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: 12/02/2022

PROJECT

11-28 WALGREENS #3802 - RICHARDSON, TX

2140 E CAMPBELL RD

RICHARDSON, TX 75081

Client

Walgreens

200 WILMOT RD

DEERFIELD, IL 60015

National TAB

Project: 11-28 WALGREENS #3802 - RICHARDSON, TX

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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11-28 WALGREENS #3802 - RICHARDSON, TX

Project Issue Information

Issue Name : EF-4 BACKDRAFT OPEN

Description : The backdraft damper is no functioning and has failed open.

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

Status : Open

Originated Date : 12/01/2022 - Chance Russel - National TAB

Project Issue File Details

tmp_0add065d_f492_4cd...

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11-28 WALGREENS #3802 - RICHARDSON, TX

Project Issue Information

Issue Name : EF-5 NOT RUNNING

Description : EF-5 is not wired to any power and is not running.

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

Status : Open

Originated Date : 12/01/2022 - Chance Russel - National TAB

Project Issue File Details

tmp_6ca3d469_f13e_405...

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11-28 WALGREENS #3802 - RICHARDSON, TX

Project Issue Information

Issue Name : GRILLE 3-8 MISSING FACE

Description : GRILLE 3-8 MISSING GRILLE FACE. GRILLE CANNOT BE DAMPERED AND IT IS MEASURED AT 250% OF DESIGN AIR FLOW.

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

Status : Open

Originated Date : 11/30/2022 - Chance Russel - National TAB

Project Issue File Details

Image_2022_11_30T1209...

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11-28 WALGREENS #3802 - RICHARDSON, TX

Project Issue Information

Issue Name : RTU 2 THROUGH 4 MISSING COSTGAUD BRACKETS

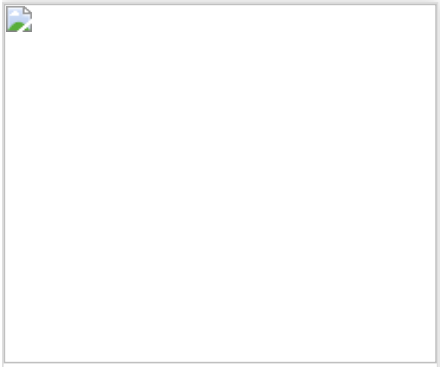
Description : All RTUs are missing requested support brackets for the cost gaurd.

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

Status : Open

Originated Date : 12/01/2022 - Chance Russel - National TAB

Project Issue File Details



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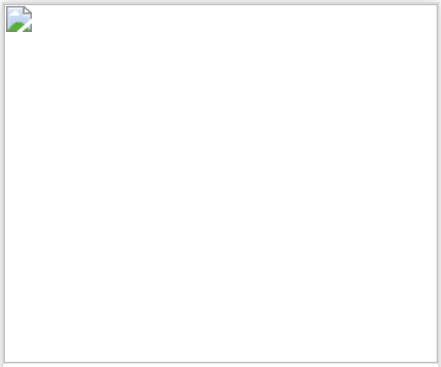

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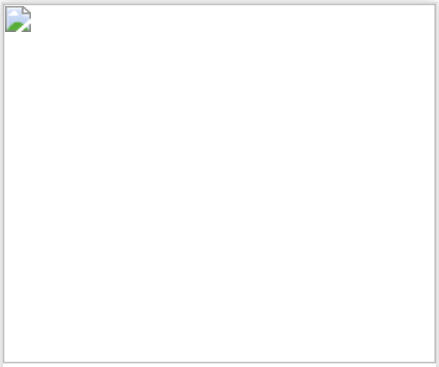

20221130_134734.jpg

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11-28 WALGREENS #3802 - RICHARDSON, TX

Project Issue Information

Issue Name : RTU-1 COSTGARD MISSING BRACKETS

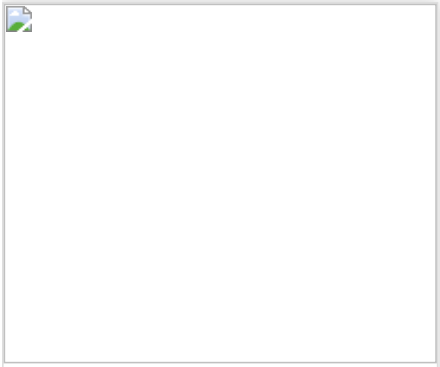
Description : RTU-1 costgaurd is missing its support bracket and runs the risk of falling out.

