Report By:

National TAB
1329 E. KEMPER ROAD
SUITE 4210
CINCINNATI, OH 45246

Report: TAB REPORT

Function: Test, Adjust, & Balance

Date: 04/29/2024

PROJECT

Bethany ES (Clover, SC)

337 Maynard Grayson Rd

CLOVER, SC 29710

Client

Action Mechanical Inc.

PO Box 7325

CHARLOTTE, NC 28241

National TAB

Project: Bethany ES (Clover, SC)

Table Of Contents

CERTIFICATION

PROJECT: Bethany Elementary School (Clover, SC)

The data presented in this report is a record of system measurements and final adjustments that have been obtained in accordance with the current edition of the NEBB *Procedural Standards for Testing, Adjusting, and Balancing of Environmental Systems.* Any variances from design quantities, which exceed NEBB tolerances, are noted in the Test-Adjust-Balance Report Project Summary.

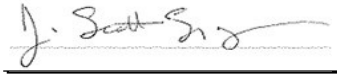
The air distribution system has been tested and balanced and final adjustments have been made in accordance with NEBB standards and the project specifications.

NEBB TAB FIRM:	National TAB-Southeast
REGISTRATION NO:	3755
CERTIFIED BY:	J. Scott Springer 23312
DATE:	4/29/2024

The hydronic distribution system has been tested and balanced and final adjustments have been made in accordance with NEBB standards and the project specifications.

NEBB TAB FIRM:	National TAB-Southeast
REGISTRATION NO:	3086
CERTIFIED BY:	J. Scott Springer 23312
DATE:	

Submitted and Certified by:

NEBB TAB FIRM:	National TAB-Southeast
TAB PROFESSIONAL:	J. Scott Springer
SIGNATURE:	
REGISTRATION NO:	3755 (NTAB) / 23312
CERTIFICATION EXP:	12/31/2024

