HVAC SPECIFICATIONS

HVAC GENERAL

Refer to all other drawings and specifications, and be responsible for all applicable provisions therein. Furnish and install all necessary labor and materials for a complete system. Any appliances or materials obviously a part of the system and necessary for its proper operation, although not specifically mentioned herein, shall be furnished and installed as if called for in detail. Workmanship and materials shall be in accordance with all state and local codes, NFPA 90A, and the FCFD standards. Attain and pay for all required permits and fees. Equipment and materials shall be new unless otherwise specified. Mechanical Contractor shall be licensed to handle CFC refrigerants.

Drawings are generally diagrammatic and do not necessarily show every fitting, offset, drop and rise of runs, and detail. Install ducts, equipment, and controls in a neat, workmanlike manner and in accordance with good practice for a complete, workable installation. Avoid conflict with other work; make adequate provisions for preventing noise and vibration. Drawings indicate locations of fixtures, apparatus, ductwork and piping; while these are to be followed as closely as possible, if it is necessary to change the location of same to accommodate building conditions, make changes without additional cost to the Owner and as approved by the Architect. Provide adequate access to equipment and apparatus requiring operation, service, or maintenance within the life of the system. Do not run piping or ductwork, or locate equipment (with respect to switchboards, panel boards, power panels, motor control centers, or dry type transformers) within 42 inches in front of equipment, over equipment, or within 36 inches horizontally of same space.

COORDINATION

Coordinate all work under this Division with work under other Divisions. Provide adjustments as necessary. Equipment, apparatus, ductwork, piping, etc., installed without regard for the space requirements of other trades will be reworked at the expense of the installing subcontractor if it creates an unnecessary hindrance to the installation of another trade's work. All items mounted at or below the ceiling and any item penetrating the ceiling shall be coordinated with the architectural reflected ceiling plans.

PROTECTION OF WORK DURING CONSTRUCTION

Provide protective covers, skids, plugs, or caps to protect equipment and materials from damage and deterioration during construction. Protect exposed coils with plywood or other suitable rigid covers to avoid damage to fins.

Protect all equipment and materials from damage. Any damage shall be repaired using the same materials at the Contractor's cost.

SUBMITTALS

Submit for review shop drawings, in Adobe PDF format, on all equipment, grilles and diffusers, automatic control diagrams, ductwork layout, piping layout, and sheet metal construction standards.

Submit all shop drawings for review and approval prior to purchase, fabrication, and installation.

TESTING

Refrigerant piping shall be leak tested using nitrogen and refrigerant charge with electronic leak detector. After repairing leaks, retest as required. After leak test, dehydrate by producing and holding vacuum of 2.5 in. hg. Maintain vacuum for 24 hours with maxmum 0.05 in. pressure rise. If leakage exceeds 0.05 in., repeat all of test before dehydration.

All leaks shall be repaired by tightening, re—welding, or replacing pipe and fittings.

Adjust dampers, registers, and diffusers for proper air distribution. Check system under actual operating conditions, and make adjustments for a uniform temperature through the conditioned space.

CLEANING AND ADJUSTING

The exterior surfaces of all mechanical equipment, piping, ducts, etc., shall be cleaned of all grease, oil, paint, and other construction debris. Ducts, plenums, and casings shall be cleaned of all debris and blown free of all particles of rubbish and dust before installing outlet faces. Bearings that require lubrication shall be lubricated in accordance with the manufacturer's recommendations. All control equipment shall be adjusted to the settings indicated or required for performance as specified. Flush water piping systems until water runs clean. Remove all stickers, rust, stains, labels, and temporary covers before final acceptance. Remove foreign matter from equipment, piping and ductwork systems, and appurtenances. Clean and polish identification plates. Remove all trash and debris from the job site on a daily basis.

BALANCING

Contractor shall retain the services of an independent Test and Balance agency. Testing and balancing of the HVAC systems shall be performed in accordance with AABC or NEBB standards.

GUARANTEE

Materials and workmanship shall be guaranteed against defects for one year. Provide additional four years warranty on all compressors.

EQUIPMENT IDENTIFICATION

Provide labels for each equipment, starter and control switch. Labels to be engraved laminated bakelite nameplates with 1/4—inch high white cut letters; secure to starter or switch.

OPENINGS THROUGH ROOF AND EXTERIOR WALLS

Provide all necessary flashing and counterflashing to maintain the waterproof integrity of this building as required by the removal and/or installation of pipes, ducts, conduits, and equipment. Submit for review to the building management.

HVAC INSULATION

Quality Assurance: Specified components of this insulation system, including facings, mastics, and adhesives, shall have a fire hazard rating not to exceed 25 for flame spread and 50 for smoke developed rating, as per tests conducted in accordance with ASTM E84 (NFPA 255) methods.

Pipe Insulation:

TYPE P1 ASTM C534: Flexible, closed cell elastomeric, nominal 6 P.C.F. density, K factor 0.27 maximum at 75 degrees F mean, plenum rated.

Approved products: Armstrong AP Armaflex, Manville Aerotube II, Nomaco Therma—Cel, Rubatex R—180—F5.

Duct Insulation:

TYPE D1 ASTM C553 TYPE 1, CLASS B3: Fiberglass, nominal 1 (one) P.C.F. density blanket, K factor 0.31 maximum at 75 degrees F mean, with factory—applied FSK (Foil—Scrim—Kraft) vapor barrier jacket, for temperatures to 250 degrees F.

