Report By:

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

Report: TAB REPORT

Function: Test, Adjust, & Balance

Date: 05/28/2024

PROJECT

09-18-23 WALGREENS #3909 - ARLINGTON, TX

3400 MATLOCK RD

ARLINGTON, TX 76015

Client

Walgreens

200 WILMOT RD

DEERFIELD, IL 60015

National TAB

Project: 09-18-23 WALGREENS #3909 - ARLINGTON, 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.

Issue List

- EH-1 Motor Fault
- RTU 4 - IAQ Fault
- RTU-2 C2 locked out due to high pressure
- RTU-3 Condensate drain is clogged
- RTU-4 No belt on fan and motor

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Project Issue Information

Issue Name : EH-1 Motor Fault

Description : EH-1 Motor Fault. Unit not operational, verified no power is at disconnect on roof. Unit is not getting power.

Created By : National TAB

Assigned To : National TAB - Will Turnbough

Status : Open

Priority : Urgent

Asset Tag :

Originated Date : 09/23/2023 - Darius Payne - National TAB

Project Issue File Details

1. Open IMG_2340.mp4
   09/23/2023

553963D5_AE3F_4B61_B5..
09/23/2023

25E654CF_CA04_4E40_A5..
09/23/2023

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Project Issue Information

Issue Name : RTU 4 - IAQ Fault

Description : RTU 4 - Control board displaying IAQ Fault during TAB inspection.

Created By : National TAB

Assigned To : National TAB - Will Turnbough

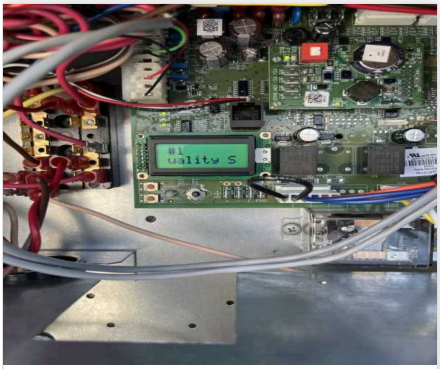
Status : Open

Priority :

Asset Tag :

Originated Date : 09/23/2023 - Darius Payne - National TAB

Project Issue File Details



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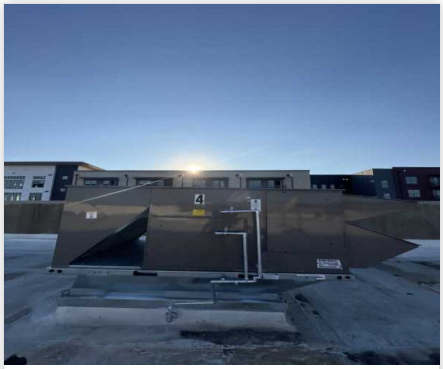
09/23/2023



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09/23/2023

F2B06BCE_0DBE_47F0_9E..
09/23/2023

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Project Issue Information

Issue Name :	RTU-2 C2 locked out due to high pressure		
Description :	RTU-2 is showing C2 locked out due to high pressure on the units control board. Unable to get a picture of this as its a scrolling screen and does not show everything at once.		
Created By :	National TAB	**Assigned To :**	National TAB - Will Turnbough
Status :	Open		
Priority :	Urgent	**Asset Tag :**	
Originated Date :	04/26/2024 - Bayley Morvant - National TAB		

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Project Issue Information

Issue Name :	RTU-3 Condensate drain is clogged		
Description :	The condensate drain needs to be cleaned so that the unit will properly drain.		
Created By :	National TAB	**Assigned To :**	National TAB - Will Turnbough
Status :	Open		
Priority :	Medium	**Asset Tag :**	RTU3
Originated Date :	05/28/2024 - Will Turnbough - National TAB		

09-18-23 WALGREENS #3909 - ARLINGTON, TX

Project Issue Information

Issue Name : RTU-4 No belt on fan and motor

Description : There is no belt present for RTU-4 connect motor to fan. No belt inside fan cabinet and no extras inside unit.

Created By : National TAB

Assigned To : National TAB - Will Turnbough

Status : Open

Priority : Urgent

Asset Tag :

Originated Date : 04/26/2024 - Bayley Morvant - National TAB

Project Issue File Details

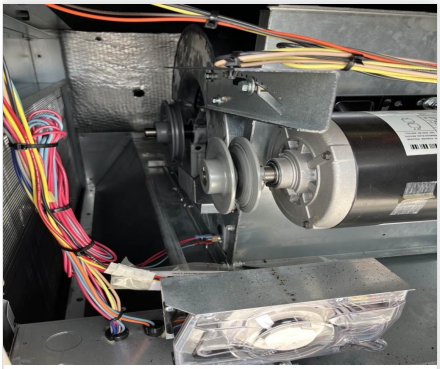

Image_2_ 04/26/2024

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	SALES	6125	6851	4900	5883	1225	968	20.0%	14.1%						
RTU-2	SALES	5250	5271	4200	4264	1050	1007	20.0%	19.1%						
RTU-3	PHARMACY	1750	1886	1750	1886	0	0	0.0%	0.0%						
RTU-4	STOCK ROOM	1050	1118	700	877	350	241	33.3%	21.6%						
EF-1	WOMENS RR													300	242
EF-2	MENS RR													240	244
EF-3	BREAK ROOM													240	344
EF-4	OFFICE													300	324
TOTALS		14175	15126	11550	12910	2625	2216			0	0	0	0	1080	1154

NET BUILDING AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	2625	2216
TOTAL EXHAUST	1080	1154
NET AIRFLOW	1545	1062

NOTES:

CheckList List

- TECH - 01 RTU INSTALLATION CHECKLIST
- TECH - 02 EXHAUST FANS INSPECTIONS
- TECH - 03 START-UP CONTROLS PROGRAMMING

09-18-23 WALGREENS #3909 - ARLINGTON, TX

CheckList Information

Name :	TECH - 01 RTU INSTALLATION CHECKLIST	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	09/14/2023 - Brianna Biggs - National TAB		
Completed Date :	09/21/2023 - Darius Payne - National TAB		

CheckList Item Details

General / Exterior Inspections

Verify all required equipment has been replaced per TA and BOM.	Pass
Comment: Verified all new equipment per Submittal report for each RTU & EH.	
All units are installed in the proper locations	Pass
Comment: Units installed on rooftop as shown on design plan.	
Units are labeled correctly	Pass
Comment: All RTU units properly labeled.	
Asset tag installed	Pass
Comment: Asset tags installed on Units.	
Roof is clear of debris.	Pass
Comment: Rooftop verified clear of debris.	

