

RALSTON APARTMENT RENOVATIONS

CONSTRUCTION DOCUMENTS - 08.23.2024

5617 S 77TH ST
RALSTON, NE 68127



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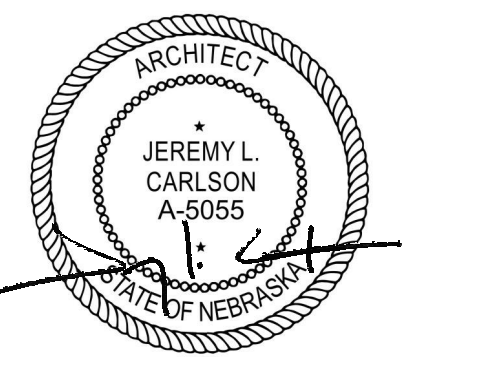
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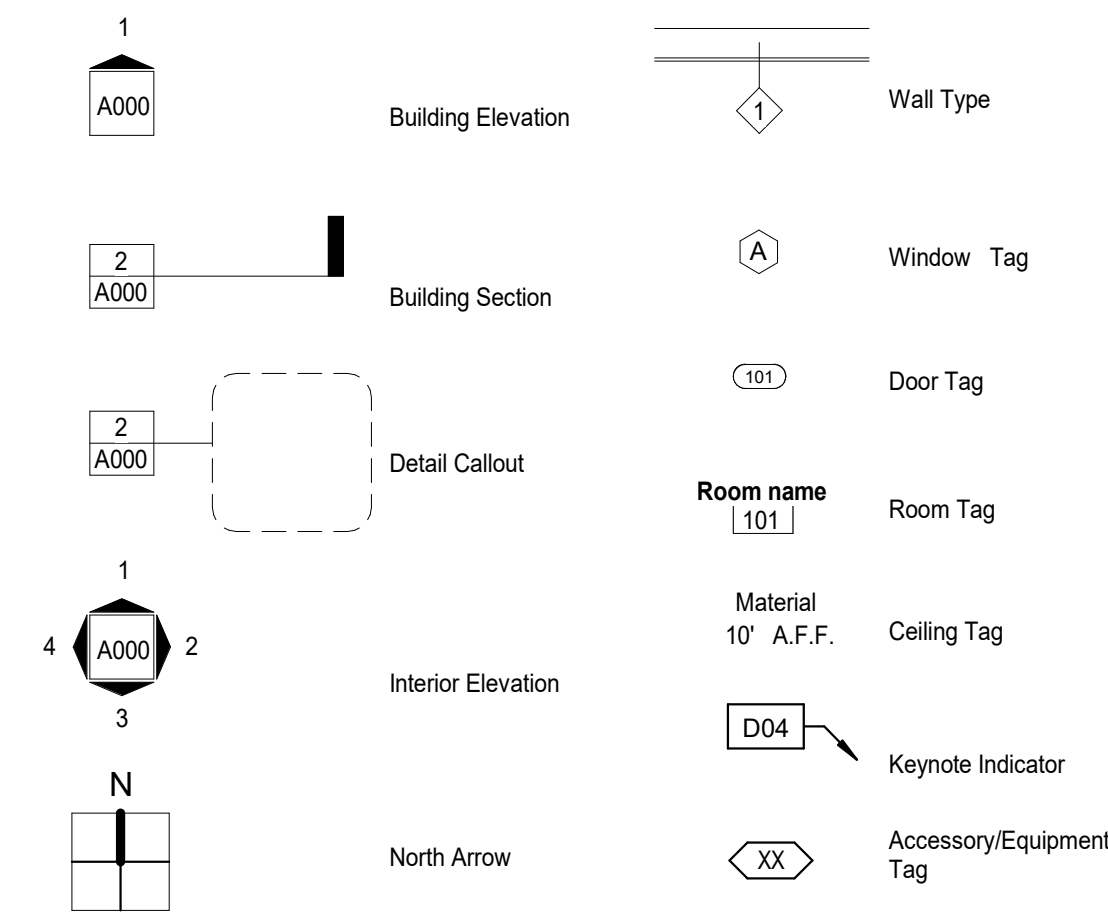
08.23.2024
I, JEREMY L. CARLSON, AM THE COORDINATING PROFESSIONAL FOR THE RALSTON APARTMENT RENOVATIONS PROJECT.
08.23.2024

RALSTON APARTMENT RENOVATIONS
5617 S 77TH ST
RALSTON, NE 68127

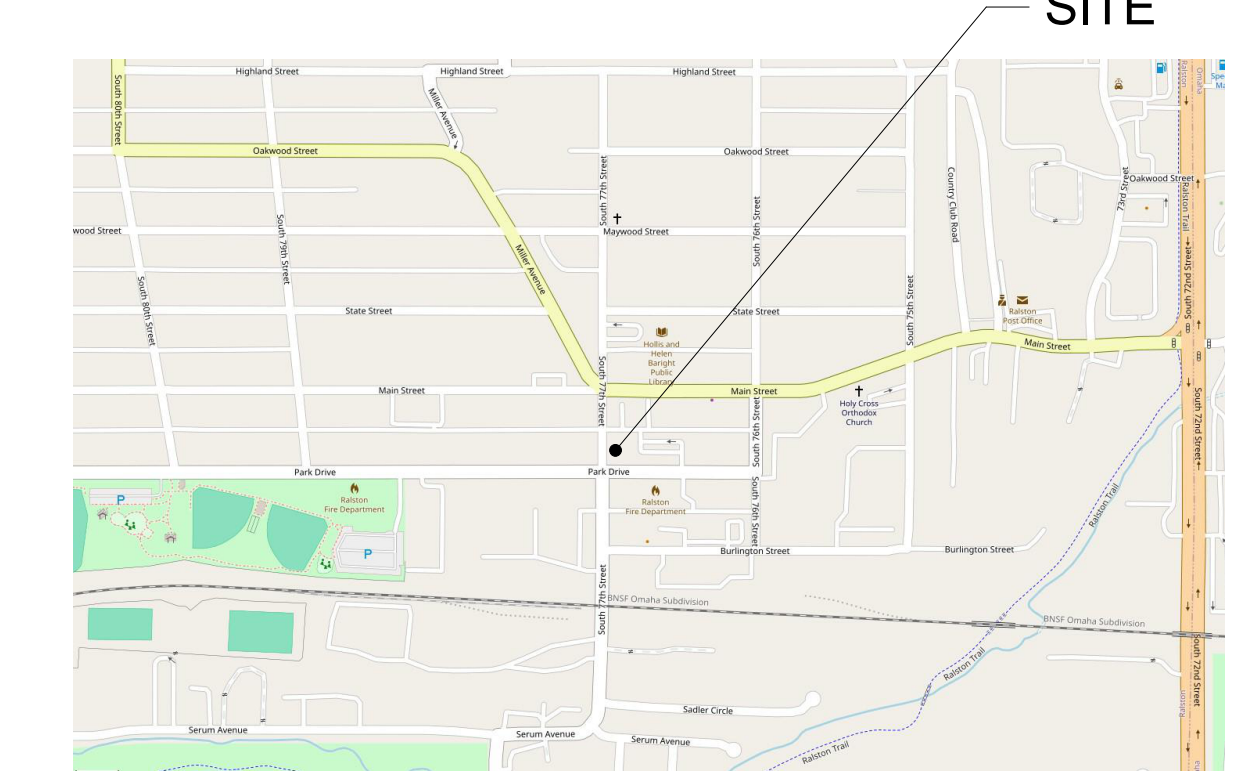
ABBREVIATIONS

A A.F.F. ABOVE FINISHED FLOOR AHU. AIR HANDLING UNIT ALT. ALTERNATE ALUM. ALUMINUM AMP. AMPERE APPROX. APPROXIMATE APT. APARTMENT ARCH. ARCHITECT	D D.S. DOUBLE DBL. DOUBLE DEPT. DEPARTMENT DF. DRINKING FOUNTAIN DIA. D. DIAMETER DIAG. DIAGONAL DIM. DIMENSION DISP. DISPENSER DIST. DISTANCE DN. DOWN DTL. DETAIL DW. DISHWASHER	G GA. GALV. G.C. GENERAL CONTRACTOR G.C.O. GENERAL CLEAN OUT G.D. GARBAGE DISPOSAL GFI. GROUND FAULT INTERRUPTER GLU-LAM. GLUE LAMINATED WOOD GND. GROUND GPM. GALLONS PER MINUTE GWB. GYPSUM WALL BOARD G.E.J. GUTTER EXPANSION JOINT	K K.O. KNOCK OUT KIP. 1000 POUNDS KIT. KITCHEN	P P.C. PRECAST PART. PARTITION PERP. PERPENDICULAR PLAM. PLASTIC LAMINATE PLAS. PLASTIC PLY. PLYWOOD PR. PAIR PREFAB. PREFABRICATED PSF. POUNDS PER SQUARE FOOT PSI. POUNDS PER SQUARE INCH PNT. PAINT PT. PORCELAIN TILE PTD. PAPER TOWEL DISPENSER	S S. SAN. SC. SCHEDULE SD. SCHEDULE SEC. SECOND SECT. SECTION SHT. SHEET SHTG. SHEETING SPEC. SPECIFICATION SQ. SQUARE SS. STAINLESS STEEL SSM. SOUND TRANSMISSION LEVEL STL. STEEL STRUCT. STRUCTURAL SURF. SURFACE SUSP. SUSPENDED SVF. SHEET VINYL FLOORING SWC. SOLID WOOD CORE	V VAR. VARIES VB. VINYLBASE VCT. VINYL COMPOSITION TILE VERT. VERTICAL VEST. VESTIBULE	W W. WITH WO. WITH OUT WC. WATER CLOSET WD. WOOD WH. WATER HEATER WT. WEIGHT W.W.F. WELDED WIRE FABRIC WB. WALL BASE	Q QT. QUARRY TILE	R R. RADIUS R.C.P. REFLECTED CEILING PLAN R.O. ROUGH OPENING R.O.W. REINFORCING BAR REBAR. REINFORCING BAR RECEPT. RECEPTION REFL. REFLECTED REG. REGISTERED REINF. REINFORCED REIN. REQUIRED REV. REVISION REF. REFRIGERATOR RH. RIGHT HAND ROOM. ROOM	N N. NORTH N.I.C. NOT IN CONTRACT N.T.S. NOT TO SCALE NO.#. NUMBER	O O.C. ON CENTER OFCI. OWNER FURNISHED, OWNER INSTALLED OFCI. OWNER FURNISHED, CONTRACTOR INSTALLED OFF. OFFICE OPNG. OPENING OSB. ORIENTED STRAND BOARD OZ. OUNCE
B B.F.F. BELOW FINISH FLOOR B.O. BOTTOM OF BLDG. BUILDING BM. BEAM BOT. BOTTOM BRG. BEARING BSMT. BASEMENT BTUH. BRITISH THERMAL UNIT PER HOUR	E EA. EACH E.I.F.S. EXTERIOR INSULATION FINISH SYSTEM E.J. EXPANSION JOINT ELEC. ELECTRICAL ELEV. ELEVATION EMERG. EMERGENCY EPDM. ETHYLENE PROPYLENE DIENE MONOMER EPS. EXTRUDED POLYSTYRENE EQ. EQUAL EQUIP. EQUIPMENT EXT. EXTERIOR	H HDWR. HARDWARE HM. HOLLOW METAL HORIZ. HORIZONTAL HR. HOUR HT. HEIGHT HVAC. HEATING, VENTILATING, & AIR CONDITIONING HW. HOT WATER HDF. HIGH DENSITY FIBER BOARD	L LAB. LABORATORY LAM. LAMINATED LBS. POUNDS LH. LEFT HAND	M MACH. MACHINE MAINT. MAINTENANCE MATL. MATERIAL MAX. MAXIMUM MECH. MECHANICAL MEZZ. MEZZANINE MFR. MANUFACTURER MIN. MINIMUM MIR. MIRROR MISC. MISCELLANEOUS MTL. METAL	I I. T&G TOP & BOTTOM TONGUE & GROOVE TEL. TELEPHONE TEMP. TEMPORARY TERRAZO. TERRAZZO T.F.E. TOP OF FOOTING ELEVATION T.O.F. TOP OF FOOTING TPO. TOILET PAPER DISPENSER TV. TELEVISION TYP. TYPICAL	UL UL. UNDERWRITERS LABORATORY UNFIN. UNFINISHED UTIL. UTILITY					
C C.O. CLEAN OUT CAP. CAPACITY CFCI. CONTRACTOR FURNISHED, CONTRACTOR INSTALLED CFI. CONTRACTOR FURNISHED, OWNER INSTALLED CELING. CEILING CL. CLOSURE CLO. CLOSET CLR. CLEAR CMU. CONCRETE MASONRY UNIT COL. COLUMN CONC. CONCRETE CONST. CONSTRUCTION CONT. CONTINUOUS CORR. CORRIDOR CPT. CARPET CT. CERAMIC TILE CW. COLD WATER	F F.C.O. FLOOR CLEAN OUT FD. FLOOR DRAIN FE. FIRE EXTINGUISHER FEC. FIRE EXTINGUISHER CABINET F.F.E. FINISH FLOOR ELEVATION FIN. FINISH FLR. FLOOR CORR. CORRIDOR FT. FOOT, FEET FTG. FOOTING FURN. FURNACE, FURNITURE	J JAN. JANITOR JST. JOINT	L LAB. LABORATORY LAM. LAMINATED LBS. POUNDS LH. LEFT HAND	M MACH. MACHINE MAINT. MAINTENANCE MATL. MATERIAL MAX. MAXIMUM MECH. MECHANICAL MEZZ. MEZZANINE MFR. MANUFACTURER MIN. MINIMUM MIR. MIRROR MISC. MISCELLANEOUS MTL. METAL	UL UL. UNDERWRITERS LABORATORY UNFIN. UNFINISHED UTIL. UTILITY						

GRAPHIC SYMBOLS



VICINITY MAP



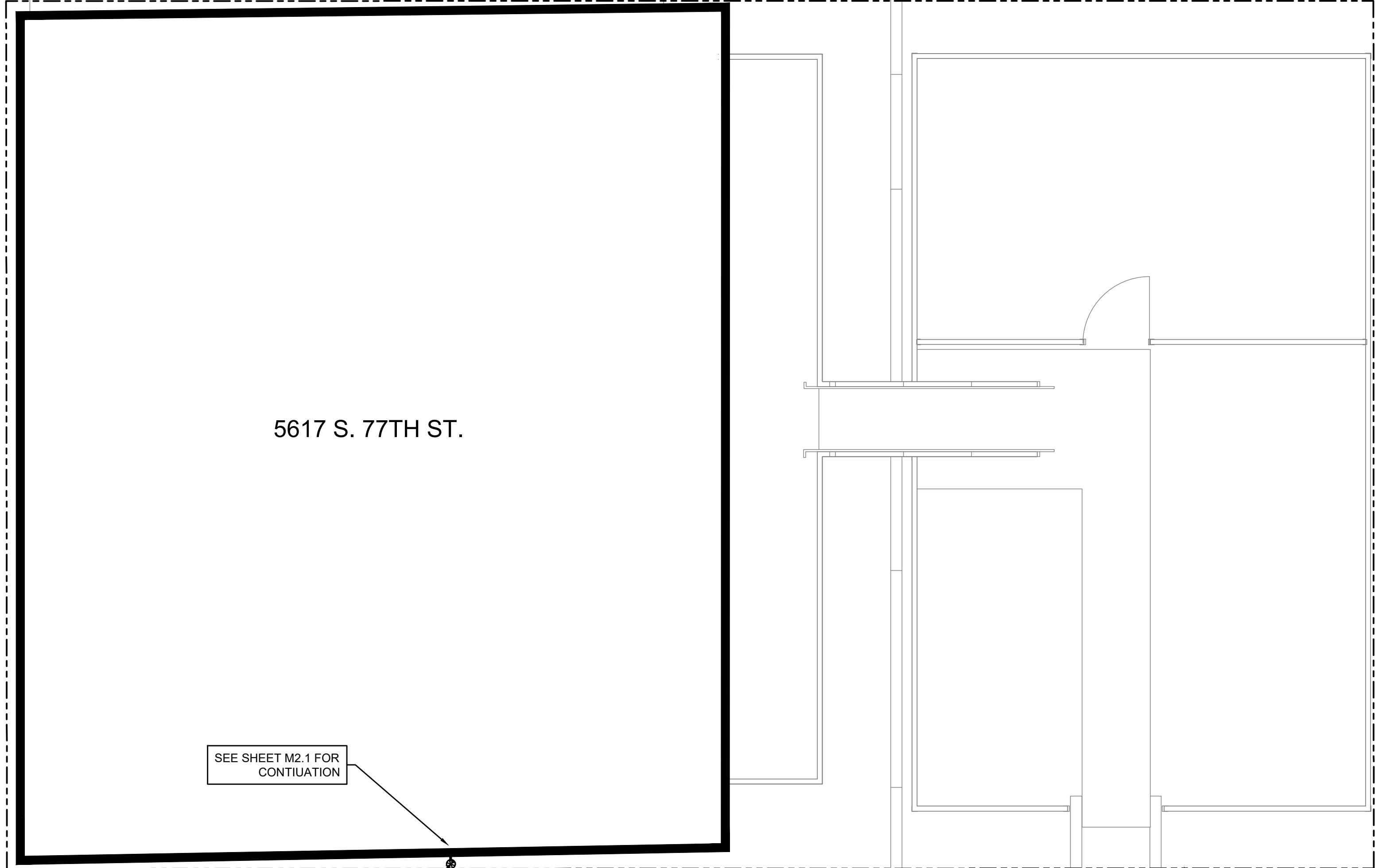
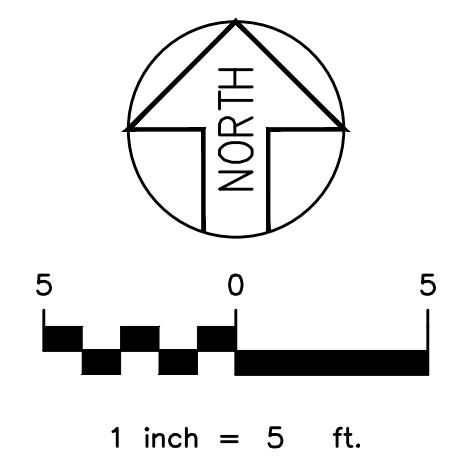
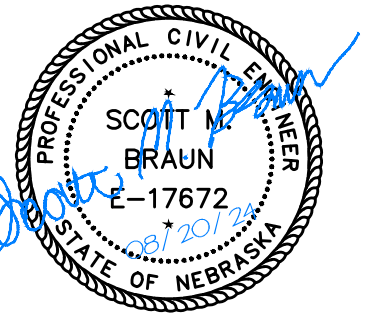
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Revisions |
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Issue Date | 08.23.2024

COVER SHEET

Sheet No. | **G000**



5617 S. 77TH ST.

SEE SHEET M2.1 FOR CONTINUATION

INSTALL POST INDICATOR VALVE PER M.U.D. STANDARDS

PROTECT WALL IN PLACE

CONSTRUCT 45° ELBOW

REMOVE AND REPLACE ±15 SY OF EXISTING PAVEMENT TO NEAREST JOINT PER CITY OF OMAHA STANDARD PLATE 1002-02. CONTACT CITY OF RALSTON PUBLIC WORKS BEFORE ANY LANE AND SIDEWALK CLOSURES.

APPROXIMATE PROPERTY LINE DONE BY OTHERS

120' LF. 6" FIRE WATER SUPPLY LINE

4" CAST IRON WATER LINE DRAWN PER UTILITY DRAWINGS PROVIDED.

6" TAPPING SLEEVE AND VALVE. WATER LINE DRAWN PER DRAWINGS PROVIDED BY M.U.D. CONTRACTOR TO FIELD VERIFY LOCATION PRIOR TO CONSTRUCTION. TAPPING OF THE WATER MAIN SHALL BE CONDUCTED BY A LICENSED PLUMBER WHO OBTAINED ALL NECESSARY PERMITS PRIOR TO COMMENCING WORK.

REMOVAL NOTES

- A. REMOVAL PLAN IS BASED ON THE SITE CONDITION AT THE TIME OF THE PROVIDED EXISTING CONDITIONS DRAWING.
- B. THE CONTRACTOR SHALL DISPOSE OF ALL UNSUITABLE MATERIALS ENCOUNTERED IN THE REMOVAL AND GRADING OPERATION OF THE PROJECT SITE, INCLUDING CONCRETE, ASPHALT, OIL MAT, BRICK, ROCK, ECT. NO UNSUITABLE MATERIAL SHALL BE USED FOR BACKFILLING OR EMBANKMENT CONSTRUCTION. ALL MATERIALS REMOVED FROM THE SITE SHALL BE DISPOSED OF BY THE CONTRACTOR IN A LEGAL MANNER. THE COST FOR DISPOSAL OF UNSUITABLE MATERIAL SHALL BE SUBSIDIARY TO THE PROJECT.
- C. OVER-EXCAVATE ALL AREAS TO BE PAVED WITH PARKING LOT OR BUILDING TO BE CONSTRUCTED UPON. OVER-EXCAVATE AND FILL PER GEOTECHNICAL EXPLORATION REPORT. COORDINATE REMOVAL OF EXISTING MATERIAL WITH GEOTECHNICAL ENGINEER AND DISPOSE OF PROPERLY.

UTILITY NOTES

- A. COORDINATE LOCATION AND DEPTHS OF ALL SERVICE LINES w/ BUILDING MECHANICAL PLANS.
- B. CONTRACTOR SHALL NOTIFY APPROPRIATE UTILITY COMPANIES TO COORDINATE CONNECTIONS AND RELOCATIONS. ALL CONNECTION COSTS, CONNECTION FEES, OR RELOCATION FEES WILL BE PAID BY THE CONTRACTOR.
- C. ALL EXISTING UTILITIES SHOWN ARE FROM PUBLIC RECORDS AND ARE FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING EXACT LOCATION AND DEPTH PRIOR TO CONSTRUCTION.
- D. ALL WATER LINES SHALL HAVE 5' MINIMUM COVER.
- E. ALL VALVES, FITTINGS, AND WATER LINE DISINFECTION SHALL CONFORM TO M.U.D. REQUIREMENTS.
- F. ALL PVC PIPE, FITTINGS, AND OUTLET STRUCTURES HAVING AN INSIDE DIAMETER OF 15" OR LESS SHALL MEET THE REQUIREMENTS OF ASTM D3034. STANDARD SPECIFICATION FOR TYPE PSM POLY (VINYL CHLORIDE) (PVC) SEWER PIPE AND FITTINGS.
- G. LOCATION OF WATER MAIN IS SHOWN AS APPROXIMATE. CONTRACTOR TO FIELD VERIFY LOCATION, STATUS OF LINE, DEPTH, AND TO COORDINATE ALL CONNECTIONS WITH M.U.D. INSTALL CONNECTION PER M.U.D. GUIDELINES AND SPECIFICATIONS.

PAVING NOTES

- A. CONCRETE FOR PAVEMENTS, DRIVEWAYS AND CURB & GUTTER SHALL BE MIX TYPE OPW 3500, AIR-ENTRAINED CONCRETE.
- B. CONCRETE FOR SIDEWALKS SHALL BE MIX TYPE OPW 3500, AIR-ENTRAINED CONCRETE.
- C. CONCRETE PAVEMENT SHALL BE CURED USING A WHITE PIGMENTED LIQUID MEMBRANE FORMING CURING COMPOUND THAT HAS BEEN APPROVED BY THE OMAHA PUBLIC WORKS DEPARTMENT. THE RATE OF APPLICATION SHALL BE 200 SQUARE FEET PER 1 GALLON IF A MECHANICAL POWERED SPRAYER IS USED AND 100 SQUARE FEET PER 1 GALLON IF A HAND POWERED SPRAYER IS USED.
- D. FOR CONCRETE PAVEMENT PREPARE THE UPPER 12" OF SUBGRADE TO BE COMPACTED TO A MINIMUM OF 90% OF THE MAXIMUM DRY DENSITY AT A MOISTURE CONTENT BETWEEN -3 AND +4 PERCENT OF OPTIMUM, (ASTM D1557, MODIFIED PROCTOR). SUBGRADE PREPARATION SHOULD EXTEND A MINIMUM OF 2 FEET LATERALLY BEYOND THE EDGE OF THE PAVEMENT.
- E. FOR CONCRETE SIDEWALKS PREPARE THE UPPER 6" OF SUBGRADE TO BE COMPACTED TO A MINIMUM OF 95% OF THE MAXIMUM DRY DENSITY AT A MOISTURE CONTENT BETWEEN -3 AND +4 PERCENT OF OPTIMUM, (ASTM D698, STANDARD PROCTOR). SUBGRADE PREPARATION SHOULD EXTEND A MINIMUM OF 6" LATERALLY BEYOND THE EDGE OF THE PAVEMENT.
- F. A DIAMOND EDGE SAW BLADE SHALL BE USED FOR CUTTING ALL REQUIRED CONTRACTION AND LONGITUDINAL PAVEMENT JOINTS.
- G. CURB BACKFILLING SHALL BE COMPLETED WITHIN 7 DAYS AFTER CURB PLACEMENT.
- H. PROVIDE POSITIVE DRAINAGE AT ALL TIMES WITHIN THE CONSTRUCTION AREAS. NO PONDING OF WATER SHALL BE ALLOWED. MAINTAIN ALL EXISTING DRAINAGE PATTERNS.
- I. ALL PAVEMENT JOINTS SHALL BE SEALED. CONCRETE JOINT SEALER SHALL BE HOT APPLIED PER CITY OF OMAHA STANDARD SPECIFICATIONS.
- J. CONTRACTOR SHALL ADJUST AND/OR CUT EXISTING PAVEMENT AS NECESSARY TO ASSURE A SMOOTH FIT AND CONTINUOUS GRADE.

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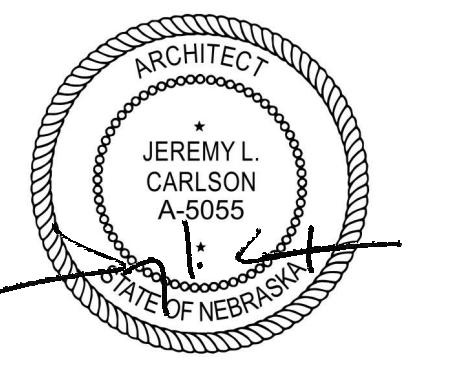
Revisions |

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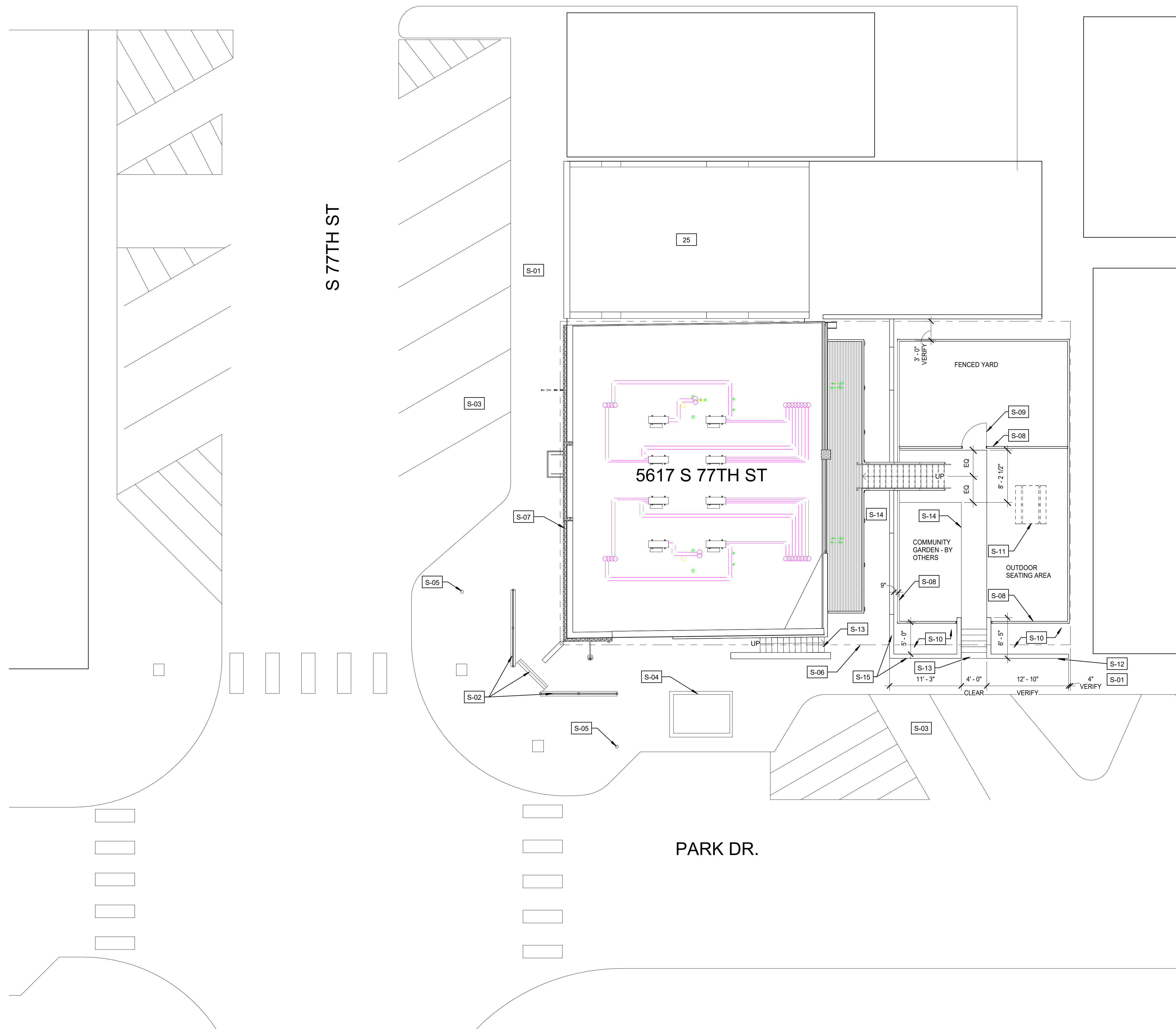
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- GENERAL NOTES - FLOOR PLAN**
- 1 THE INTENT OF THE DRAWINGS IS TO PROVIDE INFORMATION FOR CONSTRUCTION. IT IS IMPORTANT FOR THE CONTRACTOR TO VERIFY FIELD DIMENSIONS AND CONDITIONS BEFORE EXECUTION OF THE WORK. CONTACT THE ARCHITECT SHOULD DISCREPANCIES EXIST.
 - 2 CONTRACTOR AND SUBCONTRACTORS SHALL PROVIDE ALL LABOR, MATERIALS AND EQUIPMENT TO COMPLETE ALL WORK SHOWN ON PLANS, CALLED FOR IN SPECIFICATION, OR REASONABLY IMPLIED FOR A COMPLETE INSTALLATION EVEN THOUGH NEITHER SHOWN ON PLANS OR CALLED OUT IN SPECIFICATIONS.
 - 3 REVIEW SHEET S100 AND PERFORM BUILDING REHABILITATION RECOMMENDATIONS PRIOR TO COMMENCING WORK. WHERE RECOMMENDATIONS AND SCOPE OF WORK OVERLAP, DEFER TO DRAWINGS.
 - 4 WHERE FLOOR IS TRANSITIONING TO A DIFFERENT MATERIAL, INSTALL A TRANSITION STRIP.
 - 5 DIMENSIONS ARE FROM FACE OF STUD UNLESS OTHERWISE NOTED.
 - 6 DEBRIS SHALL BE PROMPTLY REMOVED FROM THE BUILDING AND THE SITE AND DISPOSED OF IN A LEGAL MANNER. SURFACES IN THE CONSTRUCTION AREA SHALL BE MAINTAINED IN A BROOM CLEAN CONDITION AT THE END OF EACH WORK DAY.
 - 7 THE CONTRACTOR SHALL PROVIDE ALL DEMOLITION INCIDENTAL TO OR REQUIRED FOR NEW AND RENOVATION CONSTRUCTION WHETHER OR NOT IT IS SPECIFICALLY NOTED, INCLUDING BUT NOT LIMITED TO, ALL OTHER WORK THAT MIGHT REASONABLY BE REQUIRED TO BE REMOVED IN PREPARATION FOR SPECIFIED FINISHES. DEMOLITION SHALL BE PERFORMED IN A MANNER THAT WILL NOT DAMAGE ANY ITEMS OR SURFACES INDICATED TO REMAIN. ITEMS OR SURFACES SHALL BE PATCHED IF NECESSARY TO PROVIDE A SUITABLE SUB-STRATA FOR NEW FINISHES.
 - 8 FIRE EXTINGUISHERS FINAL LOCATIONS SHALL BE VERIFIED WITH LOCAL FIRE AUTHORITY.
 - 9 UNIT LAYOUTS SHOWN HALFTONE FOR REFERENCE. REFER TO UNIT PLANS FOR LAYOUT.
 - 10 NEW EXTERIOR WINDOWS AND DOORS TO BE LOCATED IN EXISTING OPENINGS U.N.O. NOTIFY ARCHITECT IMMEDIATELY IN THE CASE OF A DISCREPANCY.
 - 11 NEW WINDOWS TO BE INSTALLED SUCH THAT BOTTOM OF THE CLEAR OPENING IS NOT GREATER THAN 4" AFF. U.N.O.
 - 12 FURNITURE AND EQUIPMENT PROVIDED N.I.C. SHOWN DASHED FOR REFERENCE.
 - 13 ALL NEW WALLS ARE TO EXTEND TO DECK, UNLESS OTHERWISE NOTED.

