



Brownsville Independent School District

Agenda Category: General Function Board of Education Meeting: 12-16-2025

Item Title: CSP #23-164 Villa Nueva E.S. HVAC Upgrades, X Action
Phase I (Package 3) Project Information
Substantial Completion Discussion

BACKGROUND:

CSP#23-164 Villa Nueva E.S. HVAC Upgrades, Phase I (Package 3) Project, is ready for Substantial Completion acceptance by the Brownsville ISD Board of Trustees. The Project Engineer, General Contractor and, BISD Facilities Department Administration staff conducted a walk-thru to provide a Punch List. As a result, the Administration recommends substantial completion acceptance for this project.

Attached for reference find the following document(s).

Villa Nueva E.S. HVAC Upgrades, Phase I (Package 3) Project:

- AIA Document G704-2017
- Punch List
- Commissioning Report
- CSP #23-164

FISCAL IMPLICATIONS:

None

RECOMMENDATION:

Recommend approval to authorize the Villa Nueva E.S. HVAC Upgrades, Phase I (Package 3) Project, under CSP # 23-164, as substantially complete.

Approved for Submission to Board of Education:

Alonso Guerrero
Submitted by: Health Services & Operations

Alonso Guerrero
Recommended by: Health Services & Operations

Mary D. Garza
Approved by: Interim-Chief Financial Officer

Dr. Jesus H. Chavez
Dr. Jesus H. Chavez, Superintendent

When Necessary, Additional Background May Follow This.

AIA® Document G704® – 2017

Certificate of Substantial Completion

PROJECT: (name and address)
Brownsville ISD ESSER HVAC
Improvements Villa Nueva Elementary
School CSP #23-164

CONTRACT INFORMATION:
Contract For: General Construction

CERTIFICATE INFORMATION:
Certificate Number: 1

Date: February 22, 2023

Date: June 11, 2025

OWNER: (name and address)
Brownsville ISD
1900 Price Road
Brownsville, TX 78521
956-698-2400

ARCHITECT: (name and address)
Sigma HN Engineers, PLLC
701 S 15th St
McAllen, TX 78501
956-332-3206

CONTRACTOR: (name and address)
Quatum-Mechanical Contractors, LLC
2705 E Davis Rd., Suite A
Edinburg, TX 78540
956-513-1849

The Work identified below has been reviewed and found, to the Architect's best knowledge, information, and belief, to be substantially complete. Substantial Completion is the stage in the progress of the Work when the Work or designated portion is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use. The date of Substantial Completion of the Project or portion designated below is the date established by this Certificate.

(Identify the Work, or portion thereof, that is substantially complete.)

The project is substantially complete.

Sigma HN Engineers

ARCHITECT (Firm Name)

SIGNATURE

Gabriel Hinojosa, Principal

PRINTED NAME AND TITLE

August 6, 2024

DATE OF SUBSTANTIAL COMPLETION

WARRANTIES

The date of Substantial Completion of the Project or portion designated above is also the date of commencement of applicable warranties required by the Contract Documents, except as stated below:

(Identify warranties that do not commence on the date of Substantial Completion, if any, and indicate their date of commencement.)

N/A

WORK TO BE COMPLETED OR CORRECTED

A list of items to be completed or corrected is attached hereto, or transmitted as agreed upon by the parties, and identified as follows:

(Identify the list of Work to be completed or corrected.)

Refer to Punch List dated 8/6/2024. Commissioning Deficiency List needs to be completed. Test, Adjust, and Balance needs to be completed.

The failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents. Unless otherwise agreed to in writing, the date of commencement of warranties for items on the attached list will be the date of issuance of the final Certificate of Payment or the date of final payment, whichever occurs first. The Contractor will complete or correct the Work on the list of items attached hereto within thirty (30) days from the above date of Substantial Completion.

Cost estimate of Work to be completed or corrected: \$47,000

The responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work, insurance, and other items identified below shall be as follows:

(Note: Owner's and Contractor's legal and insurance counsel should review insurance requirements and coverage.)

The Owner shall assume these responsibilities in accordance with the executed Owner-Contractor Agreement.

The Owner and Contractor hereby accept the responsibilities assigned to them in this Certificate of Substantial Completion:

Quatum Mechanical
Contractors, LLC

CONTRACTOR (Firm
Name)

SIGNATURE

PRINTED NAME AND TITLE

DATE

Brownsville ISD

OWNER (Firm Name)

SIGNATURE

PRINTED NAME AND TITLE

DATE

AIA Document G704 – 2017. Copyright © 1983, 1978, 1992, 2000 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AIA," the AIA Logo, and "AIA Contract Documents" are trademarks of The American Institute of Architects. This document was produced at 19:51 45 ET on 06/11/2025 under Order No. 21/4635889 which expires on 06/10/2026, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents' Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com.

