

# **Brownsville Independent School District**

Agenda Cat	egory: General Function	Board of Education Meeting:11-05-2025
Item Title:	CSP #22-148A Morningside E.S. HV. Phase I (Package I) Project Substantial Completion	AC Upgrades, X Action Information Discussion
Completion and Contractor and Punch List. A project.  Attached for r	Morningside E.S. HVAC Upgrades, Phacceptance by the Brownsville ISD Board, BISD Facilities Department Administr	
<ul><li>Punch l</li><li>Commi</li></ul>	ocument G704-2017 List issioning Report 22-148A	
FISCAL IM None	PLICATIONS:	
Recommend a	ENDATION: approval to authorize the Morningside E.S. CSP # 22-148A, as substantially complete	
Alonso Gueri Submitted b	rero Presidente de la company: Health Services & Operations	Approved for Submission to Board of Education:
Alonso Gueri Recommend	rero led by: Health Services & Operations	Jesu H Chave
Mary	10 Have	Dr. Jesus H. Chavez, Superintendent

When Necessary, Additional Background May Follow This.

Approved by: Interim-Chief Financial Officer



#### Certificate of Substantial Completion

PROJECT: (name and address)
BISD ESSER HVAC Upgrades at
Morningside

Date: 05-23-2024

Contract For:

CONTRACT INFORMATION:

CERTIFICATE INFORMATION: Certificate Number:001

Date: 05-23-2024

OWNER: (name and address)
Brownsville Independent School District

ARCHITECT: (name and address)
Halff Associates, Inc. (As Consultant not
Architect)

CONTRACTOR: (name and address)
Central Air Heating Services

1900 E Price Rd, Brownsville, TX 78521

5000 West Military Highway Suite 100,

3028 Wilson Rd, Harlingen, TX, 78552

McAllen, Texas

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.)

ARCHITECT (Signature)

BY: Halff Associates, Inc (as consultant not Architect) Gabriel Benavides, PE (Printed name, title, and license number if Original signature 5-24-2024 resigned 10-27-2025 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.)

#### 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.)

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: \$10,000.00

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

Colin Cubanks
CONTRACTOR (Signature)

BY: Central Air Heating Services Colin Eubanks
PM
(Printed name and title)

05-24-2024

WNER (Signature)

BY: Brownsville ISD (Printed name and title)

10-29-25 Date

Date



# **Punch List**

To:

Manuel Hinojosa, AIA

Date:

2/20/2024

From:

Luis E Hernandez Nava

AVO:

45813.004

Email:

lhernandeznava@halff.com

Project:

HVAC Upgrades at Morningside

Contract for:

BISD ESSER HVAC Upgrades at Morningside Elementary

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 on this list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

ITEM	LOCATION	DESCRIPTION	COMPLETION	A/E CHECK
NO.	(AREA)		DATE	DATE
1.	Wing 100	<ul> <li>The General Contractor shall confirm all RTU curb adapters and curbs are properly weathertight.</li> <li>Condensate drain line clogged or broken at condensate drain connection point. The General Contractor shall properly provide a new connection to discharge condensate from equipment to the nearest receptor.</li> <li>RTU-04-105 condensate drain line installation is not adequate. GC shall confirm the condensate drain is properly installed per the construction documents' details</li> <li>None of the convenience outlets integral to the units are energized.</li> </ul>		



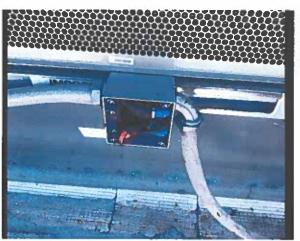
ITEM NO.	LOCATION (AREA)	DESCRIPTION	COMPLETION	A/E CHECK
2.	(AREA)	<ul> <li>The General Contractor shall confirm all RTU curb adapters and curbs are properly weathertight.</li> <li>The General Contractor shall confirm that all P-traps were installed as per the mechanical detail shown on the plans. The vent closer to the unit should be closed to avoid bringing unconditioned outdoor air.</li> <li>RTU-04-205 and RTU-04-208 present visible signs of condensation around the unit. GC to confirm the unit installation is properly sealed and not leaking air.</li> <li>None of the convenience outlets integral to the units are energized.</li> </ul>	DATE	DATE
3.	Wing 300	<ul> <li>The General Contractor shall confirm all RTU curb adapters and curbs are properly weathertight.</li> <li>The General Contractor shall confirm that all Ptraps were installed as per the mechanical detail shown on the plans. The vent closer to the unit should be closed to avoid bringing unconditioned outdoor air.</li> <li>RTU-04-311 panels are not properly sealed. Gasket visible on the exterior side of the unit.</li> <li>None of the convenience outlets integral to the units are energized.</li> </ul>		



ITEM NO.	LOCATION	DESCRIPTION	COMPLETION	A/E CHECK						
NO.	(AREA)	<ul> <li>The General Contractor shall confirm all RTU curb adapters and curbs are properly weathertight.</li> <li>Condensate drain line clogged or broken at condensate drain connection point. The General Contractor shall properly provide a new connection to discharge condensate from equipment to the nearest receptor.</li> <li>RTU-04-412, RTU-04-414, RTU-04-414, RTU-04-411, RTU-04-406, condensate drain line installation is not adequate. GC shall confirm the condensate drain is properly installed per the construction documents' details.</li> <li>None of the convenience outlets integral to the units are energized.</li> </ul>	DATE	DATE						
6.	Cafeteria	<ul> <li>The General Contractor shall confirm all RTU curb adapters and curbs are properly weathertight.</li> <li>RTU Electrical J-Box is missing a cover plate.</li> <li>None of the convenience outlets integral to the units are energized.</li> </ul>								
□ Attachments										
SIGNED	SIGNED: Luis E. Hernandez Nava, PE									
COPIES	COPIES:  Owner Contractor  File									

# **iii** halff









# iii halff









# Final Commissioning Report

#### Prepared for:

BISD - Morningside Elementary School



Friday, March 14, 2025

1025 Morningside Rd, Brownsville, Tx 78521

Texas Board of Professional Engineers

Registered Firm #F-312



#### Scope of Services for BISD - Commissioning

#### **SCOPE OF WORK**

Commissioning shall be provided by the Commissioning Agent (CxA), Halff Associates, Inc., to confirm the installed system's compliance with the Construction Documents for operation capacity and compliance with the project's Sequences of Operations (SOO).

- Confirmation of Owner-Provided-Requirements (OPR)
- Establishing communication between CxA and contractors
- Verification of integration between the DDC system and the connected equipment
- Graphics review of the BAS system for accuracy and usefulness
- Periodic sampling of the Test, Adjust, and Balance (TAB)
- Construction Document's SOO review
- Trend comparison between BAS and CxA's independent readings
- Witness Manufacturer's required startup of equipment
- Observe functional testing of equipment in compliance with the SOO



# **Commissioning Team Contact Information**

Company	Contact Person	Office #	Mobile #	Email Address
Brownsville Independent School District	Manuel Hinojosa	956-698-2400		Mhinojosa1@bisd.us
Halff	Luis Hernandez Nava	956-664-0286		Ihernandeznava@halff.com
Halff	Dean Lizzotte	956-664-0286	956-369-9253	Dlizzotte@halff.com
Central Air and Heating	Colin Eubanks	926-428-4509	956-572-1738	colin.eubanks@cahsinc.com
Central Air and Heating	Colin Eubanks	926-428-4509	956-572-1738	colin.eubanks@cahsinc.com
Pete's Electric LLC		956-230-8340		PETESELECTRICCO@AOL.COM
Automated Logic	Raul Gonzalez	210-825-9354		raul.gonzalez@carrier.com
Testing & CX Service	Art Olivares	956-874-5889		art@testandcx.com
	Brownsville Independent School District  Halff  Central Air and Heating  Central Air and Heating  Pete's Electric LLC  Automated Logic	Brownsville Independent School District  Halff  Luis Hernandez Nava  Halff  Dean Lizzotte  Central Air and Heating  Colin Eubanks  Central Air and Heating  Colin Eubanks  Pete's Electric LLC  Automated Logic  Raul Gonzalez	Brownsville Independent School District  Haiff  Luis Hernandez Nava  Person  Haiff  Dean Lizzotte  956-664-0286  Central Air and Heating  Colin Eubanks  926-428-4509  Central Air and Heating  Colin Eubanks  926-428-4509  Pete's Electric LLC  956-230-8340  Automated Logic  Raul Gonzalez  210-825-9354	Person



# Commissioning Communications Log

Description	Date	Form of Communication	Sent To	Sent By		
Initial Cx Plan		Email	Fernando Villarreal	Dean Lizzotte		
Pre-functional testing	1/21/24	Site Visit	Colin Eubanks	Luis Hernandez Nava		
Preliminary Cx Plan	8/2/24	Email	Colin Eubanks	Dean Lizzotte		
Final Cx Report	3/14/25	Email	Manuel Hinojosa	Dean Lizzotte		
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#### **Pre-functional Startup Testing**

#### Introduction

The purpose of the pre-functional start-up testing is to verify that installation checklists and proper start-up protocols are followed. This allows for an alignment of the Owner's project requirements with the contractor's work. Any identified issues shall be documented in the issues and resolutions log for either the commissioning progress report or the final commissioning report. The pre-functional start-up scripts shall be provided by the equipment manufacturer.

#### Communication

Documentation for pre-functional startup checklists is attached and represents manufacturers recommended practices for start-up. The documents shall be signed by the Cx agent, owner's representative, and contractor representative. An example of an Issues and Resolutions Log is also attached.

#### **Procedures**

- 1. The Contractor shall perform the startup while the CxA witnesses and observes the operation.
- 2. If any issues occur, they shall be promptly documented into the Issues and Resolution Log.
- 3. The potential resolution shall be submitted.
- 4. After the issue has been resolved the process shall be re-attempted.
- 5. If startup completes without any reported issues then the document shall be signed by witnessing parties: the CxA, the Contractor's representative, and the Owner's representative.

Notes: Any equipment started without witnessing by the CxA shall be documented



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Inc	oming Volt	age	Reading	L1-L3	216.			T43 Trans	sfor	mer Ou	itput Vo	oltage	N/a			
inc	oming Volt	age	Reading	L2-L3	214.7											
			PRODIGY	CONTRO	LLER				TH	HERMO	STAT	/ DDC	CONT	ROLS		
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Ш	Stage 4		NA													
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Hafff Cx Agent	General Contractors Representative	Owners Representative
Signed*:	Signed:	Signed:
Name: Dean Lizzotte	Name: Mike Rodriguez	Name:
Company: Halff	Company: CAHS	Company:
Date:	Date: <u>01/23/2024</u>	Date:
Phone/Emails:	Phone/Emails:	Phone/Emails:
Million of the St. A.		



