

# MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

# The Village at Discovery Park Alura Apartments Building 11 - Type A

# Northeast Douglas Street Lee's Summit, Jackson County, Missouri

# GENERAL MEP SPECIFICATIONS

# 1. GENERA

- 1.1. ALL WORK SHALL BE PERFORMED IN COMPLIANCE WITH LOCALLY ADOPTED CODES AND ORDINANCES.
   1.2. IT IS THE RESPONSIBILITY OF CONTRACTOR TO REVIEW AND UNDERSTAND ALL DRAWINGS AND SPECIFICATIONS IN CONTRACT DOCUMENTS. EACH CONTRACTOR IS RESPONSIBLE FOR ALL WORK ASSOCIATED WITH THEIR TRADE, REGARDLESS OF WHERE WORK IS DEPICTED IN PROJECT DRAWINGS
- OR SPECIFICATIONS.

  LAYOUT OF SYSTEMS SHOWN ON PLANS ARE APPROXIMATE AND SCHEMATIC IN NATURE. ALL SYSTEMS WILL NEED TO BE FIELD-COORDINATED. CONTRACTOR SHALL INCLUDE THIS COORDINATION IN THEIR SCOPE AND INCLUDE ALL COSTS OF MODIFYING LAYOUT AS REQUIRED IN THEIR BID. PLANS ARE NOT
- SCOPE AND INCLUDE ALL COSTS OF MODIFYING LAYOUT AS REQUIRED IN THEIR BID. PLANS ARE NOT INTENDED TO BE SHOP DRAWINGS FROM WHICH MATERIALS CAN BE ORDERED, FABRICATED, OR INSTALLED WITHOUT ADDITIONAL FIELD MEASUREMENTS AND COORDINATION.

  1.4. NOT ALL SPECIFIC PIECES AND COMPONENTS OF EACH SYSTEM ARE DETAILED OR OUTLINED ON PLANS. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY PARTS AND LABOR TO PRODUCE A COMPLETE AND FULLY OPERATIONAL SYSTEM UNLESS STATED OTHERWISE ON PLANS. CONTRACTOR IS
- CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY PARTS AND LABOR TO PRODUCE A COMPLETE AND FULLY OPERATIONAL SYSTEM UNLESS STATED OTHERWISE ON PLANS. CONTRACTOR IS TO PROVIDE AND INCLUDE ALL EQUIPMENT AND MATERIAL NEEDED TO COMPLETE WORK ASSOCIATED WITH THEIR BID UNLESS ANY ITEMS ARE SPECIFICALLY NOTED ON PLANS AS PROVIDED BY OTHERS. ALL MATERIALS TO BE NEW, FIRST CLASS, AND INSTALLED PER MANUFACTURER'S PUBLISHED INSTRUCTIONS.
- 1.5. WHERE CONFLICTS EXIST BETWEEN MEP PLANS AND CIVIL, ARCHITECTURAL, OR STRUCTURAL PLANS, NOTIFY MEP ENGINEER OF DISCREPANCIES FOR CLARIFICATION PRIOR TO PERFORMING ANY WORK THAT MAY CONTRADICT INFORMATION ELSEWHERE IN THE PROJECT PLANS.
- 1.6. THESE PLANS ARE NOT TO BE SCALED. SEE ARCHITECTURAL PLANS FOR DIMENSIONS. WHERE THERE IS A CONFLICT BETWEEN ARCHITECTURAL DIMENSIONS AND MEP DIMENSIONS, ARCHITECTURAL SHALL GOVERN
- .7. CONTRACTOR IS TO INCLUDE IN THEIR SCOPE THE COST OF ALL PERMITS, INSPECTIONS, METERING, TAPS, ETC. ASSOCIATED WITH THEIR WORK.
- 1.8. CONTRACTOR IS RESPONSIBLE FOR ALL EXCAVATION, CUTTING, CORING, PATCHING, AND BACKFILL REQUIRED TO COMPLETE THEIR WORK, UNLESS NOTED OTHERWISE ON PLANS.
- .9. SPECIFIC EQUIPMENT MANUFACTURERS AND/OR MODEL NUMBERS LISTED ON PLANS ARE TO ESTABLISH A BASIS-OF-DESIGN FOR QUALITY AND PERFORMANCE, VERIFY THAT SUBSTITUTIONS WILL BE ACCEPTABLE PRIOR TO PURCHASE & INSTALLATION.
- 1.10. NOTIFY ENGINEER OF ANY MAJOR PLAN DISCREPANCIES OR CONFLICTS PRIOR TO PROVIDING BIDS OR COMPLETING ANY WORK.
- 1.11. SEE DISCIPLINE SHEETS FOR ADDITIONAL TRADE SPECIFIC SPECIFICATIONS.
   1.12. WHERE SHUTDOWN OF ANY EXISTING UTILITY OR SERVICE TO BUILDING IS REQUIRED FOR COMPLETION OF WORK, COORDINATE OUTAGE WITH OWNER AS TO NOT DISRUPT TYPICAL OPERATIONS.

# 2. WORKMANSH

- 2.1. SYSTEMS SHALL BE INSTALLED IN A FIRST-CLASS MANNER USING BEST ACCEPTABLE METHODS AND PRACTICES.
- 2.2. ALL SYSTEMS SHALL BE INSTALLED PARALLEL OR PERPENDICULAR TO BUILDING ORIENTATION. COMPONENTS SHALL BE INSTALLED LEVEL AND PLUMB WITH ATTENTION GIVEN TO OVERALL AESTHETICS.
- 2.3. CONTRACTOR IS RESPONSIBLE FOR COORDINATING EQUIPMENT LOCATIONS AND SYSTEM ROUTING WITH OTHER TRADES PRIOR TO INSTALLATION.
- 2.4. CONTRACTOR TO GUARANTEE ALL MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM THE DATE THE COMPLETED PROJECT IS RELEASED TO THE OWNER, UNLESS NOTED OTHERWISE ON PLANS
- 2.5. DURING INSTALLATION OF MATERIALS OR ACTIVITIES IN NEW WORK SCOPE, AVOID DAMAGING EXISTING SURFACES AND EQUIPMENT TO REMAIN. ANY DAMAGE TO EXISTING SURFACES OR EQUIPMENT SHALL BE CORRECTED AT NO COST TO OWNER.

# DEFERRED SUBMITTAL NOTES

# 1. FIRE ALARM SYSTE

- FIRE ALARM CONTRACTOR SHALL PROVIDE DEFERRED SUBMITTAL PACKAGE FOR FIRE ALARM SYSTEM. SUBMITTAL SHALL INCLUDE BATTERY CALCULATIONS, VOLTAGE DROP CALCULATIONS, EQUIPMENT SPECIFICATIONS FOR DEVICES AND PANELS, ETC. DESIGN SHALL BE SEALED BY A QUALIFIED DESIGN PROFESSIONAL LICENSED BY THE STATE.
- .2. FIRE ALARM SYSTEM COMPONENTS SHOWN (IF APPLICABLE) ARE GENERAL AND SCHEMATIC IN NATURE, SHOWN FOR APPROXIMATE ROUGH-IN LOCATIONS AND QUANTITIES ONLY. CONTRACTOR TO VERIFY EXACT DEVICE LOCATIONS AND REQUIREMENTS WITH FIRE ALARM SYSTEM DESIGNER OF RECORD PRIOR TO POLICIFIAN.

# 2. FIRE SPRINKLER SYSTEM

- 1.1. FIRE SPRINKLER CONTRACTOR TO PROVIDE DEFERRED SUBMITTAL PACKAGE FOR FIRE SPRINKLER SYSTEM. SUBMITTAL SHALL INCLUDE HYDRAULIC CALCULATIONS AND SPRINKLER SYSTEM DRAWINGS SEALED BY A QUALIFIED DESIGN PROFESSIONAL LICENSED BY THE STATE.
- .2. WHERE COMBINED FIRE & DOMESTIC WATER SUPPLY LINES ARE SHOWN ON PLANS, INSTALLING CONTRACTOR SHALL VERIFY WITH FIRE SPRINKLER CONTRACTOR THAT INCOMING LINE SIZE IS ADEOUATE FOR FIRE SUPPRESSION SYSTEM.

# REFERENCED CODES IN EFFECT

PROJECT HAS BEEN DESIGNED IN COMPLIANCE WITH THE FOLLOWING CODES LISTED BELOW, BUT THIS IS NOT AN EXHAUSTIVE LIST. PROJECT SHALL COMPLY WITH ALL APPLICABLE CODES, STANDARDS, AND LOCAL REQUIREMENTS.

- 2018 INTERNATIONAL MECHANICAL CODE
- 2018 INTERNATIONAL PLUMBING CODE
   2018 INTERNATIONAL FUEL GAS CODE
- 2018 INTERNATIONAL FIRE CODE
- 2017 NATIONAL ELECTRIC CODE

# FIRE RATED PENETRATION NOTES

- THIS BUILDING CONTAINS FIRE RATED ASSEMBLIES. SEE ARCHITECTURAL PLANS FOR LOCATIONS AND DETAILS.
   A UL-LISTED FIRESTOP SYSTEM SHALL BE INSTALLED AT EACH PENETRATION OF A HORIZONTAL OR VERTICAL RATED ASSEMBLY IN ACCORDANCE WITH ASTM E814 OR UL 1479.
- EACH CONTRACTOR IS RESPONSIBLE FOR PROVIDING PROTECTION FOR THEIR PENETRATIONS THRU RATED
   ASSEMBLIES
- GENERAL CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND MAINTAINING A CATALOG OF ALL UL LISTED FIRESTOP ASSEMBLIES, AND KEEPING A PHYSICAL COPY OF DETAILS FOR EACH USED FIRESTOP ASSEMBLY ON

# SHEET LIST TABLE

SHEET # SHEET TITLE

MEP1 MECHANICAL ELECTRICAL PLUMBING COVER SHEET

MEP2 SITE UTILITIES PLAN

MEP3 SITE LIGHTING PLAN
M101 HVAC PLAN - FIRST & SECOND FLOORS
M102 HVAC PLAN - THIRD & FOURTH FLOORS
M501 HVAC DETAILS & SCHEDULES
EP101 POWER PLAN - FIRST & SECOND FLOORS
EP102 POWER PLAN - THIRD & FOURTH FLOORS
EL101 LIGHTING PLAN - FIRST & SECOND FLOORS
EL102 LIGHTING PLAN - THIRD & FOURTH FLOORS
ES01 ELECTRICAL DETAILS

E601 ELECTRICAL SCHEDULES

FP101 FIRE PROTECTION PLAN - FIRST & SECOND FLOORS
FP102 FIRE PROTECTION PLAN - THIRD & FOURTH FLOORS
PS101 SANITARY SEWER PLAN - FIRST & SECOND FLOORS
PS102 SANITARY SEWER PLAN - THIRD & FOURTH FLOORS
PW101 WATER PLAN - FIRST & SECOND FLOORS

PW102 WATER PLAN - THIRD & FOURTH FLOORS
P501 PLUMBING DETAILS & SCHEDULES
UMEP1.2 ANSI-B - 1 BR - TYPE A - UNIT MEP PLAN
UMEP1.4 ANSI B - 1 BR - TYPE B - UNIT MEP PLAN

UMEP1.5 ANSI B - 1 BR - TYPE C - UNIT MEP PLAN
UMEP2.1.1 ANSI A - 2 BR - TYPE A - UNIT HVAC & WATER PLAN

UMEP2.1.2 ANSI A - 2 BR - TYPE A - UNIT POWER & LIGHTING PLAN
UMEP2.2.1 ANSI B - AV - 2BR - TYPE A - HVAC & WATER PLAN

UMEP2.2.2 ANSI B - AV - 2BR - TYPE A - POWER & LIGHTING PLAN

UMEP2.3.1 ANSI B - 2 BR - TYPE A - UNIT HVAC & WATER PLAN

UMEP2.3.2 ASNI B - 2 BR - TYPE A - UNIT POWER & LIGHTING PLAN

UMEP2.4.2 ANSI B - 2 BR - TYPE B - UNIT POWER & LIGHTING PLAN

UMEP2.3.2 ASNI B - 2 BR - TYPE A - UNIT POWER & LIGHTING PLAN
UMEP2.4.1 ANSI B - 2 BR - TYPE B - UNIT HVAC & WATER PLAN

WATSON

NUMBER
PE-2015017071

es Watson, P.E. April 15, 2025

James Watson, P.E. April 15, 20 PE-2015017071 MO Certificate of Authority # 20180296



# J-SQUARED

Columbia, Missouri 65201 573.234.4492 www.j-squaredeng.com

J2 PROJECT No: J21357

J2 DESIGN: ACW

ISSUE TITLE DATE

PERMIT SET 04 - 15 - 2025

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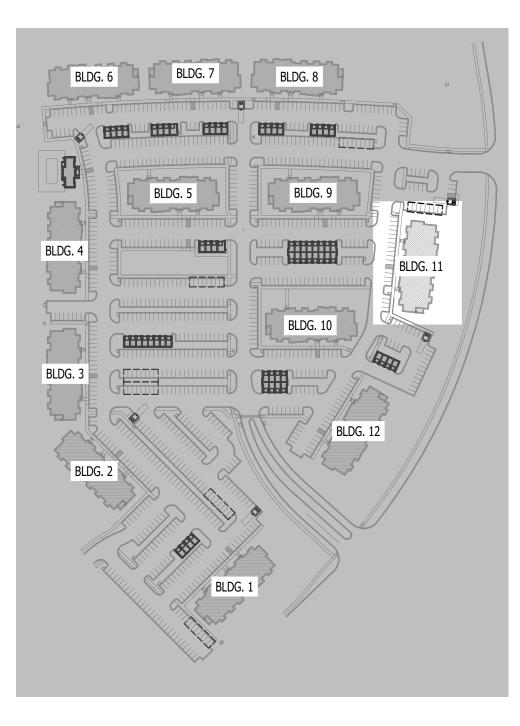
'illage at Discovery Par

AHJ APPROVAL STAMP

MECHANICAL ELECTRICAL PLUMBING COVER SHEET

SHEET NUMBER







# SITE UTILITIES PLAN SYMBOL LEGEND

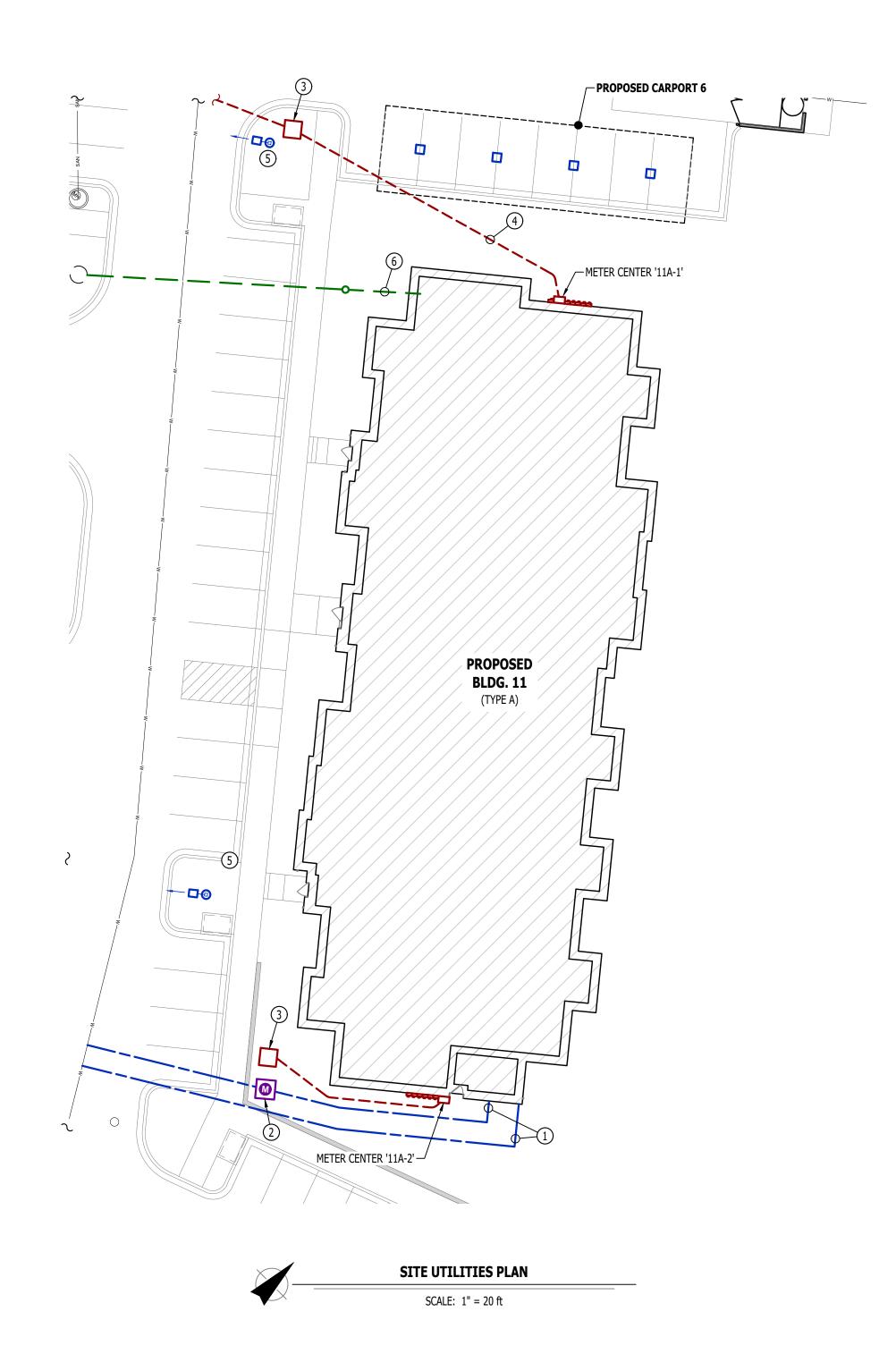
	SANITARY SEWER PIPING
	COLD WATER LINE
M	WATER METER
H	VALVE
	GAS LINE
©	GAS METER
$\times$	TIE INTO EXISTING
	ELECTRIC

# SITE UTILITIES PLAN GENERAL NOTES:

REFER TO CIVIL PLANS FOR EXACT UTILITY LOCATIONS, CONNECTIONS, DETAILS, ETC.
 COORDINATE EXACT LOCATIONS OF ALL ELECTRICAL CONDUITS & EQUIPMENT WITH EVERGY.

# SITE UTILITIES PLAN KEY NOTES:

- (1) 6" UN-METERED SPRINKLER LINE & 3" CW DOMESTIC LINE TO RISER ROOM (SEE PLUMBING PLANS FOR CONTINUATION).
- (2) PARALLEL 2" CW LINES TO (2) PARALLEL 2" DOMESTIC METERS IN VAULT (SEE PLUMBING PLANS FOR DETAILS). (2) 2" CW LINES COMBIND DOWNSTREAM OF METERS TO (1) 3" CW LINE TO BUILDING.
- 3 PROPOSED PAD-MOUNTED TRANSFORMER (SEE POWER RISER FOR DETAILS).
- 4 UNDERGROUND SECONDARY CONDUIT/CONDUCTORS (SEE POWER RISER FOR DETAILS).
- 5) POLE LIGHT (SEE SITE LIGHTING PLANS FOR DETAILS).
- 6 6" SAN (SEE PLUMBING PLANS FOR DETAILS).



JAMES P.
WATSON

NUMBER
PE-2015017071

James Watson, P.E. April 15, 2025 PE-2015017071 MO Certificate of Authority # 2018029680



# J-SQUARED ENGINEERING

2400 Bluff Creek Drive, Suite 101 Columbia, Missouri 65201 573.234.4492 www.j-squaredeng.com

J2 PROJECT No:	J21357
J2 DESIGN:	ACW
ISSUE TITLE	DATE

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PERMIT SET	04 - 15 - 2025

# ents

# FOR: Apartment

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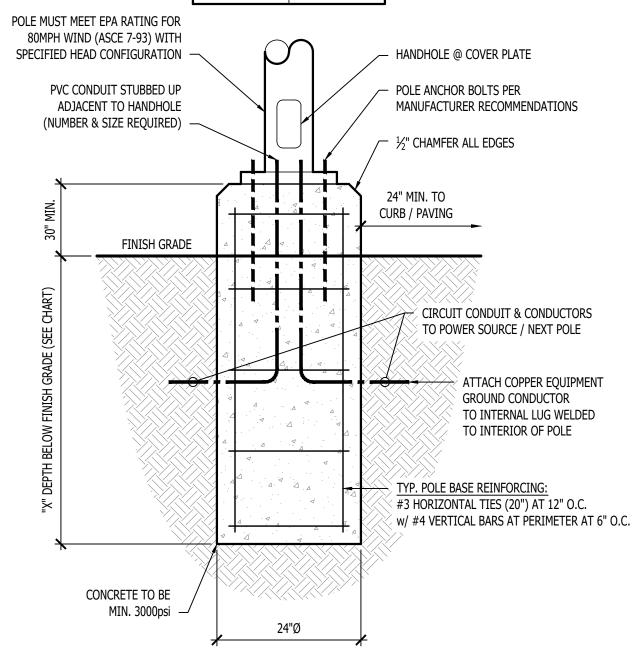
SHEET

SITE UTILITIES PLAN

SHEET NUMBER

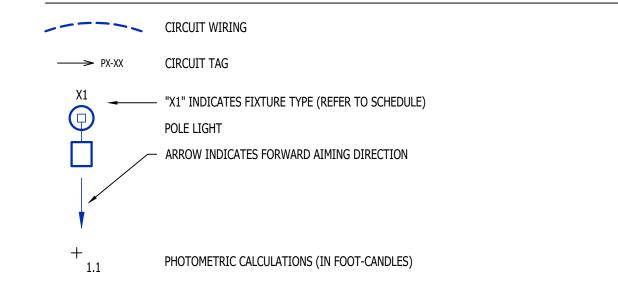
MEP2





TYPICAL LIGHT POLE DETAIL

# SITE LIGHTING PLAN SYMBOL LEGEND

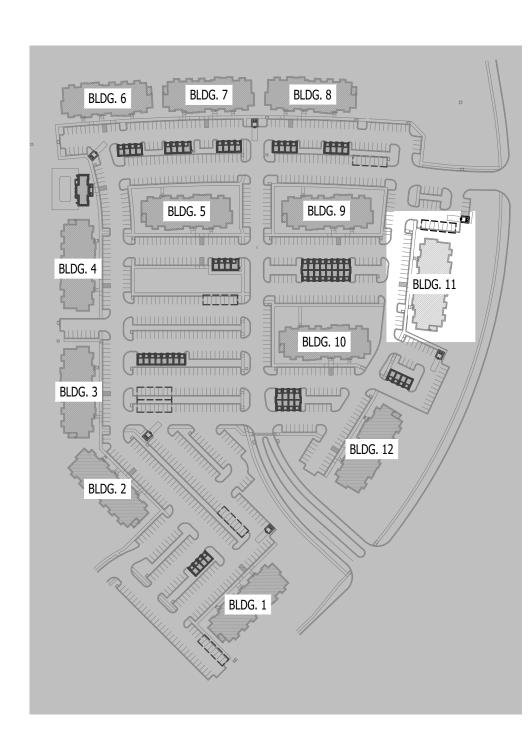


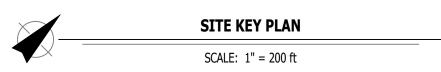
# **SITE LIGHTING PLAN GENERAL NOTES:**

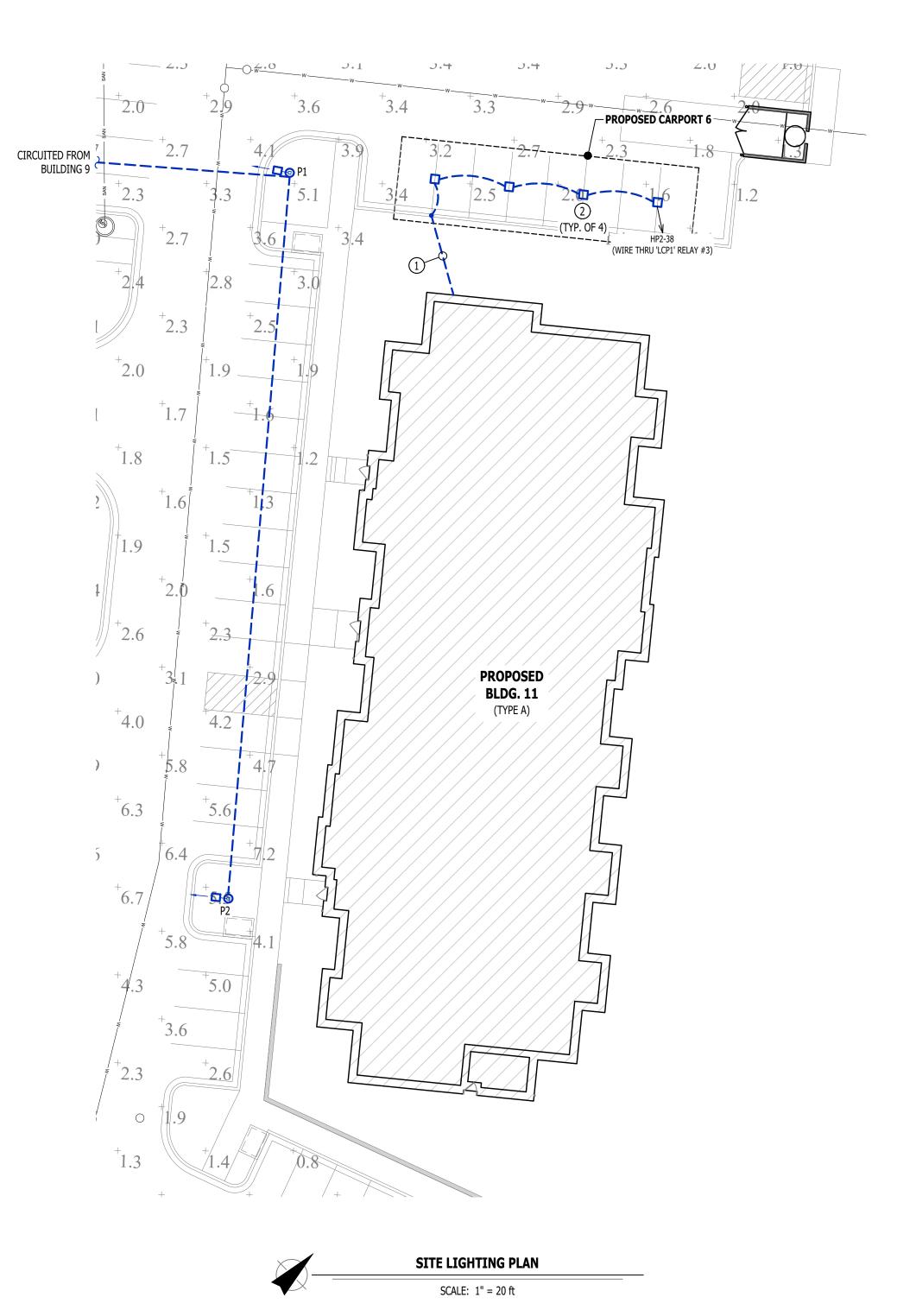
- SITE PHOTOMETRIC VALUES SHOWN HAVE BEEN CALCULATED PER SPECIFIED LIGHT FIXTURES AT INDICATED
  MOUNTING HEIGHTS. ANY CHANGES OR ALTERATIONS TO LIGHTING LAYOUT SHOWN WILL REQUIRE
  RECALCULATING SITE PHOTOMETRICS AND WILL THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR /
  EQUIPMENT SUPPLIER.
- PHOTOMETRIC CALCULATIONS SHOWN DO NOT INCLUDE EXISTING LIGHT FIXTURE(S), ONLY NEW POLE LIGHT
  FIXTURE(S) SHOWN. CALCULATIONS ALSO INCLUDE NEW POLE LIGHT FIXTURES ON ADJACENT LOTS AS PART
  OF THIS DEVELOPMENT. REFER TO ADJACENT BUILDING SITE LIGHTING AND MASTER SITE LIGHTING PLANS
  FOR DETAILS & CALCULATIONS SUMMARIES.
- 3. PHOTOMETRIC CALCULATIONS DO NOT INCLUDE CARPORT LIGHTING.

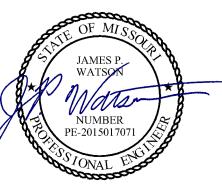
# SITE LIGHTING PLAN KEY NOTES:

- 1 1" CONDUIT WITH (2) #8 CU. & (1) #8 CU. EQ. GRD.
- (2) CARPORT LIGHTING FIXTURE EQUAL TO METALUX #CLCS175; COORDINATE MOUNTING & DETAILS WITH CARPORT SUPPLIER/INSTALLER.









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# ments

ry Park Alura Apartı

e at Discovery Park

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SITE LIGHTING PLAN

SHEET NUM

MEP3



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

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# **J-SQUARED**

2400 Bluff Creek Drive, Suite 101 Columbia, Missouri 65201 573.234.4492 www.j-squaredeng.com

J21357 ACW DATE

04 - 15 - 2025

& SECOND FLOORS

M101

EQUIPMENT TYPE (REFER TO EQUIPMENT SCHEDULE) EQUIPMENT REFERENCE NUMBER DIFFUSER/GRILLE TYPE (REFER TO SCHEDULE) CUBIC FEET PER MINUTE (CFM) / FACE SIZE SUPPLY DUCTWORK RETURN DUCTWORK EXHAUST DUCTWORK OUTSIDE AIR DUCTWORK FLEX DUCT ----- CONDENSATION LINE TIE INTO EXISTING SUPPLY DIFFUSER (HATCH INDICATES "NO FLOW ZONE") RETURN DIFFUSER BALANCE DAMPER MOTORIZED DAMPER CEILING RADIATION DAMPER

FIRE RATED DAMPER

SMOKE DAMPER

THERMOSTAT

# **HVAC PLAN GENERAL NOTES:**

1. REFER TO M500 AND/OR M600 SERIES SHEETS FOR ADDITIONAL HVAC NOTES, DETAILS,

2. HVAC CONTRACTOR SHALL REVIEW ALL PROJECT DOCUMENTS AND COORDINATE LOCATION OF ALL EQUIPMENT, DUCTWORK, REFRIGERANT PIPING, CONDENSATE PIPING, HANGERS / SUPPORTS, ETC. WITH PLUMBING AND ELECTRICAL TRADES BEFORE INSTALLATION OF ANY MATERIAL. ADDITIONAL COSTS ASSOCIATED WITH LACK OF COORDINATION WILL NOT BE

# **HVAC PLAN KEY NOTES:**

(1) CONDENSATE DRAIN TO INDIRECT DISCHARGE TO FLOOR DRAIN WITHIN ROOM.

(2) MAINTAIN 10' MINIMUM SEPARATION BETWEEN ALL MECHANICAL FRESH AIR INTAKES AND EXHAUST LOUVERS (TYP.).

(3) WALL HEATER PROVIDED & INSTALLED BY ELECTRICIAN.





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J2 PROJECT No: J21357 J2 DESIGN: ACW ISSUE TITLE DATE

PERMIT SET 04 - 15 - 2025

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Discover

at

Village

AHJ APPROVAL STAMP

SHEET TITLE

**HVAC PLAN -**THIRD & FOURTH **FLOORS** 

M102

# **HVAC SPECIFICATIONS**

1.1. REFER TO GENERAL MEP SPECIFICATIONS SECTION FOR ADDITIONAL REQUIREMENTS.

# WORKMANSHIP

- 2.1. COORDINATE WITH ALL OTHER TRADES SO THAT HVAC EQUIPMENT AND DUCT WORK DOES NOT BLOCK REQUIRED ACCESS OR CLEARANCE TO ANY EQUIPMENT, ACCESS PANELS, ELECTRICAL JUNCTION BOXES,
- ELECTRICAL PANELS, ETC. ALL HVAC EQUIPMENT IS TO BE INSTALLED PER MANUFACTURER'S PUBLISHED RECOMMENDATIONS
- AND/OR INSTALLATION INSTRUCTIONS. ALL EQUIPMENT TO BE INSTALLED LEVEL AND PLUMB, PARALLEL OR PERPENDICULAR TO BUILDING
- ROOFTOP MOUNTED RTU'S & EXHAUST FANS SHALL BE INSTALLED ON CURBS PER MANUFACTURER'S INSTRUCTIONS. CURB HEIGHT SHALL PROVIDE A MINIMUM OF 12" BETWEEN EQUIPMENT AND TOP OF
- ROOF IN ALL LOCATIONS. 2.5. GRADE MOUNTED RTUS, CONDENSING UNITS, AND HEAT PUMPS TO BE INSTALLED ON 4" REINFORCED CONCRETE PAD EXTENDING 4" BEYOND EACH EDGE OF THE EQUIPMENT, OR A MANUFACTURER APPROVED PRE-MANUFACTURED BASE.
- 2.6. APPROPRIATE ATTENTION SHALL BE GIVEN TO INDOOR AIR QUALITY THROUGHOUT CONSTRUCTION; PROTECT INSIDE OF NEW DUCTWORK & AIR-HANDLING EQUIPMENT FROM DUST, DIRT, DEBRIS, PAINT, MOISTURE, ETC. INSULATION SHALL BE REPLACED IF EXPOSED TO MOISTURE. AN INDEPENDENT, PROFESSIONAL DUCT CLEANING COMPANY SHALL CLEAN ALL NEW DUCTWORK IF EQUIPMENT WAS USED
- DURING CONSTRUCTION, AND EQUIPMENT/COILS SHALL ALSO BE THOROUGHLY CLEANED. 2.7. FIELD COORDINATE LOCATIONS OF ALL DIFFUSERS, GRILLES, REGISTERS, ETC. WITH LIGHT FIXTURE LOCATIONS AND ADJUST AS NECESSARY.