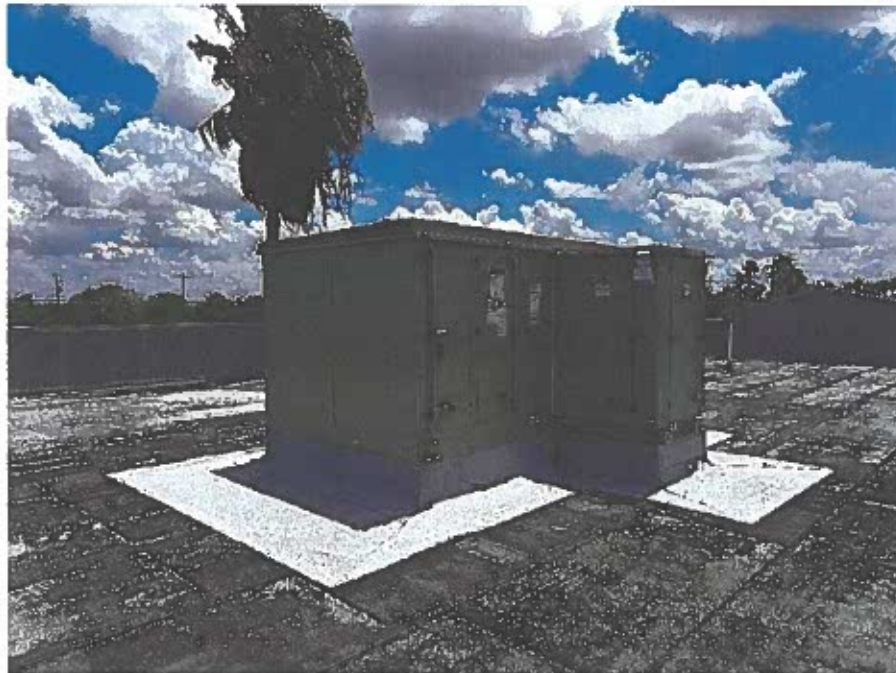
User Notes:

(3B9ADA5D)

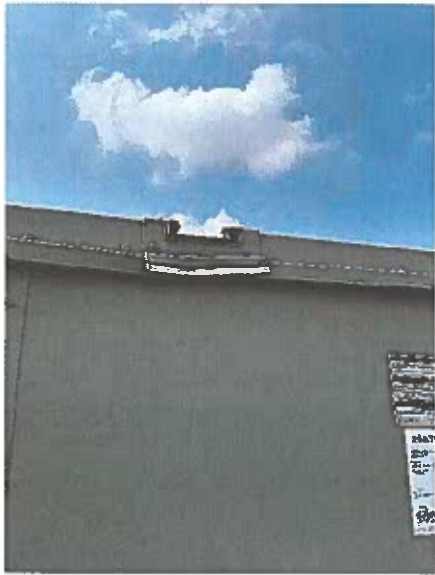
PUNCH LIST REPORT			
Project:	Brownsville ISD-ESSER HVAC Improvements Villanueva Elementary School	Date:	8/6/2024
Eng's Project No.:	21027.7	Site Visit Date (s):	6/24/2024, 3:00 pm (Site visit) 7/23/2024, 2:00 pm (DDC review)
General Contractor:	Quantum-Mechanical Contractors, LLC	Weather:	Sunny
Report By:	Sigma HN Engineers, PLLC	Est. % of Completion:	93%
Present at Site:	Sigma HN Engineers, PLLC (Gabriel Hinojosa, Jose Antonio Nicanor, Anthony Nicanor, Kevin Alvarez) Quantum/Coastland Mechanical		
<p>The following items require the attention of the Contractor for completion or correction. This list may not be all-inclusive, and the failure to include any items not on this list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.</p>			

General Comments:

- A. Adjust door latches on all the AHU access panels so that they seal properly. They leak a lot of air.



