Report By:

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

NATIONAL TAB

Comfort. Under control.

Report: TAB REPORT
Function: Test, Adjust, & Balance
Date: 01/06/2023

PROJECT

01-02-23 WALGREENS #4619 - SEBASTIAN, FL

999 SEBASTION BLVD

SEBASTIAN, FL 32958

Client

Walgreens

200 WILMOT RD

DEERFIELD, IL 60015

National TAB

Project: 01-02-23 WALGREENS #4619 - SEBASTIAN, FL

Table Of Contents

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.

Commissioning Activities
Equipment was inspected to ensure that the installation meets Walgreens requirements. Control and equipment setpoints were checked and after balancing was completed performance of each unit was verified. The full list of items that were verified along with any that failed are contained in the checklists in this report.

RTU's (Roof Top Units) w/ Diffusers
Each of the RTU's were measured at their terminal devices or via traverse to establish a total flow for that unit. Each RTU was adjusted to within tolerance per Walgreens standards. Each outlet was then adjusted to within tolerance. Outside air was measured by reading the intake air opening with a velocity grid and multiplying by the free area. The outside air damper was adjusted until the airflow was within the design requirements. Any equipment that fell outside of that tolerance is noted throughout the report.

General Exhaust Fans w/ Grilles
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. 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.

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01-02-23 WALGREENS #4619 - SEBASTIAN, FL

Project Issue Information

Issue Name : Economizers do not have power on all units.

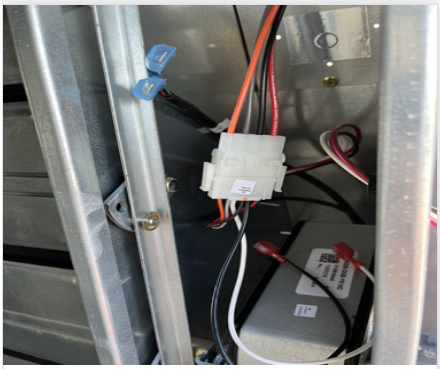
Description : Cables that power the Economizer itself are not plugged in. Cannot find any female cables to power Economizer. Temporarily set the OA by manually setting the damper but once resolved, the damper needs to be permanently set through the controller.

Created By : National TAB **Assigned To :** National TAB - Will Turnbough

Status : Open

Originated Date : 01/04/2023 - Ian Fuller - National TAB

Project Issue File Details



Economizer.jpeg

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01-02-23 WALGREENS #4619 - SEBASTIAN, FL

Project Issue Information

Issue Name : EF#1 & EF#2 currently are not functioning

Description : Fans are not powered.

Created By : National TAB **Assigned To :** National TAB - Will Turnbough

Status : Open

Originated Date : 01/05/2023 - Ian Fuller - National TAB

Project Issue File Details

EF1.jpeg

EF2.jpeg

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01-02-23 WALGREENS #4619 - SEBASTIAN, FL

Project Issue Information

Issue Name : EF#3, 4, & 5 all have low flow.

Description : EF3 is at 241 cfm out of designed 300. EF4 is at 264 out a designed 300. EF5 is at 435 cfm out of a designed 750. Could not reach fans to see if airflow could be sped up to design.

Created By : National TAB **Assigned To :** National TAB - Will Turnbough

Status : Open

Originated Date : 01/05/2023 - Ian Fuller - National TAB

Project Issue File Details

EF3.jpeg

EF4.jpeg

EF5.jpeg

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01-02-23 WALGREENS #4619 - SEBASTIAN, FL

Project Issue Information

Issue Name : RTU#5 has alarm that indicates it is using return temp sensor instead of space temp sensor.

Description : Alarm shown on HMI screen. Needs to be resolved for unit to accurately read temperature.

Created By : National TAB **Assigned To :** National TAB - Will Turnbough

Status : Open

Originated Date : 01/03/2023 - Ian Fuller - National TAB

Project Issue File Details

SpaceSensor.jpeg

Alarm.jpeg

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01-02-23 WALGREENS #4619 - SEBASTIAN, FL

Project Issue Information

Issue Name : RTU6 thermostat control not yet installed.

Description : Components for RTU6 thermostat controller are sitting inside of box inside of office. Needs to be installed.

Created By : National TAB **Assigned To :** National TAB - Will Turnbough

Status : Open

Originated Date : 01/04/2023 - Ian Fuller - National TAB

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01-02-23 WALGREENS #4619 - SEBASTIAN, FL

Project Issue Information

Issue Name : Supply temp sensor in RTU#1 is not working

Description : Alarm on HMI screen shows supply sensor is not working.

Created By : National TAB **Assigned To :** National TAB - Will Turnbough

Status : Open

Originated Date : 01/03/2023 - Ian Fuller - National TAB

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01-02-23 WALGREENS #4619 - SEBASTIAN, FL

Project Issue Information

Issue Name : Units are currently jumpers to run in occupied.

Description : No wire ran from W2/0 to occ on control board. Units run in unoccupied as a result. Need to be wired to make them run in occupied. Currently jumpered so that OA dampers can function and cool space properly.

