

NEW CANAAN PUBLIC SCHOOLS
39 LOCUST AVENUE
NEW CANAAN, CT 06840
203-594-4000

SPECIFICATION COVER SHEET
REQUEST FOR PROPOSAL #2019-05
GYM AIR CONDITIONING INSTALLATIONS - SOUTH + EAST + WEST
ELEMENTARY SCHOOLS, NEW CANAAN, CT

**VENDOR MUST ENCLOSE THREE COPIES OF THIS SPECIFICATION COVER SHEET
and THREE COPIES OF THE SPECIFICATIONS PRICING SHEETS WHEN RESPONDING
TO THIS REQUEST FOR PROPOSAL (RFP)**

The NEW CANAAN PUBLIC SCHOOLS reserves the right to reject any and all proposals, or separate parts thereof, requested herein before. When items are mentioned by a particular brand, substitution of equal quality items will be considered only if the proposed substitution is clearly stated. When a vendor fails to so identify a proposed substitution, it will be assumed that he is proposing the exact item requested. The NEW CANAAN PUBLIC SCHOOLS is exempt from the payment of Federal Excise Taxes and Connecticut Sales and Use Tax according to State Statute. Such taxes must not be included in bid prices nor added to any items specified.

INSTRUCTIONS ON RFP DEADLINES AND REQUIREMENTS:

NAME OF RFP: GYM AIR CONDITIONING - SOUTH +EAST + WEST
ELEMENTARY SCHOOLS, NEW CANAAN, CT

TYPE OF RFP: Sealed Proposal QUOTATION #: 2019-05

RFP CLOSURE DATE: Received Until: DATE: APRIL 3, 2019 TIME: 1:00 PM, EST

LOCATION TO FORWARD RFPs:	Dr. Jo-Ann Keating, Director of Finance and Operations NEW CANAAN PUBLIC SCHOOLS 39 LOCUST AVENUE, 3 RD FLOOR NEW CANAAN, CT 06840
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RFP SECURITY: RFP Security Required 5 % RFP Security *Not* Required _____

PREVAILING WAGE: Required _____ *Not* Required X

FORMS TO COMPLETE RFP: Submit three copies of all required documentation in a sealed envelope.

Identify Name of RFP on Envelope: GYM AIR CONDITIONING INSTALLATIONS
SOUTH +EAST + WEST ELEMENTARY SCHOOLS
INSTALLATION RFP # 2019-05

Only fully completed RFP packages will be accepted. The following details describe fully completed RFP packages:

Base Proposal

- Proposal Sheet
- Schedule of Project: Schedule of installation, completion and inspection
- Appendix A – Insurance Procedure Form

NEW CANAAN PUBLIC SCHOOLS

INVITATION TO SUBMIT PROPOSAL

New Canaan Public Schools (NCPS) invites proposals from qualified companies for:
Gym Air Conditioning Installation - South and West Elementary Schools

Sealed proposals will be received at the New Canaan Public Schools, 39 Locust Avenue, 3rd Floor, New Canaan, CT 06840 until APRIL 3, 2019 at 1:00 pm, EST, at which time they will be opened publicly and read aloud.

The contractor selected for the above project(s) shall be required to enter into a contract with the NCPS. Such contract shall require the posting of performance and payment bonds, the submittal of insurance certificates and the compliance with Federal, State and Local Laws and ordinances. Proposal surety in the form of a bank check, bid bond or certified check in the amount of five percent (5%) of the total RFP price must be submitted with each proposal.

The Request for Proposal (RFP) is available online at www.ncps-k12.org or by contacting Daniel Clarke, Facilities Manager, at daniel.clarke@ncps-k12.org.

Three (3) copies of the submitted qualifications and proposals are to be placed in a sealed envelope and addressed to Dr. Jo-Ann Keating, Director of Finance & Operations, New Canaan Public Schools, 39 Locust Avenue, 3rd Floor, New Canaan, CT 06840. No proposals will be accepted after the date and time specified. No fax or email submissions will be accepted.

The New Canaan Public Schools reserves the right to accept or reject, without prejudice, any or all proposals or to waive any irregularities therein, or to accept the proposal deemed to be in the best interest of New Canaan Public Schools.

Dr. Jo-Ann Keating, Director of Finance and Operations
New Canaan Public Schools

PROJECT START DATE – On or about June 24, 2019; completion by August 15, 2019 - bid shall be good for 6 months.**

**TO: Dr. Jo-Ann Keating, Director of Finance and Operations
New Canaan Public Schools**

I have read and understand the RFP requirement of this RFP specification included for my review herein:

Signature of Company Representative

Date

TYPED NAME AND

TITLE: _____

COMPANY: _____

ADDRESS: _____

TOWN: _____ **STATE:** _____ **ZIP:** _____

TELEPHONE NUMBER: _____ **FAX:** _____

CELL NUMBER: _____

EMAIL ADDRESS: (Please print clearly or attach business card):

NEW CANAAN PUBLIC SCHOOLS
Dr. Joann Keating
Office of Director of Finance and Operations
39 LOCUST AVENUE
NEW CANAAN, CT 06840
203-594-4025

1. REQUEST FOR PROPOSAL

RFP #2019-05

Gym Air Conditioning Installation - South + East + West Elementary Schools
NEW CANAAN, CT

Notice is hereby given that sealed RFPs on the following will be received at the Office of the Director of Finance and Operations until:

APRIL 3, 2019 at 1:00 pm, EST

at which time they will be publicly opened and read aloud:

RFP #2019-05

Gym Air Conditioning Installation - South + East + West Elementary Schools
NEW CANAAN, CT

Specifications, if not attached, may be obtained at the office of:

Dr. Jo-Ann Keating
Director of Finance and Operations
New Canaan Public Schools
39 Locust Avenue
New Canaan, CT 06840

The Board of Education reserves the right to reject any and all proposals, or any part thereof, to waive defects in the same, or to accept any proposal it deems to be in the best interest of the Board of Education and/or the Town of New Canaan.

Questions regarding the Town part of the bid should be directed to:

Daniel Clarke, Facilities Manager, at 203-822-3162

Questions regarding the technical parts of the bid should be directed to:

CES, 811 Middle Street,

Middletown CT.

860-632-1682.

Attn: Russell Knuth OR Mitch Joseph OR Brian Hamel

rknuth@cesct.com, mjoseph@cesct.com, bhamel@cesct.com,

Brian Hamel's cellphone number (860) 878-2667 and is the point of contact

NEW CANAAN PUBLIC SCHOOLS

REQUEST FOR PROPOSALS

Contractor Services Associated with:

Gym Air Conditioning Installation - South + East + West Elementary Schools NEW CANAAN, CT

GENERAL

New Canaan Public Schools (NCPS) solicits proposals from LICENSED CONTRACTORS to perform work for: Gym Air Conditioning Installation - South and West Elementary Schools, NEW CANAAN, CT.

Furnish all materials, equipment, and labor related to project specifications. Work is to be scheduled as soon as possible and completed before school starts in the fall.

Project Drawings and Specifications are available online at www.ncps-k12.org

SCOPE OF WORK

The scope of work, without limiting the generality thereof, consists of furnishing all labor, material, equipment necessary to complete the project as indicated and as specified. The selected CONTRACTOR(S) will provide shop drawings, catalog cuts and all submissions for approval to CES, 811 Middle Street, Middletown CT. Attn: Russell Knuth, rknuth@cesct.com. 860-632-1682.

PROPOSAL AND SUBMITTAL PROVISIONS

Proposal price is to be a complete turnkey price.

THE PROPOSALS SHALL INCLUDE:

1. Vendors will submit three (3) sets of their sealed proposal on enclosed PROPOSAL SHEET.
2. Vendors will submit three (3) sets of their qualifications to include:
 - a. A firm background or profile
 - b. A statement of experience
 - c. A statement of staff availability with their experiences and backgrounds. (Ensure that the Project Manager assigned to the job has knowledge of this proposal.
 - d. A list of any and all proposed subcontractors to be utilized on the project.
 - e. A projected time schedule of the work. It is expected that the work will begin on June 24, 2019 and be complete by August 15, 2019 - - **bid to be good for 6 months** .
3. Project security payable to the New Canaan Public Schools in the form of a certified check or payment bond is required for five percent (5%) of the amount bid, issued by an acceptable surety on AIA document A311 or comparable legal bond form, and must accompany each proposal.
4. The successful vendor shall provide using AIA documentation forms for the following; Contract, Performance, and Payment bond within ten days of notification of project award.
5. The successful Contractor shall be required to provide a one (1) year contractor's labor and materials warranty.

SUBMISSION REQUIREMENTS

Respondents shall submit three (3) sets of their proposal. Proposals will be received at New Canaan Public Schools, 39 Locust Avenue, 3rd Floor, New Canaan, CT 06840, ATTN: Dr. Jo-Ann Keating, Director of Finance & Operations, until APRIL 3, 2019 at 1:00 pm, EST, at which time they will be opened and publicly read aloud. No fax or email submissions will be accepted.

Dr. Jo-Ann Keating
Director of Finance & Operations
New Canaan Public Schools
39 Locust Avenue, 3rd Floor
New Canaan, CT 06840

Questions regarding this RFP may be directed to Daniel Clarke, Facilities Manager at 203-822-3162 or Daniel.clarke@ncps-k12.org.

A mandatory walk through is scheduled for MARCH 14, 2019 at 10:30 am. Walk through to be held at South Elementary School, 8 Farm Road, New Canaan, CT 06840.

We will then travel to East School's main lobby located at 54 Little Brook Road, and followed by West School main lobby at 769 Ponus Ridge Road.

SNOW DATE FOR WALK THROUGH SHALL BE MARCH 15, 2019 SAME TIME AND PLACES.

All proposals must be signed by an Officer of the Company.

