REPLACE HVAC & MECHANICAL ROOM DOORS, COTTAGES A - E
HAWTHORN CHILDREN'S PSYCHIATRIC HOSPITAL
ST. LOUIS, MISSOURI

BID DOCUMENTS

DRAWING SHEET INDEX

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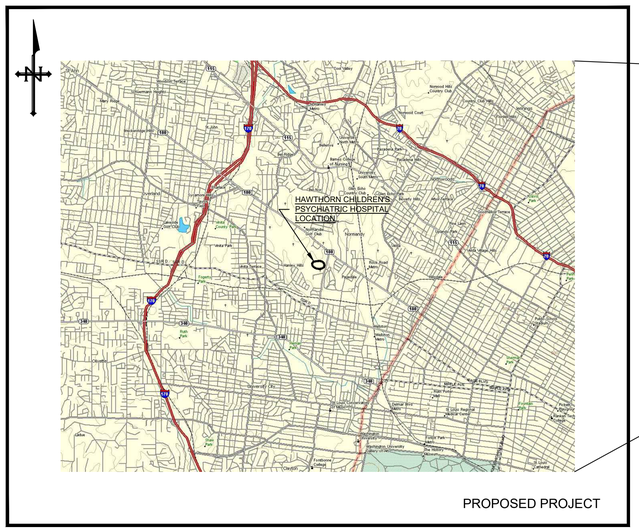
5	MEP COVER SHEET	MEP-001_(1)
6	MEP DEMOLITION PLAN	MEP-101_(1)
7	MEP FLOOR PLAN	MEP-201_(1)
8	MEP DETAILS	MEP-501_(1)
9	MEP SCHEDULES	MEP-601_(1)



VICINITY MAP

OWNER: STATE OF MISSOURI
MIKE KEHOE, GOVERNOR

DEPARTMENT OF
MENTAL HEALTH

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

UNDERGROUND UTILITY NOTE

ANY UNDERGROUND FACILITIES, STRUCTURES, OR UTILITIES THAT HAVE BEEN SHOWN ARE FROM AVAILABLE RECORDS. THEREFORE, THE RELATIONSHIP BETWEEN THE NEW WORK AND THE EXISTING FACILITIES, STRUCTURES, OR UTILITIES MUST BE CONSIDERED APPROXIMATE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY ALL THE LOCAL, AND/OR GOVERNING UTILITY COMPANIES PRIOR TO CONSTRUCTION TO DETERMINE THEIR EXACT LOCATIONS AND THE EXISTENCE OF ANY NOT SHOWN. CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANIES AND THE OWNER AS TO THE RELOCATION OR REMOVAL OF ANY UTILITIES SHOWN OR NOT SHOWN

SIGNATURE
DATE 03-17-2026
LICENSE EXPIRES 12-31-2026
PROFESSIONAL SEAL

DESIGNERS:

ARCHITECT:
HURST-ROSCHE, INC.
3675 W. OUTER ROAD
SUITE 205
ARNOLD, MO 63010

MEP ENGINEER:
SOLUTIONS AEC, LLC
12970 MAURER INDUSTRIAL DR.
SUITE 200
ST. LOUIS, MO 63127

PROJ. NUMBER: M2506-01
SITE NUMBER: 7390
ASSET NUMBERS: 6517390003-COTTAGE A
6517390004-COTTAGE B
6517390005-COTTAGE C
6517390006-COTTAGE D
6517390007-COTTAGE E

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3675 W. Outer Rd., Suite 205
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PROFESSIONAL DESIGN NUMBER: 2004029627

SHEET NUMBER:
G-001
1 OF 9 SHEETS
MARCH 17, 2026

HR #: 850-0495

ABBREVIATIONS

ABV	ABOVE
AFF	ABOVE FINISH FLOOR
ACC	ACCESS
AP	ACCESS PANEL
AC	ACOUSTICAL
ACT	ACOUSTICAL CEILING TILE
ADH	ADHESIVE
ADJ	ADJACENT
ADJT	ADJUSTABLE
ALT	ALTERNATE, ALTERNATIVE
AL	ALUMINUM
ANC	ANCHOR, ANCHORAGE
AB	ANCHOR BOLT
ARCH	ARCHITECT (URAL)
AD	AREA DRAIN
ASPH	ASPHALT
AUTO	AUTOMATIC
BRG	BEARING
BPL	BEARING PLATE
BM	BENCH MARK, BEAM
BEL	BELOW
BTWN	BETWEEN
BVL	BEVELED
BLK	BLOCK
BLKG	BLOCKING
BD	BOARD
BS	BOTH SIDES
BW	BOTH WAYS
BOT	BOTTOM
BLDG	BUILDING
BL	BRICK LEDGE
CAB	CABINET
CPT	CARPET (ED)
CSMT	CASEMENT
CK	CAULKING
CLG	CEILING
CEM	CEMENT
CT	CERAMIC TILE
CIR	CIRCLE
CLR	CLEAR (ANCE)
CLS	CLOSURE
COL	COLUMN
COMB	COMBINATION
COMP	COMPRESS (ED), (ION), (IBLE)
CONC	CONCRETE
CMU	CONCRETE MASONRY UNIT
CONST	CONSTRUCTION
CONT	CONTINUOUS
CONTR	CONTRACT (OR)
CJ	CONTROL JOINT
CPR	COPPER
CG	CORNER GUARD
CTR	CENTER
CFL	COUNTERFLASHING
CS	COUNTERSINK
CF	CUBIC FOOT
CY	CUBIC YARD
DL	DEAD LOAD
DEM	DEMOLISH, DEMOLITION
DTL	DETAIL
DIAM	DIAMETER
DIM	DIMENSION
DIV	DIVISION
DR	DOOR
DBL	DOUBLE
DH	DOUBLE HUNG
DWL	DOWEL(S)
DS	DOWNSPOUT
DT	DRAIN TILE
DWR	DRAWER
DWG	DRAWING

EF	EACH FACE
ELEC	ELECTRIC (AL)
EP	ELECTRICAL PANELBOARD
EL	ELEVATION
ENC	ENCLOSE (URE)
EQ	EQUAL
EQP	EQUIPMENT
EST	ESTIMATE
EXH	EXHAUST
EXG	EXISTING
EJ	EXPANSION JOINT
EXP	EXPOSED
EXT	EXTERIOR
EWF	ELECTRIC WATER FOUNTAIN
FOC	FACE OF CONCRETE
FOF	FACE OF FINISH
FOM	FACE OF MASONRY
FOS	FACE OF STUDS
FAS	FASTEN, FASTENER
FBD	FIBERBOARD
FGL	FIBERGLASS
FIN	FINISH (ED)
FFE	FINISHED FLOOR ELEVATION
FFL	FINISHED FLOOR LINE
FA	FIRE ALARM
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FPL	FIREPLACE
FP	FIREPROOF
FRT	FIRE-RETARDANT
FLG	FLASHING
FLX	FLEXIBLE
FLR	FLOOR (ING)
FD	FLOOR DRAIN
FPL	FLOOR PLATE
FLUR	FLUORESCENT
FJT	FLUSH JOINT
FTG	FOOTING
FND	FOUNDATION
FR	FRAME (D), (ING)
FS	FULL SIZE
FBO	FURNISHED BY OTHERS
FUR	FURRED (ING)
GA	GAGE, GAUGE
GALV	GALVANIZED
GC	GENERAL CONTRACT (OR)
GLF	GLASS FIBER
GB	GRAB BAR
GR	GRADE, GRADING
GVL	GRAVEL
GRT	GROUT
GYP BD	GYPSUM BOARD
HDW	HARDWARE
HWD	HARDWOOD
HDR	HEADER
HTG	HEATING
HD	HEAVY DUTY
HT	HEIGHT
HC	HOLLOW CORE
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HB	HOSE BIB
HWH	HOT WATER HEATER
IN	INCH
INCL	INCLUDING
ID	INSIDE DIAMETER
IF	INSIDE FACE
INS	INSULATE (D), (ION)
INT	INTERIOR

JT	JOINT
JF	JOINT FILLER
J	JOIST
KPL	KICKPLATE
LBL	LABEL
LBP	LEAD-BASED PAINT
LAM	LAMINATE (D)
LAV	LAVATORY
LH	LEFT HAND
L	LENGTH
LT	LIGHT
LW	LIGHTWEIGHT
LF	LINEAL FEET
LTL	LINTEL
LL	LIVE LOAD
LVR	LOUVER
LPT	LOW POINT
MFR	MANUFACTURE (ER)
MAS	MASONRY
MO	MASONRY OPENING
MAX	MAXIMUM
MECH	MECHANICAL
MED	MEDIUM
MBR	MEMBER
MMB	MEMBRANE
MTL	METAL
MWK	MILLWORK
MIN	MINIMUM
MISC	MISCELLANEOUS
MLD	MOLDING, MOULDING
MT	MOUNT (ED), (ING)
MOV	MOVABLE
MULL	MULLION
NAT	NATURAL
NOM	NOMINAL
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OC	ON CENTER
OPG	OPENING
OPP	OPPOSITE
OD	OUTSIDE DIAMETER
OA	OVERALL
OH	OVERHEAD
P	PAINT (ED)
PNL	PANEL
PAR	PARALLEL
PK	PARKING
PTN	PARTITION
PERF	PERFORATE (D)
PERI	PERIMETER
PLAS	PLASTER
PLAM	PLASTIC LAMINATE
PL	PLATE
PWD	PLYWOOD
PT	POINT
PORC.	PORCELAIN
PVC	POLYVINYL CHLORIDE
PCF	POUNDS PER CUBIC FOOT
PLF	POUNDS PER LINEAL FOOT
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PFB	PREFABRICATE (D)
PFN	PREFINISHED
PRF	PREFORMED
PL	PROPERTY LINE

RAD	RADIUS
RAN	RANGE
RL	RAIL (ING)
RE	REFERENCE
REF	REFRIDGERATOR
RFL	
REINF	REINFORCE (D), (ING)
REM	REMOVE
RES	RESILIENT
RA	RETURN AIR
RVS	REVERSE (SIDE)
REV	
RH	RIGHT HAND
RFG	ROOFING
RM	ROOM
RO	ROUGH OPENING
RB	RUBBER BASE
SCH	SCHEDULE
S	SEALER
SEC	SECTION
SHTG	SHEATHING
SHT	SHEET
SH	SHELF, SHELVING
SIM	SIMILAR
SL	SLEEVE
SC	SOLID CORE
SPL	SPECIAL
SPEC	SPECIFICATIONS
SQ	SQUARE
SF	SQUARE FOOT
SY	SQUARE YARD
S&V	
SST	STAINLESS STEEL
STD	STANDARD
STL	STEEL
STO	STORAGE
STRUCT	STRUCTURAL
SYM	SYMMETRY (ICAL)
SYS	SYSTEM
TEL	TELEPHONE
TV	TELEVISION
THK	THICK (NESS)
THR	THRESHOLD
TOL	TOLERANCE
T&G	
T.STL	TOP OF STEEL
TSL	TOP OF SLAB
TFTG	TOP OF FOOTING
TYP	TYPICAL
UC	UNDERCUT
UNF	UNFINISHED
VJ	V-JOINT (ED)
VB	VAPOR BARRIER
VAR	VARNISH
VNR	VENEER
VERT	VERTICAL
WP	WATERPROOFING
WR	WATER REPELLENT
WS	WATERSTOP
WWF	
W	WIDTH, WIDE
W/	WITH
WDW	WINDOW
W/O	WITHOUT
WD	WOOD
WB	WOOD BASE

GENERAL NOTES:

1. CONTRACTOR SHALL COORDINATE ALL WORK WITH THE OWNER, ARCHITECT/ENGINEER, AND OTHER TRADES/CONTRACTORS THROUGHOUT THE COURSE OF THE PROJECT.
2. CONTRACTOR SHALL COORDINATE WITH THE OWNER FOR ALL OWNER RELATED SCHEDULES, PROCEDURES, CLEARANCES & REQUIREMENTS TO ACCESS THE OWNER'S FACILITIES. SUCH PROCEDURES ARE INCIDENTAL TO THE CONTRACT AND SHALL NOT RESULT IN EXTRA COSTS TO THE OWNER.
3. THE CONTRACTOR SHALL COORDINATE ALL WORK WITH THE OWNER PRIOR TO STARTING WORK.
4. THE CONTRACTOR SHALL TAKE NOTE OF ALL EXISTING SITE CONDITIONS AND BE PREPARED TO MOVE OR DISPOSE OF OBJECTS OR MATERIALS WITHIN THE LIMITS OF THE PROJECT. SUCH WORK SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN THE SCOPE.
5. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS AND MAKE MINOR ADJUSTMENTS AS NECESSARY. NOTIFY THE ARCHITECT/ENGINEER OF ANY DISCREPANCIES WHICH MAY AFFECT THE OUTCOME OF THE WORK. DIMENSIONS SHOWN ARE FROM FACE OF FINISH TO FACE OF FINISH UNLESS NOTED OTHERWISE.
6. DIMENSIONS AND QUANTITIES NOTED ON DRAWINGS ARE FOR GENERAL INFORMATION ONLY. PRIOR TO SUBMITTING A BID PROPOSAL, THE CONTRACTOR SHALL THOROUGHLY SURVEY THE EXISTING SITE TO VERIFY EXISTING DIMENSIONS, CONDITIONS, AND DETERMINE ALL MATERIALS, LABOR, AND INCIDENTALS NEEDED FOR COMPLETION OF THE INTENDED CONSTRUCTION. THE CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND FIELD CONDITIONS PRIOR TO FABRICATION OR CONSTRUCTION; MAKE MINOR ADJUSTMENTS; AND NOTIFY THE ARCHITECT/ENGINEER OF ANY CONDITIONS THAT MAY AFFECT THE OUTCOME OF THE WORK.
7. AFTER ALL WORK IS COMPLETED, CONTRACTOR SHALL CLEAN WORK AREAS SO THAT THEY ARE FREE OF ANY CONSTRUCTION MATERIALS, TOOL, DIRT AND DEBRIS. FINE GRADE, FERTILIZE, SEED AND STRAW ALL DISTURBED LAWN AREAS.
8. EXISTING SITE IMPROVEMENTS DISTURBED OUTSIDE THE DESIGNATED CONSTRUCTION AREAS ARE TO BE REPLACED WITH EQUAL OR BETTER CONSTRUCTION AT THE EXPENSE OF THE CONTRACTOR. EVERY EFFORT SHALL BE MADE TO MINIMIZE SUCH DISTURBANCES.
9. INFORMATION NOTED ON DRAWINGS ARE FOR GENERAL INFORMATION ONLY. CONTRACTOR SHALL BE RESPONSIBLE FOR THE ENTIRE LAYOUT OF THE SITES AND ALL LOCATION AND DEPTHS OF EXISTING UTILITIES/COMMUNICATION LINES AND REQUIRED CLEARANCES VERTICAL/HORIZONTAL. CONTRACTOR SHALL MAKE ADJUSTMENTS TO ENSURE PROPER INSTALLATION OF REQUIRED WORK AT NO EXTRA COST TO THE OWNER.
10. EXISTING SITE VEGETATION AND CONSTRUCTION, SUCH AS SIDEWALKS, STOOPS, ETC., THAT ARE DISTURBED AND/OR DAMAGED DURING CONSTRUCTION SHALL BE REPLACED WITH EQUAL OR BETTER CONSTRUCTION AT THE EXPENSE OF THE CONTRACTOR. EVERY EFFORT SHALL BE MADE TO MINIMIZE SUCH DISTURBANCES AND DAMAGES.
11. ALL ITEMS NOTED TO REMAIN SHALL NOT BE DISTURBED AND SHALL REMAIN IN PLACE. CONTRACTOR SHALL MAKE EVERY EFFORT TO MINIMIZE ANY DISTURBANCES. IN THE EVENT EXISTING ITEMS ARE DISTURBED, CONTRACTOR SHALL REPAIR/REPLACE WITH EQUAL OR BETTER CONSTRUCTION AT THE CONTRACTOR'S EXPENSE.
12. PRIME CONTRACTOR FOR EACH BID SHALL COORDINATE REMOVAL, HAULING, AND LEGAL DISPOSAL OF ALL MATERIALS WITH SUBCONTRACTORS.
13. CONTRACTOR SHALL MAINTAIN PROJECT SITE FREE FROM CONSTRUCTION DEBRIS AS REQUIRED BY THE OWNER. COORDINATE WITH THE OWNER.
14. ALL REFUSE AND DEBRIS SHALL BE REMOVED FROM THE SITE AND LEGALLY DISPOSED OF BY THE CONTRACTOR. GENERAL CONTRACTOR SHALL COORDINATE REMOVAL, HAULING, AND LEGAL DISPOSAL OF ALL MATERIALS WITH SUBCONTRACTORS. CLEAN ALL WORK AREAS DAILY.
15. AFTER ALL WORK IS COMPLETED, CONTRACTOR SHALL CLEAN ALL AREAS AFFECTED BY CONSTRUCTION SO THAT THEY ARE FREE OF ANY CONSTRUCTION DIRT AND DEBRIS.
16. GRADE, SEED AND STRAW ANY SITE AREAS DISTURBED BY CONSTRUCTION OF THIS PROJECT IN ANY WAY.
17. NEW WORK SHALL MATCH EXISTING ADJOINING CONSTRUCTION FOR A SMOOTH TRANSITION, EXCEPT WHERE NOTED.
18. PROTECT EXISTING UTILITIES DURING CONSTRUCTION.
19. CONTRACTOR SHALL NOTIFY OWNER AND ARCHITECT/ENGINEER PRIOR TO USE OF ANY SCAFFOLDING, LIFTS, SWING STAGES, ETC. USE OF SUCH MATERIALS AND EQUIPMENT SHALL MEET ALL FEDERAL, STATE, AND LOCAL SAFETY REGULATIONS AND ORDINANCES.
20. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL BUILDING/WORK PERMITS AND CERTIFICATION REQUIREMENTS. SUBMIT COPIES OF ALL PERMITS/CERTIFICATIONS TO THE ARCHITECT/ENGINEER AND OWNER.
21. RECONNECT ALL ITEMS THAT WERE DISCONNECTED DURING CONSTRUCTION. ENSURE ALL CONNECTIONS ARE SAFE AND WEATHER-TIGHT.
22. ALL WORK PERFORMED & MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE W/ ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY BEARING ON THE PERFORMANCE OF THE WORK. MECHANICAL AND ELECTRICAL SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL OR STATED JURISDICTIONAL CODES, ORDINANCES AND REGULATIONS.
23. THE TERM ARCHITECT, ENGINEER OR CONSULTANT ARE ALL SYNONYMOUS WITH THE TERM DESIGNER.
24. IF DISCREPANCY ARISES BETWEEN INFORMATION IN THE SPECIFICATIONS AND THE INFORMATION ON THE DRAWINGS, THE MORE STRINGENT CONDITION SHALL APPLY.

ADD ASHRAE / APIC REQUIRED INFECTION CONTROL PRECAUTIONS:

	DURING CONSTRUCTION PROJECT	UPON COMPLETION OF PROJECT
CLASS II	1. PROVIDE ACTIVE MEANS TO PREVENT AIRBORNE DUST FROM DISPERSING INTO ATMOSPHERE. 2. WATER MIST WORK SURFACES TO CONTROL DUST WHILE CUTTING. 3. SEAL UNUSED DOORS WITH DUCT TAPE. 4. BLOCK OFF AND SEAL AIR VENTS. 5. PLACE DUST MAT AT ENTRANCE AND EXIT OF WORK AREA. 6. REMOVE OR ISOLATE HVAC SYSTEM IN AREAS WHERE WORK IS BEING PERFORMED.	1. WIPE WORK SURFACES WITH DISINFECTANT. 2. CONTAIN CONSTRUCTION WASTE BEFORE TRANSPORT IN TIGHTLY COVERED CONTAINERS. 3. WET MOP AND/OR VACUUM WITH HEPA FILTERED VACUUM BEFORE LEAVING WORK AREA. 4. REMOVE ISOLATION OF HVAC SYSTEM IN AREAS WHERE WORK IS BEING PERFORMED.

PLASTIC BARRIER TO BE PLACED DURING DRYWALL CUTTING IN ALL AREAS.

BARRIERS NEED TO BE FROM FLOOR TO CEILING AND TAPED TO THE FLOOR.

CODES ADOPTED BY ST. LOUIS COUNTY:

(1) INTERNATIONAL BUILDING CODE (IBC), 2015 EDITION, AS PUBLISHED BY THE ICC;
(2) NATIONAL ELECTRIC CODE (NEC), 2014 EDITION;
(3) INTERNATIONAL EXISTING BUILDING CODE (IEBC), 2015 EDITION, AS PUBLISHED BY THE ICC;
(4) INTERNATIONAL RESIDENTIAL CODE (IRC) FOR ONE- AND TWO-FAMILY DWELLINGS, 2015 EDITION, AS PUBLISHED BY THE ICC;
(5) INTERNATIONAL MECHANICAL CODE (IMC), 2015 EDITION, AS PUBLISHED BY THE ICC;
(6) INTERNATIONAL FUEL GAS CODE, 2015 EDITION (IMC), AS PUBLISHED BY THE ICC;
(7) INTERNATIONAL ENERGY CONSERVATION CODE (IBC/IMC), 2015 EDITION, AS PUBLISHED BY THE ICC;
(8) INTERNATIONAL PROPERTY MAINTENANCE CODE (IPMC), 2015 EDITION, AS PUBLISHED BY THE ICC;
(9) INTERNATIONAL FIRE CODE (IFC), 2015 EDITION, AS PUBLISHED BY THE ICC;
(10) UPC PLUMBING CODE (UPC), 2015 EDITION, AS PUBLISHED BY THE IAPMO;

COORDINATE WITH TECH ELECTRONICS TO COMPLETE FIRE ALARM WORK, 1.866.300.5031.

NOTE:
ALL FASTENERS USED FOR INSTALLATION OF DEVICES ARE TO BE TAMPER PROOF:
TORX PRODUCTS
1908 PRODUCTION COURT LOUISVILLE, KY 40299
SALES@TORXPRODUCTS.COM
PHONE - 800-684-9832 EXT. 2
FAX - 502-491-3327

STATE OF MISSOURI
MIKE KEHOE,
GOVERNOR

SIGNATURE
03-17-2026
DATE
12-31-2026
LICENSE EXPIRES
PROFESSIONAL SEAL

Hurst–Rosche, Inc.
PROFESSIONAL DESIGN NUMBER: 000660
3675 W. Outer Road, Suite 205
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www.hurst–rosche.com
HILLSBORO, IL
EAST ST. LOUIS, IL
MARION, IL
SPRINGFIELD, IL
NASHVILLE, TN

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12970 Maurer Industrial Drive
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(314) 966.6299

PROFESSIONAL DESIGN NUMBER: 2004029627

OFFICE OF ADMINISTRATION
DIVISION OF FACILITIES MANAGEMENT,
DESIGN AND CONSTRUCTION
DEPARTMENT OF MENTAL HEALTH

REPLACE HVAC & MECHANICAL ROOM DOORS, COTTAGES A - E
HAWTHORN CHILDREN'S PSYCHIATRIC HOSPITAL
1901 PENNSYLVANIA AVENUE
ST. LOUIS, MISSOURI 63133

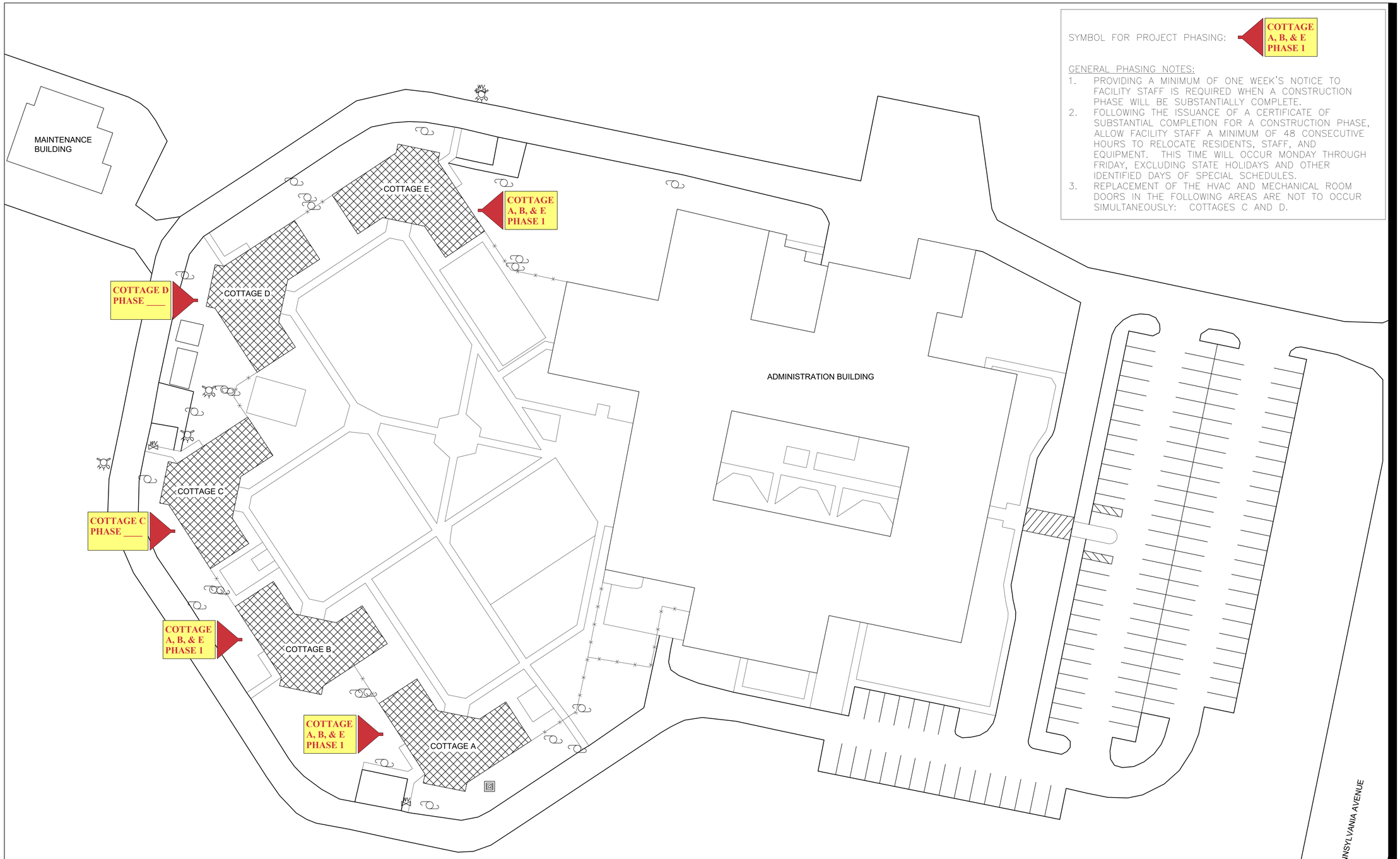
PROJECT # M2506-01
SITE # 7390
ASSET # 6517390003-7

REVISION: ____
DATE: ____
REVISION: ____
DATE: ____
REVISION: ____
DATE: ____
ISSUE DATE: 03/17/2026

CAD DWG FILE: G-002.DWG
DRAWN BY: AJD/JSM
CHECKED BY: BGE
DESIGNED BY: BGE

SHEET TITLE:
GENERAL NOTES, ABBREVIATIONS, AND CODES

SHEET NUMBER:
G-002



SYMBOL FOR PROJECT PHASING: COTTAGE A, B, & E PHASE 1

GENERAL PHASING NOTES:

1. PROVIDING A MINIMUM OF ONE WEEK'S NOTICE TO FACILITY STAFF IS REQUIRED WHEN A CONSTRUCTION PHASE WILL BE SUBSTANTIALLY COMPLETE.
2. FOLLOWING THE ISSUANCE OF A CERTIFICATE OF SUBSTANTIAL COMPLETION FOR A CONSTRUCTION PHASE, ALLOW FACILITY STAFF A MINIMUM OF 48 CONSECUTIVE HOURS TO RELOCATE RESIDENTS, STAFF, AND EQUIPMENT. THIS TIME WILL OCCUR MONDAY THROUGH FRIDAY, EXCLUDING STATE HOLIDAYS AND OTHER IDENTIFIED DAYS OF SPECIAL SCHEDULES.
3. REPLACEMENT OF THE HVAC AND MECHANICAL ROOM DOORS IN THE FOLLOWING AREAS ARE NOT TO OCCUR SIMULTANEOUSLY: COTTAGES C AND D.

