

**Report By:**

National TAB  
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**Report: TAB**

**Function: Test, Adjust, & Balance**

**Date: 12/20/2024**

**Completed By: National TAB**

# PROJECT

## AutoZone (Sacramento, CA)

8389 Folsom Blvd

Sacramento, CA 95826

### Client

B&M Builders, Inc.

11330 Sunrise Park Drive

Suite C

Rancho Cordova, CA 95742

# National TAB

Project: AutoZone (Sacramento, CA)

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# National TAB

Project: AutoZone (Sacramento, CA)  
System/Unit: AHU/RTU



Asset: RTU-1

AREA:

Unit Data		
	Design	Actual
MFG	NA	DAIKIN
Serial Num	-	2408598167
Model Num	NA	DFH0903D000082CAA
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	40X21
Num PreFilter 1	-	4
PreFilter Size 1	-	20X24X2

Test Data		
	Design	Actual
SF CFM	3000	2892
RA CFM	2365	2255
OA CFM	635	637
RL Voltage	208-230	210/210/210
RL Amperage	-	4.24/4.24/4.25
OA Damper Position	-	23%
Brake Horse Power	-	1.27

Motor Data		
	Design	Actual
Motor MFG	-	BROAD-OCEAN
Frame	-	NL
Horsepower	2.10	2.4
Motor Rpm	-	1600
Phase	3	3
Rated Voltage	208-230	208/230
Rated Amperage	-	8.0/7.2
Service Factor	-	NL

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.16"
Fan Suction SP	-	-0.37"
Fan Discharge SP	-	0.31"
Total ESP	0.5	0.47"
Fan Total SP	-	0.68"

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## Unit Data - PHOTO LOG



12/18/2024

# National TAB

Project: AutoZone (Sacramento, CA)

## AHU/RTU



### Diffuser Supply (GRD)

#### RTU-1/

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
SGRD1		301RL-HD	18X12	250	271	231	92.4
SGRD2		301RL-HD	18X12	250	189	241	96.4
SGRD3		301RL-HD	18X12	250	191	233	93.2
SGRD4		301RL-HD	18X12	250	312	237	94.8
SGRD5		301RL-HD	18X12	250	227	248	99.2
SGRD6		301RL-HD	18X12	250	226	233	93.2
SGRD7		301RL-HD	18X12	250	221	248	99.2
SGRD8		301RL-HD	18X12	250	245	261	104.4
SGRD9		301RL-HD	18X12	250	281	231	92.4
SGRD10		301RL-HD	18X12	250	277	237	94.8
SGRD11		301RL-HD	18X12	250	251	241	96.4
SGRD12		301RL-HD	18X12	250	231	251	100.4
Total				3000	2922	2892	96.4%

# National TAB

Project: AutoZone (Sacramento, CA)  
System/Unit: AHU/RTU



Asset: RTU-2

AREA:

Unit Data		
	Design	Actual
MFG	NA	DAIKIN
Serial Num	-	2408590116
Model Num	NA	DDH0903D000082CAA
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	40X21
Num PreFilter 1	-	4
PreFilter Size 1	-	20X24X2

Test Data		
	Design	Actual
SF CFM	3000	2956
RA CFM	2365	2315
OA CFM	635	641
RL Voltage	208-230	210/210/210
RL Amperage	-	4.28/4.3/4.3
OA Damper Position	-	23%
Brake Horse Power	-	1.29

Motor Data		
	Design	Actual
Motor MFG	-	BROAD-OCEAN
Frame	-	NL
Horsepower	2.10	2.4
Motor Rpm	-	1600
Phase	3	3
Rated Voltage	208-230	208/230
Rated Amperage	-	8.0/7.2
Service Factor	-	NL

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.15"
Fan Suction SP	-	-0.39"
Fan Discharge SP	-	0.33"
Total ESP	0.5	0.48"
Fan Total SP	-	0.72"

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## Unit Data - PHOTO LOG



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# National TAB

Project: AutoZone (Sacramento, CA)