The following items are attached:

Terms and Conditions
Proposal Sheet

SPECIFICATIONS

RFP # 2019-05

**Gym Air Conditioning Installation - South + East + West Elementary Schools
NEW CANAAN, CT**

Due on or before **APRIL 3, 2019 1:00 pm** at the office of:

**Dr. Jo-Ann Keating
Director of Finance and Operations
NEW CANAAN PUBLIC SCHOOLS
39 LOCUST AVENUE
NEW CANAAN, CT 06840**

Sealed proposals will be received by the Business Department of the New Canaan PUBLIC SCHOOLS of the Town of New Canaan, Connecticut until 1:00 pm on APRIL 3, 2019. Each proposal should be clearly marked (example) "RFP #2019-05 – Gym Air Conditioning Installation - South + East + West Elementary Schools". Specifications, instructions and proposal forms may be obtained at the above address. Faxed copies of the proposal will not be accepted.

CONDITIONS FOR SUBMITTING PROPOSALS

1. The Board of Education reserves the right to reject any proposal if it is deemed to be in the best interests of the Town of New Canaan, Connecticut, New Canaan Public Schools and its students.
2. The Board of Education reserves the right to grant an award in total or for any part thereof for the items or services being proposed. In addition, the Board of Education reserves the right to award this project as a package in conjunction with other proposals for similar services/supplies/equipment. The Board reserves the right to award with preference to State of Connecticut contract holders and/or local vendors.
3. The submission of a proposal shall be conclusive evidence that the vendor has satisfied himself as to the requirements of the RFP specifications and any controlling conditions which may exist.
4. Vendors may not withdraw their proposal for a period of 120 days from the date of RFP opening. The Board of Education and the vendor may mutually agree to extend the time limit.
5. In determining the ranking of responsible vendors, the Board of Education may consider, in addition to price, the quality, availability and type of items, the experience of the vendor, the sufficiency of the financial resources of the vendor and the reputation of the vendor for ability, integrity, judgment and performance, as well as the ability of the vendor to provide future service/supplies/equipment.
6. It is anticipated that the goods will be needed for the current school year, but the Board of Education reserves the right to cancel or alter this service because of enrollment changes, budget consideration or unforeseen circumstances which require a change.
7. All proposal prices are to include the complete costs, which includes inside delivery to each school or location with installation and assembly of same, if applicable, and training, if applicable. All deliveries must be made prepaid and must be delivered to the location

subsequently designated on the purchase orders at no cost over and above the bid price indicated in your proposal. Deliveries must be made inside building indicated. In no case will collect shipments or sidewalk deliveries be accepted. A packing slip shall be included in each shipment. All packages must be clearly marked as to content.

8. The Board of Education of the Town of New Canaan supports efforts to reduce the use of illegal drugs in the workplace. In instances where responsible prospective bidders submit identical tie bids, preference shall be given to the businesses with drug-free workplace programs. Whenever two or more proposals which are equal with respect to price, quality, and service are received by the Board of Education for the procurement of commodities or contractual services which are proposed, a proposal received from a business which has certified that it has implemented a drug-free workplace program shall be given preference in the award process. The drug-free workplace program certification is attached and is to be submitted with the proposal package by the vendor along with other proposal documents in order to receive preference. This policy shall become effective in accordance with the provisions of the Charter of the Town of New Canaan regarding proposal procedures.
9. **ALTERNATIVES:** When proposing an alternate item, indicate the Brand and Model identification on the specification sheets. To have alternates considered, complete specifications must be provided and catalogues describing the product must accompany the bid. The New Canaan Public Schools reserves the right to request equipment samples on specific items.
10. **SUBSTITUTIONS: No substitutions**

The New Canaan Public Schools reserves the right to request equipment samples on specific items.
11. **FORM AND STYLE OF PROPOSAL:** All blanks on the Proposal Sheet, except where otherwise requested, shall be filled in by typewriter or manually in ink and must be completely legible.
12. **WARRANTIES:** Whenever an item or service is covered by a specified product or service warranty, such warranties must be submitted with the official proposal or quotation specification sheets. All such warranties shall inure to the benefit of the Board.
13. **INSURANCE REQUIREMENTS:** The successful vendor will be required to purchase from and maintain, for the life of the contract, in a company or companies with an A.M/Best rating of A- (VII) or better, such insurance as will protect the Board of Education from claims set forth below which may arise out of or result from the vendor's obligation under the Contract, whether such obligation is the vendor's or a subcontractor or any person or entity directly or indirectly employed by the successful vendor or anyone for whose acts said vendor may be liable.

14. **Workers Compensation:**

Vendor shall provide workers compensation insurance required by law with employer's liability limits for at least the amounts of liability for bodily injury by accident of \$500,000 each accident and bodily injury by disease of \$500,000.

15. **Commercial General Liability Insurance:**

Vendor shall provide commercial general liability insurance policy with an edition of 1986 or later including products and completed operations. Limits should be at least: Bodily injury and property with an occurrence limit of \$1,000,000; Personal & advertising injury limit of \$1,000,000 per occurrence; General aggregate limit of \$2,000,000 (other than products and completed operations); Products and completed operations aggregate limit of \$2,000,000. Coverage will continue three years after the completion of the work.

- The policy shall name the New Canaan Public Schools as an additional insured and include ISO Form CG2010 (07/04) and CG 2037 (07/04).
- Such coverage will be provided on an occurrence basis, and will be primary, and shall not contribute in any way to any insurance or self-insured retention carried by the Board of Education.
- The policy shall contain a waiver of liability in favor of the Board of Education.
- Such coverage shall contain a broad form contractual liability endorsement or wording within the policy form to comply with the hold harmless and indemnity provision of the contract.
- A per project aggregate limit of liability endorsement shall apply for any construction contract.
- Deductible and self-insured retentions shall be declared and are subject to approval by the Board of Education.

16. **Commercial Automobile Insurance:**

Vendor shall provide commercial automobile insurance for any owned autos (symbol 1 or equivalent) in the amount of \$1,000,000 each accident covering bodily injury and property damage on a combined single limit basis. Such coverage shall also include hired and non-owned automobile coverage. Policy shall name the Board of Education as an additional insured.

17. **Umbrella Liability Insurance:**

Vendor shall provide an umbrella or excess liability policy in excess (without restriction or limitation). Such policy shall contain limits of liability in the amount of \$5,000,000 each occurrence and \$5,000,000 in the aggregate.

As to the insurance required, the insurer(s) and/or their authorized agents shall provide the Board of Education certificates of insurance prior to execution of the agreement by the Board of Education describing said coverage.

18. **QUESTIONS:** For questions regarding the proposal process, contact Dr. Jo-Ann Keating, Director of Finance and Operations, at (203) 594-4015.

For questions regarding the project, contact:

Daniel Clarke, Facilities Manager at 203-822-3162

Questions regarding the technical parts of the bid should be directed to:

**CES, 811 Middle Street,
Middletown CT.
860-632-1682.**

**Attn: Russell Knuth OR Mitch Joseph OR Brian Hamel
rknuth@cesct.com, mjoseph@cesct.com, bhamel@cesct.com,**

(Brian Hamel's cellphone number (860) 878-2667 and is the point of contact)

NOTE: By submitting a proposal for this contract the vendor agrees that any or all past clients may be contacted by the New Canaan School District. The vendors quoting on this contract also agree to release and discharge by quoting on this contract for the vendor him/herself, his/her heirs executors administrators and assigns, release acquit and forever discharge the New Canaan School System, its Board of Education and all employees and any or all other persons, firms and corporations of and from any and all actions, causes of actions, claims or demands for damages, costs, loss of services, expenses, compensation, consequential damage or any other thing whatsoever, on account of, or in any way growing out of any former client contacted by the New Canaan School System to obtain an opinion regarding any work performed by your company. The above release shall also include and apply to any former client contacted.

DRUG-FREE WORKPLACE CERTIFICATE

I hereby certify that this company:

2. Has a published statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the workplace and that this statement specifies the actions which will be taken against employees for violations of such prohibition.
3. Has a written policy informing employees about the dangers of drug abuse in the workplace, the firm's policy of maintaining a drug free workplace, any available counseling, rehabilitation, and employee assistance programs, and the penalties which may be imposed upon employees for drug abuse violations.
4. Each employee engaged in providing the commodities or contractual services which are being bid was given a copy of the statements specified in paragraphs 1 and 2, above.
5. In the statement specified in paragraph 1, the employees have been notified that, as a condition of working on the commodities or contractual services which are under bid, the employee will abide by the terms of the statement and will notify the employer of any conviction of, or plea of "guilty" or of "nolo contendere" to any violation of any controlled substance law of the United States or of any state, for a violation occurring in the workplace no later than five (5) days after such conviction or plea.
6. This firm will impose a sanction on or require the satisfactory participation in a drug abuse assistance program or a rehabilitation program, if such are available in the employee's community, by any employee who is so convicted.
7. This firm will make a good faith effort to continue to maintain a drug free workplace.

As the person authorized to sign this statement, I certify that this firm fully complies with the above requirements.

Signature: _____ **Date:** _____

Print Name: _____

Company: _____

DrugFreeWkplaceCert (forms)

Appendix A
INSURANCE PROCEDURE
NEW CANAAN PUBLIC SCHOOLS
NEW CANAAN, CT

PLEASE NOTE:

RETURN THIS COMPLETED FORM WITH YOUR PROPOSAL. FAILURE TO DO SO MAY RESULT IN YOUR PROPOSAL BEING REJECTED.

Please take the insurance requirements of the PROPOSAL to your agent/broker immediately upon receipt of the RFP documents to determine your existing coverage and any costs for new or additional coverage required for the work noted in RFP. Any PROPOSALS's that contain exceptions to the insurance requirements may be considered non-responsive and may be rejected.

STATEMENT OF VENDOR:

I have read the insurance requirements for this work and have taken the documentation to my insurance agent/broker. BID/RFP cost reflects any additional costs relating to insurance requirements for this work.

