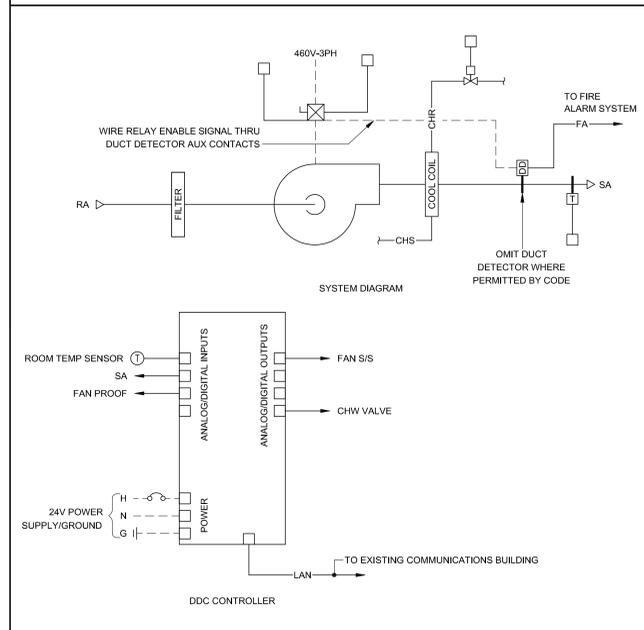


DIRECT DIGITAL CONTROL SYSTEM LEGEND			
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	TEMP SENSOR - PENCIL PROBE	AUX	AUXILIARY
	DUCT SMOKE DETECTOR	CHS	CHILLED WATER SUPPLY
	2-WAY CONTROL VALVE	CHR	CHILLED WATER RETURN
	CENTRIFUGAL FAN	FA	FIRE ALARM
	AIR FLOW INLET	G	GROUND
	AIR FLOW OUTLET	H	HOT
	CIRCUIT BREAKER (POWER)	LAN	ETHERNET LOCAL AREA NETWORK
	STARTER / DISC SWITCH (POWER)	N	NEUTRAL
	POWER CONDUIT & WIRING	RA	RETURN AIR
	LOW VOLTAGE CONDUIT & WIRING	S/S	START/STOP
	ELECTRICAL CONNECTION	SA	SUPPLY AIR
	FIRE ALARM SYSTEM CONDUIT / WIRING	TSTAT	THERMOSTAT
		V	VOLT

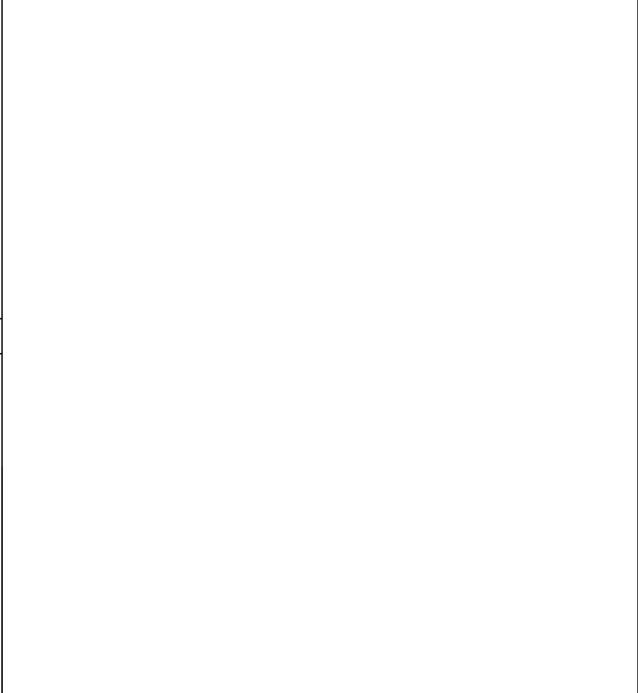
- ### DIRECT DIGITAL CONTROL GENERAL NOTES
- DDC CONTROLS SHALL BE DESIGNED AND INSTALLED BY HONEYWELL.
 - DDC CONTROLS SHALL BE AN EXTENSION OF THE EXISTING EMCS.
 - DDC CONTROL EQUIPMENT SHALL MATCH EXISTING AND SHALL COMMUNICATE DIRECTLY WITH THE EXISTING SYSTEM.
 - DDC CONTROL WORK INCLUDES LOW VOLTAGE CONDUIT & WIRING AND POWER CONDUIT & WIRING NOT SHOWN ON ELECTRICAL DRAWINGS, BUT REQUIRED FOR THE SEQUENCE OF CONTROL.
 - REFER TO ELECTRICAL DRAWINGS FOR POWER WIRING, STARTERS, DISCONNECTS, CONTRACTORS, RELAYS & APPURTENANCES INCLUDED WITH THE ELECTRICAL WORK.
 - DDC CONDUIT & WIRING SHALL CONFORM TO ELECTRICAL SPECIFICATIONS & GENERAL REQUIREMENTS.