- 3.1. ALL EQUIPMENT SHOWN ON MECHANICAL PLANS SHALL BE PROVIDED & INSTALLED BY MECHANICAL CONTRACTOR UNLESS NOTED OTHERWISE.
- 3.2. ALL EQUIPMENT MUST PROVIDE PERFORMANCE AS SPECIFIED ON PLANS. WHERE SPECIFIC MANUFACTURERS AND/OR MODELS ARE INDICATED ON PLANS, CONTRACTOR TO PROVIDE MODEL INDICATED OR APPROVED EQUAL. VERIFY SUBSTITUTION APPROVAL PRIOR TO PURCHASE OR INSTALLATION OF EQUIPMENT.
- CONTRACTOR TO SUPPLY SUBMITTALS FOR ALL EQUIPMENT FOR REVIEW BY ARCHITECT AND ENGINEER.
- FORMAL APPROVAL SHALL BE RECEIVED BY CONTRACTOR PRIOR TO EQUIPMENT PURCHASE. CONTRACTOR TO SHARE APPROVED EQUIPMENT SUBMITTALS WITH ANY PERTINENT ELECTRICAL OR PLUMBING REQUIREMENTS WITH RESPECTIVE CONTRACTORS WITHIN TWO WEEKS OF RECEIVING
- APPROVED SUBMITTALS FROM ARCHITECT/ENGINEER. ALL EQUIPMENT SHOWN ON PLANS SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS WITH
- ADEQUATE ACCESS AND CLEARANCE FOR SERVICING OR REPLACEMENT. ALL HORIZONTAL FURNACES WITH AC COILS SHALL BE EQUIPPED WITH CORROSION RESISTANT DRAIN PAIN. DRAIN PAN TO DISCHARGE TO SANITARY WASTE VIA INDIRECT CONNECTION WITH AIR GAP. DRAIN PAN TO PROVIDE SECONDARY OVERFLOW OR FLOAT SWITCH INTERLOCKED WITH UNIT TO SHUT
- DOWN UNIT ON HIGH WATER SIGNAL. ALL EXTERIOR REFRIGERANT COILS TO BE PROTECTED BY FACTORY EQUIPPED HAIL GUARDS.
- REFRIGERANT PIPING TO BE ACR COPPER OR TYPE L COPPER.
- ALL AIR HANDLING EQUIPMENT SHALL BE EQUIPPED WITH MERV-8 FILTRATION AT RETURN OPENING
- UNLESS OTHERWISE NOTED. ALL AIR FILTERS SHALL BE SIZED FOR A MAXIMUM FACE VELOCITY OF 500FPM.
- PROVIDE & INSTALL ALL EQUIPMENT FLUES/VENTS PER MANUFACTURER'S SPECIFICATIONS.
- TERMINATIONS SHALL BE AT LEAST 10' FROM ANY FRESH AIR INTAKE. PROVIDE NEW AIR FILTERS IN ALL EQUIPMENT PRIOR TO TESTING & BALANCING AND BEFORE TURNING OVER SYSTEM(S) TO OWNERSHIP.
- 3.13. IF ANY EXISTING EQUIPMENT IS TO BE REUSED, CLEAN AND INSPECT EQUIPMENT PRIOR TO BEGINNING WORK. VERIFY THAT EQUIPMENT IS IN GOOD WORKING CONDITION, REPORT ANY DEFICIENCIES TO ENGINEER.

# 4. **DUCTWORK**

- 4.1. DUCTWORK TO BE GALVANIZED STEEL, SEAL CLASS B, CONSTRUCTED PER SMACNA STANDARDS.
- 4.2. DUCTWORK THICKNESS: 26 GA. MINIMUM UP TO 16" DUCT
- 4.2.2. 24 GA. UP TO 20"
- 4.2.3. 22 GA. UP TO 24" 20 GA. UP TO 28"
- 4.2.5. 18 GA. UP TO 36"
- TURNING VANES SHALL BE PROVIDED AND INSTALLED AT ALL 90° BENDS AND TEES. ALL DUCT DIMENSIONS LISTED ARE TO INTERIOR OF DUCT LINER UNLESS NOTED OTHERWISE ON
- BALANCE DAMPERS MUST BE PROVIDED TO ALLOW ADJUSTMENT AT EACH AIR TERMINAL.
- WHERE BRANCH TAKEOFF IS ACCESSIBLE (ABOVE LAY-IN CEILING OR EXPOSED DUCT), BALANCE DAMPER IS TO BE INSTALLED AT TAKEOFF.
- WHERE TAKEOFF IS INACCESSIBLE (IN ATTIC OR SOFFIT), BALANCE DAMPER IS TO BE LOCATED SUCH THAT IT IS ACCESSIBLE FROM FACE OF AIR DEVICE.
- HVAC CONTRACTOR RESPONSIBLE FOR ALL DUCTWORK TRANSITIONS AND FITTINGS AS REQUIRED FOR FINAL CONNECTIONS TO HVAC EQUIPMENT.
- UNLESS NOTED OTHERWISE ON PLANS, FLEXIBLE DUCT CONNECTIONS MAY USED FROM BRANCH DUCTS TO FINAL AIR DEVICES, BUT SHALL NOT EXCEED 8'-0" IN LENGTH. FLEXIBLE DUCT CONNECTORS MUST BE SUPPORTED PER PLAN DETAILS.

# 5.1. DUCTWORK

- 5.1.1. SEE "TYPICAL DUCT INSULATION DIAGRAM" FOR INSTALLATION SPECIFIC REQUIREMENTS.
- INTERNAL DUCT LINER TO BE EQUAL TO 'JOHNS MANVILLE LINACOUSTIC R-300'. 5.1.3. EXTERNAL DUCT WRAP TO INCLUDE VAPOR BARRIER. EQUAL TO 'JOHNS MANVILLE MICROLITE'
- WHERE INSULATION IS REQUIRED IN "TYPICAL DUCT INSULATION DIAGRAM", INCLUDE
- INSULATION ON ALL FITTINGS, INCLUDING CANVAS FLEX CONNECTION FITTINGS.
- SPLIT SYSTEM (SUCTION LINE ONLY) 1" CLOSED CELL ELASTOMERIC FOAM (EQUAL TO 'ARMAFLEX AP').
- VRV/VRF SYSTEMS (BOTH SUCTION AND HOT GAS LINES) 1 ½" EPDM (EQUAL TO 'AEROFLEX AEROCEL
- AC') WITHIN CONDITIONED SPACES & 2" EDPM (EQUAL TO 'AEROFLEX AEROCEL AC') IN UNCONDITIONED SPACES, AND WITH BANDED ALUMINUM SHIELDING IN EXTERIOR SPACES.
- 5.4. CONDENSATE PIPING SPLIT SYSTEMS - WHERE CONDENSATE PIPING IS LOCATED IN UNCONDITIONED SPACE, INSULATE
- WITH 1/2" ELASTOMERIC. NO INSULATION REQUIRED WITHIN CONDITIONED SPACES. VRV/VRF - INSULATE WITH  $\frac{1}{2}$ " ELASTOMERIC.

# 6. TESTING AND BALANCING

- ALL SYSTEMS MUST BE BALANCED TO WITHIN 10% OF VALUES INDICATED ON PLAN.
- HVAC CONTRACTOR TO PROVIDE WRITTEN BALANCE REPORT INCLUDING FLOW VALUES INDICATED ON PLANS, INITIAL MEASURED FLOW VALUES, AND FINAL MEASURED VALUES.
- THIRD PARTY CERTIFIED TEST AND BALANCE NOT REQUIRED UNLESS OTHERWISE NOTED ON PLANS OR WITHIN PROJECT MANUAL.

	SPLIT SYSTEM SCHEDULE														
TAG	EQUIPMENT	A DEA CEDVED	SIZE	ODWATA TOM	TOTAL	OA A IRFLOW	HEA TING	(IA: 80 DI	COOLING 3/67 WB, O	A: 95 DB)	ELECTRICAL			NOTES	
IAG	DESCRIPTION	AREA SERVED	(TONS)	ORIENTATION	AIRFLOW (CFM)	MAX/MIN (CFM)	ELECTRIC (KW) 240V (208V)	SENSIBLE TOTAL MIN EFF. (KBTU) (KBTU) (SEER)		VOLTE ( DIL	VOLTO ( DU LA CALL DOD				
ALILI 1	ATD HANDLED	ADADTMENTS	1 5	LIDELOW	600			<u> </u>	• •		VOLTS/PH	MCA	OCP 45	1 2	
AHU-1	AIR HANDLER	APARTMENTS	1.5	UPFLOW	600	-	8 (6)	-	-	-	208/1	44	45	1, 2	
AHU-2	AIR HANDLER	APARTMENTS	2.0	UPFLOW	800	-	10 (7.2)	-	-	-	208/1	51	60	1, 2	
AHU-3	AIR HANDLER	CORRIDORS	2.0	UPFLOW	800	60 / 60	10 (7.2)	-	-	-	208/1	51	60	1, 2	
CU-1	CONDENSING UNIT	APARTMENTS	1.5	-	-	-	-	13.2	17.8	13	208/1	12	20	3, 4	
CU-2	CONDENSING UNIT	APARTMENTS	2.0	-	-	-	-	17.2	23.0	13	208/1	18	30	3, 4	
CU-3	CONDENSING UNIT	CORRIDORS	2.0	-	-	-	-	17.2	23.0	13	208/1	18	30	3, 4	

1. PROVIDE AND INSTALL 7 DAY PROGRAMABLE HONEYWELL THERMOSTAT. COORDINATE EXACT MOUNTING LOCATION WITH OWNER.

SUSPENDED CLG.

RECTANGULAR

SUPPLY =

RETURN =

EXHAUST =

SUPPLY =

RETURN =

EXHAUST =

SUPPLY =

RETURN =

EXHAUST =

PROPORTIONAL FITTING

DUCT "C" / CFM "C"

- ECCENTRIC TRANSITION (30° MAX.)

- SUPPORT STRAPS (1" WIDE MIN.)

FLEXIBLE DUCTWORK

8ft MAX. LENGTH

TYPICAL DUCTWORK DETAIL

MUST NOT DAMAGE OR DEFORM DUCT

1/2" PER FOOT OF SUPPORT SPACING

MINIMUM INSIDE BEND RADIUS = DUCT Ø

- DUCT "A" / CFM "A"

DUCT "A" x (CFM "C" / CFM "A") = "C"

- ALL TEES, ELBOWS, AND

CHANGES IN DIRECTION

TO HAVE TURNING VANES

FIRE RATED WALL ASSEMBLY

TYPICAL BUILDING INTERIOR DUCT INSULATION DIAGRAM

DUCT "B" / CFM "B" —

DUCT "A" x (CFM "B" / CFM "A") = "B"

VOLUME DAMPER (SEE DETAIL)

FIRE RATED DAMPER

LOCATE ACCESS DOOR

NEAR DAMPER AS INDICATED

- 2. INCLUDE CORROSION RESISTANT DRAIN PAN WITH OVERFLOW SWITCH WIRED TO SHUT DOWN UNIT.
- 3. WITH FACTORY HAIL GUARD.
- 4. LOW AMBIENT PACKAGE FOR OPERATION TO 0° F.

= INSIDE

**DUCT INSIDE THERMAL ENVELOPE** 

1" LINER

1" LINER

NONE

2" WRAP

1½" WRAP

NONE

2" WRAP

NONE

NONE

NONE

NONE

2" WRAP

**INSULATION REQUIREMENTS** 

RECTANGULAR

SUPPLY =

RETURN =

EXHAUST =

SUPPLY =

RETURN =

EXHAUST =

SUPPLY =

RETURN =

EXHAUST =

OUTSIDE AIR =

SUPPLY DUCT

TURNED UP

45° TAKEOFF (SEE DETAIL) -

SUPPLY DIFFUSER (SEE DETAIL)

OUTSIDE AIR =

ROUND

OUTSIDE AIR =

					SPLIT S	SYSTEM	SCHEDULE								
١G	EQUIPMENT	ADEA CEDVED	AREA SERVED	SIZE	ORIENTATION	TOTAL AIRFLOW	OA A IRFLOW	HEA TING	(IA: 80 DI	COOLING B/67 WB, O	A: 95 DB)	l I	ELECTRICAL	_	NOTES
A.G	DESCRIPTION	AREA SERVED	(TONS)	ORIENIA IION	(CFM)	MAX/MIN (CFM)	ELECTRIC (KW) 240V (208V)	SENSIBLE (KBTU)	TOTAL (KBTU)	MIN EFF. (SEER)	VOLTS/PH MCA OCP				
U-1	AIR HANDLER	APARTMENTS	1.5	UPFLOW	600	-	8 (6)	-	-	-	208/1	44	45	1, 2	
J-2	AIR HANDLER	APARTMENTS	2.0	UPFLOW	800	-	10 (7.2)	-	-	-	208/1	51	60	1, 2	
U-3	AIR HANDLER	CORRIDORS	2.0	UPFLOW	800	60 / 60	10 (7.2)	-	-	-	208/1	51	60	1, 2	
J-1	CONDENSING UNIT	APARTMENTS	1.5	-	-	-	-	13.2	17.8	13	208/1	12	20	3, 4	
J-2	CONDENSING UNIT	APARTMENTS	2.0	-	-	-	-	17.2	23.0	13	208/1	18	30	3, 4	
J-3	CONDENSING UNIT	CORRIDORS	2.0	-	-	-	-	17.2	23.0	13	208/1	18	30	3, 4	
ES:															

			AIR DEV	ICE SCHED	ULE	
TAG	SERVICE	MANUFACTURER (OR EQUAL)	MODEL (OR EQUAL)	SIZE	COLOR / FINISH	NOTES
L1	OA / EXH	POTTORFF	EFD	AS INDICATED	PRIMED	PAINT TO MATCH EXTERIOR
R1	RETURN	PRICE	530	AS INDICATED	WHITE	
S1	SUPPLY	PRICE	520	12x6	WHITE	WITH CEILING RADIATION DAMPER
<b>S</b> 2	SUPPLY	PRICE	SPD	24x24	WHITE	
<b>S</b> 3	SUPPLY	PRICE	SPD	12x12	WHITE	WITH DRYWALL MOUNTING KIT
NOTES:						
1.	VERIFY AIR [	DEVICE FINISHES WITH C	WNER/ARCHITECT	PRIOR TO INSTALLA	ATION	

EXHAUST FAN SCHEDULE												
TAG EQUIPMENT TYPE MANUFACTURER MODEL FLOW ELECTRICAL												
IAG	EQUIPMENT TYPE	(OR EQUAL)	(OR EQUAL)	CFM	S.P.	VOLT/PH	MCA	ОСР	NOTES			
EF-1	EXHAUST FAN	BROAN / NUTONE	AE50	50	1/8"	120	1	20	1, 2			
NOTES:												
1.	WITH BACKDRAFT DAM	PER										
2.	WITH CEILING RADIATION	ON DAMPER										

SUPPLY DUCT UP INTO -

TRUSS CAVITY WITH

FIRE-DAMPER AT

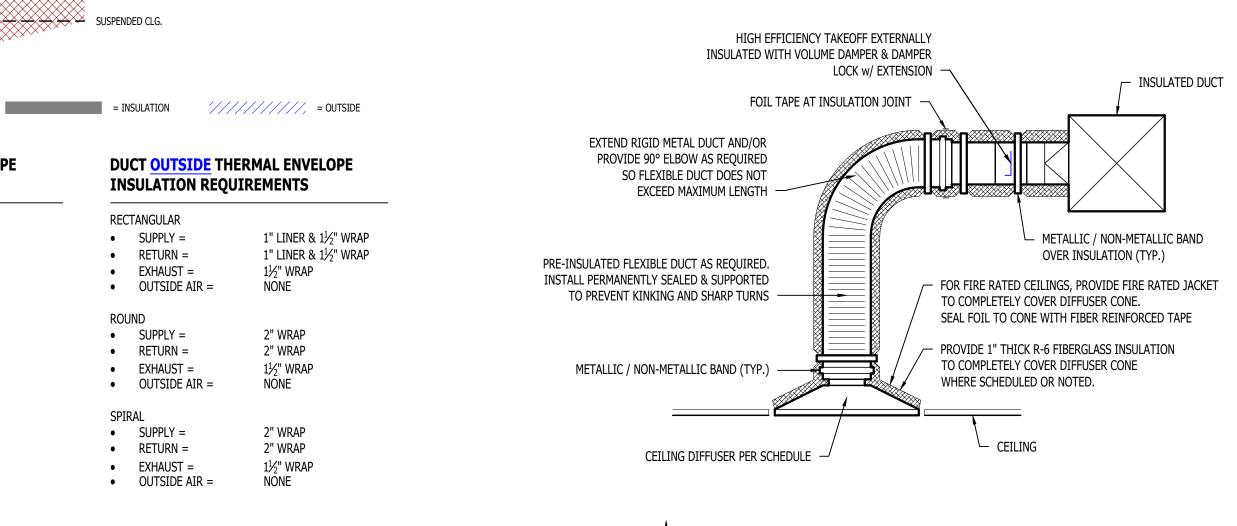
FLOOR/CEILING

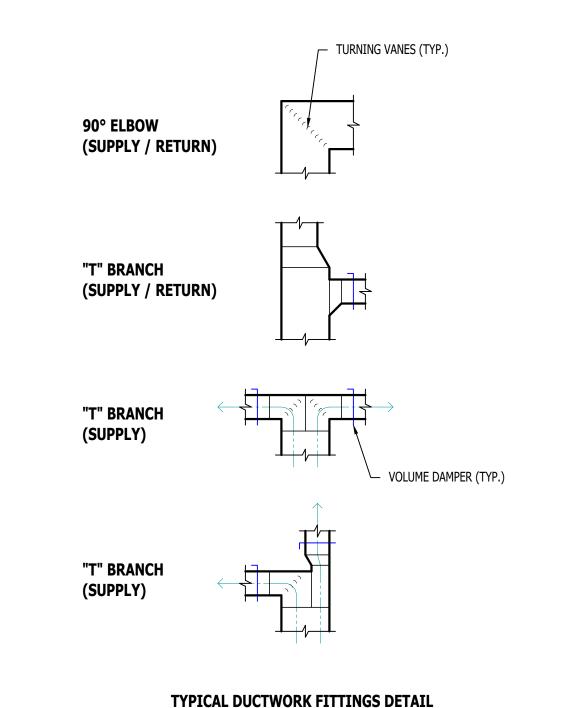
EVAPORATOR COIL

WALL MOUNTED

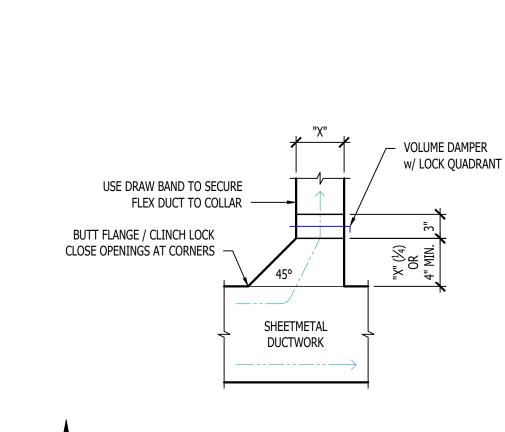
AIR HANDLING UNIT —

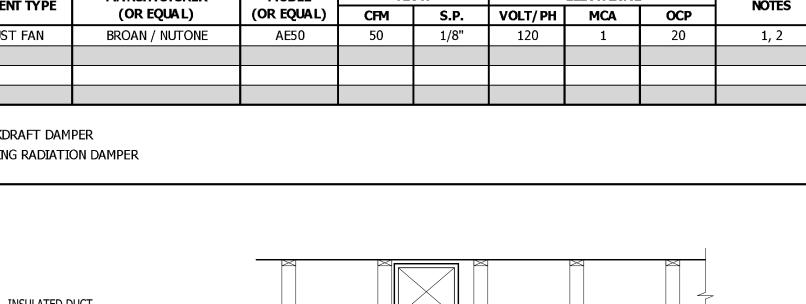
PENETRATION

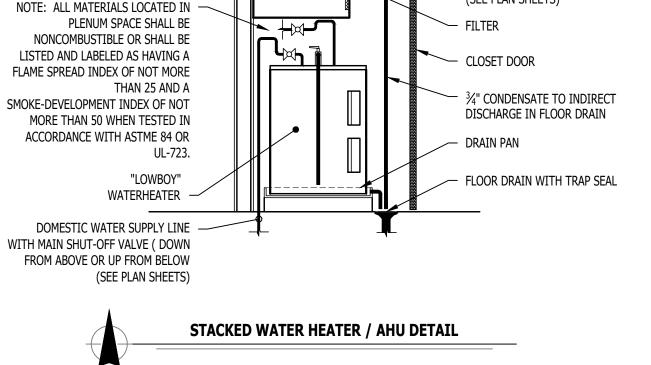




TYPICAL LAY-IN DIFFUSER DETAIL







REFRIGERANT LINES

(SEE PLAN SHEETS)

PLAN SHEETS);

(SEE PLAN SHEETS)

TO CONDENSING UNIT

1. RETURN GRILLE MOUNTED IN

WALL ABOVE MECHANICAL ROOM

DOOR OR IN ADJACENT WALL (SEE

2. RETURN DUCT FROM RETURN

GRILLE IN APARTMENT, OPEN-ENDED

IN UPPER PORTION OF MECHANICAL

**TYPICAL 45° TAKEOFF DETAIL** 

SHEET NUMBER

James Watson, P.E. April 15, 2025 MO Certificate of Authority # 2018029680

J-SQUARED ENGINEERING

PE-2015017071

2400 Bluff Creek Drive, Suite 101 Columbia, Missouri 65201 573.234.4492 www.j-squaredeng.com

J2 PROJECT No: J21357 J2 DESIGN: ACW

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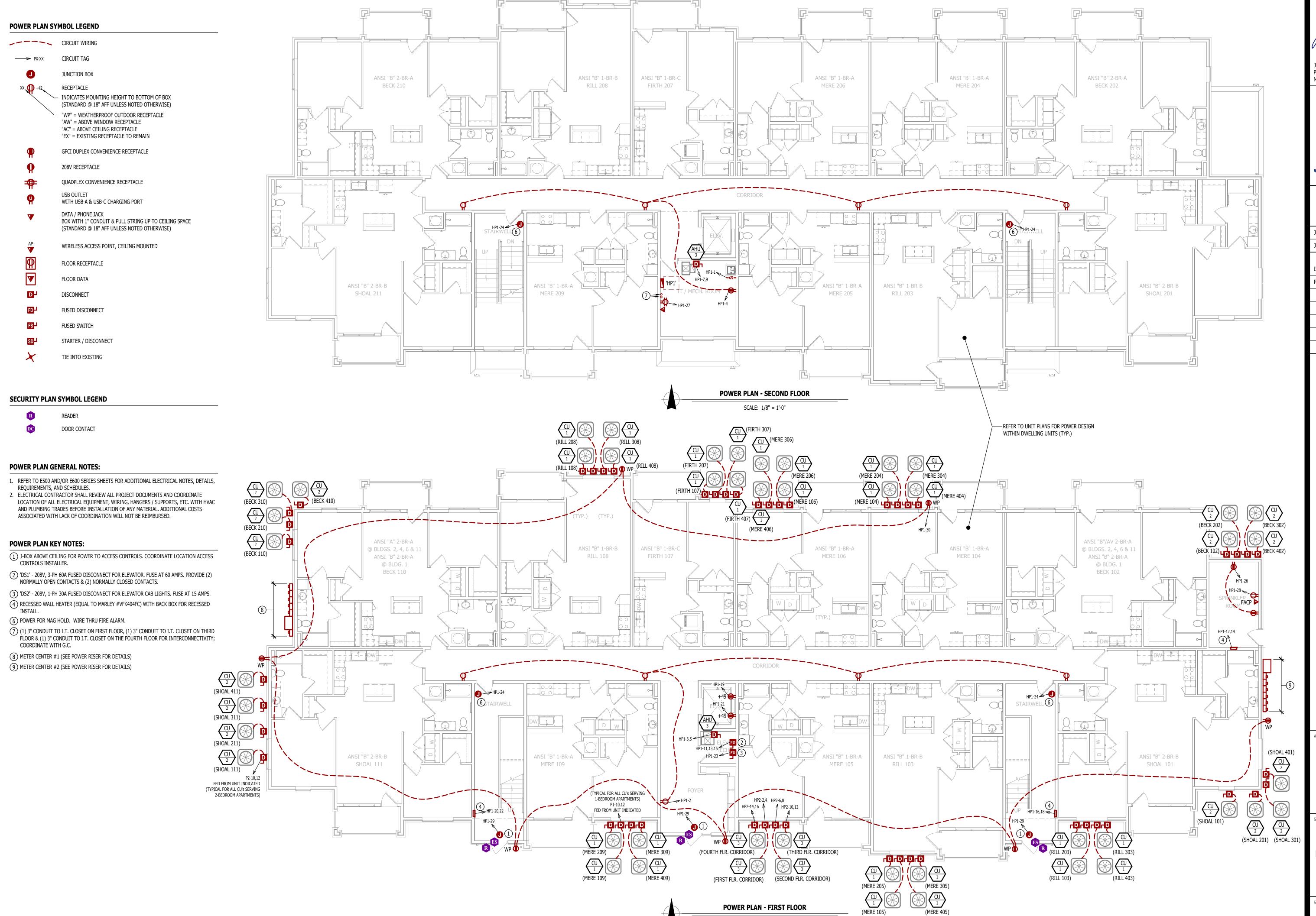
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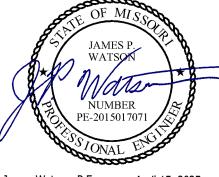
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**HVAC DETAILS & SCHEDULES** 



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



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**73** 

y Park Alura Apartme

Villag

Northeast Douglas Street ee's Summit, Jackson County, Missouri

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AHJ APPROVAL STAMP

T TITLE

POWER PLAN - FIRST & SECOND FLOORS

SHEET NUMBER

**EP101** 

# **POWER PLAN SYMBOL LEGEND**

CIRCUIT WIRING CIRCUIT TAG JUNCTION BOX RECEPTACLE INDICATES MOUNTING HEIGHT TO BOTTOM OF BOX (STANDARD @ 18" AFF UNLESS NOTED OTHERWISE) "WP" = WEATHERPROOF OUTDOOR RECEPTACLE "AW" = ABOVE WINDOW RECEPTACLE "AC" = ABOVE CEILING RECEPTACLE "EX" = EXISTING RECEPTACLE TO REMAIN GFCI DUPLEX CONVENIENCE RECEPTACLE

208V RECEPTACLE

QUADPLEX CONVENIENCE RECEPTACLE

WITH USB-A & USB-C CHARGING PORT

DATA / PHONE JACK BOX WITH 1" CONDUIT & PULL STRING UP TO CEILING SPACE (STANDARD @ 18" AFF UNLESS NOTED OTHERWISE)

WIRELESS ACCESS POINT, CEILING MOUNTED

FLOOR RECEPTACLE

FLOOR DATA

DISCONNECT

FUSED DISCONNECT FUSED SWITCH

STARTER / DISCONNECT

TIE INTO EXISTING

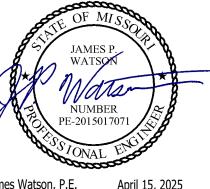
# **POWER PLAN GENERAL NOTES:**

- 1. REFER TO E500 AND/OR E600 SERIES SHEETS FOR ADDITIONAL ELECTRICAL NOTES, DETAILS, REQUIREMENTS, AND SCHEDULES.
- 2. ELECTRICAL CONTRACTOR SHALL REVIEW ALL PROJECT DOCUMENTS AND COORDINATE LOCATION OF ALL ELECTRICAL EQUIPMENT, WIRING, HANGERS / SUPPORTS, ETC. WITH HVAC AND PLUMBING TRADES BEFORE INSTALLATION OF ANY MATERIAL. ADDITIONAL COSTS ASSOCIATED WITH LACK OF COORDINATION WILL NOT BE REIMBURSED.

# **POWER PLAN KEY NOTES:**

- 1) RECESSED WALL HEATER (EQUAL TO MARLEY #VFK404FC) WITH BACK BOX FOR RECESSED INSTALL.
- (2) POWER FOR MAG HOLD. WIRE THRU FIRE ALARM.
- (3) ELEVATOR SERVICE DISCONNECTS. WIRE THRU 'DS1' & 'DS2' IN FIRST FLOOR ELEVATOR EQUIPMENT ROOM (SEE SHEET EP101) COORDINATE EXACT LOCATION & REQUIREMENTS WITH ELEVATOR SUPPLIER.





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SHEET TITLE

**POWER PLAN -**THIRD & FOURTH **FLOORS** 

# LIGHTING PLAN SYMBOL LEGEND

X1 "X1" INDICATES FIXTURE TYPE (REFER TO SCHEDULE)

LIGHTING FIXTURE

EM "EM" INDICATES EMERGENCY BATTERY BACKUP

NL "NL" INDICATES UN-SWITCHED NIGHT LIGHT

EXIT LIGHT

INDICATES REQUIRED REMOTE HEAD

SWITCH (WALL MOUNTED)

SWITCH (WALL MOU SWITCH TYPE: • 3 = 3-WAY

4 = 4-WAY
 OP = PASSIVE INFRARED OCCUPANCY SENSOR

OU = ULTRASONIC OCCUPANCY SENSOR
 OT = DUAL-TECHNOLOGY OCCUPANCY SENSOR

VP = PASSIVE INFRARED VACANCY SENSOR

VU = ULTRASONIC VACANCY SENSOR
 VT = DUAL-TECHNOLOGY VACANCY SENSOR

M = MOMENTARY SWITCHSS = SCENE SWITCH

DIMMER SWITCH (WALL MOUNTED)

SWITCH TYPE:

SEE "SWITCH (WALL MOUNTED)" FOR TYPE DESIGNATIONS

SWITCH (CEILING MOUNTED)
SWITCH TYPE:

SEE "SWITCH (WALL MOUNTED)" FOR TYPE DESIGNATIONS

## **OCCUPANCY SENSOR**

AUTO FULL-ON (OR 50% IF NOTED)

 AUTOMATICALLY TURN OFF LIGHTING AFTER 20 MINUTES WITHOUT OCCUPANT DETECTION

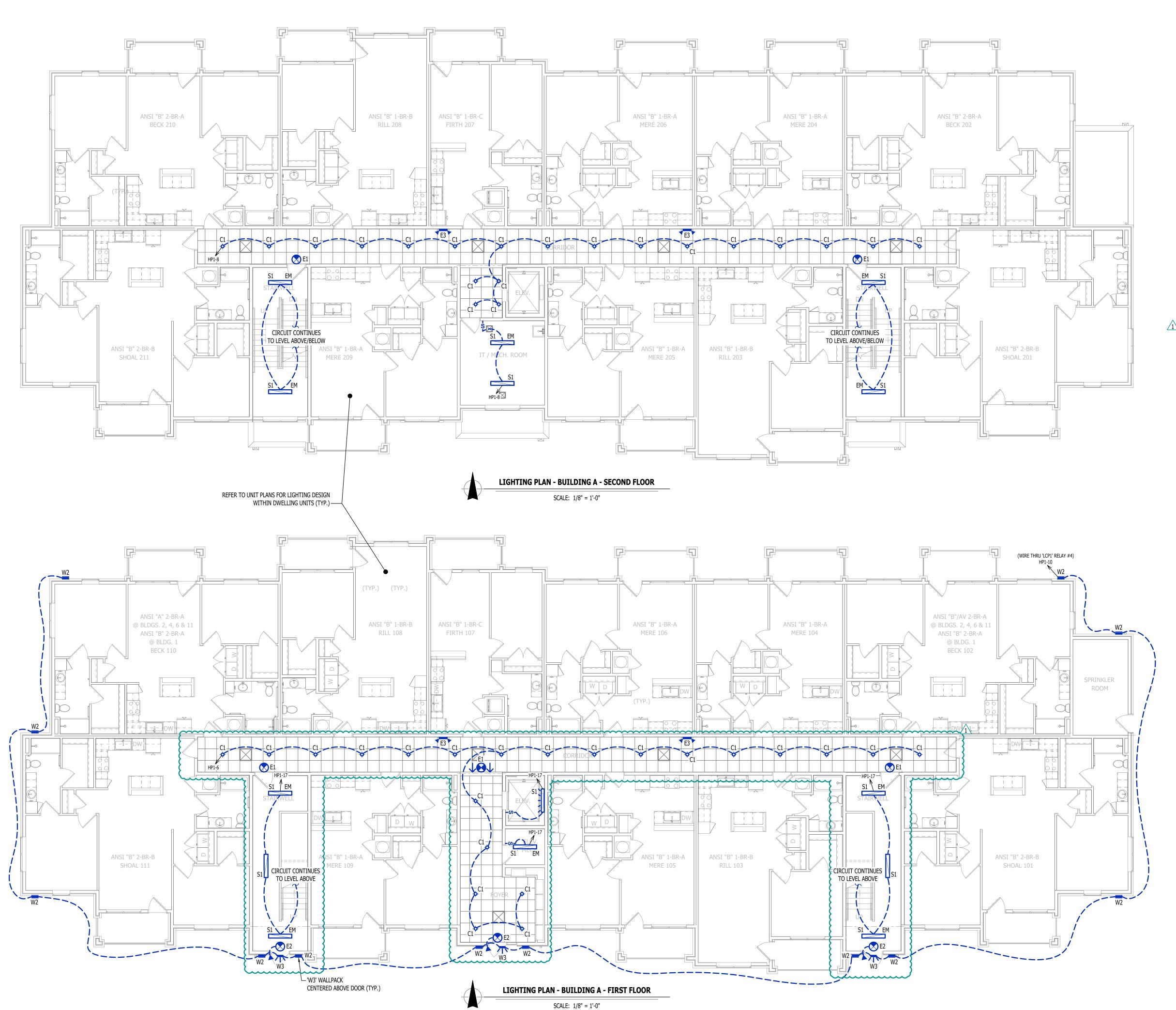
• WITH MANUAL OVERRIDE CONTROL (IF NOTED)

# VACANCY SENSORMANUAL FULL-ON

- AUTOMATICALLY TURN OFF LIGHTING AFTER 20 MINUTES WITHOUT OCCUPANT
- WITH MANUAL OVERRIDE CONTROL (IF NOTED)

## **LIGHTING PLAN GENERAL NOTES:**

- REFER TO E500 AND/OR E600 SERIES SHEETS FOR ADDITIONAL LIGHTING NOTES, DETAILS, REQUIREMENTS, AND SCHEDULES.
- 2. OCCUPANCY/VACANCY SENSOR QUANTITIES AND GENERAL LOCATIONS SHOWN FOR REFERENCE ONLY. CONTRACTOR TO PROVIDE & INSTALL SENSOR WITH SPACING PER MANUFACTURE OF THE PROPERTY OF
- MANUFACTURER'S SPECIFICATIONS AND INCLUDE ADDITIONAL SENSORS IF NECESSARY.
  CEILING-MOUNTED SENSORS SHALL BE INSTALLED WITHIN MANUFACTURER'S ACCEPTABLE MOUNTING HEIGHT RANGE.
- 3. ELECTRICAL CONTRACTOR SHALL REVIEW ALL PROJECT DOCUMENTS AND COORDINATE LOCATION OF ALL FIXTURES, WIRING, HANGERS / SUPPORTS, ETC. WITH HVAC AND PLUMBING TRADES BEFORE INSTALLATION OF ANY MATERIAL. ADDITIONAL COSTS ASSOCIATED WITH LACK OF COORDINATION WILL NOT BE REIMBURSED.





