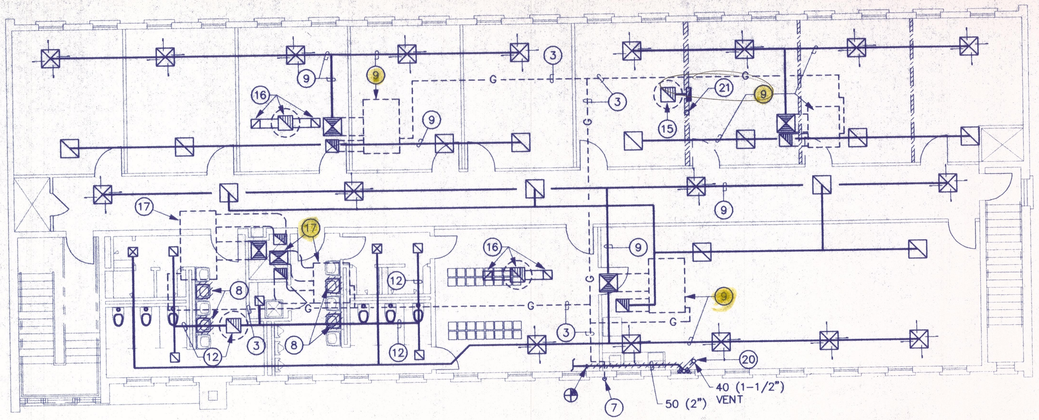
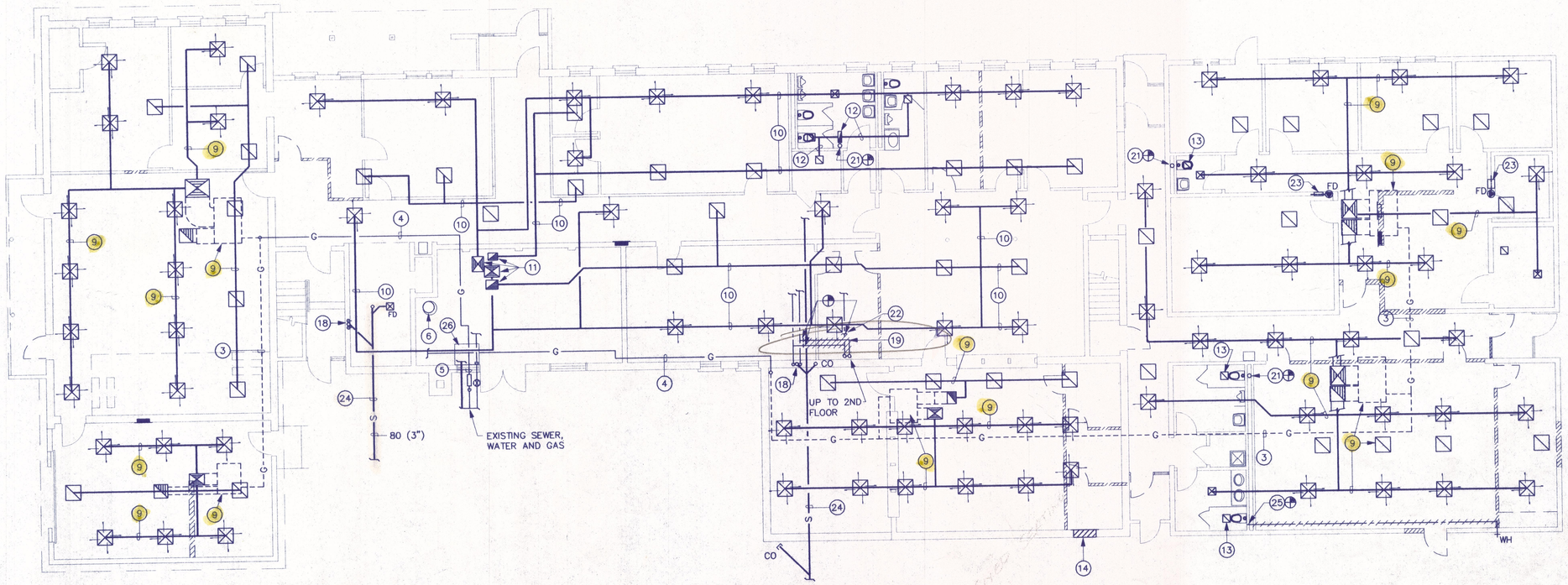


2 Mechanical Plan - 2nd Floor - Bldg 1047 - Demolition

1/8" = 1'-0"

0 2' 4' 8'



1 Mechanical Plan - 1st Floor - Bldg 1047 - Demolition

1/8" = 1'-0"

0 2' 4' 8'

General Demolition Notes

CONTRACTOR SHALL VERIFY LOCATION OF ALL PIPING, EQUIPMENT, ETC. SERVED BY EXISTING EQUIPMENT TO BE REMOVED. CONTRACTOR SHALL REMOVE SUCH ITEMS ONLY IF THEY DO NOT SERVE FIXTURES TO REMAIN. ALL PIPING SHALL BE CAPPED IN A CONCEALED LOCATION.

CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING AND FINISHING SURFACES (WALLS, FLOORS, CEILINGS) DAMAGED DURING REMOVAL OF EQUIPMENT, DUCTWORK AND PIPING UNLESS REMOVAL OR RENOVATION OF SURFACE IS COVERED UNDER ANOTHER SECTION OF THIS CONTRACT.

CONTRACTOR SHALL DISPOSE OF OR RETURN ALL PLUMBING FIXTURES, EQUIPMENT, PIPING, ETC. TO DRMO IN ACCORDANCE WITH DIRECTION OF THE ARCHITECT.

REMOVE ANY COLD WATER, HOT WATER, GAS, DUCTWORK, WASTES OR VENT PIPING (NOT SHOWN) UNCOVERED IN EXISTING PARTITIONS TO BE REMOVED; REMOVE BACK TO ACTIVE LINE AND CAP.

PLUG OR SEAL ALL SOIL, WASTE AND VENT OPENINGS AS DIRECTED FOR A SMOOTH FINISH FLOOR.

PIPE ROUTING IS APPROXIMATE ONLY; EACH BIDDER SHALL SATISFY HIMSELF AS TO EXISTING BUILDING CONDITIONS BEFORE SUBMITTING HIS BID. NO ALLOWANCE SHALL BE MADE AFTER CONTRACT IS AWARDED TO ALLOW FOR LACK OF PRE-BID INSPECTION OF BUILDING BY SUCCESSFUL BIDDER.

COORDINATE WORK WITH OTHER TRADES TO MINIMIZE CONFLICTS AND "DOWN TIME". PATCH WALLS AND CEILING TO MATCH EXISTING SURFACES.

COORDINATE ALL WORK WITH THE CONSTRUCTION PHASING PLAN AS SHOWN ON SHEET PD-1.

Keyed Notes

1. NOT USED.
2. NOT USED.
3. REMOVE EXISTING GAS PIPING ON ROOF AND ALL RELATED SUPPORTS.
4. REMOVE EXISTING GAS PIPING ABOVE CEILING AND ALL RELATED SUPPORTS.
5. REMOVE ALL EXISTING GAS PIPING IN MECHANICAL ROOM TO THIS POINT.
6. REMOVE EXISTING WATER HEATER, MODIFY PIPING AS REQUIRED FOR INSTALLATION OF NEW WATER HEATER.
7. REMOVE EXISTING GAS PIPING ON WALL AND ALL RELATED SUPPORTS.
8. REMOVE EXISTING LAVATORIES, CAP EXISTING WASTE, VENT AND WATER LINES IN WALL FLUSH WITH GYPSUM BOARD. SALVAGE TO DRMO.
9. REMOVE EXISTING ROOFTOP A/C UNIT AND ALL RELATED DUCTWORK, DIFFUSERS AND GRILLES. SALVAGE TO DRMO.
10. REMOVE EXISTING SUPPLY AND RETURN DUCTWORK AND ALL RELATED DIFFUSERS AND GRILLES.
11. REMOVE EXISTING SUPPLY AND RETURN DUCTWORK IN CHASE.
12. REMOVE EXISTING EXHAUST DUCTWORK AND ALL RELATED REGISTERS AND GRILLES.
13. REMOVE EXISTING CEILING EXHAUSTER, DUCTWORK AND ROOFCAP.
14. REMOVE EXISTING THRU THE WALL A/C UNIT. SALVAGE TO DRMO.
15. REMOVE EXISTING ROOF EXHAUSTER AND ALL RELATED DUCTWORK. SALVAGE TO DRMO.
16. REMOVE EXISTING ROOF EXHAUSTER AND ALL RELATED DUCTWORK, REGISTERS AND GRILLES. SALVAGE TO DRMO.
17. REMOVE EXISTING ROOFTOP A/C UNIT AND ALL RELATED DUCTWORK IN CHASE. SALVAGE TO DRMO.
18. REMOVE EXISTING KITCHENETTE, SALVAGE TO DRMO. CAP EXISTING WASTE, VENT AND WATER PIPING IN WALL FLUSH WITH GYPSUM BOARD.
19. REMOVE EXISTING CW AND HW PIPING IN CEILING UP TO 2ND FLOOR. CAP CONNECTIONS AT MAINS.
20. REMOVE EXISTING KITCHENETTE, SALVAGE TO DRMO. REMOVE CW AND HW PIPING DOWN TO FIRST FLOOR. REMOVE WASTE PIPING BELOW FLOOR TO POINT SHOWN. REMOVE VENT PIPING IN WALL AND ABOVE CEILING.
21. REMOVE EXISTING VENT PIPING FROM FIRST FLOOR CEILING UP THROUGH ROOF.
22. DISCONNECT EXISTING RECIRCULATED HW PIPING FROM HW PIPING AND CAP.
23. TRANSFER DUCT WITH FIRE DAMPER ABOVE CEILING. REMOVE FIRE DAMPER, SALVAGE TO DRMO.
24. EXISTING WASTE PIPING BELOW SLAB TO REMAIN.
25. REMOVE EXISTING CW PIPING TO WALL HYDRANT WH. CAP CONNECTION AT MAIN.

no.	date	revision
1	1/14/00	ADDENDUM #1 - Q.A. REVISIONS
2		

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188th Fighter Squadron
Squadron Operations Facility
Albuquerque, NM

1st & 2nd Floor Mech. Plan-Exist.-Demo.

job no: 197305
drn. by: SEC
ckd. by: SEC
issued: 25 MAY 99

REGISTERED PROFESSIONAL ENGINEER
STATE OF NEW MEXICO
No. 4129
JAMES O. COUPLAND

sheet M-1

SYMBOL LEGEND

LEGEND (COMMON)

ABBR.	SYMBOL	DESCRIPTION
	⬡	EQUIPMENT DESIGNATION
	○	KEYED NOTES
DIA	Ø	DIAMETER
	⬭	FLAT OVAL DUCTWORK
(N)		NEW
AFG, BFG		ABOVE, BELOW FINISH GRADE
UG, UF		UNDERGROUND, UNDER FLOOR
EX		EXISTING TO REMAIN
RX		REMOVE EXISTING
RXS		REMOVE EXISTING AND SALVAGE FOR REUSE THIS CONTRACT
RS		REINSTALL SALVAGED EQUIPMENT/ MATERIAL
GPM		GALLONS PER MINUTE
LPS		LITRES PER SECOND
DN		DOWN
FR		FROM
CLG		CEILING
TYP		TYPICAL
MTD		MOUNTED
MBH		THOUSAND BTUS PER HOUR
KW		KILOWATTS
W		WATTS
CU		COPPER
HP		HORSEPOWER
W/		WITH
W/O		WITHOUT
REF		REFERENCE TO INFORMATION FOUND ON OTHER DRAWINGS
FTB		FINISH FLOOR TO BOTTOM
AFF, BFF		ABOVE, BELOW FINISH FLOOR
TOD		TOP OF DUCT
BOD		BOTTOM OF DUCT