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

Status : Open

Originated Date : 12/01/2022 - Chance Russel - National TAB

Project Issue File Details



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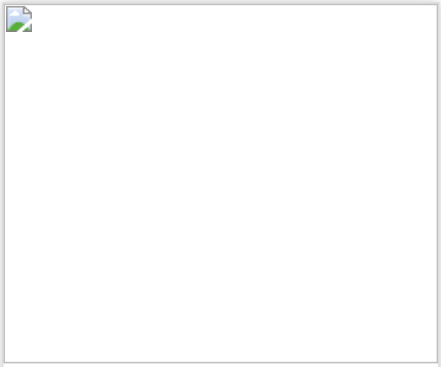

20221130_134707.jpg

Comfort. Under control.

11-28 WALGREENS #3802 - RICHARDSON, TX

Project Issue Information

Issue Name : RTU-2 LOW ON AIR FLOW

Description : RTU-2 WAS MEASURED AT 70% OF DESIGN AIR FLOW. STATIC PRESSURE WAS ELEVATED. SUSPECTED RESTRICTION AT CURB ADAPTER.

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

Status : Open

Originated Date : 11/30/2022 - Chance Russel - National TAB

Project Issue File Details

Image_2022_11_30T1209...

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11-28 WALGREENS #3802 - RICHARDSON, TX

Project Issue Information

Issue Name : WRONG FILTERS USED ON RTU 1, 2, 4

Description : The filters on RTUs 1, 2, and 4 are the wrong size.

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

Status : Open

Originated Date : 12/01/2022 - Chance Russel - National TAB

Project Issue File Details

tmp_215ab308_9b6b_471...

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11-28 WALGREENS #3802 - RICHARDSON, TX

CheckList Information

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

CheckList Item Details

STORE FRONT

Strorefront.jpg

EH-1

EH_1.jpg

RTU-1

RTU_1.jpg

RTU-2

RTU_2.jpg

RTU-3

RTU_3.jpg

RTU-4

RTU_4.jpg

EF-1

EF_1.jpeg

EF-2

EF_3.jpeg

EF-3

EF_3.jpeg

EF-4&5

EF_5_AND_4.jpg

Notes/Comments :

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11-28 WALGREENS #3802 - RICHARDSON, TX

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	Pass
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.	Fail
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.	Fail
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)	PASS
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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11-28 WALGREENS #3802 - RICHARDSON, TX

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	DIRECT DRIVE
Speed controller installed and functional (direct drive)	YES
Fan is secured to the curb	Pass
Back draft damper is installed and functional	Fail
No exterior damage to the fan	Pass
No unusual noise or vibration	Pass
Controls are functional	Pass
Additional Comments:	EF-5 is not wired up as shown in issues. EF-4 has a back draft damper that has failed or is not powered so it stuck in the open position.

Notes/Comments :

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11-28 WALGREENS #3802 - RICHARDSON, TX

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	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.

11-28 WALGREENS #3802 - RICHARDSON, TX

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	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.	

(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 :

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11-28 WALGREENS #3802 - RICHARDSON, TX

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.	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)	YES
Verify amp draw of motor is within unit specification, not operating in overamped condition.	Pass
Sales floor temperature and humidity measurement	WB 54.4 DB 70.7
Pharmacy temperature and humidity measurement	WB 54.9 DB 72.5
Stock Room temperature and humidity measurement	WB 54.6 DB 74.0
Outdoor air temperature and humidity measurement	WB 41.3 DB 54.5

Additional Comments:

Notes/Comments :

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11-28 WALGREENS #3802 - RICHARDSON, TX

