Report By:

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

NATIONAL TAB

Comfort. Under control.

Report: FINAL TAB REPORT
Function: Test, Adjust, & Balance
Date: 07/25/2022

PROJECT

08-29 NIKE LIVE - CARY, NC

4 FENTON ST

CARY, NC

Client

Construction One
101 E. Town St
Suite 401
Columbus, OH 43215

National TAB

Project: 08-29 NIKE LIVE - CARY, NC

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Project Summary

The summary below provides a quick understanding of our scope of work and general testing procedures. Enclosed in the report is further detail about your building performance including recommendations, asset data, and pictures. Our focus is to work with the trades to remedy any issues or deficiencies during the actual field balancing and not after the balancing has occurred to achieve a positive environment and outcome. The level of success is determined by the availability of the trades, possible parts needed, or time constraints.

FCU's w/ Diffusers

Each of the FCU's were measured at their terminal devices utilizing a flow hood. The sum of these readings is equal to the total flow for that particular unit. The total flow of each FCU was then adjusted to within tolerance of the specified design. Each terminal diffuser was balanced to within tolerance of the engineer's design volume utilizing the provided hand damper located at the takeoff of the main & branch trunk line(s). Any equipment that fell outside of this tolerance is noted throughout the report.

Variable Air Volume (VAV) Terminals

The VAV's were calibrated in a call for max cooling and the correction factors are reported on the individual asset. While in a call for full cooling, the individual air devices were then balanced within design tolerance. The VAVs were then stroked to minimum cool and the airflow values reported. The VAV was then stroked to heating and the airflow values reported. It was verified that there was a sufficient temp rise on each VAV.

Outside Air Fan

The OAF provides ventilation air to HVAC units throughout the space. All equipment on the duct system was first turned on in a full fan speed condition. The total airflow was measured via traverse and then adjustment was made to bring the total flow within design tolerance. The individual branches to each unit were then traversed and balanced until they were within design tolerances. Once balancing was completed, the overrides were released

General Exhaust Fans

The general exhaust fans were measured by reading each air device with a flow hood. The total airflow for each fan is equivalent to the sum of these readings. Fan speed was then adjusted so that the airflow was within tolerance of design. Each terminal device was balanced to within tolerance of the design volume using the installed volume dampers. Any equipment that fell outside of this tolerance is noted throughout the report.

Final Building Tests

After completing the test and balance the final building pressure was measured. It was confirmed that the building pressure fell within acceptable tolerances of -0.02" wc to +0.02" wc and that the pressure measurement coincides with the actual and design net airflow. Any deviations from these standards are noted throughout the report.

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CheckList Information

Name :	Summary of Issues	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		

CheckList Item Details

Summary of Issues - Details of each are provided in the subsequent detailed issues

EF1 Duct is not complete. Not connected to the room grille	Resolution: DUCT COMPLETE FAN HAS BEEN BALANCED AND EGRD1 & EGRD2 ARE WITHIN DESIGN FAN
FCU1 EMS controls not communicating: OA damper not set	Resolution: FCU1 Outside air damper controls are operational and communicating with Comfort Systems. Fresh air ducts have been traversed for each unit and designed amount of outside air set for each unit.
FCU1 GRD#2 is connected to the Supply fan and should be connected to FCU1	Resolution: This issue has been fixed and SGRD2 has been balanced.
FCU2 EMS controls not communicating: OA damper not set	Resolution: FCU2 - Outside air damper controls are operational and communicating with Comfort Systems. Fresh air ducts have been traversed for each unit and designed amount of outside air set for each unit.
FCU2 - VAV is not able to be controlled via EMS controls	Resolution: VAV damper opened when unit placed in full cooling mode
FCU3 EMS controls not communicating: OA damper not set	Resolution: FCU3- Outside air damper controls are operational and communicating with Comfort Systems. Fresh air ducts have been traversed for each unit and designed amount of outside air set for each unit.
FCU 4 EMS controls not communicating: OA damper not set	Resolution: FCU4 - Outside air damper controls are operational and communicating with Comfort Systems. Fresh air ducts have been traversed for each unit and designed amount of outside air set for each unit.
FCU 4 is running in high speed - Unit total is low	Resolution: FCU4 is running in high speed, to place fan in high-speed wire taps were adjusted via carrier tech support over the phone and ems placed unit into second stage cooling mode. fan total is low of design cfm.

FCU 5 EMS controls not communicating: OA damper not set	Resolution: This unit does not have OA ductwork run to it per plans, no outside air to balance.
FCU 5 is running in high speed - Unit total is low	Resolution: . FCU5 is running in high speed, to place fan in high-speed wire taps were adjusted via carrier tech support over the phone and EMS placed unit into second stage cooling mode. fan total is low of design cfm.
SF1 EMS controls are not communicating or reporting fan operation correctly	Resolution: SF1 - fan controls are installed and operation. fan has been traversed and balanced. Final fan speed setting is 7.2V
SF1 fan was manually shut off due to severe fan wheel grinding on housing	Resolution: this issue has been fixed and fan is operating with no grinding noise

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Project Issue Information

Issue Name : EF1

Description : 1.EF1-1 DUCTWORK IS NOT FINISHED OR RUN TO GRILL. UNABLE TO BALANCE THIS GRILL OR FAN TILL DUCTWORK IS COMPLETED.