1. Install ID tag.



2. Repair dents.



3. Insulate liquid line piping and wrap with aluminum jacket.



4. Insulate liquid line piping and wrap with aluminum jacket and clean up debris.



5. Seal piping penetration to condensing unit. Typical.



6. Install missing fasteners.



7. Adjust supports so that there are no sags or bending in the pipes. Pipes should look straight.



8. Install clamps supports for piping.

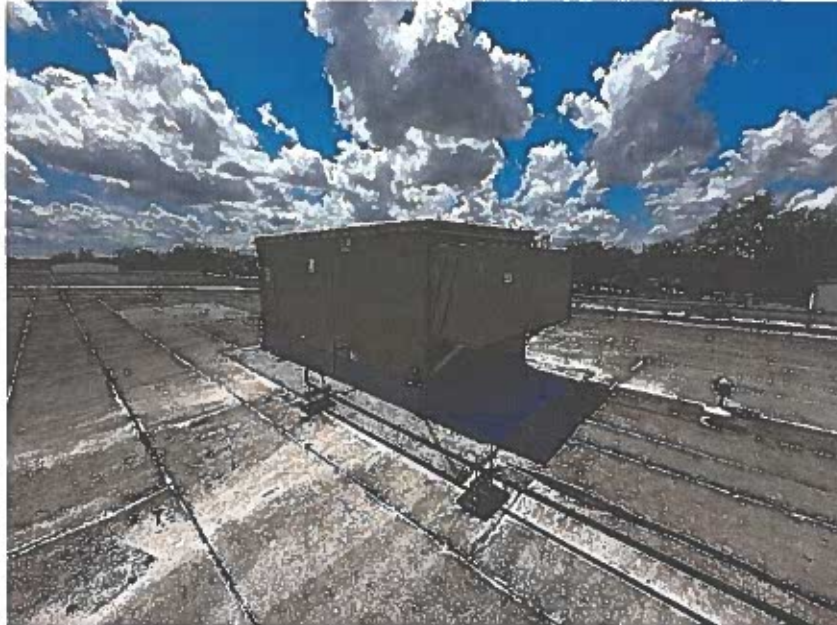


9. Clean up debris from piping and suction filter.



10. Clean up around the perimeter of condensing units. Typical.

11. Install clamps supports for piping.



12. Install clamps support to condensate drain piping.

13. Insulated condensate drain pipe with flexible elastomeric insulation. Typical.

14. Install ID tag.



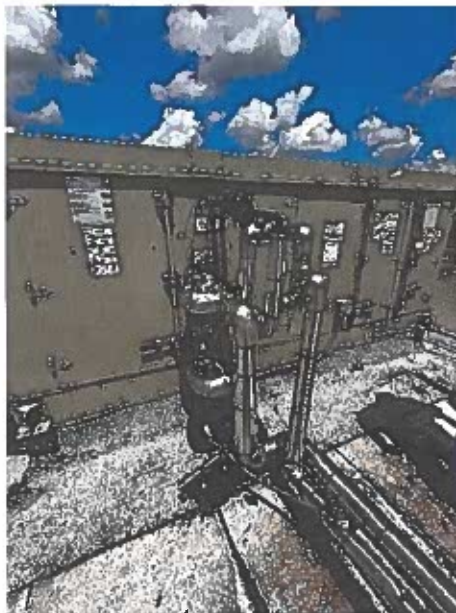
- 15. Install clamps on pipe supports.
- 16. Finish installing refrigerant piping.
- 17. Wrap outdoor insulated refrigerant piping with aluminum jacket.



- 18. Adjust supports so that there are no sags or bending in the pipes. Pipes should look straight.



- 19. Install clamps support to condensate drain piping.
- 20. Insulate condensate drain pipe with flexible elastomeric insulation. Typical.
- 21. Install ID tags.
- 22. At the time of visit RTU-V2 was not operational due to conflict with electrical service.
- 23. Redo condensate drain p-trap. P-trap is missing clean-out plugs.



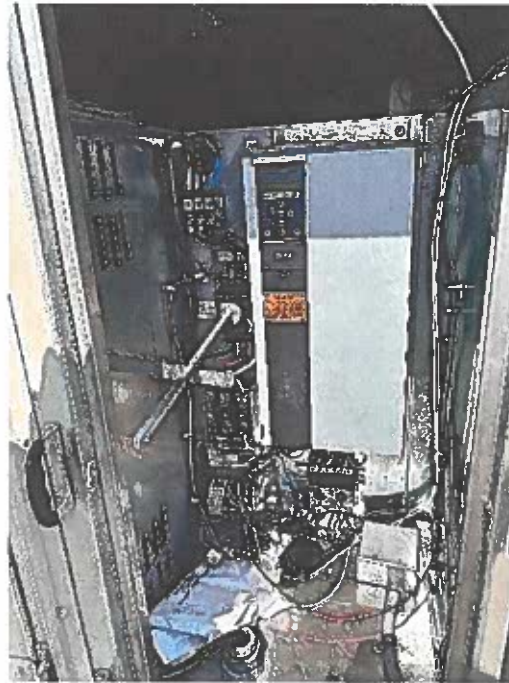
- 24. Finish installing refrigerant piping.
- 25. Wrap outdoor insulated refrigerant piping with aluminum jacket.