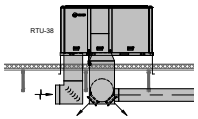
National TAB

Testing, Adjusting, and Balancing Equipment

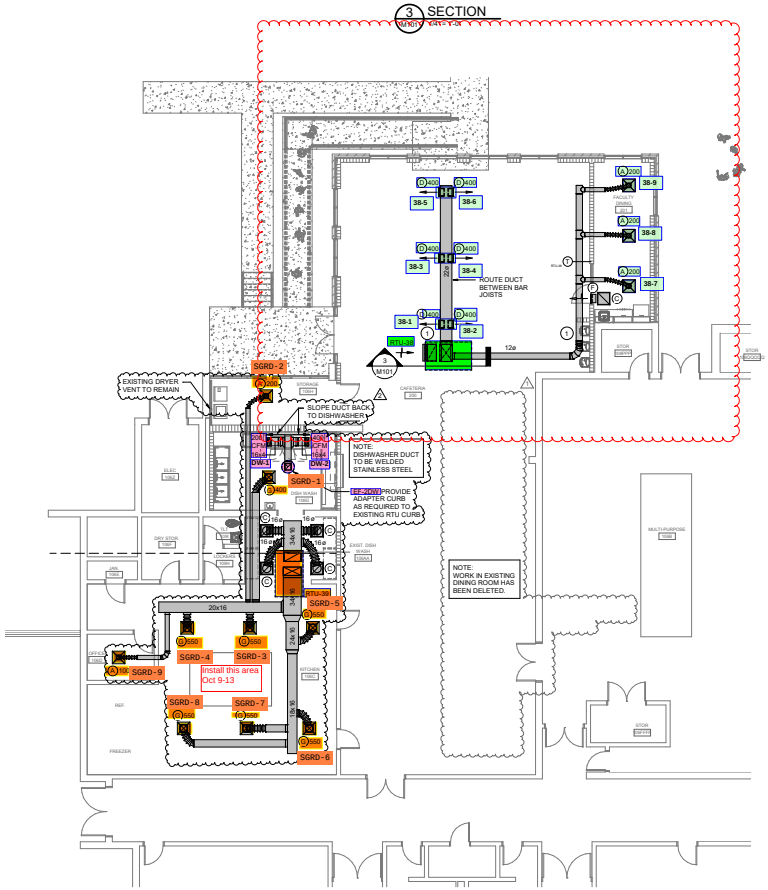
Function		Range	Minimum Accuracy	Instrument Information	Calibration Date	Date Due
AIR	AIR PRESSURE	0 in wg to 10 in wg	2% +/- 0.001 in wg	Shortridge ADM-860C S/N M19547	10/17/2023	10/16/2024
	AIR VELOCITY INSTRUMENT	50 fpm to 3900 fpm	+/- 5 % +/- 7 fpm	Shortridge ADM-860C S/N M19548	10/17/2023	10/16/2024
	DIRECT HOOD READING	100 cfm to 2000 cfm	+/- 3 % +/- 7 cfm	Shortridge Flow Hood	10/17/2023	10/16/2024
TEMPERATURE	AIR METER	-20 F to 240 F	+/- .5 % 2 F	Cooper ATKINS - SRH77A S/N 081820093	10/20/2023	10/19/2024
	AIR PROBE	-20 F to 240 F	+/- .5 % 2 F	Cooper ATKINS - PD1388 7-6 S/N 5028	10/20/2023	10/19/2024
	IMMERSION METER	-20 F to 240 F	+/- .5 % 2 F	Cooper ATKINS - SRH77A S/N 081820093	10/20/2023	10/19/2024
	IMMERSION PROBE	-20 F to 240 F	+/- .5 % 2 F	Cooper ATKINS - PD1388 7-6 S/N 1075	10/20/2023	10/19/2024
	CONTACT METER	-20 F to 240 F	+/- .5 % 2 F	Cooper ATKINS - SRH77A S/N 081820093	10/20/2023	10/19/2024
	CONTACT PROBE	-20 F to 240 F	+/- .5 % 2 F	Cooper ATKINS - PD1388 7-6 S/N 4011	10/20/2023	10/19/2024
HUMIDITY	HUMIDITY PROBE	10 % RH to 90 % RH	3% of reading	Cooper ATKINS - SRH77A S/N 090315046	10/20/2023	10/19/2024
ELECTRICAL	VOLTAGE MEASUREMENT	0 VAC to 600 VAC	2 % reading +/- 5 digits	Dwyer CM-1 - S/N 190800099	10/16/2023	10/15/2024
	AMPERAGE MEASUREMENT	0 Amperers to 100 Amperes	2 % reading +/- 5 digits	Dwyer CM-1 - S/N 190800099	10/16/2023	10/15/2024
ROTATION	ROTATION MEASUREMENT	60 rpm to 5000 rpm	2 % reading 2 rpm	Dwyer TAC-L - S/N S1100123	10/16/2023	10/15/2024
HYDRONIC	PRESSURE MEASUREMENT	-30 in Hg to 200 psi	±2% of reading +/- 1 psi	Dwyer 490W-6 - S/N 01L6NK	6/21/2023	6/20/2024
	DIFFERENTIAL PRESSURE MEASUREMENT	0 psi - 80 psi	±2% of reading +/- 1 psi	Dwyer 490W-6 - S/N 01L6NK	6/21/2023	6/20/2024
DALT	DUCT LEAKAGE	-10"- +10" wc	±1% of reading +/- 0.004" wc	Kanomax DALT 6900 S/N: 080439	5/2023	5/2024

