CERTIFIED
TEST, ADJUST & BALANCE
REPORT

for

Dub Zub Tatoo & Piercing Studio

3 Swope Avenue

Colorado Springs, CO

February, 2018

Permit #: L12489

CHINOOK

TEST & BALANCE

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TEST & BALANCE

Dub Zub Tatoo & Piercing Studio
3 Swope Avenue

GENERAL INFORMATION

PROJECT:	Dub Zub Tatoo & Piercing Studio
ADDRESS:	3 Swope Avenue
ADDRESS:	Colorado Springs, CO
ALTITUDE:	6000 feet

PROJECT PERSONNEL

CERTIFIED:	Casey D. Thompson
TECHNICIAN(S):	Casey D. Thompson

INSTRUMENTATION

FLOWHOOD:	ALNOR - MODEL # EBT-731
AIR DATAMETER:	ALNOR - MODEL # EBT-731
TACHOMETER:	EXTECH - MODEL # 461920
AMPROBE:	FLUKE - MODEL # 337
THERMOMETER:	FLUKE - MODEL # 52II
HYDRONIC DATAMETER:	ALNOR - MODEL # HM-675
HYGROMETER:	FLUKE - MODEL # 971

REMARKS

CHINOOK

TEST & BALANCE

Dub Zub Tatoo & Piercing Studio
3 Swope Avenue

The data presented in this report is an exact record of system measurements and final adjustments that have been obtained in accordance with the current edition of the TABB Procedural Standards for Testing, Adjusting, and Balancing of Environmental Systems. Any variances from design quantities, which exceed TABB tolerances, are noted in the Test, Adjust and Balance Report Project Summary.

The air distribution systems have been tested and balanced. Final adjustments have been made in accordance with TABB "Procedural Standards for Testing, Adjusting, and Balancing of Environmental Systems" and project specifications.

(TABB) TAB Firm: **Chinook Test & Balance, Inc.**

REG. NO.: **BB1095198T** CERTIFIED BY: **Casey D. Thompson** DATE: **February 12, 2018**

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Precision Test & Balance, Inc. warrants that the equipment or system listed above is operating at the specified levels as shown, at and only at this time, and makes no other warranties, stated or implied, concerning the continued performance, operation or safety in use of this equipment past this time.

SUBMITTED & CERTIFIED BY:

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TAB Supervisor: **Casey D. Thompson**

REG. NO.: **BB1095198T** SIGNATURE:

CERTIFICATION EXPIRATION DATE: March 31, 2020

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International Certification Board
TABB ANSI
Casey Thompson
TABB Technician
BB1095198T
March 31, 2018
Printed: 06/01/2017
Certified Technician

CHINOOK
TEST & BALANCE

Abbreviation Summary

ACT	Actual
ACU	Air Conditioning Unit
AHU	Air Handling Unit
AK	Velocity Correction Factor
B&G	Bell & Gossett
BCP	Boiler Circulation Pump
CD	Ceiling Diffuser
CER	Ceiling Exhaust Register
CFM	Cubic Feet per Minute
CHWP	Chilled Water Pump
CRR	Ceiling Return Register
CRU	Computer Room Unit
DDC CF	Direct Digital Control Correction Factor
DES	Design
EAT	Entering Air Temperature
EF	Exhaust Fan
ESP	External Static Pressure
EWT	Entering Water Temperature
FPM	Feet Per Minute
Ft. Hd.	Feet of Head
GPM	Gallons Per Minute
HHWP	Heating Hot Water Pump
HP	Horsepower
LAT	Leaving Air Temperature
LWT	Leaving Water Temperature
MAU	Makeup Air Unit
MAX	Maximum
MIN	Minimum
NG	Not Given
NO	Number
PSI	Pounds per Square Inch
RPM	Revolutions Per Minute
SER	Sidewall Exhaust Register
SF	Service Factor
SP	Static Pressure
SR	Supply Register
SRR	Sidewall Return Register
SZ	Size
VAV	Variable Air Volume
VEL	Outlet Face Velocity
ΔP	Pressure Differential
ΔT	Temperature Differential

CHINOOK

TEST & BALANCE

Equipment List

Equipment	Manufacturer	Model Number	Serial Number	Calibration Date
Flowhood	Alnor	EBT-731	EBT731717002	April 20, 2017
Datameter	Alnor	EBT-731	EBT731717002	April 20, 2017
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Thermometer	Fluke	52 II	90250065	May 5, 2017
Hygrometer	Fluke	971	33850499	May 23, 2017

CHINOOK

TEST & BALANCE

AIR APPARATUS TEST REPORT

Project Dub Zub Tatoo & Piercing Studio **System** F-1

UNIT DATA	
Manufacturer	Trane
Model	TUC1B080A9421AG
Serial	17464H8D2G
Fan Type	Furnace
Rating	1000 CFM
Outside Air	300 CFM

MOTOR DATA			
Manufacturer		NG	
Motor HP	RPM	1/3	1075
Phase	Frame	1	NG
S.F.	Type	NG	NG
Volts	Amps	115	9.4

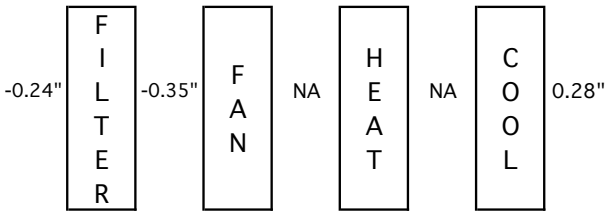
STARTER DATA	
Manufacturer	NA
Model	
Size	
Installed Thermal	
Rating (Amps)	
Required Thermal	
Rating (Amps)	

DRIVE DATA	
Drive Type	Direct Drive
Motor Drive	
Motor Bore	
Fan Drive	
Fan Bore	
No. Belts & Size	
Centerline	
Drive Change	

FAN TEST DATA	
Supply Air CFM	1010
Return Air CFM	722
Outside Air CFM	288

TEST DATA		
	Preliminary	Final
Fan RPM	1075	1075
Volts	121	121
Amps	6.8	6.8

FAN SYSTEM DIAGRAM



Comments: _____

Technician: Casey D. Thompson

CHINOOK TEST & BALANCE

RECTANGULAR DUCT TRAVERSE TEST REPORT

Project Dub Zub Tatoo & Piercing Studio **System** F-1

Location/Zone Return Air **Duct S.P.** -0.23"

Duct size	24 X 9
Duct sq ft	1.50

Required FPM	467
Required CFM	700

Measured FPM	481
Measured CFM	722

Position	1	2	3	4											
1	507	468	493	496											
2	461	479	466	473											
3	472	453	479	462											
4	523	511	470	488											
Velocity Subtotals	1963	1911	1908	1919											