- ### COOLING ONLY FAN COIL UNITS SEQUENCE OF OPERATIONS
- FAN COIL SUPPLY FAN CONTROL
THE FAN COILS SHALL OPERATE CONTINUOUSLY. ENABLE ALL CONTROL LOGIC UPON POSITIVE SUPPLY FAN STATUS. DISABLE ALL CONTROL LOGIC IF THERE IS NOT A POSITIVE SUPPLY FAN STATUS. SUPPLY FAN CYCLE ON WITH A DEMAND FOR COOLING AND SHALL CYCLE OFF DURING THE DEADBAND.
- ZONE TEMPERATURE CONTROL
PROVIDE AN OCCUPIED MODE ZONE TEMPERATURE SET POINT OF 72°F (ADJUSTABLE) WITH A +/- 6°F DEADBAND (FOR EXAMPLE: SET POINT 72°F = COOLING SET POINT OF 73°F). MODULATE THE COOLING VALVES TO MAINTAIN ZONE TEMPERATURE SET POINT.
- FIRE ALARM SHUTDOWN
PROVIDE FIRE ALARM SHUTDOWN WHEN ALARM CONDITION IS SENSED AT DUCT DETECTOR. PROVIDE AUTOMATIC RESET WHEN ALARM IS CLEARED.
- STATUS/ALARM POINTS
HIGH TEMPERATURE (5°F ABOVE SET POINT FOR 5 MINUTES ADJUSTABLE)
LOW TEMPERATURE (5°F BELOW SET POINT FOR 5 MINUTES ADJUSTABLE)
FAN COIL SUPPLY FAN STATUS
ZONE TEMPERATURE
COOLING VALVE STATUS
SUPPLY AIR TEMPERATURE



1 FAN COIL UNIT CONTROL DIAGRAM
NO SCALE COOLING ONLY - THREE PHASE MOTOR

- ### PROJECT SEQUENCING
- THE FOLLOWING SEQUENCE OF CONSTRUCTION IS RECOMMENDED TO THE CONTRACTOR. THE FINAL SEQUENCE OF CONSTRUCTION SHALL BE PROPOSED TO AND APPROVED BY THE UMC PROJECT MANAGER.
- OBTAIN CONTRACT AND PROCESS SUBMITTALS.
 - PREPARE AND SUBMIT PHASING PLAN, DETAILING WHEN SHUTDOWNS OF SYSTEMS MUST OCCUR TO INSTALL NEW EQUIPMENT.
 - REMOVE EXISTING VACUUM PUMP.
 - POUR NEW CONCRETE HOUSEKEEPING PADS FOR NEW EQUIPMENT.
 - INSTALL NEW FC-1 FAN COIL UNIT.
 - INSTALL NEW MEDICAL AIR COMPRESSOR, CONTROLS AND ALARMS, EXTEND MAINS TO POINT OF CONNECTION, TEST PIPING AND COMMISSION NEW SYSTEM PRIOR TO MAKING SWITCHOVER. PROVIDE TEMPORARY MONITORING AS NEEDED TO COMPLY WITH STATE HEALTH DEPARTMENT REQUIREMENTS.
 - SWITCH OVER MEDICAL AIR MAINS TO BE SERVED FROM NEW MEDICAL AIR COMPRESSOR.
 - REMOVE EXISTING MEDICAL AIR COMPRESSOR, POWER SUPPLIES, MONITORING CONTROLS.
 - INSTALL NEW FAN COIL UNIT.
 - REMOVE REMAINDER OF EQUIPMENT, PIPING AND APPURTENANCES NOT REQUIRED FOR FUTURE OPERATION.
 - PROVIDE FINAL COMMISSIONING, AND CLOSE OUT DOCUMENTS.



2 COIL PIPING DETAIL
NO SCALE

FAN COIL SCHEDULE																
ITEM	WILLIAMS MODEL NO (INTERNATIONAL)	LOCATION	CFM	ESP	COOLING COIL - 45°F EWT - 10.0' MAX WPD				HTG COIL - 2.0' MAX WPD		ELECTRICAL	WEIGHT	REMARKS			
					ENT AIR DB - WB	TOTAL SENS MBH	MIN MBH	ROWS	GPM	BRANCH PIPE SIZE				MAX MBH	GPM	BRANCH PIPE SIZE
FC-1	AH-6000 (VERTICAL)	MECH. ROOM	6000	0.75"	78 - 61	155.6	155.6	6	30	2"	-	-	5	460-3	400	A, B, C, D, E
FC-2	AH-4000 (VERTICAL)	MECH. ROOM	4000	0.75"	78 - 61	96.0	94.6	6	16.0	1-1/2"	-	-	2	460-3	300	A, B, C, D, E

- REMARKS
- REFER TO PLANS AND CONTROL DIAGRAMS FOR ADDITIONAL INFORMATION.
 - COIL, VALVES AND APPURTENANCES SHALL BE SUITABLE FOR 125 PSI WORKING PRESSURE. 2-WAY CONTROL VALVES TO SHUT OFF AGAINST 60 PSI DIFFERENTIAL PRESSURE.
 - FURNISH WITH BELT DRIVE FAN WITH ADJUSTABLE PULLY.
 - FURNISH WITH SPRING TYPE VIBRATION ISOLATORS WITH SEISMIC RESTRAINTS.
 - FURNISH WITH STARTER DISCONNECTS.