Approved products: CertainTeed "Standard Duct Wrap", Manville "Microlite", Owens/Corning Fiberglass RFK—75, Knauf "Ductwrap".

HVAC INSULATION (CONTINUED)

TYPE D2: Fiberglass, nominal 2.0 P.C.F. density liner, K factor 0.26 maximum at 75 degrees F mean, black coating, for temperatures to 250 degrees F.

Approved products: CertainTeed Ultralite Duct Liner 200, Manville Linacoustic, Knauf Duct Liner M.

TYPE D3: High temperature fiber type blanket insulation encapsulated in a fiberglass—reinforced aluminized polyester foil, nominal 6.0 PCF density, K factor 0.11 maximum at 75 degrees F mean, for temperatures to 1000 degrees F.

Approved products: 3M Fire Barrier Duct Wrap 615+, or approved equal.

Installation of Pipe Insulation:

Install insulation on pipe systems subsequent to testing and acceptance of test.

Maintain integrity of vapor—barrier jackets on pipe insulation, and protect to prevent puncture or other damage. Seal open ends of insulation with mastic. Sectionally seal all butt ends of all cold water piping insulation at fittings with white vapor barrier coating.

Cover valves, flanges, fittings, and similar items in each piping system with equivalent thickness and composition of insulation as applied to adjoining pipe run. Install factory—molded, precut or job—fabricated units (at Installer's option). Finish cold pipe fittings with white vapor barrier coating and hot piping with white vinyl acrylic mastic, both reinforced with glass cloth.

Extend piping insulation without interruption through walls, floors, and similar piping penetrations, except where otherwise indicated

Where insulation is exposed on the exterior of the building, paint insulation with UV inhibitor paint, as recommended by the insulation manufacturer.

Installation of Ductwork Insulation:

Maintain integrity of vapor—barrier on ductwork insulation, and protect it to prevent puncture and other damage. Tape all punctures. Secure all ductwork with galvanized wire 12 inches O.C. Secure ductwork with outward clinching staples. Seal all longitudinal and circumferential joints with FSK tape.

Extend ductwork insulation without interruption through walls, floors, and similar ductwork penetrations, except where otherwise indicated.

Omit insulation on supply and return ductwork where internal insulation or sound—absorbing linings is installed.

All internal insulation shall be adhered to the duct with 100% coverage of approved fire—retardant mastic. All edges shall be sealed and any abrasions or tears repaired with mastic.

Increase indicated duct sizes to compensate for liner thickness.

Insulation Requirements:

Refrigerant Gas Piping: TYPE P1, 3/4-INCH THICKNESS

Interior Condensate Drain Piping: TYPE P1, 1/2-INCH THICKNESS

Ductwork, Supply, Return and Outside Air: TYPE D1, 2—INCH THICKNESS

Ductwork, Rectangular Supply and Return within 5 feet of each furnace—coil unit: TYPE D2, 1—INCH THICKNESS

Ductwork, Range Exhaust: TYPE D3, TWO LAYERS, 1.5" THICKNESS EACH, (TOTAL THICKNESS =3")

SHEET METAL WORK

Except as otherwise noted, all ductwork and other sheet metal work shall be installed in accordance with latest edition of the Sheet Metal and Air Conditioning Contractor National Association, Inc. (SMACNA), HVAC Duct Construction Standards manual. Ductwork shall be galvanized sheet steel, unless otherwise noted. Fiberglass ductwork is NOT acceptable.

Minimum ductwork static pressure construction shall be 2—inch W.G. All ducts shall be seal Class "C".

Low pressure flexible duct shall be similar to Flexmaster Type 5 or approved equal, with 1—inch thick insulation and shall conform to U.L. 181 and NFPA Bulletin 90A. Maximum length shall not exceed four (4) feet.

Volume Dampers: Same material as duct, per SMACNA, except provide bearing at one end of damper rod and quadrant with lever and lockscrew at other end. For insulated ducts, quadrants mounted on collar shall clear insulation; install with levers accessible outside insulation. Balancing dampers shall be the opposed blade type.

Flexible Connections: Neoprene—coated glass fabric, 30 oz. per square yard with sewed and cemented seams, similar to vent fabrics. Provide flexible connections between all equipment and rigid ductwork. Fabric connections shall be at least four (4) inches long and have metal collar at each end; allow at least one—inch slack to eliminate vibration transmission.

Turning Vanes: Galvanized steel, single thickness vanes with minimum 2—inch inside radius. All square elbows shall have turning vanes.

Duct sizes shown are clear inside dimensions. Where internal insulation is called for, dimensions shall be increased by thickness of insulation.

Portions of ductwork visible through supply and return air openings shall be painted flat black.

Transition rectangular ductwork on the bottom and the sides. Maintain ductwork level and as high as possible unless noted otherwise.

All branch ductwork shall be sized to match the inlet of the diffusers or grille served. Flexible duct runouts may NOT be used in inaccessible locations.

All duct transitions from square to round shall be smooth square—to—round transitions. Spin—in fittings at the end of capped ducts are not acceptable.

For round duct take—offs from metal ducts, use Genflex Model No. SM—1DEL "Spin—in" fitting.

Range exhaust ductwork shall be fabricated from minimum 16 gauge carbon steel sheet metal, with all seams and butt joints continuously welded to provide a liquid tight duct system. Provide gasketed duct cleanout at each change of direction. Slope ductwork toward range hood at minimum 1" per foot.

PIPING

General: Piping shall be complete with pipe fittings, valves, couplings, hanger rods, hangers, supports, guides, sleeves, and accessories in conformance with the latest codes and ASME, ANSI, ASTM, and MSS Standards.