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.	RTU-1 54.8 F RTU-2 54.3 F RTU-3 54.6 F RTU-4 54.8 F
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.	RTU-1 90.8 F RTU-2 92.3 F RTU-3 93.9 F RTU-4 93.1 F
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-1 74.1 F RTU-2 73.2 F RTU-3 71.5 F RTU-4 72.4 F
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 :

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11-28 WALGREENS #3802 - RICHARDSON, TX

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	Pass

Notes/Comments :

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11-28 WALGREENS #3802 - RICHARDSON, TX

CheckList Information

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

CheckList Item Details

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

Notes/Comments :

National TAB

Project: 11-28 WALGREENS #3802 - RICHARDSON, TX

System/Unit: AHU/RTU

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Asset: EH1 AREA:

Unit Data		
	Design	**Actual**
MFG	NA	MESTEK
Serial Num	-	G2201871037001001
Model Num	NA	PV15
Type	-	ENTRANCE HEATER
Configuration	-	VERTICAL
Num Final Filter 1	-	4
Final Filter Size 1	-	16X20X1

Motor Data		
	Design	**Actual**
Motor MFG	-	MARATHON
Frame	-	56
Horsepower	-	0.75
Motor Rpm	-	1725
Phase	-	1
Rated Voltage	-	115
Rated Amperage	-	11.4

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	1VM50
Motor Bore Size	-	5/8"
Motor Sheave SetPt	-	4.0 TURNS OPEN
Fan Sheave Size	-	BK70
Fan Sheave Bore	-	1"
Belt CL Distance	-	11 1/2"
Num of Belts	-	1
Belt Size	-	A37
Belt Alignment	-	CORRECT

Test Data		
	Design	**Actual**
SF CFM	1500	1560
SF RPM	-	1026
RA CFM	1500	1026
OA CFM	0	0
RL Voltage	-	122
RL Amperage	-	6.2
SF Rotation	-	CCW

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.37"
Fan Suction SP	-	-0.40"
Fan Discharge SP	-	0.52"
Total ESP	-	0.89"
Fan Total SP	-	0.92"

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

Completed By: Chance Russel

Notes:

National TAB

Project:11-28 WALGREENS #3802 - RICHARDSON, TX

AHU/RTU

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Diffuser Supply (GRD)

EH1/

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
SGRD1	ENTRY			750	1.0	729	-	762	101.6
SGRD2	ENTRY			750	1.0	846	-	798	106.4

Completed By: Chance Russel on

National TAB

Project: 11-28 WALGREENS #3802 - RICHARDSON, TX

System/Unit: AHU/RTU

Comfort. Under control.

Asset: RTU1 AREA:SALES

Unit Data		
	Design	**Actual**
MFG	YORK	YORK
Serial Num	-	N2G2749182
Model Num	ZT210N30R4B5GCA2C1	ZT210N30R4B5GCA2C1
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	6
OA Filter Size 1	-	16X26X1
Num Final Filter 1	-	MESH
Final Filter Size 1	-	MESH

Test Data		
	Design	**Actual**
SF CFM	6125	6270
SF RPM	997	912
RA CFM	5437	5632
OA CFM	688	638
RL Voltage	-	485/490/488
RL Amperage	-	9.2/9.5/9.6
SF Rotation	-	CCW
RA Damper Position	-	84%
Min OA Damper Position	-	16%
Min OA Damper Type	-	PARALLEL
OA Enthalpy Setpt	-	24 BTU/LB

Motor Data		
	Design	**Actual**
Motor MFG	-	BALDOR
Frame	-	215T
Horsepower	10	10
Motor Rpm	-	1770
Phase	3	3
Rated Voltage	460	460
Rated Amperage	-	12.5

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.54"
Fan Suction SP	-	-0.73"
Fan Discharge SP	-	0.65"
Total ESP	2.0"	1.19"
Fan Total SP	-	1.38"

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	1VP60
Motor Bore Size	-	1 3/8
Motor Sheave SetPt	-	6.0 TURNS OPEN
Fan Sheave Size	-	BK90
Fan Sheave Bore	-	1 3/16
Belt CL Distance	-	28
Num of Belts	-	1
Belt Size	-	BX75
Belt Alignment	-	CORRECT

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

Completed By: Chance Russel

Notes:

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Project:11-28 WALGREENS #3802 - RICHARDSON, TX

AHU/RTU

Comfort. Under control.