- ### GENERAL NOTES
- DO NOT SCALE DRAWINGS. VERIFY FIT OF EQUIPMENT, DUCTWORK AND PIPING PRIOR TO FABRICATION.
 - CONTRACTOR SHALL COORDINATE WORK INDICATED HEREON WITH PLUMBING, ELECTRICAL AND FIRE PROTECTION SECTIONS. SUBMIT 1/4" SCALE SHOP DRAWINGS FOR DUCT SYSTEMS, DIMENSIONED TO INCORPORATE THE WORK OF OTHER TRADES FOR CONGESTED SPACES. REFER TO EQUIPMENT DRAWINGS, SPECIFICATIONS, AND SHOP DRAWINGS FOR CONNECTIONS TO EQUIPMENT.
 - COORDINATE ALL FIRE WALL PENETRATIONS PRIOR TO BEGINNING WORK REQUIREMENTS BEFORE CONCRETE IS POURED OR BLOCK IS SET. PROVIDE SHOP DRAWINGS LOCATING AND SIZING ALL PENETRATIONS PRIOR TO BEGINNING WORK.
 - PROVIDE EQUIPMENT SCHEDULED OR INDICATED ON THE DRAWINGS BUT NOT INCLUDED WITHIN THE SPECIFICATIONS. INSTALLATION SHALL CONFORM TO MANUFACTURER'S RECOMMENDATIONS AND APPLICABLE CODES. PROVIDE SUBMITTALS.
 - ELECTRICAL POWER REQUIREMENTS FOR MECHANICAL EQUIPMENT SHALL BE VERIFIED WITH ELECTRICAL DRAWINGS PRIOR TO EQUIPMENT ORDER RELEASE. CONTRACTOR SHALL CONFIRM THAT VOLTAGE AND AMPERAGE REQUIRED BY MECHANICAL EQUIPMENT IS COMPATIBLE WITH ELECTRICAL SYSTEM WITH NO CHANGES TO ELECTRICAL SYSTEM. ADDITIONAL ELECTRICAL WORK RESULTING FROM EQUIPMENT SUBSTITUTION IS THE RESPONSIBILITY OF THE CONTRACTOR.
 - COORDINATE AND VERIFY ACTUAL APPROVED EQUIPMENT DIMENSIONS PRIOR TO POURING EQUIPMENT PADS. PROVIDE EQUIPMENT PAD, CURB AND RAIL SHOP DRAWING FOR REVIEW.
 - DUCT SIZES INDICATED ARE NET INSIDE CLEAR DIMENSIONS.
 - CONFIRM ACTUAL DESIRED TAGS/NAMES WITH OWNER PRIOR TO FINAL EMCS PROGRAMMING.
 - DRAIN PIPING FROM HVAC EQUIPMENT SHALL BE ROUTED SO AS NOT TO CREATE A TRIPPING HAZARD. COORDINATE ACTUAL DRAIN CONNECTIONS WITH PLUMBING SECTION. COORDINATE FLOOR SINK LOCATIONS ACCORDINGLY.
 - CONDENSATE DRAIN TRAPS SHALL BE 4" DEEP, MINIMUM.
 - PROVIDE SHOP DRAWINGS FOR EQUIPMENT HOUSEKEEPING PADS, LOCATE PADS, SHOW SIZE, DEPTH, REINFORCEMENT AND ATTACHMENT METHOD.