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ADDENDUM 1 05 - 16 - 2025

# ints

Discovery Park Alura Apartm

Northeast Douglas Street

Village

AHJ APPROVAL STAMP

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LIGHTING PLAN -FIRST & SECOND FLOORS

HEET NUMBER

**EL101** 

# LIGHTING PLAN SYMBOL LEGEND

X1 - "X1" INDICATES FIXTURE TYPE (REFER TO SCHEDULE) LIGHTING FIXTURE "EM" INDICATES EMERGENCY BATTERY BACKUP "NL" INDICATES UN-SWITCHED NIGHT LIGHT

EXIT LIGHT

- INDICATES REQUIRED REMOTE HEAD

EMERGENCY EGRESS LIGHT SWITCH (WALL MOUNTED)

SWITCH TYPE: • 3 = 3-WAY

• 4 = 4-WAY

• OP = PASSIVE INFRARED OCCUPANCY SENSOR

 OU = ULTRASONIC OCCUPANCY SENSOR • OT = DUAL-TECHNOLOGY OCCUPANCY SENSOR

 VP = PASSIVE INFRARED VACANCY SENSOR VU = ULTRASONIC VACANCY SENSOR

VT = DUAL-TECHNOLOGY VACANCY SENSOR

 M = MOMENTARY SWITCH SS = SCENE SWITCH

DIMMER SWITCH (WALL MOUNTED)

SEE "SWITCH (WALL MOUNTED)" FOR TYPE DESIGNATIONS

SWITCH (CEILING MOUNTED)

SEE "SWITCH (WALL MOUNTED)" FOR TYPE DESIGNATIONS

# OCCUPANCY SENSOR

AUTO FULL-ON (OR 50% IF NOTED)

AUTOMATICALLY TURN OFF LIGHTING AFTER 20 MINUTES WITHOUT OCCUPANT

WITH MANUAL OVERRIDE CONTROL (IF NOTED)

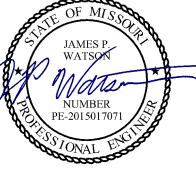
### **VACANCY SENSOR** MANUAL FULL-ON

- AUTOMATICALLY TURN OFF LIGHTING AFTER 20 MINUTES WITHOUT OCCUPANT
- WITH MANUAL OVERRIDE CONTROL (IF NOTED)

## LIGHTING PLAN GENERAL NOTES:

- 1. REFER TO E500 AND/OR E600 SERIES SHEETS FOR ADDITIONAL LIGHTING NOTES, DETAILS,
- REQUIREMENTS, AND SCHEDULES. 2. OCCUPANCY/VACANCY SENSOR QUANTITIES AND GENERAL LOCATIONS SHOWN FOR
- REFERENCE ONLY. CONTRACTOR TO PROVIDE & INSTALL SENSOR WITH SPACING PER MANUFACTURER'S SPECIFICATIONS AND INCLUDE ADDITIONAL SENSORS IF NECESSARY. CEILING-MOUNTED SENSORS SHALL BE INSTALLED WITHIN MANUFACTURER'S ACCEPTABLE MOUNTING HEIGHT RANGE.
- 3. ELECTRICAL CONTRACTOR SHALL REVIEW ALL PROJECT DOCUMENTS AND COORDINATE LOCATION OF ALL FIXTURES, WIRING, HANGERS / SUPPORTS, ETC. WITH HVAC AND PLUMBING
- TRADES BEFORE INSTALLATION OF ANY MATERIAL. ADDITIONAL COSTS ASSOCIATED WITH LACK OF COORDINATION WILL NOT BE REIMBURSED.





James Watson, P.E. April 15, 2025 PE-2015017071 MO Certificate of Authority # 2018029680



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**Discovery** 

at

Village

AHJ APPROVAL STAMP

SHEET TITLE

**LIGHTING PLAN -**THIRD & FOURTH **FLOORS** 

**EL102** 

- CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL NECESSARY PIECES AND COMPONENTS TO PROVIDE A 1.1.
- COMPLETE AND COMPLIANT ELECTRICAL SYSTEM UNLESS OTHERWISE NOTED ON PLANS. THE ENTIRE ELECTRICAL SYSTEM SHALL BE CONTINUOUSLY GROUNDED. EVERY BRANCH CONDUIT SHALL INCLUDE A GREEN GROUND CONDUCTOR SIZED PER NEC.
- ARC-FAULT CIRCUITS SHALL BE RUN WITH A DEDICATED NEUTRAL AS REQUIRED BY MANUFACTURER. PROVIDE PERMANENT ARC-FLASH LABEL AFFIXED TO EVERY DISCONNECT AND PANEL.
- PROVIDE TYPE WRITTEN PANEL SCHEDULE FOR EACH PANEL.

- ALL ELECTRICAL SYSTEM COMPONENTS SHALL BE INSTALLED LEVEL, PLUMB, AND
- PARALLEL/PERPENDICULAR TO BUILDING ORIENTATION WHERE POSSIBLE. ALL ELECTRICAL DEVICES AND LIGHT FIXTURES SHALL BE INSTALLED IN A SAFE, FIRST-CLASS MANNER WITH ATTENTION GIVEN TO OVERALL AESTHETICS.

CARE SHOULD BE TAKEN TO ALLOW FOR FUTURE REPLACEMENT AND ACCESS FOR SERVICE.

### CONDUIT & CONDUCTORS 3.1.

- ALL CONDUCTORS SIZES INDICATED ARE COPPER UNLESS NOTED OTHERWISE ON PLANS.
- ABOVE GRADE CONDUCTORS SHALL BE TYPE THHN.
- BELOW GRADE CONDUCTORS SHALL BE TYPE XHHW-2. MINIMUM CONDUCTOR SIZE SHALL BE #12 AWG UNLESS NOTED OTHERWISE. 120-VOLT, 20-AMP CIRCUITS WITH CONDUCTOR LENGTHS GREATER THAN 100' SHALL BE #10 AWG MINIMUM. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR MEASURING ACTUAL CONDUCTOR LENGTH AND INCREASING CONDUCTOR SIZE TO COMPENSATE FOR VOLTAGE DROP AS REQUIRED BY NEC.
- RIGID GALVANIZED OR SCHEDULE 40 PVC CONDUIT SHALL BE USED FOR SERVICE WIRING, BELOW GRADE INSTALLATIONS, OR WHERE EXPOSED TO WEATHER.
- IN APPLICATIONS OTHER THAN THOSE LISTED IN 3.1.4, EMT OR MC CABLE IS ACCEPTABLE. WHERE CONDUCTORS ARE PROTECTED FROM DAMAGE, ENCLOSED IN BUILDING MATERIALS, AND CONSTRUCTION IS OF A PERMITTED TYPE, NM CABLE MAY BE USED.
- FOR CAST-IN-PLACE CONCRETE, TILT-UP WALL CONSTRUCTION, OR PRE-MANUFACTURED WALL SYSTEMS, COORDINATE EXACT LOCATIONS OF ALL DEVICES WITHIN WALLS WITH WALL SUPPLIER. CONDUIT EMBEDDED IN WALLS SHALL BE SCHEDULE 80 PVC OR LFMC, OR OTHER SYSTEM APPROVED BY WALL MANUFACTURER.
- EXPOSED CONDUIT SHALL BE PAINTED TO MATCH ADJACENT SURFACES, VERIFY COLOR WITH ARCHITECT/OWNER.

# 3.2.

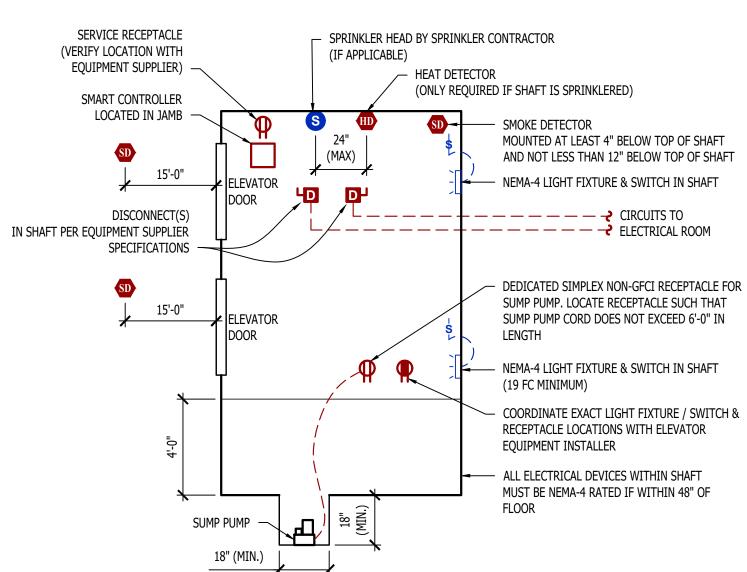
- CONTRACTOR TO PROVIDE J-BOXES, COVER PLATES, AND ANY ACCESSORIES REQUIRED TO
- PROVIDE A COMPLETE SYSTEM. SEE ARCHITECTURAL PLANS FOR DEVICE COLORS. DUPLEX RECEPTACLES SHALL BE TAMPER RESISTANT, 20-AMP, EQUAL TO LEVITON #TBR-20. SINGLE POLE TOGGLE WALL SWITCHES SHALL BE EQUAL TO LEVITON CS120-2.
- THREE-WAY TOGGLE WALL SWITCHES SHALL BE EQUAL TO LEVITON CS320-2.
- DIMMER SWITCHES SHALL BE TESTED WITH FIXTURES AND LAMPS FOR COMPATIBILITY. SEE LIGHTING PLANS FOR DETAILS.
- WHERE GFCI PROTECTION IS SHOWN ON PLANS AND UNLESS OTHERWISE NOTED, PROVIDE A LISTED GFCI-PROTECTED RECEPTACLE WHERE THE RECEPTACLE IS ACCESSIBLE ON PLANS. IF THE RECEPTACLE LOCATION IS NOT ACCESSIBLE AS DEFINED BY NEC, PROVIDE GFCI PROTECTION AT
- DO NOT INSTALL OCCUPANCY/VACANCY SENSORS WITHIN 48" OF HVAC DIFFUSERS/GRILLES OR SIMILAR OBSTRUCTION THAT MAY AFFECT SENSOR FUNCTIONALITY. ALL SENSORS SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.
- ALL APPLICABLE SWITCHES, RECEPTACLES, CONTROLS, ETC. SHALL BE MOUNTED AT ADA-ACCESSIBLE HEIGHTS.
- WIRING DEVICES SHOWN ON PLANS NEXT TO ONE ANOTHER SHALL UTILIZE A SINGLE COVER PLATE UNLESS NOTED OTHERWISE.
- WIRING DEVICES SHOWN BACK-TO-BACK ON EACH SIDE OF A WALL SHALL BE OFFSET TO REDUCE SOUND TRANSMISSION.
- EACH RECEPTACLE COVER SHALL BE NEATLY AND LEGIBLY LABELED WITH CORRESPONDING PANEL AND CIRCUIT NUMBER FOR CIRCUIT IDENTIFICATION.

# 4. **EMERGENCY LIGHTING**

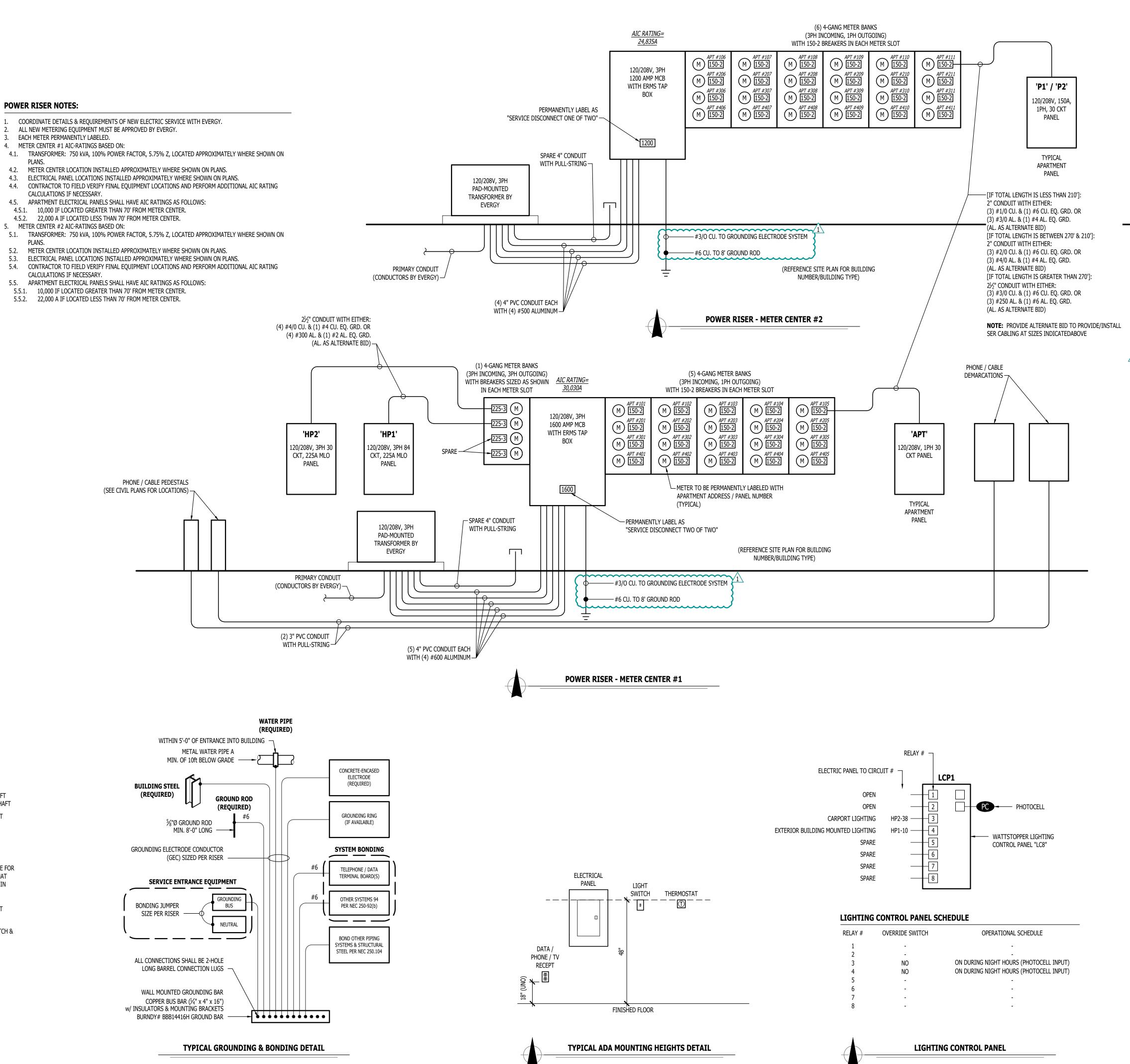
- 4.1. BRANCH CIRCUIT FEEDING EMERGENCY FIXTURE(S) SHALL BE SAME BRANCH CIRCUIT AS THAT SERVING NORMAL LIGHTING IN SAME AREA AND CONNECTED AHEAD OF ANY LOCAL SWITCHES.
- EMERGENCY LIGHTING SYSTEM SHALL PROVIDE 1FC AVERAGE AND 0.1FC MINIMUM ALONG EGRESS PATHS. ADJUST ANY EMERGENCY FIXTURES AS NECESSARY TO PROVIDE PROPER ILLUMINATION WITHOUT OBSTRUCTION FROM FURNITURE OR OBSTACLES.

# **NOTES:**

- ALL ELECTRICAL CONDUCTORS WITHIN ELEVATOR PIT MUST COMPLY WITH NEC 620.21. 2. SUMP PUMP RECEPTACLE, SHAFT / PIT RECEPTACLES, & SHAFT LIGHTING TO ALL BE ON EMERGENCY POWER IF
- ELEVATOR IS ON EMERGENCY POWER. ADDITIONAL SMOKE DETECTOR REQUIRED IN ELEVATOR MACHINE ROOM (IF APPLICABLE).
- 4. IN CASES WHERE ELEVATOR IS NOT SHUNT-TRIP PROTECTED, A LABELED SPRINKLER SHUT-OFF MUST BE
- LOCATED OUTSIDE THE ELEVATOR HOISTWAY AND/OR EQUIPMENT ROOM.
- 5. PERMANENTLY LABEL ALL CIRCUITS AND FEEDERS.
- 6. SUMP PUMP DISCHARGE LINE SHALL BE HARD PIPED (NO PVC).



**MACHINE - ROOM - LESS ELEVATOR DETAIL** 



James Watson, P.E. April 16, 2025

MO Certificate of Authority # 2018029680

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ADDENDUM 1

A

AHJ APPROVAL STAMP

SHEET TITLE

SHEET NUMBER

**ELECTRICAL DETAILS** 

PE-2015017071

				LIGHT	FIXTU	RE S	CHEC	ULE		
TAG	MANUFACTURER (OR EQUAL)	MODEL NUMBER (OR EQUAL)	DESCRIPTION	MOUNTING	LUMEN OUTPUT	CCT (°K)	CRI	VOLTS	WATTS	NOTES
C1	HALO	HLCE6129FS1E	6" LED SURFACE CAN	SURFACE / CEILING	1,200	3000	90	120	15	
E1	SURE LITES	APC7RG	INTERIOR EXIT LIGHT WITH HEADS	WALL / CEILING	-	-	-	120	1	WITH RED LETTERS
E2	SURE LITES	APCH7RG WITH APWR2	INTERIOR EXIT LIGHT WITH EXTERIOR REMOTE HEAD	CEILING	-	-	-	120	1	WITH RED LETTERS
E3	SURE LITES	SEL50	EMERGENCY EGRESS LIGHT	INTERIOR WALL	-	-	-	120	1	
F1	ROYAL PACIFIC	1057-BN-WT-L	CEILING FAN W/ LED LIGHT KIT	SURFACE/ CEILING	1,050	3000	80	120	14	WITH LIGHT KIT
P1	ROYAL PACIFIC	4430-BN	LED PENDANT	SURACE / CEILING	600	3000	80	120	8	
S1	METALUX	4SNX-SL3-LW-UNV-CC83-CD-1-FKO-U	4' LED STRIP	SURFACE / CEILING	4,511	4000	70	120	38	WITH 'EL14W' EMERGENCY BATTERY BACKUP WHERE INDICATED
V1	ROYAL PACIFIC	4904-BN-4	LED VANITY	SURFACE / WALL	2,110	3000	80	120	30	
W1	HALO	FE12S40FDB	LED PATIO SCONCE	EXTERIOR WALL	1,272	4000	83	120	11	
W2	TECH LIGHTING	7000WVEX9404ZUNV	UP / DOWN WALL SCONCE	EXTERIOR WALL	554	4000	90	120	19	
W3	LUMARK	XTOR4B-W	LED WALLPACK	EXTERIOR WALL	3,995	4000	70	120	38	
W4	LUMARK	AXCS1A-MSP/DIM-L12	LED WALLPACK	EXTERIOR WALL	1,806	4000	70	120	14	
					_				_	
NOTES:										

- 1. LIGHT FIXTURES PROVIDED BY OWNER THRU NATIONAL ACCOUNT AND INSTALLED BY ELECTRICAL CONTRACTOR.
- 2. ALL FIXTURE QUANTITIES TO BE VERIFIED BY ELECTRICAL CONTRACTOR PRIOR TO ORDERING.
- 3. CONTACT JUSTIN HATFIELD (573) 289-0880 (JHATFIELD@LAIWEB.NET) OR PAUL WARNER (314) 531-3500 (PWARNER@LAIWEB.NET) AT LIGHTING ASSOCIATES FOR NATIONAL ACCOUNT DETAILS.
- 4. CONTACT TRAVIS VOGT (417) 621-5210 (TVOGT@CED1135.COM) AT CED-PHILLIPS & COMPANY FOR NATIONAL ACCOUNT DETAILS.

			PAN	IEL 'H	IP1' S	CHE	DULE						
	PA NEL S	SPECIFICATIONS							TOTAL CONNECT	TED LO	AD		
V	OLTAGE: 120/208V 3-PH	NEMA RATING:	1						PHA SE "A" LOA D:	161	AMPS		
AM	IPACITY: 225A MLO	PANEL MOUNTING:	SURFACE						PHA SE "B" LOA D:	197	AMPS		
A IC-	AIC-RATING: 22kA								PHA SE "C" LOA D:	155	AMPS		
CIRCUIT NUMBER	DESCRI	IPTION	BREAKER SIZE	AMPS	PHASE	AMPS	BREAKER SIZE	[	DESCRIPTION		DESCRIPTION		
1	WATER HEA	TER (WH2)	20-1	12.5	Α	9	20-1	1st FLR (	CORRIDOR RECEPTS.		2		
3	1st FLR CORRIDOR AIR H	60-2	51	В	7.5	20-1	2nd FLR	CORRIDOR RECEPTS.		4			
5	-	-	51	С	4	20-1	1st FLR	CORRIDOR LIGHTING		6			
7	2nd FLR CORRIDOR AIR I	60-2	51	Α	3	20-1		CORRIDOR LIGHTING		8			
9	-	-	51	В	2	20-1	EXTERIO	R BUILDING LIGHTING		10			
11	ELEVATO	60-3	42	С	19	25-2	SPRINKLE	R ROOM WALL HEATER		12			
13	-	-	42	Α	19	-		-		14			
15	-		-	42	В	19	25-2	STAIRV	VELL WALL HEATER		16		
17	STAIRWELL		20-1	5	С	19	-		-		18		
19	ELEVATOR P		20-1	1.5	Α	19	25-2	STAIRV	VELL WALL HEATER		20		
21	ELEVATOR PIT		20-1	1	В	19	-		-		22		
23	ELEVATOR C	CAB LIGHTS	20-2	1	С	1	20-1		MAG HOLDS		24		
25	-		-	1	A	3	20-1		ER ROOM RECEPTS.		26		
27	2nd FLR IT/MECH		20-1	3	В	1.5	20-1		ACP RECEPT.		28		
29	ACCESS C		20-1	1	С	12	20-1	EXT	ERIOR RECEPTS.		30		
31	SPA		20-1		Α				OPEN		32		
33	SPA		20-1		В				OPEN		34		
35	SPA		20-1		С				OPEN		36		
37	SPA		20-1		Α				OPEN		38		
39	SPA		20-1		В				OPEN		40		
41	SPA	.RE	20-1		C				OPEN		42		

- A: PANEL SHALL BE EQUAL TO SQUARE D MODEL "QO"
- B: ELECTRICIAN SHALL VERIFY EXACT EQUIPMENT OVERCURRENT PROTECTION REQUIREMENTS PRIOR TO PURCHASE & INSTALLATION OF EQUIPMENT. C: AFTER COMPLETION OF WORK, ELECTRICAN SHALL PROVIDE A TYPE WRITTEN PANEL DIRECTORY IN NEW PANEL.

PANEL 'HP2' SCHEDULE											
PANEL SPECIFICATIONS									TOTAL CONNECT	D LC	AD
V	<b>OLTAGE:</b> 120/208V 3-PH	NEMA RATING:	1						PHASE "A" LOAD:	152.5	AMPS
AM	IPACITY: 225A MLO	PANEL MOUNTING:	SURFACE						PHASE "B" LOAD:	128	AMPS
A IC-	RATING: 22kA							PHASE "C" LOAD: 165.		165.5	AMPS
CIRCUIT NUMBER	DESCR	IPTION	BREAKER SIZE	AMPS	PHASE	AMPS	BREAKER SIZE	Γ	DESCRIPTION		CIRCUIT NUMBER
1	SPA	ARE	20-1		Α	17	25-2	1st FLR CORRIDO	OR CONDENSING UNIT (CU	-1)	2
3	3rd FLR IT/MECH	I ROOM RECEPT.	20-1	3	В	17	-		-		4
5	4th FLR IT/MECH	ROOM RECEPT.	20-1	3	С	17	25-2	2nd FLR CORRID	OR CONDENSING UNIT (CU	-2)	6
7	3rd FLR CORRI	DOR LIGHTING	20-1	3	Α	17	-		-		8
9	4th FLR CORRI	DOR LIGHTING	20-1	3	В	17	25-2	3rd FLR CORRID	OR CONDENSING UNIT (CU	-3)	10
11	3rd FLR CORRIDOR AIR I	HANDLING UNIT (AHU-3)	60-2	51	С	17	-		-		12
13	-		-	51	Α	17	25-2	4th FLR CORRIDO	OR CONDENSING UNIT (CU	-4)	14
15	4th FLR CORRIDOR AIR I	HANDLING UNIT (AHU-3)	60-2	51	В	17	-		-		16
17	-	-	-	51	С	7.5	20-1		CORRIDOR RECEPTS.		18
19	STAIRWELL V	VALL HEATER	25-2	19	Α	7.5	20-1	4th FLR	CORRIDOR RECEPTS.		20
21	-	•	-	19	В	1	20-1		MAG HOLDS		22
23	STAIRWELL V	VALL HEATER	25-2	19	С		20-1		SPARE		24
25	-	-	-	19	Α		20-1		SPARE		26
27	SPA		20-1		В		20-1		SPARE		28
29	SPA		20-1		С				OPEN		30
31	SPA		20-1		Α				OPEN		32
33	SPA		20-1		В				OPEN		34
35	SPA		20-1		С				OPEN		36
37	SPA		20-1		Α	2	20-1	CA	RPORT LIGHTS		38
39	SPA		20-1		В				OPEN		40
41	SP <i>A</i>	ARE	20-1		С				OPEN		42

# A: PANEL SHALL BE EQUAL TO SQUARE D MODEL "QO"

- B: ELECTRICIAN SHALL VERIFY EXACT EQUIPMENT OVERCURRENT PROTECTION REQUIREMENTS PRIOR TO PURCHASE & INSTALLATION OF EQUIPMENT.
- C: AFTER COMPLETION OF WORK, ELECTRICAN SHALL PROVIDE A TYPE WRITTEN PANEL DIRECTORY IN NEW PANEL.

	VOLTA GE	PANEL	SIZE	MOU	NTING	AIC RATING		
	120/208V 1-PH						PHASE "A" LOAD	167.5
	120/2007 1 711	150A I	MLO	RECE	SSED	SEE RISER	PHASE "B" LOAD	164.5
	NEMA RATING: 1							
CIRCUIT NUMBER	DESCRIPTION	BREAKER SIZE	AMPS	PHASE	AMPS	BREAKER SIZE	DESCRIPTION	CIRCUI NUMBEI
1	<u>REFRIGERATOR</u>	<u>20-1</u>	<u>8</u>	Α	44	45-2	AHU-1	2
3	STOVE	50-2	30	В	44	-	-	4
5	-	-	30	Α	22	30-2	WATER HEATER	6
7	RANGE HOOD / MICROWAVE	<u>20-1</u>	<u>8</u>	В	22	-	-	8
9	KITCHEN RECEPTS.	<u>20-1</u>	<u>4.5</u>	Α	12	20-2	CU-1	10
11	<u>DISHWA SHER</u>	<u>20-1</u>	<u>8</u>	В	12	-	-	12
13	KITCHEN RECEPTS.	<u>20-1</u>	<u>4.5</u>	Α		20-1	SPARE	14
15	LIVING ROOM RECEPTS.	<u>15-1</u>	<u>12</u>	В	<u>6</u>	<u>15-1</u>	<u>LIGHTING</u>	16
17	BEDROOM RECEPTS.	<u>15-1</u>	<u>9</u>	Α	<u>4</u>	<u>20-1</u>	<u>DISPOSA L</u>	<u>18</u>
19	BATHROOM RECEPT.	20-1	1.5	В			OPEN	20
21	<u>SPA RE</u>	<u>15-1</u>		Α			OPEN	22
23	SPARE	20-1		В			OPEN	24
25	WASHING MACHINE	<u>20-1</u>	<u>8</u>	Α	1.5	20-1	Media Panel	26
27	DRYER	30-2	20	В	<u>1</u>	<u>15-1</u>	SMOKE DETECTORS	28
29	-	-	20	Α			OPEN	30

- A: PANEL SHALL BE EQUAL TO SQUARE D MODEL "HOMELINE"
- B: ELECTRICIAN SHALL VERIFY BREAKER WITH EQUIPMENT PRIOR TO PURCHASE & INSTALL.
- C: AFTER COMPLETION OF WORK, ELECTRICAN SHALL PROVIDE A TYPE WRITTEN PANEL DIRECTORY IN NEW PANEL.
- D: CIRCUIT BREAKERS SHOWN ABOVE IN **BOLD UNDERLINED** TEXT SHALL BE ARC-FAULT CIRCUIT INTERRUPTER (AFCI) PER NEC 210.12. E: TOTAL SIMULTANEOUS PHASE LOADS SHOWN MAY EXCEED PANEL AMPACITY AS SERVICE LOADS HAVE BEEN CALCULATED IN ACCORDANCE WITH NEC 220.82

TYPICAL APARTMENT PANEL 'P2' SCHEDULE								
	VOLTAGE	PANEL SIZE		MOUNTING		AIC RATING		
	120/208V 1-PH						PHASE "A" LOAD	188.5
	120/2007 1-77	150A MLO		RECESSED		SEE RISER	PHASE "B" LOAD	178
	NEMA RATING: 1							
CIRCUIT NUMBER	DESCRIPTION	BREAKER SIZE	AMPS	PHASE	AMPS	BREAKER SIZE	DESCRIPTION	CIRCUIT NUMBER
1	<u>REFRIGERATOR</u>	<u>20-1</u>	<u>8</u>	Α	51	60-2	AHU-5	2
3	STOVE	50-2	30	В	51	-	-	4
5	-	-	30	Α	22	30-2	WATER HEATER	6
7	RANGE HOOD / MICROWAVE	<u>20-1</u>	<u>8</u>	В	22	-	-	8
9	KITCHEN RECEPTS.	<u>20-1</u>	<u>4.5</u>	Α	17	25-2	CU-5	10
11	<u>DISHWA SHER</u>	<u>20-1</u>	<u>8</u>	В	17	-	-	12
13	<u>KITCHEN RECEPTS.</u>	<u>20-1</u>	<u>4.5</u>	Α		20-1	SPARE	14
15	LIVING ROOM RECEPTS.	<u>15-1</u>	<u>12</u>	В	<u>6</u>	<u>15-1</u>	<u>LIGHTING</u>	16
17	BEDROOM RECEPTS.	<u>15-1</u>	<u>9</u>	Α	<u>4</u>	<u>20-1</u>	<u>DISPOSA L</u>	<u>18</u>
19	BATHROOM RECEPT.	20-1	1.5	В			OPEN	20
21	BEDROOM RECEPTS.	<u>15-1</u>	<u>9</u>	Α			OPEN	22
23	BATHROOM RECEPT.	20-1	1.5	В			OPEN	24
25	WASHING MACHINE	<u>20-1</u>	<u>8</u>	Α	1.5	20-1	MEDIA PANEL	26
27	DRYER	30-2	20	В	<u>1</u>	<u>15-1</u>	SMOKE DETECTORS	28
29	-	-	20	Α			OPEN	30

# A: PANEL SHALL BE EQUAL TO SQUARE D MODEL "HOMELINE"

- B: ELECTRICIAN SHALL VERIFY BREAKER WITH EQUIPMENT PRIOR TO PURCHASE & INSTALL.
- C: AFTER COMPLETION OF WORK, ELECTRICAN SHALL PROVIDE A TYPE WRITTEN PANEL DIRECTORY IN NEW PANEL.
- D: CIRCUIT BREAKERS SHOWN ABOVE IN **BOLD UNDERLINED** TEXT SHALL BE ARC-FAULT CIRCUIT INTERRUPTER (AFCI) PER NEC 210.12.
- E: TOTAL SIMULTANEOUS PHASE LOADS SHOWN MAY EXCEED PANEL AMPACITY AS SERVICE LOADS HAVE BEEN CALCULATED IN ACCORDANCE WITH NEC 220.82

BRANCH CIRCUIT CONDUCTOR SCHEDULE  COPPER AWG MAXIMUM DISTANCE (FEET) MINIMU  MINIMUM DISTANCE (FEET) MINIMUM DISTANCE (FEET)								
AMPACITY	COPPER AWG	<u> </u>	LØ		3Ø			
	SIZE -	120V	277V	208V	480V	CONDUIT SI		
20	12	55'	130'	115'	260'	1/2"		
20	10	90'	205'	180'	415'	3/4"		
30	10	60'	135'	120'	275'	3/4"		
30	8	95'	220'	190'	445'	1"		
35	8	80'	190'	165'	380'	1"		
33	6	130'	300'	260'	605'	1"		
40	8	70'	165'	145'	330'	1"		
40	6	110'	260'	225'	525'	1"		
45	6	100'	235'	200'	470'	1'		
CF	4	160'	370'	325'	750'	1-1/4"		
50	6	90'	210'	180'	420'	1-1/4"		
30	4	145'	335'	290'	675'	1-1/4"		
60	6	75'	175'	150'	350'	1-1/4"		
UU	4	120'	280'	240'	560'	1-1/4"		
70	4	105'	240'	205'	480'	1-1/4"		
70	3	130'	300'	260'	605'	1-1/4"		
80	4	55'	210'	180'	420'	1-1/4"		
00	3	90'	260'	230'	530'	1-1/4"		
90	3	100'	235'	200'	470'	1-1/4"		
90	2	125'	295'	255'	595'	1-1/4"		
100	3	90'	210'	180'	420'	1-1/4"		
100	2	115'	265'	230'	535'	1-1/4"		

RACEWAY.