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RT	'U Number			RTU-03-	102			Control System type DDC									
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Se	rial Numbe	<u></u>		2316129	68L			Heat Fuel		<del>`                                    </del>							
C/I	N Number							Air Filter	Гур	e16x25	x2	Pleat	ed		·····		
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Halff Cx Agent	General Contractors Representative	Owners Representative
Signed*:	Signed:	Signed:
Name: Dean Lizzotte	Name: Mike Rødriguez	Name:
Company: Halff	Company: CAHS	Company:
Date: 1/23/24	Date: 01/23/2024	Date:
Phone/Emails:	Phone/Emails:	Phone/Emails:
"Inchaing Authority		



						UI	NIT INFOR	RMATION																										
RT	U Number	mber RTU-04-110						Control System type DDC																										
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Inc	oming Vol	tage	Reading	L1-L2	213.9			T18 Trans	sfor	mer Ou	itput Vo	oltage	N/a																					
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Co	mpleted G	uide	ed Setup		N/A			Controller	· Ma	anufact	urer	Trane																						
Pro	odigy Unit	Rep	ort Include	ed	NO			Controller	· Mo	odel Nu	mber	Reliate	el																					
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Halff Cx Agent ( )	General Contractors Representative	Owners Representative
Signed*:	Signed:	Signed:
Name: Dean Lizzotte	Name: Mike/Rodriguez	Name:
Company: Halff	Company: CAHS	Company:
Date: 01/23/24	Date: 01/23.2024	Date:
Phone/Emails:	Phone/Emails:	Phone/Emails:
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ă	Low Spec	ed	NA			1.2a	1.2a	N/a				F	Return	Supp	ly	
or	Stage 1		NA													
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1	N/a	1	2011	9				1		13.5a	13.2a	13.2a	73	70		
2		2			1			2		13.3a	13.2a	13.2a	73	79		
	1/2-14						OUTDOO			70.00		- 6	- Steppe	S my 20	ay_Duny	
Ou	tdoor Air t	ype						Power Ex	hau	ust Inst	alled					
_	on Operati							Power E	xha	aust Ty	/pe					
	3.1					OPE	RATIONA	L RUN TE					-77			
Ru	n test cool	ing	system					Run test t	free	coolin	g					
Ru	n test heat	ling	system					Run test	pow	er exh	aust					
200	NOTES & DEFICIENCIES															

Halff Cx Agent	General Contractors Representative	Owners Representative
Signed*:	Signed:	Signed:
Name: Dean Lizzotte	Name: Mike Rodriguez	Name:
Company: Halff	Company: CAHS	Company:
Date:	Date: 01/23/2024	Date:
Phone/Emails:	Phone/Emails:	Phone/Emails:
*Archeure Authority		



Ì	runctio						NIT INFOR	RMATION			-7-1		THE PARTY		Lillian .
RT	U Number			RTU-4-20	09			Control S	yste	em type		DDC			
Мо	del Numbe	er		THC047E3REA	V2ECOE1A	1A6BOOHA	00000000	Ambient 1						77	
Se	rial Numbe	<u>-</u> -		2325125	37L			Heat Fuel	Ту	pe N/	A				
C/N	Number							Air Filter	Гуре	e16x25	x2	Pleate	d		
				\$ 22 - A \$12		A.C. (1945)		Air Filter Condition Dirty							
		W				ELE	ECTRICAL	LSYSTEM							
Uni	it Voltage a	and	Phase		208-2	30v 3PI	Ⅎ.	T1 Transformer Output Voltage 23.3v							
Inc	oming Volt	age	Reading	L1-L2	214.3	/		T18 Trans	sfor	mer Ou	itput Vo	oltage	N/a		
Incoming Voltage Reading L1-L3 211.9v								T43 Trans	sfor	mer Ou	itput Vo	oltage	N/a		
Inc	oming Volt	_			212.3	/									
			PRODIGY	CONTRO	_				TH	HERMO	STAT	/ DDC	CONT	ROLS	
Co	mpleted G	uide	ed Setup		N/A			Controller	· Ma	anufact	urer	Trane			
Pro	odigy Unit I	Rep	ort Include	d	NO			Controller	· Mc	odel Nu	mber	Reliate	el		
-	digy Boar			rsion#		8.00.0	025	Controller	Se	rial Nu	mber				
Display Software Version#								Network A	Add	ress		43024			
	7110		100 (000)		_		OOLING						4		
Biower Motor	Horse Power 1		Rotatio	on Verified		MPS L1-L2	AMPS L2-L3	AMPS L1-L3	s	uction	Dischar	ge	Read	erature dings	Delta
owe.	High Spe	ed	NA			-	-	- Pressure Pressu		ire	All S	tages			
ă	Low Spee	ed	NA			1.2a	1.1a	N/a			F	Return	Supp	ly	
ğ	Stage 1		NA		$\bot$										
Compressor	Stage 2		NA		$\perp$	9.7a	9.2a	7.9a 118.7 282.			9	72	56.9	)	
Juo.	Stage 3		NA		$\bot$										
	Stage 4		NA												
						H	EATING S	SYSTEM							
Н				GAS						1	ELE	CTRIC			
Stage	Inlet Pressure	Stage	Manifold Low	Pressure High	Return Temp	Supply Temp	Temp Rise Full Heat	Electric H Stage	eat	AMPS L1-L2	AMPS L2-L3	AMPS L1-L3	Return Temp	Supply Temp	Temp Rise Fu Heat
1	N/a	1	LOW	riigii				1		13 4a	13 2a	13 0a			
2		2						2		13.0a	13.2a 13.0a	12 9a	15	80	
	21111		1 = 0	2 62 -			OUTDOO				1444		ROW IN	CO GIVE	Boston, II,
Ou	tdoor Air ty	/pe						Power Ex	hau	ust Insta	alled	-			
$\overline{}$	on Operati			1	12.5	v.	1 y 3 3 7 5 S	Power Exhaust Type							
						OPE	RATIONA	L RUN TE	ST						
Ru	n test cool	ing	system					Run test t	free	cooling	g				
Ru	n test heat	ing	system		11	1283219		Run test	pow	er exh	aust				
NOTES & DEFICI								FICIENCIE	S					MT ]	

Haiff Cx Agent	General Contractor's Representative	Owners Representative
Signed*:  Name: Dean Lizzotte	Signed: Wike Rodriguez	Signed:
		Name:
Company: <u>Halff</u>	Company: CAHS	Company:
Date:	Date: 01/23/2024	Date:
Phone/Emails:	Phone/Emails:	Phone/Emails:



	Tunction	I	Спески	St-ROOT	ТОР		NIT INFOR	RMATION			1100	- 33	WEATHER		N 110
RT	U Number			RTU-04-3	304			Control S	yste	em type		DDC			
Мо	del Numbe	er		THC047E3REA	A2EC0E1A	1A6B00HA00	000000	Ambient 1						77.0	
Sei	rial Numbe	r		2325124	74L			Heat Fuel	Ту	pe N/	A				
C/N	Number							Air Filter	Гуре	e16x25	x2	Pleat	ed		
				A				Air Filter Condition Dirty							
						ELE	CTRICAL	LSYSTEM							
Un	it Voltage a	ind	Phase		208-2	230v 3PI	<b>⊣</b> .	T1 Transformer Output Voltage 23.3v							
Inc	oming Volt	age	Reading	L1-L2	214.1	v		T18 Trans	sfor	mer Ou	itput Vo	oltage	N/a		
Inc	oming Volt	age	Reading	L1-L3	213.4	lv		T43 Trans	sfor	mer Ou	itput Vo	oltage	N/a		
Inc	oming Volt	age	Reading	L2-L3	215.7	'v									
			PRODIGY	CONTRO	LLER				TH	HERMO	STAT	/ DDC	CONT	ROLS	
Co	mpleted G	uide	ed Setup		N/A			Controller	r Ma	anufacti	urer	Trane	)		
Pro	digy Unit F	₹ер	ort Include	d	NO			Controller	Mo	odel Nu	mber	Relia	tel		
Pro	odigy Board	S t	oftware Ve	rsion#		8.00.00	025	Controller	r Se	rial Nu	mber				
Display Software Version#								Network A	٩dd	ress		4301	5		
						С	OOLING :	SYSTEM							
Blower Motor	Horse Power 1		Rotatio	on Verified		AMPS L1-L2	AMPS L2-L3	AMPS L1-L3	3		Discharge		Temperature Readings		Delta
owei	High Spe	ed	NA			-	•	- Pressure		Pressu	re	All S	tages	Т	
8	Low Spee	d	NA								;		Return	Supp	ly
ō	Stage 1		NA			-	-								
Compressor	Stage 2		NA		$\perp$	7.8a	8.8a	7.8a 125.3psig 283.6psig			70.1	56.9	f		
Ĕ	Stage 3		NA												
٥	Stage 4		NA												
						Н	EATING S	SYSTEM							
				GAS							ELE	CTRI	C	30,000	
Stage	Inlet Pressure	Stage	Manifold Low	Pressure High	Return Temp	Supply Temp	Temp Rise Full Heat	Electric H Stage		AMPS L1-L2	AMPS L2-L3			Supply Temp	Temp Rise Full Heat
1	N/a	1	LOW	riigiti		+		1		13.2a	13 3a	13.14			
2	N/a	2			ł			2		13.22	13.02	13.2	75	78	
Ė	1476				Hei		OUTDOO	<u> </u>		10.24	10.00	10,20			
Ou	tdoor Air ty	/pe						Power Ex	khai	ust Inst	alled				
_	on Operati							Power E				Service of			
				"		OPE	RATIONA	L RUN TE						" "	
Ru	n test cool	ing	system	7				Run test	free	cooling	g				
-	n test heat							Run test	pow	ver exh	aust				
			The second	10041-110	100	ТОИ	ES & DE	FICIENCIE	S		10,00			10.00	

Halff Cx Agen	t	General Conf	tractors Representative	Owners Repr	resentative
Signed*:		Signed:	11/4_	Signed:	
Name:	Dean Lizzotte	Name:	Mike Rodriguez	Name:	
Company:	Halff	Company:	CAHS	Company:	
Date:		Date:	01/23/2024	Date:	
Phone/Emails:		Phone/Emails:	·	Phone/Emails:	
"Noticing Authority					



