

ALURA APARTMENTS - VILLAGE AT DISCOVERY PARK

BUILDING 8 TYPE "A"

ALURA APARTMENTS - VILLAGE AT DISCOVERY PARK
APARTMENT BUILDING TYPE "A"

LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

PROJECT INFORMATION

SITE DATA					
SITE ZONING: (SEE CIVIL)					
SITE SIZE: (SEE CIVIL)					
SITE DENSITY: (SEE CIVIL)					
NO. OF PARKING SPACES: (SEE CIVIL)					
BUILDING DATA (BLDG. 4, 6, 8 & 11)					
DWELLING UNITS	LABEL	COMPLIANCE WITH	SQ FT	QTY	SUBTOTAL
1-BR-A	ANSI "B"	ANSI "B", FHA	692	16	11,072 SF
1-BR-B	ANSI "B"	ANSI "B", FHA	795	8	6,360 SF
1-BR-C	ANSI "B"	ANSI "B", FHA	572	4	2,288 SF
2-BR-A	ANSI "B"	ANSI "B", FHA	1051	6	6,306 SF
2-BR-A	ANSI "A"	ANSI "A", FHA	1051	1	1,051 SF
2-BR-A	ANSI "B"/AV	ANSI "B", FHA/AV	1051	1	1,051 SF
2-BR-B	ANSI "B"	ANSI "B", FHA	1137	8	9,096 SF
DWELLING UNIT AREA:				44	37,224 SF
NON-DWELLING AREA:			BALCONIES, CORRIDOR, COMMON AREA & SPRINKLER ROOM		
TOTAL BUILDING AREA:					10,226 SF
TOTAL RENTAL UNITS:			(44) TOTAL UNITS, PER BUILDING: (28) 1-BR UNITS, (16) 2-BR UNITS		
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CODES AND REGULATIONS					
BLDG. & RELATED CODES: 2018 IBC, 2018 IPC, 2018 IMC, 2018 IECC					
ELECT. CODE: 2017 NEC					
FIRE CODE: 2018 IFC					
ACCESSIBILITY: 2009 ICC/ANSI A117.1, FAIR HOUSING ACT					
MISC.: ALL APPLICABLE FEDERAL, STATE, LOCAL CODES, LAWS AND ORDINANCES					
BUILDING CODE DATA					
USE GROUP: R-2					
CONSTRUCTION TYPE: VA					
EXT. WALL CONSTRUCTION: 1-HR RATED EXTERIOR WALLS (RATED FROM INSIDE)					
OTHER CONSTRUCTION: 1/2-HR RATED CORRIDOR WALLS, 1-HR RATED UNIT SEPARATION WALLS, LOAD BEARING WALLS, ROOF/CEILING & FLOOR/CEILING ASSEMBLIES, 2-HR WALLS & ROOF/CEILING @ ELEVATOR & STAIR SHAFTS, UNRATED INTERIOR WALLS					
ALLOW. AREA PER FLOOR: R-2 = 12,000 SF					
AREA ADJUSTMENTS: FULL FRONTAGE INCREASE R-2 = 12,000(1.00-.25) x 30/30 = 9,000 SF/FLOOR INCREASE = 21,000 SF / FLOOR TOTAL ALLOWABLE FOR R-2					
ACTUAL AREA PER FLOOR: 1ST FLOOR = 12,101 SF, 2ND, 3RD & 4TH FLOORS = 11,783 SF EACH					
ALLOW. HEIGHT & FLOORS: R-2 = 60'-0", 4 STORIES					
HEIGHT ADJUSTMENTS: NONE REQUIRED, NONE TAKEN					
ACTUAL HEIGHT & FLOORS: 58'-4 1/2", 4 STORIES					
SPRINKLER SYSTEM: NFPA 13R DESIGNED AND INSTALLED BY ACCREDITED FIRE PROTECTION SYSTEM DESIGNER AND INSTALLER. PROTECTION SHALL INCLUDE ALL AREAS AS APPLICABLE BY LOCAL AND STATE CODES. COORDINATE WITH GC/OWNER REGARDING THE INSTALLATION OF THE WET/DRY FIRE SUPPRESSION SYSTEM FOR UNCONDITIONED FREEZE PROTECTION PER O.O CODE DATA, PROVIDE FLEXIBLE DRY HEADS AT BALCONIES, PROVIDE FREEZE PROTECTED SOFFITS AS REQUIRED ON THE TOP FLOOR PER O.O CODE DATA INFORMATION. THIS COORDINATION SHOULD BE INCLUDED IN THE BASE BID.					

INDEX TO DRAWINGS

Sheet Number	Sheet Name	Sheet Issue Date	Current Revision Date	Current Revision Description
1 - COVER SHEET				
0.0A	COVER SHEET	15 APR 2025	16 MAY 2025	ADDENDUM #1
SP1.0A	SPECIFICATIONS	15 APR 2025	15 APR 2025	ISSUE SET
SP1.1A	SPECIFICATIONS	15 APR 2025	15 APR 2025	ISSUE SET
SP1.2A	SPECIFICATIONS	15 APR 2025	15 APR 2025	ISSUE SET
SP1.3A	SPECIFICATIONS	15 APR 2025	15 APR 2025	ISSUE SET
2 - STRUCTURAL (BY CROCKETT ENGINEERING CONSULTANTS)				
S100	GENERAL STRUCTURAL DATA	15 APR 2025	15 APR 2025	ISSUE SET
S200	FOUNDATION PLAN	15 APR 2025	15 APR 2025	ISSUE SET
S210	FOUNDATION DETAILS	15 APR 2025	15 APR 2025	ISSUE SET
S211	FOUNDATION DETAILS	15 APR 2025	15 APR 2025	ISSUE SET
S300	2ND FLOOR FRAMING PLAN	15 APR 2025	15 APR 2025	ISSUE SET
S300A	SHEAR WALL PLAN	15 APR 2025	15 APR 2025	ISSUE SET
S400	3RD FLOOR FRAMING PLAN	15 APR 2025	15 APR 2025	ISSUE SET
S500	4TH FLOOR FRAMING PLAN	15 APR 2025	15 APR 2025	ISSUE SET
S510	FLOOR FRAMING DETAILS	15 APR 2025	15 APR 2025	ISSUE SET
S511	FLOOR FRAMING DETAILS	15 APR 2025	15 APR 2025	ISSUE SET
S600	ROOF FRAMING PLAN	15 APR 2025	15 APR 2025	ISSUE SET
S610	ROOF FRAMING DETAILS	15 APR 2025	15 APR 2025	ISSUE SET
S611	ROOF FRAMING DETAILS	15 APR 2025	15 APR 2025	ISSUE SET
S612	ROOF FRAMING DETAILS	15 APR 2025	15 APR 2025	ISSUE SET
3 - ARCHITECTURAL				
A1.0A	FIRST FLOOR BUILDING PLAN	15 APR 2025	16 MAY 2025	ADDENDUM #1
A1.1A	SECOND FLOOR BUILDING PLAN	15 APR 2025	15 APR 2025	ISSUE SET
A1.2A	THIRD FLOOR BUILDING PLAN	15 APR 2025	15 APR 2025	ISSUE SET
A1.3A	FOURTH FLOOR BUILDING PLAN	15 APR 2025	15 APR 2025	ISSUE SET
A1.4A	1-BR UNIT DIMENSION PLANS, DOOR SCHEDULE, NOTES & WALL TYPES	15 APR 2025	15 APR 2025	ISSUE SET
A1.5A	2-BR UNIT DIMENSION PLANS	15 APR 2025	15 APR 2025	ISSUE SET
A1.6A	ENLARGED COMMON AREA DIMENSION PLANS	15 APR 2025	15 APR 2025	ISSUE SET
A1.7A	1-BR ACCESSIBILITY PLANS & NOTES	15 APR 2025	15 APR 2025	ISSUE SET
A1.8A	2-BR ACCESSIBILITY PLANS	15 APR 2025	15 APR 2025	ISSUE SET
A1.9A	ENLARGED COMMON AREA ACCESSIBILITY PLANS	15 APR 2025	15 APR 2025	ISSUE SET
A2.0A	ROOF PLAN, DETAILS & NOTES	15 APR 2025	15 APR 2025	ISSUE SET
A3.0A	EXTERIOR ELEVATIONS	15 APR 2025	15 APR 2025	ISSUE SET
A3.1A	EXTERIOR ELEVATIONS	15 APR 2025	15 APR 2025	ISSUE SET
A4.0A	WALL SECTIONS	15 APR 2025	15 APR 2025	ISSUE SET
A4.1A	WALL SECTIONS	15 APR 2025	15 APR 2025	ISSUE SET
A4.2A	WALL SECTIONS	15 APR 2025	15 APR 2025	ISSUE SET
A4.3A	WALL SECTIONS	15 APR 2025	15 APR 2025	ISSUE SET
A4.4A	ELEVATOR WALL SECTIONS	15 APR 2025	15 APR 2025	ISSUE SET
A4.5A	STAIR SHAFT WALL SECTION & DETAILS	15 APR 2025	15 APR 2025	ISSUE SET
A4.6A	FRAMING DETAILS	15 APR 2025	15 APR 2025	ISSUE SET
A4.7A	FRAMING DETAILS	15 APR 2025	15 APR 2025	ISSUE SET
A4.8A	FLASHING DETAILS	15 APR 2025	15 APR 2025	ISSUE SET
A5.0A	FIRE RATED ASSEMBLIES	15 APR 2025	15 APR 2025	ISSUE SET
A5.1A	FIRE RATED ASSEMBLIES	15 APR 2025	15 APR 2025	ISSUE SET
A5.2A	FIRE RATED ASSEMBLIES	15 APR 2025	15 APR 2025	ISSUE SET
A5.3A	FIRE RATED ASSEMBLIES	15 APR 2025	15 APR 2025	ISSUE SET
A5.4A	FIRE RATED ASSEMBLIES	15 APR 2025	15 APR 2025	ISSUE SET
A5.5A	FIRE RATED ASSEMBLIES	15 APR 2025	15 APR 2025	ISSUE SET
A5.6A	FIRE RATED ASSEMBLIES	15 APR 2025	15 APR 2025	ISSUE SET
A6.0A	1-BR FINISH PLANS, FINISH SCHEDULE & NOTES	15 APR 2025	15 APR 2025	ISSUE SET
A6.1A	2-BR FINISH PLANS & FINISH SCHEDULE	15 APR 2025	15 APR 2025	ISSUE SET
A6.2A	COMMON AREA FINISH PLANS & FINISH SCHEDULE	15 APR 2025	16 MAY 2025	ADDENDUM #1
A7.0A	INTERIOR ELEVATIONS NOTES AND DETAILS	15 APR 2025	15 APR 2025	ISSUE SET
A7.1A	1-BR INTERIOR ELEVATIONS	15 APR 2025	15 APR 2025	ISSUE SET
A7.2A	1-BR INTERIOR ELEVATIONS	15 APR 2025	15 APR 2025	ISSUE SET
A7.3A	2-BR INTERIOR ELEVATIONS	15 APR 2025	15 APR 2025	ISSUE SET
A7.4A	2-BR INTERIOR ELEVATIONS	15 APR 2025	15 APR 2025	ISSUE SET
A8.0A	1ST & 2ND FLOOR REFLECTED CEILING PLANS	15 APR 2025	15 APR 2025	ISSUE SET
A8.1A	3RD & 4TH FLOOR REFLECTED CEILING PLANS	15 APR 2025	15 APR 2025	ISSUE SET
LS1.0A	1ST & 2ND FLOOR LIFE SAFETY PLANS	15 APR 2025	15 APR 2025	ISSUE SET
LS1.1A	3RD & 4TH FLOOR LIFE SAFETY PLANS	15 APR 2025	15 APR 2025	ISSUE SET

NOTE: INDEX TO DRAWINGS HAS BEEN UPDATED TO REFLECT THE SHEETS REVISED BY ADDENDUM #1.

ARCHITECT'S JOB NO. 4938

PROJECT LOCATION MAP



SIGNATURE AREAS

NOTE: PROJECT CONSTRUCTION MUST BE IN COMPLIANCE WITH ALL APPLICABLE CODES, ORDINANCES, LAWS, AND REGULATIONS AS ENUMERATED ELSEWHERE IN THE PLANS AND SPECIFICATIONS.

ARCHITECT: WALLACE ARCHITECTS, LLC
302 CAMPUSVIEW DRIVE SUITE 208, COLUMBIA, MO 65201
BY: _____ DATE: _____

OWNER: THE VILLAGE AT DISCOVERY PARK, LLC
3622 ENDEAVOR AVE., STE. 101, COLUMBIA, MO 65201
BY: _____ DATE: _____

CONTRACTOR: INTRINSIC DEVELOPMENT, LLC
3622 ENDEAVOR AVE., STE. 101, COLUMBIA, MO 65201
BY: _____ DATE: _____

PM: RS DT: TY
PC: CD QC: MK

PLAN SET NO. _____

ADDENDUM #1

D	DIVISION 03 - CONCRETE	SECTION 03 35 11 - CONCRETE FLOOR FINISHES	COATINGS	Curing and Sealing Compound, Moisture Emission-Reducing, Membrane-Forming: Liquid, membrane-forming, clear sealer, for application to newly-placed concrete, capable of providing adequate bond for flooring adhesives, initially and over the long term; with sufficient moisture vapor impermeability to prevent deterioration of flooring adhesives due to moisture emission. Use this product to cure and seal all slabs to receive adhesively applied flooring. Comply with ASTM C309 and ASTM C1315 Type I Class A. VOC Content: Less than 100 g/L. Manufacturers: MasterKure CC 160 WB (formerly Kure-N-Seal) as manufactured by BASF Corp. Curing and Sealing Compound, Low Gloss: Liquid, membrane-forming, clear, non-yellowing acrylic; complying with ASTM C1315 Type 1 Class A. Application: Use at exposed slabs and toppings not scheduled to receive finish flooring. Vehicle: Water-based. VOC Content: OTC compliant. Manufacturers: Dayton Superior Corporation; Cure & Seal 1315 EF: www.daytonsuperior.com. Euclid Chemical Company; DIAMOND CLEAR VOX: www.euclidchemical.com.	Size: 0.1483 inch side rods with 0.1483 inch cross rods; width as required to provide not less than 5/8 inch of mortar coverage on each exposure.	DIVISION 05 - METALS	SECTION 05 60 00 - METAL FABRICATIONS	MATERIALS - STEEL	Steel Sections: ASTM A36/A36M. Plates: ASTM A283/A283M. Pipe: ASTM A53/A53M, Grade B Schedule 40, black finish. Bolts, Nuts, and Washers: ASTM A307, Grade A, plain. Bolts, Nuts, and Washers: ASTM F3125/F3125M, Type 1, plain. Welding Materials: AWS D1.1/D1.1M; type required for materials being welded. Shop and Touch-Up Primer: SSPC-Paint 15, complying with VOC limitations of authorities having jurisdiction. Touch-Up Primer for Galvanized Surfaces: SSPC-Paint 20, Type I - Inorganic, complying with VOC limitations of authorities having jurisdiction.	DELIVERY, STORAGE, AND HANDLING	Deliver materials to site in manufacturer's original, unopened packaging, with labels clearly identifying product name and manufacturer. Store products on flat level surface to prevent warping.	FIBLED CONDITIONS	Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Allow at least 24 hours for materials to adapt to conditions at project site prior to installation.	MANUFACTURERS	Gable Louvers: MidAmerica Components: www.midamericacomponents.com Fypcon LLC: www.fypcon.com Builders Edge/Tapco International Corp: www.buildersedge.com	SIMULATED WOOD PRODUCTS	Gable Louvers: Molded polyurethane foam with factory-applied UV resistant primer suitable for field applied paint finish. Style: As indicated on the Drawings.	MATERIALS	Cellular PVC, Extruded, expanded PVC; UV-resistant, heat-stabilized, and rigid material. Density: 31 pounds per cubic foot, minimum. Deflection/Warping: ASTM D648, Not less than 130 deg F. Polypropylene, Molded high-density, UV stabilized. Density: 4 pounds per cubic foot, minimum. Surface Burning Characteristics: Flame spread index of 75 maximum, smoke developed index of 450 or less, when tested in accordance with ASTM E84. Compressive Strength: Minimum 300 pounds per sq. inch.	FINISHES - STEEL	Prime paint steel items.	SECTION 05 82 13 - RAILINGS	MANUFACTURERS	Aluma Railings: Ultra Fencing and Railing: 2-Rail Juliet Balcony Railing: www.ultrarailing.com.	RAILINGS - GENERAL REQUIREMENTS	Design, fabricate, and test railing assemblies in accordance with the most stringent requirements of applicable local code. Distributed Loads: Design railing assembly, wall rails, and attachments to resist distributed force of 50 pounds per linear foot applied to the top of the assembly and in any direction, without damage or permanent set. Test in accordance with ASTM E935. Concentrated Loads: Design railing assembly, wall rails, and attachments to resist a concentrated force of 200 pounds applied at any point on the top of the assembly and in any direction, without damage or permanent set. Test in accordance with ASTM E935. Building Stair Dimensions: See drawings for Pipe and Tube railing configurations and heights. Hand Rails and Wall Rails: 1-1/2 inches, diameter round. Top and Intermediate Rails (Building Stairs): 1-1/2 inches square. Posts (Building Stairs): 1-1/2 inches square. Pickets (Building Stairs): 1/2 inch square solid bar. Cane Detection Rails (Building Stairs): 1-1/2 inches square. Provide anchors and other components as required to attach to structure, made of same materials as railing components unless otherwise indicated; where exposed fasteners are unavoidable provide flush countersunk fasteners. For anchorage to stud walls, provide backing plates, for bolting anchors. Posts: Provide adjustable flanged brackets. Provide welding fittings to join lengths, seal open ends, and conceal exposed mounting bolts and nuts, including but not limited to elbows, T-shapes, splice connectors, flanges, escutcheons, and wall brackets.	ALUMINUM MATERIALS	Aluminum Tube: Minimum wall thickness of 0.127 inch; ASTM B429/B429M, ASTM B241/B241M, or ASTM B483/B483M. Solid Bars and Flats: ASTM B211/B211M. Welding Fittings: No exposed fasteners; cast aluminum. Exposed Fasteners: Flush countersunk screws or bolts; consistent with design of railing.	ALUMINUM RAILING SYSTEMS AT PORCHES AND BALCONIES	Pre-manufactured aluminum porch and balcony railing systems. Welded aluminum rails, pickets and mounting flanges for attachment to structure. Aluminum Tube: Minimum wall thickness of 0.127 inch; ASTM B241/B241M, ASTM B429/B429M, ASTM B483/B483M. Solid Bars and Flats: ASTM B211/B211M. Pigmented Organic Coating System: AAMA 2603 polyester or acrylic baked enamel finish. Color: Black. Non-Weld Mechanical Fittings: Slip-on cast aluminum, with flush setscrews for tightening by standard hex wrench, no bolts or screw fasteners. Exposed Fasteners: Flush countersunk screws or bolts; consistent with design of railing.	STEEL RAILING SYSTEM AT BUILDING STAIRS	Steel Tube: ASTM A500/A500M, Grade B cold-formed structural tubing. Welding Fittings: Factory or shop-welded from matching pipe or tube; seams continuously welded, joints and seams ground smooth. Exposed Fasteners: Flush countersunk screws or bolts; consistent with design of railing.	ALUMINUM FINISHES	High Performance Organic Coating System: AAMA 2604 multiple coat, thermally cured fluoropolymer system.	DIVISION 06 - WOOD, PLASTICS, AND COMPOSITES	SECTION 06 20 00 - FINISH CARPENTRY	DELIVERY, STORAGE, AND HANDLING	Protect from moisture damage. Store flat, on level area, to prevent warping.	FINISH CARPENTRY ITEMS	Surface Burning Characteristics: Provide materials having fire and smoke properties as required by applicable code. Exterior Finish Carpentry Items: Manufacturers: Acceptable manufacturers of cellular PVC moldings and trim: Azek Building Products: www.azek.com Door and Window Casings and Moldings at Masonry Veneer: Molded Cellular PVC; suitable for paint finish, in profiles scheduled below. Door and Window trim: To match Azek Brick mould, 1-1/2 inch x 2 inch. Interior Finish Carpentry Items (Dwelling Units): Manufacturers: Acceptable millwork manufacturers of casings, molding and trim. Woodgrain Millwork: www.woodgrain.com. Trimco Millwork: www.trimcomillwork.com. Metrie Inc.: www.metrie.com Moldings, Bases, Casings, and Miscellaneous Trim: Clear white pine, solid or finger jointed; primed for paint finish, in profiles as scheduled below: Door Trim: 1-1/8 inch x 2-1/4 inch Colonial Wood Casing Baseboard Trim: 9/16 inch by 3-1/4 inch Colonial Wood Base. Window Sill: Furniture grade Clear White Pine, 1 inch x 4 inches nominal, back primed with eased edges.	LUMBER MATERIALS	Softwood Lumber: Clear White Pine species, plain sawn, maximum moisture content of 6 percent; with vertical grain, of quality suitable for transparent finish.	CELLULAR PVC MOLDINGS AND TRIM	Cellular PVC Trim: Extruded, expanded PVC; UV-resistant, heat-stabilized, and rigid material. Density: 31 pounds per cubic foot, minimum. Flame Spread: ASTM E84, 75, maximum.	PLASTIC LAMINATE MATERIALS	ACCESSORIES	Primer: As specified in Section 09 91 23. Wood Filler: Solvent base, tinted to match surface finish color. Epoxy Filler: As recommended by composite resin manufacturer, to match color of window sills.	HARDWARE	Countertop Support Brackets: Fixed, L-shaped, corner reinforced, face-of-wall mounting. Material: Steel. Finish: Manufacturer's standard, factory-applied, textured powder coat. Color: Black. Support Length: 24 inches.	SHEET MATERIALS	Smooth Surfaced Roll Roofing: Asphalt-coated organic felt, with smooth asphalt coating both sides, complying with ASTM D6380/D6380M, Class S, Type III, 51.1 lb/100 sq ft. Eave and Valley Protection Membrane: Self-adhering polymer-modified asphalt sheet complying with ASTM D1970/D1970M, 40 mil total thickness; with strippable treated release paper and polyethylene sheet top surface. Underlayment: Synthetic non-asphatic sheet, intended by manufacturer for mechanically fastened roofing underlayment without sealed seams and meeting requirements of ASTM D226/D226M.	DIVISION 07 - THERMAL AND MOISTURE PROTECTION	SECTION 07 21 00 - THERMAL INSULATION	FIELD CONDITIONS	Do not install insulation adhesives when temperature or weather conditions are detrimental to successful installation.	FOAM BOARD INSULATION MATERIALS	Extruded Polystyrene (XPS) Board Insulation: Comply with ASTM C578 with either natural skin or cut cell surfaces. Type: ASTM C578, Type IV. Type and Thermal Resistance, R-value: Type IV, 5.0 (0.88), minimum, per 1 inch thickness at 75 degrees F mean temperature. Products: DuPont de Nemours, Inc: Styrofoam Brand Highload 40: building.dupont.com. Kingspan Insulation LLC; GreenGuard XPS IV, 25 psi: www.kingspan.com. Owens Corning Corporation; FOAMULAR Extruded Polystyrene (XPS) Insulation: www.owenscorning.com. GLASS FIBER BLANKET INSULATION MATERIALS Glass Fiber Batt Insulation: Flexible preformed batt or blanket, complying with ASTM C665; friction fit. Thermal Resistance at exterior walls: R-value of 20 minimum. Facing: Kraft paper. Products: CertainTeed Corporation: www.certainteed.com. Johns Manville: www.jm.com. Owens Corning Corporation: www.owenscorning.com.	FOAM INSULATION	Single component polyurethane, low pressure foam sealant complying with ASTM E2178 for exterior wall penetrations. R-value: 1 inch of material at 72 degrees F: 4.7, minimum. Minimum Density: 1.0 pounds per cubic foot. Manufacturers: Dow Chemical Co.; Great Stuff: www.greatstuff.dow.com. FOMO Products Inc.; Handi Foam: www.fomo.com/handifoam. Touch 'n Seal Inc.; All Seasons: www.touch-n-seal.com. Single component polyurethane, low pressure, low pressure build, foam sealant complying with ASTM E2178 for windows and doors. R-value: 1 inch of material at 72 degrees F: 4.7, minimum. Minimum Density: 1.10 pounds per cubic foot. Manufacturers: Dow Chemical Co.; Great Stuff Window & Door: www.greatstuff.dow.com. FOMO Products Inc.; Handi Foam Window & Door: www.fomo.com/handifoam. Touch 'n Seal Inc.; No Warp: www.touch-n-seal.com.	ACCESSORIES	Tape: Reinforced polyethylene film with acrylic pressure sensitive adhesive. Insulation Fasteners: Lengths of unfinished, 13 gauge, 0.072 inch high carbon spring steel with chisel or mitered tips, held in place by tension, length to suit insulation thickness and substrate, capable of securely supporting insulation in place. Adhesive: Type recommended by insulation manufacturer for application.	SECTION 07 21 26 - BLOWN INSULATION	MATERIALS	Refer to Specification/Selection Design sheets. Applications: Provide blown insulation in attic as indicated on drawings. Loose Fill Insulation: ASTM C739, cellulose fiber type, bulk for pneumatic placement. Thermal Transmittance (U-value): 0.27 BTU/hr sq ft deg F, maximum. Total Thermal Resistance at Attic: Garage and Maintenance Buildings: R-value of 38 (deg F hr sq ft)/Btu, minimum.	ACCESSORIES	Roof Ventilation Baffles: Prefabricated ventilation channels for placement under roof sheathing with baffles to prevent wind-washing. Membrane Roofing Materials: TPO: Thermoplastic polyolefin (TPO) complying with ASTM D6878/D6878M, sheet contains reinforcing fabrics or scrim. Thickness: 60 mil, 0.060 inch, minimum. Color: White. Seaming Materials: As recommended by membrane manufacturer. Vapor Retarder: Material approved by roof manufacturer complying with requirements of fire rating classification; compatible with roofing and insulation materials. Flexible Flashing Material: Same material as membrane.	SECTIONS 07 25 00 - WEATHER BARRIERS	WATER-RESISTIVE AIR BARRIERS	Description: Materials installed behind exterior wall coverings; designed to prevent liquid water from further penetration into exterior wall assembly. Primary materials include mechanically applied sheets; accessory materials include flashings and seam tapes. Water-Resistive and Air Barrier, Multilayers: Outer layers of nonwoven, spunbonded polypropylene with vapor permeable, watertight polymeric middle layer. Air Permeance: 0.004 dm/sq ft, maximum, when tested in accordance with ASTM E2178. Water Vapor Permeance: 54 perms, minimum, when tested in accordance with ASTM E96/E96M using Procedure A - Desiccant Method, at 73.4 degrees F. Products: DuPont Building Innovations; Tyvek Home Wrap with FlexWrap NF: StraightFlash, StraightFlash VF, Tyvek Wrap Caps, and Tyvek Tape: www.dupont.com. Kingspan Insulation LLC; GreenGuard HPW Building Wrap with GreenGuard Butyl Flashing and GreenGuard SuperStretch Flashing: www.trustgreenguard.com. National Shelter Products, Inc; DRYLine HP with Dryline Sheathing Tape, ATX Flashing, and ATX Flex Flashing: www.drylinewrap.com.	ACCESSORIES	Seal and Perimeter Tapes: As recommended by water-resistive barrier manufacturer. Flashings: As recommended by water-resistive barrier manufacturer for application. Flexible Flashing: Self-adhesive sheet flashing complying with ASTM D1970/D1970M, except slip resistance requirement is waived if not installed on a roof.	SECTION 07 31 13 - ASPHALT SHINGLES	MANUFACTURERS	Asphalt Shingles: CertainTeed; Landmark Series: www.certainteed.com. GAF; Timberline American Harvest: www.gaf.com/isle. Owens Corning Corp, Oakridge: www.owenscorning.com.	ASPHALT SHINGLES	Asphalt Shingles: Asphalt-coated glass felt, mineral granule surfaced, complying with ASTM D3462/D3462M. Fire Resistance: Class A, complying with ASTM E108. Wind Resistance (Uplift): Class D, when tested in accordance with ASTM D7158/D7158M. Self-sealing type. Style: Laminated overlay.	SHEET MATERIALS	Smooth Surfaced Roll Roofing: Asphalt-coated organic felt, with smooth asphalt coating both sides, complying with ASTM D6380/D6380M, Class S, Type III, 51.1 lb/100 sq ft. Eave and Valley Protection Membrane: Self-adhering polymer-modified asphalt sheet complying with ASTM D1970/D1970M, 40 mil total thickness; with strippable treated release paper and polyethylene sheet top surface. Underlayment: Synthetic non-asphatic sheet, intended by manufacturer for mechanically fastened roofing underlayment without sealed seams and meeting requirements of ASTM D226/D226M.	DIVISION 08 - ROOFING	SECTION 08 10 00 - ROOFING	FIELD CONDITIONS	Do not apply roofing membrane when ambient temperature is below 40 degrees F or above 90 degrees F. Do not apply roofing membrane to damp or frozen deck surface or when precipitation is expected or occurring.	MANUFACTURERS	Thermoplastic Polyolefin (TPO) Membrane Roofing Materials: Carlisle Roofing Systems, Inc; Sure-Weld TPO: www.carlisle-syntec.com. Firestone Building Products, LLC; UltraPly Platinum: www.firestonetpo.com. GAF; EverGuard Extreme TPO 60 mil: www.gaf.com. Johns Manville; JM TPO - 60 mil: www.jm.com. Insulation: BASF Corporation; BASF Neopor GPS: www.neopor.basf.us. Carlisle SynTec; SecurShield Insulation: www.carlisle-syntec.com. GAF; EnergyGuard Polyiso: www.gaf.com. Versico Roofing Systems; SecurShield Insulation: www.versico.com/isle.	ROOFING - UNBALLASTED APPLICATIONS	Thermoplastic Membrane Roofing: One ply membrane, fully adhered, over vapor retarder and insulation. Roofing Assembly Requirements: Solar Reflectance Index (SRI): Minimum of 64 based on three-year aged value; if three-year aged data is not available, minimum of 82 initial value. Calculate SRI in accordance with ASTM E1980. Field applied coating may not be used to achieve specified SRI. Roof-Ceiling Fire Resistance Rating: Comply with UL (FRD) Assembly Design No. P566. Insulation Thermal Resistance (R-Value): 5 per inch, minimum; provide insulation of thickness required. Acceptable Insulation Types - Constant Thickness Application: Minimum 2 layers of polyisocyanurate board. Primer, Roof Coating: Water-based primer with high-tack finish that promotes adhesion for elastomeric roof coatings.	MEMBRANE ROOFING AND ASSOCIATED MATERIALS	Membrane Roofing Materials: TPO: Thermoplastic polyolefin (TPO) complying with ASTM D6878/D6878M, sheet contains reinforcing fabrics or scrim. Thickness: 60 mil, 0.060 inch, minimum. Color: White. Seaming Materials: As recommended by membrane manufacturer. Vapor Retarder: Material approved by roof manufacturer complying with requirements of fire rating classification; compatible with roofing and insulation materials. Flexible Flashing Material: Same material as membrane.	COVER BOARDS	Cover Boards: Glass-mat faced gypsum panels complying with ASTM C1177/C1177M. Thickness: 1/2 inch, fire-resistant.	DIVISION 09 - FINISHES	SECTION 09 00 00 - PAINTS AND COATINGS	FIELD CONDITIONS	Do not apply paint or coating when ambient temperature is below 40 degrees F or above 90 degrees F. Do not apply paint or coating to damp or frozen surface or when precipitation is expected or occurring.	MANUFACTURERS	Paints and Coatings: Borden Brick: www.beldenbrick.com. Endicott Clay Products Co: www.endicott.com. Meridian Brick LLC (formerly Boral USA): www.meridianbrick.com. Sioux City Brick and Tile Co: www.siouxcitybrick.com. Facing Brick: ASTM C216, Type FBS Smooth, Grade SW. Color and texture: As selected by Owner. Actual size: 3-5/8 inches x 2-1/4 inches x 7-5/8 inches.	MORTAR MATERIALS	Portland Cement: ASTM C150/C150M, Type I; color as required to produce approved color sample. Hydrated Lime: ASTM C207, Type S. Mortar Aggregate: ASTM C144. Pigments for Colored Mortar: Pure, concentrated mineral pigments specifically intended for mixing into mortar and complying with ASTM C979/C979M. Water: Clean and potable. Packaged Dry Material for Mortar for Unit Masonry: Premixed Portland cement, hydrated lime, and sand; complying with ASTM C1714/C1714M and capable of producing mortar of the specified strength in accordance with ASTM C270 with the addition of water only. Type: Type N.	REINFORCEMENT AND ANCHORAGE	Reinforcing Steel: ASTM A615/A615M, Grade 40 (40,000 psi), deformed billet bars; galvanized. Joint Reinforcement: Use ladder type joint reinforcement where vertical reinforcement is involved and truss type elsewhere, unless otherwise indicated. Multiple Wythe Joint Reinforcement: ASTM A951/A951M. Type: Truss. Material: ASTM A1064/A1064M steel wire, mill galvanized to ASTM A641/A641M, Class 3.	DIVISION 04 - MASONRY	SECTION 04 20 00 - UNIT MASONRY	DELIVERY, STORAGE, AND HANDLING	Deliver, handle, and store masonry units by means that will prevent mechanical damage and contamination by other materials such as mud, grease, or other debris. Concrete Masonry Units: Store cubes in single stacks on level ground, covered and protected from inclement weather. Veneer Brick: Inspect bricks upon delivery at site and immediately inform manufacturer or supplier of any observed defects. Protect bagged materials and brick siding units from rain and groundwater by covering and storing on pallets or other means.	CONCRETE MASONRY UNITS	Concrete Block: Comply with referenced standards and as follows: Size: Standard units with nominal face dimensions of 16 by 8 inches and nominal depth of 8 inches. Load-Bearing Units: ASTM C90, medium weight.	BRICK UNITS	Manufacturers: Belden Brick: www.beldenbrick.com. Endicott Clay Products Co: www.endicott.com. Meridian Brick LLC (formerly Boral USA): www.meridianbrick.com. Sioux City Brick and Tile Co: www.siouxcitybrick.com. Facing Brick: ASTM C216, Type FBS Smooth, Grade SW. Color and texture: As selected by Owner. Actual size: 3-5/8 inches x 2-1/4 inches x 7-5/8 inches.	MORTAR APPLICATIONS	Use only factory premixed packaged dry materials for mortar, with addition of water only at project site. Exception: If a specified mix design is not available in a premixed dry package, provide equivalent mix design using standard non-premixed materials. Mortar Color: Natural gray unless otherwise indicated. Scratch Coat Mortars: Scratch coat mortars for application directly to metal lath. Prepackaged/Preblended: ASTM C1714/C1714M, Type N or Type S. Setting Bed Mortars: Setting bed used to adhere manufactured stone veneer units to scratch coat mortar or to bondable concrete or concrete masonry. Prepackaged/Preblended: ASTM C1714/C1714M, Type S.	MORTAR MIXES	Packaged Dry Material for Mortar for Unit Masonry: Premixed Portland cement, hydrated lime, and sand; complying with ASTM C1714/C1714M and capable of producing mortar of the specified strength in accordance with ASTM C270 with the addition of water only. Color: Standard gray.	ACCESSORIES	Metal Lath with Rainscreen Drainage Material: Factory-assembled combination of mesh drainage material and metal lath. Diamond Mesh Metal Lath: ASTM C847, galvanized, self-furring. Rainscreen Drainage Mesh: 90 percent open non-woven polyester mesh. Water-Resistive Air Barrier: See Section 07 25 00. Flashings: See Section 04 20 00.	DIVISION 03 - CONCRETE	SECTION 03 35 11 - CONCRETE FLOOR FINISHES	COATINGS	Curing and Sealing Compound, Moisture Emission-Reducing, Membrane-Forming: Liquid, membrane-forming, clear sealer, for application to newly-placed concrete, capable of providing adequate bond for flooring adhesives, initially and over the long term; with sufficient moisture vapor impermeability to prevent deterioration of flooring adhesives due to moisture emission. Use this product to cure and seal all slabs to receive adhesively applied flooring. Comply with ASTM C309 and ASTM C1315 Type I Class A. VOC Content: Less than 100 g/L. Manufacturers: MasterKure CC 160 WB (formerly Kure-N-Seal) as manufactured by BASF Corp. Curing and Sealing Compound, Low Gloss: Liquid, membrane-forming, clear, non-yellowing acrylic; complying with ASTM C1315 Type 1 Class A. Application: Use at exposed slabs and toppings not scheduled to receive finish flooring. Vehicle: Water-based. VOC Content: OTC compliant. Manufacturers: Dayton Superior Corporation; Cure & Seal 1315 EF: www.daytonsuperior.com. Euclid Chemical Company; DIAMOND CLEAR VOX: www.euclidchemical.com.	Size: 0.1483 inch side rods with 0.1483 inch cross rods; width as required to provide not less than 5/8 inch of mortar coverage on each exposure.	DIVISION 05 - METALS	SECTION 05 60 00 - METAL FABRICATIONS	MATERIALS - STEEL	Steel Sections: ASTM A36/A36M. Plates: ASTM A283/A283M. Pipe: ASTM A53/A53M, Grade B Schedule 40, black finish. Bolts, Nuts, and Washers: ASTM A307, Grade A, plain. Bolts, Nuts, and Washers: ASTM F3125/F3125M, Type 1, plain. Welding Materials: AWS D1.1/D1.1M; type required for materials being welded. Shop and Touch-Up Primer: SSPC-Paint 15, complying with VOC limitations of authorities having jurisdiction. Touch-Up Primer for Galvanized Surfaces: SSPC-Paint 20, Type I - Inorganic, complying with VOC limitations of authorities having jurisdiction.	DELIVERY, STORAGE, AND HANDLING	Deliver materials to site in manufacturer's original, unopened packaging, with labels clearly identifying product name and manufacturer. Store products on flat level surface to prevent warping.	FIBLED CONDITIONS	Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Allow at least 24 hours for materials to adapt to conditions at project site prior to installation.	MANUFACTURERS	Gable Louvers: MidAmerica Components: www.midamericacomponents.com Fypcon LLC: www.fypcon.com Builders Edge/Tapco International Corp: www.buildersedge.com	SIMULATED WOOD PRODUCTS	Gable Louvers: Molded polyurethane foam with factory-applied UV resistant primer suitable for field applied paint finish. Style: As indicated on the Drawings.	MATERIALS	Cellular PVC, Extruded, expanded PVC; UV-resistant, heat-stabilized, and rigid material. Density: 31 pounds per cubic foot, minimum. Deflection/Warping: ASTM D648, Not less than 130 deg F. Polypropylene, Molded high-density, UV stabilized. Density: 4 pounds per cubic foot, minimum. Surface Burning Characteristics: Flame spread index of 75 maximum, smoke developed index of 450 or less, when tested in accordance with ASTM E84. Compressive Strength: Minimum 300 pounds per sq. inch.	FINISHES - STEEL	Prime paint steel items.	SECTION 05 82 13 - RAILINGS	MANUFACTURERS	Aluma Railings: Ultra Fencing and Railing: 2-Rail Juliet Balcony Railing: www.ultrarailing.com.	RAILINGS - GENERAL REQUIREMENTS	Design, fabricate, and test railing assemblies in accordance with the most stringent requirements of applicable local code. Distributed Loads: Design railing assembly, wall rails, and attachments to resist distributed force of 50 pounds per linear foot applied to the top of the assembly and in any direction, without damage or permanent set. Test in accordance with ASTM E935. Concentrated Loads: Design railing assembly, wall rails, and attachments to resist a concentrated force of 200 pounds applied at any point on the top of the assembly and in any direction, without damage or permanent set. Test in accordance with ASTM E935. Building Stair Dimensions: See drawings for Pipe and Tube railing configurations and heights. Hand Rails and Wall Rails: 1-1/2 inches, diameter round. Top and Intermediate Rails (Building Stairs): 1-1/2 inches square. Posts (Building Stairs): 1-1/2 inches square. Pickets (Building Stairs): 1/2 inch square solid bar. Cane Detection Rails (Building Stairs): 1-1/2 inches square. Provide anchors and other components as required to attach to structure, made of same materials as railing components unless otherwise indicated; where exposed fasteners are unavoidable provide flush countersunk fasteners. For anchorage to stud walls, provide backing plates, for bolting anchors. Posts: Provide adjustable flanged brackets. Provide welding fittings to join lengths, seal open ends, and conceal exposed mounting bolts and nuts, including but not limited to elbows, T-shapes, splice connectors, flanges, escutcheons, and wall brackets.	ALUMINUM MATERIALS	Aluminum Tube: Minimum wall thickness of 0.127 inch; ASTM B429/B429M, ASTM B241/B241M, or ASTM B483/B483M. Solid Bars and Flats: ASTM B211/B211M. Welding Fittings: No exposed fasteners; cast aluminum. Exposed Fasteners: Flush countersunk screws or bolts; consistent with design of railing.	ALUMINUM RAILING SYSTEMS AT PORCHES AND BALCONIES	Pre-manufactured aluminum porch and balcony railing systems. Welded aluminum rails, pickets and mounting flanges for attachment to structure. Aluminum Tube: Minimum wall thickness of 0.127 inch; ASTM B241/B241M, ASTM B429/B429M, ASTM B483/B483M. Solid Bars and Flats: ASTM B211/B211M. Pigmented Organic Coating System: AAMA 2603 polyester or acrylic baked enamel finish. Color: Black. Non-Weld Mechanical Fittings: Slip-on cast aluminum, with flush setscrews for tightening by standard hex wrench, no bolts or screw fasteners. Exposed Fasteners: Flush countersunk screws or bolts; consistent with design of railing.	STEEL RAILING SYSTEM AT BUILDING STAIRS	Steel Tube: ASTM A500/A500M, Grade B cold-formed structural tubing. Welding Fittings: Factory or shop-welded from matching pipe or tube; seams continuously welded, joints and seams ground smooth. Exposed Fasteners: Flush countersunk screws or bolts; consistent with design of railing.	ALUMINUM FINISHES	High Performance Organic Coating System: AAMA 2604 multiple coat, thermally cured fluoropolymer system.	DIVISION 06 - WOOD, PLASTICS, AND COMPOSITES	SECTION 06 20 00 - FINISH CARPENTRY	DELIVERY, STORAGE, AND HANDLING	Protect from moisture damage. Store flat, on level area, to prevent warping.	FINISH CARPENTRY ITEMS	Surface Burning Characteristics: Provide materials having fire and smoke properties as required by applicable code. Exterior Finish Carpentry Items: Manufacturers: Acceptable manufacturers of cellular PVC moldings and trim: Azek Building Products: www.azek.com Door and Window Casings and Moldings at Masonry Veneer: Molded Cellular PVC; suitable for paint finish, in profiles scheduled below. Door and Window trim: To match Azek Brick mould, 1-1/2 inch x 2 inch. Interior Finish Carpentry Items (Dwelling Units): Manufacturers: Acceptable millwork manufacturers of casings, molding and trim. Woodgrain Millwork: www.woodgrain.com. Trimco Millwork: www.trimcomillwork.com. Metrie Inc.: www.metrie.com Moldings, Bases, Casings, and Miscellaneous Trim: Clear white pine, solid or finger jointed; primed for paint finish, in profiles as scheduled below: Door Trim: 1-1/8 inch x 2-1/4 inch Colonial Wood Casing Baseboard Trim: 9/16 inch by 3-1/4 inch Colonial Wood Base. Window Sill: Furniture grade Clear White Pine, 1 inch x 4 inches nominal, back primed with eased edges.	LUMBER MATERIALS	Softwood Lumber: Clear White Pine species, plain sawn, maximum moisture content of 6 percent; with vertical grain, of quality suitable for transparent finish.	CELLULAR PVC MOLDINGS AND TRIM	Cellular PVC Trim: Extruded, expanded PVC; UV-resistant, heat-stabilized, and rigid material. Density: 31 pounds per cubic foot, minimum. Flame Spread: ASTM E84, 75, maximum.	PLASTIC LAMINATE MATERIALS	ACCESSORIES	Primer: As specified in Section 09 91 23. Wood Filler: Solvent base, tinted to match surface finish color. Epoxy Filler: As recommended by composite resin manufacturer, to match color of window sills.	HARDWARE	Countertop Support Brackets: Fixed, L-shaped, corner reinforced, face-of-wall mounting. Material: Steel. Finish: Manufacturer's standard, factory-applied, textured powder coat. Color: Black. Support Length: 24 inches.	SHEET MATERIALS	Smooth Surfaced Roll Roofing: Asphalt-coated organic felt, with smooth asphalt coating both sides, complying with ASTM D6380/D6380M, Class S, Type III, 51.1 lb/100 sq ft. Eave and Valley Protection Membrane: Self-adhering polymer-modified asphalt sheet complying with ASTM D1970/D1970M, 40 mil total thickness; with strippable treated release paper and polyethylene sheet top surface. Underlayment: Synthetic non-asphatic sheet, intended by manufacturer for mechanically fastened roofing underlayment without sealed seams and meeting requirements of ASTM D226/D226M.	DIVISION 07 - THERMAL AND MOISTURE PROTECTION	SECTION 07 21 00 - THERMAL INSULATION	FIELD CONDITIONS	Do not install insulation adhesives when temperature or weather conditions are detrimental to successful installation.	FOAM BOARD INSULATION MATERIALS	Extruded Polystyrene (XPS) Board Insulation: Comply with ASTM C578 with either natural skin or cut cell surfaces. Type: ASTM C578, Type IV. Type and Thermal Resistance, R-value: Type IV, 5.0 (0.88), minimum, per 1 inch thickness at 75 degrees F mean temperature. Products: DuPont de Nemours, Inc: Styrofoam Brand Highload 40: building.dupont.com. Kingspan Insulation LLC; GreenGuard XPS IV, 25 psi: www.kingspan.com. Owens Corning Corporation; FOAMULAR Extruded Polystyrene (XPS) Insulation: www.owenscorning.com. GLASS FIBER BLANKET INSULATION MATERIALS Glass Fiber Batt Insulation: Flexible preformed batt or blanket, complying with ASTM C665; friction fit. Thermal Resistance at exterior walls: R-value of 20 minimum. Facing: Kraft paper. Products: CertainTeed Corporation: www.certainteed.com. Johns Manville: www.jm.com. Owens Corning Corporation: www.owenscorning.com.	FOAM INSULATION	Single component polyurethane, low pressure foam sealant complying with ASTM E2178 for exterior wall penetrations. R-value: 1 inch of material at 72 degrees F: 4.7, minimum. Minimum Density: 1.0 pounds per cubic foot. Manufacturers: Dow Chemical Co.; Great Stuff: www.greatstuff.dow.com. FOMO Products Inc.; Handi Foam: www.fomo.com/handifoam. Touch 'n Seal Inc.; All Seasons: www.touch-n-seal.com. Single component polyurethane, low pressure, low pressure build, foam sealant complying with ASTM E2178 for windows and doors. R-value: 1 inch of material at 72 degrees F: 4.7, minimum. Minimum Density: 1.10 pounds per cubic foot. Manufacturers: Dow Chemical Co.; Great Stuff Window & Door: www.greatstuff.dow.com. FOMO Products Inc.; Handi Foam Window & Door: www.fomo.com/handifoam. Touch 'n Seal Inc.; No Warp: www.touch-n-seal.com.	ACCESSORIES	Tape: Reinforced polyethylene film with acrylic pressure sensitive adhesive. Insulation Fasteners: Lengths of unfinished, 13 gauge, 0.072 inch high carbon spring steel with chisel or mitered tips, held in place by tension, length to suit insulation thickness and substrate, capable of securely supporting insulation in place. Adhesive: Type recommended by insulation manufacturer for application.	SECTION 07 21 26 - BLOWN INSULATION	MATERIALS	Refer to Specification/Selection Design sheets. Applications: Provide blown insulation in attic as indicated on drawings. Loose Fill Insulation: ASTM C739, cellulose fiber type, bulk for pneumatic placement. Thermal Transmittance (U-value): 0.27 BTU/hr sq ft deg F, maximum. Total Thermal Resistance at Attic: Garage and Maintenance Buildings: R-value of 38 (deg F hr sq ft)/Btu, minimum.	ACCESSORIES	Roof Ventilation Baffles: Prefabricated ventilation channels for placement under roof sheathing with baffles to prevent wind-washing. Membrane Roofing Materials: TPO: Thermoplastic polyolefin (TPO) complying with ASTM D6878/D6878M, sheet contains reinforcing fabrics or scrim. Thickness: 60 mil, 0.060 inch, minimum. Color: White. Seaming Materials: As recommended by membrane manufacturer. Vapor Retarder: Material approved by roof manufacturer complying with requirements of fire rating classification; compatible with roofing and insulation materials. Flexible Flashing Material: Same material as membrane.	SECTIONS 07 25 00 - WEATHER BARRIERS	WATER-RESISTIVE AIR BARRIERS	Description: Materials installed behind exterior wall coverings; designed to prevent liquid water from further penetration into exterior wall assembly. Primary materials include mechanically applied sheets; accessory materials include flashings and seam tapes. Water-Resistive and Air Barrier, Multilayers: Outer layers of nonwoven, spunbonded polypropylene with vapor permeable, watertight polymeric middle layer. Air Permeance: 0.004 dm/sq ft, maximum, when tested in accordance with ASTM E2178. Water Vapor Permeance: 54 perms, minimum, when tested in accordance with ASTM E96/E
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Lock Function: Provide lock and latch function numbers and descriptions of manufacturer's series. See Door Hardware Schedule at end of this section.

HINGES

Manufacturers:

McKinney; an Assa Abloy Group company: www.assaabloydss.com.
Hager Companies: www.hagerco.com/#se.
Stanley Manufacturing Co.: www.stanleyhardware.com.

Hinges: Comply with BHMA A156.1, Grade 3.
Provide hinges on every swinging door.
Provide self-closing spring hinges on dwelling unit entry doors.
Provide ball-bearing hinges at each door with closer.
Provide non-removable pins on exterior outswinging doors.

EXIT DEVICES

Manufacturers:

Corbin Russwin, Sargent, or Yale; an Assa Abloy Group company: www.assaabloydss.com.
Hager Companies: www.hagerco.com.
Von Duprin, an Allegion brand: www.allegion.com/us.

Exit Devices: Comply with BHMA A156.3, Grade 3.
Leverset design to match lockset trim.
Provide exit devices properly sized for door width and height.
Provide strike as recommended by manufacturer for application indicated.
Provide UL (DlR) listed exit device assemblies for fire-rated doors and panic device assemblies for non-fire-rated doors.

ELECTRIC STRIKES

Manufacturers:

Adams Rite, HES, or Securitron; an Assa Abloy Group company: www.assaabloydss.com.
dormakaba; RCI 0 Series: www.dormakaba.com.
Pamex, Inc; Electric Strikes: www.pamexinc.com.

Electric Strikes: Comply with BHMA A156.31, Grade 1.
Provide UL (DlR) listed burglary-resistant electric strike; style to suit locks.
Provide non-handed 24 VDC electric strike suitable for door frame material and scheduled lock configuration.
Provide field selectable Fail Safe/Fail Secure modes.

CYLINDRICAL LOCKS

Manufacturers:

Basis of Design: Schlage 'Elion'.
Sargent or Yale; an Assa Abloy Group company: www.assaabloydss.com.
Hager Companies: www.hagerco.com.
Schlage, an Allegion brand: www.allegion.com/us.

Cylindrical Locks (Bored): Comply with BHMA A156.2, Grade 3.
Bored Hole: 2-1/8 inch diameter.
Latchbolt Throw: 1/2 inch, minimum.
Backset: 2-3/4 inch unless otherwise indicated.

AUXILIARY LOCKS (DEADLOCKS)

Manufacturers:

Basis of Design: Schlage 'B60' & 'B680'.
Yale; an Assa Abloy Group company: www.assaabloydss.com.
Hager Companies: www.hagerco.com.
Schlage, an Allegion brand: www.allegion.com/us.

Auxiliary Locks (Deadlocks): Comply with BHMA A156.36, Grade 3.
Type: Bored (cylindrical).
Application: Bored.
Backset: 2-3/4 inch, unless otherwise indicated.
Bolt Throw: 1 inch, with latch made of hardened steel.

CLOSERS

Manufacturers: Surface Mounted:

Basis of Design: Falcon SC93/94; Jamb top.
Sargent, Yale, or AdamsRite; an Assa Abloy Group company: www.assaabloydss.com.
Hager Companies: www.hagerco.com.
Falcon or LCN, an Allegion brand: www.allegion.com/us.

Closers: Comply with BHMA A156.4, Grade 3.
Type: Surface mounted to door.
Provide door closer on each exterior door of the common areas.
Provide door closer on each fire-rated and smoke-rated door of the Stair towers.
Spring hinges are not an acceptable self-closing device.
At outswinging exterior doors, mount closer on interior side of door.
Provide adapter plate where required.

WALL STOPS

Manufacturers:

Basis of Design: Trimco 1270 Series.
Rockwood; an Assa Abloy Group company: www.assaabloydss.com.
Hiawatha, Inc, division of Activar Construction Products Group, Inc: www.activarcpg.com/hiawatha.
Trimco: www.trimcohardware.com.

Wall Stops: Comply with BHMA A156.16, Grade 3 and Resilient Material Retention Test as described in this standard.
Provide wall stops to prevent damage to wall surface upon opening door.
Material: Aluminum spring with vinyl cap.

THRESHOLDS

Manufacturers:

Pemko; an Assa Abloy Group company: www.assaabloydss.com.
Hager Companies: www.hagerco.com.
National Guard Products, Inc: www.ngpinc.com.

Thresholds: Comply with BHMA A156.21.
Provide threshold at each exterior door, unless otherwise indicated.
Type: Low Profile.
Thresholds at outswing exterior doors may be rabbeted with door stop type; 1/4 inch vertical rise, 1/2 inch total height; maximum 1-2 bevel.
Material: Aluminum.
Threshold Surface: Thermally broken.

BALL CATCH

Manufacturers:

Basis of Design: Ives 347.
Rockwood; an Assa Abloy Group company: www.assaabloydss.com.
Ives, an Allegion brand: www.allegion.com/us.

Ball Catch: Provide on doors not provided with latchsets that must stay in closed position within the frame.
Location: Mount ball catch at top of door with strike plate fastened to head of door frame.
Material: Brass.

VIEWER

Manufacturers:

Basis of Design: Ives U696.

Ives, an Allegion brand: www.allegion.com/us.
Prime-Line Inc: www.prime-line.net.

Viewer: Provide at inside of door at eye level to see who is on outside of door.
Material: Stainless steel.
Size: 1/2 inch diameter mounting hole.
View: 160 degree field of view.

KEY CONTROL SYSTEMS

Key Control Systems: Comply with guidelines of BHMA A156.28.

FIRE DEPARTMENT LOCK BOX

Manufacturers:

Knox Company: Knox-Box Rapid Entry System, 3200 Series: www.knoxbox.com.

Fire Department Lock Box:
Heavy-duty, surface mounted, solid stainless-steel box with hinged door and interior gasket seal; single drill resistant lock with dust covers.

FINISHES

Finishes: Provide door hardware of same finish, unless otherwise indicated.
Primary Finish: 619; satin nickel plated, clear coated, with brass or bronze base material; BHMA A156.18.

HARDWARE SETS

Group No 01: Dwelling Unit Building Elevator Lobby Entry Door

3 EA Hinges - 3-1/2 inch x 3-1/2 inch
1 EA Exit device with exterior looking lever trimset
1 EA Electric Strike
1 EA Proximity Reader - exterior
1 EA Closer
1 EA Accessible Threshold

Group No 02: Dwelling Unit Building Stair Tower Exterior Exit Doors

3 EA Hinges - 3-1/2 inch x 3-1/2 inch
1 EA Exit device with exterior looking lever trimset
1 EA Electric Strike
1 EA Proximity Reader - exterior
1 EA Closer
1 EA Accessible Threshold

Group No 03: Dwelling Unit Building Stair Tower Egress Doors - Refer to plans for Fire-rating
Provide fire-rated hardware.

3 EA Hinges - 3-1/2 inch x 3-1/2 inch
1 EA Exit device with lever trimset
1 EA Smoke gaskets
1 EA Closer

Group No 04: Dwelling Unit Building Exterior Sprinkler Room Entry Doors

3 EA Hinges - 3-1/2 inch x 3-1/2 inch
1 EA Dead Latch - single cylinder w/ thumb turn
1 EA Locking Leverset
1 EA Closer
1 EA Threshold

Group No 05: Common Area Secure Interior Doors - 20 Min Fire-rated
For use at I.T. closets, Sprinkler rooms.
Provide Fire-rated hardware.

3 EA Hinges - 3-1/2 inch x 3-1/2 inch
1 EA Locking Leverset
1 EA Closer
1 EA Wall-mounted Stop

Group No 06: Dwelling Unit Entry Door - 20 Min Fire-rated
Provide fire-rated hardware.

3 EA Self-closing spring Hinges - 3-1/2 inch x 3-1/2 inch
1 EA Dead latch - single cylinder w/ thumb turn
1 EA Passage Leverset
1 EA Viewer (peephole) (2 ea. at accessible dwellings units)
1 EA Smoke gaskets & Automatic floor sweep
1 EA Wall-mounted Stop

Group No 07: Dwelling Unit Patio/Balcony Door

3 EA Hinges - 3-1/2 inch x 3-1/2 inch
1 EA Dead latch - double cylinder
1 EA Passage Leverset
1 EA Threshold
1 EA Wall-mounted Stop

Group No 08: Dwelling Unit - Bedroom and Bath Doors

3 EA Hinges - 3-1/2 inch x 3-1/2 inch
1 EA Privacy Leverset w/ push-button latching
1 EA Wall-mounted Stop

Group No 09: Dwelling Unit - Closet Double Swing Doors
Provide for each door in the pair.

3 EA Hinges - 3-1/2 inch x 3-1/2 inch
1 EA Dummy Leverset
1 EA Ball Catch
1 EA Wall-mounted Stop

Group No 10: Dwelling Unit - Other Interior Doors

3 EA Hinges - 3-1/2 inch x 3-1/2 inch
1 EA Passage Leverset
1 EA Wall-mounted Stop

DIVISION 09 - FINISHES

SECTION 09 21 16 - GYPSUM BOARD ASSEMBLIES

GYPSUM BOARD ASSEMBLIES

Provide completed assemblies complying with ASTM C840 and GA-216.

Fire-Rated Assemblies: Provide completed assemblies with the following characteristics:
Fire-Rated Partitions: UL listed assembly No. U305; One (1) hour rating.
Fire-Rated Roof/Ceiling Assemblies: UL listed assembly No. P556; one (1) hour rating.

METAL FRAMING MATERIALS

Steel Sheet: ASTM A1003/A1003M, subject to the ductility limitations indicated in AISI S220 or equivalent.

Non-structural Framing System Components: ASTM C645; galvanized sheet steel, of size and properties necessary to comply with ASTM C754 for the spacing indicated, with maximum deflection of wall framing of L/120 at 5 pd.

Resilient Furring Channels: Single or double leg configuration; 1/2 inch channel depth.

BOARD MATERIALS

Manufacturers - Gypsum-Based Board:

American Gypsum Company: www.americangypsum.com.
Georgia-Pacific Gypsum: www.gpgypsum.com.
National Gypsum Company: www.nationalgypsum.com.
USG Corporation: www.usg.com.

Gypsum Wallboard: Paper-faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.

Application: Use for vertical surfaces and ceilings, unless otherwise indicated.

Glass mat faced gypsum panels, as defined in ASTM C1658/C1658M, suitable for paint finish of the same core type shall be used in tub/shower alcoves.

Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.

Mold resistant board is required at all damp locations.

Thickness:
Vertical Surfaces: 5/8 inch, or as indicated.
Ceilings: 5/8 inch.

Paper-Faced Products:
Mold-Resistant, Paper-Faced Products:

GYPSUM BOARD ACCESSORIES

Finishing Accessories: ASTM C1047, galvanized steel or rolled zinc, unless noted otherwise.

Joint Materials: ASTM C475/C475M and as recommended by gypsum board manufacturer for project conditions.

Joint Compound: Drying type, vinyl-based, ready-mixed.

Screws for Fastening of Gypsum Panel Products to Cold-Formed Steel Studs Less than 0.033 inches in Thickness and Wood Members: ASTM C1002; self-piercing tapping screws, corrosion-resistant.

SECTION 09 30 00 - TILING

DELIVERY, STORAGE, AND HANDLING

Protect adhesives from freezing or overheating in accordance with manufacturer's instructions.

TILE

Manufacturers: All products of each type by the same manufacturer.

American Olean Corporation: www.americanolean.com.
Dal-Tile Corporation: www.daltile.com.
Crossville Inc: www.crossvilleinc.com.

Porcelain Tile: ANSI A137.1, standard grade.
Size: 6 by 6 inch, nominal.
Thickness: 1/4 inch.
Edges: Square.
Surface Finish: Non-slip.
Color(s): To be selected by Owner from manufacturer's standard range.

TRIM AND ACCESSORIES

Non-Ceramic Trim: Satin natural anodized extruded aluminum, style and dimensions to suit application, for setting using tile mortar or adhesive.

SETTING MATERIALS

Latex-Portland Cement Mortar Bond Coat: ANSI A118.4.
Applications: Use this type of bond coat where indicated, and where no other type of bond coat is indicated.

GROUTS

Standard Grout: ANSI A118.6 standard cement grout.
Applications: Use this type of grout where indicated and where no other type of grout is indicated.

MAINTENANCE MATERIALS

Grout Sealer: Liquid-applied, moisture and stain protection for existing or new Portland cement grout.
Composition: Water-based colorless silicone.

ACCESSORY MATERIALS

Waterproofing Membrane at Floors: Specifically designed for bonding to cementitious substrate under thick mortar bed or thin-set tile; complying with ANSI A118.10.

SECTION 09 65 00 - RESILIENT FLOORING

DELIVERY, STORAGE, AND HANDLING

Store all materials off of the floor in an acclimatized, weather-tight space.
Maintain temperature in storage area between 65 degrees F and 90 degrees F.

TILE FLOORING

Vinyl Plank: Printed film type, with transparent or translucent wear layer, floating floor.

Manufacturers:

Metrofloor Corporation; Konecto - 'Project Plank': www.aspecta flooring.com.
Shannon Specialty Floors, Inc; 'Tuf Stuf' Woodland Path: www.shannonspecialtyfloors.com.

Minimum Requirements: Comply with ASTM F1700, of Class corresponding to type specified.

Plank Tile Size: 6 by 36 inch.
Wear Layer Thickness: 0.012 inch.
Total Thickness: 0.177 inch.
Color: To be selected by Owner from manufacturer's full range.

STAIR COVERING

Stair Treads: Rubber; full width and depth of stair tread in one piece; tapered thickness.

Manufacturers:

Johnsontite, a Tarkett Company; Angle Fit: www.johnsontite.com.
Mannington Commercial; TS Stair Treads: www.manningtoncommercial.com.
Roppe Corporation; Rubber Stair Treads: www.roppe.com.

Nominal Thickness: 0.1875 inch.
Nosing: Square.
Texture: Smooth.
Color: As selected by Owner.

Stair Risers: Full height and width of tread in one piece, matching treads in material and color.
Thickness: 0.080 inch.

RESILIENT BASE

Resilient Base: ASTM F1861, Type TV, vinyl, thermoplastic; top set Style B, Cove.

Manufacturers:

Armstrong World Industries, Inc: www.armstrong.com.
Johnsontite, a Tarkett Company: www.johnsontite.com.
Roppe Corporation: www.roppe.com.

Height: 4 inches.
Thickness: 0.125 inch.
Finish: Satin.
Color: To be selected by Owner from manufacturer's full range.

ACCESSORIES

Subfloor Filler: Fast-setting, portland-cement based; type recommended by adhesive material manufacturer.

Primers, Adhesives, and Seam Sealer: Waterproof; types recommended by flooring manufacturer.

VOC Content Limits: As specified in Section 01 61 16.

Moldings, Transition and Edge Strips: Same material as flooring.

Sound Control Underlayment: Recycled rubber type.

Manufacturers:

Pliteq, Inc; GenieMat RST: www.pliteq.com.
Roll Thickness: 3/8 inch, nominal.

SECTION 09 68 13 - TILE CARPETING

FIELD CONDITIONS

Store materials in area of installation for minimum period of 24 hours prior to installation.

MANUFACTURERS

Tile Carpeting:

Interface, Inc: www.interfaceinc.com.
Milliken & Company: www.milliken.com.
Mohawk Group: www.mohawkgroup.com.

MATERIALS

Tile Carpeting: Tufted, manufactured in one color dye lot.

Product: Cut Pile; as selected by Owner.

Tile Size: 18 by 18 inch, nominal.
Thickness: 1/2 inch.
Color: As selected by Owner.
VOC Content: Provide CRI (GLP) certified product.
Pile Weight: 18 oz/sq yd.
Fiber Treatment: Soil/Stain Protection.
Primary Backing Material: Polypropylene.

ACCESSORIES

Subfloor Filler: White premix latex; type recommended by flooring material manufacturer.

Edge Strips: Vinyl, color as selected by Architect.

Adhesives:

Compatible with materials being adhered; maximum VOC content as specified in Section 01 61 16.

Carpet Tile Adhesive: Recommended by carpet tile manufacturer; releasable type.

SECTION 09 91 13 - EXTERIOR PAINTING

SECTION INCLUDES

Scope: Finish exterior surfaces exposed to view, unless fully factory-finished and unless otherwise indicated, including the following:
Factory-primed Entry doors.
Exposed surfaces of steel lintels and ledge angles.
Galvanized roof flashings and drip edges.
Steel Bollards.
Mechanical and Electrical:
Exposed pipe and conduit.

Do Not Paint or Finish the Following Items:
Items factory-finished unless otherwise indicated; materials and products having factory-applied primers are not considered factory finished.
Items indicated to receive other finishes.
Fire rating labels, equipment serial number and capacity labels, and operating parts of equipment.
Stainless steel, anodized aluminum, bronze, terne-coated stainless steel, zinc, and lead.
Floors, unless specifically indicated.
Brick, glass unit masonry, architectural concrete, cast stone, integrally colored plaster and stucco.
Glass.

DELIVERY, STORAGE, AND HANDLING

Paint Materials: Store at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.

FIELD CONDITIONS

Do not apply materials when surface and ambient temperatures are outside the paint product manufacturer's temperature ranges.

Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.

MANUFACTURERS

Paints:

Behr Paint Company: www.behr.com.
Benjamin Moore Paints: www.benjaminmoore.com.
PPG Paints: www.ppgpaints.com.
Sherwin-Williams Company: www.sherwin-williams.com.

PAINTS AND FINISHES - GENERAL

Volatile Organic Compound (VOC) Content:
Provide paints and finishes that comply with the most stringent requirements specified in the following:
40 CFR 59, Subpart D-National Volatile Organic Compound Emission Standards for Architectural Coatings.
Ozone Transport Commission (OTC) Model Rule, Architectural, Industrial, and Maintenance Coatings; www.otcair.org; specifically:
Opaque, Flat: 50 g/L, maximum.
Opaque, Nonflat: 150 g/L, maximum.
Opaque, High Gloss: 250 g/L, maximum.
Architectural coatings VOC limits of the State of Missouri.
Determination of VOC Content: Testing and calculation in accordance with 40 CFR 59, Subpart D (EPA Method 24), exclusive of colorants added to a tint base and water added at project site; or other method acceptable to authorities having jurisdiction.

Colors: To be selected from manufacturer's full range of available colors.

PAINT SYSTEMS - EXTERIOR

Paint E-OP - Exterior Surfaces to be Painted, Unless Otherwise Indicated: Including concrete masonry units, engineered wood siding, primed wood, primed metal, and primed urethane decorative elements.
Top Coat(s): Exterior Latex.

Paint ME-OP-3A - Ferrous Metals, Unprimed, Alkyd, 3 Coat:

Paint ME-OP-2A - Ferrous Metals, Primed, Alkyd, Water Based, 2 Coat:
Paint MgE-OP-3A - Galvanized Metals, Alkyd, 3 Coat:

PRIMERS

Primers: Provide the following unless other primer is required or recommended by manufacturer of top coats.
Interior/Exterior Latex Block Filler.
Rust-Inhibitive Water Based Primer; MPI #107.
Latex Primer for Exterior Wood; MPI #6.

SECTION 09 91 23 - INTERIOR PAINTING

SECTION INCLUDES

Scope: Finish interior surfaces exposed to view, unless fully factory-finished and unless otherwise indicated.
Both sides and edges of plywood backboards for electrical and telecom equipment before installing equipment.
Both sides and all edges of interior wood doors.
Mechanical and Electrical:
Paint interior surfaces of air ducts that are visible through grilles and louvers with one coat of flat black paint to visible surfaces.

Do Not Paint or Finish the Following Items:
Items factory-finished unless otherwise indicated; materials and products having factory-applied primers are not considered factory finished.
Items indicated to receive other finishes.
Fire rating labels, equipment serial number and capacity labels, bar code labels, and identifying parts of equipment.
Floors, unless specifically indicated.
Ceramic and other tiles.
Glass.
Concealed pipes, ducts, and conduits.

DELIVERY, STORAGE, AND HANDLING

Paint Materials: Store at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.

FIELD CONDITIONS

Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.

Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.

MANUFACTURERS

Paints:

Behr Paint Company: www.behr.com.
Benjamin Moore Paints: www.benjaminmoore.com.
PPG Paints: www.ppgpaints.com.
Sherwin-Williams Company: www.sherwin-williams.com.

PAINTS AND FINISHES - GENERAL

Volatile Organic Compound (VOC) Content:
Provide paints and finishes that comply with the most stringent requirements specified in the following:
40 CFR 59, Subpart D-National Volatile Organic Compound Emission Standards for Architectural Coatings.
SCAQMD 1113 Rule.
Ozone Transport Commission (OTC) Model Rule, Architectural, Industrial, and Maintenance Coatings; www.otcair.org; specifically:
Opaque, Flat: 50 g/L, maximum.
Opaque, Nonflat: 150 g/L, maximum.
Opaque, High Gloss: 250 g/L, maximum.
Architectural coatings VOC limits of the State of Missouri.
Determination of VOC Content: Testing and calculation in accordance with 40 CFR 59, Subpart D (EPA Method 24), exclusive of colorants added to a tint base and water added at project site; or other method acceptable to authorities having jurisdiction.

Colors: To be selected from manufacturer's full range of available colors.

PAINT SYSTEMS - INTERIOR

Paint I-OP - Interior Surfaces to be Painted, Unless Otherwise Indicated: Including gypsum board, wood, uncoated steel, and shop primed steel.
Top Coat(s): Interior Latex.
Primer: As recommended by top coat manufacturer for specific substrate.

Paint I-OP-MD-DT - Medium Duty Door/Trim: For surfaces subject to frequent contact by occupants, including metals and wood.
Top Coat(s): Interior Alkyd, Water Based.
Primer: As recommended by top coat manufacturer for specific substrate.

PRIMERS

Primers: Provide the following unless other primer is required or recommended by manufacturer of top coats.
Interior Latex Primer Sealer.
Latex Primer for Interior Wood.

DIVISION 10 - SPECIALTIES

SECTION 10 14 00 - SIGNAGE

SIGNAGE APPLICATIONS

Accessibility Compliance: Signs are required to comply with, UFAS, ADA Standards, and ICC A117.1 and applicable building codes, unless otherwise indicated; in the event of conflicting requirements, comply with the most comprehensive and specific requirements.

Room and Door Signs: Provide signs as indicated in Signage Schedule.
Sign Type: Flat signs with raised panel media as specified.

Interior Directional and Informational Signs:
Sign Type: Same as room and door signs.

Building Identification Signs:
Sign Type: Dimensional Letters and Numbers, 4 inch high minimum; wall-mounted.
Material: plastic letters & numbers.
Install at building exteriors as directed by Owner

Dwelling Unit Identification Signs:
Sign Type: Flat signs with raised panel media as specified.
Material: Fiberglass or Photopolymer signs.
Mounting: Countersunk Screws.
Install on outside wall at apartment entries as directed or indicated on drawings.

Office Directional Sign:
Sign Type: Flat signs with printed panel media as specified.
Material: Fiberglass or Photopolymer signs.
Size: 24 inch by 36 inch.
Mounting: Pole-mounted.
Text: 'OFFICE' with directional arrow (direction of arrow per Owner)

Monument Sign: Provide sign as indicated on Drawings.

Traffic Signs: Provide Parking/Traffic signs and mounting poles of types indicated on drawings.

SIGN TYPES

Flat Signs: Signage media without frame.
Color and Font: Unless otherwise indicated:
Character Font: Helvetica, Arial, or other sans serif font.
Character Case: Upper case only.
Background Color: Selected by Owner/Architect.
Character Color: Contrasting color.

TACTILE SIGNAGE MEDIA

Engraved Panels: Laminated colored plastic; engraved through face to expose core as background color.
Injection Molded Panels: One-piece acrylic plastic, with raised letters and braille.
Applied Character Panels: Acrylic plastic base, with applied acrylic plastic letters and braille.

DIMENSIONAL LETTERS

Plastic Letters:
Material: Injection molded plastic.

SECTION 10 28 00 - TOILET AND BATH ACCESSORIES

MANUFACTURERS

Fixture and Accessory Manufacturers:

Better Homes Products, Inc.: www.betterhomesproducts.com.
Pfister, a Spectrum Brands company: www.pfisterfaucets.com.
Delta Faucet Company, Inc.: www.deltafaucet.com.

Access Control Unit:
Control Capability: 15 doors/ 15 readers.
Database:
Quantity of Access Codes Supported: 8000.
Operating Modes Supported:
Proximity key fob.
Features:
Dedicated power loss alarm input.
Supports database and event exporting.
Supports database backup.

Computers:
Workstation Computers: Unless otherwise indicated, workstation computer hardware and associated peripherals not furnished by access control system manufacturer to be provided by Contractor as part of work of this section, meeting access control system equipment manufacturer's recommended requirements.
Servers: Unless otherwise indicated, server hardware and associated peripherals not furnished by access control system manufacturer to be provided by Contractor as part of work of this section, meeting access control system equipment manufacturer's recommended requirements.

ACCESS CONTROL POINT PERIPHERALS
Provide devices compatible with control units and software.
Provide devices suitable for operation under the service conditions at the installed location.

Readers and Keypads:
General Requirements:
Provide readers compatible with credentials to be used.
Proximity Readers:
Utilize 125 kHz RF communication with compatible credentials.
Proximity Reader:
Read Range: Up to 12 inches.
Features:
Tamper output.

ACCESSORIES
Unless otherwise indicated, credentials to be provided by Contractor.

Uppermost and lowermost calls are answered as soon as they are reached without consideration of the car travel direction.

EMERGENCY POWER
Set-up elevator operation to run with elevator emergency power supply when the normal building power supply fails, and in compliance with ASME A17.1 requirements.
Elevator Emergency Power Supply: Supplied by battery backup; provide elevator system components as required for emergency power characteristics.
Emergency Lighting: Comply with ASME A17.1 elevator lighting requirements.

MATERIALS
Rolled Steel Sections, Shapes, Rods: ASTM A36/A36M.
Sheet Steel: Hot-dipped galvanized steel sheet, ASTM A653/A653M, with G90/Z275 coating.
Stainless Steel Sheet: ASTM A666, Type 304; No. 4 Brushed finish unless otherwise indicated.
Extruded Aluminum: ASTM B221 (ASTM B221M), natural anodized finish unless otherwise indicated.
CAR AND HOISTWAY ENTRANCES
Elevator, No. 1 & 2:
Car and Hoistway Entrances, Each Elevator Floor Lobby:
Framed Opening Finish and Material: Alkyd enamel on steel.
Car Door Material: Stainless steel, with rigid sandwich panel construction.
Hoistway Door Material: Stainless steel, with rigid sandwich panel construction.

CAR EQUIPMENT AND MATERIALS
Elevator Car, No. 1 & 2:
Car Operating Panel: Provide main and auxiliary; flush-mounted applied face plate, with illuminated call buttons corresponding to floors served with "Door Open" button, "Door Close" button, alarm button, and emergency call button.
Panel Material: Integral with front return; one per car.
Car Floor Position Indicator: Above door with illuminating position indicators.
Flooring: Resilient sheet flooring.
Front Return Panel: Match material of car door.
Door Wall: Stainless steel.
Side Walls: Stainless steel.
Rear Wall: Stainless steel.
Hand Rail: Aluminum, at three side walls. Provide open clearance space 1-1/2 inch (38 mm) wide to face of wall.
Aluminum Finish: Clear anodized.
Ceiling:

DIVISION 28 - ELECTRONIC SAFETY AND SECURITY

SECTION 28 10 00 - ACCESS CONTROL

ADMINISTRATIVE REQUIREMENTS

Coordination:
Coordinate the work with other installers to provide suitable door hardware as required for both access control functionality and code compliance.
Coordinate the work with other installers to provide power for equipment at required locations.
Notify Architect of any conflicts with or deviations from Contract Documents. Obtain direction before proceeding with work.

DELIVERY, STORAGE, AND HANDLING

Receive, inspect, handle, and store products in accordance with manufacturer's instructions.
Store products in manufacturer's unopened packaging, keep dry and protect from damage until ready for installation.

MANUFACTURERS

Access Control Units - Basis of Design: DKS Door King; Series 1830.

Access Control Units:
Bosch Security Systems: www.boschsecurity.us/#sle.
DoorKing, Inc: www.doorking.com/#sle.
Honeywell International, Inc: www.honeywellaccess.com/#sle.

ACCESS CONTROL SYSTEM REQUIREMENTS

Provide new access control system consisting of required equipment, conduit, boxes, wiring, connectors, hardware, supports, accessories, software, system programming, etc. as necessary for a complete operating system that provides the functional intent indicated.

Surge Protection:
Provide surge protection for readers and door strikes/locks.

Access Control Points:
Exterior Doors:
Function: Operational and emergency.
Access: Controlled entry, free exit.
Peripherals on Secure Side:
Reader/Keypad: Contactless key fob reader.
Locking Device: Electric strike.
Configuration: Fail-secure.

Computers Required:

Workstation Computer(s):
Quantity: One.
Location(s): Leasing Office.
Peripherals required for each workstation computer:
Mouse and keyboard.
Monitor(s): One.
Alarm/report printer.

Interface with Other Systems.
Provide products compatible with other systems requiring interface with access control system.
Interface with electrically operated door hardware as specified in Section 08 71 00.
Provide products listed, classified, and labeled as suitable for the purpose intended.
Access Control Units and Readers: Listed and labeled as complying with UL 294.

ACCESS CONTROL UNITS AND SOFTWARE

Provide access control units and software compatible with readers to be connected.
Unless otherwise indicated, provide software and licenses required for fully operational system.

DIVISION 12 - FURNISHINGS

SECTION 12 21 13 - HORIZONTAL LOUVER BLINDS

MANUFACTURERS

Horizontal Louver Blinds:
CACO Inc.: www.cacoinc.com
SWF Contract, a division of Spring Window Fashions, LLC.: www.swfcontract.com.
Ball Blinds
Graber Blinds

BLINDS

Description: Horizontal slat louvers hung from full-width headrail with full-width bottom rail.
Manual Operation: Control of raising and lowering by counterbalance spring with full range locking; blade angle adjustable by control wand.
Plastic Slats: Extruded PVC, square slat corners.
Width: 1 inch.
Thickness: 0.017 inch.
Texture: Smooth.
Slat Support: Woven polypropylene cord, ladder configuration.
Head Rail: Pre-finished, formed steel box, with end caps; internally fitted with hardware, pulleys, and bearings for operation; same depth as width of slats.
Bottom Rail: Pre-finished, formed steel; with end caps.
Color: Same as headrail.
Lift Cord: Braided nylon, continuous loop with restraining device; comply with WCMA A100.1.
Control Wand: Extruded solid plastic; hexagonal shape.

SECTION 12 35 30 - RESIDENTIAL CABINETS AND COUNTERTOPS

CABINETS

Manufacturers:
All Wood Cabinetry Inc.: "All Wood": www.allwoodfast.com
American Traditions/S&W Cabinets, Inc; Shaker Poplar: www.swcabinets.com
Wellborn Cabinet, Inc; Home Concepts - All Plywood: www.wellborn.com/#sle.
Wolf Home Products; Wolf Classic Cabinets: www.wolfhomeproducts.com/#sle.
Cabinet Box: Framed construction.
Cabinet Door/Drawer Configuration: Partial overlay.
Cabinet Doors:
3/4 inch kiln-dried hardwood frame; mortise and tenon construction, 1/4 inch plywood center panel with hardwood veneer finish.
Drawers:
1/2 inch Birch plywood full box with butted joints, 1/4 inch Birch plywood bottom.

Shelves: 5/8 inch plywood.
Exposed shelf edges: Finish with manufacturer's standard edge banding, color coordinated with other exposed finishes.
Cabinet Hardware: As selected from manufacturer's standard types, styles and finishes.
Drawer and Cabinet Pulls: Satin nickel, wire pulls 4 inches wide
Exterior Finish: Factory-applied urethane; 2 color coats with top coat min.
Color: To be selected by Owner from manufacturer's standard line.

COUNTERTOPS

Kitchen Countertops and all Countertops in Laundry: Post formed plastic laminate over particle board with, rolled edge, and covered to back splash.
Colors/Patterns: To be selected by Owner from manufacturer's standard line.
Vanity Countertops: Post formed plastic laminate over particle board, covered to back splash.
Colors/Patterns: To be selected by Owner from manufacturer's standard line.

WINDOW SILLS

Self edged plastic laminate over particle board with, square front nosing and self-edged sides.

FABRICATION

Shop assemble casework for delivery to site in units easily handled and to permit passage through building openings.
Fabricate tops and splashes in the largest sections practicable, with top surface of joints flush.
Provide back/end splash wherever counter edge abuts vertical surface unless otherwise indicated.

DIVISION 14 - CONVEYING EQUIPMENT

SECTION 14 21 00 - ELECTRIC TRACTION ELEVATORS

MANUFACTURERS

Manufacturers - Electric Traction Elevators:
Otis Elevator Company; Gen3 Core: www.otis.com.
Schindler Elevator Corporation; Schindler 3100: www.us.schindler.com/#sle.
TK Elevator (formerly ThyssenKrupp): www.tkelevator.com.

ELECTRIC TRACTION ELEVATORS

Electric Traction Passenger Elevator:
Electric Traction Elevator Equipment:
Gearless Traction Machine: Single wrapped traction driving sheave, with dual brake.
Drive System:
Variable voltage alternating current (AC).
Operation Control Type:
Selective Collective Automatic Operation Control.
Interior Car Height: 93 inch.
Electrical Power: 208 volts; alternating current (AC); three phase; 60 Hz.
Rated Net Capacity: 3500 pounds.
Rated Speed: 200 feet per minute.
Number of Stops: 4.
Number of Openings: 4 Front.
Traction Machine Location: Top of hoistway shaft.

PERFORMANCE REQUIREMENTS

Regulatory Requirements: Comply with ASME A17.1, applicable local codes, and authorities having jurisdiction (AHJ).
Accessibility Requirements: Comply with UFAS and ADA Standards.

OPERATION CONTROLS

Elevator Controls: Provide landing operating panels and landing indicator panels.
Landing Operating Panels: Metallic type, one for originating "Up" and one for originating "Down" calls, one button only at terminating landings; with illuminating indicators.
Landing Indicator Panels: Illuminating.
Comply with UFAS and ADA Standards for elevator controls.

Interconnect elevator control system with building fire alarm and smoke alarm systems.
Emergency Communication System: An emergency 2-way communication system in compliance with ICC (IBC)-2018 that is fully accessible to the deaf, hard of hearing, and speech impaired.
System Requirements:
Visual and text-based and video-based system.
Continuously live monitored interactive service.
Shall include voice-only options for the hearing.

Lobby Monitoring Panel:
Locate status indicator and control panel for each individual elevator in Central Control Room.

OPERATION CONTROL TYPE

Selective Collective Automatic Operation Control: Applies to car in single elevator shaft.
Refer to description provided in ASME A17.1.
Automatic operation by means of one button in the car for each landing served and by "UP" and "DOWN" buttons at the landings.
Stops are registered by momentary actuation of landing car buttons without consideration of the number of buttons actuated or the sequence buttons actuated, but the stops are made in the order that landings are reached in each direction of travel.
All "UP" landing calls are made when car is traveling in the up direction.
All "DOWN" landing calls are made when car is traveling in the down direction.

DIVISION 11 - EQUIPMENT

SECTION 11 30 13 - RESIDENTIAL APPLIANCES

KITCHEN APPLIANCES

Energy Star Rating: Provide Equipment Eligible for Energy Star Rating where available and applicable.
Refrigerator, Accessible Dwelling Units: Free-standing, side-by-side, and frost-free.
Capacity: Total minimum storage of 17.0 cubic ft; minimum 25 percent freezer capacity.
Energy Usage: Energy Star Rated.
Features: Include glass shelves, automatic icemaker, light in freezer compartment, and ADA compliant front-mounted controls.
Exterior Finish: Porcelain enameled steel, color as selected by Owner.
Manufacturers:
To be selected by Owner.
Refrigerator, Typical Dwelling Units: Free-standing, side-by-side, and frost-free.
Capacity: Total minimum storage of 17.0 cubic ft; minimum 29 percent freezer capacity.
Features: Include glass shelves, automatic icemaker, and light in freezer compartment.
Exterior Finish: Porcelain enameled steel, color as selected by Owner.
Manufacturers:
To be selected by Owner.
Range, Accessible Dwelling Units: Electric, free-standing, with plug-in heating elements and removable drip pans.
Size: 30 inches wide.
Oven: Manual cleaning.
Elements: Four (4).
Controls: Solid state electronic.
Features: Include oven door window, broiler pan and grid, oven light, anti-tip restraint, and front mounted controls.
Manufacturers:
To be selected by Owner.
Range, Typical Dwelling Units: Electric, free-standing, with plug-in heating elements and removable drip pans.
Size: 30 inches wide.
Oven: Manual cleaning.
Elements: Four (4).
Controls: Push-to-turn knobs with electronic clock and timer.
Features: Include oven door window, broiler pan and grid, oven light, and anti-tip restraint.
Exterior Finish: Porcelain enameled steel, color as selected by Owner.
Manufacturers:
To be selected by Owner.

Cooking Exhaust, Accessible Dwelling Units: Range hood; fan and light wired to wall switches.
Refer to drawings for switch heights.
Size: 30 inches wide.
Fan: Two-speed, 220 cfm
Exhaust: Recirculating.
Features: Include cooktop light and removable grease filter.
Exterior Finish: Painted steel, color as selected by Owner.
Manufacturers:
To be selected by Owner.
Microwave/Hood, Typical Dwelling Units: Over-the-range, microwave/hood combination.
Capacity: 1.7 cubic ft.
Power: 1000 watts.
Fan: Two-speed, 220 cfm
Exhaust: Recirculating.
Features: Include turntable, cooktop light, night light, 2-speed exhaust fan, built-in trim kit, and undercabinet mounting kit.
Exterior Finish: Painted steel, color as selected by Owner.
Manufacturers:
To be selected by Owner.

Microwave, Accessible Dwelling Units: Countertop.
Capacity: 1.3 cubic ft.
Power: 1000 watts.
Height: 12 inches maximum.
Features: Include turntable.
Exterior Finish: Painted steel, color as selected by Owner.
Manufacturers:
To be selected by Owner.

Dishwasher, Accessible Dwelling Units: Undercounter, for installation at 34 inch counters.
Controls: Solid state electronic.
Cycles: Six (6), including heavy, sanitize, normal, eco, quick, and rinse and hold.
Features: Include rinse aid dispenser, optional no-heat dry, optional water temperature boost, adjustable upper rack, and adjustable lower rack.
Finish: Porcelain enameled steel, color as selected by Owner.
Manufacturers:
To be selected by Owner.
Dishwasher, Typical Dwelling Units: Undercounter.
Controls: Solid state electronic.
Wash Options: Three (3).
Cycles: Four (4), including heavy, normal, light, and auto-sense.
Features: Include rinse aid dispenser, optional no-heat dry, optional water temperature boost, adjustable upper rack, and customizable bottom rack.
Finish: Porcelain enameled steel, color as selected by Owner.
Manufacturers:
To be selected by Owner.

Grease Shield: Wall-mounted backsplash type; countersunk screw attachment.
Material: Vinyl.
Width: To match width of range.
Finish: Color as selected by Owner.

RESIDENTIAL LAUNDRY APPLIANCES
Provide Equipment Eligible for Energy Star Rating.
Clothes Washer, Accessible Units: Front-loading.
Size: Large capacity.
Controls: Solid state electronic.
Cycles: Include normal, permanent press, delicate, and soak.
Motor Speed: Two-speed, three combinations.
Features: Include bleach dispenser, fabric softener dispenser, sound insulation, end of cycle signal, and front-mounted controls.
Finish: Painted steel, color white.
Manufacturers:
To be selected by Owner.
Clothes Dryer: Electric.
Size: Large capacity.
Controls: Solid state electronic, with temperature-sensing dry control.
Temperature Selections: Four.
Cycles: Include normal, permanent press, knit/delicate, and air only.
Features: Include interior light, reversible door, sound insulation, end of cycle signal, and front-mounted controls.
Finish: Painted steel, color white.
Manufacturers:
To be selected by Owner.
Combination Clothes Washer/Dryer (Stacked), Typical Dwelling Unit, Electric, stationary.
Size: Compact.
Controls: Rotary.
Cycles: Include normal, permanent press, delicate, and soak.
Temperature Selections: Four.
Finish: Painted steel, color as selected by Owner.
Manufacturers:
To be selected by Owner.

Commercial Toilet and Shower Accessories:
ASI - American Specialties, Inc: www.americanspecialties.com.
Bradley Corporation: www.bradleycorp.com.
Bobrick Washroom Equipment Inc.: www.bobrick.com.

MATERIALS

Accessories - General: Shop assembled, free of dents and scratches and packaged complete with anchors and fittings, steel anchor plates, adapters, and anchor components for installation.
Stainless Steel Sheet: ASTM A666, Type 304.
Galvanized Sheet Steel: Hot-dipped galvanized steel sheet, ASTM A653/A653M, with G90/Z275 coating.
Mirror Glass: Annealed float glass, ASTM C1036 Type I, Class 1, Quality Q2, with silvering, protective and physical characteristics complying with ASTM C1503.
Adhesive: silicone, waterproof.
Fasteners, screws, and bolts: Corrosion resistant or stainless steel.

TOILET AND BATHROOM ACCESSORIES

Toilet Paper Dispenser: Single roll, surface mounted bracket type, nickel-plated solid brass.
Product: Candlestick Park #2209 manufactured by Better Homes Products, or equal.
Mirrors: Stainless steel framed, 1/4 inch thick annealed float glass; ASTM C1036.
Annealed Float Glass: Silvering, protective and physical characteristics in compliance with ASTM C1503.
Size: As indicated on drawings.
Grab Bars: Stainless steel, textured surface.
Standard Duty Grab Bars:
Dimensions: 1-1/2 inch outside diameter, minimum 0.05 inch wall thickness, concealed flange mounting, 1-1/2 inch clearance between wall and inside of grab bar.
Finish: Safety-grip.
Product: Series 832 manufactured by Bradley, or equal.
Shower Curtain Rod: Stainless steel tube, 1 inch outside diameter, 0.04 inch wall thickness, satin-finished, with 3 inch outside diameter, minimum 0.04 inch thick satin-finished stainless steel flanges, for concealed mounting.
Product: Model B-207 manufactured by Bobrick, or equal.
Towel Bar: Solid brass, nickel-plated.
Finish: Satin.
Length: 24 inches.
Product: Candlestick Park #2224 manufactured by Better Homes Products, or equal.
Towel Ring: Solid brass, nickel-plated, 2-1/2 inch extension from wall, with round ring, for concealed attachment.
Finish: Satin.
Product: Candlestick Park #2204 manufactured by Better Homes Products, or equal.
Robe Hook: Solid brass, nickel-plated, double-prong for concealed attachment.
Finish: Satin.
Product: Candlestick Park #2202 manufactured by Better Homes Products, or equal.

SECTION 10 44 00 - FIRE PROTECTION SPECIALTIES

MANUFACTURERS

Fire Extinguishers:
Kidde, a unit of United Technologies Corp: www.kidde.com.
Pyro-Chem, a Tyco Business: www.pyrochem.com.
Strike First Corporation of America: www.strikefirstusa.com.
Fire Extinguisher Cabinets and Accessories:
JL Industries, Inc; Clear Vu Model 1535F25: www.jlindustries.com.
Larsen's Manufacturing Co; Model C2409R: www.larsensmfg.com.

FIRE EXTINGUISHERS

Fire Extinguishers - General: Comply with product requirements of NFPA 10 and applicable codes, whichever is more stringent.
Multipurpose Dry Chemical Type Fire Extinguishers: Carbon steel tank, with pressure gauge.
Stored Pressure Operated: Deep Drawn.
Class: A:B:C type.
Size: 5 pound; For installation in Common areas.
Size: 2.5 pound; For installation in individual Dwelling Units.

FIRE EXTINGUISHER CABINETS

Fire Rated Cabinet Construction: hour-rating as required for assembly.
Steel; double wall or outer and inner boxes with 5/8 inch thick fire barrier material.
Cabinet Configuration: Semi-recessed type.
Door Glazing: Acrylic plastic, clear, 1/8 inch thick, full view bubble shape and set in resilient channel glazing gasket.

SECTION 10 55 00 - POSTAL SPECIALTIES

CENTRAL MAIL DELIVERY BOXES

Central Mail Delivery Boxes: Provide products approved for United States Postal Service (USPS) delivery.
Wall-Mounted Mailboxes, Complying with 39 CFR 111 (USPS-STD-4C).
Unit A: Front-loading with pair of master doors, double-column design, 9 customer compartments, 1 outgoing mail compartment, and 2 parcel compartments; free-standing enclosure mounted.
Florence Manufacturing Company; Model # 4CADD-09.
Quantity: 5 Units.

SECTION 10 57 23 - CLOSET AND UTILITY SHELVING

MANUFACTURERS

Wire Storage Shelving:
ClosetMaid Corporation: www.closetmaid.com.
Rubbermaid, Inc: www.rubbermaidpro.com.

WIRE STORAGE SHELVING SYSTEMS

Applications:
Shelf Depth: 12 inches, unless otherwise indicated.
Bedroom Closets:
Wall-to-wall shelf with free sliding hanger rod.
Provide intermediate bracing for shelves longer than 36 inches.
Coat Closets:
Wall-to-wall shelf with integral hanger rod.
Provide intermediate bracing for shelves longer than 36 inches.
Linen and Pantry Shelving:
Wall-to-wall shelves spaced as shown on the drawings, not less than 16 inch deep.
Wire Shelving: Factory-assembled coated wire mesh shelf assemblies for wall-mounting, with components and connections required to produce a rigid structure that is free of buckling and warping.
Construction: Cold-drawn steel wire with average tensile strength of 100,000 psi resistance welded into uniform mesh units, square, rigid, flat, and free of dents or other distortions, with wires trimmed smooth.
Coating: PVC or epoxy, applied after fabrication, covering surfaces.
Hanging Rod: Tubular steel, 1 inch diameter, with end caps on open ends.
Mounting Hardware for Wire Shelving: Provide manufacturer's standard mounting hardware; include support braces, wall brackets, back clips, end clips, poles, and other accessories as required for complete and secure installation; factory finished to match shelving.
Fasteners: As recommended by manufacturer for mounting substrates.

Alura Village Apartment Building Type "A"

Lee's Summit, Jackson County, Missouri

GENERAL NOTES

ELEVATION DATUM
SEE ARCHITECTURAL DRAWINGS OR SITE PLAN FOR FINISH FLOOR ELEVATIONS

DESIGN SPECIFICATIONS
2018 INTERNATIONAL BUILDING CODE

EARTHWORK
EARTHWORK OPERATIONS SHALL BE PERFORMED UNDER THE DIRECTION OF A PROFESSIONAL TESTING AGENCY TO ASSURE COMPLIANCE WITH THE RECOMMENDATIONS OF THE SOILS REPORT PREPARED BY OLSSON, INC. DATED AUGUST 22, 2019.

CONCRETE

CONCRETE WORK SHALL CONFORM TO ALL REQUIREMENTS OF THE CURRENT ACI 301, SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS, ACI 318 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, ACI 305 SPECIFICATIONS FOR HOT WATER CONCRETE, AND ACI 306 SPECIFICATIONS FOR COLD WEATHER CONCRETE, WITH THE FOLLOWING ADDITIONAL REQUIREMENTS:

- CONCRETE SHALL DEVELOP THE FOLLOWING 28-DAY MINIMUM COMPRESSIVE STRENGTH:
FOUNDATIONS - 3,000 PSI
CAST-IN-PLACE WALLS - 3,500 PSI
FLOOR SLAB - 4,000 PSI
EXTERIOR SLABS, WALLS AND CURBS - 4,000 PSI
- ALL FOOTINGS SHALL BEAR ON UNDISTURBED SOIL OR ENGINEERED FILL.
- CHLORIDE- BASED ADMIXTURES ARE PROHIBITED IN ALL REINFORCED CONCRETE.
- REINFORCING STEEL SHALL CONFORM TO ASTM A615, A616, OR A617, GRADE 60.
- ALL CONTINUOUS REINFORCING STEEL THAT MEETS AT A CORNER SHALL BE TIED TOGETHER WITH A CORNER BAR THAT HAS SUFFICIENT LAP DISTANCE IN EACH DIRECTION
- CONTINUOUS REINFORCING BARS LAP LENGTH SHALL BE A MINIMUM OF 48 BAR DIAMETERS UNLESS NOTED OTHERWISE
- CONCRETE SLUMP SHALL BE A MAXIMUM OF 4" +/- 1" (ASTM C- 143) AS DELIVERED IN THE FIELD. CONTRACTOR MAY USE CHEMICAL ADMIXTURES TO ATTAIN A MAXIMUM SLUMP OF 8" FOR WORKABILITY. NO WATER MAY BE ADDED TO THE CONCRETE MIX ON SITE UNLESS WATER IS WITHHELD AT THE BATCHING FACILITY. IF WATER IS WITHHELD AT THE BATCHING FACILITY IT SHOULD BE REFLECTED ON THE LOAD TICKET. THE TOTAL AMOUNT OF WATER IN THE MIX SHALL NOT EXCEED WHAT IS NOTED ON THE APPROVED MIXED. THIS SHALL BE NOTED IN THE SPECIAL INSPECTOR'S RECORDS.
- CONCRETE EXPOSED TO WEATHER, VEHICLES, AND/OR DECING CHEMICALS SHALL BE AIR-ENTRAINED WITH 6% (+/- .5) 1.5% EXTRACTED AIR BY VOLUME AT POINT OF DISCHARGE. DO NOT ALLOW AIR CONTENT OF TROWELED FINISHED FLOORS TO EXCEED 3%.
- SUBMIT CONCRETE MIX PROPORTIONS PRIOR TO START OF WORK. DO NOT BEGIN CONCRETE PRODUCTION UNTIL MIXES HAVE BEEN REVIEWED AND ARE ACCEPTABLE TO THE ENGINEER.
- READY MIX CONCRETE SHALL COMPLY WITH REQUIREMENTS OF ASTM C94.
- CONCRETE WORK EXECUTION
 - CONSTRUCT FORMS TO CORRECT SIZE, SHAPE, ALIGNMENT, ELEVATION AND POSITION; AND TO SUPPORT VERTICAL AND LATERAL LOADS.
 - POSITION, SUPPORT, AND SECURE REINFORCEMENT AGAINST DISPLACEMENT. MINIMUM CONCRETE COVER FOR REINFORCEMENT SHALL BE, UNLESS NOTED OTHERWISE ON THE DRAWINGS:
CAST AGAINST AND EXPOSED TO EARTH.....3 INCHES
EXPOSED TO EARTH OR WEATHER.....2 INCHES
NOT EXPOSED TO WEATHER OR IN CONTACT WITH EARTH.....1 ½ INCHES
 - PROVIDE CONTROL JOINTS IN SLABS-ON-GRADE AT NOT GREATER THAN 15 FEET ON CENTER IN EACH DIRECTION. SAW CUT CONTROL JOINTS MINIMUM ¼ OF SLAB DEPTH, AS SOON AFTER SLAB FINISHING WITHOUT DISLODGING AGGREGATE.
 - STEEL TROWEL FINISH ALL INTERIOR CONCRETE SLABS, BROOM FINISH ALL EXTERIOR CONCRETE SLABS.
 - CURE ALL CONCRETE IN COMPLIANCE WITH ACI 301, USING A LIQUID TYPE MEMBRANE, NON-RESIDUAL, CURING COMPOUND COMPLYING WITH ASTM C309. ASSURE COMPATIBILITY WITH FINISH FLOOR COVERING.

TIMBER

TIMBER WORK SHALL CONFORM TO ALL REQUIREMENTS OF THE CURRENT ANSI/AWC NATIONAL DESIGN SPECIFICATION (NDS) FOR WOOD CONSTRUCTION WITH 2018 NDS SUPPLEMENT FOR WOOD CONSTRUCTION, WITH THE FOLLOWING SUPPLEMENTAL REQUIREMENTS:

- FOR COMMON MEMBER SIZES, THE SPECIES AND GRADES SHALL BE AS FOLLOWS, UNLESS NOTED OTHERWISE:

A.	2X4	SPF No.1/No.2
B.	2X6	SPF No.1/No.2
C.	2X8	DF-L No.2
D.	2X10	DF-L S.S.
E.	2X12	DF-L S.S.
- EQUIVALENT (OR BETTER) GRADES & SPECIES MAY BE SUBMITTED FOR THE ENGINEER'S APPROVAL.
- SIZES SHOWN FOR LUMBER ARE NOMINAL SIZES.
- TIMBER EXPOSED TO WEATHER OR GROUND, OR IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE-IMPREGNATED BY AN APPROVED PROCESS AND PRESERVATIVE.
- SPLICING OF JOISTS, STUDS, OR HEADERS IS PROHIBITED EXCEPT AS SHOWN.
- BOLTS SHALL CONFORM TO ASTM A307. HOLES SHALL BE DRILLED PER SECTION 12.1.3 OF THE 2018 ANSI/AWC NDS FOR WOOD CONSTRUCTION NDS SUPPLEMENT.
- LAG SCREWS AND WOOD SCREWS SHALL BE INSTALLED PER SECTIONS 12.1.4 & 12.1.5 RESPECTIVELY, OF THE 2018 ANSI/AWC NDS FOR WOOD CONSTRUCTION WITH 2018 NDS SUPPLEMENT.
- COMMON NAILS SHALL BE USED, UNLESS NOTED OTHERWISE. IN ADDITION, NAILS SHALL BE GALVANIZED, IF EXPOSED TO WEATHER OR MOISTURE. TOE-NAILS SHALL BE DRIVEN PER SECTION 12.1.6.3 OF THE 2018 ANSI/AWC NDS FOR WOOD CONSTRUCTION WITH 2018 NDS SUPPLEMENT.
- FASTENING SHALL BE PER THE IBC MINIMUM FASTENING SCHEDULE, TABLE 2304.10.1, UNLESS NOTED OTHERWISE.
- CONNECTIONS/CONNECTORS SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.

POST-INSTALLED ANCHORS

- ALL POST-INSTALLED ANCHORS SHALL MEET THE REQUIREMENTS OF THE CODE-CITED EDITION OF ACI 318, APPENDIX "D", AND SHALL BE ACCEPTABLE FOR BOTH CRACKED AND UNCRACKED CONCRETE.
- EXPANSION ANCHORS HAVE BEEN DESIGNED AS HILTI KWIK BOLT TZ ANCHORS, UNLESS NOTED OTHERWISE.
- ADHESIVE ANCHORS HAVE BEEN DESIGNED TO USE HILTI HIT HY 200 ADHESIVE IN CONCRETE OR SOLID MASONRY, UNLESS NOTED OTHERWISE.
- EQUIVALENT ANCHORS MAY BE SUBMITTED FOR THE ENGINEER'S APPROVAL. SUBMITTALS ARE THE CONTRACTOR'S RESPONSIBILITY AND MUST INCLUDE ICC ES EVALUATION REPORTS FROM THE INTERNATIONAL CODE COUNCIL (ICC).
- EMBEDMENT DEPTH IS DEFINED AS THE DISTANCE FROM THE SURFACE OF THE LOAD-BEARING BASE MATERIAL TO THE DEEPEST PART OF THE ANCHOR AFTER THE ANCHOR HAS BEEN DRIVEN INTO THE HOLE BUT NOT YET EXPANDED.
- ADHESIVE ANCHORS SHALL BE ACCEPTABLE FOR LONG-TERM LOADING. WHEN BASE MATERIAL TEMPERATURES ARE BELOW 40 DEG F, ONLY NON-EPOXY-BASED ADHESIVES SHALL BE USED.
- POST-INSTALLED ANCHORS SHALL ONLY BE USED WHERE SPECIFIED ON THE DRAWINGS. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ENGINEER PRIOR TO USING POST-INSTALLED ANCHORS FOR MISSING OR MISPLACED CAST-IN-PLANE ANCHORS. CARE SHALL BE TAKEN TO AVOID CONFLICTS WITH EXISTING REINFORCING BARS. HOLES SHALL BE DRILLED AND CLEANED PER ANCHOR MANUFACTURER'S SPECIFICATIONS.
- STAINLESS STEEL ANCHORS ARE REQUIRED AT ALL PERMANENTLY EXPOSED WEATHER CONDITIONS.

STRUCTURAL STEEL

- FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE AISC SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS, THE AISC CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES AND CURRENT OSHA STANDARDS.
- WIDE FLANGE SHAPES SHALL CONFORM TO ASTM A992. STRUCTURAL TUBES SHALL CONFORM TO ASTM A500 GRADE B. ALL OTHER STRUCTURAL STEEL SHALL CONFORM TO ASTM A36.
- BOLTS, UNLESS OTHERWISE SHOWN, SHALL CONFORM TO ASTM A325-N, SIZE AS PER PLAN.
- ANCHOR BOLTS, UNLESS OTHERWISE SHOWN, SHALL CONFORM TO ASTM F1554 GRADE 36.
- SPLICING OF STRUCTURAL STEEL IS PROHIBITED EXCEPT AS DETAILED.
- ALL STRUCTURAL AND MISCELLANEOUS STEEL ITEMS SHALL RECEIVE ONE COAT OF "IRONCLAD RETARDO RUST INHIBITIVE PAINT 163" (BENJAMIN MOORE) OR APPROVED EQUAL UNLESS OTHERWISE INDICATED IN THE SPECIFICATIONS. ALL STEEL SURFACES EMBEDDED IN CONCRETE SHALL NOT BE PAINTED. PREPARATION OF STEEL SURFACES SHALL MEET THE REQUIREMENTS OF THE STEEL STRUCTURES PAINTING COUNCIL (SSPC-SP1) AND THE REMOVAL OF GREASE AND OIL BY SOLVENT CLEANING (SSPC-SP1) AND THE REMOVAL OF MILL SCALE, RUST, WELD FLUX AND SLAG BY HAND TOOL CLEANING (SSPC-SP2). PRIMER SHALL BE APPLIED AT THE MANUFACTURER'S RECOMMENDED RATE BUT NOT LESS THAN ONE GALLON PER 400 SQ.FT. THEREBY DEPOSITING A DRY FILM THICKNESS OF NOT LESS THAN 1.5 MILS. ANY SCORDED AREAS SHALL BE TOUCHED UP WITH THE SAME PAINT AFTER ERECTION.
- ALL WELDING SHALL BE DONE BY QUALIFIED WELDERS IN ACCORDANCE WITH THE CURRENT EDITION OF THE AWS STRUCTURAL WELDING CODE. WELDING ELECTRODES SHALL BE E70XX.

PREFABRICATED WOOD TRUSSES

- FLOOR & ROOF TRUSSES SHALL BE DESIGNED IN ACCORDANCE WITH THE TRUSS PLATE INSTITUTE (TPI) DESIGN SPECIFICATION FOR METAL PLATE CONNECTED WOOD TRUSSES, AND THE ANSI/AWC NATIONAL DESIGN SPECIFICATION (NDS) FOR WOOD CONSTRUCTION.
 - PROVIDE TEMPORARY AND PERMANENT BRACING ON ALL TRUSSES, AS REQUIRED TO PROVIDE MEMBER AND TRUSS STABILITY.
 - FLOOR & ROOF TRUSSES SHALL BE DESIGNED AND CONSTRUCTED FOR A MAXIMUM TOTAL LOAD DEFLECTION OF L/360 AND TO SAFELY SUPPORT THE FOLLOWING LOADS:
 - DEAD, LIVE, SNOW, WIND, EARTHQUAKE: SEE PROJECT DESIGN DATA ON COVER SHEET.
 - MECHANICAL PIPE LOAD: TRUSSES SHALL BE DESIGNED FOR A CONCENTRATED LOAD OF 250 LBS HUNG ANYWHERE ALONG THE BOTTOM CHORD.
 - OVER-FRAMING LOAD: TRUSSES SHALL ALSO BE DESIGNED TO SUPPORT ADDITIONAL OVERBUILD FRAMING, SUCH AS THAT WHICH FORMS VALLEYS AND HIPs ON ROOFS.
 - DRIFTED SNOW LOAD: TRUSSES SHALL BE DESIGNED TO SUPPORT DRIFTED SNOW LOADS IN ACCORDANCE WITH THE APPROPRIATE BUILDING CODE.
 - IN-PLANE LATERAL LOADS: TRUSSES SHALL BE DESIGNED TO SUPPORT ANY LATERAL LOADS CARRIED AXIALLY IN THE PLANE OF THE TRUSS, AS SHOWN ON THE PLANS.
 - GABLED END TRUSSES SHALL HAVE VERTICAL MEMBERS SPACED AT 16" O.C. MAXIMUM.
 - SUBMITTALS SHALL INCLUDE THE FOLLOWING:
 - SHOP DRAWINGS PREPARED UNDER THE SUPERVISION OF, AND SIGNED AND SEALED BY, A PROFESSIONAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS USED. THESE DRAWINGS SHALL INDICATE SPECIES, GRADE, AND SIZES OF LUMBER TO BE USED; PITCH, SPAN, CAMBER, CONFIGURATION, AND SPACING FOR EACH TYPE OF TRUSS REQUIRED; TYPE, SIZE, MATERIAL, FINISH, AND LOCATION OF METAL CONNECTOR PLATES; AND BEARING DETAILS. SHOW TRUSS LAYOUT AND ALL REQUIRED TEMPORARY AND PERMANENT BRACING AFFECTING THE STRUCTURAL CAPACITY OF THE TRUSSES.
- PROVIDE COMPLETE ENGINEERING DESIGN CALCULATIONS THAT INCLUDE DESIGN VALUES, DESIGN ANALYSIS INDICATING LOADING, ASSUMED ALLOWABLE STRESSES, STRESS DIAGRAMs, AND CALCULATIONS, AND ANY OTHER INFORMATION NEEDED FOR REVIEW. THE CALCULATIONS SHALL HAVE BEEN SIGNED AND SEALED BY A QUALIFIED PROFESSIONAL ENGINEER WHO IS REGISTERED IN THE STATE WHERE THE PROJECT IS BUILT AND WHO IS RESPONSIBLE FOR PREPARATION OF THE CALCULATIONS.

SPECIAL INSPECTIONS

THE FOLLOWING ITEMS REQUIRE SPECIAL INSPECTION IN ACCORDANCE WITH CHAPTER 17 OF THE INTERNATIONAL BUILDING CODE.

- CONCRETE GROUT DESIGN MIX (PERIODIC)
- PLACING OF CONCRETE AND REINFORCING STEEL (CONTINUOUS OF CONCRETE SAMPLING / PERIODIC OF REINFORCING)
- BOLTS & ANCHORS EMBEDDED IN CONCRETE (PERIODIC)
- STRUCTURAL STEEL FABRICATIONS (UNLESS AISC APPROVED) (PERIODIC)
- STRUCTURAL STEEL BOLTING & WELDING (PERIODIC)
- POST INSTALLED ANCHORS IN CONCRETE (CONTINUOUS)
- IN-SITU SOILS, EXCAVATIONS, FILLING & COMPACTION (PERIODIC)
- WOOD FRAMING:
 - SHEAR WALLS; WALL SIZE, CONFIGURATION, BLOCKING, PANEL GRADE, PANEL THICKNESS, AND FASTENING. (PERIODIC)
 - DIAPHRAGMS (FLOOR AND ROOF SHEATHING); SIZE, CONFIGURATION, BLOCKING, PANEL GRADE, PANEL THICKNESS, AND FASTENING. (PERIODIC)
 - FRAMING MEMBERS AND DETAILS (PERIODIC)
 - MATERIAL GRADE (PERIODIC)
 - CONNECTIONS; HANGERS, HOLD DOWNS, BUILT-UP COLUMNS, BUILT-UP BEAMS (PERIODIC)
 - PRE-ENGINEERED TRUSSES; FRAMING, CONNECTIONS, BRIDGING (PERIODIC)

THE CONTRACTOR SHALL REQUEST SPECIAL INSPECTION OF THE ITEMS LISTED ABOVE PRIOR TO THOSE ITEMS BECOMING INACCESSIBLE AND UNOBSERVABLE DUE TO PROGRESSION OF THE WORK.

DESIGN DATA	
2018 INTERNATIONAL BUILDING CODE / ASCE 7-16	
BUILDING OCCUPANCY CATEGORY	II
ROOF LOAD DATA	
LIVE LOAD	20
ASPHALT SHINGLES + FELT	4.0
5/8" OSB ROOF SHEATHING	2.5
PRE-ENGINEERED WOOD TRUSSES @ 2'-0" O.C.	4.0
INSULATION (BLOWN)	15
MECHANICAL ALLOWANCE	5.0
5/8" GYP CEILING	3.0
SOLAR	5.0
TOTAL TO TRUSSES	45 lbs/sqft
FLOOR LOAD DATA	
LIVE LOAD (COMMON AREA)	40 (100)
3/8" UNDERLAYMENT & 1-1/8" GYPCRETE	16
3/4" SHEATHING	4
MECHANICAL ALLOWANCE	4
5/8" GYP CEILING	3
FLOOR STRUCTURE	3
TOTAL TO FLOOR TRUSS	70 (130) lbs/sqft
RAIN LOADING DATA	
15 MINUTE RAIN INTENSITY	7.49 in/hr
60 MINUTE RAIN INTENSITY	3.52 in/hr
ROOF SNOW LOAD DATA* (*UNBALANCED & DRIFTING SNOW TO BE DETERMINED IN ADDITION TO UNIFORM LOAD, WHERE APPLICABLE)	
$P_s =$	20 lbs/sqft
$C_s =$	1.0
$I_s =$	1.0
$C_e =$	1.0
$P_f =$	14.00 lbs/sqft
WIND DESIGN DATA	
$V_{50} =$	109 M.P.H. (3-SECOND GUST)
RISK CATEGORY	II
EXPOSURE	C
INTERNAL PRESSURE COEFFICIENT =	± 0.18
MAXIMUM COMPONENTS & CLADDING WIND	+/-30.33 lbs/sqft
EARTHQUAKE DESIGN DATA	
RISK CATEGORY	II
$I_E =$	1.0
$S_S =$	0.1
$S_I =$	0.068
SITE CLASS	C
$S_{DS} =$	0.086
$S_{D1} =$	0.068
SEISMIC DESIGN CATEGORY	B
BASIC SEISMIC-FORCE-RESISTING SYSTEM = LIGHT-FRAME (WOOD) WALLS SHEATHED WITH WOOD STRUCTURAL PANELS RATED FOR SHEAR RESISTANCE	
$R =$	6.5
$\Omega_p =$	3.0
$C_d =$	4.0
DESIGN BASE SHEAR	$V = 0.018 W$
EQUIVALENT LATERAL FORCE PROCEDURE	
NET ALLOWABLE SOIL BEARING	
2,500 lbs/sqft**	
(**PER GEOTECHNICAL REPORT PREPARED BY OLSSON, INC. DATED AUGUST 22, 2019)	

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FOUNDATION PLAN	S200
FOUNDATION DETAILS	S210-S211
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FLOOR FRAMING DETAILS	S510-S511
ROOF FRAMING PLAN	S600
ROOF FRAMING DETAILS	S610-S612

REVISIONS:

No.	Date
ISSUE SET	04/15/2025

THIS SHEET HAS BEEN SIGNED,
SEALED AND DATED ELECTRONICALLY



STRUCTURAL ENGINEER:
CROCKETT
ENGINEERING CONSULTANTS
10000 W. Nifong Blvd., Suite 1
Columbia, Missouri 65203
(573) 447-0992
www.crockettengineering.com
Crockett Engineering Consultants, LLC
Missouri Certificate of Authority
#200319101

CLIENT:
**INTRINSIC
DEVELOPMENT**
3639 ENDEAVOR AVE.
COLUMBIA, MISSOURI

Alura Village Apartment Building Type "A"

Lee's Summit, Jackson County, Missouri

DRAWING INCLUDES:

GENERAL
STRUCTURAL DATA

DESIGNED: JWV

DRAWN: SEH

PROJECT NO.: 230286

SHEET:
S100

NOTE:
ALL DIMENSIONS ARE FROM FACE OF FOUNDATION WALL OR FRAMING;
EDGE OF SLAB OR TRUSS/RAFTER; OR CENTERLINE
OF COLUMN, BEAM, OR JOIST UNLESS NOTED OTHERWISE.

FOUNDATION NOTES

- REINTRANT CORNER BARS, REFER TO TYPICAL CRACK CONTROL REINFORCING DETAIL ON SHEET S210.
- FOOTING STEP, REFER TO DETAIL FS1/S211.
- FOOTING STEP, REFER TO DETAIL FS2/S211.
- CONFIRM FINAL ELEVATOR SHAFT DIMENSIONS w/ ELEVATOR SUPPLIER PRIOR TO INSTALLATION OF PIT.
- 3'-0" SQ. x 2'-0" DEEP PAD FOOTING w/ (3) #5 x 2'-6" EACH WAY; TOP & BOTTOM.
- RECESSED FLOOR SLAB FOR ADA SHOWER (CONFIRM SIZE w/ SHOWER MANUFACTURER PRIOR TO INSTALLATION) (REFER TO ARCHITECTURAL FOR ADDITIONAL INFORMATION.)

REVISIONS:	
No.	Date
ISSUE SET	04/15/2025
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY	
	
04/15/2025	

STRUCTURAL ENGINEER:
CROCKETT
ENGINEERING CONSULTANTS
1000 W. Nifong Blvd. Bldg. 1
Columbia, Missouri 65203
(573) 447-0993
www.crockettengineering.com
Crockett Engineering Consultants, LLC
Missouri Certificate of Authority
#200010101

CLIENT:
**INTRINSIC
DEVELOPMENT**
3629 ENDAVOR AVE.
COLUMBIA, MISSOURI

Alura Village Apartment Building Type "A"
Lee's Summit, Jackson County, Missouri

DRAWING INCLUDES:

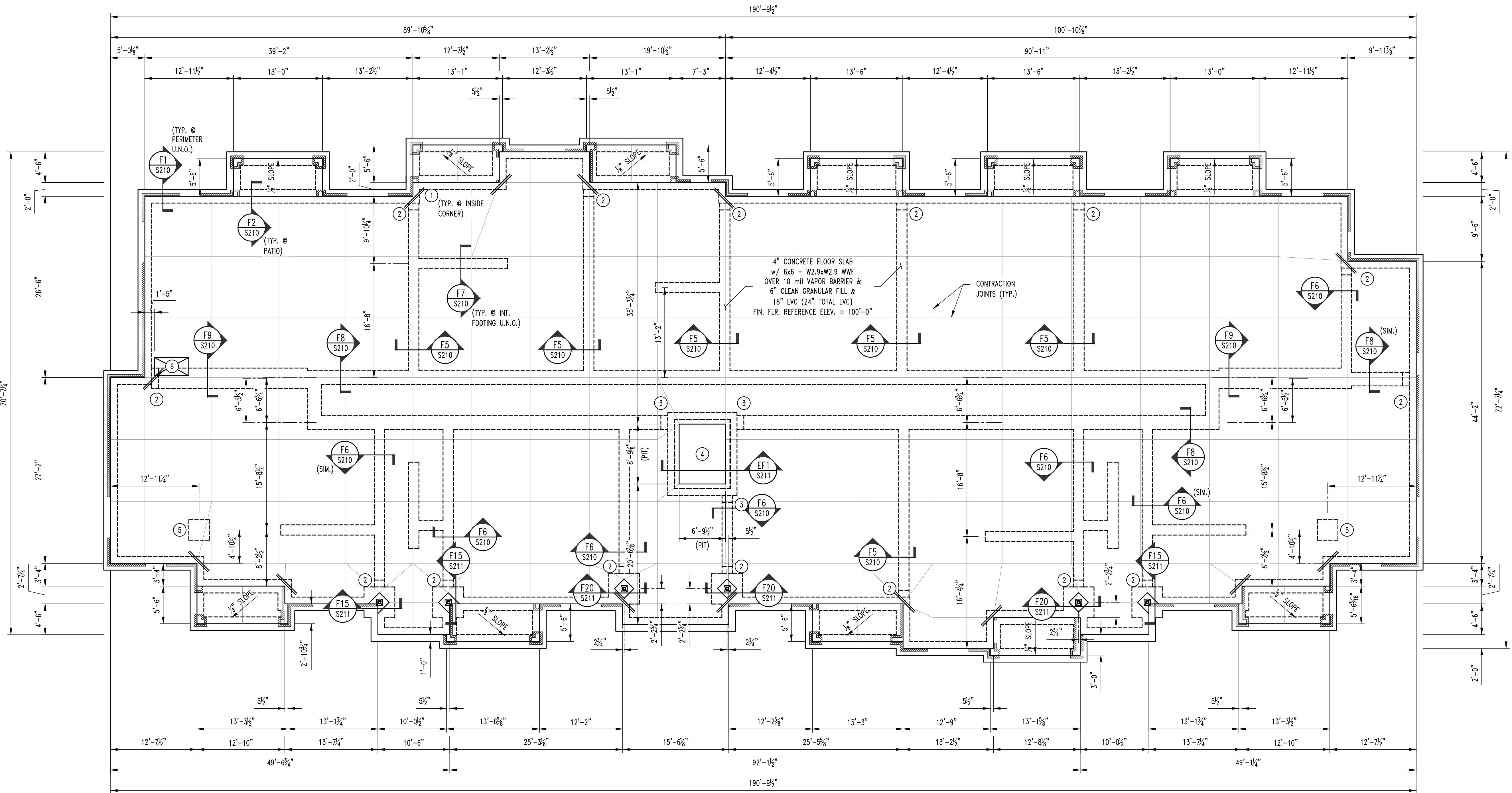
FOUNDATION
PLAN

DESIGNED: JWW

DRAWN: SEH

PROJECT NO.: 230286

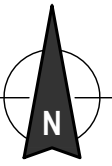
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S200

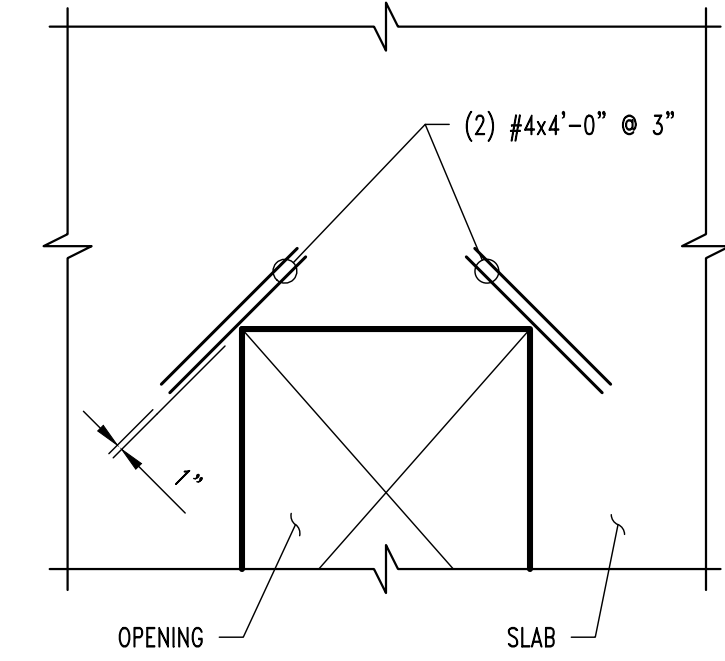


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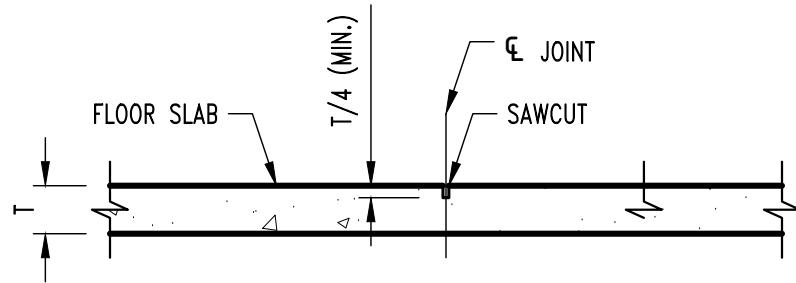
APARTMENT BUILDING TYPE "A" FOUNDATION PLAN

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

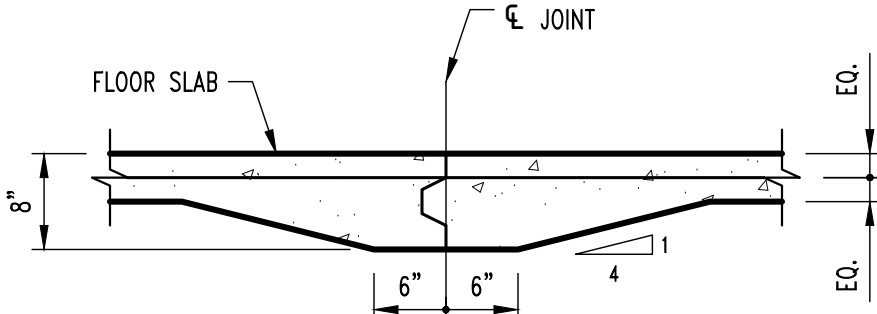




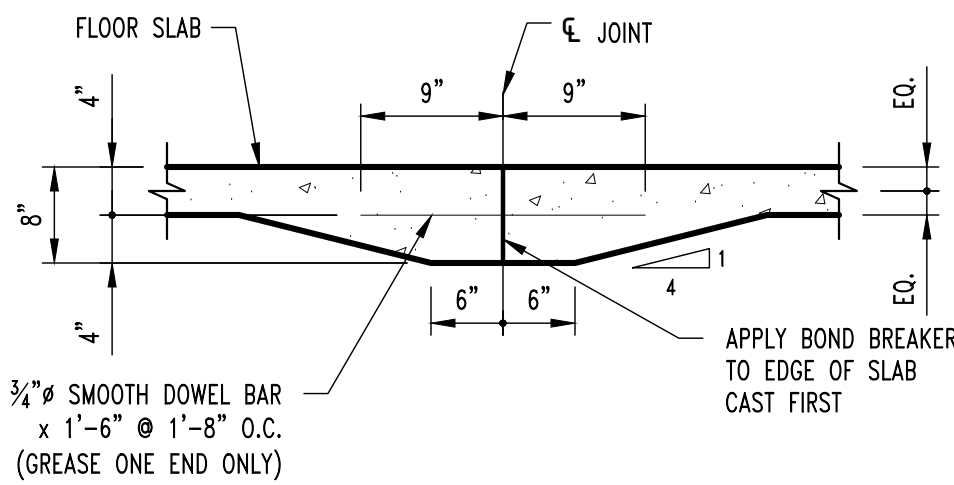
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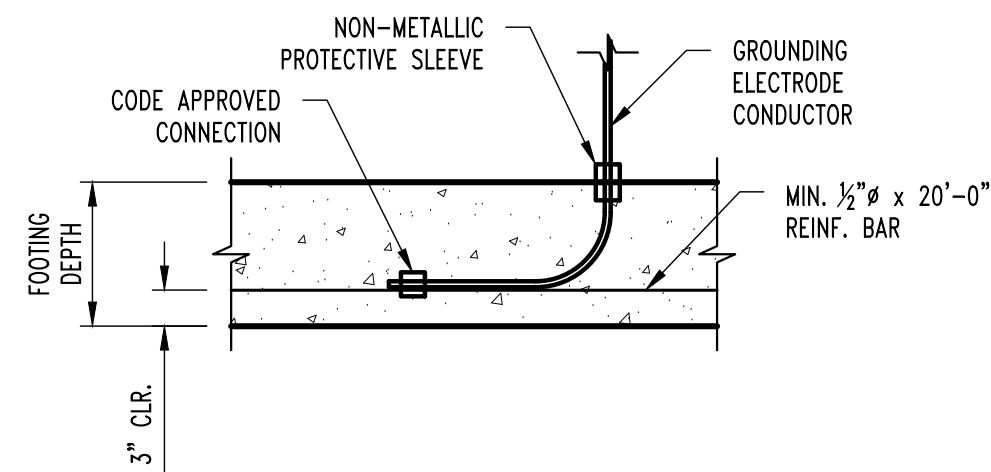
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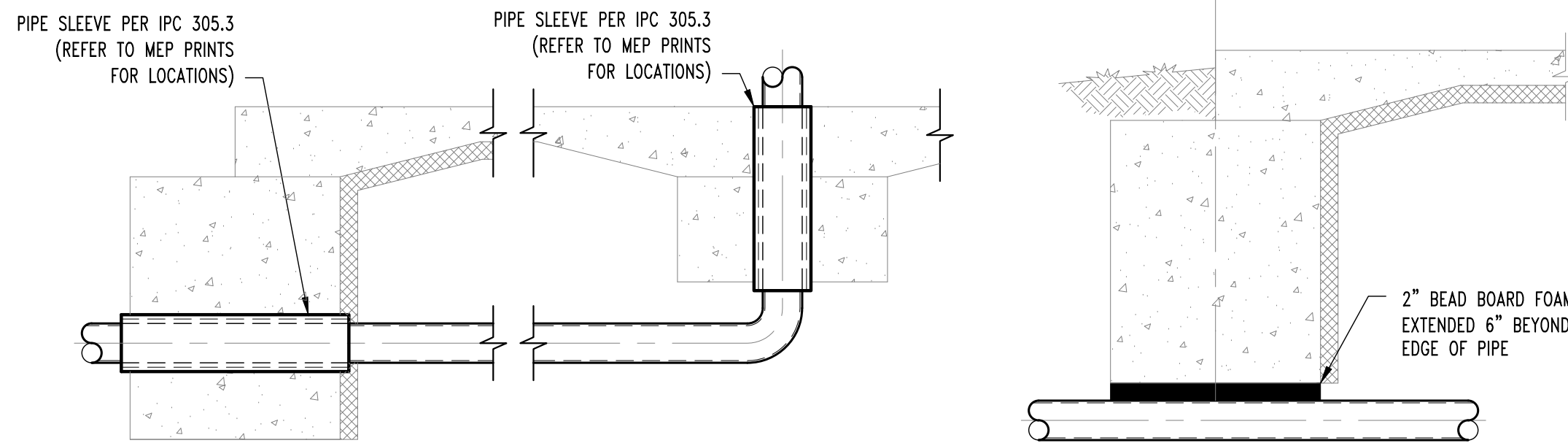
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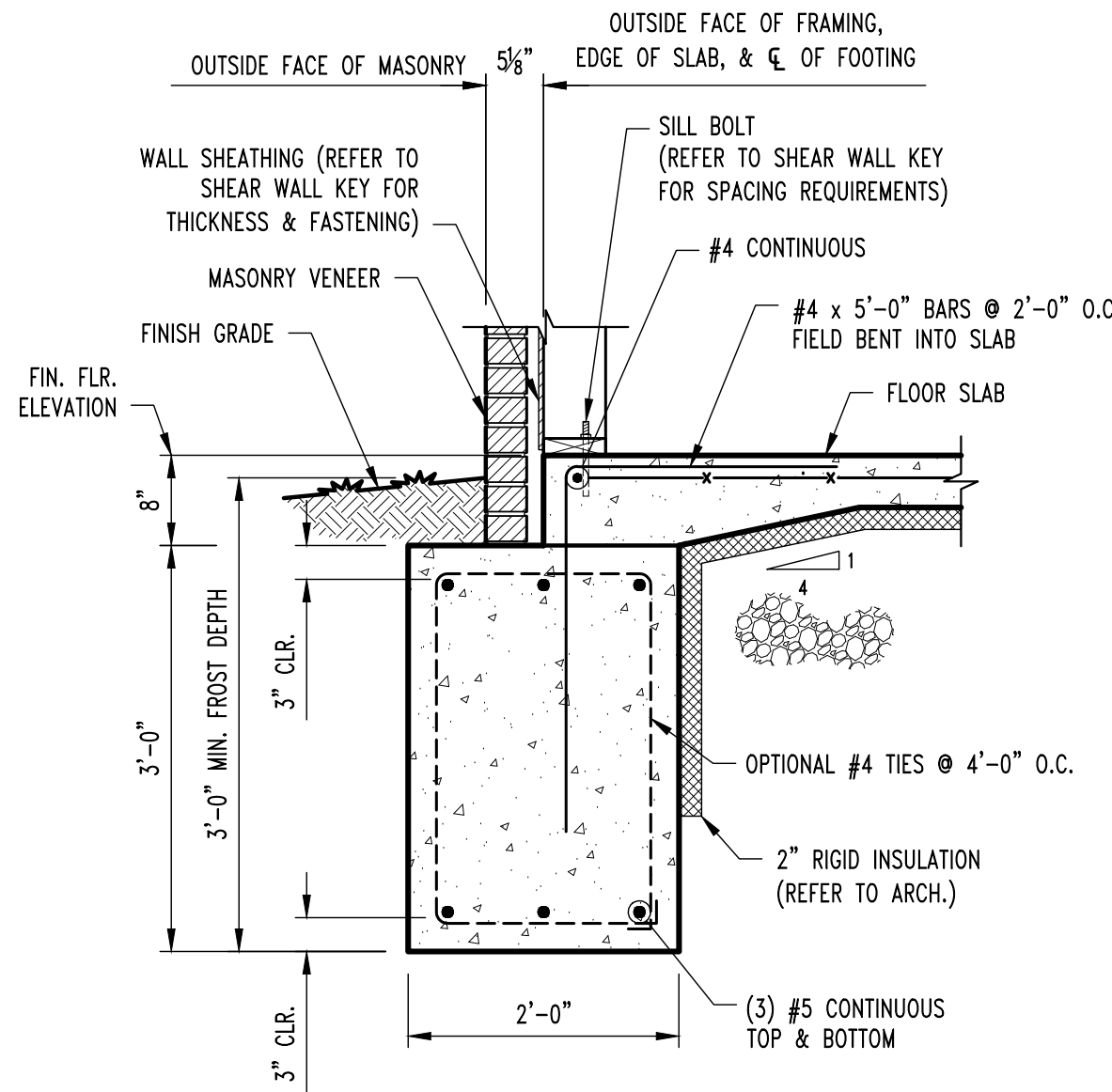
CONSTRUCTION JOINT



TYP. ELECTRICAL GROUNDING DETAIL @ FOOTING

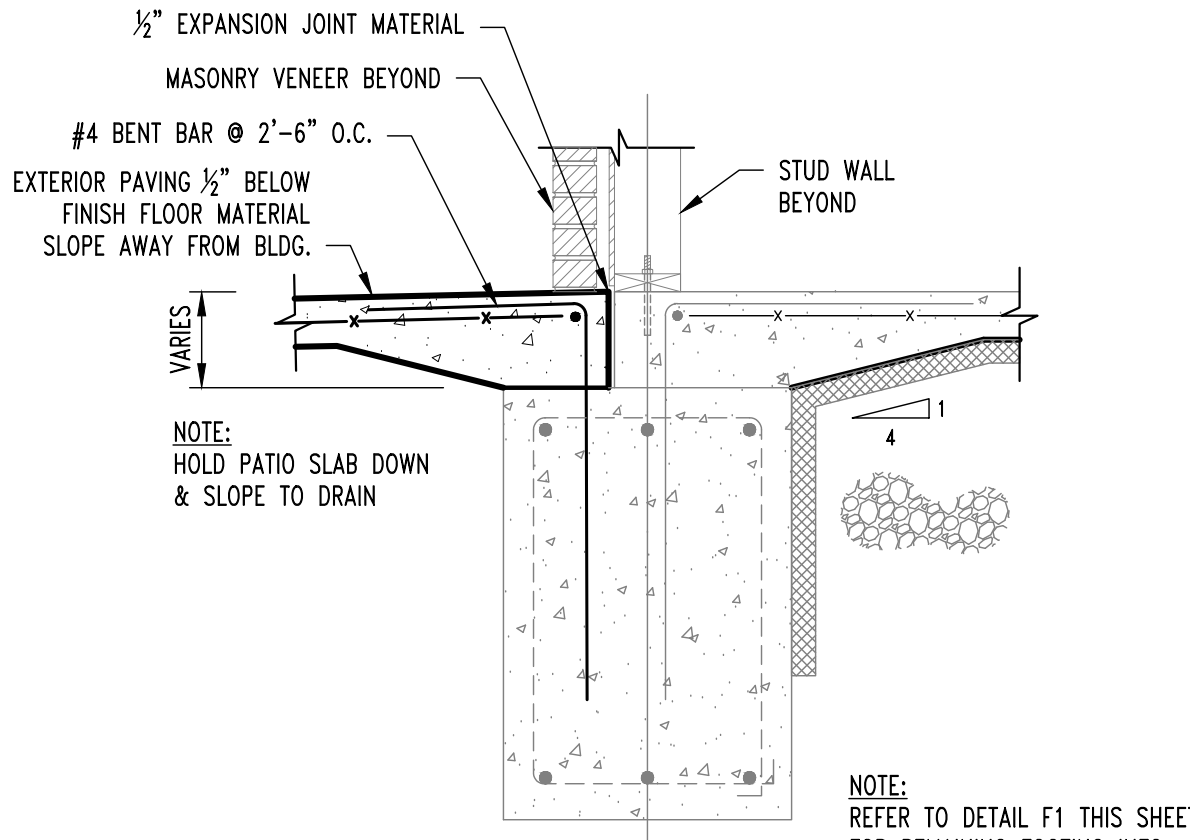


TYP. PLUMBING COORDINATION DETAILS



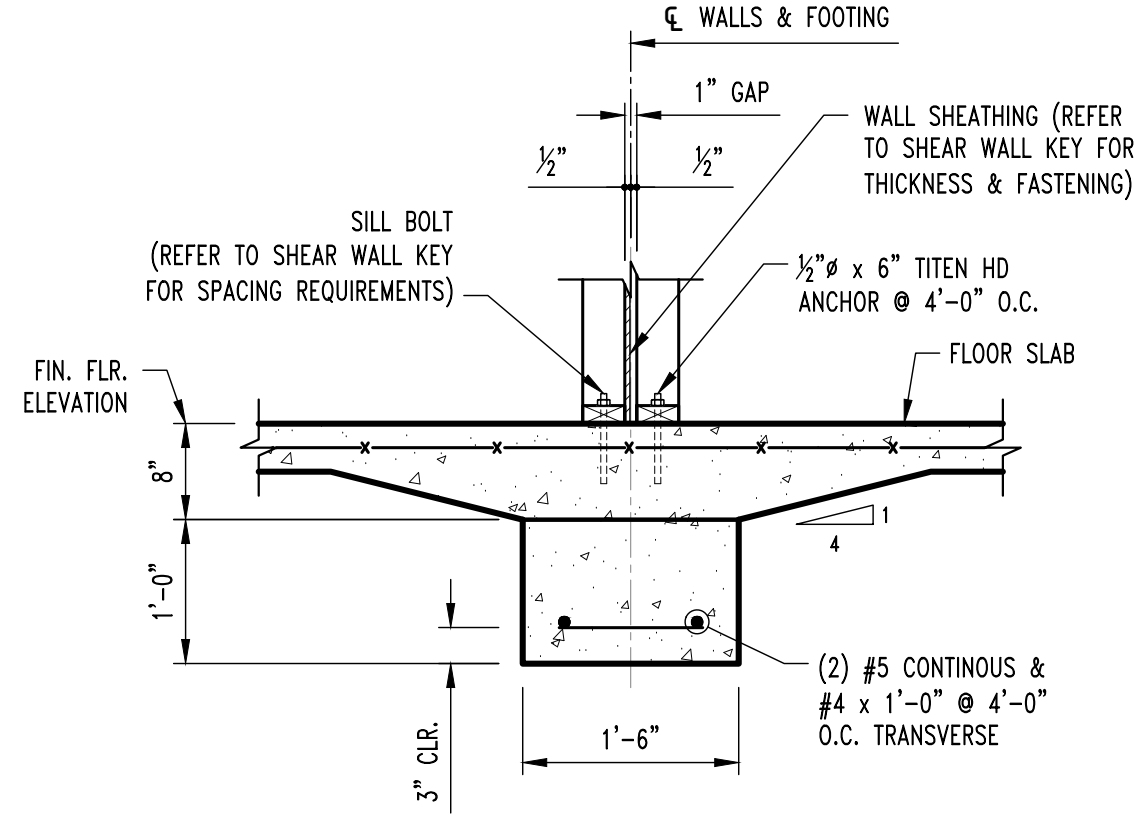
CONT. FOOTING SECTION

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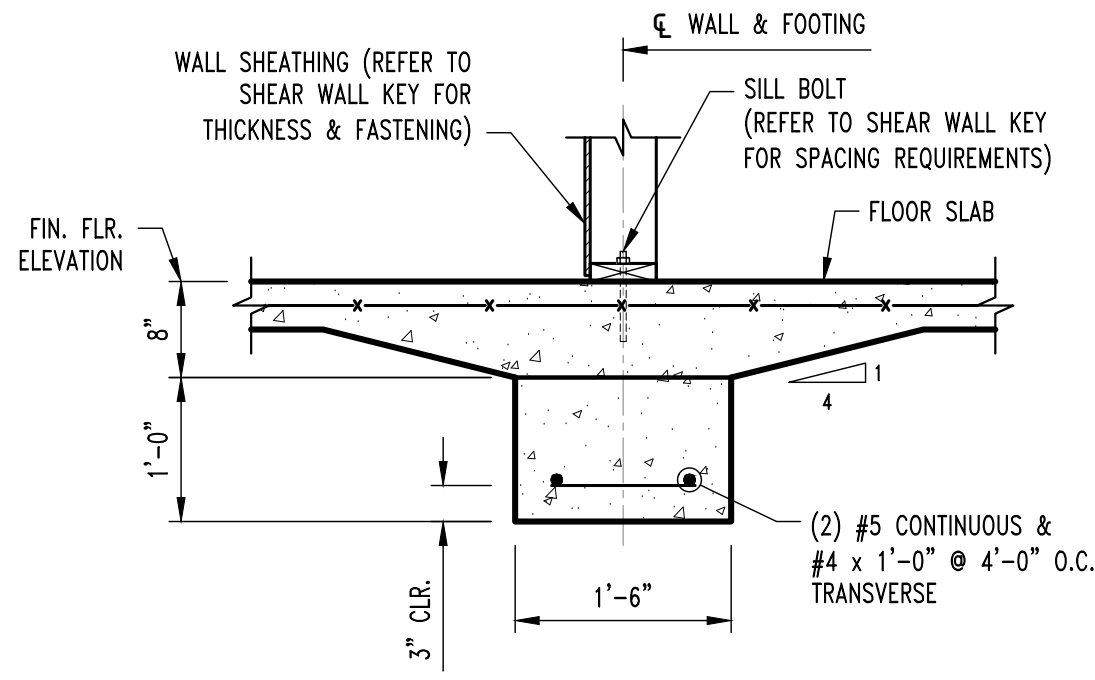
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SCALE: 3/4" = 1'-0"



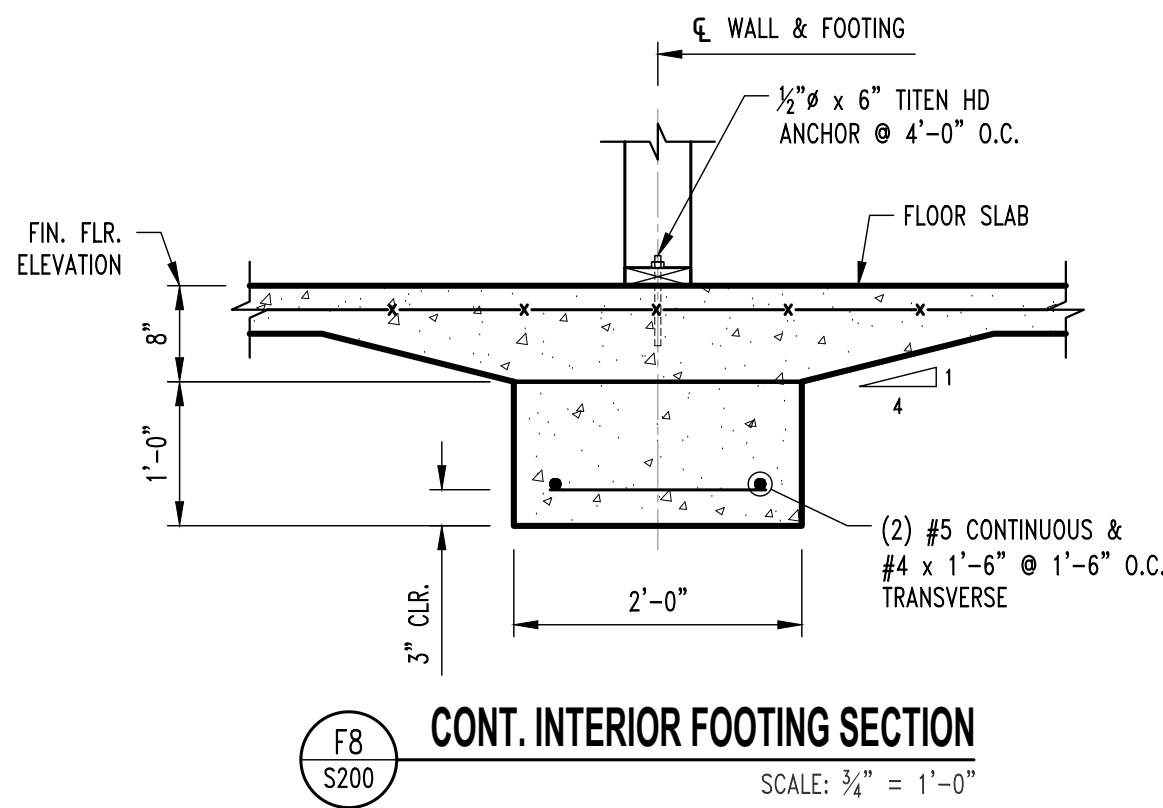
CONT. INTERIOR FOOTING SECTION

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



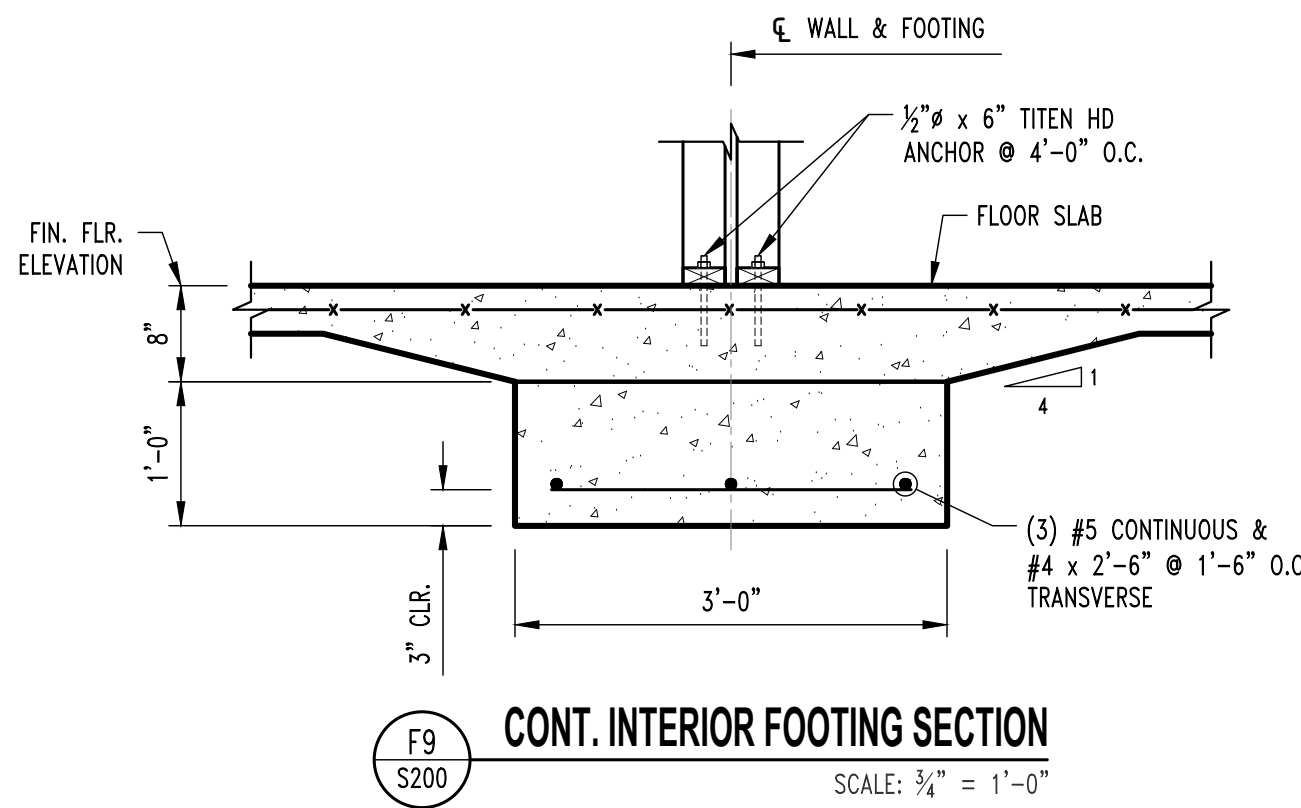
CONT. INTERIOR FOOTING SECTION

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



CONT. INTERIOR FOOTING SECTION

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



CONT. INTERIOR FOOTING SECTION

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

REVISIONS:

No.	Date
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Crockett Engineering Consultants, LLC
Missouri Certificate of Authority
#200310301

CLIENT:
**INTRINSIC
DEVELOPMENT**
3622 ENDAVOR AVE.
COLUMBIA, MISSOURI

Alura Village Apartment Building Type "A"

Lee's Summit, Jackson County, Missouri

DRAWING INCLUDES:

FOUNDATION
DETAILS

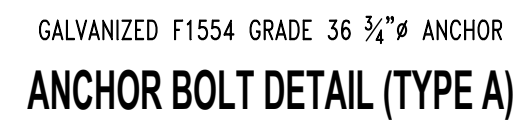
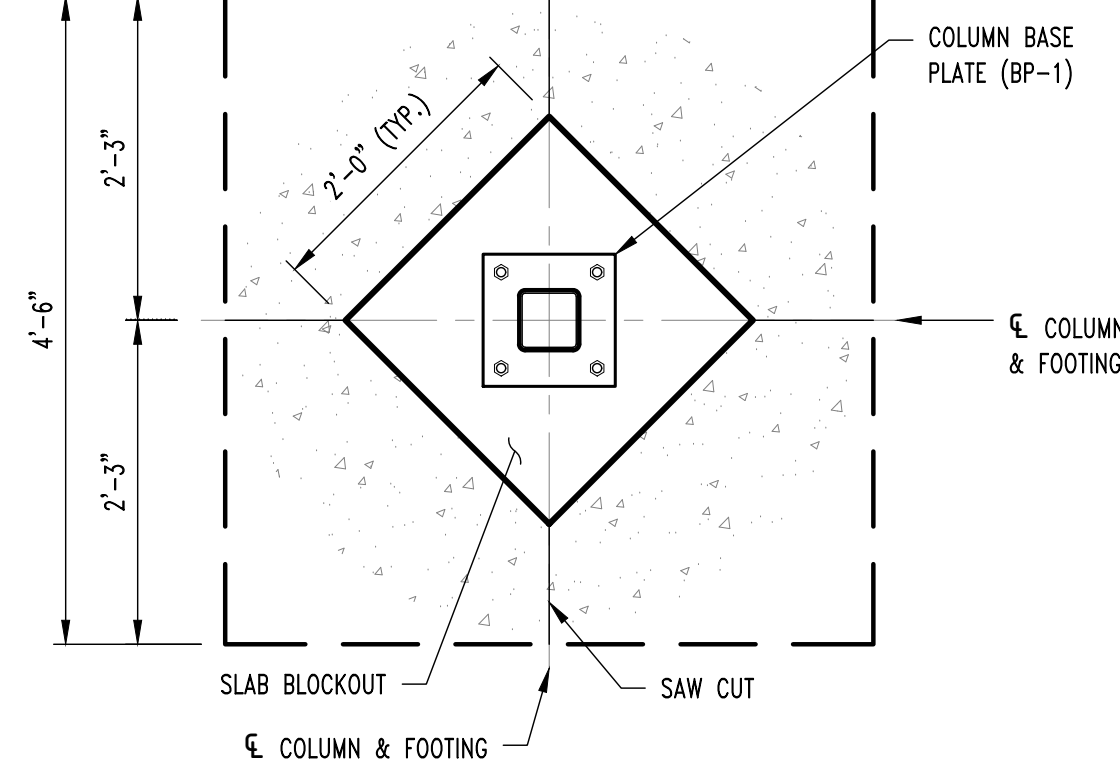
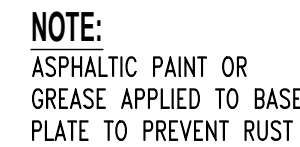
DESIGNED: JWV

DRAWN: SEH

PROJECT NO.: 230286

SHEET:

S210



NOTE:
COORDINATE DIMENSIONS w/ ELEVATOR
MANUFACTURER PRIOR TO INSTALL



THIS SHEET HAS BEEN SIGNED,
SEALED AND DATED ELECTRONICALLY.



