Report By:

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

NATIONAL TAB

Comfort. Under control.

Report: FINAL REPORT
Function: Test, Adjust, & Balance
Date: 11/01/2022

PROJECT

10-24 WALGREENS #03606 - SARASOTA,FL

6465 S TAMIAMI TRL

SARASOTA, FL 34231

Client

Walgreens

200 WILMOT RD

DEERFIELD, IL 60015

National TAB

Project: 10-24 WALGREENS #03606 - SARASOTA,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.

Comfort. Under control.

10-24 WALGREENS #03606 - SARASOTA,FL

Project Issue Information

Issue Name : Costgard Piping Not Cemented

Description : The PVC Costgard piping is not cemented and can be twisted or separated.

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

Status : Open

Originated Date : 10/26/2022 - Stephen Tassinaro - National TAB

Project Issue File Details

FuseIT0aa843dd07684d3...

Comfort. Under control.

10-24 WALGREENS #03606 - SARASOTA,FL

Project Issue Information

Issue Name : EF-5 Not Running

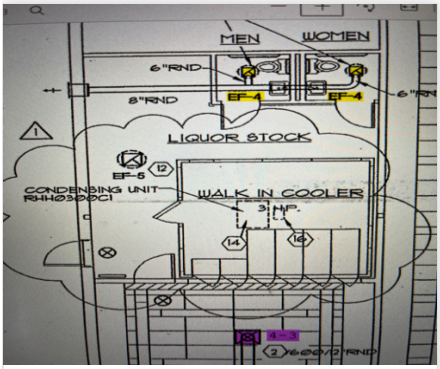
Description : NEW EF-5 (Liquor Stock) is not running. Unable to locate a thermostat or switch to signal the fan. Liquor manager is not aware of any switches nor has he noticed the fan running at any time.

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

Status : Open

Originated Date : 10/27/2022 - Stephen Tassinaro - National TAB

Project Issue File Details



FuseIT7d473f28ea2448b...

Comfort. Under control.

10-24 WALGREENS #03606 - SARASOTA,FL

Project Issue Information

Issue Name : EF-6 Low Flow

Description : EF-6 serving the Women's RR and the sales floor is low on exhaust flow. The fan data sticker indicates the fan is rated for 500CFM, with the speed controller maximized 547CFM was measured. The original plans indicate a design of 790CFM.

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

Status : Open

Originated Date : 10/27/2022 - Stephen Tassinaro - National TAB

Project Issue File Details

FuseIT48021d88cc59492...

Comfort. Under control.

10-24 WALGREENS #03606 - SARASOTA,FL

Project Issue Information

Issue Name : EF-7

Description : EF-7 serves photo area and should be removed and capped by IC.

Created By : National TAB **Assigned To :** National TAB - Stephen Tassinaro

Status : Open

Originated Date : 11/02/2022 - Will Turnbough - National TAB

Comfort. Under control.

10-24 WALGREENS #03606 - SARASOTA,FL

Project Issue Information

Issue Name : Existing EF-1 Not Functional

Description : EF-1 (Stock Room) is not running. No response from the fan when thermostat set point is changed within the stock room.

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

Status : Open

Originated Date : 11/01/2022 - Stephen Tassinaro - National TAB

Project Issue File Details

FuseIT60e9118048c9418...

Comfort. Under control.

10-24 WALGREENS #03606 - SARASOTA,FL

Project Issue Information

Issue Name : Existing EF-4 Dirty and No Airflow

Description : EXISTING EF-4 serving the liquor restroom is running but not exhausting any air from the space. There is a significant buildup of dust and debris in the fan.

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

Status : Open

Originated Date : 10/27/2022 - Stephen Tassinaro - National TAB

Project Issue File Details

FuseITb965c5a2aa81404...

FuseIT326c7eb10f0f473...

Comfort. Under control.

10-24 WALGREENS #03606 - SARASOTA,FL

Project Issue Information

Issue Name : Existing SF-1 Not Functional

Description : SF-1 (Stock Room) is not functional. Fan did not respond to thermostat changes within the space.

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

Status : Open

Originated Date : 11/01/2022 - Stephen Tassinaro - National TAB

Comfort. Under control.

10-24 WALGREENS #03606 - SARASOTA,FL

Project Issue Information

Issue Name : RTU 1 & 2 Discharge Temps Above 55F

Description : RTU 1 & 2 were recorded discharging 59F & 62F supply air when in full cooling for 10 minutes (measured at discharge air compartment of RTUs). This does not satisfy the 55F expectation. Space comfortable as is.

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

Status : Open

Originated Date : 11/01/2022 - Stephen Tassinaro - National TAB

Comfort. Under control.