$\left(\frac{7701}{16}\right)$ = (481.31 av. FPM) (1.50 sq. ft.) = 722 CFM

Comments: _____

Technician: Casey D. Thompson

ROUND DUCT TRAVERSE TEST REPORT

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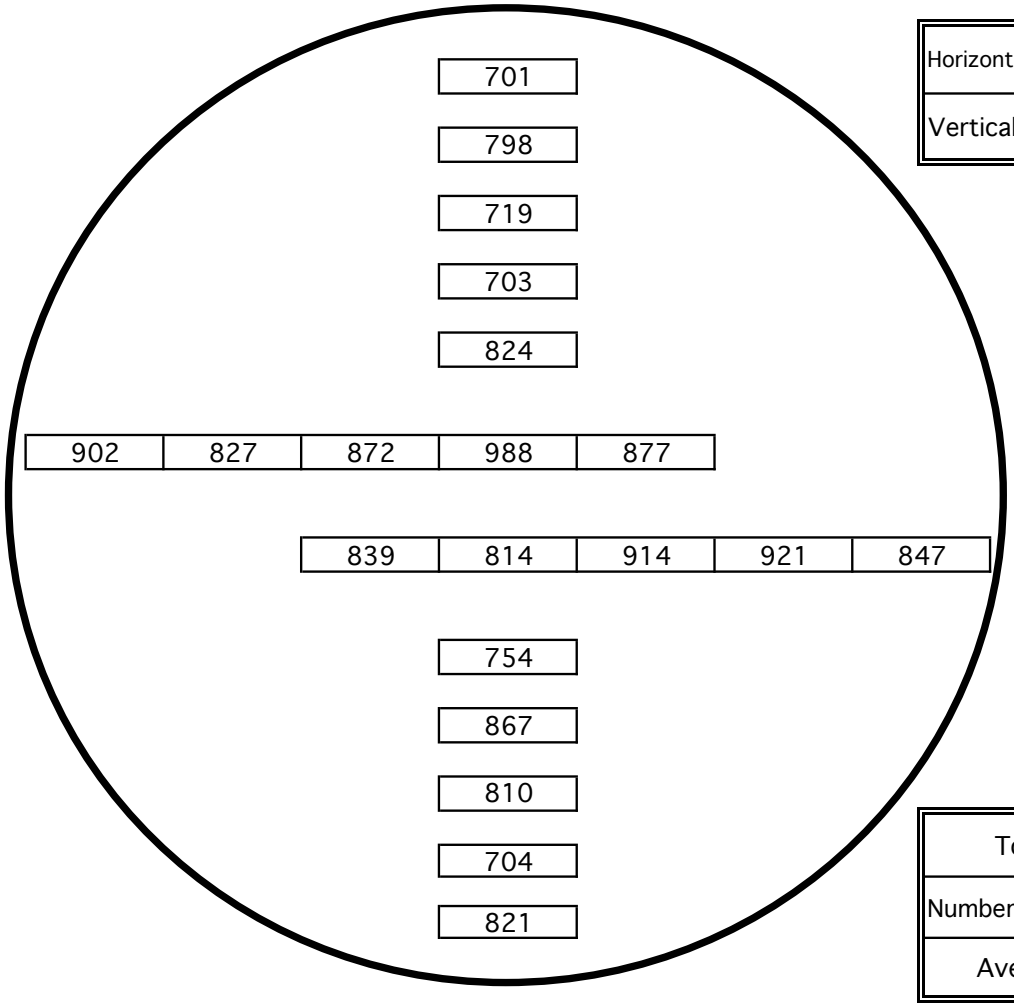
Location/Zone Outside Air **Duct S.P.** -0.11"

Duct size	8
Duct sq ft	0.35

Required FPM	859
Required CFM	300

Measured FPM	825
Measured CFM	288



Horizontal Subtotal	8801
Vertical Subtotal	7701

Total	16502
Number of Points	20
Average	825.1

$$\left(\frac{16502}{20}\right) = (\ 825.10\ \text{av. FPM})\ (\ 0.35\ \text{sq. ft.}\ ) =\ 288\ \text{CFM}$$

Comments:

Technician: Casey D. Thompson

CHINOOK
TEST & BALANCE

AIR OUTLET TEST REPORT

Project Dub Zub Tatoo & Piercing Studio **System** F-1

AREA SERVED	OUTLET				DESIGN		PRELIMINARY		FINAL		% OF DESIGN	NOTES
	NO	TYPE	SIZE	AK	CFM	VEL	CFM	VEL	CFM	VEL		
F-1	1	SD	9X3		250		338		268		107%	
Supply Air	2	SD	9X3		150		89		162		108%	
	3	SD	9X3		150		76		155		103%	
	4	SD	9X3		150		235		153		102%	
	5	SD	9X3		250		76		266		106%	
TOTAL					950				1004		106%	
F-1	1	DUCT	8"		300		288		288		96%	
Outside Air					300				288		96%	

Comments:

Technician: Casey D. Thompson

FAN TEST REPORT

Project Dub Zub Tatoo & Piercing Studio

System Exhaust Fan

FAN NUMBER	EF-1	EF-2	
UNIT DATA	UNIT DATA	UNIT DATA	
Manufacturer	Panasonic	Panasonic	
Model	FV-08VQ5	FV-08VQ5	
Serial	NG	NG	
Fan Type	Exhaust Fan	Exhaust Fan	
Rating	80 CFM	80 CFM	

MOTOR DATA		MOTOR DATA		MOTOR DATA			
Manufacturer		-		-			
Motor HP	R.P.M.	NG	NG	NG	NG		
Phase	Frame	1	NG	1	NG		
S.F.	Type	NG	NG	NG	NG		
Volts		120		120			
Amps		0.7		0.7			

DRIVE DATA	DRIVE DATA	DRIVE DATA	
Drive Type	Direct Drive	Direct Drive	
Motor Drive			
Motor Bore			
Fan Drive			
Fan Bore			
No. Belts & Size			
Center Line			
Drive Change			

STARTER DATA	STARTER DATA	STARTER DATA	
Manufacturer	None	None	
Model			
Size			
Installed Thermal			
Rating (Amps)			
Required Thermal			
Rating (Amps)			

TEST DATA	TEST DATA	TEST DATA	
Fan CFM	77	83	
Fan RPM	NG	NG	
Motor Volts	121	121	
Motor Amps	0.3	0.3	

ATMOS | FAN | 0.01" ATMOS | FAN | 0.02"

Comments:

Technician: Casey D. Thompson

CHINOOK
TEST & BALANCE

AIR OUTLET TEST REPORT

Project Dub Zub Tatoo & Piercing Studio **System** Exhaust Air

AREA SERVED	OUTLET				DESIGN		PRELIMINARY		FINAL		% OF DESIGN	NOTES
	NO	TYPE	SIZE	AK	CFM	VEL	CFM	VEL	CFM	VEL		
EF-1	1	CER	14X14		80		77		77		96%	
TOTAL					80				77		96%	
EF-2	1	CER	14X14		80		83		83		104%	
TOTAL					80				83		104%	