If I am awarded this CONTRACT, I or my insurance agent shall submit all of the required insurance documentation to NEW CANAAN PUBLIC SCHOOLS Business Office within ten (10) days after the date of the award.

Signature

Date

Print Vendor Name

TERMS AND CONDITIONS

THIS IS A REQUEST FOR PROPOSALS AND THE NEW CANAAN PUBLIC SCHOOLS RESERVES THE RIGHT TO NEGOTIATE AND CONTRACT WITH ANYONE OR NO ONE IN THE BEST INTERESTS OF THE TOWN.

NCPS RESERVES THE RIGHT TO AWARD ONE, TWO, OR ALL OF THE PROJECTS TO THE SAME CONTRACTOR.

Unless otherwise modified, the following terms and conditions will apply to services rendered. The respondent may use a standard form of agreement incorporating the following provisions.

Services to be Provided

The winning vendor shall provide services as set forth in the RFP and in accordance with the terms identified herein. The services provided will be performed on behalf of and solely for the New Canaan Public Schools and any information, tests, reports, correspondence, and conclusions shall not be released to other parties unless authorized by NCPS or in accordance with any applicable state or federal law.

Billing and Payment

New Canaan Public Schools will pay the winning vendor for services performed in accordance with the signed Agreement. Invoices will be submitted periodically or upon completion of services rendered. The Town reserves the right to request substantiating information on any bill submitted. The Town will, within 30 days after receipt of an invoice requesting payment, and with the approval of the Town, indicate the approval of payment and process the invoice or indicate to the winning vendor in writing, the reason for refusing to approve said invoice. In the latter case, the winning vendor will make the necessary corrections and resubmit the invoice.

Court Litigation and Waiver of Jury Trial

Notwithstanding the existence of any provision for arbitration of disputes in the contract or any legislation providing for arbitration, any dispute arising under this contract shall not be submitted to arbitration and the parties shall be left to the remedies at law. It is further expressly agreed that both parties waive and relinquish their right to a trial by jury of any dispute arising out of this contract. The intent of the parties is not to have a jury decide any aspect of any dispute which may arise under this contract.

Mediation

All claims, disputes or other matters in question between the parties to this Agreement arising out of or relating to this Agreement or breach thereof shall be submitted to non-binding mediation. On the written notice of either party to the other of the election to submit any dispute under this Agreement to mediation, each party shall designate its representative and shall meet at the New Canaan Town Hall within ten (10) days after the service of notice. The parties themselves shall then attempt to resolve the dispute within ten (10) days of meeting.

Should the parties themselves be unable to agree on a resolution of this dispute, then the parties shall appoint a third party, who shall be a competent and impartial party and who shall be acceptable to each party, to mediate the dispute. Each party shall pay the fees and expenses of the party mediator and such

costs shall be borne equally by both parties. Upon agreement of the parties, either party may waive the first step in the mediation process and appoint a mutually acceptable mediator.

Any third party mediator designated to serve in accordance with the provisions of the Agreement shall be disinterested and shall be qualified to evaluate the performance of both parties.

This process shall be considered as a condition precedent to moving to court.

Equitable Relief

Nothing herein shall prevent either party from obtaining a court order enforcing the mediation process or such other temporary or equitable relief until such time that the dispute is settled or finally adjudicated.

PROPOSAL SHEET

**NEW CANAAN PUBLIC SCHOOLS
 APRIL 3, 2019 at 1:00 pm RFP # 2019-05
 GYM AIR CONDITIONING INSTALLATION - SOUTH + EAST + WEST SCHOOLS**

Having carefully examined the Instructions to Vendors, Equipment / Material Specifications, Scope of Work, Standard Bid/RFP and Contract Terms and Conditions, the site(s) where the work is to be performed, Technical Performance Specification provided by CES, all applicable legal requirements and having made such independent investigations as the respondent deemed necessary, the undersigned hereby submits a proposal to perform the GYM AIR CONDITIONING INSTALLATION - SOUTH + EAST + WEST ELEMENTARY SCHOOLS, NEW CANAAN, CT

In submitting this proposal, the vendor represents that this proposal will remain effective for one hundred eighty (180) days following the bid due date.

A. Project Cost and Construction Administration:

For providing all work, labor, materials, equipment, transportation, GYM AIR CONDITIONING:

SOUTH A/C Installation – BASE A Written Amount \$ _____

OPTION B Written Amount \$ _____

OPTION C Written Amount \$ _____

EAST A/C Installation – BASE A Written Amount \$ _____

OPTION B Written Amount \$ _____

OPTION C Written Amount \$ _____

WEST A/C Installation – BASE A Written Amount \$ _____

OPTION B Written Amount \$ _____

OPTION C Written Amount \$ _____

TOTAL AMOUNT IF ALL SCHOOLS ARE PERFORMED BY SAME COMPANY

A/C Installation – BASE A Written Amount \$ _____

OPTION B Written Amount \$ _____

OPTION C Written Amount \$ _____

Add alternate for adding frequency drives (ABB only) and Honeywell programming with graphics to GYM AHU supply air fan system. Price will then be added to each schools BASE A costs listed above.

\$ _____

Add alternate for 5 years parts and labor on condensing unit + to BASE A. \$ _____

If awarded this contract, we will execute an AIA contract with New Canaan Public Schools, Owner of the properties. *Prices given are the final price to the Owner and include all permits, fees, overhead and profit of the Vendor.

Company Name: _____

Address: _____

Email: _____ Phone: _____

Name: _____ Title: _____ Signature: _____

SECTION 01000 – CONTRACT ADMINISTRATION

GENERAL

1.1 GENERAL REQUIREMENTS

- A. The General Conditions and Supplementary Conditions are hereby made a Part of this Division. See page 17 for the start of the technical specifications.
- B. All work and operations under this contract shall be in conformance with all applicable Federal, State and Local Codes and the regulations of all governing bodies with jurisdiction. Particular attention is directed towards OSHA Chapter XVII Part 1926 and all related amendments.
- C. Immediately on execution of the Contract the Contractor shall carefully study and compare the Contract Documents and shall report to the Engineer in writing any error, in consistency or omission he may discover well in advance of the pre-construction conference. The Contractor shall not proceed on any affected work without instruction from the Engineer. ALL ROOMS SHALL BE KEPT CLEAN AT END OF WORK DAY.

1.2 SUPERINTENDENT AND WORKMEN

- A. The Contractor must have a responsible superintendent at the building from the start to the finish of the job and during all working hours. It is expected that the same superintendent will be retained for the entire project. However, if the Contractor deems this not possible, a 1 week notice shall be given the Engineer prior to changes.
- B. Any individual judged unacceptable by the Engineer shall not be permitted as superintendent. In addition, the Contractor must give the work his personal supervision.
- C. Any instructions or notices given to the superintendent shall have the same force as if given to the Contractor in person. Any workman, including the superintendent, who in the opinion of the Engineer or the Owner is not capable or who is careless in the execution of the work, must be removed without question upon request of the Engineer.

1.3 TIME LINE

- A. All work for the school is intended to be completed by August 15, 2019.
- B. Vendor/contractor to provide supply schedule of values from start date on number of days to 100% completion of project (start date TBD by NCBE)

1.4 OWNER REQUIRED WORK

- A. Owner shall be responsible for all roofing and fire sprinkler work required for the project.
STRUCTURAL WORK IS NOT INCLUDED ONLY WEATHERPROOFING

PART 2 PRODUCTS - Not used

PART 3 EXECUTION - Not used

END OF SECTION

AIR CONDITIONING INSTALLATION - PERFORMANCE SPECIFICATIONS

PART 1 - SCOPE OF WORK AND SPECIFICATIONS

1.1 GENERAL SCOPE OF WORK

- A. The following Scope of Work shall be completed by the contractor, in its entirety. This scope of work will only describe the desired systems, some system sizes, and the final outcome for the owner. Basic equipment configuration is diagrammed. See drawings floor plan and piping on drawing noted specifically for the project at hand. Coordinate all work with lighting rebate structure supplied by the utility; the major items are detailed in this specification.
- B. This document is to act as a guideline for the contractor; the final completed operational system installation is the sole responsibility of the contractor.
- C. It is the intent of this contract to have the Mechanical Contractor serve as the Prime Contractor and the Electrical Contractor is hired as a subcontractor under the Mechanical Prime Contractor.
- D. The contractor is to visit the site, take all required notes and provide a complete bid. The contractor will be required to work with the owner and engineer to detail all of the specific requirements, once the contract is awarded. The system is described within the scope of work and the performance of the system is described within the specifications, schedules and details, no change orders will be allowed. The contractor will be required to provide, a full submission of shop drawings, and coordination services in the field.

1.2 AIR CONDITIONING SCOPE OF WORK

- A. **OPTION A - Provide labor, material and all required equipment, at three elementary schools, to install cooling in the existing gym air handler #1. Also include:**
 - 1. The existing outside air damper and controls will be modified to accept programming for enthalpy and CO2 control to modulate the existing damper motor to allow economizer operation as well as to assure that the minimum position setting (adjustable) for occupied space control is operational for ventilation.
 - 2. The existing ducting and air handler connections will remain and be checked for longevity. The existing heating coil will be augmented to allow it to provide cooling in the existing air handler. Insert condensate drain pan and condensate piping from the bottom of the air handler, into the space under the existing coil, by removing panels from below.
 - 3. Condensate pump to drain condensate to exterior wall and adjacent roof.
- B. **OPTION B - Provide labor, material and all required equipment, at three elementary schools, to install a 15/15/12.5 ton refrigerant cooling coil in the existing gym air handler #1 with a roof or ground mounted condenser as indicated in specifications. Ground at West, roof mounted at South and East. 12.5 ton size at West. Also include:**
 - 1. The existing outside air damper and controls will be modified to accept programming for enthalpy and CO2 control to modulate the existing damper

motor to allow economizer operation as well as to assure that a minimum position setting (adjustable) for occupied space control is operational for ventilation.

