

New Castle County Vo-Tech School District

7/25/2023

TO: ALL OFFERORS

FROM: Sean Sokolowski
Director of Business

SUBJECT: ADDENDUM # 1: NCC2208DTS – HVAC3

ADDENDUM # 1

All other terms and conditions remain the same.

ADDENDUM NO. 1

**New Castle County Vo-Tech School District
Delcastle Technical High School HVAC Renovations Bid Phase 3
1417 Newport Road
Wilmington, DE 19804**

**THE WHITING-TURNER CONTRACTING COMPANY
CONSTRUCTION MANAGER
131 Continental Drive – Suite 404
Newark, DE 19713
302-292-0676**

BIDS DUE: Unchanged – August 3rd, 2023 at 1:00 PM

**LOCATION: NCCVT District Office
1417 Newport Road
Wilmington, DE 19804**

**PREBID: July 19th, 2023 at 1:00 PM
Delcastle Technical High School
1417 Newport Road
Wilmington, DE 19804**

NOTICE TO ALL BIDDERS

1.0 GENERAL NOTES:

- 1.1 Bidders are hereby notified that this Addendum shall be and hereby becomes part of their Contract Documents, and shall be attached to the Project Manual for this project. All bidders shall acknowledge this addendum on the Bid Form.
- 1.2 The following items are intended to revise and clarify the Drawings and Project Manual, and shall be included by the Bidder in their proposal.
- 1.3 Bidders shall verify that their Sub-bidders are in full receipt of the information contained herein.

2.0 CHANGES TO THE PROJECT MANUAL and DRAWINGS

- 2.1 SECTION 00 01 10 TABLE OF CONTENTS revised and attached.
- 2.2 SECTION 00 40 00 BID FORM 02A DEMOLITION has been added and attached.
- 2.3 SECTION 00 40 00 BID FORM 09A CARPENTRY has been added and attached.
- 2.4 SECTION 00 40 00 BID FORM 09B PAINTING has been added and attached.
- 2.5 SECTION 00 40 00 BID FORM 22A MECHANICAL has been added and attached.
- 2.6 SECTION 00 40 00 BID FORM 23A CONTROLS has been added and attached.
- 2.7 SECTION 00 40 00 BID FORM 26A ELECTRICAL has been added and attached.
- 2.8 SECTION 01 12 00-01A GENERAL SCOPE OF WORK has been added and attached.
- 2.9 SECTION 01 12 00-02A DEMOLITION SCOPE OF WORK has been added and attached.
- 2.10 SECTION 01 12 00-09A CARPENTRY SCOPE OF WORK has been added and attached.
- 2.11 SECTION 01 12 00-09B PAINTING SCOPE OF WORK has been added and attached.
- 2.12 SECTION 01 12 00-22A MECHANICAL SCOPE OF WORK has been added and attached.
- 2.13 SECTION 01 12 00-23A CONTROLS SCOPE OF WORK has been added and attached.
- 2.14 SECTION 01 12 00-26A ELECTRICAL SCOPE OF WORK has been added and attached.
- 2.15 SECTION 23 74 13 PAKAGED OUTDOOR CENTRAL-STATION AIR HANDLING UNITS has been added and attached.
- 2.16 DRAWING 3-MD113 has been revised and attached.
- 2.17 DRAWING 3-M113 has been revised and attached.
- 2.18 DRAWING 3-M403 has been revised and attached.
- 2.19 DRAWING 3-M601 has been revised and attached.
- 2.20 PRE-BID MEETING AGENDA has been added and attached.
- 2.21 PRE-BID MEETING SIGN IN SHEET has been added and attached.

3.0 ATTACHMENTS

- 3.1 SECTION 00 01 10 TABLE OF CONTENTS
- 3.2 SECTION 00 40 00 BID FORM 02A DEMOLITION
- 3.3 SECTION 00 40 00 BID FORM 09A CARPENTRY
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- 3.8 SECTION 01 12 00-01A GENERAL SCOPE OF WORK
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- 3.10 SECTION 01 12 00-09A CARPENTRY SCOPE OF WORK
- 3.11 SECTION 01 12 00-09B PAINTING SCOPE OF WORK
- 3.12 SECTION 01 12 00-22A MECHANICAL SCOPE OF WORK
- 3.13 SECTION 01 12 00-23A CONTROLS SCOPE OF WORK
- 3.14 SECTION 01 12 00-26A ELECTRICAL SCOPE OF WORK
- 3.15 SECTION 23 74 13 PAKAGED OUTDOOR CENTRAL-STATION AIR HANDLING UNITS
- 3.16 DRAWING 3-MD113
- 3.17 DRAWING 3-M113

- 3.18 DRAWING 3-M403
- 3.19 DRAWING 3-M601
- 3.20 PRE-BID MEETING AGENDA
- 3.21 PRE-BID MEETING SIGN IN SHEET

END OF ADDENDUM NO. 01

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SECTION 004000 – BID FORM

For Bids Due: _____ To: NCCVT School District
1417 Newport Rd.
Wilmington, DE 19804

Bid Package: BP3 02A - Demolition

Name of Bidder: _____

Delaware Business License No.: _____ Taxpayer ID No.: _____

(Other License Nos.): _____

Phone No.: _____

The undersigned, representing that he has read and understands the Bidding Documents and that this bid is made in accordance therewith, that he has visited the site and has familiarized himself with the local conditions under which the Work is to be performed, and that his bid is based upon the materials, systems and equipment described in the Bidding Documents without exception, hereby proposes and agrees to provide all labor, materials, plant, equipment, supplies, transport and other facilities required to execute the work described by the aforesaid documents for the lump sum itemized below:

BASE BID: \$ _____ Dollars

(\$ _____) (in numbers)

ALTERNATES – See Specific Scope of Work for complete descriptions of alternate pricing :

Refer to the specifications and specific scope of work for alternates. Not all of the blank spaces may be required. Alternate prices are to conform to applicable project specification sections or drawing details. An “ADD” or “DEDUCT” amount is indicated by the crossed out part that does not apply. If alternate does not apply to a specific bid package, insert: “Not Applicable”

ALTERNATE NO. 1: De-Energize, Disconnect, and demolish all existing lighting fixtures marked as (E), as well as all lighting fixtures marked as (R), and furnish and install new lighting fixtures. This does not include the following areas: VISUAL COMMUNICATIONS SHOP AND DARK ROOMS (B104B, B106, B106C, B106D, B106E), B-WING CLASSROOMS B115 AND B117, TV STUDIO AND CLASSROOM (B116, B116T, B116A, B118, B114, B114A, B114B, B114C, B114D, B114E), MAINTENANCE AREA (B120, B120A, B120B, B120C, B120T), AND ADA BATHROOMS (BATHROOM 104, BATHROOM 105).

Add / Deduct: _____ Dollars
(\$ _____) (in numbers)

ALTERNATE NO. 2: Additional ceiling removal and replacement as shown on drawings labeled “ALTERNATE 2.”

Add / Deduct: _____ Dollars
(\$ _____) (in numbers)

ALTERNATE NO. 3: All work shown on drawings labeled “ALTERNATE 3.”

Add / Deduct: _____ Dollars
(\$ _____) (in numbers)

ALTERNATE NO. 4: All work Associated with RTU 1 (Air handler on Roof Above Classroom B115)

Add / Deduct: _____ Dollars
(\$ _____) (in numbers)

ALTERNATE NO. 5: All work Associated with RTU 2 (Air handler on Roof Above Classroom B117)

Add / Deduct: _____ Dollars
(\$ _____) (in numbers)

ALTERNATE NO. 6: All work Associated with RTU 3 (Air handler on Mechanical Mezzanine above Toilet B115T)

Add / Deduct: _____ Dollars
(\$ _____) (in numbers)

ALTERNATE NO. 7: All work Associated with RTU 4 (Air handler on Roof Above Classroom B117)

Add / Deduct: _____ Dollars
(\$ _____) (in numbers)

ALTERNATE NO. 8: All work Associated with RTU 8 (Air handler Above Classroom B110)

Add / Deduct: _____ Dollars
(\$ _____) (in numbers)

ALTERNATE NO. 9: All work shown in Wellness Area: B101, B101A, B101B, B101C, B101D, B101E, B101F.

Add / Deduct: _____ Dollars
(\$ _____) (in numbers)

ALTERNATE NO. 10: All work Associated with replacement of Summer/Winter Valves

Add / Deduct: _____ Dollars
(\$ _____) (in numbers)

I/We acknowledge the receipt of addenda as listed below and the price(s) submitted include any cost/schedule impact they may have.

Addendum Number	Date of Addendum
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

This bid shall remain valid and cannot be withdrawn for **Sixty (60)** days from the date of opening of bids, and the undersigned shall abide by the Bid Security forfeiture provisions. Bid Security is attached to this Bid (REQUIRED).

The Owner shall have the right to reject any or all bids, and to waive any informality or irregularity in any bid received.

This bid is based upon work being accomplished by the Sub-Contractors named on the list attached to this bid.

Should I/We be awarded this contract, I/We pledge to complete all the work required in accordance with the project schedule include in specification section 013210.

The undersigned represents and warrants that he has complied and shall comply with all requirements of local, state, and national laws; that no legal requirement has been or shall be violated in making or accepting this bid, in awarding the contract to him or in the prosecution of the work required; that the bid is legal and firm; that he has not, directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken action in restraint of free competitive bidding.

Upon receipt of written notice of the acceptance of this Bid, the Bidder shall, within twenty (20) calendar days, execute the agreement in the required form and deliver the Contract Bonds, and Insurance Certificates, required by the Contract Documents.

I am / We are an Individual / a Partnership / a Corporation

By _____ Trading as _____
(Individual's / General Partner's / Corporate Name)

(State of Corporation)

Business Address: _____

Witness: _____

By: _____
(Authorized Signature)

(Printed Name and Title)

Date: _____

ATTACHMENTS

Sub-Contractor List (See Section 00435 and any updates by addenda)
Non-Collusion Statement
Affidavit of Employee Drug Testing
Affidavit of Contractor Qualifications
Bid Security (Deposit or Bid Bond)

BID FORM

NON-COLLUSION STATEMENT

This is to certify that the undersigned bidder has neither directly nor indirectly, entered into any agreement, participated in any collusion or otherwise taken any action in restraint of free competitive bidding in connection with this proposal submitted this date to the NCCVT School District.

All the terms and conditions of Bid **NCC2208DTS – HVAC3** have been thoroughly examined and are understood.

NAME OF BIDDER:

**AUTHORIZED REPRESENTATIVE
(TYPED):**

**AUTHORIZED REPRESENTATIVE
(SIGNATURE):**

TITLE:

ADDRESS OF BIDDER:

PHONE NUMBER:

Sworn to and Subscribed before me this _____ day of _____ 20_.

My Commission expires _____. NOTARY PUBLIC _____

THIS PAGE MUST BE SIGNED AND NOTARIZED FOR YOUR BID TO BE CONSIDERED.

**AFFIDAVIT
OF
EMPLOYEE DRUG TESTING PROGRAM**

4104 Regulations for the Drug Testing of Contractor and Subcontractor Employees Working on Large Public Works Projects requires that Contractors and Subcontractors implement a program of mandatory drug testing for Employees who work on Large Public Works Contracts funded all or in part with public funds.

We hereby certify that we have in place or will implement during the entire term of the contract a Mandatory Drug Testing Program for our employees on the jobsite, including subcontractors that complies with this regulation:

Contractor/Subcontractor Name: _____

Contractor/Subcontractor Address: _____

Authorized Representative (typed or printed): _____

Authorized Representative (signature): _____

Title: _____

Sworn to and Subscribed before me this _____ day of _____ 20_.

My Commission expires _____. NOTARY PUBLIC _____.

THIS PAGE MUST BE SIGNED AND NOTARIZED FOR YOUR BID TO BE CONSIDERED.

**New Castle County Vo-Tech School District
HVAC Replacement
Bid Phase 3**

**AFFIDAVIT
OF
CONTRACTOR QUALIFICATIONS**

We hereby certify that we will abide by the contractor's qualifications outlined in the construction bid specifications for the duration of the contract term.

In accordance with Title 29, Chapter 69, Section 6962(d)(10)b.3 of the Delaware Code, after a contract has been awarded the successful bidder shall not substitute another subcontractor whose name was submitted on the Subcontractor Form except for the reasons in the statute and not without written consent from the awarding agency. Failure to utilize the subcontractors on the list will subject the successful bidder to penalties as outlined in the General Requirements Section 5.2 of the contract.

Contractor Name: _____

Contractor Address: _____

Authorized Representative (typed or printed): _____

Authorized Representative (signature): _____

Title: _____

Sworn to and Subscribed before me this _____ day of _____ 20____.

My Commission expires _____. NOTARY PUBLIC _____.

THIS PAGE MUST BE SIGNED AND NOTARIZED FOR YOUR BID TO BE CONSIDERED.

END OF SECTION 004000

SECTION 004000 – BID FORM

For Bids Due: _____ To: NCCVT School District
1417 Newport Rd.
Wilmington, DE 19804

Bid Package: BP3 09A - Carpentry

Name of Bidder: _____

Delaware Business License No.: _____ Taxpayer ID No.: _____

(Other License Nos.): _____

Phone No.: _____

The undersigned, representing that he has read and understands the Bidding Documents and that this bid is made in accordance therewith, that he has visited the site and has familiarized himself with the local conditions under which the Work is to be performed, and that his bid is based upon the materials, systems and equipment described in the Bidding Documents without exception, hereby proposes and agrees to provide all labor, materials, plant, equipment, supplies, transport and other facilities required to execute the work described by the aforesaid documents for the lump sum itemized below:

BASE BID: \$ _____ Dollars

(\$ _____) (in numbers)

ALTERNATES – See Specific Scope of Work for complete descriptions of alternate pricing :

Refer to the specifications and specific scope of work for alternates. Not all of the blank spaces may be required. Alternate prices are to conform to applicable project specification sections or drawing details. An “ADD” or “DEDUCT” amount is indicated by the crossed out part that does not apply. If alternate does not apply to a specific bid package, insert: “Not Applicable”

ALTERNATE NO. 1: De-Energize, Disconnect, and demolish all existing lighting fixtures marked as (E), as well as all lighting fixtures marked as (R), and furnish and install new lighting fixtures. This does not include the following areas: VISUAL COMMUNICATIONS SHOP AND DARK ROOMS (B104B, B106, B106C, B106D, B106E), B-WING CLASSROOMS B115 AND B117, TV STUDIO AND CLASSROOM (B116, B116T, B116A, B118, B114, B114A, B114B, B114C, B114D, B114E), MAINTENANCE AREA (B120, B120A, B120B, B120C, B120T), AND ADA BATHROOMS (BATHROOM 104, BATHROOM 105).

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(\$ _____) (in numbers)

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(\$ _____) (in numbers)

ALTERNATE NO. 4: All work Associated with RTU 1 (Air handler on Roof Above Classroom B115)

Add / Deduct: _____ Dollars
(\$ _____) (in numbers)

ALTERNATE NO. 5: All work Associated with RTU 2 (Air handler on Roof Above Classroom B117)

Add / Deduct: _____ Dollars
(\$ _____) (in numbers)

ALTERNATE NO. 6: All work Associated with RTU 3 (Air handler on Mechanical Mezzanine above Toilet B115T)

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ALTERNATE NO. 7: All work Associated with RTU 4 (Air handler on Roof Above Classroom B117)

Add / Deduct: _____ Dollars
(\$ _____) (in numbers)

ALTERNATE NO. 8: All work Associated with RTU 8 (Air handler Above Classroom B110)

Add / Deduct: _____ Dollars
(\$ _____) (in numbers)

ALTERNATE NO. 9: All work shown in Wellness Area: B101, B101A, B101B, B101C, B101D, B101E, B101F.

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ALTERNATE NO. 10: All work Associated with replacement of Summer/Winter Valves

Add / Deduct: _____ Dollars
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I/We acknowledge the receipt of addenda as listed below and the price(s) submitted include any cost/schedule impact they may have.

Addendum Number	Date of Addendum
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

This bid shall remain valid and cannot be withdrawn for **Sixty (60)** days from the date of opening of bids, and the undersigned shall abide by the Bid Security forfeiture provisions. Bid Security is attached to this Bid (REQUIRED).

The Owner shall have the right to reject any or all bids, and to waive any informality or irregularity in any bid received.

This bid is based upon work being accomplished by the Sub-Contractors named on the list attached to this bid.

Should I/We be awarded this contract, I/We pledge to complete all the work required in accordance with the project schedule include in specification section 013210.

The undersigned represents and warrants that he has complied and shall comply with all requirements of local, state, and national laws; that no legal requirement has been or shall be violated in making or accepting this bid, in awarding the contract to him or in the prosecution of the work required; that the bid is legal and firm; that he has not, directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken action in restraint of free competitive bidding.

Upon receipt of written notice of the acceptance of this Bid, the Bidder shall, within twenty (20) calendar days, execute the agreement in the required form and deliver the Contract Bonds, and Insurance Certificates, required by the Contract Documents.

I am / We are an Individual / a Partnership / a Corporation

By _____ Trading as _____
(Individual's / General Partner's / Corporate Name)

(State of Corporation)

Business Address: _____

Witness: _____

By: _____
(Authorized Signature)

(Printed Name and Title)

Date: _____

ATTACHMENTS

Sub-Contractor List (See Section 00435 and any updates by addenda)
Non-Collusion Statement
Affidavit of Employee Drug Testing
Affidavit of Contractor Qualifications
Bid Security (Deposit or Bid Bond)

Bid Package #: BP3 09A - Carpentry

In accordance with Title 29, Chapter 69, Section 6962(d)(10)b of the Delaware Code, the following subcontractor listing must accompany any bid submittal. The bidder must list **in each category** the full name and address (City & State) of the sub-contractor that the bidder will be using to perform the work and provide material for that subcontractor category. Should the bidder's listed subcontractor intend to provide any of their subcontractor category of work through a third-tier contractor, the bidder shall list that third-tier contractor's full name and address (City & State). **If the bidder intends to perform any category of work itself, it must list its full name and address.** For clarification, if the bidder intends to perform the work themselves, the bidder **may not** insert "not applicable", "N/A", "self" or anything other than its own full name and address (City & State). To do so shall cause the bid to be rejected. In addition, the failure to produce a completed subcontractor list with the bid submittal shall cause the bid to be rejected. If you have more third-tier contractors to report in any subcontractor category, print out additional page(s) containing the appropriate category, complete the rest of your list of third-tier contractors for that category, notate the addition in parentheses as (CONTINUATION) next to the subcontractor category and an asterisk (*) next to any additional third-tier contractors, and submit it with your bid.

NOTE: Subcontractor categories specific to each bid package are listed in specification section 00435 and will be updated at the pre-bid meeting and via addendum. If no categories are requested for a bid package, then none are required to be submitted. Refer to specification section 00435 and any addenda that may modify the required listing.

<u>Subcontractor Category</u>	<u>Subcontractor</u>	<u>Address (City & State) & License #</u>
Carpentry		City State Subcontractors tax-payer ID # or DE Business license #

BID FORM

NON-COLLUSION STATEMENT

This is to certify that the undersigned bidder has neither directly nor indirectly, entered into any agreement, participated in any collusion or otherwise taken any action in restraint of free competitive bidding in connection with this proposal submitted this date to the NCCVT School District.

All the terms and conditions of Bid **NCC2208DTS – HVAC3** have been thoroughly examined and are understood.

NAME OF BIDDER:

**AUTHORIZED REPRESENTATIVE
(TYPED):**

**AUTHORIZED REPRESENTATIVE
(SIGNATURE):**

TITLE:

ADDRESS OF BIDDER:

PHONE NUMBER:

Sworn to and Subscribed before me this _____ day of _____ 20_.