26. Cover holes and touch up with paint to match wall where existing thermostat was located.



- 27. Generate a new typed-out circuit directory.
- 28. Install equipment name plates to all mechanical equipment.
- 29. Furnish fire alarm shop drawing and approved by the fire Marshall for duct smoke detectors.



30. Complete the installation of the integral safety disconnect switch. Switch was not shutting off RTU.

DDC Punch List Items:

Package DX RTUs

- 31. Add hot gas reheat status and hot gas temperature to graphics.
- 32. Display return air temperature, hot gas reheat coil leaving air temperature, mixed air temperature, cooling coil leaving air temperature.

Split DX Multi-Zone AHU

- 33. Show outside and return air damper and damper position.
- 34. Provide airflow monitor and outside airflow in cfm.
- 35. Show the supply fan speed status on the graphics.

Split DX System

- 36. No fan speed, just on/off status. Correct graphic to read supply fan status.

Wall Mounted Units

- 37. Incorporate the Pivot Thermostats into the DDC graphics. Coordinate with BISD IT Department. Owner shall be able to set schedule, see space temperature and adjust space temperature set point, and enable/disable unit.

BACK PUNCH LIST REPORT			
Project:	Brownsville ISD ESSER HVAC Improvements Villanueva Elementary School	Date:	3/19/2025
Eng's Project No.:	21027.7	Site Visit Date (s):	3/17/2025, 9:30 pm (Site visit)
General Contractor:	Quantum-Mechanical Contractors, LLC	Weather:	Sunny
Report By:	Sigma HN Engineers, PLLC	Est. % of Completion:	96%
Present at Site:	Sigma HN Engineers, PLLC (Kevin Alvarez) Brownsville ISD (Joe Hernandez) Quantum Mechanical (Norma Catalina, Leah Sandoval) Coastland Mechanical (Jesus Cervantes, Emmanuel Morales) Trane (Onansis Ochoa)		
The following items require the attention of the Contractor for completion or correction. This list may not be all-inclusive, and the failure to include any items not on this list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.			

Strikethrough: Completed items

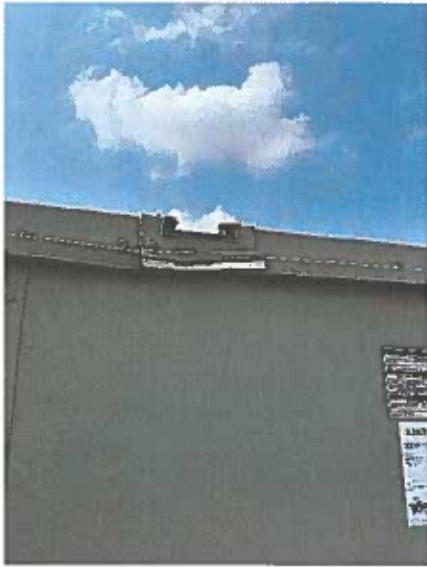
Highlighted: Pending items that still need to be completed.

General Comments:

- ~~A. Adjust door latches on all the AHU access panels so that they seal properly. They leak a lot of air.~~