Created By : National TAB **Assigned To :** National TAB - Will Turnbough

Status : Open

Originated Date : 01/05/2023 - Ian Fuller - National TAB

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
RTU-1	GEN. SALES	2275	2220	1821	1778	454	442	20.0%	19.9%						
RTU-2	FRONT SALES	2625	2662	2101	2204	524	458	20.0%	17.2%						
RTU-3	REAR SALES	1750	1936	1400	1564	350	372	20.0%	19.2%						
RTU-4	SALES	2275	2351	1821	1941	454	410	20.0%	17.4%						
RTU-5	PHARMACY	1750	1649	1750	1649	0	0	0.0%	0.0%						
RTU-6	RECEIVING	1400	1523	1120	1254	280	269	20.0%	17.7%						
EF-1	OFFICE													300	0
EF-2	EMP.ROOM													300	0
EF-3	MEN'S RR													300	241
EF-4	WOMEN'S RR													300	264
EF-5	PHOTO													750	435
TOTALS		12075	12341	10013	10390	2062	1951			0	0	0	0	1950	940

NET BUILDING AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	2062	1951
TOTAL EXHAUST	1950	940
NET AIRFLOW	112	1011

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS (IN. H20)
FRONT	0.0159
SIDE	NA
REAR	0.0102
AVERAGE	**0.0131**

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:

Comfort. Under control.

01-02-23 WALGREENS #4619 - SEBASTIAN, FL

CheckList Information

Name :	TECH - SITE PICTURES	**Status :**	Submitted
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		

CheckList Item Details

STORE FRONT

Storefront.jpeg

RTU-1

RTU1.jpeg

RTU-2

RTU2.jpeg

RTU-3

RTU3.jpeg

RTU-4

RTU4.jpeg

RTU-5

RTU5.jpeg

RTU-6

RTU6.jpeg

EF-1

EF1.jpeg

EF-2

EF2.jpeg

EF-3

EF3.jpeg

EF-4

EF4.jpeg

EF-5

EF5.jpeg

Notes/Comments :

Comfort. Under control.

01-02-23 WALGREENS #4619 - SEBASTIAN, FL

CheckList Information

Name :	TECH - 01 RTU INSTALLATION CHECKLIST	**Status :**	Submitted
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		

CheckList Item Details

General / Exterior Inspections	
Verify all required equipment has been replaced per TA and BOM.	Pass
All units are installed in the proper locations	Pass
Units are labeled correctly	Fail
Asset tag installed	Pass
Roof is clear of debris.	Pass
Maintenance access for all unit access panels is acceptable and panels open freely.	Pass
Cabinet and general installation is complete.	Pass
Unit is secure to curb and level horizontally and vertically.	Pass
Access doors close tightly with no leaks	Pass
Condensate and gas piping is properly supported.	Pass
Costgaurd is installed per scope of work and piping unions are cemented.	
Additional Comments	
Interior Inspections	
Fan rotation is correct	Pass
Pulleys are correctly aligned and both motor and fan sheave pins are tightened in place.	Pass

Return air and outside air dampers close tightly with no gaps	Pass
Cabinet and coils are not damaged and in like new condition.	Pass
Inside of unit is clean and clear of debris.	Pass
Validate condesate is piped to splash block, draing, or roof drain per code requirements	Pass
Verify filters are installed, clean and of proper size. Verify there is no air by-pass around filters.	Pass
Curb is sealed with no air leakage.	Pass
Additional Comments:	
Fire/Smoke Alarm Systems	
In duct smoke detectors are installed	Pass
Fire alarm panel status (visual inspection where possible)	GOOD
Additional Comments:	
Electrical	
Electrical wiring is complete with no visible damage	Pass
Electrical connections are tight with sealtight around any unit penetrations.	Pass
Disconnect switch is installed in accessible location near or on unit.	Pass
Verify overcurrent protection is HACR type, installed and sized correctly and labeled in panel.	Pass
Maintenance electrical outlet is installed and functional.	Pass
Main distribution panel is labeled correctly.	Pass
Unit ground wire is secured.	Pass
Additional Comments:	

Notes/Comments :

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01-02-23 WALGREENS #4619 - SEBASTIAN, FL

CheckList Information

Name :	TECH - 02 EXHAUST FANS INSPECTIONS	**Status :**	Submitted
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		

CheckList Item Details

Fan rotation is correct	Pass
Pulleys are aligned and belts are tensioned properly	NA
Speed controller installed and functional (direct drive)	NA
Fan is secured to the curb	Pass
Back draft damper is installed and functional	Pass
No exterior damage to the fan	Pass
No unusual noise or vibration	Pass
Controls are functional	Pass
Additional Comments:	INLINE EXHAUST FANS ARE TOO HIGH TO REACH.

Notes/Comments :

Comfort. Under control.

01-02-23 WALGREENS #4619 - SEBASTIAN, FL

CheckList Information

Name :	TECH - 03 START-UP CONTROLS PROGRAMMING	**Status :**	Submitted
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		