Ė	Function	Idi	CHECKI	St-ROOT	тор		NIT INFOR	RMATION			12.1			-0W-		
RT	U Number			RTU-04-3	306			Control S	yste	em type		DDC				
Мо	del Numbe			THC047E3REA	2EC0E1	A1A6B00HA0	000000	Ambient 7						77.6		7
Se	rial Numbe	٢		2325124	90L			Heat Fuel	Ту	pe N//	Α					
C/N	Number							Air Filter	Гуре	e16x25	x2	Pleate	ed			
								Air Filter Condition Dirty								
		T				ELE	CTRICAL	L SYSTEM								
Un	it Voltage a	and	Phase		2			T1 Transformer Output Voltage 23.7v								
Inc	oming Volt	age	Reading	L1-L2	214.	7v		T18 Trans	sfor	mer Ou	itput Vo	ltage	N/a			
lnc	oming Volt	age	Reading	L1-L3	214.0	6v		T43 Trans	sfor	mer Ou	itput Vo	ltage	N/a			
Inc	oming Volt	age	Reading	L2-L3	216.	8										
1		ŋ	PRODIGY			TH	HERMO	STAT	/ DDC	CONT	ROLS					
Со	mpleted G	uide	ed Setup		N/A			Controller	Ma	anufact	игег	Trane				3,
Pro	odigy Unit F	₹ер	ort Include	d	NO			Controller	· Mc	odel Nu	mber	Reliat	el			
Pro	odigy Board	2 t	oftware Ve	rsion#		8.00.00	)25	Controller	· Se	rial Nu	mber					
Display Software Version#							Network A	\dd:	ress		43014	ļ				
						С	OOLING	SYSTEM								
Blower Motor	Horse Power		Rotatio	on Verified	AMPS AMPS L1-L2 L2-L3		AMPS L1-L3	s	Suction Disch		ge	Read	perature adings		Delta	
owe	High Spe	ed	NA						Pr	essure	Pressu	re	All S	tages	_	T
<u> </u>	Low Spee	ed	NA		$\perp$	0.8a	0.8a	N/a					Return	Supp	ly	
ρğ	Stage 1		NA			-	-									
Compressor	Stage 2		NA		_	6.2a	6.8a	5.7a	120	0.1psig	282.7p	sig	74.3f	56.9	f	
Į į	Stage 3		NA		_				_			_		ļ	_	
	Stage 4		NA													
						Н	EATING :	SYSTEM					111	DAILEY.		
Н				GAS	ī	_					ELE	CTRIC	T			
Stage	Inlet Pressure	Stage	Manifold Low	Pressure High	Return	Supply Temp	Temp Rise Full Heat	Electric H Stage		AMPS L1-L2	AMPS L2-L3			Supply Temp	Ris	emp se Full deat
1	N/a	1	-	-	_			1		13.1a	13.3a	13.1a	77	00		
2		2	-	-	1 _			2		13.1a	13.0	13.a	77	80		
×							OUTDOO	R AIR				- 2500	= =		18	اللاتعر
Ou	tdoor Air ty	/pe		13				Power Ex	hau	ust Inst	alled		10 72			
-	on Operati							Power E	xha	aust Ty	/pe_	3				
						OPE	RATIONA	L RUN TE	ST							
Ru	n test cool	ing	system					Run test	free	coolin	g					
Ru	n test heat	ing	system	1				Run test		ver exh	aust					
-	and the same					NOT	ES & DE	FICIENCIE	S							

Halff Cx Agen	it .	General Con	tractors Representative	Owners Repr	esentative
Signed*:		Signed:	NO	Signed:	
Name:	Dean Lizzotte	Name:	Mike Rodriguez	Name:	
Company:	<u>Halff</u>	Company:	CAHS	Company:	
Date:		Date:	01/23/2024	Date:	
Phone/Emails:		Phone/Emails:		Phone/Emails:	
"Institute Authority					



	-	114	CHECKII	ot Moor	ТОР		NIT INFOR	RMATION	Ш						
RT	U Numbe	r		RTU-04-3	309			Control S	vste	em type		DDC			
Мо	del Numb	er		THC047E3REA	2EC0E1A1	A6B00HA0	000000	Ambient 1			_		-	77.7	
Se	rial Numb	er		23251250	)2L			Heat Fuel	Ту	pe N/	Α '				
C/I	Number							Air Filter			_	Pleate	ed		
								Air Filter (	Con	dition		Dirty			
14						ELE	CTRICAL	SYSTEM						S .	
Un	it Voltage	and	Phase					T1 Transf	orm	ner Out	put Vol	tage	23.6v	_	
inc	oming Vo	tage	e Reading	L1-L2	213.6	/		T18 Trans	sfor	mer Ou	itput Vo	oltage	N/a		
Inc	oming Vo	tage	e Reading	L1-L3	215,2	/		T43 Trans	sfor	mer Ou	itput Vo	oltage	N/a		
Inc	oming Vo	ltage	e Reading												
			PRODIGY		LLER		-		TH	HERMO	STAT	/ DDC	CONT	ROLS	
Co	mpleted G	uid	ed Setup		N/A			Controller	Ma	anufact	urer	Trane			
Pro	odigy Unit	Rep	ort Include	ed	NO			Controller	Mo	del Nu	mber	Reliate	el		
Pro	odigy Boar	d S	oftware Ve	rsion#		8.00.0	025	Controller	· Se	rial Nu	mber				
Dis	Display Software Version#								Addı	ress		43009	)		
W.						С	OOLING !	SYSTEM						Basil	
Motor	Horse Power	hp	Rotatio	on Verified		AMPS L1-L2	AMPS L2-L3	AMPS L1-L3		uction	Dischar	nge	Read	emperature Readings	
Blower	High Spe	h Speed NA				-	7	- Pressure Pr		Pressu	ire	Ali S	tages	Т	
<u> </u>	Low Spe	ed	NA			0.6a	0.6a	N/a				F	Return	Supp	ly
٩	Stage	1	NA			-	-								
Compressor	Stage	2	NA			6.1a	5.8a	6.1a 116.3psig 260.2psig 71.3f 55.6f						if	
d wo	Stage	3	NA												
Ľ	Stage	4	NA												
						H	EATING S	SYSTEM	ħ.						
				GAS							ELE	CTRIC			
Stage	Inlet Pressure	Stage	Manifold Low	Pressure High	Return Temp	Supply Temp	Temp Rise Full Heat	Electric H Stage	eat	AMPS L1-L2	AMPS L2-L3			Supply Temp	Temp Rise Full Heat
1	N/a	1	-		_		_	1		13.3a	13.2a	13.2a	- 4		
2	N/a	2	-	-	i -		_	2		12.9a	13.2a 12.8a	12.9a	1/4	/6	
							OUTDOO		Ш	12.00	72100	12.00			-
Ou	tdoor Air t	ype						Power Ex	hau	ust Inst	alled				
-	on Operat							Power E	xha	aust Ty	/ре		- 23		54 79
						OPE	RATIONA	L RUN TE							
Ru	n test coo	ling	system					Run test	free	coolin	9				5/01 25/
Ru	n test hea	ting	system					Run test	pow	er exh	aust				
	NOTES & DEFICIENCIES														

Halff Cx Agent	General Contractors Representative	Owners Representative
Signed+:	Signed:	Signed:
Name: Dean Lizzotte	Name: Mike Rodriguez	Name:
Company: Halff	Company: CAHS	Company:
Date:	Date: 01/23/2024	Date:
Phone/Emails:	Phone/Emails:	Phone/Emails:



RTU Number		1 diletto			- 11-			NIT INFOR	RMATION	7							
Model Number	RT	'U Number	Т		RTU-04-4	102			Control S	yste	m type		DDC				
Air Filter Type 16x25x2	Mc	del Numbe	er	· · · · · · · · · · · · · · · · · · ·	THC047E3REA	2EC0E1A	1A6B00HA00	000000						-	77.0		
Air Filter Condition   Dirty	Se	rial Numbe	<u>г</u>		2325125°	14L			Heat Fuel	Ту	pe N/	Α					
Unit Voltage and Phase	C/I	N Number							Air Filter	Гуре	e16x25	x2	Pleat	ed			
Unit Voltage   and Phase   208-230V 3PH.   T1 Transformer Output Voltage   Reading L1-L2   214.5V   T18 Transformer Output Voltage   N/a									Air Filter (	Con	dition		Dirty				
Incoming Voltage Reading L1-L2	10				8		ELE	CTRICAL									
Incoming Voltage Reading L1-L3   216.7v	Un	it Voltage	and	Phase		208-2	30v 3PI	<b>⊣</b> .	T1 Transf	orm	er Out	put Vol	tage	23.8			
Incoming Voltage Reading L2-L3	Inc	oming Vol	age	Reading	L1-L2	214.5	V		T18 Trans	sfor	mer Ou	itput Vo	oltage	N/a			
Completed Guided Setup   N/A   Controller Manufacturer   Trane	Incoming Voltage Reading L1-L3 216.7v								T43 Trans	sfor	mer Ou	itput Vo	oltage	N/a			
Completed Guided Setup   N/A   Controller Manufacturer   Trans   Prodigy Unit Report Included   NO   Controller Model Number   Reliated	Inc	oming Vol	tage	Reading	L2-L3	214.7											
Prodigy Unit Report Included   NO			PRODIGY			TH	HERMO	STAT	/ DDC	CONT	ROLS						
Prodigy Board Software Version#   8.00.0025   Controller Serial Number	Co	Completed Guided Setup N/A								Ma	anufact	urer	Trane	)			
Display Software Version#	Prodigy Unit Report Included NO								Controller	· Mc	del Nu	mber	Relia	tel			
NA	Pro	odigy Boar	d S	oftware Ve	rsion#		8.00.00	025	Controller	r Se	rial Nu	mber	ĵ.				
Horse   Horse   Horse   High Speed   NA	Display Software Version#							Network A	Add	ress		4100	2				
Power   Min   Power   Min   Pressure   Pre							С	OOLING :	SYSTEM				2) 1				
Stage 1   NA     Stage 2   NA     Stage 3   NA   Stage 4   NA     Stage 4   NA     Stage 7   NA   Stage 8   NA   Stage 9   N	Motor		np	Rotatio	on Verified				11-13		Suction Dischare		l Boo			Delta	
Stage 1   NA     Stage 2   NA     Stage 3   NA   Stage 4   NA     Stage 4   NA     Stage 7   NA   Stage 8   NA   Stage 9   N	≪er	High Spe	ed	NA	-		-	-	Pre	essure		-	All S	tages	Т		
Stage 2   NA	蘆	Low Sper	ed	NA			1.8a	1.8a	N/a				Return	Supp	ly		
Stage 4   NA	ъ	Stage 1		NA			5.9a	5.7a	6.0a	11:	5.4psig	283.2p	sig	69.8f	53.8	f	
Stage 4   NA	ress	Stage 2	!	NA													
Stage 4   NA	籄	Stage 3		NA													
Temp   Rise Full   Heat   Stage   Temp   Rise Full   Temp   Rise Full   Temp   Temp   Rise Full   Temp   Temp   Rise Full   Temp   Temp   Rise Full   Temp	ပ	Stage 4		NA													
Inlet   Pressure   P							Н	EATING S	SYSTEM			Ъ					
1         N/a         1         N/a					GAS							ELI	CTRI	C			
1 N/a 1 N/a N/a — — 1 13.1a 13.3a 13.3a 70 73 3  2 - 2 2 13.1a 13.3a 13.2a 70 73 3  Outdoor Air type — Power Exhaust Installed — Power Exhaust Type — OPERATIONAL RUN TEST  Run test cooling system — Run test free cooling — Run test heating system — Run test power exhaust — Run test	Stage	Inlet Pressure	Stage			Return Temp	Supply Temp	Rise Full						Return Temp	Supply Temp	Rise Full	
Outdoor Air type Power Exhaust Installed Econ Operation Mode Power Exhaust Type OPERATIONAL RUN TEST Run test cooling system Run test heating system Run test power exhaust	┝	N/o	4	_			$\vdash$		1		12 12	12 22	12 2	2			
Outdoor Air type Power Exhaust Installed Econ Operation Mode Power Exhaust Type OPERATIONAL RUN TEST Run test cooling system Run test heating system Run test power exhaust	-		_		-	-		-			13.1a	13.30	13.3	<b>170</b>	73	3	
Outdoor Air type  Econ Operation Mode  Power Exhaust Installed  Power Exhaust Type  OPERATIONAL RUN TEST  Run test cooling system  Run test heating system  Run test power exhaust	É		_					OUTDOO			15.18	15.54	10.2				
Econ Operation Mode Power Exhaust Type  OPERATIONAL RUN TEST  Run test cooling system Run test free cooling  Run test heating system Run test power exhaust	Oi.	ıtdoor Air t	vne					001000		that	ust inst	alled					
Run test cooling system Run test free cooling Run test heating system Run test power exhaust	_					*											
Run test heating system Run test power exhaust							OPE	RATION <u>A</u>					22			- II - 8 *	
Run test heating system Run test power exhaust	Rι	ın test cool	ing	system					Run test	free	coolin	g					
	-											_					
							ПОИ	ES & DE	FICIENCIE	S				100	1500	LEW D	

