

**SPECIFICATIONS FOR HVAC WORK:**

- SCOPE OF THE WORK:** WORK SHALL INCLUDE COMPLETE SYSTEMS. PROVIDE SUPERVISION, LABOR, MATERIAL, EQUIPMENT, MACHINERY, PLANT AND ITEMS NECESSARY FOR COMPLETE SYSTEMS TESTED AND READY FOR OPERATION.
- REGULATIONS:** MATERIALS AND INSTALLATION SHALL COMPLY WITH LOCAL CODES, APPLICABLE PROVISIONS OF LATEST EDITION OF NATIONAL FIRE PROTECTION ASSOCIATION, LOCAL UTILITY REGULATIONS AND GOVERNMENTAL DEPARTMENTS HAVING JURISDICTION.
- DRAWINGS:** THESE DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT OF SYSTEMS AND WORK INCLUDED. WHERE VARIANCES OCCUR INCLUDE THE ITEMS OF BETTER QUALITY, GREATER QUANTITY OR HIGHER COST. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF ALL ACTUAL CONDITIONS INCLUDING PIPING LOCATIONS AND SIZES. DUE TO THE DRAWINGS BEING DIAGRAMMATIC IN NATURE, ALL RISERS AND DROPS ARE NOT SHOWN. THE CONTRACTOR SHALL INCLUDE THESE IN THE BID WHERE POSSIBLE. ALL RISERS AND DROPS SHALL BE CONSTRUCTED USING 45 DEGREE OR LONG RADIUS ELBOWS.
- COORDINATION OF WORK:** THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION AND PROPER RELATION OF HIS WORK TO THE BUILDING STRUCTURE AND TO THE WORK OF OTHER TRADES. VERIFY LOCATIONS OF NEW EQUIPMENT AND ROUTE OF NEW PIPING WITH EXISTING CONDITIONS. CONTRACTOR SHALL PROVIDE DIMENSIONS AND LOCATIONS OF ALL OPENINGS, AND SIMILAR ITEMS TO THE PROPER TRADES AND SHALL INSTALL WORK AS REQUIRED SO AS NOT TO DELAY THE BUILDING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR DAMAGE CAUSED BY HIS WORK OR WORKMEN. REPAIRING OF DAMAGED WORK SHALL BE DONE BY THE CONTRACTOR AT NO ADDITIONAL COST.
- VISITING THE SITE:** EACH CONTRACTOR SHALL BE RESPONSIBLE FOR VISITING THE SITE BEFORE PRICING THE JOB TO FAMILIARIZE HIMSELF WITH ALL EXISTING CONDITIONS TO BE MET IN THE EXECUTION OF THE WORK UNDER THIS CONTRACT. NO ADDITIONAL COMPENSATION WILL BE ALLOWED RELATING TO SITE CONDITIONS.
- INTERRUPTION OF SERVICES:** INTERRUPTIONS OF SERVICE TO EXISTING SYSTEMS SHALL BE COORDINATED WITH THE OWNER AS TO TIME AND DURATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY INTERRUPTIONS TO SERVICE AND SHALL REPAIR ANY DAMAGES TO EXISTING SYSTEMS CAUSED BY HIS OPERATIONS.
- SHOP DRAWINGS:** SHOP DRAWINGS ARE REQUIRED FOR ALL MATERIAL AND EQUIPMENT THAT IS SPECIFIED BY A MANUFACTURER'S NAME OR AS INDICATED IN THE TECHNICAL SPECIFICATIONS. FURNISH ELECTRONIC PDF'S AS REVIEWED BY THE CONTRACTOR. SUBMITTAL DATA FOR RELATED EQUIPMENT SHALL BE SUBMITTED AT ONE TIME. INDIVIDUAL SUBMITTALS WILL BE ALLOWED FOR EQUIPMENT WHICH IMPACTS THE CONSTRUCTION PHASING. IDENTIFY SUBMITTALS WITH PROJECT NAME AND NUMBER, CONTRACTOR'S NAME, MANUFACTURER, MODEL OR STYLE, AND CONTRACTOR'S REVIEW STAMP. SUBMITTALS SHALL BE DETAILED, DIMENSIONED DRAWINGS SHOWING CONSTRUCTION, SIZE AND ARRANGEMENT, SERVICE CLEARANCES, PERFORMANCE CHARACTERISTICS, AND CAPACITY. SUBMITTALS NOT PROPERLY IDENTIFIED OR CONTAINING INFORMATION OF A GENERAL NATURE WILL NOT BE REVIEWED AND WILL BE RETURNED UNCHECKED.
- WORK IN OCCUPIED AREAS:** WORK IN OCCUPIED AREAS SHALL BE COORDINATED WITH THE OCCUPANT AND OWNER AS TO TIME AND DURATION. THE CONTRACTOR SHALL PROTECT THE OCCUPIED AREA AND SHALL BE RESPONSIBLE FOR CLEANING AND REPAIRING ANY DAMAGES CAUSED BY HIS WORK. SAFETY OF BUILDING OCCUPANTS SHALL BE ASSURED AT ALL TIMES. TOOLS, MATERIAL, DIRT AND DEBRIS SHALL BE REMOVED FROM OCCUPIED AREAS WHENEVER WORK AREAS ARE LEFT UNATTENDED.
- ACCESSIBILITY:** LOCATE EQUIPMENT WHICH MUST BE SERVICED OR MAINTAINED IN FULLY ACCESSIBLE POSITIONS WHERE POSSIBLE. OTHERWISE, FURNISH ACCESS PANELS OF SUFFICIENT SIZE AND LOCATED SO THAT THE CONCEALED EQUIPMENT CAN BE SERVICED.
- ROUGH-IN:** ROUGH-IN OPENINGS SHALL ALIGN VERTICALLY AND HORIZONTALLY WITH BUILDING STRUCTURE.
- SLEEVES:** LOCATE SLEEVES DURING NORMAL COURSE OF WORK. PROVIDE SLEEVES FOR PIPING PASSING THROUGH CONCRETE FLOOR SLABS AND CONCRETE, MASONRY, TILE AND GYPSUM WALL CONSTRUCTION. WHERE SLEEVES ARE LOCATED THROUGH FIRE-RATED WALLS OR FLOORS, THE SLEEVE ASSEMBLIES SHALL MAINTAIN THE FIRE RATING OF THE WALL OR FLOOR. SLEEVES SHALL BE CONSTRUCTED OF 20 GAUGE GALVANIZED STEEL WITH LOCK SEAM JOINTS FOR ALL SLEEVES SET IN CONCRETE FLOOR SLABS. ALL OTHER SLEEVES SHALL BE CONSTRUCTED OF GALVANIZED STEEL PIPE. SLEEVES THROUGH CONCRETE FLOORS SHALL EXTEND 8 INCHES ABOVE THE FLOOR AND PIPE/SLEEVE OPENING SHALL BE SEALED WATERTIGHT.
- CUTTING AND PATCHING:** THE CONTRACTOR SHALL PROVIDE ALL CUTTING AND PATCHING NECESSARY TO INSTALL HIS WORK. PATCHING SHALL MATCH ADJACENT SURFACES. NO STRUCTURAL MEMBERS SHALL BE CUT WITHOUT THE APPROVAL OF THE ENGINEER.
- CLEANING:** EQUIPMENT AND PIPING SHALL BE CLEANED TO REMOVE FOREIGN MATERIALS. PROVIDE TEMPORARY FILTERS FOR AIR UNITS THAT ARE OPERATED DURING CONSTRUCTION. PLUG OR CAP OPENINGS IN EQUIPMENT, PIPING AND MATERIALS UNTIL CONNECTION IS MADE TO THE SYSTEM. REMOVE FROM THE PREMISES ALL UNUSED MATERIAL AND DEBRIS RESULTING FROM THE PERFORMANCE OF HVAC WORK.
- WIRING:** TEMPERATURE CONTROL WIRING, EQUIPMENT CONTROL WIRING AND CONTROL INTERLOCK WIRING FOR MECHANICAL EQUIPMENT SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR. CONTROL WIRING SHALL NOT INCLUDE ANY WIRING WHICH CARRIES MOTOR CURRENT. ALL WIRING SHALL BE IN METAL CONDUIT AND SHALL COMPLY WITH THE ELECTRICAL SPECIFICATIONS.
- QUIET OPERATION:** SYSTEMS SHALL OPERATE UNDER CONDITIONS OF LOAD WITHOUT UNUSUAL OR EXCESSIVE NOISE OR VIBRATION. UNUSUAL OR EXCESSIVE NOISE OR VIBRATION SHALL BE CORRECTED.
- TESTING AND BALANCING:** CONTRACTOR SHALL TEST ALL NEW EQUIPMENT TO ASSURE THAT THE PROPER SEQUENCE OF CONTROL IS ESTABLISHED AND OPERATING IN A SAFE MANNER. THE AIR QUANTITIES FOR THE AIR CONDITIONING UNITS (HP-1, HP-2 & HP-3) SHALL BE BALANCED FOR THE CFMS INDICATED ON THE DRAWING.
- INSTRUCTIONS TO OWNER:** INSTRUCT THE OWNER IN THE PROPER OPERATION AND MAINTENANCE OF THE MECHANICAL SYSTEMS UNTIL THE OWNER IS FULLY PREPARED TO OPERATE AND MAINTAIN THE SYSTEMS. HOWEVER, LENGTH OF INSTRUCTION TIME SHALL BE LIMITED TO ONE (1) FULL DAY.
- OPERATING AND MAINTENANCE:** PROVIDE THE OWNER WITH TWO (2) BOUND SETS OF OPERATING AND MAINTENANCE INSTRUCTIONS FOR ALL EQUIPMENT AND CONTROLS.
- GUARANTEE:** EQUIPMENT, MATERIALS AND LABOR REQUIRED BY THESE CONTRACT DRAWINGS SHALL BE GUARANTEED TO BE FREE FROM DEFECTIVE MATERIALS OR WORKMANSHIP FOR ONE (1) YEAR AFTER FINAL ACCEPTANCE OF THE PROJECT UNLESS SPECIFIED FOR A LONGER PERIOD IN OTHER PORTIONS OF THE SPECIFICATIONS. DEFECTIVE MATERIALS OR WORKMANSHIP OCCURRING DURING THIS PERIOD SHALL BE CORRECTED AT NO ADDITIONAL COST.
- PAINTING:** GENERAL - PAINT MECHANICAL EQUIPMENT AND MATERIALS WHERE NOT CONCEALED. PAINTING IN CONCEALED SPACES SHALL BE LIMITED TO EQUIPMENT AND MATERIALS NOT OTHERWISE PROTECTED FROM RUSTING SUCH AS HANGERS AND SUPPORTS. PAINT SHALL BE PRODUCTS OF SHERWIN-WILLIAMS, PITTSBURGH, PRATT-LAMBERT OR EQUAL. SURFACE PREPARATION, PRIMING AND PAINT APPLICATION SHALL