Diffuser Supply (GRD)

RTU1/SALES

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
SGRD1	SALES	NA	NA	154	1.0	224	210	181	117.5
SGRD2	SALES	NA	NA	912	1.0	932	889	941	103.2
SGRD3	SALES	NA	NA	912	1.0	943	889	937	102.7
SGRD4	SALES	NA	NA	909	1.0	1045	996	1016	111.8
SGRD5	SALES	NA	NA	912	1.0	755	714	714	78.3
SGRD6	SALES	NA	NA	154	1.0	230	218	187	121.4
SGRD7	SALES	NA	NA	154	1.0	268	251	189	122.7
SGRD8	SALES	NA	NA	154	1.0	255	240	168	109.1
SGRD9	PHOTO	NA		192	1.0	234	226	199	103.6
SGRD10	PHOTO	NA		639	1.0	655	617	672	105.2
SGRD11	OFFICE			393	1.0	448	421	403	102.5
SGRD12	PASSAGE #2			293	1.0	309	297	302	103.1
SGRD13	PASSAGE #2			293	1.0	319	301	304	103.8
SGRD14	VALUABLE ROOM			54	1.0	110	107	57	105.6

Completed By: Brianna Biggs on

National TAB

Project: 11-28 WALGREENS #3802 - RICHARDSON, TX

System/Unit: AHU/RTU

Comfort. Under control.

Asset: RTU2 AREA:SALES

Unit Data		
	Design	**Actual**
MFG	YORK	YORK
Serial Num	-	N2F2486782
Model Num	ZT150N24R4B5GCE2R1	ZT150N24R4B5GCE2R1
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	22/30X1
Num Final Filter 1	-	MESH
Final Filter Size 1	-	MESH

Test Data		
	Design	**Actual**
SF CFM	4375	3040
SF RPM	1347	1222
RA CFM	3562	2489
OA CFM	813	551
RL Voltage	-	489/489/484
RL Amperage	-	6.3/6.5/6.3
SF Rotation	-	CCW
RA Damper Position	-	82%
Min OA Damper Position	-	18%
Min OA Damper Type	-	PARALLEL BLADE
OA Enthalpy Setpt	-	24 BTU/LB

Motor Data		
	Design	**Actual**
Motor MFG	-	BALDOR
Frame	-	184T
Horsepower	5	5
Motor Rpm	-	1750
Phase	3	3
Rated Voltage	460	460
Rated Amperage	-	6.5

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-1.02"
Fan Suction SP	-	-1.36"
Fan Discharge SP	-	1.14"
Total ESP	1.2"	2.16"
Fan Total SP	-	2.50"

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	1VP56
Motor Bore Size	-	1 1/8
Motor Sheave SetPt	-	2.0 TURNS OPEN
Fan Sheave Size	-	BK77
Fan Sheave Bore	-	1
Belt CL Distance	-	19 1/2
Num of Belts	-	1
Belt Size	-	BX56
Belt Alignment	-	CORRECT

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

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Notes:

National TAB

Project:11-28 WALGREENS #3802 - RICHARDSON, TX

AHU/RTU

Comfort. Under control.

Diffuser Supply (GRD)

RTU2/SALES

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
SGRD1	NA	NA	NA	1094	1.0	737	746	746	68.2
SGRD2	NA	NA	NA	1093	1.0	773	781	781	71.5
SGRD3	NA	NA	NA	1094	1.0	765	761	761	69.6
SGRD4	NA	NA	NA	1094	1.0	744	752	752	68.7

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National TAB

Project: 11-28 WALGREENS #3802 - RICHARDSON, TX

System/Unit: AHU/RTU

Comfort. Under control.

