



J-SQUARED ENGINEERING

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

The Village at Discovery Park Alura Apartments Building 3 - Type B

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



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

PERMIT SET 04 - 15 - 2025

GENERAL MEP SPECIFICATIONS

1. GENERAL
 - 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.
 - 1.3. 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 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 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.
 - 1.7. 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.
 - 1.9. 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. WORKMANSHIP
 - 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 SYSTEM
 - 1.1. 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.
 - 1.2. 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.
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.
 - 1.2. WHERE COMBINED FIRE & DOMESTIC WATER SUPPLY LINES ARE SHOWN ON PLANS, INSTALLING CONTRACTOR SHALL VERIFY WITH FIRE SPRINKLER CONTRACTOR THAT INCOMING LINE SIZE IS ADEQUATE 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 SITE FOR REFERENCE.

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 FLOOR
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
E501	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
UMEP1.1	ANSI-A - 1 BR - TYPE B - UNIT MEP PLAN
UMEP1.2	ANSI-B - 1 BR - TYPE A - UNIT MEP PLAN
UMEP1.3	ANSI B - AV - 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
UMEP2.3.1	ANSI B - 2 BR - TYPE A - UNIT HVAC & WATER PLAN
UMEP2.3.2	ANSI B - 2 BR - TYPE A - UNIT POWER & LIGHTING PLAN
UMEP2.4.1	ANSI B - 2 BR - TYPE B - UNIT HVAC & WATER PLAN
UMEP2.4.2	ANSI B - 2 BR - TYPE B - UNIT POWER & LIGHTING PLAN

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

The Village at Discovery Park Alura Apartments

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

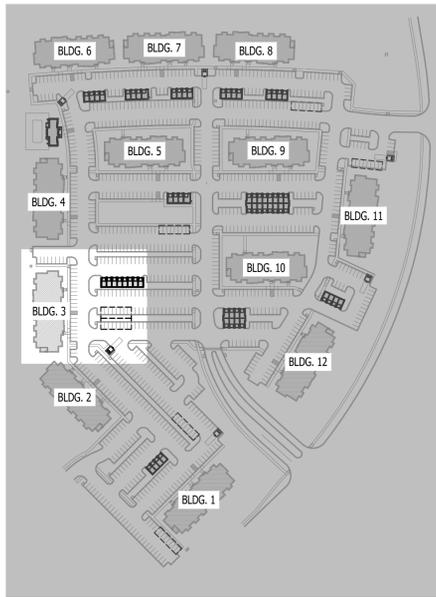
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SHEET TITLE

MECHANICAL
ELECTRICAL
PLUMBING
COVER SHEET

SHEET NUMBER

MEP1



SITE KEY PLAN
SCALE: 1" = 200 FT

SITE UTILITIES PLAN SYMBOL LEGEND

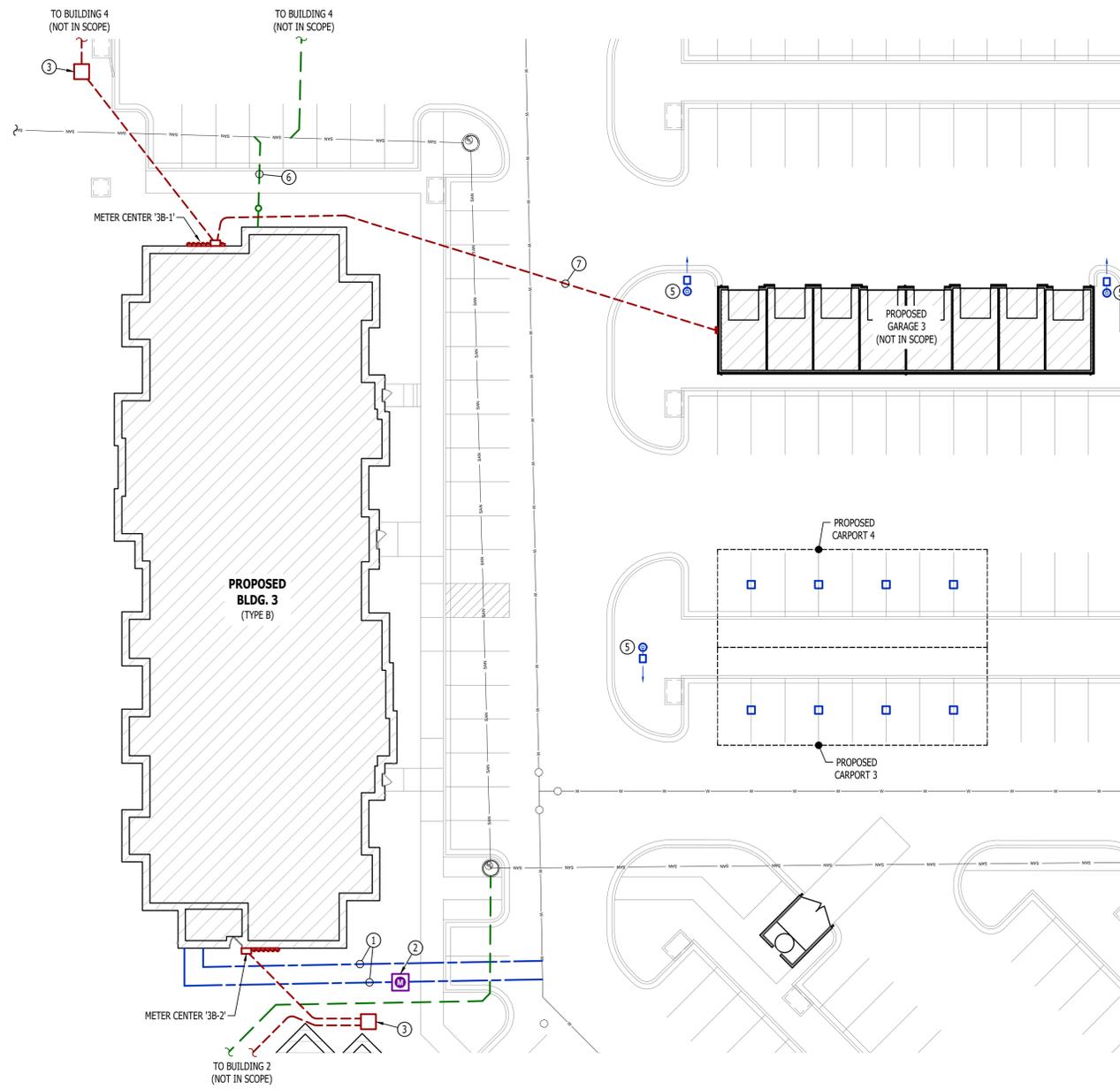
- SANITARY SEWER PIPING
- COLD WATER LINE
- M WATER METER
- X VALVE
- GAS LINE
- G GAS METER
- X TIE INTO EXISTING
- ELECTRIC

SITE UTILITIES PLAN GENERAL NOTES:

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

SITE UTILITIES PLAN KEY NOTES:

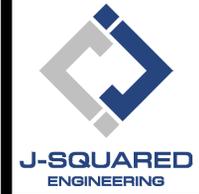
- ① 6" UN-METERED SPRINKLER LINE & 3" CW DOMESTIC LINE TO RISER ROOM (SEE PLUMBING PLANS FOR CONTINUATION).
- ② PARALLEL 2" CW LINES TO (2) PARALLEL 2" DOMESTIC METERS IN VAULT (SEE PLUMBING PLANS FOR DETAILS). (2) 2" CW LINES COMBIND DOWNSTREAM OF METERS TO (1) 3" CW LINE TO BUILDING.
- ③ PROPOSED PAD-MOUNTED 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).
- ⑦ UNDERGROUND CONDUIT/CONDUCTORS FROM APARTMENT METER CENTER TO GARAGE (SEE GARAGE PLANS & POWER RISERS FOR DETAILS).



SITE UTILITIES PLAN
SCALE: 1" = 20 FT



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J2 PROJECT No:	J21357
J2 DESIGN:	ACW
ISSUE TITLE	DATE
PERMIT SET	04 - 15 - 2025

The Village at Discovery Park Alura Apartments
 MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:
 Northeast Douglas Street
 Lee's Summit, Jackson County, Missouri

AHJ APPROVAL STAMP

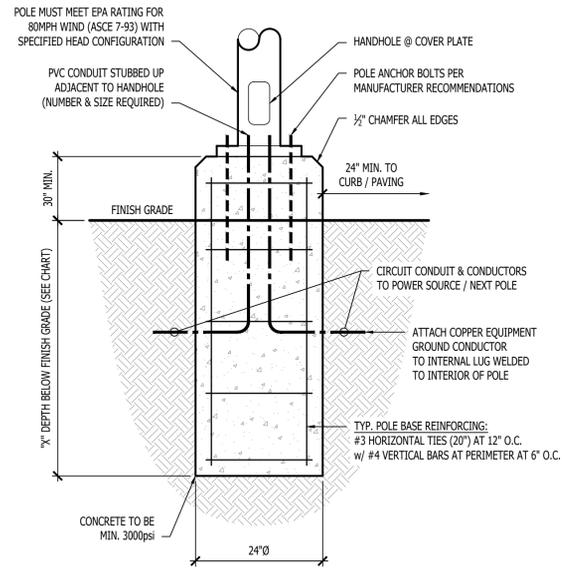
SHEET TITLE

SITE UTILITIES PLAN

SHEET NUMBER

MEP2

POLE HEIGHT	"X" DEPTH
10ft - 14ft	4'-6"
15ft - 20ft	6'-0"
21ft - 25ft	7'-0"
26ft - 30ft	8'-0"



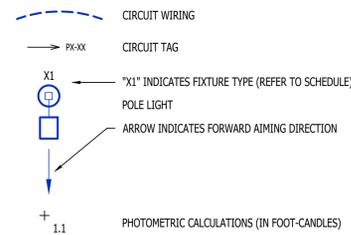
TYPICAL LIGHT POLE DETAIL

SITE LIGHTING FIXTURE SCHEDULE - BUILDING 3

TAG	MANUFACTURER (OR EQUAL)	MODEL NUMBER (OR EQUAL)	DESCRIPTION	MOUNTING	LUMEN OUTPUT	CCT (°K)	CRI	VOLTS	WATTS	NOTES
P1	MCGRAW-EDISON	PRV-XL-PA4B-740-U-5WQ	LED SITE LUMINAIRE	20' POLE ON 30" BASE	40,868	4000	70	UNV	303	WITH #MS/DIM-L40 MOTION SENSING DIMMING

- 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.

SITE LIGHTING PLAN SYMBOL LEGEND

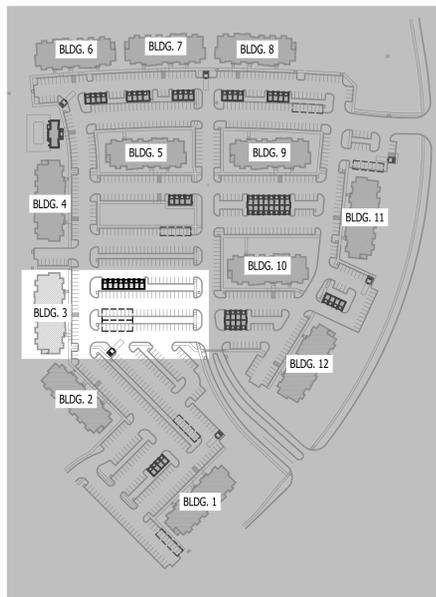


SITE LIGHTING PLAN GENERAL NOTES:

1. 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 BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR / EQUIPMENT SUPPLIER.
2. 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 & CALCULATION SUMMARIES.
3. PHOTOMETRIC CALCULATIONS DO NOT INCLUDE CARPORT LIGHTING.

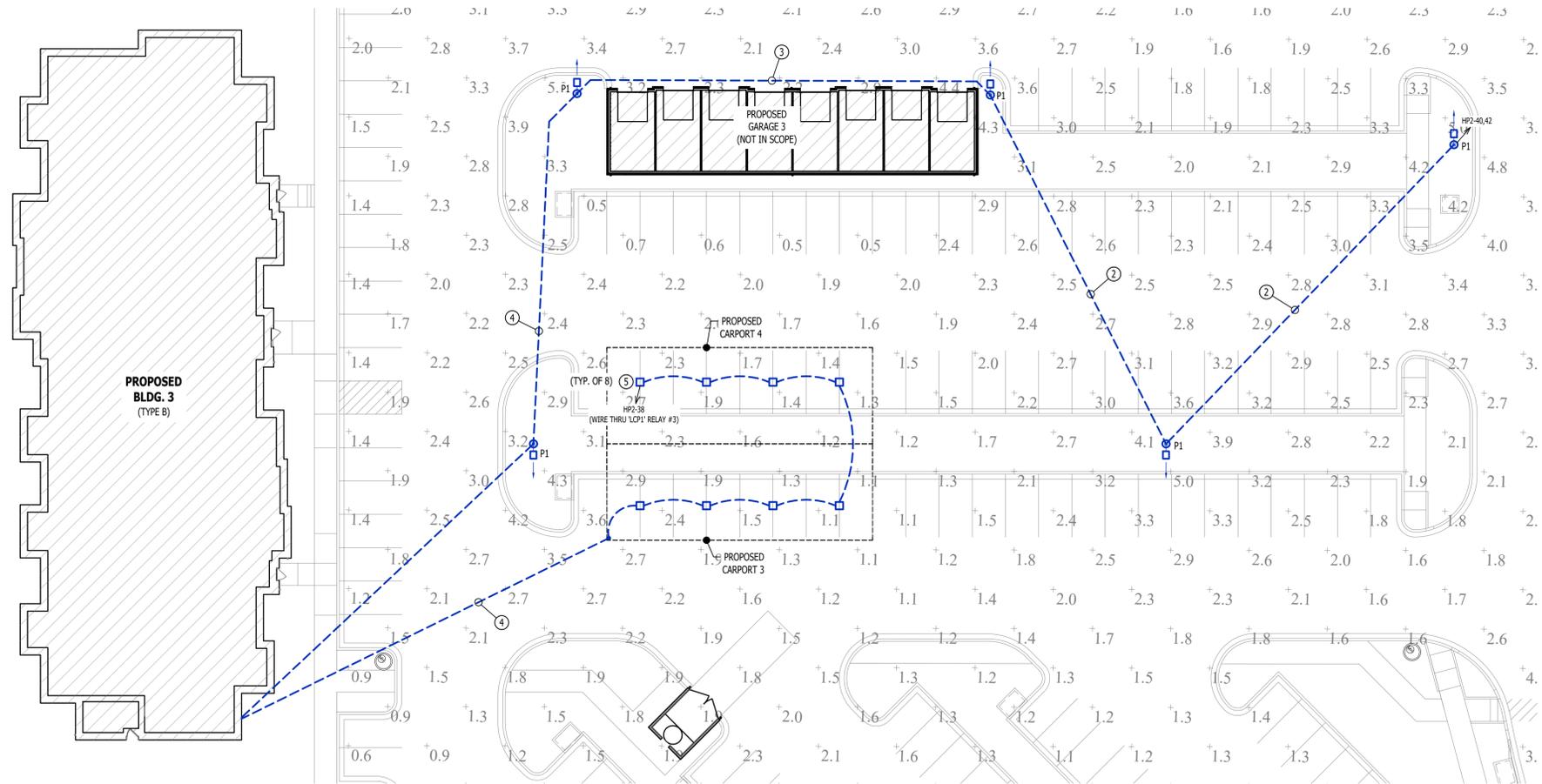
SITE LIGHTING PLAN KEY NOTES:

- ① WIRE THRU 'LCP1' RELAYS #1 & #2
- ② 1" CONDUIT WITH (2) #10 CU. & (1) #10 CU. EQ. GRD.
- ③ 1" CONDUIT WITH (2) #8 CU. & (1) #8 CU. EQ. GRD.
- ④ 1" CONDUIT WITH (2) #6 CU. & (1) #6 CU. EQ. GRD.
- ⑤ CARPORT LIGHTING FIXTURE EQUAL TO METALUX #CLCS175; COORDINATE MOUNTING & DETAILS WITH CARPORT SUPPLIER/INSTALLER.



SITE KEY PLAN

SCALE: 1" = 200 ft



SITE LIGHTING PLAN

SCALE: 1" = 20 ft



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MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:
The Village at Discovery Park Aura Apartments

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

AHJ APPROVAL STAMP

SHEET NUMBER

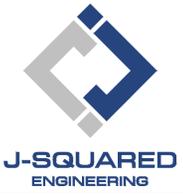
SITE LIGHTING PLAN

SHEET NUMBER

MEP3



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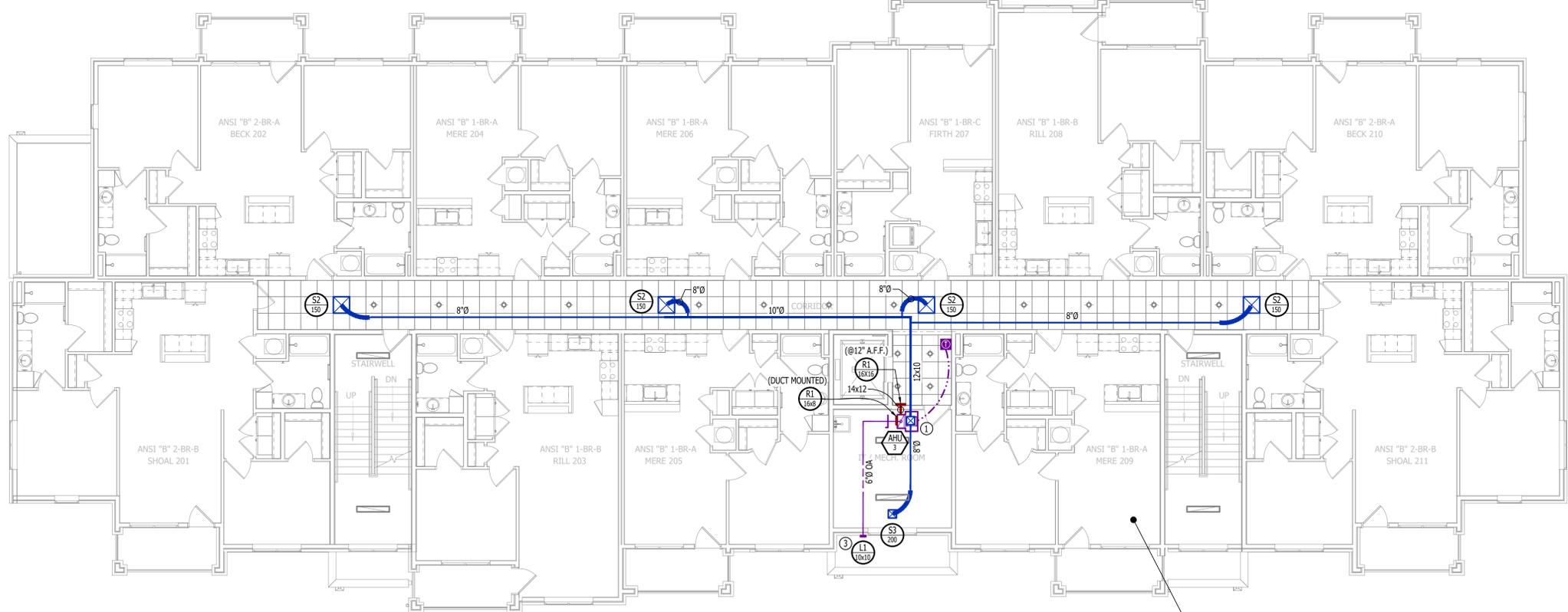


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HVAC PLAN SYMBOL LEGEND

- 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 - SECOND FLOOR

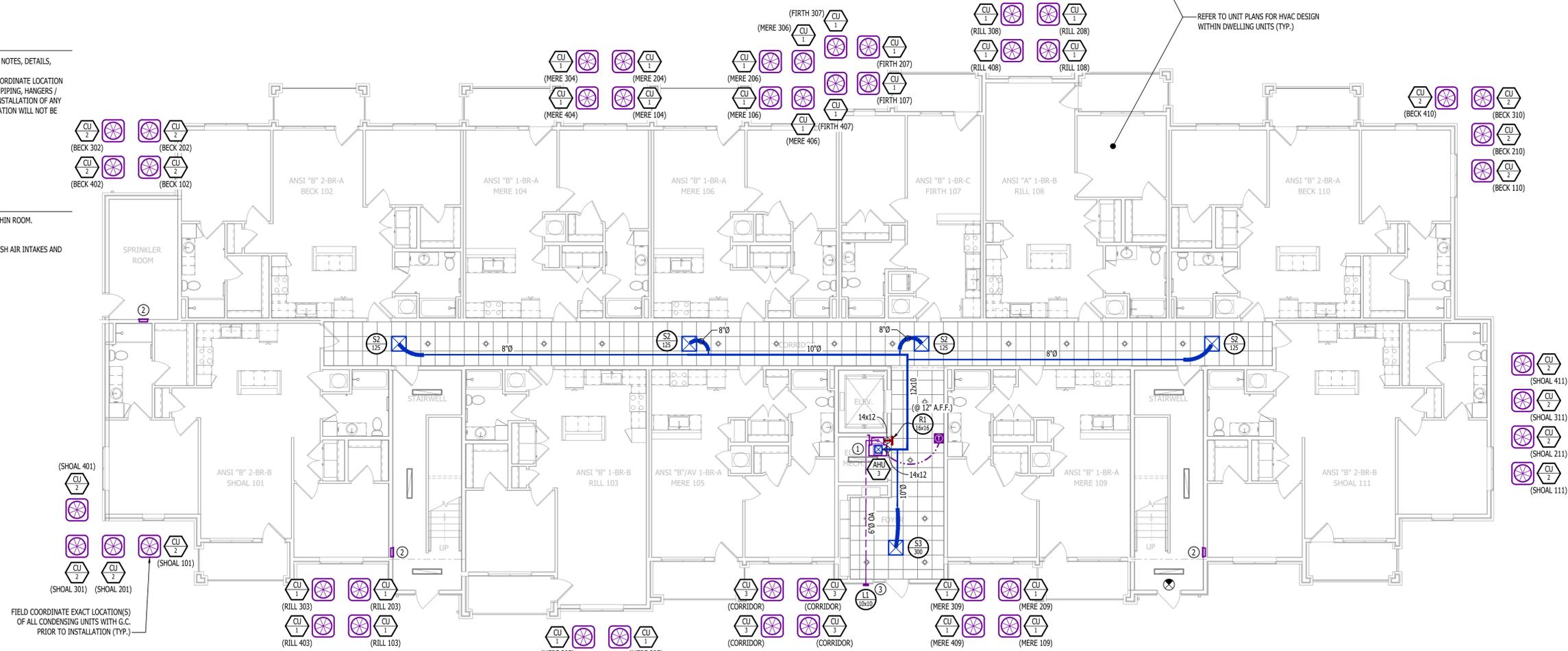
SCALE: 1/8" = 1'-0"

HVAC PLAN GENERAL NOTES:

- REFER TO M500 AND/OR M600 SERIES SHEETS FOR ADDITIONAL HVAC NOTES, DETAILS, REQUIREMENTS, AND SCHEDULES.
- 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 REIMBURSED.

HVAC PLAN KEY NOTES:

- CONDENSATE DRAIN TO INDIRECT DISCHARGE TO FLOOR DRAIN WITHIN ROOM.
- WALL HEATER PROVIDED & INSTALLED BY ELECTRICIAN.
- MAINTAIN 10' MINIMUM SEPARATION BETWEEN ALL MECHANICAL FRESH AIR INTAKES AND EXHAUST LOUVERS (TYP.).



HVAC PLAN - FIRST FLOOR

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

FIELD COORDINATE EXACT LOCATION(S) OF ALL CONDENSING UNITS WITH G.C. PRIOR TO INSTALLATION (TYP.)

REFER TO UNIT PLANS FOR HVAC DESIGN WITHIN DWELLING UNITS (TYP.)