KEYNOTE LEGEND

NO.	DESCRIPTION
25	ADJACENT EXG. BUILDING
S-01	EXISTING SIDEWALK
S-02	EXISTING STAIRS AND RAILING TO REMAIN
S-03	EXISTING PARKING
S-04	PLANTER BED TO REMAIN
S-05	EXISTING SITE LIGHTING TO REMAIN
S-06	PROPERTY LINE
S-07	EXISTING BUILDING FOOTPRINT AND SITE FOR RENOVATION
S-08	60" FENCE - BASIS OF DESIGN
S-09	SELF-LATCHING, SPRING-HINGED RETRACTABLE GATE
S-10	PLANTING BED - BY OTHERS
S-11	PICNIC TABLE - BY OTHERS
S-12	NEW RETAINING WALL TO MATCH OPPOSITE
S-13	NEW CIP STAIR
S-14	4" CIP SLAB
S-15	EXISTING RETAINING WALL TO REMAIN



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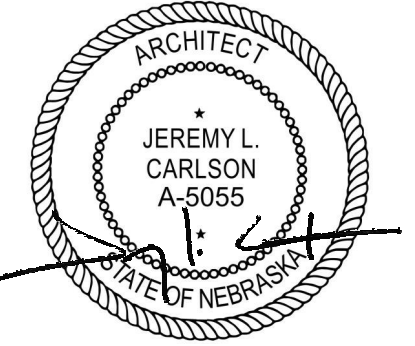
1 ARCHITECTURAL SITE PLAN
A001 1/8" = 1'-0"

Revisions |

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ARCH SITE PLAN

Sheet No. | A001



08.23.2024

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DEMOLITION FLOOR PLAN

GENERAL NOTES - DEMOLITION

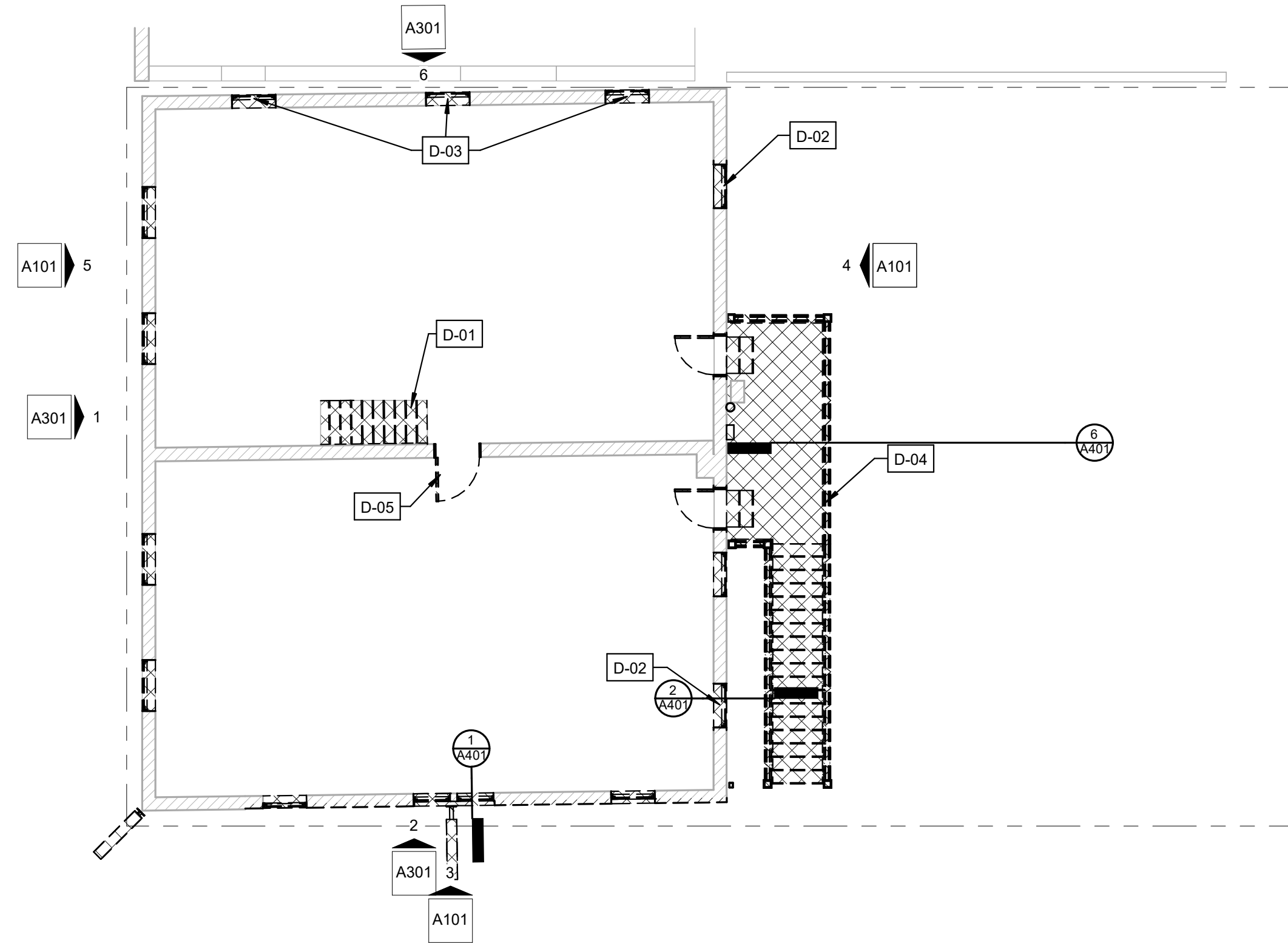
- 1 THE DEMOLITION DRAWING REPRESENTS THE INTENT OF DEMOLITION TO OCCUR AND IS SCHEMATIC IN NATURE WITH THE INTENT BEING TO REMOVE ALL ASSOCIATED ITEMS AS REQUIRED FOR NEW CONSTRUCTION. CONTRACTOR IS RESPONSIBLE TO REMOVE ALL ITEMS IN THEIR ENTIRETY AND, UNLESS NOTED TO BE RELOCATED OR SALVAGED, DISPOSED OF ACCORDINGLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO RETURN TO ORIGINAL CONDITION ANY EXISTING SURFACES AND FINISHES THAT ARE DAMAGED OR DESTROYED DURING THE PERFORMANCE OF DEMOLITION OR NEW CONSTRUCTION WORK THAT MAY OCCUR OUTSIDE THE DEFINED BOUNDARIES OF WORK. CONTRACTOR SHALL ALSO NOTIFY THE OWNER OF ANY PRE-EXISTING DAMAGES OR WILL BE RESPONSIBLE TO CORRECT THEM. ALL PATCH OR REPAIR WORK TO PROVIDE A SMOOTH, EVEN TRANSITION TO EXISTING SURFACES. FINISH TO MATCH ADJACENT EXISTING SURFACES, UNLESS OTHERWISE SCHEDULED. IF ANY DAMAGE HAS BEEN DONE, THE CONTRACTOR SHALL NOTIFY THE OWNER PRIOR TO REPAIR.
- 2 PROTECT ALL ITEMS/ELEMENTS NOT SPECIFIED AS BEING DEMO, AND PATCH AND REPAIR ALL DAMAGED ITEMS/ELEMENTS TO REMAIN.
- 3 PATCH AND INFILL ALL MECHANICAL, ELECTRICAL & PLUMBING WORK THAT ARE OUTLINED IN THEIR SHEETS, EVEN IF NOT CALLED OUT IN THE ARCHITECTURAL SHEETS.
- 4 THE CONTRACTOR SHALL PROVIDE ALL DEMOLITION INCIDENTAL TO OR REQUIRED FOR NEW AND RENOVATION CONSTRUCTION WHETHER OR NOT IT IS SPECIFICALLY NOTED, INCLUDING, BUT NOT LIMITED TO, ALL OTHER WORK THAT MIGHT REASONABLY BE REQUIRED TO BE REMOVED IN PREPARATION FOR SPECIFIED FINISHES. DEMOLITION SHALL BE PERFORMED IN A MANNER THAT WILL NOT DAMAGE ANY ITEMS OR SURFACES INDICATED TO REMAIN. ITEMS OR SURFACES SHALL BE PATCHED IF NECESSARY TO PROVIDE A SUITABLE SUB-STRATA FOR NEW FINISHES.
- 5 PRIOR TO BIDDING, THE CONTRACTOR SHALL VISIT THE FACILITY AND THOROUGHLY FAMILIARIZE THEMSELVES WITH EXISTING CONDITIONS.
- 6 THE CONTRACTOR SHALL MAINTAIN AND ADHERE TO ALL CURRENT LIFE-SAFETY AND INTERIM LIFE-SAFETY RULES AND REGULATIONS THROUGHOUT THE CONSTRUCTION OF THIS PROJECT.
- 7 NOTIFY THE ARCHITECT OF ALL ITEMS UNCOVERED DURING DEMOLITION WHICH ARE NOT INDICATED.
- 8 THE CONTRACTOR SHALL BE RESPONSIBLE TO PERFORM ALL REQUIRED CAPPING AND ABANDONMENT WORK REQUIRED IN REMOVING ALL EXISTING EQUIPMENT AND FIXTURES - SEE MECHANICAL / ELECTRICAL DEMOLITION DRAWING FOR MORE INFORMATION.
- 9 CONTRACTOR TO REMOVE AND REINSTALL ANY EQUIPMENT WHICH MAY INTERFERE WITH DEMOLITION WORK.
- 10 ITEMS TO BE RELOCATED SHALL BE KEPT ON-SITE, IN A SAFE AND CLEAN ENVIRONMENT, IN AN AREA NOT TO INTERRUPT NORMAL BUILDING ACTIVITIES. COORDINATE W/ OWNER AND PHASING PLAN.
- 11 ITEMS INDICATED FOR DEMOLITION MAY BE SALVAGED AT THE OWNER'S DISCRETION. ITEMS DETERMINED TO BE SALVAGED AND/OR REUSED TO BE PROTECTED DURING DEMOLITION AND STORED SAFELY FOR REUSE.

SYMBOL LEGEND

- EXISTING CONSTRUCTION TO BE DEMOLISHED, FIELD VERIFY TYPES AND CONDITIONS. REVIEW NOTES FOR EXTENTS OF CONSTRUCTION IF APPLICABLE
- EXISTING WALL/ITEM/ELEMENT TO BE DEMOLISHED, FIELD VERIFY TYPES AND CONDITIONS
- EXISTING WALL/ITEM/ELEMENT TO REMAIN AND BE PROTECTED, FIELD VERIFY TYPES AND CONDITIONS

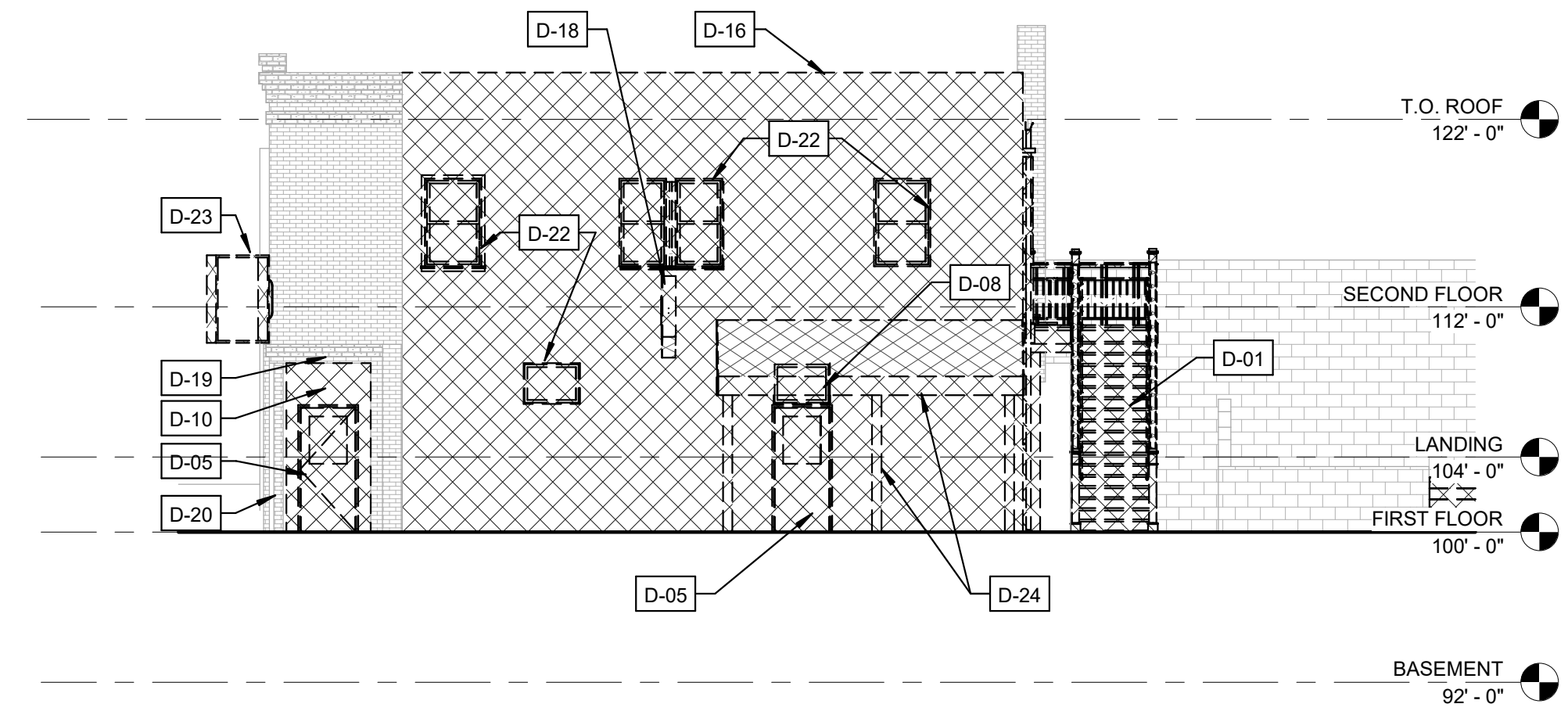
KEYNOTE LEGEND

NO.	DESCRIPTION
25	ADJACENT EXG. BUILDING
D-01	REMOVE STAIR AND HANDRAIL COMPLETE. PROTECT ADJACENT LOAD-BEARING CONSTRUCTION.
D-02	REMOVE PORTION OF WALL AND WINDOW AS REQUIRED FOR NEW DOOR.
D-03	REMOVE EXISTING WINDOW AND FRAME. PREPARE OPENING TO RECEIVE NEW WINDOW.
D-04	REMOVE DECK, STAIRS AND RAILING IN ITS ENTIRETY.
D-05	REMOVE DOOR AND FRAME COMPLETE.
D-06	REMOVE BUILT-UP FLOOR AND STEP COMPLETE.
D-07	REMOVE PORTION OF INFILL AS REQUIRED FOR NEW CONSTRUCTION.
D-08	REMOVE EXISTING WINDOW, FRAME AND PORTION OF EXTERIOR WALL AS REQUIRED FOR NEW CONSTRUCTION.
D-09	INSPECT INTEGRITY OF SUBFLOOR AND FLOOR JOISTS. REMOVE ANY DAMAGED SUBFLOOR AND FLOOR JOISTS AND TAKE PRECAUTION TO PRESERVE THE INTEGRITY OF ADJACENT REMAINING CONSTRUCTION.
D-10	REMOVE EXISTING STONE. PROTECT EXISTING SUB-STRUCTURE.
D-11	REMOVE EXISTING RETAINING WALL. PROVIDE SHORING AS REQUIRED TO PREPARE FOR CONSTRUCTION OF NEW WALL.
D-12	EXISTING STAIRS TO REMAIN.
D-13	INTERIOR OF EXISTING BASEMENT WALLS SHOWN DASHED.
D-14	REMOVE PORTIONS OF CONCRETE AS REQUIRED FOR CONSTRUCTION OF NEW RETAINING WALL.
D-15	REMOVE EXISTING WINDOW - PROTECT EXISTING OPENING AND PREPARE FOR A NEW STOREFRONT SYSTEM.
D-16	REMOVE EXISTING STUCCO. PROTECT EXISTING SUBSTRATE, CLEAN AND PREPARE FOR NEW FINISH.
D-17	CLEAN EXG. BRICK AND PREPARE FOR NEW FINISH
D-18	REMOVE EXISTING SIGN AND SALVAGE FOR REUSE.
D-19	CLEAN AND REMOVE ANY RUST FROM HEADER. PREPARE FOR NEW PAINT. REMOVE DAMAGED SUBSTRATE
D-20	CLEAN AND REMOVE RUST FROM EXG. COLUMN. PREPARE FOR NEW PAINT.
D-21	REMOVE DECK COLUMNS AND SUPPORT.
D-22	PROTECT EXISTING WINDOW FRAME.
D-23	REMOVE EXISTING BLADE SIGN AND SUPPORTING HARDWARE. PROTECT EXISTING BRICK.
D-24	REMOVE FABRIC CANOPY AND SUPPORT STRUCTURE.
D-25	REMOVE GUTTER AND DOWNSPOUT.
D-26	CUT DOWN AND REMOVE EXPOSED PORTION OF REMAINING STEEL STRUCTURE TO PROVIDE SURFACE FLUSH W/ EXTERIOR FACE OF EXISTING BRICK.
D-27	DISCONNECT AND REMOVE EXG. ELECTRICAL BOX, CONDUIT AND WALL MOUNTED ACCESSORIES PER CODE.
D-28	REMOVE PORTION OF PROTRUDING DECORATIVE BRICK ELEMENT DOWN TO FLUSH WITH FACE OF EXISTING EXTERIOR WALL.
D-29	REMOVE STAIR AND RETAINING WALL AS INDICATED.



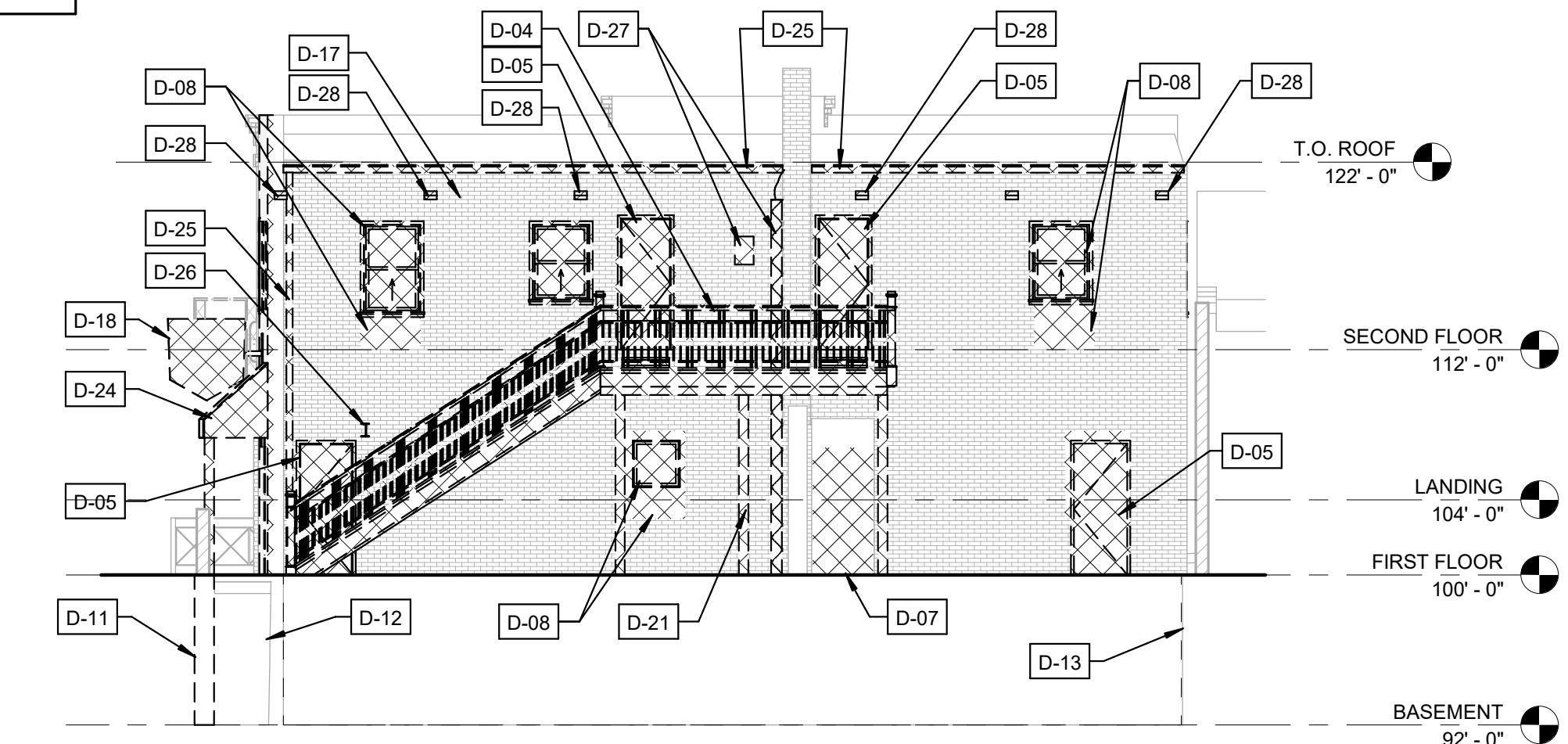
2 SECOND FLOOR DEMOLITION PLAN

A101 1/8" = 1'-0"



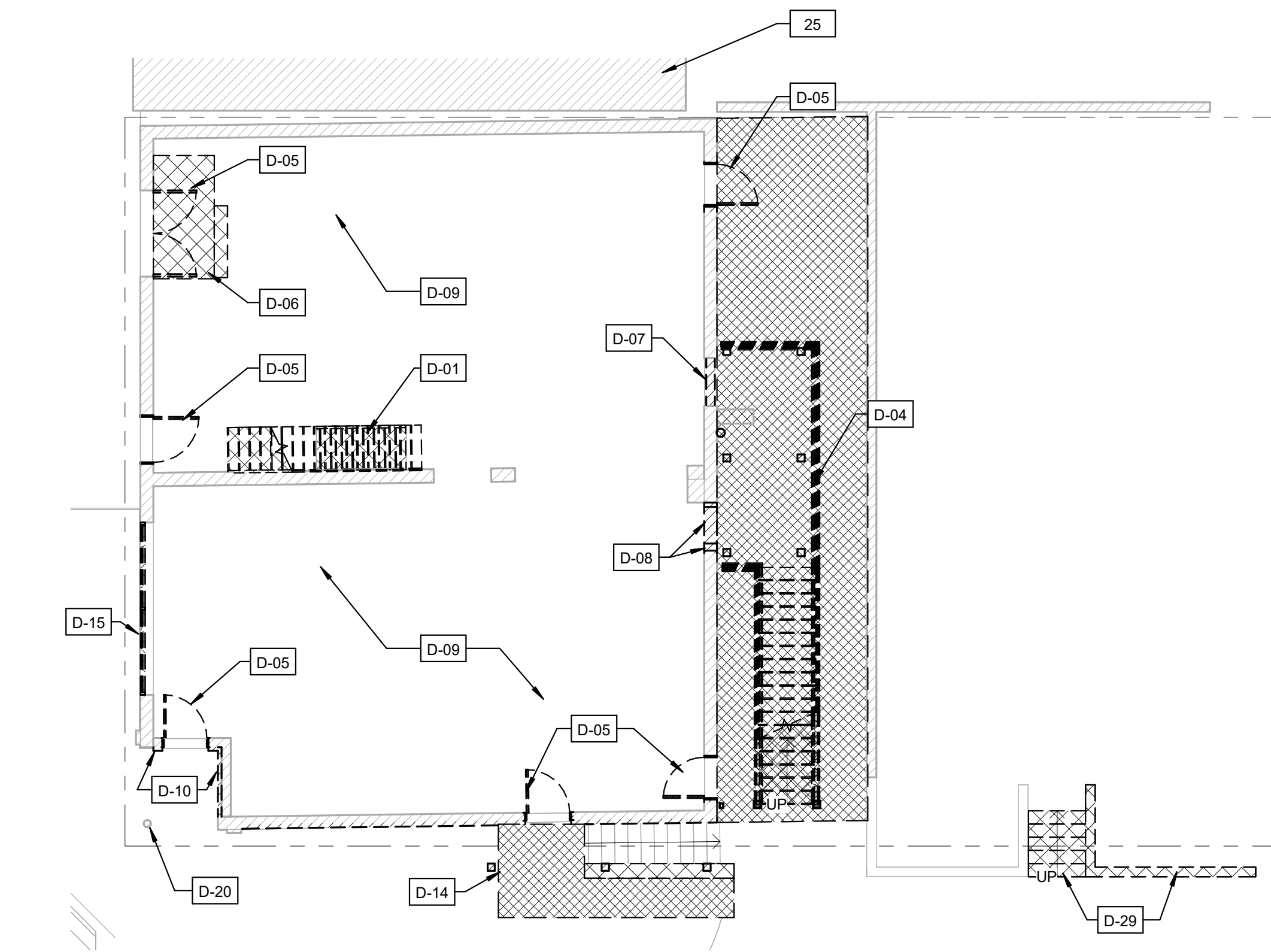
3 SOUTH EXTERIOR DEMOLITION ELEVATION

A101 1/8" = 1'-0"



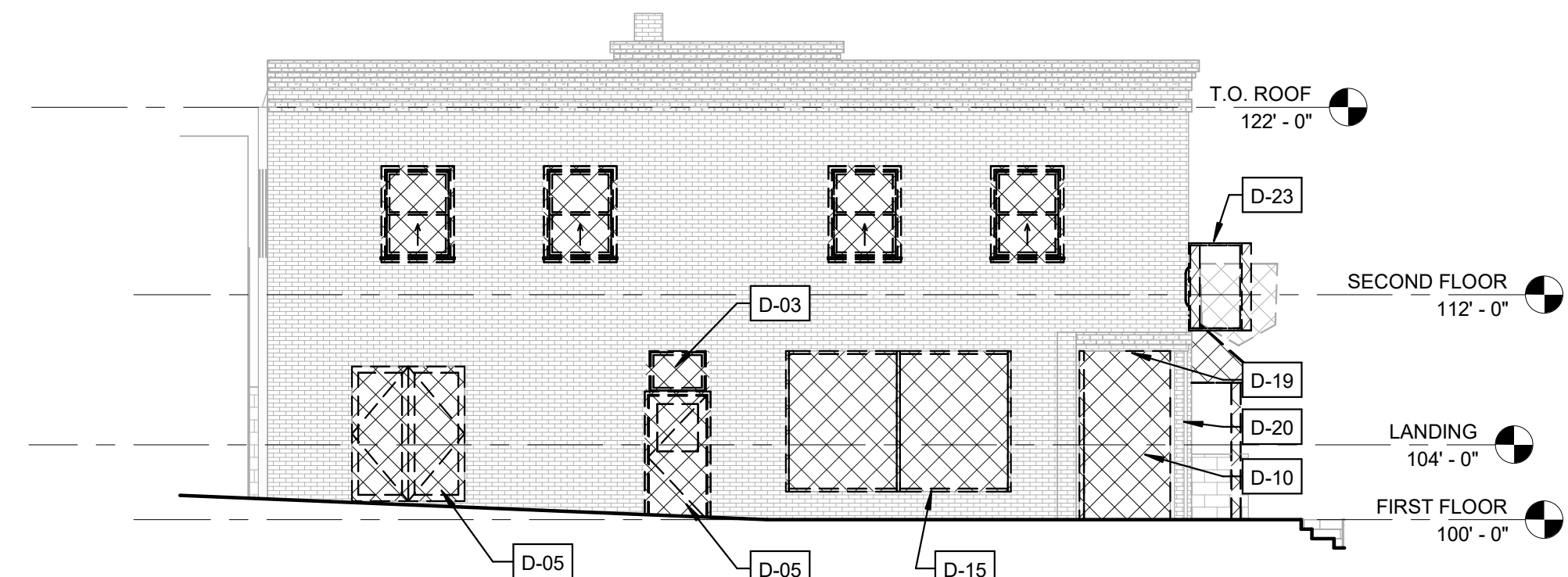
4 EAST EXTERIOR DEMOLITION ELEVATION

A101 1/8" = 1'-0"



1 FIRST FLOOR DEMOLITION PLAN

A101 1/8" = 1'-0"



5 WEST EXTERIOR DEMOLITION ELEVATION

A101 1/8" = 1'-0"

WINDOW SCHEDULE						
MARK	FRAME		DETAILS			GLAZING TYPE
	MATERIAL	FINISH	HEAD	JAMB	SILL	
A	FIBERGLASS	SOLID-BLACK				IG-1
I	FIBERGLASS	SOLID-BLACK				IG-1
J	FIBERGLASS	SOLID-BLACK				IG-1
K	FIBERGLASS	SOLID-BLACK				IG-1

STOREFRONT SCHEDULE							
MARK	FRAME		DETAILS			GLAZING TYPE	COMMENTS
	MATERIAL	FINISH	HEAD	JAMB	SILL		
SF1	ALUM	PERMAFLUOR BLACK				IG-1	KAWNEER TRIFAB 451 AS BASIS OF DESIGN
SF2	ALUM	PERMAFLUOR BLACK				IG-1	KAWNEER TRIFAB 451 AS BASIS OF DESIGN
SF3	ALUM	PERMAFLUOR BLACK				IG-1	KAWNEER TRIFAB 451 AS BASIS OF DESIGN
SF4	ALUM	PERMAFLUOR BLACK				IG-1	KAWNEER TRIFAB 451 AS BASIS OF DESIGN

DOOR SCHEDULE														
DOOR NO.	TYPE	DOOR			FRAME			FIRE RATING	HARDWARE	DETAILS			COMMENTS	
		WIDTH	HEIGHT	THICKNESS	MATERIAL	FINISH	FRAME TYPE			MATERIAL	FINISH	JAMB		HEAD
101	D5	3'-0"	7'-0"	0'-1 3/4"	ALUM	BLACK	SF4	ALUM	BLACK					
102	D5	3'-0"	7'-0"	0'-1 3/4"	ALUM	BLACK	SF3	ALUM	BLACK					
103	D1	3'-0"	6'-8"	0'-1 3/4"	HM	PNT	F1	HM	PNT					
104	D1	3'-0"	6'-8"	0'-1 3/4"	HM	PNT	F1	HM	PNT					
201	D1	3'-0"	6'-8"	0'-1 3/4"	HM	PNT	F1	HM	PNT					
202	D1	3'-0"	6'-8"	0'-1 3/4"	HM	PNT	F1	HM	PNT					
203	D1	3'-0"	6'-8"	0'-1 3/4"	HM	PNT	F1	HM	PNT					
204	D1	3'-0"	6'-8"	0'-1 3/4"	HM	PNT	F1	HM	PNT					

UNIT DOOR SCHEDULE											
DOOR NO.	TYPE	DOOR			FRAME			HARDWARE	COMMENTS		
		WIDTH	HEIGHT	THICKNESS	MATERIAL	FINISH	FRAME TYPE			MATERIAL	FINISH
BA34	D1	2'-10"	6'-8"	0'-1 3/4"	WD	PREFIN	F1	WD	PREFIN	PREHUNG WITH BLACK HDW	1
BB34	D1	2'-10"	6'-8"	0'-1 3/4"	WD	PREFIN	F1	WD	PREFIN	PREHUNG WITH BLACK HDW	2
CL32	D1	2'-8"	6'-8"	0'-1 3/4"	WD	PREFIN	F1	WD	PREFIN	PREHUNG WITH BLACK HDW	2
PK48	D3	4'-0"	6'-8"	0'-1 3/4"	WD	PREFIN	F1	WD	PREFIN	PREHUNG WITH BLACK HDW	
SL48	D4	4'-0"	6'-8"	0'-1 3/8"	WD	PREFIN	F1	WD	PREFIN	PREHUNG WITH BLACK HDW	

GENERAL NOTES - FLOOR PLAN	
1	THE INTENT OF THE DRAWINGS IS TO PROVIDE INFORMATION FOR CONSTRUCTION. IT IS IMPORTANT FOR THE CONTRACTOR TO VERIFY FIELD DIMENSIONS AND CONDITIONS BEFORE EXECUTION OF THE WORK. CONTACT THE ARCHITECT SHOULD DISCREPANCIES EXIST.
2	CONTRACTOR AND SUBCONTRACTORS SHALL PROVIDE ALL LABOR, MATERIALS AND EQUIPMENT TO COMPLETE ALL WORK SHOWN ON PLANS, CALLED FOR IN SPECIFICATION, OR REASONABLY IMPLIED FOR A COMPLETE INSTALLATION EVEN THOUGH NEITHER SHOWN ON PLANS OR CALLED OUT IN SPECIFICATIONS.
3	REVIEW SHEET S100 AND PERFORM BUILDING REHABILITATION RECOMMENDATIONS PRIOR TO COMMENCING WORK. WHERE RECOMMENDATIONS AND SCOPE OF WORK OVERLAP, DEFER TO DRAWINGS.
4	WHERE FLOOR IS TRANSITIONING TO A DIFFERENT MATERIAL, INSTALL A TRANSITION STRIP.
5	DIMENSIONS ARE FROM FACE OF STUD UNLESS OTHERWISE NOTED.
6	DEBRIS SHALL BE PROMPTLY REMOVED FROM THE BUILDING AND THE SITE AND DISPOSED OF IN A LEGAL MANNER. SURFACES IN THE CONSTRUCTION AREA SHALL BE MAINTAINED IN A BROOM CLEAN CONDITION AT THE END OF EACH WORK DAY.