- ~~1. Install ID tag.~~



2. Repair dents.



3. Insulate liquid line piping and wrap with aluminum jacket.



4. Insulate liquid line piping and wrap with aluminum jacket and clean up debris.



5. Seal piping penetration to condensing unit. Typical.



6. Install missing fasteners.



7. Adjust supports so that there are no sags or bending in the pipes. Pipes should look straight.



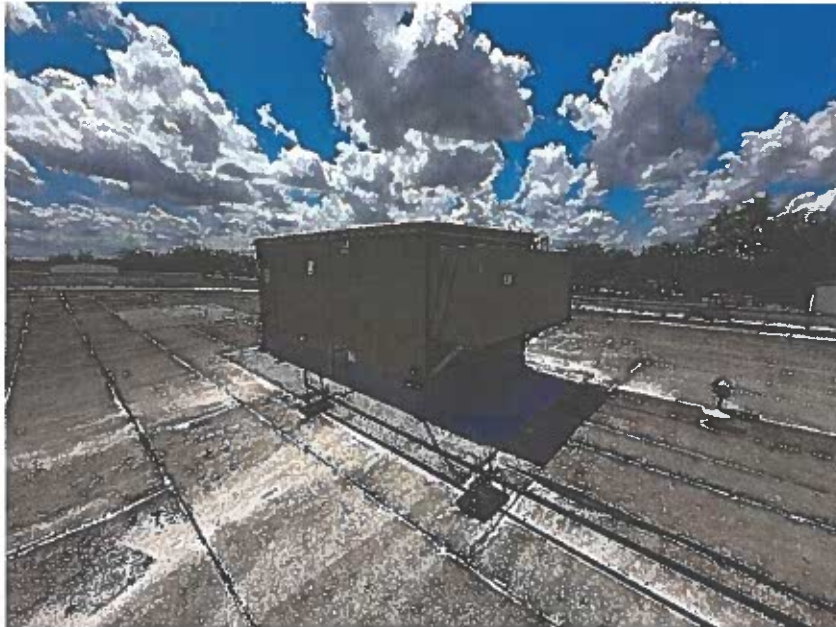
8.— Install clamps supports for piping.



9.— Clean up debris from piping and suction filter.



- 10. Clean up around the perimeter of condensing units. Typical.
- 11. Install clamps supports for piping.



- 12. Install clamps support to condensate drain piping.
- 13. Insulated condensate drain pipe with flexible elastomeric insulation. Typical.
- 14. Install ID tag.



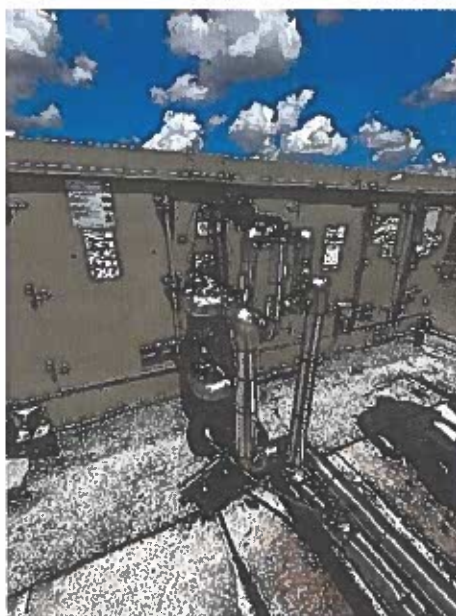
- ~~15. Install clamps on pipe supports.~~
- ~~16. Finish installing refrigerant piping.~~
- 17. Wrap outdoor insulated refrigerant piping with aluminum jacket.



- ~~18. Adjust supports so that there are no sags or bending in the pipes. Pipes should look straight.~~



- 19. ~~Install clamps support to condensate drain piping.~~
- 20. ~~Insulate condensate drain pipe with flexible elastomeric insulation. Typical.~~
- 21. ~~Install ID tags.~~
- 22. ~~At the time of visit RTU V2 was not operational due to conflict with electrical service.~~
- 23. Condensate P-trap is missing clean-out plugs. Typical.



- 24. ~~Finish installing refrigerant piping.~~
- 25. Wrap outdoor insulated refrigerant piping with aluminum jacket.



26. Cover holes and touch up with paint to match wall where existing thermostat was located.



- 27. Generate a new typed-out circuit directory.
- 28. Install equipment name plates to all mechanical equipment.
- 29. Furnish fire alarm shop drawing and approved by the fire Marshall for duct smoke detectors.



30. Complete the installation of the integral safety disconnect switch. Switch was not shutting off RTU.

DDC Punch List Items:

Package DX RTUs

- 31. Add hot gas reheat status and hot gas temperature to graphics.
- 32. Display return air temperature, hot gas reheat coil leaving air temperature, mixed air temperature, cooling coil leaving air temperature.

Split DX Multi-Zone AHU

- 33. Show outside and return air damper and damper position.
- 34. Provide airflow monitor and outside airflow in cfm.
- 35. Show the supply fan speed status on the graphics.

