

## Addendum # 2

Re: Jackson Hole Fire/EMS Pavilion Temporary Fire Station Bid

Date: October 19, 2017

### Clarifications, Questions & Answers;

- 1) Standard Contract form found on the Jackson Hole Fire/EMS website and in the bid documents is a “typical” Teton County construction contract. This typical contract will be modified as needed, and in agreed with both Teton Co. and the selected contractor.
- 2) Stock pens will be removed by the Teton Co. Fair staff. The construction site will be cleared and ready for construction by the Owner
- 3) Construction time is expected to be between 4 and 6 months. Once a contractor is selected a final completion date will be agreed upon and liquidated damages will be enforced after that date.
- 4) Steel studs are ok to be used on the construction of all walls as long as they meet all codes and structural requirements. All changes are the responsibility of the contractor
- 5) Interior trim is to match the existing at the Fair Grounds. That said;
  - Sheetrock walls will match the Fair Grounds office trim
  - Metal walls will match the Heritage Arena trim
  - Existing red steel beams will not be painted
- 6) Fire alarm wiring needs to meet the latest NEC book requirements. If by code, the fire alarm wiring doesn't have to be in conduit that is considered an approved method
- 7) A bid bond is a required part of the bid paperwork
- 8) Parking lot grading will keep the existing packed rock/gravel base. The only work on the parking lot will be to clean-up and re-grade anything that was disturbed during construction. The jersey barriers and signage that will define the parking lot will be provided and installed by the owner
- 9) Grease trap doesn't have to be traffic rated
- 10) Roof insulation is continuous throughout the entire roof to keep the new wet fire sprinkler system from freezing above the existing office area.
- 11) Foundation insulation blue board runs around the entire exterior concrete stem wall of the new construction area

## Addendum # 2

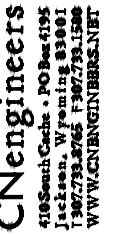
12) Buried interior utilities will have to work around existing buried tension lines as needed

13) Roof condition is in satisfactory condition for this project per our consultant

14) CN Engineers notes and drawing clarifications are described below and attached;

### MECHANICAL:

- 1) Exhaust fan in training room shall be labeled PF-2. This fan and control damper shall be controlled by a timer switch. See exhaust fan schedule on sheet M-301.
- 2) Exhaust fans and control dampers in equipment room shall be controlled by the Toxalert GVU-6 control panel and relay. See electrical drawings.
- 3) Exhaust fan EF-3 in equipment room shall be labeled EF-2. This fan shall operate continuously, switched from the breaker switch.
- 4) All PEX piping shall be installed with fittings above grade.
- 5) The 3/4" 2 PSI gas line shall be changed to 1". See sheet M-200.
- 6) Install 3/4" gas line up to rooftop make-up air unit.
- 7) All gas piping to equipment shall be installed with regulators reducing the pressure from 2 psi down to the equipment's operating pressure.
- 8) Domestic water recirculation pump shall be eliminated in west bathroom. Rough-in recirculation line to future kitchen for future use.
- 9) Eliminate mixing valve on west water heater.
- 10) Shower models are specified in schedule on sheet M-301
- 11) There are two thermostats in the equipment room, one for each gas unit heater.
- 12) There are two cleanouts at sewer leaving building. Refer to town details.
- 13) Provide Twin City weather hood and bird screen on intake air and generator exhaust air.
- 14) Roof curb on kitchen makeup air unit shall be custom manufactured.
- 15) See kitchen hood sheets attached for all fire suppression and controls.



# PAVILION/TEMPORARY FIRE STATION


JACKSON, WILLIAM

307.733.8765

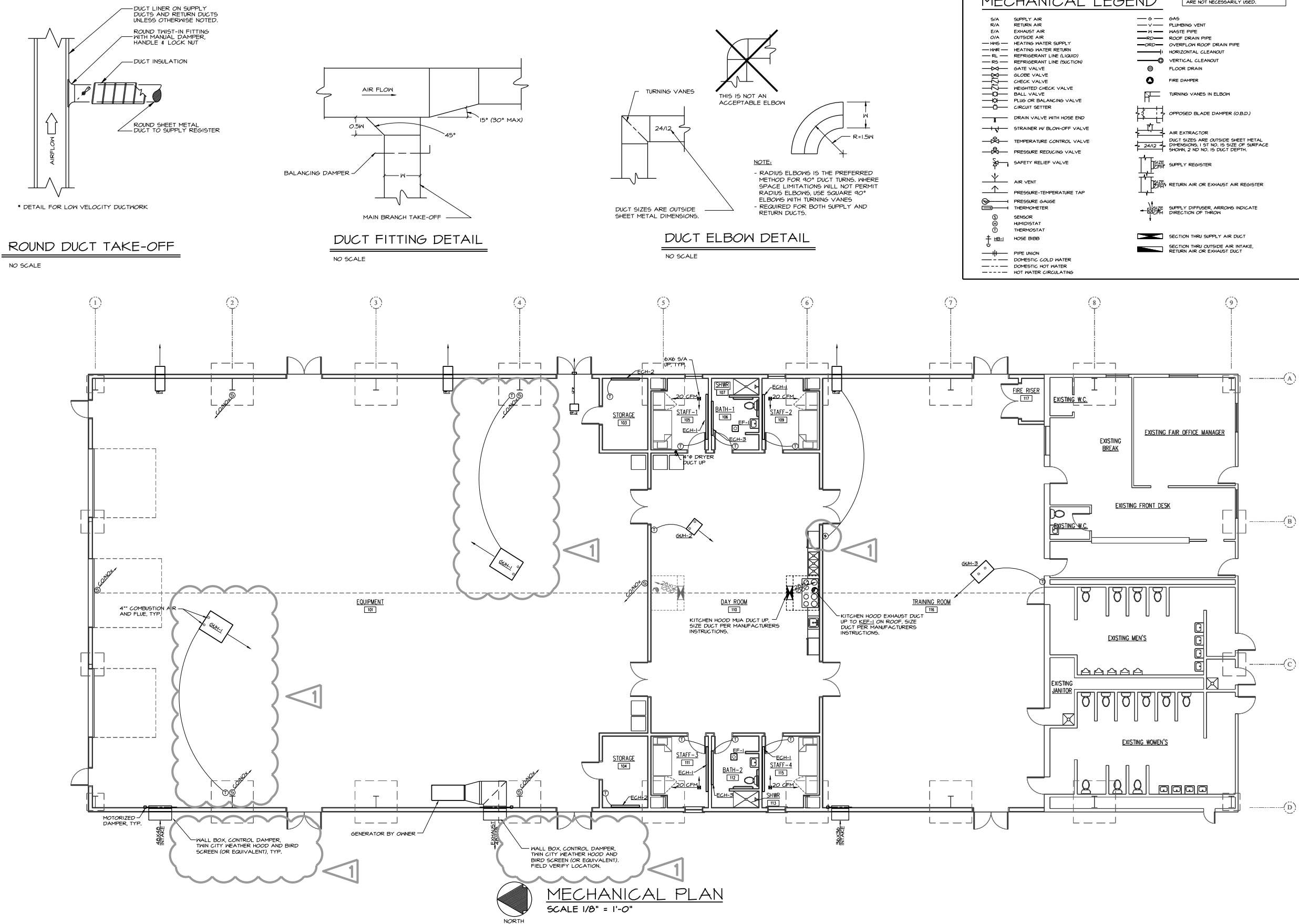
CN ENGINEERS  
P.O. BOX 4195  
JACKSON, WY. 83001

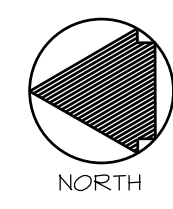
Date: 8/31/17

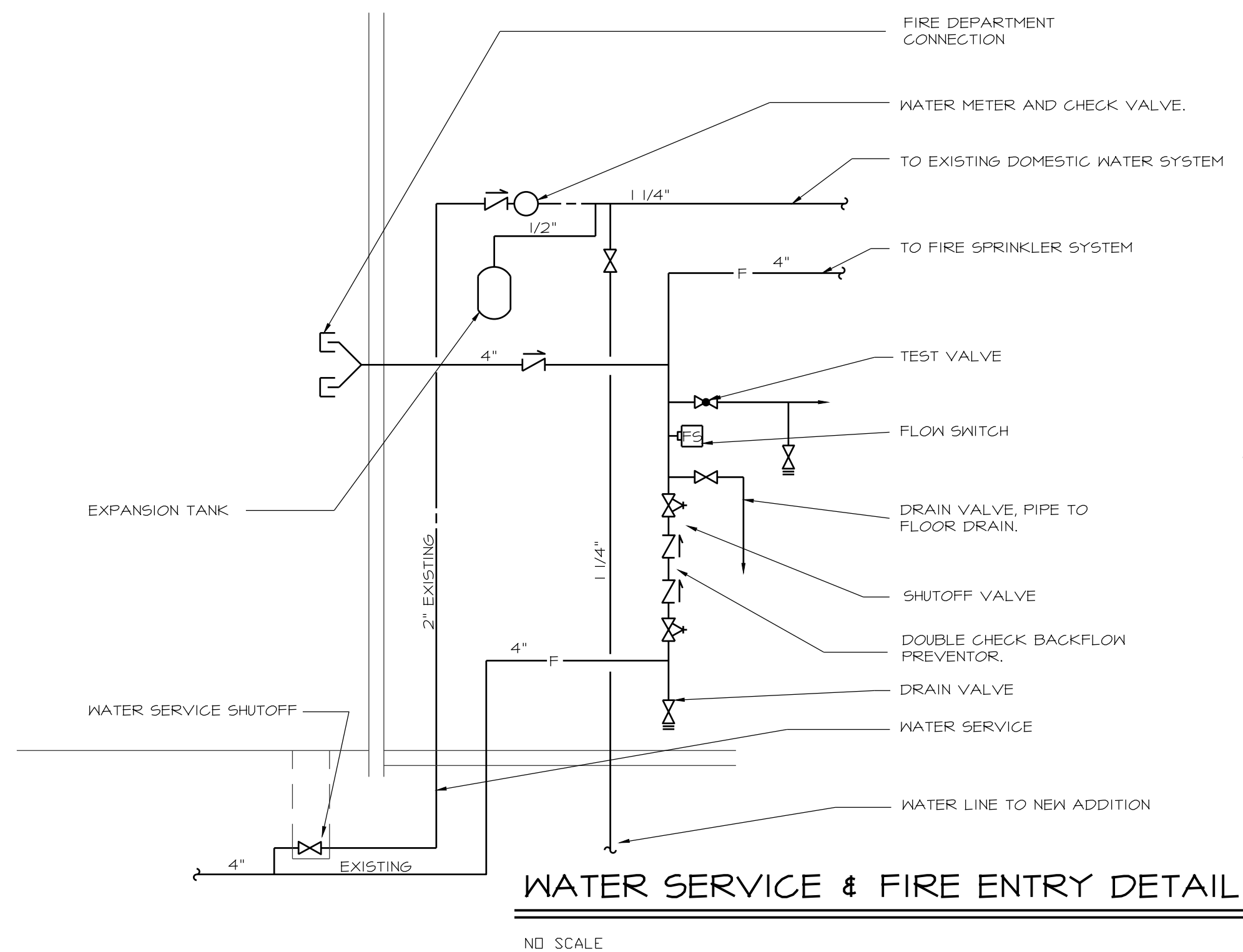
Revisions:

0/18/17 

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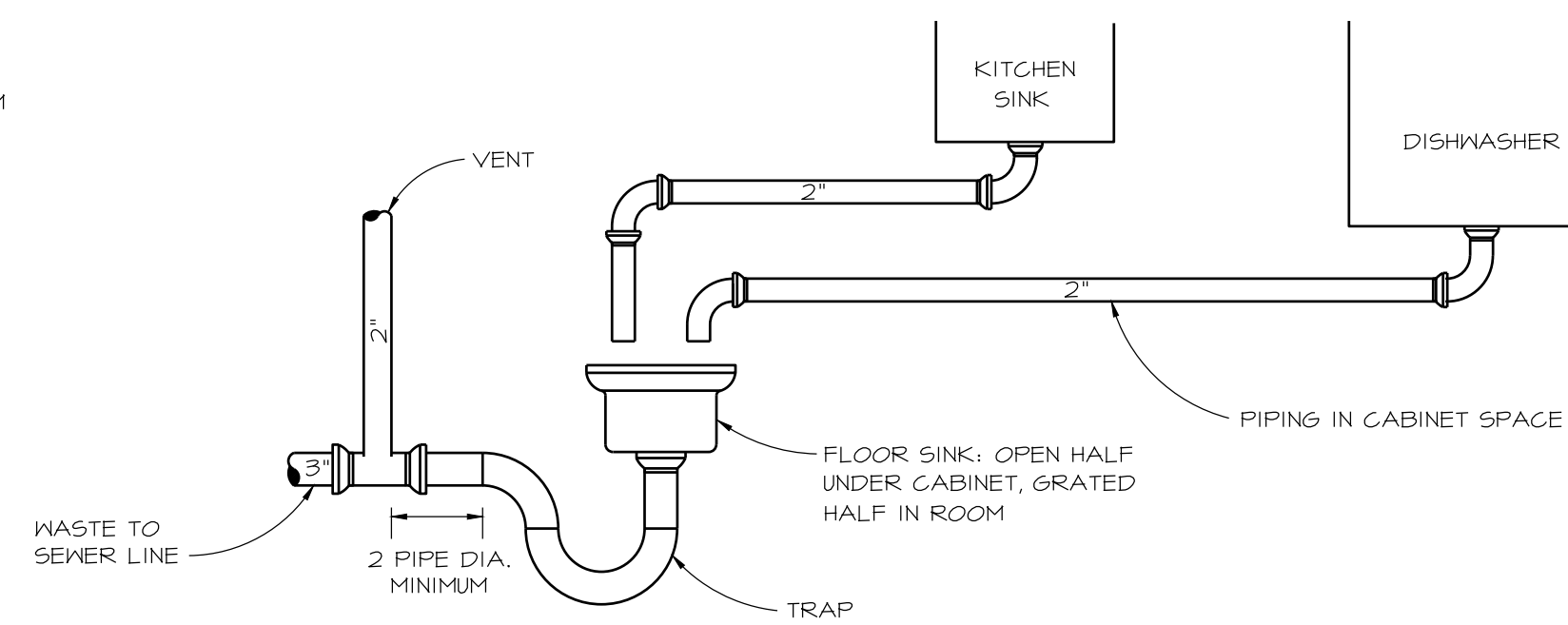



$$M-101$$



**WATER SERVICE & FIRE ENTRY DETAIL**

NO SCALE

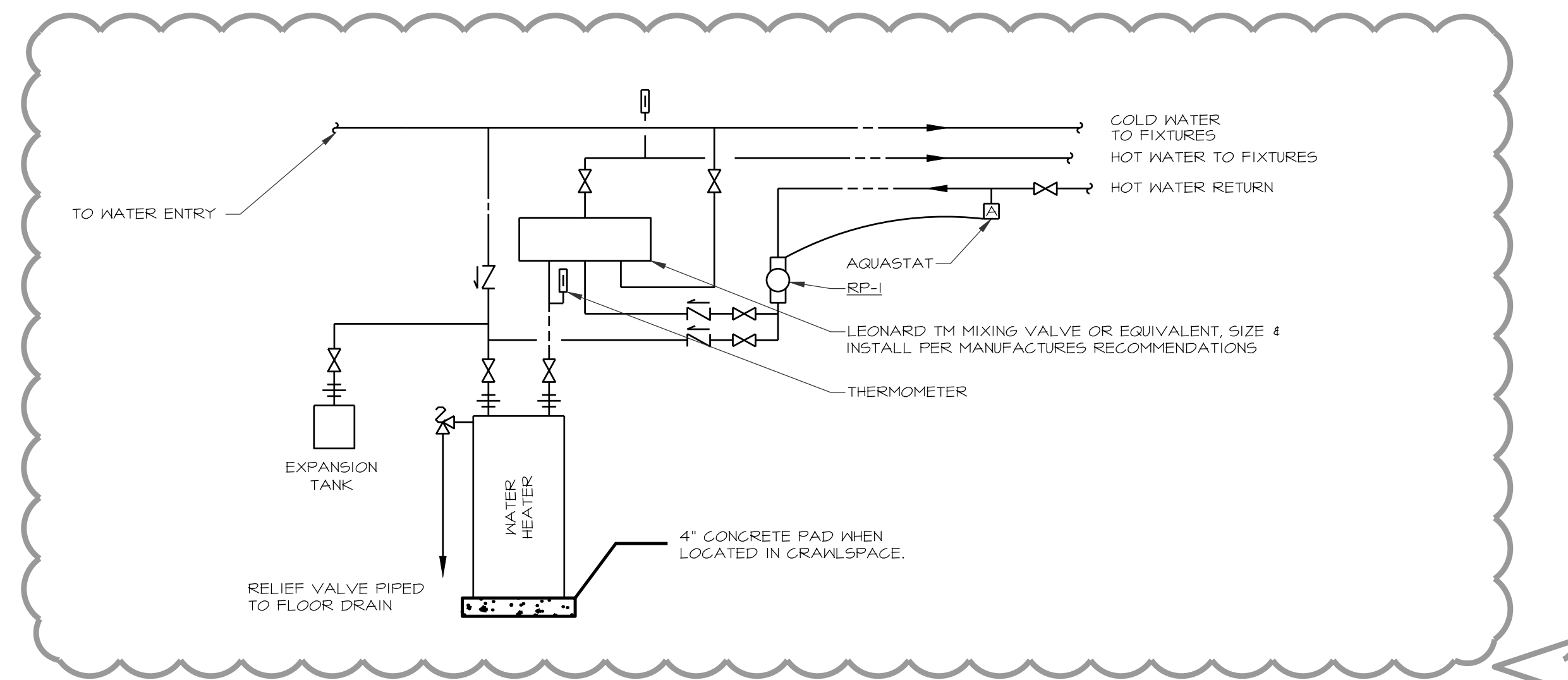


**FLOOR SINK DETAIL**

NO SCALE

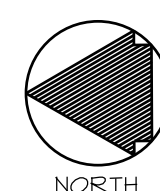
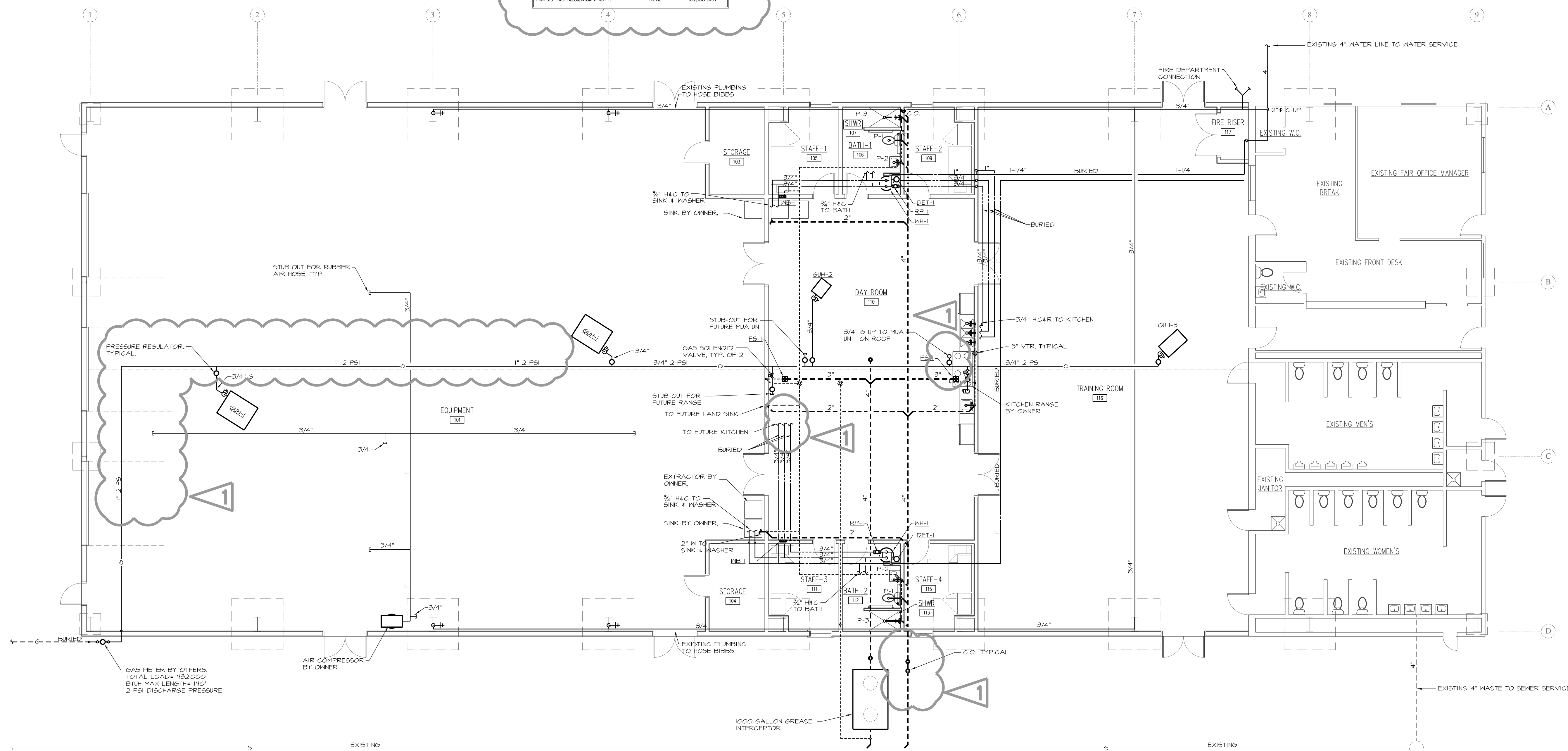
EQUIPMENT	QUANTITY	BTUH RATING, INPUT	SUBTOTAL BTUH RATING
GRILL-1	2	25000	50000
GRILL-2	1	25000	25000
GRILL-3	1	15000	15000
RANGE	2	100000	200000
HAU (UNITS)	2	10000	20000
<b>TOTAL</b>			<b>330000 BTUH</b>

MAX DIST FROM REGULATOR = 180 FT.

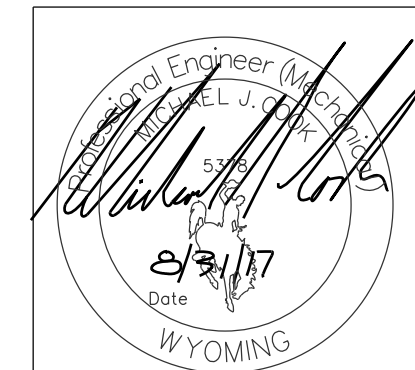


**WATER HEATER DETAIL**

NO SCALE



**PLUMBING PLAN**  
SCALE 1/8" = 1'-0"



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**PAVILION/TEMPORARY FIRE STATION**

JACKSON, WYOMING

MECHANICAL ENGINEERS:  
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Date: 8/31/17  
Revisions:

10/18/17

M-200







TEMPERATURE PRESSURE RELIEF VALVE FOR WATER HEATER. DRAIN PIPING TO BE SAME SIZE AS RELIEF VALVE OUTLET.

- 3.06 FLASHINGS:
- A. PROVIDE FLASHING AS RECOMMENDED BY ROOFING MANUFACTURER FOR EACH VENT OR STACK.

- 3.01 ADJUSTING AND CLEANING:
- A. CLEAN STRAINERS, TRAPS, AERATORS AND VALVES OF DEBRIS, SAND AND DIRT.
- B. AT COMPLETION, THOROUGHLY CLEAN PLUMBING FIXTURES AND EQUIPMENT.

- C. ADJUST FAUCETS, SHOWERS AND TOILETS FOR PROPER FLOW AFTER CLEANING AND FLUSHING OPERATIONS ARE ACCOMPLISHED.

- D. UPON COMPLETION OF WATER HEATER INSTALLATION, VERIFY SATISFACTORY CONTROL OPERATION UNDER MAXIMUM DEMAND OPERATION AS RECOMMENDED BY MANUFACTURER. ADJUST DISCHARGE WATER TEMPERATURE.

- E. ADJUST BALANCING VALVES IN DOMESTIC HOT WATER REGULATION LINES TO INSURE QUICK DELIVERY OF HOT WATER TO FIXTURES. SET MEMORY STOPS.

- 3.08 PROTECTION:
- PROTECT FIXTURES AND RELATED COMPONENTS FROM DAMAGE BEFORE, DURING AND AFTER INSTALLATION TO DATE OF FINAL ACCEPTANCE OR OTHER MOVE-IN. PROVIDE PROTECTIVE COVERINGS OR OTHER PROTECTION AS REQUIRED.