CheckList Item Details

Programming: SE 3.3, 3.4, 4.0

Controller-Network-Address: RTU number + 3	Pass
Controller-Network-FCBusMode = Wired Field Bus	Pass
Controller-Network-BaudRate = Auto	Pass
Controller-Network-Device ID = RTU number + 3	Pass
Details-Occ-OffDurUnocc = No	Pass
Details-Clg-Setup-Clg-En = Yes	Pass
Details-Clg-Setup-ClgAdapTunEn = Yes	Pass
Details-Htg-Setup-Htg-En = Yes	Pass
Details-Htg-Setup-#HtgStgs = 2 Stages	Pass
Details-Htg-Setup-HtgAdapTunEn = Yes	Pass
Details-Htg-Setup-#GasVlvs = 1 (Set to 0 for Hp and Elect Heat)	Pass
Details-Fan-Setup-Fan Ctl-Type = No VFD select "Single Speed", W/VFD select "Fixed Variable"	Pass
Details-Fan-Setup-FanOnOcc = Yes	Pass
Details-Fan-Setup-FanOnDlyHeat = 30s (Set to 0 for HP or Electric Heat)	Pass
Details-Fan-Setup-FanOnly-%Cmd = 50%	Pass

Details-Fan-Setup-1ClgStg-%Cmd = 70%	Pass
Details-Fan-Setup-2Clgstg-%Cmd = 100% (2stage Unit) or 80% (3 and 4 stage)	Pass
Details-Fan-Setup-3ClStg-%Cmd = 100% (3 stage unit) or 90% (4 stage)	Pass
Details-Fan-Setup-4ClStg-%Cmd = 100% (4 Stage unit)	Pass
Details-Fan-Setup-1HtgStg-%Cmd = 100%	Pass
Details-Fan-Setup-2HtgStg-%Cmd = 100%	Pass
Details-Econ-Setup-Econ-En = Yes	Pass
Details-Econ-Setup-Econ-MinPos = Set to minimum outside air requirements.	Pass
Details-Econ-Setup-LowSpdFan-MinPos = Set minimum 1% above EconMinPos	Pass
Details-Econ-Setup-FreeClg-Sel = Single Enthalpy	Pass
Details-Econ-Setup-EconOAEnth-Sp 4= 24 Btu/lb	Pass
Details-Econ-Setup-Dvent-Mode = Enable	Pass
Details-Econ-Setup-DventMaxEconPos = 50%	Pass
Details-Econ-Setup-DventIAP-Sp = 1000	Pass
Details-Econ-Setup-EconFltDetectEn = Enable	Pass
Additional Comments:	
Non ZR Units only:	
Details-HGR-Setup-HGR-En = No	Pass
Details-HGR-Setup-HGRAlt-En = No	Pass
Details - HGR-Setup-HGRUnocc-En = No	Pass
Details-HGR-Setup-Mode = No	Pass
Additional Comments:	
ZR Units - Reheat Units only:	
Details-HGR-Setup-HGR-En = Yes	
Details-HGR-Setup-HGRAlt-En = Yes	

Details - HGR-Setup-HGRUnocc-En = Yes	
Details-HGR-Setup-Mode = No	
Additional Comments:	

Notes/Comments :

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01-02-23 WALGREENS #4619 - SEBASTIAN, FL

CheckList Information

Name :	TECH - 04 EMS/SENSOR VALIDATION	**Status :**	Submitted
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		

CheckList Item Details

RTU supply air temp sensor location located per start-up binder.	Pass
RTU return air temp sensor location located per start-up binder.	Pass
RTU return air smoke detector (when applicable) is located per start-up binder.	Pass
Space temperature sensor has been replaced and location meets requirements.	Pass
Space humidity sensor has been replaced and location meets requirements.	Pass
Unit is being controlled by a space temperature sensor or thermostat	Fail
EMS has been connected and validated with TOC or Gridpoint. Screen shot is available.	Pass
No splicing of EMS/Sensor/Thermostat wiring is visible	Pass
(If Applicable) 2 Stage Thermostat to SE Board Control Wiring meets detail in start-up binder.	
(If Applicable) 2 Stage Thermostat to 4 Stage Unit meets detail in start-up binder.	
(If Applicable) 4 Stage Thermostat to 4 Stage Unit meets detail in start-up binder.	
(If Applicable) 3 Stage Thermostat wiring meets detail in start-up binder.	
(If Applicable) 3 Stage Thermostat with Humidity sensor wiring meets detail in start-up binder.	

(If Applicable) EH Thermostat with SCR control wiring meets detail in start-up binder.	
Temperature setpoints are set for correction region and space (see ASHRAE / temperature setpoint chart in procedure)	Pass
Additional Comments:	RTU5 IS USING RETURN TEMPERATURE SENSOR INSTEAD OF SPACE TEMPERATURE SENSOR.

Notes/Comments :

Comfort. Under control.

01-02-23 WALGREENS #4619 - SEBASTIAN, FL

CheckList Information

Name :	TECH - 05 TAB CHECKLIST	**Status :**	Submitted
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		

CheckList Item Details

Outside air damper set to minimum air flow requirement and damper position marked.	Pass
Total Supply, return, and outside air volumes meet design tolerances (+/-10%)	Pass
Enclosed area diffusers (Pharmacies, manager office, employee room, restrooms, electrical rooms) balanced within +/-10%?	Pass
Open area diffusers (Sales floor and stock room) balanced within +/-25% of design?	Pass
Store pressure meets tolerances (see formula in balance schedule). Make sure to account for existing exhaust fans airflows as shown on original drawings that are non-functioning.	Pass
Outside air and return air dampers modulate freely.	Fail
Start-up report from the installing contractor is reviewed and all information if filled out. All required measurements are within typical ranges.	Pass
(If Applicable) VFD is set-up and operational. (N/A = not applicable)	YES
Verify amp draw of motor is within unit specification, not operating in overamped condition.	Pass
Sales floor temperature and humidity measurement	Temp: 74.1 Hum: 52.5
Pharmacy temperature and humidity measurement	Temp: 71.3 HUM: 49.6
Stock Room temperature and humidity measurement	Temp: 76.2 Hum: 73.9
Outdoor air temperature and humidity measurement	Temp: 80.2 Hum: 70.7

Additional Comments:	UNITS ARE NOT WIRED TO BE IN OCCUPIED. CURRENTLY JUMPERED TO MAKE THEM RUN IN OCCUPIED SO THAT OA AND RETURN DAMPERS CAN MODULATE FREELY.