Created By : National TAB

Assigned To : National TAB - Brianna Biggs

Status : Closed

Originated Date : 07/07/2022 - Dale Wheeler - National TAB

Project Issue File Details

ef1_1_cary_ 07/08/2022

Project Issue Response Details

- **04/27/2023 National TAB - Dale Wheeler**
  - DUCTWORK HAS BEEN COMPLETED GRILL HAS BEEN BALANCED 4/27/23
- **08/31/2022 National TAB - Andrew Loignon**
  - DUCTWORK IS STILL UNCONNECTED. UNABLE TO BALANCE UNTIL DUCTWORK IS CONNECTED.

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Project Issue Information

Issue Name : FCU1

Description : 1. EMS CONTROLS DO NOT HAVE CONTROL OVER OA DAMPERS TO EACH UNIT. OA CANNOT BE SET UNTIL THEY ARE ABLE TO EST. CONTROLS WITH THESE OA DAMPERS. 2. SGRD2 IS CONNECT TO THE SF1 DUCTWORK. IT SHOULD BE CONNECTED TO THE FCU1 SUPPLY DUCT. - FIXED EMS HAS CONTROL OF OA DAMPER, OUTSIDE HAS BEEN TRAVERSED AND DAMPER SET FOR THIS UNIT 4/27/23

Created By : National TAB

Assigned To : National TAB - Brianna Biggs

Status : Closed

Originated Date : 07/07/2022 - Dale Wheeler - National TAB

Project Issue File Details

oa_fcu1
07/08/2022

sgrd2_cary_
07/08/2022

Project Issue Response Details

- **04/27/2023 National TAB - Dale Wheeler**
  - SGRD2 IS CONNECT TO THE SF1 DUCTWORK. IT SHOULD BE CONNECTED TO THE FCU1 SUPPLY DUCT. - THIS ISSUE HAS BEEN FIXED EMS HAS CONTROL OF OA DAMPER, OUTSIDE HAS BEEN TRAVERSED AND DAMPER SET FOR THIS UNIT 4/27/23

- **08/31/2022 National TAB - Andrew Loignon**
  - SGRD2 IS CONNECT TO THE SF1 DUCTWORK. IT SHOULD BE CONNECTED TO THE FCU1 SUPPLY DUCT, THIS ISSUE HAS STILL NOT BE ADDRESSED. SF1 CANNOT BE CONTROLLED (REFER TO SF1 ISSUE FOR MORE INFORMATION), RESULTING IN THE INABILITY TO BALANCE OA TO FCU1.

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Project Issue Information

Issue Name : FCU2

Description : 1.EMS CONTROLS DO NOT HAVE CONTROL OVER OA DAMPERS TO EACH UNIT. -FIXED EMS HAS CONTROL OF OA DAMPER, OUTSIDE HAS BEEN TRAVERSED AND DAMPER SET 2.CONFORT CONTROLS SYSTEM [EMS] IS NOT ABLE TO CONTROL/CALIBRATE THIS VAV BOX. EMS IS ONLY ABLE TO VIEW THE DAMPER VOLTAGE. THIS ISSUE WILL NEED TO BE RESOLVED BETWEEN CONFORT CONTROL SYSTEM AND THE MECH.

Created By : National TAB

Assigned To : National TAB - Brianna Biggs

Status : Closed

Originated Date : 07/07/2022 - Dale Wheeler - National TAB

Project Issue Response Details

- **04/27/2023 National TAB - Dale Wheeler**
  - EMS HAS CONTROL OF OA DAMPER, OUTSIDE HAS BEEN TRAVERSED AND DAMPER POSITION SET 4/27/23
- **08/31/2022 National TAB - Andrew Loignon**
  - CALLED COMFORT CONTROL SYSTEMS SPOKE WITH BRIAN, HE INFORMED US THAT FCU2 WAS UNABLE TO CONNECT/CONTROL THROUGH THEIR SYSTEMS AND WAS OFFLINE. SF1 CANNOT BE CONTROLLED (REFER TO SF1 ISSUE FOR MORE INFORMATION), RESULTING IN THE INABILITY TO BALANCE OA TO FCU2.

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Project Issue Information

Issue Name : FCU3

Description : EMS CONTROLS DO NOT HAVE CONTROL OVER OA DAMPERS TO EACH UNIT. OA CANNOT BE SET UNTIL THEY ARE ABLE TO EST. CONTROLS WITH THESE OA DAMPERS. -FIXED EMS HAS CONTROL OF OA DAMPER, OUTSIDE HAS BEEN TRAVERSED AND DAMPER SET FOR THIS UNIT 4/27/23

Created By : National TAB

Assigned To : National TAB - Brianna Biggs

Status : Closed

Originated Date : 07/07/2022 - Dale Wheeler - National TAB

Project Issue Response Details

- **08/31/2022 National TAB - Andrew Loignon**
  - SF1 CANNOT BE CONTROLLED (REFER TO SF1 ISSUE FOR MORE INFORMATION), RESULTING IN THE INABILITY TO BALANCE OA TO FCU3.

Comfort. Under control.