Maintenance access for all unit access panels is acceptable and panels open freely.	Pass

Comment:

Yes, access for maintenance per pan opens freely.

Cabinet and general installation is complete.	Pass

Comment:

Yes, both cabinet & general installation is completed.

Unit is secure to curb and level horizontally and vertically.	Pass

Comment:

Yes, units are secure to curb & level.

Access doors close tightly with no leaks	Pass

Comment:

All access doors sealed without leakage.

Condensate and gas piping is properly supported.	Pass

Comment:

Piping property supported.

Costgaurd is installed per scope of work and piping unions are cemented.

Comment:

Yes, Costgard is installed per scope of work with cemented piping unions.

Additional Comments

Comment:

RTU 3 condensation drain clogged.

Interior Inspections

Fan rotation is correct	Pass

Comment:

Fan rotations are correct on each RTU. Rotation id clockwise facing blower motor at each unit.

Pulleys are correctly aligned and both motor and fan sheave pins are tightened in place.	Pass

Comment:

RTU 3 for pharmacy required pulled adjustment to center belt adjust RPM's. All other units aligned with pins in place.

Return air and outside air dampers close tightly with no gaps	Pass

Comment:

Yes, all RTU dampers close tightly with no additional gaps in place.

Cabinet and coils are not damaged and in like new condition.	Pass

Comment:

Yes, cabinet & coils undamaged in new condition(s).

Inside of unit is clean and clear of debris.	Pass

Comment:

Yes, internals of all RTU's are clear of debris.

Validate condesate is piped to splash block, draing, or roof drain per code requirements	Fail

Comment:

RTU 3 condensation drain clogged.

Verify filters are installed, clean and of proper size. Verify there is no air by-pass around filters.	Pass

Comment:

Yes, all RTU filters are properly sized without air by-pass.

Curb is sealed with no air leakage.	Pass

Comment:

Yes, all RTU curbs are clear of air leaks.

Additional Comments:

Comment:

RTU 3 Condensate drain line to roof runoff is clogged. Creating water build up around Pharmacy.

Fire/Smoke Alarm Systems

In duct smoke detectors are installed	Pass

Comment:

Yes, in duct smoke detectors installed in each RTU.

Fire alarm panel status (visual inspection where possible)

Comment:

Fire alarm panel status operational during inspection.

Additional Comments:	
Comment:	

Electrical	
Electrical wiring is complete with no visible damage	Pass
Comment: Yes, all electrical wiring secured and complete during inspection.	
Electrical connections are tight with sealtight around any unit penetrations.	Pass
Comment: Yes, all electrical connections tight with seal tight parameters.	
Disconnect switch is installed in accessible location near or on unit.	Pass
Comment: Yes, disconnect switch installed and accessible at each RTU.	
Verify overcurrent protection is HACR type, installed and sized correctly and labeled in panel.	
Comment: Yes, overcurrent protection installed correctly & labeled within panel.	
Maintenance electrical outlet is installed and functional.	Pass
Comment: Yes, maintenance electrical outlet installed & tested at each unit.	
Main distribution panel is labeled correctly.	Pass
Comment: Yes, main distribution panel per RTU's labeled accurately.	
Unit ground wire is secured.	Pass
Comment: Yes, unit ground properly secured.	
Additional Comments:	
Comment: None.	

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CheckList Information

Name :	TECH - 02 EXHAUST FANS INSPECTIONS	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	09/14/2023 - Brianna Biggs - National TAB		
Completed Date :	09/21/2023 - Darius Payne - National TAB		

CheckList Item Details

Fan rotation is correct	Pass

Comment:

Yes, all exhaust fan rotations verified as correct.

Pulleys are aligned and belts are tensioned properly	

Comment:

N/A, All units are Direct Driven.

Speed controller installed and functional (direct drive)	

Comment:

Yes, speed controllers installed & functional.

Fan is secured to the curb	Pass

Comment:

All fans secured to curb during inspection.

Back draft damper is installed and functional	Pass

Comment:

Back Draft damp installed & operational during inspection.

No exterior damage to the fan	Pass

Comment:

No exterior fan damage found during inspection.

No unusual noise or vibration	Pass

Comment:

No abnormalities notes during inspection.

Controls are functional	Pass

Comment:

All controls functional during TAB Inspection.

Additional Comments:

Comment:

4 Total Exhaust Fans & 1 EH located during TAB Inspection. Versus 5 shown on plan.

Notes/Comments :

EF-4 shut off by mechanical contractor per management request. Unit now serves the Management Office.

Date :09/21/2023

09-18-23 WALGREENS #3909 - ARLINGTON, TX

CheckList Information

Name :	TECH - 03 START-UP CONTROLS PROGRAMMING	**Status :**	Not Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	09/14/2023 - Brianna Biggs - National TAB		

CheckList Item Details

Programming: SE 3.3, 3.4, 4.0

Controller-Network-Address: RTU number + 3	Pass
Comment:	
Controller-Network-FCBusMode = Wired Field Bus	Pass
Comment:	
Controller-Network-BaudRate = Auto	Pass
Comment:	
Controller-Network-Device ID = RTU number + 3	Pass
Comment:	
Details-Occ-OffDurUnocc = No	Pass
Comment:	
Details-Clg-Setup-Clg-En = Yes	Pass
Comment:	

Details-Clg-Setup-ClgAdapTunEn = Yes	Pass

Comment:

Details-Htg-Setup-Htg-En = Yes	Pass

Comment:

Details-Htg-Setup-#HtgStgs = 2 Stages	Pass

Comment:

Details-Htg-Setup-HtgAdapTunEn = Yes	Pass

Comment:

Details-Htg-Setup-#GasVlvs = 1 (Set to 0 for Hp and Elect Heat)	Pass

Comment:

Details-Fan-Setup-Fan Ctl-Type = No VFD select "Single Speed", W/VFD select "Fixed Variable"	Pass

Comment:

RTU 1 & 2 are at "Fixed Variable, RTU 3 & 4 set at "Single Speed."

