MUI	LTI ZONH	E HEA	T PU	MP S	SCI	HEDUI	LE																
	NDOOR UNIT										CONDENSING U	NIT											
NO.	MAKE & MODEL	LOCATION	COOLING CAPACITY (BTU/HR)	HEATING CAPACITY (BTU/HR)	CFM	ESP V		Ø RATED AMPS (A)	HZ WT (LBS	.) NO.	MAKE & MODEL	COOLING CAPACITY (BTU/HR)	HEATING CAPACITY (BTU/HR)	SEER	HSPF	V	Ø HZ	COMPRESSOR AMPS (A)	FAN MOTOR AMPS (A)	MCA (A)	MOP (A)	WT (LBS.)	REMARKS
FC 1	LG ARNU483BRA4	FOYER/ MUD ROOM/OFFICE	48,100		1582	0.55 208-	230	1 3.5	60 115		LG ARUM192BTE5	192,000	216,000	-	-	208–230	3 60	COMP (A) 23.3	8.0	57.9	80	660	W/ PROGRAMMABLE THERMOSTAT, W/ SELF DIAGNO SETTING W/ MERV-8 FILTER. W/ CONDENSATE OVE SWITCH TO SHUT OFF FAN COIL UNIT.
FC 2	LG ARNU303NJA4	MASTER/ LIVING	30,000	34,000	880	0.5 208-	230	1 1.12	60 120									COMP (B) 20.8					
FC 3	LG ARNU363NJA4	KITCHEN	36,000	40,000	990	0.5 208-	·230	1 1.12	60 121														
FC 4	LG ARNU483BRA4	LIVING/ FAMILY	48,100	51,200	1582	0.55 208-	230	1 3.5	60 115														
FC 5	LG ARNU283BGA45	BASEMENT	28,000	31,500	915	0.39 208-	·230	1 2.65	60 85														

* REFRIGERATION PIPE SIZES SHALL BE COORDINATED WITH MANUFACTURE BASED ON EXACT REFRIGERATION PIPE LENGTHS AND ELBOWS IN THE SYSTEM. ** VERIFY EXACT AVAILABLE VOLTAGE & PHASE, W/ ELECTRICAL ENG. PRIOR TO ORDERING THE AC UNITS, ELECTRICIAN TO VERIFY WITH MANUFACTURER FOR FUSE SIZE & FEEDER SIZE.

	EXHAUS	T FANS	SCHE	DULE	2						
SYMBOL	МАКЕ	MODEL	CFM	S.P	POWE	ELECT	RICA		WT.(LBS)	SERVICE	REMARKS
EF 1	BROAN	XB110	110	0.25	0.3 AMPS	120	1	60	20	POWDER ROOM	ENERGY STAR COMPLIANT EXHAUST FAN W/ BACK DRAFT DAMPER, W/ DISCONNECT SWITCH, RUN CONTINUOUS TO MEET ASHRAE 62.2 COMPLIANCE.
EF 2	BROAN	XB110H	110	0.25"	0.3 AMPS	120	1	60	20	BATHROOM	ENERGY STAR COMPLIANT EXHAUST FAN, W/ BACK DRAFT DAMPER, W/ DISCONNECT SWITCH, CONTROLLED BY LIGHT SWITCH AND BUILT-IN HUMIDISTAT.
$\left(\begin{array}{c} EF \\ 3 \end{array} \right)$	GREENHECK	BCF-106	200	0.25"	1/10 HP	120	1	60	80	MASTER BATH	W/ BACK DRAFT DAMPER, W/ DISCONNECT SWITCH, CONTROLLED BY LIGHT SWITCH AND HUMIDISTAT.
EF 4	BROAN	QTXE150	150	0.25"	0.5 AMPS	120	1	60	20	LAUNDRY	W/ BACK DRAFT DAMPER, W/ DISCONNECT SWITCH, CONTROLLED BY LIGHT SWITCH.
EF 5	BROAN	XB110	110	0.25"	0.3 AMPS	120	1	60	20	TOILET ROOM	W/ BACK DRAFT DAMPER, W/ DISCONNECT SWITCH, CONTROLLED BY LIGHT SWITCH.
EF 6	GREENHECK	BCF-106	300	0.25"	1/10 HP	120	1	60	80	GENERAL EXHAUST	W/ BACK DRAFT DAMPER, W/ DISCONNECT SWITCH, CONTROLLED BY LIGHT SWITCH.

WHOLE-BUILDING VENTILATION REQUIREMENTS (FROM ASHRAE 62.2) AT LEAST ONE MECHANICALVENTILATION SYSTEM IN THE BUILDING MUST BE DESIGNATED FOR USE IN COMPLIANCE WITH THE WHOLE-BUILDING VENTILATION REQUIREMENT. ALTERNATIVELY, THE SUM OF THE RATED AIRFLOWS FROM MULTIPLE FANS CAN BE UTILIZED TO MEET THE REQUIRED WHOLE-BUILDING VENTILATION AIRFLOW. THE SYSTEM(S) MUST DELIVER CONTINUOUS VENTILATION AIRFLOW AT A RATE GREATER THAN OR EQUAL TO THE RATE SPECIFIED IN EQUATION 4.1 g, AND FAN SONE RATINGS MUST NOT EXCEED 1.0. FOR DWELLING OCCUPANT DENSITIES KNOWN TO BE GREATER THAN (N_{BR} + 1), THE RATE SHALL BE INCREASED BY 7.5 CFM FOR EACH ADDITIONAL PERSON.

	Where: A $_{\text{floor}}$ = conditioned floor area, ft ²	Eq 4.1a Calculation:
(Eq. 4.1a) Q _{fan} = 0.03A _{floor} + 7.5(N _{br} + 1)	N $_{br}$ = number of bedrooms; not to be less than one Q $_{fan}$ = ventilation air requirement = fan flow rate, (cfm)	$A_{floor} = 4,885$ $N_{br} = 5$ $Q_{fan} = 192$



	H.	V.A.C.	LEGEND
	SYMBOL	ABBREV.	DESCRIPTION
			DUCT RISER
			DUCT DROP
			DUCT SECTION (SUPPLY)
AGNOSIS OVERFLOW			DUCT SECTION (RETURN)
			DUCT SECTION (EXHAUST)
	$\leftarrow \boxtimes \rightarrow$	C.D.	CEILING DIFFUSER
	∕ ≁∽	R.A.R.	RETURN AIR REGISTER
	++ 🖸	E.G.	EXAUST AIR GRILLE
	↓	S.W.S.	SIDE WALL SUPPLY
	▲ ~~	S.W.R.	SIDE WALL RETURN
		S.W.E.	SIDE WALL EXHAUST
		R.G.	RELIEF GRILLE
		M.V.D.	MANUAL VOLUME DAMPER
		B.D.D	BACK DRAFT DAMPER
		A.V.D.	AUTOMATIC VOLUME DAMPER
		D.L.	DOOR LOUVER
	1	STAT	ROOM THERMOSTAT
		D.H.	DUCT HEATER
		U.C.	UNDER-CUT
	cws	C.W.S.	COND. WATER SUPPLY
	CWR	C.W.R.	COND. WATER RETURN
	—H w s	H.W.S.	HOT WATER SUPPLY
	HWR	H.W.R.	HOT WATER RETURN
	CHWS	CH.W.S.	CHILLED WATER SUPPLY
		CH.W.S. CH.W.R.	CHILLED WATER SUPPLY
		UII. W .N.	
		0.11	DIRECTION OF FLOW
		G.V.	
		B.V.	BUTTERFLY VALVE
		RED.	REDUCER
		STR.	STRAINER
		U	UNION
	Ŷ	P.G.	PRESSURE GAUGE
		A.D.	ACCESS DOOR
		A.P.	ACCESS PANEL
		S.A.	SUPPLY AIR
		R.A.	RETURN AIR
		E.A.	EXHAUST AIR
		C.A.	COMBUSTION AIR
		0.S.A.	OUTSIDE AIR
		DN.	DOWN
		CLG.	CEILING
		S.W.S.	SIDEWALL SUPPLY
		S.W.R.	SIDEWALL RETURN
		N.C.	NORMALLY CLOSED
		N.O.	NORMALLY OPEN
		N.I.C.	NOT IN CONTRACT
		P.O.C.	POINT OF CONNECTION
		G.C.	GENERAL CONTRACTOR
		P.C.	PLUMBING CONTRACTOR
		E.C.	ELECTRICAL CONTRACTOR
		U.T.R.	UP THRU ROOF
			FLEX. CONN. IN DUCT
			TURNING VANES
			EXTRACTORS
	E		FURN. & INST. BY ELEC.
			FURN. & INST. BY MECH.
	$-\otimes$ -		EXPANSION VALVE
		C.A.	CONTROL AIR
			DUCT LINING
		M.C.A.	MAX. CIRCUIT AMPACITY
		T.S.P.	TOTAL STATIC PRESSURE
		F.L.A.	FULL LOAD AMP
		B.D.D.	BACK DRAFT DAMPER
		M.BH	THOUSAND BTUH
		E.R.	EXHAUST REGISTER
		SFD	SMOKE AND FIRE DAMPER
		SD	SMOKE DUCT DETECTOR
			POINT OF CONNECTION
	s		THERMOSTAT SENSOR
		FSD	FLOOR SUPPLY DIFFUSER
		FRD	FLOOR RETURN DIFFUSER
		LSD	LINEAR SLOT SUPPLY DIFFUSER
		LRD	LINEAR SLOT RETURN DIFFUSER
		0.B.D	OPPOSED BLADE DAMPER



SCHEDULES, NOTES, & LEGEND

REVISIONS:	BY:	DATE:	DATE:	
			05/05/2	2018
			00/00/2	.010
			SCALE:	DRAWN:
			1 4"= 1'-0"	K.S.
			SHEET:	
				$\mathbf{\wedge}$
	REVISIONS:	REVISIONS: BY:	REVISIONS: BY: DATE:	05/05/2 SCALE: 1/4"= 1'-0"

GENERAL NOTES:

- 1. CODES, RULES AND REGULATIONS- DESIGN OF SYSTEM A) ALL WORK AND MATERIALS SHALL BE IN FULL ACCORDANCE
- ORDINANCES AND CODES. B) WHEN THE DRAWINGS CALL FOR MATERIALS OR CONSTRUCTION OF A BETTER QUALITY OR LARGER SIZES THAN REQUIRED BY THE ABOVE MENTIONED CODES AND RULES, WORK SHALL BE AS SPECIFIED OR SHOWN RATHER THAN AS REQUIRED BY CODE. ALL ITEMS OR FEATURES OF THE MECHANICAL SYSTEMS REQUIRED BY CODE SHALL BE INCLUDED, EVEN THOUGH NOT SPECIFIED HEREIN.

WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL LAWS,

- C) INSTALLATION OF THE SYSTEMS SHALL BE IN ACCORDANCE WITH THE ABOVE MENTIONED CODES AND REGULATIONS AND ALSO SHALL CONFORM TO GOOD, ACCEPTED MECHANICAL PRACTICES.
- 2. FLEXIBLE CONNECTIONS AT SUPPLY AND RETURN AIR OPENINGS OF ALL AIR CONDITIONING UNITS.
- 3. OBTAIN APPROVAL FROM ARCHITECT FOR ALL FLOOR REGISTERS AND SIDE WALL REGISTERS PRIOR TO PURCHASE.
- 4. CEILING DIFFUSERS TO BE EQUAL TO TITUS SERIES CC WITH O.B.D. FLUSH MOUNTED FOR SUSPENDED T-BAR CEILING AND SURFACE MOUNTED FOR GYPSUM BOARD CEILING.,SEE PLAN FOR LINEAR DIFFUSERS. LINEAR DIFFUSERS SHALL BE CARNES
- 5. COORDINATE EXACT LOCATION OF ALL AIR OUTLETS AND INLETS 6. SIDEWALL SUPPLY AND RETURN REGISTERS TO BE EQUAL TO TITUS LINEAR BAR.
- 7. COORDINATE EXACT LOCATION OF ALL AIR OUTLETS AND INLETS (DIFFUSERS AND REGISTERS) WITH APPROPRIATE ARCHITECTURAL PLANS (REFLECTED CEILING, ELEVATIONS, ETC.) COLOR AS DIRECTED BY ARCHITECT.