Halff Cx Agent	General Contractors Representative	Owners Representative
Signed*:	Signed:	Signed:
Name: Dean Lizzotte	Name: Mike Rodriguez	Name:
Company: Halff	Company: CAHS	Company:
Date:	Date: 01/23/2024	Date:
Phone/Emails:	Phone/Emails:	Phone/Emails:
"Inchaing Authority		



	Function					_	NIT INFOR	RMATION			10.00	0/62			
RT	U Number			RTU-04-4	105			Control S	yste	em type		DDC			
Мо	del Numbe	r		THC047E3REA	2EC0E1A	1A68OOHA0	0000000	Ambient 1					7	'6.6f	
Se	rial Numbe	r		2325125	16L			Heat Fuel	Ту	pe N//	4	3			
C/I	Number							Air Filter 1	Гурі	e16x25	x2	Pleate	ed		
				1257.2	70 - 10 20 20 20 20 20 20 20 20 20 20 20 20 20		7	Air Filter (	Con	dition		Dirty			
						ELE	CTRICAL	SYSTEM							
Un	it Voltage a	ınd	Phase		208-2	30v 3ph	1	T1 Transf	orm	ner Out	put Vol	tage	23.5		
Inc	oming Volt	age	Reading	L1-L2	216.1°	V		T18 Trans	sfor	mer Ou	itput Vo	ltage			
Inc	oming Volt	age	Reading	L1-L3	213.7	V		T43 Trans	sfor	mer Ou	itput Vo	ltage			
Inc	oming Volt	_			213.4	٧									
Ú.			PRODIGY	CONTRO	_				TH	HERMO	STAT	_	CONT	ROLS	
Со	mpleted G	uide	ed Setup		N/A			Controller	· Ma	anufact	urer	Trane			
Pro	odigy Unit F	₹ер	ort Include	ed	NO			Controller	Mc	odel Nu	mber	Reliate	el		
Pro	odigy Board	S	oftware Ve	rsion#		8.00.00	025	Controller	· Se	rial Nu	mber				
Dis	play Softw	are	Version#					Network A	Add	ress		41013			
							OOLING	SYSTEM				_			
Blower Motor	Horse Power 1h	р	Rotatio	on Verified		AMPS L1-L2	AMPS L2-L3	AMPS L1-L3	s	uction	Dischar	ge		dings	Del
owe	High Spee	d	NA						Pr	essure	Pressu	re	All S	tages	┛╹
8	Low Spee	d	NA			1.4a	1.4a	N/a	匚			F	Return	Supp	ly
ρ	Stage 1		NA			-	-	-	<u> </u>	-	-		•	•	
Compressor	Stage 2		NA		$\perp$	9.2a	8.7a	4.7a	12	0.5psig	253.2p	sig (	68.7f	53.8	f
Į į	Stage 3		NA		$\perp$				<u> </u>			$\bot$			
_	Stage 4		NA						L						
						Н	EATING S	SYSTEM				OTOLO			
_				GAS							ELI	CTRIC	T		
Stage	Inlet Pressure	Stage	Manifold Low	Pressure High	Retum	Supply Temp	Temp Rise Full Heat	Electric H Stage		AMPS L1-L2	AMPS L2-L3			Supply Temp	Temp Rise F Heat
1	N/a	1	N/a	N/a		<del>                                     </del>		1	_	12 9a	13.3a	13 3a			
2		2	1474	1416	1 -		_	2		13 1a	13.3	13.2a	71	[72]	
Ė		i			-11		OUTDOO			10.14	10.0	TOILG		4	11.7
Οι	ıtdoor Air ty	ре						Power Ex	hau	ust Insta	alled				
-	on Operation			d -				Power E	_					Dk(V	9
						OPE	RATIONA	L RUN TE							
Ru	ın test cooli	ng	system			1.1	10	Run test	free	cooling	9	9			
Ru	ın test heat	ing	system				2	Run test	pow	ver exh	aust				
	-3000			IL" S		NOT	ES & DE	FICIENCIE	S						

напт сх деепт	General Col	ntractors kepsesentative	Owners Repre	sentative
Signed*:	Signed:	104	Signed: _	
Name: Dean Lizzotte	Name:	Mike Rodriguez	Name: _	
Company: Halff	Company:	CAHS	Company: _	
Date:	Date:	01/23/2024	Date:	
Phone/Emails:	Phone/Email	5:	Phone/Emails: _	
Windhistone Budhanna				



			MATION							
RTU Number RTU-04-412			Control Sy	vste	em type		DDC			
Model Number THC047E3REA2EC0E1A1A0	6B00HA00	00000	Ambient T						77.2	
Serial Number 232512563L			Heat Fuel							
C/N Number			Air Filter 1				Pleate	ed		
	e act	. 1	Air Filter (	Con	dition		Dirty			
	ELE	CTRICAL	SYSTEM							
Unit Voltage and Phase 208-230	0v 3PH	<del>1</del> .	T1 Transf	orm	ner Out	put Vol	tage	23.3v		
Incoming Voltage Reading L1-L2 213.3v			T18 Trans	sfori	mer Ou	itput Vo	oltage	N/a		
Incoming Voltage Reading L1-L3 212.9v			T43 Trans	sfori	mer Ou	itput Vo	oltage	N/a		
Incoming Voltage Reading L2-L3 215.4v										
PRODIGY CONTROLLER				Tŀ	HERMO	STAT	/ DDC	CONT	ROLS	
Completed Guided Setup N/A			Controller	Ma	anufact	urer	Trane			
Prodigy Unit Report Included NO			Controller	Мо	del Nu	mber	Reliate	el		
Prodigy Board Software Version# 8	3.00.00	25	Controller	Se	rial Nu	mber	5			
Display Software Version#			Network A	\ddi	ress		41007			
والمراجات والمراجات والمراجات	C	OOLING	SYSTEM					*		
I ♥ I I I I I I I I I I I I I I I I I I	MPS 1-L2	AMPS L2-L3	AMPS L1-L3	S	uction	Dischar	ge		dings	Delta
High Speed NA				Pα	essure	Pressu	ıre	All S	tages	Т
Low Speed NA 1	.4a	1.4a	N/a				F	Return	Supp	ly
Stage 1 NA	-	-	-		-	-		-	-	
Stage 1 NA 6 Stage 3 NA 6	.4a	7.0a	6.2a	126	6.6psig	310.8p	sig	69.8	59.7	<u>'</u>
Stage 3 NA										
Stage 4 NA										
	Н	EATING S	SYSTEM							
GAS						ELE	ECTRIC	;		
Manifold Pressure  Pressure  Tow  High	Supply Temp	Temp Rise Full Heat	Electric Ho Stage	eat		AMPS L2-L3		_ = -	Supply Temp	Temp Rise Fu Heat
1 N/a 1			1		13 0a	13 0a	13 0a			
2 N/a 2	ĺ	_	2		12 9a	12.9a	13.2a	74	76	
	- Y	оитроо			12.00	TEIOU	10/120	K W	N	Section 1
Outdoor Air type			Power Ex	hau	ust Insta	alled				
Econ Operation Mode	0.1(94) 4		Power E	xha	aust Ty	/ре				
	OPER	RATIONAL	L RUN TE							
Run test cooling system			Run test t	ree	cooling	g				
Run test heating system		25W 188'E	Run test	pow	er exh	aust				
	NOT	ES & DEF	ICIENCIE	S						

Halff Cx Agent	General Contractors Representative	Owners Representative
Signed*:	Signed:	Signed:
Name: Dean Lizzotte	Name: Mike Rodriguez	Name:
Company: Halff	Company: CAHS	Company:
Date:	Date: 01/23/2024	Date:
Phone/Emails:	Phone/Emails:	Phone/Emails:
*Inchaing Authority		



