MODIFY HVAC SYSTEM
MISSOURI SUPREME COURT BUILDING
JEFFERSON CITY, MISSOURI

KLINGNER
& ASSOCIATES, P.C.
Engineers • Architects • Surveyors

OWNER: STATE OF MISSOURI
MICHAEL L. PARSON,
GOVERNOR
SUPREME COURT OF MISSOURI

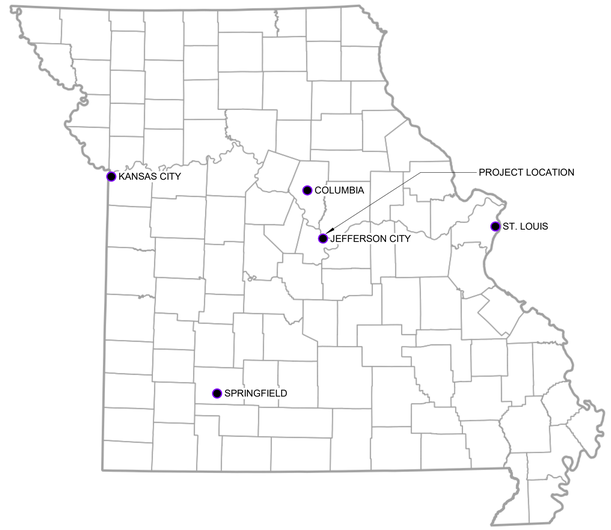
PROJECT MANAGEMENT: OFFICE OF ADMINISTRATION
DIVISION OF FACILITIES MANAGEMENT,
DESIGN AND CONSTRUCTION

DESIGNER: KLINGNER & ASSOCIATES, P.C.

PROJECT NUMBER: O2010-01

SITE NUMBER: 1001
FACILITY NUMBER: 3101001056

SHEET NUMBER:
G001
1 OF 40 SHEETS
DECEMBER 2, 2022



1 PROJECT LOCATION MAP
NTS

ABBREVIATIONS

A/E	ARCHITECT/ENGINEER
ACP	ACOUSTIC CEILING PANEL
ADA	AMERICANS WITH DISABILITIES ACT
AFF	ABOVE FINISHED FLOOR
AHJ	AUTHORITY HAVING JURISDICTION
ALT	ALTERNATE
ALUM	ALUMINUM
ANOD	ANODIZED
APPROX	APPROXIMATE(LY)
ARCH	ARCHITECT/ARCHITECTURAL
AVG	AVERAGE
BLDG	BUILDING
BO	BOTTOM OF
BOD	BASIS OF DESIGN
BOF	BOTTOM OF FOOTING
BTW	BETWEEN
CG	CORNER GUARD
CJ	CONSTRUCTION JOINT/CONTROL JOINT
CL	CENTERLINE
CLG	CEILING
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN(S)
CONC	CONCRETE
CONFIG	CONFIGURATION
CONST	CONSTRUCTION
CONT	CONTINUOUS
CONTR	CONTRACTOR
COORD	COORDINATE
CORR	CORRIDOR
CPT	CARPET/CARPET TILE
CT	CERAMIC TILE
CTR	CENTER(S)
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DIM	DIMENSION
DR	DOOR
DRWR	DRAWER
DS	DOWNSPOUT
DTL	DETAIL
DWG	DRAWING
EA	EACH
EJ	EXPANSION JOINT
EL	ELEVATION
EQ	EQUAL
ESA	EXPOSED STRUCTURE ABOVE
EST	ESTIMATE(D)
EXIST	EXISTING
EXPAN	EXPANSION
EXT	EXTERIOR
FBO	FURNISHED BY OWNER
FD	FLOOR DRAIN
FDC	FIRE DEPARTMENT CONNECTION
FDN	FOUNDATION
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FF	FINISHED FLOOR
FFE	FURNITURE FIXTURES & EQUIPMENT
FIN	FINISHED
FLR	FLOOR(ING)
FRP	FIBERGLASS REINFORCED PLASTIC
FTG	FOOTING
GA	GAUGE
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GEN	GENERAL
GWB	GYPSUM WALL BOARD
GYP	GYPSUM
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HR	HOUR
HVAC	HEATING VENTILATION & AIR CONDITIONING
IG	INSULATING GLAZING
INT	INTERIOR
JAN	JANITOR
JNT	JOINT
JST	JOIST
LF	LINEAR FEET
MAX	MAXIMUM
MDF	MEDIUM DENSITY FIBERBOARD
MEP	MECHANICAL ELECTRICAL PLUMBING
MFGR	MANUFACTURER
MIN	MINIMUM
MINS	MINUTES
MIL	MILLIMETERS
MO	MASONRY OPENING
NIC	NOT IN CONTRACT
NO	NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE
OC	ON CENTER
OCC	OCCUPANCY
OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
OH	OPPOSITE HAND
OPNG	OPENING
OPP	OPPOSITE
OVHD	OVERHEAD
PCC	PORTLAND CEMENT CONCRETE
PLAM	PLASTIC LAMINATE
PLY	PLYWOOD
PNT	PAINT
POLYISO	POLYISOCYANURATE
PREF	PREFINISHED
PREFAB	PREFABRICATED
PT	PRESSURE TREATED
QTY	QUANTITY
RAD	RADIUS
RCP	REFLECTED CEILING PLAN
RD	ROOF DRAIN
REINF	REINFORCE(D), REINFORCING
REQ	REQUIRED
RES	RESILIENT WALL BASE
REV	REVISION(S), REVISE(D)
RM	ROOM
RO	ROUGH OPENING
RTU	ROOFTOP UNIT
SAT	SUSPENDED ACOUSTICAL TILE
SCH	SCHEDULE
SCWD	SOLID CORE WOOD DOOR
SF	SQUARE FEET
SGL	SINGLE
SHGC	SOLAR HEAT GAIN COEFFICIENT
SHT	SHEET
SIM	SIMILAR
SEAL	SEALER, SEALANT
SPEC	SPECIFICATION(S)
SS	SOLID SURFACE
SSTL	STAINLESS STEEL
STD	STANDARD
STL	STEEL
STOR	STORAGE
STRUCT	STRUCTURE(AL)
T&G	TONGUE & GROOVE
TBD	TO BE DETERMINED
TBR	TO BE REMOVED
TERM	TERMINATION
TG	TEMPERED GLASS
THK	THICK
THRU	THROUGH
TIG	TEMPERED INSULATING GLASS
TLT	TOILET ROOM
TO	TOP OF
TPO	THERMOPLASTIC POLYOLEFIN
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VCT	VINYL COMPOSITION TILE
VERT	VERTICAL
VEST	VESTIBULE
VIF	VERIFY IN FIELD
WC	WATER CLOSET
WD	WOOD
WG	WIRE GLASS
WRB	WEATHER RESISTIVE BARRIER
WWF	WELDED WIRE FABRIC

NOTATION AND SYMBOL DESIGNATIONS

0 View Name
1/8" = 1'-0"
VIEW INDICATOR

℄ CENTER LINE

1 / A101 SIM
DETAIL INDICATOR

ROOM NAME
A101
150 SF
ROOM INDICATOR

1 / A101
SECTION INDICATOR

101
DOOR INDICATOR

1
WALL TYPE INDICATOR

11
WINDOW TYPE INDICATOR

1 / A101
EXTERIOR ELEVATION INDICATOR

?
NOTE INDICATOR

A101 / 1
INTERIOR ELEVATION INDICATOR

0
BUILDING GRID INDICATOR

GENERAL NOTES:

1. THE CONTRACTOR(S) SHALL FIELD VERIFY EXISTING DIMENSIONS AND CONDITIONS AND TELL THE ENGINEER OF ANY DISCREPANCIES AND INTERFERENCES ENCOUNTERED PRIOR TO STARTING WORK AFFECTED THEREBY.
2. THE CONTRACTOR(S) SHALL COMPLY WITH THE LATEST EDITION OF APPLICABLE CODES AND STANDARDS INCLUDING BUT NOT LIMITED TO:
   - THE AMERICANS WITH DISABILITIES ACT (ADAAG)
   - INTERNATIONAL BUILDING CODE (IBC)
   - NATIONAL ELECTRIC CODE (NEC)
   - INTERNATIONAL MECHANICAL CODE (IMC)
   - INTERNATIONAL PLUMBING CODE (IPC)
   - LIFE SAFETY CODE (NFPA 101)
   - ASHRAE STANDARD 90.1
   - AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)
   - AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)
   - AMERICAN CONCRETE INSTITUTE (ACI)
   - SHEET METAL AND AIR CONDITIONING CONTRACTOR'S NATIONAL ASSOCIATION (SMACNA)
3. THE CONTRACTOR(S) SHALL BE RESPONSIBLE FOR OSHA COMPLIANCE AND JOB SITE SAFETY.
4. CONTRACTOR SHALL PROTECT EXISTING FINISHES AND OTHER BUILDING COMPONENTS FROM DAMAGE. ANY SURFACES AND/OR COMPONENTS DAMAGED DURING THE CONSTRUCTION PROJECTS SHALL BE RETURNED TO PRE-PROJECT CONDITIONS AND/OR MADE TO MATCH ADJACENT MATERIALS.

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G110	MAIN LEVEL - WORK AREA PLAN	
G120	SECOND LEVEL - WORK AREA PLAN	
G130	THIRD LEVEL - WORK AREA PLAN	
AD101	LOWER LEVEL DEMOLITION RCP	
AD111	MAIN LEVEL DEMOLITION RCP	
AD121	SECOND LEVEL DEMOLITION RCP	
AD131	THIRD LEVEL DEMOLITION RCP	
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M102	MAIN LEVEL - HVAC PLAN	
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M104	THIRD LEVEL - HVAC PLAN	
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M501	MECHANICAL DETAILS	
M502	MECHANICAL DETAILS	
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M701	HEATING SYSTEM FLOW DIAGRAM	
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E105	MEZZANINE LEVEL - POWER PLAN	
E501	ELECTRICAL DETAILS	

STATE OF MISSOURI
MICHAEL L. PARSON, GOVERNOR

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MICHAEL J. FRIES
2017015806
REGISTERED ARCHITECT
12-2-2022
EXP. 12/31/2023

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MO #2017015806

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MISSOURI STATE CERTIFICATE OF AUTHORITY #2001010108

OFFICE OF ADMINISTRATION
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DESIGN AND CONSTRUCTION

MODIFY HVAC SYSTEM

MISSOURI SUPREME COURT BUILDING

207 W. HIGH STREET
JEFFERSON CITY, MO 65101

PROJECT # O2010-01
SITE # 1001
ASSET # 3101001056

REVISION:
DATE:
REVISION:
DATE:
REVISION:
DATE:
ISSUE DATE:12/02/2022

CAD DWG FILE: G002
DRAWING BY: SRWB
CHECKED BY: JJN
DESIGNED BY: ALD

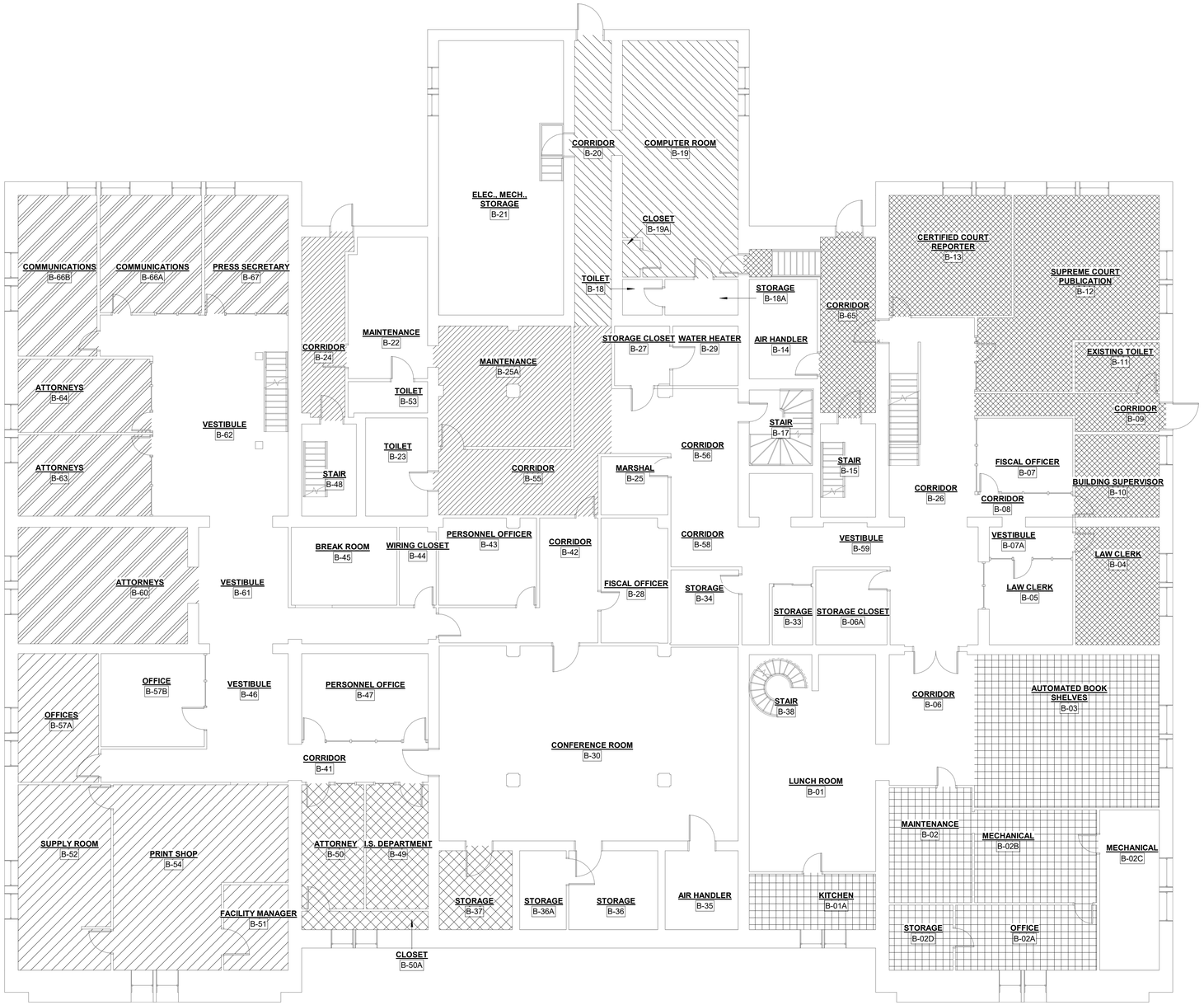
SHEET TITLE:

GENERAL NOTES & SHEET INDEX

SHEET NUMBER:

G002

2 OF 40 SHEETS
DECEMBER 2, 2022



1 LOWER LEVEL - WORK AREA PLAN
1/8" = 1'-0"

GENERAL WORK PLAN NOTES

1. WORK IN UTILITY AREAS WHICH ARE NOT TYPICALLY OCCUPIED BY BUILDING OCCUPANTS (STORAGE ROOMS, MECHANICAL SPACES, ETC.) ARE NOT INCLUDED WITHIN THE WORK AREA DESCRIPTION AND THE WORK IN THESE AREAS CAN BE COMPLETED THROUGHOUT THE CONSTRUCTION PROCESS AND/OR IN CONJUNCTION WITH OTHER WORK AREAS AS DETERMINED BY THE CONTRACTOR. WORK IN UTILITY AREAS SHALL BE COORDINATED WITH THE OWNER AND SHALL NOT INTERRUPT FACILITY OPERATION WITHOUT WRITTEN APPROVAL FROM THE OWNER.

2. ALL WORK IN DESIGNATED WORK AREAS SHALL BE COMPLETED IN A CONTINUOUS MANNER WITHOUT INTERRUPTION BETWEEN THE VARIOUS TRADES TO FULLY COMPLETE ALL WORK (ABATEMENT, DEMOLITION, PROPOSED WORK, FINISHES, ETC.) IN THE DESIGNATED AREA PRIOR TO INITIATING WORK IN A SUBSEQUENT WORK AREA.

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4. CONCURRENT WORK IN MULTIPLE WORK AREAS WILL BE CONSIDERED BY THE OWNER BASED ON CONTRACTOR CAPACITY.

5. WORK RELATED TO THE PROPOSED ELECTRIC AND HOT WATER HEATING SYSTEM COMPONENTS SHALL BE COMPLETED AND MADE OPERATIONAL PRIOR TO THE INITIATION OF ABATEMENT AND DEMOLITION OF STEAM HEATING SYSTEM COMPONENTS WITHIN THE BUILDING.

6. IT IS PREFERRED FOR ABATEMENT AND WORK WITHIN THE LIBRARY TO OCCUR DURING THE MONTHS OF JUNE, JULY, AND AUGUST.

WORK AREA LEGEND

- WORK AREA 1
- WORK AREA 2
- WORK AREA 3
- WORK AREA 4
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- WORK AREA 6
- WORK AREA 7
- WORK AREA 8
- WORK AREA 9
- WORK AREA 10
- WORK AREA 11
- WORK AREA 12
- WORK AREA 13
- WORK AREA 14

0 4' 8' 16'
SCALE: 1/8" = 1'-0"

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ISSUE DATE:12/02/2022

CAD DWG FILE: G100
DRAWING BY: SRWB
CHECKED BY: JJN
DESIGNED BY: SRWB

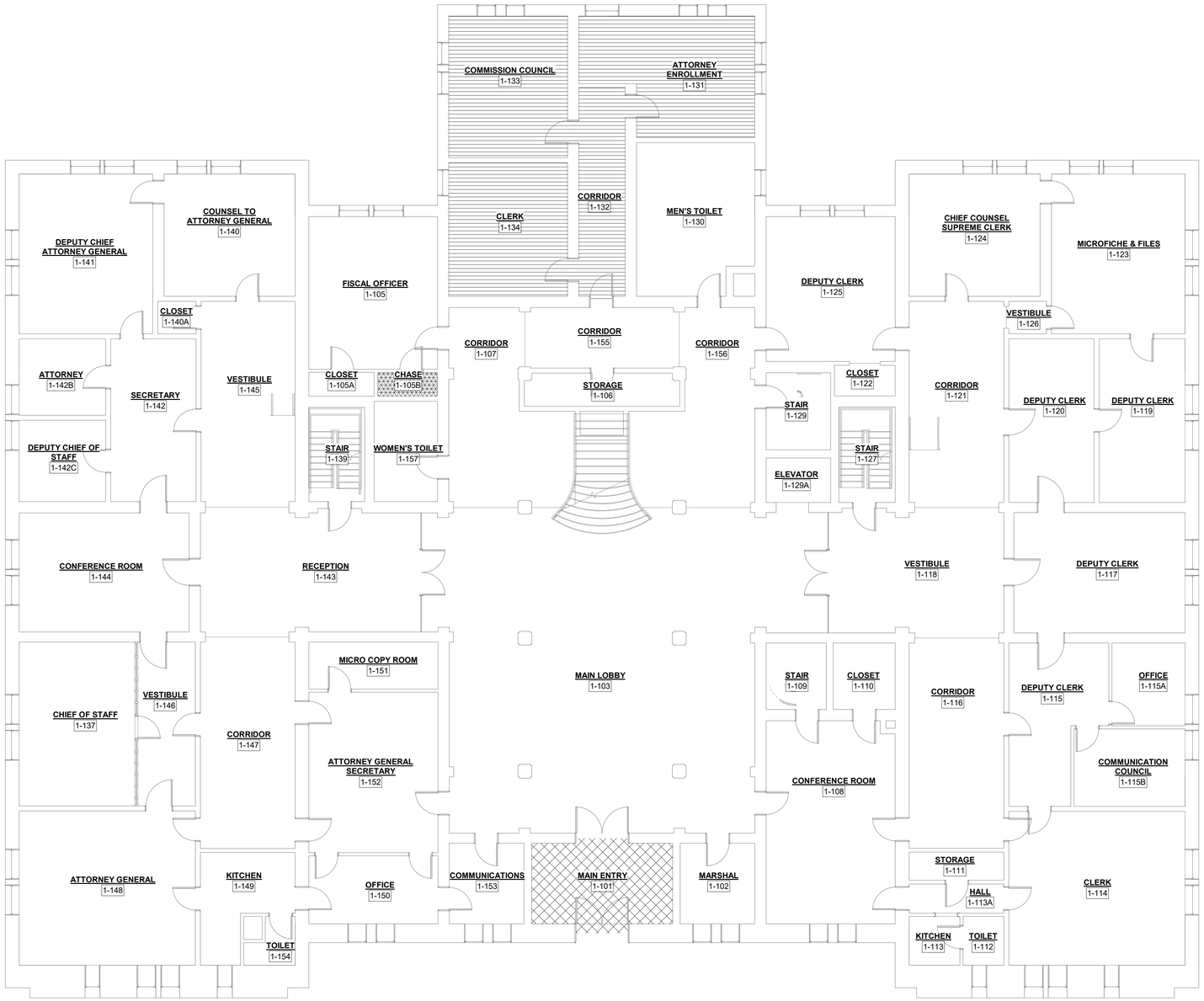
SHEET TITLE:

LOWER LEVEL - WORK AREA PLAN

SHEET NUMBER:

G100

3 OF 40 SHEETS
DECEMBER 2, 2022



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ASSET # 3101001056

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DATE:
ISSUE DATE:12/02/2022

CAD DWG FILE: G110
DRAWING BY: SRWB
CHECKED BY: JJN
DESIGNED BY: SRWB

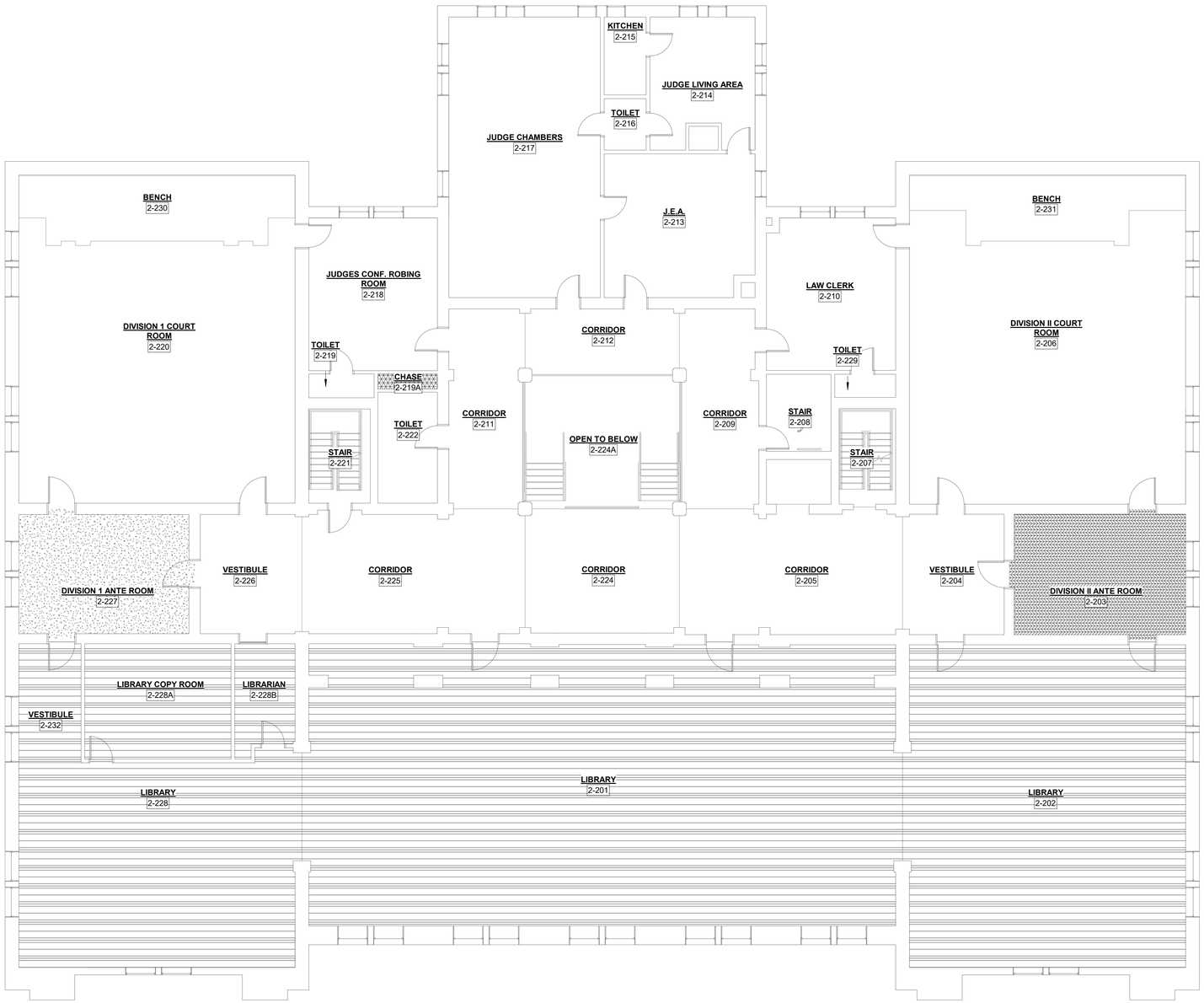
SHEET TITLE:

MAIN LEVEL - WORK AREA PLAN

SHEET NUMBER:

G110

4 OF 40 SHEETS
DECEMBER 2, 2022



1 SECOND LEVEL - WORK AREA PLAN
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N

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REVISION:
DATE:
ISSUE DATE:12/02/2022

CAD DWG FILE: G120
DRAWING BY: SRWB
CHECKED BY: JJN
DESIGNED BY: SRWB

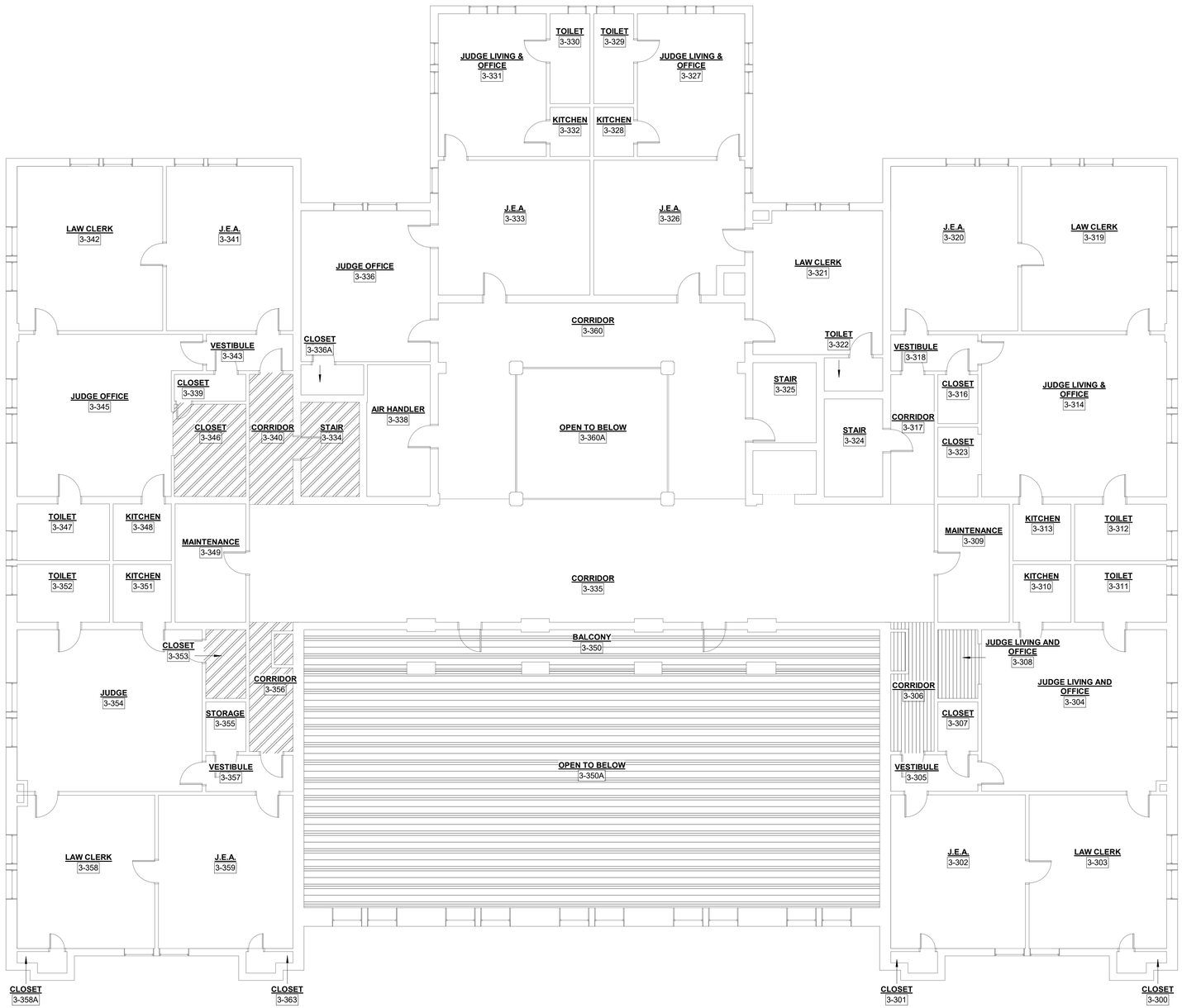
SHEET TITLE:

SECOND LEVEL - WORK AREA PLAN

SHEET NUMBER:

G120

5 OF 40 SHEETS
DECEMBER 2, 2022



1 THIRD LEVEL - WORK AREA PLAN
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ISSUE DATE:12/02/2022

CAD DWG FILE: G130
DRAWING BY: SRWB
CHECKED BY: JJN
DESIGNED BY: SRWB

SHEET TITLE:

THIRD LEVEL - WORK AREA PLAN

SHEET NUMBER:

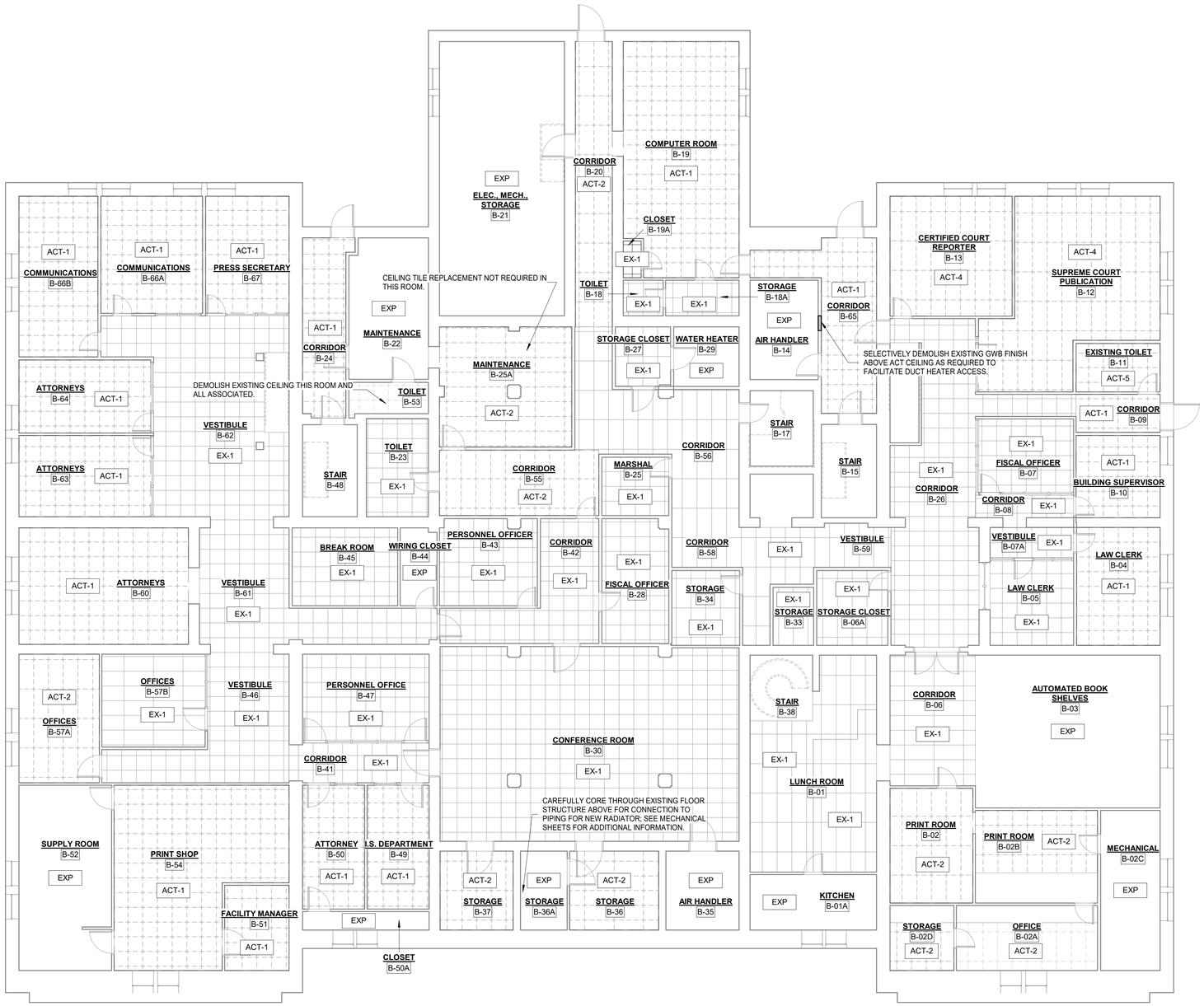
G130

6 OF 40 SHEETS
DECEMBER 2, 2022

CEILING SCHEDULE - DEMOLITION			
Type Mark	Manufacturer	Description	Comments
ACT-1	MATCH EXISTING	2' X 2' CEILING TILE - REPLACE TILE AS REQUIRED BY NEW WORK U.N.O.	
ACT-2	MATCH EXISTING	2' X 4' CEILING TILE - REPLACE TILE AS REQUIRED BY NEW WORK U.N.O.	
ACT-3	SEE SPECIFICATIONS	RAISED PANEL CEILING TILE - REPLACE TILE AS REQUIRED BY NEW WORK	
ACT-4	MATCH EXISTING	2' X 4' CEILING TILE - REPLACE ALL TILE THIS ROOM	SEE ASBESTOS ABATEMENT SHEETS FOR ADDITIONAL INFORMATION
ACT-5	MATCH EXISTING	2' X 2' CEILING TILE - REPLACE ALL TILE THIS ROOM	SEE ASBESTOS ABATEMENT SHEETS FOR ADDITIONAL INFORMATION
EX-1	N/A	EXISTING CEILING TO REMAIN, NO SCOPE	
EX-2	N/A	EXISTING CEILING TO REMAIN, SEE MECHANICAL SHEETS	
EXP	N/A	EXPOSED STRUCTURE AND/OR UNFINISHED CEILING	

GENERAL DEMOLITION NOTES

1. ASBESTOS HAS BEEN OBSERVED WITHIN THE LIMITS OF CONSTRUCTION. SEE ASBESTOS ABATEMENT PLANS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
2. THE CONTRACTOR SHALL MAKE A PERSONAL INSPECTION OF THE SITE AND INCLUDE ALL WORK REQUIRED BY THE DRAWINGS. NOTIFY THE ARCHITECT IN WRITING OF ANY INCONSISTENCIES IN THE DRAWINGS.
3. ONLY MAJOR DEMOLITION COMPONENTS ARE NOTED. MISC. DEMO REQUIRED AS PART OF THIS PROJECT SHALL BE PROVIDED. ANY AND ALL COMPONENTS SHALL BE PATCHED OR REPAIRED IN AN APPROPRIATE MANNER AS TO PROVIDE A FINISHED LOOK TO ALL COMPONENTS REMAINING.
4. PRIOR TO COMMENCING DEMOLITION, THE CONTRACTOR SHALL ASCERTAIN FROM THE OWNER WHETHER OR NOT THE OWNER WISHES TO RETAIN ANY ITEMS. ANY SUCH ITEMS SHALL BE REMOVED WITH CARE SO AS TO PREVENT UNNECESSARY DAMAGE.
5. PROTECT OWNER'S PROPERTY AND PERSONS AT ALL TIMES. THIS INCLUDES ALL ITEMS AND SERVICES NECESSARY TO DEMOLISH OR DISMANTLE AND REMOVE ALL WALLS, EQUIPMENT, PIPING AND APPURTENANCES WHICH WILL INTERFERE WITH NEW CONSTRUCTION. ALL ITEMS TO BE REMOVED SHALL BE COORDINATED WITH NEW CONSTRUCTION.
6. EXISTING CONSTRUCTION SHALL BE PROTECTED.
7. MAINTAIN ANY EXISTING FIRE RESISTANCE RATINGS IN ROOF, WALL, AND FLOOR ASSEMBLIES WITH PATCHING OR REPLACING ALL REQUIRED COMPONENTS.
8. ANY ITEMS NOT SHOWN TO BE DEMOLISHED THAT ARE DAMAGED DURING THE COURSE OF DEMOLITION OR CONSTRUCTION SHALL BE REPAIRED/REPLACED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
9. COORDINATE ANY SYSTEMS SHUTDOWNS WHICH MAY BE REQUIRED WITH THE OWNER.
10. CONTRACTOR SHALL PROVIDE & MAINTAIN DUST PROTECTION BETWEEN EXISTING OCCUPIED AREAS AND WORK AREAS.
11. ALL MATERIALS THAT HAVE BEEN DEMOLISHED SHALL BE REMOVED AND DISPOSED OF PROPERLY. NO DEMOLISHED MATERIALS SHALL BE STOCKPILED ON SITE.
12. ANY ITEMS NOT TO BE RETAINED BY THE OWNER SHALL BE LEGALLY DISPOSED OF OFF SITE BY THE CONTRACTOR.



