and the Work to be performed hereunder. The Contractor shall also obtain, at its expense, all permits, inspections, licenses, fees and other authorizations necessary for the prosecution of the Work.
- B. The Contractor shall be responsible for giving all notices and complying with all laws, ordinances, rules, regulations and directives of any public authority bearing on the performance of the Work. Should the Contractor determine that the Contract Documents, or any of them, do not conform with such laws, ordinances, rules, regulations and directives in any respect, it shall promptly inform the Owner of such fact in writing. Any required changes shall be made by suitable approved Modification. If the Contractor performs any Work when it knew or in the exercise of reasonable care should have known it to be in conflict with such laws, ordinances, rules or regulations without satisfying its Notice obligations to Owner, such action shall be deemed a failure of this condition precedent to a claim and the Contractor shall accept all responsibility and bear all cost relating thereto.

20. Risk of Loss:

All Work, materials and equipment provided by Contractor shall remain the property of Contractor until accepted by Owner as in compliance with the requirements of the Contract Documents, and all risk of loss prior to acceptance by Owner shall be borne by Contractor.

21. Tests and Inspections:

- A. Unless otherwise provided in the Contract Documents, the Contractor shall be responsible for scheduling, compliance and costs associated with all tests or inspections required by local authorities having jurisdiction over the Project. The Contractor shall give the Owner Notice immediately in the event of failure of any test or inspection. In calling for inspections, the Contractor certifies that the Work being called for inspection meets the Contract and all code requirements for completeness and quality and shall bear all expense

arising from any failed inspection, whether incurred by Owner, Contractor, or any third party.

- B. Irrespective of any third party inspections, the Contractor remains responsible for any after discovered defects in Work and is fully responsible for any delays and costs associated with such defective, insufficient or non-compliant Work.

22. Rejection of Work:

The Owner shall have the authority to reject Work that does not conform strictly to the requirements of the Contract Documents. All costs associated with correction of rejected Work shall be borne by the Contractor.

23. Owner's Right to Stop Work/Right to Correct Deficiencies:

If the Contractor does not correct non-complying Work, or is consistent in not supplying and/or furnishing labor, material, and equipment necessary to Work performance, then the Owner has the right to order the Contractor to stop the Work until such time as the Owner approves the Contractor's written plan to correction of such deficiency. Should the Contractor fail within three (3) working Days following issuance of the stop work order to submit an acceptable corrective plan and thereafter to pursue the corrective plan with due diligence, the Owner has the right, after three (3) days written notice, to correct the deficiencies. In such event the Contractor shall pay to the Owner the Owner's cost of correcting the deficiencies, including any charges for special inspections or tests, plus a markup of ten percent (10%) to cover administrative costs. The Owner's exercise of the right to correct deficiencies shall in no way prejudice or limit any other remedy that the Owner may have.

24. Indemnification:

The Contractor covenants to save, defend, hold harmless, and indemnify the Owner, Arlington County School Board, and all of its elected and appointed officials, officers, employees, agents, departments, agencies, boards, and commissions from and against any and all claims, losses, damages, injuries, fines, penalties, costs (including court costs, and attorney's fees, and all reasonable and customary costs of litigation), charges, liability, or exposure, however caused, resulting from, arising out of, or in any way connected with the Contractor's acts or omissions in performance or nonperformance of the Work. This indemnification obligation shall survive the termination of this Contract.

25. Payment:

- A. Invoices unless otherwise specified in the Contract or in the Purchase Order shall be submitted immediately upon completion of the shipment or Services. If shipment is made by freight or express, the original Bill of Lading properly receipted, must be attached to the invoices. Mail invoices, as applicable, to:

Arlington Public Schools
Department of Facilities and Operations
2770 South Taylor Street
Arlington, VA 22206

- B. Upon receipt of an invoice, the Owner shall review the Work to determine if the invoice is consistent with the Work in place. The Contractor shall submit such additional information as may be reasonably requested by the Owner to substantiate the amount billed.
- C. Payments will be made within thirty (30) days after the later of receipt of an invoice by

APS or receipt of additional documentation as requested by APS of all amounts within the invoice approved for payment. All payments shall be net of any prompt payment discount. In connection with any prompt payment discount, time shall be computed from the date of the invoice. For the purpose of earning the discount, payment shall be considered to have been made on the date that appears on the payment check or the date on which an electronic funds transfer for the payment was made.

- D. APS is exempt from the payment of any federal excise tax or Virginia Sales Tax. The APS Federal Excise Tax Number is 54-6001128. Contractors located outside the Commonwealth of Virginia may charge and collect their local and or state sales tax when the Purchase Order calls for materials to be picked up by APS at the Contractor's place of business outside Virginia.
- E. Notwithstanding the foregoing, no less than ninety-five (95%) of the Contract Price stated in the Purchase Order shall be paid until the Owner is satisfied that the Work is Complete.
- F. **Price Reduction.** If at any time after the date of Bid Opening the Contractor makes a general price reduction in the comparable price of any Goods or service covered by the Contract to customers generally, an equivalent price reduction based on similar quantities and/or considerations shall apply to the Contract for the duration thereof, including any extensions. Such price reduction shall be effective at the same time and in the same manner as the reduction in the price to customers generally. For purpose of this provision, a "general price reduction" shall mean any horizontal reduction in the price of a Good or service offered (1) to Contractor's customers generally, or (2) in the Contractor's price schedule for the class of customers generally comparable to Owner which was used as the basis for Contractor's Bid. An occasional sale at a lower price, or sale of distressed merchandise at a lower price, would not be considered a "general reduction" under this provision. The Contractor shall submit its invoice at such reduced prices indicating on the invoice that the reduction is pursuant to the "Price Reduction" provision of the Contract Documents. The Contractor, in addition, will within ten (10) days of any general price reduction, Notify the Procurement Director/Procurement Agent of such reduction by letter. Failure to do so may lead to termination of the Contract. Upon receipt of any such Notice of a general price reduction all ordering offices will be duly notified by the Procurement Director/Procurement Agent. The Contractor, if requested, shall furnish, within ten (10) days after the expiration or termination of the Contract a statement certifying either (1) that no general price reduction, as defined above, was made after the date of the Bid Opening, or (2) if any such general price reductions were made, that as provided above, they were reported to the Procurement Director/Procurement Agent within ten (10) days, and ordering offices were billed at the reduced prices. Where one or more such general price reductions were made, the statement furnished by the Contractor shall include with respect to each price reduction (1) the date when notice of any such reduction was issued, (2) the effective date of the reduction, and (3) the date when the Procurement Director/Procurement Agent was notified of any such reduction.

26. Audit:

The Owner and its authorized representatives shall have access to all records necessary to perform a complete audit of the Contractor for the purposes of verifying that the certified cost or pricing data submitted were accurate, complete and current. The Owner shall, until the expiration of five (5) years from the date of final payment under this Contract, have the right to examine and copy those books, records, documents, papers and other supporting data which involve transactions related to this Contract or which permit adequate evaluation of the cost or pricing data submitted,

along with the computations and projections used therein (the "Records"), and the Contractor hereby covenants to maintain the Records in good order for such time and to deliver promptly the Records to the Owner upon request. There shall be no charge to Owner for conducting any such audit.

27. Award of Subcontracts and Other Contracts for Portions of the Work:

- A. The Contractor shall not enter into any Subcontract with any Subcontractor who is suspended or debarred from participating in any contracting programs by the Commonwealth of Virginia, by any public body within the Commonwealth of Virginia, by the United States government, or by any other state or public body within any other state.
- B. The Contractor shall not enter into any Subcontract with any Subcontractor who or which is not qualified to do business in Virginia in compliance with applicable law or does not have in effect all licenses and trade certifications required by federal, state or local law to perform the Services or to provide the Goods which are the subject of the Subcontract.
- C. Upon request, the Contractor promptly shall file with the Owner a copy of any one or more of its Subcontracts. The Owner has the right to reject any Subcontractor it finds not to be qualified to perform the Work.
- D. No action by the Owner shall relieve the Contractor of any of its responsibilities, duties and liabilities under the Contract Documents. The Contractor shall be responsible to the Owner for the acts, defaults, or omissions of the Contractor's Subcontractors and of its Subcontractors' officers, authorized representatives and employees.
- E. Nothing contained in the Contract Documents or in any Subcontract shall operate to, or otherwise have the effect of, creating a contractual relationship between the Owner and any Subcontractor.

28. Subcontractor and Sub-Subcontractor Agreements:

Work performed by a Subcontractor or a Sub-subcontractor shall be defined by a signed agreement between a Subcontractor and the Contractor, or between a Sub-subcontractor and a Subcontractor, as applicable. Each such agreement shall:

- A. Not contain a provision which purports to negate, conflict with or otherwise compromise the requirements of the Contract Documents.
- B. Not contain a provision which purports to adversely affect the rights of the Owner as such rights are defined in the Contract Documents.
- C. Contain appropriate provisions to give the Contractor the same power to terminate the Subcontract that the Owner may exercise to terminate the Contractor under the provisions of these Contract Documents. The Contractor shall bear all additional expenses due to its exercising of its rights under this Section.
- D. Contain appropriate provisions which bind the Subcontractor to the terms and conditions of this Contract insofar as they are applicable to the Work of the Subcontractor.
- E. Contain a requirement that the Subcontractor shall be bound by and subject to the provisions of the payment requirements of the Contractor to the Subcontractor in regard to payments due by the Subcontractor made to its Sub-Subcontractors.

- F. Require timely processing of applications for payment and of claims for additional costs, damages, or time in order that the Contractor may in turn promptly process such applications or claims in conformance with the Contract Documents.
- G. Contain a provision to the effect that the Owner and its authorized representatives will, until five (5) years from the date of final payment under the Subcontract, have access to and the right to examine and copy those books, records, documents, papers and other supporting data which involve transactions related to the Subcontract.
- H. Contain the same Character and Competency requirements as appear in these Terms and Conditions and require the completion by the Subcontractor and its Sub-subcontractors of the Contractor Certification Regarding Criminal Activity and Employee Certification Regarding Criminal Activity.
- I. Waive the rights of either party against the other in regard to claims for fire or other peril covered by the property insurance required by these Terms and Conditions. Such waiver shall not exclude either party from rightful access to the proceeds of such insurance.
- J. Contain a provision imposing upon the Subcontractor the obligations and restrictions of Sections 56 and 61 of these General Conditions.

29. Responsibility for Those Performing the Work:

The Contractor shall be responsible and accountable to the Owner for the acts and omissions of the Contractor's employees in connection with the performance of the Work and for any Subcontractors or other persons performing any of the Work under a Contract with the Contractor or a Contract with a Subcontractor or Sub-subcontractor.

30. Payment of Subcontractors:

- A. Within seven (7) days after receipt of payment from the Owner, the Contractor shall:
 - 1. Pay each Subcontractor an amount equal to the percentage of the Work attributable to such Subcontractor; or
 - 2. Notify the Owner and the Subcontractor in writing of the intention to withhold all or part of the amount due a Subcontractor and state the reason for such withholding.
 - 3. In the event the Contractor fails to submit a timely Application for Payment, and that failure is due exclusively to the actions of the Contractor, the Subcontractor shall have the right to be paid by the Contractor upon demand of the amounts due.
 - 4. The Contractor shall pay interest on amounts owed to the Subcontractor which remain unpaid seven (7) days after the Contractor's receipt of payment from the Owner. Interest on such amounts shall accrue at the rate of one percent (1.0%) per month. Amounts owed the Subcontractor which have been withheld as permitted herein shall not accrue interest. Interest on amounts otherwise not paid to the Subcontractor when due under the terms of the Subcontract shall bear interest at the rate of one percent (1%) per month unless the written Subcontract otherwise provides.

- B. Information concerning percentages of completion of work performed by a Subcontractor as shown in an Application for Payment may be made available to that Subcontractor at the sole discretion of the Owner.
- C. Insurance proceeds received by the Contractor under the insurance policies required by these Terms and Conditions shall be equitably distributed to the Subcontractors affected by the insured loss.
- D. The Contractor's obligation to pay an interest charge to a Subcontractor is not an obligation of the Owner. A Contract Modification shall not be made for the purpose of providing reimbursement for the interest charge. A cost reimbursement claim shall not include any amount for reimbursement for the interest charge.

31. Owner's Right to Award Separate Contracts:

- A. The Owner has the right to award separate Contracts of the same or a similar nature on the same or similar Project Sites, or for other work on the same Project Sites.
- B. When separate Contracts are awarded, the term "Contractor" in the Contract Documents in each case shall mean the Contractor who executes each separate Contract for construction.
- C. At no additional cost to the Owner, the Contractor shall coordinate the Work with the activities of each separate Contractor with the intent of each Contractor being able to complete its Work in the most time efficient and cost efficient manner under the circumstances.
- D. If part of the Contractor's Work depends for proper execution or results upon construction or operations by a separate Contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly report to the Owner in writing any apparent discrepancies or defects in such construction or operations performed by a separate Contractor that would render it unsuitable for such proper execution and results. Failure of the Contractor to report such apparent discrepancies and/or defects, or to discover such defects or discrepancies which in the exercise of due diligence as a reasonably competent contractor reasonably should have been discovered, shall constitute an acknowledgment that the separate Contractors' completed or partially completed construction is fit and proper to receive the Contractor's Work.

32. Royalties and Patents:

The Contract Price includes all royalties and costs arising from patents, trademarks, and copyrights in any way involved in the Work. Whenever the Contractor is required or desires to use any design, device, material or process covered by letters of patent or copyright, the use thereof is understood to have been included in the Contract Price and the Contractor shall indemnify and save harmless the Owner and Owner's Representative, their officers, agents and employees from any and all claims for infringement by reason of the use of any such patented design, device, tool, material, equipment, or process to be performed under the Contract, and shall indemnify the Owner, its officers, agents, authorized representatives, and employees for any costs, expenses and damages which may be incurred by reason of any such infringement at any time during the prosecution and after the completion of the Work. This obligation to defend, hold harmless and indemnify shall include but is not limited to attorneys' fees and all customary and reasonable costs of litigation and expert consultation and testimony. If a Purchase Order contains a direction requiring use of any design, device, material or process which is subject to patent, trademark or copyright protection which Contractor contends was not contemplated by and included in the Pricing Schedule, the

Contractor shall give Notice thereof to Owner prior to proceeding with the Work and await direction from the Owner. If the Contractor proceeds with the Work without giving such Notice or without receiving direction from the Owner, the Contractor shall be responsible for all royalties and costs as provided in this Section.

33. Claims for Damages:

If the Contractor wishes to make a claim, whether for extra compensation, damages or other relief, by reason of any act or omission of the Owner or its agents or representative or other causes beyond the reasonable control of the Contractor, the Contractor shall comply with the requirements set forth below. Strict compliance with all claims submission requirements set forth below or in any other provision of the Contract Documents shall be a condition precedent to the Contractor's right to pursue any claim or to recover or prevail thereon. All time requirements set forth as claims submission requirements shall be deemed to be of the essence. Compliance with all claims submission requirements shall not, however, create any presumption of validity of any claim.

- A. The Contractor must at the time of the discovery of the occurrence of the event giving rise to the claim and before beginning any work on which the claim is based deliver to the Procurement Director/Procurement Agent a written statement identifying itself as a Notice of claim, stating the circumstances of the occurrence, specifying the additional work contemplated as being required, state why such work is not already included within the scope of the Contract Documents, and to the extent reasonably foreseeable estimate the anticipated amount of the claim.
- B. If the Owner within five (5) Working Days following receipt of such Notice of claim does not direct the Contractor otherwise, the Contractor shall proceed with the Work which is the subject of the claim and within ten (10) calendar days after completion of the Work for which additional compensation is claimed shall submit in writing to the Procurement Director/Procurement Agent a written itemization of the actual additional compensation claimed, with all supporting documentation.
- C. The Procurement Director/Procurement Agent shall make a determination within ninety (90) Days after receipt of the submission described in SubSection B above, which decision shall be the final determination of the Owner. Failure by the Procurement Director/Procurement Agent to issue a final decision shall be deemed a final decision to deny the claim as of the ninetieth (90th) Day. A final decision by the Owner shall be a condition precedent to institution by the Contractor of any judicial claim for relief on the claim. The Contractor's right to seek judicial appeal of denial of a claim is barred if no suit is filed within six (6) months following the Owner's final decision. No consideration by the Owner of any additional submissions by the Contractor in support of any claim shall extend this six (6) month limitation.
- D. The Contractor shall comply with all directions and decisions of the Owner and shall proceed diligently with the performance of the Contract and with any disputed Work pending final resolution of any claim or dispute. "Final resolution" shall include the exhaustion of all judicial proceedings.
- E. No claim whatsoever shall be made by the Contractor against any officer, authorized representative or employee of the Owner for, or on account of, anything done or omitted to be done in connection with this Contract.
- F. Failure of the Owner at any time to require compliance with any term or condition of the

Contract Documents or of any claims submissions requirements shall not be deemed a waiver of such term, condition, or requirement, or a waiver of the subsequent enforcement thereof.

- G. In the event the Contractor makes a claim for additional compensation other than for damages related to delay which results in litigation, if the Owner substantially prevails in such litigation the Contractor shall indemnify and hold the Owner harmless from any and all reasonable attorneys' fees, litigation costs of all types, and expert witness fees and costs, arising from or related to such claim and litigation.
- H. If additional compensation is granted as to any claim, either by consent of the Owner or by judicial decision, the Contractor shall not be entitled to recover any interest on any amounts claimed to be due from the Owner which are the subject of a good faith dispute by the Owner which are paid within thirty (30) Days following final resolution of such dispute. Interest shall accrue on any claim not paid within such thirty (30) Days at the legal rate of one percent (1%) per annum simple interest commencing on the date of such final resolution.
- I. No claims provision in this Agreement waives the Owner's sovereign immunity or waives the ability of the Owner to invoke sovereign immunity where sovereign immunity may be applicable.

34. Claims for Extension of Time:

- A. The parties agree that no extension beyond any required date of completion, whether Substantial Completion or Final Completion, fixed by the terms of the Contract shall be effective unless granted in writing, and signed by the Owner's Procurement Agent or his designee. All time requirements set forth herein shall be of the essence. It shall be a condition precedent to any claim for extension of time that the Contractor comply strictly with the following requirements:
 - 1. Give Notice of delay in writing to the Owner's Project Manager, and to the Procurement Agent within two (2) days of the occurrence which gives rise to the alleged delay, or within seven (7) days of the beginning of the delay if the resulting delay was not reasonably foreseeable at its commencement. Delays based on weather occurrences shall be submitted in accordance with, and are subject to the limitations of, Section 37, Weather Delays, of these Terms and Conditions. The Notice of claim for delay shall identify itself as a notice of claim, shall state the circumstances of the occurrence, shall state the justification for the delay and for the extension of time, and shall state the estimated duration of the delay and of the extension requested. In case of a continuing cause of delay, only one Notice shall be required so long as the delay asserted is continuous, but an additional Notice shall be given at least every fourteen (14) days providing a statement of what the Contractor has done to mitigate or overcome the cause of the delay, how long the delay is anticipated to continue, and the justification for such projection. Strict compliance with all of these submission requirements shall be a condition precedent to consideration of any claim for delay related to weather, but compliance of itself shall not establish the validity of any claim.
 - 2. The Contractor shall submit to the Owner's Project Manager, and to the Procurement Agent a statement of the actual time extension requested as a result of the claimed delay, which shall include all documentation and supporting

information for such claimed delay required by this Section and by any applicable Contract Specifications, within twenty-one (21) days after the delay has ceased.

3. The Contractor shall comply with all directions and decisions of the Owner's Project Manager or the Procurement Agent and shall proceed diligently with the performance of the Contract and with any disputed work pending final resolution of any claim or dispute. "Final resolution" shall include the exhaustion of all judicial proceedings.
 4. The Contractor shall make no claim against any officer, agent or employee of Arlington Public Schools for, or on account of, any act or omission to act in connection with the Contract, and to the extent permitted by applicable law acknowledges and agrees that any and all rights to make any such claim are waived without condition or limitation.
 5. Strict compliance with all applicable submittal requirements shall be a condition precedent to entitlement to any extension of time, but such compliance shall not of itself establish entitlement. Failure to comply with the foregoing submittal requirements shall be deemed a conclusive waiver, without limitation, of any claim for extension of time arising from or related to the alleged occurrence.
- B. The Contractor shall not be entitled to any extension of time for delay in completion of the Work unless such delay is caused solely by any act or delay caused by the Owner, or by riot, insurrection, war, pestilence, acts of public authorities, fire, earthquakes, or by strikes, or other causes, which in the opinion of the Owner, are entirely beyond the expectation and control of the Contractor. The Contractor shall be entitled to an extension of time for such causes only for the number of days of delay which the Owner's Project Manager may determine to be due solely to such causes and only to the extent that such occurrences actually delay achieving the applicable completion date, and then only if the Contractor shall have strictly complied with all applicable claims submission requirements of this Contract. To the extent any delay for which the Contractor seeks an extension of time is due concurrently to causes for which Contractor may be entitled to a delay and to causes within the reasonable control or foreseeability of the Contractor, the Contractor shall not be entitled to any extension of time.
- C. The Contractor is to assume five (5) Days delay from the date of Notice to Proceed to the date of Project Substantial Completion. These five (5) Days shall be known as "Owner Float," and may be applied to any delay from any cause, at the Owner's sole discretion, including but not limited to Owner caused delay. The Contractor shall include this Owner Float in the Contract Period, in the Contract Sum, and shall incorporate the Owner Float in the Project Schedule. The Contractor will not be compensated, neither monetarily nor by time extension, for any delay to which the Owner elects to apply any portion of the Owner Float so long as the Owner Float has not been exhausted.
- D. The Owner's Procurement Agent or his designee shall issue the Owner's final decision on any claim for delay within ninety (90) Days following receipt of the Contractor's final submission in support of the claim, if submitted timely. Failure of the Procurement Agent to issue a written decision shall be deemed a final decision to deny the claim as of the ninetieth (90) Day. A final decision by the Owner shall be a condition precedent to institution by the Contractor of any judicial proceeding for relief on the claim. The Contractor's right to seek a judicial appeal of denial of a claim for extension of time is

barred if no suit is filed within six (6) months following the Owner's final decision on the claim. No consideration by the Owner of any additional submissions by the Contractor in support of any claim shall extend this six month period.