- ### MECHANICAL SPECIFICATIONS
- COMPLY WITH THE INTERNATIONAL BUILDING CODE, THE UNIFORM MECHANICAL AND PLUMBING CODES, THE INTERNATIONAL ENERGY CONSERVATION CODE AND THE SOUTHERN NEVADA AMENDMENTS AS ADOPTED BY THE AUTHORITY HAVING JURISDICTION.
- CONFORM WITH ASCE 7-05 FOR SEISMIC BRACING FOR MECHANICAL SYSTEMS. PROVIDE SEISMIC RESTRAINTS FOR DUCTWORK, PIPING, AND EQUIPMENT. REFER TO THE ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR ADDITIONAL REQUIREMENTS. PROVIDE SEISMIC SUPPORT SHOP DRAWINGS AS A DEFERRED SUBMITTAL, SIGNED BY A NEVADA LICENSED STRUCTURAL ENGINEER. SEISMIC SUPPORTS SHALL BE AS MANUFACTURED BY MASON INDUSTRIES EQUIPMENT AND SYSTEMS OF LAS VEGAS, NV OR AN APPROVED EQUAL.
- IN ADDITION TO THE STATUARY WARRANTY REQUIREMENTS, WORK SHALL BE GUARANTEED FOR ONE YEAR AFTER ACCEPTANCE BY THE OWNER. MATERIALS AND EQUIPMENT SHALL BE AS SPECIFIED AND/OR SCHEDULED OR AN APPROVED EQUAL. PROVIDE SUBMITTALS FOR MATERIALS AND EQUIPMENT TO THE ARCHITECT FOR APPROVAL PRIOR TO ORDER RELEASE. SUBMIT SHOP DRAWINGS FOR DUCTWORK, ATTACHMENTS, AND SEISMIC RESTRAINTS PRIOR TO BEGINNING WORK. OBTAIN APPROVAL FROM ARCHITECT PRIOR TO BEGINNING WORK.
- DO NOT SCALE THE DRAWINGS. EQUIPMENT SHALL BE SECURED AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. DUCT DIMENSIONS SHOWN ARE INSIDE CLEAR DIMENSIONS. VERIFY "FIT" OF DUCTWORK, HVAC PIPING, PLUMBING AND ELECTRICAL SYSTEMS PRIOR TO FABRICATION. COORDINATE EQUIPMENT, DIFFUSER AND REGISTER LOCATIONS WITH THE ARCHITECTURAL REFLECTED CEILING PLAN, ELECTRICAL LIGHTING PLANS, AND THE FIRE SPRINKLER AND FIRE ALARM SHOP DRAWINGS. CONFORM TO THE ELECTRICAL AND FIRE ALARM CODES CLEARANCE REQUIREMENTS AND ABIDE BY THE MANUFACTURER'S RECOMMENDATIONS. BRING ANY CONFLICTS IRRESOLVABLE IN THE FIELD TO THE ATTENTION OF THE ARCHITECT FOR RESOLUTION PRIOR TO INSTALLATION. NOTIFY OWNER'S REPRESENTATIVE AND ARCHITECT OF ANY UTILITY SHUTDOWN REQUIRED BY THE EXECUTION OF THIS CONTRACT IN WRITING AT LEAST 48 HOURS PRIOR TO THE DESIRED OUTAGE.
- CONFIRM THAT THE MECHANICAL EQUIPMENT POWER REQUIREMENTS MATCHES THE VOLTAGE AND PHASE AVAILABLE AT JOBSITE PRIOR TO ORDERING EQUIPMENT. ADDITIONAL ELECTRICAL WORK RESULTING FROM EQUIPMENT SUBSTITUTION SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR.
- UPON COMPLETION OF THE WORK, PRIOR TO SUBMISSION OF THE FINAL REQUEST FOR PAYMENT, SUBMIT RECORD DRAWINGS, OPERATION AND MAINTENANCE MANUALS FOR REVIEW. DELIVER SPECIAL TOOLS TO THE OWNER'S REPRESENTATIVE AND OBTAIN A DELIVERY RECEIPT. OWNER'S MANUALS SHALL INCLUDE A COMPLETE LIST OF THE CONTRACTOR'S AND VENDOR'S CONTACT INFORMATION AND THE CONTACT INFORMATION OF THE WARRANTIES. THE MANUFACTURER'S INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS. REFER TO THE ARCHITECTURAL SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- DUCTWORK SHALL BE CONSTRUCTED OF GALVANIZED STEEL PER THE 2005 SMACNA THIRD EDITION HVAC DUCT CONSTRUCTION STANDARDS, UNLESS NOTED OTHERWISE. DUCTS SHALL BE CONSTRUCTED FOR 2" WATER COLUMN STATIC PRESSURE. SEAL CLASS C. SPIRAL LOCK-FORMED ROUND DUCT WITH RADIUSED ELBOWS OR RECTANGULAR DUCTWORK WITH MITERED ELBOWS WITH TURNING VANES SHALL BE USED WHERE THE DRAWINGS INDICATE ROUND DUCTWORK. TURNING VANE RUNNERS SHALL HAVE A VANE IN EVERY SLOT AND SHALL CONFORM TO THE SMACNA HVAC DUCT CONSTRUCTION STANDARDS.
- DUCT HANGERS FOR ENVIRONMENTAL AIR, SHALL BE CONSTRUCTED OF GALVANIZED STEEL, CONFORMING TO 2005 SMACNA HVAC DUCT CONSTRUCTION STANDARDS. BOLTS, SCREWS, RIVETS OR OTHER MECHANICAL FASTENERS SHALL NOT PENETRATE WALLS OF VAPOR OR GREASE DUCT.
- SCHEDULED EQUIPMENT, ETC. SHALL BE AS SCHEDULED OR AN APPROVED EQUAL. EXPOSED SCREWS SHALL BE THE FINISHING TYPE AND PAINTED TO MATCH THE AIR DEVICE. SQUARE TO ROUND ADAPTORS SHALL BE PROVIDED WHERE REQUIRED FOR AIR DEVICES IN CEILINGS. AIR DEVICES SHALL BE FINISHED WITH WHITE BAKED ENAMEL FINISH UNLESS NOTED OTHERWISE. CONFIRM COLORS OF ALL INTERIOR EQUIPMENT WITH THE ARCHITECT PRIOR TO ORDER RELEASE.
- INSULATION THICKNESS SHALL CONFORM TO THE 2009 IECC REQUIREMENTS AS AMENDED BY THE SOUTHERN NEVADA ENERGY CONSERVATION CODE ORDINANCE.
- HYDRONIC WATER PIPING SHALL BE SCHEDULE 40 BLACK STEEL (ASTM A53) WITH 150# MALLEABLE IRON SCREWED OR FORGED STEEL WELDED FITTINGS OR TYPE L HARD DRAWN COPPER TUBING WITH WROUGHT COPPER FITTINGS, AND SILFOS BRAZED JOINTS. PIPING SYSTEM INCLUDING FITTINGS, VALVES AND APPURTENANCES SHALL BE SUITABLE FOR 150 PSI WORKING PRESSURE, EXCEPT FOR CHILLED WATER SYSTEMS IN HIGH RISE TOWERS, WHICH SHALL BE RATED FOR 300 PSI WORKING PRESSURE.
- MANUAL AIR VENTS SHALL BE PROVIDED AT ALL HIGH POINTS OF HYDRONIC SYSTEMS. MANUAL AIR VENTS SHALL CONSIST OF A 3/4" BALL VALVE WITH 3/4" HOSE THREADS. SHUT-OFF VALVES SHALL BE TWO PIECE FULL PORT BRONZE TRIM, BLOWOUT PROOF STEM 600 PSI MSS SP-110 BALL VALVES FOR SIZES 2" AND BELOW, NIBCO S-580-70 OR EQUAL.
- PROVIDE GRISWOLD AUTOMIZER AUTOMATIC FLOW CONTROL VALVE PACKAGES, COMPLETE WITH SUPPLY-SIDE BALL VALVE, STRAINER, FLEX HOSES, CONTROL VALVE, AUTOMATIC FLOW CONTROL VALVE, RETURN SIDE BALL VALVE AIR VENTS AND TEST PLUGS. FOR EACH HEATING AND COOLING COIL, HAVE 2" AND SMALLER CONNECTION. ENTIRE PACKAGE SHALL BE RATED FOR SAME PRESSURE AS PIPING SYSTEM SERVED.