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Project Issue Information

Issue Name : FCU4

Description : 1.FCU4 EMS CONTROLS DO NOT HAVE CONTROL OVER OA DAMPERS TO EACH UNIT. OA CANNOT BE SET UNTIL THEY ARE ABLE TO EST. CONTROLS WITH THESE OA DAMPERS. 2.FCU4 FAN IS RUNNING IN HIGH SPEED. TO PLACE FAN INTO HIGH-SPEED WIRE TAPES WERE ADJUSTED VIA CARRIER TECH SUPPORT OVER THE PHONE AND EMS PLACED UNIT INTO FULL COOLING MODE. UNIT TOTAL IS LOW

Created By : National TAB

Assigned To : National TAB - Brianna Biggs

Status : Closed

Originated Date : 07/07/2022 - Dale Wheeler - National TAB

Project Issue Response Details

- **04/27/2023 National TAB - Dale Wheeler**
  - THIS ISSUE HAS BEEN FIXED EMS HAS CONTROL OF OA DAMPER, OUTSIDE HAS BEEN TRAVERSED AND DAMPER SET FOR THIS UNIT 4/27/23

- **08/31/2022 National TAB - Andrew Loignon**
  - SF1 CANNOT BE CONTROLLED (REFER TO SF1 ISSUE FOR MORE INFORMATION), RESULTING IN THE INABILITY TO BALANCE OA TO FCU4. COMFORT CONTROL SYSTEMS DROVE THE UNIT TO HIGH SPEED, DUCTWORK WAS TRAVERSED READING 11% LOW OF DESIGN, READ AT 1254 CFM DESIGN IS 1400 CFM.

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Project Issue Information

Issue Name : FCU5

Description : 1. FCU5 EMS CONTROLS DO NOT HAVE CONTROL OVER OA DAMPERS TO EACH UNIT. OA CANNOT BE SET UNTIL THEY ARE ABLE TO EST. CONTROLS WITH THESE OA DAMPERS. 2. FCU5 FAN IS RUNNING IN HIGH SPEED. TO PLACE FAN INTO HIGH-SPEED WIRE TAPES WERE ADJUSTED VIA CARRIER TECH SUPPORT OVER THE PHONE AND EMS PLACED UNIT INTO FULL COOLING MODE. UNIT TOTAL IS LOW

Created By : National TAB

Assigned To : National TAB - Brianna Biggs

Status : Closed

Originated Date : 07/07/2022 - Dale Wheeler - National TAB

Project Issue File Details

fcu5_cary_ 07/08/2022

Project Issue Response Details

- **04/27/2023 National TAB - Dale Wheeler**
  - THIS ISSUE HAS BEEN FIXED EMS HAS CONTROL OF OA DAMPER, OUTSIDE HAS BEEN TRAVERSED AND DAMPER SET FOR THIS UNIT 4/27/23
- **08/31/2022 National TAB - Andrew Loignon**

- UNIT DOES NOT HAVE OA, UNIT IS 100% RA SYSTEM. COMFORT CONTROL SYSTEMS DROVE THE UNIT TO HIGH SPEED, DUCTWORK WAS TRAVERSED READING WAS 39% LOW OF DESIGN, READING AT 741 CFM DESIGN IS 1200 CFM. RECOMEND COMFORT CONTROL SYSTEMS VERIFY CONTROL OF SYSTEM AND UNIT IS CAPABLE TO BE DRIVEN TO MAX SPEED.

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Project Issue Information

Issue Name : SF1

Description : EMS HAS NO CONTROL OVER FAN SPEED, THEIR SYSTEM SAYS SF1 FAN WAS NOT RUNNING WHEN FAN WAS RUNNING 100%. THERE IS NO SPEED CONTROLLER INSTALLED ON FAN. FAN BLADES ARE ALSO GRINDING REALLY BAD, FAN WAS SHUT OFF TO PREVENT DAMAGE FROM OCCURRING. - FIXED FAN HAS BEEN BALANCED AND SET TO 7.2V

Created By : National TAB

Assigned To : National TAB - Brianna Biggs

Status : Closed

Originated Date : 07/07/2022 - Dale Wheeler - National TAB

Project Issue File Details

sf1_cary
07/08/2022

Project Issue Response Details

- **08/31/2022 National TAB - Andrew Loignon**
  - SF1 IS OPERATIONAL, HOWEVER COMFORT CONTROL SYSTEMS CAN NOT ADJUST FAN SPEED THROUGH THEIR SYSTEM DUE TO FAULTS, RESULTING IN SF1 NOT BEING ABLE TO BE BALANCED CAUSING THE INABILITY FOR OA OF FCU 1-4 TO BE BALANCED.

NATIONAL TAB

AIR BALANCE SCHEDULE

UNIT	AREA SERVED	HVAC SUPPLY		HVAC RETURN		HVAC OUTDOOR		OA %		HOOD MAKE-UP		HOOD EXHAUST		GENERAL EXH.	
		DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL
FCU-1	BOH	1900	1732	1610	1732	290		15.3%	0.0%						
FCU-2	SALES	1400	1516	1095	1516	305		21.8%	0.0%						
FCU-3	SALES	1400	1542	1095	1542	305		21.8%	0.0%						
FCU-4	SALES	1400	1176	1095	1176	305		21.8%	0.0%						
FCU-5	SOLAR ZONE	1200	870	1200	870	0		0.0%	0.0%						
SF-1	FCU1-4									600	2021				
EF-1	RESTROOM													200	98
TOTALS		7300	6836	6095	6836	1205	0			600	2021	0	0	200	98

NET BUILDING AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	1805	2021
TOTAL EXHAUST	200	98
NET AIRFLOW	1605	1923