UNDERGROUND UTILITY NOTE

ANY UNDERGROUND FACILITIES, STRUCTURES, OR UTILITIES THAT HAVE BEEN PLOTTED AND SHOWN FROM AVAILABLE INFORMATION AND RECORDS. THEREFORE, THEIR LOCATION AND RELATIONSHIP TO NEW PROPOSED WORK MUST BE CONSIDERED APPROXIMATE ONLY. THE VERIFICATION OF THE LOCATION OF UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THE PLANS, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE LOCATED PRIOR TO ANY WORK. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY ALL THE LOCAL GOVERNING AGENCIES AND UTILITY COMPANIES PRIOR TO CONSTRUCTION TO DETERMINE THEIR UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES EXACT LOCATION AND THE EXISTENCE OF ANY NOT SHOWN. CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANIES AND THE OWNER AS TO THE RELOCATION OR REMOVAL OF ANY UTILITIES SHOWN OR NOT SHOWN. THE ENGINEER/ARCHITECT AND THE OWNER DO NOT WARRANT OR GUARANTEE THE COMPLETENESS OR THE CORRECTNESS OF THE INFORMATION GIVEN.

MISSOURI ONE CALL SYSTEM, INC. 1-800-344-7483 STOP. CALL BEFORE YOU DIG!

LEGEND

- WATER VALVE (WV)
- WATER HYDRANT
- LIGHT POLE
- STORMWATER INLET
- FENCE
- WORK AREA

30 0 30

SCALE: 1" = 30'

STATE OF MISSOURI
MIKE KEHOE,
GOVERNOR

STATE OF MISSOURI GREGORY EMMONS A-4755 REGISTERED ARCHITECT

SIGNATURE

DATE 03-17-2026

LICENSE EXPIRES 12-31-2026

PROFESSIONAL SEAL

Hurst–Rosche, Inc.
PROFESSIONAL DESIGN NUMBER: 000660
3675 W. Outer Road, Suite 205
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1901 PENNSYLVANIA AVENUE
ST. LOUIS, MISSOURI 63133

PROJECT # M2506-01
SITE # 7390
ASSET # 6517390003-7

REVISION:
DATE:
REVISION:
DATE:
REVISION:
DATE:
ISSUE DATE: 03/17/2026

CAD DWG FILE: C-101.DWG
DRAWN BY: JMA
CHECKED BY:
DESIGNED BY:

SHEET TITLE:

COTTAGES A - E SITE PLAN

SHEET NUMBER:

C-101

3 OF 9 SHEETS
03/17/2026

DOOR SCHEDULE

DOOR									FIRE RATING	REMARKS
#	LOCATION	SIZE	TYPE	MAT.	FINISH	FRAME	HEAD	JAMB		
118	MECHANICAL ROOM	3'-0" x 7'-0" x 1 3/4"	D-1	HM	PAINT	F-1	H-1	J-1	.	1

1. BASIS-OF-DESIGN: CURRIES SERIES 707; COMPARABLE PRODUCT FROM CECO OR STEELCRAFT.
2. SEE SPECIFICATION FOR COATING (PAINT)

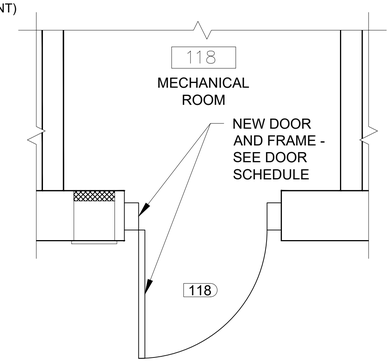
NOTE:
CONTRACTOR TO FIELD VERIFY EXISTING CONDITIONS BEFORE ORDERING MATERIALS. FIELD VERIFY DOOR JAMB TYPE AND ATTACHMENT METHOD, TYPICAL.

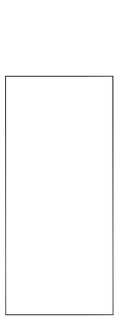
REFLECTED CEILING PLAN NOTES (#)

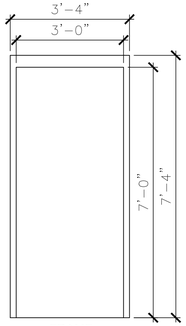
1. BLOCK OFF EXISTING WALL LOUVRE VENT FROM INSIDE ROOM.
2. AREA OF 5/8" DRYWALL CEILINGS TO BE OPENED TO ACCESS DUCTWORK, THEN REPLACED WITH NEW 5/8" DRYWALL AND PAINT. ALLOW 200 SQ. FT. OF GYP. BD. REPAIR AND 600 SQ. FT. TO BE PAINTED FOR BIDDING PURPOSES.

KEY TO CEILING FINISHES

- UNFINISHED DRYWALL CEILING
- PLASTER CEILING
- FINISHED DRYWALL CEILING
- CEILING TO BE PAINTED

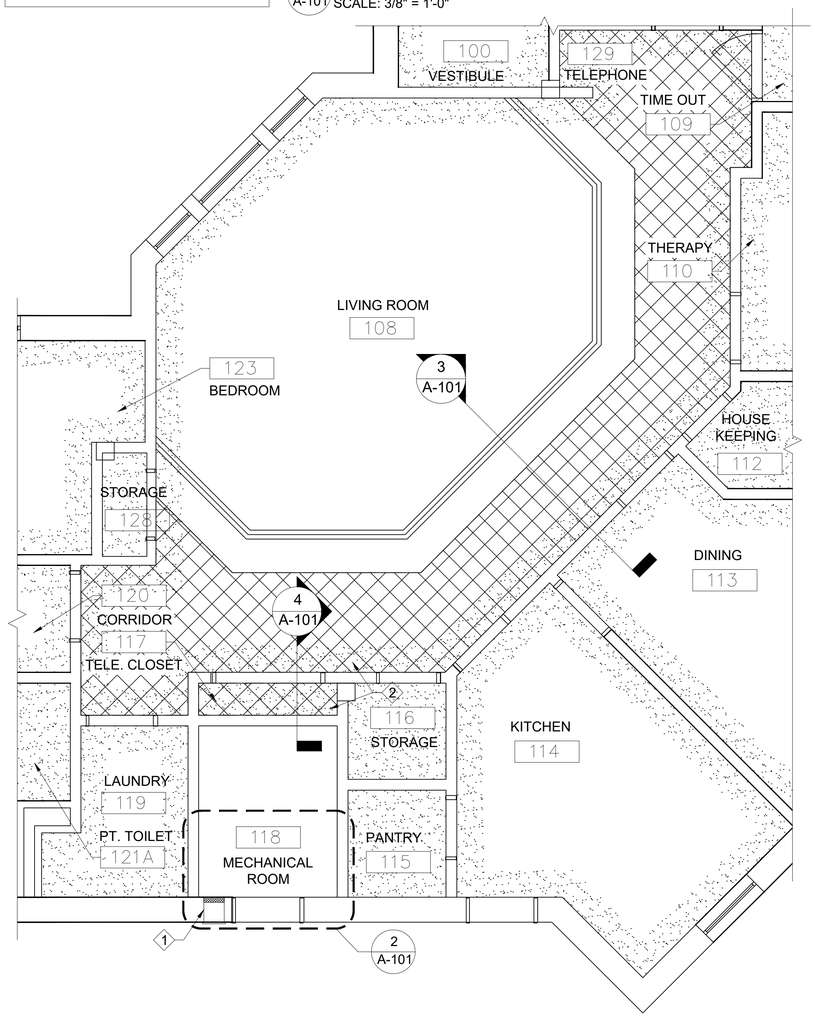



DOOR D-1

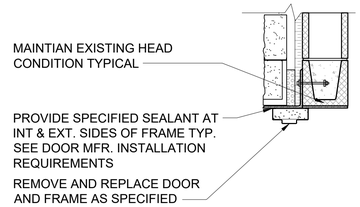


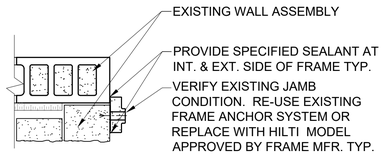
FRAME F-1

2 A-101 PARTIAL FLOOR PLAN - MECH. ROOM
SCALE: 3/8" = 1'-0"



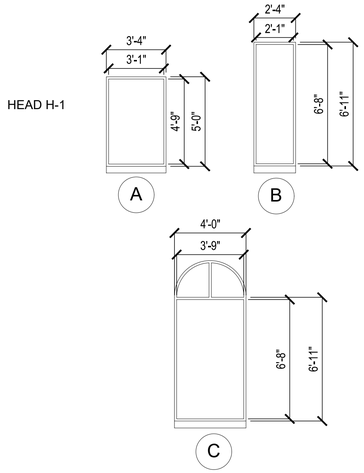
1 A-101 PARTIAL RCP - COTTAGE (TYP. OF 5)
SCALE: 3/16" = 1'-0"

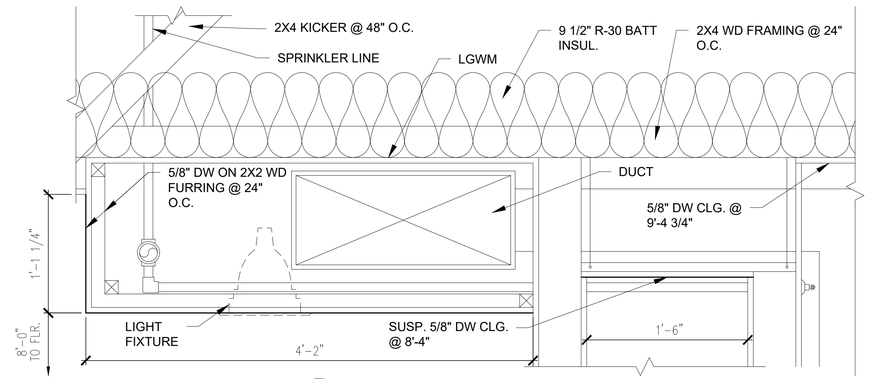




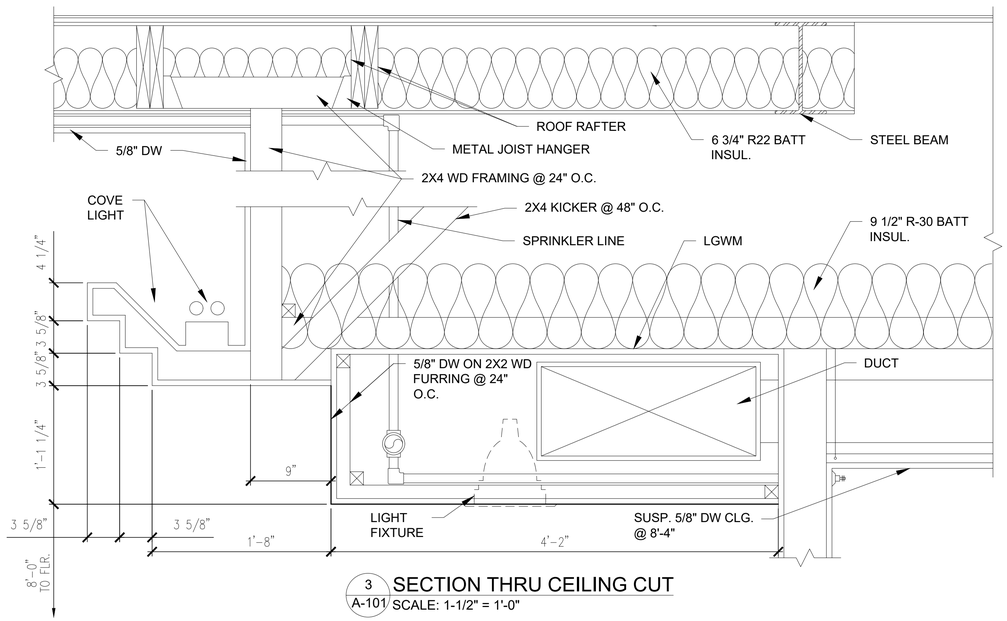
JAMB J-1

5 A-101 DOOR JAMB & HEAD DETAILS
SCALE: 1" = 1'-0"





4 A-101 SECTION THRU CEILING CUT
SCALE: 1-1/2" = 1'-0"



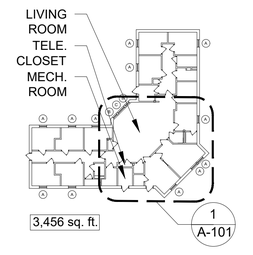
3 A-101 SECTION THRU CEILING CUT
SCALE: 1-1/2" = 1'-0"

REMOVE& REPLACE INTERIOR & EXTERIOR PERIMETER BACKER AND SEALANT AT WINDOWS, AS SPECIFIED.

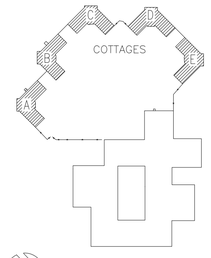
EVENLY REDISTRIBUTE EXISTING BLANKET INSULATION ATTIC SPACE. EXTEND INSULATION TO ENVELOP ENTIRE AREA OF ATTIC. FIT TIGHTLY AROUND OBSTRUCTIONS AND FILL VOIDS WITH INSULATION. REMOVE PROJECTIONS THAT INTERFERE WITH PLACEMENT. INSTALL INSULATION IN MISCELLANEOUS VOIDS AND CAVITY SPACES WHERE REQUIRED TO PREVENT GAPS IN INSULATION.