STRUCTURAL ENGINEER:

CLIENT:

DRAWING INCLUDES:

DESIGNED: JWV

DRAWN: SEH

PROJECT NO.:	230286
--------------	--------

SHEET:

S211

NOTE:
ALL DIMENSIONS ARE FROM FACE OF FOUNDATION WALL OR FRAMING;
EDGE OF SLAB OR TRUSS/RAFTER; OR CENTERLINE
OF COLUMN, BEAM, OR JOIST UNLESS NOTED OTHERWISE.

FLOOR FRAMING NOTES

- (1) TREATED So. PINE No.2 2x12's w/
2-PLY BUILT-UP POST @ EACH END.
- (2) TREATED So. PINE No.2 2x12's w/
2-PLY BUILT-UP POST @ EACH END.
- (3) GIRDER TRUSS
- (4) 3-PLY BUILT-UP POST BENEATH GIRDER TRUSS
THIS LEVEL TO FLOOR SLAB
CONNECTIONS ARE AS FOLLOWS:
FLOOR SLAB: SIMPSON LITTP2.
FLOOR FRAMING STUD ATTACHMENT: SIMPSON MSTC52
ROOF TRUSS: BY TRUSS MANUFACTURER
- (5) (3) DF SEL. STR. 2x12's w/ 3-PLY BUILT-UP POST
@ EACH END.
- (6) 5-PLY 1.75x5.5 MICROLAM LVL 2.0E STUD PACK
CENTERED BELOW HOIST BEAMED AND ON ELEVATOR
RAIL. (CONTINUOUS THROUGH FLOOR FRAMING)
- (7) 3-PLY 1.75x5.5 MICROLAM LVL 2.0E STUD PACK
CENTERED BELOW FALL PROTECTION BEAM.
(CONTINUOUS THROUGH FLOOR FRAMING)

No.	Date
ISSUE SET	04/15/2025

THIS SHEET HAS BEEN SIGNED,
SEALED AND DATED ELECTRONICALLY

STATE OF MISSOURI
JARED W. VORSLUES
NUMBER
FE-201700038
PROFESSIONAL ENGINEER
04/15/2025

STRUCTURAL ENGINEER:
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Missouri Certificate of Authority
#200313101

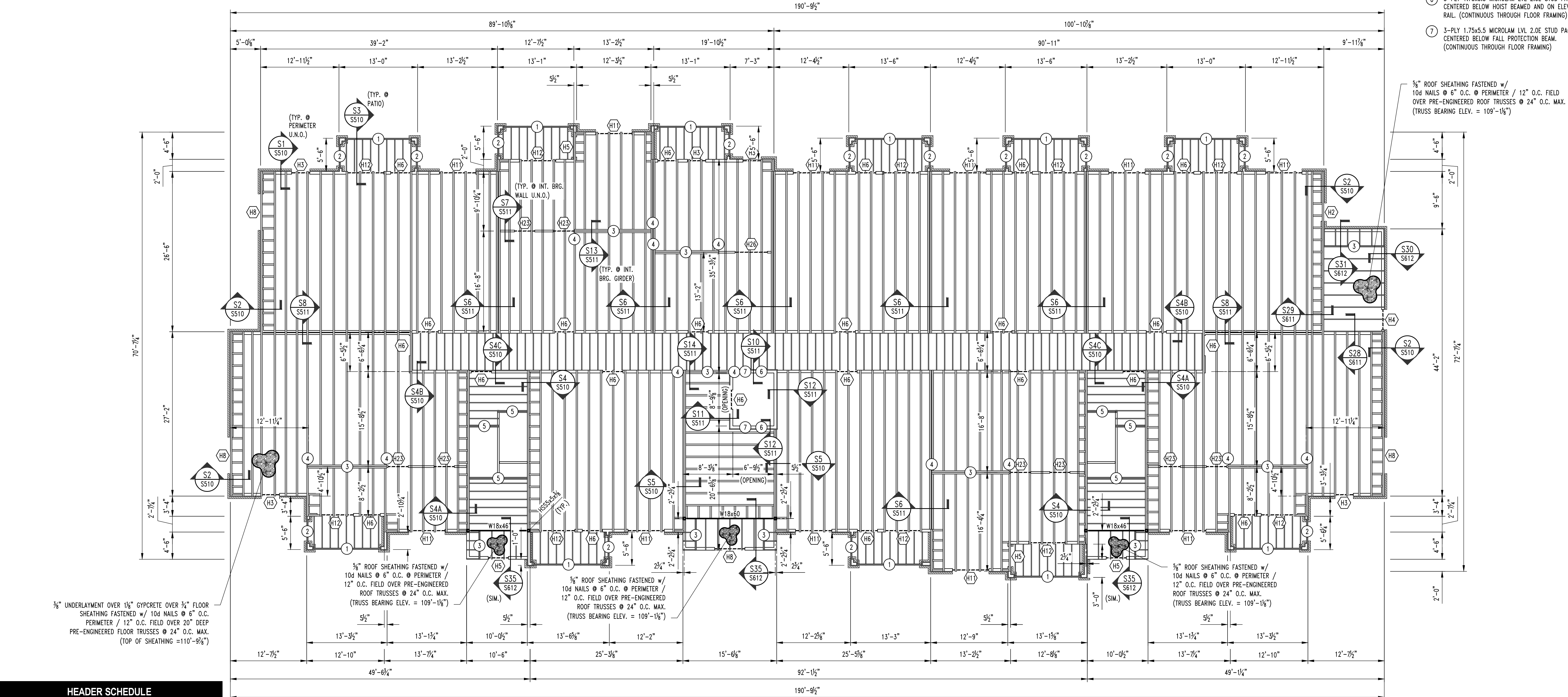
CLIENT:
**INTRINSIC
DEVELOPMENT**
3622 ENDAVOR AVE.
COLUMBIA, MISSOURI

Alura Village Apartment Building Type "A"
Lee's Summit, Jackson County, Missouri

DRAWING INCLUDES:

2ND FLOOR
FRAMING PLAN

DESIGNED: JWW
DRAWN: SEH
PROJECT NO.: 230286
SHEET:
S300

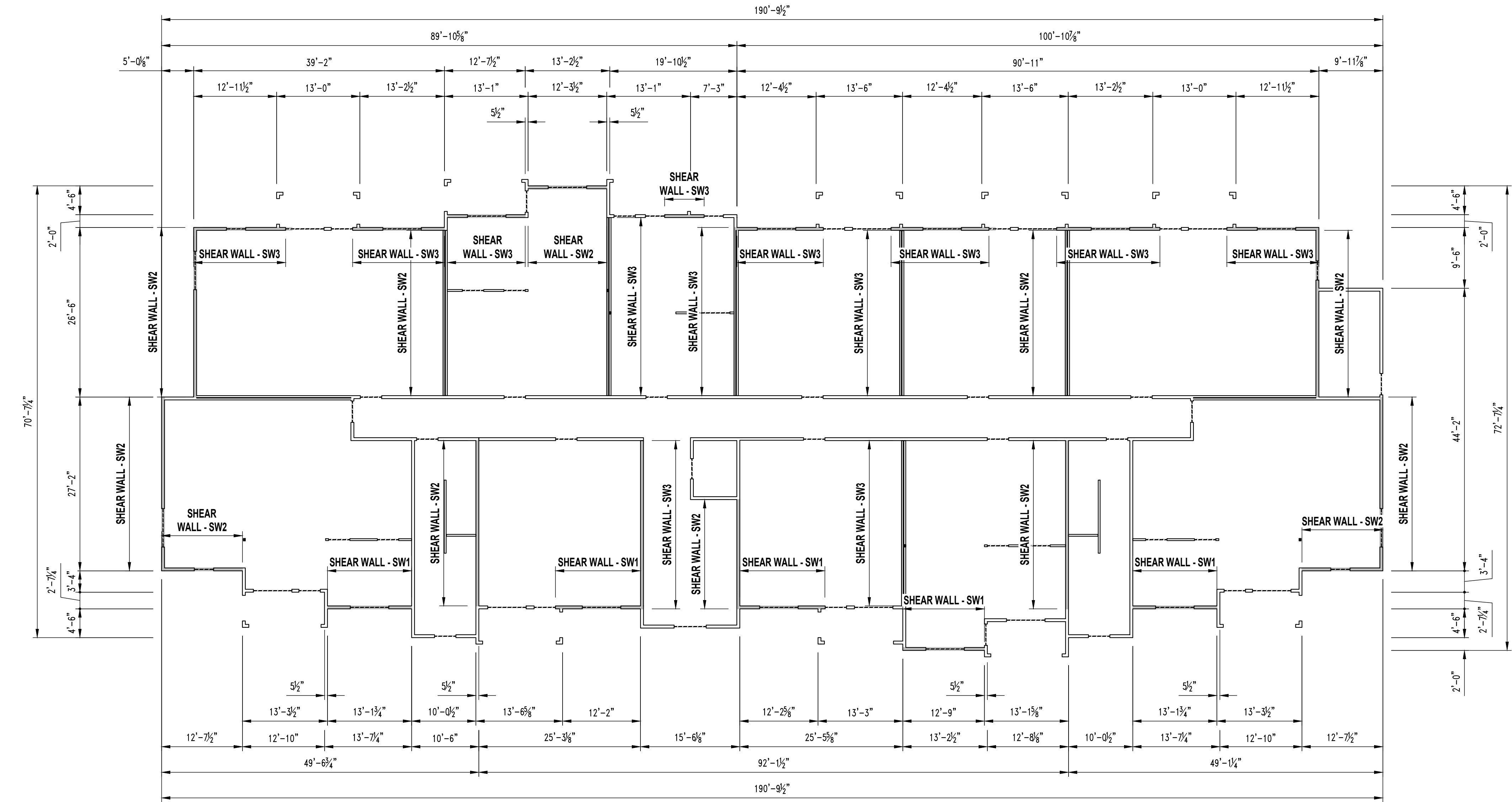


HEADER SCHEDULE			
LABEL	HEADER	CRIPPLE/JACK	JAMB/KING
"H1"	2 Ply 2x6 SPF #2	Single Ply 2x6 SPF #2	Single Ply 2x6 SPF #2
"H2"	2 Ply 2x6 SPF #2	2 Ply 2x6 SPF #2	Single Ply 2x6 SPF #2
"H3"	2 Ply 2x6 SPF #2	3 Ply 2x6 SPF #2	Single Ply 2x6 SPF #2
"H4"	2 Ply 2x8 Doug Fir #2	Single Ply 2x6 SPF #2	Single Ply 2x6 SPF #2
"H5"	2 Ply 2x8 Doug Fir #2	2 Ply 2x6 SPF #2	Single Ply 2x6 SPF #2
"H6"	2 Ply 2x8 Doug Fir #2	4 Ply 2x6 SPF #2	Single Ply 2x6 SPF #2
"H7"	2 Ply 2x10 Doug Fir Sel. Struct.	Single Ply 2x6 SPF #2	2 Ply 2x6 SPF #2
"H8"	2 Ply 2x10 Doug Fir Sel. Struct.	2 Ply 2x6 SPF #2	2 Ply 2x6 SPF #2
"H9"	2 Ply 2x10 Doug Fir Sel. Struct.	3 Ply 2x6 SPF #2	2 Ply 2x6 SPF #2
"H10"	2 Ply 2x10 Doug Fir Sel. Struct.	5 Ply 2x6 SPF #2	2 Ply 2x6 SPF #2
"H11"	2 Ply 2x10 Doug Fir Sel. Struct.	6 Ply 2x6 SPF #2	2 Ply 2x6 SPF #2
"H12"	2 Ply 2x10 Doug Fir Sel. Struct.	7 Ply 2x6 SPF #2	2 Ply 2x6 SPF #2

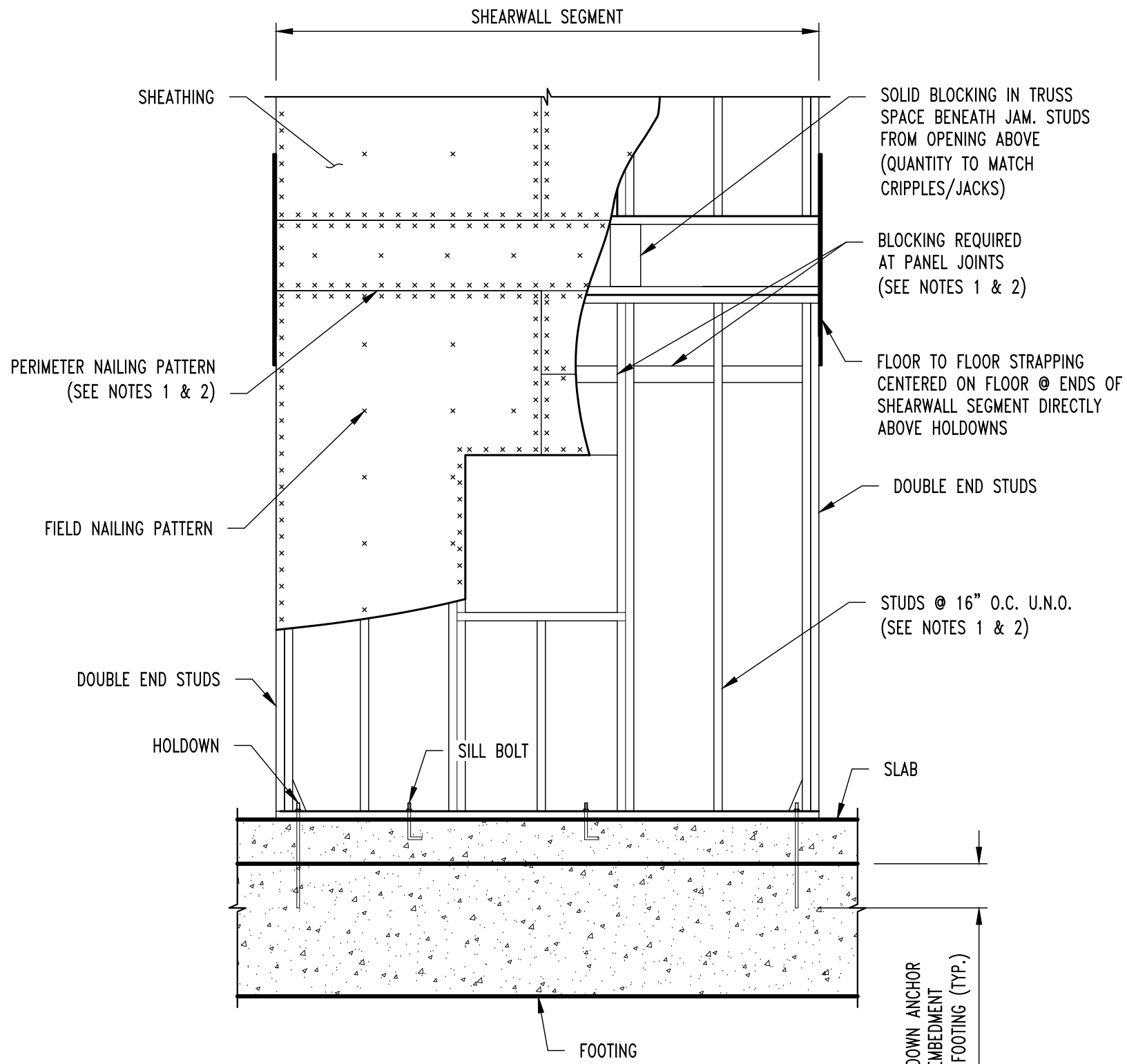
BRICK LINTEL SCHEDULE	
LENGTH	MEMBER SIZE (GALVANIZED)
L ≤ 4'-0"	L4x4x3/8 WITH 6" BEARING EACH END
L ≤ 6'-6"	L6x4x3/8 (LLV) WITH 6" BEARING EACH END

1
S300
APARTMENT BUILDING TYPE "A" 2ND FLOOR FRAMING PLAN
SCALE: 3/8" = 1'-0"
N

NOTE:
ALL DIMENSIONS ARE FROM FACE OF FOUNDATION WALL OR FRAMING;
EDGE OF SLAB OR TRUSS/RAFTER; OR CENTERLINE
OF COLUMN, BEAM, OR JOIST UNLESS NOTED OTHERWISE.



1
S300A
APARTMENT BUILDING TYPE "A" SHEAR WALL PLAN
SCALE: 3/32" = 1'-0"



- NOTES:
- WHERE TWO SHEETS MEET, BOTH SHEETS SHOULD BE NAILED TO THE SAME FRAMING MEMBER.
 - WHEN SHEATHING NAILS ARE SPACED AT 2" O.C. FOR 8d NAILS OR 3" O.C. FOR 10d NAILS, 3x OR DOUBLE 2x FRAMING MEMBERS ARE REQUIRED WHERE SHEETS MEET. FACE NAIL DOUBLE 2x MEMBERS TOGETHER w/ 16d NAILS @ 2 1/2" O.C. STAGGERED EACH FACE OF STUD.
 - SEE WALL SECTIONS FOR ADDITIONAL INFORMATION.

TYP. MULTI-STORY SHEAR WALL DETAIL

SHEAR WALL NOTES

- ALL SHEATHING TO BE CONTINUOUS, UNBROKEN FOR FULL LENGTH OF DIMENSIONED SHEAR WALL.
- SHEATHING TYPE & THICKNESS TO STACK FROM FLOOR TO FLOOR.

REVISIONS:

No.	Date
1	04/15/2025

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Missouri Certificate of Authority
#200310101

CLIENT:
**INTRINSIC
DEVELOPMENT**
3622 ENDAVOR AVE.
COLUMBIA, MISSOURI

Alura Village Apartment Building Type "A"
Lee's Summit, Jackson County, Missouri

DRAWING INCLUDES:

SHEAR WALL
PLAN

DESIGNED: JWV

DRAWN: SEH

PROJECT NO.: 230286

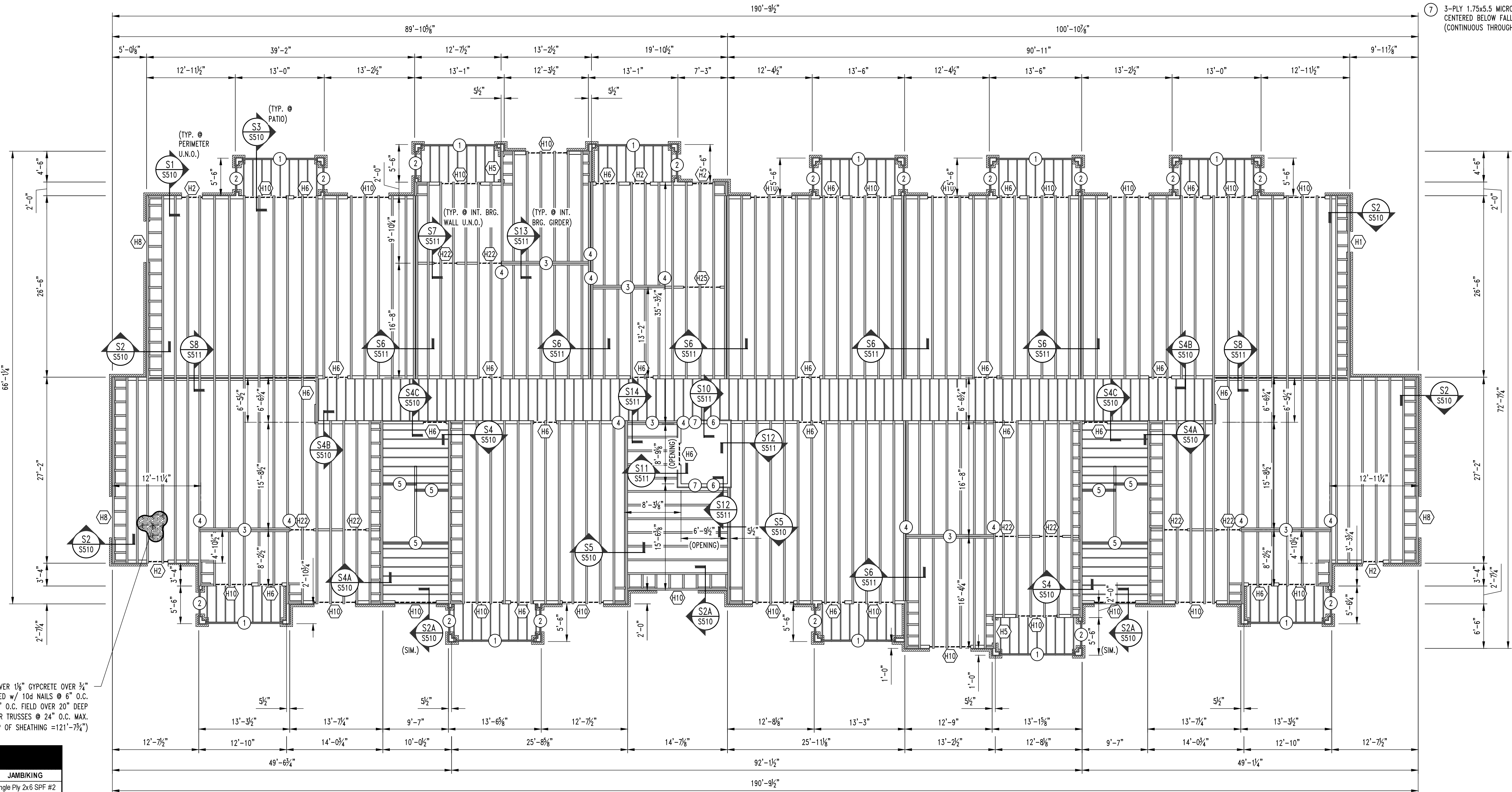
SHEET:
S300A

SHEAR WALL KEY

SW1 SHEAR WALL FIRST FLOOR 7/16" OSB SHEATHING FASTENED WITH 8D NAILS @ 4" O.C. @ PERIMETER / 12" O.C. FIELD 1/2" DIAMETER X 6" SIMPSON TITEN HD ANCHOR SCREWS @ 1'-6" O.C. - REQUIRES SIMPSON HDU8-SDS 2.5 HOLDOWN FASTENED TO 3-PLY STUDS W/ (20) 1/4" X 2 1/2" SDS STUD BOLTS W/ 7/8" DIAMETER A307 THREADED ROD W/ 16" TOTAL (8" INTO FOOTING) SIMPSON "AT-3G" EPOXY EMBEDMENT AT EACH END OF THE SHEAR WALL SECOND FLOOR 7/16" OSB SHEATHING FASTENED WITH 8D NAILS @ 4" O.C. @ PERIMETER / 12" O.C. FIELD - FASTEN SILL PLATE W/ SIMPSON SDWH 4" SCREWS @ 0'-0" O.C. OR (4) @ EACH TRUSS - REQUIRES SIMPSON MSTC52 STRAP TIE FASTENED TO 3-PLY STUDS W/ (44) 12D NAILS AT EACH END OF THE SHEAR WALL THIRD FLOOR 7/16" OSB SHEATHING FASTENED WITH 8D NAILS @ 4" O.C. @ PERIMETER / 12" O.C. FIELD - FASTEN SILL PLATE W/ SIMPSON SDWH 4" SCREWS @ 1'-0" O.C. OR (2) @ EACH TRUSS - REQUIRES SIMPSON MSTC40 STRAP TIE FASTENED TO 3-PLY STUDS W/ (28) 12D NAILS AT EACH END OF THE SHEAR WALL FOURTH FLOOR 7/16" OSB SHEATHING FASTENED WITH 8D NAILS @ 4" O.C. @ PERIMETER / 12" O.C. FIELD - FASTEN SILL PLATE W/ SIMPSON SDWH 4" SCREWS @ 1'-0" O.C. OR (2) @ EACH TRUSS - REQUIRES SIMPSON MSTC40 STRAP TIE FASTENED TO 3-PLY STUDS W/ (28) 12D NAILS AT EACH END OF THE SHEAR WALL	SW2 SHEAR WALL FIRST FLOOR 7/16" OSB SHEATHING FASTENED WITH 8D NAILS @ 4" O.C. @ PERIMETER / 12" O.C. FIELD 1/2" DIAMETER X 6" SIMPSON TITEN HD ANCHOR SCREWS @ 1'-6" O.C. - REQUIRES SIMPSON HDU5-SDS2.5 HOLDOWN FASTENED TO 3-PLY STUDS W/ (14) 1/4" X 2 1/2" SDS SCREWS W/ 5/8" DIAMETER A307 THREADED ROD W/ 14" TOTAL (6" INTO FOOTING) SIMPSON "AT-3G" EPOXY EMBEDMENT AT EACH END OF THE SHEAR WALL SECOND FLOOR 7/16" OSB SHEATHING FASTENED WITH 8D NAILS @ 4" O.C. @ PERIMETER / 12" O.C. FIELD - FASTEN SILL PLATE W/ SIMPSON SDWH 4" SCREWS @ 1'-0" O.C. OR (2) @ EACH TRUSS - REQUIRES SIMPSON MSTC40 STRAP TIE FASTENED TO 3-PLY STUDS W/ (28) 12D NAILS AT EACH END OF THE SHEAR WALL THIRD FLOOR 7/16" OSB SHEATHING FASTENED WITH 8D NAILS @ 4" O.C. @ PERIMETER / 12" O.C. FIELD - FASTEN SILL PLATE W/ SIMPSON SDWH 4" SCREWS @ 1'-0" O.C. OR (2) @ EACH TRUSS - REQUIRES SIMPSON MSTC40 STRAP TIE FASTENED TO 3-PLY STUDS W/ (28) 12D NAILS AT EACH END OF THE SHEAR WALL FOURTH FLOOR 7/16" OSB SHEATHING FASTENED WITH 8D NAILS @ 4" O.C. @ PERIMETER / 12" O.C. FIELD - FASTEN SILL PLATE W/ SIMPSON SDWH 4" SCREWS @ 1'-0" O.C. OR (2) @ EACH TRUSS - REQUIRES SIMPSON MSTC40 STRAP TIE FASTENED TO 3-PLY STUDS W/ (28) 12D NAILS AT EACH END OF THE SHEAR WALL	SW3 SHEAR WALL FIRST FLOOR 7/16" OSB SHEATHING FASTENED WITH 8D NAILS @ 4" O.C. @ PERIMETER / 12" O.C. FIELD 1/2" DIAMETER X 6" SIMPSON TITEN HD ANCHOR SCREWS @ 2'-0" O.C. - REQUIRES SIMPSON DTT22-SDS 2.5 HOLDOWN FASTENED TO 3-PLY STUDS W/ (8) 1/4" X 2 1/2" SDS SCREWS W/ 1/2" DIAMETER A307 THREADED ROD W/ 14" TOTAL (6" INTO FOOTING) SIMPSON "AT-3G" EPOXY EMBEDMENT AT EACH END OF THE SHEAR WALL SECOND FLOOR 7/16" OSB SHEATHING FASTENED WITH 8D NAILS @ 4" O.C. @ PERIMETER / 12" O.C. FIELD - FASTEN SILL PLATE W/ SIMPSON SDWH 4" SCREWS @ 1'-0" O.C. OR (2) @ EACH TRUSS - REQUIRES SIMPSON MSTC40 STRAP TIE FASTENED TO 3-PLY STUDS W/ (28) 12D NAILS AT EACH END OF THE SHEAR WALL THIRD FLOOR 7/16" OSB SHEATHING FASTENED WITH 8D NAILS @ 4" O.C. @ PERIMETER / 12" O.C. FIELD - FASTEN SILL PLATE W/ SIMPSON SDWH 4" SCREWS @ 1'-0" O.C. OR (2) @ EACH TRUSS - REQUIRES SIMPSON MSTC40 STRAP TIE FASTENED TO 3-PLY STUDS W/ (28) 12D NAILS AT EACH END OF THE SHEAR WALL FOURTH FLOOR 7/16" OSB SHEATHING FASTENED WITH 8D NAILS @ 4" O.C. @ PERIMETER / 12" O.C. FIELD - FASTEN SILL PLATE W/ SIMPSON SDWH 4" SCREWS @ 1'-0" O.C. OR (2) @ EACH TRUSS - REQUIRES SIMPSON MSTC40 STRAP TIE FASTENED TO 3-PLY STUDS W/ (28) 12D NAILS AT EACH END OF THE SHEAR WALL TYPICAL WALL UNLESS NOTED 7/16" OSB SHEATHING FASTENED WITH 8D NAILS @ 4" O.C. @ PERIMETER / 12" O.C. FIELD 1/2" DIAMETER X 6" SIMPSON TITEN HD ANCHOR SCREWS @ 3'-0" O.C. - FASTEN SILL PLATE W/ SIMPSON SDWH 4" SCREWS @ 1'-0" O.C. OR (2) @ EACH TRUSS
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NOTE:
ALL DIMENSIONS ARE FROM FACE OF FOUNDATION WALL OR FRAMING;
EDGE OF SLAB OR TRUSS/RAFTER; OR CENTERLINE
OF COLUMN, BEAM, OR JOIST UNLESS NOTED OTHERWISE.

- FLOOR FRAMING NOTES
- (1) (3) So. PINE SEL. STR. 2x12's w/ 2-PLY BUILT-UP POST @ EACH END.
 - (2) (2) So. PINE SEL. STR. 2x12's w/ 2-PLY BUILT-UP POST @ EACH END.
 - (3) GIRDER TRUSS
 - (4) 3-PLY BUILT-UP POST BENEATH GIRDER TRUSS THIS LEVEL TO FLOOR SLAB CONNECTIONS ARE AS FOLLOWS:
FLOOR SLAB: SIMPSON LTTP2.
FLOOR FRAMING STUD ATTACHMENT: SIMPSON MSTC52
ROOF TRUSS: BY TRUSS MANUFACTURER
 - (5) (3) DF SEL. STR. 2x12's w/ 3-PLY BUILT-UP POST @ EACH END.
 - (6) 5-PLY 1.75x5.5 MICROLAM LVL 2.0E STUD PACK CENTERED BELOW HOIST BEAMED AND ON ELEVATOR RAIL. (CONTINUOUS THROUGH FLOOR FRAMING)
 - (7) 3-PLY 1.75x5.5 MICROLAM LVL 2.0E STUD PACK CENTERED BELOW FALL PROTECTION BEAM. (CONTINUOUS THROUGH FLOOR FRAMING)



HEADER SCHEDULE			
LABEL	HEADER	CRIPPLE/JACK	JAMB/KIRKING
"H1"	2 Ply 2x6 SPF #2	Single Ply 2x6 SPF #2	Single Ply 2x6 SPF #2
"H2"	2 Ply 2x6 SPF #2	2 Ply 2x6 SPF #2	Single Ply 2x6 SPF #2
"H3"	2 Ply 2x6 SPF #2	3 Ply 2x6 SPF #2	Single Ply 2x6 SPF #2
"H4"	2 Ply 2x8 Doug Fir #2	Single Ply 2x6 SPF #2	Single Ply 2x6 SPF #2
"H5"	2 Ply 2x8 Doug Fir #2	2 Ply 2x6 SPF #2	Single Ply 2x6 SPF #2
"H6"	2 Ply 2x8 Doug Fir #2	4 Ply 2x6 SPF #2	Single Ply 2x6 SPF #2
"H7"	2 Ply 2x10 Doug Fir Sel. Struct.	Single Ply 2x6 SPF #2	2 Ply 2x6 SPF #2
"H8"	2 Ply 2x10 Doug Fir Sel. Struct.	2 Ply 2x6 SPF #2	2 Ply 2x6 SPF #2
"H9"	2 Ply 2x10 Doug Fir Sel. Struct.	3 Ply 2x6 SPF #2	2 Ply 2x6 SPF #2
"H10"	2 Ply 2x10 Doug Fir Sel. Struct.	5 Ply 2x6 SPF #2	2 Ply 2x6 SPF #2
"H11"	2 Ply 2x10 Doug Fir Sel. Struct.	6 Ply 2x6 SPF #2	2 Ply 2x6 SPF #2
"H12"	2 Ply 2x10 Doug Fir Sel. Struct.	7 Ply 2x6 SPF #2	2 Ply 2x6 SPF #2

"H21"	2 Ply 2x8 Doug Fir #2	Single Ply 2x4 SPF #2	Single Ply 2x4 SPF #2
"H22"	2 Ply 2x8 Doug Fir #2	2 Ply 2x4 SPF #2	Single Ply 2x4 SPF #2
"H23"	2 Ply 2x8 Doug Fir #2	3 Ply 2x4 SPF #2	Single Ply 2x4 SPF #2
"H24"	2 Ply 2x10 Doug Fir Sel. Struct.	2 Ply 2x4 SPF #2	Single Ply 2x4 SPF #2
"H25"	2 Ply 2x10 Doug Fir Sel. Struct.	3 Ply 2x4 SPF #2	Single Ply 2x4 SPF #2
"H26"	2 Ply 2x10 Doug Fir Sel. Struct.	4 Ply 2x4 SPF #2	Single Ply 2x4 SPF #2

BRICK LINTEL SCHEDULE	
LENGTH	MEMBER SIZE (GALVANIZED)
L ≤ 4'-0"	L4x4x3/8 WITH 6" BEARING EACH END
L ≤ 6'-6"	L6x4x3/8 (LLV) WITH 6" BEARING EACH END

1 S400
APARTMENT BUILDING TYPE "A" 3RD FLOOR FRAMING PLAN
SCALE: 3/8" = 1'-0"

REVISIONS:	
No.	Date
ISSUE SET	04/15/2025
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY	
04/15/2025	

STRUCTURAL ENGINEER:
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CLIENT:
INTRINSIC DEVELOPMENT
3622 ENDAVOR AVE.
COLUMBIA, MISSOURI

Alura Village Apartment Building Type "A"
Lee's Summit, Jackson County, Missouri

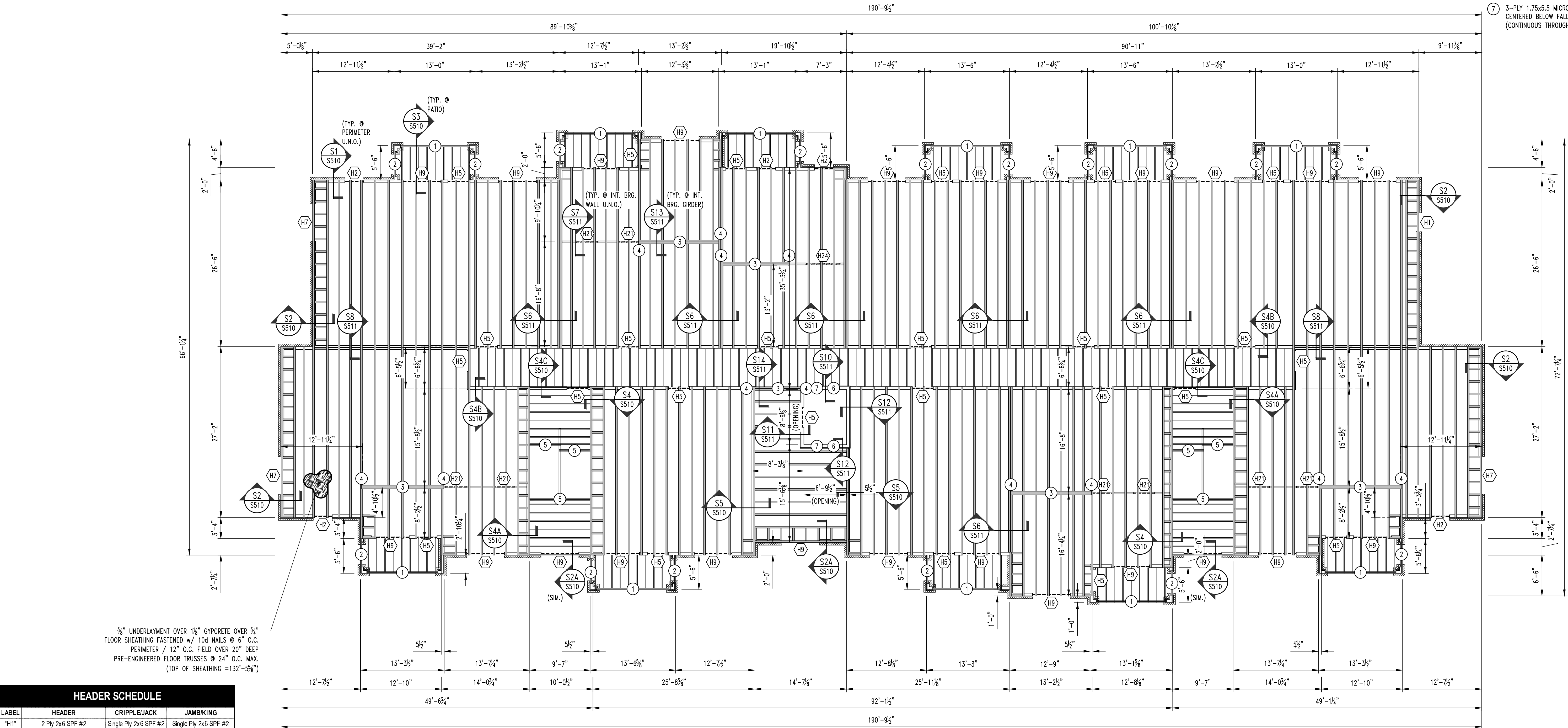
DRAWING INCLUDES:

3RD FLOOR FRAMING PLAN

DESIGNED: JWW
DRAWN: SEH
PROJECT NO.: 230286
SHEET: S400

NOTE:
ALL DIMENSIONS ARE FROM FACE OF FOUNDATION WALL OR FRAMING;
EDGE OF SLAB OR TRUSS/RAFTER, OR CENTERLINE
OF COLUMN, BEAM, OR JOIST UNLESS NOTED OTHERWISE.

- FLOOR FRAMING NOTES
- (1) (3) So. PINE SEL. STR. 2x12's w/ 2-PLY BUILT-UP POST @ EACH END.
 - (2) (2) So. PINE SEL. STR. 2x12's w/ 2-PLY BUILT-UP POST @ EACH END.
 - (3) GIRDER TRUSS
 - (4) 3-PLY BUILT-UP POST BENEATH GIRDER TRUSS THIS LEVEL TO FLOOR SLAB CONNECTIONS ARE AS FOLLOWS:
FLOOR SLAB: SIMPSON LTTP2.
FLOOR FRAMING STUD ATTACHMENT: SIMPSON MSTC52
ROOF TRUSS: BY TRUSS MANUFACTURER
 - (5) (3) DF SEL. STR. 2x12's w/ 3-PLY BUILT-UP POST @ EACH END.
 - (6) 5-PLY 1.75x5.5 MICROLAM LVL 2.0E STUD PACK CENTERED BELOW HOIST BEAMED AND ON ELEVATOR RAIL. (CONTINUOUS THROUGH FLOOR FRAMING)
 - (7) 3-PLY 1.75x5.5 MICROLAM LVL 2.0E STUD PACK CENTERED BELOW FALL PROTECTION BEAM. (CONTINUOUS THROUGH FLOOR FRAMING)



HEADER SCHEDULE			
LABEL	HEADER	CRIPPLE/JACK	JAMB/KIRKING
"H1"	2 Ply 2x6 SPF #2	Single Ply 2x6 SPF #2	Single Ply 2x6 SPF #2
"H2"	2 Ply 2x6 SPF #2	2 Ply 2x6 SPF #2	Single Ply 2x6 SPF #2
"H3"	2 Ply 2x6 SPF #2	3 Ply 2x6 SPF #2	Single Ply 2x6 SPF #2
"H4"	2 Ply 2x8 Doug Fir #2	Single Ply 2x6 SPF #2	Single Ply 2x6 SPF #2
"H5"	2 Ply 2x8 Doug Fir #2	2 Ply 2x6 SPF #2	Single Ply 2x6 SPF #2
"H6"	2 Ply 2x8 Doug Fir #2	4 Ply 2x6 SPF #2	Single Ply 2x6 SPF #2
"H7"	2 Ply 2x10 Doug Fir Sel. Struct.	Single Ply 2x6 SPF #2	2 Ply 2x6 SPF #2
"H8"	2 Ply 2x10 Doug Fir Sel. Struct.	2 Ply 2x6 SPF #2	2 Ply 2x6 SPF #2
"H9"	2 Ply 2x10 Doug Fir Sel. Struct.	3 Ply 2x6 SPF #2	2 Ply 2x6 SPF #2
"H10"	2 Ply 2x10 Doug Fir Sel. Struct.	5 Ply 2x6 SPF #2	2 Ply 2x6 SPF #2
"H11"	2 Ply 2x10 Doug Fir Sel. Struct.	6 Ply 2x6 SPF #2	2 Ply 2x6 SPF #2
"H12"	2 Ply 2x10 Doug Fir Sel. Struct.	7 Ply 2x6 SPF #2	2 Ply 2x6 SPF #2

BRICK LINTEL SCHEDULE	
LENGTH	MEMBER SIZE (GALVANIZED)
L ≤ 4'-0"	L4x4x3/8 WITH 6" BEARING EACH END
L ≤ 6'-8"	L6x4x3/8 (LLV) WITH 6" BEARING EACH END

1 SS00
APARTMENT BUILDING TYPE "A" 4TH FLOOR FRAMING PLAN
SCALE: 3/8" = 1'-0"

REVISIONS:

No.	Date
ISSUE SET	04/15/2025

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

STATE OF MISSOURI
JARED W. VOYLES
NUMBER
FE-201700038
PROFESSIONAL ENGINEER
04/15/2025

STRUCTURAL ENGINEER:
CROCKETT
ENGINEERING CONSULTANTS
1000 W. Nifong Blvd. Suite 1
Columbia, Missouri 65203
(573) 447-0592
www.crockettengineering.com
Crockett Engineering Consultants, LLC
Missouri Certificate of Authority
#200310101

CLIENT:
INTRINSIC DEVELOPMENT
3622 ENDAVOR AVE.
COLUMBIA, MISSOURI

Alura Village Apartment Building Type "A"
Lee's Summit, Jackson County, Missouri

DRAWING INCLUDES:

4TH FLOOR FRAMING PLAN

DESIGNED: JWW
DRAWN: SEH
PROJECT NO.: 230286
SHEET: SS00

REVISIONS:

No.	Date
ISSUE SET	04/15/2025

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SEALED AND DATED ELECTRONICALLY.



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www.crockettengineering.com
Crockett Engineering Consultants, LLC
Missouri Certificate of Authority
#200310101

CLIENT:
**INTRINSIC
DEVELOPMENT**
3629 ENDEAVOR AVE.
COLUMBIA, MISSOURI

Alura Village Apartment Building Type "A"
Lee's Summit, Jackson County, Missouri

DRAWING INCLUDES:

FLOOR FRAMING
DETAILS

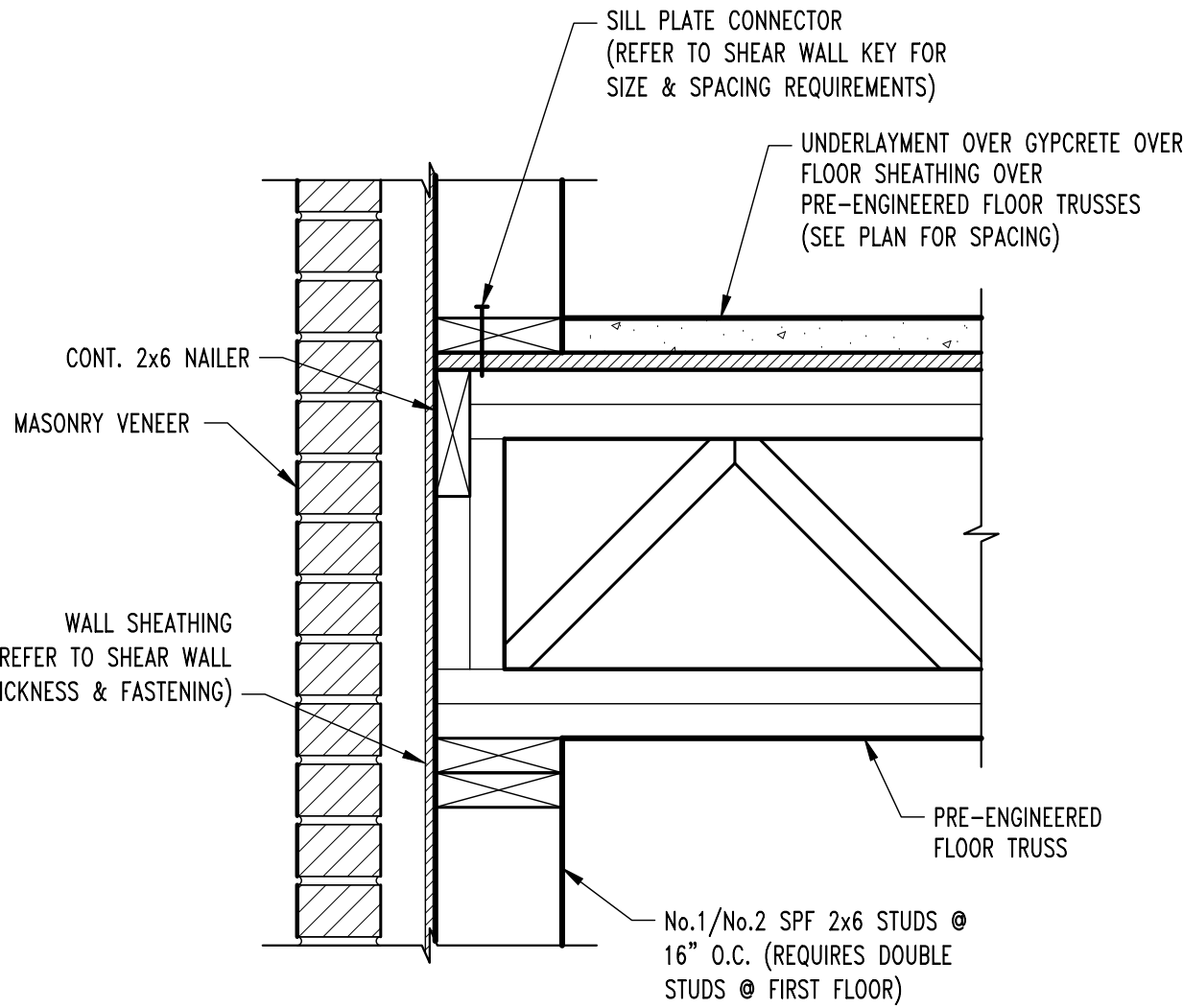
DESIGNED: JWV

DRAWN: SEH

PROJECT NO.: 230286

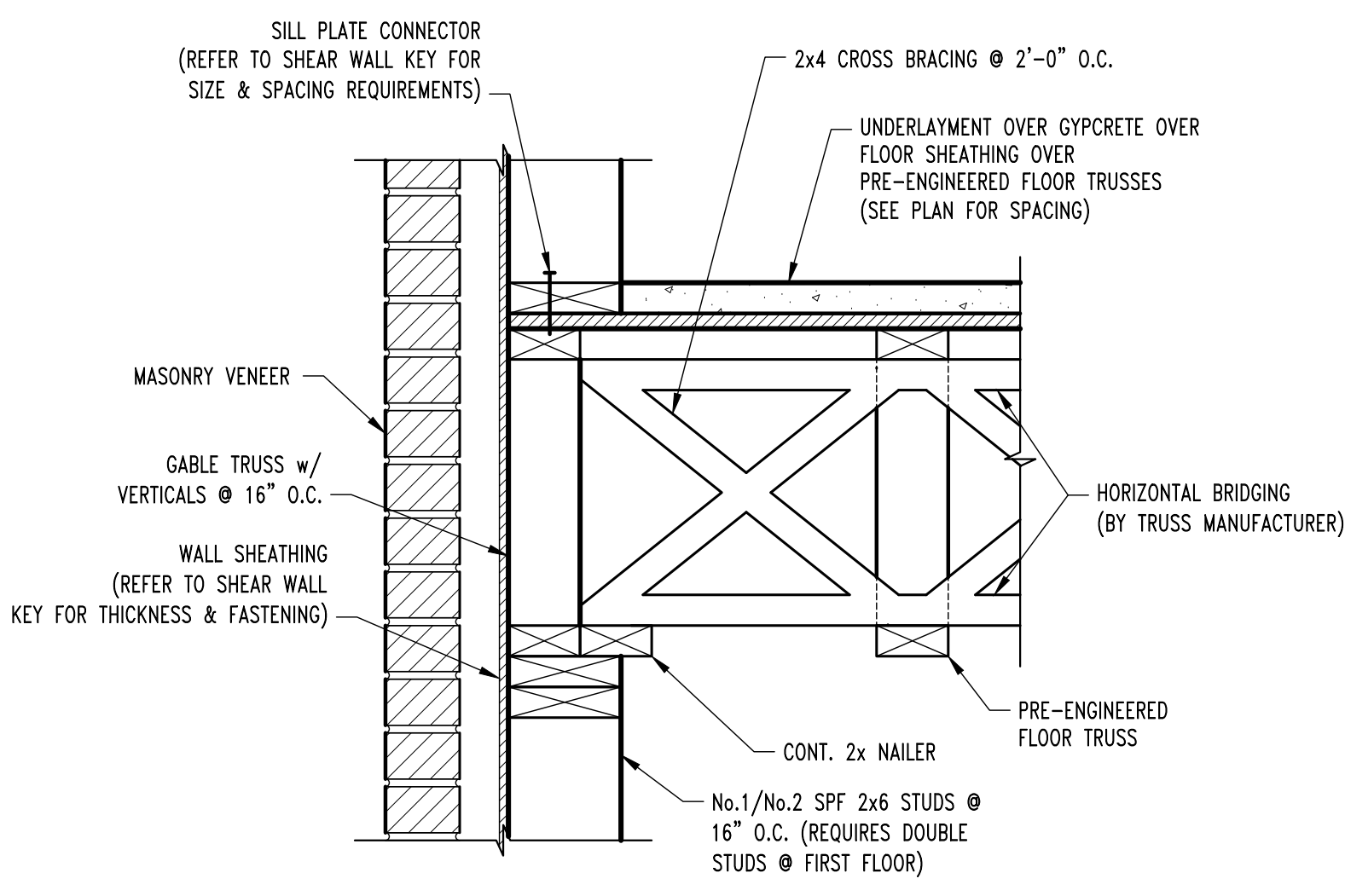
SHEET:

S510



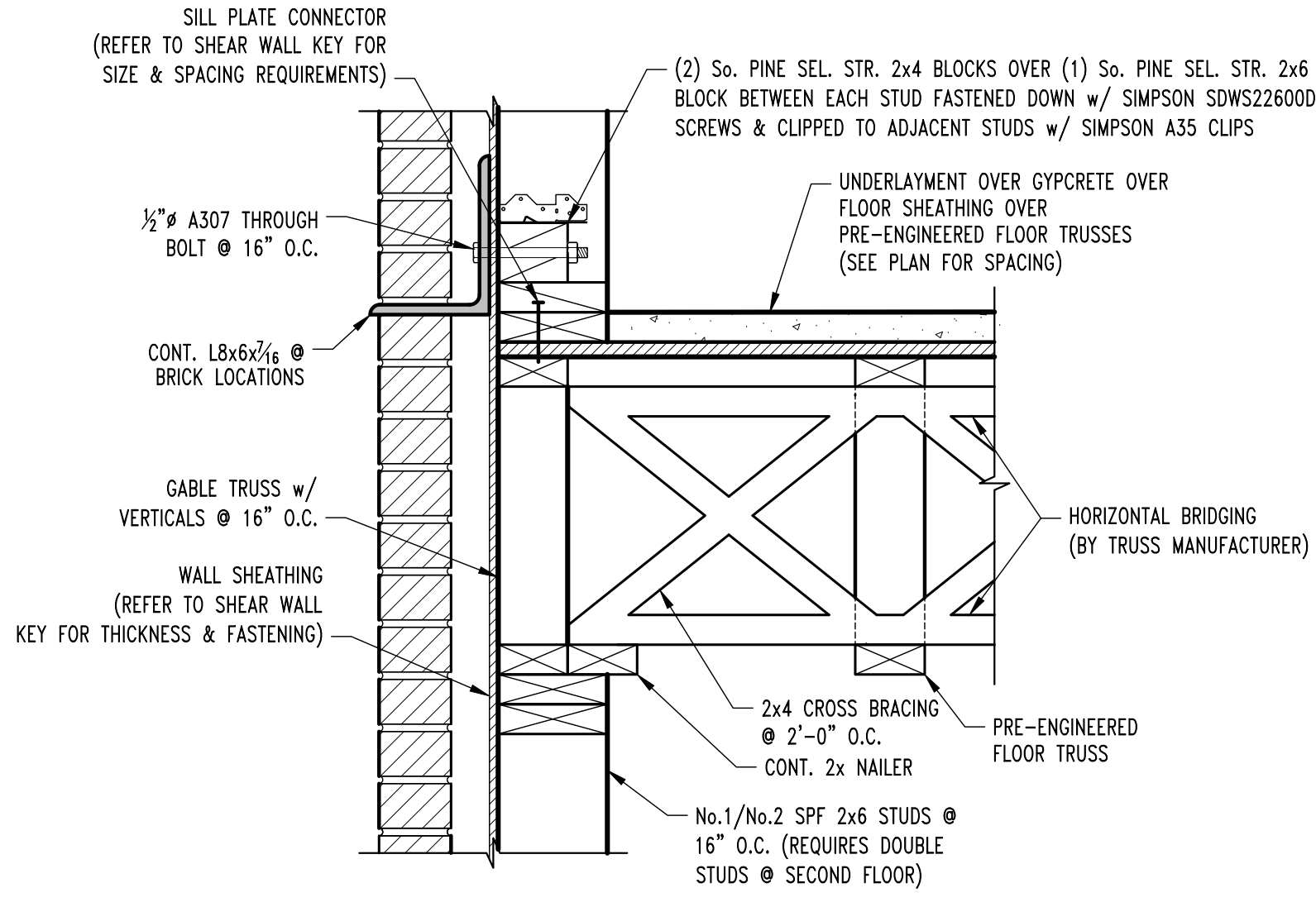
S1
S300-S500

FRAMING SECTION
SCALE: 1½" = 1'-0"



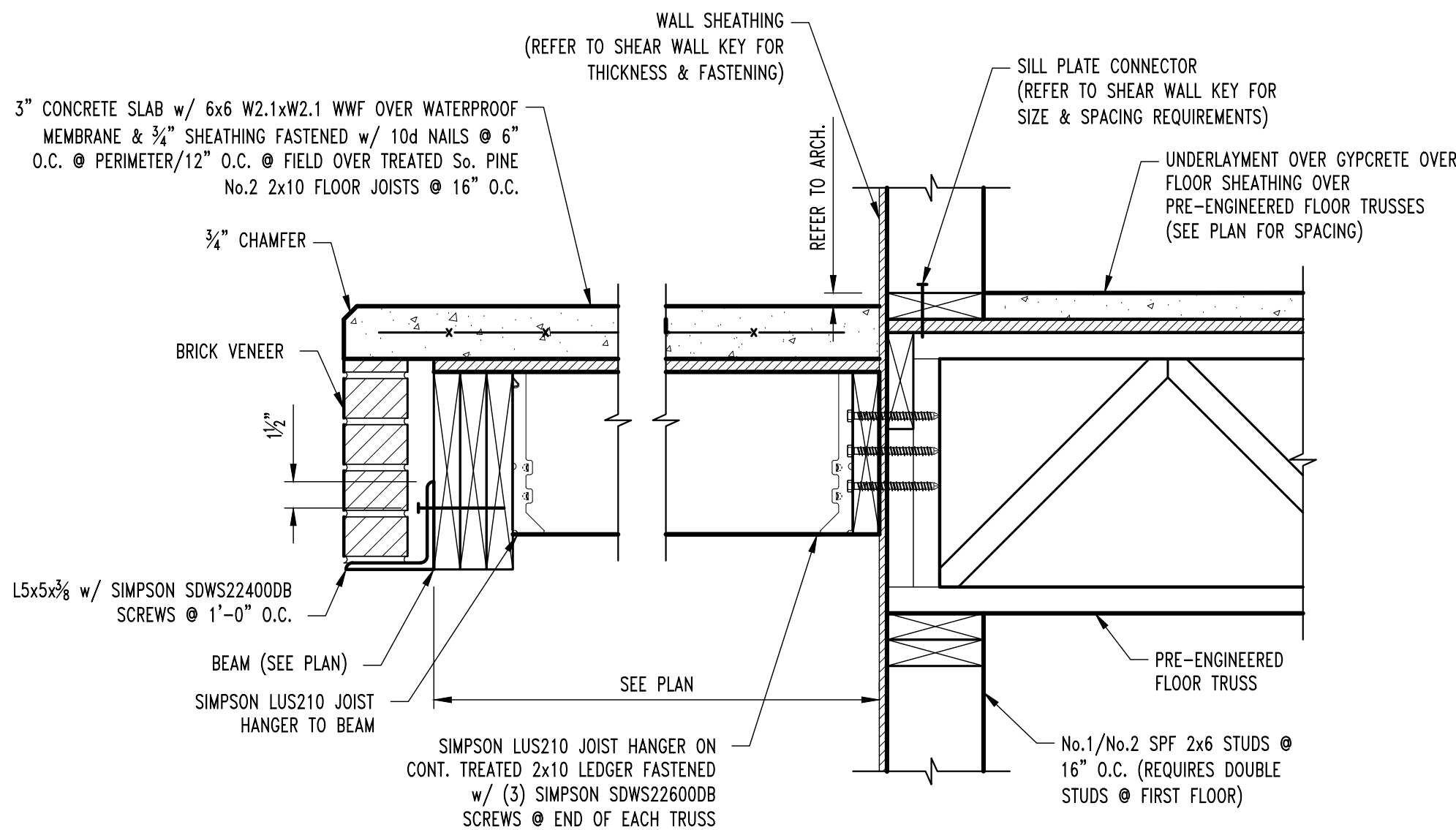
S2
S300-S500

FRAMING SECTION
SCALE: 1½" = 1'-0"



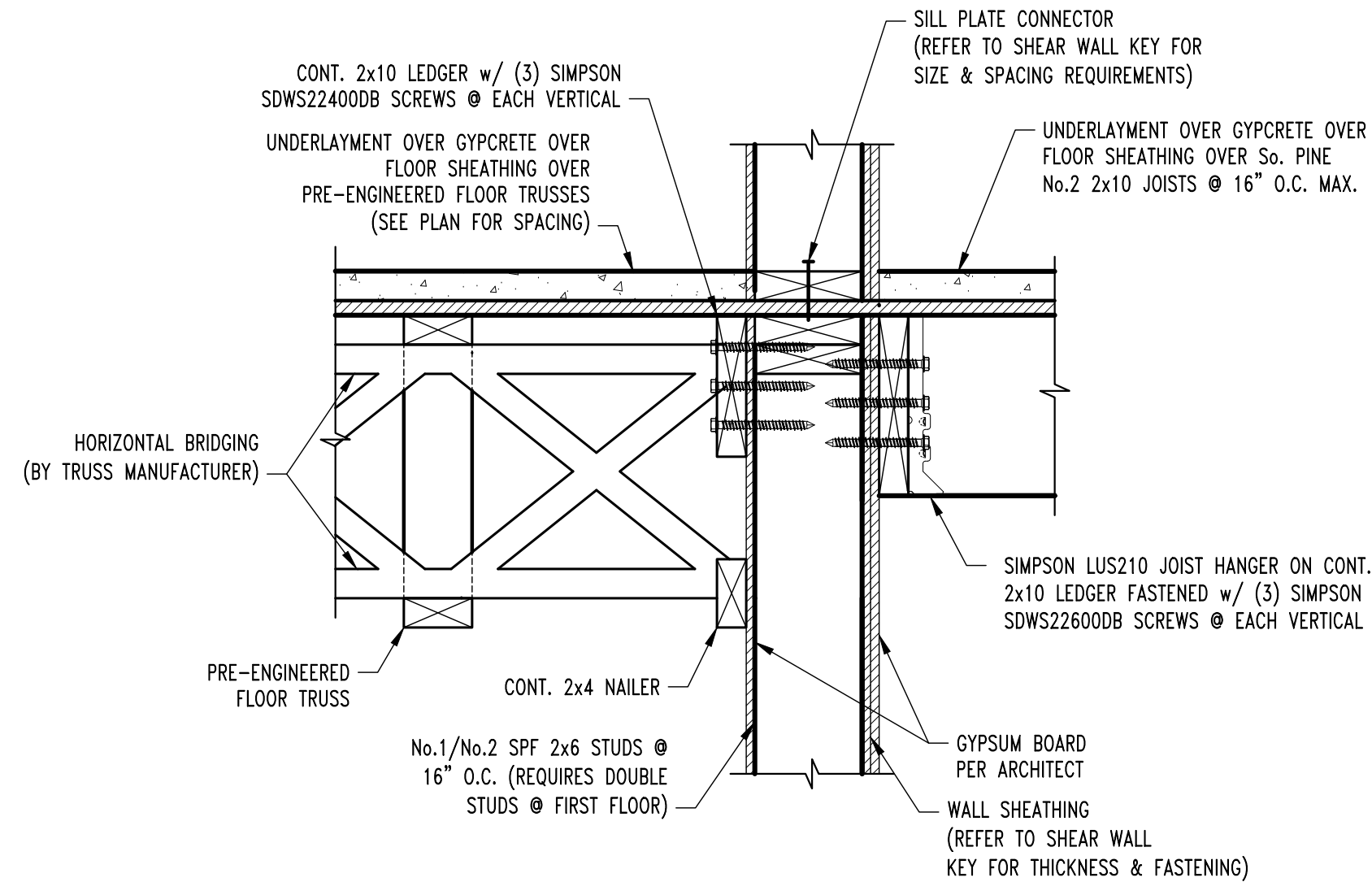
S2A
S400-S500

FRAMING SECTION
SCALE: 1½" = 1'-0"



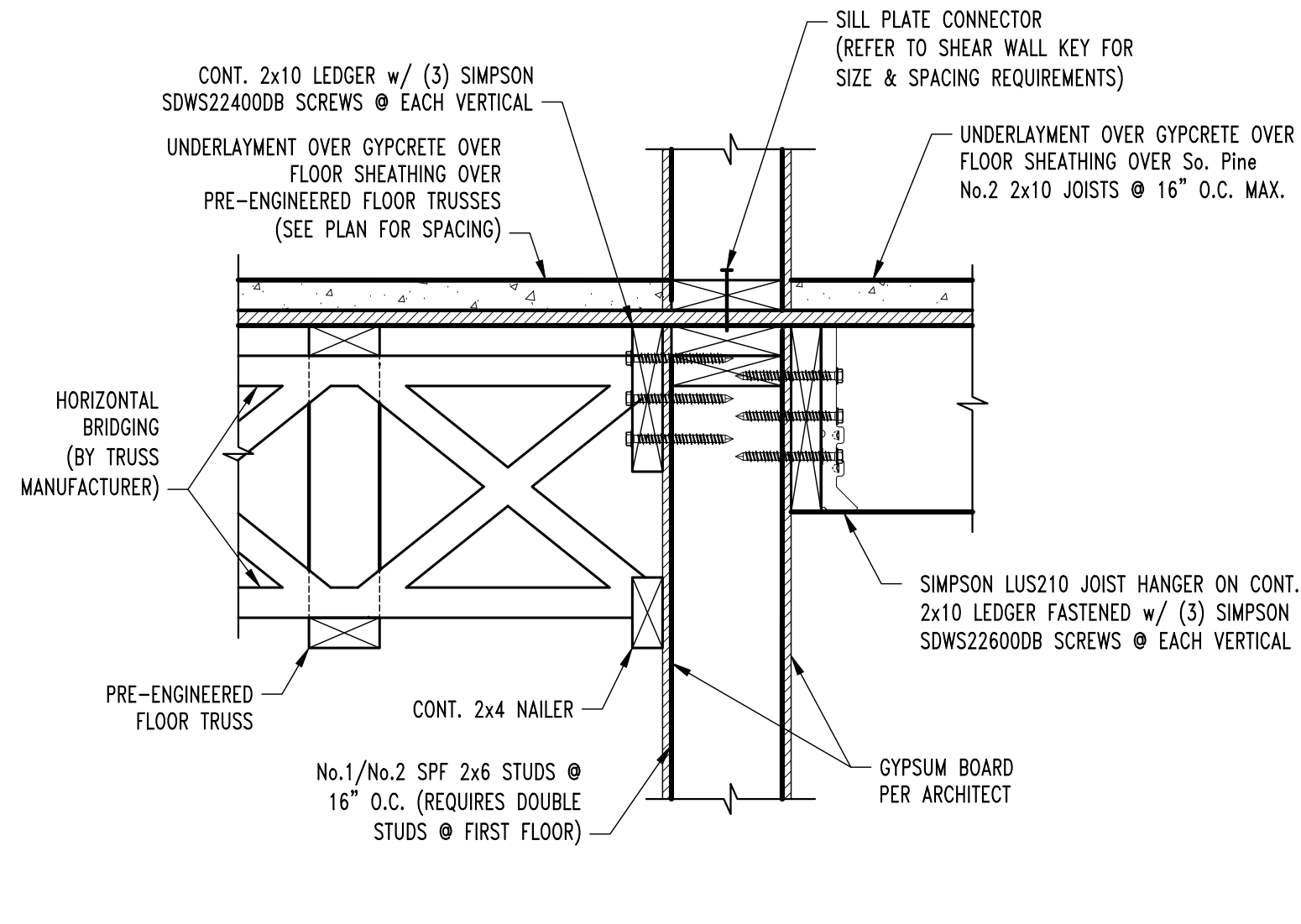
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S300-S500

FRAMING SECTION
SCALE: 1½" = 1'-0"



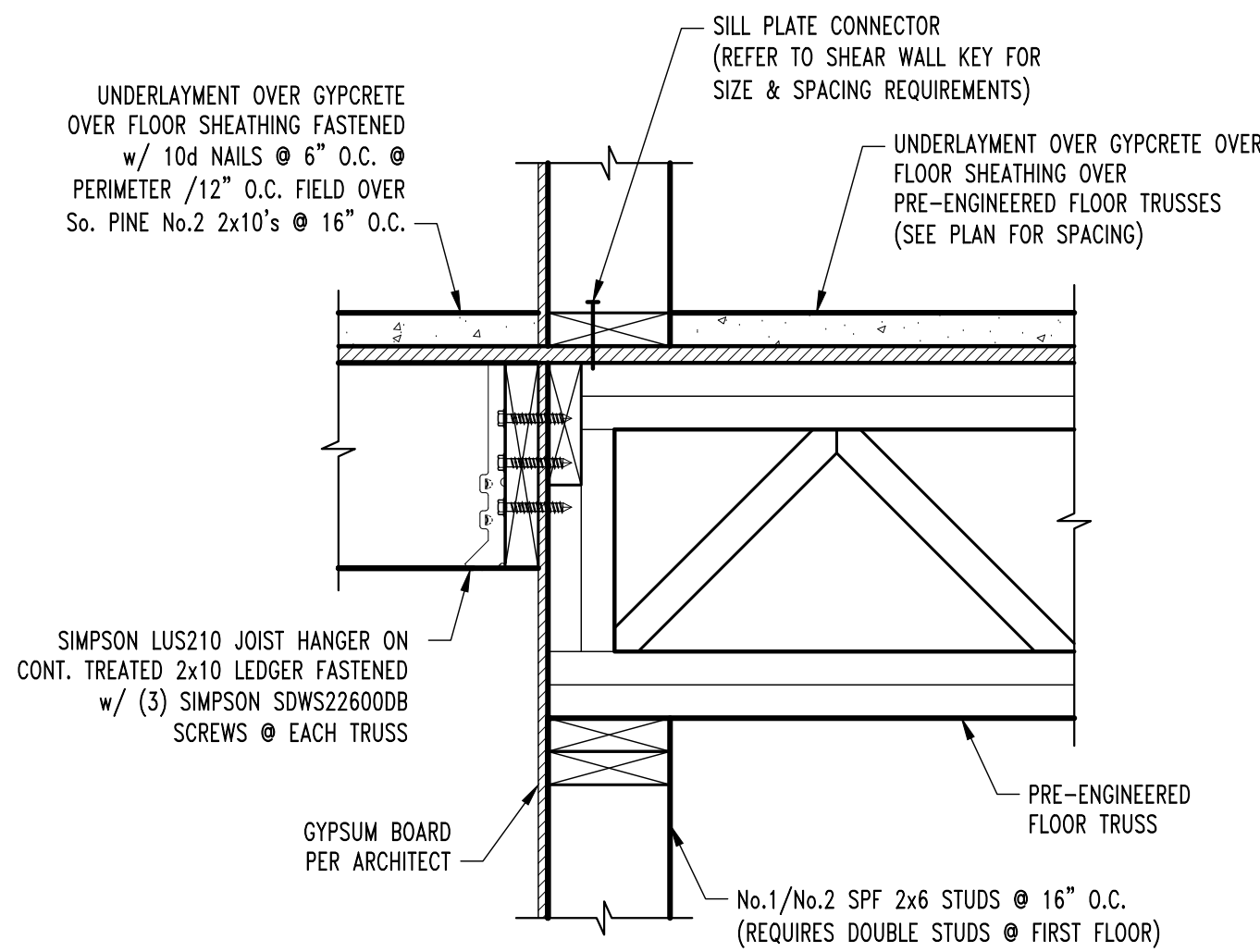
S4
S300-S500

FRAMING SECTION
SCALE: 1½" = 1'-0"



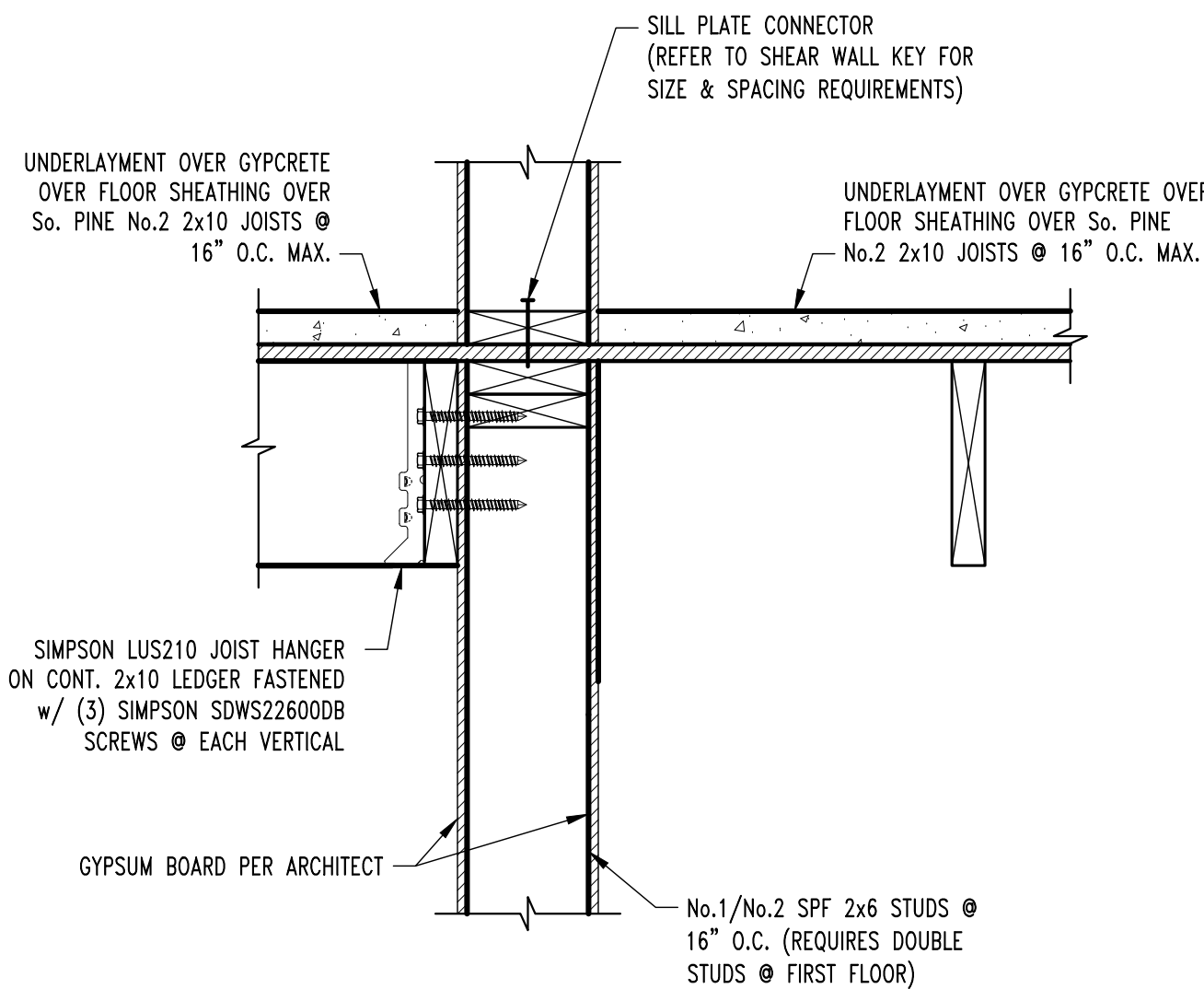
S4A
S300-S500

FRAMING SECTION
SCALE: 1½" = 1'-0"



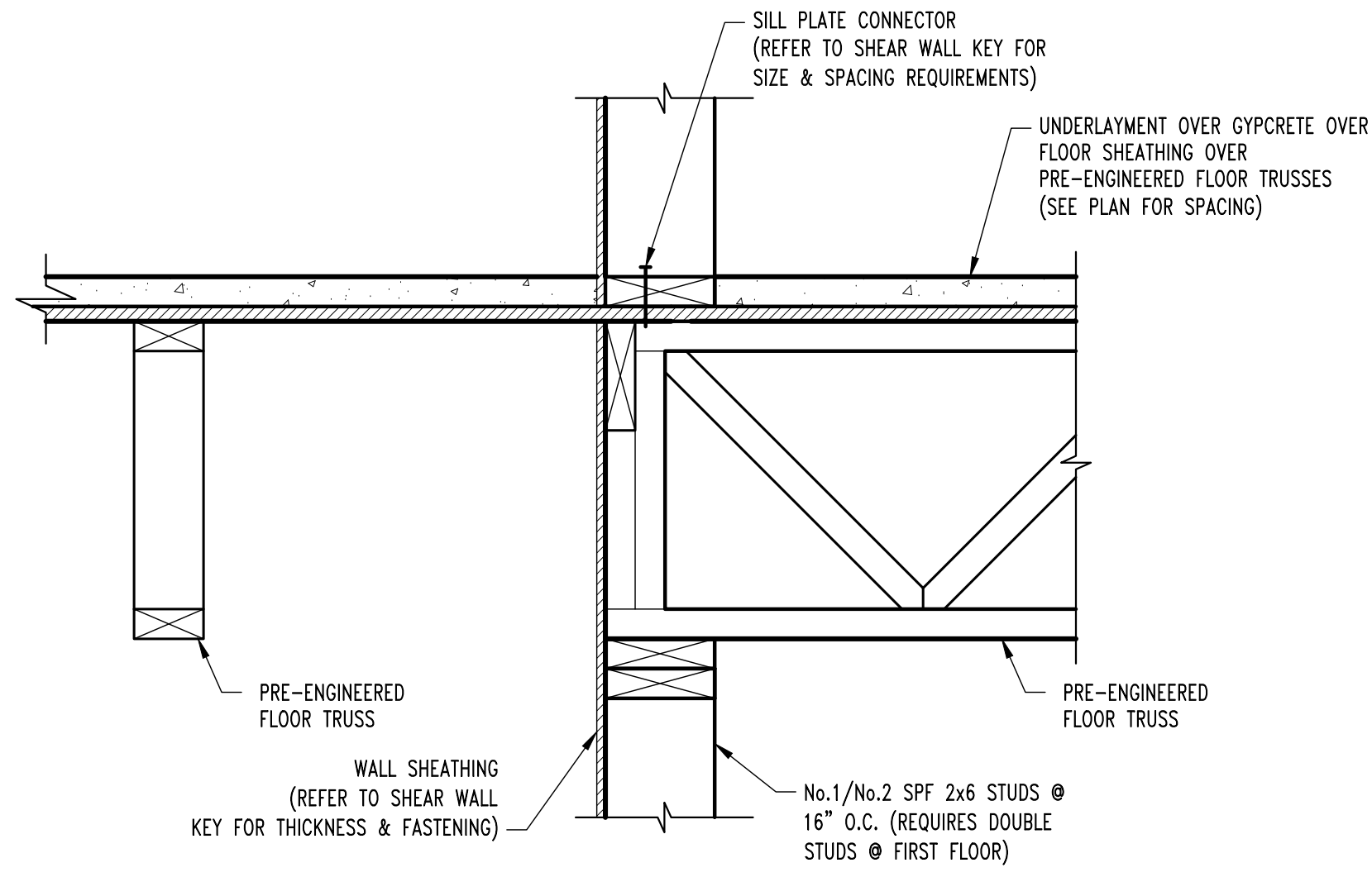
S4B
S300-S500

FRAMING SECTION
SCALE: 1½" = 1'-0"



S4C
S300-S500

FRAMING SECTION
SCALE: 1½" = 1'-0"



S5
S300-S500

FRAMING SECTION
SCALE: 1½" = 1'-0"

REVISIONS:	
No.	Date
ISSUE SET	04/15/2025

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1000 W. Nifong Blvd., Suite 1
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www.crockettengineering.com
Crockett Engineering Consultants, LLC
Missouri Certificate of Authority
#200010101

CLIENT:
**INTRINSIC
DEVELOPMENT**
3639 ENDAVOR AVE.
COLUMBIA, MISSOURI

Alura Village Apartment Building Type "A"
Lee's Summit, Jackson County, Missouri

DRAWING INCLUDES:

FLOOR FRAMING
DETAILS

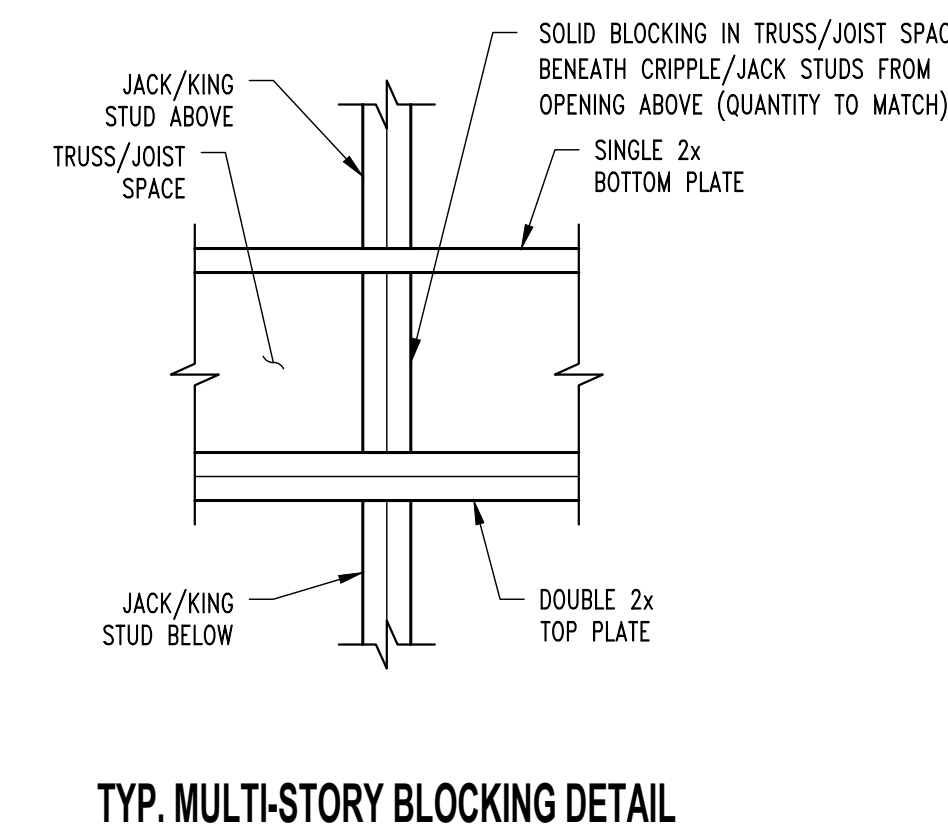
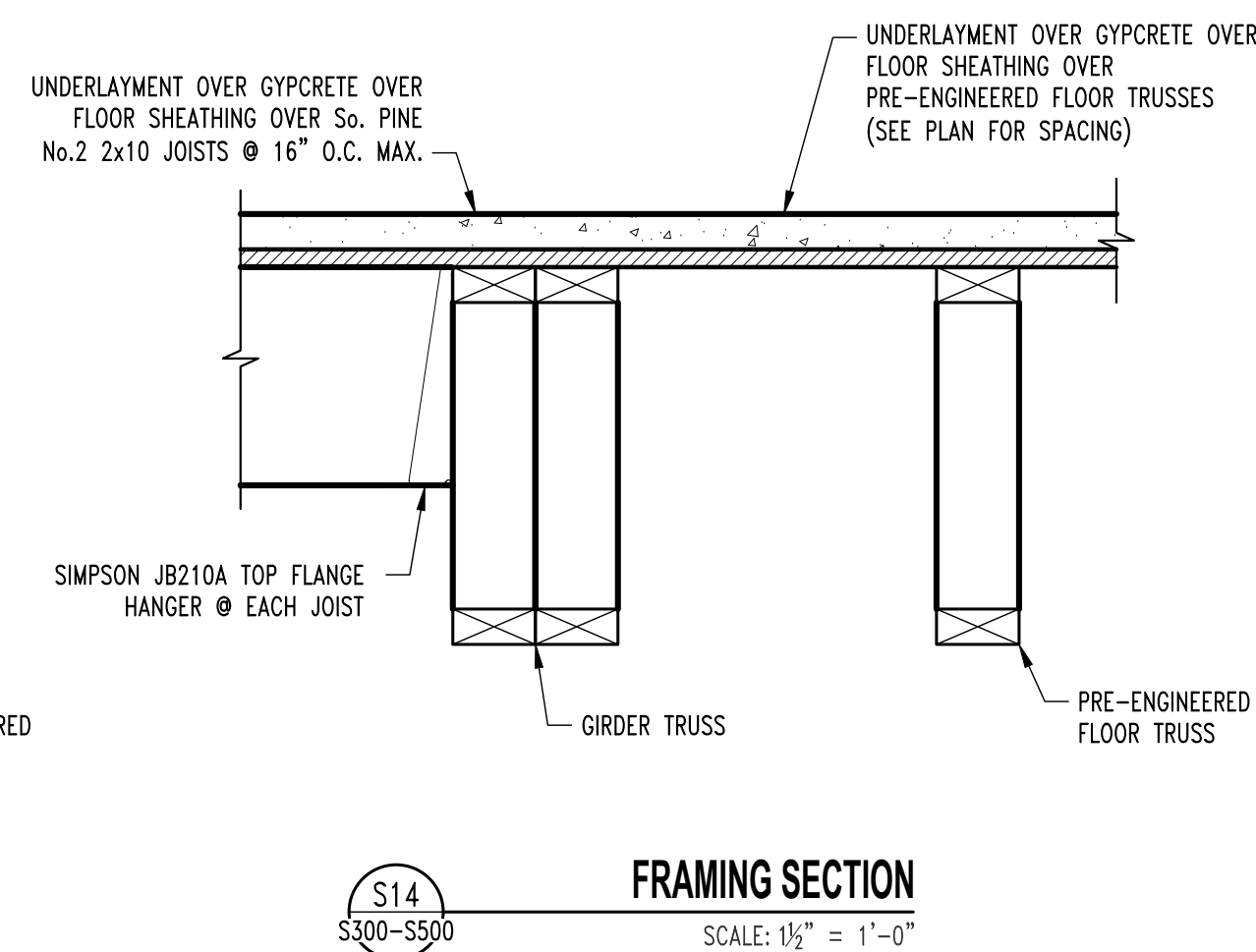
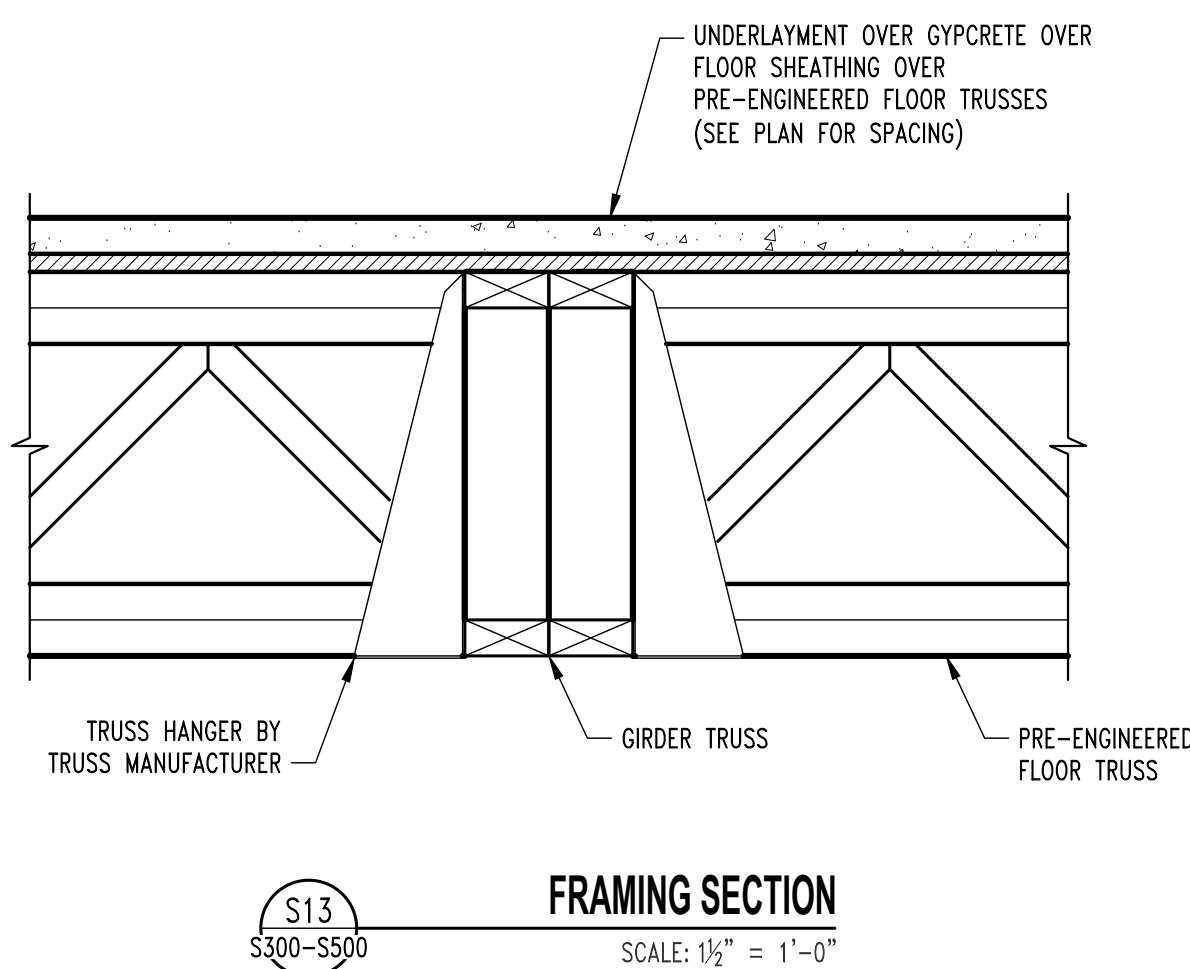
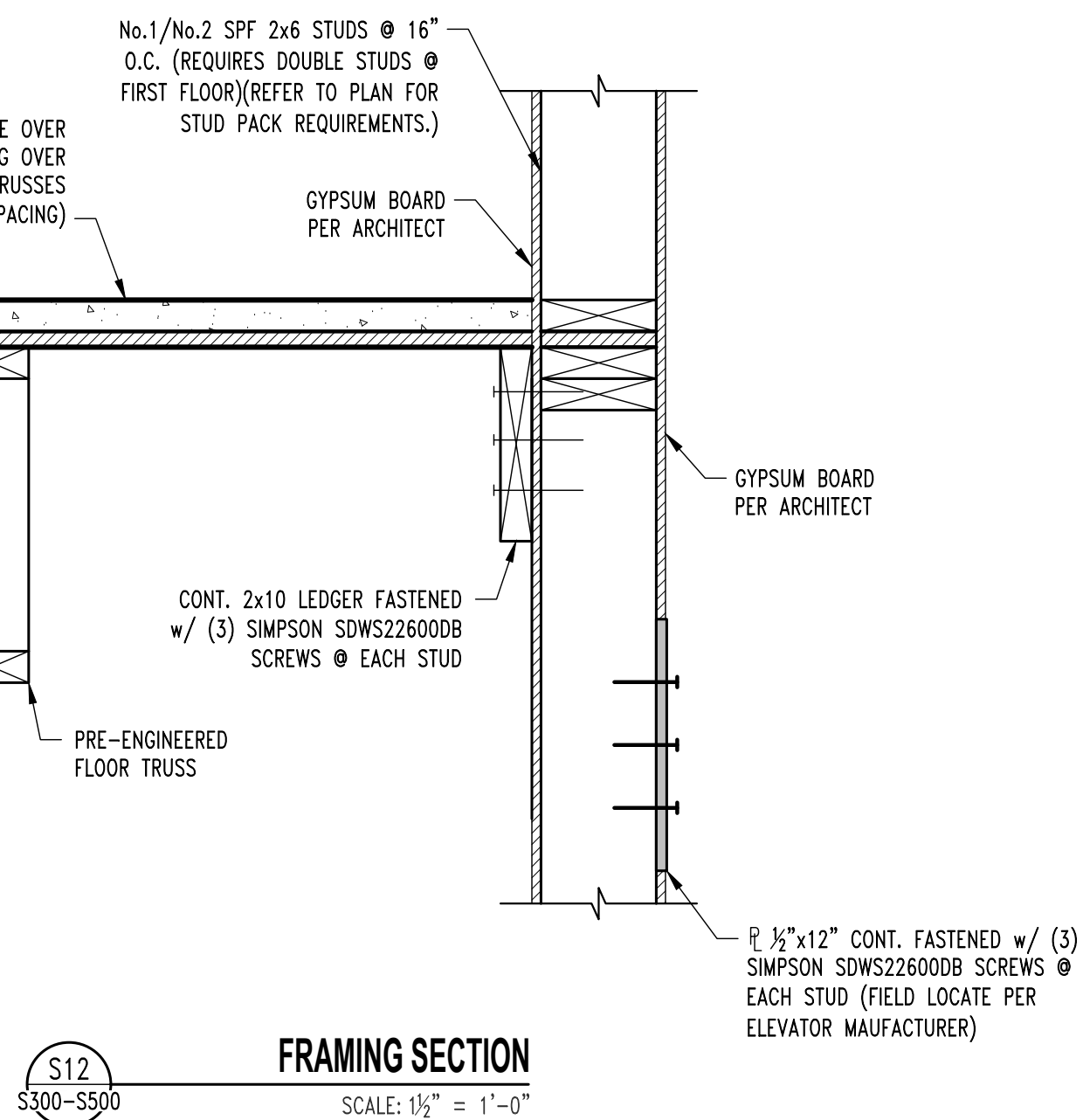
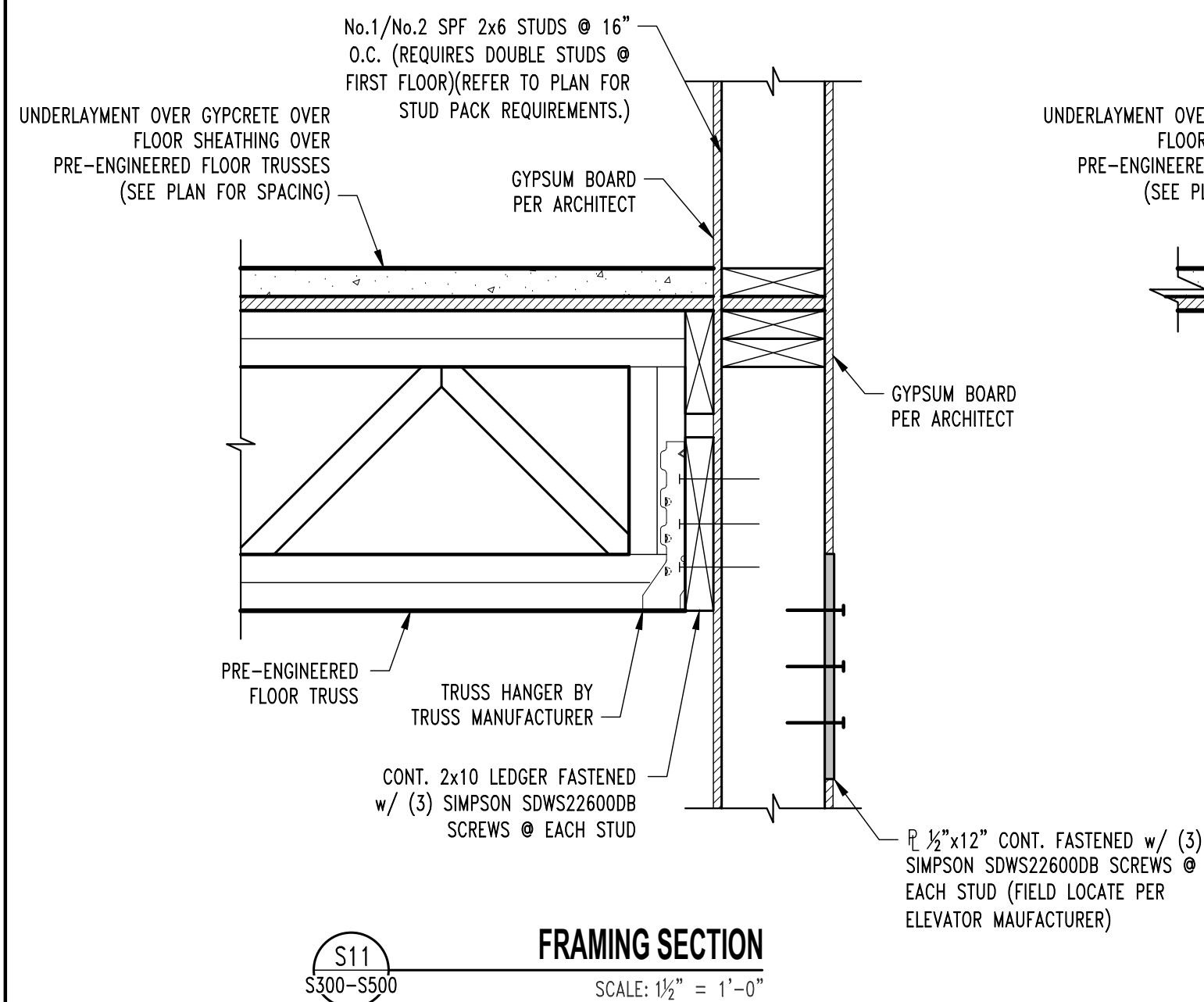
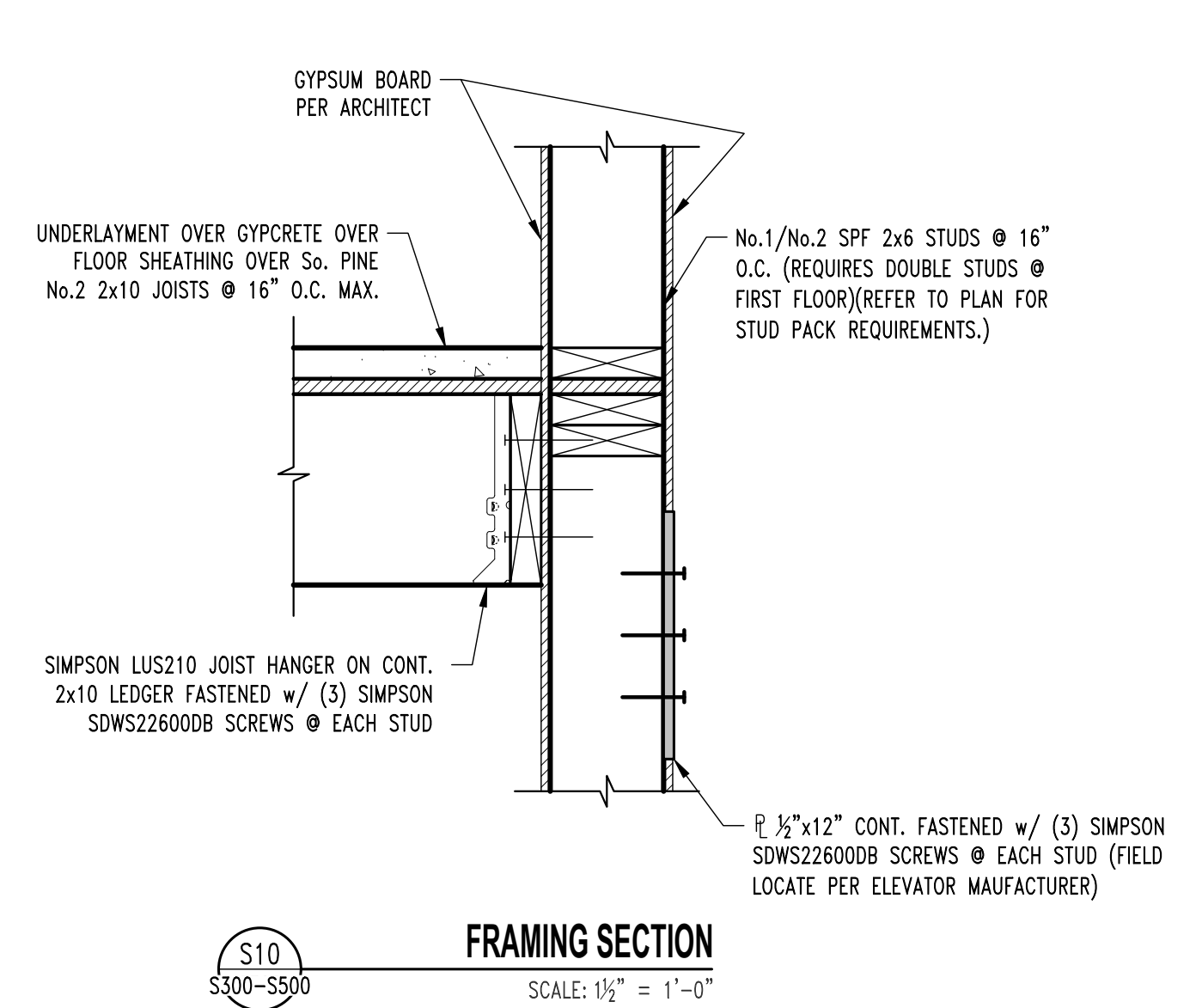
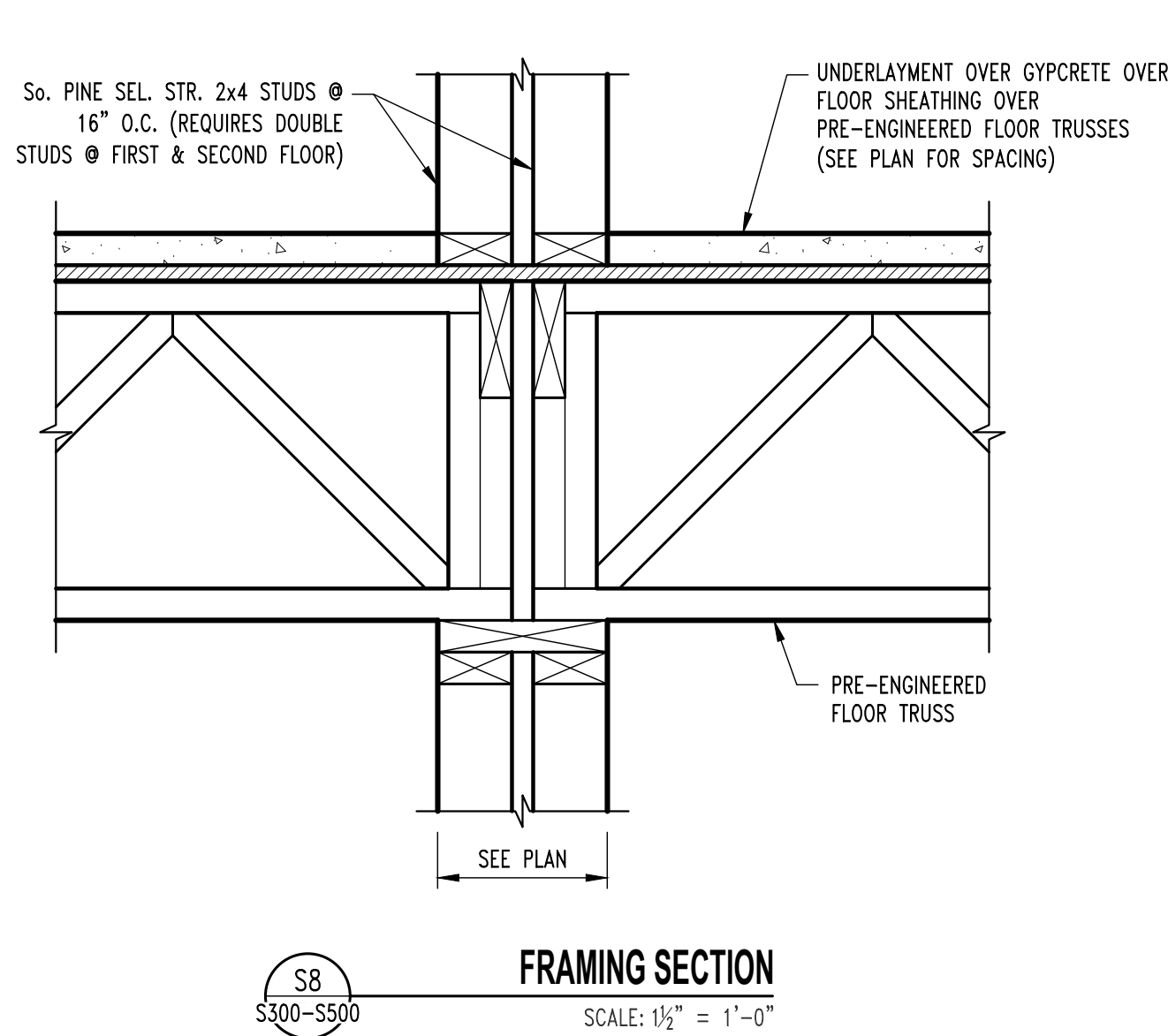
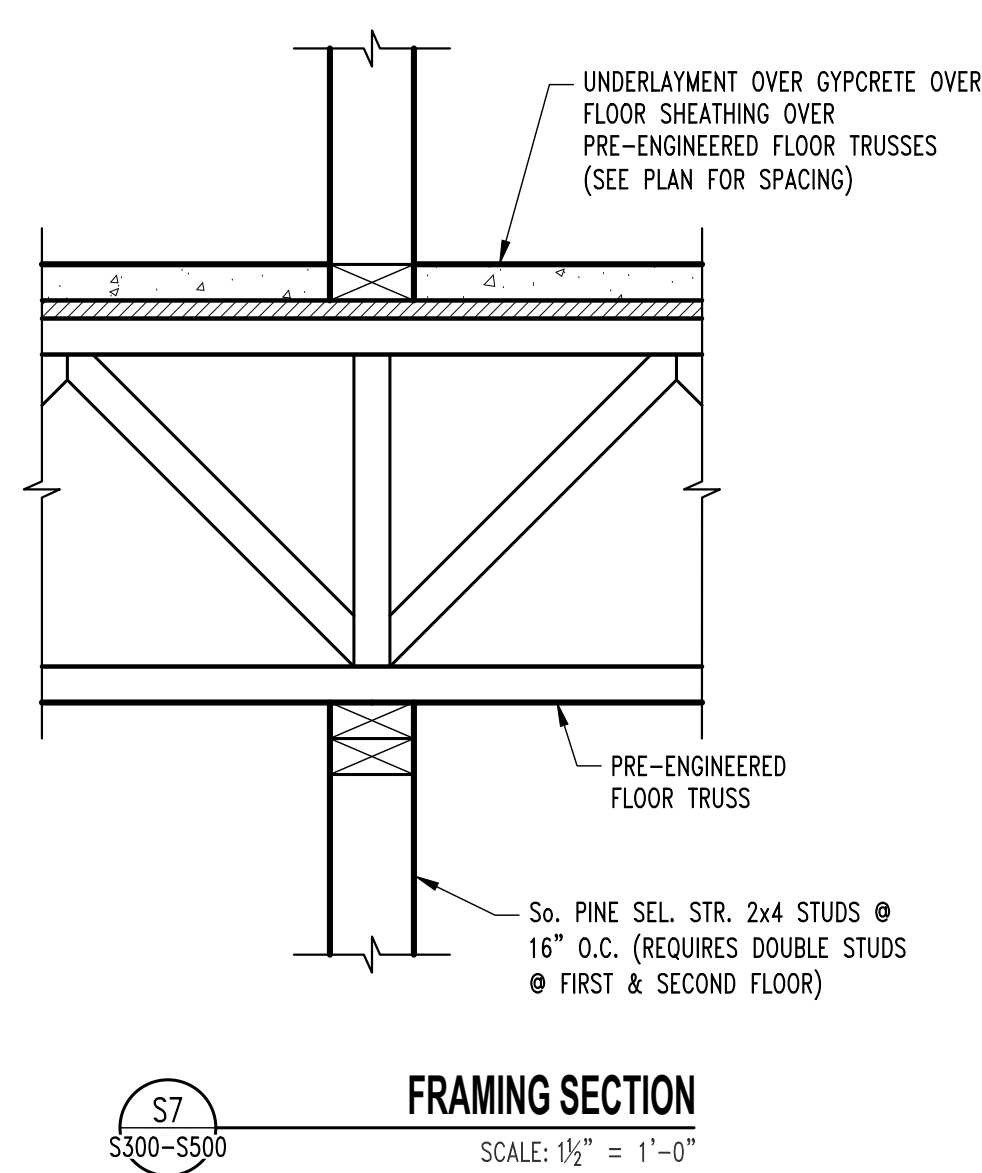
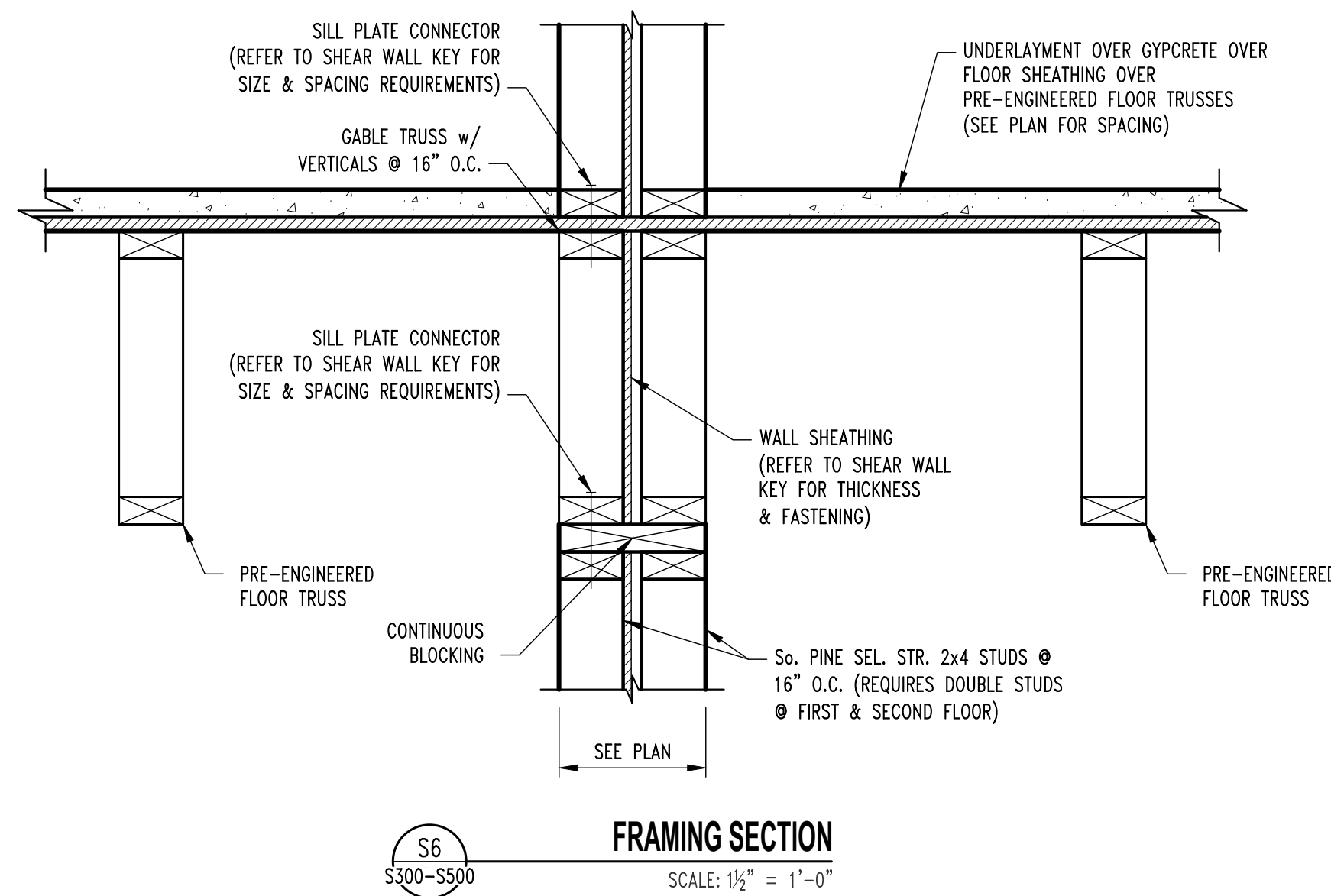
DESIGNED: JWV

DRAWN: SEH

PROJECT NO.: 230286

SHEET:

S511



NOTE:
ALL DIMENSIONS ARE FROM FACE OF FOUNDATION WALL OR FRAMING;
EDGE OF SLAB OR TRUSS/RAFTER; OR CENTERLINE
OF COLUMN, BEAM, OR JOIST UNLESS NOTED OTHERWISE.

ROOF FRAMING NOTES

- (1) TREATED So. PINE No.2 2x10's w/ 2-PLY BUILT-UP POST @ EACH END.
- (2) FRAME ROOF OVER PRE-ENGINEERED TRUSSES TO CREATE RIDGE, VALLEY, OR HIP AS SHOWN w/ No.1/No.2 SPF 2x RAFTERS @ 16" O.C. OR PRE-ENGINEERED ROOF TRUSSES @ 2'-0" O.C. MAX.
- (3) GIRDER TRUSS
- (4) 3-PLY BUILT-UP POST BENEATH GIRDER TRUSS THIS LEVEL TO FLOOR SLAB CONNECTIONS ARE AS FOLLOWS:
FLOOR SLAB: SIMPSON LITP2.
FLOOR FRAMING STUD ATTACHMENT: SIMPSON WSTCS2
ROOF TRUSS: BY TRUSS MANUFACTURER
- (5) REFER TO TYPICAL GIRDER TO HEADER DETAIL ON SHEET S612.
- (6) ROOF HATCH REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
- (7) 5-PLY 1.75x5.5 MICROLAM LVL 2.0E STUD PACK CENTERED BELOW HOIST BEAMED AND ON ELEVATOR RAIL. (CONTINUOUS THROUGH FLOOR FRAMING)
- (8) 3-PLY 1.75x5.5 MICROLAM LVL 2.0E STUD PACK CENTERED BELOW FALL PROTECTION BEAM. (CONTINUOUS THROUGH FLOOR FRAMING)

No.	Date
ISSUE SET	04/15/2025

THIS SHEET HAS BEEN SIGNED,
SEALED AND DATED ELECTRONICALLY

STATE OF MISSOURI
JARED W. CROCKETT
NUMBER
FE-201700038
PROFESSIONAL ENGINEER
04/15/2025

STRUCTURAL ENGINEER:
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1000 W. N. Hwy. Blvd. #101
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(314) 447-0992
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Crockett Engineering Consultants, LLC
Missouri Certificate of Authority
#200013101

CLIENT:
INTRINSIC DEVELOPMENT
3622 ENDAVOR AVE.
COLUMBIA, MISSOURI

Alura Village Apartment Building Type "A"
Lee's Summit, Jackson County, Missouri

DRAWING INCLUDES:

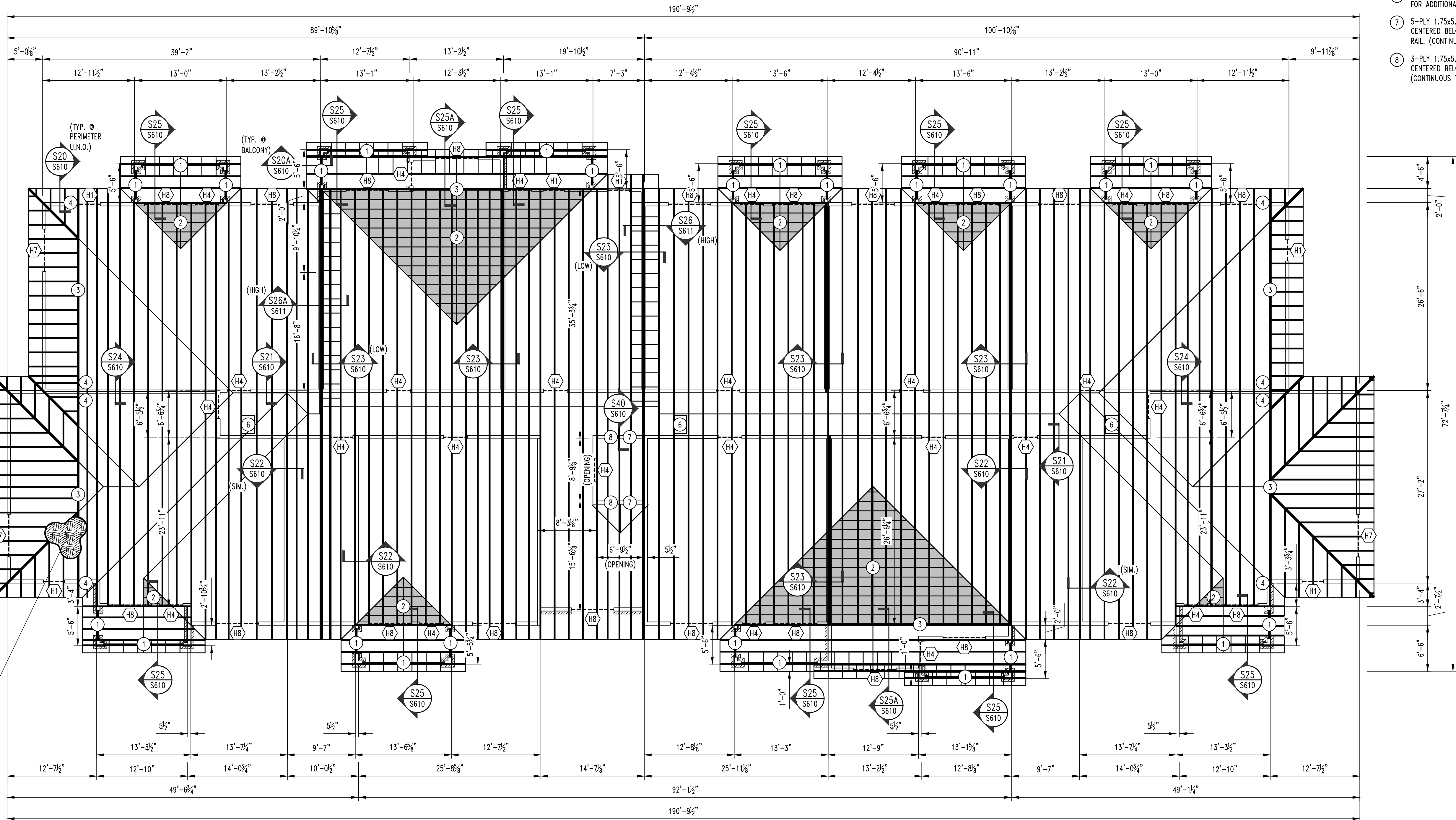
ROOF FRAMING
PLAN

DESIGNED: JWW

DRAWN: SEH

PROJECT NO.: 230286

SHEET:
S600



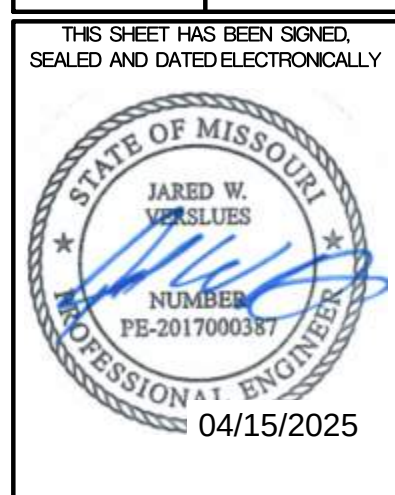
APARTMENT BUILDING TYPE "A" ROOF FRAMING PLAN

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

HEADER SCHEDULE

LABEL	HEADER	CRIPPLE/JACK	JAMB/KING
"H1"	2 Ply 2x6 SPF #2	Single Ply 2x6 SPF #2	Single Ply 2x6 SPF #2
"H2"	2 Ply 2x6 SPF #2	2 Ply 2x6 SPF #2	Single Ply 2x6 SPF #2
"H3"	2 Ply 2x6 SPF #2	3 Ply 2x6 SPF #2	Single Ply 2x6 SPF #2
"H4"	2 Ply 2x8 Doug Fir #2	Single Ply 2x6 SPF #2	Single Ply 2x6 SPF #2
"H5"	2 Ply 2x8 Doug Fir #2	2 Ply 2x6 SPF #2	Single Ply 2x6 SPF #2
"H6"	2 Ply 2x8 Doug Fir #2	4 Ply 2x6 SPF #2	Single Ply 2x6 SPF #2
"H7"	2 Ply 2x10 Doug Fir Sel. Struct.	Single Ply 2x6 SPF #2	2 Ply 2x6 SPF #2
"H8"	2 Ply 2x10 Doug Fir Sel. Struct.	2 Ply 2x6 SPF #2	2 Ply 2x6 SPF #2
"H9"	2 Ply 2x10 Doug Fir Sel. Struct.	3 Ply 2x6 SPF #2	2 Ply 2x6 SPF #2
"H10"	2 Ply 2x10 Doug Fir Sel. Struct.	5 Ply 2x6 SPF #2	2 Ply 2x6 SPF #2
"H11"	2 Ply 2x10 Doug Fir Sel. Struct.	6 Ply 2x6 SPF #2	2 Ply 2x6 SPF #2
"H12"	2 Ply 2x10 Doug Fir Sel. Struct.	7 Ply 2x6 SPF #2	2 Ply 2x6 SPF #2
"H21"	2 Ply 2x8 Doug Fir #2	Single Ply 2x4 SPF #2	Single Ply 2x4 SPF #2
"H22"	2 Ply 2x8 Doug Fir #2	2 Ply 2x4 SPF #2	Single Ply 2x4 SPF #2
"H23"	2 Ply 2x8 Doug Fir #2	3 Ply 2x4 SPF #2	Single Ply 2x4 SPF #2
"H24"	2 Ply 2x10 Doug Fir Sel. Struct.	2 Ply 2x4 SPF #2	Single Ply 2x4 SPF #2
"H25"	2 Ply 2x10 Doug Fir Sel. Struct.	3 Ply 2x4 SPF #2	Single Ply 2x4 SPF #2
"H26"	2 Ply 2x10 Doug Fir Sel. Struct.	4 Ply 2x4 SPF #2	Single Ply 2x4 SPF #2

REVISIONS:	
No.	Date
ISSUE SET	04/15/2025



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Missouri Certificate of Authority
#200310301

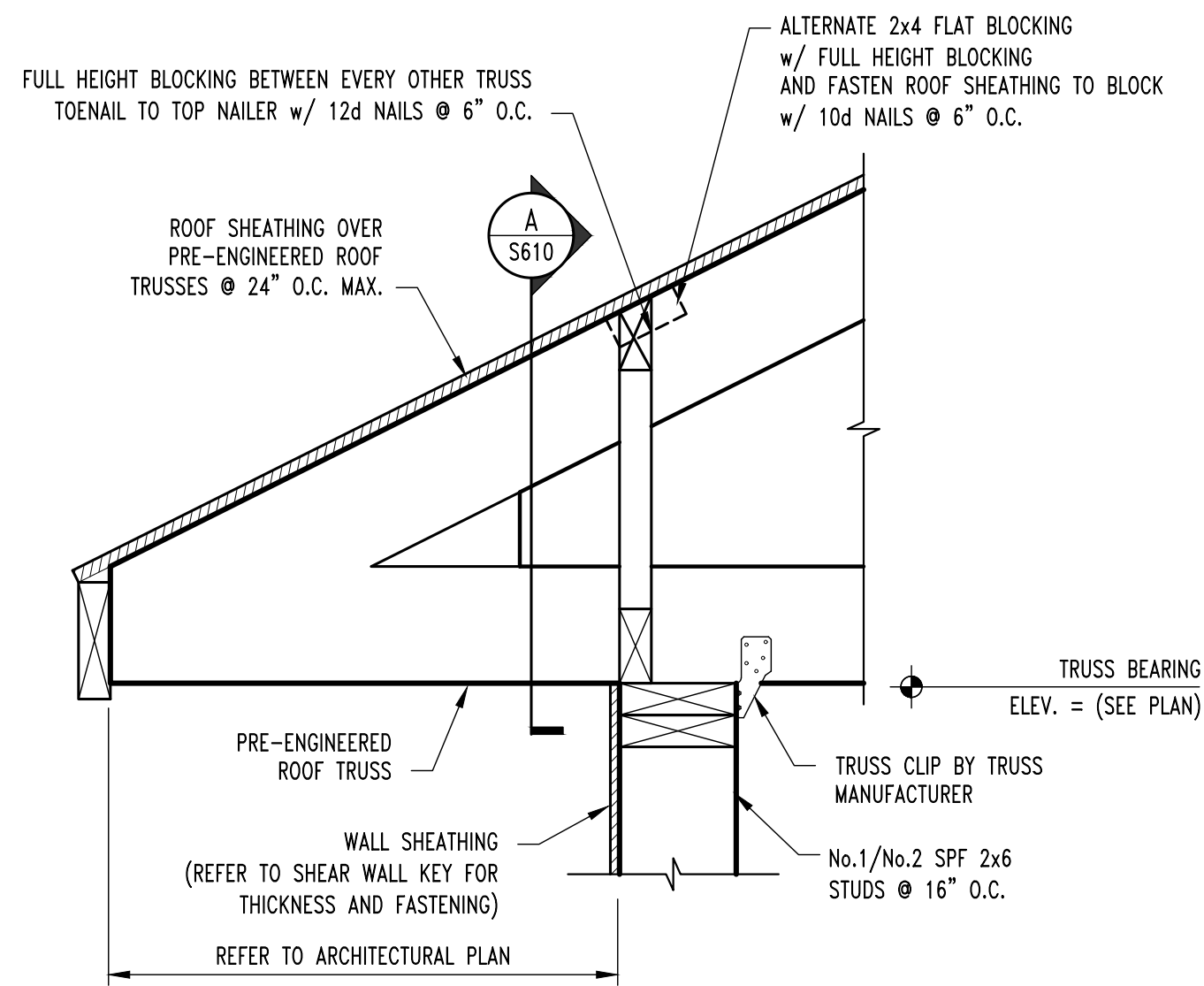
CLIENT:
**INTRINSIC
DEVELOPMENT**
3632 ENCLAVOR AVE.
COLUMBIA, MISSOURI

Alura Village Apartment Building Type "A"
Lee's Summit, Jackson County, Missouri

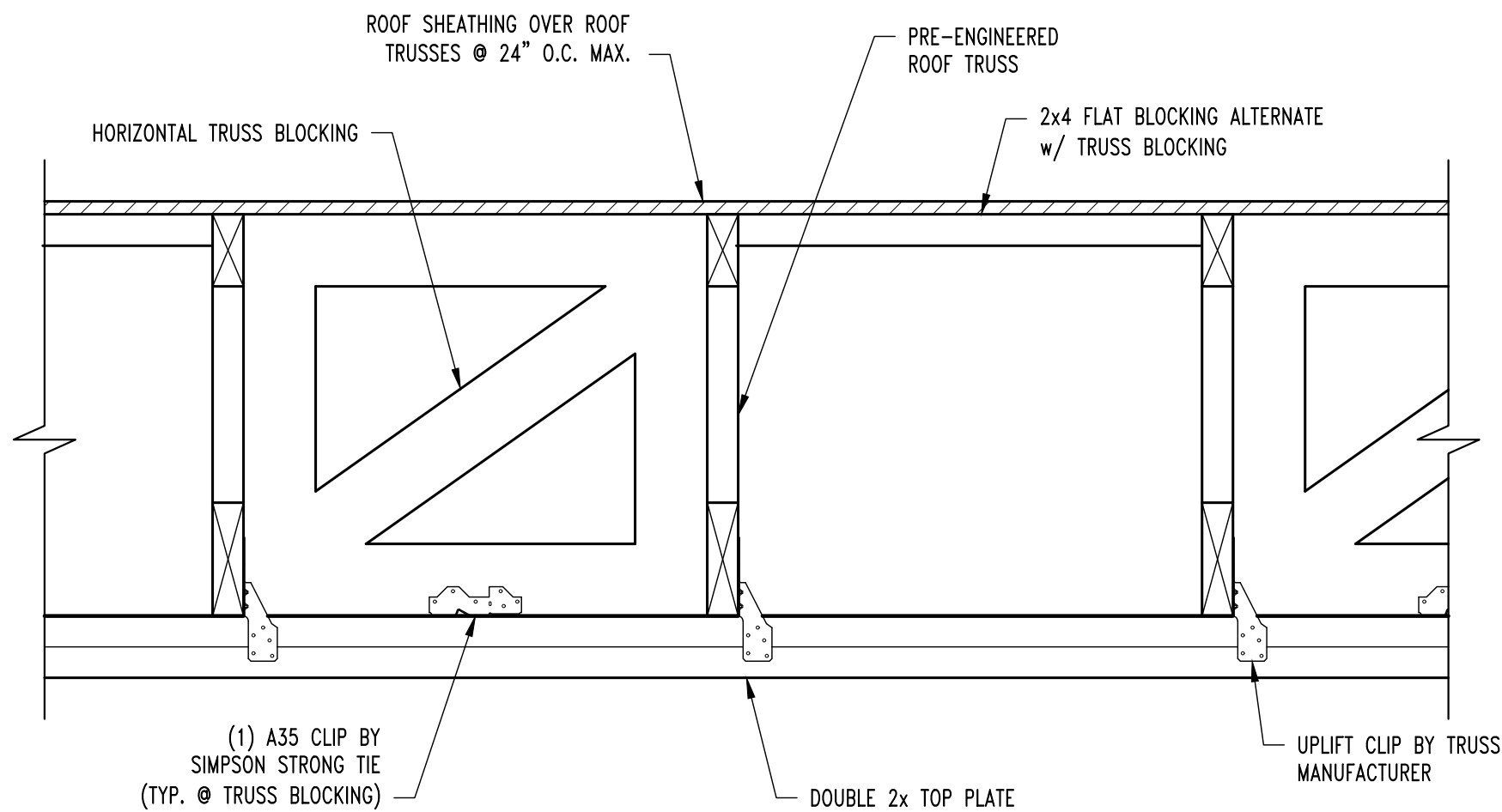
DRAWING INCLUDES:

ROOF FRAMING
DETAILS

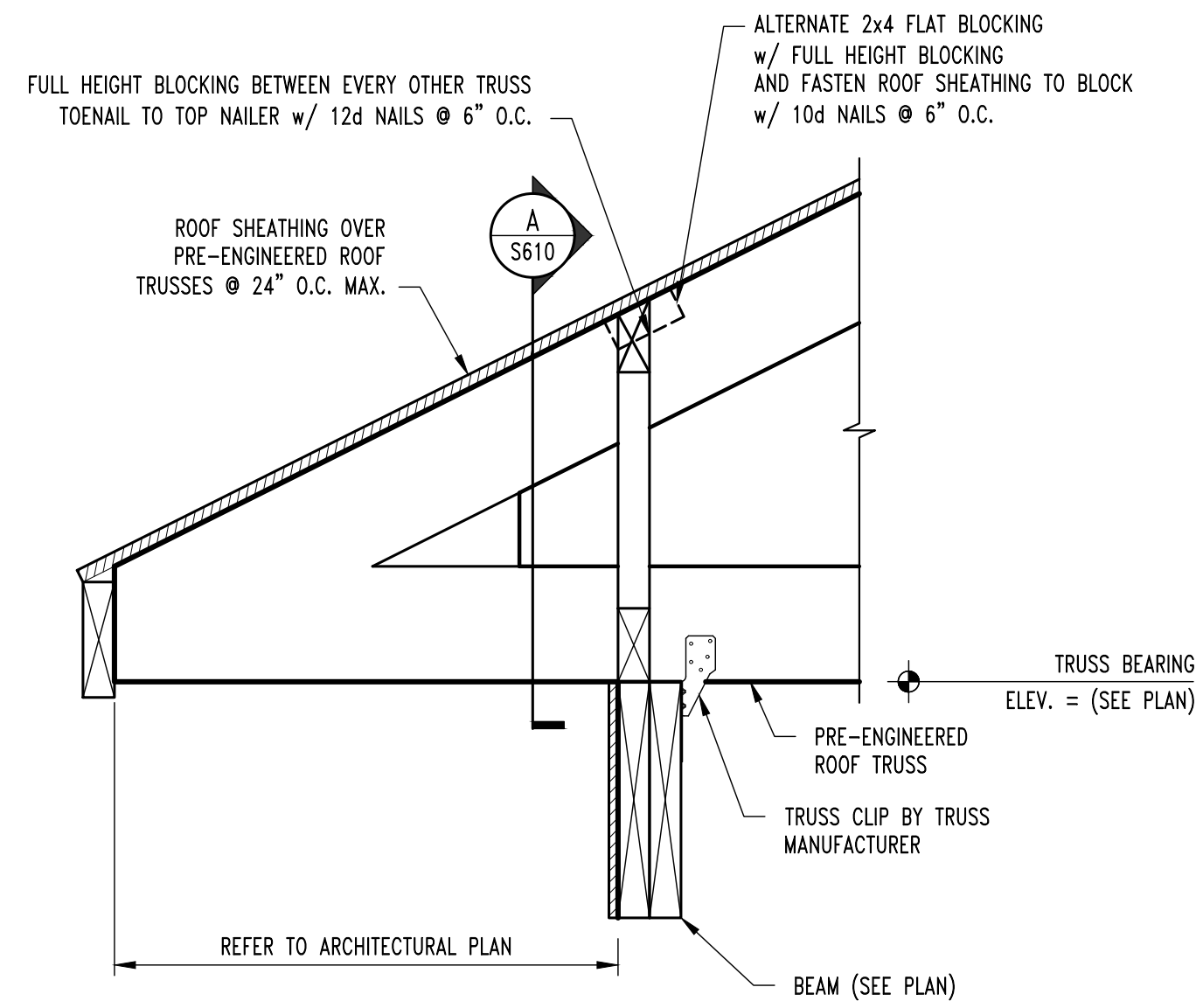
DESIGNED: JWW
DRAWN: SEH
PROJECT NO.: 230286
SHEET:
S610



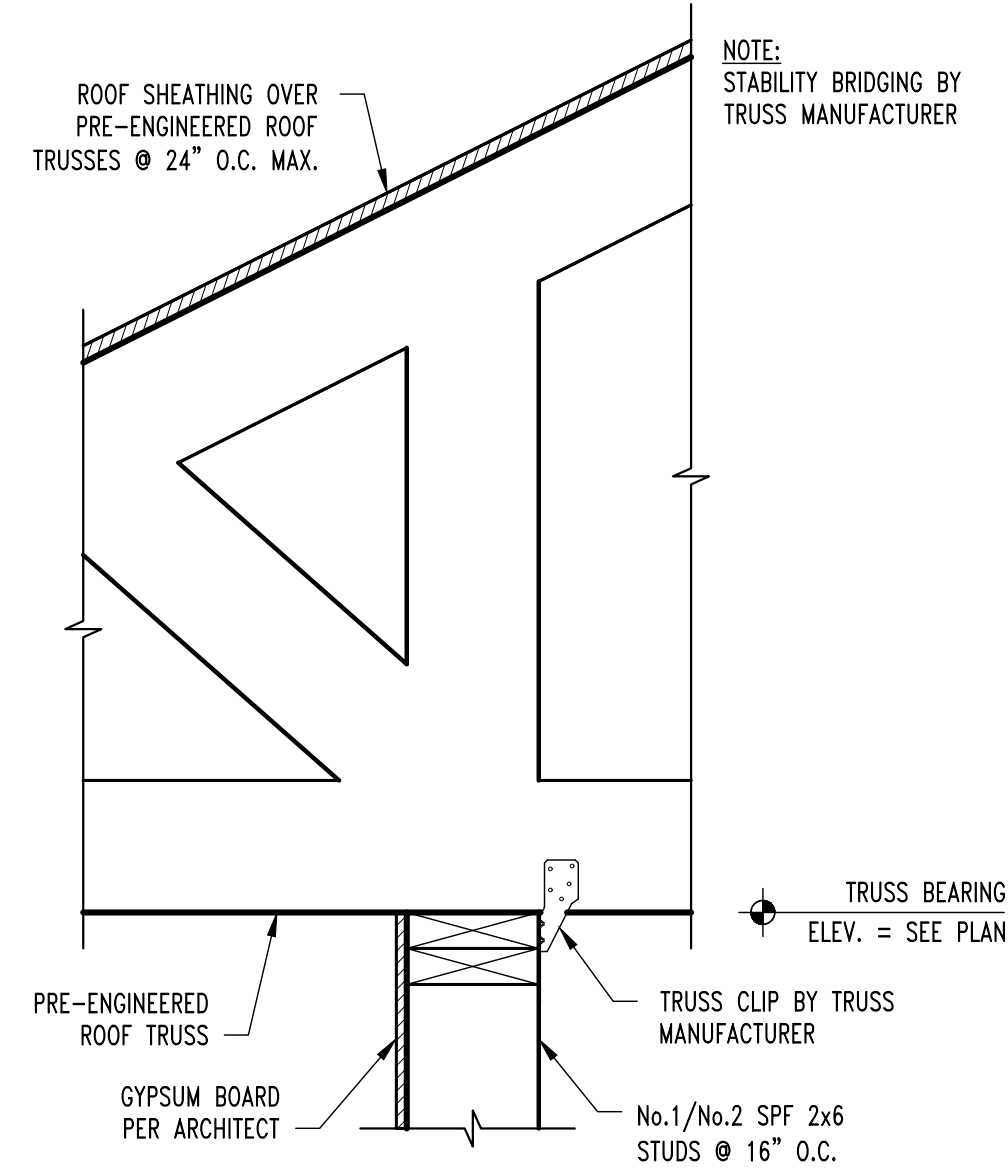
**S20
S600** **TYP. ROOF FRAMING SECTION**
SCALE: 1½" = 1'-0"



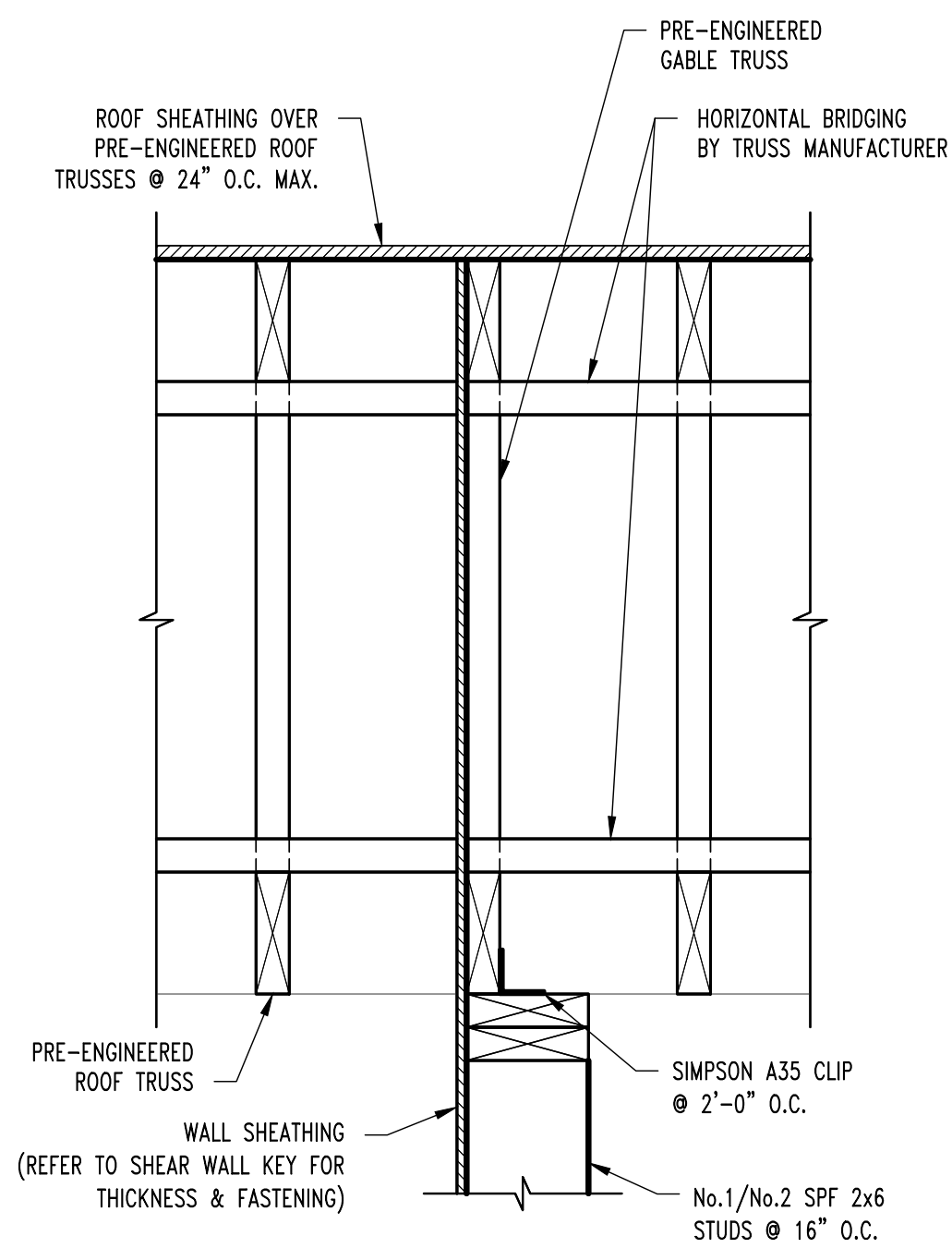
**A
S610** **TYP. TRUSS BLOCKING SECTION**
SCALE: 1½" = 1'-0"



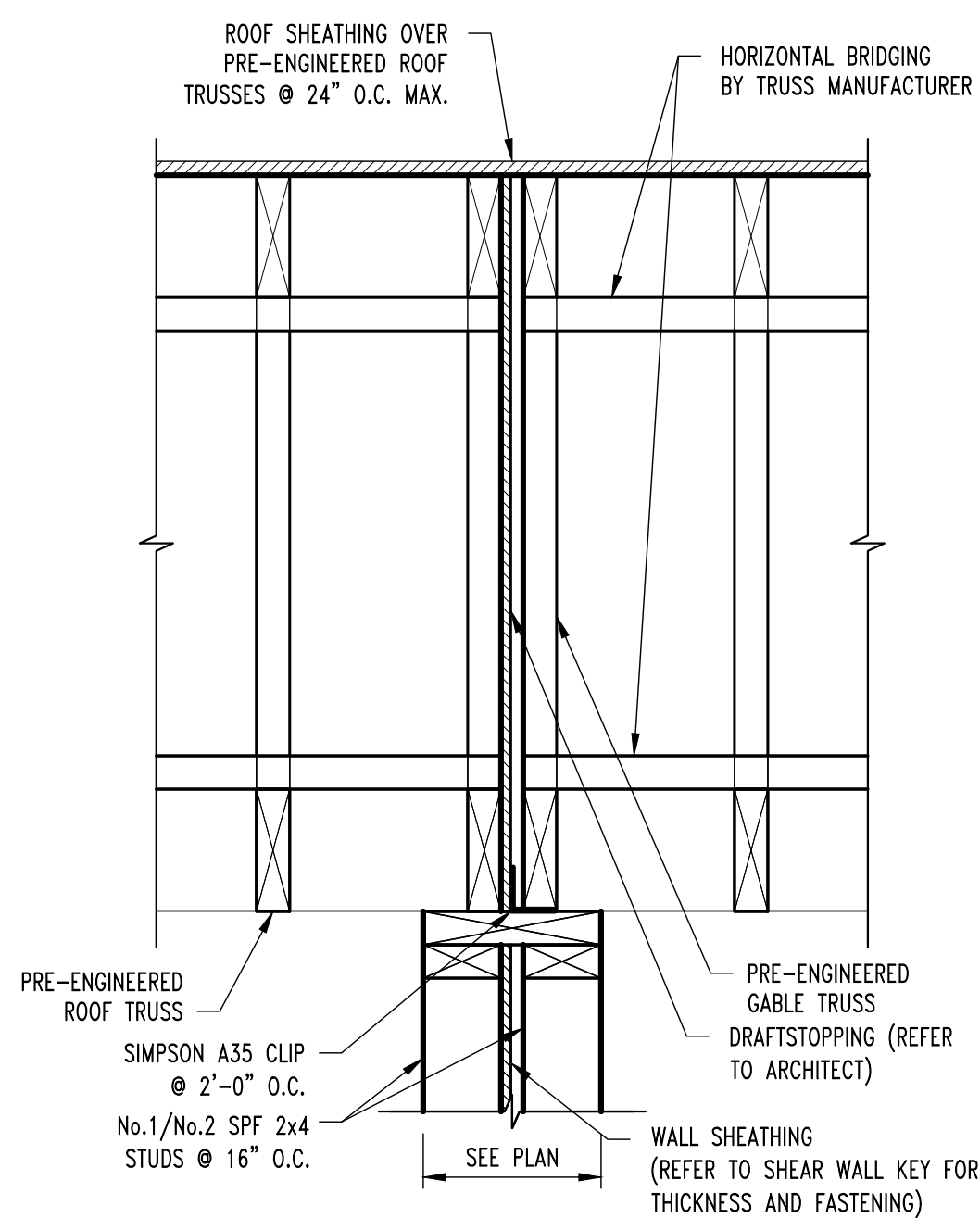
**S20A
S600** **TYP. ROOF FRAMING SECTION**
SCALE: 1½" = 1'-0"



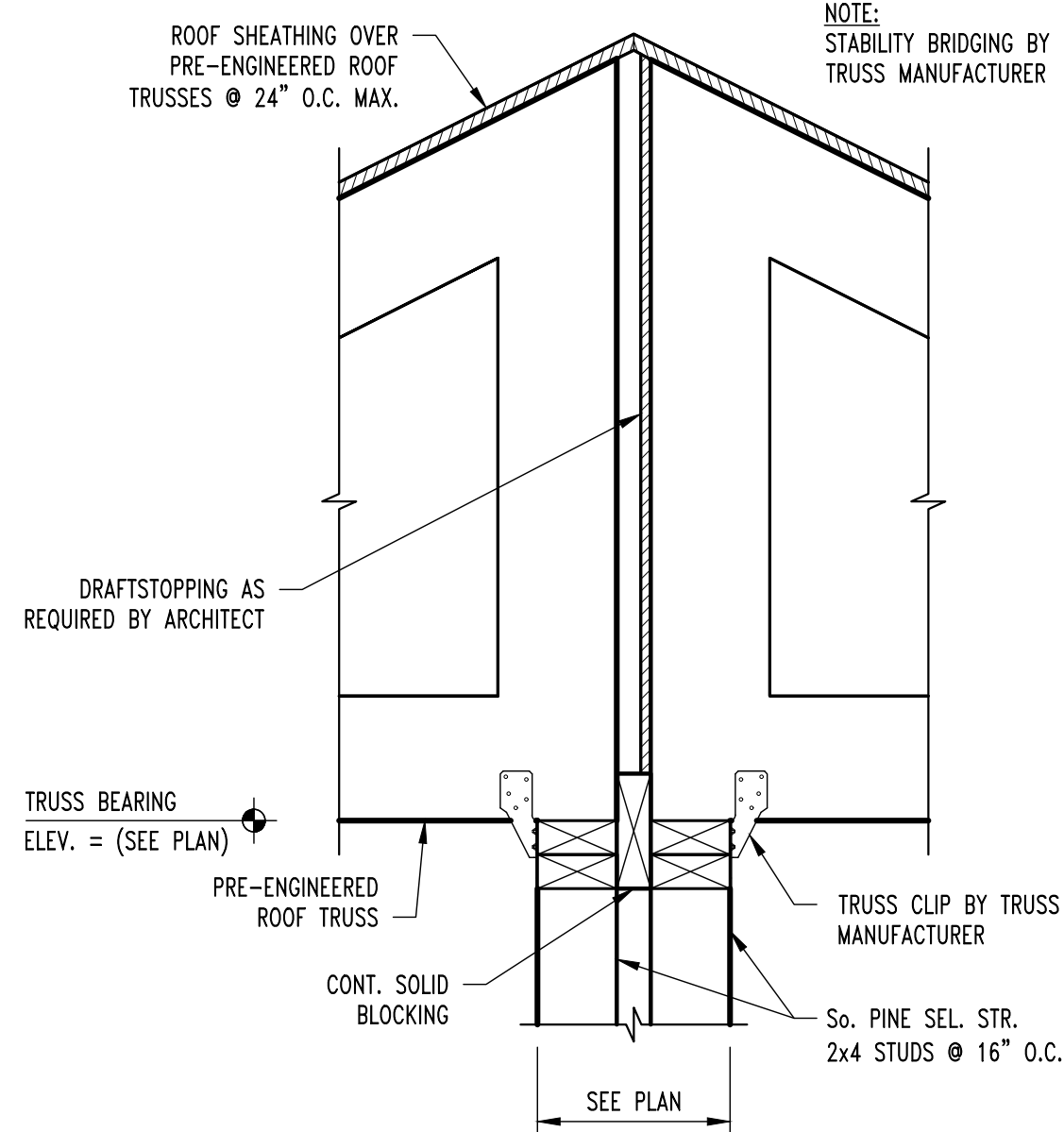
**S21
S600** **ROOF FRAMING SECTION**
SCALE: 1½" = 1'-0"



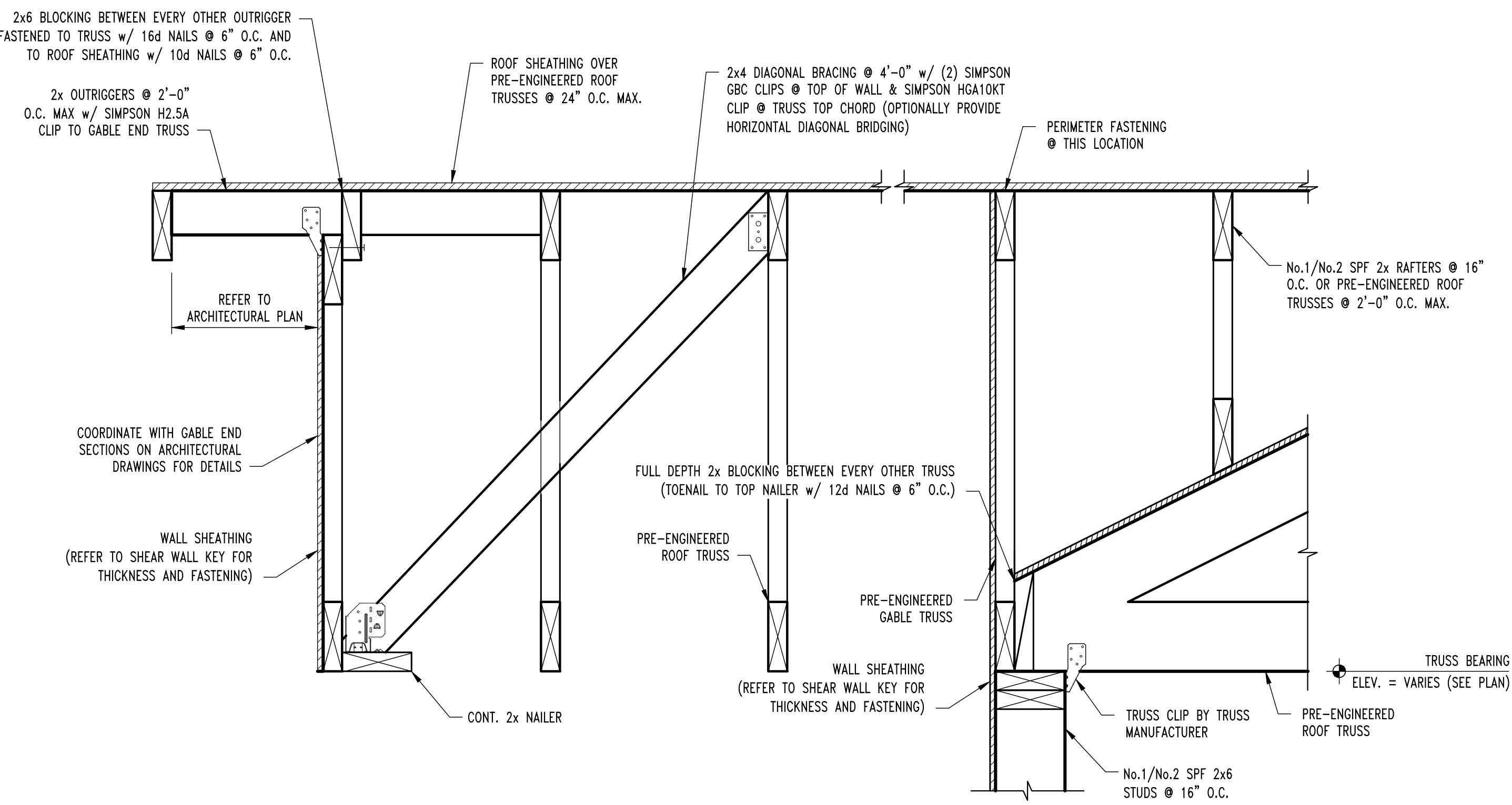
**S22
S600** **ROOF FRAMING SECTION**
SCALE: 1½" = 1'-0"