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS (IN. H20)
FRONT	0.
SIDE	
REAR	
AVERAGE	**0.**

FINAL CHECKS

ACTUAL NET AIRFLOW COINCIDES WITH DESIGN: ✓

MEASURED PRESSURES COINCIDES WITH ACTUAL NET AIRFLOW: ✓

PRESSURE FALLS WITHIN IMC TOLERANCE OF +/-0.02" W.C. ✓

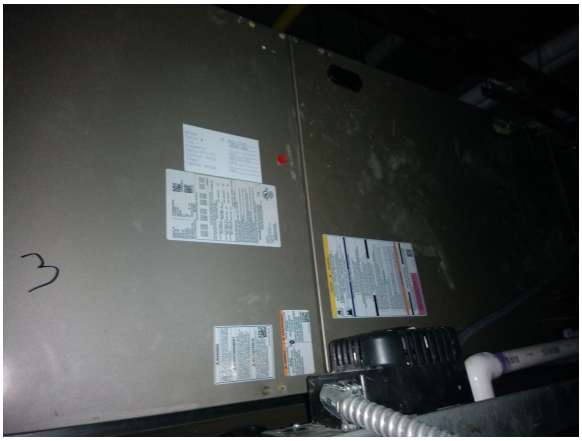
NOTES:

STORE FRONT

FCU5

FCU2

FCU3



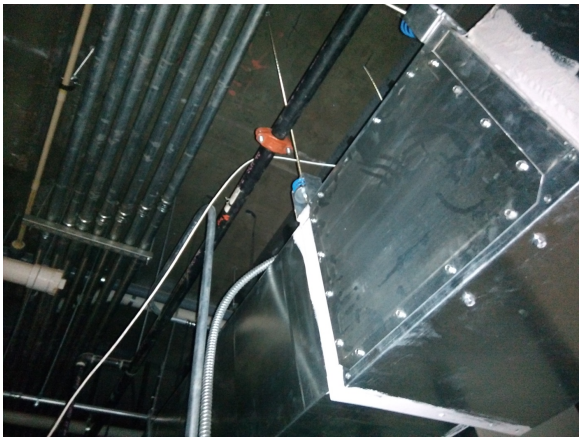
FCU1

SAlES SPACE

FCU4

FCU5

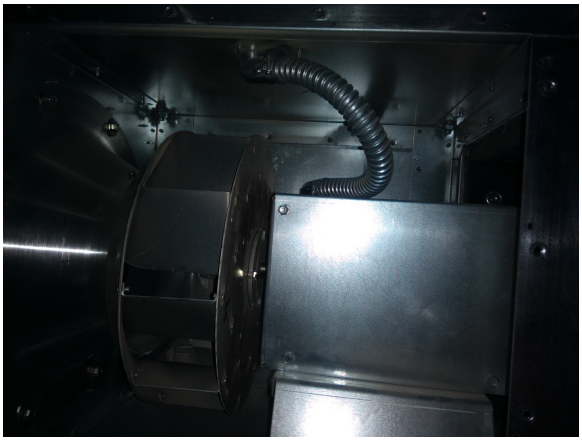
SF1



EF1

FCU1

SF1



FCU4

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08-29 NIKE LIVE - CARY, NC

CheckList Information

Name :	TECH - STEP 1: INITIAL WALKTHROUGH	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		

CheckList Item Details

INITIAL SITE WALKTHROUGH

Review Plan Review Checklist, has it been signed off and meets our standards to start balancing? If not contact processor to ensure job is ready.	YES
All diffusers and grilles are installed and match design?	FCU1 SGRD2 SUPPLY GRILL IS CONNECTED TO THE OA DUCT NOT THE UNITS SUPPLY GRILL
Thermostats have power?	UNITS ARE CONTROLLED BY A THIRD PARTY CONTROLS COMPANY STATS WITHIN STORE SPACE ARE POWERED
All HVAC units and fans and powered and operational?	YES
VAV diffusers (if applicable) are powered and responding to adjustment at thermostat?	YES MECHANICAL DAMPERS ARE COMMUNICATING WITH THERMOSTATS IN ROOM FOR FCU1
Have trades/general contractor been notified about any issues and are they created on FaciliBuild?	STORE IS OPEN LOCATION ALL ISSUES WILL BE SENT OUT IN EMAIL AT THE END OF JOB

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CheckList Information

Name : TECH - STEP 2: UNIT DATA AND EVAL **Status :** Completed

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

CheckList Item Details

UNIT DATA AND EVALUATION WHILE GATHERING UNIT DATA CHECK THE FOLLOWING:

RTU's/AHU's	
Economizers are assembled and functional?	OA DAMPERS ARE INSTALLED BUT NOT FUNCTIONING, 3RD PARTY EMS CONTROLS SYSTEM DOES NOT HAVE CONTROL OVER OA DAMPER POSITIONS, UNABLE TO SET OA SETPOINTS TILL THIS ISSUES IS FIXED FOR ALL UNITS.
Motors are all operating below the FLA rating?	YES
Are belts tight?	N/A
If direct drive unit is the speed controller working.	YES / FANS ARE CONTROLLED BY 3RD PARTY COMPANY FANS ARE FORCED INTO COOLING/ HIGH SPEED FOR BALANCE
Is gas piping installed and valves turned on?	N/A
Unit free of noticeable noise and vibration	UNITS AMPS HAD TO BE TAKEN WITH BLOWER FAN PANEL OFF
EF's	
Rotation is correct?	EF1 FAN IS LOCATED ABOVE CEILING GRID AND IS NOT ACCESSIBLE / FAN IS RUNNING BUT CANNOT GAIN ACCESS TO THE INLINE FAN.
Belts are tight?	N/A
Grease cup installed on hood fan	N/A
Hinge kit installed installed on hood fan?	N/A