.

PROVIDE ADDITIONAL 6 INCHES OF LOOSE-FILL INSULATION. APPLY ACCORDING TO ASTM C1015 AND MANUFACTURER'S WRITTEN INSTRUCTIONS. LEVEL HORIZONTAL APPLICATIONS TO UNIFORM THICKNESS, LIGHTLY SETTLE TO UNIFORM DENSITY, BUT DO NOT COMPACT EXCESSIVELY.



TYP. COTTAGE KEY PLAN



SITE KEY PLAN

STATE OF MISSOURI
MIKE KEHOE, GOVERNOR

STATE OF MISSOURI GREGORY EMMONS A-5755 REGISTERED ARCHITECT

SIGNATURE
DATE 03-17-2026
LICENSE EXPIRES 12-31-2026
PROFESSIONAL SEAL

Hurst–Rosche, Inc.
PROFESSIONAL DESIGN NUMBER: 000660
3675 W. Outer Road, Suite 205
Arnold, MO 63010
636.333.3351 t
www.hurst–rosche.com

HILLSBORO, IL
EAST ST. LOUIS, IL
MARION, IL
SPRINGFIELD, IL
NASHVILLE, TN

SOLUTIONS AEC
OPTIMIZING THE BUILT ENVIRONMENT
12970 Maurer Industrial Drive
Suite 200
St. Louis, MO 63127
(314) 966.6299

PROFESSIONAL DESIGN NUMBER: 2004029627

OFFICE OF ADMINISTRATION
DIVISION OF FACILITIES MANAGEMENT, DESIGN AND CONSTRUCTION
DEPARTMENT OF MENTAL HEALTH

REPLACE HVAC & MECHANICAL ROOM DOORS, COTTAGES A - E
HAWTHORN CHILDREN'S PSYCHIATRIC HOSPITAL
1901 PENNSYLVANIA AVENUE
ST. LOUIS, MISSOURI 63133

PROJECT # M2506-01
SITE # 7390
ASSET # 6517390003-7

REVISION: DATE:
REVISION: DATE:
REVISION: DATE:
ISSUE DATE: 03/17/2026

CAD DWG FILE: A-101.DWG
DRAWN BY: AJD/JSM
CHECKED BY: BGE
DESIGNED BY: BGE

SHEET TITLE:
COTTAGES A-E PARTIAL CEILING AND DOOR DETAILS

SHEET NUMBER:
A-101

4 OF 9 SHEETS
03/17/2026

POWER SYMBOLS LEGEND

- JUNCTION BOX, WALL, CEILING OR ABOVE CEILING MOUNTED
- DISCONNECT SWITCH - FUSED, NON-FUSED, SNAP
- MOTOR STARTER - MANUAL, MAGNETIC, OR COMBINATION MAGNETIC WITH DISCONNECT SWITCH
- MOTOR
- PUSH BUTTON
- ELECTRICAL SERVICE METER
- PANELBOARD (WITH NEC WORKING CLEARANCE)

ABBREVIATIONS

A	-	AMPS
AHJ	-	AUTHORITY HAVING JURISDICTION
AHU	-	AIR HANDLING UNIT
BAS	-	BUILDING AUTOMATION SYSTEM
CD	-	CONDENSATE DRAIN
CFM	-	CUBIC FEET PER MINUTE
CPVC	-	CHLORINATED PVC
DCW	-	DOMESTIC COLD WATER
DHW	-	DOMESTIC HOT WATER
DHWR	-	DOMESTIC HOT WATER RETURN
DWH	-	DOMESTIC WATER HEATER
EAT	-	ENTERING AIR TEMPERATURE
EC	-	ELECTRICAL CONTRACTOR
EDB	-	ENTERING DRY BULB TEMPERATURE
EF	-	EXHAUST FAN
EH	-	ELECTRIC HEATER
EM	-	EQUIPMENT MANUFACTURER
ESP	-	EXTERNAL STATIC PRESSURE
EWB	-	ENTERING WET BULB TEMPERATURE
EXG	-	EXISTING
F	-	FURNACE
F/SD	-	FIRE/SMOKE DAMPER
FAC	-	FIRE ALARM CONTRACTOR
FD	-	FIRE DAMPER
FFJ	-	FOIL FACED JACKET
FGB	-	FIBERGLASS BOARD INSULATION
FLA	-	FULL LOAD AMPS
G	-	NATURAL GAS
GA	-	GAGE (GAUGE)
GALV	-	GALVANIZED
GC	-	GENERAL CONTRACTOR
GHP	-	GROUP HOME PANEL
GHEP	-	GROUP HOME ELECTRICAL PANEL
HG	-	HOT GAS (REFRIGERANT)
HP	-	HORSE POWER
L	-	WALL LOUVER
LAT	-	LEAVING AIR TEMPERATURE
LDB	-	LEAVING DRY BULB TEMPERATURE
LWB	-	LEAVING WET BULB TEMPERATURE
M	-	MOTORIZED
MA	-	MIXED AIR
MAT.	-	MATERIAL
MBH	-	1000 BTUH
MC	-	MECHANICAL CONTRACTOR
MCA	-	MINIMUM CIRCUIT AMPS
NIC	-	NOT IN CONTACT
NTS	-	NOT TO SCALE
OA	-	OUTSIDE AIR
PC	-	PLUMBING CONTRACTOR
RA	-	RETURN AIR
RL	-	REFRIGERANT LIQUID
SA	-	SUPPLY AIR
SCH	-	SCHEDULE
SWLD	-	SOLVENT WELD
T	-	THERMOSTAT
T/S	-	PIPE TYPE OR SCHEDULE
TAB	-	TESTING, ADJUSTING, AND BALANCING
TMV	-	THERMOSTATIC MIXING VALVE
UNO	-	UNLESS NOTED OTHERWISE
V	-	VOLTS
W	-	WATTS
WC	-	WATER COLUMN
WT	-	WEIGHT (OR DENSITY)

SYMBOLS LEGEND

- EXISTING TO NEW INTERFACE
- SUPPLY DUCT UP
- SUPPLY DUCT DOWN
- RETURN DUCT UP
- RETURN DUCT DOWN
- SPACE TEMPERATURE SENSOR
- KEYNOTE
- REVISION

PLUMBING GENERAL NOTES

A. INSTALL ALL PLUMBING SYSTEMS TO COMPLY WITH THE INTERNATIONAL PLUMBING CODE.

B. INSTALL ALL PLUMBING SYSTEMS AND EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

C. PROVIDE WATER TEST ON WATER SUPPLY SYSTEM WITH ALL APPROPRIATE PERSONS IN ATTENDANCE. ENSURE ALL WATER SUPPLY SYSTEMS ARE PH BALANCED AND DISINFECTED PROPERLY IN ACCORDANCE WITH THE PLUMBING CODE(S) BEFORE FINAL ACCEPTANCE.

D. PROVIDE CLEARANCE FOR INSTALLATION OF INSULATION AND ACCESS TO VALVES AND FITTINGS. PIPING NOT TO BE LOCATED IN THE DEDICATED ELECTRICAL SPACE 6'-0" ABOVE THE ELECTRICAL PANELS.

E. PROVIDE DIELECTRIC UNIONS OR DIELECTRIC SEPARATION CONNECTOR FOR CONNECTIONS OF DISSIMILAR MATERIALS.

F. INSULATE ALL DOMESTIC HOT WATER, COLD WATER, AND HOT WATER RETURN PER SPECIFICATIONS.

G. ROUTING AND FINAL COORDINATION IS BY INSTALLING CONTRACTOR. PIPING SHOWN IS DIAGRAMMATIC IN NATURE ONLY.

H. ALL PIPING, VALVES, AND PIPING COMPONENTS INSTALLED IN DOMESTIC WATER LINES SHALL BE RATED FOR POTABLE WATER USE EXCEPT WHERE PIPING SYSTEMS ARE INDICATED FOR NON-POTABLE WATER USE.

I. PROVIDE QUARTER TURN BALL, STOP OR BUTTERFLY TYPE VALVES FOR SHUT-OFF ISOLATION VALVES AT PIPING CONNECTION TO ALL EQUIPMENT OR WHERE INDICATED ON DRAWINGS.

MECHANICAL GENERAL NOTES

A. UNLESS NOTED OTHERWISE, THE MECHANICAL / BAS (BUILDING AUTOMATION SYSTEM) CONTROL CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE ALL NECESSARY TEMPERATURE CONTROLS, CONTROLLERS, CONTROL INTERFACE DEVICES (DEVICES ALLOWING DIFFERENT CONTROL COMPONENTS TO COMMUNICATE WITH EACH OTHER), DAMPERS, CONTROL VALVES, THERMOSTATS, SENSORS, RELAYS, SWITCHES, ACTUATORS, TRANSFORMERS, AND CONTROL WIRING AND CONDUIT SYSTEMS REQUIRED TO PROVIDE THE SPECIFIED SEQUENCE OF OPERATIONS.

B. INSTALL ALL MECHANICAL SYSTEMS AND EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

C. SYSTEMS SHOWN ARE DIAGRAMMATIC AND GIVE THE GENERAL ARRANGEMENT ONLY. EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD.

D. COORDINATE INSTALLATION OF EQUIPMENT AND MATERIALS WITH ALL TRADES.

E. ALL PIPING, DUCTWORK, AND EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE INTERNATIONAL MECHANICAL CODE.

F. ALL EQUIPMENT PROVIDED MUST COMPLY WITH ASHRAE STANDARD 90.1.

G. ALL CONSTRUCTION SHALL CONFORM TO NFPA 90A FOR FIRE AND SMOKE RATINGS.

H. ALL AIR MOVING EQUIPMENT HANDLING OVER 2,000 CFM OF AIR, AND CAPABLE OF SPREADING SMOKE FROM ONE COMPARTMENT TO ANOTHER, SHALL HAVE A SMOKE DETECTOR WIRED TO SHUT DOWN THAT PIECE OF EQUIPMENT IN CASE OF FIRE.

I. ALL POWER WIRING, DISCONNECT SWITCHES, AND MOTOR STARTERS SHALL BE FURNISHED AND INSTALLED BY E.C., UNLESS THEY ARE INCLUDED WITH THE EQUIPMENT AS INDICATED ON THE DRAWINGS AND IN THE SPECIFICATIONS.

J. PRESSURE TEST ALL GAS PIPING SYSTEMS TO 100 PSIG OR 1.5 TIMES THE SYSTEM OPERATING PRESSURE, WHICHEVER IS GREATER, FOR A PERIOD OF 24 HOURS.

K. PROVIDE P-TRAPS WITH CLEANOUT ON ALL AIR HANDLING EQUIPMENT CONDENSATE DRAIN CONNECTIONS. SEE DETAILS ON DRAWINGS.

L. THE M.C. SHALL BE RESPONSIBLE FOR PROVIDING ANY AND ALL INTERFACE WIRING REQUIRED BETWEEN THE TEMPERATURE CONTROL SYSTEM AND THE FIRE ALARM SYSTEM, INCLUDING EXISTING RETURN DUCT SMOKE DETECTORS TO BE RECONNECTED. THE FIRE ALARM CONTRACTOR SHALL PROVIDE THE INTERFACE TERMINALS AS A PART OF THE FIRE ALARM SYSTEM AS REQUIRED TO PROVIDE THE SPECIFIED SEQUENCE OF OPERATION, AS PART OF SEPARATE ONGOING FIRE ALARM SCOPE.

M. WHERE AUXILIARY CONTACTS ARE REQUIRED IN STARTERS PROVIDED BY THE E.C., THE M.C. SHALL COORDINATE THE QUANTITY AND TYPE OF CONTACTS WITH THE E.C. PRIOR TO PURCHASE.

N. ALL DAMPERS ON THE INLET OR OUTLET OF THE FAN SHALL BE OPEN PRIOR TO STARTING THE FAN. PROVIDE ANY TIME DELAYS OR END SWITCHES AS REQUIRED.

O. THE M.C. SHALL HAVE THE FINAL RESPONSIBILITY FOR SYSTEM START UP, TRAINING, WARRANTY AND TURN OVER TO THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTRUCTING THE OWNER ON ANY ROUTINE MAINTENANCE REQUIRED DURING THE WARRANTY PERIOD.

P. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE SERVICE ACCESS FOR ALL EQUIPMENT WITH OTHER TRADES TO MAINTAIN PROPER CLEARANCES FOR EQUIPMENT MAINTENANCE AND OPERATION. MAINTAIN AT LEAST 36" CLEAR IN FRONT OF ALL POWER AND CONTROL PANELS.

Q. PROVIDE LAMINATED EQUIPMENT IDENTIFICATION TAG LABELS SECURED TO ALL MECHANICAL EQUIPMENT. PROVIDE WHITE ROUND PLASTIC CEILING MARKER (TACK) IN LAY IN CEILINGS TO IDENTIFY WHERE ABOVE CEILING EQUIPMENT IS LOCATED.

R. PITCH ALL CONDENSATE PIPING NO LESS THAN 1/8" PER 1'-0" TOWARD FLOOR DRAINS.

S. FLEXIBLE CONNECTIONS ON EQUIPMENT SHALL NOT BE USED TO CORRECT MISALIGNMENT OF EQUIPMENT AND PIPING.

T. PROVIDE ANTI-LIGATURE COVER ON ALL NEW THERMOSTATS.

SHEETMETAL NOTES

A. ALL SHEETMETAL DUCTWORK SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH IMC, ASHRAE AND THE LATEST ADDITION OF SMACNA.

B. ALL MOTORIZED DAMPERS SHALL BE EQUAL TO RUSKIN "CD36" WITH BLADE SEALS AND STAINLESS STEEL JAMB WITH JAMB SEALS.

C. ALL MANUAL VOLUME DAMPERS SHALL BE EQUAL TO RUSKIN "MDRS OR MD25" WITH LOCKING QUADRANTS.

D. ALL DUCTWORK SHALL BE SUPPORTED FROM BOTTOM CHORD OF STRUCTURAL STEEL. NO HANGING WILL BE ALLOWED FROM BOTTOM OF DECK AND DUCTWORK LAYING ON TOP OF LIGHTS OR CEILING.