**S23
S600** **ROOF FRAMING SECTION**
SCALE: 1½" = 1'-0"

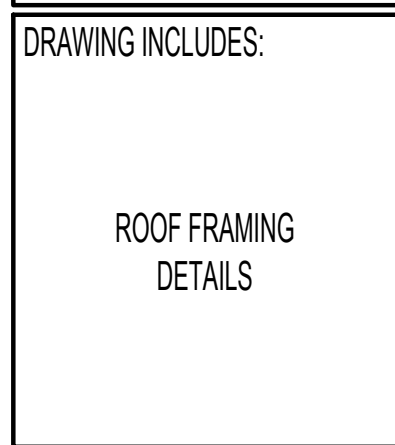
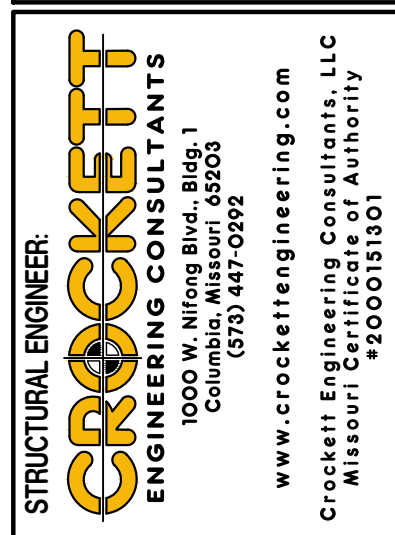
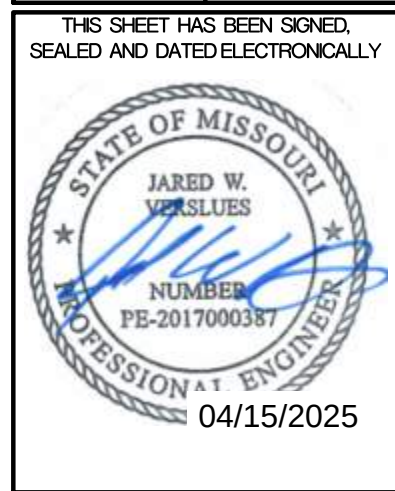


**S24
S600** **ROOF FRAMING SECTION**
SCALE: 1½" = 1'-0"

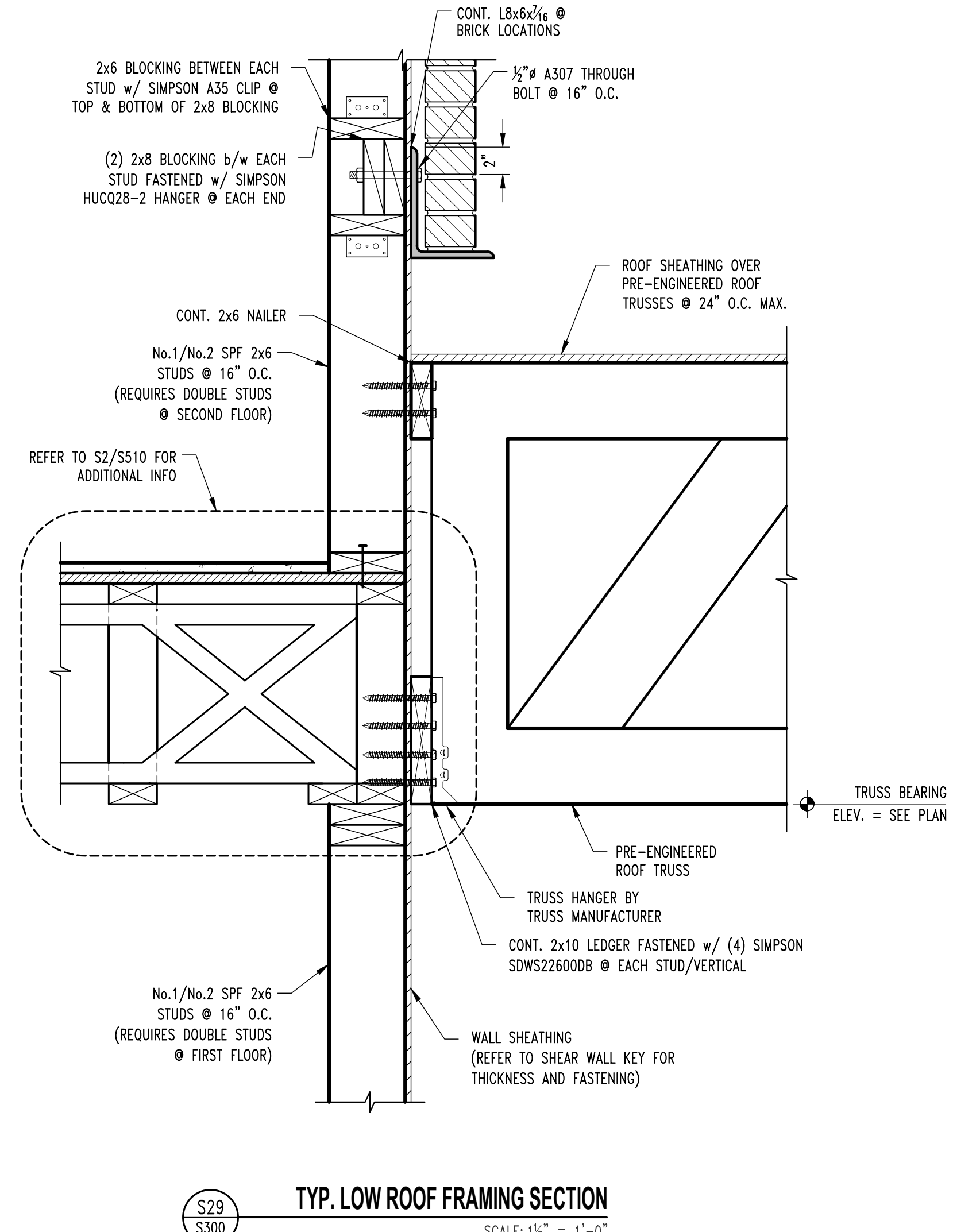
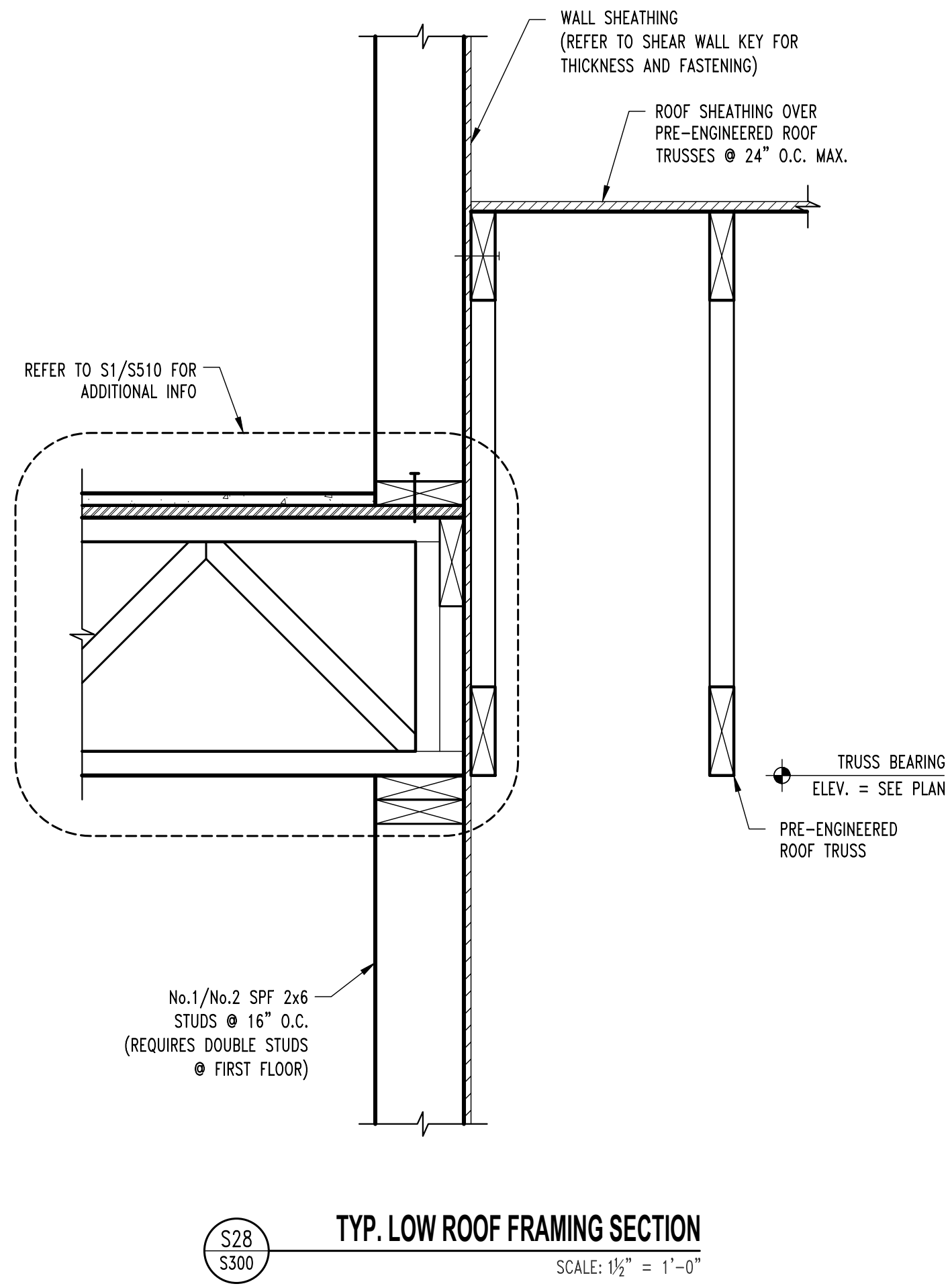
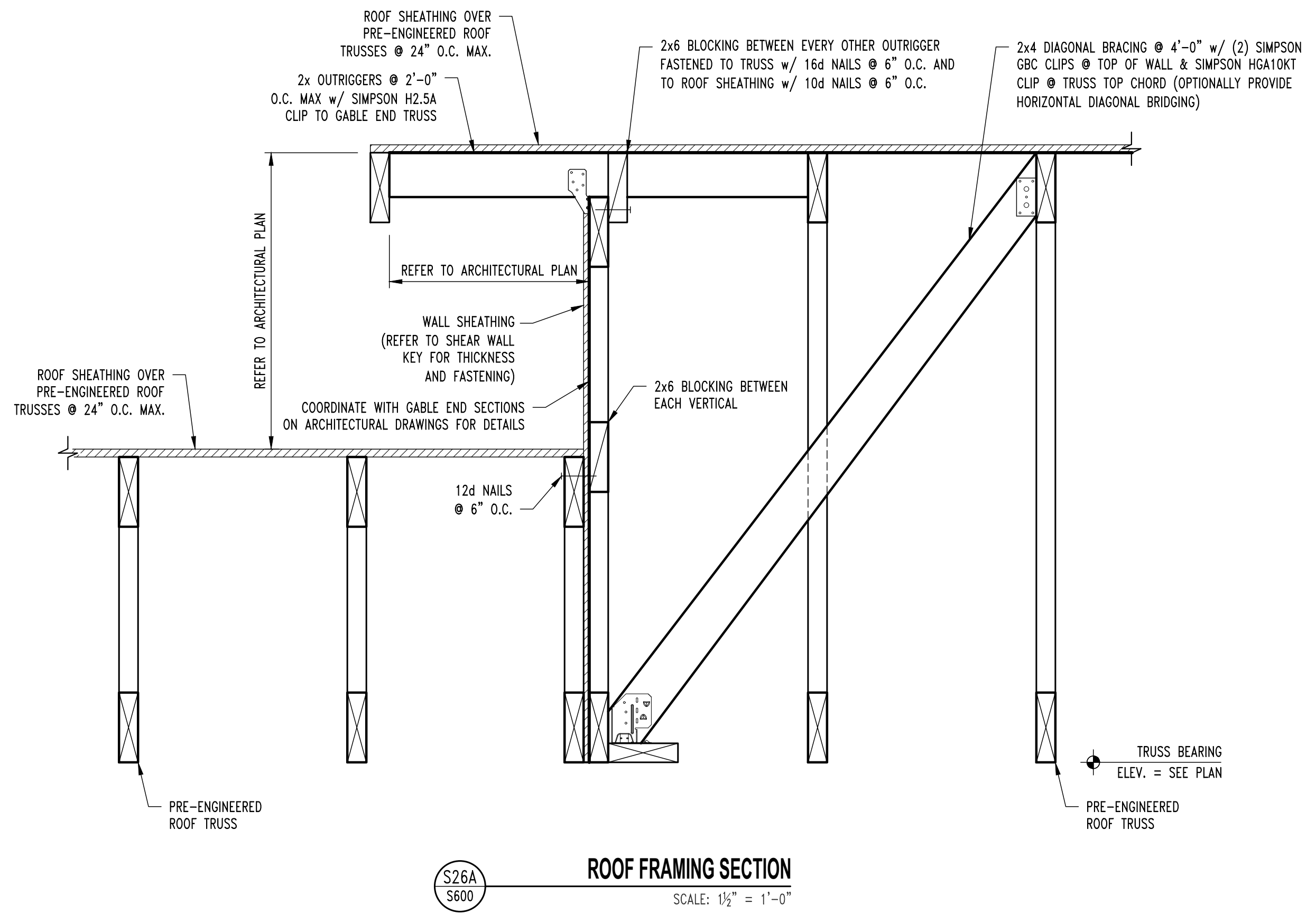
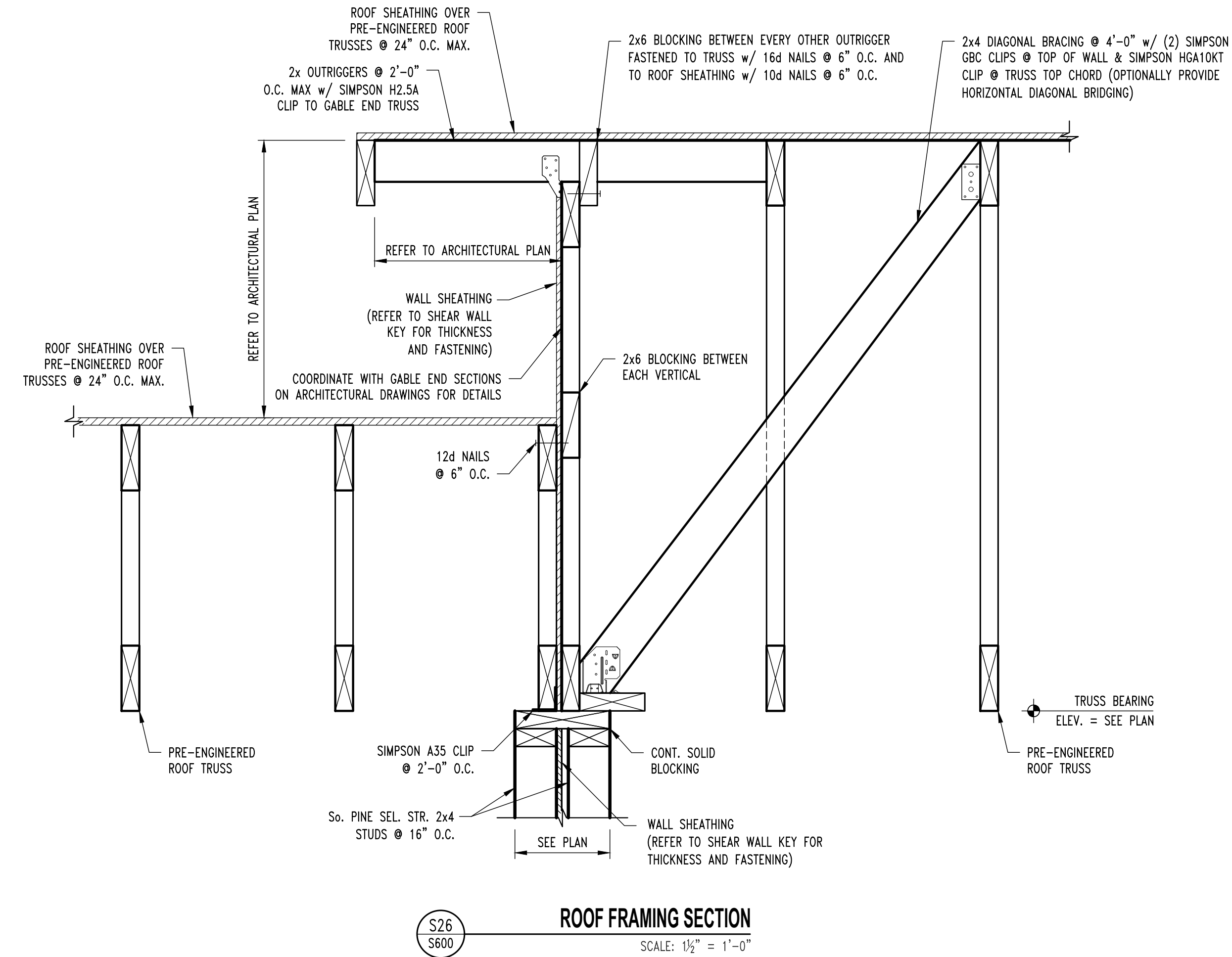
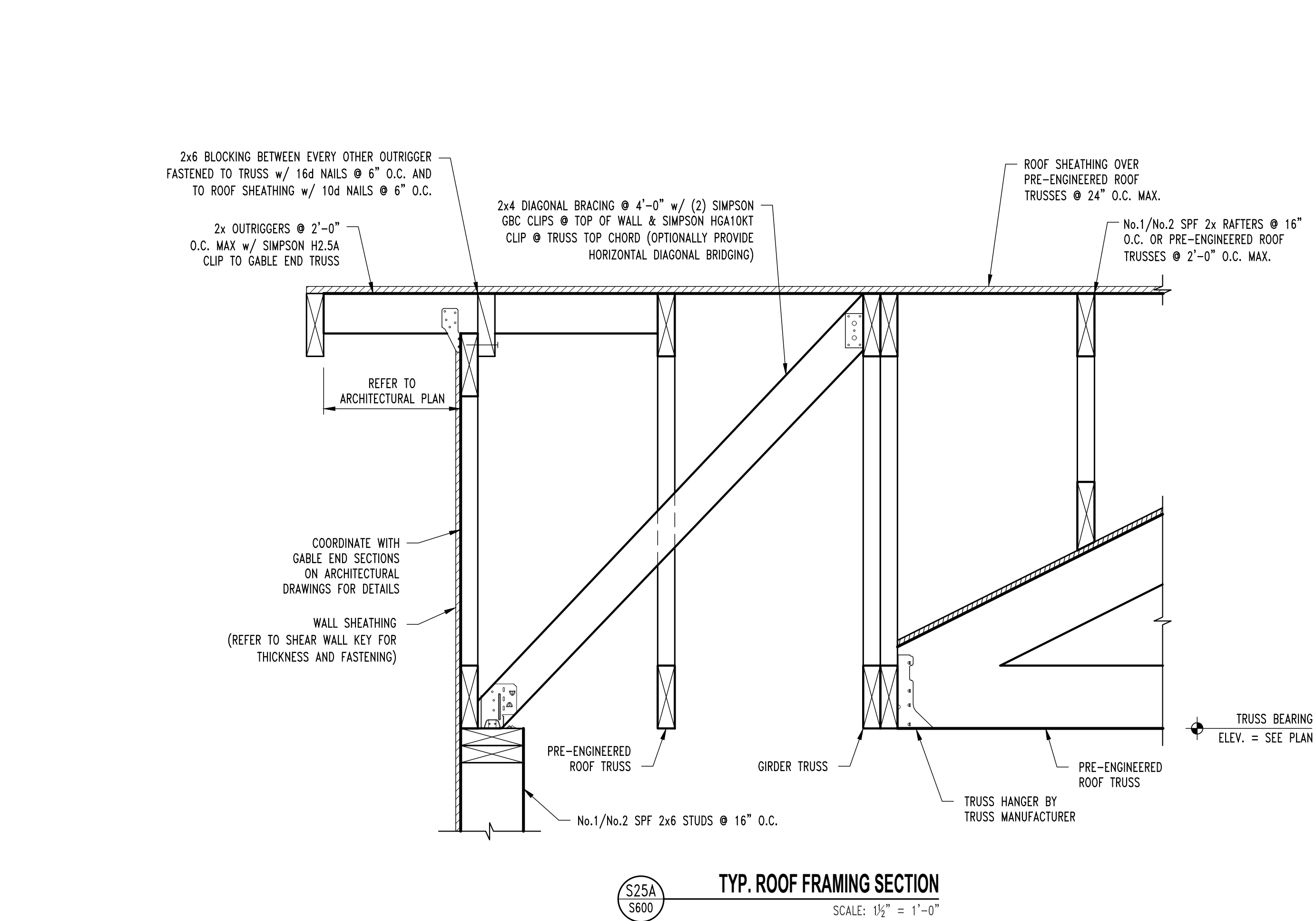


**S25
S600** **TYP. ROOF FRAMING SECTION**
SCALE: 1½" = 1'-0"

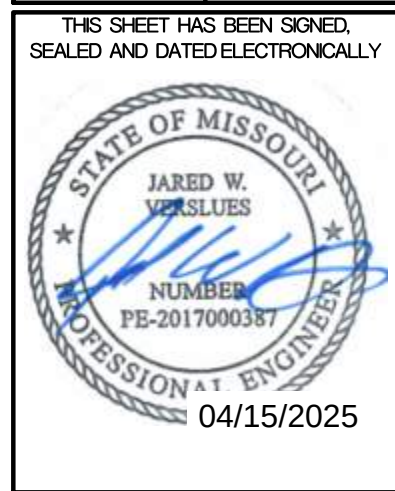
REVISIONS:	
No.	Date
ISSUE SET	04/15/2025



DESIGNED:	JWV
DRAWN:	SEH
PROJECT NO.:	230286
SHEET:	S611



REVISIONS:	
No.	Date
ISSUE SET	04/15/2025



STRUCTURAL ENGINEER:
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Crockett Engineering Consultants, LLC
Missouri Certificate of Authority
#000018101

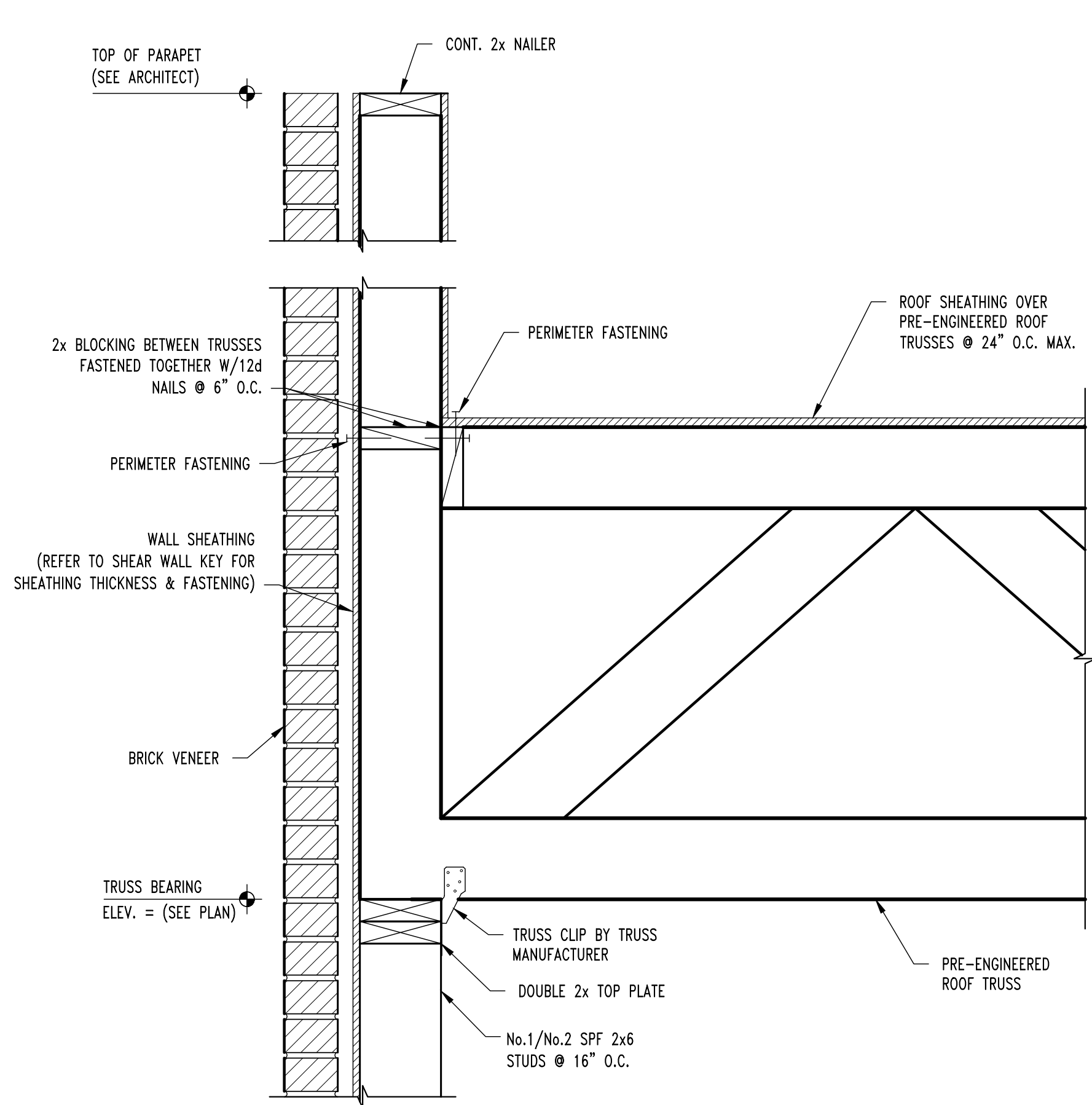
CLIENT:
**INTRINSIC
DEVELOPMENT**
3622 ELEVATOR AVE.
COLUMBIA, MISSOURI

Alura Village Apartment Building Type "A"
Lee's Summit, Jackson County, Missouri

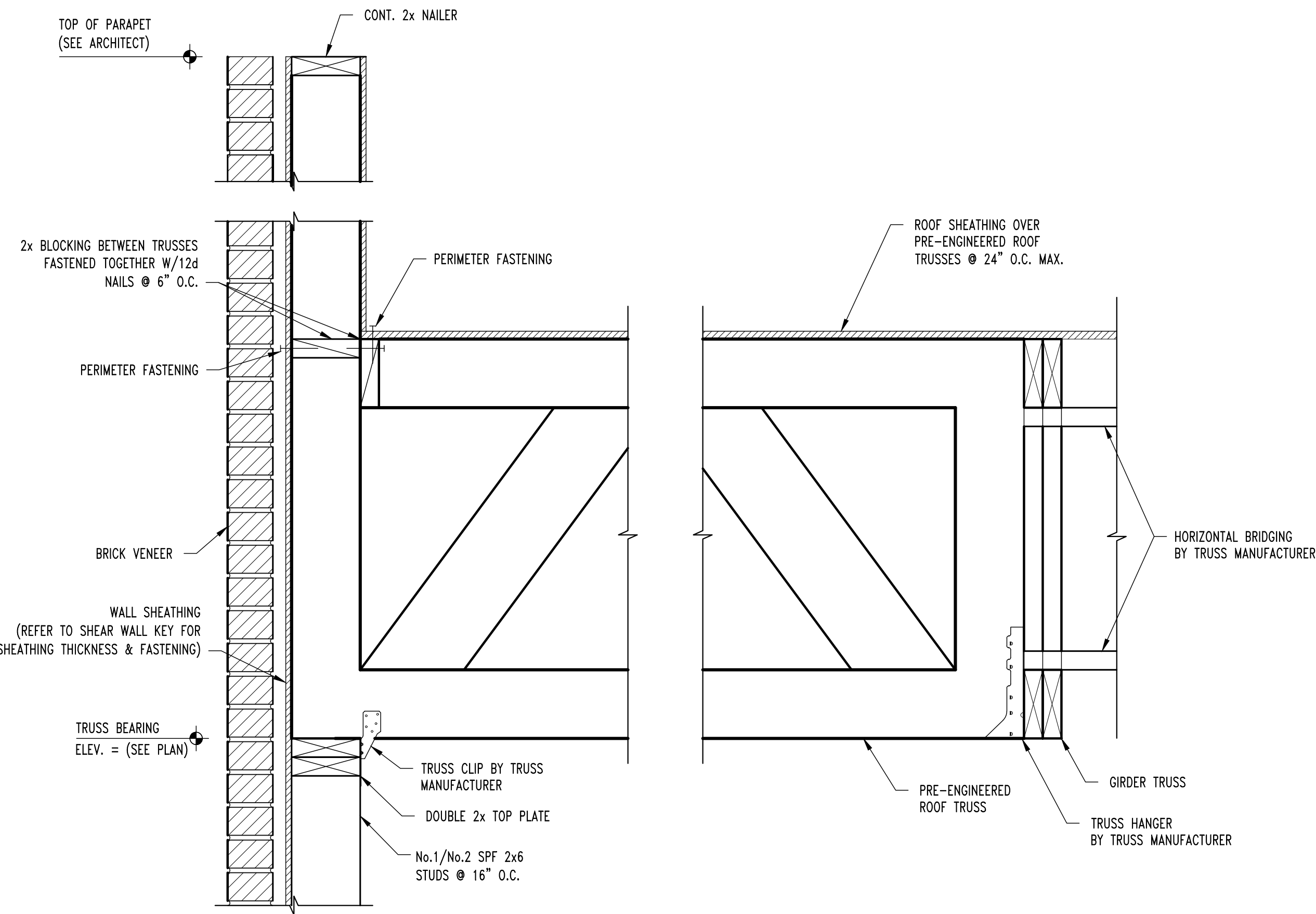
DRAWING INCLUDES:

ROOF FRAMING
DETAILS

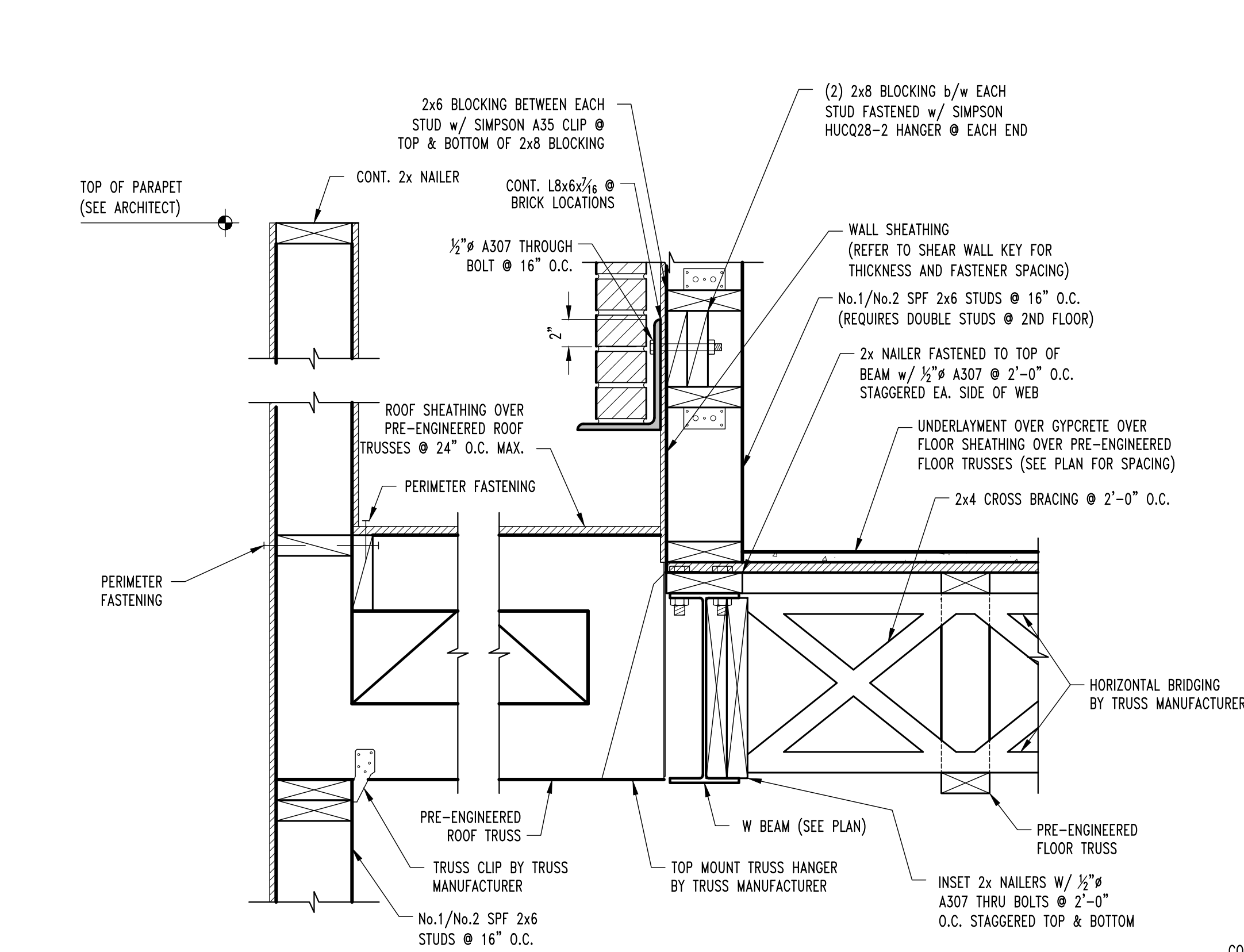
DESIGNED: JWW
DRAWN: SEH
PROJECT NO.: 230286
SHEET:
S612



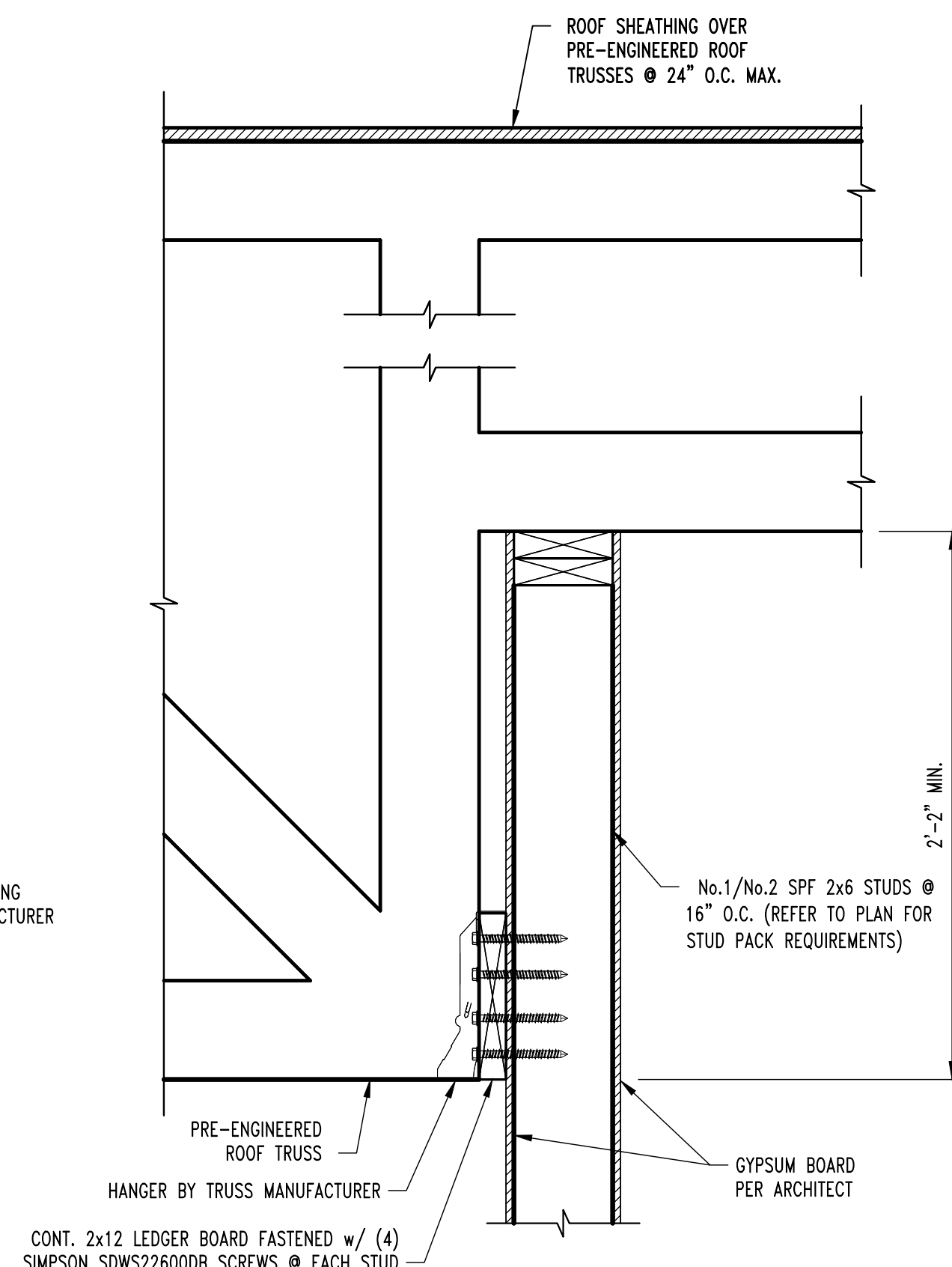
**S30
S300** ROOF FRAMING SECTION
SCALE: 1/2" = 1'-0"



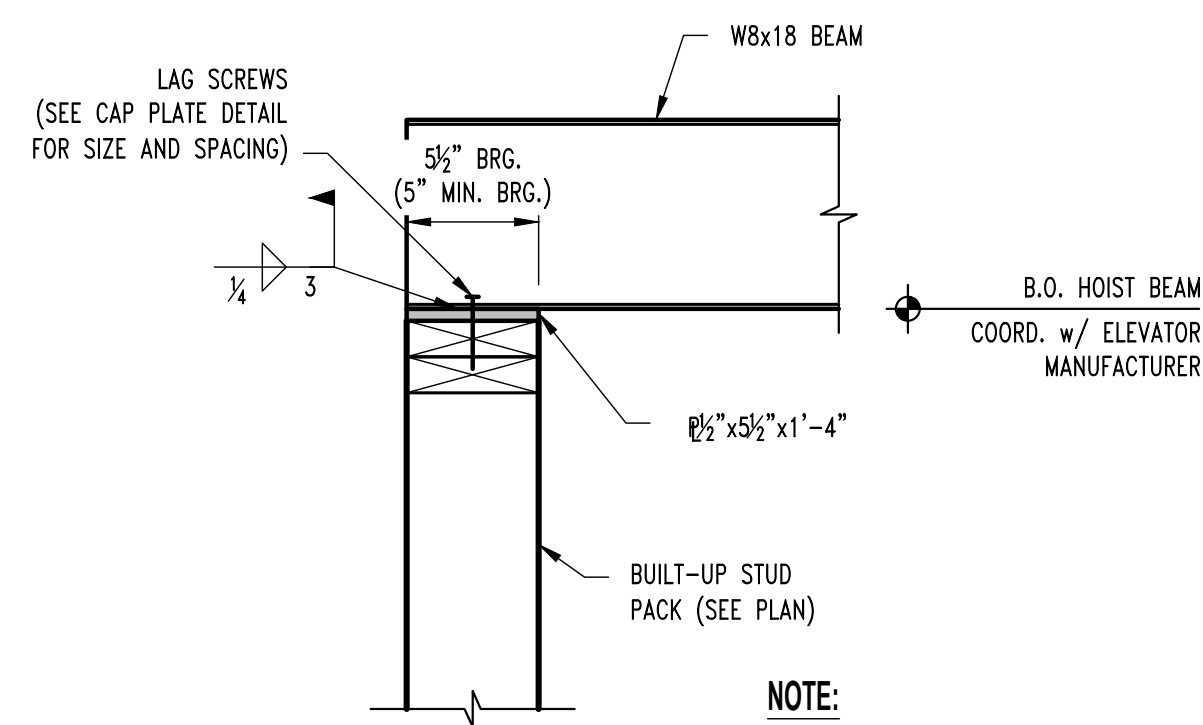
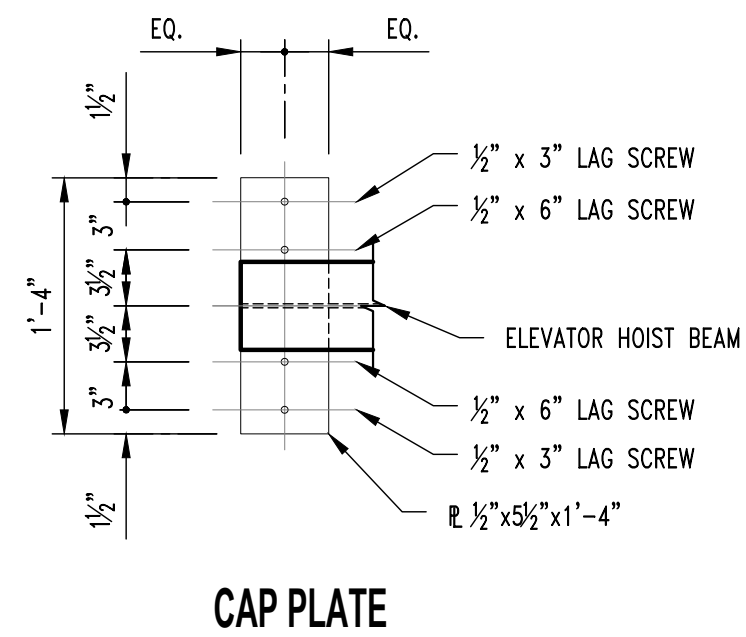
**S31
S300** ROOF FRAMING SECTION
SCALE: 1/2" = 1'-0"



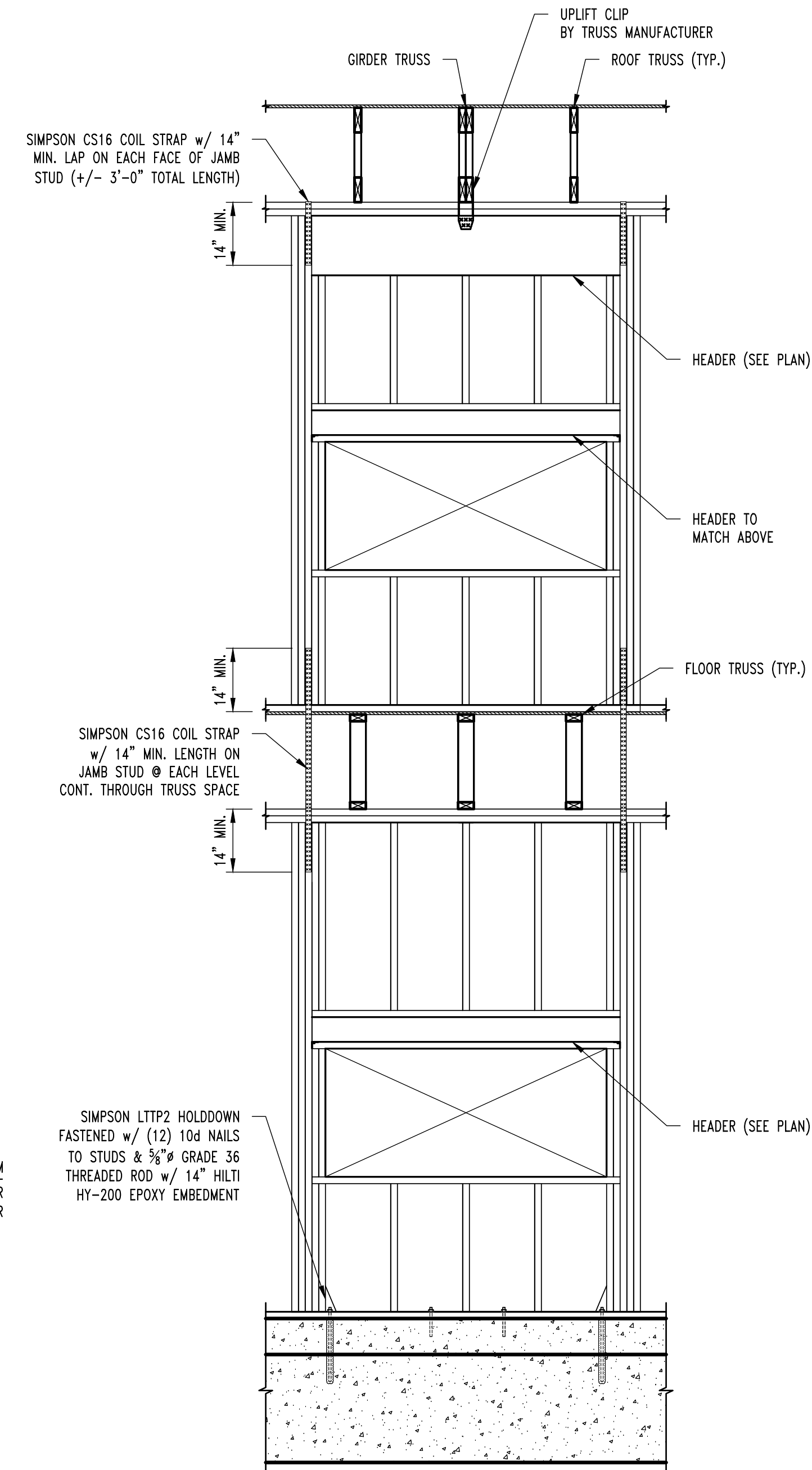
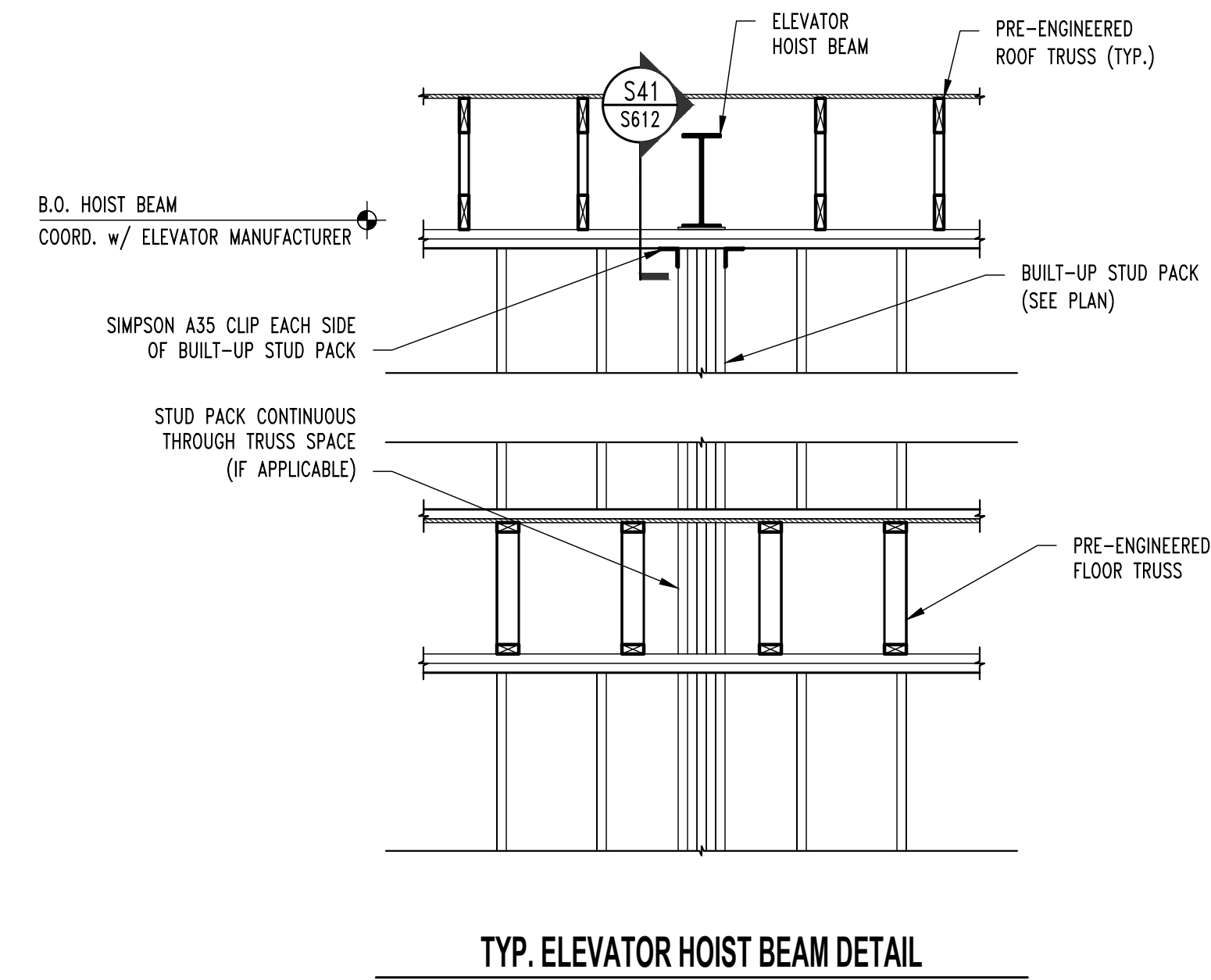
**S35
S300** FRAMING SECTION
SCALE: 1/2" = 1'-0"



**S40
S600** TYP. ROOF FRAMING SECTION
SCALE: 1/2" = 1'-0"



**S41
S612** HOIST BEAM BEARING DETAIL
SCALE: 1/2" = 1'-0"



TYP. MULTI-STORY GIRDER TO HEADER DETAIL

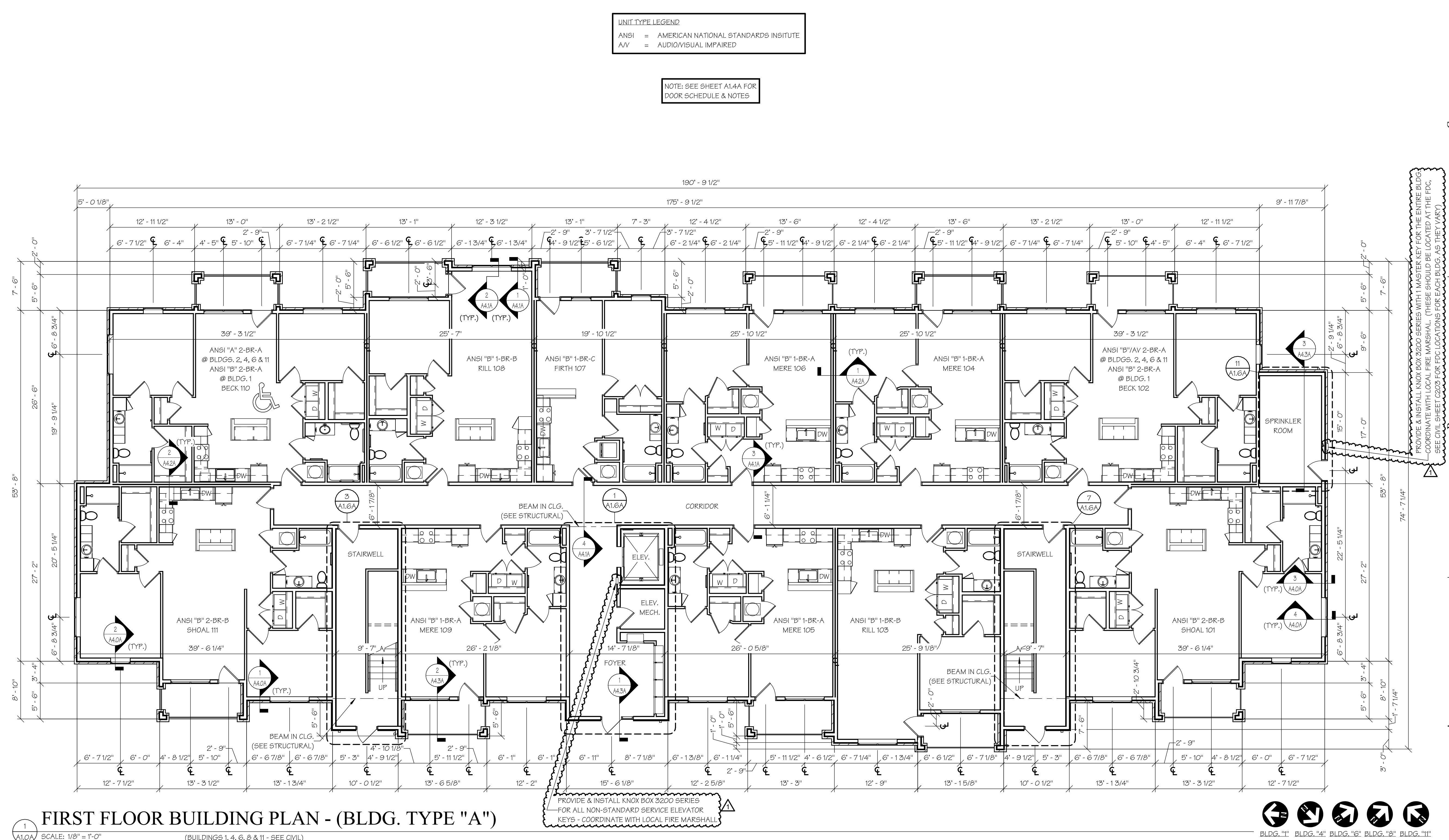
ALURA APARTMENTS - VILLAGE AT DISCOVERY PARK
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

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1 FIRST FLOOR BUILDING PLAN - (BLDG. TYPE "A")
SCALE: 1/8" = 1'-0"
(BUILDINGS 1, 4, 6, 8 & 11 - SEE CIVIL)

ADDENDUM #1

ALURA APARTMENTS - VILLAGE AT DISCOVERY PARK
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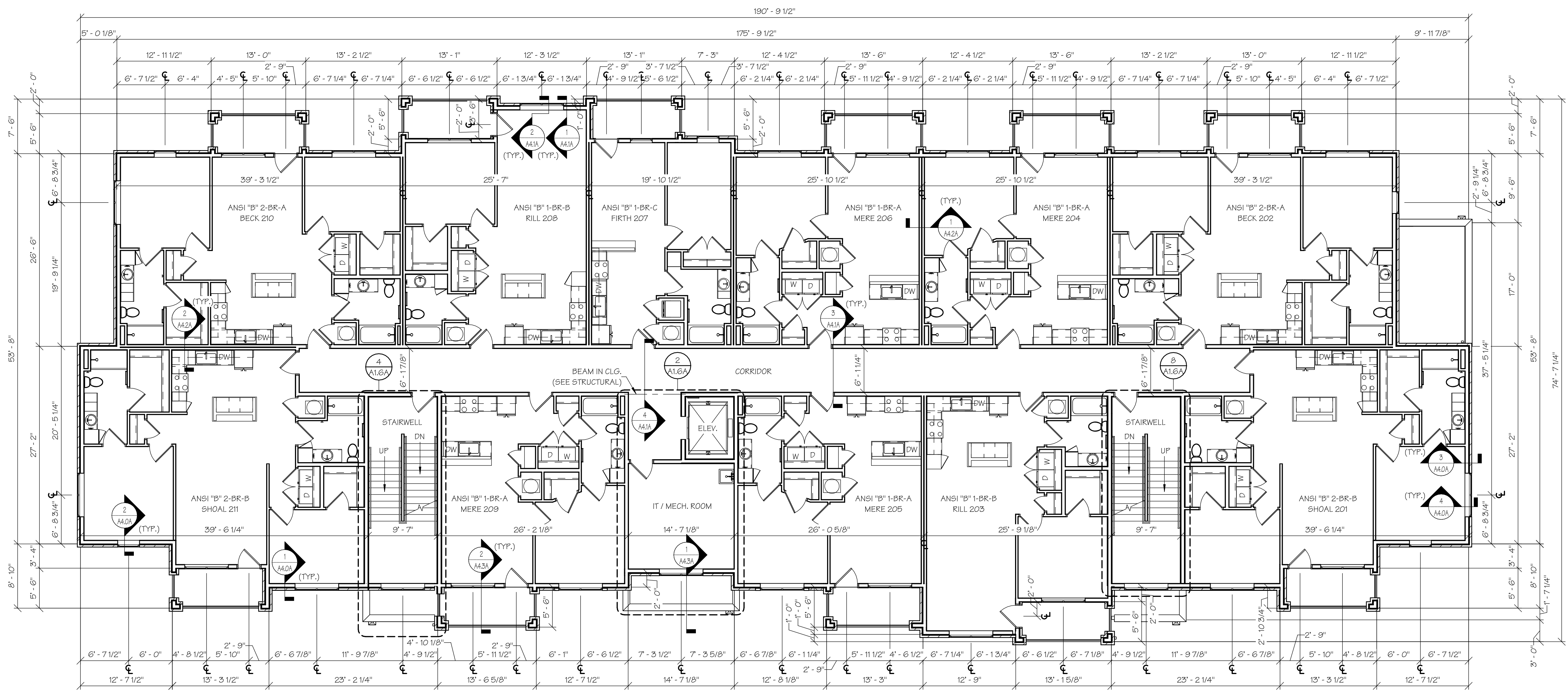
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1
A1.1A
SECOND FLOOR BUILDING PLAN - (BLDG. TYPE "A")
SCALE: 1/8" = 1'-0"
(BUILDINGS 1, 4, 6, 8 & 11 - SEE CIVIL)

← → ↺ ↻ ↶ ↷
BLDG. "1" BLDG. "4" BLDG. "6" BLDG. "8" BLDG. "11"

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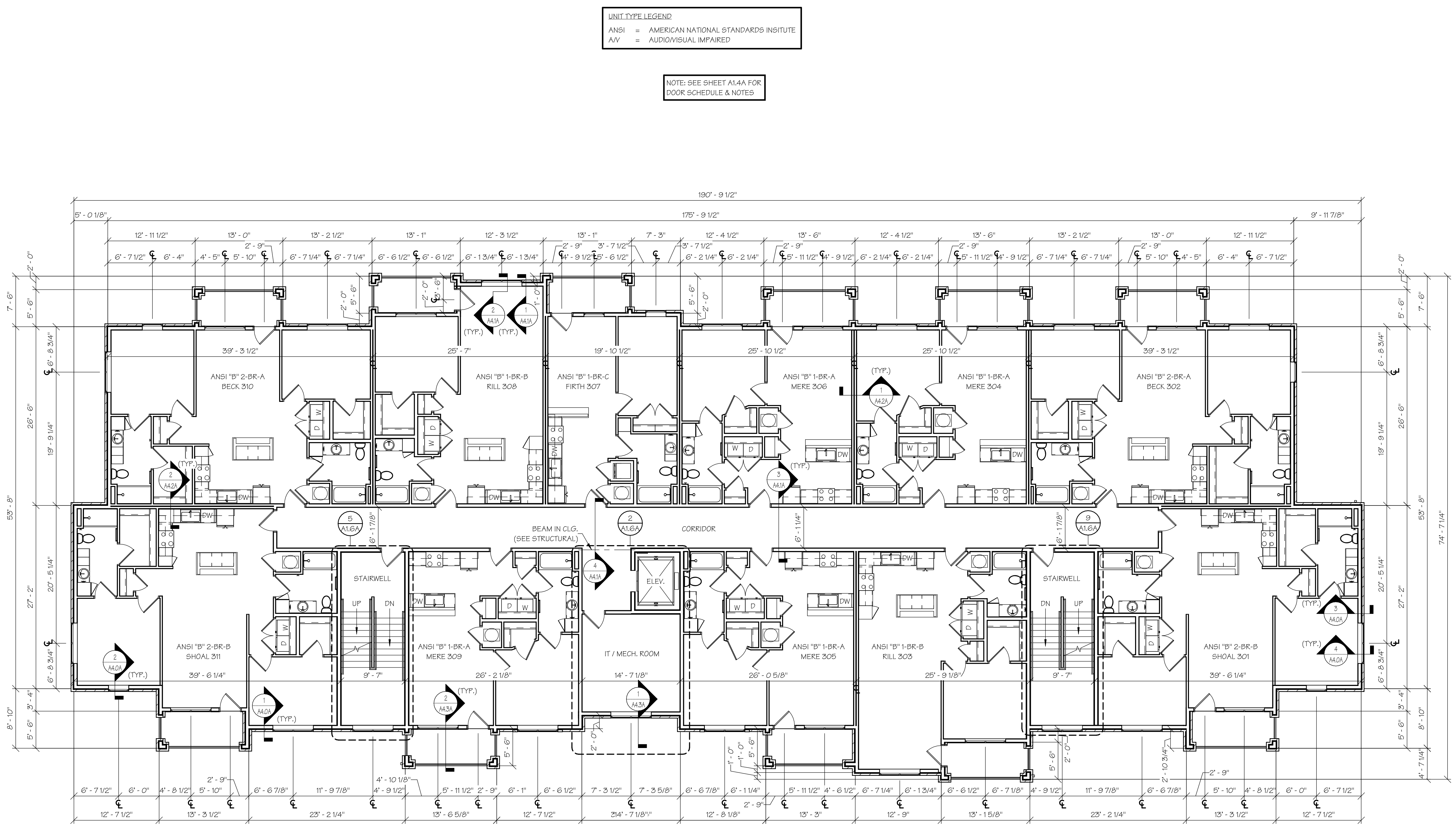
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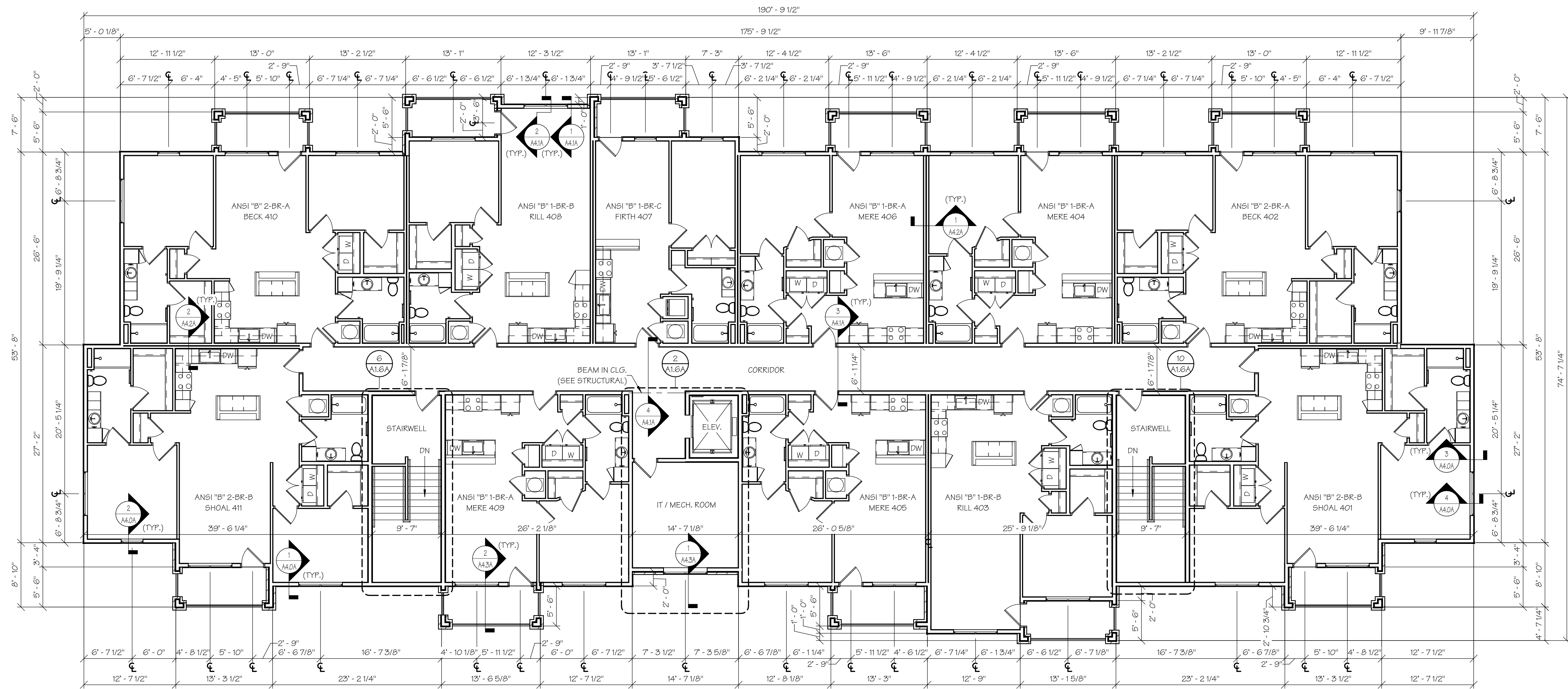
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① FOURTH FLOOR BUILDING PLAN - (BLDG. TYPE "A")

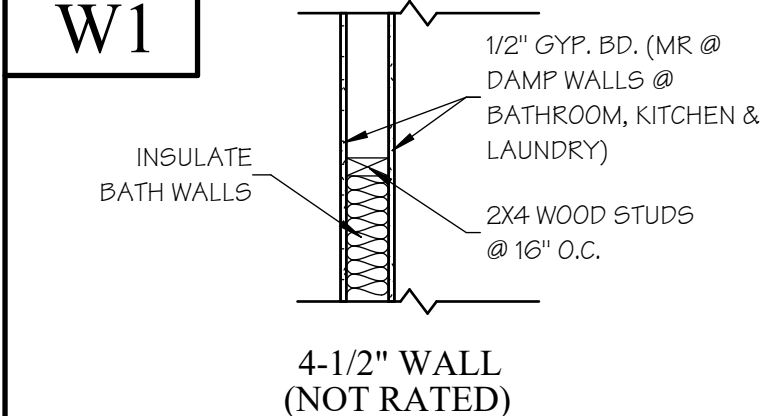
A1.3A SCALE: 1/8" = 1'-0"

(BUILDINGS 1, 4, 6, 8 & 11 - SEE CIVIL)

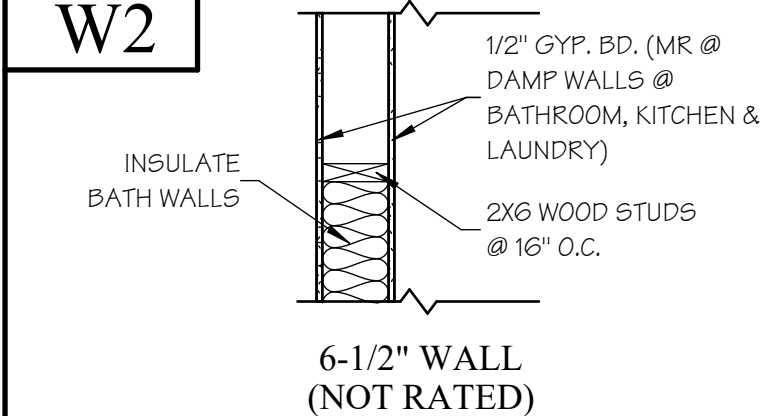
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WALL TYPES

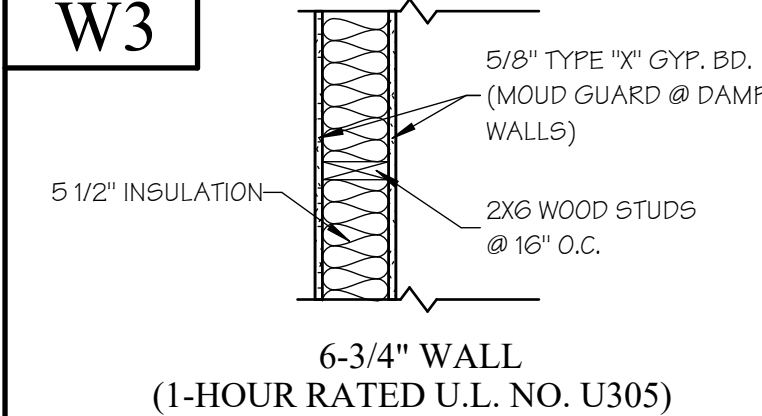
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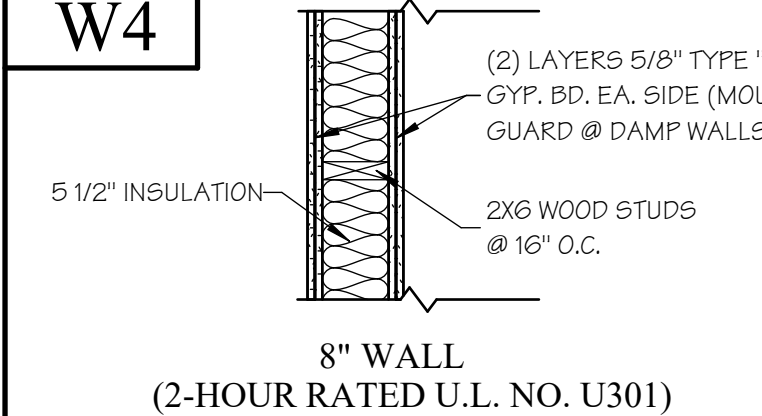
W2



W3



W4



GENERAL UNIT NOTES

- CONTRACTOR SHALL FURNISH & INSTALL 4" BUILDING NUMBERS FOR EACH UNIT AS REQUIRED BY CITY OR LOCAL POSTMASTER.
- CONTRACTOR SHALL FURNISH ONE MAILBOX PER UNIT, PER OWNER SELECTION (SEE SPECS).
- COAT AND BEDROOM CLOSETS SHALL HAVE EPOXY-COATED WIRE SHELVEING.
- PRIME & PAINT WALLS BEHIND MILLWORK.
- APPLY SILICONE CAULK BETWEEN CONCRETE AND BOTTOM OF THE DRYWALL.
- SEAL CONCRETE FLOOR TO REDUCE MOISTURE PENETRATION.
- APPROPRIATELY SIZED BLINDS SHALL BE PROVIDED AND INSTALLED FOR EACH GLAZED OPENING, INCLUDING PAIRED WINDOWS (PROVIDED WITH TWO SETS) AND DOOR GLAZING WHERE HALF LITE OR LARGER.
- INSTALL FIRE EXTINGUISHER UNDER KITCHEN SINK IN EACH ANSI "B" UNIT & WALL MOUNTED AT EACH ANSI "A" UNIT, 48" MAX. TO TOP.
- AUDIO/VISUAL UNITS ARE SEPARATE FROM THE ANSI "A" UNITS. PLEASE SEE THE BUILDING PLANS FOR LOCATION OF A/V UNITS.
- CARPET IN ANSI "A" UNITS SHALL BE SECURELY ATTACHED; HAVE A LEVEL LOOP, TEXTURED LOOP, LEVEL CUT PILE, OR LEVEL CUT/UNCUT PILE TEXTURE. PILE HEIGHT SHALL BE 1/2" MAX. EXPOSED EDGES OF CARPET SHALL BE FASTENED TO FLOOR SURFACES AND HAVE TRIM ALONG THE ENTIRE LENGTH OF THE EXPOSED EDGE. IF CARPET TILE IS USED IT SHALL HAVE A MAX. COMBINED THICKNESS OF PILE, CUSHION AND BACKING HEIGHT OF 1/2"

WALL NOTES

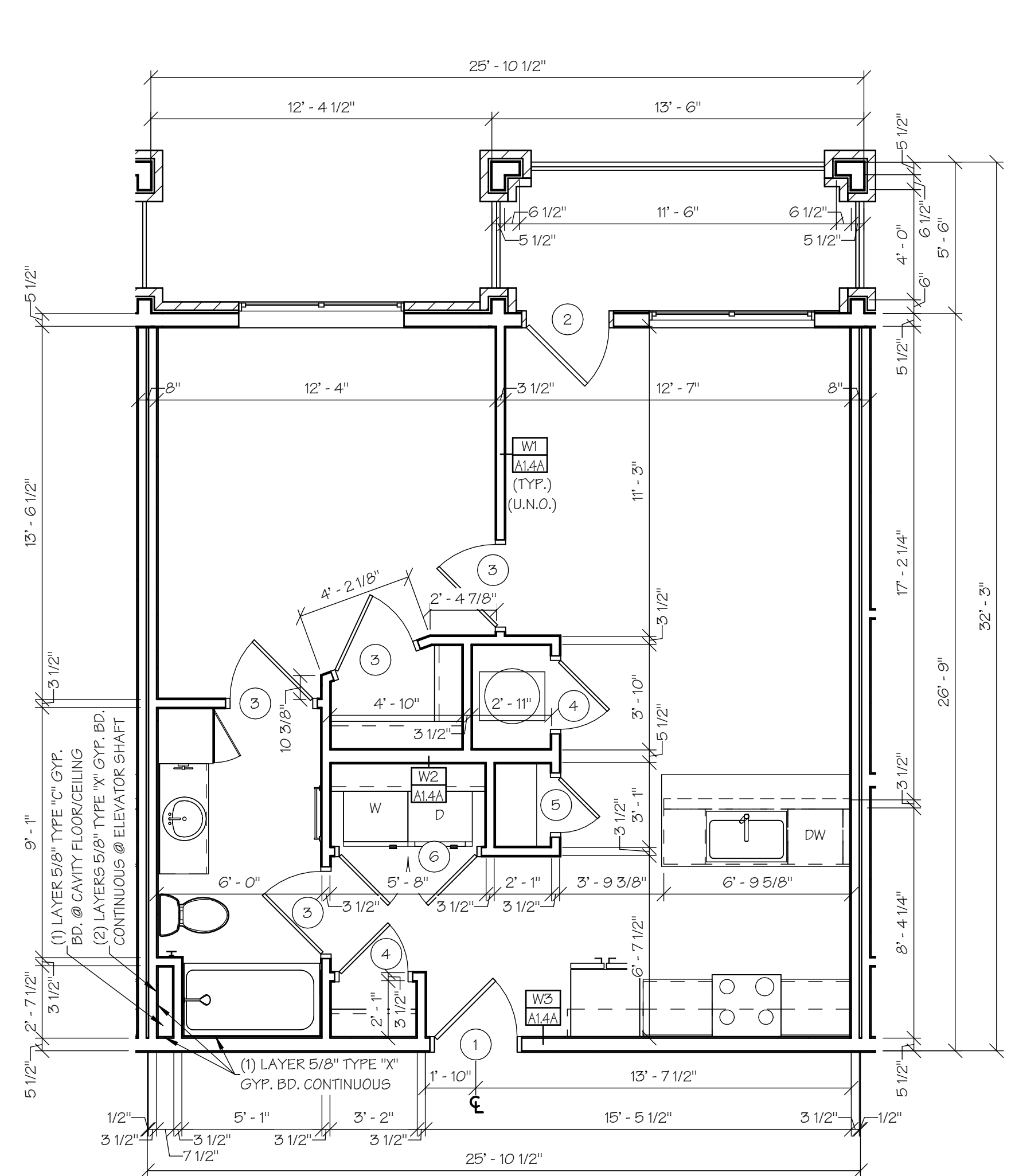
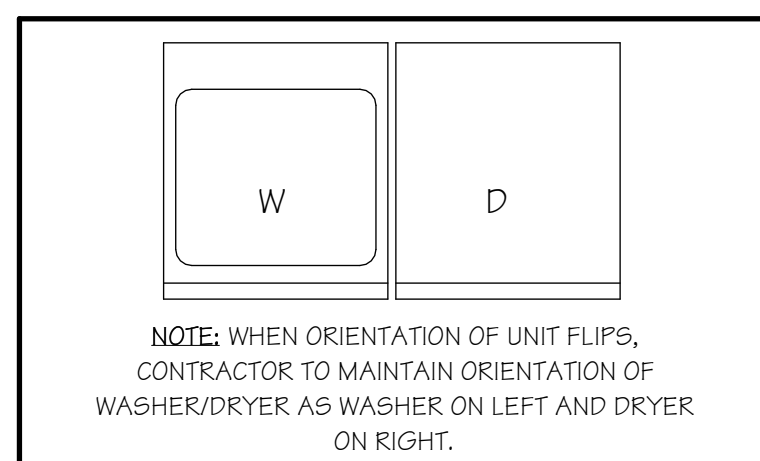
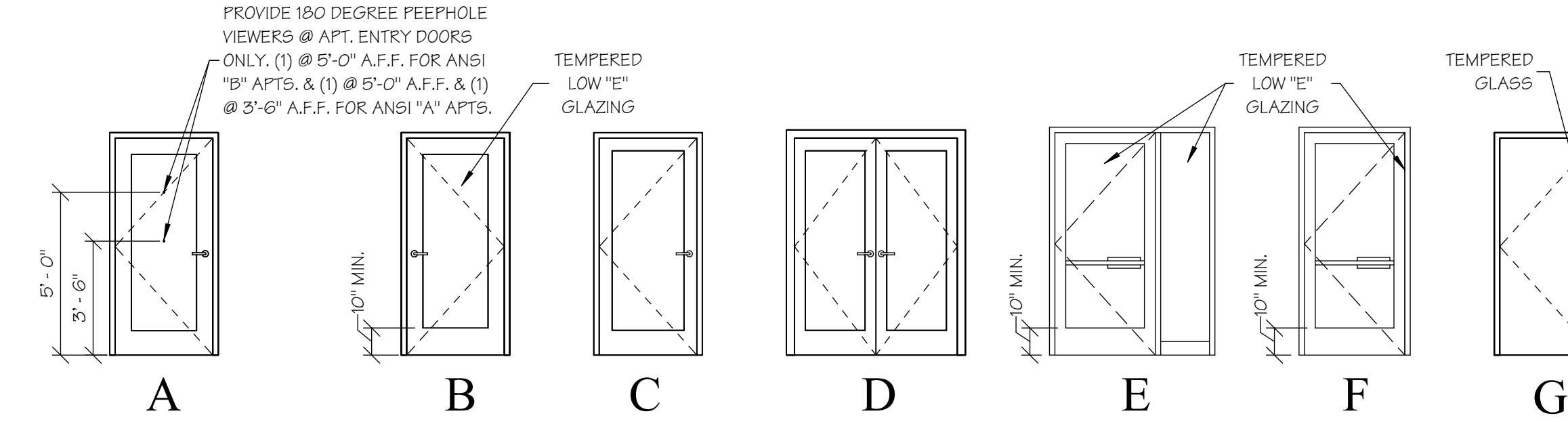
- DIMENSIONS ARE STUD FACE TO STUD FACE UNLESS NOTED OTHERWISE.
- PROVIDE SOLID BLOCKING BEHIND GRAB BARS, CURTAIN RODS, SHOWER RODS, SHOWER HEADS, SHOWER SEATS, TOWEL BARS, ALL CABINETS, AND ALL SOFFITS.
- ALL EXTERIOR WALLS FRAMED W/ 2X6'S 16" O.C. AND COVERED W/ (1) LAYER 5/8" TYPE "X" GYP. BD. AT INTERIOR. PER WALL SECTIONS & WALL TYPES
- ALL INTERIOR WALLS FRAMED WITH 2X4'S OR 2X6'S (ALL PLUMBING WALLS) 16" O.C. AND COVERED WITH (1) LAYER 1/2" GYP. BD. PER WALL TYPES
- ALL UNIT SEPARATION WALLS FRAMED WITH 2X4'S 16" O.C. AND COVERED WITH (1) LAYER 5/8" TYPE "X" GYP. BD. (EACH SIDE) PER WALL SECTION.
- ALL STAIR SHAFT & ELEVATOR SHAFT WALLS FRAMED WITH 2X6'S 16" O.C. WITH (2) LAYERS 5/8" TYPE "X" GYP. BD. (EACH SIDE) PER WALL SECTION.

DOOR NOTES

- ALL DOORS TO HAVE LEVER HANDLES.
- ENTRY DOORS SHALL COMPLY WITH ANSI A117.1 ACCESSIBILITY REQUIREMENTS.
- CONTRACTOR TO PROVIDE & INSTALL DOOR STOPS @ ALL DOORS.
- SEE SPECS FOR DOOR HARDWARE.
- CAULK/SEAL ALL EXTERIOR THRESHOLDS.
- PROVIDE & INSTALL 180 DEGREE PEEPHOLE DOOR VIEWER AT ALL UNIT DOORS.

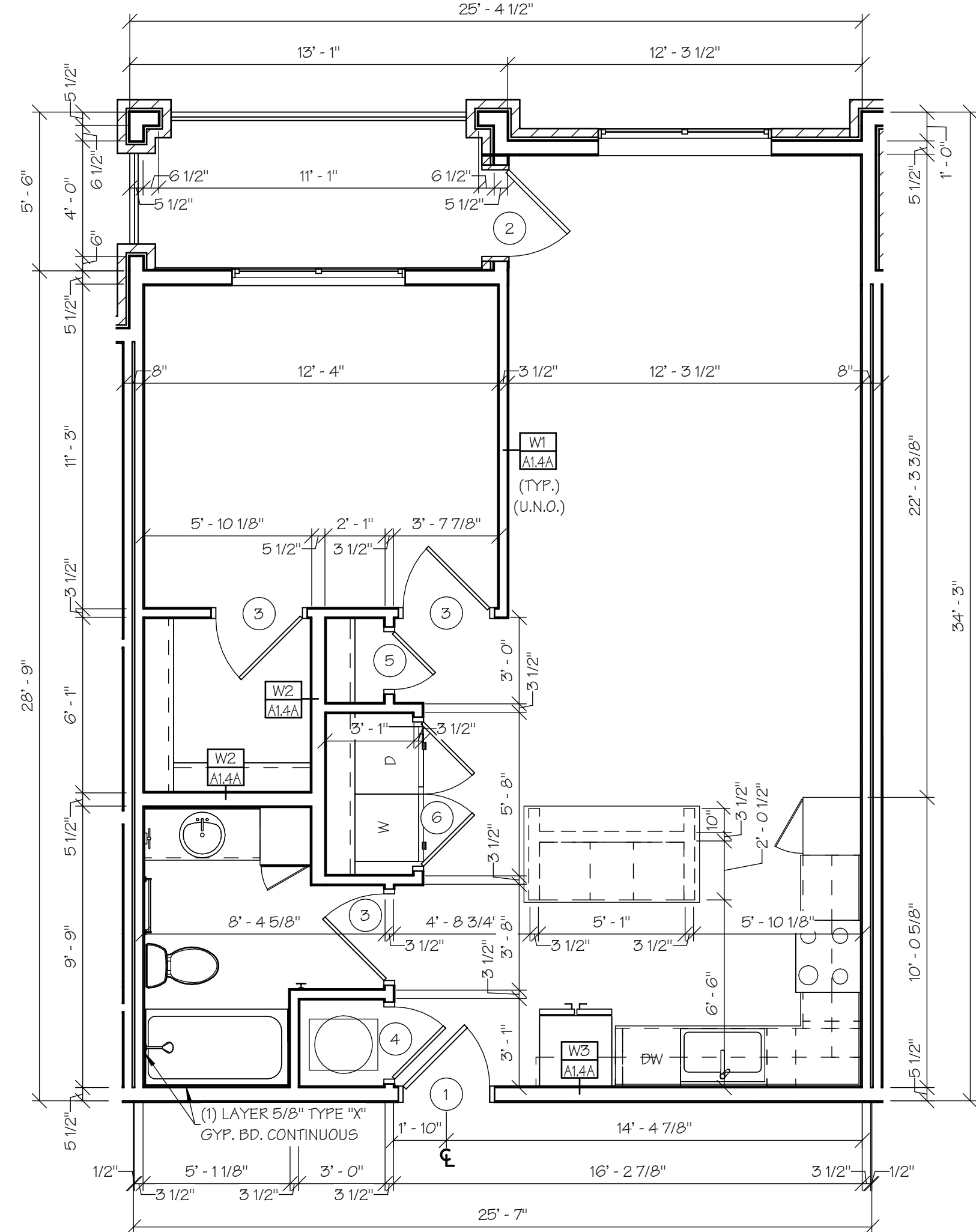
DOOR SCHEDULE

MARK	SIZE	ELEV.	FRAME MTL.	PANEL MTL.	GLAZING	COMMENTS
1	3'-0" X 6'-8" X 1 3/4"	A	WOOD	WOOD SC	NONE	1-PANEL STYLE & RAIL DOOR (DARK WALNUT STAIN) W/PEEPHOLE, 20 MIN. FIRE RATED, SMOKE GASKET & SPRING HINGES W/ AUTOMATIC SWEEP
2	3'-0" X 6'-8" X 1 3/4"	B	WOOD	INSUL. METAL	TEMPERED, LOW "E"	FULL LITE, ACC THRESHOLD & WEATHER STRIPPING
3	3'-0" X 6'-8" X 1 3/8"	C	WOOD	WOOD HC	NONE	1 PANEL MASONITE, PRE-HUNG W/ SATIN NICKEL HINGES
4	2'-6" X 6'-8" X 1 3/8"	C	WOOD	WOOD HC	NONE	1 PANEL MASONITE, PRE-HUNG W/ SATIN NICKEL HINGES
5	2'-0" X 6'-8" X 1 3/8"	C	WOOD	WOOD HC	NONE	1 PANEL MASONITE, PRE-HUNG W/ SATIN NICKEL HINGES
6	PR. 2'-6" X 6'-8" X 1 3/8"	D	WOOD	WOOD HC	NONE	1 PANEL MASONITE, PRE-HUNG W/ SATIN NICKEL HINGES
7	3'-0" X 6'-8" X 1 3/4"	C	HOLLOW METAL FRAME	INSUL. METAL	NONE	1 PANEL, WEATHERSTRIPPING & CLOSER
8	3'-0" X 6'-8" X 1 3/4"	C	WOOD	WOOD SC	NONE	1-PANEL STYLE & RAIL (DARK WALNUT STAIN), 20 MIN. FIRE RATED, SMOKE GASKET, SPRING HINGE W/ AUTOMATIC SWEEP
9	3'-0" X 7'-0" X 1 3/4"	E	ALUMINUM	ALUMINUM	TEMPERED, LOW "E"	FULL LITE W/ 18" SIDELITE, 1/4" LOW PROFILE THRESHOLD, CLOSER, PANIC HARDWARE, WEATHER STRIPPING, ELECTRIC STRIKE & FOB READER
10	3'-0" X 7'-0" X 1 3/4"	F	ALUMINUM	ALUMINUM	TEMPERED, LOW "E"	FULL LITE, 1/4" LOW PROFILE THRESHOLD, CLOSER, PANIC HARDWARE, WEATHER STRIPPING, ELECTRIC STRIKE & FOB READER
11	3'-0" X 6'-8" X 1 3/4"	G	HOLLOW METAL FRAME	INSUL. METAL	TEMPERED GLASS	FLUSH PANEL, 90 MIN. FIRE RATED, CLOSET, PANIC HARDWARE & SMOKE GASKET



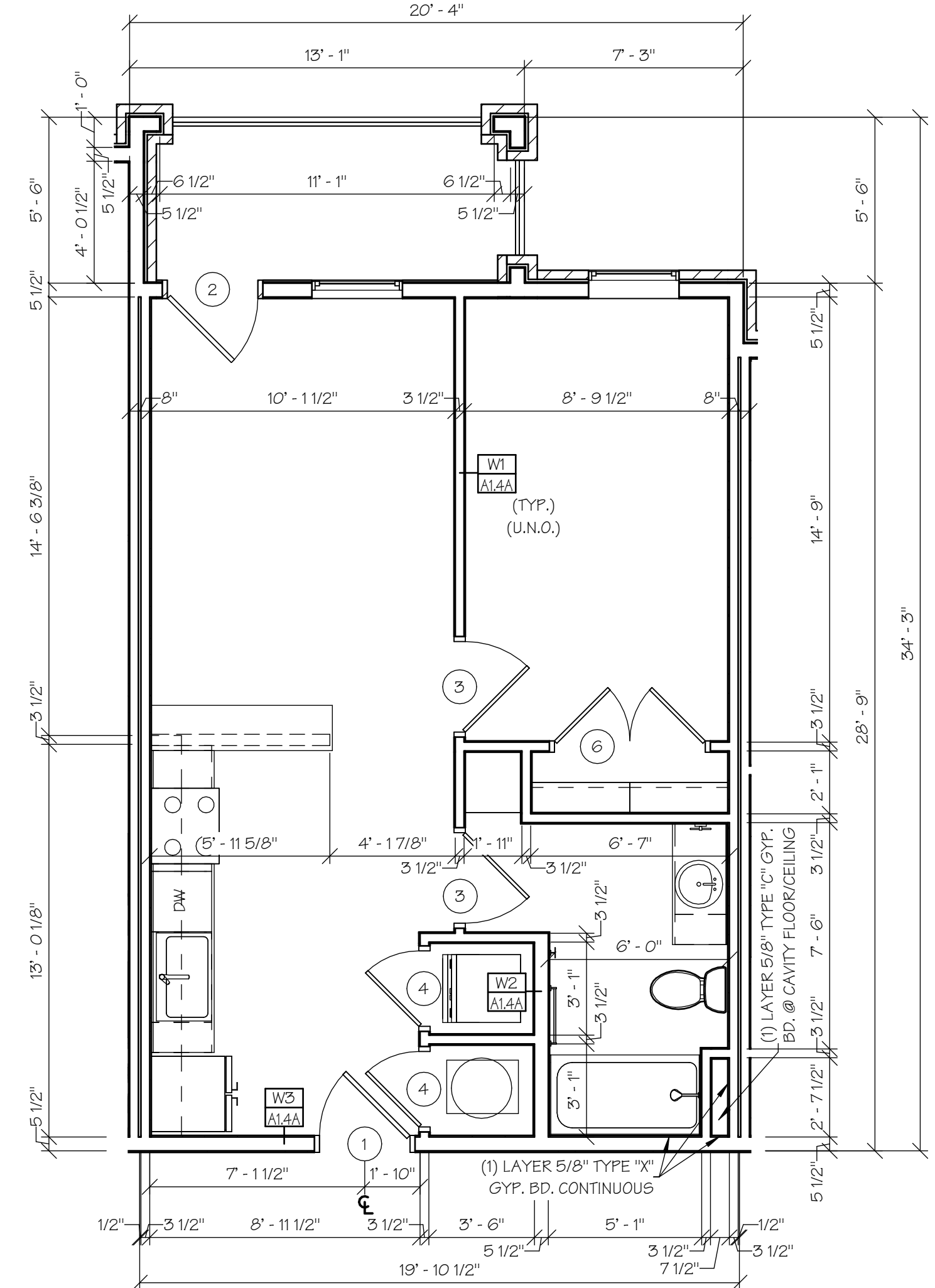
ANSI "B" 1-BR-A UNIT DIMENSION PLAN

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



ANSI "B" 1-BR-B UNIT DIMENSION PLAN

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



ANSI "B" 1-BR-C UNIT DIMENSION PLAN

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

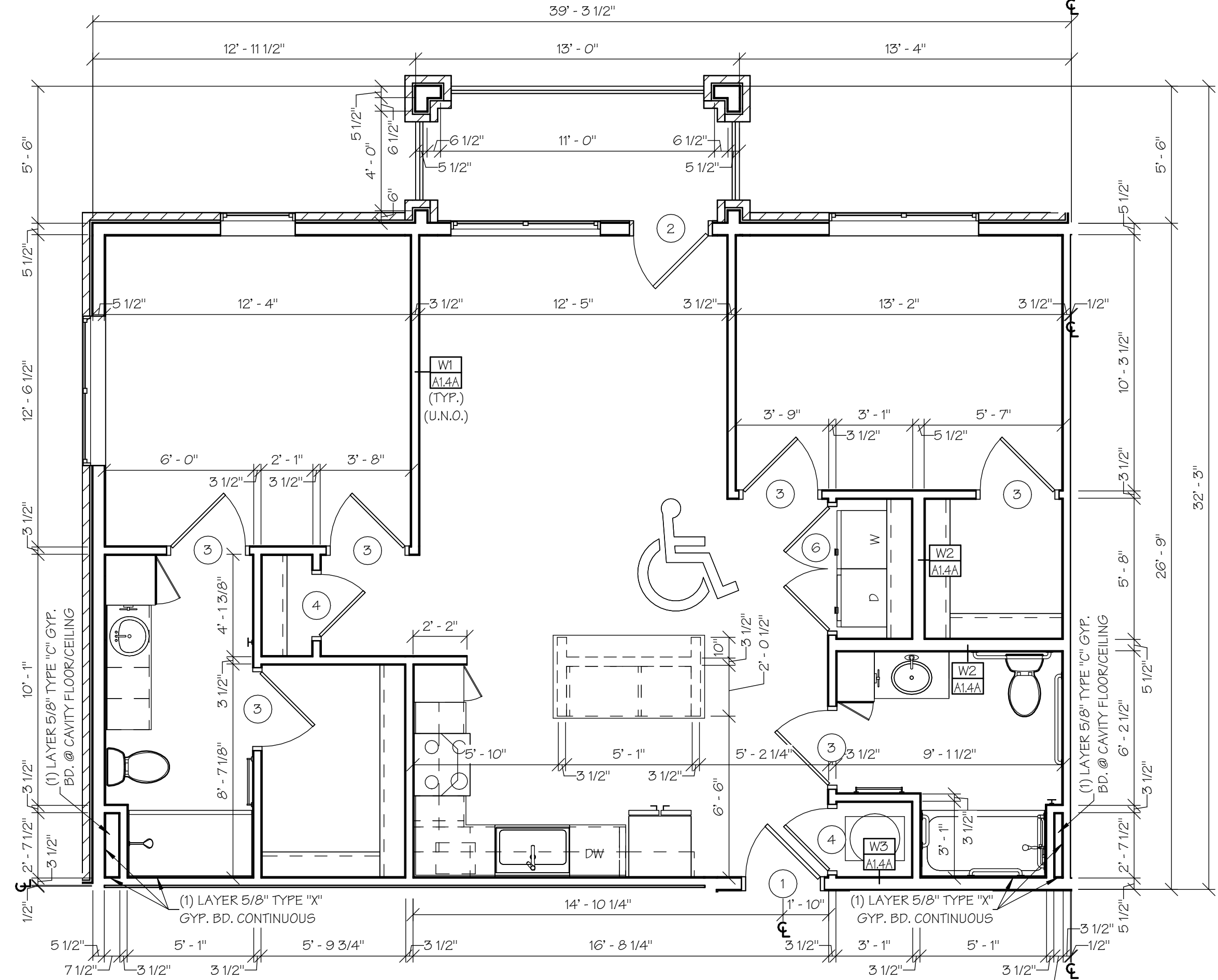
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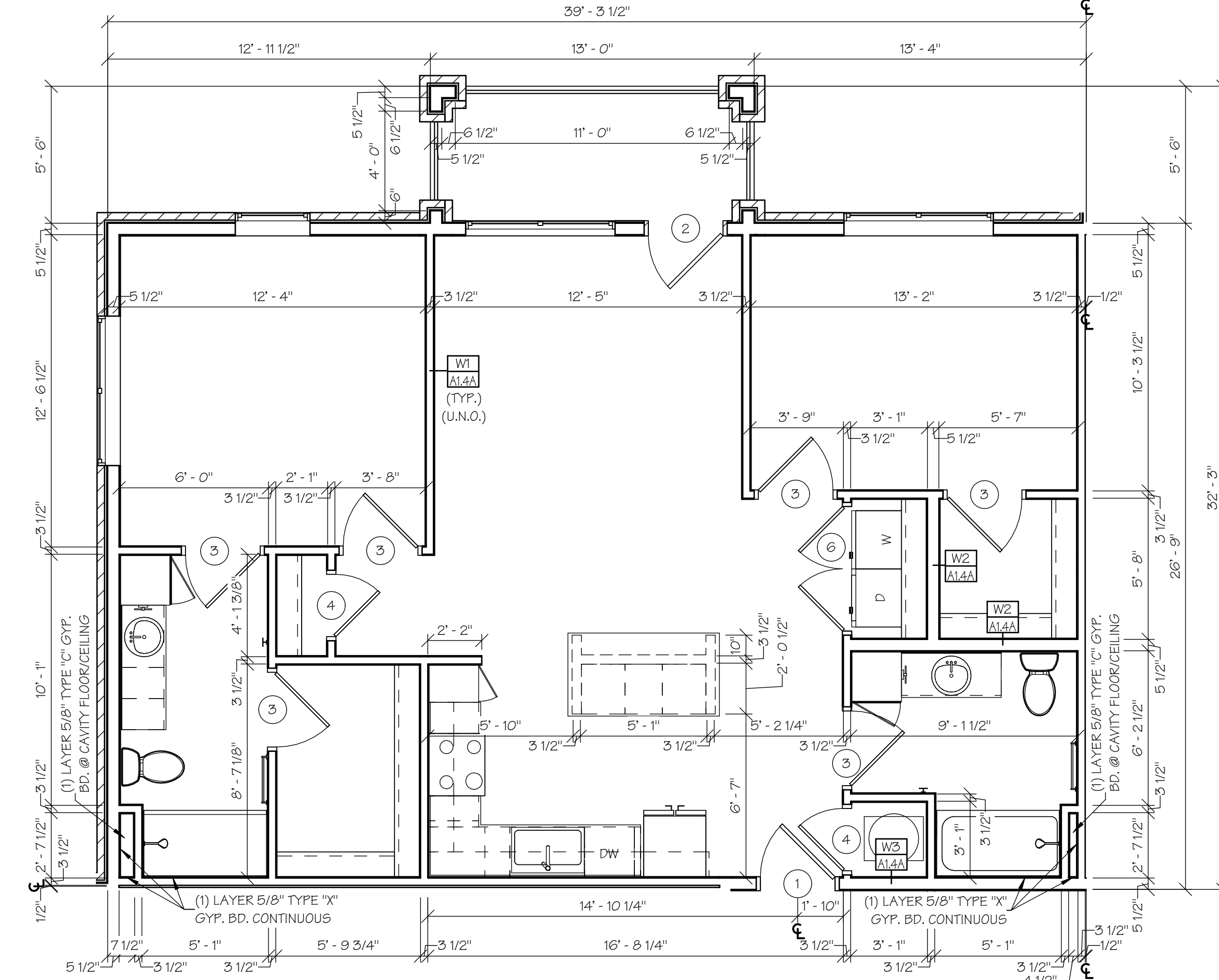
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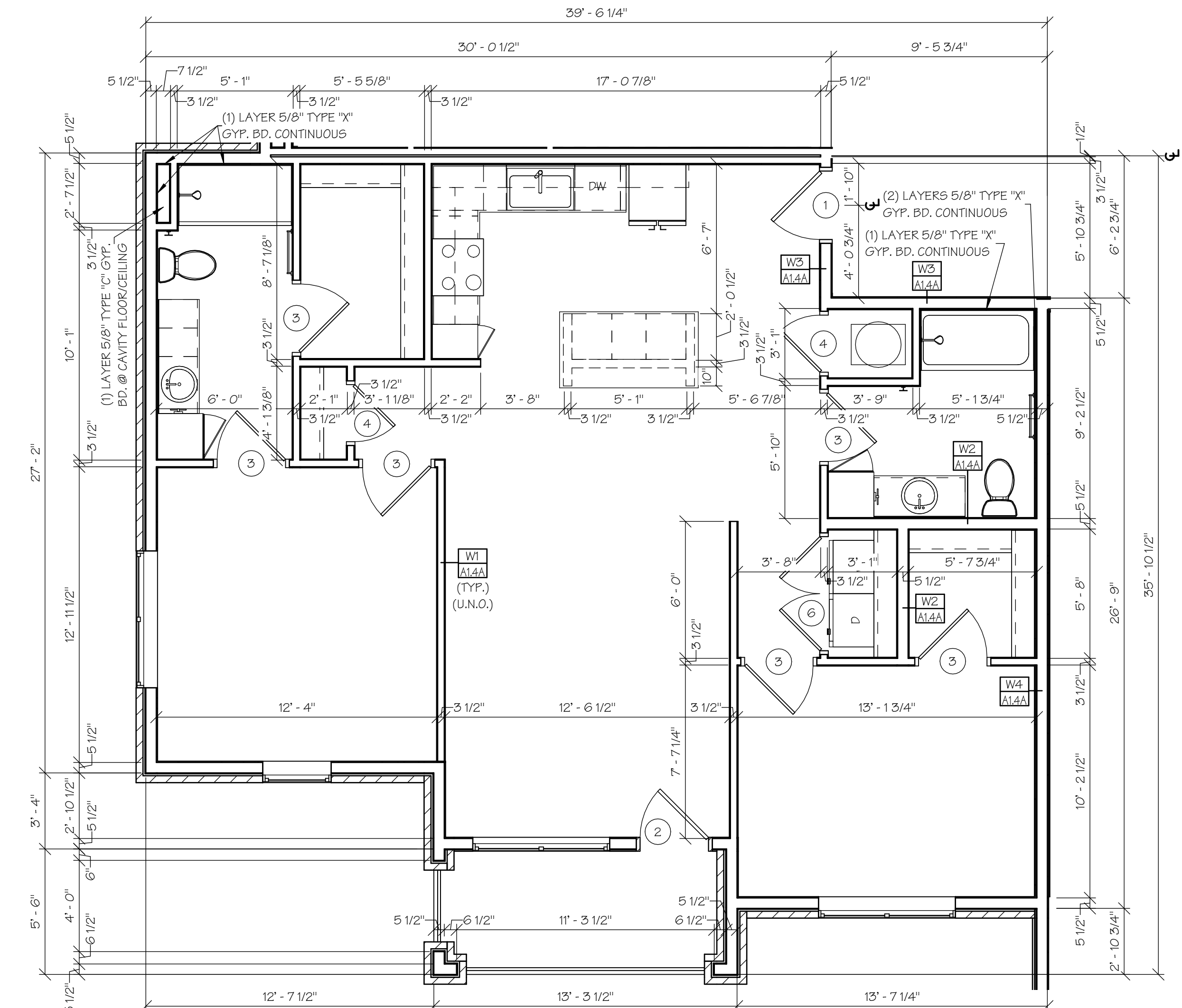
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ANSI "A" 2-BR-A UNIT DIMENSION PLAN
SCALE: 1/4" = 1'-0"



ANSI "B" 2-BR-A UNIT DIMENSION PLAN
SCALE: 1/4" = 1'-0"



ANSI "B" 2-BR-B UNIT DIMENSION PLAN
SCALE: 1/4" = 1'-0"

AIR SEALING NOTES:
BEFORE SHEETROCK

- SEAL ALL RIM/BAND JOIST AND INCLUDE AN AIR BARRIER. THE USE OF SPRAY FOAM IS RECOMMENDED.
- SEAL ALL PENETRATIONS IN BOTTOM AND TOP PLATES.
- SEAL SHEETROCK WITH A CONTINUOUS BEAD OF ACOUSTIC SEALANT OR DRYWALL ADHESIVE AT BOTH BOTTOM AND TOP PLATES OF ALL INTERIOR AND EXTERIOR WALLS. THIS SHOULD GO IN-BETWEEN THE PLATE AND DRYWALL TO CREATE A GASKET.
- SPACE BEHIND ALL WALL ELECTRICAL BOXES SHOULD BE INSULATED AND AIR SEALED BEING SURE TO SEAL ELECTRICAL KNOCKOUTS. SPRAY FOAM IS RECOMMENDED FOR THIS APPLICATION.
- SEAL ALL PENETRATION IN HVAC CLOSET.
- SEAL ALL PLENUM TO AHU CONNECTIONS.
- SEAL ALL SEAMS IN DUCTWORK WITH MASTIC.
- SPRAY FOAM WINDOWS TO FILL GAPS BETWEEN WINDOW/DOOR AND ROUGH OPENING.
- IF ELECTRIC PANEL IS INSTALLED ON EXTERIOR WALL, AN AIR BARRIER SHALL EXTEND BEHIND BOX OR AIR-SEALED BOX SHALL BE INSTALLED.
- INSTALL INSULATION AND SEALED AIR BARRIER BEHIND TUB/SHOWERS ON EXTERIOR WALLS.
- INSTALL WIND WASH BAFFLE AND DAM FOR AIR-PERMEABLE INSULATION.

AFTER SHEETROCK

- GAPS AROUND ALL HVAC BOOTS WHERE THEY PENETRATE THE CEILING/SOFFIT DRYWALL SHOULD BE SEALED.
- PLUMBING PENETRATIONS BELOW SINKS, BEHIND SHOWERHEADS, MECHANICAL CLOSET AND BEHIND TOILET WATER LINES SHALL BE SEALED.
- WATER LINES BEHIND REFRIGERATOR SHALL BE SEALED.
- HOLE BEHIND KITCHEN RANGE SHALL BE SEALED.
- GAP AT DRYWALL AROUND WASHER/DRYER BOX SHALL BE SEALED.
- ALL INTERIOR AND EXTERIOR PLUG IN AND SWITCH BOXES SHALL BE SEALED WHERE THE BOX PENETRATES THE SHEETROCK.
- GAPS AROUND CEILING LIGHT BOXES SHALL BE SEALED.
- ATTIC ACCESSSES SHALL BE SEALED.
- GAPS UNDER BASEBOARDS SHALL BE CAULKED IF SHEETROCK IS NOT SEALED TO PLATES AS STATED ABOVE.
- GAPS AROUND EXHAUST FANS WHERE THE HOUSING PENETRATES THE SHEET ROCK IS SEALED.
- TUB TO FLOOR CONNECTION SHALL BE SEALED.
- GAPS AROUND ALL KITCHEN VENTS SHALL BE SEALED.
- ALL OTHER HOLES IN THE SHEETROCK SHALL BE SEALED.

NOTE: SEE SHEET A1.4A FOR DOOR SCHEDULE, NOTES & WALL TYPES.

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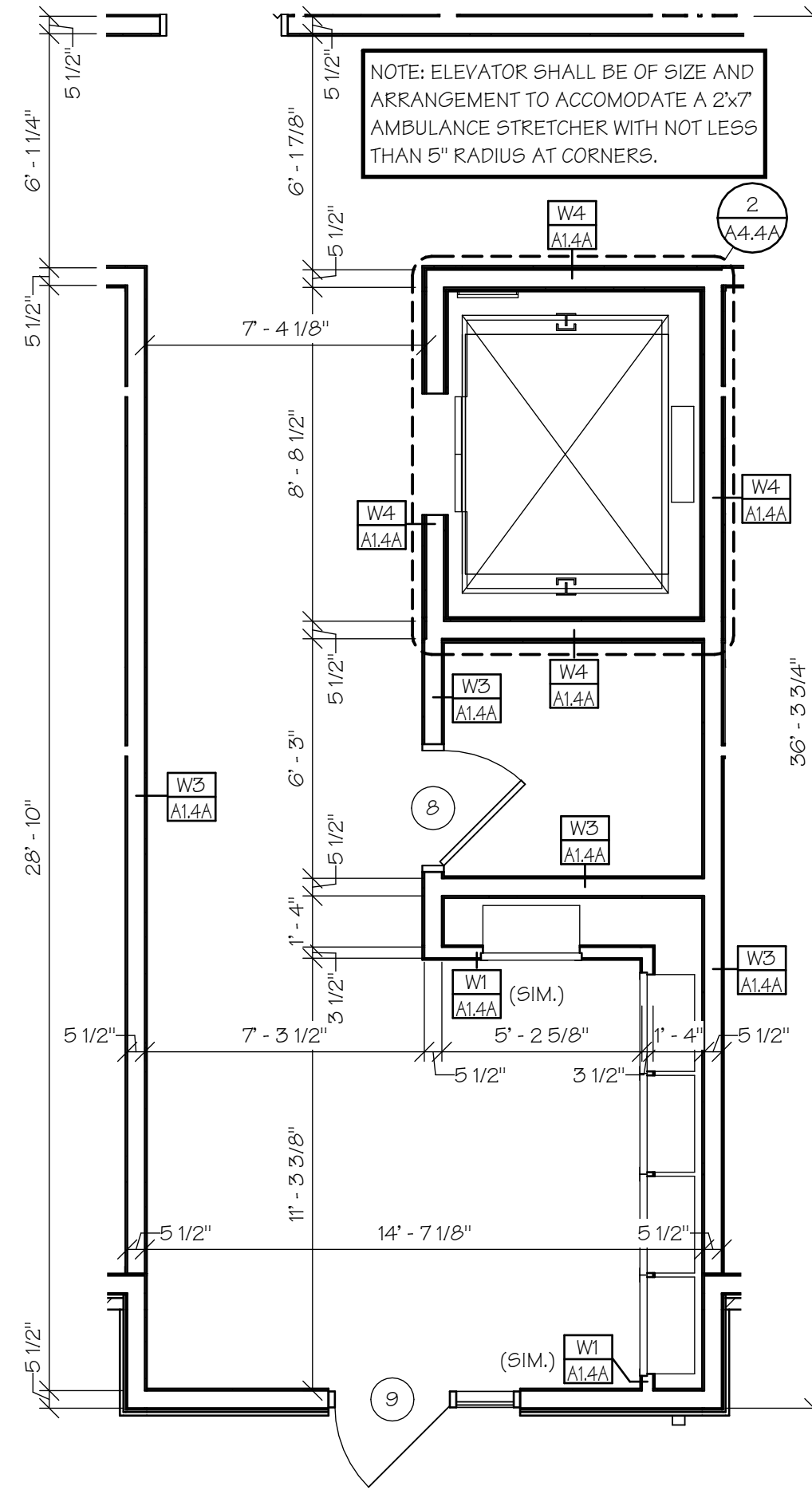
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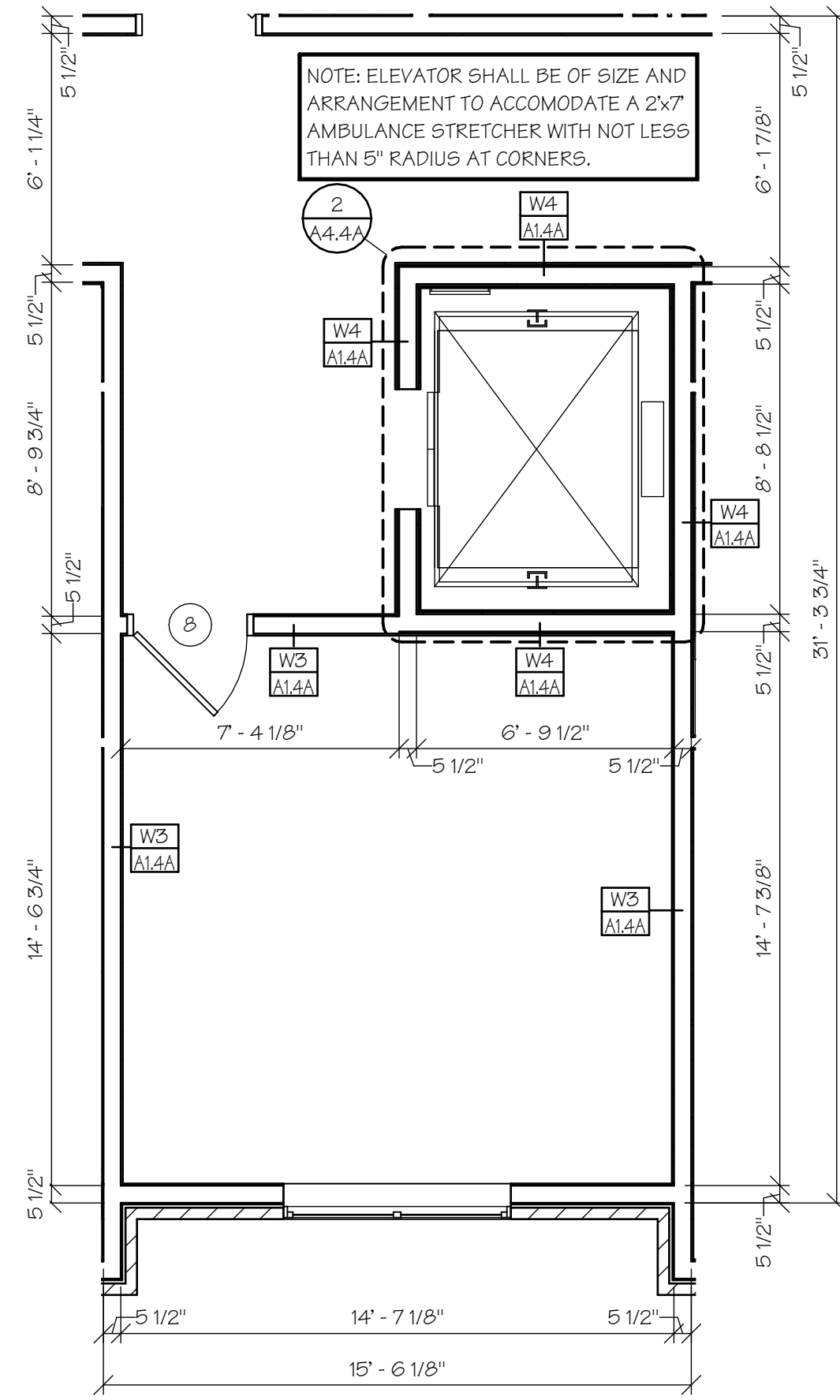
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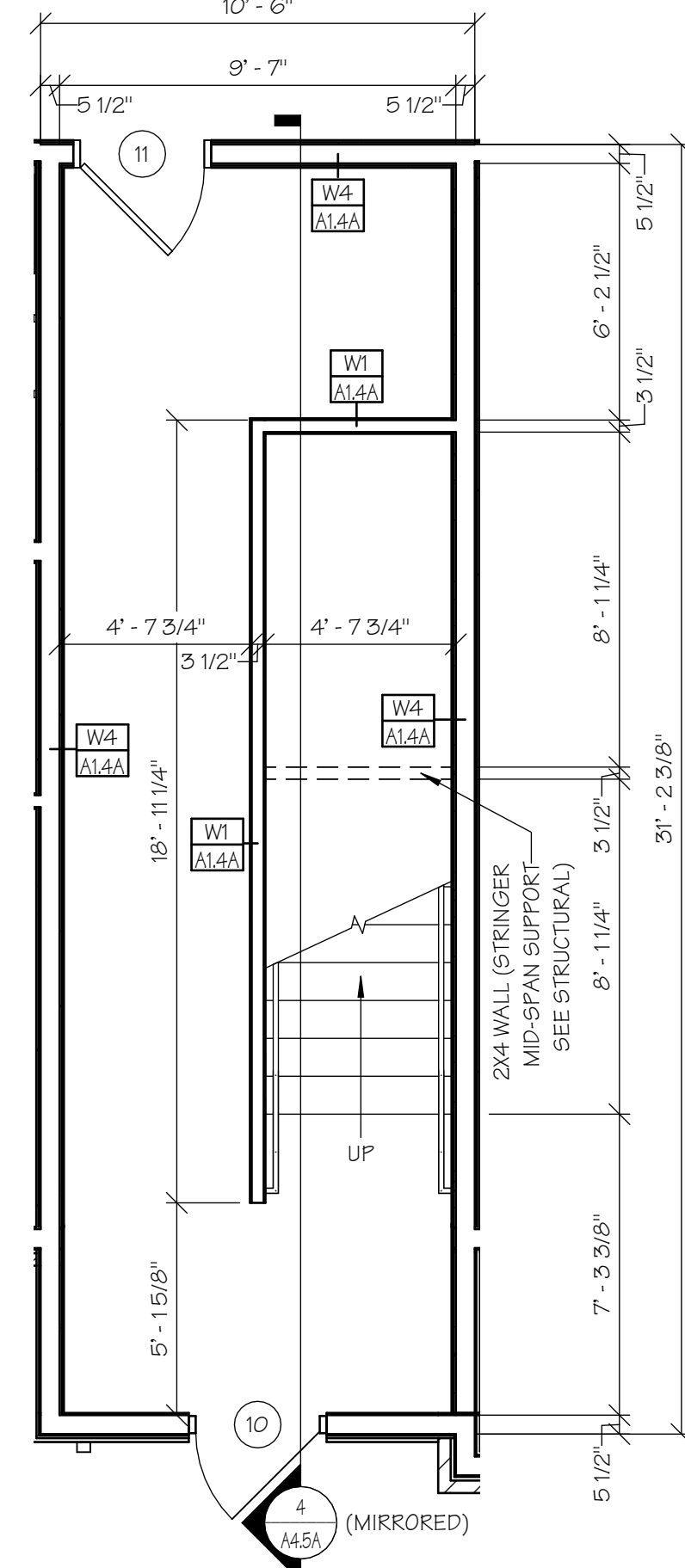
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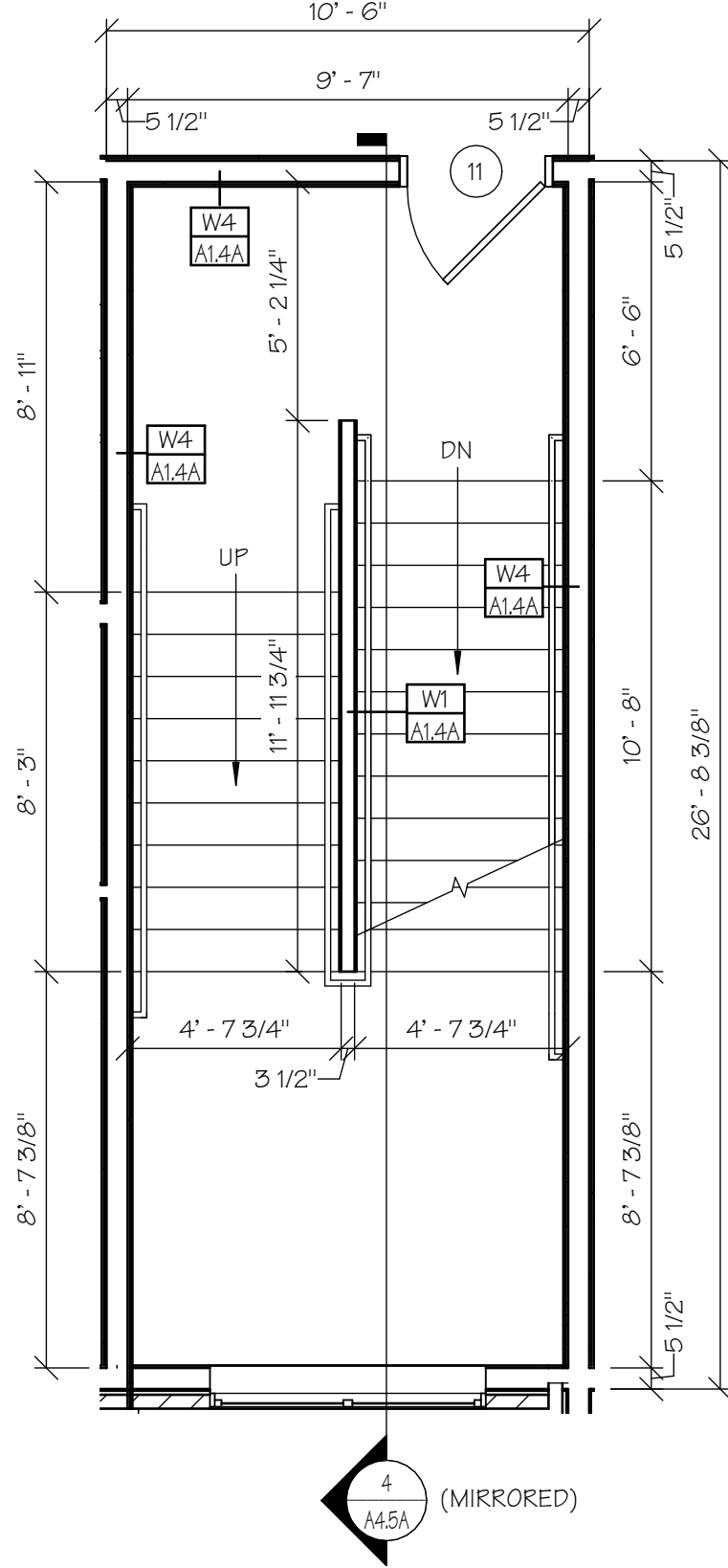
1ST FLOOR COMMON AREA
DIMENSION PLAN
1
A1.6A SCALE: 1/4" = 1'-0"



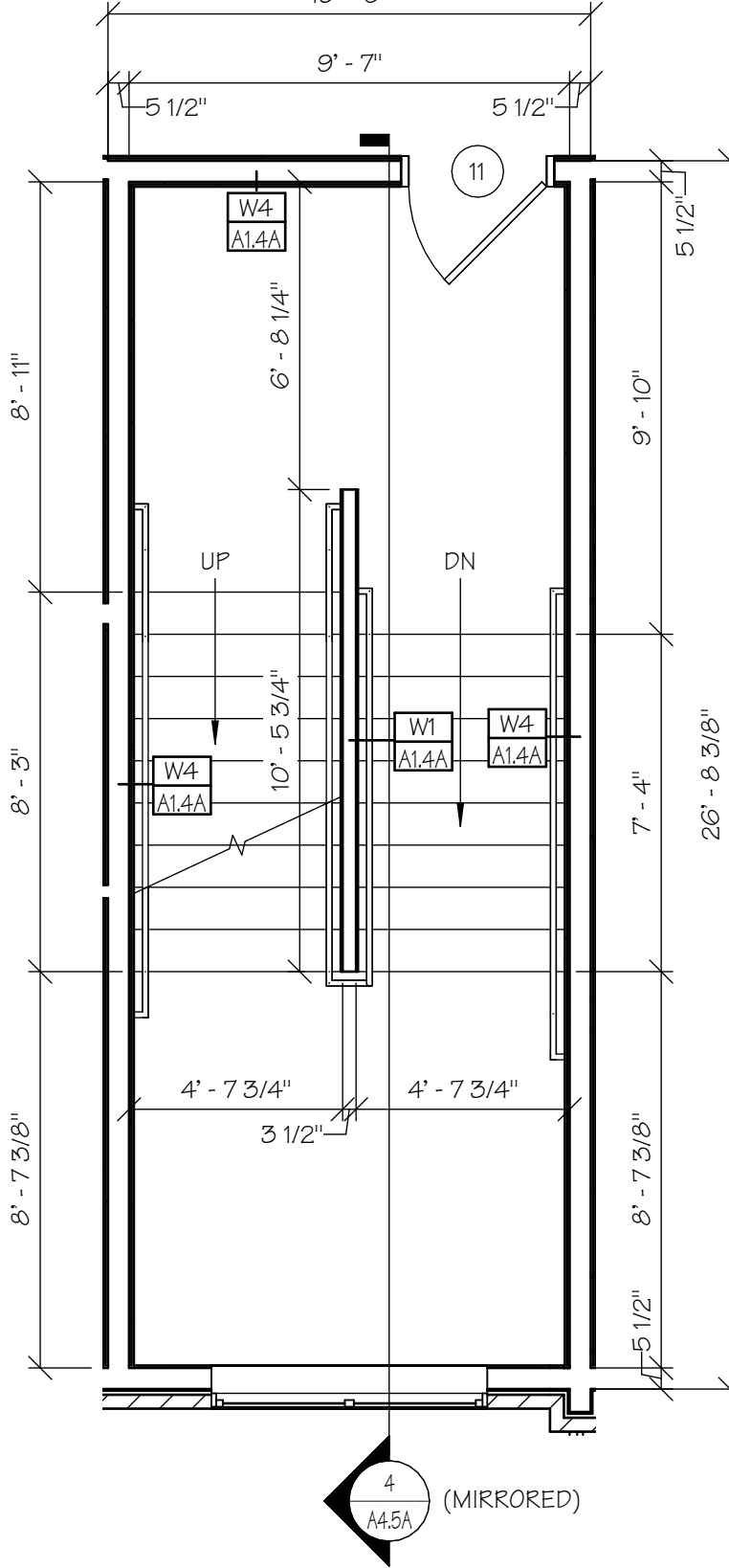
2ND, 3RD & 4TH FLOOR COMMON
AREA DIMENSION PLAN
2
A1.6A SCALE: 1/4" = 1'-0"



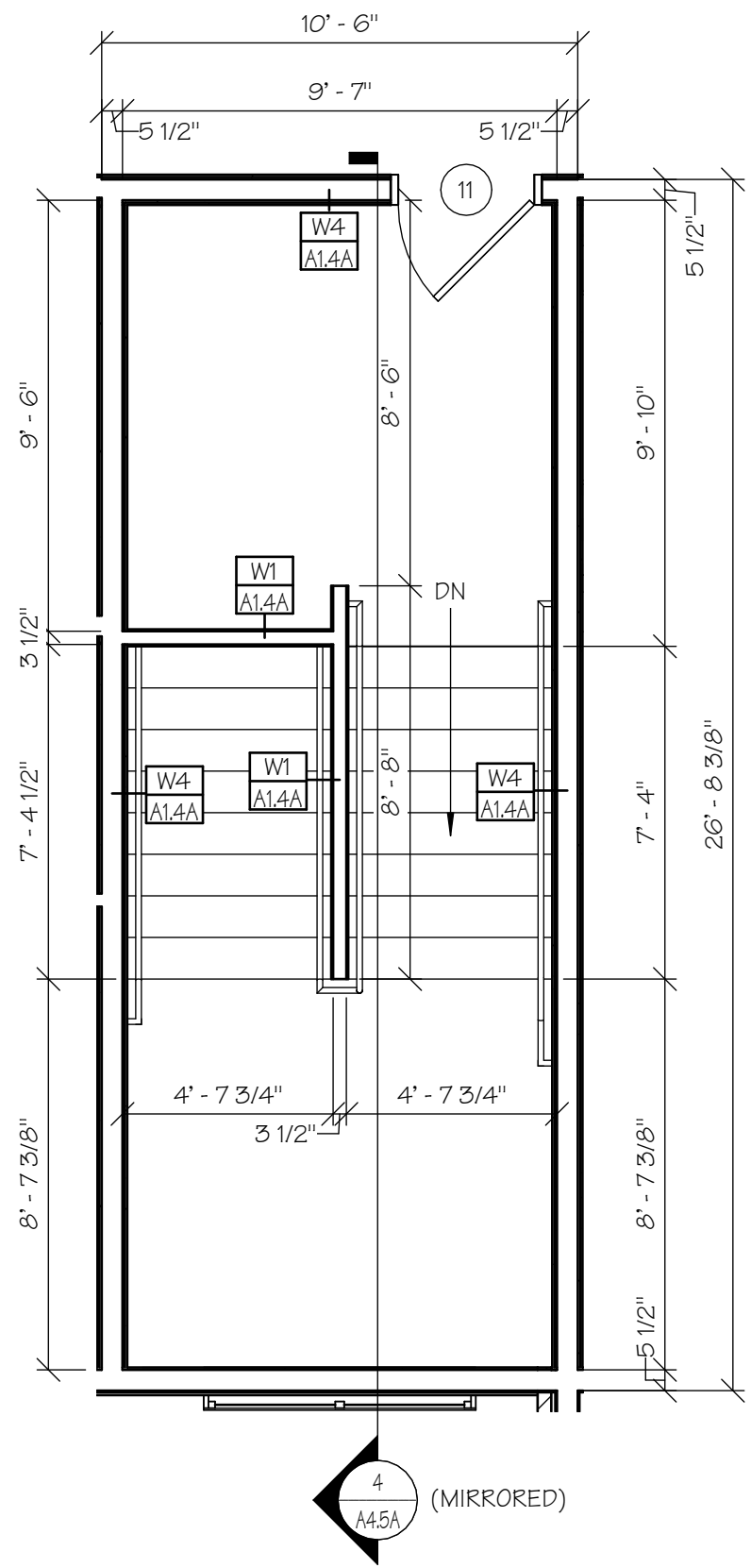
1ST FLOOR LEFT SIDE
STAIRWELL DIM. PLAN
3
A1.6A SCALE: 1/4" = 1'-0"



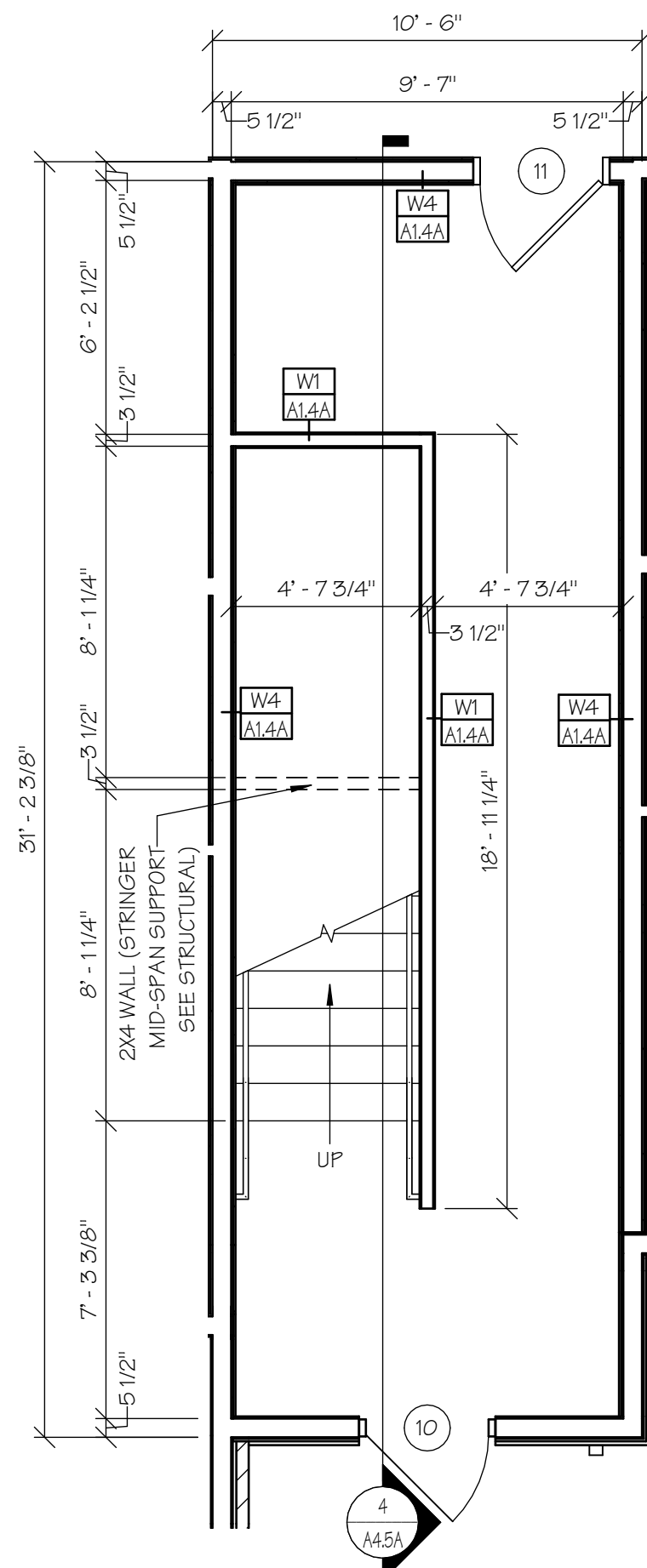
2ND FLOOR LEFT SIDE
STAIRWELL DIM. PLAN
4
A1.6A SCALE: 1/4" = 1'-0"



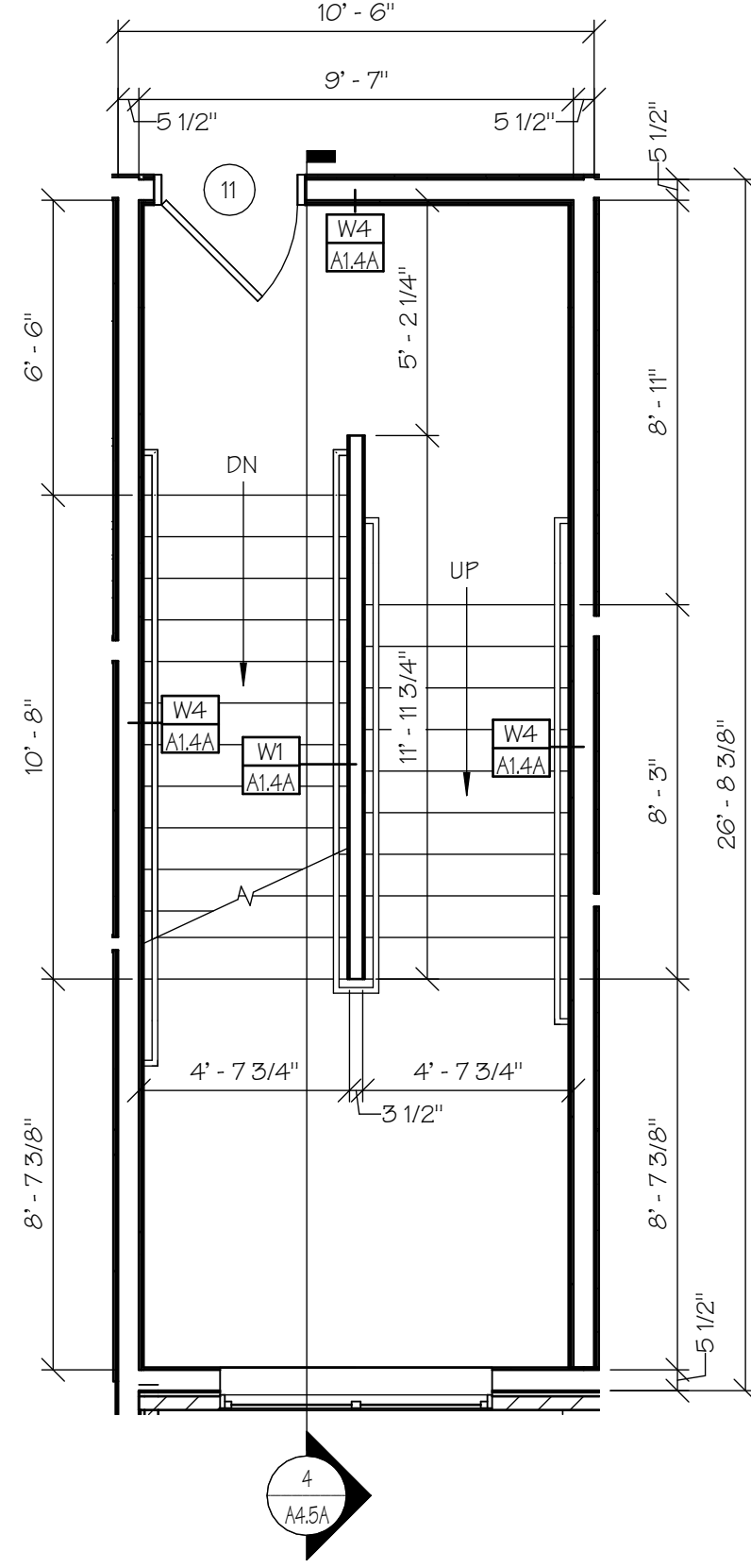
3RD FLOOR LEFT SIDE
STAIRWELL DIM. PLAN
5
A1.6A SCALE: 1/4" = 1'-0"



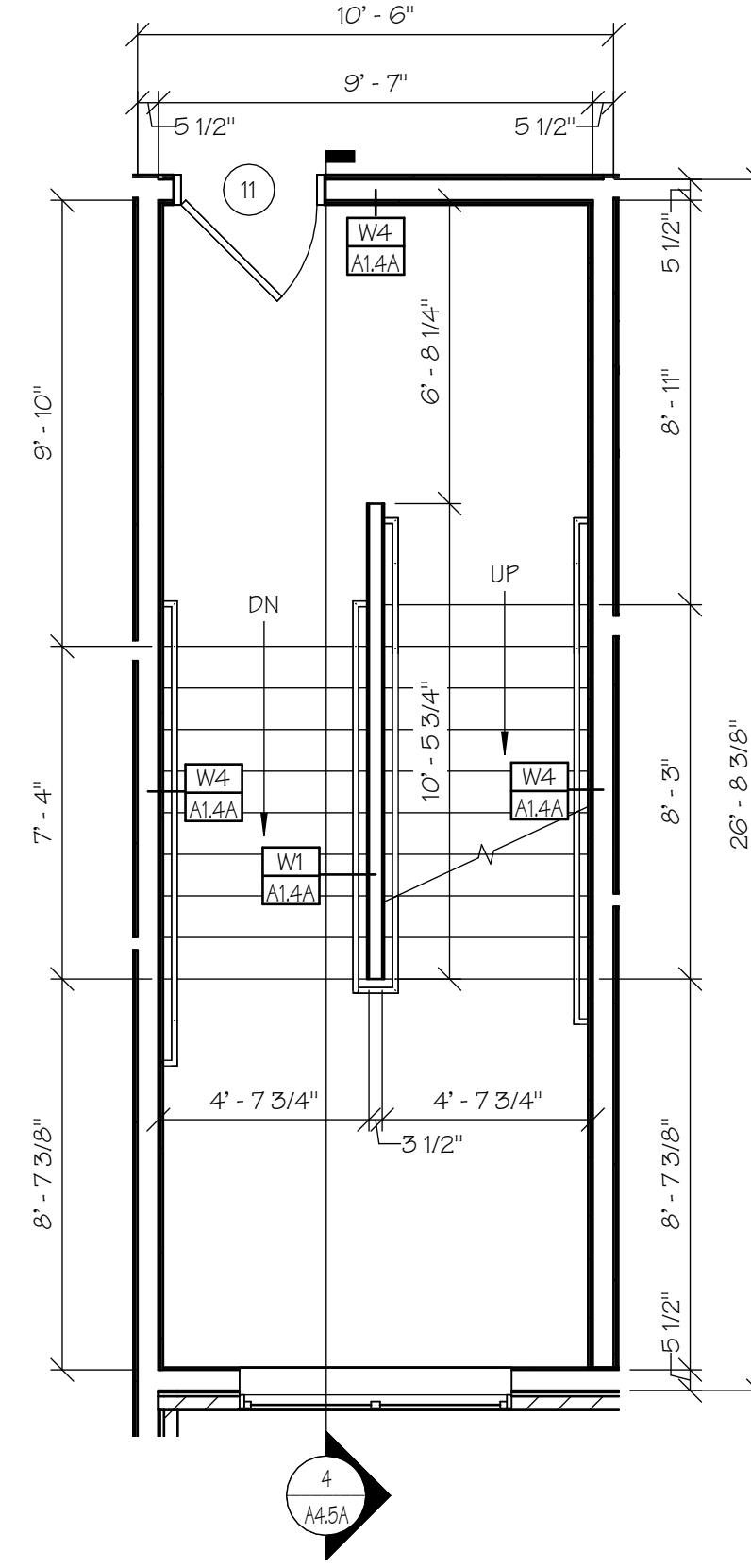
4TH FLOOR LEFT SIDE
STAIRWELL DIM. PLAN
6
A1.6A SCALE: 1/4" = 1'-0"



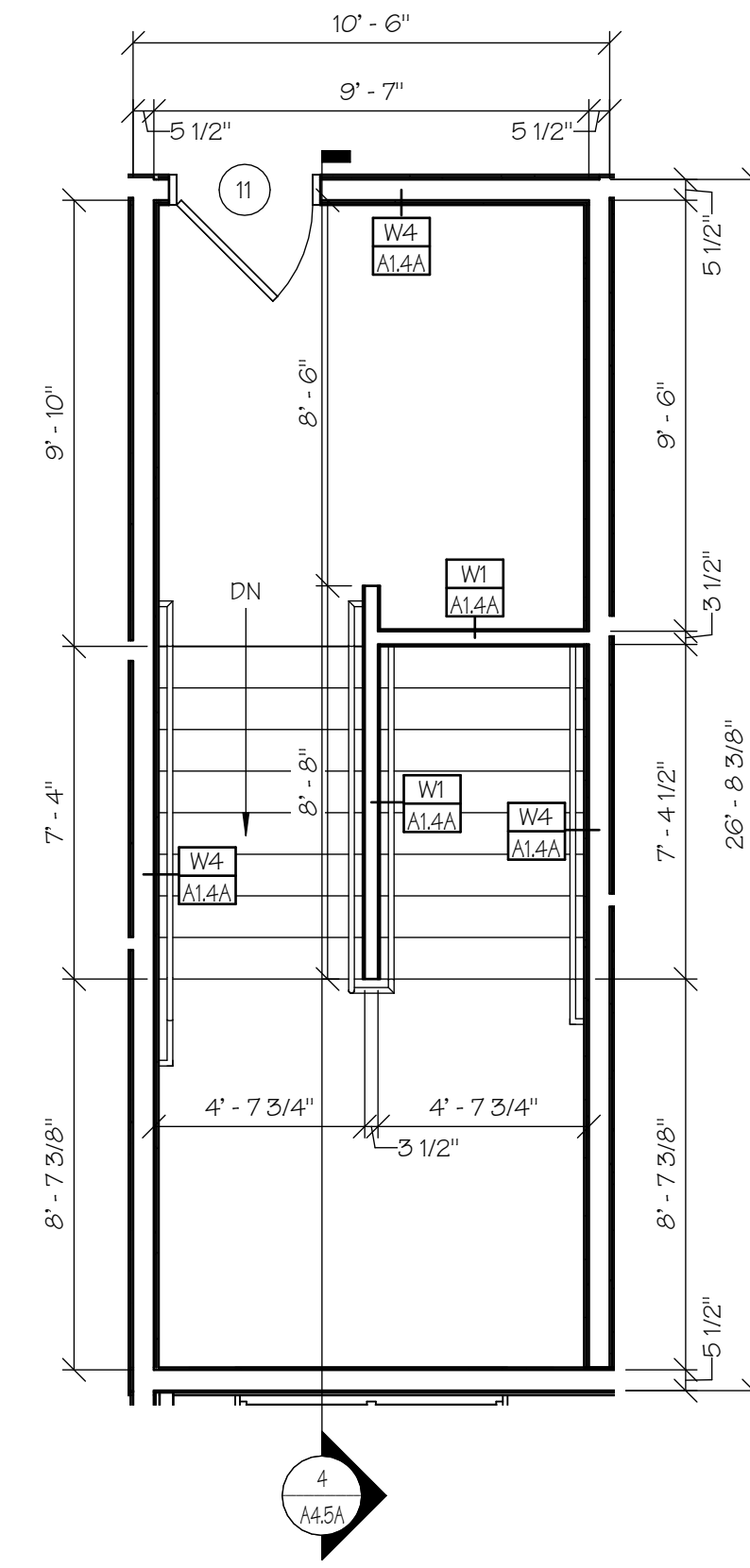
1ST FLOOR RIGHT SIDE
STAIRWELL DIM. PLAN
7
A1.6A SCALE: 1/4" = 1'-0"



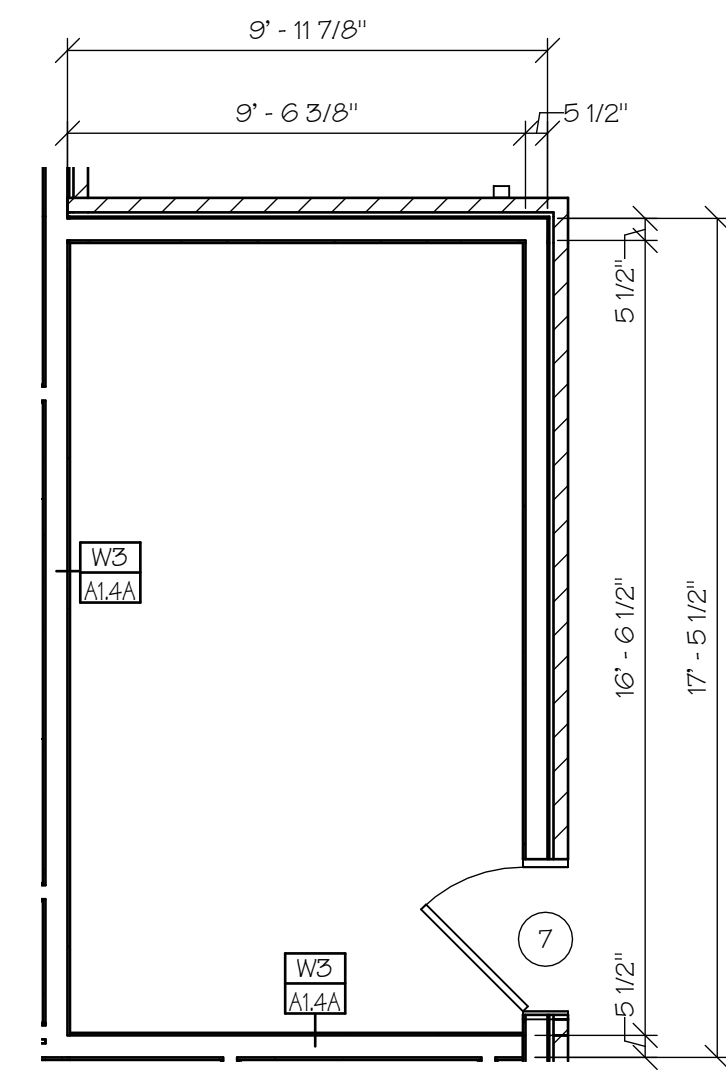
2ND FLOOR RIGHT SIDE
STAIRWELL DIM. PLAN
8
A1.6A SCALE: 1/4" = 1'-0"



3RD FLOOR RIGHT SIDE
STAIRWELL DIM. PLAN
9
A1.6A SCALE: 1/4" = 1'-0"



4TH FLOOR RIGHT SIDE
STAIRWELL DIM. PLAN
10
A1.6A SCALE: 1/4" = 1'-0"



SPRINKLER ROOM
DIMENSION PLAN
11
A1.6A SCALE: 1/4" = 1'-0"

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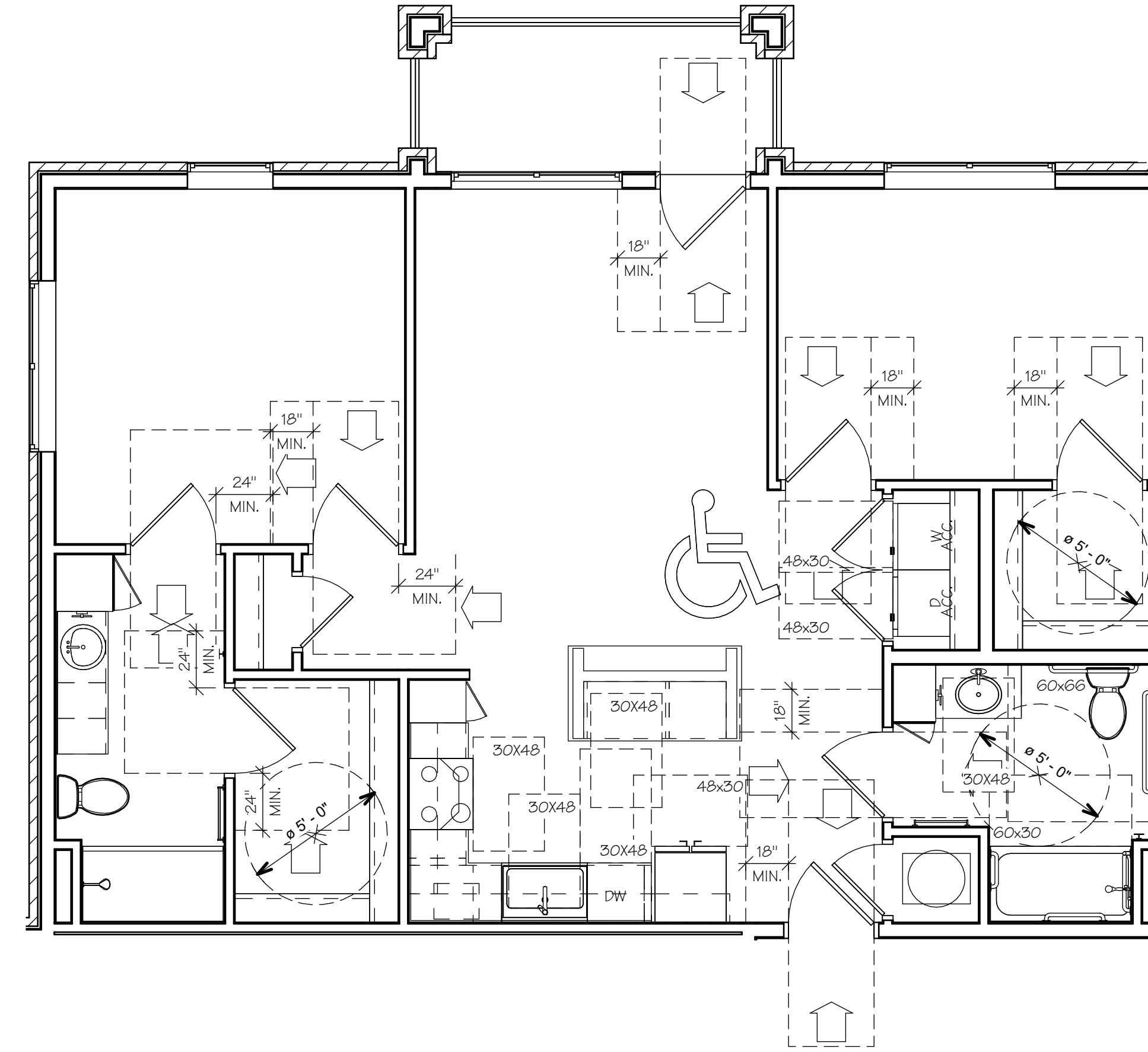
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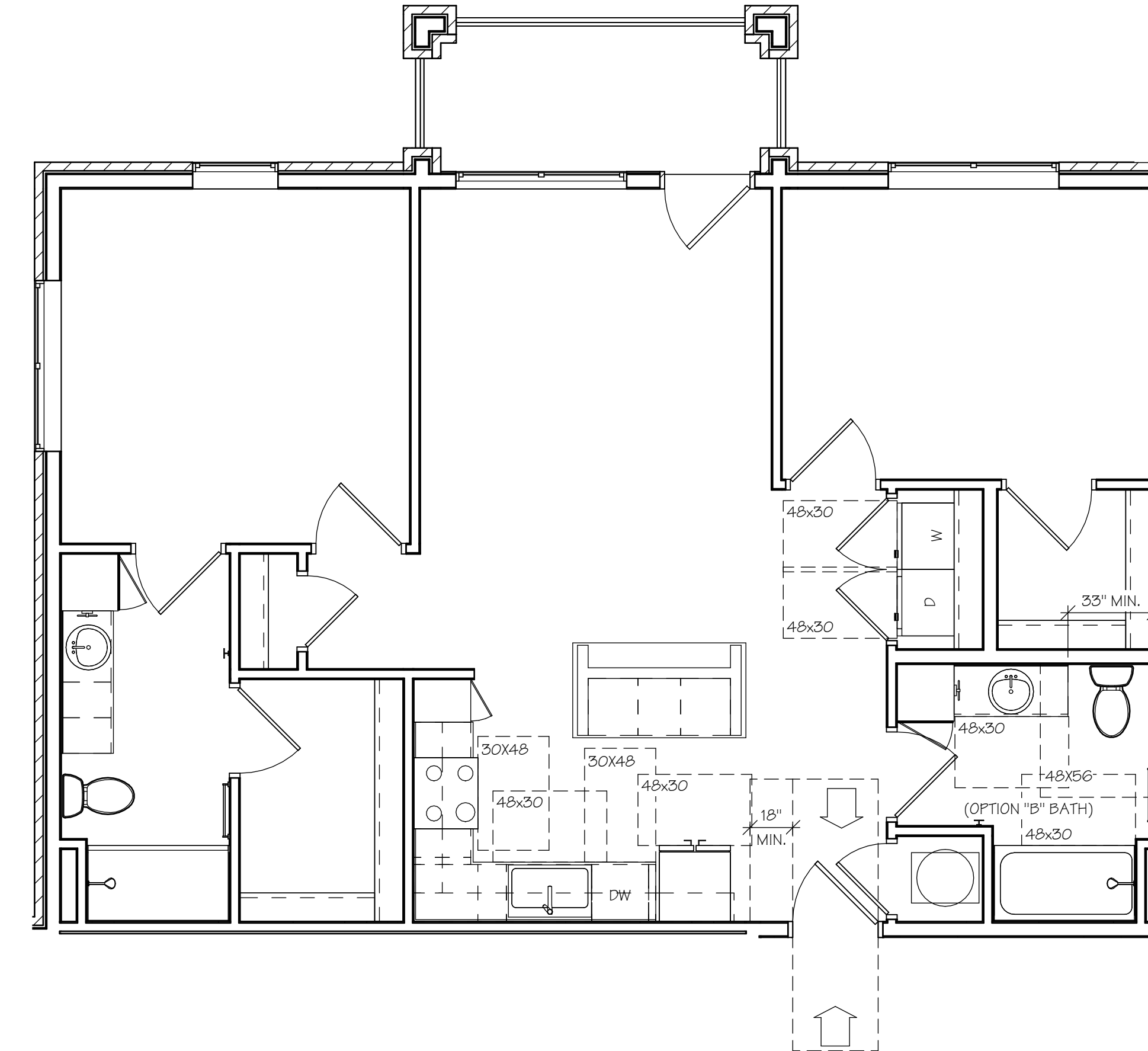
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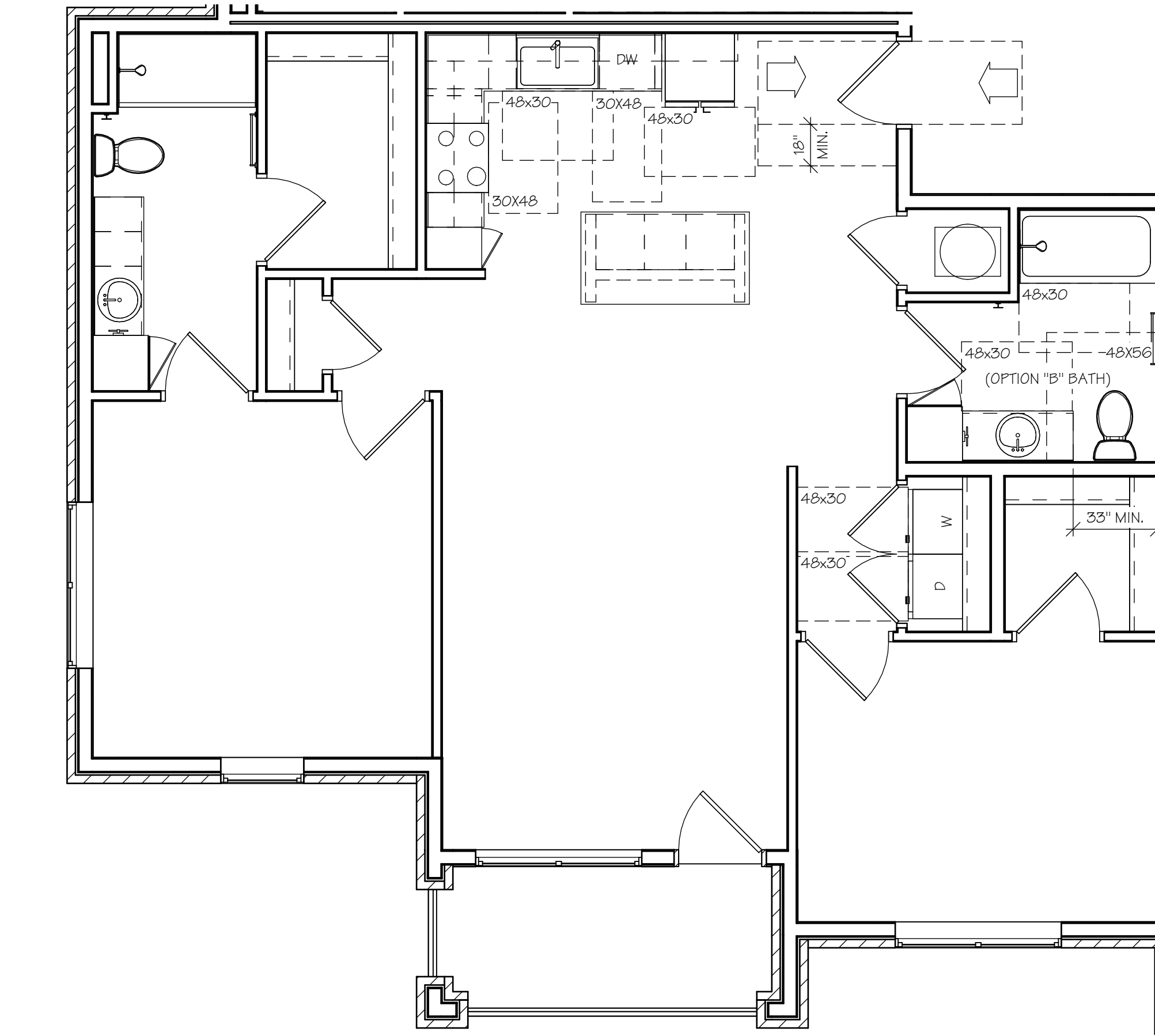
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1
A1.8A
ANSI "A" 2-BR-A UNIT ACC. PLAN
SCALE: 1/4" = 1'-0"



2
A1.8A
ANSI "B" 2-BR-A UNIT ACC. PLAN
SCALE: 1/4" = 1'-0"



3
A1.8A
ANSI "B" 2-BR-B UNIT ACC. PLAN
SCALE: 1/4" = 1'-0"

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1
A1.9A
1ST FLOOR COMMON AREA
ACCESSIBILITY PLAN
SCALE: 1/4" = 1'-0"

2
A1.9A
2ND, 3RD & 4TH FLOOR COMMON
AREA ACCESSIBILITY PLAN
SCALE: 1/4" = 1'-0"

3
A1.9A
1ST FLOOR LEFT SIDE
STAIRWELL ACC. PLAN
SCALE: 1/4" = 1'-0"

4
A1.9A
2ND FLOOR LEFT SIDE
STAIRWELL ACC. PLAN
SCALE: 1/4" = 1'-0"

5
A1.9A
3RD FLOOR LEFT SIDE
STAIRWELL ACC. PLAN
SCALE: 1/4" = 1'-0"

6
A1.9A
4TH FLOOR LEFT SIDE
STAIRWELL ACC. PLAN
SCALE: 1/4" = 1'-0"

7
A1.9A
1ST FLOOR RIGHT SIDE
STAIRWELL ACC. PLAN
SCALE: 1/4" = 1'-0"

8
A1.9A
2ND FLOOR RIGHT SIDE
STAIRWELL ACC. PLAN
SCALE: 1/4" = 1'-0"

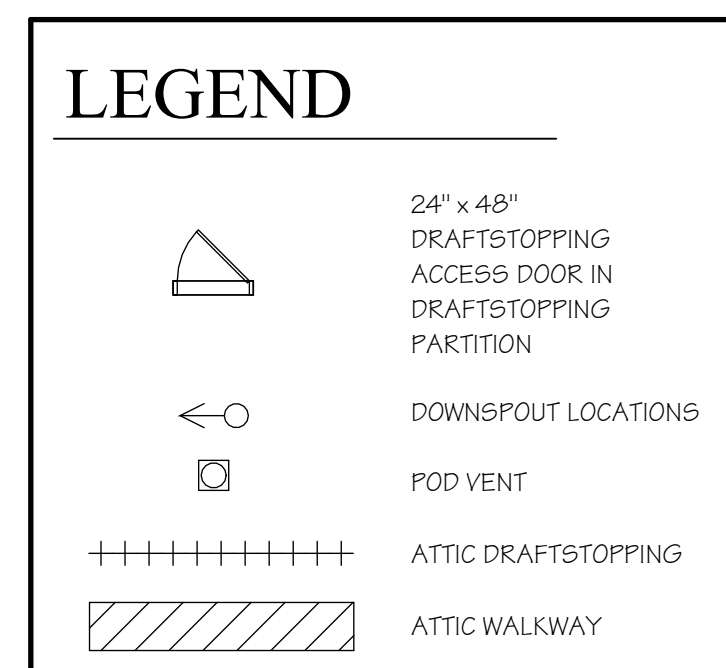
9
A1.9A
3RD FLOOR RIGHT SIDE
STAIRWELL ACC. PLAN
SCALE: 1/4" = 1'-0"

10
A1.9A
4TH FLOOR RIGHT SIDE
STAIRWELL ACC. PLAN
SCALE: 1/4" = 1'-0"

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ATTIC COMPARTMENT VENTILATION				
NAME	AREA	TOTAL REQ'D VENT. (SQ. IN.)	SOFFIT VENT' (SQ. IN.)	ROOF VENT (SQ. IN.)
DRAFTSTOPPING COMPARTMENT "A"	1972 SF	947	473	473
DRAFTSTOPPING COMPARTMENT "B"	1264 SF	606	303	303
DRAFTSTOPPING COMPARTMENT "C"	266 SF	128	64	64
DRAFTSTOPPING COMPARTMENT "D"	992 SF	476	238	238
DRAFTSTOPPING COMPARTMENT "E"	1400 SF	672	336	336
DRAFTSTOPPING COMPARTMENT "F"	468 SF	225	112	112
DRAFTSTOPPING COMPARTMENT "G"	928 SF	446	223	223
DRAFTSTOPPING COMPARTMENT "H"	1874 SF	900	450	450
DRAFTSTOPPING COMPARTMENT "I"	1092 SF	524	262	262
DRAFTSTOPPING COMPARTMENT "J"	266 SF	128	64	64
DRAFTSTOPPING COMPARTMENT "K"	1264 SF	607	303	303

SPECIAL INSTRUCTION:
STRUCTURAL DRAWINGS AND SPECIFICATIONS TAKE PRECEDENCE
OVER ANY DRAWING, DETAIL OR NOTE SHOWN ON THIS SHEET.
CONTRACTORS, SUBCONTRACTORS, AND SUPPLIERS MUST
REFERENCE STRUCTURAL DRAWINGS AND/OR SPECIFICATIONS
BEFORE CONSTRUCTING, OR SUPPLYING ANY LOAD-BEARING, OR
LOAD-RESISTING ELEMENT SHOWN ON THIS SHEET.