END OF SECTION 15400

SECTION 15800  
AIR DISTRIBUTION, HEATING VENTILATING AND AIR CONDITIONING

PART 1 GENERAL

- 1.01 WORK INCLUDED:
- PROVIDE ALL LABOR, MATERIAL, EQUIPMENT, ACCESSORIES AND TESTS NECESSARY TO COMPLETELY EXECUTE ALL WORK WHICH SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING:

AIR HANDLING UNIT  
EXHAUST FANS  
LOUVERS  
AIR FILTERS  
REGISTER, GRILLES AND DIFFUSERS  
DUCTWORK AND ACCESSORIES

PART 2 PRODUCTS

- 2.01 MATERIALS AND EQUIPMENT:
- A. GENERAL:
1. STEEL DUCTWORK SHALL BE CONSTRUCTED OF GALVANIZED SHEET STEEL. DUCT SYSTEMS GAUGES SHALL BE IN ACCORDANCE WITH SMACNA HVAC DUCT CONSTRUCTION STANDARDS MANUAL.
2. ALUMINUM DUCT SHALL BE CONSTRUCTED OF COMMERCIAL DESIGNATION 3003 TEMPER H14 SHEET ALUMINUM.

- B. DUCT PRESSURE CLASSES (SMACNA):
1. SUPPLY SYSTEMS: FROM THE SUPPLY DIFFUSER OR REGISTER TO THE SUPPLY FAN INLET, DUCTWORK PRESSURE CLASS SHALL BE NOT LESS THAN 1/2" TOTAL STATIC PRESSURE.

2. RETURN AIR DUCTWORK: -1/2" H.G. PRESSURE CLASS.

3. SPIRAL SEAM DUCTS: ROUND AND OVAL, SPIRAL SEAM DUCTS AND FITTINGS. UNITED SHEET METAL COMPANY, SHEET METAL PRODUCTS COMPANY, OR SEISO.

4. SPIN-IN FITTINGS: FACTORY FABRICATED CONICAL GALV. FOR INSULATED DUCTS, INTEGRAL BUTTERFLY DAMPER WITH QUADRANT OPERATOR AND LOCK NUT ON ALL APPLICATIONS.
5. FLEXIBLE CONNECTIONS: CONNECTORS SHALL BE UL APPROVED 32 OZ. PER YARD, FIRE-RETARDANT, NEOPRENE COATED FIBERGLASS.

6. TURNING VANES: FORMED DOUBLE WALL BLADES CONSTRUCTED OF MINIMUM 20-GAUGE GALVANIZED STEEL. FOR METAL DUCTWORK OTHER THAN STEEL, USE SAME TYPE OF MATERIAL AS DUCT. VANES ON 3-1/4" CENTERS.

7. DUCT LINER: LINER SHALL BE 1" THICK, RESIN BONDED GLASS FIBER, BLACK COATING ON AIR STREAM SURFACE, RATED BY MANUFACTURER FOR AT LEAST 4000 FPM. FIRE RESISTANCE SHALL MEET REQUIREMENTS OF NFPA 90A. MINIMUM FLAME SPROUD RATINGS OF 25. FUEL CONTRIBUTION AND SMOKE DEVELOPMENT NOT TO EXCEED 50. NOISE REDUCTION COEFFICIENT (NRC) OF NOT LESS THAN .30 WHEN TESTED IN ACCORDANCE WITH ASTM TYPE F-29 MOUNTING. K VALUE NOT MORE THAN 0.26 BTU/H PER SQUARE FOOT PER DEG. F AT 75 DEG. F. MAXIMUM ABSOLUTE ROUGHNESS FACTOR PER FOOT OF .004 FT.

8. DUCT SEALANT: NON-HARDENING, WATER RESISTANT, NON-COMBUSTIBLE, LIQUID OR PASTIC OR WITH TAPE AS RECOMMENDED BY MANUFACTURER. ALL SEALANTS SHALL HAVE APPROVED FIRE RATINGS FOR FLEUM APPLICATION AS REQUIRED BY CODE AUTHORITY.

9. LOUVER: 0.081" THICK EXTRUDED ALUMINUM, 4" BLADES SET IN ALUMINUM FRAME. 1/2" ALUMINUM MESH INTERIOR OF LOUVER. COLOR TO BE SELECTED BY ARCHITECT.

AMERICAN WARMING LE-44 OR EQUIVALENT.

6. EQUIPMENT SCHEDULE:

SEE SCHEDULES ON DRAWINGS.

PART 3 EXECUTION

3.01 DUCTWORK:

- A. GENERAL: DUCT SIZES SHOWN ON THE DRAWINGS ARE OUTSIDE (SHEET METAL) DUCT DIMENSIONS. AS A MINIMUM, DUCTWORK SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH SMACNA HVAC DUCT CONSTRUCTION STANDARDS MANUAL, ALSO COMPLY WITH MORE RIGID REQUIREMENTS SPECIFIED HEREIN.

- B. DUCT SEALING: ALL DUCTS SHALL BE SEALED BY USING DUCT SEALANT AS RECOMMENDED BY MANUFACTURER. THIS INCLUDES THE SEALING OF ALL TRANSVERSE JOINT AND FITTING CONNECTIONS AND SNAWLARK SEAMS.

- C. DUCTWORK APPLICATION:
1. ALL SUPPLY AND RETURN DUCTWORK TO BE GALVANIZED STEEL.

2. ALL DRYER EXHAUST DUCTS TO OUTSIDE OF BUILDING TO BE ALUMINUM. FLEXIBLE DUCTS WILL NOT BE ALLOWED.

3. ALL ROUND AND OVAL DUCTS EXPOSED TO VIEW SHALL BE SPIRAL SEAM. CONCEALED ROUND AND OVAL DUCTS MAY BE FABRICATED WITH LOCK TYPE LONGITUDINAL SEAMS. ALL ELBOWS TO BE PRESSURIZED STEEL ELBOWS OR FIVE PIECE WELDED ELBOWS.

- D. TAKEOFFS: DO NOT INSTALL TAKEOFFS ON ELBOWS OR OTHER POINTS OF THE SYSTEM WHERE AIR VELOCITY IS NOT UNIFORM.

- E. DUCTWORK HANGERS, CONNECTIONS AND CONSTRUCTION:
1. SUSPEND DUCTS FROM STRUCTURE WITH PROPER HANGERS AT INTERVALS RECOMMENDED BY SMACNA.

2. MAKE ALL DUCT CONNECTIONS TO MOTOR DRIVEN EQUIPMENT WITH FLEXIBLE CONNECTIONS, UNLESS SPECIFICALLY INDICATED OTHERWISE.

3. MAKE ALL RADIUS ELBOWS WITH RADIUS OF 1-1/2 TIMES THE DIAMETER OR WIDTH OF DUCT AND AN INSIDE THROAT RADIUS OF ONE TIMES THE DIAMETER OR WIDTH. ALL 90 DEG. SQUARE ELBOWS ARE TO HAVE TURNING VANES, THIS INCLUDES SUPPLY AND RETURN DUCTS.

4. ALL DIFFUSERS AND REGISTERS TO BE EQUIPPED WITH OPPOSED BLADE DAMPERS, WHERE NOTED AS GRILLE ON PLANS, OPPOSED BLADE DAMPERS NOT REQUIRED. DAMPER TO BE ADJUSTABLE THRU FACE OF DIFFUSER OR REGISTER.

5. PROVIDE 45 DEG. TAKEOFFS AT ALL RECTANGULAR DUCT TAKEOFFS EXCEPT AS INDICATED ON DRAWINGS.

6. MAKE ALL DUCT OFFSETS WITH 15 DEG. TRANSITIONS. SHARPER TRANSITIONS CAN BE MADE ONLY WHEN SPACE DOES NOT ALLOW 15 DEG. OFFSETS, 30 DEG. OFFSETS MAXIMUM.

- F. INSIDE DUCT LINER:
1. RECTANGULAR DUCTS ARE INSULATED ON THE INSIDE OF THE DUCT TO PROVIDE AN INSULATION BARRIER AND TO HELP ATTENUATE FAN NOISE. DUCT MAINS WITH DUCT WRAP ARE NOT AN APPROVED SUBSTITUTE. INSULATE AS DESCRIBED BELOW.

- a. INSULATE ALL RECTANGULAR SUPPLY AND RETURN DUCTS UNLESS OTHERWISE NOTED ON DRAWINGS.

- b. THE LINER SHALL BE APPLIED TO THE INSIDE OF THE DUCT, WITH THE SPRAY FACE TO THE AIR STREAM, WITH NON-FLAMMABLE, SPRAYABLE, DUCT LINER ADHESIVE COMPLETELY COATING THE CLEAN SHEETMETAL. THE LINER SHALL FURTHER BE FASTENED WITH STUD NELD OR GLUE ON TYPE PINS AND GLIPS STARTING WITHIN 3" OF UPSTREAM TRANSVERSE EDGES OF THE LINER AND SPACED AT A MAXIMUM OF 15" ON CENTER AND 15" FROM LONGITUDINAL JOINTS. THE UPSTREAM TRANSVERSE EDGES AND GLIPS SHALL BE SEALED WITH VAPOR BARRIER ADHESIVE.

- d. ALL JOINTS IN THE LINER SHALL BE TIGHTLY BUTTED AND SEALED WITH ADHESIVE.

- a. LEADING EDGES OF INSULATION AT FAN DISCHARGE SHALL BE PROVIDED WITH SHEET METAL EDGE COVER.

6. DUCT WRAP:
1. ROUND SUPPLY AND RETURN DUCTS, EXHAUST DUCTS AND OUTSIDE AIR DUCTS SHALL BE INSULATED ON THE OUTSIDE. SEE SECTION 15250, INSULATION.

2. INSULATE THE OUTSIDE OF ALL EXHAUST FAN DUCTS.

3. INSULATE THE OUTSIDE OF ALL SUPPLY DUCTS FOR SWIMMING POOL AND HOT TUB ROOMS.

END OF SECTION 15800

## AIR-TO-AIR HEAT EXCHANGER (AHE)

NO.	CAPACITY CFM " H.G.		MANUFACTURER AND MODEL	ELECTRICAL REQUIREMENTS	
				AHE	HEATER
AHE-1	56	0.4"	FANTECH SH104 *THERMO-AIR TER-6-2-240	120V, 0.4A, 40W	240V, 8.3A, 2KW

### NOTES:

- CONTINUOUSLY RUNNING HEAT RECOVERY VENTILATOR WITH AUTOMATIC DEFROST CYCLE.
- \*HEATER SHALL BE UL LISTED AND MEET ALL NEC REQUIREMENTS
- SYSTEM SHALL HAVE A DUCT HEATER WITH SCR CONTROLS FOR FULL MODULATION OF THE HEATING ELEMENT, DUCT TEMPERATURE SENSOR (SET TO 70 DEGREES F) & MOTORIZED DAMPER.

## GRILLES AND REGISTERS

TYPE	MANUFACTURER AND MODEL
WALL RETURN AIR GRILLE & REGISTER	HART AND COOLEY 94A

### NOTES:

- ALL SUPPLY REGISTERS SHALL HAVE OPPOSED BLADE DAMPERS.
- SIZE AND CFM AS SHOWN ON DRAWINGS.
- CLEAN ANODIZED FINISH ON ALUMINUM GRILLES AND REGISTERS.
- PRIME FINISH ON STEEL REGISTERS.
- IF REGISTER MANUFACTURER & MODEL IS CHANGED, BOOT SIZE MAY CHANGE. VERIFY REGISTER TYPE WITH OWNER
- PAINT THE INSIDE OF DUCTS FLAT BLACK BEHIND SUPPLY REGISTERS AND RETURN AIR GRILLES

## KITCHEN EXHAUST FANS (KEF)

NO.	SERVING	CFM	SP"	ELECTRICAL DATA	MANUFACTURER AND MODEL NO.	COMMENTS
KEF-1	KITCHEN HOOD	1000	1.0	240V, 1PH, 1/2HP	ECON-AIR EADUS0H	

### NOTES:

- ROOF MOUNTED UPBLAST CENTRIFUGAL FAN DESIGNED TO OPERATE CONTINUOUSLY AT 300 DEG. F WHILE EXHAUSTING GREASE LADEN VAPORS AND FUMES.
- UL AND AMCA LISTED AND RATED, MEETING NFPA 96 REQUIREMENTS.
- WEATHER PROOF CONSTRUCTION; MOTOR BEARINGS AND DRIVE OUT OF AIR STREAM IN POSITIVELY VENTILATED COMPARTMENT. MOTOR TO BE FACTORY WIRED TO EXTERIOR MOUNTED JUNCTION BOX. OIL RESISTANT, NON-SPARKING, NON-STATIC BELTS WITH 24,000 HOUR EXPECTANCY. ADJUSTABLE V-BELT DRIVE, MOTOR AND DRIVE ASSEMBLY MOUNTED ON RUBBER ISOLATORS. MOTORS SHALL BE HEAVY DUTY TYPE, PERMANENTLY LUBRICATED SEALED BALL BEARINGS. FAN DRIVE BEARINGS SHALL BE PERMANENTLY LUBRICATED SEALED BALL TYPE RATED FOR 200,000 HOURS MIN. LIFE. DRIVE ASSEMBLY TO BE REMOVABLE AS A UNIT FOR EASY ACCESS TO SERVICE AND FOR CLEANING FAN HOUSING AND DUCTS. B). NON-OVERLOADING, ALUMINUM WHEEL STATICALLY AND DYNAMICALLY BALANCED; ROOF CURB SHALL BE FIELD FABRICATED BY OTHERS.