- E. Delays caused by the failure of the Contractor's Subcontractors, suppliers and dealers to furnish approved working drawings, shop drawings, submittals, materials, fixtures, equipment, appliances, or other fittings on time or the failure of Subcontractors or Sub-Subcontractors to perform their work in conformity with the Project Schedule or other requirements of the Contract Documents shall not constitute a basis for extension of time.
- F. The Contractor making a claim against the Owner for costs or damages due to unreasonable delays caused by the Owner, and its agents or employees, shall be liable to the Owner for a percentage of all the costs the Owner incurs in investigating, analyzing, negotiating, and litigating the claim, which percentage shall be equal to the percentage of the Contractor's total delay claim which is determined through litigation to be incorrect or to have no basis in law.
- G. No claims provision in this Agreement waives the Owner's sovereign immunity or waives the ability of the Owner to invoke sovereign immunity where sovereign immunity may be applicable.
- H. The Contractor shall comply with all directions and decisions of the Owner's Representative, the Owner's Project Manager, or the Procurement Agent and shall proceed diligently with the performance of the Contract and with any disputed work pending final resolution of any claim or dispute. "Final resolution" shall include the exhaustion of all judicial proceedings.

35. Recovery Schedule:

- A. Should the approved Project Schedule show at any time during Contractor's performance, in the sole opinion of the Owner, that the Contractor is fourteen (14) days or more behind schedule for any specific critical path milestone date, or should the Contractor be required to undertake remedial actions under this Section, the Contractor shall submit a Recovery Schedule to the Owner within five (5) days after receiving a written request from the Owner. The Recovery Schedule shall explain and display how the Contractor intends to reschedule its Work at no additional cost to the Owner, in order to regain compliance with the Project Schedule during the immediate subsequent pay period.
- B. If the Contractor believes that all of the time can be recovered during the subsequent pay period, the Contractor will be permitted to prepare a Recovery Schedule as set forth below. However, if the Contractor believes it will take more than thirty (30) days to recover all of the lost time, it shall prepare and submit a request for revision of the Project Schedule and comply with all of the requirements for a Schedule Revision.
 - 1. The Contractor shall prepare and submit to the Owner a one-month maximum duration Recovery Schedule, incorporating best available information from Subcontractors and others which will permit return to the approved Project Schedule at the earliest possible time. The Contractor shall prepare a Recovery Schedule to the same level of detail as the Project Schedule for a maximum duration of one month. This Recovery Schedule shall be prepared in coordination with other separate Contractors on the Project.

2. Within two (2) days after submission of Recovery Schedule to the Owner, the Contractor shall participate in a conference with the Owner to review and evaluate the Recovery Schedule. Within two (2) days of that conference, the Contractor shall submit the revisions necessitated by the review for the Owner's review and approval. The Contractor shall use the approved Recovery Schedule as his plan for returning to the Project Schedule.
3. Contractor shall confer continuously with the Owner to assess the effectiveness of the Recovery Schedule. As a result of these conferences, the Owner will direct the Contractor as follows: (i) If the Owner determines the Contractor is still behind schedule, the Owner will direct the Contractor to prepare a revised Recovery Schedule and comply with all of the requirements of a Schedule Revision as stated herein and the other requirements of the Contract Documents; provided, however, that nothing herein shall limit in any way the rights and remedies of the Owner as provided elsewhere in the Contract Documents. (ii) If the Owner determines the Contractor has successfully complied with provisions of the Recovery Schedule, the Owner will direct the Contractor to return to the use of the approved Project Schedule.

36. **Contractor Delays:**

The Contractor agrees that whenever it becomes apparent from review of the current monthly Project Schedule Update that delays to the critical path have resulted and, hence, that any Substantial Completion Date or Final Completion Date established by the Contract will not be met, or when so directed by the Owner, the Contractor shall take some or all of the following actions at no additional cost to the Owner:

- A. Increase construction manpower in such quantities and crafts as will substantially eliminate the backlog of Work;
- B. Increase the number of working hours per shift; shifts per working day, or days per week; the amount of construction equipment; the forms for concrete work or other trade specific materials or equipment; or any combination of the foregoing to substantially eliminate the backlog of Work;
- C. Reschedule activities to achieve maximum practical concurrency of accomplishment of activities, and comply with those revisions;
- D. The Contractor shall submit to the Owner's Representative for review, a written statement of the steps the Contractor intends to take to remove or arrest the delay to the Project Schedule. If the Contractor shall fail to submit a written statement of the steps it intends to take or should fail to take such steps as required by the Contract, the Owner or the Owner's Representative may direct the level-of-effort in manpower (trades), equipment, and work schedule (overtime, weekend and Holiday work, etc.) to be employed by the Contractor in order to remove or arrest the delay to the critical path in the accepted Project Schedule, and the Contractor shall promptly provide such level-of-effort at no additional cost to the Owner. In addition, should schedule delays persist, the Contractor's Surety will be asked to attend meetings to update the Project Schedule.
- E. Should it be deemed necessary, in the Owner's sole discretion, that delays or incomplete work have warranted the use of outside sources to arrest a delay or to complete incomplete work, the Owner reserves the right to back-charge the Contractor for all costs incurred by

the Owner in the use of outside sources.

37. Weather Delays:

Unusually severe weather conditions which prevent or inhibit the Contractor's performance of the Work are referred to herein as "Inclement Weather" and are more specifically defined below. The Contract Period may be adjusted to account for Inclement Weather, but only if (i) there has been strict compliance by Contractor with all claims submission requirements and other requirements of the Contract Documents related to time extensions; (ii) the delay asserted is shown by the Contractor to be the sole cause of lengthening the longest critical path indicated on the Project Schedule in effect during the period of such alleged delay, and (iii) the following definition of "Inclement Weather" is satisfied: A. Inclement Weather is defined as the occurrence of one or more of the following conditions within a twenty-four (24) hour period that prevents Work shown on the Construction Schedule as planned for performance at that time which is directly affected by such weather conditions or by impact on access to the Site

- A. Precipitation (rain, snow, or ice) in excess of one-tenth inch (0.10") liquid measure.
- B. Temperatures that do not rise above that required for the Day's planned Work, if such temperature requirement is specified or accepted as standard industry practice.
- C. Sustained wind in excess of twenty-five (25) m.p.h.
- D. Inclement Weather may include, if appropriate, "dry-out" or "mud" days:
 1. Resulting from precipitation Days that occur beyond the Monthly Assumed Inclement Weather Days;
 2. Only if there is a hindrance to planned Work and the Contractor has taken all reasonable accommodations to avoid such hindrance; and,
 3. At a rate no greater than one (1) Day for each Day that has precipitation in the amount of 1.0 inch or more, liquid measure, but if there is precipitation on consecutive Days which totals 1.0 inch or more, liquid measure, only one (1) Day may be included for those consecutive Days.
- E. Monthly Assumed Inclement Weather Days also are herein referred to as the Standard Baseline. The Standard Baseline for purposes of factoring the Monthly Assumed Inclement Weather Days into the Project Schedule is four calendar days per month. Standard Baseline Inclement Weather is included in the Work, is to be included in the Project Schedule, and shall not form any basis for an extension of Contract Time. The Standard Baseline is not cumulative. Any portion of the Standard Baseline not applied to an Inclement Weather delay approved by APS in any month shall not be carried forward to any subsequent month.
- F. As a condition precedent to consideration of or entitlement to any Inclement Weather time extension, the Contractor shall:
 1. Notify the Owner's Project Manager and the Procurement Agent in writing of the occurrence of Inclement Weather within forty-eight hours after the onset of such Inclement Weather. Such notice shall identify itself as a notice of claim for Inclement Weather delay, shall describe in reasonable detail the type of Inclement Weather encountered by the Contractor and the activities on the longest critical

path on the Project Schedule thereby interfered with or interrupted, and shall estimate the duration of the delay and of the extension requested.

2. Submit to the Owner's Project Manager a statement of the actual time extension requested in strict compliance with Section 10.3.A(2) above.
 3. For purposes of any claim for delay based on Inclement Weather, each Inclement Weather Day claimed shall constitute a separate occurrence and the Contractor shall comply with the foregoing claim submittal requirements for each Day of Inclement Weather claimed.4. Compliance with the foregoing conditions precedent shall not of itself establish entitlement to a time extension for Inclement Weather but failure to comply shall be a bar to any such time extension.
- G. If the basis for an extension of time for Inclement Weather is established in accordance with all claim submittal requirements, an extension of time on the basis of Inclement Weather may be granted only for the number of Inclement Weather Delay Days in excess of the Standard Baseline for the month of the occurrence.
- H. Any request for an extension of time on the basis of Inclement Weather MUST prove impact to activities on the longest critical path of the Project Schedule in effect at the time of the occurrence.
- I. Inclement Weather may support a time extension only if Inclement Weather prevents planned Work for fifty percent (50%) or more of the Contractor's scheduled work Day, longest critical path construction activities were included in the Day's schedule, and performance of that Work was directly impacted by the Inclement Weather.
- J. Should the Contractor be granted an extension of time on the basis of Inclement Weather, the Owner may or may not elect to use any of the Owner Float described in Section 10.3 in lieu of granting a time extension.

38. Uncovering of Work:

- A. If a portion of the Work is covered contrary to the Owner's request or to the requirements contained in the Contract Documents, the Contractor shall, at its own expense and upon the written request of the Owner, uncover and replace such Work without an adjustment to the Contract Time or Contract Price.
- B. If a portion of the Work has been covered which the Owner and/or Arlington County Inspector has not specifically requested to observe prior to its being covered and is, under the Contract Documents, allowed to be covered without observation of the Owner or applicable law or regulation, the Owner and/or Arlington County Inspector may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, costs of uncovering and replacement shall be charged to the Owner and paid to the Contractor. If such Work is not in accordance with the Contract Documents, the Contractor shall pay the costs of uncovering and replacing such Work.

39. Correction of Work:

The Contractor shall promptly correct any Work which fails to conform to the requirements of the Contract Documents (the "Rejected Work"), whether observed before or after Substantial Completion and whether or not fabricated, installed or completed. The Contractor shall bear all

costs associated with the correction of any Rejected Work, including additional testing and inspections and compensation for the Owner's Representative's services and expenses made necessary thereby. Nothing contained herein shall affect the Owner's right to correct non-conforming Work pursuant to the provisions of the Contract Documents.

40. Acceptance of Defective or Non-Conforming Work:

The Owner may accept any defective or non-conforming Work; provided, however, that in such event the Purchase Order Price shall be reduced by an appropriate and equitable amount to account for such defect or nonconformity. Such adjustment shall be effected whether or not final payment has been made. Any such acceptance shall not constitute a waiver of approval of the performance requirements of the Contract Documents.

41. Force Majeure:

A. The Contractor shall not be held responsible for failure to perform the duties and responsibilities imposed

by this Contract if such failure is due to fires, riots, rebellions, natural disasters, wars, acts of terrorism, or an act of God beyond control of the Contractor, and outside and beyond the scope of the Contractor's then current, by industry standards, disaster plan, that make performance impossible or illegal, unless otherwise specified in the Contract.

B. APS shall not be held responsible for failure to perform its duties and responsibilities imposed by the Contract if such failure is due to fires, riots, rebellions, natural disasters, wars, acts of terrorism, or an act of God beyond control of APS that make performance impossible or illegal, unless otherwise specified in the Contract. The period hereinabove specified for the completion of his Work shall be extended by such time as shall be fixed by the Owner.

C. No such extension of time shall be deemed a waiver by the Owner of its right to terminate the Contract for abandonment or delay by the Contractor as herein provided or to relieve the Contractor from full responsibility for performance of his obligations hereunder.

42. Contractor's Insurance:

A. Overview

During the term of this Contract, The Contractor and all of their Subcontractors shall procure and maintain the **types of insurance that are referenced in section D below**. All insurance policies shall be with insurance companies that meet the following criteria:

1. Are authorized to do business under the laws of the Commonwealth of Virginia and acceptable to the APS, in its sole discretion.

2. Are rated with an AM Best rating of A- or better. APS reserves the right to require the Contractor and/or its Subcontractors to change their insurance to an insurance company that has the minimum required AM Best rating. This right can be exercised at any time the insurance requirements set forth in the Contract Documents remain applicable. If the AM Best rating of the insurance company changes to a rating under A- during the Contract Term, the Contractor and/or its Subcontractors will notify APS in writing immediately upon discovery and change the insurance immediately to an insurance company that meets or exceeds the AM Best rating of A-.

3. If APS suffers damages under the Contract and makes a claim on the named insurance company by APS, and the claim is not paid in full by the insurance company, Contractor acknowledges that it shall remain wholly liable for the full amount of the claim regardless of the solvency of the insurance company or the insurance company's willingness to pay the claim in full.
4. The Contractor and/or its Subcontractors must disclose in the Certificate of Insurance the amount of any deductible or self-insurance component applicable to all required insurance policies herein, if any. APS has the right to request additional information to determine if the Contractor and/or its Subcontractors have the financial capacity to meet their obligations under a deductible or self – insurance program. If, in its discretion, APS is not satisfied as to the Contractor and/or its Subcontractors financial capacity to meet its obligations under a proposed deductible or self – insurance program, the Contractor and/or its Subcontractors shall re-submit revised acceptable insurance coverage at the sole discretion of APS and with no obligation to do so agree to alternative approaches proposed by the Contractor and/or its Subcontractors to ensure protection for APS.

B. Certificates of Insurance & Additional Insured Status:

1. Contractor

The Contractor is required to provide a Certificate of Insurance that names Arlington County School Board, including elected and appointed officials, agents, and employees as additional insureds by endorsement for all insurance policies except Workers Compensation, Professional Liability, and Cyber Liability coverage.

2. Subcontractors

- All Subcontractors will provide the Contractor with Certificates of Insurance for the policies that are required under this contract. All Certificates of Insurance should by endorsement name Arlington County School Board, including elected and appointed officials, agents, and employees as additional insureds for all contracts of insurance except Workers Compensation & Professional Liability.
- All Subcontractors shall provide the Contractor with a certificate of insurance that will serve as proof of insurance for their Cyber Liability coverage, but APS will not need to be added as an additional insured.
- The Contractor will maintain all certificates of insurance for their subcontractors.
- The Contractor will provide APS with its Subcontractors certificates of insurance at any time upon request.

C. Termination & or Augmentation of Insurance Policies:

1. All required insurance policies must be endorsed through a Certificate of Insurance to provide that the insurance company shall give **forty-five (45) days written notice** to the Owner if the policies are to be terminated or if any changes are made during the life of the Contract which will affect in any way the insurance requirements set forth herein. Before commencing Work, the Contractor shall provide APS with a Certificate of Insurance referencing each policy which it and each of its Subcontractors shall carry in accordance herewith, together with receipted bills evidencing proof of premium payment. Contractors and or their Subcontractors terminating or augmenting any insurance policy without giving APS forty-five (45) days' notice will be in direct violation of the terms and conditions of the Contract.
2. If insurance coverage is allowed to lapse and a loss occurs, the Contractors and or their Subcontractors will still be required to indemnify and hold APS harmless for all losses sustained. Regardless of whether insurance is present or not.

D. Insurance Required by The Contract:

Casualty Insurance:

1. Commercial General Liability occurrence-based insurance:

Commercial General Liability occurrence-based insurance shall be in place until APS confirms the Contract has expired. Such insurance shall cover claims for bodily injury, property damage and personal injury arising out of operations under the Contract, whether such actions are performed by the Contractor or by any Subcontractor or by anyone directly or indirectly employed by either of them. For work that specifically deals with purchase, construction and or maintenance of physical property the insurance coverage for contractors and subcontractors shall also include coverage for explosions, collapse, underground utilities and completed products and operations. Coverage afforded under this policy shall be primary to all other insurance with respect to Arlington County School Board including its elected and appointed officials, agents, and employees.

2. Sexual Abuse and Molestation (SAM) occurrence-based insurance:

Sexual Abuse and Molestation (SAM) Coverage must be included if the Contractor and or their Subcontractors are working around students where a 1 on 1 situation is possible.

In addition to providing this coverage the Contractor and or their Subcontractors will run both criminal background checks and sex offender checks on all employees that are interacting with APS students (Upon award and every 2 years afterward) as well as require their employees to receive training upon award and annually on the prevention of abuse and molestation. Criminal background checks should go back at least 5 years. The Contractor and or their Subcontractors further agrees to keep all training records, background and sex offender checks on file and to provide APS with copies whenever APS requests them.

Lastly, the Contractor and or their Subcontractors agrees to abide by the 2-person rule at all times when working with students. If there are times when the 2-person rule cannot be followed APS should be notified immediately and the activity will be evaluated by APS, the Contractor and or their Subcontractors.

Type of Insurance	Limit Per Occurrence	Aggregate Limit
Commercial General Liability	\$2,000,000	\$4,000,000
Sexual Abuse and Molestation (SAM) Coverage	N/A	N/A

3. Subcontractor’s Commercial General Liability Insurance:

The Contractor shall require each of its Subcontractors to procure and maintain during the life of its subcontract, subcontractor’s Commercial General Liability Insurance in amounts satisfactory to the contract.

Type of Insurance	Limit Per Occurrence	Aggregate Limit
Subcontractors Commercial General Liability	N/A	N/A

4. Worker's Compensation and Employer's Liability Insurance:

Worker’s Compensation and Employer’s Liability Insurance is mandatory for the Contractor’s employees engaged in the Work under this Contract, in accordance with the laws of the Commonwealth of Virginia. The Contractor shall require each of its Subcontractors to provide Worker's Compensation and Employer's Liability Insurance for all the Subcontractor’s employees engaged on such subcontracts. If any class of employees engaged in work under the Contract is not protected under the Worker's Compensation laws in Virginia, the Contractor shall provide similar protection for these employees in amounts not less than the legal requirements.

Type of Insurance	Limit Per Occurrence	Aggregate Limit
Worker’s Compensation	Statutory	Statutory
Employer’s Liability	N/A	N/A

5. Commercial Automobile Liability Insurance:

Commercial Automobile Liability insurance, including coverage for owned, non-owned and hired vehicles shall be in place for the Contractor and all of its Subcontractors.

Type of Insurance	Limit Per Occurrence	Aggregate Limit
Commercial Automobile Liability	\$1,000,000	\$2,000,000

6. Cyber Liability Insurance:

Cyber insurance which shall be in place for all contractors and subcontractors. All cyber insurance policies shall have Arlington County School Board, including elected and appointed officials, agents, and employees as an additional named insured.

Type of Insurance	Per Project Limit Per Occurrence	Per Project Aggregate Limit
Cyber Liability	N/A	N/A

Property Insurance:

1. Builder's Risk:

The Contractor shall purchase Builder's Risk insurance upon the entire Work at the Project Site to the full value of the Contract Sum of the new improvements thereof. This insurance shall include the interests of APS, Subcontractors and Sub-Subcontractors in the Work, and shall insure against all risks of loss, except for exclusions included in the Certificate of Insurance and approved by Owner. This insurance shall include coverage for the following:

- a) Loss by explosion of boilers during testing (any exclusion applicable to such loss shall be waived).
- b) Partial or complete occupancy by the Owner (any exclusion applicable to occupancy shall be removed).
- c) Loss without coinsurance penalty (coinsurance or similar "insurance to value" requirements shall be eliminated).
- d) Coverage of property in transit and unscheduled locations sufficient in limits to adequately cover maximum anticipated values at risk.
- e) Coverage of Contractor's labor, overhead and profit.
- f) Coverage of materials stored or installed on the Project Site, until said materials are accepted by the Owner per Substantial Completion and Acceptance requirements. Payment by Owner for materials stored or installed on the Project Site does not eliminate Contractor's responsibility or liability with regards to theft and vandalism or other damage.

Please Note: At APS's sole discretion, Builder's Risk insurance may be purchased by the Owner as specified above. In this event, cost for such coverage shall be deducted from the Contract Sum.

Type of Insurance	Limit Per Occurrence	Aggregate Limit
Builder's Risk	N/A	N/A

All risk insurance covering damage, loss or injury to the Work, excluding earthquake damage. The policy shall be payable to the Owner, and the proceeds thereof, when paid, shall be retained by APS as security for the performance by the Contractor of its obligations under this Contract and, upon such performance, shall be released to the Contractor. Such policy shall be in an amount equal to the Contract Sum.

E. Receipt of Certificates of Insurance:

Proof of satisfaction, of insurance for each type of coverage listed herein shall be provided to APS **within ten (10) days** of the Contractor's receipt of the Notice to Proceed and no work, shall proceed unless all such insurance is in effect. The Contractor shall not allow any Subcontractor to commence work on its subcontract until all insurance required of the Subcontractor has been obtained and approved by the Contractor and found to be in accordance with the requirements set forth herein.