DRYER NOTES

- 1- THE MAXIMUM LENGTH OF 5" DUCT SHALL NOT EXCEED 44' (FT.). DEDUCT 4' (FT.) FOR EACH 90° ELBOW.
- 2-PROVIDE CLEANOUTS THAT ARE ACCESSIBLE AND ARE SPACED NOT MORE THAN 20' (FT.) APART, THEY SHALL ALSO BE LOCATED AT BASE OF EACH VERTICAL RISER.
- 3- THE TERMINATION OF THE DUCT SHALL NOT BE RESTRICTED BY ANY LOUVERS OR SCREEN SAND THE FREE AREA OF THE DUCT SHALL NOT BE REDUCED.
- THE DUCT SYSTEM DESIGN SHALL BE SUCH THAT THE 4-SCREWS OR OTHER FASTENERS WILL NOT OBSTRUCT THE
- FLOW THROUGH THE DUCT SYSTEM. 5-THE LAP JOINTS ARE TO BE IN THE DIRECTION OF THE
- AIR FLOW. 6-DUCTS INSTALLED WITHIN A WALL SHALL NOT BE INSTALLED WHERE THE FREE AREA OF THE DUCT WILL BE
- REDUCED IN AREA. 7-DUCT SHALL HAVE BACK DRAFT DAMPER. EXHAUST DUCT LIMITED TO 14'-0" WITH 2 ELBOWS. (UMC 504.3)

- 8. PROVIDE DUCT LINING TO SUPPLY DUCT OF EACH AC UNIT FOR MINIMUM OF 10 FT. DUCT LINING TO BE EQUAL TO JOHNS-MANVILLE, 1" THICK x 1-1/2 PCF DENSITY DUCT LINER. DUCTWORK TO BE INCREASED IN ÉACH DIMENSION TO INCORPORATE THICKNESS OF
- 9. DUCT INSULATION TO CONFORM TO CALIFORNIA ENERGY CONSERVATION STANDARDS (TITLE 24).
- 10. WIRING DIAGRAM IS INTENDED TO INDICATE SEQUENCE OF CONTROL AND DOES NOT NECESSARILY SHOW ALL CONNECTIONS REQUIRED BY LOCAL CODES.
- 11. AUTOMATIC TEMPERATURE CONTROL DEVICE FOR REGULATION OF SPACE TEMPERATURE SHALL BE CAPABLE OF BEING SET FROM 55 TO 85'F, AND HAVE THE ABILITY TO OPERATE THE HEATING AND COOLING IN SEQUENCE. CONTROL SHALL BE ADJUSTABLE TO PROVIDE A RANGE OF UP TO 10°F BETWEEN FULL HEATING AND FULL COOLING AND HAVE CAPABILITY OF TERMINATING ALL HEATING AT A TEMPERATURE NO MORE THAN 70°F, AND COOLING AT A TEMPERATURE NOT LESS THAN 78%.
- 12. ALL EQUIPMENT SHALL BE LABELED AS TO THE SPACE IT SERVES.
- 13. APPLIANCES DESIGNED TO BE FIXED IN POSITION SHALL BE FASTENED IN PLACE.
- 14. PROVIDE SEISMIC BRACING FOR ALL MECHANICAL EQUIPMENT
- STRUCTURE MOUNTED, 400 LBS. OR HEAVIER. 15. A MAINTENANCE LABEL SHALL BE AFFIXED TO MECHANICAL EQUIPMENT AND A MAINTENANCE MANUAL SHALL BE PROVIDED FOR THE OWNERS USE.
- 16. PROVIDE VOLUME DAMPER FOR ALL DUCT WORK BRANCHES.
- 17. PROVIDE CEILING & ROOF ACCESS FOR ALL CEILING & ROOF MOUNTED EQUIPMENT & VOLUME DAMPERS.

A. VERTICAL I METAL STRAP ANGLE BRACKET 1" X 1/8" (STRAP) ¹ " X 1" X 1/8" ANGLE ¹ 1/8" X 1 1/8" X 1/8" ANGLE ¹ 1/2" X 1 1/2" X 1/8" ANGLE ¹ X 2" X 1/8" ANGLE ¹ B. HORIZONTAL 1" X 18" GAUGE ² 1" X 18" GAUGE ²	MAXIMUM DIAMETER OF ROUND DUCTS 10" 20" 40" 60" OVER 60"	STRAP 0.047" (NO. 18 GAGE) GALVANIZED STEEL 2" WIDE 0.058" (NO. 16 GAGE) GALVANIZED STEEL 2" WIDE 1 1/8" STEEL X 1 1/2" 1 1/8" X 2" 1 3/16 STEEL X 2" 1 SAME GAUGE AS GALVANIZED STEEL DUCT, 1" WIDE OR (NO. 18 GAUGE GALVANIZED STEEL WIRE) ON 10' CENTERS	THE FOLLO FRACTION LINEAL DUO METHOD OF ADEQUATE HEATING A APPLICATIO SCHEDULE REQUIREME AIR VOLUME CFM 50 75 100 125 150 175 200	DROF CT. T F DU FOR ND A ND S WILL NT.	POF HIS " CTSI RESI AIRCO IZING COM ULAR THEIC 6% 6X6 8X6 8X6	0.10 ZIN DEN OND BA PLY
ANGLE BRACKET 1" X 1/8" (STRAP) ¹ " X 1" X 1/8" ANGLE ¹ 1/8" X 1 1/8" X 1/8" ANGLE ¹ 1/2" X 1 1/2" X 1/8" ANGLE ¹ X 2" X 1/8" ANGLE ¹ B. HORIZONTAL 1" X 18" GAUGE ² 2	OF ROUND DUCTS 10" 20" 40" 60" OVER 60" DUCTS	0.047" (NO. 18 GAGE) GALVANIZED STEEL 2" WIDE 0.058" (NO. 16 GAGE) GALVANIZED STEEL 2" WIDE 1 1/8" STEEL X 1 1/2" 1 1/8" X 2" 1 3/16 STEEL X 2" 1 SAME GAUGE AS GALVANIZED STEEL DUCT, 1" WIDE OR (NO. 18 GAUGE GALVANIZED STEEL	LINEAL DUC METHOD OF ADEQUATE HEATING A APPLICATIC SCHEDULE REQUIREME AIR VOLUME CFM 50 75 100 125 150 175	CT. T F DU FOR ND A ND. S WILL NT. CTANG 6X4 6X4 6X4 6X4 10X4 10X4	HIS " CT SI RESI AIR CO IZING COM ULAR T HEIC 6" 6X6 8X6 8X6 8X6	IZIN DEN OND BA PLY AND GHT
" X 1" X 1/8" ANGLE ¹ 1/8" X 1 1/8" X 1/8" ANGLE ¹ 1/2" X 1 1/2" X 1/8" ANGLE ¹ X 2" X 1/8" ANGLE ¹ B. HORIZONTAL 1" X 18" GAUGE ² 2	20" 40" 60" OVER 60" DUCTS	GALVANIZED STEEL 2" WIDE 0.058" (NO. 16 GAGE) GALVANIZED STEEL 2" WIDE 1 1/8" STEEL X 1 1/2" 1 1/8" X 2" 1 3/16 STEEL X 2" 1 SAME GAUGE AS GALVANIZED STEEL DUCT, 1" WIDE OR (NO. 18 GAUGE GALVANIZED STEEL	HEATING A APPLICATIO SCHEDULE REQUIREME AIR VOLUME CFM 50 75 100 125 150 175	ND A NN. S WILL NT. CTANG 6X4 6X4 6X4 6X4 10X4 10X4	ULAR COM ULAR T HEIC 6X6 6X6 8X6 8X6	ONE BA PLY AND GHT
1/8" X 1 1/8" X 1/8" ANGLE ¹ 1/2" X 1 1/2" X 1/8" ANGLE ¹ X 2" X 1/8" ANGLE ¹ B. HORIZONTAL 1" X 18" GAUGE ² 2	40" 60" OVER 60" DUCTS	GALVANIZED STEEL 2" WIDE 1 1/8" STEEL X 1 1/2" 1 1/8" X 2" 1 3/16 STEEL X 2" 1 SAME GAUGE AS GALVANIZED STEEL DUCT, 1" WIDE OR (NO. 18 GAUGE GALVANIZED STEEL	SCHEDULE REQUIREME AIR VOLUME CFM 50 75 100 125 150 175	WILL NT. CTANG 4" 6X4 6X4 6X4 8X4 10X4 10X4	COM ULAR T HEIC 6" 6X6 6X6 8X6 8X6	PL1 AND GHT
ANGLE ¹ 1/2" X 1 1/2" X 1/8" ANGLE ¹ X 2" X 1/8" ANGLE ¹ B. HORIZONTAL 1" X 18" GAUGE ² 2	60" OVER 60" DUCTS	1/8" X 2" 1 3/16 STEEL X 2" 1 SAME GAUGE AS GALVANIZED STEEL DUCT, 1" WIDE OR (NO. 18 GAUGE GALVANIZED STEEL	AIR VOLUME CFM 50 75 100 125 150 175	CTANG DUC 4" 6X4 6X4 6X4 8X4 10X4 10X4	T HEIC 6" 6X6 6X6 8X6 8X6	GHT
ANGLE ¹ X 2" X 1/8" ANGLE ¹ B. HORIZONTAL 1" X 18" GAUGE ²	OVER 60"	3/16 STEEL X 2" 1 SAME GAUGE AS GALVANIZED STEEL DUCT, 1" WIDE OR (NO. 18 GAUGE GALVANIZED STEEL	CFM 50 75 100 125 150 175	4" 6X4 6X4 8X4 10X4 10X4	6" 6X6 6X6 8X6 8X6	
B. HORIZONTAL 1" X 18" GAUGE 2 2	DUCTS	SAME GAUGE AS GALVANIZED STEEL DUCT, 1" WIDE OR (NO. 18 GAUGE GALVANIZED STEEL	50 75 100 125 150 175	6X4 6X4 8X4 10X4 10X4	6X6 6X6 8X6 8X6	
1" X 18" GAUGE 2		STEEL DUCT, 1" WIDE OR (NO. 18 GAUGE GALVANIZED STEEL	100 125 150 175	8X4 10X4 10X4	6X6 8X6 8X6	
1" X 18" GAUGE 2		STEEL DUCT, 1" WIDE OR (NO. 18 GAUGE GALVANIZED STEEL	150 175	10X4	8X6 8X6	
1" X 18" GAUGE	10"	STEEL DUCT, 1" WIDE OR (NO. 18 GAUGE GALVANIZED STEEL	175		8X6	
2	10"	18 GAUGE GALVANIZED STEÈL		12X4		
1" X 18" GAUGE 2			200			
				14X4		
			225	16X4		
1" X 1/8" ²	20"	SAME CALICE AS CALVANIZED	250	16X4		
1" X 1/8" 2		GALVANIZED STEEL WIRE) TIED				
2	40"					
1" X 1/8" -						_
	_	SAME GAUGE AS GALVANIZED				_
	60"	STEEL DUCT, 1-1/2" WIDE				
		ON 6' CENTERS.				
	OVEP 60"	SAME GAUGE AS GALVANIZED			<u>30X6</u>	20)
	OVER OU	STEEL DUCT, 1-1/2" WIDE			—	22>
		UN 4 CENTERS.			┝──	24>
					├──	26>
HORIZONTAL-DUCTS-TRAF	EZE-TYPE SUPPORTS				<u> </u>	28) 30)
					├──	130/
	H	HANGER			┝───	├──
					├──	├──
1/2" X 1-1/2" X 1/8"	1/4" ROUND ROD OR 1" >	<pre>< 1" X 1/8" ANGLE</pre>				
					├───	├──
2" X 2" X 1/8"	1/4" ROUND ROD OR 1" >	<pre>x 1" X 1/8" ANGLE</pre>	2000			
2" X 2" X 1/8"	5/16" ROUND ROD OR 1"	X 1" X 1/8" ANGLE				
2" X 2" X 1/8"	3/8" ROUND ROD OR 1"	X 1" X 1/8" ANGLE				
	1 X 1/8 2 1" X 1/8" 2 1" X 1/8" 2 1" X 1/8" 2 HORIZONTAL-DUCTS-TRAF HORIZONTAL ³ SUPPORT ANGLE /2" X 1-1/2" X /2" X 1-1/2" X 2" X 2" X 2" X 2" X 2" X 2" X 2" X 2" X 4AN 12 FEET ON CENTERS	1 X 1/8 20 1" X 1/8" 40" 1" X 1/8" 60" OVER 60" HORIZONTAL-DUCTS-TRAPEZE-TYPE SUPPORTS HORIZONTAL ³ SUPPORT ANGLE /2" X 1/8" 1/4" ROUND ROD OR 2" X 2" X 1/8" 2" X 2" X 1/8"	1X1/821*X1/821*X1/821*X1/821*X1/821*X1/821*X1/821*X1/821*X1/821*X1/821*X1/821*X1/821*X1/821*X1/4600*SAME GAUGE AS GALVANIZED STEEL BAND AROUND DUCT ON 10' CENTERS0*60SAME GAUGE AS GALVANIZED ON 6' CENTERS.0*0*SAME GAUGE AS GALVANIZED STEEL DUCT, 1-1/2" WIDE ON 6' CENTERS.HORIZONTAL-DUCTS-TRAPEZE-TYPE SUPPORTSSAME GAUGE AS GALVANIZED STEEL DUCT, 1-1/2" WIDE ON 4' CENTERS.HORIZONTAL1/4" ROUND ROD OR 1" X1" X1/2" X1/8"1/4" ROUND ROD OR 1" X1" X2" X2" X1/8"1/4" ROUND ROD OR 1" X1" X2" X2" X1/8"3/8" ROUND ROD OR 1" X1" X2" X2" X1/8"3/8" ROUND ROD OR 1" X1" X4" X1/8" ANGLE3/8" ROUND ROD OR 1" X1" X4" X1/8" ANGLE1.4" X1.4" ANGLE	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1 X 1/8 20 SAME GAUGE AS GAUXANIZED 1* X 1/8* 2 40* STEEL 1* WIDE OR (NO. 8 GAGE GAUXANIZED TO 1" GAUXANIZED STEEL BAND AROUND DUCT ON 10' CENTERS 300 1* X 1/8* 2 60* SAME GAUGE AS GAUXANIZED STEEL BAND AROUND DUCT ON 10' CENTERS 600 60* SAME GAUGE AS GAUXANIZED STEEL DUCT, 1-1/2* WIDE ON 6' CENTERS. 600 600 0VER 60* SAME GAUGE AS GAUXANIZED STEEL DUCT, 1-1/2* WIDE ON 4' CENTERS. 600 600 HORIZONTAL-DUCTS-TRAPEZE-TYPE SUPPORTS SAME GAUGE AS GAUXANIZED ON 4' CENTERS. 900 1100 HORIZONTAL ³ HANGER 1400 1200 1300 2* X 2* X 1/8* 1/4* ROUND ROD OR 1* X 1* X 1/8* ANGLE 1800 1700 2* X 2* X 1/8* 5/16* ROUND ROD OR 1* X 1* X 1/8* ANGLE 1900 2000 2* X 2* X 1/8* 5/16* ROUND ROD OR 1* X 1* X 1/8* ANGLE 1900 1000 2* X 2* X 1/8* 3/8* ROUND ROD OR 1* X 1* X 1/8* ANGLE 1900 100 2* X 2* X 1/8* 3/8* ROUND ROD OR 1* X 1* X 1/8* ANGLE 1900 100	1 * X 1/8 20 SAME GAUGE AS GAUVANIZED 1* X 1/8 2 A0" STEL 1" WID GOR (NO. 8 GAGE GAUVANIZED STEL WIRE) TED TO 1" GAUVANIZED STEL BAND AROUND DUCT ON 10' CENTERS 1* X 1/8" 2 40" GAUVANIZED STEL WIRE) TED TO 1" GAUVANIZED STEL BAND AROUND DUCT ON 10' CENTERS 60" SAME GAUGE AS GAUVANIZED STEL DUCT, $1-1/2"$ WIDE ON 6' CENTERS. 500 18X6 0 VER 60" SAME GAUGE AS GAUVANIZED STEEL DUCT, $1-1/2"$ WIDE ON 6' CENTERS. 800 26X6 0 VER 60" SAME GAUGE AS GAUVANIZED ON 6' CENTERS. 900 30X6 HORIZONTAL-DUCTS-TRAPEZE-TYPE SUPPORTS STEEL DUCT, $1-1/2"$ WIDE ON 4' CENTERS. 1100 1200 HORIZONTAL3 HANGER 1300 1100 1200 14400 1200 2" X 2" X 1/8" 1/4" ROUND ROD OR 1" X 1" X 1/8" ANGLE 1500 1100 1800 1900 1900 2000 1000 1900 1900 1400 1800 1400 14400 14400 14400 14400 14400 14400 14400 1800 1900 1800 1900 1900 1900 12000 1800 1900 1900 1800 1900 1800 1800 </td