Abbreviation List

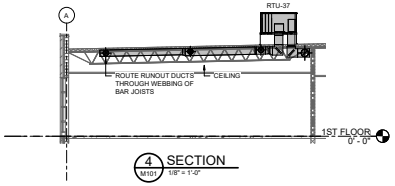
A = Area (ft^2)	S.F. = Service Factor
AHU = Air Handling Unit	SF = Supply Fan
A_k = Effective Area	SP = Static Pressure
BHP = Brake Horsepower (IP) HP	SR = Supply Register
Btu = British Thermal Unit	T = Temperature
Btu/h = Btuh = BTUH = BTU/Hour	T_{ma} = Mixed Air Temperature
CL = Center Distance (used in belt formula)	T_{oa} = Outside Air Temperature
CD = Ceiling Diffuser	T_{ra} = Return Air Temperature
CF = Correction Factor	H = Head (in wc, ft wc, psi)
CFM = Volumetric Flow: Cubic Feet Per Minute	h = Enthalpy
CO2 = Carbon Dioxide	HP = Horsepower
CO = Carbon Monoxide	hr = Hour
C_v = Flow Constant	K_v = Flow constant (SI)
d = Diameter (in.) IP	kW = Kilowatt = 1000 Watts
Δ = Difference or Change (Final - Initial)	LAT = Leaving Air Temperature
DB = Dry Bulb	lb = Pounds
EA = Exhaust Air	LWT = Leaving Water Temperature
EAT = Entering Air Temperature	ma = Mixed Air
EF = Exhaust Fan	MIN = Minimum
Eff = Efficiency	MAX = Maximum
EG = Exhaust Grille	N/A = Not Applicable
ESP = External Static Pressure	NA = No Access
EWT = Entering Water Temperature	NL = Not Listed
°F = Degrees Fahrenheit, °F	NPSHA = Net Positive Suction Head Available
FPB = Fan Powered Box	NS = Not Specified
FLA = Full Load Amps	OA = Outside Air
fpm = Feet per Minute (fpm)	OAT = Outside Air Temperature
ft = Foot	PD = Sheave Pitch Diameter
gal = Gallons	P.D. = Pressure Drop
GPM = Gallons Per Minute (GPM)	PF = Power Factor
h = Enthalpy (BTU/lb dry air)	SG = Supply Grille
P = Pressure	SR = Supply Register
ppm = parts per million	TP = Total Pressure
psi = Pounds Per Square Inch	T_{ra} = Return Air Temperature
psid = PSI Differential	TS = Tip Speed (fpm) IP, (m/s) SI
r = Radius (in)	TSP = Total Static Pressure
$\%_{ra}$ = % of Return Air	V = Velocity
RA = Return Air	VAV = Variable Air Volume
RAT = Return Air Temperature	VD = Volume Damper
RF = Return Fan	VFD = Variable Frequency Drive
RG = Return Grille	W = Watt
RH = Relative Humidity	WB = Wet Bulb
RPM = Revolutions Per Minute	wg = wc = water gauge = water column
RTU = Roof Top Unit	WHP = Water Horsepower (IP)
SA = Supply Air	ω = Humidity Ratio



3 SECTION
M101 1/8" = 1'-0"



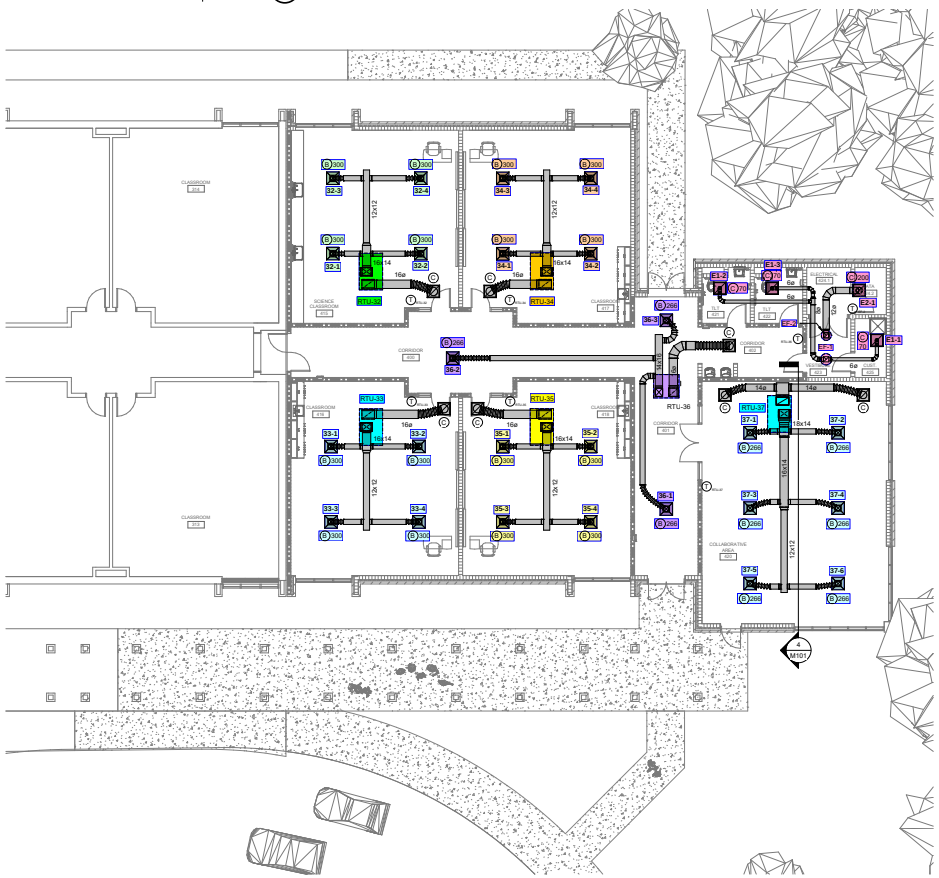
1 CAFETERIA ADDITION FLOOR PLAN - HVAC
M101 1/8" = 1'-0"