F. Use of Excess / Umbrella Liability Insurance:

The use of Excess / Umbrella Liability insurance is permitted. If Excess / Umbrella insurance is used the policy must be endorsed to show that the lines that the policy is bolstering are covered under the policy. All Excess / Umbrella Liability insurance coverage is subject to review by APS' Risk Manager and its use can be denied based on that review.

Type of Insurance	Limit Per Occurrence	Aggregate Limit
Use of Excess / Umbrella Liability	\$1,000,000	\$2,000,000

G. Consideration of Claims Made Insurance Coverage:

APS will consider claims made insurance coverage on a case-by-case basis **APS reserves the right to accept or deny the use of Claims Made Insurance coverage at any time.**

If the liability insurance purchased by the Contractor has been issued on a "claims made" basis, the Consultant must comply with the following additional conditions. The limits of liability and the extensions to be included as described previously in these provisions, remain the same. The Contractor must either:

1. Agree to provide certificates of insurance evidencing the above coverages for a period of two (2) years after final payment for the Contract for General Liability policies five (5) years for Professional Liability & Cyber policies. This certificate shall evidence a "retroactive date" no later than the beginning of the Consultant's work under this Contract.

or

2. Purchase the extended reporting period endorsement for the policy or policies in force during the term of this Contract and evidence the purchase of this extended reporting period endorsement by means of a certificate of insurance or a copy of the endorsement itself.

If claims made insurance is utilized by the Contractor and or their Subcontractors and a claim occurs that relates back to the vendor's services. The Contractor and or their Subcontractors will indemnify and hold APS harmless of all losses regardless of whether they have insurance coverage in place or not.

H. Contract Identification:

All certificates of insurance shall state the Contract number and title.

43. Default and Termination:

A. Contractor's Default

1. The following shall constitute Event of Default by Contractor:
 - a. If the Contractor fails to begin the Work when required to do so; or
 - b. If, at any time during the progress of the Work, the Owner determines that the Contractor is not prosecuting the Work with reasonable speed and

diligence, or is delaying the Work unreasonably or unnecessarily; or

- c. If the force of workmen or the quality or quantity of material furnished is not sufficient to ensure completion of the Work within the specified time and in accordance with the Contract Documents; or
 - d. If the Contractor fails to make prompt payments to suppliers or to Subcontractors for Work performed in connection with the Contract; or
 - e. If the Contractor fails in any manner of substance to observe the provisions of this Contract.
2. Upon the occurrence of an Event of Default by Contractor, the Owner may declare the Contractor in default, in whole or in part, and give to the Contractor three (3) Days written Notice to cure such default. If Contractor fails to cure such default within such three (3) day period, or within such longer time as the Owner, in its sole discretion, may prescribe, the Owner shall have the right to do any one or more of the following in any combination:
- a. Have the defaulted Work performed by others and charge the Contractor the cost thereof, plus an administrative fee of ten percent (10%) to cover all associated costs of administration and overhead;
 - b. Supplement Contractor's workforce and charge the Contractor the cost thereof, plus an administrative fee of ten percent (10%) to cover all associated costs of administration and overhead;
 - c. Repair or replace any defective Work and charge the Contractor the cost thereof, plus an administrative fee of ten percent (10%) to cover all associated costs of administration and overhead;
 - d. Withhold payments due the Contractor and use such payments to satisfy any claims for moneys owed by the Contractor in connection with the Contract, in accordance with any provisions of the Contract Documents;
 - e. Terminate the Contractor's performance of the Contract in whole or in part.
3. Without prejudice to any other rights or remedies the Owner may have, the Owner shall have the right to terminate the Contract immediately upon written notice to the Contractor or, in the Owner's sole discretion, exercise any other rights available to it for default, upon the occurrence of any of the following:
- a. Institution of legal proceedings by others than the Owner in such manner as to interfere with the progress of the Work and to potentially subject the Owner to the peril of litigation or outside claims; or
 - b. Adjudication of the Contractor as a bankrupt or an assignment for the benefit of creditors by Contractor, the dissolution of the Contractor, or if a sole proprietorship the death or determination of incompetence of the Contractor; or

- c. Entry of an order in any proceeding instituted by or against the Contractor granting an extension of the time of payment, composition, adjustment, modification, settlement or satisfaction of its debts or liabilities; or
 - d. Appointment of a receiver or trustee for the Contractor or the Contractor's property; or
 - e. Assignment of the Contract or any part thereof without the prior written consent of the Owner; or
 - f. Assignment by the Contractor of any rights, moneys, or claims hereunder in whole or in part, otherwise than as herein specified; or
 - g. Abandonment of the Work to be done under this Contract.
4. Immediately, but no later than three (3) days after receipt of Notice that it is in default hereunder, the Contractor shall discontinue all further operations in connection with the Work, or such specified part thereof, and shall immediately vacate the Project Site, or such specified part thereof, leaving untouched all plant, materials, equipment, tools, supplies and job site records.
5. In the event the Owner declares the Contractor in default in accordance with the provisions of the Contract Documents with respect to a portion of the Work but not the Work as a whole, the Contractor shall discontinue such portion of the Work declared in default, shall continue performing the remainder of the Work in strict conformity with the terms of the Contract and shall not hinder or interfere with any other Contractor or persons whom the Owner may engage to complete the Work for which the Contractor was declared in default. The expense of such completion, plus an administrative fee of ten percent (10%) to cover overhead and administrative costs, shall be paid by the Contractor to the Owner as provided in the Contract Documents.
6. In the event the Owner terminates the Contract for default and it subsequently is determined by any means that the termination was without sufficient justification, the termination shall be deemed to have been a termination for convenience and the Contractor's damages shall be limited to the provisions of Section 37.C. Termination for Convenience.
- B. Termination for Failure of Funding: All funds for payments by APS under this Contract are subject to the availability of an annual appropriation for this purpose by the Arlington County School Board. In the event of non-appropriation of funds for the Goods or Services provided under this Contract, APS will terminate this Contract, without termination charge or other liability to APS, on the last day of the then current fiscal year or when the appropriation made for the current year for the Services covered by this Contract is spent, whichever event occurs first. If funds are not appropriated at any time for the continuation of this Contract, cancellation will be accepted by the Contractor. APS will exert reasonable effort to give thirty (30) Days prior written notice, but failure to give such Notice shall be of no effect and APS shall not be obligated under this Contract beyond the date of termination.

- C. **Termination for Convenience:** Notwithstanding any other rights of the Owner to terminate this Contract, the Owner shall have the right to terminate this Contract, in whole or in part, at its own convenience for any reason by giving seven (7) days prior written notice of termination to the Contractor. In such event, the Contractor shall be paid an amount equal to the lesser of: (1) the actual cost of any Work actually performed or in place and the actual cost of any labor, equipment or materials ordered in good faith which could not be canceled, less the salvage value thereof, plus 10%. Each subcontract shall contain a similar termination provision for the benefit of the Contractor and the Owner. The Contractor shall not be entitled to receive anticipated profits on unperformed portions of the Work. The Owner shall have the right to employ an independent accounting firm to verify any amounts claimed by the Contractor to be due under this Section. In the event a termination by the Owner for default, in whole or in part, subsequently is determined to have been without sufficient justification, such termination shall be deemed a termination for convenience and the Contractor's remedies shall be limited as provided in this Section.

44. Hazardous Substances:

- A. No materials or equipment containing asbestos or any other hazardous material recognized and identified by the State of Virginia Department of Environmental Quality shall be utilized in the construction of the Project. In the event a substitute product is needed and time does not allow for the mandated submittal process, the Contractor shall confirm these materials do not contain asbestos or any other hazardous material as noted above in writing to the Owner or Owner's Representative and will provide the MSDS sheets to the Owner and Owner's Representative prior to being allowed to install the product on the Project.
- B. In the event the Contractor encounters unforeseen hazardous substances in the performance of the Work, such as but not limited to asbestos or lead paint, the Contractor shall immediately suspend Work with the exception of such actions as may be necessary to secure the Site for purposes of public safety, immediately Notify the Owner, and take no further action until receiving written direction from the Owner.

45. Conflict of Interest:

This Contract incorporates by reference Article 9 of the Arlington Public Schools Procurement Resolution as well as all state and federal laws relating to ethics, conflict of interest, or bribery, including but not limited to Va. Code Ann. § 2.2-4367 through § 2.2-4377, Ethics in Public Contracting; the State and Local Government Conflict of Interests Act (§ 2.23100, et seq.), the Virginia Governmental Frauds Act (§ 18.2-498.1 et seq.), and Articles 2 (§ 18.2-438, et seq.), and 3 (§ 18.2-446, et seq.) of Chapter 10 of Title 18.2.

46. Immigration Reform and Control Act of 1986:

The Contractor certifies that it does not and will not during the performance of the Contract employ illegal alien workers or otherwise violate the provisions of the Federal Immigration Reform and Control Act of 1986.

47. Employment Discrimination by Contractor Prohibited:

During the performance of this Contract the Contractor agrees as follows

- A. The Contractor will not discriminate against any employee or applicant for employment because of race, religion, color, sex, national origin, age, disability, sexual orientation or other basis prohibited by state law relating to discrimination in employment, except where there is a bona fide occupational qualification reasonably necessary to the normal operation of the Contractor. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this non-

discrimination clause.

- B. The Contractor, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, will state that such Contractor is an Equal Opportunity Employer.
- C. Notices, advertisements, and solicitations placed in accordance with federal law, rule or regulation shall be deemed sufficient for the purpose of meeting the requirements of this Section.
- D. The Contractor will include the provisions of the foregoing Sections A, B, and C in every Subcontract of over \$10,000.00, so that the provisions will be binding upon each Subcontractor or vendor.
- E. Nothing contained in this provision shall be deemed to require the Contractor to grant preferential treatment to, or discriminate against, any individual or any group because of race, color, religion, sex, age, sexual orientation or national origin on account of an imbalance which may exist with respect to the total number or percentage of persons of any race, color, religion, sex, age, sexual orientation or national origin employed by such Contractor in comparison with the total number or percentage of persons of such race, color, religion, sex age or sexual orientation or national origin in any community or in the state.

48. Assurances of Compliance:

The Contractor shall comply with Section 504 of the Rehabilitation Act of 1973, as amended and Title VI of the Civil Rights Act.

49. Small, Minority, Women Owned and Service Disabled Veterans Business Enterprises and Employment Services Organizations:

- A. The Arlington County Human Rights Ordinance, the Virginia Public Procurement Act, and relevant Federal and State Laws, orders and regulations, require Arlington Public Schools to ensure that its procurement practices are non-discriminatory and promote equality of opportunity for Small and Minority Business Enterprises.
- B. In seeking Subcontractors, suppliers and vendors necessary to perform the Work, the Contractor shall encourage the participation of small businesses, women-owned businesses, minority-owned businesses, service disabled veteran-owned businesses, and employment services organizations as follows:
 - 1. At a minimum, for any portion of the Work the Contractor is not going to perform with its own forces, the Contractor shall contact the Commonwealth of Virginia Department of Minority Business Enterprise to obtain a list of certified businesses in these categories available to perform such work or provide such materials or equipment. The Contractor shall directly solicit bids from at least one certified business in each category to perform such work or provide such materials or equipment, but shall not be obligated to give any preference to any such business in the award of Subcontracts or materials/equipment supply Subcontracts.
 - 2. Identification and direct solicitation of other such businesses by other means is strongly encouraged.
 - 3. Dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by such businesses.

4. Establishing delivery schedules, where the requirements of the Contract permit, which encourage participation of such businesses.

C. As used in this Section:

1. “Minority individual” means an individual who is a citizen of the United States or a legal resident alien and who satisfies one or more of the following definitions:
 - a. “African American” means a person having origins in any of the original peoples of Africa and who is regarded as such by the community of which this person claims to be a part.
 - b. “Asian American” means a person having origins in any of the original peoples of the far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands, including but not limited to Japan, China, Vietnam, Samoa, Laos, Cambodia, Taiwan, Northern Mariana Islands, the Philippines, a U.S. territory of the Pacific, India, Pakistan, Bangladesh or Sri Lanka and who is regarded as such by the community of which this person claims to be a part.
 - c. “Hispanic American” means a person having origins in any of the Spanish speaking peoples of Mexico, South or Central America, or the Caribbean Islands or other Spanish or Portuguese cultures and who is regarded as such by the community of which this person claims to be a part.
 - d. “Native American” means a person having origins in any of the original peoples of North America and who is regarded as such by the community of which this person claims to be a part or who is recognized by a tribal organization.
2. “Employment Service Organization” means an organization that provides community-based employment services to individuals with disabilities that is an approved Commission on Accreditation of Rehabilitation Facilities (CARF) accredited vendor of the Department for Aging and Rehabilitative Services.
3. “Minority-owned business” means a business that is at least 51 percent owned by one or more minority individuals who are United States citizens or legal resident aliens, or in the case of a corporation, partnership, or limited liability company or other entity, at least 51 percent of the equity ownership interest in the corporation, partnership, or limited liability company or other entity is owned by one or more minority individuals who are United States citizens or legal resident aliens, and both the management and daily business operations are controlled by one or more minority individuals.
4. “Service disabled veteran” means a veteran who (i) served on active duty in the United States military ground, naval or air service, (ii) was discharged or released under conditions other than dishonorable, and (iii) has a service-connected disability rating fixed by the United States Department of Veterans Affairs.
5. “Service disabled veteran-owned business” means a business that is at least 51

percent owned by one or more service disabled veterans or, in the case of a corporation, partnership, or limited liability company or other entity, at least 51 percent of the equity ownership interest in the corporation, partnership, or limited liability company or other entity is owned by one or more individuals who are service disabled veterans and both the management and daily business operations are controlled by one or more individuals who are service disabled veterans.

6. “Small business” means a business, independently owned and controlled by one or more individuals who are United States citizens or legal resident aliens, and together with affiliates has 250 or fewer employees, or annual gross receipts of \$10,000,000 or less averaged over the previous three years. One or more of the individual owners shall control both the management and daily business operations of the small business.
7. “Women-owned business” means a business that is at least 51 percent owned by one or more women who are United States citizens or legal resident aliens, or in the case of a corporation, partnership, or limited liability company or other entity, at least 51 percent of the equity ownership interest in the corporation, partnership, or limited liability company or other entity is owned by one or more women who are United States citizens or legal resident aliens, and both the management and daily business operations are controlled by one or more women.

50. HIPAA Compliance:

Contractor shall be responsible for determining the applicability of, and shall comply with as applicable, all legislative and regulatory requirements of privacy, security and electronic transaction components of the Health Insurance Portability and Accountability Act of 1996 (HIPAA).

51. Governing Law:

The Contract Documents shall be governed by and construed in accordance with the laws of the Commonwealth of Virginia, without reference to conflict of laws principles, and the jurisdiction, forum, and venue for any litigation with respect thereto shall be in the Circuit Court for Arlington County, Virginia, and in no other court. In performing the Work under this Contract, the Contractor shall comply with applicable federal, state, and local laws, ordinances and regulations.

52. Successors, Assigns and Legal Representatives:

This Agreement shall not be assigned, sublet or transferred, in whole or in part, by operation of law or otherwise, by either of the parties hereto except with the prior written consent of the other or as otherwise provided in the Contract Documents. Owner shall be under no obligation to agree to any requested assignment, sublet or transfer. Owner will not consent to any requested assignment, sublet or transfer to any entity who was an unsuccessful Bidder, who was deemed not to be qualified, or who was or is deemed not to be responsible. Unless specifically stated to the contrary in any written consent to an assignment, no assignment shall operate to release or discharge the assignor from any duty or responsibility under this Agreement.

53. Non-Endorsement Clause for Contracts & Agreements:

Arlington Public Schools may be identified as a “Participant” in the Goods or Services with the following statement added, “This shall not constitute an endorsement of any products or Services”. For further information, please contact the Arlington Public Schools School and Community Relations office.

54. **Advertising and Use of Proprietary Marks or Logos:**
Contractor shall not use the name of Arlington Public Schools (APS) or refer to APS, directly or indirectly, in any press release or formal advertisement without receiving prior written consent of APS. In no event may Contractor use a proprietary mark of APS without receiving the prior written consent of APS.
55. **Student Data Usage and Privacy Agreement: Intentionally Deleted**
56. **Confidential Information:**
The Contractor, and its employees, agents, and Subcontractors, hereby agree to hold as confidential all APS information obtained as a result of its Work under this Contract. Confidential information includes, but is not limited to, nonpublic personal information, personally identifiable health information, social security numbers, addresses, dates of birth, other contact information or medical information about a person, information pertaining to products, operations, systems, customers, prospective customers, techniques, intentions, processes, plans, expertise and any information entrusted to any affiliate of the parties. The Contractor shall take reasonable measures to ensure that all of its employees, agents, and Subcontractors are informed of, and abide by, this requirement.
57. **APS Employees:**
No employee of APS shall be admitted to any share in any part of this Contract or to any benefit that may arise therefrom which is not available to the general public.
58. **Survival of Terms:**
Any provision of this Contract which by its terms or as necessary to carry out its purpose or intent is intended to survive the expiration or termination of this Contract shall so survive. The specific statement of survival in any provision shall not affect the survivable nature of any other provision.
59. **Arbitration:**
It is expressly agreed that nothing under the Contract shall be subject to arbitration, and that any references to arbitration are expressly deleted from the Contract.
60. **ADA Compliance:**
Compliance with the Americans with Disabilities Act of 1990 (“ADA”) shall be the sole responsibility of the Contractor. The Contractor shall defend and hold APS harmless from any expense or liability arising from the Contractor’s non-compliance therewith. The Contractor’s responsibilities related to ADA compliance shall include, but not be limited to, the following:
- A. Access to Programs, Services and/or Facilities: The Contractor shall ensure its programs; Services and facilities are accessible to persons with disabilities. If a particular facility or program is not accessible, the Contractor shall provide equivalent Services in an accessible alternate location or manner to ensure that persons with disabilities are not denied access to Services.
 - B. Effective Communication: The Contractor, upon request, shall provide appropriate aids and Services leading to effective communication for qualified persons with disabilities so they can participate equally in the Contractor’s programs, Services, and activities, including qualified sign language interpreters, documents in Braille, and other ways of making information and communications accessible to people who have speech, hearing, or vision impairments, as required by the ADA.
 - C. Modifications to Policies and Procedures: The Contractor shall make the necessary

modifications to its policies and procedures to ensure that people with disabilities have an equal opportunity to enjoy the Contractor's programs, Services, and activities, as may be required by the ADA. For example, individuals with service animals are welcomed in the Contractor's offices or facilities, even where pets are generally prohibited.

- D. The Contractor shall not place a surcharge on a person with a disability or any group of individuals with disabilities to cover the cost of providing auxiliary aids/Services or reasonable modifications of policy.
- E. Employment: The Contractor shall not discriminate on the basis of disability in its hiring or employment practices.
- F. Responding to inquiries from the U.S. Department of Labor.

61. Intellectual Property Indemnification:*

- A. The Contractor warrants and guarantees that no intellectual property rights (including, but not limited to, copyright, patent, mask rights and trademark) of third parties are infringed or in any manner involved in or related to the Services provided hereunder.
- B. The Contractor further covenants for itself, its employees, and Subcontractors to save, defend, hold harmless, and indemnify APS, and all of its officers, officials, departments, agencies, agents, and employees from and against any and all claims, losses, damages, injuries, fines, penalties, costs (including court costs and attorney's fees), charges, liability, or exposure, however caused, for or on account of any trademark, copyright, patented or unpatented invention, process, or article manufactured or used in the performance of this Contract, including its use by APS. If the Contractor, or any of its employees or subcontractors, uses any design, device, work, or materials covered by letters patent or copyright, it is mutually agreed and understood, without exception, that the Contract Amount includes all royalties, licensing fees, and any other costs arising from the use of such design, device, work, or materials in any way involved with the Work. This duty to save, defend, hold harmless and indemnify shall survive the termination of this Contract. If, after Notice by APS, the Contractor fails or refuses to fulfill its obligations contained in this Section, the Contractor shall be liable for and reimburse APS for any and all expenses, including but not limited to, reasonable attorney's fees incurred and any settlements or payments made. The Contractor shall pay such expenses upon demand by APS and failure to do so may result in such amounts being withheld from any amounts due to Contractor under this Contract.

62. Antitrust:

By entering into this Contract, the Contractor conveys, sells, assigns and transfers to APS all rights, title, and interest in and to all causes of action the Contractor may now have or hereafter acquire under the antitrust laws of the United States or the Commonwealth of Virginia, relating to the Goods or Services purchased or acquired by APS under this Contract.

63. Report Standards:

Reports or written material prepared by the Contractor in response to the requirements of this Contract or request of the Project Officer shall, unless otherwise provided for in the Contract, meet standards of professional writing established for the type of report or written material provided, shall be thoroughly researched for accuracy of content, shall be grammatically correct and not contain spelling errors, shall be submitted in a format

approved in advance by the Project Officer, and shall be submitted for advance review and comment by the Project Officer. The cost of correcting grammatical errors, correcting report data, or other revisions required to bring the report or written material into compliance with these requirements shall be borne by the Contractor.

When submitting documents to APS, The Contractor shall comply with the following guidelines:

All submittals and copies shall be printed on at least thirty percent (30%) recycled-content and/or tree-free paper;

All submittals must be in the required tabular format in a binder.