## EXHAUST FANS (EF)

NO.	SERVING	CFM	ELECTRICAL DATA	SONES	MANUFACTURER AND MODEL NO.	COMMENTS
EF-1	REST ROOMS	110	120V, 0.2, 21W	0.3	PANASONIC FV-HV05	2 UNITS
EF-2	APPARATUS BAY	450	120V, 1.6A, 155W	4.0	PENNBARRY Z1015	CONTINUOUSLY EXHAUSTING

### NOTES:

- CENTRIFUGAL FORWARD CURVE FAN IN SOUND INSULATED CABINET WITH AMCA LABEL FOR AIR PERFORMANCE AND UL LISTED.
- MOTOR MOUNTED IN RUBBER MOUNTINGS OR OTHER SUITABLE METHOD OF VIBRATION ISOLATION.
- FACE GRILLE SHALL BE PROVIDED WITH UNIT.
- PROVIDE IN-LINE CONFIGURATION FOR DUCTED INLET AND OUTLET WHERE SHOWN.
- FAN WITH INTEGRAL BACKDRAFT DAMPER.
- PROVIDE WALL OR SOFFIT CAP AS SHOWN ON DRAWINGS.
- EF-2 SHALL RUN CONTINUOUSLY.

## PLUMBING FIXTURE FITTING SCHEDULE

FIT. NO.	FIX. TYPE	MANUFACTURER AND MODEL NO.	FINISH	COMMENTS
1	TOILET SEAT ANGLE SUPPLY	KOHLER K-4650-O KOHLER K-7631-CP	WHITE CHROME PLATED	
2	FAUCET P-TRAP ANGLE SUPPLY	KOHLER K-91283-4-CP KOHLER K-0498-CP KOHLER K-7605-P-CP	CHROME PLATED	INSULATED P-TRAP AND WATER LINES
3	SHOWER HEAD & VALVE	KOHLER K-T56910-4A-CP	POLISHED CHROME	

## PLUMBING FIXTURE SCHEDULE

FIX. NO.	FIX. TYPE	MANUFACTURER AND MODEL NO.	COLOR	FIT. NO.	COMMENTS
P-1	H.G.	KOHLER WELLMORTH K3514-O	WHITE	1	LEVER & SUPPLY PIPE
P-2	LAVATORY	KOHLER GREENWICH K-2031-O	WHITE	2	ANGLE SUPPLY, GRID DRAIN, STOPS & P-TRAP, SINGLE HOLE
P-3	SHOWER	KOHLER RELY SHOWER BASE CHOREOGRAPH WALL PANELS	WHITE	3	

## ELECTRIC COVE HEATER (ECH)

NO.	LOCATION	MANUFACTURER AND MODEL NO.	ELECTRICAL DATA	COMMENTS
ECH-1	BEDROOMS	KING KCV2412	240V, 1200W, 5A	4 UNITS
ECH-2	OFFICE, MED. ROOM	KING KCV2407	240V, 750W, 3.2A	2 UNITS
ECH-3	RESTROOMS	KING KCV2409	240V, 900W, 3.75A	2 UNITS

THERMOSTAT: WALL MOUNTED M602

- \* PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR

## GAS UNIT HEATER (GUH)

NO.	SERVING	MANUFACTURER AND MODEL NO.	CFM	HEATING CAPACITY (OUTPUT)	ELECTRICAL DATA
GUH-1	APPARATUS ROOM	STERLING SF300	5000	249,000 BTUH	120V, 14MCA
GUH-2	COMMON ROOM	STERLING 6630	370	24,900 BTUH	120V, 3.1MCA
GUH-3	EAST WING	STERLING SF125	2200	104,000 BTUH	120V, 8.1MCA

### NOTES:

- PROVIDE PRESSURE REGULATOR TO REDUCE FROM 2 PSI SUPPLY PRESSURE.
- FURNACE DESIGNED AND CERTIFIED BY AGA WITH STEEL CABINET WITH BAKED ENAMEL FINISH AND ACCESS PANEL. FAN ASSEMBLY TO BE STATICALLY AND DYNAMICALLY BALANCED WITH DIRECT DRIVE MOTOR.
- COMPLETELY ASSEMBLED AND WIRED; FACTORY-INSTALLED POWER VENTER; METERED COMBUSTION AIR; FAN AND LIMIT SAFETY CONTROL; DIFFERENTIAL AIR PRESSURE SWITCH TO VERIFY VENT FLOW; REDUNDANT SINGLE-STAGE COMBINATION GAS VALVE; SPARK-IGNITED INTERMITTENT SAFETY PILOT WITH ELECTRONIC FLAME SUPERVISION FOR NATURAL GAS; FULL SAFETY FAN GUARD
- 2 POINT THREADED HANGER CONNECTIONS
- 24-VOLT CONTROL VOLTAGE TRANSFORMER; TERMINAL STRIP CONNECTOR FOR FIELD CONNECTION TO REMOTE 24-VOLT THERMOSTAT
- THERMOSTATS SHALL BE HONEYWELL T834N

## MAKE-UP AIR UNIT (MUA)

NO.	SERVING	CFM	EXT. SP @ 5L: DATA	ELEC. DATA	BTU INPUT	MANUFACTURER MODEL	COMMENTS
MUA-1	KITCHEN	800	5	240V, 1PH, 1/2HP	52,000	ECON AIR E16	

### NOTES:

- UNIT SHALL CONSIST OF SUPPLY AIR BLOWER WITH DIRECT FIRED NATURAL GAS HEATING SECTION, 45 TURN DOWN AND FILTER SECTION. PROVIDE OUTSIDE AIR DAMPER AND TWO POSITION DAMPER MOTOR.
- CABINET WILL BE INSULATED AND CONSTRUCTED OF 16 GAUGE GALVANIZED STEEL WITH BAKED ENAMEL FINISH OR ALUMINIZED STEEL. PROVIDE ACCESS PANELS TO BURNERS AND CONTROLS.
- BLOWER TO HAVE SELF ALIGNING BALL BEARINGS, PERMANENTLY LUBRICATED AND SEALED. REMOTE SET POINT SUMMER-OFF-WINTER CONTROL SWITCH. PROVIDE OUTSIDE AIR DAMPER AND TWO POSITION DAMPER MOTOR. WHEN SYSTEM IS ON, THE OUTSIDE AIR DAMPER SHALL OPEN. IN THE WINTER POSITION A DISCHARGE AIR THERMOSTAT SHALL MODULATE THE GAS VALVE TO MAINTAIN ITS SETTING. IN THE SUMMER POSITION, THE BURNERS SHALL BE OFF. THE KITCHEN EXHAUST FAN SHALL BE INTERLOCKED TO OPERATE ANYTIME THE SWITCH IS ON. PROVIDE ALL NECESSARY RELAYS, CONTACTORS AND TRANSFORMERS. PROVIDE MOTOR STARTER, AUXILIARY CONTACTS FOR CONTROL INTERLOCKS AND CONTROL TRANSFORMERS.

## PLUMBING FIXTURE CONNECTION SCHEDULE

	WASTE	VENT	CN	HN
WATER CLOSET (TANK TYPE)	3"	2"	1/2"	-
LAVATORY	1 1/2"	1 1/2"	1/2"	1/2"
MOP SINK	3"	1 1/2"	1/2"	1/2"
KITCHEN SINK	2"	1 1/2"	1/2"	1/2"
SHOWER	2"	1 1/2"	**3/4"	**3/4"
CLOTHES WASHER	2"	1 1/2"	3/4"	3/4"
DISHWASHER	1 1/2"	1 1/2"	-	1/2"
WALL HYDRANTS AND ROSE BIBBS	-	-	3/4"	-
3 COMPARTMENT SINK	3"	2"	3/4"	3/4"
LAVATORY	1 1/2"	1 1/2"	1/2"	1/2"

### NOTES:

- SIZES SHOWN ARE MINIMUM PIPE SIZES TO INDIVIDUAL FIXTURES.
- REDUCE PIPE SIZE AT FIXTURE AS REQUIRED.
- USE LARGER PIPE SIZE WHEN RECOMMENDED BY THE EQUIPMENT MANUFACTURER.
- LONG PIPING RUNS TO INDIVIDUAL FIXTURES MAY BE SHOWN LARGER THAN WHAT IS SHOWN ON SCHEDULE.
- \* AS RECOMMENDED BY MANUFACTURER
- \*\* SOME LARGE BATH AND SHOWER FIXTURES REQUIRE 3/4" HOT AND COLD WATER CONNECTIONS. COORDINATE WITH THE FAUCET MANUFACTURER.

## ELECTRIC WATER HEATER (WH)

NO.	LOCATION	MANUFACTURER AND MODEL NO.	SIZE	ELECTRICAL DATA	COMMENTS
WH-1	SEE PLANS	A.O. SMITH ENT-50	50 GAL	240V, 4.5KW, 18.75A	2 UNITS

### NOTES:

- HEATER SHALL BE LISTED BY UNDERWRITERS LABORATORIES.
- HEATER SHALL HAVE A MAXIMUM WORKING PRESSURE OF 150 PSI WITH A SEPARATE 3/4" TAPPING FOR RELIEF VALVE INSTALLATION AND AN ANODE ROD FOR CATHODIC PROTECTION.
- ALL INTERNAL SURFACES OF THE HEATER EXPOSED TO WATER SHALL BE GLASS-LINED. ELECTRICAL HEATING ELEMENT SHALL BE LOW WATT DENSITY INCOLOY SHEATH, SCREW-IN DESIGN.
- ELEMENT OPERATION SHALL BE DOUBLE ELEMENT, NON-SIMULTANEOUS. THE CONTROLS SHALL INCLUDE A THERMOSTAT WITH EACH ELEMENT AND A HIGH TEMPERATURE CUT-OFF.
- THE JACKET SHALL PROVIDE CLOUSE COMPARTMENTS FOR MAINTENANCE THROUGH FRONT PANEL OPENINGS AND ENCLOSE THE TANK WITH FOAM INSULATION. OUTER JACKET SHALL BE BAKED ENAMEL FINISH.
- SEE PIPING DETAILS ON DRAWINGS.

## DOMESTIC WATER EXPANSION TANK (DET)

NO.	MANUFACTURER AND MODEL NO.	TOTAL VOLUME	ACCEPTANCE VOLUME	SIZE DIA/HEIGHT
DET-1	EXTROL ST-12	4.4 GAL.	3.2 GAL.	9"/15"

### NOTES:

- WELDED STEEL CONSTRUCTION WITH HEAVY-DUTY BUTYL DIAPHRAGM MECHANICALLY BONDED WITH POLYPROPYLENE LINER TO SHELL.
- MAXIMUM WORKING PRESSURE OF 125 PSI AND MAXIMUM WORKING TEMPERATURE OF 200 DEGREES F.

## WASHING MACHINE BOX (WB)

NO.	MANUFACTURER & MODEL	COMMENTS
WB-1	GUY GRAY MODEL NO. FB-200	2 UNITS

### NOTES:

- PROVIDE CLOTHES WASHER ROUGH-IN BOX FOR HOT AND COLD WATER LINES AND WASTE LINE.
- ROUGH-IN BOX SHALL HAVE HOT AND COLD WATER SHUT-OFF AND SHALL BE EQUIPPED WITH AN OVERFLOW GUARD.
- FABRICATED OF 16 GAUGE STEEL WITH EPOXY FINISH.
- 2" WASTE CONNECTION, 1/2" COLD AND HOT WITH BRASS SWEAT CONNECTION.