Asset: RTU3 AREA:PATIENT HEALTH

Unit Data		
	Design	**Actual**
MFG	YORK	YORK
Serial Num	-	N2K2984311
Model Num	ZJ061N16D4B5GCA2R3	ZJ061N16D4B5GCA2R3
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	22X30X1
Num Final Filter 1	-	MESH
Final Filter Size 1	-	MESH

Test Data		
	Design	**Actual**
SF CFM	1750	1843
SF RPM	1051	723
RA CFM	1650	1736
OA CFM	100	107
RL Voltage	-	489/489/485
RL Amperage	-	3.3/3.3/3.3
SF Rotation	-	CCW
RA Damper Position	-	92%
Min OA Damper Position	-	8%
Min OA Damper Type	-	PARALLEL BLADE
OA Enthalpy Setpt	-	24 BTU/LB

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

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.43"
Fan Suction SP	-	-0.57"
Fan Discharge SP	-	0.39"
Total ESP	1.3"	0.82"
Fan Total SP	-	0.96"

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	1VP40
Motor Bore Size	-	7/8
Motor Sheave SetPt	-	3.5 TURNS OPEN
Fan Sheave Size	-	AK74
Fan Sheave Bore	-	1
Belt CL Distance	-	17 3/4
Num of Belts	-	1
Belt Size	-	A50
Belt Alignment	-	CORRECT

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

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Notes:

National TAB

Project:11-28 WALGREENS #3802 - RICHARDSON, TX

AHU/RTU

Comfort. Under control.

Diffuser Supply (GRD)

RTU3/PATIENT HEALTH

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
SGRD1	TECH ROOM			414	1.0	328	234	312	75.4
SGRD2	PHARMACY			110	1.0	196	133	94	85.5
SGRD3	PHARMACY			232	1.0	234	168	199	85.8
SGRD4	PHARMACY			232	1.0	423	297	211	90.9
SGRD5	PHARMACY			232	1.0	73	55	204	87.9
SGRD6	PHARMACY			232	1.0	345	247	206	88.8
SGRD7	EMPLOYEE ROOM			110	1.0	138	93	77	70.0
SGRD8	PASSAGE #1			188	1.0	680	473	481	255.9
SGRD9	PATIENT HEALTH				1.0	191	138	59	-

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National TAB

Project: 11-28 WALGREENS #3802 - RICHARDSON, TX

System/Unit: AHU/RTU

Comfort. Under control.

Asset: RTU4 AREA:STOCKROOM

Unit Data		
	Design	**Actual**
MFG	YORK	YORK
Serial Num	-	N2G2686939
Model Num	ZJ037N12D4B5BCA2R3	ZJ037N12D4B5BCA2R3
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	22X30X1
Num Final Filter 1	-	MESH
Final Filter Size 1	-	MESH

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

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	1VL44
Motor Bore Size	-	7/8
Motor Sheave SetPt	-	5 TURNS OPEN
Fan Sheave Size	-	AK69
Fan Sheave Bore	-	1
Belt CL Distance	-	16 3/4
Num of Belts	-	1
Belt Size	-	A47
Belt Alignment	-	CORRECT

Test Data		
	Design	**Actual**
SF CFM	1050	1113
SF RPM	960	788
RA CFM	950	1007
OA CFM	100	106
RL Voltage	-	488/483/484
RL Amperage	-	2.3/2.3/2.1
SF Rotation	-	CCW
RA Damper Position	-	90%
Min OA Damper Position	-	10%
Min OA Damper Type	-	PARALLEL BLADE
OA Enthalpy Setpt	-	24 BTU/LB

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.46"
Fan Suction SP	-	-0.58"
Fan Discharge SP	-	0.33"
Total ESP	1.2"	0.79"
Fan Total SP	-	0.91"

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

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Notes:

National TAB

Project: 11-28 WALGREENS #3802 - RICHARDSON, TX

System/Unit: FAN - Exhaust

Comfort. Under control.