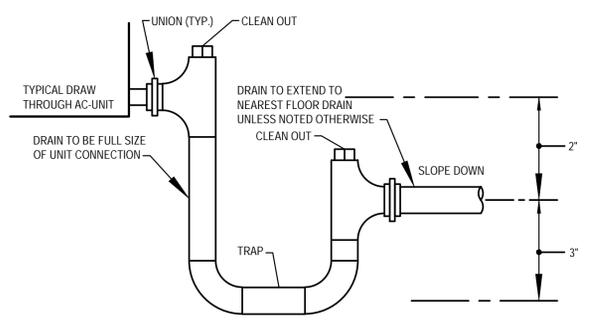
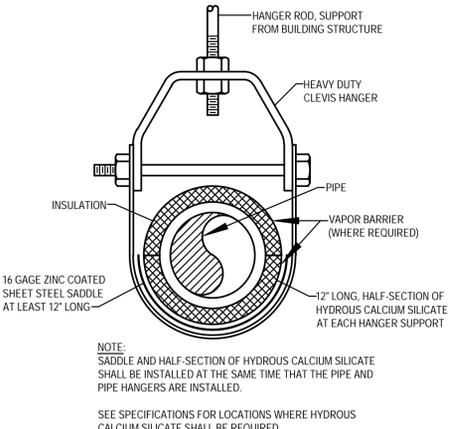
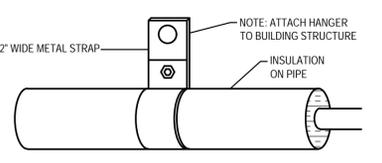
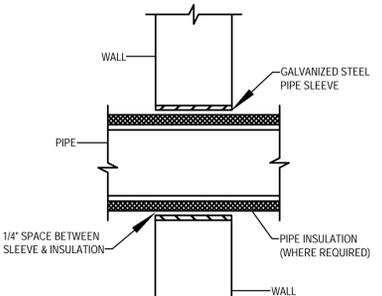
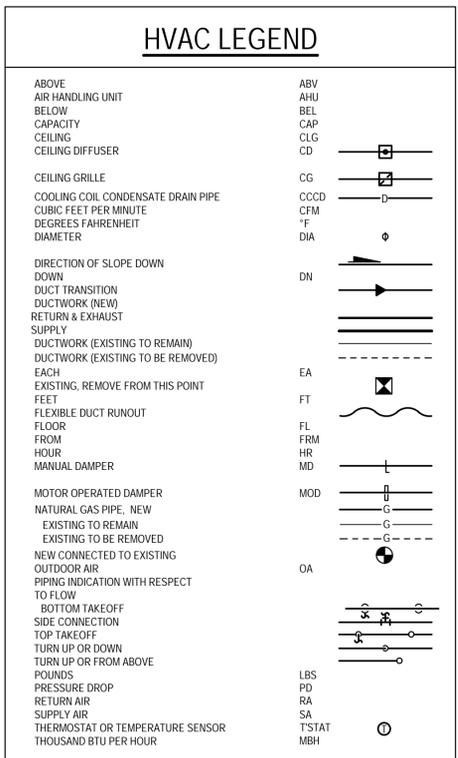
- BE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. GALVANIZED SURFACES SHALL BE PRETREATED WITH A PHOSPHORIC ACID CLEANING SOLUTION AND PRIMED. AFTER PREPARATION EACH ITEM SHALL BE PAINTED. EXCEPT COLOR OF PAINT FOR EQUIPMENT AND MATERIAL WHERE NOT CONCEALED, SHALL BE AS SELECTED BY THE OWNER. PAINTING IS NOT REQUIRED OF ITEMS WITH A FACTORY FINISH COAT. PATCH PAINTING IS REQUIRED OF ANY DAMAGED AREAS TO MATCH FACTORY FINISH COAT. NAMEPLATES ON EQUIPMENT SHALL NOT BE PAINTED.
- IDENTIFICATION OF EQUIPMENT:** EACH MAJOR PIECE OF EQUIPMENT SHALL BE IDENTIFIED BY MARKING THAT WILL READ THE SAME AS THE IDENTIFICATION SHOWN ON THE DRAWINGS. STENCIL LETTERS SHALL BE 2 INCHES HIGH UPPER CASE PAINTED WITH WHITE ENAMEL ON EQUIPMENT AND BLACK ENAMEL ON PIPING AND CONDUIT. IDENTIFICATION SHALL BE PAINTED ON EACH PIPE OR CONDUIT WHERE EXPOSED OR ACCESSIBLE AND SHALL BE PLACED EVERY 15 FEET ALONG THE PIPE OR CONDUIT.
- DUCTWORK:**
  - GENERAL: DUCTWORK SHALL BE ZINC-COATED SHEET STEEL OR ALUMINUM, CONSTRUCTED AND INSTALLED AS RECOMMENDED BY THE LATEST EDITION OF SMACNA.
  - DUCT CLEARANCE SHALL BE ESTABLISHED AT THE JOB SITE BEFORE ANY DUCTS ARE FABRICATED. THE CONTRACTOR WILL NOT BE ALLOWED ANY EXTRA COSTS FOR DUCTS FABRICATED AND THEN FOUND NOT TO FIT.
  - MOTORIZED DAMPERS SHALL BE OPPOSED BLADE CONSTRUCTION FOR MODULATING SERVICE AND PARALLEL BLADE CONSTRUCTION FOR TWO-POSITION SERVICE. MOTORIZED DAMPERS SHALL BE CONSTRUCTED WITH BRASS BEARINGS, CHANNEL IRON FRAME AND INTERLOCKING BLADES WITH AIR-TIGHT FELT SEALS. DAMPER ACTUATORS SHALL BE PROVIDED AND SHALL BE OF SUFFICIENT CAPACITY TO OPERATE THE CONNECTED DAMPER.
  - AIR DEFLECTORS SHALL BE PROVIDED IN ALL SQUARE ELBOWS.
  - HINGED ACCESS DOORS SHALL BE PROVIDED IN ACCORDANCE WITH NFPA 90A ON EACH SIDE OF AIR HANDLING UNIT AND OTHER APPARATUS REQUIRING SERVICE AND INSPECTION IN THE DUCT SYSTEM. ACCESS DOORS SHALL BE 15" X 18" OR AS LARGE AS PRACTICAL.
  - PROVIDE FLEXIBLE DUCT CONNECTIONS TO AIR HANDLING EQUIPMENT.
  - DUCT SUPPORTS SHALL CONSIST OF NOT LESS THAN 1" X 16-GAUGE GALVANIZED STRAP IRON HANGERS SPACED NOT OVER 4'-0" ON CENTER.
- PIPING:**
  - PROVIDE AND INSTALL NECESSARY PIPING INCREASERS/REDUCERS AS REQUIRED FOR EQUIPMENT CONNECTIONS. CONSULT MANUFACTURER'S DATA FOR ACTUAL PIPING CONNECTION SIZE, INCLUDING BUT NOT LIMITED TO THOSE SHOWN.
  - REFRIGERANT PIPING SHALL BE HARD-DRAWN, DEHYDRATED AND SEALED COPPER TUBING AND SHALL BE SIZED AND INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. SUCTION LINE SHALL BE FULLY INSULATED AND EFFECTIVELY VAPOR SEALED FROM INDOOR TO OUTDOOR UNIT.
  - REFRIGERANT PIPING SYSTEM: THE SYSTEM SHALL BE TESTED FOR TIGHTNESS AFTER INSTALLATION AND BEFORE INSULATION IS APPLIED. REFRIGERANT SYSTEM TEST PRESSURES FOR TIGHTNESS SHALL NOT BE LESS THAN ANSI 15 OR ANSI B31.5 TEST PRESSURES SPECIFIED. PROVIDE THE INITIAL CHARGE OF REFRIGERANT.
  - COOLING COIL CONDENSATE DRAIN PIPING SHALL BE PVC OR ASTM 888, TYPE 1; HARD DRAWN COPPER TUBING. CONDENSATE DRAIN LINES SHALL SLOPE 1/8" PER FOOT IN DIRECTION OF FLOW.
  - PIPE SUPPORTS: SUSPENDED HORIZONTAL PIPING SHALL BE SUPPORTED BY ADJUSTABLE WROUGHT STEEL CLEVIS HANGERS. ALL SUPPORTS SHALL BE ATTACHED TO THE BUILDING STRUCTURE SPACED 10'-0" ON CENTER. HANGER RODS SHALL BE 3/8" DIAMETER SIZE FOR PIPES UP THROUGH 2". PIPING SHALL BE INSTALLED IN PRACTICAL ALIGNMENT WITH THE BUILDING.
  - VERTICAL PIPING SHALL BE GUIDED OR SUPPORTED IN THE CENTER OF EACH RISER AND NOT OVER 15'-0" ON CENTER AND SHALL BE SUPPORTED AT THE BASE OF EACH RISER.
  - PIPING SHALL NOT BE INSTALLED ABOVE ELECTRICAL PANELS.
- THERMAL COVERING:**
  - INSULATION SHALL BE JOHN'S MANVILLE, OWENS CORNING, ARMSTRONG OR EQUAL. INSULATION SHALL NOT BE APPLIED UNTIL AFTER ALL THE EQUIPMENT, PIPES OR DUCTS TO BE INSULATED HAVE PROVEN SATISFACTORY UNDER TESTS. ALL MATERIALS USED SHALL HAVE COMPOSITE FLAME-SPREAD RATING NOT EXCEEDING 25 AND A SMOKE-DEVELOPED RATING NOT EXCEEDING 50.
  - PIPING: INSULATION SHALL BE INSTALLED IN CONFORMANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
  - FIBERGLASS PIPE INSULATION SHALL HAVE A WHITE KRAFT BONDED TO ALUMINUM FOIL, REINFORCED WITH FIBERGLASS YARN JACKET. ELASTOMERIC INSULATION SHALL BE CONSTRUCTED OF A CLOSED CELL STRUCTURE TO EFFECTIVELY RETARD THE FLOW OF MOISTURE VAPOR AND SERVE AS A VAPOR BARRIER. INSULATION THICKNESS AND TYPE FOR VARIOUS PIPING SYSTEMS SHALL BE AS INDICATED IN THE FOLLOWING TABLE (PIPE SIZE/INSULATION THICKNESS).

SYSTEM	TEMP. RANGE (DEG. F)	1" & LESS	1-1/2" & LESS	2" & ABOVE	INS. TYPE
REFRIGERANT	BELOW 45	1.0	1.0	1.5	B
CONDENSATE DRAIN	45-75	0.5	1.0	1.0	A,B

- NOTES:**
- MINIMUM FIBERGLASS INSULATION THICKNESS SHALL BE INCREASED FOR MATERIALS HAVING THERMAL RESISTANCE (R) VALUES LESS THAN FOUR (4.0) PER INCH OF THICKNESS. MINIMUM ELASTOMERIC INSULATION THICKNESS SHALL BE INCREASED FOR MATERIAL HAVING THERMAL RESISTANCE (R) VALUES LESS THAN 3.7 PER INCH THICKNESS.
  - A - FIBERGLASS TYPE INSULATION; B - ELASTOMERIC TYPE INSULATION.

**DEMOLITION NOTES:**

- THE CONTRACTOR SHALL REMOVE OR ALTER AS NECESSARY ALL EXISTING PIPING, EQUIPMENT, EQUIPMENT SUPPORTS, AND APPURTENANCES THAT ARE NOT REQUIRED FOR THE EXISTING SYSTEMS TO REMAIN. CONTRACTOR SHALL VISIT THE SITE TO DETERMINE THE SCOPE OF THIS WORK AND VERIFY EXISTING CONDITIONS PRIOR TO SUBMITTING BIDS.
- EXISTING EQUIPMENT SHALL BE TURNED OVER TO THE OWNER, UNLESS DIRECTED OTHERWISE AND LOCATED AS DIRECTED BY THE OWNER. ALL OTHER ITEMS TO BE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND REMOVED FROM THE PREMISES.
- INSULATION ON EXISTING PIPING THAT IS DAMAGED OR REMOVED DUE TO THE DEMOLITION WORK SHALL BE REPLACED AND SEALED AS REQUIRED.