## RECIRCULATING PUMP (RP)

NO.	GPM/FEET HEAD	HP	VOLTS	PHASE	MANUFACTURER & MODEL	COMMENTS
RP-1	2/2	1/25	120	1	GRUNDFOS UP 10-16 PM A	2 UNITS

### NOTES:

- HORIZONTAL SHAFT, PUMP FOR IN-LINE MOUNTING AND RATED FOR A MINIMUM OF 145 PSI WORKING PRESSURE.
- ALUMINUM ALLOY MOTOR HOUSING WITH STAINLESS STEEL IMPELLER, SHAFT, SEAL RING AND BEARING PLATE.
- ROTATING PARTS TO BE STATICALLY AND DYNAMICALLY BALANCED.
- WITH BUILT IN AQUASTAT AND AUTODAPT.

## WALL-MOUNTED PROPELLER FAN (PF)

NO.	SERVING	CFM	ELECTRICAL DATA	SONES	MANUFACTURER AND MODEL NO.	COMMENTS
PF-1	APPARATUS BAY	3000	120V, 1/2 HP	20	TWIN CITIES WFPDE16E428	2 UNITS
PF-2	PRACTICE ROOM	3000	120V, 1/2 HP	20	TWIN CITIES WFPDE16E428	-

### NOTES:

- MOTOR MOUNTED IN RUBBER MOUNTINGS OR OTHER SUITABLE METHOD OF VIBRATION ISOLATION.
- BACKDRAFT DAMPER AND DAMPER GUARD SHALL BE PROVIDED WITH UNIT.
- INCLUDE OSHA MOTOR SIDE GUARD WITH REMOVABLE SCREEN
- MOUNT UNIT IN 16-GAUGE GALVANIZED STEEL WALL COLLAR
- PF-1 SHALL BE CONTROLLED BY A TOXALERT GVV-6 CONTROL PANEL. SEE ELECTRICAL DRAWINGS.
- PF-2 SHALL BE CONTROLLED BY AN INTERMATIC PF6HH TIMER SWITCH

## FLOOR SINK (FS)

NO.	MANUFACTURER & MODEL
FS-1	MADE W-9110

### NOTES:

- 1/2 GRATE
- DRAIN SAME SIZE AS PIPE.
- DOME STRAINER

HOOD INFORMATION - Job#3117501

HOOD NO.	TAG	MODEL	LENGTH	MAX. COOKING TEMP.	EXHAUST PLENUM RISER(S)								TOTAL SUPPLY CFM	HOOD CONSTRUCTION	HOOD CONFIG.	
					TOTAL EXH. CFM	WIDTH	LENG.	HEIGHT	DIA.	CFM	VEL.	S.P.			END TO END	ROW
1		5424 EX-2-PSP-F	5' 0"	450 Deg.	1000			4'	10'	1000	1833	-0.545'	800	430 SS Where Exposed	ALONE	ALONE

HOOD INFORMATION

HOOD NO.	TAG	FILTER(S)				LIGHT(S)			UTILITY CABINET(S)					FIRE SYSTEM PIPING	HOOD HANGING WGT		
		TYPE	QTY.	HEIGHT	LENGTH	EFFICIENCY @ 7 MICRONS	QTY.	TYPE	WIRE GUARD	LOCATION	SIZE	FIRE SYSTEM				ELECTRICAL	SWITCHES
												TYPE	SIZE			MODEL #	QUANTITY
1		Captrate Solo Filter	3	20"	16'	85% See Filter Spec.	2	L55 Series E26	NO	Right	12"x54"x24"	Ansul R102	1.5	SC-211110FP	1 Light 1 Fan	YES	503 LBS

HOOD OPTIONS

HOOD NO.	TAG	OPTION									
1		FIELD WRAPPER 18.00' High Front, Left, Right									
		BACKSPLASH 120.00' High X 96.00' Long 430 SS Vertical									
		LEFT QUARTER END PANEL 23' Top Width, 0' Bottom Width, 23' High 430 SS									
		RIGHT QUARTER END PANEL 23' Top Width, 0' Bottom Width, 23' High 430 SS									
		SENSOR-CV									

PERFORATED SUPPLY PLENUM(S)

HOOD NO.	TAG	POS.	LENGTH	WIDTH	HEIGHT	TYPE	RISER(S)				
							WIDTH	LENG.	DIA.	CFM	S.P.
1		Front	72'	14'	12'	MUA	12'	28'		794	0.189'

SPECIFICATION: CAPTRATE® GREASE-STOP® SOLO FILTER

THE CAPTRATE GREASE-STOP SOLO FILTER IS A SINGLE-STAGE FILTER FEATURING A UNIQUE S-BAFFLE DESIGN IN CONJUNCTION WITH A SLOTTED REAR BAFFLE DESIGN, TO DELIVER EXCEPTIONAL FILTRATION EFFICIENCY.

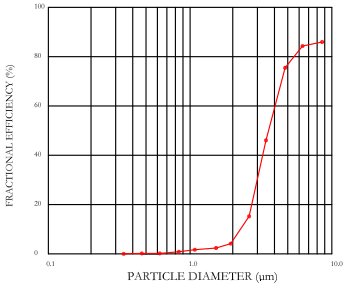
FILTER IS STAINLESS STEEL CONSTRUCTION, AND SIZED TO FIT INTO STANDARD 2-INCH DEEP HOOD CHANNEL(S).

UNITS SHALL INCLUDE STAINLESS STEEL HANDLES AND A FASTENING DEVICE TO SECURE THE TWO COMPONENTS WHEN ASSEMBLED.

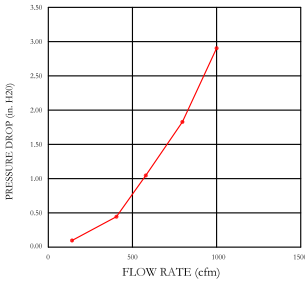
GREASE EXTRACTION EFFICIENCY PERFORMANCE SHALL REMOVE AT LEAST 75% OF GREASE PARTICLES FIVE MICRONS IN SIZE, AND 85% GREASE PARTICLES SEVEN MICRONS IN SIZE AND LARGER, WITH A CORRESPONDING PRESSURE DROP NOT TO EXCEED 1.0 INCHES OF WATER GAUGE.

THE CAPTRATE GREASE-STOP SOLO WAS TESTED TO ASTM STANDARD ASTM F2519-05.

EFFICIENCY VS. PARTICLE DIAMETER



PRESSURE DROP VS. FLOW RATE



CAPTRATE FILTERS ARE BUILT IN COMPLIANCE WITH:  
NFPA #96  
NSF STANDARD #2  
UL STANDARD #1046  
INT. MECH. CODE (IMC)  
ULC-S649



JOB Jackson Fire Station Temp Kitchen	
LOCATION SALT LAKE CITY, UT,	
DATE 8/16/2017	JOB # 3117501
DWG # 1	DRAWN BY TT-72
REV.	SCALE 3/8" = 1'-0"





### GREASE DUCT SPECIFICATIONS:

PROVIDE GREASE DUCT EQUAL TO ECON-AIR MODEL "EDW"  
ROUND 20 GAUGE 430 STAINLESS STEEL DUCTWORK. MODEL "EDW"  
IS LISTED TO UL-1978 AND IS INSTALLED USING "V" CLAMP LOCKING  
CONNECTIONS SEALED WITH 3M FIRE BARRIER 2000 PLUS. MODEL "EDW"  
DOES NOT REQUIRE WELDING PROVIDING IT HAS BEEN INSTALLED PER  
THE MANUFACTURES INSTALLATION GUIDE.  
PROVIDE RATED ACCESS DOORS AT EVERY CHANGE IN DIRECTION AND EVERY 12' ON CENTER.  
PER MANUFACTURES LISTING MODEL "EDW" HORIZONTAL RUNS LESS THAN 75 FT. CAN BE  
SLOPED 1/16" PER 12", HORIZONTAL RUNS MORE THAN 75 FT. CAN BE SLOPED 3/16" PER 12".  
DUCT SHOULD BE SLOPED AS MUCH AS POSSIBLE TO REDUCE THE CHANCE OF GREASE  
ACCUMULATION IN HORIZONTAL RUNS.

IF THE DUCT IS WITHIN 18 INCHES OF COMBUSTIBLE MATERIAL, PROVIDE UL-2221 LISTED  
DOUBLE WALL GREASE DUCT EQUAL TO ECON-AIR MODEL "EDW- 2R, 3R, OR 3Z" ROUND 20  
GAUGE 430 STAINLESS INNER DUCT INSULATED WITH A 24 GAUGE 430 STAINLESS OUTER  
SHELL.

### PATENT NUMBERS

AC-PSP (United States) - US Patent 7963830 B2  
AC-PSP Wall (Canada) - CA Patent 2820509  
AC-PSP Island (Canada) - CA Patent 2520330

ECON-AIR RECOMMENDS THE USE OF LISTED,  
PRE-FABRICATED ROUND GREASE EXHAUST DUCT  
TO REDUCE STATIC PRESSURE IN THE SYSTEM,  
MINIMIZE INSTALLATION AND INSPECTION TIMES,  
AND ENSURE DUCT IS LIQUID TIGHT

### HVAC DISTRIBUTION NOTE

IT IS RECOMMENDED NOT TO INSTALL HIGH  
VELOCITY DIFFUSERS OR HVAC RETURNS  
WITHIN TEN (10) FEET OF THE EXHAUST HOOD.  
PERFORATED DIFFUSERS ARE RECOMMENDED.

### VERIFY CEILING HEIGHT

\_\_\_' - \_\_\_"

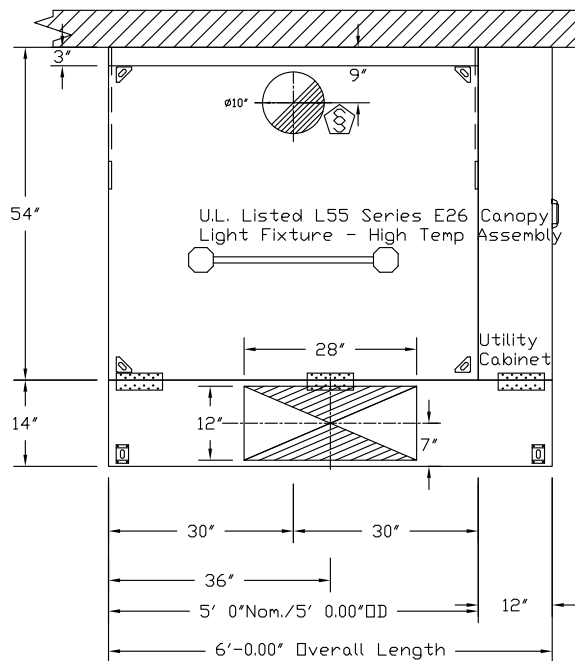
HEIGHT REQUIRED TO VERIFY THAT HOOD FITS SPACE AND TO SIZE THE ENCLOSURE PANELS

### CUSTOMER APPROVAL TO MANUFACTURE:

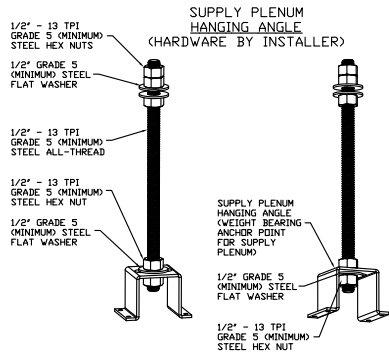
Approved as Noted ☐  
Approved with NO Exception Taken ☐  
Revise and Resubmit ☐  
SIGNATURE \_\_\_\_\_  
Your Title \_\_\_\_\_ Date \_\_\_\_\_



JOB Jackson Fire Station Temp Kitchen	
LOCATION SALT LAKE CITY, UT,	
DATE 8/16/2017	JOB # 3117501
DWG # 2	DRAWN BY TT-72
REV.	SCALE 3/8" = 1'-0"

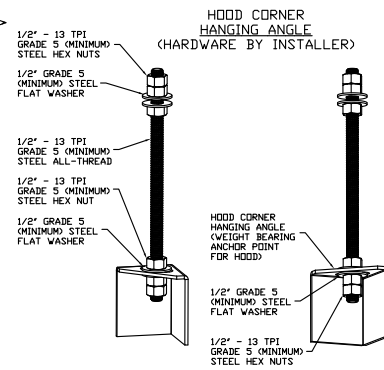


PLAN VIEW — Hood #1  
5' 0.00" LONG 5424EX-2-PSP-F



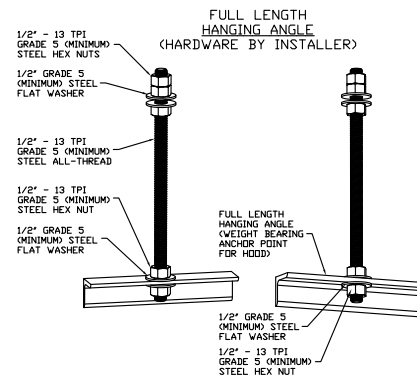
#### ASSEMBLY INSTRUCTIONS

HANGING ANGLE MUST BE SUPPORTED WITH 1/2" - 13 TPI GRADE 5 (MINIMUM) ALL-THREAD. SANDWICH HANGING ANGLES AND CEILING ANCHOR POINTS WITH 1/2" GRADE 5 (MINIMUM) STEEL FLAT WASHERS AND 1/2" - 13 TPI GRADE 5 (MINIMUM) HEX NUTS AS SHOWN. MUST USE DOUBLED HEX NUT CONFIGURATION ABOVE CEILING ANCHORS. SINGLE HEX NUT BENEATH HANGING ANGLE IS ACCEPTABLE FOR PSP HANGING ANGLES. MAINTAIN 1/4" OF EXPOSED THREADS BENEATH BOTTOM HEX NUT. TORQUE ALL HEX NUTS TO 57 FT-LBS.