Details-Fan-Setup-FanOnOcc = Yes	Pass

Comment:

Details-Fan-Setup-FanOnDlyHeat = 30s (Set to 0 for HP or Electric Heat)	Pass

Comment:

Details-Fan-Setup-FanOnly-%Cmd = 50%	Pass

Comment:

Details-Fan-Setup-1ClgStg-%Cmd = 70%	Pass

Comment:

Details-Fan-Setup-2Clgstg-%Cmd = 100% (2stage Unit) or 80% (3 and 4 stage)	Pass

Comment:

Details-Fan-Setup-3ClStg-%Cmd = 100% (3 stage unit) or 90% (4 stage)	Pass

Comment:

Details-Fan-Setup-4ClStg-%Cmd = 100% (4 Stage unit)	Pass

Comment:

Details-Fan-Setup-1HtgStg-%Cmd = 100%	Pass

Comment:

Details-Fan-Setup-2HtgStg-%Cmd = 100%	Pass

Comment:

Details-Econ-Setup-Econ-En = Yes	Pass

Comment:

Details-Econ-Setup-Econ-MinPos = Set to minimum outside air requirements.	Pass

Comment:

Min Pos set at 10%.

Details-Econ-Setup-LowSpdFan-MinPos = Set minimum 1% above EconMinPos	Pass

Comment:

Details-Econ-Setup-FreeClg-Sel = Single Enthalpy	Pass

Comment:

Details-Econ-Setup-EconOAEnth-Sp 4= 24 Btu/lb	Pass

Comment:

Details-Econ-Setup-Dvent-Mode = Enable	Pass

Comment:

Details-Econ-Setup-DventMaxEconPos = 50%	Pass

Comment:

Details-Econ-Setup-DventIAP-Sp = 1000

Comment:

Details-Econ-Setup-EconFltDetectEn = Enable

Comment:

Additional Comments:

Comment:

Non ZR Units only:

Details-HGR-Setup-HGR-En = No

Comment:

Details-HGR-Setup-HGRAlt-En = No

Comment:

Details - HGR-Setup-HGRUnocc-En = No

Comment:

Details-HGR-Setup-Mode = No

Comment:

Additional Comments:

Comment:

ZR Units - Reheat Units only:

Details-HGR-Setup-HGR-En = Yes

Comment:

Details-HGR-Setup-HGRAlt-En = Yes

Comment:

Details - HGR-Setup-HGRUnocc-En = Yes

Comment:

Details-HGR-Setup-Mode = No

Comment:

Additional Comments:

Comment:

National TAB

Project: 09-18-23 WALGREENS #3909 - ARLINGTON, TX

System/Unit: AHU/RTU

Asset: EH1 AREA:

Unit Data		
	Design	**Actual**
MFG	REZNOR	REZNOR
Serial Num	-	
Model Num	RGB175	RGB175
Type	-	
Configuration	-	
Num OA Filters 1	-	
OA Filter Size 1	-	
Num Final Filter 1	-	
Final Filter Size 1	-	
Num Final Filter 2	-	
Final Filter Size 2	-	

Motor Data		
	Design	**Actual**
Motor MFG	-	
Frame	-	
Horsepower	1/2	
Motor Rpm	-	
Phase	1	
Rated Voltage	120	
Rated Amperage	-	

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	-	
Belt Alignment	-	

Test Data		
	Design	**Actual**
SF CFM	1500	
SF RPM	760	
RA CFM	-	
OA CFM	-	
RL Voltage	-	
RL Amperage	-	
SF Rotation	-	
RA Damper Position	-	
Min OA Damper Position	-	
Min OA Damper Type	-	
OA Enthalpy Setpt	-	

Performance Data		
	Design	**Actual**
MA Plenum SP	-	
Fan Suction SP	-	
Fan Discharge SP	-	
Total ESP	-	
Fan Total SP	-	

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

Notes:
NOT FUNCTIONAL.

Written By: Will Turnbough on 05/28/2024

National TAB

Project: 09-18-23 WALGREENS #3909 - ARLINGTON, TX

System/Unit: AHU/RTU

Asset: RTU1 AREA:

Unit Data		
	Design	**Actual**
MFG	YORK	YORK
Serial Num	-	N2G3760769
Model Num	AW18N3DQ4S1ARS32A2	AW18N3DQ4S1CQS32A2
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	2
OA Filter Size 1	-	33X22
Num Final Filter 1	-	9
Final Filter Size 1	-	16X25

Test Data		
	Design	**Actual**
SF CFM	6300	6220
SF RPM	1017	1437
RA CFM	5500	5415
OA CFM	800	805
RL Voltage	-	481/485/486
RL Amperage	-	5.4/5.2/5.1
SF Rotation	-	CW
RA Damper Position	-	90%
Min OA Damper Position	-	10%
Min OA Damper Type	-	MOTORIZED
OA Enthalpy Setpt	-	55

Motor Data		
	Design	**Actual**
Motor MFG	-	BALDOR
Frame	-	184TZ
Horsepower	7.5	5
Motor Rpm	-	1725
Phase	3	3
Rated Voltage	460	460
Rated Amperage	-	6.7

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.45
Fan Suction SP	-	-0.71
Fan Discharge SP	-	0.57
Total ESP	1.2"	1.02
Fan Total SP	-	1.28

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	1VP71
Motor Bore Size	-	1 3/8"
Motor Sheave SetPt	-	2 TURNS OUT
Fan Sheave Size	-	1B5V94
Fan Sheave Bore	-	1 7/16"
Belt CL Distance	-	12 1/4"
Num of Belts	-	1
Belt Size	-	BX47
Belt Alignment	-	CENTER

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

Completed By: Bayley Morvant on 05/20/2024

Notes:
ORIGINAL DESIGN OF 8,080 CFM WAS ADJUSTED TO 6,300 CFM.
DIFFUSER DESIGNS WERE ADJUSTED TO ACHIEVE NEW TOTAL DESIGN CFM.