Notes/Comments :

Comfort. Under control.

01-02-23 WALGREENS #4619 - SEBASTIAN, FL

CheckList Information

Name : TECH - 06 FUNCTIONAL TESTS **Status :** Submitted

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

CheckList Item Details

Cooling Functional Test	
Overwrite the thermostat or sensor to put the unit into cooling mode.	Pass
Compressors enable.	Pass
If fan has VFD, the fan increases speed.	Pass
Document the discharge air temperature.	RTU1: 54.3 RTU2: 53.2 RTU3:53.8 RTU4: 52.6 RTU5: 54.1 RTU6: 54.8
After 10 minutes, Discharge air temperature is below 55 degrees.	Pass
Cooling mode is operational	Pass
Additional Comments:	
Heating Functional Test	
Overwrite the thermostat or sensor to put the unit into heating mode.	Pass
Heat exchanger enables.	Pass
If fan has VFD, the fan increases speed.	Pass
Document the discharge air temperature.	RTU1:85.2 RTU2:85.5 RTU3:85.2 RTU4:86.0 RTU5:85.4 RTU6:85.3
After 10 minutes, Discharge air temperature is above 85 degrees.	Pass
Heating mode is operational	Pass

Additional Comments	
Dehumidification Functional Test	
Overwrite the humidistat to put the unit into dehumidification mode.	Pass
Compressors enable.	Pass
Hot Gas Reheat Valve opens	Pass
If fan has VFD, the fan increases speed.	Pass
Document the discharge air temperature.	RTU1: 54.5 RTU2: 53.5 RTU3:53.3 RTU4: 52.8 RTU5: 54.4 RTU6: 54.3
Dehumidification Mode is operational. (Pass/Fail/NA)	PASS
Additional Comments:	
Economizer Functional Test	
Overwrite the humidistat to put the unit into economizer mode.	Pass
Economizer modulates from minimum position to 100% open. (Pass/Fail/NA)	PASS
Additional Comments:	

Notes/Comments :

Comfort. Under control.

01-02-23 WALGREENS #4619 - SEBASTIAN, FL

CheckList Information

Name :	TECH - 07 TEMPERATURE SETPOINTS	**Status :**	Submitted
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		

CheckList Item Details

Temperature setpoints must be set using provided charts are based on state and space that each RTU serves. Confirm with controls company that these are set correctly	Fail

Notes/Comments :

CONTROLS COMPANY NEVER CONFIRMED IF SETPOINTS WERE CORRECT. EMAIL WAS SENT AND MULTIPLE CALLS WERE MADE, NO RESPONSE. HOWEVER MEASURED TEMPERATURES INDICATE THAT SETPOINTS ARE CORRECT.

National TAB

Project: 01-02-23 WALGREENS #4619 - SEBASTIAN, FL

System/Unit: AHU/RTU

Comfort. Under control.

Asset: RTU1 AREA:GENERAL SALES

Unit Data		
	Design	**Actual**
MFG	YORK	YORK
Serial Num	-	N2E2377534
Model Num	ZT078E09R2B5GCB2R1	ZT078E09R2B5GCB2R1
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	29X20.5
Num Final Filter 1	-	4
Final Filter Size 1	-	20X24X2

Test Data		
	Design	**Actual**
SF CFM	2275	2220
SF RPM	976	981
RA CFM	2175	1778
OA CFM	100	442
RL Voltage	-	211/210/211
RL Amperage	-	4.8/4.8/4.6
SF Rotation	-	CW
RA Damper Position	-	85%
Min OA Damper Position	-	15%
Min OA Damper Type	-	ECONOMIZER
OA Enthalpy Setpt	-	24

Motor Data		
	Design	**Actual**
Motor MFG	-	BALDOR RELIANCE
Frame	-	56HZ
Horsepower	2	2
Motor Rpm	-	1750
Phase	3	3
Rated Voltage	230	208-230/460
Rated Amperage	-	5.8/2.9

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.28”
Fan Suction SP	-	-0.45”
Fan Discharge SP	-	1.13”
Total ESP	1.2"	1.41"
Fan Total SP	-	1.58"

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	1VM50
Motor Bore Size	-	0.875”
Motor Sheave SetPt	-	3 TURNS OUT
Fan Sheave Size	-	AK74
Fan Sheave Bore	-	1.0”
Belt CL Distance	-	19.0”
Num of Belts	-	1
Belt Size	-	A54
Belt Alignment	-	GOOD

General		
	Design	**Actual**
Fan Rotation Correct	-	YES
Unit Filters Clean	-	YES
Condensate Drain Installed	-	YES

Completed By: Ian Fuller

Notes:

National TAB

Project:01-02-23 WALGREENS #4619 - SEBASTIAN, FL

AHU/RTU

Comfort. Under control.