My Commission expires _____. NOTARY PUBLIC _____

THIS PAGE MUST BE SIGNED AND NOTARIZED FOR YOUR BID TO BE CONSIDERED.

**AFFIDAVIT
OF
EMPLOYEE DRUG TESTING PROGRAM**

4104 Regulations for the Drug Testing of Contractor and Subcontractor Employees Working on Large Public Works Projects requires that Contractors and Subcontractors implement a program of mandatory drug testing for Employees who work on Large Public Works Contracts funded all or in part with public funds.

We hereby certify that we have in place or will implement during the entire term of the contract a Mandatory Drug Testing Program for our employees on the jobsite, including subcontractors that complies with this regulation:

Contractor/Subcontractor Name: _____

Contractor/Subcontractor Address: _____

Authorized Representative (typed or printed): _____

Authorized Representative (signature): _____

Title: _____

Sworn to and Subscribed before me this _____ day of _____ 20_.

My Commission expires _____. NOTARY PUBLIC _____.

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**New Castle County Vo-Tech School District
HVAC Replacement
Bid Phase 3**

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OF
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Contractor Name: _____

Contractor Address: _____

Authorized Representative (typed or printed): _____

Authorized Representative (signature): _____

Title: _____

Sworn to and Subscribed before me this _____ day of _____ 20____.

My Commission expires _____. NOTARY PUBLIC _____.

THIS PAGE MUST BE SIGNED AND NOTARIZED FOR YOUR BID TO BE CONSIDERED.

END OF SECTION 004000

SECTION 004000 – BID FORM

For Bids Due: _____ To: NCCVT School District
1417 Newport Rd.
Wilmington, DE 19804

Bid Package: **BP3 09B - Painting**

Name of Bidder: _____

Delaware Business License No.: _____ Taxpayer ID No.: _____

(Other License Nos.): _____

Phone No.: _____

The undersigned, representing that he has read and understands the Bidding Documents and that this bid is made in accordance therewith, that he has visited the site and has familiarized himself with the local conditions under which the Work is to be performed, and that his bid is based upon the materials, systems and equipment described in the Bidding Documents without exception, hereby proposes and agrees to provide all labor, materials, plant, equipment, supplies, transport and other facilities required to execute the work described by the aforesaid documents for the lump sum itemized below:

BASE BID: \$ _____ Dollars

(\$ _____) (in numbers)

ALTERNATES – See Specific Scope of Work for complete descriptions of alternate pricing :

Refer to the specifications and specific scope of work for alternates. Not all of the blank spaces may be required. Alternate prices are to conform to applicable project specification sections or drawing details. An “ADD” or “DEDUCT” amount is indicated by the crossed out part that does not apply. If alternate does not apply to a specific bid package, insert: “Not Applicable”

ALTERNATE NO. 1: De-Energize, Disconnect, and demolish all existing lighting fixtures marked as (E), as well as all lighting fixtures marked as (R), and furnish and install new lighting fixtures. This does not include the following areas: VISUAL COMMUNICATIONS SHOP AND DARK ROOMS (B104B, B106, B106C, B106D, B106E), B-WING CLASSROOMS B115 AND B117, TV STUDIO AND CLASSROOM (B116, B116T, B116A, B118, B114, B114A, B114B, B114C, B114D, B114E), MAINTENANCE AREA (B120, B120A, B120B, B120C, B120T), AND ADA BATHROOMS (BATHROOM 104, BATHROOM 105).

Add / Deduct: _____ Dollars
(\$ _____) (in numbers)

ALTERNATE NO. 2: Additional ceiling removal and replacement as shown on drawings labeled “ALTERNATE 2.”

Add / Deduct: _____ Dollars
(\$ _____) (in numbers)

ALTERNATE NO. 3: All work shown on drawings labeled “ALTERNATE 3.”

Add / Deduct: _____ Dollars
(\$ _____) (in numbers)

ALTERNATE NO. 4: All work Associated with RTU 1 (Air handler on Roof Above Classroom B115)

Add / Deduct: _____ Dollars
(\$ _____) (in numbers)

ALTERNATE NO. 5: All work Associated with RTU 2 (Air handler on Roof Above Classroom B117)

Add / Deduct: _____ Dollars
(\$ _____) (in numbers)

ALTERNATE NO. 6: All work Associated with RTU 3 (Air handler on Mechanical Mezzanine above Toilet B115T)

Add / Deduct: _____ Dollars
(\$ _____) (in numbers)

ALTERNATE NO. 7: All work Associated with RTU 4 (Air handler on Roof Above Classroom B117)

Add / Deduct: _____ Dollars
(\$ _____) (in numbers)

ALTERNATE NO. 8: All work Associated with RTU 8 (Air handler Above Classroom B110)

Add / Deduct: _____ Dollars
(\$ _____) (in numbers)

ALTERNATE NO. 9: All work shown in Wellness Area: B101, B101A, B101B, B101C, B101D, B101E, B101F.

Add / Deduct: _____ Dollars
(\$ _____) (in numbers)

ALTERNATE NO. 10: All work Associated with replacement of Summer/Winter Valves

Add / Deduct: _____ Dollars
(\$ _____) (in numbers)

I/We acknowledge the receipt of addenda as listed below and the price(s) submitted include any cost/schedule impact they may have.

Addendum Number	Date of Addendum
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

This bid shall remain valid and cannot be withdrawn for **Sixty (60)** days from the date of opening of bids, and the undersigned shall abide by the Bid Security forfeiture provisions. Bid Security is attached to this Bid (REQUIRED).

The Owner shall have the right to reject any or all bids, and to waive any informality or irregularity in any bid received.

This bid is based upon work being accomplished by the Sub-Contractors named on the list attached to this bid.

Should I/We be awarded this contract, I/We pledge to complete all the work required in accordance with the project schedule include in specification section 013210.

The undersigned represents and warrants that he has complied and shall comply with all requirements of local, state, and national laws; that no legal requirement has been or shall be violated in making or accepting this bid, in awarding the contract to him or in the prosecution of the work required; that the bid is legal and firm; that he has not, directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken action in restraint of free competitive bidding.

Upon receipt of written notice of the acceptance of this Bid, the Bidder shall, within twenty (20) calendar days, execute the agreement in the required form and deliver the Contract Bonds, and Insurance Certificates, required by the Contract Documents.

I am / We are an Individual / a Partnership / a Corporation

By _____ Trading as _____
(Individual's / General Partner's / Corporate Name)

(State of Corporation)

Business Address: _____

Witness: _____

By: _____
(Authorized Signature)

(Printed Name and Title)

Date: _____

ATTACHMENTS

Sub-Contractor List (See Section 00435 and any updates by addenda)
Non-Collusion Statement
Affidavit of Employee Drug Testing
Affidavit of Contractor Qualifications
Bid Security (Deposit or Bid Bond)

BID FORM

NON-COLLUSION STATEMENT

This is to certify that the undersigned bidder has neither directly nor indirectly, entered into any agreement, participated in any collusion or otherwise taken any action in restraint of free competitive bidding in connection with this proposal submitted this date to the NCCVT School District.

All the terms and conditions of Bid **NCC2208DTS – HVAC3** have been thoroughly examined and are understood.

NAME OF BIDDER:

**AUTHORIZED REPRESENTATIVE
(TYPED):**

**AUTHORIZED REPRESENTATIVE
(SIGNATURE):**

TITLE:

ADDRESS OF BIDDER:

PHONE NUMBER:

Sworn to and Subscribed before me this _____ day of _____ 20_.

My Commission expires _____. NOTARY PUBLIC _____

THIS PAGE MUST BE SIGNED AND NOTARIZED FOR YOUR BID TO BE CONSIDERED.

**AFFIDAVIT
OF
EMPLOYEE DRUG TESTING PROGRAM**

4104 Regulations for the Drug Testing of Contractor and Subcontractor Employees Working on Large Public Works Projects requires that Contractors and Subcontractors implement a program of mandatory drug testing for Employees who work on Large Public Works Contracts funded all or in part with public funds.

We hereby certify that we have in place or will implement during the entire term of the contract a Mandatory Drug Testing Program for our employees on the jobsite, including subcontractors that complies with this regulation:

Contractor/Subcontractor Name: _____

Contractor/Subcontractor Address: _____

Authorized Representative (typed or printed): _____

Authorized Representative (signature): _____

Title: _____

Sworn to and Subscribed before me this _____ day of _____ 20_.

My Commission expires _____. NOTARY PUBLIC _____.

THIS PAGE MUST BE SIGNED AND NOTARIZED FOR YOUR BID TO BE CONSIDERED.

**New Castle County Vo-Tech School District
HVAC Replacement
Bid Phase 3**

**AFFIDAVIT
OF
CONTRACTOR QUALIFICATIONS**

We hereby certify that we will abide by the contractor's qualifications outlined in the construction bid specifications for the duration of the contract term.

In accordance with Title 29, Chapter 69, Section 6962(d)(10)b.3 of the Delaware Code, after a contract has been awarded the successful bidder shall not substitute another subcontractor whose name was submitted on the Subcontractor Form except for the reasons in the statute and not without written consent from the awarding agency. Failure to utilize the subcontractors on the list will subject the successful bidder to penalties as outlined in the General Requirements Section 5.2 of the contract.

Contractor Name: _____

Contractor Address: _____

Authorized Representative (typed or printed): _____

Authorized Representative (signature): _____

Title: _____

Sworn to and Subscribed before me this _____ day of _____ 20____.

My Commission expires _____. NOTARY PUBLIC _____.

THIS PAGE MUST BE SIGNED AND NOTARIZED FOR YOUR BID TO BE CONSIDERED.

END OF SECTION 004000

SECTION 004000 – BID FORM

For Bids Due: _____ **To:** NCCVT School District
1417 Newport Rd.
Wilmington, DE 19804

Bid Package: BP3 22A - Mechanical

Name of Bidder: _____

Delaware Business License No.: _____ **Taxpayer ID No.:** _____

(Other License Nos.): _____

Phone No.: _____

The undersigned, representing that he has read and understands the Bidding Documents and that this bid is made in accordance therewith, that he has visited the site and has familiarized himself with the local conditions under which the Work is to be performed, and that his bid is based upon the materials, systems and equipment described in the Bidding Documents without exception, hereby proposes and agrees to provide all labor, materials, plant, equipment, supplies, transport and other facilities required to execute the work described by the aforesaid documents for the lump sum itemized below:

BASE BID: \$ _____ **Dollars**

(\$) (in numbers)

ALTERNATES – See Specific Scope of Work for complete descriptions of alternate pricing :

Refer to the specifications and specific scope of work for alternates. Not all of the blank spaces may be required. Alternate prices are to conform to applicable project specification sections or drawing details. An “ADD” or “DEDUCT” amount is indicated by the crossed out part that does not apply. If alternate does not apply to a specific bid package, insert: “Not Applicable”

ALTERNATE NO. 1: De-Energize, Disconnect, and demolish all existing lighting fixtures marked as (E), as well as all lighting fixtures marked as (R), and furnish and install new lighting fixtures. This does not include the following areas: VISUAL COMMUNICATIONS SHOP AND DARK ROOMS (B104B, B106, B106C, B106D, B106E), B-WING CLASSROOMS B115 AND B117, TV STUDIO AND CLASSROOM (B116, B116T, B116A, B118, B114, B114A, B114B, B114C, B114D, B114E), MAINTENANCE AREA (B120, B120A, B120B, B120C, B120T), AND ADA BATHROOMS (BATHROOM 104, BATHROOM 105).

Add / Deduct: _____ **Dollars**
(\$) (in numbers)

ALTERNATE NO. 2: Additional ceiling removal and replacement as shown on drawings labeled “ALTERNATE 2.”

Add / Deduct: _____ Dollars
(\$ _____) (in numbers)

ALTERNATE NO. 3: All work shown on drawings labeled “ALTERNATE 3.”

Add / Deduct: _____ Dollars
(\$ _____) (in numbers)

ALTERNATE NO. 4: All work Associated with RTU 1 (Air handler on Roof Above Classroom B115)

Add / Deduct: _____ Dollars
(\$ _____) (in numbers)

ALTERNATE NO. 5: All work Associated with RTU 2 (Air handler on Roof Above Classroom B117)

Add / Deduct: _____ Dollars
(\$ _____) (in numbers)

ALTERNATE NO. 6: All work Associated with RTU 3 (Air handler on Mechanical Mezzanine above Toilet B115T)

Add / Deduct: _____ Dollars
(\$ _____) (in numbers)

ALTERNATE NO. 7: All work Associated with RTU 4 (Air handler on Roof Above Classroom B117)

Add / Deduct: _____ Dollars
(\$ _____) (in numbers)

ALTERNATE NO. 8: All work Associated with RTU 8 (Air handler Above Classroom B110)

Add / Deduct: _____ Dollars
(\$ _____) (in numbers)

ALTERNATE NO. 9: All work shown in Wellness Area: B101, B101A, B101B, B101C, B101D, B101E, B101F.

Add / Deduct: _____ Dollars
(\$ _____) (in numbers)

ALTERNATE NO. 10: All work Associated with replacement of Summer/Winter Valves

Add / Deduct: _____ Dollars
(\$ _____) (in numbers)

I/We acknowledge the receipt of addenda as listed below and the price(s) submitted include any cost/schedule impact they may have.

Addendum Number	Date of Addendum
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

This bid shall remain valid and cannot be withdrawn for **Sixty (60)** days from the date of opening of bids, and the undersigned shall abide by the Bid Security forfeiture provisions. Bid Security is attached to this Bid (REQUIRED).

The Owner shall have the right to reject any or all bids, and to waive any informality or irregularity in any bid received.

This bid is based upon work being accomplished by the Sub-Contractors named on the list attached to this bid.

Should I/We be awarded this contract, I/We pledge to complete all the work required in accordance with the project schedule include in specification section 013210.

The undersigned represents and warrants that he has complied and shall comply with all requirements of local, state, and national laws; that no legal requirement has been or shall be violated in making or accepting this bid, in awarding the contract to him or in the prosecution of the work required; that the bid is legal and firm; that he has not, directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken action in restraint of free competitive bidding.

Upon receipt of written notice of the acceptance of this Bid, the Bidder shall, within twenty (20) calendar days, execute the agreement in the required form and deliver the Contract Bonds, and Insurance Certificates, required by the Contract Documents.

I am / We are an Individual / a Partnership / a Corporation

By _____ Trading as _____
(Individual's / General Partner's / Corporate Name)

(State of Corporation)

Business Address: _____

Witness: _____

By: _____
(Authorized Signature)

(Printed Name and Title)

Date: _____

ATTACHMENTS

Sub-Contractor List (See Section 00435 and any updates by addenda)
Non-Collusion Statement
Affidavit of Employee Drug Testing
Affidavit of Contractor Qualifications
Bid Security (Deposit or Bid Bond)

BID FORM

NON-COLLUSION STATEMENT

This is to certify that the undersigned bidder has neither directly nor indirectly, entered into any agreement, participated in any collusion or otherwise taken any action in restraint of free competitive bidding in connection with this proposal submitted this date to the NCCVT School District.

All the terms and conditions of Bid **NCC2208DTS – HVAC3** have been thoroughly examined and are understood.

NAME OF BIDDER:

**AUTHORIZED REPRESENTATIVE
(TYPED):**

**AUTHORIZED REPRESENTATIVE
(SIGNATURE):**

TITLE:

ADDRESS OF BIDDER:

PHONE NUMBER:

Sworn to and Subscribed before me this _____ day of _____ 20_.

My Commission expires _____. NOTARY PUBLIC _____

THIS PAGE MUST BE SIGNED AND NOTARIZED FOR YOUR BID TO BE CONSIDERED.

**AFFIDAVIT
OF
EMPLOYEE DRUG TESTING PROGRAM**

4104 Regulations for the Drug Testing of Contractor and Subcontractor Employees Working on Large Public Works Projects requires that Contractors and Subcontractors implement a program of mandatory drug testing for Employees who work on Large Public Works Contracts funded all or in part with public funds.

We hereby certify that we have in place or will implement during the entire term of the contract a Mandatory Drug Testing Program for our employees on the jobsite, including subcontractors that complies with this regulation:

Contractor/Subcontractor Name: _____

Contractor/Subcontractor Address: _____

Authorized Representative (typed or printed): _____

Authorized Representative (signature): _____

Title: _____

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My Commission expires _____. NOTARY PUBLIC _____.

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**New Castle County Vo-Tech School District
HVAC Replacement
Bid Phase 3**

**AFFIDAVIT
OF
CONTRACTOR QUALIFICATIONS**

We hereby certify that we will abide by the contractor's qualifications outlined in the construction bid specifications for the duration of the contract term.

In accordance with Title 29, Chapter 69, Section 6962(d)(10)b.3 of the Delaware Code, after a contract has been awarded the successful bidder shall not substitute another subcontractor whose name was submitted on the Subcontractor Form except for the reasons in the statute and not without written consent from the awarding agency. Failure to utilize the subcontractors on the list will subject the successful bidder to penalties as outlined in the General Requirements Section 5.2 of the contract.

Contractor Name: _____

Contractor Address: _____

Authorized Representative (typed or printed): _____

Authorized Representative (signature): _____

Title: _____

Sworn to and Subscribed before me this _____ day of _____ 20____.

My Commission expires _____. NOTARY PUBLIC _____.

THIS PAGE MUST BE SIGNED AND NOTARIZED FOR YOUR BID TO BE CONSIDERED.

END OF SECTION 004000

SECTION 004000 – BID FORM

For Bids Due: _____ To: NCCVT School District
1417 Newport Rd.
Wilmington, DE 19804

Bid Package: BP3 23A - Controls

Name of Bidder: _____

Delaware Business License No.: _____ Taxpayer ID No.: _____

(Other License Nos.): _____

Phone No.: _____

The undersigned, representing that he has read and understands the Bidding Documents and that this bid is made in accordance therewith, that he has visited the site and has familiarized himself with the local conditions under which the Work is to be performed, and that his bid is based upon the materials, systems and equipment described in the Bidding Documents without exception, hereby proposes and agrees to provide all labor, materials, plant, equipment, supplies, transport and other facilities required to execute the work described by the aforesaid documents for the lump sum itemized below:

BASE BID: \$ _____ Dollars

(\$ _____) (in numbers)

ALTERNATES – See Specific Scope of Work for complete descriptions of alternate pricing :

Refer to the specifications and specific scope of work for alternates. Not all of the blank spaces may be required. Alternate prices are to conform to applicable project specification sections or drawing details. An “ADD” or “DEDUCT” amount is indicated by the crossed out part that does not apply. If alternate does not apply to a specific bid package, insert: “Not Applicable”

ALTERNATE NO. 1: De-Energize, Disconnect, and demolish all existing lighting fixtures marked as (E), as well as all lighting fixtures marked as (R), and furnish and install new lighting fixtures. This does not include the following areas: VISUAL COMMUNICATIONS SHOP AND DARK ROOMS (B104B, B106, B106C, B106D, B106E), B-WING CLASSROOMS B115 AND B117, TV STUDIO AND CLASSROOM (B116, B116T, B116A, B118, B114, B114A, B114B, B114C, B114D, B114E), MAINTENANCE AREA (B120, B120A, B120B, B120C, B120T), AND ADA BATHROOMS (BATHROOM 104, BATHROOM 105).

Add / Deduct: _____ Dollars
(\$ _____) (in numbers)

ALTERNATE NO. 2: Additional ceiling removal and replacement as shown on drawings labeled “ALTERNATE 2.”

