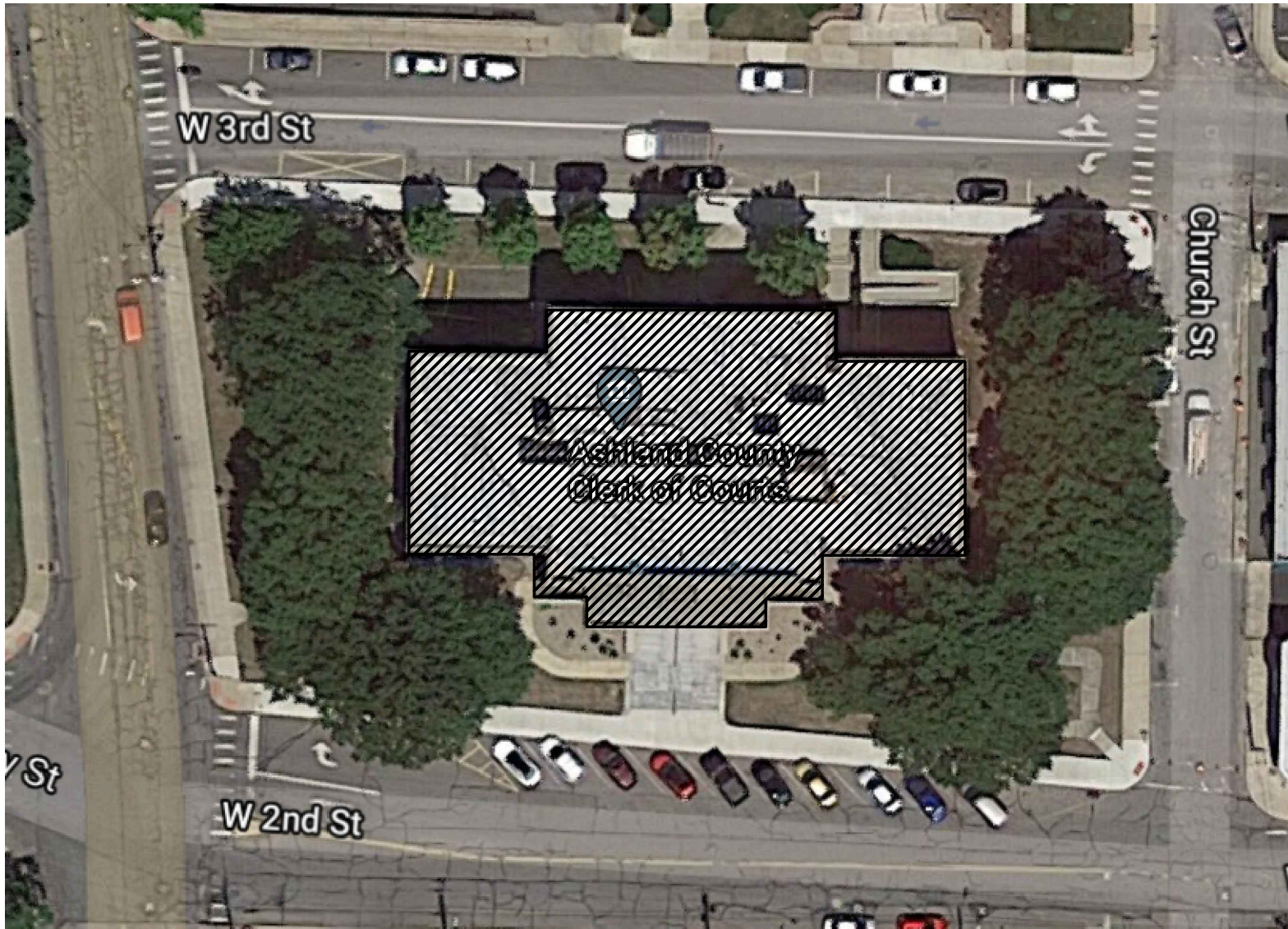


ASHLAND COUNTY COURTHOUSE HVAC SYSTEM UPGRADES

142 WEST 2ND STREET
ASHLAND, OH 44805



SITE PLAN

NOT TO SCALE



ADDENDUM 2: FEBRUARY 08, 2021

PROJECT SPECIFIC SCOPE & INSTRUCTIONS

BASE PROJECT SCOPE:

- THE BASE SCOPE OF THIS PROJECT INCLUDES THE ADDITION OF FOUR (4) DUCTLESS VARIABLE REFRIGERANT VOLUME (VRV) SYSTEMS, THREE (3) DEDICATED OUTDOOR AIR SYSTEMS (DOAS) AND REPLACEMENT OF ONE (1) PACKAGED ROOFTOP UNIT AT THE ASHLAND COUNTY COURTHOUSE. A SINGLE PRIME CONTRACT WILL BE EXECUTED WITH THE WINNING MECHANICAL CONTRACTOR AND ALL OTHER WORK WILL BE AS PERFORMED AS A SUBCONTRACTOR TO THE WINNING BIDDER. WORK INCLUDES, BUT IS NOT LIMITED TO INSTALLATION OF NEW EQUIPMENT, REFRIGERANT & CONDENSATE PIPING, DUCTWORK, AIR DEVICES, LINE AND LOW VOLTAGE ELECTRICAL AND A NEW BUILDING CONTROL SYSTEM.

ALTERNATE M-1:

- DUE TO THE UNCERTAINTY OF ACTUAL NOISE LEVELS AND POTENTIAL DISRUPTION TO NORMAL COURTHOUSE BUSINESS, THIS CONTRACTOR SHALL PROVIDE AN ADD ALTERNATE PRICE FOR ALL CORE DRILLING AND/OR CUTTING OF BUILDING WALLS, FLOORS, CEILINGS AND ROOF TO BE COMPLETED AFTER HOURS (4:00 P.M. TO 6:00 A.M.).

ASBESTOS CONTAINING MATERIALS:

- A PHASE I SITE ANALYSIS IS BEING PERFORMED BY A 3RD PARTY ENVIRONMENTAL CONSULTING FIRM TO DETERMINE WHETHER ANY ASBESTOS CONTAINING MATERIALS MAY BE DISTURBED AS THE RESULT OF THIS WORK. ANY TESTING AND/OR ABATEMENT NECESSARY AS THE RESULT OF THIS ANALYSIS WILL BE THE RESPONSIBILITY OF THE COUNTY. IF AT ANY TIME ASBESTOS IS BELIEVED TO BE ENCOUNTERED THIS CONTRACTOR MUST CONTACT THE ENGINEER IMMEDIATELY.

PERMITS AND PLAN REVIEW:

- DRAWINGS WILL BE SUBMITTED TO THE CITY OF ASHLAND BUILDING DEPARTMENT BY ENGINEER PRIOR TO PROJECT KICK-OFF. THIS CONTRACTOR IS RESPONSIBLE FOR SECURING AND PAYING FOR ALL SUBSEQUENT FEES, PERMITS AND INSPECTIONS.

BUILDING AUTOMATION CONTRACTOR:

- AS PART OF THIS PROJECT, THIS CONTRACTOR SHALL PROVIDE ALL LOW VOLTAGE CONTROL WIRING AND INTEGRATION OF ALL NEW EQUIPMENT AND THE EXISTING BOILER PLANT INTO THE COUNTY'S EXISTING SUPERVISORY OPEN ARCHITECTURE CONTROL SYSTEM. ALL CONTRACTORS SHALL INCLUDE AN ALLOWANCE OF \$125,522 IN THEIR PRICE FOR THIS WORK. CONTACT PHILIP CHIARAPPA AT CONTROL CONCEPTS OF OHIO (330-958-1416, PHILIP@CONTROLSONOHIO.COM) FOR MORE INFORMATION.

DEMOLISHED MATERIALS:

- ASHLAND COUNTY PERSONNEL WILL REMOVE FROM SERVICE, DEMOLISH AND DISPOSE OF ANY EXISTING HVAC EQUIPMENT, PIPING, WIRING, ELECTRICAL AS DEEMED NECESSARY PRIOR TO WORK COMMENCING. ADDITIONALLY, COUNTY PERSONNEL WILL REMOVE AND REPLACE ALL ACOUSTICAL CEILING TILES AND GRID AGREED UPON DURING THE PRE-CONSTRUCTION MEETING AS BEING NECESSARY FOR WORK TO BE COMPLETED.

SITE ACCESS AND SECURITY:

- ACCESS TO THE SITE WILL BE GIVEN DURING NORMAL WORKING HOURS, MONDAY THROUGH FRIDAY 7 A.M. TO 5 P.M. AND SHALL BE COORDINATED A MINIMUM OF 24 HOURS IN ADVANCE.
- CORE/HAMMER DRILLING REQUIRED FOR PIPE AND CONDUIT PENETRATIONS MAY BE POSSIBLE DURING NORMAL WORKING HOURS, HOWEVER MUST BE COORDINATED WITH COUNTY PERSONNEL IN THE EVENT THE NOISE CREATED BY THESE ACTIVITIES WILL BE DISRUPTIVE TO NORMAL COUNTY BUSINESS.

- THE JOB SITE IS A TOBACCO/SMOKE FREE FACILITY (INCLUDING E-CIGARETTES). ANY EMPLOYEE OR SUBCONTRACTOR FOUND TO BE USING THESE PRODUCTS ON SITE WILL BE ASKED TO ABSTAIN FROM THESE ACTIVITIES AND A SECOND OFFENSE WILL LEAD TO REMOVAL FROM THE PROJECT.
- ALL WORK TO BE COORDINATED WITH REPRESENTATIVE OF ASHLAND COUNTY TO ENSURE THE BUILDING IS ACCESSIBLE.
- THE PICKUP, DELIVERY AND/OR STORAGE OF NEW AND DEMOLISHED EQUIPMENT AND MATERIALS ON THE EXTERIOR OF THE BUILDING IS TO BE KEPT TO AN ABSOLUTE MINIMUM AS A SAFETY PRECAUTION.
- ON-SITE RESTROOM FACILITIES ARE AVAILABLE FOR USE.
- FIELD PERSONNEL WILL BE UNDER VIDEO SURVEILLANCE AT ALL TIMES WHILE ON SITE.
- ALL HOT WORK WILL NEED TO BE COORDINATED WITH ASHLAND COUNTY MAINTENANCE TO ENSURE BUILDING SECURITY/FIRE SYSTEMS ARE DISARMED APPROPRIATELY.
- CONTRACTORS WILL BE REQUIRED TO COMPLY WITH ALL APPLICABLE COVID-19 REQUIREMENTS SET FORTH BY ASHLAND COUNTY REPRESENTATIVES AT THE KICKOFF MEETING FOR THE PROJECT.

SUBMITTALS AND SHOP DRAWINGS:

- WITHIN 15 WORKING DAYS OF AWARD OF CONTRACT, THIS CONTRACTOR SHALL SUBMIT FOR REVIEW BY THE ENGINEER, COPIES OF MANUFACTURER'S DRAWINGS, CUT SHEETS, AND APPLICATION SPECIFIC PERFORMANCE DATA RELEVANT TO THE PROJECT. THIS REQUIREMENT PERTAINS TO ALL EQUIPMENT AND SYSTEM COMPONENTS INCLUDING VRV UNITS, INDOOR UNITS, AIR HANDLERS, DAMPERS, LOUVERS, AIR DEVICES, HVAC PIPING & INSULATION, HVAC WIRING, SPECIALTIES, ELECTRICAL PANELS, BREAKERS, CONTROLS AND SEQUENCES OF OPERATION.
- WITHIN 15 WORKING DAYS OF AWARD OF CONTRACT, THIS CONTRACTOR SHALL SUBMIT FOR REVIEW BY THE ENGINEER AND ASHLAND COUNTY A DETAILED ANTICIPATED SCHEDULE FOR PROJECT COMPLETION. AT A MINIMUM, PROJECT SCHEDULE TO INCLUDE ALL WORK DETAILED IN THESE DRAWINGS, EQUIPMENT LEAD TIMES, CRITICAL PATH ITEMS AND SUBCONTRACTOR SCHEDULES.
- PRIOR TO INSTALLATION, THIS CONTRACTOR MUST PROVIDE DETAILED SHOP DRAWINGS FOR REVIEW BY THE ENGINEER/MANUFACTURER FOR ALL REFRIGERANT PIPING AND MANIFOLDS. THESE DRAWINGS SHALL INCLUDE SIZING, DIMENSIONS, FITTINGS, SUPPORTS, ELEVATIONS, TOTAL PIPE LENGTHS AND ANY OTHER APPLICABLE INFORMATION DEEMED RELEVANT TO THE INSTALLATION.
- ONCE FINAL VRV SYSTEM PIPING LAYOUTS AND ACTUAL REFRIGERANT VOLUMES ARE DETERMINED, THIS CONTRACTOR SHALL WORK WITH THE COUNTY, AHJ AND ENGINEER OF RECORD TO CONFIRM COMPLIANCE WITH ASHRAE STANDARDS 15 & 34 IN REGARDS TO THE REQUIRED CONCENTRATION LIMITS OF R-410A WITH RESPECT TO THE SMALLEST OCCUPIED SPACE CONTAINING A COMPONENT OF THE VRV SYSTEM.

Sheet List Table

Sheet Number	Sheet Title
C1.0	COVER PAGE
M1.0	LOWER LEVEL HVAC NEW WORK PLAN
M1.1	1ST FLOOR HVAC NEW WORK PLAN
M1.2	2ND FLOOR HVAC NEW WORK PLAN
M1.3	ROOF HVAC NEW WORK PLAN
M3.0	HVAC EQUIPMENT SCHEDULES 1
M3.1	HVAC EQUIPMENT SCHEDULES 2
M4.0	VRV PIPING SCHEMATICS
E1.0	LOWER LEVEL ELECTRICAL NEW WORK
E1.1	1ST FLOOR ELECTRICAL NEW WORK
E1.2	2ND FLOOR ELECTRICAL NEW WORK
E1.3	ROOF ELECTRICAL NEW WORK
E3.0	ELECTRICAL SINGLE LINE DIAGRAM
E4.0	ELECTRICAL SINGLE LINE DIAGRAM
E4.1	VRV WIRING SCHEMATICS

CODE REVIEW DATA

PROJECT INFORMATION:

SQUARE FOOTAGE: 30,918 SQ. FT.
CONSTRUCTION TYPE: BUILDING = 2B,
NON-COMBUSTIBLE, NON-SPRINKLED
PORTABLE FIRE EXTINGUISHERS AS REQUIRED BY IFC
USE GROUP: A-3 COURTROOM

APPLICABLE CODES:

BUILDING: OHIO BUILDING CODE, 2017
FIRE: OHIO FIRE CODE, 2017
MECHANICAL: OHIO MECHANICAL CODE, 2017
PLUMBING: OHIO PLUMBING CODE, 2017
FUEL GAS: IFGC, 2015
ELECTRICAL: NATIONAL ELECTRICAL CODE, 2017
ACCESSIBILITY: ICC/ANSI A117.1-2003

CHAPTER 3 - USE AND OCCUPANCY

CLASSIFICATION:
SECTION 303.4 USE = A-3 COURTROOM


2	JPR	02/08/21	ADDENDUM 2
1	JPR	02/02/21	ADDENDUM 1
0	JPR	01/22/21	ISSUED FOR BID
REV	BY	DATE	DESCRIPTION

DESIGNERS:



ASHLAND COMFORT CONTROL
HEATING • AIR CONDITIONING • FIREPLACES • PLUMBING
805 E. MAIN STREET • ASHLAND, OH
P: 419.281.0144 F: 419.281.6971
WWW.ASHLANDCOMFORTCONTROL.COM
JOSEPH P. REEP - OHIO PE: #77349
INFO@ASHLANDCOMFORT.COM

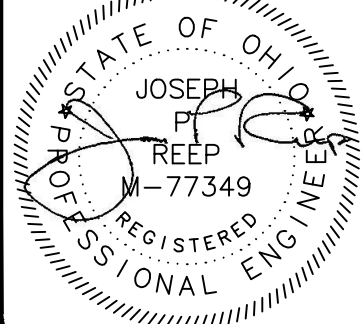
PROJECT:



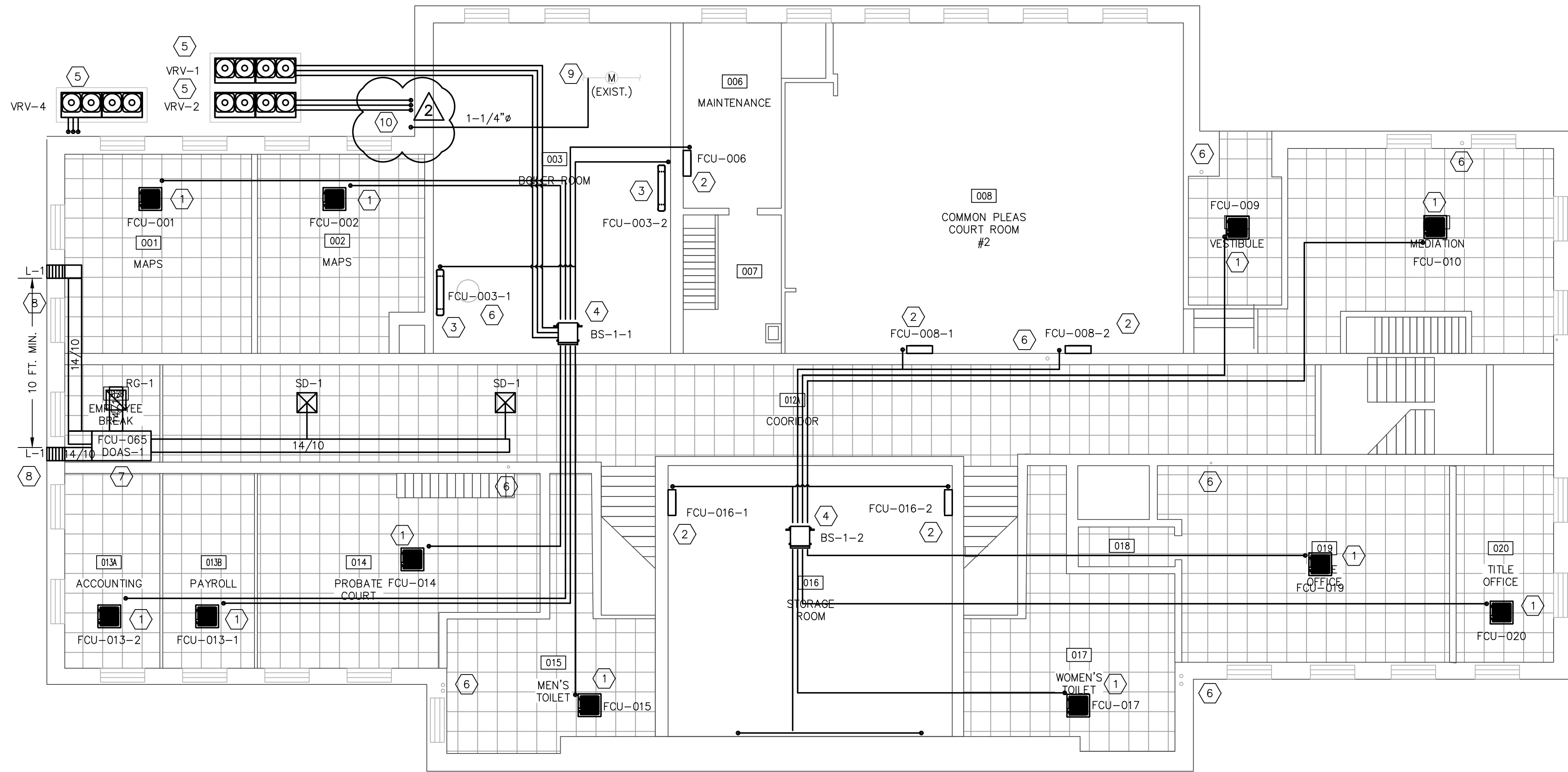
142 West 2nd Street
Ashland, OH 44805

Ashland County Courthouse HVAC System Upgrades

DRAWN BY: JPR	ORIGIN DATE: 10/12/20	DESIGNED BY: JPR	DATE: 12/31/20
APPROVED BY: JPR	DATE: 01/21/21	CLIENT NO. ASH000	JOB NO. 220210

DRAWING NAME: COVER.DWG		TITLE COVER SHEET	
SEAL 	LAST EDIT DATE: 2/8/21	DRAWING NO. C1.0	

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A PLAN VIEW
GROUND LEVEL HVAC WORK
1/8" = 1'-0"

GROUND LEVEL OUTDOOR AIR VENTILATION SCHEDULE

ROOM NO.	SYSTEM	NAME	AREA	OCCUPANCY	USE	ASHRAE 62.1 REQUIRED OA		
						CFM/PERSON	CFM/FT ²	TOTAL
001	BASEMENT	MAPS	382	1	OFFICES	5	0.06	27.9
002	BASEMENT	MAPS	327	1	OFFICES	5	0.06	24.6
003	BASEMENT	BOILER RM	805	—	STORAGE	—	0.06	48.3
006	BASEMENT	MAINTENANCE	212	1	OFFICES	5	0.06	13.7
007	BASEMENT	MAINTENANCE	140	—	STORAGE	—	0.06	8.4
008	BASEMENT	COMM. PLEA #2	1,322	15	COURT ROOM	5	0.06	154.3
009	BASEMENT	VESTIBULE	180	—	COORDIOR	—	0.06	10.8
010	BASEMENT	MEDIATION	573	8	CONFERENCE	5	0.06	74.5
012	BASEMENT	CORRIDOR	1,606	—	COORDIOR	—	0.06	96.4
013A	BASEMENT	ACCOUNTING	190	2	OFFICES	5	0.06	21.4
013B	BASEMENT	PAYROLL	183	2	OFFICES	5	0.06	21.0
014	BASEMENT	PROBATE CT	507	8	COURT ROOM	5	0.06	70.4
015	BASEMENT	MEN'S TLT	341	—	RESTROOM	—	—	—
016	BASEMENT	STORAGE	788	—	STORAGE	—	0.06	47.3
017	BASEMENT	WOMEN'S TLT	385	—	RESTROOM	—	—	—
018	BASEMENT	STORAGE	39	—	STORAGE	—	0.06	2.3
019	BASEMENT	TITLE OFFICE	554	4	OFFICE	5	0.06	48.2
020	BASEMENT	TITLE OFFICE	197	2	OFFICE	5	0.06	21.8
TOTAL:								691.3

NOTES:

* 70 CFM EXHAUST PER TOILET/URINAL

** OCCUPANCY CALCULATED FROM DEFAULT RATE / 1,000 FT² PER TABLE 403.3.1.1 OF 2017 OMC IF NOT POSTED.

CODED NOTES:

- MECHANICAL CONTRACTOR (M.C.) TO INSTALL ONE (1) NEW 4-WAY CEILING CASSETTE STYLE VRV HEAD IN EXISTING CEILING GRID. SUSPEND/SUPPORT CASSETTE FROM STRUCTURE ABOVE IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS USING SYSTEM OF 3/8" THREADED ROD, WASHERS & NUTS AND/OR GRIPPLE AIRCRAFT CABLE. GRAVITY DRAIN CONDENSATE TO NEAREST PLUMBING STACK, FLOOR DRAIN OR UTILITY SINK (IF POSSIBLE), OTHERWISE UTILIZE BUILT-IN CONDENSATE LIFT MECHANISM TO PUMP TO NEAREST APPROPRIATE DISPOSAL POINT. REFER TO EQUIPMENT SCHEDULES AND MANUFACTURER PROVIDED PIPING DIAGRAMS AND MANUALS FOR SPECIFIC INSTALLATION REQUIREMENTS.
- M.C. TO INSTALL ONE (1) NEW WALL MOUNTED VRV HEAD. SUSPEND/SUPPORT HEAD FROM EXISTING WALL STRUCTURE IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS. GRAVITY DRAIN CONDENSATE TO NEAREST PLUMBING STACK, FLOOR DRAIN OR UTILITY SINK (IF POSSIBLE), OTHERWISE PROVIDE OPTIONAL PUMP TO DISCHARGE CONDENSATE TO NEAREST APPROPRIATE DISPOSAL POINT. REFER TO EQUIPMENT SCHEDULES AND MANUFACTURER PROVIDED PIPING DIAGRAMS AND MANUALS FOR SPECIFIC INSTALLATION REQUIREMENTS.
- M.C. TO INSTALL ONE (1) CONSOLE STYLE VRV UNIT. SUPPORT UNIT FROM EXISTING FLOOR IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS. GRAVITY DRAIN CONDENSATE TO NEAREST PLUMBING STACK, FLOOR DRAIN OR UTILITY SINK (IF POSSIBLE), OTHERWISE PROVIDE OPTIONAL PUMP TO DISCHARGE CONDENSATE TO NEAREST APPROPRIATE DISPOSAL POINT. REFER TO EQUIPMENT SCHEDULES AND MANUFACTURER PROVIDED PIPING DIAGRAMS AND MANUALS FOR SPECIFIC INSTALLATION REQUIREMENTS.
- M.C. TO INSTALL BRANCH SELECTOR UNIT IN APPROXIMATE LOCATION SHOWN. REFER TO EQUIPMENT SCHEDULES AND MANUFACTURER PROVIDED PIPING DIAGRAMS AND MANUALS FOR SPECIFIC INSTALLATION REQUIREMENTS. SELECTOR BOXES AND REFRIGERANT LINES TO BE CONCEALED ABOVE ACOUSTICAL CEILING WHERE POSSIBLE. EXPOSED PIPING SHALL BE RUN NEAT, LEVEL AND CONCEALED IN PAINTABLE LINE-HIDE.
- M.C. TO SET NEW VRV OUTDOOR UNITS IN APPROXIMATE LOCATIONS SHOWN. CONTRACTOR TO PROVIDE NEW 4" REINFORCED EQUIPMENT PAD FOR EACH UNIT WHICH EXTENDS A MINIMUM OF 6" BEYOND FOOTPRINT OF EQUIPMENT.
- EXISTING PLUMBING STACK OR POTENTIAL CONDENSATE DISPOSAL LOCATION.
- MC TO SUSPEND NEW AIR HANDLER, COIL AND VRV CONTROLLER ABOVE EXISTING ACOUSTICAL CEILING. INCLUDE PLYWOOD AND SECONDARY DRAIN PAN WITH CONDENSATE COP OR EQUIVALENT. ALL DUCTWORK TO BE INSULATED WITH R-8 INSULATION, LIMITING FLEX RUNS TO LENGTHS LESS THAN 5 FEET.
- NEW INTAKE AND EXHAUST LOUVERS TO BE INSTALLED, FASTENED AND SEALED WEATHER TIGHT ON THE BUILDING EXTERIOR.
- M.C. TO CONNECT TO EXISTING NATURAL GAS LINE IN BUILDING BASEMENT AND EXTEND SCH. 40 BLACK IRON UP THE EXTERIOR OF THE BUILDING TO RTU-1. M.C. RESPONSIBLE FOR PAINTING GAS PIPING UPON THE COMPLETION OF THE PROJECT TO PROTECT AGAINST RUST.
- REFRIGERANT PIPING ON THE EXTERIOR OF THE BUILDING SHALL BE ENCLOSED IN A PAINTABLE LINEHIDE WHERE VISIBLE.

2	JPR	02/08/21	ADDENDUM 2
1	JPR	02/02/21	ADDENDUM 1
0	JPR	01/22/21	ISSUED FOR BID
REV	BY	DATE	DESCRIPTION

DESIGNERS:



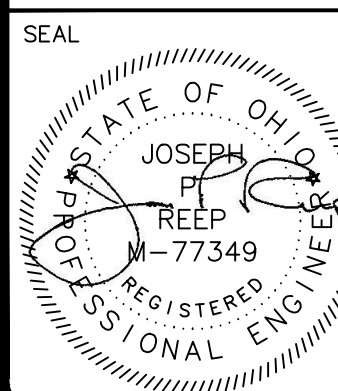
PROJECT



Ashland County Courthouse HVAC System Upgrades

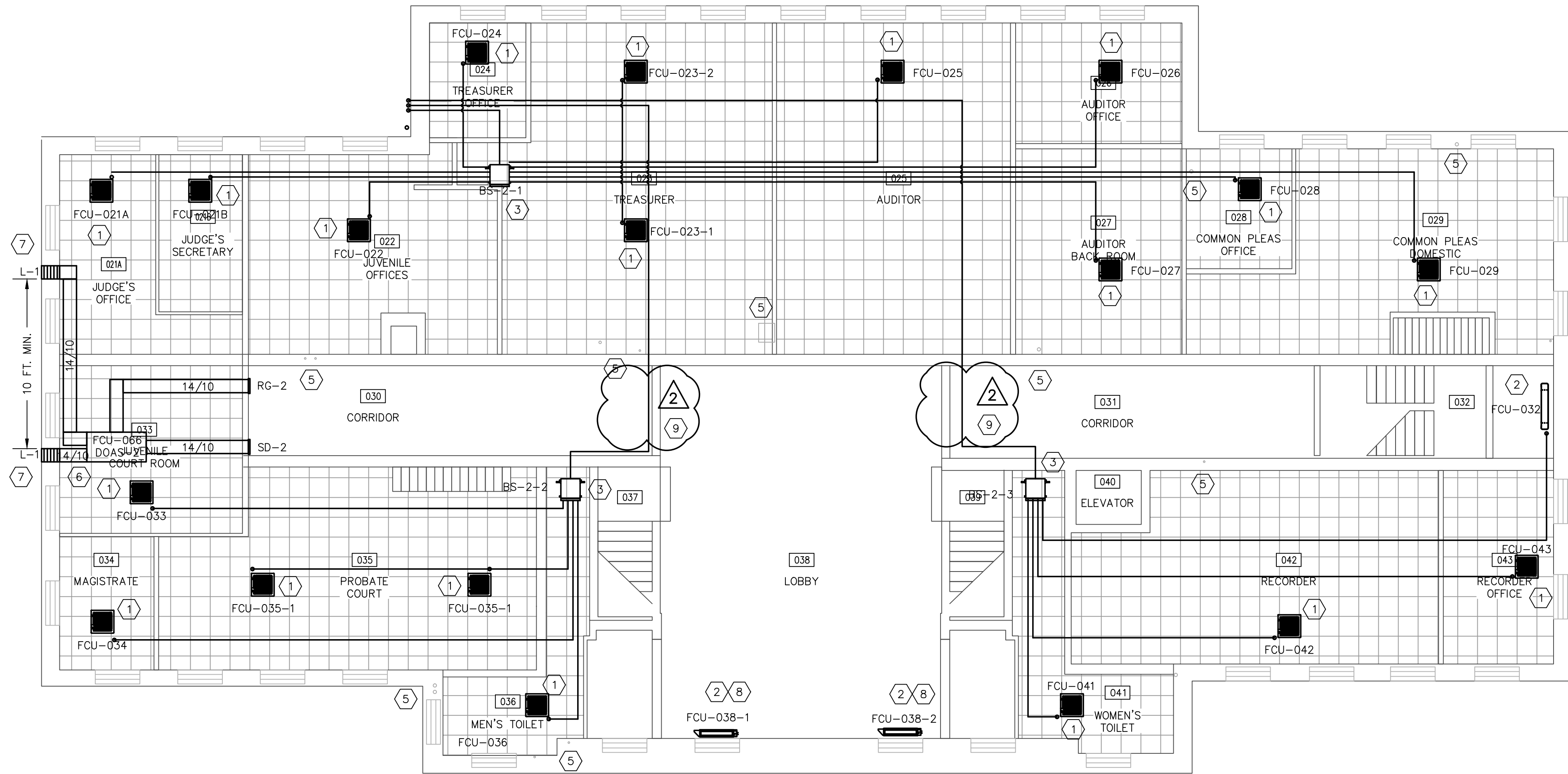
DRAWN BY: JPR	ORIGIN DATE: 10/12/20	DESIGNED BY: JPR	DATE: 12/31/20
APPROVED BY: JPR	DATE: 01/21/21	CLIENT NO. ASH000	JOB NO. 220210

DRAWING NAME:
220210 - HVAC.DWG



TITLE LOWER LEVEL HVAC NEW WORK PLAN	LAST EDIT DATE: 2/9/21	DRAWING NO. M1.0
SCALE:		

PLOT DATE \ TIME: 2/9/2021 4:45:57 PM
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A PLAN VIEW
1ST FLOOR HVAC WORK
1/8" = 1'-0"

FIRST FLOOR OUTDOOR AIR VENTILATION SCHEDULE

ROOM NO.	SYSTEM	NAME	AREA	OCCUPANCY	USE	ASHRAE 62.1 REQUIRED OA		
						CFM/PERSON	CFM/FT ²	TOTAL
021A	1ST FLOOR	JUDGE'S OFFICE	231	1	OFFICE	5	0.06	18.9
021B	1ST FLOOR	JUDGE'S SEC.	134	1	OFFICE	5	0.06	13.0
022	1ST FLOOR	JUVENILE OFF.	494	3	OFFICE	5	0.06	44.6
023	1ST FLOOR	TREAS. OFFICE	113	1	OFFICE	5	0.06	7.8
024	1ST FLOOR	TREASURER	898	3	OFFICE	5	0.06	68.9
025	1ST FLOOR	AUDITOR	791	3	OFFICE	5	0.06	62.5
026	1ST FLOOR	AUDITOR OFF.	205	2	OFFICE	5	0.06	22.3
027	1ST FLOOR	AUDIT BACK RM	349	1	OFFICE	5	0.06	25.9
028	1ST FLOOR	COMM PLEA OFF.	129	2	OFFICE	5	0.06	17.7
029	1ST FLOOR	COMM PLEA DOM	630	4	COURT RM	5	0.06	57.8
030	1ST FLOOR	CORRIDOR	371	—	COORDIDOR	—	0.06	22.3
031	1ST FLOOR	CORRIDOR	340	—	COORDIDOR	—	0.06	20.4
032	1ST FLOOR	STAIRCASE	221	—	COORDIDOR	—	0.06	13.3
033	1ST FLOOR	JUV COURT RM	313	8	COURT RM	5	0.06	58.8
034	1ST FLOOR	MAGISTRATE	128	1	OFFICE	5	0.06	12.7
035	1ST FLOOR	PROBATE COURT	719	10	COURT RM	5	0.06	93.1
036	1ST FLOOR	MEN'S TOILET	199	—	RESTROOM	—	—	—
037	1ST FLOOR	STAIRCASE	187	—	COORDIDOR	—	0.06	11.2
038	1ST FLOOR	LOBBY	1,064	1	MAIN ENTRY	5	0.06	68.8
039	1ST FLOOR	STAIRCASE	184	—	COORDIDOR	—	0.06	11.0
040	1ST FLOOR	ELEVATOR	36	—	ELEVATOR	—	—	—
041	1ST FLOOR	WOMEN'S TLT	223	—	RESTROOM	—	—	—
042	1ST FLOOR	RECORDER	675	2	OFFICE	5	0.06	50.5
043	1ST FLOOR	RECORDER OFF.	218	2	OFFICE	5	0.06	23.1
TOTAL:								724.4

NOTES:

- * 70 CFM EXHAUST PER TOILET/URINAL
- ** OCCUPANCY CALCULATED FROM DEFAULT RATE / 1,000 FT² PER TABLE 403.3.1.1 OF 2017 OMC IF NOT POSTED.