DESIGN CFM OBTAINED WHILE UNIT WAS OPERATING AT 48 HZ.

CONTROL ERROR: INDOOR AIR QUALITY SENSOR FAILURE.

Written By: Bayley Morvant on 05/20/2024

National TAB

Project:09-18-23 WALGREENS #3909 - ARLINGTON, TX

AHU/RTU

Diffuser Supply (GRD)

RTU1/

Asset							
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**CFM(1)**	**FINAL CFM**	**% to design**
SGRD1	SALES	NA	24X6	171	95	169	98.8
SGRD2	SALES	NA	24X6	171	145	184	107.6
SGRD3	SALES	NA	24X6	171	56	156	91.2
SGRD4	SALES	NA	24X6	171	11	161	94.2
SGRD5	CUSTOMER SERVICE	NA	9X9	225	225	247	109.8
SGRD6	PASSAGE 2	NA	12X12	347	210	314	90.5
SGRD7	PASSAGE 2	NA	12X12	343	244	353	102.9
SGRD8	FFICE	NA	15X15	390	253	366	93.8
SGRD9	PHOTO	NA	18X18	631	433	627	99.4
SGRD10	SALES	NA	1X818	920	565	831	90.3
SGRD11	SALES	NA	18X18	920	532	845	91.8
SGRD12	SALES	NA	18X18	920	665	964	104.8
SGRD13	SALES	NA	18X18	920	858	1003	109.0
Total				6300	4292	6220	98.73%

National TAB

Project: 09-18-23 WALGREENS #3909 - ARLINGTON, TX

System/Unit: AHU/RTU

Asset: RTU2 AREA:

Unit Data		
	Design	**Actual**
MFG	YORK	YORK
Serial Num	-	N2G3760771
Model Num	AW15N3DQ4S1AES62A2	AW15N3DQ4S1CDS62A2
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	2
OA Filter Size 1	-	32X22
Num Final Filter 1	-	9
Final Filter Size 1	-	16X25

Test Data		
	Design	**Actual**
SF CFM	5250	5209
SF RPM	996	1009
RA CFM	4200	4083
OA CFM	1050	1126
RL Voltage	-	462/464/461
RL Amperage	-	5.1/5.4/5.7
SF Rotation	-	CW
RA Damper Position	-	95%
Min OA Damper Position	-	5%
Min OA Damper Type	-	MOTORIZED
OA Enthalpy Setpt	-	55

Motor Data		
	Design	**Actual**
Motor MFG	-	BALDOR
Frame	-	184TZ
Horsepower	5	5
Motor Rpm	-	1750
Phase	3	3
Rated Voltage	460	460
Rated Amperage	-	6.7

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.43
Fan Suction SP	-	-0.69
Fan Discharge SP	-	0.92
Total ESP	1.0"	1.35
Fan Total SP	-	1.61

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	4 3/4"
Motor Bore Size	-	7/8"
Motor Sheave SetPt	-	1/2 TURN OUT
Fan Sheave Size	-	1B5V74
Fan Sheave Bore	-	1 7/16"
Belt CL Distance	-	11 3/4"
Num of Belts	-	1
Belt Size	-	BX40
Belt Alignment	-	CENTER

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

Completed By: Bayley Morvant on 05/20/2024

Notes:
ORIGINAL DESIGN OF 4,895 CFM WAS ADJUSTED TO 5,250 CFM.
DIFFUSER DESIGNS WERE ADJUSTED TO ACHIEVE NEW TOTAL DESIGN CFM.

DESIGN CFM OBTAINED WHILE UNIT WAS OPERATING AT 60Hz.

DIFFUSERS #3 AND #5 ARE NOT EQUIPTED WITH A DAMPER TO LOWER CFM TO AREA SERVED.

CONTROL ERROR: C1 SHUTDOWN EXCEEDED OP ENV LIMITS. UNIT STILL OPERATING IN COOLING MODE.

Written By: Bayley Morvant on 05/20/2024

National TAB

Project:09-18-23 WALGREENS #3909 - ARLINGTON, TX

AHU/RTU

Diffuser Supply (GRD)

RTU2/

Asset							
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**CFM(1)**	**FINAL CFM**	**% to design**
SGRD1	SALES		18X18	1150	397	1039	90.3
SGRD2	SALES		18X18	1150	414	1100	95.7
SGRD3	VALUABLE RM		6X6	80	123	281	351.3
SGRD4	PASSAGE 1		12X12	390	108	243	62.3
SGRD5	EMPLOYEE RM		9X9	180	103	288	160.0
SGRD6	SALES		18X18	1150	474	1156	100.5
SGRD7	SALES		18X18	1150	440	1102	95.8
Total				5250	2059	5209	99.22%

National TAB

Project: 09-18-23 WALGREENS #3909 - ARLINGTON, TX

System/Unit: AHU/RTU

Asset: RTU3 AREA:PRIVATE HEALTH ROOM

Unit Data		
	Design	**Actual**
MFG	YORK	YORK
Serial Num	-	N2E3656499
Model Num	ZJ037N08D4B5HAA2A4	ZJ061N08D4B5DCA2R4
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	22X30
Num Final Filter 1	-	4
Final Filter Size 1	-	16X24