Diffuser Supply (GRD)

RTU1/GENERAL SALES

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
SGRD1	SALES	NA	NA	400	1	278	278	278	69.5
SGRD2	SALES	NA	NA	400	1	574	574	574	143.5
SGRD3	SALES	NA	NA	400	1	155	155	155	38.8
SGRD4	SALES	NA	NA	400	1	427	427	427	106.8
SGRD5	PHOTO	NA	NA	300	1	202	202	202	67.3
SGRD6	PHOTO	NA	NA	400	1	274	274	274	68.5
SGRD7	OFFICE	NA	NA	500	1	163	163	163	32.6
SGRD8	PASSAGE #2	NA	NA	200	1	147	147	147	73.5

Completed By: Brianna Biggs on

National TAB

Project: 01-02-23 WALGREENS #4619 - SEBASTIAN, FL

System/Unit: AHU/RTU

Comfort. Under control.

Asset: RTU2 AREA:FRONT SALES

Unit Data		
	Design	**Actual**
MFG	YORK	YORK
Serial Num	-	N2H2837859
Model Num	ZT090E09R2	ZT090E09R2B5GCL2R1
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	29X20.5

Motor Data		
	Design	**Actual**
Motor MFG	-	BALDOR RELIANCE
Frame	-	56HZ
Horsepower	3	3
Motor Rpm	-	1750
Phase	3	3
Rated Voltage	230	208-230/460
Rated Amperage	-	8.3-8.2/4.1

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	1VM50
Motor Bore Size	-	0.875”
Motor Sheave SetPt	-	3 TURNS OUT
Fan Sheave Size	-	AK69
Fan Sheave Bore	-	1.0”
Belt CL Distance	-	19.5”
Num of Belts	-	1
Belt Size	-	A54
Belt Alignment	-	GOOOD

Test Data		
	Design	**Actual**
SF CFM	2625	2662
SF RPM	1028	926
RA CFM	2187	2204
OA CFM	438	458
RL Voltage	-	212/210/211
RL Amperage	-	6.0/5.9/6.0
SF Rotation	-	CW
RA Damper Position	-	90%
Min OA Damper Position	-	10%
Min OA Damper Type	-	ECONOMIZER
OA Enthalpy Setpt	-	24

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.30”
Fan Suction SP	-	-0.52”
Fan Discharge SP	-	0.59”
Total ESP	1.2"	0.89"
Fan Total SP	-	1.11"

General		
	Design	**Actual**
Fan Rotation Correct	-	YES
Unit Filters Clean	-	YES
Condensate Drain Installed	-	YES

Completed By: Ian Fuller

Notes:

National TAB

Project:01-02-23 WALGREENS #4619 - SEBASTIAN, FL

AHU/RTU

Comfort. Under control.

Diffuser Supply (GRD)

RTU2/FRONT SALES

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
SGRD1	SALES	NA	NA	200	1	241	241	241	120.5
SGRD2	SALES	NA	NA	200	1	142	142	142	71.0
SGRD3	SALES	NA	NA	200	1	189	189	189	94.5
SGRD4	SALES	NA	NA	450	1	522	522	522	116.0
SGRD5	SALES	NA	NA	450	1	309	309	309	68.7
SGRD6	SALES	NA	NA	200	1	148	148	148	74.0
SGRD7	SALES	NA	NA	200	1	249	249	249	124.5
SGRD8	SALES	NA	NA	200	1	207	207	207	103.5
SGRD9	SALES	NA	NA	450	1	361	361	361	80.2
SGRD10	SALES	NA	NA	450	1	294	294	294	65.3

Completed By: Brianna Biggs on

National TAB

Project: 01-02-23 WALGREENS #4619 - SEBASTIAN, FL

System/Unit: AHU/RTU

Comfort. Under control.

Asset: RTU3 AREA:REAR SALES

Unit Data		
	Design	**Actual**
MFG	YORK	YORK
Serial Num	-	N2D2361206
Model Num	ZJ061E09D2B5GCB2R3	ZJ061E09D2B5GCB2R3
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	29X20
Num Final Filter 1	-	4
Final Filter Size 1	-	16X24X2

Test Data		
	Design	**Actual**
SF CFM	1750	1936
SF RPM	1035	1108
RA CFM	1650	1564
OA CFM	100	372
RL Voltage	-	209/210/209
RL Amperage	-	6.4/6.0/6.0
SF Rotation	-	CW
RA Damper Position	-	92%
Min OA Damper Position	-	8%
Min OA Damper Type	-	ECONOMIZER
OA Enthalpy Setpt	-	24

Motor Data		
	Design	**Actual**
Motor MFG	-	MARATHON
Frame	-	56HZ
Horsepower	2	2
Motor Rpm	-	1725
Phase	3	3
Rated Voltage	230	208-230/460
Rated Amperage	-	6.6-6.8/3.4

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.30”
Fan Suction SP	-	-0.84”
Fan Discharge SP	-	0.32”
Total ESP	1.2"	0.62"
Fan Total SP	-	1.16"

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	1VP56
Motor Bore Size	-	0.875”
Motor Sheave SetPt	-	3 TURNS OUT
Fan Sheave Size	-	AK74
Fan Sheave Bore	-	1.0”
Belt CL Distance	-	17.5”
Num of Belts	-	1
Belt Size	-	A51
Belt Alignment	-	GOOD

General		
	Design	**Actual**
Fan Rotation Correct	-	YES
Unit Filters Clean	-	YES
Condensate Drain Installed	-	YES

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Notes:

National TAB

Project:01-02-23 WALGREENS #4619 - SEBASTIAN, FL

AHU/RTU

Comfort. Under control.