The Village at Discovery Park Alura Apartments

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

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AHJ APPROVAL STAMP

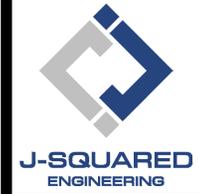
SHEET NUMBER

HVAC PLAN - FIRST & SECOND FLOOR

M101



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HVAC PLAN SYMBOL LEGEND

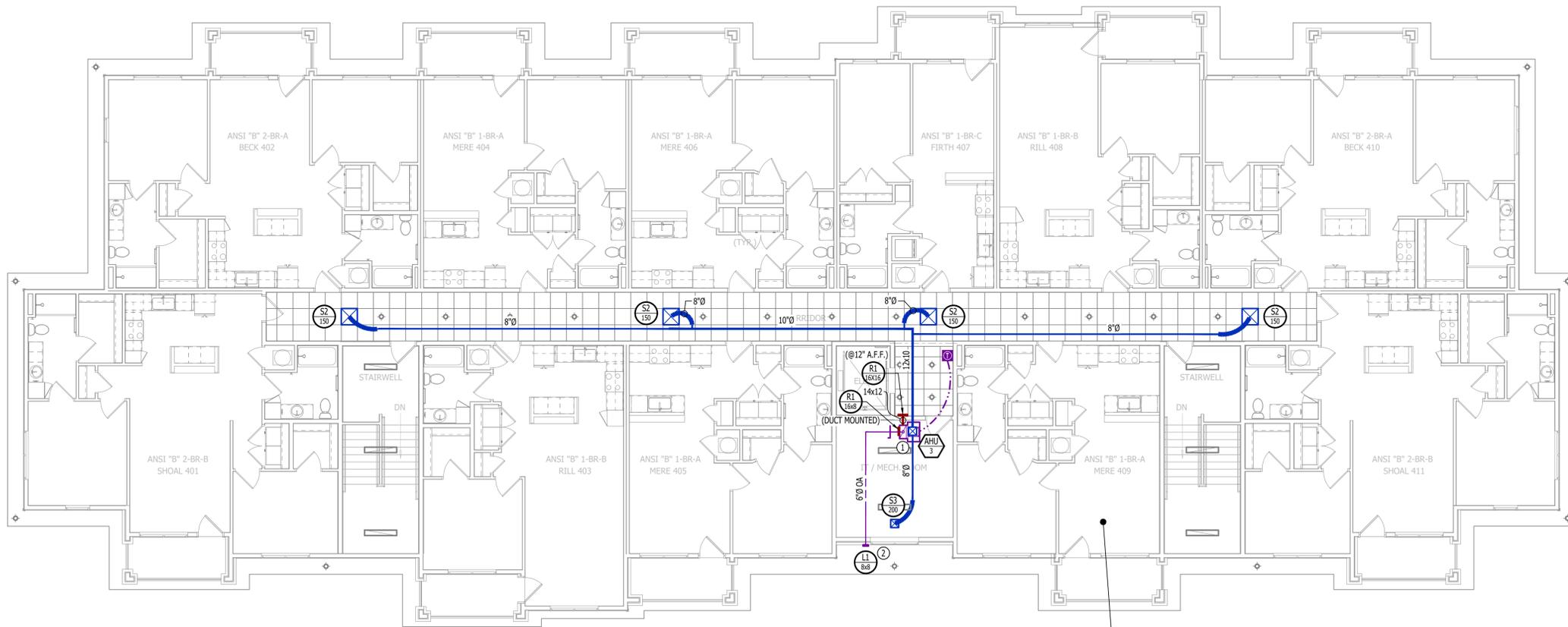
- EQUIPMENT TYPE (REFER TO EQUIPMENT SCHEDULE)
- EQUIPMENT REFERENCE NUMBER
- DIFFUSER/GRILLE TYPE (REFER TO SCHEDULE)
- CUBIC FEET PER MINUTE (CFM) / FACE SIZE
- SUPPLY DUCTWORK
- RETURN DUCTWORK
- EXHAUST DUCTWORK
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- RETURN DIFFUSER
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- MOTORIZED DAMPER
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- FIRE RATED DAMPER
- SMOKE DAMPER
- THERMOSTAT

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HVAC PLAN KEY NOTES:

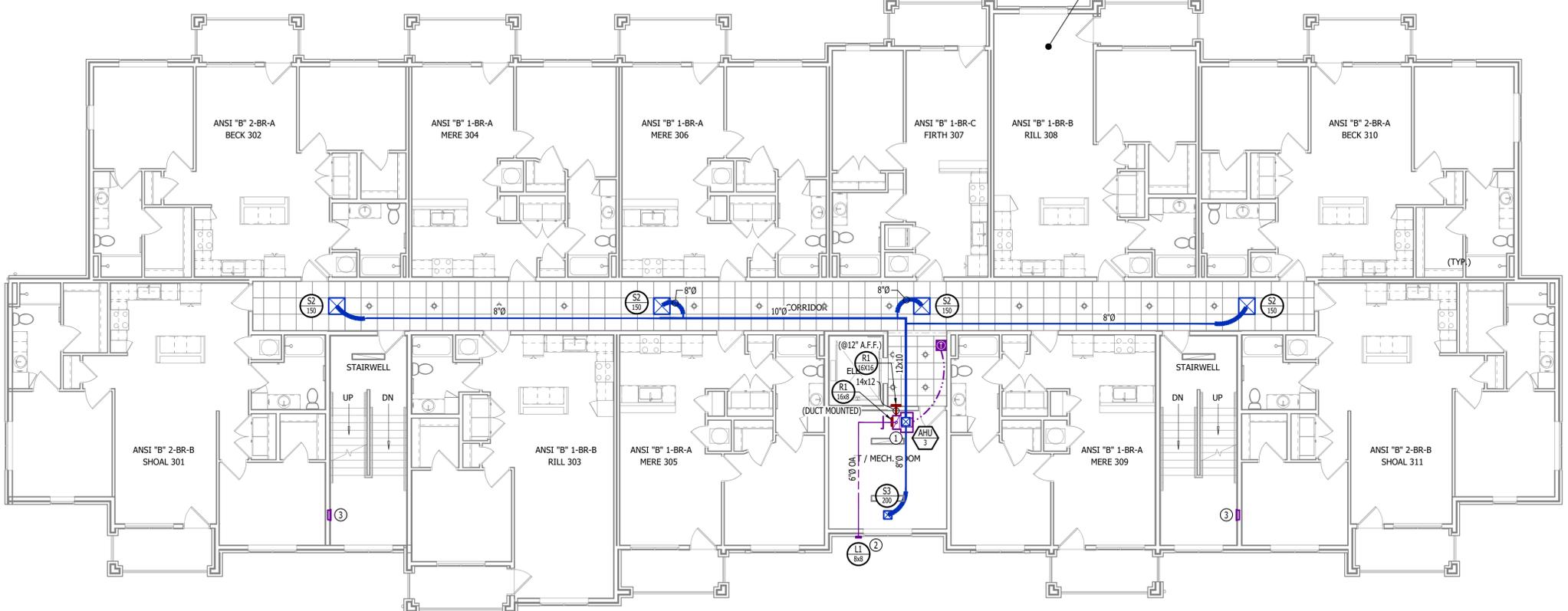
- CONDENSATE DRAIN TO INDIRECT DISCHARGE TO FLOOR DRAIN WITHIN ROOM.
- MAINTAIN 10" MINIMUM SEPARATION BETWEEN ALL MECHANICAL FRESH AIR INTAKES AND EXHAUST LOUVERS (TYP.).
- WALL HEATER PROVIDED & INSTALLED BY ELECTRICIAN.



HVAC PLAN - FOURTH FLOOR

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

REFER TO UNIT PLANS FOR HVAC DESIGN WITHIN DWELLING UNITS (TYP.)



HVAC PLAN - THIRD FLOOR

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

The Village at Discovery Park Alura Apartments

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

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 Lee's Summit, Jackson County, Missouri

AHJ APPROVAL STAMP

SHEET NUMBER

HVAC PLAN - THIRD & FOURTH FLOORS

SHEET NUMBER

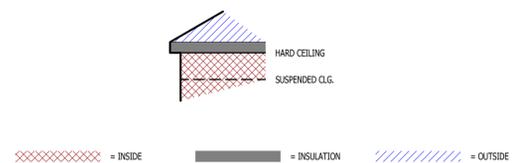
M102

HVAC SPECIFICATIONS

1. **GENERAL**
 - 1.1. REFER TO GENERAL MEP SPECIFICATIONS SECTION FOR ADDITIONAL REQUIREMENTS.
2. **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.
 - 2.2. ALL HVAC EQUIPMENT IS TO BE INSTALLED PER MANUFACTURER'S PUBLISHED RECOMMENDATIONS AND/OR INSTALLATION INSTRUCTIONS.
 - 2.3. ALL EQUIPMENT TO BE INSTALLED LEVEL AND PLUMB, PARALLEL OR PERPENDICULAR TO BUILDING ORIENTATION WHERE POSSIBLE.
 - 2.4. 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. **EQUIPMENT**
 - 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.
 - 3.3. CONTRACTOR TO SUPPLY SUBMITTALS FOR ALL EQUIPMENT FOR REVIEW BY ARCHITECT AND ENGINEER. FORMAL APPROVAL SHALL BE RECEIVED BY CONTRACTOR PRIOR TO EQUIPMENT PURCHASE.
 - 3.4. 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.
 - 3.5. ALL EQUIPMENT SHOWN ON PLANS SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS WITH ADEQUATE ACCESS AND CLEARANCE FOR SERVICING OR REPLACEMENT.
 - 3.6. ALL HORIZONTAL FURNACES WITH AC COILS SHALL BE EQUIPPED WITH CORROSION RESISTANT DRAIN PAN. 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.
 - 3.7. ALL EXTERIOR REFRIGERANT COILS TO BE PROTECTED BY FACTORY EQUIPPED HAIL GUARDS.
 - 3.8. REFRIGERANT PIPING TO BE ACR COPPER OR TYPE L COPPER.
 - 3.9. ALL AIR HANDLING EQUIPMENT SHALL BE EQUIPPED WITH MERV-8 FILTRATION AT RETURN OPENING UNLESS OTHERWISE NOTED.
 - 3.10. ALL AIR FILTERS SHALL BE SIZED FOR A MAXIMUM FACE VELOCITY OF 500FPM.
 - 3.11. PROVIDE & INSTALL ALL EQUIPMENT FLUES/VENTS PER MANUFACTURER'S SPECIFICATIONS. TERMINATIONS SHALL BE AT LEAST 10' FROM ANY FRESH AIR INTAKE.
 - 3.12. 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:
 - 4.2.1. 26 GA. MINIMUM UP TO 16" DUCT
 - 4.2.2. 24 GA. UP TO 20"
 - 4.2.3. 22 GA. UP TO 24"
 - 4.2.4. 20 GA. UP TO 28"
 - 4.2.5. 18 GA. UP TO 36"
 - 4.3. TURNING VANES SHALL BE PROVIDED AND INSTALLED AT ALL 90° BENDS AND TEES.
 - 4.4. ALL DUCT DIMENSIONS LISTED ARE TO INTERIOR OF DUCT LINER UNLESS NOTED OTHERWISE ON PLANS.
 - 4.5. BALANCE DAMPERS MUST BE PROVIDED TO ALLOW ADJUSTMENT AT EACH AIR TERMINAL.
 - 4.5.1. WHERE BRANCH TAKEOFF IS ACCESSIBLE (ABOVE LAY-IN CEILING OR EXPOSED DUCT), BALANCE DAMPER IS TO BE INSTALLED AT TAKEOFF.
 - 4.5.2. WHERE TAKEOFF IS INACCESSIBLE (IN ATTIC OR SOFFIT), BALANCE DAMPER IS TO BE LOCATED SUCH THAT IT IS ACCESSIBLE FROM FACE OF AIR DEVICE.
 - 4.6. HVAC CONTRACTOR RESPONSIBLE FOR ALL DUCTWORK TRANSITIONS AND FITTINGS AS REQUIRED FOR FINAL CONNECTIONS TO HVAC EQUIPMENT.
 - 4.7. 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. **INSULATION**
 - 5.1. DUCTWORK
 - 5.1.1. SEE "TYPICAL DUCT INSULATION DIAGRAM" FOR INSTALLATION SPECIFIC REQUIREMENTS.
 - 5.1.2. 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' WITH FSK JACKET.
 - 5.1.4. WHERE INSULATION IS REQUIRED IN "TYPICAL DUCT INSULATION DIAGRAM", INCLUDE INSULATION ON ALL FITTINGS, INCLUDING CANVAS FLEX CONNECTION FITTINGS.
 - 5.2. REFRIGERANT PIPING
 - 5.2.1. SPLIT SYSTEM (SUCTION LINE ONLY) - 1" CLOSED CELL ELASTOMERIC FOAM (EQUAL TO 'ARMAFLEX AP').
 - 5.3. VRV/VRF SYSTEMS (BOTH SUCTION AND HOT GAS LINES) 1½" EPDM (EQUAL TO 'AEROFLEX AEROCEL AC') WITHIN CONDITIONED SPACES & 2" EPDM (EQUAL TO 'AEROFLEX AEROCEL AC') IN UNCONDITIONED SPACES, AND WITH BANDED ALUMINUM SHIELDING IN EXTERIOR SPACES.
 - 5.4. CONDENSATE PIPING
 - 5.4.1. SPLIT SYSTEMS - WHERE CONDENSATE PIPING IS LOCATED IN UNCONDITIONED SPACE, INSULATE WITH ½" ELASTOMERIC. NO INSULATION REQUIRED WITHIN CONDITIONED SPACES.
 - 5.4.2. VRV/VRF - INSULATE WITH ½" ELASTOMERIC.
6. **TESTING AND BALANCING**
 - 6.1. ALL SYSTEMS MUST BE BALANCED TO WITHIN 10% OF VALUES INDICATED ON PLAN.
 - 6.2. HVAC CONTRACTOR TO PROVIDE WRITTEN BALANCE REPORT INCLUDING FLOW VALUES INDICATED ON PLANS, INITIAL MEASURED FLOW VALUES, AND FINAL MEASURED VALUES.
 - 6.3. THIRD PARTY CERTIFIED TEST AND BALANCE NOT REQUIRED UNLESS OTHERWISE NOTED ON PLANS OR WITHIN PROJECT MANUAL.

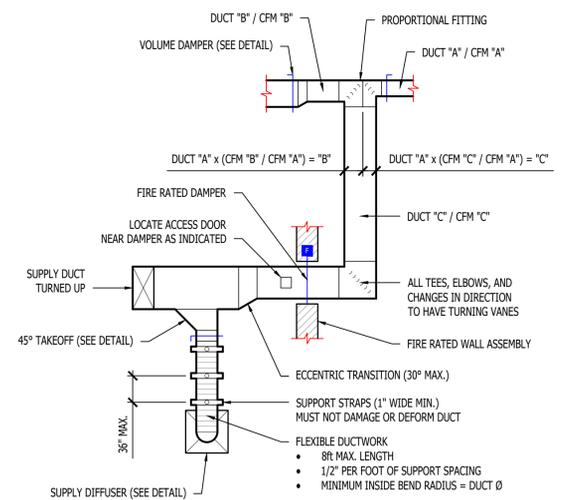
SPLIT SYSTEM SCHEDULE														
TAG	EQUIPMENT DESCRIPTION	AREA SERVED	SIZE (TONS)	ORIENTATION	TOTAL AIRFLOW (CFM)	OA AIRFLOW MAX / MIN (CFM)	HEATING			COOLING			NOTES	
							ELECTRIC (KW) 240V (208V)	SENSIBLE (KBTU)	TOTAL (KBTU)	MIN EFF. (SEER)	(IA: 80 DB/ 67 WB, OA: 95 DB)	VOLTS/PH		MCA
AHU-1	AIR 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

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

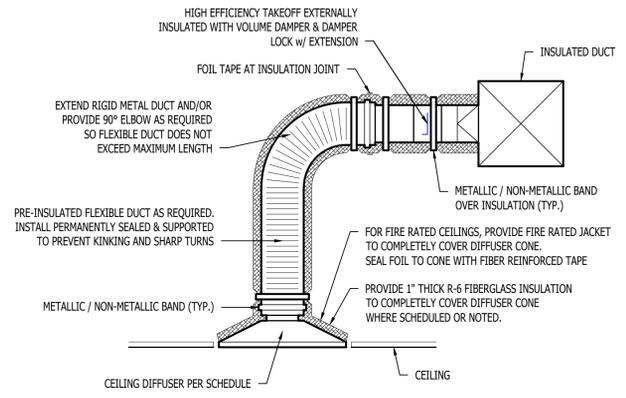


DUCT INSIDE THERMAL ENVELOPE INSULATION REQUIREMENTS		DUCT OUTSIDE THERMAL ENVELOPE INSULATION REQUIREMENTS	
RECTANGULAR	<ul style="list-style-type: none"> • SUPPLY = 1" LINER • RETURN = 1" LINER • EXHAUST = NONE • OUTSIDE AIR = 2" WRAP 	RECTANGULAR	<ul style="list-style-type: none"> • SUPPLY = 1" LINER & 1½" WRAP • RETURN = 1" LINER & 1½" WRAP • EXHAUST = 1½" WRAP • OUTSIDE AIR = NONE
ROUND	<ul style="list-style-type: none"> • SUPPLY = 1½" WRAP • RETURN = NONE • EXHAUST = NONE • OUTSIDE AIR = 2" WRAP 	ROUND	<ul style="list-style-type: none"> • SUPPLY = 2" WRAP • RETURN = 2" WRAP • EXHAUST = 1½" WRAP • OUTSIDE AIR = NONE
SPIRAL	<ul style="list-style-type: none"> • SUPPLY = NONE • RETURN = NONE • EXHAUST = NONE • OUTSIDE AIR = 2" WRAP 	SPIRAL	<ul style="list-style-type: none"> • SUPPLY = 2" WRAP • RETURN = 2" WRAP • EXHAUST = 1½" WRAP • OUTSIDE AIR = NONE

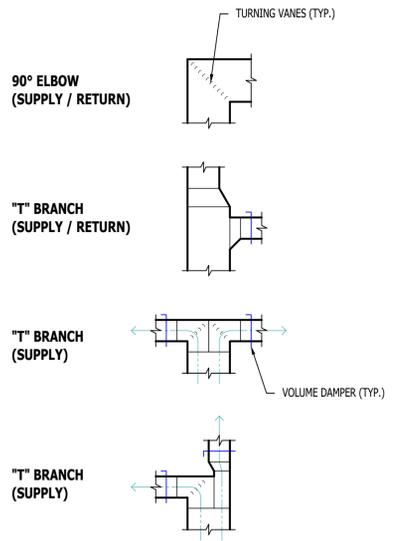
TYPICAL BUILDING INTERIOR DUCT INSULATION DIAGRAM



TYPICAL DUCTWORK DETAIL



TYPICAL LAY-IN DIFFUSER DETAIL



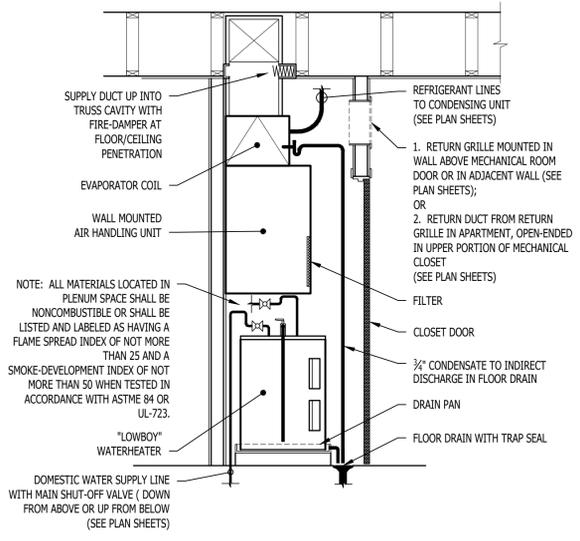
TYPICAL DUCTWORK FITTINGS DETAIL

AIR DEVICE SCHEDULE						
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
S2	SUPPLY	PRICE	SPD	24x24	WHITE	
S3	SUPPLY	PRICE	SPD	12x12	WHITE	WITH DRYWALL MOUNTING KIT

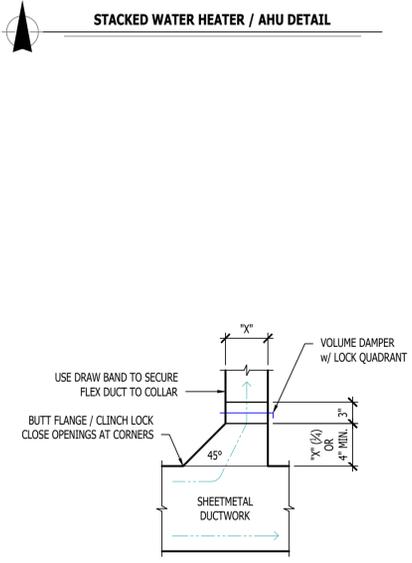
- NOTES:**
1. VERIFY AIR DEVICE FINISHES WITH OWNER/ARCHITECT PRIOR TO INSTALLATION

EXHAUST FAN SCHEDULE									
TAG	EQUIPMENT TYPE	MANUFACTURER (OR EQUAL)	MODEL (OR EQUAL)	FLOW		ELECTRICAL			NOTES
				CFM	S.P.	VOLT/PH	MCA	OCP	
EF-1	EXHAUST FAN	BROAN / NUTONE	AE50	50	1/8"	120	1	20	1, 2

- NOTES:**
1. WITH BACKDRAFT DAMPER
 2. WITH CEILING RADIATION DAMPER



STACKED WATER HEATER / AHU DETAIL



TYPICAL 45° TAKEOFF DETAIL



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



J-SQUARED ENGINEERING

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J2 PROJECT No: J21257

J2 DESIGN: ACW

ISSUE TITLE DATE

PERMIT SET 04 - 15 - 2025

The Village at Discovery Park Alura Apartments
 MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:
 Northeast Douglas Street
 Lee's Summit, Jackson County, Missouri

AHU APPROVAL STAMP

SHEET NUMBER

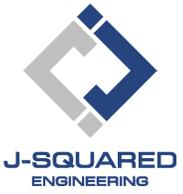
HVAC DETAILS & SCHEDULES

SHEET TITLE

M501



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
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POWER PLAN SYMBOL LEGEND

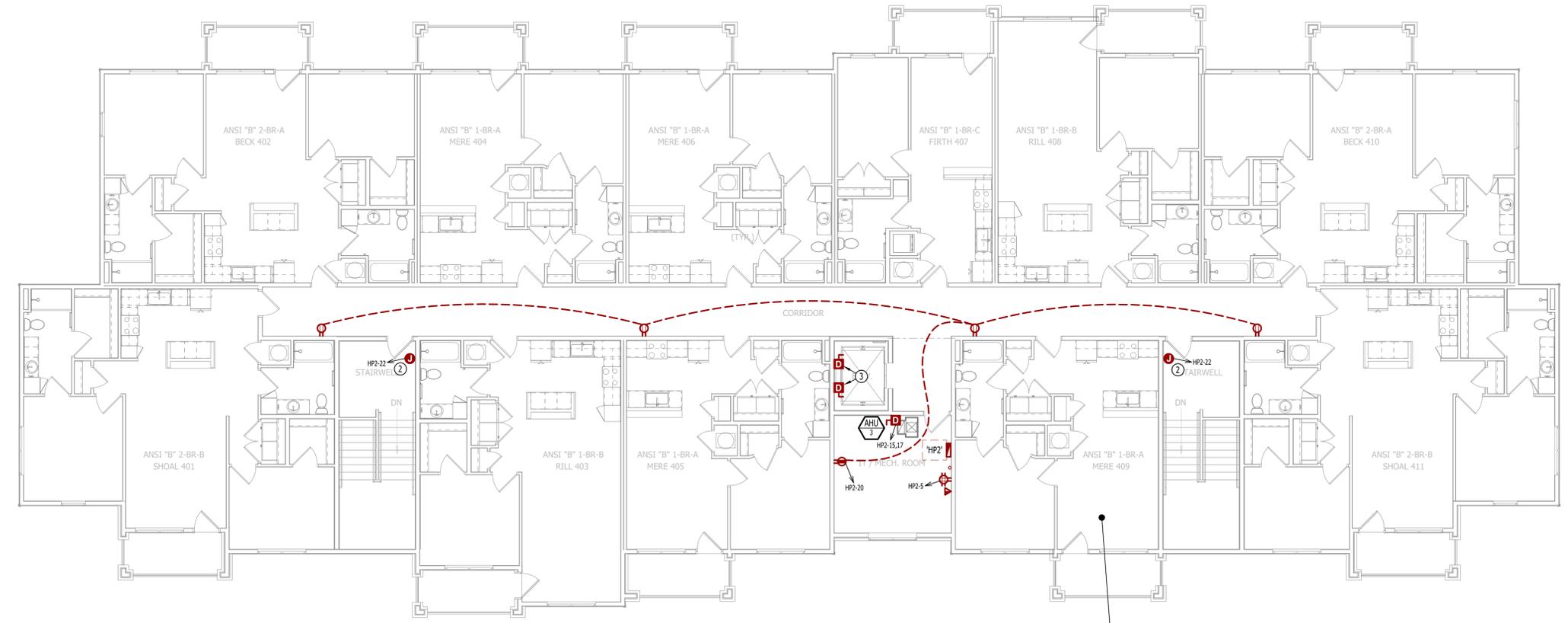
- CIRCUIT WIRING
- CIRCUIT TAG
- JUNCTION BOX
- RECEPTACLE
- INDICATES MOUNTING HEIGHT TO BOTTOM OF BOX (STANDARD @ 18" AFF UNLESS NOTED OTHERWISE)
- "WP" = WEATHERPROOF OUTDOOR RECEPTACLE
- "AW" = ABOVE WINDOW RECEPTACLE
- "AC" = ABOVE CEILING RECEPTACLE
- "EX" = EXISTING RECEPTACLE TO REMAIN
- GFCI DUPLEX CONVENIENCE RECEPTACLE
- 208V RECEPTACLE
- QUADPLEX CONVENIENCE RECEPTACLE
- USB OUTLET 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:

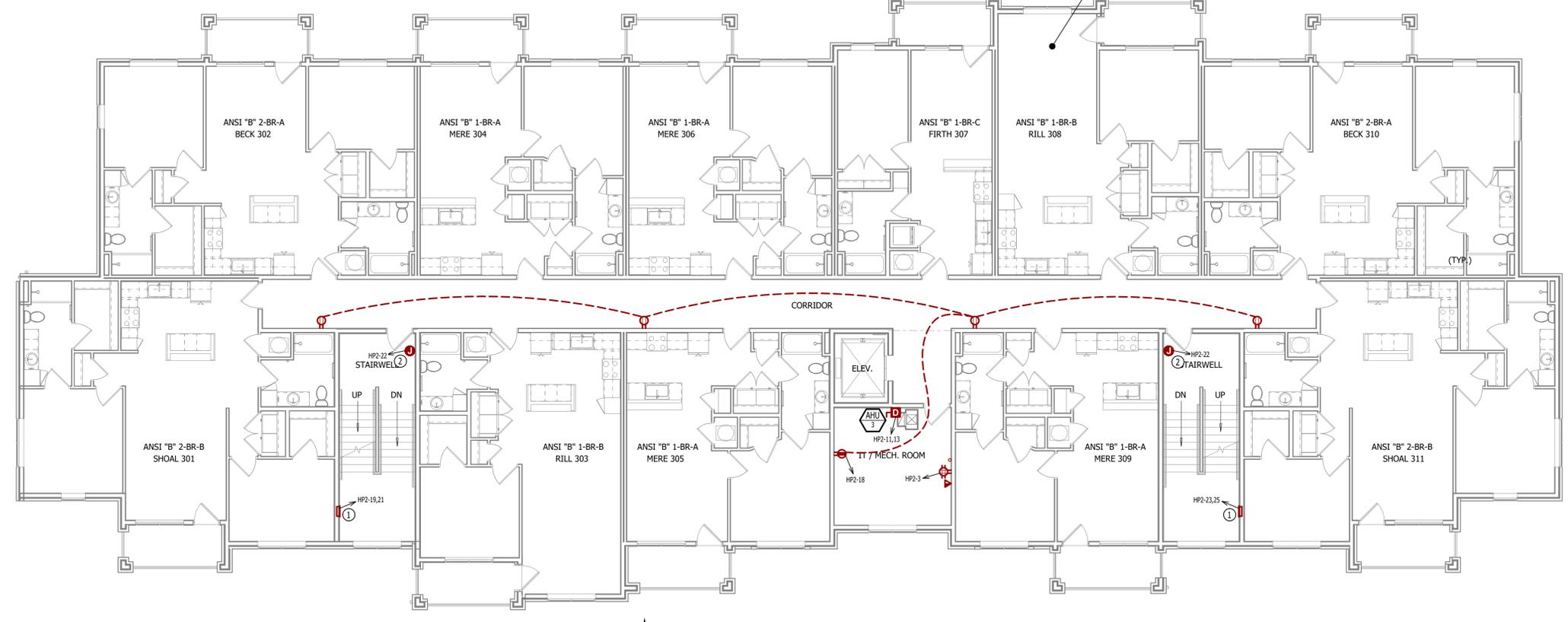
- ① RECESSED WALL HEATER (EQUAL TO MARLEY #VFK404FC) WITH BACK BOX FOR RECESSED INSTALL.
- ② POWER FOR MAG HOLD. WIRE THRU FIRE ALARM.
- ③ ELEVATOR SERVICE DISCONNECTS. WIRE THRU 'DS1' & 'DS2' IN FIRST FLOOR ELEVATOR EQUIPMENT ROOM (SEE SHEET EP101) COORDINATE EXACT LOCATION & REQUIREMENTS WITH ELEVATOR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



POWER PLAN - FOURTH FLOOR

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

REFER TO UNIT PLANS FOR POWER DESIGN WITHIN DWELLING UNITS (TYP.)



POWER PLAN - THIRD FLOOR

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

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:
The Village at Discovery Park Alura Apartments
 Northeast Douglas Street
 Lee's Summit, Jackson County, Missouri

AHJ APPROVAL STAMP

SHEET NUMBER

POWER PLAN - THIRD & FOURTH FLOORS

SHEET NUMBER

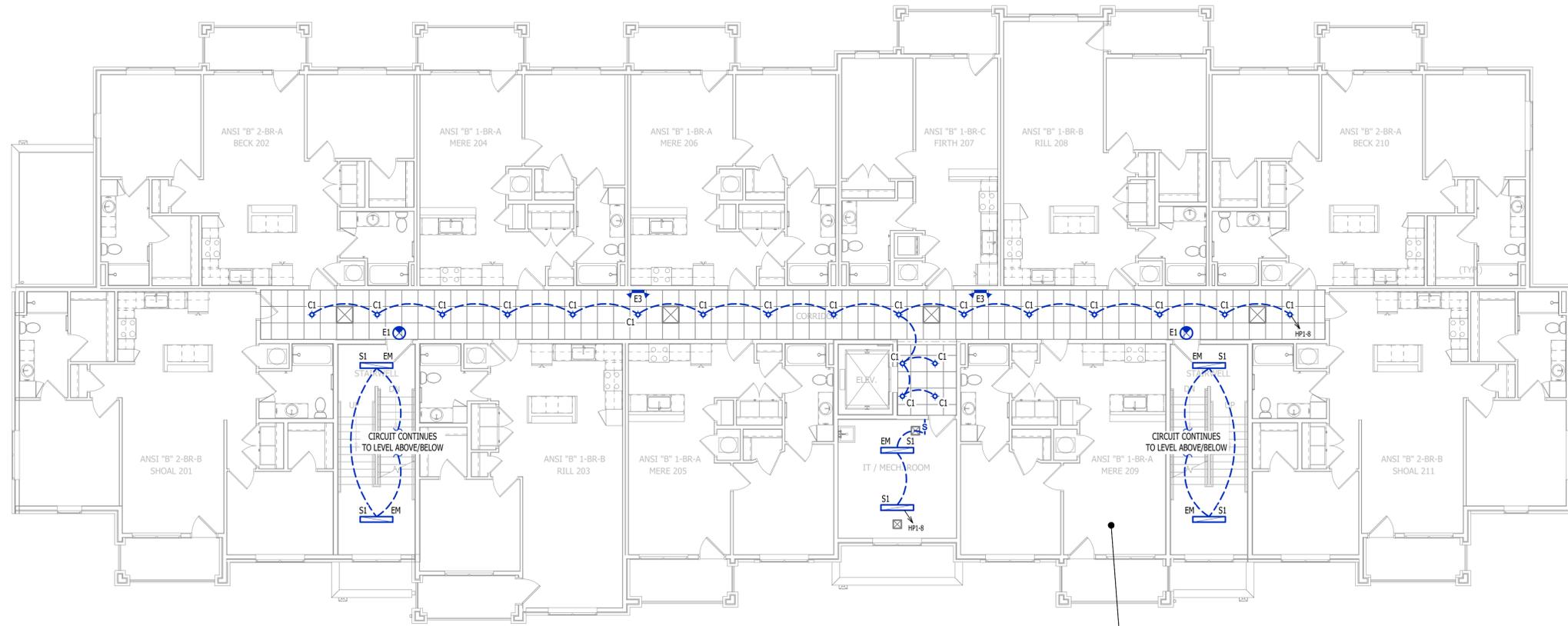
EP102

LIGHTING PLAN SYMBOL LEGEND

- X1 ← "X1" INDICATES FIXTURE TYPE (REFER TO SCHEDULE)
- ← "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)
- 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 SENSOR**
 - MANUAL FULL-ON
 - AUTOMATICALLY TURN OFF LIGHTING AFTER 20 MINUTES WITHOUT OCCUPANT DETECTION
 - WITH MANUAL OVERRIDE CONTROL (IF NOTED)

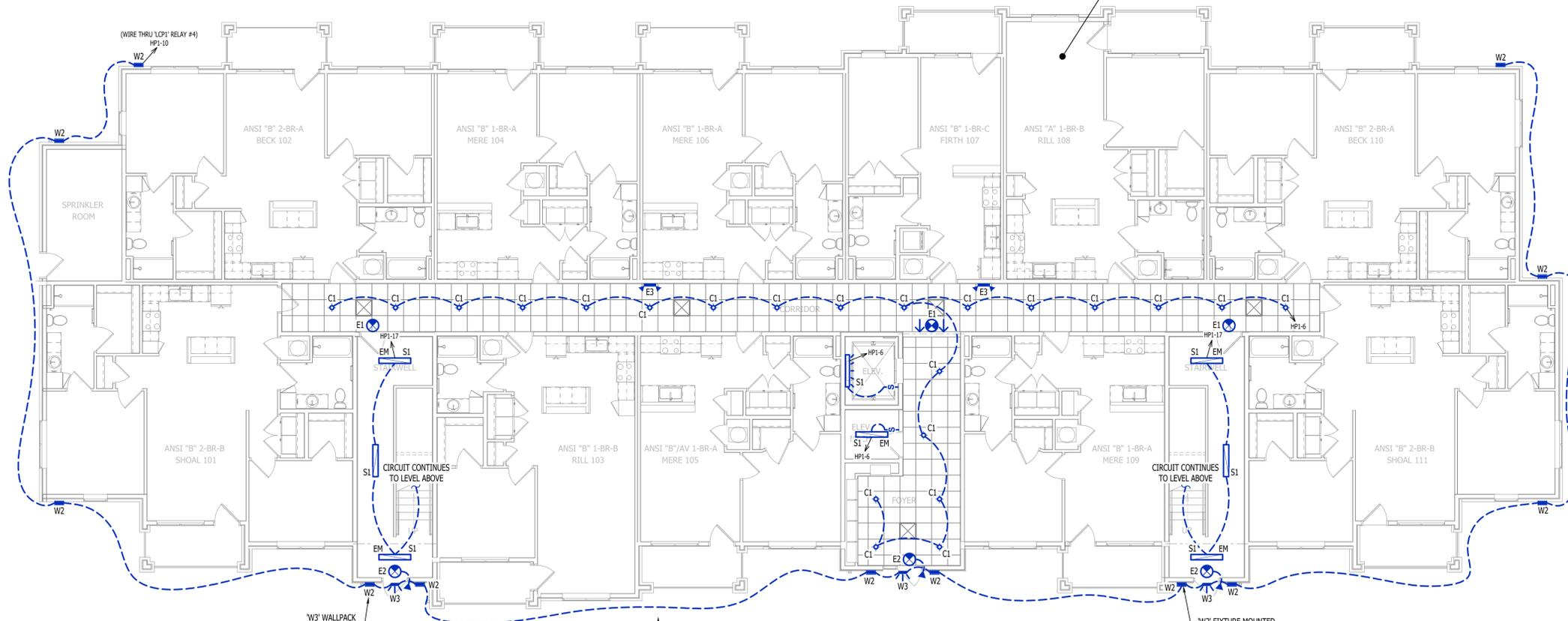
LIGHTING PLAN GENERAL NOTES:

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.



LIGHTING PLAN - SECOND FLOOR

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



LIGHTING PLAN - FIRST FLOOR

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



James Watson, P.E. April 15, 2025
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J2 PROJECT No:	J21357
J2 DESIGN:	ACW
ISSUE TITLE	DATE
PERMIT SET	04 - 15 - 2025

The Village at Discovery Park Alura Apartments
 Mechanical - Electrical - Plumbing Design Drawings For:
 Northeast Douglas Street
 Lee's Summit, Jackson County, Missouri

AHJ APPROVAL STAMP

SHEET TITLE
LIGHTING PLAN - FIRST & SECOND FLOORS

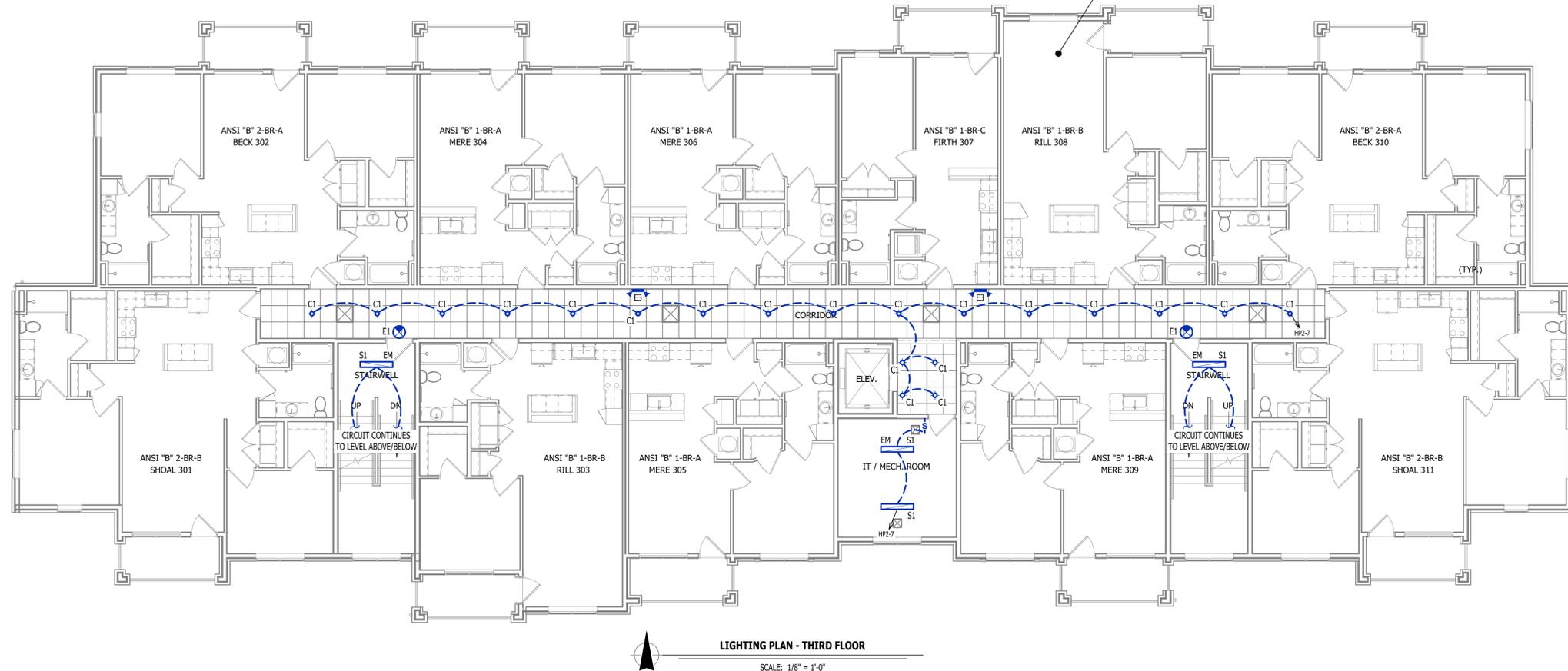
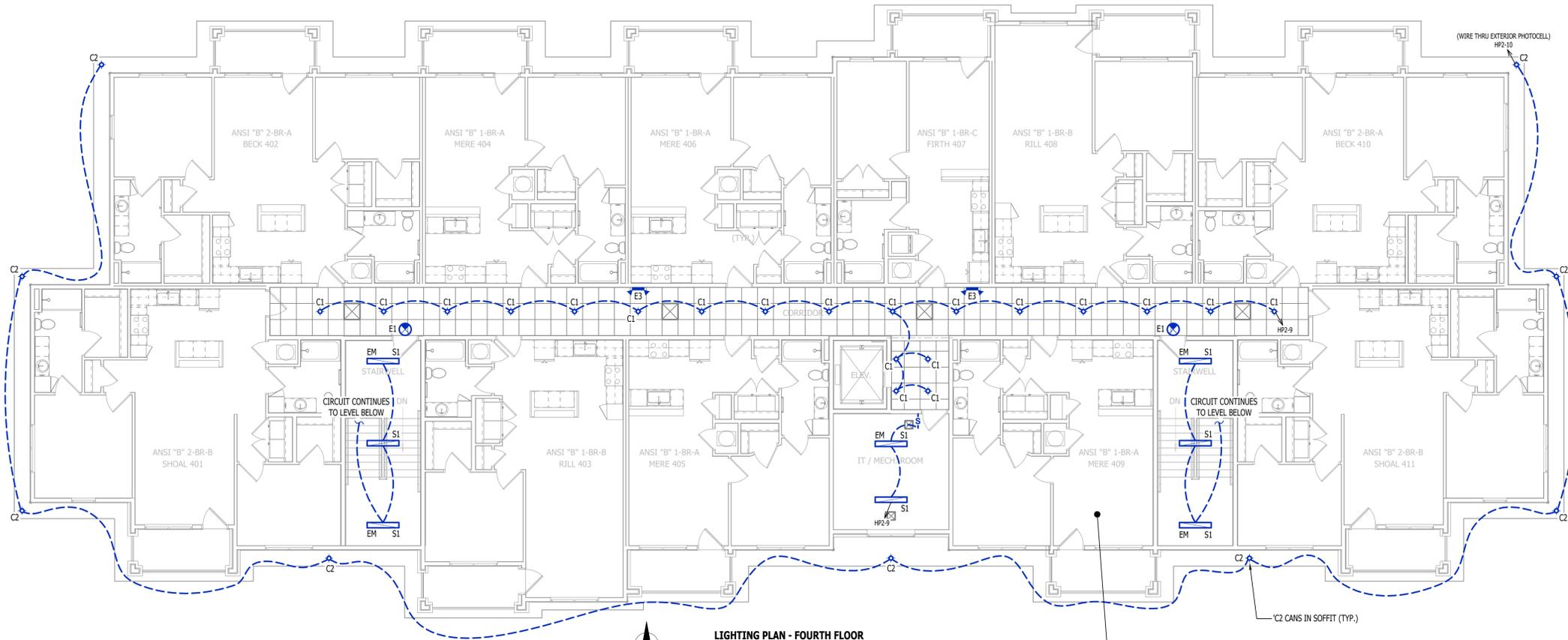
SHEET NUMBER
EL101

LIGHTING PLAN SYMBOL LEGEND

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- ← LIGHTING FIXTURE
- EM ← "EM" INDICATES EMERGENCY BATTERY BACKUP
- NL ← "NL" INDICATES UN-SWITCHED NIGHT LIGHT
- EXIT LIGHT
- INDICATES REQUIRED REMOTE HEAD
- EMERGENCY EGRESS LIGHT
- SWITCH (WALL MOUNTED)
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 - VU = ULTRASONIC VACANCY SENSOR
 - VT = DUAL-TECHNOLOGY VACANCY SENSOR
 - M = MOMENTARY SWITCH
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- 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)
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- VACANCY SENSOR**
 - MANUAL FULL-ON
 - AUTOMATICALLY TURN OFF LIGHTING AFTER 20 MINUTES WITHOUT OCCUPANT DETECTION
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LIGHTING PLAN GENERAL NOTES:

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STATE OF MISSOURI
JAMES P. WATSON
PROFESSIONAL ENGINEER
NUMBER
PE-2015017071

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
PERMIT SET	04 - 15 - 2025

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

The Village at Discovery Park Alura Apartments

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

AHJ APPROVAL STAMP

SHEET NUMBER

**LIGHTING PLAN -
THIRD & FOURTH
FLOORS**

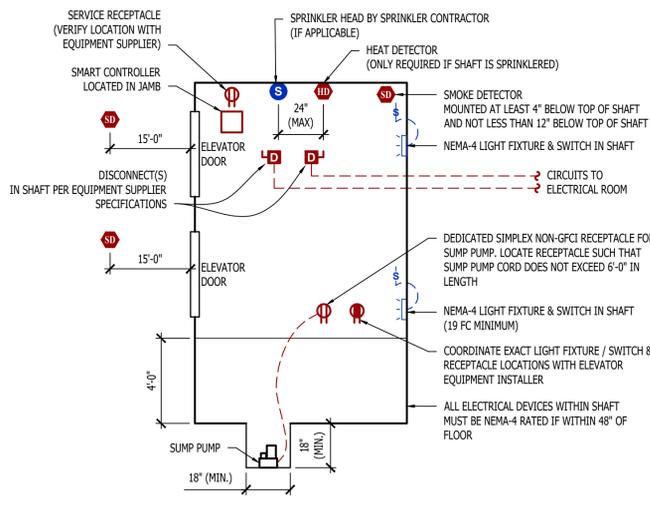
EL102

ELECTRICAL SPECIFICATIONS

- 1. GENERAL**
 - 1.1. CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL NECESSARY PIECES AND COMPONENTS TO PROVIDE A COMPLETE AND COMPLIANT ELECTRICAL SYSTEM UNLESS OTHERWISE NOTED ON PLANS.
 - 1.2. THE ENTIRE ELECTRICAL SYSTEM SHALL BE CONTINUOUSLY GROUNDED. EVERY BRANCH CONDUIT SHALL INCLUDE A GREEN GROUND CONDUCTOR SIZED PER NEC.
 - 1.3. ARC-FAULT CIRCUITS SHALL BE RATED WITH A DEDICATED NEUTRAL AS REQUIRED BY MANUFACTURER.
 - 1.4. PROVIDE PERMANENT ARC-FLASH LABEL AFFIXED TO EVERY DISCONNECT AND PANEL.
 - 1.5. PROVIDE TYPE WRITTEN PANEL SCHEDULE FOR EACH PANEL.
- 2. WORKMANSHIP**
 - 2.1. ALL ELECTRICAL SYSTEM COMPONENTS SHALL BE INSTALLED LEVEL, PLUMB, AND PARALLEL/PERPENDICULAR TO BUILDING ORIENTATION WHERE POSSIBLE.
 - 2.2. ALL ELECTRICAL DEVICES AND LIGHT FIXTURES SHALL BE INSTALLED IN A SAFE, FIRST-CLASS MANNER WITH ATTENTION GIVEN TO OVERALL AESTHETICS.
 - 2.3. CARE SHOULD BE TAKEN TO ALLOW FOR FUTURE REPLACEMENT AND ACCESS FOR SERVICE.
- 3. MATERIALS**
 - 3.1. CONDUIT & CONDUCTORS
 - 3.1.1. ALL CONDUCTORS SIZES INDICATED ARE COPPER UNLESS NOTED OTHERWISE ON PLANS.
 - 3.1.2. ABOVE GRADE CONDUCTORS SHALL BE TYPE THHN.
 - 3.1.3. BELOW GRADE CONDUCTORS SHALL BE TYPE XHHW-2.
 - 3.1.4. 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.
 - 3.1.5. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR MEASURING ACTUAL CONDUCTOR LENGTH AND INCREASING CONDUCTOR SIZE TO COMPENSATE FOR VOLTAGE DROP AS REQUIRED BY NEC.
 - 3.1.6. RIGID GALVANIZED OR SCHEDULE 40 PVC CONDUIT SHALL BE USED FOR SERVICE WIRING, BELOW GRADE INSTALLATIONS, OR WHERE EXPOSED TO WEATHER.
 - 3.1.7. 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.
 - 3.1.8. 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.
 - 3.1.9. EXPOSED CONDUIT SHALL BE PAINTED TO MATCH ADJACENT SURFACES, VERIFY COLOR WITH ARCHITECT/OWNER.
 - 3.2. DEVICES
 - 3.2.1. CONTRACTOR TO PROVIDE J-BOXES, COVER PLATES, AND ANY ACCESSORIES REQUIRED TO PROVIDE A COMPLETE SYSTEM. SEE ARCHITECTURAL PLANS FOR DEVICE COLORS.
 - 3.2.2. DUPLEX RECEPTACLES SHALL BE TAMPER RESISTANT, 20-AMP, EQUAL TO LEVITON #TBR-20.
 - 3.2.3. SINGLE POLE TOGGLE WALL SWITCHES SHALL BE EQUAL TO LEVITON CS120-2.
 - 3.2.4. THREE-WAY TOGGLE WALL SWITCHES SHALL BE EQUAL TO LEVITON CS320-2.
 - 3.2.5. DIMMER SWITCHES SHALL BE TESTED WITH FIXTURES AND LAMPS FOR COMPATIBILITY. SEE LIGHTING PLANS FOR DETAILS.
 - 3.2.6. 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 CIRCUIT BREAKER.
 - 3.2.7. 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.
 - 3.2.8. ALL APPLICABLE SWITCHES, RECEPTACLES, CONTROLS, ETC. SHALL BE MOUNTED AT ADA-ACCESSIBLE HEIGHTS.
 - 3.2.9. WIRING DEVICES SHOWN ON PLANS NEXT TO ONE ANOTHER SHALL UTILIZE A SINGLE COVER PLATE UNLESS NOTED OTHERWISE.
 - 3.3. WIRING DEVICES SHOWN BACK-TO-BACK ON EACH SIDE OF A WALL SHALL BE OFFSET TO REDUCE SOUND TRANSMISSION.
 - 3.4. 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.
 - 4.2. 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:

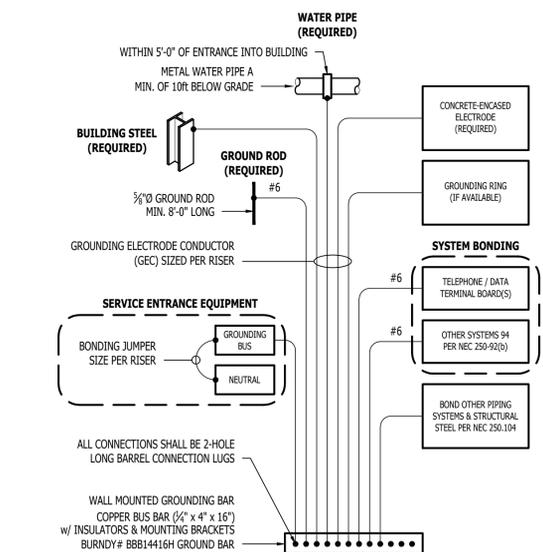
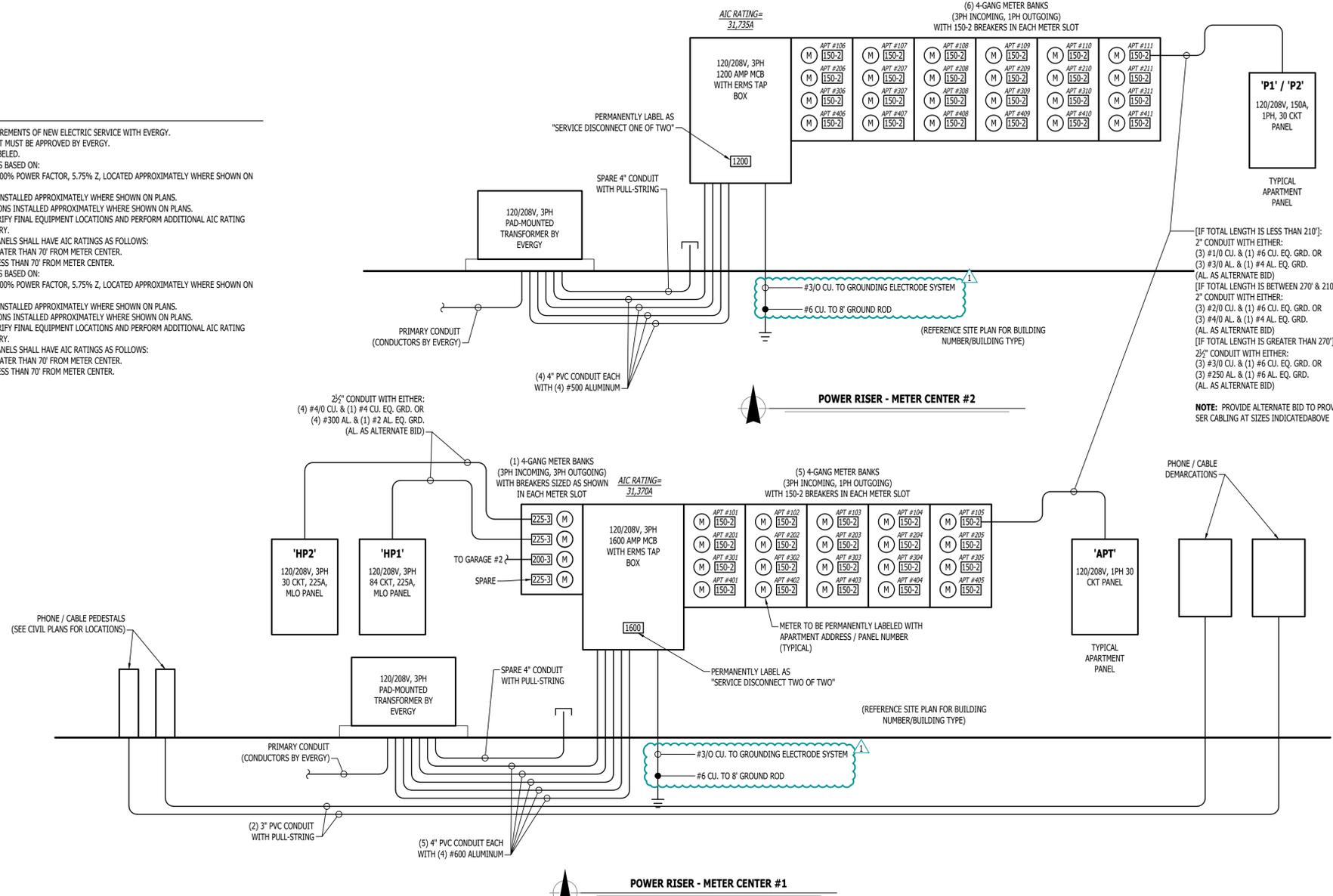
1. ALL ELECTRICAL CONDUCTORS WITHIN ELEVATOR PIT MUST COMPLY WITH NEC 620.21.
2. SUMP PUMP RECEPTACLE, SHAFT / PIT RECEPTACLES, & SHAFT LIGHTING TO ALL BE ON EMERGENCY POWER IF ELEVATOR IS ON EMERGENCY POWER.
3. ADDITIONAL SMOKE DETECTOR REQUIRED IN ELEVATOR MACHINE ROOM (IF APPLICABLE).
4. IN CASES 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).



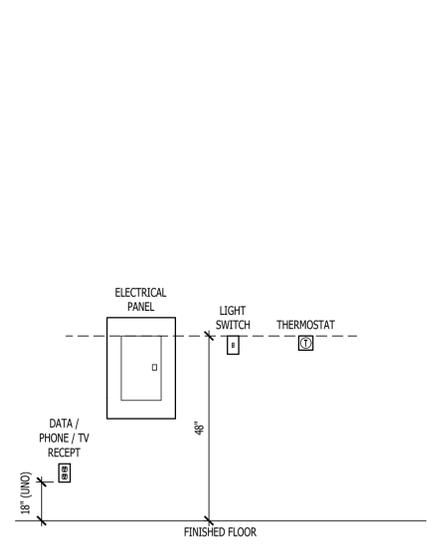
MACHINE - ROOM - LESS ELEVATOR DETAIL

POWER RISER NOTES:

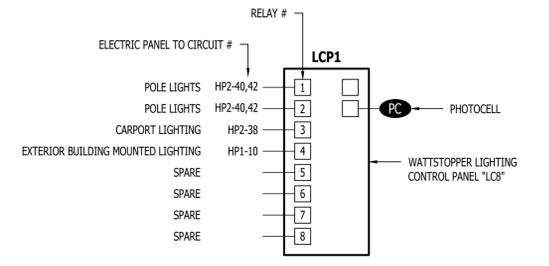
1. COORDINATE DETAILS & REQUIREMENTS OF NEW ELECTRIC SERVICE WITH EVERY.
2. ALL NEW METERING EQUIPMENT MUST BE APPROVED BY EVERY.
3. EACH METER PERMANENTLY LABELED.
4. METER CENTER #1 AIC-RATINGS BASED ON:
 - 4.1. TRANSFORMER: 750 kVA, 100% POWER FACTOR, 5.75% Z, LOCATED APPROXIMATELY WHERE SHOWN ON PLANS.
 - 4.2. METER CENTER LOCATION INSTALLED APPROXIMATELY WHERE SHOWN ON PLANS.
 - 4.3. ELECTRICAL PANEL LOCATIONS INSTALLED APPROXIMATELY WHERE SHOWN ON PLANS.
 - 4.4. CONTRACTOR TO FIELD VERIFY FINAL EQUIPMENT LOCATIONS AND PERFORM ADDITIONAL AIC RATING CALCULATIONS IF NECESSARY.
 - 4.5. APARTMENT ELECTRICAL PANELS SHALL HAVE AIC RATINGS AS FOLLOWS:
 - 4.5.1. 10,000 IF LOCATED GREATER THAN 70' FROM METER CENTER.
 - 4.5.2. 22,000 A IF LOCATED LESS THAN 70' FROM METER CENTER.
5. METER CENTER #2 AIC-RATINGS BASED ON:
 - 5.1. TRANSFORMER: 750 kVA, 100% POWER FACTOR, 5.75% Z, LOCATED APPROXIMATELY WHERE SHOWN ON PLANS.
 - 5.2. METER CENTER LOCATION INSTALLED APPROXIMATELY WHERE SHOWN ON PLANS.
 - 5.3. ELECTRICAL PANEL LOCATIONS INSTALLED APPROXIMATELY WHERE SHOWN ON PLANS.
 - 5.4. CONTRACTOR TO FIELD VERIFY FINAL EQUIPMENT LOCATIONS AND PERFORM ADDITIONAL AIC RATING CALCULATIONS IF NECESSARY.
 - 5.5. APARTMENT ELECTRICAL PANELS SHALL HAVE AIC RATINGS AS FOLLOWS:
 - 5.5.1. 10,000 IF LOCATED GREATER THAN 70' FROM METER CENTER.
 - 5.5.2. 22,000 A IF LOCATED LESS THAN 70' FROM METER CENTER.



TYPICAL GROUNDING & BONDING DETAIL



TYPICAL ADA MOUNTING HEIGHTS DETAIL



LIGHTING CONTROL PANEL SCHEDULE

RELAY #	OVERRIDE SWITCH	OPERATIONAL SCHEDULE
1	NO	ON DURING NIGHT HOURS (PHOTOCELL INPUT)
2	NO	ON DURING NIGHT HOURS (PHOTOCELL INPUT)
3	NO	ON DURING NIGHT HOURS (PHOTOCELL INPUT)
4	NO	ON DURING NIGHT HOURS (PHOTOCELL INPUT)
5	-	-
6	-	-
7	-	-
8	-	-

LIGHTING CONTROL PANEL

STATE OF MISSOURI
 JAMES P. WATSON
 PROFESSIONAL ENGINEER
 NUMBER
 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
ADDENDUM 1	05 - 16 - 2025

The Village at Discovery Park Alura Apartments
 Mechanical - Electrical - Plumbing Design Drawings For:
 Northeast Douglas Street
 Lee's Summit, Jackson County, Missouri

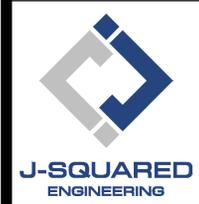
AHJ APPROVAL STAMP

SHEET TITLE
ELECTRICAL DETAILS

SHEET NUMBER
E501



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



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

J2 PROJECT No: J21357
J2 DESIGN: ACW

ISSUE TITLE DATE
PERMIT SET 04 - 15 - 2025

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:
The Village at Discovery Park Alura Apartments
Northeast Douglas Street
Lee's Summit, Jackson County, Missouri

AHJ APPROVAL STAMP

SHEET NUMBER

ELECTRICAL SCHEDULES

E601

LIGHT FIXTURE SCHEDULE										
TAG	MANUFACTURER (OR EQUAL)	MODEL NUMBER (OR EQUAL)	DESCRIPTION	MOUNTING	LUMEN OUTPUT	CCT (°K)	CRI	VOLTS	WATTS	NOTES
C1	HALO	HLC6129F51E	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	SURFACE / CEILING	600	3000	80	120	8	
S1	METALUX	45NK-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	FE12540FDB	LED PATIO SCONCE	EXTERIOR WALL	1,272	4000	83	120	11	
W2	TECH LIGHTING	7000VVEK9404ZUNV	UP / DOWN WALL SCONCE	EXTERIOR WALL	554	4000	90	120	19	
W3	LUMARK	XTOR48-W	LED WALLPACK	EXTERIOR WALL	3,995	4000	70	120	38	
W4	LUMARK	AXCS1A-MSP/DBM-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.

PANEL 'HP1' SCHEDULE										
PANEL SPECIFICATIONS								TOTAL CONNECTED LOAD		
VOLTAGE: 120/208V 3-PH			NEMA RATING: 1					PHASE "A" LOAD: 161 AMPS		
AMPACITY: 225A MLO			PANEL MOUNTING: SURFACE					PHASE "B" LOAD: 197 AMPS		
AIC-RATING: 22KA								PHASE "C" LOAD: 155 AMPS		
CIRCUIT NUMBER	DESCRIPTION	BREAKER SIZE	AMPS	PHASE	AMPS	BREAKER SIZE	DESCRIPTION	CIRCUIT NUMBER		
1	WATER HEATER (WH2)	20-1	12.5	A	9	20-1	1st FLR CORRIDOR RECEPTS.	2		
3	1st FLR CORRIDOR AIR HANDLING UNIT (AHU-3)	60-2	51	B	7.5	20-1	2nd FLR CORRIDOR RECEPTS.	4		
5	-	-	51	C	4	20-1	1st FLR CORRIDOR LIGHTING	6		
7	2nd FLR CORRIDOR AIR HANDLING UNIT (AHU-3)	60-2	51	A	3	20-1	2nd FLR CORRIDOR LIGHTING	8		
9	-	-	51	B	2	20-1	EXTERIOR BUILDING LIGHTING	10		
11	ELEVATOR (DS1)	60-3	42	C	19	25-2	SPRINKLER ROOM WALL HEATER	12		
13	-	-	42	A	19	-	-	14		
15	-	-	42	B	19	25-2	STAIRWELL WALL HEATER	16		
17	STAIRWELL LIGHTING	20-1	5	C	19	-	-	18		
19	ELEVATOR PIT RECEPT.	20-1	1.5	A	19	25-2	STAIRWELL WALL HEATER	20		
21	ELEVATOR PIT SUMP PUMP	20-1	1	B	19	-	-	22		
23	ELEVATOR CAB LIGHTS	20-2	1	C	1	20-1	MAG HOLDS	24		
25	-	-	1	A	3	20-1	SPRINKLER ROOM RECEPTS.	26		
27	2nd FLR IT/MECH ROOM RECEPT.	20-1	3	B	1.5	20-1	FACP RECEPT.	28		
29	ACCESS CONTROLS	20-1	1	C	12	20-1	EXTERIOR RECEPTS.	30		
31	SPARE	20-1	-	A	-	-	OPEN	32		
33	SPARE	20-1	-	B	-	-	OPEN	34		
35	SPARE	20-1	-	C	-	-	OPEN	36		
37	SPARE	20-1	-	A	-	-	OPEN	38		
39	SPARE	20-1	-	B	-	-	OPEN	40		
41	SPARE	20-1	-	C	-	-	OPEN	42		

NOTES:
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, ELECTRICIAN SHALL PROVIDE A TYPE WRITTEN PANEL DIRECTORY IN NEW PANEL.

PANEL 'HP2' SCHEDULE										
PANEL SPECIFICATIONS								TOTAL CONNECTED LOAD		
VOLTAGE: 120/208V 3-PH			NEMA RATING: 1					PHASE "A" LOAD: 154.5 AMPS		
AMPACITY: 225A MLO			PANEL MOUNTING: SURFACE					PHASE "B" LOAD: 137 AMPS		
AIC-RATING: 22KA								PHASE "C" LOAD: 174.5 AMPS		
CIRCUIT NUMBER	DESCRIPTION	BREAKER SIZE	AMPS	PHASE	AMPS	BREAKER SIZE	DESCRIPTION	CIRCUIT NUMBER		
1	SPARE	20-1	-	A	17	25-2	1st FLR CORRIDOR CONDENSING UNIT (CU-1)	2		
3	3rd FLR IT/MECH ROOM RECEPT.	20-1	3	B	17	-	-	4		
5	4th FLR IT/MECH ROOM RECEPT.	20-1	3	C	17	25-2	2nd FLR CORRIDOR CONDENSING UNIT (CU-2)	6		
7	3rd FLR CORRIDOR LIGHTING	20-1	3	A	17	-	-	8		
9	4th FLR CORRIDOR LIGHTING	20-1	3	B	17	25-2	3rd FLR CORRIDOR CONDENSING UNIT (CU-3)	10		
11	3rd FLR CORRIDOR AIR HANDLING UNIT (AHU-3)	60-2	51	C	17	-	-	12		
13	-	-	51	A	17	25-2	4th FLR CORRIDOR CONDENSING UNIT (CU-4)	14		
15	4th FLR CORRIDOR AIR HANDLING UNIT (AHU-3)	60-2	51	B	17	-	-	16		
17	-	-	51	C	7.5	20-1	3rd FLR CORRIDOR RECEPTS.	18		
19	STAIRWELL WALL HEATER	25-2	19	A	7.5	20-1	4th FLR CORRIDOR RECEPTS.	20		
21	-	-	19	B	1	20-1	MAG HOLDS	22		
23	STAIRWELL WALL HEATER	25-2	19	C	-	20-1	SPARE	24		
25	-	-	19	A	-	20-1	SPARE	26		
27	SPARE	20-1	-	B	-	20-1	SPARE	28		
29	SPARE	20-1	-	C	-	-	OPEN	30		
31	SPARE	20-1	-	A	-	-	OPEN	32		
33	SPARE	20-1	-	B	-	-	OPEN	34		
35	SPARE	20-1	-	C	-	-	OPEN	36		
37	SPARE	20-1	-	A	4	20-1	CARPET LIGHTS	38		
39	SPARE	20-1	-	B	9	20-2	POLE LIGHTS	40		
41	SPARE	20-1	-	C	9	-	-	42		

NOTES:
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, ELECTRICIAN SHALL PROVIDE A TYPE WRITTEN PANEL DIRECTORY IN NEW PANEL.

TYPICAL APARTMENT PANEL 'P1' SCHEDULE										
VOLTAGE			PANEL SIZE		MOUNTING		AIC RATING		PHASE "A" LOAD	
120/208V 1-PH			150A MLO		RECESSED		SEE RISER		167.5	
NEMA RATING: 1									PHASE "B" LOAD 164.5	
CIRCUIT NUMBER	DESCRIPTION	BREAKER SIZE	AMPS	PHASE	AMPS	BREAKER SIZE	DESCRIPTION	CIRCUIT NUMBER		
1	REFRIGERATOR	20-1	8	A	44	45-2	AHU-1	2		
3	STOVE	50-2	30	B	44	-	-	4		
5	-	-	30	A	22	30-2	WATER HEATER	6		
7	RANGE HOOD / MICROWAVE	20-1	8	B	22	-	-	8		
9	KITCHEN RECEPTS.	20-1	4.5	A	12	20-2	CU-1	10		
11	DISHWASHER	20-1	8	B	12	-	-	12		
13	KITCHEN RECEPTS.	20-1	4.5	A	-	20-1	SPARE	14		
15	LIVING ROOM RECEPTS.	15-1	12	B	6	15-1	LIGHTING	16		
17	BEDROOM RECEPTS.	15-1	9	A	4	20-1	DISPOSAL	18		
19	BATHROOM RECEPT.	20-1	1.5	B	-	-	OPEN	20		
21	SPARE	15-1	-	A	-	-	OPEN	22		
23	SPARE	20-1	-	B	-	-	OPEN	24		
25	WASHING MACHINE	20-1	8	A	1.5	20-1	MEDIA PANEL	26		
27	DRYER	30-2	20	B	1	15-1	SMOKE DETECTORS	28		
29	-	-	20	A	-	-	OPEN	30		

NOTES:
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, ELECTRICIAN 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		PHASE "A" LOAD	
120/208V 1-PH			150A MLO		RECESSED		SEE RISER		188.5	
NEMA RATING: 1									PHASE "B" LOAD 178	
CIRCUIT NUMBER	DESCRIPTION	BREAKER SIZE	AMPS	PHASE	AMPS	BREAKER SIZE	DESCRIPTION	CIRCUIT NUMBER		
1	REFRIGERATOR	20-1	8	A	51	60-2	AHU-5	2		
3	STOVE	50-2	30	B	51	-	-	4		
5	-	-	30	A	22	30-2	WATER HEATER	6		
7	RANGE HOOD / MICROWAVE	20-1	8	B	22	-	-	8		
9	KITCHEN RECEPTS.	20-1	4.5	A	17	25-2	CU-5	10		
11	DISHWASHER	20-1	8	B	17	-	-	12		
13	KITCHEN RECEPTS.	20-1	4.5	A	-	20-1	SPARE	14		
15	LIVING ROOM RECEPTS.	15-1	12	B	6	15-1	LIGHTING	16		
17	BEDROOM RECEPTS.	15-1	9	A	4	20-1	DISPOSAL	18		
19	BATHROOM RECEPT.	20-1	1.5	B	-	-	OPEN	20		
21	BEDROOM RECEPTS.	15-1	9	A	-	-	OPEN	22		
23	BATHROOM RECEPT.	20-1	1.5	B	-	-	OPEN	24		
25	WASHING MACHINE	20-1	8	A	1.5	20-1	MEDIA PANEL	26		
27	DRYER	30-2	20	B	1	15-1	SMOKE DETECTORS	28		
29	-	-	20	A	-	-	OPEN	30		

NOTES:
A: PANEL SHALL BE EQUAL TO SQUARE D MODEL "HOMELINE"
B: ELECTRICIAN SHALL VERIFY BREAKER WITH EQUIPMENT PRIOR TO PURCHASE & INSTALL.
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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						
AMPACITY	COPPER AWG SIZE	MAXIMUM DISTANCE (FEET)				MINIMUM CONDUIT SIZE
		10		30		
		120V	277V	208V	480V	
20	12	55'	130'	115'	260'	1/2"
	10	90'	205'	180'	415'	3/4"
30	10	60'	135'	120'	275'	3/4"
	8	95'	220'	190'	445'	1"
35	8	80'	190'	165'	380'	1"
	6	130'	300'	260'	605'	1"
40	8	70'	165'	145'	330'	1"
	6	110'	260'	225'	525'	1"
45	6	100'	235'	200'	470'	1"
	4	160'	370'	325'	750'	1-1/4"
50	6	90'	210'	180'	420'	1-1/4"
	4	145'	335'	290'	675'	1-1/4"
60	6	75'	175'	150'	350'	1-1/4"
	4	120'	280'	240'	560'	1-1/4"
70	4	105'	240'	205'	480'	1-1/4"
	3	130'	300'	260'	605'	1-1/4"
80	4	55'	210'	180'	420'	1-1/4"
	3	90'	260'	230'	530'	1-1/4"
90	3	100'	235'	200'	470'	1-1/4"
	2	125'	295'	255'	595'	