For pipe sizes not indicated on plans, see manufacturer's equipment connection details.

Avoid entry of foreign matter into piping during construction. After completion of piping, flush water system with water until clear.

Provide minimum pitch to insure adequate venting and drainage.

PIPING (CONTINUED)

Piping Material:

Refrigerant piping shall be copper ASTM #B280, factory cleaned, nitrogen charged, and capped.

Condensate discharge piping shall be schedule 40 PVC.

Natural gas piping installed above grade shall be schedule 40 black steel with black malleable iron screw fittings for 0.5 psig and lower pressures, and forged steel socket weld fittings for pressures greater than 0.5 psig. Underground gas piping shall be HDPE, designed specifically for use in natural gas systems of the pressures indicated on the drawings.

Refrigerant Pipe Size:

Liquid and suction refrigerant lines shall be sized per manufacturer's recommendations.

AIR DISTRIBUTION DEVICES

Diffusers, registers, and grilles shall be as scheduled on the drawings, Titus models noted, or equal.

Ceiling diffusers shall be 4—way throw, unless shown otherwise on drawings.

All diffusers and registers shall be furnished with opposed—blade dampers.

Exact location of all ceiling—mounted diffusers, grilles, and registers to be coordinated with lighting layout and reflected ceiling plan.

EQUIPMENT

Split system air conditioning units: Direct expansion split system air conditioning systems consisting of an outdoor, air cooled condensing unit and an indoor furnace—coil unit complete with direct—driven centrifugal blower assembly, evaporator coil with drain pan, natural gas—fired heating element and inlet filter rack with filter. Capacities shall be as scheduled on the drawings. Units shall be provided with a seven day programmable wall thermostat with "FAN ON—AUTO" control. Split system air conditioning units shall be Carrier, as scheduled, or approved equal.

Fans: Shall be Cook or Acurex models, as scheduled on the drawings, or equal. Roof mounted fans shall be spun aluminum, centrifugal type, complete with weatherproof housing, direct driven centrifugal fan wheel, electrically commutated (variable speed) motor, disconnect switch, birdscreen, factory fabricated roof curb compatible with the sloped roof type, curb extension and hinged base. Ceiling fans shall be centrifugal type, complete with perforated metal inlet grille, acoustically lined housing, disconnect switch, duct collar with gravity shutter and electronic speed controller attached to the fan housing, for balancing purposes. Wall propeller fans shall be axial flow type, direct or belt driven, as scheduled, complete with OSHA inlet guard, wall sleeve, disconnect switch and gravity backdraft damper. Fan F-12 shall be provided with a two-speed motor. Fans shall be Cook, as scheduled, or equal Acme, Penn, or equal. Capacities shall be as scheduled on the drawings.

Gas fired tubular radiant heaters: Heaters shall be low intensity tubular type, with forced combustion burner system, aluminized steel radiant tub heat exchanger, and stainless steel reflector. Heaters shall be straight tube, or u—tube design, as scheduled. Provide accessory side baffles, where scheduled. Heaters shall be Combustion Research Corp. Omega II series, or approved equal. Provide each heater with a wall mounted thermostat.

Engine Exhaust Air Filtration Units: Filtration units shall be self contained, suspended fan/filter units complete with bottom inlet grille, pre—filter, high efficiency (MERV 16) stage two filter, gas—phase extractor, centrifugal blower and four side—mounted discharge grilles. Units shall be AirVac 911, or approved equal.

Electric Wall Heaters: Heaters shall be wall mounted, architectural style electric heaters, complete with painted steel housing, extruded aluminum face panel with inlet and outlet louvers, integral disconnect switch and integral thermostat. Heaters shall be Markel, as scheduled, or approved equal.

Range Exhaust Hood: Range hood shall be UL-710 listed, commercial, type 430 stainless steel hood, complete with front mounted make—up air plenum, integral rear air space, duct collars, backsplash panel, left and right sidesplash panels, UL listed light fixtures, hood mounted fan and light controls, baffle type grease filters and Ansul R-102 fire suppression system, (suppression system components housed in separate, wall mounted panel enclosure). Hood shall be Accurex, as scheduled, or approved equal.

AUTOMATIC CONTROLS

Mechanical Contractor shall retain the services of a qualified automatic controls contractor.

The intent of this section is to obtain a complete, functional control for all mechanical equipment, systems, and devices of the project. This Contractor is to furnish and install, as required, electric/electronic or pneumatic controls, all necessary components, control wiring, interlock wiring, contactors, relays, control transformers, alarms, control valves, etc., to achieve the desired control operation for the air conditioning systems.

Control Wiring: Shall be #12 CU. THHN installed in EMT conduit (minimum 1/2—inch diameter) or plenum—rated

Automatic Dampers: Automatic dampers shall be similar to Ruskin Model CD40. Automatic damper shall be factory—fabricated and sized, and provided by control manufacturer.

Sequence of Operation:

Each split system air conditioning unit (GF-1/Cu-1 through GF-4/CU-4) shall be controlled by a wall mounted seven—day programmable thermostat. When the system is in the occupied mode, the blower shall run continuously. In the unoccupied mode, the blowers shall cycle with the heating or cooling. The motorized outside air damper shall open whenever the unit is in the occupied mode and close whenever the unit is in the unoccupied mode.