- EQUIPMENT AND CONDENSATE DRAIN PIPING SHALL BE TYPE M COPPER WITH WROUGHT COPPER FITTINGS AND 95-5 TIN-ANTIMONY SOLDERED JOINTS. SCHEDULE 40 PVC PIPE WITH SOLVENT WELDED JOINTS MAY BE USED FOR COMBUSTIBLE CONSTRUCTION OUTSIDE OF RETURN AIR PLENUMS. PVC PIPE EXPOSED TO THE EXTERIOR SHALL BE PAINTED WITH UV RESISTANT PAINT. COLOR TO BE SELECTED BY THE ARCHITECT. DRAINS SHALL BE CONNECTED WITH A VENTED P TRAP AND SHALL BE ROUTED TO NOT CREATE A TRIPPING HAZARD. PROVIDE OVERFLOW CONDENSATE DRAIN SYSTEM WITH DRIP PANS AND SECONDARY PIPING SYSTEM.
- HYDRONIC PIPING SHALL BE INSULATED WITH OWENS CORNING OR APPROVED EQUAL FIBERGLASS PIPE INSULATION WITH ALL SERVICE JACKET. INSULATION AT HANGERS AND CLAMPS SHALL BE OF HIGH DENSITY INSULATING MATERIAL. INSULATED PIPING EXPOSED TO OUTDOORS SHALL BE FINISHED WITH AN 8/10" THICK ALUMINUM JACKET INSTALLED PER MANUFACTURER'S INSTRUCTIONS. FITTINGS, VALVES AND ACCESSORIES SHALL BE JACKETED WITH 25/50 FLAME SPREAD/SMOKE DEVELOPED RATED PREMANUFACTURED PVC FITTING COVERS.
- CONDENSATE DRAINS, INSTALLED OUTDOORS SHALL BE INSULATED WITH ARMSTRONG, ARMAFLEX 25/50 FLAME SPREAD SMOKE DEVELOPED RATED ELASTOMERIC INSULATION. LIQUID AND SUCTION LINES SHALL BE INSULATED CONTINUOUSLY FROM THE OUTDOOR UNIT. COPPER TUBING SHALL BE FREE OF EXTRANEOUS CHEMICALS OR MATERIALS PRIOR TO INSTALLATION OF THE INSULATION. A MANUFACTURER RECOMMENDED ADHESIVE SHALL BE APPLIED AT ALL SEAMS AND TERMINATIONS. INSULATION INSTALLED OUTDOORS SHALL BE UV LIGHT RESISTANT WITH AN ALUMINUM JACKET.
- PIPING SHALL BE IDENTIFIED WITH PLASTIC PIPE MARKERS IN CLEAR VIEW AND ALIGNED WITH AXIS OF PIPING. MARKERS SHALL BE PREPRINTED WITH PRESSURE SENSITIVE PERMANENT ADHESIVE AND COLOR CODED IN COMPLIANCE WITH ANSI A13.1. SERVICE AND FLOW DIRECTION SHALL BE INDICATED. DISTANCE BETWEEN IDENTIFICATION LOCATIONS SHALL NOT EXCEED 20'. IDENTIFICATION SHALL BE LOCATED AT EACH VALVE, RUN OUT, EQUIPMENT CONNECTION AND ON BOTH SIDES OF AN OBSTRUCTION. VALVE TAGS SHALL BE BRASS AND 1.5" DIAMETER WITH SOLID BRASS CHAIN. TAGS FOR FLOW CONTROLS SHALL INCLUDE FLOW AND PRESSURE DROP SET POINTS. MECHANICAL EQUIPMENT SHALL BE IDENTIFIED WITH BAKELITE NAMEPLATES. COLOR CODING AND OWNER'S IDENTIFICATION NAME/NUMBER SHALL BE COORDINATED WITH THE OWNER'S REPRESENTATIVE.
- PIPE HANGERS FOR INSULATED PIPE SIZES 1/2" TO 1-1/2" SHALL BE ADJUSTABLE, STEEL, BAND TYPE. PIPE HANGERS FOR INSULATED PIPE SIZES 2" AND OVER SHALL BE ADJUSTABLE, STEEL CLEVIS TYPE. SHIELDS SHALL BE USED WHERE HANGER SUPPORTS INSULATED PIPE. SHIELDS SHALL BE 18 GAUGE GALVANIZED STEEL OVER INSULATION 180" AND A MINIMUM OF 12" LONG. PIPE HANGERS FOR BARE PIPE SHALL BE ADJUSTABLE, MALLEABLE STEEL, SPLIT RING TYPE. BARE COPPER PIPE SHALL BE PROTECTED FROM CORROSION BY TRISOLATOR OR SIMILAR PRODUCT. HANGERS SHALL BE LOCATED 12" MAXIMUM FROM ANY CHANGE IN DIRECTION AND SPACED AS FOLLOWS FOR STRAIGHT RUNS:
- | PIPE SIZE MAXIMUM | HANGER SPACING | HANGER ROD DIAMETER |
|-------------------|----------------|---------------------|
| 1/2" TO 1-1/4" | 8' | 3/8" |
| 1-1/2" TO 2" | 8' | 3/8" |
| 2-1/2" TO 3" | 10' | 1/2" |
| 4" TO 6" | 10' | 5/8" |
| 8" | 10' | 3/4" |
- PENETRATIONS OF FIRE RATED WALLS OR FLOORS BY PIPE OR DUCT SHALL BE SEALED BY A LISTED FIRE STOPPING SYSTEM APPROVED FOR THAT SPECIFIC APPLICATION. REFER TO ARCHITECTURAL DETAILS AND THE SPECIFICATION SECTION "FIRE STOPPING". INSTALL PENETRATION SEAL MATERIALS IN ACCORDANCE WITH PRINTED INSTRUCTIONS OF THE UL FIRE RESISTANCE DIRECTORY AND MANUFACTURER'S INSTRUCTIONS.
- THE TEMPERATURE CONTROL SYSTEM SHALL BE DESIGNED AND PROVIDED BY THE SOUTHERN NEVADA OFFICE FOR HONEYWELL. PROVIDE ENGINEERING, SUPERVISION, CHECKOUT; LOW AND LINE VOLTAGE CONDUIT, WIRING AND TERMINATIONS; SENSORS, CONTROLLERS AND MISCELLANEOUS APPURTENANCES NECESSARY FOR A COMPLETE AND OPERATING SYSTEM IN ACCORDANCE WITH THE CONTROL DIAGRAMS AND OTHER CONTRACT DOCUMENTS. INSTALL PLUMBING AND HVAC PACKAGES OMITTED DIVISION 16 DOCUMENTS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. REFER TO DIVISION 16 CONTRACT DOCUMENTS FOR PACKAGED UNIT CONDUIT, WIRE, AND TERMINATIONS INCLUDED UNDER DIVISION 16. PROVIDE SUBMITTALS FOR REVIEW.
- AN INDEPENDENT AABC OR NEBB TEST AND BALANCE AGENCY SHALL BE RETAINED FOR TESTING AND BALANCING OF AIR AND WATER SYSTEMS. THE TEST REPORT SHALL BE IN A FORMAT APPROVED BY AABC FOR SYSTEMS OF THIS TYPE AND COMPLEXITY. QUALIFICATIONS OF INDEPENDENT TEST AND BALANCE FIRM SHALL BE SUBMITTED FOR REVIEW. TEST AND BALANCING WORK SHALL INCLUDE VERIFICATION (BUT NOT CALIBRATION) OF AUTOMATIC CONTROL OPERATION. FINAL BALANCE SHALL CONFORM TO THE REQUIREMENTS OF THE AABC.
- PROVIDE CONCRETE HOUSE KEEPING PADS, FIRE RATED WALL PENETRATIONS, ROOF PENETRATIONS, ATTACHMENTS AND SUPPORTS REQUIRED FOR THE MECHANICAL SYSTEMS. PROVIDE SUBMITTALS FOR REVIEW FIRE WALL PENETRATIONS AND FIRE RATED SYSTEM. CONCRETE SHALL BE 3000 PSI WITH 1/2" REBAR ON 12" CENTERS. ATTACHMENTS SHALL MATCH EXISTING. ROOF PENETRATIONS SHALL MEET OWNERS APPROVAL.