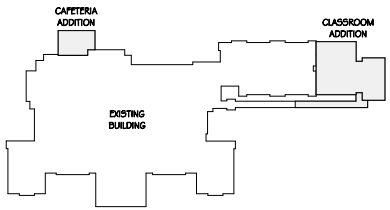
4 SECTION
M101 1/8" = 1'-0"

NOTES TO SHEET

1 EXPOSED DUCT SHALL BE DOUBLE WALL WITH PAINT GRIP FINISH.



2 CLASSROOM ADDITION FLOOR PLAN - HVAC
M101 1/8" = 1'-0"



KEY PLAN

TRUE NORTH PROJECT NORTH

Jumper Carter Sease
ARCHITECTS
412 Meeting Street
West Columbia
South Carolina

BETHANY ELEMENTARY SCHOOL ADDITIONS
CLOVER SCHOOL DISTRICT
CLOVER, SOUTH CAROLINA

No	Description	Date
1	ADDENDUM #1	12/02/22
2	DISHWASH REVISIONS	05/19/23

DRAWN BY: JKB
CHECKED BY: WCL
COMM NO: 21025
DATE: OCTOBER 21, 2022
SHEET TITLE: FLOOR PLANS - HVAC

Swygert & Associates
CONSULTING ENGINEERS
DBA Swygert & Assoc., Ltd.
Post Office Box 11688
Columbia, S.C. 29211
Telephone: (803) 791-9300
Facsimile: (803) 791-9330
mail@swygert-associates.com

SHEET NO: M101

National TAB

Project: Bethany ES (Clover, SC)

System/Unit: AHU/RTU

Asset: RTU-32 AREA:415

Unit Data		
	Design	**Actual**
MFG	NA	TRANE
Serial Num	-	233811092L
Model Num	NA	WSC036H4RB
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	27X11
Num PreFilter 1	-	2
PreFilter Size 1	-	20X35X2

Motor Data		
	Design	**Actual**
Motor MFG	-	N/L
Frame	-	N/L
Horsepower	0.75	0.75
Motor Rpm	-	N/L
Phase	3	1
Rated Voltage	460	460
Rated Amperage	1.7	1.7
Service Factor	-	N/L

Test Data		
	Design	**Actual**
SF CFM	1200	1199
RA CFM	820	781
OA CFM	380	418
RL Voltage	460	487
RL Amperage	1.7	0.96
OA Damper Position	-	0.50" / 15%
Brake Horse Power	0.31	0.17

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.639"
Fan Suction SP	-	-0.72"
Fan Discharge SP	-	0.246"
Total ESP	0.40	0.885"
Fan Total SP	-	0.966"

Completed By: Dale Wheeler on 02/22/2024

National TAB

Project:Bethany ES (Clover, SC)

AHU/RTU

Diffuser Supply (GRD)

RTU-32/415

Asset							
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**CFM(1)**	**FINAL CFM**	**% to design**
32-1	415	B	10	300	291	305	101.7
32-2	415	B	10	300	288	301	100.3
32-3	415	B	10	300	348	316	105.3
32-4	415	B	10	300	271	277	92.3
Total				1200	1198	1199	99.92%

National TAB

Project: Bethany ES (Clover, SC)