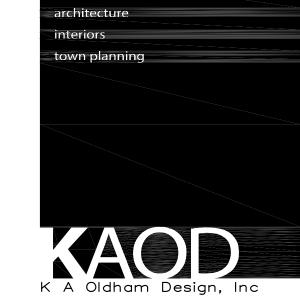
Range hood make—up air furnace GF—5 shall be interlocked with the range hood exhaust fan (F—14) to run whenever the exhaust fan is running. A duct mounted thermostat, located in the outside air duct, shall energize the gas heating whenever the outdoor temperature drops below 40°F (adjustable).

Fans shall be controlled as indicated in the fan schedule.

Electric wall heaters shall be controlled by integral thermostats.

Gas—fired radiant tube heaters shall be controlled by wall mounted thermostats provided by the heater manufacturer.

Engine exhaust air filtration units shall be controlled by a wall mounted "ON-OFF-AUTO" controller. In the off position, the units are de-energized. In the on position, units run continuously. In the auto position, units are started by either a push-button switch or by a signal from a wall mounted CO/NO2 gas detection system, both provided by the unit manufacturer.



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DATE	COMMENTS
09.27.2018	BID SET / PERMIT SET

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FAYETTE CO.
FIRE STATION
NO 4

278 MCELROY ROAD FAYETTEVILLE, GEORGIA

Prepared for FAYETTE CO. FIRE DEPT

COMMISSION NO:

SHEET TITLE:

HVAC SPECIFICATIONS

SHEET NO:

M101

NOT ISSUED FOR CONSTRUCTION

				SP	LIT	SYS	ST	EN	1 AIR	CON		TIONING UN	IITS				
		INDOOR L	JNIT											OUTE	000R (JNIT	
	В	LOWER DA	TA		(COOLING	DATA		HEA	TING DATA							NOTES
SYMBOL	SUPPLY	O.A. CFM	E.S.P.	MAX.	TOTAL	SENS.	EA	'F	GAS HEAT	GAS HEAT OUTPUT (BTUH)	AFUE	CARRIER MODEL	SYMBOL	AMB.	SEER	CARRIER MODEL	NOILS
STMIDOL	CFM	U.A. CFM	IN. W.G.	ΗP	MBH	MBH	DB	WB	INPUT (BTUH)	OUTPUT (BTUH)	AFUL	110		'		model.	
GF-1	770	130	1.00	1/2	23.7	18.9	80	67	40,000	37,000	92.1	59SP2A040E17-12/CNPVP2417	CU-1	95 ° F	14.0	24ACC424	1
GF-2	870	160	1.00	1/2	28.1	20.9	80	67	60,000	56,000	92.1	59SP2A060E17-14/CNPVP3017	CU-2	95 ° F	14.5	24ACC430	1
GF-3	1400	260	1.00	3/4	44.8	31.5	80	67	80,000	75,000	92.1	59SP2A080E21-20/CNPVP4821	CU-3	95 ° F	14.5	24ACC448	1
GF-4	880	160	1.00	1/2	28.1	20.9	80	67	60,000	56,000	92.1	59SP2A060E17-14/CNPVP3017	CU-4	95 ° F	14.5	24ACC430	1
GF-5	450	450	0.80	1/2					40,000	37,000	92.1	59SP2A040E14-10					23

- 1) PROVIDE SEVEN-DAY PROGRAMMABLE WALL THERMOSTAT WITH FAN ON/AUTO CONTROL. SET FAN TO RUN CONTINUOUS DURING OCCUPIED HOURS.
- 2 INTERLOCK BLOWER WITH RANGE HOOD EXHAUST FAN F-14. PROVIDE DUCT MOUNTED THERMOSTAT IN O/A DUCT TO ENERGIZE HEAT WHEN O/A TEMP. IS BELOW 40°F.

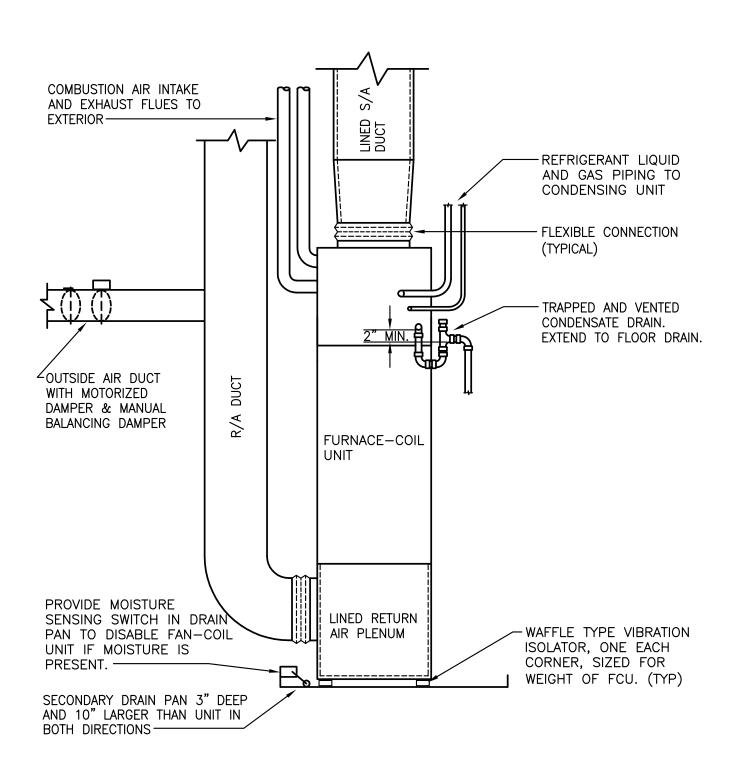
 (3) PROVIDE FURNACE WITH STAINLESS STEEL HEAT EXCHANGER.