Lean fan back. Is grease duct installation adequate and is duct ran all the way to the base of the fan?	N/A
Flex conduit is long enough so that fan can be completely tilted back?	N/A
There is no major leakage around base of fan?	N/A
Is the motor operating below the motor FLA rating?	N/A
For restroom fan(s) is the back draft damper installed and can it fully open?	N/A
Unit free of noticeable noise and vibration?	YES / EF1 NO / SF1 FAN WHEEL IS GRINDING UNABLE TO FIX THIS ISSUE. FAN HAS BEEN SHUT OFF TILL THIS ISSUE CAN BE RESOLVED. EMS DOES NOT HAVE COMMUNICATION WITH SF1

DOCUMENTATION

Have trades/general contractor been notified about any issues and are they created on FaciliBuild?	THIS IS A OPEN LOCATION, GC OR TRADES ARE NOT ON SITE. ALL ISSUES WILL BE SENT OUT IN EMAIL AT THE END OF JOB.

Notes/Comments :

EF1 FAN DUCTWORK IS NOT CONNECTED TO EF1-1 FLEX DUCT IS NOT RUN DOWN TO DIFFUSER DUCTWORK LOCATED ABOVE HARD CEILING.

Date :07/07/2022

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08-29 NIKE LIVE - CARY, NC

CheckList Information

Name :	TECH - STEP 3: TEST, ADJUST AND BALANCE	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		

CheckList Item Details

TEST, ADJUST, AND BALANCE ALL EQUIPMENT:	
DURING TESTING MAKE NOTE OF THE FOLLOWING:	
Is space free of drafting?	YES
Is space comfortable in all areas?	YES
Is the space free of ventilation noise?	YES
If deviations from design were necessary to resolve 1-3 what were they? Otherwise put "NA".	N/A
FABRIC DUCT STATIC PRESSURES (IF APPLICABLE)	
Take static pressures near takeoff for each fabric duct once balancing is completed. Input this into the "VEL (1)" field on the diffuser asset. If not a fabric duct then, put "N/A" into the "VEL (1)" field instead.	N/A

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CheckList Information

Name : TECH - STEP 4: FINAL TESTS **Status :** Completed

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

CheckList Item Details

FINAL TESTS	
BUILDING PRESSURE	
Building pressure at front & back doors (All Systems On)	FRONT DOOR -0.00'' / SF1 FAN IS NOT RUNNING
Do actual net building airflow, design net building airflow, and pressure coincide? If not why? (All three should either be positive or negative)	SF1 HAD TO BE TURNED OFF DUE TO FAN GRINDING BADLY.
CARRIER VFD PARAMETERS (IF APPLICABLE)	
Use Carrier provided VFD cable to verify VFD speed parameters for each unit (Defaults - high speed = 60Hz, low speed = 40Hz). Can adjust high speed parameter for balancing but requires that the low speed is proportionally adjusted. Record VFD speeds on the individual assets	N/A
TEMPERATURES/HUMIDITIES	
Measure temperatures/humidities for outside air (taken in shade), return air, and supply air for each HVAC unit during full cooling and input into appropriate fields on the individual asset	FCU1 SUPPLY TEMP. 60F / 71% HUMIDITY / OA TEMP. 79F / HUMIDITY 82% FCU2 SUPPLY TEMP. 59F/ 72% HUMIDITY / OA TEMP. 79F / HUMIDITY 82% FCU3 SUPPLY TEMP. 56F/ 71% HUMIDITY / OA TEMP. 79F / HUMIDITY 82% FCU4 SUPPLY TEMP. 50F/ 70% HUMIDITY / OA TEMP. 79F / HUMIDITY 82% FCU5 SUPPLY TEMP. 49F / 71% HUMIDITY / OA TEMP. 79F / HUMIDITY 82% DID NOT HAVE TIME TO TAKE RETURN AIR TEMPS BEFORE STORE CLOSED, UNIT SPACE TEMP. WAS 72F
VAV DIFFUSERS (IF APPLICABLE)	
Each VAV-diffuser is calibrated for max airflow?	NO / THESE ARE NOT ABLE TO BE CALIBRATED DUE TO CONFORT CONTROLS NOT HAVE CONTROL OVER THIS VAV BOX

Each VAV diffuser is set for minimum airflow? Record value in notes on the individual diffuser asset	MAX AND MIN, ARE BOTH SET TO 300CFM

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Project: 08-29 NIKE LIVE - CARY, NC

System/Unit: AHU/RTU

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Asset: FCU1 AREA:BOH

Unit Data		
	Design	**Actual**
MFG	CARRIER	CARRIER
Serial Num	-	4821F11375
Model Num	FV4CNB006	FV4CNB006
Configuration	-	HORIZONTAL
Num OA Filters 1	-	N/A
OA Filter Size 1	-	N/A
Num Final Filter 1	-	1
Final Filter Size 1	-	22X24X1