System/Unit: AHU/RTU

Asset: RTU-33 AREA:416

Unit Data		
	Design	**Actual**
MFG	NA	TRANE
Serial Num	-	233811028L
Model Num	NA	WSC036H4RB
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	27X11
Num PreFilter 1	-	2
PreFilter Size 1	-	20X35X2

Motor Data		
	Design	**Actual**
Motor MFG	-	N/L
Frame	-	N/L
Horsepower	0.75	0.75
Motor Rpm	-	N/L
Phase	3	3
Rated Voltage	460	460
Rated Amperage	1.7	1.7
Service Factor	-	N/L

Test Data		
	Design	**Actual**
SF CFM	1200	1136
RA CFM	820	725
OA CFM	380	411
RL Voltage	460	486 AVG.
RL Amperage	1.7	0.88
OA Damper Position	-	0.50" / 15%
Brake Horse Power	0.31	0.38

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.667"
Fan Suction SP	-	-0.771"
Fan Discharge SP	-	0.229"
Total ESP	0.40	0.896"
Fan Total SP	-	1.0"

Completed By: Dale Wheeler on 02/22/2024

National TAB

Project:Bethany ES (Clover, SC)

AHU/RTU

Diffuser Supply (GRD)

RTU-33/416

Asset							
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**CFM(1)**	**FINAL CFM**	**% to design**
33-1	416	B	10	300	281	276	92.0
33-2	416	B	10	300	237	271	90.3
33-3	416	B	10	300	315	273	91.0
33-4	416	B	10	300	301	316	105.3
Total				1200	1134	1136	94.67%

National TAB

Project: Bethany ES (Clover, SC)

System/Unit: AHU/RTU

Asset: RTU-34 AREA:417

Unit Data		
	Design	**Actual**
MFG	NA	TRANE
Serial Num	-	233811034L
Model Num	NA	WSC036H4RB
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	27X11
Num PreFilter 1	-	2
PreFilter Size 1	-	20X35X2

Motor Data		
	Design	**Actual**
Motor MFG	-	N/L
Frame	-	N/L
Horsepower	0.75	0.75
Motor Rpm	-	N/L
Phase	3	1
Rated Voltage	460	460
Rated Amperage	1.7	1.7
Service Factor	-	N/L

Test Data		
	Design	**Actual**
SF CFM	1200	1226
RA CFM	820	812
OA CFM	380	414
RL Voltage	460	490
RL Amperage	1.7	0.92
OA Damper Position	-	0.50" / 15%
Brake Horse Power	0.31	0.40

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.649"
Fan Suction SP	-	-0.726"
Fan Discharge SP	-	0.214"
Total ESP	0.40	0.863"
Fan Total SP	-	0.94"

Completed By: Dale Wheeler on 02/22/2024

National TAB

Project:Bethany ES (Clover, SC)

AHU/RTU

Diffuser Supply (GRD)

RTU-34/417

Asset							
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**CFM(1)**	**FINAL CFM**	**% to design**
34-1	417	B	10	300	263	292	97.3
34-2	417	B	10	300	281	293	97.7
34-3	417	B	10	300	348	321	107.0
34-4	417	B	10	300	352	320	106.7
Total				1200	1244	1226	102.17%

National TAB

Project: Bethany ES (Clover, SC)

System/Unit: AHU/RTU

Asset: RTU-35 AREA:418

Unit Data		
	Design	**Actual**
MFG	NA	TRANE
Serial Num	-	233811022L
Model Num	NA	WSC036H4RB
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	27X11
Num PreFilter 1	-	2
PreFilter Size 1	-	20X35X2

Motor Data		
	Design	**Actual**
Motor MFG	-	N/L
Frame	-	N/L
Horsepower	0.75	0.75
Motor Rpm	-	N/L
Phase	3	3
Rated Voltage	460	460
Rated Amperage	1.7	1.7
Service Factor	-	N/L

Test Data		
	Design	**Actual**
SF CFM	1200	1237
RA CFM	820	820
OA CFM	380	417
RL Voltage	460	487 AVG.
RL Amperage	1.7	0.91
OA Damper Position	-	0.50" / 15%
Brake Horse Power	0.31	0.40

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.633"
Fan Suction SP	-	-0.731"
Fan Discharge SP	-	0.231"
Total ESP	0.40	0.864"
Fan Total SP	-	0.962"