ATTIC DRAFTSTOPPING NOTES

1) DRAFTSTOPPING MATERIALS SHALL NOT BE LESS THAN 1/2" GYPSUM BOARD, 3/8" WOOD STRUCTURAL PANEL, 3/8" PARTICLEBOARD, 1" NOMINAL LUMBER, CEMENT FIBERBOARD, BATTS OR BLANKETS OF MINERAL WOOL OR GLASS FIBER, OR OTHER APPROVED MATERIALS ADEQUATELY SUPPORTED.

2) DRAFTSTOPPING SHALL BE PROVIDED IN ATTICS, OVERHANGS, OR OTHER CONCEALED ROOF SPACES.

3) DRAFTSTOPPING SHALL BE INSTALLED ABOVE, AND IN LINE WITH, SLEEPING UNIT AND DWELLING UNIT SEPARATION WALLS THAT DO NOT EXTEND TO THE UNDERSIDE OF THE ROOF DECKING ABOVE.

4) THE ATTIC SPACE SHALL BE SUBDIVIDED BY DRAFTSTOPS INTO AREAS NOT EXCEEDING 3,000 SF OR ABOVE EVERY TWO DWELLING UNITS, WHICHEVER IS SMALLER.

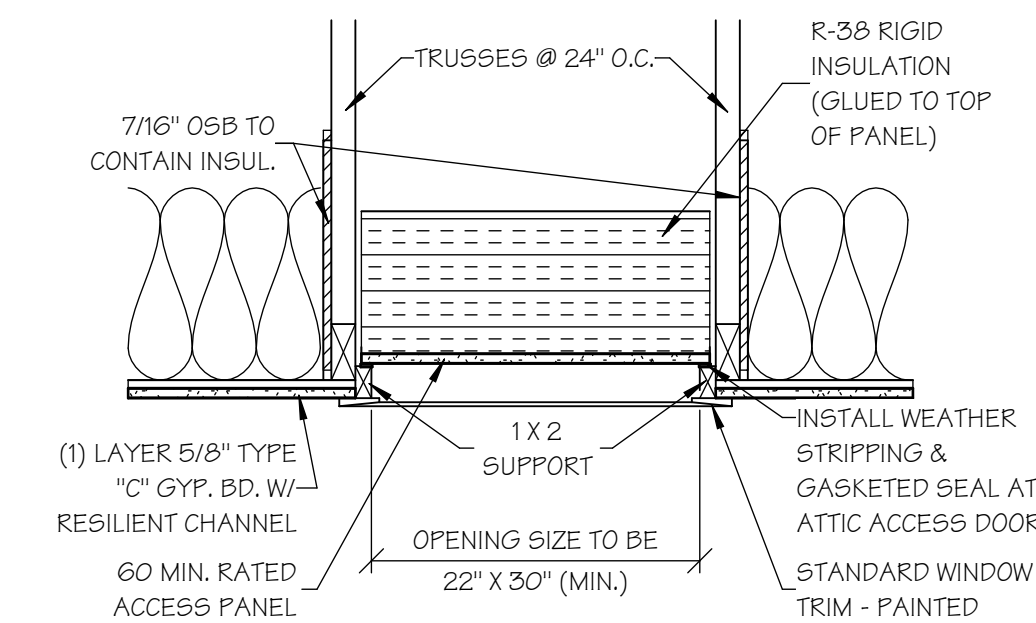
GENERAL ATTIC VENTILATION NOTES

1) TOTAL FREE AREA SHALL EQUAL 1/300 OF ATTIC AREAS W/50% OF VENT AREA WITHIN 3' VERTICAL OF ROOF PEAK AND 50% AT SOFFITS.

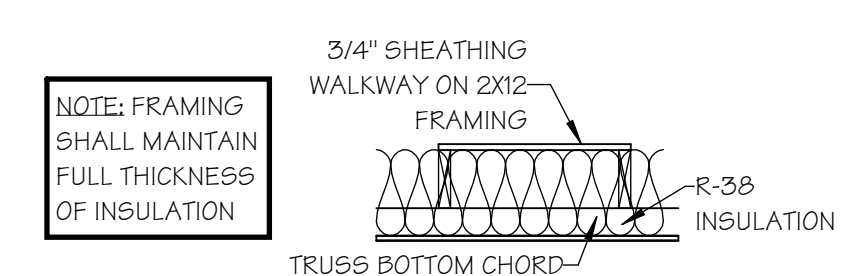
2) SPECIFIED RIDGE VENT LENGTHS BASED ON 18 SQ. IN. FREE AREA PER LINEAL FOOT. ADJUST VENT LENGTH AS REQUIRED BASED ON FREE AREA OF SPECIFIC VENTILATOR USED.

3) SPECIFIED VENTILATION POD QUANTITY BASED ON 50 SQ. IN. FREE AREA PER POD. ADJUST QUANTITY AS REQUIRED BASED ON FREE AREA OF SPECIFIC VENTILATION POD USED.

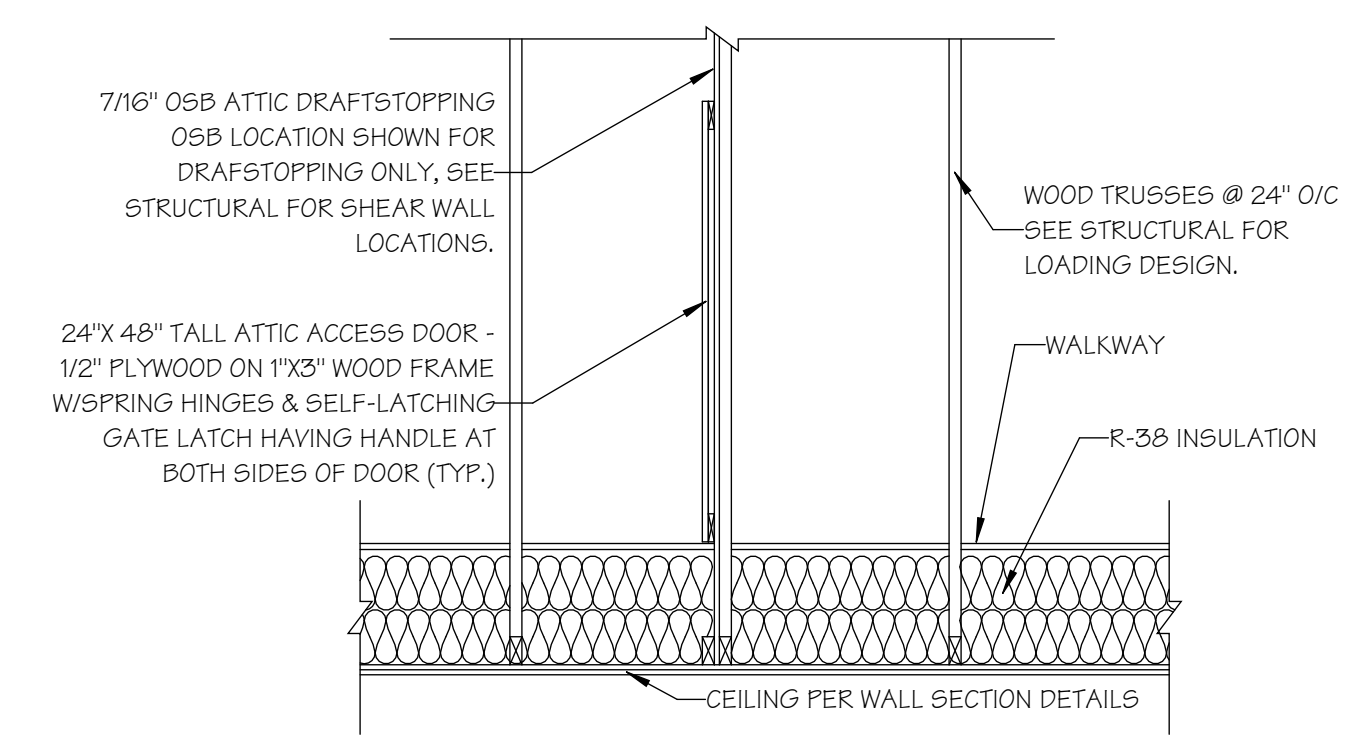
ROOFING KEYNOTES	
1	60 MIL. TPO ROOFING SYSTEM (CLASS B), MECHANICAL FASTENED & HEAT WELD SYSTEMS OVER COVERBOARD & ROOF DECKING.
2	THRU WALL SCUPPER (CORD. W/ MEP) 4" MIN. OPENING.
3	OVERFLOW DRAIN (CORD. W/ MEP) INSTALLED BELOW FLASHING HEIGHT, 4" MIN. OPENING.
4	PARAPET, HEIGHT VARIES - SEE EXTERIOR ELEVATIONS & WALL SECTIONS
5	TAPERED INSULATION, CRICKET SLOPED TO DRAIN ROOF.



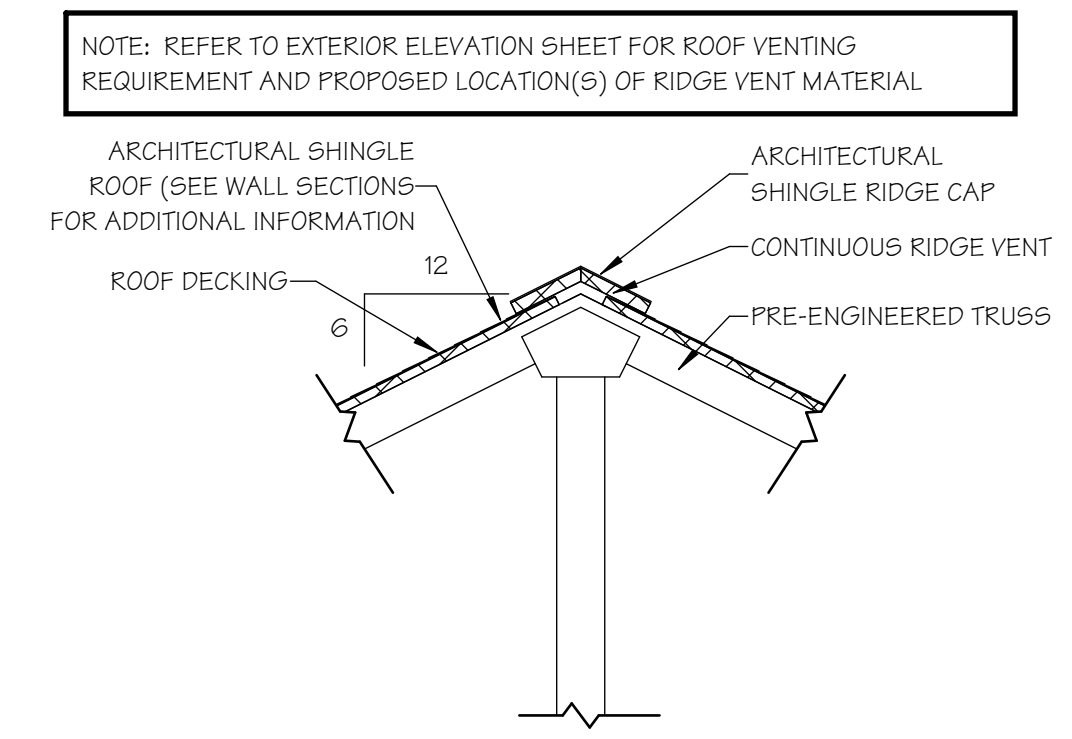
ATTIC ACCESS DETAIL
SCALE: 1" = 1'-0"



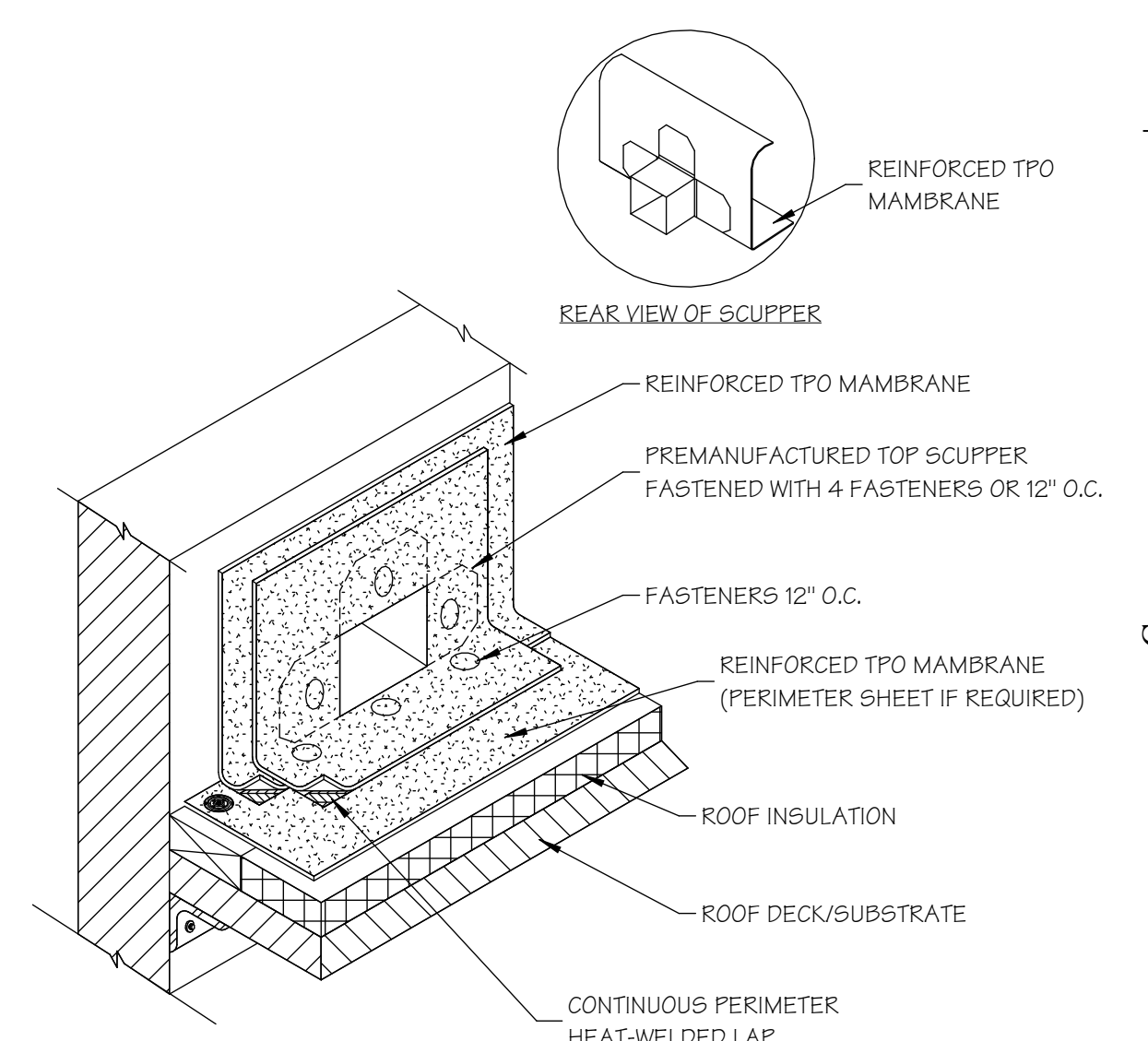
ATTIC WALKWAY DETAIL
SCALE: 1/2" = 1'-0"



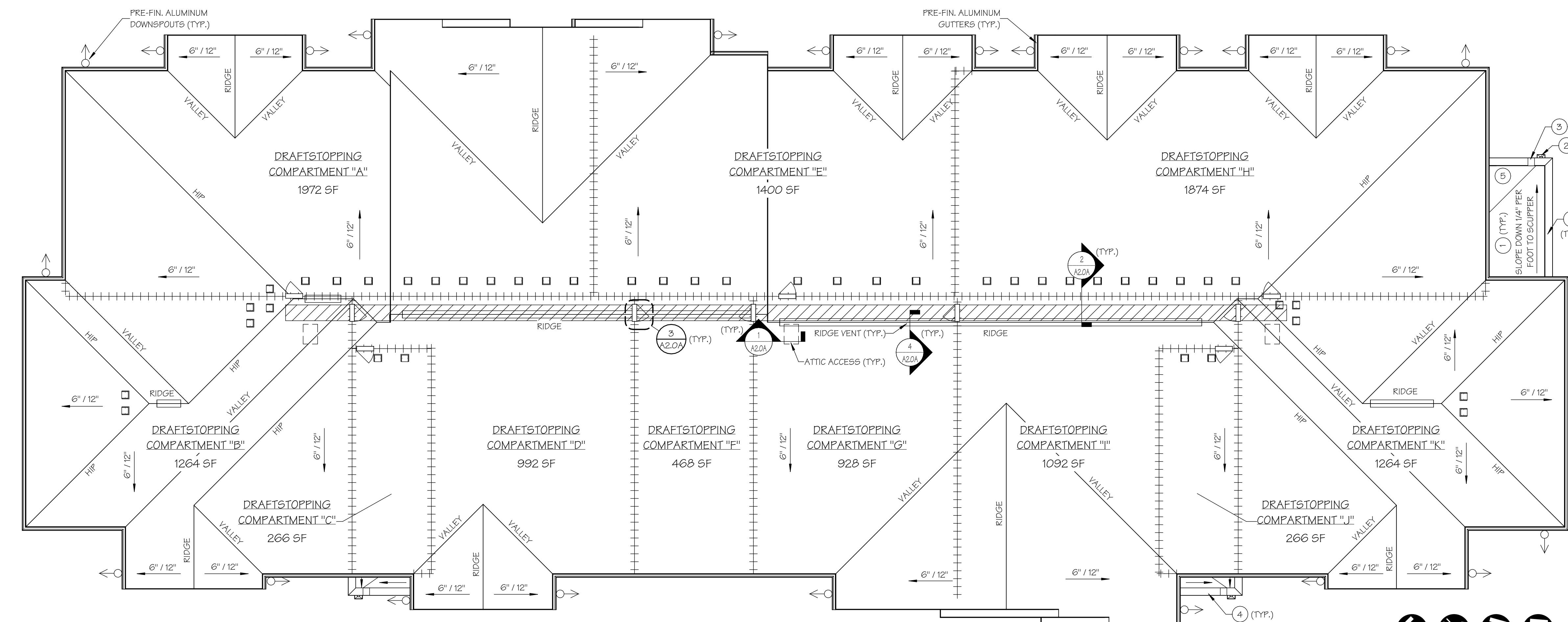
ATTIC DRAFTSTOP DOOR
SCALE: 1/2" = 1'-0"



ROOF VENT DETAIL
SCALE: 3/4" = 1'-0"



THRU-WALL SCUPPER DETAIL
SCALE: 3" = 1'-0"



ROOF PLAN
SCALE: 1/8" = 1'-0" (BUILDINGS 1, 4, 6, 8 & 11 - SEE CIVIL)



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As Noted on Plans Review
Professional Services Department
Missouri State Building Commission
2022-2025

M. RANDALL PORTER
2012006244
ARCHITECT

15 APR 2025
M. RANDALL PORTER
ARCHITECT LICENSE#
A-2012006244

ALURA APARTMENTS - VILLAGE AT DISCOVERY PARK
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

Wallace
ARCHITECTS L.L.C.
Columbia, MO
P 573-258-7200

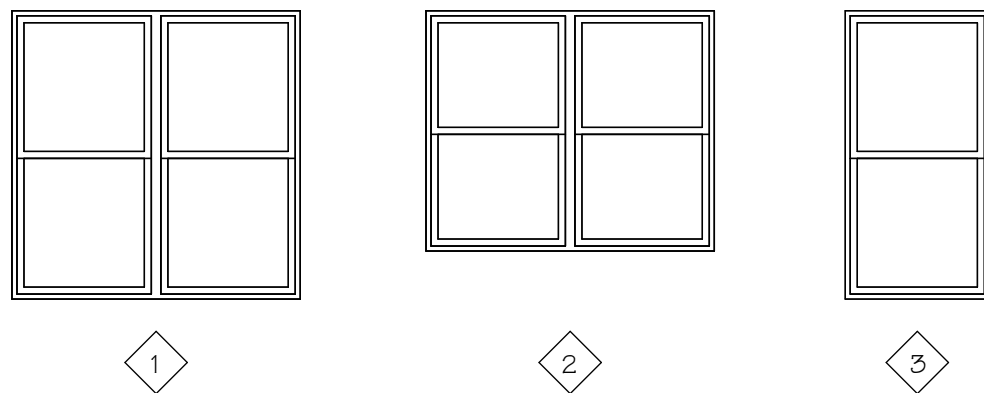
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FRONT ELEVATION

1
A3.0A
SCALE: 1/8" = 1'-0"

WINDOW SCHEDULE				
MARK	UNIT SIZE	GLAZING	HARDWARE	COMMENTS
1	PR. 3'-0" x 6'-0"	INSUL. LOW "E"	STANDARD	SINGLE HUNG W/SCREENS, U-FACTOR = 0.32 MAX., SHGC = 0.40 MAX.
2	PR. 3'-0" x 5'-0"	INSUL. LOW "E"	STANDARD	SINGLE HUNG W/SCREENS, U-FACTOR = 0.32 MAX., SHGC = 0.40 MAX.
3	3'-0" x 6'-0"	INSUL. LOW "E"	STANDARD	SINGLE HUNG W/SCREENS, U-FACTOR = 0.32 MAX., SHGC = 0.40 MAX.



WINDOW NOTES

- GLAZING WITHIN 24" OF DOORS SHALL BE TEMPERED GLASS.
- MAX. SILL HGT. @ 36" A.F.F.
- INSTALL WINDOW RESTRICTORS FOR 2ND, 3RD & 4TH FLOOR WINDOWS.
- REFER TO WALL SECTIONS FOR BRICK OR SIDING DETAILS AROUND WINDOW OPENINGS.
- INSTALL BLINDS AT WINDOWS (FULL WIDTH X FULL HEIGHT)

BUILDING NOTES

- BRICK CONTROL JOINTS EVERY 20'-0" MAX.
- CONTRACTOR SHALL FOLLOW MANUFACTURER'S INSTALLATION INSTRUCTIONS.



LEFT SIDE ELEVATION

2
A3.0A
SCALE: 1/8" = 1'-0"



RIGHT SIDE ELEVATION

3
A3.0A
SCALE: 1/8" = 1'-0"

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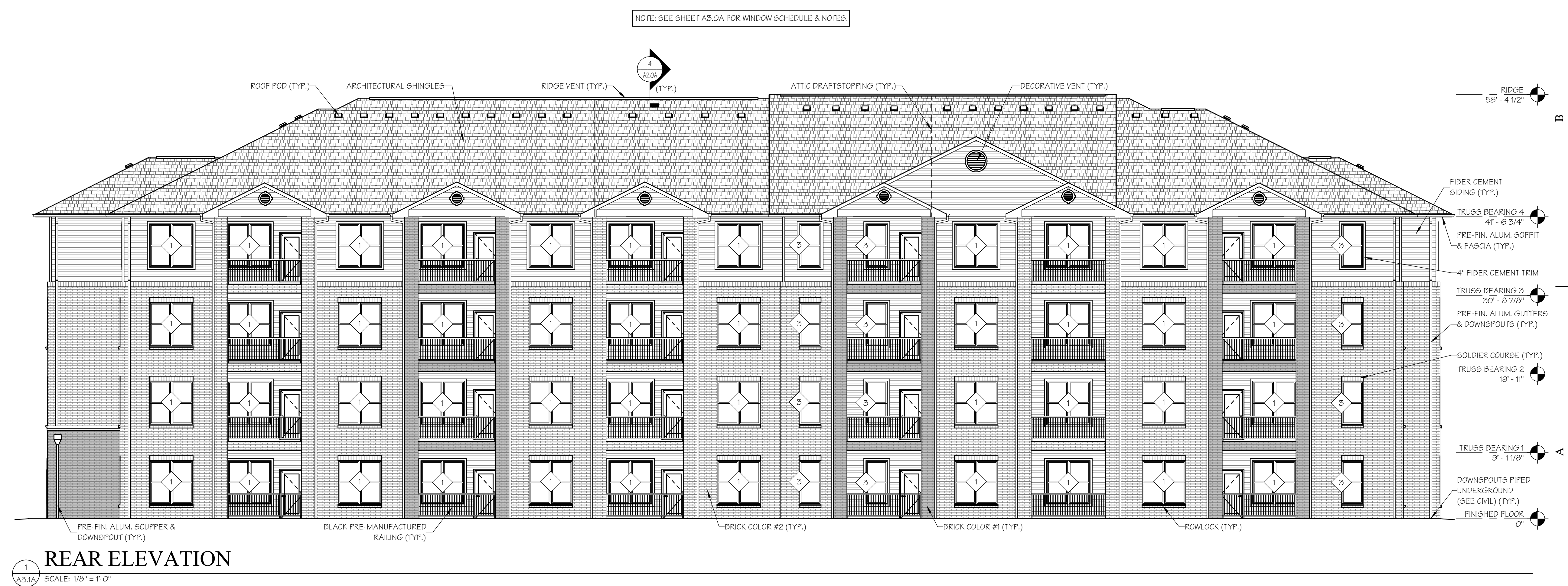
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1
A3.1A
REAR ELEVATION
SCALE: 1/8" = 1'-0"

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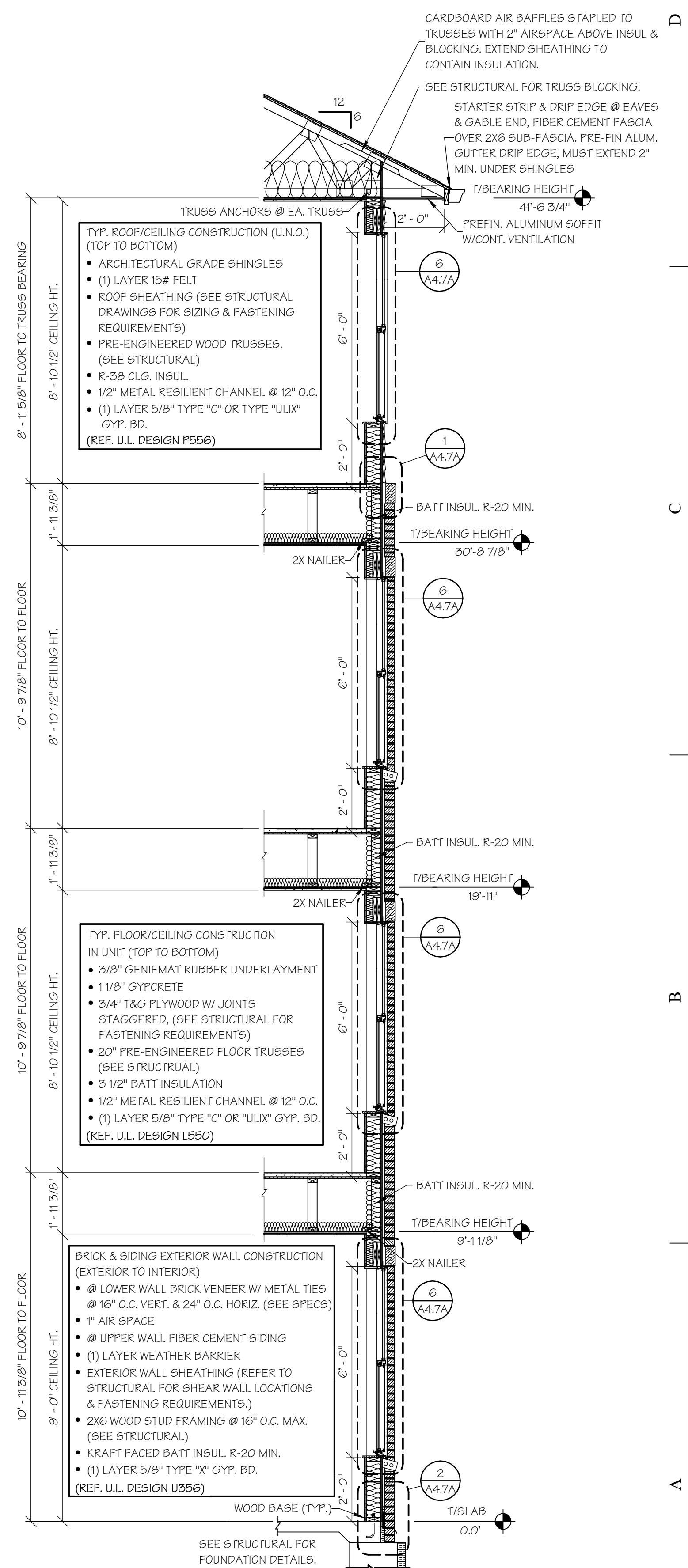
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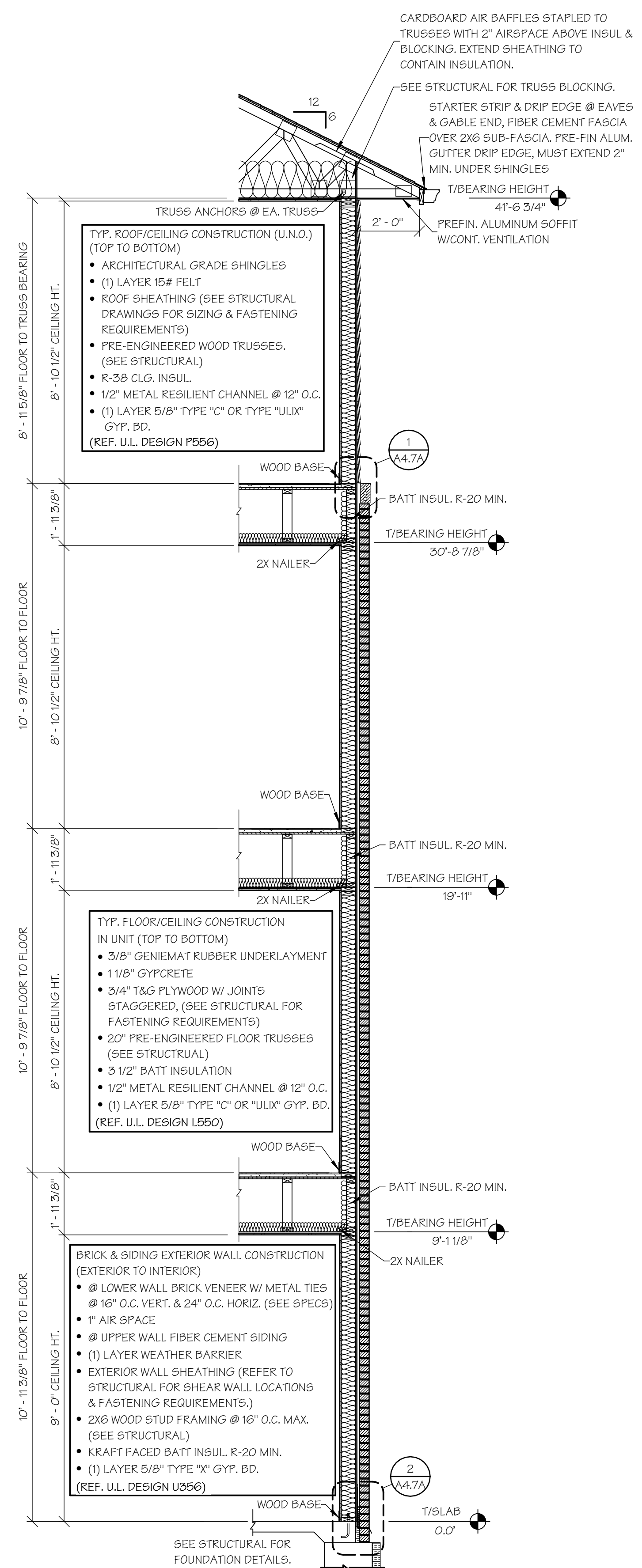
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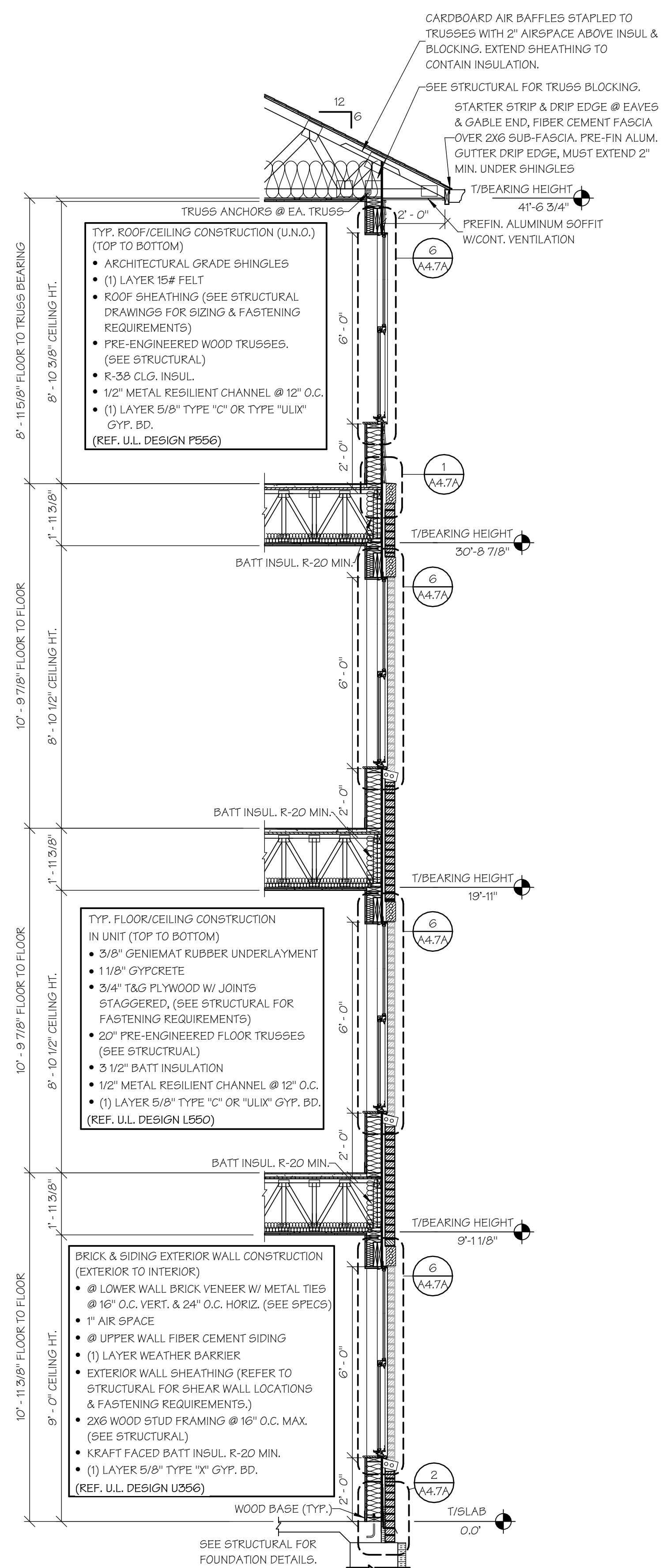
WALL SECTION WITH BRICK AND SIDING AND SIDING AND WINDOWS

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



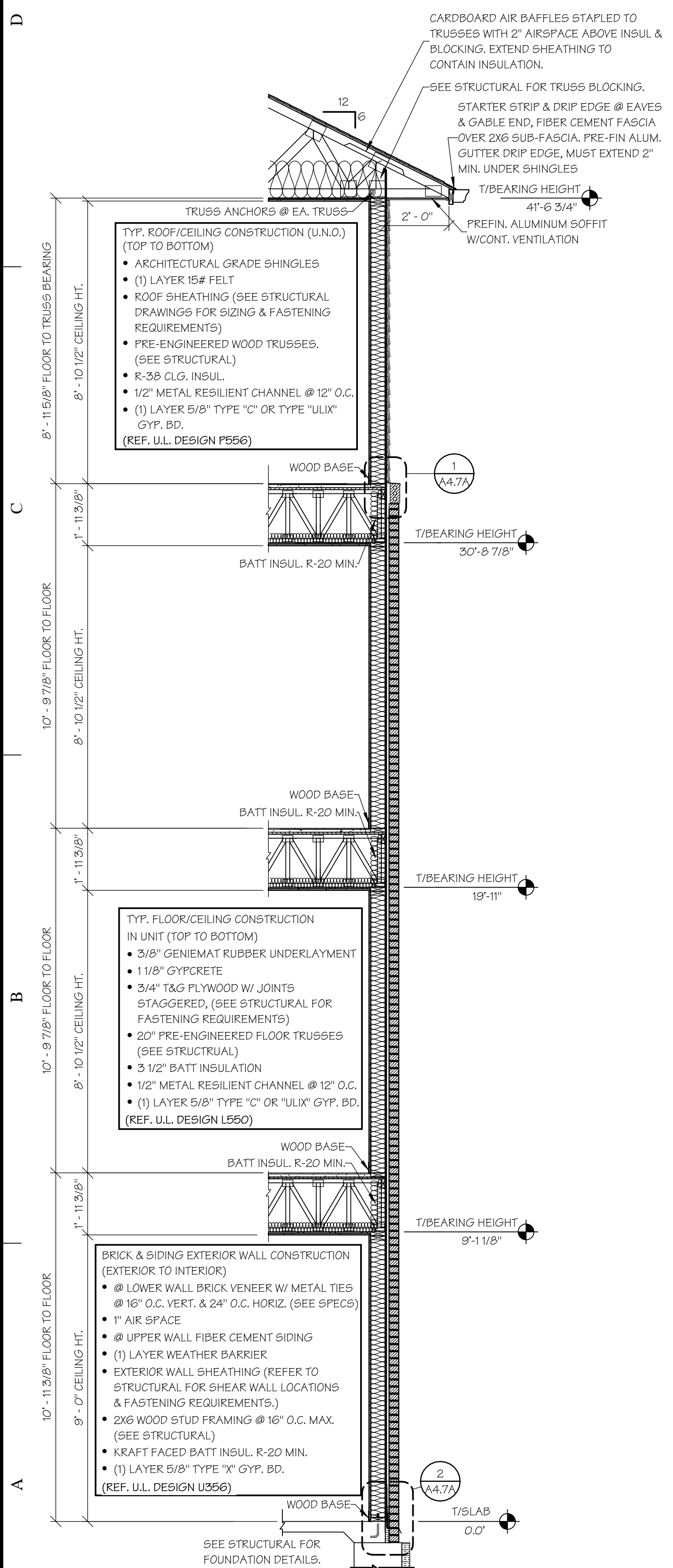
WALL SECTION WITH BRICK AND SIDING

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



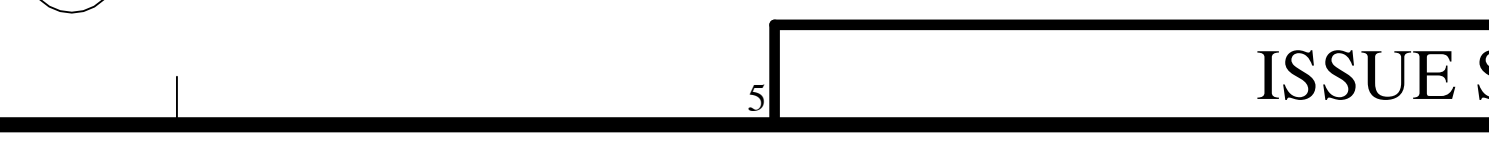
WALL SECTION WITH BRICK AND SIDING AND WINDOWS

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



WALL SECTION WITH BRICK AND SIDING

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





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LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

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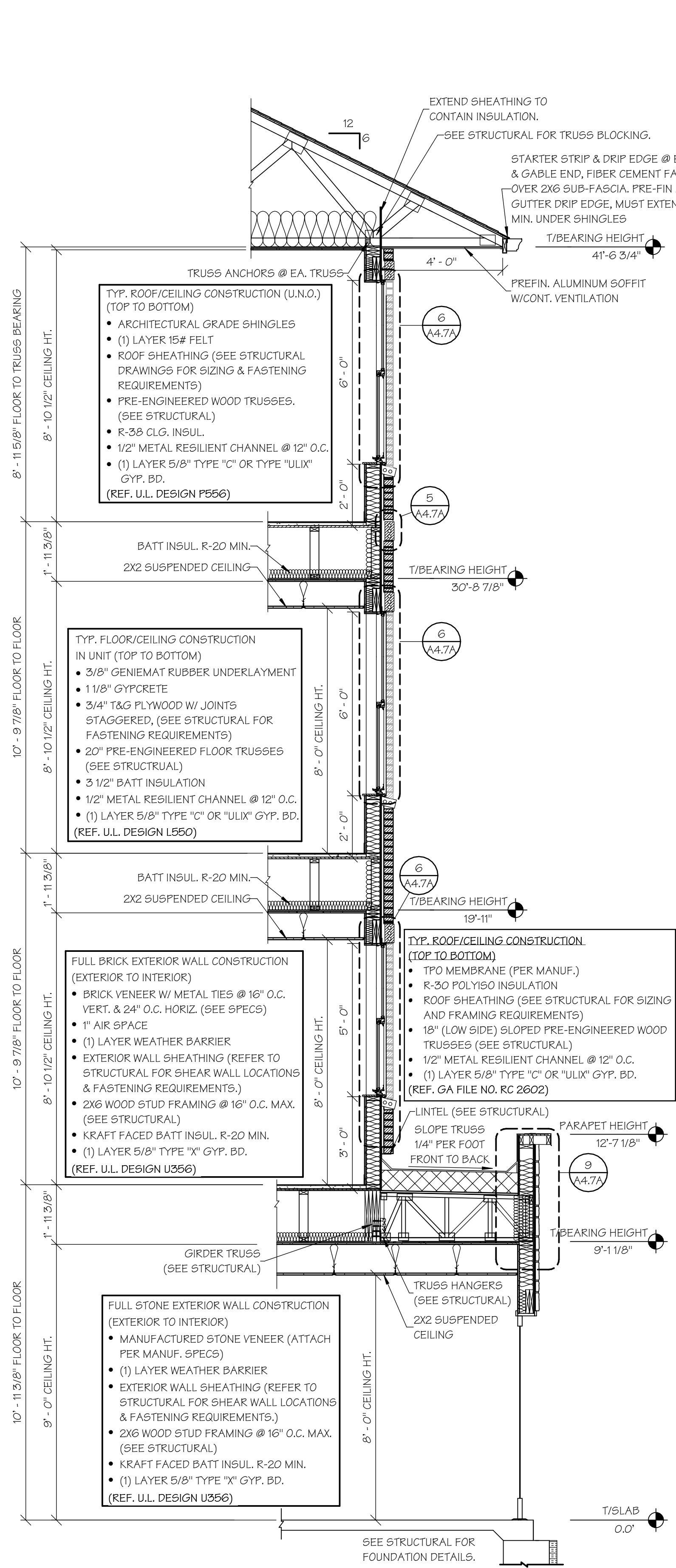
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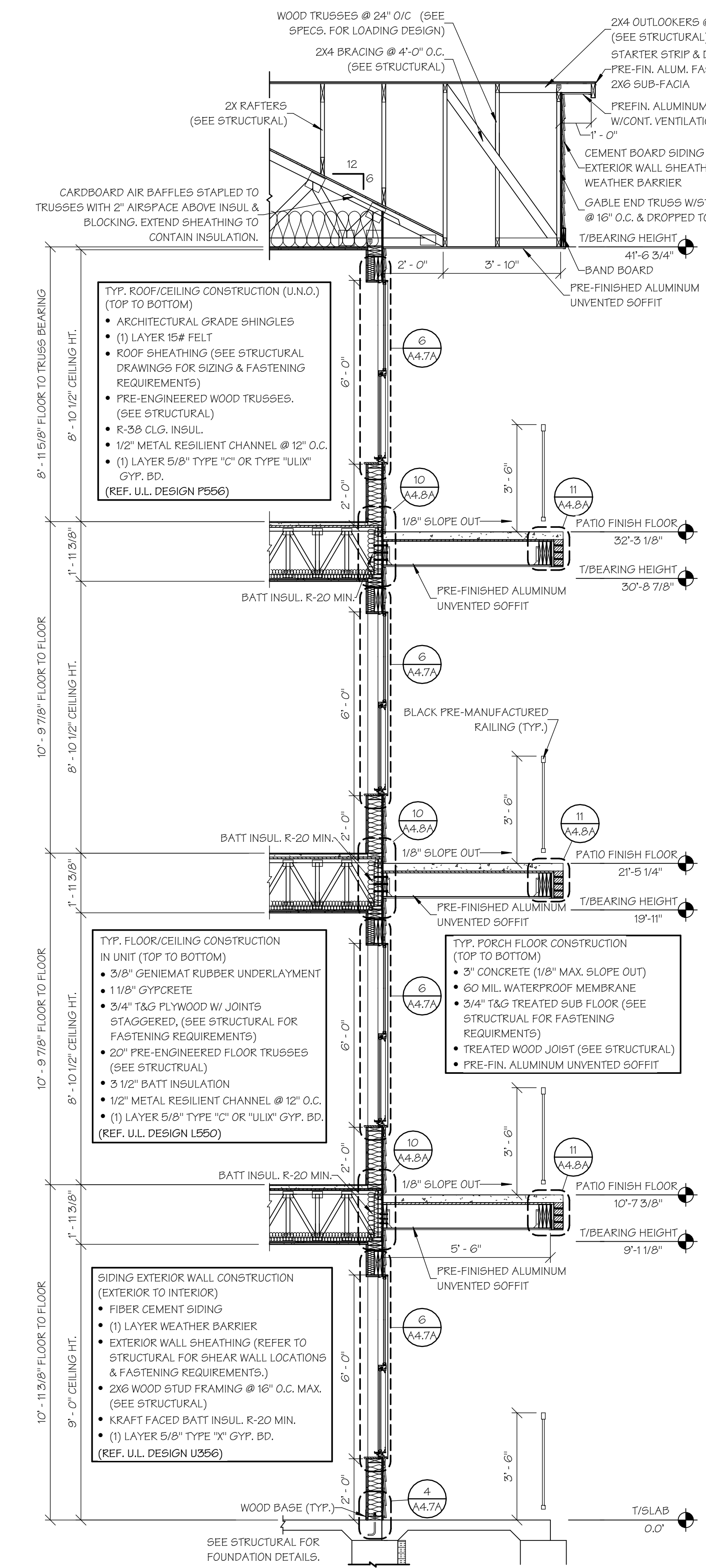
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1 WALL SECTION @ FRONT ENTRY
SCALE: 3/8" = 1'-0"



2 WALL SECTION @ PORCH
SCALE: 3/8" = 1'-0"

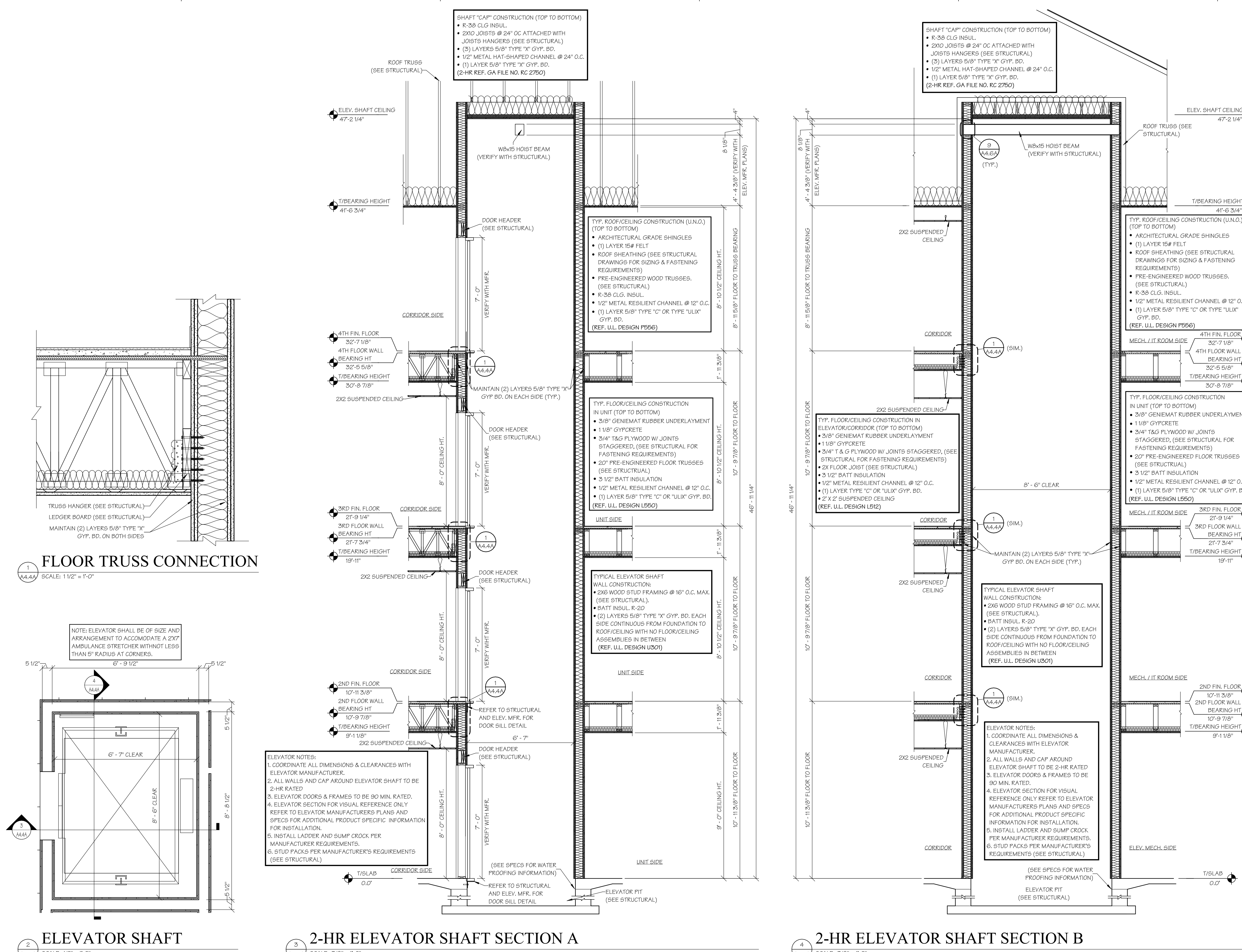


3 WALL SECTION WITH BRICK @ SPRINKLER ROOM
SCALE: 3/8" = 1'-0"



4 FURRED METER WALL
SCALE: 1/2" = 1'-0"

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LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

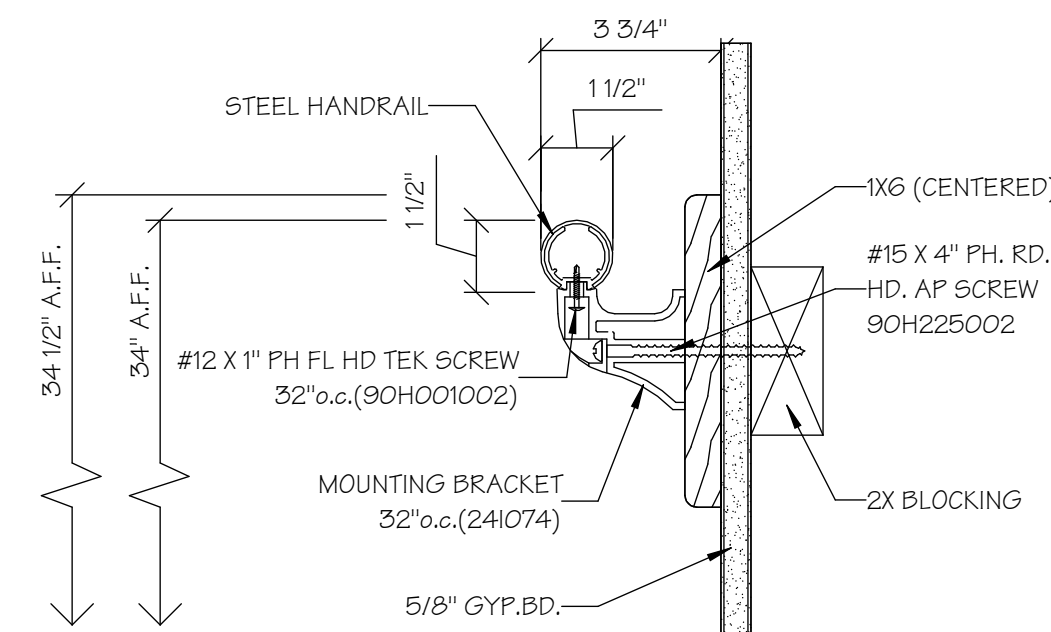
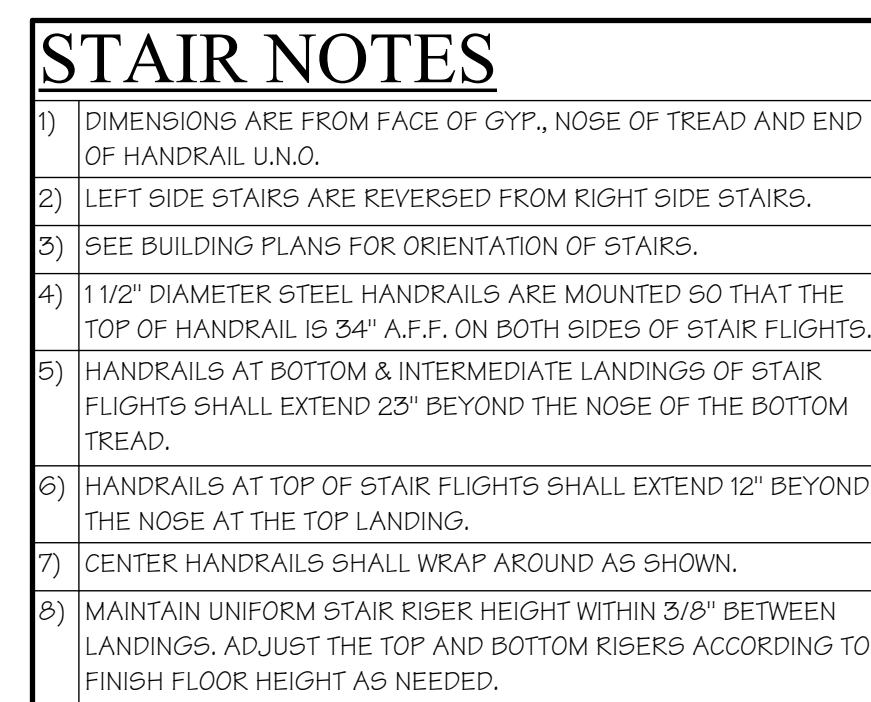
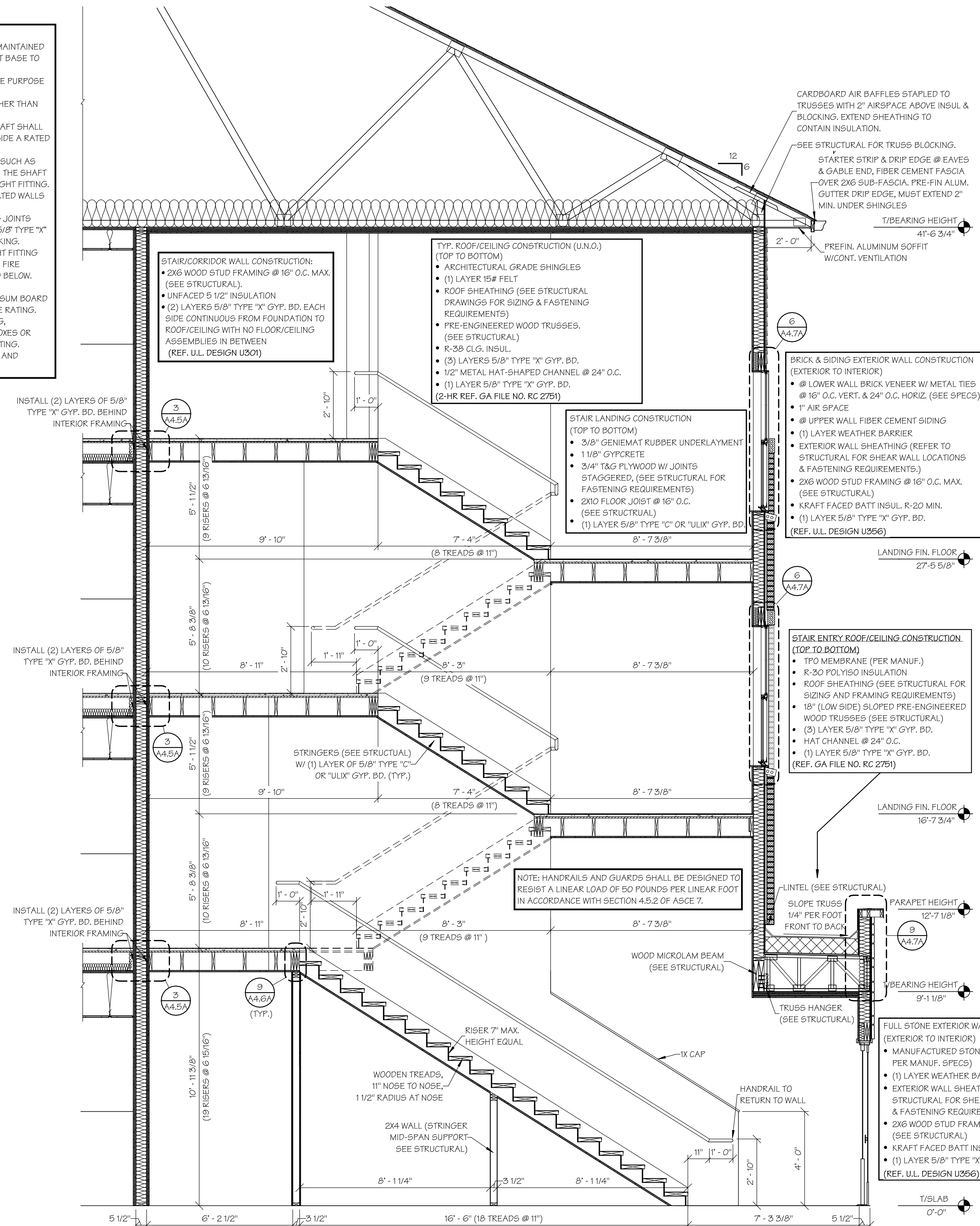
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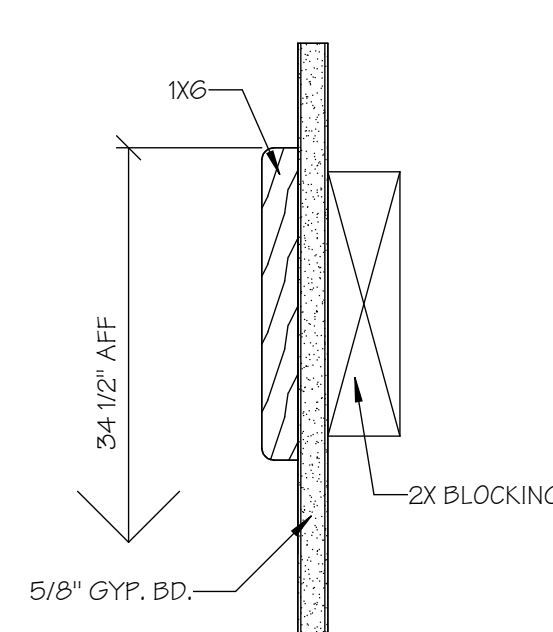
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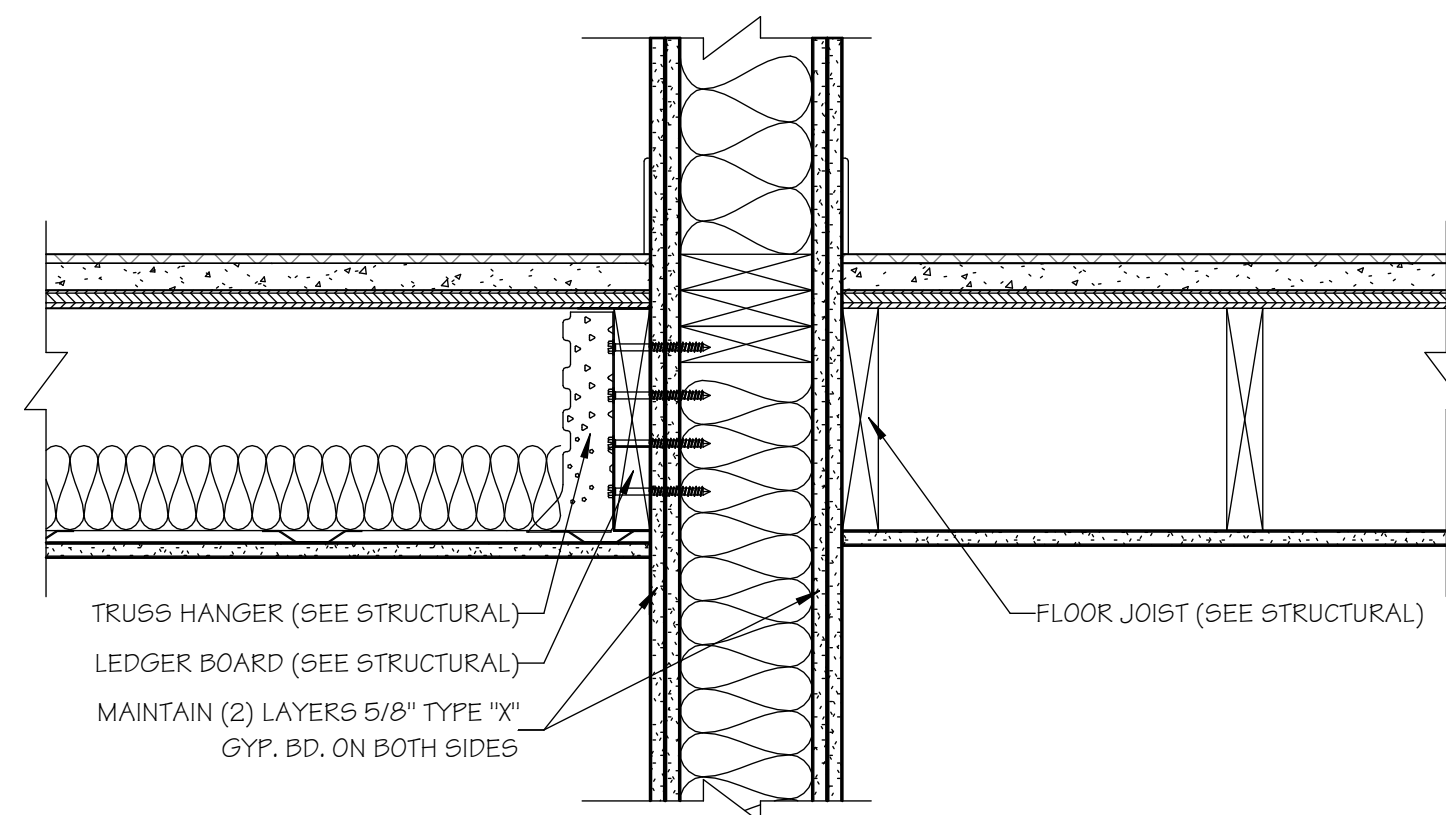
HANDRAIL DETAIL

SCALE: 3" = 1'-0"



WOOD CHAIR RAIL

SCALE: 3" = 1'-0"

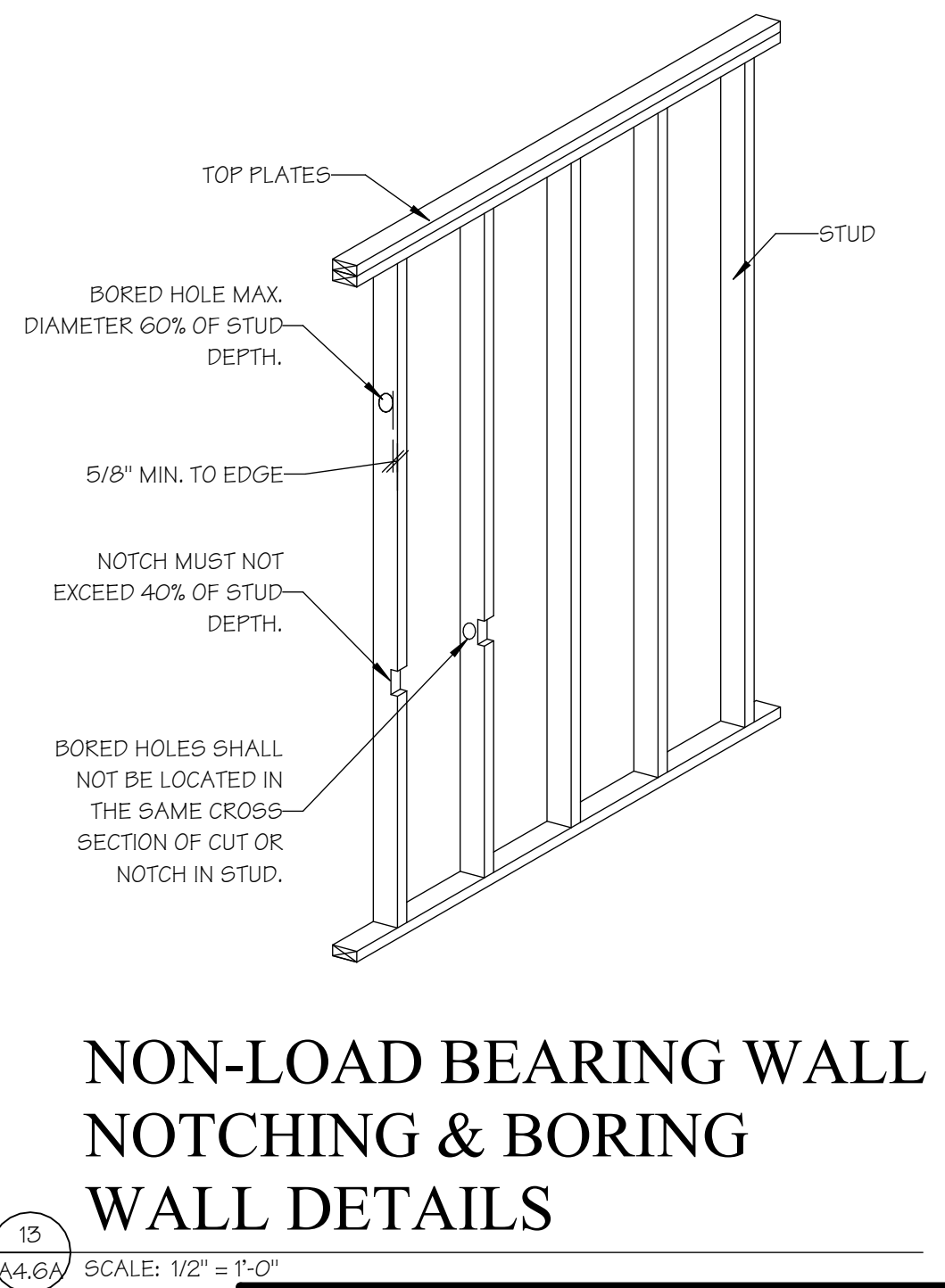
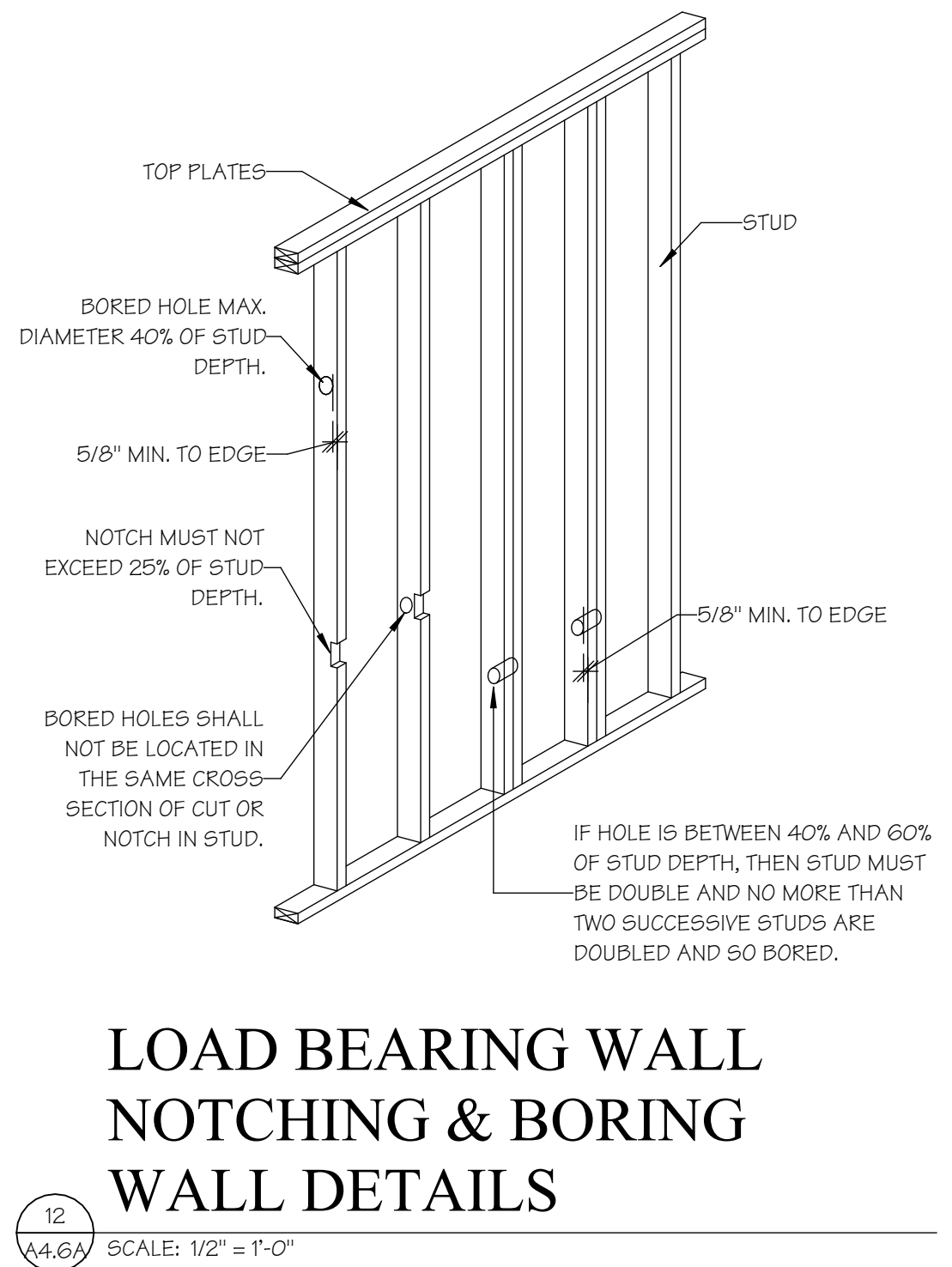
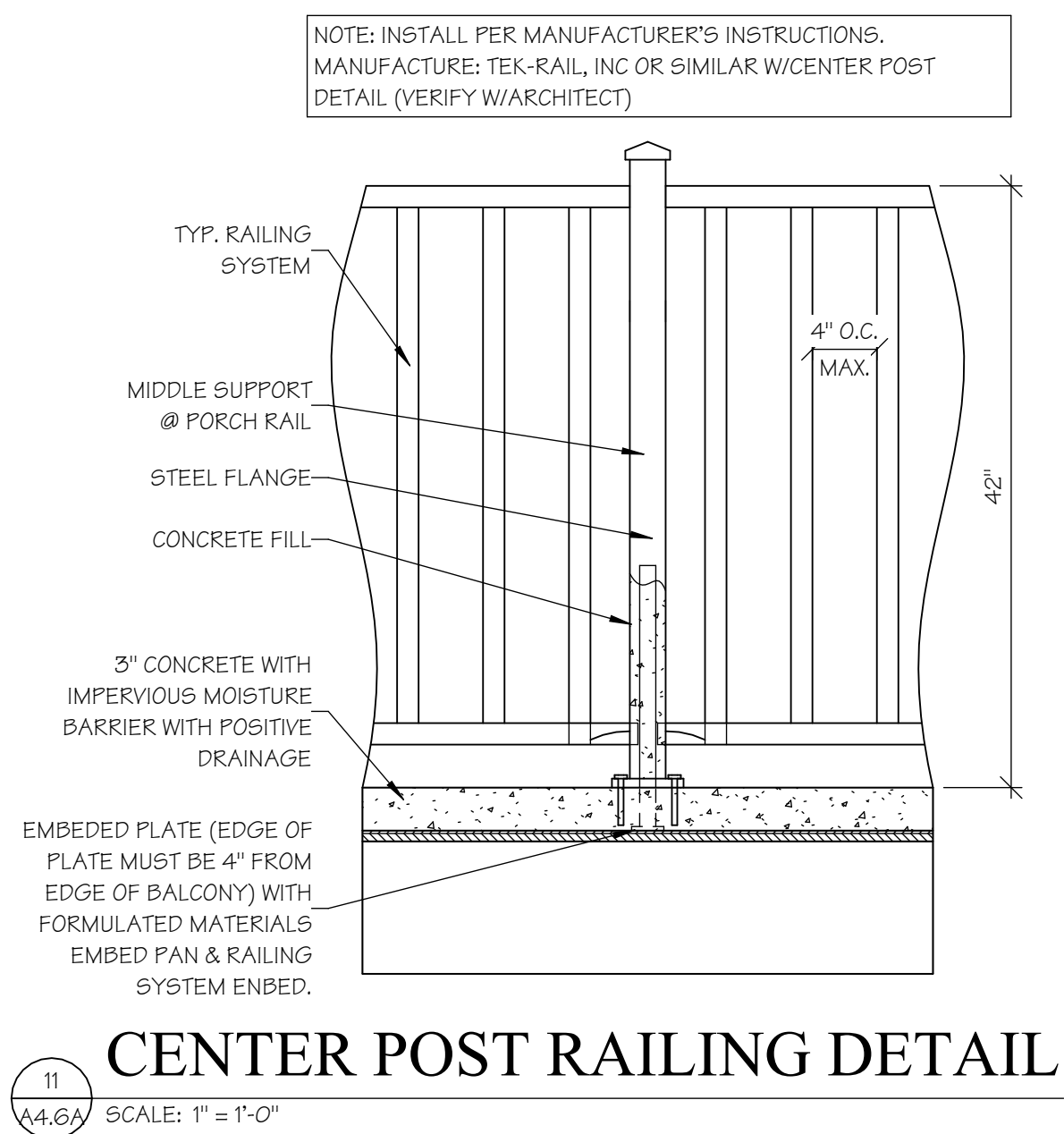
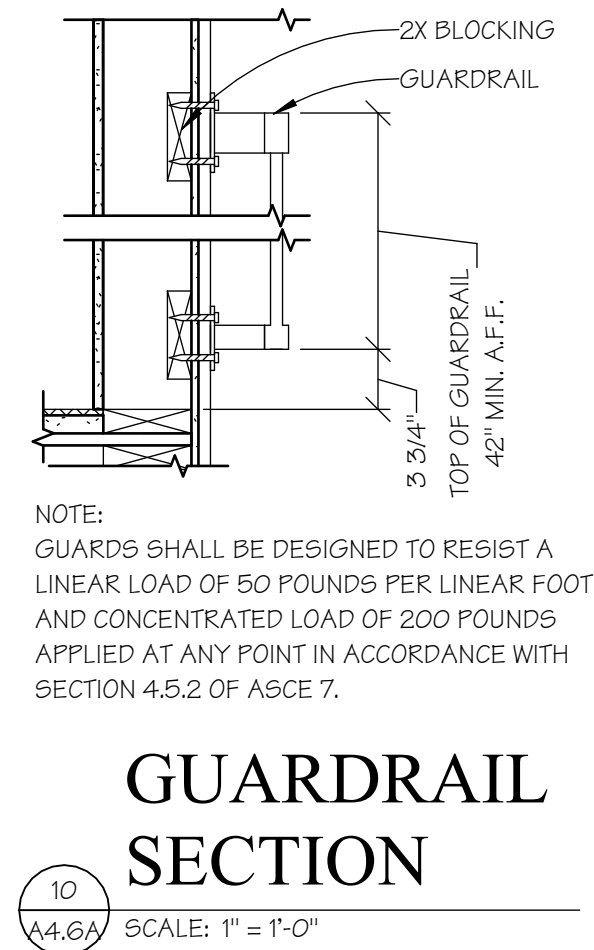
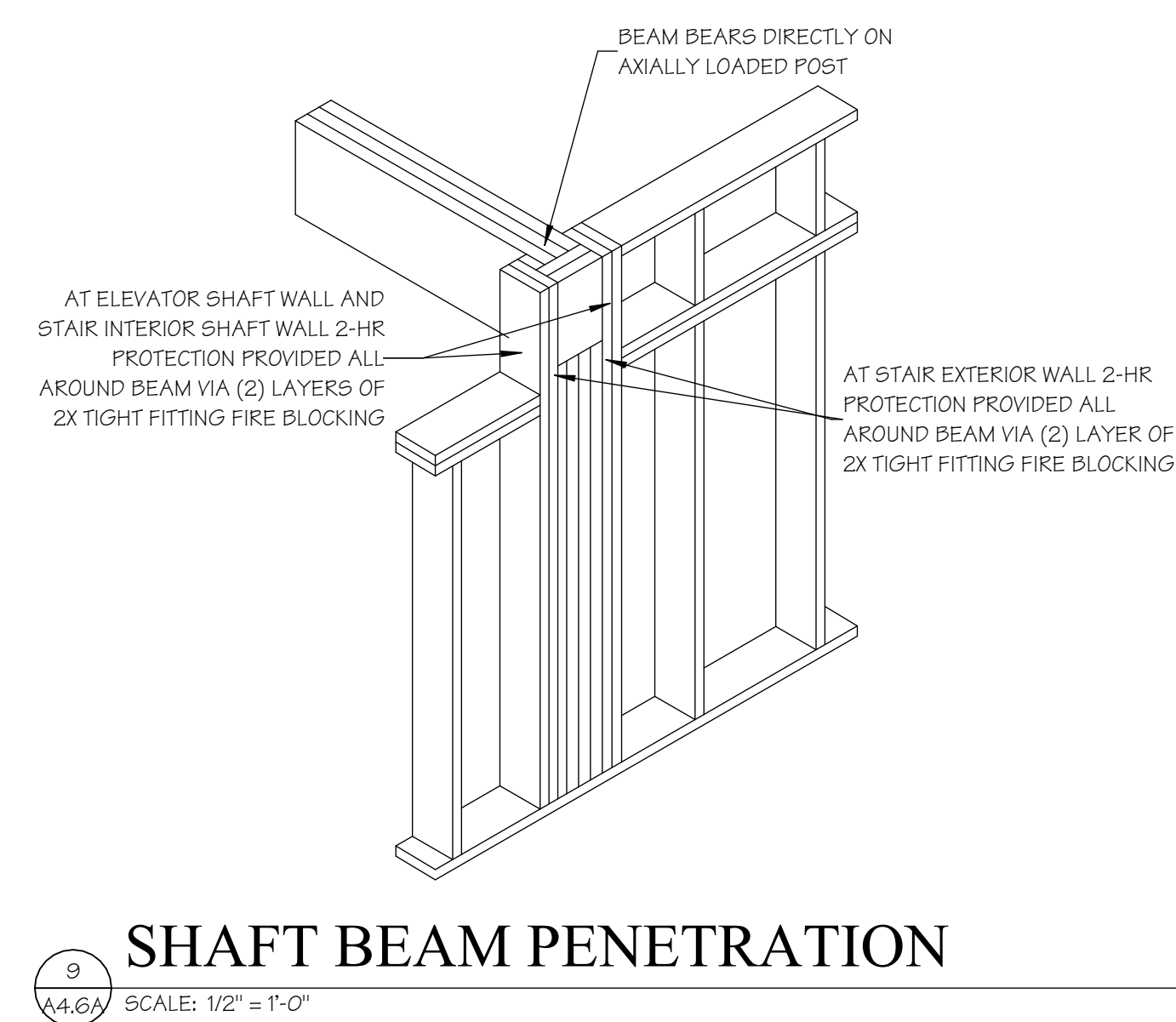
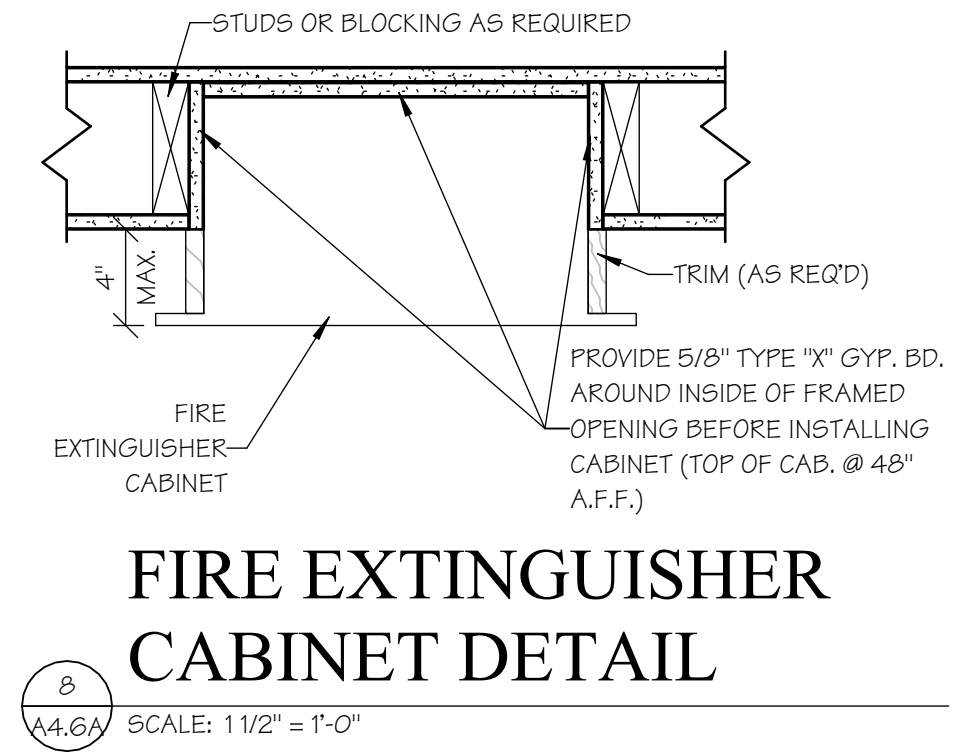
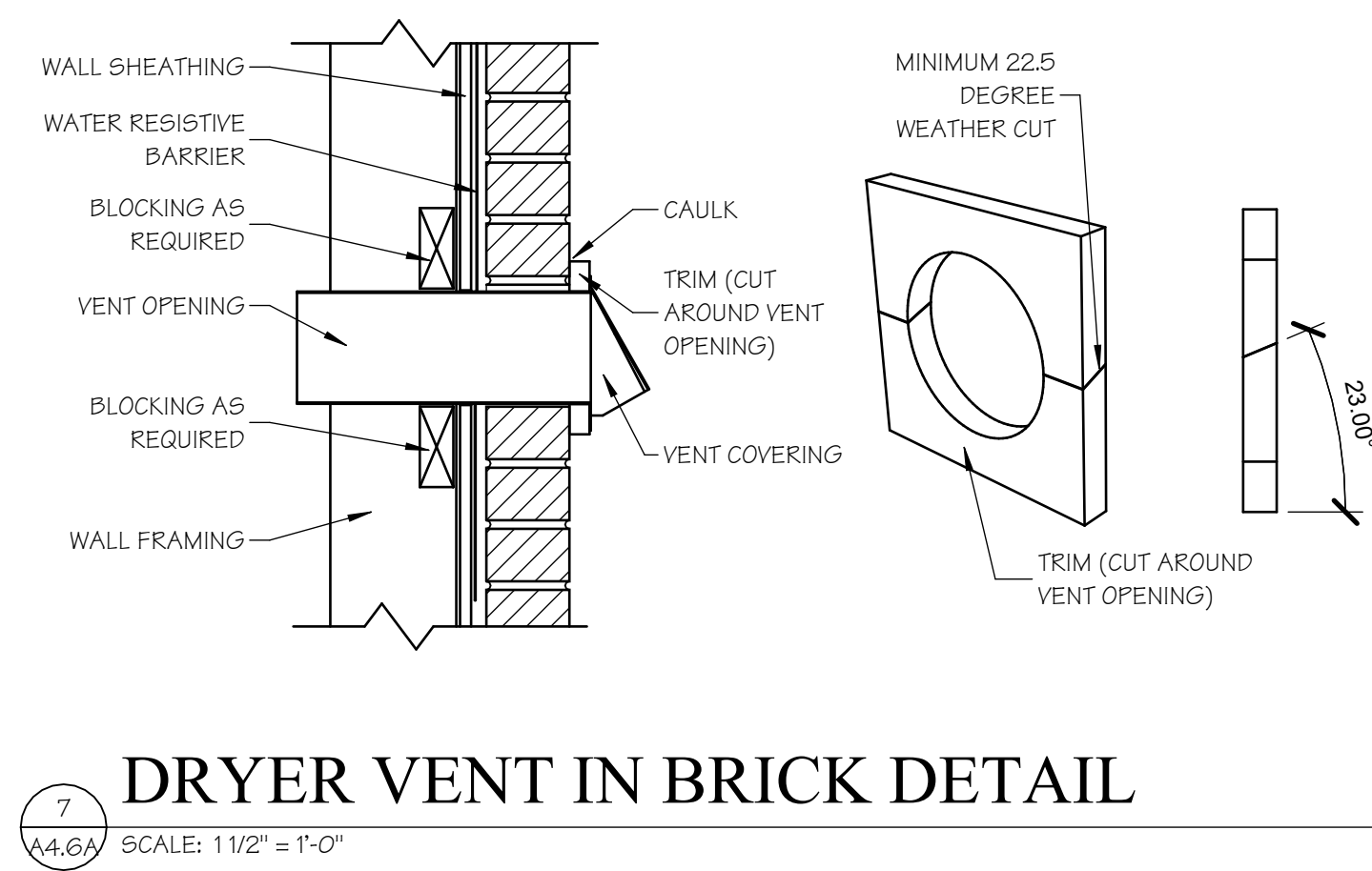
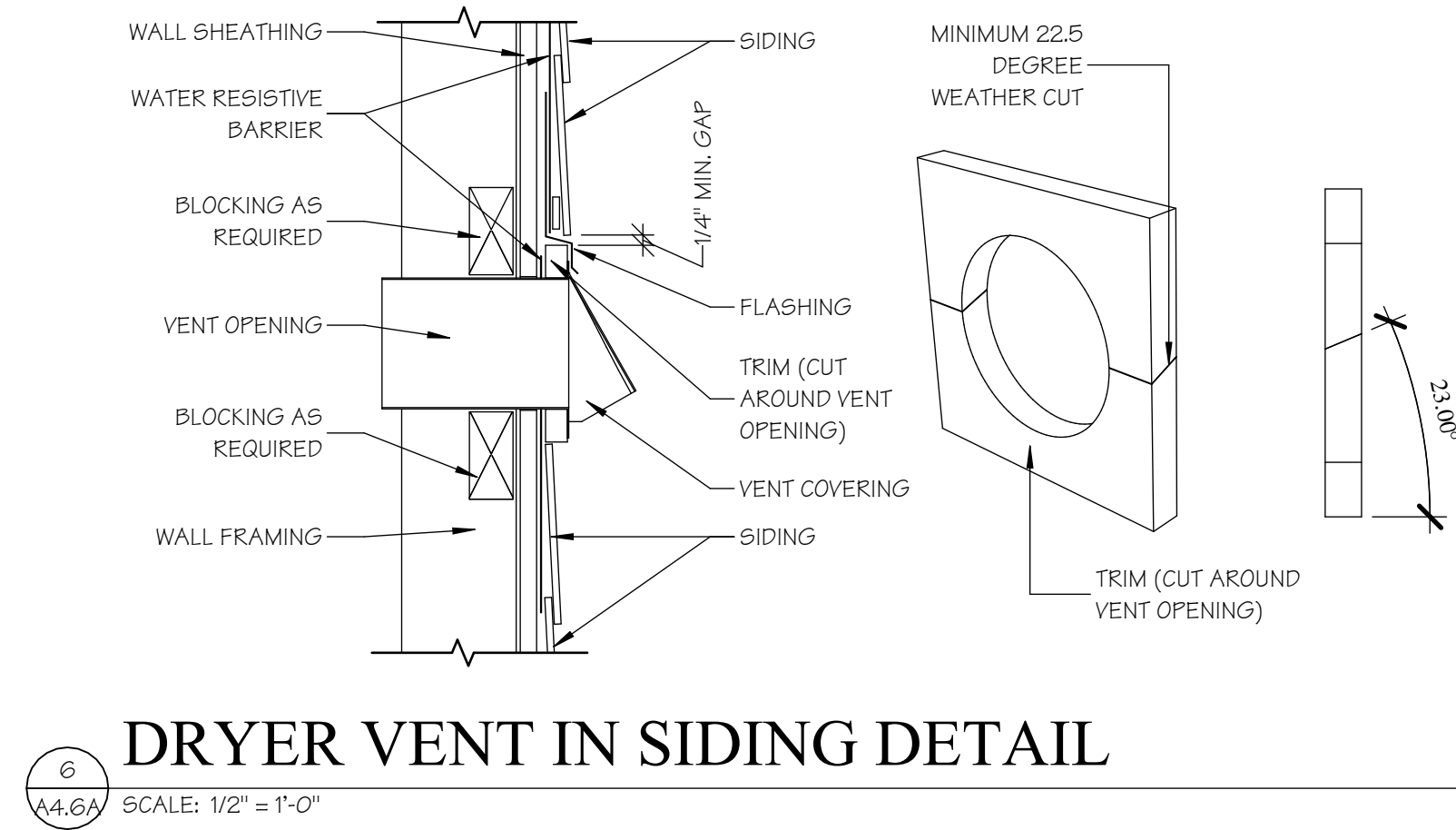
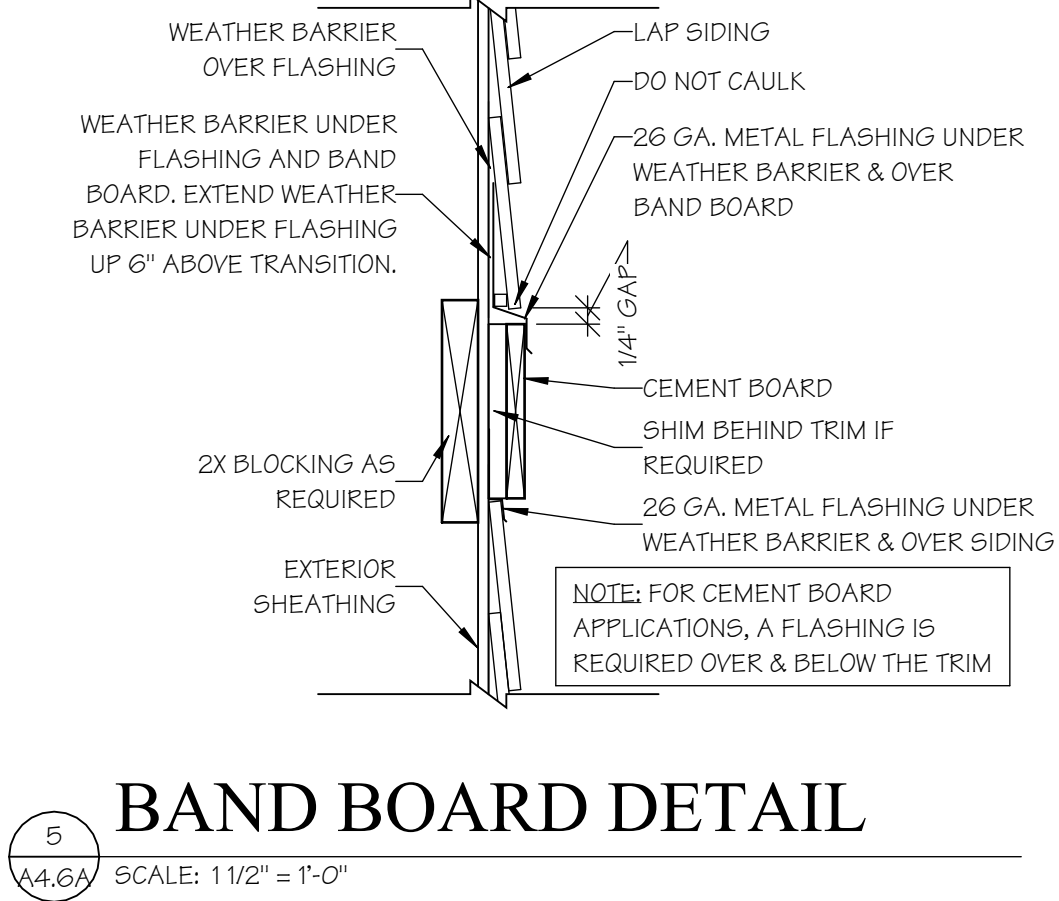
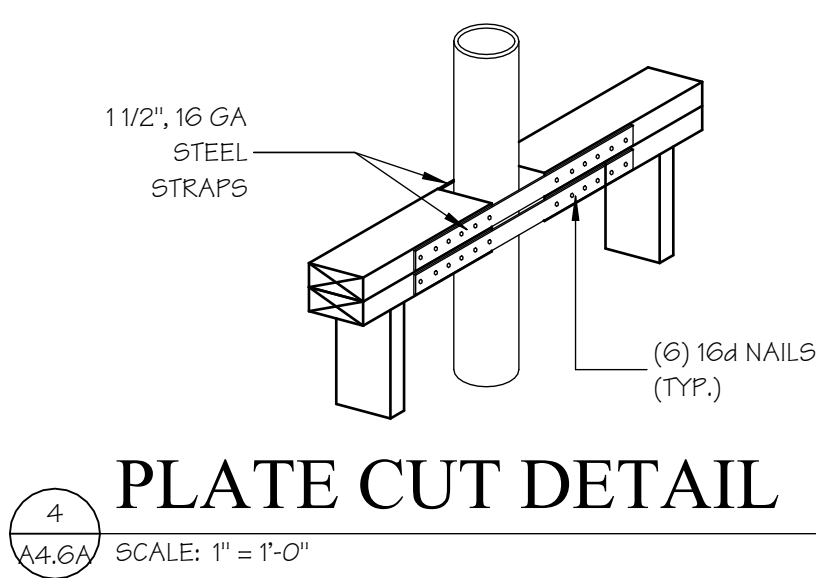
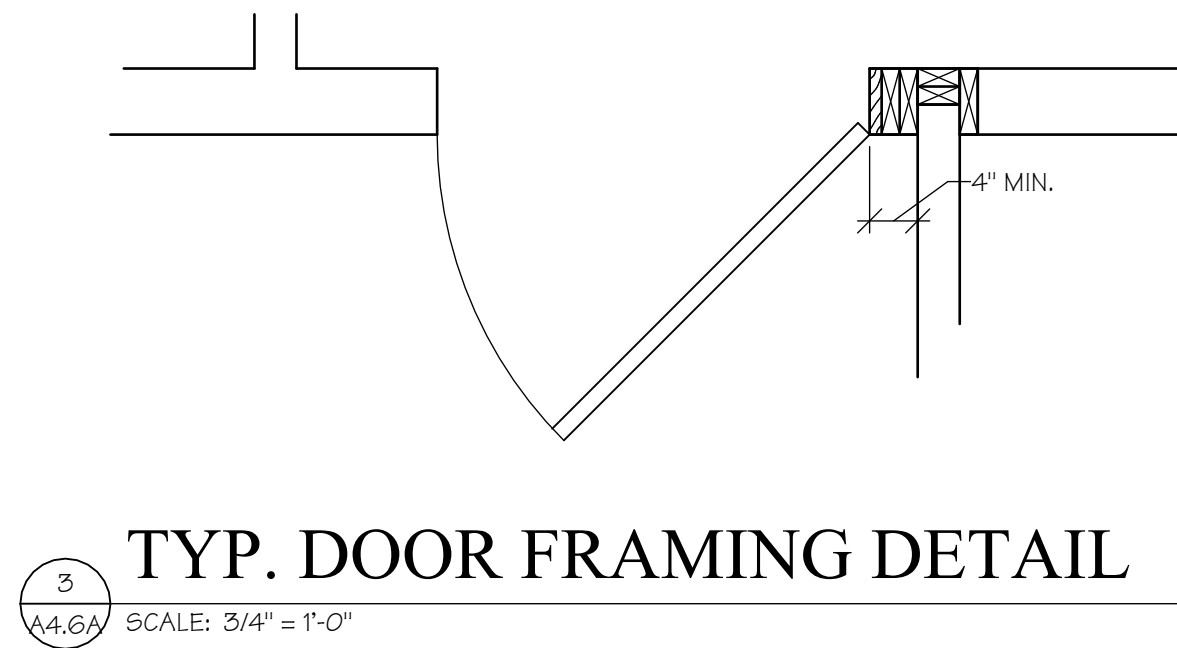
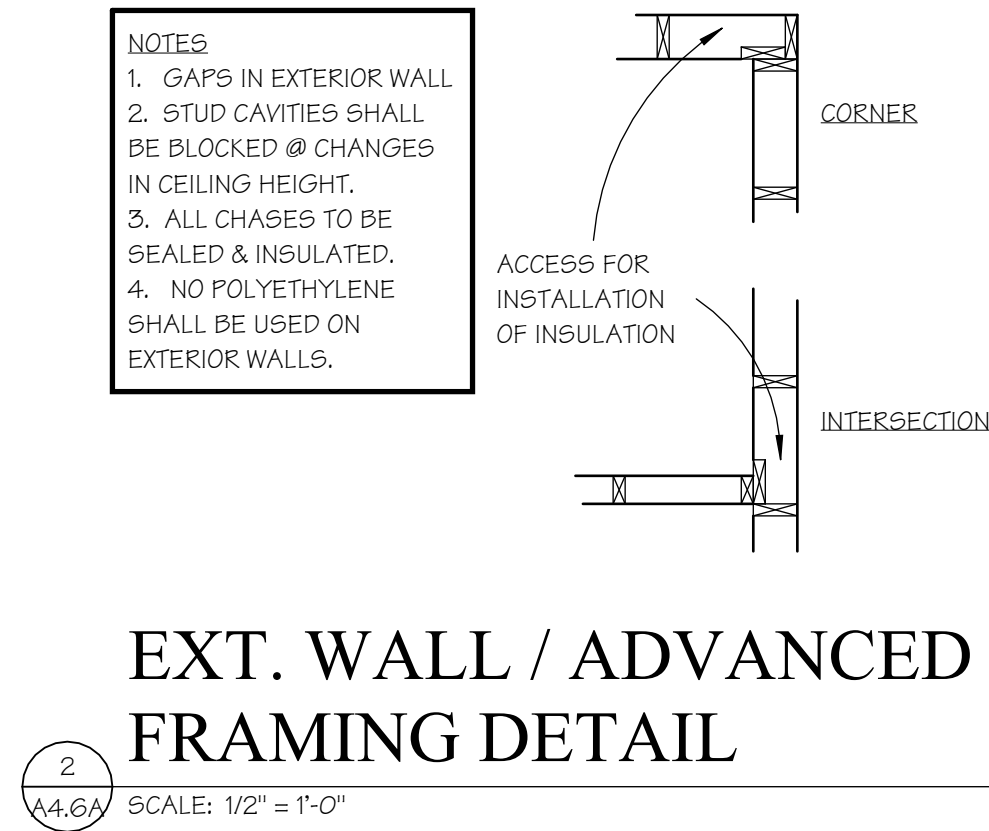
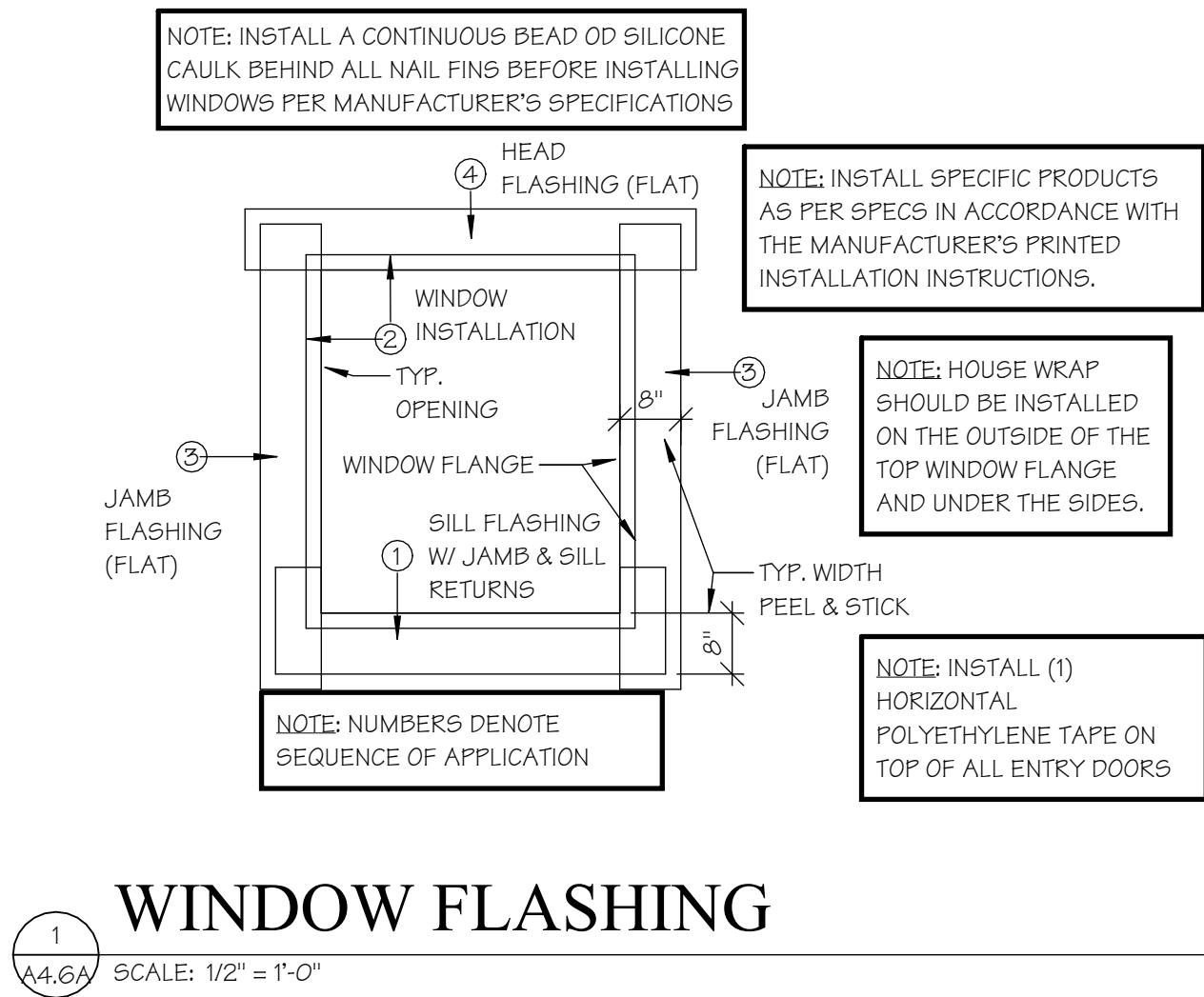


FLOOR JOIST CONNECTION

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

2-HR STAIR SHAFT SECTION

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



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As Noted on Plans Review
Department of Planning, Missouri
2022-2025

M. RANDALL PORTER
2012006244
ARCHITECT

15 APR 2025
M. RANDALL PORTER
ARCHITECT LICENSE#
A-2012006244

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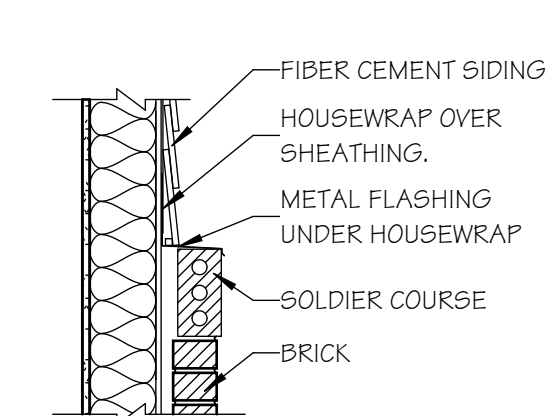
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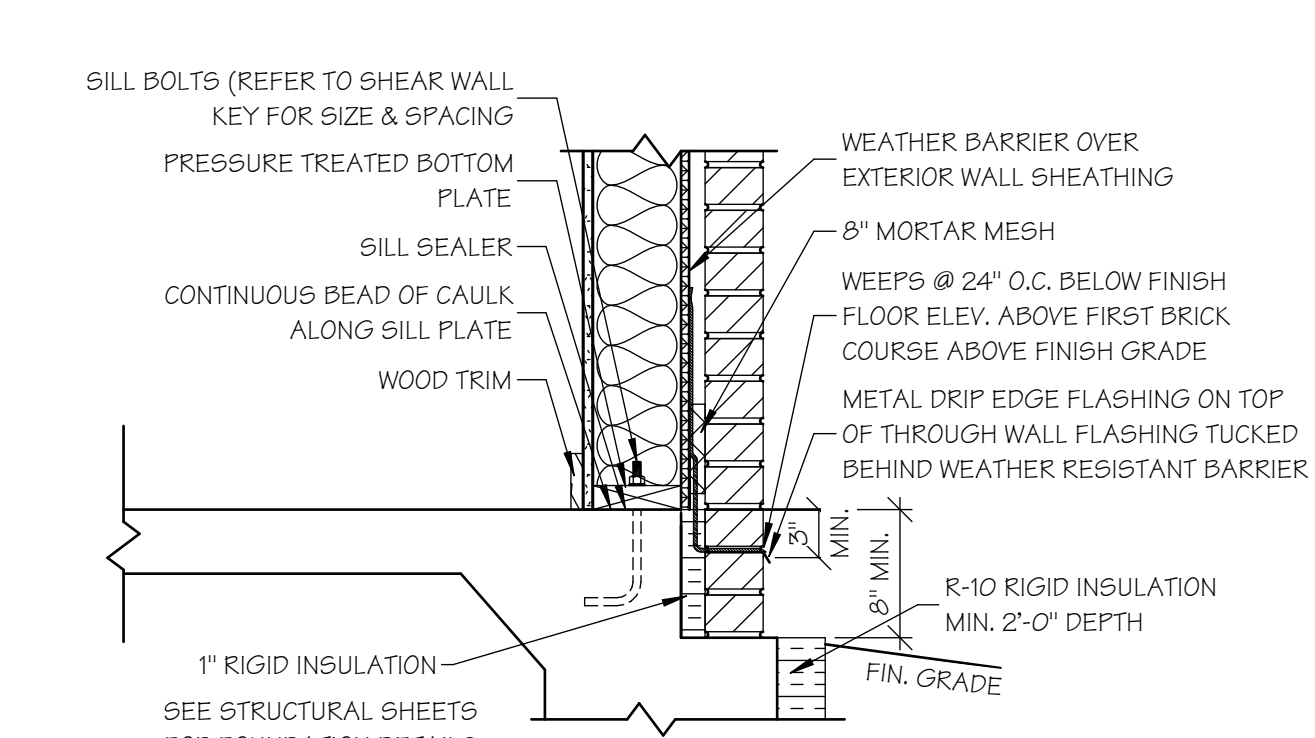
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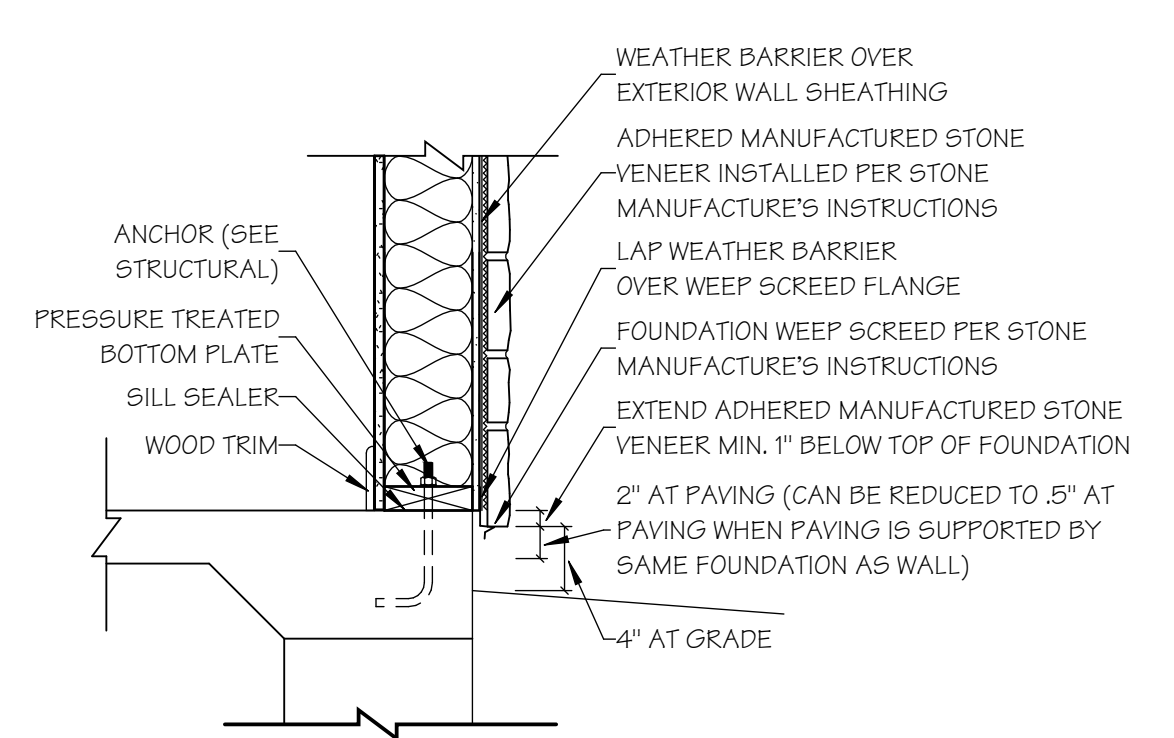
1 WALL FLASHING DETAIL

A4.7A SCALE: 3/4" = 1'-0"



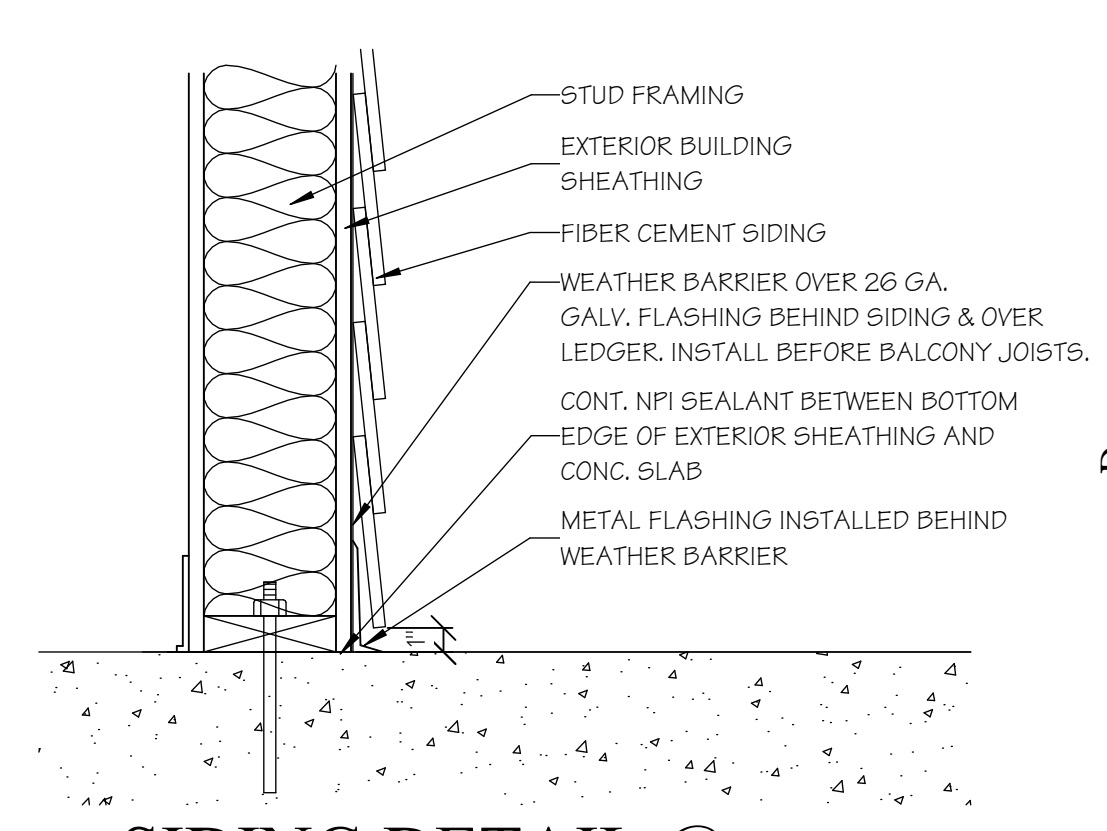
2 FOUNDATION FLASHING DETAIL

A4.7A SCALE: 1" = 1'-0"



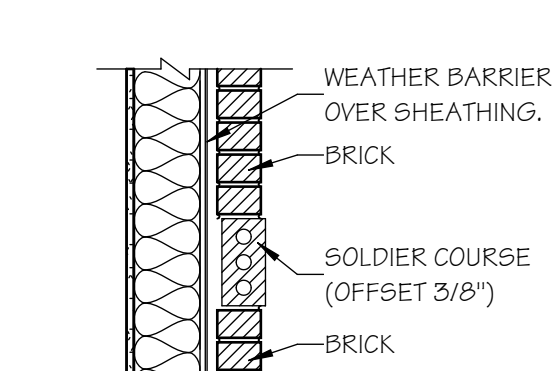
3 STONE WEEP SCREED DETAIL

A4.7A SCALE: 1" = 1'-0"



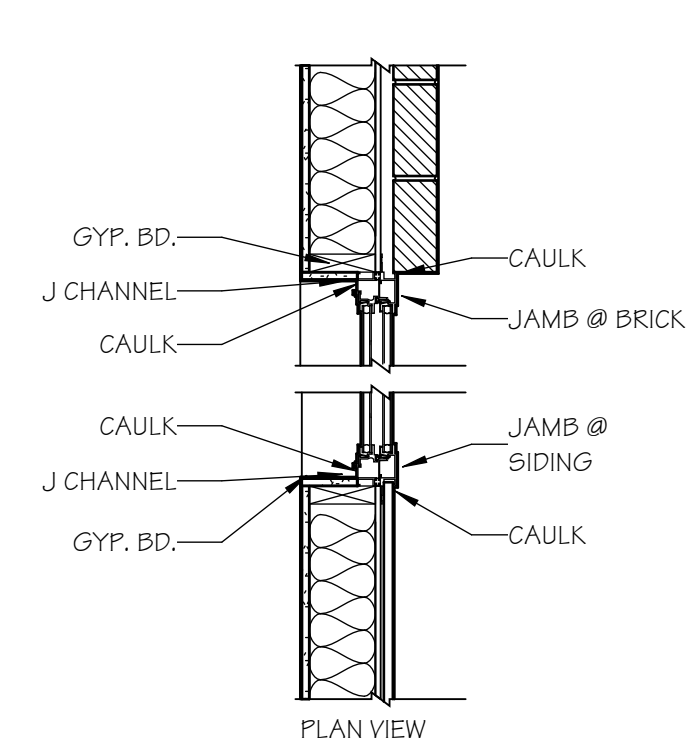
4 SIDING DETAIL @ GROUND LEVEL DECK

A4.7A SCALE: 1 1/2" = 1'-0"

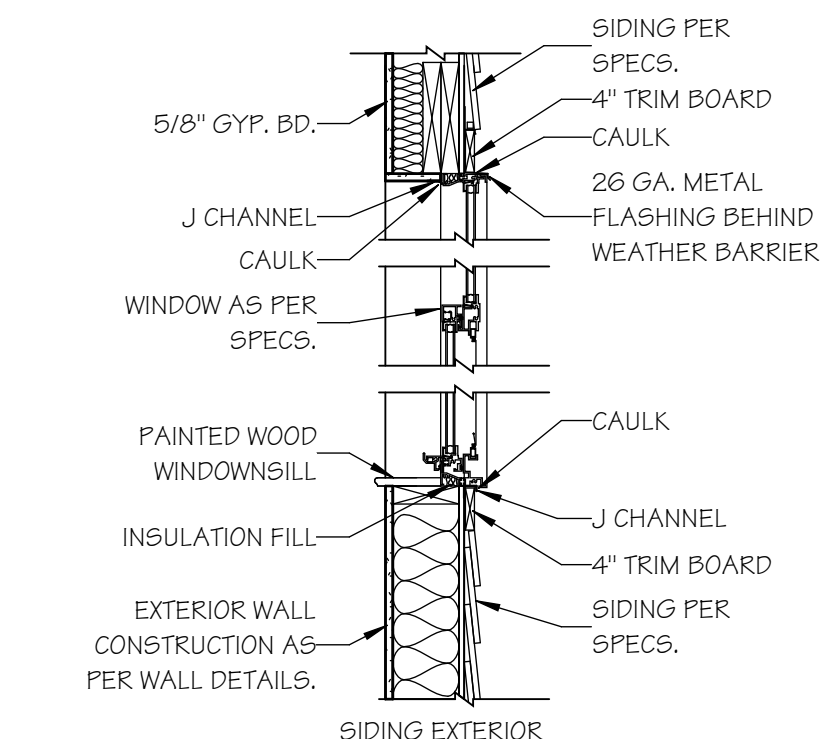


5 SOLDIER COURSE DETAIL

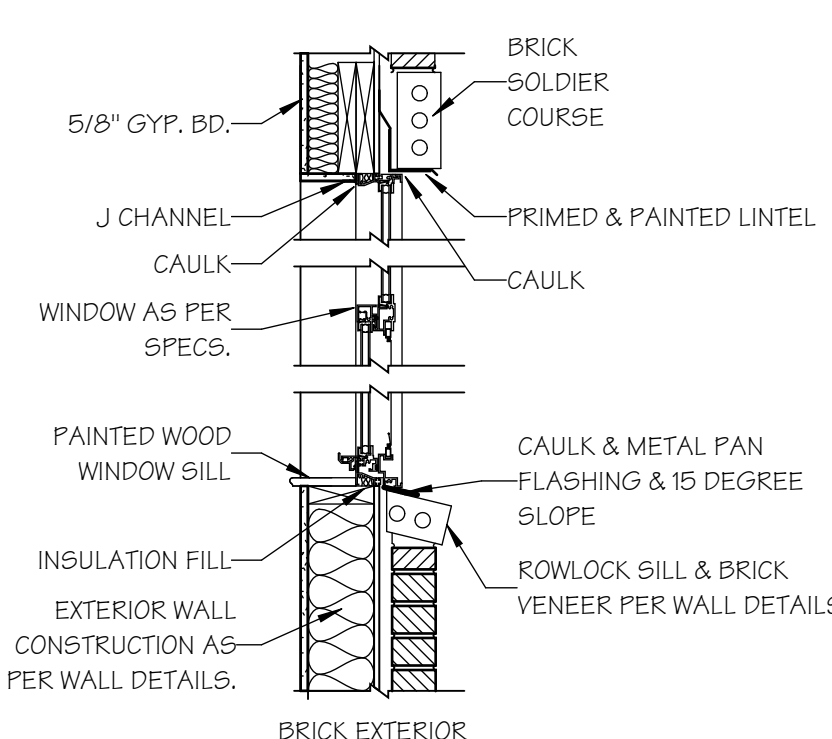
A4.7A SCALE: 3/4" = 1'-0"



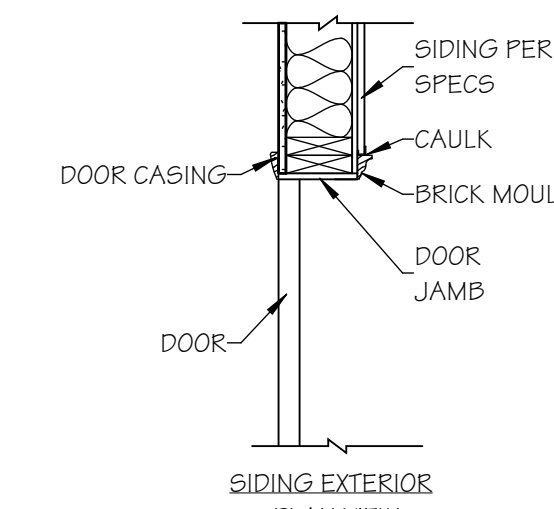
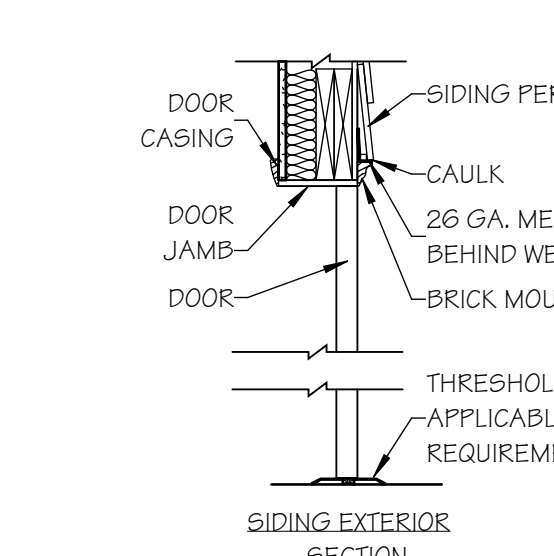
NOTE: WINDOWS W/ SIDING ABOVE REQUIRE FLASHING & CAULKING @ SIDING / FLANGE JUNCTION



NOTE: FILL ALL VOIDS AROUND WINDOW UNITS W/ INSULATION PRIOR TO GYP. BD. INSTALLATION

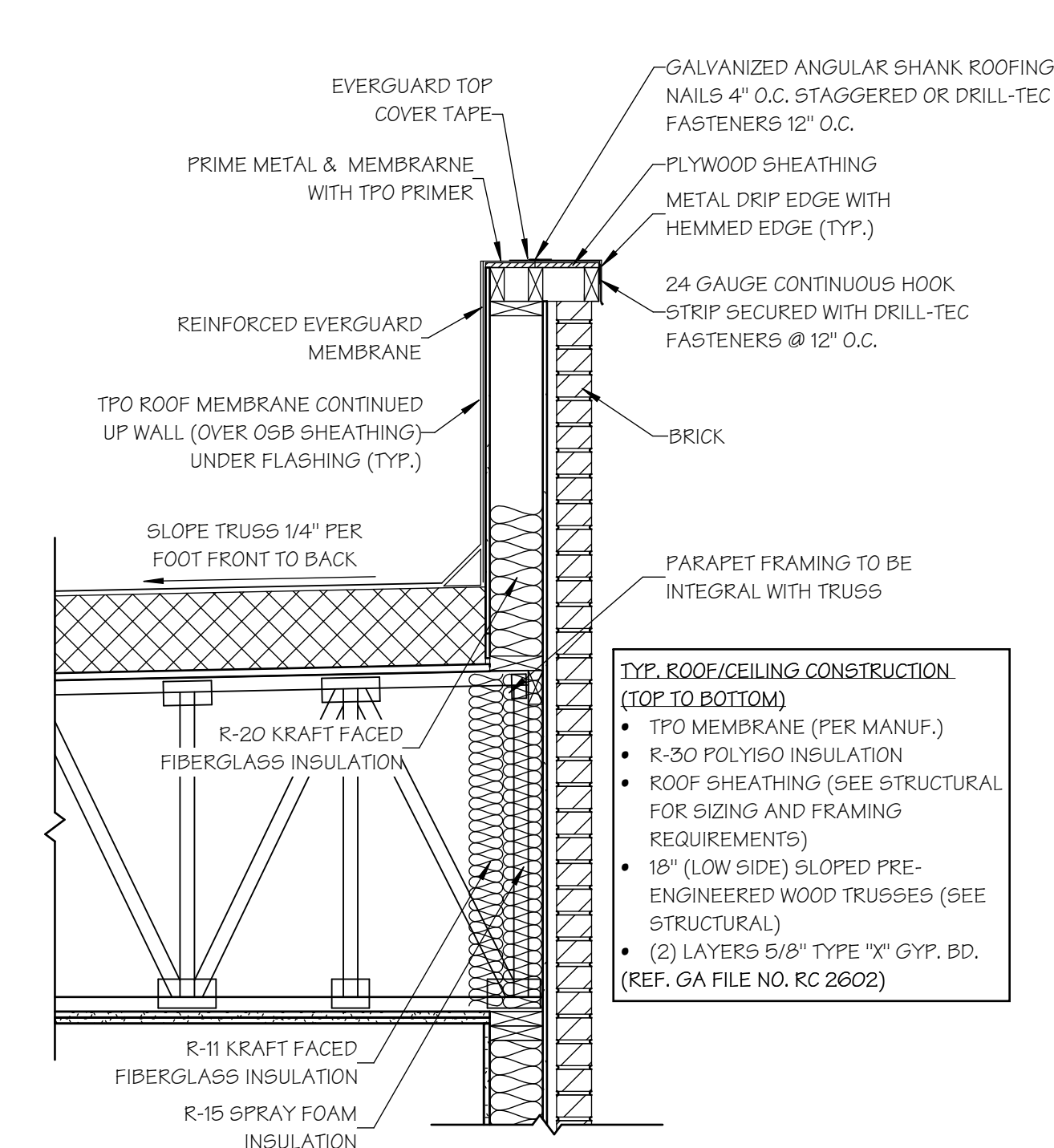
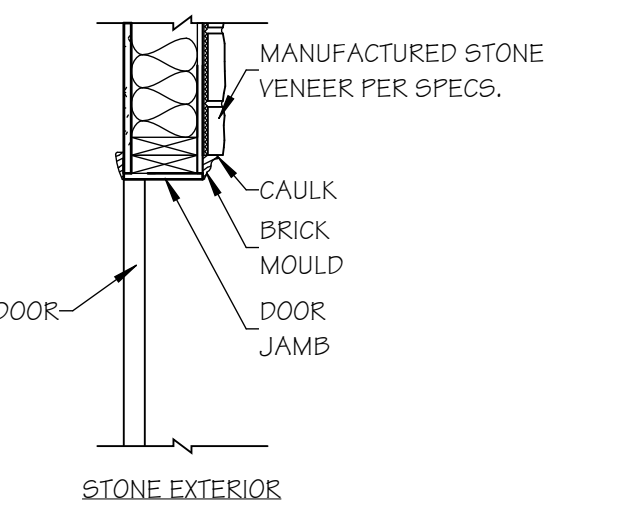
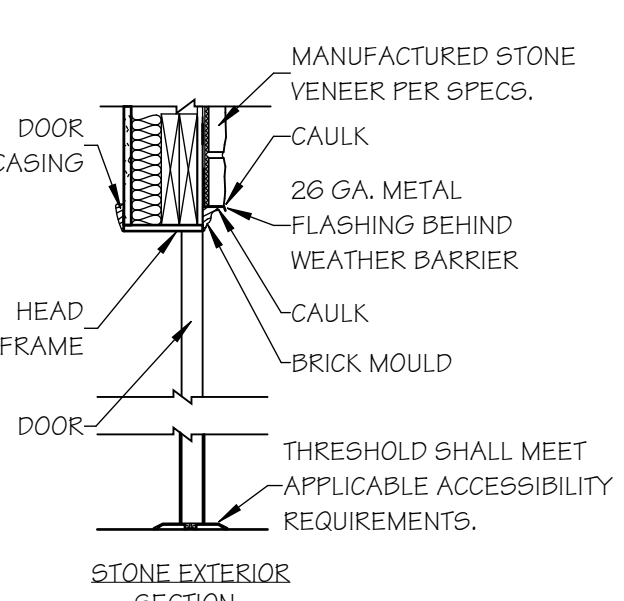
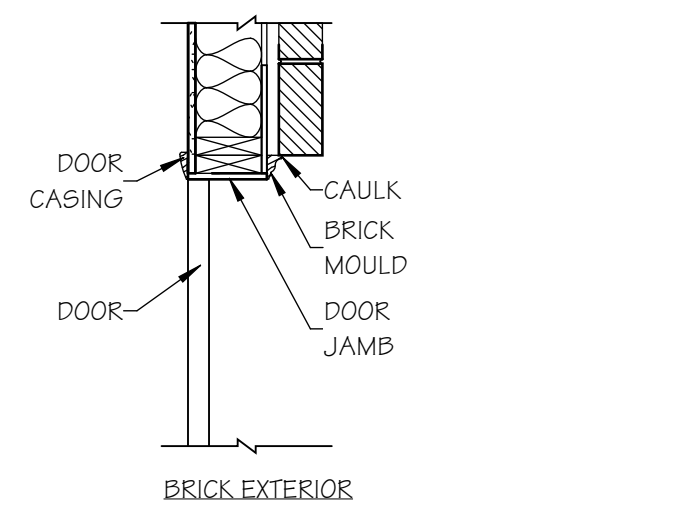
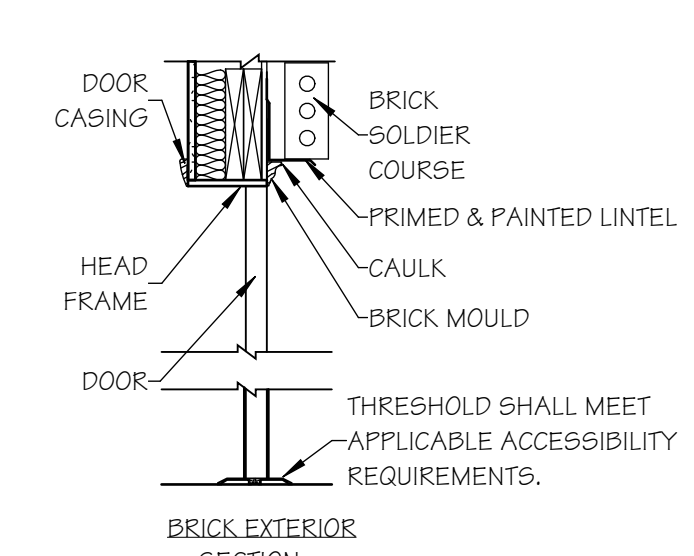


NOTE: FILL ALL VOIDS AROUND WINDOW UNITS W/ INSULATION PRIOR TO GYP. BD. INSTALLATION



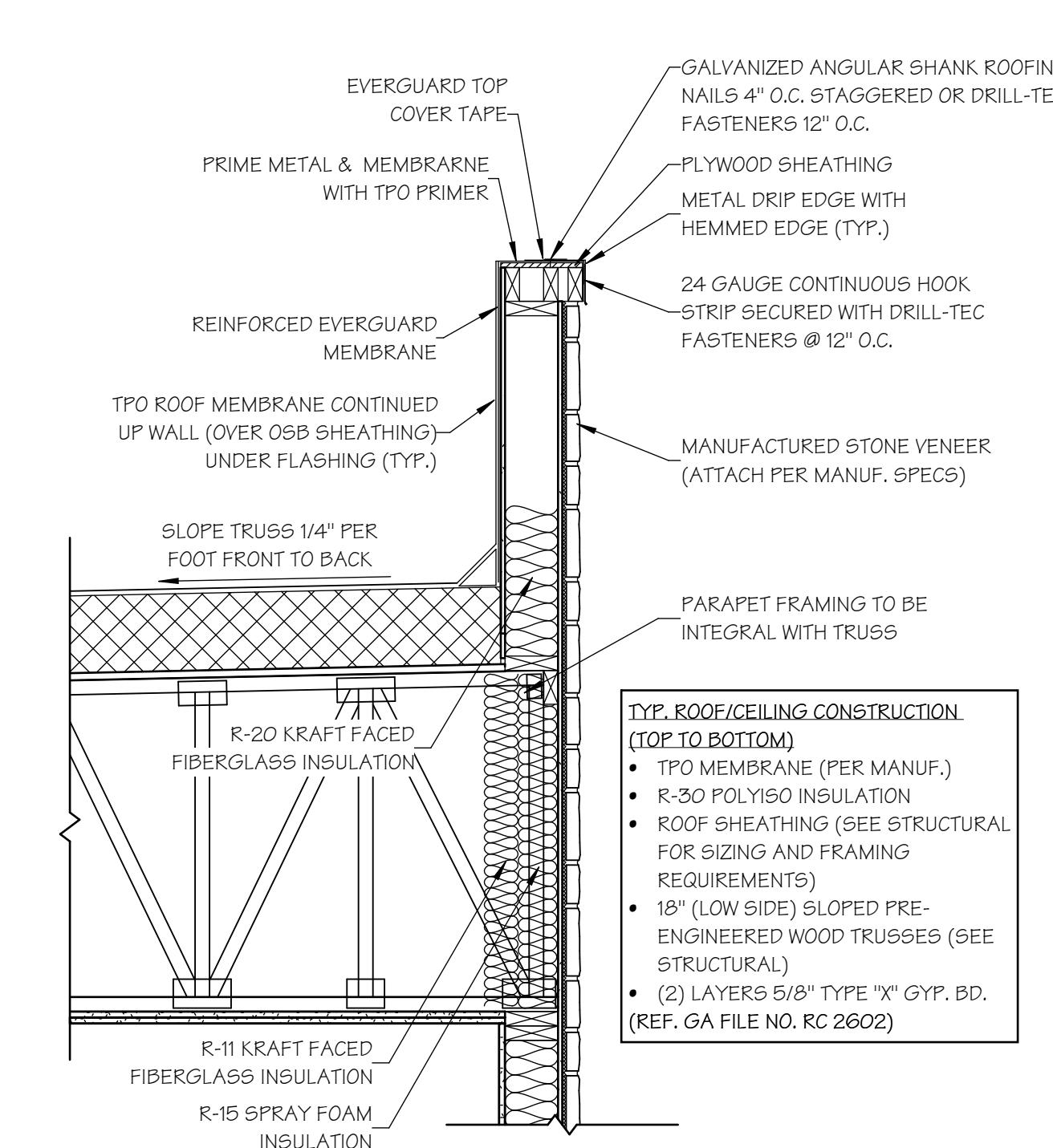
7 WALL SECTIONS AT DOORS

A4.7A SCALE: 3/4" = 1'-0"



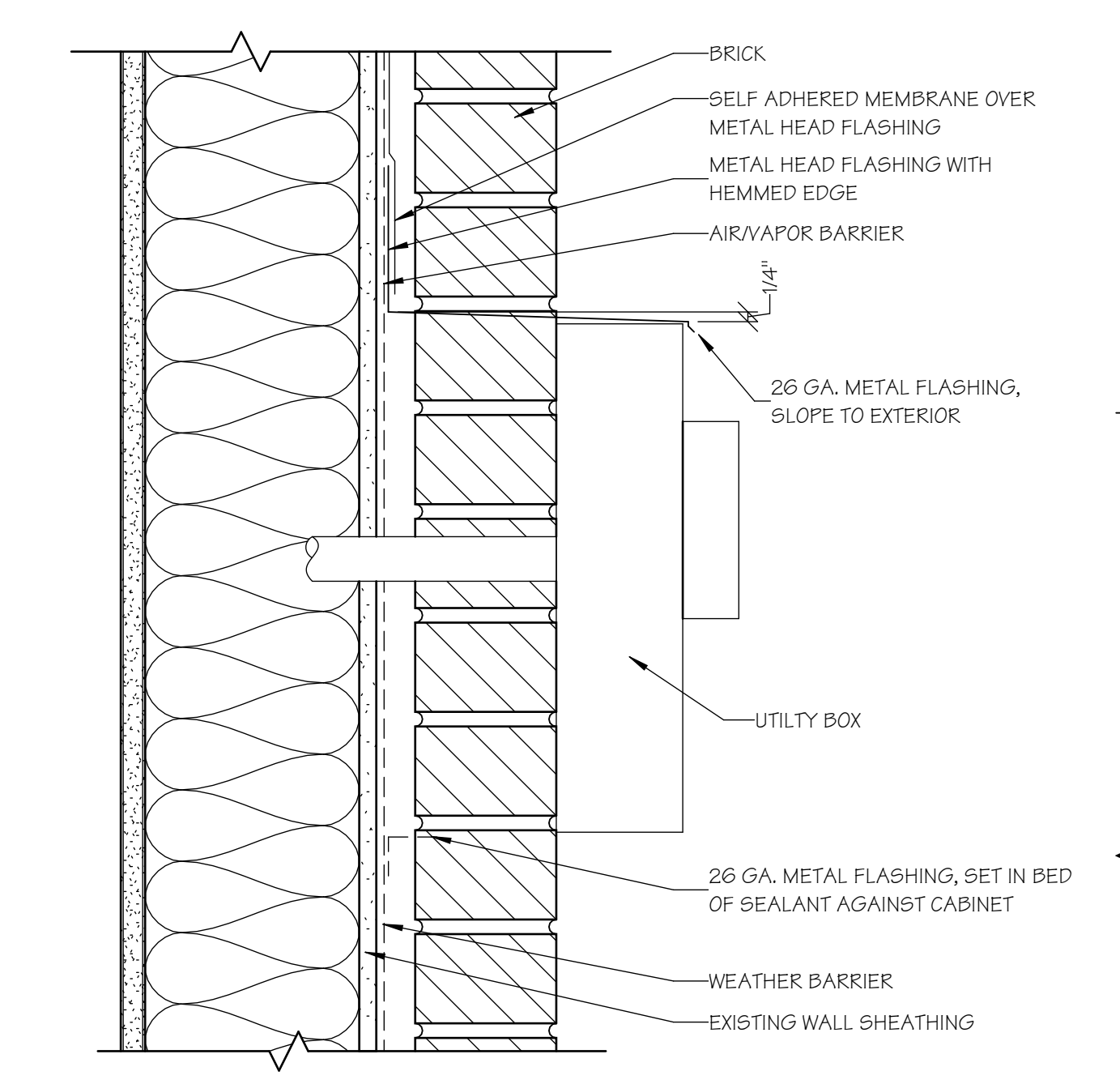
8 PARAPET W/ BRICK DETAIL

A4.7A SCALE: 3/4" = 1'-0"



9 PARAPET W/ STONE DETAIL

A4.7A SCALE: 3/4" = 1'-0"



10 SECTION THROUGH UTILITY BOX

A4.7A SCALE: 3" = 1'-0"

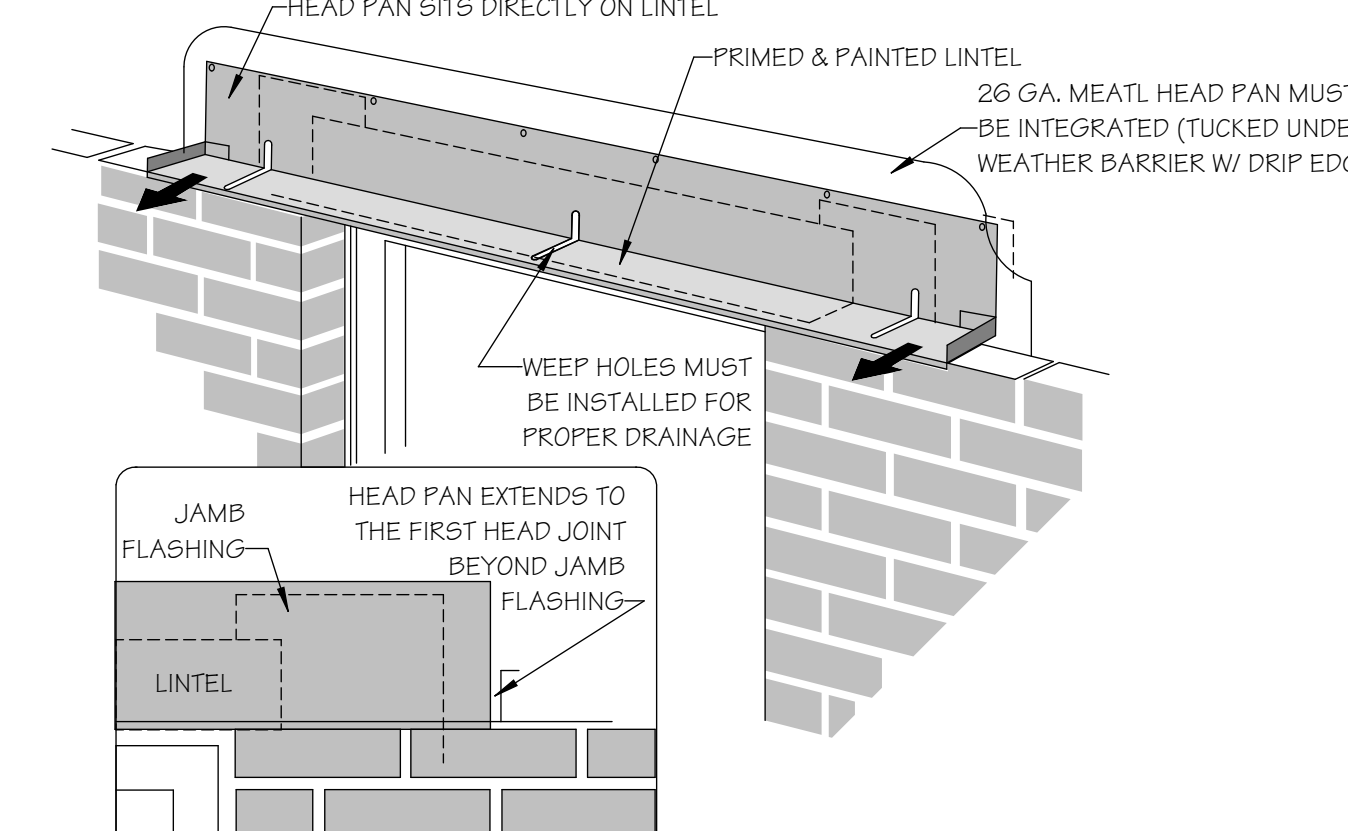
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A4.8A