1 LOWER LEVEL REFLECTED CEILING PLAN - DEMOLITION
1/8" = 1'-0"

0 4' 8' 16'
SCALE: 1/8" = 1'-0"

N

STATE OF MISSOURI
MICHAEL L. PARSON, GOVERNOR

STATE OF MISSOURI
MICHAEL J. FRIES
NUMBER
2017015806
12-2-2022
REGISTERED ARCHITECT
Exp. 12/31/2023

MICHAEL J. FRIES - ARCHITECT
MO #2017015806

KLINGNER & ASSOCIATES, P.C.
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907 East Ash Street
573.355.5988
www.klingner.com
Quincy, IL Galesburg, IL
Burlington, IA Pella, IA Hannibal, MO
KLINGNER & ASSOCIATES, P.C. - ARCHITECTURE
MISSOURI STATE CERTIFICATE OF AUTHORITY #2001010108

OFFICE OF ADMINISTRATION
DIVISION OF FACILITIES MANAGEMENT,
DESIGN AND CONSTRUCTION

MODIFY HVAC SYSTEM

MISSOURI SUPREME COURT BUILDING

207 W. HIGH STREET
JEFFERSON CITY, MO 65101

PROJECT # O2010-01
SITE # 1001
ASSET # 3101001056

REVISION:
DATE:
REVISION:
DATE:
REVISION:
DATE:
ISSUE DATE:12/02/2022

CAD DWG FILE: AD101
DRAWING BY: SRWB
CHECKED BY: MJF
DESIGNED BY: SRWB

SHEET TITLE:

LOWER LEVEL DEMOLITION RCP

SHEET NUMBER:

AD101

7 OF 40 SHEETS
DECEMBER 2, 2022

CEILING SCHEDULE - DEMOLITION			
Type Mark	**Manufacturer**	**Description**	**Comments**
ACT-1	MATCH EXISTING	2' X 2' CEILING TILE - REPLACE TILE AS REQUIRED BY NEW WORK U.N.O.	
ACT-2	MATCH EXISTING	2' X 4' CEILING TILE - REPLACE TILE AS REQUIRED BY NEW WORK U.N.O.	
ACT-3	SEE SPECIFICATIONS	RAISED PANEL CEILING TILE - REPLACE TILE AS REQUIRED BY NEW WORK	
ACT-4	MATCH EXISTING	2' X 4' CEILING TILE - REPLACE ALL TILE THIS ROOM	SEE ASBESTOS ABATEMENT SHEETS FOR ADDITIONAL INFORMATION
ACT-5	MATCH EXISTING	2' X 2' CEILING TILE - REPLACE ALL TILE THIS ROOM	SEE ASBESTOS ABATEMENT SHEETS FOR ADDITIONAL INFORMATION
EX-1	N/A	EXISTING CEILING TO REMAIN, NO SCOPE	
EX-2	N/A	EXISTING CEILING TO REMAIN, SEE MECHANICAL SHEETS	
EXP	N/A	EXPOSED STRUCTURE AND/OR UNFINISHED CEILING	

GENERAL DEMOLITION NOTES

1. ASBESTOS HAS BEEN OBSERVED WITHIN THE LIMITS OF CONSTRUCTION. SEE ASBESTOS ABATEMENT PLANS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
2. THE CONTRACTOR SHALL MAKE A PERSONAL INSPECTION OF THE SITE AND INCLUDE ALL WORK REQUIRED BY THE DRAWINGS. NOTIFY THE ARCHITECT IN WRITING OF ANY INCONSISTENCIES IN THE DRAWINGS.
3. ONLY MAJOR DEMOLITION COMPONENTS ARE NOTED. MISC. DEMO REQUIRED AS PART OF THIS PROJECT SHALL BE PROVIDED. ANY AND ALL COMPONENTS SHALL BE PATCHED OR REPAIRED IN AN APPROPRIATE MANNER AS TO PROVIDE A FINISHED LOOK TO ALL COMPONENTS REMAINING.
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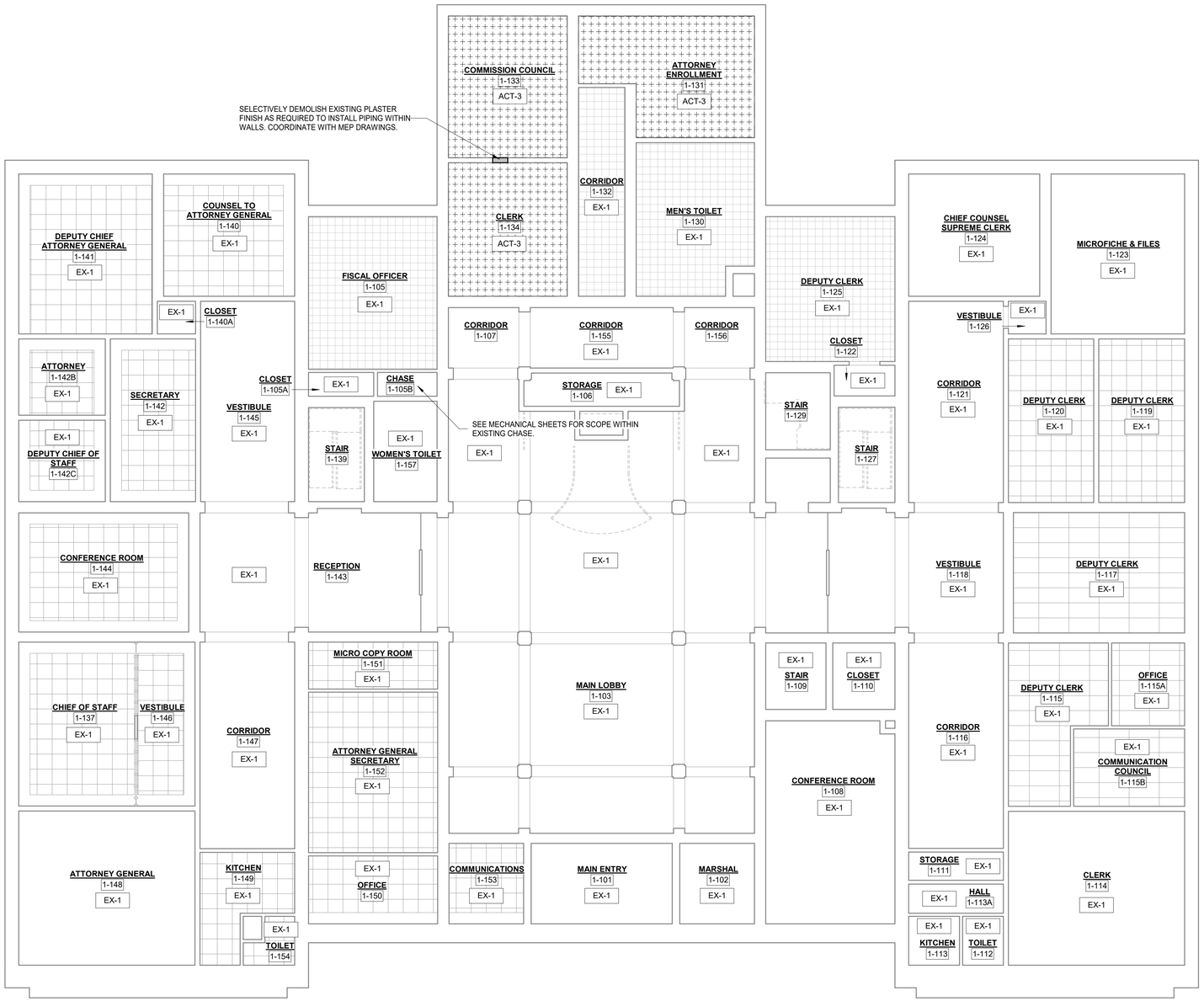

1 MAIN LEVEL REFLECTED CEILING PLAN - DEMOLITION
1/8" = 1'-0"

0 4' 8' 16'
SCALE: 1/8" = 1'-0"

N

STATE OF MISSOURI
MICHAEL L. PARSON, GOVERNOR

STATE OF MISSOURI
MICHAEL JOSEPH FRIES
2017015806
REGISTERED ARCHITECT
12-2-2022
Exp. 12/31/2023

MICHAEL J. FRIES - ARCHITECT
MO #2017015806

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OFFICE OF ADMINISTRATION
DIVISION OF FACILITIES MANAGEMENT,
DESIGN AND CONSTRUCTION

MODIFY HVAC SYSTEM

MISSOURI SUPREME COURT BUILDING

207 W. HIGH STREET
JEFFERSON CITY, MO 65101

PROJECT # O2010-01
SITE # 1001
ASSET # 3101001056

REVISION:
DATE:
REVISION:
DATE:
REVISION:
DATE:
ISSUE DATE:12/02/2022

CAD DWG FILE: AD111
DRAWING BY: SRWB
CHECKED BY: MJF
DESIGNED BY: SRWB

SHEET TITLE:

MAIN LEVEL DEMOLITION RCP

SHEET NUMBER:

AD111

8 OF 40 SHEETS
DECEMBER 2, 2022

CEILING SCHEDULE - DEMOLITION

Type Mark	Manufacturer	Description	Comments
ACT-1	MATCH EXISTING	2' X 2' CEILING TILE - REPLACE TILE AS REQUIRED BY NEW WORK U.N.O.	
ACT-2	MATCH EXISTING	2' X 4' CEILING TILE - REPLACE TILE AS REQUIRED BY NEW WORK U.N.O.	
ACT-3	SEE SPECIFICATIONS	RAISED PANEL CEILING TILE - REPLACE TILE AS REQUIRED BY NEW WORK	
ACT-4	MATCH EXISTING	2' X 4' CEILING TILE - REPLACE ALL TILE THIS ROOM	SEE ASBESTOS ABATEMENT SHEETS FOR ADDITIONAL INFORMATION
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EX-1	N/A	EXISTING CEILING TO REMAIN, NO SCOPE	
EX-2	N/A	EXISTING CEILING TO REMAIN, SEE MECHANICAL SHEETS	
EXP	N/A	EXPOSED STRUCTURE AND/OR UNFINISHED CEILING	

GENERAL DEMOLITION NOTES

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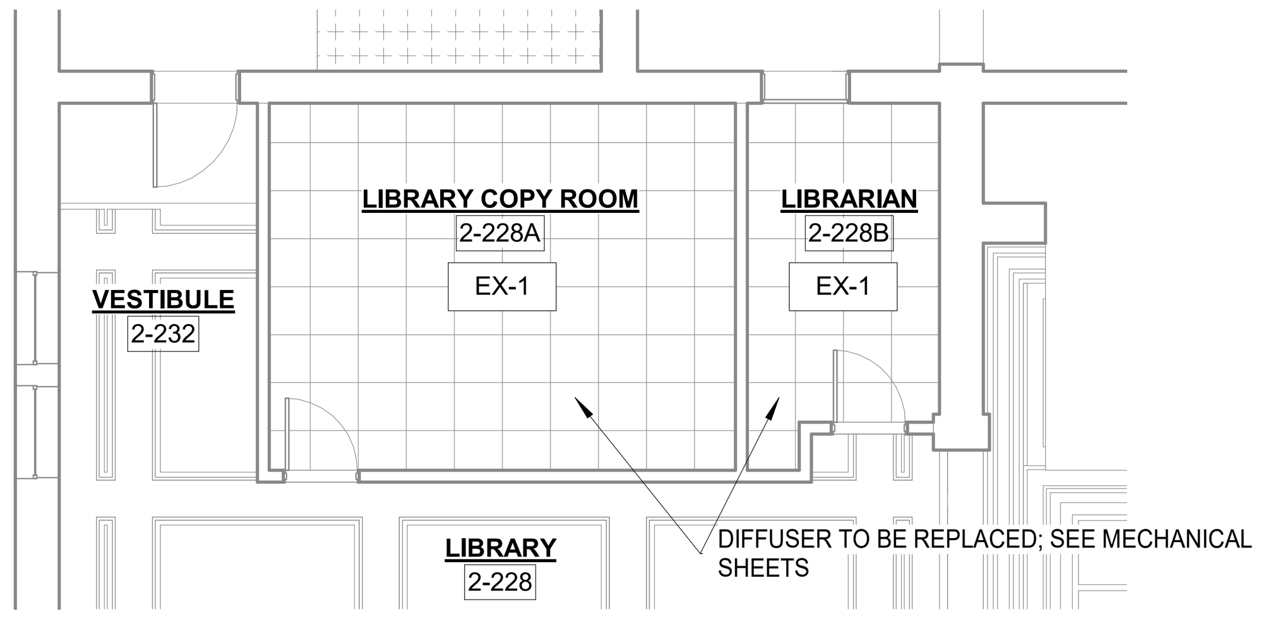
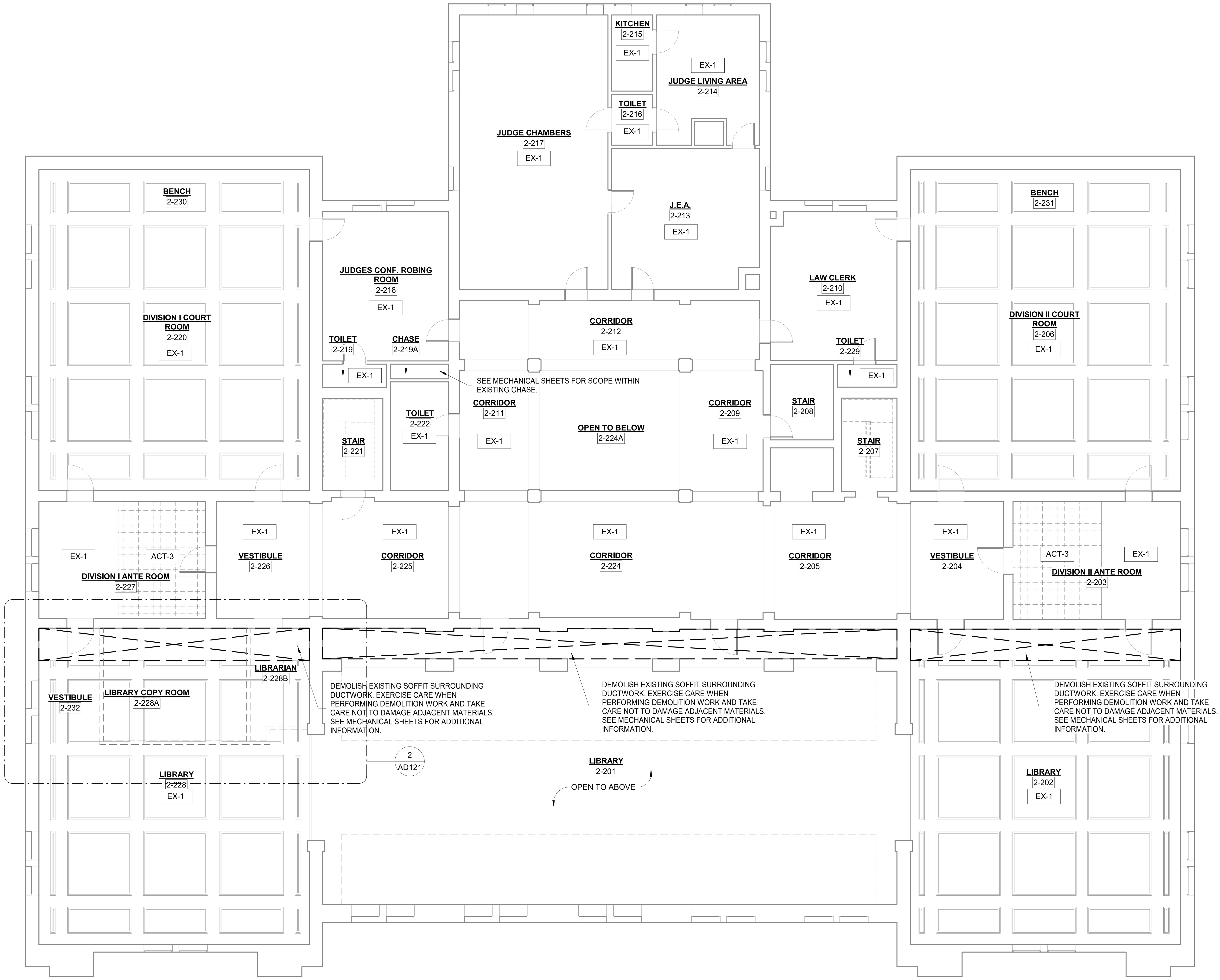


2 SECOND LEVEL REFLECTED CEILING PLAN - DEMOLITION - LIBRARY OFFICES
1/8" = 1'-0"



1 SECOND LEVEL REFLECTED CEILING PLAN - DEMOLITION
1/8" = 1'-0"

0 4' 8' 16'
SCALE: 1/8" = 1'-0"

N

STATE OF MISSOURI
MICHAEL L. PARSON, GOVERNOR

EXP. 12/31/2023

MICHAEL J. FRIES - ARCHITECT
MO #2017015806

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MISSOURI STATE CERTIFICATE OF AUTHORITY #2001010108

OFFICE OF ADMINISTRATION
DIVISION OF FACILITIES MANAGEMENT, DESIGN AND CONSTRUCTION

MODIFY HVAC SYSTEM

MISSOURI SUPREME COURT BUILDING

207 W. HIGH STREET
JEFFERSON CITY, MO 65101

PROJECT # O2010-01
SITE # 1001
ASSET # 3101001056

REVISION:
DATE:
REVISION:
DATE:
REVISION:
DATE:
ISSUE DATE:12/02/2022

CAD DWG FILE: AD121
DRAWING BY: SRWB
CHECKED BY: MJF
DESIGNED BY: SRWB

SHEET TITLE:
SECOND LEVEL DEMOLITION RCP

SHEET NUMBER:
AD121

9 OF 40 SHEETS
DECEMBER 2, 2022

CEILING SCHEDULE - DEMOLITION			
Type Mark	Manufacturer	Description	Comments
ACT-1	MATCH EXISTING	2' X 2' CEILING TILE - REPLACE TILE AS REQUIRED BY NEW WORK U.N.O.	
ACT-2	MATCH EXISTING	2' X 4' CEILING TILE - REPLACE TILE AS REQUIRED BY NEW WORK U.N.O.	
ACT-3	SEE SPECIFICATIONS	RAISED PANEL CEILING TILE - REPLACE TILE AS REQUIRED BY NEW WORK	
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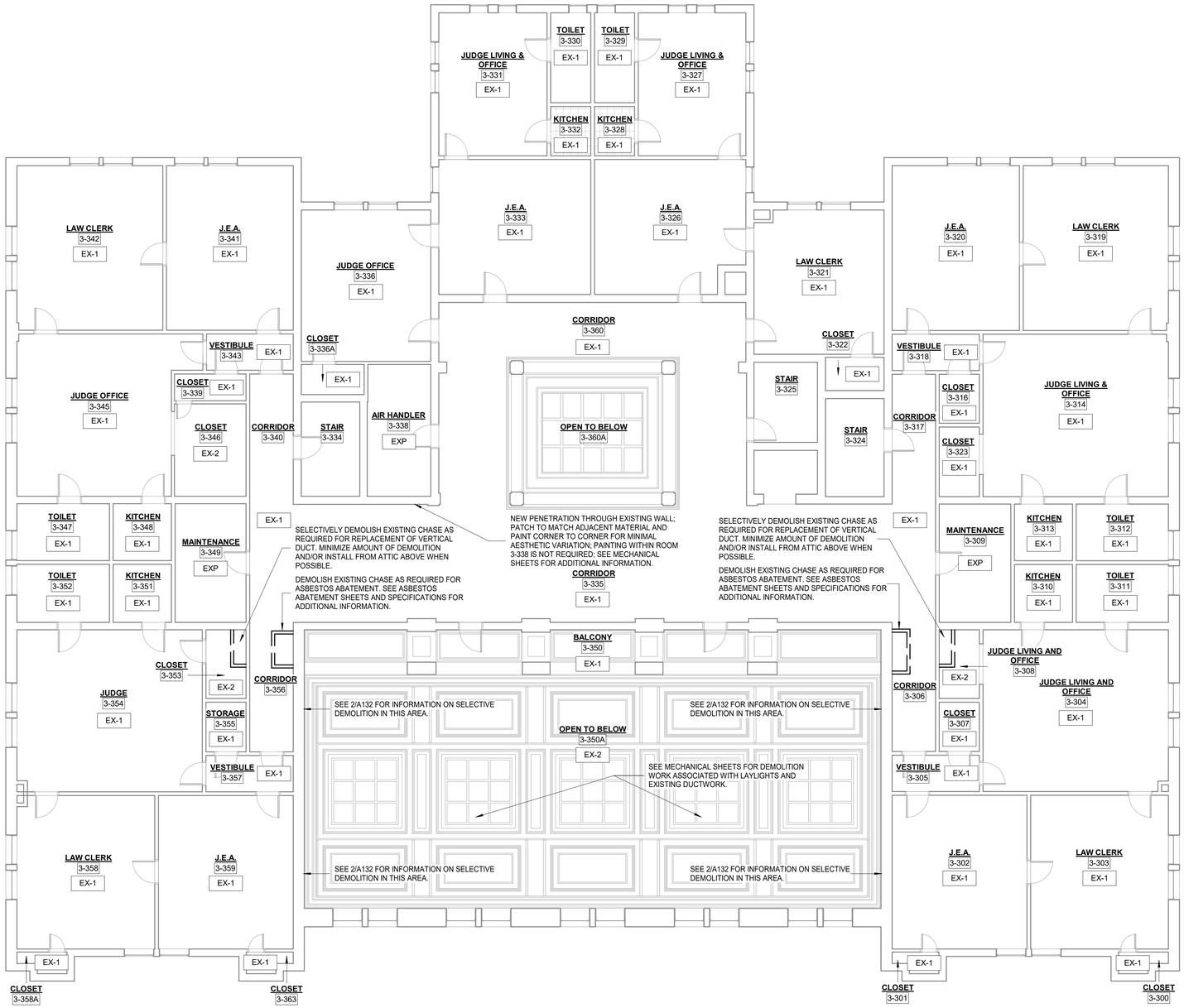
EX-1	N/A	EXISTING CEILING TO REMAIN, NO SCOPE	
EX-2	N/A	EXISTING CEILING TO REMAIN, SEE MECHANICAL SHEETS	
EXP	N/A	EXPOSED STRUCTURE AND/OR UNFINISHED CEILING	



1 THIRD LEVEL REFLECTED CEILING PLAN - DEMOLITION
1/8" = 1'-0"

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0 4' 8' 16'
SCALE: 1/8" = 1'-0"

STATE OF MISSOURI
MICHAEL L. PARSON, GOVERNOR

STATE OF MISSOURI
MICHAEL JOSEPH FRIES
2017015806
REGISTERED ARCHITECT
12-2-2022
EXP. 12/31/2023

MICHAEL J. FRIES - ARCHITECT
MO #2017015806

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MISSOURI STATE CERTIFICATE OF AUTHORITY #2001010108

OFFICE OF ADMINISTRATION
DIVISION OF FACILITIES MANAGEMENT,
DESIGN AND CONSTRUCTION

MODIFY HVAC SYSTEM

MISSOURI SUPREME COURT BUILDING

207 W. HIGH STREET
JEFFERSON CITY, MO 65101

PROJECT # O2010-01
SITE # 1001
ASSET # 3101001056

REVISION:
DATE:
REVISION:
DATE:
REVISION:
DATE:
ISSUE DATE:12/02/2022

CAD DWG FILE: AD131
DRAWING BY: SRWB
CHECKED BY: MJF
DESIGNED BY: SRWB

SHEET TITLE:

THIRD LEVEL DEMOLITION RCP

SHEET NUMBER:

AD131

10 OF 40 SHEETS
DECEMBER 2, 2022

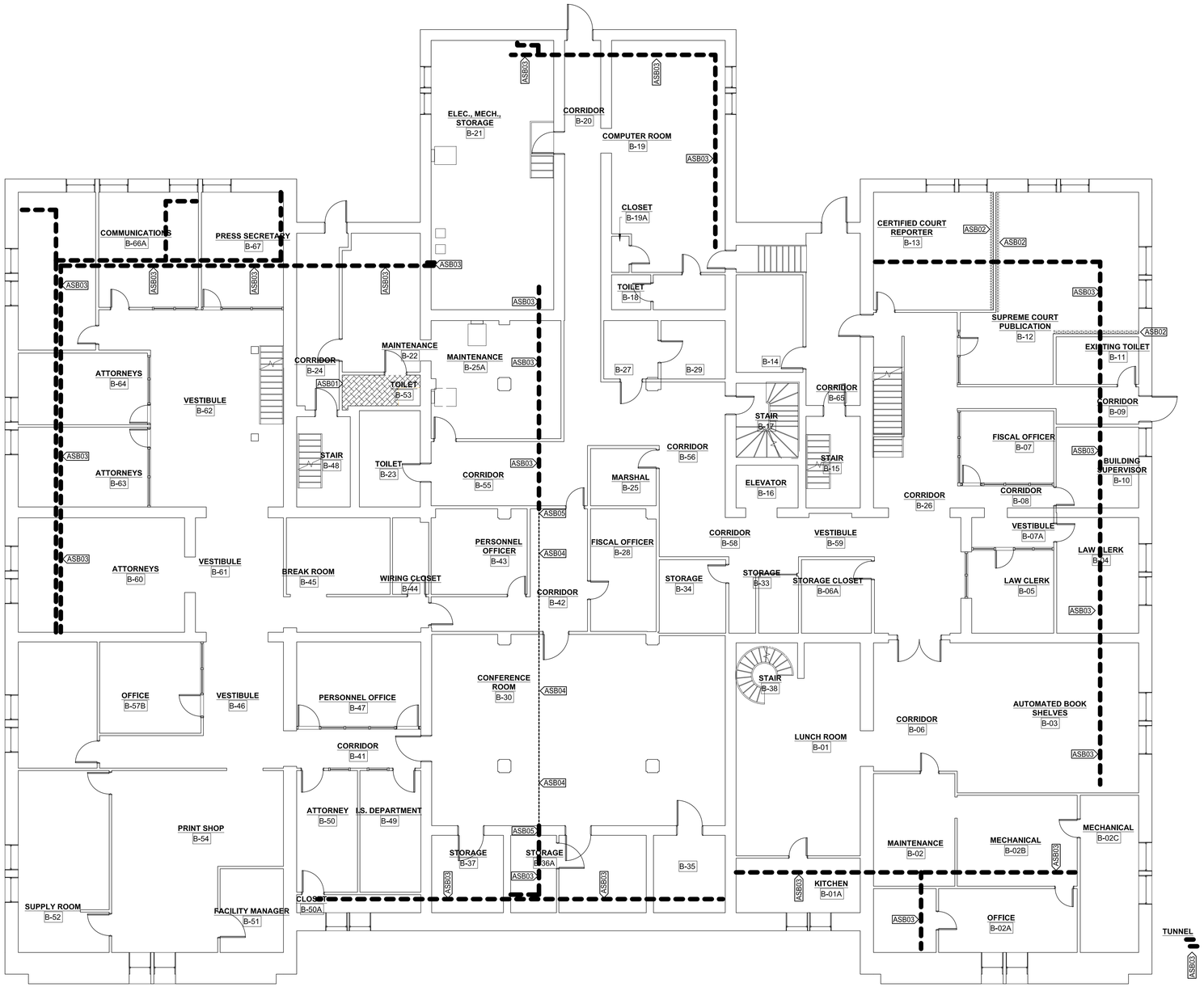
KEYNOTE LEGEND	
VALUE	DESCRIPTION
ASB01	REMOVE ASBESTOS CONTAINING FLOOR TILE MASTIC.
ASB02	REMOVE ASBESTOS CONTAINING CEILING TILE MASTIC.
ASB03	REMOVE ASBESTOS CONTAINING THERMAL SYSTEM INSULATION.
ASB04	ASBESTOS CONTAINING THERMAL SYSTEM INSULATION TO REMAIN.
ASB05	PLACE ASBESTOS LABEL ON END OF ACM PIPING TO REMAIN.

SHEET LEGEND

- ASBESTOS CONTAINING FLOOR TILE MASTIC - APPROX. 35 SF
- ASBESTOS CONTAINING CEILING TILE MASTIC - APPROX. 25 SF
- ASBESTOS CONTAINING THERMAL SYSTEM INSULATION - APPROX. 630 LF INCLUDING APPROX. 88 FITTINGS

GENERAL SHEET NOTES:

1. ALL ASBESTOS ABATEMENT SHALL BE CONDUCTED ACCORDING TO EPA NESHAP AND OSHA REGULATIONS WHERE APPLICABLE.
2. ALL ASBESTOS ABATEMENT SHALL BE CONDUCTED IN REGULATED AREAS.
3. THE NEGATIVE PRESSURE ENCLOSURE SHALL BE CONSTRUCTED ACCORDING TO OSHA REGULATIONS. SEE SPECIFICATIONS FOR FURTHER DETAILS.
4. PREVENT ACCESS BY THE PUBLIC TO ALL PATHS FOR ASBESTOS ABATEMENT WORKERS AND WASTE LOADOUT BY EITHER A HARD SECURITY BARRIER OR CRITICAL BARRIERS AND LOCKED DOORS AS APPLICABLE.
5. DURING CONSTRUCTION OF SEPARATION BARRIERS AND CONTAINMENTS, THE CONTRACTOR SHALL EXERCISE DUE CAUTION TO PREVENT DISTURBANCE OF ACBM DURING THE PLACEMENT OF THE BARRIERS.
6. THERMAL SYSTEM INSULATION SHALL BE REMOVED UTILIZING GLOVEBAG METHODS IN REGULATED AREAS WITH CRITICAL BARRIERS OR BY WRAP AND CUT METHOD (SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION).
7. IF FLOOR TILE MASTIC IS NOT REMOVED WITHIN A NEGATIVE PRESSURE ENCLOSURE SYSTEM, THE WORK SHALL BE CONDUCTED IN A MANNER TO EXHAUST ODORS GENERATED FROM THE PROCESS TO THE EXTERIOR OF THE BUILDING.