Completed By: Dale Wheeler on 02/22/2024

National TAB

Project:Bethany ES (Clover, SC)

AHU/RTU

Diffuser Supply (GRD)

RTU-35/418

Asset							
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**CFM(1)**	**FINAL CFM**	**% to design**
35-1	418	B	10	300	311	317	105.7
35-2	418	B	10	300	314	321	107.0
35-3	418	B	10	300	335	314	104.7
35-4	418	B	10	300	279	285	95.0
Total				1200	1239	1237	103.08%

National TAB

Project: Bethany ES (Clover, SC)

System/Unit: AHU/RTU

Asset: RTU-36 AREA:400

Unit Data		
	Design	**Actual**
MFG	NA	TRANE
Serial Num	-	232012038L
Model Num	NA	4WCC4024E1
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	11X9
Num PreFilter 1	-	2
PreFilter Size 1	-	18X25X2

Motor Data		
	Design	**Actual**
Motor MFG	-	N/L
Frame	-	N/L
Horsepower	0.33	0.50
Motor Rpm	-	1050
Phase	1	1
Rated Voltage	208	208
Rated Amperage	2.8	3.9
Service Factor	-	1.0

Test Data		
	Design	**Actual**
SF CFM	798	814
RA CFM	698	723
OA CFM	100	91
RL Voltage	208	212
RL Amperage	2.8	1.6
OA Damper Position	-	100% open
Brake Horse Power	-	2.22

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.268"
Fan Suction SP	-	-0.458"
Fan Discharge SP	-	0.21"
Total ESP	0.40	0.478"
Fan Total SP	-	0.668"

Completed By: JOASH ALBIN on 04/26/2024

Notes:
[1] FILTER WAS PULLED FOR BALANCE
[2] OA IS NOT WIRED UNABLE TO SET OA DAMPER.

[2a] OA DAMPER SET MANUALLY AT 100% OPEN

Written By: JOASH ALBIN on 04/26/2024

National TAB

Project:Bethany ES (Clover, SC)

AHU/RTU

Diffuser Supply (GRD)

RTU-36/400

Asset							
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**CFM(1)**	**FINAL CFM**	**% to design**
36-1	401	B	10	266	191	255	95.9
36-2	400	B	10	266	198	283	106.4
36-3	402	B	10	266	242	276	103.8
Total				798	631	814	102.01%

National TAB

Project: Bethany ES (Clover, SC)

System/Unit: AHU/RTU

Asset: RTU-37 AREA:420

Unit Data		
	Design	**Actual**
MFG	NA	TRANE
Serial Num	-	233811064L
Model Num	NA	WSC048H
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	27X11
Num PreFilter 1	-	2
PreFilter Size 1	-	20X35X2

Motor Data		
	Design	**Actual**
Motor MFG	-	N/L
Frame	-	N/L
Horsepower	1.0	1.0
Motor Rpm	-	N/L
Phase	3	1
Rated Voltage	460	460
Rated Amperage	2.5	2.5
Service Factor	-	1.0

Test Data		
	Design	**Actual**
SF CFM	1596	1590
RA CFM	1156	1170
OA CFM	440	420
RL Voltage	460	487
RL Amperage	2.5	1.4
OA Damper Position	-	5/15" / 10%
Brake Horse Power	0.56	0.56

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.83"
Fan Suction SP	-	-0.983"
Fan Discharge SP	-	0.168"
Total ESP	0.40	0.998"
Fan Total SP	-	1.151"

Completed By: Dale Wheeler on 02/22/2024

National TAB

Project:Bethany ES (Clover, SC)

AHU/RTU

Diffuser Supply (GRD)

RTU-37/420

Asset							
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**CFM(1)**	**FINAL CFM**	**% to design**
37-1	420	B	10	266	265	249	93.6
37-2	420	B	10	266	223	257	96.6
37-3	420	B	10	266	318	286	107.5
37-4	420	B	10	266	278	261	98.1
37-5	420	B	10	266	257	274	103.0
37-6	420	B	10	266	275	263	98.9
Total				1596	1616	1590	99.62%

National TAB

Project: Bethany ES (Clover, SC)