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

JOINT FLASHING DETAIL @ BRICK

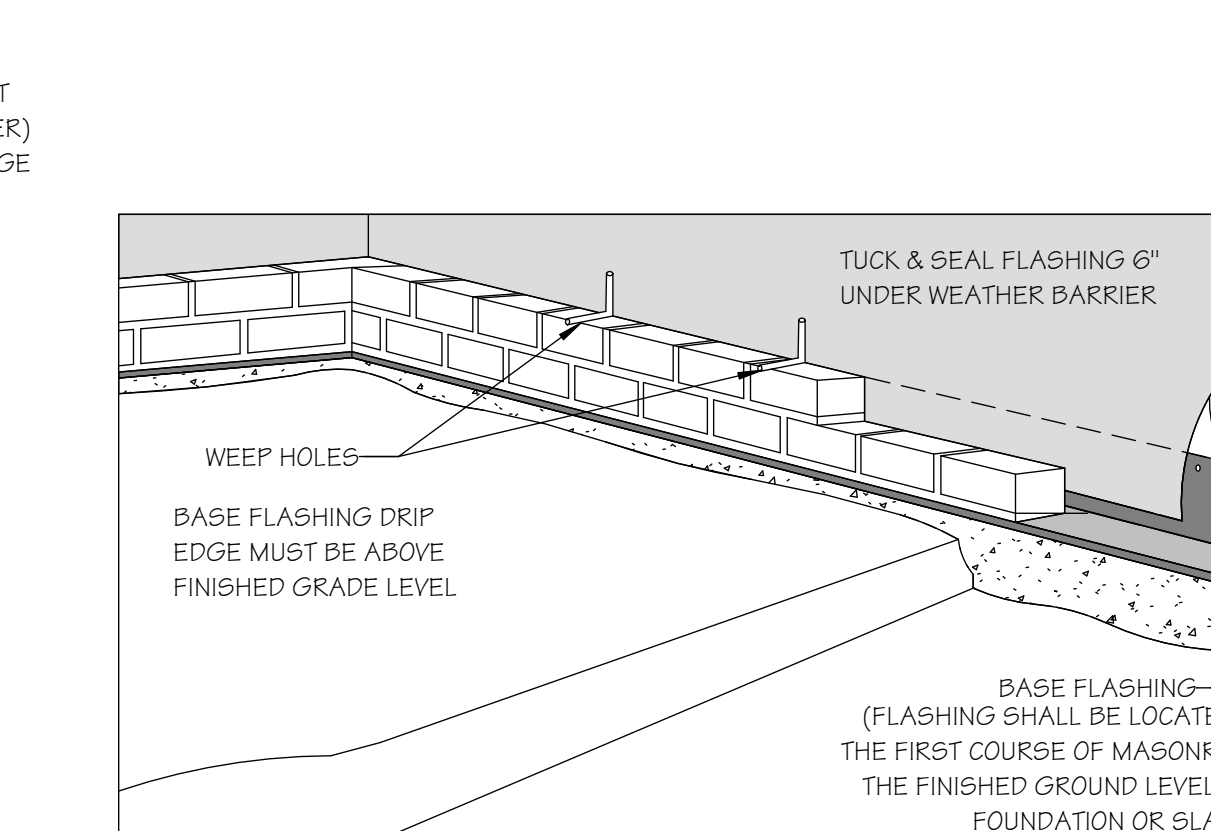


2

A4.8A

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

INSIDE CORNER FLASHING DETAIL @ BRICK

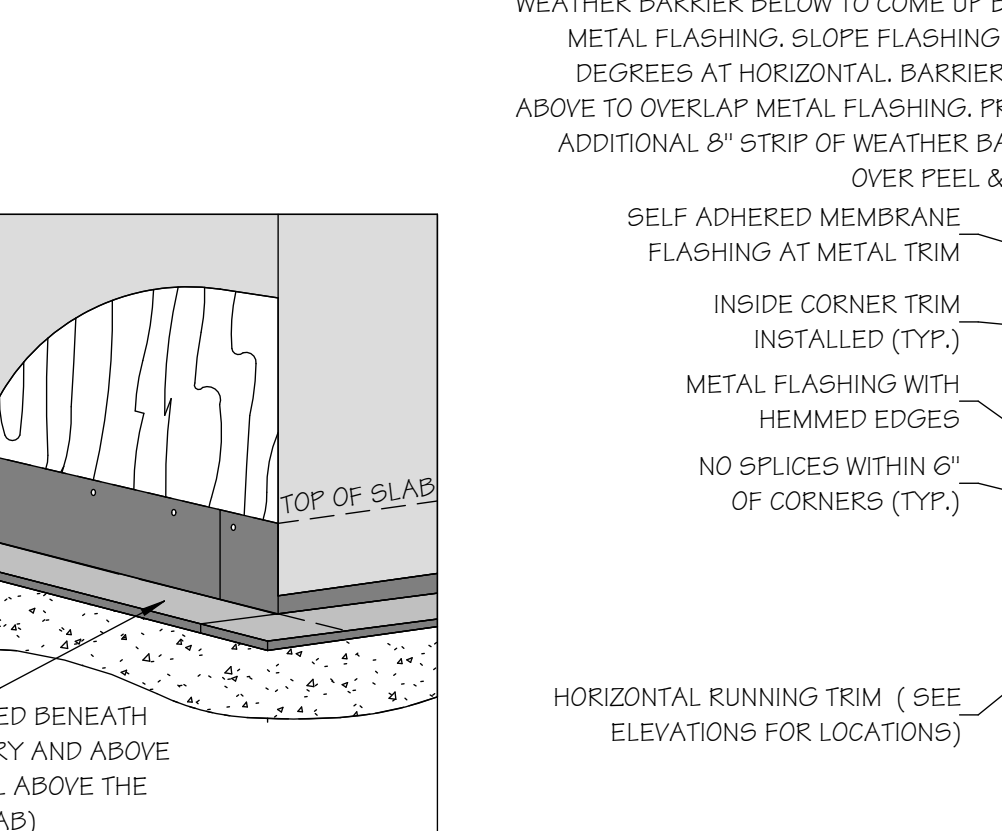


3

A4.8A

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

OUTSIDE CORNER FLASHING DETAIL @ BRICK

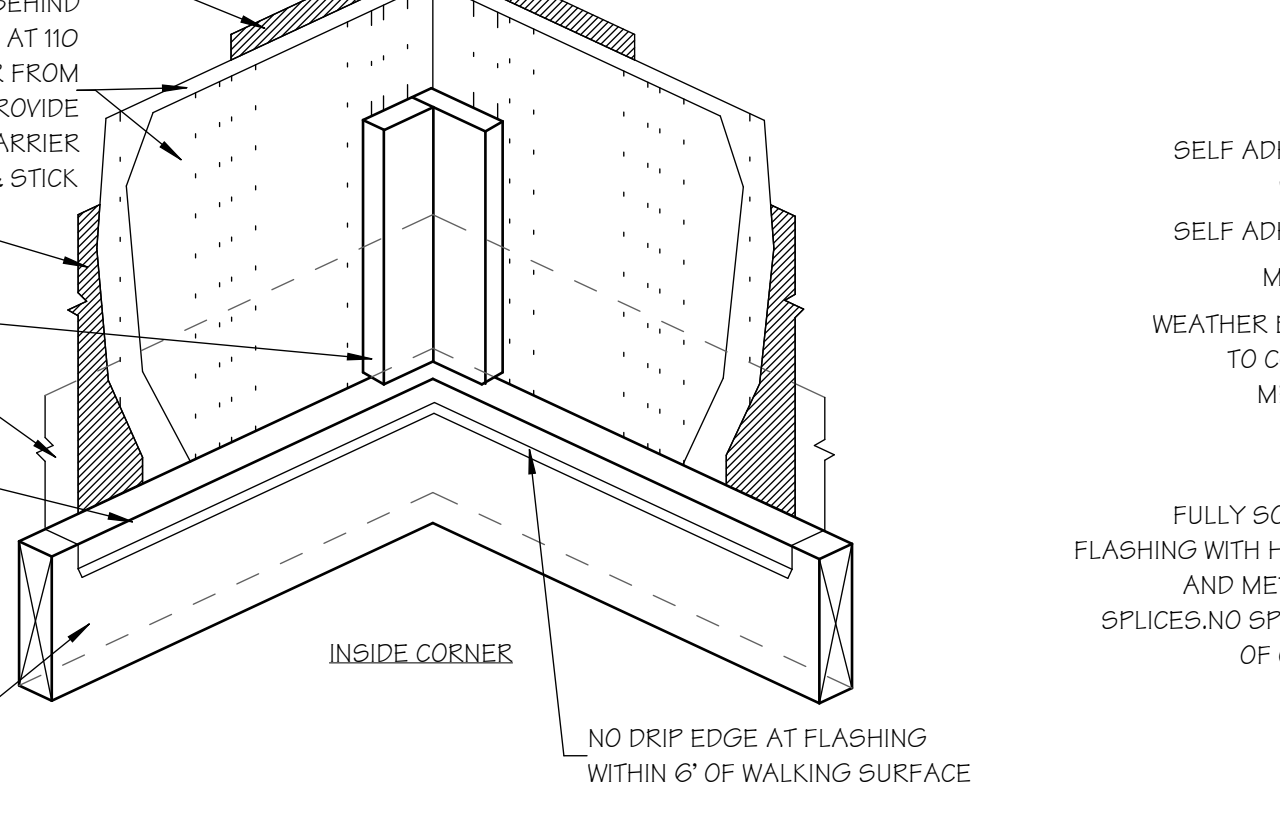


4

A4.8A

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

WINDOW FLASHING DETAIL @ BRICK

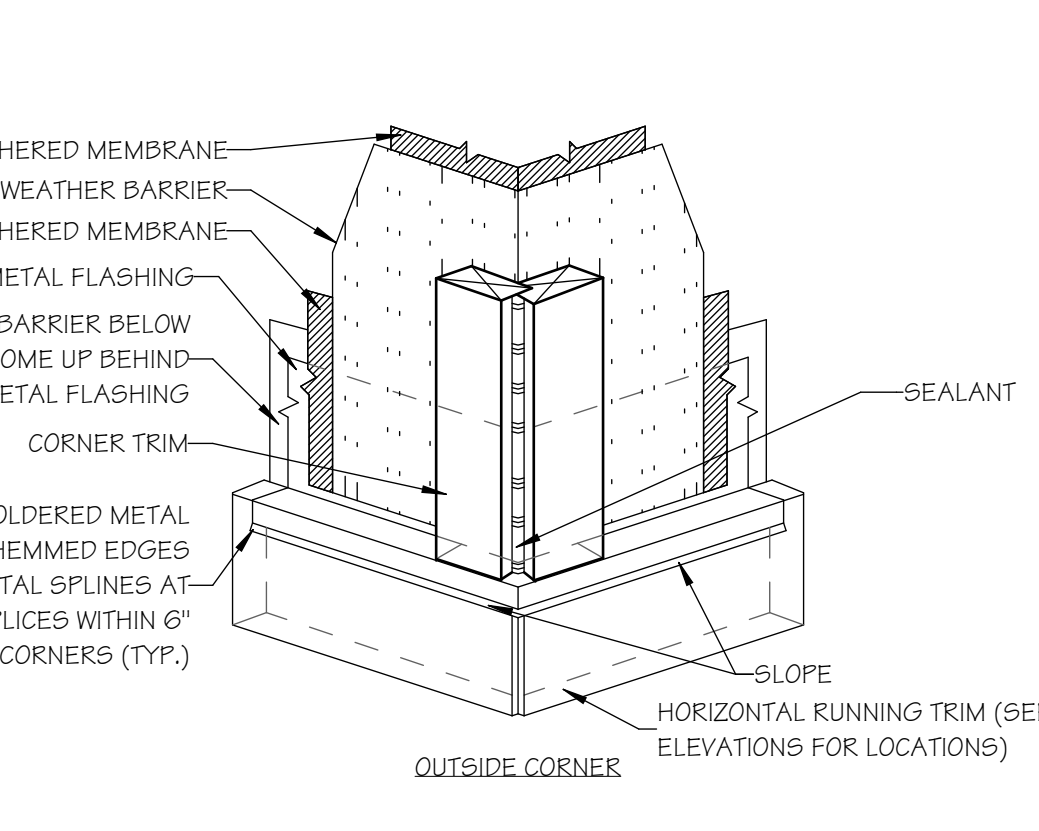


5

A4.8A

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

PAN CONSTRUCTION

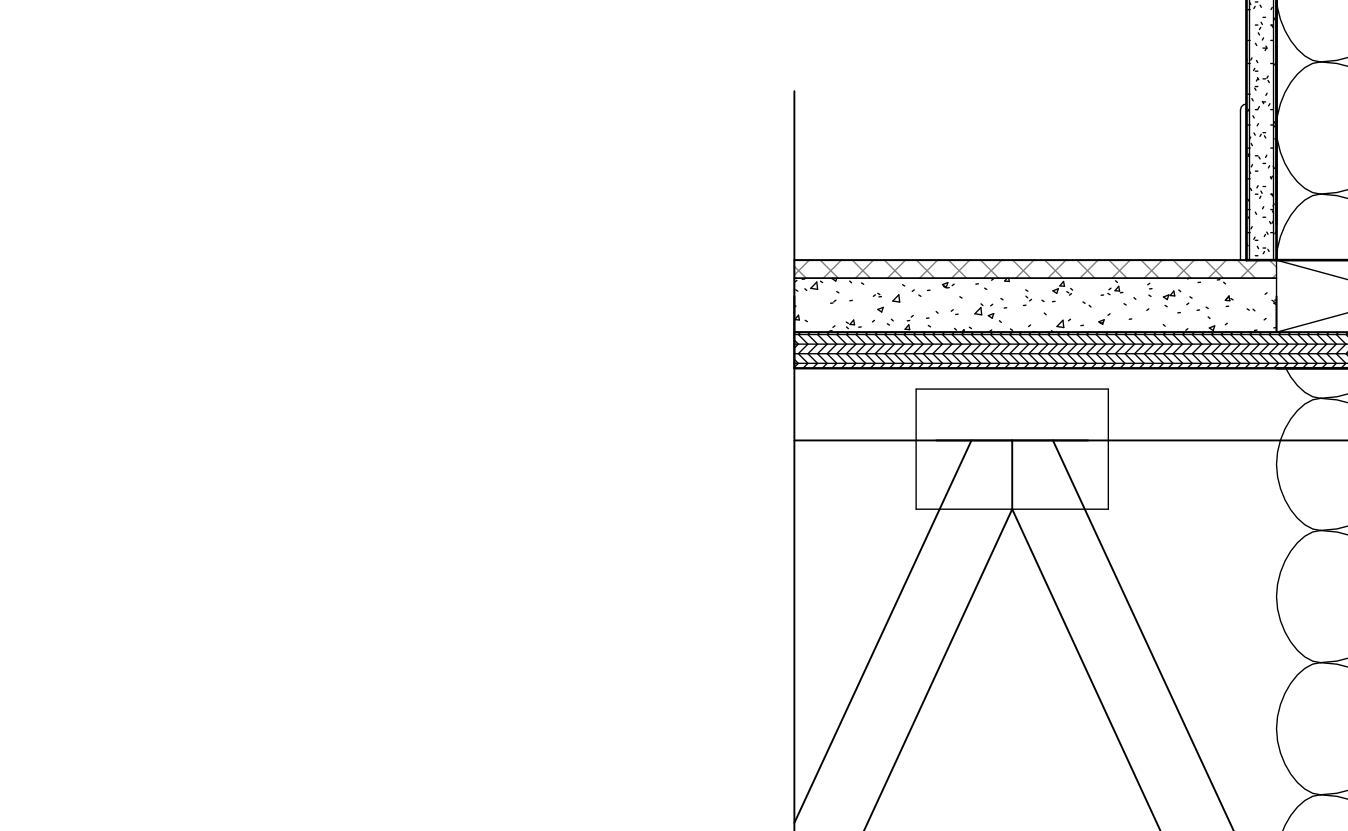


6

A4.8A

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

HEAD FLASHING @ BRICK

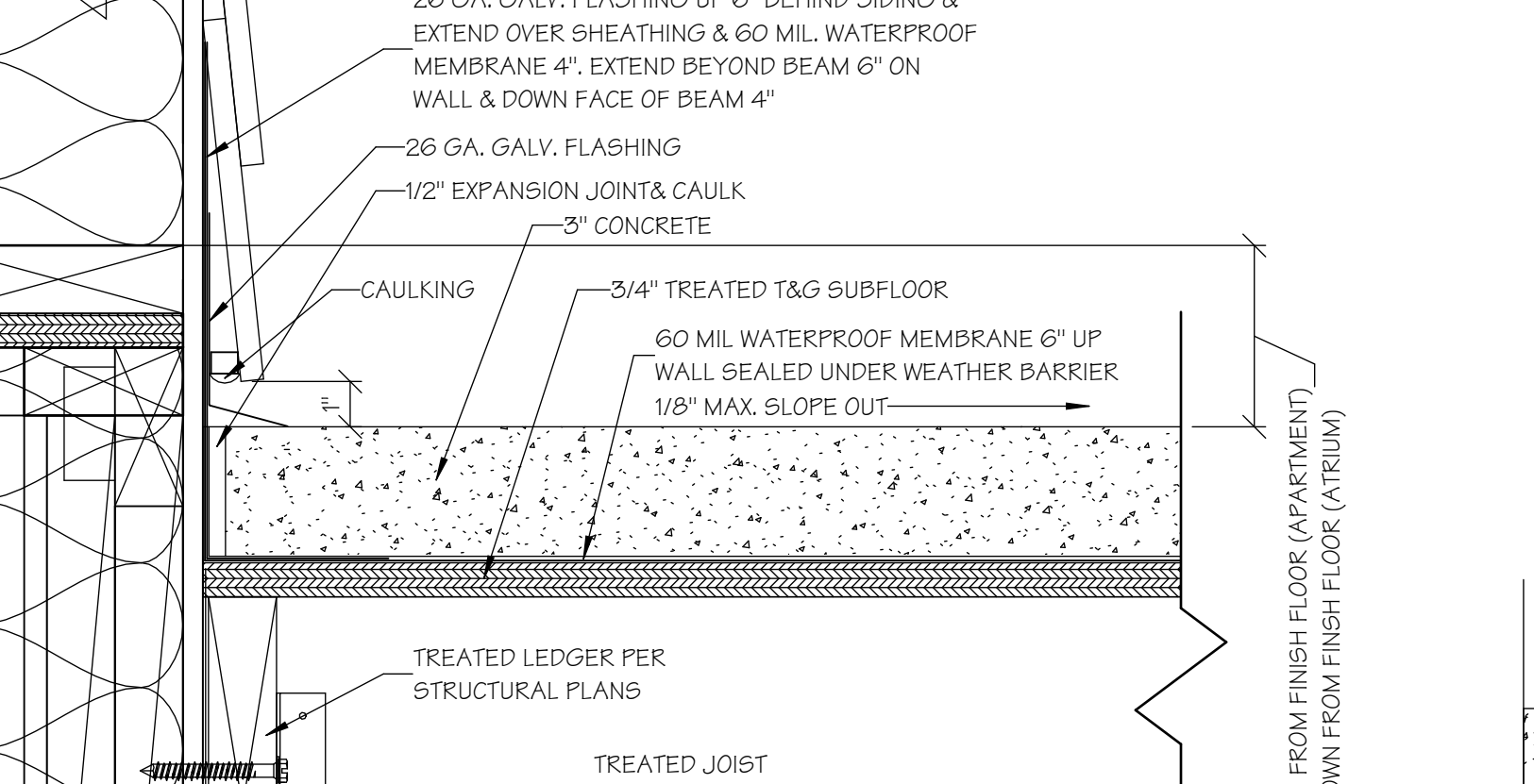


7

A4.8A

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

BASE FLASHING @ BRICK

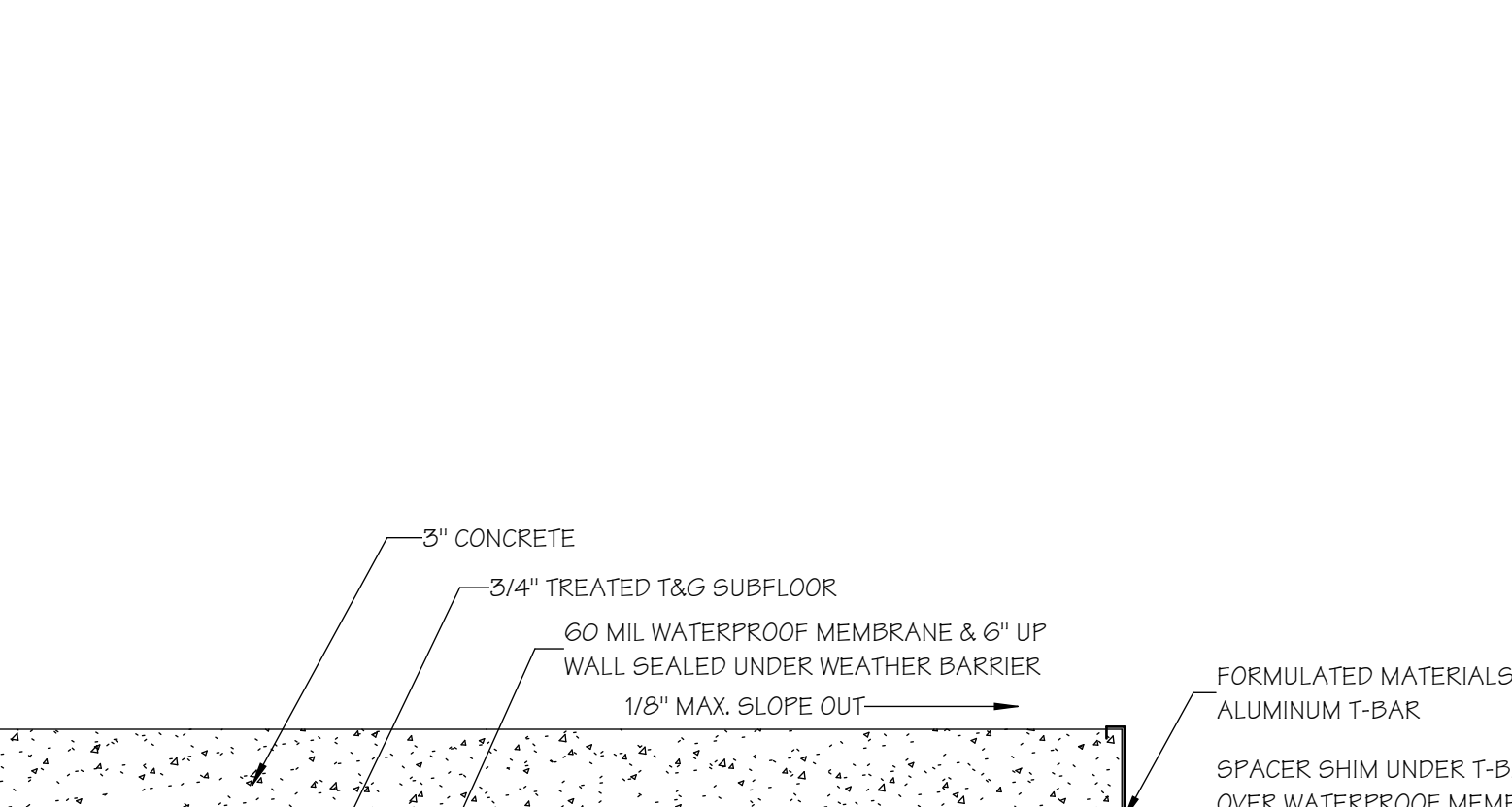


8

A4.8A

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

INSIDE CORNER FLASHING AND TRIM @ SIDING



9

A4.8A

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

OUTSIDE CORNER FLASHING AND TRIM @ SIDING



B

A

10

A4.8A

SCALE: 3\"/>

DECK FLASHING DETAIL



11

A4.8A

SCALE: 3\"/>

DECK EDGE FLASHING DETAIL



12

A4.8A

SCALE: 3\"/>

PATIO DOOR FLASHING DETAIL



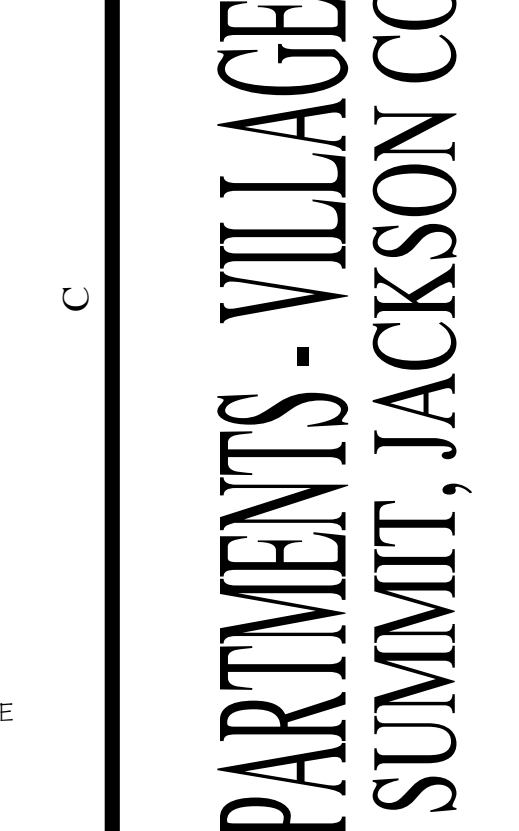
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5

A4.8A

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

PAN CONSTRUCTION

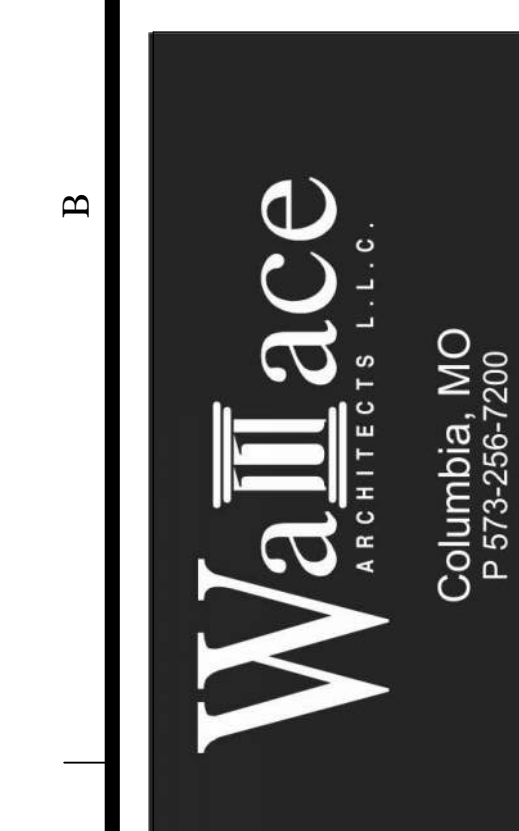


6

A4.8A

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

HEAD FLASHING @ BRICK



B

A

10

A4.8A

SCALE: 3\"/>

DECK FLASHING DETAIL



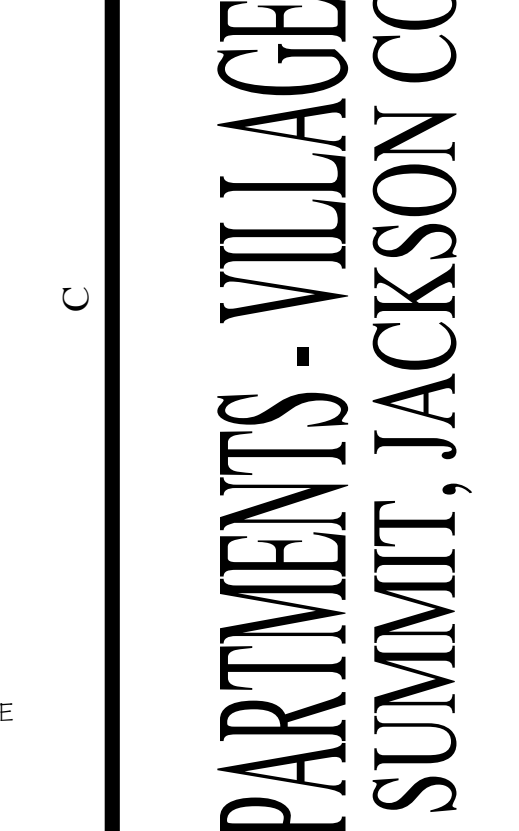
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5

A4.8A

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

PAN CONSTRUCTION

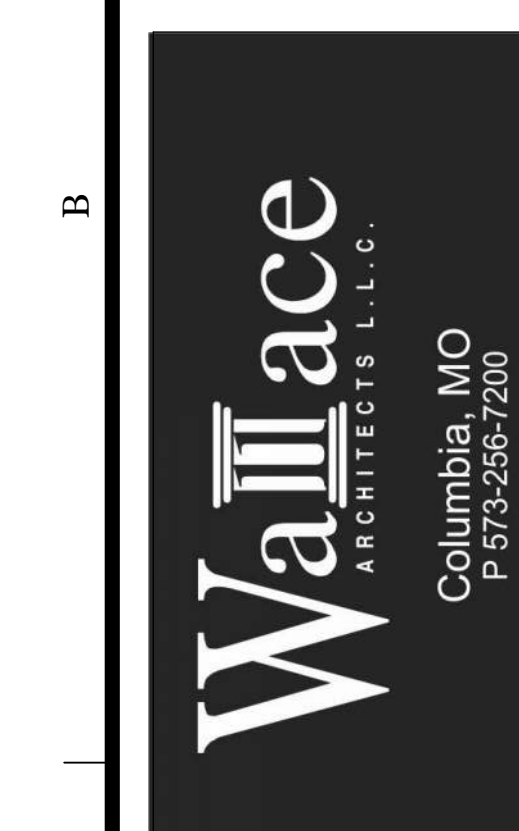


6

A4.8A

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

HEAD FLASHING @ BRICK



B

A

10

A4.8A

SCALE: 3\"/>

DECK FLASHING DETAIL



self-tapping #6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Gypsum board attached to furring channels as described in Item 2.

↳ **Steel Framing Members*** — Used to attach furring channels (Item 6fA) to studs. Clips spaced maximum 48 in. OC. Clips secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center grommet. Furring channels are friction fitted into clips.

CLARKDIETRICH BUILDING SYSTEMS — Type ClarkDietrich Sound Clip

7. **Wall and Partition Facings and Accessories*** — (Optional, Not shown) — Nominal 1/2 in. thick, 4 ft wide panels, for optional use as an additional layer on one or both sides of the assembly. Panels attached in accordance with manufacturer's recommendations. When the QR-500 or QR-510 panel is installed between the wood framing and the UL Classified gypsum board, the required UL Classified gypsum board layer(s) is/are to be installed as indicated as to fastener type and spacing, except that the required fastener length shall be increased by a minimum of 1/2 in. Not evaluated or intended as a substitute for the required layer(s) of UL Classified Gypsum Board.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock QR-500 and QR-510

8. **Mineral and Fiber Board*** — ((Optional, Not Shown)) — For optional use as an additional layer on one or both sides of wall. Nom 1/2 in. thick, 4 ft wide with long dimension parallel and centered over studs. Attached to framing as described in Item 2. The required UL Classified gypsum board layer(s) is/are to be installed as indicated as to fastener type and spacing, except that the required fastener length shall be increased by a minimum of 1/2 in. Not evaluated or intended as a substitute for the required layer(s) of UL Classified Gypsum Board.

HOMASOTE CO — Homasote Type 440-32

9. **Non-Bearing Wall Partition Intersection** — (Optional) — Two nominal 2 by 4 in. stud or nominal 2 by 6 in. stud nailed together with two 3in. long 10d nails spaced a max. 16 in. OC vertically and fastened to one side of the minimum 2 by 4 in. stud with 3 in. long 10d nails spaced a max 16 in. OC vertically. Intersection between partition wood studs to be flush with the 2 by 4 in. studs. The wall partition wood studs are to be framed by with a second 2 by 4 in. wood stud fastened with 3 in. long 10d nails spaced a max. 16 in. OC vertically. Maximum one non-bearing wall partition intersection per stud cavity. Non-bearing wall partition stud depth shall be at a minimum equal to the depth of the bearing wall.

(Optional, Not Shown) Alternate Construction For Use On One Side Of The Wall.

10. **Mineral and Fiber Board*** — For use with Items 10A-10D) — Nom 1/2 in. thick, 4 ft wide with long dimension parallel and centered over studs. Attached to framing with minimum 1-3/8 in. long ring shanked nails or 1-1/4 in. long Type W steel screws, spaced 12 in. OC along board edges and 24 in. OC in field of board along intermediate framing. Not evaluated or intended as a substitute for the required layer(s) of UL Classified Gypsum Board.

HOMASOTE CO — Homasote Type 440-32

10A. **Glass Fiber Insulation** — (For use with Item 10) — 3-1/2 in. thick glass fiber batts bearing the UL Classification Marking as to Surface Burning and/or Fire Resistance, placed to fill the interior of the wall. See Batts and Blankets (BKNV or BZIJ) categories for names of Classified companies.

10B. **Batts and Blankets*** — (As an alternate to Item 10B, For use with Item 10), 3 in. thick mineral wool batts, placed to fill interior of wall, attached to the 3-1/2 in. face of the studs with staples placed 24 in. OC.

THERMAFIBER INC — Type SAFB, SAFB FF

10C. **Adhesive** — (For use with Item 10) — Construction grade adhesive applied in vertical, serpentine, nominal 3/8 in. wide beads down the length of both vertical edges of Mineral and Fiber Board (Item 14A).

10D. **Gypsum Board*** — (For use with Item 10) — 5/8 in. thick, 4 ft wide, applied vertically over Mineral and Fiber Board (Item 14A) with vertical joints located anywhere over stud cavities. Secured to mineral and fiber boards with 1-1/2 in. Type G Screws spaced 8 in. OC along edges of each vertical joint and 12 in. OC in intermediate field of the Mineral and Fiber Board (Item 10). Secured to outermost studs and bearing plates with 2 in. long Type S screws spaced 8 in. OC. Gypsum Board joints covered with paper tape and joint compound. Screw heads covered with joint compound. Finish Rating 30 Min.

AMERICAN GYPSUM CO — Type AG-C

CERTAINTED GYPSUM INC — Type C

CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C — Type LGFC-C/A

GEORGIA-PACIFIC GYPSUM L L C — Types 5, DAPC, TG-C

NATIONAL GYPSUM CO — Types FSK-C, FSW-C

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type PG-C

PANEL REY S A — Type PRC

THAI GYPSUM PRODUCTS PCL — Type C

UNITED STATES GYPSUM CO — Type CTTypes C, IP-X2, IPC-AR

USG BORAL DRYWALL SFZ LLC — Type C

USG MEXICO S A DE C V — Types C, IP-X2, IPC-AR

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

Last Updated on 2020-09-23

two self-tapping #6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Wallboard attached to furring channels as described in Item 2.

B. **Steel Framing Members*** — Used to attach furring channels (Item a) to studs (Item 1). Clips spaced 48 in. OC, and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center grommet. Furring channels are friction fitted into clips. RSIC-1 clip for use with 2-9/16 in. wide furring channels. RSIC-1 (2.75) clip for use with 2-23/32 in. wide furring channels.

PAC INTERNATIONAL L L C — Types RSIC-1, RSIC-1 (2.75).

6A. **Steel Framing Members*** — (Optional, Not Shown, As an alternate to Item 6) — Furring channels and Steel Framing Members as described below:

a. **Furring Channels** — Formed of No. 25 MSG galv steel. 2-3/8 in. wide by 7/8 in. deep, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping #6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Gypsum board attached to furring channels as described in Item 2.

b. **Steel Framing Members*** — Used to attach furring channels (Item a) to studs. Clips spaced 48 in. OC. Genie clips secured to studs with No. 8 x 1-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips.

PLITEQ INC — Type Genie Clip

6B. **Steel Framing Members*** — (Optional, Not Shown, As an alternate to Item 6) — Furring channels and Steel Framing Members as described below:

a. **Furring Channels** — Formed of No. 25 MSG galv steel. Spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire. Gypsum board attached to furring channels as described in Item 2.

b. **Steel Framing Members*** — Used to attach furring channels (Item 6Ba) to studs. Clips spaced 48 in. OC, and secured to studs with 2 in. coarse drywall screw with 1 in. diam washer through the center hole. Furring channels are friction fitted into clips.

STUDCO BUILDING SYSTEMS — RESILMOUNT Sound Isolation Clips - Type A237R

6C. **Steel Framing Members*** — (Optional, Not Shown, As an alternate to Item 6) — Furring channels and Steel Framing Members as described below:

A. **Furring Channels** — Formed of No. 25 MSG galv steel. Spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item 6Cb. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire. Gypsum board attached to furring channels as described in Item 2.

B. **Steel Framing Members*** — Used to attach furring channels (Item 6CA) to studs. Clips spaced 48 in. OC, and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips.

REGUPOL AMERICA — Type SonusClip

6D. **Steel Framing Members*** — (Optional, Not Shown, As an alternate to Item 6) — Resilient channels and Steel Framing Members as described below:

a. **Resilient Channels** — Formed of No. 25 MSG galv steel, spaced 24 in. OC, and perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and secured in place with two No. 8 15 x 1/2 in. Phillips Modified Truss screws spaced 2-1/2 in. from the center of the overlap. Gypsum board attached to resilient channels as described in Item 2.

b. **Steel Framing Members*** — Used to attach resilient channels (Item 6Da) to studs. Clips spaced 48 in. OC, and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Resilient channels are secured to clips with No. 10 x 1/2 in. pan-head self-drilling screw.

KEENE BUILDING PRODUCTS CO INC — Type RC+ Assurance Clip

6E. **Steel Framing Members*** — (Optional, Not Shown, As an alternate to Item 6) — Used as an alternate method to attach resilient channels to wall studs. A resilient sound isolation accessory shall be used at each attachment point of the resilient channels and spaced max 24 in. O.C. Channel ends butted and centered under the structural members and attached with one accessory at each end. Additional accessories used to hold resilient channels that support the gypsum board end joints. The accessory envelops the mounting edge of the resilient channel. The accessory and resilient channel are fastened to the structural members with the screws supplied with the accessory and per the accessory manufacturer's installation instructions.

PAC INTERNATIONAL L L C — Type RC-1 Boost

6F. **Steel Framing Members*** — (Optional, Not Shown, As an alternate to Item 6) — Furring channels and Steel Framing Members as described below:

a. **Furring Channels** — Formed of No. 25 MSG galv steel. 2-23/32 in. wide by 7/8 in. deep, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two

2H. **Gypsum Board*** — (As an alternate to Items 2 through 2G) — Installed as described in Item 2. 5/8 in. thick, 4 ft. wide, paper surfaced, applied vertically or horizontally fastened to the studs and plates with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screw 1 in. from edge of board.

CERTAINTED GYPSUM INC — Type SilentFX

2I. **Wall and Partition Facings and Accessories*** — (As an alternate to Items 2 through 2H) — Nominal 5/8 in. thick, 4 ft wide panels, applied vertically and secured as described in Item 2.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock 527.

2J. **Gypsum Board*** — (As an alternate to 5/8 in. Type FSW in Item 2) — 2 layers nom. 5/16 in. thick gypsum panels applied vertically or horizontally. Horizontal joints on the same side need not be staggered. Inner layer attached with fasteners, as described in item 2, spaced 24 in. OC. Outer layer attached per Item 2.

NATIONAL GYPSUM CO — Type FSW.

2K. **Gypsum Board*** — (As an alternate to Item 2) — 5/8 in. thick gypsum panels, with beveled, square, or tapered edges, applied either horizontally or vertically. Gypsum panels fastened to framing with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a maximum 10 in. OC with the last two screws 4 and 1 in. from the edges of the board. When used in widths other than 48 in., gypsum panels are to be installed horizontally.

CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C — Type LGFC6A (finish rating 21 min), Type LGFC2A, Type LGFC-C/A, Type LGFC-WD, Type LGLXL

3. **Joints and Nailheads** — Gypsum board joints of outer layer covered with tape and joint compound. Nail heads of outer layer covered with joint compound. As an alternate, nom 3/32 in. thick gypsum veneer plaster may be applied to the entire surface of Classified veneer baseboard with joints reinforced with paper tape.

4. **Sheathing** — (Optional) — Septum may be sheathed with min 7/16 in. thick wood structural panels min grade "C-D" or "Sheathing" or min 1/2 in. thick **Mineral and Fiber Boards***.

See **Mineral and Fiber Boards** (CER2) category for names of Classified companies.

5. **Batts and Blankets*** — 3-1/2 in. max thickness glass or mineral fiber batt insulation. **Optional** when sheathing (Item 4) is used on both halves of wall.

See **Batts and Blankets** (BZIJ) category for list of Classified companies.

5A. **Fiber, Sprayed*** — As an alternate to Batts and Blankets (Item 5) — Spray applied cellulose material. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product with a nominal dry density of 2.7 lbs/ft³. Alternate Application Method: The fiber is applied without water or adhesive at a nominal dry density of 3.5 lbs/ft³, in accordance with the application instructions supplied with the product.

U S GREENFIBER L L C — INS5735, INS745 and INS750LD for use with wet or dry application. INS515LD, INS541LD, INS5735, INS765LD, and INS773LD are to be used for dry application only.

5B. **Fiber, Sprayed*** — As an alternate to Batts and Blankets (Item 5) when Sheathing (Item 4) is used on both halves of wall - Spray applied cellulose insulation material. The fiber is applied with water to interior surfaces in accordance with the application instructions supplied with the product. Applied to completely fill the enclosed cavity. Minimum dry density of 4.3 pounds per cubic ft.

NU-WOOL CO INC — Cellulose Insulation

5C. **Batts and Blankets*** — (Required for use with Wall and Partition Facings and Accessories, Item 2A. Use of Sheathing, Item 4, does not nullify requirement of Item 5C for use with Item 2A) — Glass fiber insulation, nom 3-1/2 in. thick, min. density of 0.80 pc, with a flame spread of 25 or less and a smoke developed of 50 or less, friction-fitted to completely fill the stud cavities. See Batts and Blankets Category (BKNV) for names of manufacturers.

5D. **Fiber, Sprayed*** — As an alternate to Batts and Blankets (Item 5) and Item 5A when Sheathing (Item 4) is used on both halves of wall - Spray applied cellulose fiber. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. The minimum dry density shall be 4.30 lbs/ft³.

INTERNATIONAL CELLULOSE CORP — Celbar-LR

5E. **Fiber, Sprayed*** — As an alternate to Batts and Blankets (Item 5) - Spray-applied cellulose material. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. To facilitate the installation of the material, any thin, woven or non-woven netting may be attached by any means possible to the outer face the studs. The material shall reach equilibrium moisture content before the installation of materials on either face of the studs. The minimum dry density shall be 5.79 lbs/ft³.

APPLGATE HOLDINGS L L C — Applegate Advanced Stabilized Cellulose Insulation

6. **Steel Framing Members*** — (Optional, Not Shown) — Furring channels and Steel Framing Members as described below:

A. **Furring Channels** — Formed of No. 25 MSG galv steel. 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two

SIAM GYPSUM INDUSTRY (SARABURI) CO LTD (View Classification) — CKNX.R19262

THAI GYPSUM PRODUCTS PCL (View Classification) — CKNX.R27517

UNITED STATES GYPSUM CO (View Classification) — CKNX.R1319

USG BORAL DRYWALL SFZ LLC (View Classification) — CKNX.R38438

USG BORAL DRYWALL SFZ LLC (View Classification) — CKNX.R38438

USG MEXICO S A DE C V (View Classification) — CKNX.R16089

2A. **Gypsum Board*** — (As an alternate to Item 2, not shown) — Nominal 5/8 in. thick, 4 ft wide panels, applied vertically to studs and bearing plates on one side of the assembly with 1-5/8 in. long Type S screws spaced 12 in. OC at perimeter of panels and 8 in. OC in the field. Horizontal joints of vertically applied panels need not be backed by studs. Panel joints covered with paper tape and two layers of joint compound. Screwheads covered with two layers of joint compound. Batts and Blankets placed in stud cavity as described in Item 5C. Not evaluated for use with Steel Framing Members, Furring Channels or Fiber, Sprayed.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock QR-530 (finish rating 23 min).

2B. **Gypsum Board*** — (As an alternate to Item 2, not shown) — Any 5/8 in. thick gypsum panels that are eligible for use in Design Nos. L501, G512 or U305, supplied by the Classified companies listed below shown in the **Gypsum Board*** (CKNV) category. Applied horizontally or vertically and attached to studs and bearing plates with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screw 1 in. from edge of board. When used in widths other than 48 in., gypsum board to be installed horizontally.

UNITED STATES GYPSUM CO

USG BORAL DRYWALL SFZ LLC

USG MEXICO S A DE C V

2C. **Gypsum Board*** — (As an alternate to Item 2, Not Shown) — 5/8 in. thick gypsum panels applied horizontally or vertically and attached to studs and bearing plates with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screw 1 in. from edge of board. When used in widths other than 48 in., gypsum board to be installed horizontally.

AMERICAN GYPSUM CO — Types AGX-1, M-GLAS, AG-C, LightRC

CERTAINTED GYPSUM INC — Type C, Type X or Type X-1

NATIONAL GYPSUM CO — Type FSK, Type FSK-G, Type FSW, Type FSW-3, Type FSW-5, Type FSW-G, Type FSK-C, Type FSW-C, Type FSMR-C, Type FSW-6, Type FSL

THAI GYPSUM PRODUCTS PCL — Type C or Type X

2D. **Gypsum Board*** — (As an alternate to Items 2, 2A, 2B and 2C) — 5/8 in. thick gypsum panels, with square edges, applied either horizontally or vertically. Gypsum panels fastened to framing with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last 2 screws 1 and 4 in. from edge of board or nailed as described in Item 2. When used in widths of other than 48 in., gypsum boards are to be installed horizontally.

GEORGIA-PACIFIC GYPSUM L L C — GreenGlass Type X, Type DGG.

2E. **Gypsum Board*** — (As an alternate to Items 2 through 2D) — 5/8 in. thick, 4 ft. wide, paper surfaced applied vertically only and secured as described in Item 2.

GEORGIA-PACIFIC GYPSUM L L C — Type X ComfortGuard Sound Deadening Gypsum Board.

2F. **Gypsum Board*** — (As an alternate to Items 2 through 2E) - Installed as described in Item 2. 5/8 in. thick, 4 ft. wide, paper surfaced, applied vertically only and fastened to the studs and plates with 6d cement coated nails 1-7/8 in. long. 0.0915 in. shank diam and 1/4 in. diam heads, 7 in. OC. Not for use with item #6.

NATIONAL GYPSUM CO — Type SBWB

2G. **Gypsum Board*** — (As an alternate to Items 2 through 2F) — Nominal 5/8 in. thick, 4 ft wide panels, applied vertically and secured as described in Item 2.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Types QuietRock ES.

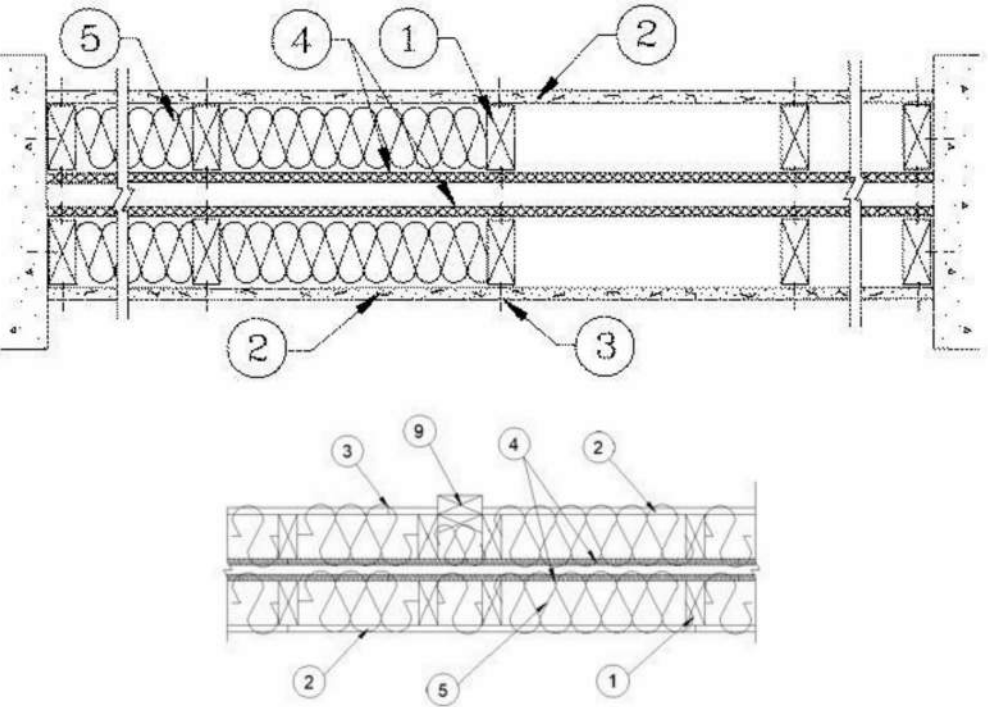
Design No. U341

September 23, 2020

Bearing Wall Rating — 1 Hr.
Finish Rating — Min 20 min.

This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.



HORIZONTAL SECTION

1. **Wood Studs** — Nom 2 by 4 in., spaced 24 in. OC max. Cross braced at mid-height and effectively firestopped at top and bottom of wall. No min. air space between stud rows except to accommodate attachment of sheathing, where required. See Items 4 and 5.

2. **Gypsum Board*** — Any 5/8 in. thick UL Classified Gypsum Board that is eligible for use in Design Nos. L501, G512 or U305. Nom 5/8 in. thick 4 ft wide. Gypsum board applied horizontally or vertically, unless specified below, and nailed to studs and bearing plates 7 in. OC with 6d cement coated nails, 1-7/8 in. long, 0.0915 in. shank diam and 1/4 in. diam head. As an alternate, No. 6 bugle head drywall screws, 1-7/8 in. long, may be substituted for the 6d cement coated nails.

When **Steel Framing Members*** (Item 6 or any alternate clips) are used, wallboard attached to furring channels with 1 in. long Type S bugle-head steel screws spaced 12 in. OC.

When used in widths other than 48 in., gypsum board to be installed horizontally.

AMERICAN GYPSUM CO (View Classification) — CKNX.R14196

BEIJING NEW BUILDING MATERIALS PUBLIC LTD CO (View Classification) — CKNX.R19374

CABOT MANUFACTURING ULC (View Classification) — CKNX.R25370

CERTAINTED GYPSUM INC (View Classification) — CKNX.R3660

CGC INC (View Classification) — CKNX.R19751

CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C (View Classification) — CKNX.R18482

GEORGIA-PACIFIC GYPSUM L L C (View Classification) — CKNX.R2717

LOADMASTER SYSTEMS INC (View Classification) — CKNX.R1809

NATIONAL GYPSUM CO (View Classification) — CKNX.R3501

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM (View Classification) — CKNX.R7094

PANEL REY S A (View Classification) — CKNX.R21796

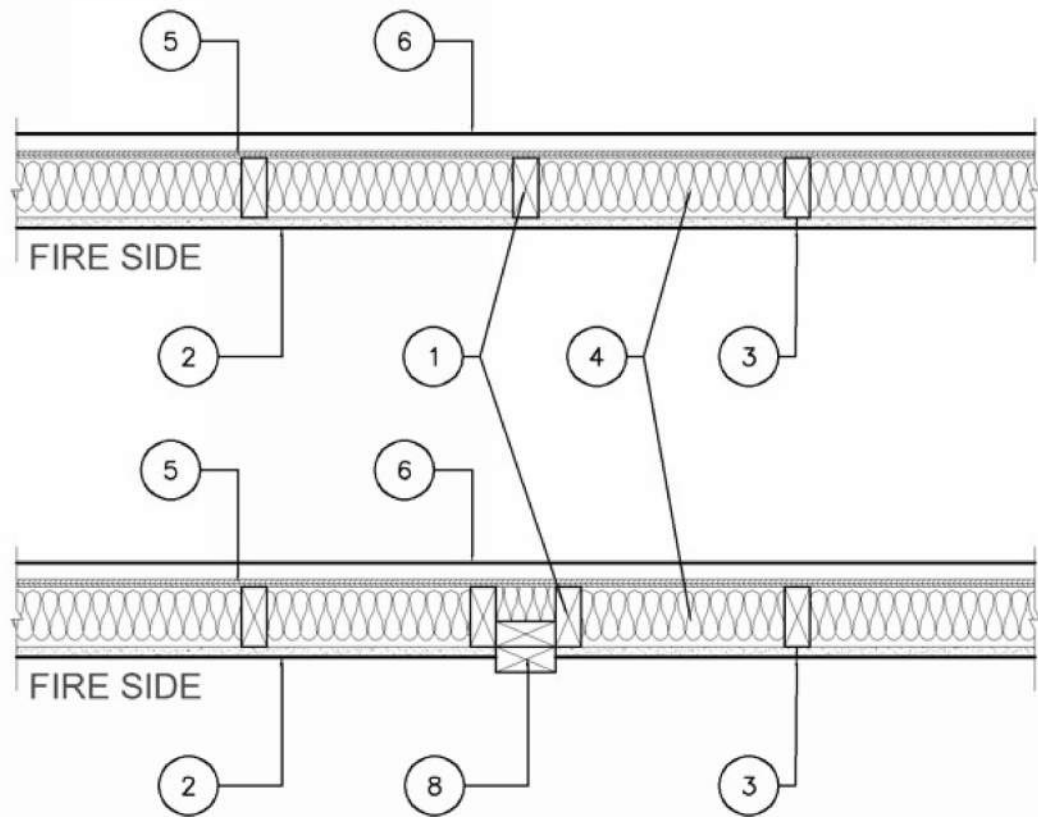
Design No. U356

October 07, 2020

Bearing Wall Rating - 1 Hr Rating Exposed to Fire on Interior Face Only
Bearing Wall Rating — 1 Hr Rating Exposed to Fire on Exterior Face (See Item 6E)
Finish Rating — 23 Min or 25 Min (See Item 2C)

This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.



1. **Wood Studs** — Nom 2 by 4 in. spaced 16 in. OC with two 2 by 4 in. top and one 2 by 4 in. bottom plates. Studs laterally-braced by wood structural panel sheathing (Item 5). When **Mineral and Fiber Boards*** (Item 5A) are considered as bracing for the studs, the load is restricted to 76% of allowable axial load. Walls effectively fire stopped at top and bottom of wall.

2. **Gypsum Board*** — Any 5/8 in. thick UL Classified Gypsum Board that is eligible for use in Design Nos. L501, G512 or U305. Nom 5/8 in. thick, 4 ft wide, applied vertically and nailed to studs and bearing plates 7 in. OC with 6d cement-coated nails, 1-7/8 in. long with 1/4 in. diam head.

When Item **Steel Framing Members*** (Item 7 or any alternate clips), is used, gypsum panels attached to furring channels with 1 in. long Type S bugle-head steel screws spaced 12 in. OC.

When Item **7A Steel Framing Members***, is used, two layers of gypsum panels attached to furring channels. Base layer attached to furring channels with 1 in. long Type S bugle-head steel screws spaced 12 in. OC. Face layer attached to furring channels with 1-5/8 in. long Type S bugle-head steel screws spaced 12 in. OC. All joints in face layers staggered with joints in base layers.

AMERICAN GYPSUM CO ([View Classification](#)) — CKNX.R14196

BEIJING NEW BUILDING MATERIALS PUBLIC LTD CO ([View Classification](#)) — CKNX.R19374

CABOT MANUFACTURING ULC ([View Classification](#)) — CKNX.R25370

CERTAINTED GYPSUM INC ([View Classification](#)) — CKNX.R3360

CGC INC ([View Classification](#)) — CKNX.R19751

CERTAINTED GYPSUM INC ([View Classification](#)) — CKNX.R18482

GEORGIA-PACIFIC GYPSUM L L C ([View Classification](#)) — CKNX.R2717

LOADMASTER SYSTEMS INC ([View Classification](#)) — CKNX.R1809

NATIONAL GYPSUM CO ([View Classification](#)) — CKNX.R3501

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM ([View Classification](#)) — CKNX.R7094

PANEL REY S A ([View Classification](#)) — CKNX.R21796

SIAM GYPSUM INDUSTRY (SARABURI) CO LTD ([View Classification](#)) — CKNX.R19262

THAI GYPSUM PRODUCTS PCL ([View Classification](#)) — CKNX.R27517

UNITED STATES GYPSUM CO ([View Classification](#)) — CKNX.R1319

USG BORAL DRYWALL SFZ LLC ([View Classification](#)) — CKNX.R38438

USG MEXICO S A DE C V ([View Classification](#)) — CKNX.R16089

2A. **Gypsum Board*** — (As an alternate to Item 2, Not Shown) — Any 5/8 in. thick 4 ft wide gypsum panels that are eligible for use in Design Nos. L501, G512 or U305, supplied by the Classified Companies listed below shown in the **Gypsum Board*** (CKNX) category. Applied vertically and attached to studs and bearing plates with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screw 1 in. from edge of board.

CGC INC

UNITED STATES GYPSUM CO

USG BORAL DRYWALL SFZ LLC

USG MEXICO S A DE C V

2B. **Gypsum Board*** — (As an alternate to Item 2, Not Shown) — 5/8 in. thick 4 ft wide gypsum panels applied vertically and attached to studs and bearing plates with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screw 1 in. from edge of board.

AMERICAN GYPSUM CO — Types AGX-1, M-Glass, AG-C, LightRoc

CABOT MANUFACTURING ULC — Type X, 5/8 Type X, Type Blueglass Exterior Sheathing

CERTAINTED GYPSUM INC — Type C, Type X, Type X-1, Easi-Lite Type X-2

GEORGIA-PACIFIC GYPSUM L L C — Types X, Veneer Plaster Base-Type X, Water Rated-Type X, Sheathing Type-X, Soffit-Type X, Type X ComfortGuard Sound Deadening Gypsum Board.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Types PG-11, PGS-WRS, PGI.

THAI GYPSUM PRODUCTS PCL — Type C or Type X

2C. **Gypsum Board*** — (As an alternate to Item 2, Not Shown) — For Use with Item 5A only - 5/8 in. thick 4 ft wide gypsum panels applied horizontally and attached to studs and bearing plates with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screws 1 in and 4 in. from edges of board. Finish Rating is 25 min.

CABOT MANUFACTURING ULC — 5/8 Type X, Type Blueglass Exterior Sheathing

GEORGIA-PACIFIC GYPSUM L L C — Type X, Veneer Plaster Base-Type X, Water Rated-Type X, Sheathing Type-X, Soffit-Type X

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Types PG-11, PGS-WRS, PGI

2D. **Gypsum Board*** — (As an alternate to Item 2) — Not to be used with item 7, 5/8 in. thick, 4 ft. wide, paper surfaced, applied vertically only and fastened to the studs and plates with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 1/4 in. diam heads, 7 in. OC.

NATIONAL GYPSUM CO — Type SBW8

2E **Gypsum Board*** — (As an alternate to Items 2 through 2D) — Nominal 5/8 in. thick, 4 ft wide panels, secured as described in Item 2.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock ES.

2F. **Gypsum Board*** — (As an alternate to Item 2) — Not to be used with item 7, 5/8 in. thick, 4 ft. wide, paper surfaced, applied vertically or horizontally and fastened to the studs and plates with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screw 1 in. from edge of board.

CERTAINTED GYPSUM INC — Type SilentFX

2G. **Wall and Partition Facings and Accessories*** — (As an alternate to Items 2 through 2F) — Nominal 5/8 in. thick, 4 ft wide panels, secured as described in Item 2.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock 527.

2H. **Gypsum Board*** — (As an alternate to Item 2) — 5/8 in. thick gypsum panels, with beveled, square, or tapered edges, applied either horizontally or vertically. Gypsum panels fastened to framing with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a maximum 10 in. OC with the last two screws 4 and 1 in. from the edges of the board. When used in widths other than 48 in., gypsum panels are to be installed horizontally.

CERTAINTED GYPSUM INC — Type LGFC6A (finish rating 21 min), Type LGFC2A, Type LGFC-C/A, Type LGFC-WD, Type LGLLX

2I. **Gypsum Board*** — (As an alternate to Item 2) — 5/8 in. thick gypsum panels, with beveled, square, or tapered edges, applied either horizontally or vertically. Gypsum panels fastened to framing with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screw 1 in. from edge of board. When used in widths other than 48 in., gypsum boards are to be installed horizontally.

AMERICAN GYPSUM CO — Types AGX-1 (finish rating 25 min.), M-Glass (finish rating 25 min.), AG-C (finish rating 25 min.), LightRoc (finish rating 25 min.)

NATIONAL GYPSUM CO — Type FSK, Type FSK-G, Type PSW, Type PSW-3, Type PSW-5, Type PSW-G, Type FSK-C, Type PSW-C, Type FSK-M-C, Type PSW-6, Type FSL

2J. **Gypsum Board*** — (As an alternate to Item 2) - 5/8 in. thick gypsum panels, with beveled, square, or tapered edges, applied either horizontally or vertically. Gypsum panels fastened to framing with 1-1/4 in. long Type W coarse thread steel screws spaced a max 8 in. OC with the last screw 1 in. from edge of board. When used in widths other than 48 in., gypsum boards are to be installed horizontally.

CERTAINTED GYPSUM INC — Type C, Type X or Type X-1(finish rating 26 min), Easi-Lite Type X (finish rating 24 min), Easi-Lite Type X-2, Type EGRO or GlasRoc or GlasRoc Sheathing (finish rating 23 min)

3. **Joints and Fastener Heads** — (Not Shown) — Gypsum board joints covered with tape and joint compound. Fastener heads covered with joint compound.

4. **Batts and Blankets*** — Mineral fiber or glass fiber insulation, 3-1/2 in. thick, pressure fit to fill wall cavities between studs and plates. Mineral fiber insulation to be unfaced and to have a min density of 3 pcf. Glass fiber insulation to be faced with aluminum foil or kraft paper and to have a min density of 0.9 pcf (min R-13 thermal insulation rating).

See **Batts and Blankets*** (BNV) Category in the Building Materials Directory and **Batts and Blankets*** (BZJ) Category in the Fire Resistance Directory for names of Classified Companies.

4A. **Fiber, Sprayed*** — As an alternate to Batts and Blankets (Item 4) — Spray applied cellulose material. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product with a nominal dry density of 2.7 lb/ft³. Alternate Application Method: The fiber is applied without water or adhesive at a nominal dry density of 3.5 lb/ft³, in accordance with the application instructions supplied with the product.

U S GREENFIBER L L C — INS735 and INS745 for use with wet or dry application. INS515LD, INS541LD, INS735, INS745, INS765LD, and INS773LD are to be used for dry application only.

4B. **Fiber, Sprayed*** — As an alternate to Item 4 and 4A — Spray applied cellulose material. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. Nominal dry density of 4.58 lb/ft³.

NU-WOOL CO INC — Cellulose Insulation

4C. **Fiber, Sprayed*** — As an alternate to Batts and Blankets (Item 4) — Spray applied cellulose fiber. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. The minimum dry density shall be 4.30 lbz/ft³.

INTERNATIONAL CELLULOSE CORP — Celbar-RL

4D. **Fiber, Sprayed*** — As an alternate to Batts and Blankets (Item 4) — Spray applied, granulated mineral fiber material. The fiber is applied with adhesive, at a minimum density of 4.0 pcf, to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. See Fiber, Sprayed (CCAZ).

AMERICAN ROCKWOOL MANUFACTURING, LLC — Type Rockwool Premium Plus

5. **Wood Structural Panel Sheathing** — Min 7/16 in. thick, 4 ft wide wood structural panels, min grade "C-D" or "Sheathing". Installed with long dimension of sheet (strength axis) or face grain of plywood parallel with or perpendicular to studs. Vertical joints centered on studs. Horizontal joints backed with nom 2 by 4 in. wood blocking. Attached to studs on exterior side of wall with 6d cement coated box nails spaced 6 in. OC at perimeter of panels and 12 in. OC along interior studs.

5A. **Mineral and Fiber Boards*** — As an alternate to Item 5 - Min 1/2 in. thick, 4 ft wide sheathing, installed vertically to studs. Vertical joints centered on studs. Horizontal joints backed with nom 2 by 4 in. wood blocking. Attached to studs on exterior side of wall with 1-1/2 in. long galvanized roofing nails spaced 6 in. OC at perimeter of panels and 12 in. OC along interior studs. As an option a weather resistive barrier may be applied over the Mineral and Fiber Boards.

6. **Exterior Facings** — Installed in accordance with the manufacturer's installation instructions. One of the following exterior facings is to be applied over the sheathing:
A. **Vinyl Siding — Molded Plastic*** — Contoured rigid vinyl siding having a flame spread value of 20 or less. See **Molded Plastic** (BIA) category in the Building Materials Directory for names of manufacturers.

B. **Particle Board Siding** — Hardboard exterior sidings including patterned panel or lap siding.

C. **Wood Structural Panel or Lap Siding** — APA Rated Siding, Exterior, plywood, OSB or composite panels with veneer faces and structural wood core, per PS 1 or APA Standard PRP-108, including textured, rough sawn, medium density overlay, brushed, grooved and lap siding.

D. **Cementitious Stucco** — Portland cement or synthetic stucco systems with self-furring metal lath or adhesive base coat. Thickness from 3/8 to 3/4 in., depending on system.

E. **Brick Veneer** — Any type on nom 4 in. wide brick veneer. When brick veneer is used, the rating is applicable with exposure on either face. Brick veneer fastened with corrugated metal wall ties attached over sheathing to wood studs with 8d nail per tie; ties spaced not more than each sixth course of brick and max 32 in. OC horizontally. One in. air space provided between brick veneer and sheathing.

F. **Exterior Insulation and Finish System (EIFS)** — Nom 1 in. **Foamed Plastic*** insulation bearing the UL Classification Marking, attached over sheathing and finished with coating system, or Portland cement or synthetic stucco systems, in accordance with manufacturer's instructions. See **Foamed Plastic** (BRYX and CCW) categories for names of Classified companies.

G. **Siding** — Aluminum or steel siding attached over sheathing to studs.

H. **Fiber-Cement Siding** — Fiber-cement exterior sidings including smooth and patterned panel or lap siding.

I. **Wall and Partition Facings and Accessories*** — Stone veneer is mortar bonded to a lath, scratch coat and water resistant barrier applied to sheathing, installed in accordance with the manufacturers installation instructions, and meeting the requirements of local code agencies.

ELDORADO STONE OPERATIONS L L C — Type Eldorado Stone

J. **Cementitious Backer Units** — 1/2 in. or 5/8 in., min. 32 in. wide - Applied vertically or horizontally with vertical joints centered over studs. Fastened to studs and runners with cement board screws of adequate length to penetrate stud by a minimum 3/4 in., spaced a max of 8 in. OC. Horizontal joints need not be backed by framing. When Cementitious Backer Units are used, the rating is applicable with exposure on either face. Cementitious Backer Units for use as substrate for exterior finishes such as ceramic tile, slate, marble, natural stone, manufactured stone, thin brick, or Portland cement or synthetic stucco.

NATIONAL GYPSUM CO — Type PernaBase

6A. **Building Units*** — As an alternate to **Exterior Facing Item 6** — Insulated steel panels, 12 through 42 in. wide. Attached over sheathing through resilient clips to studs or support steel with No. 14 hex head self-tapping screws located at each joint in the concealed lip of the units and spaced in accordance with the structural design requirements. **KINGSPAN INSULATED PANELS INC** — Types 200, 300, 400, 900, or KS series, 2 through 6 in. thickness: CWP-V, H, 2 through 3 in. nominal thickness or Designwall 2000 or Designwall 4000, 2 and 3 in. nominal thickness.

7. **Steel Framing Members*** — (Optional, Not Shown) — Furring Channels and Steel Framing Members as described below:
a. **Furring Channels** — Formed of No. 25 MSG galv steel, 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced 24 in. OC, perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping #6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Gypsum board attached to furring channels as described in Item 2.

b. **Steel Framing Members*** — Used to attach furring channels (Item 7a) to studs. Clips spaced 48 in. OC, and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center grommet. Furring channels are friction fitted into clips. RSIC-1 clip for use with 2-9/16 in. wide furring channels. RSIC-1 (2.75) clip for use with 2-23/32 in. wide furring channels.
PAC INTERNATIONAL L L C — Types RSIC-1, RSIC-1 (2.75).

7A. **Steel Framing Members*** — (Optional, Not Shown, As an alternate to Item 7) — Furring channels and Steel Framing Members as described below:

a. **Furring Channels** — Formed of No. 25 MSG galv steel, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. Two layers of gypsum board attached to furring channels as described in Item 2.

b. **Steel Framing Members*** — Used to attach furring channels (Item 7Aa) to interior side of studs. Clips spaced 48 in. OC, and secured to studs with two No. 8 x 2-1/2 in. coarse drywall screws, one through the hole at each end of the clip. Furring channels are friction fitted into clips.
KINETICS NIOS CONTROL INC — Type Iosmax.

7B. **Steel Framing Members*** — (Optional, Not Shown, As an alternate to Item 7) — Furring channels and Steel Framing Members as described below:

a. **Furring Channels** — Formed of No. 25 MSG galv steel, 2-3/8 in. wide by 7/8 in. deep, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping #6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Gypsum board attached to furring channels as described in Item 2.

b. **Steel Framing Members*** — Used to attach furring channels (Item a) to studs. Clips spaced 48 in. OC. Genie clips secured to studs with No. 8 x 1-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips.
PLUTEQ INC — Type Genie Clip

7C. **Steel Framing Members*** — (Optional, Not Shown, As an alternate to Item 7) — Furring channels and Steel Framing Members as described below:

a. **Furring Channels** — Formed of No. 25 MSG galv steel. Spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire. Gypsum board attached to furring channels as described in Item 2.

b. **Steel Framing Members*** — Used to attach furring channels (Item 7Ca) to studs. Clips spaced 48 in. OC, and secured to studs with 2 in. coarse drywall screw with 1 in. diam washer through the center hole. Furring channels are friction fitted into clips.
STUDCO BUILDING SYSTEMS — RESILMOUNT Sound Isolation Clips - Type A237R

7D. **Steel Framing Members*** — (Optional, Not Shown, As an alternate to Item 7) — Furring channels and Steel Framing Members as described below:

a. **Furring Channels** — Formed of No. 25 MSG galv steel. Spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item 7Db. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire. Gypsum board attached to furring channels as described in Item 2.

b. **Steel Framing Members*** — Used to attach furring channels (Item 7Da) to studs. Clips spaced 48 in. OC, and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips.
REGUPOL AMERICA — Type SonacClip

7E. **Steel Framing Members*** — (Optional, Not Shown, As an alternate to Item 7) — Resilient channels and Steel Framing Members as described below:

a. **Resilient Channels** — Formed of No. 25 MSG galv steel, spaced 24 in. OC, and perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and secured in place with two No. 8 15 x 1/2 in. Phillips Modified Truss screws spaced 2-1/2 in. from the center of the overlap. Gypsum board attached to resilient channels as described in Item 2.

b. **Steel Framing Members*** — Used to attach resilient channels (Item 7Ea) to studs. Clips spaced 48 in. OC, and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Resilient channels are secured to clips with one No. 10 x 1/2 in. pan-head self-drilling screw.
KEENE BUILDING PRODUCTS CO INC — Type RC- Assurance Clip

7F. **Steel Framing Members*** — (Optional, Not Shown, As an alternate to Item 7) — Furring channels and Steel Framing Members as described below:

a. **Furring Channels** — Formed of No. 25 MSG galv steel, 2-23/32 in. wide by 7/8 in. or 1-1/2 in. deep, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping #6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Gypsum board attached to furring channels as described in Item 2.

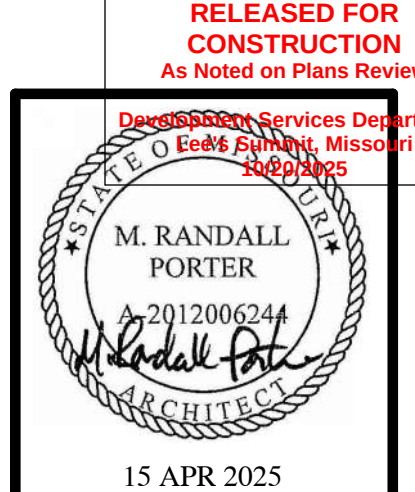
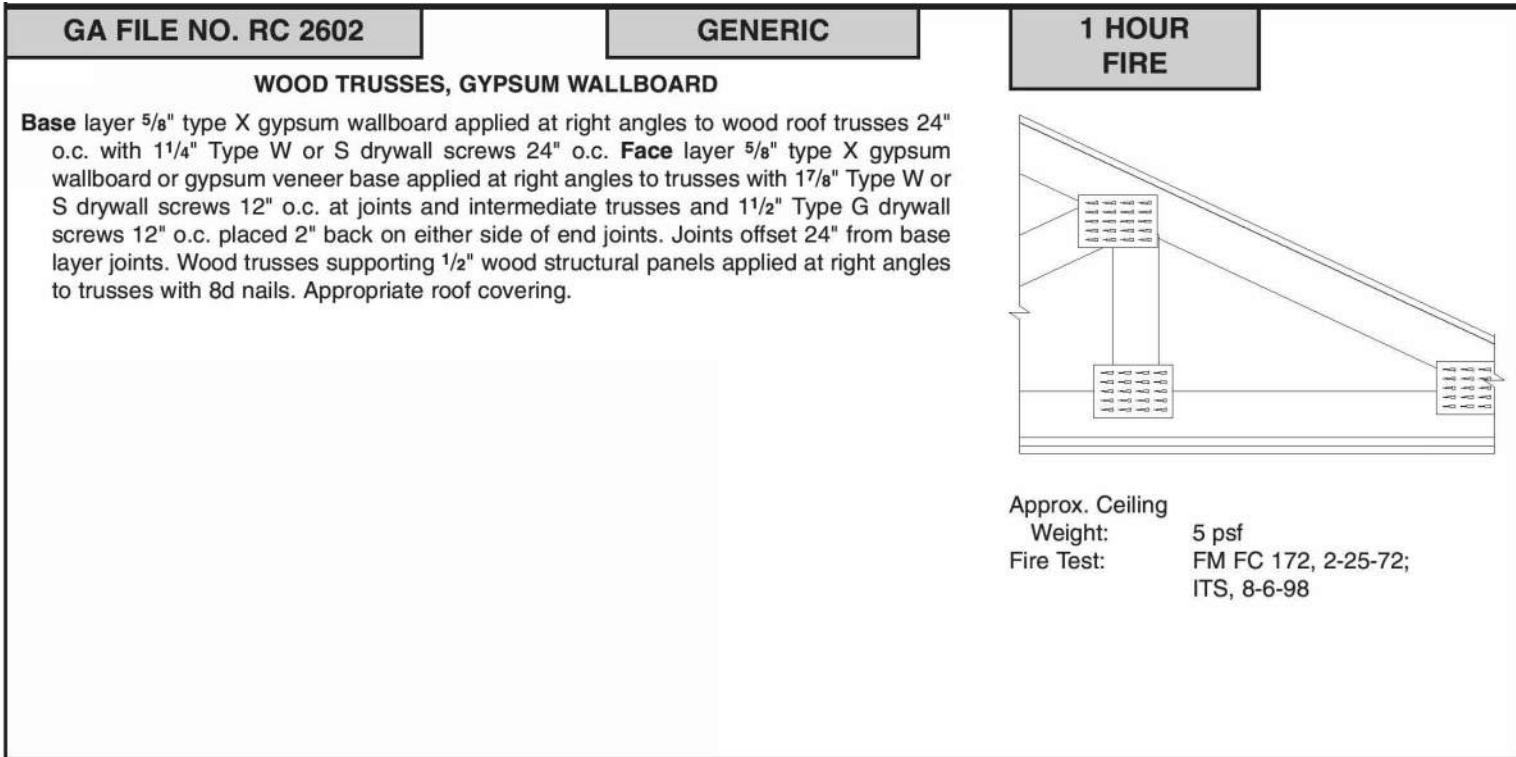
b. **Steel Framing Members*** — Used to attach furring channels (Item 7Fa) to studs. Clips spaced maximum 48 in. OC. Clips secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center grommet. Furring channels are friction fitted into clips.

CLARKDIETRICH BUILDING SYSTEMS — Type ClarkDietrich Sound Clip

8. **Non-Bearing Wall Partition Intersection** — (Optional) — Two nominal 2 by 4 in. stud or nominal 2 by 6 in. stud nailed together with two 3in. long 10d nails spaced a max. 16 in. OC vertically and fastened to one side of the minimum 2 by 4 in. stud with 3 in. long 10d nails spaced a max 16 in. OC vertically. Intersection between partition wood studs to be flush with the 2 by 4 in. studs. The wall partition wood studs are to be framed by a second 2 by 4 in. wood stud fastened with 3 in. long 10d nails spaced a max. 16 in. OC vertically. Maximum one non-bearing wall partition intersection per stud cavity. Non-bearing wall partition stud depth shall be at a minimum equal to the depth of the bearing wall.

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

Last Updated on 2020-10-07



ALURA APARTMENTS - VILLAGE AT DISCOVERY PARK
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

Wallace ARCHITECTS L.L.C.
Columbia, MO
P 573-258-7200

WALLACE ARCHITECTS, LLC
MISSOURI STATE CERTIFICATE
OF AUTHORITY: 2003019614

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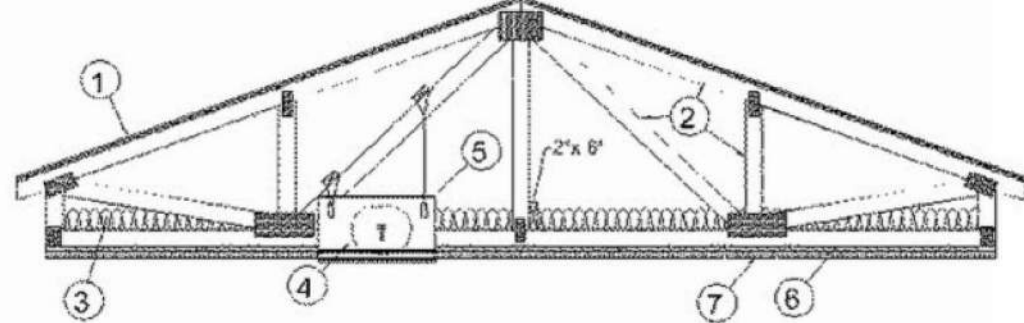
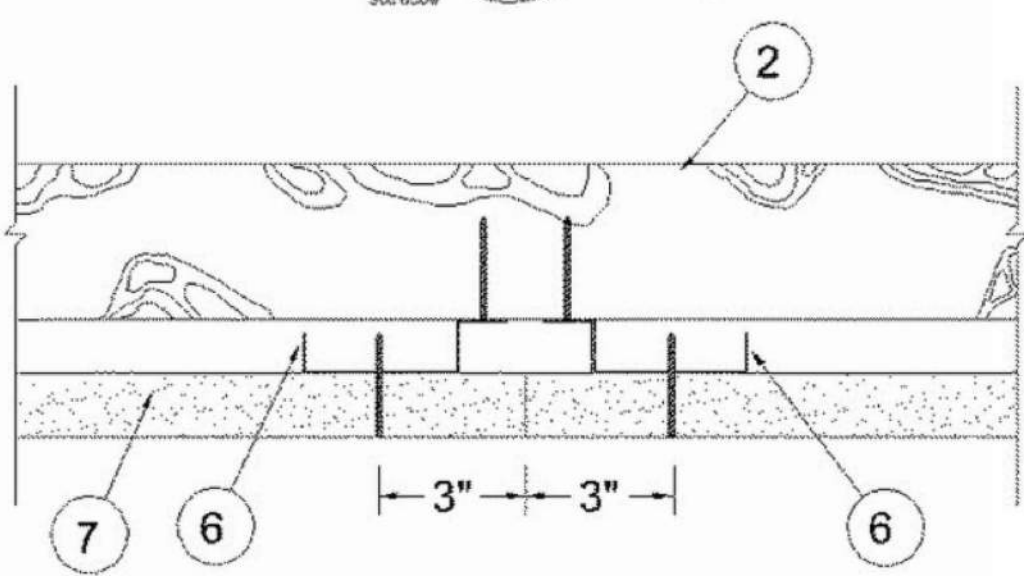
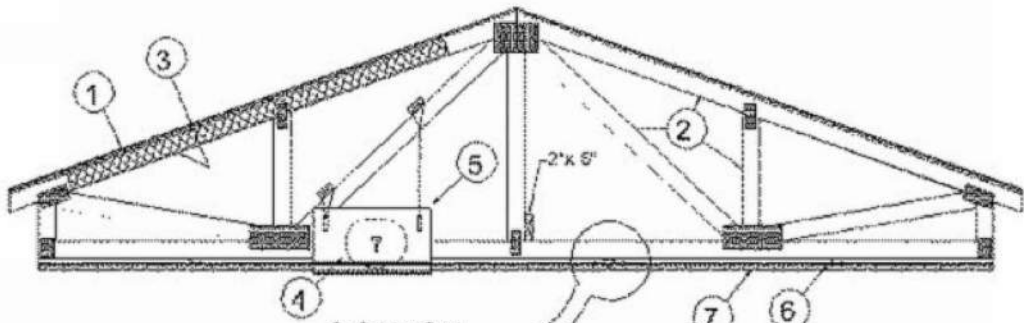
A5.4A
JOB NO.
4938

Design No. P556

December 6, 2023

Unrestrained Assembly Rating — 1 Hr.
Finish Rating — 24 or 25 Min (See Items 3, 3A and 3B)
This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUVZ

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.



Alternate Insulation Placement

1. **Roofing System*** — Any UL Class A, B or C Roofing System (TGFR) or Prepared Roof Covering (TFWZ) acceptable for use over nom 15/32 in. thick wood structural panels, min. grade "C-D" or "Sheathing". Nom 15/32 in. thick wood structural panels secured to trusses with No. 6d ringed shank nails. Nails spaced 12 in. OC along each truss. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Construction adhesive is optional and may be used with either nails or staples.

2. **Trusses** — Pitch or Parallel chord trusses, spaced a max of 24 in. OC, fabricated from nom 2 1/4 in. long by 4 lumber, with lumber oriented vertically or horizontally. Truss members secured together min 0.035 in. thick galv steel plates. Plates have 5/16 in. long teeth projecting perpendicular to the plane of the plate. The teeth are in pairs facing each other (made by the same punch), forming a split tooth type plate. Each tooth has a chisel point on its outside edge. These points are diagonally opposite each other for each pair. The top half of each tooth has a twist for stiffness. The pairs are repeated on approximately 7/8 in. centers with four rows of teeth per inch of plate width. Minimum parallel chord truss depth shall be 18 in. Where the truss intersects with the interior face of the exterior walls, the min truss depth shall be 5-1/4 in. with a min roof slope of 3/12 and a min. average depth of 18 in. Where the truss intersects with the interior face of the exterior walls, the min truss depth may be reduced to 3 in. if the batts and blankets (Item 3) are used as shown in the above illustration (Alternate Insulation Placement) and are firmly packed against the intersection of the bottom chords and the plywood sheathing.

3. **Batts and Blankets*** — (Optional) - Glass fiber insulation, secured to the wood structural panel with staples spaced 12 in. OC or to the trusses with 0.090 in. diam galv steel wires spaced 12 in. OC. Any glass fiber insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance, having a min density of 0.5 pcf. As an option, the insulation may be fitted in the concealed space, draped over the resilient channel/gypsum board ceiling membrane when resilient channels and gypsum board attachment is modified as specified in Items 6 and 7. The Finish Rating is 24 min, when the insulation is draped over the resilient channels and gypsum board ceiling membrane and 25 min, when it is installed on underside of the plywood deck or when it is omitted.

3A. **Loose Fill Material*** — As an alternate to Item 3 — Any thickness of loose fill material bearing the UL Classification Marking for Surface Burning Characteristics, having a min density of 0.5 pcf, fitted in the concealed space, draped over the resilient channel/gypsum board ceiling membrane when resilient channels and gypsum board attachment is modified as specified in Items 6 and 7. The finished rating when loose fill material is used has not been determined.

3B. **Fiber, Sprayed*** — As an alternate to Items 3 and 3A (not evaluated for use with Items 6B, 6C, 6D and 6E) — Any thickness of spray-applied cellulose insulation material, having a min density of 0.5 lb/ft³, applied with water, over the resilient channel/gypsum board ceiling membrane when resilient channels and gypsum board attachment is modified as specified in Items 6 and 7. Fiber, Sprayed is applied with moisture in accordance with the application instructions supplied with the product. The Finish rating when Fiber Sprayed is used has not been determined. Alternate application method: The fiber is applied without water or adhesive in accordance with the application instructions supplied with a minimum density of 0.5 lb/ft³ over the resilient channel/gypsum board ceiling membrane when resilient channels and gypsum board attachment is modified as specified in Items 6 and 7. Alternate application method: The fiber is applied without water or adhesive to a nominal density of 3.5 lb/ft³ behind netting (Item 9) stapled to the rafters. The netting is stapled at both lower edges of the rafters creating a cavity to accept the cellulose fiber.

APPLICABLE GREENFIBER ACQUISITION LLC — Insulmate and SANCTUARY for use with wet or dry application. (INS515LD, INS515LD, and INS541LD are to be used for dry application only.

3C. **Foamed Plastic*** — (As an alternate to Item 3 - Not Shown) — Spray foam insulation applied directly to the underside of the underside of the roofing system (Item 1). Spray foam insulation installed to a maximum thickness of 10 in. at a nominal 0.5 lb/ft³ density, while maintaining a minimum 8-1/2 in. clearance between the spray foam insulation and the gypsum board (Item 7). When spray foam insulation is used, resilient channels (Item 6) shall be installed maximum 12 in. OC, with channels adjacent to butt joints of gypsum board (Item 7) installed at 6 in. OC to allow for maximum 3 in. spacing off ends of the gypsum board joints. Gypsum board (Item 7) to be installed using 1-1/4 in. long Type 5 screws, spaced maximum 8 in. OC, and butted end joints shall be staggered min. 2 ft within the assembly, and occur midway between the continuous furring channels. If used with a ceiling radiation damper in the concealed space, minimum 1 in. clearance to be maintained between damper housing and spray foam insulation. Limited to resilient channels, Item 6 only, no Item 6 alternates. The finished rating when this insulation is used has not been determined.

3D. **Foamed Plastic*** — (As alternate to Item 3 - Not Shown) — Spray foam insulation applied directly to the underside of the roofing system (Item 1). Spray foam insulation installed to a maximum thickness of 10 in. at a nominal 0.5 lb/ft³ or 2.0 lb/ft³ density, depending on the product installed. When spray foam insulation is installed, resilient channels (Item 6) shall be installed maximum 12 in. OC, with channels adjacent to butt joints of gypsum board (Item 7) spaced maximum 3 in. away from gypsum board joints. Gypsum board (Item 7) to be installed using minimum 1-1/4 in. long Type 5 screws, spaced maximum 8 in. OC, and butted end joints shall be staggered min. 2 ft within the assembly, and occur midway between the continuous furring channels. If used with a ceiling radiation damper in the concealed space, minimum 1 in. clearance to be maintained between damper housing and spray foam insulation. Limited to resilient channels, Item 6 only, no Item 6 alternates. The finished rating when this insulation is used has not been determined.

BAF CORP — EnerGel® NM, EnerGel® G, FE178®, SprayGel® 178, SprayGel® 81206, Wallite® 200, Wallite® US, Wallite® US-N, and Wallite® HP-

3E. **Foamed Plastic*** — (As an alternate to Item 3 - Not Shown) — Spray foam insulation applied directly to the underside of the underside of the roofing system (Item 1). Spray foam insulation installed to a maximum thickness of 17 in. at a nominal 0.5 lb/ft³ density, while maintaining a minimum 1-1/2 in. clearance between the spray foam insulation and the gypsum board (Item 7). When spray foam insulation is used, resilient channels (Item 6) shall be installed maximum 12 in. OC, with channels adjacent to butt joints of gypsum board (Item 7) installed at 6 in. OC to allow for maximum 3 in. spacing off ends of the gypsum board joints. Gypsum board (Item 7) to be installed using 1-1/4 in. long Type 5 screws, spaced maximum 8 in. OC, and butted end joints shall be staggered min. 2 ft within the assembly, and occur midway between the continuous furring channels. If used with a fire damper (Item 5 through 5B) in the concealed space, no clearance is necessary between damper housing and spray foam insulation. Limited to resilient channels, Item 6 only, no Item 6 alternates. The finished rating when this insulation is used has not been determined.

3F. **Foamed Plastic*** — (As an alternate to Item 3 - Not Shown) — Spray foam insulation applied directly to the underside of the underside of the roofing system (Item 1). Spray foam insulation installed to a maximum thickness of 17 in. at a nominal 0.5 lb/ft³ density, while maintaining a minimum 1-1/2 in. clearance between the spray foam insulation and the gypsum board (Item 7). When spray foam insulation is used, resilient channels (Item 6) shall be installed maximum 12 in. OC, with channels adjacent to butt joints of gypsum board (Item 7) installed at 6 in. OC to allow for maximum 3 in. spacing off ends of the gypsum board joints. Gypsum board (Item 7) to be installed using 1-1/4 in. long Type 5 screws, spaced maximum 8 in. OC, and butted end joints shall be staggered min. 2 ft within the assembly, and occur midway between the continuous furring channels. If used with a ceiling radiation damper in the concealed space, minimum 1 in. clearance to be maintained between damper housing and spray foam insulation. Limited to resilient channels, Item 6 only, no Item 6 alternates. The finished rating when this insulation is used has not been determined.

EVEREST SYSTEMS LLC — Opticell 0.5

4. **Air Duct*** — For use with Ceiling Dampers* - Any UL Class 0 or Class 1 flexible air duct installed in accordance with the instructions provided by the damper manufacturer.

AIRVAC INDUSTRIES — Series AVI-50 w/Boot, AVI-50EA w/Boot, AVI-51 w/Boot, AVI-50 w/Box, AVI-50EA w/Box, AVI-51 w/Box.

5A. **Alternate Ceiling Damper*** — Max 12 in. diameter damper and insulated register box assembly. The maximum size of the register box assembly is nom. 20 in. long by 20 in. wide and 4 in. high fabricated from galv. Steel. Aggregate area of the register opening(s) through the ceiling membrane shall not exceed 128 sq in. per 100 sq ft of ceiling area. Damper assembly installed in accordance with the manufacturers installation instructions.

AIRE TECHNOLOGIES INC — Series 57

AIRVAC INDUSTRIES — Model AVI-57B

5B. **Alternate Ceiling Damper*** — Max 20 in. long by 16 in. wide by 4 in. high rectangular damper with duct board plenum box assembly. The maximum outer dimensions of the plenum box assembly is 23-1/2 in. long by 19-1/2 in. wide and 17 in. high fabricated from 6pcf, 1-1/2 to 2 in. thick Knauf Air Duct Board M*. Aggregate area of the register opening(s) through the ceiling membrane shall not exceed 160 sq in. per 100 sq ft of ceiling area. Damper assembly installed in accordance with the manufacturers installation instructions.

AIRE TECHNOLOGIES INC — Series 58

AIRVAC INDUSTRIES — Series AVI-58

5C. **Alternate Ceiling Damper*** — (Optional). To be used with Air Duct Item 4) — For use with min. 18 in. deep trusses. Max 7-1/32 in. long by 7-1/16 in. wide fabricated from galvanized steel. Aggregate area of the register opening(s) through the ceiling membrane shall not exceed 28.5 sq in. per 100 sq ft of ceiling area. Damper assembly installed in accordance with the manufacturer's installation instructions.

AIRE TECHNOLOGIES INC — Models ITG-CRD2

5D. **Alternate Ceiling Damper*** — (Optional). To be used with Air Duct Item 4) — For use with min. 18 in. deep trusses. Max 9-1/16 in. long by 9-1/16 in. wide fabricated from galvanized steel. Aggregate area of the register opening(s) through the ceiling membrane shall not exceed 44.5 sq in. per 100 sq ft of ceiling area. Damper assembly installed in accordance with the manufacturer's installation instructions.

AIRE TECHNOLOGIES INC — Models SIG-CRD2

5E. **Alternate Ceiling Damper*** — (Optional). To be used with Air Duct Item 4) — For use with min. 18 in. deep trusses. Max 10-13/32 in. long by 10-22/32 in. wide fabricated from galvanized steel. Aggregate area of the register opening(s) through the ceiling membrane shall not exceed 56 sq in. per 100 sq ft of ceiling area. Damper assembly installed in accordance with the manufacturer's installation instructions.

AIRE TECHNOLOGIES INC — Models GMT-CRD2

5F. **Alternate Ceiling Damper*** — (Optional). To be used with Air Duct Item 4) — For use with min. 18 in. deep trusses. Max 8-13/16 in. wide and 8-1/2 in. long fabricated from galvanized steel. Aggregate area of the register opening(s) through the ceiling membrane shall not exceed 37.5 sq in. per 100 sq ft of ceiling area. Damper assembly installed in accordance with the manufacturer's installation instructions.

AIRE TECHNOLOGIES INC — Models GBR-CRD2

6. **Furring Channels** — Resilient channels formed of 25 MSG galv steel, spaced 16 in. OC, installed perpendicular to trusses. When batt and blanket material, Item 3, is draped over the resilient channel/gypsum board ceiling membrane, the spacing shall be 12 in. OC. Channels secured to each truss with 1-1/4 in. long Type 5 steel screws. Channels overlapped 4 in. at splices. Channels oriented opposite at board butt joints (spaced 6 in. OC) as shown in the above illustration.

6A. **Steel Framing Members*** (Not Shown) — As an alternate to Item 6, furring channels and Steel Framing Members* as described below:

a. **Furring Channels** — Formed of No. 25 MSG galv steel, 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced 16 in. OC, perpendicular to trusses. When batt insulation (Item 3) is draped over the resilient channel/gypsum board ceiling membrane, the resilient channel spacing shall be reduced to 12 in. OC. Channels secured to trusses as described in Item 6. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap.

b. **Steel Framing Members*** — Used to attach furring channels (Item a) to trusses (Item 2). Clips spaced 48 in. OC. RSIC-1 and RSIC-V (2.75) clips secured to alternating trusses with No. 8 x 2-1/2 in. coarse drywall screw through the center grommet. RSIC-V and RSIC-V (2.75) clips secured to alternating trusses with No. 8 x 1-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips. RSIC-1 and RSIC-V clips for use with 2-9/16 in. wide furring channels. RSIC-1 (2.75) and RSIC-V (2.75) clips for use with 2-23/32 in. wide furring channels. Adjoining channels are overlapped as described in Item a. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping No. 6 framing screws, min 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Additional clips required to hold furring channel that supports the gypsum board butt joints, as described in Item 7.

PAC INTERNATIONAL L L C — Types RSIC-1, RSIC-V, RSIC-1 (2.75), RSIC-V (2.75).

6B. **Steel Framing Members*** (Not Shown) - As an alternate to Items 6 and 6A.

a. **Furring Channels** — Hat-shaped furring channels, 7/8 in. deep by 2-5/8 in. wide at the base and 1-1/4 in. wide at the face, formed from No. 25 ga. galv steel, spaced max 16 in. OC, perpendicular to trusses and Cold Rolled Channels (Item 6B). Furring channels secured to Cold Rolled Channels at every intersection with a 1/2 in. pan head self-drilling screw through each furring channel leg. Ends of adjoining channels overlapped 4 in. and tied together with two double strand No. 18 SWG galv steel wire ties, one at each end of overlap. Supplemental furring channels at base layer and outer layer gypsum board butt joints are not required. Batts and Blankets draped over furring channels as described in Item 7. Two layers of gypsum board attached to furring channels as described in Item 7.

b. **Cold Rolled Channels** — 1-1/2 in. by 1/2 in., formed from No. 16 ga. galv steel, positioned vertically and parallel to trusses, friction-fitted into the channel caddy on the Steel Framing Members (Item 6B). Adjoining lengths of cold rolled channels lapped min. 6 in. and wire-tied together with two double strand 18 SWG galv steel wire ties, one at each end of overlap.

c. **Blocking** — Where truss design does not permit direct, full contact of the hanger bracket, a piece of nominal 2 by 4 in. lumber (blocking), min. 6 in. long to permit full contact of the hanger bracket, to be secured vertically to the side of the truss (Item 2) at the top and bottom of the blocking at each Steel Framing Member (Item 6B) location.

d. **Steel Framing Members*** — Hangers spaced 48 in. OC, max along truss, and secured to the Blocking (Item 6Bc) on alternating trusses with a single 5/16 in. by 2 in. hex head lag bolt or four #6 1-1/4 in. drywall screws through mounting holes(s) on the hanger bracket. The two 1/4 in. long steel teeth on the hanger are embedded in the side of the blocking. Hanger positioned on blocking and leveling bolt height adjusted such that furring channels are flush with bottom of trusses before gypsum board installation. Spring gauge of hanger chosen per manufacturer's instructions.

KINETICS CONTROL INC. — Type ICW.

6C. **Steel Framing Members*** (Not Shown) - As an alternate to Items 6, 6A and 6B.

a. **Furring Channels** — Formed of No. 25 MSG galv steel, 2-3/8 in. wide by 7/8 in. deep installed perpendicular to wood structural members. Channels spaced a max of 16 in. OC, when no insulation (Item 3, 3A or 3B) is fitted in the concealed space or a max of 12 in. OC when insulation (Item 3, 3A or 3B) is fitted in the concealed space. Channels secured to trusses as described in Item 6C. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire near each end of overlap.

b. **Steel Framing Members*** — Used to attach furring channels (Item 6Ca) to trusses (Item 2). Clips secured to the bottom chord of each truss (24 in. OC) with one No. 8 by 2-1/2 in. long coarse drywall screw through center grommet. Furring channels are friction fitted into clips. Adjoining channels are overlapped as described in Item 6Ca. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping No. 6 framing screws, min 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Additional clips required to hold furring channel that supports the gypsum board butt joints, as described in Item 7.

PLITEQ INC. — Type Genie Clip

6D. **Steel Framing Members*** (Not Shown) - As an alternate to Items 6, 6A, 6B and 6C.

a. **Main runners** — Installed perpendicular to trusses — Nom 10 or 12 long. 15/16 in. or 1-1/2 in. wide face, spaced 4 ft OC. Main runners hung a min of 2 in. from bottom chord of trusses with 12 SWG galv steel wire. Wires located a max of 48 in. OC.

b. **Cross tees or channels** — Nom 4 ft long. 15/16 in. or 1-1/2 in. wide face or cross channels, nom 4 ft long. 1-1/2 wide face, installed perpendicular to the main runners, spaced 16 in. OC. Additional cross tees or channels used at 8 in. from each side of butted gypsum board end joints. The cross tees or channels may be riveted or screw-attached to the wall angle or channel to facilitate the ceiling installation.

c. **Wall angles or channels** — Used to support steel framing member ends and for screw-attachment of the gypsum board — Min 0.016 in. thick painted or galvanized steel angle with 1 in. legs or min. 0.016 in. thick painted or galvanized steel channel with a 1 by 1-1/2 by 1 in. profile, attached to walls at perimeter of ceiling with fasteners 16 in. OC.

CCC INC. — Type DGL or RX

US5 INTERIORS LLC — Type DGL or RX

6E. **Alternate Steel Framing Members*** (Not Shown) - As an alternate to Items 6, 6A, 6B, 6C and 6D, furring channels and Steel Framing Members as described below:

a. **Furring Channels** — Formed of No. 25 MSG galv steel, 2-5/8 in. wide by 7/8 in. deep, spaced 16 in. OC, perpendicular to trusses. When batt insulation (Item 3, 3A or 3B) is draped over the resilient channel/gypsum board ceiling membrane, the resilient channel spacing shall be reduced to 12 in. OC. Channels secured to trusses as described in Item b.

b. **Steel Framing Members*** — Used to attach furring channels (Item a) to the wood trusses (Item 2). Clips spaced at 48" OC and secured to the bottom of the trusses with one 2 in. Coarse Drywall Screw with 1 in. diam washer through the center hole. Furring channels are then friction fitted into clips. Ends of channels are overlapped 6" and tied together with double strand of No. 18 AWG galvanized steel wire. Additional clips are required to hold the Gypsum Butt joints as described in Item 7.

STUCCO BUILDING SYSTEMS — RESIMOUNT Sound Isolation Clips - Type A237 or A237R

6F. **Steel Framing Members*** (Not Shown) - As an alternate to Items 6 through 6E- Not for use with Items 3, 3A, or 3B. Main runners nom 12 ft long, spaced 72 in. OC. Main runners suspended by min 12 SWG galv steel hanger wires spaced 48 in. OC. Cross tees, nom 6 ft long, installed perpendicular to main runners and spaced 24 in. OC. Additional 6 ft long cross tees required at each gypsum board end joint with butted gypsum board end joints centered between cross tees spaced 8 in. OC. The main runners and cross tees may be riveted or screw attached to the wall angle or channel to facilitate the ceiling installation.

US5 INTERIORS LLC. — Type DGL or RX

6G. **Alternate Steel Framing Members*** (Not Shown) - As an alternate to Items 6 through 6F furring channels and Steel Framing Members as described below:

a. **Furring Channels** — Formed of No. 25 MSG galv steel, 2-1/2 in. wide by 7/8 in. deep, spaced 16 in. OC, perpendicular to trusses. When batt insulation (Item 3, 3A or 3B) is draped over the resilient channel/gypsum board ceiling membrane, the resilient channel spacing shall be reduced to 12 in. OC. Channels secured to trusses as described in Item b.

b. **Steel Framing Members*** — Used to attach furring channels (Item a) to the wood trusses (Item 2). Clips spaced at 48" OC and secured to the bottom of the trusses with one 2-1/2 in. Coarse Drywall Screw with 1 in. diam washer through the center hole. Furring channels are then friction fitted into clips. Ends of channels are overlapped 6" and tied together with double strand of No. 18 AWG galvanized steel wire. Additional clips are required to hold the Gypsum Butt joints as described in Item 7.

REGUPO, AMERICA — Type SonoClip

6H. **Furring Channels** — For use with American Gypsum Co. Type AG-C gypsum board only. Resilient channels formed of 25 MSG galv steel, spaced 16 in. OC, installed perpendicular to trusses. When insulation (Item 3, 3A or 3B) is fitted in the concealed space, channels/gypsum board ceiling membrane, the spacing may remain at 16 in. OC. Channels secured to each truss with 1-1/4 in. long Type 5 steel screws. Channels overlapped 4 in. at splices. Channels oriented opposite at board butt joints (spaced 6 in. OC) as shown in the above illustration.

7. **Gypsum Board*** — One layer of nom 5/8 in. thick, 48 in. wide, installed with long dimension perpendicular to resilient channels with 1 in. long Type 5 screws spaced 12 in. OC and located a min of 1/2 in. from the side joints and 3 in. from the end joints. At each joint, two resilient channels are used, extending a min of 6 in. beyond both ends of the joint. When insulation (Item 3, 3A, 3B) is draped over the resilient channel/gypsum board ceiling membrane, screws shall be installed at 8 in. OC.

When **Steel Framing Members*** (Item 6A or 6C) are used, sheets installed with long dimension perpendicular to furring channels and side joints of sheet located beneath trusses. Gypsum board screws are driven through channel spaced 12 in. OC in the field when no insulation (Item 3, 3A, 3B) is fitted in the concealed space, or 8 in. OC in the field when insulation (Item 3, 3A, 3B) is fitted in the concealed space, and draped over the furring channel/gypsum board ceiling membrane. Gypsum board butt joints shall be staggered min. 2 ft within the assembly, and occur between the main furring channels. At the gypsum board butt joints, each end of the gypsum board shall be supported by a single length of furring channel equal to the width of the gypsum board plus 6 in. on each end. The furring channels shall be spaced approximately 3-1/2 in. OC, and be attached to the trusses with one clip at each end of the channel. Screw spacing along the butt joint to attach the gypsum board to the furring channels shall be 8 in. OC. Second (outer) layer of gypsum board required when furring channels (Item 6A, a) are spaced 24 in. OC and insulation is fitted in the concealed space, draped over the furring channel/gypsum board ceiling membrane. Outer layer of gypsum board attached to the furring channels using 1-5/8 in. long Type 5 bugle-head screws spaced 8 in. OC at butted joints and 12 in. OC in the field. Butted end joints of outer layer to be offset a minimum of 8 in. from base layer end joints. Butted side joints of outer layer to be offset minimum 18 in. from butted side joints of base layer.

When **Steel Framing Members** (Item 6B) are used, two layers of nom 5/8 in. thick, 4 ft wide gypsum board are installed with long dimensions perpendicular to furring channels (Item 6Ba). Base layer attached to the furring channels using 1 in. long Type 5 bugle head steel screws spaced 8 in. OC along butted end joints and 12 in. OC in the field of the board. Butted end joints centered on the continuous furring channels. Butted base layer end joints to be offset a min of 16 in. in adjacent corners. Outer layer attached to the furring channels using 1-5/8 in. long Type 5 bugle head steel screws spaced 8 in. OC at butted end joints and 12 in. OC in the field. Butted end joints centered on the continuous furring channels and offset a min of 16 in. from butted end joints of base layer. Butted side joints of outer layer to be offset min 16 in. from butted side joints of base layer.

When **Steel Framing Members** (Item 6B) are used, one layer of nom 5/8 in. thick, 4 ft wide gypsum board is installed with long dimensions perpendicular to furring channels. Gypsum board secured to furring channels with nom 1 in. long Type 5 bugle-head steel screws spaced 8 in. OC in the field of the board. Gypsum board butted end joints shall be staggered minimum 48 in. and centered over main furring channels. At the gypsum board butt joints, each end of each gypsum board shall be supported by a single length of furring channel equal to the width of the gypsum board plus 3 in. on each end. The two support furring channels shall be spaced approximately 3 in. in from end joint. Screw spacing along the gypsum board butt joint and along both additional channels shall be 8 in. OC. Butt joint furring channels shall be attached with one RESIMOUNT Sound Isolation Clip at each end of the channel.

When **Steel Framing Members** (Item 6F) are used, one layer of nom 5/8 in. thick, 4 ft wide gypsum board sheets installed with long dimension (side joints) perpendicular to the 6 ft long cross tees with the end joints staggered min 4 ft and centered between cross tees which are spaced 8 in. OC. Gypsum board side joints may occur beneath or between main runners. Prior to installation of the gypsum board sheets, backer strips consisting of nom 7-3/4 in. wide piece of gypsum board are to be laid atop the cross tee flanges and centered over each butted end joint location. The backer strips are to be secured to the flanges of the cross tees at opposite corners of the backer strip along end clips to prevent the backer strips from being pulled during screw attachment of the gypsum board sheets. Gypsum board fastened to cross tees with 1 in. drywall screws spaced 1 in. and 4 in. from the side joints and max 8 in. OC in the field of the board. The butted end joints are to be secured to the backer strip with No. 10 by 1-1/2 in. long Type G laminating screws located 1 in. from each side of the butted end joint and spaced 1 in. and 4 in. from the side joints and max 8 in. OC in the field of the board.

When **Steel Framing Members** (Item 6G) are used, one layer of nom 5/8 in. thick, 4 ft wide gypsum board is installed with long dimensions perpendicular to furring channels. Gypsum board secured to furring channels with nom 1 in. long Type 5 bugle-head steel screws spaced 8 in. OC in the field of the board. Gypsum board butted end joints shall be staggered minimum 48 in. and centered over main furring channels. At the gypsum board butt joints, an additional single length of furring channel shall be installed and be spaced approximately 3 in. from the butt joint (6 in. from the continuous furring channels) to support the floating end of the gypsum board. Each of these shorter sections of furring channel shall extend one truss beyond the width of the gypsum panel and be attached to the adjacent trusses with one SonoClip at every truss involved with the butt joint.

FIRESTOPPING SPECIAL INSPECTION:
1. FOR R-2 OCCUPANCIES >250 OCCUPANTS, SPECIAL INSPECTION IS REQUIRED FOR FIRESTOPPING INCLUDING THROUGH-PENETRATIONS, MEMBRANE PENETRATION FIRESTOPS, FIRE-RESISTANT JOINT SYSTEMS AND PERIMETER FIRE CONTAINMENT SYSTEMS.
2. PENETRATION FIRESTOPS ARE REQUIRED TO BE TESTED, LISTED AND INSPECTED BY AN APPROVED AGENCY IN ACCORDANCE WITH ASTM E2174.
3. FIRE-RESISTANT JOINT SYSTEMS ARE REQUIRED TO BE TESTED, LISTED AND INSPECTED BY AN APPROVED AGENCY IN ACCORDANCE WITH ASTM E2593.

AMERICAN GYPSUM CO. — Types AG-C
CGC INC. — Types C, IP-X2, IPC-AR.
CERTAINTED GYPSUM INC. — Type C
CERTAINTED GYPSUM INC. — Type LGFC-C/A
GEORGIA-PACIFIC GYPSUM L L C — Type TG-C
NATIONAL GYPSUM CO. — Types eXP-C, FSW-G, FSW-C, FSK-G, FSK-C.
THAI GYPSUM PRODUCTS PCL. — Type C
UNITED STATES GYPSUM CO. — Types C, IP-X2, IPC-AR
USG BORAL DRYWALL SFZ LLC. — Type C
USG MEXICO S A DE C V — Types C, IP-X2, IPC-AR.
7A. **Gypsum Board*** — For use with **Steel Framing Members** (Item 6D) when **Batts and Blankets** (Item 3) are not used - One layer of nom 5/8 in. thick by 48 in. wide boards, installed with long dimension parallel to the main runners. Gypsum board fastened to each cross tee or channel with five gypsum board screws, with one screw located at the midspan of the cross tee or channel, one screw located 12 in. from and on each side of the cross tee or channel mid span and one screw located 1-1/2 in. from each gypsum board side joint. Except at gypsum board end joints, gypsum board screws shall be located on alternating sides of cross tee flange. At gypsum board end joints, gypsum board screws shall be located 1/2 in. from the joint. Gypsum board fastened to main runners with gypsum board screws 1/2 in. from side joints, midway between intersections with cross tees or channels (16 in. OC). End joints of adjacent gypsum board sheets shall be staggered not less than 32 in. Gypsum board sheets screw attached to leg of wall angle with gypsum board screws spaced 12 in. OC. Joints treated as described in Item 7. For use with **Steel Framing Members** (Item 6D) when **Batts and Blankets** (Item 3) are used - 5/8 in. thick, 4 ft wide, installed with long dimension perpendicular to cross tees with side joints centered along main runners and end joints centered along cross tees. Fastened to cross tees with 1 in. long steel gypsum board screws spaced 8 in. OC in the field and 8 in. OC along end joints. Fastened to main runners with 1 in. long gypsum board screws spaced midway between cross tees. Screws along sides and ends of boards spaced 3/8 to 1/2 in. from board edge. End joints of the sheets shall be staggered with spacing between joints on adjacent boards not less than 4 ft OC.
CGC INC. — Type C or IP-X2.
UNITED STATES GYPSUM CO. — Type C or IP-X2.
USG BORAL DRYWALL SFZ LLC. — Type C
USG MEXICO S A DE C V — Type C or IP-X2.
7B. **Gypsum Board*** (As an alternative to Items 7 and 7A) — Nom 5/8 in. thick, 48 in. wide gypsum board, installed and secured as described in Items 7 and 7A with max screw spacing 8 in. OC.
CGC INC. — Type ULX
UNITED STATES GYPSUM CO. — ULX
7C. **Gypsum Board*** — (As an alternative to Item 7) — For use when no insulation is used. Nom 5/8 in. thick, 48 in. wide gypsum board, installed as described in Item 7 with resilient channels (Item 6) spaced 24 in. OC.
AMERICAN GYPSUM CO. — Type AG-C
8. **Finishing System** — (Not Shown) — Vinyl, dry or premixed joint compound, applied in two coats to joints and screw-heads; paper tape, 2 in. wide, embedded in first layer of compound over all joints. As an alternate, nom 3/32 in. thick veneer plaster may be applied to the entire surface of gypsum board.
9. **Netting** — (Not Shown) - For use when Sprayed Fiber* (Item 3B) is used - Woven netting material fastened to underside of each truss with staples, with side joints overlapped.
* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

UL/cUL SYSTEM NO. WL-3282
CABLE BUNDLE THROUGH "UNIQUE FIRESTOP SLEEVE" IN 1-HR. OR 2-HR. GYPSUM WALL ASSEMBLY
F-RATING = 1-HR. OR 2-HR.
T-RATING = 0-HR.

FRONT VIEW SECTION A-A

1. GYPSUM WALL ASSEMBLY (UL/cUL CLASSIFIED U300, U400 OR V400 SERIES) (1-HR. OR 2-HR. FIRE-RATING).
2. (NOT SHOWN) WOOD STUDS TO CONSIST OF NOMINAL 2" x 4" LUMBER. STEEL STUDS TO BE MINIMUM 3-1/2" WIDE.
3. UNIQUE FIRESTOP PRODUCTS, DIVISION OF "TITS UNIQUE" INC. SMOOTH SLEEVE, THREADED SLEEVE, OR SPLIT SLEEVE (2" AND 4" SIZES).
4. CABLE BUNDLE TO BE A COMBINATION OF ANY OF THE FOLLOWING:
A. MAXIMUM TWO PAIR NO. 24 AWG TELEPHONE CABLE WITH PVC JACKET.
B. MAXIMUM 750 KOMI POWER CABLE WITH PVC JACKET.
C. MAXIMUM 7/16 NO. 12 AWG POWER CABLE WITH PVC JACKET.
D. MAXIMUM 1/2" DIAMETER FIBER-OPTIC CABLE (MAXIMUM 24 FIBER).
E. MAXIMUM 3/16 NO. 12 AWG METAL-CLAD CABLE WITH PVC JACKET.
F. MAXIMUM 1" DIAMETER METAL-CLAD TEK CABLE WITH PVC JACKET.
G. MAXIMUM 2/0 ALUMINUM SER CABLE.
H. TYPE RG 59U COAXIAL CABLE WITH PVC JACKET.
5. ONE HILT CP 658T FIRESTOP PLUG CUT TO FIT AROUND THE CABLE BUNDLE AND INSTALLED TIGHTLY WITHIN SLEEVE SUCH THAT THE OUTER CIRCUMFERENCE OF THE DOME SHAPED PLUG IS FLUSH WITH EITHER END OF SLEEVE. WHEN SPLIT SLEEVE IS USED, INSTALL TWO HILT CP 658T FIRESTOP PLUGS, FLUSH WITH BOTH ENDS OF SLEEVE.

NOTES : 1. MAXIMUM DIAMETER OF OPENING IN WALL FOR 2-7/16" AND 4-1/2" SIZES ARE 2-1/4", AND 4-1/2", RESPECTIVELY.
2. CABLES TO FILL MAXIMUM 50% OF CROSS-SECTIONAL AREA OF OPENING.
3. ANNULAR SPACE = MINIMUM 0", MAXIMUM 3".

HILTI FIRESTOP SYSTEMS
HILTI, Inc.
Tulsa, Oklahoma

1-BR UNIT FINISH SCHEDULE				
NAME	FLOOR FINISH	BASE FINISH	WALL FINISH	CEILING FINISH
ANSI "B" 1-BR-A				
BATH	PORCELAIN	WOOD BASE	PAINTED GYP. BD.	PAINTED GYP. BD.
BEDROOM	CARPET	WOOD BASE	PAINTED GYP. BD.	PAINTED GYP. BD.
CLOSET	CARPET	WOOD BASE	PAINTED GYP. BD.	PAINTED GYP. BD.
COATS	VINYL PLANK	WOOD BASE	PAINTED GYP. BD.	PAINTED GYP. BD.
ENTRY	VINYL PLANK	WOOD BASE	PAINTED GYP. BD.	PAINTED GYP. BD.
KITCHEN	VINYL PLANK	WOOD BASE	PAINTED GYP. BD.	PAINTED GYP. BD.
LAUNDRY	VINYL PLANK	WOOD BASE	PAINTED GYP. BD.	PAINTED GYP. BD.
LIVING ROOM	VINYL PLANK	WOOD BASE	PAINTED GYP. BD.	PAINTED GYP. BD.
MECH.	VINYL PLANK	WOOD BASE	PAINTED GYP. BD.	PAINTED GYP. BD.
PANTRY	VINYL PLANK	WOOD BASE	PAINTED GYP. BD.	PAINTED GYP. BD.
PORCH	SEALED CONCRETE	NO ADDITIONAL FINISH	NO ADDITIONAL FINISH	NO ADDITIONAL FINISH
ANSI "B" 1-BR-B				
BATH	PORCELAIN	WOOD BASE	PAINTED GYP. BD.	PAINTED GYP. BD.
BEDROOM	CARPET	WOOD BASE	PAINTED GYP. BD.	PAINTED GYP. BD.
CLOSET	CARPET	WOOD BASE	PAINTED GYP. BD.	PAINTED GYP. BD.
COATS	VINYL PLANK	WOOD BASE	PAINTED GYP. BD.	PAINTED GYP. BD.
ENTRY	VINYL PLANK	WOOD BASE	PAINTED GYP. BD.	PAINTED GYP. BD.
KITCHEN	VINYL PLANK	WOOD BASE	PAINTED GYP. BD.	PAINTED GYP. BD.
LAUNDRY	VINYL PLANK	WOOD BASE	PAINTED GYP. BD.	PAINTED GYP. BD.
LIVING ROOM	VINYL PLANK	WOOD BASE	PAINTED GYP. BD.	PAINTED GYP. BD.
MECH.	VINYL PLANK	WOOD BASE	PAINTED GYP. BD.	PAINTED GYP. BD.
PORCH	SEALED CONCRETE	NO ADDITIONAL FINISH	NO ADDITIONAL FINISH	NO ADDITIONAL FINISH
ANSI "B" 1-BR-C				
BATH	PORCELAIN	WOOD BASE	PAINTED GYP. BD.	PAINTED GYP. BD.
BEDROOM	CARPET	WOOD BASE	PAINTED GYP. BD.	PAINTED GYP. BD.
CLOSET	CARPET	WOOD BASE	PAINTED GYP. BD.	PAINTED GYP. BD.
KITCHEN	VINYL PLANK	WOOD BASE	PAINTED GYP. BD.	PAINTED GYP. BD.
LAUNDRY	VINYL PLANK	WOOD BASE	PAINTED GYP. BD.	PAINTED GYP. BD.
LINEN	PORCELAIN	WOOD BASE	PAINTED GYP. BD.	PAINTED GYP. BD.
LIVING ROOM	VINYL PLANK	WOOD BASE	PAINTED GYP. BD.	PAINTED GYP. BD.
MECH.	VINYL PLANK	WOOD BASE	PAINTED GYP. BD.	PAINTED GYP. BD.
PORCH	SEALED CONCRETE	NO ADDITIONAL FINISH	NO ADDITIONAL FINISH	NO ADDITIONAL FINISH

- GENERAL UNIT NOTES
- 1)

CONTRACTOR SHALL FURNISH & INSTALL 4" BUILDING NUMBERS FOR EACH UNIT AS REQUIRED BY CITY OR LOCAL POSTMASTER.
- 2)

CONTRACTOR SHALL FURNISH ONE MAILBOX PER UNIT, PER OWNER SELECTION (SEE SPECS).
- 3)

COAT AND BEDROOM CLOSETS SHALL HAVE EPOXY-COATED WIRE SHELVING.
- 4)

PRIME & PAINT WALLS BEHIND MILLWORK.
- 5)

APPLY SILICONE CAULK BETWEEN CONCRETE AND BOTTOM OF THE DRYWALL.
- 6)

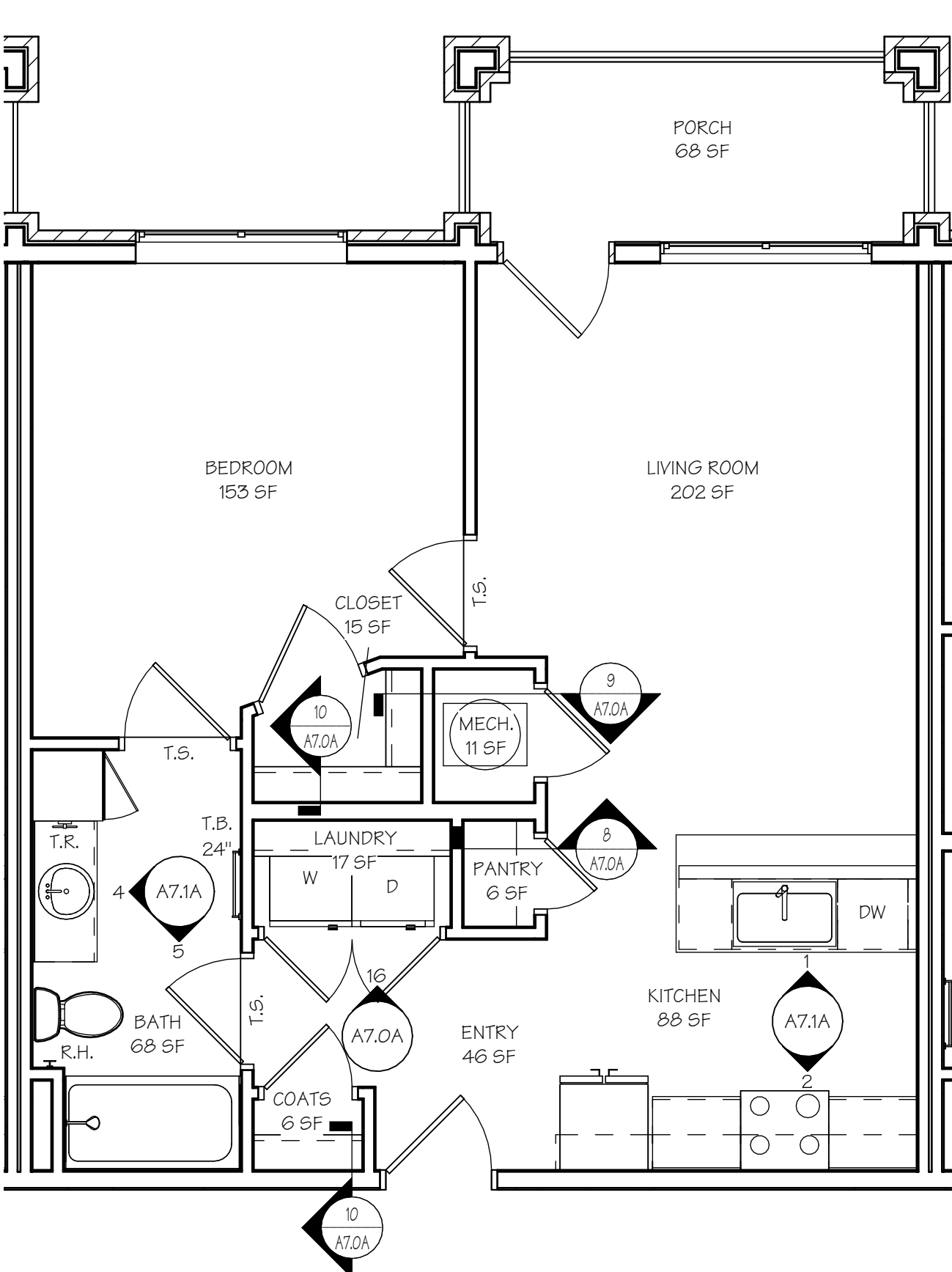
SEAL CONCRETE FLOOR TO REDUCE MOISTURE PENETRATION.
- 7)

APPROPRIATELY SIZED BLINDS SHALL BE PROVIDED AND INSTALLED FOR EACH GLAZED OPENING, INCLUDING PAIRED WINDOWS (PROVIDED WITH TWO SETS) AND DOOR GLAZING WHERE HALF LITE OR LARGER.
- 8)

INSTALL FIRE EXTINGUISHER UNDER KITCHEN SINK IN EACH ANSI "B" UNIT & WALL MOUNTED AT EACH ANSI "A" UNIT, 48" MAX. TO TOP.
- 9)

AUDIOVISUAL UNITS ARE SEPARATE FROM THE ANSI "A" UNITS. PLEASE SEE THE BUILDING PLANS FOR LOCATION OF A/V UNITS.
- 10)

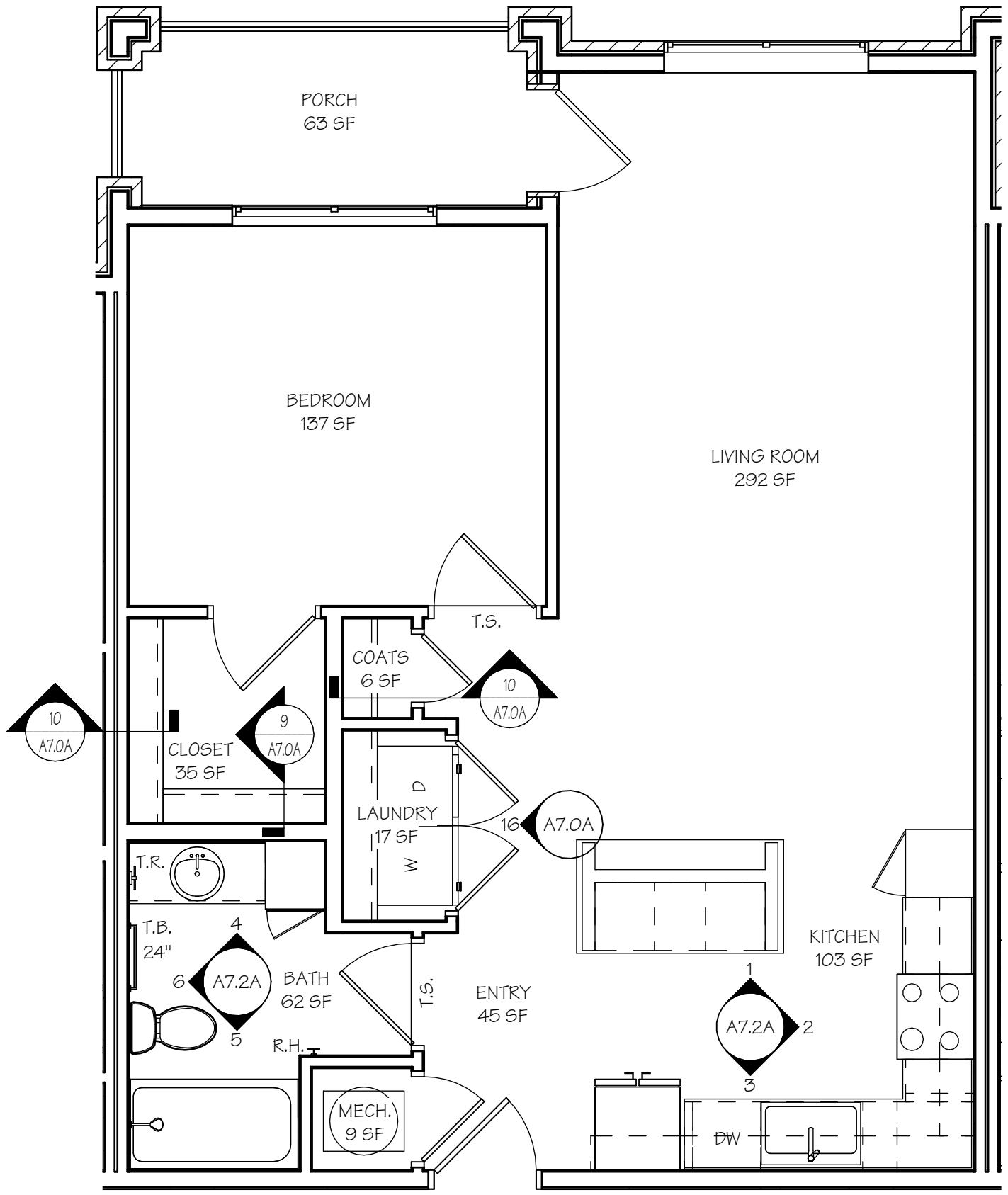
CARPET IN ANSI "A" UNITS SHALL BE SECURELY ATTACHED; HAVE A LEVEL LOOP, TEXTURED LOOP, LEVEL CUT FILE, OR LEVEL CUT/ UN CUT FILE. TEXTURE, FILE HEIGHT SHALL BE 1/2" MAX. EXPOSED EDGES OF CARPET SHALL BE FASTENED TO FLOOR SURFACES AND HAVE TRIM ALONG THE ENTIRE LENGTH OF THE EXPOSED EDGE. IF CARPET TILE IS USED IT SHALL HAVE A MAX. COMBINED THICKNESS OF FILE, CUSHION AND BACKING HEIGHT OF 1/2"



1

ANSI "B" 1-BR-A UNIT FINISH PLAN

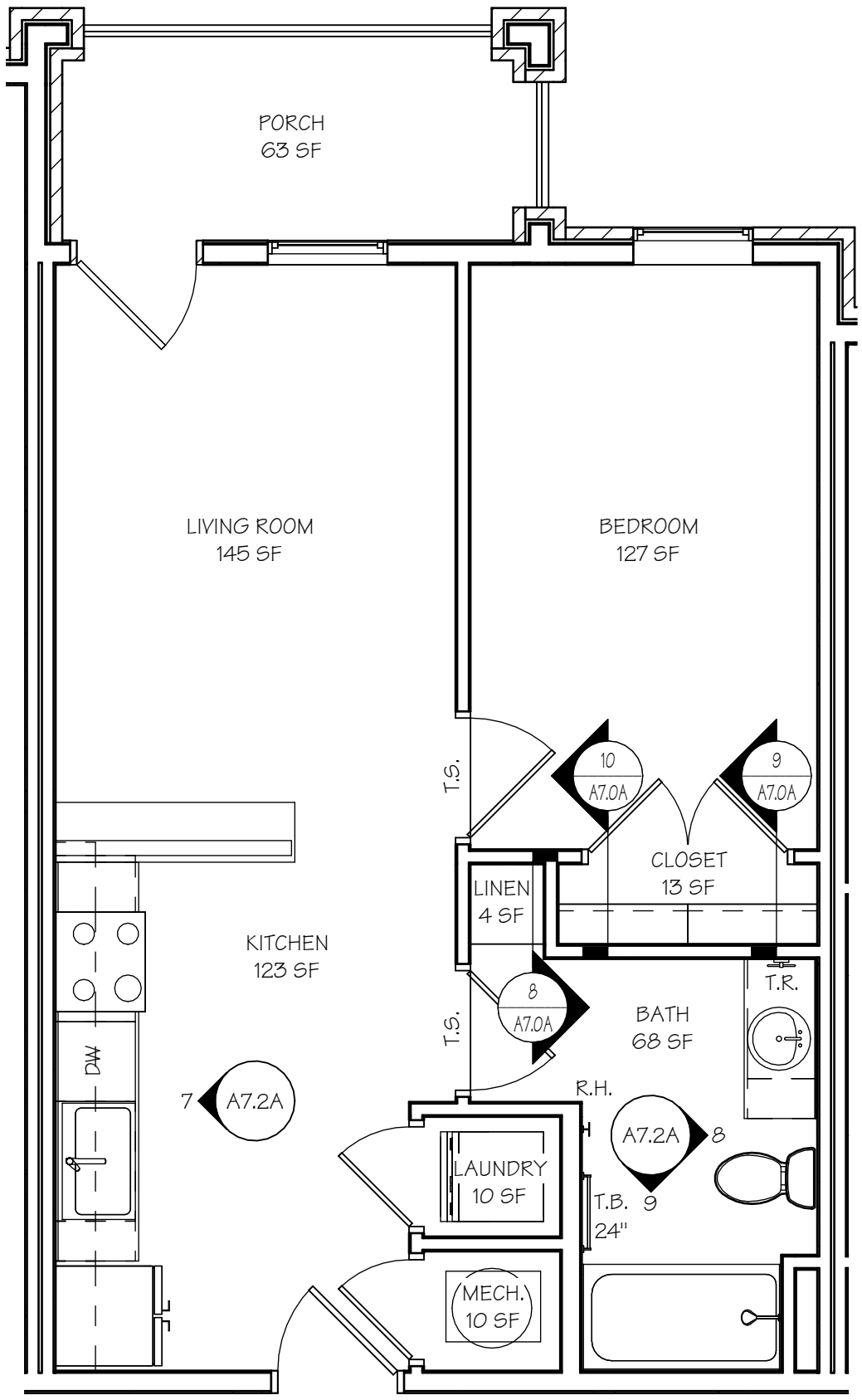
SCALE: 1/4" = 1'-0"



2

ANSI "B" 1-BR-B UNIT FINISH PLAN

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

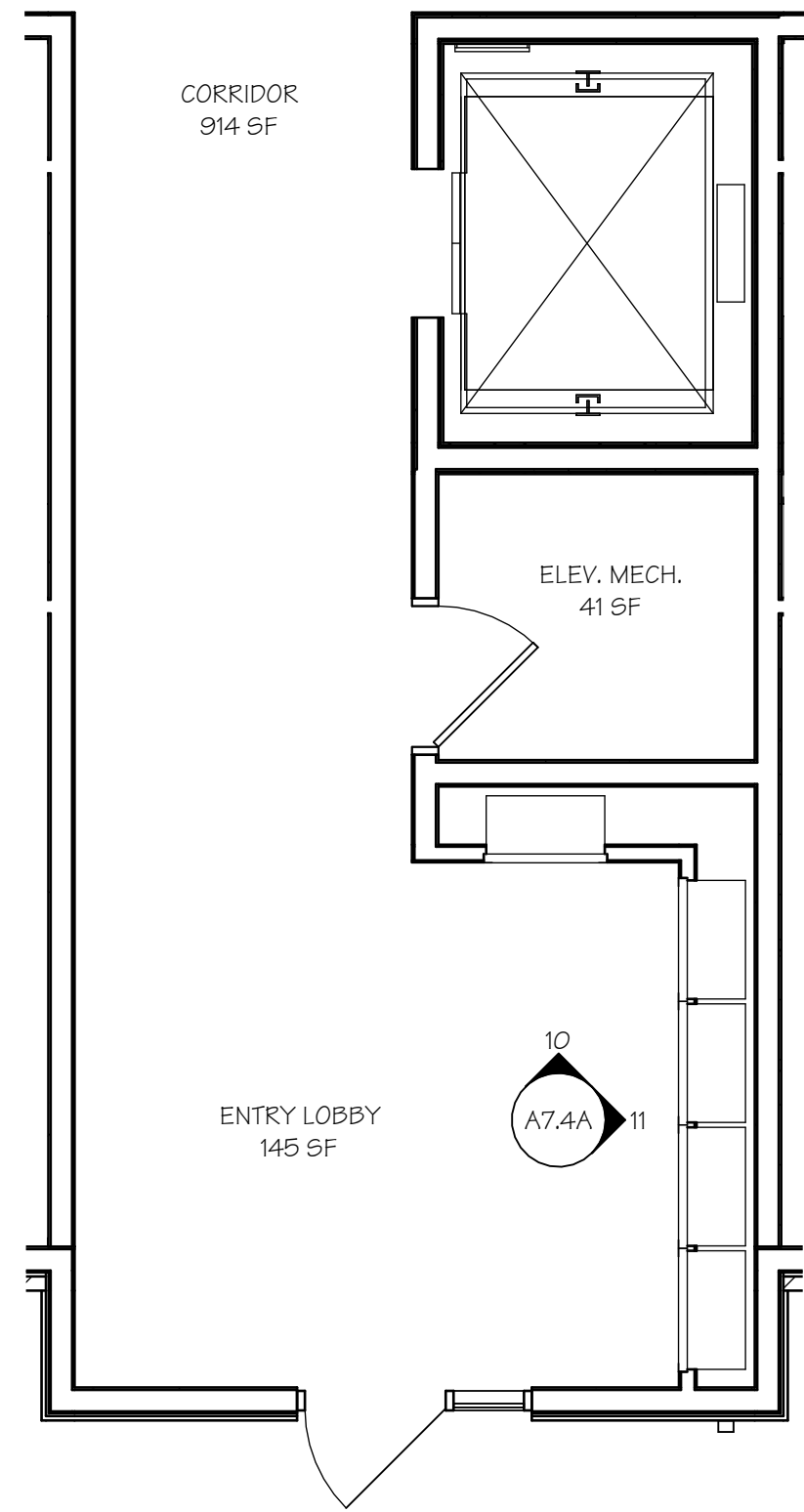


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ANSI "B" 1-BR-C UNIT FINISH PLAN

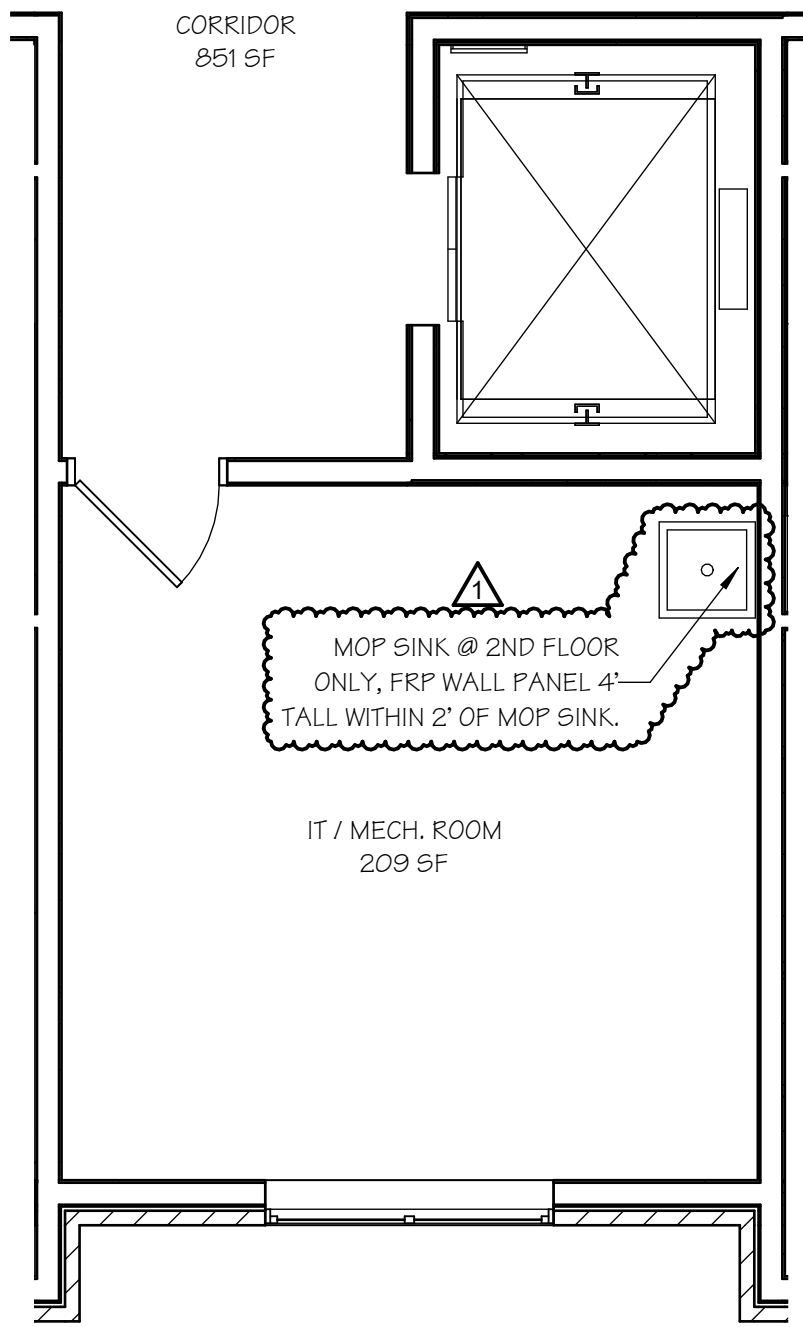
SCALE: 1/4" = 1'-0"

COMMON AREA FINISH SCHEDULE				
NAME	FLOOR FINISH	BASE FINISH	WALL FINISH	CEILING FINISH
COMMON AREA				
CORRIDOR	WALK OFF CARPET	4" COVE BASE	PAINTED GYP. BD.	PAINTED GYP. BD.
ELEV. MECH.	VINYL PLANK	WOOD BASE	PAINTED GYP. BD.	PAINTED GYP. BD.
ENTRY LOBBY	WALK OFF CARPET	4" COVE BASE	PAINTED GYP. BD.	PAINTED GYP. BD.
IT / MECH. ROOM	VINYL PLANK	WOOD BASE	PAINTED GYP. BD.	PAINTED GYP. BD.
LANDING	WALK OFF CARPET	4" COVE BASE	PAINTED GYP. BD.	PAINTED GYP. BD.
SPRINKLER ROOM	SEALED CONCRETE	WOOD BASE	PAINTED GYP. BD.	PAINTED GYP. BD.
STAIRS	RUBBER TREADS & RISERS	4" COVE BASE	PAINTED GYP. BD.	PAINTED GYP. BD.