10-24 WALGREENS #03606 - SARASOTA,FL

Project Issue Information

Issue Name : RTU-3 High Static Pressures

Description : RTU-3 (Pharmacy) has high static pressures which appear to be a result of a restrictive curb adapter. The unit is proportionally balanced to 90% of the design. The pharmacy is comfortable in this condition.

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

Status : Open

Originated Date : 11/01/2022 - Stephen Tassinaro - National TAB

Project Issue File Details

FuseIT81b5c3e08103442...

Comfort. Under control.

10-24 WALGREENS #03606 - SARASOTA,FL

Project Issue Information

Issue Name : RTU-4 Disconnect Failure

Description : RTU 4 (Liquor) main disconnect switch failed on the last day of TAB. Unable to set outside air and retrieve final data.

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

Status : Open

Originated Date : 11/01/2022 - Stephen Tassinaro - National TAB

Project Issue File Details

FuseITbcf7c4267c3948c...

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	REAR SALES	3250	3160	2600	2529	650	631	20.0%	20.0%						
RTU-2	FRONT SALES	4875	4825	4150	4087	725	738	14.9%	15.3%						
RTU-3	PHARMACY	1400	1260	1400	1260	0	0	0.0%	0.0%						
EF-2	RESTROOMS													150	152
EF-3	EMPLOYEE OFFICE													255	503
EF-6	SALES													790	547
TOTALS		9525	9245	8150	7876	1375	1369			0	0	0	0	1195	1202

NET BUILDING AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	1375	1369
TOTAL EXHAUST	1195	1202
NET AIRFLOW	180	167

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS (IN. H20)
FRONT	0.01
SIDE	-
REAR	-
AVERAGE	**0.01**

FINAL CHECKS

ACTUAL NET AIRFLOW COINCIDES WITH DESIGN: ✓

MEASURED PRESSURES COINCIDES WITH ACTUAL NET AIRFLOW: ✓

Balance store to +10% pressurization based on air flow.

i. $\left(\frac{Outdoor\ Air - Exhaust\ Air}{Exhaust\ Air} > 10\%\right)$

ii. In case of nonfunctioning EF's T&B contractor to balance store accounting for the nonfunctioning EF air flow as shown on original drawings.

NOTES:

EF-3 NOT FUNCTIONAL AT TIME OF BUILDING PRESSURE TESTING. MC WORKING ON REPAIR OF SPEED CONTROLLER.

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-4	LIQUOR STORE	1625	1717	1460	1717	165		10.2%	0.0%						
EF-4	LIQUOR RR													150	0
EF-5	LIQUOR STOCK RM													450	0
TOTALS		1625	1717	1460	1717	165	0			0	0	0	0	150	0

NET BUILDING AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	165	0
TOTAL EXHAUST	150	0
NET AIRFLOW	15	0

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

FINAL CHECKS

ACTUAL NET AIRFLOW COINCIDES WITH DESIGN: ✓

MEASURED PRESSURES COINCIDES WITH ACTUAL NET AIRFLOW:

Balance store to +10% pressurization based on air flow.

i. $\left(\frac{Outdoor\ Air - Exhaust\ Air}{Exhaust\ Air} > 10\%\right)$

ii. In case of nonfunctioning EF's T&B contractor to balance store accounting for the nonfunctioning EF air flow as shown on original drawings.

NOTES:

RTU-4 NEEDS APPROX 165CFM OF OA IN ORDER TO HAVE +10% PRESSURIZATION OF THE LIQOUR STORE WHEN FANS BECOME OPERATIONAL

Comfort. Under control.

10-24 WALGREENS #03606 - SARASOTA,FL

CheckList Information

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

CheckList Item Details

STORE FRONT

FuseITdd699704a18f4f6...

RTU-1

FuseIT820129d4d77946f...

RTU-2

FuseIT38c95b12d14a41b...

RTU-3

FuseIT94162709d243455...

RTU-4

FuseIT14b1ff3c9b774d7...

EF-1

FuseIT6768a38031464d3...

EF-2

FuseITd4c0618fe1e0460...

EF-3

IMG_5627.jpg

EF-4

FuseIT555f1904ebce42d...

EF-5

FuseIT407d5f10c5c24f2...

EF-6

FuseIT4e63095509d7481...

EF-7

FuseIT91c5dba81ef4426...

SF-1

IMG_5618.jpg

Notes/Comments :

Comfort. Under control.

10-24 WALGREENS #03606 - SARASOTA,FL

CheckList Information

Name :	TECH - 01 RTU INSTALLATION CHECKLIST	**Status :**	NotSubmitted
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	Pass
Asset tag installed	Pass

FuseITad71b24c5dcf41c...