³SPACED NOT MORE THAN 8 FEET ON CENTERS.



- 18. TRANSVERSE JOINTS FOR ALL AIR SUPPLY DUCTS INSTALLED WHERE AIR LEAKAGE WOULD BE NON-BENEFICIAL TO THE OCCUPIED AREA, TEMPERATURE REQUIREMENTS SHALL BE SEALED WITH CITY OF LOS ANGELES APPROVED MASTIC OR TAPE.
- 19. PROVIDE GALVANIZED SHEET METAL DUCTS FABRICATED AND INSTALLED TO UMC 2014 EDITION.
- 20. REFRIGERANT PIPING TO BE TYPE "L" COPPER, REFRIGERATION GRADE. FITTINGS TO BE WROUGHT COPPER WITH JOINTS MADE UP WITH "SOLIFOS" OR EQUAL HARD SOLDER. ALL JOINTS TO BE ROUGHLY CLEANED PRIOR TO SOLDERING. 21. REFRIGERANT SUCTION
- A) INSULATE WITH PERFORMED FIBERGLASS SNAP-ON INSULATION SUCH AS 25 ASL/SSL.
- B) FOR PIPES UP TO 1" DIAMETER, PROVIDE 1" THICK INSULATION.
- C) FOR PIPES 1" DIAMETER AND LARGER, PROVIDE 1-1/2" THICK INSULATION.
- D) WHERE INSULATION IS EXPOSED TO WEATHER, PROTECT WITH WATER PROOF CORRUGATED ALUMINUM TO BE INTACT WITH NO GAPS OR TEARS.
- E) INSTALL INSULATION IN ACCORDANCE WITH INSULATION MANUFACTURER'S RECOMMENDATION SEAL. TRANSMISSION WITH SSL BUTT STRIPS, VAPORSEAL COVER
- 22. MAINTAIN 10' SEPARATION BETWEEN AIR INTAKE TO THE BUILDING AND ANY EXHAUST OR VENT.EXTEND THE OSA. IF REQUIRED.
- 23. PROVIDE FIRE DAMPER OR SMOKE FIRE DAMPER WHERE DUCT PENETRATES FIRE RATED CEILING OR WALL IF APPLICABLE.

- 24. RECTANGULAR DUCTS CAN BE SUBSTITUTED WITH EQUIVALENT ROUND DUCTS WHERE APPLICABLE PER FOLLOWING SCHEDULE.
- <u>CFM</u> DUCT SIZE 0-110 110-240 8"ø 240-420 10"9 420-675 12"ø 675-1050 1050-1500 16" 1500-2000 18" 2000-2600 20**"**ø
- FOR FLEX DUCT INSTALLATION, ALL ABOVE DUCT SIZES SHALL BE INCREASED TO ONE SIZE LARGER. 25. THE PROJECT SHALL BE AIR BALANCED BY AN AIR BALANCE CONTRACTOR AND A COPY OF THE FINAL REPORT SHALL BE PRESENTED
- TO THE TENANT AND OWNER. 26. THE MECHANICAL CONTRACTOR SHALL SECURE AND PAY FOR ALL REQUIRED PERMITS AND FEES.
- 27. MECHANICAL CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO BID AND VERIFY EXISTING LOCATION OF ALL EQUIPMENT AND THEIR WORKING CONDITION PRIOR TO WORK. ANY DICREPANCY SHALL BE REPORTED TO ARCHITECT.
- 28. ENERGY CONSERVATION STANDARDS FOR NEW RESIDENTIAL BUILDINGS HAVE BEEN REVIEWED AND DESIGNED SUBSTANTIALLY CONFORMS TO THEM.
- 29. ALL DUCT SIZES SHOWN ON THE FLOOR PLANS ARE CLEAR INSIDE DIMENSIONS. CONTRACTOR SHALL ENLARGE THE DUCT IN ORDER TO ACCOMODATE LINING INSIDE OF DUCT IF REQUIRED.
- 30. SUCTION AND LIQUID LINE SIZES INDICATED ON THE SCHEDULE ABOVE ARE BASED ON 25' OF RUN, INCREASE PIPE SIZE FOR RUNS MORE THAN 25' AND CONSULT WITH MANUFACTURER FOR SIZING.

- EXTRA COST IS ALLOWABLE FOR LACK OF COORDINATION AFTER SHOP DRAWINGS ARE SUBMITTED.
- EXAMINATION.
- VENTILATED IN ACCORDANCE WITH CALIFORNIA MECHANICAL CODE 2007 CBC 1203.4.2.1.
- SHALL BE GALVANIZED SHEET METAL. STRAIGHT RUNS ONLY.