Report covers / binders shall be recyclable, made from recycled materials, and/or easily removable to allow for recycling of report pages (reports with glued bindings that meet all other requirements are acceptable);

The use of plastic covers or dividers should be avoided; and

Unnecessary attachments or documents not specifically asked for should not be submitted, and superfluous use of paper should be avoided.

64. Arlington Public Schools Procurement Resolution and Policies:*

The Procurement Agent has no power to change or waive any provision or requirement of the Procurement Resolution, any policies or regulations of the Arlington County School Board, or any applicable provisions of Arlington County ordinances or regulations, all of which are incorporated herein.

65. No Waiver of Sovereign Immunity:*

Notwithstanding any other provision of this Contract, nothing in this Contract or any action taken by APS pursuant to this Contract shall constitute or be construed as a waiver of either the sovereign or governmental immunity of APS. The parties intend for this provision to be read as broadly as possible.

66. Headings:

The section headings in this Contract are inserted only for convenience and are not to be construed as part of this Contract or a limitation on the scope of the particular section to which the heading refers.

67. Accessibility of Web Site:*

If any work performed under this Contract results in design, development, maintenance or responsibility for content and/or format of any APS websites, or APS' presence on other party websites, the Contractor shall perform such work in compliance with the requirements set forth in the U.S. Department of Justice document entitled "Accessibility of State and Local Government Websites to People with Disabilities." The document is located at: <http://www.ada.gov/websites2.htm>.

68. Entire Agreement:

The Contract Documents constitute the entire agreement between the parties pertaining to the Work and supersedes all prior and contemporaneous agreements, statements and understandings of the parties in connection therewith.

End of Terms and Conditions

Attachment D
Sample Purchase Order



Standard Purchase Order
Arlington Public Schools

PROCUREMENT OFFICE
2110 Washington Blvd
Arlington, Virginia 22204
Telephone: (703) 228-6123

ACCOUNTS PAYABLE
2110 Washington Blvd
Arlington, Virginia 22204
Telephone: (703) 228-6121
Email: aps.payables@apsva.us

Please note that our billing address has changed.

Unless otherwise instructed, please email invoices to: aps.payables@apsva.us.

Purchase Order	1234567
Purchase Order Date	01-02-3456
Change Order Number	0
Change Order Date	
Procurement Specialist/Phone	Hamed Hameedi 703-228-6193
Requisitioner/Ph#/Email	Harris, Ramona J 703-228-6110 ramona.harris@apsva.us
FEIN	54-6001128
Website:	https://www.apsva.us/procurement-office/

SUPPLIER: ABC INC
1234 ABC ST
XYZ VA 56789

This PURCHASE ORDER NUMBER shown above must appear on all invoices, packing slips & related correspondence. For questions regarding the order, contact the REQUISITIONER shown above.

Ship To: Arlington Public Schools
Human Resources
2110 Washington Blvd
Arlington, VA 22204

Payment Terms	Freight Terms	FOB
NET 30	Prepaid	Destination


Line	Vendor Part	Item Description	Due Date	Quantity	UOM	Unit Price	Amount
1		This is for Example	01-02-3456	1	XYZ	\$123.00	\$123.00

The Purchase Order Terms and Conditions found on the Arlington Public Schools Procurement Office Website, at the link provided below, are incorporated in, and become part of, this contract. It is the responsibility of the Vendor to carefully read and understand the Purchase Order Terms and Conditions.

The Purchase Order Terms and Conditions have been amended effective August 1, 2022.

<https://www.apsva.us/wp-content/uploads/2022/07/2022-07-26-PO-TsCs-Amended-2022-08-01.pdf>

IMPORTANT: There have been incidents of scammers pretending to be school representatives and ordering thousands of dollars of goods. Purchases by APS are authorized only if an APS Purchase Order is issued in advance of the transaction, indicating that the ordering agency has sufficient funds available to pay for the purchase. Vendors providing goods or services without a signed APS Purchase Order, do so at their own risk.

Authorized by: 
David J. Webb, C.P.M.
Director of Procurement

Purchase Order Total: \$123.00

End of Sample Purchase Order

Attachment E
Certificate(s) of Insurance

Attachment F
Dectron Specification Sheets

ACPS Wakefield High School**LD-362-GB-X-A6FR6343G2E5ADDH**

Model 80 Ton 2 - compressor dehumidifier

Unit Subseries Pool Water Heater, Titanium, Non-Vented

Unit Location Outdoor

Cabinet Horizontal 2-in Double Walled - Return Plenum - Bottom [Right Side Access]

Supply Voltage 460V-480V/3PH

Unit Control Supervisaire c/w Building Communication and Remote Panel

Building Communication BACnet (IP and Ethernet)

Refrigerant R410A

Disconnect Non Fused Disconnect Unit Mounted

Outdoor Air Heat Recovery Package Option on OA with Additional Purge/Economizer Option

Exhaust Fan Unit mounted Exhaust Fan and Purge/Economizer Fan

Space Heating Unit mounted gas heater (Furnace)

Heat Control Modulating - factory supplied and wired valve

Air Conditioning Air Cooled A/C - For Use With Remote Outdoor Air Cooled Equipment

OAFC Voltage 460V-480V/3PH

Warranty 5 years on driveline, 5 years on compressor, 5 years on coils

Extras Additional Front Horizontal Supply Air Connection

Supply Air CFM 34500

Outdoor Air CFM 5550

Exhaust Air CFM 6150

Purge Air CFM 30550

Swim Meet Air CFM 7100

Swim Meet Exhaust Air CFM 7400

Supply Air Orientation Right (oriented with airflow air turns right out of unit)

Outdoor Air Orientation Left

Pool Water Connection Bottom

Condensate Drain Bottom

Heating Capacity (Output) 1280 MBH

LD-362-GB-X-A6FR6343G2E5ADDH
Unit Data

Refrigerant Charge (including remote OACC and line set, compared to all DX systems) 176lbs vs 760lbs

Design Data

Outdoor Air (CFM) 5550

ESP 0.0 inches

Room Conditions (°FDB/%RH) 85/58

Unit Total Airflow (CFM) 34500

Electrical Data

Unit Voltage (V/Ph/Hz) 460V-480V/3PH/60

Unit Full Load Amps - FLA (A) 198.9

Unit MCA (A) (min circuit ampacity) 215

Unit MOP (A) (max overcurrent protect) 250

Supply Air Blower

Airflow (CFM) 34500

Type Plenum

Unit ESP (in WC) 2.5

ESP Supply Air 1.88 inches

ESP Return Air 0.62 inches

Number of Motors 2

Motor HP 20.0

Motor FLA (A) 25.9

Motor Drive VFD

Exhaust Air Blower

Exhaust Air (CFM) 6150
Type Plenum
ESP 0.0 inches
Number of Motors 2
Motor HP 4.8
Motor FLA (A) 6.0
Motor Drive Direct Drive

Purge Air Blower

Purge Air (CFM) 30550
Type Axial
ESP 0.0 inches
Number of Motors 2
Motor HP 5.3
Motor FLA (A) 4.7
Motor Drive Direct Drive

Compressor

Type Scroll
Number of compressors 2
Refrigerant R410A
Motor RLA/LRA (A) 64.1/299.0

Evaporator Coil

Sensible Capacity (MBH) 646.3
Total Capacity (MBH) 1176.3
Moisture Removal Capacity (Lbs/h) 490.8
Circuits 2
Condensate Drain Connection 1.25

Reheat Coil**Total Heat Rejection (MBH)** 1470.4**Control Type** Full Modulation**Glycol Pump****Number of Motors** 1**Motor HP** 2.12
5**Motor FLA (A)** 5.1**Heat Recovery****Type** Glycol Runaround 33% Propylene**Coil rows (OA/EA)** 4/4**Number of Motors** 1**Pump Motor HP** 0.75**Pump Motor FLA (A)** 1.8**Heat Recovery Condensate Drain Connection** 1.25**Pool Heating****Type** Titanium Plate**Capacity (MBH)** 780**Water Flow Rate (GPM)** 120**Water Pressure Drop (PSI Max)** 10**Connection Size (in)** 2**Connection Type** Stub**Connection Stub Material** PVC**Maximum Circuit Pressure Rating (PSI)** 100

Auxiliary Heat**Location** Unit Mounted**Type** Gas Heater: Unit mounted gas heater (Furnace)**Capacity, Input (MBH)** 1600**Capacity, Output (MBH)** 1280 Max/Min**Gas Pressure (in WC)** 14/7**Connection Size (in)** 2 @ 1-1/2**Connection Type** FPT**Control** Modulated**Fluid Cooled A/C****Fluid Flow Rate (GPM)** 180.0**Fluid Pressure Drop (PSI)** 6.7**Connection Size, in/out** 3**Connection Type** Butterfly valve**Brazed Plate HX Volume (US Gal)** 0.00**Fluid System Fill (US Gal)** 74.0**Recom'd Field Line Size (in, ID), Option A** 4 Max**Total Equivalent Length (ft), Option A** 300**Recom'd Field Line Size (in, ID), Option B** 4 Max**Total Equivalent Length (ft), Option B** 700

May differ from connection size.

**Remote Outdoor Air Dry
Cooler**

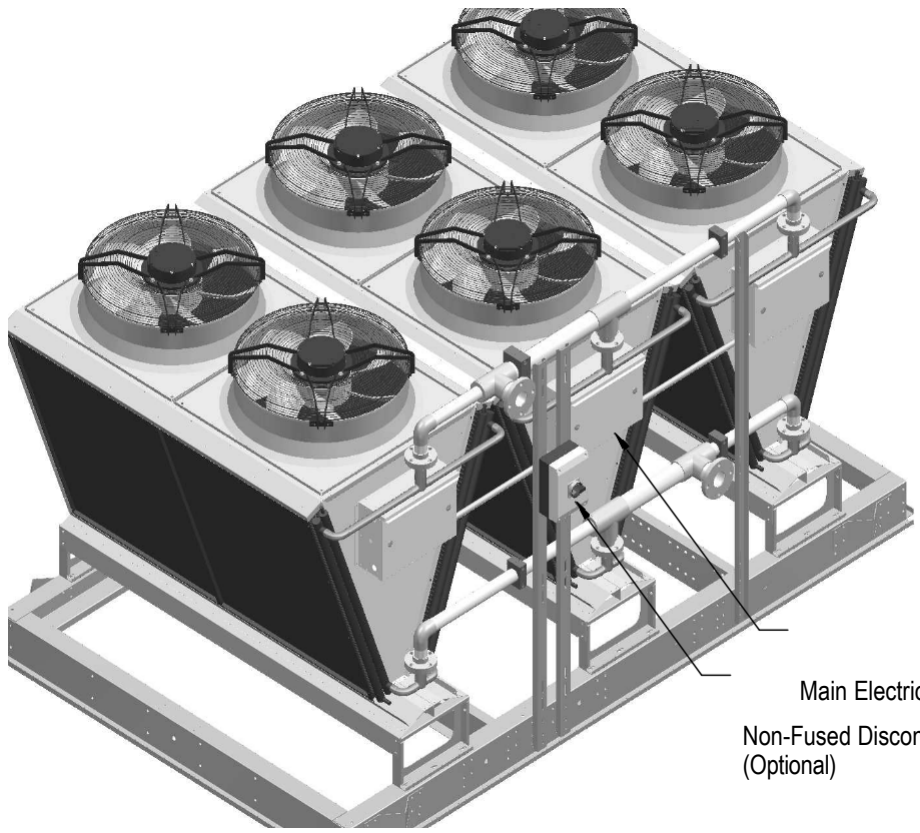
Model	NG-V-32
Design Air On Temp (°F)	95 F
Capacity (MBH)	1470.4
Voltage (V/Ph/Hz)	460-480/3/60
Connection Size, in/out	3
Connection Type	Flange
Number of Motors	6
Motor HP	3.9
Motor FLA (A)	4.3
MCA (A)	27
MOP (A)	30
Fluid Fill (by others) (US Gal)	58.0

Noise level at 30' (may vary due to installation):
 Low speed, 68 dBA
 High speed, 76 dBA

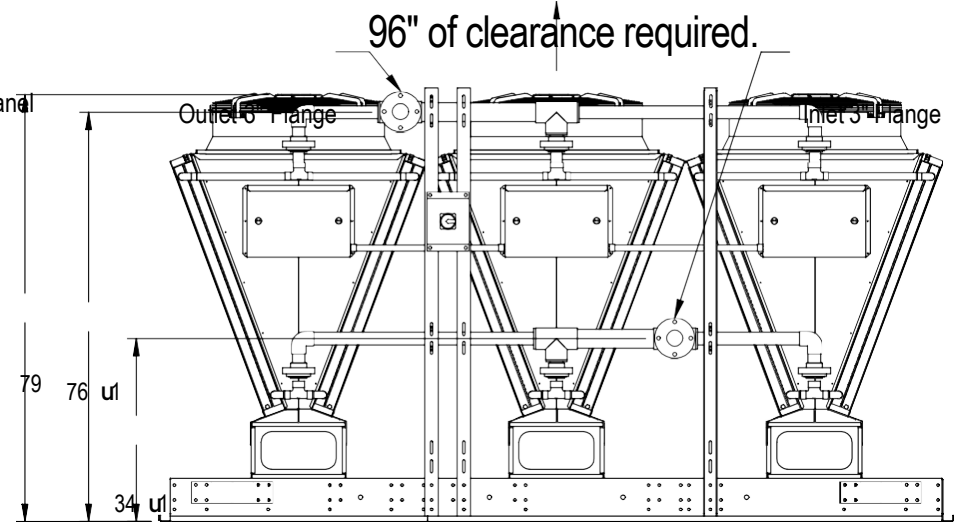
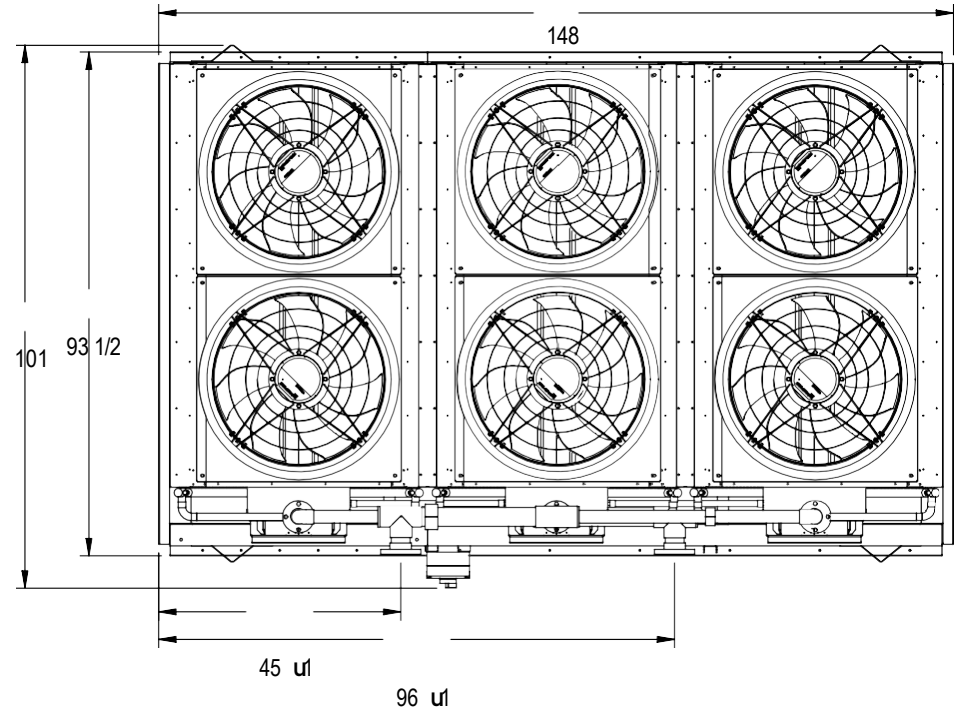


CAD FILE NG-V-32 rev04	
DATE 01/07/19	
DRAWN BY dslate r	SHEET 1 OF 1

DESCRIPTION
NG-V VERTICAL AIR FLOW



Main Electrical Panel
 Non-Fused Disconnect
 (Optional)



Important note:
 Minimum 36" of clearance all the way around for proper air flow.

UNIT OPERATING WEIGHT: 3600 LBS

General Unit Mounting Instructions – Large Cabinets

Supporting the unit lengthwise along the base rails

- Base rails extend 2” past the unit width or length on either side of the cabinet.

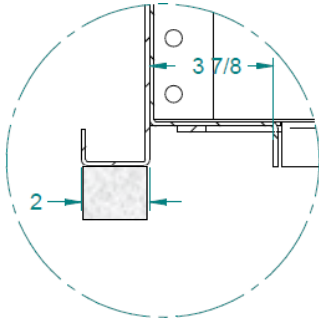


Figure 1 Unit base used for support

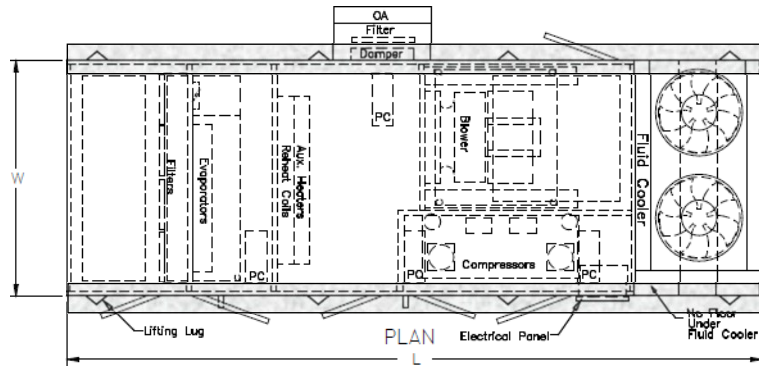


Figure 2 Support beams placed along the unit length “L”

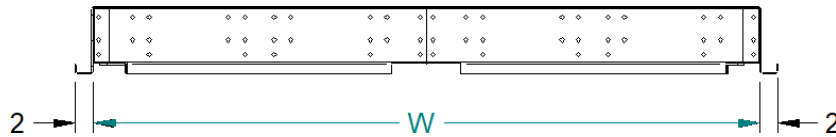


Figure 3 Base detail including unit nominal width “W”

Supporting the unit across the width of the unit

- Supports must be at a maximum of 8’ apart.
- Supporting beams should be 12” longer than the nominal unit width “W” from figures 2 and 3 above, extending 6” on either side of the unit.



DECTRON WEBSENTRY – EASY TO USE INTERFACE & PRECISE READINGS

WebSentry provides our customers with full control over their Dectron dehumidifier. Providing a powerful array of capabilities designed to ensure peak operating performance while minimizing down time and instant access to performance data. Every aspect of the dehumidifier’s performance can be personalized, monitored, analyzed and adjusted at any time. Dectron WebSentry has been designed to detect and protect each and every dehumidifier with real time monitoring, 24 hours a day, 365 days a year.



Should an alarm occur, Dectron WebSentry will automatically notify a service contractor of the customer’s choice via email. Additional notification can also be personalized to include any additional contacts the client selects. Upon notification, authorized service technicians can login to the system, to observe, adjust and control important parameters in real time using the web or smart phone interface.

Dectron WebSentry provides piece of mind by providing a proactive approach to service and dehumidifier maintenance. Fewer service calls and minimum down time result in direct cost savings for clients all while adding value to the initial investment.

Dectron WebSentry Advantages

- Premium extended 1st year warranty – parts and labor
- Fully monitored remote factory start-up capability
- Comprehensive installing contractor support
- Smart phone interface

Dectron WebSentry Capabilities

- Remote monitoring for lifetime of dehumidifier
- Live monitoring and alarm service
- Secure online access to real time data
- Secure access for personalized setting adjustments



SUPERVAISIRE – EFFICIENTLY CONTROLLED SYSTEM

Supervisaire Capabilities

- Remote system control that is automated and programmable,
- Allows for personalized control of hundreds of operating parameters
- Real time clock including battery back-up
- Programmable interface with web and smart phone control capability for easy use
- Optional remote operator panel unit can be located up to 1,000 ft. away from unit
- Secure remote control via the Internet or smart phone with Dectron WebSentry that monitors real time, performance data and analysis.

Supervisaire Specifications

- Control for space dehumidification, heating and cooling (staged and modulated)
- 24 digital outputs and 4 analog outputs used for controlling components
- Sensors for that monitor the space, refrigerant pressures and pool conditions
- 2 RS-485 serial ports and 1 RS-232 serial port
- 1 Ethernet port (RJ45)
- LON, Modbus, BACnet building automation options available

Sensor Information

- Refrigerant high pressure
- Refrigerant suction pressure
- Outside air temperature
- Outside air humidity
- Air temperature leaving the evaporator
- Supply air temperature
- Compressor superheat temperature
- Compressor compartment temperature

Technician Mode for Service

- History log of sensor data including date/time
- Log of all alarms and status (past and current)
- Operations history log
- Force modes of operation
- Damper adjustment
- Damper Calibration
- Internal and External Contacts Testing

Alarms

- Communication fault, Sensor fault, Dirty filter, High refrigerant pressure fault, Low refrigerant pressure fault, No airflow, Blower overload, Firestat, High supply air temperature
-

INDUSTRY LEADING FEATURES

Dectron dehumidifiers match or exceed the specifications of every other competitor in the marketplace.