Test Data		
	Design	**Actual**
SF CFM	1900	1924
SF RPM	-	853
RA CFM	1750	1924
OA CFM	0	0
RL Voltage	-	485/485/483
RL Amperage	-	3.1/3.1/3.1
SF Rotation	-	CW
RA Damper Position	-	100%
Min OA Damper Position	-	0%
Min OA Damper Type	-	MOTORIZED
OA Enthalpy Setpt	-	55

Motor Data		
	Design	**Actual**
Motor MFG	-	MARATHON
Frame	-	56HZ
Horsepower	1.50	2
Motor Rpm	-	1725
Phase	3	3
Rated Voltage	460	208-230/460
Rated Amperage	-	8.2-8.4/4.2

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.27
Fan Suction SP	-	-0.40
Fan Discharge SP	-	0.50
Total ESP	1.2"	0.77
Fan Total SP	-	0.90

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	1VP44
Motor Bore Size	-	7/8"
Motor Sheave SetPt	-	2 TURMS OUT
Fan Sheave Size	-	7 3/4"
Fan Sheave Bore	-	1"
Belt CL Distance	-	17.5"
Num of Belts	-	1
Belt Size	-	A50
Belt Alignment	-	VERIFIED

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

Completed By: Bayley Morvant on 05/20/2024

Diffuser Supply (GRD)

RTU3/PRIVATE HEALTH ROOM

Asset							
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**CFM(1)**	**FINAL CFM**	**% to design**
SGRD1	PHARMACY LOBBY	1924	9X9	165	301	164	99.4
SGRD2	PHARMACY	0.82	12X12	270	310	271	100.4
SGRD3	PHARMACY		12X12	270	291	282	104.4
SGRD4	PHARMACY		12X12	270	343	264	97.8
SGRD5	PHARMACY		12X12	270	293	286	105.9
SGRD6	PHARMACY		18X18	505	348	503	99.6
SGRD7	PRIVATE HEALTH ROOM		8	150	157	154	102.7
Total				1900	2043	1924	101.26%

National TAB

Project: 09-18-23 WALGREENS #3909 - ARLINGTON, TX

System/Unit: AHU/RTU

Asset: RTU4 AREA:

Unit Data		
	Design	**Actual**
MFG	YORK	YORK
Serial Num	-	N2C3531922
Model Num	ZJ061N08D4B5HAA2A4	ZJ037N08D4B5GCA2R4
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	30x22
Num Final Filter 1	-	4
Final Filter Size 1	-	16x25

Test Data		
	Design	**Actual**
SF CFM	1050	1061
SF RPM	-	551
RA CFM	1050	844
OA CFM	200	217
RL Voltage	-	484/484/479
RL Amperage	-	1.9/1.8/1.7
SF Rotation	-	CW
RA Damper Position	-	85%
Min OA Damper Position	-	15%
Min OA Damper Type	-	MOTORIZED
OA Enthalpy Setpt	-	55

Motor Data		
	Design	**Actual**
Motor MFG	-	CENTURY
Frame	-	56HZ
Horsepower	2	1.5
Motor Rpm	-	1725
Phase	3	3
Rated Voltage	460	460
Rated Amperage	-	2.5

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.06
Fan Suction SP	-	-0.15
Fan Discharge SP	-	0.18
Total ESP	1.2"	.024
Fan Total SP	-	0.33

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	1VL44
Motor Bore Size	-	7/8"
Motor Sheave SetPt	-	2.5 TURNS OUT
Fan Sheave Size	-	BK130
Fan Sheave Bore	-	1"
Belt CL Distance	-	15.5"
Num of Belts	-	1
Belt Size	-	A56
Belt Alignment	-	VERIFIED

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

Completed By: Bayley Morvant on 05/20/2024

Notes:
CONTROL ERROR: SPACE TEMP SENSOR FAILURE, UNIT IS USING RETURN TEMP SENSOR TO CONTROL.

Written By: Bayley Morvant on 05/20/2024

National TAB

Project: 09-18-23 WALGREENS #3909 - ARLINGTON, TX

System/Unit: FAN - Exhaust

Asset: EF1 AREA:WOMENS RR

Unit Data		
	Design	**Actual**
MFG	GREENHECK	PENNBARRY
Model Num	SP-127	NL
Serial Num	-	NL
Type	CENTRIFUGAL	CENTRIFUGAL
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	GENTEQ
Frame	-	60HZ
Horsepower	190W	1/5
Motor Rpm	-	1725
Phase	1	1
Voltage (rated)	120	115
Amperage (rated)	-	3.0
Service Factor	-	NL

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	300	242
Fan RPM	1580	LOW
Fan Rotation	-	CCW
Motor RPM	-	LOW
RL Voltage	-	120,120
RL Amperage	-	1.5,1.7
Suction ESP	-	ATM
Discharge ESP	-	ATM
Total ESP	0.375"	ATM

Completed By: Darius Payne on 09/19/2023

National TAB

Project: 09-18-23 WALGREENS #3909 - ARLINGTON, TX

System/Unit: FAN - Exhaust

Asset: EF2 AREA:MENS RR

Unit Data		
	Design	**Actual**
MFG	GREENHECK	PENNBARRY
Model Num	SP-127	DX11Q
Serial Num	-	G23PZ33840
Type	CENTRIFUGAL	CENTRIFUGAL
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	GENTEQ
Frame	-	60HZ
Horsepower	120W	1/5
Motor Rpm	-	1725
Phase	1	1
Voltage (rated)	120	115
Amperage (rated)	-	3.0
Service Factor	-	NL

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

Test Data		
	Design	**Actual**
CFM	240	244
Fan RPM	1000	LOW
Fan Rotation	-	CCW
Motor RPM	-	LOW
RL Voltage	-	120,119
RL Amperage	-	1.4,1.6
Suction ESP	-	ATM
Discharge ESP	-	ATM
Total ESP	0.375"	ATM