GENERAL NOTES - FLOOR PLAN	
7	THE CONTRACTOR SHALL PROVIDE ALL DEMOLITION INCIDENTAL TO OR REQUIRED FOR NEW AND RENOVATION CONSTRUCTION WHETHER OR NOT IT IS SPECIFICALLY NOTED, INCLUDING, BUT NOT LIMITED TO, ALL OTHER WORK THAT MIGHT REASONABLY BE REQUIRED TO BE REMOVED IN PREPARATION FOR SPECIFIED FINISHES. DEMOLITION SHALL BE PERFORMED IN A MANNER THAT WILL NOT DAMAGE ANY ITEMS OR SURFACES INDICATED TO REMAIN. ITEMS OR SURFACES SHALL BE PATCHED IF NECESSARY TO PROVIDE A SUITABLE SUB-STRATA FOR NEW FINISHES.
8	FIRE EXTINGUISHERS FINAL LOCATIONS SHALL BE VERIFIED WITH LOCAL FIRE AUTHORITY.
9	UNIT LAYOUTS SHOWN HALFTONE FOR REFERENCE. REFER TO UNIT PLANS FOR LAYOUT.
10	NEW EXTERIOR WINDOWS AND DOORS TO BE LOCATED IN EXISTING OPENINGS U.N.O. NOTIFY ARCHITECT IMMEDIATELY IN THE CASE OF A DISCREPANCY.
11	NEW WINDOWS TO BE INSTALLED SUCH THAT BOTTOM OF THE CLEAR OPENING IS NOT GREATER THAN 44" AFF. U.N.O.
12	FURNITURE AND EQUIPMENT PROVIDED N.I.C. SHOWN DASHED FOR REFERENCE.
13	ALL NEW WALLS ARE TO EXTEND TO DECK, UNLESS OTHERWISE NOTED.

KEYNOTE LEGEND	
NO.	DESCRIPTION
02	ROLLER BLINDS; G.C. TO FIELD VERIFY FINAL SIZE(S)
06	INFILL OPENING WITH 2X10'S AT 16" ON-CENTER. ATTACH TO THE BRICK WALL VIA 3/8" DIA. EPOXY ADHESIVE ANCHORS (EMBED 5") AT 24" ON-CENTER, STAGGERED, ON TO THE 2X10 RIM-BOARD. COVER FLOOR JOISTS W/ TONGUE-AND-GROOVE 3/4" THICK OSB SHEATHING
07	INFILL PORTION OF EXISTING WALL. REFER TO WALL TYPES FOR CONSTRUCTION.
08	SILL HEIGHT OF NEW CONSTRUCTION TO MATCH EXISTING.
11	PREFINISHED MTL. DOWNSPOUT
15	NEW BLADE SIGN - BY OTHERS.
16	WALL-MOUNTED LIGHT FIXTURE - REVIEW ELECTRICAL DRAWINGS.
24	CONC. SPLASH PAD
29	1 1/2" O.D. ALUM. HANDRAIL - DARK BRONZE
31	POSTS BELOW AS STATED IN DRY-ROT WOOD FRAMING & CLAY-TILE BLOCK DETERIORATION RECOMMENDATIONS.

SYMBOL LEGEND	
	NEW WALL/ITEM/ELEMENT TO BE CONSTRUCTED. FIELD VERIFY TYPES AND CONDITIONS
	EXISTING WALL/ITEM/ELEMENT TO REMAIN AND BE PROTECTED. FIELD VERIFY TYPES AND CONDITIONS

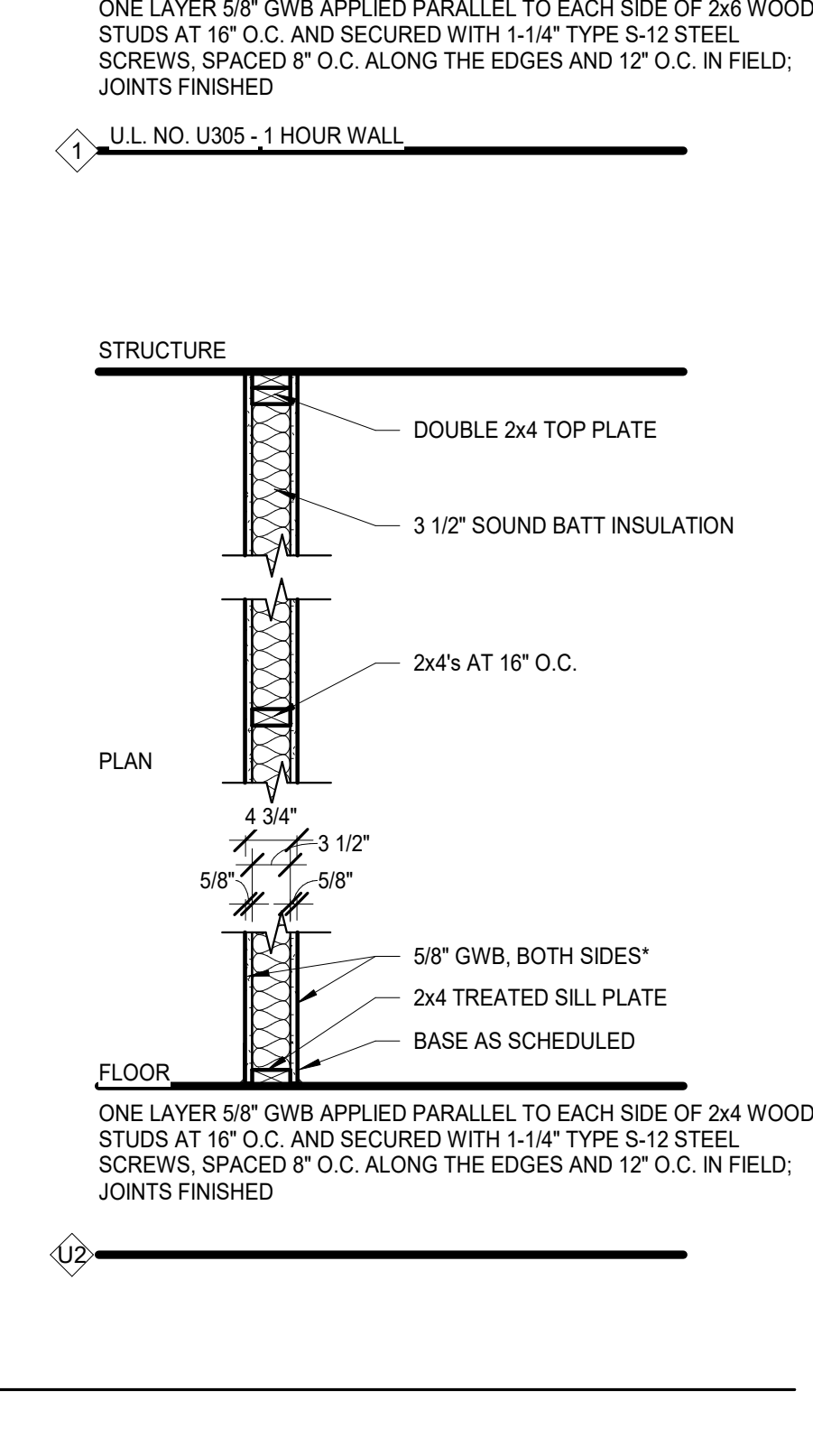
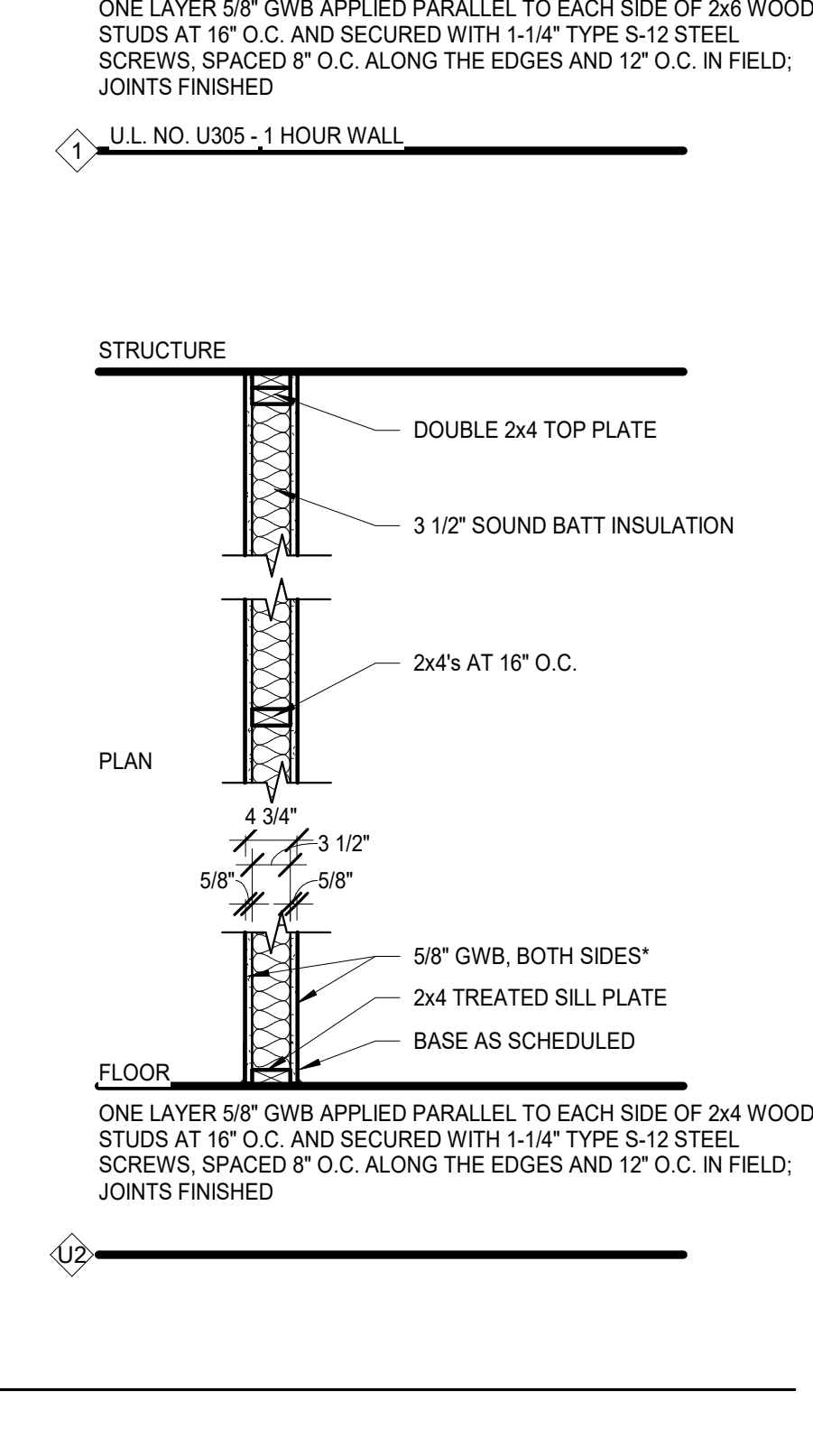
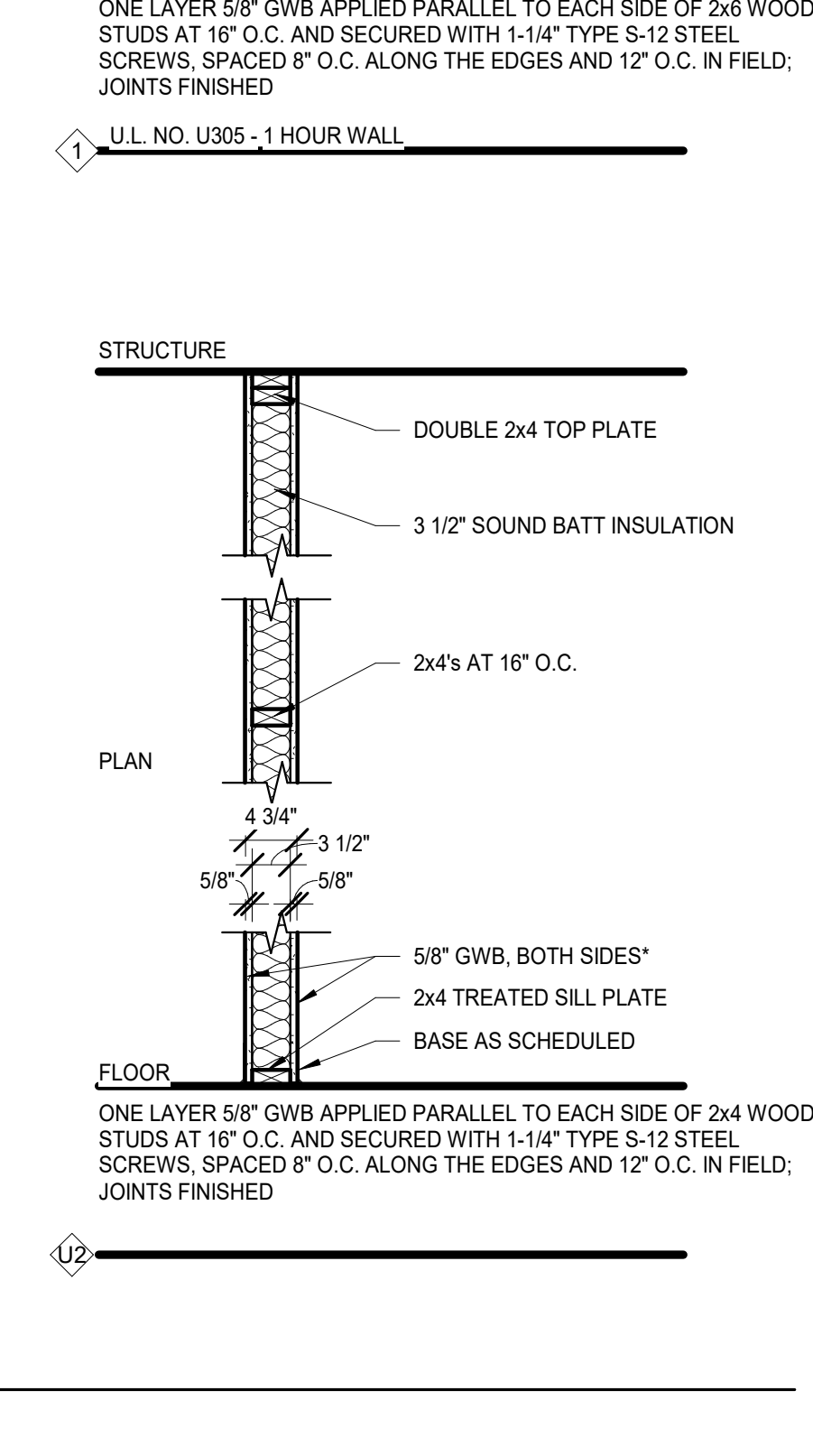
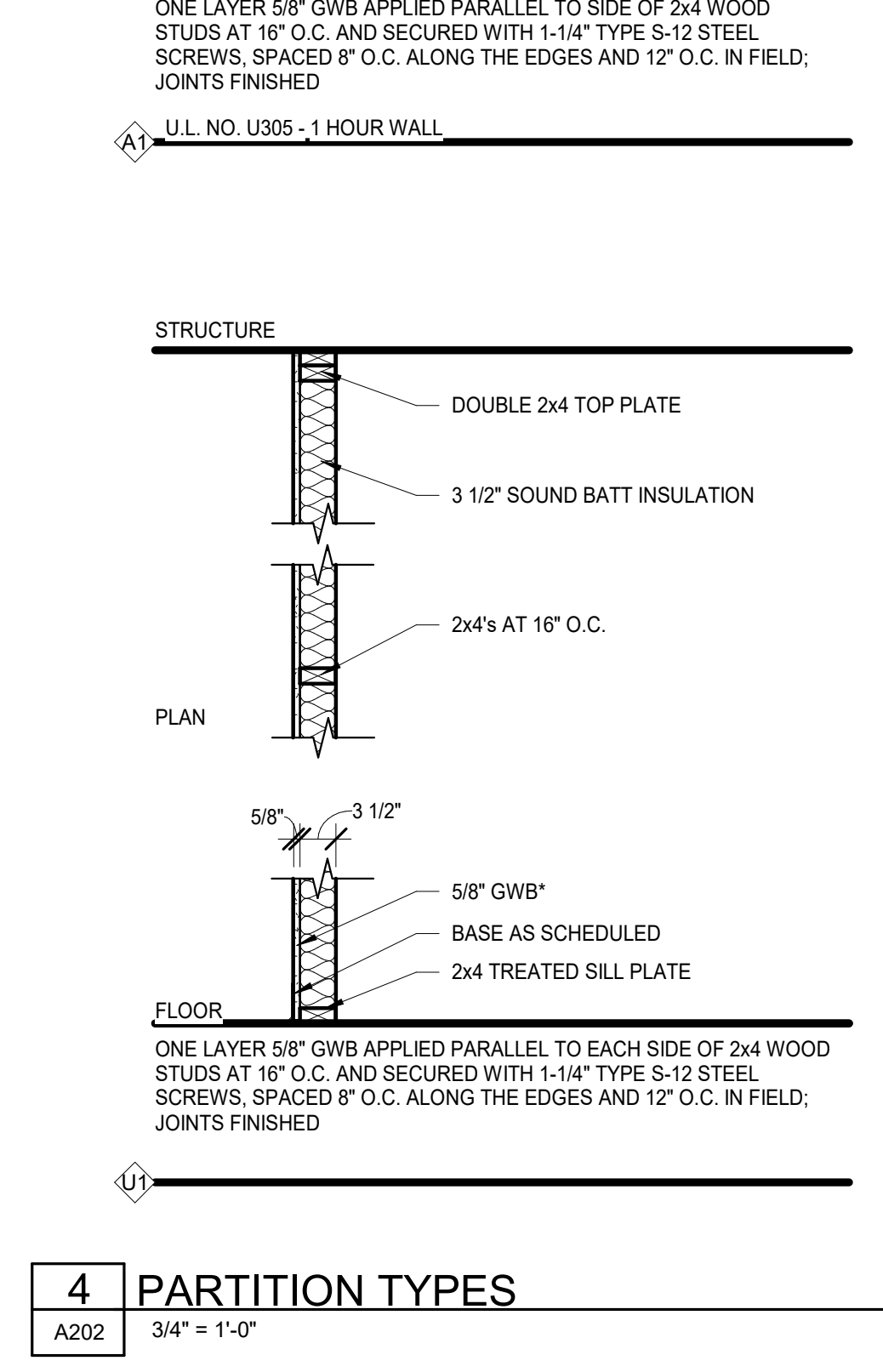
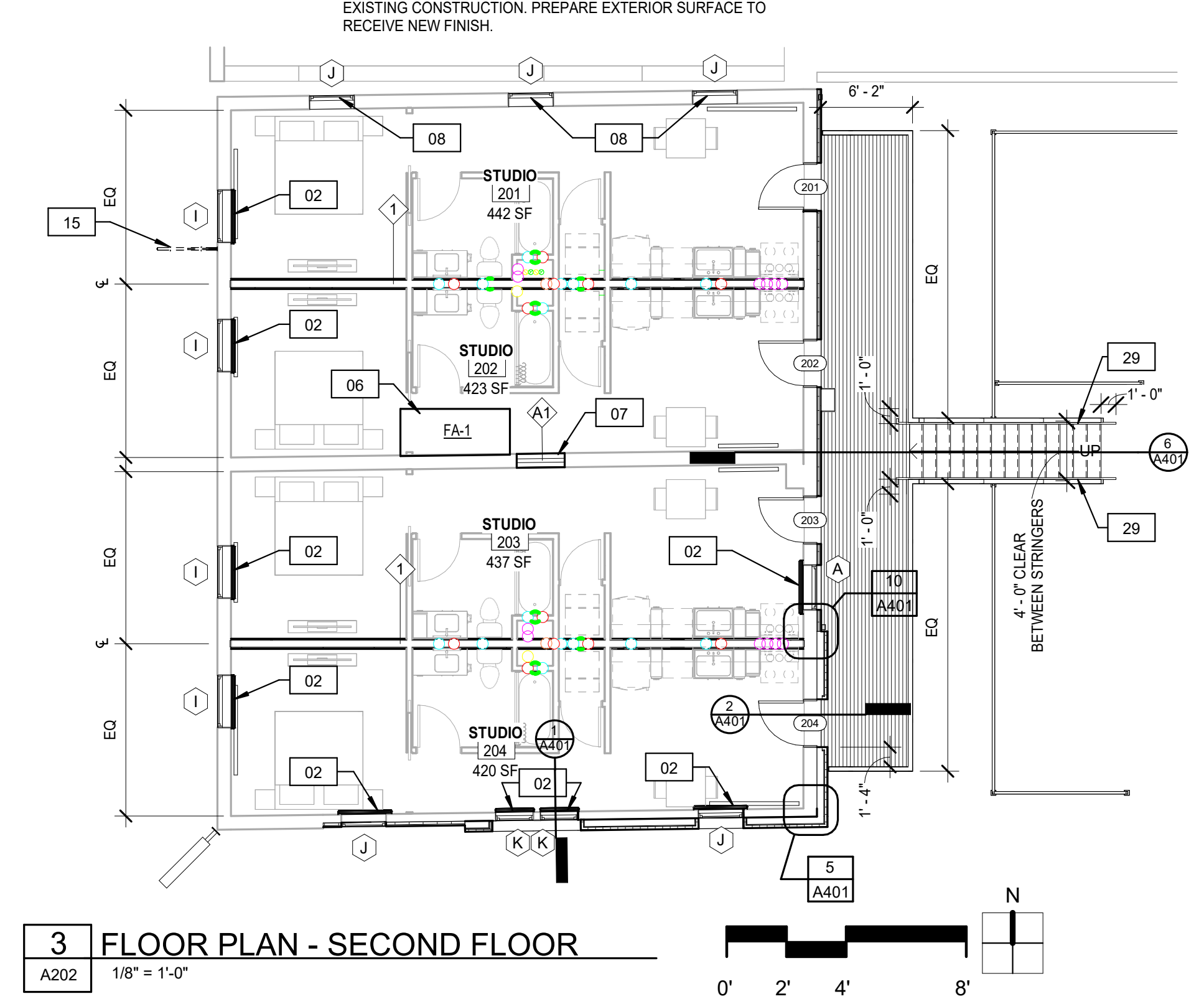
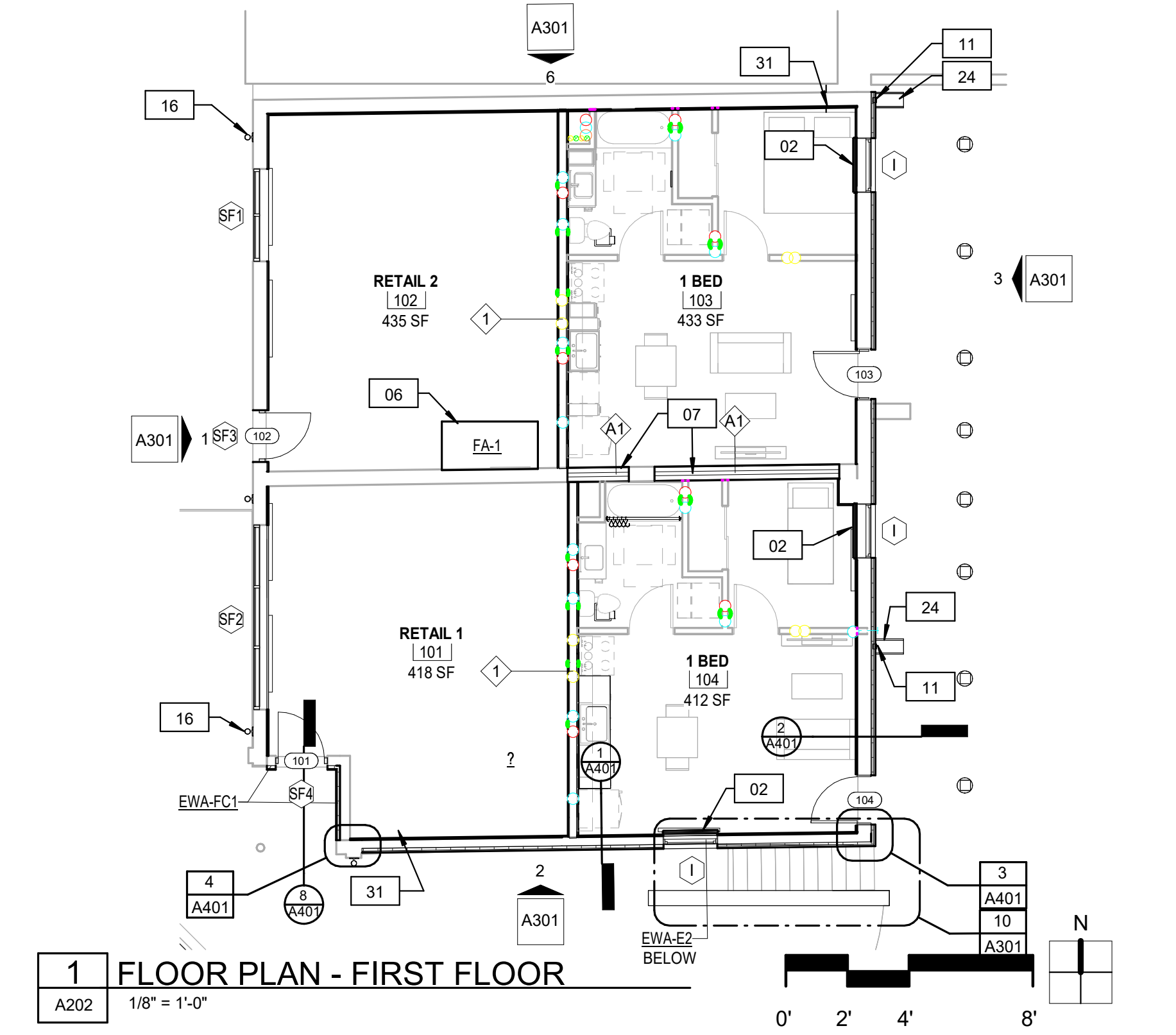
FLOOR ASSEMBLY (FA-)	
FA-0	TYPICAL CONCRETE SLAB CONCRETE SLAB W/ REINFORCEMENT (SEE STRUCTURAL) OVER GRANULAR FILL AND VAPOR BARRIER
FA-1	TYPICAL WOOD FLOOR (IIC 51, STC 58) FINISH FLOOR (SEE ROOM FINISH SCHEDULE) OVER 1 1/4" GYPSUM UNDERLAYMENT OVER 1/4" ACOUSTIC SOUND CONTROL MAT OVER SUBFLOOR. W/ INSULATION HELD UP UNDER SUBFLOOR BY CLIPS INFILLED BETWEEN WOOD FLOOR JOISTS (SEE STRUCTURAL) WITH RC-1 CHANNEL OR EQUIVALENT 16" O.C. WITH SUSPENDED CEILING AS SCHEDULED*
FA-2	DECK CONSTRUCTION COMPOSITE DECK BOARDS OVER WOOD JOISTS - REVIEW STRUCTURAL

EXTERIOR WALL ASSEMBLY (EWA-)	
EWA-E1	EXG. MASONRY ASSEMBLY FROM EXTERIOR TO INTERIOR: 3 5/8" NOMINAL BRICK OVER CONSTRUCTION TO MATCH EXISTING CONDITIONS. ALIGN INTERIOR AND EXTERIOR FACES W/ ADJACENT EXISTING CONSTRUCTION
EWA-E2	EXG. EXTERIOR WALL ASSEMBLY INFILL PORTION OF WALL TO MATCH ADJACENT EXG. CONSTRUCTION. ALIGN INTERIOR AND EXTERIOR FACE W/ EXISTING CONSTRUCTION. PREPARE EXTERIOR SURFACE TO RECEIVE NEW FINISH.