**EQUIPMENT NOTES:**

VARIABLE REFRIGERANT FLOW HEAT PUMP INDOOR UNITS: PANASONIC

MARK	REFRIGERANT	RATED COOLING CAPACITY, MBH	HEATING CAPACITY @ 47° F, MBH	INDOOR UNIT							
				AIRFLOW, CFM	OUTDOOR AIRFLOW, CFM	CONFIGURATION	ELECTRICAL (V/Hz/PH)	UNIT MCA	UNIT MOP	MODEL	ESTIMATED WEIGHT (LBS)
AHU-3	R-410A	60.0	48.0	1800	620	DUCTED	208/230/60/1	9.5	15	MVA60FBAS6HBCP	290
AHU-4	R-410A	60.0	48.0	1800	620	DUCTED	208/230/60/1	9.5	15	MVA60FBAS6HBCP	290
AHU-5	R-410A	36.0	40.0	1000	110	DUCTED	208/230/60/1	4.5	15	MVA36FBAS6HBCP	190

REMARKS:

- COOLING AND HEATING CAPACITIES BASED ON AHRI RATED CONDITIONS.
- PROVIDE WITH 7-DAY PROGRAMMABLE THERMOSTAT. VERIFY LOCATION WITH OWNER PRIOR TO ROUGH-IN.
- SECONDARY DRAIN PAN SHALL BE FIELD PROVIDED AND INSTALLED UNDER COIL, CABINET ENCLOSURE. PROVIDE CONDENSATE OVERFLOW SWITCH INTERLOCKED WITH UNIT.
- SIZE AND INSTALL REFRIGERANT PIPING PER MANUFACTURER'S INSTRUCTIONS.

VARIABLE REFRIGERANT FLOW HEAT PUMP OUTDOOR UNIT: PANASONIC

MARK	REFRIGERANT	RATED COOLING CAPACITY, MBH	EFFICIENCY (EER)	HEATING CAPACITY @ 47° F, MBH	OUTDOOR UNIT				
					ELECTRICAL (V/Hz/PH)	UNIT MCA	UNIT MOP	MODEL	ESTIMATED WEIGHT (LBS)
OU-1	R-410A	192.0	10.6	216.0	208/230/60/1	38 + 38	60 + 60	WU-192ME2U9	225

REMARKS:

- COOLING AND HEATING CAPACITIES BASED ON AHRI RATED CONDITIONS.
- PROVIDE WITH 7-DAY PROGRAMMABLE THERMOSTAT. VERIFY LOCATION WITH OWNER PRIOR TO ROUGH-IN.
- SIZE AND INSTALL REFRIGERANT PIPING PER MANUFACTURER'S INSTRUCTIONS.

**L P A**

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REVISION	DATE

**CLARKE COUNTY COURTHOUSE**  
HVAC REPLACEMENT  
BERRYVILLE, VIRGINIA

**HVAC LEGEND, NOTES, SPECIFICATIONS AND DETAILS**

DESIGNED: PMH  
DRAWN: PMH

CHECKED: RCH  
APPROVED: LPA

COMM. NO.: 19121  
DATE: XX-XX-XX

SHEET: **M-1**

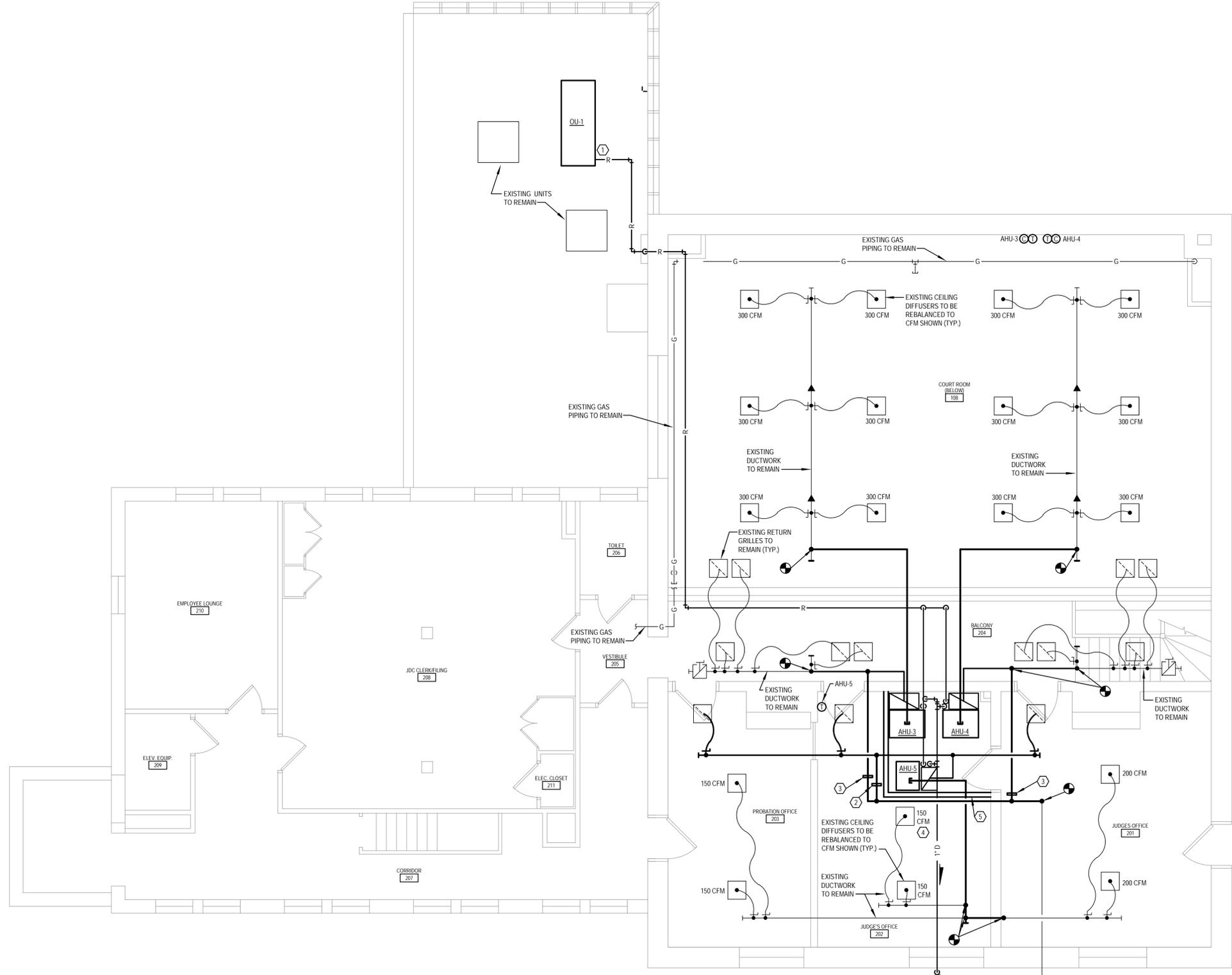


REVISION	DATE

**CLARKE COUNTY COURTHOUSE  
 HVAC REPLACEMENT  
 BERRYVILLE, VIRGINIA**

**SECOND FLOOR PLAN - HVAC NEW WORK**

DESIGNED PMH	DRAWN PMH
CHECKED RCH	APPROVED LPA
COMM. NO. 19121	DATE XX-XX-XX
SHEET <b>M-2</b>	

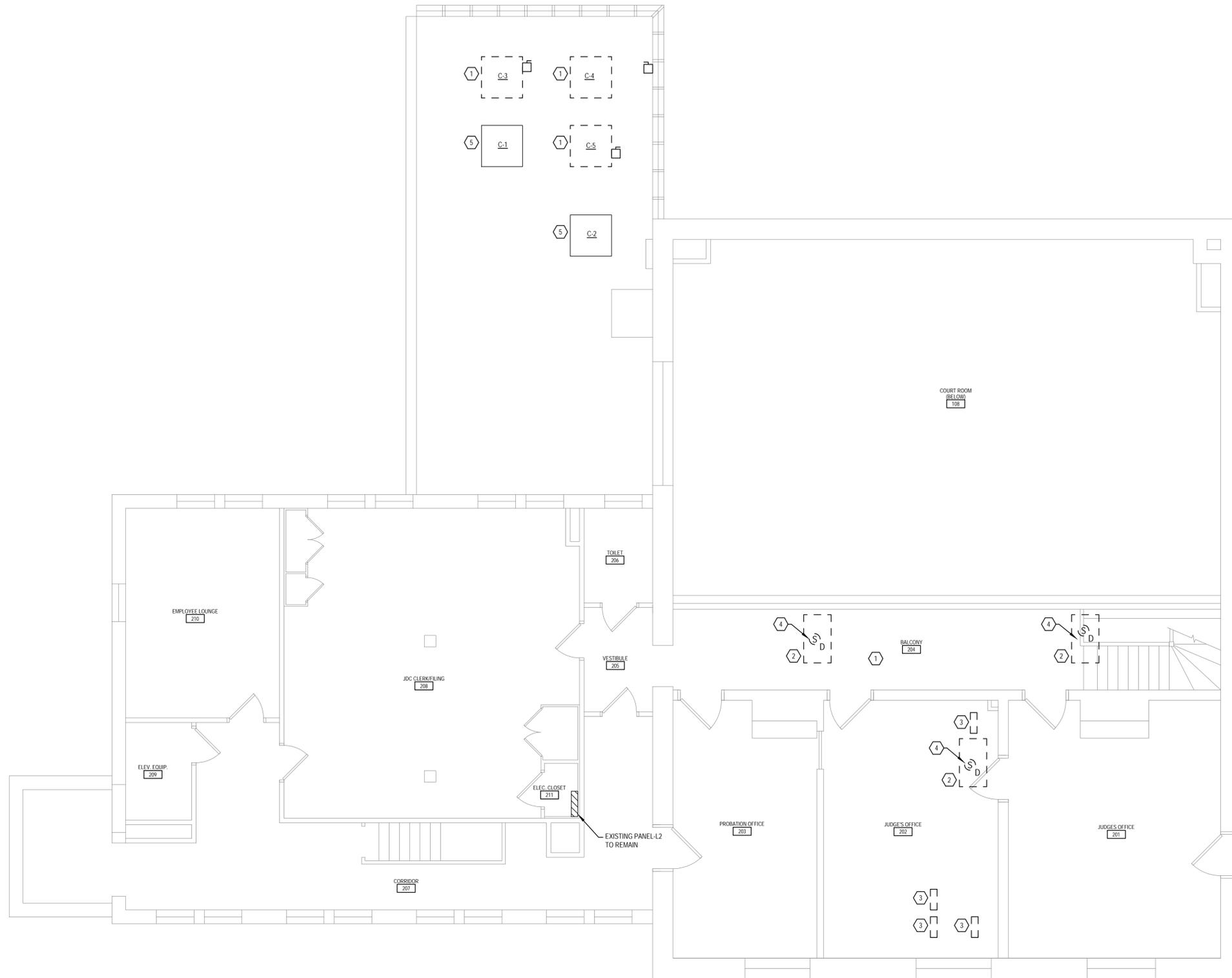


**PARTIAL SECOND FLOOR PLAN - HVAC NEW WORK**  
 SCALE: 1/4" = 1'-0"

**PLAN NOTES:**

1. MOUNT AND SECURE NEW OUTDOOR UNIT TO EXISTING EQUIPMENT PAD ON ROOF. ROUTE REFRIGERANT PIPING TO INDOOR UNIT, SIZED AND INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
2. PROVIDE NEW MOTORIZED DAMPER IN OUTDOOR AIR DUCTWORK. DAMPER OPERATION SHALL BE INTERLOCKED WITH UNIT AS SPECIFIED IN SEQUENCE OF CONTROL.
3. PROVIDE NEW MOTORIZED DAMPER IN OUTDOOR AIR DUCTWORK TO MODULATE BASED ON CARBON DIOXIDE SENSOR IN COURTROOM 108.
4. RELOCATED DIFFUSER
5. NEW WALL, 12" TYPE X GWB BOTH SIDES WITH 3-5/8" METAL STUDS, PAINT, BASE, AND TRIM TO MATCH EXISTING.