#### ASSEMBLY INSTRUCTIONS

HANGING ANGLE MUST BE SUPPORTED WITH 1/2" - 13 TPI GRADE 5 (MINIMUM) ALL-THREAD. SANDWICH HANGING ANGLES AND CEILING ANCHOR POINTS WITH 1/2" GRADE 5 (MINIMUM) STEEL FLAT WASHERS AND 1/2" - 13 TPI GRADE 5 (MINIMUM) HEX NUTS AS SHOWN. MUST USE DOUBLED HEX NUT CONFIGURATION BENEATH HOOD HANGING ANGLES AND ABOVE CEILING ANCHORS. MAINTAIN 1/4" OF EXPOSED THREADS BENEATH BOTTOM HEX NUT. TORQUE ALL HEX NUTS TO 57 FT-LBS.

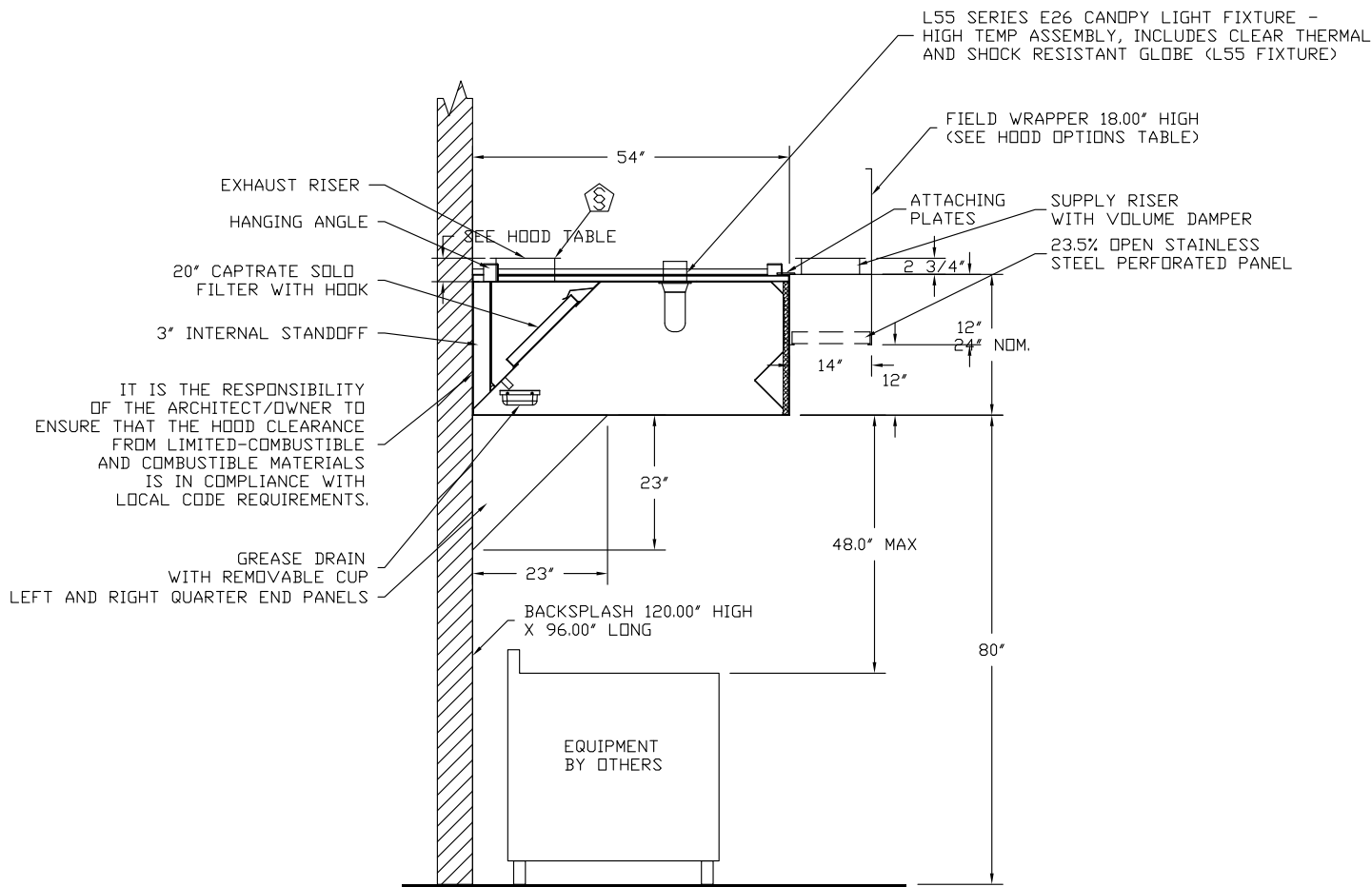


#### ASSEMBLY INSTRUCTIONS

HANGING ANGLE MUST BE SUPPORTED WITH 1/2" - 13 TPI GRADE 5 (MINIMUM) ALL-THREAD. SANDWICH HANGING ANGLES AND CEILING ANCHOR POINTS WITH 1/2" GRADE 5 (MINIMUM) STEEL FLAT WASHERS AND 1/2" - 13 TPI GRADE 5 (MINIMUM) HEX NUTS AS SHOWN. MUST USE DOUBLED HEX NUT CONFIGURATION ABOVE CEILING ANCHORS. SINGLE HEX NUT BENEATH HANGING ANGLE IS ACCEPTABLE FOR FULL LENGTH HANGING ANGLES. MAINTAIN 1/4" OF EXPOSED THREADS BENEATH BOTTOM HEX NUT. TORQUE ALL HEX NUTS TO 57 FT-LBS.



JOB Jackson Fire Station Temp Kitchen	
LOCATION SALT LAKE CITY, UT,	
DATE 8/16/2017	JOB # 3117501
DWG # 3	DRAWN BY TT-72
REV.	SCALE 3/8" = 1'-0"



JOB Jackson Fire Station Temp Kitchen	
LOCATION SALT LAKE CITY, UT,	
DATE 8/16/2017	JOB # 3117501
DWG # 4	DRAWN BY TT-72
REV.	SCALE 3/8" = 1'-0"

Fire System Information - Job#3117501

FIRE SYSTEM NO.	Tag	TYPE	SIZE	FLOW POINTS	INSTALLATION	
					SYSTEM	LOCATION ON HOOD
1		Ansul R102	1.5	2	Fire Cabinet Right	Right

GAS VALVE(S)

FIRE SYSTEM NO.	TAG	TYPE	SIZE	SUPPLIED BY
1		Mechanical	2.000	Distributor

Fire System Parts List Key

FIRE SYSTEM NO.	TAG	KEY NUMBER - PART DESCRIPTION	QTY. BY FACTORY	QTY. BY DIST.
1		0 - 0 - 43-15733 AIR CYLINDER ASSEMBLY - Air Cylinder and Tubing for Mechanical Gas Valves (Ansul Part #15733)	0	1
		1 - 1 - AT - 1.5 TANK(#1A) - 1.5 Gallon SS Tank (for use with Automan Release, Actuator, or SS Enclosure (UL/ULC)) Macola # 02-429864	1	0
		3 - 3 - ANS-DEM REGULATED RELEASE - Ansul Regulated Mechanical Release/Bracket Assembly, DEM, R-102, Cartridge Detection Included, Ansul Part # 79493	1	0
		6 - 6 - LIQ-1.5 AGENT - Ansulex Low PH Wet Chemical Agent, 1.5 Gallon (UL) 79694	0	1
		8 - 8 - 101-10 CARTRIDGE - Carbon Dioxide, 101-10, 1.5 Gallon Cartridge (R-102, PIRANHA)	0	1
		10 - 10 - TLINK LINK - Test Link (1 test link) Ansul Part # 24916, Macola # 20-24916	0	1
		11 - 11 - MICRO-SDA MICROSWITCH KIT- Includes 2 switches and Mounting Hardware. Single Dual Electric Switch, One Standard Switch, One Alarm Duty Switch Ansul Part # 437155, Macola # 08-437155	1	0
		27 - 27 - QPSA-1/2 PULLEY SEAL - 1/2" Hood Seal (UL) Ansul Part # 423253, Macola # 32-79768	1	0
		34 - 34 - RPS-A REMOTE PULL STATION - Red composite (without wire rope) 434618 (Old Macola #06-4835)	1	0
		35 - 35 - PE-LT PULLEY ELBOW - Low Temp. Pulley Elbow, Set Screw Type Ansul Part # 415670, Macola # 11-415671	2	0
		36 - 36 - PE-HT PULLEY ELBOW - High Temp Pulley Elbow, Compression Type, Ansul Part # 423251, Macola # 10-45771	1	0
		ADDITIONAL PARTS TO BE DETERMINED...		





JOB Jackson Fire Station Temp Kitchen

LOCATION SALT LAKE CITY, UT,

DATE 8/16/2017

JOB # 3117501

DWG # 5

DRAWN BY TT-72

REV.

SCALE 3/8" = 1'-0"



EXHAUST FAN INFORMATION - Job#3117501

FAN UNIT NO.	TAG	FAN UNIT MODEL #	CFM	ESP.	RPM	H.P.	B.H.P.	Ø	VOLT	FLA	DISCHARGE VELOCITY	WEIGHT (LBS.)	SONES
1		NRTPA-E76-EADU50H	1000	1.000	1548	0.500	0.3590	1	230	4.2	380 FPM	427	16.8

MUA FAN INFORMATION - Job#3117501

FAN UNIT NO.	TAG	FAN UNIT MODEL #	BLOWER	HOUSING	DESIGN CFM	ESP.	RPM	H.P.	B.H.P.	Ø	VOLT	FLA	WEIGHT (LBS.)	SONES
1		NRTPA-E76-EADU50H	G7	D.6A	800	0.500	1498	0.500	0.3850	1	230	3.9	427	16.2

GAS FIRED MAKE-UP AIR UNIT(S)

FAN UNIT NO.	TAG	INPUT BTUs	OUTPUT BTUs	TEMP. RISE	REQUIRED INPUT GAS PRESSURE	GAS TYPE
1		51652	47520	55 deg F	7 in. w.c. - 14 in. w.c.	Natural

FAN OPTIONS

FAN UNIT NO.	TAG	OPTION (Qty. - Descr.)
1		1 - Grease Box
		1 - AC Interlock Relay - 24VAC Coil
		1 - Inlet Pressure Gauge, 0-35'
		1 - Manifold Pressure Gauge, -5 to 15' wc
		1 - High Profile Lid

FAN ACCESSORIES

FAN UNIT NO.	TAG	EXHAUST			SUPPLY			
		GREASE CUP	GRAVITY DAMPER	WALL MOUNT	SIDE DISCHARGE	GRAVITY DAMPER	MOTORIZED DAMPER	WALL MOUNT
1		YES						