Diffuser Supply (GRD)

RTU3/REAR SALES

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
RTU3-SGRD1	SALES	NA	NA	565	1	387	387	387	68.5
RTU3-SGRD2	SALES	NA	NA	560	1	267	267	267	47.7
RTU3-SGRD3	SALES	NA	NA	560	1	397	397	397	70.9
RTU3-SGRD4	SALES	NA	NA	565	1	347	347	347	61.4
RTU3-SGRD5	WOMAN'S RR	NA	NA	125	1	120	120	120	96.0
RTU3-SGRD6	MEN'S RR	NA	NA	125	1	109	109	109	87.2
RTU3-SGRD7	PORTER	NA	NA	200	1	187	187	187	93.5
RTU3-SGRD8	BREAKROOM	NA	NA	300	1	122	122	122	40.7

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National TAB

Project: 01-02-23 WALGREENS #4619 - SEBASTIAN, FL

System/Unit: AHU/RTU

Comfort. Under control.

Asset: RTU4 AREA:SALES

Unit Data		
	Design	**Actual**
MFG	YORK	YORK
Serial Num	-	N2E2377533
Model Num	ZT078E09R2B5GCB2R1	ZT078E09R2B5GCB2R1
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	29X20.5
Num Final Filter 1	-	4
Final Filter Size 1	-	20X24X2

Motor Data		
	Design	**Actual**
Motor MFG	-	BALDOR RELIANCE
Frame	-	56HZ
Horsepower	2	2
Motor Rpm	-	1750
Phase	3	3
Rated Voltage	230	208-230/460
Rated Amperage	-	5.8/2.9

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	1VM50
Motor Bore Size	-	0.875”
Motor Sheave SetPt	-	5 TURNS OUT
Fan Sheave Size	-	AK74
Fan Sheave Bore	-	1.0”
Belt CL Distance	-	19.0”
Num of Belts	-	1
Belt Size	-	A54
Belt Alignment	-	GOOD

Test Data		
	Design	**Actual**
SF CFM	2275	2351
SF RPM	976	850
RA CFM	2175	1941
OA CFM	100	454
RL Voltage	-	209/210/210
RL Amperage	-	5.6/5.8/5.6
SF Rotation	-	CW
RA Damper Position	-	90%
Min OA Damper Position	-	10%
Min OA Damper Type	-	ECONOMIZER
OA Enthalpy Setpt	-	24

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.62”
Fan Suction SP	-	-0.84”
Fan Discharge SP	-	0.54”
Total ESP	1.2"	1.16"
Fan Total SP	-	1.38"

General		
	Design	**Actual**
Fan Rotation Correct	-	YES
Unit Filters Clean	-	YES
Condensate Drain Installed	-	YES

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Notes:

National TAB

Project:01-02-23 WALGREENS #4619 - SEBASTIAN, FL

AHU/RTU

Comfort. Under control.

Diffuser Supply (GRD)

RTU4/SALES

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
SGRD1	SALES	NA	NA		1	557	484	484	-
SGRD2	SALES	NA	NA		1	403	351	351	-
SGRD3	SALES	NA	NA		1	1053	816	816	-
SGRD4	SALES	NA	NA		1	805	700	700	-

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National TAB

Project: 01-02-23 WALGREENS #4619 - SEBASTIAN, FL

System/Unit: AHU/RTU

Comfort. Under control.

Asset: RTU5 AREA:PHARMACY

Unit Data		
	Design	**Actual**
MFG	TRANE	TRANE
Serial Num	-	N2H2930144
Model Num	ZJ061E06D2B5GCB2R3	ZJ061E06D2B5GCB2R3
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	29X20.5
Num Final Filter 1	-	4

Motor Data		
	Design	**Actual**
Motor MFG	-	MARATHON
Frame	-	56HZ
Horsepower	2	2
Motor Rpm	-	1725
Phase	3	3
Rated Voltage	230	208-230/460
Rated Amperage	-	6.6-6.8/3.4

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	1VP56
Motor Bore Size	-	0.875”
Motor Sheave SetPt	-	3 TURNS OUT
Fan Sheave Size	-	AK74
Fan Sheave Bore	-	1.0”
Belt CL Distance	-	17.0”
Num of Belts	-	1
Belt Size	-	A51
Belt Alignment	-	GOOD

Test Data		
	Design	**Actual**
SF CFM	1750	1649
SF RPM	1035	1134
RA CFM	1750	1649
OA CFM	0	0
RL Voltage	-	208/209/210
RL Amperage	-	5.3/5.2/5.5
SF Rotation	-	CW
RA Damper Position	-	100%
Min OA Damper Position	-	0%
Min OA Damper Type	-	ECONOMZIER
OA Enthalpy Setpt	-	24

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.56”
Fan Suction SP	-	-0.78”
Fan Discharge SP	-	0.75”
Total ESP	1.2"	1.31"
Fan Total SP	-	1.53"

General		
	Design	**Actual**
Fan Rotation Correct	-	YES
Unit Filters Clean	-	YES
Condensate Drain Installed	-	YES

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Notes:

National TAB

Project:01-02-23 WALGREENS #4619 - SEBASTIAN, FL

AHU/RTU

Comfort. Under control.