ZII	NG												
" SI SI C(G	ES ARE BASED ON A 0.10 INCHES PER FT OF "EQUAL-FRICTION" SIZING SHOULD BE SIDENTIAL FURNACE CONDITIONING G BASED ON THIS MPLY WITH MANUAL "D"												
R.	AND R	OUND	DUCT										
EIC	HT IN 8"	CHES	12"	EQUIVALENT ROUND DUCT									
_	ō	10	12	5"									
				6 "									
3				6"									
3				7"									
				7"									
5 5 5				8"									
5				8"									
6				8"									
6				9"									
6	8X8			9"									
6	8X8			9"									
6	10X8			10"									
6		10X10		11"									
6		12X10		12"									
6		12X10		12"									
6		14X10		13"									
6		16X10		14"									
		16X10		14"									
		18X10		15"									
		20X10		16"									
		20X10		16"									
	30X8	22X10		16"									
			20X12	16"									
			20X12	17"									
		28X10	22X12	17"									

18" 18"

28X1022X12 30X1022X12

24X12

DUCT	ALUMINUNM	STEEL-THIC	KNESS IN INC	GIRTH JOINTS ¹					
DIAMETER	B. & S. GAGE	PRESSU	RE<2" WC ²	PRESSURE>	2"<10" WC			MINIMUM GIRT	
MAX WIDTH (IN INCHES)	LOW PRESSURE ROUND	ROUND	FLAT-OVAL	SPIRAL SEAM	LONGITUDINAL SEAM	WELDED FITTINGS	MEDIUM & HIGH PRESSURE	REINFORCING, MAX. SPACING & ANGLE SIZE	
UP TO 9	24	0.019 (26)	0.024 (24)	0.019 (26)	0.024 (24)	0.030 (22)	2" SLIP	NONE	
9 TO 14	24	0.019 (26)	0.024 (24)	0.024 (24)	0.030 (22)	0.036 (20)	4" SLIP	NONE	
14 TO 23	22	0.024 (24)	0.030 (22)	0.024 (24)	0.030 (22)	0.036 (20)	4" SLIP	NONE	
23 TO 37	20	0.030 (22)	0.036 (20)	0.030 (22)	0.036 (20)	0.036 (20)	4" SLIP	NONE	
37 TO 51	18	0.036 (20)	0.047 (18)	0.036 (20)	0.036 (20)	0.047 (18)	1 1/4"X1 1/4" X1/8" FLANGE		
51 TO 61	16	0.047 (18)	0.058 (16)	x (18)	0.047 (18)	0.047 (18)	1 1/4"X1 1/4" X1/8" FLANGE	1 1/4"X 1 1, X1/8"	
61 TO 84	14	0.058 (16)	0.070 (14)	×	0.058 (16)	0.058 (16)	1 1/2"X1 1/2" X1/8" FLANGE	1 1/2"X 1 1 X1/8" ON 4	

²ACCEPTABLE LONGITUDINAL SEAMS FOR LOW-PRESSURE SYSTEMS: ACME (GROOVED); SNAP LOCK; STANDING AND SPIRAL.

	SIDEWALL	DIFFUSER	S
SIZE IN.	OUTLET VELOCITY	THROW FEET	CFM
10 X 6	440	8	100
12 X 6	450	9	125
14 X 6	450	10	150
16 X 6	450	11	180
20 X 6	450	12	225
24 X 6	450	14	275
30 X 6	450	15	330
24 X 8	450	16	360
L			

SUPPLY DIF	FUSER & CEI	LING RETURN	I CFM TABLE
(CEILING SUP	D) PLY DIFFUSER	(CI CEILING RET	R) URN GRILLE
SIZE	CFM RANGE	SIZE	CFM RANGE
6X6	0-100	6X6	0-100
8X8	101-225	8X8	101–150
10X10	226-350	10X10	151–200
12X12	351-500	12X12	201–340
14X14	501-680	14X14	341-450
16X16	681-900	16X16	451-600
18X18	901-1120	18X18	601-800
20X20	1121-1395	20X20	801-1000
22X22	1396-1680	22X22	1001-1400
24X24	1681-2000	24X24	1401-1800

LINEA	INEAR SLOT DIFFUSER SCHEDULE (SUPPLY)													
MARK	MANUFACTURER	MODEL	FACE SIZE (IN)	NUMBER OF SLOTS	CFM/FT.	TOTAL CFM	PLENUM MODEL	NC (NOISE CRITERIA)	NOTES					
<u>LS-1</u> (UNIT SUPPLY)	TITUS	FL10	4'-0" LONG-1" SLOT	1	25	-	FBPI-10	<22	A,B,C,E,F					
<u>LS-2</u> (UNIT SUPPLY)	TITUS	FL10	10'-0" LONG-1" SLOT	1	39	-	FBPI-10	<22	A,B,C,E,F					
<u>LS-3</u> (UNIT SUPPLY)	TITUS	FL10	10'-0" LONG-1" SLOT	1	37	-	FBPI-10	<22	A,B,C,E,F					
<u>LS-4</u> (UNIT SUPPLY)	TITUS	FL10	1'-0" LONG-1" SLOT	1	20	-	FBPI-10	<22	A,B,C,E,F					
IF OTHER MOI	OTHER MODEL/MANUFACTURER IS USED, ARCHITECT/CONTRACTOR TO SIZE DIFFUSER UNDER 22 NC.													
LINEA	INEAR REGISTER SCHEDULE (RETURN)													
MARK	MANUFACTURER	MODEL	FACE SIZE (IN)	NUMBER OF SLOTS	CFM/FT.	TOTAL CFM	PLENUM MODEL	NC (NOISE CRITERIA)	NOTES					
<u>LR-1</u> (UNIT RETURN)	TITUS	FL30	7'-0" LONG-3.0" SLOT	2	176	-	FBPI-30	<22	A,B,C,E,F					
<u>LR-2</u> (UNIT RETURN)	TITUS	FL15	4'-0" LONG-1.5" SLOT	1	46.25	-	FBPI-15	<22	A,B,C,E,F					
<u>LR-3</u> (UNIT RETURN)	TITUS	FL15	11'-0" LONG-1.5" SLOT	1	46.36	-	FBPI-15	<22	A,B,C,E,F					
IF OTHER MOL	DEL/MANUFACTUREF	R IS USED, ARCHITEC	T/CONTRACTOR TO SIZE	DIFFUSER	UNDER 22 N	IC.								
LINEA	R REGI	ISTER S	CHEDULE	(E)	KHAU	ST)								
MARK	MANUFACTURER	MODEL	FACE SIZE (IN)	NUMBER OF SLOTS	CFM/FT.	TOTAL CFM	PLENUM MODEL	NC (NOISE CRITERIA)	NOTES					
<u>LE–1</u> (EXHAUST)	TITUS	FL30	6'-0" LONG-3" SLOT	1	83	-	FBPI-30	<22	A,B,C,E,F					
<u>LE–2</u> (EXHAUST)	TITUS	FL30	2'-0" LONG-2" SLOT	2	100	-	FBPI-20	<22	A,B,C,E,F					

LINEA	AR SLOT	I DIFFU	SER SCH	EDU	LE (SUP	LY)							
MARK	MANUFACTURER	MODEL	FACE SIZE (IN)	NUMBER OF SLOTS	CFM/FT.	TOTAL CFM	PLENUM MODEL	NC (NOISE CRITERIA)	NOTES					
<u>LS-1</u> (UNIT SUPPLY)	TITUS	FL10	4'-0" LONG-1" SLOT	1	25	-	FBPI-10	<22	A,B,C,E,F					
<u>LS-2</u> (UNIT SUPPLY)	TITUS	FL10	10'-0" LONG-1" SLOT	1	39	-	FBPI-10	<22	A,B,C,E,F					
<u>LS-3</u> (UNIT SUPPLY)	TITUS	FL10	10'-0" LONG-1" SLOT	1	37	-	FBPI-10	<22	A,B,C,E,F					
<u>LS-4</u> (UNIT SUPPLY)	TITUS	FL10	1'-0" LONG-1" SLOT	1	20	-	FBPI-10	<22	A,B,C,E,F					
IF OTHER MOL	OTHER MODEL/MANUFACTURER IS USED, ARCHITECT/CONTRACTOR TO SIZE DIFFUSER UNDER 22 NC.													
LINEA	INEAR REGISTER SCHEDULE (RETURN)													
MARK	MANUFACTURER	MODEL	FACE SIZE (IN)	NUMBER OF SLOTS	CFM/FT.	TOTAL CFM	PLENUM MODEL	NC (NOISE CRITERIA)	NOTES					
<u>LR-1</u> (UNIT RETURN)	TITUS	FL30	7'-0" LONG-3.0" SLOT	2	176	_	FBPI-30	<22	A,B,C,E,F					
<u>LR-2</u> (UNIT RETURN)	TITUS	FL15	4'-0" LONG-1.5" SLOT	1	46.25	-	FBPI-15	<22	A,B,C,E,F					
<u>LR-3</u> (UNIT RETURN)	TITUS	FL15	11'-0" LONG-1.5" SLOT	1	46.36	-	FBPI-15	<22	A,B,C,E,F					
IF OTHER MO	DEL/MANUFACTURE	R IS USED, ARCHITEC	T/CONTRACTOR TO SIZE	DIFFUSER	UNDER 22 N	C.								
LINEA	R REGI	ISTER S	CHEDULE	(EX	KHAU	ST)								
MARK	MANUFACTURER	MODEL	FACE SIZE (IN)	NUMBER OF SLOTS	CFM/FT.	TOTAL CFM	PLENUM MODEL	NC (NOISE CRITERIA)	NOTES					
<u>LE–1</u> (EXHAUST)	TITUS	FL30	6'-0" LONG-3" SLOT	1	83	-	FBPI-30	<22	A,B,C,E,F					
<u>LE-2</u> (EXHAUST)	TITUS	FL30	2'-0" LONG-2" SLOT	2	100	-	FBPI-20	<22	A,B,C,E,F					

LINEA	AR SLO'	I' DIF'F'U	SER SCH	EDU	LE (SUPI	PLY)		
MARK	MANUFACTURER	MODEL	FACE SIZE (IN)	NUMBER OF SLOTS	CFM/FT.	TOTAL CFM	PLENUM MODEL	NC (NOISE CRITERIA)	NOTES
<u>ls-1</u> NIT SUPPLY)	TITUS	FL10	4'-0" LONG-1" SLOT	1	25	-	FBPI-10	<22	A,B,C,E,F
<u>LS-2</u> NIT SUPPLY)	TITUS	FL10	10'-0" LONG-1" SLOT	1	39	-	FBPI-10	<22	A,B,C,E,F
<u>LS-3</u> NIT SUPPLY)	TITUS	FL10	10'-0" LONG-1" SLOT	1	37	-	FBPI-10	<22	A,B,C,E,F
<u>LS-4</u> NIT SUPPLY)	TITUS	FL10	1'-0" LONG-1" SLOT	1	20	-	FBPI-10	<22	A,B,C,E,F
F OTHER MO	DEL/MANUFACTURE	R IS USED, ARCHITEC	CT/CONTRACTOR TO SIZE	DIFFUSER	UNDER 22 N	IC.			
LINEA	R REG	ISTER S	CHEDULE	C (RI	ETUR	2N)			
MARK	MANUFACTURER	MODEL	FACE SIZE (IN)	NUMBER OF SLOTS	CFM/FT.	TOTAL CFM	PLENUM MODEL	NC (NOISE CRITERIA)	NOTES
<u>LR-1</u> NIT RETURN)	TITUS	FL30	7'-0" LONG-3.0" SLOT	2	176	-	FBPI-30	<22	A,B,C,E,F
<u>LR-2</u> NIT RETURN)	TITUS	FL15	4'-0" LONG-1.5" SLOT	1	46.25	-	FBPI-15	<22	A,B,C,E,F
<u>LR-3</u> NIT RETURN)	TITUS	FL15	11'-0" LONG-1.5" SLOT	1	46.36	-	FBPI-15	<22	A,B,C,E,F
IF OTHER MO	DEL/MANUFACTURE	R IS USED, ARCHITEC	CT/CONTRACTOR TO SIZE	DIFFUSER	UNDER 22 N	IC.			
LINEA	R REG	ISTER S	CHEDULE	C (EX	KHAU	ST)			
MARK	MANUFACTURER	MODEL	FACE SIZE (IN)	NUMBER OF SLOTS	CFM/FT.	TOTAL CFM	PLENUM MODEL	NC (NOISE CRITERIA)	NOTES
<u>LE–1</u> (EXHAUST)	TITUS	FL30	6'-0" LONG-3" SLOT	1	83	-	FBPI-30	<22	A,B,C,E,F
<u>LE–2</u> (EXHAUST)	TITUS	FL30	2'-0" LONG-2" SLOT	2	100	-	FBPI-20	<22	A,B,C,E,F
NOTES:	ODEL/MANUFACTUR		ECT/CONTRACTOR TO SIZ	ZE DIFFUSEF	R UNDER 22	NC.			