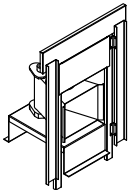
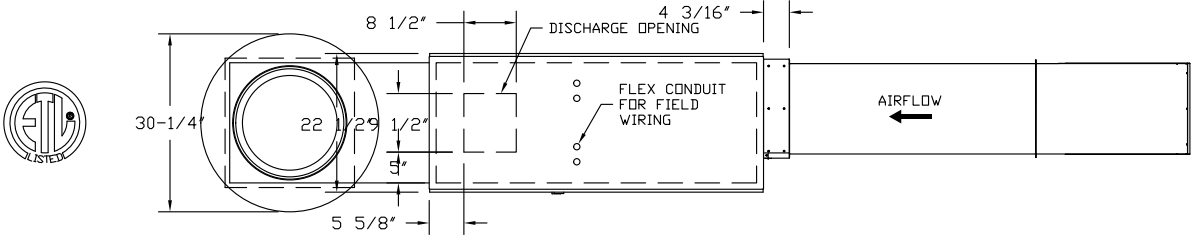
CURB ASSEMBLIES

NO.	ON FAN	WEIGHT	ITEM	SIZE
1	# 1	84 LBS	Curb	19.500"W x 85.500"L x 20.000/20.000"H Insulated Vented Hinged
	# 1		Rail	4.000"W x 4.000"L x 36.000"H

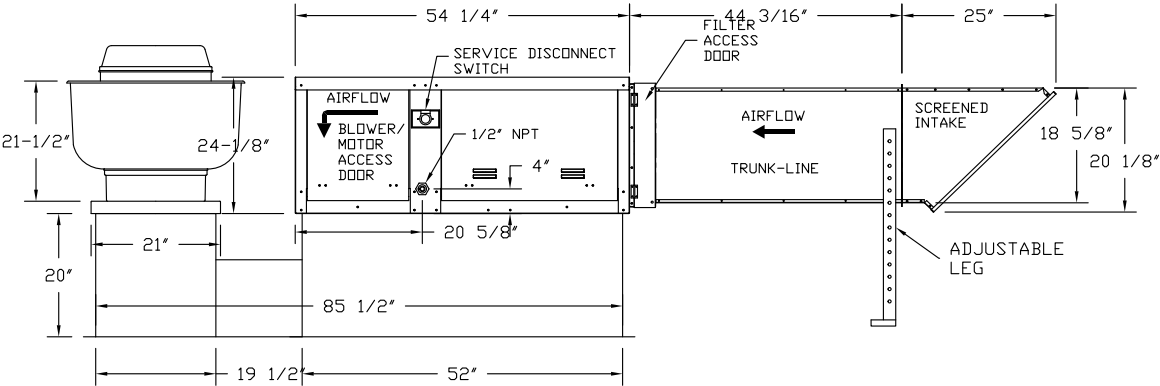


JOB Jackson Fire Station Temp Kitchen	
LOCATION SALT LAKE CITY, UT,	
DATE 8/16/2017	JOB # 3117501
DWG # 6	DRAWN BY TT-72
REV.	SCALE 3/8" = 1'-0"

- FAN #1 NRTPA-E76-EADU50H - COMBINATION UNIT W/ HEATER
1. COMBINATION UNIT WITH A HIGH SPEED DIRECT DRIVE UPBLAST CENTRIFUGAL EXHAUST FAN WITH A 13.75" WHEEL AND A LOW CFM DIRECT-FIRED MAKE-UP AIR UNIT
  2. TRUNKLINE W/INTAKE HOOD W/EZ FILTERS
  3. DOWN DISCHARGE - AIR FLOW RIGHT -> LEFT
  4. GREASE CUP FOR KITCHEN-DUTY CENTRIFUGAL EXHAUST FANS,
  5. BOX DIMENSIONS 17-1/8 L X 5-1/16 W X 3-3/4 H (18 GA.) (INCLUDES DOWN SPOUT)
  6. COOLING INTERLOCK RELAY. 24VAC COIL. 120V CONTACTS. LOCKS OUT BURNER CIRCUIT WHEN AC IS ENERGIZED.
  7. GAS PRESSURE GAUGE, 0-35", 2.5" DIAMETER, 1/4" THREAD SIZE
  8. GAS PRESSURE GAUGE, -5 TO +15 INCHES WC., 2.5" DIAMETER, 1/4" THREAD SIZE
  8. HIGH PROFILE LID OPTION FOR D76. REQUIRED WITH BELT DRIVE, SINGLE PHASE MOTORS.



Direct Fired (DF) Profile Plate Assembly



**Direct Fired Profile Plate Specifications:**  
**Description:** Direct fired burners shall have patented (US Patent No. US6629523B2), self-adjusting profile plates designed to ensure proper air velocity and pressure drop across the burner. Profile plates shall allow burners to achieve clean combustion by limiting by-product levels to a maximum of 5ppm of carbon monoxide (CO), and 0.5ppm of nitrogen dioxide (NO2).  
**Application:** Spring-loaded burner profile plates are engineered to automatically react to the momentum of a fresh air stream, without the need for any motors or actuators to mechanically adjust them. With this feature, all DF units are designed for demand control ventilation (DCV) requirements.  
**Certifications:** All profile plate assemblies shall be included in the DF unit's ETL listing and comply with combined safety standards ANSI Z83.4 and CSA 3.7 (non-recirculating DF heaters) and ANSI Z83.18 (recirculating DF heaters).  
**General Construction:**  
-Profile plates shall be formed from G90 galvanized steel.  
-Profile plates shall vary in size per unit.  
-Profile plates shall be mounted along the same plane as the discharge of the burner.  
-Design shall incorporate properly torqued, permanently mounted spring hinges.  
-Spring hinges shall be made from plated steel.

 			JOB Jackson Fire Station Temp Kitchen	
			LOCATION SALT LAKE CITY, UT,	
			DATE 8/16/2017	JOB # 3117501
		DWG # 7	DRAWN BY TT-72	
		REV.	SCALE 3/8" = 1'-0"	

Compact Direct Fired Heater

JOB

3117501 - Jackson Fire Station Temp Kitchen

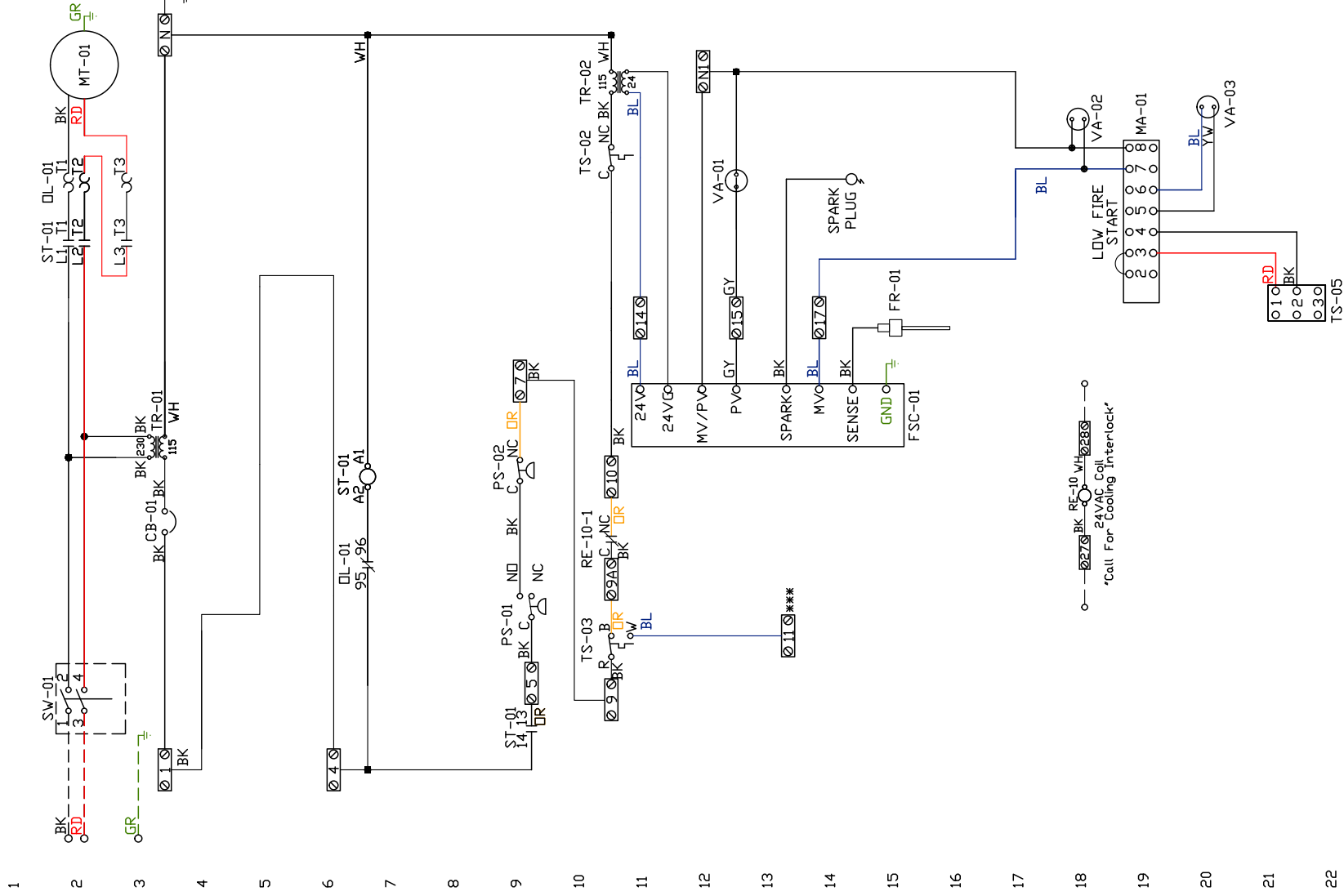
DRAWING NUMBER CDF3117501-1

SHIP DATE 8/16/2017

MODEL N RTP.A-E76-EADU50H

ATTENTION ELECTRICIAN!  
DROP FOR DISCONNECT CONNECTION  
IS FACTORY SUPPLIED  
CONNECT POWER TO THE DROP

Installed Options



Discharge Temp. Control

24V AC Interlock Relay

Component Identification  
Label Description Location  
CB-01 Circuit breaker (2amp) [30]

FR-01 Flame rod [160]

FSC-01 Flame Safety Control [11-140]

MA-01 Modulating Dial/Amplifier [190]

MT-01 Supply motor [20]

DL-01 Supply motor overload [200/70]

PS-01 Low Air-flow Switch [90]

PS-02 High Air-flow Switch [90]

ST-01 Supply motor contactor [200/70/90]

RE-10 AC Interlock Relay [100/190]

SV-01 Main disconnect switch [20]

TR-01 Power transformer(200volts) [30]

TR-02 Control transformer(20V/000) [100]

TS-02 High temp limit switch [100]

TS-03 Intake air thermostat [100]

TS-05 Discharge Air Sensor [200]

VA-01 Pilot gas valve [130]

VA-02 Main gas valve [180]

VA-03 Modulating gas valve [200]

MOTOR INFO  
SUPPLY 0.5HP-230V-1P-3.9FLA  
CONTACTOR: 100-K05D10  
OVERLOAD: 193-KB40

ELECTRICAL INFORMATION  
MOTOR/CTRL CIRCUIT MCA: 6.0A  
MOTOR/CTRL CIRCUIT MOP: 15A

NOTES

--- DENOTES FIELD WIRING  
--- DENOTES INTERNAL WIRING

\*\*\* TERMINAL 11 PROVIDES COOLING CONNECTION

WIRE COLOR		SOCKET STYLE	
BK-BLACK	YW - YELLOW	NO	4
BL-BLUE	GR - GREEN	NC	2
BR - BROWN	GY - GRAY	WH	1
DR - ORANGE	PR - PURPLE	OR	6
		PK - PINK	3

Installation Wiring		JOB 3117501 - Jackson Fire Station Temp Kitchen			
DRAWING NUMBER	RP3117501-1	SHIP DATE	8/16/2017	MODEL	NRTP-A-E76-EADU50H
120 V 1 PH. 		240 V 1 PH. 		208/460/600 V 3 PH. 	
Installed Options					