Comments: _____

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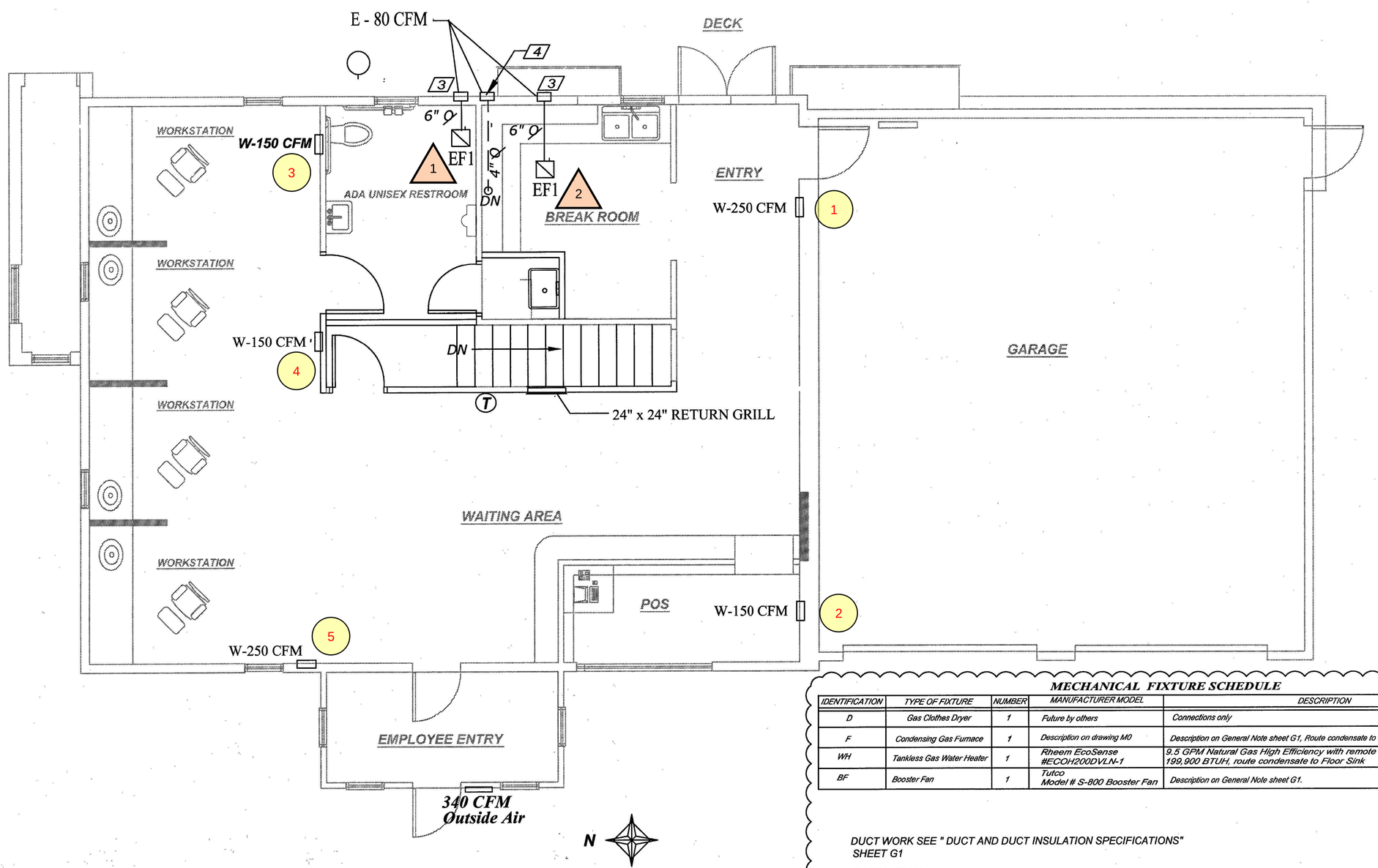


4 M1 MAIN FLOOR HVAC PLAN
Scale: 1/4" =1'-0"

MECHANICAL FIXTURE SCHEDULE

IDENTIFICATION	TYPE OF FIXTURE	NUMBER	MANUFACTURER MODEL	DESCRIPTION
D	Gas Clothes Dryer	1	Future by others	Connections only
F	Condensing Gas Furnace	1	Description on drawing M0	Description on General Note sheet G1, Route condensate to Floor Sink
WH	Tankless Gas Water Heater	1	Rheem EcoSense #ECOH200DVLN-1	9.5 GPM Natural Gas High Efficiency with remote T'stat, direct-vent, .94 energy factor, 199,900 BTUH, route condensate to Floor Sink
BF	Booster Fan	1	Tutco Model # S-800 Booster Fan	Description on General Note sheet G1.

DUCT WORK SEE " DUCT AND DUCT INSULATION SPECIFICATIONS" SHEET G1

VENTILATION

THE SPACE VENTILATION IS BASED ON (1) OCCUPIED ZONE HAVING A MAXIMUM OCCUPANCY OF 14 PERSONS. HVAC SYSTEM SUPPLIES 340 CFM OF OUTSIDE AIR, OR 14 x20 = 280 CFM PLUS 60 CFM FOR THE SPACE.