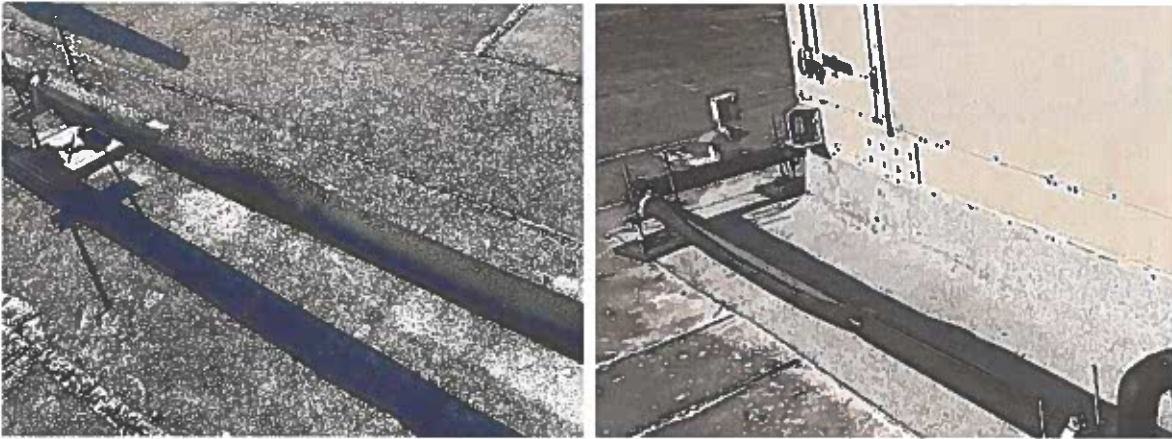
Split DX System

- 36. No fan speed, just on/off status. Correct graphic to read supply fan status.

Wall Mounted Units

- 37. Incorporate the Pivot Thermostats into the DDC graphics. Coordinate with BISD IT Department. Owner shall be able to set schedule, see space temperature and adjust space temperature set point, and enable/disable unit.

ADDITIONAL COMMENTS:



38. Seal insulation on condensate piping. Insulation is becoming undone.



39. Adjust piping position to avoid conflict to open filter access.



40. Replace damaged aluminum jacketing.



41. Fasten loose piping clamp supports.



AN EARLY COLLEGE DISTRICT
BROWNSVILLE
INDEPENDENT SCHOOL DISTRICT

Villa Nueva ES

PRELIMINARY TEST REPORT

Project: Villa Nueva Elementary School

HCX Project No.: HC22.004

Date of Testing: April 14-15, 2025

Owner: Brownsville Independent School District

**MEP
Consultant:** Sigma HN Engineers, PLLC

**Mechanical
Contractor:** Quantum Mechanical

**Controls
Contractor:** Trane Controls

**TAB
Contractor:** TABFX, LLC



Overview

The preliminary report outlines the commissioning tasks completed and observations made at BISD – Vailla Nueva Elementary School. The goal of the commissioning process is to ensure the facility is constructed and operates as intended, in compliance with the contract documents. This process verifies that the scope of work has been properly installed, tested across its full operational range, and subjected to simulated failures to confirm response and recovery capabilities

Commissioning Scope of Work Performed

- RTU-H1
- RTU-V1
- RTU-V2
- Building Automation System – Verification

Conditions

Monday- April 14, 2025

Temp: L-65°F, H-87°F

Tuesday – April 15, 2025

Temp: L-67°F, H-86°F

Attendees

- J. Gabriel Hinojosa – *Sigma, MEP EOR*
- Patrick Mabry – *Highland, Commissioning Agent*
- Stephanie Alquicira – *Highland, Commissioning Agent*
- Onasis Ochoa – *Trane Controls*

Summary of Findings

Equipment Verification

RTU-H1

- Multiple access doors are not properly sealed causing condensation.
- Controls wires are not labeled.
- Refrigerant piping insulation is not insulated up to standard. Install seam at the bottom.
- Filter rack is not in place.
- Filters are installed backwards.
- Disconnect is not working (shaft removed).
- Convenience outlet is not installed per spec.

RTU-V1

- Missing 2" filters.
- 4" filters installed backwards.
- Refrigerant piping insulation is not up to standard. Install seam at the bottom.
- Refrigerant piping angles are not square and level.
- Disconnect is not working (shaft removed).
- Convenience outlet is not installed per spec.
- Controls wires are not labeled.
- There is slack on the electrical conduit at the condensing unit.

RTU-V2

- Access doors are not properly sealed.
- Access door (filter and OA damper access) hits refrigerant pipe when opened.
- 2" filters are installed backwards.
- 4" filters are missing.
- Refrigerant pipe fitting is leaking.
- Improper insulation on refrigerant piping.
- Disconnect is not working (shaft removed).
- Convenience outlet is not installed per spec.
- Controls wires are not labeled.

CU-V2

- Condensing unit casing is missing some screws causing a panel to vibrate loudly when compressors are running.
- At condensing unit, stub-up conduit fitting from underground is nearly level with ground. Should be at least 18 inches above the ground. (NEC 300.5(D)(1))

Building Automation System

RTU-V1

- Damper Command – 30%
- OA Flow – 30 CFM

VAV-2-05

- Damper Command – 0%
- OA Flow – 625 CFM
- Max Heating DAT – 60F with 3 Stage Heating

Bldg. A – Room 15

- T-Stat (wifi) not installed

All VAV Boxes

- Verify min/max vans on all VAV boxes. Please verify is Trane used existing valves.