Diffuser Supply (GRD)

RTU5/PHARMACY

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
SGRD1	PHARMACY	NA	NA	500	1	533	533	533	106.6
SGRD2	PHARMACY	NA	NA	550	1	425	425	425	77.3
SGRD3	PHARMACY	NA	NA	550	1	470	470	470	85.5
SGRD4	SEATING	NA	NA	200	1	221	221	221	110.5

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National TAB

Project: 01-02-23 WALGREENS #4619 - SEBASTIAN, FL

System/Unit: AHU/RTU

Comfort. Under control.

Asset: RTU6 AREA:RECEIVING

Unit Data		
	Design	**Actual**
MFG	YORK	YORK
Serial Num	-	N2G2658138
Model Num	ZJ049E06D2B5BCB2R2	ZJ049E06D2B5BCB2R2
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	29X20.5
Num Final Filter 1	-	4
Final Filter Size 1	-	16X24X2

Motor Data		
	Design	**Actual**
Motor MFG	-	CENTURY
Frame	-	56H
Horsepower	1.50	1.5
Motor Rpm	-	1725
Phase	3	3
Rated Voltage	230	208-230/460
Rated Amperage	-	5.0/2.5

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	1VL44
Motor Bore Size	-	0.875”
Motor Sheave SetPt	-	3 TURNS OUT
Fan Sheave Size	-	AK56
Fan Sheave Bore	-	1.0”
Belt CL Distance	-	17.0”
Num of Belts	-	1
Belt Size	-	A46
Belt Alignment	-	GOOD

Test Data		
	Design	**Actual**
SF CFM	1400	1523
SF RPM	1001	983
RA CFM	1300	1254
OA CFM	100	269
RL Voltage	-	209/210/210
RL Amperage	-	5.0/4.7/5.0
SF Rotation	-	CW
RA Damper Position	-	90%
Min OA Damper Position	-	10%
Min OA Damper Type	-	ECONOMIZER
OA Enthalpy Setpt	-	24

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.56”
Fan Suction SP	-	-0.77”
Fan Discharge SP	-	0.76”
Total ESP	1.2"	1.32"
Fan Total SP	-	1.53"

General		
	Design	**Actual**
Fan Rotation Correct	-	YES
Unit Filters Clean	-	YES
Condensate Drain Installed	-	YES

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Notes:

National TAB

Project: 01-02-23 WALGREENS #4619 - SEBASTIAN, FL

System/Unit: FAN - Exhaust

Comfort. Under control.

Asset: EF1 AREA:OFFICE

Unit Data		
	Design	**Actual**
MFG	GREENHECK	GREENHECK
Model Num	SP-250	SP-250
Serial Num	-	
Type	CEILING	INLINE
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	NA
Frame	-	NA
Horsepower	121W	NA
Phase	1	NA
Voltage (rated)	120	NA

Test Data		
	Design	**Actual**
CFM	300	0
Fan RPM	1000	0
Fan Rotation	-	NA
Motor RPM	-	NA
System SetPt	-	NA
RL Voltage	-	NA
RL Amperage	-	NA
Total ESP	0.375"	NA

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Notes:

National TAB

Project: 01-02-23 WALGREENS #4619 - SEBASTIAN, FL

System/Unit: FAN - Exhaust

Comfort. Under control.

Asset: EF2 AREA:EMPLOYEE ROOM

Unit Data		
	Design	**Actual**
MFG	GREENHECK	GREENHECK
Model Num	SP-250	SP-250
Serial Num	-	NA
Type	CEILING	INLINE
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	NA
Frame	-	NA
Horsepower	121W	NA
Phase	1	NA
Voltage (rated)	120	NA

Test Data		
	Design	**Actual**
CFM	300	0
Fan RPM	1000	NA
Fan Rotation	-	NA
Motor RPM	-	NA
System SetPt	-	NA
RL Voltage	-	NA
RL Amperage	-	NA
Total ESP	0.375"	NA

Completed By: Ian Fuller

Notes:

National TAB

Project: 01-02-23 WALGREENS #4619 - SEBASTIAN, FL

System/Unit: FAN - Exhaust

Comfort. Under control.

Asset: EF3 AREA:MENS RESTROOM

Unit Data		
	Design	**Actual**
MFG	GREENHECK	GREENHECK
Model Num	SP-250	SP-250
Serial Num	-	NA
Type	CEILING	INLINE
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	NA
Frame	-	NA
Horsepower	121W	NA
Phase	1	NA
Voltage (rated)	120	NA

Test Data		
	Design	**Actual**
CFM	300	241
Fan RPM	1000	NA
Fan Rotation	-	NA
Motor RPM	-	NA
System SetPt	-	NA
RL Voltage	-	NA
RL Amperage	-	NA
Total ESP	0.375"	NA

Completed By: Ian Fuller

Notes:

National TAB

Project: 01-02-23 WALGREENS #4619 - SEBASTIAN, FL

System/Unit: FAN - Exhaust

Comfort. Under control.