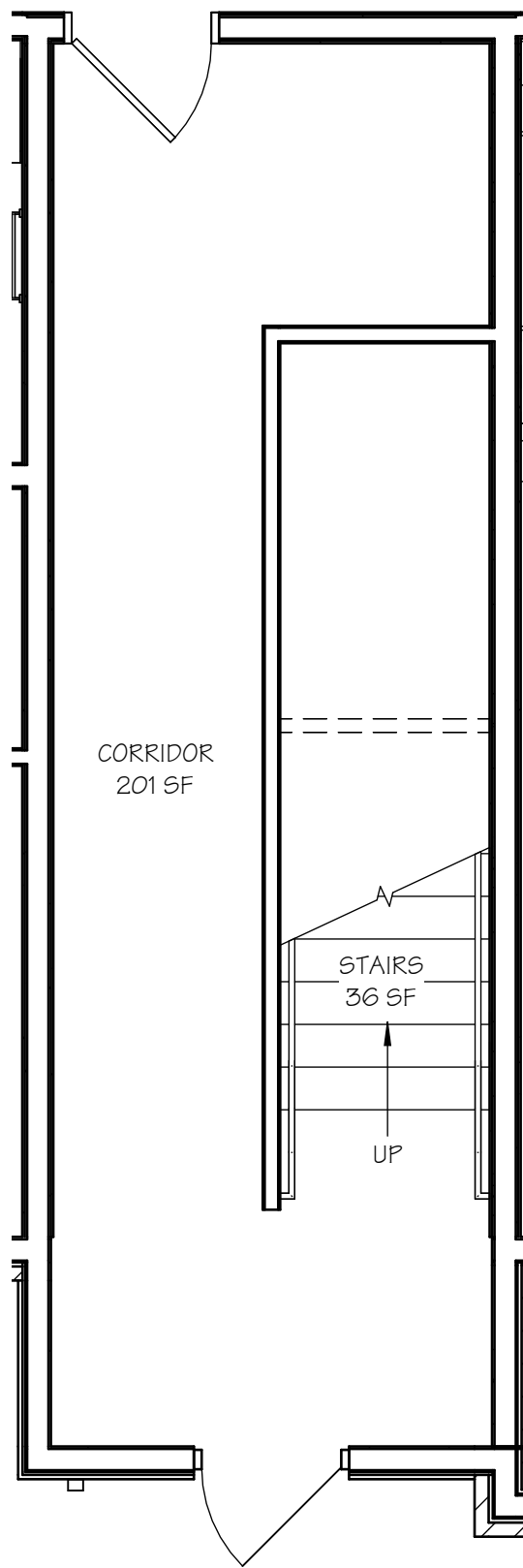
1ST FLOOR COMMON AREA FINISH PLAN

1
A6.2A SCALE: 1/4" = 1'-0"



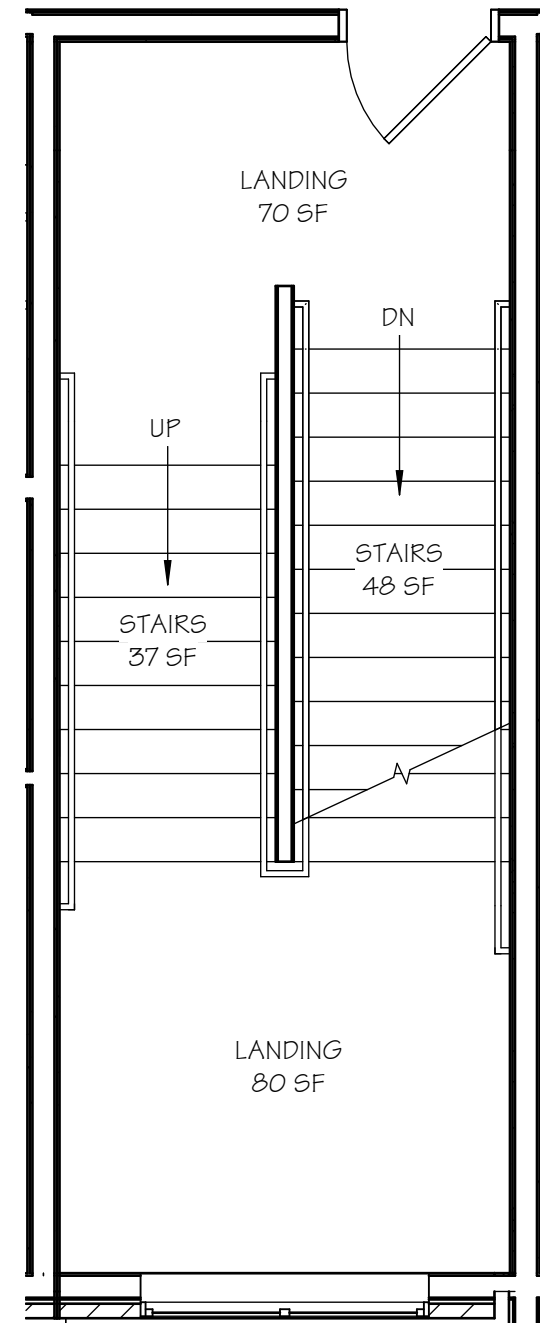
2ND, 3RD & 4TH FLOOR COMMON AREA FINISH PLAN

2
A6.2A SCALE: 1/4" = 1'-0"



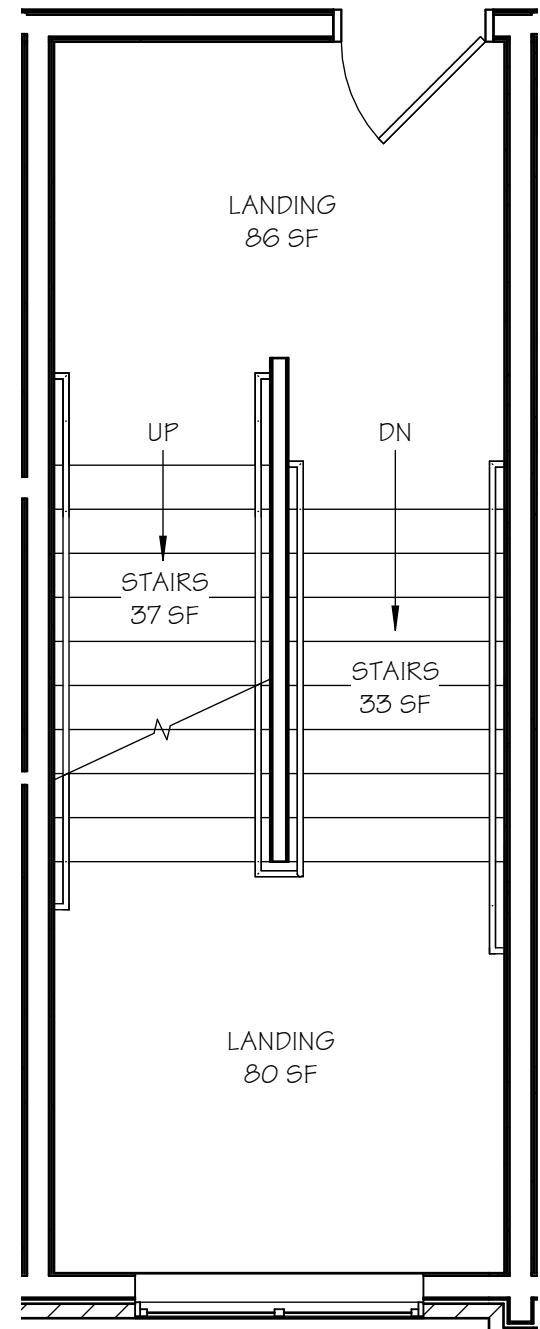
1ST FLOOR LEFT SIDE STAIRWELL FIN. PLAN

3
A6.2A SCALE: 1/4" = 1'-0"



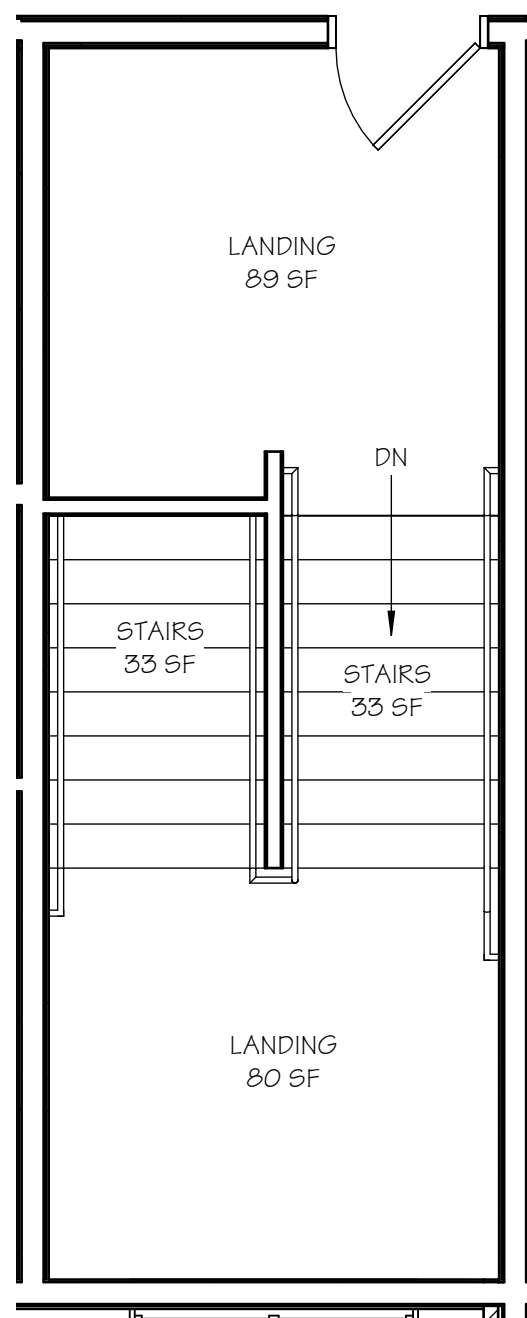
2ND FLOOR LEFT SIDE STAIRWELL FIN. PLAN

4
A6.2A SCALE: 1/4" = 1'-0"



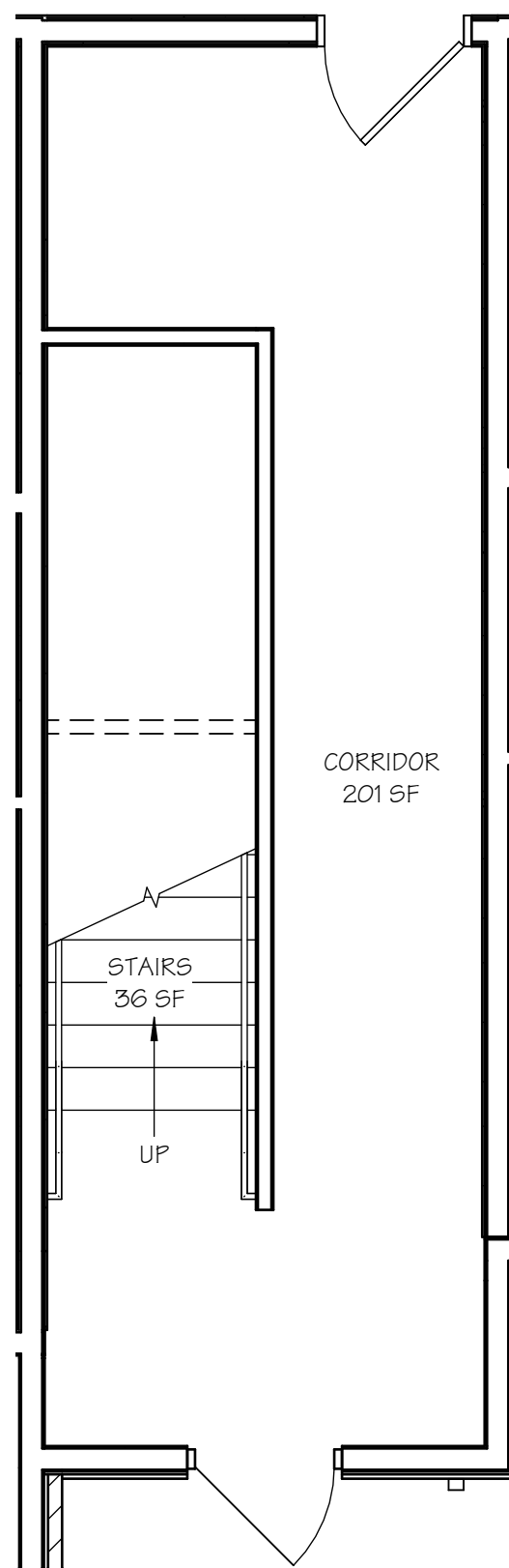
3RD FLOOR LEFT SIDE STAIRWELL FIN. PLAN

5
A6.2A SCALE: 1/4" = 1'-0"



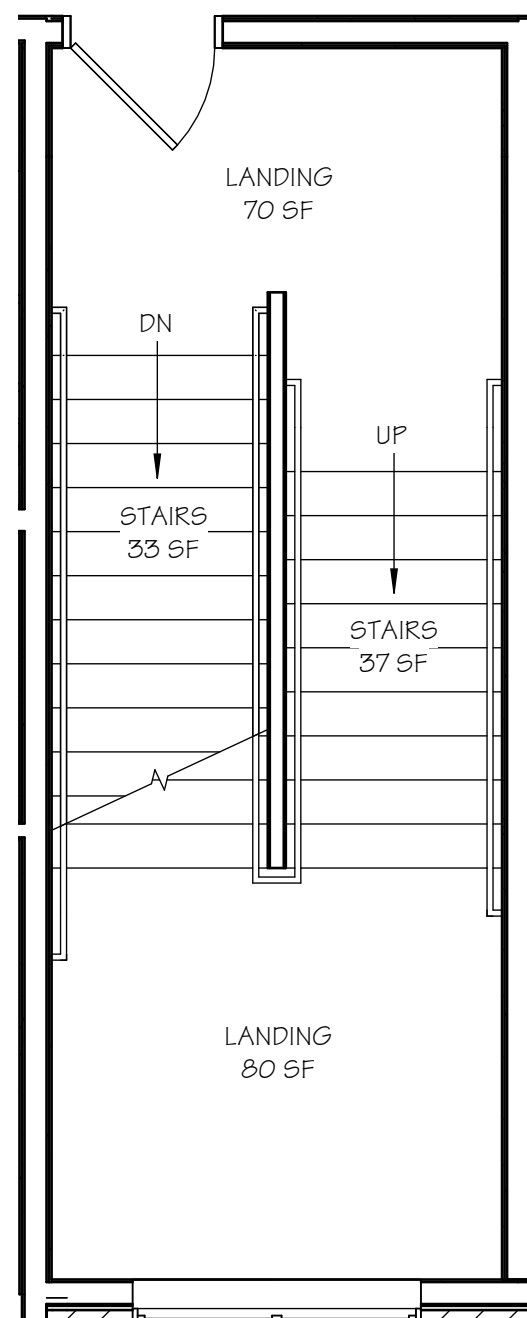
4TH FLOOR LEFT SIDE STAIRWELL FIN. PLAN

6
A6.2A SCALE: 1/4" = 1'-0"



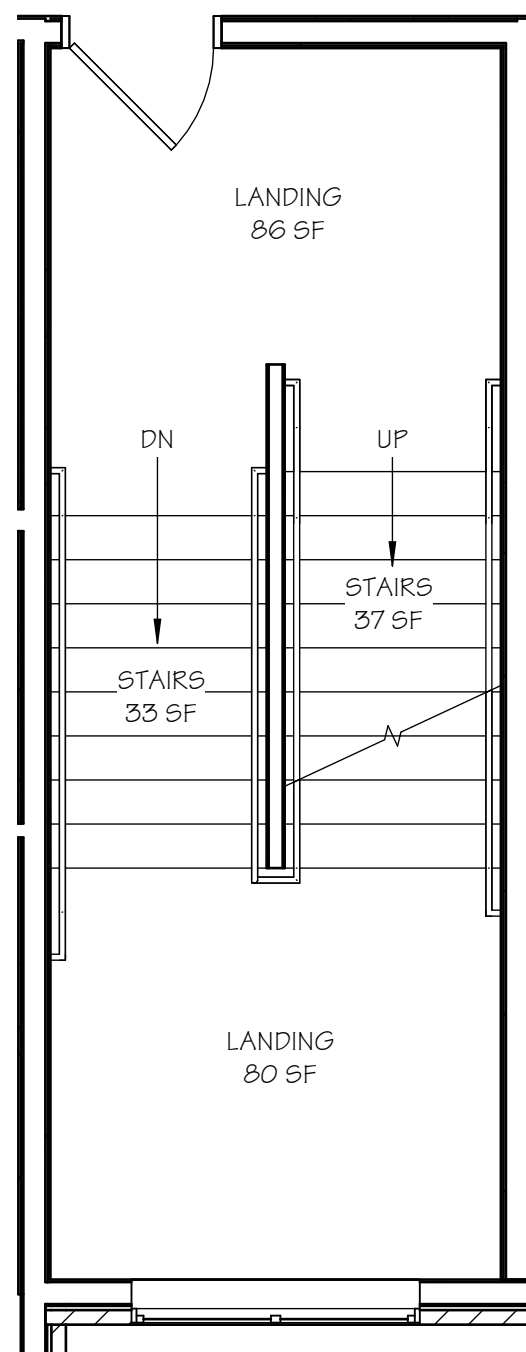
1ST FLOOR RIGHT SIDE STAIRWELL FIN. PLAN

7
A6.2A SCALE: 1/4" = 1'-0"



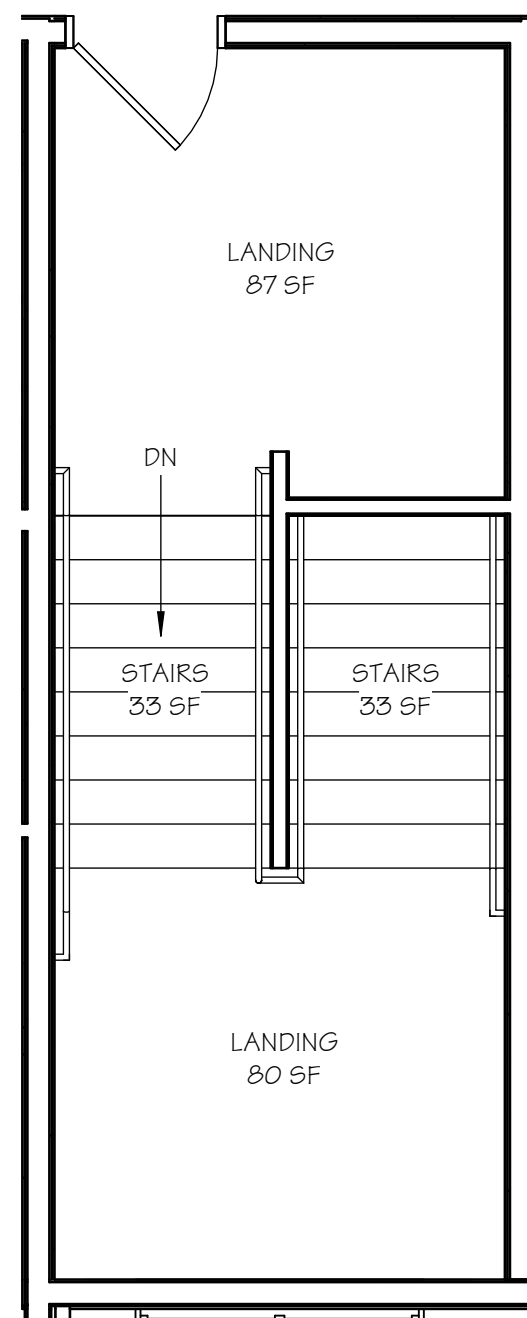
2ND FLOOR RIGHT SIDE STAIRWELL FIN. PLAN

8
A6.2A SCALE: 1/4" = 1'-0"



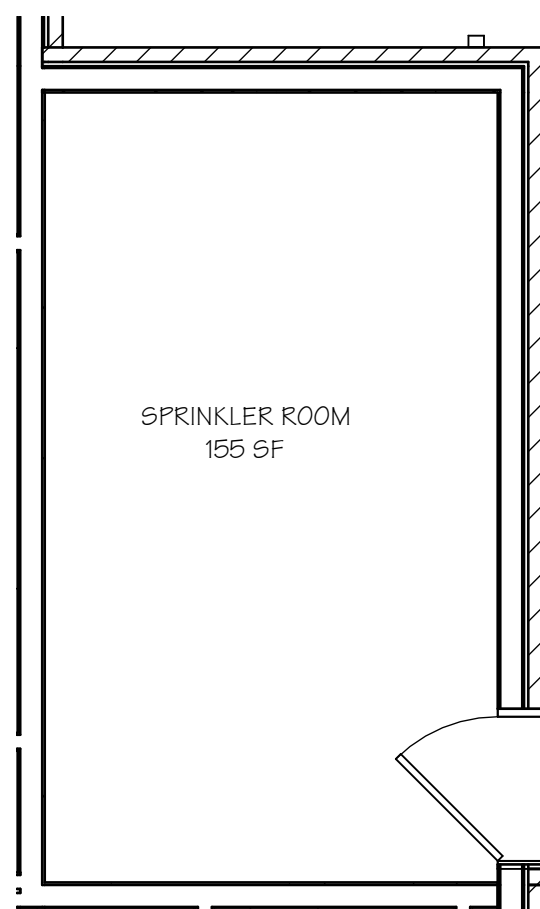
3RD FLOOR RIGHT SIDE STAIRWELL FIN. PLAN

9
A6.2A SCALE: 1/4" = 1'-0"



4TH FLOOR RIGHT SIDE STAIRWELL FIN. PLAN

10
A6.2A SCALE: 1/4" = 1'-0"



SPRINKLER ROOM FINISH PLAN

11
A6.2A SCALE: 1/4" = 1'-0"

ADDENDUM #1

ALURA APARTMENTS - VILLAGE AT DISCOVERY PARK
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

Wallace
ARCHITECTS L.L.C.
Columbia, MO
P 573-258-7200

WALLACE ARCHITECTS, LLC
MISSOURI STATE CERTIFICATE
OF AUTHORITY: 2003019614

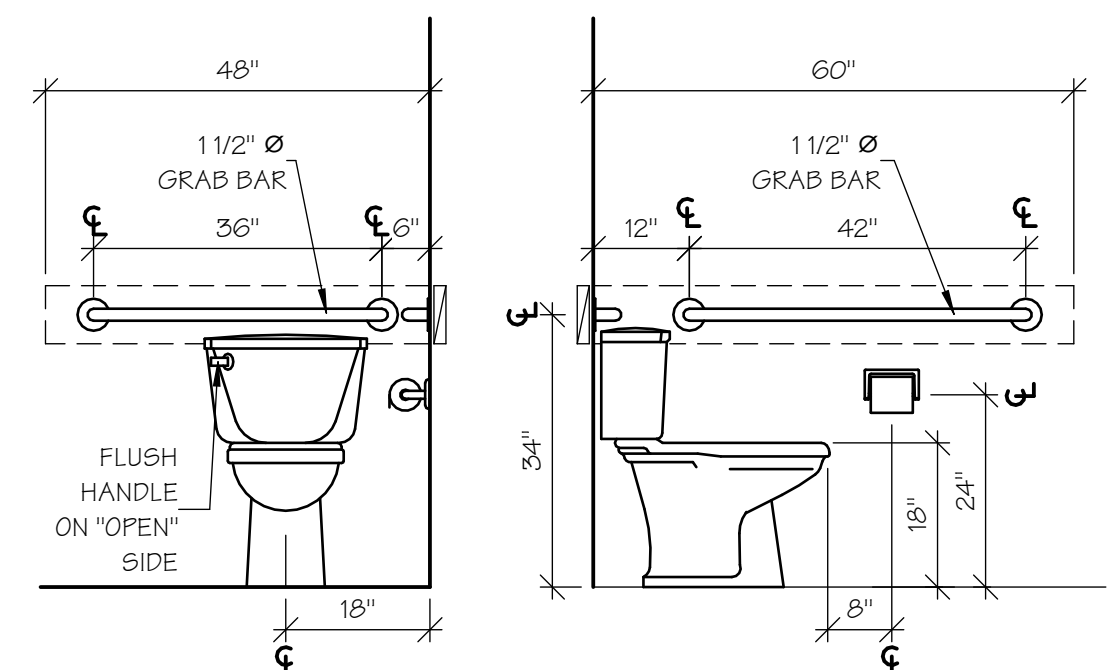
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15 APR 2025

ISSUE/REVISIONS
15 APR 2025 ISSUE SET
16 MAY 2025 ADDENDUM #1

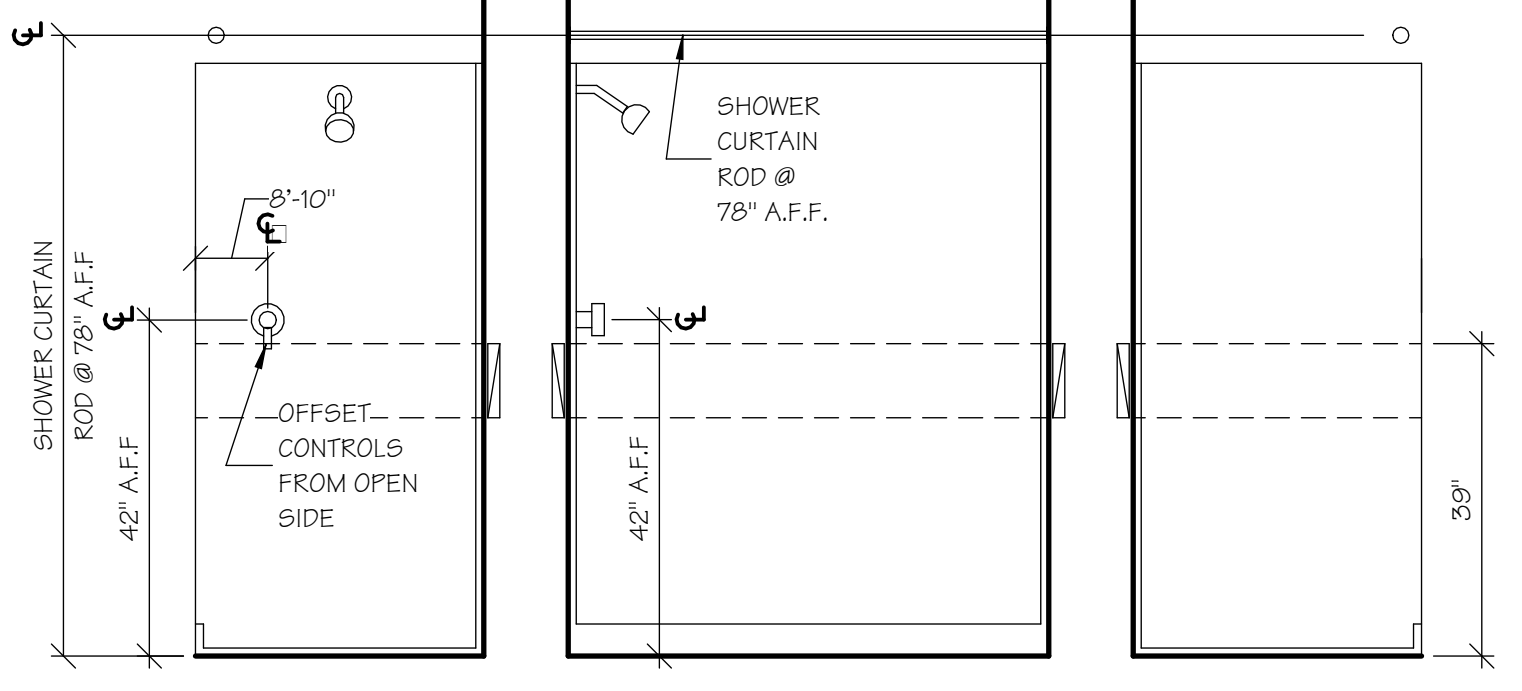
SHEET NO.
A6.2A

JOB NO.
4938

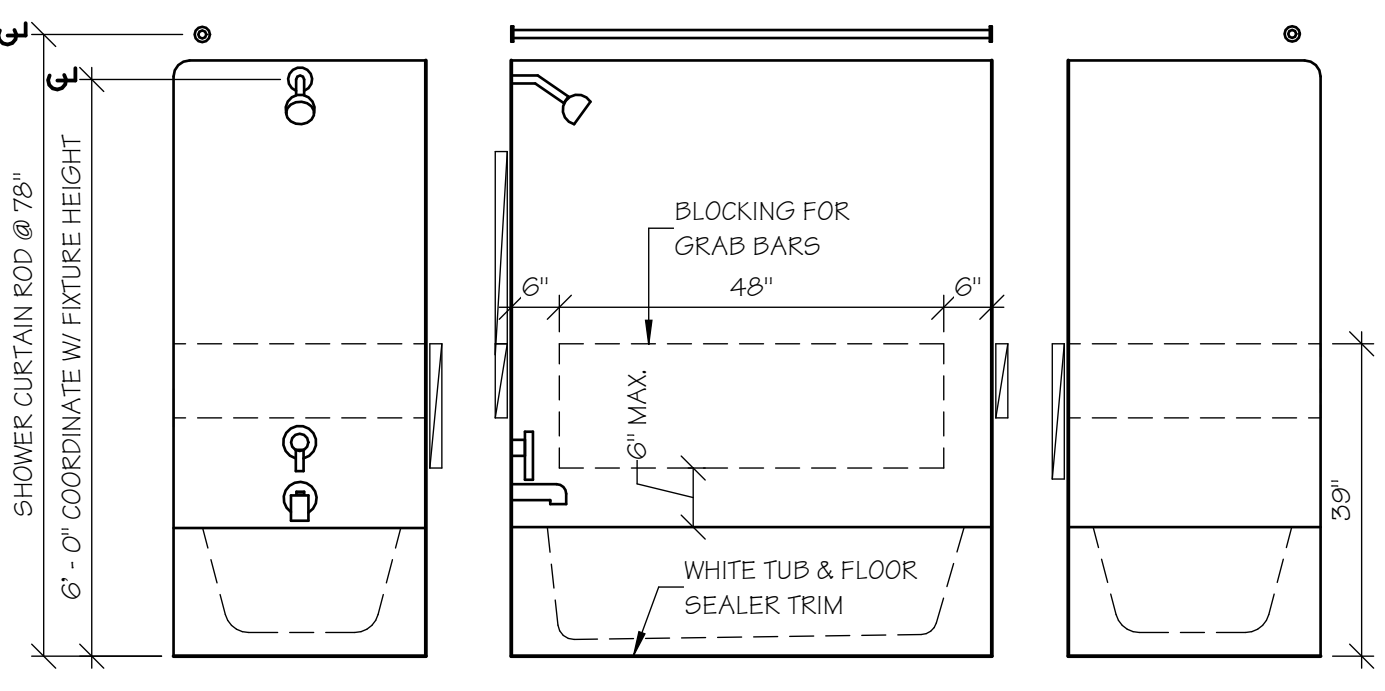
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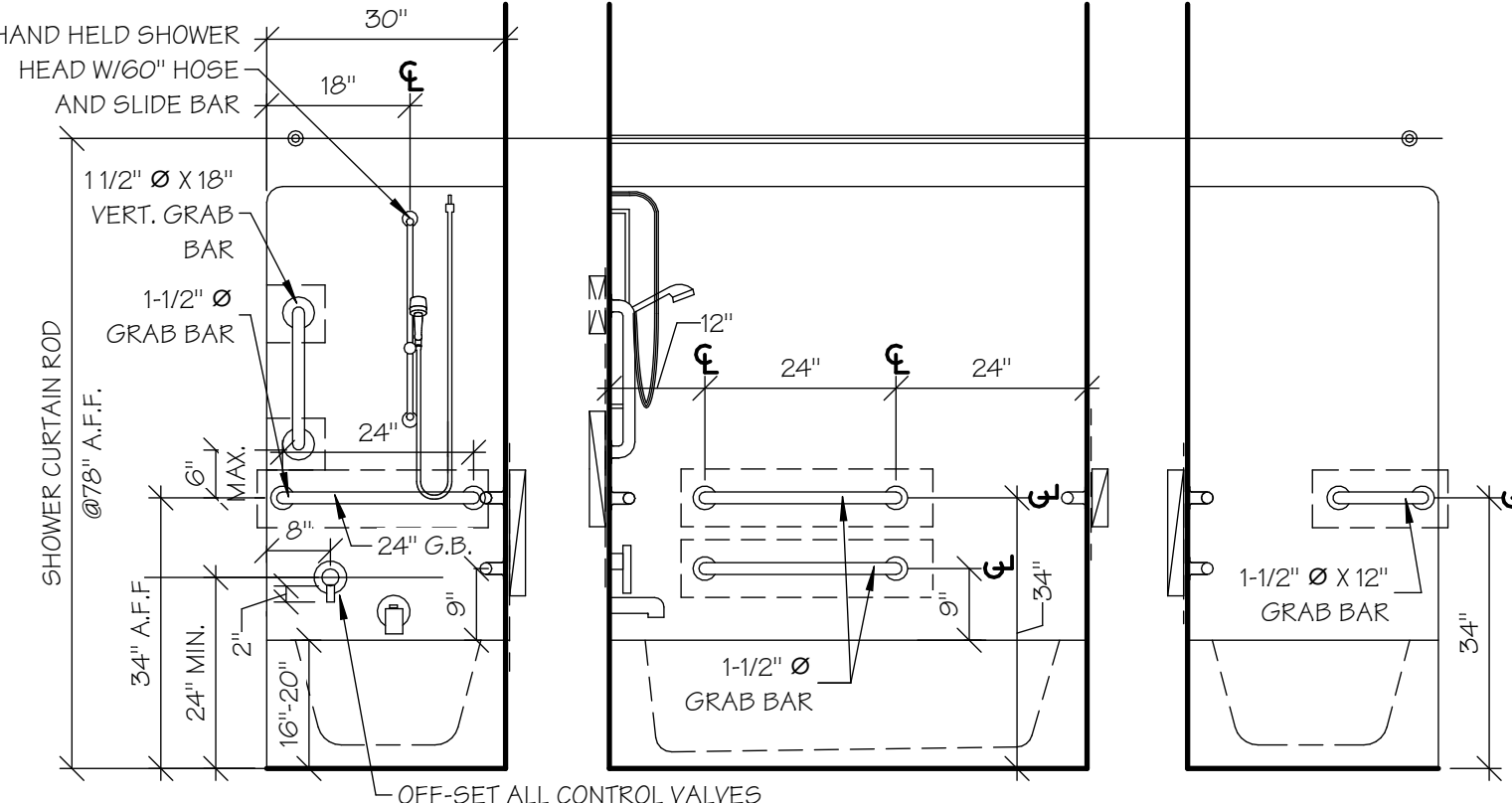
ANSI "A" WATER CLOSET NOTES & DETAILS
4 SCALE: 1/2" = 1'-0"



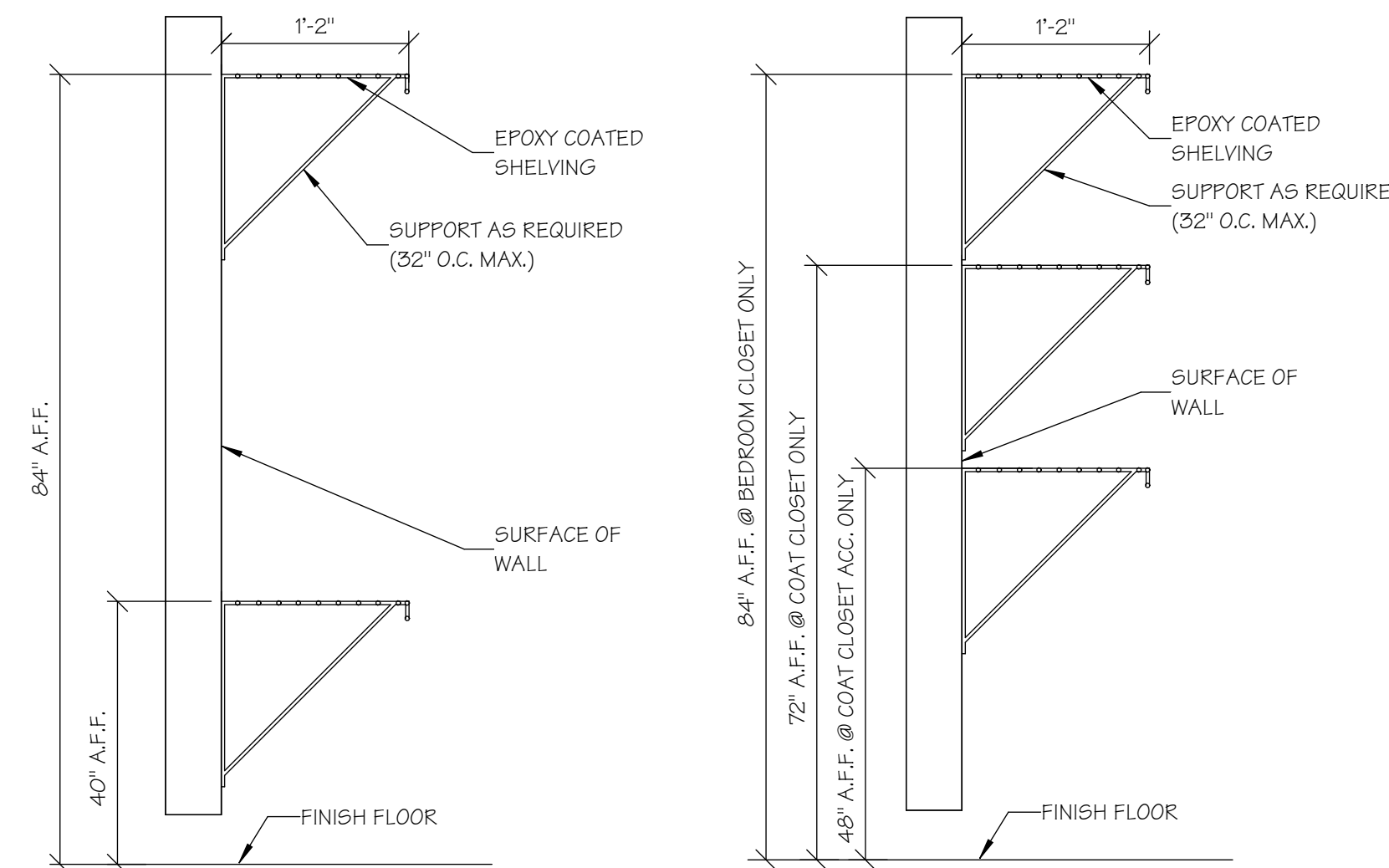
ANSI "B" SHOWER NOTES & DETAILS
3 SCALE: 1/2" = 1'-0"



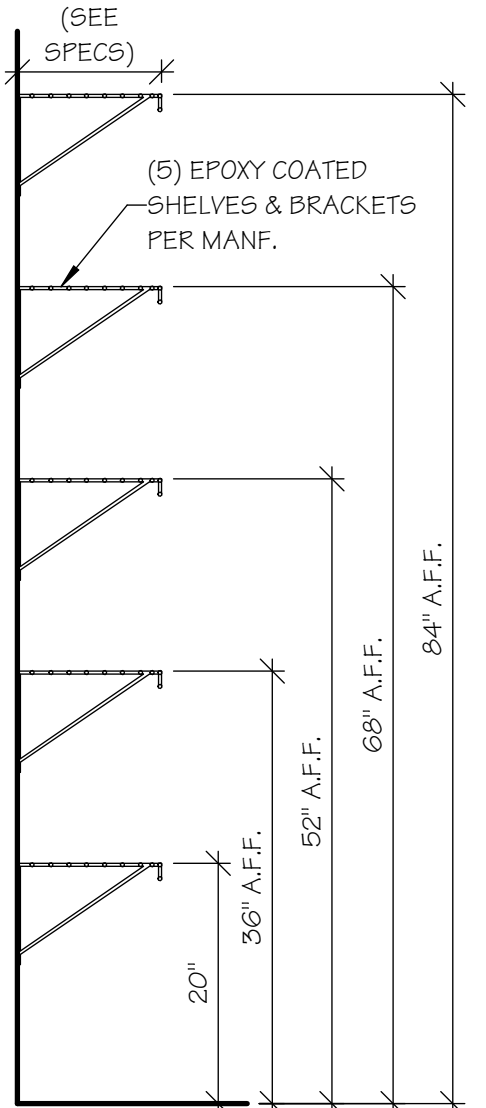
ANSI "B" TUB/SHOWER NOTES & DETAILS
2 SCALE: 1/2" = 1'-0"



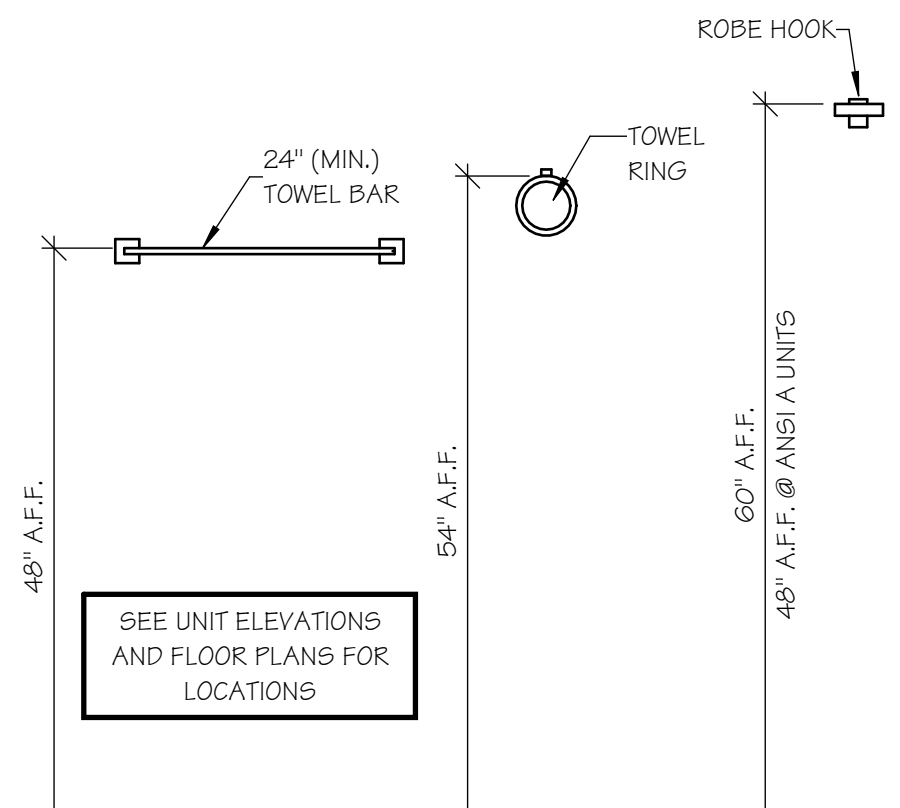
ANSI "A" TUB/SHOWER NOTES & DETAILS
1 SCALE: 1/2" = 1'-0"



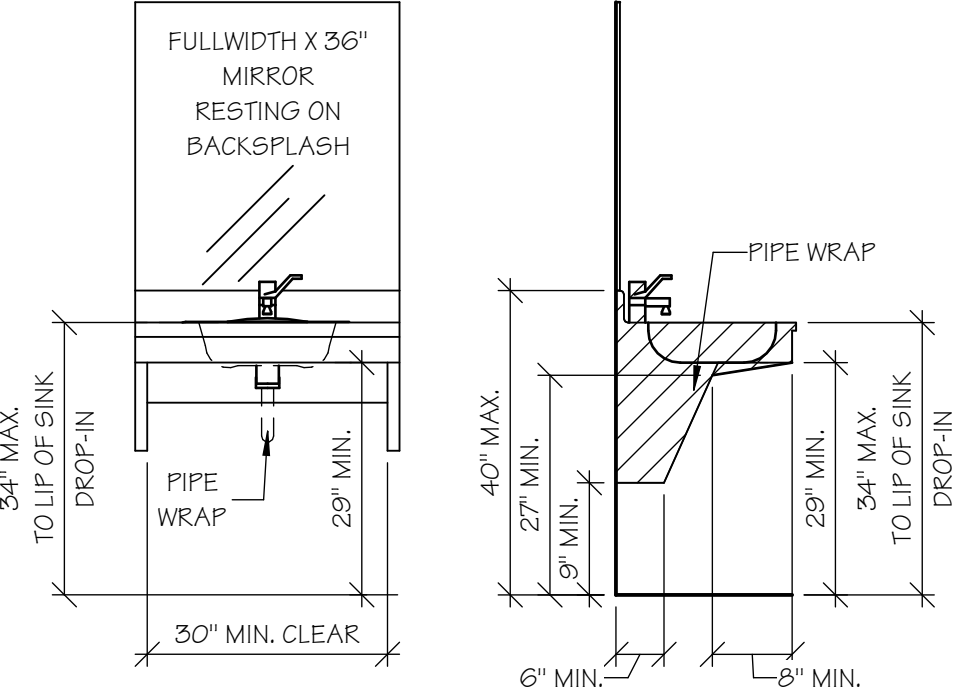
TWO TIER CLOSET SHELVEING DETAILS
9 SCALE: 1" = 1'-0"



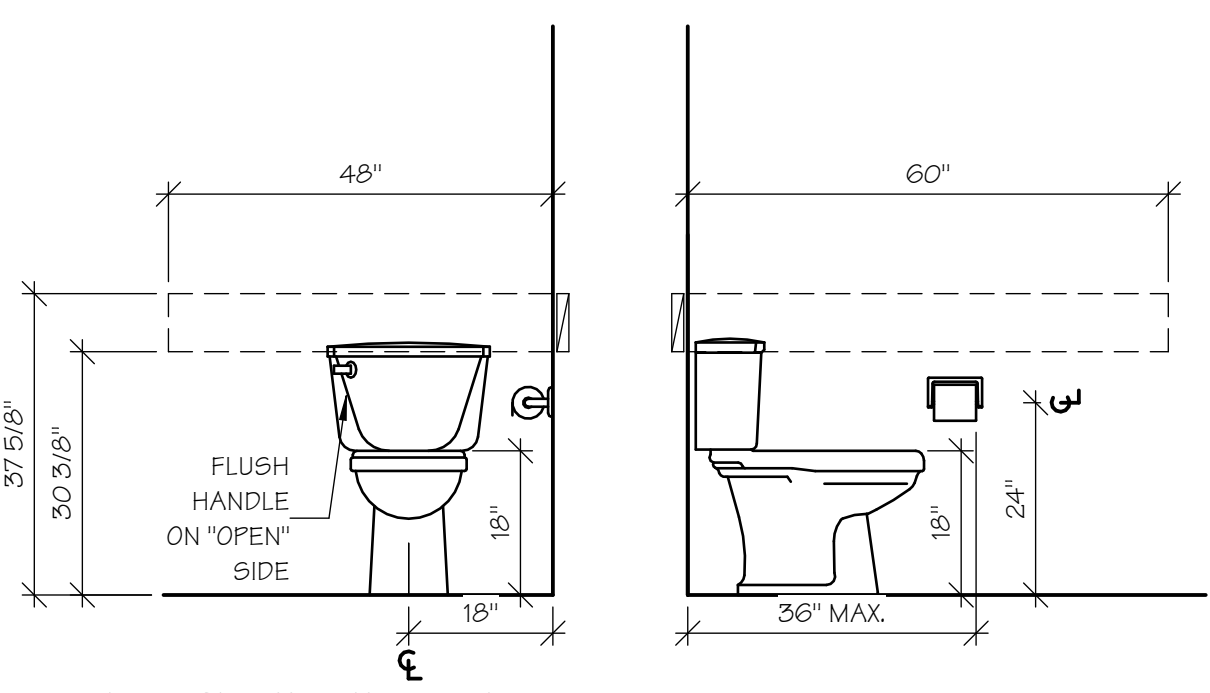
PANTRY/LINEN SHELVEING DETAIL
8 SCALE: 3/4" = 1'-0"



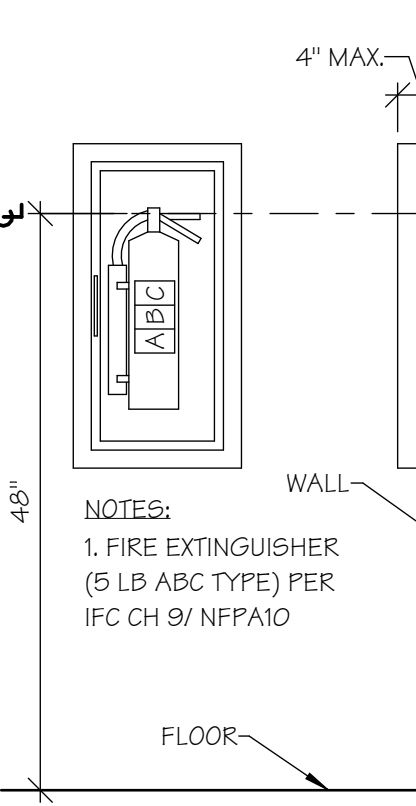
BATH ACCESSORIES
7 SCALE: 3/4" = 1'-0"



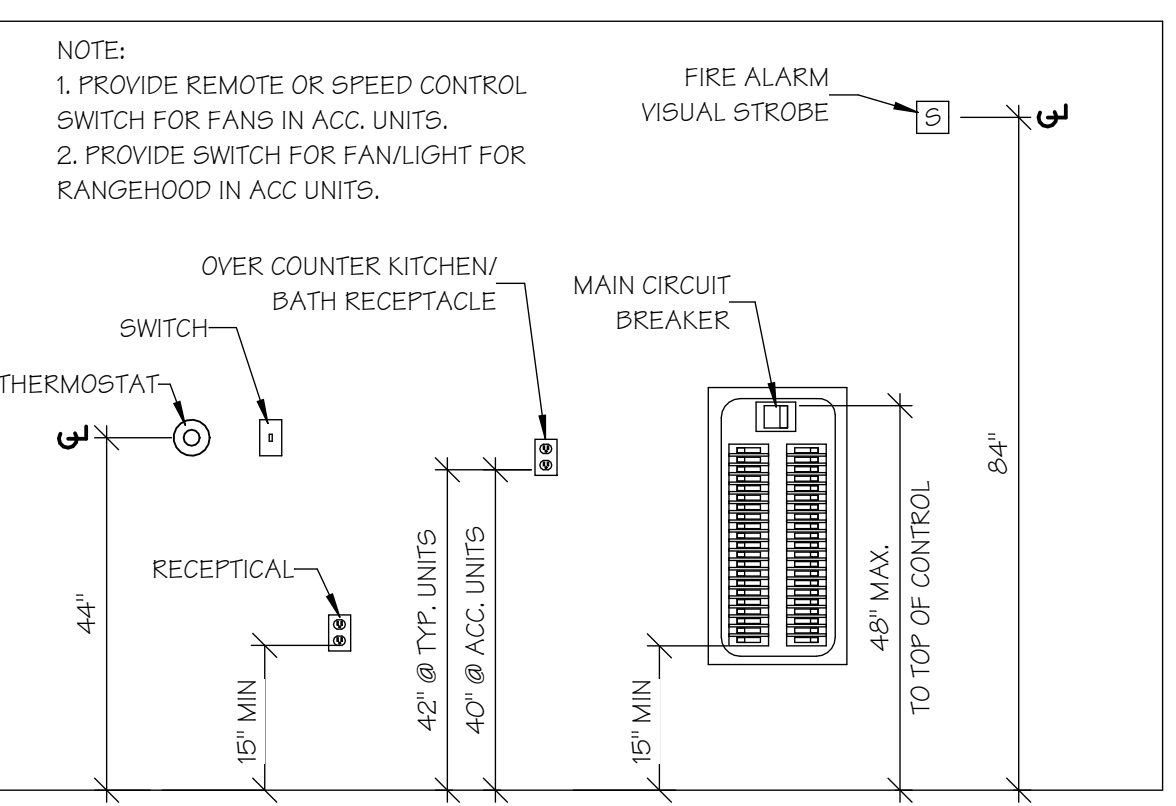
ACC. WALL HUNG VANITY
6 SCALE: 1/2" = 1'-0"



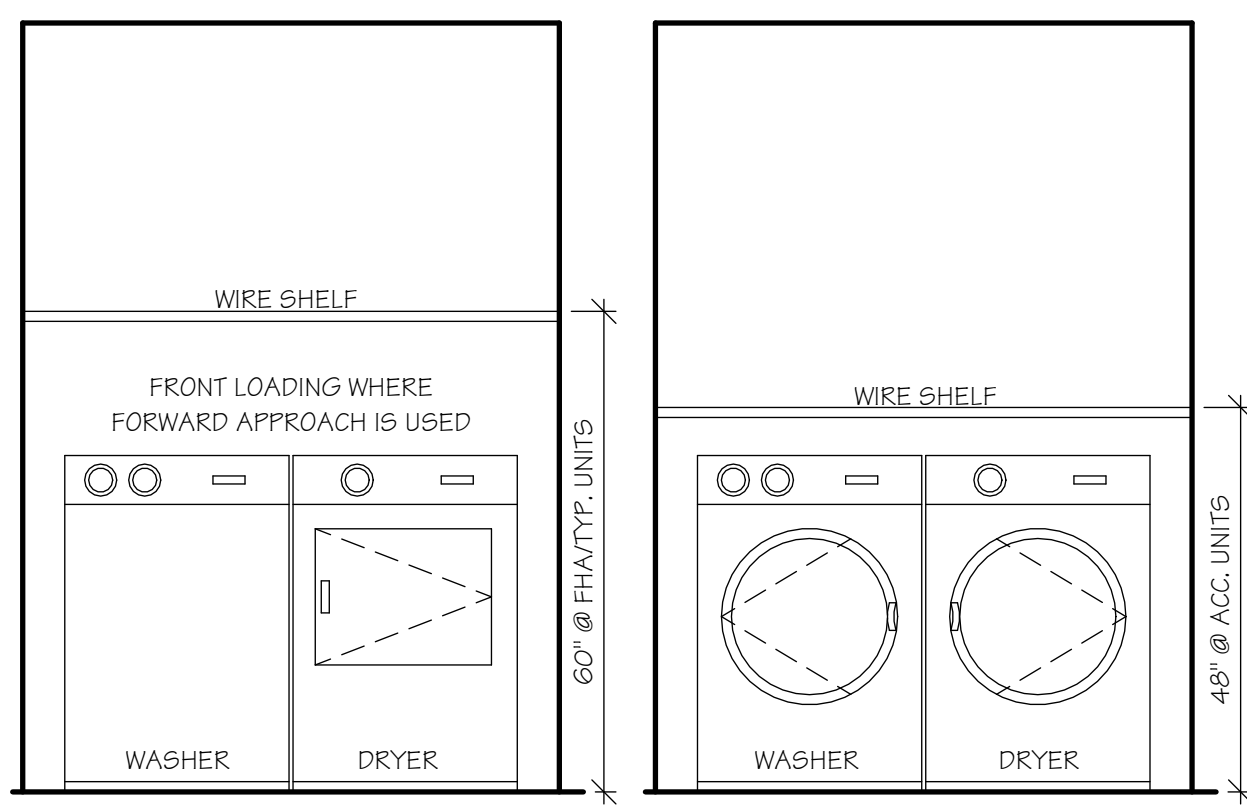
ANSI "B" WATER CLOSET NOTES & DETAILS
5 SCALE: 1/2" = 1'-0"



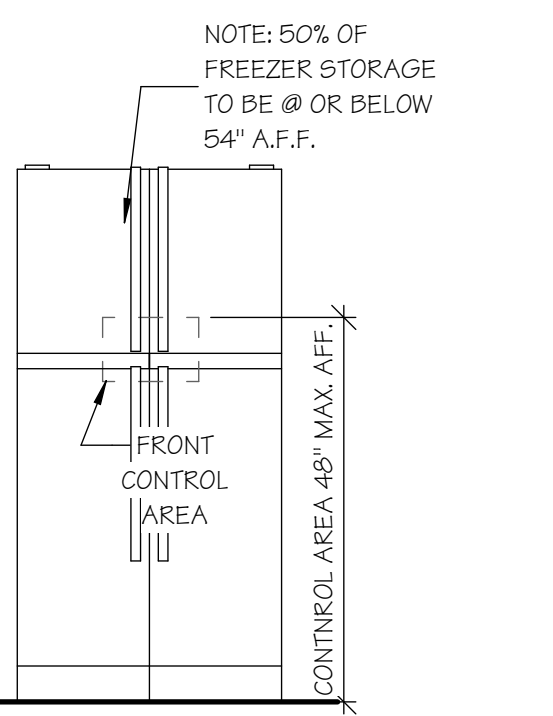
FIRE EXT. DETAIL
18 SCALE: 3/4" = 1'-0"



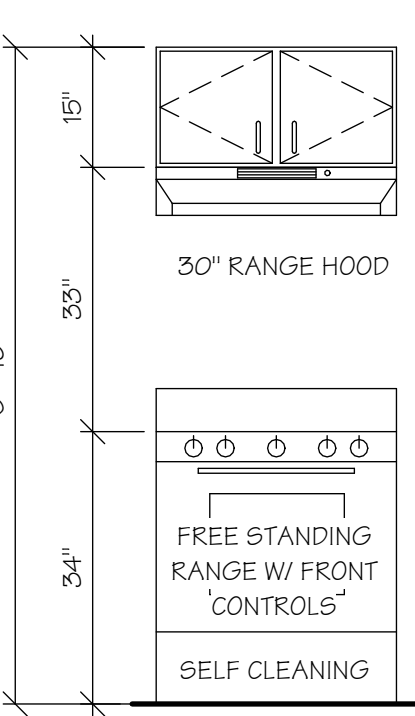
ELECTRICAL MOUNTING HEIGHTS
17 SCALE: 1/2" = 1'-0"



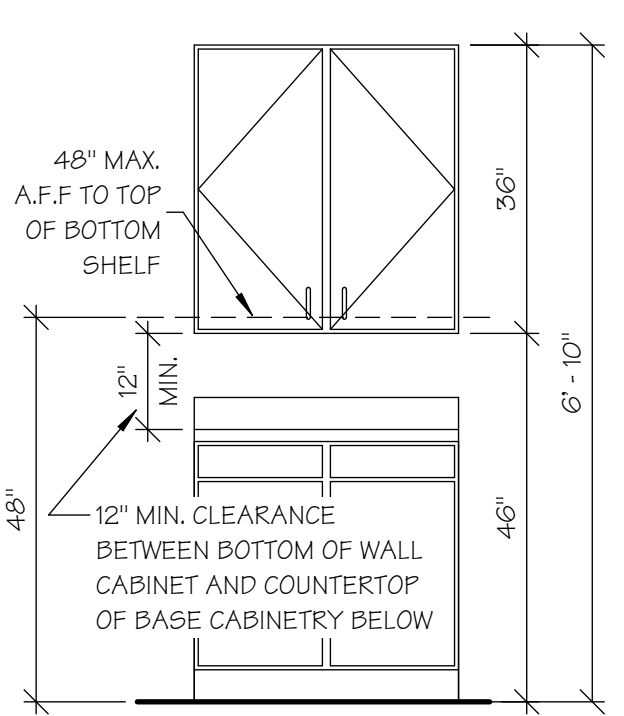
LAUNDRY DETAILS
16 SCALE: 1/2" = 1'-0"



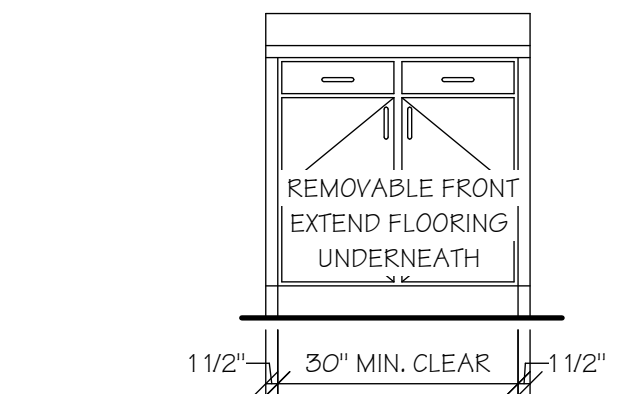
ANSI "A" REFRIGERATOR
15 SCALE: 1/2" = 1'-0"



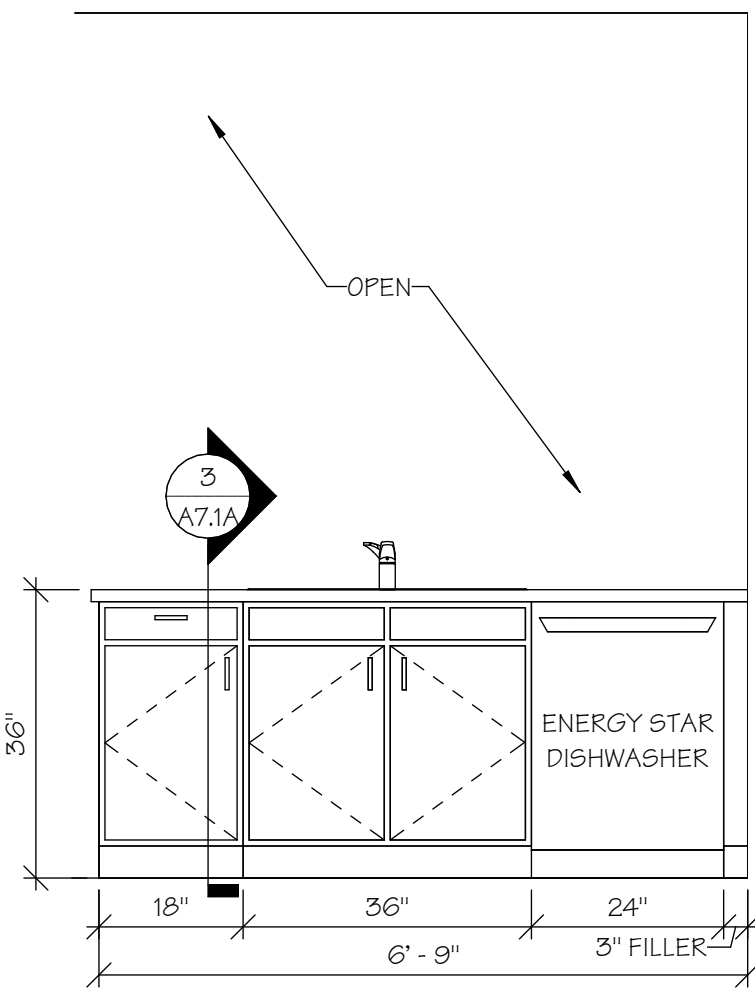
ANSI "A" RANGE
14 SCALE: 1/2" = 1'-0"



ANSI "A" WALL CABINET
13 SCALE: 1/2" = 1'-0"

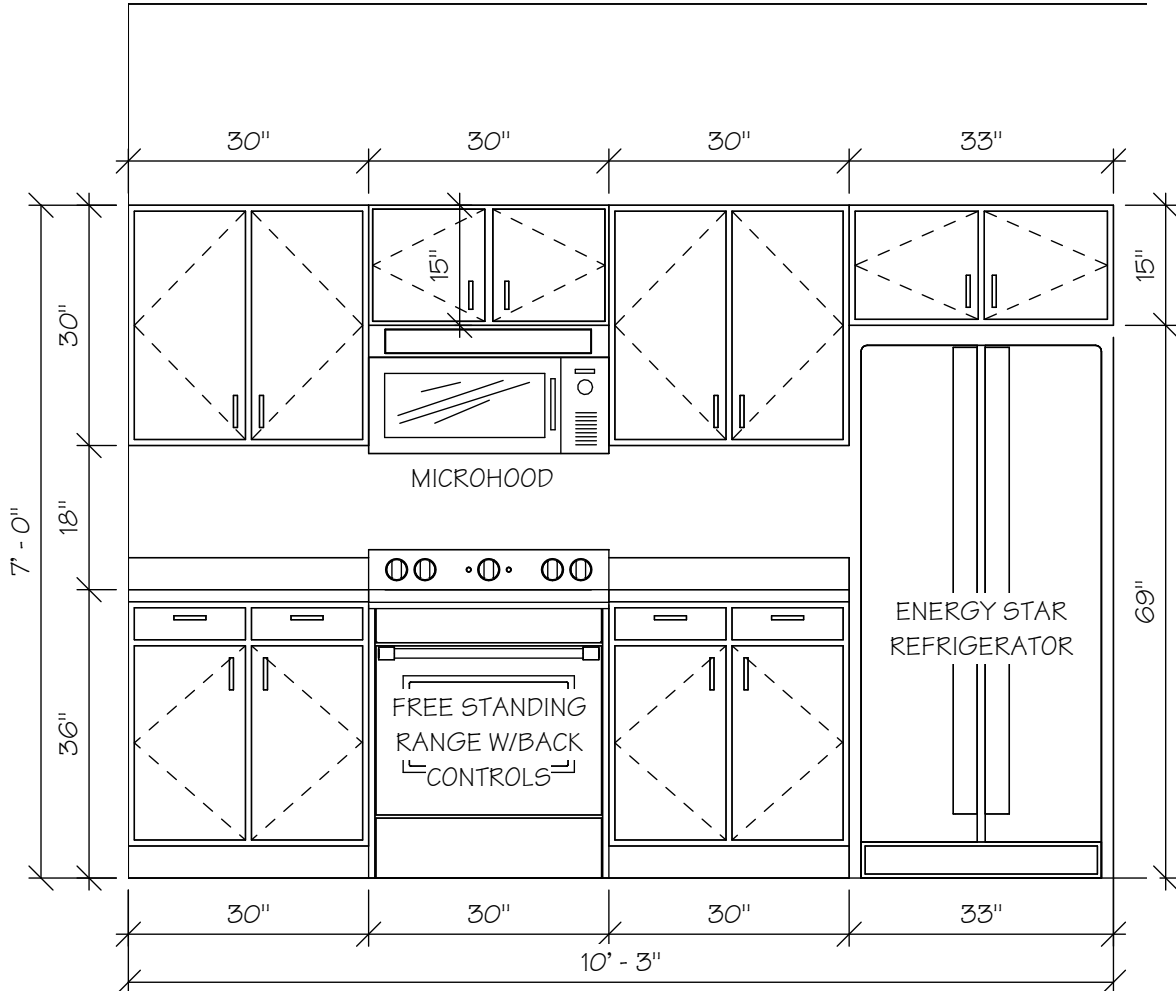


REMOVABLE FRONT WORK STATION
11 SCALE: 1/2" = 1'-0"



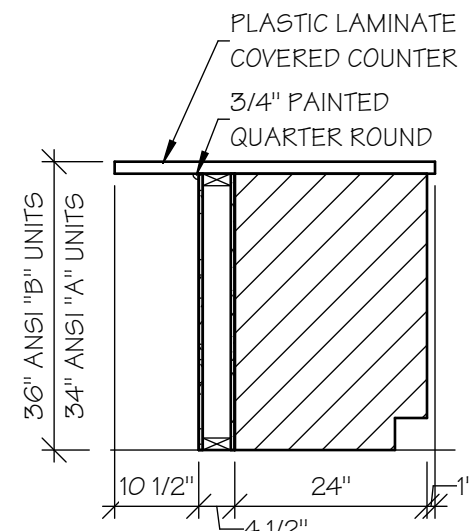
ANSI "B" 1-BR-A
KITCHEN ELEV. 1

1
A7.1A SCALE: 1/2" = 1'-0"



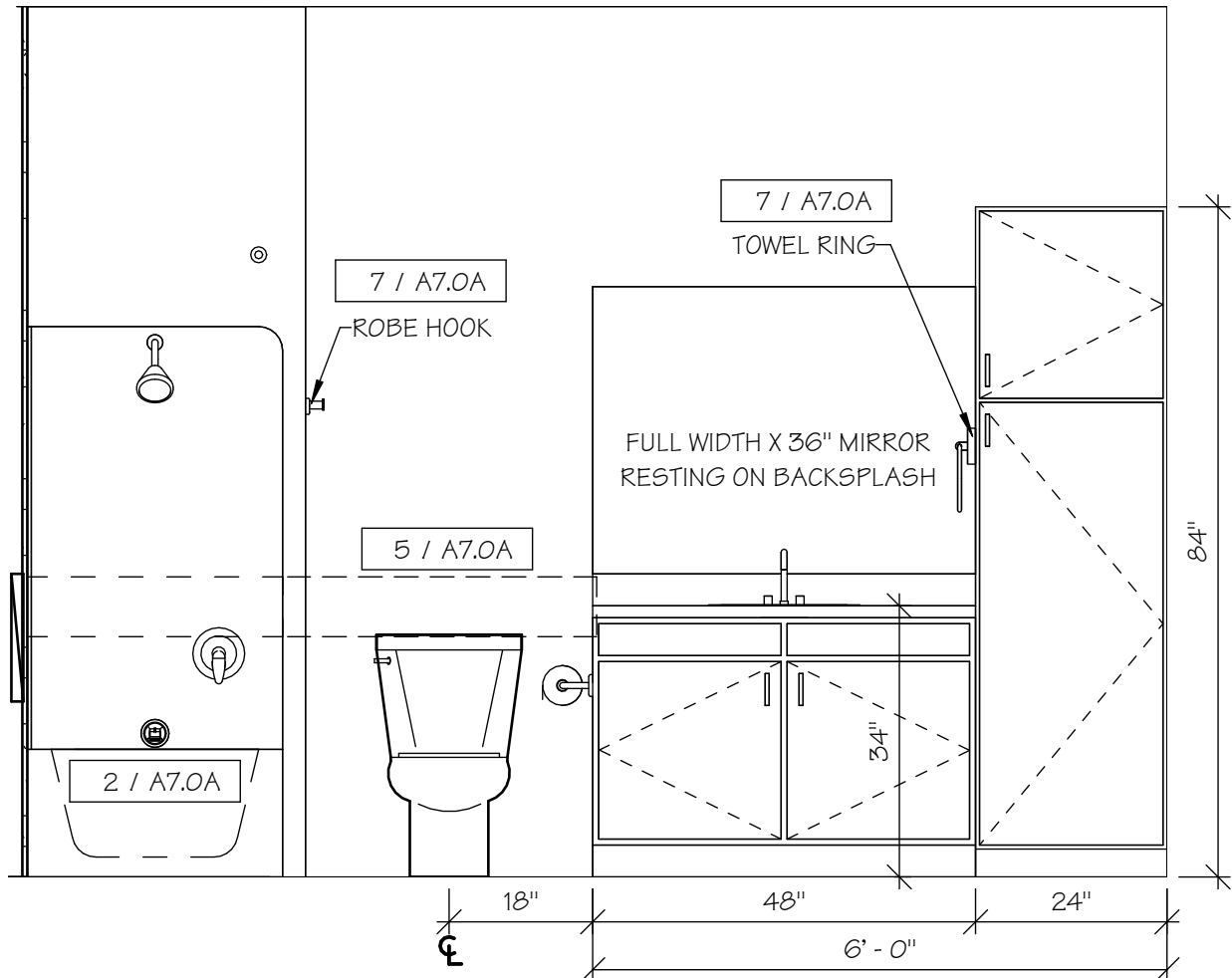
ANSI "B" 1-BR-A
KITCHEN ELEV. 2

2
A7.1A SCALE: 1/2" = 1'-0"



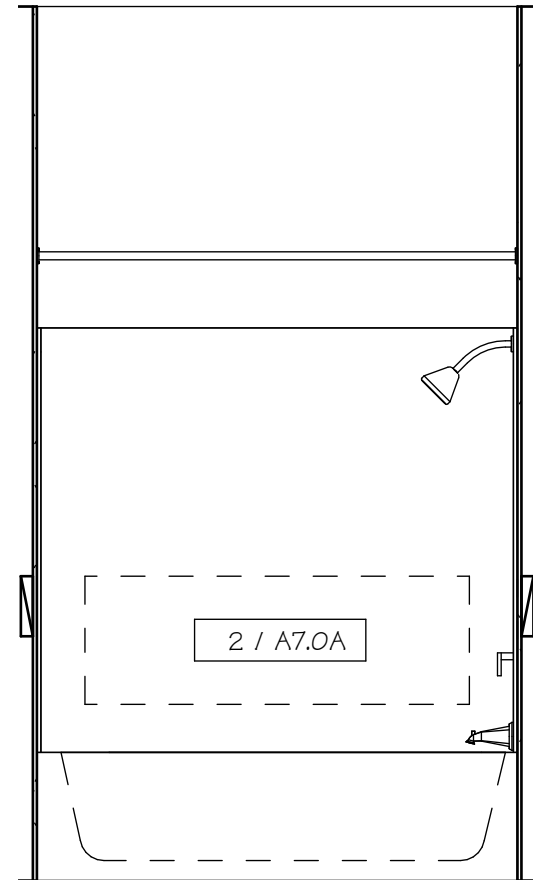
BAR TOP SECTION

3
A7.1A SCALE: 1/2" = 1'-0"



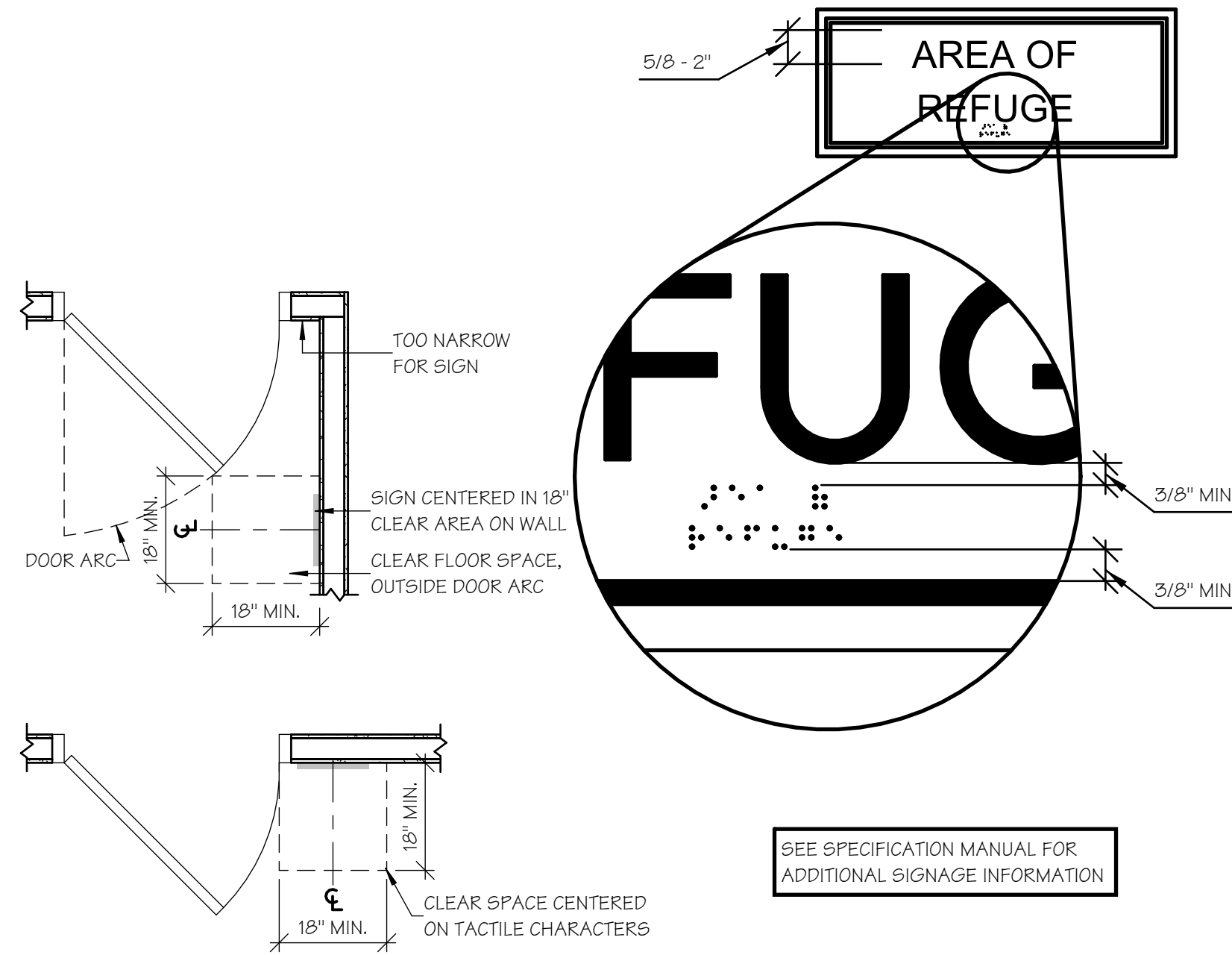
ANSI "B" 1-BR-A
BATH ELEV. 2

4
A7.1A SCALE: 1/2" = 1'-0"



ANSI "B" 1-BR-A
BATH ELEV. 1

5
A7.1A SCALE: 1/2" = 1'-0"



TYP. INTERIOR SIGNAGE DETAIL

6
A7.1A SCALE: 1/2" = 1'-0" (ROOM LABELS WILL VARY)

RELEASED FOR
CONSTRUCTION
As Noted on Plans Review
Department of Planning, Missouri
September 2023

M. RANDALL
PORTER

2012006244

15 APR 2025

M. RANDALL PORTER
ARCHITECT LICENSE#
A-2012006244

ALURA APARTMENTS - VILLAGE AT DISCOVERY PARK
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

Wallace
ARCHITECTS L.L.C.

Columbia, MO
P 573-258-7200

WALLACE ARCHITECTS, LLC
MISSOURI STATE CERTIFICATE
OF AUTHORITY: 2003019614

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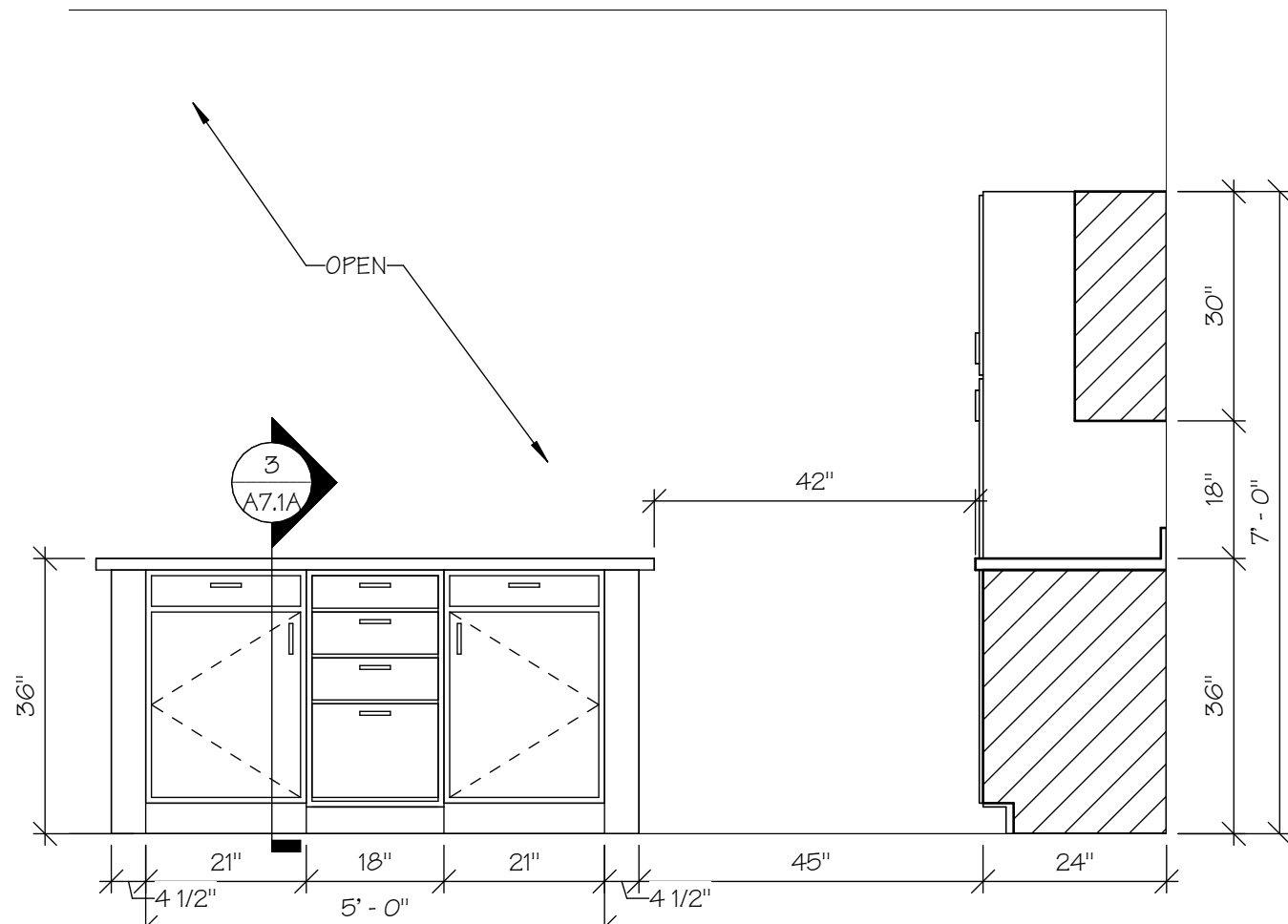
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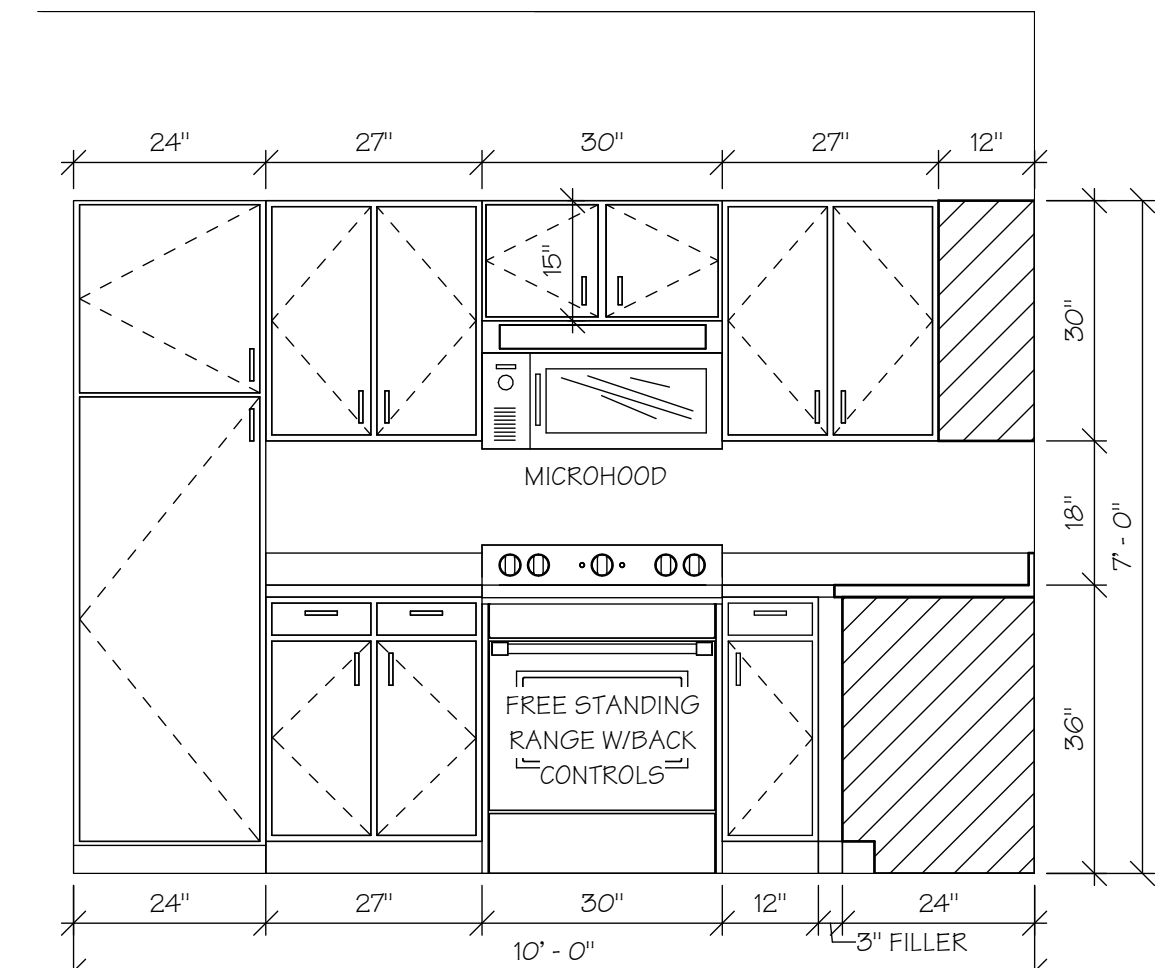
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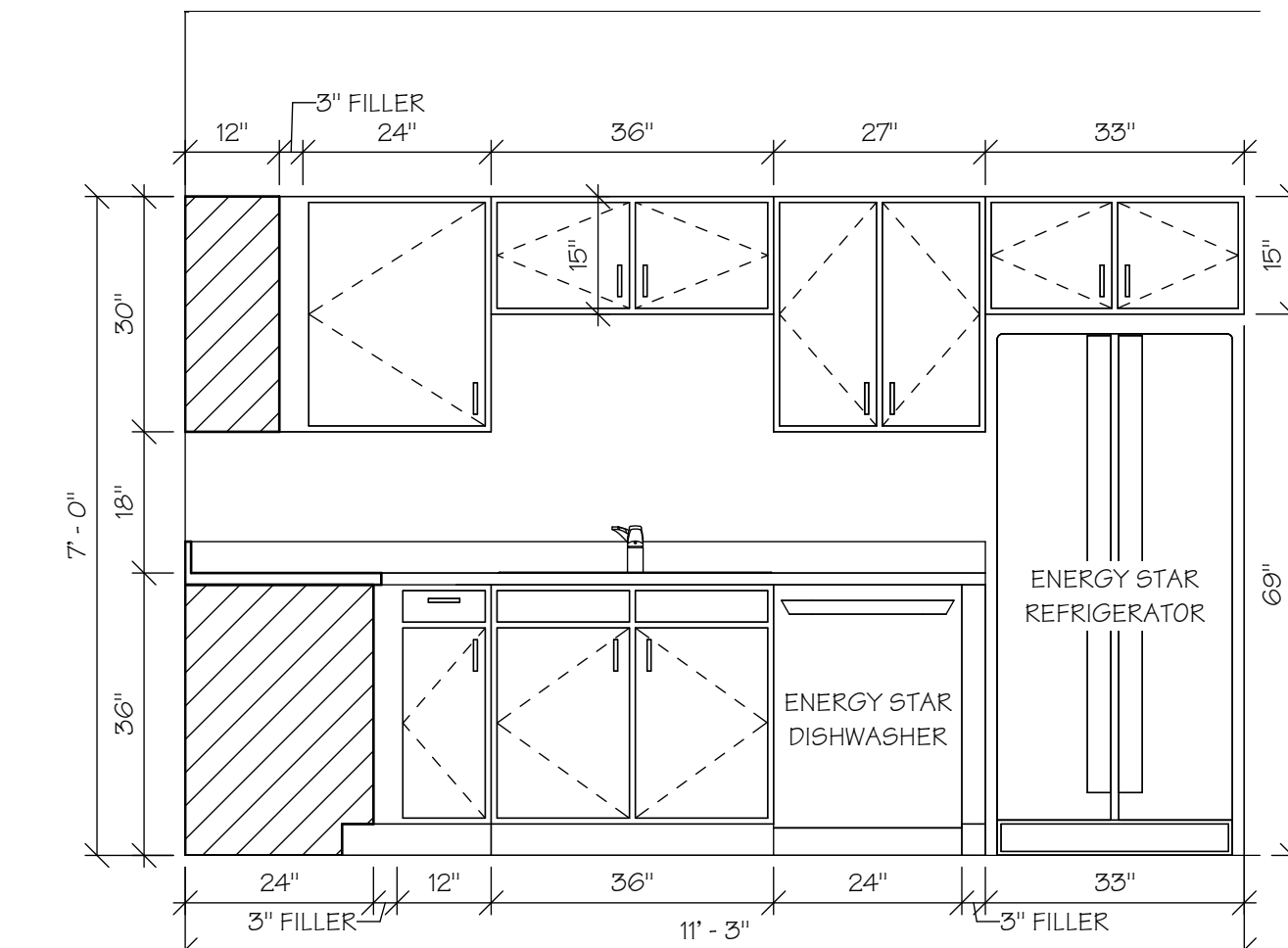
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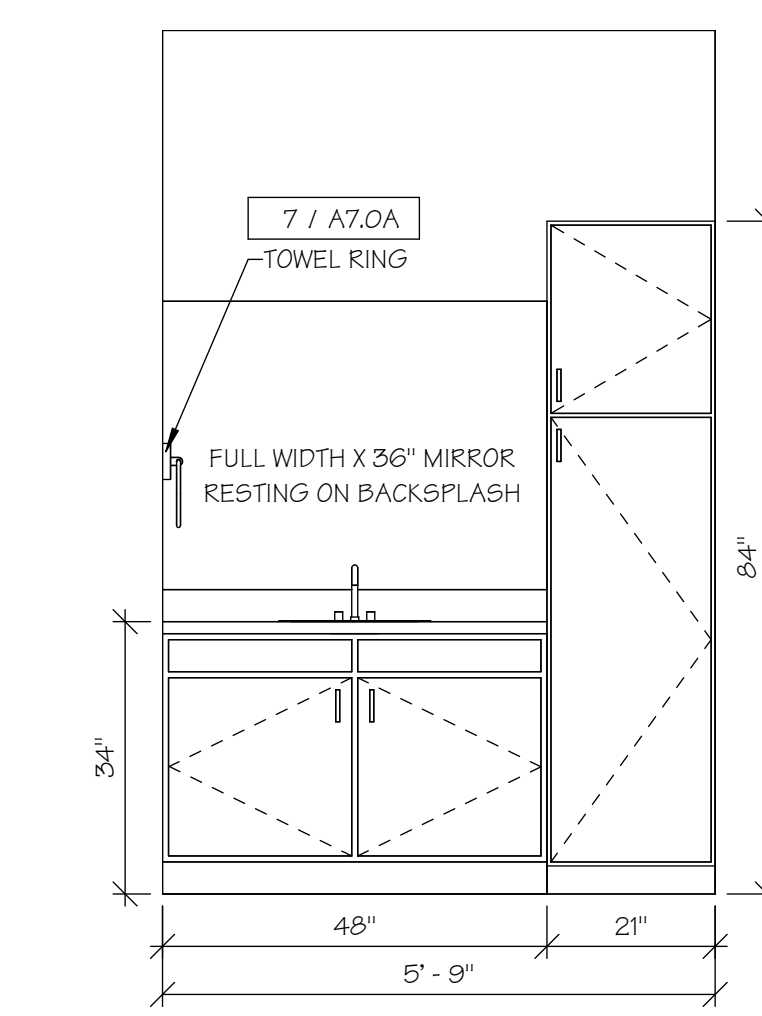
ANSI "B" 1-BR-B
KITCHEN ELEV. 1
1
A7.2A
SCALE: 1/2" = 1'-0"



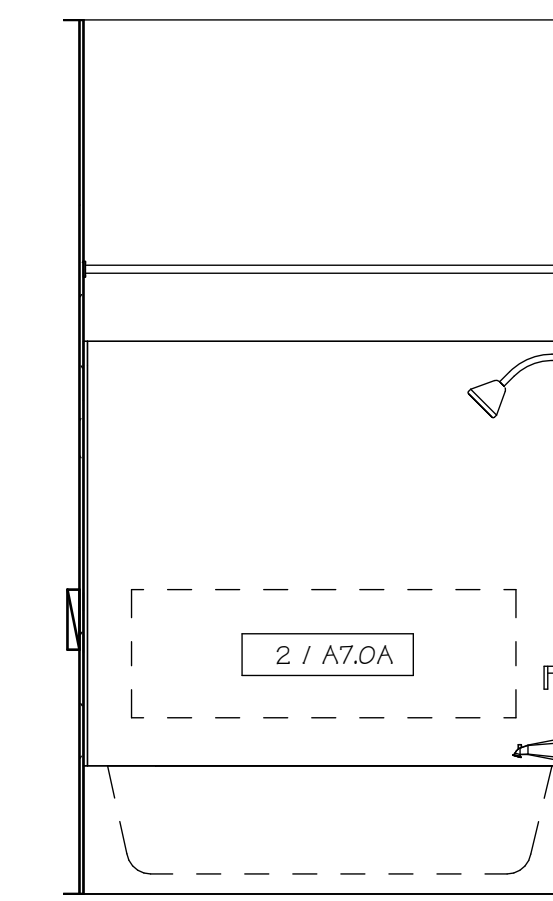
ANSI "B" 1-BR-B
KITCHEN ELEV. 2
2
A7.2A
SCALE: 1/2" = 1'-0"



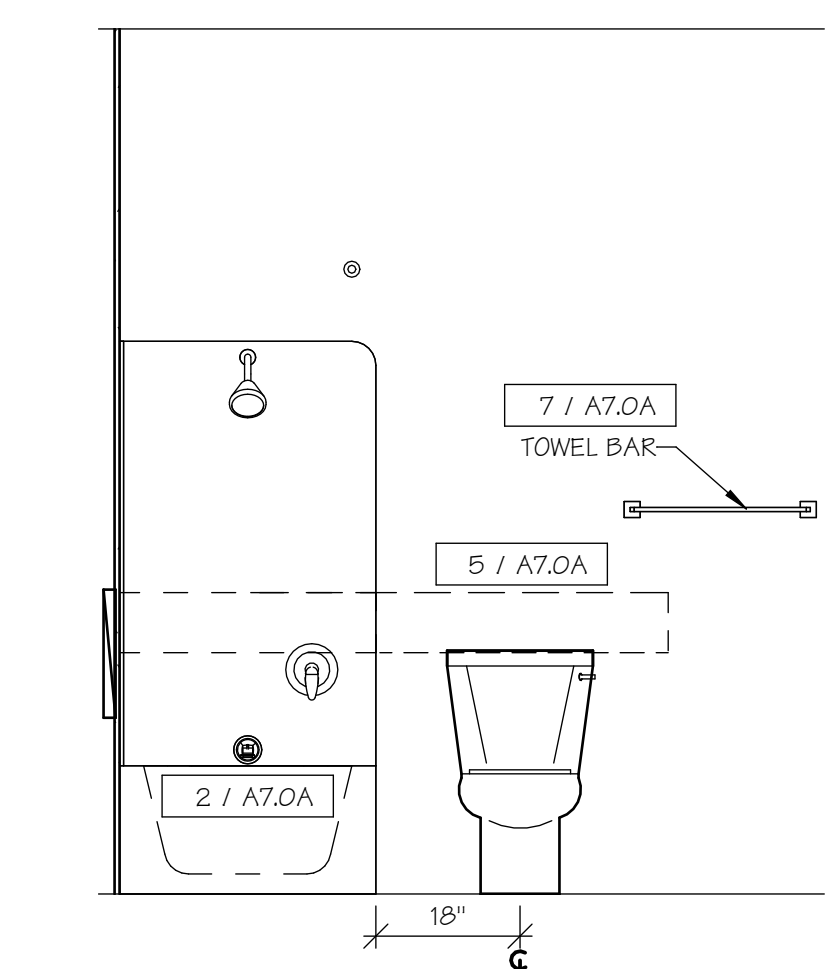
ANSI "B" 1-BR-B
KITCHEN ELEV. 3
3
A7.2A
SCALE: 1/2" = 1'-0"



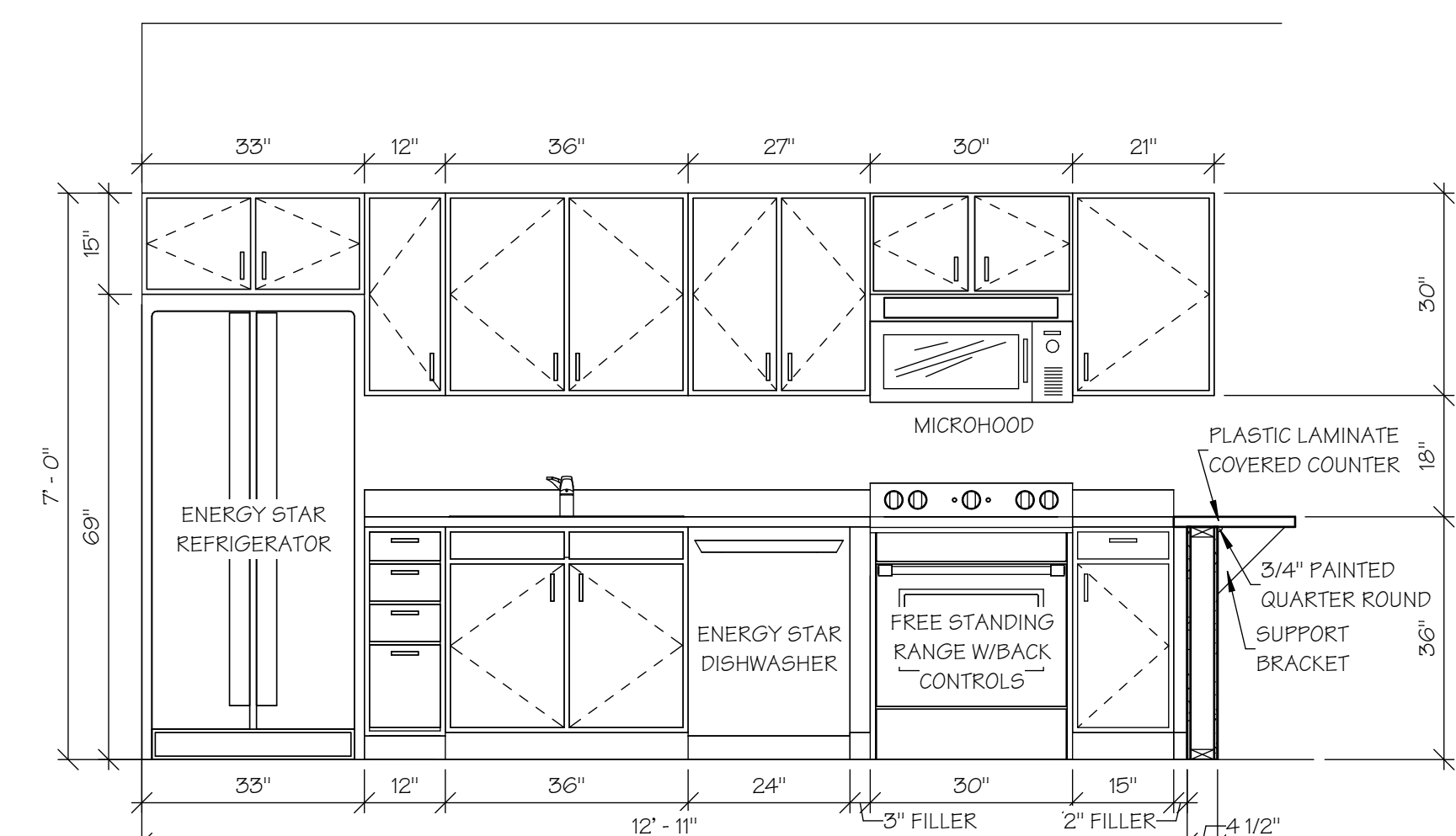
ANSI "B" 1-BR-B
BATH ELEV. 1
4
A7.2A
SCALE: 1/2" = 1'-0"



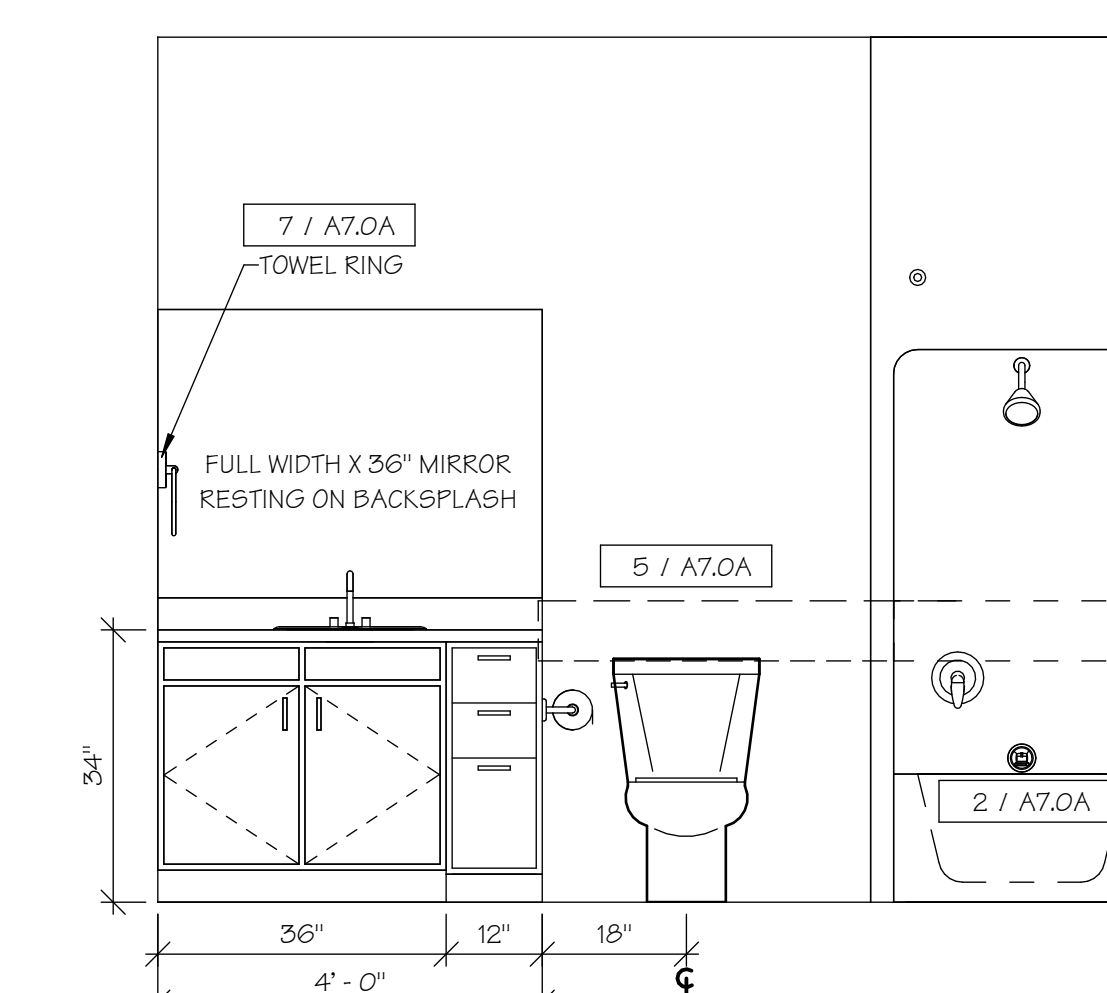
ANSI "B" 1-BR-B
BATH ELEV. 2
5
A7.2A
SCALE: 1/2" = 1'-0"



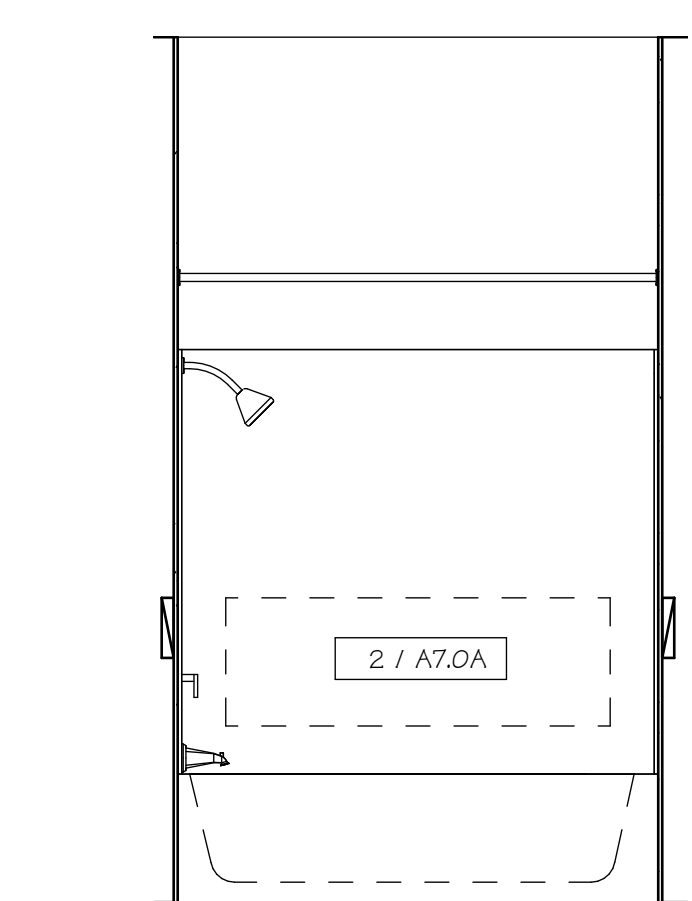
ANSI "B" 1-BR-B
BATH ELEV. 3
6
A7.2A
SCALE: 1/2" = 1'-0"



ANSI "B" 1-BR-C
KITCHEN ELEV. 1
7
A7.2A
SCALE: 1/2" = 1'-0"



ANSI "B" 1-BR-C
BATH ELEV. 1
8
A7.2A
SCALE: 1/2" = 1'-0"



ANSI "B" 1-BR-C
BATH ELEV. 2
9
A7.2A
SCALE: 1/2" = 1'-0"

ALURA APARTMENTS - VILLAGE AT DISCOVERY PARK
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

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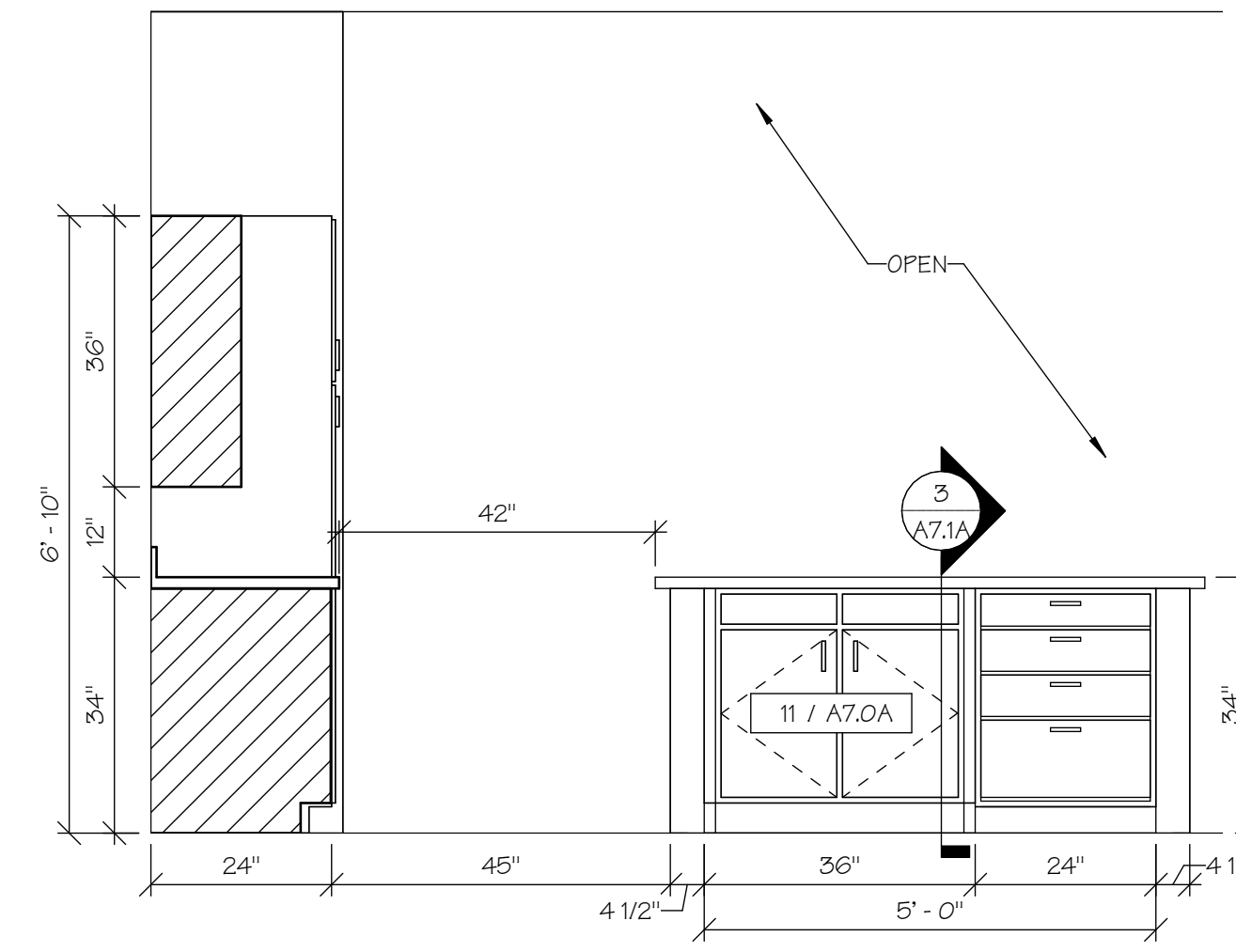
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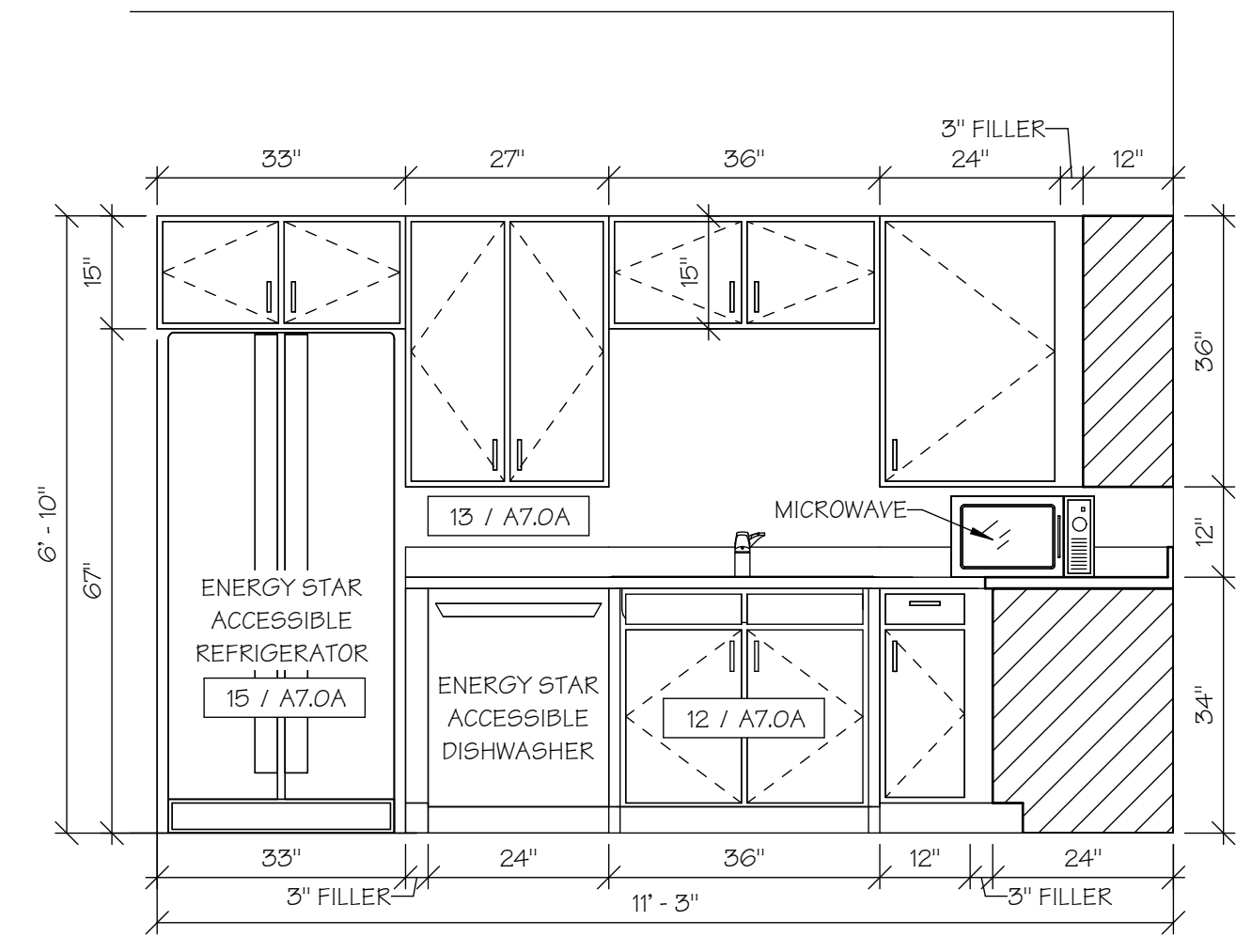
ISSUE/REVISIONS
15 APR 2025 ISSUE SET

A7.3A

JOB NO.
4938

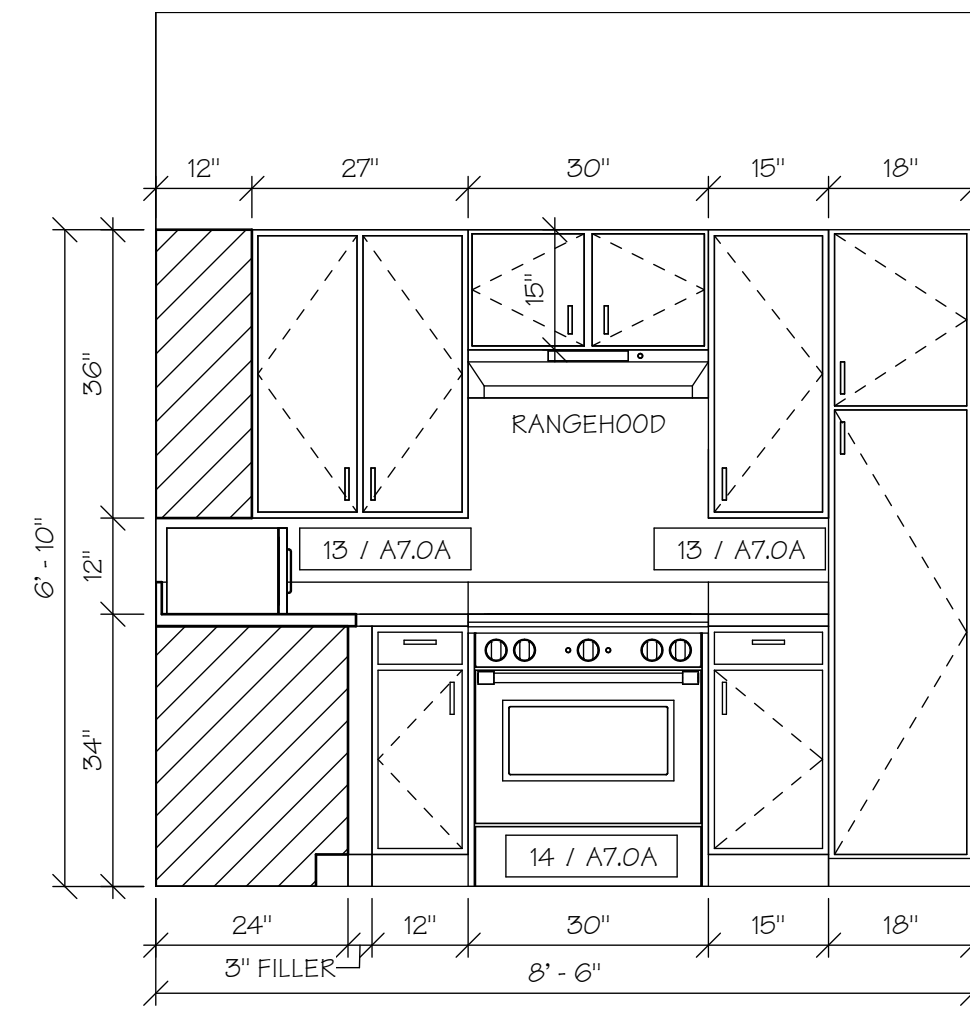


ANSI "A" 2-BR-A
KITCHEN ELEV. 1



ANSI "A" 2-BR-A
KITCHEN ELEV. 2

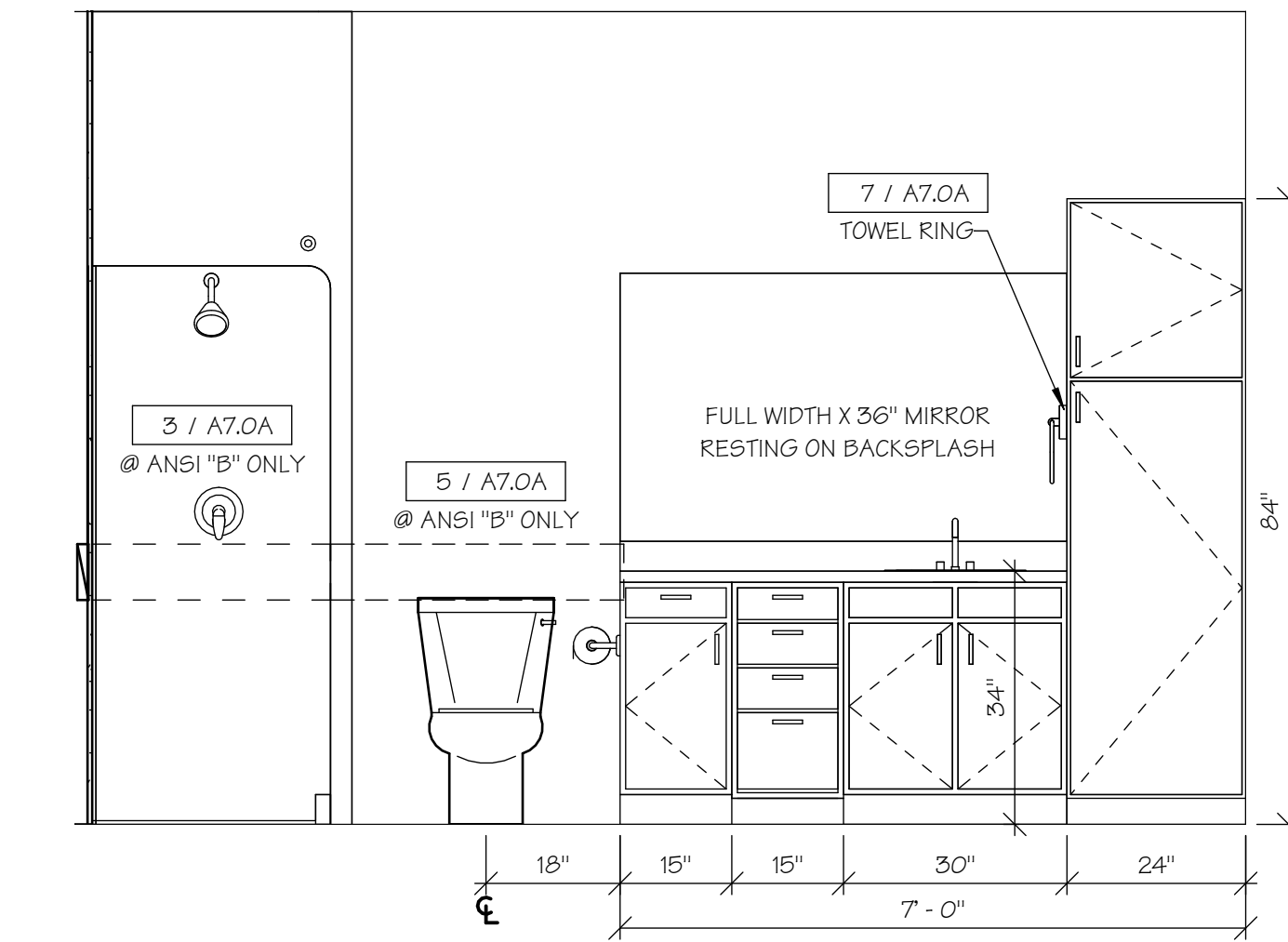
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47.3A SCALE: 1/2" = 1'-0"



ANSI "A" 2-BR-A
KITCHEN ELEV. 3

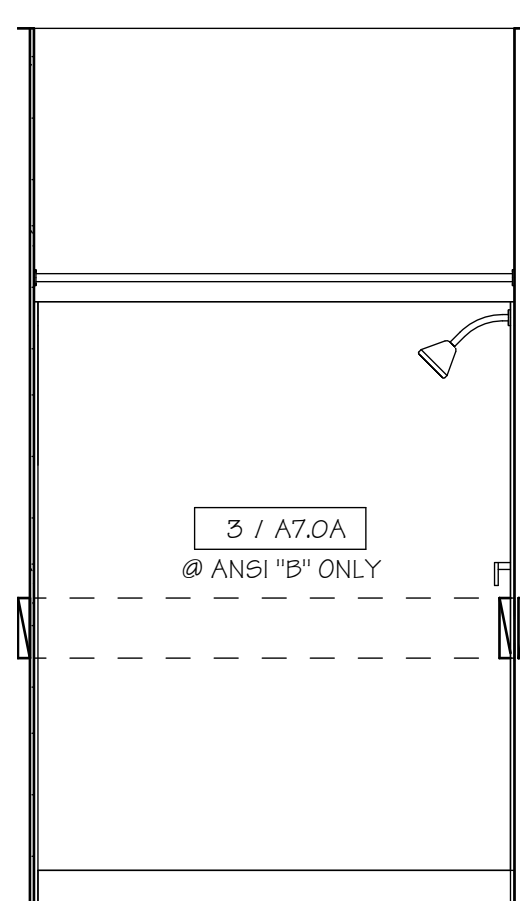
3
A7.3A

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



ANSI "A" & "B" 2-BR-A
BATH 1 ELEV. 1

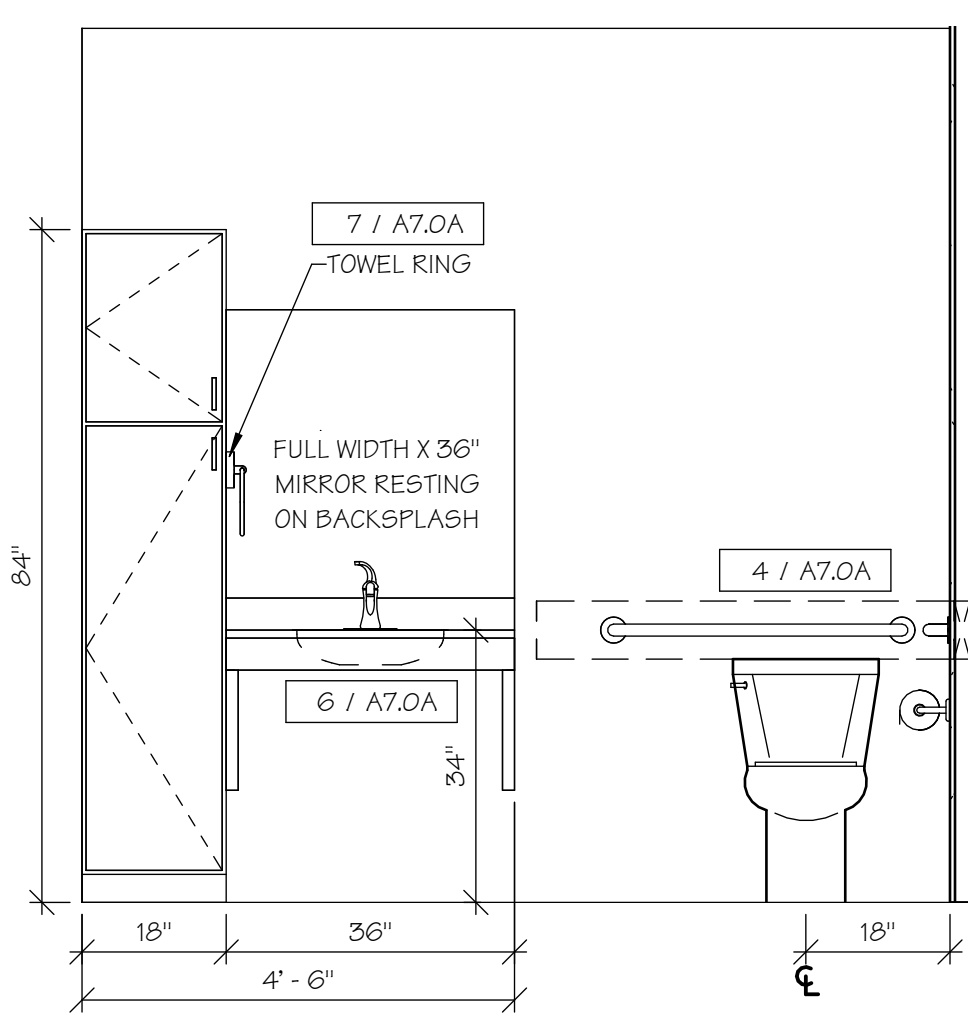
4
A7.3A SCALE: 1/2" = 1'-0"



ANSI "A" & "B" 2-BR-A
BATH 1 ELEV. 2

5
A7.3A

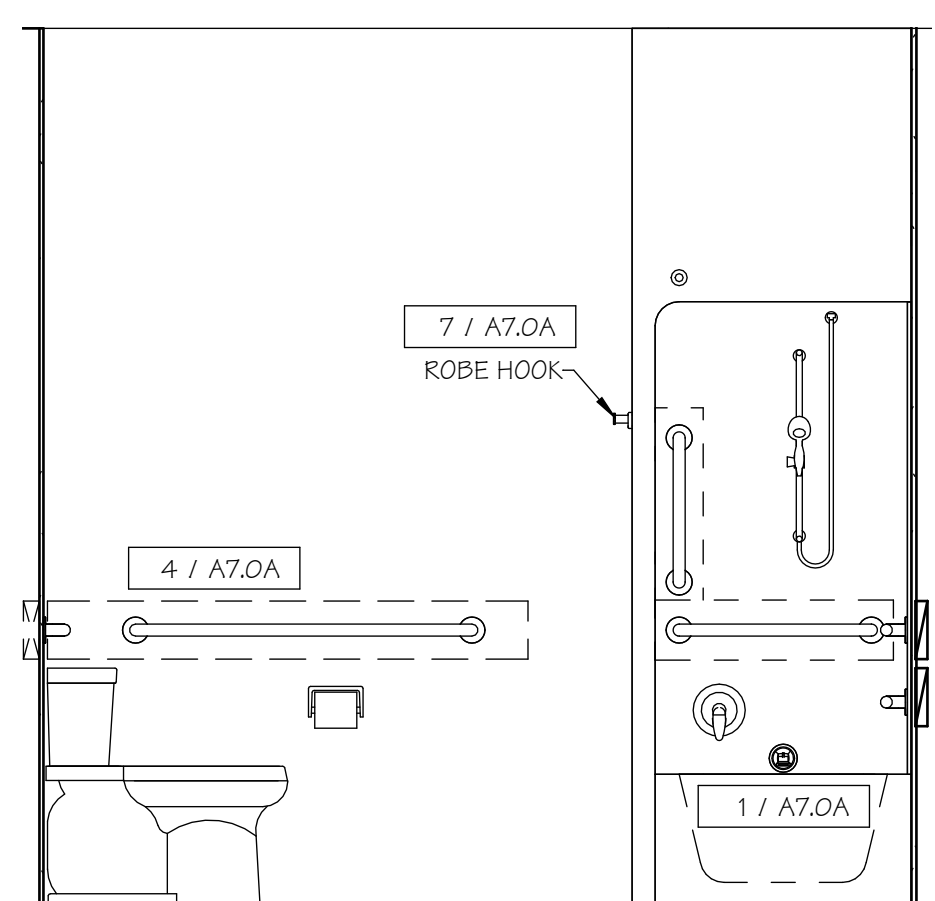
SCALE: 1/2" = 1'-0"



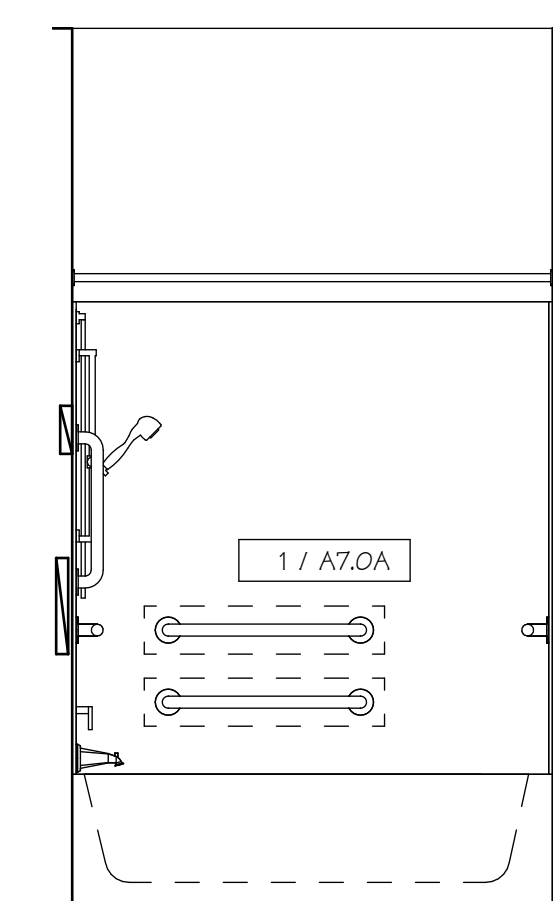
ANSI "A" 2-BR-A
BATH 2 ELEV. 1

6
A7.3A

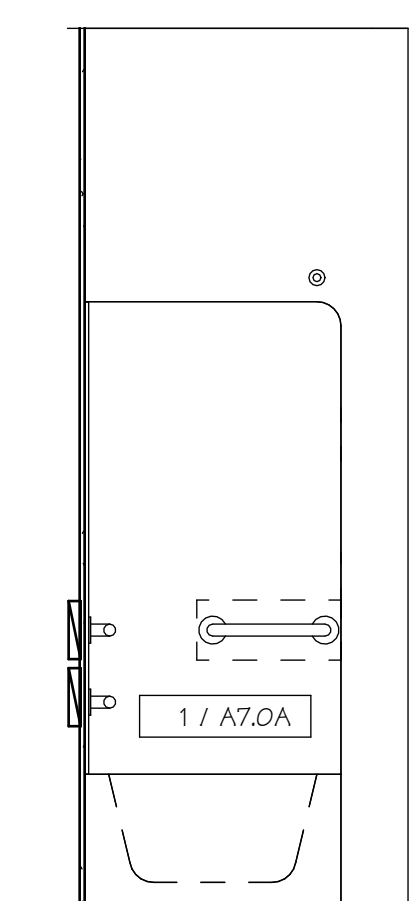
SCALE: 1/2" = 1'-0"



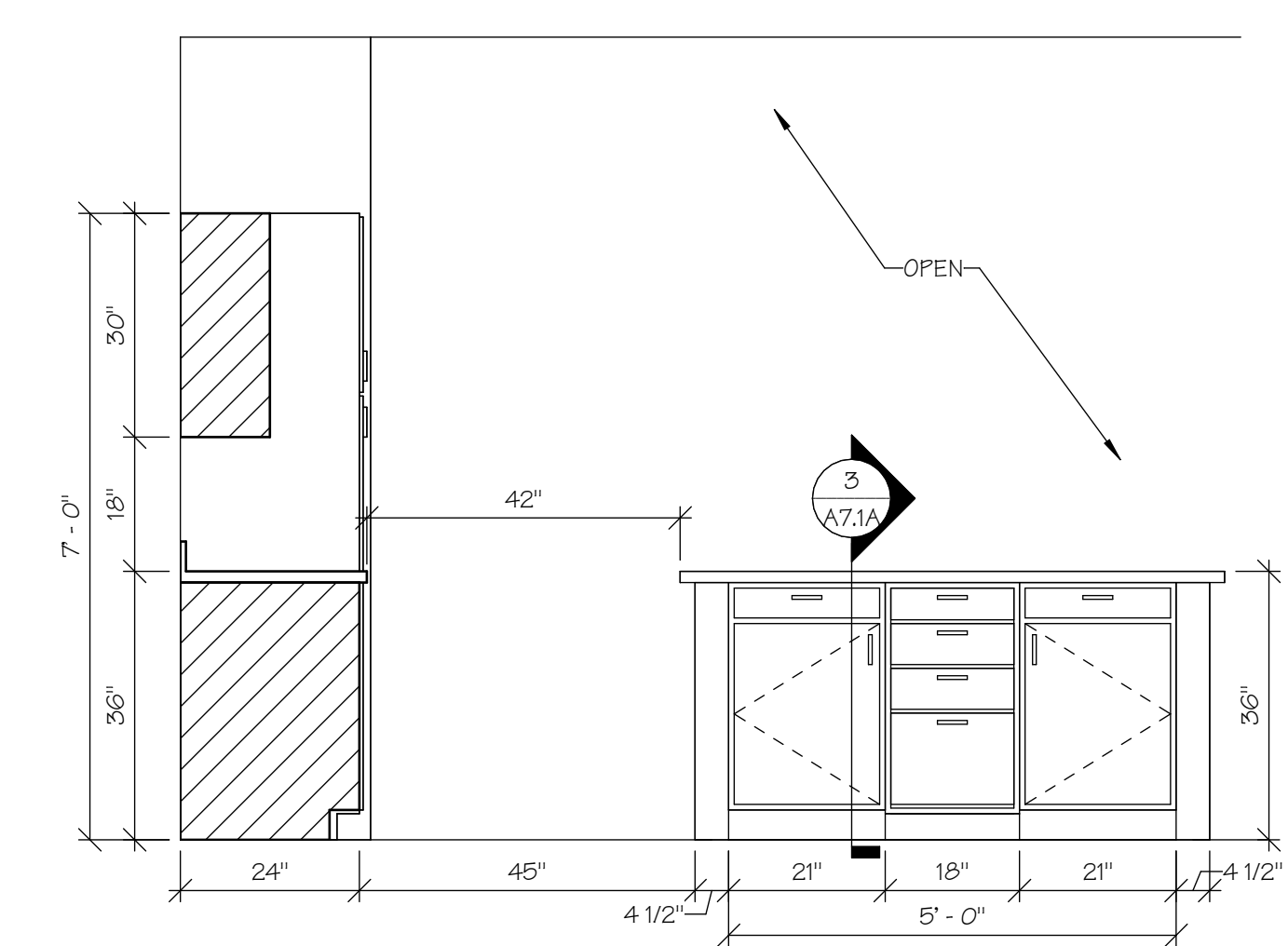
ANSI "A" 2-BR-A
BATH 2 ELEV. 2
SCALE: 1/2" = 1'-0"



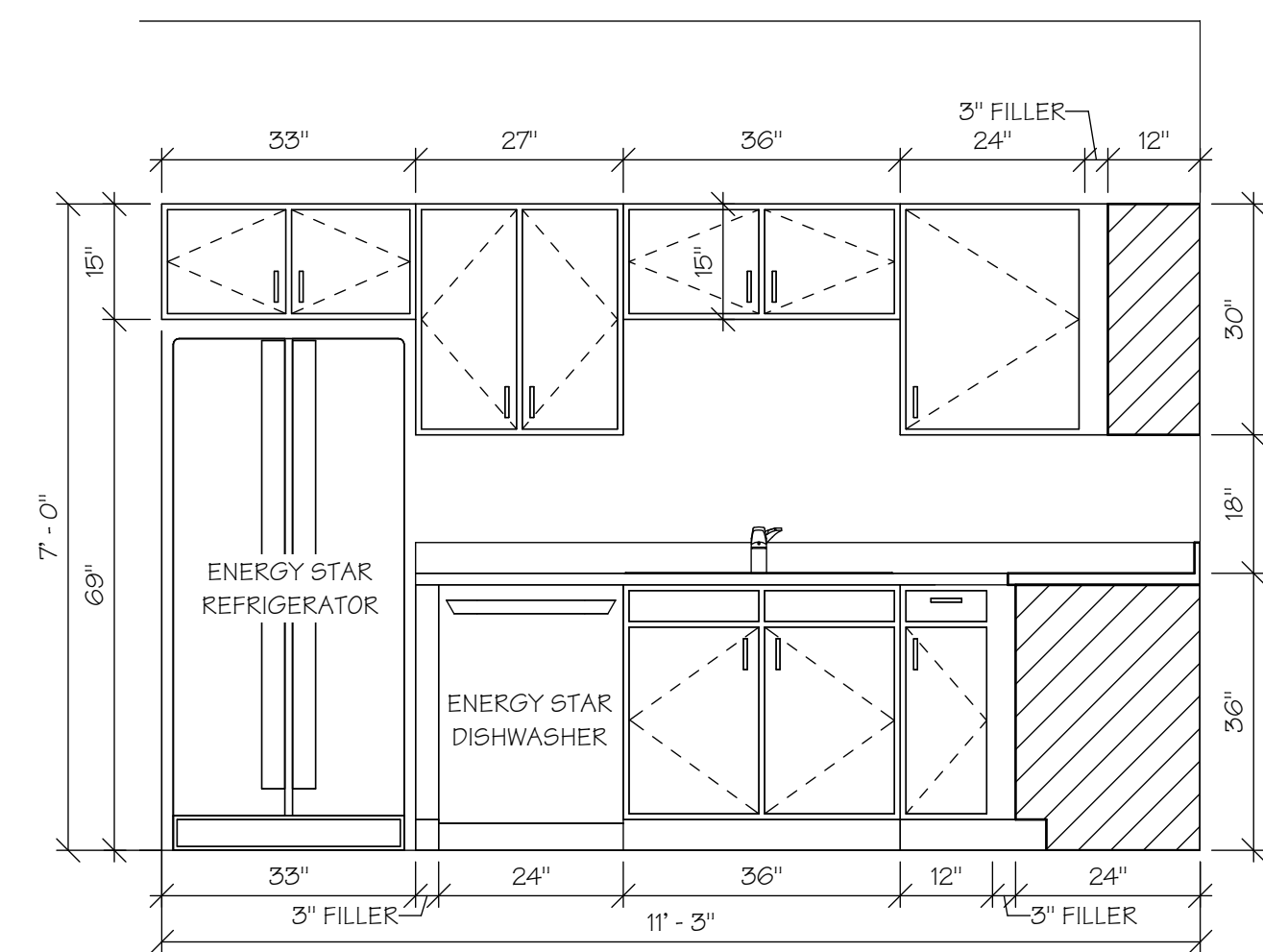
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BATH 2 ELEV. 3



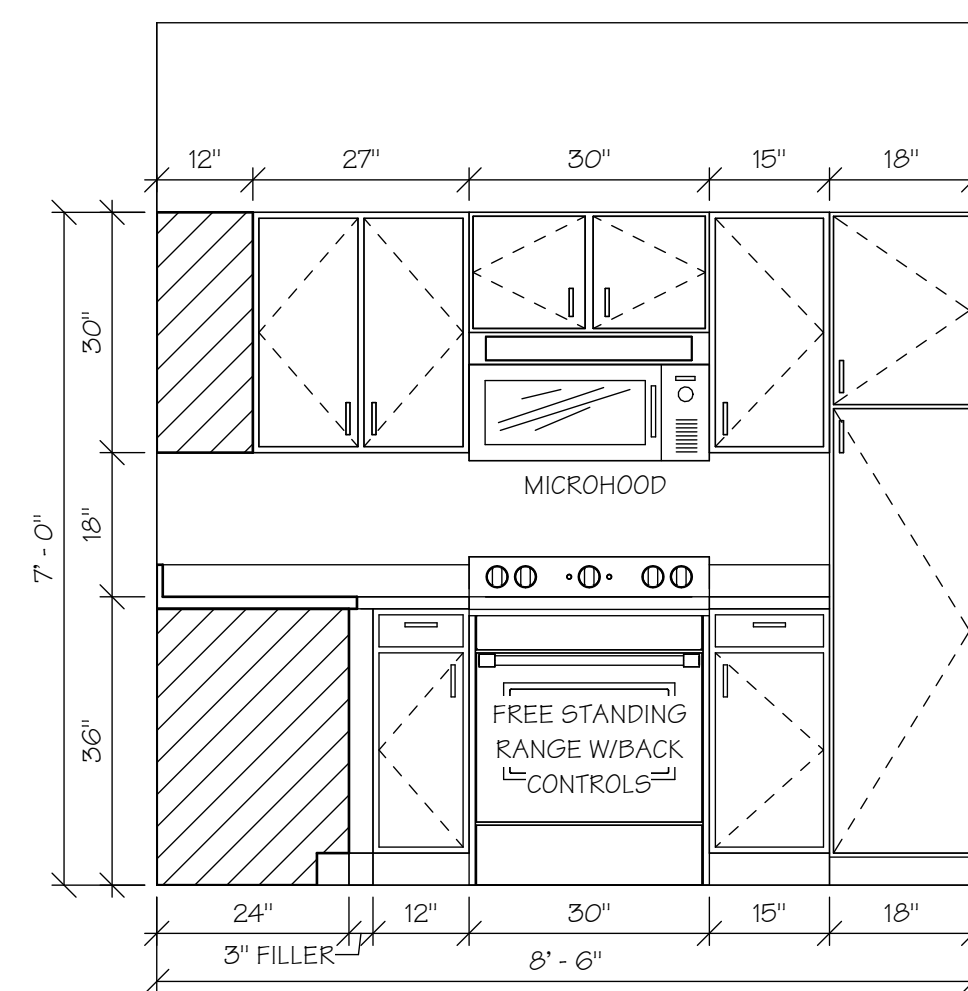
ANSI "A" 2-BR-A
BATH 2 ELEV. 4
9
A7.3A SCALE: 1/2" = 1'-0"



ANSI "B" 2-BR-A
KITCHEN ELEV. 1

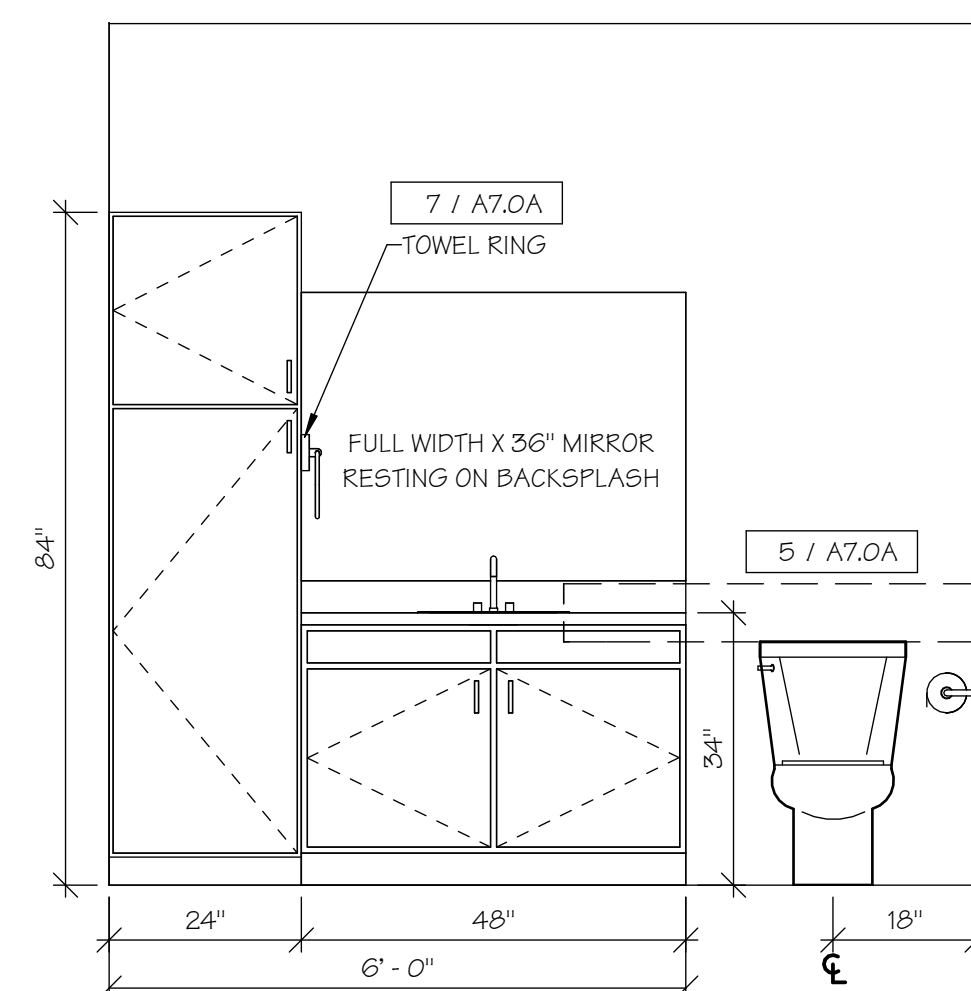


ANSI "B" 2-BR-A
KITCHEN ELEV. 2

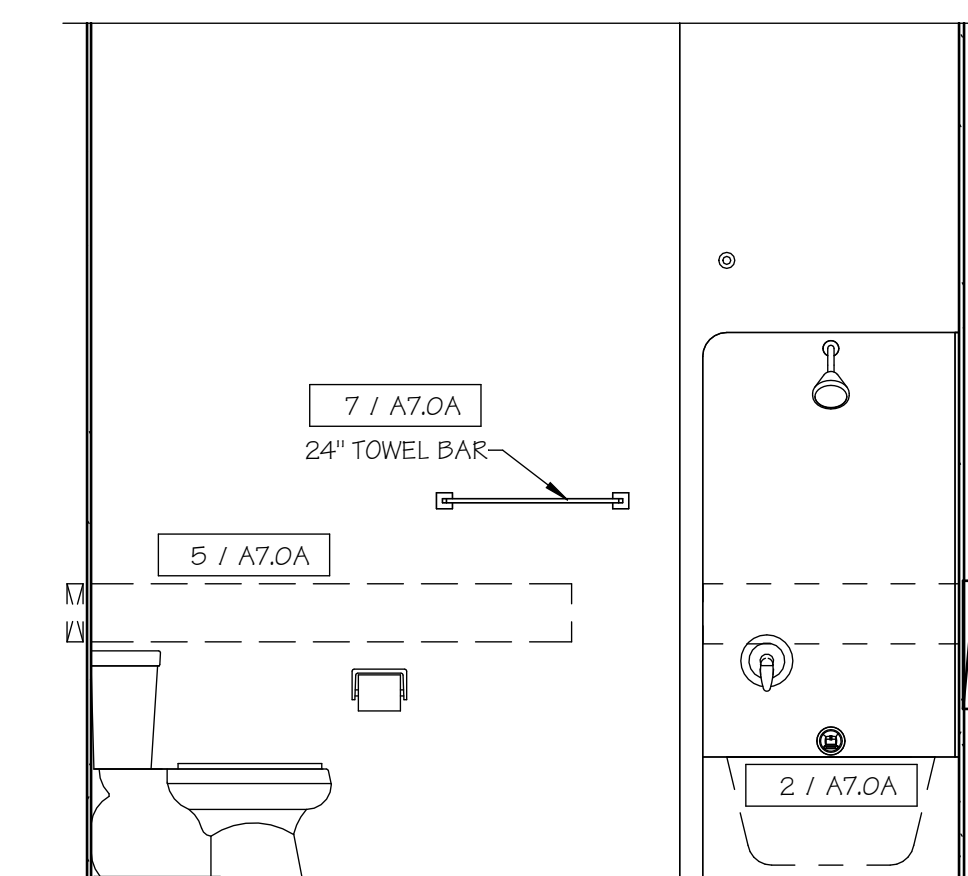


ANSI "B" 2-BR-A
KITCHEN ELEV. 3

12
A7.3A SCALE: 1/2" = 1'-0"

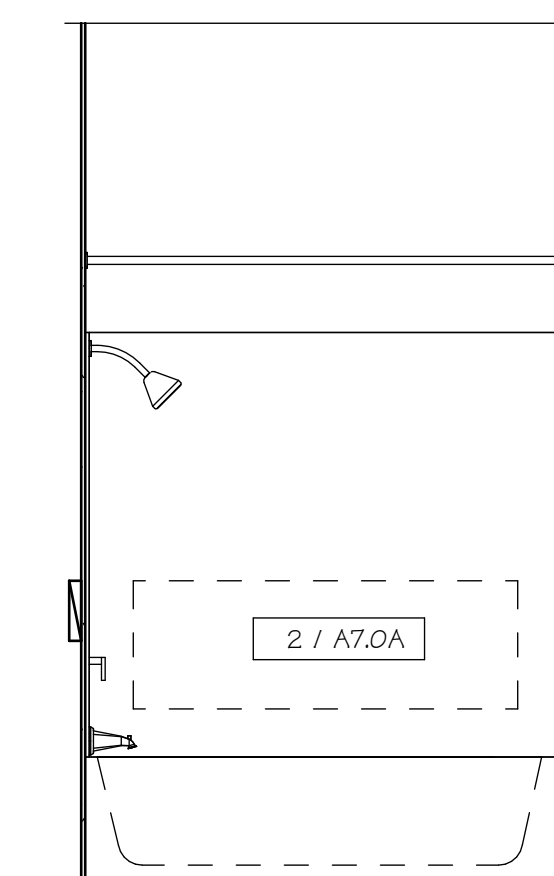


ANSI "B" 2-BR-A
BATH 2 ELEV. 1



ANSI "B" 2-BR-A
BATH 2 ELEV. 2

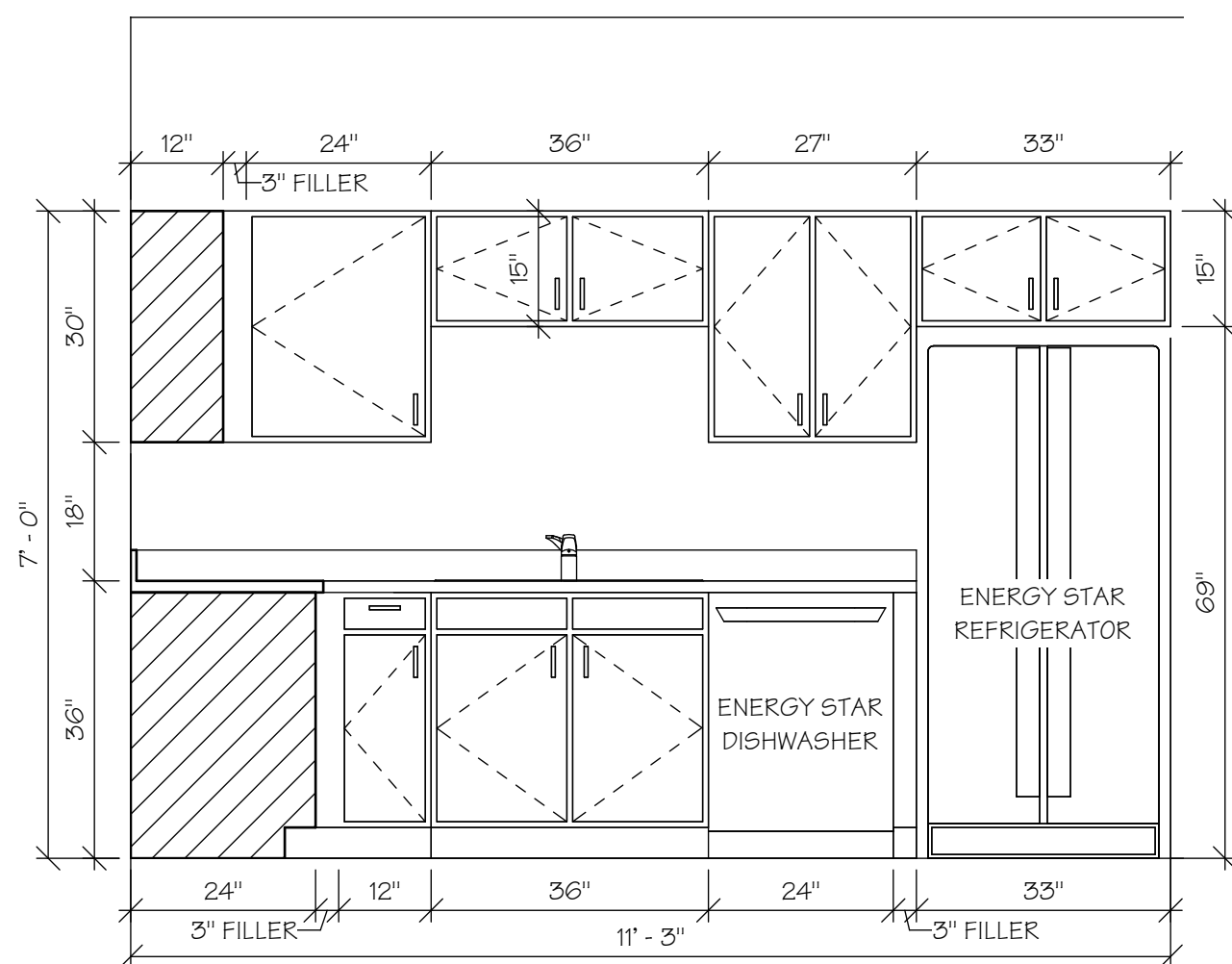
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A7.3A SCALE: 1/2" = 1'-0"



ANSI "B" 2-BR-A
BATH 2 ELEV. 3

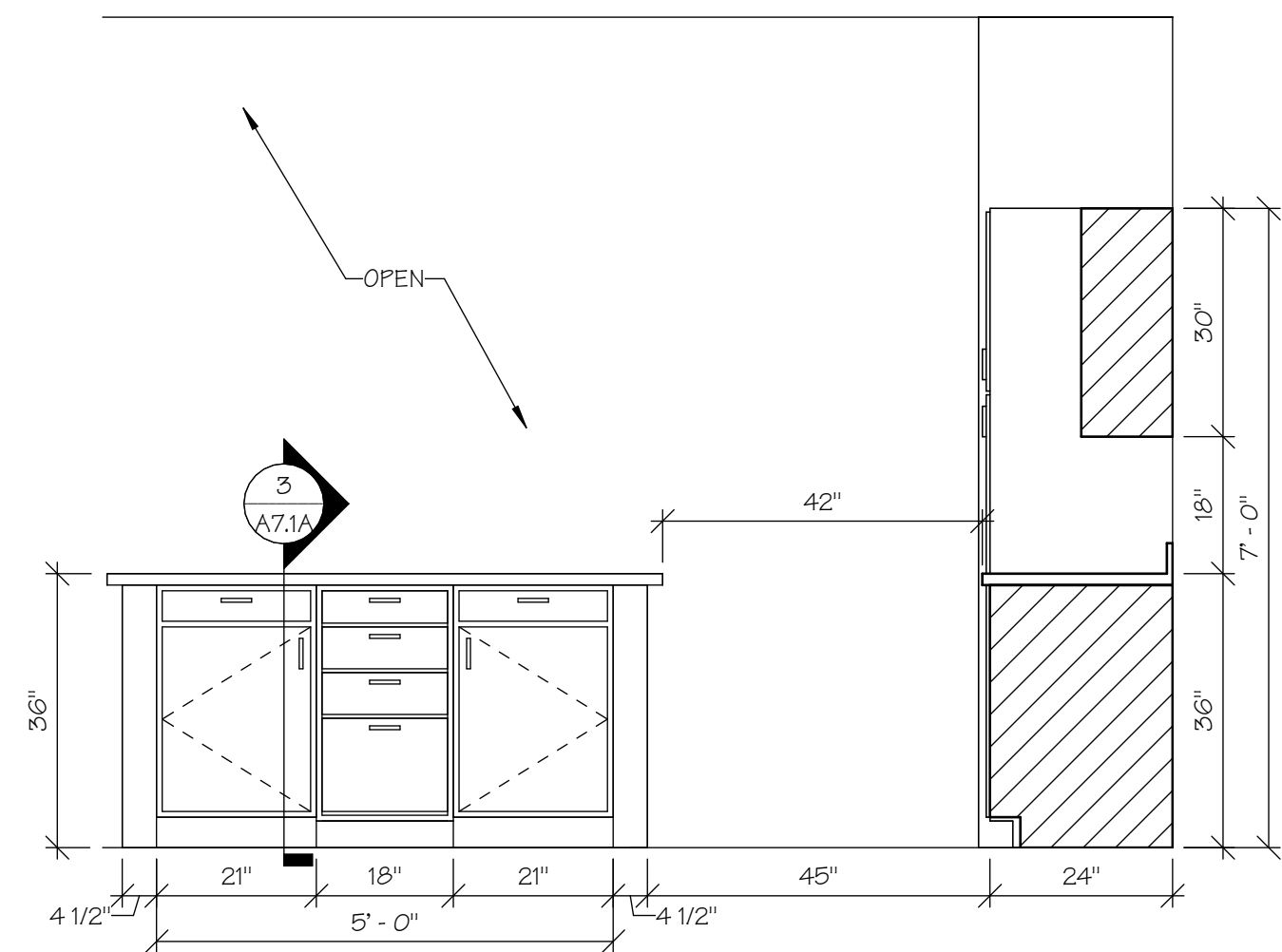
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A7.3A SCALE: 1/2" = 1'-0"

ISSUE SET



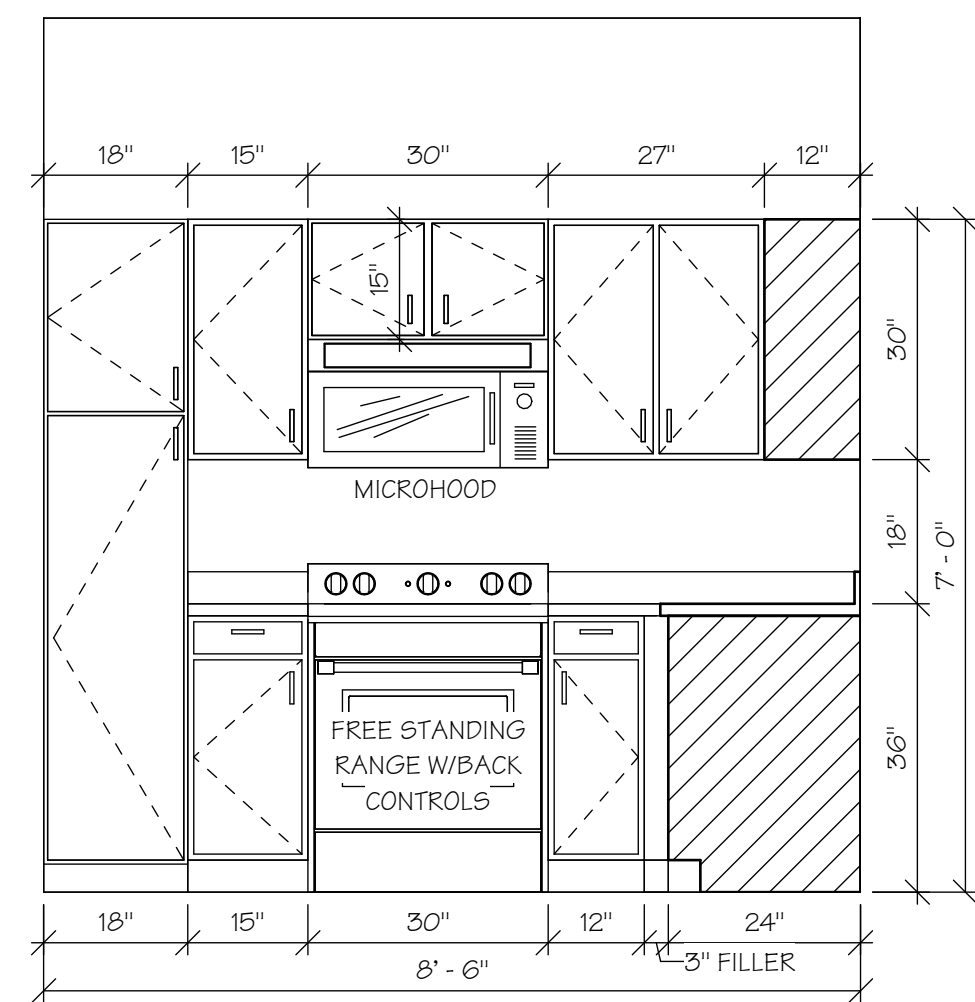
ANSI "B" 2-BR-B
KITCHEN ELEV. 1

1
A7.4A SCALE: 1/2" = 1'-0"



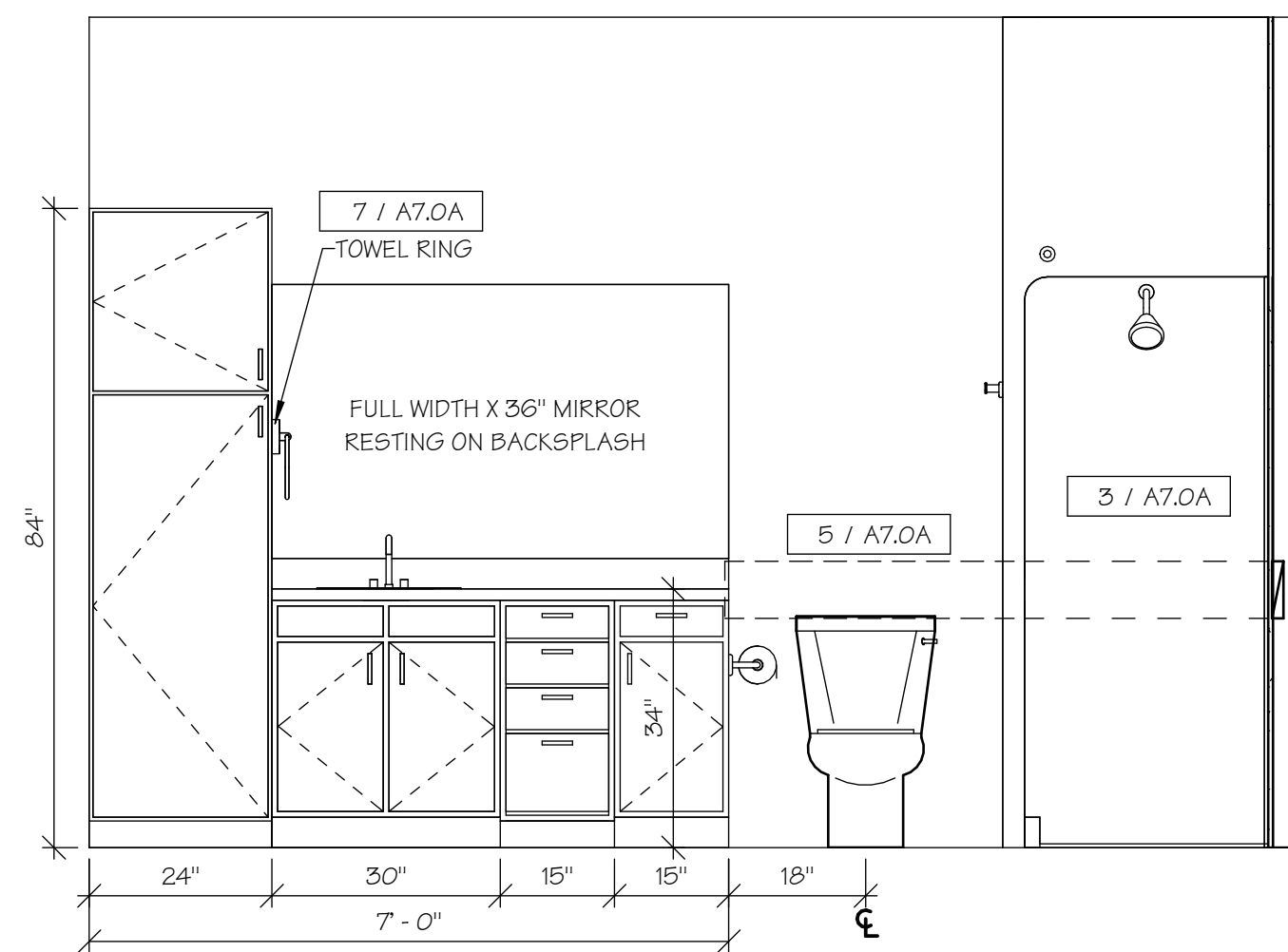
ANSI "B" 2-BR-B
KITCHEN ELEV. 2

2
A7.4A SCALE: 1/2" = 1'-0"



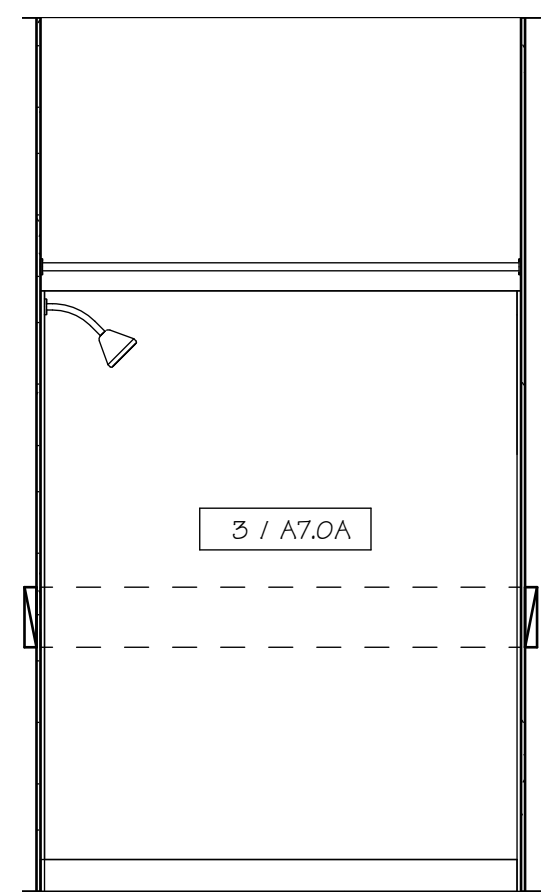
ANSI "B" 2-BR-B
KITCHEN ELEV. 3

3
A7.4A SCALE: 1/2" = 1'-0"



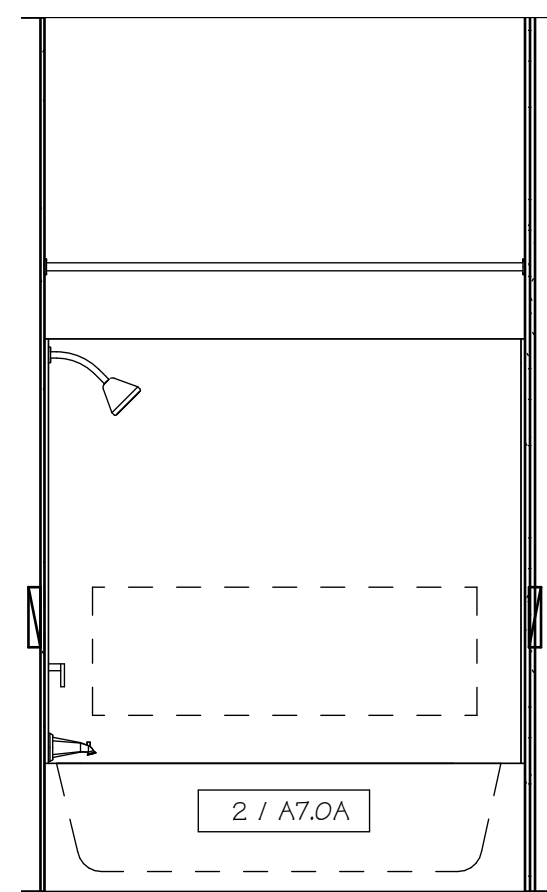
ANSI "B" 2-BR-B
BATH 1 ELEV. 1

4
A7.4A SCALE: 1/2" = 1'-0"



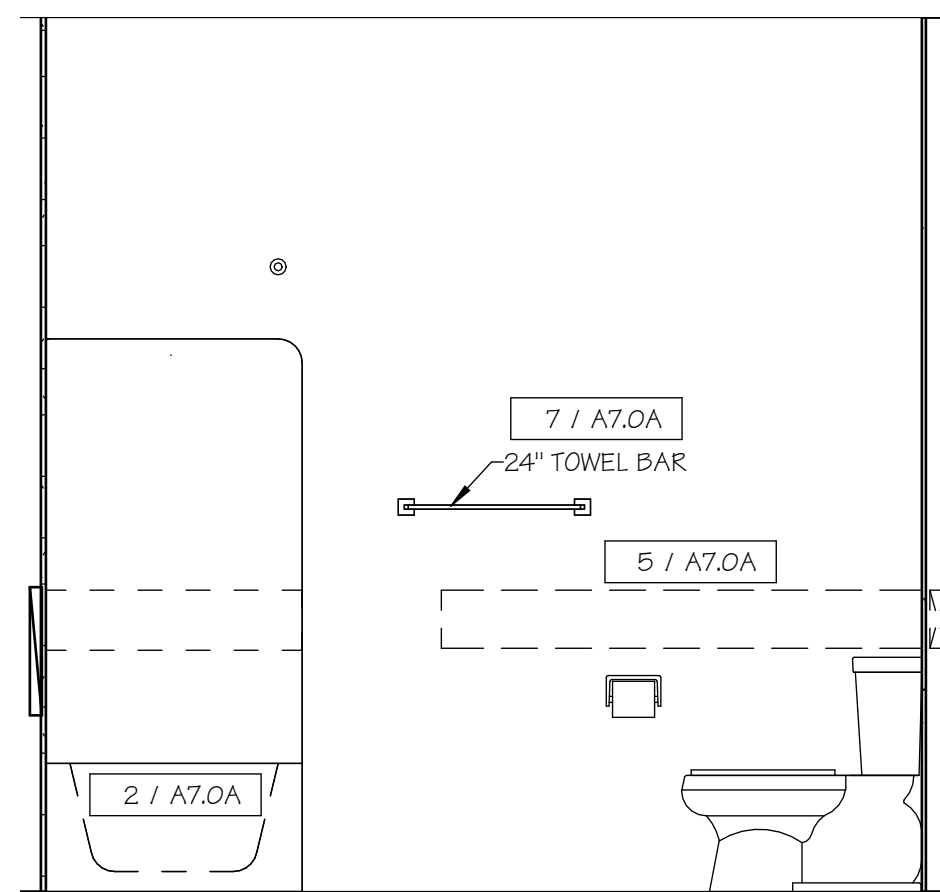
ANSI "B" 2-BR-B
BATH 1 ELEV. 2

5
A7.4A SCALE: 1/2" = 1'-0"



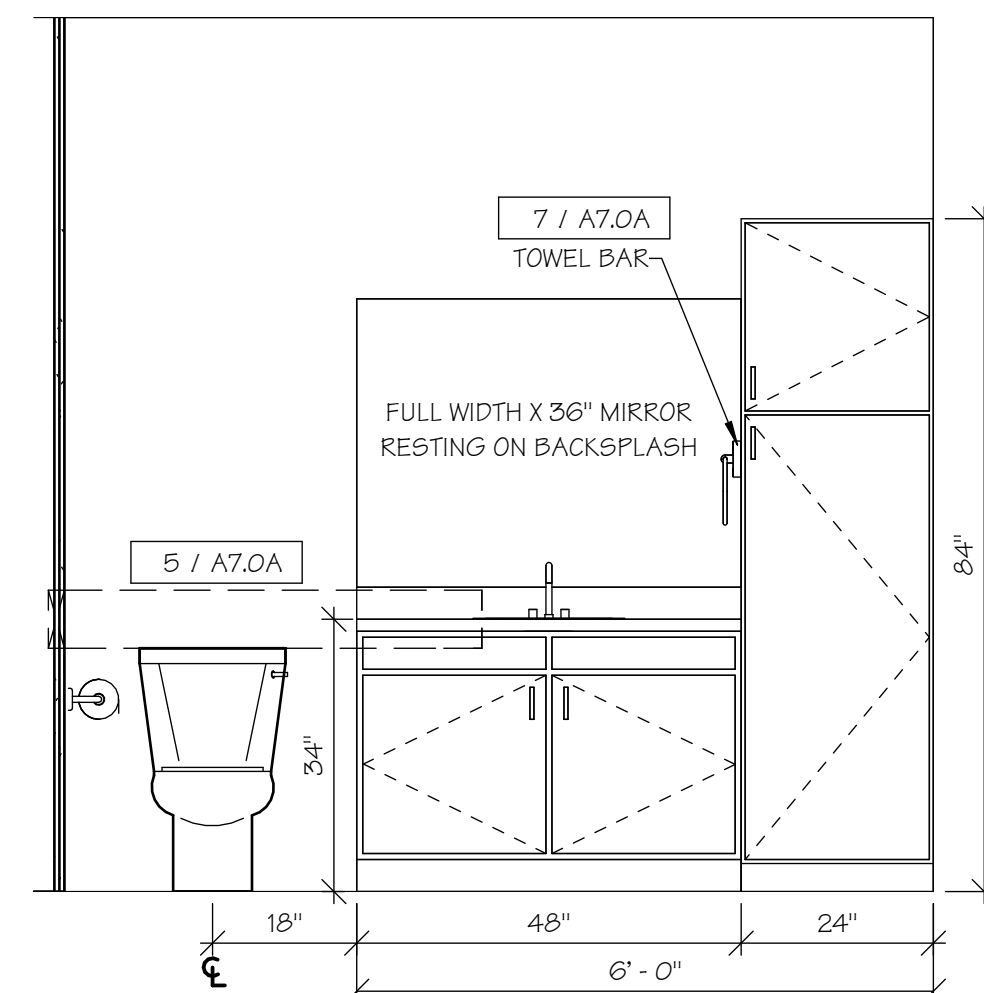
ANSI "B" 2-BR-B
BATH 2 ELEV. 1

6
A7.4A SCALE: 1/2" = 1'-0"



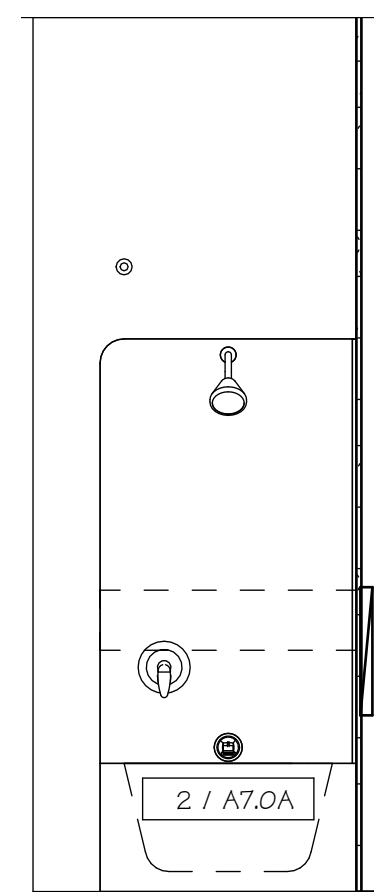
ANSI "B" 2-BR-B
BATH 2 ELEV. 2

7
A7.4A SCALE: 1/2" = 1'-0"



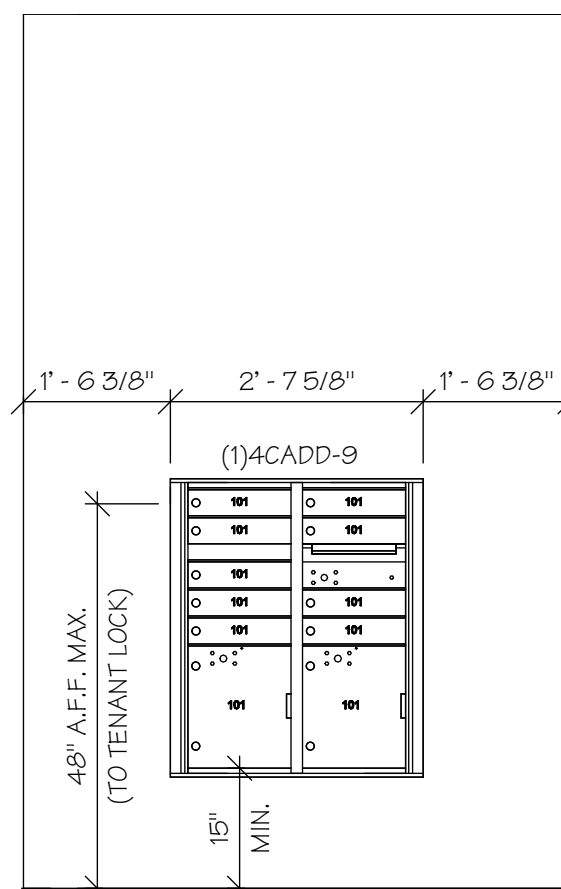
ANSI "B" 2-BR-B
BATH 2 ELEV. 3

8
A7.4A SCALE: 1/2" = 1'-0"



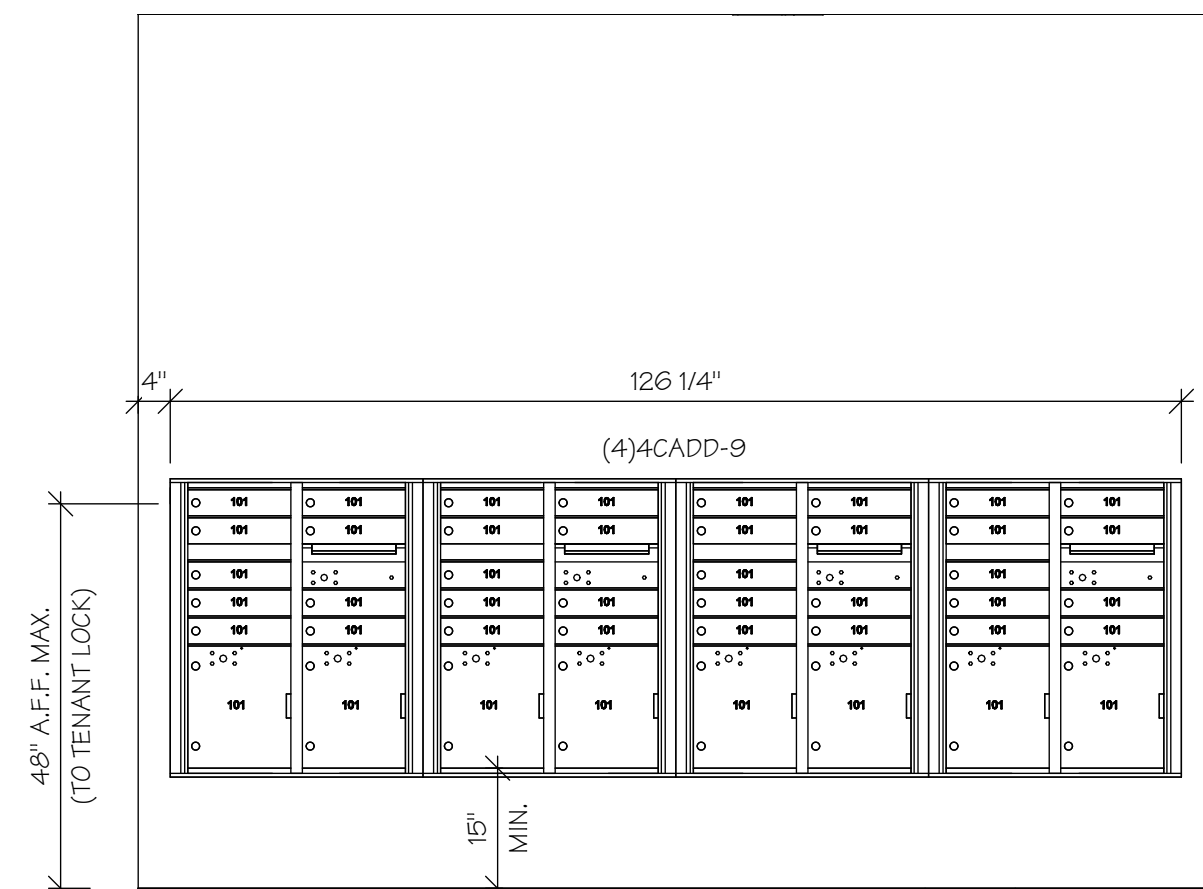
ANSI "B" 2-BR-B
BATH 2 ELEV. 4

9
A7.4A SCALE: 1/2" = 1'-0"



MAILBOX ELEV. 1

10
A7.4A SCALE: 1/2" = 1'-0"



MAILBOX ELEV. 2

11
A7.4A SCALE: 1/2" = 1'-0"

ISSUE SET

RELEASED FOR
CONSTRUCTION
As Noted on Plans Review
Missouri
Department of
Professional Services
M. RANDALL PORTER
2012006244
15 APR 2025
M. RANDALL PORTER
ARCHITECT LICENSE#
A-2012006244

ALURA APARTMENTS - VILLAGE AT DISCOVERY PARK
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

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11

4938

ALURA APARTMENTS - VILLAGE AT DISCOVERY PARK
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

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ISSUE SET

REFLECTED CEILING LEGEND

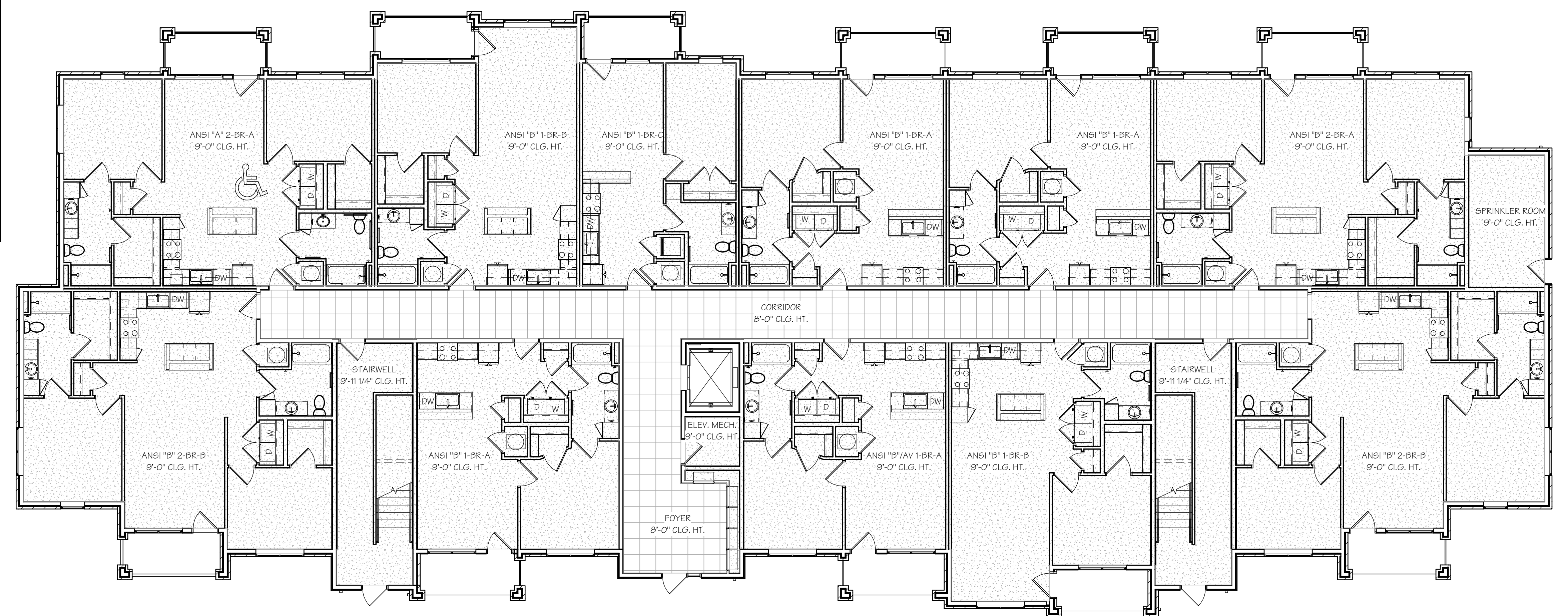
GYP. BD. AT BOTTOM OF TRUSS

LAY-IN CEILING GRID

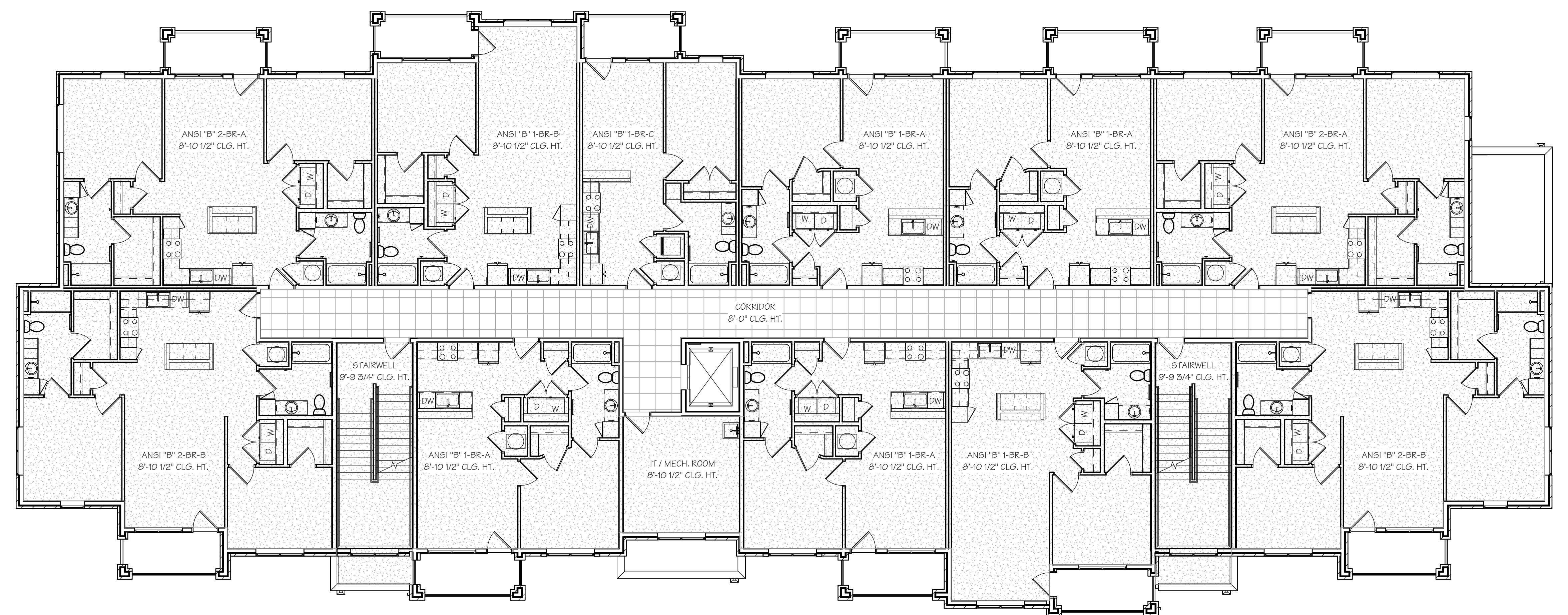
1. PROVIDE GYP. BD. AND RESILIENT CHANNELS CONTINUOUS AT BOTTOM OF FLOOR FRAMING TO MEET FIRE ASSEMBLY REQUIREMENTS. ALL SUSPENDED & FURRED CEILINGSS TO BE BELOW COMPLETED FIRE RATED ASSEMBLY.