Asset: EF1 AREA:LOUNGE

Unit Data		
	Design	**Actual**
MFG	GREENHECK	GREENHECK
Model Num	SP-127	SP-127
Serial Num	-	NR
Type	CEILING	CEILING
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	BROAN
Frame	-	NL
Horsepower	190W	NL
Motor Rpm	-	NL
Phase	1	1
Voltage (rated)	120	120
Amperage (rated)	-	2.6
Service Factor	-	1

Test Data		
	Design	**Actual**
CFM	300	291
Fan RPM	1580	1580
Fan Rotation	-	CCW
Motor RPM	-	1580
System SetPt	-	DD
RL Voltage	-	119
RL Amperage	-	2.1
Total ESP	0.125"	NA

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Notes:

National TAB

Project: 11-28 WALGREENS #3802 - RICHARDSON, TX

System/Unit: FAN - Exhaust

Comfort. Under control.

Asset: EF2 AREA:MENS RR

Unit Data		
	Design	**Actual**
MFG	GREENHECK	GREENHECK
Model Num	SP-150	SP-150
Serial Num	-	20920292
Type	CEILING	CEILING
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	MCMILLAN
Frame	-	NL
Horsepower	120W	1/19
Motor Rpm	-	1100
Phase	1	1
Voltage (rated)	120	115
Amperage (rated)	-	1.7
Service Factor	-	1

Test Data		
	Design	**Actual**
CFM	240	266
Fan RPM	1000	1100
Fan Rotation	-	CCW
Motor RPM	-	1100
System SetPt	-	DD
RL Voltage	-	114
RL Amperage	-	1.6
Total ESP	0.375"	NA

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Notes:

National TAB

Project: 11-28 WALGREENS #3802 - RICHARDSON, TX

System/Unit: FAN - Exhaust

Comfort. Under control.

Asset: EF3 AREA:WOMENS RR

Unit Data		
	Design	**Actual**
MFG	GREENHECK	GREENHECK
Model Num	SP-150	SP-150
Serial Num	-	NR
Type	CEILING	CEILING
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	MCMILLAN
Frame	-	NL
Horsepower	120W	1/19
Motor Rpm	-	1100
Phase	1	1
Voltage (rated)	120	115
Amperage (rated)	-	1.7
Service Factor	-	1

Test Data		
	Design	**Actual**
CFM	240	321
Fan RPM	1000	1100
Fan Rotation	-	CCW
Motor RPM	-	1100
System SetPt	-	DD
RL Voltage	-	116
RL Amperage	-	1.8
Total ESP	0.375"	NA

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Notes:

National TAB

Project: 11-28 WALGREENS #3802 - RICHARDSON, TX

System/Unit: FAN - Exhaust

Comfort. Under control.

Asset: EF4 AREA:OFFICE

Unit Data		
	Design	**Actual**
MFG	GREENHECK	GREENHECK
Model Num	G-85-G	G-85-G
Serial Num	-	NL
Type	DOWNBLAST	DOWNBLAST
Configuration	HORIZONTAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	GENTEQ
Frame	-	NL
Horsepower	1/30	1/5
Motor Rpm	-	1725
Phase	1	1
Voltage (rated)	120	115
Amperage (rated)	-	3.0
Service Factor	-	1

Test Data		
	Design	**Actual**
CFM	300	239
Fan RPM	1300	1725
Fan Rotation	-	CCW
Motor RPM	-	1725
System SetPt	-	DD
RL Voltage	-	63
RL Amperage	-	2.6
Total ESP	0.125"	0.100
Fan Inlet SP	-	0.023
Fan Discharge SP	-	ATM

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Notes:

National TAB

Project: 11-28 WALGREENS #3802 - RICHARDSON, TX

System/Unit: FAN - Exhaust

Comfort. Under control.

Asset: EF5 AREA:PHOTO

Unit Data		
	Design	**Actual**
MFG	GREENHECK	GREENHECK
Model Num	G-100-G	G-100-G
Serial Num	-	NL
Type	DOWNBLAST	DOWNBLAST
Configuration	VERTICAL	VERTICAL

Test Data		
	Design	**Actual**
CFM	750	0
Fan RPM	1140	0
Fan Rotation	-	NA
System SetPt	-	DD
Total ESP	0.250"	0

Motor Data		
	Design	**Actual**
Motor MFG	-	A. O. SMITH
Frame	-	48Y
Horsepower	1/6	1/4
Motor Rpm	-	1075
Phase	1	1
Voltage (rated)	120	115
Amperage (rated)	-	3.2
Service Factor	-	1.2