**PLAN NOTES:** ○

1. EXISTING CU TO BE DEMOLISHED. ALL ASSOCIATED WIRE AND ACCESSIBLE CONDUIT SHALL BE REMOVED BACK TO PANEL AND MADE SAFE.
2. EXISTING AHU TO BE DEMOLISHED. ALL ASSOCIATED WIRE AND ACCESSIBLE CONDUIT SHALL BE REMOVED BACK TO PANEL AND MADE SAFE.
3. EXISTING MOTORIZED DAMPER TO BE DEMOLISHED. ALL ASSOCIATED WIRE AND ACCESSIBLE CONDUIT SHALL BE REMOVED BACK TO PANEL AND MADE SAFE.
4. EXISTING DUCT SMOKE DETECTOR TO BE REMOVED AND RETAINED FOR NEW INSTALLATION. SEE NEW WORK PLAN SHEET E2.0. MAINTAIN CONTINUITY OF EXISTING FIRE ALARM SYSTEM THROUGHOUT CONSTRUCTION/RENOVATION.
5. CONDENSING UNIT TO REMAIN AND REMAIN OPERABLE.

**PARTIAL SECOND FLOOR PLAN - ELECTRICAL DEMOLITION**

SCALE: 1/4" = 1'-0"



REVISION	DATE

CLARKE COUNTY COURTHOUSE  
 HVAC REPLACEMENT  
 BERRYVILLE, VIRGINIA  
 PARTIAL SECOND FLOOR PLAN - DEMO - ELECTRICAL

DESIGNED WDC	DRAWN CAD
CHECKED WAM	APPROVED LPA
COMM. NO. 19121	DATE XX-XX-XX

SHEET  
**ED-1.0**

ELECTRICAL LEGEND		
MTG. HGT.	SYMBOL	DESCRIPTION
		PLAN NOTE DESIGNATION.
		REVISION DESIGNATION.
1'-4" TO BOT		RECEPTACLE, DUPLEX, WALL. ALPHA-NUMERIC OR NUMERIC SUBSCRIPT, WHERE SHOWN, INDICATES CIRCUIT. (TYPICAL FOR ALL RECEPTACLES)
1'-4" TO BOT		RECEPTACLE, DUPLEX GFCI, WALL.
1'-4" TO BOT, UNO		JUNCTION BOX, WALL.
		JUNCTION BOX, CEILING.
6'-0"		208/120 VOLT PANELBOARD.
5'-0"		NON-FUSIBLE SAFETY SWITCH, WALL OR EQUIPMENT MOUNTED. NUMBER INDICATES NON-FUSED/3-POLE/60 AMP RATING.
5'-0"		FUSIBLE SAFETY SWITCH, WALL OR EQUIPMENT MOUNTED. NUMBER INDICATES FUSED/3-POLE/60 AMP RATING/45 AMP FUSES.
	2HB1-24	CIRCUIT DESIGNATION. DESIGNATION SHOWN INDICATES PANEL 2HB1 AND CIRCUIT NUMBER 24.
		CONDUIT CONCEALED IN WALL OR ABOVE CEILING.

**NOTES (ELECTRICAL LEGEND):**

- THESE ARE STANDARD ELECTRICAL SYMBOLS AND MAY NOT ALL APPEAR ON THE PROJECT DRAWINGS. HOWEVER, WHEREVER AN ELECTRICAL SYMBOL APPEARS ON THE PROJECT DRAWINGS, THE ITEM SHALL BE FURNISHED AND INSTALLED.
- MOUNTING HEIGHTS ARE FROM FINISHED FLOOR TO TOP OF OUTLET OR EQUIPMENT, UNO, WHERE THE MOUNTING HEIGHT INDICATED ON THE DRAWINGS IS DIFFERENT FROM THE LEGEND, THE DRAWING TAKES PRECEDENT. SEE DRAWINGS FOR MOUNTING HEIGHTS NOT INDICATED IN THE LEGEND.
- SEE ELECTRICAL ABBREVIATIONS FOR ALPHABETIC SUBSCRIPT WITH SYMBOL, UNO.

ELECTRICAL ABBREVIATIONS			
A OR AMP	AMPERE	INC	INCANDESCENT
ABD	ABANDONED	INIT	INITIAL
ABV	ABOVE	JB	JUNCTION BOX
AC	ALTERNATING CURRENT	KCMIL	THOUSAND CIRCULAR MILS
ACB	ABOVE COUNTER BACKSPASH	KO	KNOCKOUT
AF OR AFI	ARC FAULT INTERRUPTER	KV	KILOVOLT
AFD	ADJUSTABLE FREQUENCY DRIVE	KVA	KILOVOLT-AMPERE
AFV	ABOVE FINISHED FLOOR	KVAR	KILOVOLT-AMPERE REACTIVE
AIC	AMPERES INTERRUPTING CAPACITY	KW	KILOWATT
AIP	ABANDONED IN PLACE	KWH	KILOWATT-HOUR
AL	ALUMINUM	LA	LIGHTNING ARRESTER
AM	AMMETER	LED	LIGHT EMITTING DIODE
AMPL	AMPLIFIER	LPS	LOW PRESSURE SODIUM
ASVM	ASYMMETRICAL	LRP	LIGHTING RELAY PANEL
ATS	AUTOMATIC TRANSFER SWITCH	LTG	LIGHTING
AWG	AMERICAN WIRE GAGE	LUM	LUMENS OR LUMINAIRE
BAS	BUILDING AUTOMATION SYSTEM	MAG	MAGNETIC
BEL	BELOW	MAN	MANUAL
BD	BUS DUCT	MATV	MASTER ANTENNA TELEVISION
BOT	BOTTOM	MCA	MINIMUM CIRCUIT AMPACITY
BRKR	BREAKER	MCB	MAIN CIRCUIT BREAKER
C	COUNTERTOP	MCC	MOTOR CONTROL CENTER
CA	CABLE	MCM	THOUSAND CIRCULAR MILS
CAB	CABINET	MDF	MAIN DISTRIBUTION FRAME
CATV	CABLE TV	MG	MOTORGENERATOR
CB	CIRCUIT BREAKER	MOD	METAL HALIDE OR MOUNTING HEIGHT
CCTV	CLOSED CIRCUIT TELEVISION	MIN	MINIMUM
CF	COMPACT FLUORESCENT	MLO	MAIN LUGS ONLY
CKT	CIRCUIT	MMS	MANUAL MOTOR STARTER
CLG	CEILING	MNS	MASS NOTIFICATION SYSTEM
CND	CONDUIT	MOC	MAXIMUM OVER CURRENT PROTECTION
CONTR	CENTER	MOD	MOTOR OPERATED DAMPER
COMB	COMBINATION	MOT	MOTOR
COND	CONDUCTOR	MS	MAGNETIC STARTER
CONN	CONNECTION	MTG	MOUNTED OR MOUNTING
CONT	CONTACTOR	MTR	METER
CR	CORROSION RESISTANT	MV	MERCURY VAPOR
CT	CURRENT TRANSFORMER	N OR NORM	NORMAL
CTRL	CONTROL	NEC	NATIONAL ELECTRICAL CODE
CU	COPPER	NEUT	NEUTRAL
CW	COLD WATER	NFSS	NON-FUSIBLE SAFETY SWITCH
DB	DOOR BELL	NL	NIGHT LIGHT
DC	DIRECT CURRENT	NO	NUMBER
DIM	DIMENSION	OH	OVERHEAD
DISC	DISCONNECT	P	POLE
DR	DOOR RELEASE SERVICE	PB	PULL BOX OR PUSHBUTTON
DS	DOOR SWITCH	PBS	PUSHBUTTON STATION
DWG	DRAWING	PH	PHASE
E OR EMER	EMERGENCY	PNL	PANEL OR PANELBOARD
EC	EMPTY CONDUIT	PNLBRD	PANELBOARD
ECNC	EXIST CND AND NEW CONDS	PRI	PRIMARY
EGC	EQUIPMENT GROUNDING CONDUCTOR	PT	POTENTIAL TRANSFORMER
EL	EXIST RELOCATED TO THIS LOCATION	PVC	POLYVINYL CHLORIDE
ELEC	ELECTRIC OR ELECTRICAL	PWR	POWER
ELEV	ELEVATOR	QTY	QUANTITY
EM	EXIST REMOVED	RB	RELAY BASE
EML	EXIST REMOVED AND RELOCATED	REC	RECEPTACLE
EML	EXIST REMOVED AND NEW INSTALLED	REFRIG	REFRIGERATOR
EMT	ELECTRICAL METALLIC TUBING	RGS	RIGID GALVANIZED STEEL CONDUIT
ENCL	ENCLOSURE	S/O	SPACE ONLY
ENG	ENGINE	SB	SOUNDER BASE
EP	EXPLOSIONPROOF	SCCR	SHORT CIRCUIT CURRENT RATING
EQUIP	EQUIPMENT	SEC	SECONDARY
ER	EXIST TO REMAIN	SL	SINGLE STATION
ERC	ELEVATOR RECALL	SMD	MOTOR OPERATED SMOKE DAMPER
EWG	ELECTRIC WATER COOLER	SMR	SURFACE METAL RACEWAY
EXIST	EXISTING	SN	SOLID NEUTRAL
EXT	EXTERIOR	SP	SPECIAL PURPOSE
FA	FIRE ALARM	SPD	SURGE PROTECTIVE DEVICE
FACP	FIRE ALARM CONTROL PANEL	SPKR	SPEAKER
FACU	FIRE ALARM CONTROL UNIT	SR	SURFACE RACEWAY
FDR	FEEDER	SS	SURGE SUPPRESSOR
FC	FOOTCANDLE	STR	STARTER
FLUOR	FLUORESCENT	SW	SWITCH
FSD	FIRE/SMOKE DAMPER	SWBD	SWITCHBOARD
FSS	FUSIBLE SAFETY SWITCH	SWGR	SWITCHGEAR
FXTR	FIXTURE	SYM	SYMMETRICAL
G	RECEPTACLE GUARD	T	TAMPER RESISTANT
GD	GARAGE DOOR	TC	TIME CLOCK
GEC	GROUNDING ELECTRODE CONDUCTOR	TEL	TELEPHONE
GEN	GENERATOR	TV	TELEVISION
GF,GFI,GFCI	GROUND FAULT CIRCUIT INTERRUPTER	TYP	TYPICAL
GFP	GROUND FAULT PROTECTION/PROTECTED	U	USB CHARGER
GND	GROUND	UC	UNDERCOUNTER
GTD	GENERATOR TRANSFER DEVICE	UF	UNDERFLOOR
H OR HOR	HORIZONTAL	UG	UNDERGROUND
HG	HOSPITAL GRADE	UL	UNDERWRITERS' LABORATORIES
HGT	HEIGHT	UNO	UNLESS NOTED OTHERWISE
HID	HIGH INTENSITY DISCHARGE	V	VOLT
HOA	HAND-OFF-AUTOMATIC	VA	VOLT-AMPERE
HP	HORSEPOWER OR HEAT PUMP	VAR	VOLT-AMPERE REACTIVE
HPF	HIGH POWER FACTOR	VERT	VERTICAL
HPS	HIGH PRESSURE SODIUM	VFD	VARIABLE FREQUENCY DRIVE
HTR	HEATER	VM	VOLTMETER
HW	HOT WATER	W	WATT OR WIRE
HZ	HERTZ	WG	WIRE GUARD
IC	INTERCOM OR INTERRUPTING CAPACITY	WP	WEATHERPROOF
IDF	INTERMEDIATE DISTRIBUTION FRAME	XFER	TRANSFER
IG	ISOLATED GROUND	XFMR	TRANSFORMER
IMC	INTERMEDIATE METAL CONDUIT		

**NOTE (ELECTRICAL ABBREVIATIONS):**

- ALL ABBREVIATIONS LISTED MAY NOT APPLY TO THIS PROJECT. REFER TO OTHER ABBREVIATION LISTS ELSEWHERE IN THESE DOCUMENTS FOR ABBREVIATIONS NOT LISTED HERE.