## AHU/RTU



**Diffuser Supply (GRD)**

**RTU-2/**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
SGRD1		301RL-HD	18X12	250	199	240	96.0
SGRD2		301RL-HD	18X12	250	209	229	91.6
SGRD3		301RL-HD	18X12	250	271	267	106.8
SGRD4		301RL-HD	18X12	250	289	243	97.2
SGRD5		301RL-HD	18X12	250	266	233	93.2
SGRD6		301RL-HD	18X12	250	279	240	96.0
SGRD7		301RL-HD	18X12	250	222	261	104.4
SGRD8		301RL-HD	18X12	250	251	249	99.6
SGRD9		301RL-HD	18X12	250	189	235	94.0
SGRD10		301RL-HD	18X12	250	271	247	98.8
SGRD11		301RL-HD	18X12	250	231	261	104.4
SGRD12		301RL-HD	18X12	250	289	251	100.4
Total				3000	2966	2956	98.53%

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# National TAB

Project: AutoZone (Sacramento, CA)  
System/Unit: AHU/RTU



Asset: RTU-3

AREA:

Unit Data		
	Design	Actual
MFG	NA	DAIKIN
Serial Num	-	2408597407
Model Num	NA	DFH0903D000082CAA
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	40X21
Num PreFilter 1	-	4
PreFilter Size 1	-	20X24X2

Test Data		
	Design	Actual
SF CFM	3000	2935
RA CFM	2358	2304
OA CFM	642	631
RL Voltage	208-230	210/210/210
RL Amperage	-	4.4/4.35/4.4
OA Damper Position	-	23%
Brake Horse Power	-	1.32

Motor Data		
	Design	Actual
Motor MFG	-	BROAD-OCEAN
Frame	-	NL
Horsepower	2.10	2.4
Motor Rpm	-	1600
Phase	3	3
Rated Voltage	208-230	208/230
Rated Amperage	-	8.0/7.2
Service Factor	-	NL

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.38"
Fan Suction SP	-	-0.57"
Fan Discharge SP	-	0.31"
Total ESP	0.5	0.69"
Fan Total SP	-	0.88"

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## Unit Data - PHOTO LOG



12/18/2024

# National TAB

Project: AutoZone (Sacramento, CA)

## AHU/RTU



**Diffuser Supply (GRD)**

**RTU-3/**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
SGRD1		CD	10	250	122	226	90.4
SGRD2		CD	10	250	27	275	110.0
SGRD3		CD	10	250	43	228	91.2
SGRD4		CD	10	250	497	231	92.4
SGRD5		CD	10	250	323	268	107.2
SGRD6		CD	10	250	319	252	100.8
SGRD7		CD	10	250	314	274	109.6
SGRD8		CD	10	250	403	237	94.8
SGRD9		CD	10	250	224	229	91.6
SGRD10		CD	10	250	214	227	90.8
SGRD11		CD	10	250	188	231	92.4
SGRD12		CD	10	250	290	257	102.8
Total				3000	2964	2935	97.83%

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# National TAB

Project: AutoZone (Sacramento, CA)  
System/Unit: FAN - Exhaust



Asset: EF-1

AREA:RESTROOM

Unit Data		
	Design	Actual
MFG	NA	DELTA
Model Num	NA	SLM50-110-C
Serial Num	-	3204V03R
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	100	93
RL Voltage	120	NA
RL Amperage	-	NA
Total ESP	-	0.23"

Motor Data		
	Design	Actual
Motor MFG	-	NL
Frame	-	NL
Horsepower	-	NL
Motor Rpm	-	NL
Phase	1	1
Voltage (rated)	120	120
Amperage (rated)	-	0.6
Service Factor	-	NL

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## Unit Data - PHOTO LOG



12/18/2024

# National TAB

Project: AutoZone (Sacramento, CA)  
System/Unit: FAN - Exhaust



Asset: EF-2

AREA:RESTROOM

Unit Data		
	Design	Actual
MFG	NA	DELTA
Model Num	NA	SLM50-110-C
Serial Num	-	4420V03R
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	100	92
RL Voltage	120	NA
RL Amperage	-	NA
Total ESP	-	0.21"

Motor Data		
	Design	Actual
Motor MFG	-	NL
Frame	-	NL
Horsepower	-	NL
Motor Rpm	-	NL
Phase	1	1
Voltage (rated)	120	120
Amperage (rated)	-	0.6
Service Factor	-	NL