088000 GLAZING SCHEDULE								
TAG	DESCRIPTION	GLAZING COMPOSITION	TINT	GL-COATING	MIN. U-FACTOR	MIN SHGC	GL-GLAZING METHOD	GL-REMARKS
G-2	MONOLITHIC INTERIOR VISION GLAZING	1/4" ANNEALED FLOAT GLASS	CLEAR	-	-	-	DRY GLAZING METHOD, GASKET GLAZING	
G-3	MONOLITHIC INTERIOR SAFETY GLAZING: NON-FIRE RATED	SAME AS G-2, EXCEPT USE FULLY-TEMPERED GLASS	CLEAR	-	-	-	DRY GLAZING METHOD, GASKET GLAZING	
IG-1	INSULATING GLASS UNITS: VISION GLASS, DOUBLE GLAZED	(2) LAYERS 1/4" ANNEALED FLOAT GLASS W/ 1/2" GAP BETWEEN LITES FILLED W/ AIR	CLEAR	LOW-E ON #2 SURFACE	0.38 (0.29 WINTER)	0.39*	DRY GLAZING METHOD, GASKET GLAZING	SOLARBAN 60 (2) + CLEAR AS BASIS OF DESIGN
IG-5	INSULATING GLASS UNITS: SAFETY GLAZING	SAME AS IG-1, EXCEPT USE FULLY TEMPERED FLOAT GLASS FOR BOTH OUTBOARD AND INBOARD LITES	CLEAR	SAME AS IG-1	SAME AS IG-1	SAME AS IG-1	DRY GLAZING METHOD, GASKET GLAZING	SAME AS IG-1

GENERAL NOTES - DOOR AND FRAME	
1	VERIFY ALL EXISTING OPENINGS WITH DIMENSIONS IN DOOR SCHEDULE PRIOR TO CONSTRUCTION. STOP WORK AND NOTIFY ARCHITECT IMMEDIATELY IF ANY DISCREPANCIES EXIST.
2	ALL EXTERIOR SAFETY GLAZING TO BE IG-5. COORDINATE LOCATIONS AS REQUIRED BY APPLICABLE FEDERAL, STATE, AND LOCAL CODES AND REGULATIONS
3	ALL EXTERIOR GLAZING TO BE IG-1 U.N.O.
4	ALL INTERIOR SAFETY GLAZING TO BE G-3. COORDINATE LOCATIONS AS REQUIRED BY APPLICABLE FEDERAL, STATE, AND LOCAL CODES AND REGULATIONS

DOOR AND FRAME COMMENTS LEGEND	
1	UNDERCUT DOOR BY 1"
2	PROVIDE LOUVERED VENT



Revisions	

Project No. | 23042
Issue Date | 08.23.2024

FLOOR PLANS, WALL TYPES, DOOR AND WINDOW SCHEDULES

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- THE INTENT OF THE DRAWINGS IS TO PROVIDE INFORMATION FOR CONSTRUCTION. IT IS IMPORTANT FOR THE CONTRACTOR TO VERIFY FIELD DIMENSIONS AND CONDITIONS BEFORE EXECUTION OF THE WORK. CONTACT THE ARCHITECT SHOULD DISCREPANCIES EXIST.
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SYMBOL LEGEND

- FIRE EXTINGUISHER TYPE, LOCATION, SPEC. TO BE VERIFIED WITH LOCAL FIRE AUTHORITY
- UNIT LAYOUTS SHOWN HALFTONE FOR REFERENCE ONLY. ANOTHER UNIT LAYOUT ELEMENT TO BE CONSIDERED. FIELD VERIFY TYPES AND LOCATIONS IN EXISTING CONDITIONS. U.N.O. NOTIFY ARCHITECT IMMEDIATELY IN WRITING IF ELEMENT TO REMAIN IS NOT SHOWN AND BE PROTECTED. FIELD VERIFY TYPES
- NEW WINDOWS TO BE INSTALLED THAT BOTTOM OF THE CLEAR OPENING IS NOT GREATER THAN 44" AFF. U.N.O.
- FURNITURE AND EQUIPMENT PROVIDED N.I.C. SHOWN HALFTONE FOR REFERENCE ONLY.

KEYNOTE LEGEND

NO.	DESCRIPTION
02	ROLLER BLINDS; G.C. TO FIELD VERIFY FINAL SIZE(S)
20	EQUIPMENT IS OFCL.
21	ROLLER BLINDS, TYP. SEE A202 FOR LOCATIONS

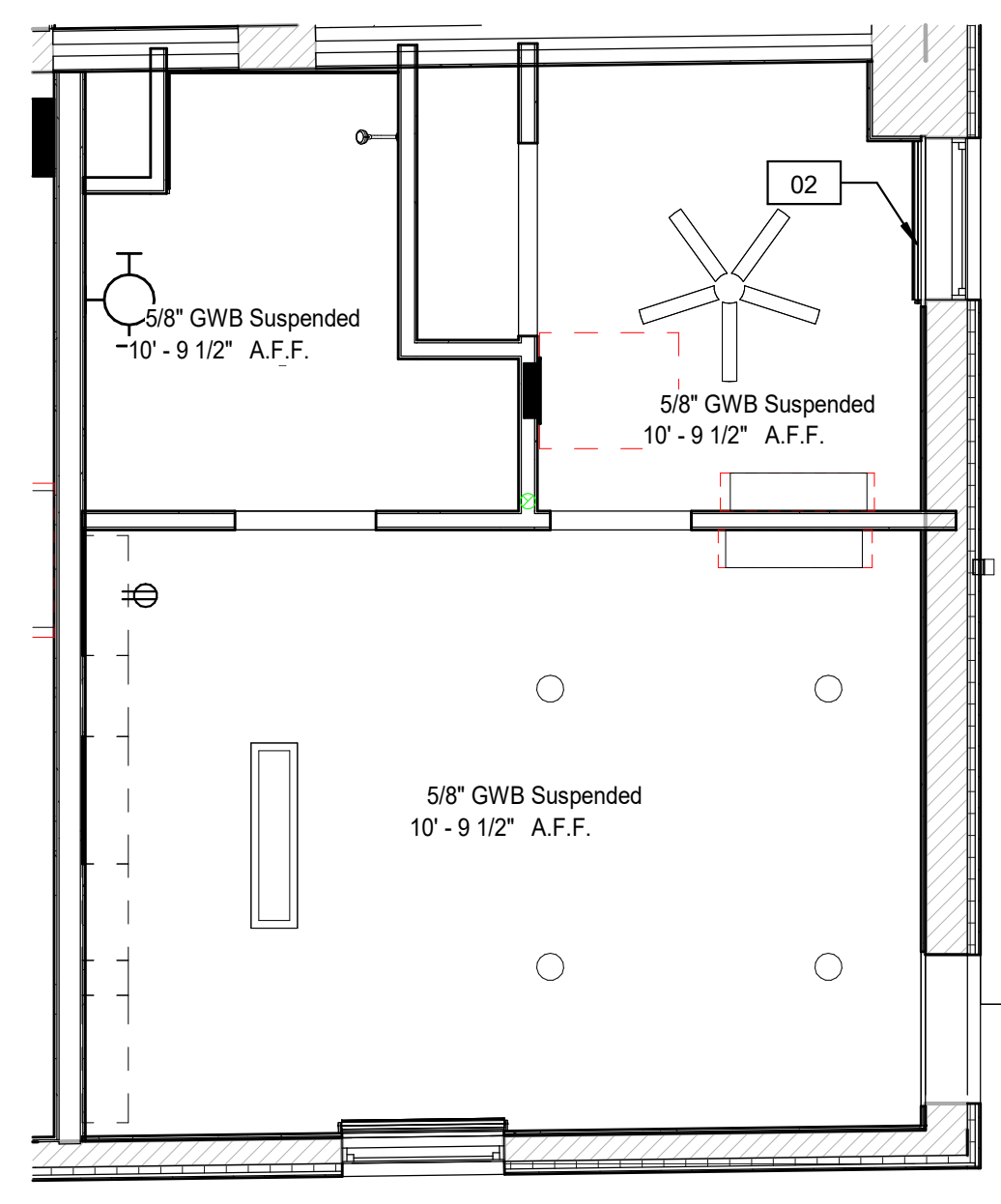
TOILET ACCESSORIES SCHEDULE

TAG	DESCRIPTION	MODEL
TA-4B	Toilet Tissue Dispenser	508-52
TA-7	Wall mounted tub/shower valve	
TA-7-1	Wall mounted shower head	
TA-12	Shower Curtain Rod	907-24
TA-20	Towel Bar - 24" W	907-24
TA-21	Round Mirror 22 Inch	K-31367-CPL

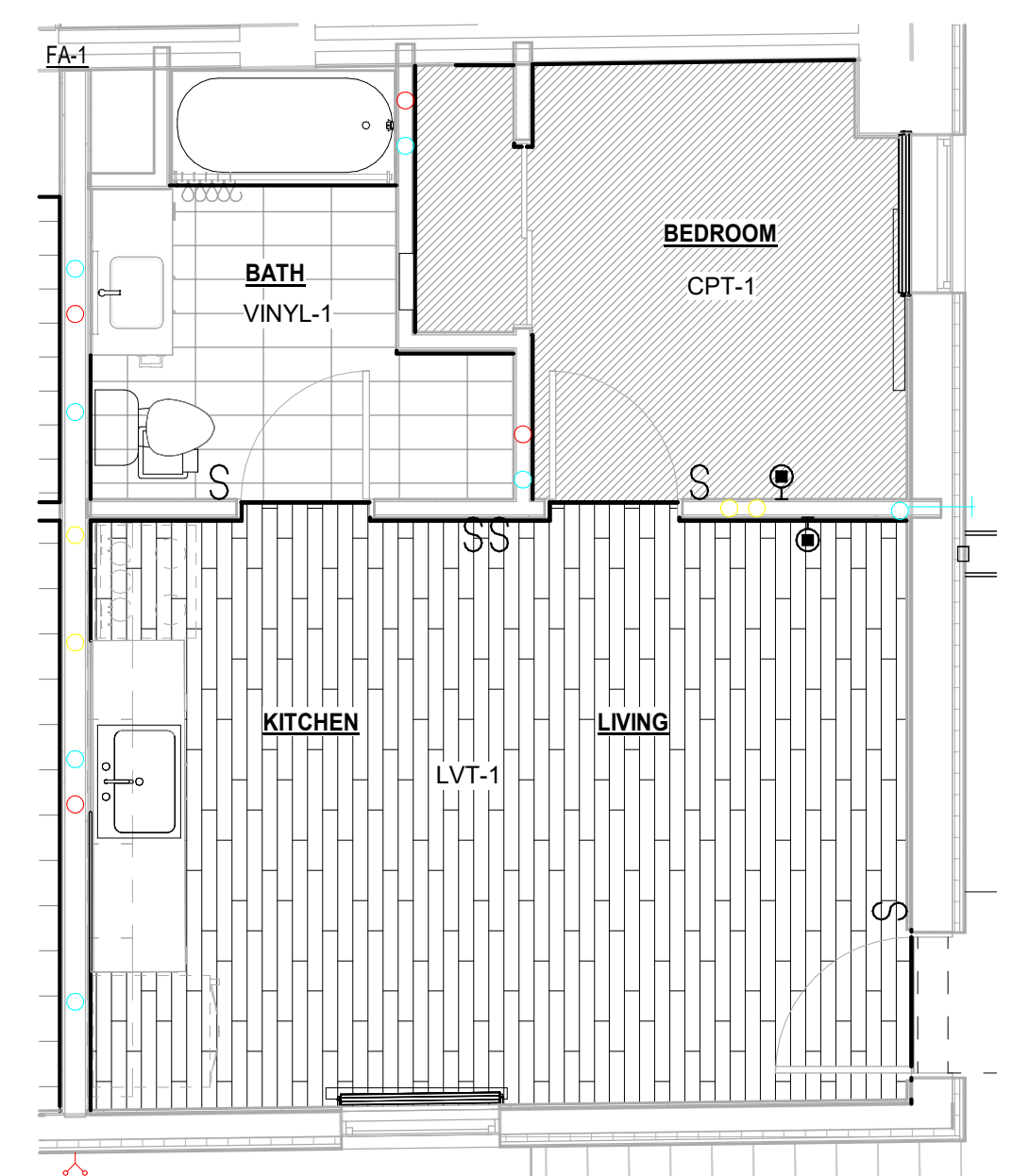
NOTE: HATCH INDICATES MATERIAL TYPE AND IS NOT A REPRESENTATION OF INDIVIDUAL MATERIAL COURSING

FLOORS

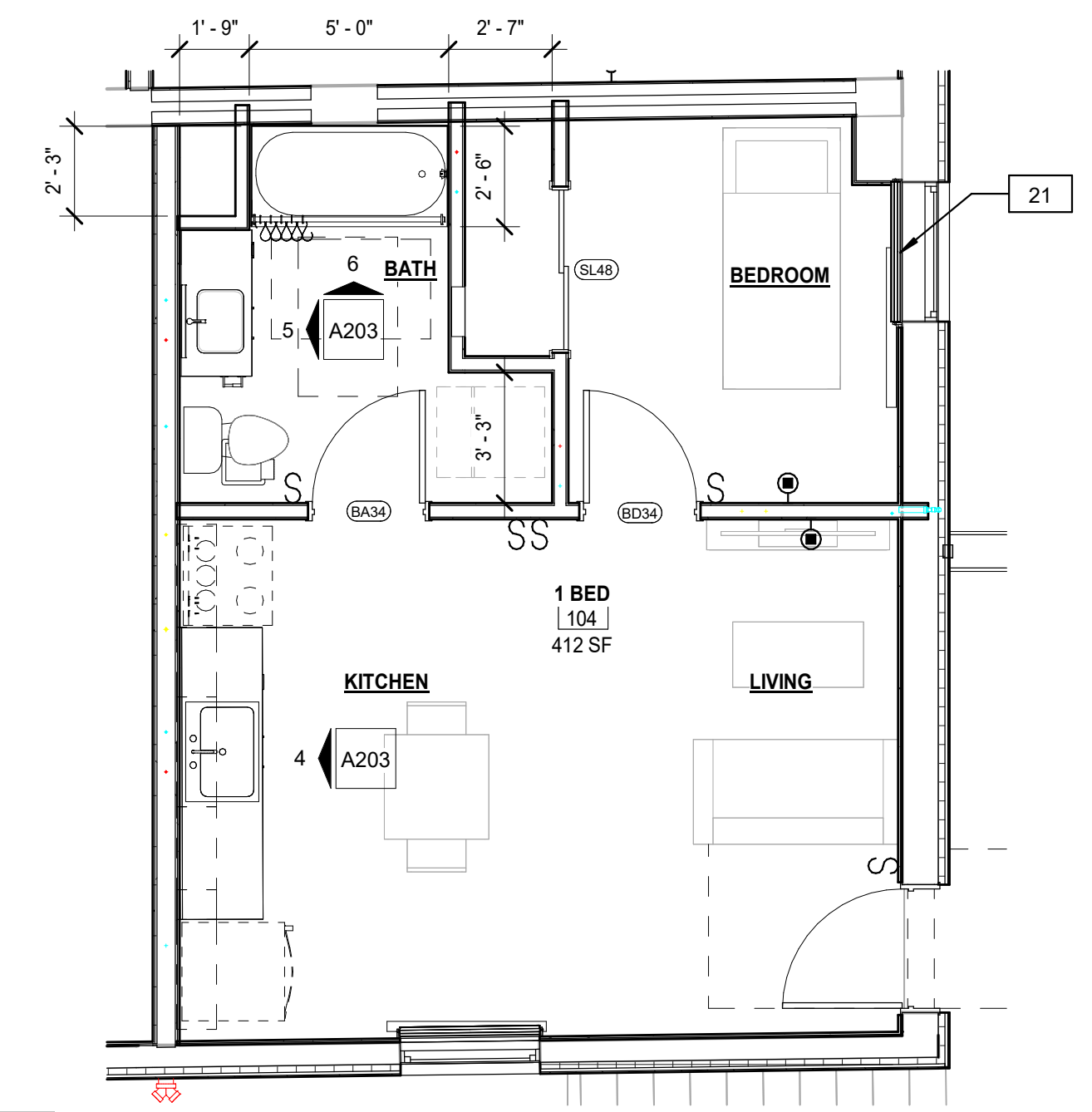
	CARPET TILE (CPT-1)
	VINYL TILE (VINYL-1)
	LUXURY VINYL TILE (LVT-1)



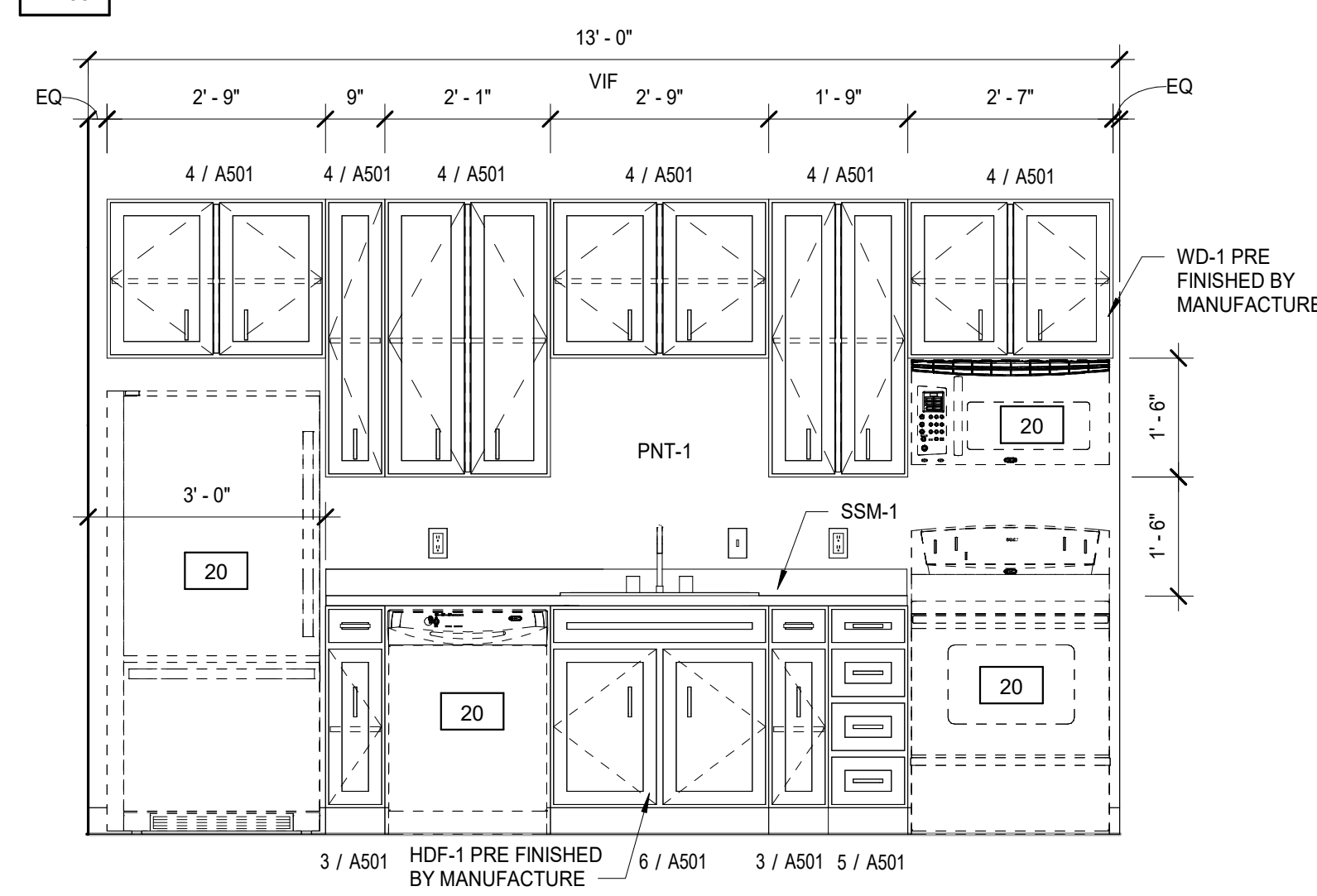
1 TYPICAL UNIT A - 1 BEDROOM REFLECTED CEILING PLAN
A203 1/4" = 1'-0"



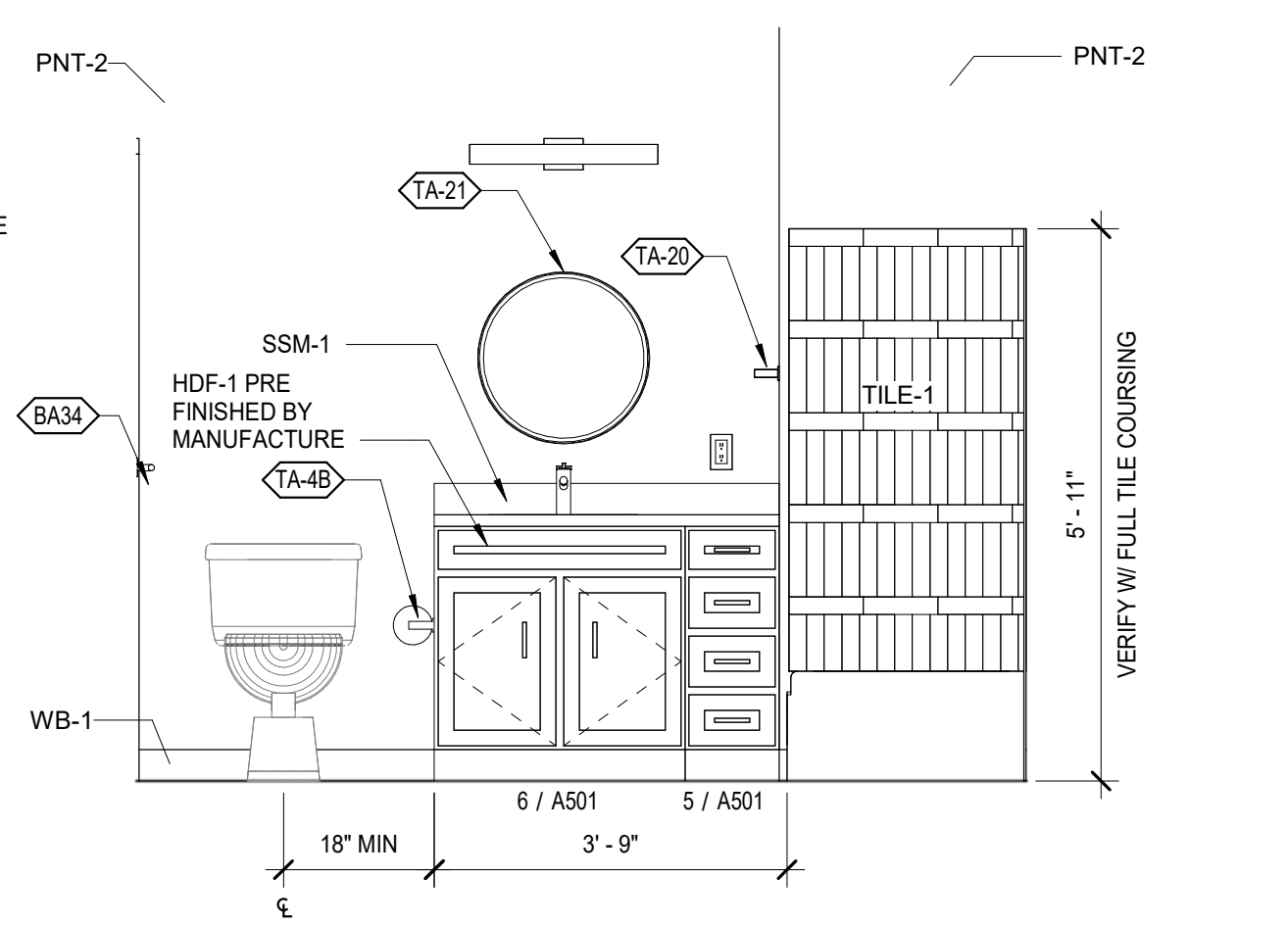
2 TYPICAL UNIT A - 1 BEDROOM FINISH PLAN
A203 1/4" = 1'-0"



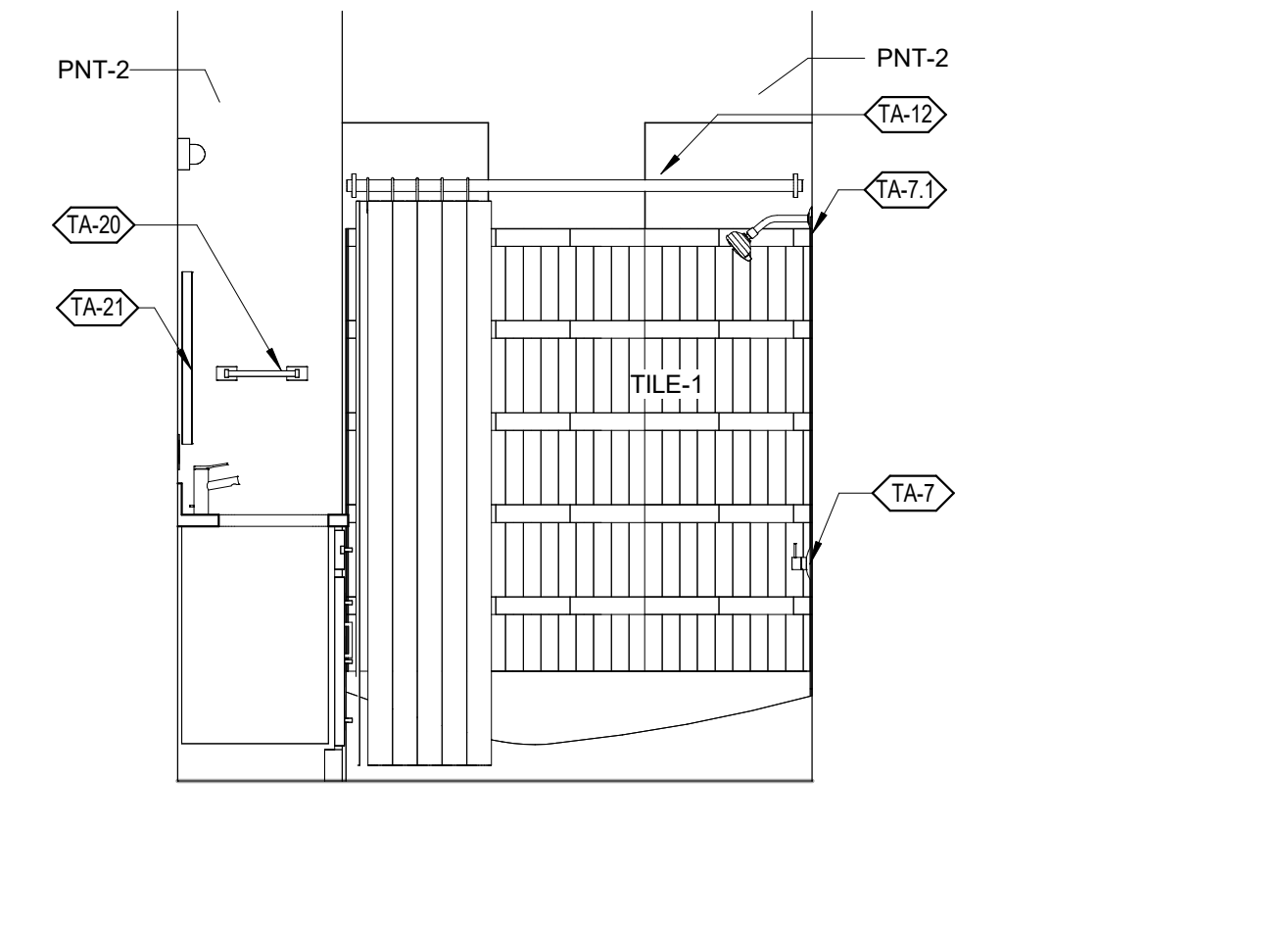
3 TYPICAL UNIT A - 1 BEDROOM FLOOR PLAN
A203 1/4" = 1'-0"



4 TYPICAL KITCHEN ELEVATION
A203 1/2" = 1'-0"



5 UNIT 1 BATHROOM ELEVATION WEST
A203 1/2" = 1'-0"



6 UNIT 1 BATHROOM ELEVATION NORTH
A203 1/2" = 1'-0"

FINISH SPECIFICATIONS

ABBREVIATION	MANUFACTURER	DESCRIPTION	PRODUCT INFORMATION	COLOR	SIZE	REMARKS
CARPET (CPT-)						
CPT-1	PATCRAFT	CARPET TILE	ARTEFACT; PATINA I0511	MARK OF TIME 00200	12" X 48"	
GROUT (GR-)						
GR-1	MAPEI	SERENE	USE WITH TILE-1	WARM GRAY; 93		
HIGH DENSITY FIBER BOARD (HDF-)						
HDF-1	CKF CABINETS	HDF PIONEER DOOR STYLE	ELEMENT	PAINT GRADE; NAVAL		BASIS OF DESIGN
LUXURY VINYL TILE (LVT-)						
LVT-1	TARKETT	LUXURY VINYL TILE	ID LATITUDE WOOD	7533 NORDIC	6" X 48"	
PAINT (PNT-)						
PNT-1	SHERWIN WILLIAMS		EGGSHELL	TINSMITH; 7657		MAINFIELD PAINT COLOR
PNT-2	SHERWIN WILLIAMS		EGGSHELL	CADET; 9143		ACCENT WALL PAINT
PNT-3	SHERWIN WILLIAMS		EGGSHELL	CEILING BRIGHT WHITE; 7007		GWB CEILING PAINT COLOR
PNT-4	SHERWIN WILLIAMS		EGGSHELL	HIGH REFLECTIVE WHITE; 7757		RETAIL FIELD PAINT COLOR
SOLID SURFACE(SS-)						
SS-1	CORIAN	CORIAN COUNTERTOPS		CIRRUS WHITE		
TILE (TILE-)						
TILE-1	DALTILE	PROCELAIN WALL TILE	REMEDY	EXLIIR RD20	2 1/4" X 9 1/2"	BATHROOM WALL TILE
VINYL (VINYL-)						
VINYL-1	TARKETT	VINYL TILE	ACCZENT; 251	CONCRETE COOL GREY 28500	2300 cm x 200 cm	BATHROOM & KITCHEN FLOOR TILE
WALL BASE (WB-)						
WB-1	JOHNSONITE-TARKETT	TRADITIONAL WALL BASE	CB/DC-XX	STORM CLOUD CG		TYPICAL UNO.
WOOD (WD-)						
WD-1	CKF CABINETS	SOLID WOOD & VENEER PIONEER DOOR STYLE	ELEMENT	MAPLE; CASHEW		BASIS OF DESIGN

UNIT FINISH SCHEDULE

ROOM NAME	FLOOR FINISH	WALL FINISH					CEILING MATERIAL	COMMENTS
		BASE	NORTH	EAST	SOUTH	WEST		
1 BEDROOM								
LIVING	LVT-1	WB-1	PNT-1	PNT-1	PNT-1	PNT-1	PNT-3	
BEDROOM	CPT-1	WB-1	PNT-1	PNT-1	PNT-1	PNT-1	PNT-3	
KITCHEN	LVT-1	WB-1	PNT-1	PNT-1	PNT-1	PNT-2	PNT-3	
BATH	VINYL-1	WB-1	PNT-2	PNT-2	PNT-2	PNT-2	PNT-3	
STUDIO								
LIVING/BED	CPT-1	WB-1	PNT-1	PNT-1	PNT-1	PNT-1	PNT-3	
KITCHEN	LVT-1	WB-1	PNT-1	PNT-1	PNT-1	PNT-1	PNT-3	
BATH	VINYL-1	WB-1	PNT-2	PNT-2	PNT-2	PNT-2	PNT-3	

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SYMBOL LEGEND

- EXISTING WINDOW AND DOOR LOCATIONS SHALL BE VERIFIED WITH LOCAL FIRE AUTHORITY.
- UNIT LAYOUTS SHOWN HALFTONE FOR REFERENCE. ~~EXISTING WALLS AND ELEMENTS TO BE DEMOLISHED SHALL BE SHOWN WITH DASHED LINES.~~
- NEW EXTERIOR WINDOW AND DOOR TYPES AND LOCATIONS SHALL BE FIELD VERIFIED TYPES AND LOCATED IN EXISTING OPENINGS U.N.O. NOTIFY ARCHITECT IMMEDIATELY IN WRITING IF ELEMENT TO REMAIN DISCREPANCY. AND BE PROTECTED. FIELD VERIFY TYPES
- NEW WINDOWS TO BE SUBSTITUTED THAT BOTTOM OF THE CLEAR OPENING IS NOT GREATER THAN 44" AFF. U.N.O.
- FURNITURE AND EQUIPMENT PROVIDED N.I.C. SHOWN HALFTONE FOR REFERENCE.