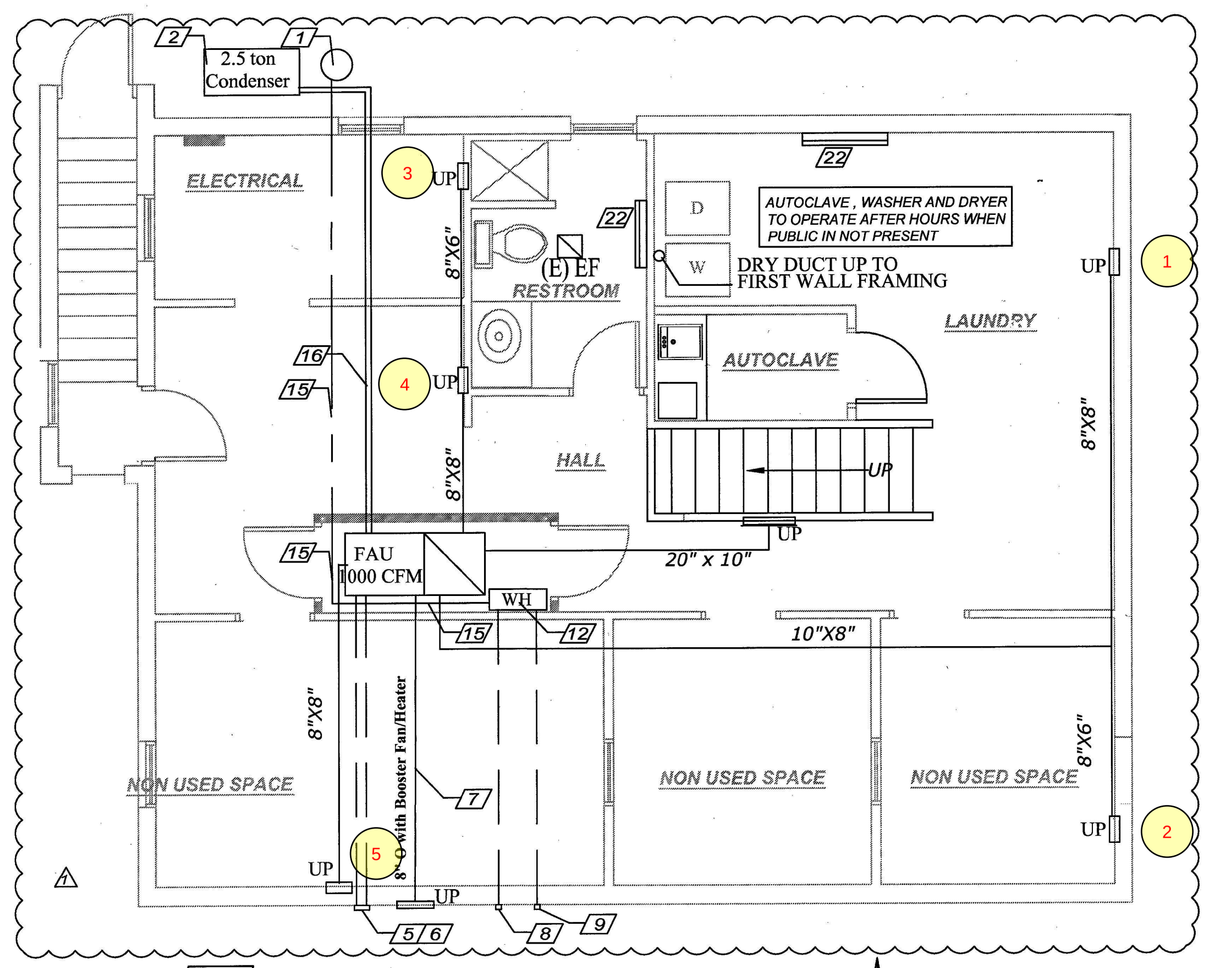
SHEET NOTES:

A. REF GENERAL NOTE SHEET G1 FOR MECHANICAL NOTES
B. DUCTWORK SHOWN IS INSTALLED DIRECTLY BELOW THE FLOOR IN THE FIRST FLOOR JOIST SPACE.
C. RETURN AND SUPPLY PLENUMS ON FURNACE TO BE ADJUSTED IN SIZE FOR SPECIFIC EQUIPMENT SUPPLIED..
D. EXISTING GAS PIPING CAN BE REUSED AT THE CONTRACTERS DISCRETION PROVIDED IT IS FOUND IN GOOD CONDITION. NEW LINES SHALL BE EXTENDED TO NEW WATER HEATER, FURNACE AND DRYER, SIZED PER THE MANUFACTURER'S RECOMMENDATONS. ALL CONNECTIONS TO EQUIPMENT SHALL BE PROVIDED WITH 6" MINIMUM DRIP LEGS AND AGA APPROVED SHUTOFF VALVES THAT ARE READILY ACCESIBLE.
E. FOR DETAILS ON INSTALLING SUPPLY GRILLES SEE 1/M1
F. FOR ENLARGED PLAN VIEW OF MECHANICAL ROOM SEE DRAWING 2/M1.
G. ALL (E) DUCTWORK, FURNACE AND ASSOCIATED APPURTENANCES TO BE REMOVED
H. (E) GAS METER TO BE RELOCATED TO ACCOMMODATE (P) CONSTRUCTION . 1
I. (E) GAS LINE WITHIN BASEMENT TO SERVE (P) FURNACE AND WATER HEATER .

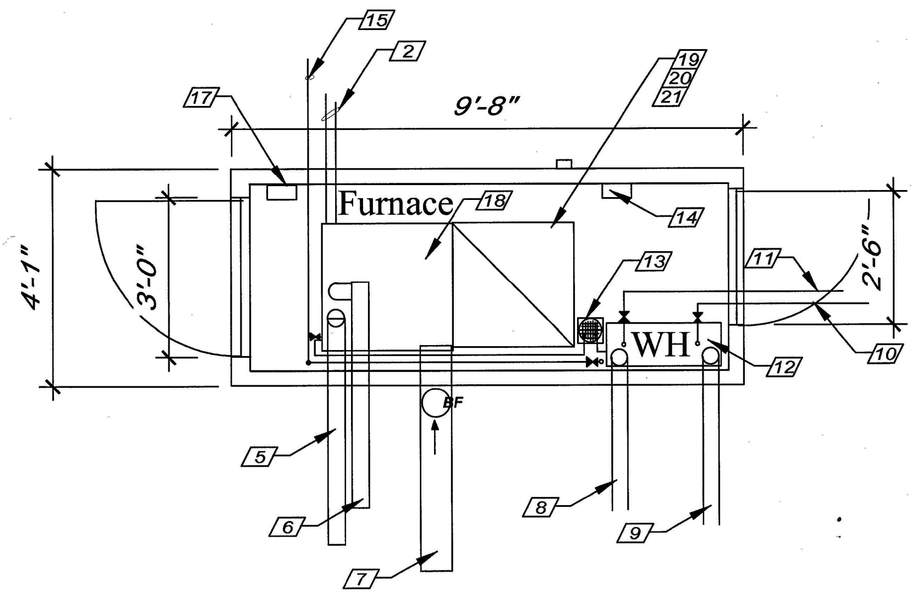
KEYED NOTES:

1. (E) GAS METER 1
2. REFRIGERANT LINES FOR NEW AC SYSTEM COORDINATE LOCATION WITH NEW CONSTRUCTION.
3. FANS AND DUCTS ARE INSTALLED ABOVE FIRST FLOOR CEILING
4. DUCT IS INSTALLED WITHIN FIRST FLOOR JOIST SPACE AND SERVES CLOTHES DRYER.
5. 3" PVC CONDENSING FURNACE EXHAUST LINE TO SIDEWALL VENT ASSEMBLY PER MANUFACTURER'S REQUIREMENTS.
6. 3" PVC CONDENSING FURNACE OUTSIDE AIR INTAKE LINE TO SIDEWALL PER MANUFACTURER'S REQUIREMENTS.
7. 8" ROUND DUCT TO INTAKE SCREEN ON WEST WALL, FITTED WITH BOOSTER FAN AND HEATER WITH OCCUPANCY TIMER FOR 300 CFM FRESH AIR SUPPLY.
8. PVC CONDENSING WATER HEATER EXHAUST LINE TO SIDEWALL VENT ASSEMBLY PER MANUFACTURER'S REQUIREMENTS.
9. PVC CONDENSING WATER HEATER INTAKE LINE TO SIDEWALL VENT ASSEMBLY PER MANUFACTURER'S REQUIREMENTS.
10. 3/4" PEX COLD WATER SUPPLY LINE TO WATER HEATER.
11. 3/4" PEX HOT WATER SUPPLY LINE TO FIXTURES.
12. CONDENSING TANKLESS, WALL MOUNTED WATER HEATER, SEE SHEET P1 FOR SPECIFICATIONS.
13. FLOOR SINK FOR CONDENSATE DISPOSAL.
14. SINGLE PHASE DISCONNECT FOR WATER HEATER POWER SUPPLY.
15. (E) 1" BLACK STEEL GAS LINE TO SERVE FURNACE AND WATER HEATER WITH DRIP LEGS AND SHUTOFF VALVES AT EACH APPLIANCE WITH PIPE SIZE PER MANUFACTURER'S RECOMMENDATIONS. 1
16. REFRIGERANT LINES ROUTED TO CONDENSER WITHIN FLOOR JOIST SPACE, LINE SIZES DETERMINED PER MANUFACTURER'S RECOMMENDATIONS WITH BOTH LINES INSULTATED AND ISOLATED IN HANGERS TO PREVENT VIBRATION TRANMSISSSION TO STRUCTURE, SLOPED AS REQUIRED FOR OIL RETURN TO CONDENSER.
17. SINGLE PHASE DISCONNECT FOR FURNACE POWER SUPPLY.
18. FURNACE IS FITTED WITH A COOLING COIL AND A SUPPLY AND RETURN PLENUM AS REQUIRED TO INTERFACE AND INTEGRATE THE EQUIPMENT INTO A COMPLETE VAV HEATING/COOLING SYSTEM WITH MECHANICALLY ASSISTED VENTILATION TO MEET COMMERCIAL STANDARDS.
19. SEE ELECTRICAL DRAWINGS FOR TIMERS AND OUTSIDE AIR CONTROL DEVICES AND WIRING.
20. FOR ROOM CONSTRUCTION DETAILS REFER TO THE ARCHITECTURAL DRAWINGS.
21. ROOM DOES NOT REQUIRE COMBUSTION AIR SUPPLY AS APPLIANCES USE COMBUSTION AIR DIRECTLY DELIVERED TO THEM FROM THE OUTSIDE.
22. (P) BASE BOARD HEATER

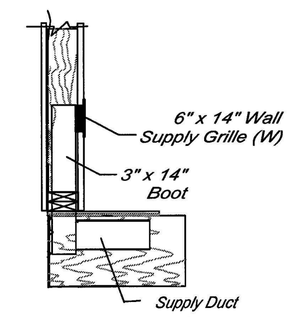
LEGEND: 1



3 M1 BASEMENT HVAC PLAN
Scale: 1/4" =1'-0"



2 M1 MECHANICAL ROOM
Scale: 1/2" =1'-0"



1 M1 WALL GRILLE DETAIL
Scale: NTS

RELEASED FOR PERMIT
APR 27 2017
CJC
RBD Mechanical

AEL
AE LEUKEN, LLC
ARCHITECTURAL ENGINEERS
1122 N. EL PASO ST.
COLORADO SPRINGS, CO 80903
(719) 398 1155
SERVICE@AELEUKEN.COM

DUB ZUB TATTOO & PIERCING STUDIO
3 SWOPE AVE, COLORADO SPRINGS CO. 80909

NO:	DATE:	DESCRIPTION:
1	2/21/17	REGIONAL BUILDING COMMENTS

SEAL:

COLORADO LICENSED JUSTIN C. JOHNSON GARDNER PE.0043285 PROFESSIONAL ENGINEER 04/21/17

DATE:

PROJECT NO: S16222
CHECKED BY:

HVAC PLUMBING

M1 1

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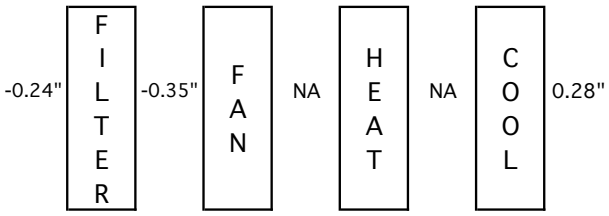

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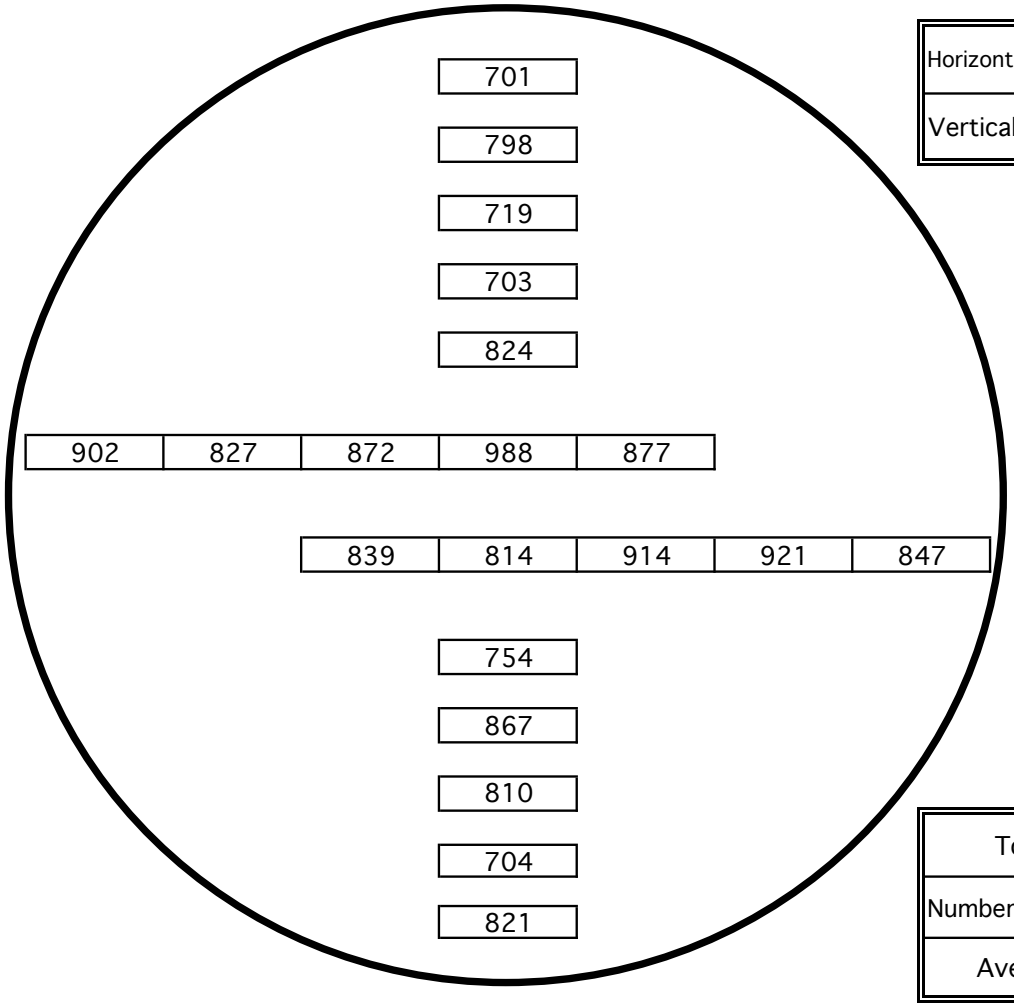