E. PROVIDE FLEXIBLE CANVAS DUCT CONNECTIONS AT ALL SUPPLY AIR, RETURN AIR, OUTDOOR AIR AND EXHAUST AIR DUCT CONNECTIONS AT ALL VIBRATING EQUIPMENT (EQUIPMENT WITH FANS).

F. PROVIDE FIRE CAULKING AT ALL FIRE RATED WALL PARTITIONS. REFER TO ARCHITECTURAL DRAWINGS FOR WALL RATINGS.

G. PROVIDE RADIUS ELBOWS WITH SPLITTER VANES PER SMACNA TABLE 14-10 FOR ALL 90 DEGREE TUNS, MITERED ELBOWS WITH TURNING VANES ARE NOT ALLOWED.

H. BENDS IN RIGID DUCTWORK SHALL BE AT A MINIMUM RADIUS TO DIAMETER RATIO OF 1.0.

I. ALL DAMPERS THAT COMMUNICATE DIRECTLY WITH THE OUTDOORS SHALL BE TWO-POSITION SPRING RETURN CLOSE (N.C.) IN THE EVENT OF A POWER FAILURE.

J. FACTORY MADE FLEXIBLE DUCTWORK SHALL BE CLASS 1 LISTED AND HAVE MOISTURE BARRIER AND R-6 INSULATION. MAXIMUM LENGTH OF FLEXIBLE DUCTWORK IS 6'-0". SHEET METAL DUCT WITH R-6 WRAP INSULATION SHALL BE PROVIDED FOR LONGER DISTANCES.

K. PROVIDE SPIN-IN FITTINGS WITH MANUAL VOLUME DAMPERS LOCKING QUADRANT AND POSITION INDICATOR AT ALL BRANCH DUCTS TO SUPPLY AND EXHAUST AIR DEVICES FROM RECTANGULAR DUCTS. PROVIDE IN-LINE OPOSED BLADE MANUAL VOLUME DAMPERS LOCKING QUADRANT AND POSITION INDICATOR WHERE A SPIN-IN FITTING IS NOT POSSIBLE.

L. ALL NEW RECTANGULAR SUPPLY AIR DUCTWORK SHALL HAVE INSULATION IN COMPLIANCE WITH NFPA 90A AND AS DEFINED WITHIN THE CONSTRUCTION DOCUMENTS.

M. TRANSITION DUCTWORK AS NECESSARY TO ALLOW DUCT CONNECTION TO ALL EQUIPMENT, LOUVERS, FANS, AND HOODS.

N. MANUAL SPLITTER DAMPERS ARE NOT ACCEPTABLE.

O. PROVIDE 45° FLARED TAKEOFFS FOR ALL RECTANGULAR BRANCH DUCT CONNECTIONS TO THE MAIN DUCT.

P. ALL DUCTWORK SIZES SHOWN ARE EXTERNAL DIMENSIONS. ALLOWANCE HAS BEEN MADE FOR 1" DUCTLINER WHERE AND IF REQUIRED. SEE DUCTWORK SCHEDULE ON DRAWINGS.

CODES AND STANDARDS

- INTERNATIONAL BUILDING CODE (IBC) - 2018
- INTERNATIONAL MECHANICAL CODE (IMC) - 2018
- INTERNATIONAL ENERGY CONSERVATION CODE (IECC) - 2018
- INTERNATIONAL FUEL GAS CODE (IFGC) - 2018
- UNIFORM PLUMBING CODE (UPC) - 2021
- NATIONAL ELECTRICAL CODE (NEC) - 2017
- FACILITIES GUIDELINES INSTITUTE (FGI) - 2014
- ASHRAE 90.1 (2016)

SEISMIC RESTRAINTS

ALL SEISMIC RESTRAINTS SHALL BE APPLIED WHERE REQUIRED PER ASCE 7, IBC, AND SMACNA SEISMIC RESTRAINT MANUAL.

SEISMIC-RESTRAINT LOADING:

SEISMIC DESIGN CATEGORY: C
SEISMIC DESIGN SITE CLASS AS DEFINED IN THE IBC: C
SEISMIC OCCUPANCY CATEGORY AS DEFINED IN THE IBC: III
SEISMIC COMPONENT IMPORTANCE FACTOR: NAT. GAS=1.5, ALL OTHER=1.25
DESIGN SPECTRAL RESPONSE ACCELERATION AT SHORT PERIODS (0.2 SECOND): 0.426
DESIGN SPECTRAL RESPONSE ACCELERATION AT 1-SECOND PERIOD: 0.194

EXACT SEISMIC RESTRAINT MOUNTING, SIZE, QUANTITY, TYPE, AND LOCATION OF RESTRAINT SHALL BE DETERMINED BY THE RESTRAINT MANUFACTURER'S PROFESSIONAL DESIGN ENGINEER BASED ON EQUIPMENT THAT WILL BE INSTALLED IN THE CORRESPONDING SEISMIC DESIGN CATEGORY WHERE BUILDING IS LOCATED.

THE SEISMIC CONTROL PRODUCT MANUFACTURER'S PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE SEISMIC DESIGN CALCULATIONS OF THE SEISMIC RESTRAINT SYSTEM AND SHALL SELECT SEISMIC RESTRAINT COMPONENTS REQUIRED FOR THE MECHANICAL SYSTEM.

DESIGN CONDITIONS

- COOLING: 73°F INDOOR AT 96.2°F DB / 76.1°F WB OUTDOOR
- HEATING: 72°F INDOOR AT 7.5°F DB OUTDOOR
- SPACE RELATIVE HUMIDITY: 30-50% RH
- INFILTRATION RATE = 0.50 CFM/SF
- LIGHTING LOAD = 0.65 W/SF
- OUTDOOR AIR = VENTILATION LOAD

SHEET INDEX

STATE OF MISSOURI
MIKE KEHOE,
GOVERNOR

STATE OF MISSOURI ★ MATTHEW BRIAN SPENCER NUMBER PE-2010000867 ★ PROFESSIONAL ENGINEER

STATE OF MISSOURI ★ KREGG M. KRAUS NUMBER E-27478 ★ PROFESSIONAL ENGINEER

MECH
PLBG

ELEC

SIGNATURE
3-17-2026
DATE
12-31-2026
LICENSE EXPIRES

PROFESSIONAL SEAL

Hurst-Rosche, Inc.
PROFESSIONAL DESIGN NUMBER: 000660
3675 W. Outer Road, Suite 205
Arnold, MO 63010
636.333.3351 t
www.hurst-rosche.com

HILLSBORO, IL
EAST ST. LOUIS, IL
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SPRINGFIELD, IL
NASHVILLE, TN

SOLUTIONS AEC
OPTIMIZING THE BUILT ENVIRONMENT
12970 Maurer Industrial Drive
Suite 200
St. Louis, MO 63127
(314) 966.6299

OFFICE OF ADMINISTRATION
DIVISION OF FACILITIES MANAGEMENT,
DESIGN AND CONSTRUCTION
DEPARTMENT OF MENTAL HEALTH

REPLACE HVAC & MECHANICAL ROOM DOORS, COTTAGES A - E
HAWTHORN CHILDREN'S PSYCHIATRIC HOSPITAL
1901 PENNSYLVANIA AVENUE
ST. LOUIS, MISSOURI 63133

PROJECT # M2506-01
SITE # 7390
ASSET # 6517390003-7

REVISION:
DATE:
REVISION:
DATE:
REVISION:
DATE:
ISSUE DATE: 3-17-2026

CAD DWG FILE:
DRAWN BY: BTF
CHECKED BY: MBS
DESIGNED BY: BTF

SHEET TITLE:

MEP COVER SHEET

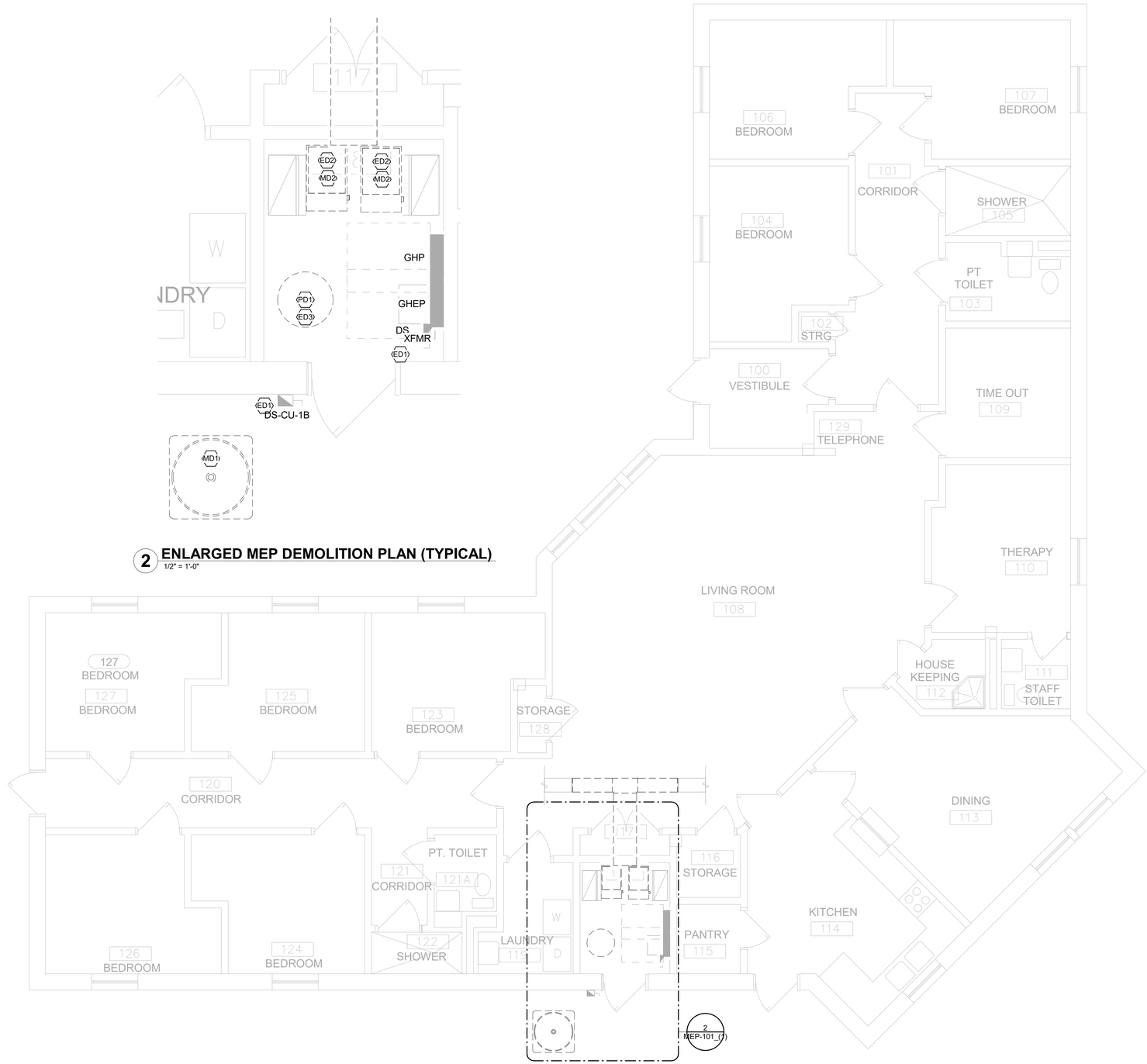
SHEET NUMBER:

MEP-001

5 OF 9 SHEETS
3-17-2026

4/2/2026 7:52:06 AM

2 ENLARGED MEP DEMOLITION PLAN (TYPICAL)
1/2" = 1'-0"



1 MEP DEMOLITION PLAN (TYPICAL)
1/4" = 1'-0"

4/2/2026 7:52:06 AM

GENERAL SHEET NOTES (MECHANICAL)

A. ALL EXISTING LOCATIONS OF EQUIPMENT AND CONTROLS AND ROUTES OF EXISTING DUCTWORK SHOWN ARE BASED ON RECORD DRAWINGS AND MAY NOT REPRESENT THE ACTUAL EXISTING CONDITIONS. FIELD VERIFY THE LOCATION AND ROUTE OF ALL EQUIPMENT, CONTROLS, AND DUCTWORK. PRIOR TO THE ONSET OF CONSTRUCTION, NOTIFY ENGINEER IMMEDIATELY OF ANY DISCREPANCIES.

B. PRIOR TO THE START OF ANY WORK, THE CONTRACTOR SHALL HAVE A TEST AND BALANCE CONTRACTOR PERFORM AN AIRFLOW BALANCE OF THE EXISTING SUPPLY AND RETURN AIR SYSTEMS FOR THE SPACES TO BE RENOVATED. BALANCING CONTRACTOR SHALL ALSO PROVIDE AIRFLOW BALANCE FOR THE EQUIPMENT SERVING THE SPACES TO DETERMINE TOTAL SYSTEM SUPPLY, RETURN AND OUTSIDE AIRFLOWS. PROVIDE BALANCE REPORT TO THE ENGINEER OF RECORD FOR REVIEW PRIOR TO THE START OF ANY WORK.

C. ALL ITEMS SHOWN DASHED ARE EXISTING AND ARE TO BE REMOVED, UNLESS NOTED OTHERWISE.

D. DEMOLITION CONTRACTOR SHALL REMOVE THE EXISTING FURNACE AND A-COIL, RECLAIM ALL REFRIGERANT, AND TEMPORARILY CAP THE REFRIGERATION PIPING. THE REMOVED EQUIPMENT SHALL BE TURNED OVER TO THE AGENCY FOR PROPER STORAGE AND POTENTIAL REUSE.

GENERAL SHEET NOTES (PLUMBING)

A. PRIOR TO THE START OF ANY WORK, THE CONTRACTOR SHALL VERIFY EXISTING LOCATIONS OF FIXTURES AND SERVICE LINES. NOTIFY ENGINEER IMMEDIATELY OF ANY DISCREPANCIES. CONTRACTOR SHALL READ AND UNDERSTAND ALL ARCHITECTURAL AND PLUMBING PLANS RELATED TO PROJECT AND PERFORM WORK COMPLIANT WITH ALL PLUMBING CODES AND STANDARDS.