KEYNOTE LEGEND

NO.	DESCRIPTION
13	STACKED WASHER AND DRYER - OFCI
21	ROLLER BLINDS, TYP. SEE A202 FOR LOCATIONS

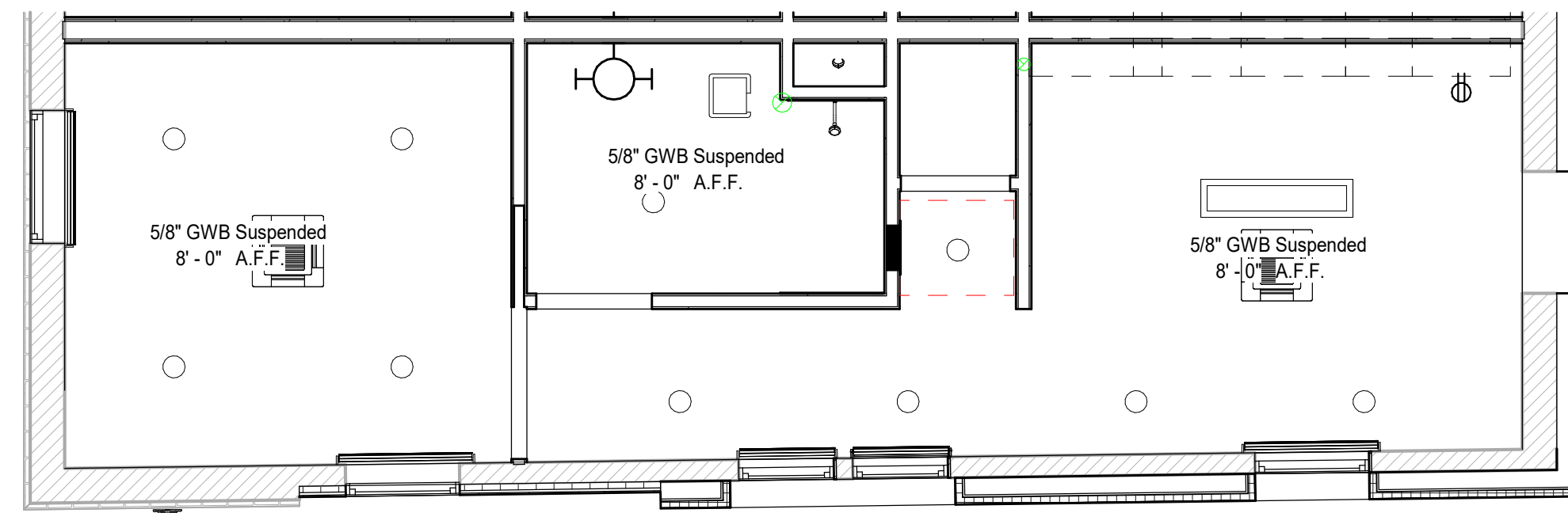
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TA-21	Round Mirror 22 Inch	K-31367-CPL

NOTE: HATCH INDICATES MATERIAL TYPE AND IS NOT A REPRESENTATION OF INDIVIDUAL MATERIAL COURSING

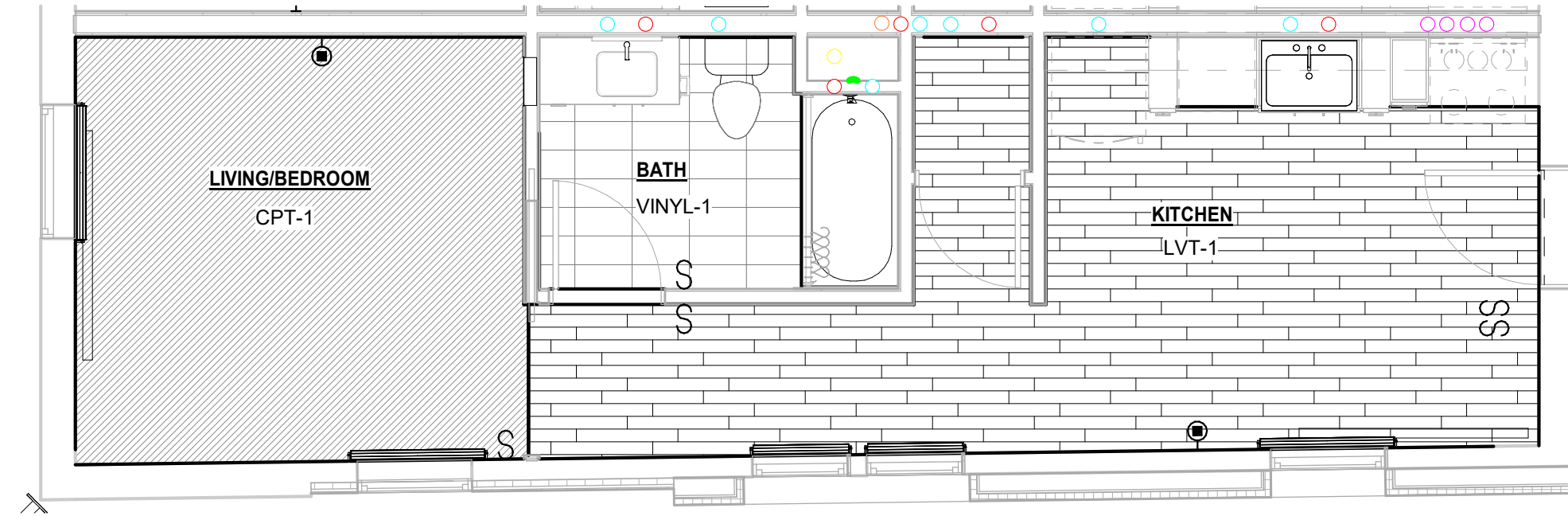
FLOORS

	CARPET TILE (CPT-1)
	VINYL TILE (VINYL-1)
	LUXURY VINYL TILE (LVT-1)



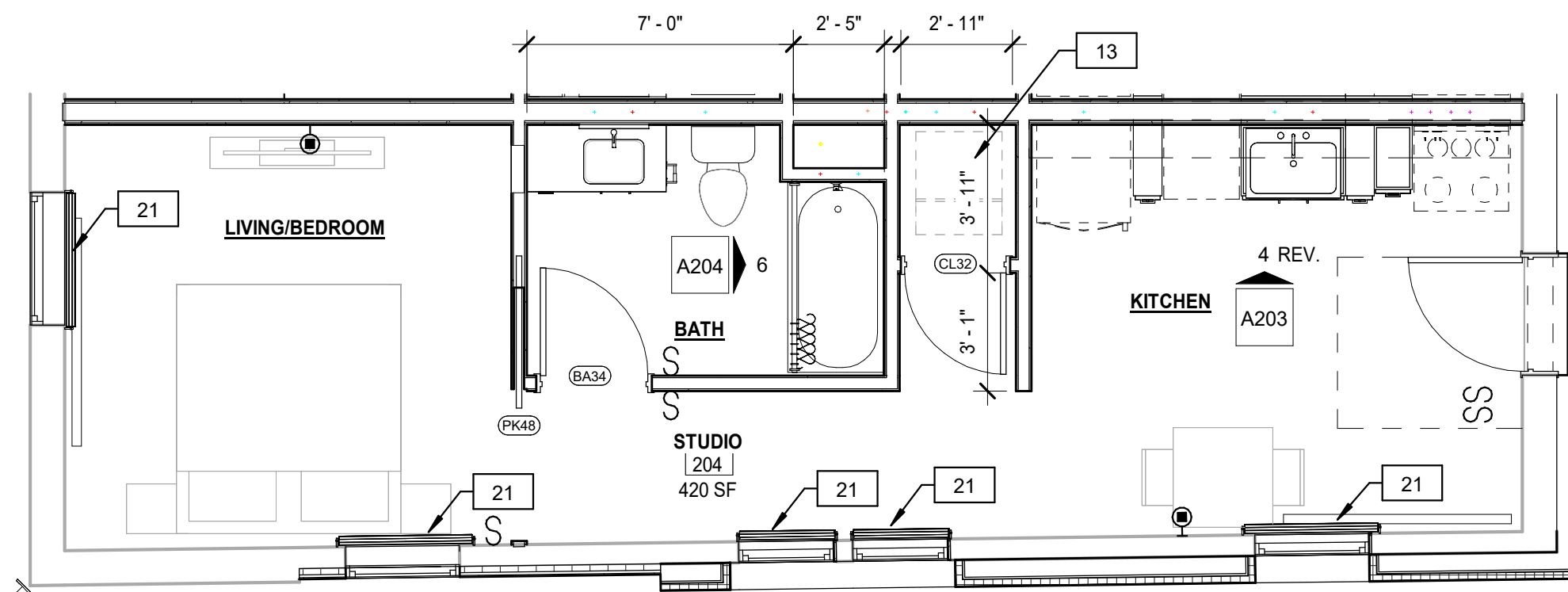
1 TYPICAL UNIT B - STUDIO REFLECTED CEILING PLAN

A204 1/4" = 1'-0"



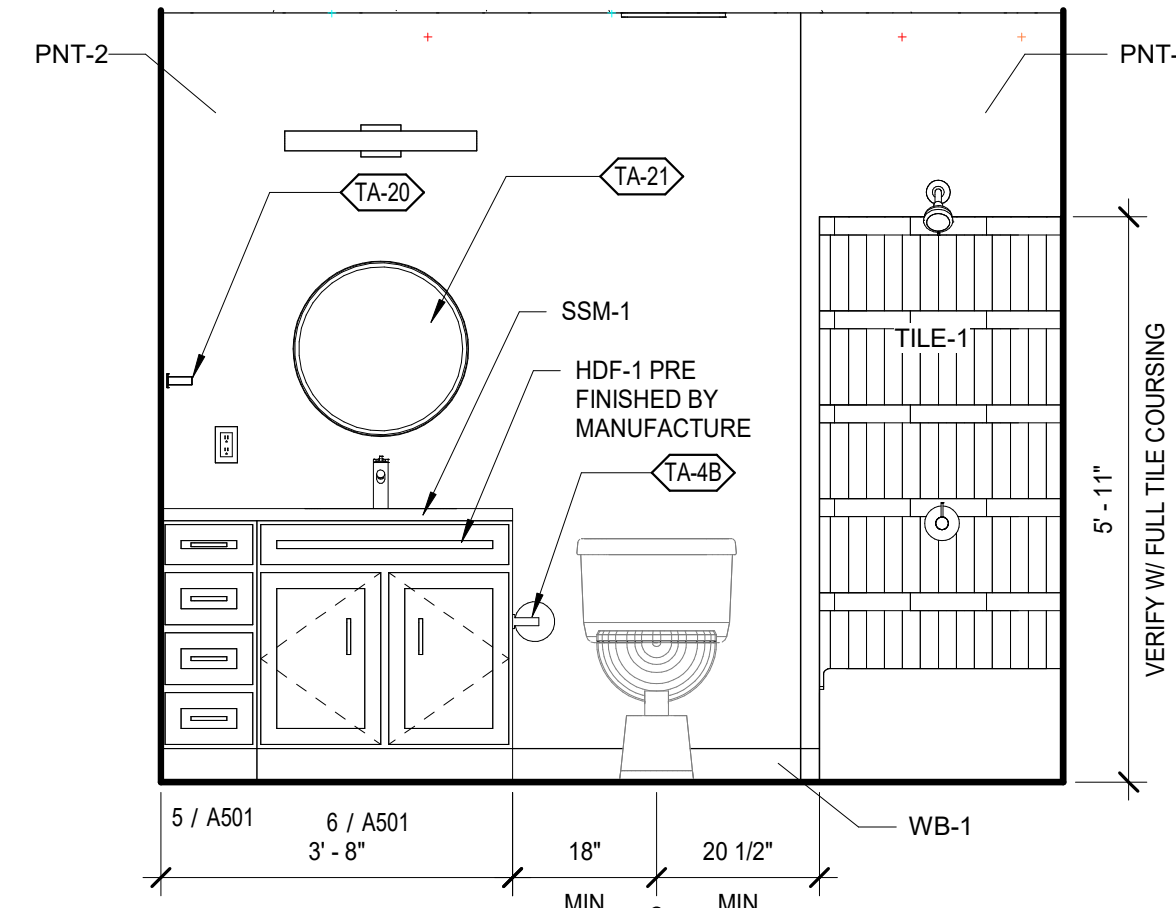
2 TYPICAL UNIT B - STUDIO FINISH PLAN

A204 1/4" = 1'-0"



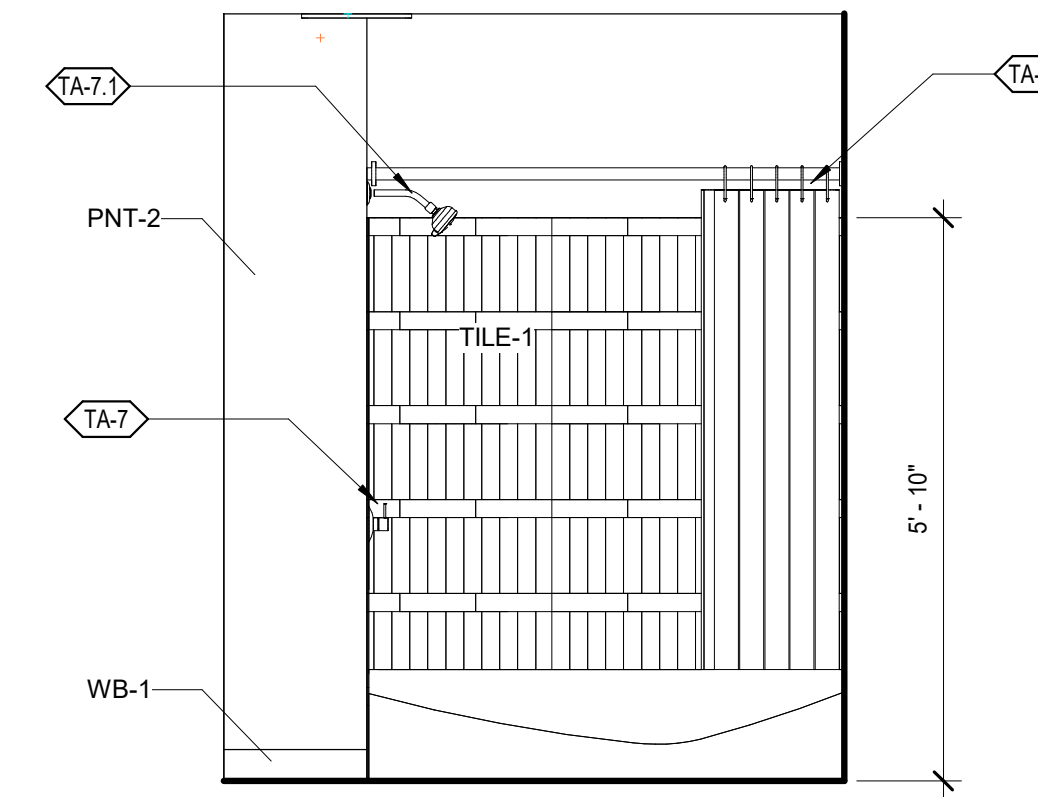
3 TYPICAL UNIT B - STUDIO FLOOR PLAN

A204 1/4" = 1'-0"



5 STUDIO BATHROOM ELEVATION

A204 1/2" = 1'-0"



6 STUDIO BATHROOM ELEVATION BATH

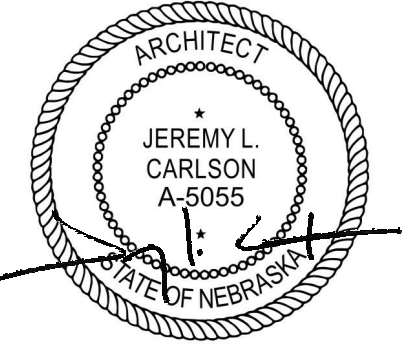
A204 1/2" = 1'-0"

FINISH SPECIFICATIONS

ABBREVIATION	MANUFACTURER	DESCRIPTION	PRODUCT INFORMATION	COLOR	SIZE	REMARKS
CARPET (CPT-)						
CPT-1	PATCRAFT	CARPET TILE	ARTEFACT; PATINA 10511	MARK OF TIME 00200	12" X 48"	
GROUT (GR-)						
GR-1	MAPEI	SERENE	USE WITH TILE-1	WARM GRAY; 93		
HIGH DENSITY FIBER BOARD (HDF-)						
HDF-1	CKF CABINETS	HDF PIONEER DOOR STYLE	ELEMENT	PAINT GRADE; NAVAL		BASIS OF DESIGN
LUXURY VINYL TILE (LVT-)						
LVT-1	TARKETT	LUXURY VINYL TILE	ID LATITUDE WOOD	7533 NORDIC	6" X 48"	
PAINT (PNT-)						
PNT-1	SHERWIN WILLIAMS		EGGSHELL	TINSMITH; 7657		MAINFIELD PAINT COLOR
PNT-2	SHERWIN WILLIAMS		EGGSHELL	CADET; 9143		ACCENT WALL PAINT
PNT-3	SHERWIN WILLIAMS		EGGSHELL	CEILING BRIGHT WHITE; 7007		GWB CEILING PAINT COLOR
PNT-4	SHERWIN WILLIAMS		EGGSHELL	HIGH REFLECTIVE WHITE; 7757		RETAIL FIELD PAINT COLOR
SOLID SURFACE (SS-)						
SS-1	CORIAN	CORIAN COUNTERTOPS		CIRRUS WHITE		
TILE (TILE-)						
TILE-1	DALTILE	PROCELAIN WALL TILE	REMEDY	EXLIJR RD20	2 1/4" X 9 1/2"	BATHROOM WALL TILE
VINYL (VINYL-)						
VINYL-1	TARKETT	VINYL TILE	ACCZENT; 251	CONCRETE COOL GREY 28500	2300 cm x 200 cm	BATHROOM & KITCHEN FLOOR TILE
WALL BASE (WB-)						
WB-1	JOHNSONITE-TARKETT	TRADITIONAL WALL BASE	CB/DC-XX	STORM CLOUD CG		TYPICAL UNO.
WOOD (WD-)						
WD-1	CKF CABINETS	SOLID WOOD & VENEER PIONEER DOOR STYLE	ELEMENT	MAPLE; CASHEW		BASIS OF DESIGN

UNIT FINISH SCHEDULE

ROOM NAME	FLOOR FINISH	WALL FINISH						CEILING MATERIAL	COMMENTS
		BASE	NORTH	EAST	SOUTH	WEST			
1 BEDROOM									
LIVING	LVT-1	WB-1	PNT-1	PNT-1	PNT-1	PNT-1	PNT-3		
BEDROOM	CPT-1	WB-1	PNT-1	PNT-1	PNT-1	PNT-1	PNT-3		
KITCHEN	LVT-1	WB-1	PNT-1	PNT-1	PNT-1	PNT-2	PNT-3		
BATH	VINYL-1	WB-1	PNT-2	PNT-2	PNT-2	PNT-2	PNT-3		
STUDIO									
LIVING/BED	CPT-1	WB-1	PNT-1	PNT-1	PNT-1	PNT-1	PNT-3		
KITCHEN	LVT-1	WB-1	PNT-1	PNT-1	PNT-1	PNT-1	PNT-3		
BATH	VINYL-1	WB-1	PNT-2	PNT-2	PNT-2	PNT-2	PNT-3		



GENERAL NOTES - FLOOR PLAN

- 1 THE INTENT OF THE DRAWINGS IS TO PROVIDE INFORMATION FOR CONSTRUCTION. IT IS IMPORTANT FOR THE CONTRACTOR TO VERIFY FIELD DIMENSIONS AND CONDITIONS BEFORE EXECUTION OF THE WORK. CONTACT THE ARCHITECT SHOULD DISCREPANCIES EXIST.
- 2 CONTRACTOR AND SUBCONTRACTORS SHALL PROVIDE ALL LABOR, MATERIALS AND EQUIPMENT TO COMPLETE ALL WORK SHOWN ON PLANS, CALLED FOR IN SPECIFICATION, OR REASONABLY IMPLIED FOR A COMPLETE INSTALLATION EVEN THOUGH NEITHER SHOWN ON PLANS OR CALLED OUT IN SPECIFICATIONS.
- 3 REVIEW SHEET S100 AND PERFORM BUILDING REHABILITATION RECOMMENDATIONS PRIOR TO COMMENCING WORK. WHERE RECOMMENDATIONS AND SCOPE OF WORK OVERLAP, DEFER TO DRAWINGS.
- 4 WHERE FLOOR IS TRANSITIONING TO A DIFFERENT MATERIAL, INSTALL A TRANSITION STRIP.
- 5 DIMENSIONS ARE FROM FACE OF STUD UNLESS OTHERWISE NOTED.
- 6 DEBRIS SHALL BE PROMPTLY REMOVED FROM THE BUILDING AND THE SITE AND DISPOSED OF IN A LEGAL MANNER. SURFACES IN THE CONSTRUCTION AREA SHALL BE MAINTAINED IN A ROOM CLEAN CONDITION AT THE END OF EACH WORK DAY.

GENERAL NOTES - FLOOR PLAN

- 7 THE CONTRACTOR SHALL PROVIDE ALL DEMOLITION INCIDENTAL TO OR REQUIRED FOR NEW AND RENOVATION CONSTRUCTION WHETHER OR NOT IT IS SPECIFICALLY NOTED, INCLUDING, BUT NOT LIMITED TO, ALL OTHER WORK THAT MIGHT REASONABLY BE REQUIRED TO BE REMOVED IN PREPARATION FOR SPECIFIED FINISHES. DEMOLITION SHALL BE PERFORMED IN A MANNER THAT WILL NOT DAMAGE ANY ITEMS OR SURFACES INDICATED TO REMAIN. ITEMS OR SURFACES SHALL BE PATCHED IF NECESSARY TO PROVIDE A SUITABLE SUB-STRATA FOR NEW FINISHES.
- 8 FIRE EXTINGUISHERS FINAL LOCATIONS SHALL BE VERIFIED WITH LOCAL FIRE AUTHORITY.
- 9 UNIT LAYOUTS SHOWN HALFTONE FOR REFERENCE. REFER TO UNIT PLANS FOR LAYOUT.
- 10 NEW EXTERIOR WINDOWS AND DOORS TO BE LOCATED IN EXISTING OPENINGS U.N.O. NOTIFY ARCHITECT IMMEDIATELY IN THE CASE OF A DISCREPANCY.
- 11 NEW WINDOWS TO BE INSTALLED SUCH THAT BOTTOM OF THE CLEAR OPENING IS NOT GREATER THAN 4" AFF. U.N.O.
- 12 FURNITURE AND EQUIPMENT PROVIDED N.I.C. SHOWN DASHED FOR REFERENCE.
- 13 ALL NEW WALLS ARE TO EXTEND TO DECK, UNLESS OTHERWISE NOTED.

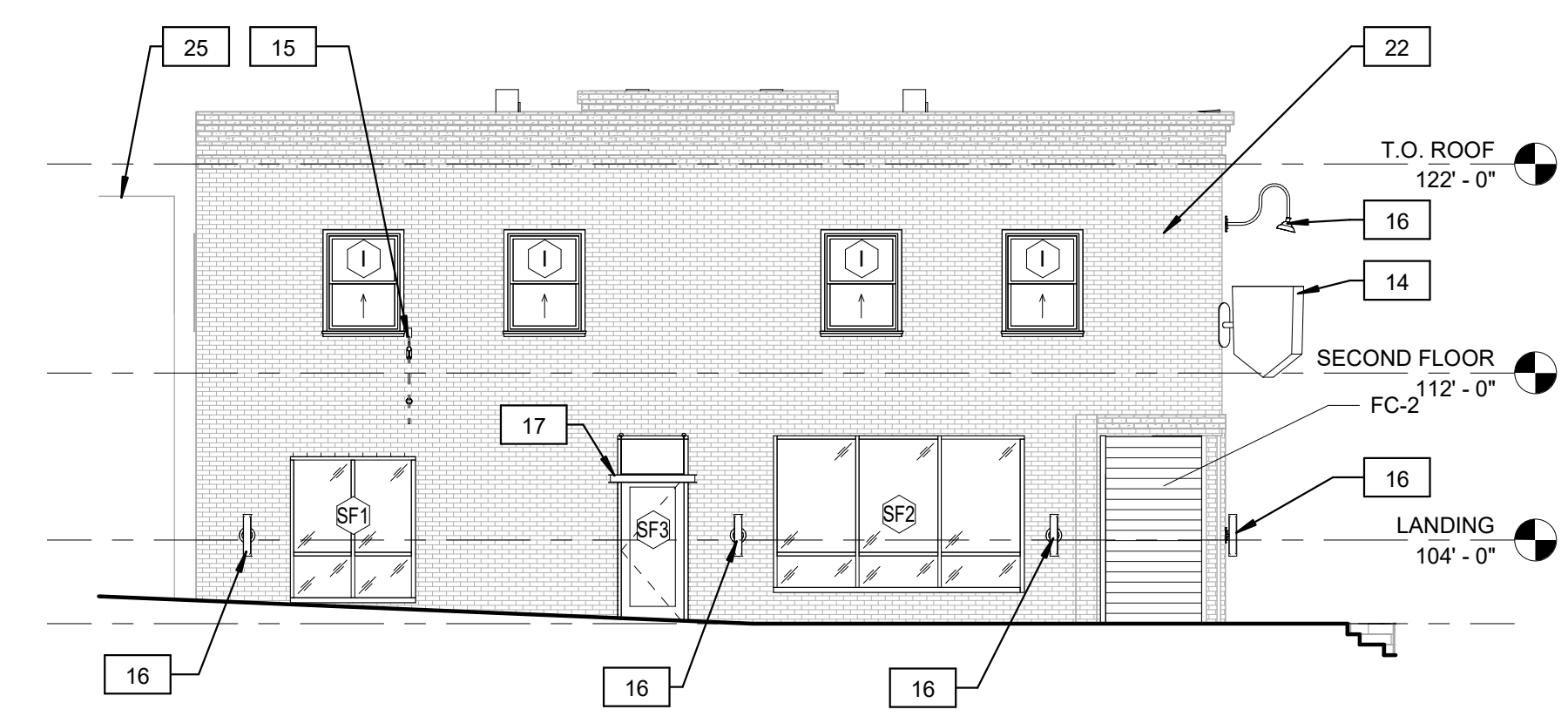
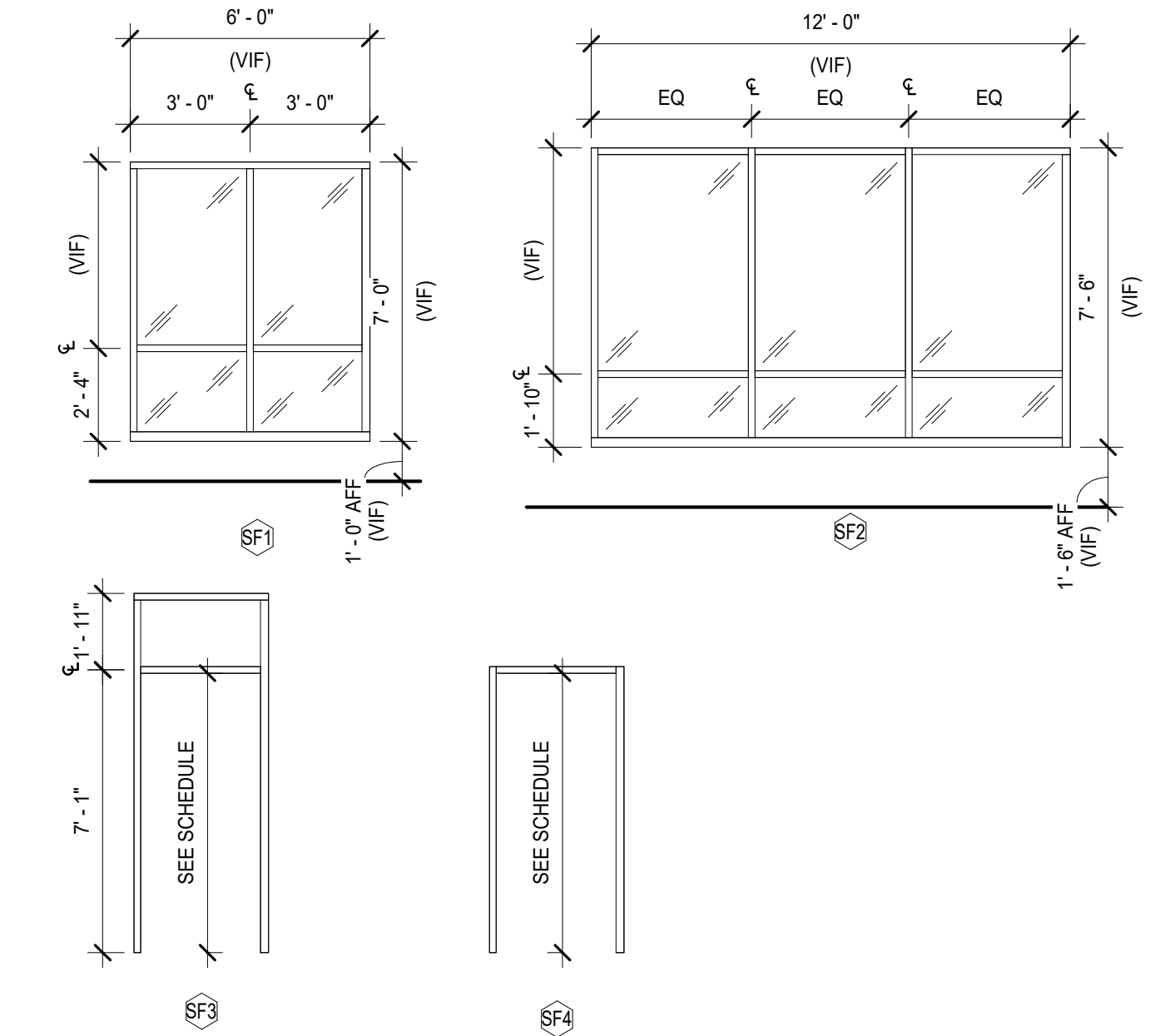
KEYNOTE LEGEND

NO.	DESCRIPTION
02	ROLLER BLINDS; G.C. TO FIELD VERIFY FINAL SIZE(S)
03	PREFINISHED MTL. GUTTER
06	INFILL OPENING WITH 2X10'S AT 16" ON-CENTER, ATTACH TO THE BRICK WALL VIA 5/8" DIA. EPOXY ADHESIVE ANCHORS (EMBED 5") AT 24" ON-CENTER, STAGGERED, ON TO THE 2X10 RIM-BOARD. COVER FLOOR JOISTS W/ TONGUE-AND-GROOVE 3/4" THICK OSB SHEATHING
09	POWERWASH EXISTING STAIRS AND SEAL W/ SILANE/SILOXANE SEALER.
10	NEW RETAINING WALL - REVIEW STRUCTURAL DRAWINGS.
11	PREFINISHED MTL. DOWNSPOUT
12	PAINT EXISTING WINDOW FRAME. SEE EXTERIOR ELEVATIONS FOR COLOR.
14	REPAIRED AND RELOCATED EXISTING BLADE SIGN.
15	NEW BLADE SIGN - BY OTHERS.
16	WALL-MOUNTED LIGHT FIXTURE - REVIEW ELECTRICAL DRAWINGS.
17	ALUMINUM CANOPY - BASIS OF DESIGN: MAPES SUPER LUMIDECK. CONTRACTOR TO FIELD VERIFY DIMENSIONS.
19	EXISTING FINISH TO REMAIN
22	CLEAN EXG. BRICK
23	PRIME AND PAINT SURFACE P-
24	CONC. SPLASH PAD
25	ADJACENT EXG. BUILDING
26	ADJACENT EXG. BUILDING SHOWN DASHED FOR REFERENCE
27	ROOF CRICKET; SLOPED INSULATION W/ ROOF MEMBRANE. MATCH EXG. ROOF MEMBRANE. PATCH AND REPAIR W/ EXG. ROOF PER MANUFACTURER REQUIREMENTS. SLOPE AS INDICATED. RETURN MEMBRANE UP BACK-SIDE OF PARAPET WALL AND FLASH PER MANUFACTURER'S REQUIREMENTS.
28	GUARDRAIL
30	ROOF-TOP MECHANICAL EQUIPMENT - REVIEW MECHANICAL DRAWINGS.