	FANS										
MARK	SERVICE	TYPE	CFM	ESP IN W.C.	MAX. RPM	MAX. H.P.	DRIVE	MAX. SONES	CONTROLLED BY	MODEL	ACCESSORIES
F-1	TOILET EXH	CEILING FAN	80	0.25	860	1/10	DIRECT	1.2	WALL SWITCH	COOK GC-146	SEE NOTES 1 & 2
F-2	TOILET EXH	CEILING FAN	80	0.25	860	1/10	DIRECT	1.2	WALL SWITCH	COOK GC-146	SEE NOTES 1 & 2
F-3	LAUNDRY EXH	CEILING FAN	160	0.25	1160	1/10	DIRECT	3.5	WALL SWITCH	COOK GC-168	SEE NOTES 1 & 2
F-4	TOILET EXH	CEILING FAN	80	0.25	860	1/10	DIRECT	1.2	WALL SWITCH	COOK GC-146	SEE NOTES 1 & 2
F-5	ICE MACH EXH	CEILING FAN	120	0.25	1070	1/10	DIRECT	2.4	WALL T'STAT	COOK GC-148	SEE NOTES 1 & 2
F-6	LOCKER EXH	CEILING FAN	200	0.25	1400	1/10	DIRECT	2.0	WALL SWITCH	COOK GC-522	SEE NOTES 1 & 2
F-7	TOILET EXH	CEILING FAN	80	0.25	860	1/10	DIRECT	1.2	WALL SWITCH	COOK GC-146	SEE NOTES 1 & 2
F-8	MECH RM EXH	CEILING FAN	150	0.25	1150	1/10	DIRECT	3.4	WALL T'STAT	COOK GC-168	SEE NOTES 1 & 2
F-9	STORAGE VENT	WALL PROP	500	0.25	1090	1/4	DIRECT	5.7	WALL SWITCH	COOK 12XP26D17EC	SEE NOTES 2 & 3
F-10	COMP RM VENT	WALL PROP	800	0.25	1470	1/4	DIRECT	8.7	WALL SWITCH	COOK 12XP32D17EC	SEE NOTES 2 & 3
F-11	LAUNDRY VENT	WALL PROP	600	0.25	1300	1/4	DIRECT	6.9	WALL SWITCH	COOK 12XP26D17EC	SEE NOTES 2 & 3
F-12	APP BAY VENT	WALL PROP	12000	0.25	505	2.0	BELT	26.5	2-SPD SWITCH	COOK 42XLP	SEE NOTES 3 & 4
F-13	JANITOR EXH	CEILING FAN	120	0.25	1070	1/10	DIRECT	2.4	WALL SWITCH	COOK GC-148	SEE NOTES 1 & 2
F-14	RANGE EXH	ROOF CENT	500	0.90	1834	1/2	DIRECT	_	HOOD SWITCH	ACCUREX XRUD-101HP-VG	SEE NOTE 5

- NOTE 1: PROVIDE FAN WITH INLET GRILLE, ACOUSTICALLY LINED HOUSING, DISCONNECT, OUTLET DUCT COLLAR WITH GRAVITY SHUTTER AND WALL CAP.
- NOTE 2: PROVIDE FAN WITH SPEED CONTROLLER (MOUNTED INSIDE MOTOR HOUSING), FOR BALANCING.
- NOTE 3: PROVIDE FAN WITH INLET GUARD, WALL SLEEVE, DISCONNECT SWITCH AND GRAVITY BACKDRAFT DAMPER.
- NOTE 4: PROVIDE FAN WITH TWO-SPEED MOTOR AND "OFF-HIGH-LOW" WALL SWITCH.

 NOTE 5: PROVIDE FAN WITH BIRDSCREEN, DISCONNECT SWITCH, ROOF CURB (5/12 SLOPE), CURB EXTENSION, HINGED BASE AND GREASE TRAP.

			E	LEC	CTRIC	HE	AT		
MARK	SERVICE	TYPE	CFM	ΔP IN	BLOWER HP	KW	STEPS	MODEL	REMARKS
EWH-1	MECH ROOM	WALL HEATER	245	_	1/10	2.0	1	MARKEL 3420 SERIES	WITH INTEGRAL DISCONNECT & THERMOSTAT
EWH-2	STORAGE ROOM	WALL HEATER	245	_	1/10	3.0	1	MARKEL 3420 SERIES	WITH INTEGRAL DISCONNECT & THERMOSTAT
EWH-3	COMPRESSOR ROOM	WALL HEATER	245	_	1/10	2.0	1	MARKEL 3420 SERIES	WITH INTEGRAL DISCONNECT & THERMOSTAT
EWH-4	LAUNDRY ROOM	WALL HEATER	245	1	1/10	3.0	1	MARKEL 3420 SERIES	WITH INTEGRAL DISCONNECT & THERMOSTAT