CODED NOTES:

- MECHANICAL CONTRACTOR (M.C.) TO INSTALL ONE (1) NEW 4-WAY CEILING CASSETTE STYLE VRV HEAD IN EXISTING CEILING GRID. SUSPEND/SUPPORT CASSETTE FROM STRUCTURE ABOVE IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS USING SYSTEM OF 3/8" THREADED ROD, WASHERS & NUTS AND/OR GRIPPLE, AIRCRAFT CABLE, GRAVITY DRAIN CONDENSATE TO NEAREST PLUMBING STACK, FLOOR DRAIN OR UTILITY SINK (IF POSSIBLE), OTHERWISE UTILIZE BUILT-IN CONDENSATE LIFT MECHANISM TO PUMP TO NEAREST APPROPRIATE DISPOSAL POINT. REFER TO EQUIPMENT SCHEDULES AND MANUFACTURER PROVIDED PIPING DIAGRAMS AND MANUALS FOR SPECIFIC INSTALLATION REQUIREMENTS.
- M.C. TO INSTALL ONE (1) CONSOLE STYLE VRV UNIT. SUPPORT UNIT FROM EXISTING FLOOR IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS. GRAVITY DRAIN CONDENSATE TO NEAREST PLUMBING STACK, FLOOR DRAIN OR UTILITY SINK (IF POSSIBLE), OTHERWISE PROVIDE OPTIONAL PUMP TO DISCHARGE CONDENSATE TO NEAREST APPROPRIATE DISPOSAL POINT. REFER TO EQUIPMENT SCHEDULES AND MANUFACTURER PROVIDED PIPING DIAGRAMS AND MANUALS FOR SPECIFIC INSTALLATION REQUIREMENTS.
- M.C. TO INSTALL BRANCH SELECTOR UNIT IN APPROXIMATE LOCATION SHOWN. REFER TO EQUIPMENT SCHEDULES AND MANUFACTURER PROVIDED PIPING DIAGRAMS AND MANUALS FOR SPECIFIC INSTALLATION REQUIREMENTS. SELECTOR BOXES AND REFRIGERANT LINES TO BE CONCEALED ABOVE ACOUSTICAL CEILING WHERE POSSIBLE. EXPOSED PIPING SHALL BE RUN NEAT, LEVEL AND CONCEALED IN PAINTABLE LINE-HIDE.
- M.C. TO SET NEW VRV OUTDOOR UNITS IN APPROXIMATE LOCATIONS SHOWN. CONTRACTOR TO PROVIDE NEW 4" REINFORCED EQUIPMENT PAD FOR EACH UNIT WHICH EXTENDS A MINIMUM OF 6" BEYOND FOOTPRINT OF EQUIPMENT.
- EXISTING PLUMBING STACK OR POTENTIAL CONDENSATE DISPOSAL LOCATION.
- M.C. TO SUSPEND NEW AIR HANDLER, COIL AND VRV CONTROLLER ABOVE EXISTING ACOUSTICAL CEILING. INCLUDE PLYWOOD AND SECONDARY DRAIN PAN WITH CONDENSATE COP OR EQUIVALENT. ALL DUCTWORK TO BE INSULATED WITH R-8 INSULATION, LIMITING FLEX RUNS TO LENGTHS LESS THAN 5 FEET.
- NEW INTAKE AND EXHAUST LOUVERS TO BE INSTALLED, FASTENED AND SEALED WEATHER TIGHT ON THE BUILDING EXTERIOR.
- REMOVE EXISTING RADIATOR AND CAP STEAM LINES BENEATH FLOOR IN LOBBY ENCLOSURES TO PROVIDE ADEQUATE SPACE NECESSARY FOR VRV CONSOLE.
- EXPOSED REFRIGERANT PIPING NOT ABLE TO BE CONCEALED ABOVE EXISTING ACOUSTICAL CEILING SHALL BE ENCLOSED IN A PAINTABLE LINEHIDE.

2	JPR	02/08/21	ADDENDUM 2
1	JPR	02/02/21	ADDENDUM 1
0	JPR	01/22/21	ISSUED FOR BID
REV	BY	DATE	DESCRIPTION

DESIGNERS:



PROJECT

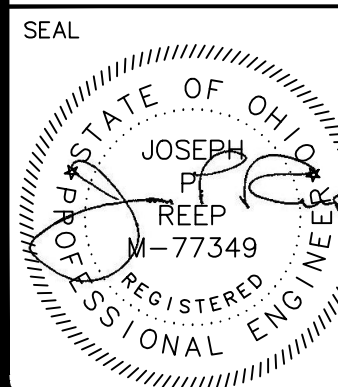


142 West 2nd Street
Ashland, OH 44805

Ashland County Courthouse HVAC System Upgrades

DRAWN BY: JPR	ORIGIN DATE: 10/12/20	DESIGNED BY: JPR	DATE: 12/31/20
APPROVED BY: JPR	DATE: 01/21/21	CLIENT NO. ASH000	JOB NO. 220210

DRAWING NAME:
220210 - HVAC.DWG



TITLE 1ST FLOOR HVAC NEW WORK PLAN	LAST EDIT DATE: 2/9/21	DRAWING NO. M1.1
SCALE:		

A PLAN VIEW

2ND FLOOR HVAC WORK

1/8" = 1'-0"

SECOND FLOOR OUTDOOR AIR VENTILATION SCHEDULE

ROOM NO.	SYSTEM	NAME	AREA	OCCUPANCY	USE	ASHRAE 62.1 REQUIRED OA		
						CFM/PERSON	CFM/FT²	TOTAL
044	2ND FLOOR	COMMON PLEAS	372	1	OFFICE	5	0.06	27.3
045	2ND FLOOR	BAILIFF	351	1	OFFICE	5	0.06	26.1
046	RTU	CO. PL CRT RM	1,689	118	COURT ROOM	5	0.06	691.3***
047	2ND FLOOR	JUDGE'S OFF	400	1	OFFICE	5	0.06	29.0
048	2ND FLOOR	JUDGE'S SEC	128	1	OFFICE	5	0.06	12.7
049	2ND FLOOR	COORDIDOR	167	—	COORDIDOR	—	0.06	10.0
050	2ND FLOOR	MEN'S TLT	66	—	RESTROOM	—	—	—
051	2ND FLOOR	JURY ROOM	394	15	CONFERENCE	5	0.06	98.6
052	2ND FLOOR	WOMEN'S TLT	86	—	RESTROOM	—	—	—
053	2ND FLOOR	PROBATION OFF	107	2	OFFICE	5	0.06	16.4
054	2ND FLOOR	ADLT PROBATION	186	2	OFFICE	5	0.06	21.2
055	2ND FLOOR	COORDIDOR	1,217	—	COORDIDOR	—	0.06	73.0
056	2ND FLOOR	CLRK OF CRTS	745	2	OFFICE	5	0.06	54.7
057	2ND FLOOR	CLRK OF CRTS	198	1	OFFICE	5	0.06	16.9
058	2ND FLOOR	JANITOR'S	61	—	STORAGE	—	0.06	3.7
059	2ND FLOOR	MEN'S TLT	204	—	RESTROOM	—	—	—
060	2ND FLOOR	LAW LIBRARY	772	4	LIBRARY	5	0.12	112.6
061	2ND FLOOR	STAIRCASE	52	—	COORDIDOR	—	0.06	3.1
062	2ND FLOOR	WOMEN'S TLT	140	—	RESTROOM	—	—	—
063	2ND FLOOR	COMM PL OFF	224	2	OFFICE	5	0.06	23.4
064	2ND FLOOR	LAW LIB. ANX.	498	4	LIBRARY	5	0.12	79.8
TOTAL:								608.5

NOTES:

* 70 CFM EXHAUST PER TOILET/URINAL

** OCCUPANCY CALCULATED FROM DEFAULT RATE / 1,000 FT² PER TABLE 403.3.1.1 OF 2017 OMC IF NOT POSTED.

*** LARGE COMMON PLEAS COURT ROOM IS ON A DEDICATED ROOFTOP UNIT WITH ITS OWN MEANS OF OUTSIDE AIR

CODED NOTES:

- MECHANICAL CONTRACTOR (M.C.) TO INSTALL ONE (1) NEW 4-WAY CEILING CASSETTE STYLE VRV HEAD IN EXISTING CEILING GRID. SUSPEND/SUPPORT CASSETTE FROM STRUCTURE ABOVE IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS USING SYSTEM OF 3/8" THREADED ROD, WASHERS & NUTS AND/OR GRIPPLE, AIRCRAFT CABLE, GRAVITY DRAIN CONDENSATE TO NEAREST PLUMBING STACK, FLOOR DRAIN OR UTILITY SINK (IF POSSIBLE), OTHERWISE UTILIZE BUILT-IN CONDENSATE LIFT MECHANISM TO PUMP TO NEAREST APPROPRIATE DISPOSAL POINT. REFER TO EQUIPMENT SCHEDULES AND MANUFACTURER PROVIDED PIPING DIAGRAMS AND MANUALS FOR SPECIFIC INSTALLATION REQUIREMENTS.
- M.C. TO INSTALL ONE (1) NEW WALL MOUNTED VRV HEAD. SUSPEND/SUPPORT HEAD FROM EXISTING WALL STRUCTURE IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS. GRAVITY DRAIN CONDENSATE TO NEAREST PLUMBING STACK, FLOOR DRAIN OR UTILITY SINK (IF POSSIBLE), OTHERWISE PROVIDE OPTIONAL PUMP TO DISCHARGE CONDENSATE TO NEAREST APPROPRIATE DISPOSAL POINT. REFER TO EQUIPMENT SCHEDULES AND MANUFACTURER PROVIDED PIPING DIAGRAMS AND MANUALS FOR SPECIFIC INSTALLATION REQUIREMENTS.
- M.C. TO INSTALL ONE (1) CONSOLE STYLE VRV UNIT. SUPPORT UNIT FROM EXISTING FLOOR IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS. GRAVITY DRAIN CONDENSATE TO NEAREST PLUMBING STACK, FLOOR DRAIN OR UTILITY SINK (IF POSSIBLE), OTHERWISE PROVIDE OPTIONAL PUMP TO DISCHARGE CONDENSATE TO NEAREST APPROPRIATE DISPOSAL POINT. REFER TO EQUIPMENT SCHEDULES AND MANUFACTURER PROVIDED PIPING DIAGRAMS AND MANUALS FOR SPECIFIC INSTALLATION REQUIREMENTS.
- M.C. TO INSTALL BRANCH SELECTOR UNIT IN APPROXIMATE LOCATION SHOWN. REFER TO EQUIPMENT SCHEDULES AND MANUFACTURER PROVIDED PIPING DIAGRAMS AND MANUALS FOR SPECIFIC INSTALLATION REQUIREMENTS. SELECTOR BOX AND REFRIGERANT LINES TO BE CONCEALED IN BUILDING ATTIC WHERE POSSIBLE. EXPOSED PIPING SHALL BE RUN NEAT, LEVEL AND CONCEALED IN PAINTABLE LINE-HIDE.
- EXISTING PLUMBING STACK OR POTENTIAL CONDENSATE DISPOSAL LOCATION.
- MC TO SUSPEND NEW AIR HANDLER, COIL AND VRV CONTROLLER ABOVE EXISTING ACOUSTICAL CEILING. INCLUDE PLYWOOD AND SECONDARY DRAIN PAN WITH CONDENSATE COP OR EQUIVALENT. ALL DUCTWORK TO BE INSULATED WITH R-8 INSULATION, LIMITING FLEX RUNS TO LENGTHS LESS THAN 5 FEET.
- NEW INTAKE AND EXHAUST LOUVERS TO BE INSTALLED, FASTENED AND SEALED WEATHER TIGHT ON THE BUILDING EXTERIOR.
- EXISTING DUCTWORK AND DIFFUSERS IN COURTROOM TO REMAIN.
- REFRIGERANT PIPING AND BRANCH CONNECTOR BOXES ARE SHOWN ON 2ND FLOOR PLAN FOR DIAGRAMMATIC PURPOSES. HOWEVER IT IS THE INTENT FOR ALL PIPING TO BE RUN IN ATTIC WHERE POSSIBLE. ANY PIPING/SPECIALTIES REQUIRED TO BE RUN EXPOSED ON THE 2ND FLOOR IS TO BE ENCLOSED IN A PAINTABLE LINEHIDE OR EQUIVALENT ENCLOSURE.

2	JPR	02/08/21	ADDENDUM 2
1	JPR	02/02/21	ADDENDUM 1
0	JPR	01/22/21	ISSUED FOR BID
REV	BY	DATE	DESCRIPTION

DESIGNERS:



ASHLAND COMFORT CONTROL
HEATING, COOLING, & AIR QUALITY
805 E. MAIN STREET - ASHLAND, OH
P: 419.281.0144 F: 419.281.6971
WWW.ASHLANDCOMFORTCONTROL.COM
JOSEPH P. REEP - OHIO PE: #77349
INFO@ASHLANDCOMFORT.COM

PROJECT

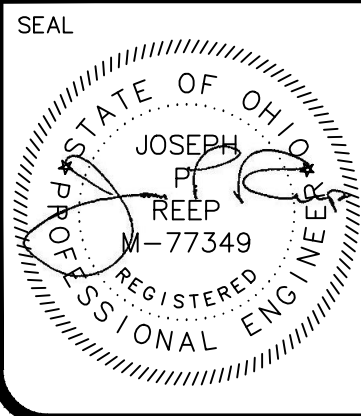


142 West 2nd Street
Ashland, OH 44805

Ashland County Courthouse HVAC System Upgrades

DRAWN BY: JPR	ORIGIN DATE: 10/12/20	DESIGNED BY: JPR	DATE: 12/31/20
APPROVED BY: JPR	DATE: 01/21/21	CLIENT NO. ASH000	JOB NO. 220210

DRAWING NAME:
220210 - HVAC.DWG



SEAL

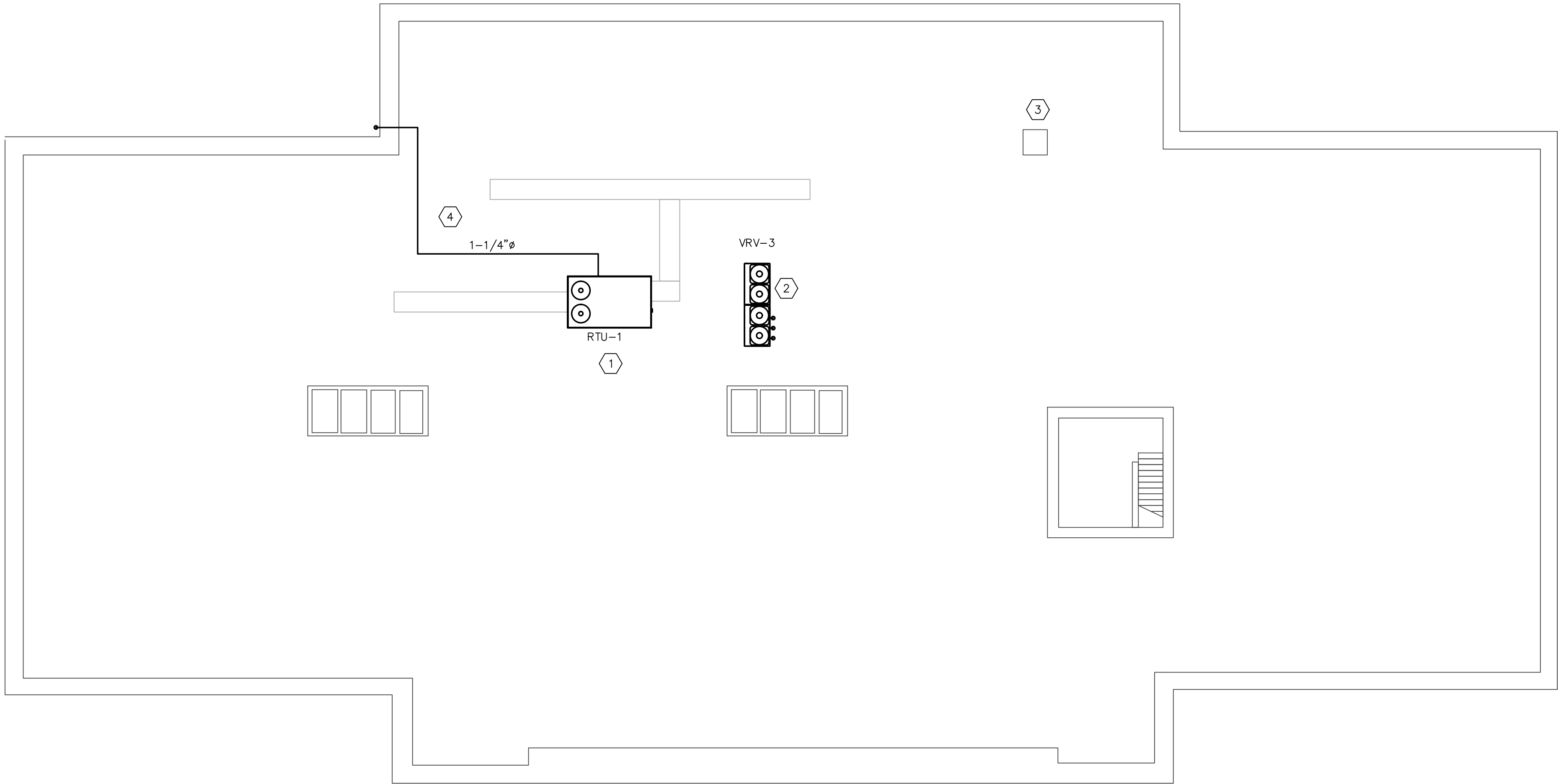
TITLE

2ND FLOOR HVAC NEW WORK PLAN

LAST EDIT DATE:
2/9/21

DRAWING NO.
M1.2

PLOT DATE \ TIME: 2/9/2021 4:46:07 PM
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A