Completed By: Darius Payne on 09/19/2023

National TAB

Project: 09-18-23 WALGREENS #3909 - ARLINGTON, TX

System/Unit: FAN - Exhaust

Asset: EF3 AREA:BREAK ROOM

Unit Data		
	Design	**Actual**
MFG	GREENHECK	PENNBARRY
Model Num	SP-150	DX11Q
Serial Num	-	Q23PZ33837
Type	CENTRIFUGAL	CENTRIFUGAL
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	GENTEQ
Frame	-	60HZ
Horsepower	120W	1/5
Motor Rpm	-	1725
Phase	1	1
Voltage (rated)	120	115
Amperage (rated)	-	3.0
Service Factor	-	NL

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	240	344
Fan RPM	1000	MEDIUM
Fan Rotation	-	CCW
Motor RPM	-	LO
RL Voltage	-	1.8,2.0
RL Amperage	-	119,120
Suction ESP	-	ATM
Discharge ESP	-	ATM
Total ESP	0.375"	ATM

Completed By: Darius Payne on 09/19/2023

National TAB

Project: 09-18-23 WALGREENS #3909 - ARLINGTON, TX

System/Unit: FAN - Exhaust

Asset: EF4 AREA:OFFICE

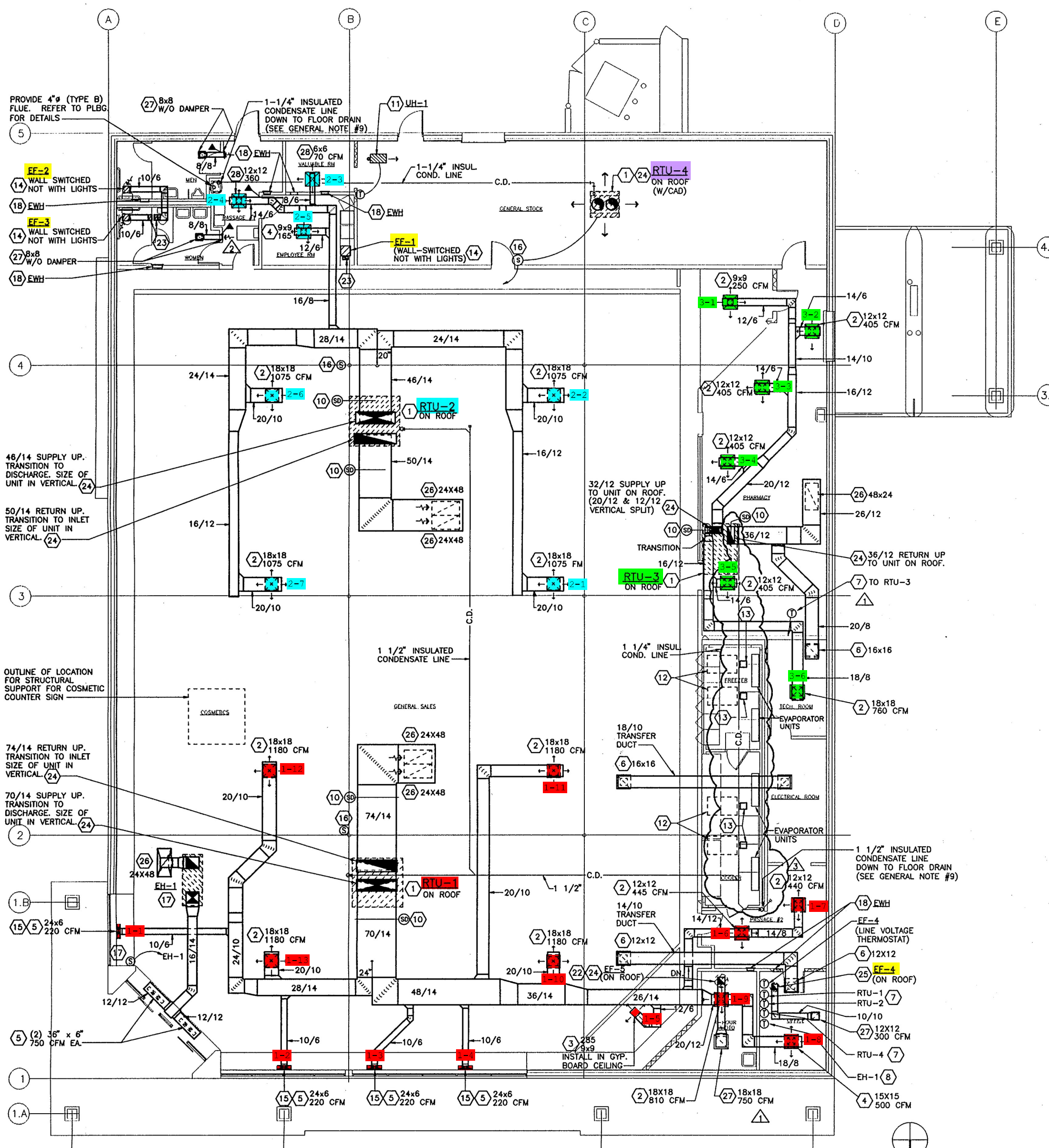
Unit Data		
	Design	**Actual**
MFG	GREENHECK	PENNBARRY
Model Num	G-85-G	DX11Q
Serial Num	-	G23PZ33839
Type	CENTRIFUGAL	CENTRIFUGAL
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	GENTEQ
Frame	-	60HZ
Horsepower	1/30	1/5
Motor Rpm	-	1725
Phase	1	1
Voltage (rated)	120	115
Amperage (rated)	-	3.0
Service Factor	-	NL

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	300	324
Fan RPM	1300	LO
Fan Rotation	-	CCW
Motor RPM	-	MEDIUM
RL Voltage	-	121,120,
RL Amperage	-	2.1,2.2
Suction ESP	-	ATM
Discharge ESP	-	ATM
Total ESP	0.125"	ATM