1 LOWER LEVEL-ASBESTOS ABATEMENT PLAN
1/8" = 1'-0"

0 4' 8' 16'
SCALE: 1/8" = 1'-0"

N

STATE OF MISSOURI
MICHAEL L. PARSON, GOVERNOR

STATE OF MISSOURI
LANCE L. SCHUETTE
NUMBER PE-2008008674
PROFESSIONAL ENGINEER
12-02-22

LANCE L. SCHUETTE -ENGINEER
PE- 2008008674

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MISSOURI STATE CERTIFICATE OF AUTHORITY #000866

OFFICE OF ADMINISTRATION
DIVISION OF FACILITIES MANAGEMENT,
DESIGN AND CONSTRUCTION

MODIFY HVAC SYSTEM

MISSOURI SUPREME COURT BUILDING

207 W. HIGH STREET
JEFFERSON CITY, MO 65101

PROJECT # O2010-01
SITE # 1001
ASSET # 3101001056

REVISION:
DATE:
REVISION:
DATE:
REVISION:
DATE:
ISSUE DATE: 12/02/2022

CAD DWG FILE: ASB101
DRAWING BY: LLS
CHECKED BY: JJN
DESIGNED BY: LLS

SHEET TITLE:

LOWER LEVEL - ASBESTOS ABATEMENT

SHEET NUMBER:

ASB101

11 OF 40 SHEETS
DECEMBER 2, 2022

KEYNOTE LEGEND	
VALUE	DESCRIPTION
ASB04	REMOVE ASBESTOS CONTAINING DRYWALL JOINT COMPOUND.

SHEET LEGEND

▬ ▬ ▬ ASBESTOS CONTAINING DRYWALL JOINT COMPOUND - APPROX. 250 SF

GENERAL SHEET NOTES:

1. ALL ASBESTOS ABATEMENT SHALL BE CONDUCTED ACCORDING TO EPA NESHAP AND OSHA REGULATIONS WHERE APPLICABLE.
2. ALL ASBESTOS ABATEMENT SHALL BE CONDUCTED IN REGULATED AREAS.
3. THE NEGATIVE PRESSURE ENCLOSURE FOR THE DRYWALL JOINT COMPOUND REMOVAL SHALL BE CONSTRUCTED ACCORDING TO OSHA REGULATIONS. SEE SPECIFICATIONS FOR FURTHER DETAILS.
4. PREVENT ACCESS BY THE PUBLIC TO ALL PATHS FOR ASBESTOS ABATEMENT WORKERS AND WASTE LOADOUT BY EITHER A HARD SECURITY BARRIER OR CRITICAL BARRIERS AND LOCKED DOORS AS APPLICABLE.
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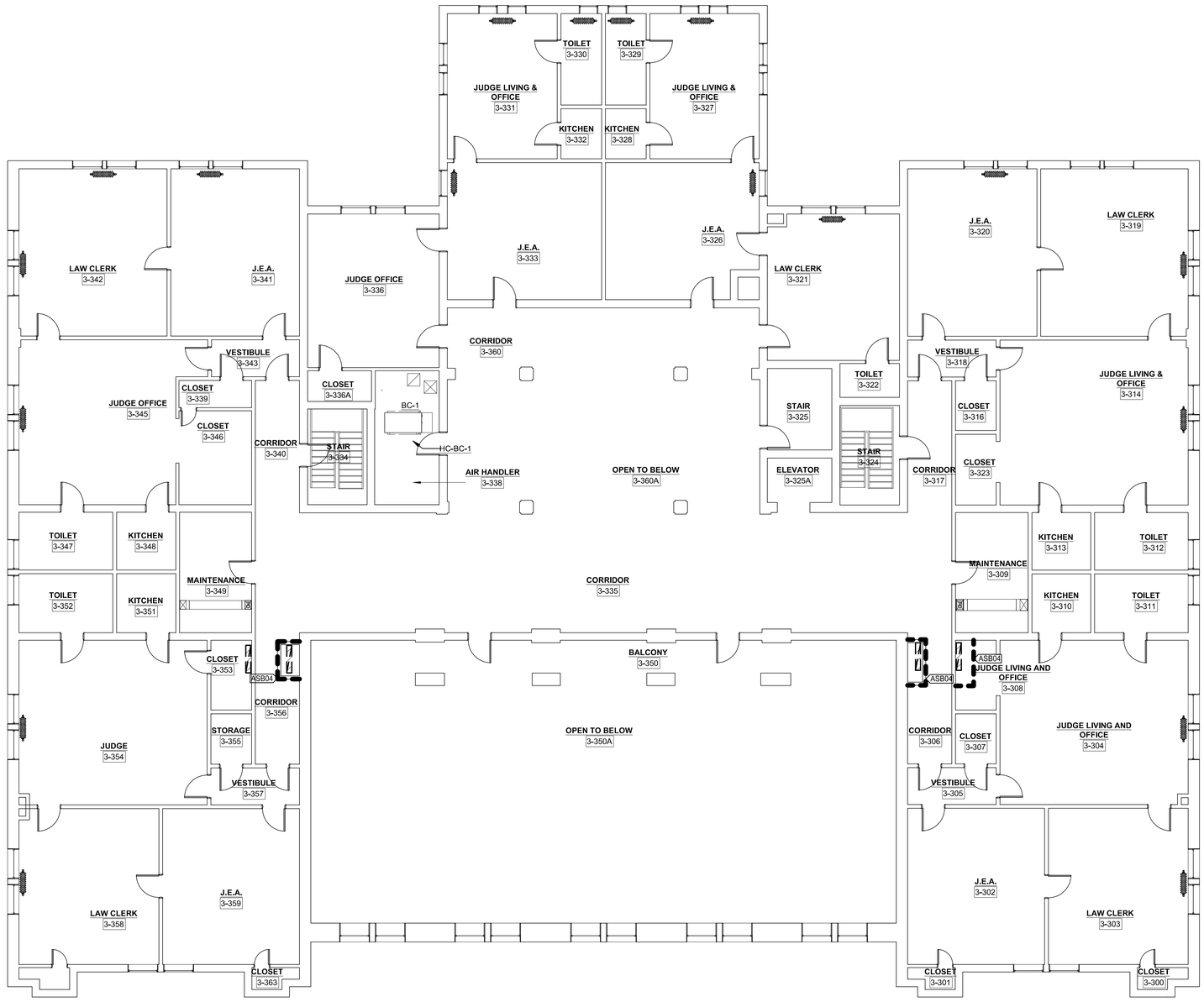

1 THIRD LEVEL - ASBESTOS ABATEMENT PLAN
1/8" = 1'-0"

0 4' 8' 16'
SCALE: 1/8" = 1'-0"

N

STATE OF MISSOURI
MICHAEL L. PARSON,
GOVERNOR

STATE OF MISSOURI
LANCE L. SCHUETTE
NUMBER PE-2008008674
PROFESSIONAL ENGINEER

LANCE L. SCHUETTE -ENGINEER
PE- 2008008674

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MISSOURI STATE CERTIFICATE OF AUTHORITY #000866

OFFICE OF ADMINISTRATION
DIVISION OF FACILITIES MANAGEMENT,
DESIGN AND CONSTRUCTION

MODIFY HVAC SYSTEM

MISSOURI SUPREME COURT BUILDING

207 W. HIGH STREET
JEFFERSON CITY, MO 65101

PROJECT # O2010-01
SITE # 1001
ASSET # 3101001056

REVISION:
DATE:
REVISION:
DATE:
REVISION:
DATE:
ISSUE DATE: 12/02/2022

CAD DWG FILE: ASB102
DRAWING BY: LLS
CHECKED BY: JJN
DESIGNED BY: LLS

SHEET TITLE:

THIRD LEVEL - ASBESTOS ABATEMENT

SHEET NUMBER:

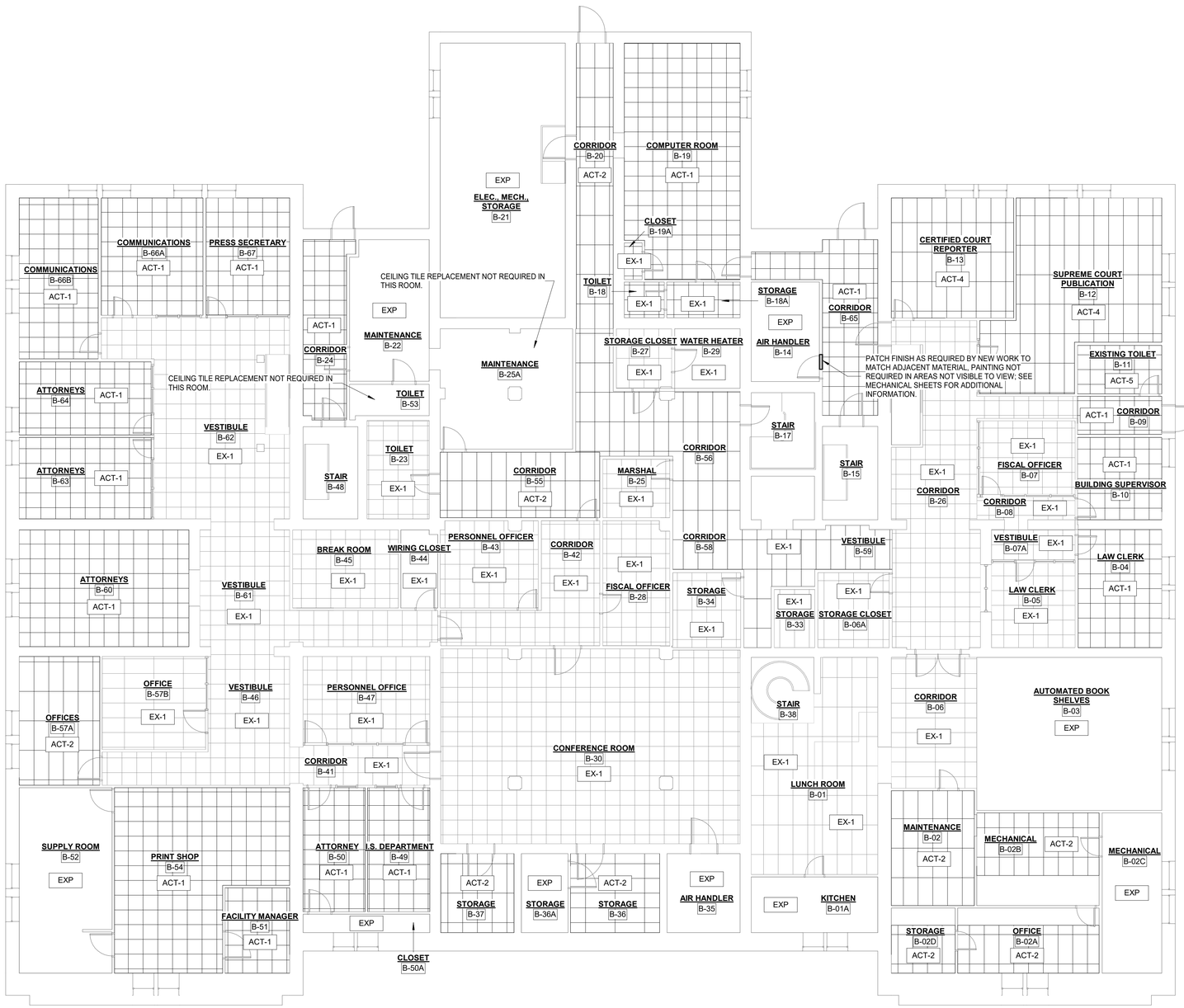
ASB102

12 OF 40 SHEETS
DECEMBER 2, 2022

CEILING SCHEDULE - NEW			
Type Mark	Manufacturer	Description	Comments
ACT-1	MATCH EXISTING	2' X 2' CEILING TILE - REPLACE TILE AS REQUIRED BY NEW WORK U.N.O.	
ACT-2	MATCH EXISTING	2' X 4' CEILING TILE - REPLACE TILE AS REQUIRED BY NEW WORK U.N.O.	
ACT-3	SEE SPECIFICATIONS	RAISED PANEL CEILING TILE - REPLACE TILE AS REQUIRED BY NEW WORK	
ACT-4	MATCH EXISTING	2' X 4' CEILING TILE - REPLACE ALL TILE THIS ROOM	SEE ASBESTOS ABATEMENT SHEETS FOR ADDITIONAL INFORMATION
ACT-5	MATCH EXISTING	2' X 2' CEILING TILE - REPLACE ALL TILE THIS ROOM	SEE ASBESTOS ABATEMENT SHEETS FOR ADDITIONAL INFORMATION
EX-1	N/A	EXISTING CEILING TO REMAIN, NO SCOPE	
EX-2	N/A	EXISTING CEILING TO REMAIN, SEE MECHANICAL SHEETS	
EXP	N/A	EXPOSED STRUCTURE AND/OR UNFINISHED CEILING	

GENERAL CEILING NOTES

1. INSTALLATION OF MECHANICAL DEVICES SHALL BE COORDINATED WITH THE BUILDING STRUCTURE, LIGHTING FIXTURES, PIPING, CONDUIT, A.C.T. CEILING, AND OTHER TRADES AS NECESSARY.
2. CONTRACTOR TO FURNISH ALL SUPPLY, RETURN, AND EXHAUST AIR DIFFUSERS AND GRILLES COMPATIBLE WITH CEILING CONSTRUCTION.
3. INSTALLATION OF ELECTRICAL DEVICES SHALL BE COORDINATED WITH THE BUILDING STRUCTURE, MECHANICAL DEVICES, PIPING, ACOUSTIC CEILING TILE SYSTEMS, AND OTHER TRADES AS NECESSARY.
4. ALL PENETRATIONS AND JOINTS IN FIRE RATED WALLS AND SMOKE PARTITIONS SHALL BE SEALED WITH APPROPRIATE UL TESTED ASSEMBLY.
5. ALL LIGHTING FIXTURES TO BE TEMPORARILY RELOCATED AND REINSTALLED IF REQUIRED BY NEW WORK UNLESS NOTED OTHERWISE.



1 LOWER LEVEL REFLECTED CEILING PLAN
1/8" = 1'-0"

0 4' 8' 16'
SCALE: 1/8" = 1'-0"

STATE OF MISSOURI
MICHAEL L. PARSON, GOVERNOR

STATE OF MISSOURI
MICHAEL JOSEPH FRIES
2017015806
NOTARY PUBLIC
12-2-2022
EXP. 12/31/2023

MICHAEL J. FRIES - ARCHITECT
MO #2017015806

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MODIFY HVAC SYSTEM

MISSOURI SUPREME COURT BUILDING

207 W. HIGH STREET
JEFFERSON CITY, MO 65101

PROJECT # O2010-01
SITE # 1001
ASSET # 3101001056

REVISION:
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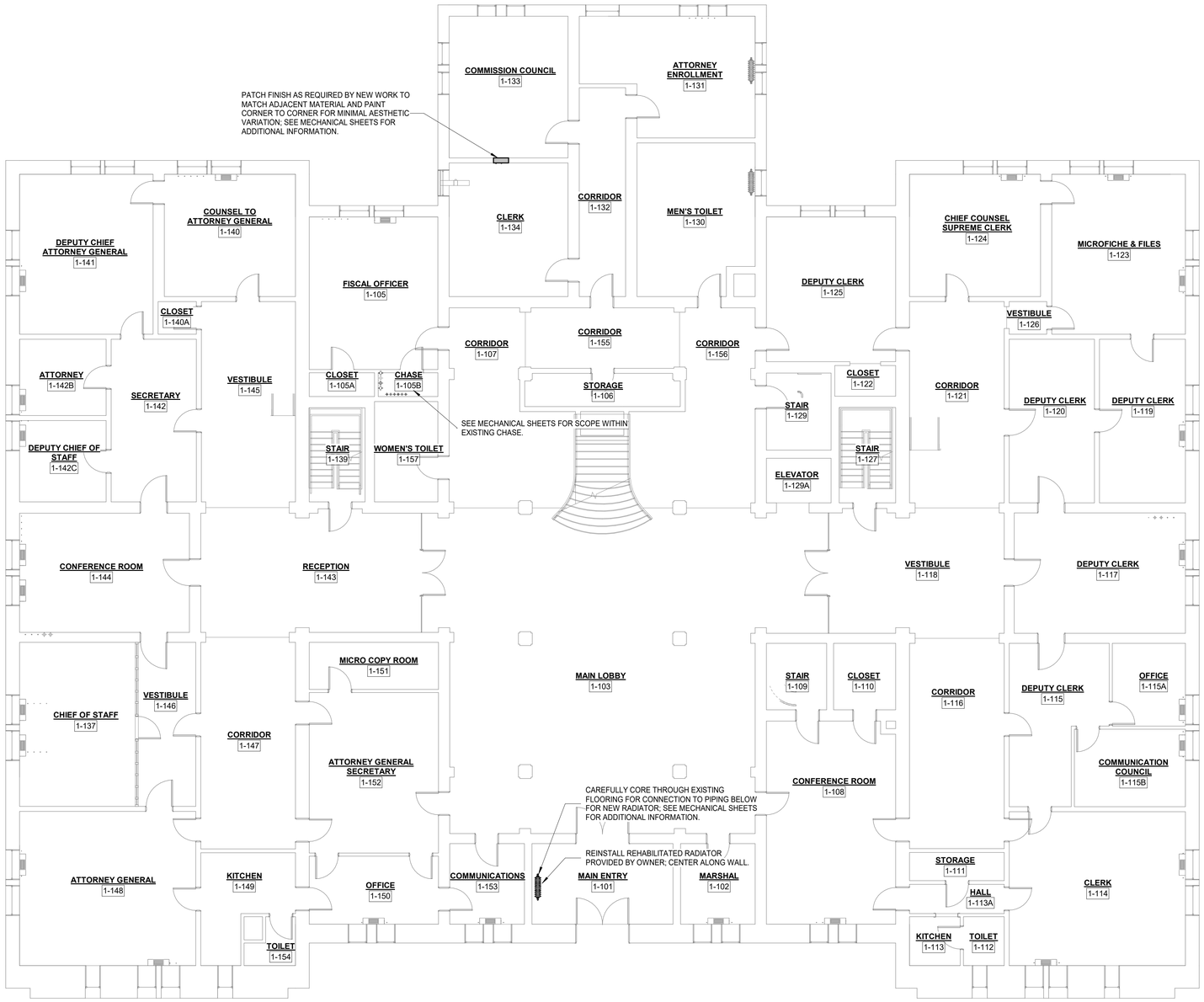
DATE:
REVISION:
DATE:
ISSUE DATE:12/02/2022

CAD DWG FILE: A102
DRAWING BY: SRWB
CHECKED BY: MJF
DESIGNED BY: SRWB

SHEET TITLE:
LOWER LEVEL RCP

SHEET NUMBER:
A102
13 OF 40 SHEETS
DECEMBER 2, 2022



1 MAIN LEVEL FLOOR PLAN
1/8" = 1'-0"

0 4' 8' 16'
SCALE: 1/8" = 1'-0"

N

STATE OF MISSOURI
MICHAEL L. PARSON,
GOVERNOR

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MICHAEL JOSEPH FRIES
2017015806
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MISSOURI SUPREME COURT BUILDING

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JEFFERSON CITY, MO 65101

PROJECT # O2010-01
SITE # 1001
ASSET # 3101001056

REVISION:
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DATE:
REVISION:
DATE:
ISSUE DATE:12/02/2022

CAD DWG FILE: A110
DRAWING BY: SRWB
CHECKED BY: MJF
DESIGNED BY: SRWB

SHEET TITLE:

MAIN LEVEL FLOOR PLAN

SHEET NUMBER:

A110

14 OF 40 SHEETS
DECEMBER 2, 2022

CEILING SCHEDULE - NEW			
Type Mark	Manufacturer	Description	Comments
ACT-1	MATCH EXISTING	2' X 2' CEILING TILE - REPLACE TILE AS REQUIRED BY NEW WORK U.N.O.	
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EX-1	N/A	EXISTING CEILING TO REMAIN, NO SCOPE	
EX-2	N/A	EXISTING CEILING TO REMAIN, SEE MECHANICAL SHEETS	
EXP	N/A	EXPOSED STRUCTURE AND/OR UNFINISHED CEILING	

GENERAL CEILING NOTES

1. INSTALLATION OF MECHANICAL DEVICES SHALL BE COORDINATED WITH THE BUILDING STRUCTURE, LIGHTING FIXTURES, PIPING, CONDUIT, A.C.T. CEILING, AND OTHER TRADES AS NECESSARY.
2. CONTRACTOR TO FURNISH ALL SUPPLY, RETURN, AND EXHAUST AIR DIFFUSERS AND GRILLES COMPATIBLE WITH CEILING CONSTRUCTION.
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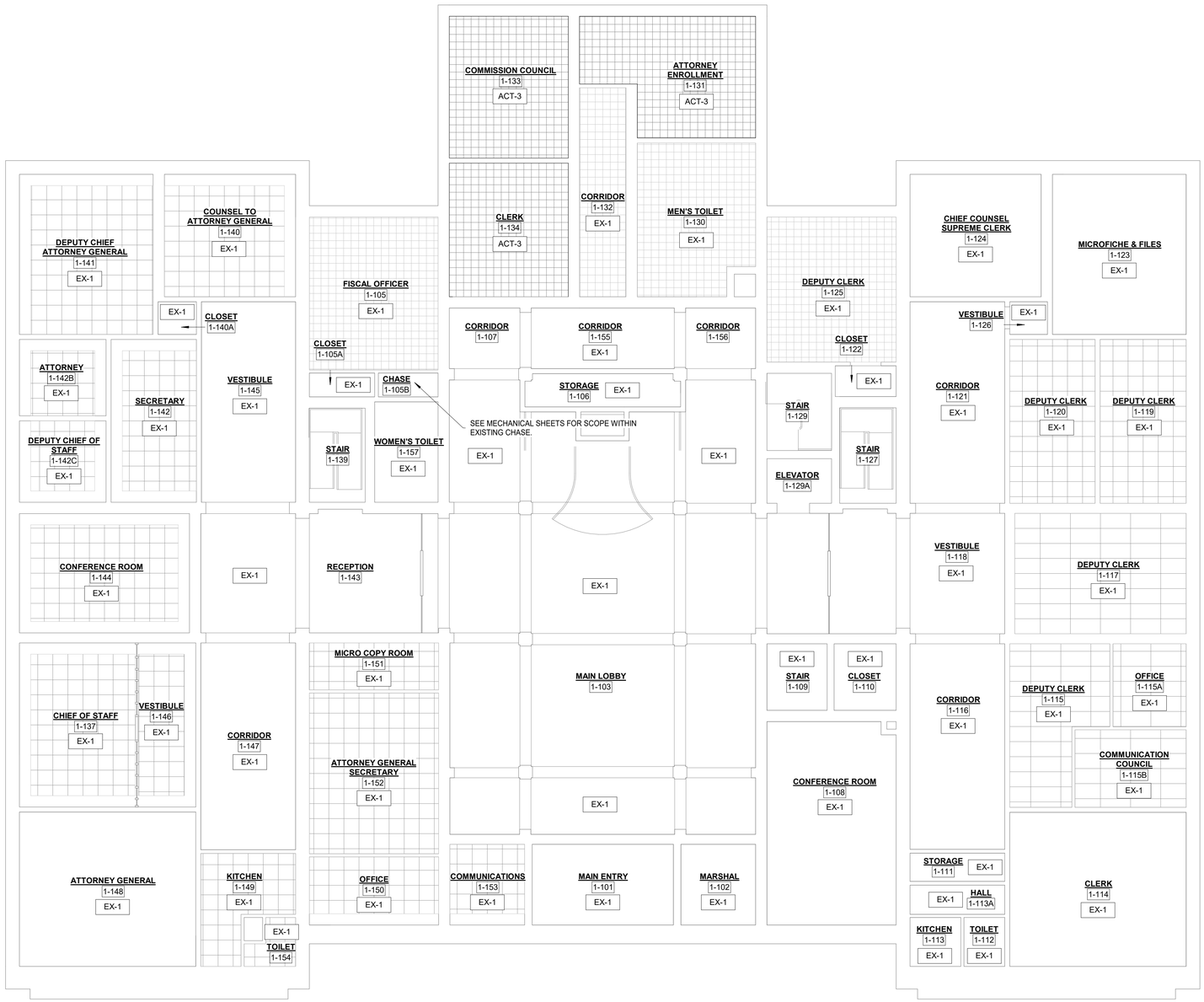

1 MAIN LEVEL REFLECTED CEILING PLAN
1/8" = 1'-0"

0 4' 8' 16'
SCALE: 1/8" = 1'-0"

N

STATE OF MISSOURI
MICHAEL L. PARSON, GOVERNOR

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MISSOURI SUPREME COURT BUILDING

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JEFFERSON CITY, MO 65101

PROJECT # O2010-01
SITE # 1001
ASSET # 3101001056

REVISION:
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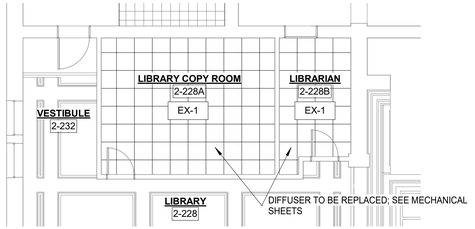
REVISION:
DATE:
ISSUE DATE:12/02/2022

CAD DWG FILE: A112
DRAWING BY: SRWB
CHECKED BY: MJF
DESIGNED BY: SRWB

SHEET TITLE:
MAIN LEVEL RCP

SHEET NUMBER:
A112

15 OF 40 SHEETS
DECEMBER 2, 2022



3 SECOND LEVEL REFLECTED CEILING PLAN - LIBRARY OFFICES
1/8" = 1'-0"

CEILING SCHEDULE - NEW			
Type Mark	Manufacturer	Description	Comments
ACT-1	MATCH EXISTING	2' X 2' CEILING TILE - REPLACE TILE AS REQUIRED BY NEW WORK U.N.O.	
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EXP	N/A	EXPOSED STRUCTURE AND/OR UNFINISHED CEILING	

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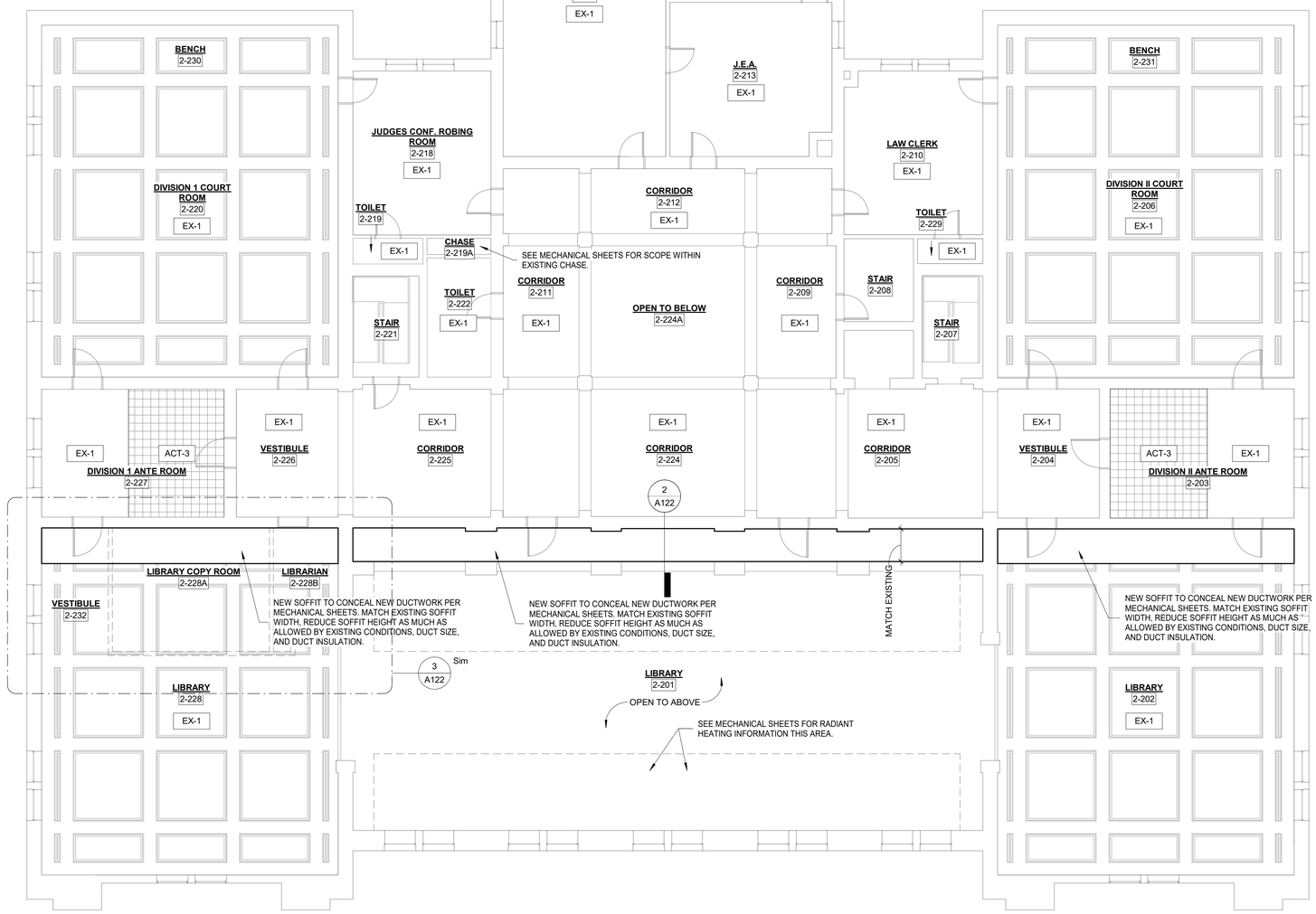
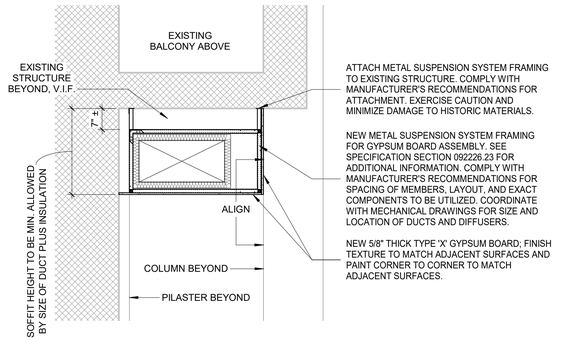


1 SECOND LEVEL REFLECTED CEILING PLAN
1/8" = 1'-0"



2 SOFFIT DETAIL
NTS

0 4' 8' 16'
SCALE: 1/8" = 1'-0"

STATE OF MISSOURI
MICHAEL L. PARSON, GOVERNOR

STATE OF MISSOURI
MICHAEL JOSEPH FRIES
2017015806
12-2-2022
REGISTERED ARCHITECT
EXP. 12/31/2023

MICHAEL J. FRIES - ARCHITECT
MO #2017015806

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OFFICE OF ADMINISTRATION
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DESIGN AND CONSTRUCTION

MODIFY HVAC SYSTEM

MISSOURI SUPREME COURT BUILDING

207 W. HIGH STREET
JEFFERSON CITY, MO 65101

PROJECT # O2010-01
SITE # 1001
ASSET # 3101001056

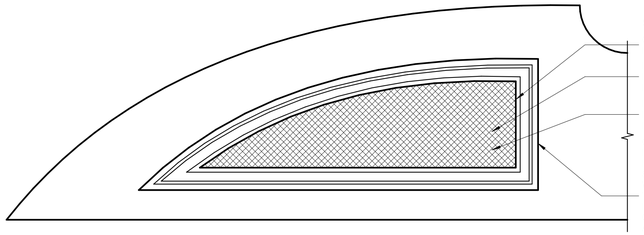
REVISION:
DATE:
REVISION:
DATE:
REVISION:
DATE:
ISSUE DATE:12/02/2022

CAD DWG FILE: A122
DRAWING BY: SRWB
CHECKED BY: MJF
DESIGNED BY: SRWB

SHEET TITLE:
SECOND LEVEL RCP

SHEET NUMBER:
A122

16 OF 40 SHEETS
DECEMBER 2, 2022



SEE 2/M501 FOR ADDITIONAL INFORMATION

CAREFULLY REMOVE PLASTER WITHIN PERIMETER OF TRIM BOARDS.

PREFINISHED PERFORATED DECORATIVE METAL PANEL; SEE SPECIFICATION SECTION 057000 DECORATIVE METAL.

PAINT SURFACE BEHIND PERFORATED DECORATIVE METAL TO MATCH PREFINISHED METAL.

CAREFULLY REMOVE EXISTING WOOD TRIM BOARDS AND RETAIN FOR REINSTALLATION. PERFORM REPAIRS AND/OR REPLACEMENT PER SPECIFICATION SECTION 060312 HISTORIC WOOD REPAIR IF EXISTING TRIM IS DISCOVERED TO BE IN POOR CONDITION. REINSTALL EXISTING WOOD TRIM BOARDS FOLLOWING THE COMPLETION OF MECHANICAL SCOPE. FINISHED APPEARANCE SHOULD MATCH THE EXISTING APPEARANCE PRIOR TO WORK. TOUCH UP PAINT AS REQUIRED.