2009 IECC CERTIFICATION - *EXEMPTED*

THE CITY OF LAS VEGAS DOES NOT REQUIRE IECC COMPLIANCE FOR REMODELED SYSTEMS IN EXISTING BUILDINGS.

LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	ROOM TEMPERATURE SENSOR	NO	NUMBER
	CHILLED WATER SUPPLY	TYP	TYPICAL
	CHILLED WATER RETURN	MAX	MAXIMUM
	DRAIN	MIN	MINIMUM
	REDUCER	EMCS	ENERGY MANAGEMENT CONTROL SYSTEM
	ELBOW UP	V-PH	VOLTAGE-PHASE
	ELBOW DOWN	HP	HORSE POWER
	TEE	KW	KILOWATT
	BALL VALVE	ESP	EXTERNAL STATIC PRESSURE
		CFM	CUBIC FEET PER MINUTE
		SA	SUPPLY AIR
		RA	RETURN AIR
		ENT	ENTERING
		DB	DRY BULB
		WB	WET BULB
		GPM	GALLONS PER MINUTE
		LBS	POUNDS
		HTG	HEATING
		WPD	WATER PRESSURE DROP
		PSI	POUNDS PER SQUARE INCH
		MBH	1,000 BTU PER HOUR
		BTU	BRITISH THERMAL UNIT

Architect

Engineer TJK # 15032

Project

SHEET INDEX

SYMBOL	SHEET NO	SHEET DESCRIPTION
	M-1	LEGENDS, INDEX, SPECS, DETAIL, EMCS REQUIREMENTS
	M-2	FLOOR PLANS - HVAC
	MG-1	FLOOR PLANS - MED-GAS
	MG-2	MEDICAL AIR COMPRESSOR MANUFACTURER'S DRAWING

09-21-15 ISSUE FOR PLAN CHECK

NORTHEAST BUILDING MEDICAL AIR PUMPS
UNIVERSITY MEDICAL CENTER
LAS VEGAS, NEVADA

Drawing Title:
MECHANICAL LEGEND INDEX, SPECS, DETAILS EMCS REQUIREMENTS

Revisions:

Date: 09-21-15
DGKA Project: 15029
CADD Files:
Drawing Number:

15029



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NOTICE

FC-1 UNIT DESIGNATION
 000 CHSR/GPM
 00 HSR/GPM
 00 TONNAGE

HC-1 UNIT DESIGNATION
 000 GPM

POINT OF CONNECTION TO EXISTING. VERIFY EXACT SIZE AND LOCATION IN FIELD PRIOR TO START OF WORK.