- 1. ALL BRANCH CIRCUIT CONDUCTORS SHALL BE COPPER. ALL WIRE SIZES SHOWN ARE BASED ON CONDUCTOR
- TEMPERATURE RATING OF 75°C & AMBIENT TEMPERATURE OF 30°C PER NEC.
- 2. DISTANCE SHOWN ABOVE IS LENGTH FROM OVERCURRENT PROTECTION TO DEVICE/EQUIPMENT.
- 3. REFER TO PLAN SHEETS FOR BRANCH CONDUCTOR SIZING LENGTHS GREATER THAN SHOWN ABOVE. 4. VOLTAGE DROP CALCULATIONS BASED ON 3% DROP, 80% CIRCUIT LOAD, THHN/THWN INSULATION, 100% POWER FACTOR, BALANCED LOAD, NEGLIGIBLE REACTANCE, & SIX OR LESS CURRENT-CARRYING CONDUCTORS IN

FEEDER CONDUCTOR SCHEDULE								
			CONDUCTORS	EQUIPME	NT GROUND	MINIMUM		
A MPA CITY	# OF CETC	QUA NTIT	Y PER SET	AWG	SIZE	AWG SIZE		CONDUIT SIZE
	# OF SETS	3Ø 'WYE'	1Ø OR 3Ø▲	COPPER	ALUMINUM	COPPER	A LUMINUM	(PER SET)
30	1	4	3	10	8	10	8	3/4"
40	1	4	3	8	8	8	8	1"
45	1	4	3	8	6	8	8	1"
50	1	4	3	8	6	10	8	1"
60	1	4	3	6	4	10	6	1"
70	1	4	3	4	2	8	6	1-1/4"
80	1	4	3	4	2	8	6	1-1/4"
90	1	4	3	3	2	8	6	1-1/4"
100	1	4	3	3	1	8	6	1-1/4"
110	1	4	3	2	1/0	6	4	1-1/4"
125	1	4	3	1	2/O	6	4	2"
150	1	4	3	1/0	3/O	6	4	2"
175	1	4	3	2/0	4/0	6	4	2"
200	1	4	3	3/0	250	6	4	2-1/2"
225	1	4	3	4/0	300	4	2	2-1/2"
250	1	4	3	250	350	4	2	3"
300	1	4	3	350	500	4	2	4"
350	1	4	3	400	600	3	1	4"
400	1	4	3	500	750	3	1	4"
500	2	4	3	250	350	2	1/0	4"
600	2	4	3	350	500	1	2/0	4"
800	2	4	3	500	750	1/0	3/0	4"
1000	3	4	3	400	350	2/0	4/0	4"
1200	4	4	3	350	500	3/0	250	4"
1600	5	4	3	400	750	4/0	350	4"
2000	6	4	3	400	750	250	400	4"

- 1. ALLWIRE SIZES SHOWN ARE BASED ON CONDUCTOR TEMPERATURE RATING OF 75°C & AMBIENT TEMPERATURE RATING OF 30°C PER NEC.
- 2. MAXIMUM ALLOWABLE VOLTAGE DROP FOR FEEDER CONDUCTORS SHALL BE 2%.
- 3. ELECTRICAL CONTRACTOR TO ADJUST CONDUCTOR SIZES FOR LONG CIRCUIT LENGTHS & AMBIENT TEMPERATURES HIGHER THAN 30°C.

James Watson, P.E. April 15, 2025 PE-2015017071 MO Certificate of Authority # 2018029680



# J-SQUARED ENGINEERING

2400 Bluff Creek Drive, Suite 101 Columbia, Missouri 65201 573.234.4492

J2 PROJECT No: J2 DESIGN:

www.j-squaredeng.com

ISSUE TITLE DATE PERMIT SET 04 - 15 - 2025

AHJ APPROVAL STAMP

**ELECTRICAL** 

**SCHEDULES** 

# **DEFERRED SUBMITTAL NOTES**

- 1. FIRE ALARM CONTRACTOR SHALL PROVIDE DEFERRED SUBMITTAL PACKAGE FOR FIRE ALARM SYSTEM. SUBMITTAL SHALL INCLUDE BATTERY CALCULATIONS, VOLTAGE DROP CALCULATIONS, EQUIPMENT SPECIFICATIONS FOR DEVICES AND PANELS, ETC. DESIGN SHALL BE SEALED BY A QUALIFIED DESIGN PROFESSIONAL LICENSED BY THE STATE.
- 2. FIRE ALARM SYSTEM COMPONENTS SHOWN (IF APPLICABLE) ARE GENERAL AND SCHEMATIC IN NATURE, SHOWN FOR APPROXIMATE ROUGH-IN LOCATIONS AND QUANTITIES ONLY. CONTRACTOR TO VERIFY EXACT DEVICE LOCATIONS AND REQUIREMENTS WITH FIRE ALARM SYSTEM DESIGNER OF RECORD PRIOR TO ROUGH-IN.

# FIRE ALARM SYSTEM SPECIFICATIONS

- 1. FIRE ALARM SYSTEM SHALL BE AN ADDRESSABLE SYSTEM THAT IS NONCODED, UL-LISTED, WITH MULTIPLEX SIGNAL TRANSMISSION AND HORN/STROBE EVACUATION.
- EVERY FIRE ALARM SYSTEM COMPONENT SHALL BE UL-LISTED AND UL-CERTIFIED, TESTED BY MANUFACTURERS AS A COMPLETE SYSTEM, AND MEET ALL APPLICABLE REQUIREMENTS
- OF NFPA 72.
  3. ALL FIRE ALARM WIRING TO BE PLENUM RATED.
- 4. ALL INITIATING DEVICES INSTALLED IN UNCONDITIONED SPACES SHALL BE CONVENTIONAL DEVICES SUITABLE FOR USE IN EXTREME HIGH AND LOW TEMPERATURES AND HIGH HUMIDITY. SUCH DEVICES SHALL BE SUPERVISED BY ADDRESSABLE MONITOR MODULES LOCATED IN CONDITIONED SPACES.
- QUANTITIES, TYPES, AND LOCATIONS OF INITIATING DEVICES AND OUTPUT MODULES FOR INTERCONNECTION WITH FIRE SUPPRESSION MUST BE COORDINATED WITH CONTRACTORS THAT ARE RESPONSIBLE FOR THOSE SYSTEMS.

## FIRE ALARM PLAN SYMBOL LEGEND

M MODULE
O OUTPUT MODULE
SD SMOKE DETECTOR
HEAT DETECTOR

CARBON MONOXIDE DETECTOR

STROBE - CEILING MOUNT

STROBE - WALL MOUNT

HORN STROBE - WALL MOUNT

HORN STROBE - CEILING MOUNT

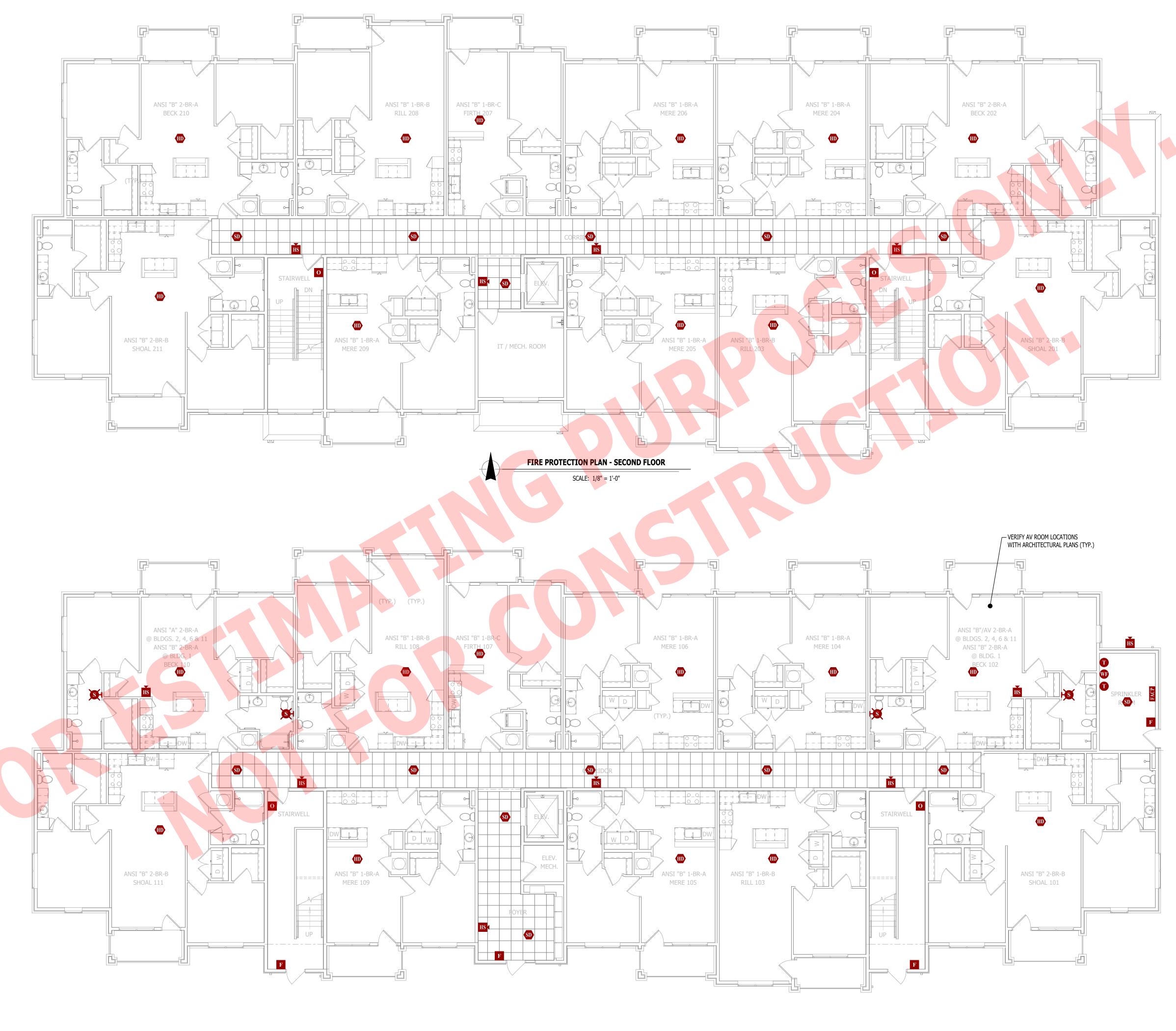
SS SPEAKER STROBE - WALL MOUNT
SPEAKER STROBE - CEILING MOUNT

T TAMPER SWITCH

WE WATER FLOW SWITCH

FACP FIRE ALARM CONTROL PANEL

FIRE ALARM ANNUNCIATOR







James Watson, P.E. April 15, 2025 PE-2015017071 MO Certificate of Authority # 2018029680



# J-SQUARED ENGINEERING

2400 Bluff Creek Drive, Suite 101 Columbia, Missouri 65201 573.234.4492 www.j-squaredeng.com

J2 PROJECT No: J21357

J2 DESIGN: ACW

ISSUE TITLE DATE

PERMIT SET 04 - 15 - 2025

# **7**3

ABING DESIGN DRAWINGS FOR:

Park Alura Apartment

at Discovery Park Al

AHJ APPROVAL STAMP

Village

AHJ APPROVAL STAN

SHEET TITLE

FIRE PROTECTION PLAN
- FIRST & SECOND
FLOORS

SHEET NUMBE

**FP101** 

# **DEFERRED SUBMITTAL NOTES**

- 1. FIRE ALARM CONTRACTOR SHALL PROVIDE DEFERRED SUBMITTAL PACKAGE FOR FIRE ALARM SYSTEM. SUBMITTAL SHALL INCLUDE BATTERY CALCULATIONS, VOLTAGE DROP CALCULATIONS, EQUIPMENT SPECIFICATIONS FOR DEVICES AND PANELS, ETC. DESIGN SHALL BE SEALED BY A QUALIFIED DESIGN PROFESSIONAL LICENSED BY THE STATE.
- 2. FIRE ALARM SYSTEM COMPONENTS SHOWN (IF APPLICABLE) ARE GENERAL AND SCHEMATIC IN NATURE, SHOWN FOR APPROXIMATE ROUGH-IN LOCATIONS AND QUANTITIES ONLY. CONTRACTOR TO VERIFY EXACT DEVICE LOCATIONS AND REQUIREMENTS WITH FIRE ALARM SYSTEM DESIGNER OF RECORD PRIOR TO ROUGH-IN.

# FIRE ALARM SYSTEM SPECIFICATIONS

- 1. FIRE ALARM SYSTEM SHALL BE AN ADDRESSABLE SYSTEM THAT IS NONCODED, UL-LISTED, WITH MULTIPLEX SIGNAL TRANSMISSION AND HORN/STROBE EVACUATION.
- 2. EVERY FIRE ALARM SYSTEM COMPONENT SHALL BE UL-LISTED AND UL-CERTIFIED, TESTED BY MANUFACTURERS AS A COMPLETE SYSTEM, AND MEET ALL APPLICABLE REQUIREMENTS
- OF NFPA 72.
  3. ALL FIRE ALARM WIRING TO BE PLENUM RATED.
- 4. ALL INITIATING DEVICES INSTALLED IN UNCONDITIONED SPACES SHALL BE CONVENTIONAL DEVICES SUITABLE FOR USE IN EXTREME HIGH AND LOW TEMPERATURES AND HIGH HUMIDITY. SUCH DEVICES SHALL BE SUPERVISED BY ADDRESSABLE MONITOR MODULES LOCATED IN CONDITIONED SPACES.
- QUANTITIES, TYPES, AND LOCATIONS OF INITIATING DEVICES AND OUTPUT MODULES FOR INTERCONNECTION WITH FIRE SUPPRESSION MUST BE COORDINATED WITH CONTRACTORS THAT ARE RESPONSIBLE FOR THOSE SYSTEMS.

## FIRE ALARM PLAN SYMBOL LEGEND

MANUAL PULL STATION

M MODULE

O OUTPUT MODULE

SD SMOKE DETECTOR

HEAT DETECTOR

CO CARBON MONOXIDE DETECTOR

STROBE - CEILING MOUNT

STROBE - WALL MOUNT

STROBE - WALL MOUNT

HORN STROBE - WALL MOUNT

HORN STROBE - CEILING MOUNT

SPEAKER STROBE - WALL MOUNT

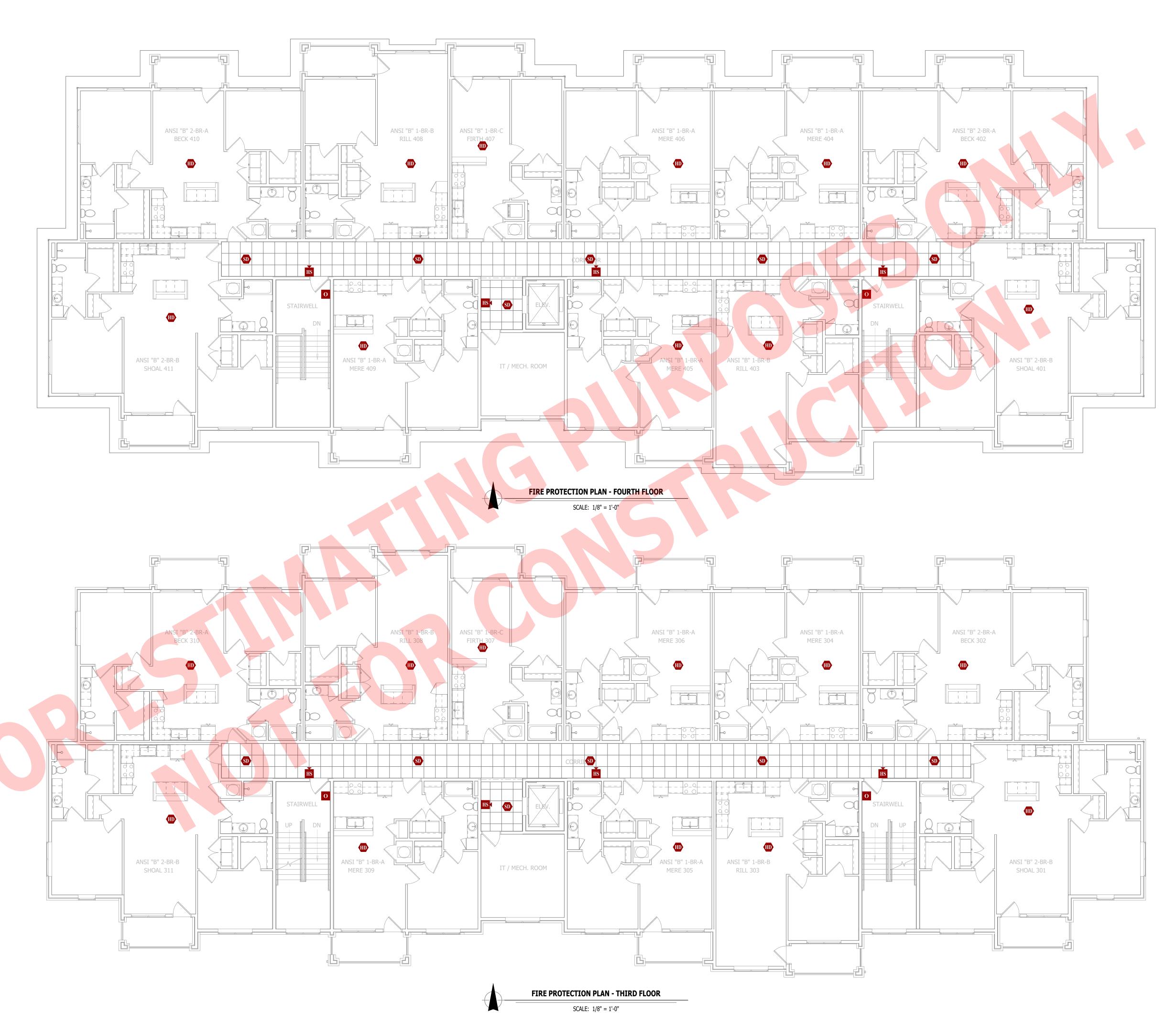
SPEAKER STROBE - CEILING MOUNT

T TAMPER SWITCH

WF WATER FLOW SWITCH

FACP FIRE ALARM CONTROL PANEL

ANN FIRE ALARM ANNUNCIATOR





James Watson, P.E. April 15, 2025 PE-2015017071 MO Certificate of Authority # 2018029680



# J-SQUARED ENGINEERING

2400 Bluff Creek Drive, Suite 101 Columbia, Missouri 65201 573.234.4492 www.j-squaredeng.com

J2 PROJECT No: J21357

J2 DESIGN: ACW

ISSUE TITLE DATE

PERMIT SET 04 - 15 - 2025

ints

ICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

Discovery Park Alura Apartment

Northeast Douglas Street

The Village

at

AHJ APPROVAL STAMP

SHEET TITLE

FIRE PROTECTION PLAN
- THIRD & FOURTH
FLOORS

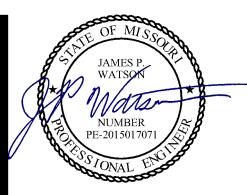
SHEET NUMBER

**FP102** 



SANITARY SEWER PLAN - FIRST FLOOR

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



James Watson, P.E. April 15, 2025 PE-2015017071 MO Certificate of Authority # 2018029680



# J-SQUARED ENGINEERING

2400 Bluff Creek Drive, Suite 101 Columbia, Missouri 65201 573.234.4492

www.j-squaredeng.co	m
J2 PROJECT No:	J21357
J2 DESIGN:	ACW

ISSUE TITLE 04 - 15 - 2025 05 - 16 - 2025

PERMIT SET ADDENDUM 1

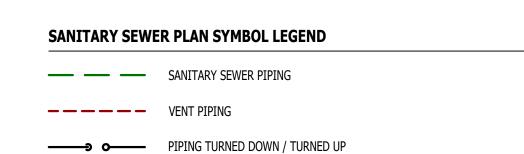
Ā **Discovery** 

The Village

AHJ APPROVAL STAMP

**SANITARY SEWER PLAN -**FIRST & SECOND **FLOORS** 

**PS101** 



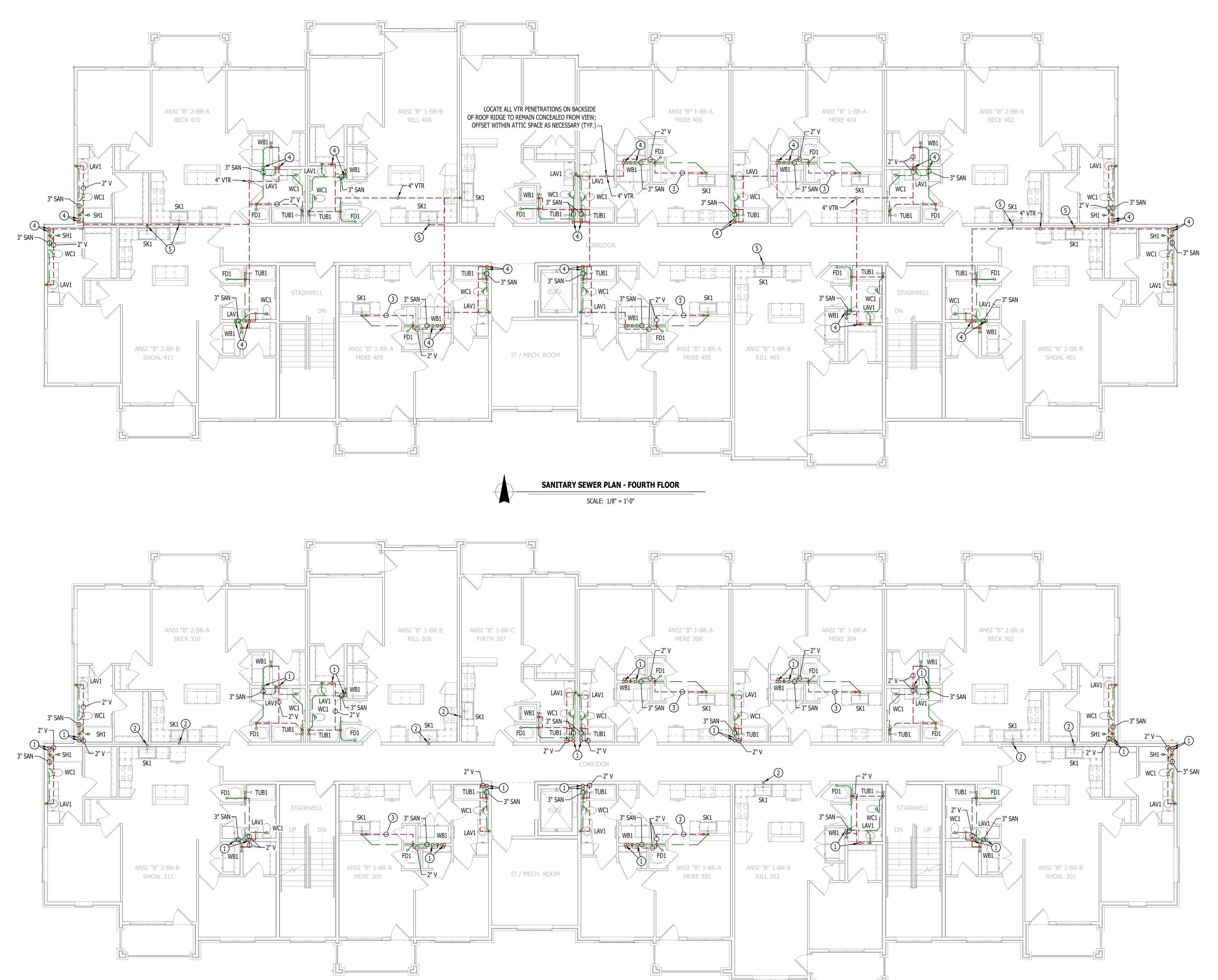
# **SANITARY SEWER PLAN GENERAL NOTES:**

TIE INTO EXISTING

- 1. REFER TO P500 AND/OR P600 SERIES SHEETS FOR ADDITIONAL PLUMBING NOTES, DETAILS, REQUIREMENTS, AND SCHEDULES.
- 2. PLUMBING CONTRACTOR SHALL REVIEW ALL PROJECT DOCUMENTS AND COORDINATE LOCATION OF ALL EQUIPMENT, PIPING, HANGERS / SUPPORTS, ETC. WITH HVAC AND ELECTRICAL TRADES BEFORE INSTALLATION OF ANY MATERIAL. ADDITIONAL COSTS ASSOCIATED WITH LACK OF COORDINATION WILL NOT BE REIMBURSED.

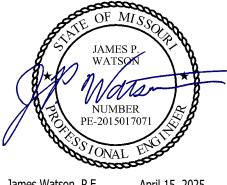
# **SANITARY SEWER PLAN KEY NOTES:**

- 1 4" SANITARY STACK DOWN FROM FOURTH FLOOR; CONTINUES DOWN TO FIRST FLOOR. 4" VENT UP FROM FIRST FLOOR; CONTINUES UP TO FOURTH FLOOR.
- 2) 3" WASTE STACK VENT DOWN FROM FOURTH FLOOR; 3" CONTINUES DOWN TO FIRST FLOOR.
- 3 ISLAND SINK VENT BELOW FLOOR PER 2018 IPC SECTION 916.
- 4 4" SANITARY STACK DOWN / 4" VENT UP FROM BELOW TO VENT THRU ROOF.
- (5) 3" WASTE STACK VENT DOWN / 3" VENT UP TO VENT THRU ROOF.



SANITARY SEWER PLAN - THIRD FLOOR

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



James Watson, P.E. April 15, 2025 PE-2015017071 MO Certificate of Authority # 2018029680



# J-SQUARED **ENGINEERING**

2400 Bluff Creek Drive, Suite 101 Columbia, Missouri 65201 573.234.4492

www.j-squaredeng.com J2 PROJECT No: J2 DESIGN: ACW

ISSUE TITLE DATE PERMIT SET 04 - 15 - 2025

Ā **Discovery** 

The Village

at

AHJ APPROVAL STAMP

**SANITARY** SEWER PLAN -THIRD & FOURTH **FLOORS** 

**PS102** 

# WATER & GAS PLAN SYMBOL LEGEND

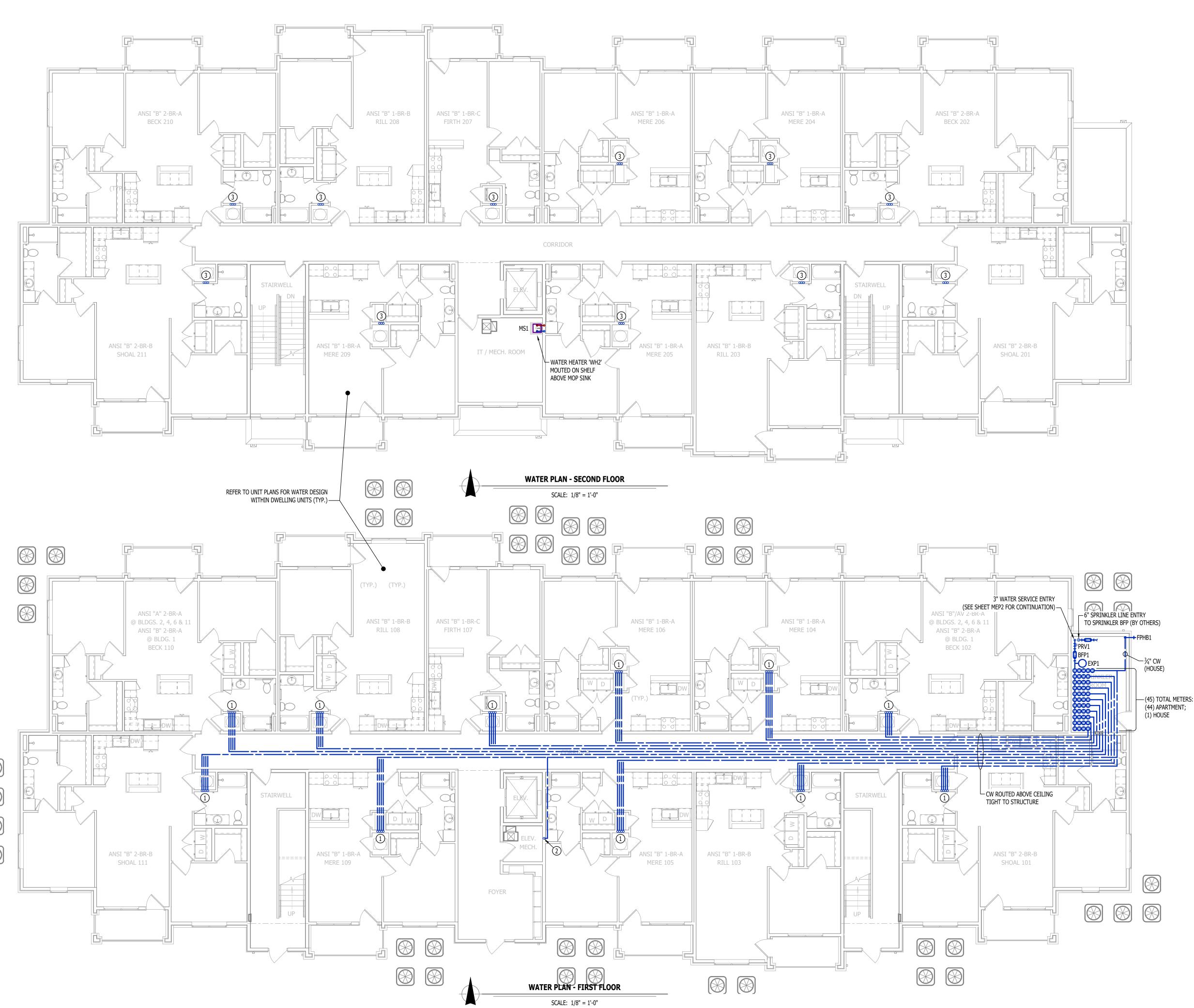
———— HOT WATER LINE WATER METER PIPING TURNED DOWN / TURNED UP TIE INTO EXISTING

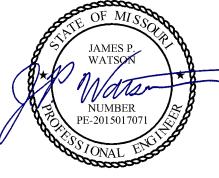
# **WATER & GAS PLAN GENERAL NOTES:**

- 1. REFER TO P500 AND/OR P600 SERIES SHEETS FOR ADDITIONAL PLUMBING NOTES, DETAILS, REQUIREMENTS, AND SCHEDULES.
- 2. PLUMBING CONTRACTOR SHALL REVIEW ALL PROJECT DOCUMENTS AND COORDINATE LOCATION OF ALL EQUIPMENT, PIPING, HANGERS / SUPPORTS, ETC. WITH HVAC AND ELECTRICAL TRADES BEFORE INSTALLATION OF ANY MATERIAL. ADDITIONAL COSTS ASSOCIATED WITH LACK OF COORDINATION WILL NOT BE REIMBURSED.

# **WATER & GAS PLAN KEY NOTES:**

- (4) 1" CW (1) 1" CW TO SERVE APARTMENT ON THIS FLOOR & (3) 1" CW CONTINUE UP TO SECOND FLOOR.
- (2) 1" CW (HOUSE) UP TO MOP SINK ON SECOND FLOOR.
- (3) (3) 1" CW UP IN WALL FROM FIRST FLOOR (1) 1" CW TO SERVE APARTMENT ON THIS FLOOR & (2) 1" CW CONTINUE UP TO THIRD FLOOR.