REVISION	DATE

CLARKE COUNTY COURTHOUSE  
HVAC REPLACEMENT  
BERRYVILLE, VIRGINIA

LEGEND AND ABBREVIATIONS - ELECTRICAL

DESIGNED BJM	DRAWN BJM
CHECKED WAM	APPROVED WAM
COMM. NO. 19121	DATE XX-XX-XX
SHEET <b>E-1.0</b>	

**ELECTRICAL SPECIFICATIONS:**

- SCOPE OF WORK:** PROVIDE SUPERVISION, LABOR, MATERIAL, EQUIPMENT, MACHINERY, PLANT AND OTHER ITEMS NECESSARY FOR A COMPLETE AND OPERABLE ELECTRICAL SYSTEM.

WHERE VARIANCES OCCUR BETWEEN DRAWINGS AND SPECIFICATIONS OR WITHIN EITHER DOCUMENT ITSELF, INCLUDE IN THE CONTRACT PRICE THE ITEM OR ARRANGEMENT OF BETTER QUALITY, GREATER QUANTITY, OR HIGHER COST.

- STANDARDS AND CODES:** THE MATERIALS AND EQUIPMENT SHALL BE NEW AND LISTED BY UNDERWRITERS LABORATORIES, INC. THE INSTALLATION SHALL BE IN ACCORDANCE WITH THE 2015 VIRGINIA UNIFORM STATEWIDE BUILDING CODE (USBC); THE 2015 INTERNATIONAL BUILDING CODE (IBC) AS ADOPTED AND MODIFIED BY THE 2015 USBC; THE 2015 NFPA-70 (NATIONAL ELECTRICAL CODE, OR NEC); THE 2015 NFPA-72 (NATIONAL FIRE ALARM AND SIGNALING CODE); AND OTHER RELATED CODES AND STANDARDS. THE COMPLETED INSTALLATION SHALL COMPLY WITH THE ADAAG "AMERICAN WITH DISABILITIES ACT GUIDELINES FOR BUILDINGS AND FACILITIES". WORKMANSHIP SHALL MEET THE "STANDARDS OF INSTALLATION" AS PUBLISHED BY THE NATIONAL ELECTRICAL CONTRACTORS ASSOCIATION (NECA).

- PERMITS AND FEES:** OBTAIN PERMITS, BONDS, LICENSES AND INSPECTION CERTIFICATES, PAY INSPECTION FEES AND TAXES. FILE PLANS AND PREPARE DOCUMENTS REQUIRED TO OBTAIN APPROVALS OF GOVERNMENTAL DEPARTMENTS HAVING JURISDICTION.

- CONDUIT:** PROVIDE SCHEDULE 40 PVC CONDUIT UNDERGROUND AND IN CONCRETE SLABS. PROVIDE RIGS OR IMC WHERE EXTERIOR ABOVE GRADE. WHERE NOT EXTERIOR OR UNDERGROUND OR IN CONCRETE SLABS, PROVIDE ELECTRICAL METALLIC TUBING (EMT) FOR EMPTY CONDUIT RUNS AND STUB-UPS, BRANCH CIRCUITS AND PANEL FEEDERS; ALL CONDUIT STUBS SHALL HAVE BUSHINGS. SCHEDULE 40 PVC CONDUIT MAY BE RUN FROM CONCRETE SLAB UP TO FIRST OUTLET (BUT NOT BEYOND FIRST OUTLET) ONLY IF CONDUIT IS CONCEALED IN STUD OR CMU WALL AND IF FIRST OUTLET IS NO MORE THAN 48" AFF. PROVIDE GALVANIZED SINGLE STRIP FLEXIBLE CONDUIT, MINIMUM 18" LONG, FOR MOTOR CONNECTIONS. USE PVC JACKETED FLEXIBLE LIQUID TIGHT CONDUIT TYPE UA FOR MOTOR CONNECTIONS IN WET LOCATIONS. CONDUIT SHALL BE MINIMUM 3/4" SUPPORT CONDUIT AS REQUIRED BY THE NEC. FOR ROOF DECKING APPLICATIONS, FOLLOW REQUIREMENTS OF NEC 300.4(E). EXPANSION/DEFLECTION FITTINGS SHALL BE PROVIDED WHERE REQUIRED PER NEC 300.4(H). FOR UNDERGROUND CONDUIT, PROVIDE SEALS WHERE REQUIRED PER NEC 225.27 AND 300.5(G). UNDERGROUND CONDUIT SHALL BE MINIMUM 24" BELOW FINISHED GRADE TO TOP OF CONDUIT, UNLESS NOTED OTHERWISE. FITTINGS SHALL NOT BE CAST POT METAL.

ALL CONDUITS PASSING THROUGH RATED WALLS OR CEILINGS SHALL BE SLEEVED AND PACKED WITH U.L. LISTED SEALANT TO MAINTAIN RATING.

TYPE AC, MC AND NMC CABLE ARE NOT ALLOWED.

- JUNCTION, OUTLET AND PULL BOXES:** PROVIDE JUNCTION, OUTLET AND PULL BOXES FOR WIRING DEVICES, FIXTURES, CONNECTIONS TO EQUIPMENT AND AS REQUIRED BY THE NEC. BOXES SHALL BE STEEL UNLESS REQUIRED OTHERWISE BY ENVIRONMENT.

- HANGERS AND SUPPORTS:** PROVIDE ALL HANGERS, SUPPORTS, ANCHORS, SLEEVES AND SEALS AS REQUIRED BY THE NEC.

- WIRING:** PROVIDE COPPER CONDUCTORS, XHHW OR XHHW-2 OR THHN OR THWN-2, 600 VOLT, 90 DEGREE C RATED. WIRING SHALL BE COLOR-CODED TO IDENTIFY PHASES, NEUTRAL AND GROUND. MATCH EXISTING BUILDING WIRING COLOR-CODING. NUMBER 12 AWG SHALL BE THE SMALLEST SIZE WIRE USED FOR POWER AND LIGHTING. FOR 120-VOLT 15 AMP AND 20 AMP BRANCH CIRCUITS, USE MINIMUM 12 AWG UP TO 40 FEET, 10 AWG FOR 41-95 FEET, 8 AWG FOR 96-155 FEET AND 6 AWG FOR BRANCH CIRCUITS LONGER THAN 155 FEET. CONDUCTORS SHALL BE SAME SIZE FOR ENTIRE LENGTH OF RUN, EXCEPT IF ALL OUTLETS ARE IN THE SAME ROOM (1200 SQUARE FEET OR LESS) THE OVERSIZED CONDUCTORS MAY BE RUN ONLY TO THE FIRST OUTLET. CONDUCTORS 8 AWG AND LARGER SHALL BE STRANDED; CONDUCTORS 10 AWG AND SMALLER SHALL BE SOLID. WIRING SHALL BE RUN CONCEALED, EXCEPT WHERE INDICATED OTHERWISE ON THE DRAWINGS. DO NOT INSTALL A SHARED NEUTRAL ON ANY CIRCUIT. ALL TERMINATIONS SHALL BE 75 DEGREES C.

- GROUNDING AND BONDING:** PROVIDE AN EQUIPMENT GROUNDING SYSTEM INSTALLED TO METALLIC STRUCTURES, ENCLOSURES, RACEWAYS, JUNCTION BOXES, OUTLET BOXES, PULL BOXES, CABINETS, MACHINE FRAMES, PORTABLE EQUIPMENT AND OTHER CONDUCTIVE ITEMS IN CLOSE PROXIMITY TO ELECTRICAL CIRCUITS. ALL BRANCH AND FEEDER CIRCUITS SHALL INCLUDE A GREEN GROUNDING CONDUCTOR.

- IDENTIFICATION:** IDENTIFY CABLES/CONDUCTORS, INCLUDING VOLTAGE, PHASE AND FEEDER OR CIRCUIT NUMBER, ON EACH CABLE/CONDUCTOR IN EACH BOX/ENCLOSURE/CABINET WHERE WIRES OF MORE THAN ONE CIRCUIT OR COMMUNICATIONS/SIGNAL SYSTEM ARE PRESENT. PROVIDE A DANGER SIGN WHEREVER IT IS POSSIBLE FOR PERSONS TO COME INTO CONTACT WITH A VOLTAGE HIGHER THAN 120 VOLTS, AS WELL AS ON CRITICAL SWITCHES AND CONTROLS WHERE UNTIMELY OPERATION COULD BE A SAFETY HAZARD. PROVIDE AN ENGRAVED PLASTIC-LAMINATE LABEL ON EACH MAJOR UNIT OF ELECTRICAL EQUIPMENT, INCLUDING BUT NOT LIMITED TO: PANELBOARDS, CABINETS, ENCLOSURES, CONTACTORS AND ENCLOSED CIRCUIT BREAKERS. EQUIPMENT LABELS SHALL INCLUDE WHAT IS REQUIRED IN NEC 408.4(B).

- CONNECTIONS TO EQUIPMENT:** MAKE FINAL ELECTRICAL POWER CONNECTIONS TO MECHANICAL EQUIPMENT. PROVIDE CONDUITS, OUTLET BOXES AND POWER WIRING FROM THE POWER SOURCE TO THE MOTOR OR EQUIPMENT JUNCTION BOX, INCLUDING WIRING THROUGH STARTERS OR SAFETY SWITCHES, IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.

- FUSES (SHOP DRAWINGS REQUIRED):** FUSES SHALL BE CLASS RK5 DUAL ELEMENT TIME DELAY, WITH APPROPRIATE VOLTAGE. FURNISH 3 SPARE OF EACH TYPE. MANUFACTURER SHALL BE COOPER BUSSMANN, MERSEN OR LITTELFUS

- SAFETY SWITCHES (SHOP DRAWINGS REQUIRED):** PROVIDE SURFACE MOUNTED, HEAVY DUTY, HORSEPOWER-RATED, FUSIBLE OR NON-FUSIBLE AS INDICATED, SAFETY SWITCHES WITH LUGS SUITABLE FOR COPPER CONDUCTORS AND ELECTRO-SILVER PLATED CURRENT CARRYING PARTS, AND WITH EQUIPMENT GROUND BUS WITH APPROPRIATE LUGS. SWITCHES SHALL HAVE HINGED DOOR WITH DEFEATABLE INTERLOCK TO PREVENT DOOR FROM BEING OPENED IN "ON" POSITION; OPERATING LEVER ARRANGED FOR PADLOCKING IN THE "OFF" POSITION; ARC QUENCHERS; CAPACITY AND CHARACTERISTICS AS REQUIRED; NON-TEASABLE QUICK-MAKE AND QUICK-BREAK MECHANISM; DEAD FRONT; LINE SIDE SHIELD.