2 LIBRARY VENTILATION DETAIL
NTS

CEILING SCHEDULE - NEW

Type Mark	Manufacturer	Description	Comments
ACT-1	MATCH EXISTING	2' X 2' CEILING TILE - REPLACE TILE AS REQUIRED BY NEW WORK U.N.O.	
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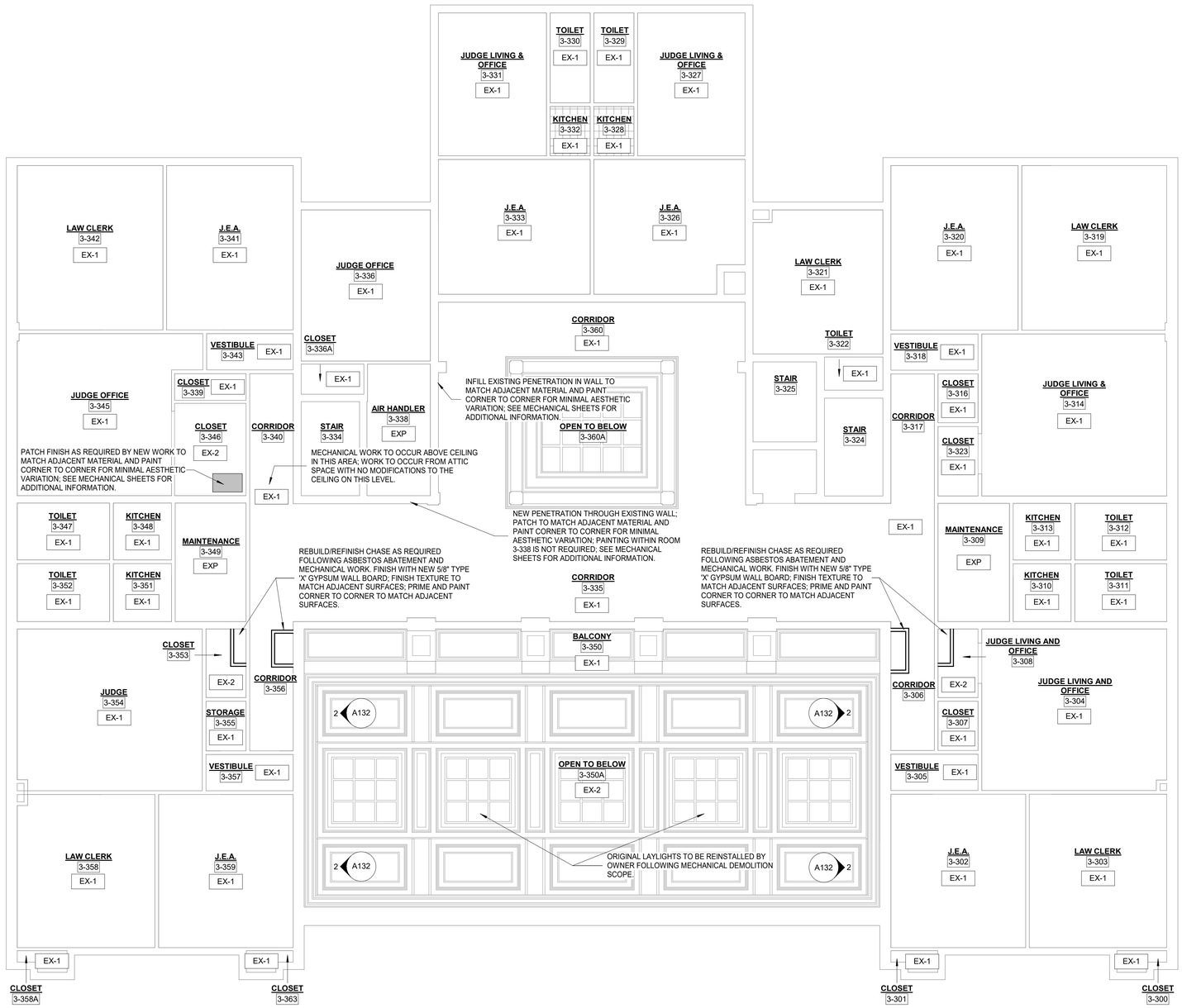

1 THIRD LEVEL REFLECTED CEILING PLAN
1/8" = 1'-0"

0 4' 8' 16'
SCALE: 1/8" = 1'-0"

N

STATE OF MISSOURI
MICHAEL L. PARSON, GOVERNOR

STATE OF MISSOURI
MICHAEL JOSEPH FRIES
NOTARIAL SEAL
2017015806
12-2-2022
MY COMMISSION EXP.
Exp. 12/31/2023

MICHAEL J. FRIES - ARCHITECT
MO #2017015806

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MODIFY HVAC SYSTEM

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PROJECT # O2010-01
SITE # 1001
ASSET # 3101001056

REVISION:
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REVISION:
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ISSUE DATE:12/02/2022

CAD DWG FILE: A132
DRAWING BY: SRWB
CHECKED BY: MJF
DESIGNED BY: SRWB

SHEET TITLE:

THIRD LEVEL RCP

SHEET NUMBER:

A132

17 OF 40 SHEETS
DECEMBER 2, 2022

DESIGN CRITERIA

1. BUILDING CODES:
   A. IBC 2021
   B. ASCE 7-16
2. DESIGN LOADS:
   A. Risk Category II
   B. Dead Loads
      a. Structure Self Weight
      b. HVAC Unit = 3501 lb

GENERAL

1. The structure is designed to be self-supporting and stable after the structure is fully completed. It is solely the contractor's responsibility to determine erection procedure and sequence and ensure the safety of the construction personnel, public, building and its components parts, and adjacent buildings and properties. This includes the addition of whatever temporary or permanent shoring, bracing, needling, underpinning, or sheet piling, etc. that may be necessary to brace new construction, adjacent buildings, so that the structure is braced for wind, seismic, gravity, construction loads, etc. and that no horizontal or vertical settlement or any damage occurs to the adjacent existing structure. Temporary supports shall be maintained in place until permanents supports and/or shoring and bracing are installed.
2. It is the contractor's responsibility to enforce all applicable safety codes and regulations during all phases of construction.
3. The contractor shall perform all construction for the project in a manner and sequence that are based on accepted industry standards that recognize the interaction of the components that comprise the structure, without causing distress, unanticipated movements or irregular load paths as a result of the construction means and methods employed.
4. Construction loads shall not exceed design live loads. The contractor shall be responsible for all design required to support construction equipment used in constructing this project. Shoring and reshoring is the responsibility of the contractor.
5. All contractors are required to examine the drawings and specifications carefully, visit the site and fully inform themselves as to all existing conditions and limitations, prior to agreeing to perform the work. Failure to visit the site and familiarize themselves with the existing conditions and limitations will in no way relieve the contractor from furnishing any materials or performing any work in accordance with drawings and specifications without additional cost to the owner.
6. Contractor shall verify all dimensions and conditions at the job site before commencing work and shall report any discrepancies to the engineer.
7. Omissions or conflicts between various elements of the drawings, notes, details and specifications shall be brought to the attention of the engineer and resolved before proceeding with the work.
8. Details labeled "Typical Details" on drawings apply to situations occurring on the project that are the same or similar to those specifically details. Such details apply whether or not details are referenced at each location. Notify engineer of clarification regarding applicability of "Typical Details".
9. Work these drawings with architectural, mechanical, and electrical drawings.
10. Do not scale drawings.
11. Should any of the general notes conflict with any details or instructions on plans, the strictest provision shall govern.
12. Shop drawings and submittals:
    A. These drawings shall be checked and coordinated with other materials and contracts by the general contractor and shop drawings and submittals shall bear the contractor's review stamp with the checker's initials before being submitted to the architect for approval.
    B. When the fabricator has been authorized to use the architect and engineer's drawings as erection drawings, the fabricator must remove all title blocks, professional seals and any other reference to the architect and engineer from that erection drawing. The fabricator's name and title shall be placed on the erection drawing.

EXISTING WORK

1. Existing conditions shown or noted on the drawings were obtained from field measurements or were assumed. If conditions other than those shown exist, immediately notify the Engineer before proceeding with the work at that location. If conditions other than those shown exist, alternate methods of construction may need to be used.
2. Where specifically noted on the drawings that existing construction be verified, notify the Engineer in writing of the findings. Verification shall take place prior to preparation of shop drawings and shop drawings shall show all field verified existing conditions. Modifications to details may be required should actual condition significantly differ from those presumed. Any required modifications will be made during the review of the shop drawings.
3. Use appropriate construction methods and equipment as necessary to support existing structures and to avoid over stressing the existing structures.
4. Existing framing is assumed to be in original condition. If deterioration has occurred notify the Engineer in writing of the findings.

STRUCTURAL STEEL

1. Detailing, fabrication and erection shall conform to the AISC Specifications and Standard Code of Practice for the year referenced in the building code noted, except as modified by these notes and the project specifications.
2. Steel shall conform to the following grades unless otherwise noted:
   A. W Shapes – ASTM A992 Grade 50 (Fy=50 ksi)
   B. Plates, Angles, and Threaded Rods – ASTM A36 (Fy=36 ksi)
   C. Bolts – ASTM F3125, Grade A325-N
   D. Washers – ASTM F844, plain
   E. Welding Electrodes – E70xx
3. All structural steel shall be primed. Field touch up primer.
4. Bolts shall be considered bearing bolts. Tighten bearing bolts to a snug condition per AISC Specifications.
5. All welding shall be in accordance with the "Structural Welding Code", AWS D1.1, Latest Edition. Field welding is not permitted.
6. Fabricate all beams with the mill camber up.
7. General contractor shall verify all structural beam locations, mechanical units weights and opening sizes and locations with mechanical contractor and vendor's drawings for actual mechanical unit purchased.
8. Splicing of structural members where not detailed on the drawings is prohibited without prior approval of the structural engineer.
9. Cuts, holes, coping, etc. required for work of other trades shall be shown on the shop drawings and made in the shop. Cuts or burning of holes in the structural steel members in the field will not be permitted, unless specifically approved in each case by the engineer.
10. Provide fire watch during field drilling. As needed, wet existing steel.

FIRE WATCH

1. Provide a Fire Watch for a minimum of 30 minutes after any field cutting, drilling, and welding.

ABBREVIATIONS

&	AND
AB	ANCHOR BOLT
AHU	AIR HANDLING UNIT
ALT	ALTERNATE
ARCH	ARCHITECT
@	AT
BLDG	BUILDING
BM	BEAM
BO	BOTTOM OF
BOT	BOTTOM
BRG	BEARING
BRDG	BRIDGING
BYD	BEYOND
CIP	CAST IN PLACE
CJ	CONSTRUCTION JOINT
CL (℄)	CENTERLINE
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CTR	CENTER
DBA	DEFORMED BAR ANCHOR
DBL	DOUBLE
DIA (Ø)	DIAMETER
DIAPH	DIAPHRAGM
DL	DEAD LOAD
DWLS	DOWELS
EA	EACH
EF	EACH FACE
ELEV (EL)	ELEVATION
EMBED	EMBEDMENT
EW	EACH WAY
EX	EXISTING
FB	FIELD BEND
FDN	FOUNDATION
FF	FINISHED FLOOR
FLR	FLOOR
FTG	FOOTING
FV	FIELD VERIFY
GA	GAUGE
GALV	GALVANIZED
HDG	HOT DIP GALVANIZED
HDR	HEADER
HGR	HANGER
HORIZ	HORIZONTAL
HS	HEADED STUD
HSS	HOLLOW STRUCTURAL SECTION
HT	HEIGHT
ID	INSIDE DIAMETER
JST	JOIST
LG	LONG
LL	LIVE LOAD
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LONG	LONGITUDINAL
LWC	LIGHT WEIGHT CONCRETE
MAX	MAXIMUM
MECH	MECHANICAL
MIN	MINIMUM
NO (#)	NUMBER
NTS	NOT TO SCALE
OC	ON CENTER
OH	OPPOSITE HAND
OPNG	OPENING
OPP	OPPOSITE
PAR	PARALLEL
PEMB	PRE-ENGINEERED METAL BUILDING
PERP	PERPENDICULAR
PL (℄)	PLATE
PSF	POUNDS PER SQUARE FOOT
PT	PRESSURE TREATED
REINF	REINFORCING
RO	ROUGH OPENING
RTU	ROOF TOP UNIT
SCH	SCHEDULE
SIM	SIMILAR
SL (℄)	STEEL LINE
STAGG	STAGGERED
STD	STANDARD
STIFF	STIFFENER
TBR	TO BE REMOVED
THK	THICK
THRU	THROUGH
TO	TOP OF
TOF	TOP OF FOOTING
TOS	TOP OF STEEL
TOW	TOP OF WALL
TRANS	TRANSVERSE
TYP	TYPICAL
UNO	UNLESS OTHERWISE NOTED
VERT	VERTICAL
W/	WITH
WF	WIDE FLANGE
W/O	WITHOUT
WP	WORKING POINT
WWF	WELDED WIRE FABRIC
W.R.	WATER REDUCER

STATE OF MISSOURI
MICHAEL L. PARSON, GOVERNOR

REGISTERED PROFESSIONAL ENGINEER
STATE OF MISSOURI
ALAN D. LUKENS
NUMBER E-2001020814

12/2/22

ALAN D. LUKENS - ENGINEER
MO#2001020814

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MISSOURI STATE CERTIFICATE OF AUTHORITY #000866

OFFICE OF ADMINISTRATION
DIVISION OF FACILITIES MANAGEMENT,
DESIGN AND CONSTRUCTION

MODIFY HVAC SYSTEM

MISSOURI SUPREME COURT BUILDING

207 W. HIGH STREET
JEFFERSON CITY, MO 65101

PROJECT # O2010-01
SITE # 1001
ASSET # 3101001056

REVISION:
DATE:
REVISION:
DATE:
REVISION:
DATE:
ISSUE DATE:12/02/2022

CAD DWG FILES001
DRAWING BY: AJK
CHECKED BY: ADL
DESIGNED BY: AJK/ADL

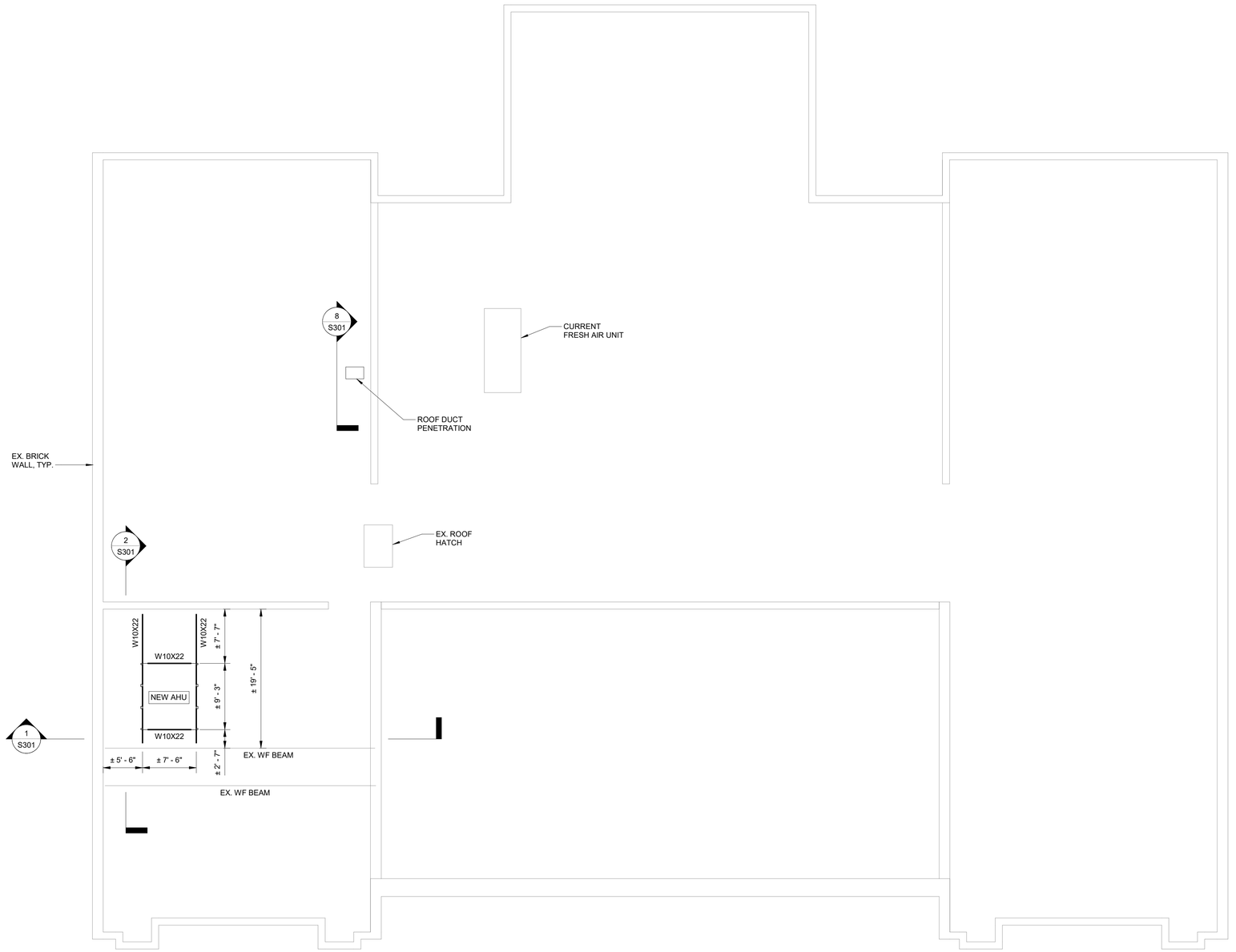
SHEET TITLE:

STRUCTURAL NOTES

SHEET NUMBER:

S001

18 OF 40 SHEETS
DECEMBER 2, 2022



1 MEZZANINE PLAN
1/8" = 1'-0"

NOTE: ALL DIMENSIONS SHOWN ARE APPROXIMATE AND SHALL BE FIELD VERIFIED BY THE INSTALLING CONTRACTOR.

0 4' 8' 16'
SCALE: 1/8" = 1'-0"

STATE OF MISSOURI
MICHAEL L. PARSON, GOVERNOR

REGISTERED STATE OF MISSOURI ALAN D. LUKENS NUMBER E-20U1020814 PROFESSIONAL ENGINEER
12/2/22

ALAN D. LUKENS - ENGINEER
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PROJECT # O2010-01
SITE # 1001
ASSET # 3101001056

REVISION:
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DATE:
ISSUE DATE:12/02/2022

CAD DWG FILES201
DRAWING BY: AJK
CHECKED BY: ADL
DESIGNED BY: AJK/ADL

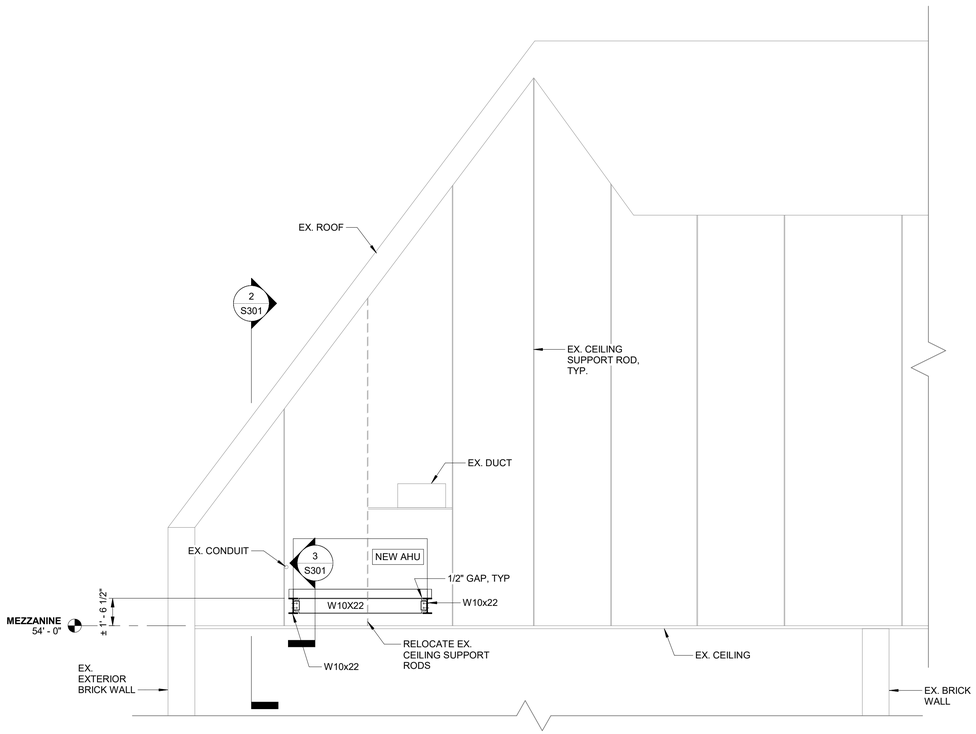
SHEET TITLE:

FRAMING PLAN

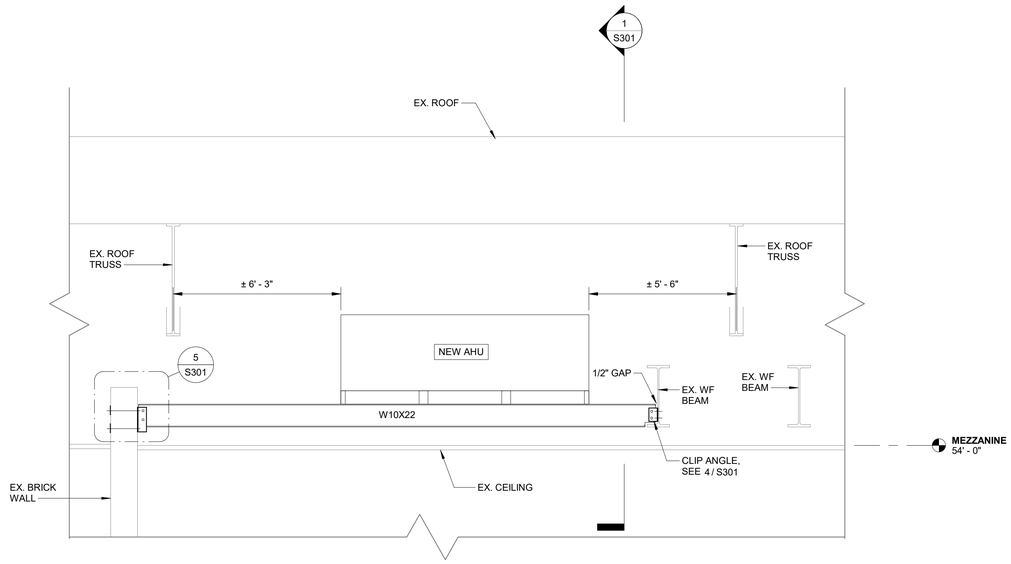
SHEET NUMBER:

S201

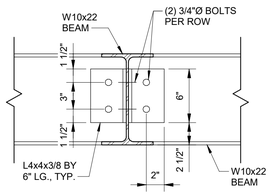
19 OF 40 SHEETS
DECEMBER 2, 2022



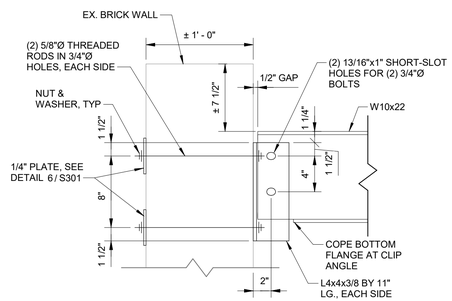
1 SECTION
1/4" = 1'-0"



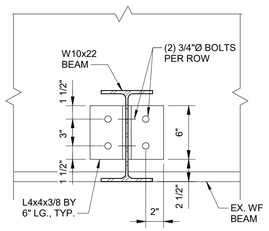
2 SECTION
3/8" = 1'-0"



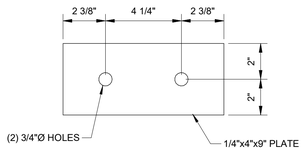
3 NEW BEAM TO NEW BEAM CONNECTION DETAIL
1 1/2" = 1'-0"



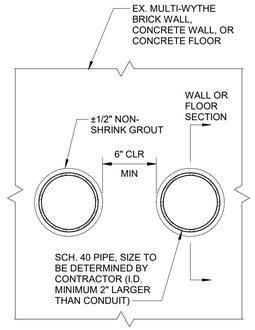
5 NEW BEAM TO EX. BRICK WALL CONNECTION DETAIL
1 1/2" = 1'-0"



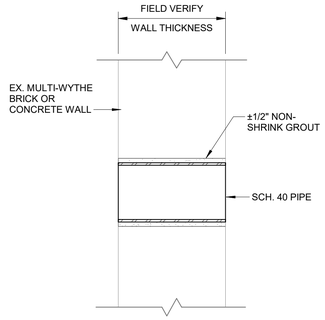
4 NEW BEAM TO EX. BEAM CONNECTION DETAIL
1 1/2" = 1'-0"



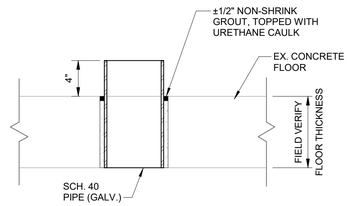
6 PLATE DETAIL
3" = 1'-0"



ELEVATION OR PLAN



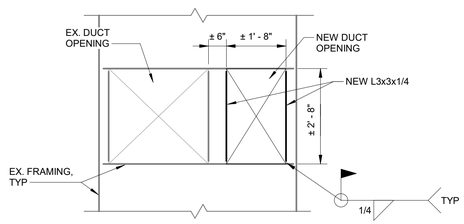
WALL SECTION



FLOOR SECTION

NOTE: DO NOT CORE DRILL THROUGH STRUCTURAL BEAMS OR JOISTS. MAX CORE DRILL SIZE 8"Ø

7 CORE DRILLING DETAIL
1 1/2" = 1'-0"



8 ROOF DUCT PENETRATION DETAIL
1/2" = 1'-0"

NOTE: FIELD VERIFY ALL DIMENSIONS

0 2' 4' 8'
SCALE: 1/4" = 1'-0"

0 2 4
SCALE: 3/8" = 1'-0"

0 1' 2' 4'
SCALE: 1/2" = 1'-0"

0 3" 6" 1'
SCALE: 1 1/2" = 1'-0"

0 3" 6"
SCALE: 3" = 1'-0"

STATE OF MISSOURI
MICHAEL L. PARSON, GOVERNOR

REGISTERED PROFESSIONAL ENGINEER
STATE OF MISSOURI
ALAN D. LUKENS
NUMBER E-20010208 14

12/2/22

ALAN D. LUKENS - ENGINEER
MO#2001020814

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MISSOURI SUPREME COURT BUILDING

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JEFFERSON CITY, MO 65101

PROJECT # O2010-01
SITE # 1001
ASSET # 3101001056

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DATE:
ISSUE DATE:12/02/2022

CAD DWG FILES301
DRAWING BY: AJK
CHECKED BY: ADL
DESIGNED BY: AJK/ADL

SHEET TITLE:

FRAMING ELEVATIONS AND DETAILS

SHEET NUMBER:

S301

20 OF 40 SHEETS
DECEMBER 2, 2022

GENERAL NOTES:

1. APPLICABLE STANDARDS: NFPA-70, NFPA-101, STATE BUILDING CODES, AND THE OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA) OF 1971 AND ALL AMENDMENTS THERETO; EQUIPMENT, DEVICES, APPARATUS, SYSTEMS, AND INSTALLATIONS SHALL BE ENTIRELY SUITABLE AND SAFE FOR EACH INTENDED APPLICATION AND BE IN FULL COMPLIANCE WITH APPLICABLE STANDARDS, REQUIREMENTS, RULES, REGULATIONS, CODES, STATUTES, ORDINANCES, ETC., OF MUNICIPAL, COUNTY, AND STATE GOVERNMENTS, OWNER'S INSURANCE COMPANY, LOCAL UTILITIES, AND LABOR REGULATIONS. NOTHING CONTAINED IN THESE PLANS AND SPECIFICATIONS SHALL BE CONSTRUED TO CONFLICT WITH THESE LAWS, CODES, AND ORDINANCES.
2. DRAWINGS ARE SCHEMATIC AND SHOW APPROXIMATE LOCATIONS OF ELECTRICAL EQUIPMENT. EXACT LOCATIONS SHALL BE COORDINATED BY THE CONTRACTOR AND VERIFIED IN THE FIELD PRIOR TO ROUGH-IN.
3. INSTALLATIONS WHICH INCLUDE ELECTRICAL FIXTURES, DEVICES, CONDUIT, SWITCHES, PANELS, HANGERS, WIRE, CABLE, STANDARDS, ETC., MUST BE ENTIRELY SUITABLE FOR TEMPERATURES, HUMIDITY, DAMP AREAS, VOLTAGE, FREQUENCY, AND ALL INSTALLATION CONDITIONS ENCOUNTERED.
4. INSTALLATION MUST BE ENTIRELY SAFE IN EVERY RESPECT, AND MUST NOT CREATE ANY CONDITIONS OF ANY KIND WHICH WILL BE HARMFUL TO ANY OCCUPANT OF THE BUILDING. IF CONTRACTOR BELIEVES THAT INSTALLATION WILL NOT BE SAFE FOR ALL PEOPLE, HE/SHE SHALL SO REPORT IN WRITING TO ENGINEER BEFORE ANY EQUIPMENT IS PURCHASED OR WORK IS INSTALLED, GIVING EXACT RECOMMENDATIONS, AND REASONS FOR THEM.
5. GROUNDING: ALL GROUNDING SHALL BE IN STRICT ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE (NEC).
6. INSTALLATION OF ELECTRICAL DEVICES SHALL BE COORDINATED WITH OTHER TRADES AS NECESSARY TO PREVENT ANY CONFLICTS DURING CONSTRUCTION.
7. WHERE THERMOSTAT LOCATIONS ARE SHOWN, THE CONTRACTOR SHALL PROVIDE A RECESSED WALL BOX WITH CONDUIT TO AN ACCESSIBLE LOCATION. IN AREAS WHERE SURFACE MOUNTED BOXES ARE REQUIRED, A SURFACE MOUNTED BOX AND CONDUIT TO 10' AFF SHALL BE PROVIDED (OR TO THE EQUIPMENT LOCATION, WHICHEVER IS CLOSER). THERMOSTAT INSTALLATION AND THE CORRESPONDING LOW VOLTAGE THERMOSTAT WIRING SHALL BE BY THE CONTRACTOR.
8. EQUIPMENT GROUNDING CONDUCTORS SHALL BE PULLED WITH ALL BRANCH CIRCUITS. CONDUIT SHALL NOT BE USED AS A GROUND U.N.O.
9. CONTRACTOR SHALL FURNISH AND INSTALL ALL MATERIALS, ACCESSORIES, TOOLS, EQUIPMENT, TRANSPORTATION, LABOR, SERVICES AND OPERATIONS NECESSARY FOR A COMPLETE ELECTRICAL SYSTEM.
10. ELECTRICAL CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND ARRANGE FOR ALL INSPECTIONS REQUIRED BY STATE OR LOCAL AUTHORITIES.
11. MATERIALS MUST BE NEW, IN FIRST CLASS CONDITION.
12. CONDUIT AND PIPING SHALL BE SEPARATELY HUNG AND ANCHORED, FREE TO EXPAND AND CONTRACT QUIETLY, WITHOUT IMPOSING STRAINS ON STRUCTURE, DEVICES, AND EQUIPMENT. CONDUIT AND PIPING SHALL BE RUN PARALLEL OR PERPENDICULAR TO BUILDING LINES.
13. ALL MECHANICAL INSTALLATIONS SHALL CONFORM TO NFPA 90A, SMACNA, ASHRAE AND ALL OTHER STATE AND LOCAL CODES.
14. UPON COMPLETION OF CONSTRUCTION, REPLACE ALL FILTERS.
15. ALL 90 DEGREE BENDS IN AIR DUCTS SHALL HAVE TURNING VANES. VANES SHALL BE SINGLE THICKNESS WITH RADIUS = 4.5" AND SPACING = 2.25".
16. ALL MAIN AND BRANCH DUCTS SHALL BE RECTANGULAR GALV. STEEL SIZED AS NOTED ON THE PLANS. SIZE SHALL REFER TO UNOBSTRUCTED INTERNAL AIRFLOW AREA. DUCTWORK SHALL BE MOUNTED TIGHT TO JOISTS ABOVE OR RUN IN SPACE BETWEEN JOISTS, U.N.O. CLEARANCES FROM FINISH FLOOR SHALL BE MAXIMIZED WHERE POSSIBLE.
17. A FLEXIBLE CONNECTION BETWEEN MECHANICAL UNITS AND BOTH THE SUPPLY AND RETURN AIR DUCTWORK IS REQUIRED FOR VIBRATION ISOLATION AND NOISE REDUCTION.
18. SERVICE OPENINGS SHALL BE LOCATED IN THE DUCTWORK BEFORE AND AFTER EACH TURNING VANE. SEE SPECIFICATIONS AND NFPA 90A FOR LOCATIONS OF ADDITIONAL ACCESS DOORS AND PANEL REQUIRED THROUGHOUT THE AIR DISTRIBUTION SYSTEM.