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### Unit Data - PHOTO LOG



12/18/2024

## Abbreviation List

A = Area (ft <sup>2</sup> )	S.F. = Service Factor
AHU = Air Handling Unit	SF = Supply Fan
A <sub>k</sub> = Effective Area	SP = Static Pressure
BHP = Brake Horsepower (IP) HP	SR = Supply Register
Btu = British Thermal Unit	T = Temperature
Btu/h = Btuh = BTUH = BTU/Hour	T <sub>ma</sub> = Mixed Air Temperature
CL = Center Distance (used in belt formula)	T <sub>oa</sub> = Outside Air Temperature
CD = Ceiling Diffuser	T <sub>ra</sub> = Return Air Temperature
CF = Correction Factor	H = Head (in wc, ft wc, psi)
CFM = Volumetric Flow: Cubic Feet Per Minute	h = Enthalpy
CO <sub>2</sub> = Carbon Dioxide	HP = Horsepower
CO = Carbon Monoxide	hr = Hour
C <sub>v</sub> = Flow Constant	K <sub>v</sub> = Flow constant (SI)
d = Diameter (in.) IP	kW = Kilowatt = 1000 Watts
Δ = Difference or Change (Final - Initial)	LAT = Leaving Air Temperature
DB = Dry Bulb	lb = Pounds
EA = Exhaust Air	LWT = Leaving Water Temperature
EAT = Entering Air Temperature	ma = Mixed Air
EF = Exhaust Fan	MIN = Minimum
Eff = Efficiency	MAX = Maximum
EG = Exhaust Grille	N/A = Not Applicable
ESP = External Static Pressure	NA = No Access
EWT = Entering Water Temperature	NL = Not Listed
°F = Degrees Fahrenheit, °F	NPSHA = Net Positive Suction Head Available
FPB = Fan Powered Box	NS = Not Specified
FLA = Full Load Amps	OA = Outside Air
fpm = Feet per Minute (fpm)	OAT = Outside Air Temperature
ft = Foot	PD = Sheave Pitch Diameter
gal = Gallons	P.D. = Pressure Drop
GPM = Gallons Per Minute (GPM)	PF = Power Factor
h = Enthalpy (BTU/lb dry air)	SG = Supply Grille
P = Pressure	SR = Supply Register
ppm = parts per million	TP = Total Pressure
psi = Pounds Per Square Inch	T <sub>ra</sub> = Return Air Temperature
psid = PSI Differential	TS = Tip Speed (fpm) IP, (m/s) SI
r = Radius (in)	TSP = Total Static Pressure
% <sub>ra</sub> = % of Return Air	V = Velocity
RA = Return Air	VAV = Variable Air Volume
RAT = Return Air Temperature	VD = Volume Damper
RF = Return Fan	VFD = Variable Frequency Drive
RG = Return Grille	W = Watt
RH = Relative Humidity	WB = Wet Bulb
RPM = Revolutions Per Minute	wg = wc = water gauge = water column
RTU = Roof Top Unit	WHP = Water Horsepower (IP)
SA = Supply Air	ω = Humidity Ratio



# National TAB

Testing, Adjusting, and Balancing Equipment



Function		Range	Minimum Accuracy	Instrument Information	Calibration Date	Date Due
AIR	AIR PRESSURE	0 in wg to 10 in wg	2% +/- 0.001 in wg	Evergreen S-PVF-1 24D-00509	6/17/2024	6/17/2025
	AIR VELOCITY INSTRUMENT	50 fpm to 3900 fpm	+/- 5 % +/- 7 fpm	Evergreen S-PVF-1 24D-00509	6/17/2024	6/17/2025
	DIRECT HOOD READING	100 cfm to 2000 cfm	+/- 5 % +/- 7 cfm	Evergreen S-PVF-1 24D-00509	6/17/2024	6/17/2025
TEMPERATURE	AIR METER	-20 F to 240 F	+/- .5 % 2 F	Cooper SRH77A S/N 100516003	9/18/2024	9/18/2025
	AIR PROBE	-20 F to 240 F	+/- .5 % 2 F	Cooper SRH77A S/N 100516003	9/18/2024	9/18/2025
	IMMERSION METER	-20 F to 240 F	+/- .5 % 2 F	Cooper SRH77A S/N 100516003	9/18/2024	9/18/2025
	IMMERSION PROBE	-20 F to 240 F	+/- .5 % 2 F	Cooper SRH77A S/N 100516003	9/18/2024	9/18/2025
	CONTACT METER	-20 F to 240 F	+/- .5 % 2 F	Cooper SRH77A S/N 100516003	9/18/2024	9/18/2025
	CONTACT PROBE	-20 F to 240 F	+/- .5 % 2 F	Cooper SRH77A S/N 100516003	9/18/2024	9/18/2025
HUMIDITY	HUMIDITY PROBE	10 % RH to 90 % RH	3% of reading	Cooper SRH77A S/N 100516003	9/18/2024	9/18/2025
ELECTRICAL	VOLTAGE MEASUREMENT	0 VAC to 600 VAC	2 % reading +/- 5 digits	Klein Tools CL800 S/N 1220C-C1	9/18/2024	9/18/2025
	AMPERAGE MEASUREMENT	0 Amperers to 100 Amperes	2 % reading +/- 5 digits	Klein Tools CL800 S/N 1220C-C1	9/18/2024	9/18/2025
ROTATION	ROTATION MEASUREMENT	60 rpm to 5000 rpm	2 % reading 2 rpm	Shimpo DT 207Lp S/N D1690029R	9/18/2024	9/18/2025