FuseITf80b22e0f178469...

File.jpeg

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

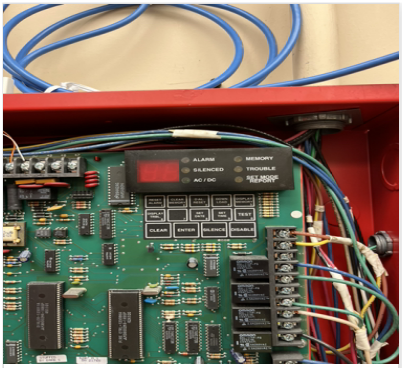
Access doors close tightly with no leaks	Pass
Condensate and gas piping is properly supported.	Pass
Costgaurd is installed per scope of work and piping unions are cemented.	Fail
Additional Comments	COSTGARD PIPING IS NOT CEMENTED.

Interior Inspections

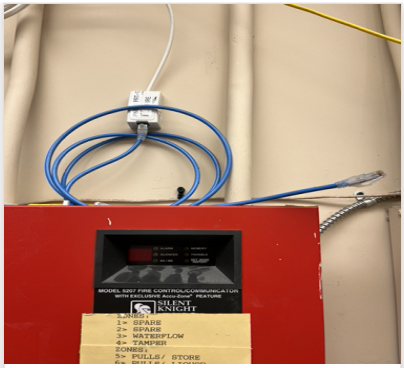
Fan rotation is correct	Pass
Pulleys are correctly aligned and both motor and fan sheave pins are tightened in place.	Pass
Return air and outside air dampers close tightly with no gaps	Pass
Cabinet and coils are not damaged and in like new condition.	Pass
Inside of unit is clean and clear of debris.	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)	NO MESSAGES DISPLAYED ON PANEL



FuseIT74e71a560cca4cb...



FuseITcb1c480ceeae4a1...

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:	NO OCP WIRES LANDED

Notes/Comments :

Comfort. Under control.

10-24 WALGREENS #03606 - SARASOTA,FL

CheckList Information

Name : TECH - 02 EXHAUST FANS INSPECTIONS **Status :** NotSubmitted

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	N/A DIRECT DRIVE
Speed controller installed and functional (direct drive)	EMPLOYEE OFFICE SPEED CONTROLLER NOT FUNCTIONAL
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	Fail
Additional Comments:	NOT ALL FANS ARE OPERATIONAL DUE TO CONTROLS

Notes/Comments :

Comfort. Under control.

10-24 WALGREENS #03606 - SARASOTA,FL

CheckList Information

Name : TECH - 03 START-UP CONTROLS PROGRAMMING **Status :** NotSubmitted

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	Pass
Details-HGR-Setup-HGRAlt-En = Yes	Pass

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

Notes/Comments :

Comfort. Under control.

10-24 WALGREENS #03606 - SARASOTA,FL

CheckList Information

Name :	TECH - 04 EMS/SENSOR VALIDATION	**Status :**	NotSubmitted
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	Pass
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.	PASS RTU 2

(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:	

Notes/Comments :

Comfort. Under control.

10-24 WALGREENS #03606 - SARASOTA,FL

CheckList Information

Name :	TECH - 05 TAB CHECKLIST	**Status :**	NotSubmitted
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.	Pass
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)	RTU-1 and 2 - Pass
Verify amp draw of motor is within unit specification, not operating in overamped condition.	Pass
Sales floor temperature and humidity measurement	73.5F / 54% RH
Pharmacy temperature and humidity measurement	74.0F / 55.3% RH
Stock Room temperature and humidity measurement	77.0F / 61.5% RH
Outdoor air temperature and humidity measurement	84.3F / 72% RH

Additional Comments:

Notes/Comments :

Comfort. Under control.

10-24 WALGREENS #03606 - SARASOTA,FL

CheckList Information

Name :	TECH - 06 FUNCTIONAL TESTS	**Status :**	NotSubmitted
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.	RTU 1 - 59F, RTU 2 - 62F, RTU4 - unable to test due to broken disconnect
After 10 minutes, Discharge air temperature is below 55 degrees.	Fail
Cooling mode is operational	Pass
Additional Comments:	Space comfortable in current conditions
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.	RTU 1 - 85F, RTU 2 - 88F, RTU4 - unable to test due to broken disconnect. Turned the units off as soon as discharge temperatures were above 85 degrees to prevent complaints in the store.
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.	RTU 2 - 72F
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.