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Number of Points	20
Average	825.1

$$\left(\frac{16502}{20}\right) = (\ 825.10\ \text{av. FPM})\ (\ 0.35\ \text{sq. ft.}\ ) =\ 288\ \text{CFM}$$

Comments:

Technician: Casey D. Thompson

CHINOOK
TEST & BALANCE

AIR OUTLET TEST REPORT

Project Dub Zub Tatoo & Piercing Studio **System** F-1

AREA SERVED	OUTLET				DESIGN		PRELIMINARY		FINAL		% OF DESIGN	NOTES
	NO	TYPE	SIZE	AK	CFM	VEL	CFM	VEL	CFM	VEL		
F-1	1	SD	9X3		250		338		268		107%	
Supply Air	2	SD	9X3		150		89		162		108%	
	3	SD	9X3		150		76		155		103%	
	4	SD	9X3		150		235		153		102%	
	5	SD	9X3		250		76		266		106%	
TOTAL					950				1004		106%	
F-1	1	DUCT	8"		300		288		288		96%	
Outside Air					300				288		96%	

Comments:

Technician: Casey D. Thompson

FAN TEST REPORT

Project Dub Zub Tatoo & Piercing Studio

System Exhaust Fan

FAN NUMBER	EF-1	EF-2	
UNIT DATA	UNIT DATA	UNIT DATA	
Manufacturer	Panasonic	Panasonic	
Model	FV-08VQ5	FV-08VQ5	
Serial	NG	NG	
Fan Type	Exhaust Fan	Exhaust Fan	
Rating	80 CFM	80 CFM	

MOTOR DATA		MOTOR DATA		MOTOR DATA			
Manufacturer		-		-			
Motor HP	R.P.M.	NG	NG	NG	NG		
Phase	Frame	1	NG	1	NG		
S.F.	Type	NG	NG	NG	NG		
Volts		120		120			
Amps		0.7		0.7			

DRIVE DATA	DRIVE DATA	DRIVE DATA	
Drive Type	Direct Drive	Direct Drive	
Motor Drive			
Motor Bore			
Fan Drive			
Fan Bore			
No. Belts & Size			
Center Line			
Drive Change			

STARTER DATA	STARTER DATA	STARTER DATA	
Manufacturer	None	None	
Model			
Size			
Installed Thermal			
Rating (Amps)			
Required Thermal			
Rating (Amps)			

TEST DATA	TEST DATA	TEST DATA	
Fan CFM	77	83	
Fan RPM	NG	NG	
Motor Volts	121	121	
Motor Amps	0.3	0.3	

ATMOS | FAN | 0.01" ATMOS | FAN | 0.02"

Comments:

Technician: Casey D. Thompson

CHINOOK
TEST & BALANCE

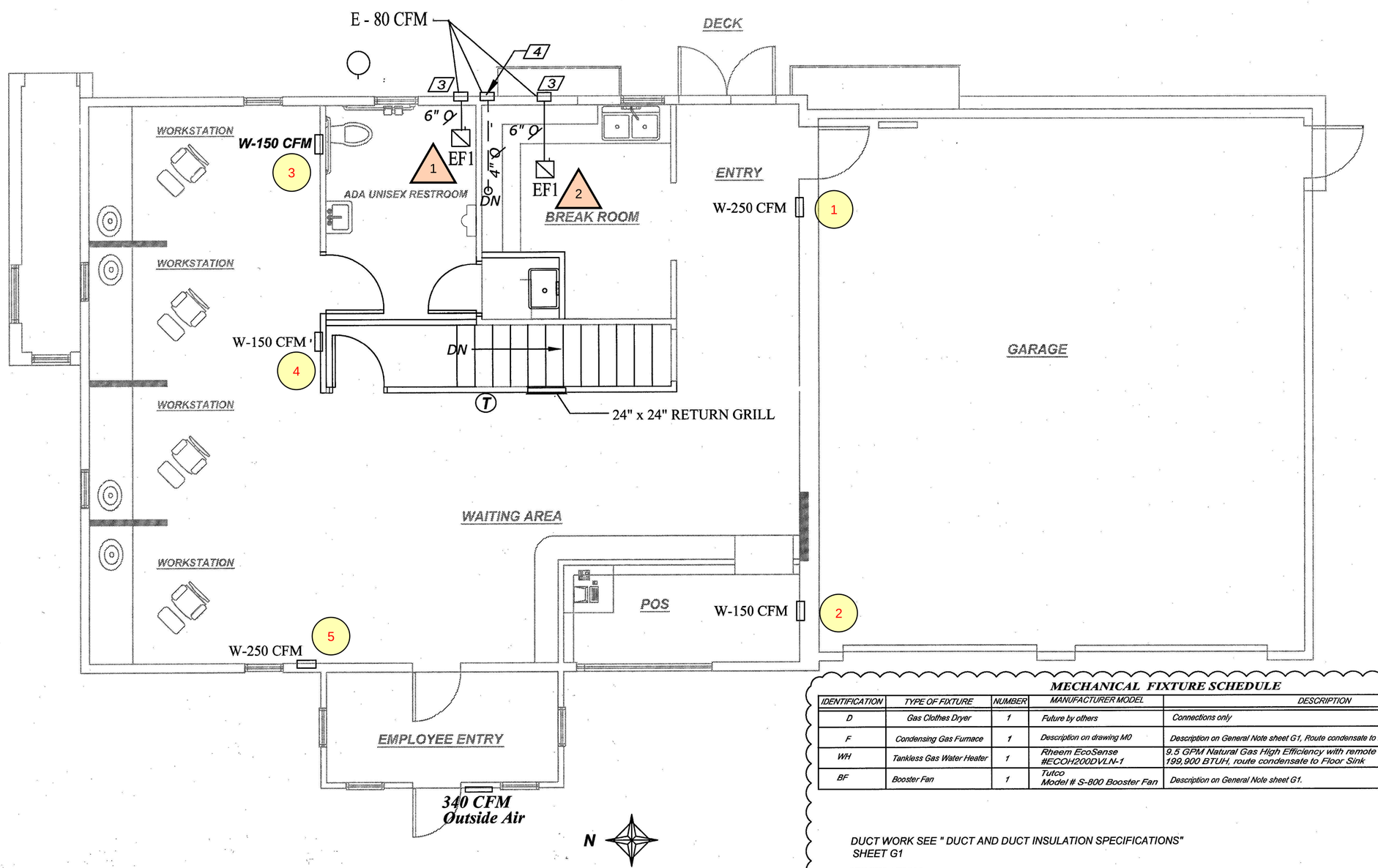
AIR OUTLET TEST REPORT

Project Dub Zub Tatoo & Piercing Studio **System** Exhaust Air

AREA SERVED	OUTLET				DESIGN		PRELIMINARY		FINAL		% OF DESIGN	NOTES
	NO	TYPE	SIZE	AK	CFM	VEL	CFM	VEL	CFM	VEL		
EF-1	1	CER	14X14		80		77		77		96%	
TOTAL					80				77		96%	
EF-2	1	CER	14X14		80		83		83		104%	
TOTAL					80				83		104%	