B. ALL ITEMS SHOWN DASHED ARE EXISTING AND ARE TO BE REMOVED, UNLESS NOTED OTHERWISE.

SHEET KEYNOTES (#)

ED1 CONDENSING UNIT: DISCONNECT CU-1 FROM LOCAL DISCONNECTING MEANS AND MAKE SAFE FOR UNIT DEMOLITION AND REPLACEMENT. ENSURE LOCAL DISCONNECT IS IN GOOD CONDITION, CLEANED, AND SUITABLE FOR REUSE.

ED2 AIR HANDLING UNIT(S): DISCONNECT THE AHU-1(S) AND UV DISINFECTING LIGHTS FROM LOCAL DISCONNECTING MEANS AND MAKE SAFE FOR UNIT DEMOLITION AND REPLACEMENT. ENSURE LOCAL DISCONNECT IS IN GOOD CONDITION, CLEANED, AND SUITABLE FOR REUSE.

ED3 GAS FIRED WATER HEATER: DISCONNECT DWH-1 FROM LOCAL DISCONNECTING MEANS AND MAKE SAFE FOR UNIT DEMOLITION AND REPLACEMENT. ENSURE LOCAL DISCONNECT IS IN GOOD CONDITION, CLEANED, AND SUITABLE FOR REUSE.

MD1 EXISTING CONDENSING UNIT TO BE DEMOLISHED INCLUDING REFRIGERANT PIPING. RECLAIM ALL REFRIGERANT PER EPA STANDARDS AND DISCONNECT FROM POWER.

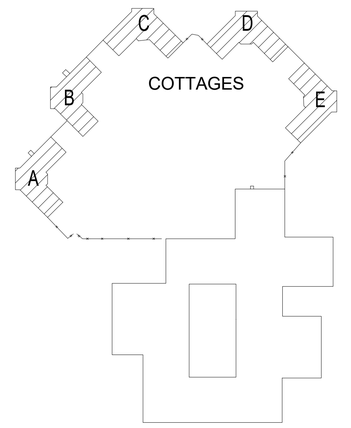
MD2 EXISTING AIR HANDLING UNIT, SUPPLY DUCTWORK AND PLENUM TO BULLHEAD TEE IN ATTIC TO BE DEMOLISHED, COVER OPEN DUCTWORK. DISCONNECT AND PROTECT NATURAL GAS PIPING FOR REUSE.

PD1 EXISTING WATER HEATER TO BE DEMOLISHED. DISCONNECT AND PROTECT ALL ASSOCIATED GAS AND DOMESTIC WATER PIPING FOR REUSE.

DRAWING INFORMATION

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

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



KEY PLAN

STATE OF MISSOURI
MIKE KEHOE,
GOVERNOR

STATE OF MISSOURI
MATTHEW BRIAN SPENCER
NUMBER PE-2010000867
PROFESSIONAL ENGINEER
MECH PLBG

STATE OF MISSOURI
KREGG M. KRAUS
NUMBER E-27478
PROFESSIONAL ENGINEER
ELEC

SIGNATURE
3-17-2026
DATE
12-31-2026
LICENSE EXPIRES

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REPLACE HVAC & MECHANICAL ROOM DOORS, COTTAGES A - E
HAWTHORN CHILDREN'S PSYCHIATRIC HOSPITAL
1901 PENNSYLVANIA AVENUE
ST. LOUIS, MISSOURI 63133

PROJECT # M2506-01
SITE # 7390
ASSET # 6517390003-7

REVISION:
DATE:
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DATE:
ISSUE DATE: 3-17-2026

CAD DWG FILE:
DRAWN BY: BTF
CHECKED BY: MBS
DESIGNED BY: BTF

SHEET TITLE:

MEP DEMOLITION PLAN

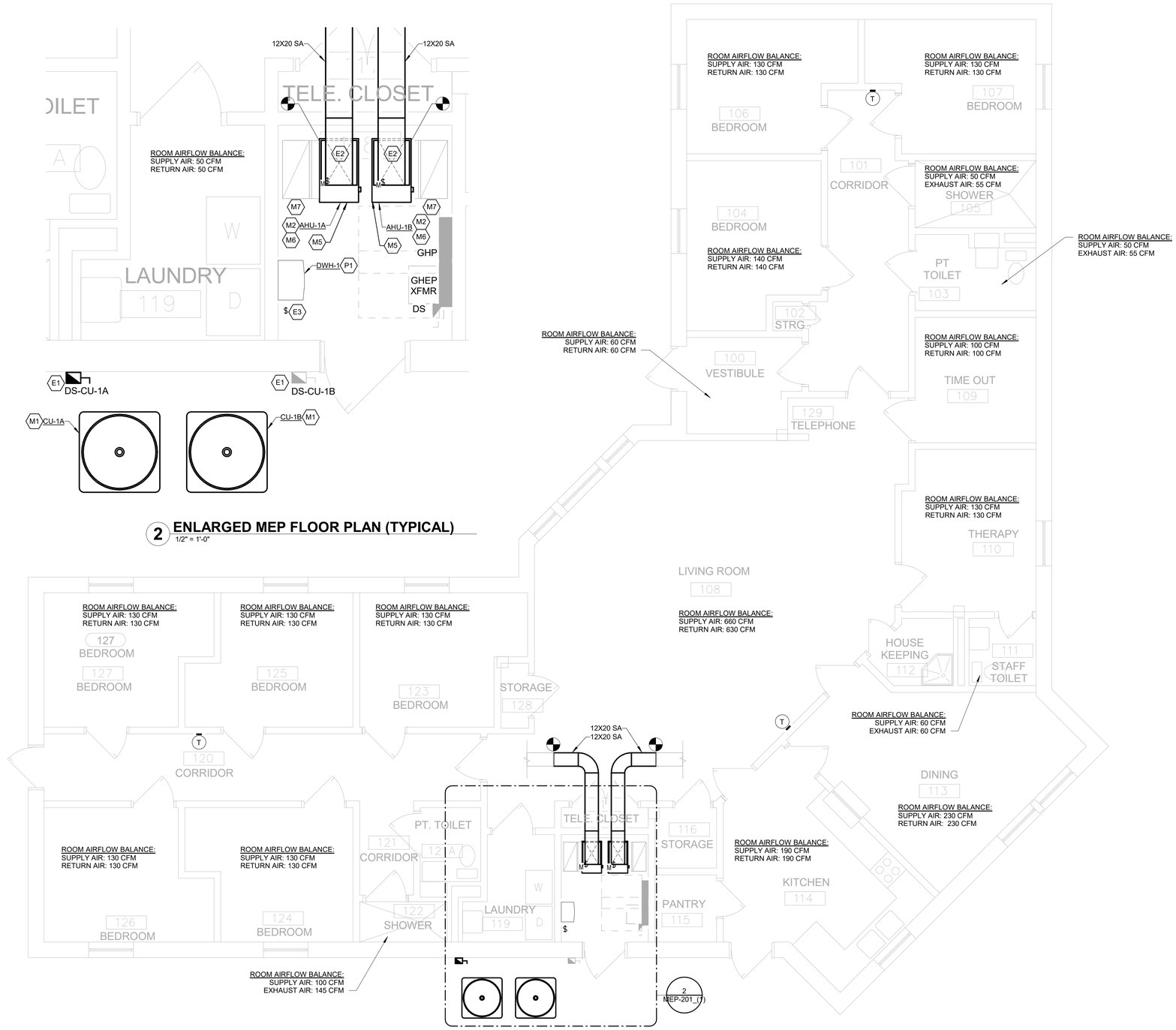
SHEET NUMBER:

MEP-101

6 OF 9 SHEETS
3-17-2026

2 ENLARGED MEP FLOOR PLAN (TYPICAL)

1/2" = 1'-0"



1 MEP FLOOR PLAN (TYPICAL)

1/4" = 1'-0"

GENERAL SHEET NOTES (MECHANICAL)

A. REFER TO MECHANICAL LEGEND, SYMBOLS, AND NOTES FOR MORE INFORMATION.

B. EXISTING DUCT SYSTEMS ARE SHOWN LIGHT AND SHALL REMAIN UNLESS NOTED OTHERWISE. SOME EXISTING SIZES ARE SHOWN FOR REFERENCE ONLY. FIELD VERIFY ALL EXISTING DIMENSIONS. REMOVE EXISTING BRANCH DUCTWORK NOT SHOWN TO BE REUSED HERE, BRANCH DUCTWORK TO BE REMOVED HAS NOT BEEN SHOWN.

GENERAL SHEET NOTES (PLUMBING)

A. REFER TO PLUMBING LEGEND, SYMBOLS, NOTES, AND ABBREVIATIONS FOR MORE INFORMATION.

B. CONTRACTOR SHALL READ AND UNDERSTAND ALL ARCHITECTURAL AND PLUMBING DRAWINGS RELATED TO THE PROJECT AND PERFORM WORK TO ALL RELATIVE PLUMBING CODES AND STANDARDS.

C. LIGHTER SHADED PIPING IS EXISTING. DARKER BOLD PIPING REPRESENTS NEW PIPING.

SHEET KEYNOTES (#)

E1 CONDENSING UNIT: REUSE DISCONNECT IF POSSIBLE; REPLACE IT IF REUSE IS NOT SUITABLE. ENSURE EXISTING UPSTREAM CIRCUIT BREAKER AND CIRCUIT ARE IN GOOD CONDITION AND OF A RATING THAT IS BETWEEN THE NEW CU… MCA AND MOCP. REUSE EXISTING CIRCUIT BREAKER AND CIRCUIT WERE POSSIBLE; REPLACE WITH NEW MATERIAL IF THEIR REUSE IS NOT SUITABLE. UPON INSTALLATION OF NEW CU-1, INSTALL NEW 3-#10, WITH #12 GND IN 3/4" LFMC BETWEEN (EXISTING) DISCONNECT AND NEW CU-1, AND MAKE FINAL TERMINATIONS.

E2 AIR HANDLING UNIT(S): REUSE DISCONNECT IF POSSIBLE; REPLACE IT IF REUSE IS NOT SUITABLE. ENSURE EXISTING UPSTREAM CIRCUIT BREAKER AND CIRCUIT ARE IN GOOD CONDITION AND OF A RATING THAT IS BETWEEN THE NEW AHU… MCA AND MOCP. REUSE EXISTING CIRCUIT BREAKER AND CIRCUIT WERE POSSIBLE; REPLACE WITH NEW MATERIAL IF THEIR REUSE IS NOT SUITABLE. UPON INSTALLATION OF NEW AHU-1, INSTALL NEW 2-#10, WITH #12 GND IN 3/4" LFMC BETWEEN (EXISTING) DISCONNECT AND NEW CU-1, AND MAKE FINAL TERMINATIONS.

E3 GAS FIRED WATER HEATER: REUSE DISCONNECT IF POSSIBLE; REPLACE IT IF REUSE IS NOT SUITABLE. ENSURE EXISTING UPSTREAM CIRCUIT BREAKER AND CIRCUIT ARE IN GOOD CONDITION AND OF A RATING THAT IS SUFFICIENT FOR NEW DWH MCA AND MOCP. REUSE EXISTING CIRCUIT BREAKER AND CIRCUIT WERE POSSIBLE; REPLACE WITH NEW MATERIAL IF THEIR REUSE IS NOT SUITABLE. UPON INSTALLATION OF NEW GAS FIRED INSTANTANIOUS DWH-1, INSTALL NEW 2-#10, WITH #12 GND IN 3/4" LFMC BETWEEN (EXISTING) DISCONNECT AND NEW CU-1, AND MAKE FINAL TERMINATIONS.

M1 ROUTE NEW REFRIGERANT PIPING SIMILAR TO EXISTING ROUTING. PROVIDE SLIMDUCT ENCLOSURE FOR PIPE ROUTING TO NEW CONDENSING UNITS.

M2 CONNECT NEW REFRIGERANT AND EXISTING NATURAL GAS PIPING TO NEW AIR HANDLING UNIT.

M5 ROUTE CONDENSATE FROM COILS AND FURNACES TO WALL WITH WATER HEATER, DOWN WALL AND SPILL INTO EXISTING FLOOR DRAIN.

M6 REMOVE UV LIGHT, CLEAN, REPLACE UV BULB WITH 3YR BULB AND REINSTALL.

M7 REMOVE SMOKE DETECTOR, CLEAN, STORE AND REINSTALL AFTER DUCTWORK AND EQUIPMENT REPLACEMENT IS DONE.

P1 RECONNECT EXISTING DOMESTIC HOT AND COLD WATER PIPING TO NEW WATER HEATER. PROVIDE NEW VALVE KIT WITH FLUSH CAPABILITIES AND ALL NEW VALVES.