10-24 WALGREENS #03606 - SARASOTA,FL

CheckList Information

Name :	TECH - 07 TEMPERATURE SETPOINTS	**Status :**	NotSubmitted
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	Pass

Notes/Comments :

Comfort. Under control.

10-24 WALGREENS #03606 - SARASOTA,FL

CheckList Information

Name :	TECH - 08 ENTRANCE HEATERS	**Status :**	NotSubmitted
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		

CheckList Item Details

Sensor is located within 15' of entrance area	
Confirm proper operation of entrance heater and associated controls	
Balance supply air quantity to manufacturer recommended supply airflow.	
Confirm listed temperature rise and discharge air temperature based on approved BOM/submittal	

Notes/Comments :

NO ENTRANCE HEATERS AT THIS LOCATION (SOUTH WEST FLORIDA)

National TAB

Project: 10-24 WALGREENS #03606 - SARASOTA,FL

System/Unit: AHU/RTU

Asset: RTU1 AREA:REAR SALES

Unit Data		
	Design	**Actual**
MFG	YORK	YORK
Serial Num	-	N2K2935530
Model Num	ZT120E18R2B5GCB2R1	ZT120E18R2B5GCB2R1
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	29X20.75
Num Final Filter 1	-	4
Final Filter Size 1	-	20X24X2

Test Data		
	Design	**Actual**
SF CFM	3250	3160
SF RPM	971	1063
RA CFM	2600	2529
OA CFM	650	631
RL Voltage	-	207/208/209
RL Amperage	-	8.0 VFD
SF Rotation	-	CW
RA Damper Position	-	77%
Min OA Damper Position	-	23%
Min OA Damper Type	-	ECONOMIZER
OA Enthalpy Setpt	-	N/A

Motor Data		
	Design	**Actual**
Motor MFG	-	BALDOR RELIANCE
Frame	-	56HZ
Horsepower	3.45	3.0
Motor Rpm	-	1750
Phase	3	3
Rated Voltage	230	208-230/460
Rated Amperage	-	8.3-8.2/4.1

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.57”
Fan Suction SP	-	-0.86”
Fan Discharge SP	-	0.98”
Total ESP	0.6"	1.55"
Fan Total SP	-	1.84"

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	4.75”
Motor Bore Size	-	7/8”
Motor Sheave SetPt	-	1.0 TURNS OUT
Fan Sheave Size	-	7 3/8”
Fan Sheave Bore	-	1.0”
Belt CL Distance	-	18.75”
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: Stephen Tassinaro

Notes:

Diffuser Supply (GRD)

RTU1/REAR SALES

Asset							
Asset Name	Location	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
SGRD1	SALES	704	1	552	651	651	92.5
SGRD2	SALES	704	1	613	723	723	102.7
SGRD3	SALES	704	1	549	648	648	92.0
SGRD4	SALES	704	1	600	708	708	100.6
SGRD5	TECH ROOM	96	1	85	100	100	104.2
SGRD6	TRAINING	128	1	109	129	129	100.8
SGRD7	OFFICE	192	1	170	201	201	104.7

Completed By: Brianna Biggs on

National TAB

Project: 10-24 WALGREENS #03606 - SARASOTA,FL

System/Unit: AHU/RTU

Asset: RTU2 AREA:FRONT SALES

Unit Data		
	Design	**Actual**
MFG	YORK	YORK
Serial Num	-	N2H2828721
Model Num	ZT180C00R2B5GCL2C1	ZT180C00R2B5GCL2C1
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	6
OA Filter Size 1	-	14.75X26
Num Final Filter 1	-	4
Final Filter Size 1	-	16X20X2
Num Final Filter 2	-	4
Final Filter Size 2	-	16X25X2

Test Data		
	Design	**Actual**
SF CFM	4875	4825
SF RPM	868	863
RA CFM	4150	4087
OA CFM	725	738
RL Voltage	-	207/208/209
RL Amperage	-	12.0 VFD
SF Rotation	-	CCW
RA Damper Position	-	86%
Min OA Damper Position	-	14%
Min OA Damper Type	-	ECONOMIZER
OA Enthalpy Setpt	-	N/A

Motor Data		
	Design	**Actual**
Motor MFG	-	BALDOR RELIANCE
Frame	-	213T
Horsepower	8.63	7.5
Motor Rpm	-	1770
Phase	3	3
Rated Voltage	230	230/460//190/380
Rated Amperage	-	19.4/9.7//16.4/8.2

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	VP60
Motor Bore Size	-	1 3/8”
Motor Sheave SetPt	-	5.0 TURNS OUT
Fan Sheave Size	-	BK100
Fan Sheave Bore	-	1 3/16”
Belt CL Distance	-	29.0”
Num of Belts	-	1
Belt Size	-	BX78
Belt Alignment	-	GOOD