Test Data		
	Design	**Actual**
SF CFM	1900	1862
SF RPM	-	DD
RA CFM	1610	1587
OA CFM	290	275
RL Voltage	-	[3]
RL Amperage	-	2.5
SF Rotation	-	CCW
Min OA Damper Position	-	[2]

Motor Data		
	Design	**Actual**
Motor MFG	-	N/L
Frame	-	N/L
Horsepower	3/4	0.75
Motor Rpm	-	N/L
Phase	3	1
Rated Voltage	480	208/230
Rated Amperage	-	6.8

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.175"
Fan Suction SP	-	-0.519"
Fan Discharge SP	-	0.101"
Total ESP	0.65"	0.276"
Fan Total SP	-	0.62"

Drive Data		
	Design	**Actual**
Num of Belts	-	DD

General		
	Design	**Actual**
Unit free of Damage	-	YES
Unit Completely Assembled	-	YES
Unit Leveled	-	YES
Controls Complete	-	YES
Unit Filters Clean	-	YES
Evap Coil Clean	-	YES
Condensate Drain Installed	-	YES

Completed By: Brianna Biggs on

Notes: [2] no safe location to take volts & amps had to be taken with supply door off

Date: 04/27/2023

National TAB

Project:08-29 NIKE LIVE - CARY, NC

AHU/RTU

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Diffuser Supply (GRD)

FCU1/BOH

Asset								
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
SGRD1	IT ROOM	CSD3	10"	250	155	153	226	90.4
SGRD2	RESTROOM	CSD3	6"	75	65	65	68	90.7
SGRD3	FOH PIP	CSD2	8"	100	107	137	108	108.0
SGRD4	COACH'S OFFICE	CSD1	8"	200	181	181	183	91.5
SGRD5	HALLWAY	CSD2	8"	100	91	93	99	99.0
SGRD6	S&R	CSD2	8"	200	186	199	201	100.5
SGRD7	S&R	CSD2	8"	200	192	208	213	106.5
SGRD8	S&R	CSD2	8"	200	187	178	182	91.0
SGRD9	S&R	CSD2	8"	200	209	227	242	121.0
SGRD10	BREAKROOM	CSD1	8"	200	137	141	181	90.5
SGRD11	BREAKROOM	CSD1	8"	175	122	127	159	90.9

Completed By: Brianna Biggs on 08/15/2022

National TAB

Project: 08-29 NIKE LIVE - CARY, NC

System/Unit: AHU/RTU

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Asset: FCU2 AREA:SALES

Unit Data		
	Design	**Actual**
MFG	CARRIER	CARRIER
Serial Num	-	4821F11362
Model Num	FV4CNB006	FV4CNB006
Configuration	-	HORIZONTAL
Num OA Filters 1	-	N/A
OA Filter Size 1	-	N/A
Num Final Filter 1	-	1
Final Filter Size 1	-	22X24X1

Test Data		
	Design	**Actual**
SF CFM	1400	1263
SF RPM	-	DD
RA CFM	1095	982
OA CFM	305	281
RL Voltage	-	[3]
RL Amperage	-	1.8
SF Rotation	-	CCW
OA Damper Type	-	[1]

Motor Data		
	Design	**Actual**
Motor MFG	-	N/L
Frame	-	N/L
Horsepower	3/4	0.75
Motor Rpm	-	N/L
Phase	3	1
Rated Voltage	480	230/208
Rated Amperage	-	6.8

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.12"
Fan Suction SP	-	-0.46"
Fan Discharge SP	-	0.11"
Total ESP	0.85"	0.23"
Fan Total SP	-	0.57"

Drive Data		
	Design	**Actual**
Num of Belts	-	DD

General		
	Design	**Actual**
Unit free of Damage	-	YES
Unit Completely Assembled	-	YES
Unit Leveled	-	YES
Controls Complete	-	YES
Unit Filters Clean	-	YES
Evap Coil Clean	-	YES
Condensate Drain Installed	-	YES

Completed By: Brianna Biggs on

Notes: [2] no safe location to take volts & amps had to be taken with supply door off

Date: 04/27/2023

Diffuser Supply (GRD)

FCU2/SALES

Asset								
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
SGRD1	FOH PIP	CSD2	10"	225	270	270	241	107.1
SGRD2	FOH PIP	CSD2	10"	225	270	303	246	109.3
SGRD3	FOH PIP	CSD2	10"	225	242	347	242	107.6
SGRD4	FOH PIP	CSD2	10"	225	296	296	234	104.0
VAV1	VAV1	-	9"	500	300	300	300	60.0

Completed By: Brianna Biggs on 08/15/2022

Asset	Notes	Date
VAV1	[1] COMFORT CONTROLS SYSTEM [EMS] IS NOT ABLE TO CALIBRATE/CONTROL THIS VAV BOX. EMS IS ONLY ABLE TO VIEW THE DAMPER VOLTAGE. THIS ISSUE WILL NEED TO BE RESOLVED BETWEEN COMFORT CONTROL SYSTEM AND THE MECHANICAL FIELD TECH WHO INSTALLED THE CONTROLS.	08/15/2022

National TAB

Project: 08-29 NIKE LIVE - CARY, NC

System/Unit: AHU/RTU

Comfort. Under control.