James Watson, P.E. April 15, 2025 PE-2015017071 MO Certificate of Authority # 2018029680



# **J-SQUARED**

**ENGINEERING** 

2400 Bluff Creek Drive, Suite 101 Columbia, Missouri 65201 573.234.4492 www.j-squaredeng.com

J2 PROJECT No:	J21357
J2 DESIGN:	ACW
	_
ISSUE TITLE	DATE

SUE TITLE	DATE	
RMIT SET	04 - 15 - 2025	

Ā

Discovery

The Village

at

AHJ APPROVAL STAMP

SHEET TITLE

WATER PLAN - FIRST & **SECOND FLOORS** 

**PW101** 

# **WATER & GAS PLAN SYMBOL LEGEND**

COLD WATER LINE

HOT WATER LINE

WATER METER

VALVE

PUMP

PIPING TURNED DOWN / TURNED UP

TIE INTO EXISTING

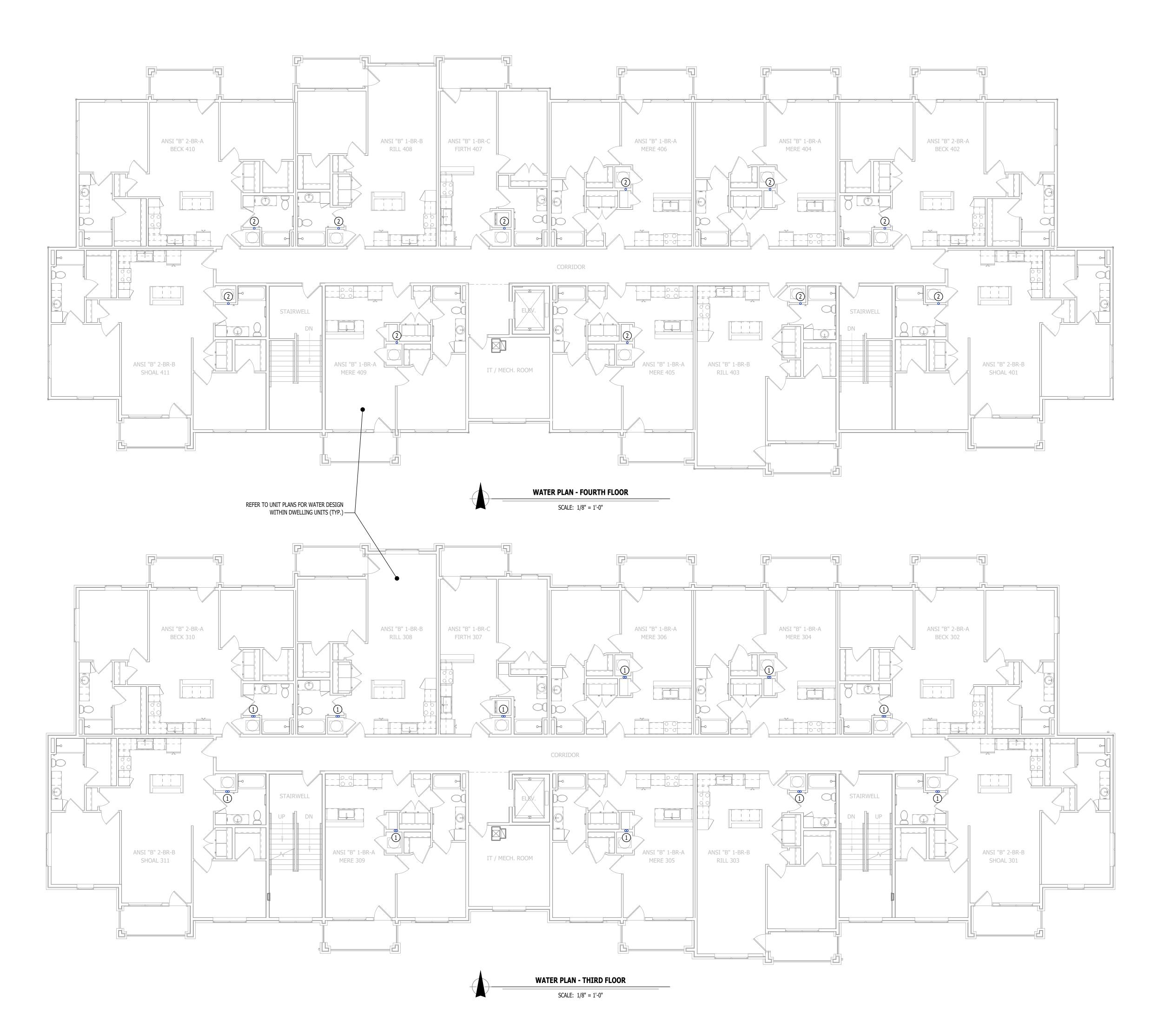
# **WATER & GAS PLAN GENERAL NOTES:**

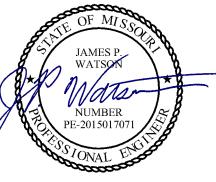
- REFER TO P500 AND/OR P600 SERIES SHEETS FOR ADDITIONAL PLUMBING NOTES, DETAILS, REQUIREMENTS, AND SCHEDULES.
- 2. PLUMBING CONTRACTOR SHALL REVIEW ALL PROJECT DOCUMENTS AND COORDINATE LOCATION OF ALL EQUIPMENT, PIPING, HANGERS / SUPPORTS, ETC. WITH HVAC AND ELECTRICAL TRADES BEFORE INSTALLATION OF ANY MATERIAL. ADDITIONAL COSTS ASSOCIATED WITH LACK OF COORDINATION WILL NOT BE REIMBURSED.

# **WATER & GAS PLAN KEY NOTES:**

(2) 1" CW UP FROM SECOND FLOOR - (1) TO SERVE APARTMENT ON THIRD AND (1) CONTINUES UP TO FOURTH FLOOR.

(1) 1" CW UP FROM THIRD FLOOR TO SERVE APARTMENT ON FOURTH FLOOR.





James Watson, P.E. April 15, 2025 PE-2015017071 MO Certificate of Authority # 2018029680



# J-SQUARED

**ENGINEERING** 

2400 Bluff Creek Drive, Suite 101 Columbia, Missouri 65201 573.234.4492

www.j-squaredeng.com

J2 PROJECT No: J21357

J2 DESIGN: ACW

ISSUE TITLE DATE

PERMIT SET 04 - 15 - 2025

PERMIT SET 04 - 15 - 2

ies FOR:

A

Discovery

at

The Village

Northeast Douglas Street s Summit, Jackson County, Missouri

AHJ APPROVAL STAMP

WATER PLAN - THIRD & FOURTH FLOORS

SHEET NUMBER

**PW102** 

## PLUMBING SPECIFICATIONS

# 1. GENERAL

- 1.1. PLUMBING CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL ESCUTCHEONS, ½ TURN STOPS, P-TRAPS. AND SUPPLY LINES TO PROVIDE A COMPLETE SYSTEM AT EACH FIXTURE INDICATED ON PLANS UNLESS
- ALL PLUMBING SYSTEMS SHALL BE INSTALLED LEVEL, PLUMB, AND PARALLEL/PERPENDICULAR TO
- BUILDING ORIENTATION WHERE POSSIBLE. COORDINATE ALL PIPING INSTALLATIONS WITH STRUCTURAL GRADE BEAMS, FOOTINGS, COLUMN PIERS, ETC. SLEEVE PIPING THRU STRUCTURAL ELEMENTS AS NECESSARY, VERIFY WITH STRUCTURAL
- VERIFY ALL UTILITY CONNECTION POINTS WITH PROPOSED PLUMBING LAYOUTS PRIOR TO BEGINNING
- CLEAN ALL PLUMBING FIXTURES AND CHANGE FAUCET AERATORS AND SINK STRAINERS AT PROJECT COMPLETION PRIOR TO TURNING OVER TO OWNERSHIP.

- 2.1. ALL EQUIPMENT AND/OR FIXTURES MUST MEET OR EXCEED THE PERFORMANCE, FUNCTIONAL INTENT, AND AESTHETICS AS MODELS SPECIFIED ON PLANS. WHERE SPECIFIC MANUFACTURERS AND/OR MODELS ARE INDICATED ON PLANS OR WITHIN SCHEDULES, CONTRACTOR TO PROVIDE MODEL INDICATED OR APPROVED EQUAL. VERIFY SUBSTITUTION APPROVAL PRIOR TO PURCHASE OR
- INSTALLATION OF EQUIPMENT. CONTRACTOR TO SUPPLY SUBMITTALS FOR ALL EQUIPMENT FOR REVIEW BY ARCHITECT AND ENGINEER. FORMAL APPROVAL SHALL BE RECEIVED BY CONTRACTOR PRIOR TO EQUIPMENT PURCHASE.
- CONTRACTOR TO SHARE APPROVED EQUIPMENT SUBMITTALS WITH ANY PERTINENT ELECTRICAL REQUIREMENTS WITH ELECTRICAL CONTRACTORS WITHIN TWO WEEKS OF RECEIVING APPROVED SUBMITTALS FROM ARCHITECT/ENGINEER.

- 3.1. BELOW AND ABOVE GRADE WASTE AND VENT PIPING IN BUILDING TO BE SOLID CORE SCHEDULE 40 PVC LISTED FOR DWV APPLICATIONS.
- NO WASTE OR VENT PIPING INSTALLED BELOW GRADE SHALL BE SMALLER THAN 2".
- MINIMUM SLOPES FOR WASTE PIPING (UNLESS NOTED OTHERWISE ON PLANS):
- 3.3.1. 2 ½" OR LESS DIAMETER: ¼" PER FOOT
- 3.3.2. 3" TO 6" DIAMETER:  $\frac{1}{8}$ " PER FOOT
- 8" OR LARGER DIAMETER:  $\frac{1}{16}$ " PER FOOT
- ACCESSIBLE FULL PIPE SIZE CLEANOUTS SHALL BE PROVIDED & INSTALLED ON BUILDING SANITARY LINES AT LOCATIONS SHOWN ON PLANS, AT INTERVALS OF NO MORE THAN 100', AT EVERY CHANGE IN DIRECTION GREATER THAN 45°, AND AT THE BASE OF EACH WASTE STACK.
- WASTE AND VENT PIPING IN PLENUMS SHALL BE CAST IRON, PLENUM-RATED CPVC, OR PVC WITH AN INSULATION WRAP LISTED FOR USE AS SUCH AN ASSEMBLY.
- ALL VENT PIPE TERMINATIONS SHALL BE LOCATED EITHER 10' HORIZONTALLY OR 3' ABOVE MECHANICAL AIR INTAKE LOCATIONS. TERMINATIONS SHALL NOT BE INSTALLED UNDER ANY OPERABLE BUILDING OPENING OR OPERABLE ADJACENT BUILDING OPENING. CONTRACTOR TO OFFSET VENT PIPING AS NECESSARY TO MEET THESE REQUIREMENTS.

# 4. **DOMESTIC WATER**

- ALL DOMESTIC WATER PIPING TO BE EITHER COPPER OR PEX, SHALL CONFORM TO NSF 61 AND BE LISTED FOR USE IN POTABLE WATER SYSTEMS.
- WHERE PEX PIPING IS USED, IT SHALL BE INCREASED ONE PIPE SIZE FROM WHAT IS INDICATED ON PLANS FOR ALL PORTIONS OF DISTRIBUTION SYSTEM.
- PEX-A MAY BE INSTALLED AT SIZES INDICATED ON PLANS ONLY IF AN ENGINEERED PLAN IS SUBMITTED SHOWING ACCEPTABLE PRESSURE DROPS AND FLUID VELOCITIES, APPROVAL MUST BE GRANTED PRIOR TO PURCHASE AND INSTALLATION.
- COPPER WATER PIPING BELOW GRADE SHALL BE TYPE "K". BELOW GRADE JOINTS SHALL BE SILVER SOLDERED. THERE SHALL BE NO JOINTS IN WATER PIPING LOCATED BENEATH BUILDING
- 4.1.4. COPPER WATER PIPING ABOVE GRADE SHALL BE TYPE "L". PROVIDE WATER HAMMER ARRESTORS AT ALL QUICK-CLOSE VALVES. FIXTURES REQUIRING WATER
- HAMMER ARRESTORS INCLUDE BUT ARE NOT LIMITED TO FLUSH VALVES, SENSOR FAUCETS, AND WASHING MACHINE BOXES. AIR CHAMBERS SHALL NOT BE PERMITTED. ALL DOMESTIC WATER PIPING SHALL BE ROUTED WITHIN BUILDING THERMAL ENVELOPE AND WITHIN
- WALL CAVITIES, ABOVE FINISHED CEILINGS, OR BELOW SLAB TO REMAIN CONCEALED UNLESS OTHERWISE NOTED. NOTIFY ENGINEER OF ANY NECESSARY ADJUSTMENTS THAT REQUIRE PIPING TO BE

# 4.4. DOMESTIC WATER PIPING INSULATION

- ALL HW PIPING, WHETHER COPPER OR PEX, SHALL BE INSULATED WITH PLENUM RATED CLOSED CELL ELASTOMERIC INSULATION.
- 4.4.1.1. FOR PIPING LESS THAN  $1\frac{1}{2}$ ", INSULATION THICKNESS TO BE 1".
- FOR PIPING  $1\frac{1}{2}$ " OR GREATER, INSULATION THICKNESS SHALL BE  $1\frac{1}{2}$ ". 4.4.1.2. CW COPPER PIPING TO INSULATED WITH 1/3" PLENUM RATED CLOSED CELL ELASTOMERIC 4.4.2.
- INSULATION. CW PEX NEED NOT BE INSULATED UNLESS NOTED OTHERWISE ON PLANS.

# 5. GAS PIPING

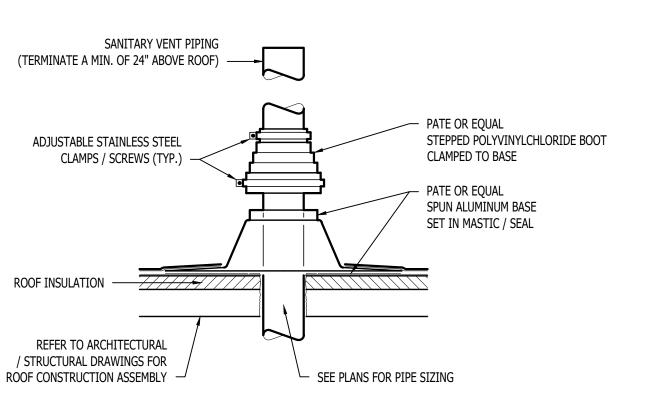
- GAS PIPING SHALL BE INSTALLED LEVEL, PLUMB, AND PARALLEL OR PERPENDICULAR TO BUILDING 5.1. ORIENTATION WHERE POSSIBLE.
- QUARTER-TURN FULL-PORT SHUTOFF VALVES SHALL BE INCLUDED AT EACH APPLIANCE CONNECTION, AS WELL AS AN IN-LINE REGULATOR FROM DELIVERY PRESSURE TO APPLIANCE OPERATING PRESSURE IF REQUIRED. INCLUDE SEDIMENT TRAPS PER IFGC REQUIREMENTS.
- NATURAL GAS AND LIQUID PROPANE (LP) PIPING TO SHALL BE SCHEDULE 40 BLACK STEEL.
- PIPE JOINTS SHALL BE THREADED WITH CLASS 150 FITTINGS, OR WELDED. NOTIFY OWNER/GC OF ANY NECESSARY HOT-WORK ASSOCIATED WITH WELDED CONNECTIONS. WHERE PIPING IS EXPOSED ON EXTERIOR FACE OF BUILDING, PAINT TO MATCH BUILDING. PAINT
- YELLOW IN ALL OTHER LOCATIONS. 5.4. ON ROOFTOPS, INSTALL GAS PIPE WITH "ROOFTOP BLOX" PER MANUFACTURER'S INSTRUCTION.

- 6.1. ABOVE AND BELOW GRADE STORM PIPING SHALL BE SOLID CORE SCHEDULE 40 PVC.
- ALL PRIMARY & SECONDARY STORM DRAIN PIPING & FITTINGS SHALL BE INSULATED WITH ½" FIBERGLASS INSULATION WITH ASJ JACKET.
- STORM DRAIN PIPING IN PLENUMS SHALL BE CAST IRON, PLENUM-RATED CPVC, OR PVC WITH AN INSULATION WRAP LISTED FOR USE AS SUCH AN ASSEMBLY.

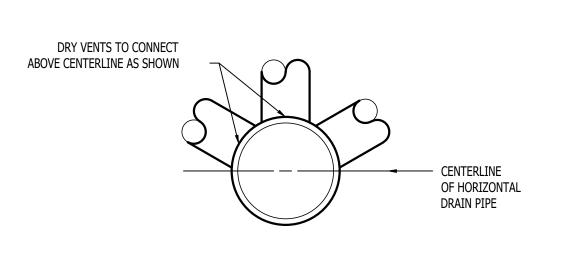
	PLUMBING FIXTURE SCHEDULE							
TAG	DESCRIPTION	MA NUFA CTURER (OR EQUAL)	MODEL (OR EQUAL)	NOTES				
BFP1	BACKFLOW PREVENTER (APARTMENTS)	WILKINS	975XL2	RPZ - 2-1/2"				
EXP1	EXPANSION TANK (APARTMENTS)	WATTS	DETA-100					
FCO1	FLOOR CLEAN OUT	ZURN	Z1400					
FD1	FLOOR DRAIN	ZURN	Z415-BZ	WITH Z1072 TRAP SEAL				
FPHB1	FROST PROOF HOSE BIB	WOODFORD	MODEL 67					
FS1	FLOOR SINK	ZURN	FD2370					
HB1	HOSE BIB	JR SMITH	5670-H	INTEROR HOSE BIB WITH VACUUM BREAKER				
LAV1	LAVATORY - INTEGRAL BOWL	-	-	WITH PFISTER #G142-8000 CHROME FAUCET				
LAV2	LAVATORY (DROP-IN W/ MANUAL FAUCET)	AMERICAN STANDARD	0475.028	WITH ZURN Z81104-XL FAUCET, 1/4 TURN STOPS, BRAIDED STAINLESS STEEL SUPPLIES, & 'TMV1'				
MS1	MOP SINK	FIAT	MSB2424	WITH ZURN Z843M1 FAUCET WITH WALL HOOK				
PRV1	PRESSURE REDUCING VALVE	ZURN	500XL3	3" INLET / 3" OUTLET				
REF1	REFRIGERATOR BOX	SIOUX CHIEF	696-G1000					
SK1	KITCHEN SINK	DAYTON	DSESR12722	WITH PFISTER #F-529-CRS FAUCET,ISE DISPOSAL #BADGER-1 & STS-00 AIR SWITCH				
SK3	SINGLE COMPARTMENT ADA SINK	ELKAY	LRAD221965	WITH PFISTER #F-529-CRS FAUCET,ISE DISPOSAL #BADGER-1 & STS-00 AIR SWITCH				
SP1	SUMP PUMP	ZOELLER	153-0002	120V, 1/2 HP WITH "OIL MINDER" CONTROLS				
TUB1	TUB / SHOWER	AQUARIS	G6030TS	WITH PFISTER R89-0300 SHOWER TRIM KIT				
TUB2	ADA TUB / SHOWER	AQUATIC	2603SMTE	WITH GRAB BARS & ADA HANDHELD SHOWER ASSEMBLY				
WB1	WASHER BOX	SIOUX CHIEF	696-G2303					
WC1	WATER CLOSET - STANDARD HEIGHT - TANK	AMERICAN STANDARD	215CA.004	WITH CHURCH 7200SLEC SEAT AND COVER, STAINLESS BRAIDED SUPPLY, AND 1/4 TURN SHUT-OFF.				
WC2	WATER CLOSET - ADA HEIGHT - TANK	AMERICAN STANDARD	215AA.004	WITH CHURCH 7200SLEC SEAT AND COVER, STAINLESS BRAIDED SUPPLY, AND 1/4 TURN SHUT-OFF.				
WH1	WATER HEATER - ELECTRIC - LOWBOY	AO SMITH	ECLB-40	38 GALLON, 208V 1PH, 4500W; WITH 'EXP1'				
WH2	WATER HEATER - ELECTRIC - POINT OF USE	AO SMITH	EGSP6	6 GALLON, 120V, 1500W WITH HOLDRITE #40-SWHP-W WALL HUNG PLATFORM; WITH 'EXP1'				
YCO1	YARD CLEAN OUT	ZURN	Z1400					
YH1	YARD HYDRANT	WOODFORD	Y34	FREEZELESS				

FIXTURE		SANITAR	Y PIPING	SUPPLY PIPING		
ТҮРЕ	TYPICAL ABBREVIATION	WASTE CONNECTION	VENT CONNECTION	COLD WATER CONNECTION	HOT WATER CONNECTION	
DRINKING FOUNTAIN	DF	1-1/2"	1-1/4"	1/2"	-	
FLOOR DRAIN	FD	3"	2"	-	-	
HAND / HAIR SINK	HS / SK	2"	1-1/4"	1/2"	1/2"	
HOSE BIBB	НВ	-	-	3/4"	-	
LAVATORY	LAV	1-1/2"	1-1/4"	1/2"	1/2"	
MOP SINK	MS	3"	1-1/2"	1/2"	1/2"	
ICE MAKER OUTLET BOX	REF	-	-	1/2"	-	
SHOWER	SH	3"	1-1/2"	1/2"	1/2"	
URINAL	UR	2"	1-1/4"	3/4"	-	
WATER CLOSET (FLUSH TANK)	WC	3"	2"	1/2"	-	
WATER CLOSET (FLUSH VALVE)	WC	3"	2"	1"	-	

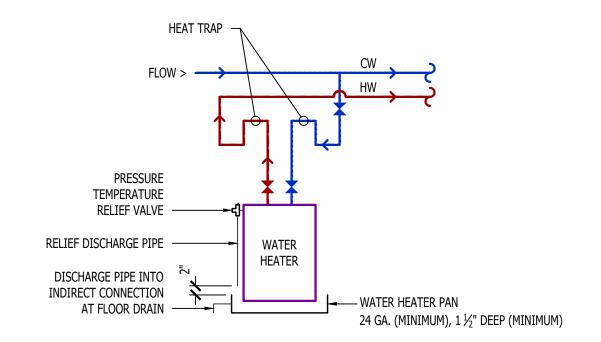
1. SIZES SHOWN ABOVE ARE TYPICAL UNLESS NOTED OTHERWISE ON PLANS



1. VERIFY NECESSARY FIXTURES MEET ADA REQUIREMENTS WITH ARCHITECT PRIOR TO INSTALLATION



**DRY VENT DETAIL** 



SANITARY VENT THRU ROOF DETAIL

HOUSE CW SUPPLY LINE TO HOUSE HOSE BIBBS/MOP SINKS 1" CW TO APARTMENT (TYP.) -3" CW SUPPLY MANIFOLD — SUB METER FOR APARTMENT; COORDINATE DETAILS & REQUIREMENTS WITH G.C. (2) 2" PARALLEL CW LINES TO (TYPICAL OF 44) (2) 2" PARALLEL METERS

WATER HEATER DETAIL



James Watson, P.E. April 15, 2025 PE-2015017071 MO Certificate of Authority # 2018029680



# J-SQUARED ENGINEERING

2400 Bluff Creek Drive, Suite 101 Columbia, Missouri 65201 573.234.4492 www.j-squaredeng.com

J2 PROJECT No:	J21357
J2 DESIGN:	ACW
ISSUE TITLE	DATE
DEDMIT CET	04 15 2025

# PERMII SET 04 - 15 - 2025

A

AHJ APPROVAL STAMP

SHEET TITLE

PLUMBING DETAILS & **SCHEDULES** 

SHEET NUMBER

EQUIPMENT TYPE (REFER TO EQUIPMENT SCHEDULE) EQUIPMENT REFERENCE NUMBER

DIFFUSER/GRILLE TYPE (REFER TO SCHEDULE) CUBIC FEET PER MINUTE (CFM) / FACE SIZE

SUPPLY DUCTWORK

RETURN DUCTWORK

EXHAUST DUCTWORK

FLEX DUCT

SUPPLY DIFFUSER (HATCH INDICATES "NO FLOW ZONE") RETURN DIFFUSER

BALANCE DAMPER

CEILING RADIATION DAMPER

BACK DRAFT DAMPER

MOTORIZED DAMPER

THERMOSTAT

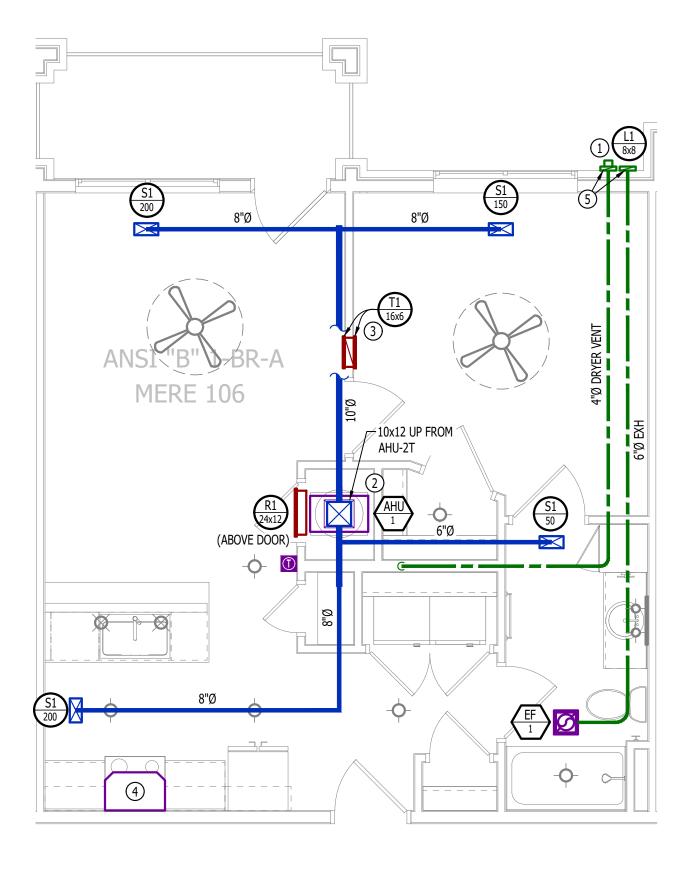
# **HVAC PLAN GENERAL NOTES:**

- 1. SEE M500 & M600 SERIES SHEETS FOR HVAC SCHEDULES, DETAILS, REQUIREMENTS, ETC.
- 2. SEE M100 SERIES SHEETS FOR CONDENSING UNIT LOCATIONS. REFRIGERANT PIPING SHALL ROUTE IN SPACES ABOVE FINISHED CEILINGS AND WITHIN WALL CAVITIES TO REMAIN CONCEALED.
- 3. SUPPLY DUCTWORK FROM AHU AT FLOOR/CEILING PENETRATION SHALL BE PROTECTED BY A FIRE DAMPER. INSTALL PER MANUFACTURER'S SPECIFICATIONS.
- 4. WRAP ALL DRYER DUCTS WITH FIREMASTER (OR EQUAL) DUCT WRAP. 5. TOTAL DEVELOPED LENGTH OF EXHAUST DUCT SHALL BE INDICATED ON A PERMANENT LABEL WITHIN 6' OF
- DRYER VENT CONNECTION. DRYER DUCT ROUTING SHOWN IS FOR REFERENCE ONLY. OVERALL DUCT LENGTH SHALL BE CALCULATED BY HVAC CONTRACTOR PER 2018 IMC 504.8.4.
- 6. LOCATE ALL EXHAUST / DRYER VENT TERMINATIONS AT LEAST 36" FROM OPERABLE OPENINGS INTO APARTMENTS (WINDOWS, DOORS, ETC.).
- 7. ALL DUCTWORK SHOWN SHALL ROUTE IN SPACE BETWEEN / THRU TRUSSES UNLESS NOTED OTHERWISE. SEE STRUCTURAL DRAWINGS FOR DETAILS.

# **HVAC PLAN KEY NOTES:**

1) TERMINATE 4" DRYER EXHAUST WITH VENT EQUAL TO DRYER WALL VENT #DWV4.

- (2) AHU WALL MOUNTED ABOVE WATER HEATER, COORDINATE WITH PLUMBING CONTRACTOR. CONDENSATE TO DISCHARGE IN FLOOR DRAIN WITHIN CLOSET.
- (3) HI/LOW TRANSFER GRILLE (12" A.F.F. ON BEDROOM SIDE OF WALL; 84" A.F.F ON OPPOSITE SIDE OF WALL).
- (4) RESIDENTIAL RECIRCULATION HOOD TO BE SUPPLIED & INSTALLED BY GC.
- (5) ON FOURTH FLOOR ONLY, BATHROOM EXHAUST / DYER VENT TO TERMINATE AT LOUVER / VENT MOUNTED IN



**HVAC PLAN** 

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

# POWER PLAN SYMBOL LEGEND

CIRCUIT WIRING **──>** PX-XX CIRCUIT TAG

JUNCTION BOX

RECEPTACLE INDICATES MOUNTING HEIGHT TO BOTTOM OF BOX (STANDARD @ 18" AFF UNLESS NOTED OTHERWISE) - "WP" = WEATHERPROOF OUTDOOR RECEPTACLE

GFCI DUPLEX CONVENIENCE RECEPTACLE

208V RECEPTACLE

QUADPLEX CONVENIENCE RECEPTACLE

DATA / PHONE JACK; BOX WITH 1" CONDUIT & CAT6 CABLE BACK TO MEDIA PANEL LOCATION (STANDARD @ 18" AFF UNLESS NOTED OTHERWISE)

DISCONNECT

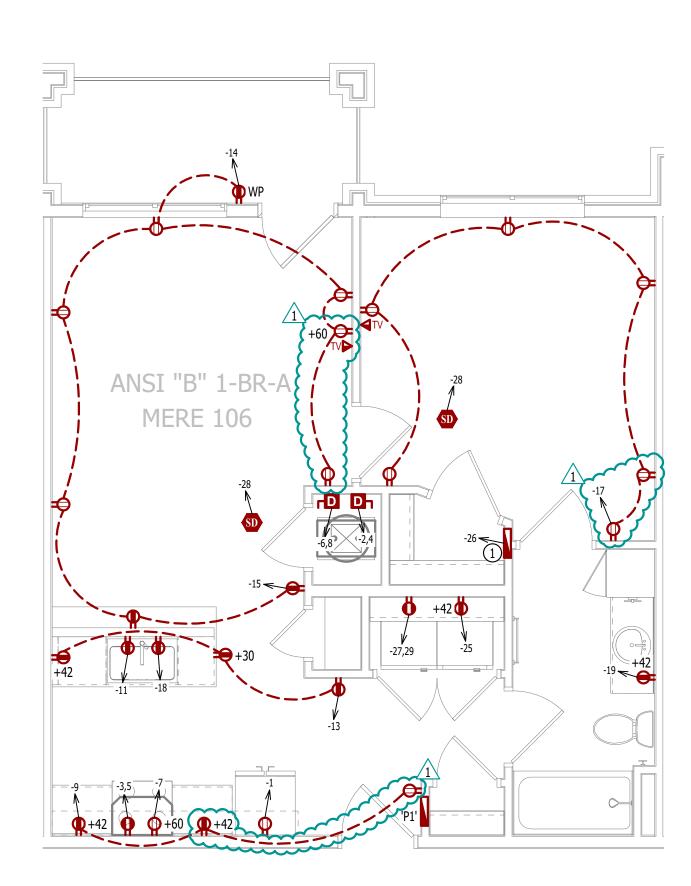
120V IONIZATION SMOKE 520Hz LOW FREQUENCY ALARM WITH SILENCING CAPABILITIES & LOW-VOLTAGE CONTACTS WIRED TO SHUT DOWN AHU UPON FIRE DETECTION. COORDINATE WITH HVAC CONTRACTOR. SMOKE DETECTOR MUST BE LOCATED AT LEAST 3' FROM CEILING FAN BLADES AND AT LEAST 10' FROM ANY COOKING APPLIANCE (FIELD-COORDINATE)

# **POWER PLAN GENERAL NOTES:**

- SEE E500 & E600 SERIES SHEETS FOR POWER SCHEDULES, DETAILS, REQUIREMENTS, ETC.
- SEE M100 & EP100 SERIES SHEETS FOR CONDENSING UNIT LOCATIONS.
- VERIFY EACH DATA/RECEPTACLE LOCATION WITH OWNER PRIOR TO INSTALLATION. 4. REFER TO "TYPICAL ADA MOUNTING HEIGHTS DETAIL", SHEET E501, FOR MOUNTING HEIGHTS OF DEVICES IN "ANSI A" UNITS.

# **POWER PLAN KEY NOTES:**

(1) MEDIA PANEL LOCATION; DATA/TV WIRING TO TERMINATE AT THIS LOCATION. DETERMINE EXACT LOCATION & DETAILS WITH OWNER PRIOR TO INSTALLATION.