Fully Dipped Coils

- Provide 100% protection against corrosion (not just the fins)

Service Vestibule Outside Air Stream

- Protects critical components from chlorinated air stream, maximizes AC efficiency, and allows unit servicing while in operation

Ultra Compact Designs

- Up to 14 tons of dehumidification fitting through a 30 inch door

Built-in Refrigerant Pressure Transducers

- Allow 24-7 Monitoring of critical suction and discharge pressures to ensure optimal system performance

Superior Compressor Protection

- Advanced monitoring and control technologies to protect compressors including sight glasses on receivers

Direct Driven, Backward Inclined Airfoil Plenum Fans

- Provide powerful, quiet, efficient, reliable performance with no belts to adjust, wear out or replace
- These fans also allow factory installed auxiliary air heating while providing maximum flexibility for supply air duct options

Ultra Compact Designs

- Up to 14 tons of dehumidification fitting through a 30 inch door
-

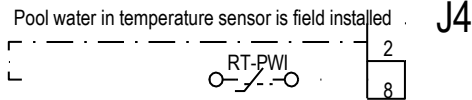
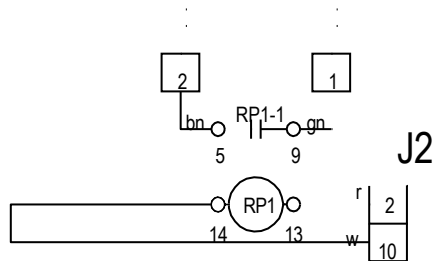


DRAWING NUMBER			REV	COMMENTS	DATE	APPROVED
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FILE: Smart_Pump_Instructions			2			
DFTN			3			
DATE			4			
REV #: 0			5			
kmoritz	06/08/21	SHEET 1 OF 1	6			

DETAIL E - Smart Pump

Single Deck

Customer wiring to pump starter

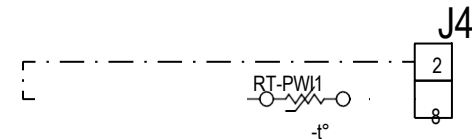
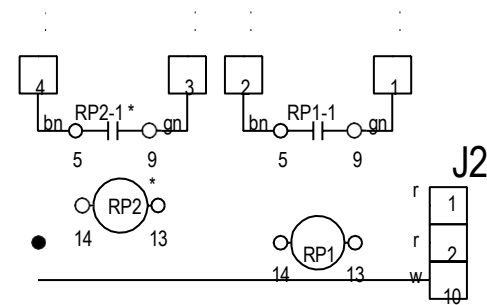


-t°

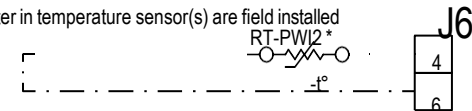
Ensure there is a jumper between J7-3 and J7-9

Double

Customer wiring to pump(s) starter



-t°



-t°

Ensure there is a jumper between J7-3 and J7-9 for pool 1

Ensure there is a jumper between J7-6 and J7-9 for pool 2

Instructions for Smart Pump

- 1) Remove "Pool Water In" (RT-PWI) temperature sensor wiring from control board located on terminal J4-8
- 2) Take the supplied extra temperature sensor (DAS# 8930) which was shipped loose with the unit and install it on the pool water supply line that goes to the unit where required. Please follow Detail E on the control wiring diagram for "Pool Water In" (RT-PWI) wiring
- 3) Relay control wiring is already wired to control board, please wire pump starter to relay as shown in Detail E

SUPERVISAIRE® CONTROL SYSTEM TOUCH DISPLAY



Introduction

The touch display replaces the LCD display with discrete buttons as the local and remote operator panels on Dectron dehumidification systems. It uses the same communication interface as the previous operator panel and communicates over a RS-485 serial port. The touch display is modeled after the Dectron® WebSentry application and will detect the control software and hardware versions and adapt menu and settings pages accordingly.

New features include a larger (4" x 2.5") screen with color display and easy to use touch screen interface, a removable SD card for storing menu structure and system configuration backup files, and easy firmware and menu upgrades. System log files can be saved to the SD card for troubleshooting when not connected to WebSentry.

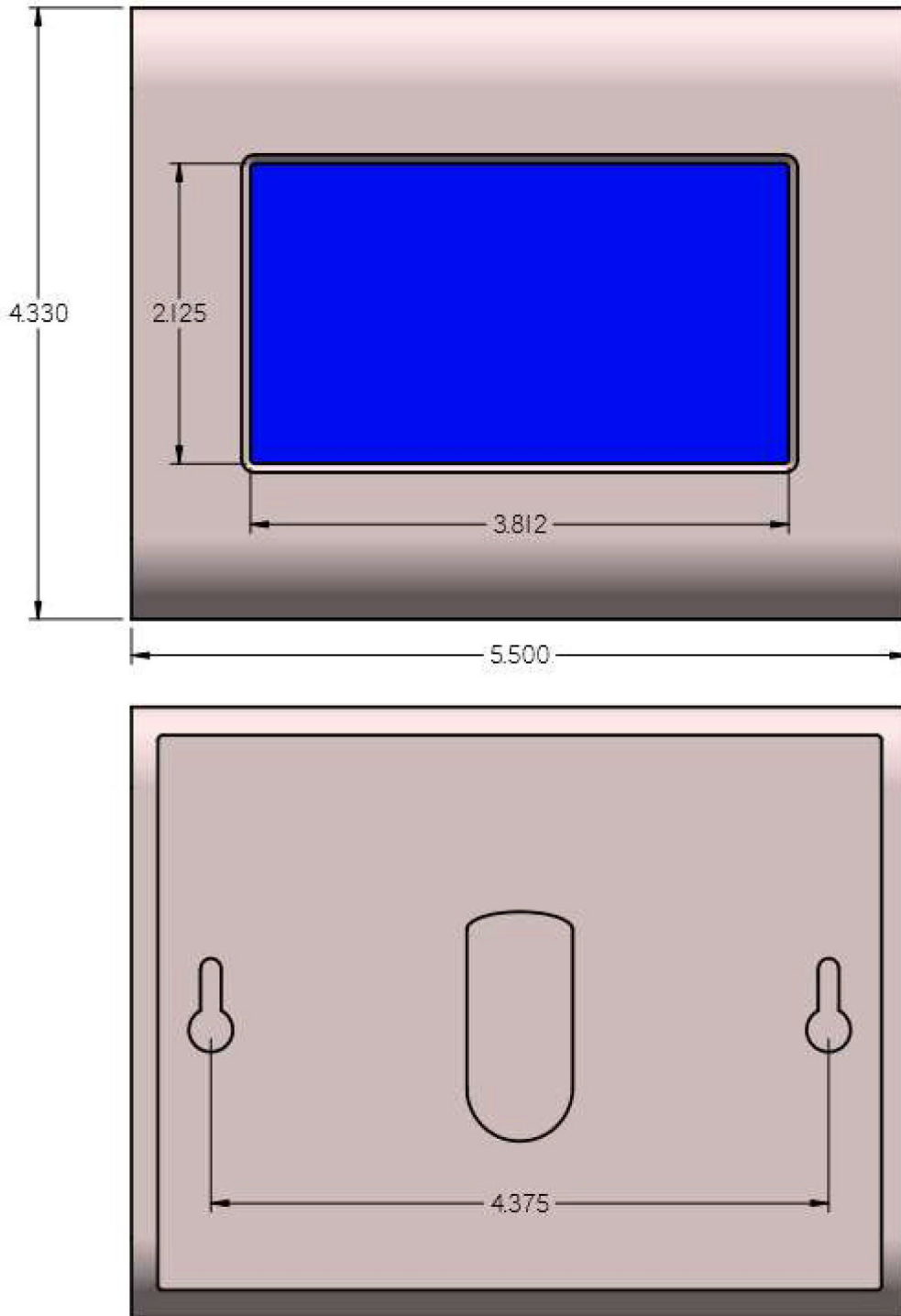
Installation

The touch display communicates over a RS-485 serial port. The display is equipped with a RJ-45 socket so it is recommended to use a CAT5 or CAT6 cable between the display and the control board. The control hardware has a dedicated RJ-45 socket intended for connecting the touch display to the board. If the display is mounted in or near the unit, all you need is a standard Ethernet cable with RJ-45 plugs on both ends. If you want to add a second display in a remote location you must use header J8 for this purpose. Connect the wires of the CAT5 or CAT6 cable to header J8 as follows:

- Pin 1 - Solid and striped blue wire
- Pin 2 - Solid and striped brown wire
- Pin 5 - Striped green wire
- Pin 6 - Solid green wire

Ensure that the wiring of the RJ-45 plug at the touch screen end conforms to the T568-A wiring standard.

The touch display has two keyholes on the rear of the enclosure for mounting to vertical surfaces (use no. 6 screws). The front cover of the enclosure snaps off, giving access to the SD card. See the touch display user manual for more details.



SupervisAire® Control System
Touch Display All
dimensions are in inches.

BACnet Interface, DS/LD Dehumidification Units

v7.21.0

General

This document describes the BACnet interface provided with the dehumidification unit. Points are listed in two ways, by function and as a reference by object type sorted in numerical order.

As a quick reference to see which points are writeable, use the list ordered by object type, even though this is also noted in the Notes column in the list ordered by function.

Only the list order by function describes each point in detail. The second list just has a reference to which function it belongs, where you can find the full descriptions of the point.

At the end of the document, you will find some sections describing unit BACnet specific configuration including how to override sensors.

Some points are dependent on current unit configuration while others are optional (command inputs) that needs to be enabled in the unit's user interface. These points will not show up when you discover points. This is indicated in the Notes column for each point.

Device Properties

Default Name:	Dehumidifier
Default Instance:	150
Segmentation	Not Supported
Max APDU Length:	1476

Points By Function

This section lists all available points by function and a detailed description of each

point. The used object types are as follows.

AI Analog Input
 AV Analog Value
 BV Binary Value

Room Conditions

Temperature sensors are measured in either Celsius or Fahrenheit depending on unit configuration.

Type	ID	Name	Notes
AI	0	Return Air Humidity	Humidity of the air returned from the controlled space.
AI	1	Return Air Temperature	Temperature of the air returned from the controlled space.
AI	40	Return Air Dew Point	Dew point of the air returned from the controlled space.
AI	41	Wall Temperature	Dew point temperature measured on a wall. It is an optional sensor that is not installed in the unit but has to be installed in the controlled space. It is used to detect dew on walls and will automatically lower the humidity setpoint to ensure unit running in dehumidification mode. This sensor is disabled by default.
AI	53	Room Temperature	Temperature of the air in the controlled space if a sensor is installed in the space and wired to unit. This sensor is disabled by default.
AI	54	Room Humidity	Humidity of the air in the controlled space if a sensor is installed in the space and wired to unit. This sensor is disabled by default.
AV	0	Room Temperature Occupied Setpoint	Desired room temperature when day time mode is Occupied. Range: 55 – 95 °F
AV	1	Humidity Occupied Setpoint	Desired humidity when day time mode is Occupied. Range: 35 – 85 %
AV	13	Humidity Floating Setpoint	Desired humidity level. This is the actual setpoint that is used for humidity control. It will be set to either AV 1 or AV 17 depending on if day time mode is Occupied or Unoccupied.

			<p>If a wall temperature sensor is installed, it will be adjusted based on the reading of the wall temperature sensor. This setpoint will be the lowest of wall temperature demand and either AV 1 or AV 17 setpoints.</p> <p>Lowest humidity level is 35%.</p>
AV	16	Room Temperature Unoccupied Setpoint	<p>Desired room temperature when day time mode is Unoccupied.</p> <p>Range: 55 – 95 °F</p>
AV	17	Humidity Unoccupied Setpoint	<p>Desired humidity when day time mode is Unoccupied.</p> <p>Range: 35 – 85 %</p>
AV	768	Remote Control Temp	<p>This point can be used to provide a remote sensor used for control.</p> <p>Customer can read from a remote sensor and write to this point, or for more elaborate implementations, read several sensors and write an average sensor value to this point.</p>
AV	769	Remote Control RH	<p>This point can be used to provide a remote sensor used for control.</p> <p>Customer can read from a remote sensor and write to this point, or for more elaborate implementations, read several sensors and write an average sensor value to this point.</p>
BV	260	Dehumidification Mode	Active when unit is dehumidifying the controlled space.
BV	261	A/C Mode	Active when unit is cooling the controlled space.
BV	262	Heating Mode	Active when unit is heating the controlled space.
BV	524	A/C Override	<p>Use this command input to force A/C. This overrides any other room temperature control decision made by the system.</p> <p>This feature is intended for cases where an external thermostat is used to control the space. The signal from the thermostat can then be used to force a A/C demand when thermostat goes into cooling mode.</p> <p>This command input is disabled by default.</p>
BV	525	Heat Override	Use this command input to force space heating. This overrides any other room temperature control

			<p>decision made by the system.</p> <p>This feature is intended for cases where an external thermostat is used to control the space. The signal from the thermostat can then be used to force a heating demand when thermostat goes into heating mode.</p> <p>This command input is disabled by default.</p>
--	--	--	--

Pool Water

Temperature sensors are measured in either Celsius or Fahrenheit depending on unit configuration.

Points labelled as just Pool or Pool 1 are only visible in BACnet interface if unit is configured to heat pool 1. Points labelled as Pool 2 are only visible in BACnet interface if unit is configured to heat pool 2. Points labelled as just Pool are pool 1 points in a 2-pool configuration.

Type	ID	Name	Notes
AI	13	Pool Water In Temperature	Water temperature coming from pool 1.
AI	14	Pool Water Out Temperature	Water temperature going to pool 1 after it has been heated.
AI	32	Pool 2 Water In Temperature	Water temperature coming from pool 2.
AI	33	Pool 2 Water Out Temperature	Water temperature going to pool 2 after it has been heated.
AV	2	Pool Temperature Setpoint	Desired pool water temperature for pool 1. Range: 60 – 108 °F
AV	6	Pool 2 Temperature Setpoint	Desired pool water temperature for pool 2. Range: 60 – 108 °F.
AV	772	Remote Control Pool 1 Temperature	This point can be used to overwrite the value of AI 13. For instance, if a pump is used to only pump water through the unit on a pool water heating demand, a remote sensor needs to be installed where water can be measured all the time. Write the remote sensor value to this point and AI 13 will be updated and proper pool 1 water temperature control will be maintained.
AV	773	Remote Control Pool 2 Temperature	This point can be used to overwrite the value of AI 32. For instance, if a pump is used to only pump water through the unit on a pool water heating demand, a remote sensor needs to be installed where water can be measured all the time. Write the remote sensor value to this point and AI 32 will be updated and proper pool 2 water temperature control will be maintained.
BV	5	Pool Heating Valve	Active when valve is open for pool 1 water heating coax on compressor circuit. This contact is not used when unit is configured for modulating pool heating control, unless unit is using the compressor wall design and configured to heat 2 pools.
BV	14	Auxiliary Pool Heater	Active when auxiliary pool water heater is turned on for pool

BV	33	Pool Heating Valve, Pool 2	Active when valve is open for pool 2 water heating coax on compressor circuit. This contact is not used when unit is configured for modulating pool heating control, unless unit is using the compressor wall design and configured to heat 2 pools.
BV	34	Auxiliary Pool Heater, Pool 2	Active when auxiliary pool water heater is turned on for pool 2.
BV	263	Pool Heating Mode	Active when unit is heating a pool. Either pool 1 or pool 2.
BV	520	Pool 1 Heater	Use this command input to enable/disable pool 1 water heating control. This does not start or stop pool water heating but enables/disables it to be used by the controller. This command input is disabled by default.
BV	521	Pool 2 Heater	Use this command input to enable/disable pool 2 water heating control. This does not start or stop pool water heating but enables/disables it to be used by the controller. This command input is disabled by default.
BV	773	Pool 1 Water Flow Fault	Active when there is a pool water flow fault for pool 1.
BV	803	Pool 2 Water Flow Fault	Active when there is a pool water flow fault for pool 2.
BV	833	Pool 1 Bad Waterflow	Active when there has been a compressor alarm shortly after pool 1 heating valve was opened. Compressor alarm is then considered being triggered by opening the pool 1 water valve.
BV	834	Pool 2 Bad Waterflow	Active when there has been a compressor alarm shortly after pool 2 heating valve was opened. Compressor alarm is then considered being triggered by opening the pool 2 water valve.
BV	835	Pool 1 High Temperature	Active when pool 1 high water out temperature alarm is triggered by pool 1 water out being 115 °F or more.
BV	836	Pool 2 High Temperature	Active when pool 2 high water out temperature alarm is triggered by pool 2 water out being 115 °F or more.

Supply Air

Temperature sensors are measured in either Celsius or Fahrenheit depending on unit configuration.

Type	ID	Name	Notes
AI	8	Supply Air Temperature	Temperature of air supplied to the controlled space.
AI	55	Supply Airflow	Supply airflow measured in CFM. This sensor is only available if unit is equipped with air pressure differential sensors.
AV	257	Blower Speed	Supply fan speed as a percentage of total capacity.
BV	0	Blower Contactor	Active when the supply fan is running.

BV	512	Blower Enabled	<p>Use this command input to enable/disable the supply fan. Note that this only indicates the desired status of the supply fan. Use BV 0 to see the actual running status.</p> <p>If fan is running and status is changed to Inactive, it might take a minute before it stops if a compressor is running. A compressor needs to go through a pump down sequence before it can be stopped.</p> <p>Supply fan can also be disabled from the local user unit interface which will override the status of this point. Supply fan needs to be enabled from both interfaces for the supply fan to run.</p> <p>There can also be an alarm preventing the supply fan from running. See status of the alarm points below.</p> <p>This command input is disabled by default.</p>
BV	523	Blower Override	<p>Use this command input to enable supply fan secondary speed. Set to Active for secondary speed and Inactive for normal speed.</p> <p>Speed settings are configured form unit's user interfaced.</p> <p>This command input is disabled by default.</p>
BV	768	Blower Overload	<p>Active when there is a supply fan motor overload alarm.</p> <p>If blower overload 2 is enabled, both overload alarms needs to be tripped before stopping blower operation.</p>
BV	837	Blower Overload 2	<p>Active when there is a supply fan motor overload alarm for fan 2. This input is disabled by default.</p> <p>Blower operation will not be stopped unless both overload alarms are tripped.</p>
BV	769	No Airflow	<p>Active when air flow sensor measures a too low air flow.</p>
BV	772	Dirty Filter	<p>Active when an air flow sensor used to detect dirty filters is measuring a too low air flow.</p> <p>This input is disabled by default.</p>
BV	810	Freezestat 2 Alarm	<p>Active when a too low supply air temperature has been detected and sustained a few minutes after closing outdoor air dampers.</p>

Outside Air / Exhaust

Temperature sensors are measured in either Celsius or Fahrenheit depending on unit configuration.

When referring to fans it is referred to controlled fan groups, minimum exhaust and purge fans. Each group can consist of multiple physical fans but they are started and stopped by the controller as if there is only one fan in each group.

Type	ID	Name	Notes
AI	12	Outdoor Air Temperature	Temperature of the outside air. This sensor is disabled for units with no outside air intake.
AI	30	Exhaust Air Temperature	Temperature of the exhausted air. This sensor is disabled for units with no exhaust installed.
AI	34	Outdoor Air Humidity	Humidity of the outside air. This sensor is disabled for units with no outside air intake.
AI	35	Outdoor Air Dew Point	Dew point of the outside air. This sensor is disabled for units with no outside air intake and might be disabled by default even if there is an outdoor air intake installed in the unit.
AV	3	Heat Recovery Setpoint	Outside air temperature at which the heat recovery pump (if one is installed) will start if temperature drops below this setpoint. Range: 40 – 70 °F
AV	4	Purge Setpoint	Return air temperature at which purge mode will be stopped if unit is running in purge mode. Range: 40 – 70 °F
AV	5	Economizer Min OA Setpoint	Outside air temperature at which economizer will not be used if temperature drops below this setpoint. Range: 40 – 90 °F
AV	7	Freezestat Setpoint	Supply air temperature at which outside air dampers will be closed and exhaust stopped if day time mode is Lights On. If supply air temperature stays below this setpoint for a few minutes after above action, the main blower will also be stopped. Range: 20 – 55 °F
AV	260	Outdoor Air Damper 1	Indicates how much the outdoor air damper 1 (minimum OA) is opened as a percentage if max opening.