DEFERRED SUBMITTAL NOTES

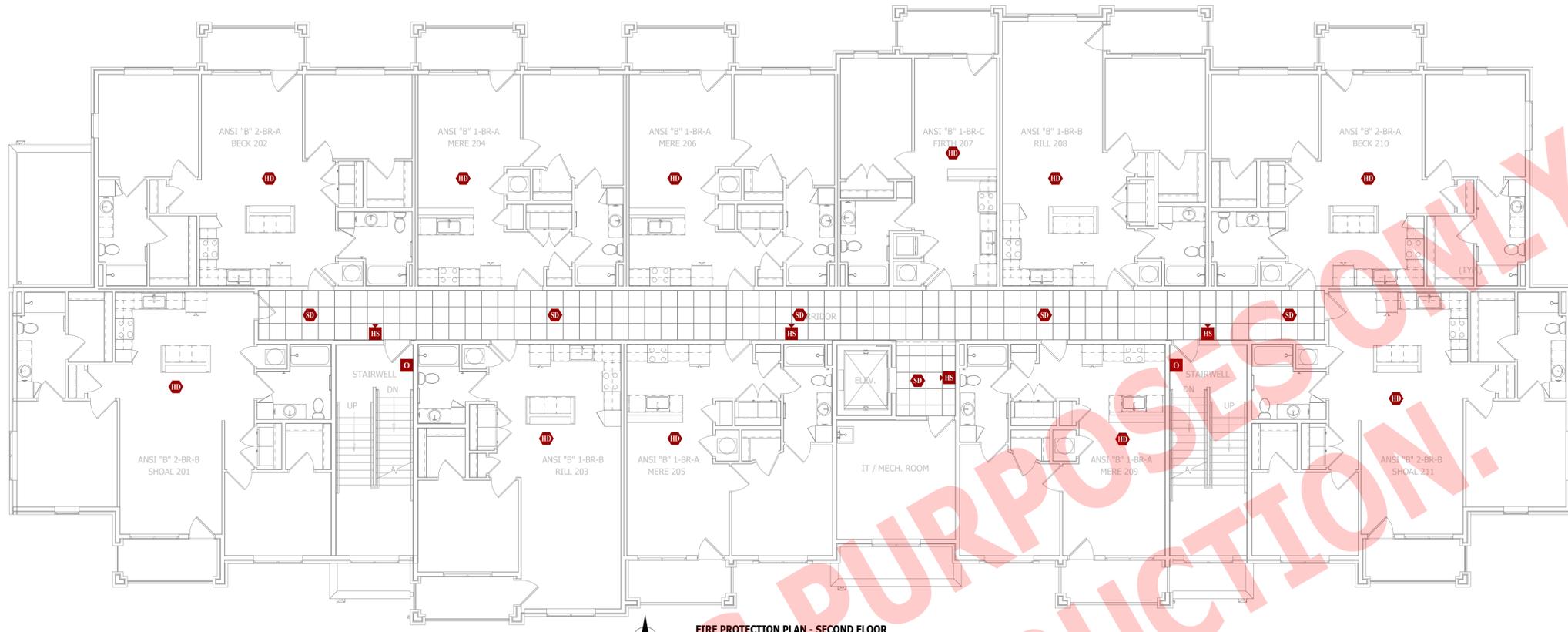
1. FIRE ALARM CONTRACTOR SHALL PROVIDE DEFERRED SUBMITTAL PACKAGE FOR FIRE ALARM SYSTEM. SUBMITTAL SHALL INCLUDE BATTERY CALCULATIONS, VOLTAGE DROP CALCULATIONS, EQUIPMENT SPECIFICATIONS FOR DEVICES AND PANELS, ETC. DESIGN SHALL BE SEALED BY A QUALIFIED DESIGN PROFESSIONAL LICENSED BY THE STATE.
2. FIRE 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

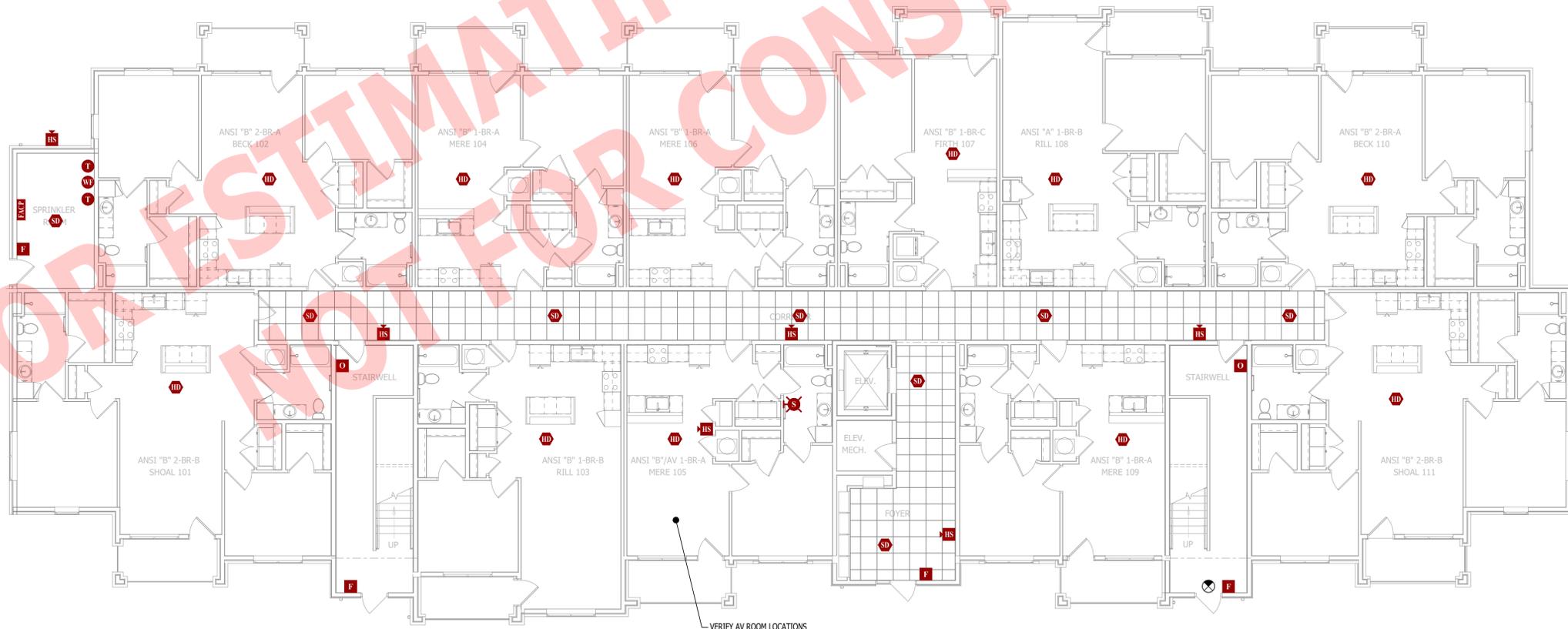
1. FIRE ALARM SYSTEM SHALL BE AN ADDRESSABLE SYSTEM THAT IS NONCODED, UL-LISTED, WITH MULTIPLEX SIGNAL TRANSMISSION AND HORN/STROBE EVACUATION.
2. EVERY FIRE ALARM SYSTEM COMPONENT SHALL BE UL-LISTED AND UL-CERTIFIED, TESTED BY MANUFACTURERS AS A COMPLETE SYSTEM, AND MEET ALL APPLICABLE REQUIREMENTS 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.
5. 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
-  MODULE
-  OUTPUT MODULE
-  SMOKE DETECTOR
-  HEAT DETECTOR
-  CARBON MONOXIDE DETECTOR
-  STROBE - CEILING MOUNT
-  STROBE - WALL MOUNT
-  HORN STROBE - WALL MOUNT
-  HORN STROBE - CEILING MOUNT
-  SPEAKER STROBE - WALL MOUNT
-  SPEAKER STROBE - CEILING MOUNT
-  TAMPER SWITCH
-  WATER FLOW SWITCH
-  FIRE ALARM CONTROL PANEL
-  FIRE ALARM ANNUCIATOR



FIRE PROTECTION PLAN - SECOND FLOOR
SCALE: 1/8" = 1'-0"

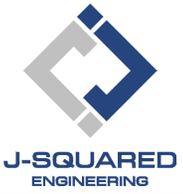


FIRE PROTECTION PLAN - FIRST FLOOR
SCALE: 1/8" = 1'-0"

FIRE PROTECTION PLAN - FIRST FLOOR
SCALE: 1/8" = 1'-0"

FOR ESTIMATING PURPOSES ONLY - NOT FOR CONSTRUCTION.

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
PERMIT SET	04 - 15 - 2025

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:
The Village at Discovery Park Alura Apartments
Northeast Douglas Street
Lee's Summit, Jackson County, Missouri

AHJ APPROVAL STAMP

SHEET TITLE

FIRE PROTECTION PLAN - FIRST & SECOND FLOORS

SHEET NUMBER

FP101

DEFERRED SUBMITTAL NOTES

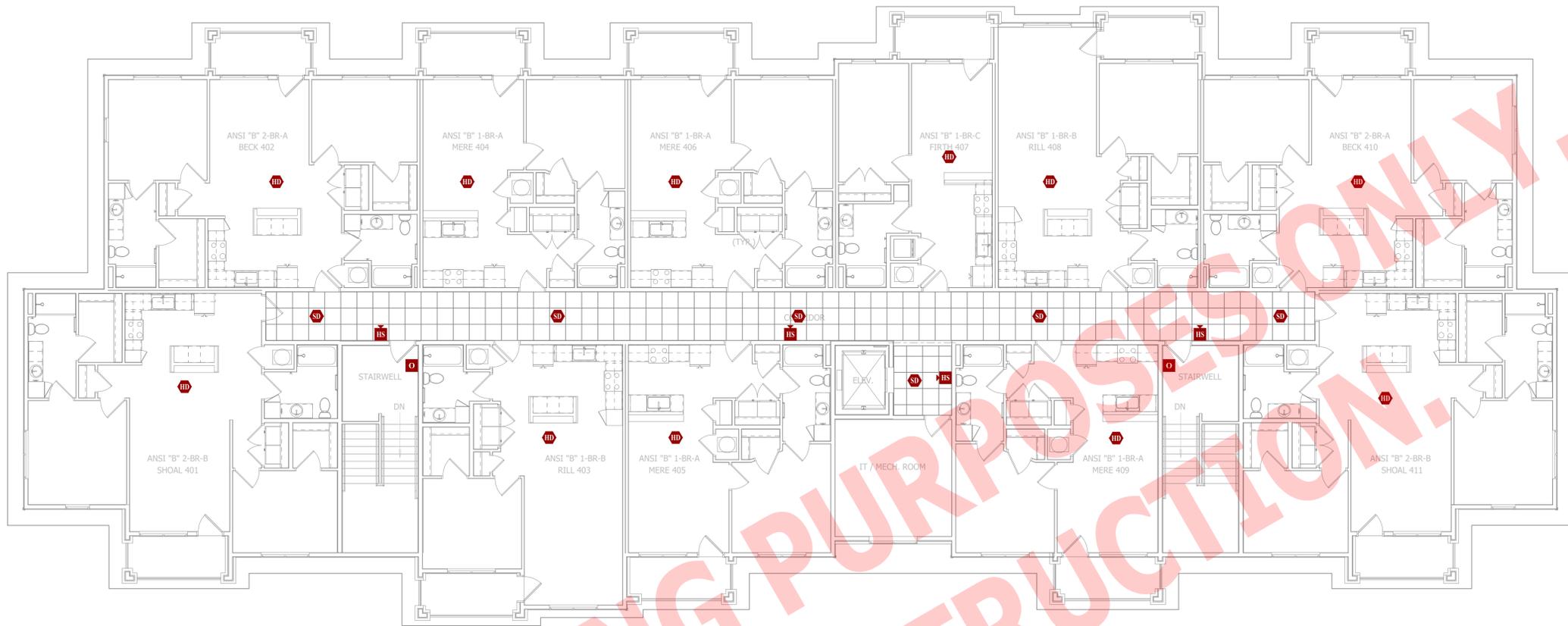
1. FIRE ALARM CONTRACTOR SHALL PROVIDE DEFERRED SUBMITTAL PACKAGE FOR FIRE ALARM SYSTEM. SUBMITTAL SHALL INCLUDE BATTERY CALCULATIONS, VOLTAGE DROP CALCULATIONS, EQUIPMENT SPECIFICATIONS FOR DEVICES AND PANELS, ETC. DESIGN SHALL BE SEALED BY A QUALIFIED DESIGN PROFESSIONAL LICENSED BY THE STATE.
2. FIRE 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.
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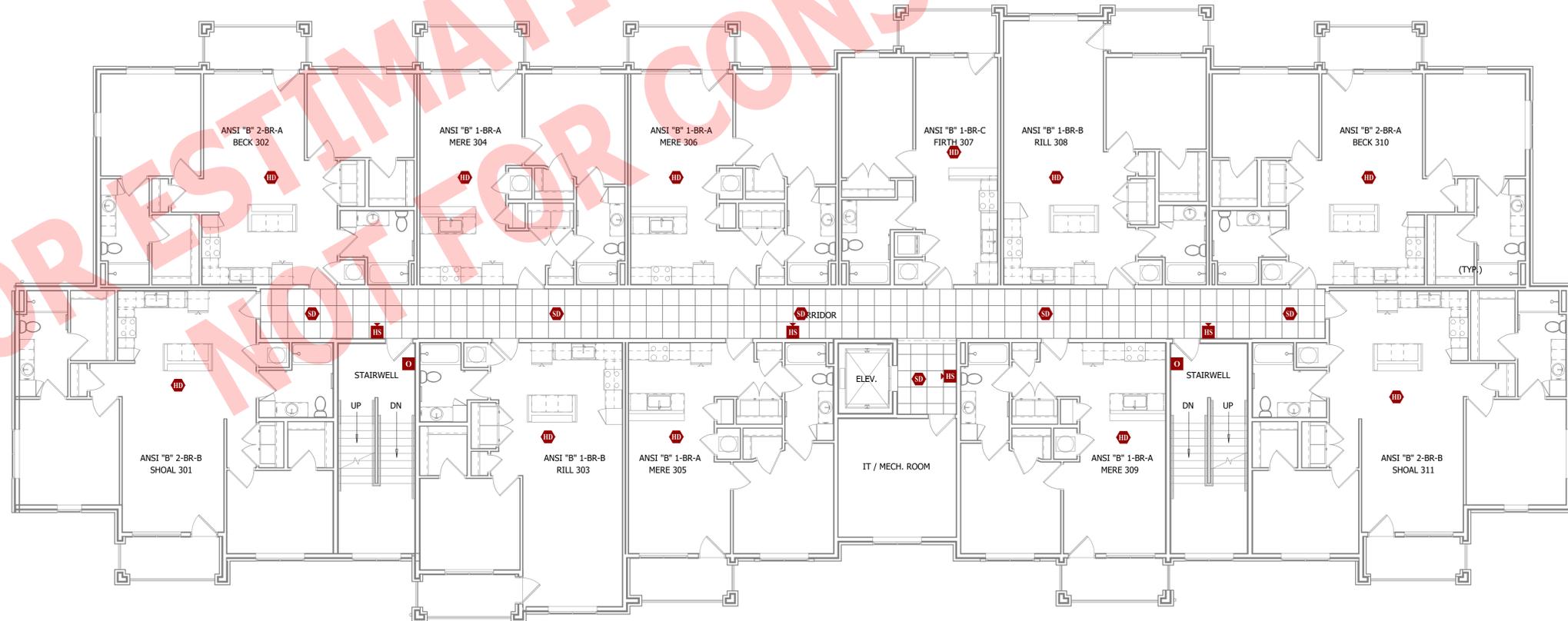
FIRE ALARM PLAN SYMBOL LEGEND

-  MANUAL PULL STATION
-  MODULE
-  OUTPUT MODULE
-  SMOKE DETECTOR
-  HEAT DETECTOR
-  CARBON MONOXIDE DETECTOR
-  STROBE - CEILING MOUNT
-  STROBE - WALL MOUNT
-  HORN STROBE - WALL MOUNT
-  HORN STROBE - CEILING MOUNT
-  SPEAKER STROBE - WALL MOUNT
-  SPEAKER STROBE - CEILING MOUNT
-  TAMPER SWITCH
-  WATER FLOW SWITCH
-  FIRE ALARM CONTROL PANEL
-  FIRE ALARM ANNUCIATOR



FIRE PROTECTION PLAN - FOURTH FLOOR

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

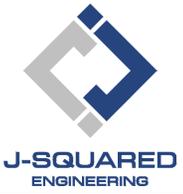


FIRE PROTECTION PLAN - THIRD FLOOR

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

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J2 PROJECT No: J21357

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PERMIT SET: 04 - 15 - 2025

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:
The Village at Discovery Park Alura Apartments
Northeast Douglas Street
Lee's Summit, Jackson County, Missouri

AHJ APPROVAL STAMP

SHEET NUMBER

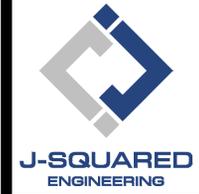
**FIRE PROTECTION PLAN
- THIRD & FOURTH
FLOORS**

SHEET NUMBER

FP102



James Watson, P.E. April 15, 2025
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J2 PROJECT No:	J21357
J2 DESIGN:	ACW
ISSUE TITLE	DATE
PERMIT SET	04 - 15 - 2025
APPENDUM 1	05 - 16 - 2025

SANITARY SEWER PLAN SYMBOL LEGEND

- SANITARY SEWER PIPING
- VENT PIPING
- PIPING TURNED DOWN / TURNED UP
- TIE INTO EXISTING

SANITARY SEWER PLAN GENERAL NOTES:

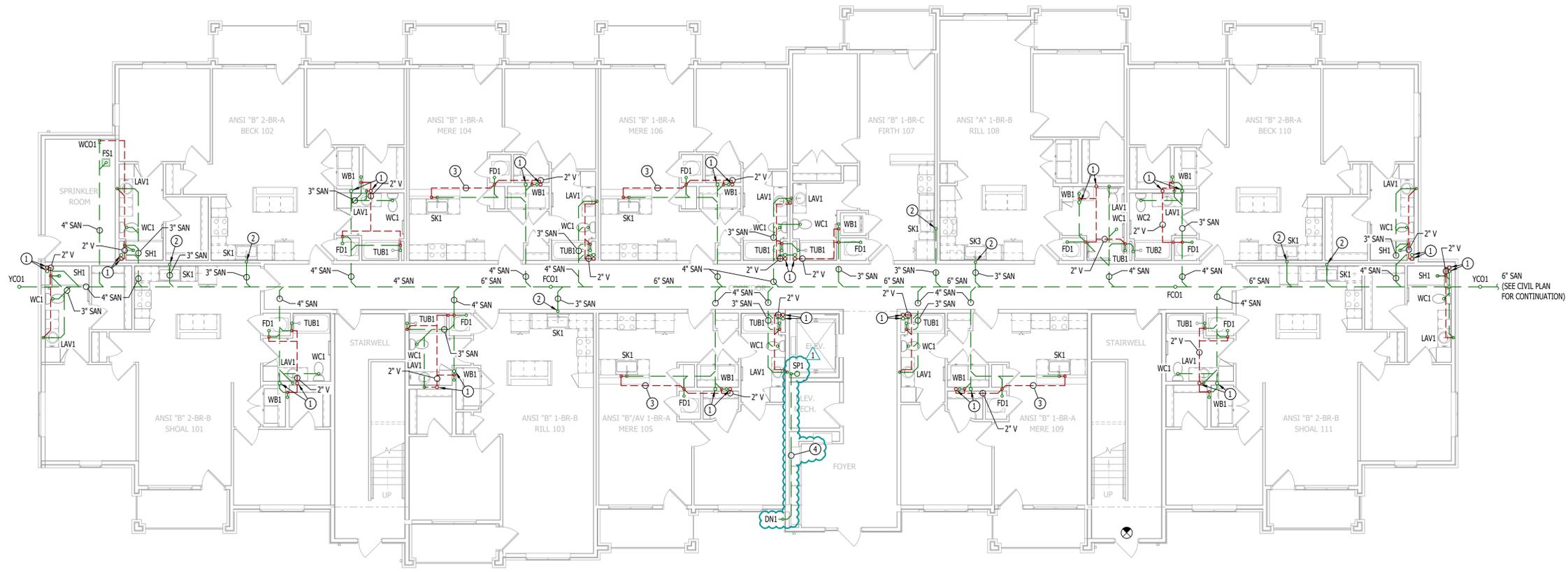
1. REFER TO P500 AND/OR P600 SERIES SHEETS FOR ADDITIONAL PLUMBING NOTES, DETAILS, REQUIREMENTS, AND SCHEDULES.
2. PLUMBING CONTRACTOR SHALL REVIEW ALL PROJECT DOCUMENTS AND COORDINATE LOCATION OF ALL EQUIPMENT, PIPING, HANGERS / SUPPORTS, ETC. WITH HVAC AND ELECTRICAL TRADES BEFORE INSTALLATION OF ANY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

SANITARY SEWER PLAN KEY NOTES:

- ① 4" SANITARY STACK DOWN FROM LEVEL ABOVE / 4" VENT UP TO LEVEL ABOVE.
- ② 3" WASTE STACK VENT STACK DOWN FROM SECOND FLOOR.
- ③ ISLAND SINK VENT BELOW FLOOR PER 2018 IPC SECTION 916.
- ④ 2" SUMP PUMP DISCHARGE PIPING ROUTED IN TRUSS SPACE & DOWN TO DAYLIGHT WITH DOWNSPOUT NOZZLE EQUAL TO ZURN #2199.
- ⑤ 4" SANITARY STACK DOWN FROM THIRD FLOOR; CONTINUES DOWN TO FIRST FLOOR. 4" VENT UP FROM FIRST FLOOR; CONTINUES UP TO THIRD FLOOR.
- ⑥ 3" WASTE STACK VENT DOWN FROM THIRD FLOOR; 3" CONTINUES DOWN TO FIRST FLOOR.



SANITARY SEWER PLAN - SECOND FLOOR
 SCALE: 1/8" = 1'-0"



SANITARY SEWER PLAN - FIRST FLOOR
 SCALE: 1/8" = 1'-0"

The Village at Discovery Park Alura Apartments
 Mechanical - Electrical - Plumbing Design Drawings For:
 Northeast Douglas Street
 Lee's Summit, Jackson County, Missouri

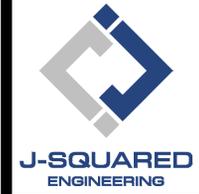
AHJ APPROVAL STAMP

SHEET TITLE
SANITARY SEWER PLAN - FIRST & SECOND FLOORS

SHEET NUMBER
PS101



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SANITARY SEWER PLAN SYMBOL LEGEND

- SANITARY SEWER PIPING
- VENT PIPING
- PIPING TURNED DOWN / TURNED UP
- TIE INTO EXISTING

SANITARY SEWER 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.

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



SANITARY SEWER PLAN - THIRD FLOOR
SCALE: 1/8" = 1'-0"

The Village at Discovery Park Alura Apartments
MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:
Northeast Douglas Street
Lee's Summit, Jackson County, Missouri

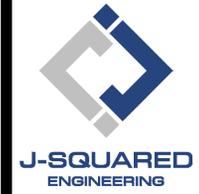
AHJ APPROVAL STAMP

SHEET TITLE
SANITARY SEWER PLAN - THIRD & FOURTH FLOORS

SHEET NUMBER
PS102



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J2 PROJECT No:	J21357
J2 DESIGN:	ACW
ISSUE TITLE	DATE
PERMIT SET	04 - 15 - 2025

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.
- 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.