	Turicuo	Hel	CHECKII	St-Root	тор	-	ит высов	DEA A THOM						7.1		
						UI	NIT INFOR				-				HI M	
$\vdash$	'U Number			RTU-04-4				Control S				DDC				
⊢	del Numbe			THC047E3REA		A6B00HA0	00C0000	Ambient 1		<del></del>				77		
⊢	rial Numbe	F		23251250	01L			Heat Fuel								
C/I	Number							Air Filter			$\overline{}$	Pleate	ed			
								Air Filter (		dition		Dirty				
								SYSTEM								T i
Un	it Voltage	and	Phase			30v 3PI	Ⅎ.	T1 Transf	orm	ner Out	put Vol	tage	23.3v			
Inc	oming Vol	tage	Reading	L1-L2	213.0\	/		T18 Trans	sfor	mer Ou	itput Vo	oltage	N/a			
Inc	coming Vol	tage	Reading	L1-L3	213.9			T43 Trans	sfor	mer Ou	itput Vo	oltage	N/a			
Inc	oming Vol				213.3\	/										
	T. Y.		PRODIGY	CONTRO	LLER				TH	HERMO	STAT	/ DDC	CONT	ROLS		
Co	mpleted G	uide	ed Setup		N/A			Controller	Ma	anufact	urer	Trane				
Pro	odigy Unit	Rep	ort Include	ed	NO			Controller	Мо	del Nu	mber	Reliate	el			
Pro	odigy Boar	d S	oftware Ve	rsion#		8.00.0	025	Controller	· Se	rial Nu	mber					
Dis	splay Softw	/are	Version#					Network A	Add	ress		41008				
						С	OOLING :	SYSTEM								
Blower Motor	Horse Power		Rotatio	on Verified		MPS _1-L2	AMPS L2-L3	AMPS L1-L3	s	uction	Dischar	ge	Tempe Read		De	elta
Ne.	High Spe	ed	NA			-	-	-	Pro	essure	Pressu	re	All S	tages		Т
ā	Low Spec	ed	NA			0.9a	0.9a	N/a				F	Return	Supp	ly	
5	Stage 1		NA			-	-	-		-	-					
Compressor	Stage 2	<u>}</u>	NA			6.2a	6.2a	6.6a	120	6.7psig	263.1p	sig	70.1	54.8	3	
E	Stage 3	3	NA													
l°	Stage 4		NA													
			X.			H	EATING S	SYSTEM						iw.	17	
		_		GAS							ELE	CTRIC				
Stage	Inlet Pressure	Stage	Manifold Low	Pressure High	Return Temp	Supply Temp	Temp Rise Full Heat	Electric H Stage	eat	AMPS L1-L2		AMPS L1-L3		Supply Temp	Tem Rise f Hea	Full
1	N/a	1	-	-	_			1		12 92	24 1a	13.2a				_
2		2	-	-	-		-	2		13.12	12 02	13.12	73	77		
É	14/4		53.0 H.V.			AL EX	OUTDOC			10.14	24.1a 12.9a	10.14		IV.	L	-1
Or	ıtdoor Air t	vne					001000	Power Ex	hai							
_	on Operati			Ī _				Power E								_
	or opolati		1 kg 1 m			OPE	RATIONA	L RUN TE			, , , ,					-
Ru	ın test cool	ina	system					Run test	_	coolin	g			100		
-	ın test hea							Run test								
		- 3				NOT	ES & DE	FICIENCIE					Language		12	
_																

Halff Cx Agent		General Cont	ractors/Representative	Owners Repre	sentative
Signed*:		Signed:		Signed: _	
		Name:		Name: _	
Company: H	alff	Company:	CAHS	Company: _	
Date:		Date:	01/23/2024	Date: _	
Phone/Emails:		Phone/Emails:		Phone/Emails: _	
"Initiating Authority					



	Tunctio	IIel	CHECKII	31 11001	ТОР		UT INCOE	MATION							
				DT1: 01:	1012		NIT INFOR					DDC			
-	U Number			RTU-04-I				Control S	•			DDC		70.0	
<u> </u>	del Numbe			THC047E3REA		1A6B00HA0	000000	Ambient 1						78.0	
-	rial Numbe	er		23251252	25L			Heat Fuel							
C/I	Number							Air Filter	<u> </u>		x2	Pleate	ed		
								Air Filter (		dition		Dirty			
								SYSTEM	_						
Un	it Voltage	and	Phase			30v 3PI	Ⅎ.	T1 Transf					23.4v		
Inc	oming Vol	tage	Reading	L1-L2	215.2	v		T18 Trans	sfori	mer Ou	tput Vo	oltage	N/a		
Inc	oming Vol	tage	Reading	L1-L3	212.7	v		T43 Trans	sfori	mer Ou	itput Vo	oltage	N/a		
Inc	oming Vol	_	Reading		213.0					711170					
			PRODIGY	CONTRO	LLER				TE	HERMO	STAT	/ DDC	CONT	ROLS	
Co	mpleted G	uide	ed Setup		N/A			Controller	· Ma	nufact	urer	Trane			
Pro	odigy Unit	Rep	ort Include	ed	NO			Controller	r Ma	del Nu	mber	Reliat	el		
Pro	odigy Boar	d S	oftware Ve	rsion#		8.00.00	025	Controller	Se	rial Nu	mber	-			
Dis	splay Softw	/are	Version#					Network /	Addı	ress		43004	1		
	100					С	OOLING :	SYSTEM	Ш						
Blower Motor	Horse Power		Rotatio	on Verified		AMPS L1-L2	AMPS L2-L3	AMPS L1-L3	S	uction	Dischar	rge	Rea	erature dings	Delta
Ne.	High Spe	ed	NA			į.			Pre	essure	Pressu	ite	All S	tages	Т
ď	Low Spe	ed	NA			2.5a	2.5a	N/a					Return	Supp	ly
Ŀ	Stage 1		NA			-	-	-		-	-		-	-	
Compressor	Stage 2	2	NA			9.8v	10.7v	8.1v	129	9.3psig	292.9p	sig	70.4f	55.8	f
g	Stage 3	3	NA						П						
O	Stage 4	,	NA	•	$\neg \vdash$										
			100			H	EATING S	SYSTEM							
				GAS							EL	ECTRIC	0		
Stage	Inlet Pressure	Stage		Pressure	Return Temp	Supply Temp	Temp Rise Full Heat	Electric H Stage		AMPS L1-L2	AMPS L2-L3		1 = -	Supply Temp	Temp Rise Fu Heat
1	N/a	1	Low -	High -		+		1		12.40	12.00	12.00		<b>.</b>	
$\vdash$					-		_	2	_	13.44	13.04	13.00	74	180	
2	N/a	2					OUTDOC		-	13.0a	13.1a	12.98			
O.	itdoor Airt	400					OUTDOC	Power Ex	hai	iet Inet	alled		_		
_	itdoor Air to on Operat			Ť				Power E							
	on operat	UII	MOGE			OPE	RATIONA	L RUN TE		aust 1)	pe	100			
Ri	ın test coo	ina	system					Run test		coolin	0				70
-	ın test coo				1100			Run test				- 5			
100	in test nea	ı9	oyotom.			NO	ES & DE	FICIENCIE	_	OI OAII					

Haiff Cx Agent	General Contractors Representative	Owners Representative
Signed*:	Signed:	Signed:
Name: Dean Lizzotte	Name: Mike Rodriguez	Name:
Company: Halff	Company: CAHS	Company:
Date:	Date: 01/23/2024	Date:
Phone/Emails:	Phone/Emails:	Phone/Emails:
*Inchaing Authority		



	Tarrecto	i i gi	Checkli	JE NOO!	ТОР		NIT INFOR	RMATION			-				_
RT	U Number	Т		RTU-10-0	CAFE			Control S	vste	em type		DDC			
	del Numbe						000000000000000000000000000000000000000	Ambient 1	_				,	77.0	
	rial Numbe		·	2326127	98L			Heat Fuel		<u> </u>					
C/N	Number				((3.2%)	- 100000	5 (CE) - 19 (CE)	Air Filter			_	Pleate	ed		
					0.0.00			Air Filter (	Con	dition		Dirty			
			. W.			ELE	CTRICAL	SYSTEM							1000
Un	it Voltage a	and	Phase		208-2	230v 3PI	Н.	T1 Transf	form	ner Out	put Vol	tage	24.0v		
Inc	oming Vol	tage	Reading	L1-L2	214.4	‡v		T18 Trans	sfor	mer Ou	itput Vo	oltage	24.0v		
Inc	oming Vol	age	Reading	L1-L3	214.2	2∨		T43 Trans	sfor	mer Ou	itput Vo	oltage	23.7v		
Inc	oming Vol	age	Reading	L2-L3	216.7	7									
			PRODIGY	CONTRO	LLER	₹			Τŧ	HERMO	STAT	/ DDC	CONT	ROLS	
Co	mpleted G	uid	ed Setup		N/A			Controller	r Ma	anufact	urer	Trane			
Pro	digy Unit I	Rep	ort Include	ed	NO			Controller	r Mo	odel Nu	mber	Symb	io		
			oftware Ve	rsion#		3.00.0	012	Controller	r Se	rial Nu	mber				
Dis	play Softw	are	Version#					Network /	Add	ress		41018	3		
						С	OOLING	SYSTEM						T. M	
r Motor	Horse Power 5h	ıp		on Verified	$\perp$	AMPS L1-L2	AMPS L2-L3	AMPS L1-L3	s	uction	Dischar	ge	Rea	erature dings	Delta
Blower	High Spe	ed	NA		$\perp$				Pr	essure	Pressu	ire	All S	tages	T
83	Low Spee	ed	NA			3.2a	3.2a	3.2a	1				Return	Supp	ly
sor	Stage 1		NA						╙						
pres	Stage 2	!	NA		$\rightarrow$	14.8a	16.9a	14.9a	14:	3.2psig	301.8p	sig	72.8f	56.4	f
Compressor	Stage 3		NA		$\rightarrow$				┡			+			
	Stage 4		NA		-										
				GAS		h	IEATING :	SYSTEM	_			CTRI			
1				GAS		$\overline{}$		3 (5			ELC	CIRI	T		
Stage	Inlet Pressure	Stage	Manifold		Return	Supply Temp	Temp Rise Full Heat	Electric H Stage		AMPS L1-L2	AMPS L2-L3			Supply Temp	Temp Rise Full Heat
1	N/a	1	Low N/a	High N/a	<b>.</b>	_		1		10 72	19.9a	20.15		00	
2	-	2	-	-	┤ ̄	7 7	_	2			39.8a			66	
_	===	_				-	OUTDOO			00.00	00.00	40.10	•		-
Ou	tdoor Air t	/pe						Power Ex	khau	ust Inst	alled				
	on Operati							Power E	xha	aust Ty	/ре				
				at societies		OPE	RATIONA	L RUN TE	_						
Ru	n test cool	ing	system					Run test	free	coolin	g	4	73 45 7 5 5	2.576	Tojos
Ru	n test heat	ing	system					Run test		ver exh	aust	200			
						NOT	TES & DEI	FICIENCIE	S						_U, W

Halff Cx Agent	General Contractors Representative	Owners Representative
Signed*:	Signed:	Signed:
Name: Dean Lizzotte	Name: Mike Rodriguez	Name:
Company: <u>Half</u>	Company: CAHS	Company:
Date: <u>1/23/24</u>	Date: 01/23/2024	Date:
Phone/Emails:	Phone/Emails:	Phone/Emails:



#### Introduction

The purpose of the graphics review is to align the Controls Subcontractor with the Owner's project requirements. The review shall examine the general aesthetics of the BAS system, verification that all the equipment is readily available, and reporting accuracy. The graphics review requires the CxA to receive access to the BAS during and after installation.