POINT OF DISCONNECT FROM EXISTING. VERIFY EXACT SIZE AND LOCATION IN FIELD PRIOR TO START OF WORK.

EXISTING WORK TO REMAIN SHOWN LIGHT. EXISTING WORK TO BE REMOVED SHOWN DARK AND DASHED. NEW WORK SHOWN DARK.

KEY NOTES

- EXISTING ELECTRICAL PANEL TO REMAIN.
- EXISTING ELECTRICAL TO BE RELOCATED.
- EXISTING TO REMAIN.
- REMOVE EXISTING CHILLED WATER BACK TO P.O.C. SHOWN.
- REMOVE EXISTING HOUSE KEEPING PAD.
- REMOVE EXISTING DRAIN PIPING.
- REMOVE EXISTING EQUIPMENT.
- CONNECT CHILLED WATER PIPING TO COIL. REFER TO DETAIL 2-(M-1).
- EXTEND FULL SIZE DUCT UP TO CEILING LINE. PROVIDE (3) 13" HIGH BY FULL WIDTH OUTLETS ON EACH SIDE OF DUCT WITH 1/4" GALVANIZED BIRDSCREEN OVER OUTLET.
- REMOVE EXISTING VACUUM PUMP AND CAP PIPING.
- CONNECT FULL SIZE DRAIN TO DRAIN FITTING.
- TERMINATE DRAIN ABOVE FLOOR SINK WITH 90° ELBOW DOWN.
- EXTEND FULL SIZE DUCT UP TO 8'-0" A.F.F. 90° TURN DUCT INTO ROOM & TERMINATE WITH 1/4" GALVANIZED BIRDSCREEN.

Architect

Engineer TJK # 15032

Project

NORTHEAST BUILDING MEDICAL AIR PUMPS
 UNIVERSITY MEDICAL CENTER
 LAS VEGAS, NEVADA

Drawing Title:
FLOOR PLANS HVAC

Revisions:

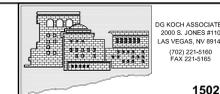
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DGKA Project: 15029