FINISH PER ARCHITECTS RECOMMENDATIONS 3. BRACH DUCT SIZE SHALL BE SAME AS NECK SIZE UNLESS OTHERWISE SHOWN ON DRAWINGS.

WITH NO CONTROL PATTERN WITH CONTROL BLADES.

WITH LINED PLENUM BOOT

	FLOOR	LINEA	R BA	R R	EGISTE	CR S	CHEDU	LE
MARK	MANUFACTURER	MODEL	TYPE	SLOT #	FACE SIZE (IN)	CFM/FT.	PLENUM MODEL	NOTES
<u>FS-1</u>	CARNES	MODEL CC	-	-	3' x 3"	66~100	*	A,B,C,D,E
<u>FS-2</u>	CARNES	MODEL CC	-	-	4' x 3"	81~82	*	A,B,C,D,E
<u>FS-3</u>	CARNES	MODEL CC	-	-	1' x 2"	50	*	A,B,C,D,E
IF OTHER MODEL/MANUFACTURER IS USED, ARCHITECT/CONTRACTOR TO SIZE DIFFUSER UNDER 22 NC. LEGEND: FS = FLOOR SUPPLY DIFFUSER FR = FLOOR RETURN SLOT DIFFUSER								
NOTES: A. BAKED ENAMEL FINISH, WHITE, PAINT PER ARCHITECTS RECOMMENDATIONS. B. BRANCH DUCT SIZE SHALL BE SAME AS NECK SIZE UNLESS OTHERWISE SHOWN ON DRAWINGS.								

C. COORDINATE WITH ARCHITECT FOR FRAME TYPE AND BORDER. D. NC LEVEL SHALL BE BELOW 22 E. PENCIL PROOF.

31. PRIOR TO ANY DUCT OR PIPING FABRICATION, EQUIPMENT INSTALLATION OR DUCT AND PIPE INSTALLATION, MECHANICAL CONTRACTOR SHALL COORDINATION WITH ALL OTHER TRADES AND CEILING CLEARANCES AND PROVIDE COMPLETE SHOP DRAWING. OBTAIN APPROVAL FOR SHOP DRAWING FROM ARCHITECT/ENGINEER. DUCT MAY BE RESIZED TO EQUIPMENT SIZES IN ORDER TO ACCOMMODATE AVAILABLE SPACE, VERIFY WITH ENGINEER. NO

32. SITE INSPECTION: CONTRACTORS SHALL VISIT THE SITE OF WORK PRIOR TO SUBMISSION OF HIS BID AND THOROUGHLY FAMILIARIZE HIMSELF WITH THE WORKING CONDITIONS AND EXACT NATURE OF THE WORK. SUBMISSION OF A BID ACKNOWLEDGES FULL RESPONSIBILITY FOR FURNISHING A COMPLETE AND FUNCTIONAL SYSTEM. NO CHANGES IN CONTRACT WILL BE MADE TO ACCOMMODATE OR ALLOW EXTRA FUNDS FOR ANY SUBMISSION WHICH RESULTS FROM A FAILURE TO THOROUGHLY MAKE THE

33. IN BATHROOMS CONTAINING BATHTUBS, SHOWERS, SPAS AND SIMILAR BATHING, FIXTURES SHALL BE MECHANICALLY

34. TOILET EXHAUST DUCTS SHALL BE MADE OF METAL. 35. ALL DUCTWORK IN GARAGE EXHAUST SYSTEM & MAKE UP

36. FLEXIBLE DUCT MAY BE USED FOR THE RESIDENTIAL UNITS WITH NO KINK AND BEND. ALL THE TURNS AND 90° ELBOWS SHALL BE SHEET METAL. FLEXIBLE DUCT MAY BE USED FOR

37. FOR NON-RESIDENTIAL AREAS ALL EXHAUST DUCTS AND OUTSIDE AIR SHALL BE SHEET METAL. THE STRAIGHT SUPPLY & RETURN RUNS MAY BE FLEXIBLE IF THEY ARE NOT EXPOSED. VERIFY WITH ARCHITECT FOR AVAILABLE CEILING HEIGHT.

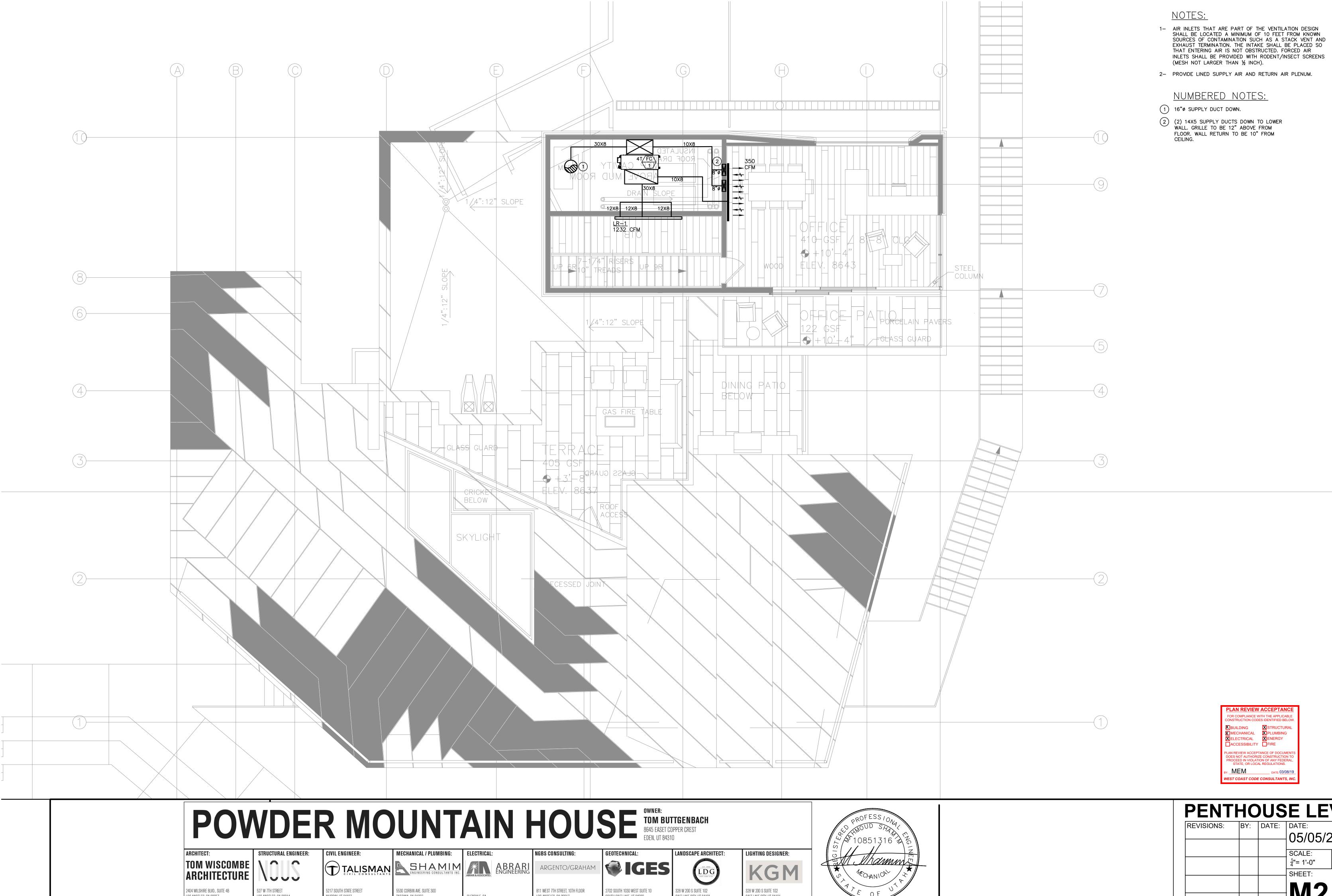
- 39. DUCT INSULATION TO CONFORM TO CALIFORNIA ENERGY CONSERVATION STANDARDS (TITLE 24). DUCT INSULATION SHALL BE "REFLETIX" R6.0 WITH A 0.75" INCHES AIR GAP. VERIFY "R" VALUE PER TITLE 24 CALCULATION.
- 40. THERMOSTAT SHALL BE CEC APPROVED WI-FI THERMOSTAT BY "VENSTAR" OR APPROVED EQUAL. THERMOSTAT SHALL BE CAPABLE OF RECEIVING AND RESPONDING TO DEMAND **RESPONSE SIGNALS.**
- 41. IF FLEXIBLE DUCT IS TO BE USED IN THE PROJECT, ALL DUCT SIZES SHALL BE INCREASE TO ONE SIZE LARGER.

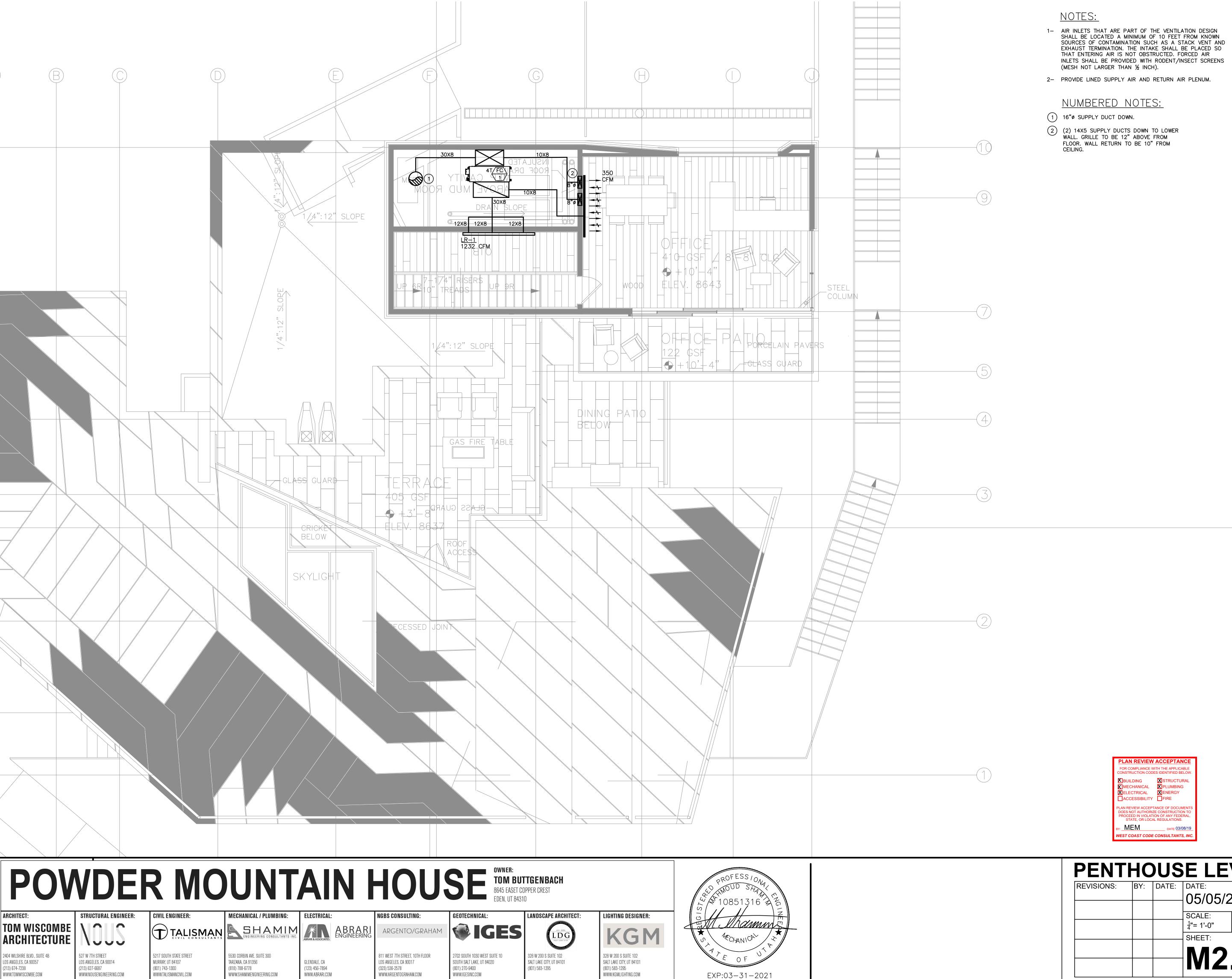
. BORDER TYPE AND STYLE TO MATCH CEILING CONSTRUCTION, COORDINATE WITH ARCHITECT FOR BORDER TYPE AND STYLE.