Exhaust Fan Wiring		JOB3117501 - Jackson Fire Station Temp Kitchen										
DRAWING NUMBER EXH3117501-1	SHIP DATE8/16/2017	MODELNRTP A-E76-EADU50H										
<div><div><div>1</div><div>2</div><div>3</div><div>4</div><div>5</div><div>6</div><div>7</div><div>8</div><div>9</div><div>10</div><div>11</div><div>12</div><div>13</div><div>14</div><div>15</div><div>16</div><div>17</div><div>18</div><div>19</div><div>20</div><div>21</div><div>22</div><div>23</div></div><div><p>The diagram shows a 3-wire switch (SW-01) with terminals 1, 2, 3, and 4. Terminal 1 is connected to a red wire (RD) labeled BK. Terminal 2 is connected to a green wire (GR) labeled MT-01. Terminal 3 is connected to a green wire (GR) labeled GR. Terminal 4 is connected to a green wire (GR) labeled GR. The switch is labeled SW-01.</p></div></div>												
Installed Options												
<table><thead><tr><th>Label</th><th>Component Description</th><th>Location</th></tr></thead><tbody><tr><td>MT-01</td><td>Fan Motor</td><td>[2]</td></tr><tr><td>SW-01</td><td>Main disconnect switch</td><td>[2]</td></tr></tbody></table>				Label	Component Description	Location	MT-01	Fan Motor	[2]	SW-01	Main disconnect switch	[2]
Label	Component Description	Location										
MT-01	Fan Motor	[2]										
SW-01	Main disconnect switch	[2]										
EXHAUSTMOTOR INFO0.5HP-230V-1P-4.2FLA												
ELECTRICAL INFORMATIONMOTOR/CTRL MOP: 15A												
<div>NOTES<div>----DENOTES FIELD WIRING</div><div>-----DENOTES INTERNAL WIRING</div></div> <div>WIRE COLOR<div>BK - BLACK</div><div>BL - BLUE</div><div>BR - BROWN</div><div>OR - ORANGE</div><div>RD - RED</div><div>WH - WHITE</div><div>YW - YELLOW</div><div>GR - GREEN</div><div>GY - GRAY</div><div>PR - PURPLE</div><div>PK - PINK</div></div>												

ELECTRICAL PACKAGES – Job#3117501

NO.	TAG	PACKAGE #	LOCATION	SWITCHES		OPTION	FANS CONTROLLED				
				LOCATION	QUANTITY		TYPE	?	H.P.	VOLT	FLA
1		SC-211110FP	Utility Cabinet Right	04 – Utility Cabinet Right	1 Light	Smart Controls Thermostatic Control	Exhaust	1	0.500	230	4.2
				Hood # 1	1 Fan		Supply	1	0.500	230	3.9





JOB Jackson Fire Station Temp Kitchen

LOCATION SALT LAKE CITY, UT,

DATE 8/16/2017

DWG # 11

REV.

JOB # 3117501

DRAWN BY TT-72

SCALE 3/8" = 1'-0"

JOB NO  
3117501

MODEL NUMBER  
SC-211110FP

DRAWN BY  
INSTALL

DESCRIPTION OF OPERATION:

220V 1 Phase w/ control for 1 Exhaust Fan, 1 Supply Fan, Exhaust on in Fire, Lights out in Fire, Fan(s) On/Off  
Thermostatically Controlled. Room temperature sensor shipped loose for field installation.

JOB NAME  
Jackson Fire Station Temp Kit...

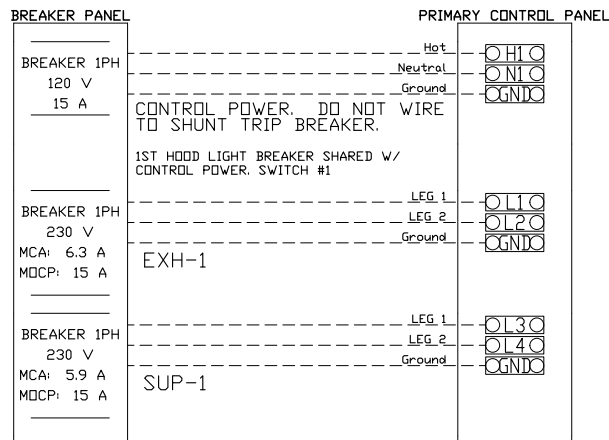
DATE  
8/16/2017

DWG NO  
ECP #1-1

## BREAKER PANEL TO PRIMARY CONTROL PANEL

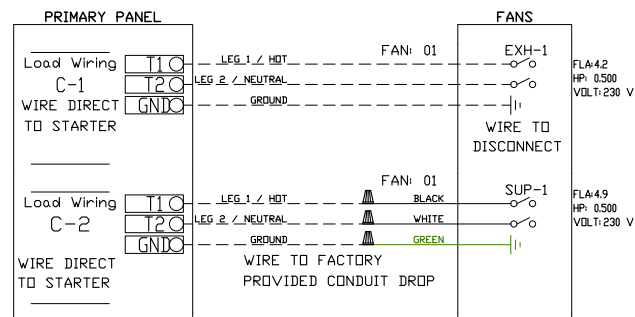
Responsibility: Electrician

BREAKER SIZE SHOWN IS THE MAXIMUM ALLOWED



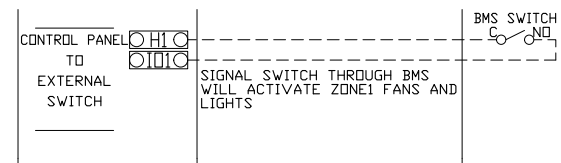
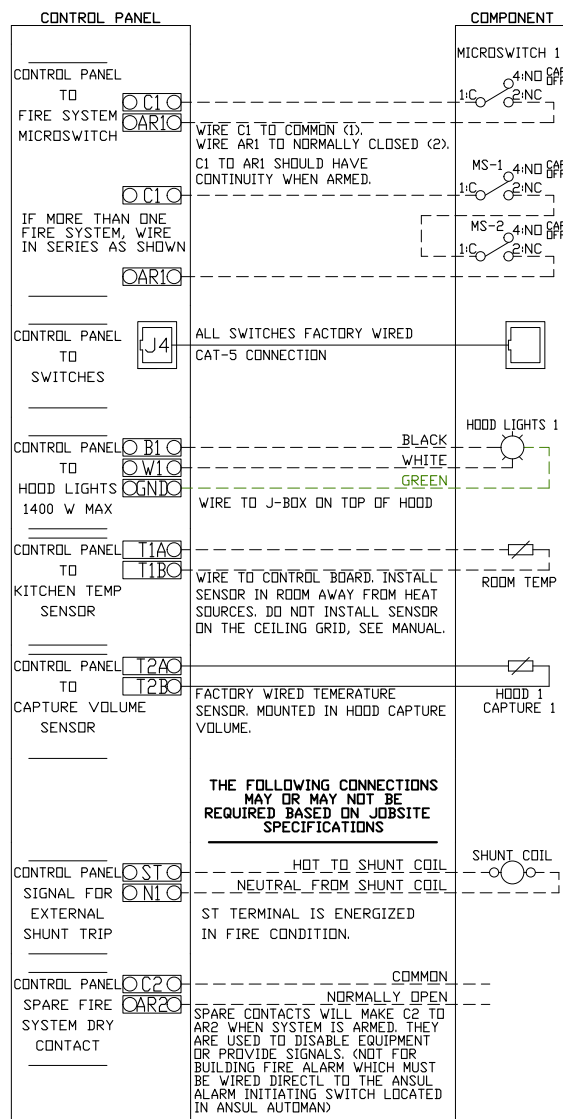
## CONTROL PANEL TO FANS

Responsibility: Electrician

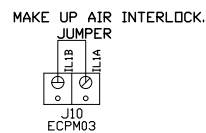
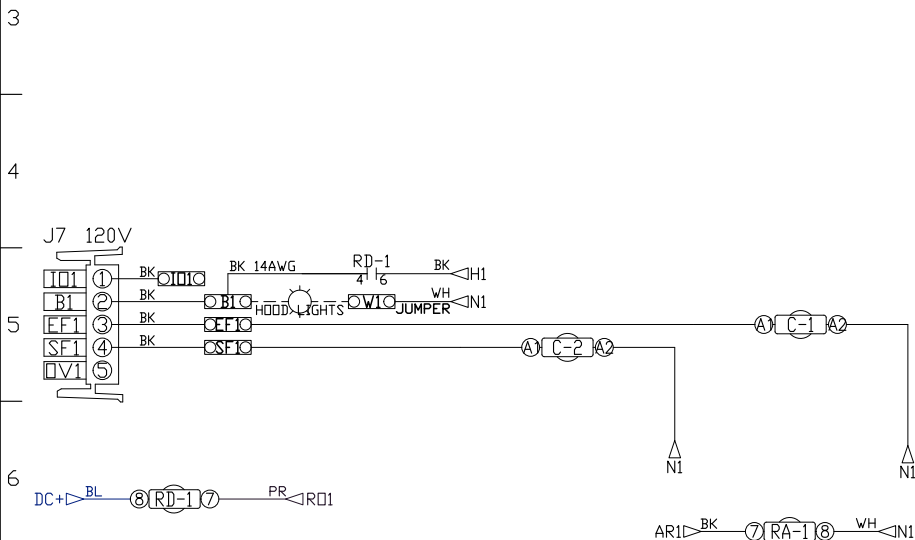
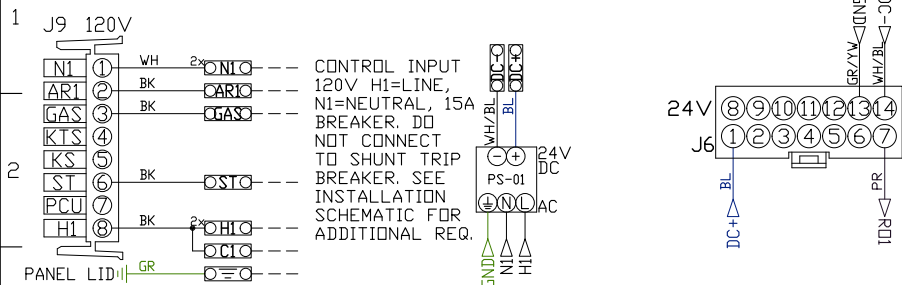


## CONTROL PANEL TO ACCESSORY ITEMS

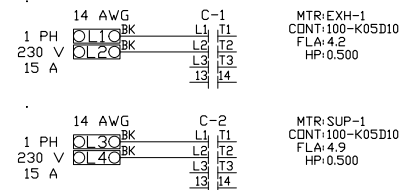
Responsibility: Electrician



UNLESS SPECIFIED OTHERWISE, ALL FACTORY AC WIRING 16 AWG. ALL FACTORY DC WIRING 18 AWG.



## MOTOR POWER CIRCUIT



## FACTORY WIRING SCHEMATIC CIRCUIT BOARDS

DCV Rev. 2.06.00  
HMI Rev. 2.06.00

RA-x 120 VAC RELAY	RD-x 24 VDC RELAY
NO 4 3	NO 4 3
NC 2 1	NC 2 1
COIL 8 7	COIL 8 7
COM 6 5	COM 6 5

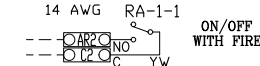
## COMPONENT LIST

LABEL	DESCRIPTION
ST-X	Starter PN-varies
DL-X	Overload PN-varies
C-X	Contactors PN-varies
PS-1	Power Sup. 24VDC PN-MDP18-24A-1C
RA-x	120V Relay DPDT PN-34.110.0184.0
RD-x	24VDC Light Relay PN-34.110.0184.0
TS-x	Duct Thermostat PN-A/CP-PD-14'-EXPL

## LEGEND

---	FIELD WIRING
---	FACTORY WIRING
BK-	BLACK
BL-	BLUE
BR-	BROWN
OR-	ORANGE
WH-	WHITE
OR/BL-	OR/BL STRIPE
BL/RD-	BL/RD STRIPE
RD/GN-	RD/GN STRIPE
WH/BL-	WH/BL STRIPE
YW-	YELLOW
GY-	GREY
PR-	PURPLE
RD-	RED
GR-	GREEN

## DRY CONTACTS (SHOWN DE-ENERGIZED)



JOB NAME  
Jackson Fire Sta...

DRAWING TITLE  
SC-211110FP

DESCRIPTION OF OPERATION  
220V 1 Phase w/ control  
for 1 Exhaust Fan, 1  
Supply Fan, Exhaust on  
in Fire, Lights out in  
Fire, Fan(s) On/Off  
Thermostatically  
Controlled. Room  
temperature sensor  
shipped loose for field  
installation.

JOB NO 3117501	DRAWN BY
TYPE FACTORY	DATE 8/16/2017
DWG NO ECP #1-2	

14 x 18 x 6 Box