PLAN VIEW

ROOF HVAC WORK

1/8" = 1'-0"

CODED NOTES:

- MECHANICAL CONTRACTOR (M.C.) TO REPLACE ONE (1) EXISTING GAS/ELECTRIC, HORIZONTAL DISCHARGE, PACKAGED ROOFTOP UNIT DEDICATED TO MUNICIPAL COURTROOM. UNIT TO INCLUDE ALL ACCESSORIES AND OPTIONS AS SCHEDULED AND INDICATED IN THIS DRAWING PACKAGE. RE-USE EXISTING DUCTWORK AND AIR DEVICES AS POSSIBLE AND SEAL NEW AND EXISTING COMPONENTS FOR PROTECTION AGAINST WATER INFILTRATION.
- M.C. TO SET NEW VRV OUTDOOR UNIT ON ROOF ON EXISTING STRUCTURAL STEEL SUPPORT ADJACENT TO PACKAGED ROOFTOP UNIT. MC TO BE RESPONSIBLE FOR PATCHING ALL NEW ROOF PENETRATIONS AND COORDINATING WITH COUNTY PREFERRED ROOFING CONTRACTOR SO AS NOT TO VOID ANY EXISTING ROOF WARRANTY.
- EXISTING ATTIC ACCESS HATCH.
- M.C. TO CONNECT TO EXISTING NATURAL GAS LINE IN BUILDING BASEMENT AND EXTEND SCH. 40 BLACK IRON UP THE EXTERIOR OF THE BUILDING TO RTU-1. USE NOMACO PIPE SUPPORTS OR EQUAL ON ROOF. M.C. RESPONSIBLE FOR PAINTING GAS PIPING UPON THE COMPLETION OF THE PROJECT TO PROTECT AGAINST RUST.

2	JPR	02/08/21	ADDENDUM 2
1	JPR	02/02/21	ADDENDUM 1
0	JPR	01/22/21	ISSUED FOR BID
REV	BY	DATE	DESCRIPTION

DESIGNERS:



ASHLAND COMFORT CONTROL
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805 E. MAIN STREET - ASHLAND, OH
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WWW.ASHLANDCOMFORTCONTROL.COM
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PROJECT

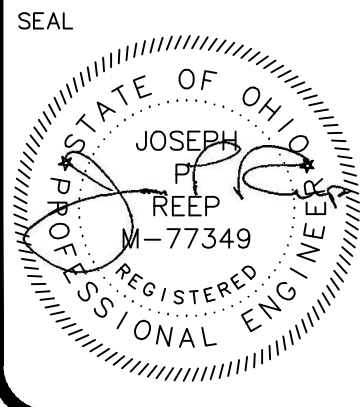


142 West 2nd Street
Ashland, OH 44805

Ashland County Courthouse HVAC System Upgrades

DRAWN BY: JPR	ORIGIN DATE: 10/12/20	DESIGNED BY: JPR	DATE: 12/31/20
APPROVED BY: JPR	DATE: 01/21/21	CLIENT NO. ASH000	JOB NO. 220210

DRAWING NAME:
220210 - HVAC.DWG



SEAL

TITLE
**ROOF HVAC NEW
WORK PLAN**

LAST EDIT DATE:
2/9/21

SCALE:

DRAWING NO.
M1.3

PLOT DATE \ TIME: 2/9/2021 4:46:12 PM
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(VRV) VARIABLE REFRIGERANT VOLUME – INDOOR UNIT SCHEDULE																				
TAG	ROOM	NOMINAL TONNAGE	CONNECTED TO:		SUPPLY FAN AIRFLOW RATE	COOLING CAPACITY			HEATING CAPACITY		ELECTRICAL			DIMENSIONS		MAKE	MODEL	TYPE	OPTIONS & ACC.	NOTES
			COND. UNIT	ZONE C/O		TOTAL BTU/h	SENSIBLE BTU/h	EA DB/WB	TOTAL BTU/h	EA DB	VOLTAGE/PH	MCA	MOP	WxHxD (IN.)	WEIGHT					
FCU–001	MAPS	0.6	VRV–1	YES	307 CFM	6,823	4,958	75/64°F	8,527	70°F	208/230V, 1PH	0.3	15.0	22.6x10.2x22.6	35.3 LBS	DAIKIN	FXZQ07TAVJU	4–WAY CASSETTE (2’x2’)	BRC1E73 (1), BYFQ60C3W1W (1)	1–2
FCU–002	MAPS	0.6	VRV–1	YES	307 CFM	6,823	4,958	75/64°F	8,527	70°F	208/230V, 1PH	0.3	15.0	22.6x10.2x22.6	35.3 LBS	DAIKIN	FXZQ07TAVJU	4–WAY CASSETTE (2’x2’)	BRC1E73 (1), BYFQ60C3W1W (1)	1–2
FCU–003A	BOILER	0.6	VRV–1	YES	245 CFM	6,687	4,659	75/64°F	8,496	70°F	208/230V, 1PH	0.3	15.0	39.4x23.6x8.7	57.3 LBS	DAIKIN	FXLQ07MVJU9	FLOOR STANDING UNIT		1–2
FCU–003B	BOILER	0.6	VRV–1	YES	245 CFM	6,687	4,659	75/64°F	8,496	70°F	208/230V, 1PH	0.3	15.0	39.4x23.6x8.7	57.3 LBS	DAIKIN	FXLQ07MVJU9	FLOOR STANDING UNIT	BRC1E73 (1)	1–2
FCU–006	MAINTENANCE	0.6	VRV–1	YES	260 CFM	6,699	5,167	75/64°F	8,500	70°F	208/230V, 1PH	0.3	15.0	31.3x11.4x9.3	26.5 LBS	DAIKIN	FXAQ07PVJU	WALL MOUNTED UNIT	BRC1E73 (1), BYFQ60C3W1W (1)	1–2
FCU–008A	COMM. PLEAS #2	1.5	VRV–1	YES	500 CFM	16,097	11,020	75/64°F	19,999	70°F	208/230V, 1PH	0.4	15.0	41.3x11.4x9.3	30.9 LBS	DAIKIN	FXAQ18PVJU	WALL MOUNTED UNIT	BYFQ60C3W1W (1)	1–2
FCU–008B	COMM. PLEAS #2	1.5	VRV–1	YES	500 CFM	16,097	11,020	75/64°F	19,999	70°F	208/230V, 1PH	0.4	15.0	41.3x11.4x9.3	30.9 LBS	DAIKIN	FXAQ18PVJU	WALL MOUNTED UNIT	BRC1E73 (1), BYFQ60C3W1W (1)	1–2
FCU–009	VESTIBULE	0.5	VRV–1	YES	300 CFM	5,118	4,022	75/64°F	6,483	70°F	208/230V, 1PH	0.3	15.0	22.6x10.2x22.6	35.3 LBS	DAIKIN	FXZQ05TAVJU	4–WAY CASSETTE (2’x2’)	BRC1E73 (1), BYFQ60C3W1W (1)	1–2
FCU–010	MEDIATION	1.0	VRV–1	YES	353 CFM	10,917	6,942	75/64°F	13,642	70°F	208/230V, 1PH	0.4	15.0	22.6x10.2x22.6	36.4 LBS	DAIKIN	FXZQ12TAVJU	4–WAY CASSETTE (2’x2’)	BRC1E73 (1), BYFQ60C3W1W (1)	1–2
FCU–012B	EMP. BREAKROOM	0.5	VRV–1	YES	300 CFM	5,118	4,022	75/64°F	6,483	70°F	208/230V, 1PH	0.3	15.0	22.6x10.2x22.6	35.3 LBS	DAIKIN	FXZQ05TAVJU	4–WAY CASSETTE (2’x2’)	BRC1E73 (1), BYFQ60C3W1W (1)	1–2
FCU–013A	ACCOUNTING	0.5	VRV–1	YES	300 CFM	5,118	4,022	75/64°F	6,483	70°F	208/230V, 1PH	0.3	15.0	22.6x10.2x22.6	35.3 LBS	DAIKIN	FXZQ05TAVJU	4–WAY CASSETTE (2’x2’)	BRC1E73 (1), BYFQ60C3W1W (1)	1–2
FCU–013B	PAYROLL	0.5	VRV–1	YES	300 CFM	5,118	4,022	75/64°F	6,483	70°F	208/230V, 1PH	0.3	15.0	22.6x10.2x22.6	35.3 LBS	DAIKIN	FXZQ05TAVJU	4–WAY CASSETTE (2’x2’)	BRC1E73 (1), BYFQ60C3W1W (1)	1–2
FCU–014	PROBATE CRT.	0.8	VRV–1	YES	317 CFM	8,529	5,659	75/64°F	10,574	70°F	208/230V, 1PH	0.3	15.0	22.6x10.2x22.6	35.3 LBS	DAIKIN	FXZQ09TAVJU	4–WAY CASSETTE (2’x2’)	BRC1E73 (1), BYFQ60C3W1W (1)	1–2
FCU–015	MEN’S RR	0.6	VRV–1	YES	307 CFM	6,823	4,958	75/64°F	8,527	70°F	208/230V, 1PH	0.3	15.0	22.6x10.2x22.6	35.3 LBS	DAIKIN	FXZQ07TAVJU	4–WAY CASSETTE (2’x2’)	BRC1E73 (1), BYFQ60C3W1W (1)	1–2
FCU–016A	STORAGE	0.6	VRV–1	YES	260 CFM	6,699	5,167	75/64°F	8,500	70°F	208/230V, 1PH	0.3	15.0	31.3x11.4x9.3	26.5 LBS	DAIKIN	FXAQ07PVJU	WALL MOUNTED UNIT		1–2
FCU–016B	STORAGE	0.6	VRV–1	YES	260 CFM	6,699	5,167	75/64°F	8,500	70°F	208/230V, 1PH	0.3	15.0	31.3x11.4x9.3	26.5 LBS	DAIKIN	FXAQ07PVJU	WALL MOUNTED UNIT	BRC1E73 (1)	1–2
FCU–017	WOMEN’S RR	0.6	VRV–1	YES	245 CFM	6,687	4,659	75/64°F	8,496	70°F	208/230V, 1PH	0.3	15.0	39.4x23.6x8.7	57.3 LBS	DAIKIN	FXLQ07MVJU9	FLOOR STANDING UNIT	BRC1E73 (1)	1–2
FCU–019	TITLE OFFICE	1.0	VRV–1	YES	353 CFM	10,917	6,942	75/64°F	13,642	70°F	208/230V, 1PH	0.4	15.0	22.6x10.2x22.6	36.4 LBS	DAIKIN	FXZQ12TAVJU	4–WAY CASSETTE (2’x2’)	BRC1E73 (1), BYFQ60C3W1W (1)	1–2
FCU–020	TITLE OFFICE	0.5	VRV–1	YES	300 CFM	5,118	4,022	75/64°F	6,483	70°F	208/230V, 1PH	0.3	15.0	22.6x10.2x22.6	35.3 LBS	DAIKIN	FXZQ05TAVJU	4–WAY CASSETTE (2’x2’)	BRC1E73 (1), BYFQ60C3W1W (1)	1–2
FCU–021A	JUDGE’S OFFICE	0.5	VRV–2	YES	300 CFM	5,118	4,022	75/64°F	6,483	70°F	208/230V, 1PH	0.3	15.0	22.6x10.2x22.6	35.3 LBS	DAIKIN	FXZQ05TAVJU	4–WAY CASSETTE (2’x2’)	BRC1E73 (1), BYFQ60C3W1W (1)	1–2
FCU–021B	JUDGE’S SECRETARY	0.5	VRV–2	YES	300 CFM	5,118	4,022	75/64°F	6,483	70°F	208/230V, 1PH	0.3	15.0	22.6x10.2x22.6	35.3 LBS	DAIKIN	FXZQ05TAVJU	4–WAY CASSETTE (2’x2’)	BRC1E73 (1), BYFQ60C3W1W (1)	1–2
FCU–022	JUVENILE OFFICE	1.0	VRV–2	YES	353 CFM	10,917	6,942	75/64°F	13,642	70°F	208/230V, 1PH	0.4	15.0	22.6x10.2x22.6	36.4 LBS	DAIKIN	FXZQ12TAVJU	4–WAY CASSETTE (2’x2’)	BRC1E73 (1), BYFQ60C3W1W (1)	1–2
FCU–023A	TREASURER	1.0	VRV–2	YES	353 CFM	10,917	6,942	75/64°F	13,642	70°F	208/230V, 1PH	0.4	15.0	22.6x10.2x22.6	36.4 LBS	DAIKIN	FXZQ12TAVJU	4–WAY CASSETTE (2’x2’)	BRC1E73 (1), BYFQ60C3W1W (1)	1–2
FCU–023B	TREASURER	1.0	VRV–2	YES	353 CFM	10,917	6,942	75/64°F	13,642	70°F	208/230V, 1PH	0.4	15.0	22.6x10.2x22.6	36.4 LBS	DAIKIN	FXZQ12TAVJU	4–WAY CASSETTE (2’x2’)	BRC1E73 (1), BYFQ60C3W1W (1)	1–2
FCU–024	TREASURER OFFICE	0.6	VRV–2	YES	260 CFM	6,699	5,167	75/64°F	8,500	70°F	208/230V, 1PH	0.3	15.0	31.3x11.4x9.3	26.5 LBS	DAIKIN	FXAQ07PVJU	WALL MOUNTED UNIT	BRC1E73 (1)	1–2
FCU–025	AUDITOR	1.5	VRV–2	YES	511 CFM	16,035	10,957	75/64°F	20,121	70°F	208/230V, 1PH	0.6	15.0	22.6x10.2x22.6	41.9 LBS	DAIKIN	FXZQ18TAVJU	4–WAY CASSETTE (2’x2’)	BRC1E73 (1), BYFQ60C3W1W (1)	1–2
FCU–026	AUDITOR’S OFFICE	0.5	VRV–2	YES	300 CFM	5,118	4,022	75/64°F	6,483	70°F	208/230V, 1PH	0.3	15.0	22.6x10.2x22.6	35.3 LBS	DAIKIN	FXZQ05TAVJU	4–WAY CASSETTE (2’x2’)	BRC1E73 (1), BYFQ60C3W1W (1)	1–2
FCU–027	AUDITOR’S BCK RM	0.8	VRV–2	YES	317 CFM	8,529	5,659	75/64°F	10,574	70°F	208/230V, 1PH	0.3	15.0	22.6x10.2x22.6	35.3 LBS	DAIKIN	FXZQ09TAVJU	4–WAY CASSETTE (2’x2’)	BRC1E73 (1), BYFQ60C3W1W (1)	1–2
FCU–028	COMMON PLEAS OFF.	0.5	VRV–2	YES	300 CFM	5,118	4,022	75/64°F	6,483	70°F	208/230V, 1PH	0.3	15.0	22.6x10.2x22.6	35.3 LBS	DAIKIN	FXZQ05TAVJU	4–WAY CASSETTE (2’x2’)	BRC1E73 (1), BYFQ60C3W1W (1)	1–2
FCU–029	COMMON PLEAS DOM.	1.3	VRV–2	YES	405 CFM	13,646	8,972	75/64°F	17,057	70°F	208/230V, 1PH	0.4	15.0	22.6x10.2x22.6	36.4 LBS	DAIKIN	FXZQ15TAVJU	4–WAY CASSETTE (2’x2’)	BRC1E73 (1), BYFQ60C3W1W (1)	1–2
FCU–032	TITLE OFFICE	0.6	VRV–2	YES	245 CFM	6,687	4,659	75/64°F	8,496	70°F	208/230V, 1PH	0.3	15.0	39.4x23.6x8.7	57.3 LBS	DAIKIN	FXLQ07MVJU9	FLOOR STANDING UNIT	BRC1E73 (1)	1–2
FCU–033	JUVENILE COURT RM	0.6	VRV–2	YES	307 CFM	6,823	4,958	75/64°F	8,527	70°F	208/230V, 1PH	0.3	15.0	22.6x10.2x22.6	35.3 LBS	DAIKIN	FXZQ07TAVJU	4–WAY CASSETTE (2’x2’)	BRC1E73 (1), BYFQ60C3W1W (1)	1–2
FCU–034	MAGISTRATE	0.5	VRV–2	YES	300 CFM	5,118	4,022	75/64°F	6,483	70°F	208/230V, 1PH	0.3	15.0	22.6x10.2x22.6	35.3 LBS	DAIKIN	FXZQ05TAVJU	4–WAY CASSETTE (2’x2’)	BRC1E73 (1), BYFQ60C3W1W (1)	1–2
FCU–035A	PROBATE COURT	0.8	VRV–2	YES	317 CFM	8,529	5,659	75/64°F	10,574	70°F	208/230V, 1PH	0.3	15.0	22.6x10.2						