2. The existing ducting and air handler connections will remain and be checked for longevity. The new cooling coil will be inserted from the side/bottom of the air handler, into the space between unit sections, by removing section panels.
 3. Condensate pump to drain condensate to exterior wall and adjacent roof.
- C. OPTION C - Provide labor, material and all required equipment, at three elementary schools, to install a 7.5 ton refrigerant cooling coil in the existing gym air handler #1 with a roof or ground mounted condenser as indicated in specifications. Ground at West, roof at South and East. Also include:
1. All required work to complete Option A above.
 2. The existing ducting and air handler connections will remain and be checked for longevity. The new cooling coil will be inserted from the bottom of the air handler, into the space between unit sections, by removing panels from below.
 3. Condensate pump to drain condensate to exterior wall and adjacent roof.

1.3 A/C BILL OF MATERIALS.

- A. A/C CONDENSER – Option B - Carrier model #38AUDC-16, a 15 ton dual circuit scroll compressor exterior mounted unit, which is to be mounted on the adjacent roof away from damage for the South, West and East Elementary Schools. Install unit on lightweight concrete pad manufactured for this purpose anchor condenser to pad. Coordinate A/C BMS connections with existing school Bacnet protocol and school BMS. See Section 2.4.
1. A/C COIL – Option B - Provide SFI# 17-01-254 – 39NX17 – 4R/10FPI 15 ton capacity DX dual circuit coil for South and East Schools. 12.5 ton capacity dual circuit for West School. See Section 2.5.
- B. A/C CONDENSER – Option C - three schools will receive a 7.5 ton DX coil and condenser. Carrier model single circuit scroll compressor exterior mounted unit, which is to be mounted on the adjacent roof away from damage for the South, West and East Elementary Schools. Install unit on lightweight concrete pad manufactured for this purpose anchor condenser to pad. Coordinate A/C BMS connections with both schools existing Bacnet protocol and the schools BMS. See Section 2.4.
1. A/C COIL – Option C - Provide 7.5 ton at three schools.
- C. PUMPS – Provide one Little Giant condensate pump. Coordinate 1 ½” pvc with coil connections.
- D. CONTROLS – Provide cooling control interface as well as economizer enthalpy interface controls to existing Honeywell DDC systems.

1.4 GENERAL SPECIFICATION REQUIREMENTS

- A. It is the intent of the Specifications to call for finished work, tested and ready for operation. Provide all materials, equipment and labor necessary to complete the work outline within this document. The contractor is to note that this document is schematic and not detailed and that final placement of all equipment, piping, thermostats wiring, raceways, etc. will need to be reviewed in the field with the engineer. If a conflict in positioning systems or placement of equipment occurs, the contractor is to notify the engineer immediately to ascertain what the intent was by the design professional. Any apparatus, appliance, material or work, or any incidental accessories necessary to make the work complete and perfect in all respects and ready for operation as determined by good trade practice even if not particularly specified, shall be furnished, delivered and installed without any additional expense to the Owner.
- B. Provide all necessary labor, materials and other miscellaneous equipment necessary to complete the work.
- C. The contractor shall be responsible for arranging for inspections by the authority having jurisdiction. The contractor shall be responsible for being available for inspections by the authority having jurisdiction.
- D. All work shall be completed in accordance with the latest edition of all applicable state and local building codes including The International Energy Conservation Code.
- E. The Control contractor shall provide all power and control wiring.
- F. Contractor to verify structural roof loads for new roof mounted condensing units and make required modifications to properly support condensers.
- G. Vendor/contractor to provide supply schedule of values from start date on number of days to 100% completion of project (start date TBD by NCBE).
- H. Vendor will cover all necessary CT Prevailing Wage where needed.
- I. Owner will pick area outside building for vendor for storage trailer for tools, ladders, material. There will be no storage space available in the school.
- J. Vendor will supply list of any system deficiencies found during installation of project. These deficiencies will be handled by the school or contract to the contractor will be added.
- K. Bidders shall supply Town with schedule of completion from the time the Town issues the purchase order or letter of intent for the project. (Required completion date 8/15/19)
- L. Vendor will have to pull town permit for project. There will be no charge for permit because it's a school. This is new policy that town requires on all projects at schools.
- M. The following definitions apply to this contract:
 - 1. Furnish: the term "furnish" is used to mean "supply and deliver to the project site, ready for unloading, unpacking, assembly, installation, and similar operations."
 - 2. Install: the term "install" is used to describe operations at project site including the actual "unloading, unpacking, assembly, erection, placing, anchoring,

applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations."

3. Provide: the term "provide" means "to furnish and install, complete and ready for the intended use."
 4. Remove: the term "remove" means "to disconnect from its present position, remove from the premises and to dispose of in a legal manner."
 5. Substitutions: requests for changes in products, materials, equipment, and methods of construction required by contract documents proposed by the contractor after award of the contract are considered requests for "substitutions."
- N. The Contractor shall give all necessary notices, obtain all permits; and pay all Government and State sales taxes and fees where applicable, and other costs, including utility connections or extensions in connection with the work, file all necessary drawings, prepare all documents and obtain all necessary approvals of all Governmental and State departments having jurisdiction, obtain all required certificates of inspection for his work, and deliver a copy to the Owner and Engineer before request for acceptance and final payment for the work. The contractor shall be responsible for arranging for inspections by the authority having jurisdiction. The contractor shall be responsible for being available for inspections by the authority having jurisdiction.
- O. Do not burn waste materials. Do not bury debris or excess materials on the owner's property. Do not discharge volatile, harmful or dangerous materials into drainage systems. Remove and dispose of all waste materials, packaging material, skids etc. from the site and dispose of in a lawful manner in accordance with municipal, state and federal regulations. Clean room at end of each day of work.
- P. Prior to ordering any materials and equipment, thoroughly review the site conditions to determine if adequate clearances and access is allowed to install the components. Order equipment broken down as necessary to allow for proper handling through the project area. Provide all necessary alterations to the structure of the building as necessary to rig the equipment in place. Carefully inspect all building elements prior to cutting or drilling into wall, floors or ceilings. Patch and paint surfaces disturbed by work under this contract as required to restore them to their original condition.
- Q. The contractor shall be required to properly store materials and equipment so as to avoid theft or vandalism. If theft or vandalism occurs, the contractor shall repair or replace such items at the direction of the engineer. Contractor must use portable storage and holds the Town harmless of liability if equipment or materials are stolen. Coordinate placement of storage with the Town.
- R. The contractor must coordinate all interruptions of services and limitations of access with the Town no less than 3 days prior to the interruption.
- S. Provide seismic restraints for all fixtures specified herein in accordance with the International Building Code (IBC), IMC, IPC, NEC including all local codes.
- T. Clean, prime and paint newly installed equipment installed under this contract and the exposed portion of the piping systems to match the finish of the adjacent surfaces or to meet the indicated or specified safety criteria or to meet the color scheme set by the owner.

1.5 SCHEDULING/TESTING

- A. This Contractor shall include in their construction schedule milestone tasks for the following.
 - 1. As-Built Drawings/Documentation completed by Contractor and reviewed by Engineer.
 - 2. Pre-Functional Testing (Manufacturer Start Up Procedures)
 - a. All Scheduled equipment including pumping systems.
 - 1. Functional Testing
 - a. A/C System Sequence of Operations.
 - b. Operational check/test/start with A/C representative present at startup to ensure systems function as designed and for all mfg requirements.
 - 2. Owner Training
 - a. Review general operation of the following with the owner:
 - 1) A/C System Sequence of Operations.
 - 2) Location of O&M Manuals.

1.6 SHOP DRAWINGS

- A. Submit newly prepared information, drawn to accurate scale. Highlight, encircle, or otherwise indicate deviations from the contract documents including specific make, model and options being substituted. Do not reproduce contract documents or copy standard information as the basis of shop drawings. Standard information prepared without specific reference to the project is not considered shop drawings.
- B. Shop drawings include fabrication and installation drawings, setting diagrams, schedules, patterns, templates and similar drawings. Include the following information:
 - 1. Dimensions.
 - 2. Identification of products and materials included.
 - 3. Compliance with specified standards.
 - 4. Notation of coordination requirements.
 - 5. Notation of dimensions established by field measurement.
- C. Coordination: Coordinate preparation and processing of submittals with performance of construction activities. Transmit each submittal sufficiently in advance of performance of related construction activities to avoid delay.

1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals and related activities that require sequential activity.
 2. Coordinate transmittal of different types of submittals for related elements of the Work so processing will not be delayed by the need to review submittals concurrently for coordination. The Engineer reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- D. Processing: Allow sufficient review time so that installation will not be delayed as a result of the time required to process submittals, including time for re-submittals.
1. Allow two weeks for initial review. Allow additional time if processing must be delayed to permit coordination with subsequent submittals. The Engineer will promptly advise the Contractor when a submittal being processed must be delayed for coordination.
 2. If an intermediate submittal is necessary, process the same as the initial submittal.
 3. Allow two weeks for reprocessing each submittal.
 4. No extension of Contract Time will be authorized because of failure to transmit submittals to the Engineer sufficiently in advance of the Work to permit processing.
- E. Submittal Preparation: Place a permanent label or title block on each submittal for identification. Indicate the name of the entity that prepared each submittal on the label or title block.
1. Include the following information on the label for processing and recording action taken.
 - a. Project name.
 - b. Date.
 - c. Name and address of Engineer.
 - d. Name and address of Contractor.
 - e. Name and address of supplier and/or manufacturer.
- F. Submittal Transmittal: Package each submittal appropriately for transmittal and handling. Transmit each submittal from Contractor to Engineer using a transmittal form supplied by Town or submitted to Engineer by the contractor for approval of the form's content. Submittals received from sources other than the Contractor will be returned without action. On the transmittal, record relevant information and requests for data. On the form, or separate sheet, record deviations from Contract Document requirements, including minor variations and limitations. Include Contractor's certification that information complies with Contract Document requirements.
- G. Except for submittals for record, information or similar purposes, where action and return is required or requested, the Engineer will review each submittal, mark to indicate action taken, and return promptly. Compliance with specified characteristics is the Contractor's responsibility.