Add / Deduct: _____ Dollars
(\$ _____) (in numbers)

ALTERNATE NO. 3: All work shown on drawings labeled “ALTERNATE 3.”

Add / Deduct: _____ Dollars
(\$ _____) (in numbers)

ALTERNATE NO. 4: All work Associated with RTU 1 (Air handler on Roof Above Classroom B115)

Add / Deduct: _____ Dollars
(\$ _____) (in numbers)

ALTERNATE NO. 5: All work Associated with RTU 2 (Air handler on Roof Above Classroom B117)

Add / Deduct: _____ Dollars
(\$ _____) (in numbers)

ALTERNATE NO. 6: All work Associated with RTU 3 (Air handler on Mechanical Mezzanine above Toilet B115T)

Add / Deduct: _____ Dollars
(\$ _____) (in numbers)

ALTERNATE NO. 7: All work Associated with RTU 4 (Air handler on Roof Above Classroom B117)

Add / Deduct: _____ Dollars
(\$ _____) (in numbers)

ALTERNATE NO. 8: All work Associated with RTU 8 (Air handler on Above Classroom B110)

Add / Deduct: _____ Dollars
(\$ _____) (in numbers)

ALTERNATE NO. 9: All work shown in Wellness Area: B101, B101A, B101B, B101C, B101D, B101E, B101F.

Add / Deduct: _____ Dollars
(\$ _____) (in numbers)

ALTERNATE NO. 10: All work Associated with replacement of Summer/Winter Valves

Add / Deduct: _____ Dollars
(\$ _____) (in numbers)

I/We acknowledge the receipt of addenda as listed below and the price(s) submitted include any cost/schedule impact they may have.

Addendum Number	Date of Addendum
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

This bid shall remain valid and cannot be withdrawn for **Sixty (60)** days from the date of opening of bids, and the undersigned shall abide by the Bid Security forfeiture provisions. Bid Security is attached to this Bid (REQUIRED).

The Owner shall have the right to reject any or all bids, and to waive any informality or irregularity in any bid received.

This bid is based upon work being accomplished by the Sub-Contractors named on the list attached to this bid.

Should I/We be awarded this contract, I/We pledge to complete all the work required in accordance with the project schedule include in specification section 013210.

The undersigned represents and warrants that he has complied and shall comply with all requirements of local, state, and national laws; that no legal requirement has been or shall be violated in making or accepting this bid, in awarding the contract to him or in the prosecution of the work required; that the bid is legal and firm; that he has not, directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken action in restraint of free competitive bidding.

Upon receipt of written notice of the acceptance of this Bid, the Bidder shall, within twenty (20) calendar days, execute the agreement in the required form and deliver the Contract Bonds, and Insurance Certificates, required by the Contract Documents.

I am / We are an Individual / a Partnership / a Corporation

By _____ Trading as _____
(Individual's / General Partner's / Corporate Name)

(State of Corporation)

Business Address: _____

Witness: _____

By: _____
(Authorized Signature)

(Printed Name and Title)

Date: _____

ATTACHMENTS

Sub-Contractor List (See Section 00435 and any updates by addenda)
Non-Collusion Statement
Affidavit of Employee Drug Testing
Affidavit of Contractor Qualifications
Bid Security (Deposit or Bid Bond)

Bid Package #: BP3 23A - Controls

SUBCONTRACTOR LIST

In accordance with Title 29, Chapter 69, Section 6962(d)(10)b of the Delaware Code, the following subcontractor listing must accompany any bid submittal. The bidder must list **in each category** the full name and address (City & State) of the sub-contractor that the bidder will be using to perform the work and provide material for that subcontractor category. Should the bidder's listed subcontractor intend to provide any of their subcontractor category of work through a third-tier contractor, the bidder shall list that third-tier contractor's full name and address (City & State). **If the bidder intends to perform any category of work itself, it must list its full name and address.** For clarification, if the bidder intends to perform the work themselves, the bidder **may not** insert "not applicable", "N/A", "self" or anything other than its own full name and address (City & State). To do so shall cause the bid to be rejected. In addition, the failure to produce a completed subcontractor list with the bid submittal shall cause the bid to be rejected. If you have more third-tier contractors to report in any subcontractor category, print out additional page(s) containing the appropriate category, complete the rest of your list of third-tier contractors for that category, notate the addition in parentheses as (CONTINUATION) next to the subcontractor category and an asterisk (*) next to any additional third-tier contractors, and submit it with your bid.

NOTE: Subcontractor categories specific to each bid package are listed in specification section 00435 and will be updated at the pre-bid meeting and via addendum. If no categories are requested for a bid package, then none are required to be submitted. Refer to specification section 00435 and any addenda that may modify the required listing.

<u>Subcontractor Category</u>	<u>Subcontractor</u>	<u>Address (City & State) & License #</u>
Electrical		City State Subcontractors tax-payer ID # or DE Business license #

BID FORM

NON-COLLUSION STATEMENT

This is to certify that the undersigned bidder has neither directly nor indirectly, entered into any agreement, participated in any collusion or otherwise taken any action in restraint of free competitive bidding in connection with this proposal submitted this date to the NCCVT School District.

All the terms and conditions of Bid **NCC2208DTS – HVAC3** have been thoroughly examined and are understood.

NAME OF BIDDER:

**AUTHORIZED REPRESENTATIVE
(TYPED):**

**AUTHORIZED REPRESENTATIVE
(SIGNATURE):**

TITLE:

ADDRESS OF BIDDER:

PHONE NUMBER:

Sworn to and Subscribed before me this _____ day of _____ 20_.

My Commission expires _____. NOTARY PUBLIC _____

THIS PAGE MUST BE SIGNED AND NOTARIZED FOR YOUR BID TO BE CONSIDERED.

**AFFIDAVIT
OF
EMPLOYEE DRUG TESTING PROGRAM**

4104 Regulations for the Drug Testing of Contractor and Subcontractor Employees Working on Large Public Works Projects requires that Contractors and Subcontractors implement a program of mandatory drug testing for Employees who work on Large Public Works Contracts funded all or in part with public funds.

We hereby certify that we have in place or will implement during the entire term of the contract a Mandatory Drug Testing Program for our employees on the jobsite, including subcontractors that complies with this regulation:

Contractor/Subcontractor Name: _____

Contractor/Subcontractor Address: _____

Authorized Representative (typed or printed): _____

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My Commission expires _____. NOTARY PUBLIC _____.

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**New Castle County Vo-Tech School District
HVAC Replacement
Bid Phase 3**

**AFFIDAVIT
OF
CONTRACTOR QUALIFICATIONS**

We hereby certify that we will abide by the contractor's qualifications outlined in the construction bid specifications for the duration of the contract term.

In accordance with Title 29, Chapter 69, Section 6962(d)(10)b.3 of the Delaware Code, after a contract has been awarded the successful bidder shall not substitute another subcontractor whose name was submitted on the Subcontractor Form except for the reasons in the statute and not without written consent from the awarding agency. Failure to utilize the subcontractors on the list will subject the successful bidder to penalties as outlined in the General Requirements Section 5.2 of the contract.

Contractor Name: _____

Contractor Address: _____

Authorized Representative (typed or printed): _____

Authorized Representative (signature): _____

Title: _____

Sworn to and Subscribed before me this _____ day of _____ 20____.

My Commission expires _____. NOTARY PUBLIC _____.

THIS PAGE MUST BE SIGNED AND NOTARIZED FOR YOUR BID TO BE CONSIDERED.

END OF SECTION 004000

SECTION 004000 – BID FORM

For Bids Due: _____ To: NCCVT School District
1417 Newport Rd.
Wilmington, DE 19804

Bid Package: BP3 26A - Electrical

Name of Bidder: _____

Delaware Business License No.: _____ Taxpayer ID No.: _____

(Other License Nos.): _____

Phone No.: _____

The undersigned, representing that he has read and understands the Bidding Documents and that this bid is made in accordance therewith, that he has visited the site and has familiarized himself with the local conditions under which the Work is to be performed, and that his bid is based upon the materials, systems and equipment described in the Bidding Documents without exception, hereby proposes and agrees to provide all labor, materials, plant, equipment, supplies, transport and other facilities required to execute the work described by the aforesaid documents for the lump sum itemized below:

BASE BID: \$ _____ Dollars

(\$ _____) (in numbers)

ALTERNATES – See Specific Scope of Work for complete descriptions of alternate pricing :

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Add / Deduct: _____ Dollars
(\$ _____) (in numbers)

ALTERNATE NO. 2: Additional ceiling removal and replacement as shown on drawings labeled “ALTERNATE 2.”

Add / Deduct: _____ Dollars
(\$ _____) (in numbers)

ALTERNATE NO. 3: All work shown on drawings labeled “ALTERNATE 3.”

Add / Deduct: _____ Dollars
(\$ _____) (in numbers)

ALTERNATE NO. 4: All work Associated with RTU 1 (Air handler on Roof Above Classroom B115)

Add / Deduct: _____ Dollars
(\$ _____) (in numbers)

ALTERNATE NO. 5: All work Associated with RTU 2 (Air handler on Roof Above Classroom B117)

Add / Deduct: _____ Dollars
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ALTERNATE NO. 6: All work Associated with RTU 3 (Air handler on Mechanical Mezzanine above Toilet B115T)

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ALTERNATE NO. 7: All work Associated with RTU 4 (Air handler on Roof Above Classroom B117)

Add / Deduct: _____ Dollars
(\$ _____) (in numbers)

ALTERNATE NO. 8: All work Associated with RTU 8 (Air handler on Above Classroom B110)

Add / Deduct: _____ Dollars
(\$ _____) (in numbers)

ALTERNATE NO. 9: All work shown in Wellness Area: B101, B101A, B101B, B101C, B101D, B101E, B101F.

Add / Deduct: _____ Dollars
(\$ _____) (in numbers)

ALTERNATE NO. 10: All work Associated with replacement of Summer/Winter Valves

Add / Deduct: _____ Dollars
(\$ _____) (in numbers)

I/We acknowledge the receipt of addenda as listed below and the price(s) submitted include any cost/schedule impact they may have.

Addendum Number	Date of Addendum
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

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The Owner shall have the right to reject any or all bids, and to waive any informality or irregularity in any bid received.

This bid is based upon work being accomplished by the Sub-Contractors named on the list attached to this bid.

Should I/We be awarded this contract, I/We pledge to complete all the work required in accordance with the project schedule include in specification section 013210.

The undersigned represents and warrants that he has complied and shall comply with all requirements of local, state, and national laws; that no legal requirement has been or shall be violated in making or accepting this bid, in awarding the contract to him or in the prosecution of the work required; that the bid is legal and firm; that he has not, directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken action in restraint of free competitive bidding.

Upon receipt of written notice of the acceptance of this Bid, the Bidder shall, within twenty (20) calendar days, execute the agreement in the required form and deliver the Contract Bonds, and Insurance Certificates, required by the Contract Documents.

I am / We are an Individual / a Partnership / a Corporation

By _____ Trading as _____
(Individual's / General Partner's / Corporate Name)

(State of Corporation)

Business Address: _____

Witness: _____

By: _____
(Authorized Signature)

(Printed Name and Title)

Date: _____

ATTACHMENTS

Sub-Contractor List (See Section 00435 and any updates by addenda)
Non-Collusion Statement
Affidavit of Employee Drug Testing
Affidavit of Contractor Qualifications
Bid Security (Deposit or Bid Bond)

BID FORM

Bid Package #: BP3 26A - Electrical

SUBCONTRACTOR LIST

In accordance with Title 29, Chapter 69, Section 6962(d)(10)b of the Delaware Code, the following subcontractor listing must accompany any bid submittal. The bidder must list **in each category** the full name and address (City & State) of the sub-contractor that the bidder will be using to perform the work and provide material for that subcontractor category. Should the bidder's listed subcontractor intend to provide any of their subcontractor category of work through a third-tier contractor, the bidder shall list that third-tier contractor's full name and address (City & State). **If the bidder intends to perform any category of work itself, it must list its full name and address.** For clarification, if the bidder intends to perform the work themselves, the bidder **may not** insert "not applicable", "N/A", "self" or anything other than its own full name and address (City & State). To do so shall cause the bid to be rejected. In addition, the failure to produce a completed subcontractor list with the bid submittal shall cause the bid to be rejected. If you have more third-tier contractors to report in any subcontractor category, print out additional page(s) containing the appropriate category, complete the rest of your list of third-tier contractors for that category, notate the addition in parentheses as (CONTINUATION) next to the subcontractor category and an asterisk (*) next to any additional third-tier contractors, and submit it with your bid.

NOTE: Subcontractor categories specific to each bid package are listed in specification section 00435 and will be updated at the pre-bid meeting and via addendum. If no categories are requested for a bid package, then none are required to be submitted. Refer to specification section 00435 and any addenda that may modify the required listing.

<u>Subcontractor Category</u>	<u>Subcontractor</u>	<u>Address (City & State) & License #</u>
Electrical		City
		State
		Subcontractors tax-payer ID # or DE Business license #

BID FORM

NON-COLLUSION STATEMENT

This is to certify that the undersigned bidder has neither directly nor indirectly, entered into any agreement, participated in any collusion or otherwise taken any action in restraint of free competitive bidding in connection with this proposal submitted this date to the NCCVT School District.

All the terms and conditions of Bid **NCC2208DTS – HVAC3** have been thoroughly examined and are understood.

NAME OF BIDDER:

**AUTHORIZED REPRESENTATIVE
(TYPED):**

**AUTHORIZED REPRESENTATIVE
(SIGNATURE):**

TITLE:

ADDRESS OF BIDDER:

PHONE NUMBER:

Sworn to and Subscribed before me this _____ day of _____ 20_.

My Commission expires _____. NOTARY PUBLIC _____

THIS PAGE MUST BE SIGNED AND NOTARIZED FOR YOUR BID TO BE CONSIDERED.

**AFFIDAVIT
OF
EMPLOYEE DRUG TESTING PROGRAM**

4104 Regulations for the Drug Testing of Contractor and Subcontractor Employees Working on Large Public Works Projects requires that Contractors and Subcontractors implement a program of mandatory drug testing for Employees who work on Large Public Works Contracts funded all or in part with public funds.

We hereby certify that we have in place or will implement during the entire term of the contract a Mandatory Drug Testing Program for our employees on the jobsite, including subcontractors that complies with this regulation:

Contractor/Subcontractor Name: _____

Contractor/Subcontractor Address: _____

Authorized Representative (typed or printed): _____

Authorized Representative (signature): _____

Title: _____

Sworn to and Subscribed before me this _____ day of _____ 20_.

My Commission expires _____. NOTARY PUBLIC _____.

THIS PAGE MUST BE SIGNED AND NOTARIZED FOR YOUR BID TO BE CONSIDERED.

**New Castle County Vo-Tech School District
HVAC Replacement
Bid Phase 3**

**AFFIDAVIT
OF
CONTRACTOR QUALIFICATIONS**

We hereby certify that we will abide by the contractor's qualifications outlined in the construction bid specifications for the duration of the contract term.

In accordance with Title 29, Chapter 69, Section 6962(d)(10)b.3 of the Delaware Code, after a contract has been awarded the successful bidder shall not substitute another subcontractor whose name was submitted on the Subcontractor Form except for the reasons in the statute and not without written consent from the awarding agency. Failure to utilize the subcontractors on the list will subject the successful bidder to penalties as outlined in the General Requirements Section 5.2 of the contract.

Contractor Name: _____

Contractor Address: _____

Authorized Representative (typed or printed): _____

Authorized Representative (signature): _____

Title: _____

Sworn to and Subscribed before me this _____ day of _____ 20____.

My Commission expires _____. NOTARY PUBLIC _____.

THIS PAGE MUST BE SIGNED AND NOTARIZED FOR YOUR BID TO BE CONSIDERED.

END OF SECTION 004000

SECTION 011200-01A – GENERAL SCOPE OF WORK

All work is to be done in accordance with the Contract Documents, including the drawings and the specifications, this scope of work, and all addenda if any. Each trade must comply fully with all sections of the Division 1 general requirements.

This scope is intended as a reference to assist in the bidding process. The Contractor is responsible for all labor, material, tools, equipment, hoisting, storage, layout, incidental work, and associated services necessary to fully complete all of the work described and shown in the Contract Documents. This contractor is responsible to review and include all items in their attached specific scope of work and to also review the work of other trades.

This work includes but is not limited to:

1. Include the cost of performance and payment bonds in the base bid.
2. Provide all insurances per W-T standard subcontract. This includes Pollution Liability Insurance – per WT insurance requirements.
3. This contractor is responsible for all applicable taxes.
4. All bidders are required to provide 10% bid bond for each bid package submitted.
5. All contractors are required to provide 100% payment and performance bonds for their contract.
6. Work hours are 7:00 am to 3:30 pm. All contractors are required to work minimum 5 days per week, 8 hours per day. If day(s) are lost during the work week, all contractors are required to work Saturdays and/or extended hours (coordinate with WT first) to make up for all lost days at no added cost. See specific scope requirement for overtime.
7. Contractor must review/walk the site during bidding period. This Contractor has fully informed him/herself as to all existing condition and limitation which are visible and above ground as well as indicated in the contractor documents under which the work as set forth. No allowance will be made to any contractor because of lack of such examination or knowledge. The execution of this contract is construed as conclusive evidence that the contractor has made such examinations.
8. During performance of Own work or subcontractors work, this contractor must have full-time competent onsite supervision (capable of making construction changes (schedule/cost) as needed).
9. Contractor shall have an office representative (not just a foreman or project superintendent) attend Whiting-Turner's weekly progress meetings. Contractors will be required to attend the progress meeting two (2) weeks prior to their work commencing, during the duration of their work and two (2) weeks after their work is substantially complete. Contractors will be held responsible for the outcome of meetings whether in attendance or not. The representatives to the meetings are expected to make commitments regarding schedule and cost during the construction process.
10. All change pricing must be submitted within five (5) days of receipt of requested change unless mutually agreed otherwise. All pricing must be accompanied by a detailed breakdown of the cost. Lump sum pricing will not be accepted. All change orders requested shall be made in writing. A request for change does not mean a change is authorized. Authorization to proceed with change will follow change request.
11. Tickets for extra work will not be considered unless signed by an Authorized W-T representative and backed up by a written summary of all associated cost within five (5) days of the performance of such work. Approval of a field ticket is acknowledgement of work completed but does not constitute immediate agreement of payment due.