PLOT DATE \ TIME: 2/9/2021 4:46:17 PM
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(VRV) VARIABLE REFRIGERANT VOLUME – ZONE HEAT RECOVERY DEVICE SCHEDULE

TAG	CONDENSING UNIT SERVED	MAX CAPACITY (PER PORT)	ELECTRICAL			DIMENSIONS		MAKE	MODEL	OPTIONS & ACCESORIES	NOTES
			VOLTAGE/PH	MCA	MOP	WxHxD (IN.)	WEIGHT				
BS-1-1	VRV-1	54,000	208/230V, 1PH	1.0	15.0	32.3x11.7x18.9	101.4 LBS	DAIKIN	BS10Q54TVJ	KHFP26A100C (1)	1-4
BS-1-2	VRV-1	54,000	208/230V, 1PH	0.8	15.0	23.3x9.5x23.7	81.6 LBS	DAIKIN	BS8Q54TVJ	-	1-4
BS-2-1	VRV-2	54,000	208/230V, 1PH	1.0	15.0	32.3x11.7x18.9	101.4 LBS	DAIKIN	BS10Q54TVJ	-	1-4
BS-2-2	VRV-2	54,000	208/230V, 1PH	0.4	15.0	13.7x9.5x23.7	48.5 LBS	DAIKIN	BS4Q54TVJ	-	1-4
BS-2-3	VRV-2	54,000	208/230V, 1PH	0.4	15.0	13.7x9.5x23.7	48.5 LBS	DAIKIN	BS4Q54TVJ	-	1-4
BS-3-1	VRV-3	54,000	208/230V, 1PH	0.6	15.0	23.3x9.5x23.7	72.8 LBS	DAIKIN	BS6Q54TVJ	KHFP26A100C (1)	1-4
BS-3-2	VRV-3	54,000	208/230V, 1PH	0.6	15.0	23.3x9.5x23.7	72.8 LBS	DAIKIN	BS6Q54TVJ	KHFP26A100C (1)	1-4
BS-3-3	VRV-3	54,000	208/230V, 1PH	0.6	15.0	23.3x9.5x23.7	72.8 LBS	DAIKIN	BS6Q54TVJ	KHFP26A100C (1)	1-4

NOTES:

- INDIVIDUAL CONTROL AND CHANGEOVER WITH EXTENDED RANGE OF PRODUCT OFFERINGS – 4, 6, 8, 10 AND 12 PORT OPTIONS
- UNLIMITED NUMBER OF UNUSED PORTS PER BOX OR SYSTEM
- NO DRAIN PIPING NEEDED
- STANDARD LIMITED WARRANTY: 10-YEAR WARRANTY ON ALL PARTS

AIR DEVICE SCHEDULE

SYMBOL	SIZE	TYPE	NECK	N.C	MODEL	MANUFACTURER	REMARKS
SD-1	24/24	LAY-IN	10"ø	-	SCD2424	PRICE	1,2
SD-2	18/10	SURFACE	18/10	-	510	PRICE	1,2
RG-1	24/24	LAY-IN	14"ø	-	PDDR	PRICE	1,2
RG-2	18/10	SURFACE	18/10	-	530	PRICE	1,2

NOTES:

- WHERE RADIAL DAMPER NOT PROVIDED, MANUAL BALANCE DAMPER INSTALLED IN BRANCH.
- AIR DEVICES SIZED TO MAINTN N.C. BELOW 20.

LOUVER SCHEDULE

NUMBER	MAKE	MODEL	WIDTH INCHES	HEIGHT INCHES	MIN. F.A. SQ. FT.	MAX. CFM	MAX. APD IN. WC.	FINISH	SERVICE REFERENCE	NOTES
L-1	GREENHECK	ESD-635	20"	20"	1.1	800	0.08"	KYNAR	L-1	

NOTES:

- LOUVERS SUPPLIED WITH BIRD SCREENS.
- DIMENSIONS INDICATED ARE NORMAL, EXACT DIMENSIONS SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR.
- DRAINABLE BLADE LOUVER.

(VRV) VARIABLE REFRIGERANT VOLUME – AIR-COOLED CONDENSING UNIT SCHEDULE

TAG	NOMINAL TONNAGE	COOLING CAPACITY		HEATING CAPACITY		REFRIGERANT CHARGE		CONNECTION RATIO	ELECTRICAL				DIMENSIONS		EFFICIENCY (NON-DUCTED)					MAKE	MODEL	OPTIONS & ACCESORIES	NOTES
		OA DESIGN DB	BTU/h	OA DESIGN DB/WB	BTU/h	FACTORY CHARGE	ADD'L		VOLTAGE/PH	MCA	MOP	RLA	WxHxD (IN.)	WEIGHT	EER	IEER	COP47	COP17	SCHE				
VRV-1	12-TON	95.0 F	145,590	0.0/0.0	154,826	51.6 LBS	N/A	127.8%	208/230V, 3PH	60.8/60.8	70.0/70.0	20.7/20.7	48.9x66.7x30.2	727.5 LBS	12.9	22.5	3.81	2.2	25.5	DAIKIN	RELQ144TATJA	BHFP26P100U (1)	1-22
VRV-2	12-TON	95.0 F	145,143	0.0/0.0	154,727	51.6 LBS	N/A	126.0%	208/230V, 3PH	60.8/60.8	70.0/70.0	20.7/20.7	48.9x66.7x30.2	727.5 LBS	12.9	22.5	3.81	2.2	25.5	DAIKIN	RELQ144TATJA	BHFP26P100U (1)	1-22
VRV-3	12-TON	95.0 F	132,860	0.0/0.0	152,985	51.6 LBS	N/A	106.5%	208/230V, 3PH	60.8/60.8	70.0/70.0	20.7/20.7	48.9x66.7x30.2	727.5 LBS	12.9	22.5	3.81	2.2	25.5	DAIKIN	RELQ144TATJA	BHFP26P100U (1)	1-22
VRV-4	14-TON	91.0 F	162,066	0.0/0.0	100,371	17.2 LBS	N/A	85.7%	208/230V, 3PH	55.1/55.1	60.0/60.0	37.6/37.6	48.9x66.7x30.2	694.5 LBS	10.6	22.6	3.4	2.34	-	DAIKIN	RXLQ168XATJA	KHRP26 (2)	1-22

NOTES:

- MANUFACTURER MUST BE CERTIFIED, LISTED AND LABELED PER AHRI 1230
- SYSTEM RATING DATA BASED ON DESIGN AMBIENT CONDITIONS FOR COOLING & HEATING
- SUBMITTED PERFORMANCE DATA MUST BE FULLY DE-RATED FOR ALL COMPONENTS AND ACCESSORIES, INCLUDING BUT NOT LIMITED TO, LINE LENGTH, VERTICAL SEPARATION, CONNECTION RATIO, DESIGN CONDITIONS, CONDENSER COIL COATING
- CONDENSING UNITS MUST HAVE FULLY MODULATING INVERTER COMPRESSORS
- CONDENSING UNITS MUST HAVE AUTO CHANGEOVER FUNCTIONS
- DEMAND LIMITING RELAY CONTACT MUST BE PROVIDED
- EEV ACTUATORS MUST BE REMOVABLE FROM VALVE BODY WITHOUT DISTURBING THE REFRIGERANT SYSTEM
- FCU THERMOSTATS MUST PROVIDE ±1 DEG. DEAD-BAND SET-POINT AND CONTROL CAPABILITY
- SYSTEM SHALL BE PROVIDED WITH I-TOUCH MANAGER CONTROLLER WITH WEB BASED SOFTWARE FOR DISPLAYING UP TO 8 DIII-NET SYSTEMS WITH 128 INDOOR UNITS PER SYSTEM. PC BY OTHERS
- MANUFACTURERS SUBMITTAL MUST INCLUDE REFRIGERANT PIPING DIAGRAM WITH PIPE DIAMETERS, LENGTHS AND REFRIGERANT VOLUME
- SUBSTITUTE MANUFACTURER SHALL BE RESPONSIBLE FOR ADDITIONAL PIPING AND REFRIGERANT
- CONTRACTOR TO VERIFY PIPING DIMENSIONS
- INSTALLING CONTRACTOR MUST HAVE SUCCESSFULLY COMPLETED MANUFACTURER'S CERTIFIED INSTALLATION CLASS WITHIN PAST 36 MONTHS
- CONTRACTOR TO FURNISH AND INSTALL INSULATION ON REFRIGERANT PIPING
- MANUFACTURER'S REPRESENTATIVE MUST HAVE LOCAL STOCK OF PARTS AND FACTORY CERTIFIED TECHNICIAN ON STAFF
- MANUFACTURER'S REPRESENTATIVE SHALL PROVIDE PROOF OF ONGOING INSTALLATION TRAINING AT THEIR LOCAL FACILITY FOR AT LEAST THE PAST 5 YEARS
- MANUFACTURER'S REPRESENTATIVE SHALL PROVIDE PROOF OF CONTINUOUS SALES AND SUPPORT OF THEIR PRODUCTS FOR AT LEAST 15 YEARS
- MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DIRECT COSTS AND OPERATING COSTS INCREASES FOR 20 YEARS ASSOCIATED WITH ANY DEVIATIONS RESULTING FROM CHANGES IN DESIGN
- MANUFACTURER MUST PROVIDE 10-YEAR PARTS WARRANTY ON ALL FCUS, CONDENSING UNITS AND MODE CHANGEOVER DEVICES. WARRANTY CONDITIONS MUST BE CLARIFIED DURING SUBMITTAL PHASE
- 3-PHASE AIR COOLED CONDENSING UNITS MUST HAVE PUBLISHED PERFORMANCE DATA WITH 200% CONNECTED CAPACITY
- CONDENSING UNITS MUST BE FURNISHED WITH PROTECTIVE COIL COATING TO WITHSTAND ASTM B117 SALT SPRAY TEST FOR A MINIMUM OF 1000 HOURS. PERFORMANCE OF SYSTEM MUST BE DE-RATED FOR COIL COATING
- MANUFACTURER MUST CERTIFY AND SUBMIT SYSTEM PERFORMANCE AT EXTREME CONDITIONS OF 122 DEG. FDB AMBIENT IN COOLING MODE AND -22 DEG FWB IN HEATING MODE

(RTU) ROOFTOP UNIT SCHEDULE

SYMBOL	CFM		FAN DATA				COILING COIL			HEATING			MAKE	MODEL	NOTES
	TOTAL	MIN OA	ESP	H.P.	MOCp	ELECTRICAL	TCC (BTU/h)	SCC (BTU/h)	IEER/EER	FUEL	MBH	AFUE			
RTU-1	3,400	691.3	1" w.c.	3.00	60	208/230, 3ø	97,000	71,780	12.7/11	N.G.	210,000	80	DAIKIN	DBG090-150	1-12

NOTES:

- PROVIDE FIELD INSTALLED APPSTAT RTU 2H/2C ECON
- FACTORY INSTALLED GFCI CONVENIENCE OUTLET
- FACTORY INSTALLED ELECTRO-MECHANICAL CONTROLS
- FACTORY INSTALLED HAIL GUARD
- FACTORY INSTALLED HINGED PANELS
- FACTORY INSTALLED NON-FUSED DISCONNECT
- FACTORY INSTALLED PHASE MONITOR
- FACTORY INSTALLED R/A SMOKE DETECTOR W/ REMOTE ANNUNCIATOR
- FACTORY INSTALLED 409 SS HEAT EXCHANGER
- FACTORY INSTALLED 2-STAGE COOLING MODE
- FACTORY INSTALLED ULTRA LOW-LEAK INTERNAL HORIZONTAL ECONOMIZER W/ENTHALPY SENSOR
- RETURN AIR CO2 SENSOR FOR DEMAND CONTROLLED VENTILATION

(DOAS) DEDICATED OUTDOOR AIR SYSTEM SCHEDULE

TAG	NOMINAL TONNAGE	NOMINAL CFM	OUTDOOR AIR FLOW	RETURN AIR FLOW	EFFECTIVENESS %		ELECTRICAL				DIMENSIONS		ELECTRIC PRE-HEAT				ELECTRIC RE-HEAT				MAKE	MODEL	OPTIONS & ACCESORIES	NOTES
					TEMP	ENTHALPY-S/W	VOLTAGE/PH	MCA	FLA	MFA	WxHxD (IN.)	WEIGHT	VOLTAGE/PH	kW	FLA	FUSE	VOLTAGE/PH	kW	FLA	FUSE				
DOAS-1	4-TON	660 CFM	660 CFM	660 CFM	70.0	48.3/59.2	240V, 1PH	4.2	-	15A	29x18x43	189.6 LBS	240V, 1PH	5	20.833	30A	240V, 1PH	5	20.833	30A	DAIKIN	VAM600GVJU	BRC1E73	1-5
DOAS-2	4-TON	660 CFM	660 CFM	660 CFM	70.0	48.3/59.2	240V, 1PH	4.2	-	15A	29x18x43	189.6 LBS	240V, 1PH	5	20.833	30A	240V, 1PH	5	20.833	30A	DAIKIN	VAM600GVJU	BRC1E73	1-5
DOAS-3	4-TON	660 CFM	660 CFM	660 CFM	70.0	48.3/59.2	240V, 1PH	4.2	-	15A	29x18x43	189.6 LBS	240V, 1PH	5	20.833	30A	240V, 1PH	5	20.833	30A	DAIKIN	VAM600GVJU	BRC1E73	1-5

NOTES:

- CONSTANT AIR VOLUME
- ELECTRIC PRE-HEAT AND RE-HEAT COILS
- 2" MERV-13 OA FILTERS, 2" MERV-8 RA FILTERS
- 5 KW PRE-HEAT AND RE-HEAT TO BE CONTROLLED BY EQUIPMENT MANUFACTURER BASED ON OA & SA TEMP. AND %RH.
- UNIT TO BE SETUP ON AN OCCUPANCY SCHEDULE AND CONTROLLED BY BUILDING AUTOMATION SYSTEM

2	JPR	02/08/21	ADDENDUM 2
1	JPR	02/02/21	ADDENDUM 1
0	JPR	01/22/21	ISSUED FOR BID
REV	BY	DATE	DESCRIPTION

DESIGNERS:



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805 E. MAIN STREET • ASHLAND, OH
P: 419.281.0144 F: 419.281.6971
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JOSEPH P. REEP • OHIO PE: #77349
INFO@ASHLANDCOMFORT.COM

PROJECT

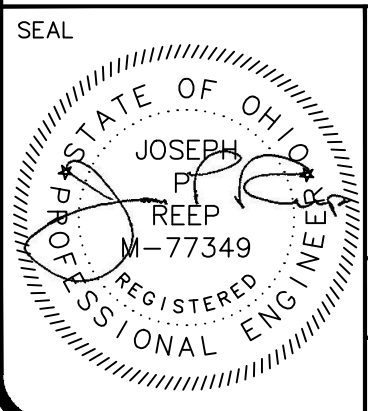


142 West 2nd Street
Ashland, OH 44805

Ashland County Courthouse HVAC System Upgrades

DRAWN BY: JPR	ORIGIN DATE: 10/12/20	DESIGNED BY: JPR	DATE: 12/31/20
APPROVED BY: JPR	DATE: 01/21/21	CLIENT NO. ASH000	JOB NO. 220210

DRAWING NAME:
220210 - HVAC.DWG



**HVAC
EQUIPMENT
SCHEDULES 2**

LAST EDIT DATE:
2/9/21

DRAWING NO.
M3.1

DESIGNERS:

ASHLAND COMFORT CONTROL

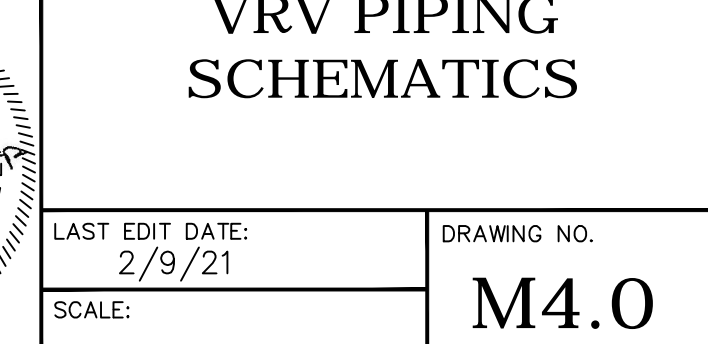


142 West 2nd Street
Ashland, OH 44801

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DRAWING NAME:

SEAL	TITLE
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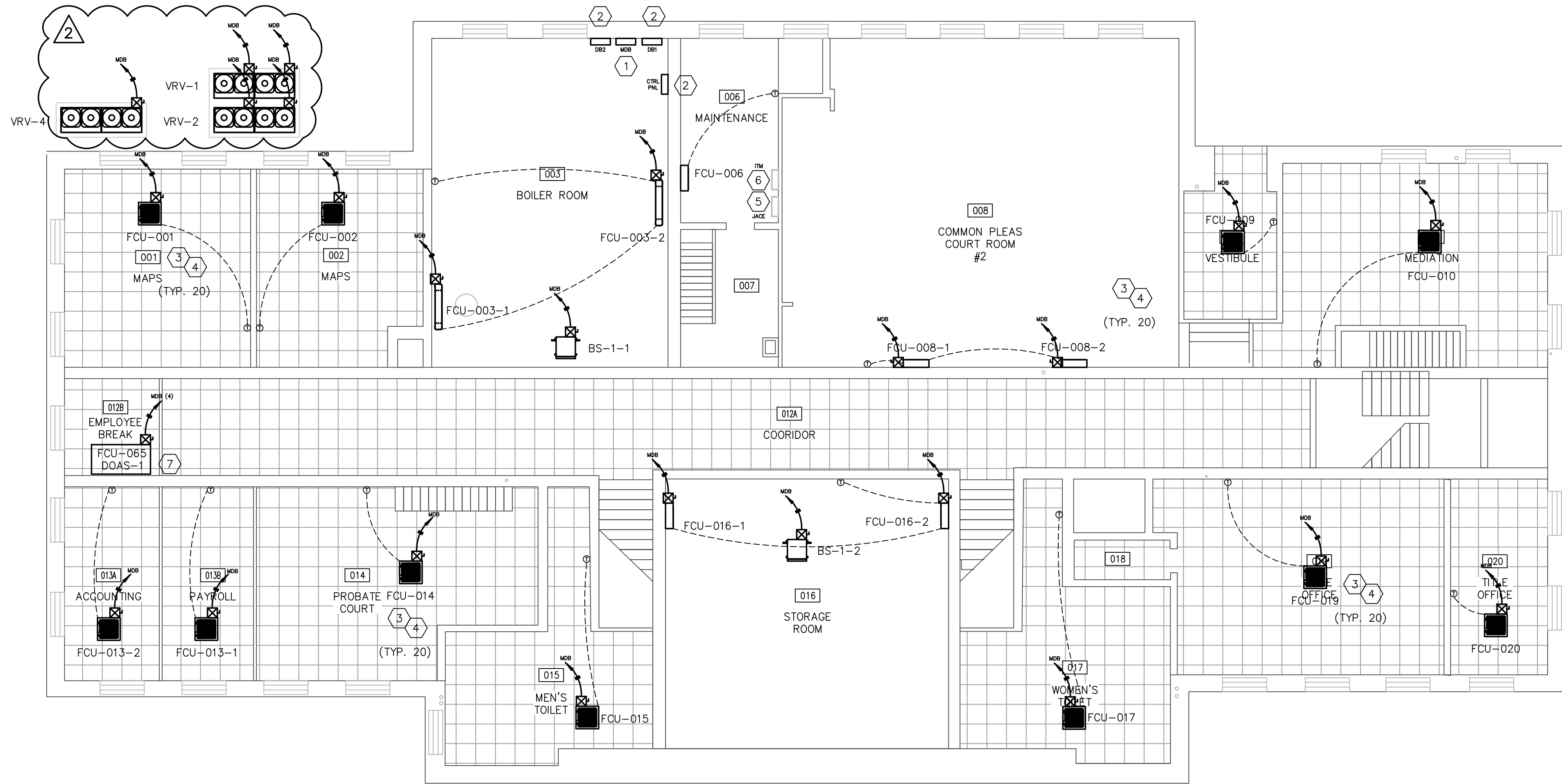


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A PLAN VIEW
GROUND LEVEL ELECTRICAL WORK
1/8" = 1'-0"

(X) CODED NOTES:

1. ELECTRICAL CONTRACTOR (E.C.) TO DEMOLISH EXISTING MDB PANEL AND ASSOCIATED CONTROL ENCLOSURE. PROVIDE AND INSTALL ONE (1) NEW 400A, 84 CIRCUIT, 208/230V, 3Ø MAIN DISTRIBUTION PANEL TO REPLACE EXISTING MDB. IN ADDITION TO FEEDING SUB-PANELS DB1 AND DB2, MDB TO FEED BRANCH CIRCUITS FOR VRV-1, VRV-2, VRV-3, VRV-4 AND ALL GROUND FLOOR INDOOR FAN COIL AND BRANCH SELECTOR UNITS. SEE DRAWING E3.0 AND E4.1 FOR ADDITIONAL INFORMATION.
2. E.C. TO DEMOLISH EXISTING DB1 & DB2 PANELS AND ASSOCIATED CONTROL ENCLOSURES. ABANDON IN PLACE EXISTING CONDUIT AND CIRCUITRY FEEDING WINDOW AIR CONDITIONERS EXCEPT WHERE IT IS ADVANTAGEOUS TO RE-USE CONDUIT FOR FEEDS TO NEW EQUIPMENT. INSTALL TWO (2) 225A, 54 CIRCUIT, 208/230V, 3Ø SUB-PANELS DB1 & DB2. DB1 & DB2 TO FEED BRANCH CIRCUITS FOR REMAINING VRV, DOAS, INDOOR FAN COIL AND BRANCH SELECTOR UNITS. SEE DRAWING E3.0 AND E4.1 FOR ADDITIONAL INFORMATION.
3. E.C. TO PROVIDE NEW 15A, 208/230V, 1Ø BRANCH CIRCUIT TO EACH INDOOR FAN COIL UNIT AND BRANCH SELECTOR UNIT. INSTALLATION TO INCLUDE BREAKER, CONDUIT, CONDUCTORS AND INDIVIDUAL DISCONNECT FOR EACH CIRCUIT. SEE DRAWING E3.0 AND E4.1 FOR ADDITIONAL INFORMATION.
4. TEMPERATURE CONTROL CONTRACTOR (T.C.C.) TO PROVIDE ALL LOW VOLTAGE AND CATS COMMUNICATION AND CONTROL WIRE FOR VRV UNITS, BRANCH SELECTOR UNITS, FAN COIL UNITS, ROOM THERMOSTATS, NEW RTU, DOAS UNITS AND BOILER PLANT. CONTRACTOR TO COORDINATE SPECIFIC REQUIREMENTS INCLUDING TYPE/QUANTITY/GAUGE OF WIRING WITH EQUIPMENT MANUFACTURER. INSTALL TO INCLUDE ALL CONDUIT, RACEWAY AND WIRE MOLD FOR A CLEAN, PROFESSIONAL INSTALLATION.
5. T.C.C. TO PROVIDE ONE (1) HONEYWELL JACE-8075 TRIDIUM BASED INTEGRATION DEVICE COMPLETE WITH CONTROL ENCLOSURE, POWER SUPPLY AND INDUSTRIAL NETWORK SWITCH. INSTALLATION TO INCLUDE 5-YEAR TRIDIUM FACTORY SOFTWARE MAINTENANCE AGREEMENT AND NIAGARA NETWORK CONNECTION TO EXISTING N4 SUPERVISOR INCLUDING ALL INTEGRATION, 3D FLOOR PLAN, CUSTOM GRAPHICS FOR NEW VRF SYSTEM, DOAS UNITS, RTU AND BOILER PLANT.
6. VRV SYSTEM iTOUCH MANAGER AND BacNet LICENSE TO BE PROVIDED BY M.C. AND INSTALLED/INTEGRATED BY T.C.C. IN APPROXIMATE LOCATION SHOWN IN A DEDICATED ENCLOSURE.
7. E.C. TO PROVIDE INDIVIDUAL CIRCUITS FROM MDB TO AHU/DOAS UNIT FOR VRV CONTROLLER, AIR HANDLER, PRE-HEAT AND RE-HEAT COMPONENTS. SEE E3.0 FOR ADDITIONAL INFORMATION.

REV	BY	DATE	DESCRIPTION
2	JPR	02/08/21	ADDENDUM 2
1	JPR	02/02/21	ADDENDUM 1
0	JPR	01/22/21	ISSUED FOR BID

DESIGNERS:



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805 E. MAIN STREET - ASHLAND, OH
P: 419.281.0144 F: 419.281.6971
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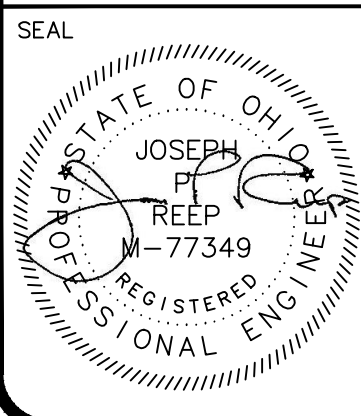


142 West 2nd Street
Ashland, OH 44805

Ashland County Courthouse HVAC System Upgrades

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JPR	10/12/20	JPR	12/31/20
APPROVED BY:	DATE:	CLIENT NO.	JOB NO.
JPR	01/21/21	ASH000	220210

DRAWING NAME:
220210 - ELEC.DWG



SEAL

TITLE

LOWER LEVEL ELECTRICAL NEW WORK

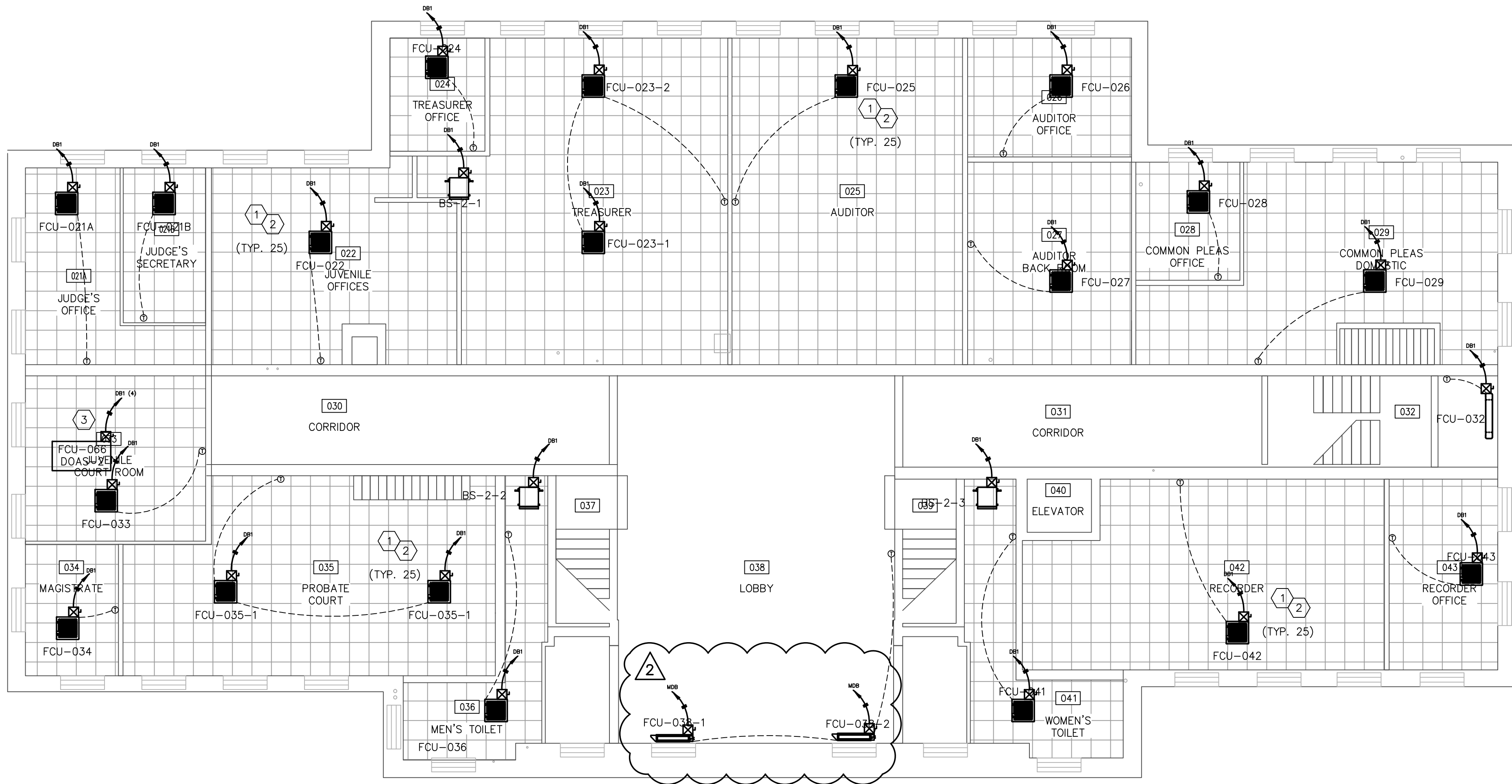
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A PLAN VIEW
1ST FLOOR ELECTRICAL WORK
1/8" = 1'-0"

CODING NOTES:

- E.C. TO PROVIDE NEW 15A, 208/230V, 1Ø BRANCH CIRCUIT TO EACH INDOOR FAN COIL UNIT AND BRANCH SELECTOR UNIT. INSTALLATION TO INCLUDE BREAKER, CONDUIT, CONDUCTORS AND INDIVIDUAL DISCONNECT FOR EACH CIRCUIT. SEE DRAWING E3.0 AND E4.1 FOR ADDITIONAL INFORMATION.
- TEMPERATURE CONTROL CONTRACTOR (T.C.C.) TO PROVIDE ALL LOW VOLTAGE AND CATS COMMUNICATION AND CONTROL WIRE FOR VRV UNITS, BRANCH SELECTOR UNITS, FAN COIL UNITS, ROOM THERMOSTATS, NEW RTU, DOAS UNITS AND BOILER PLANT. CONTRACTOR TO COORDINATE SPECIFIC REQUIREMENTS INCLUDING TYPE/QUANTITY/GAUGE OF WIRING WITH EQUIPMENT MANUFACTURER. INSTALL TO INCLUDE ALL CONDUIT, RACEWAY AND WIRE MOLD FOR A CLEAN, PROFESSIONAL INSTALLATION.
- E.C. TO PROVIDE INDIVIDUAL CIRCUITS FROM DB1 TO AHU/DOAS UNIT FOR VRV CONTROLLER, AIR HANDLER, PRE-HEAT AND RE-HEAT COMPONENTS. SEE E3.0 FOR ADDITIONAL INFORMATION.

2	JPR	02/08/21	ADDENDUM 2
1	JPR	02/02/21	ADDENDUM 1
0	JPR	01/22/21	ISSUED FOR BID
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DESIGNERS:



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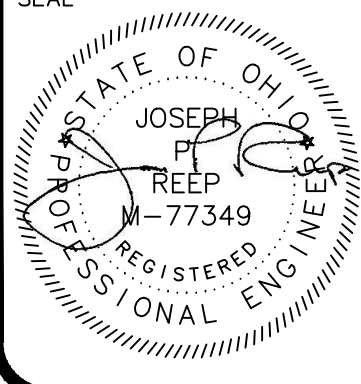
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**Ashland County Courthouse
HVAC System Upgrades**

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APPROVED BY:	DATE:	CLIENT NO.	JOB NO.
JPR	01/21/21	ASH000	220210

DRAWING NAME:
220210 - ELEC.DWG

SEAL



TITLE

**1ST FLOOR
ELECTRICAL NEW
WORK**

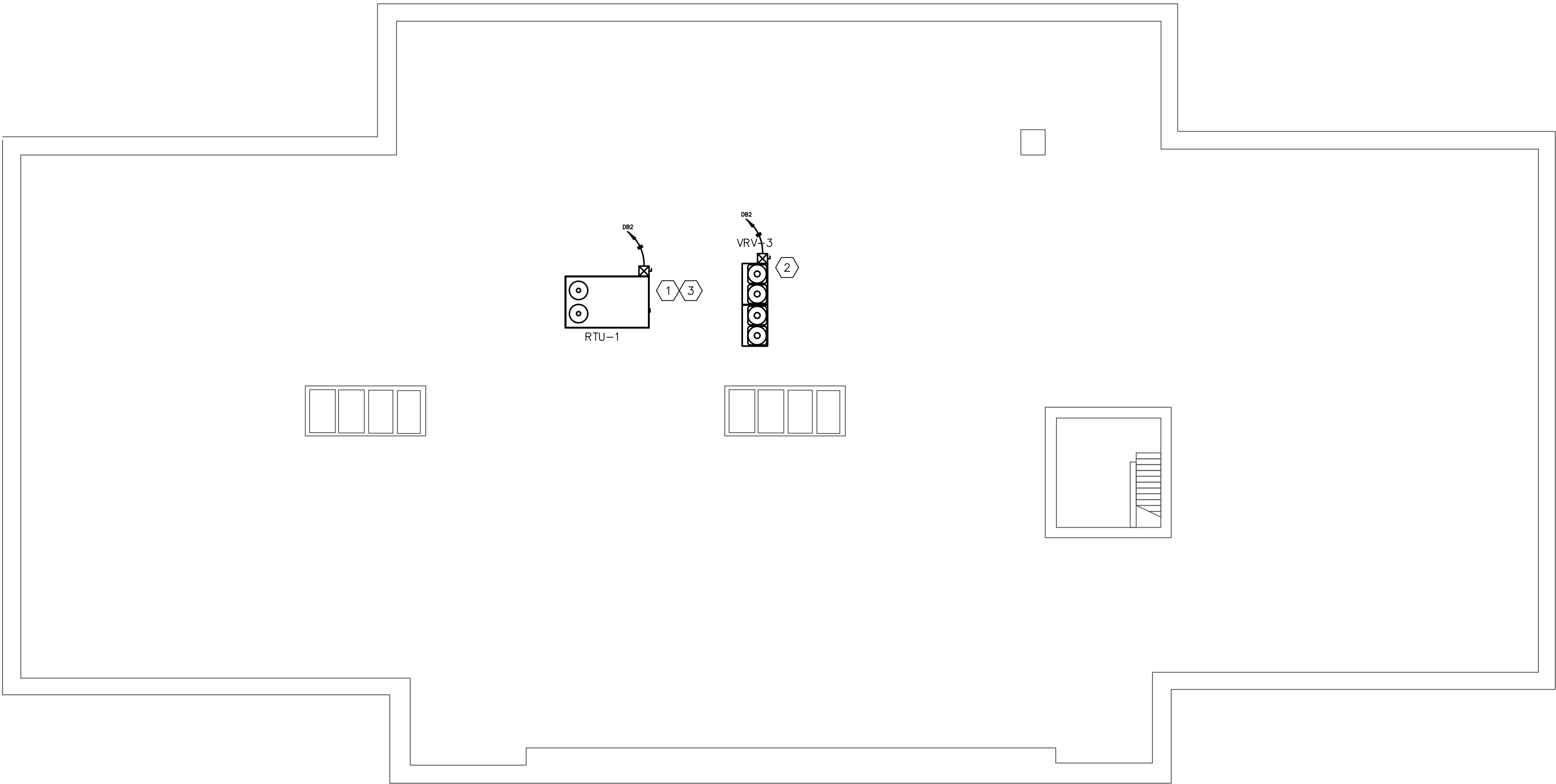
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2ND FLOOR ELECTRICAL WORK

$$1/8'' = 1'-0''$$

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A

PLAN VIEW

ROOF ELECTRICAL WORK

1/8" = 1'-0"

CODED NOTES:

1. ELECTRICAL CONTRACTOR (E.C.) TO PROVIDE NEW 60A, 208/230V, 3Ø BRANCH CIRCUIT TO NEW 10-TON ROOFTOP UNIT. INSTALLATION TO INCLUDE BREAKER, CONDUIT, CONDUCTORS AND INDIVIDUAL DISCONNECT FOR EACH CIRCUIT. SEE DRAWING E3.0 AND E4.1 FOR ADDITIONAL INFORMATION.
2. E.C. TO PROVIDE NEW 70A, 208/230V, 3Ø BRANCH CIRCUIT TO NEW VRV UNIT. INSTALLATION TO INCLUDE BREAKER, CONDUIT, CONDUCTORS AND INDIVIDUAL DISCONNECT FOR EACH CIRCUIT. SEE DRAWING E3.0 AND E4.1 FOR ADDITIONAL INFORMATION.
3. E.C. TO PROVIDE 15A CONVENIENCE RECEPTACLE WITH WEATHERPROOF ENCLOSURE AND COVER.