**POWER PLAN** SCALE: 1/4" = 1'-0"

# PLUMBING PLAN SYMBOL LEGEND

———— COLD WATER LINE

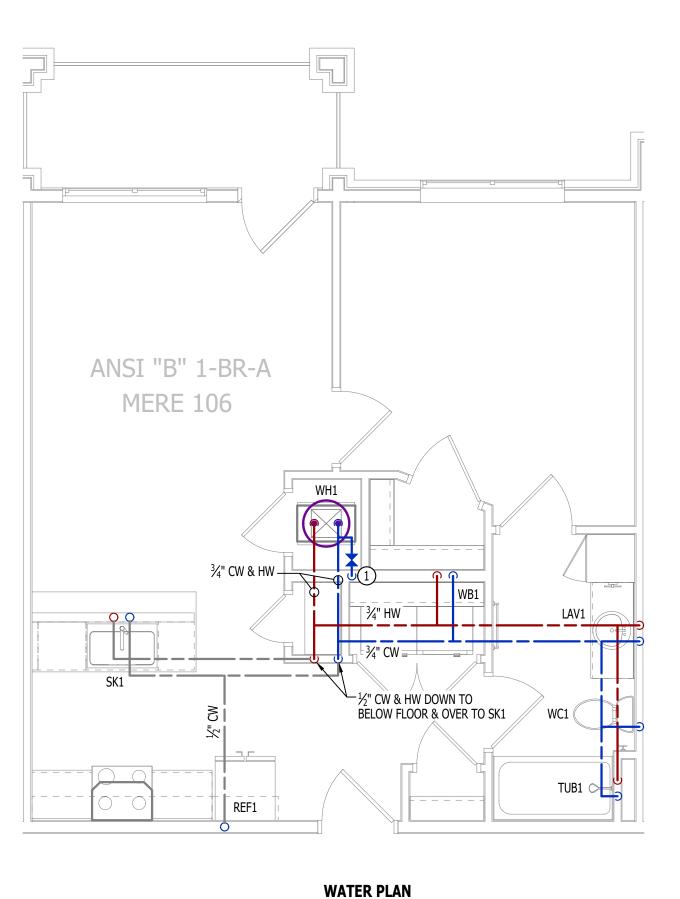
PIPING TURNED DOWN / TURNED UP

# **WATER PLAN GENERAL NOTES:**

- SEE P500 &/OR P600 SERIES SHEETS FOR ADDITIONAL PLUMBING NOTES, DETAILS, & SCHEDULES.
- 2. ALL PLUMBING LOCATED ON EXTERIOR WALLS SHALL ROUTE WITHIN INSULATION BARRIER.
- 3. ALL DOMESTIC SUPPLY LINES SERVING MORE THAN (1) FIXTURE SHALL BE  $\frac{3}{4}$ " UNLESS NOTED OTHERWISE.

# **WATER PLAN KEY NOTES:**

1 1" CW PIPE UP FROM BELOW WITH SHUT-OFF VALVE IN ACCESSIBLE LOCATION. SEE OVERALL PLUMBING PLANS FOR DETAILS.



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

# LIGHTING PLAN SYMBOL LEGEND

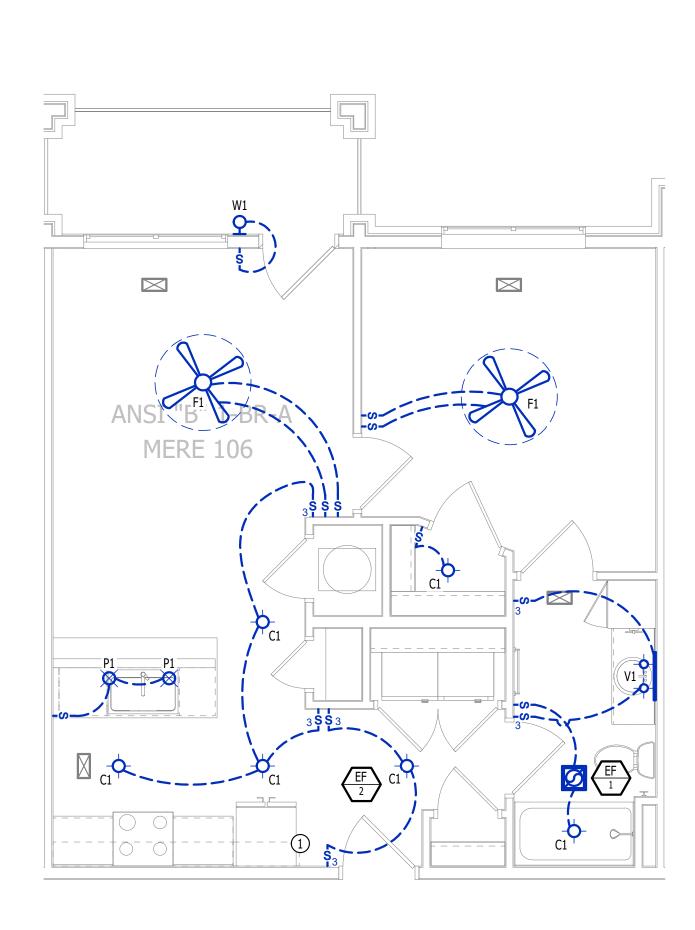
LIGHTING FIXTURE "X1" INDICATES FIXTURE TYPE (REFER TO SCHEDULE) TOGGLE SWITCH SWITCH TYPE

# **LIGHTING PLAN GENERAL NOTES:**

DIMMER SWITCH

SEE E500 & E600 SERIES SHEETS FOR ADDITIONAL ELECTRICAL NOTES, DETAILS, & SCHEDULES.

2. ALL LIGHTING SHOWN SHALL BE ON CIRCUIT -16 UNLESS NOTED OTHERWISE.



**LIGHTING PLAN** SCALE: 1/4" = 1'-0"

James Watson, P.E. April 16, 2025 PE-2015017071 MO Certificate of Authority # 2018029680



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J2 PROJECT No:	J21357
J2 DESIGN:	ACW

ISSUE TITLE	DATE
PERMIT SET	04 - 15 - 2025
ADDENDUM 1	05 - 16 - 2025

7

AHJ APPROVAL STAMP

SHEET TITLE

ANSI-B - 1 BR - TYPE A -**UNIT MEP PLAN** 

**UMEP1.2** 

EQUIPMENT TYPE (REFER TO EQUIPMENT SCHEDULE) EQUIPMENT REFERENCE NUMBER

DIFFUSER/GRILLE TYPE (REFER TO SCHEDULE) CUBIC FEET PER MINUTE (CFM) / FACE SIZE

SUPPLY DUCTWORK

RETURN DUCTWORK

EXHAUST DUCTWORK

FLEX DUCT

SUPPLY DIFFUSER (HATCH INDICATES "NO FLOW ZONE")

RETURN DIFFUSER

BALANCE DAMPER MOTORIZED DAMPER

CEILING RADIATION DAMPER

BACK DRAFT DAMPER

THERMOSTAT

# **HVAC PLAN GENERAL NOTES:**

1. SEE M500 & M600 SERIES SHEETS FOR HVAC SCHEDULES, DETAILS, REQUIREMENTS, ETC.

2. SEE M100 SERIES SHEETS FOR CONDENSING UNIT LOCATIONS. REFRIGERANT PIPING SHALL ROUTE IN SPACES ABOVE FINISHED CEILINGS AND WITHIN WALL CAVITIES TO REMAIN CONCEALED.

3. SUPPLY DUCTWORK FROM AHU AT FLOOR/CEILING PENETRATION SHALL BE PROTECTED BY A FIRE DAMPER. INSTALL PER MANUFACTURER'S SPECIFICATIONS.

4. WRAP ALL DRYER DUCTS WITH FIREMASTER (OR EQUAL) DUCT WRAP.

SHALL BE CALCULATED BY HVAC CONTRACTOR PER 2018 IMC 504.8.4.

5. TOTAL DEVELOPED LENGTH OF EXHAUST DUCT SHALL BE INDICATED ON A PERMANENT LABEL WITHIN 6' OF DRYER VENT CONNECTION. DRYER DUCT ROUTING SHOWN IS FOR REFERENCE ONLY. OVERALL DUCT LENGTH

6. LOCATE ALL EXHAUST / DRYER VENT TERMINATIONS AT LEAST 36" FROM OPERABLE OPENINGS INTO APARTMENTS

7. ALL DUCTWORK SHOWN SHALL ROUTE IN SPACE BETWEEN / THRU TRUSSES UNLESS NOTED OTHERWISE. SEE STRUCTURAL DRAWINGS FOR DETAILS.

# **HVAC PLAN KEY NOTES:**

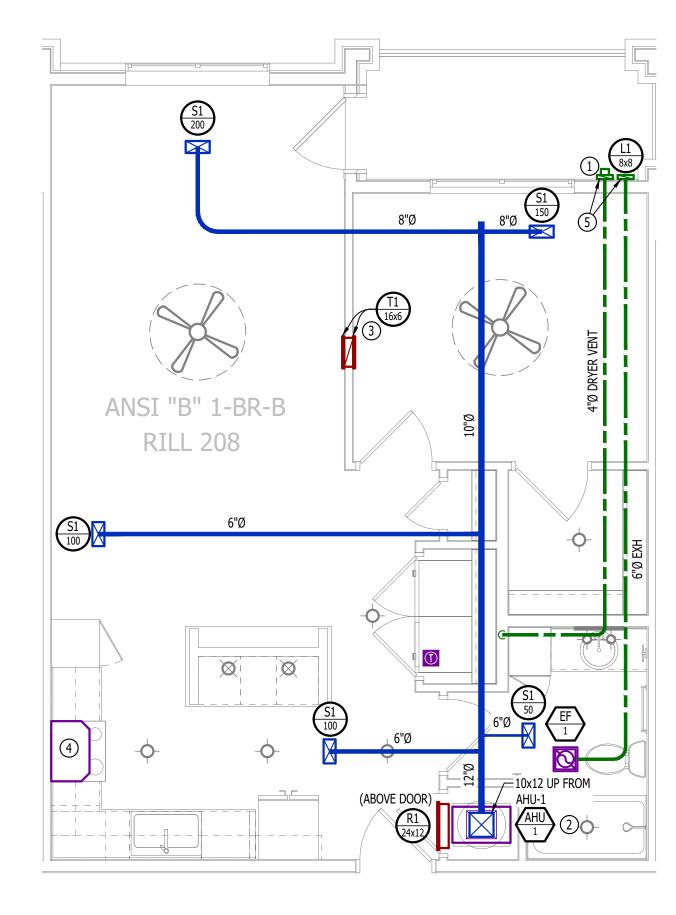
1) TERMINATE 4" DRYER EXHAUST WITH VENT EQUAL TO DRYER WALL VENT #DWV4.

(2) AHU WALL MOUNTED ABOVE WATER HEATER, COORDINATE WITH PLUMBING CONTRACTOR. CONDENSATE TO DISCHARGE IN FLOOR DRAIN WITHIN CLOSET.

(3) HI/LOW TRANSFER GRILLE (12" A.F.F. ON BEDROOM SIDE OF WALL; 84" A.F.F ON OPPOSITE SIDE OF WALL).

(4) RESIDENTIAL RECIRCULATION HOOD TO BE SUPPLIED & INSTALLED BY GC.

(5) ON FOURTH FLOOR ONLY, BATHROOM EXHAUST / DYER VENT TO TERMINATE AT LOUVER / VENT MOUNTED IN



**HVAC PLAN** 

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

# POWER PLAN SYMBOL LEGEND

CIRCUIT WIRING CIRCUIT TAG —> PX-XX

JUNCTION BOX

RECEPTACLE INDICATES MOUNTING HEIGHT TO BOTTOM OF BOX (STANDARD @ 18" AFF UNLESS NOTED OTHERWISE) - "WP" = WEATHERPROOF OUTDOOR RECEPTACLE

GFCI DUPLEX CONVENIENCE RECEPTACLE

208V RECEPTACLE

QUADPLEX CONVENIENCE RECEPTACLE

DATA / PHONE JACK; BOX WITH 1" CONDUIT & CAT6 CABLE BACK TO MEDIA PANEL LOCATION (STANDARD @ 18" AFF UNLESS NOTED OTHERWISE)

DISCONNECT

120V IONIZATION SMOKE 520Hz LOW FREQUENCY ALARM WITH SILENCING CAPABILITIES & LOW-VOLTAGE CONTACTS WIRED TO SHUT DOWN AHU UPON FIRE DETECTION. COORDINATE WITH HVAC CONTRACTOR. SMOKE DETECTOR MUST BE LOCATED AT LEAST 3' FROM CEILING FAN BLADES AND AT LEAST 10' FROM ANY COOKING APPLIANCE (FIELD-COORDINATE)

# **POWER PLAN GENERAL NOTES:**

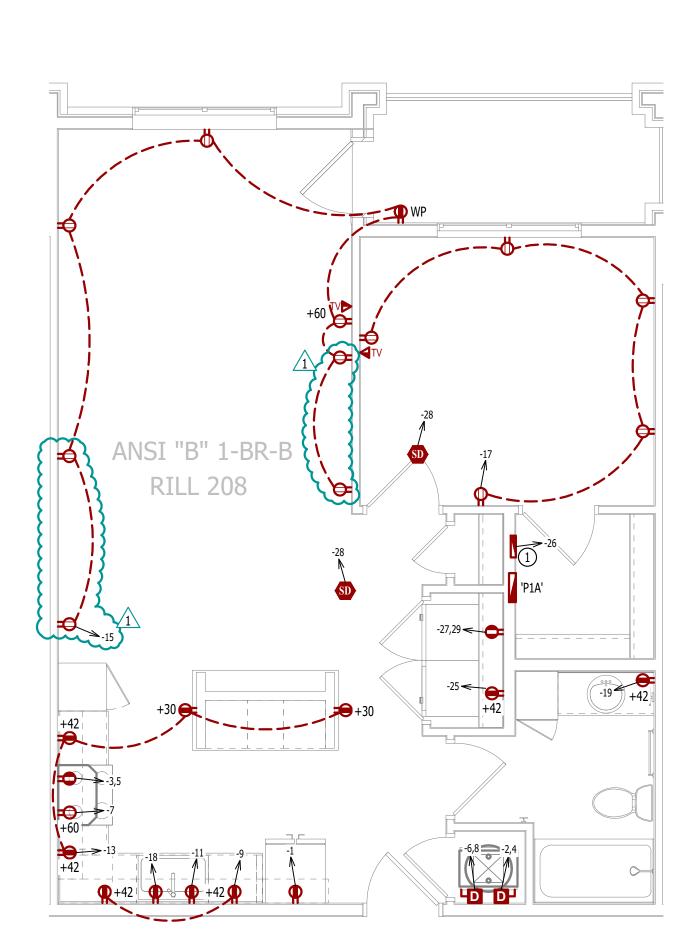
SEE E500 & E600 SERIES SHEETS FOR POWER SCHEDULES, DETAILS, REQUIREMENTS, ETC.

SEE M100 & EP100 SERIES SHEETS FOR CONDENSING UNIT LOCATIONS.

VERIFY EACH DATA/RECEPTACLE LOCATION WITH OWNER PRIOR TO INSTALLATION. 4. REFER TO "TYPICAL ADA MOUNTING HEIGHTS DETAIL", SHEET E501, FOR MOUNTING HEIGHTS OF DEVICES IN "ANSI A" UNITS.

# **POWER PLAN KEY NOTES:**

(1) MEDIA PANEL LOCATION; DATA/TV WIRING TO TERMINATE AT THIS LOCATION. DETERMINE EXACT LOCATION & DETAILS WITH OWNER PRIOR TO INSTALLATION.



**POWER PLAN** 

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

# PLUMBING PLAN SYMBOL LEGEND

———— COLD WATER LINE ———— HOT WATER LINE

PIPING TURNED DOWN / TURNED UP

# **WATER PLAN GENERAL NOTES:**

1. SEE P500 &/OR P600 SERIES SHEETS FOR ADDITIONAL PLUMBING NOTES, DETAILS, & SCHEDULES.

2. ALL PLUMBING LOCATED ON EXTERIOR WALLS SHALL ROUTE WITHIN INSULATION BARRIER. 3. ALL DOMESTIC SUPPLY LINES SERVING MORE THAN (1) FIXTURE SHALL BE 3/4" UNLESS NOTED OTHERWISE.

# **WATER PLAN KEY NOTES:**

LIGHTING PLAN SYMBOL LEGEND

LIGHTING FIXTURE

TOGGLE SWITCH

**LIGHTING PLAN GENERAL NOTES:** 

SEE E500 & E600 SERIES SHEETS FOR ADDITIONAL ELECTRICAL NOTES, DETAILS, & SCHEDULES.

ALL LIGHTING SHOWN SHALL BE ON CIRCUIT -16 UNLESS NOTED OTHERWISE.

SWITCH TYPE DIMMER SWITCH

"X1" INDICATES FIXTURE TYPE

(REFER TO SCHEDULE)

(1) 1" CW PIPE UP FROM BELOW WITH SHUT-OFF VALVE IN ACCESSIBLE LOCATION. SEE OVERALL PLUMBING PLANS FOR DETAILS.

ANSI "B" 1-BR-B RILL 208

**WATER PLAN** 

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

# ANSI "B"

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

# AHJ APPROVAL STAMP

SHEET TITLE

7

ANSI B - 1 BR - TYPE B -**UNIT MEP PLAN** 

James Watson, P.E. April 16, 2025

MO Certificate of Authority # 2018029680

J-SQUARED

ENGINEERING

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Columbia, Missouri 65201

573.234.4492 www.j-squaredeng.com

J21357

ACW

DATE

04 - 15 - 2025

05 - 16 - 2025

J2 PROJECT No:

J2 DESIGN:

ISSUE TITLE

PERMIT SET

ADDENDUM 1

PE-2015017071

EQUIPMENT TYPE (REFER TO EQUIPMENT SCHEDULE) EQUIPMENT REFERENCE NUMBER

DIFFUSER/GRILLE TYPE (REFER TO SCHEDULE) CUBIC FEET PER MINUTE (CFM) / FACE SIZE

SUPPLY DUCTWORK

RETURN DUCTWORK

EXHAUST DUCTWORK

FLEX DUCT

SUPPLY DIFFUSER (HATCH INDICATES "NO FLOW ZONE")

RETURN DIFFUSER BALANCE DAMPER MOTORIZED DAMPER

CEILING RADIATION DAMPER

BACK DRAFT DAMPER

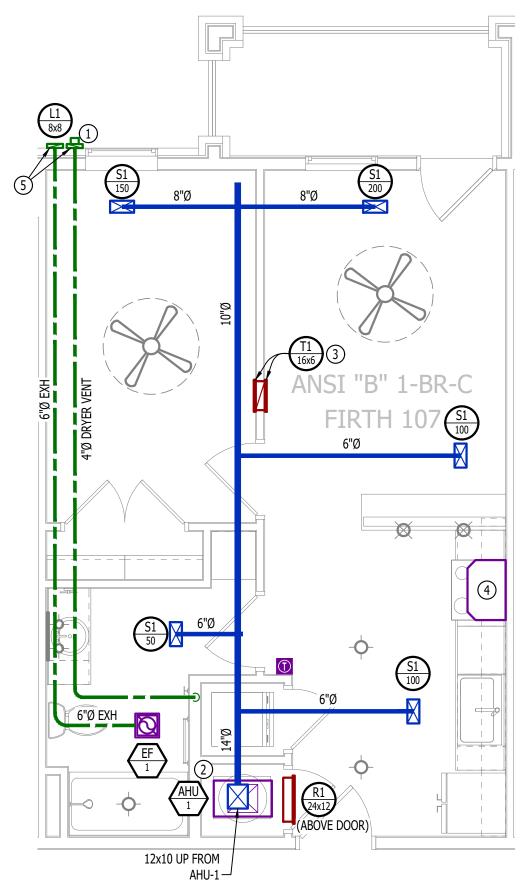
THERMOSTAT

# **HVAC PLAN GENERAL NOTES:**

- 1. SEE M500 & M600 SERIES SHEETS FOR HVAC SCHEDULES, DETAILS, REQUIREMENTS, ETC.
- 2. SEE M100 SERIES SHEETS FOR CONDENSING UNIT LOCATIONS. REFRIGERANT PIPING SHALL ROUTE IN SPACES ABOVE FINISHED CEILINGS AND WITHIN WALL CAVITIES TO REMAIN CONCEALED.
- 3. SUPPLY DUCTWORK FROM AHU AT FLOOR/CEILING PENETRATION SHALL BE PROTECTED BY A FIRE DAMPER. INSTALL PER MANUFACTURER'S SPECIFICATIONS.
- 4. WRAP ALL DRYER DUCTS WITH FIREMASTER (OR EQUAL) DUCT WRAP.
- 5. TOTAL DEVELOPED LENGTH OF EXHAUST DUCT SHALL BE INDICATED ON A PERMANENT LABEL WITHIN 6' OF DRYER VENT CONNECTION. DRYER DUCT ROUTING SHOWN IS FOR REFERENCE ONLY. OVERALL DUCT LENGTH
- SHALL BE CALCULATED BY HVAC CONTRACTOR PER 2018 IMC 504.8.4. 6. LOCATE ALL EXHAUST / DRYER VENT TERMINATIONS AT LEAST 36" FROM OPERABLE OPENINGS INTO APARTMENTS
- 7. ALL DUCTWORK SHOWN SHALL ROUTE IN SPACE BETWEEN / THRU TRUSSES UNLESS NOTED OTHERWISE. SEE STRUCTURAL DRAWINGS FOR DETAILS.

# **HVAC PLAN KEY NOTES:**

- 1 TERMINATE 4" DRYER EXHAUST WITH VENT EQUAL TO DRYER WALL VENT #DWV4.
- (2) AHU WALL MOUNTED ABOVE WATER HEATER, COORDINATE WITH PLUMBING CONTRACTOR. CONDENSATE TO DISCHARGE IN FLOOR DRAIN WITHIN CLOSET.
- (3) HI/LOW TRANSFER GRILLE (12" A.F.F. ON BEDROOM SIDE OF WALL; 84" A.F.F ON OPPOSITE SIDE OF WALL).
- (4) RESIDENTIAL RECIRCULATION HOOD TO BE SUPPLIED & INSTALLED BY GC.
- (5) ON FOURTH FLOOR ONLY, BATHROOM EXHAUST / DYER VENT TO TERMINATE AT LOUVER / VENT MOUNTED IN



# **HVAC PLAN**

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

# **POWER PLAN SYMBOL LEGEND**

CIRCUIT WIRING —> PX-XX CIRCUIT TAG JUNCTION BOX

RECEPTACLE INDICATES MOUNTING HEIGHT TO BOTTOM OF BOX (STANDARD @ 18" AFF UNLESS NOTED OTHERWISE) — "WP" = WEATHERPROOF OUTDOOR RECEPTACLE

GFCI DUPLEX CONVENIENCE RECEPTACLE

208V RECEPTACLE

QUADPLEX CONVENIENCE RECEPTACLE

DATA / PHONE JACK; BOX WITH 1" CONDUIT & CAT6 CABLE BACK TO MEDIA PANEL LOCATION (STANDARD @ 18" AFF UNLESS NOTED OTHERWISE)

DISCONNECT

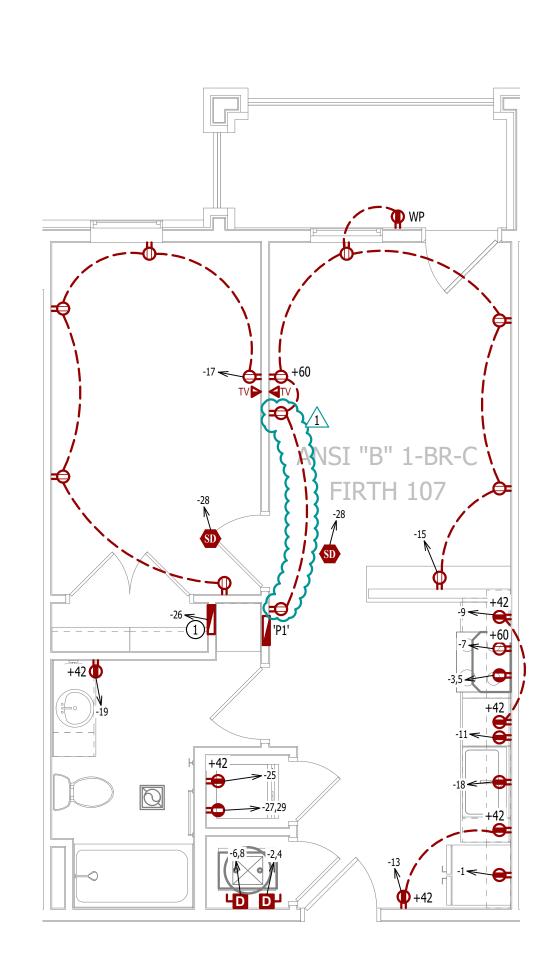
120V IONIZATION SMOKE 520Hz LOW FREQUENCY ALARM WITH SILENCING CAPABILITIES & LOW-VOLTAGE CONTACTS WIRED TO SHUT DOWN AHU UPON FIRE DETECTION. COORDINATE WITH HVAC CONTRACTOR. SMOKE DETECTOR MUST BE LOCATED AT LEAST 3' FROM CEILING FAN BLADES AND AT LEAST 10' FROM ANY COOKING APPLIANCE (FIELD-COORDINATE)

# **POWER PLAN GENERAL NOTES:**

- SEE E500 & E600 SERIES SHEETS FOR POWER SCHEDULES, DETAILS, REQUIREMENTS, ETC.
- SEE M100 & EP100 SERIES SHEETS FOR CONDENSING UNIT LOCATIONS.
- VERIFY EACH DATA/RECEPTACLE LOCATION WITH OWNER PRIOR TO INSTALLATION. 4. REFER TO "TYPICAL ADA MOUNTING HEIGHTS DETAIL", SHEET E501, FOR MOUNTING HEIGHTS OF DEVICES IN "ANSI A" UNITS.

# **POWER PLAN KEY NOTES:**

(1) MEDIA PANEL LOCATION; DATA/TV WIRING TO TERMINATE AT THIS LOCATION. DETERMINE EXACT LOCATION & DETAILS WITH OWNER PRIOR TO INSTALLATION.



# **POWER PLAN**

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

# PLUMBING PLAN SYMBOL LEGEND

PIPING TURNED DOWN / TURNED UP

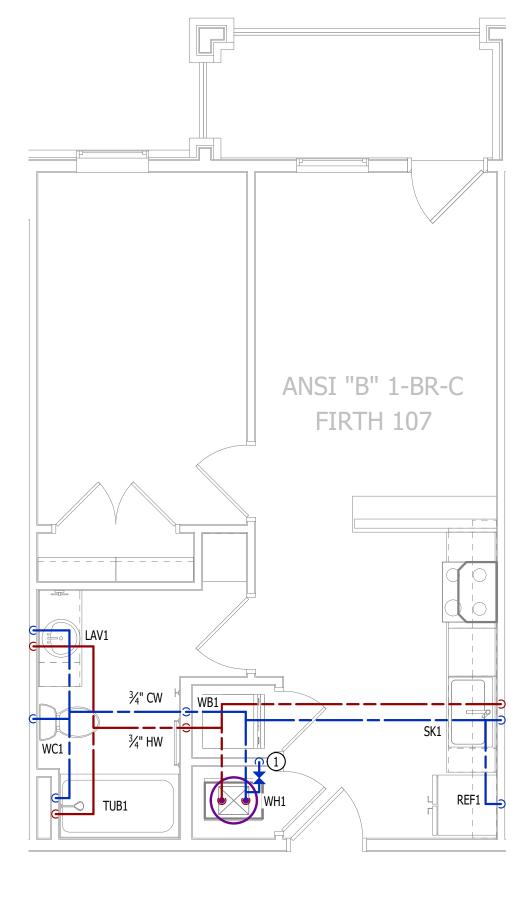
———— COLD WATER LINE — — — HOT WATER LINE

# **WATER PLAN GENERAL NOTES:**

- 1. SEE P500 &/OR P600 SERIES SHEETS FOR ADDITIONAL PLUMBING NOTES, DETAILS, & SCHEDULES.
- 2. ALL PLUMBING LOCATED ON EXTERIOR WALLS SHALL ROUTE WITHIN INSULATION BARRIER. 3. ALL DOMESTIC SUPPLY LINES SERVING MORE THAN (1) FIXTURE SHALL BE 3/4" UNLESS NOTED OTHERWISE.

# **WATER PLAN KEY NOTES:**

1" CW PIPE UP FROM BELOW WITH SHUT-OFF VALVE IN ACCESSIBLE LOCATION. SEE OVERALL PLUMBING PLANS FOR DETAILS.





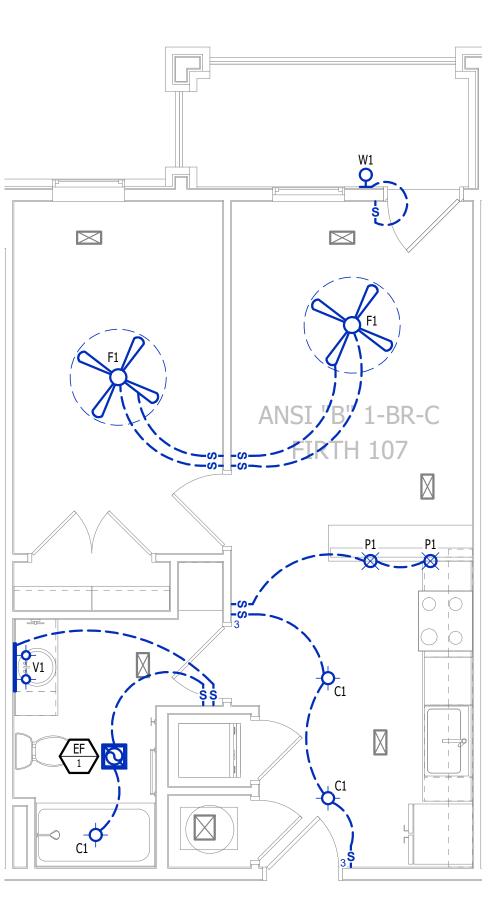
# LIGHTING PLAN SYMBOL LEGEND

LIGHTING FIXTURE "X1" INDICATES FIXTURE TYPE (REFER TO SCHEDULE) TOGGLE SWITCH SWITCH TYPE

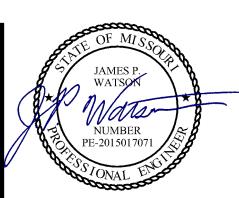
DIMMER SWITCH

# **LIGHTING PLAN GENERAL NOTES:**

- SEE E500 & E600 SERIES SHEETS FOR ADDITIONAL ELECTRICAL NOTES, DETAILS, & SCHEDULES.
- ALL LIGHTING SHOWN SHALL BE ON CIRCUIT -16 UNLESS NOTED OTHERWISE.



LIGHTING PLAN	
SCALE: 1/4" = 1'-0"	_



James Watson, P.E. April 16, 2025 PE-2015017071 MO Certificate of Authority # 2018029680



# J-SQUARED ENGINEERING

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J2 PROJECT No:	J21357
J2 DESIGN:	ACW

J2 DESIGN:	ACW
	_
ISSUE TITLE	DATE
PERMIT SET	04 - 15 - 2025

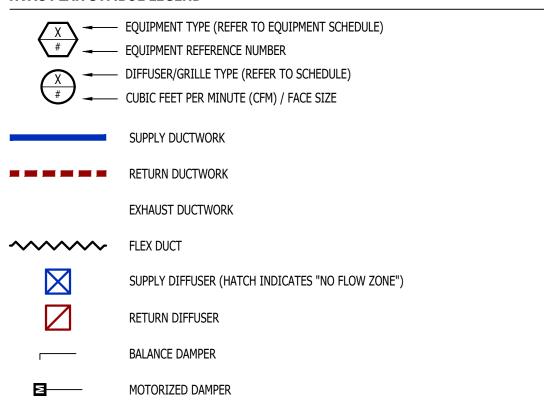
ADDENDUM 1 05 - 16 - 2025

AHJ APPROVAL STAMP

ANSI B - 1 BR - TYPE C -**UNIT MEP PLAN** 

SHEET NUMBER

SHEET TITLE



# **HVAC PLAN GENERAL NOTES:**

- 1. SEE M500 & M600 SERIES SHEETS FOR HVAC SCHEDULES, DETAILS, REQUIREMENTS, ETC.
- 2. SEE M100 SERIES SHEETS FOR CONDENSING UNIT LOCATIONS. REFRIGERANT PIPING SHALL ROUTE IN SPACES ABOVE FINISHED CEILINGS AND WITHIN WALL CAVITIES TO REMAIN CONCEALED.
- 3. SUPPLY DUCTWORK FROM AHU AT FLOOR/CEILING PENETRATION SHALL BE PROTECTED BY A FIRE DAMPER. INSTALL PER MANUFACTURER'S SPECIFICATIONS.
- 4. WRAP ALL DRYER DUCTS WITH FIREMASTER (OR EQUAL) DUCT WRAP.

CEILING RADIATION DAMPER

BACK DRAFT DAMPER

THERMOSTAT

- 5. TOTAL DEVELOPED LENGTH OF EXHAUST DUCT SHALL BE INDICATED ON A PERMANENT LABEL WITHIN 6' OF DRYER VENT CONNECTION. DRYER DUCT ROUTING SHOWN IS FOR REFERENCE ONLY. OVERALL DUCT LENGTH SHALL BE CALCULATED BY HVAC CONTRACTOR PER 2018 IMC 504.8.4.
- 6. LOCATE ALL EXHAUST / DRYER VENT TERMINATIONS AT LEAST 36" FROM OPERABLE OPENINGS INTO APARTMENTS (WINDOWS, DOORS, ETC.).
- 7. ALL DUCTWORK SHOWN SHALL ROUTE IN SPACE BETWEEN / THRU TRUSSES UNLESS NOTED OTHERWISE. SEE STRUCTURAL DRAWINGS FOR DETAILS.