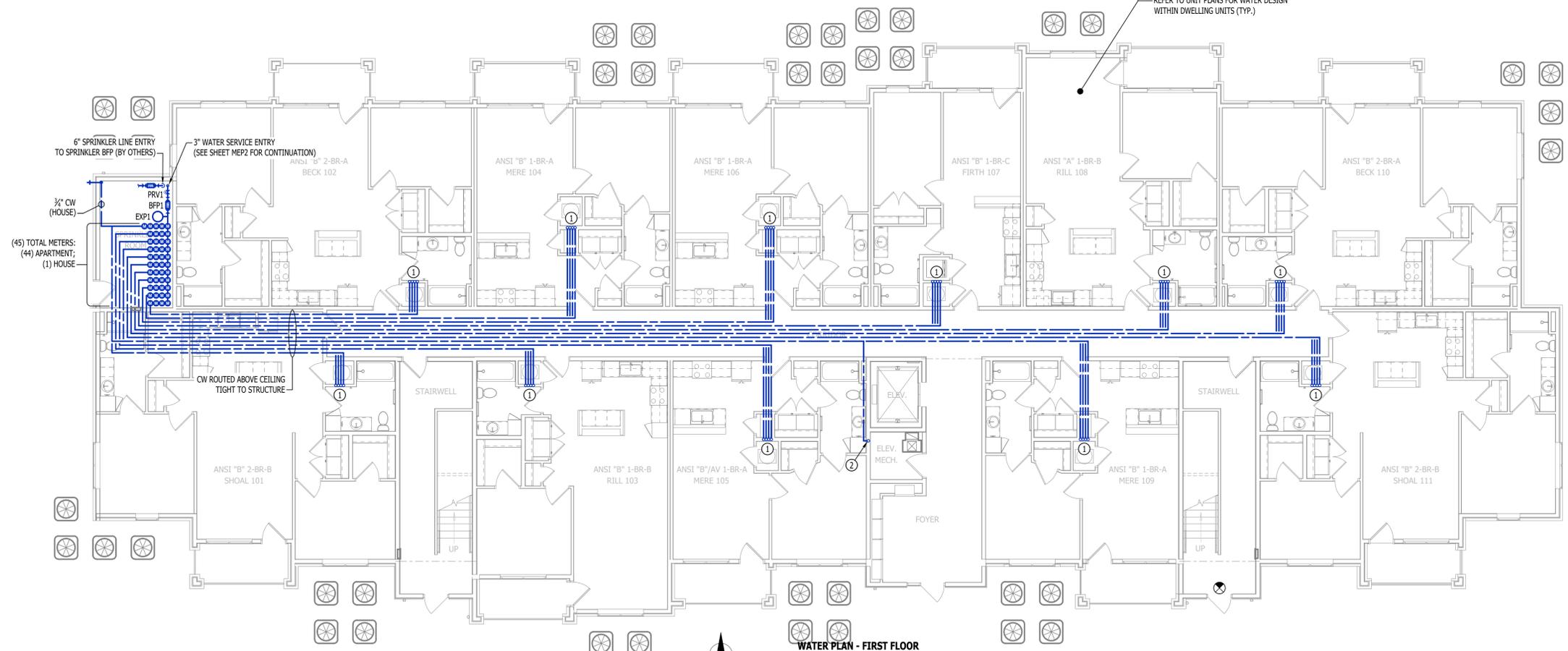
WATER & GAS PLAN KEY NOTES:

- ① (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.



WATER PLAN - SECOND FLOOR

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



WATER PLAN - FIRST FLOOR

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

6" SPRINKLER LINE ENTRY TO SPRINKLER BFP (BY OTHERS)

3" WATER SERVICE ENTRY (SEE SHEET MEP2 FOR CONTINUATION)

PRV1
BFP1
EXP1

3/4" CW (HOUSE)

(45) TOTAL METERS:
(44) APARTMENT;
(1) HOUSE

CW ROUTED ABOVE CEILING TIGHT TO STRUCTURE

The Village at Discovery Park Alura Apartments

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

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

AHJ APPROVAL STAMP

SHEET TITLE

WATER PLAN - FIRST & SECOND FLOORS

SHEET NUMBER

PW101



James Watson, P.E. April 15, 2025
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J2 PROJECT No: J21357

J2 DESIGN: ACW

ISSUE TITLE DATE

PERMIT SET 04 - 15 - 2025

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

The Village at Discovery Park Alura Apartments

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

AHJ APPROVAL STAMP

SHEET TITLE

**WATER PLAN - THIRD &
FOURTH FLOORS**

SHEET NUMBER

PW102

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.
- 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:

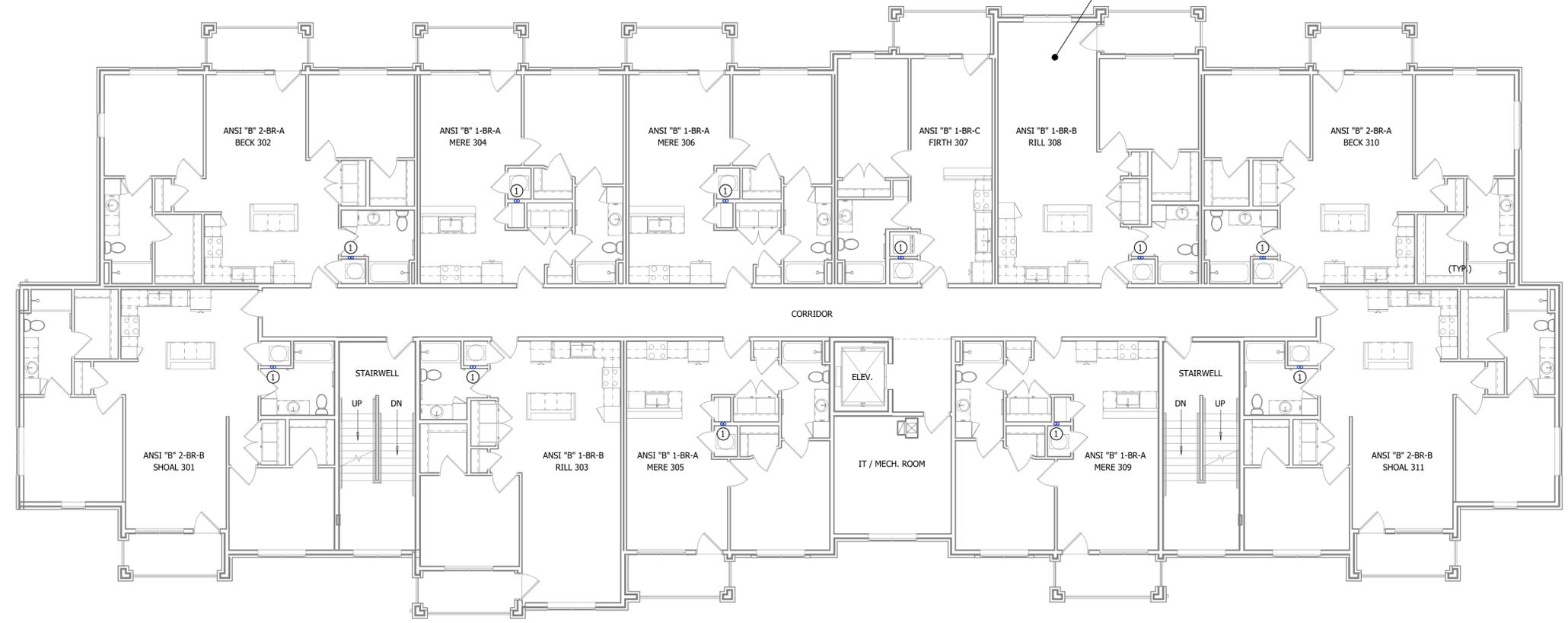
- ① (2) 1" CW UP FROM SECOND FLOOR - (1) TO SERVE APARTMENT ON THIRD AND (1) CONTINUES UP TO FOURTH FLOOR.
- ② (1) 1" CW UP FROM THIRD FLOOR TO SERVE APARTMENT ON FOURTH FLOOR.



WATER PLAN - FOURTH FLOOR

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

REFER TO UNIT PLANS FOR WATER DESIGN WITHIN DWELLING UNITS (TYP.)



WATER PLAN - THIRD FLOOR

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

PLUMBING SPECIFICATIONS

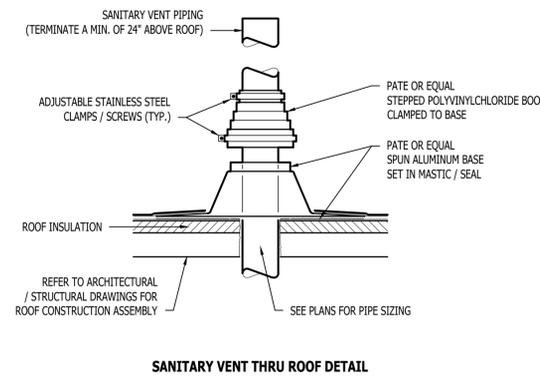
- 1. GENERAL**
 - 1.1. PLUMBING CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL ESCUTCHEONS, ¼ TURN STOPS, P-TRAPS, AND SUPPLY LINES TO PROVIDE A COMPLETE SYSTEM AT EACH FIXTURE INDICATED ON PLANS UNLESS NOTED OTHERWISE.
 - 1.2. ALL PLUMBING SYSTEMS SHALL BE INSTALLED LEVEL, PLUMB, AND PARALLEL/PERPENDICULAR TO BUILDING ORIENTATION WHERE POSSIBLE.
 - 1.3. COORDINATE ALL PIPING INSTALLATIONS WITH STRUCTURAL GRADE BEAMS, FOOTINGS, COLUMN PIERS, ETC. SLEEVE PIPING THRU STRUCTURAL ELEMENTS AS NECESSARY, VERIFY WITH STRUCTURAL ENGINEER.
 - 1.4. VERIFY ALL UTILITY CONNECTION POINTS WITH PROPOSED PLUMBING LAYOUTS PRIOR TO BEGINNING WORK.
 - 1.5. CLEAN ALL PLUMBING FIXTURES AND CHANGE FAUCET AERATORS AND SINK STRAINERS AT PROJECT COMPLETION PRIOR TO TURNING OVER TO OWNERSHIP.
- 2. EQUIPMENT / FIXTURES**
 - 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.
 - 2.2. CONTRACTOR TO SUPPLY SUBMITTALS FOR ALL EQUIPMENT FOR REVIEW BY ARCHITECT AND ENGINEER. FORMAL APPROVAL SHALL BE RECEIVED BY CONTRACTOR PRIOR TO EQUIPMENT PURCHASE.
 - 2.3. 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. SANITARY**
 - 3.1. BELOW AND ABOVE GRADE WASTE AND VENT PIPING IN BUILDING TO BE SOLID CORE SCHEDULE 40 PVC LISTED FOR DWV APPLICATIONS.
 - 3.2. NO WASTE OR VENT PIPING INSTALLED BELOW GRADE SHALL BE SMALLER THAN 2".
 - 3.3. 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: ¼" PER FOOT
 - 3.3.3. 8" OR LARGER DIAMETER: ⅜" PER FOOT
 - 3.4. 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.
 - 3.5. 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**
 - 4.1. ALL DOMESTIC WATER PIPING TO BE EITHER COPPER OR PEX, SHALL CONFORM TO NSF 61 AND BE LISTED FOR USE IN POTABLE WATER SYSTEMS.
 - 4.1.1. WHERE PEX PIPING IS USED, IT SHALL BE INCREASED ONE PIPE SIZE FROM WHAT IS INDICATED ON PLANS FOR ALL PORTIONS OF DISTRIBUTION SYSTEM.
 - 4.1.2. 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.
 - 4.1.3. 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 SLAB.
 - 4.1.4. COPPER WATER PIPING ABOVE GRADE SHALL BE TYPE "L".
 - 4.2. PROVIDE WATER HAMMER ARRESTORS AT ALL QUICK-CLOSE VALVES. FIXTURES REQUIRING WATER HAMMER ARRESTORS INCLUDE BUT ARE NOT LIMITED TO PLUSH VALVES, SENSOR FAUCETS, AND WASHING MACHINE BOXES. AIR CHAMBERS SHALL NOT BE PERMITTED.
 - 4.3. 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 EXPOSED.
 - 4.4. DOMESTIC WATER PIPING INSULATION
 - 4.4.1. 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 1½", INSULATION THICKNESS TO BE 1".
 - 4.4.1.2. FOR PIPING 1½" OR GREATER, INSULATION THICKNESS SHALL BE 1½".
 - 4.4.2. CW COPPER PIPING TO INSULATED WITH ½" PLENUM RATED CLOSED CELL ELASTOMERIC INSULATION. CW PEX NEED NOT BE INSULATED UNLESS NOTED OTHERWISE ON PLANS.
- 5. GAS PIPING**
 - 5.1. GAS PIPING SHALL BE INSTALLED LEVEL, PLUMB, AND PARALLEL OR PERPENDICULAR TO BUILDING ORIENTATION WHERE POSSIBLE.
 - 5.2. 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.
 - 5.3. NATURAL GAS AND LIQUID PROPANE (LP) PIPING TO SHALL BE SCHEDULE 40 BLACK STEEL.
 - 5.4. PIPE JOINTS SHALL BE THREADED WITH CLASS 150 FITTINGS, OR WELDED. NOTIFY OWNER/GC OF ANY NECESSARY HOT-WORK ASSOCIATED WITH WELDED CONNECTIONS.
 - 5.5. WHERE PIPING IS EXPOSED ON EXTERIOR FACE OF BUILDING, PAINT TO MATCH BUILDING. PAINT YELLOW IN ALL OTHER LOCATIONS.
 - 5.6. ON ROOFTOPS, INSTALL GAS PIPE WITH "ROOFTOP BLOW" PER MANUFACTURER'S INSTRUCTION.
- 6. STORM DRAIN PIPING**
 - 6.1. ABOVE AND BELOW GRADE STORM PIPING SHALL BE SOLID CORE SCHEDULE 40 PVC.
 - 6.2. ALL PRIMARY & SECONDARY STORM DRAIN PIPING & FITTINGS SHALL BE INSULATED WITH ½" FIBERGLASS INSULATION WITH ASJ JACKET.
 - 6.3. 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	MANUFACTURER (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	INTERIOR 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 ZB1104-XL FAUCET, 1/4 TURN STOPS, BRAIDED STAINLESS STEEL SUPPLIES, & TMV1
MS1	MOP SINK	FIAT	MSB2424	WITH ZURN ZB43M1 FAUCET WITH WALL HOOK
PRV1	PRESSURE REDUCING VALVE	ZURN	500XL3	3" INLET / 3" OUTLET
REF1	REFRIGERATOR BOX	SJOUX 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 TRM KIT
TUB2	ADA TUB / SHOWER	AQUATIC	2603SMT	WITH GRAB BARS & ADA HANDHELD SHOWER ASSEMBLY
WB1	WASHER BOX	SJOUX CHIEF	696-G2303	
WC1	WATER CLOSET - STANDARD HEIGHT - TANK	AMERICAN STANDARD	21SCA.004	WITH CHURCH 7200SEAT AND COVER, STAINLESS BRAIDED SUPPLY, AND 1/4 TURN SHUT-OFF.
WC2	WATER CLOSET - ADA HEIGHT - TANK	AMERICAN STANDARD	21SAA.004	WITH CHURCH 7200SEAT 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 HOLDTRIE #40-SWHP-W WALL HUNG PLATFORM; WITH 'EXP1'
YCO1	YARD CLEAN OUT	ZURN	Z1400	
YH1	YARD HYDRANT	WOODFORD	Y34	FREEZELESS

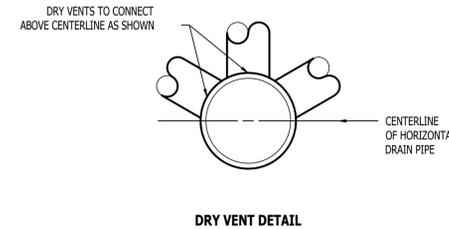
NOTES:
1. VERIFY NECESSARY FIXTURES MEET ADA REQUIREMENTS WITH ARCHITECT PRIOR TO INSTALLATION

PLUMBING CONNECTION SIZING SCHEDULE					
FIXTURE	TYPICAL ABBREVIATION	SANITARY PIPING		SUPPLY PIPING	
		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	HB	-	-	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"
URNAL	UR	2"	1-1/4"	3/4"	-
WATER CLOSET (FLUSH TANK)	WC	3"	2"	1/2"	-
WATER CLOSET (FLUSH VALVE)	WC	3"	2"	1"	-

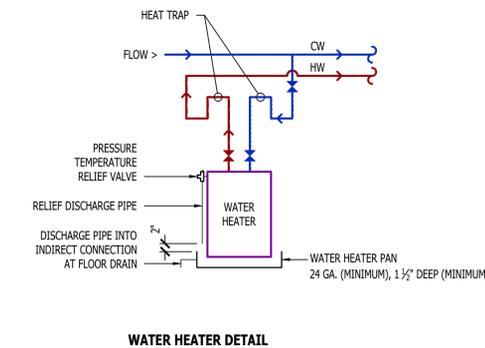
NOTES:
1. SIZES SHOWN ABOVE ARE TYPICAL UNLESS NOTED OTHERWISE ON PLANS



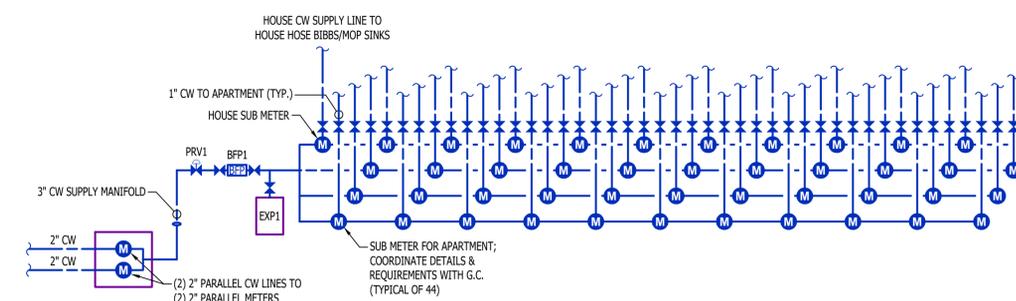
SANITARY VENT THRU ROOF DETAIL



DRY VENT DETAIL



WATER HEATER DETAIL



APARTMENT WATER RISER



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

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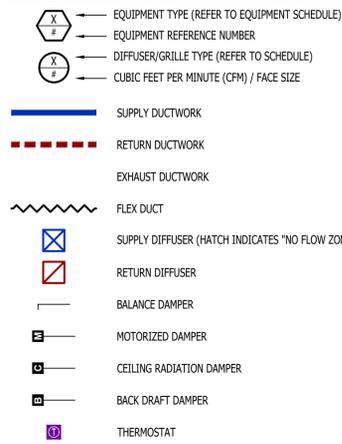
The Village at Discovery Park Alura Apartments
MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:
Northeast Douglas Street
Lee's Summit, Jackson County, Missouri

A41 APPROVAL STAMP

SHEET NUMBER

PLUMBING DETAILS & SCHEDULES

HVAC PLAN SYMBOL LEGEND

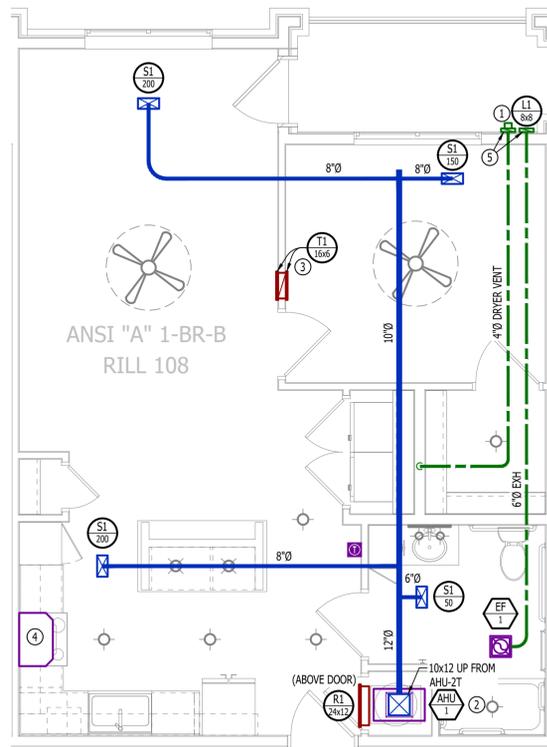


HVAC PLAN GENERAL NOTES:

- SEE M500 & M600 SERIES SHEETS FOR HVAC SCHEDULES, DETAILS, REQUIREMENTS, ETC.
- SEE M100 SERIES SHEETS FOR CONDENSING UNIT LOCATIONS. REFRIGERANT PIPING SHALL ROUTE IN SPACES ABOVE FINISHED CEILINGS AND WITHIN WALL CAVITIES TO REMAIN CONCEALED.
- SUPPLY DUCTWORK FROM AHU AT FLOOR/CEILING PENETRATION SHALL BE PROTECTED BY A FIRE DAMPER. INSTALL PER MANUFACTURER'S SPECIFICATIONS.
- WRAP ALL DRYER DUCTS WITH FIREMASTER (OR EQUAL) DUCT WRAP.
- 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.
- LOCATE ALL EXHAUST / DRYER VENT TERMINATIONS AT LEAST 36" FROM OPERABLE OPENINGS INTO APARTMENTS (WINDOWS, DOORS, ETC.).
- ALL DUCTWORK SHOWN SHALL ROUTE IN SPACE BETWEEN / THRU TRUSSES UNLESS NOTED OTHERWISE. SEE STRUCTURAL DRAWINGS FOR DETAILS.

HVAC PLAN KEY NOTES:

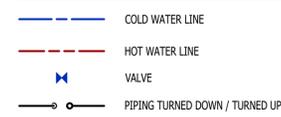
- TERMINATE 4" DRYER EXHAUST WITH VENT EQUAL TO DRYER WALL VENT #DW14.
- AHU WALL MOUNTED ABOVE WATER HEATER, COORDINATE WITH PLUMBING CONTRACTOR. CONDENSATE TO DISCHARGE IN FLOOR DRAIN WITHIN CLOSET.
- H/LOW TRANSFER GRILLE (12" A.F.F. ON BEDROOM SIDE OF WALL; 84" A.F.F. ON OPPOSITE SIDE OF WALL).
- RESIDENTIAL RECIRCULATION HOOD TO BE SUPPLIED & INSTALLED BY GC.
- ON FOURTH FLOOR ONLY, BATHROOM EXHAUST / DYER VENT TO TERMINATE AT LOUVER / VENT MOUNTED IN SOFFIT.



HVAC PLAN

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

PLUMBING PLAN SYMBOL LEGEND

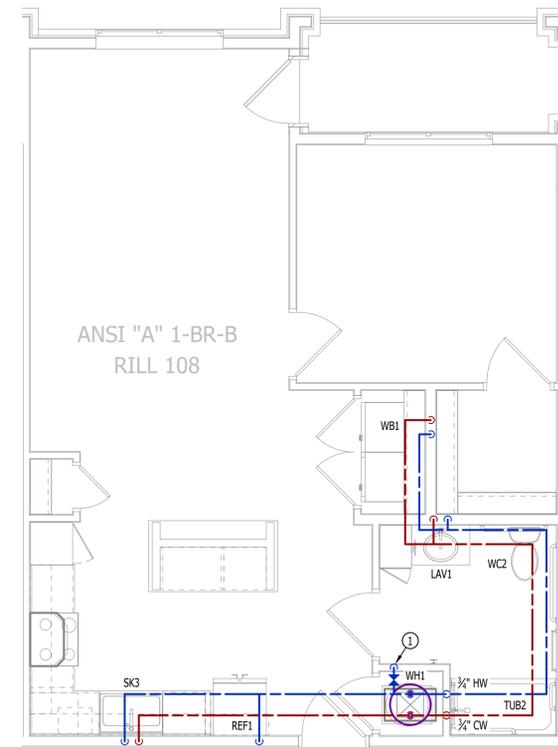


WATER PLAN GENERAL NOTES:

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

WATER PLAN KEY NOTES:

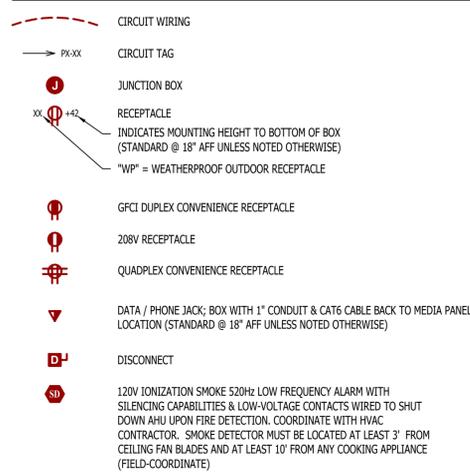
- 1" CW PIPE UP FROM BELOW WITH SHUT-OFF VALVE IN ACCESSIBLE LOCATION. SEE OVERALL PLUMBING PLANS FOR DETAILS.