REMODEL SCOPE OF WORK

- FOR RTU-1, 2 & 3, REMOVE EXISTING HVAC EQUIPMENT AND PIPING BUT REUSE EXISTING DUCT PENETRATIONS THROUGH THE ROOF. PREPARE ROOF AND WALL FRAMING FOR NEW ROOFTOP HVAC UNITS. SEE STRUCTURAL DRAWINGS. PATCH AND SEAL ALL UNUSED ROOF AND WALL OPENINGS TO BE WEATHER TIGHT.
- PREPARE ROOF AND WALL FRAMING FOR THIS NEW SCOPE OF WORK. SEE STRUCTURAL DRAWINGS. PATCH AND SEAL ALL UNUSED ROOF AND WALL OPENINGS TO BE WEATHER TIGHT.
- INSTALL NEW HVAC EQUIPMENT AND CONNECT TO NEW CIRCUITS IN EXISTING PANELS. ALSO CONNECT NEW RTUS TO EXISTING GAS SERVICE.
- INSTALL DUCTS PER REMODEL PLAN. ALL DUCTS SHALL BE FURNISHED BY CONTRACTOR. SUPPLY AIR DUCTS SHALL HAVE MINIMUM R8 RIGID INSULATION INTERIOR LINING.
- PROVIDE AND INSTALL DUCT TYPE SMOKE DETECTORS ON THE SUPPLY AIR DUCT PLENUM FOR ALL HVAC UNITS. THEY SHALL BE INTERLOCKED WITH THE UNIT FOR SHUTDOWN AND TIED INTO THE BUILDING FIRE LIFE SAFETY CONTROL PANEL. PROVIDE WITH REMOTE STATUS PANEL WITH RESET LED PUSH BUTTON.
- INSTALL 8" RESTROOM EXHAUST AND ROUTE TO EXTERIOR OF THE BUILDING WITH RAIN HOOD AND BIRD SCREEN.
- INSTALL ENERGY MANAGEMENT SYSTEM AND EQUIPMENT PER ELECTRICAL DRAWINGS. FIELD INSTALL SENSORS IN RTUS.
- ALL ACOUSTICAL FLEXIBLE DUCT SHALL BE CASCO SILENTFLEX II OR EQUAL. CONTRACTOR SHALL PROVIDE MINIMUM 5 FT. ACOUSTICAL FLEXIBLE DUCT CONNECTION BETWEEN DIFFUSER AND VOLUME DAMPERS.
- HVAC UNIT CONDENSATE DRAINS SHALL BE PROPERLY TRAPPED, SUPPORTED AND SLOPED TO THE NEAREST CODE APPROVED PLUMBING RECEPTORS.
- MECHANICAL CONTRACTOR TO COORDINATE AND OBTAIN APPROVAL FROM STRUCTURAL ENGINEER FOR PIPE SUPPORTS, SEISMIC RESTRAINTS, CONNECTION AND ANCHORAGE/MOUNTING TO THE STRUCTURE.

REVISIONS

07/12/24 PLAN CHECK SUBMITTAL

AutoZone Store No. 9265  
8389 FOLSOM BLVD.