			<p>This output is only used if unit is using a modulated actuator for the damper. Otherwise BV 18 is used to determine if damper is opened or closed</p>
AV	261	Outdoor Air Damper 2	<p>Indicates how much the outdoor air damper 2 (purge) is opened as a percentage if max opening.</p> <p>This output is only used if unit is using a modulated actuator for the damper. Otherwise BV 44 is used to determine if damper is opened or closed. Damper is then tied to the exhaust fan 2 control.</p>
AV	264	Exhaust Fan 1	<p>Exhaust fan 1 (minimum exhaust) speed as a percentage of total fan 1 capacity.</p> <p>This output is only used if unit is using a modulated actuator for the fan. Otherwise BV 42 is used to determine if the fan is running.</p>
AV	265	Exhaust Fan 2	<p>Exhaust fan 2 (purge) speed as a percentage of total fan 2 capacity.</p> <p>This output is only used if unit is using a modulated actuator for the fan. Otherwise BV 44 is used to determine if the fan is running.</p>
AV	512	Purge Interval	<p>Defines number of minutes unit will be running in purge mode after it has been started.</p> <p>If you set this timer to 0, purge will be running until purge mode is stopped manually.</p> <p>Range: 0 – 60 Min</p>
AV	513	Exhaust Level	<p>Indicates exhaust level as a percentage of total exhaust. For a unit with both minimum and purge exhaust fans, total capacity is the combined fan capacity of both fans.</p>
AV	517	Elapsed Purge Time	<p>Number of minutes unit has been running in purge mode.</p>
AV	770	Outdoor Air Temp	<p>This point can be used to overwrite the value of AI 12.</p>
AV	771	Outdoor Air RH	<p>This point can be used to overwrite the value of AI 34.</p>
BV	13	Heat Recovery Pump	<p>Active if heat recovery pump is turned on. The point will change status even if there is no pump wired to the terminal.</p> <p>You need to know if a heat recovery pump is installed to see if this point is useful to show in</p>

			a BACnet interface.
BV	18	Outdoor Air Damper	<p>Active if outdoor air damper 1 (minimum OA) is open.</p> <p>This output is only used if unit is using an on/off actuator for the damper. Otherwise AV 260 is used to determine how much the damper is opened.</p>
BV	42	Exhaust 1	<p>Active if exhaust fan 1 (minimum exhaust) is running.</p> <p>This output is only used if unit is using an on/off actuator for the fan. Otherwise AV 264 is used to determine the fan speed.</p>
BV	44	Exhaust 2	<p>Active if exhaust fan 2 (purge) is running.</p> <p>This output is only used if unit is using an on/off actuator for the fan. Otherwise AV 265 is used to determine the fan speed.</p>
BV	259	Purging	Active if unit is in purge mode.
BV	513	Purge	<p>Use this command input to start/stop purge mode.</p> <p>Purge mode will automatically be stopped if you have set the purge interval using AV 512. If purge interval is set to 0, you have to stop purge mode by setting this point to Inactive.</p> <p>This command input is disabled by default.</p>
BV	516	Day Time Mode	<p>Use this command to set day time mode (Occupied/Unoccupied).</p> <p>Set to Active for Occupied and Inactive for Unoccupied.</p> <p>This command input is disabled by default.</p>
BV	526	Event Mode 1	<p>Use this command input to start/stop event mode 1.</p> <p>This command input is disabled by default.</p>
BV	771	Freezestat Alarm	Active when a too low supply air temperature has been detected.
BV	790	Heat Recovery Overload	Active when there is a heat recovery pump overload alarm.
BV	793	Purge Alarm	Active when return air temperature has dropped below purge setpoint (AV 4).
BV	802	Exhaust Fan 1 Overload	Active when there is an exhaust fan 1 motor overload alarm.
BV	812	Exhaust Fan 2 Overload	Active when there is an exhaust fan 2 motor overload alarm.

Space Heating

Temperature sensors are measured in either Celsius or Fahrenheit depending on unit configuration.

Type	ID	Name	Notes
AV	256	Modulated Heat	<p>Indicates heating level as a percentage of total capacity.</p> <p>This output is only used if unit is using a modulating valve for heating control. Otherwise use BV 21 and BV 22 to determine current heating stage.</p>
BV	21	Stage 1 Heat	<p>Active when heating stage 1 is on.</p> <p>For units using a modulating heating valve, this will also be Active when modulating heating source is turned on. Use AV 256 to determine the heating level.</p>
BV	22	Stage 2 Heat	<p>Active when heating stage 2 is on (for units with 2 stage heaters).</p> <p>For units using a modulating heating valve, this will also be Active when heating level is at or above a defined 2nd stage heating level. This level is configured using the unit's user interface.</p>
BV	518	Space Heater	<p>Use this command input to enable/disable the space heater. This does not start or stop the heater but enables/disables it to be used by the controller.</p> <p>This command input is disabled by default.</p>

Compressors

Temperature sensors are measured in either Celsius or Fahrenheit depending on unit configuration. Pressure sensors are measured in PSI.

Circuit 1

These points apply to compressor circuit 1.

Type	ID	Name	Notes
AI	2	Refrigerant High Pressure, Compressor 1	Refrigerant pressure on the circuit 1 discharge line.
AI	3	Refrigerant Low Pressure, Compressor 1	Refrigerant pressure on the circuit 1 suction line.
AI	6	Evaporator Temperature, Compressor 1	Air temperature off circuit 1 evaporator coil.
AI	9	Suction Temperature, Compressor 1	Temperature of circuit 1 suction line.
AI	26	Discharge Temperature, Compressor 1	Temperature of circuit 1 discharge line.
AI	36	Superheat, Compressor 1	Superheat temperature of circuit 1.
AV	266	Compressor 1 Load	Compressor load as a percentage of compressor 1 capacity. This output is only used if compressor 1 is configured as a modulated compressor.
BV	1	Compressor Contactor, Compr 1	Active if compressor 1 is turned on.
BV	2	Reheat Valve, Compr 1	Active if circuit 1 reheat valve is open. This output is only used if reheat control type is configured as Staged. This is configured from unit's user interface.
BV	3	A/C Valve, Compr 1	Active if circuit 1 A/C valve is open. This output is only used if reheat control type is configured as Staged. This is configured from unit's user interface.
BV	4	Pump Down Valve, Compr 1	Active if circuit 1 pump down valve is open. The pump down valve controls the refrigeration circulation.
BV	52	Compressor 1 Stage 2	Active if compressor 1 stage 2 is turned on. This output is only used if compressor 1 is configured as a 2 stage compressor.
BV	264	Compressor 1 Available	Active if compressor 1 is enabled and can be used for dehumidification and/or A/C control.
BV	774	Compressor 1 High Pressure	Active if there is a compressor 1 high pressure alarm.
BV	775	Compressor 1 Low Pressure	Active if there is a compressor 1 low pressure alarm.

BV	776	Compressor 1 Oil Fault	Active if there is a compressor 1 oil failure alarm.
BV	777	Compressor 1 High Discharge Temp	Active if there is a compressor 1 high discharge temperature alarm.
BV	797	Compressor 1 Low Superheat	Active if there is a compressor 1 low superheat alarm.
BV	829	Compressor 1 High Superheat	Active if there is a compressor 1 high superheat alarm.
BV	804	Compressor 1 Pressure Fault	Active if there is a compressor 1 pressure fault alarm. This indicates that either the high pressure is too low or the low pressure is too high which is a sign of the compressor not running at all. Typically due to some compressor internal mechanical fault.

Circuit 2

These points apply to compressor circuit 2. They will only be available in BACnet interface if unit has been configured as a 2 compressor system.

Type	ID	Name	Notes
AI	4	Refrigerant High Pressure, Compressor 2	Refrigerant pressure on the circuit 2 discharge line.
AI	5	Refrigerant Low Pressure, Compressor 2	Refrigerant pressure on the circuit 2 suction line.
AI	7	Evaporator Temperature, Compressor 2	Air temperature off circuit 2 evaporator coil.
AI	10	Suction Temperature, Compressor 2	Temperature of circuit 2 suction line.
AI	27	Discharge Temperature, Compressor 2	Temperature of circuit 2 discharge line.
AI	37	Superheat, Compressor 2	Superheat temperature of circuit 2.
AV	267	Compressor 2 Load	Compressor load as a percentage of compressor 2 capacity. This output is only used if compressor 2 is configured as a modulated compressor.
BV	7	Compressor Contactor, Compr 2	Active if compressor 2 is turned on.
BV	8	Reheat Valve, Compr 2	Active if circuit 2 reheat valve is open. This output is only used if reheat control type is configured as Staged. This is configured from unit's user interface.
BV	9	A/C Valve, Compr 2	Active if circuit 2 A/C valve is open. This output is only used if reheat control type is configured as Staged. This is configured from unit's user interface.
BV	10	Pump Down Valve, Compr 2	Active if circuit 2 pump down valve is open. The pump down valve controls the refrigeration circulation.
BV	54	Compressor 2 Stage 2	Active if compressor 2 stage 2 is turned on. This output is only used if compressor 2 is configured as a 2 stage compressor.

BV	265	Compressor 2 Available	Active if compressor 2 is enabled and can be used for dehumidification and/or A/C control.
BV	778	Compressor 2 High Pressure	Active if there is a compressor 2 high pressure alarm.
BV	779	Compressor 2 Low Pressure	Active if there is a compressor 2 low pressure alarm.
BV	780	Compressor 2 Oil Fault	Active if there is a compressor 2 oil failure alarm.
BV	781	Compressor 2 High Discharge Temp	Active if there is a compressor 2 high discharge temperature alarm.
BV	798	Compressor 2 Low Superheat	Active if there is a compressor 2 low superheat alarm.
BV	830	Compressor 2 High Superheat	Active if there is a compressor 2 high superheat alarm.
BV	805	Compressor 2 Pressure Fault	Active if there is a compressor 2 pressure fault alarm. This indicates that either the high pressure is too low or the low pressure is too high which is a sign of the compressor not running at all. Typically due to some compressor internal mechanical fault.

General

These are points that apply to the overall control of all compressor circuits.

Type	ID	Name	Notes
AV	12	A/C Summer Only Setpoint	<p>Determines the highest outside air temperature at which the compressor circuits will operate in A/C mode.</p> <p>Unit also has to be configured to only use A/C in the summer. This is configured from the unit's user interface.</p> <p>Range: 40 – 70 °F</p>
AV	263	Reheat Level	<p>Indicates reheat level as a percentage of reheat valve fully opened. 0% thereby means full A/C.</p> <p>This output is only used when reheat control type is set to Modulated. This is configured from unit's user interface.</p>
BV	11	Bypass Damper Open	Active when bypass damper is opening.
BV	12	Bypass Damper Close	Active when bypass damper is closing.
BV	47	Compressor Pump	<p>Active when A/C pump is on or A/C valve is open.</p> <p>This output is only used if A/C Pump/Valve setting has been set to Yes. This is configured from unit's user interface.</p>

BV	515	Compressors Enabled	<p>Use this command input to enable/disable the compressor circuits. This does not start or stop compressor but enables/disables them to be used by the controller.</p> <p>This command input is disabled by default.</p>
BV	519	A/C Enabled	<p>Use this command input to enable/disable A/C control. This does not start or stop A/C control but enables/disables the usage of A/C by the controller.</p> <p>When output is set to Inactive, this overrides the A/C summer mechanism and usage of AV 12.</p> <p>This command input is disabled by default.</p>
BV	522	Emergency Heat	<p>Use this command input to change compressor control to emergency heating mode.</p> <p>Normally the compressor will not start on a heating demand. Space heater is used for heating the controlled space.</p> <p>In emergency heating mode the compressor will start on a heating demand and heat the controlled space. Space heater will not be used at all in this mode.</p> <p>This is intended for installations where hot water is used for heating and where the boiler is shutdown in the summer.</p> <p>Set to Active to engage emergency heating mode. This command input is disabled by default.</p>
BV	809	Compressor Pump Fault	<p>Active when there is a compressor pump overload alarm.</p> <p>This output is only used if A/C Pump/Valve setting has been set to Yes. This is configured from unit's user interface.</p>

Outside Air Condenser / Fluid Cooler

Type	ID	Name	Notes
AI	45	Cooling Fluid In	Temperature of fluid entering fluid cooler. Sensor disabled by default.
AI	46	Cooling Fluid Out	Temperature of fluid leaving fluid cooler. Sensor disabled by default.
AV	258	Head Pressure Control	Indicates fan speed of outside air condenser or fluid cooler as a percentage of full speed. For water cooled units, this indicates the valve opening as a percentage of fully opened.
BV	17	OACC/OAFC Fan 1	Active when outdoor air condenser or fluid cooler is turned on. If unit is configured for a 2 condenser/fluid cooler, Active means that stage 1 is turned on. If unit is configured for a High/Low speed condenser/fluid cooler, Active means that low speed is being used.
BV	46	OACC/OAFC Fan 2	If unit is configured for a 2 condenser/fluid cooler, Active means that stage 2 is turned on. BV 17 will also be Active. If unit is configured for a High/Low speed condenser/fluid cooler, Active means that high speed is being used. BV 17 will not be active.
BV	63	Fluid Cooler Pump	Active when fluid cooler pump is turned on. Disabled by default.
BV	794	OACC/OAFC Overload	Active when there is an outdoor air condenser or fluid cooler fan motor overload alarm.
BV	828	Fluid Cooler Pump Fault	Active when there is a low fluid flow, indicating a pump fault. Only available when fluid cooler pump is enabled.

Other

Type	ID	Name	Notes
AI	42	Unit Current	Overall unit load measured in Amp.
AV	515	Heartbeat Timer	<p>Defines max number of seconds in which at least one of any overridden sensor needs to be refreshed. If no overridden sensor is written to in this time frame, unit will rollback to built-in sensors.</p> <p>Set timer to 0 to disable heartbeat feature.</p> <p>See Overriding Sensor Values section below.</p> <p>Range: 0 – 600 Sec</p>
AV	518	Alarm Count	Indicates number of active alarms.
AV	519	Alert Count	Indicates number of active alerts. Alerts are alarms with less severity. For instance, Dirty Filter Alarm.
BV	16	System On	<p>Active when system is ready to control the space.</p> <p>The following criteria has to be met before the status is Active:</p> <ul style="list-style-type: none"> - Passed the initial start-up phase. - Is not shutting down. - Is not in service mode. - There are no alarms. - Supply fan is running. - At least one compressor is ready to use. <p>This output is disabled by default.</p>
BV	257	Service Mode	Active when unit is in service mode.
BV	770	Firestat Alarm	Active when firestat input is indicating an alarm.
BV	792	Voltage Fault	Active when voltage monitor is indicating a fault.
BV	801	Bad Battery	Active when unit has determined that the mother board might be bad.

			<p>This is determined if certain battery backed up configuration is reset after a power cycle. This does not necessarily mean that the battery bad.</p> <p>For instance, changing a core module will result in this alarm since the battery is located on the motherboard and not on the core module.</p> <p>If this alarm comes back every time after you reset alarm and power cycle unit, then you most likely need to replace the battery.</p>
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Points By Object Type

This section describes all points per object type and in numerical order. This is how points are returned when doing a discovery so this can be used as a quick reference to identify the function to which a point belongs.

These tables also clearly indicates which points are writeable.

Analog Inputs (AI)

All AI's are read-only.

ID	Name	Function Reference
0	Return Air Humidity	Room Conditions
1	Return Air Temperature	Room Conditions
2	Refrigerant High Pressure, Compressor 1	Compressor Circuit 1
3	Refrigerant Low Pressure, Compressor 1	Compressor Circuit 1
4	Refrigerant High Pressure, Compressor 2	Compressor Circuit 2
5	Refrigerant Low Pressure, Compressor 2	Compressor Circuit 2
6	Evaporator Temperature, Compressor 1	Compressor Circuit 1
7	Evaporator Temperature, Compressor 2	Compressor Circuit 2
8	Supply Air Temperature	Supply Air
9	Suction Temperature, Compressor 1	Compressor Circuit 1
10	Suction Temperature, Compressor 2	Compressor Circuit 2
12	Outdoor Air Temperature	Outside Air / Exhaust
13	Pool Water In Temperature	Pool Water
14	Pool Water Out Temperature	Pool Water
26	Discharge Temperature, Compressor 1	Compressor Circuit 1
27	Discharge Temperature, Compressor 2	Compressor Circuit 2
30	Exhaust Air Temperature	Outside Air / Exhaust
32	Pool 2 Water In Temperature	Pool Water
33	Pool 2 Water Out Temperature	Pool Water
34	Outdoor Air Humidity	Outside Air / Exhaust
35	Outdoor Air Dew Point	Outside Air / Exhaust
36	Superheat, Compressor 1	Compressor Circuit 1
37	Superheat, Compressor 2	Compressor Circuit 2
40	Return Air Dew Point	Room Conditions
41	Wall Temperature	Room Conditions
42	Unit Current	Other
45	Cooling Fluid In	Outside Air Condenser / Fluid Cooler
46	Cooling Fluid Out	Outside Air Condenser / Fluid Cooler
53	Room Temperature	Room Conditions
54	Room Humidity	Room Conditions
55	Supply Airflow	Supply Air

Analog Values (AV)

The RW column indicates if a point can be both read and written to (RW) or if it is read-only (R).

ID	R W	Name	Function Reference
0	R W	Room Temperature Occupied Setpoint	Room Conditions
1	R W	Humidity Occupied Setpoint	Room Conditions
2	R W	Pool Temperature Setpoint	Pool Water
3	R W	Heat Recovery Setpoint	Outside Air / Exhaust
4	R W	Purge Setpoint	Outside Air / Exhaust
5	R W	Economizer Min OA Setpoint	Outside Air / Exhaust
6	R	Pool 2 Temperature Setpoint	Pool Water

	W		
7	R W	Freezestat Setpoint	Outside Air / Exhaust
12	R W	A/C Summer Only Setpoint	Compressor General
13	R	Humidity Floating Setpoint	Room Conditions
16	R W	Room Temperature Unoccupied Setpoint	Room Conditions
17	R W	Humidity Unoccupied Setpoint	Room Conditions
256	R	Modulated Heat	Space Heating
257	R	Blower Speed	Supply Air
258	R	Head Pressure Control	Outside Air Condenser / Fluid Cooler
260	R	Outdoor Air Damper 1	Outside Air / Exhaust
261	R	Outdoor Air Damper 2	Outside Air / Exhaust
263	R	Reheat Level	Compressor General
264	R	Exhaust Fan 1	Outside Air / Exhaust
265	R	Exhaust Fan 2	Outside Air / Exhaust
266	R	Compressor 1 Load	Compressor Circuit 1
267	R	Compressor 2 Load	Compressor Circuit 2
512	R W	Purge Interval	Outside Air / Exhaust
513	R	Exhaust Level	Outside Air / Exhaust
515	R W	Heartbeat Timer	Other
517	R	Elapsed Purge Time	Outside Air / Exhaust
518	R	Alarm Count	Other
519	R	Alert Count	Other
768	R W	Remote Control Temp	Room Conditions
769	R W	Remote Control RH	Room Conditions
770	R W	Outdoor Air Temp	Outside Air / Exhaust
771	R W	Outdoor Air RH	Outside Air / Exhaust
772	R W	Remote Control Pool 1 Temperature	Pool Water
773	R W	Remote Control Pool 2 Temperature	Pool Water

Binary Values (BV)

The RW column indicates if a point can be both read and written to (RW) or if it is read-only (R).

Writeable points needs to be enabled in the unit configuration before you can see and control them. This is described in the Enabling Sensors and Commands section.

ID	RW	Name	Function Reference
0	R	Blower Contactor	Supply Air
1	R	Compressor Contactor, Compr 1	Compressor Circuit 1
2	R	Reheat Valve, Compr 1	Compressor Circuit 1
3	R	A/C Valve, Compr 1	Compressor Circuit 1
4	R	Pump Down Valve, Compr 1	Compressor Circuit 1
5	R	Pool Heating Valve	Pool Water
7	R	Compressor Contactor, Compr 2	Compressor Circuit 2
8	R	Reheat Valve, Compr 2	Compressor Circuit 2
9	R	A/C Valve, Compr 2	Compressor Circuit 2
10	R	Pump Down Valve, Compr 2	Compressor Circuit 2
11	R	Bypass Damper Open	Compressor General
12	R	Bypass Damper Close	Compressor General
13	R	Heat Recovery Pump	Outside Air / Exhaust
14	R	Auxiliary Pool Heater	Pool Water
16	R	System On	Other
17	R	OACC/OAFC Fan 1	Outside Air Condenser / Fluid Cooler
18	R	Outdoor Air Damper	Outside Air / Exhaust
21	R	Stage 1 Heat	Space Heating
22	R	Stage 2 Heat	Space Heating
33	R	Pool Heating Valve, Pool 2	Pool Water
34	R	Auxiliary Pool Heater, Pool 2	Pool Water
42	R	Exhaust 1	Outside Air / Exhaust
44	R	Exhaust 2	Outside Air / Exhaust
46	R	OACC/OAFC Fan 2	Outside Air Condenser / Fluid Cooler
47	R	Compressor Pump	Compressor General
52	R	Compressor 1 Stage 2	Compressor Circuit 1
54	R	Compressor 2 Stage 2	Compressor Circuit 2
63	R	Fluid Cooler Pump	Outside Air Condenser / Fluid Cooler
257	R	Service Mode	Other
259	R	Purging	Outside Air / Exhaust
260	R	Dehumidification Mode	Room Conditions
261	R	A/C Mode	Room Conditions
262	R	Heating Mode	Room Conditions
263	R	Pool Heating Mode	Pool Water
264	R	Compressor 1 Available	Compressor Circuit 1
265	R	Compressor 2 Available	Compressor Circuit 2
512	RW	Blower Enabled	Supply Air
513	RW	Purge	Outside Air / Exhaust
515	RW	Compressors Enabled	Compressor General
516	RW	Day Time Mode	Outside Air / Exhaust
518	RW	Space Heater	Space Heating
519	RW	A/C Enabled	Compressor General
520	RW	Pool 1 Heater	Pool Water
521	RW	Pool 2 Heater	Pool Water
522	RW	Emergency Heat	Compressor General
523	RW	Blower Override	Supply Air
524	RW	A/C Override	Room Conditions
525	RW	Heat Override	Room Conditions
526	RW	Event Mode 1	Outside Air / Exhaust
768	R	Blower Overload	Supply Air
769	R	No Airflow	Supply Air
770	R	Firestat Alarm	Other
771	R	Freezestat Alarm	Outside Air / Exhaust



BACnet Points

772	R	Dirty Filter	Supply Air
773	R	Pool 1 Water Flow Fault	Pool Water
774	R	Compressor 1 High Pressure	Compressor Circuit 1
775	R	Compressor 1 Low Pressure	Compressor Circuit 1
776	R	Compressor 1 Oil Fault	Compressor Circuit 1
777	R	Compressor 1 High Discharge Temp	Compressor Circuit 1
778	R	Compressor 2 High Pressure	Compressor Circuit 2
779	R	Compressor 2 Low Pressure	Compressor Circuit 2
780	R	Compressor 2 Oil Fault	Compressor Circuit 2
781	R	Compressor 2 High Discharge Temp	Compressor Circuit 2
790	R	Heat Recovery Overload	Outside Air / Exhaust
792	R	Voltage Fault	Other
793	R	Purge Alarm	Outside Air / Exhaust
794	R	OACC/OAFC Overload	Outside Air Condenser / Fluid Cooler
797	R	Compressor 1 Low Superheat	Compressor Circuit 1
798	R	Compressor 2 Low Superheat	Compressor Circuit 2
801	R	Bad Battery	Other
802	R	Exhaust Fan 1 Overload	Outside Air / Exhaust
803	R	Pool 2 Water Flow Fault	Pool Water
804	R	Compressor 1 Pressure Fault	Compressor Circuit 1
805	R	Compressor 2 Pressure Fault	Compressor Circuit 2
809	R	Compressor Pump Fault	Compressor General
810	R	Freezestat 2 Alarm	Supply Air
812	R	Exhaust Fan 2 Overload	Outside Air / Exhaust
828	R	Fluid Cooler Pump Fault	Outside Air Condenser / Fluid Cooler
829	R	Compressor 1 High Superheat	Compressor Circuit 1
830	R	Compressor 2 High Superheat	Compressor Circuit 2
833	R	Pool 1 Bad Waterflow	Pool Water
834	R	Pool 2 Bad Waterflow	Pool Water
835	R	Pool 1 High Temperature	Pool Water
836	R	Pool 2 High Temperature	Pool Water
837	R	Blower Overload 2	Supply Air

Rebooting Unit

The unit can also be rebooted over BACnet. This is implemented using the standard BACnet message, Reinitialize Device. The implementation of this message varies between different BACnet platforms so we can therefore not give any further information on exactly how this is done. You have to contact the manufacturer of the BACnet platform you are using.