SCHEDULES, NOTES, & LEGEND

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			SHEET:	
	REVISIONS:	REVISIONS: BY:	REVISIONS: BY: DATE: 	05/05/2





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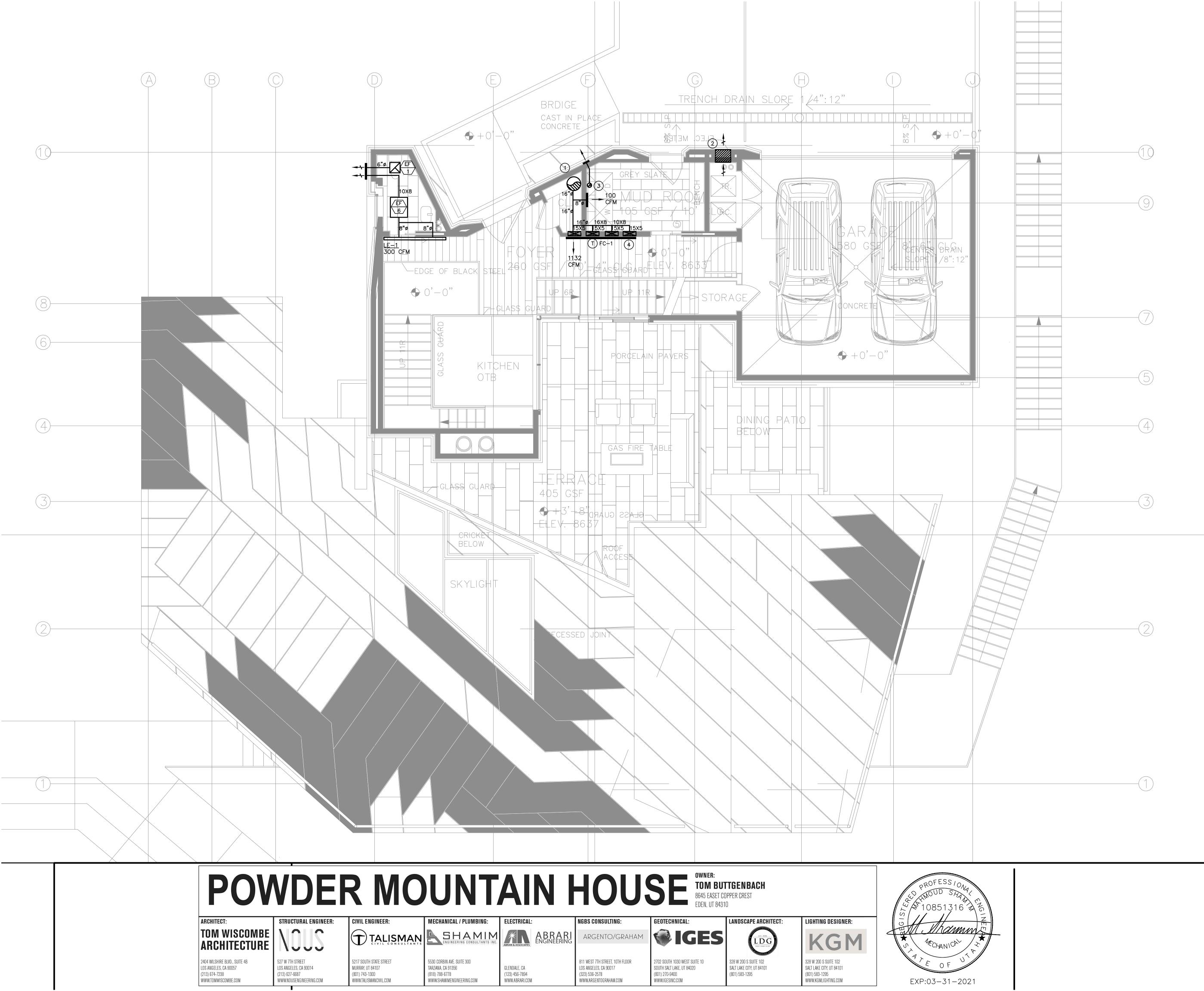
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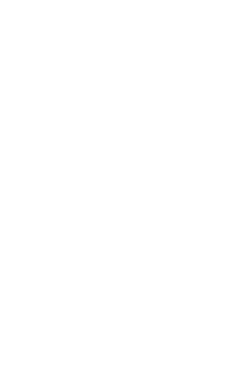
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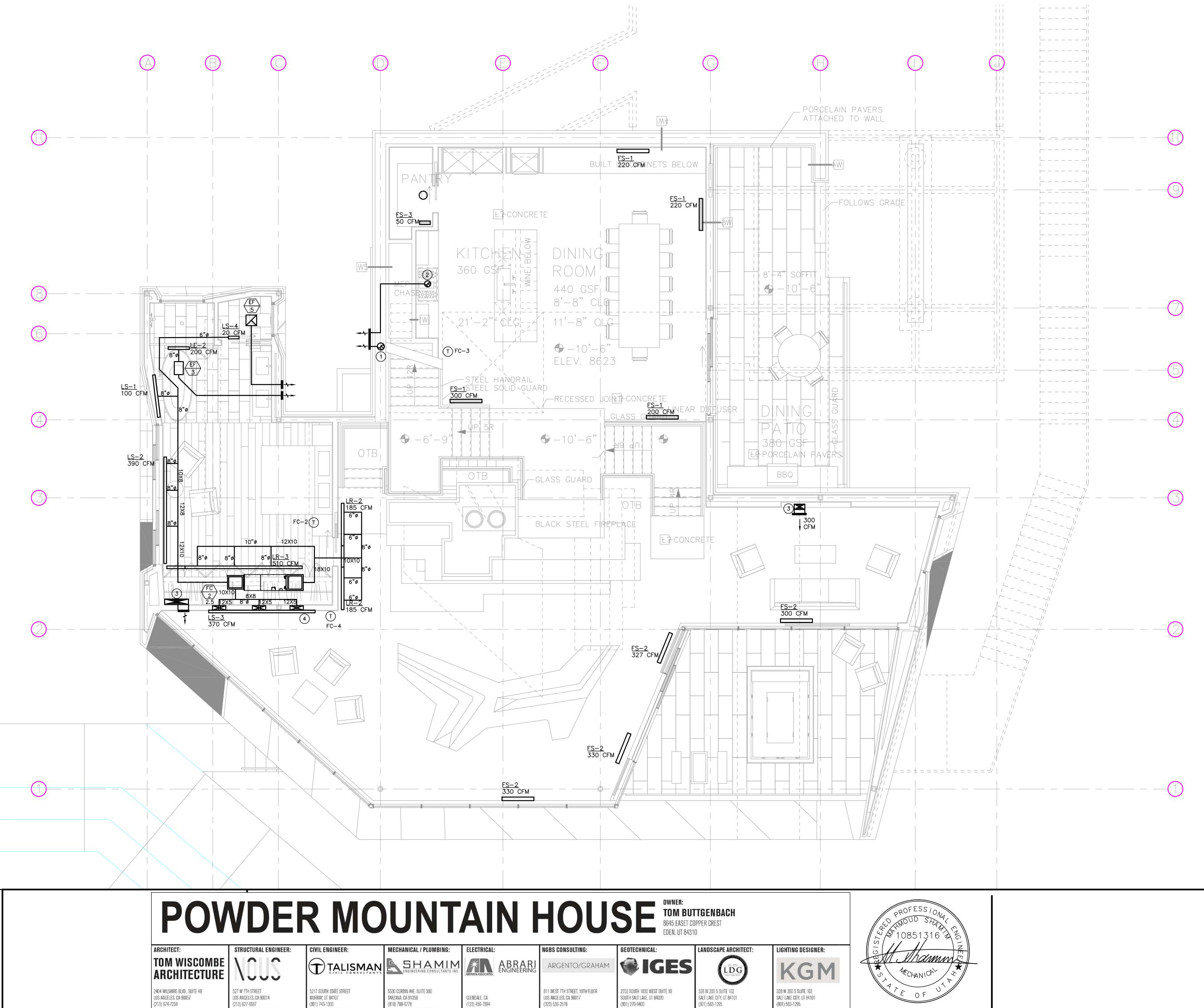
- (4) 15X5 SUPPLY DUCTS DOWN. GRILLE TO BE 12" ABOVE FLOOR.
- (3) 4"ø DRYER EXHAUST DUCT UP.
- (1) 16" # SUPPLY DUCT FROM ABOVE.

2 18X18 LOUVER.

- NUMBERED NOTES:
- (MESH NOT LARGER THAN ½ INCH). 2- PROVIDE LINED SUPPLY AIR AND RETURN AIR PLENUM.