2. PROVIDE FIRE RATE ENCLOSURES FOR ALL RECESSED LIGHT FIXTURES WHICH PENETRATE FIRE RATED FLOOR/CEILING AND ROOF/CEILING ASSEMBLIES. ENCLOSURE RATING TO MATCH ASSEMBLY THAT IS PENETRATED.

3. SEE MEP PLANS FOR LIGHT FIXTURES AND VENTILATION GRILLES.

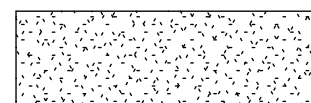


1
A8.0A SCALE: 1/8" = 1'-0"
FIRST FLOOR REFLECTED CEILING PLAN - (BLDG. TYPE "A")
(BUILDINGS 1, 4, 6, 8 & 11 - SEE CIVIL)

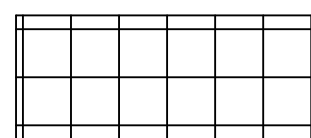


2
A8.0A SCALE: 1/8" = 1'-0"
SECOND FLOOR REFLECTED CEILING PLAN - (BLDG. TYPE "A")
(BUILDINGS 1, 4, 6, 8 & 11 - SEE CIVIL)

REFLECTED CEILING LEGEND

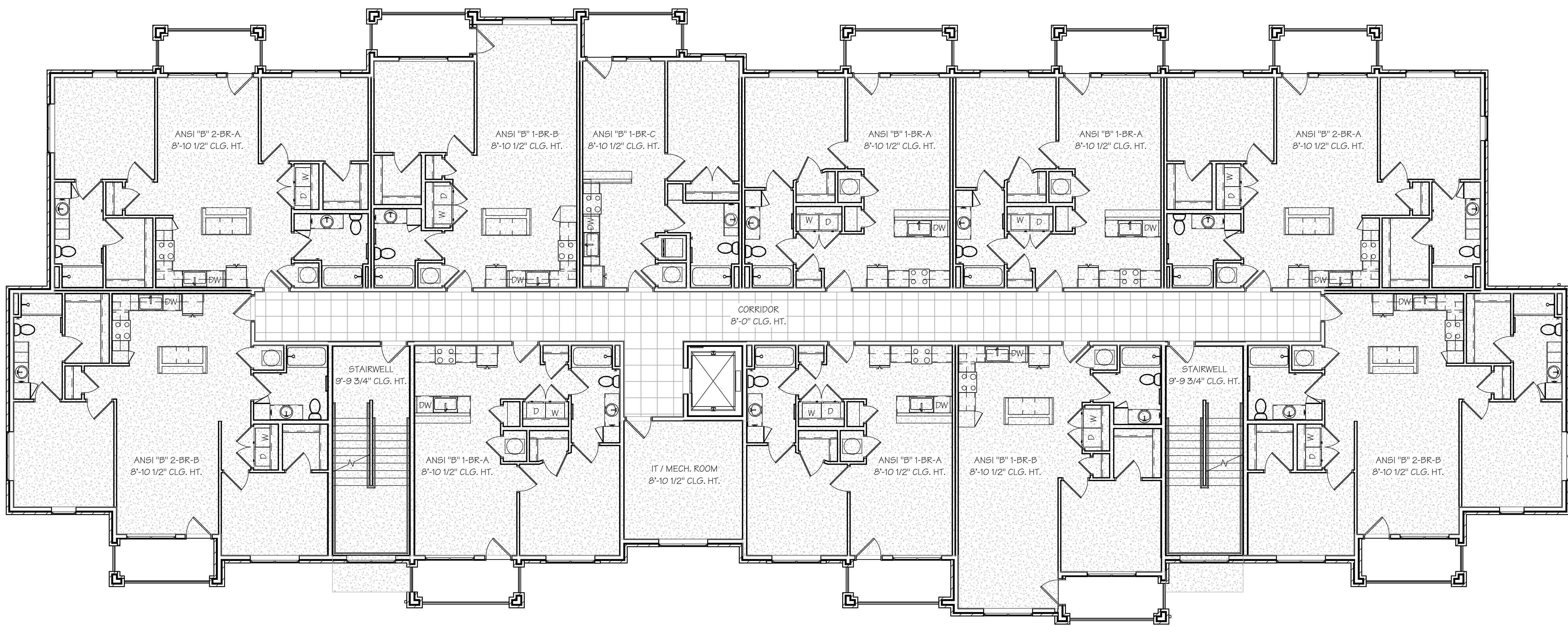


GYP. BD. AT BOTTOM OF TRUSS



LAY-IN CEILING GRID

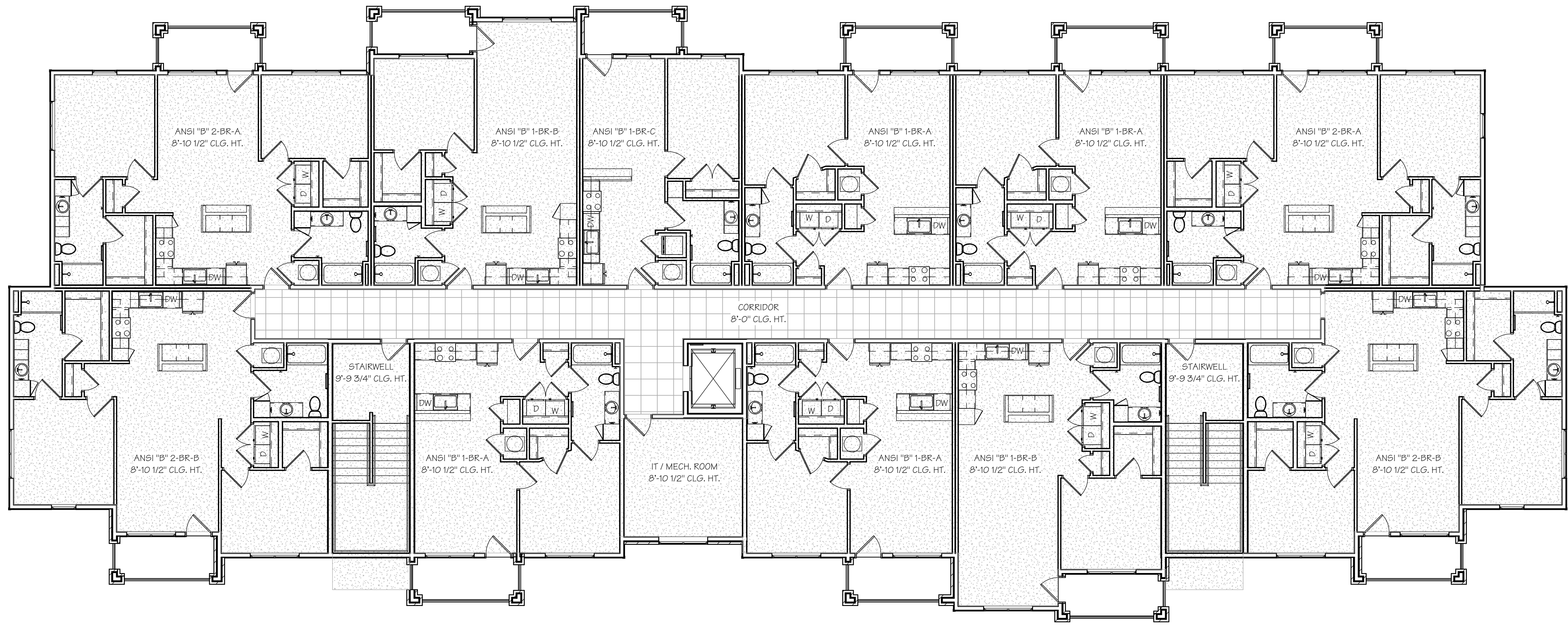
1. PROVIDE GYP. BD. AND RESILIENT CHANNELS CONTINUOUS AT BOTTOM OF FLOOR FRAMING TO MEET FIRE ASSEMBLY REQUIREMENTS. ALL SUSPENDED & FURRED CEILINGSS TO BE BELOW COMPLETED FIRE RATED ASSEMBLY.
2. PROVIDE FIRE RATE ENCLOSURES FOR ALL RECESSED LIGHT FIXTURES WHICH PENETRATE FIRE RATED FLOOR/CEILING AND ROOF/CEILING ASSEMBLIES. ENCLOSURE RATING TO MATCH ASSEMBLY THAT IS PENETRATED.
3. SEE MEP PLANS FOR LIGHT FIXTURES AND VENTILATION GRILLES.



1
A8.1A
THIRD FLOOR REFLECTED CEILING PLAN - (BLDG. TYPE "A")

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

(BUILDINGS 1, 4, 6, 8 & 11 - SEE CIVIL)



2
A8.1A
FOURTH FLOOR REFLECTED CEILING PLAN - (BLDG. TYPE "A")

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

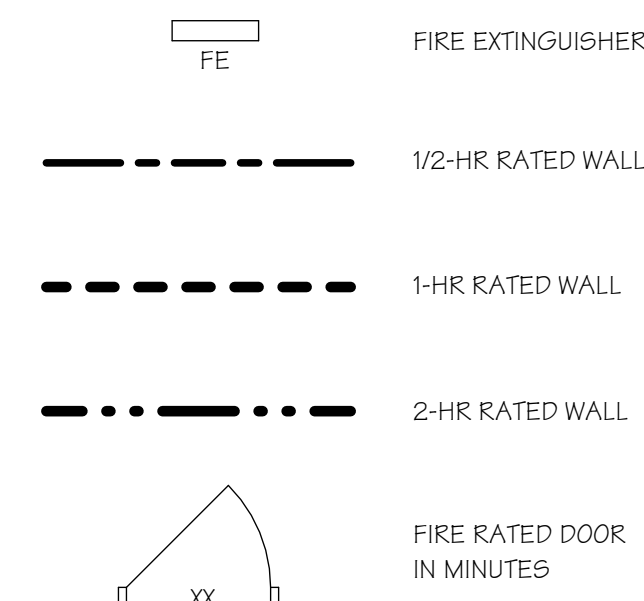
(BUILDINGS 1, 4, 6, 8 & 11 - SEE CIVIL)

OCCUPANCY LOAD CALCULATIONS

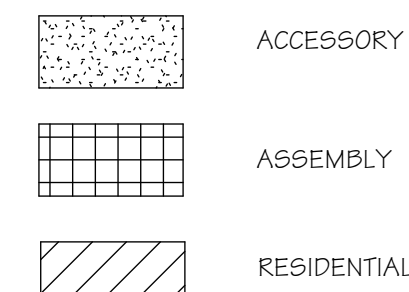
2018 IBC, TABLE 1004.1.1

OCCUPANCY	AREA	LOCATION	FACTOR	OCCUPANCY LOAD
ACCESSORY	202 SF	1ST FLOOR	300 SF	1
ACCESSORY	223 SF	2ND FLOOR	300 SF	1
ACCESSORY	223 SF	3RD FLOOR	300 SF	1
ACCESSORY	223 SF	4TH FLOOR	300 SF	1
TOTAL ACCESSORY = 4				17
TOTAL ASSEMBLY = 17				47
RESIDENTIAL	9,269 SF	1ST FLOOR	200 SF	47
RESIDENTIAL	9,269 SF	2ND FLOOR	200 SF	47
RESIDENTIAL	9,269 SF	3RD FLOOR	200 SF	47
RESIDENTIAL	9,269 SF	4TH FLOOR	200 SF	47
TOTAL RESIDENTIAL = 198				198
BUILDING TOTAL = 209				209

FIRE SAFETY LEGEND

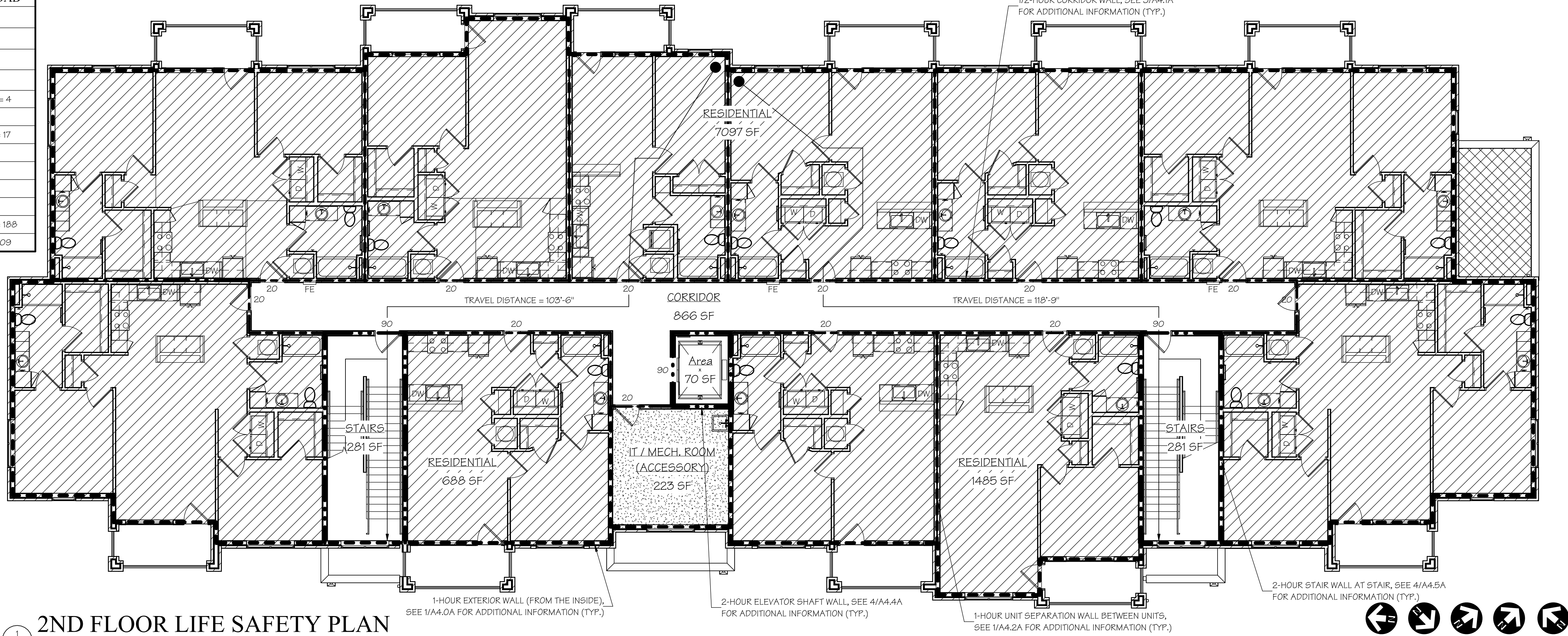


AREA LEGEND



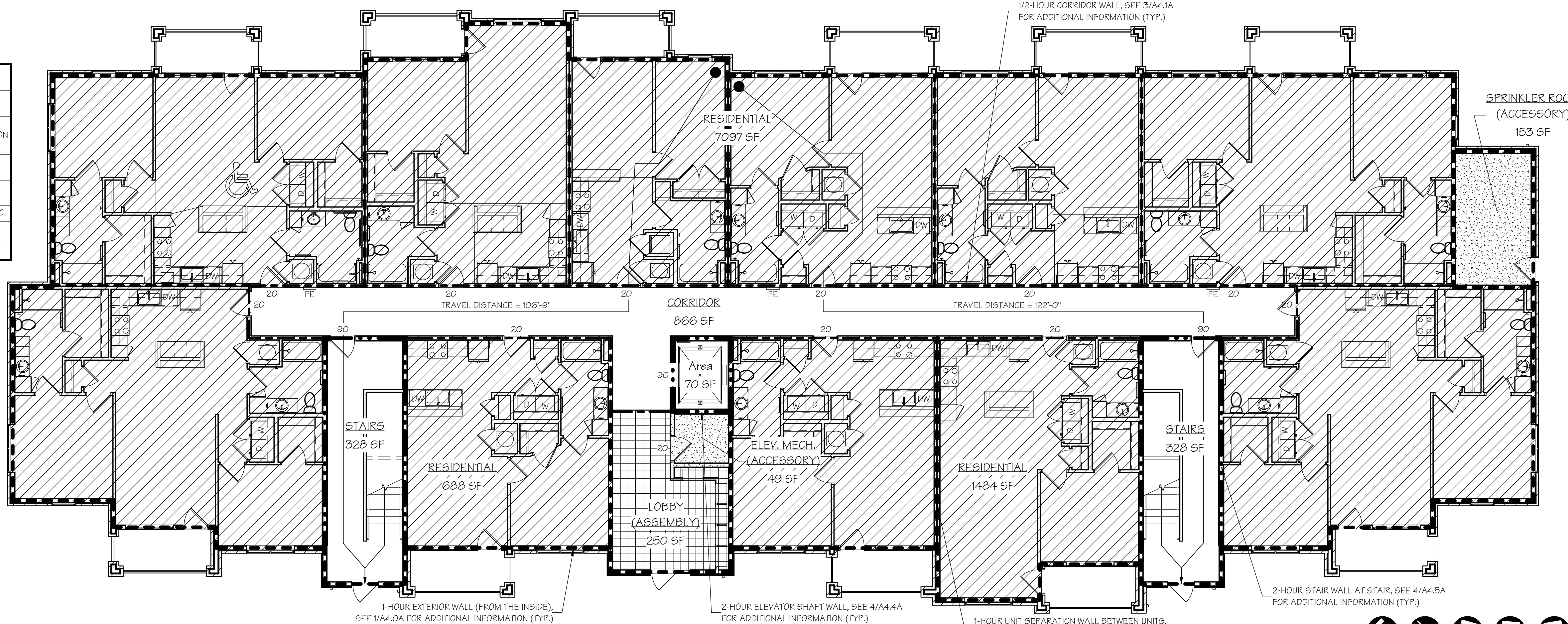
GENERAL LIFE SAFETY NOTES

- SEE DOOR SCHEDULE (SHEET A1.4A) AND SPECIFICATIONS FOR ADDITIONAL DOOR INFORMATION INCLUDING CLOSERS AND PANIC HARDWARE.
- EXITS AND EXIT ACCESS DOORS SHALL BE MARKED BY AN APPROVED EXIT SIGN READILY VISIBLE FROM ANY DIRECTION OF EGRESS TRAVEL AND COMPLY WITH SECTION 1013 OF THE 2018 IBC AS WELL AS ADA 2010 FOR COMMON AREAS.
- EVERY ROOM OR SPACE THAT IS AN ASSEMBLY OCCUPANCY SHALL COMPLY WITH SECTION 1005 OF THE 2018 IBC AS WELL AS ADA 2010 FOR COMMON AREAS.
- ILLUMINATION SHALL BE PROVIDED IN THE MEANS OF EGRESS IN ACCORDANCE WITH SECTION 1008 OF THE 2018 IBC.
- TWO EXITS PER FLOOR PROVIDED IN ACCORDANCE WITH SECTION 1006 OF THE 2018 IBC.
- PORTABLE FIRE EXTINGUISHERS SHALL BE INSTALLED NO MORE THAN 75' APART IN ACCORDANCE WITH THE 2018 IFC AND NFPA 10, SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.



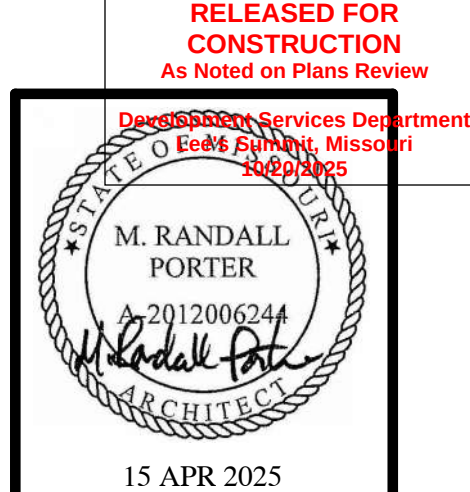
2ND FLOOR LIFE SAFETY PLAN

SCALE: 1/8" = 1'-0" (BUILDINGS 1, 4, 6, 8 & 11 - SEE CIVIL)



1ST FLOOR LIFE SAFETY PLAN

SCALE: 1/8" = 1'-0" (BUILDINGS 1, 4, 6, 8 & 11 - SEE CIVIL)



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FIRE SAFETY LEGEND

FE FIRE EXTINGUISHER

1/2-HR RATED WALL

1-HR RATED WALL

2-HR RATED WALL

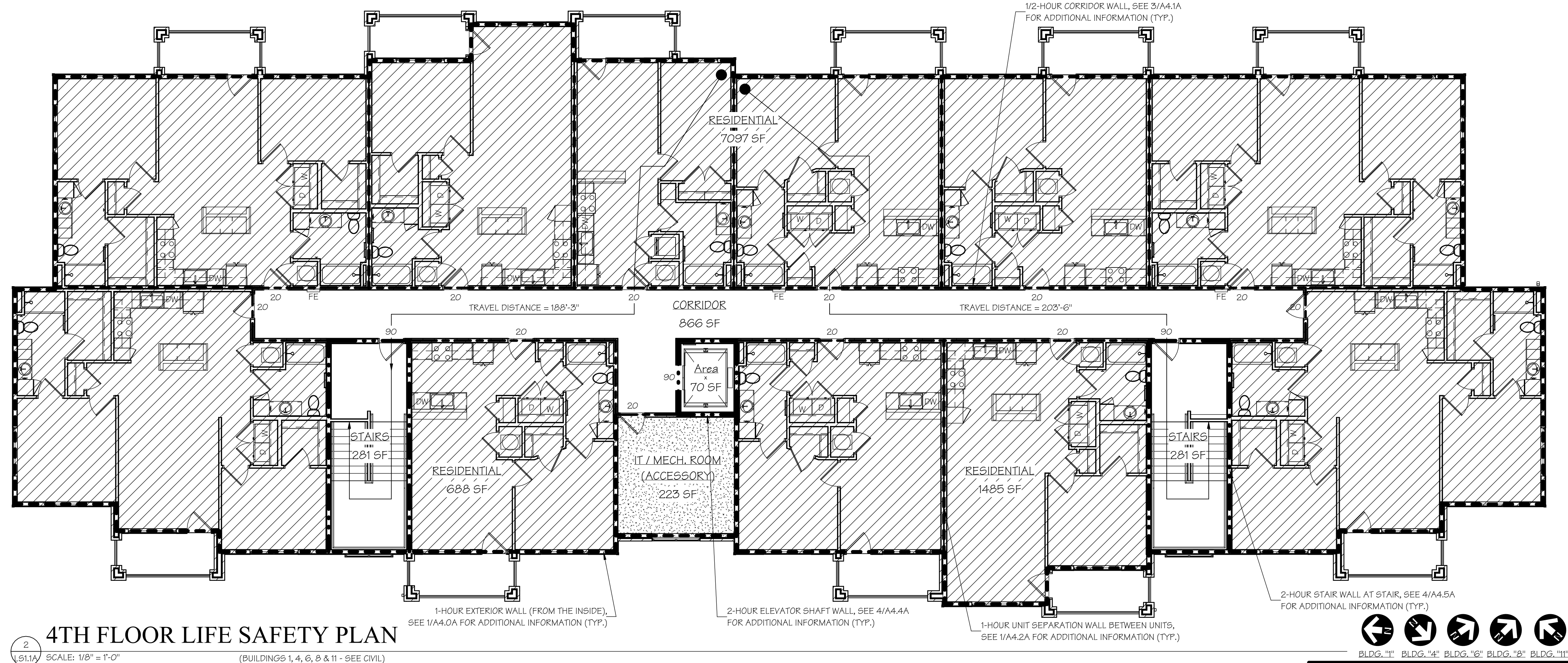
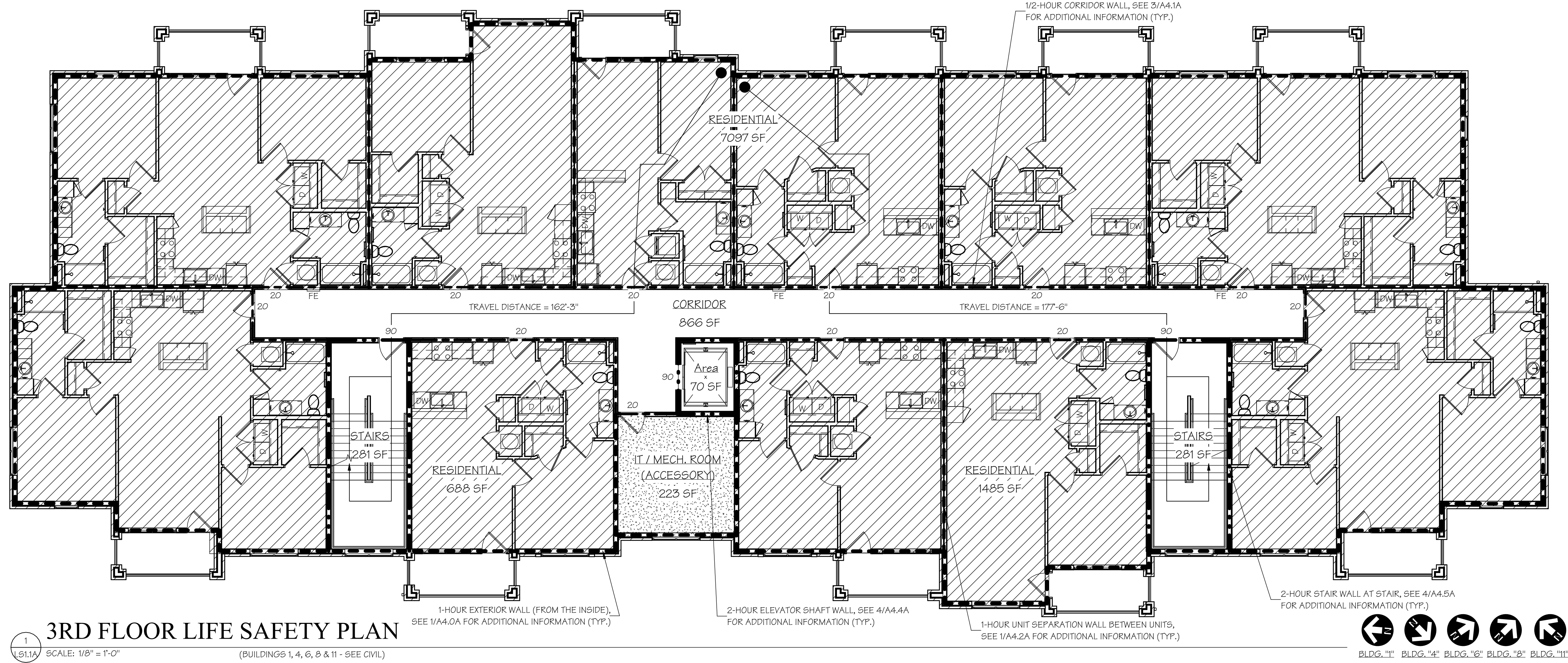
FIRE RATED DOOR IN MINUTES

AREA LEGEND

ACCESSORY

ASSEMBLY

RESIDENTIAL





J-SQUARED
ENGINEERING

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

The Village at Discovery Park Alura Apartments Building 8 - Type A

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

GENERAL MEP SPECIFICATIONS

- GENERAL**
 - ALL WORK SHALL BE PERFORMED IN COMPLIANCE WITH LOCALLY ADOPTED CODES AND ORDINANCES. IT IS THE RESPONSIBILITY OF CONTRACTOR TO REVIEW AND UNDERSTAND ALL DRAWINGS AND SPECIFICATIONS IN CONTRACT DOCUMENTS. EACH CONTRACTOR IS RESPONSIBLE FOR ALL WORK ASSOCIATED WITH THEIR TRADE, REGARDLESS OF WHERE WORK IS DEPICTED IN PROJECT DRAWINGS OR SPECIFICATIONS.
 - LAYOUT OF SYSTEMS SHOWN ON PLANS ARE APPROXIMATE AND SCHEMATIC IN NATURE. ALL SYSTEMS WILL NEED TO BE FIELD-COORDINATED. CONTRACTOR SHALL INCLUDE THIS COORDINATION IN THEIR SCOPE AND INCLUDE ALL COSTS OF MODIFYING LAYOUT AS REQUIRED IN THEIR BID. PLANS ARE NOT INTENDED TO BE SHOP DRAWINGS FROM WHICH MATERIALS CAN BE ORDERED, FABRICATED, OR INSTALLED WITHOUT ADDITIONAL FIELD MEASUREMENTS AND COORDINATION.
 - 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.
 - 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.
 - 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.
 - CONTRACTOR IS TO INCLUDE IN THEIR SCOPE THE COST OF ALL PERMITS, INSPECTIONS, METERING, TAPS, ETC. ASSOCIATED WITH THEIR WORK.
 - CONTRACTOR IS RESPONSIBLE FOR ALL EXCAVATION, CUTTING, CORING, PATCHING, AND BACKFILL REQUIRED TO COMPLETE THEIR WORK, UNLESS NOTED OTHERWISE ON PLANS.
 - 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.
 - NOTIFY ENGINEER OF ANY MAJOR PLAN DISCREPANCIES OR CONFLICTS PRIOR TO PROVIDING BIDS OR COMPLETING ANY WORK.
 - SEE DISCIPLINE SHEETS FOR ADDITIONAL TRADE SPECIFIC SPECIFICATIONS.
 - 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.
- WORKMANSHIP**
 - SYSTEMS SHALL BE INSTALLED IN A FIRST-CLASS MANNER USING BEST ACCEPTABLE METHODS AND PRACTICES.
 - ALL SYSTEMS SHALL BE INSTALLED PARALLEL OR PERPENDICULAR TO BUILDING ORIENTATION. COMPONENTS SHALL BE INSTALLED LEVEL AND PLUMB WITH ATTENTION GIVEN TO OVERALL AESTHETICS.
 - CONTRACTOR IS RESPONSIBLE FOR COORDINATING EQUIPMENT LOCATIONS AND SYSTEM ROUTING WITH OTHER TRADES PRIOR TO INSTALLATION.
 - 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.
 - 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

- FIRE ALARM SYSTEM**
 - 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.
 - 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 SPRINKLER SYSTEM**
 - 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.
 - 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 FLOORS
M102	HVAC PLAN - THIRD & FOURTH FLOORS
M501	HVAC DETAILS & SCHEDULES
EP101	POWER PLAN - FIRST & SECOND FLOORS
EP102	POWER PLAN - THIRD & FOURTH FLOORS
EL101	LIGHTING PLAN - FIRST & SECOND FLOORS
EL102	LIGHTING PLAN - THIRD & FOURTH FLOORS
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
UMEP1.2	ANSI-B - 1 BR - TYPE A - UNIT MEP PLAN
UMEP1.4	ANSI B - 1 BR - TYPE B - UNIT MEP PLAN
UMEP1.5	ANSI B - 1 BR - TYPE C - UNIT MEP PLAN
UMEP2.1.1	ANSI A - 2 BR - TYPE A - UNIT HVAC & WATER PLAN
UMEP2.1.2	ANSI A - 2 BR - TYPE A - UNIT POWER & LIGHTING PLAN
UMEP2.2.1	ANSI B - AV - 2BR - TYPE A - HVAC & WATER PLAN
UMEP2.2.2	ANSI B - AV - 2BR - TYPE A - POWER & LIGHTING PLAN
UMEP2.3.1	ANSI B - 2 BR - TYPE A - UNIT HVAC & WATER PLAN
UMEP2.3.2	ASNI B - 2 BR - TYPE A - UNIT POWER & LIGHTING PLAN
UMEP2.4.1	ANSI B - 2 BR - TYPE B - UNIT HVAC & WATER PLAN
UMEP2.4.2	ANSI B - 2 BR - TYPE B - UNIT POWER & LIGHTING PLAN

RELEASED FOR
CONSTRUCTION
As Noted on Plans Review

Professional Services Department
Jackson County, Missouri
J221357

JAMES P. WATSON
NUMBER
PE-2015017071
PROFESSIONAL ENGINEER

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

April 15, 2025

J-SQUARED
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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

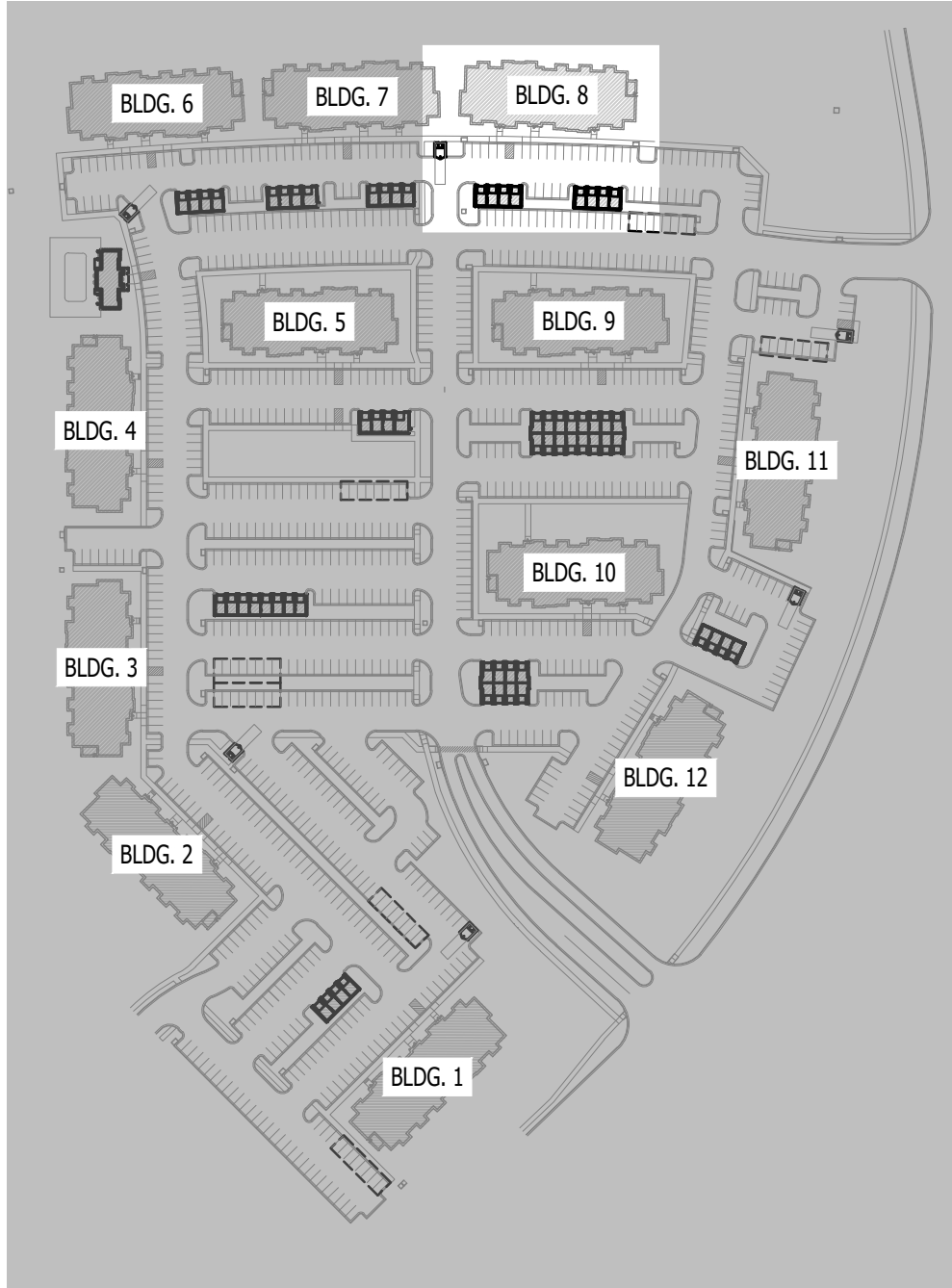
AHJ APPROVAL STAMP

SHEET TITLE

MECHANICAL
ELECTRICAL
PLUMBING
COVER SHEET

SHEET NUMBER

MEP1



SITE KEY PLAN
SCALE: 1" = 200 ft

SITE UTILITIES PLAN SYMBOL LEGEND

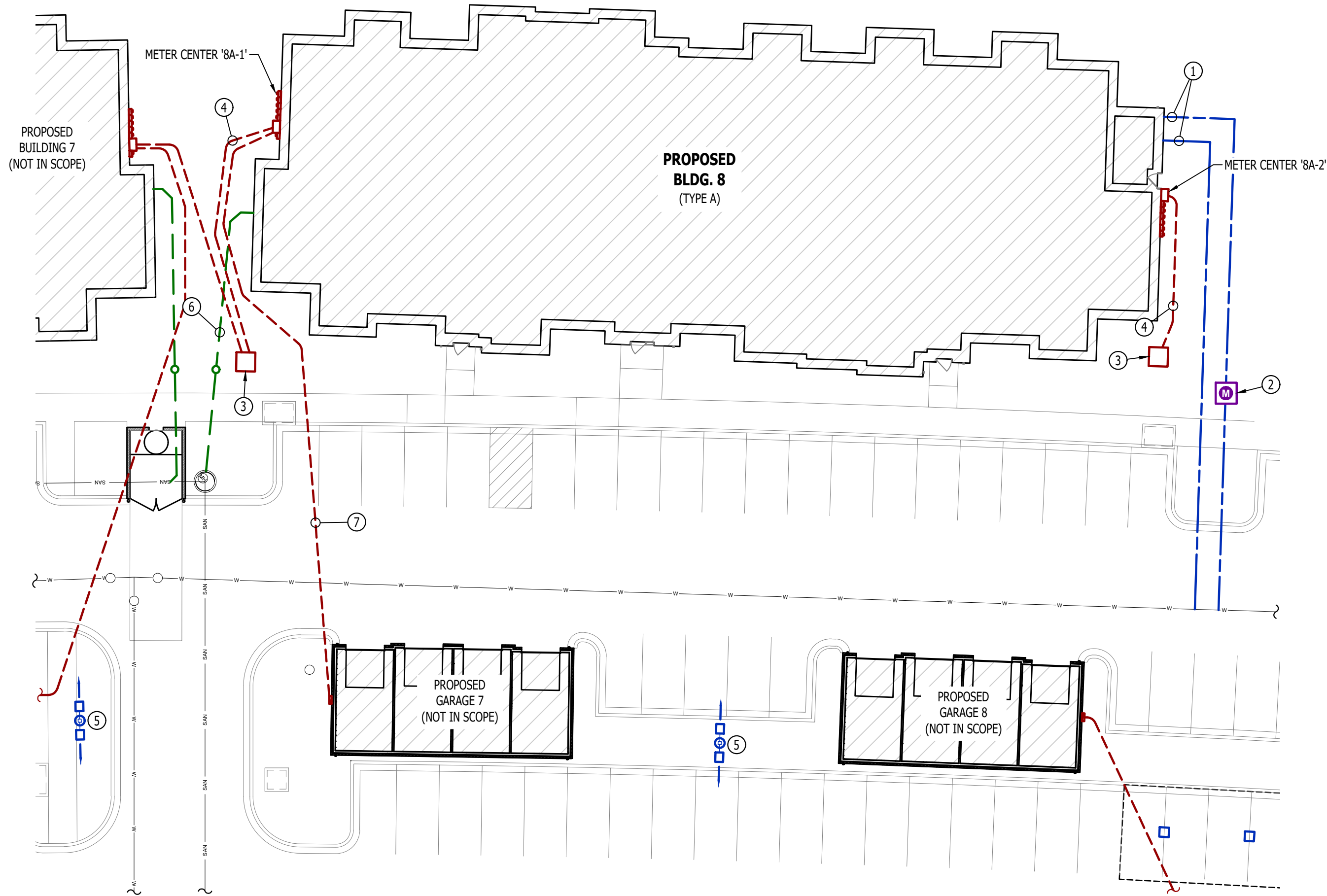
- SANITARY SEWER PIPING
- COLD WATER LINE
- WATER METER
- VALVE
- GAS LINE
- GAS METER
- TIE INTO EXISTING
- ELECTRIC

SITE UTILITIES PLAN GENERAL NOTES:

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

SITE UTILITIES PLAN KEY NOTES:

- 6" UN-METERED SPRINKLER LINE & 3" CW DOMESTIC LINE TO RISER ROOM (SEE PLUMBING PLANS FOR CONTINUATION).
- 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.
- PROPOSED PAD-MOUNTED TRANSFORMER (SEE POWER RISER FOR DETAILS).
- UNDERGROUND SECONDARY CONDUIT/CONDUCTORS (SEE POWER RISER FOR DETAILS).
- POLE LIGHT (SEE SITE LIGHTING PLANS FOR DETAILS).
- 6" SAN (SEE PLUMBING PLANS FOR DETAILS).
- 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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Development Services Department
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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

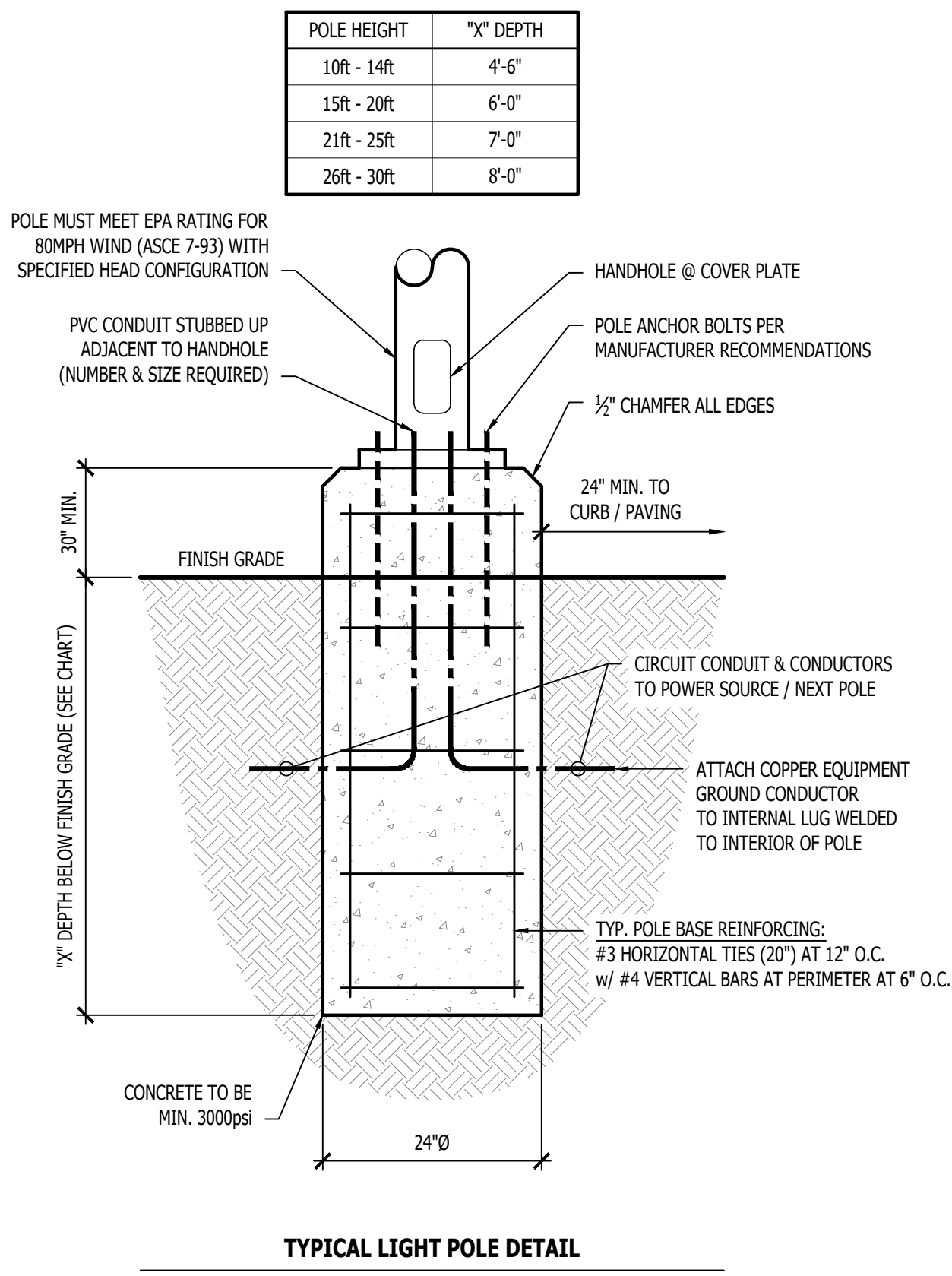
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SHEET TITLE

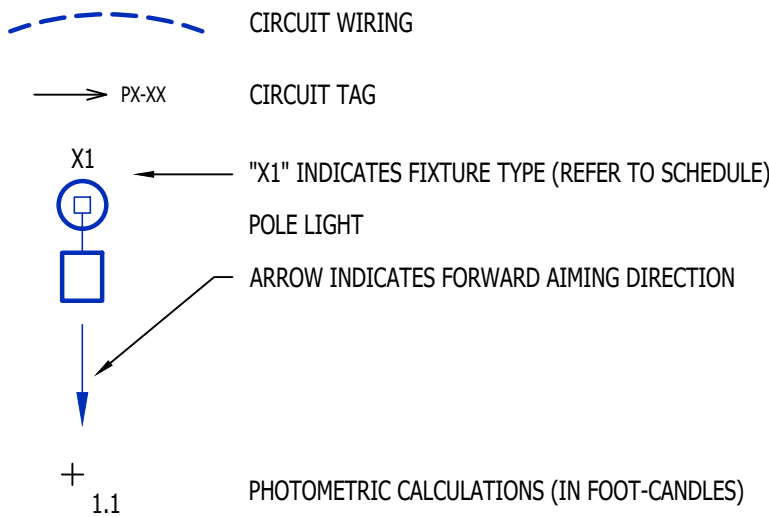
**SITE UTILITIES
PLAN**

SHEET NUMBER

MEP2

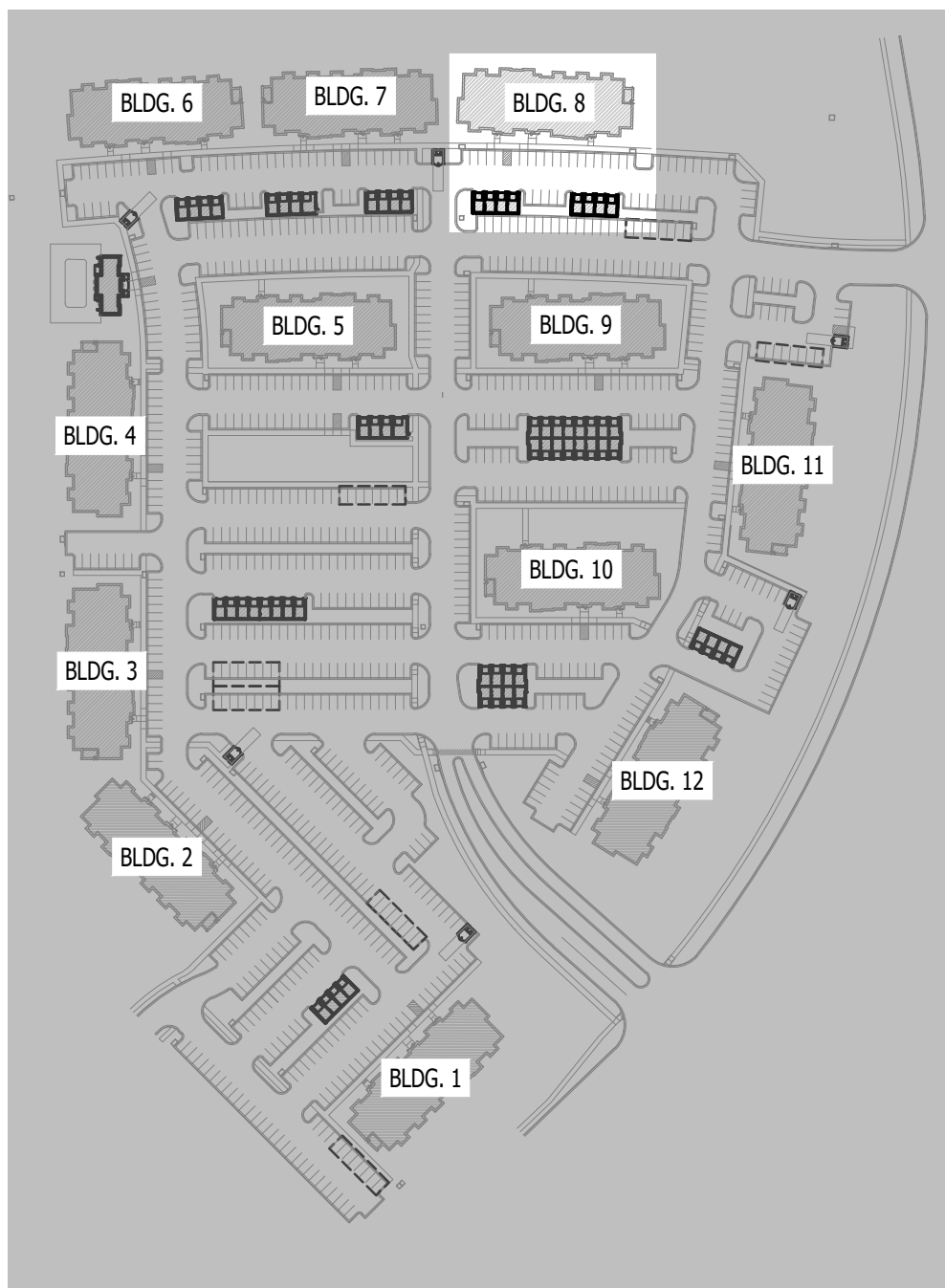


SITE LIGHTING PLAN SYMBOL LEGEND

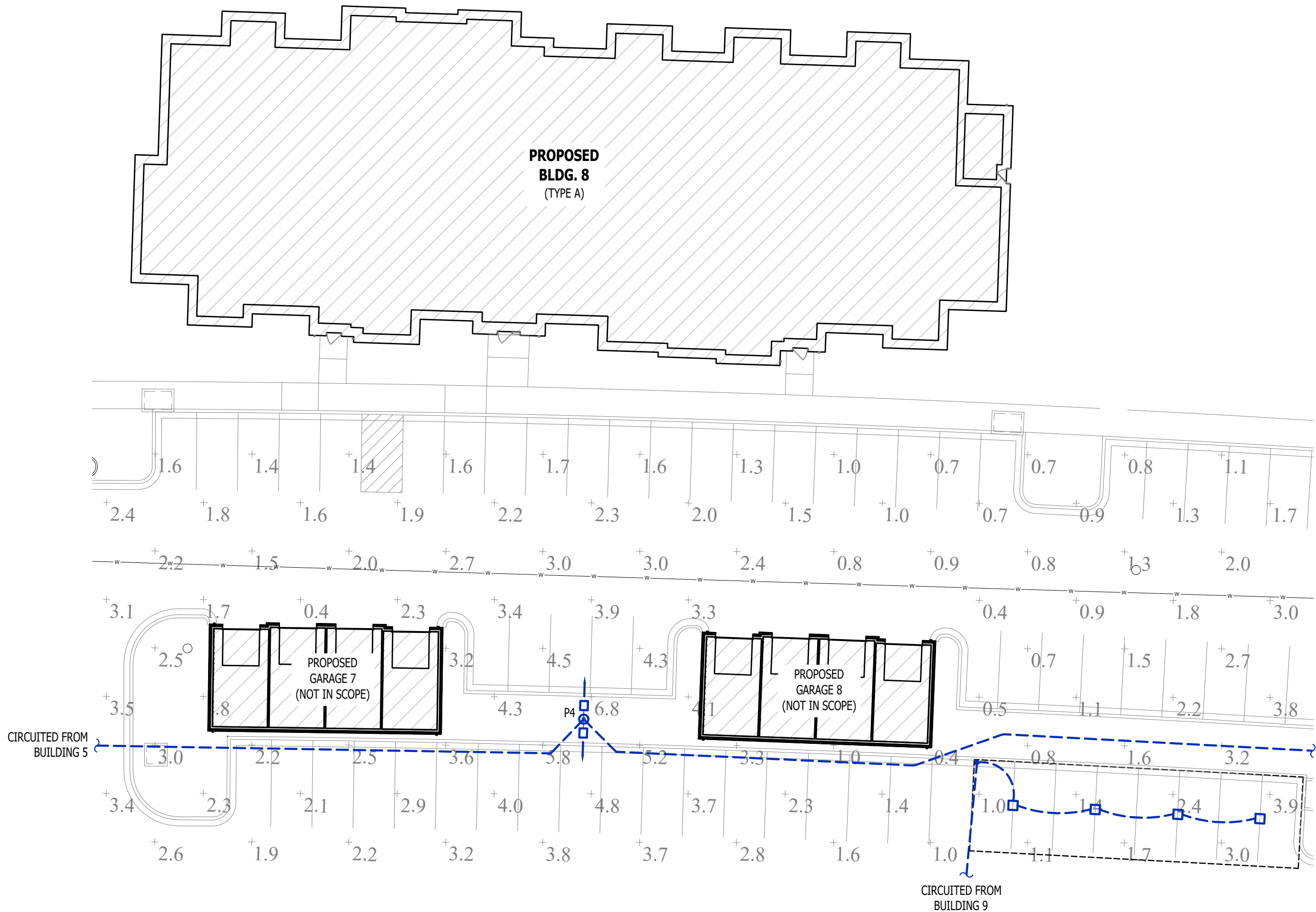


SITE LIGHTING PLAN GENERAL NOTES:

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 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 & CALCULATIONS SUMMARIES.
3. PHOTOMETRIC CALCULATIONS DO NOT INCLUDE CARPORT LIGHTING.



SITE KEY PLAN
SCALE: 1" = 200 ft



SITE LIGHTING PLAN
SCALE: 1" = 20 ft

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

HVAC PLAN SYMBOL LEGEND

- X

F

→

EQUIPMENT TYPE (REFER TO EQUIPMENT SCHEDULE)
- X

F

→

EQUIPMENT REFERENCE NUMBER
- X

F

→

DIFFUSER/GRILLE TYPE (REFER TO SCHEDULE)
- X

F

→

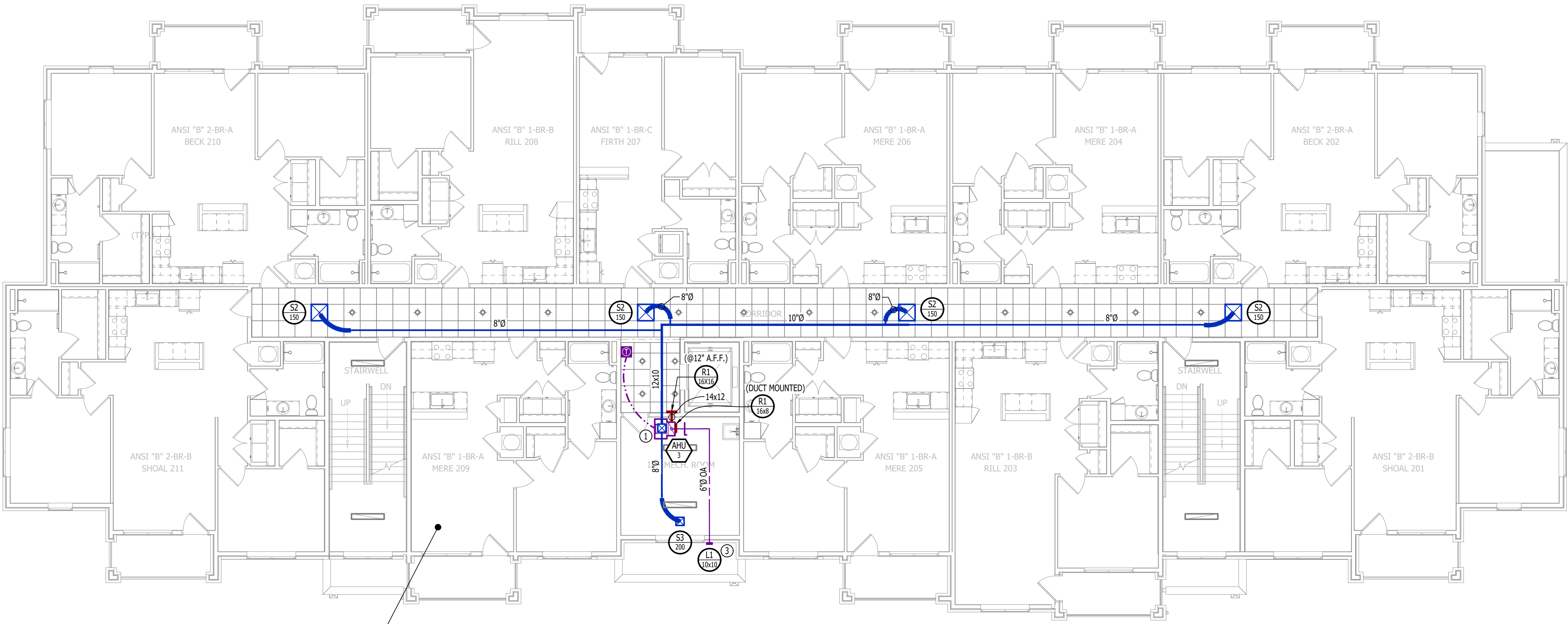
CUBIC FEET PER MINUTE (CFM) / FACE SIZE
- SUPPLY DUCTWORK
- RETURN DUCTWORK
- EXHAUST DUCTWORK
- OUTSIDE AIR DUCTWORK
- FLEX DUCT
- CONDENSATION LINE
- TIE INTO EXISTING
- SUPPLY DIFFUSER (HATCH INDICATES "NO FLOW ZONE")
- RETURN DIFFUSER
- BALANCE DAMPER
- MOTORIZED DAMPER
- CEILING RADIATION DAMPER
- FIRE RATED DAMPER
- SMOKE DAMPER
- THERMOSTAT

HVAC PLAN GENERAL NOTES:

1. REFER TO M500 AND/OR M600 SERIES SHEETS FOR ADDITIONAL HVAC NOTES, DETAILS, REQUIREMENTS, AND SCHEDULES.
2. HVAC CONTRACTOR SHALL REVIEW ALL PROJECT DOCUMENTS AND COORDINATE LOCATION OF ALL EQUIPMENT, DUCTWORK, REFRIGERANT PIPING, CONDENSATE PIPING, HANGERS / SUPPORTS, ETC. WITH PLUMBING AND ELECTRICAL TRADES BEFORE INSTALLATION OF ANY MATERIAL. ADDITIONAL COSTS ASSOCIATED WITH LACK OF COORDINATION WILL NOT BE REIMBURSED.
3. ALL REFRIGERANT PIPING SHALL ROUTE WITHIN WALL CAVITIES AND ABOVE FINISHED CEILINGS TO REMAIN CONCEALED WHERE POSSIBLE. INSTALL PER MANUFACTURER'S SPECIFICATIONS.

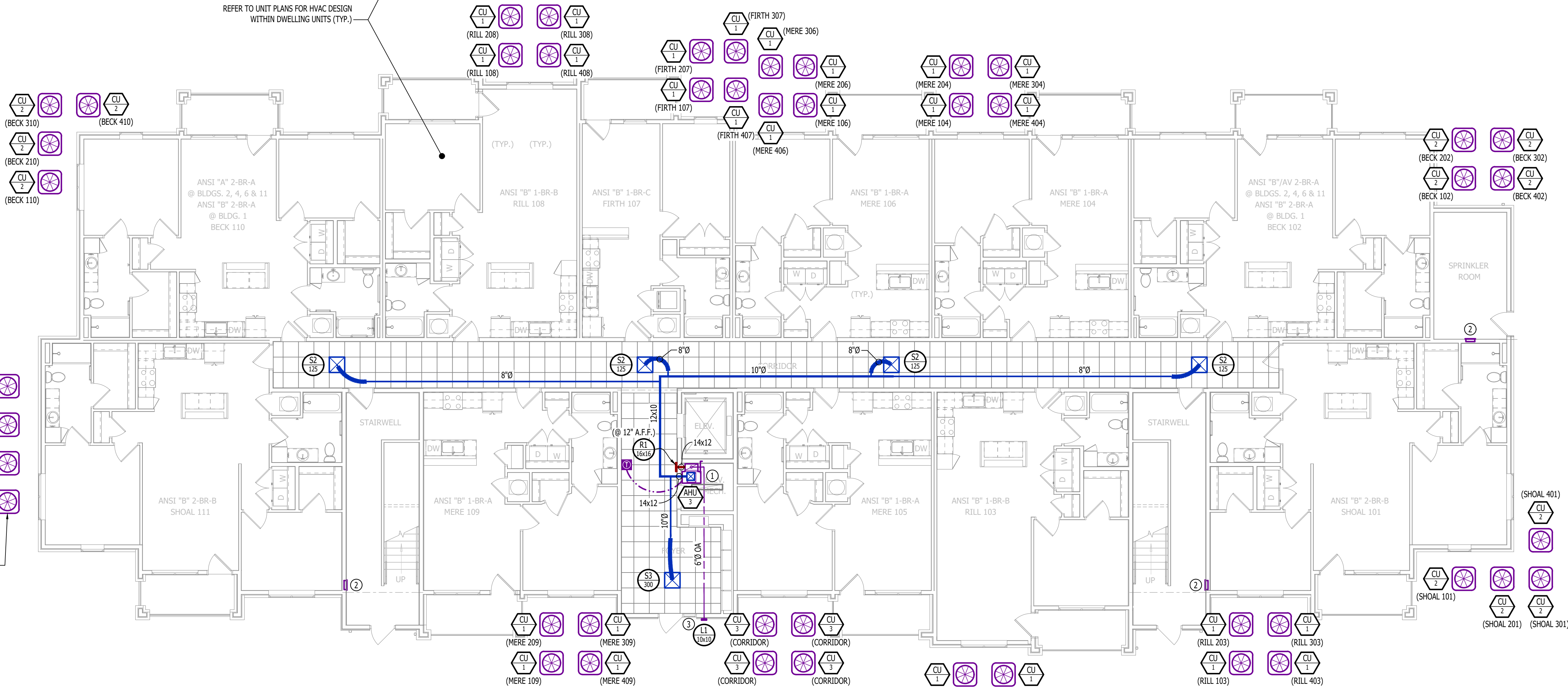
HVAC PLAN KEY NOTES:

- ① CONDENSATE DRAIN TO INDIRECT DISCHARGE TO FLOOR DRAIN WITHIN ROOM.
- ② WALL HEATER PROVIDED & INSTALLED BY ELECTRICIAN.
- ③ MAINTAIN 10' MINIMUM SEPARATION BETWEEN ALL MECHANICAL FRESH AIR INTAKES AND EXHAUST LOUVERS (TYP.).



HVAC PLAN - SECOND FLOOR

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



HVAC PLAN - FIRST FLOOR

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

HVAC PLAN SYMBOL LEGEND

- X

F

→ EQUIPMENT TYPE (REFER TO EQUIPMENT SCHEDULE)
- X

F
- EQUIPMENT REFERENCE NUMBER

X

F

X

F

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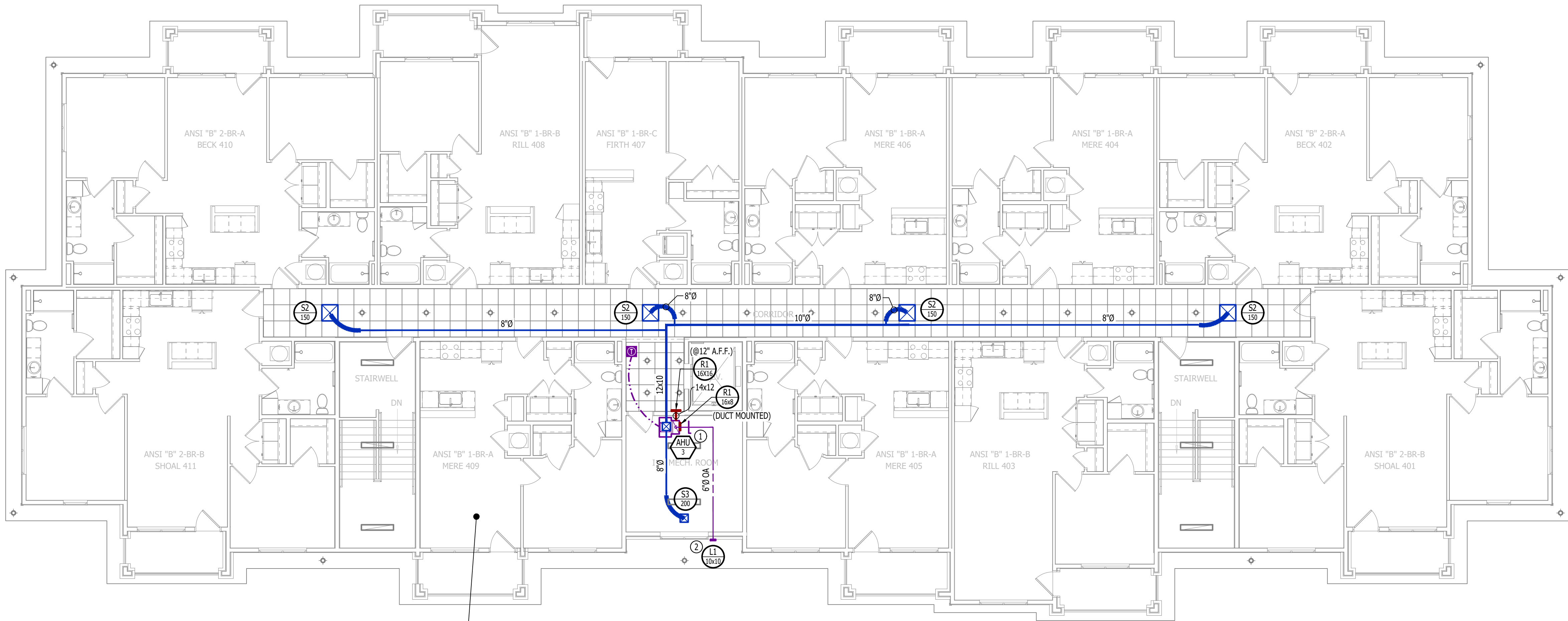
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HVAC PLAN GENERAL NOTES:

1. REFER TO M500 AND/OR M600 SERIES SHEETS FOR ADDITIONAL HVAC NOTES, DETAILS, REQUIREMENTS, AND SCHEDULES.
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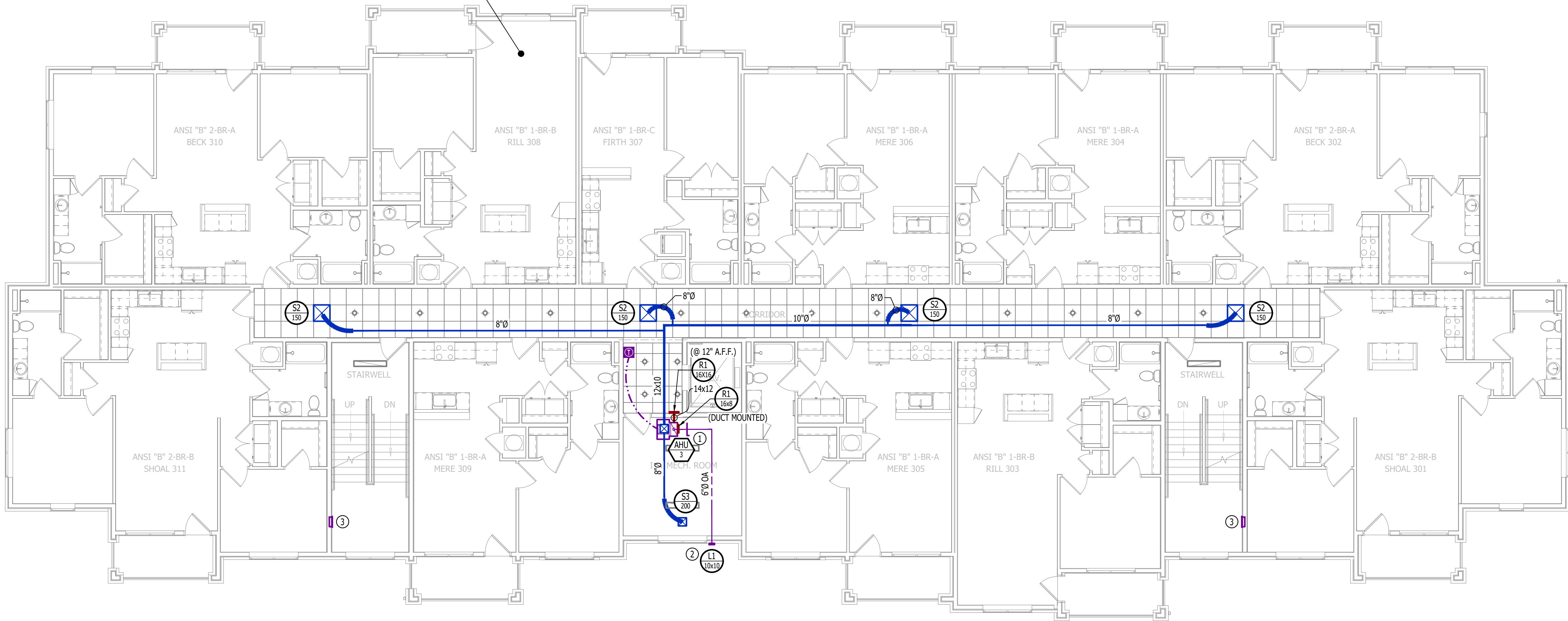
HVAC PLAN KEY NOTES:

- ① CONDENSATE DRAIN TO INDIRECT DISCHARGE TO FLOOR DRAIN WITHIN ROOM.
- ② MAINTAIN 10" MINIMUM SEPARATION BETWEEN ALL MECHANICAL FRESH AIR INTAKES AND EXHAUST LOUVERS (TYP.).
- ③ WALL HEATER PROVIDED & INSTALLED BY ELECTRICIAN.



HVAC PLAN - FOURTH FLOOR

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



HVAC PLAN - THIRD FLOOR

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

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J2 DESIGN: ACW

ISSUE TITLE DATE

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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  
**HVAC PLAN -  
THIRD & FOURTH  
FLOORS**

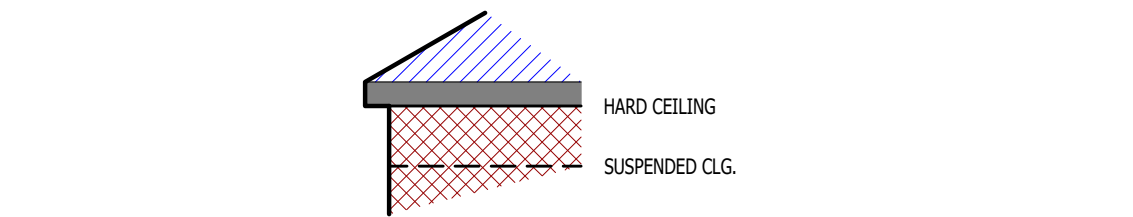
SHEET NUMBER  
**M102**



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 PAIN. DRAIN PAN TO DISCHARGE TO SANITARY WASTE VIA INDIRECT CONNECTION WITH AIR GAP. DRAIN PAN TO PROVIDE SECONDARY OVERFLOW OR FLOAT SWITCH INTERLOCKED WITH UNIT TO SHUT DOWN UNIT ON HIGH WATER SIGNAL.
- 3.7. ALL EXTERIOR REFRIGERANT COILS TO BE PROTECTED BY FACTORY EQUIPPED HAIL GUARDS.
- 3.8. REFRIGERANT PIPING TO BE ACK 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 'ARMARFLEX AP').
- 5.3. VRV/VRF SYSTEMS (BOTH SUCTION AND HOT GAS LINES) 1½" EPDM (EQUAL TO 'AEROFLEX AEROCCEL AC') WITHIN CONDITIONED SPACES & 2" EPDM (EQUAL TO 'AEROFLEX AEROCCEL 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 ELECTRIC (KW) 240V (208V) | COOLING (TA: 80 DB/67 WB, OA: 95 DB) |              |                 | ELECTRICAL |     |     | NOTES |
|                                                                                                               |                       |             |             |             |                     |                            |                                   | SENSIBLE (KBTU)                      | TOTAL (KBTU) | MIN EFF. (SEER) | VOLTS/PH   | MCA | OCP |       |
| 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

- RECTANGULAR
- SUPPLY = 1" LINER
  - RETURN = 1" LINER
  - EXHAUST = NONE
  - OUTSIDE AIR = 2" WRAP

- ROUND
- SUPPLY = 1½" WRAP
  - RETURN = NONE
  - EXHAUST = NONE
  - OUTSIDE AIR = 2" WRAP

- SPIRAL
- SUPPLY = NONE
  - RETURN = NONE
  - EXHAUST = NONE
  - OUTSIDE AIR = 2" WRAP

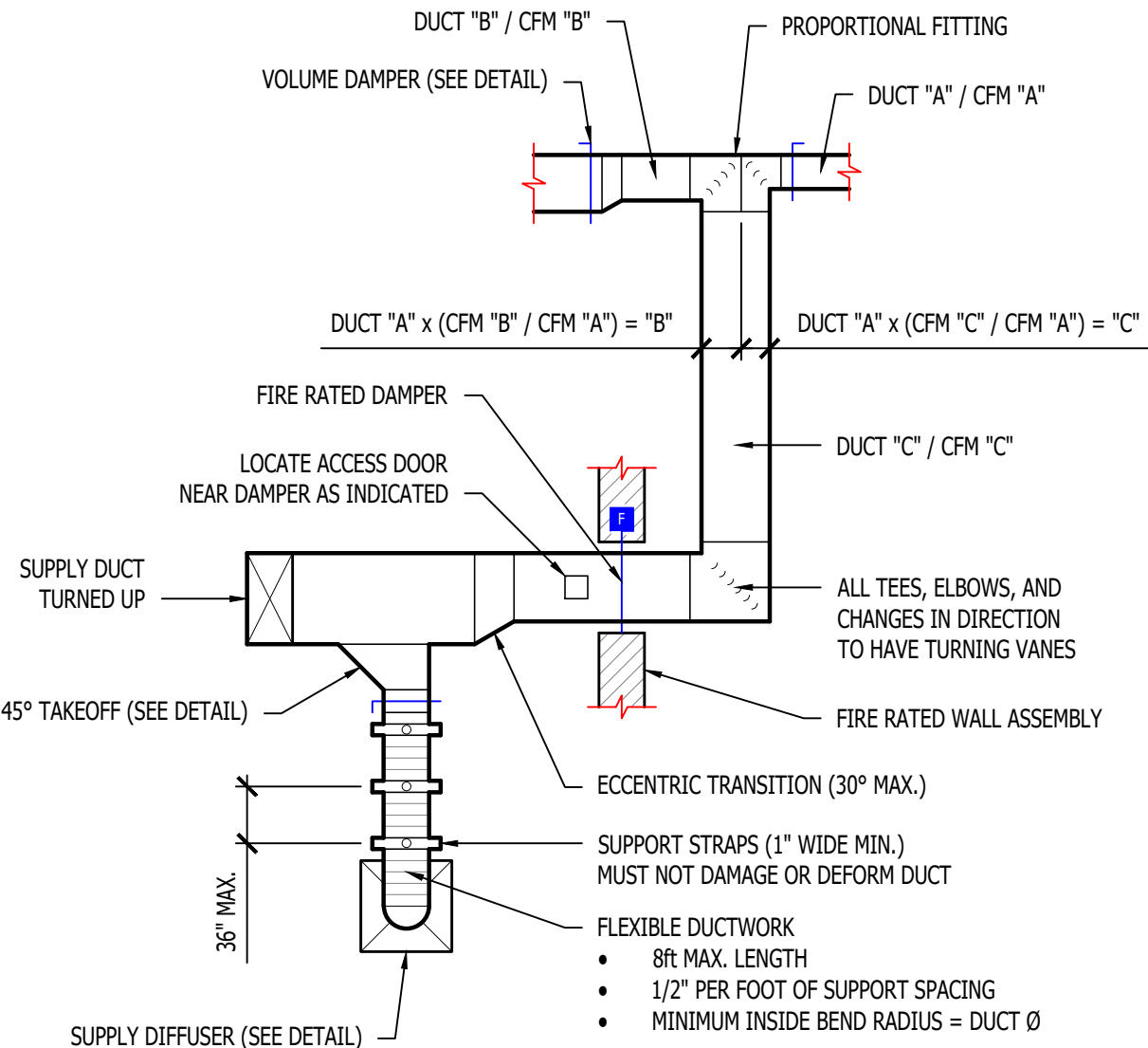
DUCT OUTSIDE THERMAL ENVELOPE INSULATION REQUIREMENTS

- RECTANGULAR
- SUPPLY = 1" LINER & 1½" WRAP
  - RETURN = 1" LINER & 1½" WRAP
  - EXHAUST = 1½" WRAP
  - OUTSIDE AIR = NONE

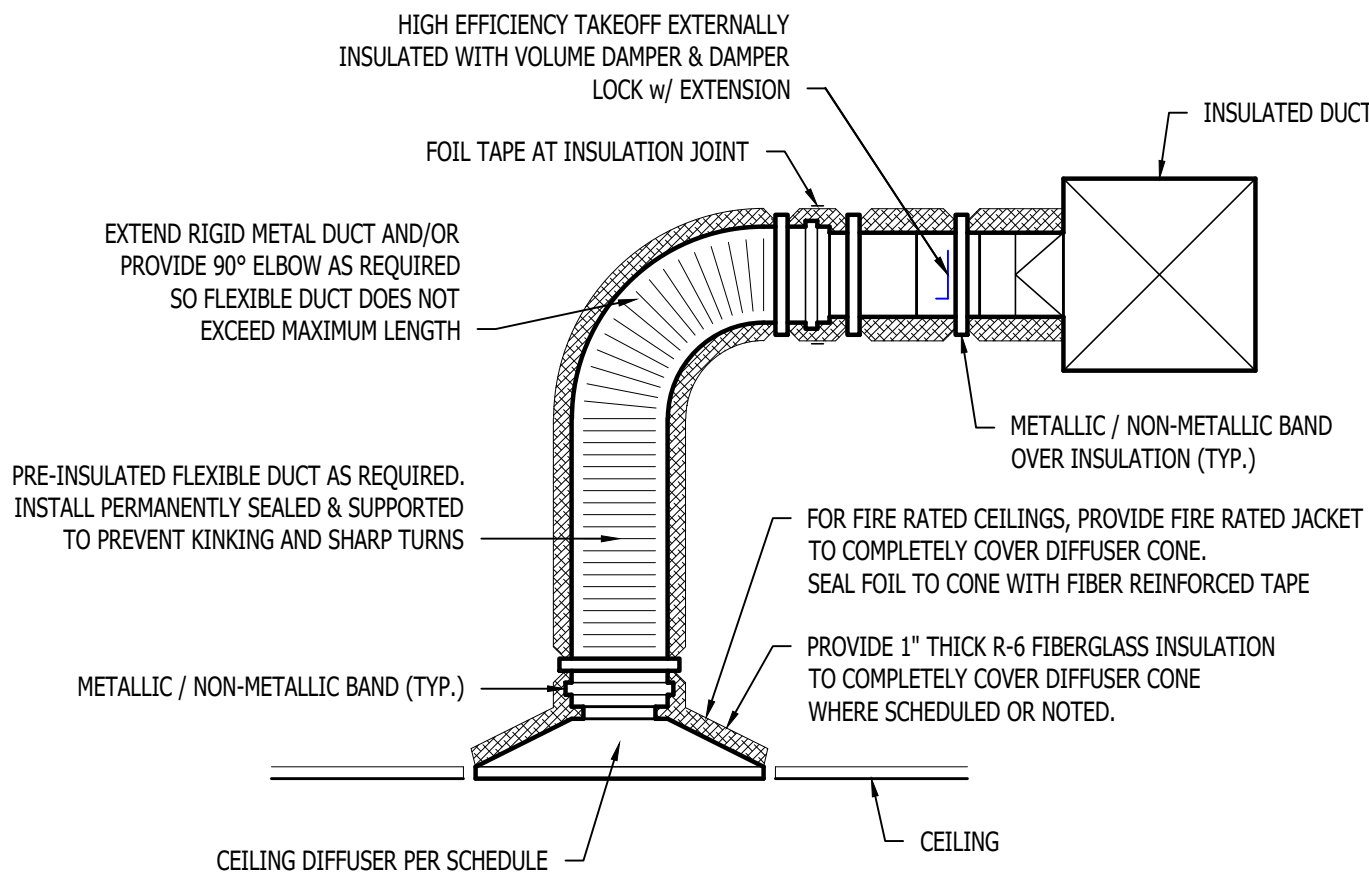
- ROUND
- SUPPLY = 2" WRAP
  - RETURN = 2" WRAP
  - EXHAUST = 1½" WRAP
  - OUTSIDE AIR = NONE

- SPIRAL
- SUPPLY = 2" WRAP
  - RETURN = 2" WRAP
  - EXHAUST = 1½" WRAP
  - OUTSIDE AIR = NONE

TYPICAL BUILDING INTERIOR DUCT INSULATION DIAGRAM

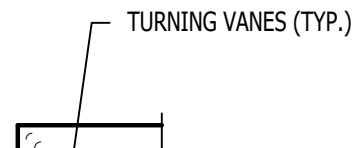


TYPICAL DUCTWORK DETAIL

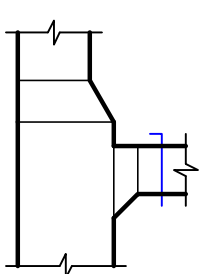


TYPICAL LAY-IN DIFFUSER DETAIL

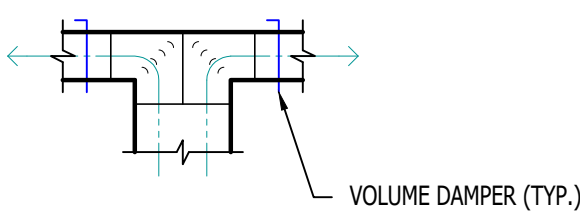
90° ELBOW (SUPPLY / RETURN)



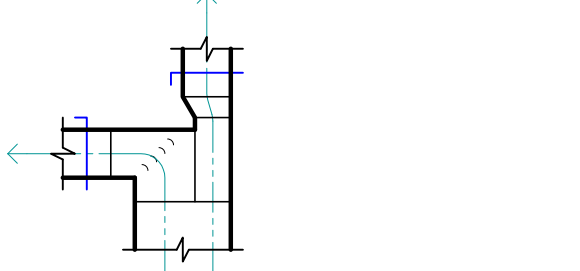
"T" BRANCH (SUPPLY / RETURN)



"T" BRANCH (SUPPLY)



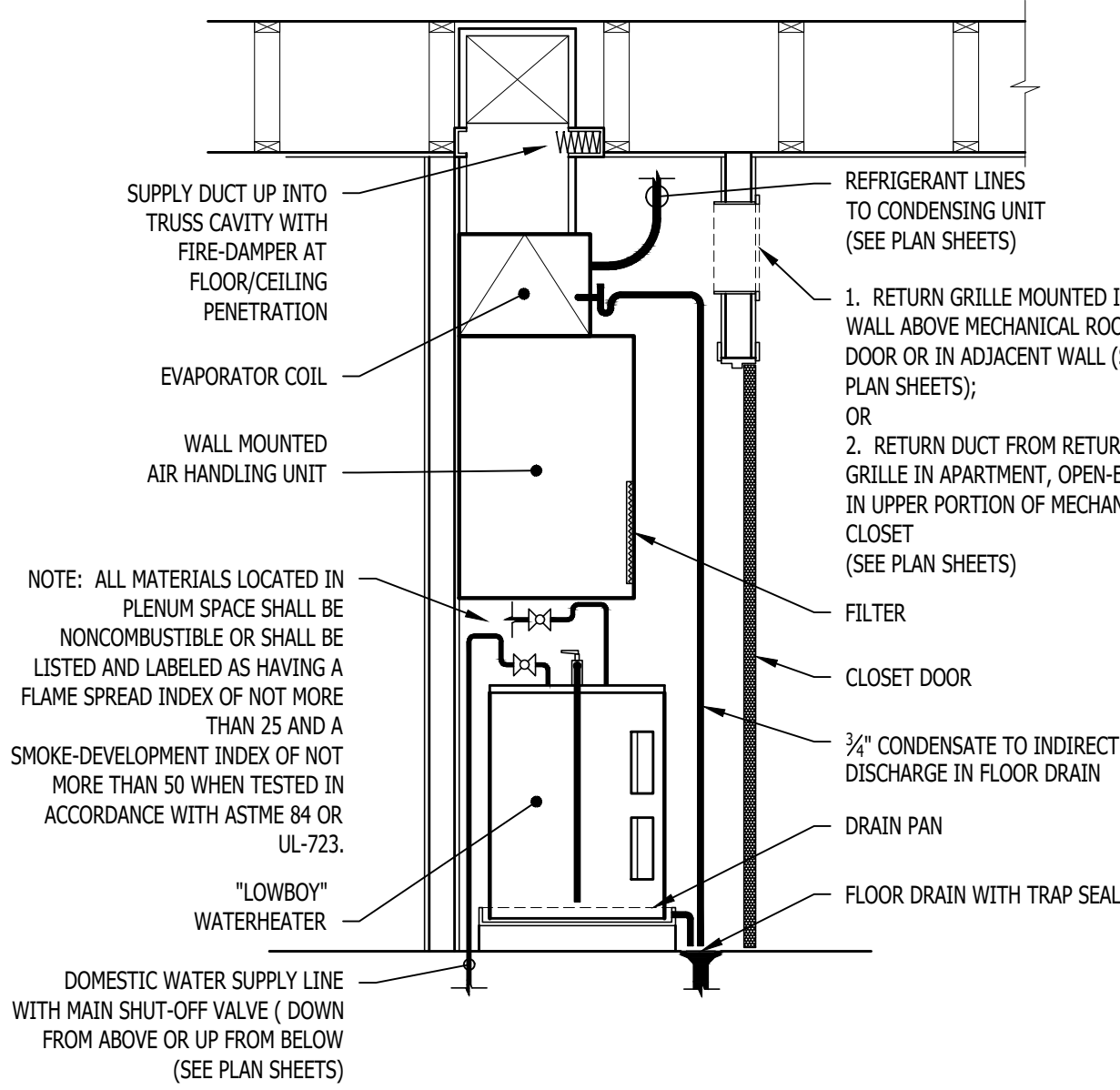
"T" BRANCH (SUPPLY)



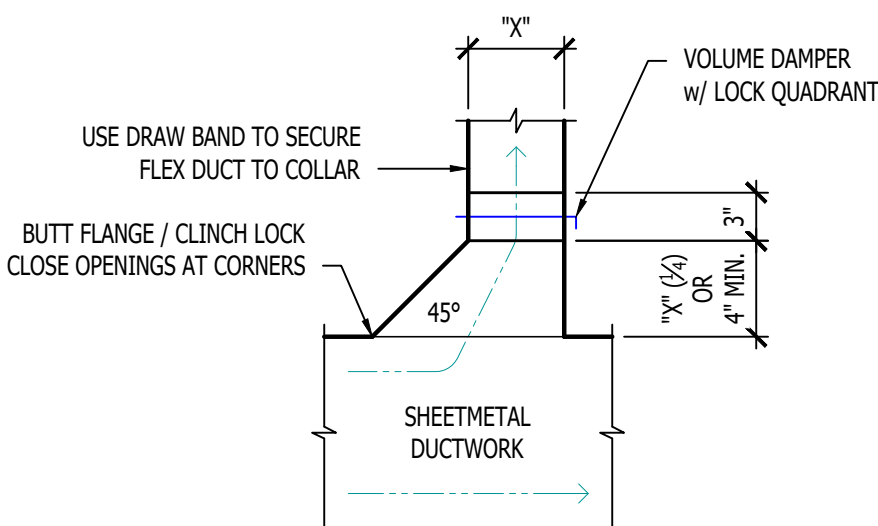
TYPICAL DUCTWORK FITTINGS DETAIL

| 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<br>(OR EQUAL) | MODEL<br>(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



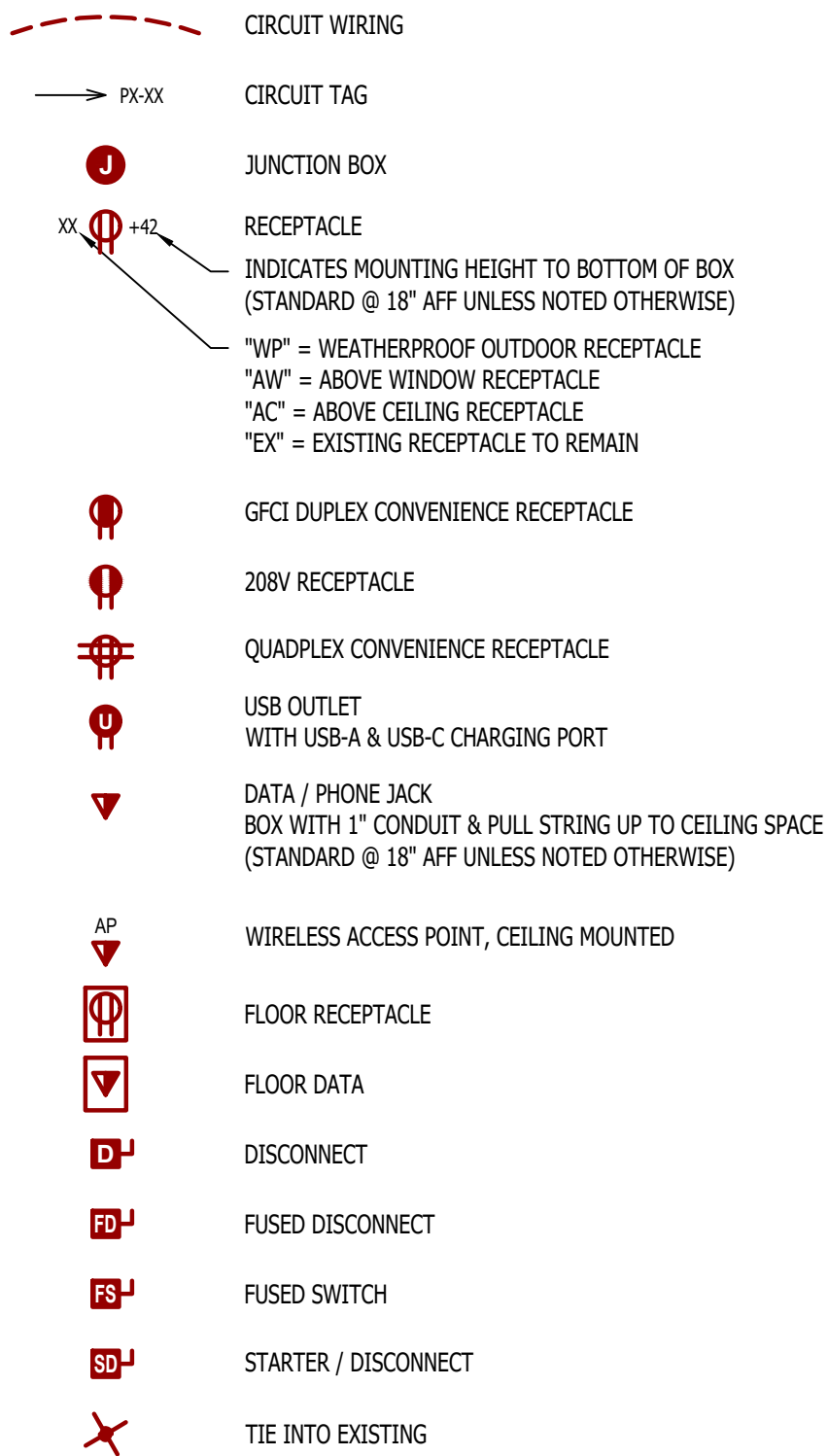
TYPICAL 45° TAKEOFF DETAIL







POWER PLAN SYMBOL LEGEND

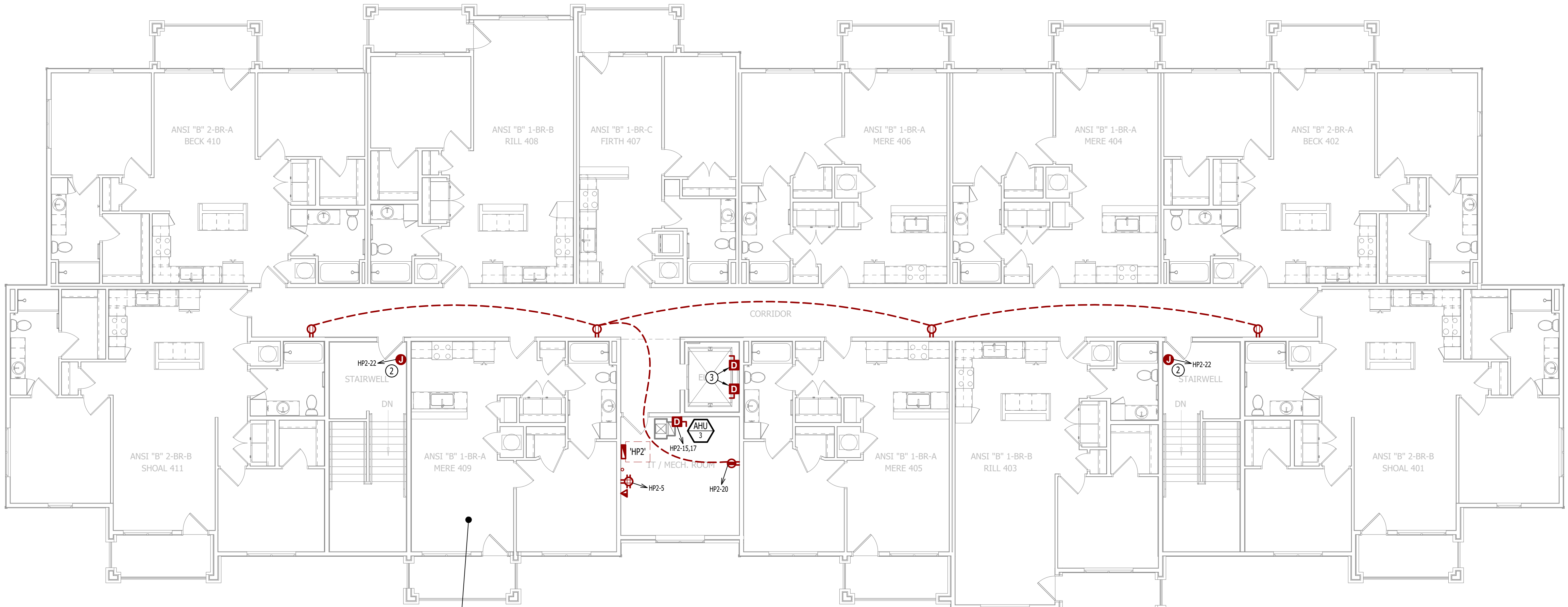


POWER PLAN GENERAL NOTES:

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:

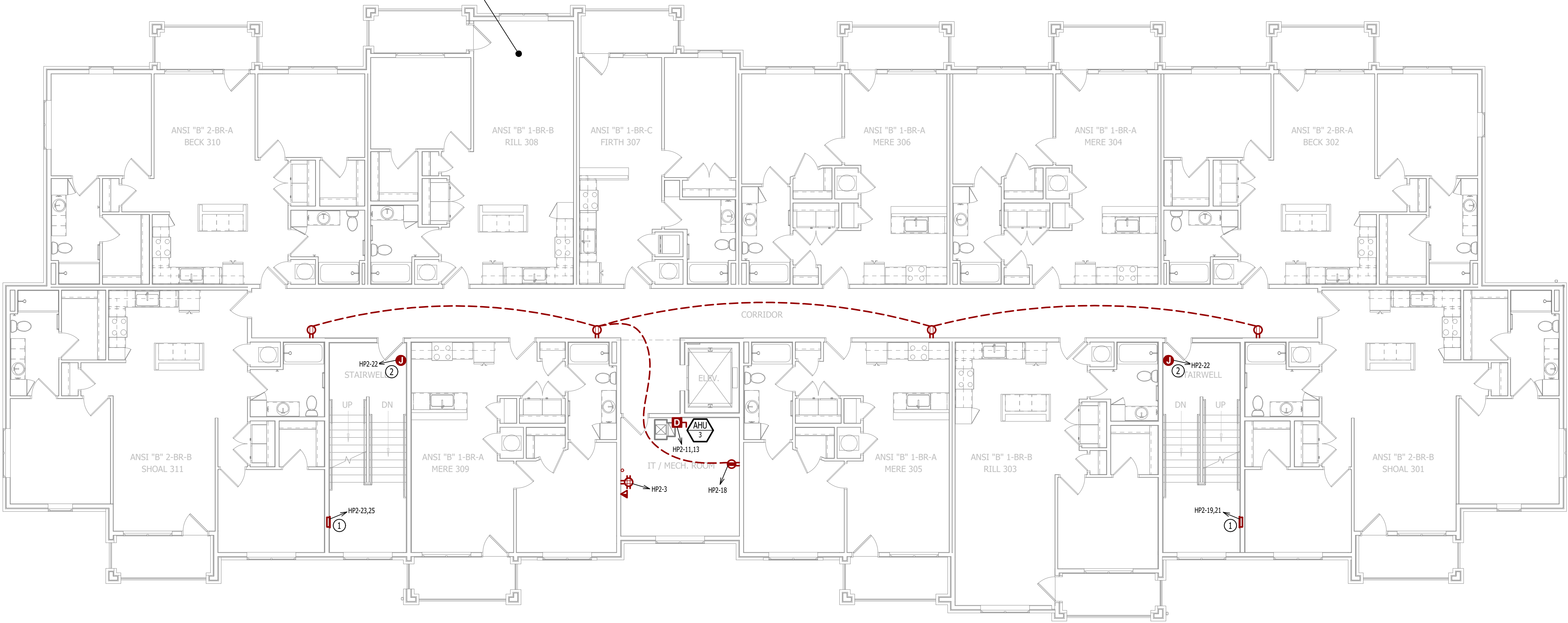
- ① RECESSED WALL HEATER (EQUAL TO MARLEY #VFK404FC) WITH BACK BOX FOR RECESSED INSTALL.
- ② POWER FOR MAG HOLD. WIRE THRU FIRE ALARM.
- ③ ELEVATOR SERVICE DISCONNECTS. WIRE THRU 'DS1' & 'DS2' IN FIRST FLOOR ELEVATOR EQUIPMENT ROOM (SEE SHEET EP101) COORDINATE EXACT LOCATION & REQUIREMENTS WITH ELEVATOR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



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

POWER PLAN - FOURTH FLOOR

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



POWER PLAN - THIRD FLOOR

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

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

AHJ APPROVAL STAMP

SHEET TITLE

POWER PLAN -  
THIRD & FOURTH  
FLOORS

SHEET NUMBER

EP102



LIGHTING PLAN SYMBOL LEGEND

- X1

← "X1" INDICATES FIXTURE TYPE (REFER TO SCHEDULE)
- ← LIGHTING FIXTURE
- EM

← "EM" INDICATES EMERGENCY BATTERY BACKUP
- NL

← "NL" INDICATES UN-SWITCHED NIGHT LIGHT
- ↗

← EXIT LIGHT
- ↗

← INDICATES REQUIRED REMOTE HEAD
- ↗

← 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)

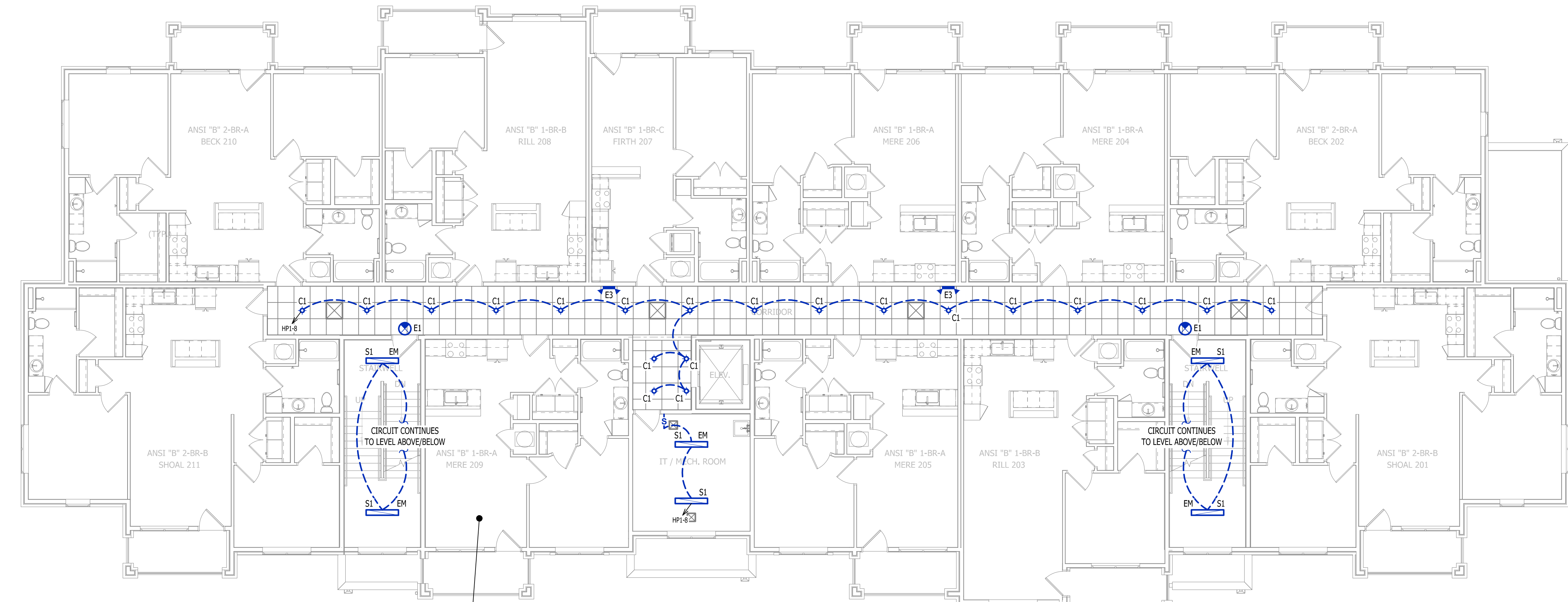
SWITCH TYPE:
  - SEE "SWITCH (WALL MOUNTED)" FOR TYPE DESIGNATIONS
- OCCUPANCY SENSOR

  - 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)

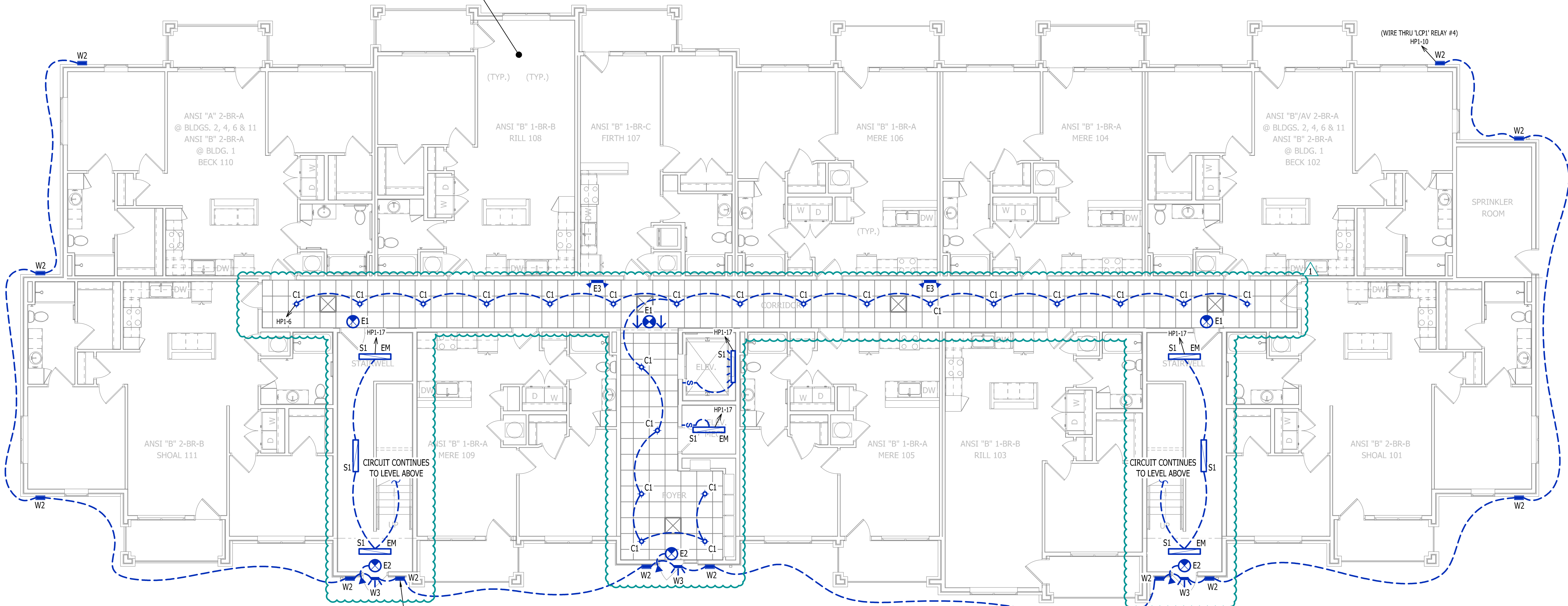
LIGHTING PLAN GENERAL NOTES:

- REFER TO E500 AND/OR E600 SERIES SHEETS FOR ADDITIONAL LIGHTING NOTES, DETAILS, REQUIREMENTS, AND SCHEDULES.
- 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.
- 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 - BUILDING A - SECOND FLOOR

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



LIGHTING PLAN - BUILDING A - FIRST FLOOR

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

RELEASED FOR CONSTRUCTION  
As Noted on Plans Review  
Services Department  
Missouri  
25

JAMES P. WATSON  
NUMBER  
PE-2015017071  
PROFESSIONAL ENGINEER

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

J-SQUARED  
ENGINEERING

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

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

LIGHTING PLAN -  
FIRST & SECOND  
FLOORS

SHEET NUMBER

EL101



LIGHTING PLAN SYMBOL LEGEND

- X1

EM

NL
- ←

←

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

LIGHTING FIXTURE

"EM" INDICATES EMERGENCY BATTERY BACKUP

"NL" INDICATES UN-SWITCHED NIGHT LIGHT
- ↗
- EXIT LIGHT
- 
- INDICATES REQUIRED REMOTE HEAD
- ↖
- EMERGENCY EGRESS LIGHT
- ⓧ
- SWITCH (WALL MOUNTED)
- SWITCH TYPE:

• 3 = 3-WAY

• 4 = 4-WAY

• OP = PASSIVE INFRARED OCCUPANCY SENSOR

• OU = ULTRASONIC OCCUPANCY SENSOR

• OT = DUAL-TECHNOLOGY OCCUPANCY SENSOR

• VP = PASSIVE INFRARED VACANCY SENSOR

• VU = ULTRASONIC VACANCY SENSOR

• VT = DUAL-TECHNOLOGY VACANCY SENSOR

• M = MOMENTARY SWITCH

• SS = SCENE SWITCH
- ⓓ
- DIMMER SWITCH (WALL MOUNTED)
- 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

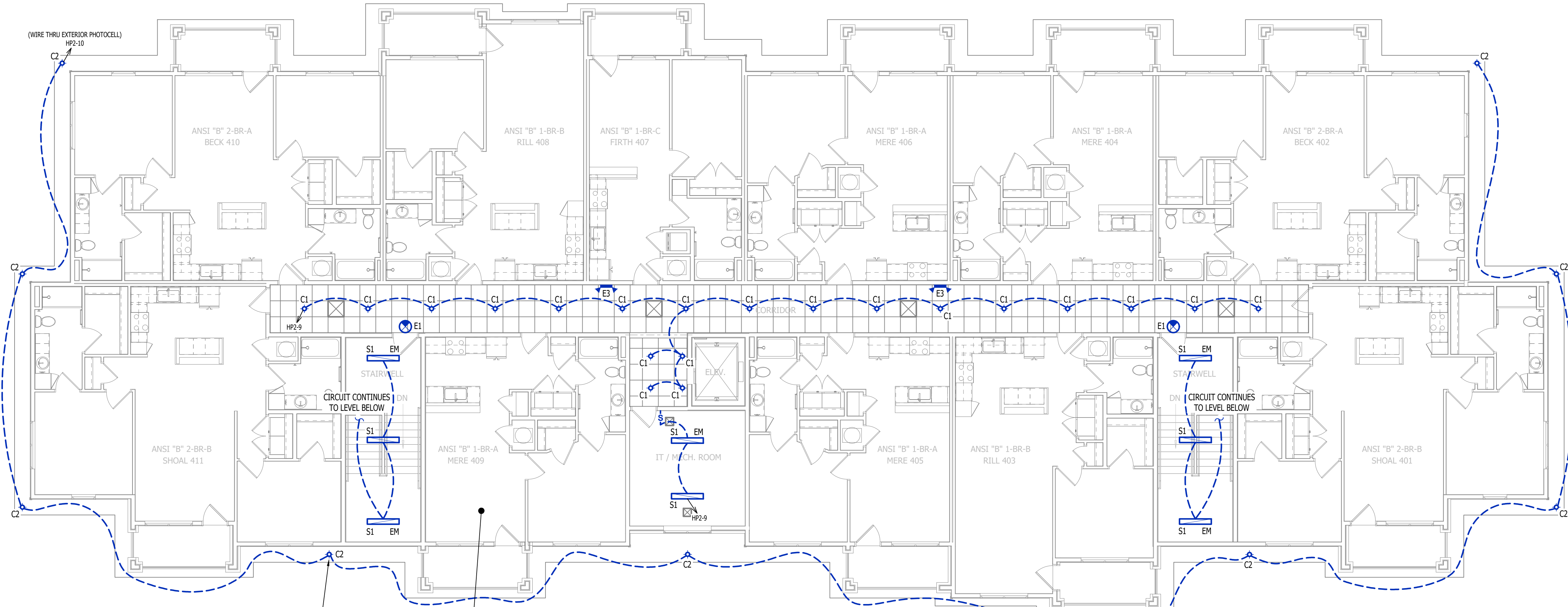
• MANUAL FULL-ON

• AUTOMATICALLY TURN OFF LIGHTING AFTER 20 MINUTES WITHOUT OCCUPANT DETECTION

• WITH MANUAL OVERRIDE CONTROL (IF NOTED)

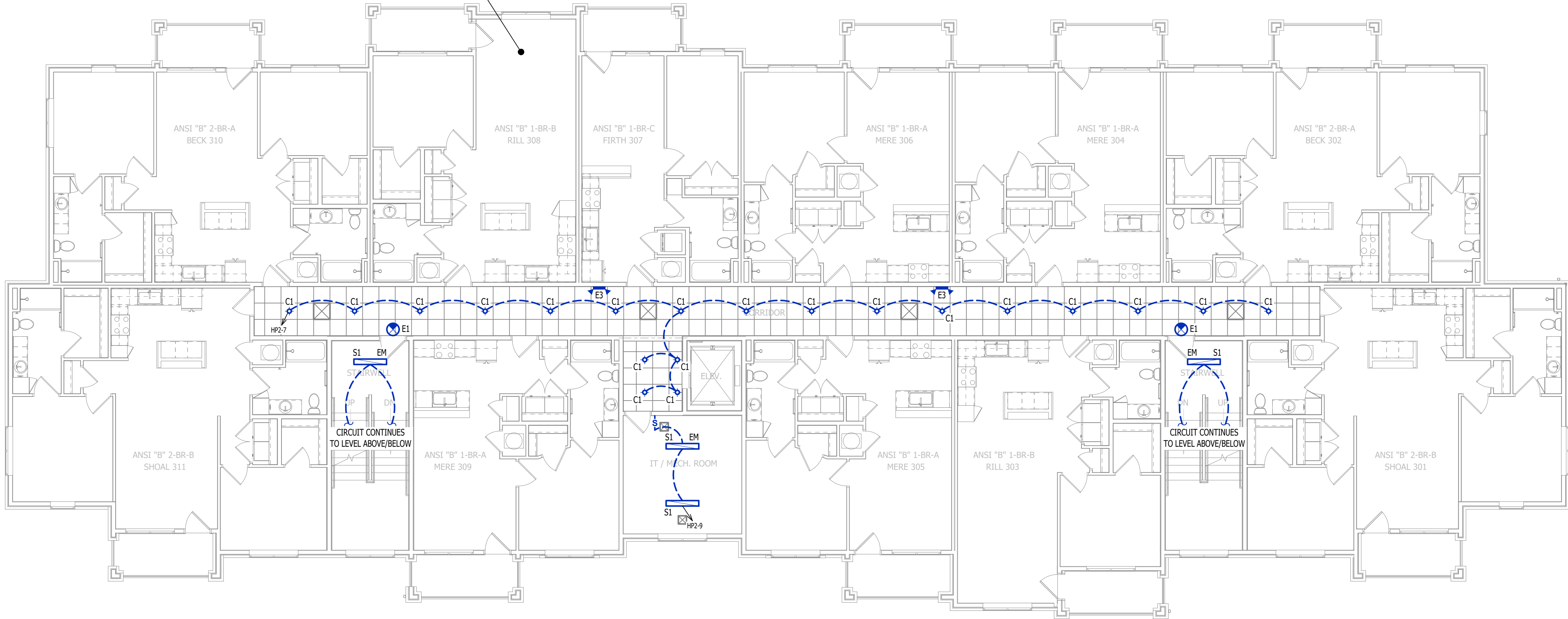
LIGHTING PLAN GENERAL NOTES:

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 - BUILDING A - FOURTH FLOOR

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



LIGHTING PLAN - BUILDING A - THIRD FLOOR

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

AHJ APPROVAL STAMP

SHEET TITLE

LIGHTING PLAN -  
THIRD & FOURTH  
FLOORS

SHEET NUMBER

EL102

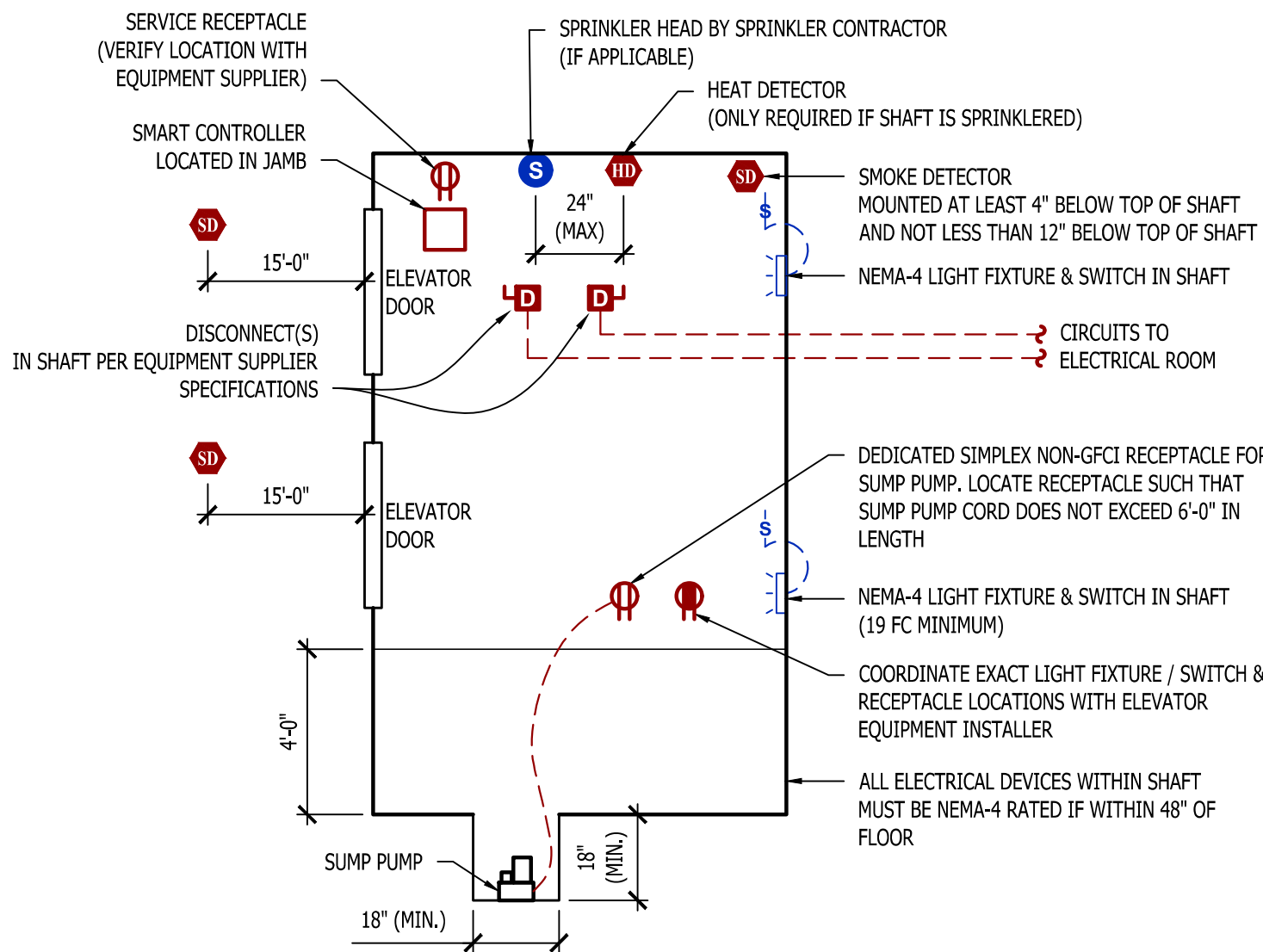


ELECTRICAL SPECIFICATIONS

- 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 RUN 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.
- 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.
- 3.1.8. WHERE CONDUCTORS ARE PROTECTED FROM DAMAGE, ENCLOSED IN BUILDING MATERIALS, AND CONSTRUCTION IS OF A PERMITTED TYPE, NM CABLE MAY BE USED.
- 3.1.9. 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.
- 3.1.10. CONDUIT EMBEDDED IN WALLS SHALL BE SCHEDULE 80 PVC OR LFMC, OR OTHER SYSTEM APPROVED BY WALL MANUFACTURER.
- 3.1.11. 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:

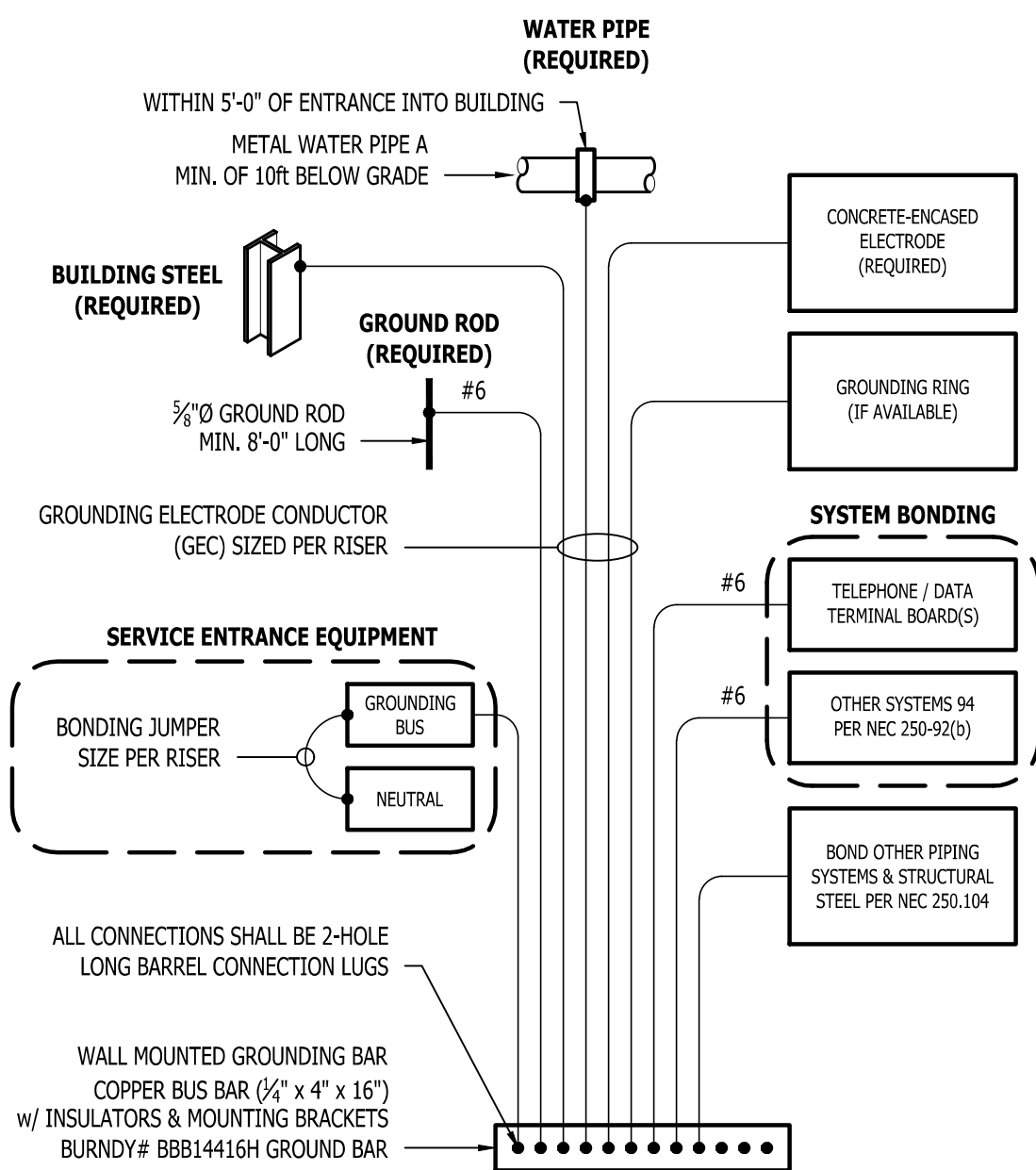
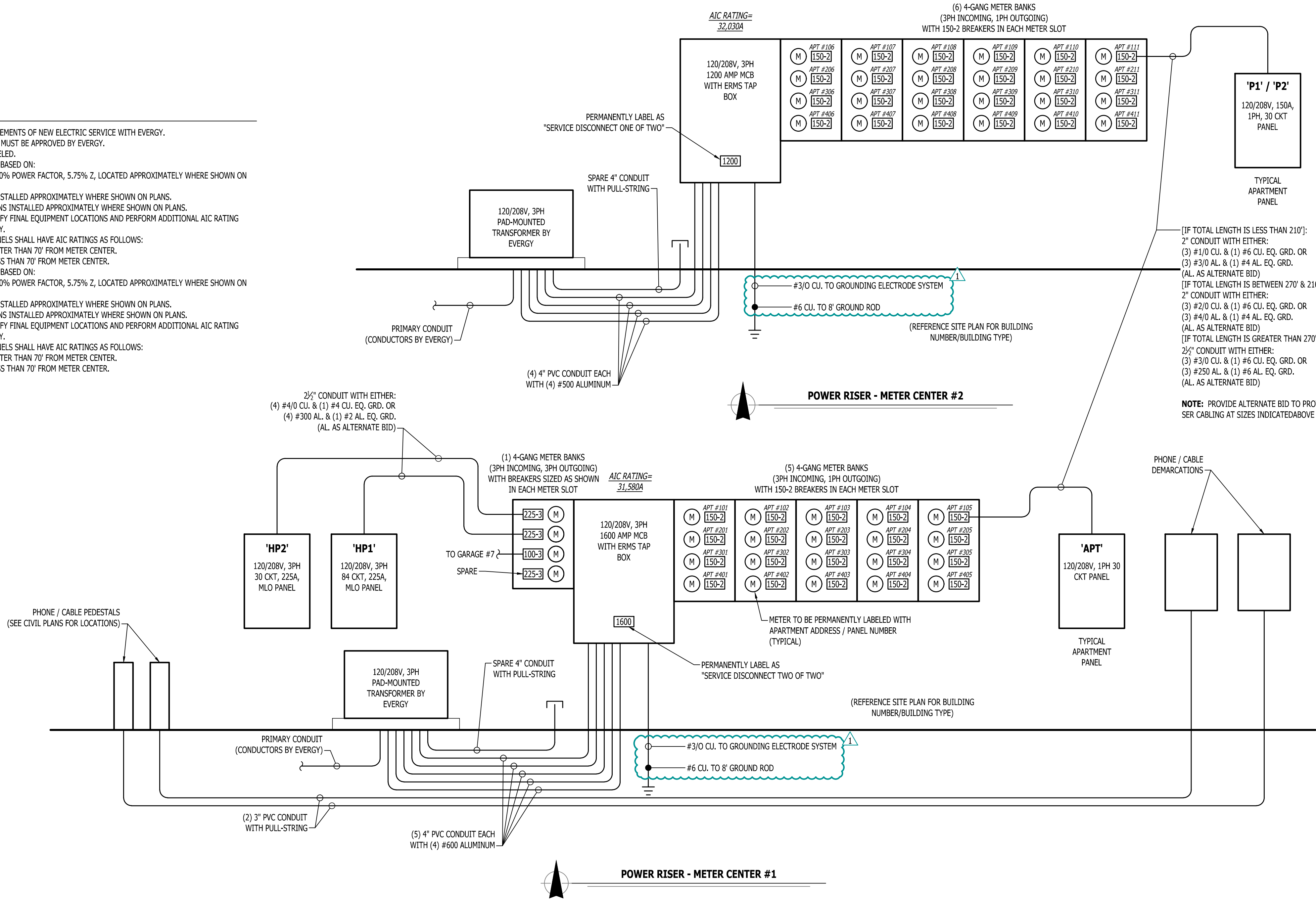
1. ALL ELECTRICAL CONDUCTORS WITHIN ELEVATOR PIT MUST COMPLY WITH NEC 620.21.
2. SUMP PUMP RECEPTACLE, SHAFT / PIT RECEPTACLES, & SHAFT LIGHTING TO ALL BE ON EMERGENCY POWER IF ELEVATOR IS ON EMERGENCY POWER.
3. ADDITIONAL SMOKE DETECTOR REQUIRED IN ELEVATOR MACHINE ROOM (IF APPLICABLE).
4. IN CASES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



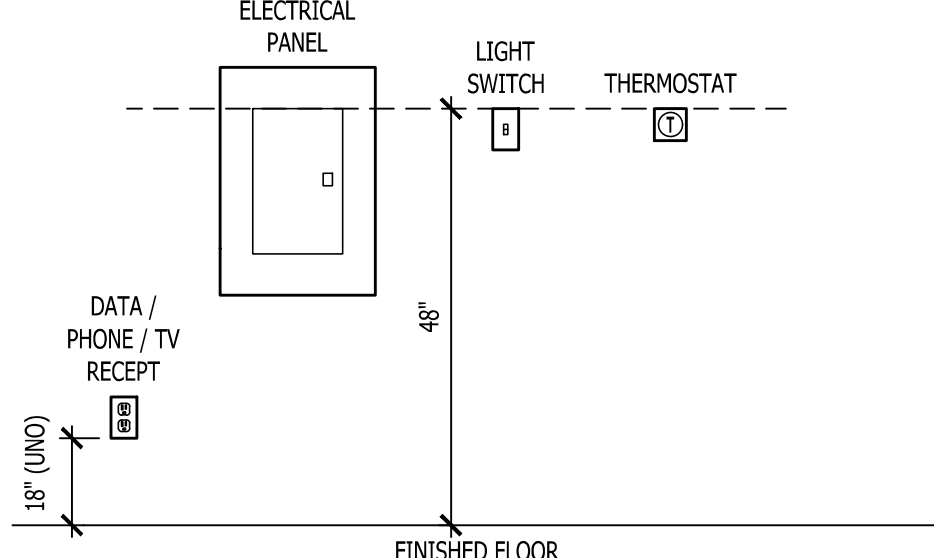
MACHINE - ROOM - LESS ELEVATOR DETAIL

POWER RISER NOTES:

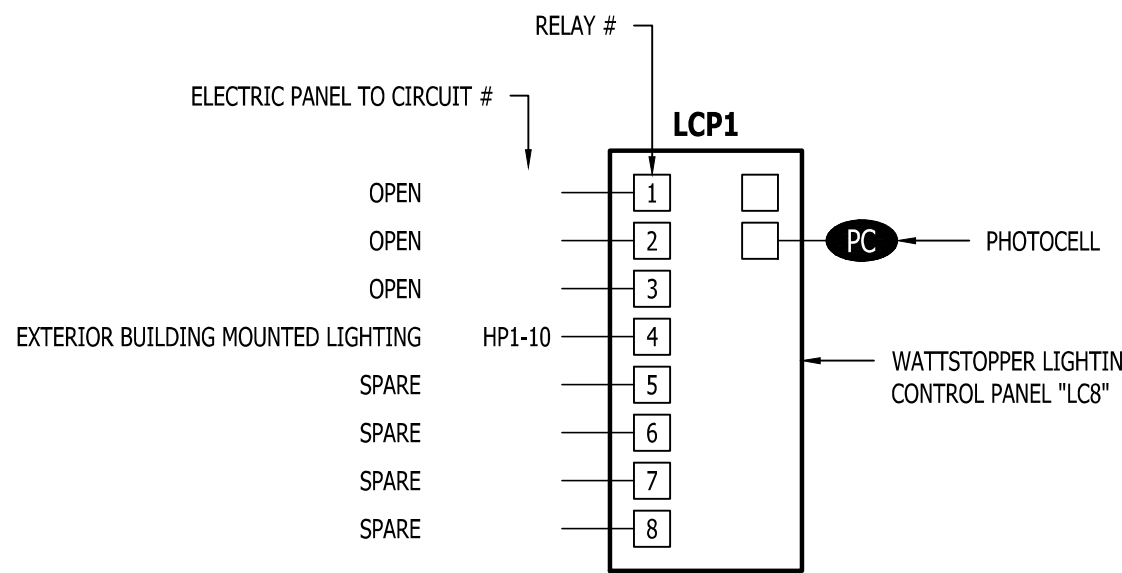
1. COORDINATE DETAILS & REQUIREMENTS OF NEW ELECTRIC SERVICE WITH EVERY.
2. ALL NEW METERING EQUIPMENT MUST BE APPROVED BY EVERY.
3. EACH METER PERMANENTLY LABELED.
4. METER CENTER #1 AIC-RATINGS BASED ON:
- 4.1. TRANSFORMER: 750 kVA, 100% POWER FACTOR, 5.75% Z, LOCATED APPROXIMATELY WHERE SHOWN ON PLANS.
- 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       | -               | -                                       |
| 2       | -               | -                                       |
| 3       | -               | -                                       |
| 4       | NO              | ON DURING NIGHT HOURS (PHOTOCELL INPUT) |
| 5       | -               | -                                       |
| 6       | -               | -                                       |
| 7       | -               | -                                       |
| 8       | -               | -                                       |

LIGHTING CONTROL PANEL

RELEASED FOR CONSTRUCTION  
As Noted on Plans Review

James Watson, P.E.  
Professional Engineer  
Missouri  
PE-2015017071

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

J-SQUARED ENGINEERING

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J2 PROJECT No: J21357

J2 DESIGN: ACW

ISSUE TITLE DATE

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

ELECTRICAL DETAILS

SHEET NUMBER

E501



| LIGHT FIXTURE SCHEDULE                                                                                                                                                   |                            |                                 |                                                  |                   |                 |             |     |       |       |                                                       |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|---------------------------------|--------------------------------------------------|-------------------|-----------------|-------------|-----|-------|-------|-------------------------------------------------------|--|
| TAG                                                                                                                                                                      | MANUFACTURER<br>(OR EQUAL) | MODEL NUMBER<br>(OR EQUAL)      | DESCRIPTION                                      | MOUNTING          | LUMEN<br>OUTPUT | CCT<br>(°K) | CRI | VOLTS | WATTS | NOTES                                                 |  |
| C1                                                                                                                                                                       | HALO                       | HLC6129FS1E                     | 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<br>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                                                                                                                                                                       | METALLUX                   | 4SNX-SL3-LW-UNV-CC83-CD-1-FKO-U | 4" LED STRIP                                     | SURFACE / CEILING | 4,511           | 4000        | 70  | 120   | 38    | WITH 'EL14W' EMERGENCY BATTERY BACKUP WHERE INDICATED |  |
| V1                                                                                                                                                                       | ROYAL PACIFIC              | 4904-BN-4                       | LED VANITY                                       | SURFACE / WALL    | 2,110           | 3000        | 80  | 120   | 30    |                                                       |  |
| W1                                                                                                                                                                       | HALO                       | FE12540FDB                      | LED PATIO SCONCE                                 | EXTERIOR WALL     | 1,272           | 4000        | 83  | 120   | 11    |                                                       |  |
| W2                                                                                                                                                                       | TECH LIGHTING              | 7000WVEX9404ZUNV                | UP / DOWN WALL SCONCE                            | EXTERIOR WALL     | 554             | 4000        | 90  | 120   | 19    |                                                       |  |
| W3                                                                                                                                                                       | LUMARK                     | XTOR4B-W                        | LED WALLPACK                                     | EXTERIOR WALL     | 3,995           | 4000        | 70  | 120   | 38    |                                                       |  |
| W4                                                                                                                                                                       | LUMARK                     | AXCS1A-MSP/DM-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@LAJWEB.NET) OR PAUL WARNER (314) 531-3500 (PWARNER@LAJWEB.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: 150.5 AMPS |                                         |  |  |                |  |
| AMPACITY: 225A MLO                                                                                                             |                                            |  |              | PANEL MOUNTING: SURFACE |       |      | PHASE "B" LOAD: 128 AMPS   |                                         |  |  |                |  |
| AIC-RATING: 22KA                                                                                                               |                                            |  |              |                         |       |      | PHASE "C" LOAD: 165.5 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     |      |                            | 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.                            |                                            |  |              |                         |       |      |                            |                                         |  |  |                |  |

| TYPICAL APARTMENT PANEL 'P1' SCHEDULE                                                                                                 |                        |              |      |          |      |              |                 |                |  |
|---------------------------------------------------------------------------------------------------------------------------------------|------------------------|--------------|------|----------|------|--------------|-----------------|----------------|--|
| VOLTAGE                                                                                                                               |                        | PANEL SIZE   |      | MOUNTING |      | AIC RATING   |                 |                |  |
| 120/208V 1-PH                                                                                                                         |                        | 150A MLO     |      | RECESSED |      | SEE RISER    | PHASE "A" LOAD  | 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 <b>BOLD UNDERLINED</b> 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 |                        |              |      |          |      |              |                 |                |  |



DEFERRED SUBMITTAL NOTES

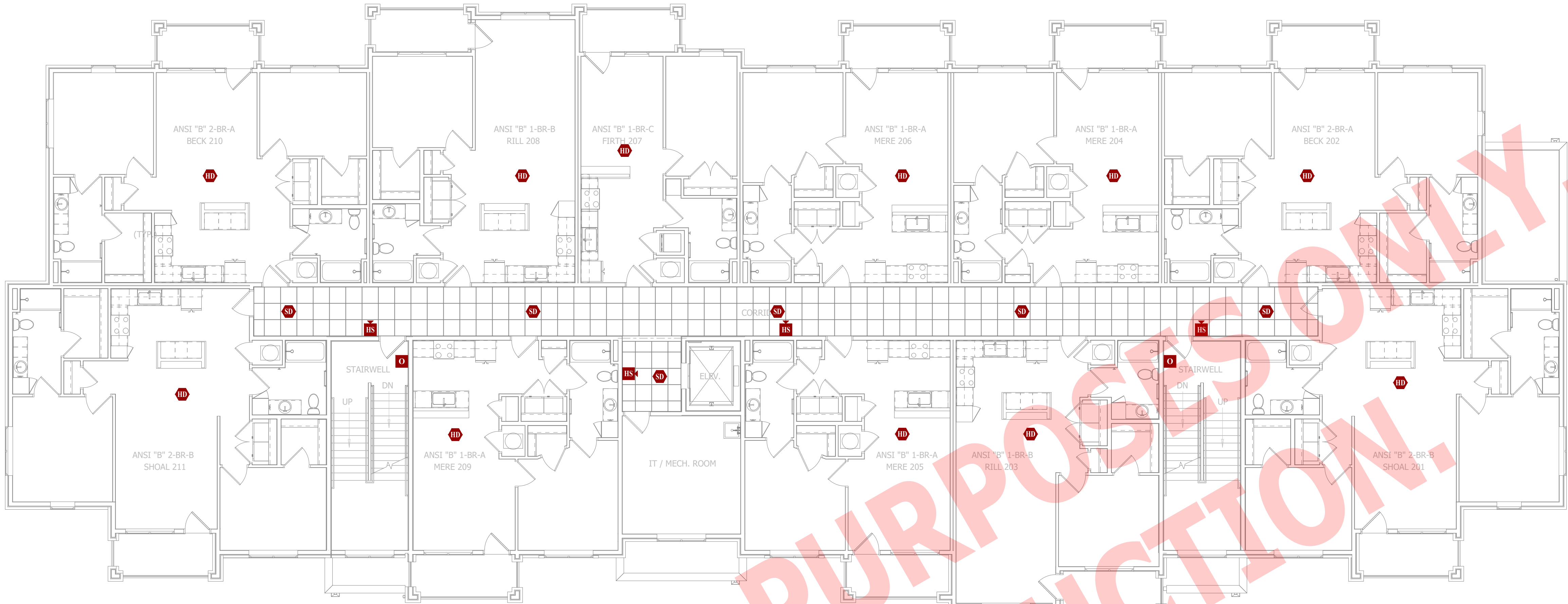
1. FIRE ALARM CONTRACTOR SHALL PROVIDE DEFERRED SUBMITTAL PACKAGE FOR FIRE ALARM SYSTEM. SUBMITTAL SHALL INCLUDE BATTERY CALCULATIONS, VOLTAGE DROP CALCULATIONS, EQUIPMENT SPECIFICATIONS FOR DEVICES AND PANELS, ETC. DESIGN SHALL BE SEALED BY A QUALIFIED DESIGN PROFESSIONAL LICENSED BY THE STATE.
2. FIRE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

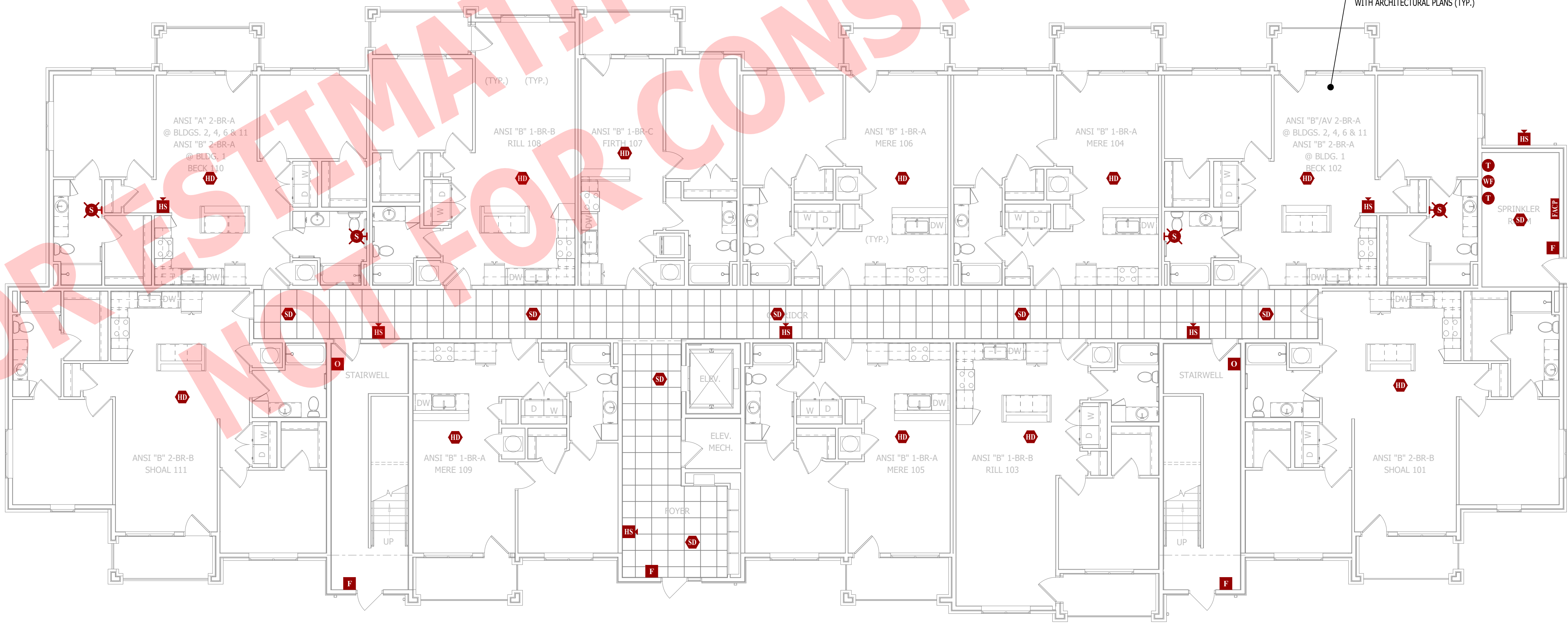
FIRE ALARM PLAN SYMBOL LEGEND

- |                                                                                     |                                |
|-------------------------------------------------------------------------------------|--------------------------------|
|    | 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 ANNUNCIATOR         |



FIRE PROTECTION PLAN - SECOND 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

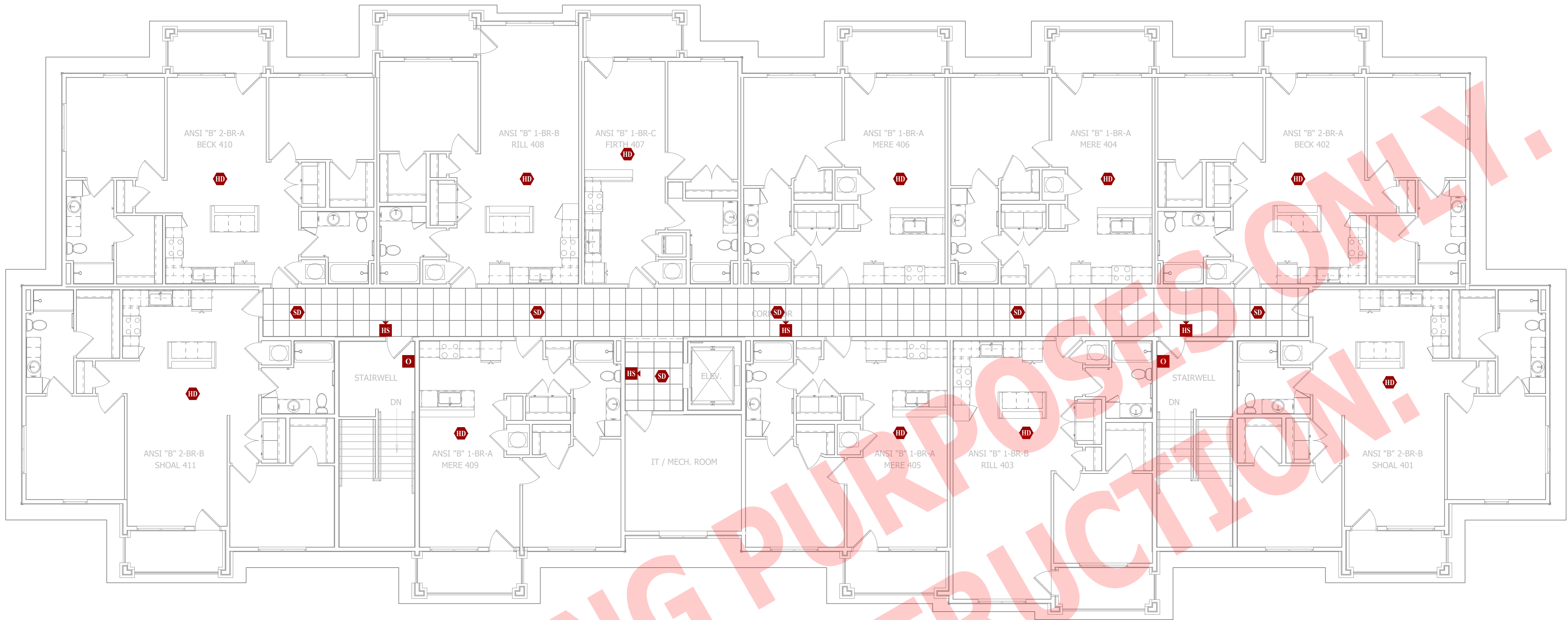
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FIRE ALARM SYSTEM SPECIFICATIONS

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.