- H. Action Stamp: The Engineer will stamp each submittal with a uniform, self-explanatory action stamp. The stamp will be appropriately marked, to indicate the action taken.
- I. Do not use shop drawings without an appropriate final stamp indicating action taken in connection with construction.
- J. Do not order any materials or equipment prior to receiving final approved shop drawings.
- K. Upon completion of project, provide owner with bound notebook for:
 - 1) O&M manuals for every installed piece of equipment,
 - 2) "As Built" drawings
- L. Catastrophic protection storage media:
 - 1. All as built plans will be stored/backed up on a media (USB thumb drive) and given to the owner for proper protection and storage.

1.7 SUBSTITUTIONS

- A. Substitution request submittal: requests for substitution will be considered if received within 45 days before commencement of the work. Requests received more than 45 days before commencement of the work may be considered or rejected at the discretion of the engineer.
- B. Submit electronic copies of each request for substitution for consideration.
- C. Identify the product, or the fabrication or installation method to be replaced in each request. Include related drawing numbers. Provide complete documentation showing compliance with the requirements for substitutions, and the following information, as appropriate.
 - 1. Product data, including drawings and descriptions of products, fabrication and installation procedures.
 - 2. Samples, where applicable or requested.
 - 3. A detailed comparison of significant qualities of the proposed Substitution with those of the work specified, significant qualities may include elements such as size, weight, durability, performance and visual effect.
 - 4. Coordination information, including a list of changes or modifications needed to other parts of the work and to construction performed by the owner and separate contractors that will become necessary to accommodate the proposed substitution.
 - 5. A statement indicating the substitution's effect on the contractor's construction schedule compared to the schedule without approval of the substitution. Indicate the effect of the proposed substitution on overall contract time.
 - 6. Cost information, including a proposal of the net change, if any in the contract sum.

7. Certification by the contractor that the substitution proposed is equal to or better in every significant respect to that required by the contract documents and that it will perform adequately in the application indicated. Include the contractor's waiver of rights to additional payment or time that may subsequently become necessary because of the failure of the substitution to perform adequately.
- D. Engineer's action: within one week of receipt of the request for Substitution, the engineer will request additional information or documentation necessary for evaluation of the request. Within 2 weeks of receipt of the request, or one week of receipt of the additional information or documentation, whichever is later, the engineer will notify the contractor of acceptance or rejection of the proposed substitution. If a decision on use of a proposed substitute cannot be made or obtained with the time allocated, use the product specified by name. Acceptance of a product substitution will be in the form of a change order.
- E. Other conditions: the contractor's substitution request will be received and considered by the engineer when one or more of the following conditions are satisfied, as determined by the engineer; otherwise requests will be returned without action except to record noncompliance with these requirements.
 1. The request is directly related to an -or equal- clause or similar language in the contract documents.

1.8 AS-BUILT DRAWINGS

- A. Submit As-Built drawings to Engineer 30 days after starting work.
- B. Prepare CAD files, (hand drawn as approved by engineer) annotated As-Built drawings; detailing the actual installation of major elements, components, and systems of equipment and materials. Where shop drawings are used, record a cross-reference at the corresponding location on the as-built drawings. Give particular attention to concealed elements that would be difficult to measure and record at a later date.
- C. Provide cut sheets or approved shop drawings indicating make/model/option for major equipment and equipment ID tag which corresponds to As-Built drawings.
- D. Mark new information that is important to the owner, but was not shown on contract drawings or shop drawings.

1.9 GUARANTEES

- A. The Contractor shall guarantee all material and workmanship under these Specifications and the Contract for a period of two (2) year from the date of final acceptance by Owner. During this guarantee period, all defects developing through faulty equipment, materials or workmanship shall be corrected or replaced immediately by this Contractor without expense to the Owner. Such repairs or replacements shall be made to the Engineers satisfaction. Provide manufacturer warrantee submission to owner as applicable.
- B. Contractor shall provide name, address, and phone number of all contractors and subcontractors and associated equipment they provided.

1.10 PROJECT CLOSE-OUT

- A. Submit specific warranties, workmanship bonds, maintenance agreements, final certifications and similar documents.
- B. Deliver tools, spare parts, extra stock, and similar items.
- C. Complete start-up testing of systems, and instruction of the Owner's operating and maintenance personnel. Discontinue or change over and remove temporary facilities from the site, along with construction tools, mock-ups, and similar elements.
- D. Complete final clean up requirements, including touch-up painting. Touch-up and otherwise repair and restore marred exposed finishes.
- E. Field Observation Procedures: On receipt of a request for a field observation, the Engineer will either proceed with field observation or advise the Contractor of unfulfilled requirements. The Engineer will advise the Contractor of construction that must be completed or corrected before the certificate will be issued.
 - 1. The Engineer will repeat the field observation when requested and assured that the Work has been substantially completed.
 - 2. Results of the completed field observation will form the basis of requirements for final acceptance and payment.
- F. Service Contracts: Submit a 2 Year Service Contract addressed to the owner for Engineer Review. Provide manufacturer warranties as applicable.
 - 1. Include list of equipment/parts included in the service contract. Include maintenance items included in equipment manufacturer's installation guide.
 - 2. List Frequency of Preventive Maintenance site visits and services included; minimum 2 site visits 1st year.
 - 3. List Yearly Service Contract fee, hourly rate for service calls during normal hours, and hourly rate during non-normal hours. Include time and days of normal hours.
 - 4. Include report/service logs for each site visit.
 - 5. Include typical response time for service calls.

PART 2 - AIR CONDITIONING SYSTEMS - SCOPE OF WORK

2.1 SYSTEM – GENERAL REQUIREMENTS

- A. SEE PARAGRAPH 1.2 - Systems shall include but are not limited to: coil, condenser, refrigerant and piping, condensate piping, labor and all interconnecting power and control wiring.

2.2 SEQUENCE OF OPERATION

- A. Add to existing system and program existing Honeywell "Spyder" control module to:
 - 1. Control the DX coil and condenser for two stage cooling and economizer modes.

2. Control the existing Outside Air and Relief Air dampers with a new differential enthalpy sensor and CO2 sensor, so as to function in economizer and ventilation modes. Existing occ/unocc as well as heating control will remain as presently programmed. All interfacing programming and wiring will be performed or installed by this contractor. Schools are provided with a Honeywell automation system with graphics.

2.3 GENERAL SPECIFICATION REQUIREMENTS

A. Equipment Installation

1. Follow manufacturer's instructions. Adjust controls for proper operation. Provide Owner with necessary instructions for operation and maintenance of the system.
2. Provide control wiring and final connections to power wiring. Power wiring shall be checked for continuity between the existing and new systems.
3. Factory trained personnel to work on system with factory authorized representative for equipment start up and sign off of installations.

B. Contractor is to complete the commissioning and testing of existing air handler systems during the installation of the coil and condenser.

1. The contractor will supply a list with locations of any deficiencies on or in the gym or existing air handler that require repair which is not included in this RFP scope.
2. The contractor will supply New Canaan Board of Ed pricing for repairs, good for 1 year from completion of installation of this project.
3. The intent is to allow the Town the ability to repair items during school breaks in areas as project repair funding becomes available.

2.4 A/C CONDENSER – to be Trane or Carrier

A. CARRIER #38AUD-16-A0-M6--0A2C0 – 633 pounds (plus 316 pounds for equipment pads), 45" x 86" x 50" high, dual circuit hot gas bypass system, R-410A, 15 ton cooling capacity at **South** School, provide 18" access on all sides with 42" access at front panel, 460 volt 3 phase, dual compressor, two sets of 1/2" liquid line with two sets of 1-5/8" suction lines, powered receptacle, 35 amp disconnect. 12.5 ton unit for **West** School with 25 amp disconnect.

1. Provide two lightweight concrete condenser pads at each unit. DiversiTech® - 4550-3 CladLite® Lightweight Concrete Equipment Pad 45X50X3, 158lbs Per Pad. Anchor condensing unit to pads. Provide weatherproof vibration isolators.
2. Provide 35 amp (South School) or 25 amp (West School) 3 pole circuit breaker at the electric room which is approximately 100 feet from gym area. Wire shall be #6 THHN in 1 1/4" conduit. Install conduit in dropped ceiling cavity. Coordinate routing with owner.

B. CARRIER #38AUDB-16-A0-M5-0A2C0 – 633 pounds, 45" x 86" x 50" high, dual circuit hot gas bypass system, R-410A, 15 ton cooling capacity, provide 18" access on all

sides with 42" access at front panel, **East** School 208 volt 3 phase, dual compressor, two sets of 1/2" liquid line with two sets of 1-5/8" suction lines, powered receptacle, 70 amp disconnect.

1. Provide two lightweight concrete condenser pad mfg for this purpose. DiversiTech® - 4550-3 CladLite® Lightweight Concrete Equipment Pad 45X50X3, 158lbs. Per Pad. Anchor condensing unit to pad. Provide weatherproof vibration isolators.
2. At **East** School provide 90 amp 3 pole circuit breaker at the electric room which is approximately 325 feet from gym area. Wire shall be #1/0 THHN in 1 1/2" conduit. Install conduit in dropped ceiling cavity and/or crawl spaces. Coordinate routing with owner.

C. CARRIER #38AUZB-08-A0-M6--0A2C0 7.5 ton unit for Option C at both South, East and West schools. 391 pounds, 5/8 liquid x 1 3/8" suction piping. 30 amp disconnect.