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.33”
Fan Suction SP	-	-0.81”
Fan Discharge SP	-	0.76”
Total ESP	1.2"	1.09"
Fan Total SP	-	1.57"

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

Completed By: Stephen Tassinaro

Notes:

Diffuser Supply (GRD)

RTU2/FRONT SALES

Asset							
Asset Name	**Location**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
SGRD1	VESTIBULE	171	1	201	185	185	108.2
SGRD2	VESTIBULE	171	1	188	173	173	101.2
SGRD3	VESTIBULE	171	1	192	178	178	104.1
SGRD4	PHOTO	0	1	0	0	0	-
SGRD5	OFFICE	641	1	255	688	688	107.3
SGRD6	PASSAGE 1	129	1	168	122	122	94.6
SGRD7	SALES	898	1	801	855	855	95.2
SGRD8	SALES	898	1	835	839	839	93.4
SGRD9	SALES	898	1	822	864	864	96.2
SGRD10	SALES	898	1	901	921	921	102.6

Completed By: Brianna Biggs on

Asset	Notes
SGRD4	NOT INSTALLED

National TAB

Project: 10-24 WALGREENS #03606 - SARASOTA,FL

System/Unit: AHU/RTU

Asset: RTU3 AREA:PHARMACY

Unit Data		
	Design	**Actual**
MFG	TRANE	YORK
Serial Num	-	N1B8537702
Model Num	TCD048C3	ZYE05A2A1AA1A111A2
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	29X16
Num Final Filter 1	-	2
Final Filter Size 1	-	36X16.5

Motor Data		
	Design	**Actual**
Motor MFG	-	GENTEQ
Frame	-	N/L
Horsepower	3	N/L
Motor Rpm	-	N/L
Phase	3	1
Rated Voltage	208/230	208/230
Rated Amperage	-	8.4/7.6

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	DD
Motor Bore Size	-	DD
Motor Sheave SetPt	-	DD
Fan Sheave Size	-	DD
Fan Sheave Bore	-	DD
Belt CL Distance	-	DD
Num of Belts	-	DD
Belt Size	-	DD
Belt Alignment	-	DD

Test Data		
	Design	**Actual**
SF CFM	1400	1260
SF RPM	-	DD
RA CFM	1400	1260
OA CFM	0	0
RL Voltage	-	208/209/208
RL Amperage	-	3.6 AVG
SF Rotation	-	CCW
RA Damper Position	-	100%
Min OA Damper Position	-	0%
Min OA Damper Type	-	ECONOMIZER
OA Enthalpy Setpt	-	N/A

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.60”
Fan Suction SP	-	-0.69”
Fan Discharge SP	-	0.60”
Total ESP	-	1.20"
Fan Total SP	-	1.29"

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

Completed By: Stephen Tassinaro

Notes: UNIT PROPOTIONALLY BALANCED TO 90% OF DESIGN. LIMITED TOTAL FLOW LIKELY DUE TO CURB ADAPTER.

Comfort. Under control.

Diffuser Supply (GRD)

RTU3/PHARMACY

Asset							
Asset Name	**Location**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
SGRD1	WAITING AREA	130	1	127	121	121	93.1
SGRD2	PHARMACY	175	1	176	172	172	98.3
SGRD3	PHARMACY	263	1	233	230	230	87.5
SGRD4	PHARMACY	306	1	246	254	254	83.0
SGRD5	PHARMACY	263	1	138	234	234	89.0
SGRD6	EMPLOYEE RM	175	1	206	171	171	97.7
SGRD7	PASSAGE 2	88	1	81	78	78	88.6

Completed By: Brianna Biggs on

National TAB

Project: 10-24 WALGREENS #03606 - SARASOTA,FL

System/Unit: AHU/RTU

Asset: RTU4 AREA:LIQUOR STORE

Unit Data		
	Design	**Actual**
MFG	YORK	YORK
Serial Num	-	N2H2930142
Model Num	ZJ061E06D2B5GCB2R3	ZJ061E061E06D2B5GCB2R3
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

Test Data		
	Design	**Actual**
SF CFM	1625	1717
SF RPM	-	1040
RA CFM	1460	
OA CFM	165	
RL Voltage	-	208/209/210
RL Amperage	-	
SF Rotation	-	CW
RA Damper Position	-	
Min OA Damper Position	-	
Min OA Damper Type	-	ECONOMIZER
OA Enthalpy Setpt	-	N/A

Motor Data		
	Design	**Actual**
Motor MFG	-	MARATHON
Frame	-	56HZ
Horsepower	2.30	2.0
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	-	
Fan Suction SP	-	
Fan Discharge SP	-	
Total ESP	1.3"	
Fan Total SP	-	

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	VP56
Motor Bore Size	-	7/8”
Motor Sheave SetPt	-	5.0 TURNS OUT
Fan Sheave Size	-	7.25”
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

Completed By: Stephen Tassinaro

Notes: SERVICE DISCONNECT NOT FUNCTIONAL AT END OF BALANCING. UNIT WOULD NOT TURN ON TO COMPLETE TAB.