Comments: _____

Technician: Casey D. Thompson



4 M1 MAIN FLOOR HVAC PLAN
Scale: 1/4" =1'-0"

MECHANICAL FIXTURE SCHEDULE

IDENTIFICATION	TYPE OF FIXTURE	NUMBER	MANUFACTURER MODEL	DESCRIPTION
D	Gas Clothes Dryer	1	Future by others	Connections only
F	Condensing Gas Furnace	1	Description on drawing M0	Description on General Note sheet G1, Route condensate to Floor Sink
WH	Tankless Gas Water Heater	1	Rheem EcoSense #ECOH200DVLN-1	9.5 GPM Natural Gas High Efficiency with remote T'stat, direct-vent, .94 energy factor, 199,900 BTUH, route condensate to Floor Sink
BF	Booster Fan	1	Tutco Model # S-800 Booster Fan	Description on General Note sheet G1.

DUCT WORK SEE " DUCT AND DUCT INSULATION SPECIFICATIONS" SHEET G1

VENTILATION

THE SPACE VENTILATION IS BASED ON (1) OCCUPIED ZONE HAVING A MAXIMUM OCCUPANCY OF 14 PERSONS. HVAC SYSTEM SUPPLIES 340 CFM OF OUTSIDE AIR, OR 14 x20 = 280 CFM PLUS 60 CFM FOR THE SPACE.

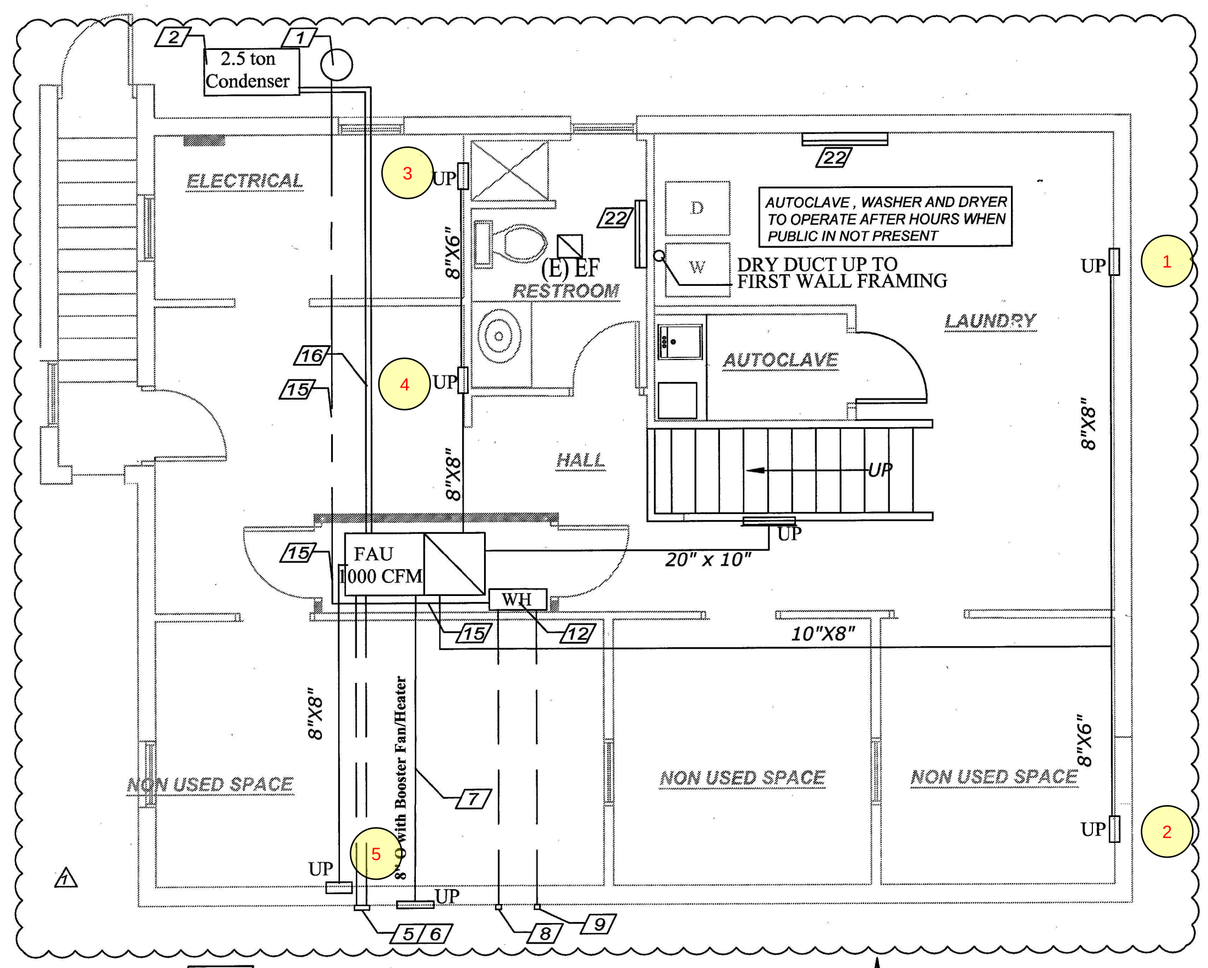
SHEET NOTES:

A. REF GENERAL NOTE SHEET G1 FOR MECHANICAL NOTES
B. DUCTWORK SHOWN IS INSTALLED DIRECTLY BELOW THE FLOOR IN THE FIRST FLOOR JOIST SPACE.
C. RETURN AND SUPPLY PLENUMS ON FURNACE TO BE ADJUSTED IN SIZE FOR SPECIFIC EQUIPMENT SUPPLIED..
D. EXISTING GAS PIPING CAN BE REUSED AT THE CONTRACTERS DISCRETION PROVIDED IT IS FOUND IN GOOD CONDITION. NEW LINES SHALL BE EXTENDED TO NEW WATER HEATER, FURNACE AND DRYER, SIZED PER THE MANUFACTURER'S RECOMMENDATONS. ALL CONNECTIONS TO EQUIPMENT SHALL BE PROVIDED WITH 6" MINIMUM DRIP LEGS AND AGA APPROVED SHUTOFF VALVES THAT ARE READILY ACCESIBLE.
E. FOR DETAILS ON INSTALLING SUPPLY GRILLES SEE 1/M1
F. FOR ENLARGED PLAN VIEW OF MECHANICAL ROOM SEE DRAWING 2/M1.
G. ALL (E) DUCTWORK, FURNACE AND ASSOCIATED APPURTENANCES TO BE REMOVED
H. (E) GAS METER TO BE RELOCATED TO ACCOMMODATE (P) CONSTRUCTION . 1
I. (E) GAS LINE WITHIN BASEMENT TO SERVE (P) FURNACE AND WATER HEATER .