MANUFACTURER SHALL BE SQUARE D, GENERAL ELECTRIC, EATON OR SIEMENS.

- FIRE ALARM SYSTEM MODIFICATIONS (SHOP DRAWINGS REQUIRED):**

A. GENERAL:

RELOCATE EXISTING DUCT SMOKE DETECTORS AS INDICATED ON PLANS. THE BUILDING FIRE ALARM SYSTEM SHALL REMAIN FUNCTIONAL THROUGHOUT CONSTRUCTION.

**GENERAL NOTES:**

- ALL CONDUCTORS SHALL BE COPPER ONLY. NO SUBSTITUTIONS.
- LOAD SIDE CONDUCTOR AND CONDUIT SIZES FROM DISCONNECT SWITCHES AND STARTERS TO EQUIPMENT SHALL BE THE SAME AS LINE SIDE CONDUCTORS AND CONDUIT.
- CAREFULLY COORDINATE ALL ELECTRICAL EQUIPMENT LOCATIONS WITH DUCTWORK, PIPING AND MECHANICAL EQUIPMENT. MAINTAIN ALL CLEARANCES AND SPACES REQUIRED BY THE NEC.
- WHERE MULTIPLE CIRCUITS ARE COMBINED IN A SINGLE CONDUIT, DERATE CONDUCTORS PER THE NEC.
- SEE NEC FOR REQUIREMENTS REGARDING OVERSIZING CONDUCTORS FOR 1-POLE 15- AND 20-AMP CIRCUITS TO REDUCE VOLTAGE DROP - THESE OVERSIZING REQUIREMENTS TAKE PRECEDENCE OVER THE WIRE AND CONDUIT SIZES SHOWN IN THE PANEL SCHEDULES. OVERSIZED CONDUCTORS FOR VOLTAGE DROP ON OTHER CIRCUITS ARE INDICATED IN THE PANEL SCHEDULES.
- WHERE RE-USE OF EXISTING CONDUIT, WIRING AND/OR OUTLET BOXES IS INDICATED, ALSO PROVIDE NEW MATERIALS IF NECESSARY. IF NEW EXPOSED MATERIALS ARE NEEDED, USE SURFACE RACEWAY (SINGLE-CHANNEL EXCEPT WHERE SPECIFICALLY INDICATED OTHERWISE), EXCEPT EXPOSED CONDUIT AND BOXES MAY BE USED IN UNFINISHED AREAS (MECHANICAL/ELECTRICAL/IT ROOMS, STORAGE AND HOUSEKEEPING CLOSETS, ETC.).
- PROVIDE SHALLOW BOXES FOR NEW DEVICES IN FURRED WALLS. COORDINATE DEPTH WITH ARCHITECTURAL.
- FOR ALL EXISTING OUTLET BOXES THAT ARE NOT BEING REUSED, PROVIDE BLANK COVER PLATE TO MATCH NEW WALL PLATES IN THAT AREA.
- SEE ARCHITECTURAL DRAWINGS FOR RATED WALL, FLOOR AND CEILING CONSTRUCTION, AND PROVIDE NECESSARY RATED DEVICES AND FIRE SEALANT FOR PENETRATIONS. WHERE NEW DEVICES ARE SHOWN RECESSED IN RATED PARTITIONS, CAREFULLY COORDINATE LOCATIONS AND OFFSETS.
- MODIFY EXISTING PANEL SCHEDULES TO ACCURATELY REFLECT ALL CHANGES MADE AS PART OF THIS CONTRACT. ALL NEW BREAKERS IN EXISTING PANELS SHALL MATCH EXISTING AIC. PROVIDE NEW "TYPED" AS-BUILT PANEL SCHEDULES, HANDWRITTEN PANEL SCHEDULES WILL NOT BE ACCEPTED
- THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO SUBMITTING BID IN ORDER TO VERIFY ALL EXISTING CONDITIONS, TO DETERMINE THE FULL EXTENT OF DEMOLITION WORK REQUIRED, AND TO DETERMINE THE FULL EXTENT OF RELOCATION AND MODIFICATION WORK REQUIRED FOR ELECTRICAL WORK (DUE TO OTHER DISCIPLINES INTERFERING OR ANY OTHER REASON). EXISTING SPACE IS TIGHT IN MANY AREAS (PARTICULARLY ABOVE CEILINGS) AND THE CONTRACTOR SHALL BE FULLY RESPONSIBLE TO COORDINATE ALL ELECTRICAL WORK WITH BOTH NEW AND EXISTING PIPING, DUCTWORK, CONDUIT, ETC. NO CHANGE ORDERS WILL BE APPROVED FOR ADDITIONAL WORK DUE TO THE CONTRACTOR NEGLECTING TO VISIT THE SITE AND GATHER ALL NECESSARY INFORMATION.

**GENERAL DEMOLITION NOTES:**

- SCOPE:** THE SCOPE OF ELECTRICAL DEMOLITION IS DEFINED IN THE FOLLOWING NOTES AND IN LIMITED FASHION ON THE DRAWINGS. THE DRAWINGS ARE ONLY INTENDED TO BE A PARTIAL REPRESENTATION OF THE ACTUAL DEMOLITION WORK REQUIRED. THESE NOTES ONLY APPLY TO THE AREAS OF RENOVATION, AND NOT THE SURROUNDING ROOMS/SPACES WHICH IS NOT PART OF THE RENOVATION SCOPE. IN GENERAL, THE DEMOLITION SCOPE IS THE REMOVAL OF ALL EXISTING ELECTRICAL SYSTEMS IN THE AREAS OF RENOVATION, EXCEPT AS NOTED OTHERWISE IN THESE NOTES AND ON THE DRAWINGS.
- ELECTRICAL SERVICE:** THE EXISTING ELECTRICAL SERVICE SHALL BE RE-USED, BUT SOME DOWNTIME WILL LIKELY STILL BE REQUIRED. ALL ELECTRICAL SERVICE DOWNTIME REQUIRED SHALL BE COORDINATED WITH OWNER AND SHALL BE AT THE OWNER'S CONVENIENCE. DOWNTIME SHALL BE KEPT TO THE MINIMUM. ALL EXTENDED DOWNTIME REQUIRED SHALL BE COORDINATED WITH OWNER AND SHALL BE OUTSIDE OF NORMAL HOURS.
- PANELBOARDS:** ALL EXISTING PANELBOARDS TO REMAIN.
- CONDUIT:** WHERE EXISTING CONDUIT IS EXPOSED DUE TO DEMOLITION OF WALLS, CONDUIT AND CONDUCTORS SHALL BE REMOVED, UNLESS INDICATED TO REMAIN OR NECESSARY TO MAINTAIN SERVICE TO EXISTING ITEMS TO REMAIN. WHERE CONDUIT RISES FROM FLOOR TO FEED REMOVED ITEMS, CUT CONDUIT FLUSH WITH FLOOR AND FILL IT WITH GROUT. FINISH TO MATCH FLOOR SURFACE. ALL ACCESSIBLE UNUSED CONDUIT SHALL BE REMOVED. ALL INACCESSIBLE UNUSED CONDUIT SHALL BE ABANDONED. ALL CONDUIT TO NEW DEVICES AND EQUIPMENT SHALL BE NEW, UNLESS NOTED OTHERWISE.
- WIRING:** ALL WIRING TO DEMOLISHED DEVICES AND EQUIPMENT SHALL BE REMOVED, UNLESS NOTED OTHERWISE. ALL EXISTING WIRING TO EXISTING-TO-REMAIN DEVICES AND EQUIPMENT SHALL REMAIN, UNLESS NOTED OTHERWISE. ALL ACCESSIBLE UNUSED WIRING SHALL BE REMOVED; ALL INACCESSIBLE UNUSED WIRING SHALL BE ABANDONED. ALL WIRING TO NEW DEVICES AND EQUIPMENT SHALL BE NEW, UNLESS NOTED OTHERWISE.
- MAINTAIN CIRCUIT CONTINUITY AS NECESSARY IN ALL DEMOLITION WORK.
- THE CONTRACTOR SHALL INFORM THE OWNER'S REPRESENTATIVE OF ELECTRICAL EQUIPMENT REMOVED FROM THE BUILDING. IF THE OWNER DESIRES TO RETAIN EQUIPMENT, HE WILL REMOVE IT FROM THE SITE. ALL EQUIPMENT NOT RETAINED BY THE OWNER SHALL BECOME PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE. DISPOSAL OF ALL EQUIPMENT CONTAINING HAZARDOUS MATERIALS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, AND THE COST OF DISPOSAL SHALL BE INCLUDED.
- INFORMATION ON DEMOLITION DRAWINGS DOES NOT INDICATE ALL EXISTING EQUIPMENT AND DEVICES. REFER TO ARCHITECTURAL AND MECHANICAL DEMOLITION DRAWINGS FOR ADDITIONAL INFORMATION.
- THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO SUBMITTING BID AND SHALL VERIFY ALL DEMOLITION REQUIRED. ADDITIONAL COMPENSATION WILL NOT BE ALLOWED FOR DEMOLITION DUE TO CONTRACTOR NOT VISITING SITE AND DETERMINING FULL SCOPE OF DEMOLITION REQUIRED.
- SEE THE DEMOLITION FLOOR PLANS FOR ADDITIONAL DEMOLITION REQUIREMENTS. ON THE DEMOLITION FLOOR PLANS AND RISERS, ALL DASHED ITEMS SHALL BE REMOVED AND ALL SOLID ITEMS SHALL REMAIN, UNLESS NOTED OTHERWISE. SOME DEMOLITION ITEMS ARE AFFECTED BY ADD ALTERNATES, AS INDICATED IN THE FLOOR PLANS. NEW WORK FLOOR PLANS MAY CONTAIN ADDITIONAL DEMOLITION INFORMATION IN SOME LOCATIONS.