INLETS SHALL BE PROVIDED WITH RODENT/INSECT SCREENS

<u>NOTES:</u> 1- AIR INLETS THAT ARE PART OF THE VENTILATION DESIGN SHALL BE LOCATED A MINIMUM OF 10 FEET FROM KNOWN SOURCES OF CONTAMINATION SUCH AS A STACK VENT AND EXHAUST TERMINATION. THE INTAKE SHALL BE PLACED SO THAT ENTERING AIR IS NOT OBSTRUCTED. FORCED AIR



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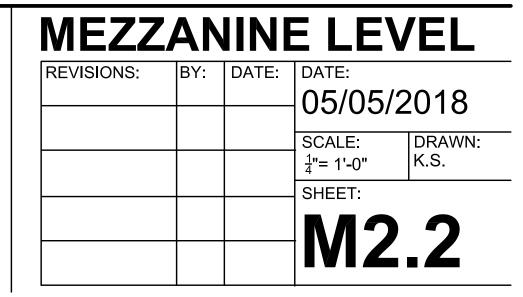
(123) 456-7894 WWW.ABRARI.COM <u>NOTES:</u>

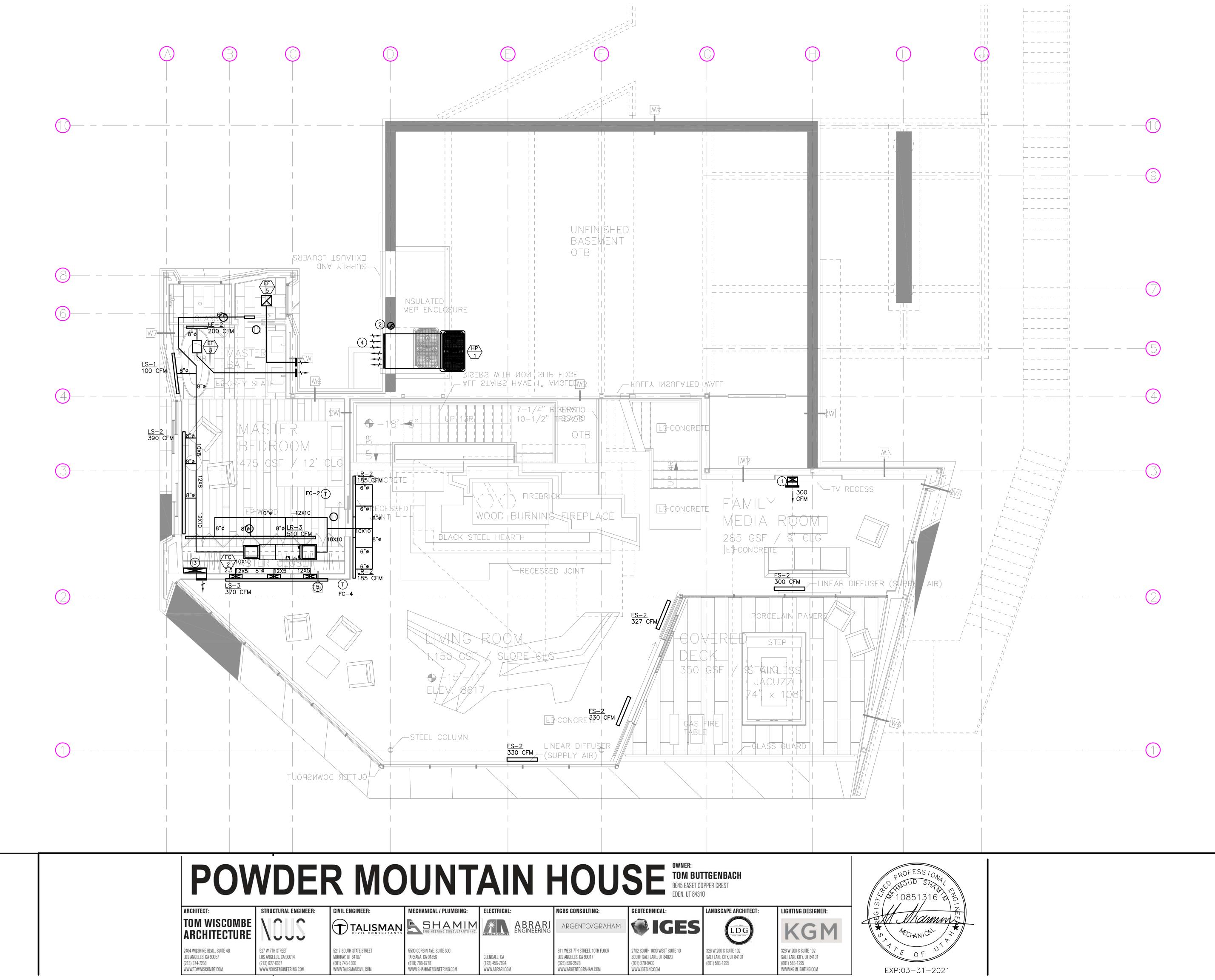
- 1- AIR INLETS THAT ARE PART OF THE VENTILATION DESIGN SHALL BE LOCATED A MINIMUM OF 10 FEET FROM KNOWN SOURCES OF CONTAMINATION SUCH AS A STACK VENT AND EXHAUST TERMINATION. THE INTAKE SHALL BE PLACED SO THAT ENTERING AIR IS NOT OBSTRUCTED. FORCED AIR INLETS SHALL BE PROVIDED WITH RODENT/INSECT SCREENS (MESH NOT LARGER THAN ½ INCH).
- 2- PROVIDE LINED SUPPLY AIR AND RETURN AIR PLENUM.
- 3- DRYER EXHAUSTS SHALL TERMINATE AT LEAST 3 FEET FROM PROPERTY LINE AND THREE FEET FROM OPENINGS INTO ANY BUILDING.
- 4- NO LOUVERS ALLOWED ON DRYER DISCHARGE.
- 5- CONCENTRIC WATER HEATER COMBUSTION INTAKE AND EXHAUST FLUE TO EXTERIOR WALL. VERIFY EXACT SIZE WITH MANUFACTURER.

NUMBERED NOTES:

- 1 8"¢ EXHAUST DUCT FROM BELOW TO TERMINATE WITH WEATHERCAP.
- 2 7"ø (OR 3-1/4"x10") KITCHEN HOOD EXHAUST DUCT UTR WITH ROOF CAP OR TO SIDE WALL WITH WALL CAP. VERIFY DUCT SIZES PER MANUFACTURES REQUIREMENTS.
- 3 12X6 DUCT FROM BELOW TO TERMINATE UNDER SHELVING WITH TOE KICK.
- (3) 14X5 SUPPLY DUCTS DOWN. GRILLE TO BE 12" ABOVE FLOOR.



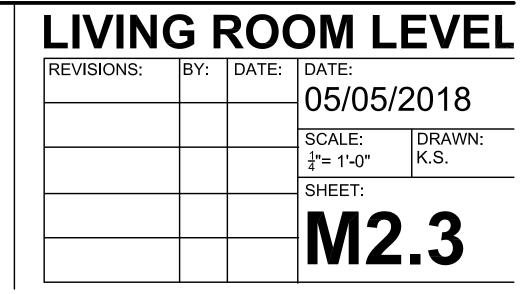


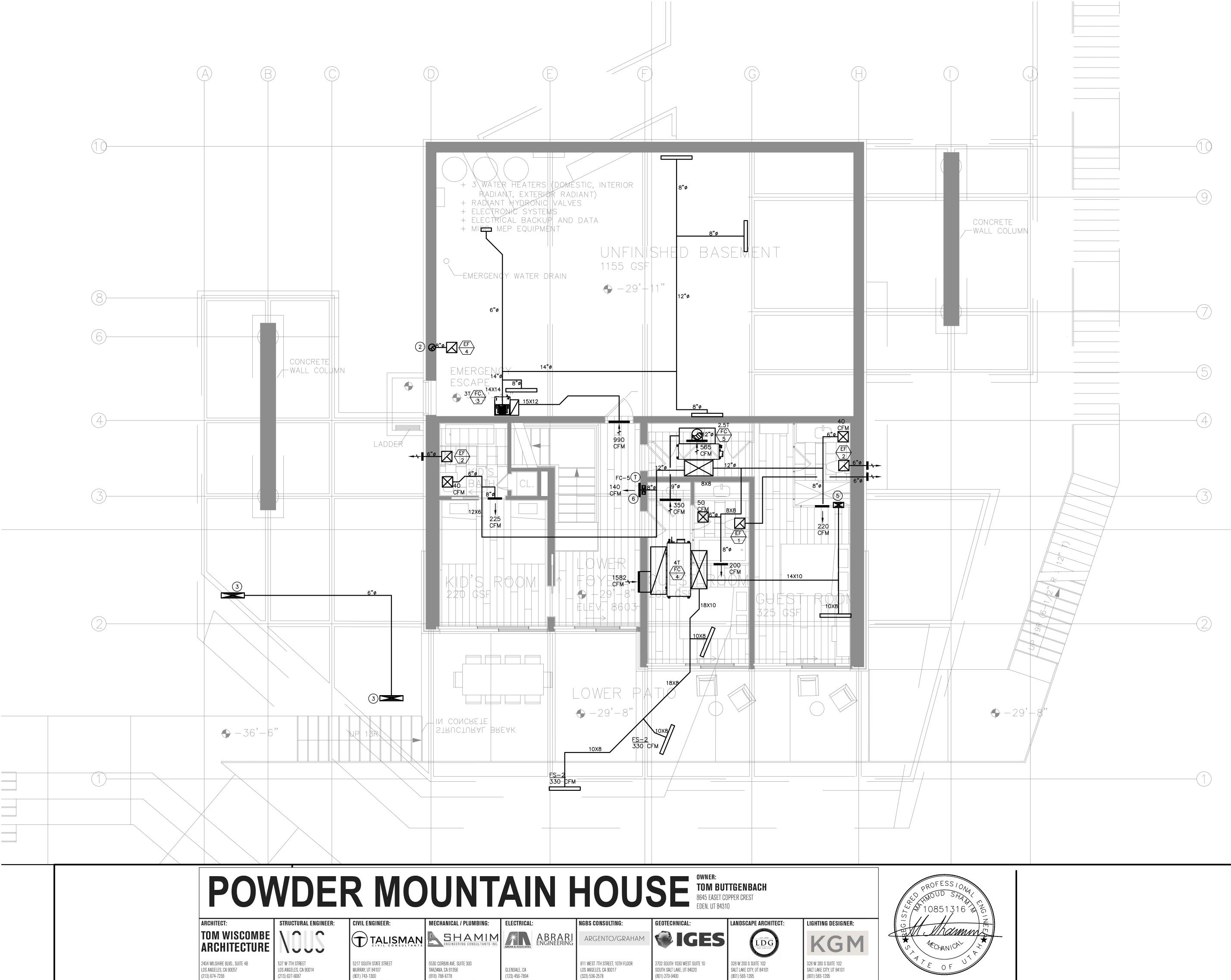


<u>NOTES:</u>

- 1- AIR INLETS THAT ARE PART OF THE VENTILATION DESIGN SHALL BE LOCATED A MINIMUM OF 10 FEET FROM KNOWN SOURCES OF CONTAMINATION SUCH AS A STACK VENT AND EXHAUST TERMINATION. THE INTAKE SHALL BE PLACED SO THAT ENTERING AIR IS NOT OBSTRUCTED. FORCED AIR INLETS SHALL BE PROVIDED WITH RODENT/INSECT SCREENS (MESH NOT LARGER THAN ½ INCH).
- 2- PROVIDE LINED SUPPLY AIR AND RETURN AIR PLENUM.
- 3- DRYER EXHAUSTS SHALL TERMINATE AT LEAST 3 FEET FROM PROPERTY LINE AND THREE FEET FROM OPENINGS INTO ANY BUILDING.
- 4- NO LOUVERS ALLOWED ON DRYER DISCHARGE.
- 5- CONCENTRIC WATER HEATER COMBUSTION INTAKE AND EXHAUST FLUE TO EXTERIOR WALL. VERIFY EXACT SIZE WITH MANUFACTURER.
 - NUMBERED NOTES:
- 12X6 DUCT FROM BELOW TO TERMINATE UNDER SHELVING WITH TOE KICK.
- 2 8"¢ EXHAUST DUCT FROM BELOW TO TERMINATE WITH WEATHERCAP.
- 3 2 SQ. FT. FREE AREA LOUVERED FOR OUTSIDE AIR.
- 4 46 SQ. FT. LOUVER FOR CONDENSER UNIT EXHAUST AND FRESH AIR. VERIFY EXACT REQUIREMENTS WITH MANUFACTURER.
- (5) (3) 14X5 SUPPLY DUCTS DOWN. GRILLE TO BE 12" ABOVE FLOOR.