WATER PLAN

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

POWER PLAN SYMBOL LEGEND

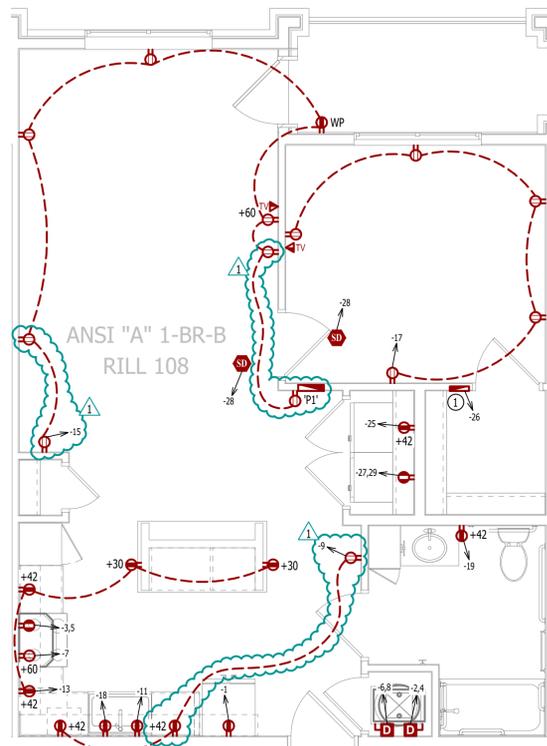


POWER PLAN GENERAL NOTES:

- 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.
- REFER TO "TYPICAL ADA MOUNTING HEIGHTS DETAIL", SHEET E501, FOR MOUNTING HEIGHTS OF DEVICES IN "ANSI A" UNITS.

POWER PLAN KEY NOTES:

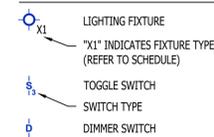
- MEDIA PANEL LOCATION; DATA/TV WIRING TO TERMINATE AT THIS LOCATION. DETERMINE EXACT LOCATION & DETAILS WITH OWNER PRIOR TO INSTALLATION.



POWER PLAN

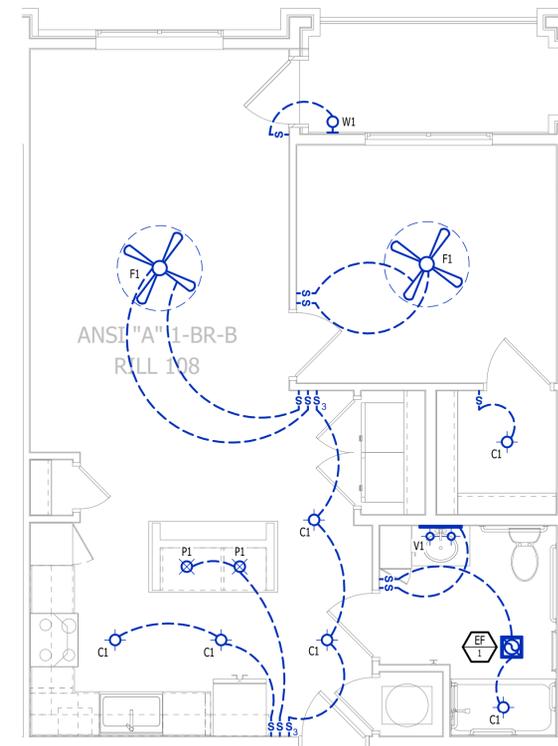
SCALE: 1/4" = 1'-0"

LIGHTING PLAN SYMBOL LEGEND



LIGHTING 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



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J2 PROJECT No:	J21357
J2 DESIGN:	ACW
ISSUE TITLE	DATE
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The Village at Discovery Park Alura Apartments

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

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

AHU APPROVAL STAMP

SHEET TITLE

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

SHEET NUMBER

UMEP1.1

HVAC PLAN SYMBOL LEGEND

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

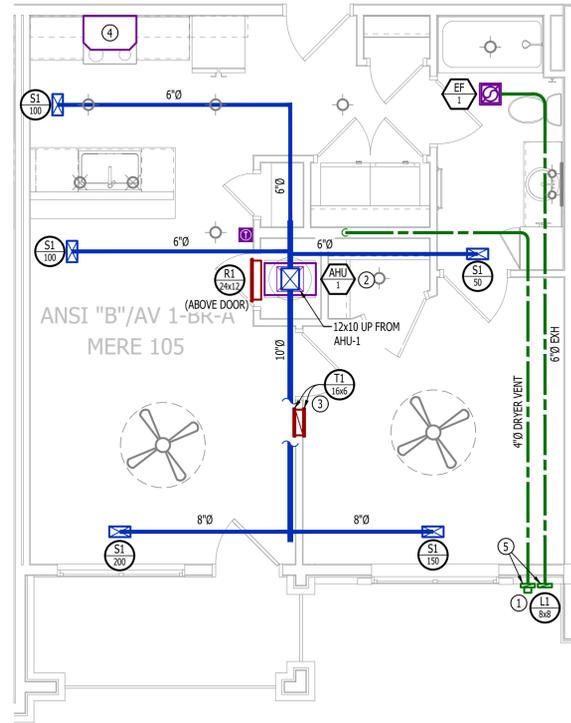
- SUPPLY DUCTWORK
- RETURN DUCTWORK
- EXHAUST DUCTWORK
- FLEX DUCT
- SUPPLY DIFFUSER (HATCH INDICATES "NO FLOW ZONE")
- RETURN DIFFUSER
- BALANCE DAMPER
- MOTORIZED DAMPER
- CEILING RADIATION DAMPER
- BACK DRAFT DAMPER
- THERMOSTAT

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 #DW14.
- 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 SOFFIT.



HVAC PLAN

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

PLUMBING PLAN SYMBOL LEGEND

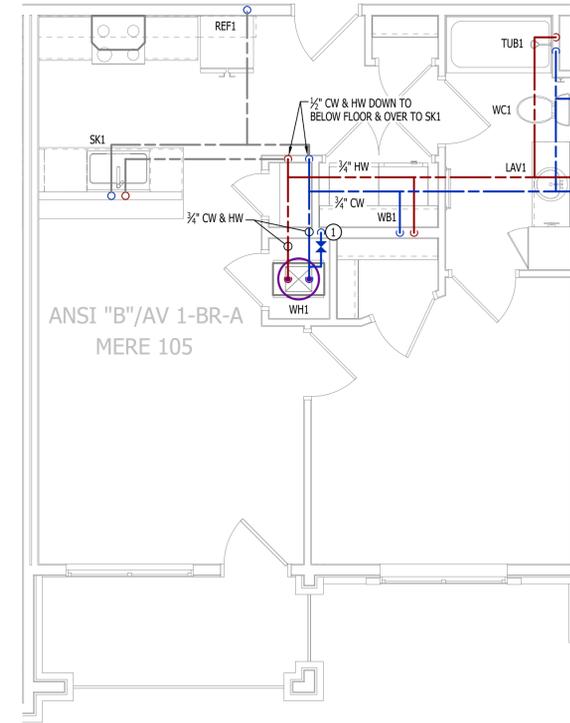
- COLD WATER LINE
- HOT WATER LINE
- VALVE
- PIPING TURNED DOWN / TURNED UP

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:

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



WATER PLAN

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

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
- 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:

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

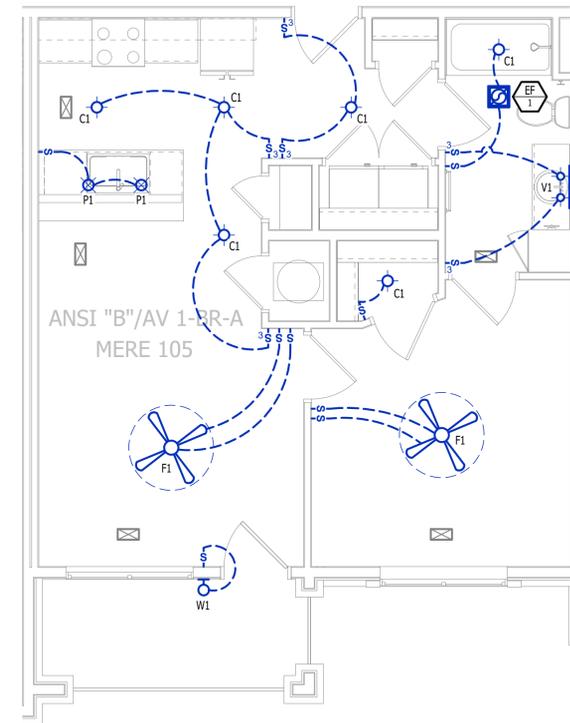
SCALE: 1/4" = 1'-0"

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.

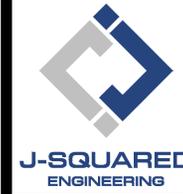


LIGHTING PLAN

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



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



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J2 PROJECT No:	J21357
J2 DESIGN:	ACW
ISSUE TITLE	DATE
PERMIT SET	04 - 15 - 2025
ADDENDUM 1	05 - 16 - 2025

The Village at Discovery Park Alura Apartments

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

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

AHU APPROVAL STAMP

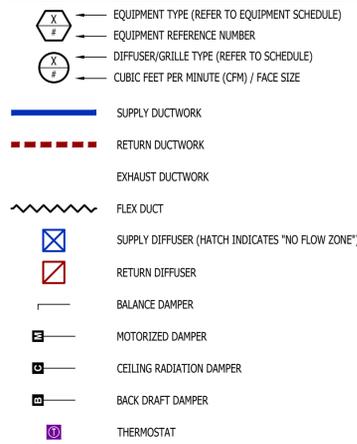
SHEET TITLE

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

SHEET NUMBER

UMEP1.3

HVAC PLAN SYMBOL LEGEND

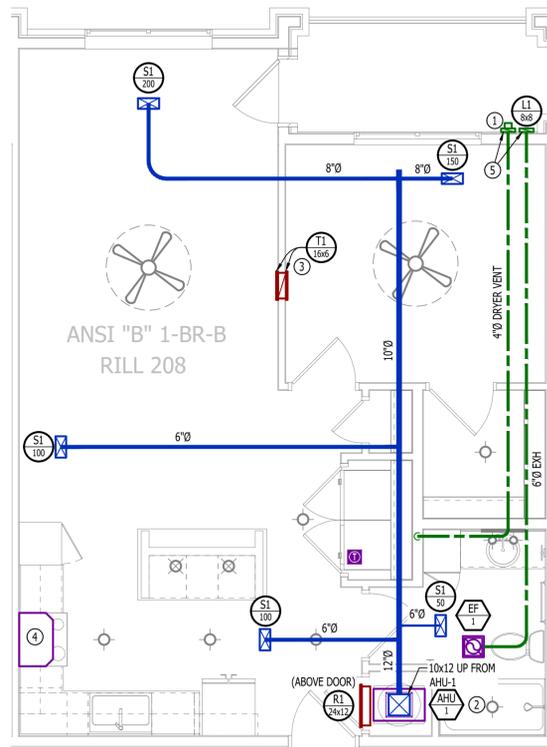


HVAC PLAN GENERAL NOTES:

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- SEE M100 SERIES SHEETS FOR CONDENSING UNIT LOCATIONS. REFRIGERANT PIPING SHALL ROUTE IN SPACES ABOVE FINISHED CEILINGS AND WITHIN WALL CAVITIES TO REMAIN CONCEALED.
- SUPPLY DUCTWORK FROM AHU AT FLOOR/CEILING PENETRATION SHALL BE PROTECTED BY A FIRE DAMPER. INSTALL PER MANUFACTURER'S SPECIFICATIONS.
- WRAP ALL DRYER DUCTS WITH FIREMASTER (OR EQUAL) DUCT WRAP.
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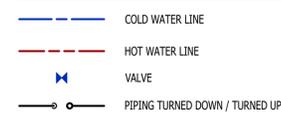
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- ON FOURTH FLOOR ONLY, BATHROOM EXHAUST / DYER VENT TO TERMINATE AT LOUVER / VENT MOUNTED IN SOFFIT.



HVAC PLAN

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

PLUMBING PLAN SYMBOL LEGEND

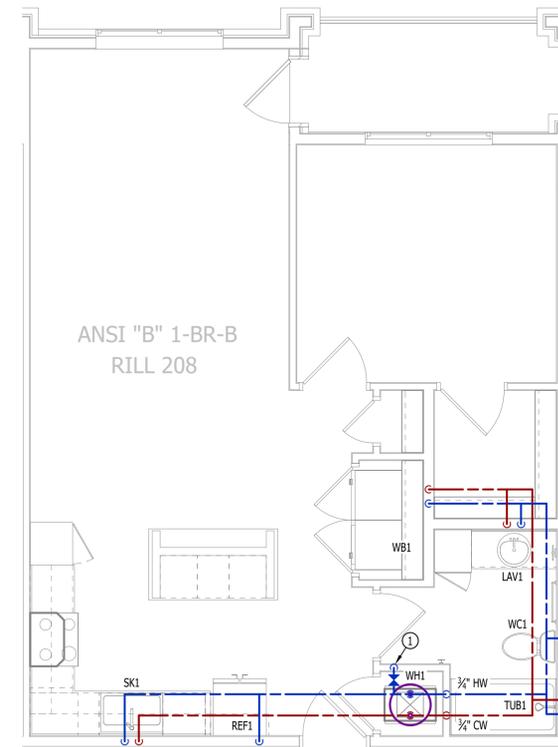


WATER PLAN GENERAL NOTES:

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

WATER PLAN KEY NOTES:

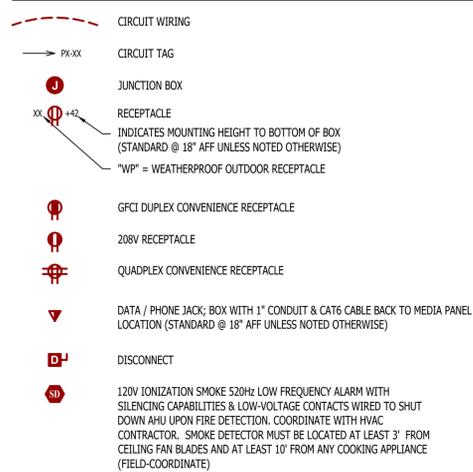
- 1" CW PIPE UP FROM BELOW WITH SHUT-OFF VALVE IN ACCESSIBLE LOCATION. SEE OVERALL PLUMBING PLANS FOR DETAILS.



WATER PLAN

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

POWER PLAN SYMBOL LEGEND



POWER PLAN GENERAL NOTES:

- SEE E500 & E600 SERIES SHEETS FOR POWER SCHEDULES, DETAILS, REQUIREMENTS, ETC.
- SEE M100 & EP100 SERIES SHEETS FOR CONDENSING UNIT LOCATIONS.
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- REFER TO "TYPICAL ADA MOUNTING HEIGHTS DETAIL", SHEET E501, FOR MOUNTING HEIGHTS OF DEVICES IN "ANSI A" UNITS.

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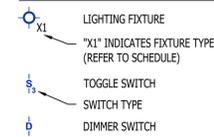
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POWER PLAN

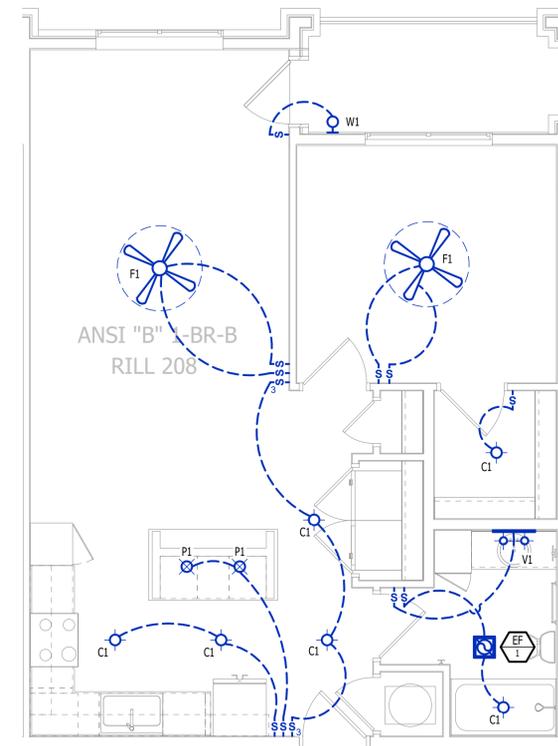
SCALE: 1/4" = 1'-0"

LIGHTING PLAN SYMBOL LEGEND



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"



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The Village at Discovery Park Alura Apartments

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

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Lee's Summit, Jackson County, Missouri

AHU APPROVAL STAMP

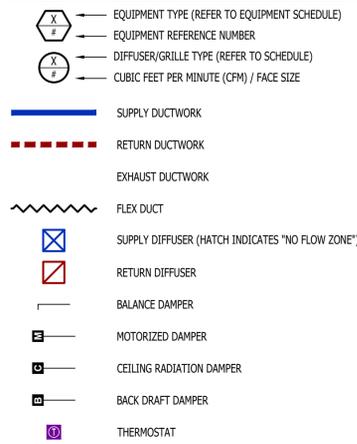
SHEET TITLE

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

SHEET NUMBER

UMEP1.4

HVAC PLAN SYMBOL LEGEND

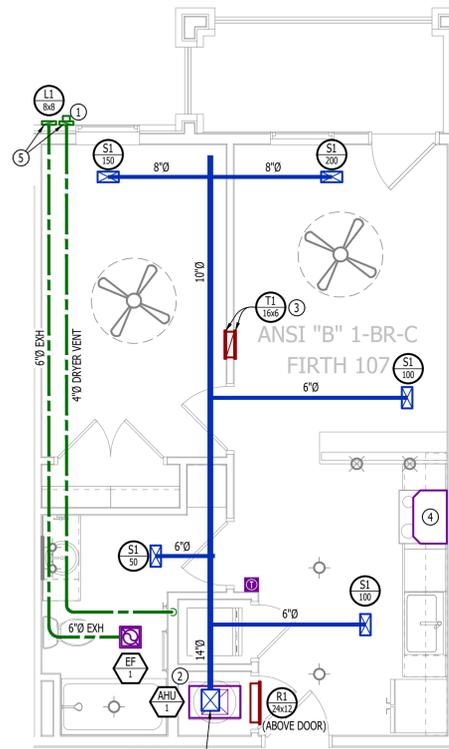


HVAC PLAN GENERAL NOTES:

- SEE M500 & M600 SERIES SHEETS FOR HVAC SCHEDULES, DETAILS, REQUIREMENTS, ETC.
- SEE M100 SERIES SHEETS FOR CONDENSING UNIT LOCATIONS. REFRIGERANT PIPING SHALL ROUTE IN SPACES ABOVE FINISHED CEILINGS AND WITHIN WALL CAVITIES TO REMAIN CONCEALED.
- SUPPLY DUCTWORK FROM AHU AT FLOOR/CEILING PENETRATION SHALL BE PROTECTED BY A FIRE DAMPER. INSTALL PER MANUFACTURER'S SPECIFICATIONS.
- WRAP ALL DRYER DUCTS WITH FIREMASTER (OR EQUAL) DUCT WRAP.
- 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.
- LOCATE ALL EXHAUST / DRYER VENT TERMINATIONS AT LEAST 36" FROM OPERABLE OPENINGS INTO APARTMENTS (WINDOWS, DOORS, ETC.).
- ALL DUCTWORK SHOWN SHALL ROUTE IN SPACE BETWEEN / THRU TRUSSES UNLESS NOTED OTHERWISE. SEE STRUCTURAL DRAWINGS FOR DETAILS.

HVAC PLAN KEY NOTES:

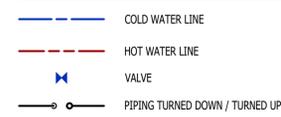
- TERMINATE 4" DRYER EXHAUST WITH VENT EQUAL TO DRYER WALL VENT #DW14.
- AHU WALL MOUNTED ABOVE WATER HEATER, COORDINATE WITH PLUMBING CONTRACTOR. CONDENSATE TO DISCHARGE IN FLOOR DRAIN WITHIN CLOSET.
- H/L TRANSFER GRILLE (12" A.F.F. ON BEDROOM SIDE OF WALL; 84" A.F.F. ON OPPOSITE SIDE OF WALL).
- RESIDENTIAL RECIRCULATION HOOD TO BE SUPPLIED & INSTALLED BY GC.
- ON FOURTH FLOOR ONLY, BATHROOM EXHAUST / DYER VENT TO TERMINATE AT LOUVER / VENT MOUNTED IN SOFFIT.



HVAC PLAN

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

PLUMBING PLAN SYMBOL LEGEND

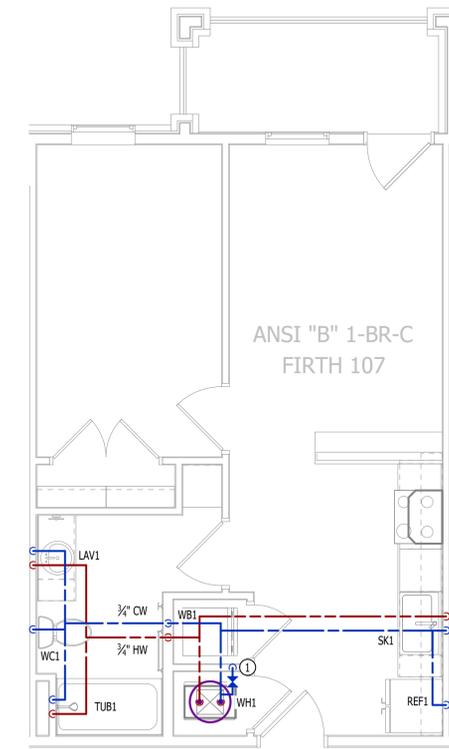


WATER PLAN GENERAL NOTES:

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

WATER PLAN KEY NOTES:

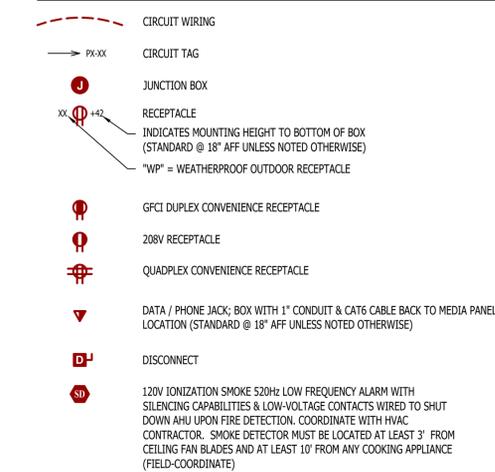
- 1" CW PIPE UP FROM BELOW WITH SHUT-OFF VALVE IN ACCESSIBLE LOCATION. SEE OVERALL PLUMBING PLANS FOR DETAILS.