The message supports different restart states. The only one this unit support is Warm Start. A password is also required. Password is Restart254.

Enabling Sensors and Commands

Some sensors and command inputs are not enabled in the system by default. This means that they will not show up in the BACnet interface. Follow the instructions below to enable a sensor or command input. You can use the unit's user interface (TouchScreen Display) or Web Monitoring interface if unit is online to make these changes. TouchScreen Display interface is described below.

Enable Sensor

From top menu, select Advanced, Sensors and Sensor Usage. Find the sensor you need to enable. Change setting to Default.

It is also possible that a sensor has not been assigned to a terminal. If this is the case, you need to find out to which terminal sensor has been wired.

To assign sensor to a terminal, from top menu, select Advanced, I/O Assignments and Sensor Assignment. Find sensor and assign it to wired terminal.

Enable Command Input

There typically are two steps involved to enable a command input for BACnet usage. First step is to assign input to BMS, and second step is to enable the input for usage.

From top menu, select Advanced, I/O Assignments and Digital Input Assignment. Find command input you want to use over BACnet. Name should be the same or similar as listed in this document. Change assignment to BMS.

From top menu, select Advanced, Controls and Digital Input Enabled. Find command input you want to use over BACnet. Name is the same as for Assignment. Change setting to Yes.

Note that enabling a command will take affect immediately. This means you need to be ready to control it over BACnet or you might get undesired results. For instance, enabling the Blower Enabled command will turn off the blower if the status of the input defaults to Inactive. Most command inputs will default to Inactive so enabling Purge Mode command will not have any affect until you set it to Active.

Using Remote Control Sensors

The room temperature and RH is normally controlled by using the provided return air sensors. To override this and use your own sensors in the space, use point AV 768 and AV 769. To enable these points, follow the instructions above for enabling sensors. You do not need to assign them to a terminal.

To make the unit use them in control algorithms, from top menu, select Advance, Environment and then either Dehumidification or Room Temperature. Change Control Sensor to Remote Control.

The unit also comes with a fallback solution in case there is a break in the BACnet communication interface. In this case the unit will fallback to use the return air sensors for control. For this to work you have to set the heartbeat timer (AV 515) to a value greater than 0.

Unit BACnet Configuration

This unit support 3 types of BACnet interfaces as listed below.

- BACnet IP
- BACnet over Ethernet
- BACnet MS/TP

Use the unit's user interface to make any BACnet configuration changes. From the top menu, select Advanced, Network and BACnet.

General Configuration

These settings apply to all interface types.

BACnet Enabled	You can configure unit to be a Readonly unit or Read/Write. Note that when unit is in Service mode, for safety reasons you can not write to all writeable points. You will not be able to enable the interface unless a correct license key has been entered.
Interface	Select the interface you want to use. Note that when you set interface to BACnet IP, you also have to configure TCP/IP settings to change it to a static IP (unless this is done at router level).
Port	Default port is BAC0 (47808). Unit only support 16 different ports, BAC0 (47808) to BACF 47823).
Device ID	Supports full range of device ids. Default is 150.
Max APDU Size	This parameter is automatically changed to match interface when interface is changed but can be overwritten. Note that you can not go higher than 480 for MS/TP since this is the max for MS/TP.

MS/TP Configuration

These settings only apply to MS/TP.

Note that all serial ports are by default terminated at the board. There are two sets of jumpers for each port next to the 4 RJ-45 sockets. Jumpers for ports 1-4 are going from right to left.

MS/TP MAC	The MS/TP MAC address.
MS/TP Serial Port	Select a port that will be used for MS/TP. Typically this will be either port 3 or 4 on JCOM. The port is by default assigned to Unit Network. To disable it for the Unit Network, from the top menu select Advanced, Network and Unit Network. Find the port Enabled parameter and change it to No. When this is done, you can assign the port to be used by MS/TP.
MS/TP Baud Rate	Baud rate of MS/TP network.
MS/TP Max Master Address	Recommended to set this to the max MAC address that will be used in network.
MS/TP Max Info Frames	Can be used for performance tuning. Number of info frames unit can send before passing on token. Default is 1.
MS/TP Usage Timeout	Another fine tuning parameter. Number of milliseconds unit will wait before

considering that a token has been lost or device is not replying to a polling request. Use a higher number for lower baud rates. For instance, set to 50 if baud rate is 9600 or even 19200.

Default is 20.

MS/TP Postpone Reply

Unit can handle request messages in two different ways. Either it will process request when received and reply right away or it will send a postpone message, pass on token and have the reply sent when receiving the token again and request fully processed.

Default is to not postpone requests but if you are experiencing connection issues, try setting it to Yes.

Logging Parameters

All the logging parameters are for troubleshooting purposes and should not be enabled unless supervised by the factory. To be useful the unit needs to be connected to the Web Monitoring server since this will be used to review the log data.

Master/Slave Unit Control

When multiple units are installed to control the same space, they can be configured in a master/slave network, where one unit is designated the master and is processing the main control logic. Each slave unit will begin dehumidification, heating, or cooling only when instructed to do so by the master unit.

The units are connected using the Modbus protocol for communication.

The units do not need the same configuration. The units can be of different size and have different control capabilities.

Unit Demands

Demands are controlled as follows:

Dehumidification

Dehumidification is done in stages, where compressors on the slave units are an extension to the compressors on the master unit. All compressors on the master unit will be started before starting any compressor on any slave unit.

Economizer, if supported by the unit, follows the same control sequence as the compressors. The master unit will run economizer at full capacity before starting economizer on any slave unit.

Room Temperature

Room temperature is controlled by the master based on the supply air temperature setpoint, set at the master. This setpoint is then communicated to all slave units.

If heating is required, each unit will use and control its own space heating, independently from the other units. Units will control the on/off cycle of a staged heater or set the modulated heating signal to ensure that the supply air setpoint is maintained.

If cooling is required, compressors or economizer will be started in sequential order. This control sequence will follow the same approach used for dehumidification. Once a compressor is running on a slave unit, it will independently control the reheat to maintain the supply air setpoint.

Pool Water Heating

Pool water heating requirements typically change very slowly. Therefore, this demand is not controlled by the master. Each unit will independently control pool water heating based on its own pool water temperature setpoint.

Occupied, Event and Purge Mode

The occupied, event, and purge modes are synchronized between all units to ensure that all units are running in the same mode.

Connection Faults

Slave units are designed to detect a communication loss between themselves and the master. In this event, slave units will switch operation to normal, stand-alone control.

When communication with the master is re-established, the slave units will switch operation to slave mode and respond to control directives from the master unit.

Where multiple slave units are installed and the master unit will be out of service for an extended period of time, one of the slave units can be reconfigured to be a master unit.

Part 1 - General

1. Scope

Furnish and install, where indicated, a factory-assembled, fully-enclosed, split environmental control system with energy recovery feature(s) designed for natatorium environment control

Features shall include:

- A. Dehumidification by means of a direct expansion evaporator coil
- B. Space heating by means of a packaged indirect-fired natural gas duct furnace module
- C. Cooling mode with heat rejection to a remote outdoor air cooled fluid cooler (dry-cooler). No field refrigeration work shall be required. Substituting an outdoor condenser and increasing the refrigerant charge grows the owner's long-term liability and will not be allowed.
- D. Pool water heating from reclaimed compressor waste heat by means of a full flow titanium heat exchanger
- E. Packaged minimum exhaust fan and purge fan with economizer mode
- F. Integral minimum outdoor air connection
- G. Integral purge outdoor air connection with economizer mode
- H. Heat recovery by means of a glycol run-around loop between the minimum exhaust and minimum outdoor air streams
- I. Convenience outlet and light included factory mounted in control cabinet, powered and wired separately.
- J. Internet connectivity for 2 years via cell based technology

2. Quality and Safety Assurance

- A. The system shall be ETL listed
 - B. The system shall be completely assembled, wired, piped, and test-run at the factory prior to shipping. All controls shall be factory adjusted to satisfy the design conditions.
 - C. Manufacturer shall have a minimum of ten-plus years prior experience making similar equipment as described in this specification.
 - D. The system shall have a mechanical vestibule where the electrical panel, compressor(s), receiver(s) and most of the refrigeration controls are out of the process air stream
 - E. Warranty: The entire system shall have a 24-month limited parts warranty from the factory ship date
 - 1. A 1-year labor warranty shall be provided by the manufacturer when the system is connected to the factory via an Internet monitoring system from the date of initial commissioning
 - 2. The compressor(s) shall have a 5-year warranty from the factory ship date
 - 3. The internal airside heat exchanger coils shall have a 5-year warranty from the factory ship date
 - 4. The drive line shall have a 5-year warranty from the factory ship date
 - F. When connected to a network with Internet access, the system shall have remote service capability with the ability for field service technicians to receive service and trouble alerts by e-mail and make parameter adjustments via a browser interface on any Internet-capable device
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Part 2 - Product

3. General

The natatorium control system shall include:

- A. Mechanical process dehumidification
- B. Outdoor cabinet configuration
- C. A packaged indirect-fired natural gas duct furnace module installed downstream of the blower, sized as specified by the design engineer to meet the skin losses and outdoor air heating loads
- D. Pool heating via pool water-to-fluid titanium heat exchanger providing premium unmatched chemical resistance for saltwater and chlorine pool water. Lesser pool water heater will not be entertained and are not acceptable.
- E. Air filtration via MERV-13 pleated panel filters for return
- F. Purge and economizer modes
- G. Minimum exhaust and purge exhaust fan(s) with economizer mode
- H. Heat recovery between the minimum exhaust air and outdoor air streams and via a glycol run around loop
- I. A service vestibule where the compressor, refrigeration specialties, control valves and all electronics are outside of process air stream
- J. Convenience outlet and light included factory mounted in control cabinet, powered and wired separately.

4. Sequence of Operation

The system shall be designed and sized to maintain the specified space conditions

- A. System Startup
 - 1. Power is turned on or the system is restarted
 - 2. After a short initial delay to allow the sensors to stabilize, the blower starts and operates continuously
 - 3. Based on sensor feedback, the system shall begin or resume operation based on the sequence below
 - B. Airside Configuration
 - 1. The system continuously delivers the specified supply air volume to the natatorium
 - 2. The minimum exhaust air volume is set to meet the engineer's schedule.
 - 3. The minimum outdoor air volume is set to meet the engineer's schedule.
 - C. Dehumidification Mode
 - 1. The return air relative humidity is above the humidity setpoint
 - 2. Return air dewpoint is above dewpoint setpoint.
 - 3. The compressor enters the Compressor Start sequence
 - 4. If the system cannot maintain the relative humidity below setpoint, the second compressor circuit will start
 - 5. Compressor waste heat is rejected into a glycol fluid loop which feeds the reheat coils and the air conditioning air-cooled heat exchanger in parallel.
 - 6. The reheat coils are fully modulating (0-100%). The reheat output will modulate to maintain the space temperature at set point year-round. Reheat coils that are on off or only give heat from one circuit are not acceptable since they do not closely match the requirement of the space and cause swings in space conditions.
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D. Air Conditioning Mode

1. The return air temperature is above the room temperature setpoint
 2. The compressor starts, if not already operating in Dehumidification Mode
 3. Excess compressor hot gas is diverted to a fluid-cooled heat exchanger. Up to 100% of compressor heat is rejected into the glycol fluid loop which is pumped outdoors to an outdoor air-cooled heat exchanger for 100% heat rejection at summer design ambient conditions
 4. 100% of compressor heat is rejected at the outdoor air-cooled heat exchanger on a summer design day. On off-peak
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days, the air reheat output will modulate to maintain the space temperature at the set point

5. If the system cannot maintain the return air temperature setpoint, the second compressor will start

E. Space Heating Mode

1. The return air temperature is below the room temperature setpoint
2. The microprocessor space heating output signal (0-10 volts) is sent to the heating coil controller. The signal output will regulate based on the return air temperature

F. Pool Water Heating Mode

1. The return pool water temperature is below the pool water setpoint and the pool water flow switch or minimum temperature differential is satisfied.
2. If the compressor is already operating due to a Dehumidification or Air Conditioning demand, the fluid control valve will divert fluid to the Titanium pool water heat exchanger to modulate the heating of the pool water. Pool water heating that does not use a titanium pool water heater or modulation to match the demands of the pool are not acceptable.
3. If there is no pre-existing demand for the compressor to operate, the microprocessor sends a signal to the auxiliary pool water heater (remote by others) to operate. The compressor will not operate solely for a pool water heating demand unless specifically configured to do so at the controller. Aux Pool Heat contact will be closed with insufficient flow. In order to prevent the pool from overheating, it is recommended that a field-installed aquastat (provided by others) be installed in series with these wires.
4. Factory-installed relay(s) and factory furnished, field-installed pool water temperature sensor(s) are provided to enable the smart pool feature. This feature provides the ability to activate booster pool water pump(s) feeding the unit when pool water heating is in demand.

G. Exhaust Air Heat Recovery Mode

1. The minimum outdoor air damper and minimum exhaust fan(s) are tied to the system's occupancy schedule and will operate as programmed
2. Once the outdoor air temperature falls below the heat recovery setpoint (65 °F by default; field-adjustable) the glycol pump shall circulate a glycol mixture between the exhaust air and the outdoor air heat recovery coils, recovering heat from the space condition exhaust air and using it to preheat the incoming outside air

H. Purge Mode

1. This mode is manually triggered by an operator when super-chlorinating the pool. It can be triggered at the unit-mounted or optional remote operator panel(s), through the online Vision 2.0 interface or by the BACnet controller
 2. Purge Mode has an adjustable timed duration after which the system automatically resumes normal operation
 3. Once triggered by the operator:
 - a) The compressor(s), if operating, pump down and cycle off
 - b) A signal from the microprocessor sets the exhaust fan(s) to their maximum CFM
 - c) The unit-mounted outdoor air dampers open fully and the return air dampers close
 - d) The system stays in 100% outdoor air ventilation mode
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- e) After the timed period expires, all dampers and fans return to normal operating settings and the system resumes normal operation
 - f) During Purge Mode, the system will control heating based on supply air temperature
- l. Economizer Cooling Mode
- 1. The return air temperature is above the room temperature setpoint
 - 2. The microprocessor will compare the temperature of the outside air with the cooling setpoint
 - 3. When outside air is deemed suitable by the microprocessor, it will be used as the first stage of sensible cooling
 - 4. The system will switch over to using the compressor(s) if outside air conditions cannot satisfy the space cooling demand
-

- J. Economizer Dehumidification Mode
 - 1. The return air relative humidity is above humidity setpoint
 - 2. The microprocessor will compare the moisture content of the outside air to the dehumidification setpoint
 - 3. When the outside air is deemed suitable by the microprocessor, it will be used as the first stage of dehumidification
 - 4. The system will switch over to using the compressor(s) if outside air conditions cannot satisfy the space humidity demand.
 - K. Freeze Protection
 - 1. The supply air temperature falls below the freezestat setpoint
 - 2. Exhaust fan(s) are stopped and outdoor air damper(s) are
 - 3. fully closed
 - 5. **Cabinet** When the freezestat alarm is tripped, it must be manually cleared by the operator
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- A. Cabinet Construction: All cabinet 16, 20 and 24 gauge sheet metal shall be galvanized G90 steel or Galvalume™ alloy with mill-applied zinc phosphate primer followed by an exterior grade white silicone modified polyester top coat. The sheet metal is engineered to form a cabinet with maximum strength and rigidity. All seams shall be caulked with silicone to prevent air and water leakage or infiltration
 - 1. Base Rails: The cabinet shall have a base frame comprised of 2 layers of 10 gauge mill galvanized G90 steel. Lifting lugs shall be provided on the base frame for rigging the system.
 - 2. The cabinet walls shall be of double-wall construction using 20 gauge pre-painted steel with a fully painted inner metal liner and 2 inches of fiberglass insulation
 - 3. The cabinet floor shall be comprised of a 16-gauge galvanized steel panel with a 20-gauge pre-painted steel inner liner, 2-inch double wall engineered with structural bending for maximum rigidity and be mechanically fastened to the base frame of the unit
 - 4. The cabinet roof shall be 20-gauge pre-painted steel, 2-inch double wall engineered with structural bending for maximum rigidity and be mechanically fastened to the base walls of the unit
 - 5. The cabinets shall be mechanically assembled with stainless steel 5/32" sealed blind rivets. Where bolts are required bright zinc plated bolts shall be used
 - 6. Access doors shall be supported on multiple hinges, held shut by compression latches for quick access. Doors shall be provided for entrance to all sections housing components requiring routine maintenance. Full height access doors shall have "hold back" latches to prevent door closure during the performance of service procedures
 - 7. The unit shall have non-corroding protective mesh screens on all air intake openings
 - 8. The system shall have non-corroding protective mesh screens covering internal fan blades, protective grates covering all floor access ports
 - B. Outdoor Air Intake:
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1. Purge /Economizer and Minimum Outdoor Air connections with motorized dampers and controls.
- C. Insulation: The unit shall be insulated per the following standards:
1. All exterior cabinet sections shall be insulated with two (2) inch thick fiberglass inside the double walled cabinet
 2. Fire resistant rating to conform to NFPA Standard 90A and 90B
 3. Sound attenuation coefficient shall not be less than 1.02 at a frequency of 1,000 Hz as per ASTM Standard C423
 4. Thermal conductivity shall not exceed 0.26 Btu/hr-sqft-ft at 75 °F
- D. Cabinet configuration shall include:
1. A filter rack with separate access doors shall be provided for the return air and minimum outdoor air streams
 2. Unit shall be equipped with a second outdoor air intake assembly with motorized 2 position extruded aluminum, Insulated, silicone side-sealed damper for Purge and Economizer operation
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3. Mechanical vestibule: The unit shall have the compressor, receiver, solenoid valves and the electrical panel in a separate compartment out of the processed air stream. All components shall be serviceable while the unit is in operation without disturbing the airflow
4. Electrical panel: The unit shall have a built-in electrical control panel in a separate compartment in order not to disturb the airflow within the dehumidifier during electrical servicing. All electrical components shall be mounted on a 16 gauge galvanized sub-panel

6. Filter

Wherever possible, air filters shall be standard sized, replaceable, off-the-shelf filters including:

- A. Exhaust Air: 2-Inch MERV 8, 30% pleated filters with rust-free non-metallic structure
- B. Return Air: 2-Inch MERV 13, 90% pleated filters with rust-free non-metallic structure on a slide-in or face-loading rack
- C. Outside Air: 2-Inch MERV 13, 90% pleated filters with rust-free non-metallic structure.
- D. Dirty air filter switches included on the return air filter for indicating an alarm when pressure drop exceeds a set point.