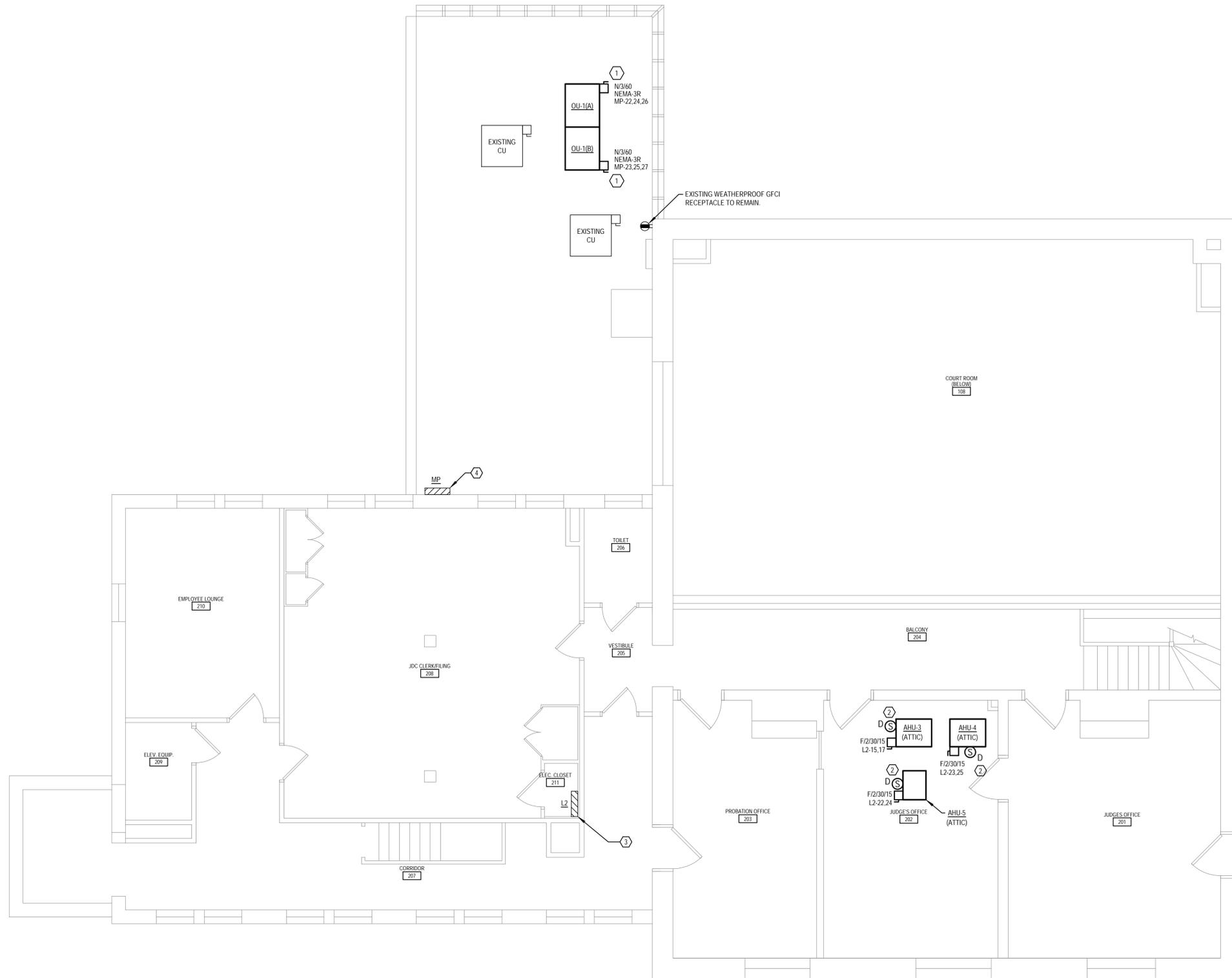


REVISION	DATE

**CLARKE COUNTY COURTHOUSE**  
**HVAC REPLACEMENT**  
BERRYVILLE, VIRGINIA

**SPECIFICATIONS**  
**ELECTRICAL**

DESIGNED BJM	DRAWN BJM
CHECKED WAM	APPROVED WAM
COMM. NO. 19121	DATE XX-XX-XX
SHEET <b>E-1.1</b>	



**PARTIAL SECOND FLOOR PLAN - NEW WORK - ELECTRICAL**

SCALE: 1/4" = 1'-0"

**PLAN NOTES:** ○

1. NEW OUTSIDE AIR UNIT, 203, 30, 40A. UNIT IS A SINGLE PIECE OF EQUIPMENT WITH TWO SECTIONS EACH REQUIRING A SEPERATE 60/3 POLE BREAKER.
2. REINSTALL EXISTING DUCT SMOKE DETECTOR. PROVIDE NEW SAMPLING TUBE WITH LENGTH AS REQUIRED. PROVIDE CONDUIT AND CONDUCTORS TO MATCH EXISTING AND RECONNECT.
3. EXISTING PANEL L2. PROVIDE A 2 POLE, 20A BREAKER FOR SPACES L2-15,17, 23,25 AND 22,24. PROVIDE NEW TYPE WRITTEN DIRECTORY FOR PANEL. SEE PANEL SCHEDULES SHEET E-4.0.
4. EXISTING PANEL MP LOCATED BELOW ON FIRST FLOOR. SEE PANEL SCHEDULES SHEET E-4.0.

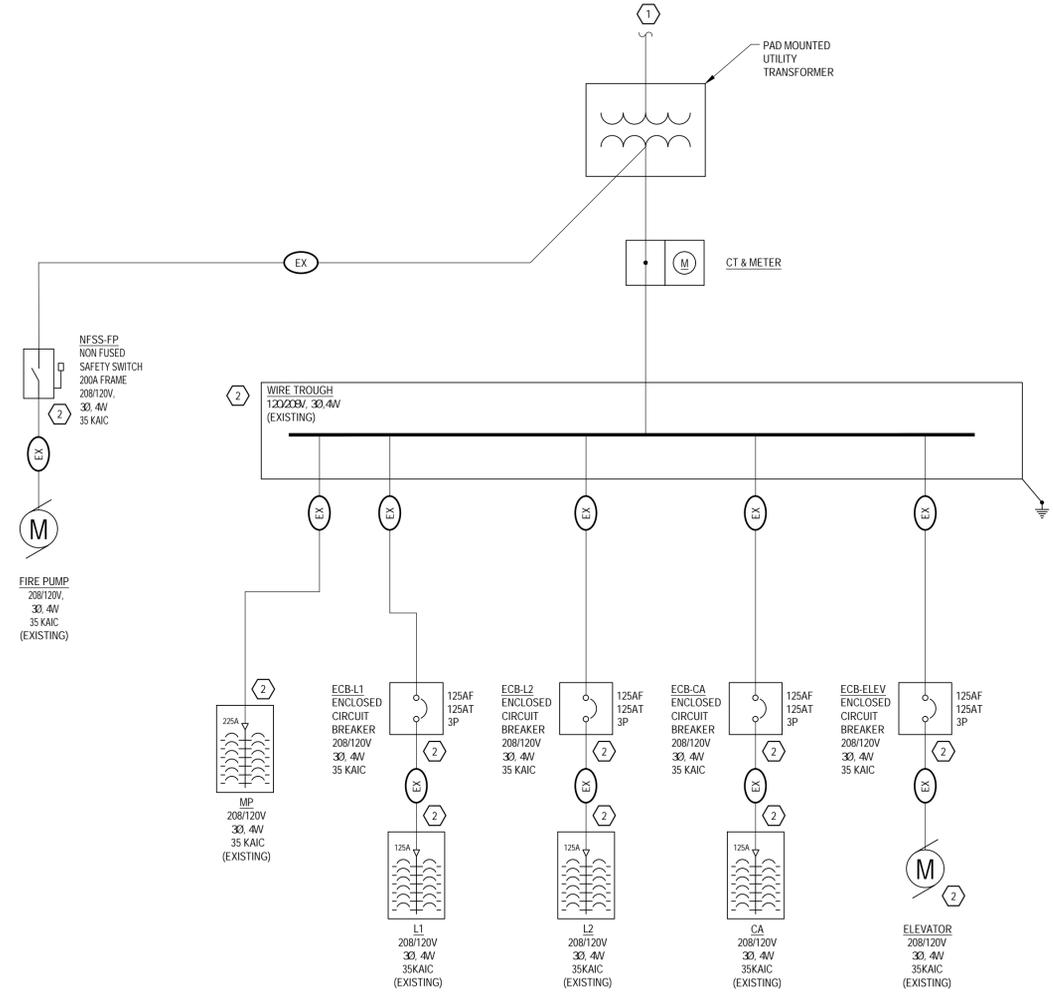


REVISION	DATE

**CLARKE COUNTY COURTHOUSE**  
**HVAC REPLACEMENT**  
 BERRYVILLE, VIRGINIA  
**PARTIAL SECOND FLOOR PLAN - NEW WORK - ELECTRICAL**

DESIGNED WDC	DRAWN CAD
CHECKED WAM	APPROVED LPA
COMM. NO. 19121	DATE XX-XX-XX

SHEET  
**E2.0**



**EXISTING ONE LINE DIAGRAM - ELECTRICAL**  
SCALE: NO SCALE

**COPPER FEEDER SIZING SCHEDULE**

SYMBOL	# OF SETS	CONDUCTORS (COPPER)	GND.	CONDUIT	CONDUIT (W/O NEUTRAL)	AMPS
100	1	4-#3	#8	1-1/4"	1-1/4"	100A
150	1	4-#10	#6	2"	1-1/2"	150A
200	1	4-#30	#6	2"	2"	200A
225	1	4-#40	#4	2-1/2"	2"	230A
250	1	4-250CMIL	#4	2-1/2"	2-1/2"	255A
300	1	4-350CMIL	#4	3"	3"	310A
350	1	4-500CMIL	#3	3"	3"	380A
400	2	4-#30	#3	TWO 2"	TWO 2"	400A
500	2	4-250CMIL	#2	TWO 3"	TWO 3"	510A
1600	4	4-600CMIL	#40	FOUR 4"	FOUR 4"	1680A
EX	EX.	EXISTING	EX.	EXISTING	EXISTING	EX.

+ WHERE THE FEEDER SYMBOL IS SHOWN WITH A SUBSCRIPT 'N', THE NEUTRAL CONDUCTOR SHALL BE DELETED FROM THE CONDUCTORS SHOWN IN THE FEEDER SCHEDULE.  
++ WHERE THE FEEDER SYMBOL IS SHOWN WITH A SUBSCRIPT 'IG', THE FEEDER SHALL BE PROVIDED WITH A SEPERATE ISOLATED GROUND CONDUCTOR SIZED TO MATCH THE EQUIPMENT GROUND.

**ONE LINE NOTES:** ○

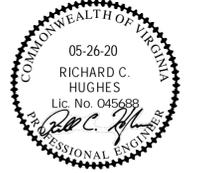
- TO UTILITY.
- EXISTING ELECTRICAL EQUIPMENT TO REMAIN AND REMAIN OPERABLE.



REVISION	DATE

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HVAC REPLACEMENT  
BERRYVILLE, VIRGINIA  
**EXISTING ONE LINE DIAGRAM - ELECTRICAL**

DESIGNED BJM	DRAWN BJM
CHECKED WAM	APPROVED WAM
COMM. NO. 19121	DATE XX-XX-XX
SHEET <b>E-3.0</b>	



REVISION	DATE

DESIGNED BJM	DRAWN BJM
CHECKED WAM	APPROVED WAM
COMM. NO. 19121	DATE XX-XX-XX
SHEET <b>E-4.0</b>	

PANEL MP (EXISTING)																						
VOLTAGE: 208Y/120V SYSTEM: 3PH, 4W SOLID NEUTRAL: YES						MAIN: 225A MLO BUS RATING: 225A GROUND BUS: YES						INTEGRAL SPD: NO MOUNTING: SURFACE INTERRUPT RATING: 22,000 AIC										
CKT	LOAD SERVED	BKR	PHASE	NEUT	GND	COND	DMD	L1	L2	L3	CKT	LOAD SERVED	BKR	PHASE	NEUT	GND	COND	DMD	L1	L2	L3	
1	LIGHTING BASEMENT	201	#12	#12	#12	1/2"	L	.7			2	PUMP P-2	201	#12	#12	#12	1/2"	A	1.2			
3	BOILER	201	#12	#12	#12	1/2"	N			3	4	HWP-1	201	#12	#12	#12	1/2"	A				1.2
5	LIGHTING	201	#12	#12	#12	1/2"	L				6	SPACE	-	-	-	-	-	-	-	-	-	-
7	F-1	402	#8	#8	#10	3/4"	N	3			8	C-1	202	#12	#12	#12	1/2"	A	1.3			
9	-	-	#8	-	-	-	N			3	10	-	-	#12	-	-	-	-	A			1.3
11	F-2	201	#12	#12	#12	1/2"	N			1.2	12	C-2	202	#12	#12	#12	1/2"	A				1.4
13	SPACE	-	-	-	-	-	-	-	-	-	14	-	-	#12	-	-	-	-	A	1.4		
15	WH	302	#10	#10	#10	1/2"	N			2.25	16	SPACE	-	-	-	-	-	-	-	-	-	-
17	-	-	#10	-	-	-	N			2.25	18	F-7	202	#12	#12	#12	1/2"	A				1.2
19	C-7	202	#12	#12	#12	1/2"	N	1.45			20	-	-	#12	-	-	-	-	A	1.2		
21	-	-	#12	-	-	-	N			1.45	22	OU-1(B)	603	#6	#6	#10	1"	-	-	-	-	4.56
23	OU-1(A)	603	#6	#6	#10	1"	-	-	-	4.56	24	-	-	#6	-	-	-	-	-	-	-	4.56
25	-	-	#6	-	-	-	-	-	-	4.56	26	-	-	#6	-	-	-	-	-	-	-	4.56
27	-	-	#6	-	-	-	-	-	-	4.56	28	C-6	602	#6	#6	#10	3/4"	A				3.75
29	SPACE	-	-	-	-	-	-	-	-	-	30	-	-	#6	-	-	-	-	A			3.75
31	RECEPTACLES	201	#12	#12	#12	1/2"	R	.6			32	SPACE	-	-	-	-	-	-	-	-	-	-
33	SPACE	-	-	-	-	-	-	-	-	-	34	SPACE	-	-	-	-	-	-	-	-	-	-
35	SPACE	-	-	-	-	-	-	-	-	-	36	SPACE	-	-	-	-	-	-	-	-	-	-
37	SPACE	-	-	-	-	-	-	-	-	-	38	SPACE	-	-	-	-	-	-	-	-	-	-
39	SPACE	-	-	-	-	-	-	-	-	-	40	SPACE	-	-	-	-	-	-	-	-	-	-
41	SPACE	-	-	-	-	-	-	-	-	-	42	SPACE	-	-	-	-	-	-	-	-	-	-
* = MODIFIED LOAD PER UNIT REPLACEMENT										PHASE LOAD TOTALS			19.97	22.37	19.42							