Bypass Dampers

- Was the old bypass damper for each RTU in Building I locked or removed during construction?

RTU-H1, V1, V2

- Add Discharge Air Temperature Setpoint to Graphic
- Add Supply Air Temperature to Graphic
- Add Cooling Coil Leaving Air Temperature to Graphic
- Added Dehumidification – **RESOLVED**
- Cooling Coil in Leaving Air Temperature setpoint of 50F in dehumidification and 55F at normal conditions. – **RESOLVED**

RTU-V1

- Check Airflow Measuring Station
 - 426 CFM at 75%
 - 36 CFM at 30%

Max/Min Values

- Trane to add max/min design values from existing plans.

Exhaust Fans

- No exhaust fans were found to be interlocked with the operation of the RTUs. We recommend that the fans be added to the system.

VAV-H-8

- No Airflow displayed on BAS
- Not heating as a precaution
- Space Temperature – 63.4F
- Set Point Temperature – 68F

Conclusion and Recommendations

The commissioning process is still ongoing, and we will continue to share updates as we progress. Please feel free to reach out with any questions or concerns.

Sincerely,



Patrick A. Mabry

Highland Commissioning, LLC

PMabry@Highland-CX.com

(210) 336-3177



From: Ochoa, Onasis <Onasis.Ochoa@trane.com>
Sent: Thursday, June 26, 2025 9:34 AM
To: Gabriel Hinojosa; 'Norma Olivarez'
Cc: omar.hinojosa; Jose Hernandez Jr
Subject: RE: BISD Villanueva: Preliminary Commissioning report

Team,
Trying to complete the Cx. list for Villanueva I encounter the following issues:

Existing issue.

VAV-2-05

- Damper Command – 0%
 - OA Flow – 625 CFM
 - Max Heating DAT – 60F with 3 Stage Heating
- Existing Problem. High Voltage in the heater section wires are burnt. Needs to be replaced.

This issue is under BAS, but I believe is mechanical. Controls did not installed actuators in any bypass damper. Not sure if there were any existing dampers.

Bypass Dampers

- Was the old bypass damper for each RTU in Building I locked or removed during construction?

Coastland was onsite today. I was not able to talk with them towards the end of the day about the status for the rest of the EF.

Exhaust Fans

- No exhaust fans were found to be interlocked with the operation of the RTUs. We recommend that the fans be added to the system.
- In progress as of 6/25 only 5 EF in kinder wing had been solved.

Onasis Ochoa
Controls Project Manager, Rio Grande Valley
Commercial HVAC Americas

1240 N Vo Tech Drive Suite G
Veslaco, Tx 78596
United States

956-261-2521 Cell

Trane Technologies
Onasis.Ochoa@Trane.com



TRANE

TRANE
TECHNOLOGIES

From: Gabriel Hinojosa <gabrielhinojosa@sigmahne.com>
Sent: Thursday, June 19, 2025 11:24 AM
To: 'Norma Olivarez' <ncatalina@quantum-mcon.com>
Cc: Ochoa, Onasis <Onasis.Ochoa@trane.com>; omar.hinojosa <omar.hinojosa@coastlandmechanicalservices.com>; Jose Hernandez Jr <jhernandez7@bisd.us>
Subject: BISD Villanueva: Preliminary Commissioning report

Alert: This is an external email.

Norma,

See attached preliminary commissioning report. The commissioning process is still ongoing, and we will continue to share updates as we progress. Some of these may have already been resolved because Onasis was with us on site. Please have these items closed out ASAP. We need you to check each item off as being completed; please have someone on your team physically verify these items have been completed. Thank you.

Best Regards,
Gabriel

Jesus Gabriel Hinojosa, PE, LEED®AP

SIGMA HN
ENGINEERS, PLLC

SIGMA HN Engineers, PLLC
701 S. 15th Street
McAllen, TX 78501
P: 956-332-3206
F: 956-687-5561



CITY OF BROWNSVILLE
PLANNING & REDEVELOPMENT DEPARTMENT
1034 E. LEVEE ST • BROWNSVILLE TX 78520



Department Website

Commercial Mechanical Permit
2025-06306

ISSUE DATE: 2024-10-09

EXPIRATION DATE: 2026-10-09

PARCEL NUMBER: 7901100800900000

PROPERTY ADDRESS: 7455 OLD MILITARY HWY Brownsville, Texas 78520

LEGAL DESCRIPTION: ABST2 - UNSUBDIVIDED SHARE 1 TR. H , 5.9300 ACRES

ESTIMATED IMPROVEMENT VALUE: 25000

IMPROVEMENT SQ. FOOTAGE:

ISSUED TO: Authorized Agent

ISSUED TO NAME: OMAR HINOJOSA

ISSUED TO ADDRESS:



Accela Citizen Access

PROJECT:

DESCRIPTION OF WORK: Demolition of existing units at campus as per plans. Remove existing split DX Systems including roof curbs and refrigerant piping. Install 3 DX System Units

ACCU- H1: 60T — No KW

ACCU-V1: 40T — No KW

ACCU-V2: 30T — No KW

TO REQUEST AN INSPECTION

TO SCHEDULE AN INSPECTION THE FOLLOWING BUSINESS DAY

CALL AUTOMATED INSPECTION REQUEST LINE AT 956-465-4664 OR TEXT 888-496-1512

BE PREPARED WITH THE FOLLOWING:

PERMIT TYPE, PERMIT NUMBER, PROPERTY ADDRESS, TYPE OF INSPECTION REQUIRED AND INSPECTION CODE

CONTRACTORS: SCAN THE QR CODE FOR ADDITIONAL INFORMATION ON HOW TO USE OUR AUTOMATED

SCHEDULING OPTIONS:



REQUIRED INSPECTIONS (Inspection Code)

Mechanical - Rough-In (310)

Mechanical - Final (399)

Mechanical - Ceiling Cover (320)

PERMIT CHARGE DETAIL

Permit	Permit Number	Charge Description	Charge Amount
Commercial Mechanical Permit	2025-06306	Base mechanical fee	\$40.00
Commercial Mechanical Permit	2025-06306	Repair/alteration/additions	\$110.00
Commercial Mechanical Permit	2025-06306	Technology Fee - Commercial Mechanical	\$25.00
TOTALS:			\$175.00

ALL PROVISIONS OF LAWS AND ORDINANCES GOVERNING THIS TYPE OF WORK WILL BE COMPLIED WITH WHETHER SPECIFIED HEREIN OR NOT, THE GRANTING OF A PERMIT DOES NOT PRESUME TO GIVE AUTHORITY TO VIOLATE OR CANCEL THE PROVISIONS OF ANY OTHER STATE OR LOCAL LAW REGULATING CONSTRUCTION. NO PERMIT FEES SHALL BE REFUNDED AFTER PERMIT ISSUANCE.



Brownsville Independent School District

Agenda Category: Bids / Proposals Board of Education Meeting: 01/17/2023

Item Title: CSP #23-164 ESSER Villa Nueva ES X Action
HVAC Upgrades, Phase 1 (Package 3) Project Information
Discussion

BACKGROUND:

On December 21, 2022, BISD Purchasing Department received and opened bid packages from two (2) vendors for CSP #23-164 ESSER Villa Nueva ES HVAC Upgrades, Phase 1 (Package 3) project. On January 10, 2023, the ranking committee members evaluated the two (2) qualified vendors and selected Quantum-Mechanical Contractors, LLC of Edinburg, Texas, which has received the highest-ranking scores and is recommended for Construction Services. Administration recommends approving Quantum-Mechanical Contractors, LLC for Construction Services for the project as mentioned above in the amount not to exceed \$1,028,697.00. The construction project is scheduled to achieve substantial completion in three hundred sixty-four (364) days from the Notice to Proceed date. For reference, please find the attached documents as follows:

- Department Recommendation Forms
- The Bid Tabulation Sheet
- The average ranking scores for the two (2) competitive sealed proposals received
- The bid opening report received from submitted vendors
- Agenda – Project Authorization and Delivery method from the Board of Trustees

FISCAL IMPLICATIONS:

ESSER III Fund 282 – \$1,028,697.00

RECOMMENDATION:

Recommend awarding of CSP #23-164 ESSER Villa Nueva ES HVAC Upgrades, Phase 1 (Package 3) project to Quantum-Mechanical Contractors, LLC of Edinburg, Texas in the amount not to exceed \$1,028,697.00, to authorize the Administration to enter negotiations, and to execute the contract. ESSER III Fund 282.


Fernando E. Villarreal / Rosario Peña

Submitted by: Principal / Purchasing Director


Manuel Hinojosa, FAIA /

Recommended by: District Architect / CFO


Dr. Nellie Cantu

Approved by: Deputy Superintendent

Approved for Submission to Board of Education:


Dr. René Gutiérrez
 Superintendent

When Necessary, Additional Background May Follow This.