National TAB

Project:10-24 WALGREENS #03606 - SARASOTA,FL

AHU/RTU

Comfort. Under control.

Diffuser Supply (GRD)

RTU4/LIQUOR STORE

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
SGRD1	LIQUOR			650	1	747	687	687	105.7
SGRD2	LIQUOR			487	1	604	534	534	109.7
SGRD3	LIQUOR			488	1	518	496	496	101.6

Completed By: Brianna Biggs on

National TAB

Project: 10-24 WALGREENS #03606 - SARASOTA,FL

System/Unit: FAN - Exhaust

Asset: EF1 AREA:STOCK ROOM

Unit Data		
	Design	**Actual**
MFG	COOK	COOK
Model Num	150-CAB	150-CAB
Serial Num	-	95E05459
Type	UPBLAST	CENTRIFUGAL
Configuration	VERTICAL	DOWNBLAST

Motor Data		
	Design	**Actual**
Motor MFG	-	
Frame	-	
Horsepower	1/3	
Motor Rpm	-	
Phase	1	
Voltage (rated)	120	
Amperage (rated)	-	
Service Factor	-	

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	
Motor Bore Size	-	
Motor Sheave SetPt	-	
Fan Sheave Size	-	
Fan Sheave Bore	-	
Belt CL Distance	-	
Num of Belts	-	
Belt Size	-	

Test Data		
	Design	**Actual**
CFM	2058	
Fan RPM	-	
Fan Rotation	-	
Motor RPM	-	
RL Voltage	-	
RL Amperage	-	
Suction ESP	-	
Discharge ESP	-	
Total ESP	0.38"	

Completed By: Stephen Tassinaro

Notes: FAN IS NOT RUNNING. NO RESPONSE FROM THE FAN WHEN THE THERMOSTAT SETPOINT IS CHANGED WITHIN THE STOCK ROOM.

National TAB

Project: 10-24 WALGREENS #03606 - SARASOTA,FL

System/Unit: FAN - Exhaust

Asset: EF2 AREA:RESTROOMS

Unit Data		
	Design	**Actual**
MFG	GREENHECK	PENNBARRY
Model Num	GB-7-4	DX11Q
Serial Num	-	H21AB07944
Type	DOWNBLAST	CENTRIFUGAL
Configuration	HORIZONTAL	DOWNBLAST

Motor Data		
	Design	**Actual**
Motor MFG	-	GENTEQ
Frame	-	N/L
Horsepower	1/4	1/5
Motor Rpm	-	1725
Phase	1	1
Voltage (rated)	120	115
Amperage (rated)	-	3.0
Service Factor	-	N/L

Test Data		
	Design	**Actual**
CFM	150	152
Fan RPM	1625	DD
Fan Rotation	-	CORRECT
Motor RPM	-	DD
System SetPt	-	SPEED CONTROLLER
RL Voltage	-	122
RL Amperage	-	1.2
Total ESP	0.125"	0.19”
Fan Inlet SP	-	-0.19”
Fan Discharge SP	-	ATM

Completed By: Stephen Tassinaro

Notes:

National TAB

Project: 10-24 WALGREENS #03606 - SARASOTA,FL

System/Unit: FAN - Exhaust

Asset: EF3 AREA:EMPLOYEE OFFICE

Unit Data		
	Design	**Actual**
MFG	GREENHECK	PENNBARRY
Model Num	GB-7-4	DX11Q
Serial Num	-	F22SZ17133
Type	DOWNBLAST	CENTRIFUGAL
Configuration	HORIZONTAL	DOWNBLAST

Motor Data		
	Design	**Actual**
Motor MFG	-	GENTEQ
Frame	-	N/L
Horsepower	1/4	1/5
Motor Rpm	-	1725
Phase	1	1
Voltage (rated)	120	115
Amperage (rated)	-	3.0
Service Factor	-	N/L