GENERAL SCOPE OF WORK

12. Shop drawings are to be completed and submitted to Whiting-Turner no later than three (3) weeks after award of contract. Shop drawings/submittals are to include design data that conform to the project specific performance requirements; reference Contract Documents for all performance requirements. Design data must be signed and sealed by a Professional Engineer registered in the State of Delaware.
13. All Contractors shall strictly adhere to the project schedule and/or durations respective to this scope of work and any change in construction sequencing as may be necessary for the overall benefit of the project.
14. Bidders to include all labor necessary to meet or better the schedule included in section 013210. Bidders shall note all work areas indicated to be completed concurrently and provide 2nd shift labor as required.
15. Provide 5 days' notice prior to shutdown of any system.
16. Daily Cleanup of debris. If this contractor does not clean the site to the satisfaction of Whiting Turner, Whiting Turner reserves the right to clean the site with their own forces at the expense of this contractor. Site must be maintained and cleaned daily. Work area must be swept daily.
17. All work/disposal is to be done per all federal, state, local, OSHA rules and regulations.
18. SDS sheets for all material brought onto the site must be submitted prior to starting work.
19. All contractors shall take protective measures necessary for the safety of work staff, the public and adjacent properties. All safety measure shall comply with the regulation of all Federal, State, Local authorities having jurisdiction including all applicable OSHA, Whiting-Turner (W-T) safety rules and at W-T's direction. Contractor shall abide by all current regulation and procedures regarding any confined space safety practices and fall protection. Employee's failure to comply with safety on site will ultimately result in expulsion from the project.
20. This contractor shall abide by all Fire Marshal life safety and fire prevention measures.
21. Contractors are required to comply with all safety regulations as required by OSHA, State of Delaware, NCCVT School District, Whiting-Turner, and as noted in the specifications. Provide all safety devices necessary for your work.
22. Any floor penetration larger than four square inches must be identified, protected and if at all possible, formed in place with a styrofoam block out. Any floor penetration larger than one square foot must be reinforced with wire mesh by the concrete contractor. Any floor penetration larger than two feet per side requires rebar reinforcing by the concrete contractor. Develop a detail matrix of floor openings identifying size, service and an identifying number. Use styrofoam block outs for all cast in place floor openings. Use wood screw to secure them to the plywood form. Witness the pour in order to protect the opening. This includes pours that may be made on Saturday. After the pour, use the matrix to record that every blockout has been removed as soon as possible and is accounted for. Every single opening larger than four square inches is required to have 3/4" plywood cover, fastened to the deck and labeled "Fall Hazard. Do not remove. Opening number XXX". Protective covers removed as directed by Whiting-Turner.
23. A temporary power source will be provided, but it will be the responsibility of this contractor to have a backup power source in case the temporary service goes out. Temporary power will consist of 110V service. If a larger service is required to perform any work in the scope described herein, it will be the responsibility of this contractor.
24. This contractor is responsible for all fall protection and safety requirements associated with roof work. When working from lifts & harnesses, or tie-offs provided by this contractor, OSHA standards must always be met and followed.
25. Provide, maintain and remove all safety barricades, traffic controls, shoring, flagmen, etc. to comply with all safety practices required by OSHA, State of Delaware, New Castle County,

GENERAL SCOPE OF WORK

- NCCVT School District, The Whiting-Turner Contracting Company or any agency having jurisdiction and as noted in the specifications in order to complete the work under this Contract.
26. This contractor shall provide all unloading, hoisting, maintenance of traffic, scaffolding, lifts, cranes and other means of access for your own work as needed.
 27. This contractor is to comply with all local noise restrictions.
 28. Temporary sheeting, shoring and bracing as required to perform your work.
 29. Provide any warning lines/temporary barricades as needed to safely perform your work and protect others.
 30. Use of the site for staging, storage trailer, parking, etc. shall be as instructed and approved by W-T.
 31. Construction personnel shall use designated entrance and egress areas to the project as directed by W-T.
 32. Prior to any excavation, this contractor must call local or state utilities locator service (miss utility) at least 3 days prior to digging. This contractor must keep that permit/Ticket current with utility company's during your entire excavation.
 33. The fire lane and student drop off and pick up areas are always be maintained / open.
 34. Perform all layouts for this work.
 35. Thorough interior and exterior investigation of the site is necessary.
 36. This contractor shall replace any damaged paving, curbing, sidewalks that are not to be removed if damaged by this work.
 37. A minimum of 7 day advanced notice is required for any road closures. This will need to be coordinated with the Owner and local authorities.
 38. All contractor employees will be required to sign-in each day on the jobsite.
 39. Each contractor, upon award, is to forward budget costs for each individual item of work, in s.f. or l.f. costs for accounting only. A list will be forwarded to each sub from Whiting-Turner.
 40. Each foreman is required to complete daily field reports and turn them into WT daily. This report states where and what work was performed. Failure to submit reports on a daily basis may delay contractor payment.
 41. All deliveries must be scheduled in advance with Whiting-Turner. Major deliveries, those that may impact or disrupt the work of other trades, require seven (7) days notice to WT. Minor deliveries require two (2) days notice to WT. WT shall coordinate storage locations for all deliveries.
 42. All contractors shall attend schedule pull planning sessions with WT.
 43. This contractor will execute an AIA contract with no changes.
 44. All contractor employees will meet with the WT Superintendent for a short safety orientation upon starting their work on site. All contractor employees are required to attend this orientation.
 45. The foreman and project manager will need to meet with the superintendent for a "pre-start" job meeting.
 46. This contractor is responsible for all existing site conditions in existence as of the bid due date. These conditions may not be identified on the drawings or in this scope of work. Examine prior to the bid.
 47. All contractors are required to perform all layout required for their work.
 48. No gasoline-powered equipment can be used at any time within buildings. All equipment you plan to use must be reviewed with the Superintendent for safety concerns.
 49. All contractors are required to perform any necessary dewatering in order to complete their work.

GENERAL SCOPE OF WORK

50. All subcontractors are responsible for daily cleanup of their debris to the jobsite dumpster. This means that no trash or excess construction materials can be left on site or in buildings at the end of the day. Failure to do so may result in backcharges.
51. The Construction Manager will supply a dumpster for the work, except as noted in the specific scopes of work. The contractor is responsible for placing debris in the dumpster.
52. Storage space will be limited. Materials and gang boxes cannot be in the way of other trades, traffic, fire lanes, access, etc. Review location and requirements with WT. Provide storage trailers or off site storage when necessary.
53. Furnish attic stock as required by the drawings, specifications, or the scope of work.
54. Jobsite security and security of materials, equipment, tools, etc. is the responsibility of each contractor.
55. Contractors are required to coordinate with other trades and with Whiting-Turner.
56. All change order pricing must be accompanied by a labor and material breakdown and with subcontractor & vendor quotes.
57. Care must be taken to not mark or damage finished surfaces. Contractors will be backcharged or will need to pay for repairs to the work of others. Protect the owner's property.
58. Roof protection must be provided by any contractor working on top of the completed roof systems. Minimum protection required is 2" rigid insulation and 3/4" plywood.
59. All safety, barricades, floor opening protection, etc., installed by this contractor or by others is the responsibility of this contractor if moved or damaged by this contractor.
60. Provide all testing, guarantees, warranties, as-built drawings, O&M manuals, commissioning tests, close-out documentation, and start-up services necessary to put all work into first class operating condition per the contract documents including any final cleanup required.
61. As-built drawings must be maintained on the job-site and updated on a daily basis for review by Whiting-Turner. At contract completion, contractor must submit as-built drawings and O&M Manuals as required by specifications.
62. Owner training required by specifications. Training must be videotaped.
63. Where furnishing and installation of work is indicated by separate parties include:
 - Furnishing Party – delivery to jobsite including freight and taxes
 - Installing Party – receiving, unloading, inventory, storage, handling, and installation.
64. Core drilling, cutting & patching as required to perform work. Include restoration of surfaces to original condition if required. Cutting to be performed as to minimize patching.
65. Sealants, caulking, and firestopping integral with work.
66. Permit fees and licenses required for work, other than the building permit, shall be furnished by the contractor whose work requires such permits.
67. General temporary lighting, 120V power & water will be provided. Any contractor requiring temporary services above and beyond those noted shall provide the necessary temporary service required for their work. Refer to specific scopes of work for contractors that will be required to provide all temporary power and lighting for the duration of their work.
68. Each contractor shall provide scaffolding, hoists, lifts, cranes, and other means of access for own work.
69. Premium cost for shutdowns or any other off-hour work. All shutdowns must be scheduled at least two (2) weeks in advance.

GENERAL SCOPE OF WORK

70. Phasing and remobilization per the project schedule and as required to properly coordinate and complete the work.
71. Contractors are to perform their work according to the project schedule. Overtime and weekends are to be included as required. Field measurements and verification of existing conditions.
72. Temporary weather and dust protection for own work.
73. Perform any snow removal for access to your work, beyond road areas normally maintained by State.
74. Compliance with local noise restrictions.
75. Temporary sheeting, shoring & bracing as required to perform this work. Engineering calculations/PE certifications if specified.
76. Submittals and mock-ups as specified.
77. Warranties as specified commencing on date of substantial completion.
78. Insurance as required by specifications. Maintain throughout project. Professional liability insurance for any design/engineering work.
79. All applicable sales, use & excise taxes.
80. Surface preparation and inspection for proper installation of the work. Include clean-up, etching, flash patching, moisture testing, etc. as required per specification and manufacturer's instructions. Commencement of work shall constitute acceptance of the substrate as suitable for this work.
81. Sleeves, inserts, and anchors for this work.
82. Additional reinforcement/supports for this work which is not detailed on the architectural and structural drawings.
83. Comply with all Whiting-Turner and Owner Quality Control Program requirements for this work.
84. The contractor must have on site at all times during own work a supervisor or foreman responsible to coordinate the work with all other trades to meet the project schedule, to perform the work to meet the contract documents and to effectively communicate with the construction manager and other trades. The decision of that individual shall be binding upon the contractor.
85. Attendance at foreman meetings by the supervisor or foreman is mandatory.
86. Attendance at progress meetings by your project manager is mandatory. Meetings may be tape recorded.
87. After bids are received, contractors will need to attend a scope review meeting with Whiting-Turner, the Owner, and the Architect.
88. The successful contractor must forward Whiting-Turner a copy of their safety program.
89. During this project, hot work permits will need to be obtained from Whiting-Turner prior to proceeding with any such work on a daily basis.
90. All contractors are responsible for their work as shown on any and all drawings.
91. Each contractor must have a line item on their invoice schedule of values that allows 3% of the total contract amount for close-out documents (as-builts, warranties, operations and maintenance manuals, punchlists, etc.) in addition to 5% retention.
92. Building or site commissioning is to be performed separately from owner training.
93. All subcontractor foremen and project manager are required to remain as such throughout the duration of the project unless otherwise approved by WT and NCCVT School District.
94. The following documents will be required at project start-up and need to be submitted with-in two weeks of the notice to proceed:
 - A. Fully executed Contract.

GENERAL SCOPE OF WORK

- B. Copy of State of DE Business License
 - C. Insurance Certificate indicating coverage and limits, as specified in Contract Documents.
 - D. Permits or permit filing receipts as required by the contract documents, New Castle County, State of Delaware or any other regulatory agencies having jurisdiction. (Building permit is by CM)
 - E. Payment Bond and Performance Bond
 - F. Emergency Telephone Numbers for project manager and foremen
 - G. SDS Information
 - H. Attendance of Onsite Safety Orientation
 - I. Copy of Written Safety program and policy
 - J. List of all applicable labor rates
 - K. Detailed Schedule for the work
 - L. Schedule of Values for invoicing
 - M. Subcontractor List
 - N. Supplier List
95. The following documents (other than submittals) will be required prior to billing for the close-out documents.
- A. Signed-off copy of the punchlist.
 - B. Attic stock delivery confirmation (if required by the specifications)
 - C. As-built Drawings
 - D. Testing Reports and/or Equipment Start-up reports
 - E. Operation and Maintenance Manuals
 - F. Owner Training Sessions & video tapes as specified.
 - G. Standard Guarantee/Warranty for this Trade Contractor and subcontractors (attached)
 - H. Specific Warranties from individual suppliers or manufacturers
 - I. Affidavit that all taxes have been paid
 - J. AIA Document G706 – Affidavit of Payment of Debts and Claims (Original available from AIA)
 - K. AIA Document G706A – Affidavit of Release of Liens (Original available from AIA)
 - Complete and attach the ‘Trade Contractor’s Final Release and Affidavit’
 - Complete and attach the ‘Final Waiver and Release for Second Tier subcontractors and suppliers’ (1 needed from each subcontractor / supplier utilized.)
 - L. AIA Document G707, Consent of Surety of Final Payment (Original available from AIA)

END OF SECTION 01 12 00-01A

SECTION 011200-02A – SPECIFIC SCOPE OF WORK – DEMOLITION

SPECIFIC SCOPE – DEMOLITION:

- A. The provisions outlined in the General Scope of Work shall apply to all items of this section. All work shall be in accordance with the schedule.
- B. This work shall include all labor, supervision, material, tools, equipment, shop drawings, submittals, layout, unloading, scaffolding, ladders, hoisting, transportation, taxes, permits, engineering, support functions, insurance, bonds, and any other items or services necessary for and reasonably incidental to the proper execution and completion of the work, whether temporary or permanent, in accordance with all drawings, specifications, addenda, general conditions, requirements, and other related documents as indicated herein. All work shall be furnished and installed unless noted otherwise herein. The scope of work shall include but not be limited to the following specific scope of work:

SPECIFICATION SECTIONS

Prepared by DEDC Engineering & Whiting-Turner, dated June 27th, 2023:
Divisions 00-31

The contractor is fully responsible for the technical specification sections as listed below for this Unit of Work. The exception to this is when the note “As Applicable” follows a technical specification section. In that case, other units of work, as defined by the Scope, may also have some responsibility for that particular section. General Conditions, Supplementary Conditions, General Requirements and General Scope Items apply to each and all of the Individual Units of Work.

Section	Description	Responsibility
Division 00	Procurement and Contract Requirements	In Its Entirety
Division 01	General Requirements	In Its Entirety
Division 02	Existing Conditions	In Its Entirety
Division 05	Metals	As Applicable
Division 06	Wood, Plastics & Composites	As Applicable
Division 07	Thermal and Moisture Protection	As Applicable
Division 09	Finishes	As Applicable
Division 23	HVAC	As Applicable
Division 26	Electrical	As Applicable
Division 31	Earthwork	As Applicable

NARRATIVE:

1. This contractor shall provide a complete demolition package per the drawings and specifications.
2. Review all drawings including architectural, mechanical, electrical, plumbing, fire protection and food service prior to mobilization to identify all items that need to be embedded, penetrate or generally coordinated with mechanical work.
3. This contractor should assume all power will be provided (WITHIN 150') and water may be obtained on site. This contractor will need to provide all the hoses required to get water from each hose bib source to where you are cutting.
4. All demolished material under this contract to be placed **in dumpsters provided by this contractor**, hauled off-site and properly disposed of in a legal manner. No dumpster deliveries are to be made during pick up and drop off during the following hours of 7am-9am or 2:30pm - 4pm while school is in session.
5. All cutting, drilling, grinding, chipping and dust producing activities must comply with Whiting-Turner's safety policies and OSHA's crystalline silica dust regulation.
6. This contractor shall remove and dispose of all existing ceilings, walls, DFH, etc. to be demolished per the drawings and specifications.
7. This contractor shall remove and dispose of all mechanical and electrical items shown to be removed including but not limited to; pneumatic controls, conduit, wiring, lights, HVAC units, fans, coils, ductwork, grilles, registers, diffusers, piping and associated components to the extent shown. Safe off, disconnections and draining by others. Coordinate with mechanical, and electrical contractors prior to removal. Any item demolished not shown to be on the drawings will be back charged to this contractor.
8. Removal of summer/winter valves by others.
9. Removal of existing roof top units by others.
10. All fastener to be removed from walls, ceilings, and structure remaining, concrete equipment pads, doors, frames and hardware, stair assemblies, interior ramps, coiling doors and gates, signage, wall pads, sound panels, ceramic floor and wall tile, interior storefront.
11. This contractor shall install ram board floor protection, or better, throughout all areas of work shown on the drawings.
12. Protect the existing building. You must clean each area daily.

ALTERNATES

Provide all mechanical work, in accordance with above specific scope of work, as applicable, for the alternates listed below.

Insert the following alternate prices into the spaces provided on the bid form.

ALTERNATE NO. 1: De-Energize, Disconnect, and demolish all existing lighting fixtures marked as (E), as well as all lighting fixtures marked as (R), and furnish and install new lighting fixtures. This does not include the following areas: VISUAL COMMUNICATIONS SHOP AND DARK ROOMS (B104B, B106, B106C, B106D, B106E), B-WING CLASSROOMS B115 AND B117, TV STUDIO AND CLASSROOM (B116, B116T, B116A, B118, B114, B114A, B114B, B114C, B114D, B114E), MAINTENANCE AREA (B120, B120A, B120B, B120C, B120T), AND ADA BATHROOMS (BATHROOM 104, BATHROOM 105).

ALTERNATE NO. 2: Additional ceiling removal and replacement as shown on drawings labeled "ALTERNATE 2."

ALTERNATE NO. 3: All work shown on drawings labeled "ALTERNATE 3."

ALTERNATE NO. 4: All work Associated with RTU 1 (Air handler on Roof Above Classroom B115)

ALTERNATE NO. 5: All work Associated with RTU 2 (Air handler on Roof Above Classroom B117)

ALTERNATE NO. 6: All work Associated with RTU 3 (Air handler on Mechanical Mezzanine above Toilet B115T)

ALTERNATE NO. 7: All work Associated with RTU 4 (Air handler on Roof Above Classroom B117)

ALTERNATE NO. 8: All work Associated with RTU 8 (Air handler Above Classroom B110)

ALTERNATE NO. 9: All work shown in Wellness Area: B101, B101A, B101B, B101C, B101D, B101E, B101F.

ALTERNATE NO. 10: All work Associated with replacement of Summer/Winter Valves

UNIT PRICES

Provide the following unit prices. Whiting-Turner reserves the right to request lump sum or T&M pricing for extra work in lieu of applying unit prices.

NA.

END OF SECTION 011200-22A

CARPENTRY SPECIFIC SCOPE OF WORK

SECTION 011200-09A – SPECIFIC SCOPE OF WORK – CARPENTRY

SPECIFIC SCOPE – CARPENTRY:

- A. The provisions outlined in the General Scope of Work shall apply to all items of this section. All work shall be in accordance with the schedule.
- B. This work shall include all labor, supervision, material, tools, equipment, shop drawings, submittals, layout, unloading, scaffolding, ladders, hoisting, transportation, taxes, permits, engineering, support functions, insurance, bonds, and any other items or services necessary for and reasonably incidental to the proper execution and completion of the work, whether temporary or permanent, in accordance with all drawings, specifications, addenda, general conditions, requirements, and other related documents as indicated herein. All work shall be furnished and installed unless noted otherwise herein. The scope of work shall include but not be limited to the following specific scope of work:

SPECIFICATION SECTIONS

Prepared by DEDC Engineering & Whiting-Turner, dated June 27th, 2023:
Divisions 00-31

The contractor is fully responsible for the technical specification sections as listed below for this Unit of Work. The exception to this is when the note “As Applicable” follows a technical specification section. In that case, other units of work, as defined by the Scope, may also have some responsibility for that particular section. General Conditions, Supplementary Conditions, General Requirements and General Scope Items apply to each and all of the Individual Units of Work.

Section	Description	Responsibility
Division 00	Procurement and Contract Requirements	In Its Entirety
Division 01	General Requirements	In Its Entirety
Division 02	Existing Conditions	In Its Entirety
Division 05	Metals	As Applicable
Division 06	Wood, Plastics & Composites	As Applicable
Division 07	Thermal and Moisture Protection	As Applicable
Division 09	Finishes	As Applicable
Division 23	HVAC	As Applicable
Division 26	Electrical	As Applicable
Division 31	Earthwork	As Applicable

NARRATIVE:

1. This contractor is required to review all drawings including Structural, Architectural, Mechanical, Electrical, Plumbing, Fire Protection, Equipment and Telecommunications prior to mobilization to site to identify all items that need to be embedded-in, penetrate, or generally coordinated with this package.
2. This contractor is responsible for removing, storing, and reinstalling all wall mounted items in the classrooms.
3. This contractor is responsible for all brake metal, flashing, sealants, blocking, spray foam, etc..
4. This contractor will be responsible for all exterior stud walls, interior metal stud walls and ceilings, soffits, bulkheads, sheathing, drywall, gypsum board, vapor barriers, batt insulation and sound batt material.