ELECTRICAL SYMBOLS

- SINGLE RECEPTACLE
- STANDARD DUPLEX RECEPTACLE
- EMERGENCY POWER DUPLEX RECEPTACLE
- DUPLEX RECEPTACLE WITH ISOLATED GROUND
- AC — DUPLEX RECEPTACLE INSTALLED ABOVE COUNTER
- 48" — DUPLEX RECEPTACLE INSTALLED AT DISTANCE ABOVE FINISHED FLOOR
- GFCI — DUPLEX RECEPTACLE WITH GROUND FAULT CIRCUIT INTERRUPTER
- FOURPLEX RECEPTACLE
- FOURPLEX EMERGENCY RECEPTACLE
- 208/240 VOLT 2-POLE RECEPTACLE
- FLOOR RECEPTACLE (FOURPLEX SHOWN)
- RECEPTACLE ON DROP CORD (DUPLEX SHOWN)
- RECEPTACLE ON CORD REEL (DUPLEX SHOWN)
- SINGLE POLE SWITCH
- 3 — 3-WAY SWITCH
- 4 — 4-WAY SWITCH
- K — KEYED SWITCH
- D — DIMMER SWITCH
- OS — OCCUPANCY SENSOR SWITCH
- T — TIMER SWITCH
- FSC — FAN SPEED CONTROL SWITCH
- MP — MOTOR HORSEPOWER RATED SWITCH
- WALL MOUNT OCCUPANCY SENSOR
- CEILING MOUNT OCCUPANCY SENSOR
- LIGHT LEVEL SENSOR (TYPE DENOTED)
- LV — LOW VOLTAGE SWITCH
- LVD — LOW VOLTAGE SWITCH WITH DIMMING
- VS — VACANCY SENSOR SWITCH
- LCP — LIGHTING CONTROL POWER PACK
- FIRE ALARM HORN/STROBE
- FIRE ALARM STROBE
- P — FIRE ALARM PULL STATION
- FIRE ALARM CEILING MOUNT SMOKE DETECTOR
- FIRE ALARM DUCT MOUNT SMOKE DETECTOR
- WIRELESS ACCESS POINT
- DATA OUTLET

- SAFETY DISCONNECT SWITCH (FUSED)
- SAFETY DISCONNECT SWITCH (NON-FUSED)
- PC — PHOTOCELL
- TIME CONTROL SWITCH
- H — HUMIDISTAT
- T — THERMOSTAT
- TS — REMOTE TEMPERATURE SENSOR
- J — JUNCTION BOX
- PB — PULL BOX
- CIRCUIT BREAKER PANEL
- POWER OR DISTRIBUTION PANEL
- TRANSFORMER (TYPE DENOTED)
- M — MOTOR (SEE SCHEDULE)
- HAND OR HAIR DRYER (TYPE NOTED)

- LOW VOLTAGE POWER CIRCUIT
- LINE VOLTAGE POWER CIRCUIT
- CONDUIT
- SR — *SURFACE RACEWAY*
- *CONDUIT TRANSITION UP*
- CONDUIT TRANSITION DOWN
- BRANCH CIRCUIT HOME RUN
- UE — UNDERGROUND ELECTRICAL
- UHVE — UNDERGROUND HIGH VOLTAGE ELECTRICAL
- UT — UNDERGROUND TELEPHONE
- UCOM — UNDERGROUND COMMUNICATIONS
- UTV — UNDERGROUND CABLE TELEVISION (CATV OR CCTV)
- UFIBR — UNDERGROUND FIBER OPTIC
- OHE — OVERHEAD ELECTRIC
- OHT — OVERHEAD TELEPHONE
- CONNECT TO EXISTING

HVAC SYMBOLS

- 16"x8" — SQUARE DUCT SIZE TAG (WIDTH x HEIGHT)
- SA — SUPPLY AIR
- OA — OUTSIDE AIR
- RA — RETURN AIR
- EA — EXHAUST AIR
- AIR INLET/OUTLET
- X / 500 — TYPE (SEE SCHEDULE) GRILLES, REGISTERS, AND DIFFUSERS TAG; CFM
- EXISTING PIPING
- PROPOSED HEATING WATER SUPPLY (HWS) PIPING
- PROPOSED HEATING WATER RETURN (HWR) PIPING
- AHU-8 — MECHANICAL EQUIPMENT
- HUMIDITY SENSOR HS — TH — TEMPERATURE & HUMIDITY SENSOR
- HUMIDISTAT H — TS — TEMPERATURE SENSOR
- SENSOR S — T — THERMOSTAT
- SW — MANUAL SWITCH
- M — MOTORIZED DAMPER
- B — MANUAL BALANCING DAMPER
- CONNECT TO EXISTING
- SUGGESTED ASBESTOS TESTING WITHIN BOUNDARY

STATE OF MISSOURI
MICHAEL L. PARSON, GOVERNOR

CONSTRUCTION DOCUMENT

STATE OF MISSOURI — ANTHONY LOUIS DIEWOLD — NUMBER PE-2016000028 — 12-02-2022 — PROFESSIONAL ENGINEER

ANTHONY L. DIEWOLD - ENGINEER
PE-2016000028

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MODIFY HVAC SYSTEM

MISSOURI SUPREME COURT BUILDING

207 W. HIGH STREET
JEFFERSON CITY, MO 65101

PROJECT # O2010-01
SITE # 1001
ASSET # 3101001056

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CAD DWG FILE: MEP001
DRAWING BY: ALD
CHECKED BY: JJN
DESIGNED BY: ALD

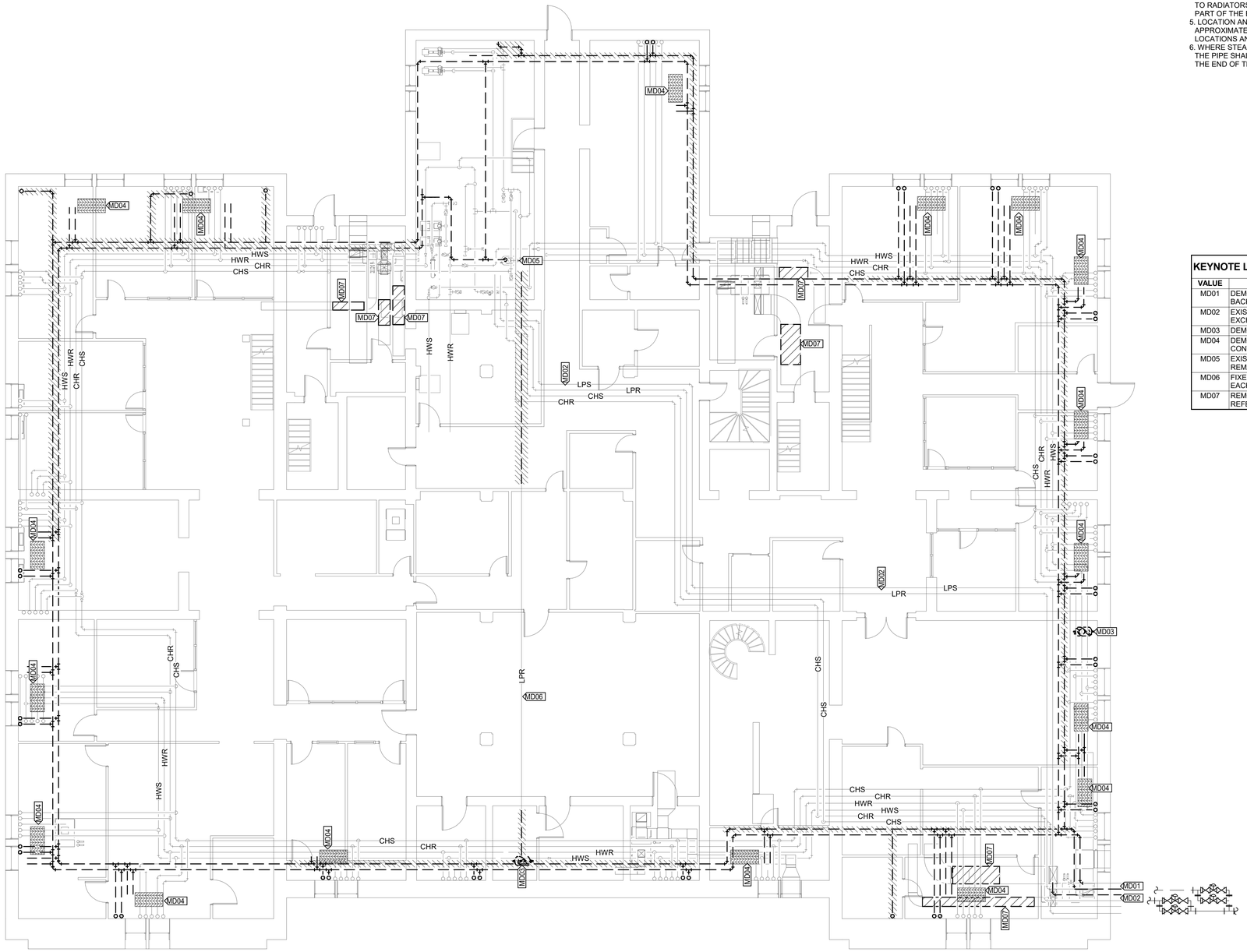
SHEET TITLE:

MEP GENERAL NOTES & SYMBOLS

SHEET NUMBER:

MEP001

21 OF 40 SHEETS
DECEMBER 2, 2022



1 LOWER LEVEL-STEAM PIPING DEMOLITION PLAN
1/8" = 1'-0"

0 4' 8' 16'
SCALE: 1/8" = 1'-0"

GENERAL NOTES:
1. EXISTING STEAM AND CONDENSATE PIPING WITHIN THE BUILDING SERVING THE STEAM TO HOT WATER HEATER EXCHANGER SHALL REMAIN. THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING AND LABELING THIS PIPE PER SECTION 230553 OF THE PROJECT MANUAL AT THE BEGINNING OF THE PROJECT. ALL OTHER ACCESSIBLE STEAM AND CONDENSATE PIPING, FITTINGS, APPURTENANCES ON THE LOWER LEVEL OF THE BUILDING SHALL BE REMOVED OR ABANDONED AS NOTED ON THIS PLAN SHEET.
2. "ACCESSIBLE" AS USED ON THIS SHEET SHALL BE DEFINED AS COMPONENTS THAT ARE EITHER EXPOSED OR LOCATED ABOVE REMOVABLE TILE CEILING. COMPONENTS THAT ARE LOCATED BEHIND FIXED CEILINGS OR WALLS SHALL NOT BE CONSIDERED ACCESSIBLE.
3. AT THE CONTRACTOR'S OPTION, EXISTING STEAM/CONDENSATE PIPE COVERED WITH ASBESTOS CONTAINING INSULATION MAY BE REMOVED VIA THE ASBESTOS ABATEMENT PROCESS OR SEPARATE DEMOLITION PROCESS.
4. LOCATION AND QUANTITY OF CEILING HUNG STEAM PANEL RADIATORS ARE APPROXIMATE. ACCESS TO RADIATORS CAN BE LIMITED. CONTRACTOR TO FIELD VERIFY LOCATIONS AND ACCESSIBILITY AS PART OF THE BIDDING PROCESS.
5. LOCATION AND QUANTITY OF STEAM AND CONDENSATE BRANCHES SERVING UPPER FLOORS IS APPROXIMATE. ACCESS TO THIS PIPING CAN BE LIMITED. CONTRACTOR SHALL FIELD VERIFY LOCATIONS AND ACCESSIBILITY AS PART OF THE BIDDING PROCESS.
6. WHERE STEAM/CONDENSATE PIPE PASSES FROM ACCESSIBLE TO NON-ACCESSIBLE LOCATIONS, THE PIPE SHALL BE DEMOLISHED AS CLOSE AS POSSIBLE TO THE NON-ACCESSIBLE LOCATION AND THE END OF THE PIPE SHALL BE CAPPED.

KEYNOTE LEGEND

VALUE	DESCRIPTION
MD01	DEMOLISH EXISTING STEAM AND CONDENSATE PIPING SERVING THE STEAM RADIATORS BACK TO THIS LOCATION AND PREPARE TO RECONNECT.
MD02	EXISTING STEAM AND CONDENSATE PIPING SERVING THE STEAM TO HOT WATER HEAT EXCHANGER TO REMAIN.
MD03	DEMOLISH EXISTING CONDENSATE PUMP, PIPING, WIRING, CONTROLS, ETC.
MD04	DEMOLISH EXISTING CEILING MOUNTED STEAM RADIATOR AND ALL ASSOCIATED PIPING, CONTROLS, ETC.
MD05	EXISTING STEAM TO HOT WATER HEAT EXCHANGER CONDENSATE RETURN PUMP TO REMAIN.
MD06	FIXED CHASE AROUND EXISTING CONDENSATE RETURN PIPING TO REMAIN. CAP PIPING AT EACH END AS CLOSE TO WALL AS POSSIBLE.
MD07	REMOVE DUCT AS NECESSARY TO ALLOW INSTALLATION OF ELECTRIC DUCT HEATERS. REFER TO SHEET M101 FOR ADDITIONAL INFORMATION.

STATE OF MISSOURI
MICHAEL L. PARSON, GOVERNOR

CONSTRUCTION DOCUMENT

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ANTHONY LOUIS DIEWOLD
NUMBER PE-2016000028
12-02-2022
PROFESSIONAL ENGINEER

ANTHONY L. DIEWOLD - ENGINEER
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ISSUE DATE: 12/02/2022

CAD DWG FILE: MD101
DRAWING BY: ALD
CHECKED BY: ALD
DESIGNED BY: ALD

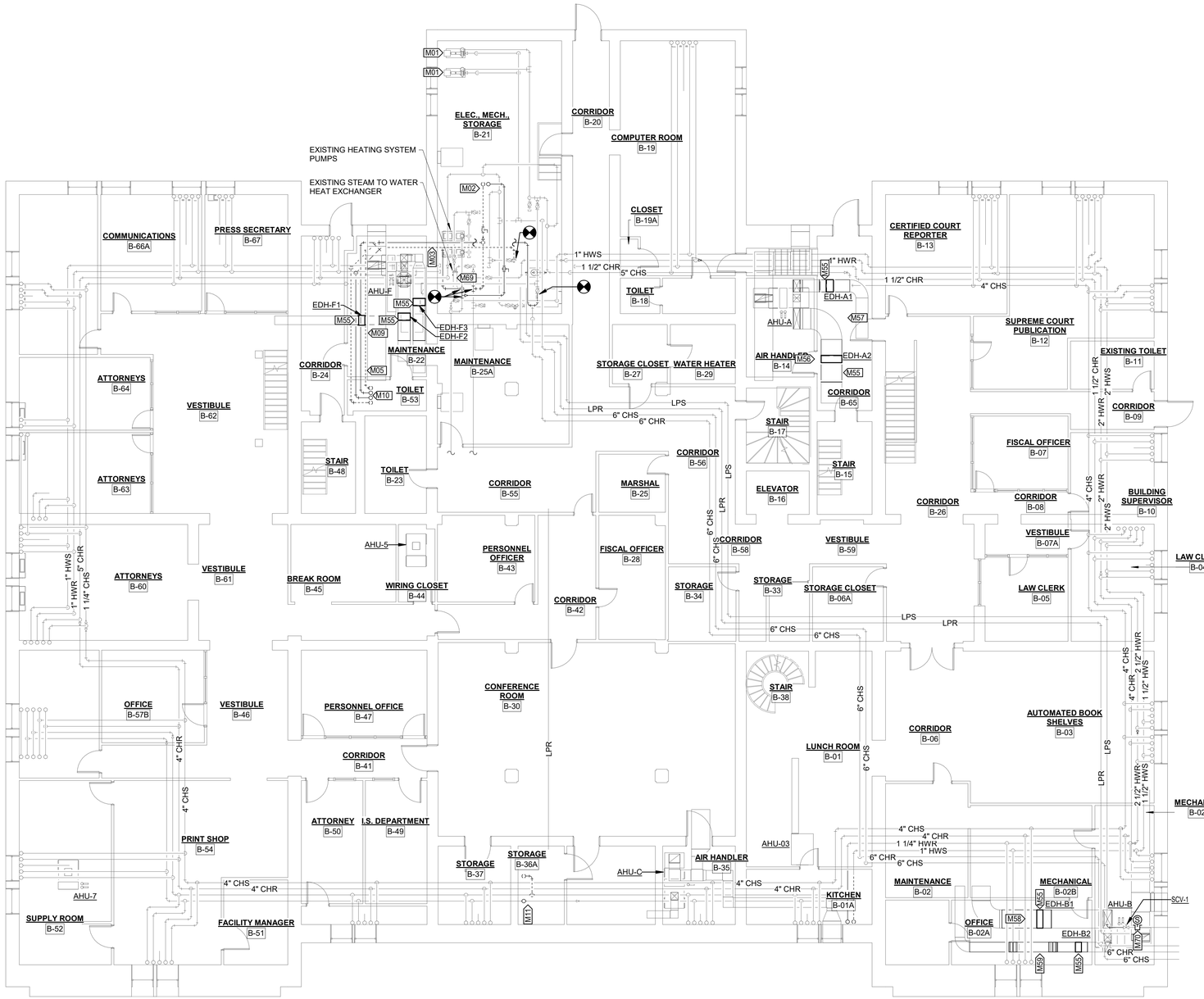
SHEET TITLE:

MECHANICAL DEMOLITION PLAN

SHEET NUMBER:

MD101

22 OF 40 SHEETS
DECEMBER 2, 2022



1 LOWER LEVEL-HVAC PLAN
1/8" = 1'-0"

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SCALE: 1/8" = 1'-0"

KEYNOTE LEGEND

VALUE	DESCRIPTION
M01	EXISTING CHILLED WATER PUMPS TO REMAIN.
M02	ROUTE 1" HWS/R PIPING UP IN WALL ABOVE.
M03	ROUTE 4" HWS/R AND CHS/R THROUGH WALL IN THIS LOCATION. COORDINATE RELOCATION OF EXISTING CONDUIT WITH ELECTRICAL CONTRACTOR. REFER TO STRUCTURAL PLANS FOR CORE DRILLING REQUIREMENTS.
M05	ROUTE 4" HWS/R AND CHS/R PIPING AS HIGH AS POSSIBLE THROUGH WALL. COORDINATE WITH DEMOLITION OF FIRE ALARM PANEL WITHIN PROJECT O2008-01 COMPLETED BY OTHERS.
M09	REVISE RETURN AIR DUCT AND GRILLE IN THIS LOCATION TO ALLOW INSTALLATION OF NEW PIPING.
M10	REMOVE LAY-IN CEILING AND EXHAUST FAN IN RESTROOM TO FACILIATE INSTALLATION OF 4" HWS/HWR AND 4" CHS/R UP IN CLOSET ABOVE. RE-INSTALLFAN AFTER PIPING IS INSTALLED.
M11	CONNECT TO HWS/HWR MAINS IN THIS LOCATION AND ROUTE UP TO RADIATOR ABOVE.
M13	DEMOLISH EXISTING STEAM PRESSURE REDUCING VALVES SERVING THE HEAT EXCHANGER.
M14	REUSE EXISTING STEAM PRESSURE REDUCING VALVES SERVING RADIATORS AND REVISE PIPING TO CONNECT TO THE HEAT EXCHANGER SUPPLY PIPING.
M55	INSTALL ELECTRIC DUCT HEATER IN EXISTING SUPPLY AIR DUCTWORK. COORDINATE LOCATION WITH EXISTING CONDITIONS.
M56	REMOVE DRYWALL ABOVE CEILING TO PROVIDE ACCESS TO ELECTRIC DUCT HEATER CONTROL PANEL FROM THE MECHANICAL ROOM.
M57	RELOCATE EXISTING SUPPLY DIFFUSER AND REROUTE CONDENSATION DRAIN AND ELECTRICAL CONDUITS IN THIS AREA TO FACILITATE INSTALLATION OF ELECTRIC DUCT HEATERS.
M58	DEMOLISH ABANDONED STEAM AND CONDENSATE PIPING IN THIS LOCATION TO FACILITATE INSTALLATION OF ELECTRIC DUCT HEATER.
M59	TRANSITION DUCT UP TO ALLOW CLEARANCE FOR ACCESS TO NEW ELECTRIC DUCT HEATER ON ADJACENT DUCT IN THIS LOCATION.
M69	REPLACE STEAM CONTROL VALVE SERVING THE STEAM TO WATER HEAT EXCHANGER WITH STEAM CONTROL VALVES SCV-2 AND SCV-3. REFER TO DETAIL 2 ON M502 AND DETAIL 3 ON M802 FOR ADDITIONAL INFORMATION.
M70	MODIFY EXISTING LPS PIPING TO CONNECT HEAT EXCHANGER SUPPLY PIPING TO FORMER RADIATOR SUPPLY PIPING AT THE EXISTING CONTROL VALVE SCV-1. REFER TO DETAIL 4 ON M802 BUILDLING STEAM CONTROL VALVE DIAGRAM.

STATE OF MISSOURI
MICHAEL L. PARSON, GOVERNOR

STATE OF MISSOURI
ANTHONY LOUIS DIEWOLD
NUMBER PE-2016000028
12-02-2022
PROFESSIONAL ENGINEER

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DESIGN AND CONSTRUCTION

MODIFY HVAC SYSTEM

MISSOURI SUPREME COURT BUILDING

207 W. HIGH STREET
JEFFERSON CITY, MO 65101

PROJECT # O2010-01
SITE # 1001
ASSET # 3101001056

REVISION:
DATE:
REVISION:
DATE:
REVISION:
DATE:
ISSUE DATE: 12/02/2022

CAD DWG FILE: M001
DRAWING BY: ALD
CHECKED BY: JJN
DESIGNED BY: ALD

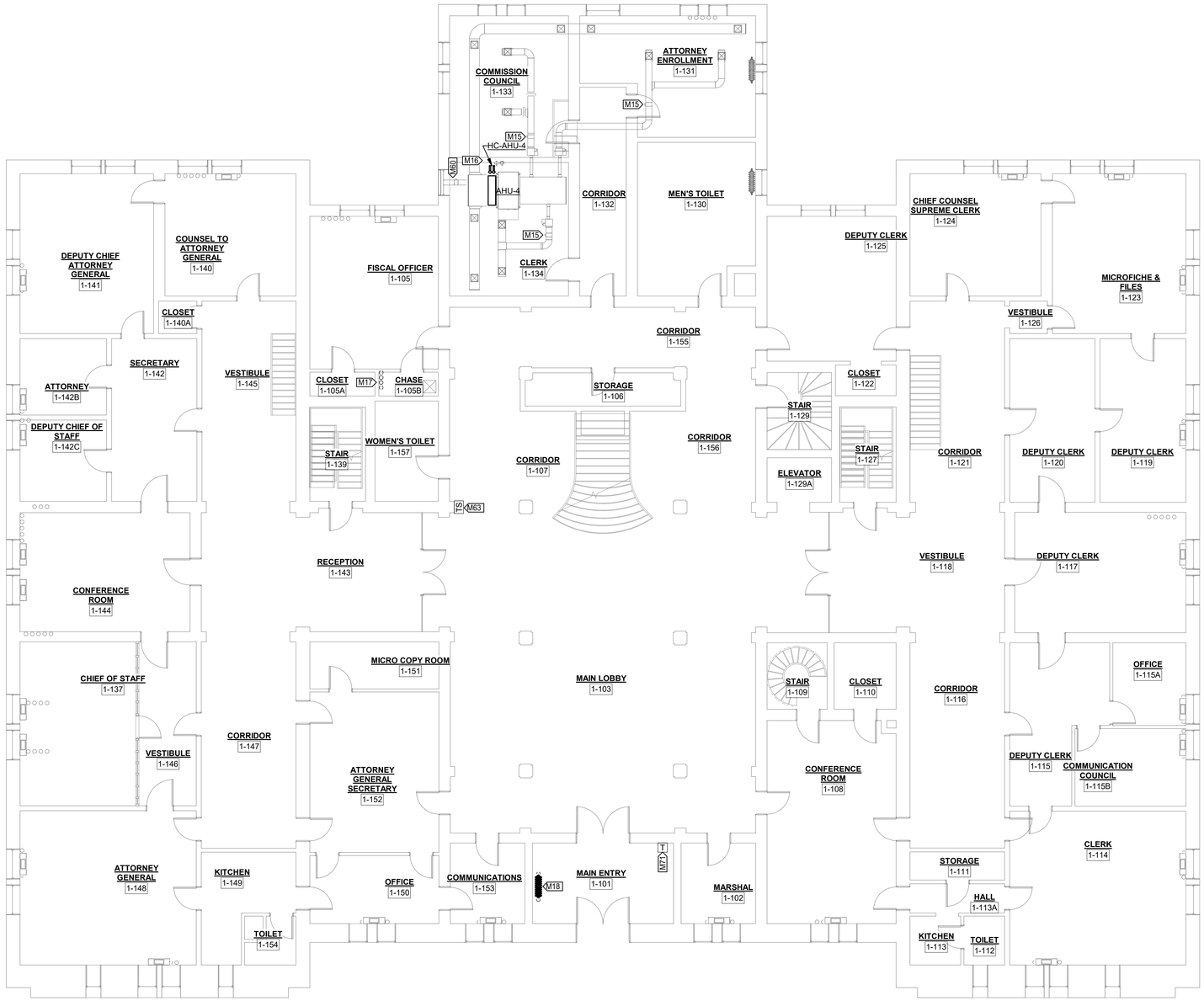
SHEET TITLE:

LOWER LEVEL - HVAC PLAN

SHEET NUMBER:

M101

23 OF 40 SHEETS
DECEMBER 2, 2022



1 MAIN LEVEL - HVAC PLAN
1/8" = 1'-0"

0 4' 8' 16'
SCALE: 1/8" = 1'-0"

KEYNOTE LEGEND

VALUE	DESCRIPTION
M15	EXISTING VARIABLE AIR VOLUME BOX AND ELECTRIC DUCT HEATER TO REMAIN.
M16	ROUTE 1" HWS/HWR FROM BELOW TO NEW HYDRONIC HEATING COIL MOUNTED TO RETURN AIR CONNECTION IN AHU-4 (REFER TO DETAIL 4 ON SHEET M501).
M17	ROUTE 4" HWS/HWR AND 4" CHS/R PIPING UP EXPOSED IN EXISTING CLOSET (EXISTING DOMESTIC CW, HW, AND HWR EXPOSED IN THIS LOCATION AS WELL).
M18	REPLACE EXISTING STEAM RADIATOR WITH HYDRONIC RADIATOR FURNISHED BY OWNER IN THIS LOCATION. REFER TO RADIATOR CONNECTION DETAIL (HYRDONIC). MAXIMUM FLOW THROUGH RADIATOR SHALL BE 0.75 GPM.
M60	EXISTING LOUVER AND OUTDOOR AIR DAMPER TO REMAIN.
M63	PROVIDE BUILDING TEMPERATURE SENSOR IN THIS LOCATION. REFER TO DETAIL 2 ON M801 FOR SEQUENCE OF OPERATION.
M71	PROVIDE WIRELESS TEMPERATURE SENSOR TO CONTROL RADIATOR VALVE. COORDINATE FINAL LOCATION WITH OWNER.

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PROJECT # O2010-01
SITE # 1001
ASSET # 3101001056

REVISION:
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REVISION:
DATE:
REVISION:
DATE:
ISSUE DATE: 12/02/2022

CAD DWG FILE: M102
DRAWING BY: ALD
CHECKED BY: JJN
DESIGNED BY: ALD

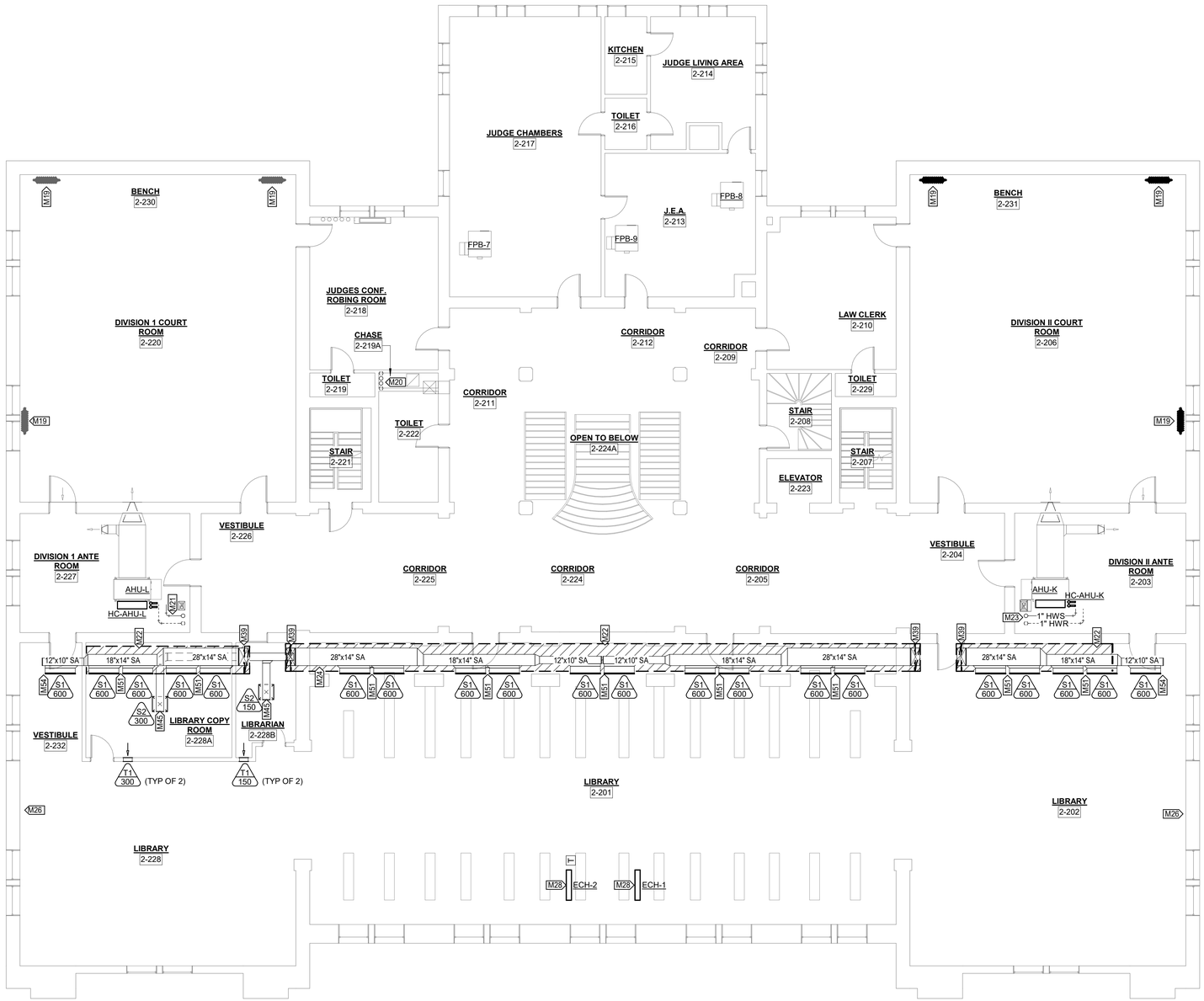
SHEET TITLE:

MAIN LEVEL - HVAC PLAN

SHEET NUMBER:

M102

24 OF 40 SHEETS
DECEMBER 2, 2022



1 SECOND LEVEL-HVAC PLAN
1/8" = 1'-0"

KEYNOTE LEGEND	
VALUE	DESCRIPTION
M19	EXISTING STEAM RADIATOR TO BE ABANDONED IN PLACE.
M20	ROUTE NEW 4" HWS/R AND 4" CHS/R PIPING UP IN EXISTING RESTROOM PLUMBING CHASE (ACCESSIBLE THROUGH ACCESS DOOR BELOW LAVATORIES AND THROUGH CEILING ACCESS DOOR).
M21	ROUTE 1" HWS/HWR FROM ABOVE TO NEW HYDRONIC HEATING COIL MOUNTED TO RETURN AIR CONNECTION ON AHU-L (REFER TO DETAIL 4 ON SHEET M501).
M22	REMOVE EXISTING PLYWOOD SUPPLY AND RETURN AIR PLENUMS. REPLACE WITH INSULATED SA DUCT.
M23	ROUTE 1" HWS/HWR FROM ABOVE TO NEW HYDRONIC HEATING COIL MOUNTED TO RETURN AIR CONNECTION ON AHU-K (REFER TO DETAIL 4 ON SHEET M501).
M24	REMOVE RETURN AIR DUCT AND REPLACE SUPPLY AIR DUCT WITH INSULATED SUPPLY AIR DUCT IN CHASE UP TO ATTIC.
M26	EXISTING FIREPLACE CHIMNEY TO BE USED AS RETURN AIR PATH (REFER TO M105 FOR ADDITIONAL DETAILS).
M28	PROVIDE TWO (2) RADIANT COVE HEATERS MOUNTED TO BEAMS SUPPORTING STACKS MEZZANINE IN THIS LOCATION AND INCLUDE ONE (1) THERMOSTAT MOUNTED ON COLUMN TO CONTROL THEM BOTH.
M39	REMOVE EXISTING SUPPLY AND RETURN AIR DUCT WITHIN CHASE AND REPLACE WITH INSULATED 28x14 SUPPLY AIR DUCT.
M45	REPLACE EXISTING SUPPLY AIR DUCT AND PROVIDE NEW INSULATED 10x8 SUPPLY DUCT TO THERMALLY ACTIVATED VAV DIFFUSER.
M51	ALIGN PAIR OF SLOT DIFFUSERS TO CENTER ON CEILING FEATURE ABOVE. REVIEW LAYOUT WITH ARCHITECT PRIOR TO INSTALLATION.
M54	ALIGN SLOT DIFFUSER WITH CEILING FEATURE ABOVE. REVIEW LAYOUT WITH ARCHITECT PRIOR TO INSTALLATION.