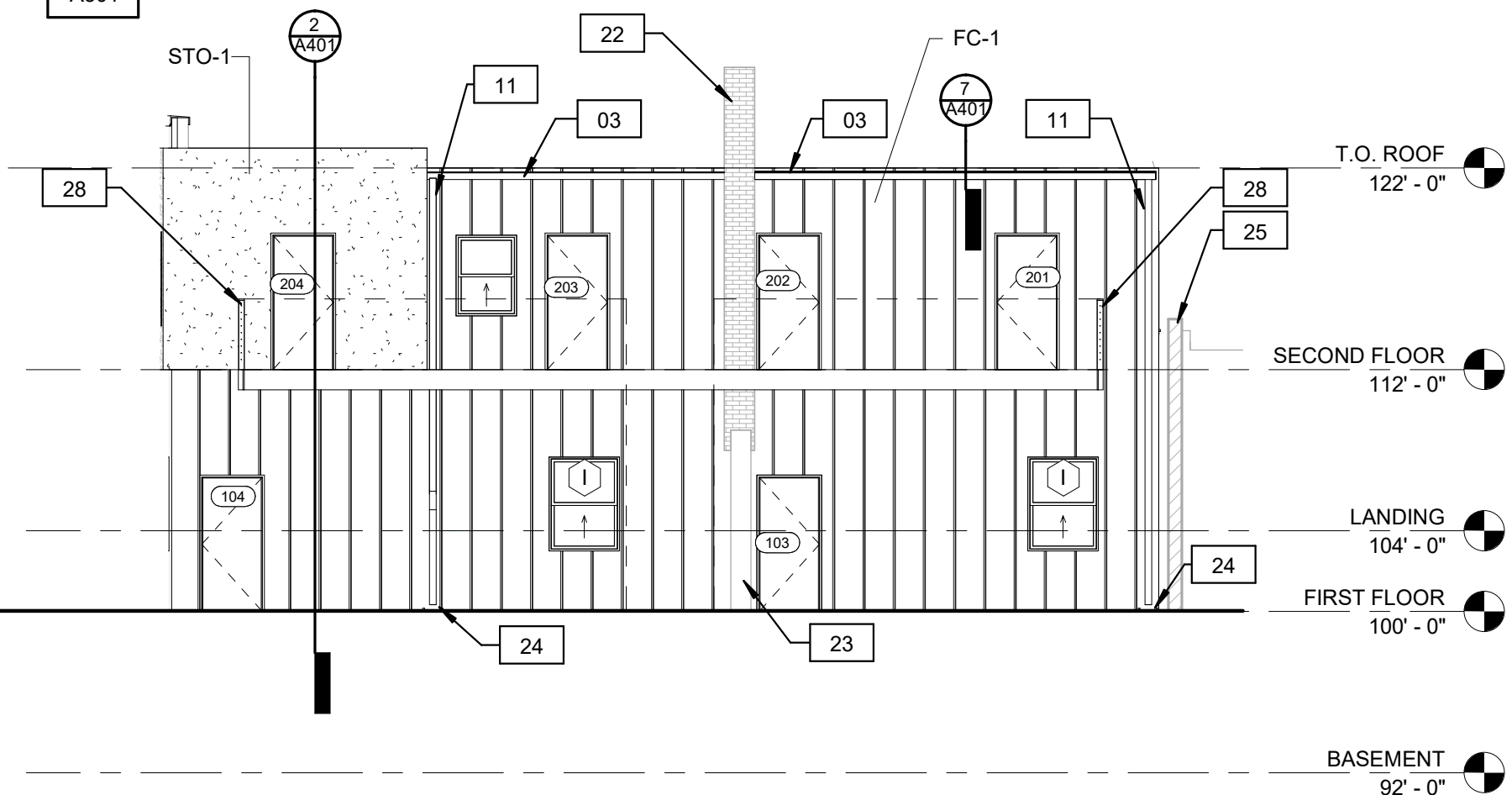
ELEVATION MATERIAL LEGEND

	EIFS W DRAINAGE (STO-1) STO CORP. STOTHERM CI LOTUSAN SYSTEM
	FIBER CEMENT (FC-1) JAMES HARDIE HARDIE PANEL VERTICAL SIDING WITH TRIM BOARDS BATTEN STRIPS
	FIBER CEMENT (FC-2) NICHHA VINTAGE WOOD - CEDAR AWP 1818

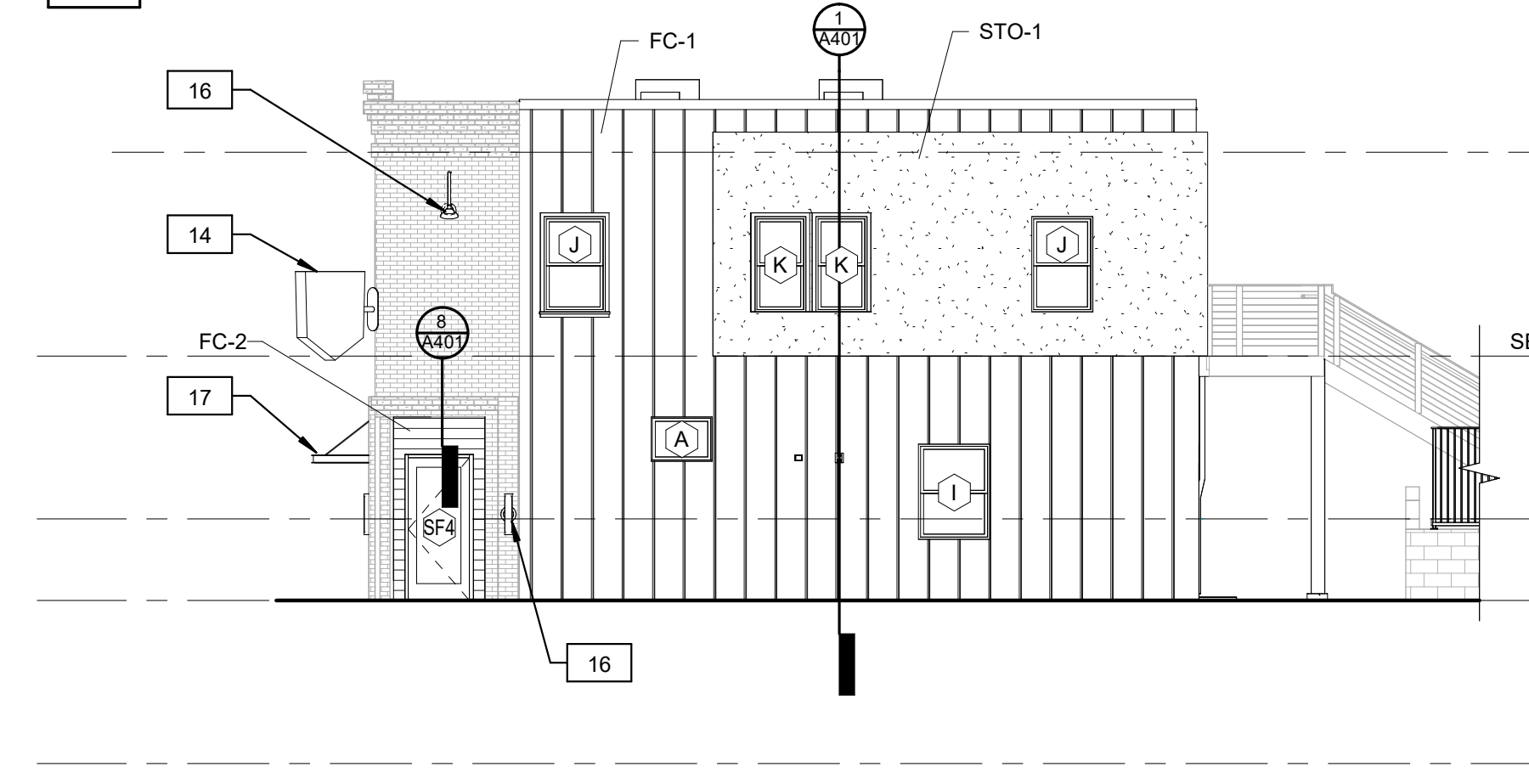
FRAME ELEVATIONS



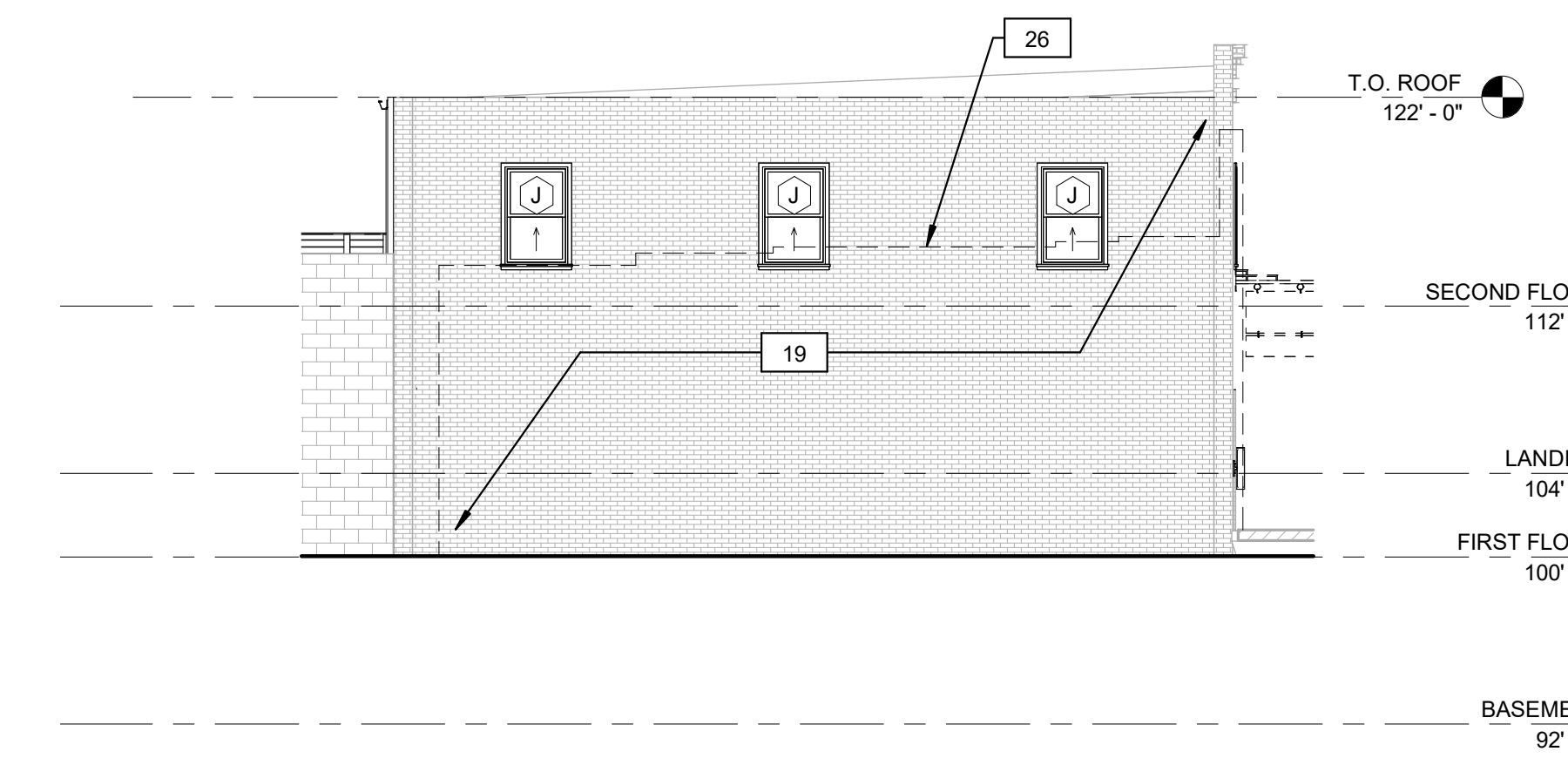
1 WEST EXTERIOR ELEVATION
A301 1/8" = 1'-0"



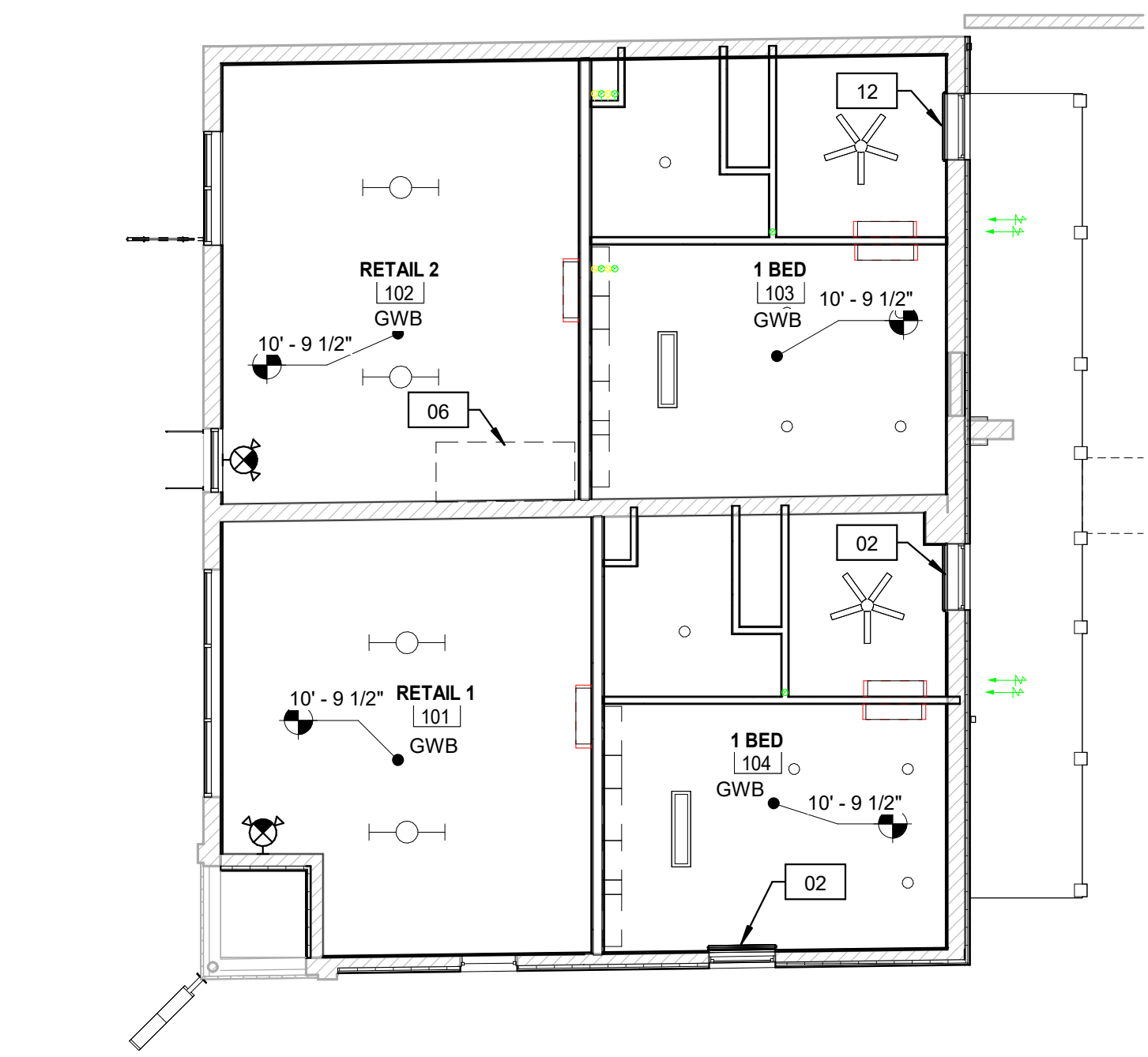
3 EAST EXTERIOR ELEVATION
A301 1/8" = 1'-0"



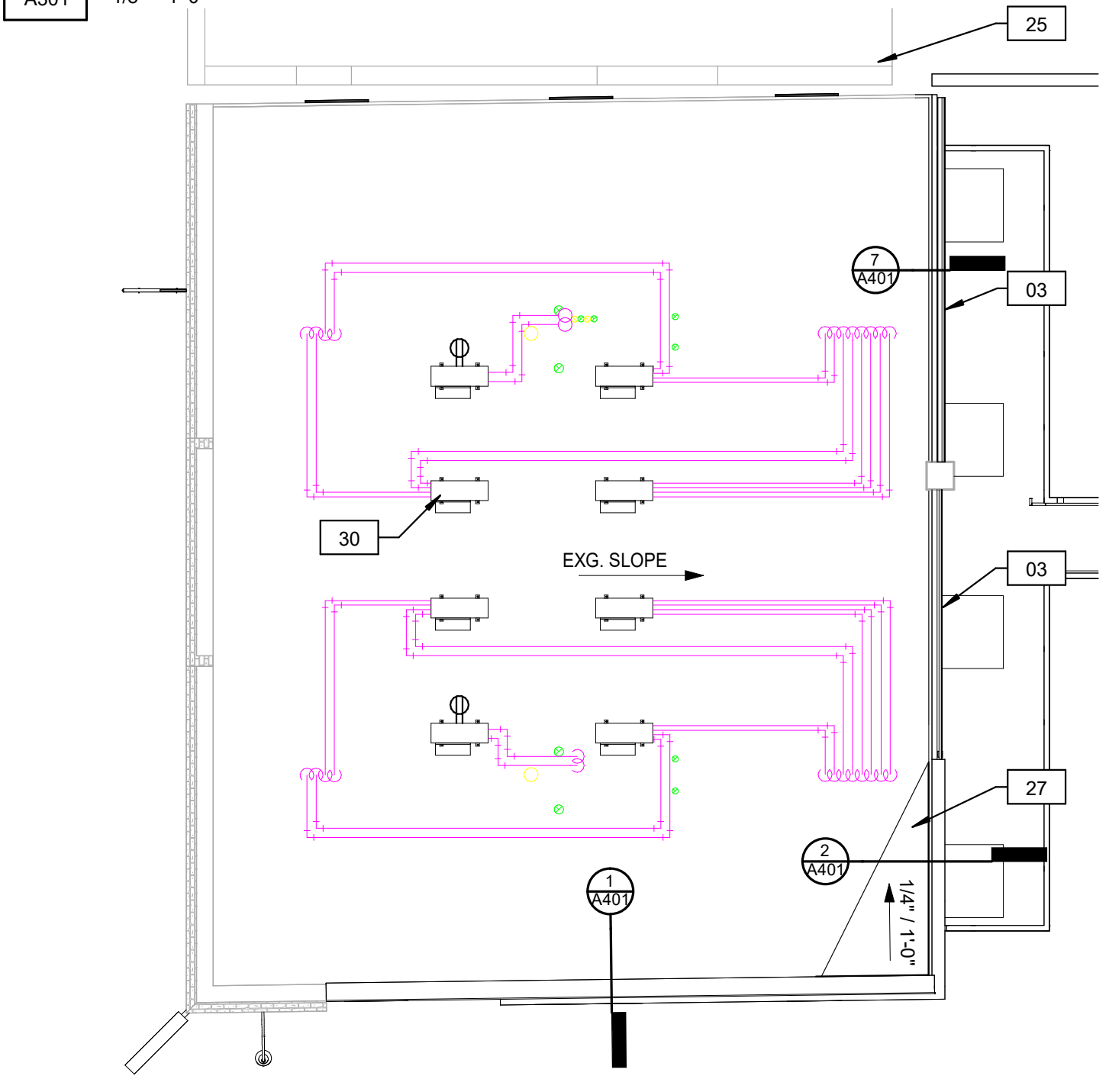
2 SOUTH EXTERIOR ELEVATION2
A301 1/8" = 1'-0"



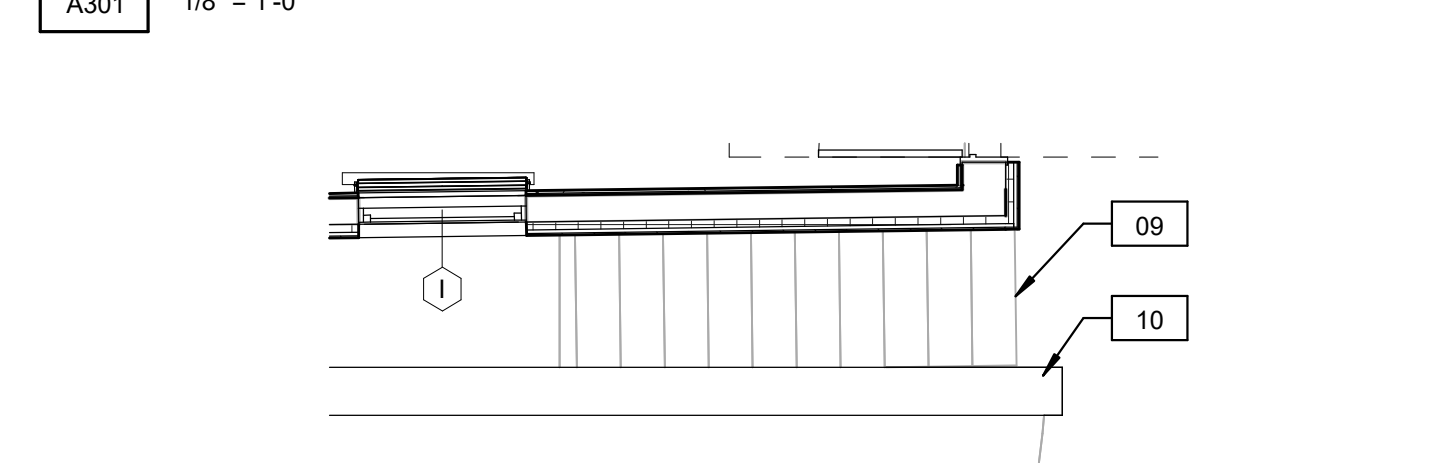
6 SOUTH EXTERIOR ELEVATION
A301 1/8" = 1'-0"



4 FIRST FLOOR REFLECTED CEILING PLAN
A301 1/8" = 1'-0"

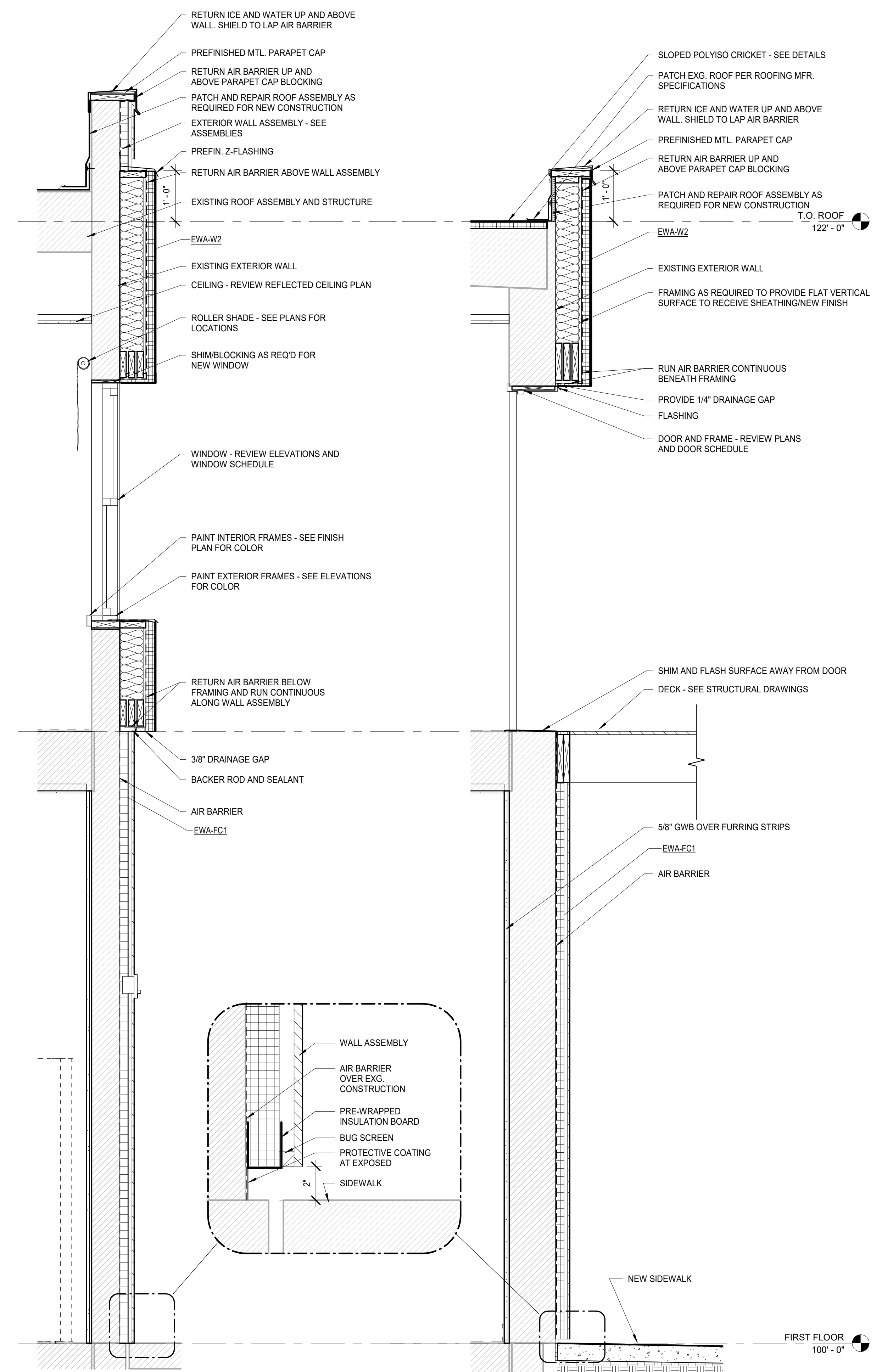


9 ROOF PLAN
A301 1/8" = 1'-0"



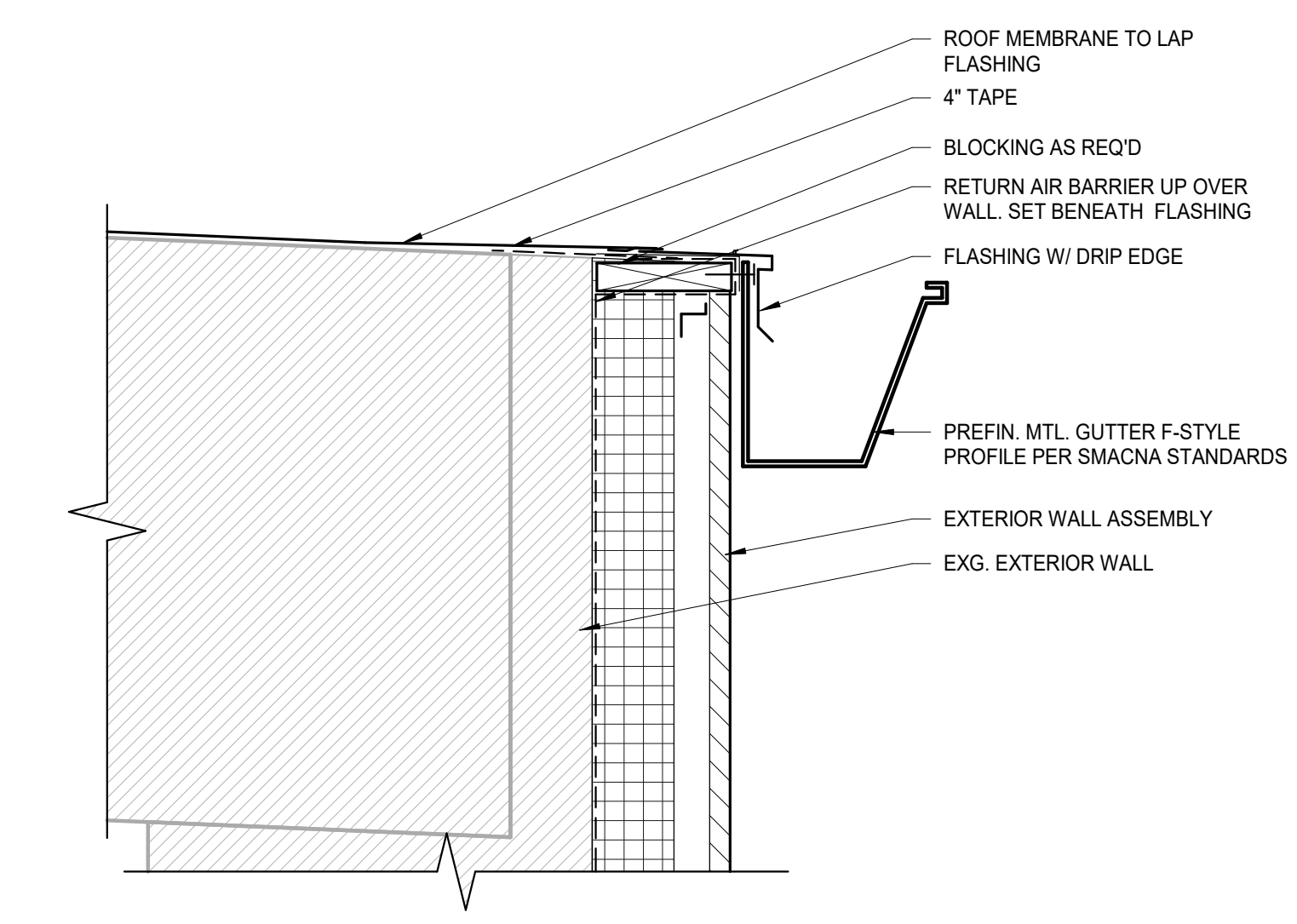
10 ENLARGED EXTERIOR STAIR PLAN
A301 1/4" = 1'-0"

WALL SECTION - GENERAL NOTES	
1	CONTRACTOR TO VERIFY EXISTING CONDITIONS PRIOR TO STARTING CONSTRUCTION. NOTIFY ARCHITECT IMMEDIATELY IF DISCREPANCIES BETWEEN ANTICIPATED VS OBSERVED CONDITIONS EXIST.
2	PROVIDE FLUID-APPLIED AIR BARRIER OVER EXISTING MASONRY WHERE NEW EXTERIOR FINISHES ARE NOTED. SEE EXTERIOR ELEVATIONS FOR EXTENTS OF WORK TO RECEIVE NEW FINISHES.