CARPENTRY SPECIFIC SCOPE OF WORK

5. Provide all additional insulation per General notes.
6. Provide all soffit framing and bracing as indicated.
7. Provide soundproofing and fireproofing as detailed. Provide materials as required to meet all ratings as listed.
8. This contractor is required to furnish and install all metal framing (interior and exterior); including but not limited to all diagonal bracing, straps, kickbacks, etc. required for the framing system.
9. This contractor will be responsible for coordinating kickback locations with the M/E/P/FP trades. In cases where kickbacks, additional wall support, etc. are in conflict with M/E/P/FP piping, equipment, ductwork etc., it is the responsibility of this contractor to relocate framing to avoid conflict.
10. Furnish and install all gypsum board and other sheathing on the building, including but not limited to all drywall, cement board, etc. Tape or seal joints as required by the specifications and drawing details.
11. This contractor shall furnish and install all required sealants, both fire rated and acoustical as required at tops, bottoms and sides of walls. This contractor is responsible to provide all fire safing/fire rating per the UL designations as detailed on the partition types drawings.
12. Furnish and install all wood blocking for windows and HVAC unit per the contract documents. Roof blocking by others.
13. Exposed fire rated plywood used as equipment backing panels is by others.
14. This contractor is responsible to verify that substrates installed under this contract requiring finishes other than paint are with the allowable tolerances for the installation of those finishes.
15. Access doors and panels for access to mechanical, electrical, plumbing and fire protection equipment, valves, etc. are furnished by others for installation by the drywall contractor. Framing for these access doors and panels is by this contractor. It is the responsibility of this contractor to coordinate the size and layout for all access doors and panels with the M/E/P&FP trades.
16. All interior metal stud framing is to be fastened top and bottom to the track, both sides. Walls are not to be closed up until this has been inspected (unless the wall is detailed as a slip-track connection).
17. Provide all light gage metal furring, framing, grids, straps, studs, resilient channels, box beams and accessories.
18. Provide gypsum wallboard ceilings as indicated on the contract documents.
19. Provide finishing of all GWB assemblies to levels as indicated in the contract documents.
20. This contractor shall provide supplemental lighting for gypsum board finishing if required.
21. Metal corner bead is to be mechanically fastened by screws at all locations.
22. Coordinate with the Painting contractor to patch and prep for finishes as follows:
 - A. Drywall subcontractor will complete final sanding of drywall.
 - B. Painter to apply prime coat (spray and backroll is acceptable).
 - C. Whiting-Turner, Drywall and Painting Contractors to walk the entire area and review drywall quality. Imperfections will be identified and marked in the field.
 - D. Drywall contractor will repair all marked imperfections.
 - E. Painter will proceed with application of 1st coat.
 - F. Items C and D will be repeated, correcting any remaining imperfections.
 - G. Balance of work will be completed i.e. millwork, flooring, hardware, etc.
 - H. Painter will complete final coat by means of rolling/brushing.
23. This contractor shall participate in a sign-off procedure, as established by Whiting-Turner, on a room by room basis after priming and point up, prior to the room being released to receive final coats of paint.
24. Include in your price the cost to perform normal punch-list point-ups at the end of the project prior to move in. This is in addition to point-ups performed in items A-H above.
25. Provide code compliance above ceilings identification markings of fire rated gypsum and CMU walls.

CARPENTRY SPECIFIC SCOPE OF WORK

26. This contractor is responsible for removing and reinstalling ceilings as shown on the drawings. This contractor is responsible for storing all materials and replacing any materials damaged during removal.

ALTERNATES

Provide all Carpentry work, in accordance with above specific scope of work, as applicable, for the alternates listed below.

Insert the following alternate prices into the spaces provided on the bid form.

ALTERNATE NO. 1: De-Energize, Disconnect, and demolish all existing lighting fixtures marked as (E), as well as all lighting fixtures marked as (R), and furnish and install new lighting fixtures. This does not include the following areas: VISUAL COMMUNICATIONS SHOP AND DARK ROOMS (B104B, B106, B106C, B106D, B106E), B-WING CLASSROOMS B115 AND B117, TV STUDIO AND CLASSROOM (B116, B116T, B116A, B118, B114, B114A, B114B, B114C, B114D, B114E), MAINTENANCE AREA (B120, B120A, B120B, B120C, B120T), AND ADA BATHROOMS (BATHROOM 104, BATHROOM 105).

ALTERNATE NO. 2: Additional ceiling removal and replacement as shown on drawings labeled "ALTERNATE 2."

ALTERNATE NO. 3: All work shown on drawings labeled "ALTERNATE 3."

ALTERNATE NO. 4: All work Associated with RTU 1 (Air handler on Roof Above Classroom B115)

ALTERNATE NO. 5: All work Associated with RTU 2 (Air handler on Roof Above Classroom B117)

ALTERNATE NO. 6: All work Associated with RTU 3 (Air handler on Mechanical Mezzanine above Toilet B115T)

ALTERNATE NO. 7: All work Associated with RTU 4 (Air handler on Roof Above Classroom B117)

ALTERNATE NO. 8: All work Associated with RTU 8 (Air handler Above Classroom B110)

ALTERNATE NO. 9: All work shown in Wellness Area: B101, B101A, B101B, B101C, B101D, B101E, B101F.

ALTERNATE NO. 10: All work Associated with replacement of Summer/Winter Valves

UNIT PRICES

Provide the following unit prices. Whiting-Turner reserves the right to request lump sum or T&M pricing for extra work in lieu of applying unit prices.

None.

SECTION 011200-09B – SPECIFIC SCOPE OF WORK – PAINT

SPECIFIC SCOPE – PAINT:

- A. The provisions outlined in the General Scope of Work shall apply to all items of this section. All work shall be in accordance with the schedule.
- B. This work shall include all labor, supervision, material, tools, equipment, shop drawings, submittals, layout, unloading, scaffolding, ladders, hoisting, transportation, taxes, permits, engineering, support functions, insurance, bonds, and any other items or services necessary for and reasonably incidental to the proper execution and completion of the work, whether temporary or permanent, in accordance with all drawings, specifications, addenda, general conditions, requirements, and other related documents as indicated herein. All work shall be furnished and installed unless noted otherwise herein. The scope of work shall include but not be limited to the following specific scope of work:

SPECIFICATION SECTIONS

Prepared by DEDC Engineering & Whiting-Turner, dated June 27th, 2023:
Divisions 00-31

The contractor is fully responsible for the technical specification sections as listed below for this Unit of Work. The exception to this is when the note “As Applicable” follows a technical specification section. In that case, other units of work, as defined by the Scope, may also have some responsibility for that particular section. General Conditions, Supplementary Conditions, General Requirements and General Scope Items apply to each and all of the Individual Units of Work.

Section	Description	Responsibility
Division 00	Procurement and Contract Requirements	In Its Entirety
Division 01	General Requirements	In Its Entirety
Division 02	Existing Conditions	In Its Entirety
Division 05	Metals	As Applicable
Division 06	Wood, Plastics & Composites	As Applicable
Division 07	Thermal and Moisture Protection	As Applicable
Division 09	Finishes	As Applicable
Division 23	HVAC	As Applicable
Division 26	Electrical	As Applicable
Division 31	Earthwork	As Applicable

NARRATIVE:

1. Temporary lighting will be provided by other. It is the responsibility of this contractor to provide supplemental lighting for surface preparation and painting as required to accomplish the work described herein.
2. This contractor shall protect all surfaces from overspray. This includes finished and non-finished surfaces including steel and concrete. Include in your price the masking of finished products that may be installed prior to your painting.
3. This contractor shall promptly clean/remove any overspray from adjacent factory finished materials or glass. Cover ALL glass prior to painting.
4. Furnish and install all painting including but not limited to, at a minimum, one prime coat, priming of all GWB point up and patching, and two final coats at the specified thickness. If sprayed, all (3) coats must be back rolled.
5. Furnish and install all paint/special paint/block filler/epoxy paint coatings and accessory materials where indicated. Review wall sections and elevations for the extent of the work.
6. Provide the painting of all interior and exterior surfaces required by the contract drawings and specifications as shown including but not limited to all concrete, masonry, gypsum wallboard, plaster, wood and metal surfaces, hollow metal doors and frames, reveals, access panels, stairs, exterior materials not prefinished, wood window trim, exposed steel, sprinkler pipe, exposed metal deck, handrails, exterior lintels, bollards, exposed exterior gas piping, and any exposed incoming utilities and piping as required.
7. Fire rating, UL, and any other pipe or equipment labels shall not be painted over.
8. This contractor shall cover and protect all sprinkler heads prior to painting ceilings and sprinkler piping. Removal of protection shall be included in this Contractor's work.
9. Provide painting preparation of all surfaces as required by the paint manufacturer and specification, including but not limited to all items listed in this scope of work.
10. Provide attic stock at a minimum of one labeled and unopened one-gallon container of each paint color, type, and texture used on the project for turnover to the owner at project completion. Provide additional quantities if required by the specifications.
11. The beginning of this contractor's installation constitutes acceptance of the surface as acceptable to receive paint/finish. Notify WT of any problems two (2) weeks prior to starting work.
12. Verify that all air and surface temperatures, moisture and humidity conditions are suitable for the installation of this work.
13. This contractor shall cover all floor surfaces while painting. This includes finished and unfinished floors. Flooring materials need to bond to bare concrete for their warranty to be accepted. This contractor will be responsible to remove any overspray from floors.
14. Coordinate with the Drywall contractor to patch and prep for finishes as follows:
 - A. Drywall subcontractor will complete final sanding of drywall.
 - B. Painter to apply prime coat (spray and backroll is acceptable).
 - C. Whiting-Turner, Drywall and Painting Contractors to walk the entire area and review drywall quality. Imperfections will be identified and marked in the field.
 - D. Drywall contractor will repair all marked imperfections.
 - E. Painter will proceed with application of 1st coat.
 - F. Items C and D will be repeated, correcting any remaining imperfections.
 - G. Balance of work will be completed i.e. millwork, flooring, hardware, etc.
 - H. Painter will complete final coat by means of rolling/brushing.
15. This contractor shall participate in a sign-off procedure, as established by Whiting-Turner, on a room by room basis after priming and point up, prior to the room being released to receive final coats of paint.

PAINTING SPECIFIC SCOPE

16. Include in your price the cost to perform normal punch-list touch-ups at the end of the project prior to move in. This shall be in addition to touch-ups performed per items A-H above.
17. This contractor is responsible for painting of all new soffits, bulkheads, chases, walls, ceilings, etc.
18. This contractor is responsible for painting the entire existing wall corner to corner where new work is being installed.
19. This contractor is responsible for applying one coat of paint to all remaining walls in the areas of work and any unit convectors covers in the rooms.

ALTERNATES

Provide all painting work, in accordance with above specific scope of work, as applicable, for the alternates listed below.

Insert the following alternate prices into the spaces provided on the bid form.

ALTERNATE NO. 1: De-Energize, Disconnect, and demolish all existing lighting fixtures marked as (E), as well as all lighting fixtures marked as (R), and furnish and install new lighting fixtures. This does not include the following areas: VISUAL COMMUNICATIONS SHOP AND DARK ROOMS (B104B, B106, B106C, B106D, B106E), B-WING CLASSROOMS B115 AND B117, TV STUDIO AND CLASSROOM (B116, B116T, B116A, B118, B114, B114A, B114B, B114C, B114D, B114E), MAINTENANCE AREA (B120, B120A, B120B, B120C, B120T), AND ADA BATHROOMS (BATHROOM 104, BATHROOM 105).

ALTERNATE NO. 2: Additional ceiling removal and replacement as shown on drawings labeled "ALTERNATE 2."

ALTERNATE NO. 3: All work shown on drawings labeled "ALTERNATE 3."

ALTERNATE NO. 4: All work Associated with RTU 1 (Air handler on Roof Above Classroom B115)

ALTERNATE NO. 5: All work Associated with RTU 2 (Air handler on Roof Above Classroom B117)

ALTERNATE NO. 6: All work Associated with RTU 3 (Air handler on Mechanical Mezzanine above Toilet B115T)

ALTERNATE NO. 7: All work Associated with RTU 4 (Air handler on Roof Above Classroom B117)

ALTERNATE NO. 8: All work Associated with RTU 8 (Air handler Above Classroom B110)

ALTERNATE NO. 9: All work shown in Wellness Area: B101, B101A, B101B, B101C, B101D, B101E, B101F.

ALTERNATE NO. 10: All work Associated with replacement of Summer/Winter Valves

UNIT PRICES

Provide the following unit prices. Whiting-Turner reserves the right to request lump sum or T&M pricing for extra work in lieu of applying unit prices.

None.

SECTION 011200-22A – SPECIFIC SCOPE OF WORK –MECHANICAL

SPECIFIC SCOPE –MECHANICAL:

- A. The provisions outlined in the General Scope of Work shall apply to all items of this section. All work shall be in accordance with the schedule.
- B. This work shall include all labor, supervision, material, tools, equipment, shop drawings, submittals, layout, unloading, scaffolding, ladders, hoisting, transportation, taxes, permits, engineering, support functions, insurance, bonds, and any other items or services necessary for and reasonably incidental to the proper execution and completion of the work, whether temporary or permanent, in accordance with all drawings, specifications, addenda, general conditions, requirements, and other related documents as indicated herein. All work shall be furnished and installed unless noted otherwise herein. The scope of work shall include but not be limited to the following specific scope of work:

SPECIFICATION SECTIONS

Prepared by DEDC Engineering & Whiting-Turner, dated June 27th, 2023:
Divisions 00-31

The contractor is fully responsible for the technical specification sections as listed below for this Unit of Work. The exception to this is when the note “As Applicable” follows a technical specification section. In that case, other units of work, as defined by the Scope, may also have some responsibility for that particular section. General Conditions, Supplementary Conditions, General Requirements and General Scope Items apply to each and all of the Individual Units of Work.

Section	Description	Responsibility
Division 00	Procurement and Contract Requirements	In Its Entirety
Division 01	General Requirements	In Its Entirety
Division 02	Existing Conditions	In Its Entirety
Division 05	Metals	As Applicable
Division 06	Wood, Plastics & Composites	As Applicable
Division 07	Thermal and Moisture Protection	As Applicable
Division 09	Finishes	As Applicable
Division 23	HVAC	As Applicable
Division 26	Electrical	As Applicable
Division 31	Earthwork	As Applicable

NARRATIVE:

1. Provide all permits and fees required.
2. Review all drawings including architectural, mechanical, electrical, plumbing, fire protection and food service prior to mobilization to identify all items that need to be embedded, penetrate or generally coordinated with mechanical work.
3. This contractor shall provide a complete plumbing, mechanical, HVAC & Sheetmetal package per the contract documents.
4. This contractor is responsible to safe off, drain, and make first cut and cap of all mechanical equipment to be demolished which will be removed by others. This contractor is responsible for coordinating all items to be demolished with the demolition contractor.
5. This contractor shall cut and cap pneumatic controls back to mains, removal by others.
6. Removal and disposal of existing roof top units will be by this contractor.
7. This contractor shall furnish and install all new mechanical equipment including but not limited to fans, unit ventilators, air handlers, fan coils, GRDs, piping, valves, insulation, hangers, sleeves etc. and all related curbs, splash blocks, & associated components.
8. This contractor shall furnish and install all plumbing fixtures, accessories, and all associated components.
9. This contractor is responsible for all hoisting and rigging related to their work.
10. This contractor shall furnish and install all roof curbs to be coordinated with the roofer.
11. This contractor is responsible for providing roof protection around all areas of work to be completed on the roof.
12. Provide fire-stopping sealant for all penetrations at wall, floors and ceilings.
13. Provide access panels as required for concealed valves or devices. Access panel locations to be coordinated with carpenter and construction manager.
14. Perform all Pre and Post testing for all systems as specified. All tests to be witnessed by Whiting-Turner. Provide all testing documentation to Whiting-Turner.
15. Verify all required clearances for all equipment.
16. Provide all vibration isolation devices and thrust restraints for all equipment as specified.
17. Provide all cutting, patching, core drilling, sleeves and penetrations as required. Sleeve all penetrations at all walls and floorings.
18. Provide all piping and duct insulation per specifications.
19. Perform flushing, testing and sterilizing of domestic water systems.
20. Provide complete plumbing system to include all domestic water piping, gas piping, valves, storm water piping, roof drains, floor drains, vent piping, plumbing fixtures, plumbing equipment, hose bibs, yard hydrants, hot water heaters, expansion tanks, circulator pumps, condensate pumps and drains, mixing valves, gas regulators, etc.
21. Provide all vents and drains at high and low points in piping.
22. This contractor shall provide any concrete housekeeping pads required for new equipment.
23. This contractor is responsible for all fire retardant plywood require for equipment backing related to this contractors work.
24. Provide access doors in ductwork as required.
25. All equipment used prior to final completion shall be serviced, inspected and cleaned prior to final completion and acceptance by owner.
26. Provide new filters in all equipment prior to final testing and balancing.
27. Provide all grilles and diffusers in walls and ceilings. Coordinate rough opening sizes with appropriate contractors.
28. All ductwork to be delivered to project clean with ends sealed. Upon completion of ductwork installation each day, open ends of duct to be sealed. If ductwork is found to be dirty, duct shall be cleaned by contractor.
29. Provide start-up, testing and commissioning of all new equipment and systems as specified.

MECHANICAL SPECIFIC SCOPE

30. Coordinate with ATC & electrical contractors prior to demolition of all equipment and during installation of new equipment.
31. Coordinate with electrical contractor to provide shutdown of necessary HVAC equipment upon activation of duct-mounted smoke detectors. Provide control wiring as required. Confirm proper operation with electrical contractor.
32. Provide all motor starters, disconnects, VFDs scheduled to be supplied with new equipment.
33. Verify electrical requirements for new mechanical and plumbing equipment matches the electrical drawings. Coordinate all power requirements with electrical contractor.
34. Provide all supports required for proper installation of this work.
35. Provide final cleaning of the interior of all new equipment.
36. Cut all metal decking as required for installation of ductwork, piping, equipment thru the roof and elevated floor slab.
37. Any floor penetration larger than four square inches must be identified, protected and if at all possible, formed in place with a styrofoam block out. Any floor penetration larger than one square foot must be reinforced with wire mesh by the concrete contractor. Any floor penetration larger than two feet per side requires rebar reinforcing by the concrete contractor. Develop a detail matrix of floor openings identifying size, service and an identifying number. Use styrofoam block outs for all cast in place floor openings. Use wood screw to secure them to the plywood form. Witness the pour in order to protect the opening. This includes pours that may be made on Saturday. After the pour, use the matrix to record that every blockout has been removed as soon as possible and is accounted for. Every single opening larger than four square inches is required to have 3/4" plywood cover, fastened to the deck and labeled "Fall Hazard. Do not remove. Opening number XXX". Protective covers removed as directed by Whiting-Turner.
38. Install duct smoke and heat detectors in ductwork. Devices provided by electrical contractor.
39. This contractor shall demo, remove and dispose of existing roof drains shown to be replaced. This contractor shall furnish and install new roof drain fixtures. Include connections to existing roof drain piping, include insulation of bottom of drain and insulation new pipe.
40. Provide testing and balancing.
41. Provide mechanical systems commissioning assistance. Contractor shall provide labor and material assistance, including that of the approved manufacturer representatives / technicians to the Third Party Commissioning Agent as required to demonstrate proper operation of all mechanical equipment and systems.

ALTERNATES

Provide all mechanical work, in accordance with above specific scope of work, as applicable, for the alternates listed below.

Insert the following alternate prices into the spaces provided on the bid form.