# **HVAC PLAN KEY NOTES:**

- 1) TERMINATE 4" DRYER EXHAUST WITH VENT EQUAL TO DRYER WALL VENT #DWV4.
- (2) AHU WALL MOUNTED ABOVE WATER HEATER, COORDINATE WITH PLUMBING CONTRACTOR. CONDENSATE TO DISCHARGE IN FLOOR DRAIN WITHIN CLOSET.
- 3 HI/LOW TRANSFER GRILLE (12" A.F.F. ON BEDROOM SIDE OF WALL; 84" A.F.F ON OPPOSITE SIDE OF WALL).
- 4) RESIDENTIAL RECIRCULATION HOOD TO BE SUPPLIED & INSTALLED BY GC.
- (5) ON FOURTH FLOOR ONLY, BATHROOM EXHAUST / DYER VENT TO TERMINATE AT LOUVER / VENT MOUNTED IN

# PLUMBING PLAN SYMBOL LEGEND

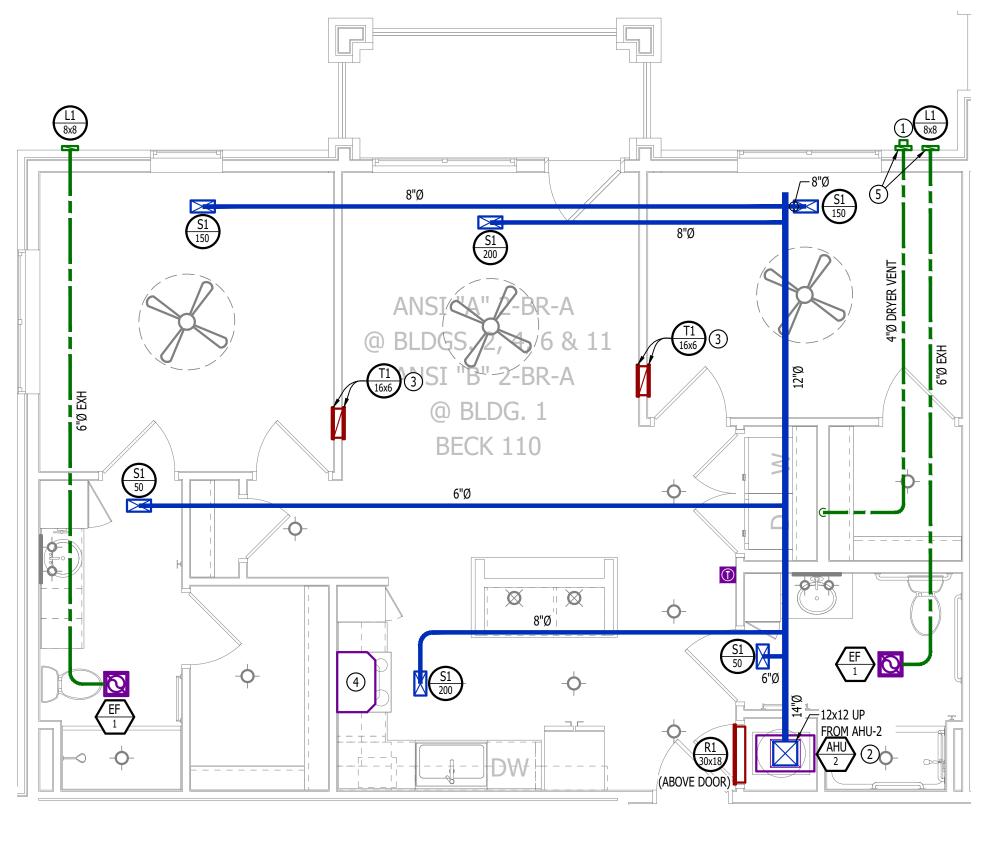
———— COLD WATER LINE — — — HOT WATER LINE VALVE PIPING TURNED DOWN / TURNED UP

# **WATER PLAN GENERAL NOTES:**

- SEE P500 &/OR P600 SERIES SHEETS FOR ADDITIONAL PLUMBING NOTES, DETAILS, & SCHEDULES.
- ALL PLUMBING LOCATED ON EXTERIOR WALLS SHALL ROUTE WITHIN INSULATION BARRIER.
- 3. ALL DOMESTIC SUPPLY LINES SERVING MORE THAN (1) FIXTURE SHALL BE  $\frac{3}{4}$ " UNLESS NOTED OTHERWISE.

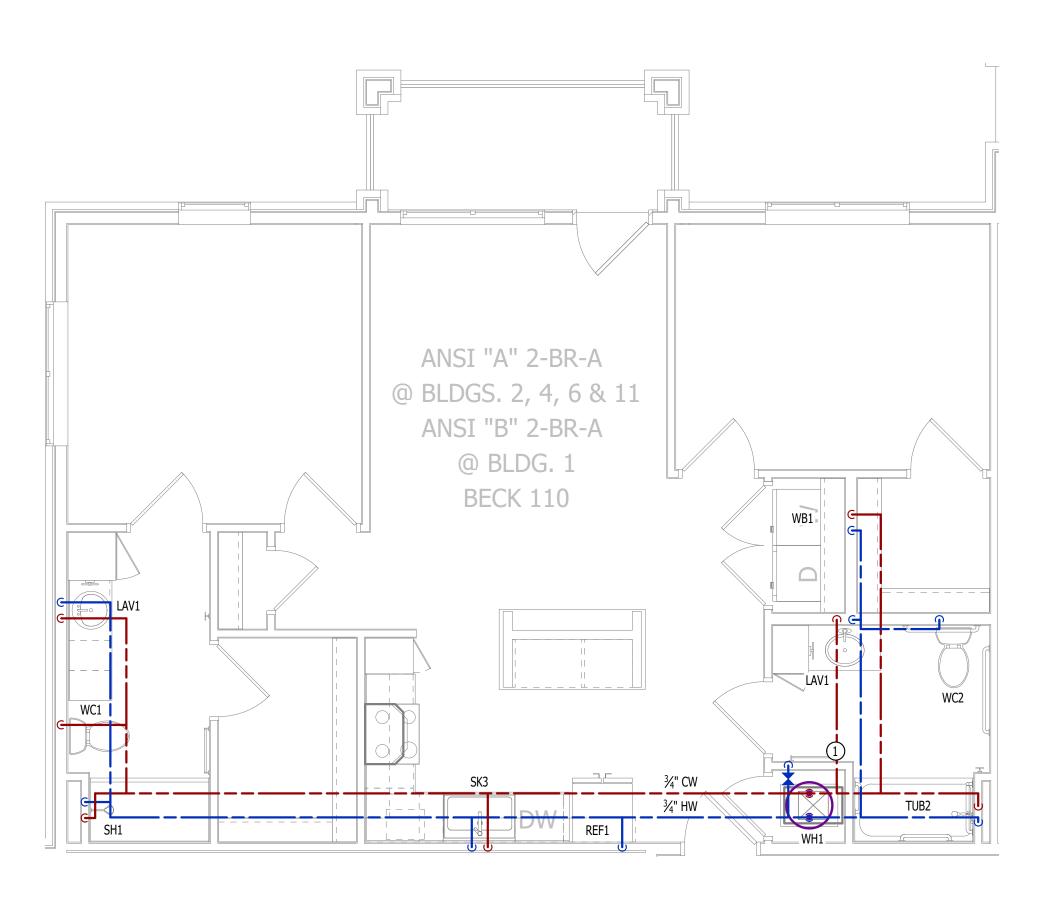
# **WATER PLAN KEY NOTES:**

1" CW PIPE UP FROM BELOW WITH SHUT-OFF VALVE IN ACCESSIBLE LOCATION. SEE OVERALL PLUMBING PLANS FOR DETAILS.



**HVAC PLAN** 

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



**WATER PLAN** 

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



James Watson, P.E. April 15, 2025 PE-2015017071 MO Certificate of Authority # 2018029680



# J-SQUARED ENGINEERING

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J2 PROJECT No:	J21357
J2 DESIGN:	ACW
ISSUE TITLE	DATE
DEDMIT CET	04 - 15 - 2025

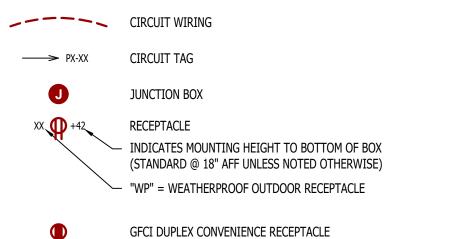
PERMIT SET 04 - 15 - 2025

Discover

AHJ APPROVAL STAMP

ANSI A - 2 BR - TYPE A -**UNIT HVAC & WATER PLAN** 

## POWER PLAN SYMBOL LEGEND



208V RECEPTACLE

QUADPLEX CONVENIENCE RECEPTACLE

DATA / PHONE JACK; BOX WITH 1" CONDUIT & CAT6 CABLE BACK TO MEDIA PANEL LOCATION (STANDARD @ 18" AFF UNLESS NOTED OTHERWISE)

DISCONNECT

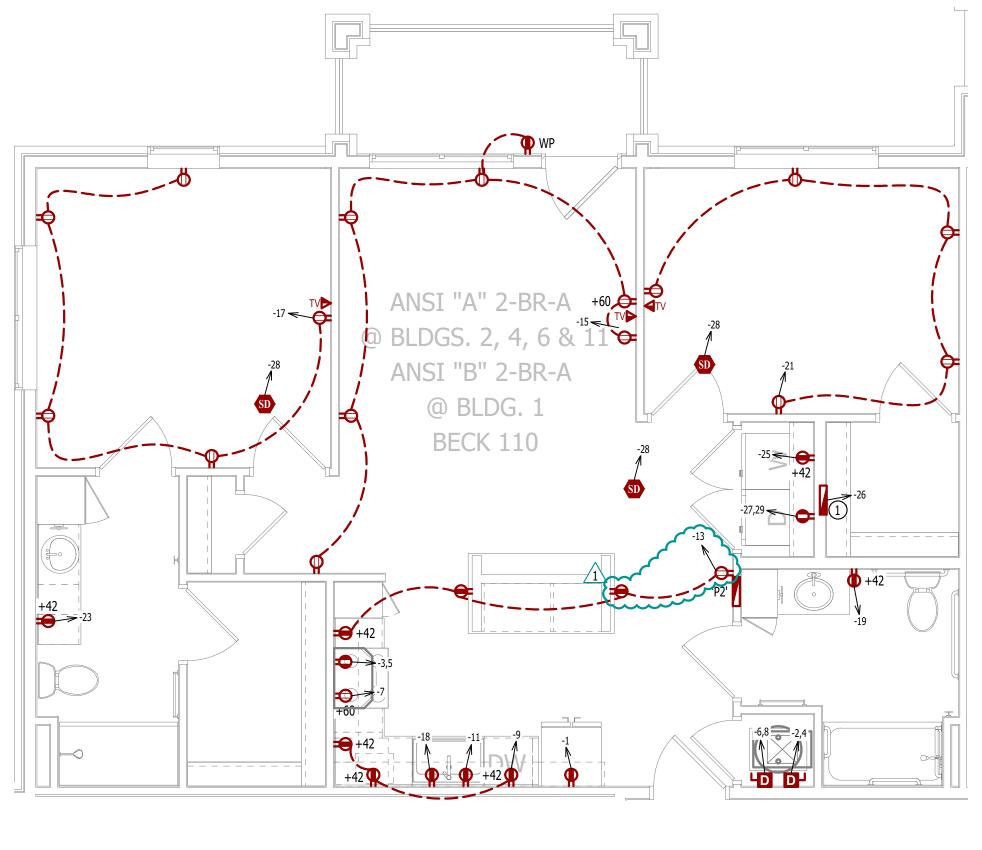
120V IONIZATION SMOKE 520Hz LOW FREQUENCY ALARM WITH SILENCING CAPABILITIES & LOW-VOLTAGE CONTACTS WIRED TO SHUT DOWN AHU UPON FIRE DETECTION. COORDINATE WITH HVAC CONTRACTOR. SMOKE DETECTOR MUST BE LOCATED AT LEAST 3' FROM CEILING FAN BLADES AND AT LEAST 10' FROM ANY COOKING APPLIANCE (FIELD-COORDINATE)

# **POWER PLAN GENERAL NOTES:**

- 1. SEE E500 & E600 SERIES SHEETS FOR POWER SCHEDULES, DETAILS, REQUIREMENTS, ETC.
- 2. SEE M100 & EP100 SERIES SHEETS FOR CONDENSING UNIT LOCATIONS.
- 3. VERIFY EACH DATA/RECEPTACLE LOCATION WITH OWNER PRIOR TO INSTALLATION.
- 4. REFER TO "TYPICAL ADA MOUNTING HEIGHTS DETAIL", SHEET E501, FOR MOUNTING HEIGHTS OF DEVICES IN "ANSI A" UNITS.

# **POWER PLAN KEY NOTES:**

1) MEDIA PANEL LOCATION; DATA/TV WIRING TO TERMINATE AT THIS LOCATION. DETERMINE EXACT LOCATION & DETAILS WITH OWNER PRIOR TO INSTALLATION.



**POWER PLAN** 

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

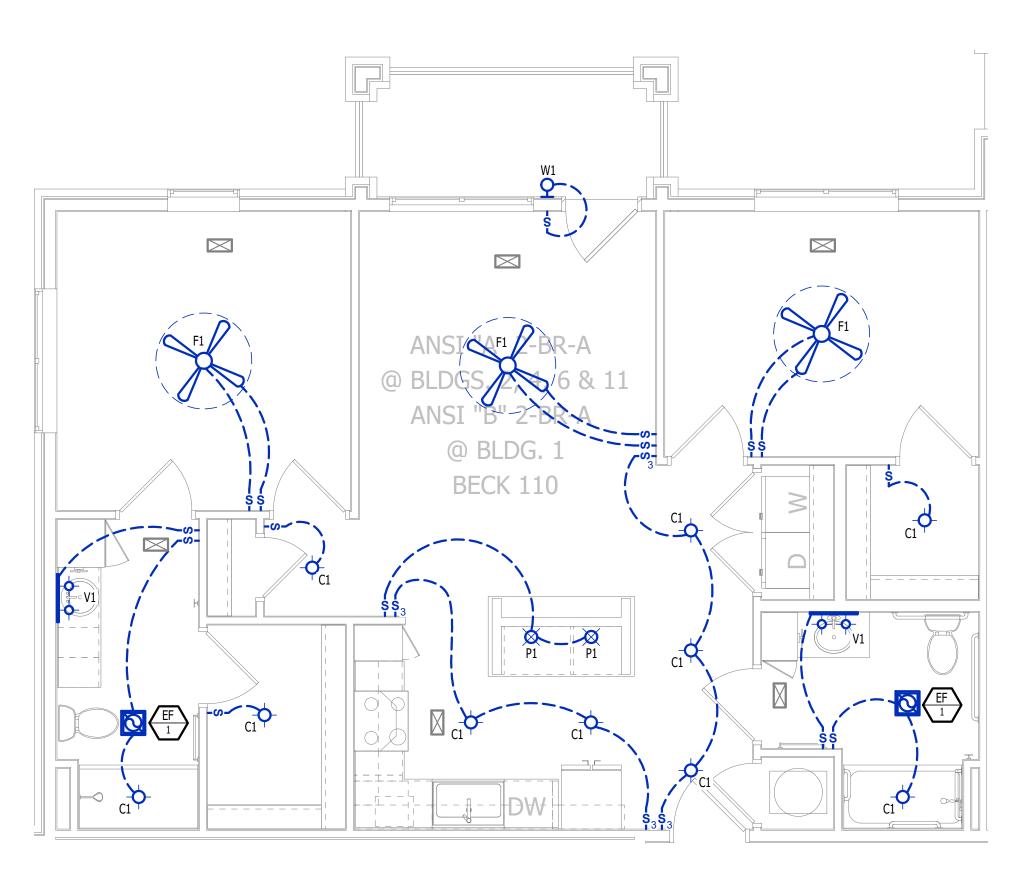
# LIGHTING PLAN SYMBOL LEGEND

LIGHTING FIXTURE — "X1" INDICATES FIXTURE TYPE (REFER TO SCHEDULE) TOGGLE SWITCH

- SWITCH TYPE DIMMER SWITCH

# **LIGHTING PLAN GENERAL NOTES:**

- 1. SEE E500 & E600 SERIES SHEETS FOR ADDITIONAL ELECTRICAL NOTES, DETAILS, & SCHEDULES.
- 2. ALL LIGHTING SHOWN SHALL BE ON CIRCUIT -16 UNLESS NOTED OTHERWISE.



**LIGHTING PLAN** SCALE: 1/4" = 1'-0"

James Watson, P.E. April 16, 2025 PE-2015017071 MO Certificate of Authority # 2018029680



# J-SQUARED **ENGINEERING**

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J2 PROJECT NO.	J2135/
J2 DESIGN:	ACW
ISSUE TITLE	DATE
PERMIT SET	04 - 15 - 2025

ADDENDUM 1 05 - 16 - 2025

# Ā

Discovery

AHJ APPROVAL STAMP

ANSI A - 2 BR - TYPE A -**UNIT POWER & LIGHTING** 

EQUIPMENT TYPE (REFER TO EQUIPMENT SCHEDULE)

# EQUIPMENT REFERENCE NUMBER DIFFUSER/GRILLE TYPE (REFER TO SCHEDULE) CUBIC FEET PER MINUTE (CFM) / FACE SIZE SUPPLY DUCTWORK RETURN DUCTWORK EXHAUST DUCTWORK FLEX DUCT SUPPLY DIFFUSER (HATCH INDICATES "NO FLOW ZONE")

RETURN DIFFUSER

BALANCE DAMPER MOTORIZED DAMPER CEILING RADIATION DAMPER BACK DRAFT DAMPER THERMOSTAT

# **HVAC PLAN GENERAL NOTES:**

- 1. SEE M500 & M600 SERIES SHEETS FOR HVAC SCHEDULES, DETAILS, REQUIREMENTS, ETC. 2. SEE M100 SERIES SHEETS FOR CONDENSING UNIT LOCATIONS. REFRIGERANT PIPING SHALL ROUTE IN SPACES
- ABOVE FINISHED CEILINGS AND WITHIN WALL CAVITIES TO REMAIN CONCEALED. 3. SUPPLY DUCTWORK FROM AHU AT FLOOR/CEILING PENETRATION SHALL BE PROTECTED BY A FIRE DAMPER. INSTALL PER MANUFACTURER'S SPECIFICATIONS.
- 4. WRAP ALL DRYER DUCTS WITH FIREMASTER (OR EQUAL) DUCT WRAP.
- 5. TOTAL DEVELOPED LENGTH OF EXHAUST DUCT SHALL BE INDICATED ON A PERMANENT LABEL WITHIN 6' OF DRYER VENT CONNECTION. DRYER DUCT ROUTING SHOWN IS FOR REFERENCE ONLY. OVERALL DUCT LENGTH SHALL BE CALCULATED BY HVAC CONTRACTOR PER 2018 IMC 504.8.4.
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# **HVAC PLAN KEY NOTES:**

- 1) TERMINATE 4" DRYER EXHAUST WITH VENT EQUAL TO DRYER WALL VENT #DWV4.
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- 4) RESIDENTIAL RECIRCULATION HOOD TO BE SUPPLIED & INSTALLED BY GC.
- (5) ON FOURTH FLOOR ONLY, BATHROOM EXHAUST / DYER VENT TO TERMINATE AT LOUVER / VENT MOUNTED IN

# PLUMBING PLAN SYMBOL LEGEND

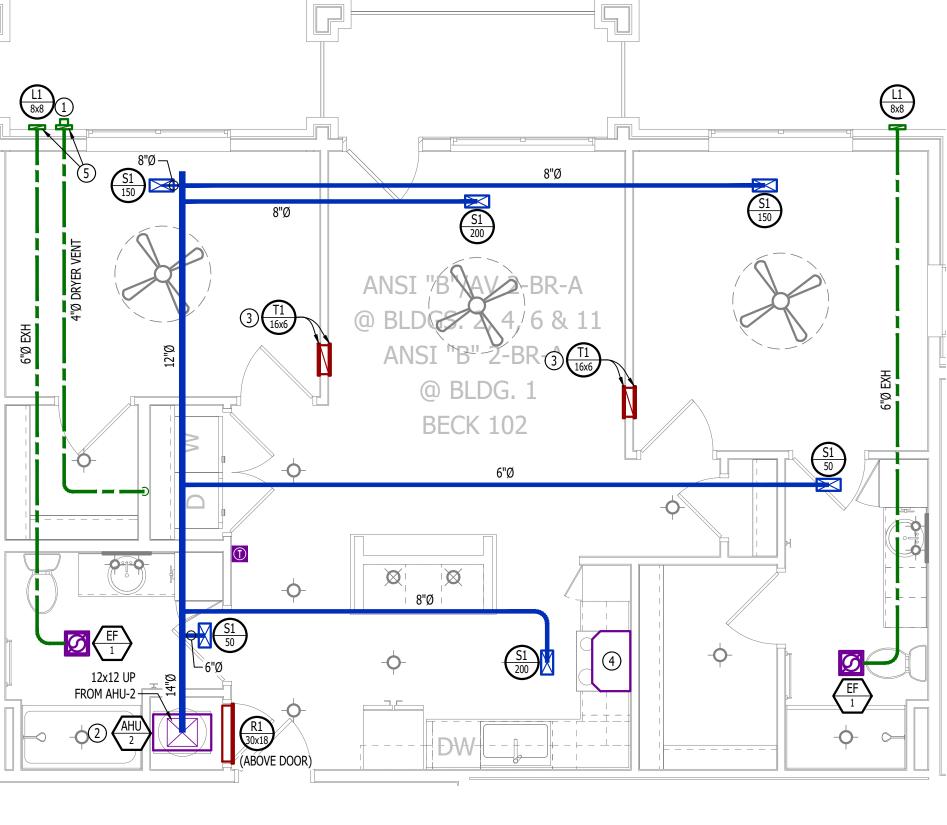
———— COLD WATER LINE HOT WATER LINE VALVE PIPING TURNED DOWN / TURNED UP

# **WATER PLAN GENERAL NOTES:**

- SEE P500 &/OR P600 SERIES SHEETS FOR ADDITIONAL PLUMBING NOTES, DETAILS, & SCHEDULES.
- ALL PLUMBING LOCATED ON EXTERIOR WALLS SHALL ROUTE WITHIN INSULATION BARRIER.
- 3. ALL DOMESTIC SUPPLY LINES SERVING MORE THAN (1) FIXTURE SHALL BE  $\frac{3}{4}$ " UNLESS NOTED OTHERWISE.

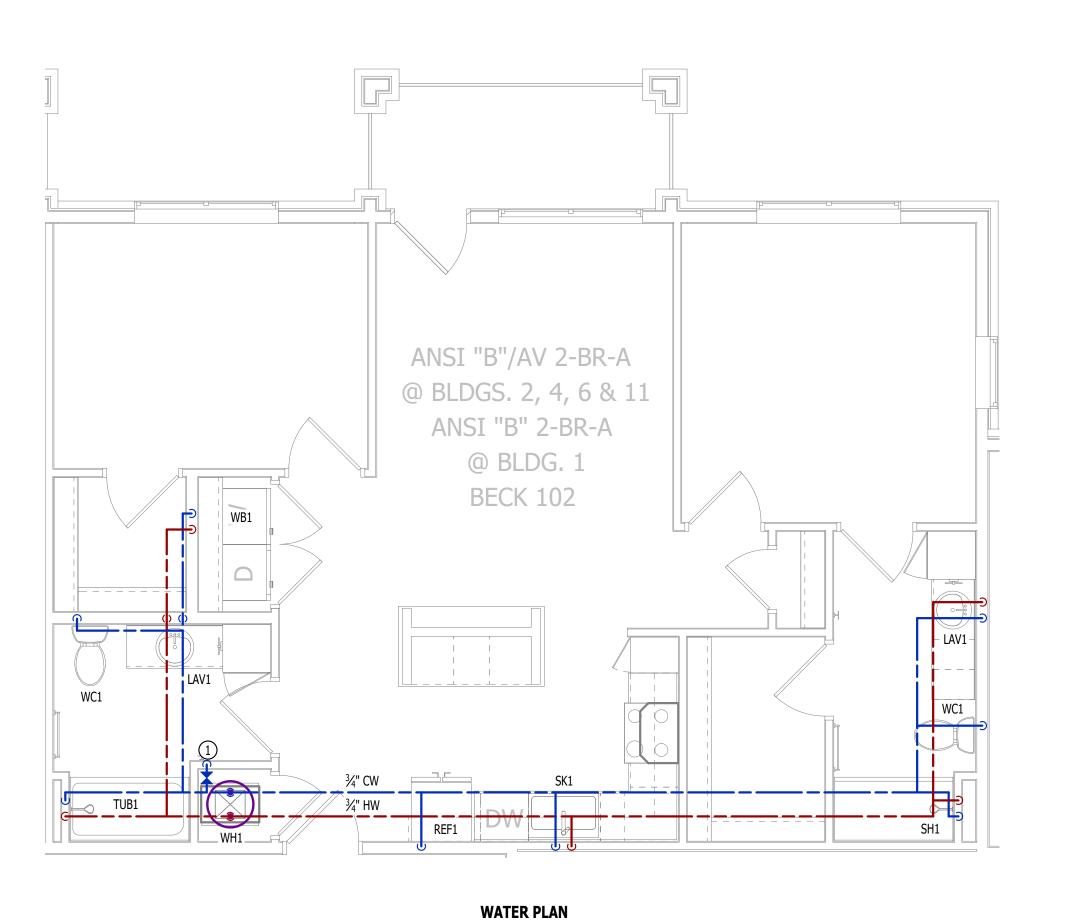
# **WATER PLAN KEY NOTES:**

1" CW PIPE UP FROM BELOW WITH SHUT-OFF VALVE IN ACCESSIBLE LOCATION. SEE OVERALL PLUMBING PLANS FOR DETAILS.



**HVAC PLAN** 

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



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

James Watson, P.E. April 15, 2025 PE-2015017071 MO Certificate of Authority # 2018029680



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J2 PROJECT No:	J21357
J2 DESIGN:	ACW
ISSUE TITLE	DATE

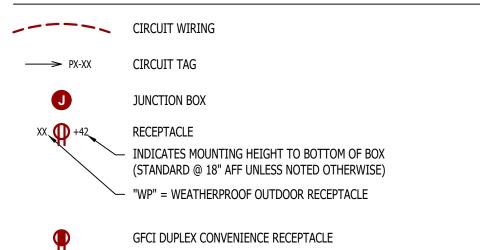
ISSUE TITLE	DATE
PERMIT SET	04 - 15 - 2025

# Discover

AHJ APPROVAL STAMP

ANSI B - AV - 2BR - TYPE A - HVAC & WATER PLAN

# POWER PLAN SYMBOL LEGEND



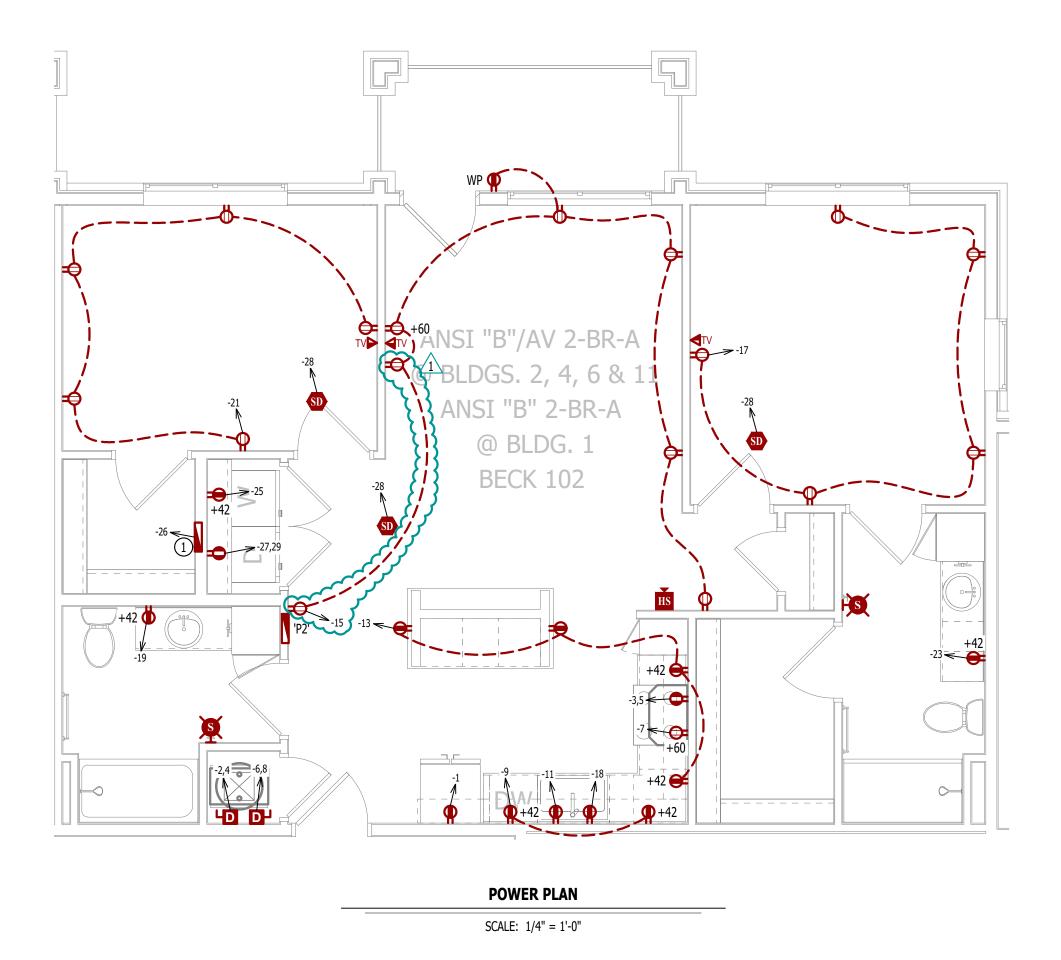
- 208V RECEPTACLE
- QUADPLEX CONVENIENCE RECEPTACLE
- DATA / PHONE JACK; BOX WITH 1" CONDUIT & CAT6 CABLE BACK TO MEDIA PANEL LOCATION (STANDARD @ 18" AFF UNLESS NOTED OTHERWISE)
- DISCONNECT
  - 120V IONIZATION SMOKE 520Hz LOW FREQUENCY ALARM WITH SILENCING CAPABILITIES & LOW-VOLTAGE CONTACTS WIRED TO SHUT DOWN AHU UPON FIRE DETECTION. COORDINATE WITH HVAC CONTRACTOR. SMOKE DETECTOR MUST BE LOCATED AT LEAST 3' FROM CEILING FAN BLADES AND AT LEAST 10' FROM ANY COOKING APPLIANCE (FIELD-COORDINATE)

# **POWER PLAN GENERAL NOTES:**

- 1. SEE E500 & E600 SERIES SHEETS FOR POWER SCHEDULES, DETAILS, REQUIREMENTS, ETC.
- 2. SEE M100 & EP100 SERIES SHEETS FOR CONDENSING UNIT LOCATIONS.
- 3. VERIFY EACH DATA/RECEPTACLE LOCATION WITH OWNER PRIOR TO INSTALLATION.
- 4. REFER TO "TYPICAL ADA MOUNTING HEIGHTS DETAIL", SHEET E501, FOR MOUNTING HEIGHTS OF DEVICES IN "ANSI A" UNITS.

# **POWER PLAN KEY NOTES:**

1) MEDIA PANEL LOCATION; DATA/TV WIRING TO TERMINATE AT THIS LOCATION. DETERMINE EXACT LOCATION & DETAILS WITH OWNER PRIOR TO INSTALLATION.

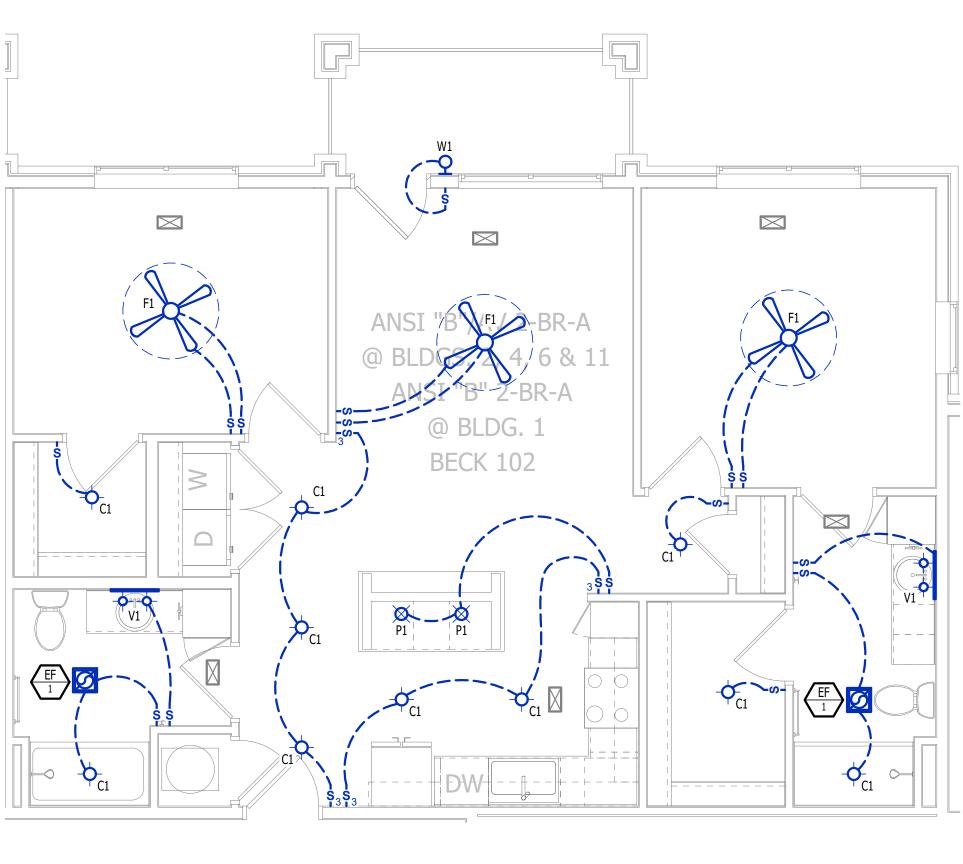


# LIGHTING PLAN SYMBOL LEGEND

- <del>-</del>	LIGHTING FIXTURE
^*	- "X1" INDICATES FIXTURE TYPE (REFER TO SCHEDULE)
\$  3_	TOGGLE SWITCH
	- SWITCH TYPE
Ρ̈́	DIMMER SWITCH

# **LIGHTING PLAN GENERAL NOTES:**

- 1. SEE E500 & E600 SERIES SHEETS FOR ADDITIONAL ELECTRICAL NOTES, DETAILS, & SCHEDULES.
- 2. ALL LIGHTING SHOWN SHALL BE ON CIRCUIT -16 UNLESS NOTED OTHERWISE.