D. SYSTEM DESCRIPTION

1. Outdoor-mounted, air-cooled condensing unit suitable for exterior rooftop or ground installation. Unit shall consist of a hermetic scroll air-conditioning compressor(s) assembly, an air-cooled coil, propeller-type condenser fans, and a control box. Unit shall discharge supply air upward. Unit shall be used in a refrigeration circuit matched with the air-handling unit.
2. Contractor to verify structural roof loads for new roof mounted condensing units and make required modifications to properly support condensers.

E. QUALITY ASSURANCE

1. Unit shall be rated in accordance with AHRI Standard 360.
2. Unit construction shall comply with ANSI/ASHRAE 15 safety code latest revision and comply with NEC.
3. Unit shall be constructed in accordance with UL 1995 standard and shall carry the UL and UL, Canada label.
4. Unit cabinet shall be capable of withstanding 500-hour salt spray exposure per ASTM B117 (scribed specimen).
5. Air-cooled condenser coils for hermetic scroll compressor units shall be leak tested at 150 psig, and pressure tested at 650 psig.
6. Unit shall be manufactured in a facility registered to ISO 9001 manufacturing quality standard.

F. DELIVERY, STORAGE, AND HANDLING

Unit shall be shipped as single package only, and shall be stored and handled according to unit manufacturer's recommendations.

G. EQUIPMENT

Factory-assembled, single piece, air-cooled condensing unit. Contained within the unit enclosure shall be all factory wiring, piping, controls, compressor, holding charge, and special features required prior to field start-up.

1. Unit cabinet shall be constructed of galvanized steel, bonderized and coated with a pre-painted baked enamel finish.
2. A heavy-gauge roll-formed perimeter base rail with forklift slots and lifting holes shall be provided to facilitate rigging.
3. Condenser fans shall be direct driven, propeller type, discharging air vertically upward.
4. Fan blades shall be balanced.
5. Condenser fan discharge openings shall be equipped with PVC-coated steel wire safety guards.
6. Condenser fan and motor shaft shall be corrosion resistant.
7. Compressor shall be of the hermetic scroll type.
8. Compressor shall be mounted on rubber grommets.
9. Compressors shall include overload protection.
10. Compressors shall be equipped with a crankcase heater.
11. Compressor shall be equipped with internal high pressure and high temperature protection.
12. Standard Aluminum fin - Copper Tube Coils:
 - a. Standard evaporator and condenser coils shall have aluminum lanced plate fins mechanically bonded to seam- less internally grooved copper tubes with all joints brazed.
 - b. Evaporator coils shall be leak tested to 150 psig, pressure tested to 450 psig, and qualified to UL 1995 burst test at 1775 psig.
 - c. Condenser coils shall be leak tested to 150 psig, pressure tested to 650 psig, and qualified to UL 1995 burst test at 1980 psig.
 - d. Impact resistance shall be up to 160 in.-lb (ASTM D2794-93).
 - e. Humidity and water immersion resistance shall be up to minimum 1000 and 250 hours respectively (ASTM D2247-92 and ASTM D870-92).
 - f. Corrosion durability shall be confirmed through testing to be no less than 1000 hours salt spray per ASTM B117-90.
13. Refrigeration circuit components shall include liquid line service valve, suction line service valve, a full charge of compressor oil, and a partial holding charge of refrigerant.
14. Minimum control functions shall include: Control wire terminal blocks, Compressor lockout on auto-reset safety until reset from thermostat. Comfort Alert Diagnostic Board that provides:
 - (1.) System Pressure Trip fault code indication
 - (2.) Short Cycling fault code indication
 - (3.) Locked Rotor fault code indication
 - (4.) Open Circuit fault code indication
 - (5.) Reverse Phase 3 fault code indication
 - (6.) Welded Contactor fault code indication
 - (7.) Low Voltage fault code indication
 - (8.) Anti-short cycle protection
 - (9.) Phase reversal protection
15. Minimum safety devices which are equipped with automatic reset (after resetting first at thermostat), shall include: High discharge pressure cutout. Low pressure cutout.
16. Standard unit shall be capable to operate up to 125F and down to 40F.
17. Unit electrical power shall be single-point connection.

18. Unit control circuit shall contain a 24-v transformer for unit control.
19. Unit-Mounted, Non-Fused Disconnect Switch:
20. Convenience Outlet:
Outlet shall be factory-installed and internally mounted with easily accessible 115-v female receptacle. Outlet shall include 15 amp GFI (ground fault interrupter) receptacle with independent fuse protection. Voltage required to operate convenience outlet shall be provided by a factory-installed step-down transformer. Outlet shall be accessible from outside the unit.
21. Existing Thermostat Controls:
All schools are provided with a Honeywell automation system with graphics and no standalone thermostats.
22. Louvered Hail Guard Package:
Louvered hail guard package shall protect coils against damage from hail and other flying debris.

2.5 A/C COIL

- A. Direct-Expansion Coils:
 1. SFI# 17-01-254 – 39NX17 – 4R/10FPI. Dual circuit. Final submittal coordinated with existing air handler and location of the coil in the existing air handler as well as accessibility in the future. 12.5 ton coil for West School. 7.5 ton coil for Option C at both West and South schools.
 2. Direct-expansion coils shall be aluminum plate fins with belled collars and bonded to 1/2-in. OD copper tubes by mechanical expansion. Coils shall be provided with pressure type brass distributors with solder-type connections and shall have a minimum of 2 distributors. Coils for full face active or face split operation shall have intertwined circuits for equal loading on each circuit. Suction and discharge connections shall be on the same end. After testing, coils shall be dehydrated and charged with dry air. Coils shall be designed and tested in accordance with American National Standards Safety Code for Mechanical Refrigeration (ANSI/ASHRAE 15).
 3. Coil shall be circuited as an “intertwined full face active coil” for full coil temperature distribution on part load use. Provide all blank off plates and mounting hardware.
 4. Condensate pump to drain condensate to adjacent exterior roof.

2.6 PIPING INSULATION SYSTEM

- A. Install insulation on all piping. A/C piping insulation thickness shall be in accordance with latest edition of ASHRAE 90.2 and State Energy Conservation Code.
- B. Provide insulation for all new refrigerant piping located in the mechanical room and connecting onto the roof mounted condenser. All refrigerant pipe insulation shall not be less than 1 1/2” thick. Insulation shall be armax self-sealing pipe insulation with weather jackets on building exterior.

2.7 GENERAL SPECIFICATION REQUIREMENTS

- A. Equipment Installation

1. Install all equipment in accord with the attached details.
2. Follow manufacturer's instructions. Adjust controls for proper operation. Provide Owner with necessary instructions for operation and maintenance of the system.
3. Provide control wiring and final connections to power wiring. Power wiring shall be included up to the junction box at the equipment.
4. Factory trained personnel to work on a/c with factory authorized and trained representative for equipment start up and sign off of installations.

SEE PAGES #34 THROUGH #38 FOR PLANS AND DETAILS

PART 3 - ELECTRICAL SYSTEMS - SCOPE OF WORK

3.1 GENERAL

- A. The Contractor shall be responsible for all costs connected with permitting and the supplying of power to the systems. Provide all necessary equipment, grounding, conduits, wire, etc., for the power connections for this project.
- B. Provide at South School in panel #LP3 a new 35 amp, 3 pole 480 volt circuit breaker for the new A/C condenser, remove any spare breakers if space for the new 3 pole breaker, as required. Panel is within 100 feet of the condenser. 30 amp for option C.
- C. Provide at West School in panel #LP3 a new 25 amp feeder 3 pole 480 volt circuit breaker for the new A/C condenser, remove any spare breakers if space for the new 3 pole breaker, as required. Panel is within 100 feet of the condenser. 30 amp for option C.

3.2. AIR HANDLER FAN MOTOR VFD – ADD ALTERNATE

- A. The existing building AHU will receive a VFD electronic control. VFD control shall be via a constant pressure control ($\Delta p-c$), variable differential pressure control ($\Delta p-v$) as the factory default, proportional pressure control, constant curve duty (uncontrolled ahu), RPM regulation and power limitation control. Pressure control in accord with mfg installation instructions. Call ABB - Jeff Hammick, 860-653-5095.
- B. The VFD shall be manufactured by ABB. Model # ACH550, 7.5HP, 3-Phase, 480V (Input), Nema1 Enclosure.
- C. The VFD electronics shall come standard with 2 external digital inputs and 1 external digital output to be available for additional mechanical room control.
- D. The wiring / electronics enclosure shall be class 2, IP44.
- E. VFD should meet UL 778, 1004-1, 508C, CAN/CSA C22.2 #108, #100, #107.1, EMC (89/366 EEC): EN 61000, LVD (73/23/EC): EN 60335-1, EN 60335-2-51, and machine safety (98/37/EC): EN ISO 12100.
- F. The VFD shall be electronically protected, be rated for continuous duty and have a built-in startup circuit. The electronics shall provide overcurrent, line surge and current limit protection, thermal monitoring, heat sink status and over temperature protection.
- G. The VFD shall be capable of being monitored 24/7 via integrated internet lin7.5

3.3. WIRING STANDARDS

- A. Included in the scope of this section is the provision of power and wiring to all equipment whether specifically stated or implied by the provision of electrical equipment elsewhere in the contract documents.
- B. Contractor shall size all wiring per the NEC recommendations for voltage drop of feeders and branch circuits.
- C. Provide all necessary wire, conduit and equipment to supply power to the A/C and associated equipment.
- D. The interior branch circuits shall be installed in non-metallic cable in accordance with the NEC. Type AC cable shall be used when required by the NEC. Metallic conduit at exposed interior surfaces.