ALTERNATE NO. 1: De-Energize, Disconnect, and demolish all existing lighting fixtures marked as (E), as well as all lighting fixtures marked as (R), and furnish and install new lighting fixtures. This does not include the following areas: VISUAL COMMUNICATIONS SHOP AND DARK ROOMS (B104B, B106, B106C, B106D, B106E), B-WING CLASSROOMS B115 AND B117, TV STUDIO AND CLASSROOM (B116, B116T, B116A, B118, B114, B114A, B114B, B114C, B114D, B114E), MAINTENANCE AREA (B120, B120A, B120B, B120C, B120T), AND ADA BATHROOMS (BATHROOM 104, BATHROOM 105).

ALTERNATE NO. 2: Additional ceiling removal and replacement as shown on drawings labeled "ALTERNATE 2."

ALTERNATE NO. 3: All work shown on drawings labeled "ALTERNATE 3."

ALTERNATE NO. 4: All work Associated with RTU 1 (Air handler on Roof Above Classroom B115)

ALTERNATE NO. 5: All work Associated with RTU 2 (Air handler on Roof Above Classroom B117)

ALTERNATE NO. 6: All work Associated with RTU 3 (Air handler on Mechanical Mezzanine above Toilet B115T)

ALTERNATE NO. 7: All work Associated with RTU 4 (Air handler on Roof Above Classroom B117)

ALTERNATE NO. 8: All work Associated with RTU 8 (Air handler Above Classroom B110)

ALTERNATE NO. 9: All work shown in Wellness Area: B101, B101A, B101B, B101C, B101D, B101E, B101F.

ALTERNATE NO. 10: All work Associated with replacement of Summer/Winter Valves

UNIT PRICES

Provide the following unit prices. Whiting-Turner reserves the right to request lump sum or T&M pricing for extra work in lieu of applying unit prices.

NA.

END OF SECTION 011200-22A

SECTION 011200-23A – SPECIFIC SCOPE OF WORK – ATC

SPECIFIC SCOPE – ATC:

- A. The provisions outlined in the General Scope of Work shall apply to all items of this section. All work shall be in accordance with the schedule.
- B. This work shall include all labor, supervision, material, tools, equipment, shop drawings, submittals, layout, unloading, scaffolding, ladders, hoisting, transportation, taxes, permits, engineering, support functions, insurance, bonds, and any other items or services necessary for and reasonably incidental to the proper execution and completion of the work, whether temporary or permanent, in accordance with all drawings, specifications, addenda, general conditions, requirements, and other related documents as indicated herein. All work shall be furnished and installed unless noted otherwise herein. The scope of work shall include but not be limited to the following specific scope of work:

SPECIFICATION SECTIONS

Prepared by DEDC Engineering & Whiting-Turner, dated June 27th, 2023:
Divisions 00-31

The contractor is fully responsible for the technical specification sections as listed below for this Unit of Work. The exception to this is when the note “As Applicable” follows a technical specification section. In that case, other units of work, as defined by the Scope, may also have some responsibility for that particular section. General Conditions, Supplementary Conditions, General Requirements and General Scope Items apply to each and all of the Individual Units of Work.

Section	Description	Responsibility
Division 00	Procurement and Contract Requirements	In Its Entirety
Division 01	General Requirements	In Its Entirety
Division 02	Existing Conditions	In Its Entirety
Division 05	Metals	As Applicable
Division 06	Wood, Plastics & Composites	As Applicable
Division 07	Thermal and Moisture Protection	As Applicable
Division 09	Finishes	As Applicable
Division 23	HVAC	As Applicable
Division 26	Electrical	As Applicable
Division 31	Earthwork	As Applicable

NARRATIVE:

1. This contractor shall provide all design, engineering and certifications as required for this work.
2. Disconnect and reconnect all ATC devices, wiring, equipment, etc. at existing mechanical equipment shown to be replaced.
3. This contractor is responsible for all controls demolition per the drawing and specifications.
4. Provide complete automatic temperature control system per drawings and specifications. Include all wiring, temperature sensors, discharge air sensors, outside air sensors, humidity sensors, current sensors, CO2 sensors, flow sensors, and DDC controllers as required.
5. This contractor is responsible for a complete controls system per the drawings and specification. It is the responsibility of this contractor to confirm what controls are provided with the equipment and provide any additional controls that are required.
6. All new and modifications of existing raceways, conduit, junction boxes, etc. shall be by this contractor.
7. Provide labels and tags for all devices and equipment.
8. Patch piping or duct insulation damaged as a result of this work.
9. Perform owner training of all equipment and systems.
10. Provide all computers and software as specified.
11. Provide all motor-operated dampers, control valves, thermostats, sensors, etc.
12. Coordinate power requirements with electrical and mechanical contractor.
13. Review mechanical equipment submittals to provide proper system functionality.
14. Furnish all controlled dampers as required. Installation of dampers by mechanical contractor. Wiring, programming, commissioning by this contractor.
15. Furnish and install control cabinets.
16. Provide communication wiring from factory mounted unit controllers to ATC system controller. Provide programming to complete sequence of operation as specified.
17. ATC system shall communicate and function with district-wide head-end system provided and maintained by others.
18. All low voltage cabling for ATC system shall be plenum-rated where required by code.
19. Assist with equipment start-up to insure proper operation and functionality.
20. Nearing project completion and as directed by Whiting-Turner, this contractor shall demonstrate proper operation of all HVAC equipment and demonstrate proper function and graphics display of head-end computer within building.
21. Provide mechanical systems commissioning assistance. Contractor shall provide labor and material assistance, including that of the approved manufacturer representatives / technicians to the Third Party Commissioning Agent as required to demonstrate proper operation of all mechanical equipment and systems.

ALTERNATES

Provide all mechanical work, in accordance with above specific scope of work, as applicable, for the alternates listed below.

Insert the following alternate prices into the spaces provided on the bid form.

ALTERNATE NO. 1: De-Energize, Disconnect, and demolish all existing lighting fixtures marked as (E), as well as all lighting fixtures marked as (R), and furnish and install new lighting fixtures. This does not include the following areas: VISUAL COMMUNICATIONS SHOP AND DARK ROOMS (B104B, B106, B106C, B106D, B106E), B-WING CLASSROOMS B115 AND B117, TV STUDIO AND CLASSROOM (B116, B116T, B116A, B118, B114, B114A, B114B, B114C, B114D, B114E), MAINTENANCE AREA (B120, B120A, B120B, B120C, B120T), AND ADA BATHROOMS (BATHROOM 104, BATHROOM 105).

ALTERNATE NO. 2: Additional ceiling removal and replacement as shown on drawings labeled "ALTERNATE 2."

ALTERNATE NO. 3: All work shown on drawings labeled "ALTERNATE 3."

ALTERNATE NO. 4: All work Associated with RTU 1 (Air handler on Roof Above Classroom B115)

ALTERNATE NO. 5: All work Associated with RTU 2 (Air handler on Roof Above Classroom B117)

ALTERNATE NO. 6: All work Associated with RTU 3 (Air handler on Mechanical Mezzanine above Toilet B115T)

ALTERNATE NO. 7: All work Associated with RTU 4 (Air handler on Roof Above Classroom B117)

ALTERNATE NO. 8: All work Associated with RTU 8 (Air handler Above Classroom B110)

ALTERNATE NO. 9: All work shown in Wellness Area: B101, B101A, B101B, B101C, B101D, B101E, B101F.

ALTERNATE NO. 10: All work Associated with replacement of Summer/Winter Valves

UNIT PRICES

Provide the following unit prices. Whiting-Turner reserves the right to request lump sum or T&M pricing for extra work in lieu of applying unit prices.

NA.

END OF SECTION 011200-22A

SECTION 011200-26A – SPECIFIC SCOPE OF WORK – ELECTRICAL

SPECIFIC SCOPE – ELECTRICAL:

- A. The provisions outlined in the General Scope of Work shall apply to all items of this section. All work shall be in accordance with the schedule.
- B. This work shall include all labor, supervision, material, tools, equipment, shop drawings, submittals, layout, unloading, scaffolding, ladders, hoisting, transportation, taxes, permits, engineering, support functions, insurance, bonds, and any other items or services necessary for and reasonably incidental to the proper execution and completion of the work, whether temporary or permanent, in accordance with all drawings, specifications, addenda, general conditions, requirements, and other related documents as indicated herein. All work shall be furnished and installed unless noted otherwise herein. The scope of work shall include but not be limited to the following specific scope of work:

SPECIFICATION SECTIONS

Prepared by DEDC Engineering & Whiting-Turner, dated June 27th, 2023:
Divisions 00-31

The contractor is fully responsible for the technical specification sections as listed below for this Unit of Work. The exception to this is when the note “As Applicable” follows a technical specification section. In that case, other units of work, as defined by the Scope, may also have some responsibility for that particular section. General Conditions, Supplementary Conditions, General Requirements and General Scope Items apply to each and all of the Individual Units of Work.

Section	Description	Responsibility
Division 00	Procurement and Contract Requirements	In Its Entirety
Division 01	General Requirements	In Its Entirety
Division 02	Existing Conditions	In Its Entirety
Division 05	Metals	As Applicable
Division 06	Wood, Plastics & Composites	As Applicable
Division 07	Thermal and Moisture Protection	As Applicable
Division 09	Finishes	As Applicable
Division 23	HVAC	As Applicable
Division 26	Electrical	As Applicable
Division 31	Earthwork	As Applicable

NARRATIVE:

1. Provide all permits and fees required.
2. Please note the construction schedule and associated phasing plan. Multiple mobilizations may be required.
3. Temporary Power: contractor shall identify the circuit breakers that feed area of work and replace existing circuit breakers with GFCI protected breakers to insure GFCI protection during construction usage.
4. Temporary Lighting: this contractor is responsible for providing sufficient lighting in the area of work.
5. Furnish and install all new interior and exterior electrical power, lighting systems as shown.
6. This contractor shall support all light fixtures to remain in area where ceiling will be removed.
7. This contractor shall safe off and make first cut of all electrical items to be removed, demolition by others. This contractor shall coordinate with demolition contract for all items to be removed.
8. This contractor shall disconnect, store, and reconnect all existing electronics to remain.
9. Disconnect and reconnect all circuiting to existing mechanical equipment shown to be replaced.
10. Disconnect and reconnect all circuiting to existing ATC panels and equipment shown to be replaced.
11. Disconnect and re-install existing electrical devices & lights required for ceiling removal including items not shown on the drawings including but not limited to; bells, PA speakers, Cameras, projectors, etc.
12. Furnish and install all new electrical equipment per the drawings and specifications including but not limited to panels, transformers, etc. and all associated components and accessories.
13. Furnish and install motor starters, disconnects, and combination starters for all mechanical equipment that is not supplied with an integral device. Refer to equipment schedules.
14. Furnish all new duct smoke and heat detectors to be installed by mechanical contractor and connected by this contractor.
15. Furnish and install new power circuits for new HVAC equipment as shown on the drawings.
16. Provide all shop drawings, submittals and mock-ups per specifications.
17. Provide warranties and guarantees as specified.
18. Provide conduit and wire in all exposed ceiling spaces for power and lighting. MC cable, or equivalent, not acceptable in any exposed ceiling space.
19. Provide pull strings in all empty raceways.
20. Provide electrical inspections as required per construction manager schedule and as required for progress inspections.
21. Provide as-built drawings, O&M manuals and all other closeout documentation required by specifications.
22. Provide modifications to fire alarm system as indicated.
23. Provide any power and systems wiring to mechanical fire and/or smoke dampers.
24. Provide all grounding work as required.
25. Provide all grounding busbars and hardware as shown.
26. Provide 120V power to BAS system control panels.
27. Provide modifications to security and card access systems as indicated.
28. Provide all labels and tags on devices, receptacles, junction boxes, and panels as required. Color code junction boxes and conduit as required by specifications.
29. Furnish and install motor starters, disconnects, and combination starters for all mechanical equipment that is not supplied with an integral device. Refer to equipment schedules.
30. All equipment used prior to final completion shall be serviced, inspected and cleaned prior to final completion and acceptance by owner.
31. Provide start-up, testing and commissioning of all new equipment and systems as specified.
32. Provide 5 days notice prior to shutdown of any system.
33. Provide all supports required for proper installation of this work.

ELECTRICAL SPECIFIC SCOPE

34. This contractor is responsible for all fire retardant plywood require for equipment backing related to this contractors work.
35. Provide final cleaning of the interior of all new equipment.
36. All required power shut-downs shall be performed off-hours. Contractor to include any costs for premium time. Shut-downs shall be scheduled 7 days in advance.
37. Contractor shall disconnect and re-connect existing duct detectors to remain.
38. Bidder to perform field surveys and inspections of all work areas during the bidding period. Bidder to account for all existing conditions in their bid.
39. Provide mechanical systems commissioning assistance. Contractor shall provide labor and material assistance, including that of the approved manufacturer representatives / technicians to the Third Party Commissioning Agent as required to demonstrate proper operation of all mechanical equipment and systems.

ALTERNATES

Provide all electrical work, in accordance with above specific scope of work, as applicable, for the alternates listed below.

Insert the following alternate prices into the spaces provided on the bid form.

ALTERNATE NO. 1: De-Energize, Disconnect, and demolish all existing lighting fixtures marked as (E), as well as all lighting fixtures marked as (R), and furnish and install new lighting fixtures. This does not include the following areas: VISUAL COMMUNICATIONS SHOP AND DARK ROOMS (B104B, B106, B106C, B106D, B106E), B-WING CLASSROOMS B115 AND B117, TV STUDIO AND CLASSROOM (B116, B116T, B116A, B118, B114, B114A, B114B, B114C, B114D, B114E), MAINTENANCE AREA (B120, B120A, B120B, B120C, B120T), AND ADA BATHROOMS (BATHROOM 104, BATHROOM 105).

ALTERNATE NO. 2: Additional ceiling removal and replacement as shown on drawings labeled "ALTERNATE 2."

ALTERNATE NO. 3: All work shown on drawings labeled "ALTERNATE 3."

ALTERNATE NO. 4: All work Associated with RTU 1 (Air handler on Roof Above Classroom B115)

ALTERNATE NO. 5: All work Associated with RTU 2 (Air handler on Roof Above Classroom B117)

ALTERNATE NO. 6: All work Associated with RTU 3 (Air handler on Mechanical Mezzanine above Toilet B115T)

ALTERNATE NO. 7: All work Associated with RTU 4 (Air handler on Roof Above Classroom B117)

ALTERNATE NO. 8: All work Associated with RTU 8 (Air handler Above Classroom B110)

ALTERNATE NO. 9: All work shown in Wellness Area: B101, B101A, B101B, B101C, B101D, B101E, B101F.

ALTERNATE NO. 10: All work Associated with replacement of Summer/Winter Valves

UNIT PRICES

Provide the following unit prices. Whiting-Turner reserves the right to request lump sum or T&M pricing for extra work in lieu of applying unit prices.

NA.

END OF SECTION 011200-26A

SECTION 23 7413 - PACKAGED OUTDOOR CENTRAL-STATION AIR-HANDLING UNITS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Packaged roof top unit.
- B. Unit controls.
- C. Remote panel.
- D. Roof mounting curb and base.
- E. Maintenance service.

1.2 REFERENCE STANDARDS

- A. AHRI 210/240 - Standard for Performance Rating of Unitary Air-Conditioning and Air-Source Heat Pump Equipment; 2008, Including All Addenda.
- B. AHRI 270 - Sound Performance Rating of Outdoor Unitary Equipment; 2015.
- C. ASHRAE Std 135 - BACnet - A Data Communication Protocol for Building Automation and Control Networks; 2016.
- D. NFPA 90A - Standard for the Installation of Air-Conditioning and Ventilating Systems; 2018.

1.3 SUBMITTALS

- A. Product Data: Provide capacity and dimensions of manufactured products and assemblies required for this project. Indicate electrical service with electrical characteristics and connection requirements, and duct connections.
- B. Shop Drawings: Indicate capacity and dimensions of manufactured products and assemblies required for this project. Indicate electrical service with electrical characteristics and connection requirements, and duct connections.
- C. Manufacturer's Instructions: Indicate assembly, support details, connection requirements, and include start-up instructions.
- D. Operation and Maintenance Data: Include manufacturer's descriptive literature, operating instructions, installation instructions, maintenance and repair data, and parts listing.
- E. Warranty: Submit manufacturer's warranty and ensure forms have been filled out in Owner's name and registered with manufacturer.
- F. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
 - 1. Extra Filters: One set for each unit.

1.4 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the type of products specified in this section, with minimum three years of documented experience.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Protect units from physical damage by storing off site until roof mounting curbs are in place, ready for immediate installation of units.

1.6 WARRANTY

- A. Provide a five year warranty to include coverage for refrigeration compressors.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Carrier Corporation; _____ : www.carrier.com/#sle.

- B. Trane Technologies, PLC; _____: www.trane.com/#sle.
- C. York, a brand of Johnson Controls International, PLC; _____: www.johnsoncontrols.com/#sle.
- D. Daikin-McQuay www.valentair.com/

2.2 PERFORMANCE REQUIREMENTS: SEE DRAWING SCHEDULES

2.3 MANUFACTURED UNITS

- A. General: Roof mounted units having gas burner and electric refrigeration.
- B. Description: Self-contained, packaged, factory assembled and prewired, consisting of cabinet and frame, supply fan, return fan, heat exchanger and burner, controls, air filters, refrigerant cooling coil and compressor, condenser coil and condenser fan.
- C. CASING CONSTRUCTION
 - 1. Unit shall be constructed for outdoor installation on a roof curb, framing, or concrete pad.
 - 2. Base
 - a. Base rails shall be constructed of a minimum of 10 gage galvanized steel with 16 gage integral floor pan.
 - b. Base shall have a minimum 4" overhang over the top of a roof curb to prevent water infiltration.
 - c. All floor seams shall have a raised rib joint.
 - d. There shall be no penetrations through the floor of the unit within the perimeter of the curb except for duct openings and utility chases.
 - e. Penetrations through the floor shall have a ½" raised rib around each opening.
 - 3. Options
 - a. Base pan shall be insulated with ½" closed-cell neoprene liner.
 - 4. Panels
 - a. Casing shall be constructed with minimum 2-inch, foam-injected, double-wall panels.
 - b. Individual panels shall be constructed so that they are thermally broken (there shall be no metal-to-metal contact between the interior and exterior sheet metal of each panel).
 - c. Interior side of panel shall be 22 gage G-90 galvanized steel.
 - d. Exterior side of panel shall be 22 gage painted steel rated for 1000 hours in accordance with ASTM B117 and ASTM D1654.
 - e. Insulation
 - 1) Insulation shall be 2 lb/ft³ foam insulation with an average R-value of 6 per inch.
 - 2) Insulation water absorption must be no more than 0.038 lb/ft per ASTM D 2842 and show "no growth" per ASTM G21 biocide testing.
 - 3) No insulation shall be exposed to the air stream.
 - 4) Fiberglass insulation is not acceptable due to possibility of sloughing and moisture retention.
 - 5. Access doors
 - a. Access doors shall be provided for access to all components requiring regular maintenance or inspection.
 - b. Access doors shall have a minimum of two quarter-turn compression latches with adjustable catches.
 - c. Access door construction shall be identical to unit casing.
 - d. Interior side of access doors shall be 22 gage G-90 galvanized steel.