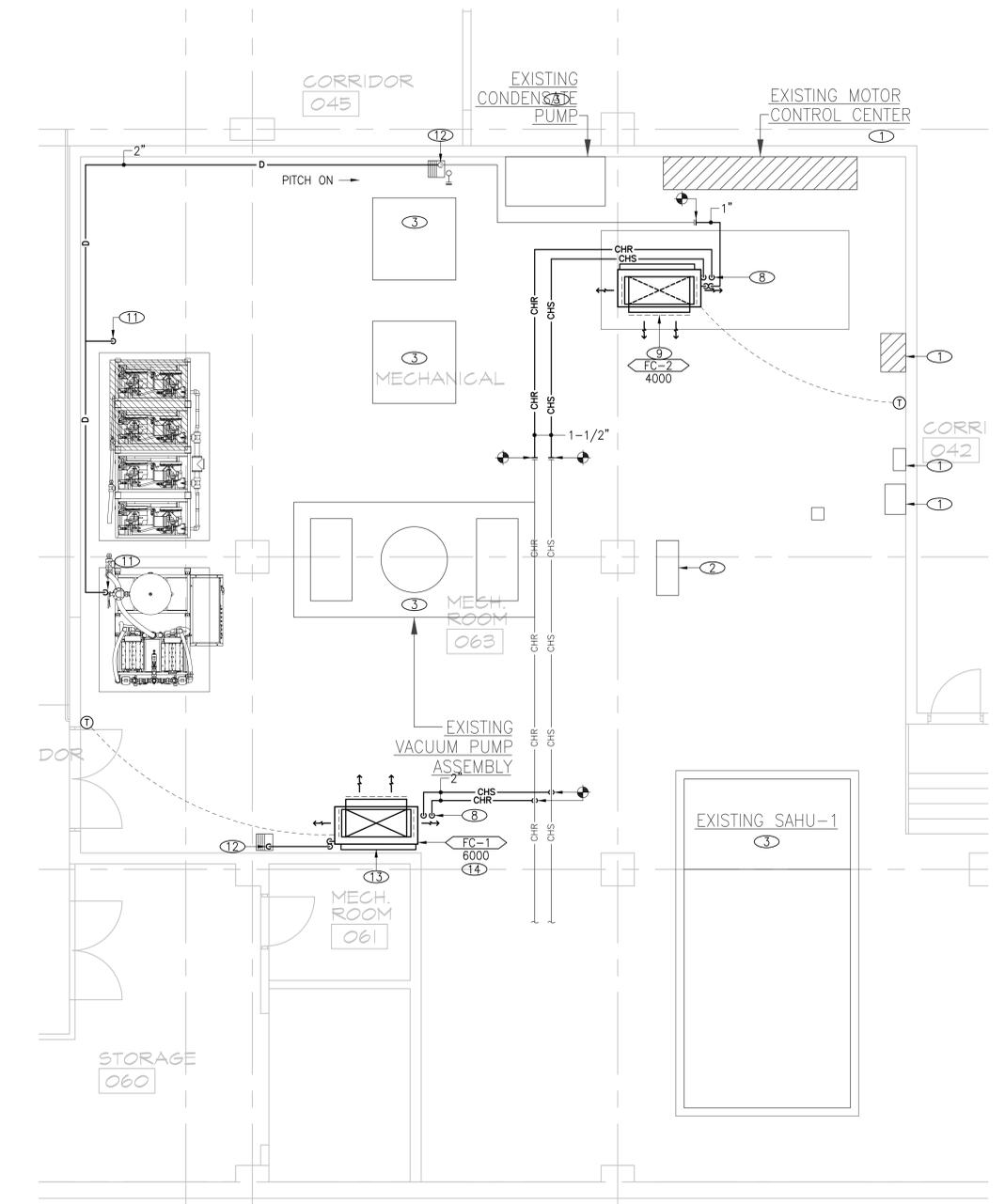
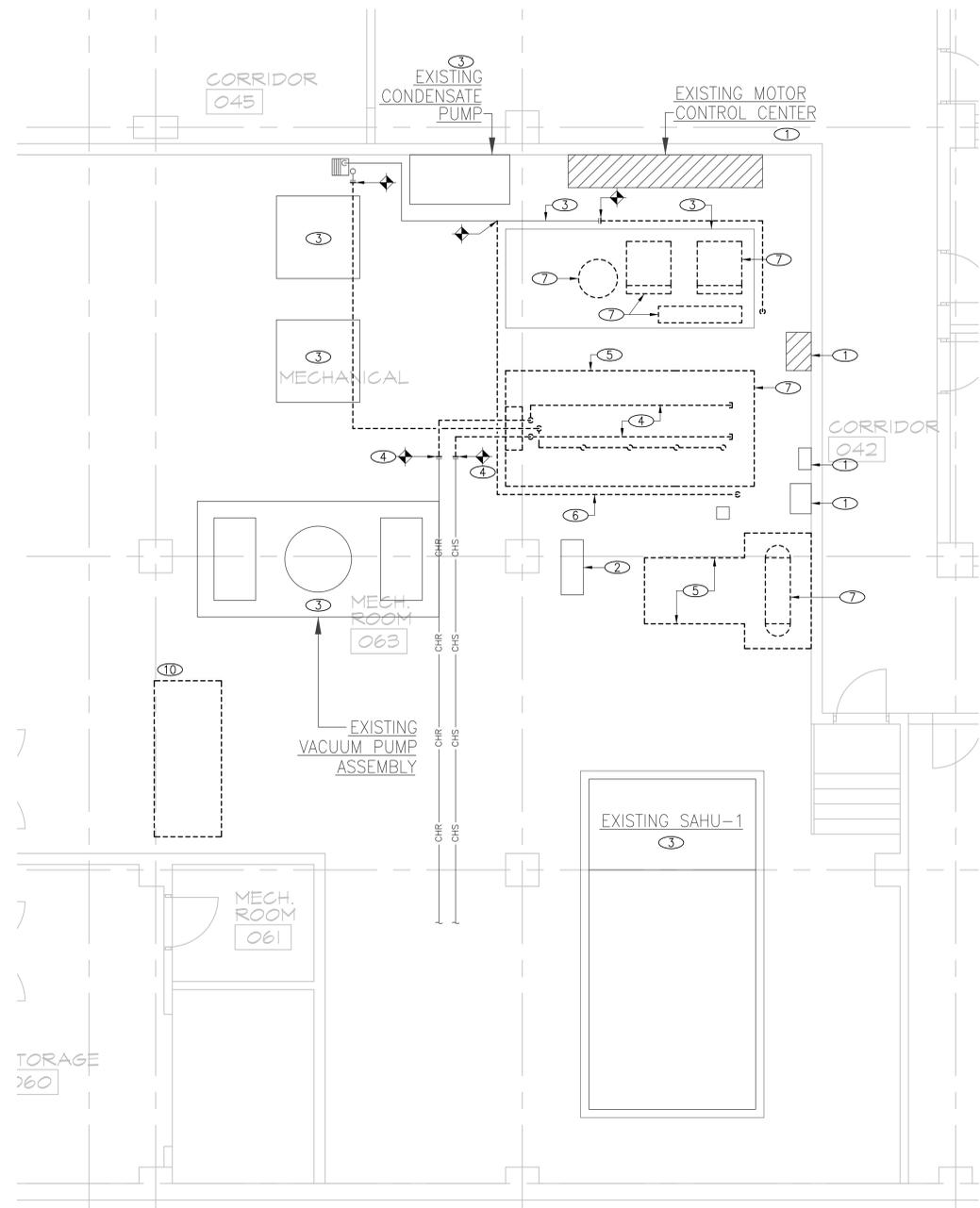
CADD Files:

Drawing Number:

M-2



15029



A MECHANICAL ROOM - DEMO
 1/4" = 1'-0"

B MECHANICAL ROOM - NEW
 1/4" = 1'-0"

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