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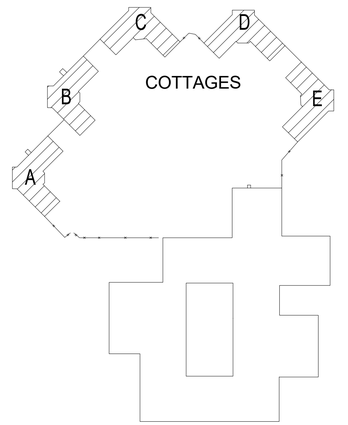

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DESIGNED BY: BTF

SHEET TITLE:

MEP FLOOR PLAN

SHEET NUMBER:

MEP-201

7 OF 9 SHEETS
3-17-2026

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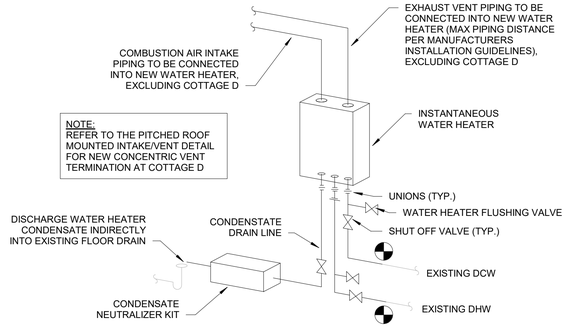
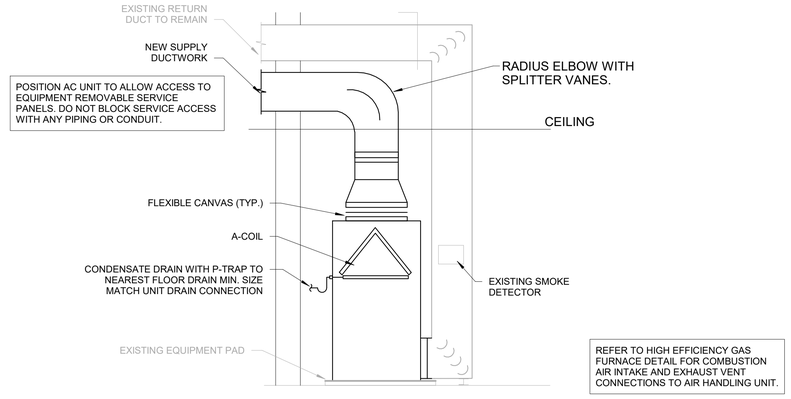
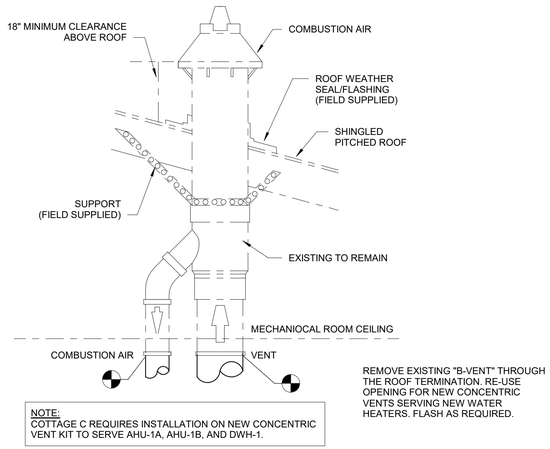


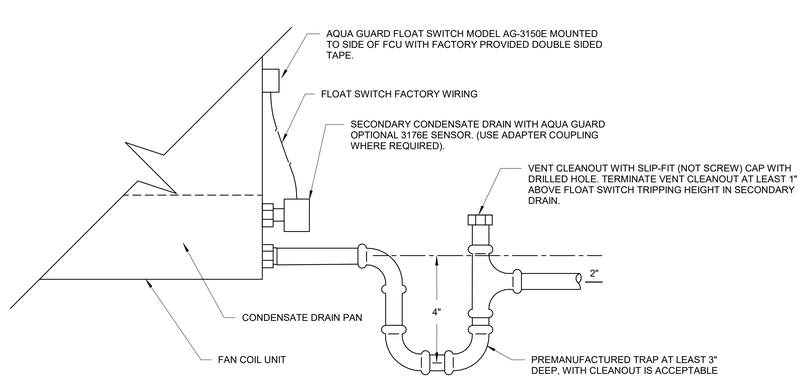
4 INSTANTANEOUS GAS WATER HEATER
NTS



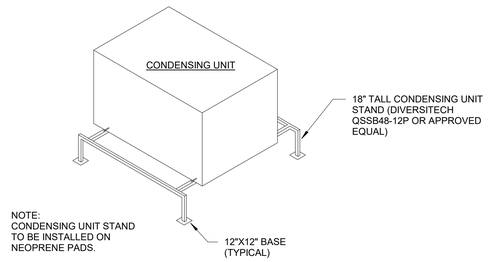
1 TYPICAL VERTICAL AHU
NTS



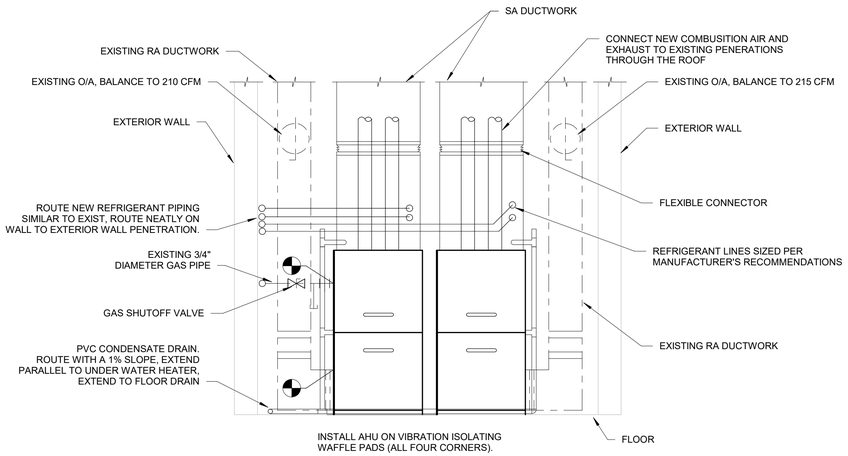
5 PITCHED ROOF MOUNTED INTAKE/VENT
NTS



2 CONDENSATE TRAP DETAIL
NTS



6 CONDENSING UNIT MOUNTING DETAIL
NTS



3 HIGH EFFICIENCY GAS FURNACE DETAIL
NTS

4/2/2026 7:52:07 AM

STATE OF MISSOURI
MIKE KEHOE, GOVERNOR

STATE OF MISSOURI — MATTHEW BRIAN SPENCER — NUMBER PE-2010000867 — PROFESSIONAL ENGINEER — MECH PLBG

STATE OF MISSOURI — KREGG M. KRAUS — NUMBER E-27478 — PROFESSIONAL ENGINEER — ELEC

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DESIGNED BY: BTF

SHEET TITLE:

MEP DETAILS

SHEET NUMBER:

MEP-501

8 OF 9 SHEETS
3-17-2026

INSTANTANEOUS GAS WATER HEATER SCHEDULE

EQUIP. TAG	MANUFACTURER	MODEL	WATER TEMPERATURE (°F)	RECOVERY AT 90°F RISE (GPH)	RECOVERY AT 90°F RISE (GPM)	MAX FLOW RATE (GPM)	HEATING INPUT (MBH)	THERMAL EFFICIENCY	ELECTRICAL DATA			DISCONNECT		NOTES
									FLA	VOLTAGE	PHASE	FURNISHED BY	INSTALLED BY	
DWH-1	AO SMITH	ATI-540H-N	140	252	4.2	8	199	94%	5	120	1	EC	EC	1,2,3,4

NOTES:
1. WATER HEATER MUST COMPLY WITH ASHRAE 90.1 REQUIREMENTS AND MEET SCHEDULED PERFORMANCE.
2. ACTIVATION FLOW OF 0.5GPM.
3. PROVIDE WITH CONDENSATE NEUTRALIZER KIT.
4. PROVIDE WATER HEATER FLUSHING VALVE KIT

GENERAL NOTE:
A. MANUFACTURER IS BASIS OF DESIGN ONLY.
B. EQUIPMENT BY RHEEM OR BRADFORD WHITE IS ACCEPTABLE.
C. PROVIDE NEW WATER HEATER FOR COTTAGES A, B, C, AND E. EXISTING WATER HEATER IN COTTAGE D TO REMAIN.

AIR HANDLING UNIT SCHEDULE

EQUIP. TAG	MANUFACTURER	MODEL	SUPPLY FAN				DX COOLING COIL		GAS HEAT			ELECTRICAL DATA				DISCONNECT		WEIGHT (LBS)	NOTES
			CFM	OA CFM	ESP. (IN. W.C.)	FAN HP	TOTAL (MBH)	SENSIBLE (MBH)	HEATING INPUT (MBH)	HEATING OUTPUT (MBH)	HEATING STAGES	MCA	MOCP	VOLTAGE	PHASE	FURNISHED BY	INSTALLED BY		
AHU-1A	AMERICAN STANDARD / TRANE	S9X2C080U5PSBA /5TXCC007AS3	1,500	210	0.70	1	46.3	34.8	80	77.6	2	11.8	15	120	1	EC	EC	210	1,2
AHU-1B	AMERICAN STANDARD / TRANE	S9X2C080U5PSBA /5TXCC007AS3	1,500	215	0.70	1	46.3	34.8	80	77.6	2	11.8	15	120	1	EC	EC	210	1,2

NOTES:
1. PROVIDE WITH CONDENSATE NEUTRALIZER KIT.
2. UPFLOW ARRANGEMENT FOR FURNACE AND A-COIL.

GENERAL NOTE:
A. MANUFACTURER IS BASIS OF DESIGN ONLY.
B. EQUIPMENT BY DAIKIN OR CARRIER IS ACCEPTABLE.

AIR-COOLED CONDENSING UNIT

EQUIP. TAG	MANUFACTURER	MODEL	NOM. TONS	# OF COMP.	# OF STAGES	ELECTRICAL DATA				REFRIGERANT TYPE	DISCONNECT		WEIGHT (LBS.)	NOTES
						MCA	MOCP	VOLTAGE	PHASE		FURNISHED BY	INSTALLED BY		
CU-1B	TRANE	5TTR3048A1000	4	1	1	23	35	208	1	R-454B	EC	EC	400	1,2,3,4,5
CU-1A	TRANE	5TTR3048A1000	4	1	1	23	35	208	1	R-454B	EC	EC	400	1,2,3,4,5

NOTES:
1. TIME DELAY RELAY, ANTI-SHORT CYCLE TIMER.
2. PROVIDE WITH HAIL GUARDS.
3. LOW AMBIENT OPERATION CONTROL.
4. INSTALL REFRIGERANT PIPING PER MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR TO CONFIRM REQUIRED LENGTH IN FIELD.
5. INTERNAL FACTORY INSTALLED REFRIGERANT LEAK DETECTION AND ALARM PER NEW A2L REGULATIONS.

GENERAL NOTE:
A. MANUFACTURER IS BASIS OF DESIGN ONLY.
B. EQUIPMENT BY DAIKIN OR CARRIER IS ACCEPTABLE.

HVAC PIPE SCHEDULE

SERVICE PIPING	LOCATION	TEMP RANGE	SIZE (IN.)	PIPING			INSULATION				NOTES
				TYPE/ SCHED	MATERIAL	METHOD	THICKNESS	TYPE	JACKET	VAPOR BARRIER	
REFRIGERANT - COOLING ONLY LIQUID	ALL	-	ALL	-	ACR	BR	-	-	-	-	-
REFRIGERANT - COOLING ONLY SUCTION	EXTERIOR	-	ALL	-	ACR	BR	1/2"	UC	ALUM	Y	1
REFRIGERANT - HEAT RECOVERY LINE	EXTERIOR	-	ALL	-	ACR	BR	1/2"	UC	ALUM	Y	1
REFRIGERANT - COOLING ONLY SUCTION	INTERIOR	-	ALL	-	ACR	BR	1/2"	UC	-	-	-
REFRIGERANT - HEAT RECOVERY LINE	INTERIOR	-	ALL	-	ACR	BR	1/2"	UC	-	-	-
REFRIGERANT - HEAT PUMP	EXTERIOR	-	ALL	-	ACR	BR	1/2"	UC	ALUM	Y	1
REFRIGERANT - HEAT PUMP	INTERIOR	-	ALL	-	ACR	BR	1/2"	UC	-	-	-
CONDENSATE DRAIN	OUTDOORS & INSIDE MECH ROOMS	40°F-60°F	ALL	40	PVC	SOL/THR	-	-	-	-	-
CONDENSATE DRAIN	INDOORS (NOT MECH ROOM)	40°F-60°F	ALL	L	CU	SW/BR	1/2"	UC	-	-	2
NATURAL GAS	ABOVE FLOOR	-	ALL	40	CS	WLD/THR/PR	-	-	-	-	3

NOTES:
1. ALUMINUM EMBOSSED JACKET TO BE EITHER ADHESIVE BACKED OR MECHANICALLY SECURED TYPE.
2. PIPING MAY BE PROVIDED AS SCHEDULE 40 PVC INSTEAD OF COPPER IF PIPING IS COVERED WITH PLENUM RATED WRAP.
3. PAINT WITH RUST INHIBITIVE ENAMEL COATING (EXTERIOR PIPING TO BE YELLOW ON ROOF AND GRAY ELSEWHERE. EXPOSED INTERIOR PIPING TO BE YELLOW).

GENERAL NOTES:
A. PROVIDE IDENTIFICATION LABELS ON ALL ABOVE FLOOR AND ABOVE GRADE PIPING.
B. PVC JACKET REQUIRED OVER ALL FIBERGLASS INSULATION LOCATED IN MECHANICAL ROOMS WITHIN 7' AFF. ASJ MAY BE PROVIDED ABOVE 7' AFF WHERE NOT IN EQUIPMENT SERVICE AREA THEN PROVIDE PVC.