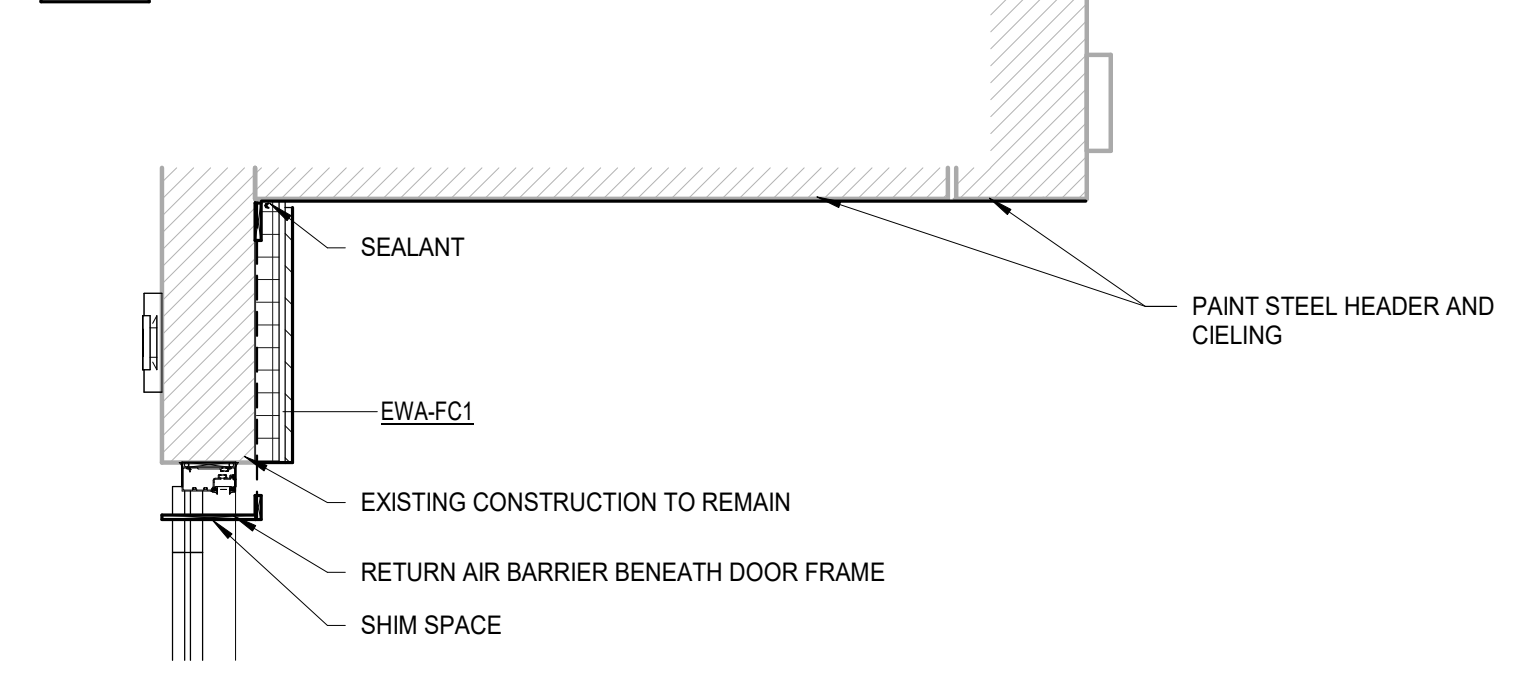


1 WALL SECTION
A401 3/4" = 1'-0"

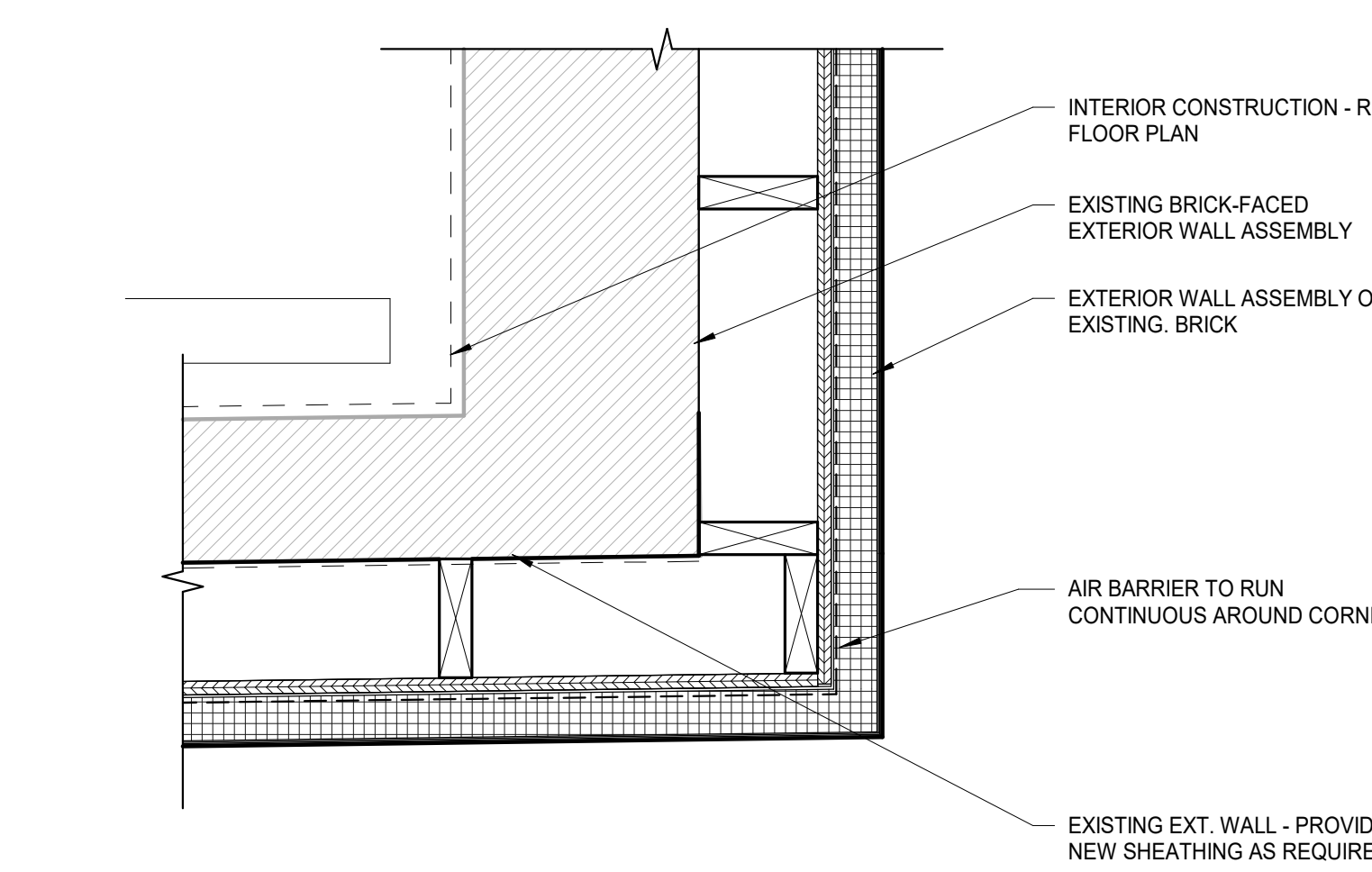
2 EAST WALL SECTION
A401 3/4" = 1'-0"



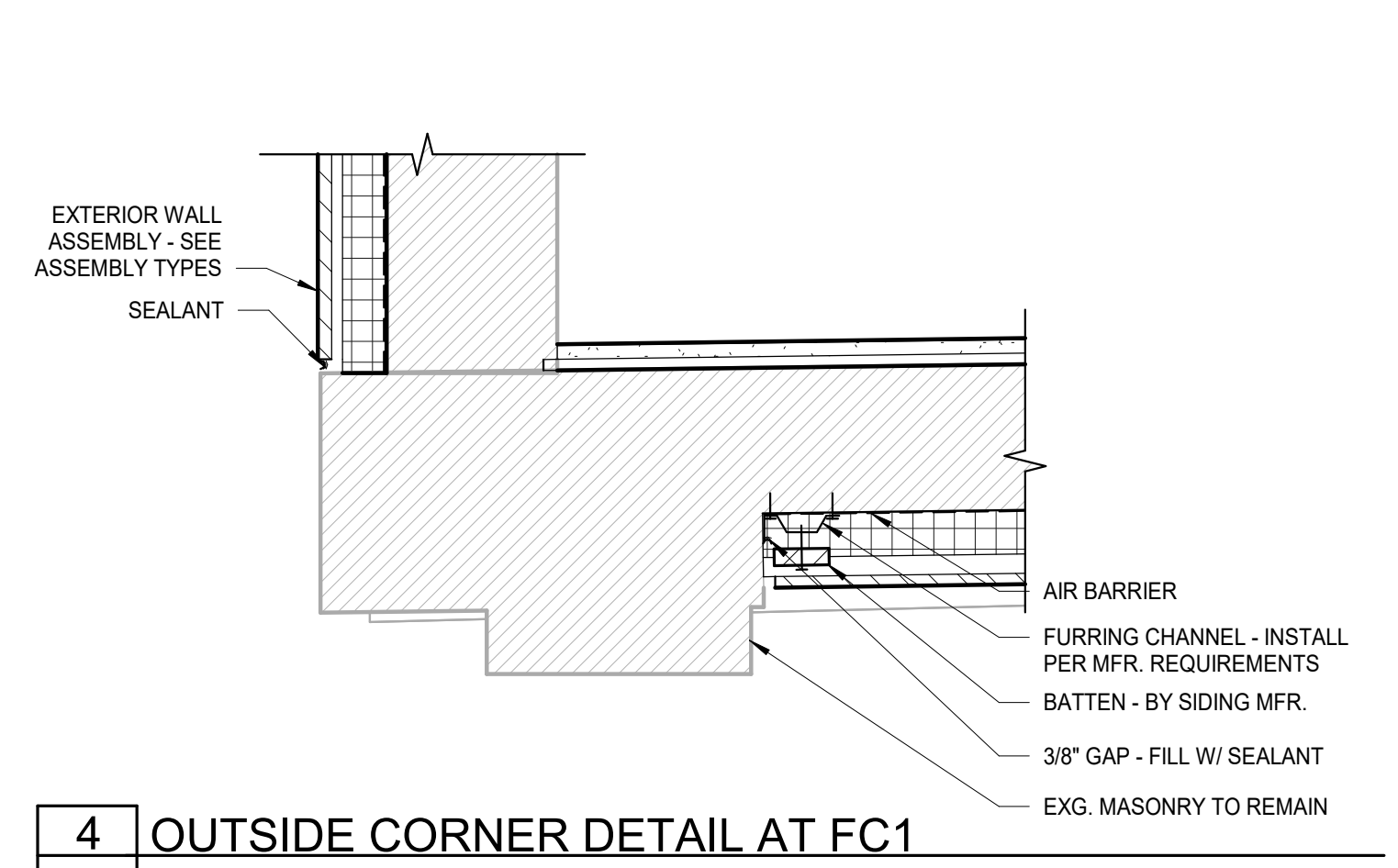
7 SECTION DETAIL AT T.O. F.C.
A401 3" = 1'-0"



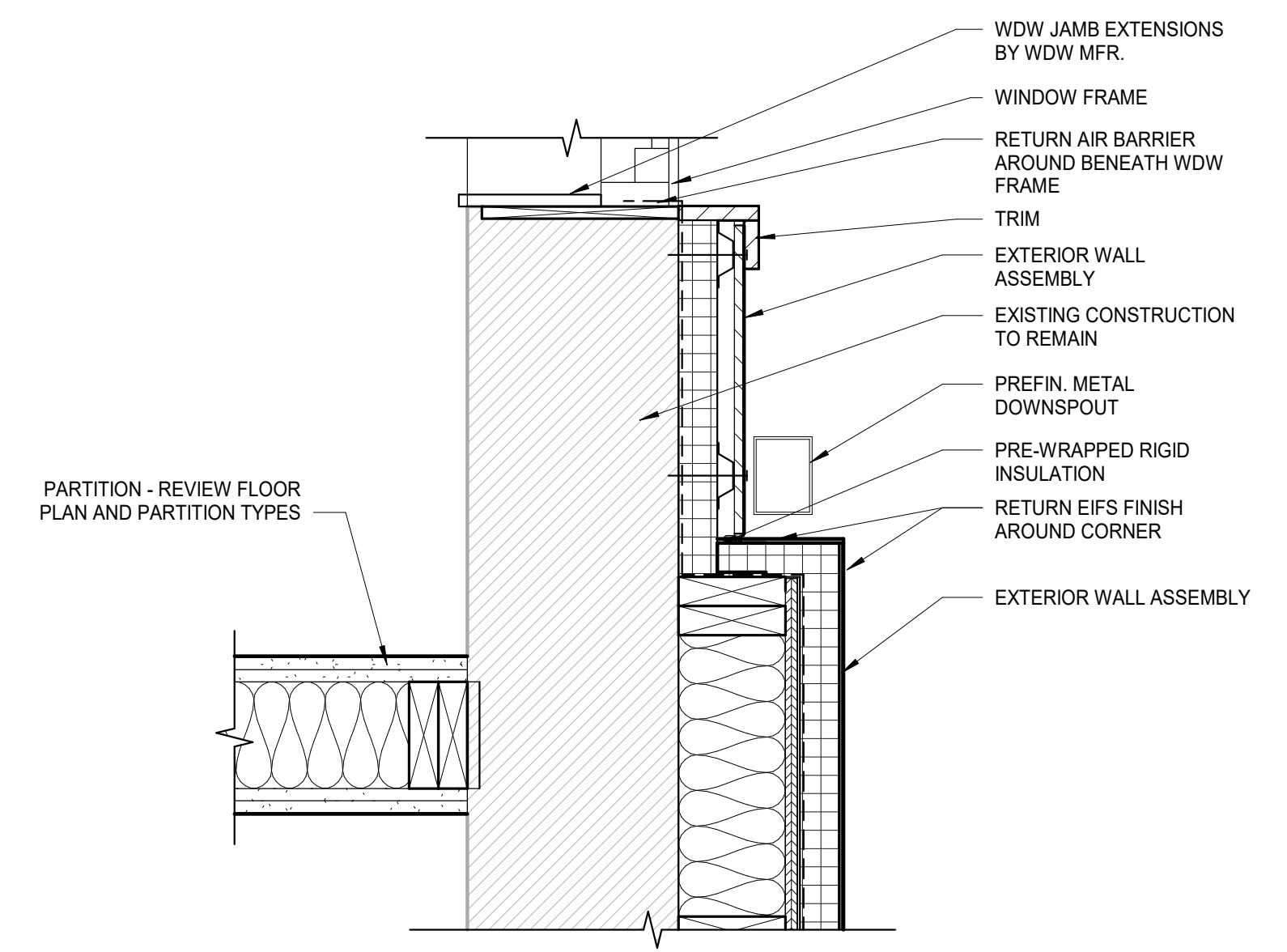
8 SECTION DETAIL AT FC ENTRY
A401 3/4" = 1'-0"



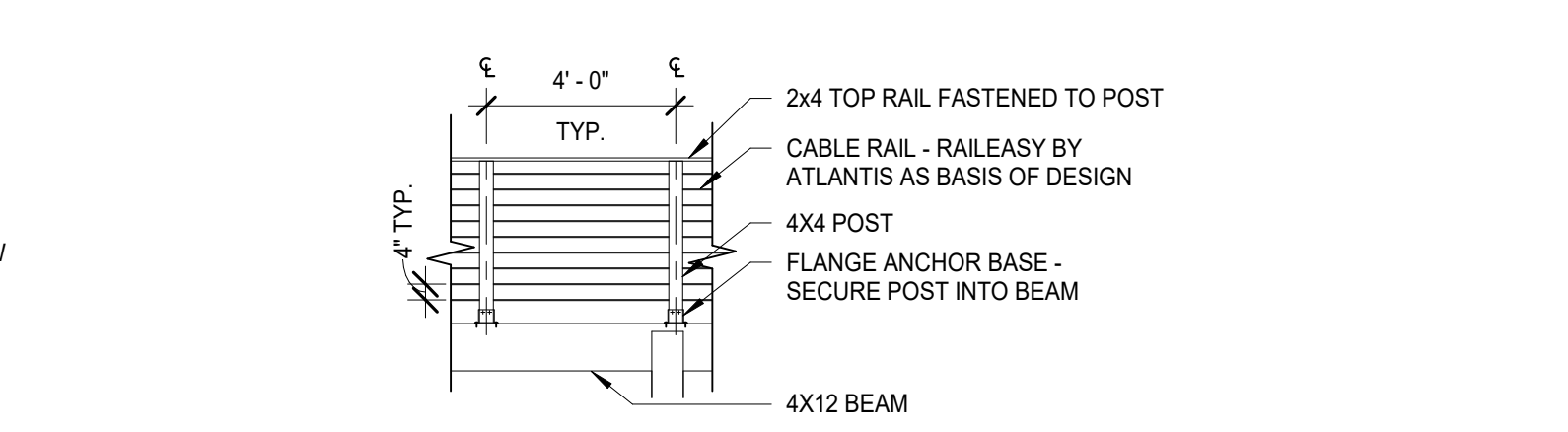
5 OUTSIDE CORNER DETAIL AT FURRED WALL
A401 1 1/2" = 1'-0"



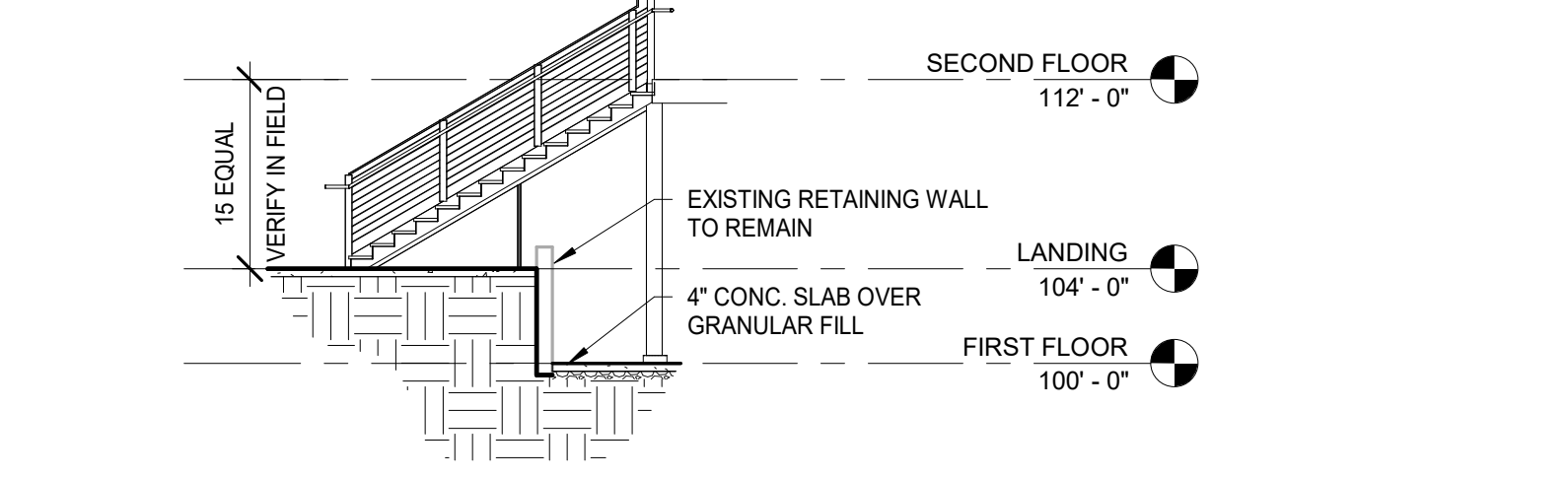
4 OUTSIDE CORNER DETAIL AT FC1
A401 1 1/2" = 1'-0"



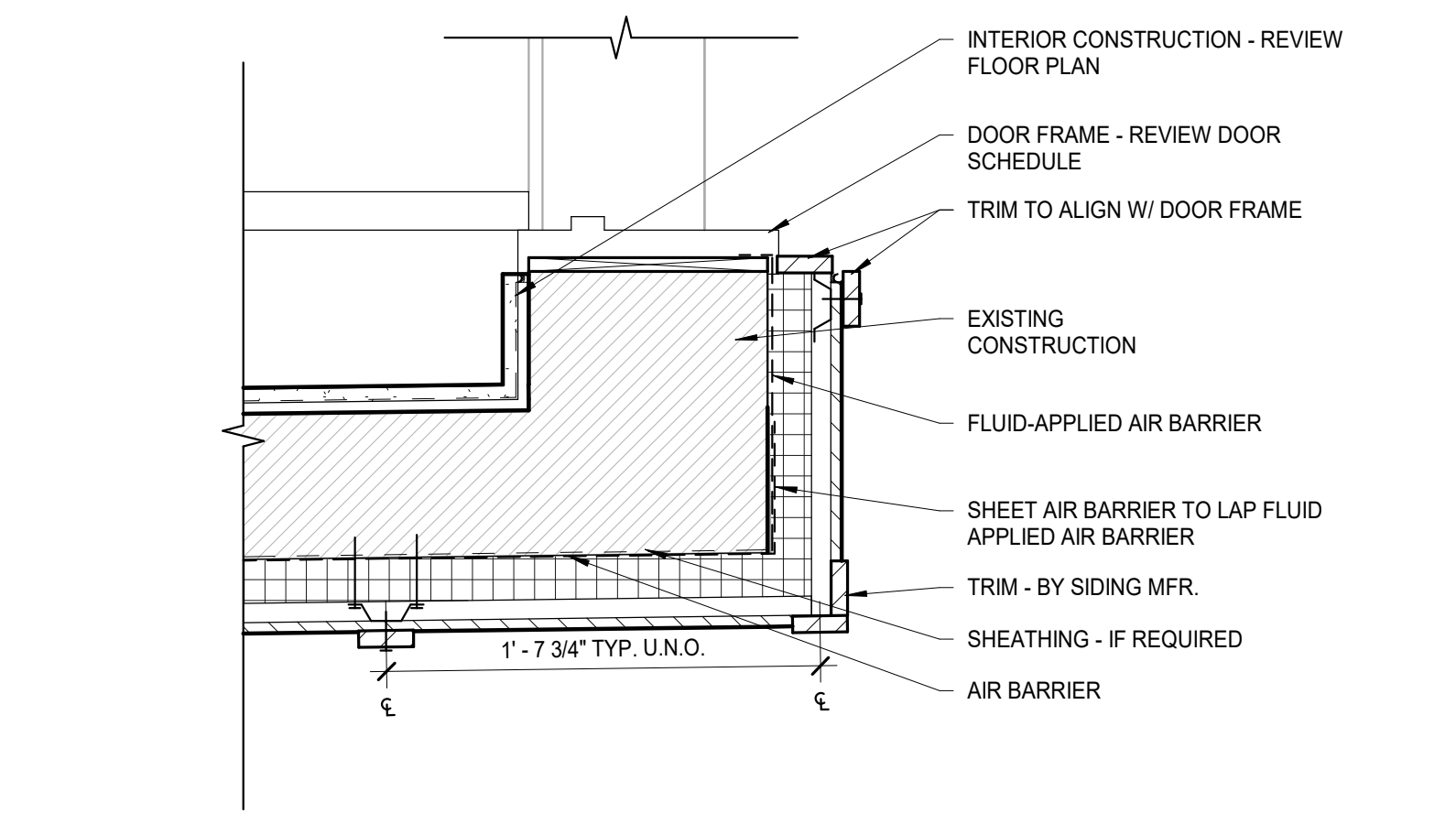
10 PLAN DETAIL AT EIFS TO FC
A401 1 1/2" = 1'-0"



9 TYPICAL GUARDRAIL ELEVATION
A401 1/4" = 1'-0"

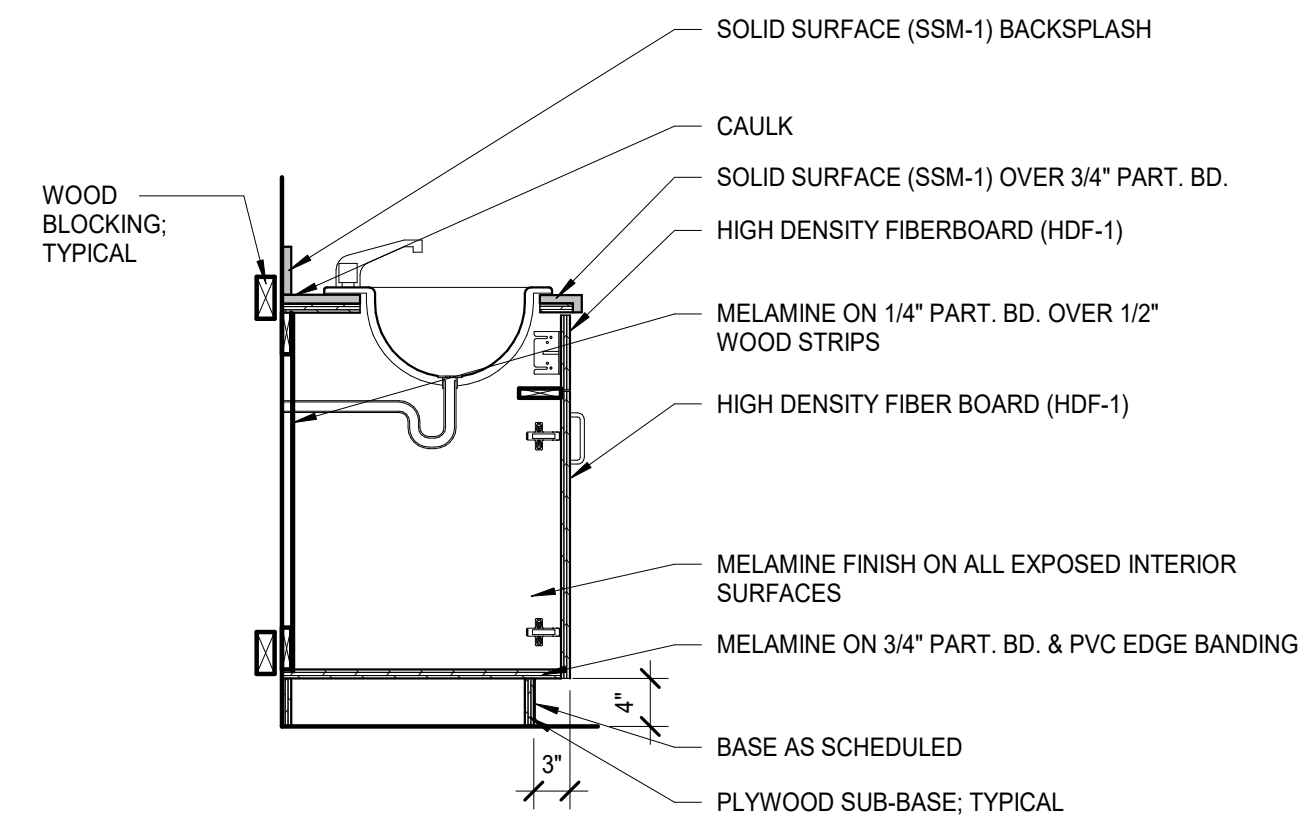


6 STAIR SECTION
A401 1/8" = 1'-0"

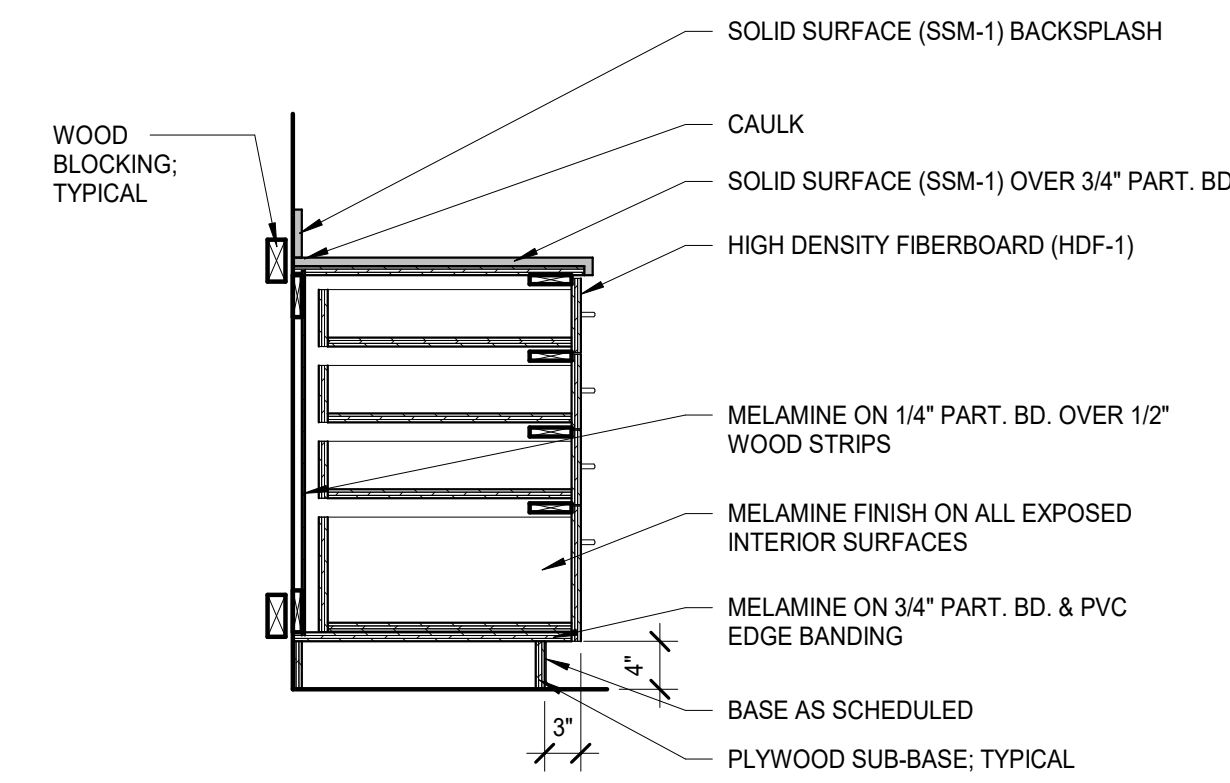


3 OUTSIDE CORNER DETAIL AT FC
A401 1 1/2" = 1'-0"

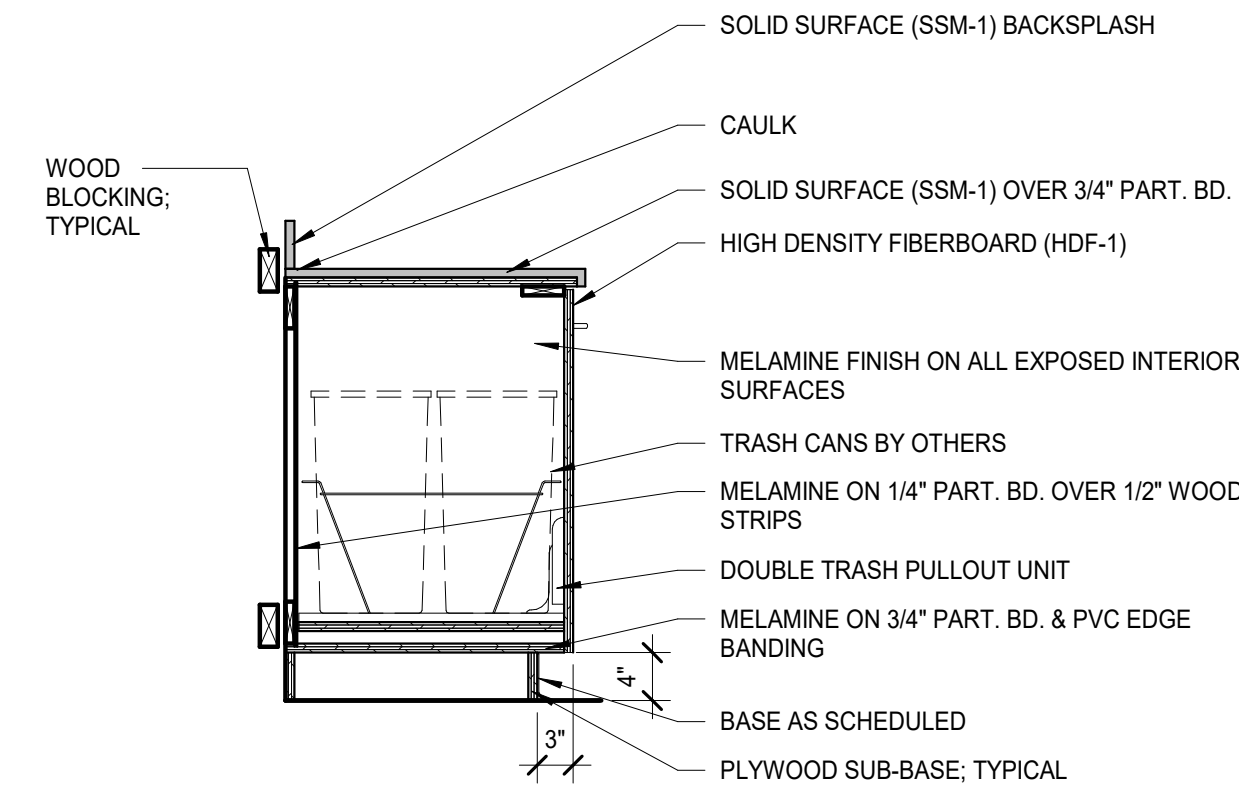
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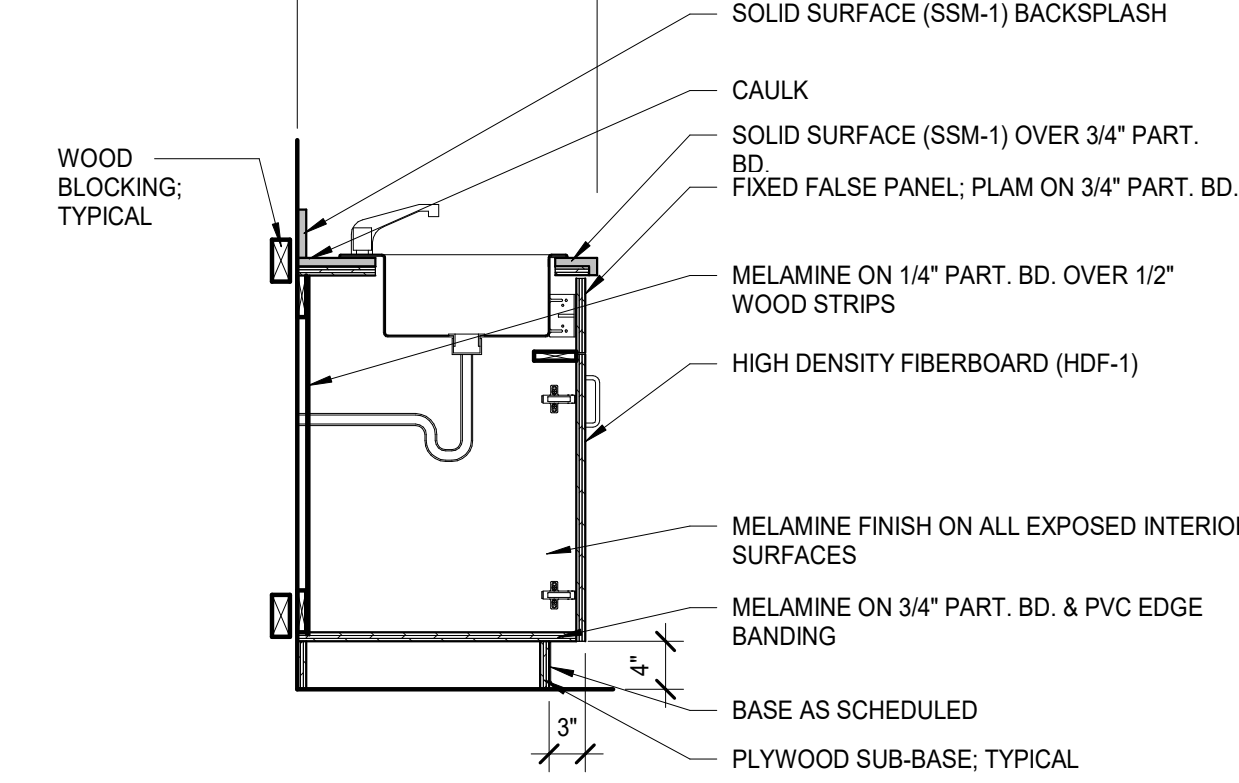
1 BASE UNIT BATHROOM VANITY
A501 3/4" = 1'-0"