System/Unit: AHU/RTU

Asset: RTU-38 AREA:

Unit Data		
	Design	**Actual**
MFG	TRANE	TRANE
Serial Num	-	233813143L
Model Num	NA	WHC092H4
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	36X15.5
Num PreFilter 1	-	4
PreFilter Size 1	-	20X25X2

Motor Data		
	Design	**Actual**
Motor MFG	-	NA
Frame	-	NA
Horsepower	2.75	2.75
Motor Rpm	-	NA
Phase	3	3
Rated Voltage	460	460
Rated Amperage	3.6	3.6
Service Factor	-	1

Test Data		
	Design	**Actual**
SF CFM	3000	3162
RA CFM	2330	2507
OA CFM	670	655
RL Voltage	460	491/491/493
RL Amperage	3.6	0.8/0.8/0.9
OA Damper Position	-	30%
Brake Horse Power	0.61	0.64

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.11"
Fan Suction SP	-	-0.23"
Fan Discharge SP	-	0.21"
Total ESP	0.40	0.32"
Fan Total SP	-	0.44"

Completed By: Antonio Flores-De La Cruz on 01/15/2024

Notes:
SGRD 38-3 AND 38-4 WERE LEFT HIGH TO AVOID DAMPER CAUSING A LOUD WHISTLE. NO BRANCH DAMPERS

Written By: Antonio Flores-De La Cruz on 01/15/2024

National TAB

Project:Bethany ES (Clover, SC)

AHU/RTU

Diffuser Supply (GRD)

RTU-38/

Asset							
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**CFM(1)**	**FINAL CFM**	**% to design**
RTU-38-SGRD1	200	D	16X12	400	494	399	99.8
RTU-38-SGRD2	200	D	16X12	400	77	385	96.3
RTU-38-SGRD3	200	D	16X12	400	786	484	121.0
RTU-38-SGRD4	200	D	16X12	400	682	486	121.5
RTU-38-SGRD5	200	D	16X12	400	757	414	103.5
RTU-38-SGRD6	200	D	16X12	400	750	417	104.3
RTU-38-SGRD7	201	A	8	200	220	190	95.0
RTU-38-SGRD8	201	A	8	200	209	182	91.0
RTU-38-SGRD9	201	A	8	200	258	205	102.5
Total				3000	4233	3162	105.4%

Completed By: Antonio Flores-De La Cruz on 01/15/2024

National TAB

Project: Bethany ES (Clover, SC)

System/Unit: AHU/RTU

Asset: RTU-39 AREA:KITCHEN 106C

Unit Data		
	Design	**Actual**
MFG	NA	TRANE
Serial Num	-	240410598L
Model Num	NA	WSC120H4RGB2FB0A1AB6
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	36x16
Num PreFilter 1	-	4
PreFilter Size 1	-	20X25X2

Motor Data		
	Design	**Actual**
Motor MFG	-	EBMPAPST
Frame	-	NL
Horsepower	2.75	2.75
Motor Rpm	-	1650
Phase	3	3
Rated Voltage	460	460
Rated Amperage	3.6	3.6
Service Factor	-	1.15

Test Data		
	Design	**Actual**
SF CFM	4000	4084
RA CFM	3500	3449
OA CFM	500	518
RL Voltage	460	477/475/480
RL Amperage	3.6	2.23/2.54/2.47
OA Damper Position	-	10% open
Brake Horse Power	0.62	1.74

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.94”
Fan Suction SP	-	-1.16”
Fan Discharge SP	-	0.48”
Total ESP	0.1	1.42”
Fan Total SP	-	1.64”

Completed By: JOASH ALBIN on 04/28/2024

National TAB

Project:Bethany ES (Clover, SC)

AHU/RTU

Diffuser Supply (GRD)

RTU-39/KITCHEN 106C

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
RTU-39-SGRD1	106G	G	10	400	1	465	352	400	100.0
RTU-39-SGRD2	106H	A	8	200	1	273	177	214	107.0
RTU-39-SGRD3	106C	G	12	550	1	587	451	562	102.2
RTU-39-SGRD4	106C	G	12	550	1	485	465	562	102.2
RTU-39-SGRD5	106C	G	12	550	1	429	491	577	104.9
RTU-39-SGRD6	106C	G	12	550	1	436	470	558	101.5
RTU-39-SGRD7	106C	G	12	550	1	433	476	550	100.0
RTU-39-SGRD8	106C	G	12	550	1	461	574	558	101.5
RTU-39-SGRD9	106D	A	6	100	1	212	85	103	103.0
Total				4000		3781	3541	4084	102.1%