- E. Provide insulated, green equipment grounding conductor in feeder and branch circuits, installed in conduit or raceways, including lighting circuits. Grounding conductor shall be separate from electrical system neutral conductor.
- F. Conductor's no. 8 awg and larger diameter shall be stranded annealed copper. Conductors no. 10 awg and smaller diameter shall be solid annealed copper, except that conductors for remote control, alarm, and signal circuits, classes 1, 2, and 3, shall be stranded unless specifically indicated otherwise. Conductor sizes and ampacities shown are based on copper, unless indicated otherwise. Unless specified or indicated otherwise or required by NFPA 70, power and lighting wires shall be 600-volt, type THWN/THHN annealed copper, remote-control and signal circuits shall be type TW, THW, or TF annealed copper. Unless otherwise indicated, minimum size of conductors shall be #12 AWG.
- G. Coordinate routing of AC wiring and low voltage wiring including:
 - 1. AC wiring shall not be run in parallel within 12" of low voltage wiring.
 - 2. AC wiring shall cross perpendicular to low voltage wiring.
 - 3. AC wiring shall not be run within the same stud wall cavity of low voltage wiring.
- H. Make all splices in accessible locations. Make splices in conductors #10 AWG and smaller diameter with insulated, pressure-type connector. Make splices in conductors #8 AWG and larger diameter with solderless connector, and cover with insulation material equivalent to conductor insulation.

3.4. **DEVICE STANDARDS**

- A. Provide all necessary junction boxes, pull boxes, pull wires, cover plates and other miscellaneous equipment that is not shown on the contract documents but necessary to complete the work.

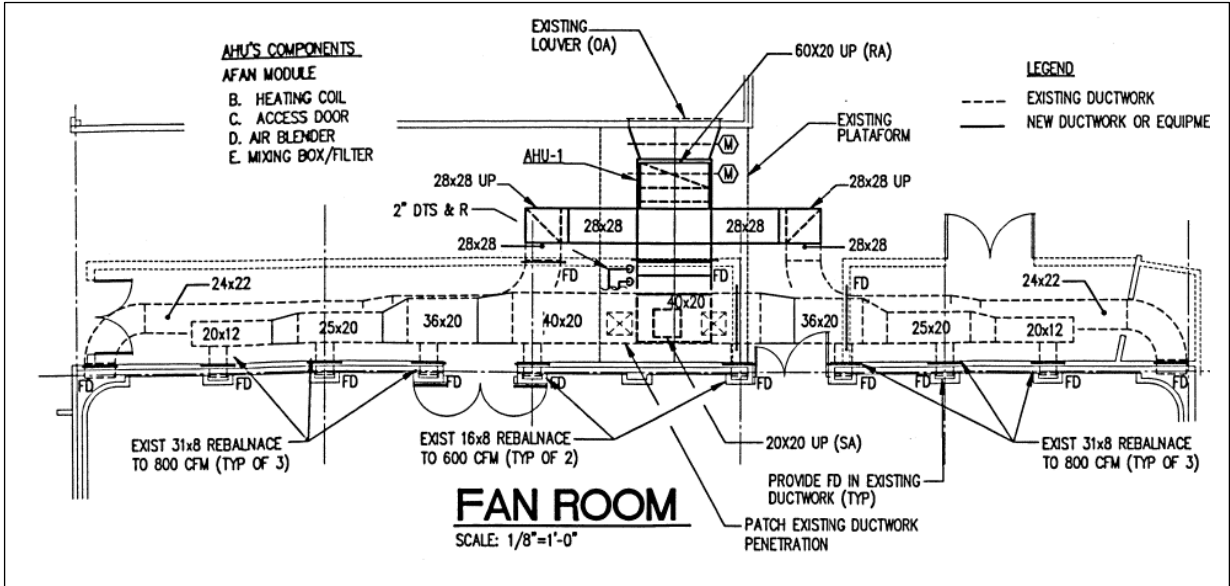
3.5. **GROUNDING**

- A. Grounding shall be completed in accordance with NFPA 70. Ground exposed, non-current-carrying metallic parts of electrical equipment, metallic raceway systems, grounding conductor in metallic and nonmetallic raceways, grounding conductor of nonmetallic sheathed cables, and neutral conductor of wiring systems.

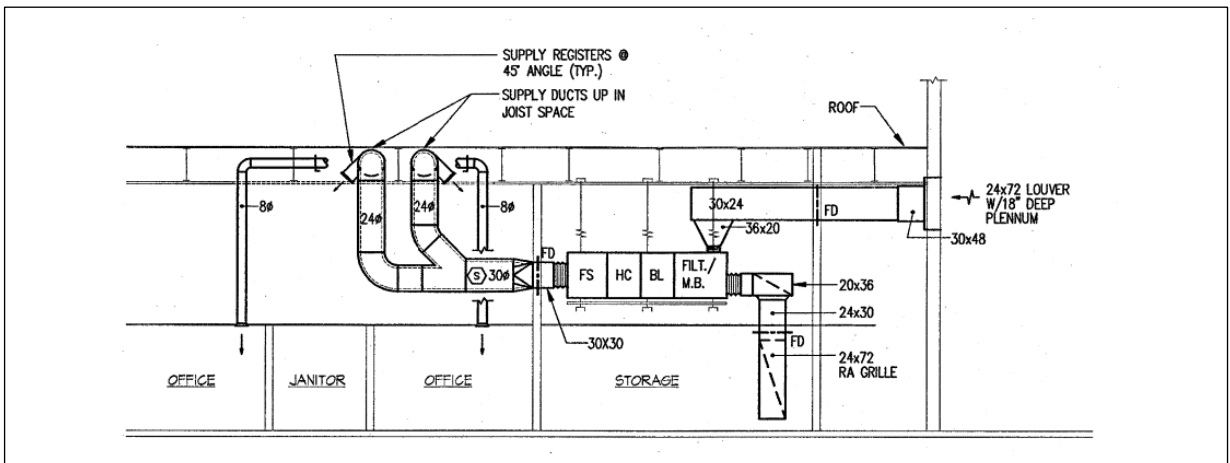
SEE NEXT 5 PAGES FOR PLANS AND DETAILS

SOUTH SCHOOL GYM FLOOR PLAN LOCATING THE EQUIPMENT

No work shown here is required at this time, only addition of the A/C coil



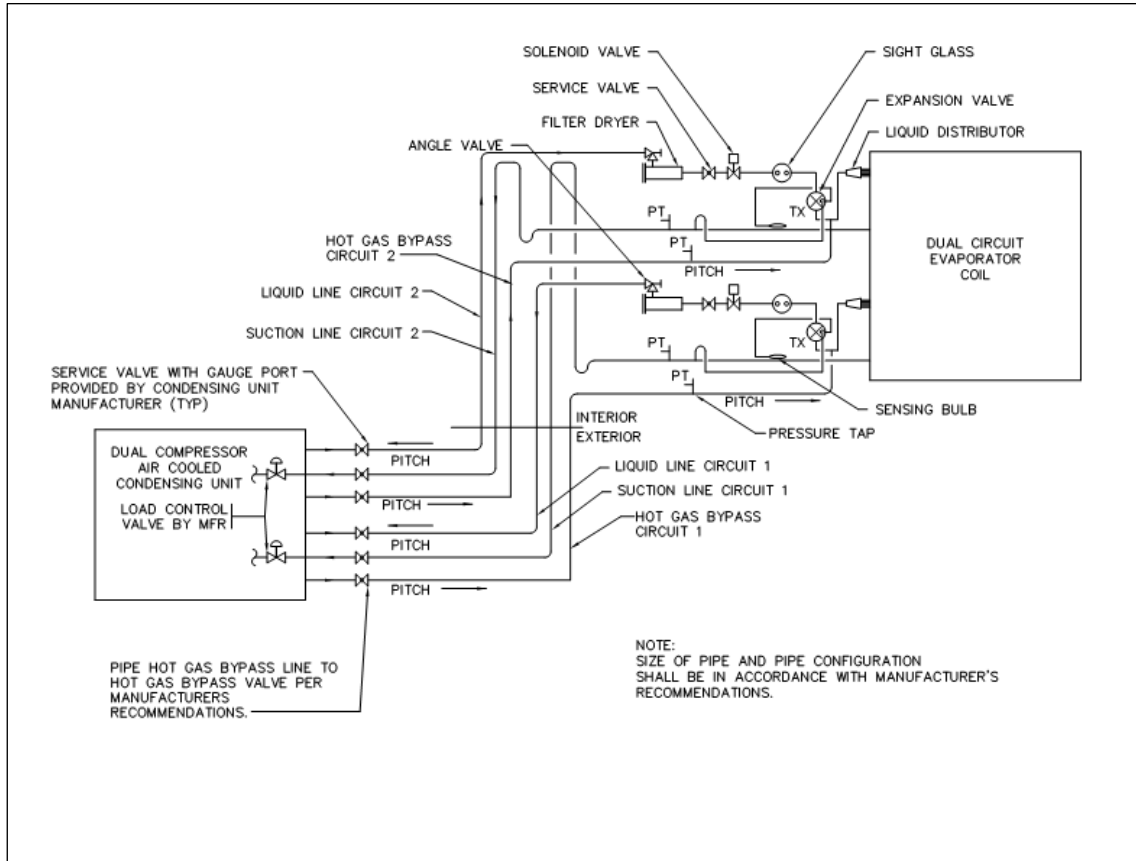
WEST SCHOOL GYM FAN ROOM SECTION LOCATING THE EQUIPMENT