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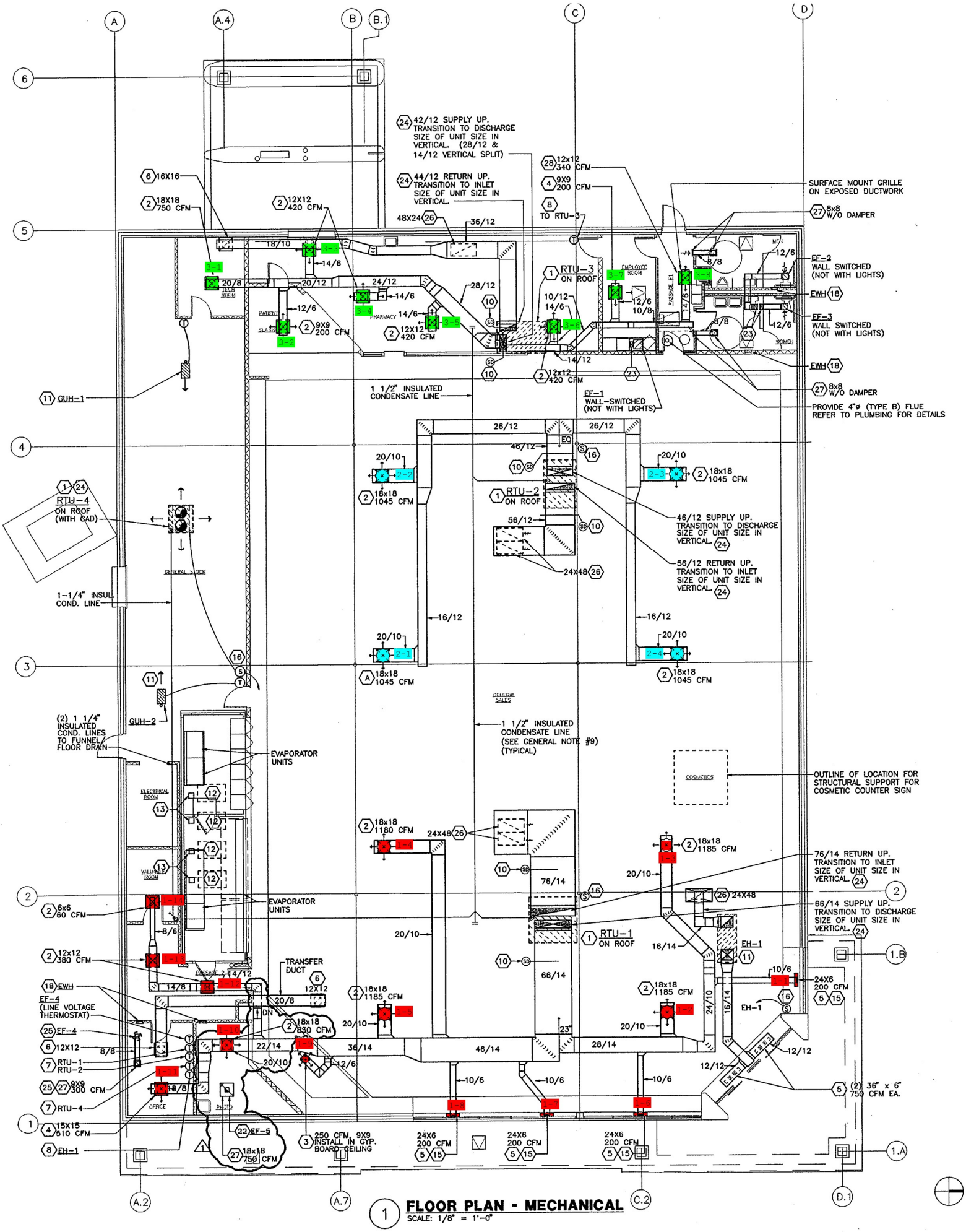
Notes:



1 **FLOOR PLAN - MECHANICAL**
SCALE: 1/8" = 1'-0"