**LIGHTING PLAN** 

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

James Watson, P.E. April 16, 2025 PE-2015017071 MO Certificate of Authority # 2018029680



# J-SQUARED **ENGINEERING**

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J2 PROJECT No:	J21357
J2 DESIGN:	ACW
ISSUE TITLE	DATE
DEDMIT CET	04 15 2025

# PERMIT SET 04 - 15 - 2025 ADDENDUM 1 05 - 16 - 2025

Discover

AHJ APPROVAL STAMP

ANSI B - AV - 2BR - TYPE A -**POWER & LIGHTING PLAN** 

EQUIPMENT TYPE (REFER TO EQUIPMENT SCHEDULE)

# EQUIPMENT REFERENCE NUMBER DIFFUSER/GRILLE TYPE (REFER TO SCHEDULE) CUBIC FEET PER MINUTE (CFM) / FACE SIZE SUPPLY DUCTWORK RETURN DUCTWORK EXHAUST DUCTWORK FLEX DUCT SUPPLY DIFFUSER (HATCH INDICATES "NO FLOW ZONE") RETURN DIFFUSER

BALANCE DAMPER MOTORIZED DAMPER CEILING RADIATION DAMPER

BACK DRAFT DAMPER THERMOSTAT

# **HVAC PLAN GENERAL NOTES:**

- 1. SEE M500 & M600 SERIES SHEETS FOR HVAC SCHEDULES, DETAILS, REQUIREMENTS, ETC. 2. SEE M100 SERIES SHEETS FOR CONDENSING UNIT LOCATIONS. REFRIGERANT PIPING SHALL ROUTE IN SPACES
- ABOVE FINISHED CEILINGS AND WITHIN WALL CAVITIES TO REMAIN CONCEALED. 3. SUPPLY DUCTWORK FROM AHU AT FLOOR/CEILING PENETRATION SHALL BE PROTECTED BY A FIRE DAMPER. INSTALL PER MANUFACTURER'S SPECIFICATIONS.
- 4. WRAP ALL DRYER DUCTS WITH FIREMASTER (OR EQUAL) DUCT WRAP.
- 5. TOTAL DEVELOPED LENGTH OF EXHAUST DUCT SHALL BE INDICATED ON A PERMANENT LABEL WITHIN 6' OF DRYER VENT CONNECTION. DRYER DUCT ROUTING SHOWN IS FOR REFERENCE ONLY. OVERALL DUCT LENGTH SHALL BE CALCULATED BY HVAC CONTRACTOR PER 2018 IMC 504.8.4.
- 6. LOCATE ALL EXHAUST / DRYER VENT TERMINATIONS AT LEAST 36" FROM OPERABLE OPENINGS INTO APARTMENTS (WINDOWS, DOORS, ETC.).
- 7. ALL DUCTWORK SHOWN SHALL ROUTE IN SPACE BETWEEN / THRU TRUSSES UNLESS NOTED OTHERWISE. SEE STRUCTURAL DRAWINGS FOR DETAILS.

# **HVAC PLAN KEY NOTES:**

- 1) TERMINATE 4" DRYER EXHAUST WITH VENT EQUAL TO DRYER WALL VENT #DWV4.
- (2) AHU WALL MOUNTED ABOVE WATER HEATER, COORDINATE WITH PLUMBING CONTRACTOR. CONDENSATE TO DISCHARGE IN FLOOR DRAIN WITHIN CLOSET.
- 3 HI/LOW TRANSFER GRILLE (12" A.F.F. ON BEDROOM SIDE OF WALL; 84" A.F.F ON OPPOSITE SIDE OF WALL).
- 4) RESIDENTIAL RECIRCULATION HOOD TO BE SUPPLIED & INSTALLED BY GC.
- (5) ON FOURTH FLOOR ONLY, BATHROOM EXHAUST / DYER VENT TO TERMINATE AT LOUVER / VENT MOUNTED IN

# PLUMBING PLAN SYMBOL LEGEND

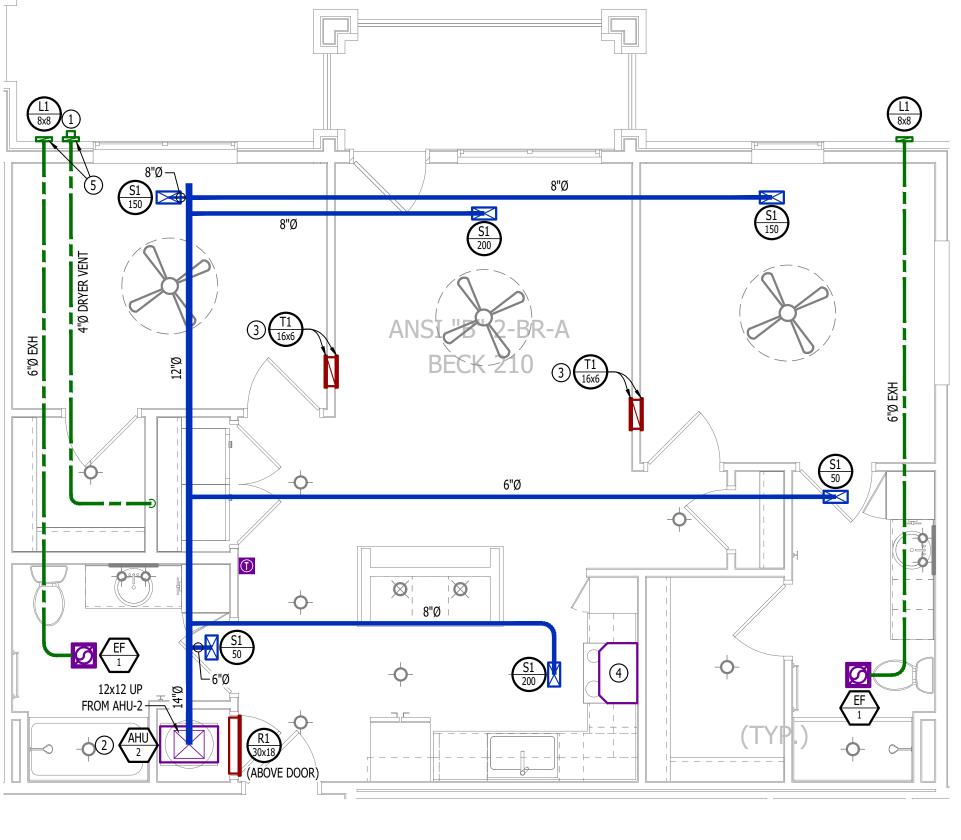
———— COLD WATER LINE — — — HOT WATER LINE VALVE PIPING TURNED DOWN / TURNED UP

# **WATER PLAN GENERAL NOTES:**

- SEE P500 &/OR P600 SERIES SHEETS FOR ADDITIONAL PLUMBING NOTES, DETAILS, & SCHEDULES.
- ALL PLUMBING LOCATED ON EXTERIOR WALLS SHALL ROUTE WITHIN INSULATION BARRIER.
- 3. ALL DOMESTIC SUPPLY LINES SERVING MORE THAN (1) FIXTURE SHALL BE  $\frac{3}{4}$ " UNLESS NOTED OTHERWISE.

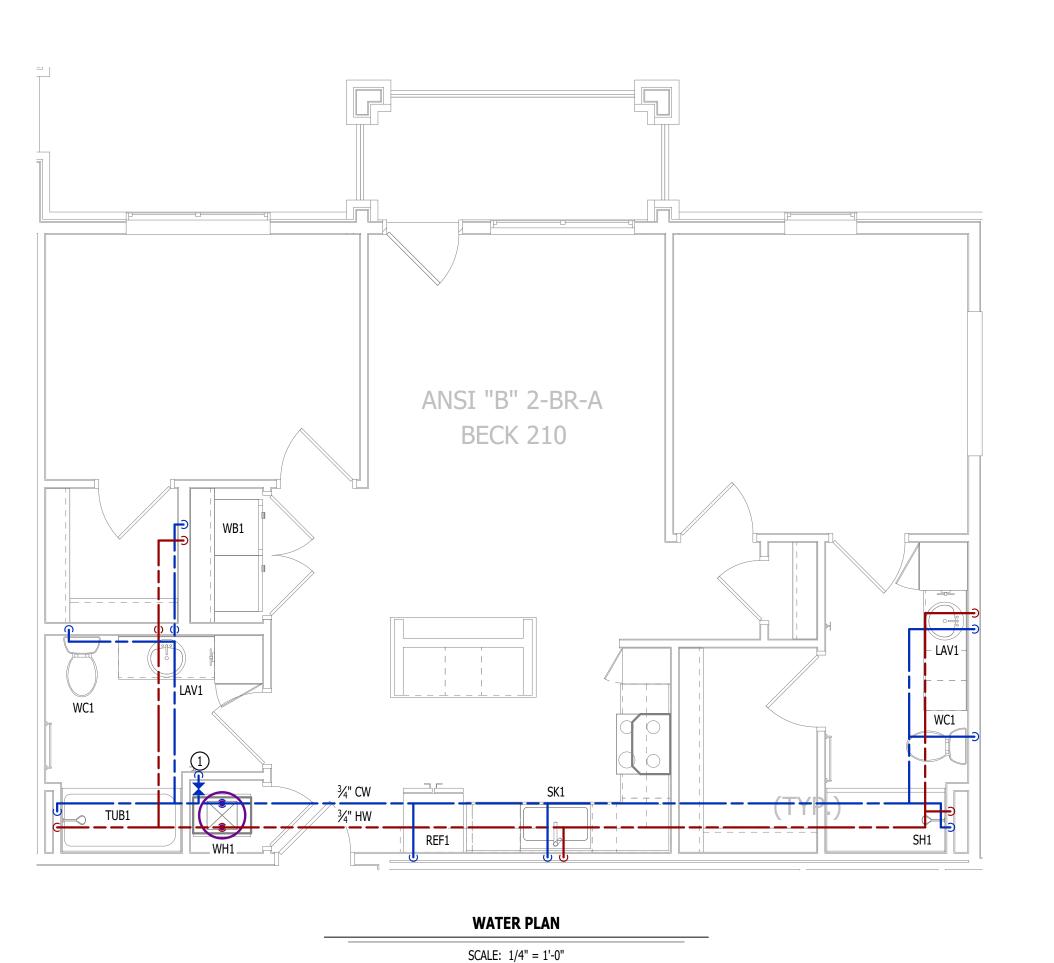
# **WATER PLAN KEY NOTES:**

1" CW PIPE UP FROM BELOW WITH SHUT-OFF VALVE IN ACCESSIBLE LOCATION. SEE OVERALL PLUMBING PLANS FOR DETAILS.



**HVAC PLAN** 

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



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J2 PROJECT No:	J21357
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ISSUE TITLE	DATE

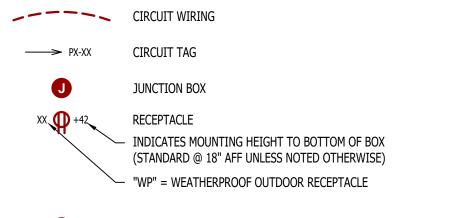
ISSUE TITLE	DATE
PERMIT SET	04 - 15 - 2025

Discover

AHJ APPROVAL STAMP

ANSI B - 2 BR - TYPE A -**UNIT HVAC & WATER PLAN** 

# POWER PLAN SYMBOL LEGEND



QUADPLEX CONVENIENCE RECEPTACLE

GFCI DUPLEX CONVENIENCE RECEPTACLE

208V RECEPTACLE

DATA / PHONE JACK; BOX WITH 1" CONDUIT & CAT6 CABLE BACK TO MEDIA PANEL LOCATION (STANDARD @ 18" AFF UNLESS NOTED OTHERWISE)

DISCONNECT

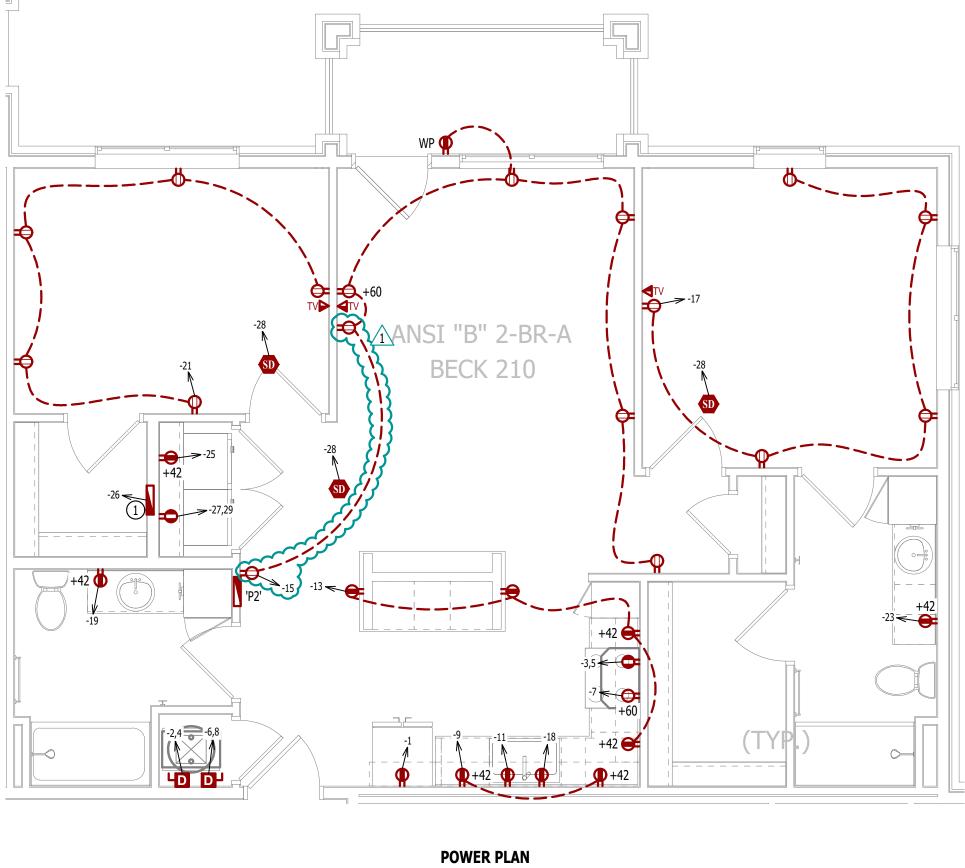
120V IONIZATION SMOKE 520Hz LOW FREQUENCY ALARM WITH SILENCING CAPABILITIES & LOW-VOLTAGE CONTACTS WIRED TO SHUT DOWN AHU UPON FIRE DETECTION. COORDINATE WITH HVAC CONTRACTOR. SMOKE DETECTOR MUST BE LOCATED AT LEAST 3' FROM CEILING FAN BLADES AND AT LEAST 10' FROM ANY COOKING APPLIANCE (FIELD-COORDINATE)

# **POWER PLAN GENERAL NOTES:**

- 1. SEE E500 & E600 SERIES SHEETS FOR POWER SCHEDULES, DETAILS, REQUIREMENTS, ETC.
- 2. SEE M100 & EP100 SERIES SHEETS FOR CONDENSING UNIT LOCATIONS.
- 3. VERIFY EACH DATA/RECEPTACLE LOCATION WITH OWNER PRIOR TO INSTALLATION.
- 4. REFER TO "TYPICAL ADA MOUNTING HEIGHTS DETAIL", SHEET E501, FOR MOUNTING HEIGHTS OF DEVICES IN "ANSI A" UNITS.

# **POWER PLAN KEY NOTES:**

(1) MEDIA PANEL LOCATION; DATA/TV WIRING TO TERMINATE AT THIS LOCATION. DETERMINE EXACT LOCATION & DETAILS WITH OWNER PRIOR TO INSTALLATION.



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

# LIGHTING PLAN SYMBOL LEGEND

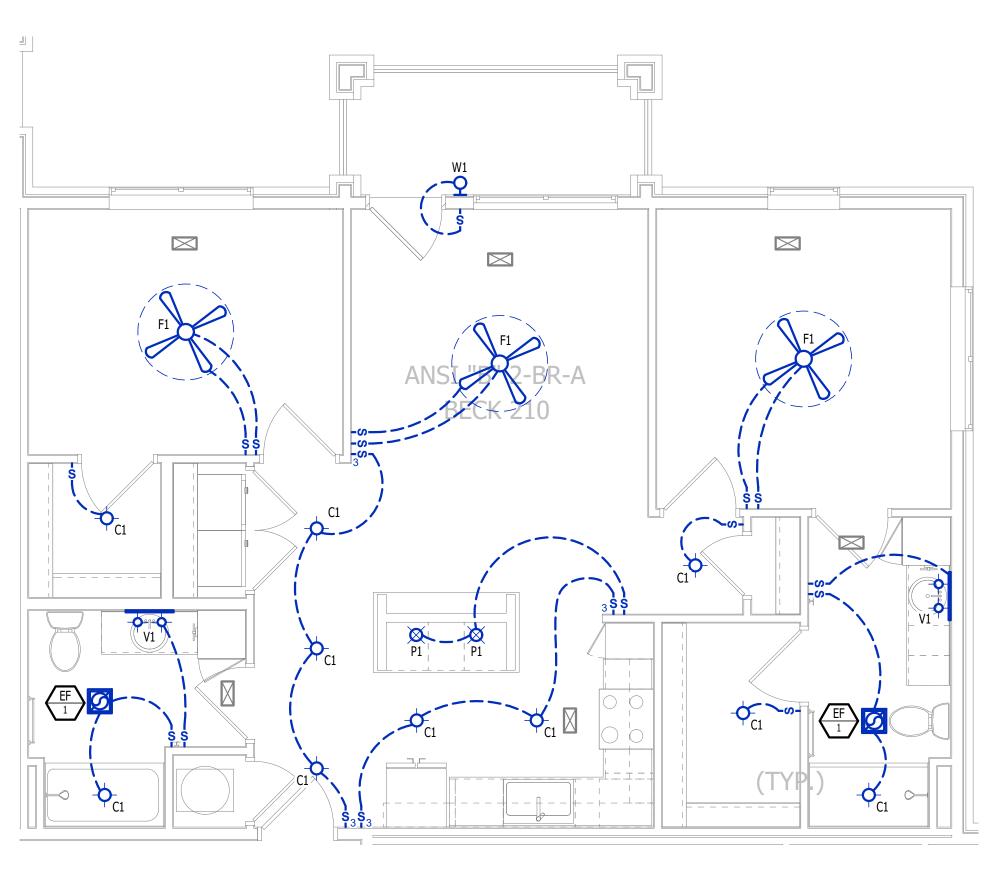
LIGHTING FIXTURE - "X1" INDICATES FIXTURE TYPE (REFER TO SCHEDULE) TOGGLE SWITCH

- SWITCH TYPE

DIMMER SWITCH

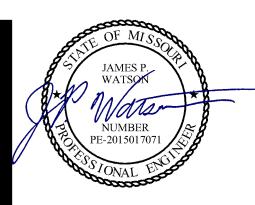
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**LIGHTING PLAN** 

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



James Watson, P.E. April 16, 2025 PE-2015017071 MO Certificate of Authority # 2018029680



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J2 DESIGN:	ACW
ISSUE TITLE	DATE

04 - 15 - 2025 ADDENDUM 1 05 - 16 - 2025

Discovery

AHJ APPROVAL STAMP

ASNI B - 2 BR - TYPE A -**UNIT POWER & LIGHTING** 

EQUIPMENT TYPE (REFER TO EQUIPMENT SCHEDULE) EQUIPMENT REFERENCE NUMBER DIFFUSER/GRILLE TYPE (REFER TO SCHEDULE) CUBIC FEET PER MINUTE (CFM) / FACE SIZE SUPPLY DUCTWORK RETURN DUCTWORK EXHAUST DUCTWORK FLEX DUCT

SUPPLY DIFFUSER (HATCH INDICATES "NO FLOW ZONE")

RETURN DIFFUSER BALANCE DAMPER MOTORIZED DAMPER CEILING RADIATION DAMPER BACK DRAFT DAMPER THERMOSTAT

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# **HVAC PLAN KEY NOTES:**

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- (5) ON FOURTH FLOOR ONLY, BATHROOM EXHAUST / DYER VENT TO TERMINATE AT LOUVER / VENT MOUNTED IN

# PLUMBING PLAN SYMBOL LEGEND

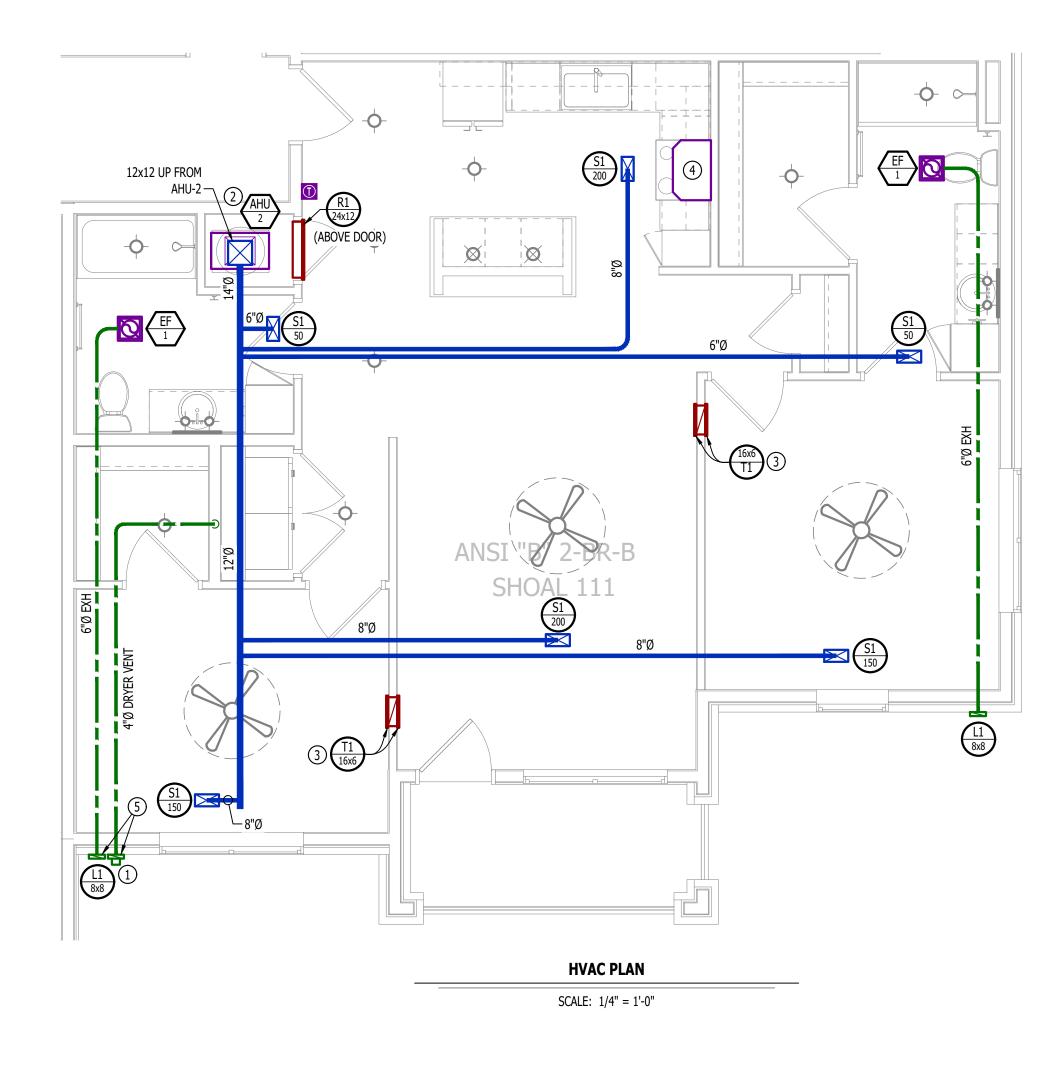
———— COLD WATER LINE VALVE PIPING TURNED DOWN / TURNED UP

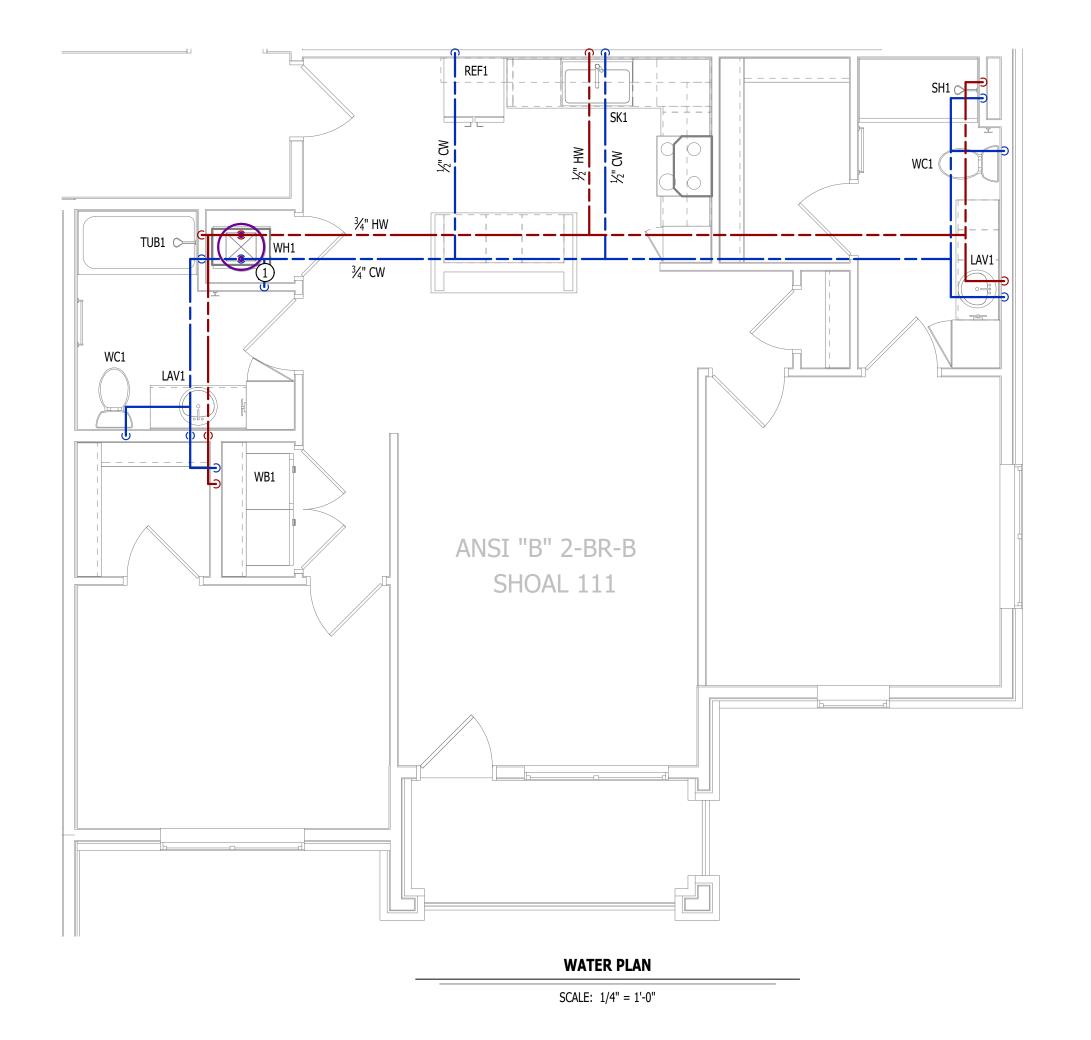
# **WATER PLAN GENERAL NOTES:**

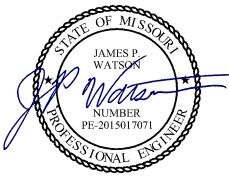
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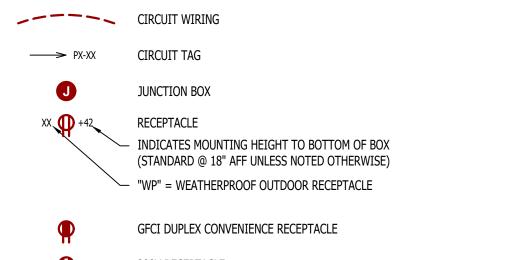
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PERMIT SET	04 - 15 - 2025

AHJ APPROVAL STAMP

ANSI B - 2 BR - TYPE B -**UNIT HVAC & WATER PLAN** 

# POWER PLAN SYMBOL LEGEND



- 208V RECEPTACLE
- QUADPLEX CONVENIENCE RECEPTACLE
- DATA / PHONE JACK; BOX WITH 1" CONDUIT & CAT6 CABLE BACK TO MEDIA PANEL LOCATION (STANDARD @ 18" AFF UNLESS NOTED OTHERWISE)
- DISCONNECT
  - 120V IONIZATION SMOKE 520Hz LOW FREQUENCY ALARM WITH SILENCING CAPABILITIES & LOW-VOLTAGE CONTACTS WIRED TO SHUT DOWN AHU UPON FIRE DETECTION. COORDINATE WITH HVAC CONTRACTOR. SMOKE DETECTOR MUST BE LOCATED AT LEAST 3' FROM CEILING FAN BLADES AND AT LEAST 10' FROM ANY COOKING APPLIANCE (FIELD-COORDINATE)

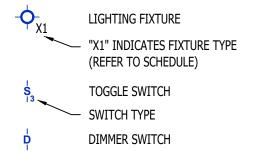
# **POWER PLAN GENERAL NOTES:**

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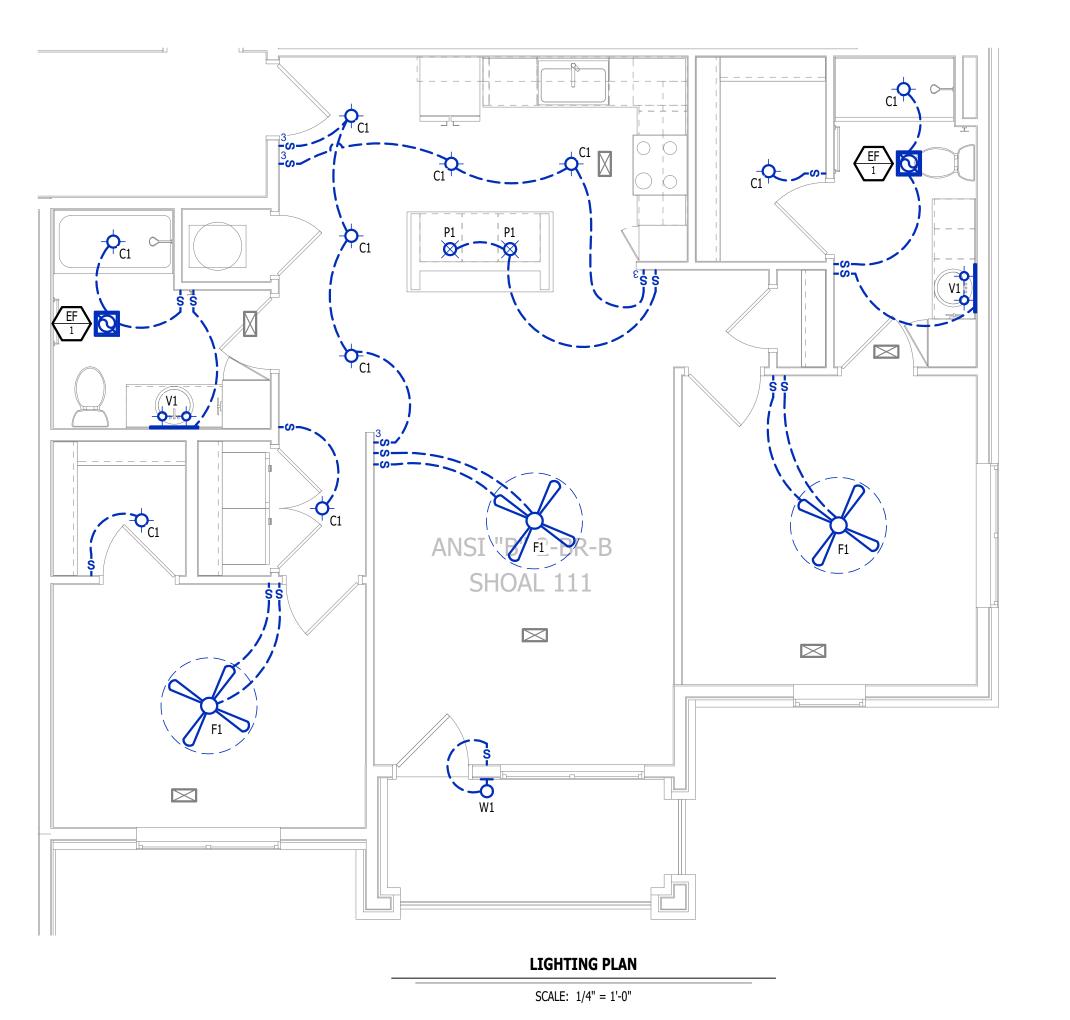
# LIGHTING PLAN SYMBOL LEGEND



# **LIGHTING PLAN GENERAL NOTES:**

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AHJ APPROVAL STAMP

ANSI B - 2 BR - TYPE B -**UNIT POWER & LIGHTING**