4 DETAIL - FURNACE-COIL UNIT M102 NOT TO SCALE

		GAS	FIR	ED INF	-RAR	ED	HEATERS	
SYMBOL	HEATER TYPE	INPUT BTUH	AFUE	REFLECTOR LENGTH	TUBE DIAMETER	FAN HP	COMBUSTION RESEARCH CORP. MODEL NUMBER	REMARKS
GRH-1	GAS INFRARED TUBE HEATER	60,000	80%	29'-10"	4.0	1/8	OMEGA II 0918-NG-S	1
GRH-2	GAS INFRARED TUBE HEATER	60,000	80%	29'-10"	4.0	1/8	OMEGA II 0918-NG-S	1
GRH-3	GAS INFRARED TUBE HEATER	60,000	80%	29'-10"	4.0	1/8	OMEGA II 0918-NG-S	1
GRH-4	GAS INFRARED TUBE HEATER	60,000	80%	29'-10"	4.0	1/8	OMEGA II 0918-NG-S	1
GRH-5	GAS INFRARED TUBE HEATER	60,000	80%	14'-8"	4.0	1/8	OMEGA II 0918-NG-U	
GRH-6	GAS INFRARED TUBE HEATER	60,000	80%	14'-8"	4.0	1/8	OMEGA II 0918-NG-U	
GRH-7	GAS INFRARED TUBE HEATER	60,000	80%	14'-8"	4.0	1/8	OMEGA II 0918-NG-U	
GRH-8	GAS INFRARED TUBE HEATER	60,000	80%	14'-8"	4.0	1/8	OMEGA II 0918-NG-U	

1) PROVIDE REFLECTOR WITH SINGLE SIDE SHIELD. MOUNT AT 30° ANGLE TOWARD CENTER OF BAY.

DRAIN LINE SHALL BE AT LEAST THE SAME SIZE AS THE NIPPLE ON THE DRAIN PAN—

1 CONDENSATE DRAIN TRAP DETAIL
M102 NOT TO SCALE

PITCH DOWN TOWARD DRAIN—

OPEN DRAIN

CLEANOUT

		ENC	INE	EXHAUS	ST AIR F	ILTRATION	UNITS	
MARK	SERVICE	AIR FLOW CFM	MAX. H.P.	PREFILTER TYPE	MAIN FILTER TYPE	FINAL FILTER TYPE	MODEL	REMARKS
AFU-1	APPARATUS BAY	2000	1.0	THROW-AWAY	MERV 16 HEPA	GAS PHASE EXTRACTOR	AIRVAC 911	1
AFU-2	APPARATUS BAY	2000	1.0	THROW-AWAY	MERV 16 HEPA	GAS PHASE EXTRACTOR	AIRVAC 911	1
AFU-3	APPARATUS BAY	2000	1.0	THROW-AWAY	MERV 16 HEPA	GAS PHASE EXTRACTOR	AIRVAC 911	1
AFU-4	APPARATUS BAY	2000	1.0	THROW-AWAY	MERV 16 HEPA	GAS PHASE EXTRACTOR	AIRVAC 911	

1) PROVIDE UNIT WITH AVEC-4C SMART TIMER, CO/NO2 COMBO SENSOR AND MANUAL PUSH-BUTTON OVERRIDE SWITCH.

				KIT	CHEN	HOODS		
(SYMBOL	TYPE	DIMENSIONS	EXHAUST CFM	SUPPLY CFM	MODEL	ELECTRICAL CHARACTERISTICS	REMARKS
	KH-1	WALL MOUNT	3'-4" X 3'-3"	500	450	ACCUREX XBEW-40-S	120V, SINGLE PHASE	SEE NOTE 1

NOTE 1. HOOD SHALL BE CONSTRUCTED OF TYPE 430 STAINLESS STEEL, AND DESIGNED FOR MEDIUM COOKING LOADS. PROVIDE HOOD WITH INCANDESCENT, VAPOR TIGHT LIGHTING, STAINLESS STEEL BAFFLE TYPE GREASE FILTERS, CEILING CLOSURE PANEL ON THREE SIDES, BACKSPLASH, LEFT AND RIGHT SIDESPLASHES AND ANSUL R102 FIRE SUPPRESSION SYSTEM, MOUNTED ON ADJACENT WALL. HOOD SHALL BE UL710 LISTED.

	AIR DISTRIBUTION DEVICES					
MARK	TYPE	NECK SIZE	OBD	FINISH	MODEL	REMARKS
Α	LAY-IN CEILING DIFFUSER	6"ø	YES	OFF-WHITE	PRICE SCD, FRAME 31, 24X24 LAY-IN	
В	LAY-IN CEILING DIFFUSER	8"ø	YES	OFF-WHITE	PRICE SCD, FRAME 31, 24X24 LAY-IN	
С	SIDEWALL SUPPLY REGISTER	12X6	YES	OFF-WHITE	PRICE 520D-F-S-A	
D	LAY-IN RETURN AIR GRILLE	8"ø	NO	OFF-WHITE	PRICE PDDR, FRAME 3, 12X24 LAY-IN	
E	LAY-IN RETURN AIR GRILLE	12"ø	NO	OFF-WHITE	PRICE PDDR, FRAME 3, 24X24 LAY-IN	
F	LAY-IN RETURN AIR GRILLE	18"ø	NO	OFF-WHITE	PRICE PDDR, FRAME 3, 24X24 LAY-IN	
G	SIDEWALL RETURN AIR GRILLE	12X8	NO	OFF-WHITE	PRICE 530-F-L-A	
Н	CEILING EXHAUST GRILLE	48X48	NO	OFF-WHITE	PRICE 82-F, WITH HINGED FRAME & INSECT SCREEN	
J	SIDEWALL TRANSFER GRILLE	24X24	NO	OFF-WHITE	PRICE 530-F-L-A	
К	OUTSIDE AIR INTAKE GRILLE	12X12	NO	OFF-WHITE	PRICE 81-F-A, WITH INSECT SCREEN	
L	OUTSIDE AIR INTAKE REGISTER	16X16	YES	OFF-WHITE	PRICE 530D-F-L-A, WITH INSECT SCREEN	
М	OUTSIDE AIR INTAKE GRILLE	18X18	NO	OFF-WHITE	PRICE 81-F-A, WITH INSECT SCREEN	
N	OUTSIDE AIR INTAKE GRILLE	32X40	NO	OFF-WHITE	PRICE 510-F-L-A	