Completed By: Darius Payne on 09/19/2023



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

LEGEND

- SUPPLY AIR
- RETURN / EXHAUST AIR
- TEE – TURNING VANES AND ADJUSTABLE SPLITTER DAMPER
- ELBOW – TURNING VANES
- MANUAL DAMPER
- FIRE DAMPER (RE: SPEC. SECTION 15840)
- MOTOR (SEE SCHEDULE ON DRAWING M2.1)
- THERMOSTAT (MOUNT 5'-0" UP) SEE CONTROL DIAGRAM, DRAWING M2.2.
- SENSOR FOR HONEYWELL THERMOSTAT (T7300); SEE CONTROL DIAGRAM, DWG.M2.2, (MOUNT 6'-0" UP)
- SEE CONTROL DIAGRAM, DWG.M2.2, (MOUNT 6'-0" UP)

CAD	CONCENTRIC AIR DIFFUSER AND BOX SHALL BE MICRO METL 1013 SERIES OR APPROVED EQUAL. MOUNT BOX TOP AT UNDERSIDE OF BAR JOIST.
CFM	CUBIC FEET PER MINUTE
EF	EXHAUST FAN
EH	ENTRANCE HEATER
EWH	ELECTRIC WALL HEATER
SAD	SUPPLY AIR DIFFUSER (SEE DETAIL 1/M2.1); CFM AND SIZE AS NOTED.
SAG	SUPPLY AIR GRILLE (SEE DETAIL 2/M2.1), CFM AND SIZE AS NOTED.
SF	SUPPLY FAN
RAG	RETURN AIR GRILLE (SEE DETAIL 3/M2.1), CFM AND SIZE AS NOTED.
RTU	ROOF TOP UNIT
UH	UNIT HEATER

NOTES

1 – ALL WORK SHOWN SHALL COMPLY WITH ALL NATIONAL, STATE AND LOCAL CODES, ORDINANCES, ETC.

2 – SEE ALL OTHER DRAWINGS AND WALGREENS SPECIFICATIONS FOR ADDITIONAL WORK OR CLARIFICATION OF NECESSARY WORK.

3 – PROVIDE BURGLAR PROOFING IN ALL OPENINGS GOING THRU ROOF OR WALL (12"X12" OR LARGER, EXCEPT SCUTTLE), SEE DETAIL 5/M2.1.

4 – ALL FRESH AIR INTAKES ON ROOF SHALL BE LOCATED A MINIMUM OF 15'-0" AWAY FROM ANY EXHAUST DUCT, BLOWER DISCHARGE, PLUMBING VENT, ETC.

5 – HVAC ROOF-TOP UNIT TO INCLUDE FLEXIBLE CONNECTIONS, TURN VANES, AND VIBRATION ELIMINATORS. OUTSIDE AIR INTAKE TO BESIZED FOR A MINIMUM OF 100% OUTSIDE AIR FOR ECONOMIZER SYSTEMS.

6 – ALL DUCTWORK TO BE GALVANIZED SHEET METAL. (LINED DUCTWORK WILL NOT BE ACCEPTED)

7 – ALL HVAC SUPPLY AND RETURN AIR DUCTS SHALL HAVE 1 1/2" EXTERNAL INSULATION. (OR MORE IF CODE REQUIRES)

8 – EACH HVAC UNIT TO HAVE ITS OWN CONTROLS. SEE DRAWING M2.2 FOR HVAC CONTROL WIRING DIAGRAM.

9 – PROVIDE CONDENSATE DRAIN (CD) WITH TRAP, WITHIN EACH HVAC UNIT, PIPE DOWN THRU ROOF WITHIN CURB, CONNECT INTO CD LINE ABOVE CEILING. INSULATE ALL CONDENSATE LINES, SIMILAR TO DOMESTIC COLD WATER PIPING.

10– ALL HVAC SYSTEMS TO BE BALANCED (BY AN INDEPENDENT CERTIFIED AIR BALANCE CONTRACTOR WITH A MINIMUM OF 5 YEARS EXPERIENCE) AFTER COMPLETION OF WORK.

11– NOT USED

12– PROVIDE FLUE TO ROOF (WITH WEATHER CAP) FOR GAS FIRED WATER HEATER (IF APPLICABLE), SEE DETAIL 3/P2.1.

13– EQUIPMENT MANUFACTURER SHALL PROVIDE ON EACH NEW WALGREEN STORE FACTORY SUPERVISED "CHECK, TEST & START" SERVICE, UTILIZING STANDARD WALGREEN FORMS AS PROVIDED BY FACILITIES PLANNING AND DESIGN DEPARTMENT. HVAC CONTRACTOR SHALL VERIFY COMPLIANCE WITH PLANS AND SPECIFICATIONS AND SHALL FORWARD TO THE WALGREEN CO., COMPLETED C.T.S. FORMS, ALONG WITH THREE COPIES OF SERVICE AND INSTALLATION MANUALS, PARTS LIST AND ALL RELATED WARRANTIES. SUBMITTAL SHALL BE IN BOOK FORM AND APPLICABLE TO ACTUAL EQUIPMENT INSTALLED.

14– HVAC UNITS MUST BE INSTALLED LEVEL ON ROOF.

15– THERMOSTAT SENSOR WIRING TO BE RUN INSIDE PIPE COLUMNS.

16– DO NOT INSTALL SUPPLY AIR DIFFUSERS IN CEILING PANEL ADJACENT TO ROW OF LIGHT FIXTURES. COORDINATE DIFFUSERS WITH REFLECTED CEILING PLAN ON DWG. A1.2.

17– FLEXIBLE DUCT LENGTH NOT TO EXCEED A MAXIMUM OF 7'-0".

18– SUPPLY AND/OR RETURN AIR CEILING PLENUMS WILL NOT BE ACCEPTED.

19– DO NOT INSTALL UNIT HEATER ABOVE STOCK ROOM SHELVING.

20– ELECTRIC WALL HEATERS (EWH) AND ELECTRIC UNIT HEATERS (EUH) ARE PROVIDED UNDER THE ELECTRICAL CONTRACT, SHOWN HERE FOR HVAC INFORMATION ONLY.