PLUMBING LEGEND

ABBR.	SYMBOL	DESCRIPTION
FLG		FLANGED CONNECTION
CRED		CONCENTRIC REDUCER
ERED		ECCENTRIC REDUCER
		VALVE IN RISER
		BALANCING VALVE WITH MEMORY STOP
MAV	T	MANUAL AIR VENT
THERM		THERMOMETER
PG		PRESSURE GAUGE
FD		FLOOR DRAIN
FS		FLOOR SINK
CAP		CAP ON END OF PIPE
POC		POINT OF CONNECTION
DISC		DISCONNECT TO POINT INDICATED
CO, WCO		CLEANOUT, WALL CLEANOUT
GCO, FCO		GRADE, FLOOR CLEANOUT
RD, OFD		ROOF DRAIN, OVERFLOW DRAIN
WHYD		WALL HYDRANT
YD		YARD HYDRANT
GV W/HB		GATE VALVE W/ HOSE BIBB CONNECTION
FSW	FS	FLOW SWITCH
PGC		PRESSURE GAUGE W/ GAUGE COCK
AV	AV	AUTOMATIC AIR VENT
		RISER DOWN
		RISER UP
		DROP
		RISER UP
		BRANCH – TOP CONNECTION
		BRANCH – BOTTOM CONNECTION
		BRANCH – SIDE CONNECTION
HB		HOSE BIBB
WH		WATER HEATER

PLUMBING LEGEND

ABBR.	SYMBOL	DESCRIPTION
FP	— FP —	FIRE PROTECTION
W	— W —	WATER LINE
CW		COLD WATER LINE
HW		HOT WATER LINE
RHW		CIRCULATING HOT WATER
V		VENT PIPING
S	— S —	SOIL OR WASTE LINE
IW	— IW —	INDIRECT WASTE
G	— G —	GAS – LOW PRESSURE
MG	— MG —	GAS – MEDIUM PRESSURE
CA	— CA —	COMPRESSED AIR
D	— D —	DRAIN LINE
SS	--- SS ---	STORM DRAIN BELOW GRADE
SS	— SS —	STORM DRAIN ABOVE GRADE
RDL	— RDL —	ROOF DRAIN LEADER
OFL	— OFL —	OVER FLOW DRAIN LEADER
VTR		VENT THRU ROOF
GV		GATE VALVE
GL		GLOBE VALVE
CV		CHECK VALVE
PV		PLUG VALVE
TCV–3		CONTROL VALVE (THREE–WAY)
TCV–2		CONTROL VALVE (TWO–WAY)
P & TR		RELIEF VALVE
PRV		PRESSURE REDUCING VALVE
BFV		BUTTERFLY VALVE
NV		NEEDLE VALVE
BV		BALL VALVE
FCV		BALANCING VALVE
STR		STRAINER
UN		UNION
EWC		ELECTRIC WATER COOLER

DOUBLE LINE DUCTWORK

ABBR.	SYMBOL	DESCRIPTION
	20/12	RIGID DUCTWORK – FIRST FIGURE IS SIDE SHOWN
		FLEXIBLE DUCTWORK
		DUCT TRANSITION
		SUPPLY AIR DUCT UP
		RETURN OR EXHAUST DUCT UP
		SUPPLY DUCT DOWN
		RETURN OR EXHAUST DUCT DOWN
		CEILING SUPPLY AIR OUTLET
		CEILING SUPPLY AIR OUTLET
RA/EH		CEILING RETURN OR EXHAUST AIR INLET
SA		SIDEWALL SUPPLY AIR OUTLET
RA/EH		SIDEWALL RETURN OR EXHAUST AIR INLET

HVAC LEGEND – WET

MU	— MU —	MAKE–UP WATER PIPING
PA		PIPE ANCHORS
		PIPE ALIGNMENT GUIDE
EWT, LWT		ENTERING, LEAVING WATER TEMPERATURE
TDH		TOTAL DYNAMIC HEAD
C_V		FLOW COEFFICIENT
CHWS	— CHWS —	CHILLED WATER SUPPLY
CHWR	— CHWR —	CHILLED WATER RETURN
HWS	— HWS —	HEATING WATER SUPPLY – LOW TEMPERATURE
HWR	— HWR —	HEATING WATER RETURN – LOW TEMPERATURE

CONTROLS LEGEND

H'STAT	Ⓗ	HUMIDISTAT
T'STAT	Ⓣ	THERMOSTAT
NC		NORMALLY CLOSED
NO		NORMALLY OPEN
C		CLOSED
OA		OUTSIDE AIR
RA		RETURN AIR
REL		RELIEF AIR

SINGLE LINE DUCTWORK

ABBR.	SYMBOL	DESCRIPTION
	20/12	RIGID DUCTWORK – FIRST FIGURE IS SIDE SHOWN
		FLEXIBLE DUCTWORK
		DUCT TRANSITION
SA		CEILING SUPPLY AIR OUTLET
RA/EH		CEILING RETURN OR EXHAUST AIR INLET
SA		SIDEWALL SUPPLY AIR OUTLET
RA		SIDEWALL RETURN OR EXHAUST AIR INLET
FC		FLEXIBLE CONNECTION
FD		FIRE DAMPER
S/FD		SMOKE/FIRE DAMPER
MVD		MANUAL VOLUME DAMPER
SD		SPLITTER DAMPER
AD		ACCESS DOOR (SIZE SHOWN)
UH		UNIT HEATER
OBD		OPPOSED BLADE DAMPER
PBD		PARALLEL BLADE DAMPER
CFM		CUBIC FEET PER MINUTE
OAD		OUTSIDE AIR DAMPER (OPPOSED BLADE)
RAD		RETURN AIR DAMPER (OPPOSED BLADE)
EAD		EXHAUST AIR DAMPER (OPPOSED BLADE)
BDD		BACKDRAFT DAMPER
CD		CEILING DIFFUSER
G		GRILLE
SW		SIDEWALL
LD		LINEAR DIFFUSER
R		REGISTER W/ OBD
TG		TRANSFER GRILLE
DG		DOOR GRILLE
UC		UNDERCUT
AF		AIR FILTER
EAT, LAT		ENTERING, LEAVING AIR TEMPERATURE
WB, DB		WET, DRY BULB TEMPERATURE
FPM		FEET PER MINUTE
RPM		REVOLUTIONS PER MINUTE
"WC		INCHES OF WATER COLUMN
TSP		TOTAL STATIC PRESSURE
ΔP		PRESSURE DROP, PRESSURE DIFFERENCE
ESP		EXTERNAL STATIC PRESSURE

no.	date	revision
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188th Fighter Squadron
Squadron Operations Facility
Albuquerque, NM

MECHANICAL LEGEND

REGISTERED PROFESSIONAL ENGINEER STATE OF NEW MEXICO No. 4129 JAMES O. COUPLAND

job no:	197305
drn. by:	SEC
ckd. by:	SEC
issued:	25 MAY 99
sheet	M-9
	52 of 68

EQUIPMENT SCHEDULE

SYMBOL	DESCRIPTION

C-1

AIR COMPRESSOR: AIR COOLED, TWO STAGE PRESSURE LUBRICATED AIR COMPRESSOR. UNIT TO INCLUDE P.E. SWITCHES, ELECTRIC MOTOR, ASME 1400 kPa (200 PSIG) AIR RECEIVER, CENTRIFUGAL UNLOADER, STOP/START PRESSURE SWITCH, AIR PRESSURE GAUGE, ASME SAFETY VALVE, ADJUSTABLE PRESSURE REDUCING VALVE, FILTER, GAUGES, SERVICE VALVE, MULTIPLE V-BELT DRIVE, INTAKE FILTER SILENCERS, BELT GUARDS, AUTOMATIC TANK DRAIN, AIR COOLED AFTER COOLER WITH SEPARATOR AND TANK RIS VIBRATION MOUNTS. UNIT TO BE POWERED BY 5.5 KW (7.5 HP), 460V, 3 PHASE MOTOR. UNIT SHALL INCLUDE AN 300 LITRE (80 GAL) VERTICAL PRESSURE TANK AND SHALL BE CAPABLE OF DELIVERING 13.5 SLPS (28.5 SCFM) OF COMPRESSED AIR AT 690 kPa (100 PSI). QUINCY MODEL QTV 7.580 OR EQUAL BY SPEED-AIRE, INGERSOLL-RAND, ATLAS COPCO OR SULLAIR.

AD-1

AIR DRYER: AIR COOLED REFRIGERATED AIR DRYER USING R134a REFRIGERANT. UNIT TO INCLUDE REFRIGERANT FILTER/DRYER, AUTOMATIC EXPANSION VALVE, FULLY INSULATED COLD SURFACES, MOTOR OVERLOAD PROTECTION, MOISTURE SEPARATOR, AUTOMATIC DRAIN VALVE, LIGHTED POWER ON/OFF SWITCH, AND SHALL BE CAPABLE OF DELIVERING 12 SLPS (25 SCFM) OF COMPRESSED AIR AT 690 kPa (100 PSI). PROVIDE WITH F200-25-1/2-B PREFILTER WITH ADM-2-2 AUTO DRAIN AND F-200-25-1/2-C AFTER FILTER. VAN AIR MODEL RAD 20 OR APPROVED EQUAL BY SULLAIR.

B-1 THRU B-2

BOILER: HEATING WATER BOILER, SHALL BE STEEL WATERTUBE TYPE HEATING BOILER WITH ATMOSPHERIC NATURAL GAS BURNER. UNIT SHALL BE ASME STAMPED FOR 207 KPA (30 PSI) WORKING PRESSURE. UNIT SHALL BE FACTORY INSULATED WITH 65MM (2 1/2") REFRACTORY AND 18 GAUGE STEEL JACKET. UNIT SHALL BE COMPLETE WITH THE FOLLOWING ITEMS: COMBINATION THERMOMETER/ALTITUDE GAUGE, ASME RELIEF VALVE, MOTORIZED ELECTRIC GAS VALVE, MANUAL GAS SHUTOFF VALVE, ELECTRONIC PILOT SAFETY CONTROL, INTERMITTENT PILOT, WATER TEMPERATURE CONTROL, HIGH LIMIT AQUASTAT, LOW WATER CUTOFF, DRAFT HOOD, RECIRCULATION PUMP TO PREVENT CONDENSATION AT RETURN WATER TEMPERATURES BELOW 55 DEGREES C. (130 DEGREES F.) ENCLOSED CONTROL PANEL WITH FUSED SWITCH, INDICATOR LIGHT AND ALL CONTROLS MOUNTED AND WIRED HIGH/LOW/OFF TWO STAGE FIRING BURNER WITH LOW FIRE START. UNIT SHALL BE AJAX WN AS SHOWN OR APPROVED EQUAL.