- e. Exterior side of panel shall be 22 gage painted steel rated for 1000 hours in accordance with ASTM B117 and ASTM D1654.
 - f. Access doors shall be sealed with a full-perimeter gasket constructed of Mylar-encased low-density foam.
 - g. Insulation
 - 1) Insulation of shall be 2 lb/ft³ foam insulation with an average R-value of 6 per inch.
 - 2) Insulation water absorption must be no more that 0.038 lb/ft per ASTM D 2842 and show "no growth" per ASTM G21 biocide testing.
 - 3) No insulation shall be exposed to the air stream.
 - 4) Fiberglass insulation is not acceptable due to possibility of sloughing and moisture retention.
 - 6. Weatherhood with bird screen shall be provided on outside air inlet.
 - 7. Roof shall be pitched with a minimum ½" roof overhang around the perimeter of the unit.
- D. BLOWERS/MOTORS
- 1. Blowers
 - a. Fan assemblies shall be direct-drive without the use of belts or adjustable sheaves.
 - b. Manufacturer shall provide a variable frequency drive for each fan section.
 - c. Variable frequency drive shall be mounted, wired, and programmed by the manufacturer.
 - d. Variable frequency drive shall be located in an enclosed compartment outside of the supply or exhaust air stream.
 - e. Fan wheels shall have backward inclined blades constructed out of corrosion-resistant, fiber-reinforced polyamide.
 - f. Fan wheels shall have backward inclined blades constructed of welded aluminum.
 - g. Fan wheel shall be tested in accordance to AMCA 210.
 - 2. Motors
 - a. Fan motor shall be VFD rated, ODP type, EPACT compliant.
 - b. Fan motor shall be of premium efficiency (PE).
- E. DAMPERS
- 1. Motorized dampers
 - a. Frame shall be constructed of a 16 gage galvanized steel hat-channel.
 - b. Blades shall be constructed of 16 gage galvanized steel strengthened by three longitudinal 1 inch deep "vee" grooves.
 - c. Blades shall be symmetrical relative to its axle pivot point.
 - d. Axle bearings shall be synthetic sleeve-type and rotate inside extruded holes in the damper frame.
 - e. Blade seals shall be extruded vinyl permanently bonded to the appropriate blade edges.
 - f. Frame shall include flexible stainless steel compression-type jamb seals.
 - g. Modulating spring-return actuators shall be provided by the factory, installed on the damper, and wired to the control center.
 - h. Damper leakage shall be no more than 5 cfm/sq.ft. at 1 in.wg static pressure.
- F. FILTERS
- 1. Return air filters
 - a. Return air filter rack shall accommodate factory-provided MERV 8 and MERV 14 filters.

- b. Filter sections shall be accessible through a 2" thick, foam-injected, double-wall, hinged access door with quarter-turn latches.

G. COOLING - AIR COOLED DX

1. Unit shall be provided with factory piped, charged, and tested packaged air-cooled direct expansion refrigeration system.
 - a. Refrigeration systems 10 nominal tons and above shall be equipped with two stages of capacity control, each on an independent refrigerant circuit.
 - b. Refrigeration systems 30 nominal tons and above shall be equipped with four stages of capacity control, two stages per independent circuit.
2. Refrigeration system shall be provided with thermal expansion valve (TXV) incorporating adjustable superheat.
3. Evaporator coil
 - a. Coil shall be rated in accordance to ARI standards and pressure tested for 250 psi working pressure.
 - b. Coil shall be a minimum of 4 rows deep.
 - c. Refrigeration systems with more than one circuit shall have interlaced evaporator coils.
 - d. Coil casing shall be constructed of 16 gage galvanized steel casing.
 - e. Coil tubes shall be constructed of 1/2" diameter, 0.016" thick seamless copper tubing.
 - f. Coil fins shall be constructed of 0.0060" thick aluminum.
4. Drain pan
 - a. Drain pan shall be constructed of a minimum of 18 gage 201 stainless steel.
 - b. Drain pan shall be double-sloped to ensure condensate removal from unit.
 - c. Drain pan shall extend a minimum of 8" past the evaporator coil to ensure condensate retention.
5. Modulating hot-gas reheat
 - a. Hot-gas reheat coil shall be separated from the evaporator coil by a minimum of 6" in the direction of airflow to prevent the re-evaporation of condensate, provide room for coil cleaning, and allow control system to monitor evaporator coil leaving air temperature.
 - b. Coil shall be rated in accordance to ARI standards and pressure tested for 250 psi working pressure.
 - c. Coil casing shall be constructed of 16 gage galvanized steel casing.
 - d. Coil tubes shall be constructed of 3/8" diameter, 0.016" thick seamless copper tubing.
 - e. Coil fins shall be constructed of 0.0060" thick aluminum fins.
 - f. Hot-gas reheat shall be controlled through a factory-supplied modulating control valve.
6. Compressors
 - a. Compressors shall be hermetic scroll type and include the following items:
 - 1) Suction and discharge service valves.
 - 2) Reverse rotation protection.
 - 3) Oil level adjustment.
 - 4) Oil filter.
 - 5) Rotary dirt trap.
 - 6) Short cycling control.

- 7) High and low pressure limits.
 - 8) Crankcase heaters.
 - b. Compressors shall be installed in an isolated compartment separate from supply airflow, return airflow, microprocessor controller, non-fused disconnect, compressor relays, fan motor VFD, and all other electrical components inside the unit.
 - c. Compressors shall be installed using manufacturer's recommended rubber vibration isolators.
 - d. Lead refrigeration circuit shall utilize Digital Scroll™ compressor capable of 10:1 turndown.
 - 7. Condenser coils
 - a. Provide condenser coils with galvanized casing, seamless copper tubes, and aluminum fins.
 - b. Coil casing shall be constructed of 16 gage galvanized steel.
 - c. Coil tubes shall be constructed of 3/8" diameter, 0.016" thick seamless copper tubing.
 - d. Coil fins shall be constructed of 0.0060" thick aluminum fins.
 - 8. Condensing fans
 - a. Condensing section shall be equipped with 1140 rpm direct-drive condensing fans.
 - b. Condensing fan assembly shall be statically and dynamically balanced in accordance with AMCA Standard 204-05.
 - c. Condensing fan assembly shall consist of aluminum-bladed propeller fan wheel, formed-channel base, formed inlet venturi, and coated steel basket guard on the discharge.
 - 9. Options
 - a. Hot gas bypass shall be provided on lead refrigeration circuit.
 - b. Electrofin coating shall be factory-applied on the evaporator coil, hot-gas reheat coil, condenser coils.
 - c. Condensing section shall include factory provided and installed condenser coil guards.
- H. ELECTRICAL
- 1. Units shall be factory wired with a single point power connection.
 - 2. Units shall be wired according to NEC and listed per ETL.
 - 3. ETL listing shall cover all components of the ventilator and not be limited to the control panel.
 - 4. All major electrical components shall be UL listed.
 - 5. Unit shall be constructed with an integral control center isolated from supply airflow, exhaust airflow, compressors, and heating elements.
 - 6. The following items shall be provided and wired within the control center by the factory:
 - a. Non-fused disconnect.
 - b. Sub-circuit fusing.
 - c. Low voltage transformers.
 - d. Control circuit fusing.
 - e. Terminal block.
 - f. Fan motor variable frequency drives.
 - 7. Electrical panel must house all high voltage components such as terminal blocks, variable frequency drives, and fuse blocks.
 - 8. Options

- a. Control panel shall include a factory supplied and mounted 115V GFCI convenience outlet receptacle with a 12A circuit breaker. Outlet shall be powered by [factory, others in the field].
 - b. Unit shall include a factory supplied, mounted, and wired electric heating element in the control panel to maintain a minimum of 0F in the panel.
 - c. Unit shall include a factory supplied, mounted, and wired phase and voltage monitor.
- I. CONTROLS
- 1. Units shall include factory supplied, mounted, wired, and tested stand-alone microprocessor controls.
 - 2. Microprocessor controller shall be mounted in a weather-proof enclosure and accessible without exposing the operator to high voltage wiring or having to turn off or circumvent the main disconnect.
 - 3. Microprocessor controller shall include local liquid crystal display (LCD) for user interface.
 - 4. The following sensors shall be factory supplied, mounted, and wired inside the unit:
 - a. Outdoor air humidity sensor.
 - b. Outdoor air temperature sensor.
 - c. Evaporator coil leaving air temperature sensor.
 - d. Supply air filter pressure monitoring.
 - e. Energy wheel rotation sensor.
 - 5. The following devices shall be factory supplied but ship loose and require field installation and wiring:
 - a. Wall-mounted room air temperature sensor with manual adjuster.
 - b. Wall-mounted room air humidity sensor.
 - c. Supply air temp temperature sensor.
 - d. Wall-mounted CO2 sensor.
 - e. Space static pressure sensor.
 - f. Duct static pressure sensor.
 - g. Smoke detectors.
 - 6. Microprocessor controller shall include [BACnet IP, BACnet MSTP, LonTalk (FTT-10A)] communications for building management system interface.
 - 7. Microprocessor controller shall include a Web UI interface for remote web-based access.
- J.

2.4 COMPRESSOR

- A. Provide hermetic compressors, 3600 rpm maximum, resiliently mounted with positive lubrication, crankcase heater, high and low pressure safety controls, motor overload protection, suction and discharge service valves and gauge ports, and filter drier.

2.5 CONDENSER COIL

- A. Provide copper tube aluminum fin coil assembly with subcooling rows and coil guard.
- B. Provide direct drive propeller fans, resiliently mounted with fan guard, motor overload protection, wired to operate with compressor. Provide high efficiency fan motors.

2.6 MIXED AIR CASING

- A. Dampers: Provide outside, return, and relief dampers with damper operator and control package to automatically vary outside air quantity. Outside air damper to fall to closed position. Relief dampers may be gravity balanced.

- B. Gaskets: Provide tight fitting dampers with edge gaskets maximum leakage 5 percent at 2 in-wc pressure differential.

2.7 OPERATING CONTROLS

- A. Provide terminal strip on unit for connection of operating controls to remote panel by others. Control shall allow for two stages of heating and two stages cooling.
- B. BAS Automation Link: ASHRAE Std 135, BACnet MS/TP.
- C. External Point Mapping: Provide mapping table for each parameter included in the local visual interface with software-toggle flag to allow reduced mapping of available points.

2.8 OPERATING CONTROLS

- A. Temperature transmitter signal electronic logic panel to control mixing dampers and cooling in sequence. Mixing section shall operate as first stage of cooling and revert to minimum outside air above approximately 75 degrees F as determined by enthalpy of return and outdoor air.
- B. Control cooling by cycling compressors, cylinder unloading, and hot gas bypass.
- C. Control logic shall allow supply air reset under low load or airflow conditions.
- D. Unit to be connected to central BAS for monitoring and control of all points
- E. Provide two stage morning warm-up thermostat to hold outdoor dampers closed and energize heat until return air temperature reaches set point.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that roof is ready to receive work and opening dimensions are as indicated on shop drawings.
- B. Verify that proper power supply is available.

3.2 FACTORY VERIFICATION TESTING

- A. Unit shall be run tested prior to shipment from the factory.
- B. Factory run test report shall be provided at the request of the engineer, contractor, or owner.
- C. Testing Procedures
 - 1. Unit shall be subjected to and pass a dielectric (hipot) test.
 - 2. All motorized dampers shall be cycled one full stroke while installed in the unit using the factory-provided motorized actuators.
 - 3. Supply fan
 - a. Visually inspect ramp-up, ramp-down, and rotation direction of fan when enabled.
 - b. Verify fan pressure proving switch operation.
 - c. Measure and record current draw through supply fan motor(s).
 - 4. Exhaust fan
 - a. Visually inspect ramp-up, ramp-down, and rotation direction of fan when enabled.
 - b. Verify fan pressure proving switch operation.
 - c. Measure and record current draw through exhaust fan motor(s).
 - 5. Indirect gas furnace
 - a. Indirect gas furnace shall be run tested while installed inside unit with 8.5 in.wg of natural gas.
 - b. Measure and record leaving air temperature and manifold pressure at minimum fire.
 - c. Measure and record leaving air temperature and manifold pressure and maximum fire.

6. Condensing fans
 - a. Ensure fans rotate freely without obstruction.
 - b. Energize fans and ensure proper rotation.
 - c. Measure and record the amount of current draw through each condensing fan.
7. Refrigeration system
 - a. Measure and record subcooling and superheat on circuit A with hot-gas reheat valve closed (0%) after 15 minutes of steady-state operation.
 - b. Measure and record subcooling and superheat on circuit A with hot-gas reheat valve open (100%) after 15 minutes of steady-state operation.
 - c. Measure and record subcooling and superheat on circuit B after 15 minutes of steady-state operation.
- D. Test report shall be included with unit and available from the factory upon request.

3.3 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Mount units on factory built roof mounting curb providing watertight enclosure to protect ductwork and utility services. Install roof mounting curb level.

3.4 SYSTEM STARTUP

- A. Prepare and start equipment. Adjust for proper operation.

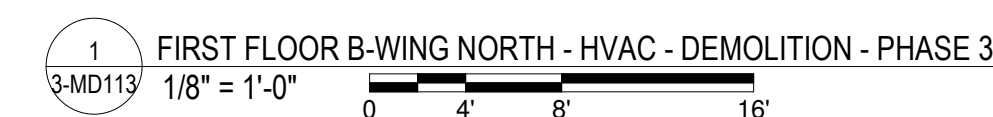
3.5 CLOSEOUT ACTIVITIES

- A. Demonstrate operation to Owner's maintenance personnel.

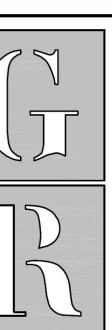
3.6 MAINTENANCE

- A. Provide service and maintenance of packaged roof top units for one year year from Date of Substantial Completion.
- B. Provide routine maintenance service with a two month interval as maximum time period between calls.
- C. Include maintenance items as outlined in manufacturer's operating and maintenance data, including minimum of six filter replacements, minimum of one fan belt replacement, and controls check-out, adjustments, and recalibration.
- D. After each service call, submit copy of service call work order or report that includes description of work performed.

END OF SECTION



ISSUED FOR BID **3-MD113**

 DEDCC DESIGN ENGINEERING DRAFTING CONSULTING & CONSTRUCTION 2115 S. Capital Blvd., Suite 100 Raleigh, NC 27606-1207 Phone: 919.772.7172 Fax: 919.772.7173 Cell: 919.778.7173 www.dedcc.com	
 R G ARCHITECTS R G Architects, LLC 200 W. Main St., Middleboro, MA 01909 Tel: 302.376.8100 302.376.9851 fax www.rgarchitects.net	
STAMP I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME: <u>SCOTT A FRENCH, PE</u> AND THAT I AM A duly LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF DELAWARE. LICENSE NUMBER: # 10740 EXPIRATION DATE: 6-30-2024	
DATE 07/10/2023	DESCRIPTION BID PHASE 3 1. ADDITIONAL E.I. 2. ADDITIONAL E.I.
NO. 0 1 2	PROJECT TITLE DELCASTLE RENOVATIONS DRAWING TITLE FIRST FLOOR B-WING NORTH - HVAC DEMO - BID PHASE 3
New Castle County Vocational Technical School District PROJECT NUMBER: 212256  DATE: 06 MAR 2023 DRAWN: DEDC CHECKED: SAF SHEET NUMBER: 3-MD113	





Job Name: Delcastle B-Wing
Prepared For: Unit Tag: RTU-1
Quantity: 2

ALTERNATE 4
RTU-1&RTU-2

Trane Precedent Gas/Electric/Cooling Only Packaged Rooftop

Unit Overview - TSJ072A3S00**P0E0A1B10000000000000000000									
Application	Unit Size	Supply Fan	Total External Static Pressure	External Dimensions (in.)	Operating Weight	EER	IEER/SEER	Elevation	
DX Cooling / Electric Heat	6 Ton	Airflow	0.934 in H2O	Height 4.24 ft Width 4.44 ft Length 7.34 ft	1146.0 lb	11.20	14.80	0.00 ft	

Unit Features	
Hinged Service Access/Filter	Hinged Access Panels with 2-in MERV 13
Through the Base Provisions	Electric
Disconnect / Circuit Breaker	Non-Fused Disconnect Switch
Convenience Outlet	Powered 15A Convenience Outlet
Fresh Air Selection	Downflow Low Leak Econ. CE with BR

Unit Electrical	
Voltage/phase/hertz	208-230/60/3
MCA	38.00 A
MOP	50.00 A
Condenser Fan FLA	3.30 A
Evaporator Fan FLA	1.80 A
Compressor 1 RLA	14.10 A
Compressor 2 RLA	7.30 A

Controls	
Unit Controls	Symbio 700
Communications Option	Advanced Controls and BACnet BAS

Cooling Section	
Entering Dry Bulb 79.00 F	Capacity
Entering Wet Bulb 56.42 F	Gross Total 74.11 MBH
Ambient Temp 95.00 F	Gross Latent 20.20 MBH
Leaving Coil Dry Bulb 55.12 F	Gross Sensible 53.92 MBH
Leaving Coil Wet Bulb 54.70 F	Net Total 72.38 MBH
Leaving Unit Dry Bulb 56.94 F	Net Sensible 52.18 MBH
Leaving Unit Wet Bulb 55.45 F	Net Sensible Heat Ratio 72.00 %
Saturated Discharge Temperature 112.36 F	Fan Motor Heat 1.74 MBH
Saturated Suction Temperature 52.26 F	Refrig Charge-Circuit 1.93 lb

Fan Section	
Indoor Fan Data	Indoor Fan Performance
Airflow Application Downflow	Airflow 2160 cfm
Design ESP 0.750 in H2O	Supply Motor Horsepower 3.100 hp
Component SP 0.184 in H2O	Indoor Motor Operating Power 0.650 hp
Heat SP 0.000 in H2O	Indoor RPM 995 rpm
Total External SP 0.934 in H2O	
Supply Fan Count 1.00 Number	

Field Installed Accessories	
Roof curb 14" Full Perimeter Knockdown Curb	
Power exhaust yes	

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Job Name: Delcastle B-Wing
Prepared For: Unit Tag: RHC-2
Quantity: 1

Heating Coil

Equipment Details	
Coil utilization	Shipping coil

Coil Construction

Model Number	DTTB18035G0AA108BABA00B****
System type	Hot Water 5/8" Duct Coil, Low Water Flow (TT)
Rows	1
Tube mat/wall thickness	.020 (0.508 mm) copper
Nominal fin spacing	150 fins per foot
Fin material	Aluminum
Fin type	Prima-Flo E Standard
Actual coil face area	4.38
Nominal coil height	18" (457 mm)
Finned length	30" (889 mm)
Casing option	Galvanized
Turbulances	No
Rigging weight	28.9 lb
Installed weight	33.8 lb
Tube mat/wall thickness	.020 (0.508 mm) copper

Coil Performance	
Capacity	Fluid
Total capacity 17.00 MBH	Standard fluid flow rate 8.70 gpm
Air	Entering fluid temp 160.00 F
Coil type 5/8" Duct Coil, Low Water Flow (TT)	Leaving fluid temp 160.00 F
Actual airflow 2600 cfm	Fluid PD 6.92 ft fluid
Entering dry bulb 40.00 F	Fluid velocity 4.81 ft/sec
Leaving dry bulb 70.85 F	Fluid type Water
APD 0.114 in H2O	Volume 0.58 gal
Face velocity 154 ft/min	Fouling factor 0.00025 hr-sq ft-deg F/Btu
	Reynolds number 69569.85 Each
	AHRI 410 classification
	AHRI 410 classification AHRI ACHC certified
	Data generation date 2/8/2023
	Trane Select Assist update number 2670.00

Note: Certified in accordance with the AHRI Forward-Cooling Air-Cooling and Air-Heating Coils Certification Program which is based on AHRI Standard 410 within the Range of Standard Rating Conditions listed in Table 1 of the Standard. Certified units may be found in the AHRI Directory at www.ahridirectory.org.