LOADS (KVA)	CONNECTED	DEMAND FACTOR	DEMAND	LOADS (KVA)	CONNECTED	DEMAND FACTOR	DEMAND
LIGHTING	1.2	1.25	1.5	KITCHEN EQUIPMENT	0	1.0	0
REC TO 10 KVA	6	1.0	6	CONTINUOUS	0	1.25	0
REC REMAINING	0	0.5	0	NON-CONTINUOUS	14.9	1.0	14.9
SPACE HEATING	0	0.0	0	DEMAND	0	1.0	0
AIR CONDITIONING	17.7	1.0	17.7	TOTAL CONNECTED LOAD	34.4	KVA	95.6
NON-SEASONAL MOTORS	0	1.0	0	MIN. FEEDER / PANEL CAPACITY	38.1	KVA	105.9
LARGEST MOTOR	13.68	0.25	3.42	OVERALL DEMAND FACTOR	1.11		
WATER HEATING	0	1.0	0				

PANEL CA (EXISTING)																						
VOLTAGE: 208Y/120V SYSTEM: 3PH, 4W SOLID NEUTRAL: YES						MAIN: 125A MCB BUS RATING: 125A GROUND BUS: YES						INTEGRAL SPD: NO MOUNTING: SURFACE INTERRUPT RATING: 10,000 AIC										
CKT	LOAD SERVED	BKR	PHASE	NEUT	GND	COND	DMD	L1	L2	L3	CKT	LOAD SERVED	BKR	PHASE	NEUT	GND	COND	DMD	L1	L2	L3	
1	EXISTING LOAD	201	#12	#12	#12	1/2"	N	1			2	EXISTING LOAD	201	#12	#12	#12	1/2"	N	1			
3	EXISTING LOAD	201	#12	#12	#12	1/2"	N			1	4	EXISTING LOAD	201	#12	#12	#12	1/2"	N				1
5	EXISTING LOAD	201	#12	#12	#12	1/2"	N			1	6	EXISTING LOAD	201	#12	#12	#12	1/2"	N				1
7	SPARE	201	-	-	-	-	A	-	-	-	8	SPARE	201	-	-	-	-	A	-	-	-	-
9	SPARE	201	-	-	-	-	A	-	-	-	10	SPARE	201	-	-	-	-	A	-	-	-	-
11	SPARE	201	-	-	-	-	A	-	-	-	12	SPARE	201	-	-	-	-	A	-	-	-	-
13	SPARE	201	-	-	-	-	A	-	-	-	14	SPARE	-	-	-	-	-	-	-	-	-	-
15	HEAT PUMP 1	302	#10	#10	#10	1/2"	A			2.25	16	HEAT PUMP 1	302	#10	#10	#10	1/2"	A			2.25	
17	-	-	#10	-	-	-	A			2.25	18	-	-	#10	-	-	-	-	A			2.25
* = MODIFIED LOAD PER UNIT REPLACEMENT										PHASE LOAD TOTALS			2	6.5	6.5							

LOADS (KVA)	CONNECTED	DEMAND FACTOR	DEMAND	LOADS (KVA)	CONNECTED	DEMAND FACTOR	DEMAND
LIGHTING	0	1.25	0	KITCHEN EQUIPMENT	0	1.0	0
REC TO 10 KVA	0	1.0	0	CONTINUOUS	0	1.25	0
REC REMAINING	0	0.5	0	NON-CONTINUOUS	6	1.0	6
SPACE HEATING	0	0.0	0	DEMAND	0	1.0	0
AIR CONDITIONING	9	1.0	9	TOTAL CONNECTED LOAD	15	KVA	41.7
NON-SEASONAL MOTORS	0	1.0	0	MIN. FEEDER / PANEL CAPACITY	15	KVA	41.7
LARGEST MOTOR	0	0.25	0	OVERALL DEMAND FACTOR	1.00		
WATER HEATING	0	1.0	0				

PANEL L1 (EXISTING)																						
VOLTAGE: 208Y/120V SYSTEM: 3PH, 4W SOLID NEUTRAL: YES						MAIN: 125A MCB BUS RATING: 125A GROUND BUS: YES						INTEGRAL SPD: NO MOUNTING: SURFACE INTERRUPT RATING: 10,000 AIC										
CKT	LOAD SERVED	BKR	PHASE	NEUT	GND	COND	DMD	L1	L2	L3	CKT	LOAD SERVED	BKR	PHASE	NEUT	GND	COND	DMD	L1	L2	L3	
1	LIGHTING	201	#12	#12	#12	1/2"	L	1			2	RECEPTACLES	201	#12	#12	#12	1/2"	R	.9			
3	LIGHTING	201	#12	#12	#12	1/2"	L			1	4	RECEPTACLES	201	#12	#12	#12	1/2"	R				1
5	LIGHTING	201	#12	#12	#12	1/2"	L				6	RECEPTACLES	201	#12	#12	#12	1/2"	R				1.6
7	LIGHTING	201	#12	#12	#12	1/2"	L	.3			8	RECEPTACLES	201	#12	#12	#12	1/2"	R	1.8			
9	LIGHTING	201	#12	#12	#12	1/2"	L			1.4	10	RECEPTACLES	201	#12	#12	#12	1/2"	R				1.3
11	LIGHTING	201	#12	#12	#12	1/2"	L			1.7	12	RECEPTACLES	201	#12	#12	#12	1/2"	R				.4
13	LIGHTING	201	#12	#12	#12	1/2"	L	.9			14	FIRE ALARM PANEL	201	#12	#12	#12	1/2"	N	.3			
15	LIGHTING	201	#12	#12	#12	1/2"	L			.1	16	ELEV CAB LIGHTS	201	#12	#12	#12	1/2"	L				.4
17	LIGHTING	201	#12	#12	#12	1/2"	L			.3	18	ELEV PIT LIGHT AND RECEP	201	#12	#12	#12	1/2"	N				.1
19	SPACE	-	-	-	-	-	-	-	-	-	20	SPACE	-	-	-	-	-	-	-	-	-	-
21	SPACE	-	-	-	-	-	-	-	-	-	22	SPACE	-	-	-	-	-	-	-	-	-	-
23	SPACE	-	-	-	-	-	-	-	-	-	24	SPACE	-	-	-	-	-	-	-	-	-	-
25	SPACE	-	-	-	-	-	-	-	-	-	26	SPACE	201	-	-	-	-	-	-	-	-	-
27	SPACE	-	-	-	-	-	-	-	-	-	28	SPACE	201	-	-	-	-	-	-	-	-	-
29	SPACE	-	-	-	-	-	-	-	-	-	30	SPACE	201	-	-	-	-	-	-	-	-	-
* = MODIFIED LOAD PER UNIT REPLACEMENT										PHASE LOAD TOTALS			5.2	5.2	5.1							

LOADS (KVA)	CONNECTED	DEMAND FACTOR	DEMAND	LOADS (KVA)	CONNECTED	DEMAND FACTOR	DEMAND
LIGHTING	8.1	1.25	10.13	KITCHEN EQUIPMENT	0	1.0	0
REC TO 10 KVA	7	1.0	7	CONTINUOUS	0	1.25	0
REC REMAINING	0	0.5	0	NON-CONTINUOUS	4	1.0	4
SPACE HEATING	0	0.0	0	DEMAND	0	1.0	0
AIR CONDITIONING	0	1.0	0	TOTAL CONNECTED LOAD	15.5	KVA	43.1
NON-SEASONAL MOTORS	0	1.0	0	MIN. FEEDER / PANEL CAPACITY	17.5	KVA	48.7
LARGEST MOTOR	0	0.25	0	OVERALL DEMAND FACTOR	1.13		
WATER HEATING	0	1.0	0				

PANEL L2 (EXISTING)																						
VOLTAGE: 208Y/120V SYSTEM: 3PH, 4W SOLID NEUTRAL: YES						MAIN: 125A MCB BUS RATING: 125A GROUND BUS: YES						INTEGRAL SPD: NO MOUNTING: SURFACE INTERRUPT RATING: 10,000 AIC										
CKT	LOAD SERVED	BKR	PHASE	NEUT	GND	COND	DMD	L1	L2	L3	CKT	LOAD SERVED	BKR	PHASE	NEUT	GND	COND	DMD	L1	L2	L3	
1	LIGHTING	201	#12	#12	#12	1/2"	L	.5			2	RECEPTACLES	201	#12	#12	#12	1/2"	R	1.1			
3	LIGHTING	201	#12	#12	#12	1/2"	L			.5	4	RECEPTACLES	201	#12	#12	#12	1/2"	R				1.3
5	LIGHTING	201	#12	#12	#12	1/2"	L				6	RECEPTACLES	201	#12	#12	#12	1/2"	R				1.1
7	LIGHTING	201	#12	#12	#12	1/2"	L	.5			8	RECEPTACLES	201	#12	#12	#12	1/2"	R	1.2			
9	SPACE	-	-	-	-	-	-	-	-	-	10	RECEPTACLES	201	#12	#12	#12	1/2"	R				1.2
11	SPACE	-	-	-	-	-	-	-	-	-	12	RECEPTACLES	201	#12	#12	#12	1/2"	R				1.4
13	SPACE	-	-	-	-	-	-	-	-	-	14	SPACE	-	-	-	-	-	-	-	-	-	-
15	AHU-3	202	#12	#12	#12	1/2"	-			.79	16	SPACE	-	-	-	-	-	-	-	-	-	-
17	-	-	#12	-	-	-	-	-	-	.79	18	F-6	201	#12	#12	#12	1/2"	A				1.7
19	LIGHTING	201	#12	#12	#12	1/2"	L	.5			20	RECEPTACLES	201	#12	#12	#12	1/2"	R	1			
21	RECEPTACLES	201	#12	#12	#12	1/2"	R			1	22	AHU-4	202	#12	#12	#12	1/2"	-				.79
23	AHU-5	202	#12	#12	#12	1/2"																