N

0 4' 8' 16'
SCALE: 1/8" = 1'-0"

STATE OF MISSOURI
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207 W. HIGH STREET
JEFFERSON CITY, MO 65101

PROJECT # O2010-01
SITE # 1001
ASSET # 3101001056

REVISION:
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REVISION:
DATE:
ISSUE DATE: 12/02/2022

CAD DWG FILE: M103
DRAWING BY: ALD
CHECKED BY: JJN
DESIGNED BY: ALD

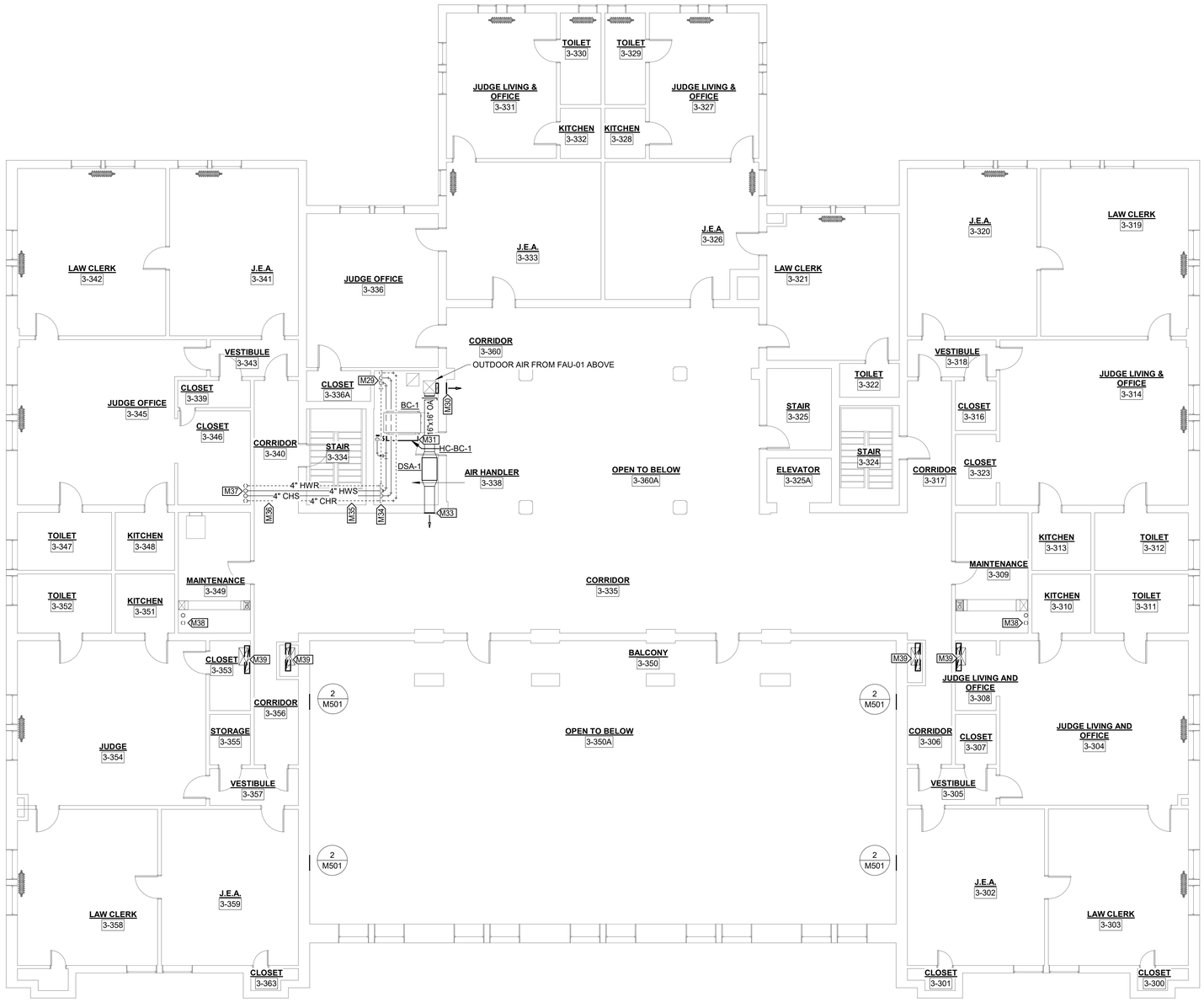
SHEET TITLE:

SECOND LEVEL - HVAC PLAN

SHEET NUMBER:

M103

25 OF 40 SHEETS
DECEMBER 2, 2022



1 THIRD LEVEL - HVAC PLAN
1/8" = 1'-0"

KEYNOTE LEGEND

VALUE	DESCRIPTION
M29	ROUTE 4" HWS/HWR AND 4" CHS/R PIPING DOWN IN PLUMBING CHASE BELOW.
M30	REMOVE EXISTING OUTDOOR AIR SUPPLY GRILLE TO RELOCATE AND PATCH PENETRATION TO MATCH EXISTING. REFER TO ARCHITECTURAL SHEETS FOR ADDITIONAL INFORMATION.
M31	PROVIDE 1" HWS/HWR AND NEW HYDRONIC HEATING COIL MOUNTED TO RETURN AIR CONNECTION ON EXISTING BC-1 (REFER TO DETAIL 4 SHEET M501).
M33	RELOCATE OUTDOOR AIR SUPPLY GRILLE TO THIS LOCATION.
M34	REMOVE CEILING IN MECHANICAL ROOM AND ROUTE UP TO BOTTOM OF CEILING RAFTERS.
M35	ROUTE PIPING EXPOSED THROUGH STAIRWELL.
M36	ROUTE PIPING ABOVE CORRIDOR CEILING.
M37	ROUTE 4" HWS/R AND 4" CHS/R PIPING UP TO ATTIC.
M38	ROUTE PIPING FROM ATTIC THROUGH MAINTENANCE ROOM TO AIR HANDLING UNIT ON FLOOR BELOW.
M39	REMOVE EXISTING SUPPLY AND RETURN AIR DUCT WITHIN CHASE AND REPLACE WITH INSULATED 28x14 SUPPLY AIR DUCT.

0 4' 8' 16'
SCALE: 1/8" = 1'-0"

STATE OF MISSOURI
MICHAEL L. PARSON, GOVERNOR

STATE OF MISSOURI
ANTHONY LOUIS DIEWOLD
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JEFFERSON CITY, MO 65101

PROJECT # O2010-01
SITE # 1001
ASSET # 3101001056

REVISION:
DATE:
REVISION:
DATE:
REVISION:
DATE:
ISSUE DATE: 12/02/2022

CAD DWG FILE: M104
DRAWING BY: ALD
CHECKED BY: JJN
DESIGNED BY: ALD

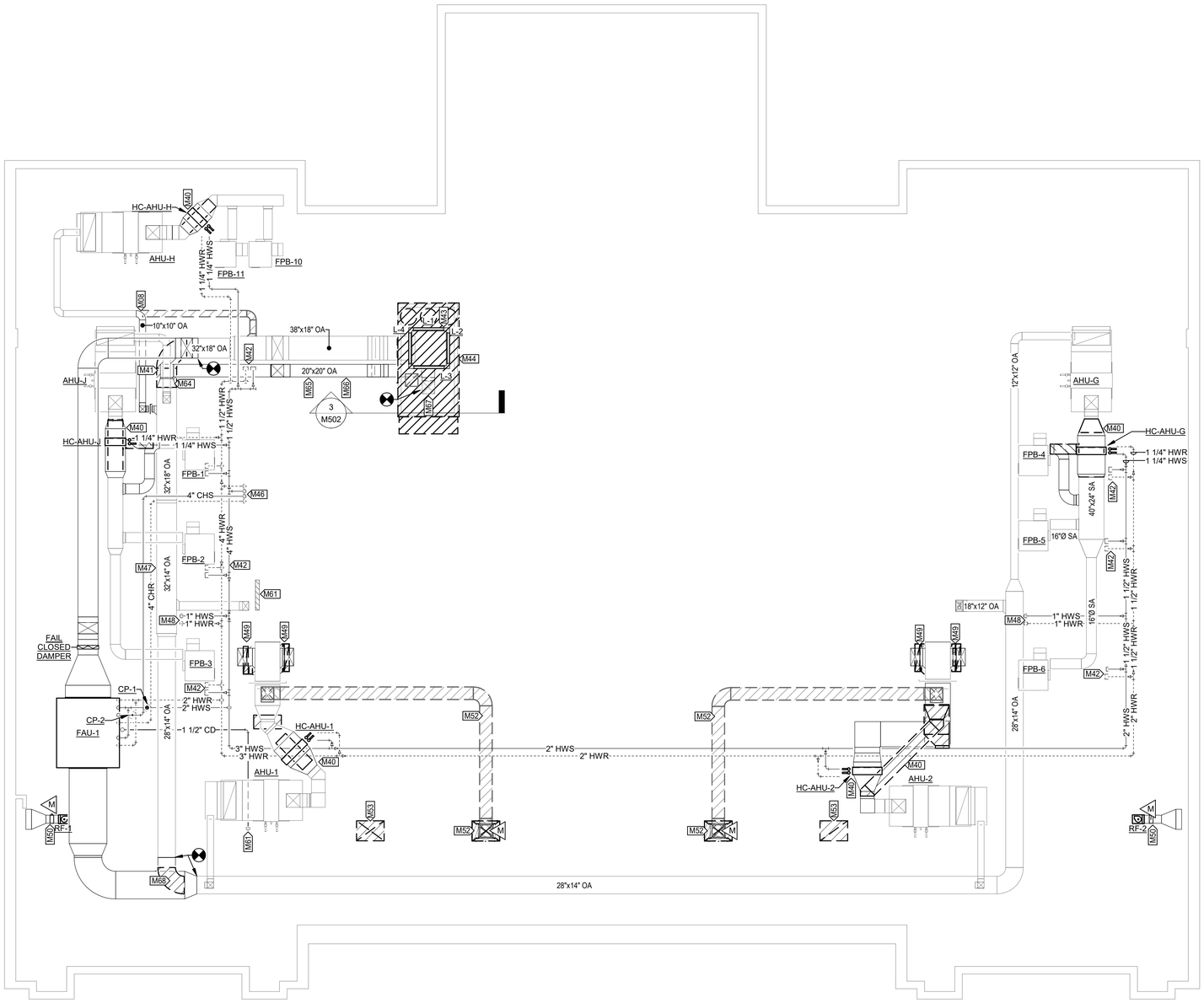
SHEET TITLE:

THIRD LEVEL - HVAC PLAN

SHEET NUMBER:

M104

26 OF 40 SHEETS
DECEMBER 2, 2022



1 MEZZANINE LEVEL - HVAC PLAN
1/8" = 1'-0"

KEYNOTE LEGEND

VALUE	DESCRIPTION
M08	DISCONNECT OUTDOOR AIR DUCT AND ROUTE TO FAU-1 OA SUPPLY DUCT.
M40	REMOVE EXISTING AIR HANDLING UNIT SUPPLY AIR DUCT AS NECESSARY TO FACILITATE INSTALLATION OF HYDRONIC REHEAT COIL.
M41	REMOVE EXISTING OA DUCT ELBOW AND ROUTE OA DUCT TO NEW FAU LOCATION.
M42	INSTALL PIPING FOR FUTURE CONNECTION TO FAN POWERED BOX WITH HYDRONIC HEATING COIL.
M43	BUILD LOUVERED PENTHOUSE WITH ROOF CURB FOR OUTDOOR AIR INTAKE. REFER TO ARCHITECTURAL DETAILS.
M44	DEMOLISH EXISTING FRESH AIR UNIT AND ALL ASSOCIATED PIPING, WIRING, ETC. PROVIDE ROOF CURB CAP AND NEW PENTHOUSE LOUVER. REFER TO PENTHOUSE LOUVER DETAIL. POWER WIRING TO BE REMOVED BACK TO JUNCTION BOX ON THRID LEVEL AND PREPPED TO RE-FEED NEW FAU-1.
M46	ROUTE 4" HWS/R AND 4" CHS/R PIPING UP FROM BELOW.
M47	OUTDOOR AIR DUCT IS ROUTED DIRECTLY ABOVE AHU-J SUPPLY AIR DUCTS (SHOWN OFFSET FOR CLARITY).
M48	ROUTE 1" HWS/R PIPING DOWN IN MECHANICAL ROOM BELOW.
M49	REPLACE SUPPLY AIR DUCT WITH 28x14 INSULATED SUPPLY AIR DUCT IN CHASE.
M50	PROVIDE MOTORIZED DAMPER AND SHEETMETAL PLENUM TO CONNECT EXHAUST FAN INTAKE TO EXISTING FIREPLACE CHIMNEY.
M52	REMOVE EXISTING SUPPLY AIR DUCT AND CEILING DIFFUSER. LAYLIGHT PANEL TO BE REINSTALLED BY OWNER.
M53	REMOVE EXISTING RETURN AIR GRILLES. LAYLIGHT TO BE REINSTALLED BY OWNER.
M61	FAU-1 AND ALL ASSOCIATED ANCILLARY SYSTEM COMPONENTS SHALL BE CAPABLE OF FITTING THROUGH THE EXISTING 4 FOOT WIDE BY 6 FOOT TALL ACCESS DOOR FROM THE ADJACENT FLAT ROOF.
M64	PROVIDE TRANSITION ON EXISTING OA DUCT AND EXTEND THROUGH ROOF.
M65	COORDINATE ROOF PENETRATION WITH ARCHITECTURAL PLANS.
M66	PROVIDE UNITSTRUT DUCT SUPPORTS SECURED TO ROOF. COORDINATE WITH ARCHITECTURAL FOR ROOF REPAIR.
M67	ROUTE NEW OA DUCT THROUGH EXISTING FAU CURB WALL AND CONNECT TO EXISTING OA DUCT DOWN WITHIN.
M68	REMOVE ELBOW AND CONNECT NEW OA DUCT TO EXISTING OA DUCT IN THIS LOCATION.

0 4' 8' 16'
SCALE: 1/8" = 1'-0"

STATE OF MISSOURI
MICHAEL L. PARSON, GOVERNOR

STATE OF MISSOURI
ANTHONY LOUIS DIEWOLD
NUMBER PE-2016000028
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3-02-2022

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MODIFY HVAC SYSTEM

MISSOURI SUPREME COURT BUILDING

207 W. HIGH STREET
JEFFERSON CITY, MO 65101

PROJECT # O2010-01
SITE # 1001
ASSET # 3101001056

REVISION:
DATE:
REVISION:
DATE:
REVISION:
DATE:
ISSUE DATE: 12/02/2022

CAD DWG FILE: M105
DRAWING BY: ALD
CHECKED BY: JJN
DESIGNED BY: ALD

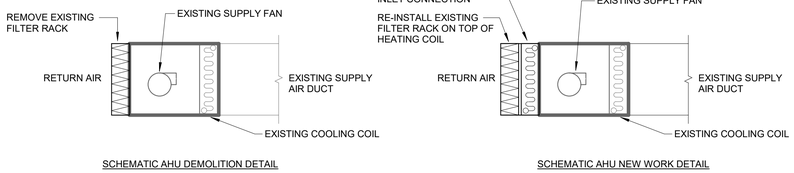
SHEET TITLE:

MEZZANINE LEVEL - HVAC PLAN

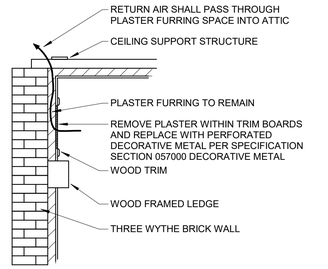
SHEET NUMBER:

M105

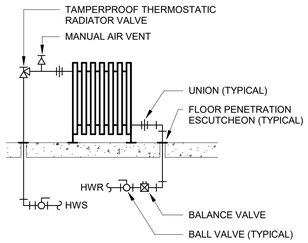
27 OF 40 SHEETS
DECEMBER 2, 2022



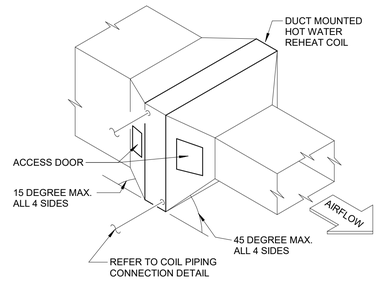
1 SCHEMATIC BLOWER COIL (BC-1 & 4 & AHU-L & K) HEATING COIL INSTALLATION
NTS



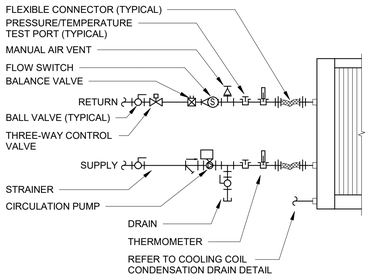
2 LIBRARY RETURN AIR GRILLE INSTALLATION DETAIL
NTS



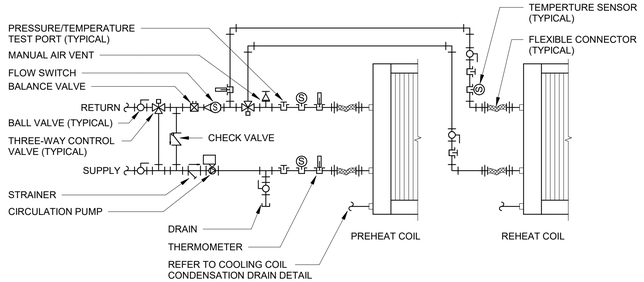
3 RADIATOR CONNECTION DETAIL (HYDRONIC)
NTS



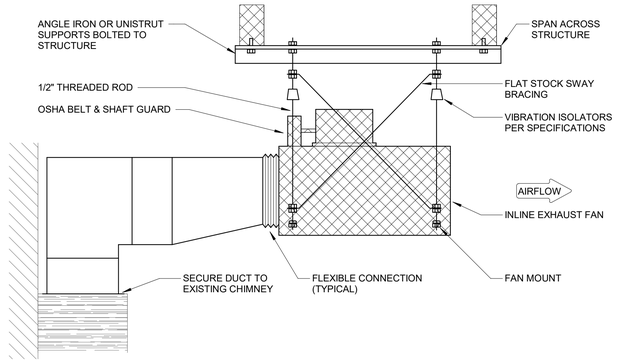
4 HOT WATER COIL-DUCT MOUNTED
NTS



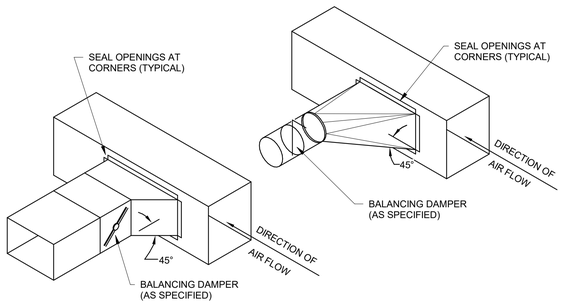
5 FAU-1 COOLING COIL COIL CONNECTION DETAIL
NTS



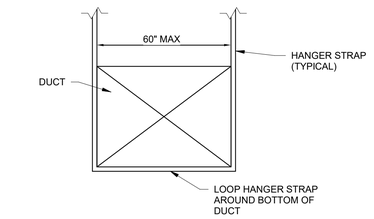
6 FRESH AIR UNIT HEATING COIL CONNECTION DETAIL
NTS



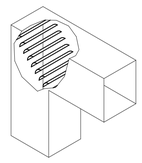
7 RETURN FAN (INLINE_SUSPENDED)
NTS



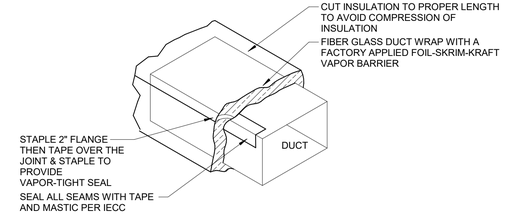
8 BRANCH DUCT CONNECTION DETAIL (TYPICAL)
NTS



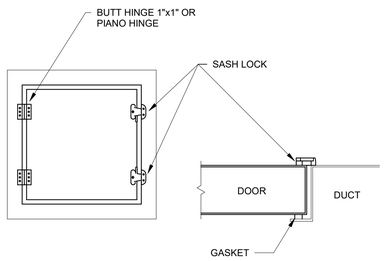
9 STRAP HANGER DETAIL
NTS



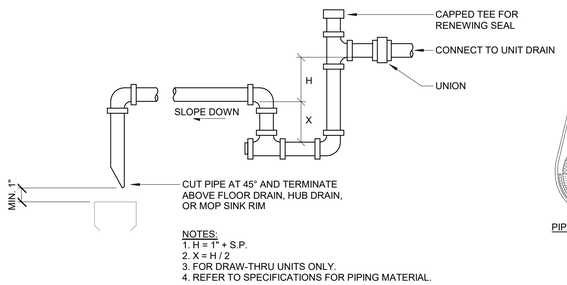
10 TURNING VANE DETAIL
NTS



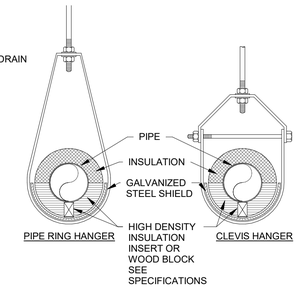
11 DUCT WRAP DETAIL
NTS



12 DUCT ACCESS DOOR DETAIL
NTS



13 COOLING COIL CONDENSATION DRAIN DETAIL
NTS



14 INSULATED PIPE AT HANGER DETAIL
NTS

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REVISION:
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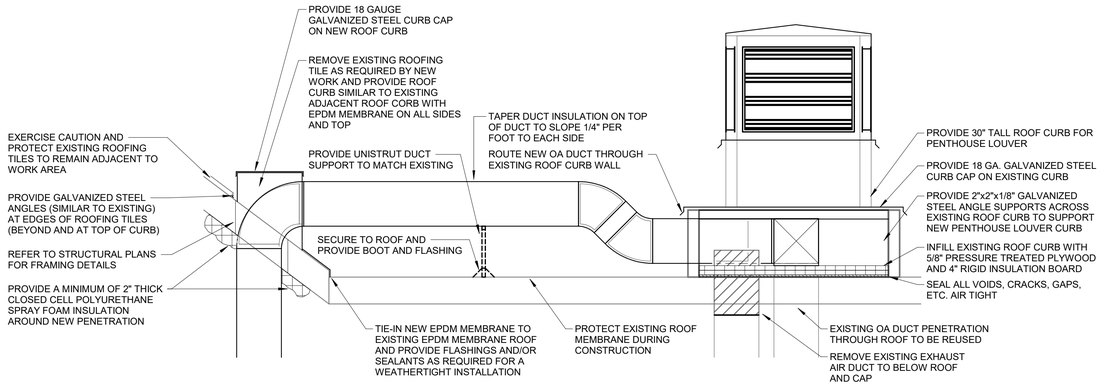
ISSUE DATE: 12/02/2022

CAD DWG FILE: M501
DRAWING BY: ALD
CHECKED BY: JJN
DESIGNED BY: ALD

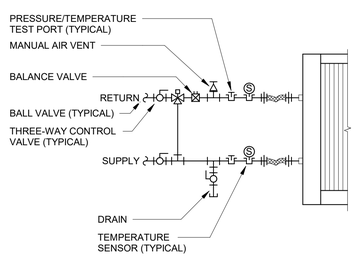
SHEET TITLE:
MECHANICAL DETAILS

SHEET NUMBER:
M501

28 OF 40 SHEETS
DECEMBER 2, 2022

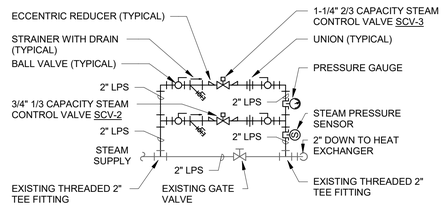


3 PENTHOUSE LOUVER DETAIL
NTS



NOTES:
1. REFER TO SPECIFCATIONS FOR PIPE MATERIAL AND VALVE AND ACCESSORIES REQUIREMENTS.

1 HEATING COIL CONNECTION DETAIL
NTS



NOTES:
1. REFER TO SPECIFCATIONS FOR PIPE MATERIAL AND VALVE AND ACCESSORIES REQUIREMENTS.
2. EXISTING STEAM TO HOT WATER HEAT EXCHANGER MAXIMUM CAPACITY IS 1,550 MBH AT 155 GPM AND 20°F DELTA T WITH 15 PSIG STEAM SUPPLY PRESSURE.

2 HEAT EXCHANGER STEAM CONTROL VALVE DETAIL
NTS

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MICHAEL L. PARSON, GOVERNOR

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ANTHONY LOUIS DIEWOLD
NUMBER PE-2016000028
2-02-2022
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MISSOURI STATE CERTIFICATE OF AUTHORITY #000866

OFFICE OF ADMINISTRATION
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DESIGN AND CONSTRUCTION

MODIFY HVAC SYSTEM

MISSOURI SUPREME COURT BUILDING

207 W. HIGH STREET
JEFFERSON CITY, MO 65101

PROJECT # O2010-01
SITE # 1001
ASSET # 3101001056

REVISION:
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REVISION:
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ISSUE DATE: 12/02/2022

CAD DWG FILE: M502
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DESIGNED BY: ALD

SHEET TITLE:
MECHANICAL DETAILS

SHEET NUMBER:
M502

29 OF 40 SHEETS
DECEMBER 2, 2022

GRILLES, REGISTERS, AND DIFFUSERS SCHEDULE

TAG	TYPE	DISCRIPTION	FACE SIZE		CONNECTION SIZE			TOTAL P.D.	THROW			MAX. NC	DAMPER	MATERIAL	FINISH	FRAME	BASIS OF DESIGN	
			LENGTH	WIDTH	RECTANGULAR LENGTH	RECTANGULAR WIDTH	ROUND		150 FPM	100 FPM	50 FPM						MAKE	MODEL
S1	SUPPLY DIFFUSER	ARCHITECTURAL, CONCEALED, LINEAR SLOT	48"	9"	45"	6"		0.25 in-wg	20'	25'	35'	40	MANUAL	ALUMINUM	--	MUD FLANGE	TITUS	FL-10
S2	VAV DIFFUSER	THERMALLY ACTIVATED VARIABLE AIRFLOW DIFFUSER	24"	24"			10"	0.20 in-wg	4'	6'	11'	30	THERMAL	ALUMINUM	WHITE ENAMEL	LAY-IN	TITUS	T3SQ
T1	TRANSFER GRILLE	35 DEG. FIXED DEFLECTION GRILLE WITH BLADES IN HORIZONTAL POSITION. 1/2" SPACING.	16"	12"	14"	10"		0.10 in-wg				30	---	ALUMINUM	WHITE ENAMEL	SURFACE	TITUS	355FL

RETURN FAN SCHEDULE

TAG	DESCRIPTION	EXHAUST FAN			ELECTRICAL						BASIS OF DESIGN			REMARKS
		AIRFLOW	TOTAL STATIC PRESS.	DRIVE TYPE	VOLT	FREQ	PHASE	MOTOR POWER	MCA	MOP	MAKE	MODEL	WEIGHT	
RF-1	INLINE BELT DRIVE FAN WITH VARIABLE SPEED CONTROL	3,000 CFM	2.25 in-wg	BELT	208 V	60 Hz	3	2 hp	8 A	20 A	GREENHECK	BDF	110 lb	1, 2
RF-2	INLINE BELT DRIVE FAN WITH VARIABLE SPEED CONTROL	3,000 CFM	2.25 in-wg	BELT	208 V	60 Hz	3	2 hp	8 A	20 A	GREENHECK	BDF	110 lb	1, 2

1. PROVIDE MOTOR MOUNTED SPEED CONTROL DIAL.
2. SUPPORT FAN FROM ROOF STRUCTURE ABOVE.

FRESH AIR UNIT SCHEDULE

TAG	DESCRIPTION	FILTER		HEATING COIL							COOLING COIL										HYDRONIC REHEAT COIL								ELECTRIC REHEAT				SUPPLY FAN		ELECTRICAL				BASIS OF DESIGN				REMARKS
											EAT		LAT		CAPACITY																												
		TYPE	EFFICIENCY	EAT	LAT	CAPACITY	EWT	LWT	FLOWRATE	PRESSURE DROP	DB	WB	DB	WB	SENSIBLE	TOTAL	EWT	LWT	FLOWRATE	PRESSURE DROP	EAT	LAT	CAPACITY	EWT	LWT	FLOWRATE	PRESSURE DROP	EAT	LAT	CAPACITY	CONTROL	AIRFLOW	E.S.P.	VOLT	FREQ	PHASE	MCA	MOP	MAKE	MODEL	WEIGHT	
FAU-1	MODULAR INDOOR AIR HANDLING UNIT	2" DISPOSABLE	MERV 8	-5 °F	65 °F	650,000 Btu/h	130 °F	110 °F	66.0 GPM	9.0 ftH2O	95 °F	78 °F	55 °F	54 °F	306,610 Btu/h	562,310 Btu/h	44 °F	54 °F	107.0 GPM	25.0 ftH2O	50 °F	70 °F	202,500 Btu/h	92 °F	84 °F	48.6 GPM	20.0 ftH2O	55 °F	75 °F	47 kW	SCR	7,500 CFM	1.00 in-wg	208 V	60 Hz	3	213 A	225 A	AAON	M2-H	1500 lb	1, 2

1. REFER TO STRUCTURAL PLANS FOR EQUIPMENT SUPPORT DETAILS.
2. PROVIDE CONENSATION DRAIN PANS ON ALL HYDRONIC COILS.

CIRCULATOR PUMP SCHEDULE

TAG	TYPE	FLOW	HEAD	POWER	ELECTRICAL				BASIS OF DESIGN			REMARKS
					VOLT	POLES	MCA	MOP	MAKE	MODEL	WEIGHT	
CP-1	HORIZONTAL INLINE CIRCULATOR PUMP	49.3 GPM	50.0 ftH2O	1.5 hp	208 V	3	8 A	20 A	BELL & GOSSETT	E-90-2AB	100 lb	1
CP-2	HORIZONTAL INLINE CIRCULATOR PUMP	107.0 GPM	35.0 ftH2O	2.0 hp	208 V	3	8 A	20 A	BELL & GOSSETT	E-90-2AB	100 lb	1

1. SUPPORT PUMP FROM ROOF STRUCTURE ABOVE.

NEW HEATING COIL SCHEDULE

TAG	DESCRIPTION	FIN HEIGHT	FIN LENGTH	FACE AREA	MAX. FACE VELOCITY	FPI	ROWS	TUBE DIA.	AIRFLOW	MAX. AIR P.D.	EAT	LAT	WATER FLOWRATE	WATER P.D.	EWT	LWT	CAP	REMARKS
HC-AHU-1	DUCT MOUNTED HEATING WATER COIL	33"	54"	12.4 SF	550 FPM	10	1	5/8"	6,000 CFM	0.10 in-wg	60 °F	85 °F	18.5 GPM	2.6 ftH2O	130 °F	110 °F	180,000 Btu/h	1
HC-AHU-2	DUCT MOUNTED HEATING WATER COIL	33"	54"	12.4 SF	550 FPM	10	1	5/8"	6,000 CFM	0.10 in-wg	60 °F	85 °F	18.5 GPM	2.6 ftH2O	130 °F	110 °F	180,000 Btu/h	1
HC-AHU-4	DUCT MOUNTED HEATING WATER COIL	14"	50"	10.5 SF	550 FPM	10	1	5/8"	2,000 CFM	0.09 in-wg	60 °F	95 °F	8.0 GPM	4.8 ftH2O	130 °F	110 °F	78,300 Btu/h	1
HC-AHU-G	DUCT MOUNTED HEATING WATER COIL	33"	54"	12.4 SF	550 FPM	10	1	5/8"	6,000 CFM	0.15 in-wg	60 °F	85 °F	16.2 GPM	2.0 ftH2O	130 °F	110 °F	158,200 Btu/h	1
HC-AHU-H	DUCT MOUNTED HEATING WATER COIL	33"	54"	12.4 SF	550 FPM	10	1	5/8"	4,000 CFM	0.15 in-wg	60 °F	85 °F	11.2 GPM	2.0 ftH2O	130 °F	110 °F	109,200 Btu/h	1
HC-AHU-J	DUCT MOUNTED HEATING WATER COIL	36"	60"	15.0 SF	550 FPM	6	1	5/8"	8,000 CFM	0.03 in-wg	60 °F	85 °F	18.9 GPM	2.0 ftH2O	130 °F	110 °F	185,000 Btu/h	1
HC-AHU-K	DUCT MOUNTED HEATING WATER COIL	42"	60"	17.5 SF	550 FPM	10	1	5/8"	4,400 CFM	0.15 in-wg	60 °F	90 °F	13.0 GPM	5.2 ftH2O	130 °F	110 °F	127,400 Btu/h	1
HC-AHU-L	DUCT MOUNTED HEATING WATER COIL	42"	60"	17.5 SF	550 FPM	10	1	5/8"	4,400 CFM	0.15 in-wg	60 °F	90 °F	13.0 GPM	5.2 ftH2O	130 °F	110 °F	127,400 Btu/h	1
HC-BC-1	DUCT MOUNTED HEATING WATER COIL	14"	50"	10.5 SF	550 FPM	10	1	5/8"	2,400 CFM	0.11 in-wg	60 °F	90 °F	8.1 GPM	4.4 ftH2O	130 °F	110 °F	78,900 Btu/h	1

1. EXISTING CONDITIONS SHALL BE FIELD VERIFIED TO DETERMINE ACTUAL DIMENSIONS OF HEATING COIL PRIOR TO ORDERING EQUIPMENT.

LOUVER SCHEDULE

TAG	DESCRIPTION	FUNCTION	AIRFLOW	WIDTH	HEIGHT	FRAME DEPTH	FREE AREA	MAX. P.D.	MAX. VELOCTIY	MATERIAL	FINISH	BASIS OF DESIGN		REMARKS
												MAKE	MODEL	
L-1	STATIONARY	INTAKE	2,500 CFM	4' - 2"	3' - 2"	0' - 4"	4.9 SF	0.18 in-wg	500 FPM	ALUMINUM	BAKED ENAMEL	RUSKIN	ELF375X	1
L-2	STATIONARY	INTAKE	2,500 CFM	4' - 2"	3' - 2"	0' - 4"	4.9 SF	0.18 in-wg	500 FPM	ALUMINUM	BAKED ENAMEL	RUSKIN	ELF375X	1
L-3	STATIONARY	INTAKE	2,500 CFM	4' - 2"	3' - 2"	0' - 4"	4.9 SF	0.18 in-wg	500 FPM	ALUMINUM	BAKED ENAMEL	RUSKIN	ELF375X	1
L-4	STATIONARY	INTAKE	2,500 CFM	4' - 2"	3' - 2"	0' - 4"	4.9 SF	0.18 in-wg	500 FPM	ALUMINUM	BAKED ENAMEL	RUSKIN	ELF375X	1

1. PROVIDE EXTENDED SILL, END DAMS, AND ALUMINUM INSECT SCREEN.

ELECTRIC DUCT HEATER SCHEDULE

TAG	DESCRIPTION	DUCT CONNECTION SIZE		AIRFLOW	CAPACITY	ELECTRICAL				BASIS OF DESIGN			REMARKS
		WIDTH	HEIGHT			VOLT	FREQ	PHASE	MOP	MAKE	MODEL	WEIGHT	
EDH-A1	DUCT MOUNTED HEATING WATER COIL	1' - 8"	0' - 10"	1,200 CFM	8 kW	208 V	60 Hz	3	25 A	GREENHECK	IDHE	50 lb	1, 2, 3
EDH-A2	DUCT MOUNTED HEATING WATER COIL	2' - 10"	0' - 10"	2,500 CFM	16 kW	208 V	60 Hz	3	60 A	GREENHECK	IDHE	50 lb	1, 2, 3
EDH-B1	DUCT MOUNTED HEATING WATER COIL	3' - 0"	1' - 4"	3,200 CFM	20 kW	208 V	60 Hz	3	70 A	GREENHECK	IDHE	50 lb	1, 2, 3
EDH-B2	DUCT MOUNTED HEATING WATER COIL	1' - 2"	0' - 10"	800 CFM	5 kW	208 V	60 Hz	3	20 A	GREENHECK	IDHE	50 lb	1, 2, 3
EDH-F1	DUCT MOUNTED HEATING WATER COIL	1' - 2"	0' - 10"	800 CFM	5 kW	208 V	60 Hz	3	20 A	GREENHECK	IDHE	50 lb	1, 2, 3
EDH-F2	DUCT MOUNTED HEATING WATER COIL	1' - 8"	0' - 10"	1,200 CFM	8 kW	208 V	60 Hz	3	25 A	GREENHECK	IDHE	50 lb	1, 2, 3
EDH-F3	DUCT MOUNTED HEATING WATER COIL	1' - 8"	0' - 10"	1,200 CFM	8 kW	208 V	60 Hz	3	25 A	GREENHECK	IDHE	50 lb	1, 2, 3

1. HEATING COIL SHALL INCLUDE SCR CONTROL. ON ACTIVATION BY THE BAS THE HEATING COIL SHALL MODULATE TO MAINTAIN DISCHARGE AIR TEMPERATURE.
2. FIELD VERIFY CONTROL BOX INSTALLATION LOCATION.
3. DUCT CONNECTION SIZES ARE APPROXIMATE AND SHOULD BE FIELD VERIFIED PRIOR TO ORDERING EQUIPMENT.