#### Communication

Documentation for pre-graphics review is attached. The documents after the competition shall be signed by the CxA, Owner's representative, and Contractor representative. An example of a Issues and Resolutions Log is also attached.

#### **Procedures**

- 1. Access to the project's BAS
- 2. Analysis shall be performed for any graphical glitches or major issues.
- 3. The individual views shall be compared against the installed schedules to verify if all the proper equipment is on the screen.
- 4. The information on the BAS shall be compared to the information from the installed equipment itself or if available testing instrumentation.
- 5. The alarms shall then be tested to verify proper setup.
- 6. Any identified issues shall be documented in the Issues and Resolutions Log.
- 7. If resolved the building automation system shall be reviewed once more.
- 8. When the review has been completed the document shall be signed by the witnessing parties including up to the CxA, the Owner's representative, and the Contractor's representative.

Notes: The CxA shall need remote access to the BAS during and after the graphics review.

# **Graphics Review**

	Yes	No	N/A	Initials
Are all the VFDs displayed on the screen?			Х	DEL
Are all dedicated outside air systems displayed on the screen?			Х	DEL
Are all pumps displayed on the screen?			Х	DEL
Are all chillers displayed on the screen?			X	DEL
Are all the fan arrays displayed on the screen?			Х	DEL
Are all rooftop units displayed?	Х			DEL
Are all boilers displayed on the screen?			Х	DEL
Are all water coils displayed on the screen?			X	DEL
Are all flow rates displayed on the screen?			Х	DEL
Are all pressures displayed on the screen?			Х	DEL
Are all maintenance reminders displayed on the screen?			X	DEL
Do the graphics make sense for the general user?	X			DEL
Do all the alarms display accurately and prominently?	Х			DEL

Signed\*: Name: Company: Date: Phone/Emails: Cli 270H1940H-com

Signed: Name: Company: Date: Phone/Emails: Signed: Name: Company: Date: Phone/Emails:



#### Sequence of Operations Review and Verification

#### Introduction

The purpose of the sequence of operations review is to verify that the equipment functions normally during intended conditions. The SOO review and data logger confirmation must be performed after TAB and controls subcontractors have concluded their work.

#### Communication

The documents after the completion shall be signed by the CxA, the Owner's representative, and the Contractor representative. The Issues and Resolution Log is attached.

#### **Procedures**

- 1. First, a sample of equipment is taken from the schedule.
- 2. The controls sequences for the selected sample are tested and verified per the Construction Documents.
- 3. The data collected shall span a month after the completion of the SOO review.
- The CxA shall review the data from the BAS and the CxA data loggers for the same areas to ensure the HVAC system stability.



# **Unit Status**

Date:

3/9/2025

AVO:

45830.004

**Project:** 

**BISD Morningside Elementary** 

Contract for: Brownsville ISD

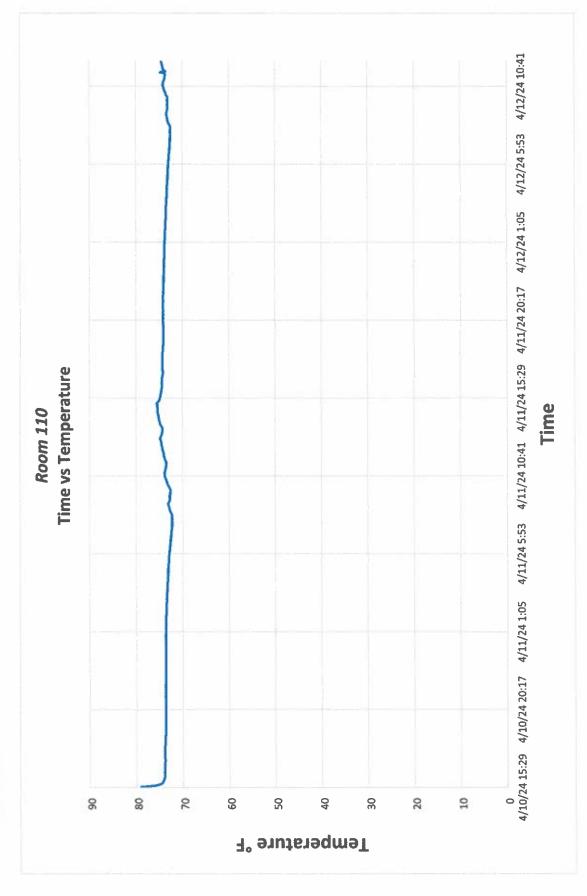
The following items require the attention of the Contractor for completion or correction. This list may not be all-inclusive, and the failure to include any items on this list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

ITEM NO.	LOCATION	UNIT	TEMPERATURE	RH %
1.	Unit 101	RTU-04-101	76.41	48
2.	Unit 102	RTU-03-102	73	41
3.	Unit 103	RTU-04-103	74.5	55
4.	Unit 104	RTU-04-104	75.8	36
5.	Unit 105	RTU-04-105	74.6	54.9
6.	Unit 106	RTU-04-106	74.7	55.7
7.	Unit 107	RTU-04-107	73.5	56.6
8.	Unit 108	RTU-03-108	74.6	54.9
9.	Unit 109	RTU-04-109	74.9	55
10.	Unit 110	RTU-04-110	74.3	54.2
11.	Unit 111	RTU-04-111	75.2	54.6
12.	Unit 112	RTU-04-112	74.9	54.9
13.	Unit 114	RTU-04-114	73.4	54.5
14.	Unit 201	RTU-04-201	75.8	36
15.	Unit 202	RTU-04-202	74.7	54.7
16.	Unit 203	RTU-04-203	74.2	54.5
17.	Unit 204	RTU-04-204	74.3	54.3
18.	Unit 205	RTU-04-205	73.9	54.7
19.	Unit 206	RTU-04-206	74.4	54.3
20.	Unit 207	RTU-04-207	72.7	54.8
21.	Unit 208	RTU-04-208	73.3	36
22.	Unit 209	RTU-04-209	72	54.4