Asset: FCU3 AREA:SALES

Unit Data		
	Design	**Actual**
MFG	CARRIER	CARRIER
Serial Num	-	4821F11361
Model Num	FV4CNB006	FV4CNB006
Configuration	-	HORIZONTAL
Num OA Filters 1	-	N/A
OA Filter Size 1	-	N/A
Num Final Filter 1	-	1
Final Filter Size 1	-	22X24X1

Motor Data		
	Design	**Actual**
Motor MFG	-	N/L
Frame	-	N/L
Horsepower	3/4	0.75
Motor Rpm	-	N/L
Phase	3	1
Rated Voltage	480	208/230
Rated Amperage	-	6.8

Drive Data		
	Design	**Actual**
Num of Belts	-	DD

Test Data		
	Design	**Actual**
SF CFM	1400	1502
SF RPM	-	DD
RA CFM	1095	1215
OA CFM	305	287
RL Voltage	-	[2]
RL Amperage	-	2.7
SF Rotation	-	CCW

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.132"
Fan Suction SP	-	-0.511"
Fan Discharge SP	-	0.14"
Total ESP	0.60"	0.272"
Fan Total SP	-	0.651"

General		
	Design	**Actual**
Unit free of Damage	-	YES
Unit Completely Assembled	-	YES
Unit Leveled	-	YES
Controls Complete	-	YES
Unit Filters Clean	-	YES
Evap Coil Clean	-	YES
Condensate Drain Installed	-	YES

Completed By: Brianna Biggs on

Notes: [2] no safe location to take volts & amps had to be taken with supply door off

Date: 04/27/2023

National TAB

Project:08-29 NIKE LIVE - CARY, NC

AHU/RTU

Comfort. Under control.

Diffuser Supply (GRD)

FCU3/SALES

Asset											
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**VEL(1)**	**CFM(1)**	**VEL(2)**	**CFM(2)**	**FINAL CFM**	**% to design**
SGRD1	SALES	DSG1	10X6	200	1		236		236	218	109.0
SGRD2	SALES	DSG1	10X6	200	1		236		236	214	107.0
SGRD3	SALES	DSG1	10X6	200	1	225	225		216	217	108.5
SGRD4	SALES	DSG1	10X6	200	1	237	237		201	214	107.0
SGRD5	SALES	DSG1	10X6	200	1	199	199		227	209	104.5
SGRD6	SALES	DSG1	10X6	200	1	192	192		183	211	105.5
SGRD7	SALES	DSG1	10X6	200	1	287	287		256	219	109.5

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National TAB

Project: 08-29 NIKE LIVE - CARY, NC

System/Unit: AHU/RTU

Comfort. Under control.

Asset: FCU4 AREA:SALES

Unit Data		
	Design	**Actual**
MFG	CARRIER	CARRIER
Serial Num	-	4821F11378
Model Num	FV4CNB006	FV4CNB006
Configuration	-	HORIZONTAL
Num Final Filter 1	-	1
Final Filter Size 1	-	22X24X1

Motor Data		
	Design	**Actual**
Motor MFG	-	N/L
Frame	-	N/L
Horsepower	3/4	.75
Motor Rpm	-	N/L
Phase	3	1
Rated Voltage	480	208/230
Rated Amperage	-	6.8

Drive Data		
	Design	**Actual**
Num of Belts	-	DD

Test Data		
	Design	**Actual**
SF CFM	1400	1176
SF RPM	-	DD
RA CFM	1095	868
OA CFM	305	308
RL Voltage	-	[2]
RL Amperage	-	1.8
SF Rotation	-	CCW
Min OA Damper Position	-	[3]

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.12"
Fan Suction SP	-	-0.284"
Fan Discharge SP	-	0.11"
Total ESP	0.65"	0.23"
Fan Total SP	-	0.394"

General		
	Design	**Actual**
Unit free of Damage	-	YES
Unit Completely Assembled	-	YES
Unit Leveled	-	YES
Controls Complete	-	YES
Unit Filters Clean	-	YES
Evap Coil Clean	-	YES
Condensate Drain Installed	-	YES

Completed By: Dale Wheeler on 04/27/2023

National TAB

Project:08-29 NIKE LIVE - CARY, NC

AHU/RTU

Comfort. Under control.

Diffuser Supply (GRD)

FCU4/SALES

Asset											
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**VEL(1)**	**CFM(1)**	**VEL(2)**	**CFM(2)**	**FINAL CFM**	**% to design**
SGRD1	SALES	DSG1	10X6	200	1		-	-	-	270	135.0
SGRD2	SALES	DSG1	10X6	200	1		-	-	-		-
SGRD3	SALES	DSG1	10X6	200	1		153	153	153	153	76.5
SGRD4	SALES	DSG1	10X6	200	1		169	169	169	169	84.5
SGRD5	SALES	DSG1	10X6	200	1		200	200	200	200	100.0
SGRD6	SALES	DSG1	10X6	200	1		188	188	188	188	94.0
SGRD7	SALES	DSG1	10X6	200	1		196	196	196	196	98.0

Completed By: Brianna Biggs on

Asset	Notes	Date
SGRD1	SGRD1 CANNOT PHYSICALLY BE ACCESSED IN STORE SPACE TO BE READ. TOTAL AIRFLOW BETWEEN DIF FUSERS 1 AND 2 IS 270 CFM.	05/26/2023
SGRD2	SGRD2 CANNOT BE PHYSICALLY ACCESSED IN THE STORE TO READ	08/15/2022

National TAB

Project: 08-29 NIKE LIVE - CARY, NC

System/Unit: AHU/RTU

Comfort. Under control.