Heating Coil

Equipment Details	
Coil utilization	Shipping coil

Coil Construction

Model Number	DTTB18038G0AA123BABA00B****
System type	Hot Water 5/8" Duct Coil, Low Water Flow (TT)
Rows	1
Tube mat/wall thickness	.020 (0.508 mm) copper
Nominal fin spacing	123 fins per foot
Fin material	Aluminum
Fin type	Prima-Flo E
Actual coil face area	4.75
Nominal coil height	18" (457 mm)
Finned length	38" (965 mm)
Casing option	Galvanized
Turbulances	No
Rigging weight	31.7 lb
Installed weight	37.0 lb
Tube mat/wall thickness	.020 (0.508 mm) copper

Coil Performance	
Capacity	Fluid
Total capacity 139.92 MBH	Standard fluid flow rate 13.97 gpm
Air	Entering fluid temp 180.00 F
Coil type 5/8" Duct Coil, Low Water Flow (TT)	Leaving fluid temp 180.00 F
Actual airflow 4230 cfm	Fluid PD 16.22 ft fluid
Entering dry bulb 54.50 F	Fluid velocity 7.72 ft/sec
Leaving dry bulb 85.00 F	Fluid type Water
APD 0.256 in H2O	Volume 0.63 gal
Face velocity 891 ft/min	Fouling factor 0.00025 hr-sq ft-deg F/Btu
	Reynolds number 127587.58 Each
	AHRI 410 Classification
	AHRI 410 classification AHRI ACHC certified
	Data generation date 7/24/2023
	Trane Select Assist update number 2710.00

Note: Certified in accordance with the AHRI Forward-Cooling Air-Cooling and Air-Heating Coils Certification Program which is based on AHRI Standard 410 within the Range of Standard Rating Conditions listed in Table 1 of the Standard. Certified units may be found in the AHRI Directory at www.ahridirectory.org.



Job Name: Delcastle B-Wing
Prepared For: Unit Tag: RTU-3
Quantity: 1

ALTERNATE 6
RTU-3

Trane Precedent Gas/Electric/Cooling Only Packaged Rooftop

Unit Overview - TSJ090A3S00**P0E0A1B10000000000000000000									
Application	Unit Size	Supply Fan	Total External Static Pressure	External Dimensions (in.)	Operating Weight	EER	IEER/SEER	Elevation	
DX Cooling / Electric Heat	7.5 Ton	Airflow	1.015 in H2O	Height 4.24 ft Width 4.44 ft Length 7.34 ft	1150.0 lb	11.20	14.80	0.00 ft	

Unit Features	
Hinged Service Access/Filter	Hinged Access Panels with 2-in MERV 13
Through the Base Provisions	Electric
Disconnect / Circuit Breaker	Non-Fused Disconnect Switch
Convenience Outlet	Powered 15A Convenience Outlet
Fresh Air Selection	Downflow Low Leak Econ. CE with BR

Unit Electrical	
Voltage/phase/hertz	208-230/60/3
MCA	42.00 A
MOP	50.00 A
Condenser Fan FLA	3.30 A
Evaporator Fan FLA	1.80 A
Compressor 1 RLA	16.40 A
Compressor 2 RLA	9.20 A

Controls	
Unit Controls	Symbio 700
Communications Option	Advanced Controls and BACnet BAS

Cooling Section	
Entering Dry Bulb 81.80 F	Capacity
Entering Wet Bulb 68.87 F	Gross Total 94.54 MBH
Ambient Temp 95.00 F	Gross Latent 27.32 MBH
Leaving Coil Dry Bulb 57.54 F	Gross Sensible 67.61 MBH
Leaving Coil Wet Bulb 57.05 F	Net Total 102.76 MBH
Leaving Unit Dry Bulb 58.98 F	Net Sensible 65.44 MBH
Leaving Unit Wet Bulb 57.57 F	Net Sensible Heat Ratio 71.00 %
Saturated Discharge Temperature 110.35 F	Fan Motor Heat 2.18 MBH
Saturated Suction Temperature 51.86 F	Refrig Charge-Circuit 1.93 lb

Fan Section	
Indoor Fan Data	Indoor Fan Performance
Airflow Application Downflow	Airflow 2600 cfm
Design ESP 0.750 in H2O	Supply Motor Horsepower 3.100 hp
Component SP 0.265 in H2O	Indoor Motor Operating Power 0.880 hp
Heat SP 0.000 in H2O	Indoor RPM 1098 rpm
Total External SP 1.015 in H2O	
Supply Fan Count 2.00 Number	

Field Installed Accessories	
Roof curb 14" Full Perimeter Knockdown Curb	
Power exhaust yes	

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Job Name: Delcastle B-Wing
Prepared For: Unit Tag: AHU-1
Quantity: 1

Air Handler Model UCCA

Equipment Details	
Coil utilization	Shipping coil

Coil Construction

Model Number	DTTB18035G0AA108BABA00B****
System type	Hot Water 5/8" Duct Coil, Low Water Flow (TT)
Rows	1
Tube mat/wall thickness	.020 (0.508 mm) copper
Nominal fin spacing	150 fins per foot
Fin material	Aluminum
Fin type	Prima-Flo E Standard
Actual coil face area	4.38
Nominal coil height	18" (457 mm)
Finned length	30" (889 mm)
Casing option	Galvanized
Turbulances	No
Rigging weight	28.9 lb
Installed weight	33.8 lb
Tube mat/wall thickness	.020 (0.508 mm) copper

Coil Performance	
Capacity	Fluid
Total capacity 17.00 MBH	Standard fluid flow rate 8.70 gpm
Air	Entering fluid temp 160.00 F
Coil type 5/8" Duct Coil, Low Water Flow (TT)	Leaving fluid temp 160.00 F
Actual airflow 2600 cfm	Fluid PD 6.92 ft fluid
Entering dry bulb 40.00 F	Fluid velocity 4.81 ft/sec
Leaving dry bulb 70.85 F	Fluid type Water
APD 0.114 in H2O	Volume 0.58 gal
Face velocity 154 ft/min	Fouling factor 0.00025 hr-sq ft-deg F/Btu
	Reynolds number 69569.85 Each
	AHRI 410 classification
	AHRI 410 classification AHRI ACHC certified
	Data generation date 2/8/2023
	Trane Select Assist update number 2670.00

Note: Certified in accordance with the AHRI Forward-Cooling Air-Cooling and Air-Heating Coils Certification Program which is based on AHRI Standard 410 within the Range of Standard Rating Conditions listed in Table 1 of the Standard. Certified units may be found in the AHRI Directory at www.ahridirectory.org.



Heating Coil

Equipment Details	
Coil utilization	Shipping coil

Coil Construction

Model Number	DTTB18038G0AA123BABA00B****
System type	Hot Water 5/8" Duct Coil, Low Water Flow (TT)
Rows	1
Tube mat/wall thickness	.020 (0.508 mm) copper
Nominal fin spacing	123 fins per foot
Fin material	Aluminum
Fin type	Prima-Flo E
Actual coil face area	4.75
Nominal coil height	18" (457 mm)
Finned length	38" (965 mm)
Casing option	Galvanized
Turbulances	No
Rigging weight	31.7 lb
Installed weight	37.0 lb
Tube mat/wall thickness	.020 (0.508 mm) copper

Coil Performance	
Capacity	Fluid
Total capacity 139.92 MBH	Standard fluid flow rate 13.97 gpm
Air	Entering fluid temp 180.00 F
Coil type 5/8" Duct Coil, Low Water Flow (TT)	Leaving fluid temp 180.00 F
Actual airflow 4230 cfm	Fluid PD 16.22 ft fluid
Entering dry bulb 54.50 F	Fluid velocity 7.72 ft/sec
Leaving dry bulb 85.00 F	Fluid type Water
APD 0.256 in H2O	Volume 0.63 gal
Face velocity 891 ft/min	Fouling factor 0.00025 hr-sq ft-deg F/Btu
	Reynolds number 127587.58 Each
	AHRI 410 Classification
	AHRI 410 classification AHRI ACHC certified
	Data generation date 7/24/2023
	Trane Select Assist update number 2710.00

Note: Certified in accordance with the AHRI Forward-Cooling Air-Cooling and Air-Heating Coils Certification Program which is based on AHRI Standard 410 within the Range of Standard Rating Conditions listed in Table 1 of the Standard. Certified units may be found in the AHRI Directory at www.ahridirectory.org.



Job Name: Delcastle B-Wing
Prepared For: Unit Tag: RTU-4
Quantity: 1

ALTERNATE 7
RTU-4

Trane Precedent Gas/Electric/Cooling Only Packaged Rooftop

Unit Overview - TSJ180A3S00**P0E0A1B10000000000000000000									
Application	Unit Size	Supply Fan	Total External Static Pressure	External Dimensions (in.)	Operating Weight	EER	IEER/SEER	Elevation	
DX Cooling / Electric Heat	15 Ton	Airflow	1.000 in H2O	Height 4.92 ft Width 7.25 ft Length 10.26 ft	1930.0 lb	11.00	14.20	0.00 ft	

Unit Features	
Hinged Service Access/Filter	Hinged Access Panels with 2-in MERV 13
Through the Base Provisions	Electric
Disconnect / Circuit Breaker	Non-Fused Disconnect Switch
Convenience Outlet	Powered 15A Convenience Outlet
Fresh Air Selection	Downflow Low Leak Econ. CE with BR

Unit Electrical	
Voltage/phase/hertz	208-230/60/3
MCA	93.00 A
MOP	110.00 A
Condenser Fan FLA	3.30 A
Evaporator Fan FLA	1.80 A
Compressor 1 RLA	30.90 A
Compressor 2 RLA	16.40 A

Controls	
Unit Controls	Symbio 700
Communications Option	Advanced Controls and BACnet BAS

Cooling Section	
Entering Dry Bulb 79.00 F	Capacity
Entering Wet Bulb 56.42 F	Gross Total 185.70 MBH
Ambient Temp 95.00 F	Gross Latent 46.29 MBH
Leaving Coil Dry Bulb 56.51 F	Gross Sensible 139.41 MBH
Leaving Coil Wet Bulb 56.16 F	Net Total 181.01 MBH
Leaving Unit Dry Bulb 57.76 F	Net Sensible 134.72 MBH
Leaving Unit Wet Bulb 56.27 F	Net Sensible Heat Ratio 74.43 %
Saturated Discharge Temperature 121.20 F	Fan Motor Heat 4.89 MBH
Saturated Suction Temperature 50.12 F	Refrig Charge-Circuit 1.145 lb

Fan Section	
Indoor Fan Data	Indoor Fan Performance
Airflow Application Downflow	Airflow 5750 cfm
Design ESP 0.750 in H2O	Supply Motor Horsepower 3.100 hp
Component SP 0.300 in H2O	Indoor Motor Operating Power 1.580 hp
Heat SP 0.000 in H2O	Indoor RPM 1359 rpm
Total External SP 1.050 in H2O	
Supply Fan Count 2.00 Number	

Field Installed Accessories	
Roof curb 14" Full Perimeter Knockdown Curb	
Power exhaust yes	

Acoustics	
Sound Path	63 Hz 125 Hz 250 Hz 500 Hz 1 kHz 2 kHz 4 kHz 8 kHz
Ducted Discharge	79 dB 79 dB 75 dB 69 dB 63 dB 59 dB 59 dB 57 dB
Ducted Inlet	77 dB 75 dB 69 dB 63 dB 59 dB 56 dB 56 dB 53 dB
Outdoor Noise	84 dB 87 dB 93 dB 91 dB 88 dB 83 dB 80 dB 75 dB

Note: Ducted Discharge and Ducted Inlet Sound in accordance with AHRI 260-2017
Note: Outdoor Sound in accordance with AHRI 370-2015

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Job Name: Delcastle B-Wing
Prepared For: Unit Tag: AHU-1
Quantity: 1

Heating Coil

Equipment Details	
Coil utilization	Shipping coil

Coil Construction

Model Number	DTTB18035G0AA108BABA00B****
System type	Hot Water 5/8" Duct Coil, Low Water Flow (TT)
Rows	1
Tube mat/wall thickness	.020 (0.508 mm) copper
Nominal fin spacing	150 fins per foot
Fin material	Aluminum
Fin type	Prima-Flo E Standard
Actual coil face area	4.38
Nominal coil height	18" (457 mm)
Finned length	30" (889 mm)
Casing option	Galvanized
Turbulances	No
Rigging weight	28.9 lb
Installed weight	33.8 lb
Tube mat/wall thickness	.020 (0.508 mm) copper

Coil Performance	
Capacity	Fluid
Total capacity 17.00 MBH	Standard fluid flow rate 8.70 gpm
Air	Entering fluid temp 160.00 F
Coil type 5/8" Duct Coil, Low Water Flow (TT)	Leaving fluid temp 160.00 F
Actual airflow 2600 cfm	Fluid PD 6.92 ft fluid
Entering dry bulb 40.00 F	Fluid velocity 4.81 ft/sec
Leaving dry bulb 70.85 F	Fluid type Water
APD 0.114 in H2O	Volume 0.58 gal
Face velocity 154 ft/min	Fouling factor 0.00025 hr-sq ft-deg F/Btu
	Reynolds number 69569.85 Each
	AHRI 410 classification
	AHRI 410 classification AHRI ACHC Certified
	Data generation date 2/8/2023
	Trane Select Assist update number 2670.00

Note: Certified in accordance with the AHRI Forward-Cooling Air-Cooling and Air-Heating Coils Certification Program which is based on AHRI Standard 410 within the Range of Standard Rating Conditions listed in Table 1 of the Standard. Certified units may be found in the AHRI Directory at www.ahridirectory.org.



Heating Coil

Equipment Details	
Coil utilization	Shipping coil

Coil Construction

	Piller/Mixing Air Pressure	0.774 to H2O
	Cooling Coil Pressure	0.463 to H2O
	External Static Pressure	0.750 to H2O
	Discharge Pressure	0.198 to H2O
	Supply Fan Total Static Pressure	2.205 to H2O
AHRF Certification		
Data generation date 2/6/2023		
Trace Select Assist update number 2570		
Call 1 Note: Certified in accordance with the AHRF Forced-Circulation Coil-Certifying and Coil-Matching Data Certification Program which is based on AHRF Standard 410 within the Range of Standard Rating Conditions listed in Table 1 of the Standard. Certified units may be found in the AHRF Directory at www.ahrfdirectory.org .		
		



DATE: 31 MAR 2022
DRWN: Author
CHKD: Checker

SHEET NUMBER:

3-M601

NCCVT School District
Delcastle Technical High School
HVAC Renovations Bid Phase 3
Pre-Bid Meeting & Walkthrough
July 19th, 2023

Project Team Introductions

- **NCCVT School District**

- Sean Sokolowski
- Al Schrum Jr.

- **RG Architects**

- Chris Bowen

- **DEDC Engineering**

- Scott Frenck

- **Whiting-Turner**

- Frank Lerro
- Pat O'Malley
- Jesse Halstead



Agenda

- Project Overview
- Bidding Information
- Schedule & Logistics
- Questions



Project Overview

- Replacement of HVAC Units
- Removal and replacement of Ceilings
- Removal and replacement of Lights

Bid Packages

- BP3 02A – Demolition
- BP3 09A – Carpentry
- BP3 09B – Painting
- BP3 22A – Mechanical
- BP3 23A – Controls
- BP3 26A – Electrical

General Project Information

- Whiting-Turner is the Construction Manager-Adviser, NCCVT School District will hold contracts with each contractor
- 100% P&P Bonds will be required for each bid package. State P&P Bond forms must be used.
- 2023 Prevailing Wage Rates Apply

Schedule and Logistics

- June 2024 start for work
- Detailed Schedule and Logistics Plans will be included in addendum
- Contractors are expected to bid per the schedule and durations

Bid Form

- Included in Front End, Section 004000
- No Qualifications or Exclusions permitted
- Two originals to be submitted in sealed envelope
- 10% Bid Bond Required for each bid package – Must use form in specifications
- Non-Collusion Statement and Employee Drug Testing
- **Bids Due: Thursday, August 3rd, 2023 – 1:00 PM at NCCVT District Office, 1417 Newport Rd, Wilmington, DE 19804, ATTN: Sean Sokolowski, Business Director**
- Public opening - bids will be opened and read aloud

Key Bidding Dates

- Last Day for Substitution Requests
 - July 27th, 2023
- Last Day for Questions
 - July 27th, 2023
- Last Addendum
 - August 1st, 2023
- Bids Due – 1417 Newport Rd, Wilmington, DE 19804.
 - Thursday, August 3rd, 2023 at 1pm

Drawings & Specifications

- Contract documents may be obtained by emailing Patrick.o'malley@whiting-turner.com for link.
- Addenda will be posted via WT's FTP site, notifications will be sent via email.
- Scopes will be uploaded with future addendum

Email Address for Questions

- Send all questions and substitution requests to Pat O'Malley.
 - Patrick.o'malley@whiting-turner.com
 - **302-235-9565**
- Responses will be included in future addendum

Closing

- Subcontractor Listings
 - Subcontractors required to be listed are noted on the bid forms
- Questions
 - Q&A from this meeting will be in subsequent addendum

**NCCVT School District
Delcastle HVAC Renovations Bid Phase 3
Pre-Bid Meeting**

Date: 7/19/2023

SIGN-IN SHEET

EEO-1 FORM Equal Employment Opportunity Policy and Affirmative Action Program, Acknowledgement form:

The undersigned does hereby acknowledge that he or she has read and is familiar with, the current Equal Employment Opportunity Policy and Affirmative Action program of The Whiting-Turner Contracting Company and does agree to affirmatively follow and enforce this policy within the areas over which he or she has supervisory authority.

NO.	NAME	COMPANY	MOBILE #	EMAIL ADDRESS
1	A. Dass	Narissa Bldg Co	302-507 6028	adass@narissabldgco.com
2	MAT DASS	NARISSA	302 298 4917	MATHEW @NARISSA BLDG CO. COM
	Andrew McCracken	I.D. Griffith	302-593-0940	amccracken@idgriffith.com
3	Mike Perez	Superior Electric	302 332 4367	mikep@superiorelectric.biz
4	William Smith	Superior Electric	N/A	will@superiorelectric.biz
5	Justin Trosino	coorth & company	610-416-3403	Justin.Trosino@coorthandcompany.com
6	Dustin Banning	Brandywine contractors	302-325-2700	mdunfee@bci-online.com
7	Robert Fox	ISI Demo	410-420-8912	RobertFox@isidemo.com
8	Frederick Fisher	FIRST STATE ELECTRIC	302 530 5340	Fre.F@firststateelectric.com
9	Alec Friedman	McCloskey Mechanical	215 802 7337	afriedman@mcclloskeymechanical.com
10	Bryan Schneckenburger	Merit Mechanical	443-941-6782	bryans@meritmch.com

11	Dave Murray	BSS Contractors	(484)256-4986	Bsmith@bsscontractor.com
12	David Miller	Modern Controls	302-325-6800	clockard@moderncontrols.com
13	JAY MIXNER	GAUDELL BROS INC.	856-825-0636	margie@gaudelli-bros.com
14	Chris Dennis	Schlusser & Associates	302-373-4100	CBD.Schlusser@gmail.com
15	Mike Pacyna	DEDC	570-575-6538	mpacyna@dedc-eng.com
16	Russell Smith	DEDC	302-740-7674	Rsmith@Dedc-eng.com
17	Michael Roberts	WCCVT	302-668-7363	Michael.Roberts.kl.us.DE
18	Pat O'Malley	WT	302-235-9565	patrick.o'malley@whiting-turner
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