WATER PLAN

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

POWER PLAN SYMBOL LEGEND

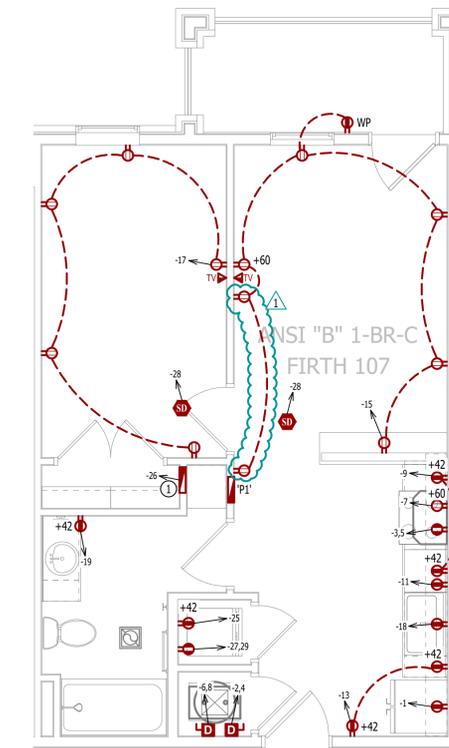


POWER PLAN GENERAL NOTES:

- SEE E500 & E600 SERIES SHEETS FOR POWER SCHEDULES, DETAILS, REQUIREMENTS, ETC.
- SEE M100 & EPI00 SERIES SHEETS FOR CONDENSING UNIT LOCATIONS.
- VERIFY EACH DATA/RECEPTACLE LOCATION WITH OWNER PRIOR TO INSTALLATION.
- REFER TO "TYPICAL ADA MOUNTING HEIGHTS DETAIL", SHEET E501, FOR MOUNTING HEIGHTS OF DEVICES IN "ANSI A" UNITS.

POWER PLAN KEY NOTES:

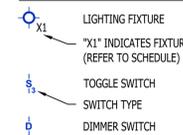
- MEDIA PANEL LOCATION; DATA/TV WIRING TO TERMINATE AT THIS LOCATION. DETERMINE EXACT LOCATION & DETAILS WITH OWNER PRIOR TO INSTALLATION.



POWER PLAN

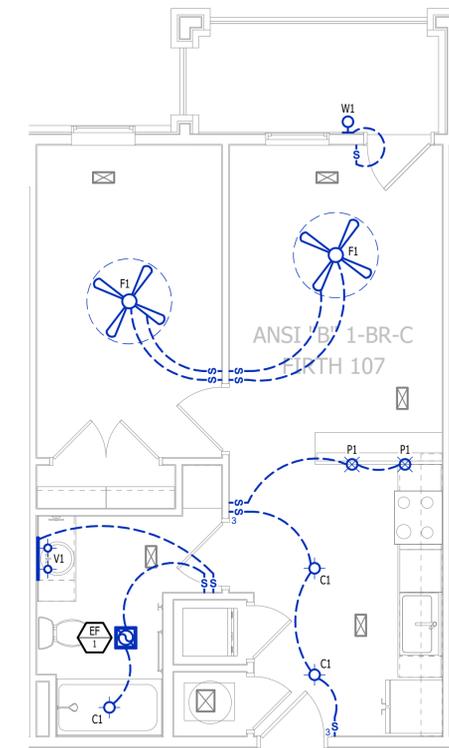
SCALE: 1/4" = 1'-0"

LIGHTING PLAN SYMBOL LEGEND



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

J2 PROJECT No: J21357

J2 DESIGN: ACW

ISSUE TITLE DATE

PERMIT SET 04 - 15 - 2025

ADDENDUM 1 05 - 16 - 2025

The Village at Discovery Park Alura Apartments

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

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

AHU APPROVAL STAMP

SHEET TITLE

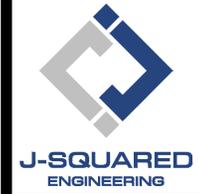
**ANSI B - 1 BR - TYPE C -
UNIT MEP PLAN**

SHEET NUMBER

UMEP1.5



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
PERMIT SET	04 - 15 - 2025

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:
The Village at Discovery Park Alura Apartments
 Northeast Douglas Street
 Lee's Summit, Jackson County, Missouri

AHJ APPROVAL STAMP

SHEET TITLE

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

SHEET NUMBER

UMEP2.3.1

HVAC PLAN SYMBOL LEGEND

- 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:

- SEE M500 & M600 SERIES SHEETS FOR HVAC SCHEDULES, DETAILS, REQUIREMENTS, ETC.
- SEE M100 SERIES SHEETS FOR CONDENSING UNIT LOCATIONS. REFRIGERANT PIPING SHALL ROUTE IN SPACES ABOVE FINISHED CEILINGS AND WITHIN WALL CAVITIES TO REMAIN CONCEALED.
- SUPPLY DUCTWORK FROM AHU AT FLOOR/CEILING PENETRATION SHALL BE PROTECTED BY A FIRE DAMPER. INSTALL PER MANUFACTURER'S SPECIFICATIONS.
- WRAP ALL DRYER DUCTS WITH FIREMASTER (OR EQUAL) DUCT WRAP.
- 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.
- LOCATE ALL EXHAUST / DRYER VENT TERMINATIONS AT LEAST 36" FROM OPERABLE OPENINGS INTO APARTMENTS (WINDOWS, DOORS, ETC.).
- ALL DUCTWORK SHOWN SHALL ROUTE IN SPACE BETWEEN / THRU TRUSSES UNLESS NOTED OTHERWISE. SEE STRUCTURAL DRAWINGS FOR DETAILS.

HVAC PLAN KEY NOTES:

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

PLUMBING PLAN SYMBOL LEGEND

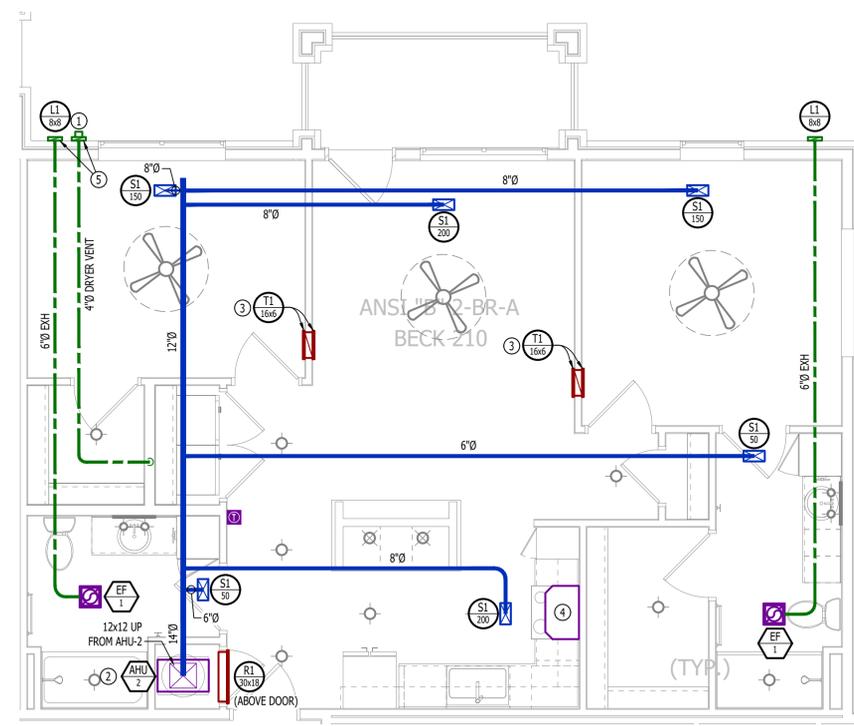
- COLD WATER LINE
- HOT WATER LINE
- VALVE
- PIPING TURNED DOWN / TURNED UP

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.
- ALL DOMESTIC SUPPLY LINES SERVING MORE THAN (1) FIXTURE SHALL BE 3/4" UNLESS NOTED OTHERWISE.

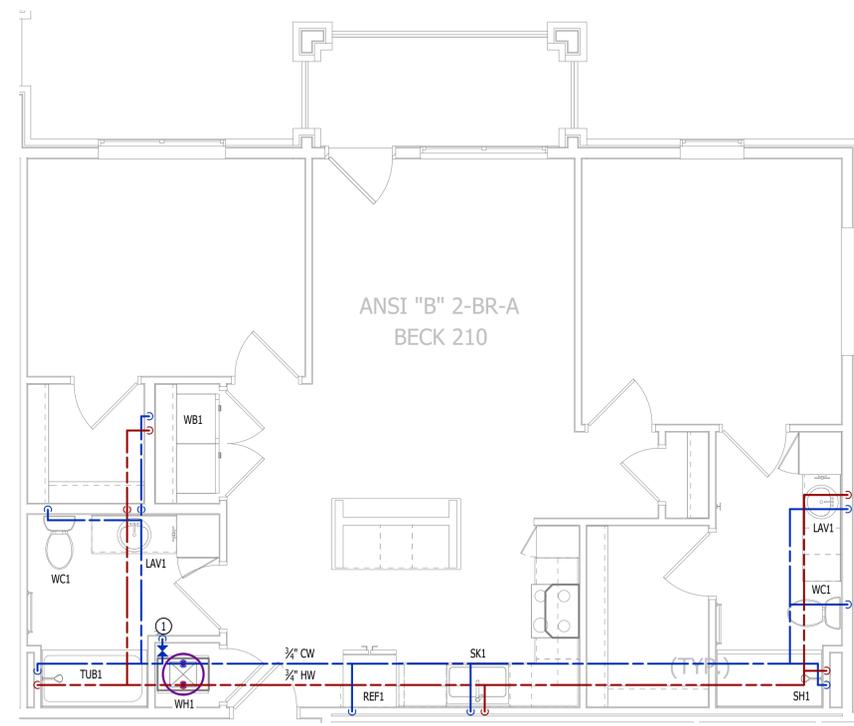
WATER PLAN KEY NOTES:

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



HVAC PLAN

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

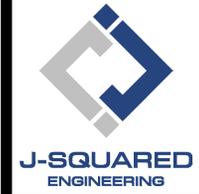


WATER PLAN

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



James Watson, P.E. April 16, 2025
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 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

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:
The Village at Discovery Park Alura Apartments
 Northeast Douglas Street
 Lee's Summit, Jackson County, Missouri

AHJ APPROVAL STAMP

SHEET TITLE

ANSI B - 2 BR - TYPE A - UNIT POWER & LIGHTING PLAN

SHEET NUMBER

UMEP2.3.2

POWER PLAN SYMBOL LEGEND

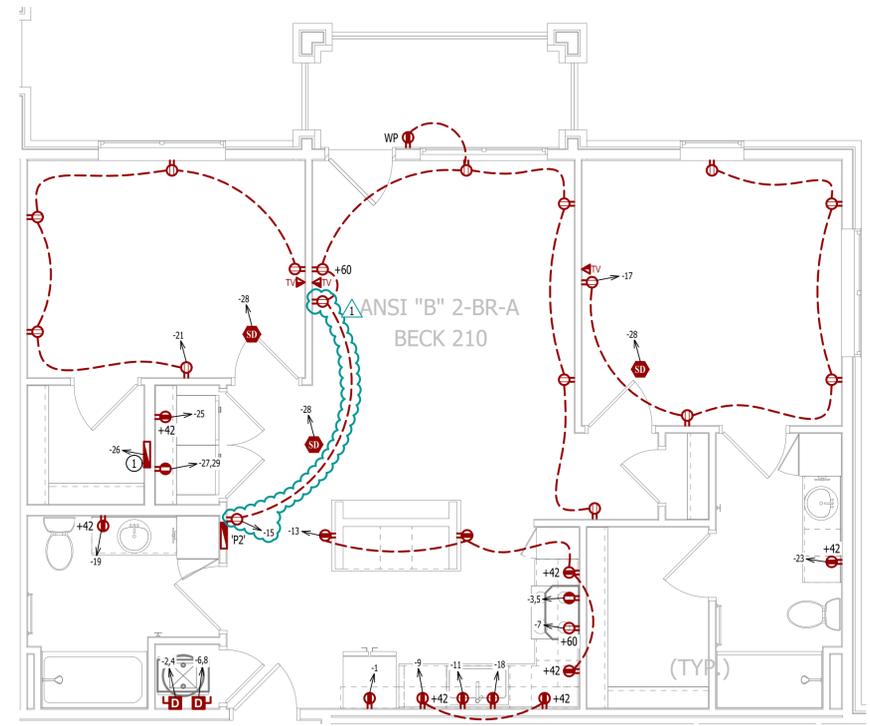
- CIRCUIT WIRING
- CIRCUIT TAG
- JUNCTION BOX
- RECEPTACLE
INDICATES MOUNTING HEIGHT TO BOTTOM OF BOX (STANDARD @ 18" AFF UNLESS NOTED OTHERWISE)
"WP" = WEATHERPROOF OUTDOOR RECEPTACLE
- GFCI DUPLEX CONVENIENCE RECEPTACLE
- 208V RECEPTACLE
- QUADPLEX CONVENIENCE RECEPTACLE
- DATA / PHONE JACK; BOX WITH 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:

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.



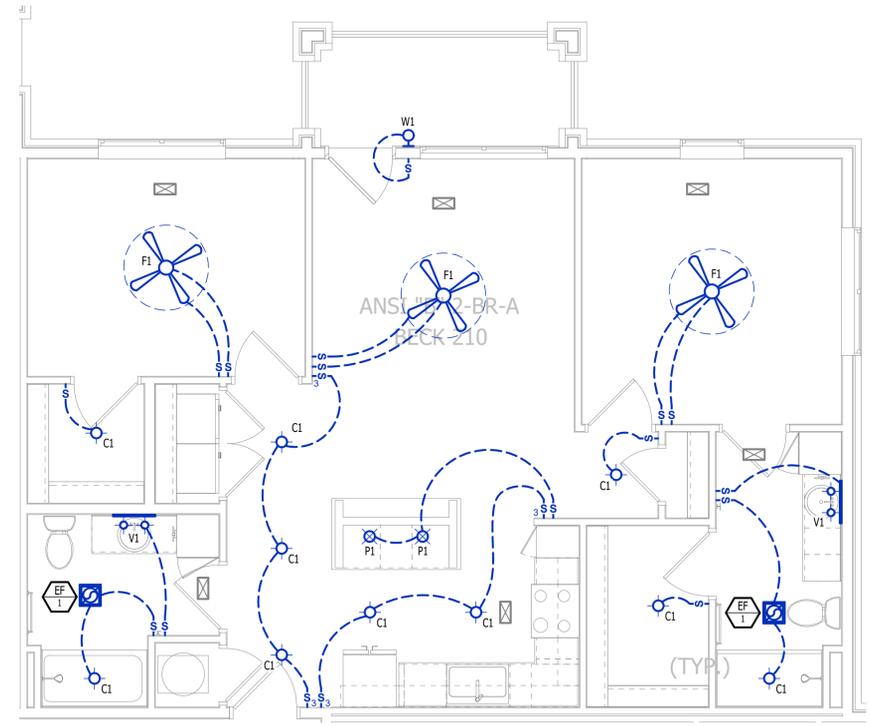
POWER PLAN
 SCALE: 1/4" = 1'-0"

LIGHTING PLAN SYMBOL LEGEND

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

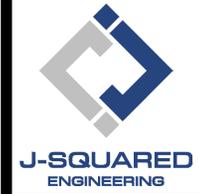
LIGHTING PLAN GENERAL NOTES:

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





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J2 PROJECT No:	J21357
J2 DESIGN:	ACW
ISSUE TITLE	DATE
PERMIT SET	04 - 15 - 2025

HVAC PLAN SYMBOL LEGEND

- 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:

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

HVAC PLAN KEY NOTES:

- TERMINATE 4" DRYER EXHAUST WITH VENT EQUAL TO DRYER WALL VENT #DW4.
- AHU WALL MOUNTED ABOVE WATER HEATER, COORDINATE WITH PLUMBING CONTRACTOR. CONDENSATE TO DISCHARGE IN FLOOR DRAIN WITHIN CLOSET.
- H/L/W TRANSFER GRILLE (12" A.F.F. ON BEDROOM SIDE OF WALL; 84" A.F.F. ON OPPOSITE SIDE OF WALL).
- RESIDENTIAL RECIRCULATION HOOD TO BE SUPPLIED & INSTALLED BY GC.
- ON FOURTH FLOOR ONLY, BATHROOM EXHAUST / DYER VENT TO TERMINATE AT LOUVER / VENT MOUNTED IN SOFFIT.

PLUMBING PLAN SYMBOL LEGEND

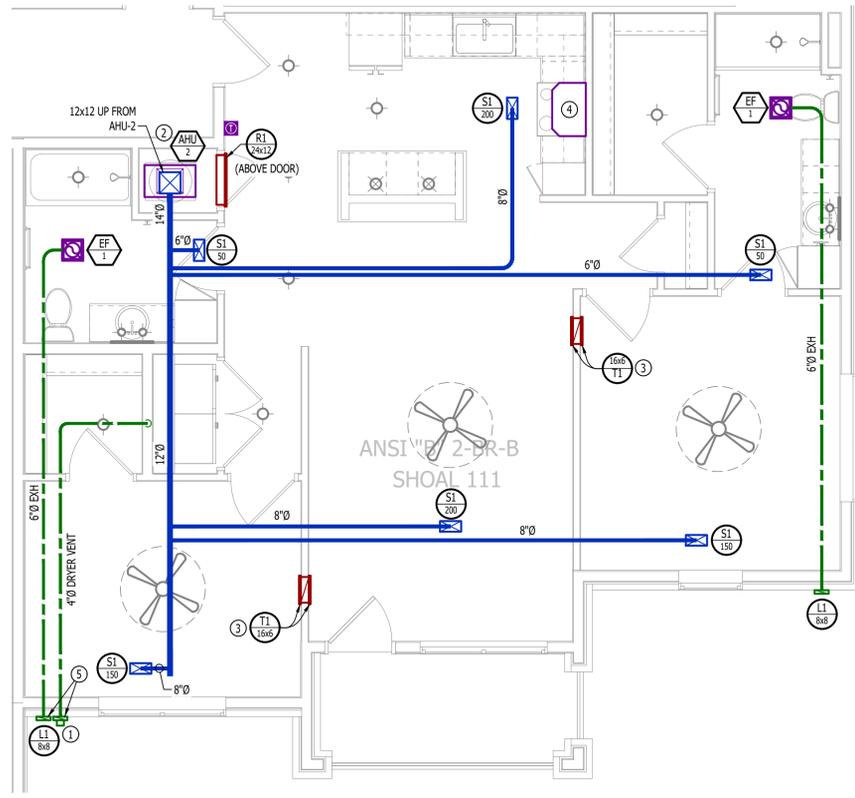
- COLD WATER LINE
- HOT WATER LINE
- VALVE
- PIPING TURNED DOWN / TURNED UP

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.
- ALL DOMESTIC SUPPLY LINES SERVING MORE THAN (1) FIXTURE SHALL BE 3/2" UNLESS NOTED OTHERWISE.

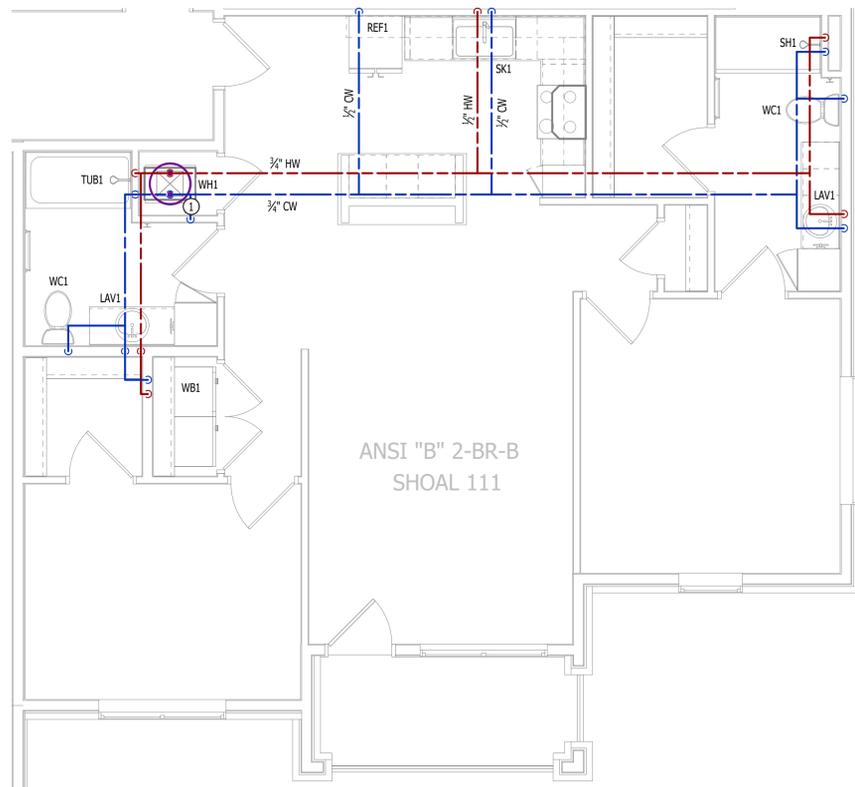
WATER PLAN KEY NOTES:

- 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"

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:
The Village at Discovery Park Alura Apartments
 Northeast Douglas Street
 Lee's Summit, Jackson County, Missouri

AHJ APPROVAL STAMP

SHEET TITLE

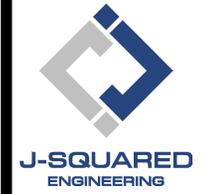
ANSI B - 2 BR - TYPE B - UNIT HVAC & WATER PLAN

SHEET NUMBER

UMEP2.4.1



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

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
- 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.
 - REFER TO "TYPICAL ADA MOUNTING HEIGHTS DETAIL", SHEET E501, FOR MOUNTING HEIGHTS OF DEVICES IN "ANSI A" UNITS.

- POWER PLAN KEY NOTES:**
- MEDIA PANEL LOCATION; DATA/TV WIRING TO TERMINATE AT THIS LOCATION. DETERMINE EXACT LOCATION & DETAILS WITH OWNER PRIOR TO INSTALLATION.

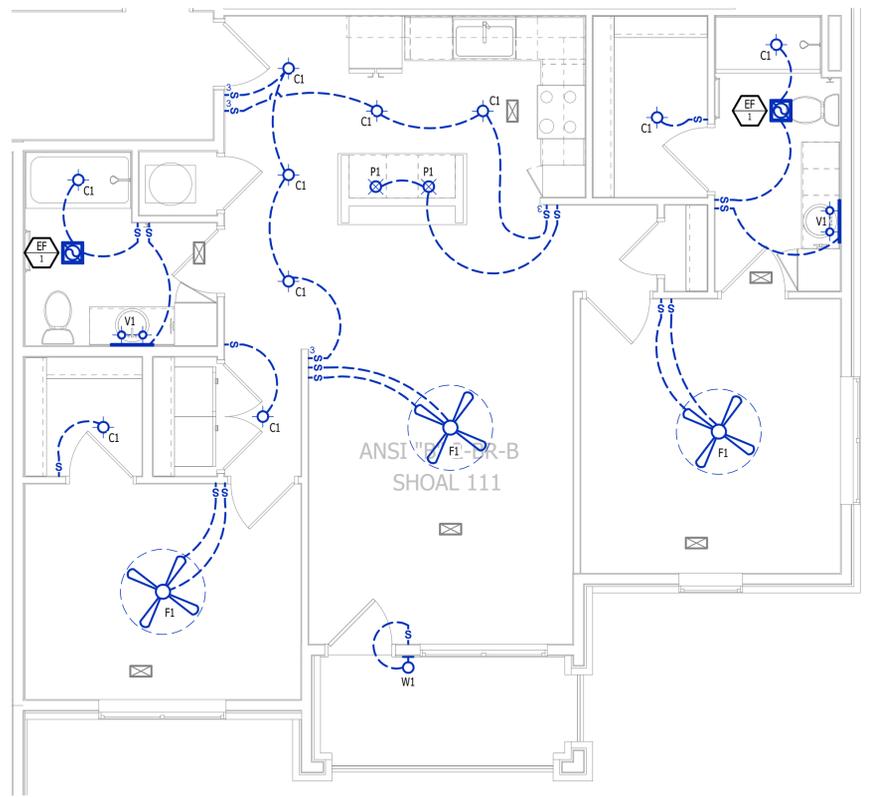


POWER PLAN
 SCALE: 1/4" = 1'-0"

LIGHTING PLAN SYMBOL LEGEND

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

- LIGHTING PLAN GENERAL NOTES:**
- 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"

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:
The Village at Discovery Park Alura Apartments
 Northeast Douglas Street
 Lee's Summit, Jackson County, Missouri

AHJ APPROVAL STAMP

SHEET TITLE

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

SHEET NUMBER

UMEP2.4.2