PLAN REVIEV	V ACCEPTANCE
	WITH THE APPLICABLE DES IDENTIFIED BELOW.
BUILDING	STRUCTURAL
MECHANICAL	X PLUMBING
X ELECTRICAL	X ENERGY
	fire
DOES NOT AUTHOR PROCEED IN VIOLAT	PTANCE OF DOCUMENTS IZE CONSTRUCTION TO TION OF ANY FEDERAL, AL REGULATIONS.
BY: MEM	DATE: 03/08/19
WEST COAST COD	E CONSULTANTS, INC.





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EXP:03-31-2021

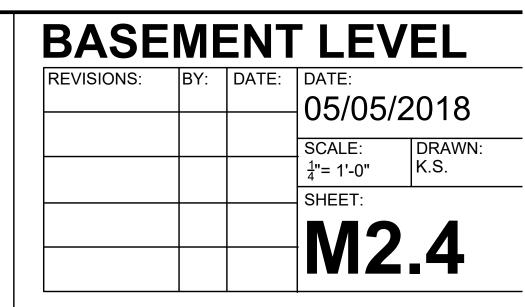
NOTES:

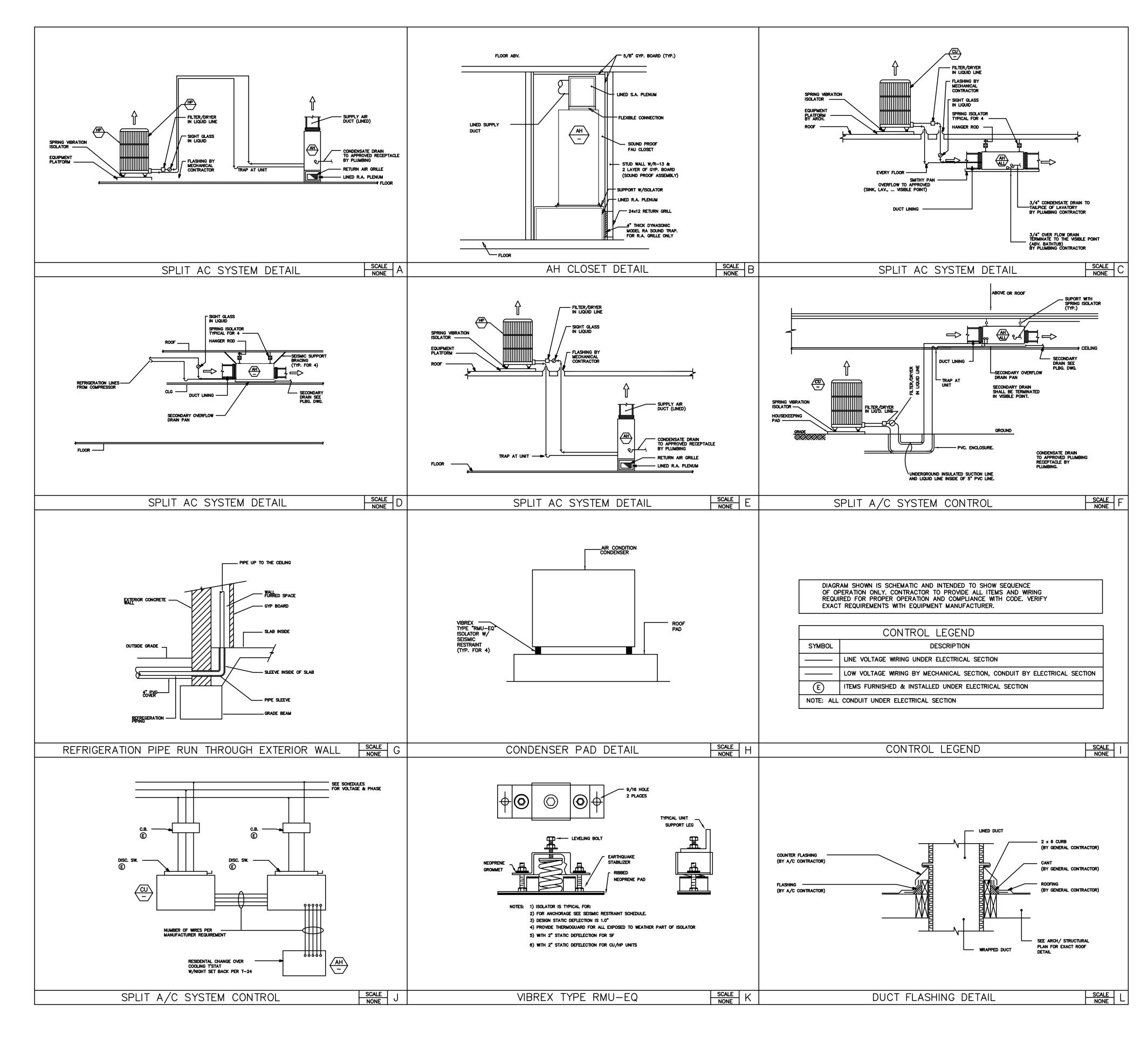
- 1- AIR INLETS THAT ARE PART OF THE VENTILATION DESIGN SHALL BE LOCATED A MINIMUM OF 10 FEET FROM KNOWN SOURCES OF CONTAMINATION SUCH AS A STACK VENT AND EXHAUST TERMINATION. THE INTAKE SHALL BE PLACED SO THAT ENTERING AIR IS NOT OBSTRUCTED. FORCED AIR INLETS SHALL BE PROVIDED WITH RODENT/INSECT SCREENS (MESH NOT LARGER THAN ½ INCH).
- 2- PROVIDE LINED SUPPLY AIR AND RETURN AIR PLENUM.
- 3- DRYER EXHAUSTS SHALL TERMINATE AT LEAST 3 FEET FROM PROPERTY LINE AND THREE FEET FROM OPENINGS INTO ANY BUILDING.
- 4- NO LOUVERS ALLOWED ON DRYER DISCHARGE.
- 5- CONCENTRIC WATER HEATER COMBUSTION INTAKE AND EXHAUST FLUE TO EXTERIOR WALL. VERIFY EXACT SIZE WITH MANUFACTURER.

NUMBERED NOTES:

- 1 VOID.
- 2 8"ø EXHAUST DUCT UP.
- 3 2 SQ. FT. FREE AREA LOUVER FOR OUTSIDE AIR TO BE DUCTED TO THE UNIT AND OUTSIDE AIR CHASE..
- 4 VOID.
- 5 12X6 SUPPLY DUCT UP TO TOE KICK UNDER SHELVING.
- 6 (1) 10X4 SUPPLY DUCTS DOWN. GRILLE TO BE 12" ABOVE FLOOR.

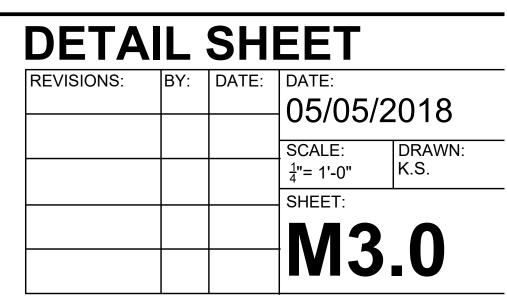


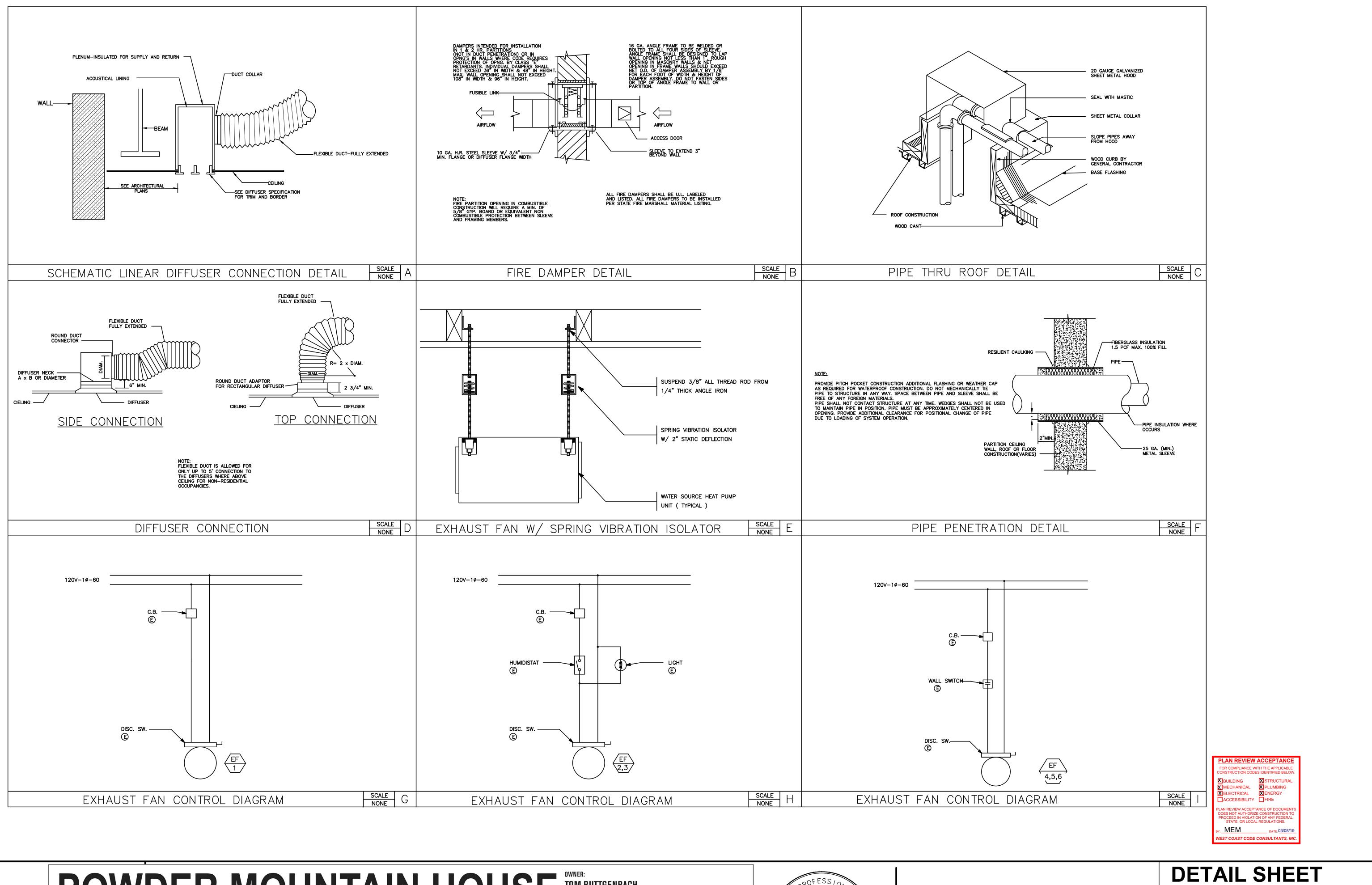














DETA		SH	EET	
REVISIONS:	BY:	DATE:	DATE:	10010
			05/05	/2018
			SCALE:	DRAWN: K.S.
			$\frac{1}{4}$ = 1'-0"	K.S.
			SHEET:	
			M3	5.1