REV	BY	DATE	DESCRIPTION
2	JPR	02/08/21	ADDENDUM 2
1	JPR	02/02/21	ADDENDUM 1
0	JPR	01/22/21	ISSUED FOR BID

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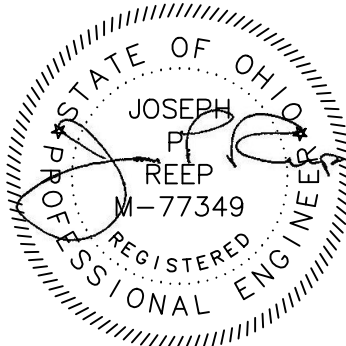
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Ashland, OH 44805
**Ashland County Courthouse
HVAC System Upgrades**

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DRAWING NAME:
220210 - ELEC.DWG

SEAL



TITLE

ROOF
ELECTRICAL NEW
WORK

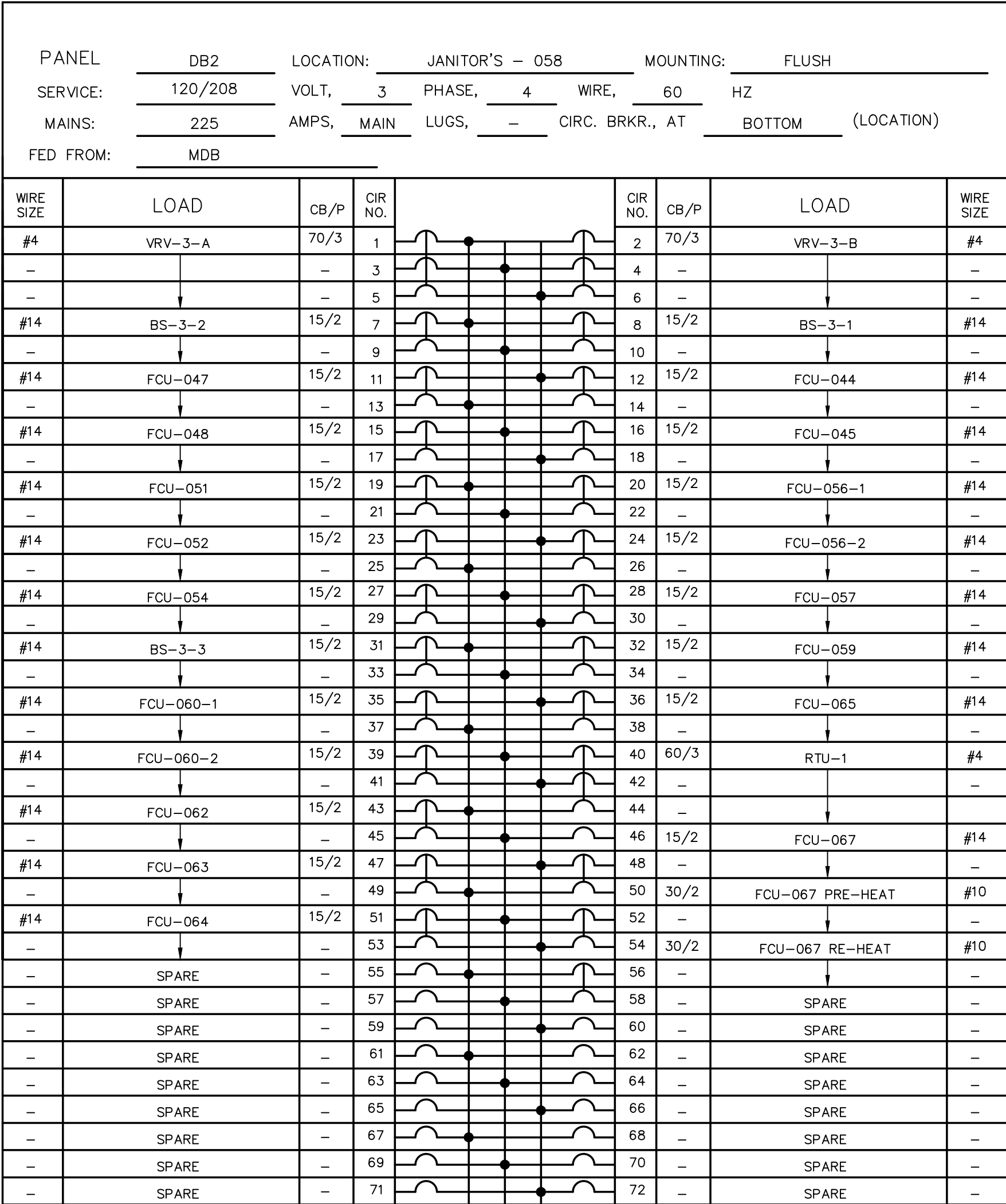
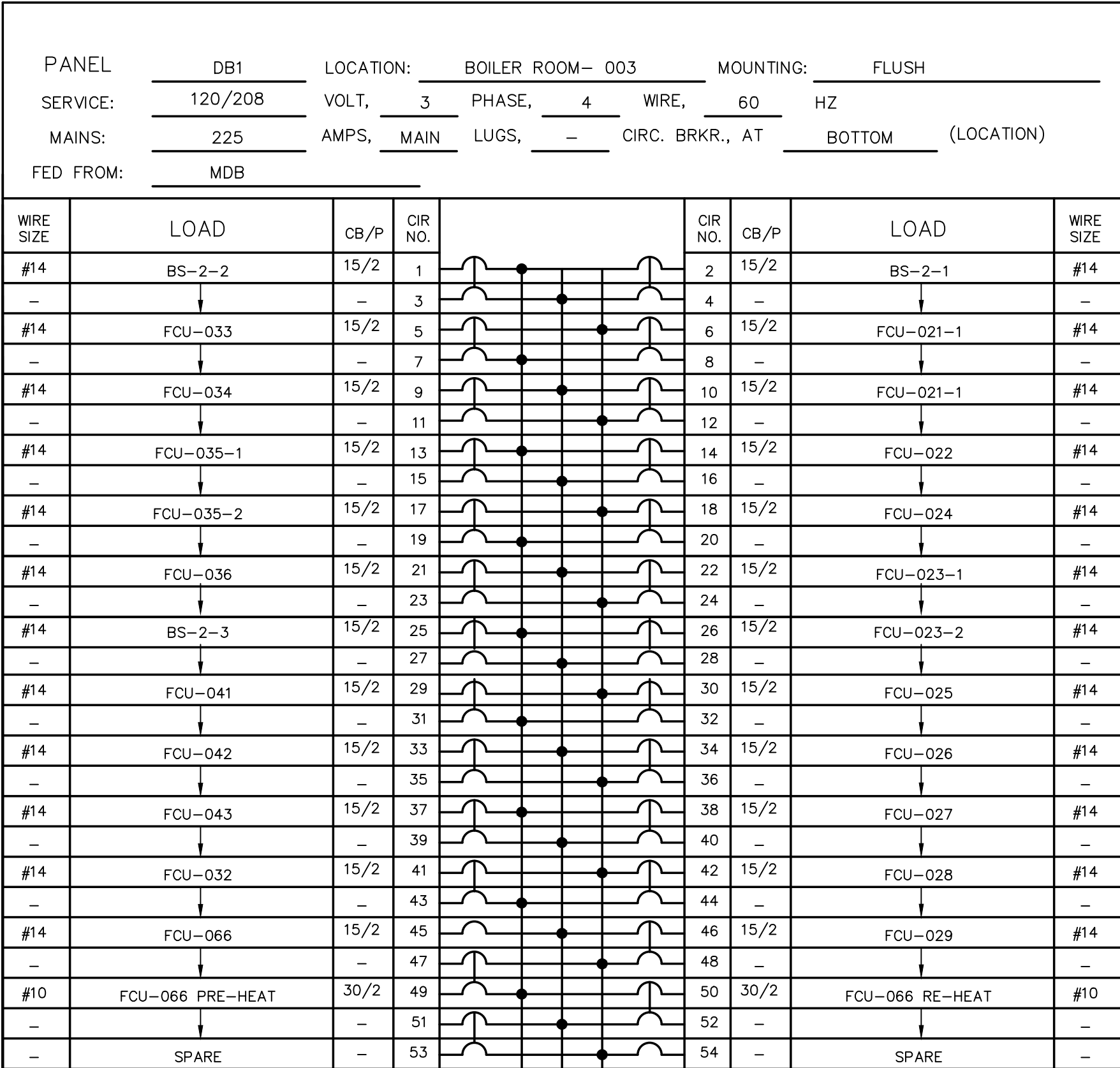
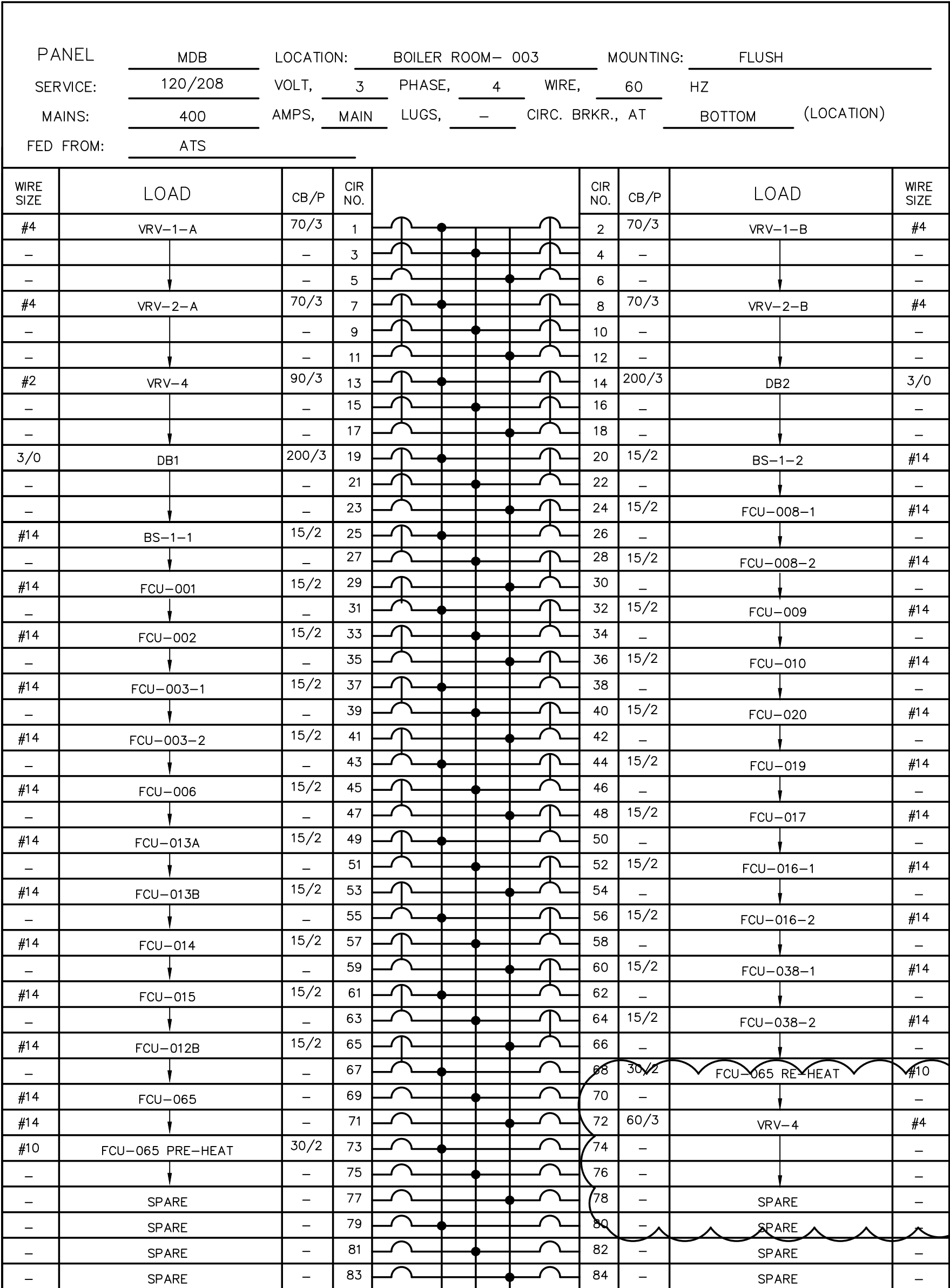
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ELECTRICAL SPECIFICATIONS:

- THE REQUIREMENTS AS SET FORTH UNDER GENERAL CONDITIONS, INSTRUCTIONS TO BIDDERS AND GENERAL REQUIREMENTS ARE A PART OF THIS CONTRACT.
- BIDS SHALL BE BASED ON A COMPLETE/FULL SET OF DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF WORK WITH WORK PERFORMED BY OTHER TRADES.
- CONTRACTOR SHALL VISIT SITE PRIOR TO BIDDING. BIDS SHALL SERVE AS EVIDENCE OF KNOWLEDGE OF EXISTING CONDITIONS. FIELD VERIFY ALL EXISTING ELECTRICAL LOCATIONS, CONDITIONS ETC. FAILURE TO VISIT THE SITE SHALL NOT RELIEVE THE CONTRACTOR FROM ANY RESPONSIBILITY IN THE PERFORMANCE OF THE ELECTRICAL WORK. BEGINNING OF WORK INDICATES ACCEPTANCE OF EXISTING CONDITIONS.
- FURNISH ALL LABOR, MATERIALS, TESTING, EQUIPMENT, INCIDENTALS AND TOOLS TO PERFORM ELECTRICAL WORK SHOWN, NOTED OR SCHEDULED FOR A COMPLETE AND FINISHED INSTALLATION. MATERIALS, PRODUCTS AND EQUIPMENT, INCLUDING ALL COMPONENTS THEREOF, SHALL BE NEW AND AS SUCH APPEAR ON THE UNDERWRITERS LABORATORIES LIST OF APPROVED ITEMS AND SHALL BE SIZED IN CONFORMITY WITH REQUIREMENTS OF THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE AND OTHER APPLICABLE CODES, WHICHEVER ARE MORE STRINGENT.
- ALL WORK IS TO BE IN ACCORDANCE WITH THE LATEST EDITION OF THE NEC AND ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES.
- SECURE AND PAY FOR ALL REQUIRED PERMITS, FEES, ASSESSMENTS AND INSPECTION CERTIFICATES THAT RELATE TO THE ELECTRICAL CONTRACT. FURNISH APPROVED CERTIFICATE OF FINAL INSPECTION, AND TURN OVER TO OWNER AT COMPLETION OF PROJECT.
- THESE ELECTRICAL PLANS ARE DIAGRAMMATIC, NOT SHOWING EVERY ITEM IN EXACT LOCATION OR DETAIL. MEASUREMENTS AND LOCATIONS MUST BE FIELD-VERIFIED AND COORDINATED WITH ARCHITECTURAL, PLUMBING, HVAC, FIRE PROTECTION, STRUCTURAL AND OTHER BUILDING DRAWINGS.
- CONDUIT SHALL BE STANDARD STEEL RIGID, IMC OR EMT (THIN WALL) ACCORDING TO LOCAL CODE REQUIREMENTS. CONDUIT SHALL BE CONCEALED IN FINISHED AREAS, EXCEPT AS OTHERWISE APPROVED.
- WIRE SHALL BE SINGLE CONDUCTOR COPPER WITH 600 VOLT INSULATION. MINIMUM WIRE SIZE SHALL BE #12 AWG, ALL WIRE AND CABLE SHALL BE NEW AND SHALL BE BROUGHT TO THE SITE IN UNBROKEN PACKAGES. ALL WIRING OF ANY TYPE SHALL BE IN CONDUIT. NO STRANDED WIRE ALLOWED FOR #10 AND #12 AWG SIZES. INCREASE CONDUCTOR BY ONE SIZE FOR EVERY 150' INCREMENT OF DISTANCE FROM THE PANEL BOARD FOR 120 VOLT CIRCUITS. GENERAL WIRING SHALL BE THW OR THHN. ALUMINUM CONDUCTORS ARE ONLY PERMITTED FOR PANEL FEEDERS AND SERVICE ENTRANCE CONDUCTORS. ALUMINUM CONDUCTORS ARE NOT PERMITTED FOR BRANCH CIRCUIT WIRING. TYPE NM WIRING IS APPROVED FOR CONCEALED BRANCH CIRCUIT WIRING.