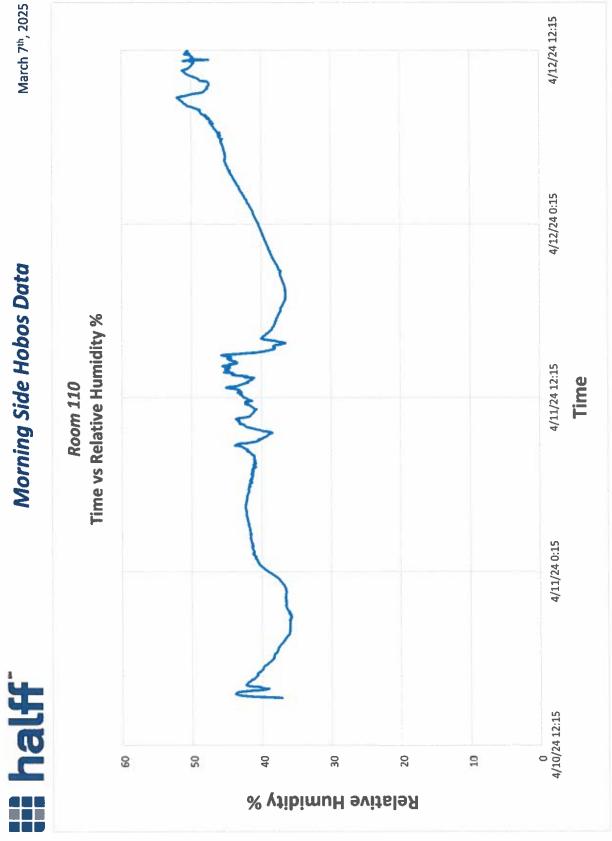


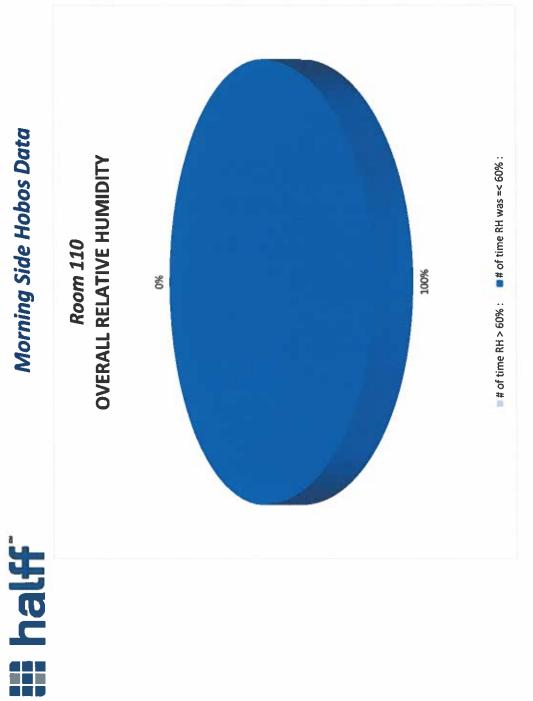
ITEM NO.	LOCATION	UNIT	TEMPERATURE	RH %
23.	Unit 210	RTU-04-210	73.7	53.5
24.	Unit 211	RTU-04-211	76.5	44
25.	Unit 212	RTU-04-212	75.9	53.3
26.	Unit 301	RTU-04-301	74.8	55.1
27.	Unit 302	RTU-04-302	73.3	35
28.	Unit 303	RTU-04-303	74.7	41
29.	Unit 304	RTU-04-304	74.8	54.6
30.	Unit 305	RTU-04-305	74.2	55.0
31.	Unit 306	RTU-04-306	74.5	54.5
32.	Unit 307	RTU-04-307	69.6	68.5
33.	Unit 308	RTU-04-308	74.8	54.8
34.	Unit 309	RTU-04-309	74.1	54.6
35.	Unit 310	RTU-04-310	74.8	54.4
36.	Unit 311	RTU-04-311	75.2	54.3
37.	Unit 312	RTU-04-312	75.6	54.1
38.	Unit 401	RTU-04-401	74.4	
39.	Unit 402	RTU-04-402	72.4	54.5
40.	Unit 403	RTU-04-403	74.7	53.6
41.	Unit 404	RTU-04-404	73.3	55.5
42.	Unit 405	RTU-04-405	74.6	54.6
43.	Unit 406	RTU-04-406	73.5	54.4
44.	Unit 407	RTU-04-407	74.8	54.5
45.	Unit 409	RTU-04-409	74.9	54.7
46.	Unit 410	RTU-04-410	72.3	54.9
47.	Unit 411	RTU-04-411	75.2	54.9
48.	Unit 412	RTU-04-412	73.3	62.2
49.	Unit 413	RTU-04-413	74.4	52.6
50.	Unit 414	RTU-04-414	75.6	48.6
51.	Café 1	RTU-10-CAFE1		
52.	Café 2	RTU-10-CAFE2	•••	
53.	Café 3	RTU-10-CAFE3		
54.	Café 4	RTU-10-CAFE4		
55.	Hall NE	RTU-04-HALL NE	75.8	45
56.	Hall NW	RTU-04-HALL NW	73	45
57.	Library S	RTU-04-LIBRARY S	77	39
58.	Library N	RTU-04-LIBRARY N	76	40

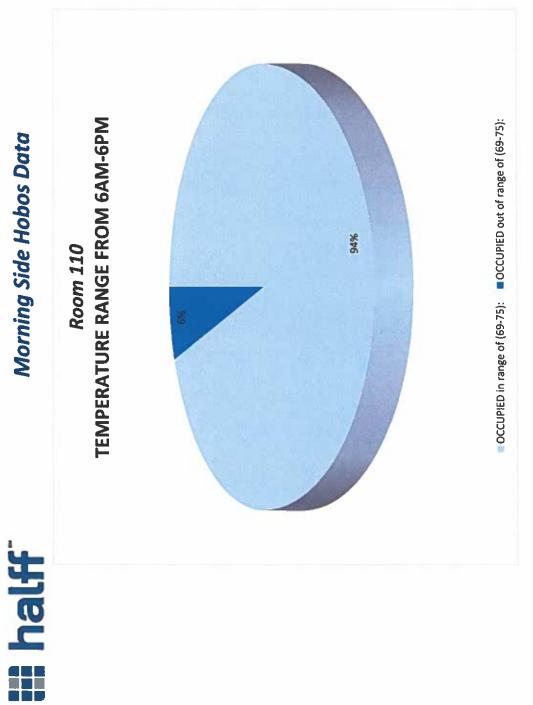




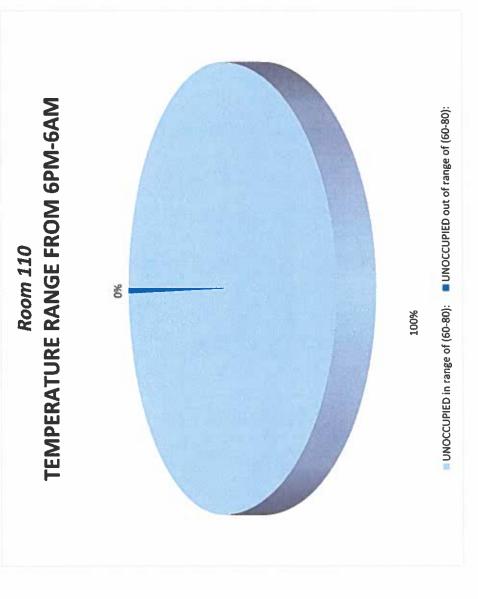










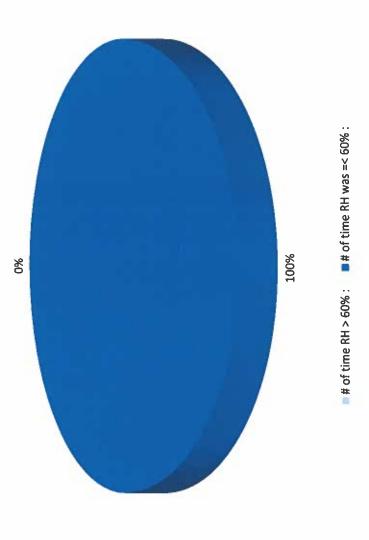




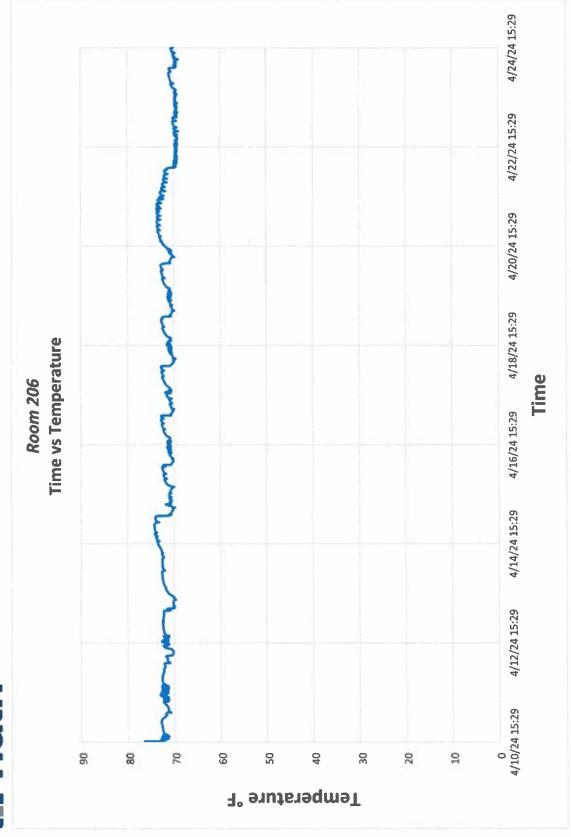


■ half

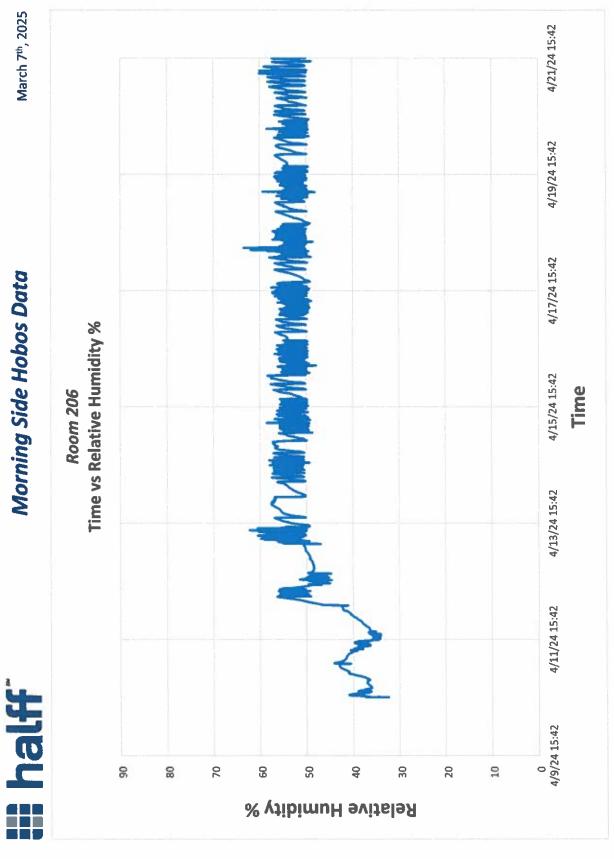
# Room 110 UNOCCUPIED RELATIVE HUMIDITY (6PM-6AM)