SYMBOL	MODEL	KW(MBH) INPUT(SL)	KW(MBH) OUTPUT(SITE)	LPS (GPM)	EWT	WPD KPA (FT)
B-1 & 2	F-650	191(650)	119 (406)	1.8 (28.5)	71C(160F)	3 (1)

CH-1

WATER CHILLER: UNIT SHALL BE FACTORY ASSEMBLED, AIR COOLED MACHINE WITH AT LEAST TWO RECIPROCATING OR SCROLL COMPRESSORS HAVING INDEPENDENT REFRIGERATION CIRCUITS, OR A SINGLE COMPRESSOR AND REFRIGERATION CIRCUIT IF A ROTARY SCREW COMPRESSOR IS USED. UNIT SHALL BE COMPOSED OF COMPRESSOR(S), A SHELL AND TUBE COOLER, AIR COOLED CONDENSER, ELECTRICAL CONTROL PANEL, REFRIGERATION PIPING, CONTROLS AND ACCESSORIES MOUNTED ON A SINGLE BASE. THE UNIT SHALL HAVE MINIMUM CAPACITY SCHEDULED AT 35 C (95 F) DEGREES AMBIENT. MAXIMUM WATER PRESSURE DROP SHALL BE 21 KPA (7 FEET) AT THE COOLER. UNIT SHALL HAVE A MINIMUM OF 4 CAPACITY CONTROL STEPS FOR RECIPROCATING AND SCROLL COMPRESSOR UNITS, AND MODULATING CONTROL DOWN TO A MINIMUM OF 30% FOR ROTARY SCREW COMPRESSOR UNITS.

UNIT SHALL OPERATE ON 460V, 3 PHASE POWER WITH A MINIMUM APLV OF 10.5.

EACH REFRIGERATION CIRCUIT SHALL BE PROVIDED WITH HOT GAS MUFFLER, COMBINATION MOISTURE INDICATOR AND SIGHT GLASS, FILTER-DRYER, LIQUID LINE SOLENOID VALVE, THERMAL EXPANSION VALVE AND CHARGING VALVE. COOLER AND REFRIGERANT SUCTION LINES SHALL BE INSULATED.

UNIT SHALL HAVE THE FOLLOWING FACTORY CONTROLS: HIGH AND LOW PRESSURE CUTOUTS FOR EACH REFRIGERANT CIRCUIT, MANUAL RESET LOW WATER TEMPERATURE CUTOUT, CHILLED WATER TEMPERATURE CONTROLLER, START/STOP BUTTON, CONTROL POWER FUSE OR BREAKER, MANUAL COMPRESSOR ALTERNATOR, MOTOR STARTERS AND DISCONNECT SWITCHES THERMOSTATIC ALLY CONTROLLED EVAPORATOR HEAT TAPE. UNIT CONTROL PANEL SHALL COMMUNICATE ELECTRONICALLY VIA AN RS-485 COMMUNICATION PORT WITH THE

BUILDING DDC CONTROL SYSTEM VIA AN INDUSTRY STANDARD COMMUNICATION PROTOCOL (BACNET, LONTALK, MODBUS, ETC.). PROVIDE GATEWAY, ROUTER, OR SIMILAR TRANSLATOR DEVICE IF REQUIRED. ASSIST THE DDC SUPPLIER AS NECESSARY TO ACHIEVE INTERFACE AND PROGRAMMING.

EACH CONDENSER SHALL HAVE A PRESSURE RELIEF VALVE, PURGE COCK AND LIQUID SHUTOFF VALVE. EACH COMPRESSOR SHALL HAVE SUCTION AND DISCHARGE SHUTOFF VALVES, A CRANKCASE HEATER AND SPRING VIBRATION ISOLATORS. CONTROLS SHALL BE PROVIDED TO PREVENT RAPID COMPRESSOR RECYCLING. UNIT SHALL BE MANUFACTURED BY DUNHAM-BUSH OR APPROVED EQUAL BY TRANE, CARRIER, YORK OR MCQUAY.

SYMBOL	CAP KW(MBH)	EWT	LWT	FLOW LPS (GPM)	POWER
AC-1	193 (660)	7 C (45F)	14 C (57F)	6.8 (107)	460V/3PH

P-#

PUMP: BASE MOUNTED, FLEXIBLE COUPLED, SINGLE STAGE, END SUCTION, BACK PULL OUT VERTICAL SPLIT-CASE PUMP CAPABLE OF BEING SERVICED WITHOUT DISTURBING PIPING OR MOTOR. SOLID VOLUTE WITH SUCTION AND DISCHARGE GAGE TAPPINGS, ENCLOSED IMPELLER, HYDRAULICALLY AND DYNAMICALLY BALANCED, REGREASABLE BALL BEARING FRAME, RUGGED BASEPLATE, WITH MECHANICAL SEALS. FURNISH ONE SPARE MECHANICAL SEAL PER PUMP. MOTOR SHALL BE FURNISHED WITH REGREASABLE BALL BEARINGS DESIGNED FOR THE MAXIMUM LOAD OF THE MOTOR. CASING SHALL BE SELECTED AT DESIGN CONDITION HAVING A MINIMUM 20mm (3/4") IMPELLER TRIM TO ALLOW INCREASING PUMP HEAD WITHOUT PUMP REPLACEMENT. UNIT SHALL BE BELL & GOSSETT SERIES 1510 AS INDICATED OR APPROVED EQUAL BY TACO, ARMSTRONG OR AURORA.

SYMBOL	SERVICE	MODEL	LPS (GPM)	HEAD KPA (' WC)	MTR KW (HP)	RPM	V/P
P-1 & 2	CHWS	2 BC	6.8 (107)	239 (80)	3.7 (5)	1750	480/3
P-3 & 4	HWS	1-1/2 BC	3.6 (57)	254 (85)	3.7 (5)	1750	480/3

SD-1

SUCTION DIFFUSER: ANGLE TYPE BODY WITH INLET VANES AND COMBINATION DIFFUSER-STRAINER-ORIFICE CYLINDER WITH 5mm (3/16") OPENINGS FOR PUMP PROTECTION. A PERMANENT MAGNET SHALL BE LOCATED WITHIN THE FLOW STREAM AND SHALL BE REMOVABLE FOR CLEANING. THE ORIFICE CYLINDER SHALL BE EQUIPPED WITH A DISPOSABLE FINE MESH STRAINER WHICH SHALL BE REMOVED AFTER SYSTEM START UP. UNIT SHALL BE PROVIDED WITH ADJUSTABLE SUPPORT FOOT TO ELIMINATE PIPE STRAIN AT THE SUCTION FITTING CONNECTION. PROVIDE WITH GAGE PORT AND BLOWDOWN CONNECTION. SIZE DIFFUSER TO MATCH ADJACENT PIPING AND PUMP INLET. UNIT SHALL BE BELL & GOSSET OR APPROVED EQUAL BY TACO, ARMSTRONG OR AURORA.

MPV

MULTIPURPOSE VALVE: COMBINATION NON-SLAM CHECK AND STRAIGHT PATTERN CALIBRATED BALANCE VALVE DESIGNED FOR SHUT-OFF AND THROTTLING SERVICE. PROVIDE WITH READOUT VALVES FOR DIFFERENTIAL PRESSURE MEASUREMENT WITH STOP OR INDICATOR AND CALIBRATED NAMEPLATE. MAXIMUM PRESSURE DROP AT MAXIMUM STEM TRAVEL SHALL BE 15 kPa (5' WC). UNIT SHALL BE MANUFACTURED BY BELL & GOSSET OR APPROVED EQUAL BY AMTROL OR TACO.

AS-1

AIR SEPARATOR: TANGENTIAL TYPE AIR SEPARATOR CONSISTING OF A STEEL TANK, TANGENTIAL INLET AND OUTLET CONNECTIONS, AN INTERNAL PERFORATED STAINLESS STEEL AIR COLLECTOR TUBE DESIGNED TO DIRECT RELEASED AIR INTO THE TOP PORT, AND A BLOWDOWN CONNECTION TO FACILITATE ROUTINE CLEANING OF THE UNIT. UNIT SHALL BE CONSTRUCTED IN ACCORDANCE WITH ASME STANDARDS AND STAMPED FOR 862 KPA (125 PSIG) WORKING PRESSURE. FURNISH WITH AUTOMATIC AIR ELIMINATOR. FULL LINE SIZE. UNIT SHALL BE MANUFACTURED BY AMTROL OR APPROVED EQUAL BY TACO, BELL & GOSSETT OR WHEATLEY.

ET-#

EXPANSION TANK: PRESSURIZED DIAPHRAGM-TYPE EXPANSION TANK, ASME CERTIFIED. UNIT SHALL BE DESIGNED FOR HORIZONTAL OR VERTICAL INSTALLATION AS SHOWN ON THE DRAWINGS AND SHALL BE DESIGNED FOR MAX WORKING PRESSURE OF 862 KPA (125 PSI) AT 116 C (240 F), INITIAL CHARGE PRESSURE SHALL BE 82.7 KPA (12 PSI). TANK SHALL BE MANUFACTURED BY AMTROL AS SHOWN OR APPROVED EQUAL BY TACO, BELL & GOSSETT OR WHEATLEY.

SYMBOL	MODEL	MIN. TANK LITRES (GAL.)	MIN. ACCEPTANCE LITRE (GAL.)
ET-1	AX-40	45.4 (12.0)	18.9 (5.0)
ET-2	AX-15	11.4 (3.0)	5.7 (1.5)

AHU-#

AIR HANDLING UNIT: INDOOR HORIZONTAL DRAW THROUGH AIR HANDLING UNIT COMPOSED OF:

1 A SUPPLY FAN SECTION WITH INTERNALLY SPRING ISOLATED VAV FAN AND MOTOR BASE.

2 A COOLING COIL SECTION WITH CHILLED WATER COIL AND DRAIN PAN.

3 A HEATING COIL SECTION WITH MIN. TWO ROW HOT WATER COIL.

EQUIPMENT SCHEDULE

SYMBOL DESCRIPTION

4 A LOW VELOCITY FILTER SECTION WITH 30% EFFIC., 50mm (2") THICK PLEATED FILTERS.

5 A BLENDER SECTION.

6 AN ECONOMIZER SECTION WITH OSA, RA AND RELIEF AIR DAMPERS. (AHU-1 ONLY)

7 A MIXING BOX SECTION WITH OSA AND RETURN AIR DAMPERS. (AHU-2 ONLY)

8 A RETURN FAN SECTION WITH INTERNALLY SPRING ISOLATED VAV FAN. (AHU-1 ONLY)

THE UNIT SHALL BE FURNISHED WITH ALL DAMPERS, FILTERS AND ACCESSORIES REQUIRED FOR OPERATION FOR INDOOR INSTALLATION. ALL INTERNAL WIRING SHALL BE FACTORY CONNECTED AND TERMINATED IN A NEMA 1 RATED JUNCTION BOX.

UNIT POWER SHALL BE 460V/3PH.

SUPPLY FAN SECTION: SHALL BE FURNISHED WITH INTERNAL SPRING VIBRATION ISOLATORS SELECTED TO ISOLATE 95% OF THE LOWEST DISTURBING FREQUENCY 40MM (1.5") STATIC DEFLECTION MINIMUM). BLOWER SHALL HAVE V-BELT DRIVE RATED AT 150% OF MOTOR HORSEPOWER. BEARINGS SHALL BE SELF-ALIGNING, GREASE LUBRICATED, HAVING A MINIMUM RATED SERVICE LIFE OF 150,000 HOURS. LUBRICATION LINES FOR INTERNAL BEARINGS SHALL BE EXTENDED TO THE OUTSIDE OF THE FAN HOUSING AND TERMINATED WITH GREASE FITTINGS. THE CONTRACTOR SHALL PROVIDE AND INSTALL THE MOTOR SHEAVE REQUIRED TO MEET THE SPECIFIED AIR QUANTITY DURING FINAL SYSTEM AIR BALANCING. PROVIDE FAN INLET AIR FLOW MEASURING DEVICE AT EACH FAN INLET WITH A MAX. 7.5 Pa (.03" WC) AIR PRESSURE DROP AT 10.2 MPS (2000 FPM) STD. AIR FLOW PARAGON FE OR APPROVED EQUAL BY AIR MONITOR.