ELECTRIC COVE HEATER SCHEDULE

TAG	DESCRIPTION	LENGTH	CAPACITY	ELECTRICAL				BASIS OF DESIGN			REMARKS
				VOLT	FREQ	PHASE	MOP	MAKE	MODEL	WEIGHT	
ECH-1	Radiant Ceiling Panels	4' - 11"	500 W	120 V	60 Hz	1	20 A	BERKO	RCC	10 lb	1
ECH-2	Radiant Ceiling Panels	4' - 11"	500 W	120 V	60 Hz	1	20 A	BERKO	RCC	10 lb	1

1. PROVIDE WALL MOUNTED LINE VOLTAGE THERMOSTAT.

DUCT SOUND ATTENUATOR SCHEDULE

TAG	DESCRIPTION	HEIGHT	WIDTH	LENGTH	AIRFLOW	VELOCTIY	PRESSURE DROP	BASIS OF DESIGN		
								MAKE	MODEL	WEIGHT
DSA-1	RECTANGULAR DISSIPATIVE SILENCER	2' - 0"	2' - 0"	3' - 0"	1,800 CFM	2,000 FPM	0.20 in-wg	RUSKIN	DM-36	100 lb

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MICHAEL L. PARSON, GOVERNOR

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DESIGN AND CONSTRUCTION

MODIFY HVAC SYSTEM

MISSOURI SUPREME COURT BUILDING

207 W. HIGH STREET
JEFFERSON CITY, MO 65101

PROJECT # O2010-01
SITE # 1001
ASSET # 3101001056

REVISION:
DATE:
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DATE:
REVISION:
DATE:

ISSUE DATE: 12/02/2022

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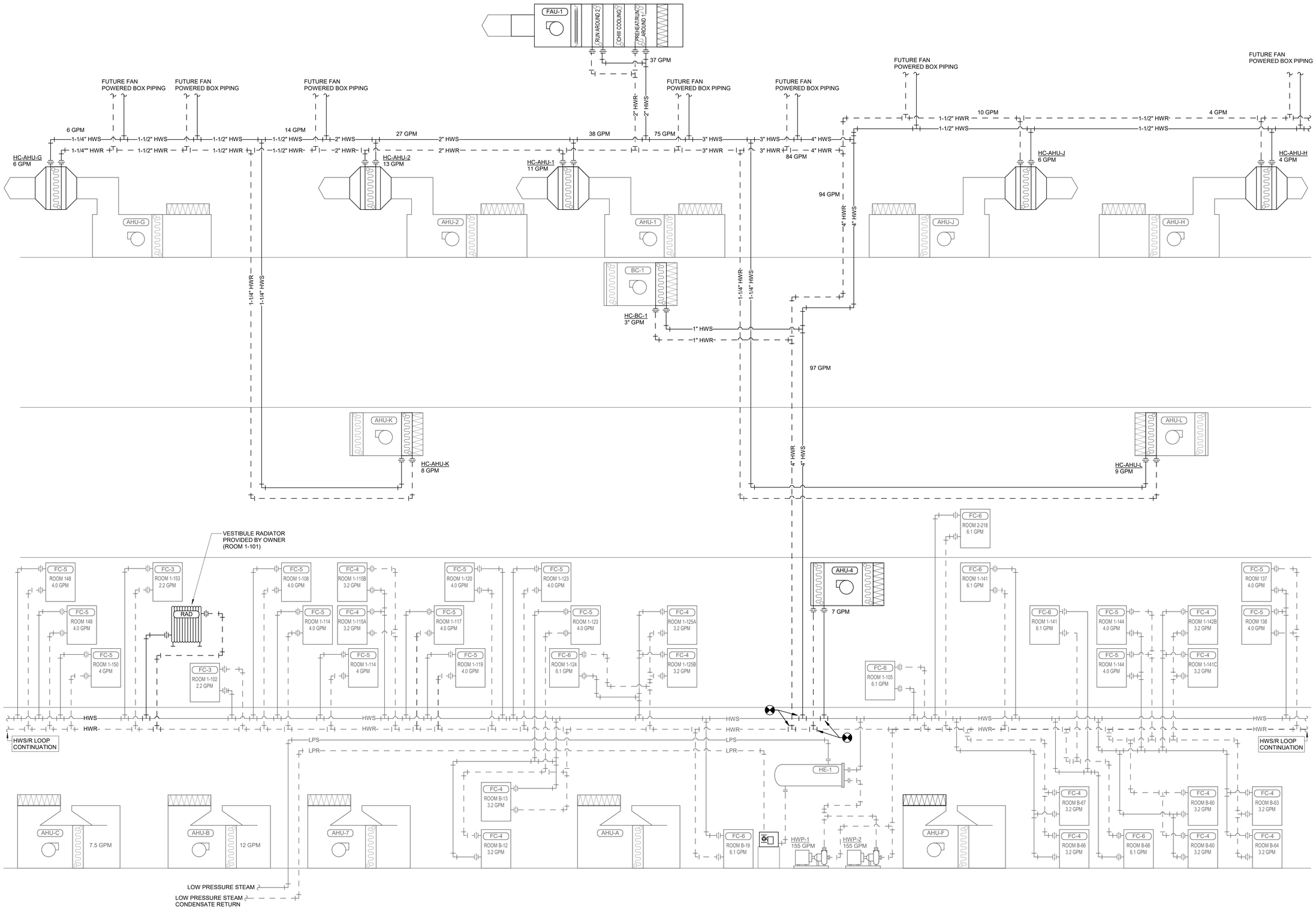
M601



1 HEATING SYSTEM FLOW DIAGRAM
NTS

STATE OF MISSOURI
MICHAEL L. PARSON, GOVERNOR

STATE OF MISSOURI
ANTHONY LOUIS DIEWOLD
NUMBER PE-2016000028
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DATE:
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DRAWING BY: ALD
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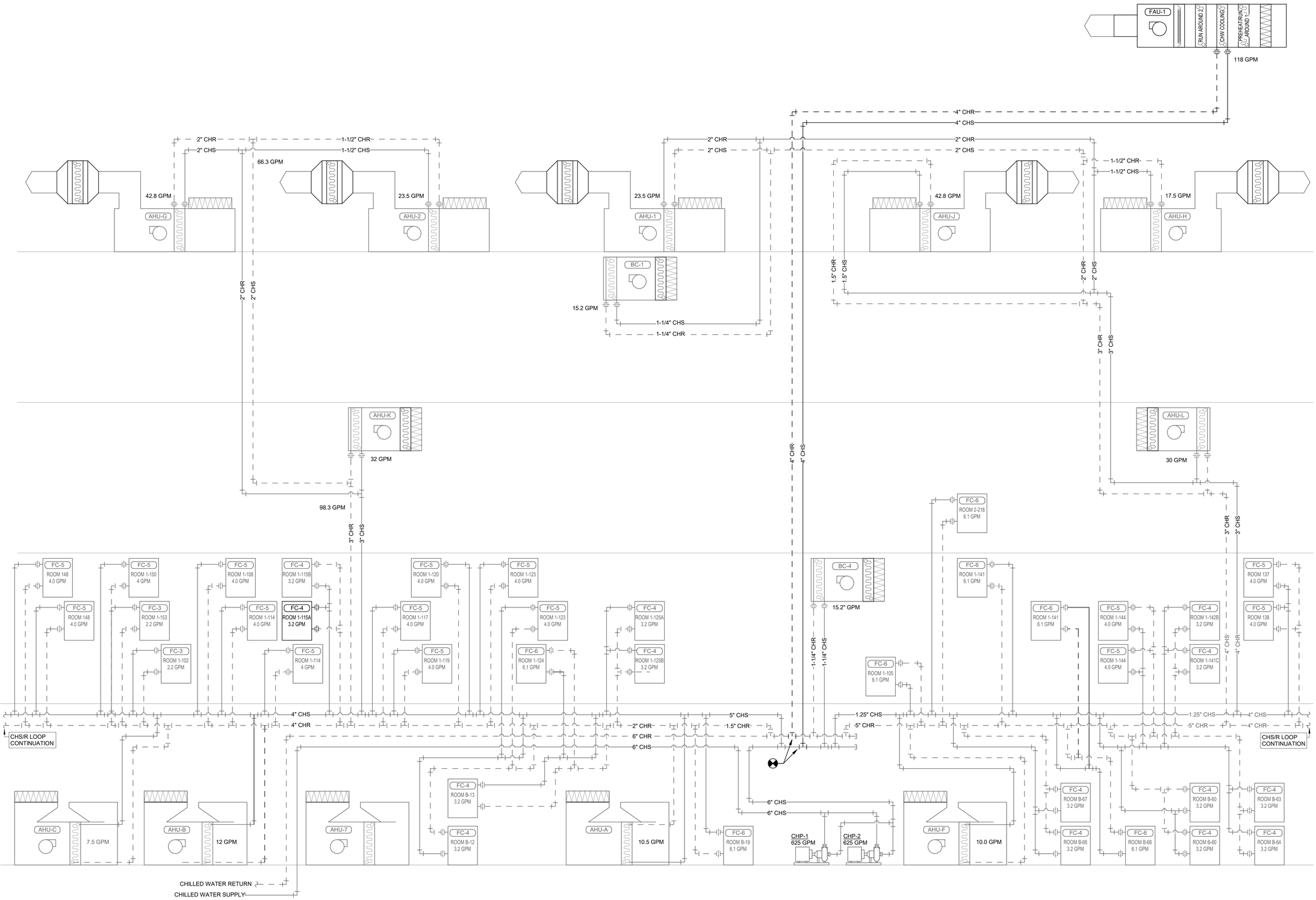
SHEET TITLE:

HEATING SYSTEM FLOW DIAGRAM

SHEET NUMBER:

M701

31 OF 40 SHEETS
DECEMBER 2, 2022



1 COOLING SYSTEM FLOW DIAGRAM
NTS

STATE OF MISSOURI
MICHAEL L. PARSON, GOVERNOR

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JEFFERSON CITY, MO 65101

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SITE # 1001
ASSET # 3101001056

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DATE:
REVISION:
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CAD DWG FILE: M702
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CHECKED BY: JJN
DESIGNED BY: ALD

SHEET TITLE:

CHILLED WATER SYSTEM FLOW DIAGRAM

SHEET NUMBER:

M702

32 OF 40 SHEETS
DECEMBER 2, 2022

DUCT MOUNTED HYDRONIC HEATING COIL DDC CONTROL SUMMARY						
CONTROL POINT	LOCAL DISPLAY	BAS DISPLAY	ADJUSTABLE	TREND	ALARM	COMMENTS
HEATING COIL ENABLE		●				
HEATING COIL VALVE POSITION		●				
ENTERING AIR TEMPERATURE		●				
DISCHARGE AIR TEMPERATURE		●	●		●	

DUCT MOUNTED HYDRONIC HEATING COIL SEQUENCE OF OPERATION

A. CENTRAL BAS SYSTEM CONTROL

1. THE BAS SHALL ENABLE AND MODULATE THE HEATING COIL HYDRONIC CONTROL VALVES WHEN HOT WATER HEAT IS AVAILABLE.

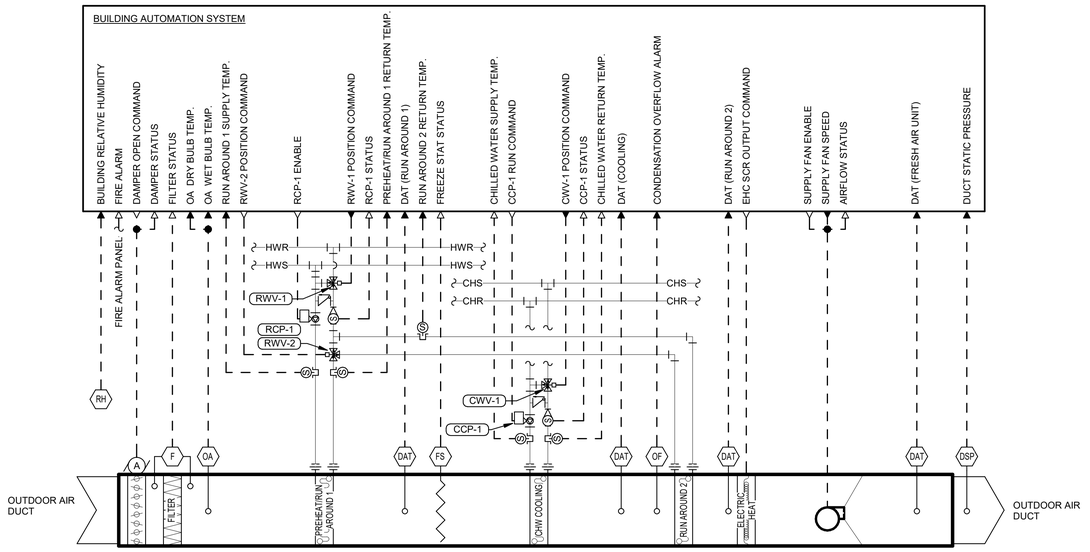
2. SAFETY SHUTDOWNS/ALARM GENERATION:
   a. BUILDING FIRE ALARM ACTIVATION SHALL DISABLE OPERATION OF ALL OF THE COMPONENTS COMPRISING THE HVAC SYSTEM.

   b. AN AHU GENERAL ALARM SHALL BE GENERATED IF THE DISCHARGE AIR TEMPERATURE IS GREATER THAN +/-5°F (ADJUSTABLE BETWEEN 2°F AND 10°F) FROM SETPOINT FOR MORE THAN FIVE MINUTES (ADJUSTABLE BETWEEN 1 AND 20 MINUTES)

3. DISCHARGE AIR TEMPERATURE SETPOINTS
   a. THE DISCHARGE AIR TEMPERATURE SETPOINT SHALL BE 85°F (ADJUSTABLE +/-10°F).

4. THE MODULATING 3-WAY CONTROL VALVE SHALL MODULATE TO MAINTAIN DISCHARGE AIR TEMPERATURE DURING HEATING MODE.

1 DUCT MOUNTED HYDRONIC HEATING COIL CONTROLS DIAGRAM
NTS



FRESH AIR UNIT DDC CONTROL SUMMARY																
#	CONTROL POINT	LOCAL DISPLAY	BAS DISPLAY	TREND	ALARM			REMARKS	#	CONTROL POINT	LOCAL DISPLAY	BAS DISPLAY	TREND	ALARM			REMARKS
1	FIRE ALARM STATUS	●			●			1	18	COOLING COIL OUTPUT COMMAND	●		●				
2	DAMPER OPEN COMMAND	●							19	COOLING COIL STATUS	●			●			
3	DAMPER STATUS	●			●				20	COOLING COIL FREEZE STATUS	●			●			
4	FILTER STATUS	●			●				21	DAT (COOLING)	●		●				
5	OUTDOOR AIR DRY BULB TEMP.	●		●					22	CONDENSATION DRAIN OVERFLOW	●			●			
6	OUTDOOR AIR WET BULB TEMP.	●		●					23	RUN AROUND 2 FREEZE STATUS	●			●			
7	PREHEAT/RUN AROUND 1 SUPPLY TEMP.	●		●					24	DAT (RUN AROUND 2)	●		●				
8	RUN AROUND VALVE 2 POSITION	●		●					25	ELECTRIC HEAT OUTPUT COMMAND	●		●				
9	RUN AROUND CIRC. PUMP ENABLE	●		●					26	ELECTRIC HEAT STAGE 1 STATUS	●		●	●			
10	PREHEAT/RUN AROUND VALVE 1 POSITION	●							27	ELECTRIC HEAT STAGE 2 STATUS	●		●	●			
11	RUN AROUND FLOW STATUS	●			●				28	ELECTRIC HEAT STAGE 3 STATUS	●		●	●			
12	PREHEAT/RUN AROUND 1 RETURN TEMP.	●		●					29	ELECTRIC HEAT STAGE 4 STATUS	●		●	●			
13	DAT (RUN AROUND 1)	●		●					30	SUPPLY FAN ENABLE	●						
14	AIR FREEZE STATUS	●			●				31	SUPPLY FAN SPEED	●		●				
15	CHILLED WATER SUPPLY TEMP.	●		●					32	FAN STATUS	●			●			
16	CHILLED WATER RETURN TEMP.	●		●					33	UNIT DISCHARGE AIR TEMPERATURE	●		●				
17	COOLING COIL PUMP ENABLE	●		●					34	DUCT STATIC PRESSURE	●		●				2

1. COORDINATE WITH FIRE ALARM CONTRACTOR.
2. SETPOINT TO BE DETERMINED BY TAB CONTRACTOR.

FRESH AIR UNIT SEQUENCE OF OPERATION

1. SAFETY ALARMS & WARNINGS GENERATION:

A. DURING A FIRE ALARM ACTIVE SIGNAL FROM THE FIRE ALARM CONTROL PANEL THE UNIT SHALL BE DISABLED (OUTSIDE AIR DAMPER SHALL CLOSE, VALVES RWV-1 AND RWV-2 TO HEATING POSITION, CWV-1 TO CIRCULATING POSITION, AND SUPPLY FAN SHALL BE DEACTIVATED). WHEN THE FIRE ALARM SYSTEM RETURNS TO NORMAL THE UNIT SHALL RETURN TO OPERATION AUTOMATICALLY ACCORDING TO THE FOLLOWING SEQUENCE OF OPERATION.

B. UNDER ANY OF THE FAULT CONDITIONS LISTED BELOW THE FOLLOWING SHALL OCCUR:
   1. THE FAU SHALL BE DISABLED (OUTSIDE AIR DAMPER SHALL CLOSE, VALVE RWV-1 SHALL MODULATE TO MAINTAIN A DISCHARGE AIR TEMPERATURE OF 50°F (ADJ. 45°F-55°F), VALVE RWV-2 SHALL CLOSE TO PREVENT FLOW TO RUNAROUND COIL 2, VALVE CWV-1 SHALL CLOSE TO PREVENT CHILLED WATER FLOW TO THE COOLING COIL, AND THE SUPPLY FAN SHALL BE DEACTIVATED).
   2. THE ALARM SHALL BE SENT TO THE OPERATOR.
   3. A MANUAL RESET SHALL BE REQUIRED TO CLEAR THE ALARM AND RETURN THE UNIT TO OPERATION.

C. FAULT CONDITIONS:
   1. DAMPER ALARM: IF A PROOF OF DAMPER OPEN IS NOT RECEIVED WITHIN ONE (1) MINUTE OF THE COMMAND TO OPEN THE OUTDOOR AIR INTAKE DAMPER.
   2. AIRFLOW ALARM: IF A PROOF OF FLOW IS NOT RECEIVED WITHIN FIVE (5) MINUTES OF SUPPLY FAN ACTIVATION.
   3. FREEZE ALARMS:
      A. IF THE FREEZE STAT OBSERVES AN AIR TEMPERATURE OF 40°F OR LESS (ADJUSTABLE BETWEEN 32°F AND 45°F).
      B. IF THE RETURN WATER TEMPERATURE FROM THE PREHEAT/RUN AROUND 1 COIL, CHW COOLING COIL, OR RUN AROUND COIL 2 FALLS BELOW 38°F (ADJUSTABLE BETWEEN 35°F AND 40°F).
   4. CONDENSATION DRAIN OVERFLOW ALARM: IF THE THE OVERFLOW SENSOR SENSES WATER AN ALARM SHALL BE SENT TO THE OPERATOR.

D. UNDER ANY OF THE WARNING CONDITIONS LISTED BELOW THE FOLLOWING SHALL OCCUR:
   1. A WARNING SHALL BE SENT TO THE OPERATOR ONCE EVERY 24 HOURS UNTIL THE CONDITION HAS BEEN CLEARED.
   2. ALL OTHER FRESH AIR UNIT OPERATIONS MAY CONTINUE TO OPERATE.

E. WARNING CONDITIONS:
   1. DIRTY FILTER: IF THE DIFFERENTIAL PRESSURE ACROSS THE FILTER EXCEEDS 0.5 IN.W.C. (ADJ. 0.5 IN.W.C.-1.0 IN.W.C.) GREATER THAN CLEAN FILTER SETPOINT (DETERMINED BY BALANCING CONTRACTOR).
   2. COOLING WARNING: IF THE DISCHARGE AIR TEMPERATURE IS GREATER THAN +/-5°F (ADJ. 2°F-10° F) FROM SETPOINT FOR MORE THAN FIVE (5) MINUTES (ADJ. 1-20 MINUTES).
   3. HEATING WARNING: IF THE DISCHARGE AIR TEMPERATURE IS GREATER THAN +/-5°F (ADJ 2°F-10°F).
   4. HEATING CIRCULATION PUMP WARNING: IF PROOF OF FLOW (FLOW SWITCH) IS NOT RECEIVED WITHIN ONE (1) MINUTE OF THE COMMAND TO RUN.

2. OCCUPANCY MODE:
   A. OCCUPANCY MODE SHALL BE DETERMINED BY THE OWNER'S BUILDING OPERATING HOURS. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER.

3. OUTSIDE AIR DAMPER POSITION:
   A. THE OUTSIDE AIR DAMPER SHALL BE OPEN CONTINUOUSLY DURING OCCUPIED MODE UNLESS AN ALARM IS ACTIVE.

4. COIL CIRCULATION PUMP (RCP-1 & CWP-1).
   A. THE COIL CIRCULATION PUMPS (RCP-1 & CWP-1) SHALL OPERATE CONTINUOUSLY AT ALL TIMES.

5. SUPPLY FAN:
   A. IF THE OUTSIDE AIR DAMPER POSITION IS CONFIRMED OPEN, THE SUPPLY FAN SHALL BE ENABLED.
   B. SUPPLY FAN SHALL RUN CONTINUOUSLY DURING OCCUPIED MODE TO MAINTAIN STATIC PRESSURE SETPOINT (SET BY BALANCING CONTRACTOR).

6. THE DISCHARGE AIR TEMPERATURE SETPOINT SHALL BE DETERMINED ACCORDING TO THE FOLLOWING:
   A. COOLING/DEHUMIDIFICATION MODE:
      1. IF THE OUTDOOR AIR TEMPERATURE IS ABOVE 55°F (ADJ. 55°F-60°F) COOLING MODE SHALL BE ENABLED.
      2. VALVE RWV-1 SHALL BE IN CIRCULATION POSITION.
      3. THE COOLING COIL CONTROL VALVE (CWV-1) SHALL MODULATE TO MAINTAIN A COOLING COIL DISCHARGE AIR TEMPERATURE OF 55°F.
         A. THE RUN AROUND VALVE (RWV-2) SHALL ALLOW FLOW TO RUN AROUND COIL 2 AND THE RUN AROUND LOOP CIRCULATION PUMP (RCP-1) SHALL MODULATE TO MAINTAIN A DISCHARGE AIR TEMPERATURE OF 60°F (RESET BETWEEN 60°F AND 75°F TO MAINTAIN LOBBY TEMPERATURE SETPOINT).
         B. IF THE RUN AROUND LOOP CIRCULATION PUMP IS AT 100% AND DISCHARGE AIR TEMPERATURE DOES NOT MEET SETPOINT WITHIN 3 MINUTES (ADJUSTABLE), THE ELECTRIC HEATING COIL SHALL MODULATE TO MAINTAIN DISCHARGE AIR TEMPERATURE AS NOTED ABOVE.

   C. HOT WATER HEATING MODE:
      1. IF THE OUTDOOR AIR TEMPERATURE IS LESS THAN 55°F (ADJ. 50°F-55°F) THE SYSTEM SHALL BE IN HEATING MODE.
      2. THE RUNAROUND LOOP CONTROL VALVE (RWV-2) SHALL BE CLOSED TO PREVENT FLOW THROUGH RUNAROUND COIL 2.
      3. THE HEATING COIL CONTROL VALVE (RWV-1) SHALL MODULATE TO MAINTAIN A UNIT DISCHARGE AIR TEMPERATURE SETPOINT OF 55°F (RESET BETWEEN 55 AND 75 TO MAINTAIN LOBBY TEMPERATURE SETPOINT).
      4. IF THE UNIT DISCHARGE AIR TEMPERATURE SETPOINT IS NOT MET WITHIN 2 MINUTES (ADJ. 1-10 MIN.) ELECTRIC HEAT SHALL BE ENABLED.
         A. THE ELECTRIC HEATING COIL SHALL MODULATE TO MAINTAIN DISCHARGE AIR TEMPERATURE SETPOINT PER HOT WATER HEATING MODE.

2 FRESH AIR UNIT CONTROLS DIAGRAM
NTS

STATE OF MISSOURI
MICHAEL L. PARSON, GOVERNOR

STATE OF MISSOURI
ANTHONY LOUIS DIEWOLD
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12-02-2022

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MODIFY HVAC SYSTEM

MISSOURI SUPREME COURT BUILDING

207 W. HIGH STREET
JEFFERSON CITY, MO 65101

PROJECT # O2010-01
SITE # 1001
ASSET # 3101001056

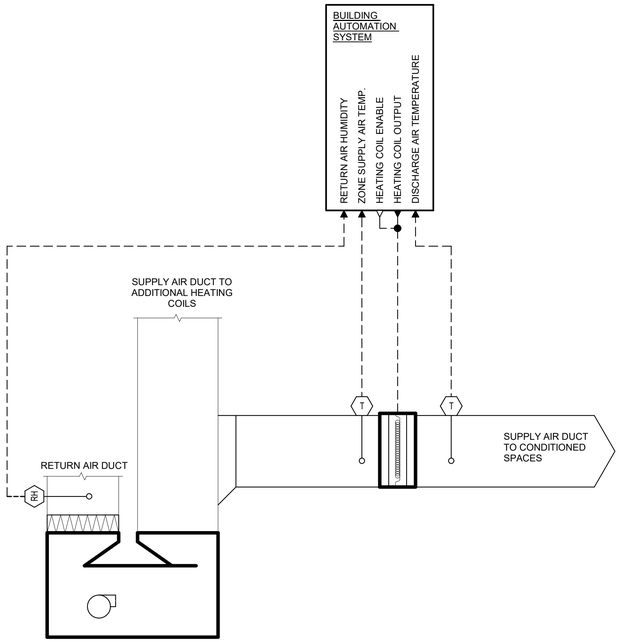
REVISION:
DATE:
REVISION:
DATE:
REVISION:
DATE:
ISSUE DATE: 12/02/2022

CAD DWG FILE: M801
DRAWING BY: ALD
CHECKED BY: JJN
DESIGNED BY: ALD

SHEET TITLE:
TEMPERATURE CONTROL DETAILS

SHEET NUMBER:
M801

33 OF 40 SHEETS
DECEMBER 2, 2022



DUCT MOUNTED ELECTRIC HEATING COIL DDC CONTROL SUMMARY						
CONTROL POINT	LOCAL DISPLAY	BAS DISPLAY	ADJUSTABLE	TREND	ALARM	COMMENTS
RETURN AIR HUMIDITY		●		●		
ZONE SUPPLY AIR TEMPERATURE		●		●		
HEATING COIL ENABLE		●				
HEATING COIL OUTPUT (SCR CONTROL)		●				
AIRFLOW SENSOR		●			●	
DISCHARGE AIR TEMPERATURE		●	●		●	

ELECTRIC DUCT HEATER SEQUENCE OF OPERATION
THE ELECTRIC DUCT HEATERS SHALL BE INCORPORATED INTO THE EXISTING AIR HANDLING UNIT CONTROL SEQUENCE.

1. SAFETY ALARMS & WARNINGS GENERATION:

A. IF THE AIRFLOW SWITCH DOES NOT REGISTER AIRFLOW WITHIN 10 SECONDS THEN THE ELECTRIC DUCT HEATER SHALL BE DISABLED AND AN ALARM SHALL BE SENT TO THE OPERATOR.

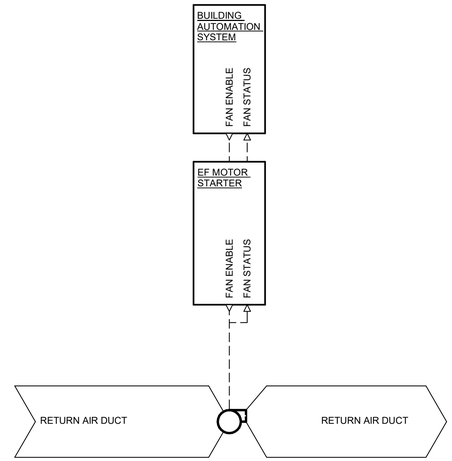
B. DUCT HEATER GENERAL ALARM SHALL BE GENERATED IF THE DISCHARGE AIR TEMPERATURE IS GREATER THAN +/-5°F (ADJUSTABLE BETWEEN 2°F AND 10°F) FROM SETPOINT FOR MORE THAN FIVE MINUTES (ADJUSTABLE BETWEEN 1 AND 20 MINUTES).

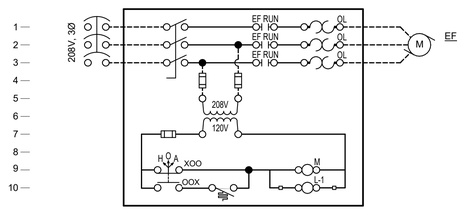
A. CENTRAL BAS SYSTEM CONTROL

1. THE BAS SHALL ENABLE THE ELECTRIC DUCT HEATER WHENEVER AIRFLOW IS DETECTED. IF AIRFLOW IS NOT DETECTED THE ELECTRIC DUCT HEATER SHALL BE DISABLED.

a. ON A CALL FOR HEATING FROM THE BAS, THE ELECTRIC DUCT HEATER CONTROLLER SHALL MODULATE HEATING CAPACITY TO MAINTAIN A DISCHARGE AIR TEMPERATURE OF 75°F. (ADJUSTABLE BETWEEN 65°F AND 80°F)
b. IF RETURN AIR RELATIVE HUMIDITY RISES ABOVE 55% (ADJUSTABLE) AND THE ZONE IS NOT CALLING FOR COOLING, THE ELECTRIC DUCT HEATER SHALL MODULATE TO MAINTAIN A DISCHARGE AIR TEMPERATURE OF 72°F (ADJUSTABLE BETWEEN 65°F AND 75°F).

1 ELECTRIC DUCT HEATER CONTROLS DIAGRAM
NTS





RETURN FAN (EF-1) CONTROL SUMMARY						
CONTROL POINT	LOCAL CONTROLLER DISPLAY	BAS DISPLAY	BAS ADJUSTABLE	BAS TREND	BAS ALARM	COMMENTS
FAN ON/OFF		●	●			
FAN STATUS		●			●	

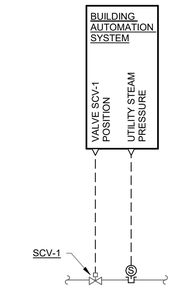
RETURN FANS
INCORPORATE THE RETURN FANS INTO THE EXISTING AIR HANDLING UNIT SEQUENCES OF OPERATION.

A. RETURN FAN CONTROL

1. RETURN FAN RF-1 SHALL BE ENABLED WHENEVER AHU-1 IS IN HEATING MODE.
2. RETURN FAN RF-2 SHALL BE ENABLED WHENEVER AHU-2 IS IN HEATING MODE.

B. RETURN FAN STATUS WARNING
1. IF FAN STATUS IS NOT MADE WITHIN 1 MINUTE THEN A WARNING SHALL BE SENT TO THE OPERATOR.

2 RETURN FAN CONTROLS DIAGRAM
NTS

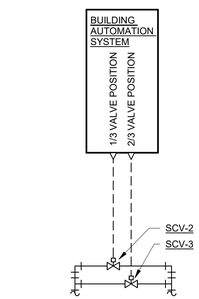


BUILDING CONTROL VALVE (SCV-1) CONTROL SUMMARY						
CONTROL POINT	LOCAL CONTROLLER DISPLAY	BAS DISPLAY	BAS ADJUSTABLE	BAS TREND	BAS ALARM	COMMENTS
UTILITY STEAM PRESSURE		●		●		
VALVE SCV-1 POSITION		●	●	●		

BUILDING STEAM CONTROL VALVE
UPDATE THE EXISTING RADIATOR CONTROL VALVE SEQUENCE OF OPERATION TO OPERATE BASED ON UTILITY STEAM SUPPLY PRESSURE RATHER THAN LOBBY TEMPERATURE.