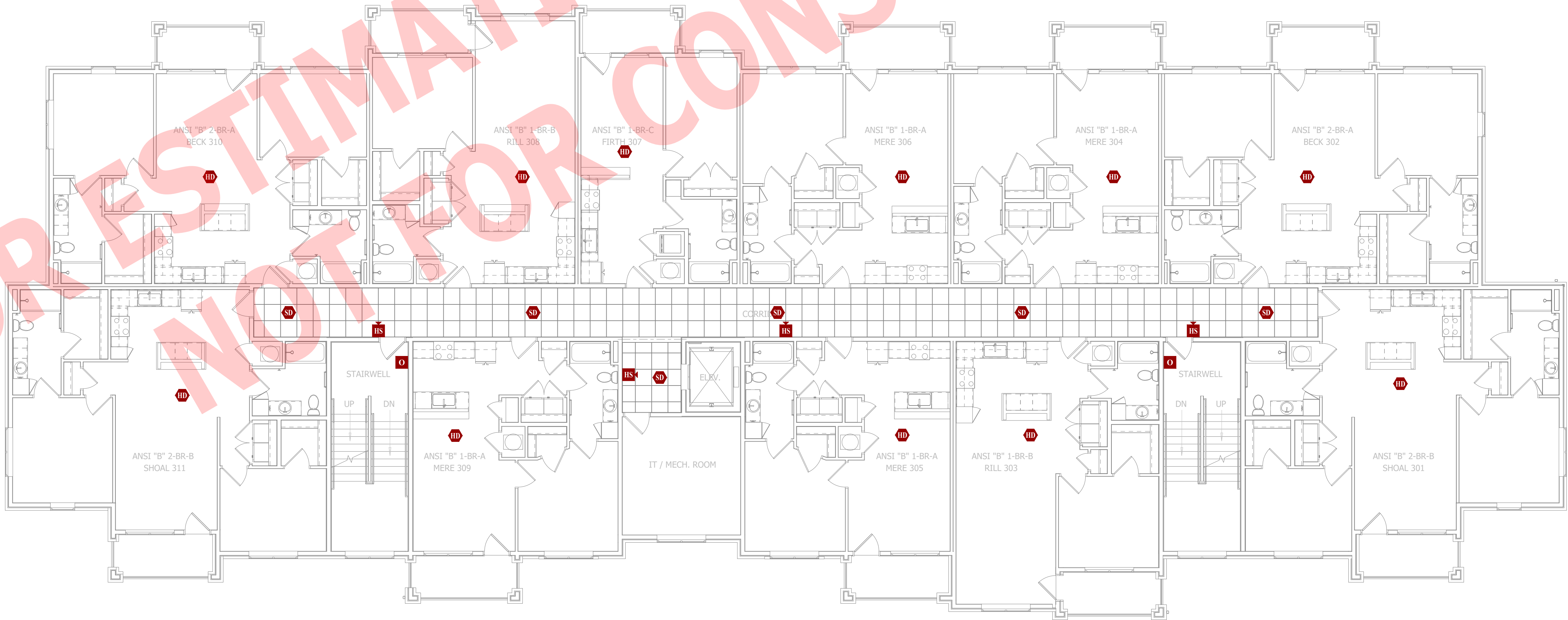
FIRE ALARM PLAN SYMBOL LEGEND

- |                                                                                     |                                |
|-------------------------------------------------------------------------------------|--------------------------------|
|    | 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 ANNUNCIATOR         |



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         |
| J2 DESIGN:     | ACW            |
| ISSUE TITLE    | DATE           |
| PERMIT SET     | 04 - 15 - 2025 |
| ADDENDUM 1     | 05 - 16 - 2025 |
|                |                |
|                |                |
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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

SANITARY SEWER PLAN SYMBOL LEGEND

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

SANITARY SEWER PLAN GENERAL NOTES:

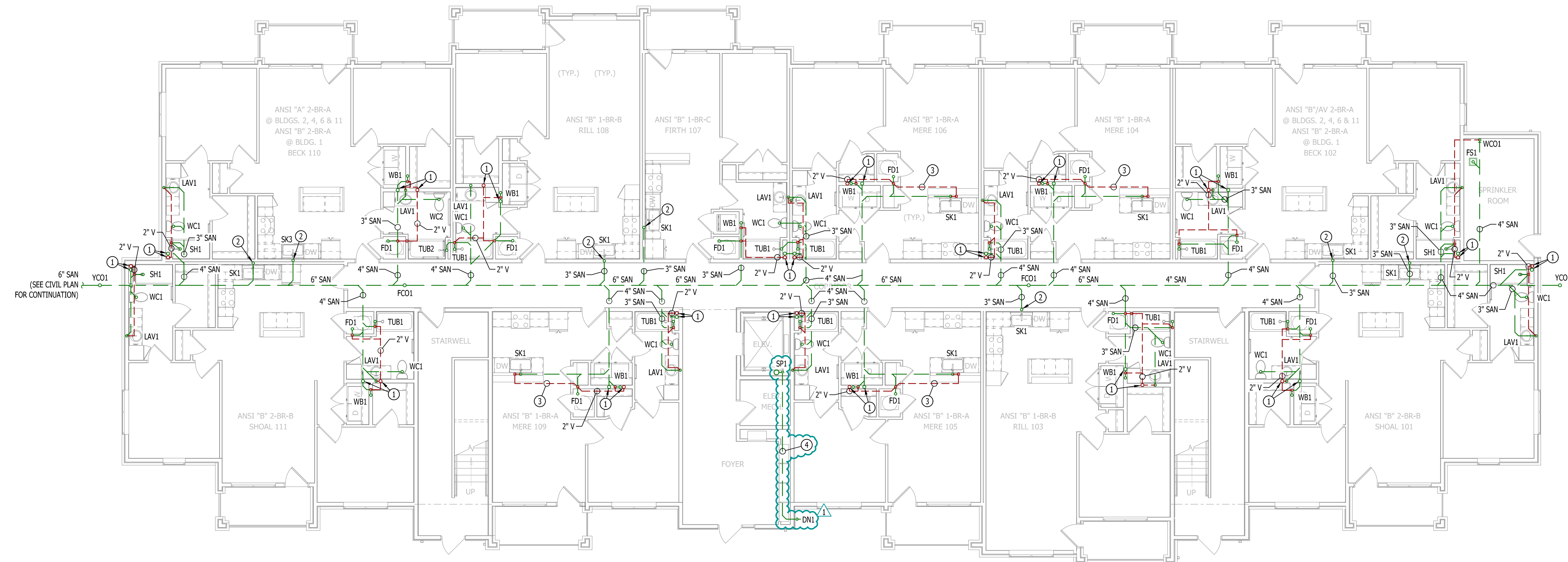
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- PLUMBING CONTRACTOR SHALL REVIEW ALL PROJECT DOCUMENTS AND COORDINATE LOCATION OF ALL EQUIPMENT, PIPING, HANGERS / SUPPORTS, ETC. WITH HVAC AND ELECTRICAL TRADES BEFORE INSTALLATION OF ANY MATERIAL. ADDITIONAL COSTS ASSOCIATED WITH LACK OF COORDINATION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

SANITARY SEWER PLAN KEY NOTES:

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



|                |                |
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MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

# The Village at Discovery Park Alura Apartments

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

**SANITARY SEWER PLAN SYMBOL LEGEND**

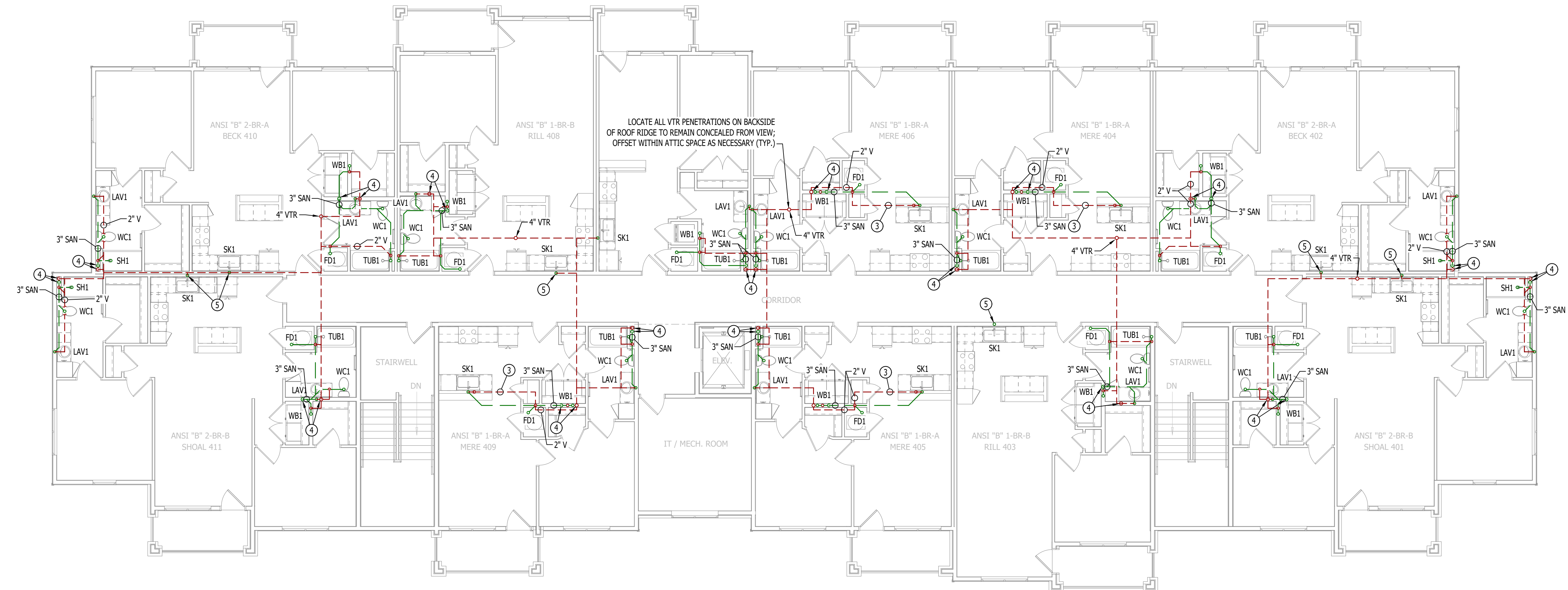
- SANITARY SEWER PIPING
- VENT PIPING
- PIPING TURNED DOWN / TURNED UP
- TIE INTO EXISTING

**SANITARY SEWER 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.

**SANITARY SEWER PLAN KEY NOTES:**

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



WATER & GAS PLAN SYMBOL LEGEND

- COLD WATER LINE  
--- HOT WATER LINE  
M WATER METER  
X VALVE  
P 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:

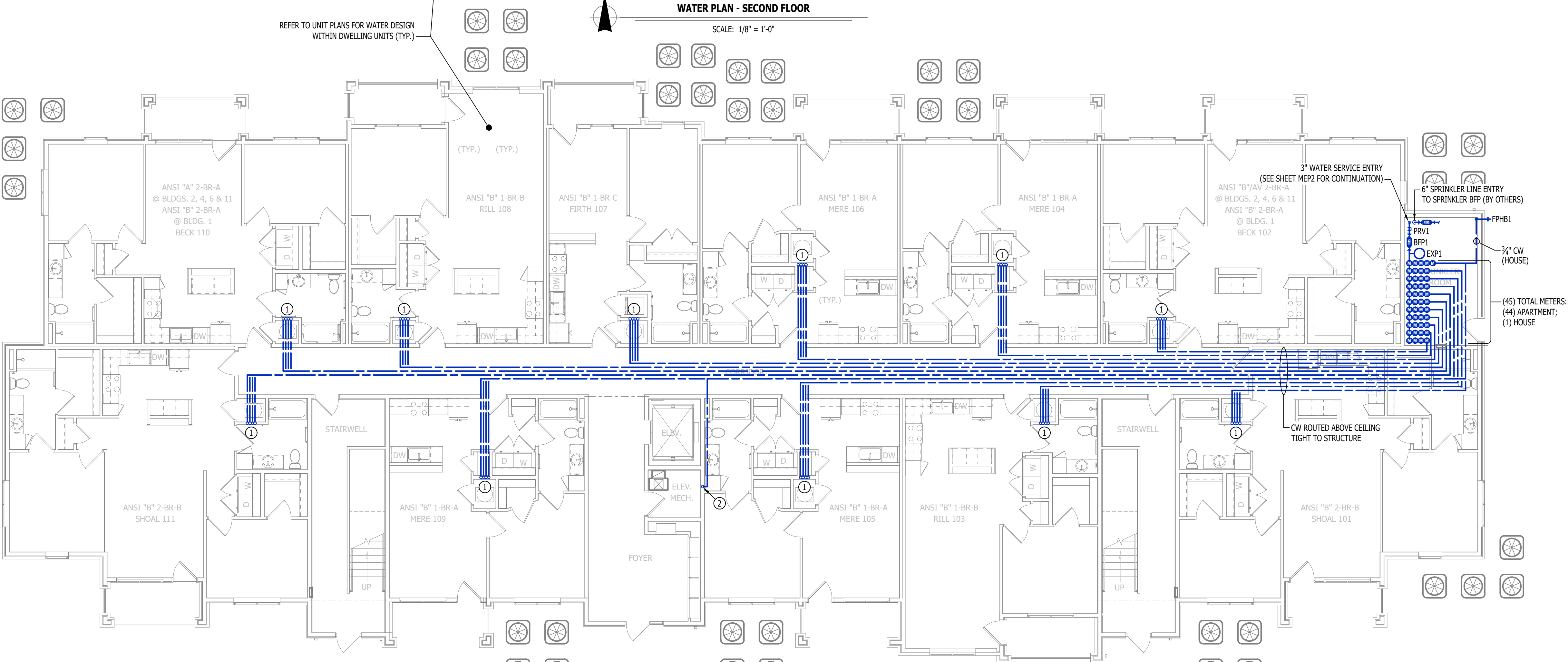
- ① (4) 1" CW - (1) 1" CW TO SERVE APARTMENT ON THIS FLOOR & (3) 1" CW CONTINUE UP TO SECOND FLOOR.  
② 1" CW (HOUSE) UP TO MOP SINK ON SECOND FLOOR.  
③ (3) 1" CW UP IN WALL FROM FIRST FLOOR - (1) 1" CW TO SERVE APARTMENT ON THIS FLOOR & (2) 1" CW CONTINUE UP TO THIRD FLOOR.



WATER PLAN - SECOND FLOOR

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

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



WATER PLAN - FIRST FLOOR

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

RELEASED FOR CONSTRUCTION  
As Noted on Plans Review  
Development Services Department  
St. Louis, Missouri  
4/15/2025

JAMES P. WATSON  
PROFESSIONAL ENGINEER  
NUMBER PE-2015017071

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

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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

WATER PLAN - FIRST & SECOND FLOORS

SHEET NUMBER

PW101





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MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

**The Village at Discovery Park Alura Apartments**

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

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.



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

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



**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.
- 3.5.

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.
- 3.6.

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.
- 5.1.

NATURAL GAS AND LIQUID PROPANE (LP) PIPING TO SHALL BE SCHEDULE 40 BLACK STEEL.
- 5.2.

PIPE JOINTS SHALL BE THREADED WITH CLASS 150 FITTINGS, OR WELDED. NOTIFY OWNER/GC OF ANY NECESSARY HOT-WORK ASSOCIATED WITH WELDED CONNECTIONS.
- 5.3.

WHERE PIPING IS EXPOSED ON EXTERIOR FACE OF BUILDING, PAINT TO MATCH BUILDING. PAINT YELLOW IN ALL OTHER LOCATIONS.
- 5.4.

ON ROOFTOPS, INSTALL GAS PIPE WITH "ROOFTOP BLOK" PER MANUFACTURER'S INSTRUCTION.
6.

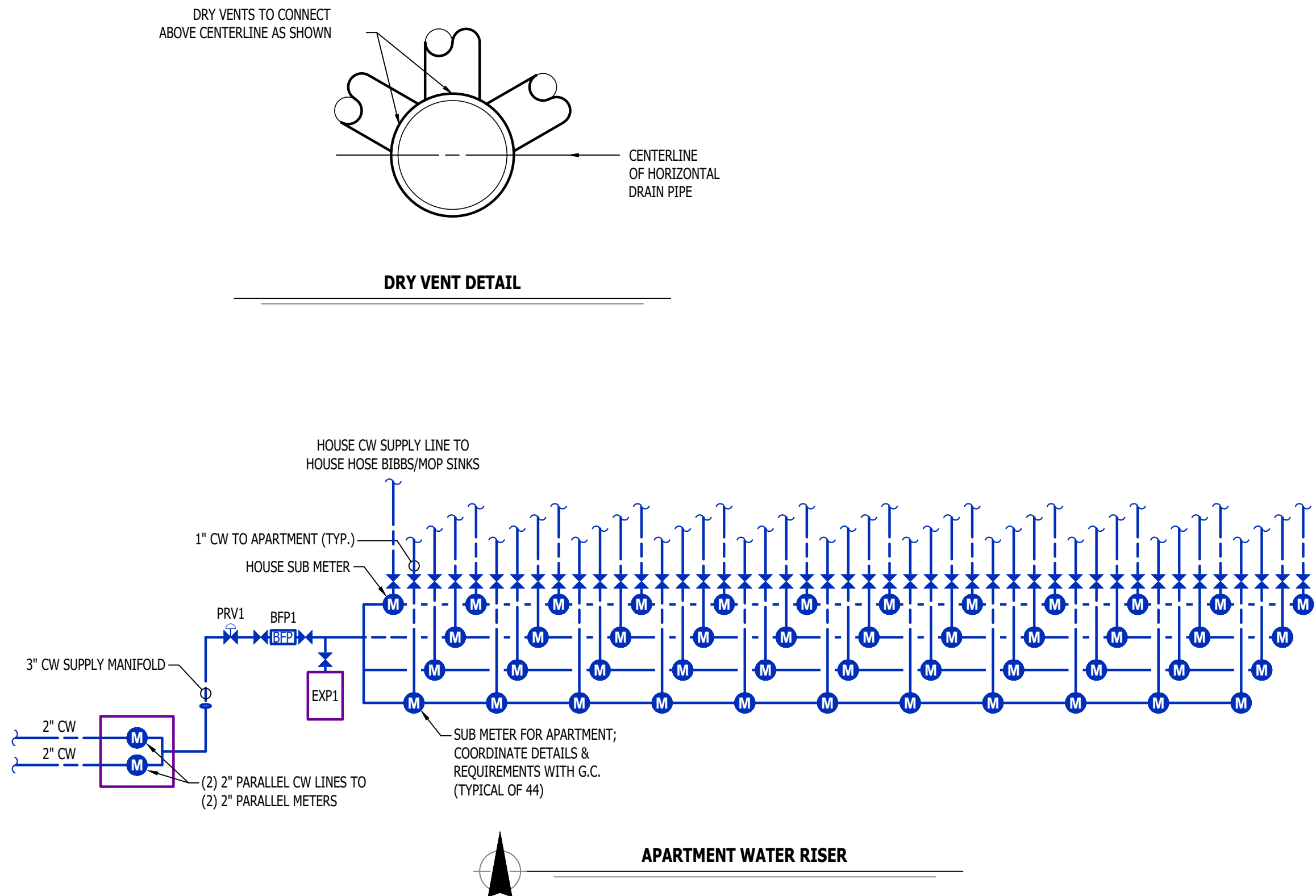
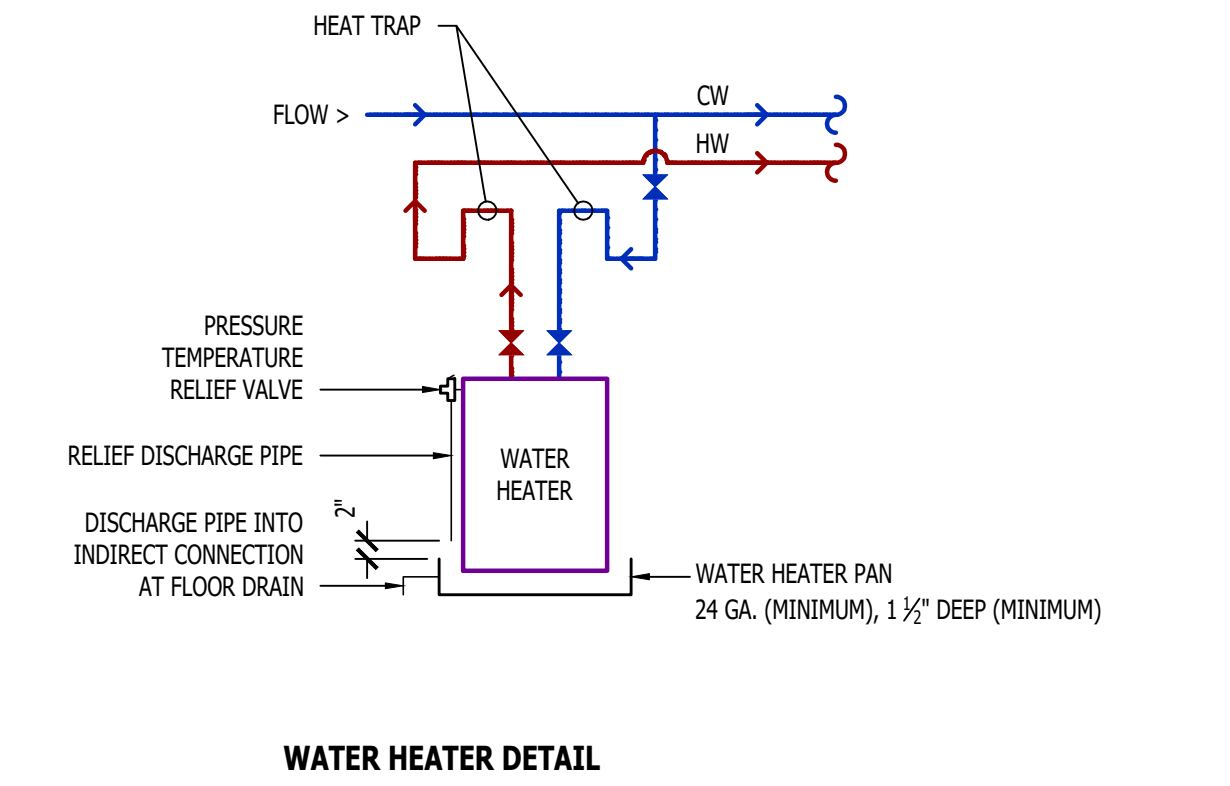
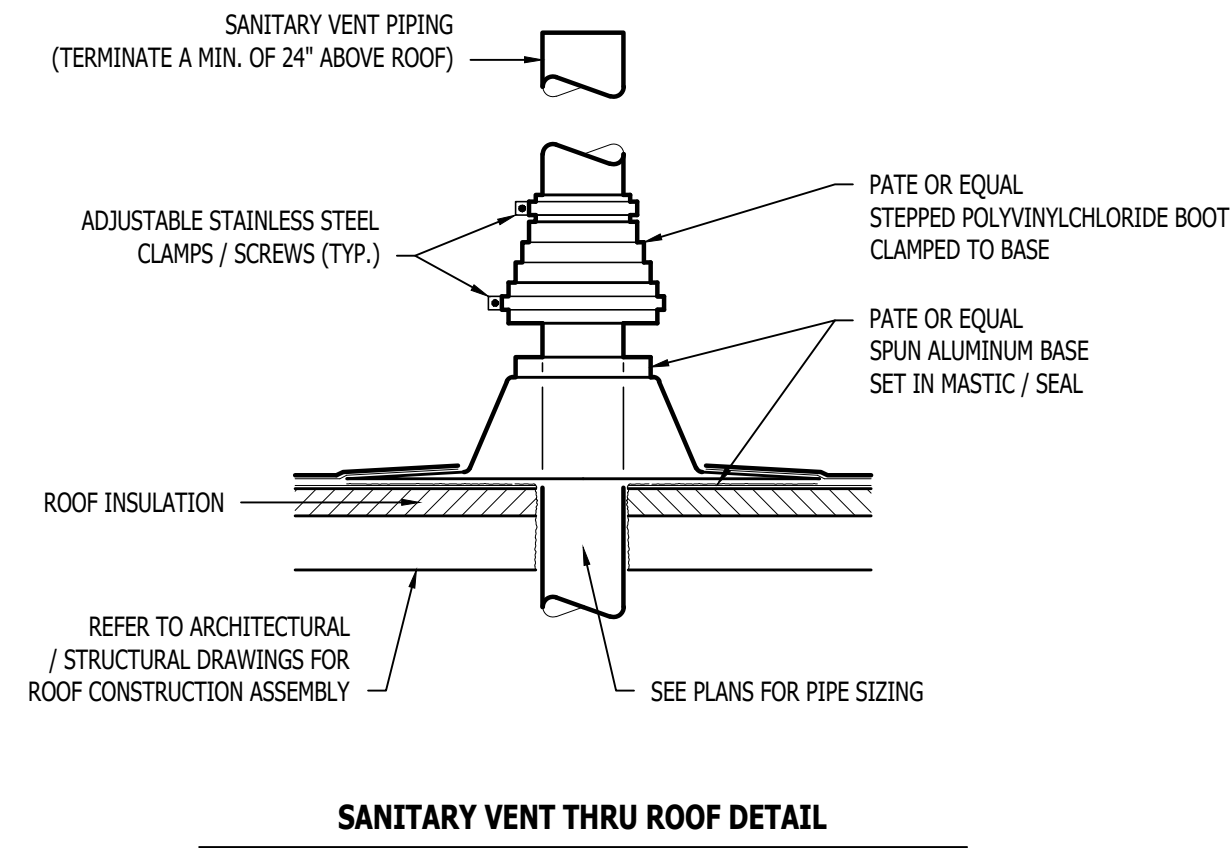
STORM DRAIN PIPING
- 6.1.

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 Z81104-XL FAUCET, 1/4 TURN STOPS, BRAIDED STAINLESS STEEL SUPPLIES, & 'TMV1' |
| MS1                                                                                               | MOP SINK                               | FIAT                    | MSB2424          | WITH ZURN Z843M1 FAUCET WITH WALL HOOK                                                 |
| PRV1                                                                                              | PRESSURE REDUCING VALVE                | ZURN                    | 500XL3           | 3" INLET / 3" OUTLET                                                                   |
| REF1                                                                                              | REFRIGERATOR BOX                       | SIOUX CHIEF             | 696-G1000        |                                                                                        |
| SK1                                                                                               | KITCHEN SINK                           | DAYTON                  | DSESR12722       | WITH PFISTER #F-529-CRS FAUCET,ISE DISPOSAL #BADGER-1 & STS-00 AIR SWITCH              |
| SK3                                                                                               | SINGLE COMPARTMENT ADA SINK            | ELKAY                   | LRAD221965       | WITH PFISTER #F-529-CRS FAUCET,ISE DISPOSAL #BADGER-1 & STS-00 AIR SWITCH              |
| SP1                                                                                               | SUMP PUMP                              | ZOELLER                 | 153-0002         | 120V, 1/2 HP WITH "OIL MINDER" CONTROLS                                                |
| TUB1                                                                                              | TUB / SHOWER                           | AQUARIUS                | G6030TS          | WITH PFISTER R89-0300 SHOWER TRIM KIT                                                  |
| TUB2                                                                                              | ADA TUB / SHOWER                       | AQUATIC                 | 26035MTE         | WITH GRAB BARS & ADA HANDHELD SHOWER ASSEMBLY                                          |
| WB1                                                                                               | WASHER BOX                             | SIOUX CHIEF             | 696-G2303        |                                                                                        |
| WC1                                                                                               | WATER CLOSET - STANDARD HEIGHT - TANK  | AMERICAN STANDARD       | 215CA.004        | WITH CHURCH 7200SLEC SEAT AND COVER, STAINLESS BRAIDED SUPPLY, AND 1/4 TURN SHUT-OFF.  |
| WC2                                                                                               | WATER CLOSET - ADA HEIGHT - TANK       | AMERICAN STANDARD       | 215AA.004        | WITH CHURCH 7200SLEC SEAT AND COVER, STAINLESS BRAIDED SUPPLY, AND 1/4 TURN SHUT-OFF.  |
| WH1                                                                                               | WATER HEATER - ELECTRIC - LOWBOY       | AO SMITH                | ECLB-40          | 38 GALLON, 208V 1PH, 4500W; WITH 'EXP1'                                                |
| WH2                                                                                               | WATER HEATER - ELECTRIC - POINT OF USE | AO SMITH                | EGSP6            | 6 GALLON, 120V, 1500W WITH HOLDRITE #40-SWHP-W WALL HUNG PLATFORM; WITH 'EXP1'         |
| YCO1                                                                                              | YARD CLEAN OUT                         | ZURN                    | Z1400            |                                                                                        |
| YH1                                                                                               | YARD HYDRANT                           | WOODFORD                | Y34              | FREEZELESS                                                                             |
| NOTES:<br>1. VERIFY NECESSARY FIXTURES MEET ADA REQUIREMENTS WITH ARCHITECT PRIOR TO INSTALLATION |                                        |                         |                  |                                                                                        |



| PLUMBING CONNECTION SIZING SCHEDULE                                        |                      |                  |                 |                       |                      |
|----------------------------------------------------------------------------|----------------------|------------------|-----------------|-----------------------|----------------------|
| FIXTURE                                                                    |                      | SANITARY PIPING  |                 | SUPPLY PIPING         |                      |
| TYPE                                                                       | TYPICAL ABBREVIATION | WASTE CONNECTION | VENT CONNECTION | COLD WATER CONNECTION | HOT WATER CONNECTION |
| DRINKING FOUNTAIN                                                          | DF                   | 1-1/2"           | 1-1/4"          | 1/2"                  | -                    |
| FLOOR DRAIN                                                                | FD                   | 3"               | 2"              | -                     | -                    |
| HAND / HAIR SINK                                                           | HS / SK              | 2"               | 1-1/4"          | 1/2"                  | 1/2"                 |
| HOSE BIBB                                                                  | 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"                 |
| URINAL                                                                     | UR                   | 2"               | 1-1/4"          | 3/4"                  | -                    |
| WATER CLOSET (FLUSH TANK)                                                  | WC                   | 3"               | 2"              | 1/2"                  | -                    |
| WATER CLOSET (FLUSH VALVE)                                                 | WC                   | 3"               | 2"              | 1"                    | -                    |
| NOTES:<br>1. SIZES SHOWN ABOVE ARE TYPICAL UNLESS NOTED OTHERWISE ON PLANS |                      |                  |                 |                       |                      |

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As Noted on Plans Review  
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St. Louis, Missouri  
4/15/2025

JAMES F. WATSON  
Professional Engineer  
NUMBER PE-2015017071

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

April 15, 2025

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

DATF

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

PLUMBING DETAILS & SCHEDULES

SHEET NUMBER

P501



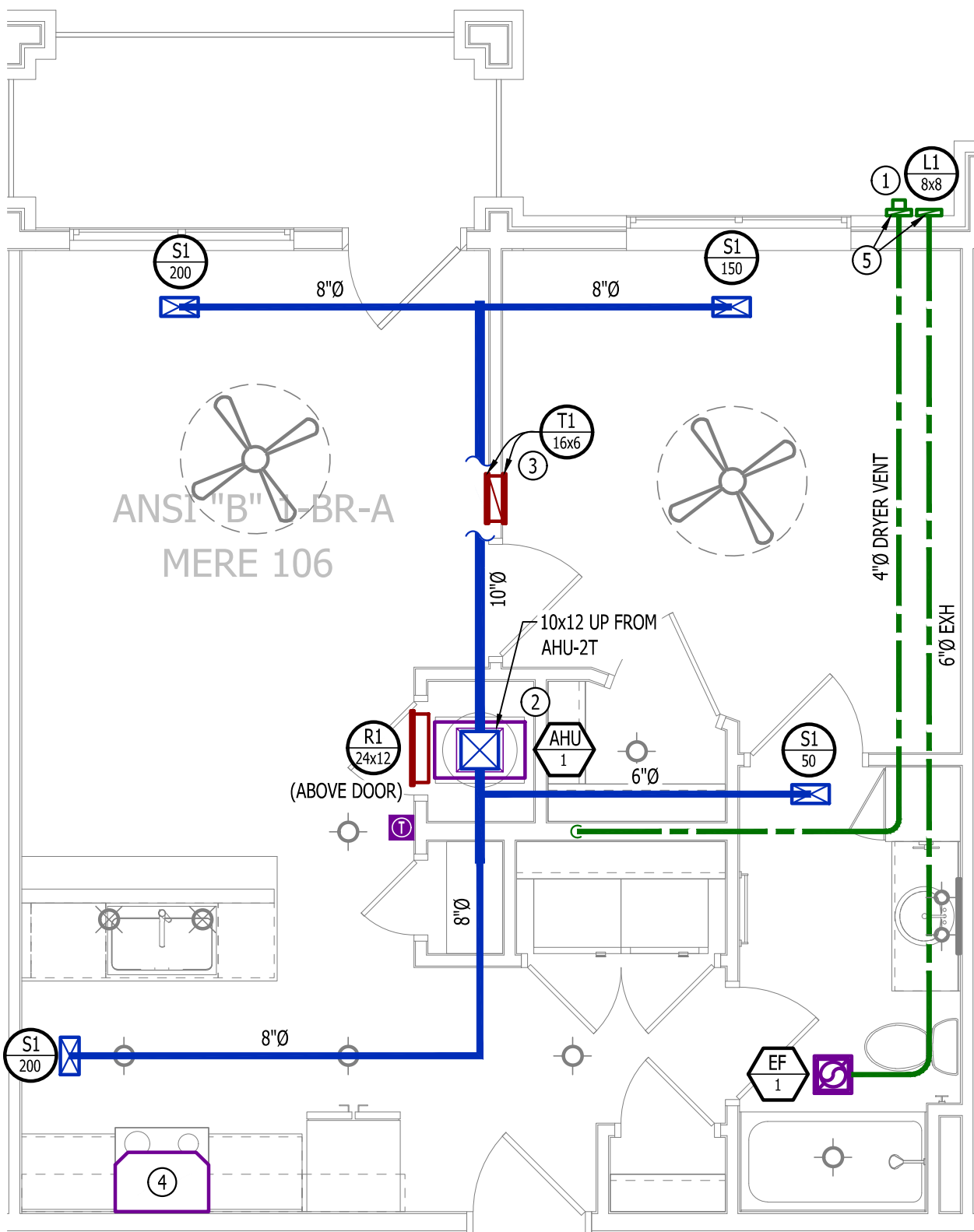
 → EQUIPMENT TYPE (REFER TO EQUIPMENT SCHEDULE)  
 → EQUIPMENT REFERENCE NUMBER  
 → DIFFUSER/GRILLE TYPE (REFER TO SCHEDULE)  
 → CUBIC FEET PER MINUTE (CFM) / FACE SIZE

 → 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

1. SEE M500 & M600 SERIES SHEETS FOR HVAC SCHEDULES, DETAILS, REQUIREMENTS, ETC.
2. SEE M500 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 MAY BE VARYING DUE TO 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.

- 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 CLOSEST.
- ③ HJ/LW 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.



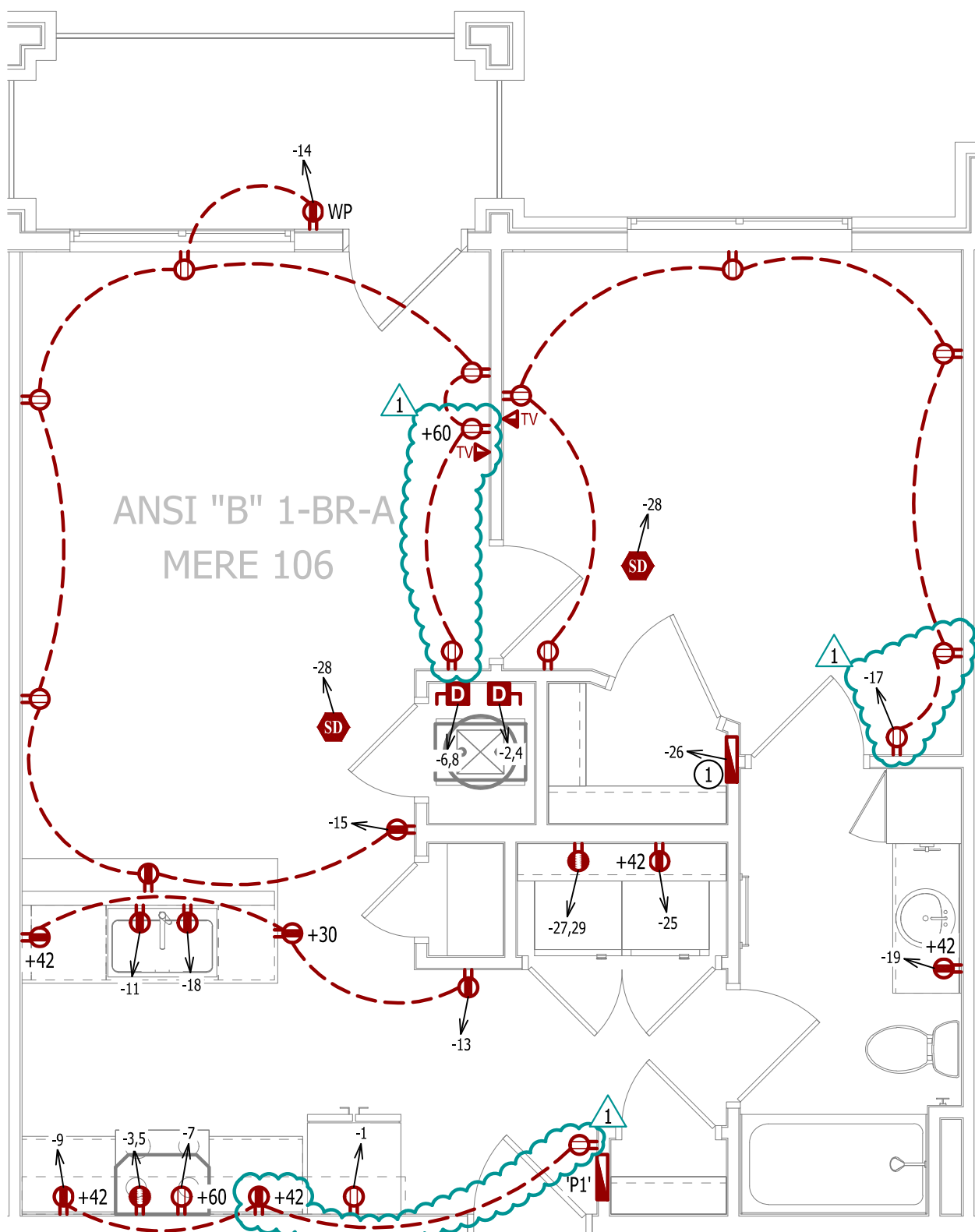
SCALE: 1/4" = 1'-0"

Legend for electrical symbols and abbreviations:

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

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 "ANSI A" UNITS.

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

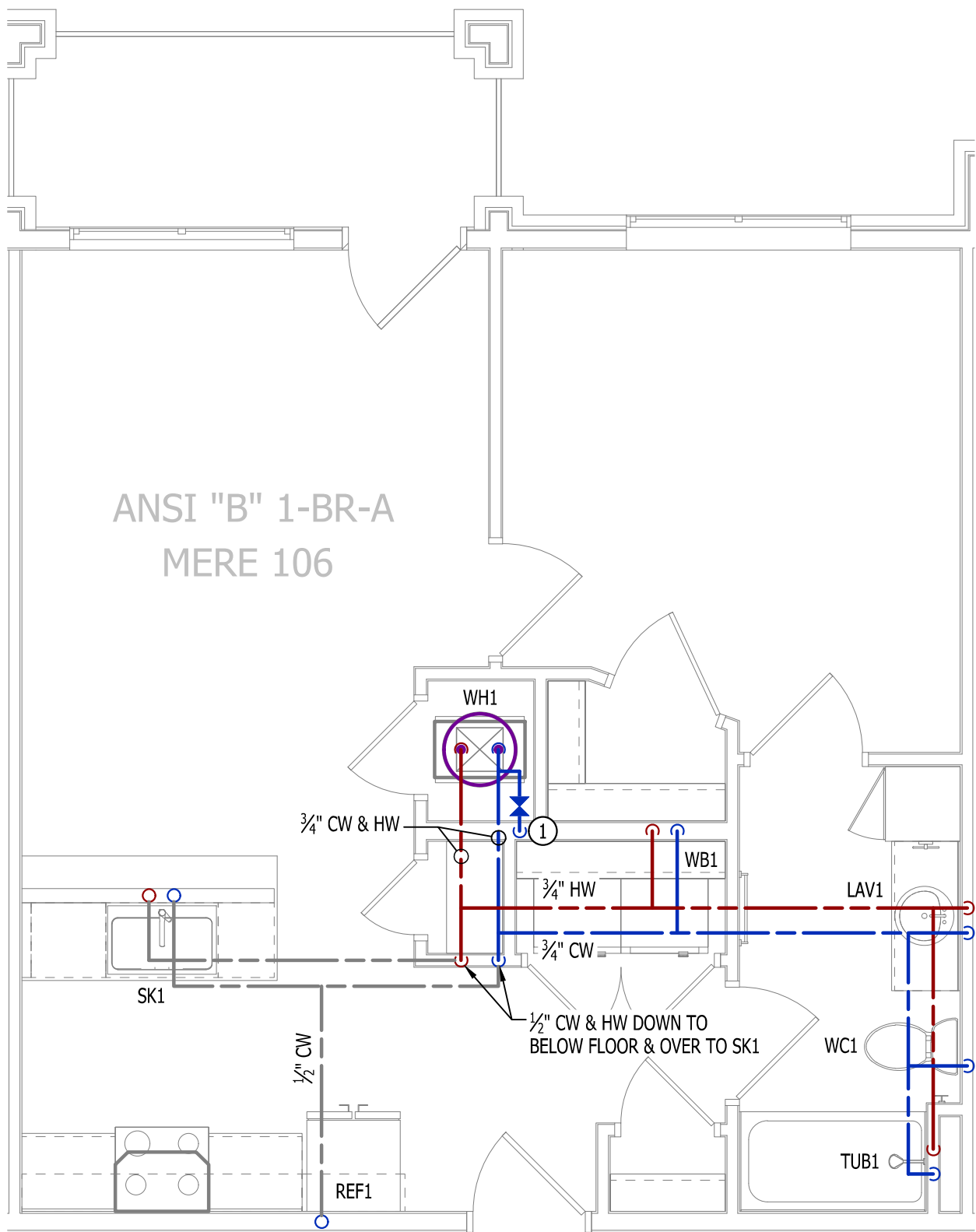


SCALE: 1/4" = 1'-0"

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

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  $\frac{3}{4}"$  UNLESS NOTED OTHERWISE.

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



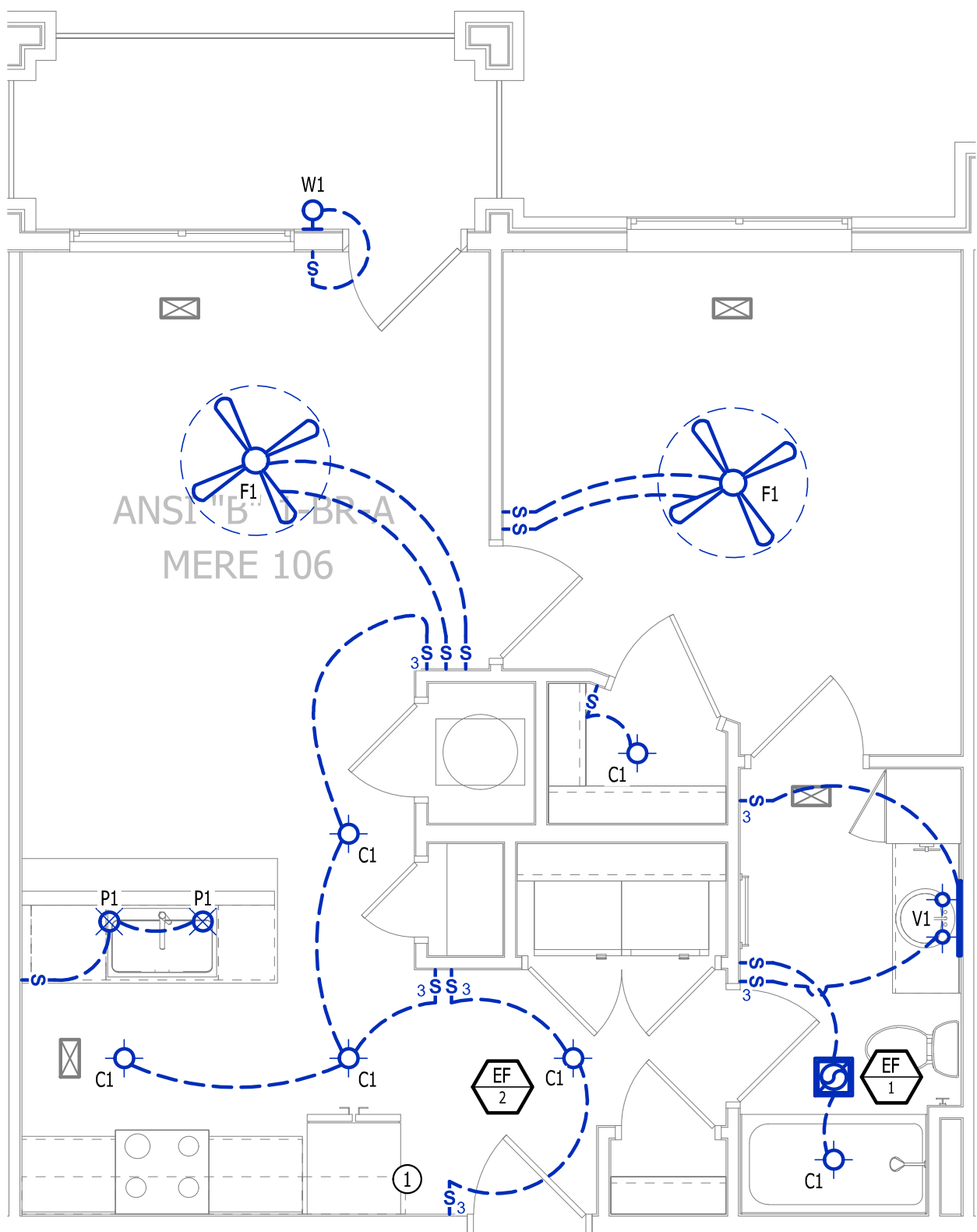
SCALE: 1/4" = 1'-0"

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

 T3 TOGGLE SWITCH  
 SWITCH TYPE

 DIMMER SWITCH

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



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



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**ENGINEERING**

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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**

AHJ APPROVAL STAMP

SHEET TITLE

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

SHEET NUMBER

## UMEP1.2



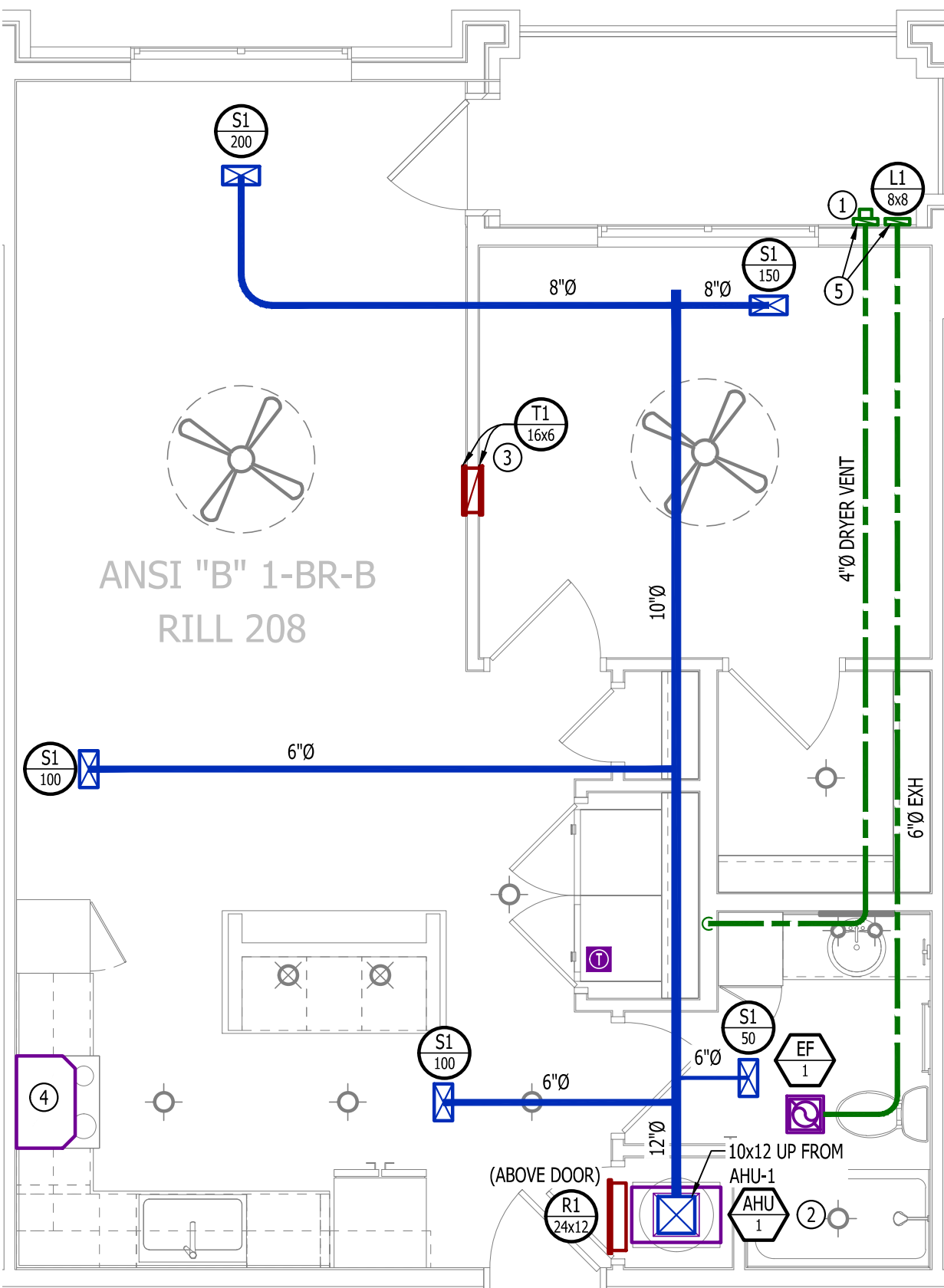
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 → EQUIPMENT REFERENCE NUMBER  
 → DIFFUSER/GRILLE TYPE (REFER TO SCHEDULE)  
 → CUBIC FEET PER MINUTE (CFM) / FACE SIZE

 → SUPPLY DUCTWORK  
 → RETURN DUCTWORK  
 → EXHAUST DUCTWORK  
 → FLEX DUCT

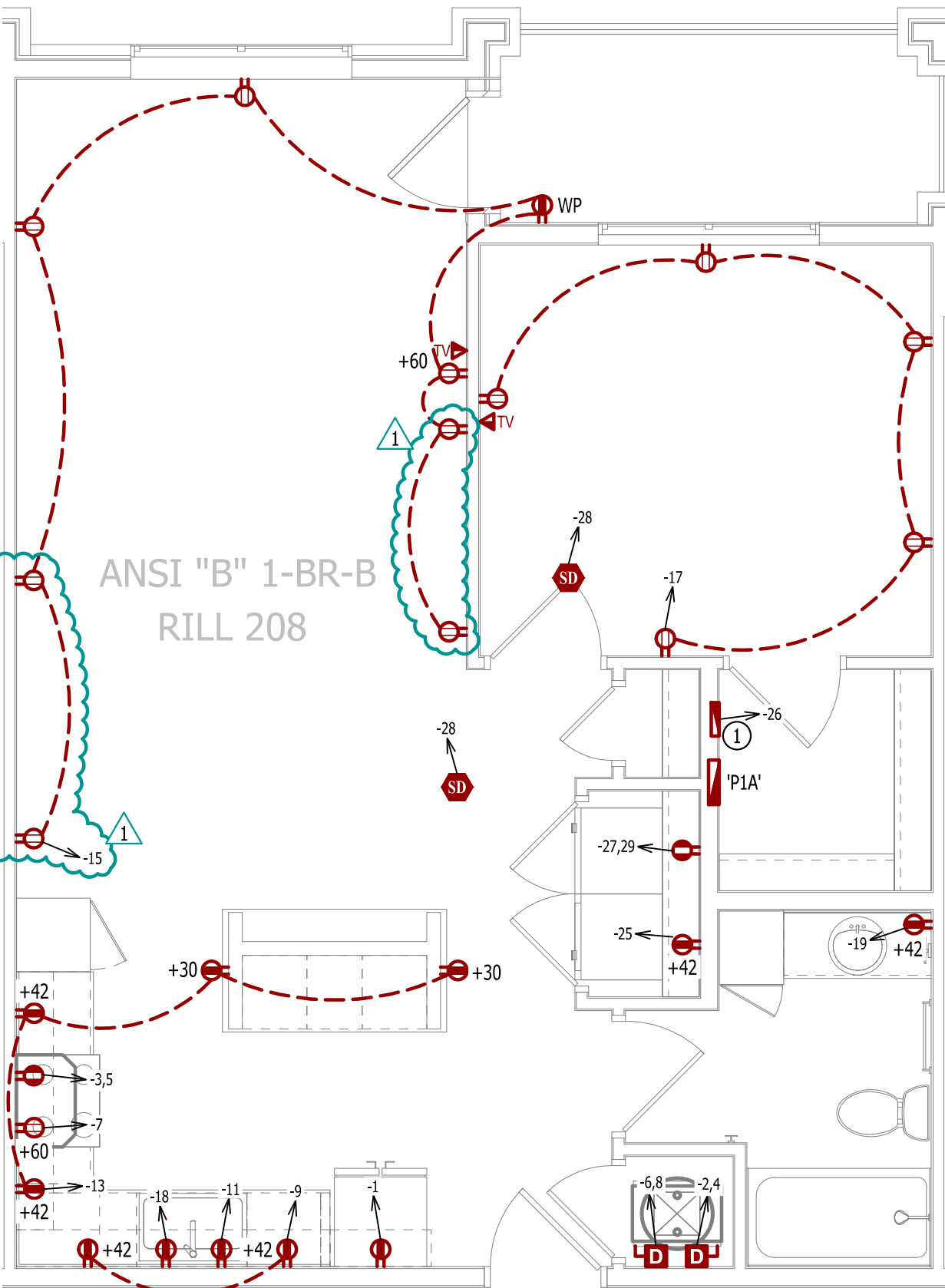
 → SUPPLY DIFFUSER (HATCH INDICATES "NO FLOW ZONE")  
 → RETURN DIFFUSER  
 → BALANCE DAMPER  
 → MOTORIZED DAMPER  
 → CEILING RADIATION DAMPER  
 → BACK DRAFT DAMPER  
 → THERMOSTAT

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

- 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 CLOSEST.
- ③ HJ/LW 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.



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

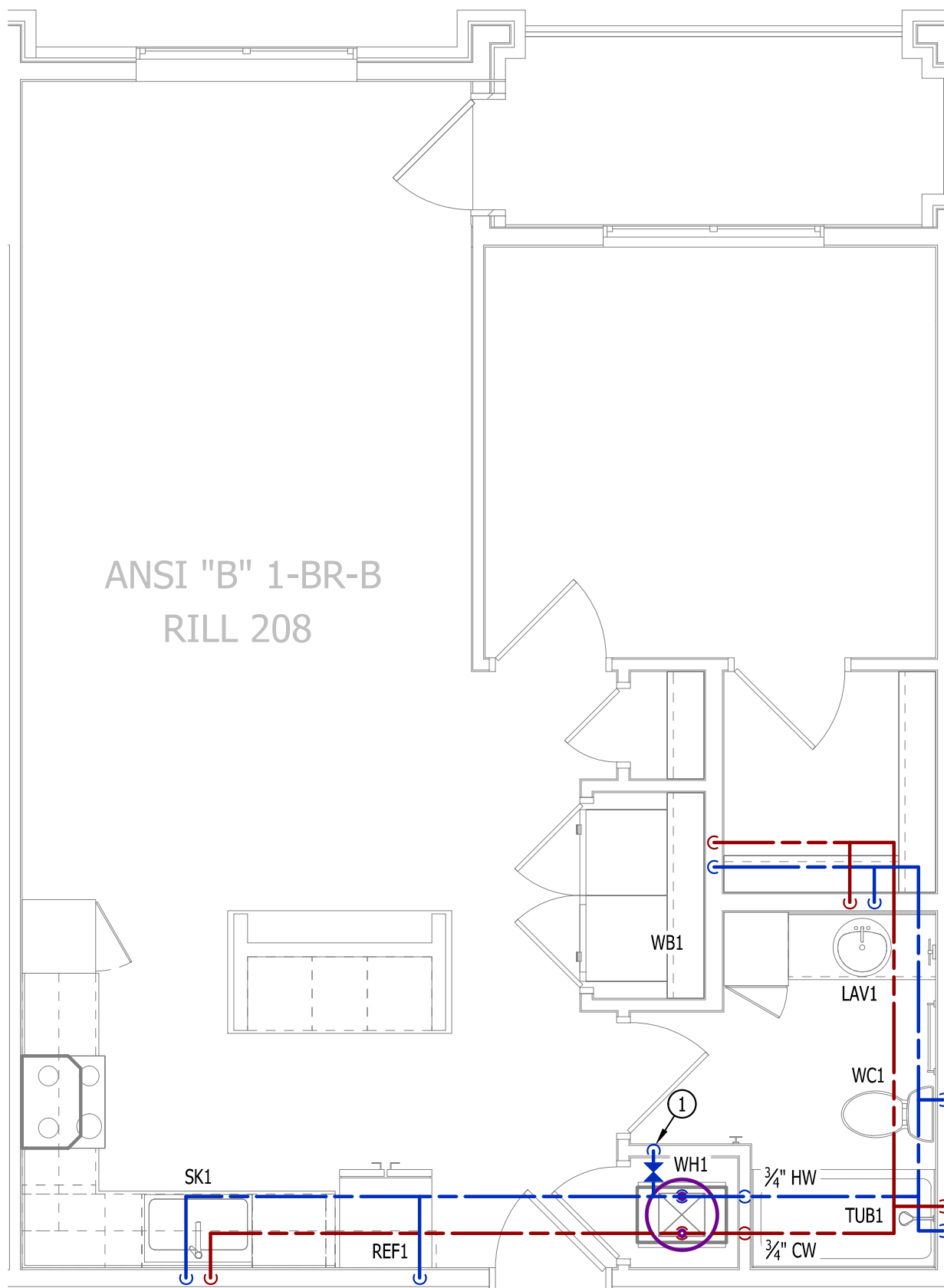


SCALE: 1/4" = 1'-0"

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

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  $\frac{3}{4}"$  UNLESS NOTED OTHERWISE.

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



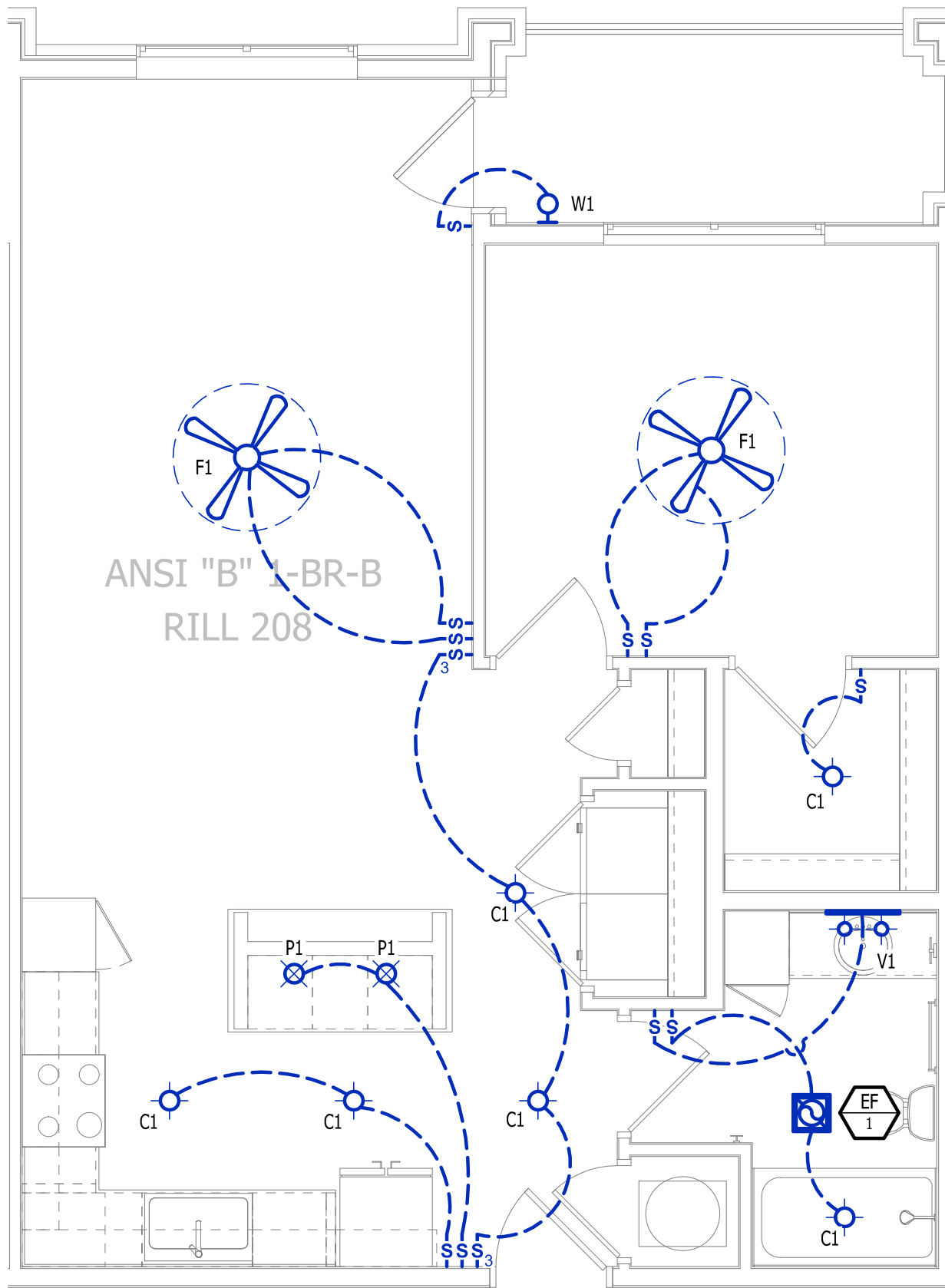
SCALE: 1/4" = 1'-0"

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

 S1 TOGGLE SWITCH  
 SWITCH TYPE

 D DIMMER SWITCH

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



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



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J2 DESIGN: ACV

| ISSUE TITLE | DATE |
|-------------|------|
|-------------|------|

| ADDENDUM 1 | 09 | 10 | 2011 |
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**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 - 1 BR - TYPE B -  
UNIT MEP PLAN**

SHEET NUMBER

## UMEP1.4



HVAC PLAN SYMBOL LEGEND

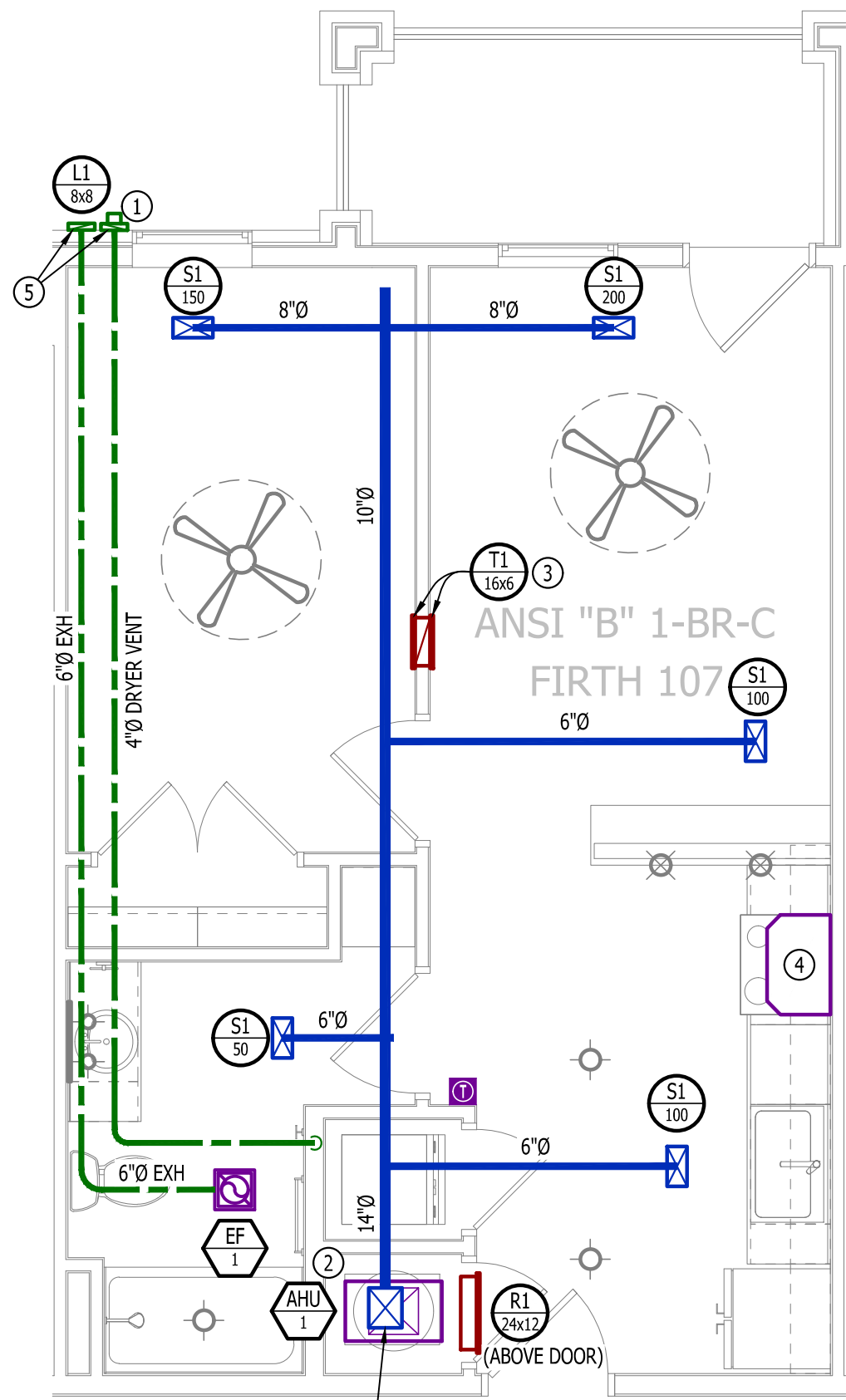
- EQUIPMENT TYPE (REFER TO EQUIPMENT SCHEDULE)  
— EQUIPMENT REFERENCE NUMBER  
— DIFFUSER/GRILLE TYPE (REFER TO SCHEDULE)  
— CUBIC FEET PER MINUTE (CFM) / FACE SIZE
- SUPPLY DUCTWORK  
RETURN DUCTWORK  
EXHAUST DUCTWORK  
FLEX DUCT
- SUPPLY DIFFUSER (HATCH INDICATES "NO FLOW ZONE")  
RETURN DIFFUSER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



HVAC PLAN

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

POWER PLAN SYMBOL LEGEND

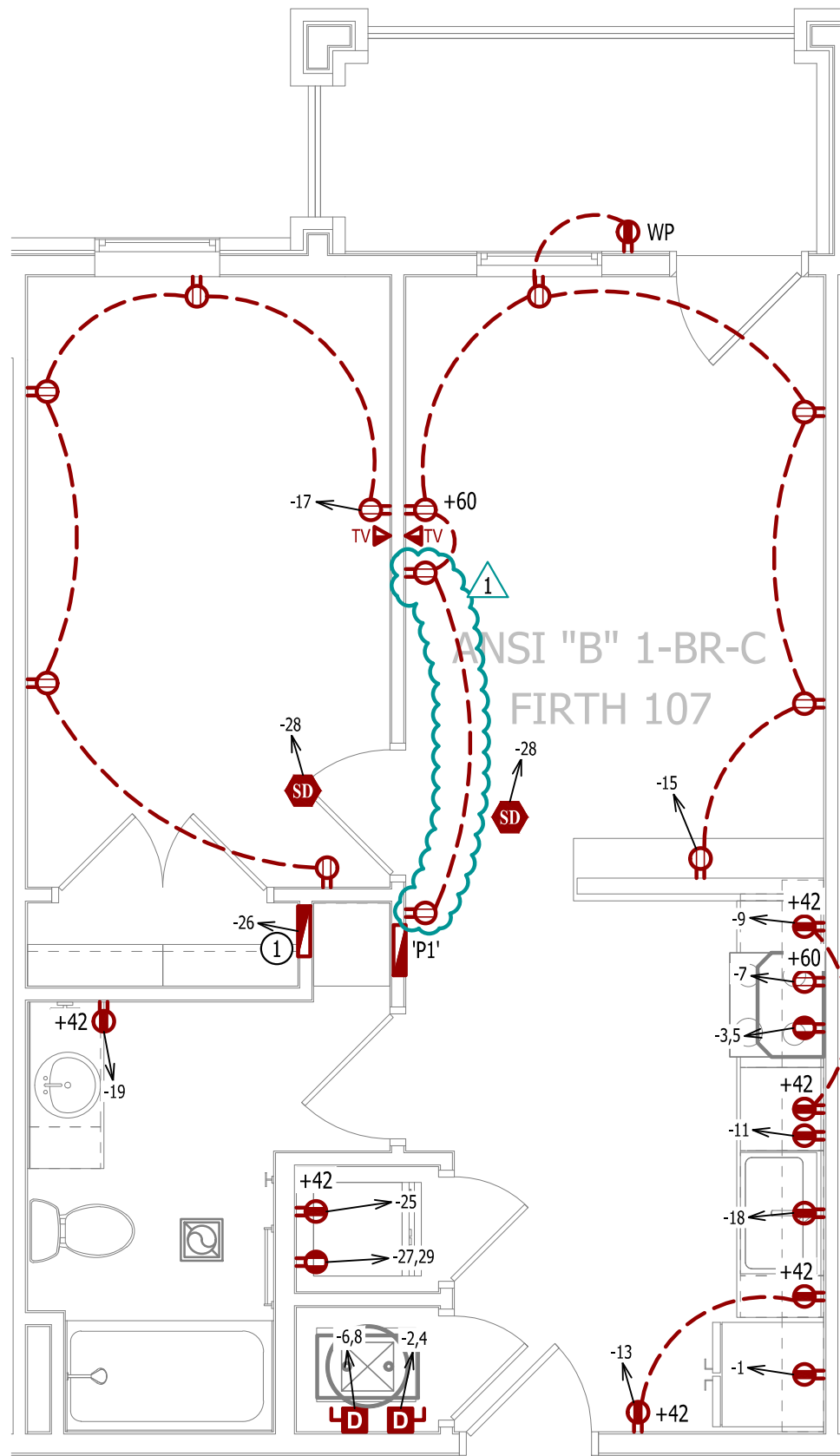
- CIRCUIT WIRING  
CIRCUIT TAG  
JUNCTION BOX  
RECEPTACLE  
INDICATES MOUNTING HEIGHT TO BOTTOM OF BOX (STANDARD @ 18" AFF UNLESS NOTED OTHERWISE)  
"WP" = WEATHERPROOF OUTDOOR RECEPTACLE
- GFCI DUPLEX CONVENIENCE RECEPTACLE  
208V RECEPTACLE  
QUADPLEX CONVENIENCE RECEPTACLE  
DATA / PHONE JACK; BOX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

- 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"

PLUMBING PLAN SYMBOL LEGEND

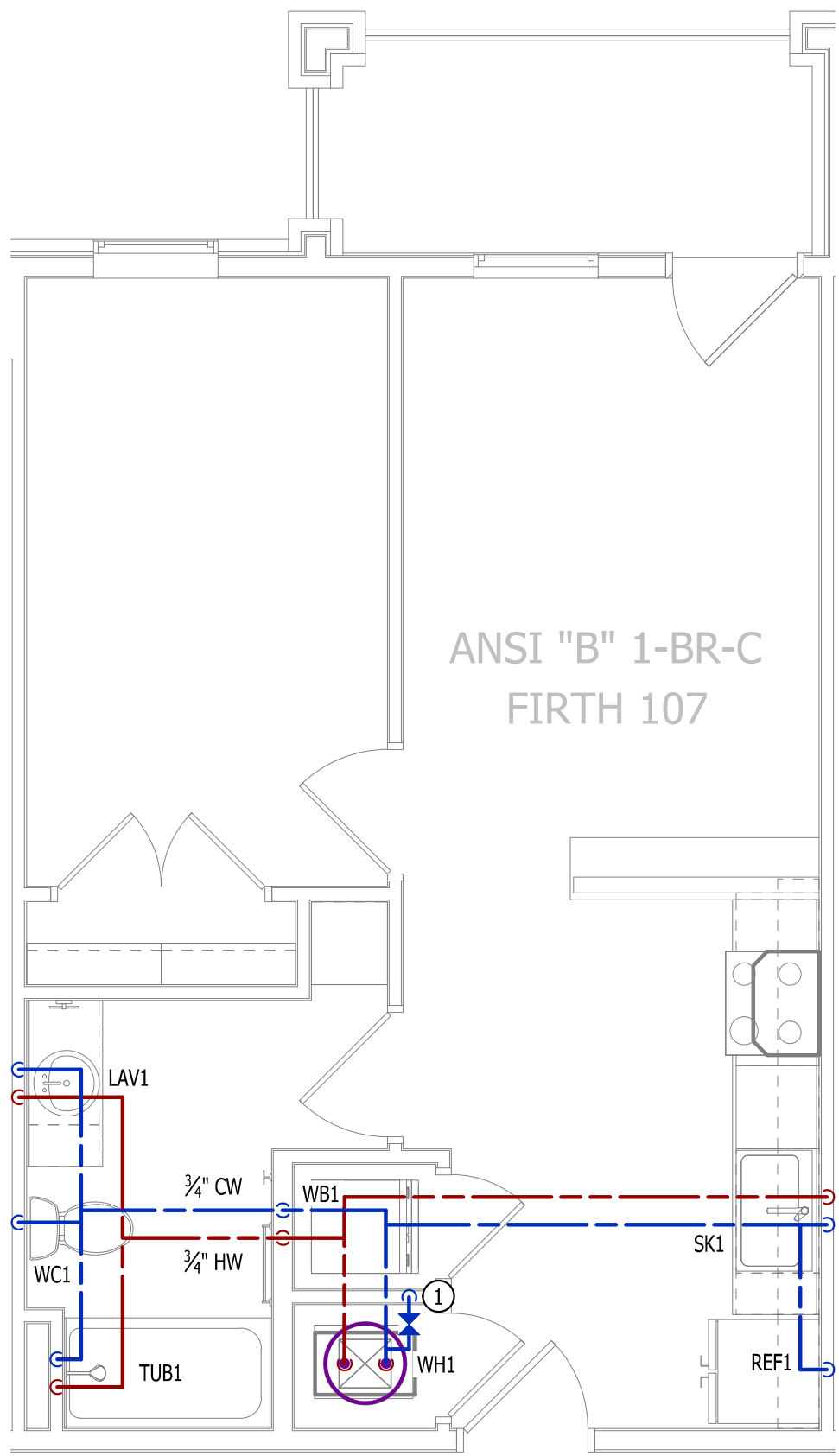
- COLD WATER LINE  
HOT WATER LINE  
VALVE  
PIPING TURNED DOWN / TURNED UP

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.



WATER PLAN

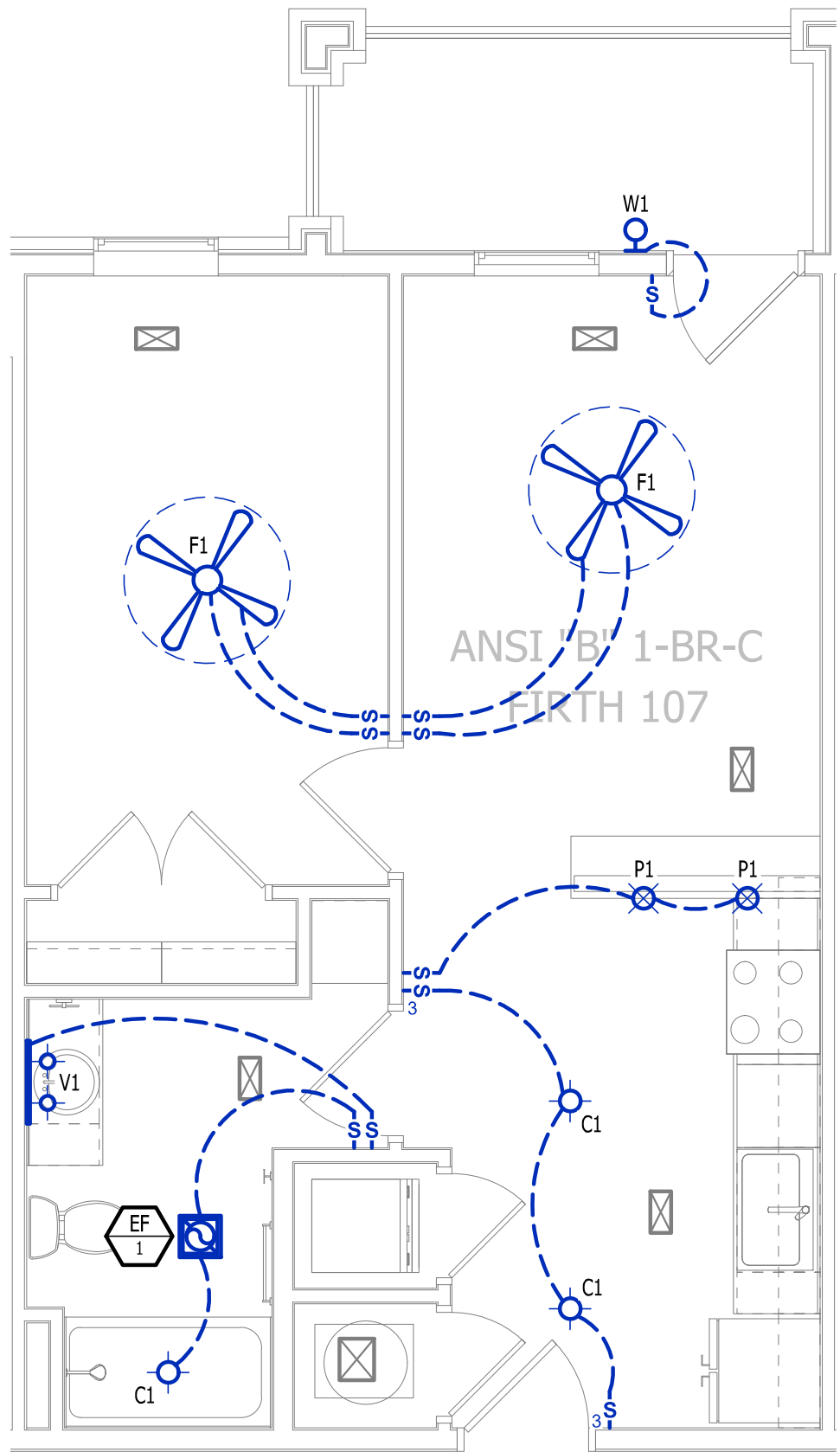
SCALE: 1/4" = 1'-0"

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"



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

SHEET TITLE

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

SHEET NUMBER

UMEP2.1.1

HVAC PLAN SYMBOL LEGEND

- X

#

←

EQUIPMENT TYPE (REFER TO EQUIPMENT SCHEDULE)
- X

#

←

EQUIPMENT REFERENCE NUMBER
- X

#

←

DIFFUSER/GRILLE TYPE (REFER TO SCHEDULE)
- X

#

←

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

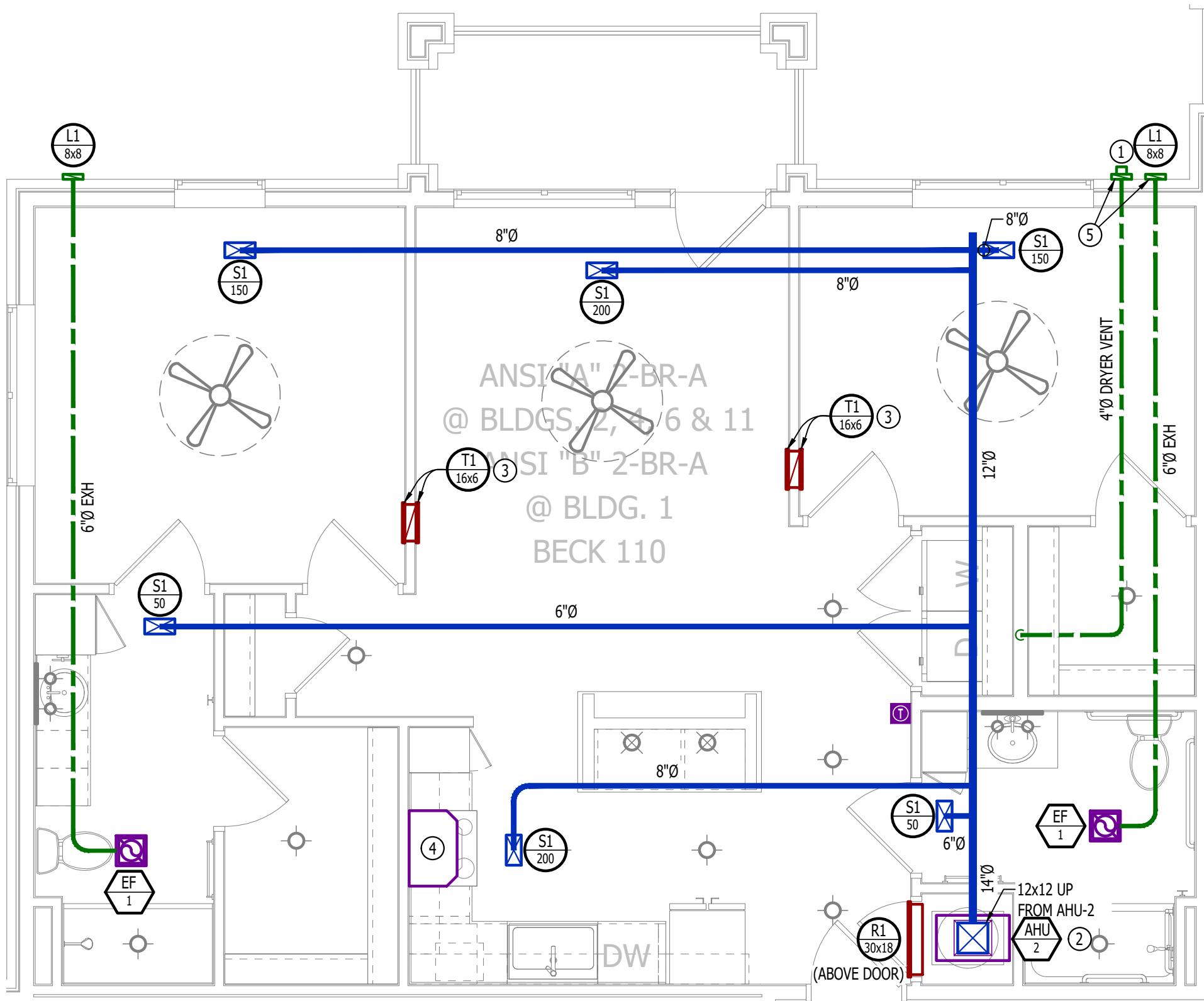
- COLD WATER LINE
- HOT WATER LINE
- VALVE
- PIPING TURNED DOWN / TURNED UP

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 ¾" UNLESS NOTED OTHERWISE.

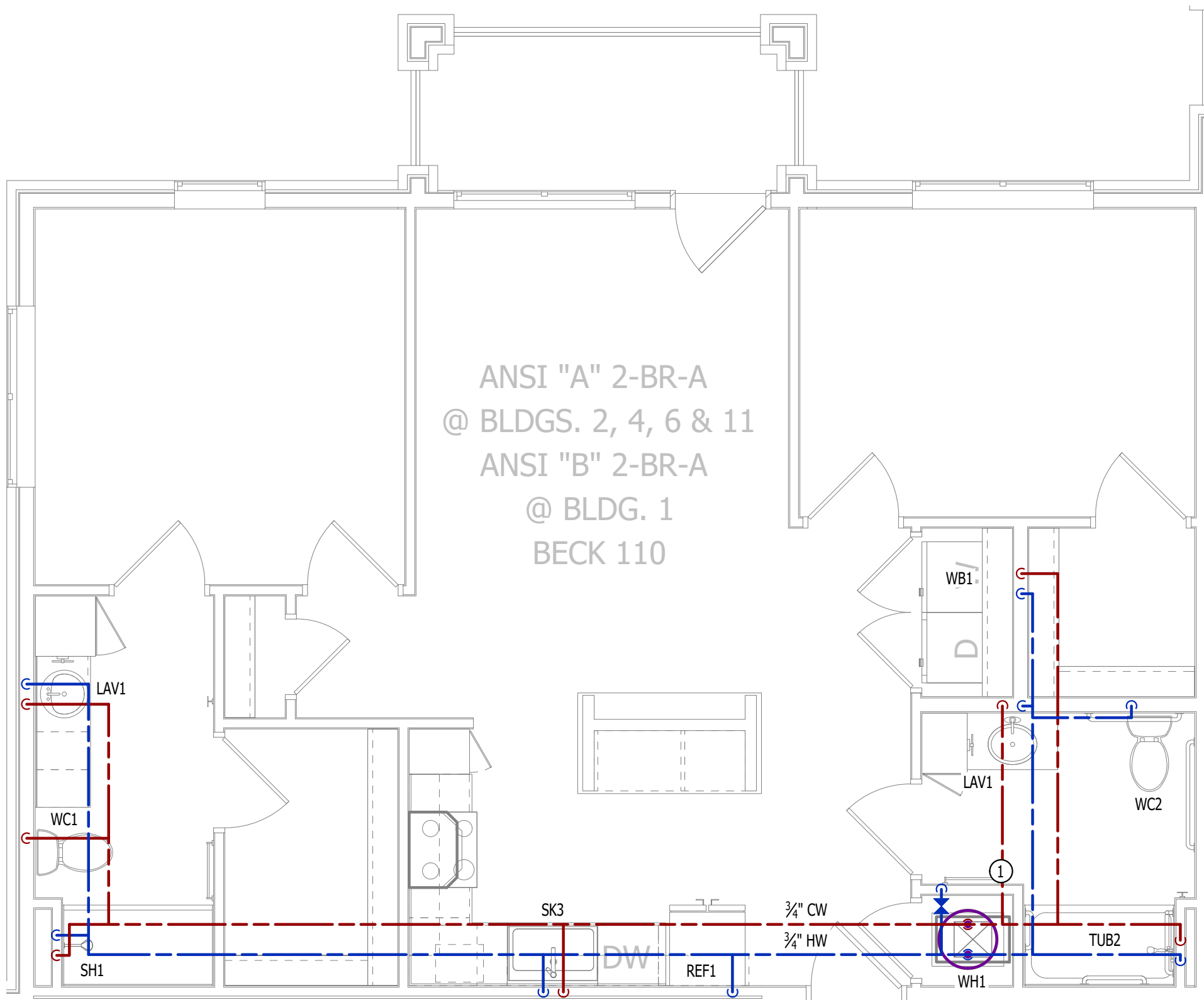
WATER PLAN KEY NOTES:

- 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"



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ENGINEERING

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| J2 DESIGN:     | ACW            |
| ISSUE TITLE    | DATE           |
| PERMIT SET     | 04 - 15 - 2025 |
| ADDENDUM 1     | 05 - 16 - 2025 |
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|                |                |

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

The Village at Discovery Park Alura Apartments

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

POWER PLAN SYMBOL LEGEND

- PK-XX

J

JUNCTION BOX

XX +42

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)

D

DISCONNECT

SD

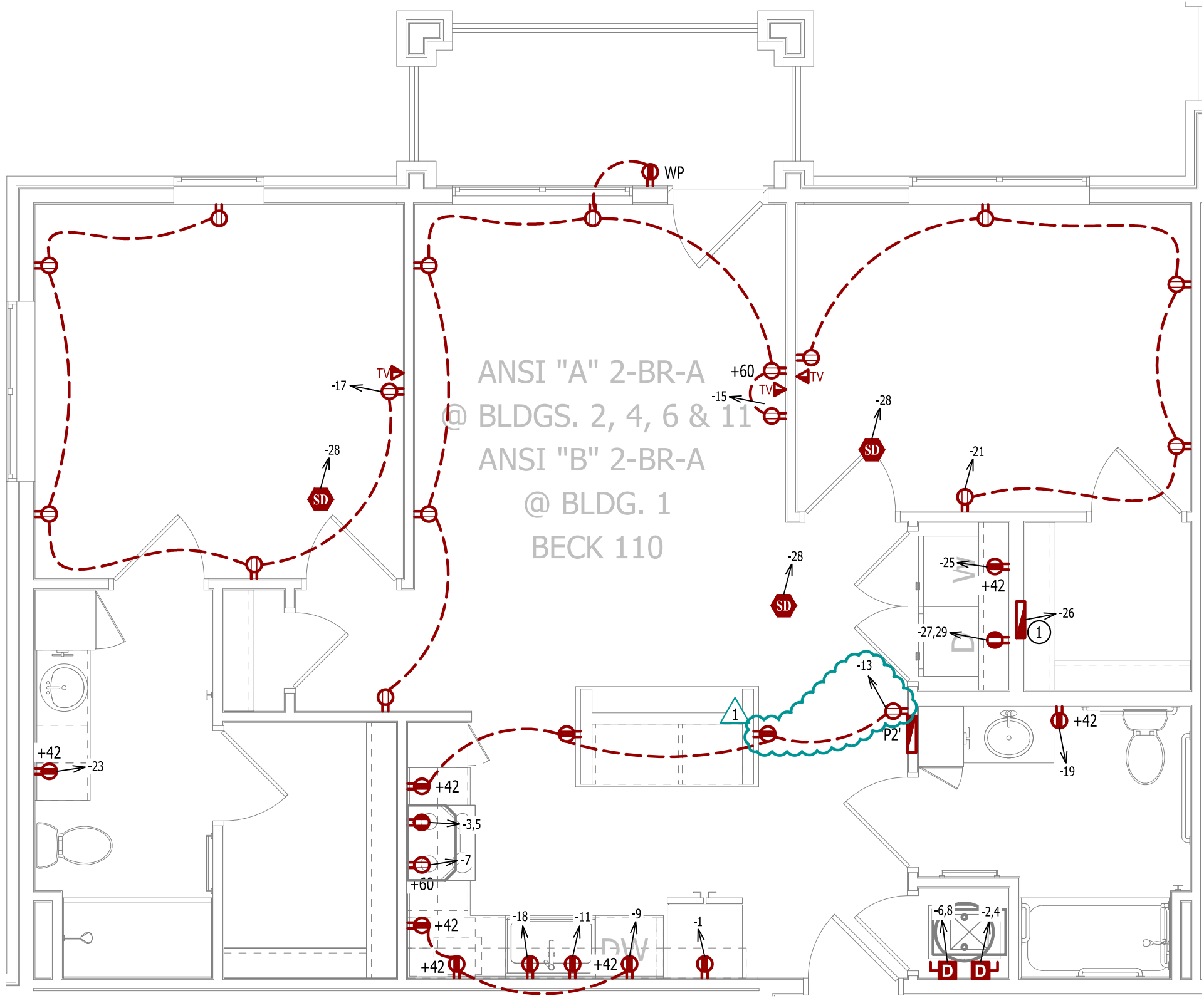
120V IONIZATION SMOKE 520Hz LOW FREQUENCY ALARM WITH  
SILENCING CAPABILITIES & LOW-VOLTAGE CONTACTS WIRED TO SHUT  
DOWN AHU UPON FIRE DETECTION. COORDINATE WITH HVAC  
CONTRACTOR. SMOKE DETECTOR MUST BE LOCATED AT LEAST 3' FROM  
CEILING FAN BLADES AND AT LEAST 10' FROM ANY COOKING APPLIANCE  
(FIELD-COORDINATE)

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:

- 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

- X1

LIGHTING FIXTURE

"X1" INDICATES FIXTURE TYPE  
(REFER TO SCHEDULE)

S3

TOGGLE SWITCH

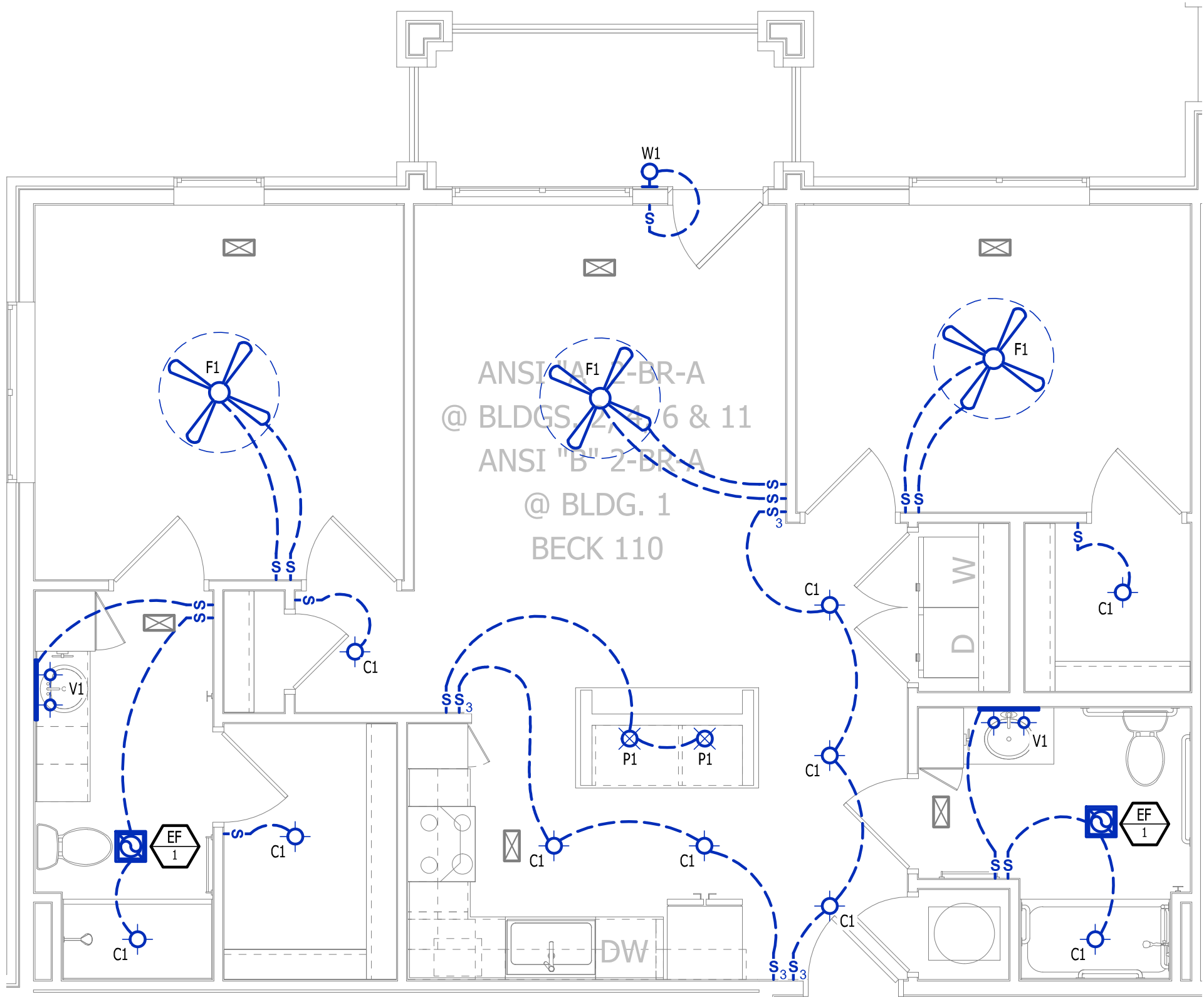
SWITCH TYPE

D

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"



|                |                |
|----------------|----------------|
| J2 PROJECT No: | J21357         |
| J2 DESIGN:     | ACW            |
| ISSUE TITLE    | DATE           |
| PERMIT SET     | 04 - 15 - 2025 |
|                |                |
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MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

The Village at Discovery Park Alura Apartments

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

### HVAC PLAN SYMBOL LEGEND

- X

#

← EQUIPMENT TYPE (REFER TO EQUIPMENT SCHEDULE)
- X

#
- ← EQUIPMENT REFERENCE NUMBER

X

#

X

#

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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.
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- LOCATE ALL EXHAUST / DRYER VENT TERMINATIONS AT LEAST 36" FROM OPERABLE OPENINGS INTO APARTMENTS (WINDOWS, DOORS, ETC.).
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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

⋈

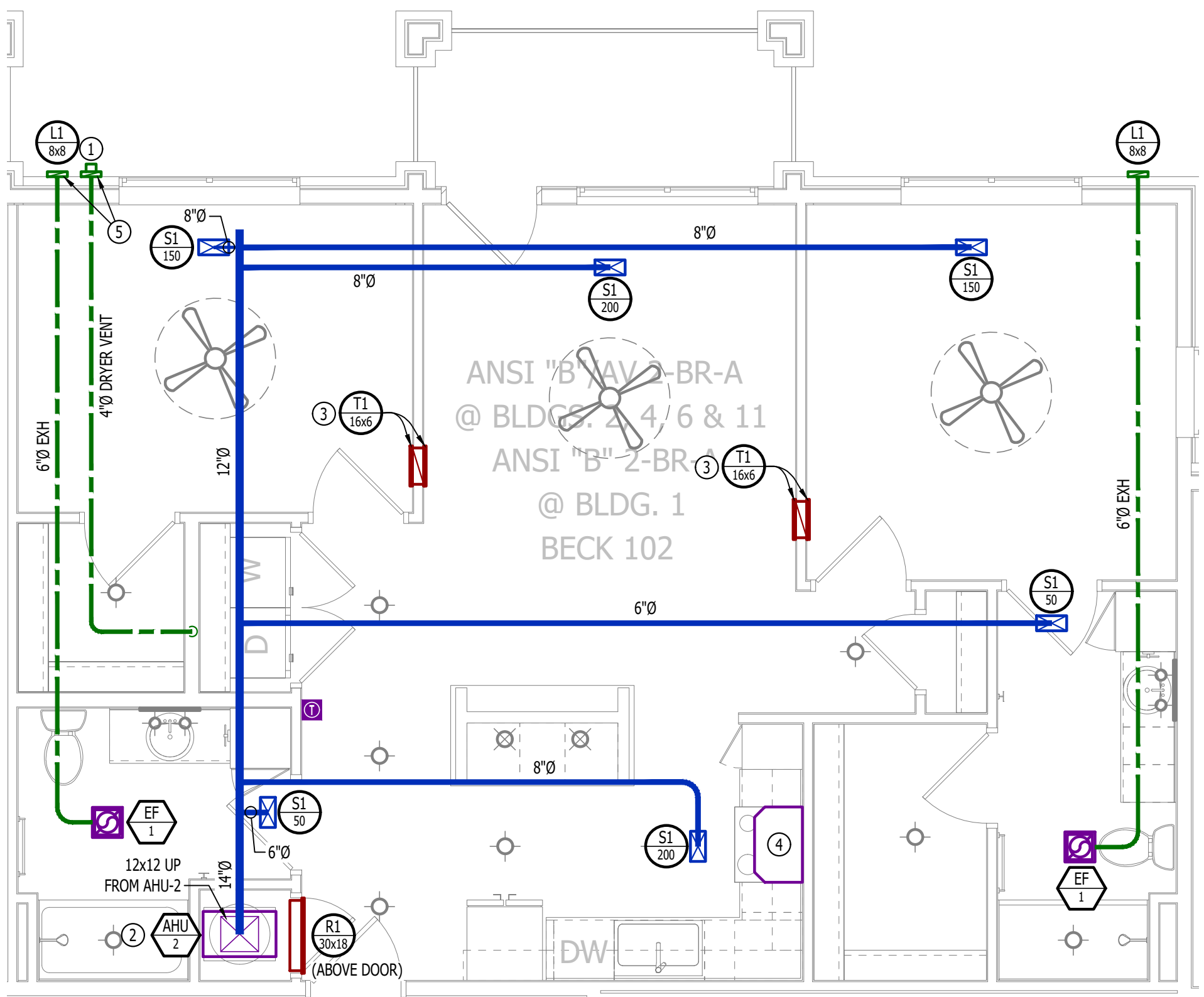
—○—

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 ¾" UNLESS NOTED OTHERWISE.

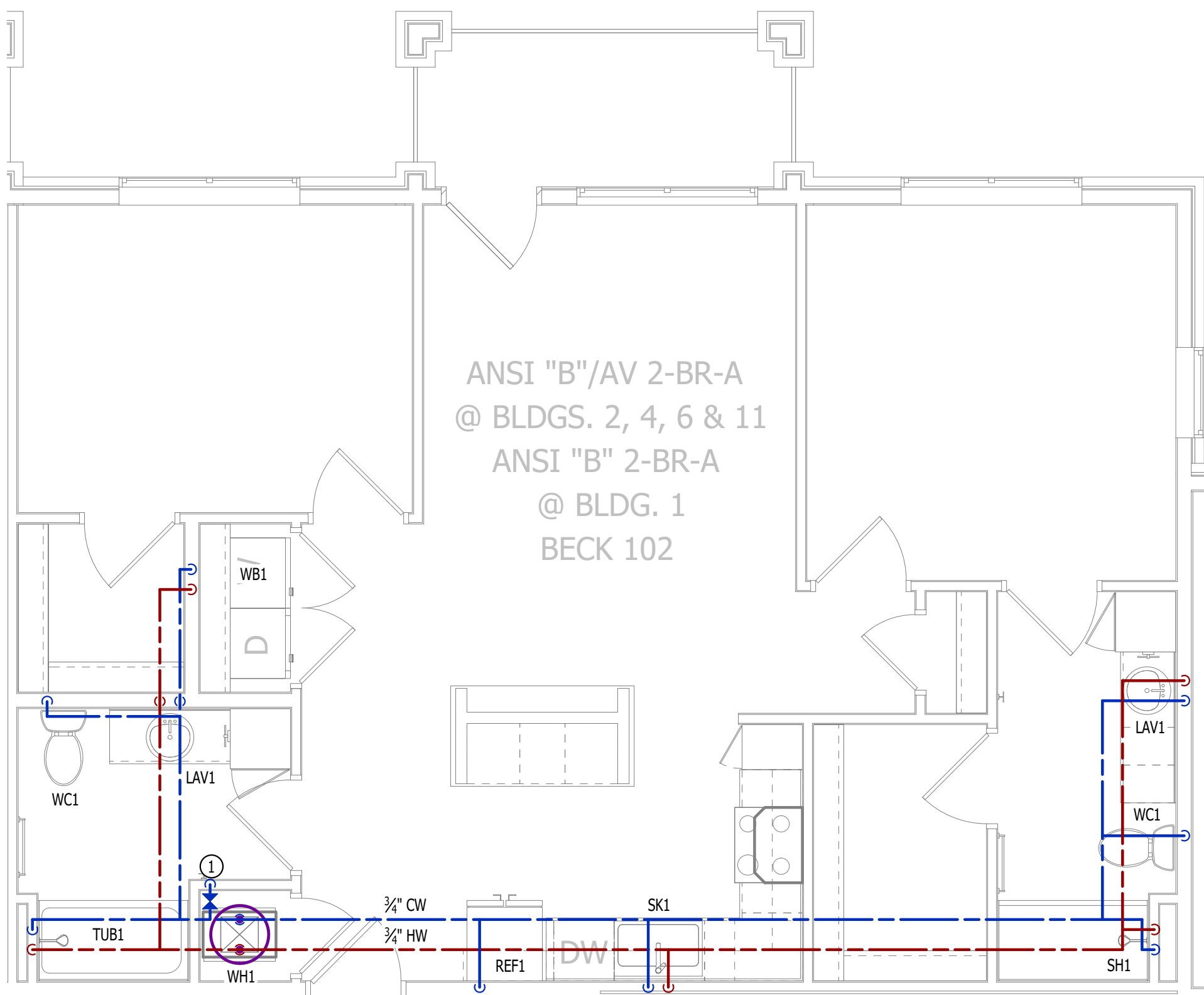
WATER PLAN KEY NOTES:

- 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"



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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

POWER PLAN SYMBOL LEGEND

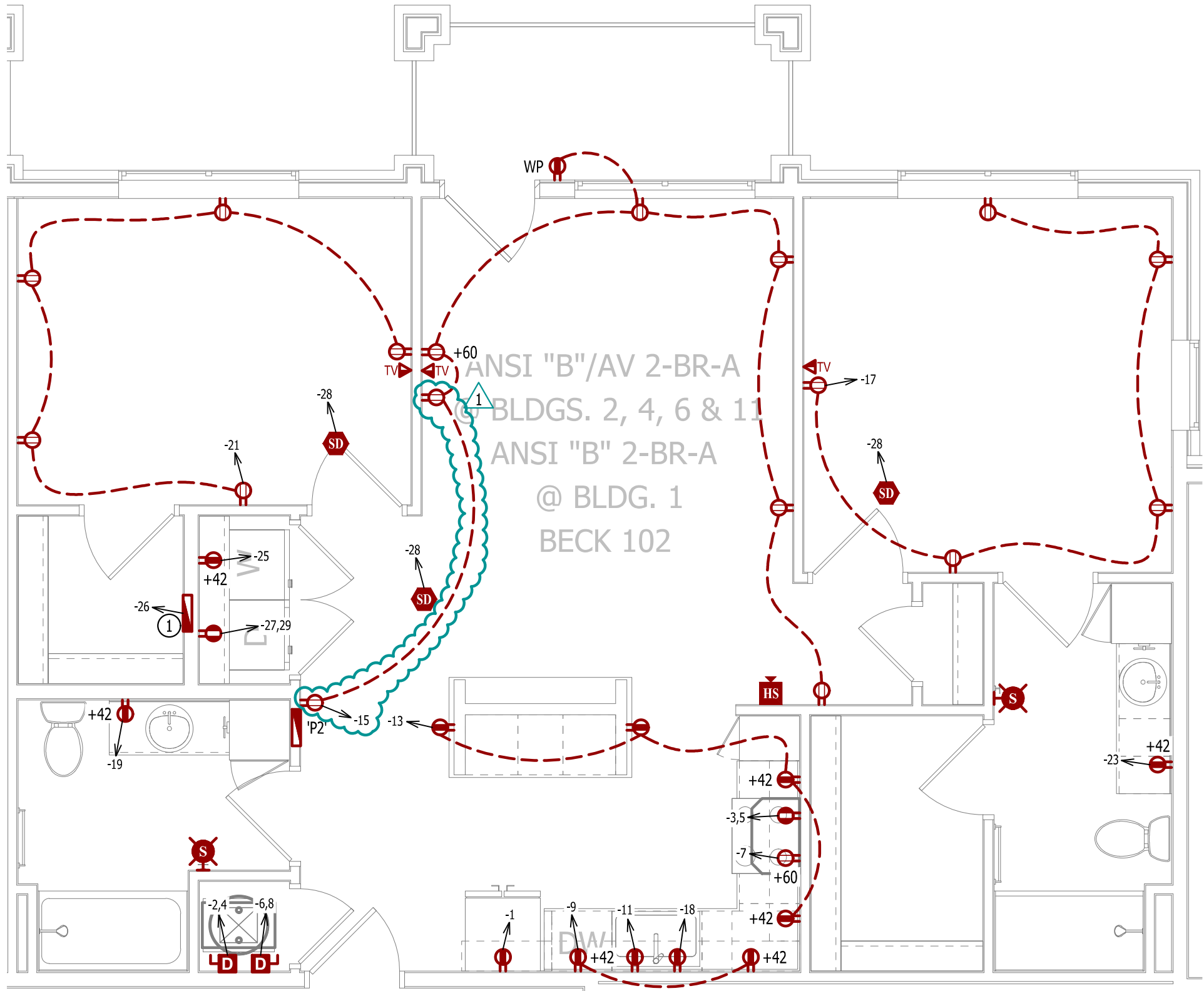
- CIRCUIT WIRING
- CIRCUIT TAG
- JUNCTION BOX
- RECEPTACLE
INDICATES MOUNTING HEIGHT TO BOTTOM OF BOX
(STANDARD @ 18" AFF UNLESS NOTED OTHERWISE)
"WP" = WEATHERPROOF OUTDOOR RECEPTACLE
- GFCI DUPLEX CONVENIENCE RECEPTACLE
- 208V RECEPTACLE
- QUADPLEX CONVENIENCE RECEPTACLE
- DATA / PHONE JACK; BOX WITH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

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- 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:

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



POWER PLAN

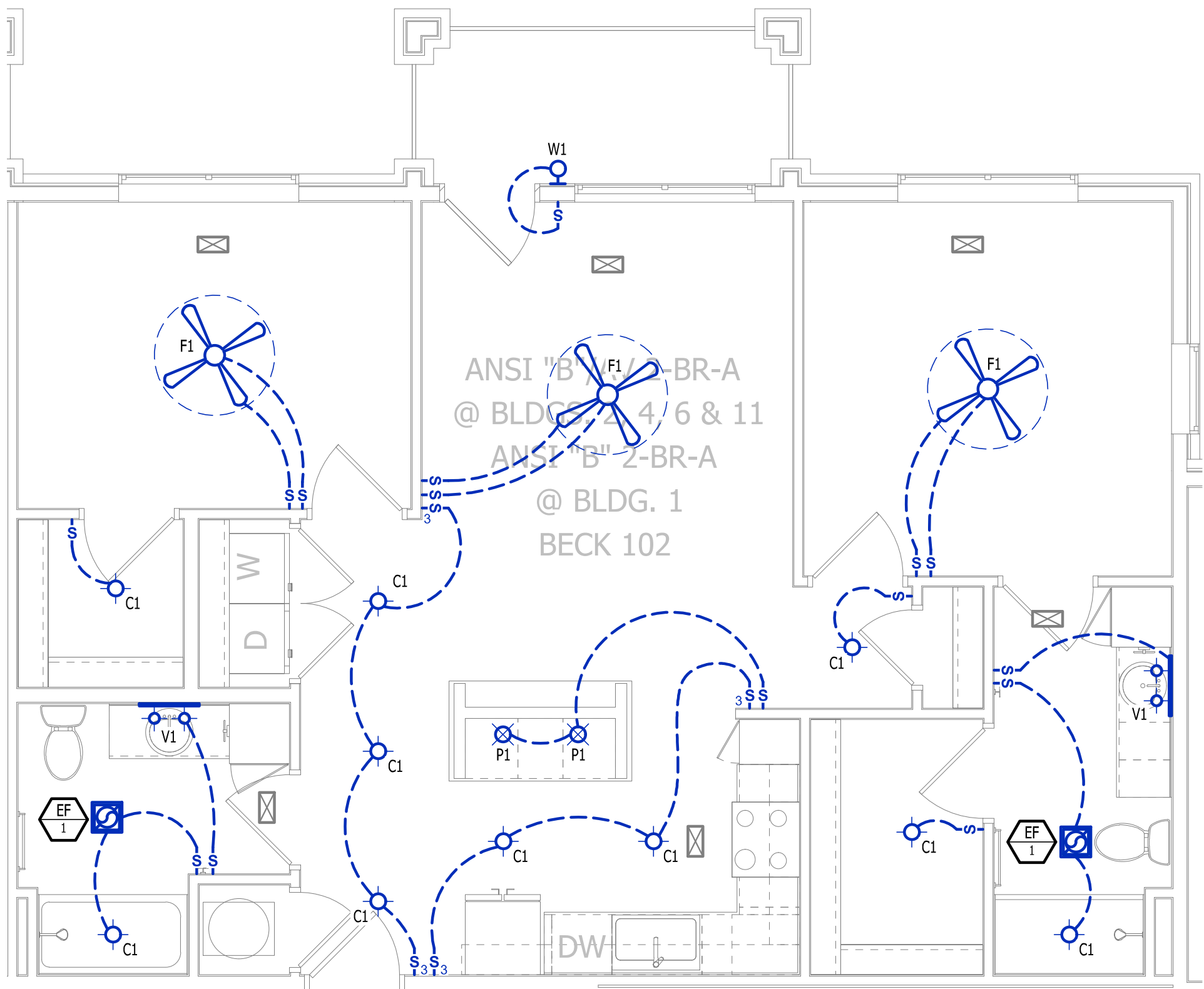
SCALE: 1/4" = 1'-0"

LIGHTING PLAN SYMBOL LEGEND

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

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

HVAC PLAN SYMBOL LEGEND

- X

#

←

EQUIPMENT TYPE (REFER TO EQUIPMENT SCHEDULE)
- X

#

←

EQUIPMENT REFERENCE NUMBER
- X

#

←

DIFFUSER/GRILLE TYPE (REFER TO SCHEDULE)
- X

#

←

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.
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HVAC PLAN KEY NOTES:

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- H/LOW TRANSFER GRILLE (12" A.F.F. ON BEDROOM SIDE OF WALL; 84" A.F.F. ON OPPOSITE SIDE OF WALL).
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- ON FOURTH FLOOR ONLY, BATHROOM EXHAUST / DYER VENT TO TERMINATE AT LOUVER / VENT MOUNTED IN SOFFIT.

PLUMBING PLAN SYMBOL LEGEND

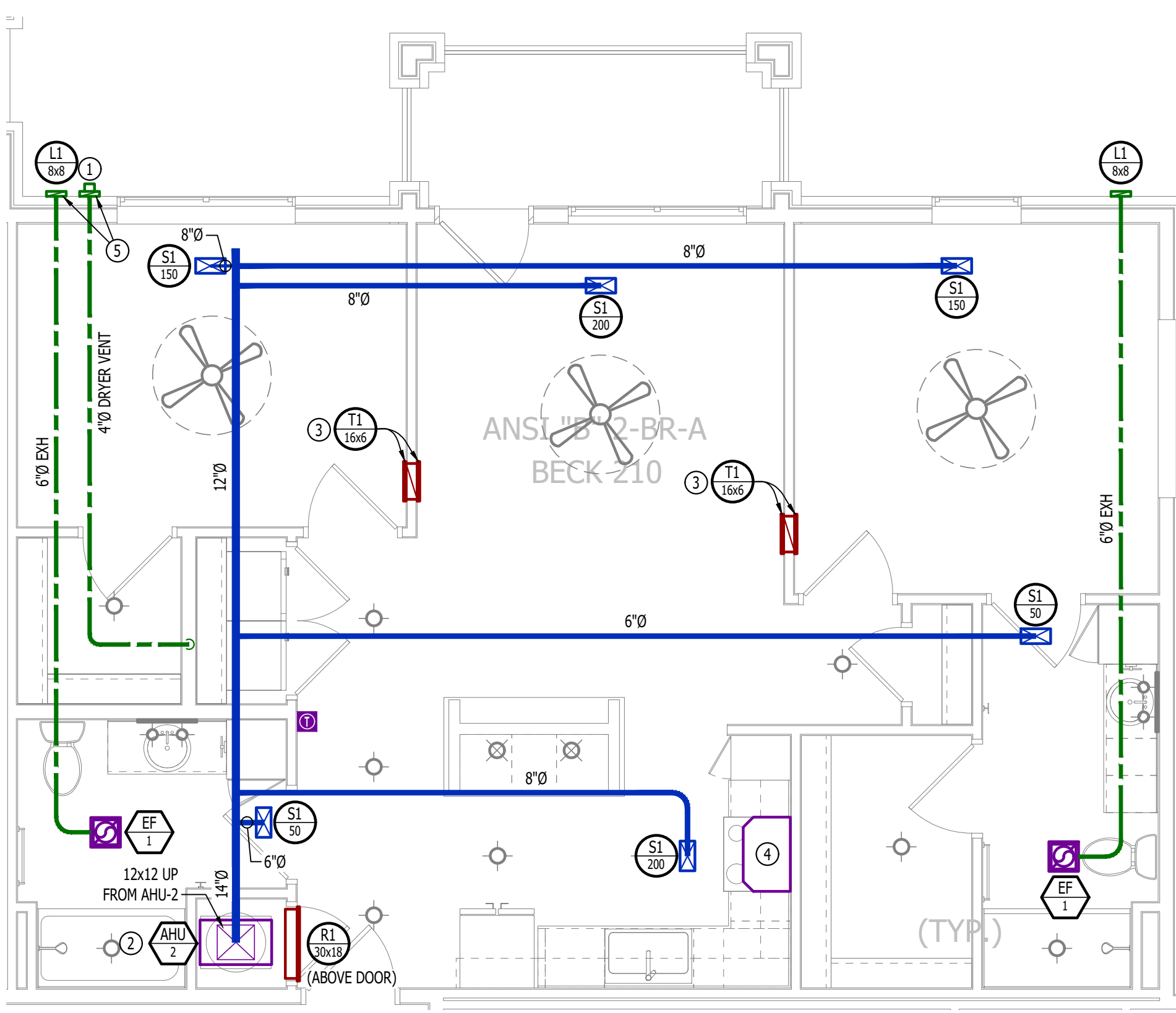
- COLD WATER LINE
- HOT WATER LINE
- VALVE
- PIPING TURNED DOWN / TURNED UP

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 ¾" UNLESS NOTED OTHERWISE.

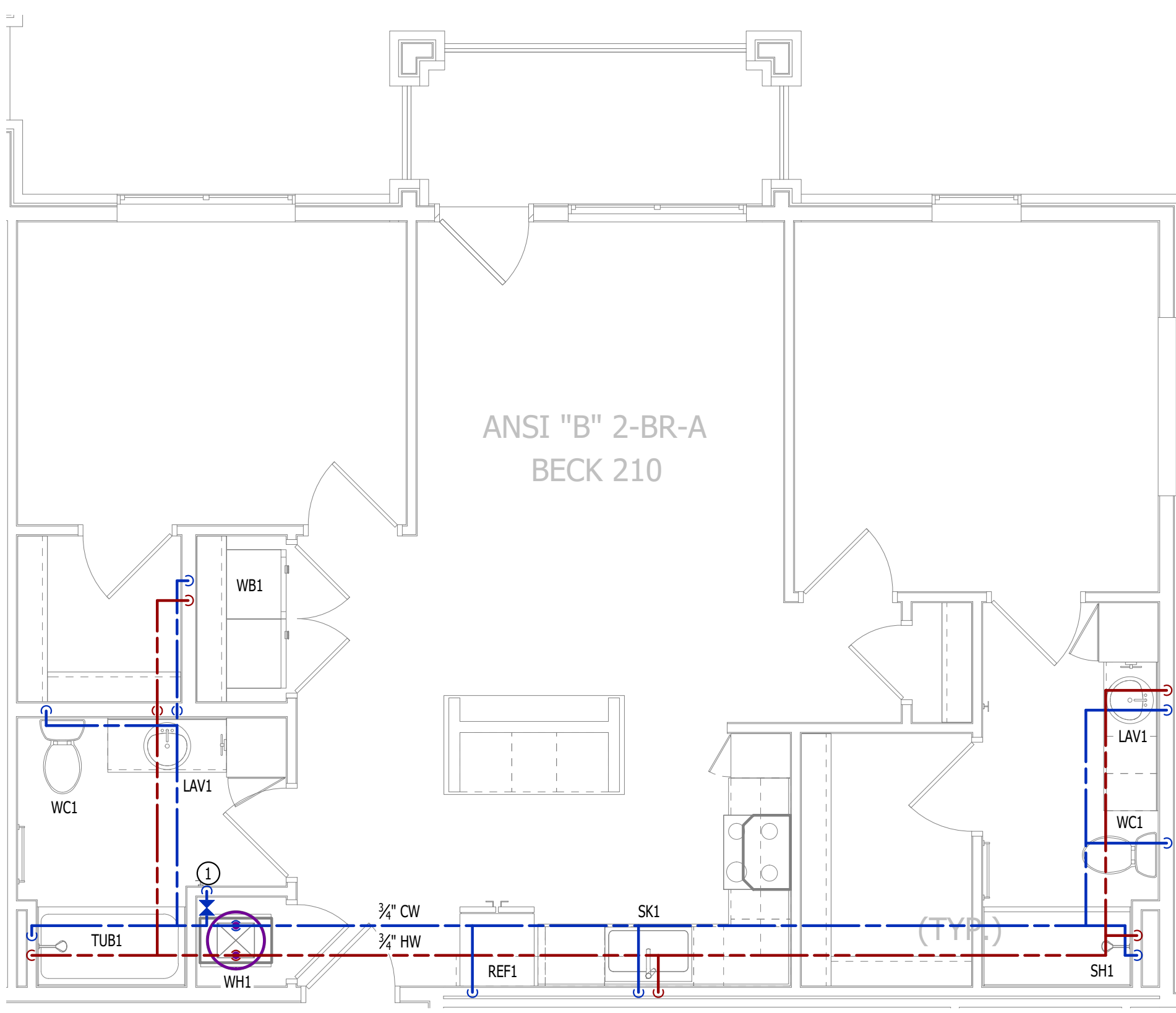
WATER PLAN KEY NOTES:

- 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"

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MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

The Village at Discovery Park Alura Apartments

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

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)
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- 120V IONIZATION SMOKE 520Hz LOW FREQUENCY ALARM WITH
SILENCING CAPABILITIES & LOW-VOLTAGE CONTACTS WIRED TO SHUT
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(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.

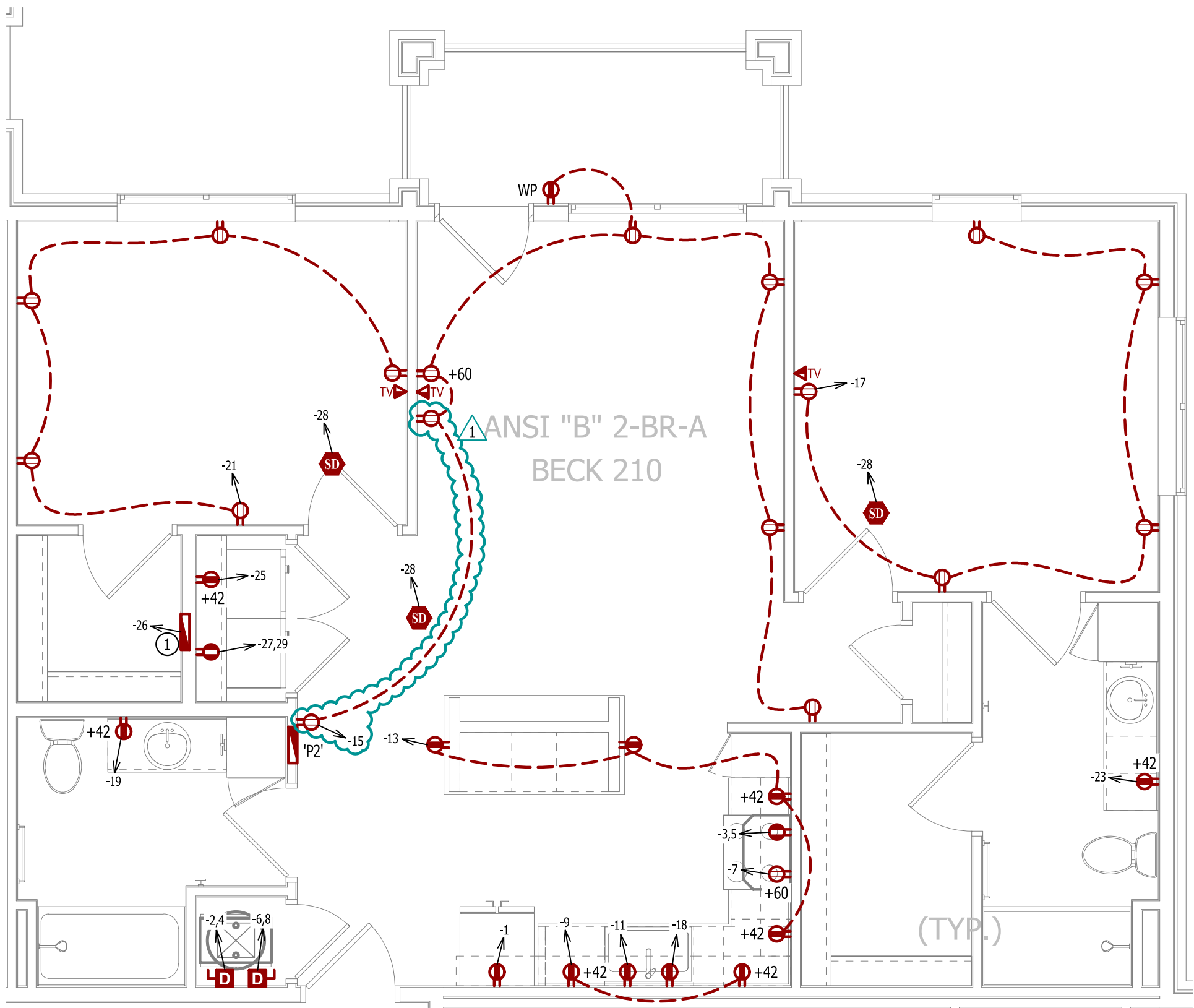
VERIFY EACH DATA/RECEPTACLE LOCATION WITH OWNER PRIOR TO INSTALLATION.
4.

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

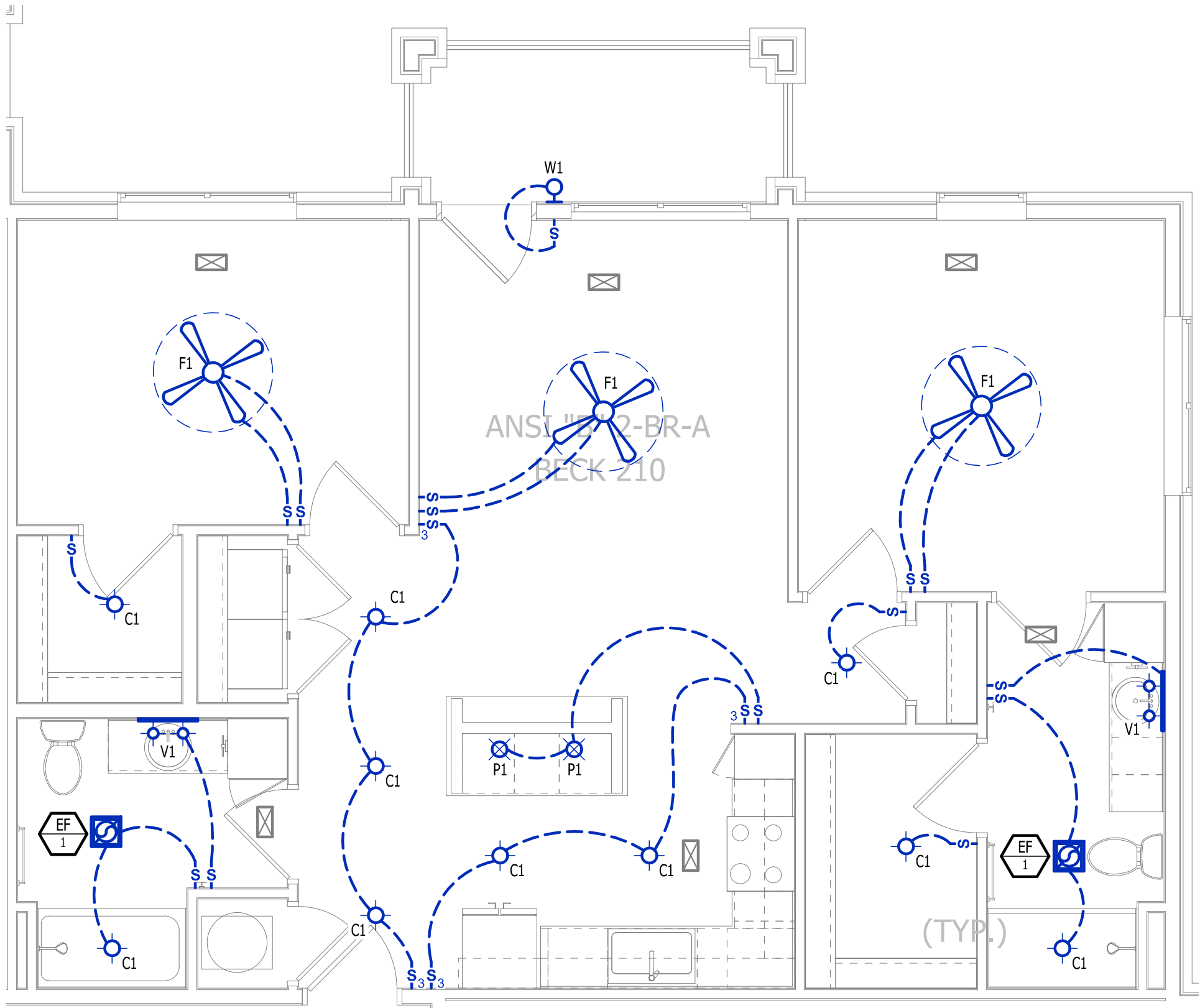
SWITCH TYPE
- DIMMER SWITCH

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"

HVAC PLAN SYMBOL LEGEND

- X
#

←

EQUIPMENT TYPE (REFER TO EQUIPMENT SCHEDULE)
- X
#

←

EQUIPMENT REFERENCE NUMBER
- X
#

←

DIFFUSER/GRILLE TYPE (REFER TO SCHEDULE)
- X
#

←

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:

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- 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
- ⋈

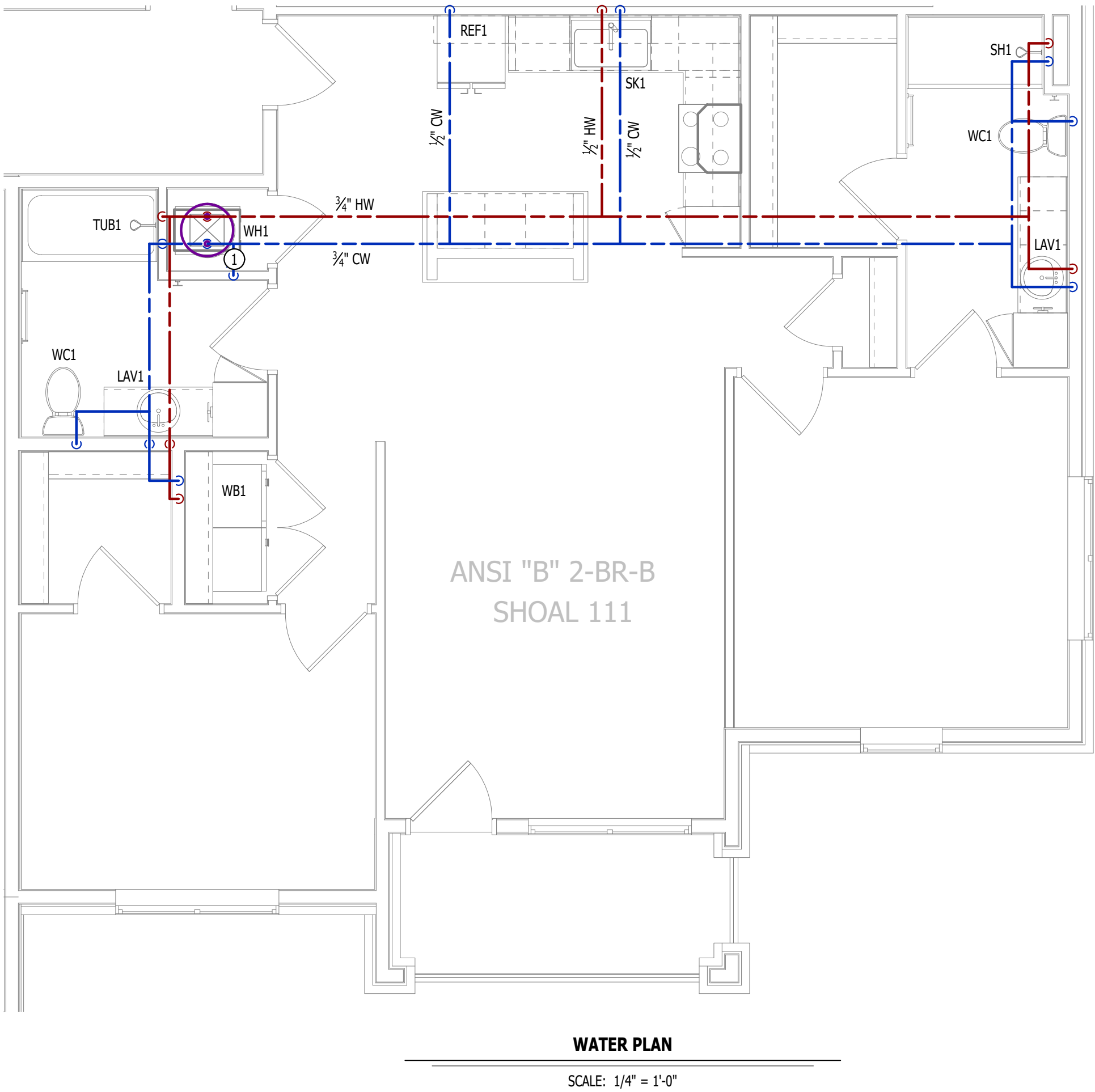
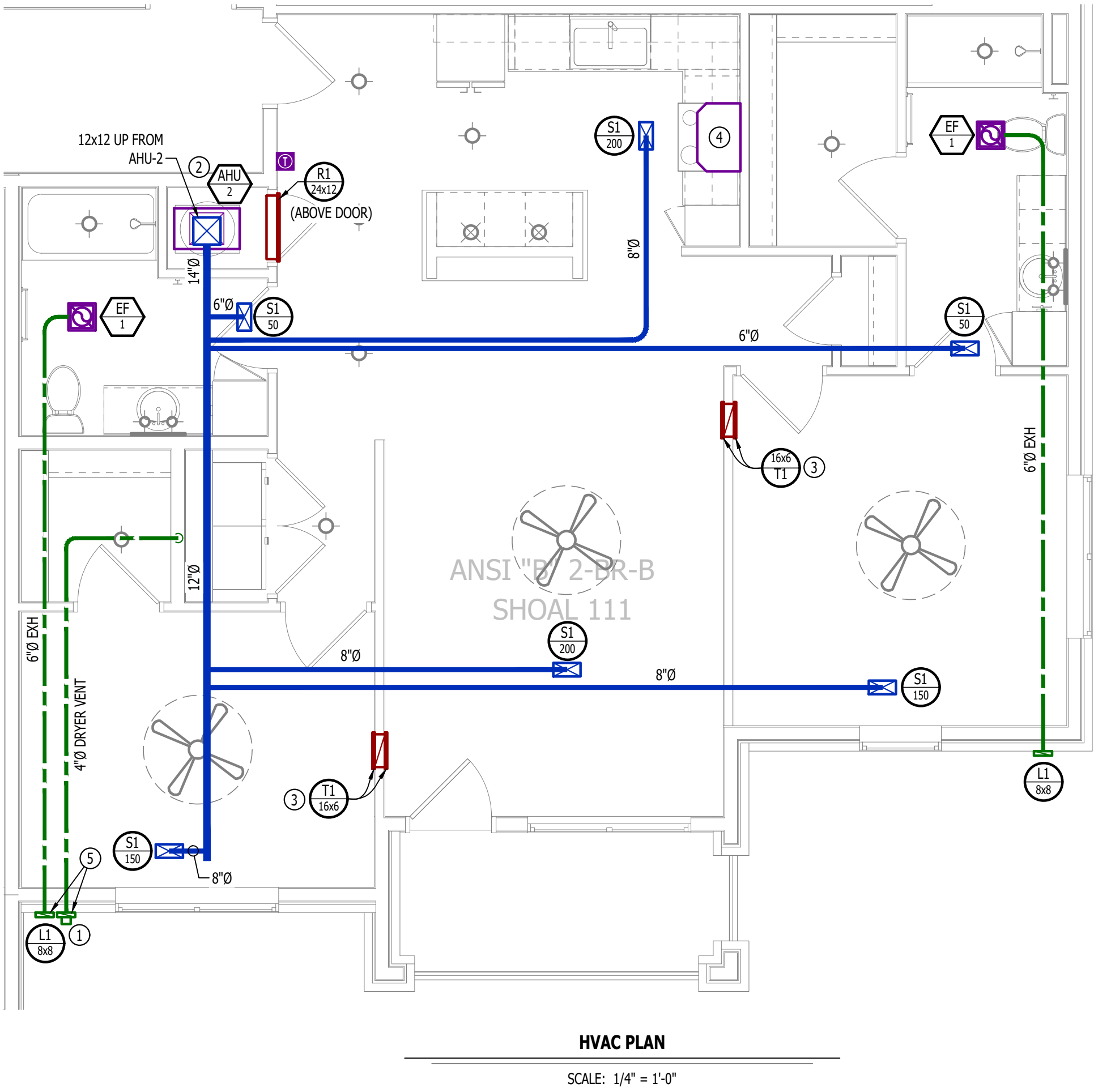
VALVE
- PIPING TURNED DOWN / TURNED UP

WATER PLAN GENERAL NOTES:

- SEE P500 &/OR P600 SERIES SHEETS FOR ADDITIONAL PLUMBING NOTES, DETAILS, & SCHEDULES.
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WATER PLAN KEY NOTES:

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



AHJ APPROVAL STAMP

SHEET TITLE

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

SHEET NUMBER

UMEP2.4.1



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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

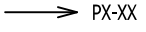
SHEET TITLE

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

SHEET NUMBER

UMEP2.4.2

POWER PLAN SYMBOL LEGEND

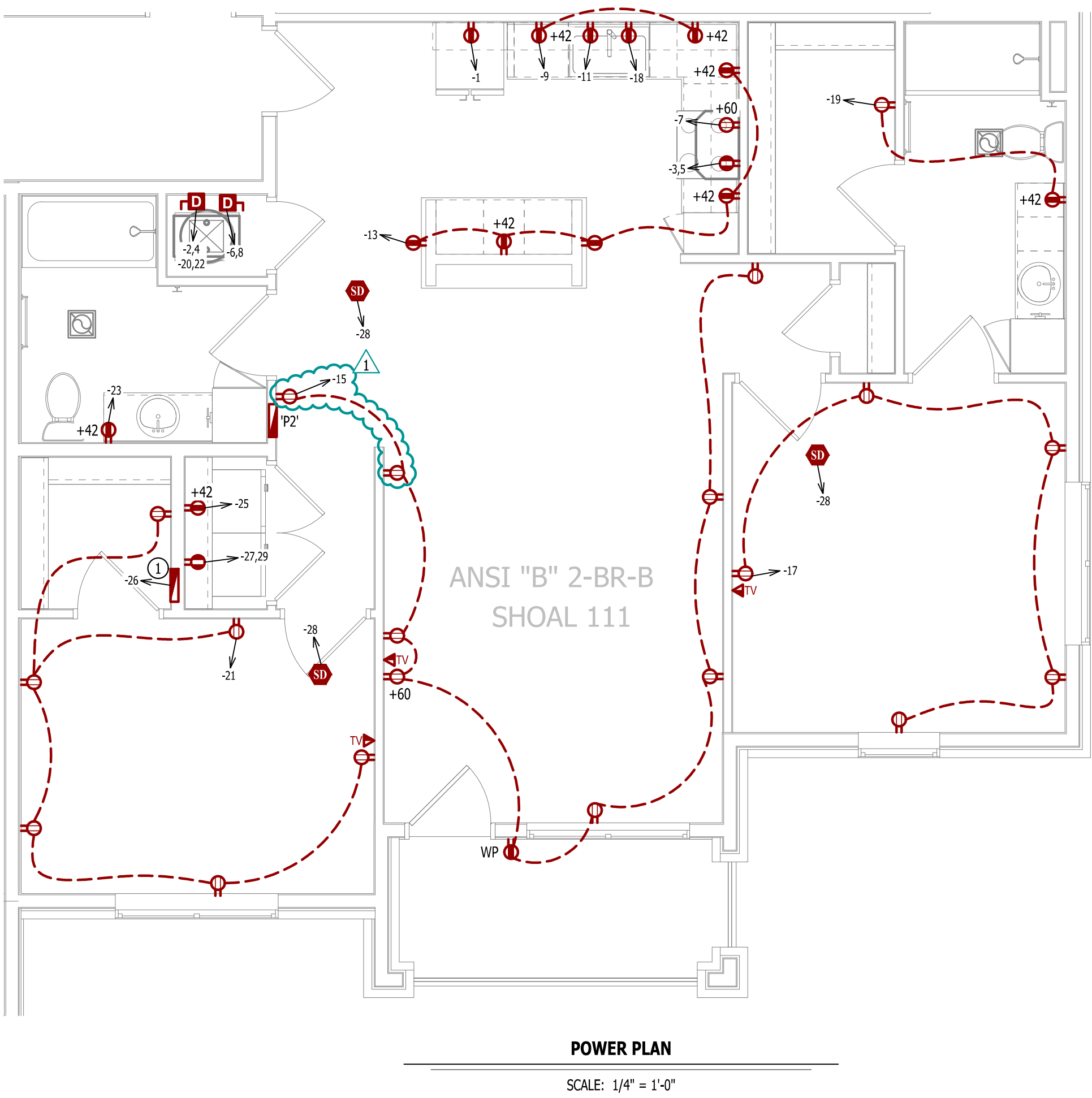
- CIRCUIT WIRING
- CIRCUIT TAG
- JUNCTION BOX
- RECEPTACLE
INDICATES MOUNTING HEIGHT TO BOTTOM OF BOX
(STANDARD @ 18" AFF UNLESS NOTED OTHERWISE)
"WP" = WEATHERPROOF OUTDOOR RECEPTACLE
- GFCI DUPLEX CONVENIENCE RECEPTACLE
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POWER PLAN KEY NOTES:

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



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.
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