COIL SECTION: COILS SHALL BE CONSTRUCTED OF 18mm (5/8") OD BY .5 mm (0.020") THICK COPPER TUBE WITH .2 mm (.008") THICK ALUMINUM PLATE FINS, COPPER HEADERS AND GALVANIZED STEEL CASING. DRAIN PAN BENEATH COOLING COILS SHALL BE GALVANIZED OR STAINLESS STEEL CONSTRUCTION SLOPED TO DRAIN CONNECTIONS AT EACH SIDE. PROVIDE 25 mm (1") INSULATION BETWEEN DRAIN PAN AND CASING BOTTOM PANEL. ALL PIPING CONNECTIONS TO THE COILS SHALL BE SAME END. MAX. WPD 30 KPA (10FT WC)

FILTER SECTION: SHALL BE PROVIDED COMPLETE WITH FILTER HOUSINGS SUITABLE FOR 50mm (2") THICK, STANDARD SIZE FILTERS. SECTION SHALL BE OF THE LOW VELOCITY TYPE HAVING ANGLED FILTER ARRANGEMENT. FILTERS SHALL BE INSTALLED DURING ALL OPERATION OF THE UNIT AND CLEAN FILTERS SHALL BE INSTALLED PRIOR TO FINAL OWNER ACCEPTANCE AND AN ADDITIONAL FULL SET OF NEW FILTERS SHALL BE FURNISHED TO THE OWNER. FILTERS SHALL BE RATED BY ASHRAE METHOD 52-76, MINIMUM 30% EFFICIENCY. FILTERS SHALL BE FARR 30/30 OR EQUAL, 50mm (2") THICK.

BLENDER SECTION: SHALL BE FACTORY BUILT AND TESTED, ALL WELDED CONSTRUCTION OF .080 GAUGE ALUMINUM. UNITS SHALL HAVE NO MOVING PARTS AND SHALL BE CAPABLE OF PROVIDING MIXED AIR TEMPERATURE WITHIN +- 6 DEGREES F STANDARD DEVIATION FROM THE THEORETICAL MIXED AIR TEMPERATURE DOWN TO 30% OF SUPPLY FAN MAXIMUM CAPACITY WITH A MAXIMUM PRESSURE DROP OF 75 PA (.3" WG).

ECONOMIZER SECTION: (AHU-1 ONLY) SHALL BE PROVIDED COMPLETE WITH OUTSIDE AIR DAMPER, RETURN AIR DAMPER AND RELIEF AIR DAMPER. DAMPERS SHALL BE LOW LEAKAGE TYPE HAVING LEAKAGE RATE NOT TO EXCEED 15 LPS PER SQUARE METER (3 CFM PER SQUARE FOOT) AT 249 PA (1" WG) PRESSURE DIFFERENTIAL BASED ON AMCA STANDARD 500 TESTING. DAMPER BLADES SHALL NOT EXCEED 1270mm (50 INCHES) IN LENGTH. OSA DAMPER ASSEMBLY SHALL INCLUDE VOLUME MEASUREMENT AND CONTROLS AND BE CAPABLE OF PROVIDING A CONSTANT MINIMUM CFM DOWN TO 15% OF SUPPLY FAN MAXIMUM CAPACITY, EQUAL TO RUSKIN IAQ-50 OR TRANE TRAQ.

RETURN FAN SECTION: SHALL BE FURNISHED WITH INTERNAL SPRING VIBRATION ISOLATORS SELECTED TO ISOLATE 95% OF THE LOWEST DISTURBING FREQUENCY. BLOWER SHALL HAVE V-BELT DRIVE RATED AT 150% OF MOTOR HORSEPOWER. BEARING SHALL BE SELF-ALIGNING, GREASE LUBRICATED, HAVING A MINIMUM RATED SERVICE LIFE OF 150,000 HOURS. LUBRICATION LINES FOR INTERNAL BEARINGS SHALL BE EXTENDED TO THE OUTSIDE OF THE FAN HOUSING AND TERMINATED WITH GREASE FITTINGS. THE CONTRACTOR SHALL PROVIDE AND INSTALL THE MOTOR SHEAVE REQUIRED TO MEET THE SPECIFIED AIR QUANTITY DURING FINAL SYSTEM AIR BALANCING. PROVIDE FAN INLET AIR FLOW MEASURING DEVICE AT EACH FAN INLET WITH A MAX. 7.5 Pa (.03" WC) AIR PRESSURE DROP AT 10.2 MPS (2000 FPM) STD. AIR FLOW PARAGON FE OR APPROVED EQUAL BY AIR MONITOR.

CASING: UNIT CASING SHALL BE CONSTRUCTED IN SECTIONS, CONSISTING OF A GALVANIZED STEEL FRAME WITH GALVANIZED STEEL BASE RAIL. PANELS SHALL BE MINIMUM 16 GA. GALVANIZED STEEL, INSULATED WITH MINIMUM 50mm (2"), 48 KG PER CUBIC METER (3 PCF) MATERIAL, WITH A PERFORATED INNER LINING. INSULATION SHALL BE SUITABLY PROTECTED FROM MOISTURE. PANELS SHALL BE REMOVABLE WHERE REQUIRED FOR ACCESS TO INTERNAL COMPONENTS. ALL PANELS SHALL BE GASKETED AND FASTENED YIELDING AIRTIGHT SEALS.

SYMBOL	CFM	ESP "WG	SF RPM	SF HP	RF RPM	RF HP	CLG EAT	COIL LAT	EWT	LWT	EAT	HTG LAT	COIL EWT	LWT
AHU-1	12,280	3.5	1932	15	1526	5	82/64F	55/54F	45F	57F	43F	55F	180F	160F
AHU-2	10,140	3.0	2477	10	——	—	82/64F	55/54F	45F	57F	43F	55F	180F	160F

SYMBOL	LPS	ESP KPA	SF RPM	SF KW	RF RPM	RF KW	CLG EAT	COIL LAT	EWT	LWT	EAT	HTG LAT	COIL EWT	LWT
AHU-1	5795	.87	1932	11	1526	5	28/18C	13/12C	7C	14C	6C	13C	82C	71C
AHU-2	4780	.75	2477	7.5	——	—	28/18C	13/12C	7C	14C	6C	13C	82C	71C

SOUND CRITERIA: DB RE: 10A-12 WATTS

	1	2	3	4	5	6	7	8	LW/LWA
RF INLET	80	80	80	74	61	55	51	46	
SF OUTLET	89	89	87	86	78	72	68	63	
CASING RADIATED	70	67	62	57	43	31	23	18	

VFD-#

VARIABLE FREQUENCY DRIVE: THE VARIABLE FREQUENCY DRIVE SHALL BE A SINUSOIDAL PWM TYPE DRIVE WITH INSULATED GATE BIPOLAR TRANSISTOR (IGBT) POWER SECTION CAPABLE OF OPERATING A NEMA DESIGN B SQUIRREL CAGE INDUCTION MOTOR WITH A FULL LOAD CURRENT EQUAL TO OR LESS THAN THE CONTINUOUS OUTPUT CURRENT RATING OF THE DRIVE. PROVIDE UNIT WITH THE FOLLOWING FEATURES:

1 NEMA 1 ENCLOSURE IN COMPLIANCE WITH UL-50 AND UL-508A.

2 PANEL MOUNTED CIRCUIT BREAKER OR FUSED INPUT DISCONNECT SWITCH. OPERATING HANDLE SHALL BE MOUNTED THROUGH-THE-DOOR AND BE LOCKABLE IN THE OFF POSITION.

3 UL LISTED AND IN COMPLIANCE WITH IEEE 519-1992.

4 EFFICIENCY AT RATED LOAD SHALL BE 96% OR HIGHER..

5 DISPLACEMENT POWER FACTOR SHALL BE 0.95 LAGGING OR HIGHER.

6 AMBIENT TEMPERATURE OPERATING RANGE OF -10 DEG. C TO 40 DEG. C (14 DEG. F TO 104 DEG. F).

7 ONE MINUTE OVERLOAD CURRENT RATING OF 150% AND 200% FOR 0.5 SECONDS OF RATED CURRENT.

8 MICROPROCESSOR BASED WITH BUILT-IN LED AND GRAHIC FOUR LINE LCD DISPLAY TO MONITOR OPERATING CONDITIONS.AND SHALL BE CAPABLE OF DISPLAYING OUTPUT FREQUENCY, CURRENT, FUNCTION CODE SET POINTS, DRIVE STATUS AND FAULT CODES.

9 DISPLAY SECTION SHALL ALLOW FOR LOCAL OPERATION AND SETTING OF DRIVE FUNCTION CODES AND SHALL DISPLAY FAULT INDICATION AND REASONS FOR THE FAULT.

10 OPERATE FROM A FREQUENCY REFERENCE COMMUNICATED VIA THE DIGITAL INTERFACE AND SHALL MAINTAIN THE OUTPUT FREQUENCY TO WITHIN .01% OF REFERENCE INPUT.

EQUIPMENT SCHEDULE

SYMBOL DESCRIPTION

11 MINIMUM OF 4 DIFFERENT ACCELERATION RATES AND 4 DIFFERENT DECELERATION RATES. EACH SHALL BE INDEPENDENTLY ADJUSTABLE FROM 0.1 TO 600 SECONDS.

12 THREE SELECTABLE ACCELERATION/DECELERATION PATTERNS.

13 SELECTABLE TORQUE BOOST SETTINGS INCLUDING A VARIABLE TORQUE LOAD SETTING AND AN AUTOMATIC TORQUE BOOST FUNCTION THAT WILL ADJUST MOTOR TORQUE BASED ON THE OPERATING LOAD CONDITIONS.

14 FUNCTION CODES STORED IN NON-VOLATILE MEMORY (EEPROM). POTENTIOMETER ADJUSTMENTS ARE NOT ACCEPTABLE. PROVIDE A DEFAULT SET OF FUNCTION CODE SETTINGS.

15 VARIABLE OR SELECTABLE (MINIMUM OF 10) SWITCHING FREQUENCIES IN THE RANGE OF 2 - 15 KHZ TO LIMIT AND ADJUST THE LEVEL OF AUDIBLE MOTOR NOISE.

16 MINIMUM OF 5 AUTOMATIC RESET ATTEMPTS AFTER AN OVER-CURRENT, OVER-VOLTAGE, LOW VOLTAGE, OVERHEATING AND OVERLOAD FAULTS. ADJUSTABLE INTERVAL OF 2 TO 20 SECONDS.

17 PROGRAMMABLE START FREQUENCY ADJUSTABLE FROM .2 TO 30 HZ WITH A HOLDING TIME ADJUSTABLE FROM 0 TO 10 SECONDS.

18 THREE SELECTABLE SKIP FREQUENCIES WITH PROGRAMMABLE BAND WIDTHS, ADJUSTABLE 0 TO 30 HZ TO PREVENT OPERATION AT OR NEAR MECHANICAL RESONANCE SPEEDS.

19 MONITOR, SENSE AND DISPLAY THE FOLLOWING FAULT CONDITIONS: OVER-CURRENT; UNDER-VOLTAGE; OVER-VOLTAGE; DRIVE OVER-TEMPERATURE; DRIVE ELECTRONIC THERMAL OVERLOAD PROTECTION; MOTOR ELECTRONIC THERMAL OVERLOAD PROTECTION; EXTERNAL ALARM INPUT INDICATION; DRIVE MEMORY ERROR; KEYPAD COMMUNICATION ERROR; DRIVE OPERATING ERROR DETECTED DURING STARTUP; GROUND FAUT; OUTPUT SHORT CIRCUIT.