A. IF STEAM PRESSURE BEFORE THE MAIN BUILDING STEAM CONTROL VALVE INCREASES TO ABOVE 5 PSIG THEN OPEN VALVE SCV-1 FROM 0-100% OVER THE COURSE OF 1 HOUR (ADJUSTABLE).
B. IF STEAM PRESSURE FALLS BELOW 3 PSIG THEN CLOSE VALVE SCV-1.

4 BUILDING STEAM CONTROL VALVE DIAGRAM
NTS



HEAT EXCHANGER CONTROL SUMMARY						
CONTROL POINT	LOCAL CONTROLLER DISPLAY	BAS DISPLAY	BAS ADJUSTABLE	BAS TREND	BAS ALARM	COMMENTS
1/3 STEAM CONTROL VALVE		●	●	●		
2/3 STEAM CONTROL VALVE		●	●	●		

HEAT EXCHANGER CONTROL VALVES
UPDATE THE EXISTING HEAT EXCHANGER CONTROL VALVE SEQUENCE OF OPERATION TO INCLUDE TWO VALVES.

A. THE STEAM CONTROL VALVES SHALL MODULATE TO MAINTAIN A HOT WATER LEAVING TEMPERATURE:
a. THE HOT WATER LEAVING TEMPREATURE SHALL RESET FROM 100°F WHEN THE OUTDOOR AIR TEMPERATURE IS ABOVE 60°F TO 130°F WHEN THE OUTDOOR AIR TEMPERATURE IS BELOW 30°F).
b. THE 1/3 CONTROL VALVE SHALL MODULATE AS NECESSARY TO MAINTAIN LEAVING WATER TEMPERATURE.
c. IF THE LEAVING WATER TEMPERATURE FALLS 2°F (ADJUSTABLE +/-2°F) BELOW SETPOINT THEN THE 2/3 VALVE SHALL MODULATE TO MAINTAIN LEAVING WATER TEMPERATURE.

3 HEAT EXCHANGER STEAM CONTROL VALVE DIAGRAM
NTS

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MICHAEL L. PARSON, GOVERNOR

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ANTHONY LOUIS DIEWOLD
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MISSOURI SUPREME COURT BUILDING

207 W. HIGH STREET
JEFFERSON CITY, MO 65101

PROJECT # O2010-01
SITE # 1001
ASSET # 3101001056

REVISION:
DATE:
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REVISION:
DATE:
ISSUE DATE: 12/02/2022

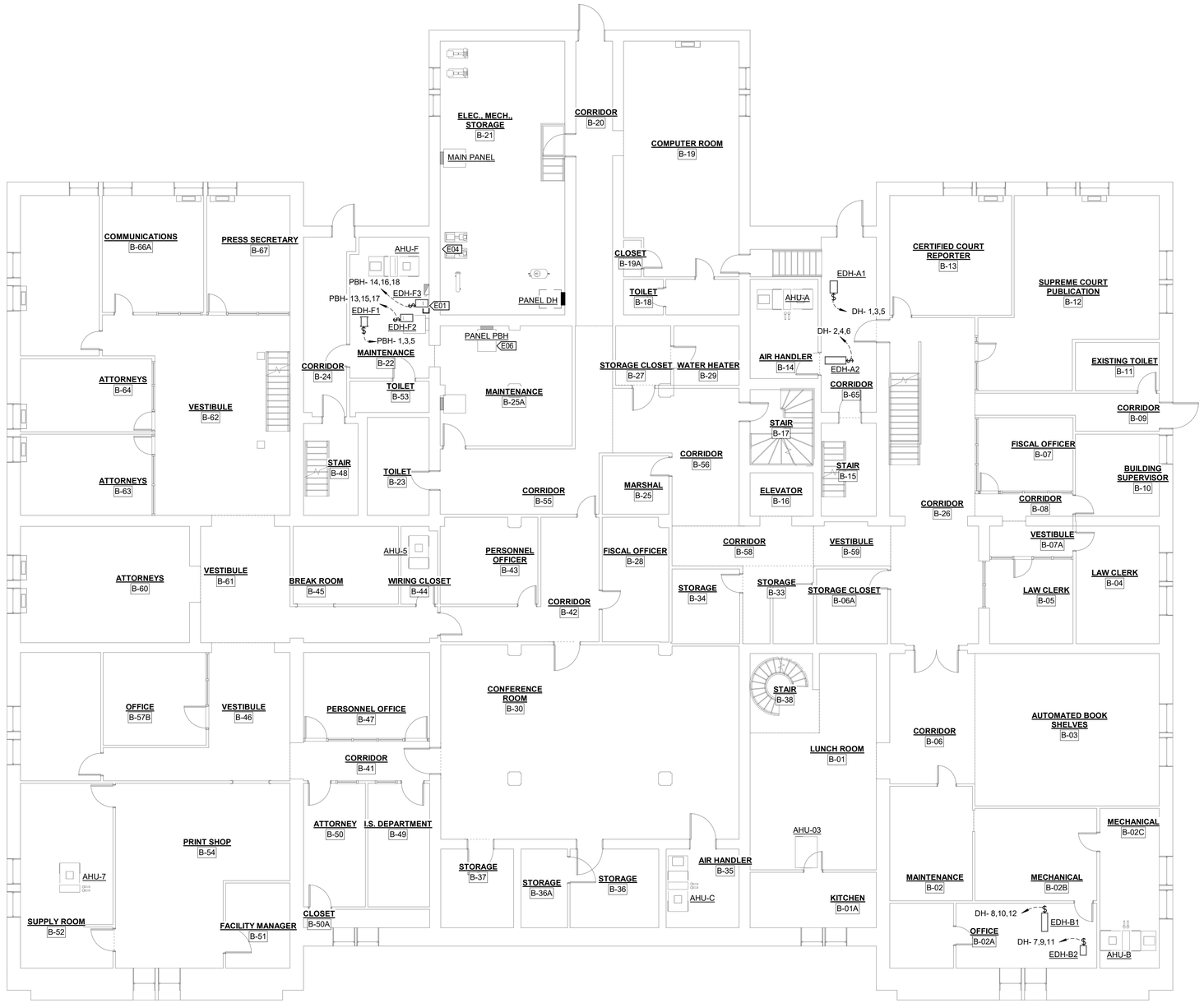
CAD DWG FILE: M802
DRAWING BY: ALD
CHECKED BY: JJN
DESIGNED BY: ALD

SHEET TITLE:
TEMPERATURE CONTROL DETAILS

SHEET NUMBER:
M802

34 OF 40 SHEETS
DECEMBER 2, 2022

KEYNOTE LEGEND	
VALUE	DESCRIPTION
E01	LOWER EXISTING HVAC CONTROL PANEL AS NECESSARY TO FACILITATE INSTALLATION OF ELECTRIC DUCT HEATER.
E04	RELOCATE EXISTING CONDUIT ON WALL IN THIS LOCATION TO FACILITATE INSTALLATION OF HWS/R AND CHS/R PIPING THROUGH WALL.
E06	INSTALL NEW BREAKERS WITHIN PANEL PBH AS SHOWN ON PANEL SCHEDULE (SHEET E501).



1 LOWER LEVEL-ELECTRICAL PLAN
1/8" = 1'-0"

GENERAL NOTE:

1. ROUTE ELECTRICAL CONDUIT ABOVE CEILING IN ALL FINISHED ROOMS.

0 4' 8' 16'
SCALE: 1/8" = 1'-0"

N

STATE OF MISSOURI
MICHAEL L. PARSON,
GOVERNOR

STATE OF MISSOURI
ANTHONY LOUIS DIEWOLD
NUMBER PE-2016000028
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PROJECT # O2010-01
SITE # 1001
ASSET # 3101001056

REVISION:
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ISSUE DATE: 12/02/2022

CAD DWG FILE: E101
DRAWING BY: JCM
CHECKED BY: JJN
DESIGNED BY: JCM

SHEET TITLE:

LOWER LEVEL - POWER PLAN

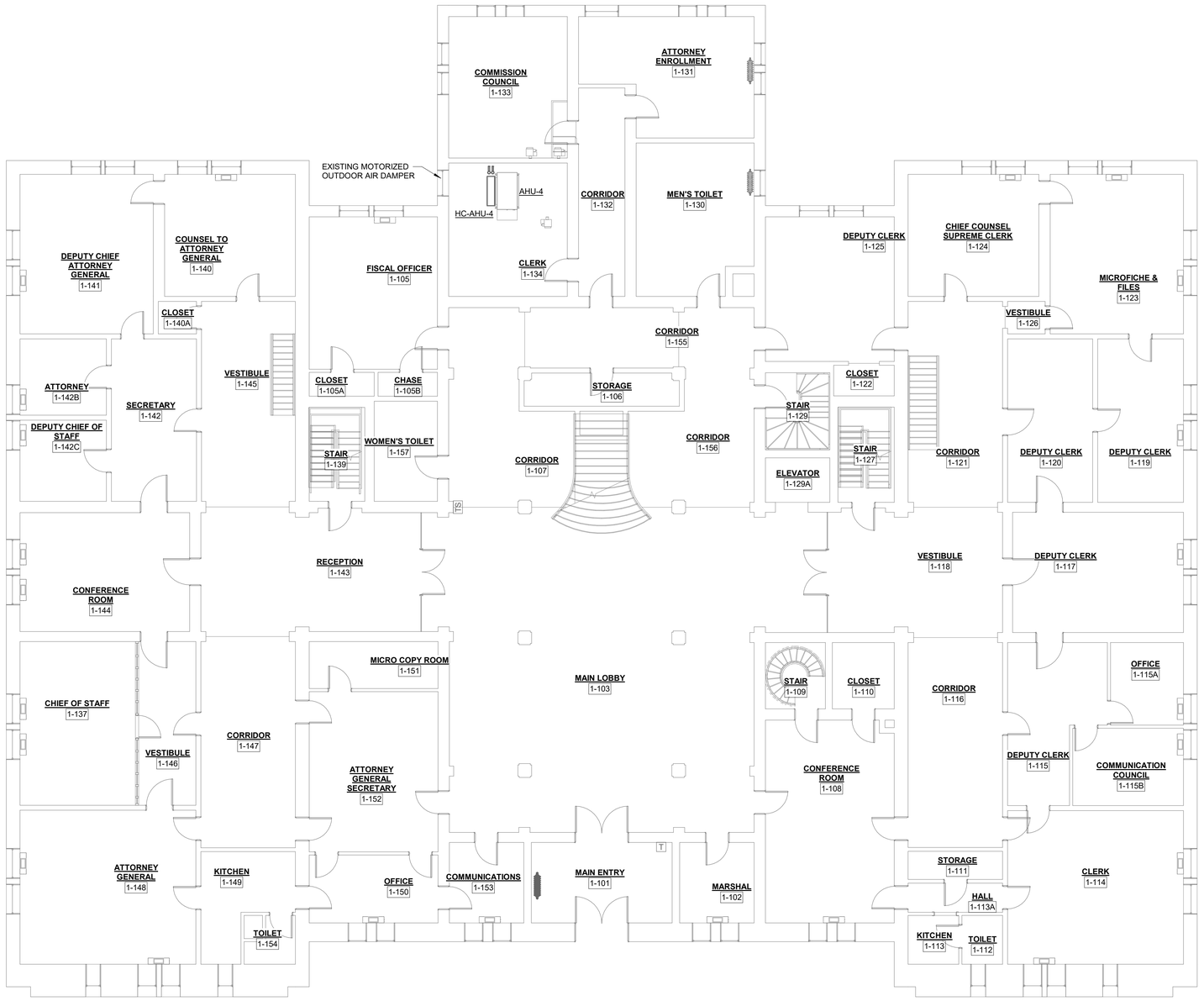
SHEET NUMBER:

E101

35 OF 40 SHEETS
DECEMBER 2, 2022

KEYNOTE LEGEND	
VALUE	DESCRIPTION

NO ELECTRICAL WORK ON THIS LEVEL



1 MAIN LEVEL - POWER PLAN
1/8" = 1'-0"

0 4' 8' 16'
SCALE: 1/8" = 1'-0"

STATE OF MISSOURI
MICHAEL L. PARSON, GOVERNOR

STATE OF MISSOURI
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SITE # 1001
ASSET # 3101001056

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REVISION:
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ISSUE DATE: 12/02/2022

CAD DWG FILE: E102
DRAWING BY: JCM
CHECKED BY: JJN
DESIGNED BY: JCM

SHEET TITLE:

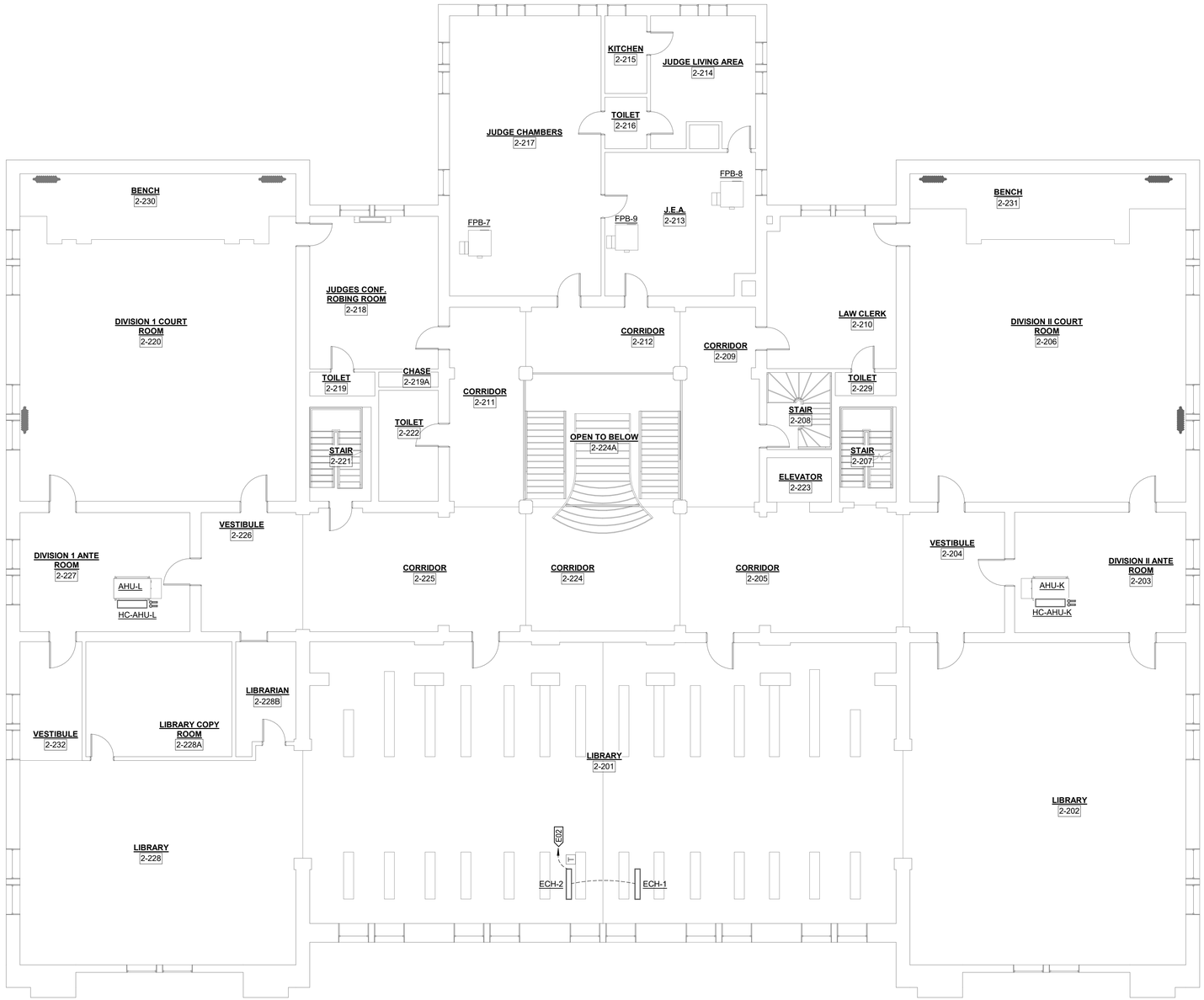
MAIN LEVEL - POWER PLAN

SHEET NUMBER:

E102

36 OF 40 SHEETS
DECEMBER 2, 2022

KEYNOTE LEGEND	
VALUE	DESCRIPTION
E02	CONNECT COVE HEATERS TO LIGHTING CIRCUIT ON BOTTOM SIDE OF GLASS FLOOR.



1 SECOND LEVEL-POWER PLAN
1/8" = 1'-0"

0 4' 8' 16'
SCALE: 1/8" = 1'-0"

STATE OF MISSOURI
MICHAEL L. PARSON,
GOVERNOR

STATE OF MISSOURI
ANTHONY LOUIS
DIEWOLD
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PE-2016000028
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JEFFERSON CITY, MO 65101

PROJECT # O2010-01
SITE # 1001
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DATE:
ISSUE DATE: 12/02/2022

CAD DWG FILE: E103
DRAWING BY: JCM
CHECKED BY: JJN
DESIGNED BY: JCM

SHEET TITLE:

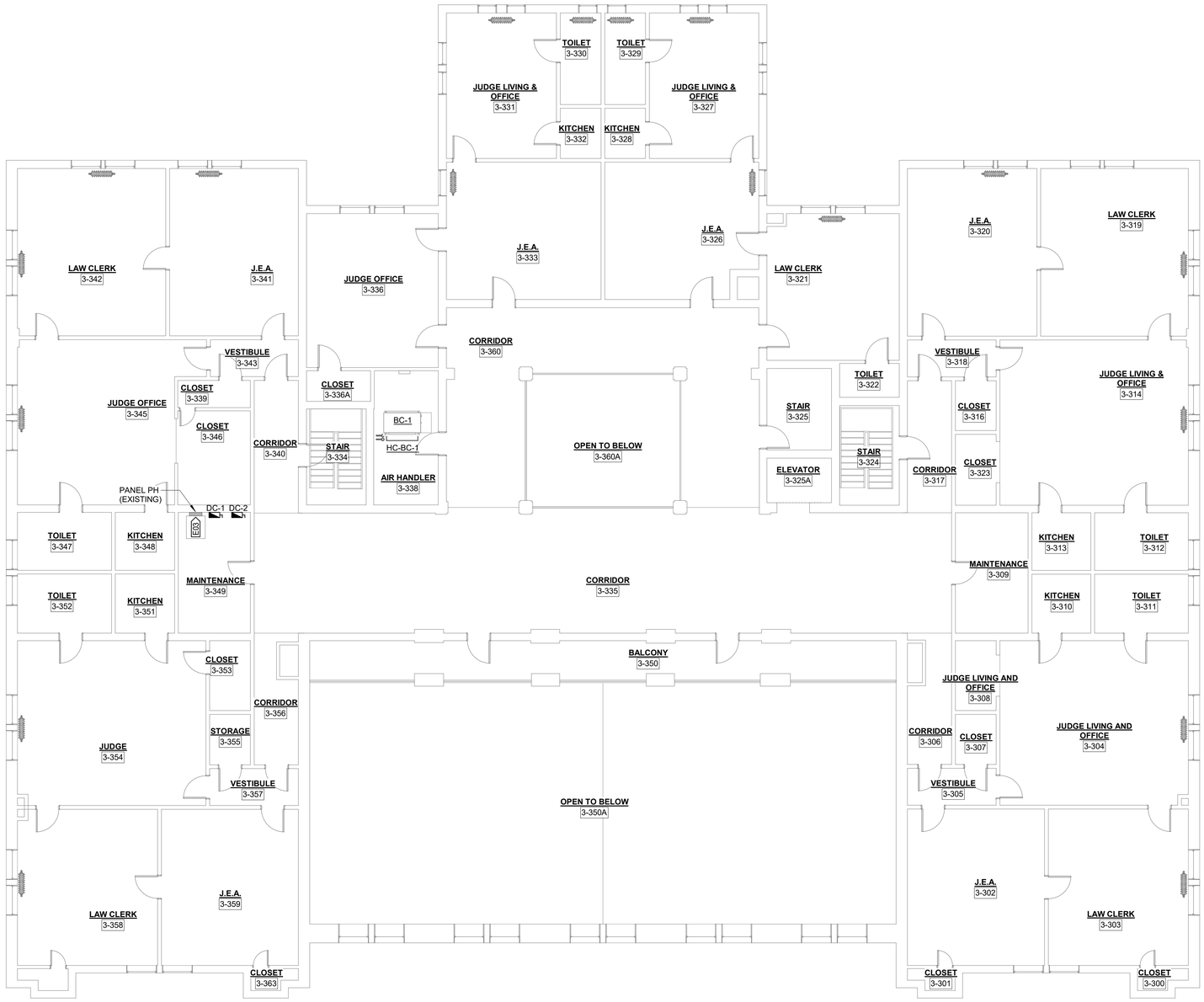
SECOND LEVEL - POWER PLAN

SHEET NUMBER:

E103

37 OF 40 SHEETS
DECEMBER 2, 2022

KEYNOTE LEGEND	
VALUE	DESCRIPTION
E03	EXISTING 300A BREAKER FEEDING CURRENT OUTDOOR AIR UNIT SHALL BE REUSED TO FEED NEW OUTDOOR AIR UNIT. REVISE BRANCH CIRCUIT ROUTING AS REQUIRED TO PROVIDE POWER TO NEW UNIT.



1 THIRD LEVEL - POWER PLAN
1/8" = 1'-0"

0 4' 8' 16'
SCALE: 1/8" = 1'-0"

STATE OF MISSOURI
MICHAEL L. PARSON, GOVERNOR

STATE OF MISSOURI
ANTHONY LOUIS DIEWOLD
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REVISION:
DATE:
ISSUE DATE: 12/02/2022

CAD DWG FILE: E104
DRAWING BY: JCM
CHECKED BY: JJN
DESIGNED BY: JCM

SHEET TITLE:

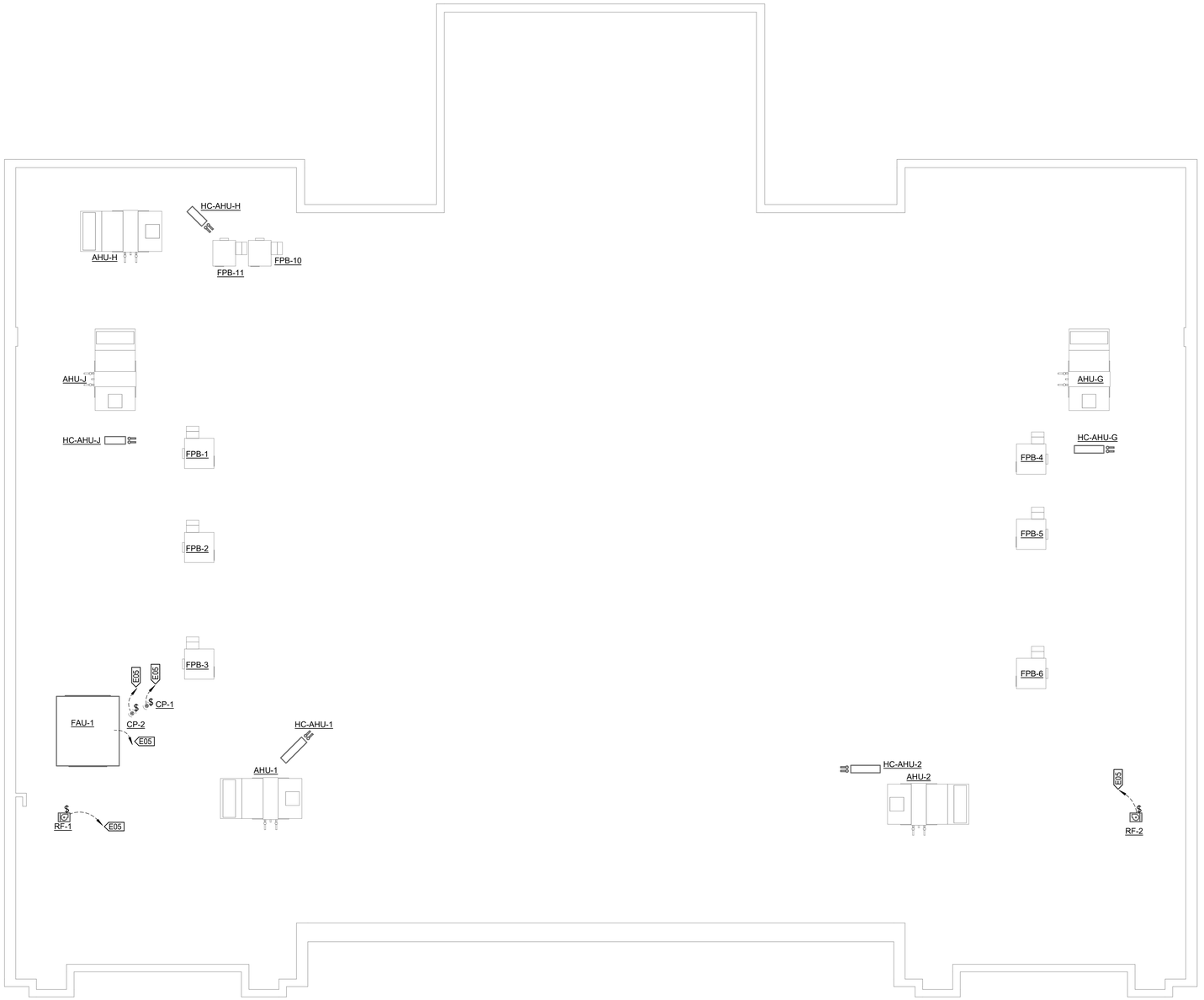
THIRD LEVEL - POWER PLAN

SHEET NUMBER:

E104

38 OF 40 SHEETS
DECEMBER 2, 2022

KEYNOTE LEGEND	
VALUE	DESCRIPTION
E05	POWER ALL NEW ROOFTOP EQUIPMENT FROM EXISTING 300A BREAKER ON PANEL PH. SEE ONE-LINE DIAGRAM FOR DETAILS (SHEET E501).



1 MEZZANINE LEVEL - POWER PLAN
1/8" = 1'-0"

0 4' 8' 16'
SCALE: 1/8" = 1'-0"

STATE OF MISSOURI
MICHAEL L. PARSON, GOVERNOR

STATE OF MISSOURI
ANTHONY LOUIS DIEWOLD
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ISSUE DATE: 12/02/2022

CAD DWG FILE: E105
DRAWING BY: JCM
CHECKED BY: JJN
DESIGNED BY: JCM

SHEET TITLE:

MEZZANINE LEVEL - POWER PLAN

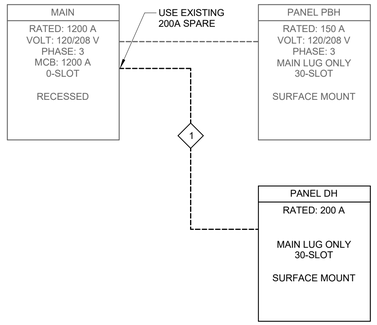
SHEET NUMBER:

E105

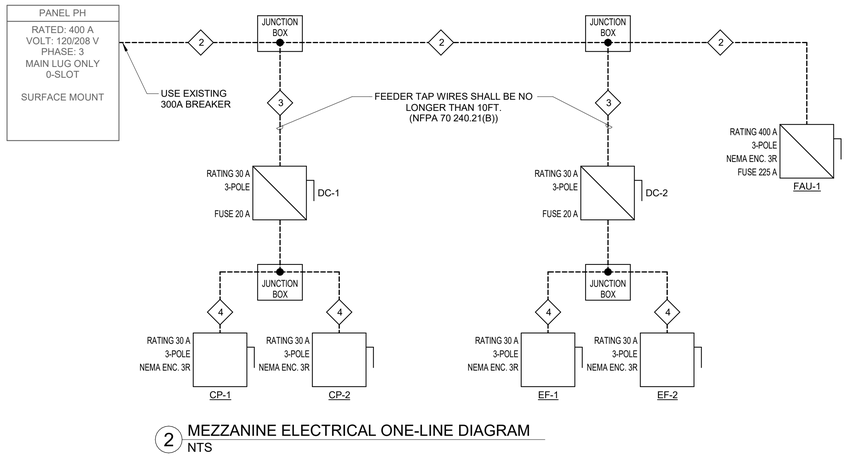
39 OF 40 SHEETS
DECEMBER 2, 2022

FEEDER SCHEDULE

FEEDER TAG	PHASE CONDUCTORS QUANTITY	PHASE CONDUCTORS SIZE	NEUTRAL SIZE	EGC SIZE	CONDUIT SIZE	CONDUIT TYPE
1	3	250 KCMIL CU	250 KCMIL CU	#6 AWG CU	3"	EMT
2	3	350 KCMIL CU	350 KCMIL CU	#4 AWG CU	3 1/2"	EMT
3	3	#10 AWG CU	#10 AWG CU	#10 AWG CU	3/4"	EMT
4	3	#12 AWG CU	#12 AWG CU	#12 AWG CU	3/4"	EMT



1 LOWER LEVEL ELECTRICAL ONE-LINE DIAGRAM
NTS



2 MEZZANINE ELECTRICAL ONE-LINE DIAGRAM
NTS

BRANCH PANEL: DH

LOCATION: ELEC., MECH., STORAGE B-21 **VOLTS:** 120/208 **A.I.C. RATING:** 10,000 AMPS SYMMETRICAL
SUPPLY FROM: **PHASES:** 3 **PANEL TYPE:** MLO
MOUNTING: SURFACE **WIRES:** 4 **MAINS RATING:** 200 A
ENCLOSURE: NEMA1 **ACCESSORIES:**

CKT	CIRCUIT DESCRIPTION	TRIP	POLES	A		B		C		POLES	TRIP	CIRCUIT DESCRIPTION	CKT
1				2667 VA	5333 VA								2
3	DUCT HEATER - EDH-A1	25 A	3			2667 VA	5333 VA			3	60 A	DUCT HEATER - EDH-A2	4
5								2667 VA	5333 VA				6
7				1667 VA	6667 VA								8
9	DUCT HEATER - EDH-B2	20 A	3			1667 VA	6667 VA			3	70 A	DUCT HEATER - EDH-B1	10
11								1667 VA	6667 VA				12
13													14
15													16
17													18
19													20
21													22
23													24
25													26
27													28
29													30
		PHASE LOAD:		16,333 VA		16,333 VA		16,333 VA		****TOTAL LOAD:**		**49,000 VA**	
		PHASE AMPS:		136 A		136 A		136 A		****TOTAL AMPS:**		**136 A**	

*** FIELD VERIFY BREAKER SIZE WITH ACTUAL EQUIPMENT PROVIDED. COORDINATE WITH OTHER CONTRACTORS AS NECESSARY.**
****TOTAL LOAD AND TOTAL AMPS DO NOT INCLUDE DEMAND FACTOR CALCULATIONS.**

BRANCH PANEL: PBH

LOCATION: PRINT/MAIL ROOM B-25A **VOLTS:** 120/208 **A.I.C. RATING:** 10,000 AMPS SYMMETRICAL
SUPPLY FROM: **PHASES:** 3 **PANEL TYPE:** MAIN CB
MOUNTING: SURFACE **WIRES:** 4 **MAINS RATING:** 150 A
ENCLOSURE: NEMA 1 **ACCESSORIES:**

CKT	CIRCUIT DESCRIPTION	TRIP	POLES	A		B		C		POLES	TRIP	CIRCUIT DESCRIPTION	CKT
1				1667 VA	3600 VA								2
3	DUCT HEATER - EDH-F1	20 A	3			1667 VA	3600 VA			3	30 A	DUCT HEATER - AHU-C (EXISTING)	4
5								1667 VA	3600 VA				6
7				3000 VA	3000 VA								8
9	DUCT HEATER - AHU-7 (EXISTING)	25 A	3			3000 VA	3000 VA			3	25 A	DUCT HEATER - AHU-7 (EXISTING)	10
11								3000 VA	3000 VA				12
13				2667 VA	2667 VA								14
15	DUCT HEATER - EDH-F2	25 A	3			2667 VA	2667 VA			3	25 A	DUCT HEATER - EDH-F3	16
17								2667 VA	2667 VA				18
19													20
21													22
23													24
25													26
27													28
29													30
		PHASE LOAD:		16,600 VA		16,600 VA		16,600 VA		****TOTAL LOAD:**		**49,800 VA**	
		PHASE AMPS:		138 A		138 A		138 A		****TOTAL AMPS:**		**138 A**	

*** FIELD VERIFY BREAKER SIZE WITH ACTUAL EQUIPMENT PROVIDED. COORDINATE WITH OTHER CONTRACTORS AS NECESSARY.**
****TOTAL LOAD AND TOTAL AMPS DO NOT INCLUDE DEMAND FACTOR CALCULATIONS.**

STATE OF MISSOURI
MICHAEL L. PARSON, GOVERNOR

STATE OF MISSOURI
ANTHONY LOUIS DIEWOLD
NUMBER PE-2016000028
3-02-2022
PROFESSIONAL ENGINEER

ANTHONY L. DIEWOLD - ENGINEER
PE-2016000028

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MISSOURI STATE CERTIFICATE OF AUTHORITY #000866

OFFICE OF ADMINISTRATION
DIVISION OF FACILITIES MANAGEMENT,
DESIGN AND CONSTRUCTION

MODIFY HVAC SYSTEM

MISSOURI SUPREME COURT BUILDING

207 W. HIGH STREET
JEFFERSON CITY, MO 65101

PROJECT # O2010-01
SITE # 1001
ASSET # 3101001056

REVISION:
DATE:
REVISION:
DATE:
REVISION:
DATE:
ISSUE DATE: 12/02/2022

CAD DWG FILE: E501
DRAWING BY: JCM
CHECKED BY: JJN
DESIGNED BY: JCM

SHEET TITLE:

ELECTRICAL DETAILS

SHEET NUMBER:

E501

40 OF 40 SHEETS
DECEMBER 2, 2022