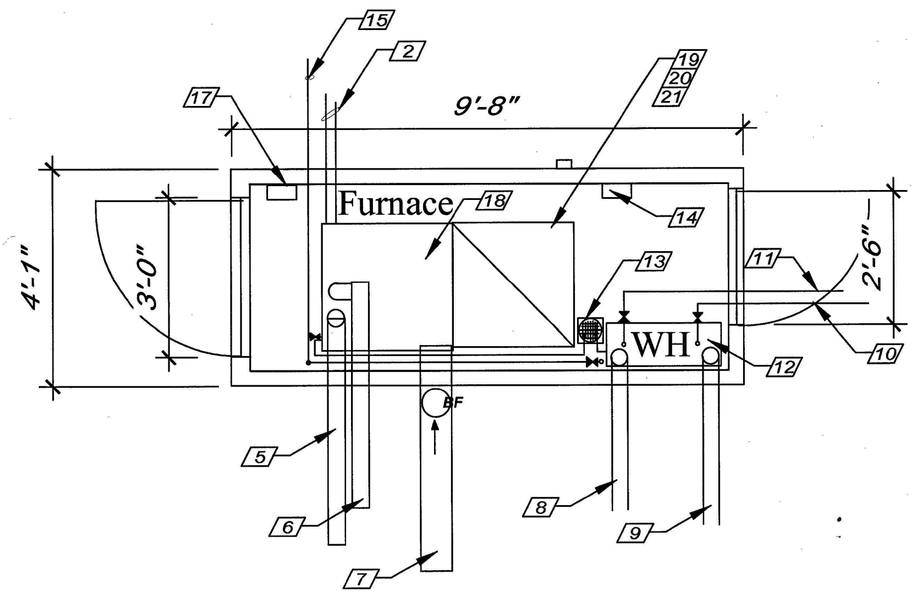
KEYED NOTES:

1. (E) GAS METER 1
2. REFRIGERANT LINES FOR NEW AC SYSTEM COORDINATE LOCATION WITH NEW CONSTRUCTION.
3. FANS AND DUCTS ARE INSTALLED ABOVE FIRST FLOOR CEILING
4. DUCT IS INSTALLED WITHIN FIRST FLOOR JOIST SPACE AND SERVES CLOTHES DRYER.
5. 3" PVC CONDENSING FURNACE EXHAUST LINE TO SIDEWALL VENT ASSEMBLY PER MANUFACTURER'S REQUIREMENTS.
6. 3" PVC CONDENSING FURNACE OUTSIDE AIR INTAKE LINE TO SIDEWALL PER MANUFACTURER'S REQUIREMENTS.
7. 8" ROUND DUCT TO INTAKE SCREEN ON WEST WALL, FITTED WITH BOOSTER FAN AND HEATER WITH OCCUPANCY TIMER FOR 300 CFM FRESH AIR SUPPLY.
8. PVC CONDENSING WATER HEATER EXHAUST LINE TO SIDEWALL VENT ASSEMBLY PER MANUFACTURER'S REQUIREMENTS.
9. PVC CONDENSING WATER HEATER INTAKE LINE TO SIDEWALL VENT ASSEMBLY PER MANUFACTURER'S REQUIREMENTS.
10. 3/4" PEX COLD WATER SUPPLY LINE TO WATER HEATER.
11. 3/4" PEX HOT WATER SUPPLY LINE TO FIXTURES.
12. CONDENSING TANKLESS, WALL MOUNTED WATER HEATER, SEE SHEET P1 FOR SPECIFICATIONS.
13. FLOOR SINK FOR CONDENSATE DISPOSAL.
14. SINGLE PHASE DISCONNECT FOR WATER HEATER POWER SUPPLY.
15. (E) 1" BLACK STEEL GAS LINE TO SERVE FURNACE AND WATER HEATER WITH DRIP LEGS AND SHUTOFF VALVES AT EACH APPLIANCE WITH PIPE SIZE PER MANUFACTURER'S RECOMMENDATIONS. 1
16. REFRIGERANT LINES ROUTED TO CONDENSER WITHIN FLOOR JOIST SPACE, LINE SIZES DETERMINED PER MANUFACTURER'S RECOMMENDATIONS WITH BOTH LINES INSULTATED AND ISOLATED IN HANGERS TO PREVENT VIBRATION TRANMSISSSION TO STRUCTURE, SLOPED AS REQUIRED FOR OIL RETURN TO CONDENSER.
17. SINGLE PHASE DISCONNECT FOR FURNACE POWER SUPPLY.
18. FURNACE IS FITTED WITH A COOLING COIL AND A SUPPLY AND RETURN PLENUM AS REQUIRED TO INTERFACE AND INTEGRATE THE EQUIPMENT INTO A COMPLETE VAV HEATING/COOLING SYSTEM WITH MECHANICALLY ASSISTED VENTILATION TO MEET COMMERCIAL STANDARDS.
19. SEE ELECTRICAL DRAWINGS FOR TIMERS AND OUTSIDE AIR CONTROL DEVICES AND WIRING.
20. FOR ROOM CONSTRUCTION DETAILS REFER TO THE ARCHITECTURAL DRAWINGS.
21. ROOM DOES NOT REQUIRE COMBUSTION AIR SUPPLY AS APPLIANCES USE COMBUSTION AIR DIRECTLY DELIVERED TO THEM FROM THE OUTSIDE.
22. (P) BASE BOARD HEATER

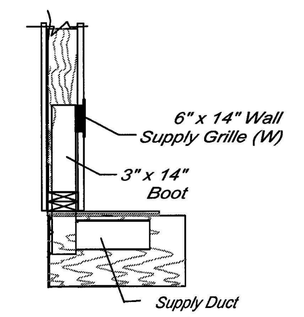
LEGEND: 1



3 M1 BASEMENT HVAC PLAN
Scale: 1/4" =1'-0"



2 M1 MECHANICAL ROOM
Scale: 1/2" =1'-0"



1 M1 WALL GRILLE DETAIL
Scale: NTS

RELEASED FOR PERMIT
APR 27 2017
CJC
RBD Mechanical

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DUB ZUB TATTOO & PIERCING STUDIO
3 SWOPE AVE, COLORADO SPRINGS CO. 80909

NO:	DATE:	DESCRIPTION:
1	2/21/17	REGIONAL BUILDING COMMENTS

SEAL:

COLORADO LICENSED JUSTIN C. JOHNSON GARDNER PE.0043285 PROFESSIONAL ENGINEER 04/21/17

DATE:

PROJECT NO: S16222
CHECKED BY:

HVAC PLUMBING

M1 1