20 TWO-WAY COMMUNICATION WITH THE BUILDING DDC CONTROL SYSTEM VIA AN INDUSTRY STANDARD DIGITAL ELECTRONIC COMMUNICATION PROTOCOL (BACNET, LONTALK, MODBUS, ETC.) DIRECTLY OR VIA A THIRD PARTY INTERFACE. COMMUNICATION SHALL INCLUDE ALL OPERATOR INTERFACE I/O FUNCTIONS AVAILABLE AT THE UNIT DISPLAY SECTION INCLUDING OPERATING COMMANDS, START/STOP COMMAND, FREQUENCY REFERENCE INPUT, OPERATING AND FAULT CONDITIONS AND DRIVE FUNCTION CODE SETTINGS.

VFD'S MANUFACTURED BY GE-FUJI DRIVES OR APPROVED EQUAL BY ABB, MAGNETEK, ALLEN BRADLEY, OR IDM.

UNIT POWER SHALL BE 460V/3PH.

SYMBOL	SERVICE	MODEL	KW (HP)	V/P	FLA
VFD-1	AHU-1 SF		11 (15)	460/3	21
VFD-2	AHU-1 RF		3.7(5)	460/3	7.6
VFD-3	AHU-2 SF		7.5 (10)	460/3	14
VFD-4	RF-1		2.2 (3)	460/3	4.8

SA-#

SOUND ATTENUATOR: GALVANIZED STEEL OUTER CASING, 22 GAUGE MINIMUM. INORGANIC MINERAL OR GLASS FIBER FILLER MATERIAL OF SUFFICIENT DENSITY TO OBTAIN THE SCHEDULED ACOUSTIC PERFORMANCE PACKED UNDER NOT LESS THAN 5% COMPRESSION, MATERIAL SHALL BE INERT, VERMIN AND MOISTURE PROOF. INNER PARTITIONS FOR RECTANGULAR SILENCERS SHALL BE MINIMUM 26 GA. GALVANIZED PERFORATED STEEL. INTERIOR CONSTRUCTION OF TUBULAR SILENCERS SHALL BE COMPATIBLE WITH THE OUTER CASING. SILENCERS SHALL BE TESTED IN ACCORDANCE WITH ASTM E477. RATINGS SHALL INCLUDE DYNAMIC INSERTION LOSS (DIL), SELF NOISE (SN), AND AIR PRESSURE LOSS AT THE SCHEDULED RATING VELOCITY.

SYMBOL	IAC MODEL	SIZEmm(INCHES)	LENGTH mm(IN.)	AIRFLOW LPS (CFM)	APD Pa("WC)*
SA-1	LFM	1219X762(48X30)	1524(60)	4540 (9620)	32.4(.13)
SA-2	LFM	914X914 (36X36)	1524(60)	4540 (9620)	39.8(.16)
SA-3	FCS	610 (24) DIA.	1219(48)	3006 (6370)	37.4(.15)
SA-4	FCS	457 (18) DIA.	914 (36)	1713 (3630)	42.3(.17)

*APD LISTED IS ACTUAL PRESSURE DROP AT AIRFLOW LISTED, AT SITE ALTITUDE.

OCTAVE BAND DIL/SN DB RE: 10^-12 WATTS

SYMBOL	RATING VELOCITY MPS(FPM)	RATING APD **PA ("WC)	1	2	3	4	5	6	7	8
SA-1	-5.1(-1000)	52.3(.21)	12/48	15/43	27/46	31/48	30/50	17/49	14/40	13/3
SA-2	-5.1(-1000)	52.3(.21)	12/48	15/43	27/46	31/48	30/50	17/49	14/40	13/3
SA-3	+10.2(+2000)	49.8(.20)	8/56	13/54	25/50	32/50	37/50	35/50	23/41	19/3
SA-4	+10.2(+2000)	57.3(.23)	8/53	13/51	24/47	32/47	35/47	36/47	28/38	23/2

**APD LISTED IS CATALOG VALUES EXTRAPOLATED TO RATING VELOCITY.

AC-1

AIR CONDITIONING UNIT: ENVIRONMENTAL CONTROL PACKAGE FOR SPOT COOLING. HORIZONTAL UNIT FOR CEILING MOUNTING, SIZED TO FIT 2' X 4' CEILING GRID, UNIT TO INCLUDE FULL PACKAGE OF FANS, BLOWERS, RETURN AIR FILTERS, INTEGRAL SUPPLY AND RETURN AIR GRILLES, CONTACTORS, RELAYS, DISCONNECTS, CONTROL TRANSFORMERS, DEHYDRATOR AND CONTROLS. UNIT TO BE PREPACKAGED AND PREWIRED WITH INTEGRAL UNIT MOUNTED OPERATING AND TEMPERATURE CONTROLS. UNIT TO BE AIR COOLED AND USE DROPPED CEILING PLENUM AS CONDENSER AIR SOURCE. BLOWER SHALL BE STATICALLY AND DYNAMICALLY BALANCED SINGLE SPEED, DOUBLE INLET, DIRECT DRIVE FORWARD CURVED BLADES AND ENCLOSURE FOR MOUNTING IN AHU CABINET. UNIT SHALL BE COMPU-AIRE OR APPROVED EQUAL BY LIEBERT, DATA-AIR OR STULTZ.

SYMBOL	SERVICE	MODEL	LPS(CFM)	COOLING KW(MBH)	V/P	FLA	AMPACITY
AC-1	RADIO RM	MTA-01	233 (600)	3.3(11.2)	208/1	9.8	11.8

CAC-1

AIR CONDITIONING UNIT: ENVIRONMENTAL CONTROL PACKAGE FOR SPOT COOLING. HORIZONTAL UNIT FOR CEILING MOUNTING, SIZED TO FIT 2' X 4' CEILING GRID, UNIT TO INCLUDE FULL PACKAGE OF FANS, BLOWERS, RETURN AIR FILTERS, INTEGRAL SUPPLY AND RETURN AIR GRILLES, CONTACTORS, RELAYS, DISCONNECTS, CONTROL TRANSFORMERS, AND CONTROLS. UNIT TO BE PREPACKAGED AND PREWIRED WITH INTEGRAL UNIT MOUNTED OPERATING AND TEMPERATURE CONTROLS. UNIT TO BE MATCHED WITH SYMBOL CU-1 REMOTE AIR COOLED CONDENSING UNIT. BLOWER SHALL BE STATICALLY AND DYNAMICALLY BALANCED SINGLE SPEED, DOUBLE INLET, DIRECT DRIVE FORWARD CURVED BLADES AND ENCLOSURE FOR MOUNTING IN AHU CABINET. UNIT SHALL BE COMPU-AIRE OR APPROVED EQUAL BY LIEBERT, DATA-AIR OR STULTZ.

SYMBOL	SERVICE	MODEL	LPS(CFM)	MTR KW(HP)	COOLING KW(MBH)	V/P	FLA	AMPACITY
CAC-1	UTD ROOM	MTE-P-3	595(1260)	.31(.5)	9.5(32.3)	208/1	3.4	4.3

CU-1

CONDENSING UNIT: REMOTE AIR COOLED CONDENSING UNIT. UNIT TO BE MATCHED WITH SYMBOL CAC-1 COOLING UNIT. BLOWER SHALL BE STATICALLY AND DYNAMICALLY BALANCED CENTRIFUGAL, DOUBLE INLET, FORWARD CURVED WITH ENCLOSURE FOR MOUNTING IN CABINET. REFRIGERATION SYSTEM SHALL CONSIST OF A HEAT PUMP DUTY HERMETIC COMPRESSOR, LOW AND HIGH PRESSURE SAFETY SWITCHES, AND A CRANKCASE HEATER. ALL COMPONENTS SHALL BE FACTORY ASSEMBLED, CHARGED WITH REFRIGERANT, SEALED AND CAPABLE OF BEING CONNECTED TO THE EVAPORATOR SECTION WITH PRE-CHARGE LINE SET. CONDENSING COIL SHALL BE COPPER TUBE WITH ALUMINUM FINS. PROVIDE ALL CONTROL WIRING REQUIRED BETWEEN CAC-1 AND CU-1. UNIT SHALL BE CAPABLE OF OPERATING AT AMBIENT TEMPERATURES FROM 35 DEB. C (95 DEG. F) TO -29 DEG. C (-20 DEG. F.) UNIT SHALL BE COMPU-AIRE OR APPROVED EQUAL BY LIEBERT, DATA-AIR OR STULTZ.

SYMBOL	SERVICE	MODEL	LPJ(CFM)	ESP	MTR KW(HP	COIL FA	V/P	FLA	AMPACITY
CU-1	UTD ROOM	CFCU-3	788(1670)	125PA(.5")	.56(.75)	.43SM(4.6SF)	208/1	17.5	21.9

EF-1

UTILITY FAN: UTILITY VENT SET BLOWER ARRGMT 10, COMPLETELY FACTORY ASSEMBLED AND TESTED AS A UNIT WITH DRIP PROOF ELECTRIC MOTOR, ADJUSTABLE MOTOR BASE, ADJUSTABLE V-BELT DRIVE BEYOND BEARINGS, DRIVE COVER AND DRAIN FITTINGS. BLOWER WHEELS SHALL BE BACKWARD INCLINED, NON-OVERLOADING, STATICALLY AND DYNAMICALLY BALANCED. HOUSING SHALL BE HEAVY GAUGE STEEL, AIR TIGHT CONSTRUCTION, AND CONVERTIBLE TO ANY OF EIGHT POSITIONS IN 45-DEGREE INCREMENTS. PROVIDE SUPPORT BASE AND VIBRATION ISOLATORS, FINISH ALL COMPONENTS WITH A RUST PREVENTIVE PAINT. UNIT SHALL BE PENN VENTILATOR OR APPROVED EQUAL BY GREENHECK, COOK, CARNES, ACME, BREIDERT, BARRY BLOWER OR NEW YORK BLOWER.

SYMBOL	SERVICE	MODEL	LPS(CFM	S.P.	KW(HP)	RPM	V/P	CONTROL
EF-1	EXH	D15	972(2060)	311PA(1.25")	/	1330	480/3	STARTER BY EC

EQUIPMENT SCHEDULE

SYMBOL DESCRIPTION

EF-2

EXHAUST FAN: CENTRIFUGAL TYPE ROOF EXHAUSTER WITH SPUN ALUMINUM HOUSING, ALUMINUM CURB CAP, STAINLESS STEEL FASTENINGS, PRE-LUBRICATED BALL BEARING DRIVE, VIBRATION ISOLATORS, ALL ALUMINUM WHEEL AND HUB DYNAMICALLY AND STATICALLY BALANCED, BELT DRIVE, BACKDRAFT DAMPERS, BIRDSCREEN, DISCONNECT SWITCH, ALUMINUM WIRING POST, PREFABRICATED CURB AND WIRING TO JUNCTION BOX. SELECTION BASED ON PENN "DOMEX", OR APPROVED EQUAL BY GREENHECK, CARNES, COOK, ACME OR BREIDERT.