- FURNISH AND INSTALL A COMPLETE WIRED GROUNDING SYSTEM FOR ELECTRICAL EQUIPMENT AND CIRCUITS AS SHOWN ON THE DRAWINGS AND REQUIRED PER N.E.C. ARTICLE 250. ALL GROUNDING CONDUCTORS SHALL BE GREEN, WHERE EXPOSED IN PANEL, OUTLETS, BOXES, ETC.
- PROVIDE BRANCH CIRCUIT PANELS WHICH SHALL BE OF THE BOLTED CIRCUIT BREAKER TYPE WITH SOLID COPPER BUSSING FULL SIZED NEUTRAL, 25% GROUND BUSSING, OVERALL HINGED/LOCKABLE DOOR, AND TYPEWRITTEN DIRECTORY INSIDE DOOR. ALL SERVICE ENTRANCE EQUIPMENT SHALL BEAR THE MANUFACTURER'S LABEL WHICH SHALL STATE THAT THE EQUIPMENT IS RATED FOR SERVICE ENTRANCE APPLICATION IN ACCORDANCE WITH N.E.C. #230-70. LOAD BALANCE ALL ELECTRICAL PHASES AT PANEL. TWO POLE BREAKERS SHALL BE COMMON TRIP TYPE. SQUARE D OR EQUAL BY SIEMENS, EATON, OR GENERAL ELECTRIC. NEMA 3R ENCLOSURE AS NOTED. PROVIDE ARC FAULT LABELING PER NEC. LOAD CENTER TYPE PANELS ARE APPROVED.
- ALL ELECTRIC WORK SHALL BE INSTALLED SO AS TO BE READILY ACCESSIBLE FOR OPERATING, SERVICING, MAINTAINING AND REPAIRING. HANGERS SHALL INCLUDE ALL MISCELLANEOUS STEEL SUCH AS CHANNELS, RODS, ETC., NECESSARY FOR THE INSTALLATION OF WORK AND SHALL BE FASTENED TO BUILDING STEEL, CONCRETE OR MASONRY, BUT NOT PIPING OR DUCTWORK. ALL CONDUIT SHALL BE CONCEALED WHEREVER POSSIBLE. EXPOSED CONDUITS SHALL BE IN STRAIGHT LINES PARALLEL WITH OR AT RIGHT ANGLES TO COLUMN LINES OR BEAMS AND SEPARATED AT LEAST 3 INCHES FROM WATER LINES WHEREVER THEY RUN ALONGSIDE OR ACROSS SUCH LINES. ALL CONDUCTORS SHALL BE IN CONDUIT, DUCTS OR OTHER CODE APPROVED RACEWAYS.

- MATERIALS, EQUIPMENT AND INSTALLATION SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR FROM DATE OF ACCEPTANCE. DEFECTS APPEARING IN THAT PERIOD SHALL BE CORRECTED AT THE ELECTRICAL CONTRACTOR'S EXPENSE. FOR THE SAME PERIOD, ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO PREMISES CAUSED BY DEFECTS IN WORKMANSHIP OR IN THE WORK OR EQUIPMENT FURNISHED AND/OR INSTALLED BY THE ELECTRICAL CONTRACTOR.
- IT IS THE INTENT THAT THE FOREGOING WORK SHALL BE COMPLETE IN EVERY RESPECT AND THAT ANY MATERIAL OR WORK NOT SPECIFICALLY MENTIONED OR SHOWN ON THE DRAWINGS, BUT NECESSARY TO FULLY COMPLETE THE WORK SHALL BE FURNISHED.


2	JPR	02/08/21	ADDENDUM 2
1	JPR	02/02/21	ADDENDUM 1
0	JPR	01/22/21	ISSUED FOR BID
REV	BY	DATE	DESCRIPTION

DESIGNERS:



ASHLAND COMFORT CONTROL
HEATING • AIR CONDITIONING • FIREPLACES • PLUMBING
803 E. MAIN STREET • ASHLAND, OH
P: 419.281.0144 E: 419.281.6971
WWW.ASHLANDCOMFORTCONTROL.COM
JOSEPH P. REEP - OHIO PE: #77349
INFO@ASHLANDCOMFORT.COM

PROJECT

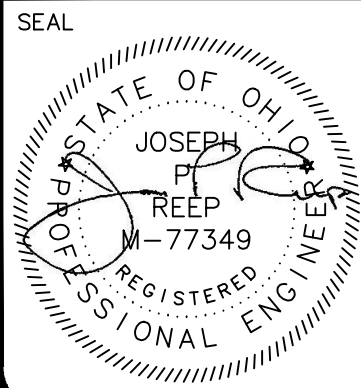


142 West 2nd Street
Ashland, OH 44805

Ashland County Courthouse HVAC System Upgrades

DRAWN BY: JPR	ORIGIN DATE: 10/12/20	DESIGNED BY: JPR	DATE: 12/31/20
APPROVED BY: JPR	DATE: 01/21/21	CLIENT NO. ASH000	JOB NO. 220210

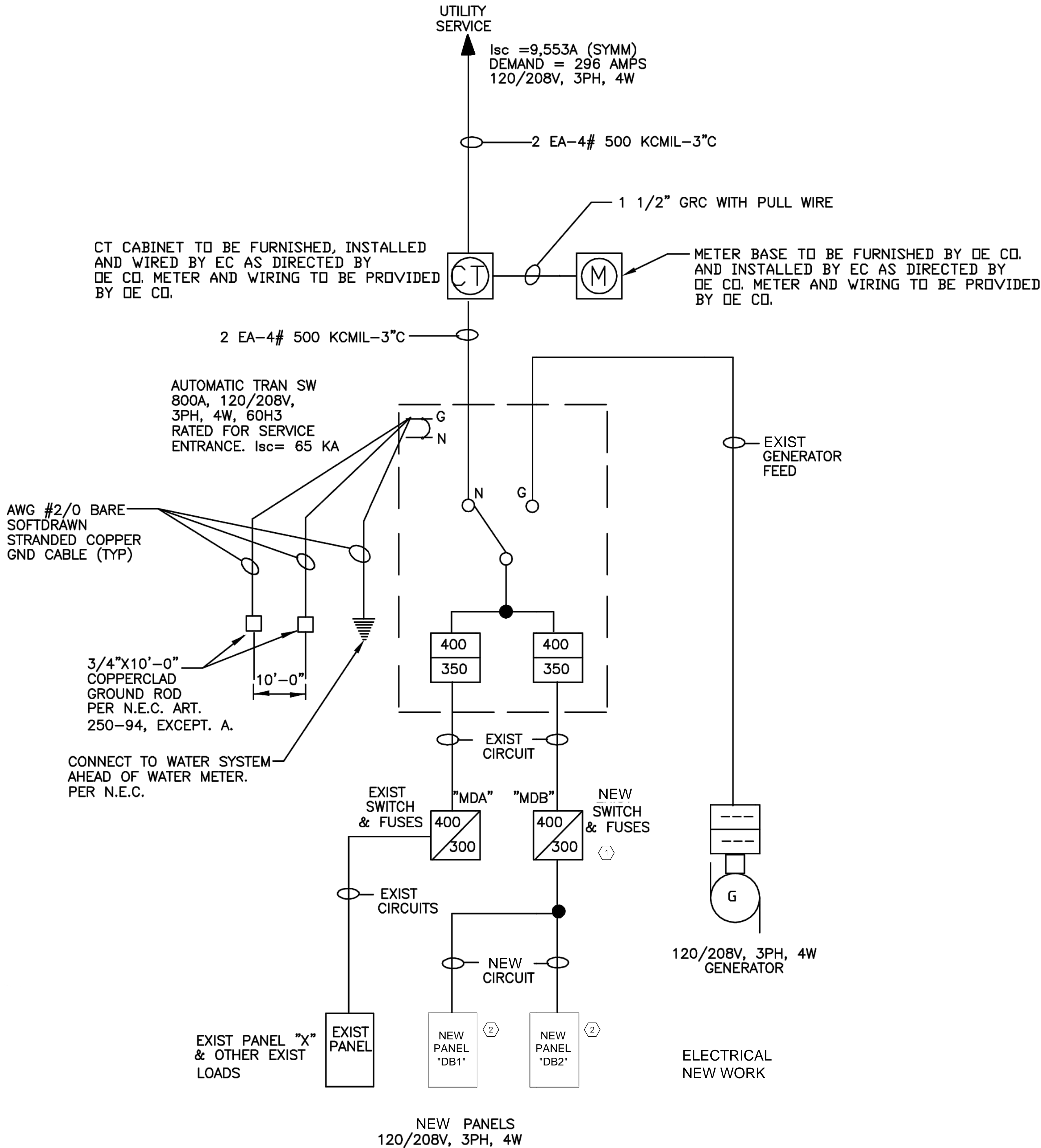
DRAWING NAME:
220210 - ELEC.DWG



**ELECTRICAL PANEL
SCHEDULE AND
SPECIFICATIONS**

LAST EDIT DATE: 2/9/21	DRAWING NO. E3.0
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PLOT DATE \ TIME: 2/9/2021 4:47:02 PM
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SINGLE LINE DIAGRAM
NO SCALE

CODED NOTES:

- ELECTRICAL CONTRACTOR (E.C.) TO DEMOLISH EXISTING MDB PANEL AND ASSOCIATED CONTROL ENCLOSURE. PROVIDE AND INSTALL ONE (1) NEW 400A, 84 CIRCUIT, 208/230V, 3Ø MAIN DISTRIBUTION PANEL TO REPLACE EXISTING MDB. IN ADDITION TO FEEDING SUB-PANELS DB1 AND DB2, MDB TO FEED BRANCH CIRCUITS FOR VRV-1, VRV-2, VRV-4 AND ALL GROUND FLOOR INDOOR FAN COIL AND BRANCH SELECTOR UNITS.
- E.C. TO DEMOLISH EXISTING DB1 & DB2 PANELS AND ASSOCIATED CONTROL ENCLOSURES. ABANDON IN PLACE EXISTING CONDUIT AND CIRCUITRY FEEDING WINDOW AIR CONDITIONERS EXCEPT WHERE IT IS ADVANTAGEOUS TO RE-USE CONDUIT FOR FEEDS TO NEW EQUIPMENT. INSTALL TWO (2) 225A, 54 CIRCUIT, 208/230V, 3Ø SUB-PANELS DB1 & DB2, DB1 & DB2 TO FEED BRANCH CIRCUITS FOR REMAINING VRV, DOAS, INDOOR FAN COIL AND BRANCH SELECTOR UNITS.
- E.C. TO PROVIDE 15A CONVENIENCE RECEPTACLE WITH WEATHERPROOF ENCLOSURE AND COVER.

2	JPR	02/08/21	ADDENDUM 2
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0	JPR	01/22/21	ISSUED FOR BID
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PROJECT



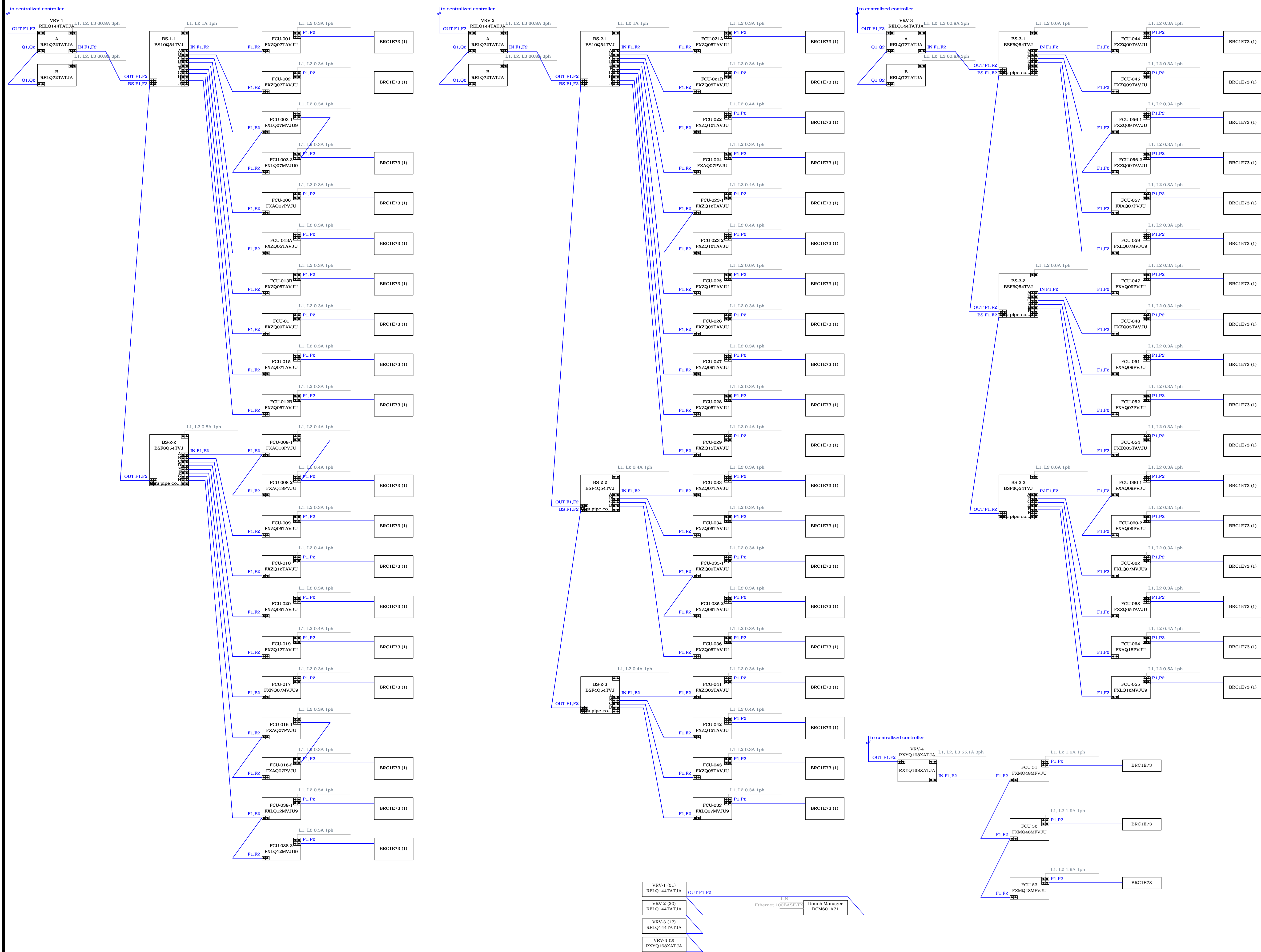
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Ashland County Courthouse
HVAC System Upgrades

DRAWN BY: JPR	ORIGIN DATE: 10/12/20	DESIGNED BY: JPR	DATE: 12/31/20
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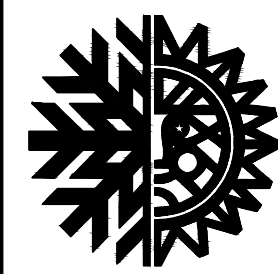
DRAWING NAME:
220210 - ELEC.DWG

SEAL 	TITLE ELECTRICAL SINGLE LINE DIAGRAM
LAST EDIT DATE: 2/9/21 SCALE:	DRAWING NO. E4.0



2	JPR	02/08/21	ADDENDUM 2
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0	JPR	01/22/21	ISSUED FOR BID
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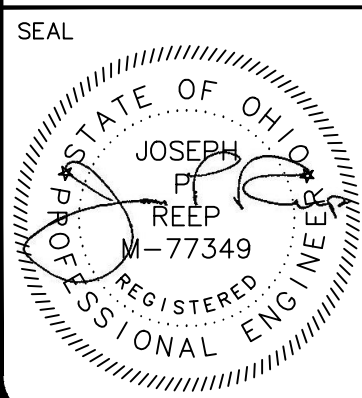


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TITLE

VRV WIRING SCHEMATICS

LAST EDIT DATE
2/9/21

SCALE:

DRAWING NO.

E4.1