Test Data		
	Design	**Actual**
CFM	255	503
Fan RPM	1465	DD
Fan Rotation	-	CORRECT
Motor RPM	-	DD
System SetPt	-	SPEED CONTROLLER
RL Voltage	-	122
RL Amperage	-	
Total ESP	0.125"	
Fan Inlet SP	-	
Fan Discharge SP	-	ATM

Completed By: Stephen Tassinaro

Notes:

National TAB

Project: 10-24 WALGREENS #03606 - SARASOTA,FL

System/Unit: FAN - Exhaust

Asset: EF4 AREA:EMPLOYEE BREAK ROOM

Unit Data		
	Design	**Actual**
MFG	BROAN	BROAN
Model Num	676	676
Serial Num	-	N/L
Type	CEILING	CEILING
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	N/L
Frame	-	N/L
Horsepower	1/10	N/L
Motor Rpm	-	N/L
Phase	1	1
Voltage (rated)	120	120
Amperage (rated)	-	1.3
Service Factor	-	N/L

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	DD
Motor Bore Size	-	DD
Motor Sheave SetPt	-	DD
Fan Sheave Size	-	DD
Fan Sheave Bore	-	DD
Belt CL Distance	-	DD
Num of Belts	-	DD
Belt Size	-	DD

Test Data		
	Design	**Actual**
CFM	150	0
Fan RPM	-	DD
Fan Rotation	-	CORRECT
Motor RPM	-	DD
RL Voltage	-	121
RL Amperage	-	1.0
Suction ESP	-	ATM
Discharge ESP	-	INACCESSIBLE
Total ESP	0.125"	-

Completed By: Stephen Tassinaro

Notes:

National TAB

Project: 10-24 WALGREENS #03606 - SARASOTA,FL

System/Unit: FAN - Exhaust

Asset: EF5 AREA:LIQUOR STOCK ROOM

Unit Data		
	Design	**Actual**
MFG	GREENHECK	PENNBARRY
Model Num	G-080-G	DX11Q
Serial Num	-	F22SZ17132
Type	DOWNBLAST	CENTRIFUGAL
Configuration	HORIZONTAL	DOWNBLAST

Motor Data		
	Design	**Actual**
Motor MFG	-	GENTEQ
Frame	-	N/L
Horsepower	1/4	1/5
Motor Rpm	-	1750
Phase	1	1
Voltage (rated)	120	115
Amperage (rated)	-	3.0
Service Factor	-	N/L

Test Data		
	Design	**Actual**
CFM	450	0
Fan RPM	1050	DD
Fan Rotation	-	UNKNOWN
Motor RPM	-	DD
System SetPt	-	SPEED CONTROLLER
RL Voltage	-	
RL Amperage	-	
Total ESP	0.125"	
Fan Inlet SP	-	
Fan Discharge SP	-	ATM

Completed By: Stephen Tassinaro

Notes:

National TAB

Project: 10-24 WALGREENS #03606 - SARASOTA,FL

System/Unit: FAN - Exhaust

Asset: EF6 AREA:SALES

Unit Data		
	Design	**Actual**
MFG	GREENHECK	PENNBARRY
Model Num	G-090-G	DX11Q
Serial Num	-	H21AB07934
Type	DOWNBLAST	CENTRIFUGAL
Configuration	HORIZONTAL	DOWNBLAST

Motor Data		
	Design	**Actual**
Motor MFG	-	GENTEQ
Frame	-	N/L
Horsepower	1/4	1/5
Motor Rpm	-	1725
Phase	1	1
Voltage (rated)	120	115
Amperage (rated)	-	3.0
Service Factor	-	N/L

Test Data		
	Design	**Actual**
CFM	790	547
Fan RPM	1160	DD
Fan Rotation	-	CORRECT
Motor RPM	-	DD
System SetPt	-	SPEED CONTROLLER MAXIMIZED
RL Voltage	-	121
RL Amperage	-	2.6
Total ESP	0.125"	0.42”
Fan Inlet SP	-	-0.42”
Fan Discharge SP	-	ATM

Completed By: Stephen Tassinaro

Notes: SERVES WOMEN'S RR AND SALES FLOOR. TURNS ON BY MOTION SENSOR IN THE WOMEN'S RR.