SYMBOL	SERVICE	MODEL	LPS(CFM)	S.P.	MTR W(H.P.)	RPM	V/P	CONTROL
EF-1	EXH	DX08B	208(440)	31PA(.125)	124(1/6)	750	120/1	WALL SW

RF-1

RELIEF AIR FAN: COMPLETELY FACTORY ASSEMBLED AND TESTED AS A UNIT WITH DRIP PROOF ELECTRIC MOTOR, ADJUSTABLE MOTOR BASE, ADJUSTABLE V-BELT DRIVE BEYOND BEARINGS, AND DRIVE COVER. BLOWER WHEELS SHALL BE BACKWARD INCLINED, NON-OVERLOADING, STATICALLY AND DYNAMICALLY BALANCED MIXED FLOW DESIGN. HOUSING SHALL BE HEAVY GAUGE STEEL, AIR TIGHT CONSTRUCTION. PROVIDE SUPPORT BASE WITH LOW PROFILE ISOLATOR MOUNTING BRACKETS AND VIBRATION ISOLATORS, FINISH ALL COMPONENTS WITH A RUST PREVENTIVE PAINT. PROVIDE FAN INLET AIR FLOW MEASURING WITH A MAX. 7.5 Pa (.03" WC) AIR PRESSURE DROP AT 10.2 MPS (2000 FPM) STD. AIR FLOW PARAGON FE OR APPROVED EQUAL BY AIR MONITOR. UNIT SHALL BE NEW PHILADELPHIA FAN CO. MIXED FLOW ANGULINE OR APPROVED EQUAL BY TRANE, GREENHECK, COOK, CARNES, ACME, BREIDERT, OR PENN VENTILATOR.

SYMBOL	SERVICE	MODEL	CFM	S.P.	HP	RPM	V/P	CONTROL
RF-1	RELIEF	270	9620	.85	3	600	480/3	VFD-4

L-1

INTAKE LOUVER: ALL EXTRUDED ALUMINUM CONSTRUCTION, 102mm (4") DEEP WITH BLADES SET AT A 35 DEGREE ANGLE, COMPLETE WITH ALUMINUM BIRDSCREEN, FLANGED FRAME AND FACTORY APPLIED KYMAR 500 COLOR COATING PER AAMA 605.2. COLOR TO BE SELECTED BY ARCHITECT. SEE PLANS FOR SIZE. UNIT SHALL BE RUSKIN ELF375X OR APPROVED EQUAL BY ARROW, LOUVERS AND DAMPERS, AMERICAN WARMING OR GREENHECK.

L-2

EXHAUST LOUVER: ALL EXTRUDED ALUMINUM CONSTRUCTION, 102mm (4") DEEP WITH BLADES SET AT A 35 DEGREE ANGLE, COMPLETE WITH ALUMINUM BIRDSCREEN, FLANGED FRAME AND FACTORY APPLIED KYMAR 500 COLOR COATING PER AAMA 605.2. COLOR TO BE SELECTED BY ARCHITECT. SEE PLANS FOR SIZE. UNIT SHALL BE RUSKIN ELF375X OR APPROVED EQUAL BY ARROW, LOUVERS AND DAMPERS, AMERICAN WARMING OR GREENHECK.

D-1

CEILING DIFFUSER: 610mm X 610mm (24 X 24) LOUVERED FACE DIFFUSER, STEEL WITH REMOVABLE CORE, FRAME 23 FOR LAY-IN CEILING, WHITE ENAMEL FINISH, ROUND NECK, FOUR-WAY THROW PATTERN. MAXIMUM NECK VELOCITY 3.0 MPS (600 FPM), NC LEVEL LESS THAN 30. KRUEGER SERIES 1400 OR APPROVED EQUAL BY ANEMOSTAT, CARNES OR TITUS.

D-2

CEILING DIFFUSER: 610mm X 610mm (24 X 24) LOUVERED FACE DIFFUSER, STEEL WITH REMOVABLE CORE, FRAME 20 FOR SURFACE MOUNT, WHITE ENAMEL FINISH, OPPOSED BLADE DAMPER, ROUND NECK, FOUR-WAY THROW PATTERN. MAXIMUM NECK VELOCITY 3.0 MPS (600 FPM), NC LEVEL LESS THAN 30. KRUEGER SERIES 1400 OR APPROVED EQUAL BY ANEMOSTAT, CARNES OR TITUS.

RG-1

RETURN GRILLE: 610mm X 610mm (24 X 24) EGGCRATE GRILLE, 13mm X 13mm X 25mm (1/2" X 1/2" X 1") GRID, ALUMINUM CONSTRUCTION, FRAME FOR LAY-IN CEILING, WHITE FINISH. KRUEGER EGC-5 TB OR APPROVED EQUAL BY ANEMOSTAT, CARNES OR TITUS.

RG-2

RETURN GRILLE: EGGCRATE GRILLE, 13mm X 13mm X 25mm (1/2" X 1/2" X 1") GRID, ALUMINUM CONSTRUCTION, FRAME FOR SURFACE MOUNT, WHITE FINISH. KRUEGER EGC-15 OR APPROVED EQUAL BY ANEMOSTAT, CARNES OR TITUS.

ER-1

EXHAUST REGISTER: STATIONARY VANES SET ON 20mm (3/4") CENTERS AND 35' ANGLE. HORIZONTAL VANES, STEEL CONSTRUCTION, OPPOSED BLADE DAMPER, WHITE ENAMEL FINISH. KRUEGER S80H OR APPROVED EQUAL BY ANEMOSTAT, CARNES OR TITUS.

SR-1

SUPPLY REGISTER: DOUBLE DEFLECTION REGISTER, ALL STEEL CONSTRUCTION, FRONT BLADES VERTICAL, 3/4" BLADE SPACING, OPPOSED BLADE DAMPER, SPONGE RUBBER GASKET, WHITE ENAMEL FINISH. MAXIMUM NECK VELOCITY 600 FPM, NC LEVEL LESS THAN 30. KRUEGER MODEL 880V OR APPROVED EQUAL.

UH-1

UNIT HEATER: HORIZONTAL AIR FLOW, PROPELLER TYPE, SINGLE STAGE GAS FIRED UNIT HEATER COMPLETE WITH STEEL HEAT EXCHANGER, DIRECT DRIVE FAN, ADJUSTABLE HORIZONTAL LOUVERS, GAS CONTROLS, FAN AND LIMIT CONTROLS, FAN GUARDS, HANGING BRACKET KIT, UNIT MOUNTED ELECTRIC THERMOSTAT FOR INTERMITTENT FAN OPERATION, AND ACCESSORIES REQUIRED FOR A COMPLETE OPERATING UNIT. UNIT SHALL BE TRANE AS INDICATED OR APPROVED EQUAL BY STERLING, HASTING, OR JACKSON & CHURCH.

SYMBOL	SERVICE	MODEL	CFM	INPUT MBH (SL)	HP	FLA	V/P
UH-1	MECH RM	GHND-007	1100	75	1/30	4.5	120/1

CF-1

CHEMICAL FEEDER: BYPASS CHEMICAL FEEDER. 2 GALLON TANK WITH 1/2" INLET AND 3/8" OUTLET CONNECTIONS. PROVIDE UNIT WITH 6" DIAMETER FUNNEL, 1/2" SAMPLE VALVES AND 3/8" FLOW CONTROL VALVES. EQUIPMENT SHALL BE CAPABLE OF OPERATING PRESSURES UP TO 150 PSI AND OPERATING TEMPERATURES UP TO 200 DEGREES F. SELECTION SHALL BE BASED ON CLEAVER-BROOKS OR APPROVED EQUAL.

no.	date	revision
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△		

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188th Fighter Squadron

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Albuquerque, NM

MECHANICAL SCHEDULES

REGISTERED PROFESSIONAL ENGINEER
STATE OF NEW MEXICO
No. 4129
JAMES O. COUPLAND

job no:	197305
drn. by:	SEC
ckd.by:	SEC
issued:	25 MAY 99
sheet	M-10
	53 of 68

EQUIPMENT SCHEDULE CONT.