Completed By: JOASH ALBIN on 04/28/2024

National TAB

Project: Bethany ES (Clover, SC)

System/Unit: FAN - Exhaust

Asset: EF-1 AREA:422

Unit Data		
	Design	**Actual**
MFG	NA	COOK
Model Num	NA	90 ACEH 90C17DEC
Serial Num	-	410PK47793-00
Type	CRE DNBLAST	CRE DOWNBLAST

Test Data		
	Design	**Actual**
CFM	210	214
RL Voltage	-	115
RL Amperage	-	1.3
Total ESP	0.50	-0.189"

Motor Data		
	Design	**Actual**
Motor MFG	-	COOK
Frame	-	N/L
Horsepower	0.1	1/6
Motor Rpm	1725	1725
Phase	1	1
Voltage (rated)	115	120
Amperage (rated)	-	2.38
Service Factor	-	N/L

Completed By: Dale Wheeler on 02/22/2024

Notes:
[1] FILTER WAS PULLED FOR BALANCE

Written By: Dale Wheeler on 02/21/2024

National TAB

Project:Bethany ES (Clover, SC)

FAN - Exhaust

Diffuser Ret/Exh (GRD)

EF-1/422

Asset								
Asset Name	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
E1-1	C	6	70	1	111	128	63	90.0
E1-2	C	6	70	1	121	114	74	105.7
E1-3	C	6	70	1	94	113	77	110.0
Total			210		326	355	214	101.9%

National TAB

Project: Bethany ES (Clover, SC)

System/Unit: FAN - Exhaust

Asset: EF-2 AREA:DATA 424.2

Unit Data		
	Design	**Actual**
MFG	NA	COOK
Model Num	NA	90 ACED 90C17DEC
Serial Num	-	410SK19211-00
Type	CRE DNBLAST	CRE DOWNBLAST

Test Data		
	Design	**Actual**
CFM	200	212
RL Voltage	-	115
RL Amperage	-	1.1
Total ESP	0.50	0.101"

Motor Data		
	Design	**Actual**
Motor MFG	-	COOK
Frame	-	N/L
Horsepower	0.1	1/6
Motor Rpm	1725	1725
Phase	1	1
Voltage (rated)	115	120
Amperage (rated)	-	2.36
Service Factor	-	N/L

Completed By: Dale Wheeler on 02/22/2024

National TAB

Project:Bethany ES (Clover, SC)

FAN - Exhaust

Diffuser Ret/Exh (GRD)

EF-2/DATA 424.2

Asset								
Asset Name	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
E2-1	C	22X22	200	1	526	382	212	106.0
Total			200		526	382	212	106%

National TAB

Project: Bethany ES (Clover, SC)

System/Unit: FAN - Exhaust

Asset: EF-2DW1 AREA:106G

Unit Data		
	Design	**Actual**
MFG	NA	COOK
Model Num	NA	100C17DEC
Serial Num	-	410PK77283-01
Type	CRE DNBLAST	CRE DOWNBLAST

Test Data		
	Design	**Actual**
CFM	600	602
RL Voltage	-	121
RL Amperage	-	2.9
Total ESP	0.50	0.342"

Motor Data		
	Design	**Actual**
Motor MFG	-	COOK
Frame	-	N/L
Horsepower	0.25	0.25
Motor Rpm	1725	1725
Phase	1	1
Voltage (rated)	115	120
Amperage (rated)	-	3.4
Service Factor	-	1.0

Completed By: Dale Wheeler on 02/22/2024

National TAB

Project:Bethany ES (Clover, SC)

FAN - Exhaust

Diffuser Ret/Exh (GRD)

EF-2DW1/106G

Asset								
Asset Name	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
DW-1	DUCT	16X4	200					-
DW-2	DUCT	16X4	400					-
Total			600		0	0	0	0%