National TAB

Project: 10-24 WALGREENS #03606 - SARASOTA,FL

System/Unit: FAN - Exhaust

Asset: EF7 AREA:PHARMACY

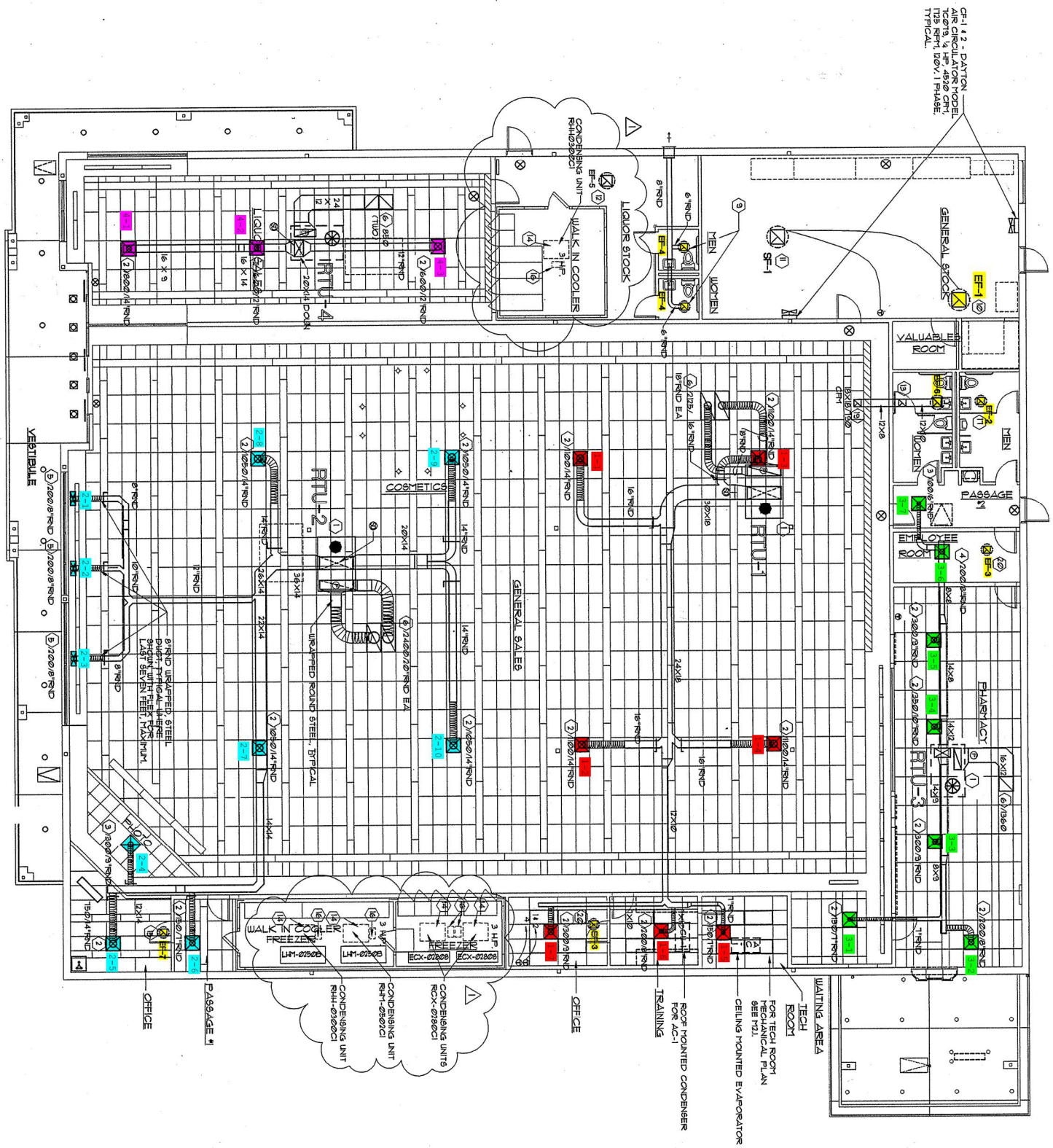
Unit Data		
	Design	**Actual**
MFG	GREENHECK	GREENHECK
Model Num	SP-158	SP-158
Serial Num	-	
Type	DOWNBLAST	CENTRIFUGAL
Configuration	HORIZONTAL	DOWNBLAST

Motor Data		
	Design	**Actual**
Motor MFG	-	
Frame	-	
Horsepower	-	
Motor Rpm	-	
Phase	-	
Voltage (rated)	-	
Amperage (rated)	-	
Service Factor	-	

Test Data		
	Design	**Actual**
CFM	750	
Fan RPM	-	
Fan Rotation	-	
Motor RPM	-	
System SetPt	-	
RL Voltage	-	
RL Amperage	-	
Total ESP	0.2"	
Fan Inlet SP	-	
Fan Discharge SP	-	

Completed By: Stephen Tassinaro

Notes: FAN SHOULD BE REMOVED AND CAPPED.



MECHANICAL PLAN

SCALE: 1/8" = 1'-0"