SYMBOL	DESCRIPTION
VAV–#	VAV UNIT: VARIABLE AIR VOLUME, LOW PRESSURE TYPE, SHALL BE PRESSURE INDEPENDANT AND SHALL RESET AIR VOLUME WITHIN +–5% OF REQUIRED AIR FLOW REGARDLESS OF CHANGES IN SYSTEM AIR PRESSURE. EXTERNAL PRESSURE TAPS SHALL BE PROVIDED FOR AIR FLOW MEASUREMENT WITH A 0–250 PA (0–1 INCH) GAUGE. EACH TERMINAL SHALL HAVE A FLOW CHART ATTACHED. CASING SHALL BE OF 22 GAUGE GALVANIZED STEEL CONSTRUCTION WITH 25mm (1"), 24 KG PER CUBIC METER (1 1/2 LB./CF) DENSITY FIBERGLASS INSULATION. DAMPER LEAKAGE SHALL BE A MAXIMUM 2% AT 1.5 KPA (6") OF INLET STATIC PRESSURE. UNITS SHALL BE COMPLETE WITH FACTORY FURNISHED AND INSTALLED CONTROL TRANSFORMER, ACTUATOR AND ACCESSORY CONTROLS. DDC CONTROLLER FURNISHED BY THE SUCCESSFUL DDC SUPPLIER SHALL BE FACTORY MOUNTED, PIPED AND WIRED REQUIRING ONLY A MAIN DUCT AND ROOM TEMPERATURE SENSOR CONNECTION. CONTROLS SHALL BE MOUNTED IN AN EASILY ACCESSIBLE ENCLOSURE. UNIT SHALL BE FACTORY PRESET AND FIELD ADJUSTABLE FOR MAX. COOLING, MIN. AND MAX. HEATING AIRFLOW SETTINGS. PROVIDE MINIMUM AIRFLOW OF 30% OF DESIGN MAX. COOLING AIRFLOW. REHEAT COILS: HOT WATER HEATING COIL, ARI CERTIFIED FOR 1724 KPA (250 PSIG) WORKING PRESSURE, WITH 18mm (5/8") OD SWEAT CONNECTION AND MANUAL AIR VENT. CONSTRUCT OF 15mm (1/2") OD COPPER TUBES WITH ALUMINUM FINS MECHANICALLY BONDED TO THE TUBES. CAPACITY IS BASED ON 32C (180F) EWT, 11C (20F) DROP MIN. 32 ML/S (0.5 MIN. GPM). MAX. WPD 9 KPA (3'WC). MAX. COIL APD 62 PA (.25"WC). UNIT SHALL BE TITUS ESV OR APPROVED EQUAL BY ANEMOSTAT, CARNES OR KREUGER. SYMBOL SIZE mm(IN.) MAX CLG LPS(CFM) MIN. LPS(CFM) MAX HTG LPS(CFM) MAX APD PA("WC) HTG KW(MBH) ML/S (GPM) MAX AIRBORNE MAX RADIATE VAV–1 203(8) 245(520) 74(156) 132(280) 75(0.3) 2.6(8.8) 56(0.9) 25 30 VAV–2 203(8) 236(500) 71(150) 71(150) 75(0.3) 1.4(4.8) 30(0.5) 25 30 VAV–3 203(8) 363(770) 109(230) 146(310) 75(0.3) 2.9(9.8) 62(1.0) 25 30 VAV–4 203(8) 250(530) 61(130) 61(130) 75(0.3) 0.6(2.0) 32(0.5) 25 30 VAV–5 203(8) 269(570) 80(170) 135(285) 75(0.3) 2.6(9.0) 57(0.9) 25 30 VAV–6 203(8) 307(650) 92(195) 92(195) 75(0.3) 0.8(2.6) 32(0.5) 25 30 VAV–7 203(8) 293(620) 87(185) 99(210) 75(0.3) 1.9(6.6) 42(0.7) 25 30 VAV–8 152(6) 189(400) 57(120) 109(230) 75(0.3) 2.1(7.2) 45(0.7) 25 30 VAV–9 152(6) 175(370) 52(110) 113(240) 75(0.3) 2.2(7.6) 48(0.8) 25 30 VAV–10 152(6) 151(320) 47(100) 151(320) 75(0.3) 2.9(10.0) 63(1.0) 25 30 VAV–11 203(8) 382(810) 113(240) 186(395) 75(0.3) 3.6(12.4) 78(1.2) 25 30 VAV–12 152(6) 189(400) 57(120) 189(400) 75(0.3) 3.8(13.0) 82(1.3) 25 30 VAV–13 254(10) 519(1100) 156(330) 234(495) 75(0.3) 4.6(15.6) 98(1.6) 25 30 VAV–14 203(8) 354(750) 106(225) 135(285) 75(0.3) 2.6(9.0) 57(0.9) 25 30 VAV–15 203(8) 354(750) 106(225) 135(285) 75(0.3) 2.6(9.0) 57(0.9) 25 30 VAV–16 152(6) 175(370) 52(110) 99(210) 75(0.3) 1.9(6.6) 42(0.7) 25 30 VAV–17 203(8) 363(770) 109(230) 198(420) 75(0.3) 3.9(13.2) 83(1.3) 25 30 VAV–18 152(6) 142(300) 42(95) 66(140) 75(0.3) 1.3(4.4) 32(0.5) 25 30 VAV–19 203(8) 274(580) 83(175) 160(340) 75(0.3) 3.1(10.6) 67(1.1) 25 30 VAV–20 254(10) 415(880) 132(280) 132(280) 75(0.3) 2.1(7.2) 45(0.7) 25 30 VAV–21 305(12) 604(1280) 172(365) 227(480) 75(0.3) 4.4(15.0) 95(1.5) 25 30 VAV–22 203(8) 349(740) 104(220) 184(390) 75(0.3) 3.6(12.2) 77(1.2) 25 30 VAV–23 152(6) 212(450) 64(135) 64(135) 75(0.3) 1.2(4.0) 32(0.5) 25 30 VAV–24 152(6) 227(480) 68(145) 160(340) 75(0.3) 3.1(10.6) 67(1.1) 25 30 VAV–25 152(6) 212(450) 64(135) 123(260) 75(0.3) 2.5(8.4) 53(0.8) 25 30 VAV–26 254(10) 472(1000) 142(300) 142(300) 75(0.3) 2.6(8.8) 56(0.9) 25 30 VAV–27 254(10) 472(1000) 142(300) 142(300) 75(0.3) 2.6(8.8) 56(0.9) 25 30 VAV–28 203(8) 319(675) 87(185) 97(205) 75(0.3) 1.9(6.4) 40(0.8) 25 30 VAV–29 203(8) 378(800) 113(240) 113(240) 75(0.3) 2.1(7.2) 45(0.7) 25 30 VAV–30 203(8) 245(520) 78(164) 89(188) 75(0.3) 1.8(5.9) 37(0.6) 25 30 VAV–31 152(6) 132(280) 40(85) 139(295) 75(0.3) 2.7(9.2) 58(0.9) 25 30 VAV–32 203(8) 260(550) 78(165) 139(295) 75(0.3) 2.7(9.2) 58(0.9) 25 30 VAV–33 152(6) 142(300) 42(90) 73(155) 75(0.3) 1.4(4.8) 30(0.5) 25 30 VAV–34 152(6) 203(430) 64(136) 73(155) 75(0.3) 1.4(4.9) 30(0.5) 25 30
CAV–#	CAV UNIT: CONSTANT AIR VOLUME SERIES FAN TERMINAL UNIT: LOW PROFILE TYPE, SHALL BE PRESSURE INDEPENDANT AND SHALL RESET PRIMARY AIR VOLUME WITHIN +–5% OF REQUIRED AIR FLOW REGARDLESS OF CHANGES IN SYSTEM AIR PRESSURE. EXTERNAL PRESSURE TAPS SHALL BE PROVIDED FOR AIR FLOW MEASUREMENT WITH A 0–250 PA (0–1 INCH) GAUGE. EACH TERMINAL SHALL HAVE A FLOW CHART ATTACHED. CASING SHALL BE OF 22 GAUGE GALVANIZED STEEL CONSTRUCTION WITH 25mm (1"), 24 KG PER CUBIC METER (1 1/2 LB.) DENSITY FIBERGLASS INSULATION. DAMPER LEAKAGE SHALL BE A MAXIMUM 2% AT 1.5 KPA (6") OF INLET STATIC PRESSURE. UNITS SHALL BE COMPLETE WITH FACTORY FURNISHED AND INSTALLED CONTROL TRANSFORMER, ACTUATOR AND ACCESSORY CONTROLS. DDC CONTROLLER FURNISHED BY THE SUCCESSFUL DDC SUPPLIER SHALL BE FACTORY MOUNTED, PIPED AND WIRED REQUIRING ONLY A MAIN DUCT AND ROOM TEMPERATURE SENSOR CONNECTION. CONTROLS SHALL BE MOUNTED IN AN EASILY ACCESSIBLE ENCLOSURE. UNIT SHALL BE FACTORY PRESET AND FIELD ADJUSTABLE FOR DESIGN AIRFLOW SETTING. REHEAT COILS: HOT WATER HEATING COIL, ARI CERTIFIED FOR 1724 KPA (250 PSIG) WORKING PRESSURE, WITH 18mm (5/8") OD SWEAT CONNECTION AND MANUAL AIR VENT. CONSTRUCT OF 15mm (1/2") OD COPPER TUBES WITH ALUMINUM FINS MECHANICALLY BONDED TO THE TUBES. CAPACITY IS BASED ON 82C (180F) EWT, 11C (20F) DROP MIN 32 ML/2(0.5 MIN. GPM) AND 68F EAT. HEATING COIL SHALL BE MOUNTED AT UNIT DISCHARGE. SYMBOL LPS (CFM) HTG KW (MBH) ML/S (GPM) HTG LAT C(F) MAX AIRBORNE NC MAX RADIATED NC CAV–1 170 (360) 1.2 (4.1) 32 (0.5) 28.6 (83.4) 25 25 CAV–2 396 (840) 2.9 (9.9) 63 (1.0) 26.5 (79.7) 25 25 CAV–3 144 (305) .7 (2.3) 2 (0.5) 30.1 (86.2) 25 25
IAQ–1 & 2	OUTSIDE AIR DAMPER ASSEMBLY: EXTRUDED ALUMINUM FRAME AND BLADES, NONFLANGED STYLE, WITH AIR STRAIGHTENER SECTION IN FULL–SIZE OUTSIDE AIR CONFIGURATION. MAXIMUM AIR PRESSURE DROP AT 10.2 MPS (2000 FPM) OF 87 Pa (.35 IN WG). PROVIDE WITH APPLICATION SPECIFIC CONTROLLER DESIGNED FOR THE IAQ50 WITH PROGRAMMING LOGIC AND CALIBRATION IN A NONVOLATILE EEPROM AND 24VAC SPRING RETURN ELECTRIC ACTUATOR. RUSKIN MODEL IAQ50 OR APPROVED EQUAL BY TRANE. SYMBOL SERVICE SIZE W X H MM (INCGHES) AIRFLOW SETPOINT LPS (CFM) AIRFLOW RANGE LPS (CFM) IAQ–1 AHU–1 1372 x 483 (54 X 19) 1553 (3290) 1180 (2500)–5796 (12,280) IAQ–2 AHU–2 1220 X 432 (48 X 17) 1638 (3470) 937 (1985)–4786 (10,140)
CP–1	CIRCULATING PUMP: ALL BRONZE BODIED, 100 PERCENT LEAD FREE IN–LINE PUMP CAPABLE OF 126 ML/S (2 GPM) AGAINST 15 KPA (5 FOOT) HEAD, 120 V, SINGLE PHASE 92 WATTS, .8 FLA MOTOR, 20 MM (3/4") SIZE, BELL AND GOSSETT NBF–12U.

FIXTURE SCHEDULE

SYMBOL	DESCRIPTION
WH–1	WATER HEATER: A.O. SMITH MODEL BT–100, TANK SHALL BE CONSTRUCTED IN ACCORDANCE WITH ASME CODE, U.L. APPROVED, TANK LINING, INSULATED WITH FOAM INSULATION, UNIT SHALL INCLUDE ALL STANDARD EQUIPMENT AND A.G.A. CERTIFIED AUTOMATIC GAS SHUTOFF, UNIT SHALL BE 375 LITRE (100 GALLON) STORAGE, WITH 66 MLPS (63 G.P.H.) RECOVERY AT 50 DEGREE C (90 DEGREE F) RISE WITH 22 KW (75 MBH) SEA LEVEL INPUT, COMPLETE WITH ASME TEMPERATURE AND PRESSURE RELIEF VALVE. PROVIDE PRESSURIZED TYPE EXPANSION TANK DESIGNED FOR USE WITH POTABLE WATER, STAINLESS STEEL CONSTRUCTION, MAX WORKING PRESSURE OF 862 KPA (125 PSIG) AT 116°C (240°F), INITIAL CHARGE PRESSURE 380 KPA (55 PSIG), 18L (4.7 GAL) TANK VOLUME, 9.21 (2.4 GAL) ACCEPTANCE CAPACITY, AMTROL ST–12 OR APPROVED EQUAL.
S–1	SINK: ELKAY "LUSTERTONE" LR–3322, DOUBLE COMPARTMENT 18 GAUGE STAINLESS STEEL, SELF–RIMMING, LEDGE BACK SINK, THREE FAUCET HOLES, UNDERSIDE UNDERCOATED, COMPLETE WITH LK–232–S–BH–5 DUAL 127 mm (5") BLADE HANDLE FAUCET, GOOSENECK SWING SPOUT WITH AERATOR, CHROME PLATED CAST BRASS ANGLE SUPPLIES WITH WHEEL HANDLE STOPS. ONE LK–35 STRAINER–DRAIN ASSEMBLY WITH 40mm (1–1/2") TAIL PIECE, WASTE CONNECTION AND CHROME PLATED CODE APPROVED ADJUSTABLE "P" TRAP WITH WASTE TO WALL COMPLETE WITH "IN–SINK–ERATOR" MODEL 333 375 W (1/2 HP.) GARBAGE DISPOSAL. SINK SIZE 838mm X 559mm (33" X 22") TRAP 40mm (1–1/2") VENT 40mm (1–1/2") CW 15 mm (1/2") HW 15mm (1/2")
S–2	SINK: ELKAY "LUSTERTONE" LR–1720 SINGLE COMPARTMENT SINK, 18 GAUGE TYPE 302 STAINLESS STEEL, SELF RIMMING, UNDERSIDE UNDERCOATED, THREE FAUCET HOLES, LK–232–S–BH–5 DUAL HANDLE FAUCET WITH GOOSENECK SWING SPOUT AND AERATOR, LK–35 DUO STRAINER WITH 40 mm (1–1/2") TAILPIECE, CHROME PLATED CAST BRASS ANGLE SUPPLIES WITH WHEEL HANDLE STOPS, CHROME PLATED CODE APPROVED ADJUSTABLE "P" TRAP WITH WASTE TO WALL, SINK SIZE 432mm X 508mm (17" X 20") TRAP 40mm (1–1/2") VENT 40mm (1–1/2") CW 15 mm (1/2") HW 15mm (1/2")
S–3	SERVICE SINK: JUST MANUFACTURING CO., SINGLE COMPARTMENT 14 GA. 304 STAINLESS STEEL, SEAMLESS WELDED CONSTRUCTION. INTEGRAL 1 /" ROLL RIM EXTENDING FULL LENGTH AT FRONT AND SIDES OF COMPARTMENTS. COMPARTMENT ENDS AND PARTITIONS ELECTRICALLY WELDED IN PLACE. CHICAGO FAUCETS 631 BACKSPLASH MOUNTED GOOSENECK SPOUT FAUCET WITH AERATOR CHROME PLATED CAST BRASS BODY WITH 4" BLADE HANDLES. J–35 STRAINER WITH 40mm (1–1/2") TAILPIECE, CHROME PLATED CAST BRASS ANGLE SUPPLIES WITH WHEEL HANDLE STOPS, CODE APPROVED ADJUSTABLE "P" TRAP WITH WASTE TO WALL. SUPPORT ON DETACHABLE STAINLESS STEEL ANGLE LEGS WITH HOLD–DOWN CLIPS. ALL EXPOSED SURFACES TO BE SATIN FINISH. SIZE 914mm L X 610mm W X 914mm D (36" X 24" X 36"). MODEL SB–136 TRAP 80mm (3") VENT 50mm (2") CW 15mm (1/2") HW 15mm (1/2")
FD	FLOOR DRAIN: ZURN–Z–507, 178mm (7") MEDIUM DUTY DRAIN, CAST IRON BODY WITH CAST IRON SLOTTED GRATE, CLAMPING COLLAR, VANDALPROOF SCREWS. TRAP 80mm (3") VENT 50mm (2") CW –– HW ––
TP	TRAP PRIMER: PRECISION PLUMBING PRODUCTS MODEL PR–500 AUTOMATIC BRASS TRAP PRIMER FOR INSTALLATION WITH TWO FLOOR DRAINS, WITH DU–2 DISTRIBUTION UNIT AND SSB SUPPLY TUBE. ACTIVATED ON DROP IN BUILDING WATER PRESSURE.
WCO	WALL CLEANOUT: ZURN–Z–1446–BP CAST IRON C.O. TEE WITH BRASS PLUG AND ROUND STAINLESS STEEL ACCESS COVER WITH VANDALPROOF SCREW.
FCO	FLOOR CLEANOUT: ZURN–Z–1400–BP CAST IRON C.O., WITH ROUND SCORIATED TOP.
BFP	BACKFLOW PREVENTOR: FEBCO MODEL 886V REDUCED PRESSURE BACKFLOW PREVENTION DEVICE WITH BALL VALVES,CAST BRONZE MAINCASE, CHECK VALVE ASSEMBLY WITH STAINLESS STEEL SPRINGS, BRONZE BODY RELIEF VALVE, WORKING PRESSURE OF 150 PSI AND WATER TEMPERATURES OF 0.5°C (33° F) TO 60°C (140°F),USC AND IAPMO APPROVED. FURNISH WITH AIR GAP DRAIN AND PIPE FULL SIZE TO FLOOR SINK. SIZE AS SHOWN ON DRAWING.
WMB	WASHING MACHINE BOX: GUY GRAY MODEL B–200 BOTTOM INLETS. TRAP 50mm (2") VENT 40mm (1–1/2") CW 13mm (1/2") HW 13mm (1/2")