- DRAIN PAN

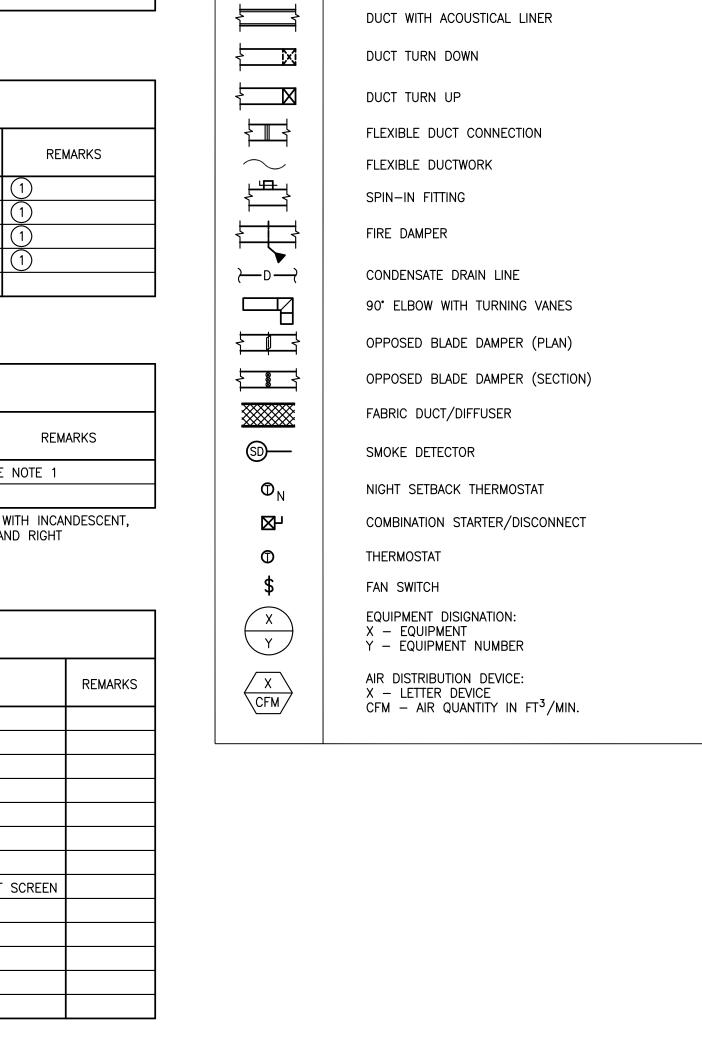
NEGATIVE STATIC PRESSURE

H = AT LEAST 1" PLUS CASING STATIC PRESSURE

TOTAL HEIGHT OF TRAP
X + H + (1.5 x PIPE DIA.)
(without insulation)

(DRAW THRU)

X = 1/2 H



HVAC LEGEND

RETURN OR EXHAUST GRILLE

SLOT DIFFUSER

SUPPLY DIFFUSER

DUCT DIMENSION:

A — HORIZONTAL B — VERTICAL

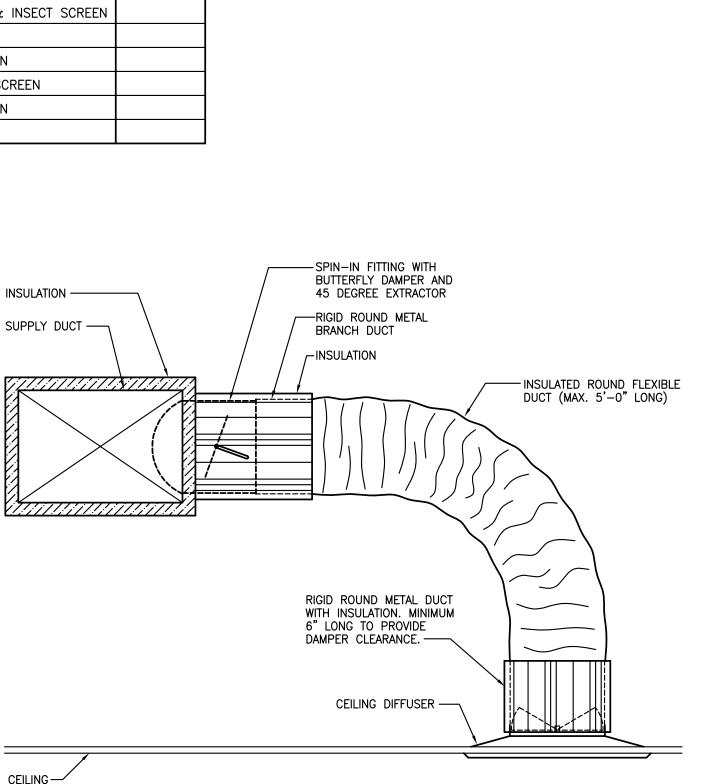
DUCT RISE

DUCT DROP

AxB

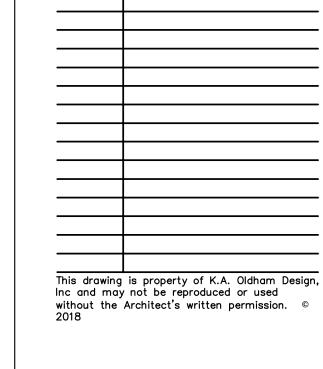
₹ R P

₹ D →



CEILING DIFFUSER RUNOUT DETAIL

M102 NOT TO SCALE



75 Jackson St. Suite 401

Telephone: (770) 683-9170

09.27.2018 BID SET / PERMIT SET

Newnan, Georgia 30263

Fax: (770) 683-9171 E-Mail: info@kaod.com Web Site: www.kaod.com

DATE COMMENTS

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278 MCELROY ROAD FAYETTEVILLE, GEORGIA