Asset: FCU5 AREA:SOLAR ZONE

Unit Data		
	Design	**Actual**
MFG	CARRIER	CARRIER
Serial Num	-	5221F46291
Model Num	FV4CNB003	FV4CNF003
Configuration	-	HORIZONTAL
Num OA Filters 1	-	N/A
OA Filter Size 1	-	N/A
Num Final Filter 1	-	1
Final Filter Size 1	-	20x22x1

Motor Data		
	Design	**Actual**
Motor MFG	-	N/L
Frame	-	N/L
Horsepower	1/2	0.50
Motor Rpm	-	N/L
Phase	3	1
Rated Voltage	480	208/230
Rated Amperage	-	4.3

Drive Data		
	Design	**Actual**
Num of Belts	-	DD

Test Data		
	Design	**Actual**
SF CFM	1200	870
SF RPM	-	DD
RA CFM	1200	870
OA CFM	-	-
RL Voltage	-	[2]
RL Amperage	-	0.14
SF Rotation	-	CCW
Min OA Damper Position	-	[3]

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.05"
Fan Suction SP	-	-0.191"
Fan Discharge SP	-	0.017"
Total ESP	0.65"	0.067"
Fan Total SP	-	0.208"

General		
	Design	**Actual**
Unit free of Damage	-	YES
Unit Completely Assembled	-	YES
Unit Leveled	-	YES
Controls Complete	-	YES
Unit Filters Clean	-	YES
Evap Coil Clean	-	YES
Condensate Drain Installed	-	YRS

Completed By: Dale Wheeler on 04/27/2023

National TAB

Project:08-29 NIKE LIVE - CARY, NC

AHU/RTU

Comfort. Under control.

Diffuser Supply (GRD)

FCU5/SOLAR ZONE

Asset											
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**VEL(1)**	**CFM(1)**	**VEL(2)**	**CFM(2)**	**FINAL CFM**	**% to design**
SGRD1	WELCOME	DSG1	14X6	300	1		217	300	217	217	72.3
SGRD2	WELCOME	DSG1	14X6	300	1		217	3	217	217	72.3
SGRD3	WELCOME	DSG1	14X6	300	1		218		218	218	72.7
SGRD4	WELCOME	DSG1	14X6	300	1		218		218	218	72.7

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National TAB

Project: 08-29 NIKE LIVE - CARY, NC

System/Unit: FAN - Exhaust

Comfort. Under control.

Asset: EF1 AREA:RESTROOM

Unit Data		
	Design	**Actual**
MFG	GREENHECK	GREENHECK
Model Num	SQ-080-VG	SQ-080-VG
Serial Num	-	N/A
Type	INLINE	INLINE
Configuration	HORIZONTAL	HORIZONTAL

Test Data		
	Design	**Actual**
CFM	200	216

Motor Data		
	Design	**Actual**

Drive Data		
	Design	**Actual**

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Notes: [1] unable to access fan due to height and placement of fan above ceiling grid.

Date: 04/27/2023

National TAB

Project:08-29 NIKE LIVE - CARY, NC

FAN - Exhaust

Comfort. Under control.

Diffuser Ret/Exh (GRD)

EF1/RESTROOM

Asset												
Asset Name	**Model Num**	**MFG**	**Type**	**Size**	**DESIGN CFM**	**AK**	**VEL(1)**	**CFM(1)**	**VEL(2)**	**CFM(2)**	**FINAL CFM**	**% to design**
EGRD1	NA	RETURN	CEG1	6"	75	1		0	0	0	82	109.3
EGRD2	NA	RETURN	CEG1	8"	125	1		98	98	98	134	107.2

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National TAB

Project: 08-29 NIKE LIVE - CARY, NC

System/Unit: FAN - Supply

Comfort. Under control.

Asset: SF1 AREA:FCU1-4

Unit Data		
	Design	**Actual**
MFG	GREENHECK	GREENHECK
Model Num	SQ-120-VG	SQ-120-VG
Serial Num	-	N/L
Type	INLINE	INLINE
Configuration	HORIZONTAL	HORIZONTAL

Motor Data		
	Design	**Actual**
Motor MFG	-	N/A
Frame	-	N/A
Horsepower	1/2	N/A
Motor Rpm	-	N/A
Phase	1	N/A
Voltage (rated)	120	N/A
Amperage (rated)	-	N/A
Service Factor	-	N/A

Drive Data		
	Design	**Actual**

Test Data		
	Design	**Actual**
CFM	1205	1151
SF RPM	1602	DD
Motor RPM	-	DD
SF System SetPt	-	7.2V
RL Voltage	-	[1]
RL Amperage	-	[1]
Total ESP	-	0.137"
Fan Inlet SP	-	-0.137"

Chilled Water Coil		
	Design	**Actual**

Completed By: Brianna Biggs on

Notes: [1] NO ACCESS TO SAFELY READ AMPS/VOLTS. // [2] LOW SPEED = 658 CFM

Date: 05/26/2023

VAV - Single Duct

EQUIPMENT/

Asset				
Asset Name	**Design Max CFM**	**Max CFM**	**Min CFM**	**Damper SetPt**
VAV1	500	300	300	37V