Asset: EF4 AREA:WOMENS RESTROOM

Unit Data		
	Design	**Actual**
MFG	GREENHECK	GREENHECK
Model Num	SP-250	SP-250
Serial Num	-	NA
Type	CEILING	INLINE
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	NA
Frame	-	NA
Horsepower	121W	NA
Phase	1	NA
Voltage (rated)	120	NA

Test Data		
	Design	**Actual**
CFM	300	264
Fan RPM	1000	NA
Fan Rotation	-	NA
Motor RPM	-	NA
System SetPt	-	NA
RL Voltage	-	NA
RL Amperage	-	NA
Total ESP	0.375"	NA

Completed By: Ian Fuller

Notes:

National TAB

Project: 01-02-23 WALGREENS #4619 - SEBASTIAN, FL

System/Unit: FAN - Exhaust

Comfort. Under control.

Asset: EF5 AREA:PHOTO

Unit Data		
	Design	**Actual**
MFG	GREENHECK	GREENHECK
Model Num	SP-250	SP-250
Serial Num	-	NA
Type	CEILING	INLINE
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	NA
Frame	-	NA
Horsepower	285W	NA
Phase	1	NA
Voltage (rated)	120	NA

Test Data		
	Design	**Actual**
CFM	750	435
Fan RPM	950	NA
Fan Rotation	-	NA
Motor RPM	-	NA
System SetPt	-	NA
RL Voltage	-	NA
RL Amperage	-	NA
Total ESP	0.375"	NA

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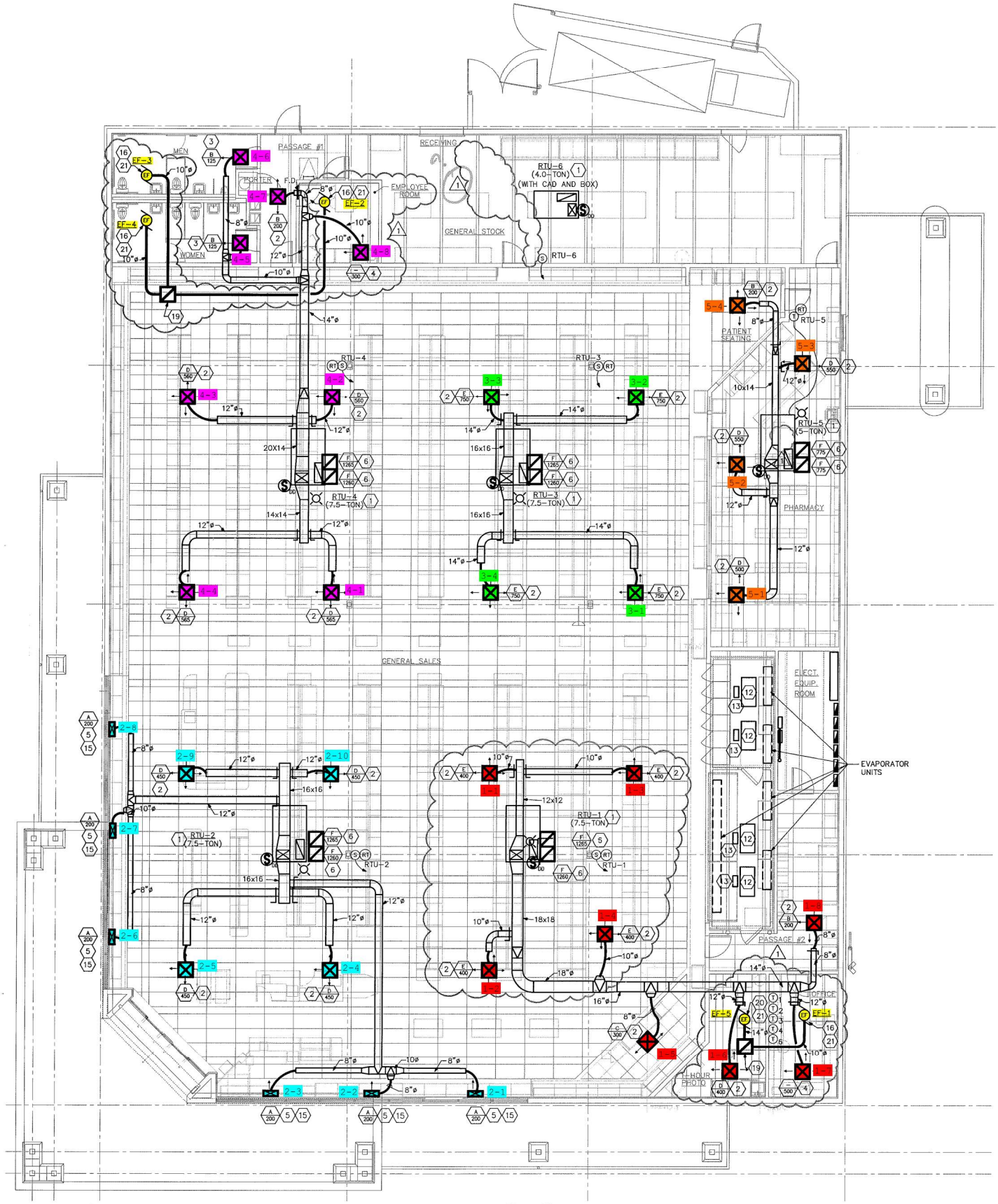
Notes:



MECHANICAL PLAN

1/8"=1'-0" NORTH