21– GAS PIPING SHALL BE RUN ABOVE CEILING, (OUT THRU ROOF, WITHIN UNIT CURB), PROVIDE SHUT-OFF VALVE AT EACH PIECE OF EQUIPMENT (NOT BELOW ROOF FOR RTU'S).

MECHANICAL KEYED NOTES

(1) HVAC ROOF-TOP UNIT. SEE GENERAL NOTES (ABOVE) AND SCHEDULE ON DRAWING M2.1 FOR ADDITIONAL INFORMATION.

(2) S.A.D. (TYPE "A"). CFM AND SIZE AS NOTED. SEE SCHEDULE AND DETAIL #1 ON SHEET M2.1

(3) S.A.D. (TYPE "E"). MOUNT AT GYP. BOARD CEILING. CFM AND SIZE AS NOTED. SEE DETAIL #1 AND GRILLE SCHEDULE ON SHEET M2.1

(4) S.A.D. (TYPE "C"), THERMALLY POWERED VARIABLE AIR VOLUME (VAV) DIFFUSER. ACUTHERM THERMA-FUSER HC OR KRUEGER VARIFUSER AVDP SERIES. CFM AND SIZE AS NOTED.

(5) S.A.G. (TYPE "B"). CFM AND SIZE AS NOTED. SEE SCHEDULE AND DETAIL #2 ON SHEET M2.1.

(6) R.A.G. (TYPE "G"). CFM AND SIZE AS NOTED. SEE SCHEDULE AND DETAIL #3 ON SHEET M2.1.

(7) THERMOSTAT 5'-0" AFF FOR HEATING AND COOLING. SEE SHEET M2.2 FOR DETAILS AND PROGRAMING.

(8) THERMOSTAT 5'-0" AFF FOR HEATING ONLY. SEE SHEET M2.2 FOR DETAILS AND PROGRAMING.

(9) NOT USED.

(10) INSTALL SMOKE DETECTOR IN AIR STREAM. DETECTOR FURNISHED BY ELECTRICAL CONTRACTOR.

(11) GAS FIRED, POWER VENTED UNIT HEATER (SEE SCHEDULE DWG. M2.1). BOTTOM 12'-0" UP THERMOSTAT MOUNTED 5'-0" UP ON WALL (SET AT 68 F). PROVIDE 4" FLUE TO ROOF WITH WEATHER CAP. SEE DETAIL 14/M2.1.

(12) ROOF-TOP CONDENSING UNIT FOR WALK-IN COOLER/FREEZER. SEE DETAIL 8/M2.1 FOR ADDITIONAL INFORMATION.

(13) PIPE PORTAL FOR WALK-IN COOLER/FREEZER CONDENSING UNIT REFRIGERANT AND ELECTRICAL LINES. SEE DETAIL 6/M2.1

(14) EXHAUST FAN (WITH BACK DRAFT DAMPER), WITH EXHAUST DUCT UP THROUGH ROOF TO VENTILATION HOOD. TRANSITION FROM EXHAUST DUCT TO EXHAUST FAN AS REQUIRED, CFM AS NOTED ON SCHEDULE, SHEET M2.1.

(15) ADJUST FRONT HORIZONTAL BARS TO AN ANGLE OF 45 SO THAT THE AIR FLOWS AWAY FROM THE WINDOW. THIS IS TO HELP PREVENT CONDENSATION ON THE GLASS IN HOT, HUMID CLIMATE CONDITIONS.

(16) THERMOSTATIC REMOTE SENSOR MOUNTED 6'-0" AFF. PROVIDE STAINLESS STEEL COVER (RE: ARCHITECTURAL DWGS.) ROUTE WIRING WITHIN COLUMN (OR WALL). SEE DETAIL 13/M2.1.

(17) ROOF-TOP ENCLOSED BLOWER/ENTRANCE HEATER. INCLUDE VIBRATION ELIMINATORS AND FLEXIBLE CONNECTIONS, 100% RETURN AIR WITH SENSOR AT ENTRANCE AND THERMOSTAT IN OFFICE. SEE SCHEDULE FOR ADDITIONAL INFORMATION.

(18) ELECTRIC WALL HEATER (EWH) FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR. SEE DRAWING E1.2 FOR FURTHER INFORMATION.

(19) NOT USED.

(20) NOT USED.

(21) NOT USED.

(22) 12/12 DUCT FROM 750 CFM EXHAUST GRILLE TO EXHAUST FAN ON ROOF. TRANSITION AS REQ'D. SEE SCHEDULE AND DETAIL #4 ON SHEET M2.1.

(23) 12/6 DUCT FROM EXHAUST FAN UP TO VENTILATOR ON ROOF. TRANSITIONS AS REQ'D. SEE VENTILATOR DETAIL 7/M2.1.

(24) ALL OPENINGS 12"X12" AND LARGER THROUGH ROOF OR WALLS SHALL BE EQUIPPED WITH BURGLAR BARS. SEE DETAIL 5/M2.1.

(25) 10/10 DUCT FROM 300 CFM 12x12 EXHAUST GRILLE TO EXHAUST FAN ON ROOF. TRANSITION AS REQUIRED. SEE SCHEDULE AND DETAIL #4 ON SHEET M2.1.

(26) R.A.G. (TYPE "D"). CFM AND SIZE AS NOTED. SEE SCHEDULE AND DETAIL #3 ON SHEET M2.1.

(27) R.A.G. (TYPE "F"). CFM AND SIZE AS NOTED. SEE SCHEDULE ON SHEET M2.1.

(28) S.A.D. (TYPE "E") CFM AND SIZE AS NOTED. SEE SCHEDULE AND DETAIL #1 ON SHEET M2.1

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REVISIONS

1	4-10-96	REVISIONS FOR CONSTRUCTION
2	4-24-96	ADDED FIRE DAMPERS
3	6-12-96	CRITERIA UPGRADE DM 7/9/96

LAI Project No.	95182.000
Walgreen Store Number	03909
Issued for Permit	
Issued for Bidding	
Issued for Construction	

M1.1
Mechanical
Floor Plan

Date: Jan. 16, 1996