no.	date	revision
1	1/14/00	ADDENDUM #1 – Q.A. REVISIONS
2		

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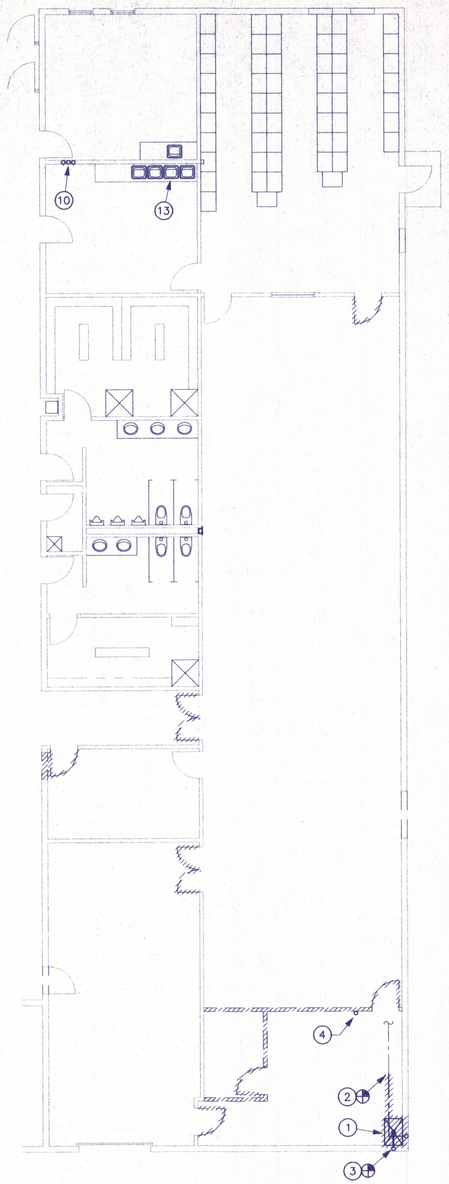
188th Fighter Squadron
Squadron Operations Facility
Albuquerque, NM

MECHANICAL SCHEDULES CONT.

REGISTERED PROFESSIONAL ENGINEER STATE OF No. 4129 NEW MEXICO JAMES O. COUPLAND

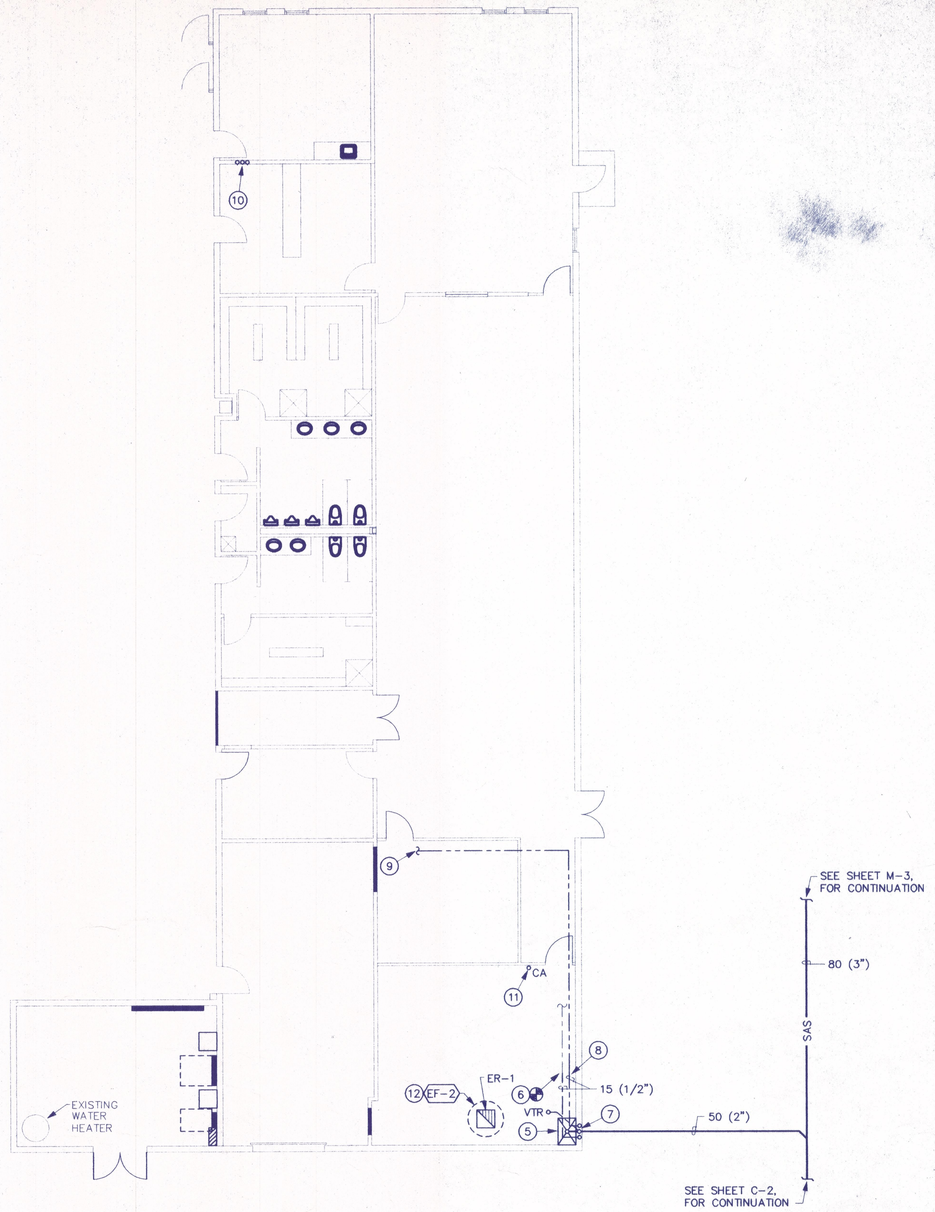
job no: 197305
drn. by: SEC
ckd. by: SEC
issued: 25 MAY 99

M–10A
sheet 54 of 68



1 Demolition Plan - Bldg 1044

1/8" = 1'-0"



2 Hvac and Plumbing Plan

1/8" = 1'-0"

Keyed Notes

1. REMOVE EXISTING SERVICE SINK. SALVAGE TO DRMO. EXISTING FAUCET TO BE REUSED, SEE NEW WORK PLAN.
2. DISCONNECT AND CAP EXISTING CW LINE AND REMOVE DOWN TO EXISTING SERVICE SINK.
3. DISCONNECT EXISTING WASTE AND VENT PIPING FROM EXISTING SERVICE SINK AND CAP AT WALL.
4. DISCONNECT EXISTING COMPRESSED AIR LINE AT CEILING AND REMOVE PIPING, PRESSURE REGULATOR, ETC. FROM WALL. RELOCATE AS SHOWN ON NEW WORK PLAN.
5. INSTALL NEW SERVICE SINK S-3. EXISTING FAUCET TO BE REUSED.
6. CONNECT TO EXISTING CW PIPING AND EXTEND TO S-3. CONNECT TO NEW FAUCET.
7. CONNECT S-3 DRAIN TO NEW WASTE AND VENT PIPING AT WALL. PROVIDE WCO AT INTERIOR WALL BELOW SINK.
8. EXTEND NEW HW PIPING TO S-3, CONNECT TO NEW FAUCET.
9. EXTEND NEW HW PIPING TO EXISTING HW PIPING AT MOST CONVENIENT LOCATION AND CONNECT. FIELD VERIFY LOCATION AND SIZE.
10. EXISTING WASHING MACHINE CW, HW AND WASTE TO REMAIN.
11. RELOCATE COMPRESSED AIR LINE INCLUDING PRESSURE REGULATOR, ETC. TO THIS LOCATION. RECONNECT TO EXISTING COMPRESSED AIR LINE.
12. NEW EXHAUST FAN EF-2 ON ROOF ABOVE. EXTEND DUCTWORK AND CONNECT TO 24"X24" ER-1. SEE MOUNTING DETAIL SHEET M-7.
13. REMOVE EXISTING SINK. SALVAGE TO DRMO. CAP EXISTING WASTE, VENT, AND WATER PIPING IN WALL FLUSH WITH GYPSUM BOARD.

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Plumbing & Hvac Plans - Bldg 1044

REGISTERED PROFESSIONAL ENGINEER
STATE OF NEW MEXICO
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