Prepared for FAYETTE CO

COMMISSION NO: 1748.00

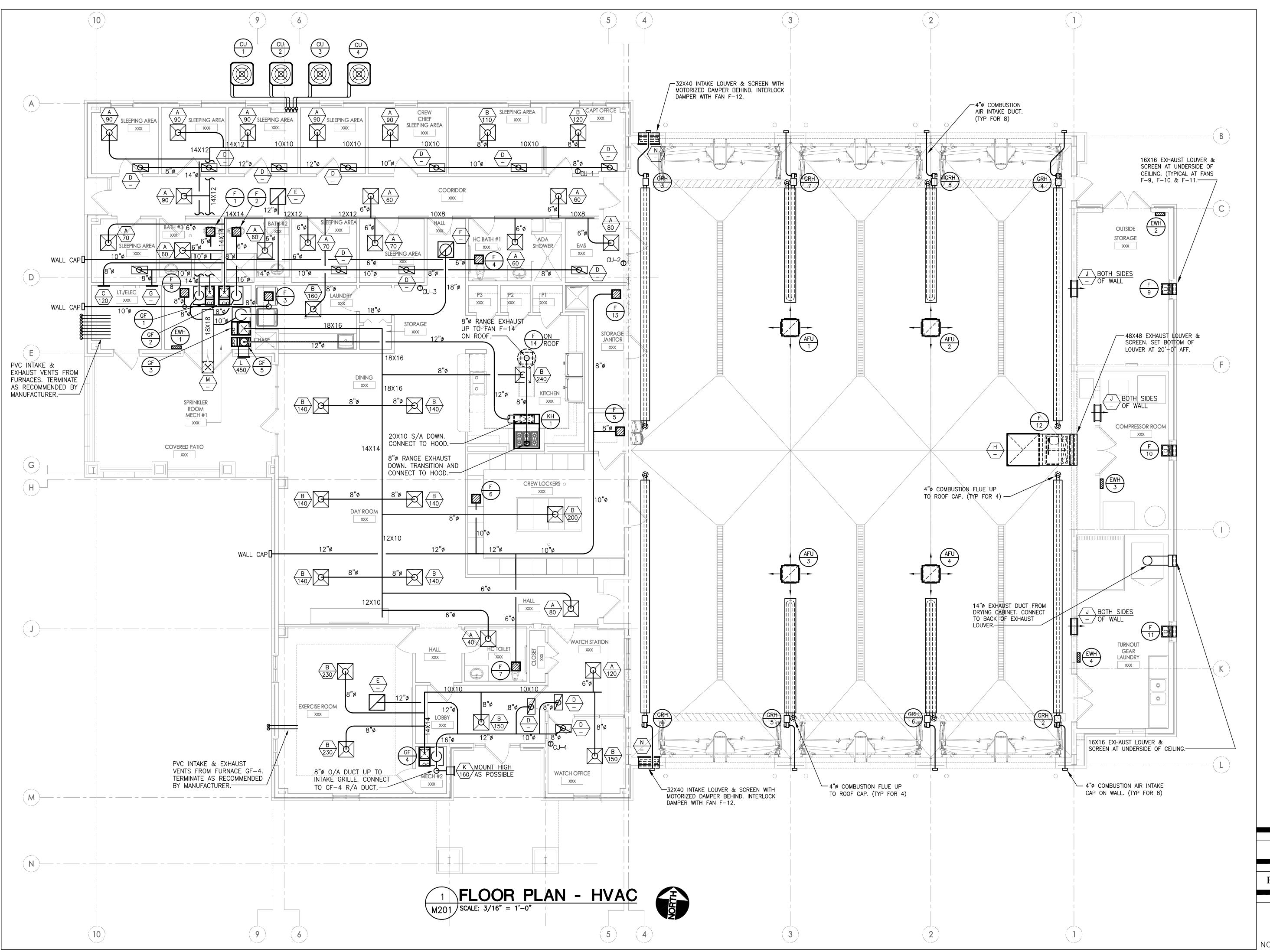
SHEET TITLE:

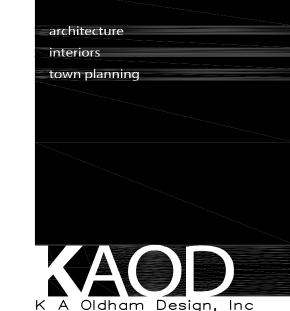
HVAC DETAILS & SCHEDULES

SHEET NO:

M102

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DATE	COMMENTS
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FAYETTE CO. FIRE STATION NO. 4

278 MCELROY ROAD FAYETTEVILLE, GEORGIA

Prepared for FAYETTE CO. FIRE DEPT

COMMISSION NO:

1748.00

SHEET TITLE:
FLOOR PLAN - HVAC

SHEET NO:

M201
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