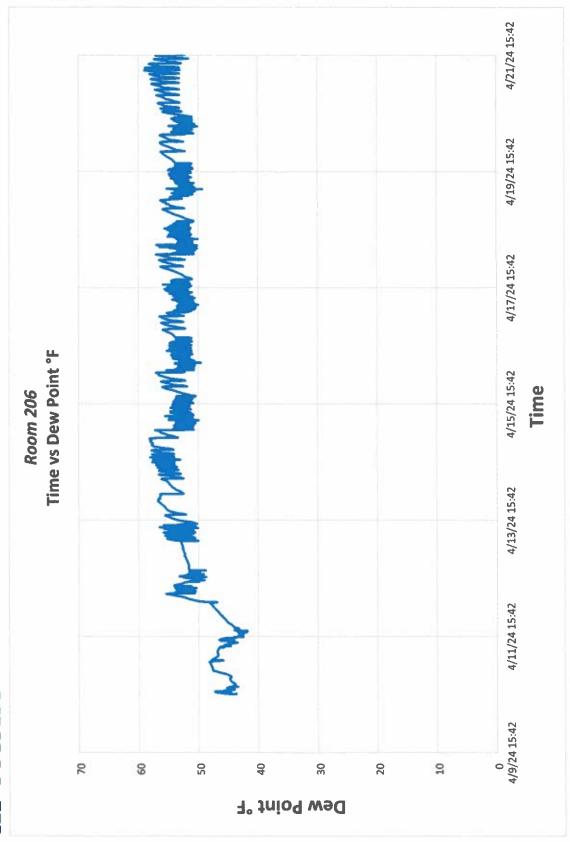




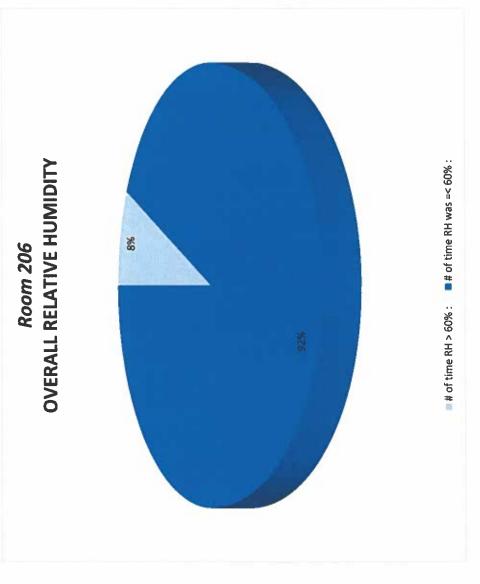




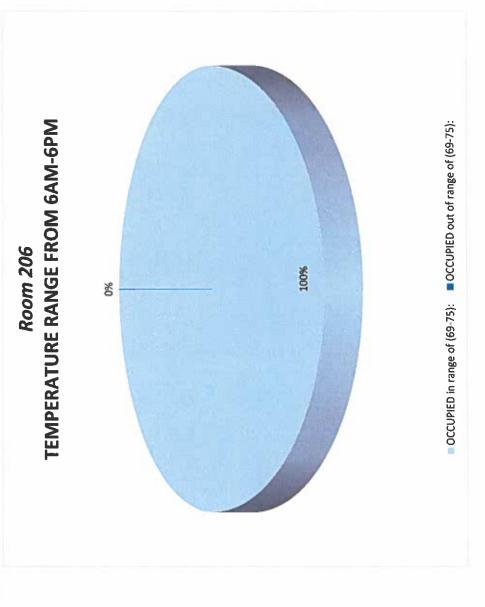




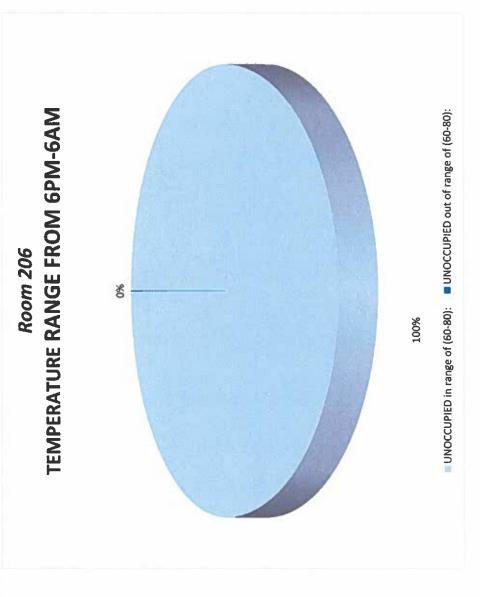




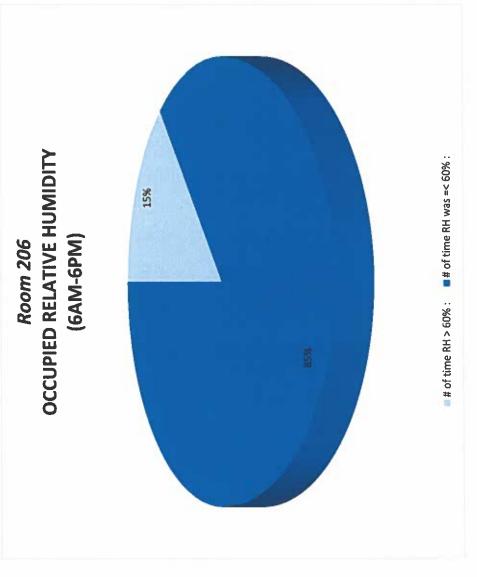






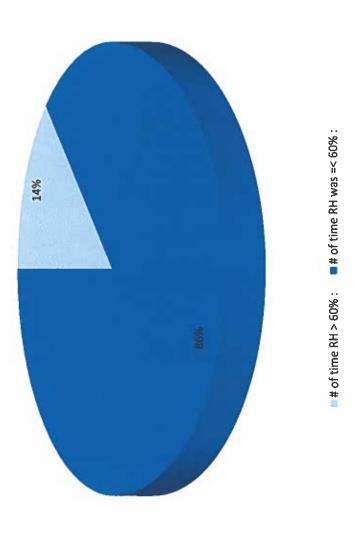




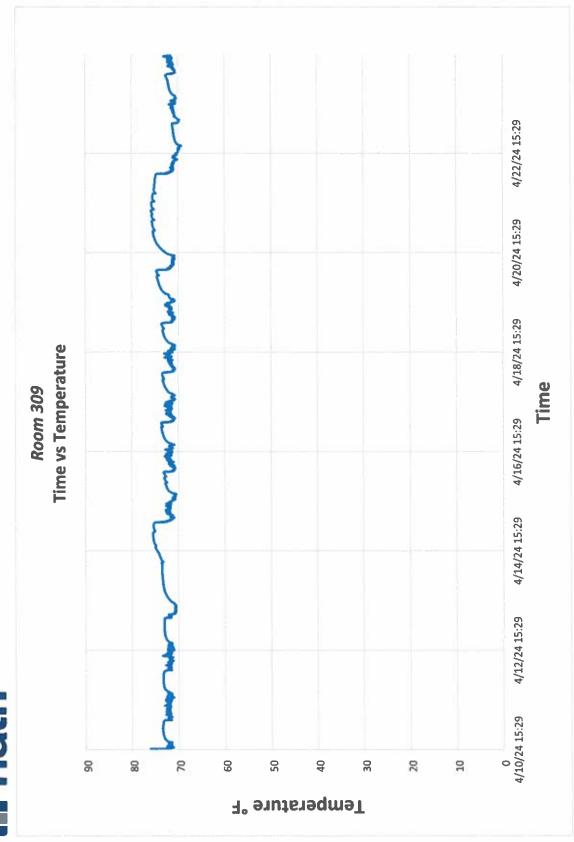


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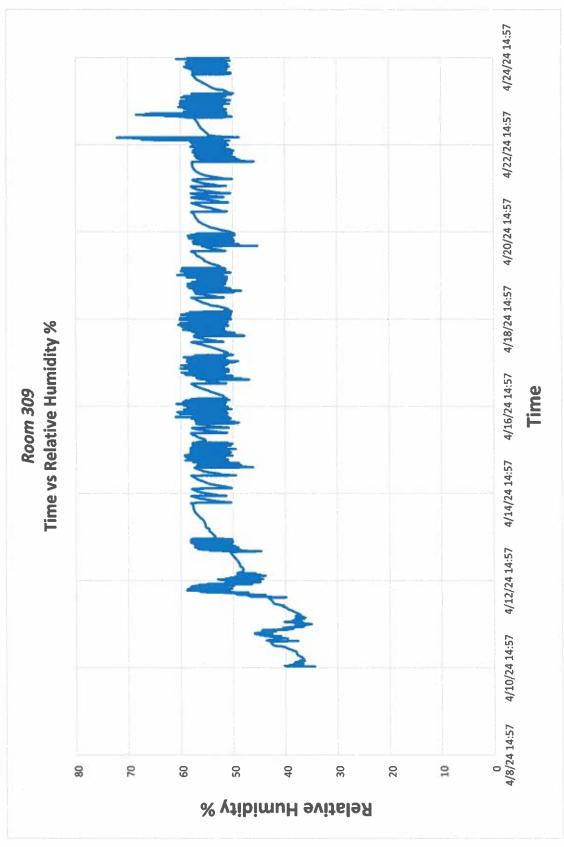
# Room 206 UNOCCUPIED RELATIVE HUMIDITY (6PM-6AM)





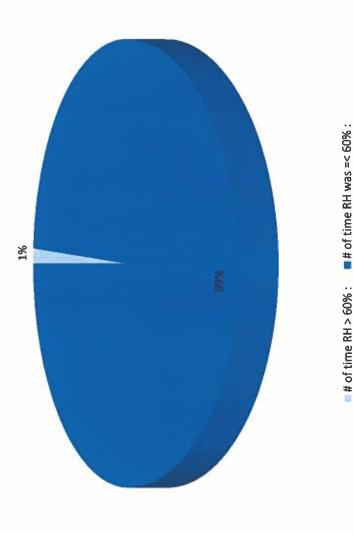






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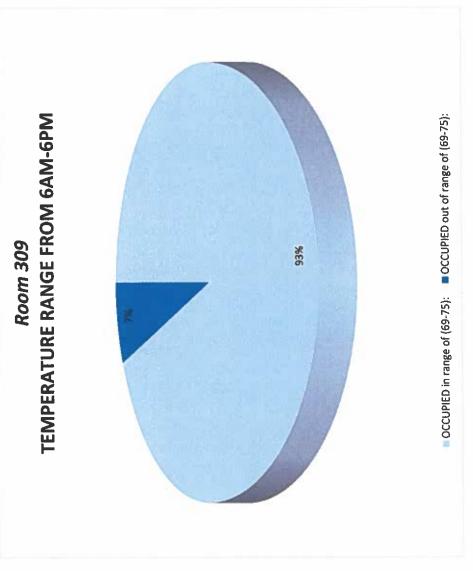
# Room 309 UNOCCUPIED RELATIVE HUMIDITY (6PM-6AM)













#### **Brownsville Independent School District**

Agenda Cate	egory: Bids / Proposals	Board of Education	Meeting:	06/23/2022
Item Title:	CSP #22-148A ESSER Mornin HVAC Upgrades Phase 1 (Pacl	<u> </u>	X Action Information	mation
#22-148A ESSI committee men (CAHS) of Ha Construction S Construction For construction processing the seconstruction of the seconstru	UND: 22, BISD Purchasing Department recognized ER Morningside ES HVAC Upgrades on the services evaluated the one (1) qualified arlingen. Texas, which has received dervices. Administration recommend dervices for the project as mentioned oject is scheduled to achieve substantial delivery from the Notice to Proceed	s Phase 1 (Package 1) project. On vendor and selected Central Air the highest-ranking scores and is approving Central Air and d above in the amount not to cal completion in Two Hundred Fi	n June 15, 202 r and Heating d is recomm Heating Servexceed \$2,33 ifteen days (2	22, the ranking Services, Inc. lended for the vices, Inc. for 2,531.00. The 15) contingent
<ul><li>The Bid</li><li>The ave</li><li>The bid</li></ul>	nent Recommendation Forms I Tabulation Sheet rage ranking scores for the one (1) co opening report received from submitt - Project Authorization and Delivery	ted vendors		18
	PLICATIONS: d 282 - \$2,332,531.00			
Recommend aw to Central Air a	ENDATION: warding of CSP #22-148A ESSER Mond Heating Services, Inc. (CAHS) of Its Administration to enter negotiations.	Harlingen. Texas in the amount n	ot to exceed S	\$2,332,531.00,
Manuel Nin	Villarreal / Rosario Peña Principal / Purchasing Director Ofosa, FAIA / David Robledo	Approved for Submission	to Board of	Education:

When Necessary, Additional Background May Follow This.

Approved by: Deputy Superintendent