7. Coils

- A. Evaporator/dehumidifier coils shall be designed for maximum moisture removal capacity
 1. Coils shall be fully dipped and coated with a polyester/enamel coating for maximum corrosion protection. Coating shall comply with ASTM B117/D1654 and ASTM D2126 for corrosion resistance against common acids, salt and gases
 2. Coil shall have galvanized casing and end plates
 3. Aluminum fin and copper tubes mechanically bonded to assure high heat transfer.
 - B. Air reheat coils shall be sized for variable heat transfer into the air with a capacity of 100% of the compressors total required heat of rejection. Air reheat coils that are on off will cause unstable space conditions and are not acceptable.
 1. Coils shall be fully dipped and coated with a polyester/enamel coating for maximum corrosion protection. Coating shall comply with ASTM B117/D1654 and ASTM D2126 for corrosion resistance against common acids, salt and gases
 2. Coil shall have galvanized casing and end plates
 3. Aluminum fin and copper tube joints mechanically bonded to assure high heat transfer
 - C. Coils shall have a 3-year warranty extension for a total of 5 years coverage
 - D. Heat Recovery Coils
 1. The unit shall have heat recovery between the minimum exhaust and outdoor air streams per specifications
 - a) The heat recovery coils shall be sized for heat transfer between the two air streams
 - b) The heat recovery fluid circulating between coils shall be glycol. The module shall be a complete package and independent circuit that includes a circulating pump, fill valves and expansion tank
 2. Coils shall be fully dipped and coated with a polyester/enamel coating for maximum corrosion protection. Coating shall comply with ASTM B117/D1654 and ASTM D2126 for corrosion resistance against common acids, salt and gases
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3. Aluminum fin and copper tube joints mechanically bonded to assure high heat transfer
4. Plate heat recovery that will add fan horsepower and therefore have a negative effect on energy saving are not acceptable. Strategies that use the main compressors to cool exhaust air to try and act as heat recovery cannot be used in place of full time heat recovery because the compressors will not be running in the coldest months requiring heat recovery the most.

8. Drain Pans

Each evaporator coil shall be provided with a positive draining, compound-sloped, baked powder paint coated aluminum drain pan with fully-welded corners to ensure zero water retention. In no way will stainless steel or galvanized drain pans be acceptable.

9. Blowers and Blower Motors**A. Supply blowers:**

1. The multiple direct driven supply air blower wheels shall be a parallel mounted array. Blowers shall be a single width/single inlet airfoil plenum type, secured a machined, ground and polished solid steel shaft. The wheel shall be

G90 galvanized steel with baked powder paint coating. The shaft shall be coated with a rust inhibitor
2. The complete blower assembly shall be statically and dynamically balanced on precision electronic balancers
3. The blower assembly shall be mounted on a 1" deflection spring isolated rack
4. The fan inlets shall be equipped with accidental contact protection screen
5. Motor(s) shall be Premium efficiency painted cast iron construction TEFC, NEMA MG1-PART 31 Inverter Duty 15:1 Constant Torque Severe Duty with a service factor 1.25. Motors shall be 6 Pole 1200 RPM synchronous speed with HOA switch with motor safeties against overloading at 60 Hz operation directly on mains. Motors shall have double lip seals on both ends with re-greasable bearings 254T frame and larger with Polyurea grease
6. At least one motor shall be provided with a low motor noise and high starting torque VFD for air balancing purposes. The VFD shall have a drive efficiency of 96 to 98% with displacement power factor of 0.98, output maximum frequency of 400 Hz with torque boost. The VFD shall have protective features including: torque limit, heat sink over-temperature, current-limiting DC bus fuse, electronic motor overload with phase-to-phase and ground fault short circuit protection; current limit, over/under torque protection, over/under voltage protection, short circuit current rating of 30kA rms symmetrical and 100kA rms symmetrical

B. Exhaust blowers:

1. The packaged exhaust blower (EF1) shall be sized to maintain the negative pressure requirement in the space during normal operation and its operation tied to the system's occupancy scheduler
 2. The fan assembly shall be balanced in Class G 6.3 acc DIN ISO 1940, dynamic on two levels
 3. The fan assembly shall be suitable for ambient temperatures of -40°C to max. +70°C
 4. Thermal contacts installed in the windings compliant with THCL 155
 5. Drive motor in external rotor principle, sealed in protection class IP54 with moisture protection impregnation of the windings, topical protection
 6. High corrosion resistance design with high quality and reliability
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7. The exhaust fan shall be controlled from an end switch on the power open of the exhaust air damper. The exhaust dampers shall be protected by louvers to divert rain from the face of the dampers
8. Shall be packaged with the heat recovery module

C. Purge blowers:

1. The ventilation/economizer/purge exhaust blower (PEA) shall be unit mounted and sized to provide full exhaust from the space when operating with EF1
2. The fan shall be direct driven axial fan made of high-strength composite material in which the motor and controller are integrated. It includes FE2owlet blades combined with guide vanes and EC commutated direct-current external rotor motors provides maximum efficiency the quietest performance. The EC motor shall have maintenance-free electronic circuitry, a rotor with permanent magnets, and an integral controller to provide the windings with electrical current so that, the motor rotates continuously and quietly. The fan is aerodynamically-optimized, sickle-blade profile, patterned with serrated trailing edge and winglets on the blade outer edge for energy and noise-optimized operation
3. The fan assembly shall be balanced in Class G 6.3 acc DIN ISO 1940, dynamic on two levels
4. The fan assembly shall be suitable for ambient temperatures of -40°C to max. +70°C
5. Thermal contacts installed in the windings compliant with THCL 155
6. Drive motor in external rotor principle, sealed in protection class IP54 with moisture protection impregnation of the windings, topical protection
7. High corrosion resistance design with high quality and reliability
8. The exhaust fan shall be controlled from an end switch on the power open and spring return outside air damper. The gravity exhaust dampers shall be protected by louvers to divert rain from the face of the dampers

10. **Dampers**

Internal dampers shall be made from extruded anodized aluminum with a parallel blade configuration and neoprene double-seal

tips to minimize leakage. Damper blades shall be mounted on steel rods which rotate on nylon bushings. All damper hardware shall be corrosion resistant

- A. The system shall be provided with normally closed outside air and exhaust air dampers equipped with spring-return actuators The dampers adjust between 0% to 100% open position.
- B. The outdoor air and exhaust air dampers shall be of opposed blade configuration. Dampers shall have 0.750-inch insulated blades made from extruded anodized aluminum with neoprene double-seal tips to minimize leakage. Damper leakage shall be less than 1% of maximum flow at 4-inch water column differential. Damper blades shall be mounted on steel rods which rotate on nylon bushings. All damper hardware shall be corrosion resistant

11. **Pool Water Heater**

- A. The pool water heater shall be Titanium Gasketed Flat Plate heat exchanger. Heat exchanger that are not titanium are not acceptable since they increase the owners liability.
 - B. Heat exchanger will be modulating. On/off pool water heaters are not acceptable.
 - C. Pool heaters that when breached allow water into the refrigeration system are not allowed.
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- D. Terminating connections are PVC NPT fittings located at the cabinet wall for easy connection
- E. The maximum circuit pressure rating is 100 psi.

12. Compressors

- A. Hermetic, scroll action compressor, suction gas cooled, suitable for refrigerant R-410A
- B. The compressor(s) shall be mounted on rubber-in-shear isolators to limit the transmission of noise and vibration
- C. The compressor(s) shall be equipped with removable crankcase heater(s) for liquid migration protection
- D. The compressor(s) shall be located outside the conditioned air stream in the system's service vestibule
- E. Compressors shall have a 3-year warranty extension for a total of 5 years coverage
- F. The compressor manufacturer must have a wholesale outlet for replacement parts in the nearest major city

13. Refrigeration Circuit

- A. The system shall consist of two factory sealed refrigeration circuits for dehumidification and sensible cooling. No site refrigeration work shall be required
- B. Each refrigeration circuit shall have pressure transducers monitoring the refrigerant discharge (high) and suction (low) pressures. The refrigeration circuit shall be accessible for diagnostics, adjustment and servicing without the need for service manifold gauges
- C. All refrigeration circuits shall have refrigerant control valves, a liquid line filter-drier, a liquid and moisture indicator, an expansion valve, head pressure control feature and pump down feature
- D. All refrigeration circuits shall have an externally adjustable balanced port design mechanical thermostatic expansion valve
- E. The system shall have an externally adjustable balanced port design mechanical thermostatic expansion valve. The valve shall have a removable power head
- F. Tamper proof, hermetically sealed non-adjustable high and low pressure switches and refrigeration service valves shall be installed using Schrader type valves. Refrigeration service valves shall be located outside of the airstream
- G. The receiver shall have two refrigerant level (maximum and minimum) indicating sight glasses
- H. The suction line shall be fully insulated with 0.500-inch closed cell insulation
- I. The maximum operating pressure for the glycol loop is 100 psi. The glycol loop temperature should not exceed 134 °F.

14. Control Panel

- A. The electrical contractor shall be responsible for external power wiring and disconnect switch fusing. Power block terminals shall be provided
 - B. The system shall include a factory-installed non-fused disconnect
 - C. Main control panel shall be mounted inside the service vestibule outside of the process air stream
 - D. Blower motors shall be protected with thermal trip overloads
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- E. The system shall have a voltage monitor with phase protection
- F. Available dry contacts shall include:
 - 1. Alarm
 - 2. Blower interlock
 - 3. Stage 1 & 2 heating
 - 4. Outdoor air damper control
 - 5. Remote exhaust fan #1
 - 6. Remote exhaust fan #2
 - 7. Outdoor-air cooled equipment
 - 8. System on
 - 9. Auxiliary pool heater 1
 - 10. Heat recovery
- G. Terminals shall be provided to send 24-volt power to the outdoor air cooled condenser or fluid cooler fan contactor
- H. All wiring shall be installed in accordance with UL or CSA safety electrical code regulations and shall be in accordance with the NFPA All components used in the system shall be UL or CSA listed
- I. Wiring diagrams shall be located near the electrical panel(s) on the system. These diagrams shall provide colour-coding and wire numbering for easy troubleshooting. All wires shall be contained in a wire duct.
- J. The compressor(s) shall have a time delay on start to prevent short cycling
- K. An airflow switch and a dry contact for alarm(s) shall be provided and factory-mounted.
- L. Convenience outlet and light included factory mounted in control cabinet, powered and wired separately.

15. Air Heating

The packaged indirect-fired natural gas duct furnace module shall be sized to meet the scheduled heating capacity and have the following characteristics:

- A. Modulating (0-10V) auxiliary air heat control
 - B. The duct furnace module shall be a natural gas indirect-fired type using spark ignition with a heating capacity as shown in this submittal and is installed in a 'blow through' configuration downstream from the blower. The heat exchanger tubes are constructed of formed and welded 16-gauge series 409 stainless steel suitable for installation downstream of the cooling coil and satisfactory for air inlet temperatures below 40 °F. The burner is the power firing type and incorporates a primary combustion air blower and spark ignition transformer
 - C. Standard controls shall include a modulating gas valve, intermittent spark ignition, overheat control, rollout flame supervision, combustion air flow proving switch, positive burner safety switch, pilot cock, main gas cock with 100% shut off, adjustable main and pilot pressure regulators
 - D. The natural gas duct furnace module shall be an ETL recognized component. The gas train shall be complete with all controls factory mounted to comply with requirements of ETL. The gas train is complete with a modulating main gas valve and is ready for connection to a natural gas supply with pressure between 7 in and 14 in WC
 - E. The complete system shall be test-fired and preliminary adjustments made prior to leaving the factory
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16. Air Conditioning

Air-cooled air conditioning via a fluid cooler

- A. The system shall be equipped with an air conditioning mode where excess compressor heat is rejected to a remote outdoor air-cooled heat exchanger (aka Dry Cooler) via a single glycol fluid loop. No site refrigeration work shall be required. The system shall include a circulating pump and expansion tank. The packaged fluid cooled condenser and remote outdoor air-cooled heat exchanger shall both be capable of rejecting 100% of the compressor heat rejection with an air on temperature at summer design conditions
- B. The system shall be provided with a dry contact rated for 24VAC/5A to operate the remote outdoor fluid cooler control.
- C. Each refrigeration circuit shall include refrigerant valves, a receiver with pressure relief valve set at 650 psig, a pressure control valve and a pressure differential valve, and two manual shutoff valves to isolate the outdoor fluid cooler
- D. Coils shall be tested at 425 PSIG and mounted vertically for complete surface utilization. Coils shall be counter flow and have adequate capacity to dissipate the total heat rejection of the system at design conditions
- E. The fan(s) shall be direct driven axial fan(s) made of aluminum in which the motor and controller are integrated. The fan(s) include an EC commutated direct-current external rotor motor providing maximum efficiency and the quietest performance. The EC motor shall have maintenance-free electronic circuitry, a rotor with permanent magnets and an integral controller to provide the windings with electrical current so that the motor rotates continuously and quietly. The fan has an aerodynamically-optimized, sickle-blade profile, patterned with serrated trailing edge and winglets on the blade outer edge for energy and noise-optimized operation
 - 1. The fan assembly shall be balanced in Class G 6.3 acc DIN ISO 1940, dynamic on two levels
 - 2. The fan assembly shall be suitable for ambient temperatures of -40°C to max. +70°C
 - 3. Thermal contacts installed in the windings compliant with THCL 155
 - 4. Drive motor in external rotor principle, sealed in protection class IP54 with moisture protection impregnation of the windings, topical protection
 - 5. High corrosion resistance design with high quality and reliability

17. Factory Performance Testing

- A. The system shall be thoroughly tested under factory test conditions.
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Part 3 - Execution

18. Product Delivery, Acceptance, Storage and Handling

- A. Perform a thorough physical inspection of the system upon delivery from the shipment carrier
- B. Identify and immediately report any physical damage to manufacturer
- C. If the system is to be stored prior to installation, store in a clean, dry place protected from weather, dirt, fumes, water, construction and physical damage
- D. Handle the system carefully during installation to prevent damage
- E. Damaged systems or components shall not be installed. Contact the manufacturer for RMA instructions
- F. Comply with the manufacturer's rigging and installation instructions for unloading the system and moving it into position

19. Connections

- A. Where installing piping adjacent to the system, allow space for service and maintenance
- B. Duct connections: drawings indicate the general arrangements of the ducts. Connect the system to ducts with flexible duct connectors. Comply with code requirements for flexible duct connectors
- C. Electrical connections: comply with code requirements for power wiring, switches and motor controls in electrical sections

20. Installation

The agency responsible for start-up should work in accordance with the specifications and in accordance with the manufacturer's instructions and only by workers experienced in this type of work

21. Start Up

- A. Detailed instructions for start up as provided by the manufacturer must be followed
 - B. Installing contractor must contact the manufacturer prior to start up to confirm start up procedures
 - C. Remote Internet access and control must be initiated and confirmed by the factory prior to start up for extended labor warranty to be in effect
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Pools - Equipment Warranty

General Policy

All Dectron service and warranty work is managed exclusively by Dehumidified Air Services (DASV). All warranties apply to the original equipment owner and are not transferable. All warranty inquiries should be made to Dehumidified Air Services.

Dectron warrants as set forth and for the time periods shown below that it will provide through either a DASV Service Technician or an authorized service organization specified and approved by DASV, a new or rebuilt part to replace a factory installed part which has failed because of defect in workmanship or material.

NOTE: EVERY REQUEST RELATED TO WARRANTY OF ANY NATURE AS DESCRIBED BELOW MUST BE OFFICIALLY AUTHORIZED AND DOCUMENTED IN ADVANCE BY DASV TO QUALIFY FOR WARRANTY COVERAGE.

Warranty Void Unless Registered

All Warranties are void unless start-up of the equipment is approved by a DASV service technician. Upon completion of the start-up, a "Warranty Registration Certificate" will be issued, along with the Start-Up Report, which activates the Warranty Period of the equipment. The Warranty Period will commence either upon completion of start-up registration of the equipment or 6 months from factory ship date, whichever comes first.

Initial 90-day Comprehensive Warranty

During the first 90 days from initial start-up, all parts and repairs related to factory defects or replacement parts are covered by Dectron manufacturer warranty. All parts and labor requirements will either be handled by DASV technicians directly or managed and approved in advance by DASV through DASV authorized technicians.

Internet Connected, Conditional One Year Repair Warranty

If and only if the equipment is connected to the internet from the date of warranty activation, a Repair Warranty will be provided for an additional 9 months subsequent to the initial 90-Day Comprehensive Warranty for a total of 12 months of parts and labor warranty coverage. The unit must be connected and communicating to Dectron Vision 2.0 for the entire term from start-up in order to qualify.

If qualified, Dectron will provide or pay for the required part and direct labor only, related to the part replacement. Only the labor required to replace the defective part is under warranty for this 9-month extension. Travel time, diagnostic time, per diems, truck charges, shipping charges etc. are not covered under this Conditional Repair Warranty.

Two-Year Parts Warranty

If any factory installed part supplied by Dectron fails because of a defect in workmanship or material prior to the completion of the 24th month from date of completion of the warranty activation, Dectron will provide a new or rebuilt part F.O.B. factory. No labor reimbursement will be made for expenses incurred in replacing the part except as set in the *Initial 90-day Comprehensive or Internet Connected, Conditional One-Year Repair Warranty*.

Dectron reserves the right to have the defective part returned to the factory in order to determine the warranty applicability. Parts shipping and handling costs (to and from the factory) are not covered outside of the *Initial 90-day Warranty*.

Replacement Part Warranty

If a replacement part provided by Dectron under this warranty fails due to a material defect prior to the end of the Two-Year Parts Warranty (or the end of the extended warranty period if applicable), whichever comes first, Dectron will provide a new or rebuilt part F.O.B. factory.

Applicability

This warranty is applicable only to products that are purchased and installed in the United States and Canada. This warranty is NOT applicable to:

1. Products that have become defective or damaged as a result of non-DASV or unauthorized service work, poor maintenance, faulty electrical supply, act of God, or any other circumstances outside of the specified care, maintenance or operation of the equipment including:
 - Components that have been relocated from their original placement during manufacturing.
 - Any portion of the system not supplied by Dectron.
 - Components on which the model and/or serial number plates have been removed or defaced.
 - Components which have become defective or damaged as a result of unauthorized opening of the refrigeration circuit, improper wiring, electrical supply characteristics, poor maintenance, accidents, transportation, misuse, abuse, fire, flood, alteration and/or misapplication of the product.
 - Products not installed, operated and maintained as per the Dectron Operating and Maintenance Manual.
 - Products operating in mechanical rooms that house chemicals (i.e. chlorine, bromine, water treatment chemicals).
 - Products on which payment is in default.
2. Parts that wear out due to normal usage, such as air filters, fuses and sensors are not covered by this warranty.

NOTE: Refrigerant lost during the *Initial 90-day Comprehensive or Internet Monitored, Conditional One-Year Repair Warranty* will be reimbursed in accordance to the current market price of refrigerant at the time of repair and upon discretion of DASV's Customer Support team. Dectron will not be responsible for refrigerant lost from the system due to improperly installed contractor piping to the remote outdoor air-cooled condenser.

Limitations

1. DASV is a Manufacturer Service organization, not a first-response or urgent response local service company. As such, we highly recommend that equipment owners have a relationship with their own qualified first response service organization or one recommended by DASV. DASV hours of operation are from 8:00 AM to 6:00 PM Eastern, Monday through Friday unless otherwise agreed to under a separate agreement.

Parts replacement can be subject to availability. We highly recommend for mission-critical applications that owners purchase and maintain a local stock of critical components in case immediate replacement be required. If for any reason one of those components is replaced under applicable warranty conditions, Dectron will reimburse the original cost of any component used under terms of Warranty.

NOTE: Dectron expressly disclaims any liability for parts replacement delays due to parts unavailability or shipping delays.

2. This warranty is given in lieu of all other warranties. Anything in the warranty notwithstanding, any implied warranties of fitness for particular purpose and merchantability shall be limited to the
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duration of the warranties described above. Dectron expressly disclaims and excludes any liability for consequential or incidental damage for breach of any express or implied warranty.

Where a jurisdiction does not allow limitations or exclusions in a warranty, the foregoing limitations and exclusions shall not apply to the extent of the legislation, however, in such case the balance of the above warranty shall remain in full force and effect.

This warranty gives specific legal rights. Other rights may vary according to local legislation.

Force Majeure

Dectron will not be liable for delay or failure to provide warranty service due to government restrictions or restraints, war, strikes, material shortages, acts of God or other causes beyond Dectron control.

Optional Extended Warranties

If purchased prior to shipment and documented with a registered extended warranty statement certificate, Dectron will provide replacement components within the specified period of the extended warranties. Extended warranties commence either upon completion of start-up registration of the equipment or 6 months from factory ship date, whichever comes first, and cover parts replacement only for parts that fail as a result of manufacturing defect. The failed parts must be returned to the factory with transportation prepaid by the customer as a condition of these warranties. Optional extended warranties are for parts only and subject to all the terms of the Two-Year Parts Warranty.

1. Optional Five-Year Compressor Warranty

Subject to the terms above, Dectron will provide a replacement compressor for up to 60 months from the date of the warranty activation.

2. Optional Five-Year Dehumidifier Coil Warranty

Subject to the terms above, Dectron will provide a replacement coil for up to 60 months from the date of the warranty activation. Extended coil warranties are for parts of the dehumidifier only and does not cover parts of dry cooler or OACC coils.

3. Optional Ten-Year Dehumidifier Coil Warranty

Subject to the terms above, Dectron will provide a replacement coil for up to 120 months from the date of the warranty activation. Extended coil warranties are for parts of the dehumidifier only and does not cover parts of dry cooler or OACC coils.

4. Optional Five-Year Driveline Warranty

Subject to the terms above, Dectron will provide driveline replacement parts for up to 60 months from the date of the warranty activation.

Driveline Components Include:

- Supply fan motor
- Exhaust fan motor (including Min Exhaust and Purge Exhaust motors)
- Heat recovery loop pump
- Compressor glycol/water pump
- Dry cooler/outdoor condenser fan(s)
- Dry cooler pump(s)

End of Dectron Specification Sheets