PIPE SCHEDULE LEGEND:

ACR	ACR COPPER	FLG	FLANGED	PR	PRESS (COMPRESSION)
ALUM	ALUMINUM EMBOSSED JACKET	FPE	FLEXIBLE POLYETHYLENE	PVC	POLYVINYL CHLORIDE
ASJ	ALL SERVICE JACKET	FW	FUSION WELDED	PU	POLYURETHANE FOAM
BR	BRAZED	GRV	RIGID, GROOVED	PW	PLENUM RATED INSULATION WRAP
CPVC	CHLORINATED PVC	GS	GALVANIZED STEEL	SCR	SCREWED
CS	CARBON STEEL	HF	HEAT FUSION	SOL	SOLVENT WELD
CSST	CORRUGATED STAINLESS STEEL	HDPE	HIGH DENSITY POLYETHYLENE	SW	SWEAT
CG	CELLULAR GLASS	MECH	MECHANICAL	THR	THREADED FITTING
CI	CAST IRON	MGT	COPPER MEDICAL GAS TUBING	T/S	TYPE OR SCHEDULE
CU	COPPER	NH	NO-HUB W/ HEAVY DUTY COUPLINGS	UC	FLEXIBLE ELASTOMERIC UNICELLULAR
DI	DUCTILE IRON	PEX	CROSS LINKED POLYETHYLENE TUBING	WLD	WELDED
FE	FLEXIBLE ELASTOMERIC (NITRILE)	POLY	POLYISOCYANURATE INSULATION	Y	YES
FG	FIBERGLASS	PP	POLYPROPYLENE	N	NO

SEQUENCE OF OPERATIONS

GENERAL

THE MECHANICAL/BAS CONTROL CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE ALL NECESSARY TEMPERATURE CONTROLS, CONTROLLERS, CONTROL INTERFACE DEVICES (DEVICES ALLOWING DIFFERENT CONTROL COMPONENTS TO COMMUNICATE WITH EACH OTHER), DAMPERS, CONTROL VALVES, THERMOSTATS, SENSORS, RELAYS, SWITCHES, ACTUATORS, TRANSFORMERS, AND CONTROL WIRING & CONDUIT (REGARDLESS OF VOLTAGE) SYSTEMS REQUIRED TO PROVIDE THE SPECIFIED SEQUENCE OF OPERATIONS. THE BAS CONTROL SYSTEM SHALL INTERFACE WITH THE EXISTING COMPLEX WIDE UMCS/EMS CONTROL SYSTEM. EXISTING COMPLEX WIDE UMCS/EMS PC WORKSTATION(S) SHALL BE ABLE TO MONITOR ALL CONTROL PROVIDED THRU THE BUILDING'S BAS SYSTEM. PROVIDE ALL NECESSARY SOFTWARE AND HARDWARE TO MONITOR THE BUILDING'S BAS SYSTEM. CONTRACTOR TO FOLLOW COMPLEX / BUILDING OWNER CYBER SECURITY PROTOCOLS. THE NEW BAS DDC CONTROL SYSTEM SHALL BE BACNET BASED AND ALL NEW CONTROLS FOR NEW EQUIPMENT PROVIDED AS PART OF THIS PROJECT SHALL BE CONNECTED INTO NEW BAS DDC.
BOTTOM OF ALL THERMOSTATS, CONTROL PANELS, AND WALL SWITCHES SHALL BE LOCATED 48" A.F.F.
ALL SWITCHES AND WALL MOUNTED SENSORS AND THERMOSTATS SHALL BE WHITE IN COLOR. PROVIDE ADHESIVE BASED LABEL ON TEMPERATURE SENSORS AND THERMOSTATS INDICATING EQUIPMENT TAG OF EQUIPMENT SERVED BY SENSOR OR THERMOSTAT.
ALL CONTROL SET POINTS AND LIMITS LISTED IN SEQUENCE OF OPERATIONS SHALL BE ADJUSTABLE THRU THE BAS AND SHALL BE SET UP FOR EASY ADJUSTMENT BY OWNER THRU BAS. ALL BAS ALARMS LISTED IN SEQUENCE OF OPERATIONS SHALL BE PROGRAMMED INTO THE BAS TO GIVE A NOTICEABLE ALARM SIGNAL TO BUILDING OWNER THRU BAS.
THE BAS SHALL HAVE THE OWNERS BUILDING USE SCHEDULE (OCCUPIED AND UNOCCUPIED PERIODS FOR THE BUILDING'S HVAC ZONES) PROGRAMMED INTO THE BAS BY THE BAS CONTROLCONTRACTOR. COORDINATE WITH OWNER FOR REQUIRED SCHEDULE REQUIREMENTS. SCHEDULE SHALL BE ADJUSTABLE BY OWNER THRU BAS. DEFAULT OCCUPIED SCHEDULE SHALL BE 7 AM TO 5 PM MONDAY-FRIDAY. DEFAULT SCHEDULE SHALL BE USED UNTIL OWNER'S SCHEDULE HAS BEEN PROGRAMMED INTO THE BAS SYSTEM.
EXISTING CONTROLS SERVING EXISTING HVAC SYSTEMS NOT PART OF THIS PROJECT WORK SHALL REMAIN IN OPERATION AS CURRENTLY CONTROLLED.

OCCUPIED / UNOCCUPIED SET POINTS

OCCUPIED COOLED AND HEATED SPACES:
COOLING = 73°F DB
HEATING = 72°F DB
HUMIDITY = 50% RH MAX
(NO POSITIVE HUMIDITY CONTROL PROVIDED)

UNOCCUPIED COOLED AND HEATED SPACES:
COOLING = 84°F DB
HEATING = 55°F DB
HUMIDITY = 50% RH
(NO POSITIVE HUMIDITY CONTROL PROVIDED)

MECHANICAL / ELECTRICAL / UTILITY ROOM:
COOLING = 80°F DB (OA TEMP, OA VENTILATED)
HEATING = 60°F DB
ELECTRICAL ROOM:
HEATING = 55°F DB

ALL SET POINTS SHALL BE ADJUSTABLE THRU BAS. ALL BAS SPACE TEMPERATURE SENSORS SHALL HAVE LOCAL SET POINT ADJUSTABILITY BY OCCUPANTS. LOCAL ADJUSTABILITY SHALL BE SET THRU THE BAS TO ALLOW ± 2°F FROM BAS PROGRAMMED SPACE SET POINT.

AIR COOLED CONDENSING UNIT (CU-1A, 1B) SERVING AIR HANDLING UNIT (AHU-1A, 1B)

UPON A CALL FOR COOLING FROM THE AHU, CONDENSING UNIT SHALL START WITH CONDENSING UNIT CONDENSER FAN(S) AND COMPRESSOR(S) SHALL RUN. MULTIPLE CONDENSER FAN AND MULITPLE COMPRESSOR UNITS SHALL BE STAGED ON/OFF AND UNLOADED AS NEEDED TO MAINTAIN AHU'S COOLING LEAVING AIR TEMPERATURE SET POINT.
WHEN AHU SUPPLY FAN HAS STOPPED RUNNING CONDENSING UNIT SHALL BE STOP RUNNING. ONCE COOLING AHU COOLING SET POINT HAS BEEN EXCEEDED BY MORE THAN 2°F FOR MORE THAN 5 MINUTES (BOTH VALUES ADJUSTABLE) AT LOWEST STAGE OF COOLING FROM CONDENSING UNIT, THE CONDENSING UNIT SHALL SHUT DOWN UNTIL AHU HAS A CALL FOR COOLING AGAIN.

CONDENSING UNITS WITH DIGITAL SCROLL COMPRESSORS SHALL UTILIZE THIS COMPRESSOR CONTROL ON THE COMPRESSOR. WHEN AHU COOLING SET POINT HAS BEEN EXCEEDED CONDENSING UNIT SHALL RETURN DEACTIVATE COMPRESSOR.

SYSTEM SAFETIES: MANUFACTURER'S SAFETIES SHALL INCLUDE HIGH HEAD PRESSURE SHUT DOWN AND SHORT CYCLE OPERATION (TIMED RESTART ALLOWANCE) PROTECTION.

SPLIT SYSTEM AIR CONDITIONER WITH GAS HEAT:

STANDALONE CONTROL THROUGH LOCAL ROOM-MOUNTED 7-DAY PROGRAMMABLE THERMOSTAT WITH COMPATIBLE BACNET CARD FOR SYSTEM SERVING ENTIRE COMPLEX.

ON A CALL FOR COOLING FROM AVERAGE VALUE OF THERMOSTATS, THE OUTDOOR CONDENSING UNIT SHALL RUN AND THE INDOOR FAN SHALL CYCLE UNTIL THE COOLING SETPOINT IS SATISFIED.

ON A CALL FOR HEATING FROM AVERAGE VALUE OF THERMOSTATS, THE GAS HEAT STAGE ONE SHALL ENERGIZE IN THE INDOOR UNIT AND THE INDOOR FAN SHALL CYCLE UNTIL THE SPACE TEMPERATURE SETPOINT IS SATISFIED, IF SPACE IS NOT SATISFIED STAGE TWO SHALL ENERGIZE AS WELL.

DUCTWORK AND DUCT INSULATION SCHEDULE

DUCT SYSTEM	FUNCTION	SHAPE	LOCATION	PRESSURE CLASS "WG"	DUCT TEST PRESSURE (IN WC)	DUCT LEAKAGE CLASS	MATERIAL	GAGE	LINER			INSULATION				NOTES
									TH	LINER	D	TH	TYPE	D	JACKET	
AHU-X	SUPPLY	ALL	ABOVE CEILING IN CHASES	2"	2.0"	12	GS	*	-	-	-	2"	FGW	1.5	FFJ	-
AHU-X	RETURN	ALL	ABOVE CEILING IN CHASES	-2"	2.0"	12	GS	*	-	-	-	2"	FGW	1.5	FFJ	-
AHU-X	SUPPLY	RECT	MECHANICAL ROOMS	2"	2.0"	24	GS	*	1"	MFF	-	-	-	-	-	-
AHU-X	RETURN	RECT	MECHANICAL ROOMS	-2"	2.0"	24	GS	*	1"	MFF	1.5	-	-	-	-	-

DUCT SCHEDULE LEGEND

AIFD	ACOUSTICAL INSULATED FLEXIBLE DUCT	MFF	MATT FACED FIBERGLASS
ALUM	ALUMINUM	PFL	PERFORATED LINER
ABA	ADHESIVE BACKED ALUMINUM	PGGS	PAINT GRIP GALVANIZED STEEL
ASJ	ALL SERVICE JACKET	PVCGS	PVC COATED GALVANIZED STEEL
CS	CARBON STEEL	RECT	RECTANGULAR
D	DENSITY (PCF)	RND	ROUND
ETPS	EXTRUDED POLYSTYRENE	SS	STAINLESS STEEL
FB	FIBERGLASS BOARD	TH	THICKNESS
FFJ	FOIL FACED JACKET	UFD	UNINSULATED FLEXIBLE DUCT
FGW	FIBERGLASS WRAP		
FPW	FIRE-PROOF WRAP		
GS	GALVANIZED STEEL		
GSSP	GALVANIZED STEEL SPIRAL PIPE		
IFD	INSULATED FLEXIBLE DUCT		

ASHRAE 90.1 DUCT SEALING REQUIREMENTS

DUCT TYPE & PRESSURE CLASS	SMACNA DUCT SEALING CLASS		
	OUTDOOR DUCT	UNCONDITIONED SPACE[1]	CONDITIONED SPACE[2]
SUPPLY 2" w.g. AND BELOW	A	B	C
SUPPLY GREATER THAN 2" w.g.	A	A	B
EXHAUST 2" w.g. AND BELOW	C	C	B
RETURN 2" w.g. AND BELOW	A	B	C

[1] UNCONDITIONED SPACE: INTERIOR SPACE NOT DIRECTLY OR INDIRECTLY HEATED AND/OR COOLED. MECHANICAL ROOF PENTHOUSES ARE UNCONDITIONED SPACES.
[2] CONDITIONED SPACE: INTERIOR SPACES THAT ARE DIRECTLY OR INDIRECTLY HEATED AND/OR COOLED. THESE SPACES INCLUDE RETURN AIR PLENUMS.

GENERAL NOTES:
A. ALL DUCTWORK SIZES INDICATED ON THE DRAWINGS REFLECT SHEETMETAL DIMENSIONS. ALLOWANCE HAS BEEN MADE IN SIZING TO ACCOUNT FOR LINER WHERE SHOWN TO BE PROVIDED.

DUCT SEALING NOTES:
A. SEAL CLASS A: TRANSVERSE AND LONGITUDINAL JOINTS AND DUCT WALL PENETRATIONS TO BE SEALED
B. SEAL CLASS B: TRANSVERSE AND LONGITUDINAL JOINTS TO BE SEALED
C. SEAL CLASS C: TRANSVERSE JOINTS ONLY TO BE SEALED
D. ALL DUCTWORK CARRYING HAZARDOUS FUMES (CLASS 3 OR 4 AIR), NOT REQUIRING LIQUID TIGHT JOINTS AND SEAMS, REGARDLESS OF PRESSURE CLASS OR LOCATION SHALL BE SMACNA SEAL CLASS A.
E. ALL DUCTWORK SERVING COMMERCIAL KITCHEN HOODS, DISHWASHERS OR WHERE SPECIFIED, SHALL HAVE WELDED, LIQUID TIGHT JOINTS AND SEAMS. USE APPROPRIATE GASKETS AND SEALANTS WHERE WELDING IS NOT POSSIBLE.

*** 20 GAUGE MINIMUM, OTHERWISE SMACNA STANDARD FOR PRESSURE CLASS INDICATED
** 22 GAUGE MINIMUM, OTHERWISE SMACNA STANDARD FOR PRESSURE CLASS INDICATED
* PER SMACNA STANDARD FOR PRESSURE CLASS INDICATED

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STATE OF MISSOURI
MIKE KEHOE, GOVERNOR

STATE OF MISSOURI · MATTHEW BRIAN SPENCER · NUMBER PE-2010000867 · PROFESSIONAL ENGINEER — MECH PLBG

STATE OF MISSOURI · KREGG M. KRAUS · NUMBER E-27478 · PROFESSIONAL ENGINEER — ELEC

Matthew B Spencer Kregg Kraus

SIGNATURE
3-17-2026
DATE
12-31-2026
LICENSE EXPIRES

PROFESSIONAL SEAL

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PROFESSIONAL DESIGN NUMBER: 000660
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OFFICE OF ADMINISTRATION
DIVISION OF FACILITIES MANAGEMENT,
DESIGN AND CONSTRUCTION
DEPARTMENT OF MENTAL HEALTH

REPLACE HVAC & MECHANICAL ROOM DOORS, COTTAGES A - E
HAWTHORN CHILDREN'S PSYCHIATRIC HOSPITAL
1901 PENNSYLVANIA AVENUE
ST. LOUIS, MISSOURI 63133

PROJECT # M2506-01
SITE # 7390
ASSET # 6517390003-7

REVISION:
DATE:
REVISION:
DATE:
REVISION:
DATE:
ISSUE DATE: 3-17-2026

CAD DWG FILE:
DRAWN BY: BTF
CHECKED BY: MBS
DESIGNED BY: BTF

SHEET TITLE:

MEP SCHEDULES

SHEET NUMBER:

MEP-601

9 OF 9 SHEETS
3-17-2026