SACRAMENTO CA 95826  
HVAC FLOOR PLAN

**ALFATECH**  
421 E. HUNTINGTON DR.  
MONROVIA, CA 91016  
PHONE: 215-212-9860  
www.alfatech.com

Job No. 240480LA.00  
For Bidding & Contractor Information Contact:  
Dodge Data & Analytics. Tel. 413-930-4215  
Cindy.searcy@construction.com

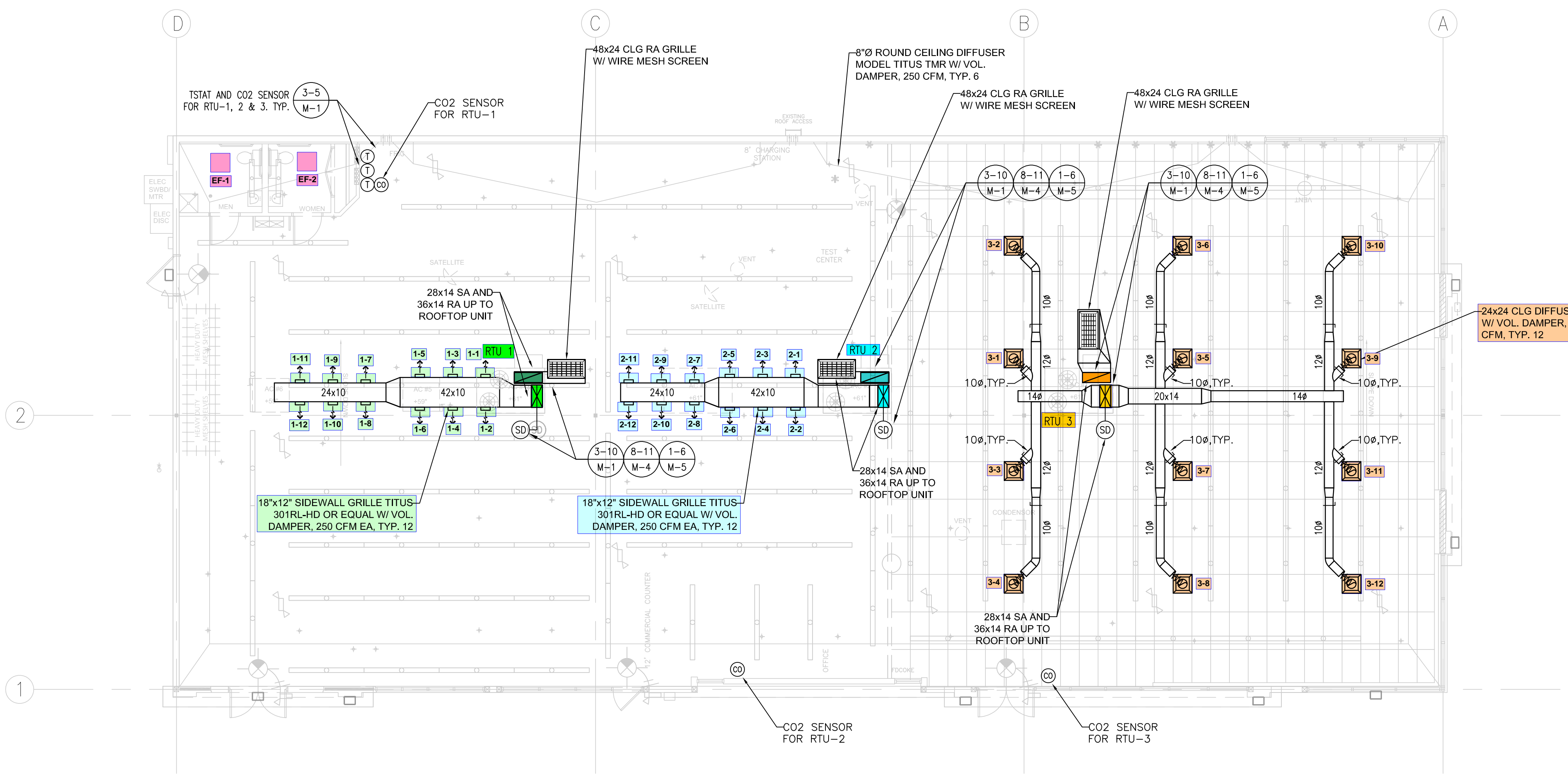


Date Signed: 10-25-2024

06/07/2024

5WR-REMODEL

M-2



HVAC FLOOR PLAN  
1/8" = 1'-0"