No work shown here is required at this time, only addition of the A/C coil

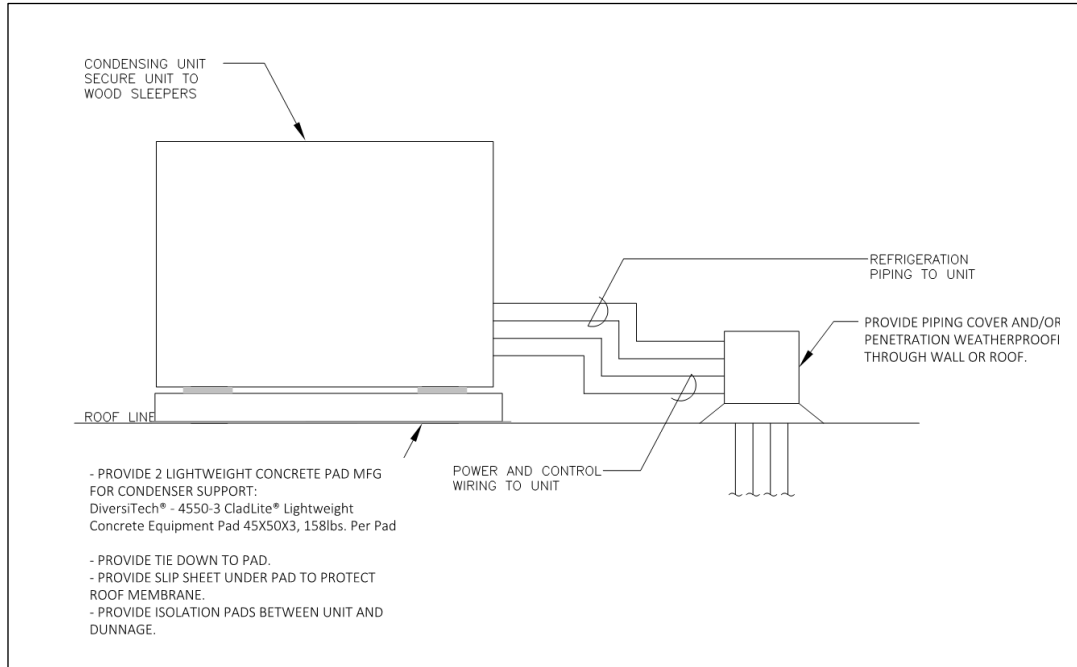
SEE NEXT PAGE FOR GYM NEW COIL PIPING DETAIL

**NEW DX COIL PIPING DETAIL
SOUTH EAST AND WEST SCHOOLS**

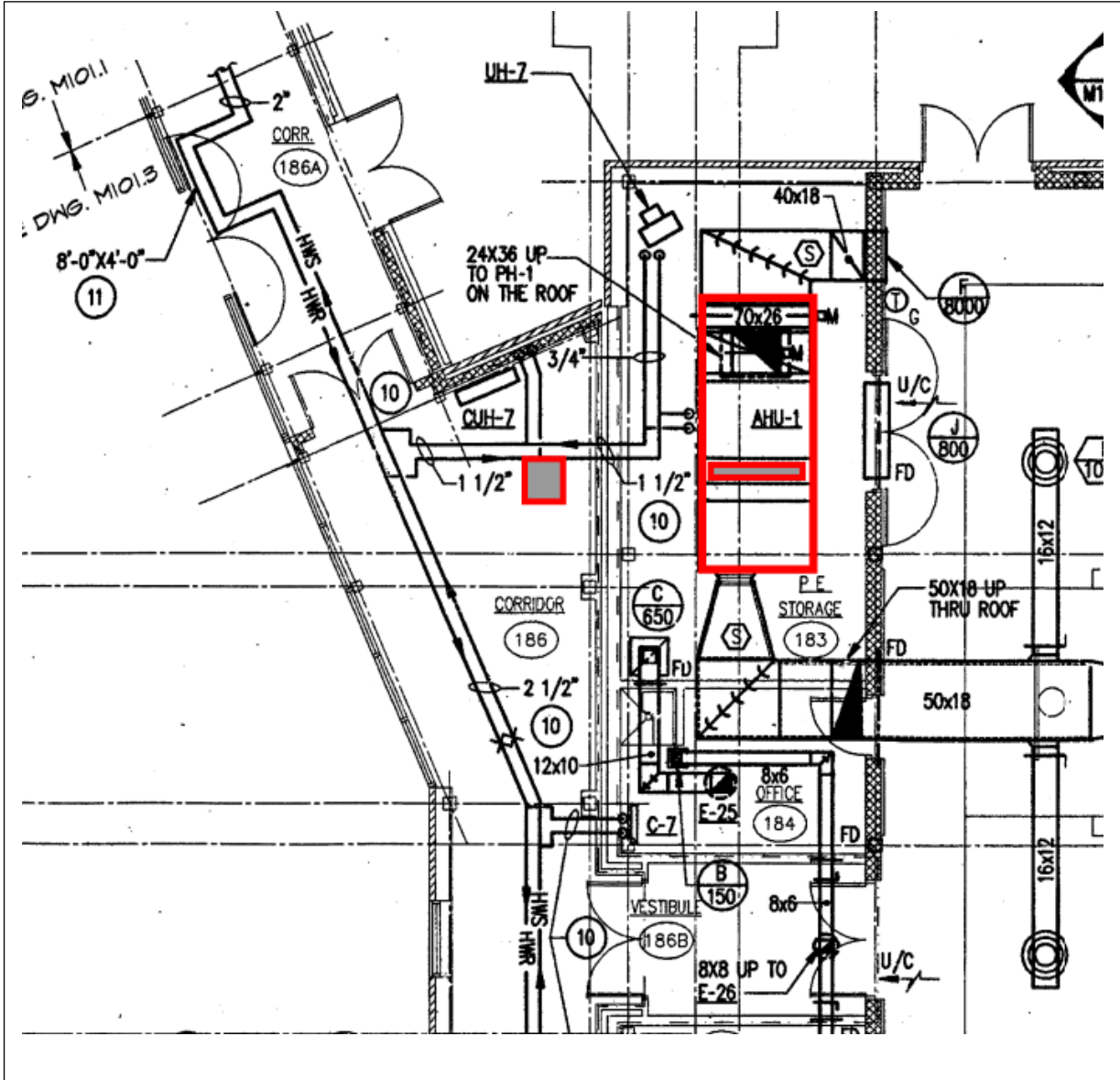


SEE NEXT PAGE FOR CONDENSER DETAILS

**ROOF MOUNTED CONDENSER DETAIL
SOUTH EAST AND WEST SCHOOLS
(WEST SCHOOL ON GRADE)**

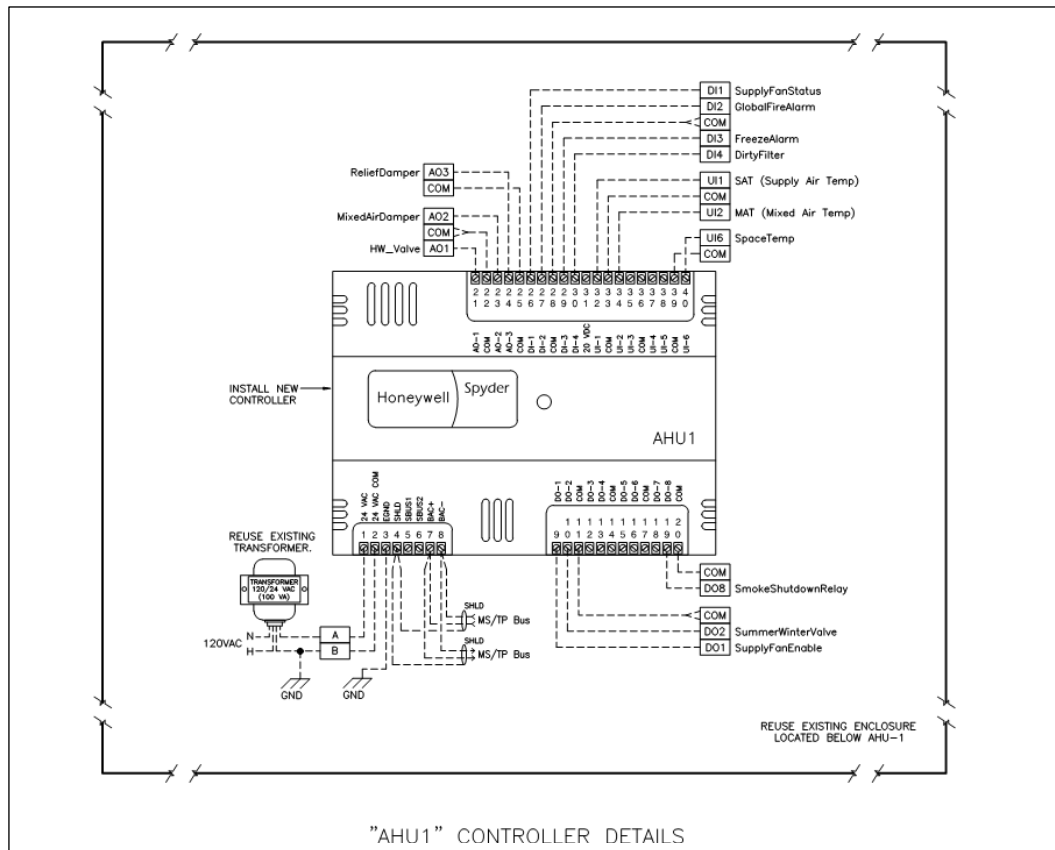


EAST SCHOOL EXISTING GYM AHU DETAIL



SEE NEXT PAGE FOR EXISTING GYM CONTROL DETAIL

**EXISTING GYM CONTROL DETAIL
 SOUTH EAST AND WEST SCHOOLS**



Install new Honeywell differential enthalpy sensor to terminal - COM – UI4 and UI5
 Provide dual enthalpy control OA. Return air and CO2 control

Program “Spyder” control to activate:

- 1 - Cooling DX system at 75 deg F (adjustable)
- 2 - Economizer dampers when outside air is below enthalpy differential set-point (adjustable).
- 3 - Honeywell #SIO4022 expansion module for two cooling stages.

END OF SPECIFICATION