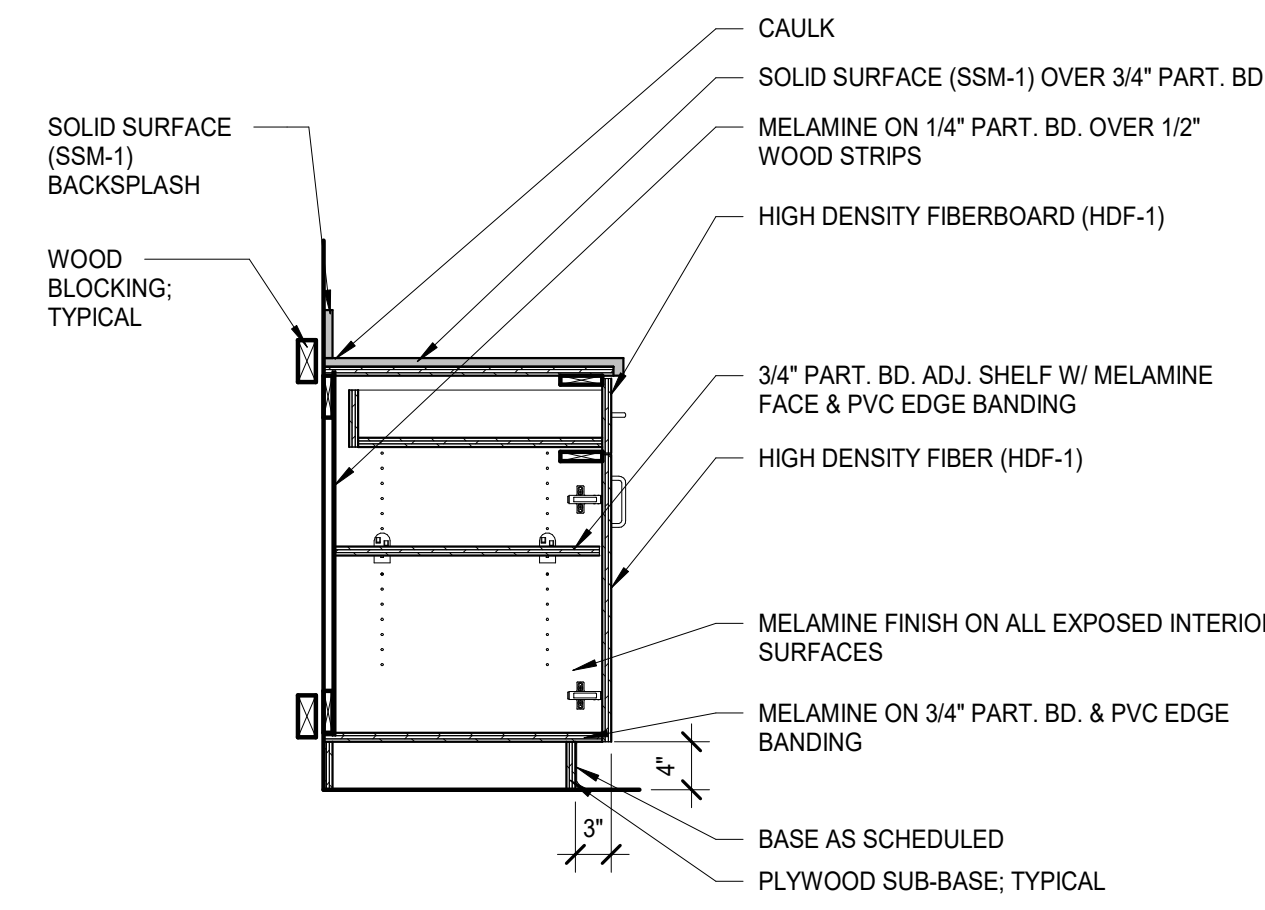
5 BASE UNIT DRAWER
A501 3/4" = 1'-0"



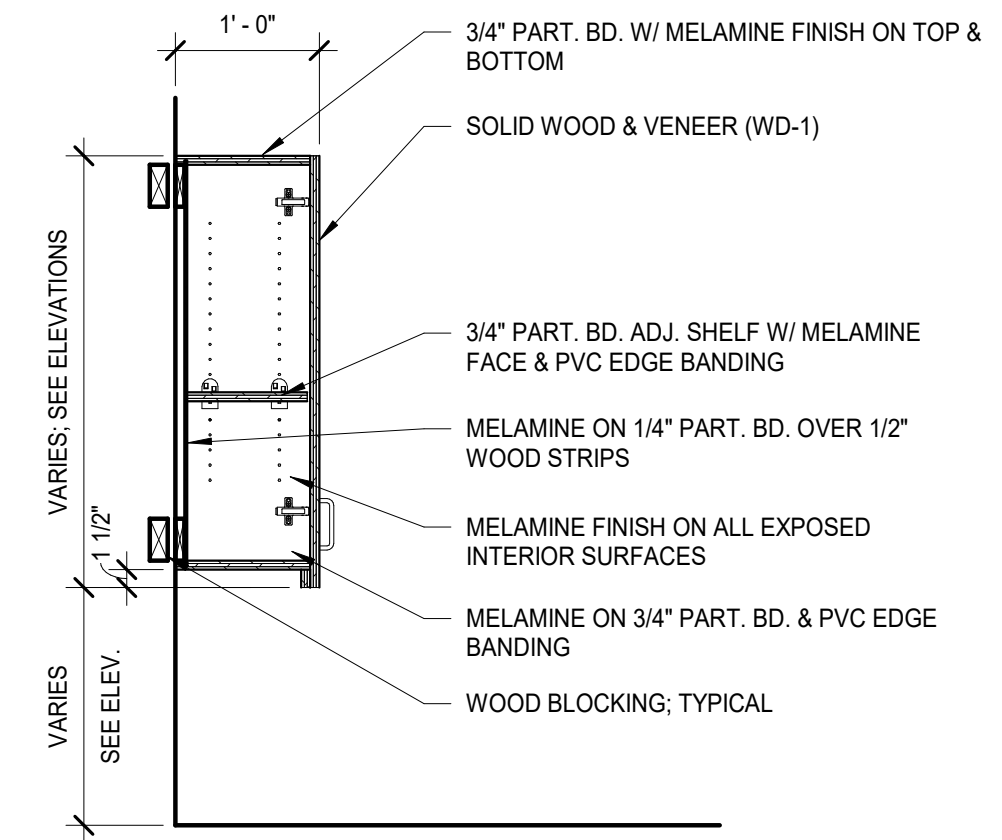
2 BASE UNIT TRASH ENCLOSURE
A501 3/4" = 1'-0"



6 BASE UNIT SINK W/ FIXED PANEL
A501 3/4" = 1'-0"



3 BASE UNIT DOOR/DRAWER COMBO
A501 3/4" = 1'-0"



4 TYPICAL WALL CABINET
A501 3/4" = 1'-0"

March 5, 2024

MEMO: Structural Design Development Narrative at 5617 & 5619 South 77th Street in Ralston, Nebraska 68127.

This is in response to your request for a professional engineer's narrative regarding the situation with the residential housing unit project located at 5617-5619 South 77th Street in Ralston, Nebraska 68127. An initial site evaluation was completed on January 11, 2024. The two adjacent, connected two-story brick buildings were built in 1913; the front entry of the combined building structure generally faces the southwest corner of this intersection in downtown Ralston. The building construction consists of wood framing supported by brick foundation (basement) walls. The structural narrative is to evaluate and discuss its structure for any necessary repairs and ongoing structural viability.

Cracks within the Basement Walls:

The west perimeter brick basement wall of this building included a sizeable wall cracking situation that has had significant deterioration due to water intrusion and apparent ongoing water infiltration that needs to be addressed.

It is my opinion that the brick wall basement cracking is able to be repaired by a qualified masonry remediation contractor, and thus, I am able to conclude the building is capable of being viable structurally, provided that the following required repairs are scheduled to be made in a timely manner, which is the typical expectation for all items:

Recommendation:

1. Repair various brick-wall foundation wall cracks via two-part epoxy injection, consult a remediation contractor.

Exterior Brick Wall Cracks:

For the south wall of the south building, it included an interior crack on the exterior, perimeter brick wall wythe that is a significant structural concern at or near the front entry to the building on the south face of the entrance's general location.

Recommendations:

1. At its exterior, provide silicone sealant to close any perceived or relevant cracks in this general locale prior to epoxy.
2. Repair brick-wall cracks via two-part epoxy injection, consult a remediation contractor as previously mentioned.

Dry-Rot Wood Framing & Clay-Tile Block Deterioration:

For the area of the main-level floor on the southwest and northwest corners, as well as a significant area at or near the northeast corner on both levels of the floor system damaged due to water intrusion that also resulted in dry-rot. In addition, some of the floor joists have been affected in these areas that will require sistering of these joists fully and re-building of the northeast floor sheathing as well as the southwest and northwest corner areas near the various entry points into bldgs.

A few various compromised post-to-beam connections have occurred due to the resulting dry-rot issue. Also note that the north wall of the northern building has had significant deterioration of its clay-tile block wall above the main floor level.

Recommendations:

1. Provide sistering & replacement of the various affected areas due to water intrusion and subsequent dry-rot damage.
2. Compromised post-to-beam connections near the northeast corner of the basement require some additional 4x4 posts.
3. The damaged clay-tile block on the north wall would need to be infilled with brick and comparable mortar for this area.
4. Miscellaneous infill may be required to account for various other trades such as mechanical, electrical or architectural.

Exterior Drainage, Stoops, and Rear Decks:

For the drainage issues at the exterior, specifically, the site grading will need to be addressed to provide positive drainage away from the foundation, especially at insufficiently graded areas on the rear (east) as well as along the northern wall of the bldg. The front of the bldg. included several concrete panels that sloped back toward the bldg.; the perimeter grading need to be able to drain away from foundations at this eastern area of the property sufficiently.

And, as a general-rule, the gutter-downspouts located around the bldg. will need to drain water away from the foundation; with all perimeter grade sloped away from the footings at a rate of 1/4-inch per foot for the initial four feet, such that some areas we noticed may be inadequate, especially at the rear of the bldg. and potentially at the adjacent north side yard, consult a landscaping contractor to review grading and sufficient property drainage options.

The rear decks will need to be structurally designed to account for the adequate loading requirements and soil sufficiency. And, the exterior door openings on grade and/or sidewalk level will require fully functioning concrete stoops to be built.

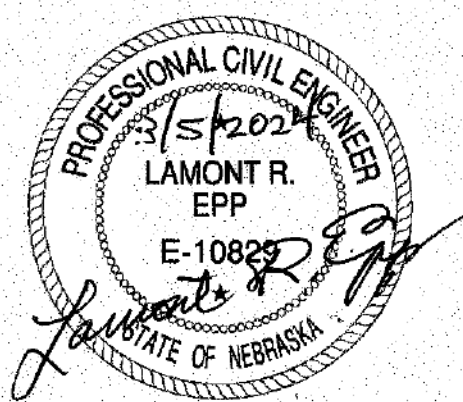
Recommendations for other contributing factors -- to alleviate further issues as far as cost for design and implementation:

1. At the exterior, the grade at the perimeter of the buildings must be maintained to route surface water continually away from the foundation, and it is recommended to use sufficient drainage techniques per a landscaping company.
2. New rear decks, stairs, and landings will need to be designed and detailed for the upper-level access that is required.
3. Exterior door openings require sufficient concrete stoops that are functioning properly, new stoops will be required.
4. Miscellaneous design elements may be needed to account for minor architectural features such as wall-coverings etc.

I appreciate the opportunity to work with you on this specific project in downtown Ralston at 5617 & 5619 South 77th Street. If you have any questions, concerns or comments, feel free to contact me at your earliest convenience.

Respectfully submitted,

Lamont R. Epp, P.E.



July 29, 2024

MEMO: Residential/commercial structural plan review-evaluation at 5617 S. 77th St., Ralston, NE 68127.

This letter is in response to a request for a professional engineer's review of the two commercial bays and six residential units planned at 5617 South 77th Street in Ralston, NE. This two-story set of two interconnected buildings were likely both built in circa 1913, and its construction consisted of wood framing on masonry various foundation walls. An on-site structural evaluation occurred on January 11, 2024, with a follow-up on the new plan elements, in conjunction with the architect, on July 26, 2024.

As evaluated on-site, the in-fill floor areas for the center east-west stairwell being abandoned on the north side of the center wall will be infilled with 2x10's at 16" on-center, attached to the brick wall via 5/8" dia. epoxy adhesive anchors (embed 5") at 24" on-center, staggered, on to the 2x10 rim-board. Atop the floor joists will be tongue-and-groove 3/4" thick OSB sheathing within this footprint at both levels of the building structure.

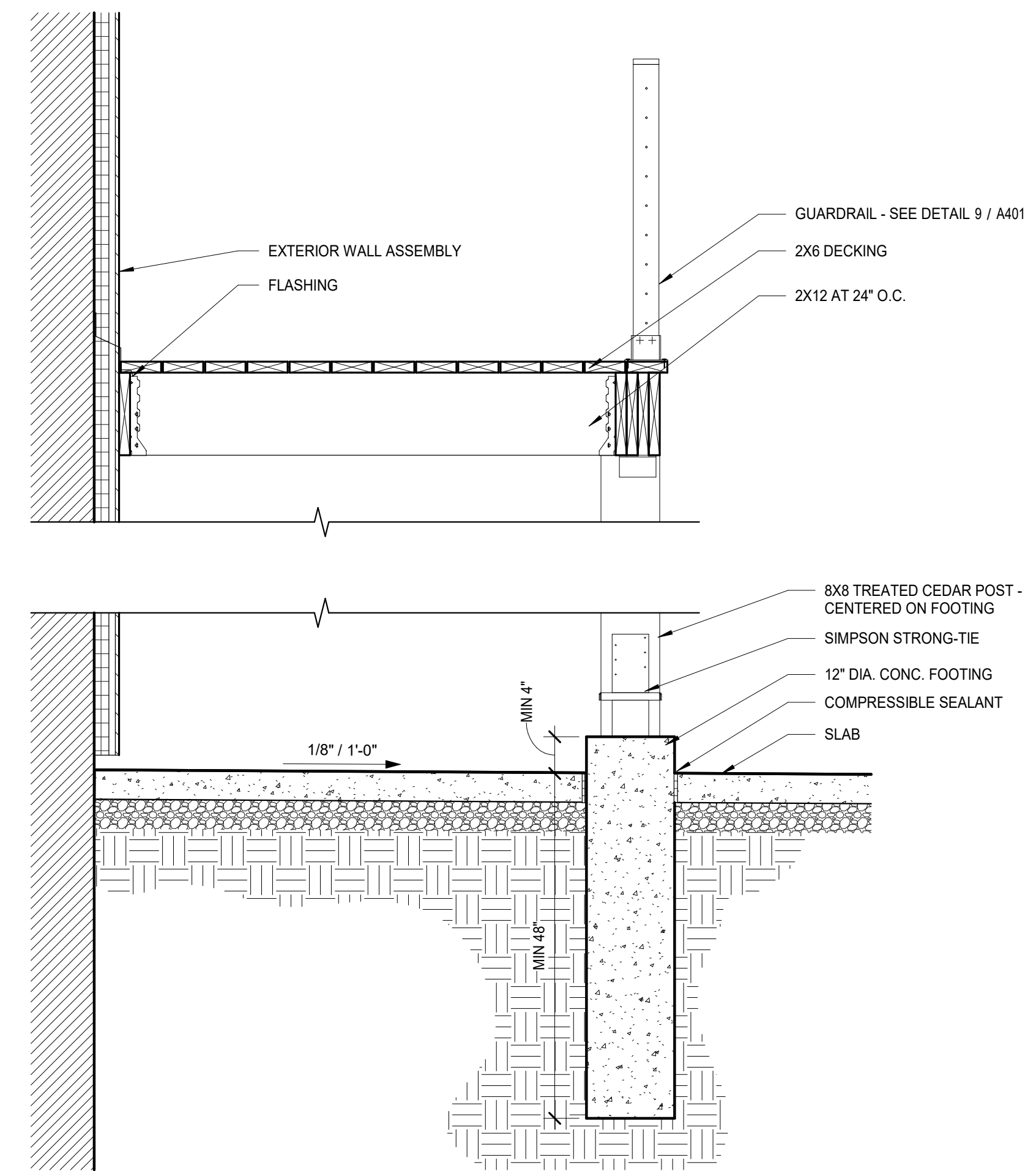
The primary external element to be designed occurred on the east side of the two interconnected brick buildings. The primary deck joists will be pressure-treated 2x12's at 24" on-center with pressure-treated 2x6 decking perpendicular to the deck joists with a 1/8" gap at each deck floor board. The perimeter deck beam will need to be (2)-2x12's, which are attached together at 12" on-center, staggered. The rim board will be (2)-2x12's with 5/8" dia. epoxy adhesive anchors (embed 7") at 24" on-center, staggered.

For the rear deck, provide cedar 8x8's as the deck posts at approximately 7'-0" on-center, including an 8x8 cedar post at each side of the deck stairs. The deck posts will be supported by 12" dia. by 48" deep concrete piers, which are extended above grade by approximately 4" with a sono-tube only above grade. A metal-base bracket supplied by Simpson Strong-Tie with a 1/2" dia. anchor bolt at each embedded 12".

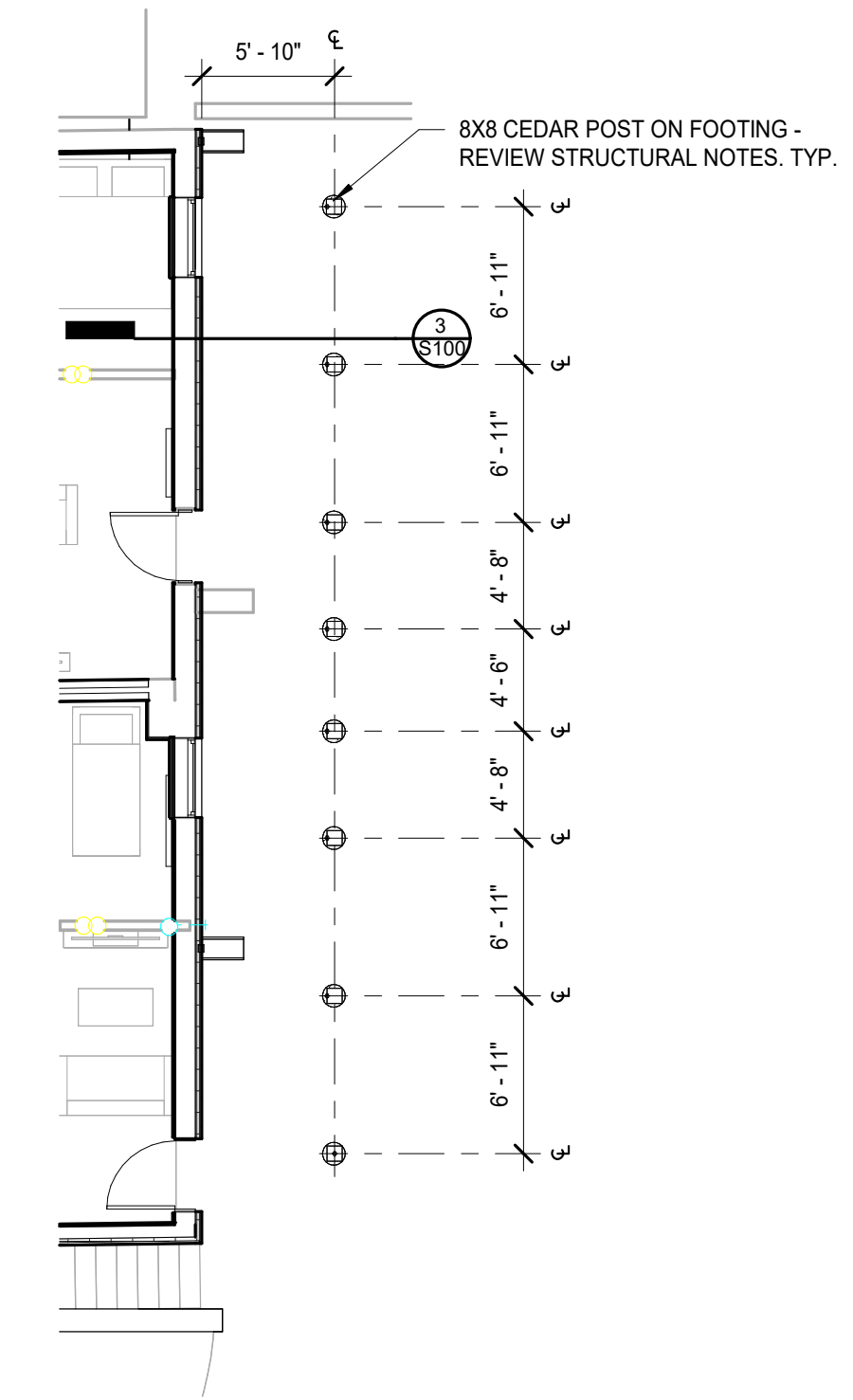
I appreciate the opportunity to work with you on evaluating residential/commercial considerations of this building. If you have any comments or questions, please email me at e3engineered@gmail.com.

Sincerely,

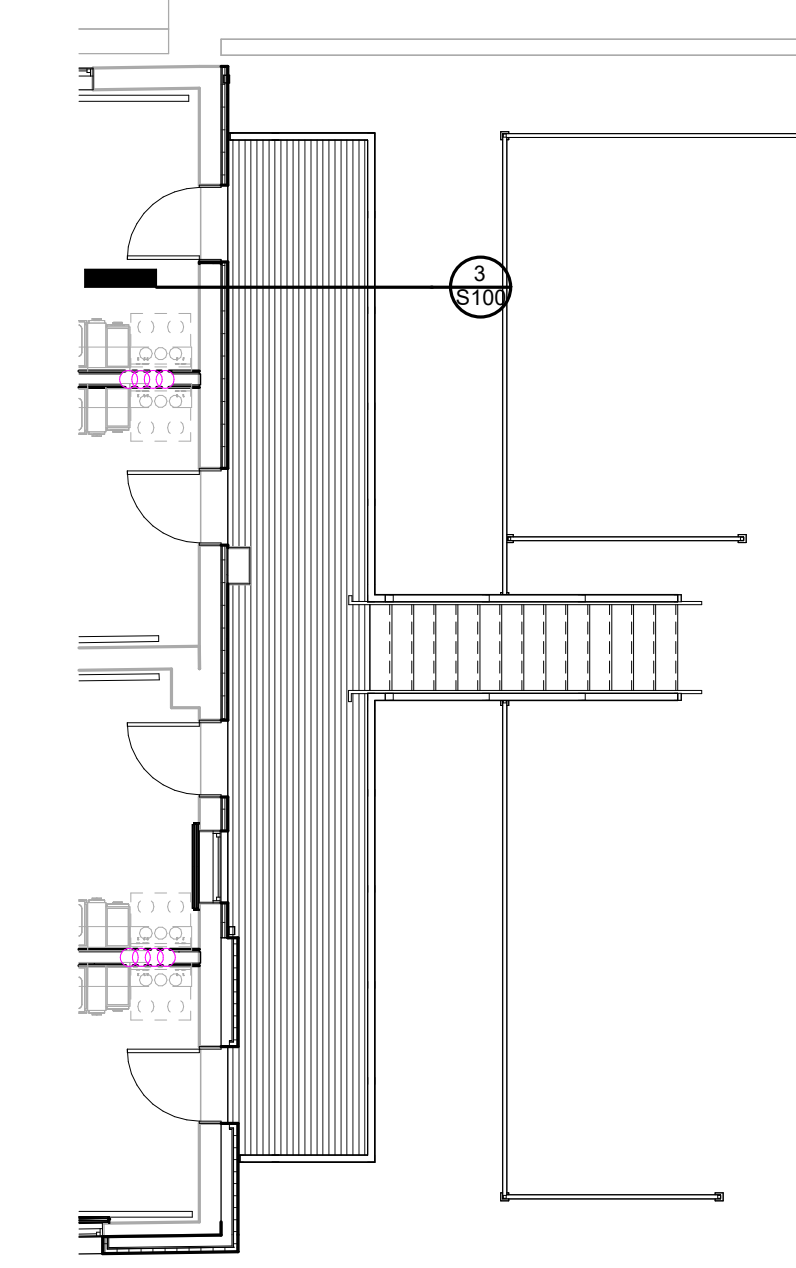
Lamont R. Epp, P.E.



3 SECTION DETAIL AT DECK
S100 3/4" = 1'-0"



1 FLOOR PLAN - FIRST FLOOR DECK
S100 1/8" = 1'-0"

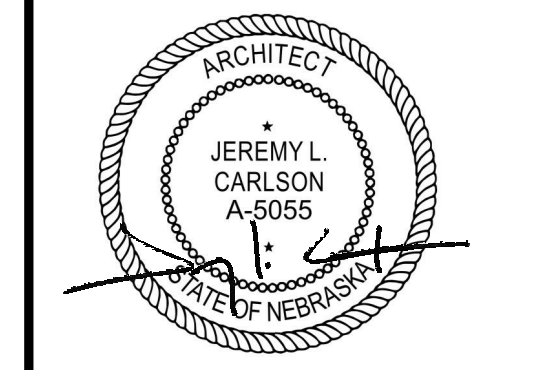


2 FLOOR PLAN - SECOND FLOOR DECK
S100 1/8" = 1'-0"



3624 Farnam Street
Omaha, Nebraska 68131
Tel | 402.342.5575

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08.23.2024

RALSTON APARTMENT RENOVATIONS
5617 S 77TH ST
RALSTON, NE 68127

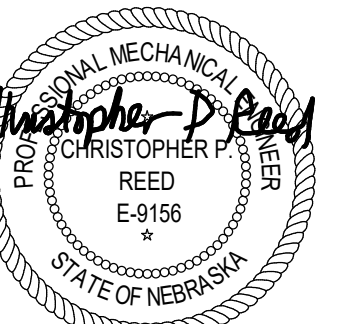
Revisions |

Project No. | 23042
Issue Date | 08.23.2024

STRUCTURAL
NOTES AND
PLANS

Sheet No. | S100

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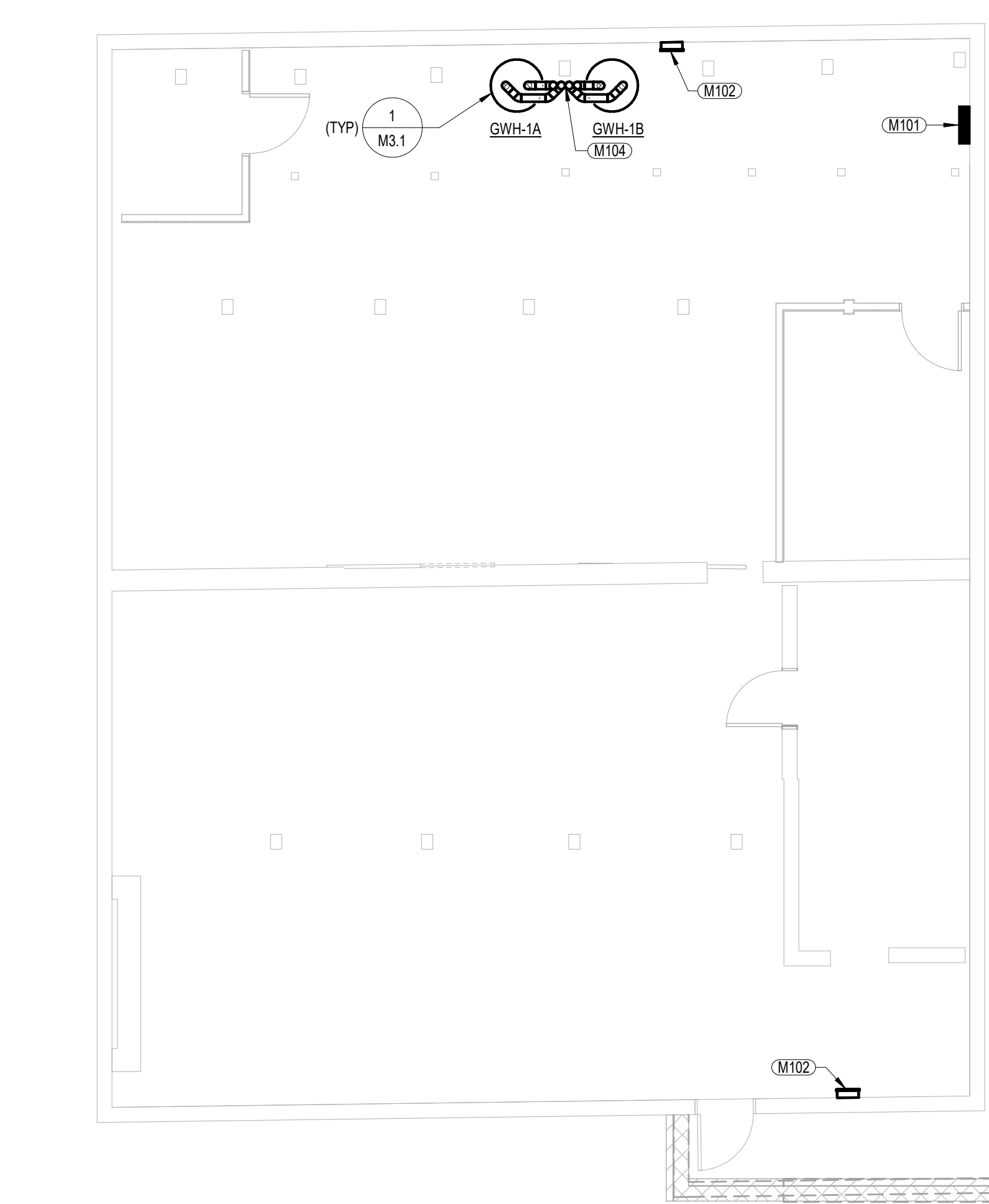


MECHANICAL GENERAL NOTES

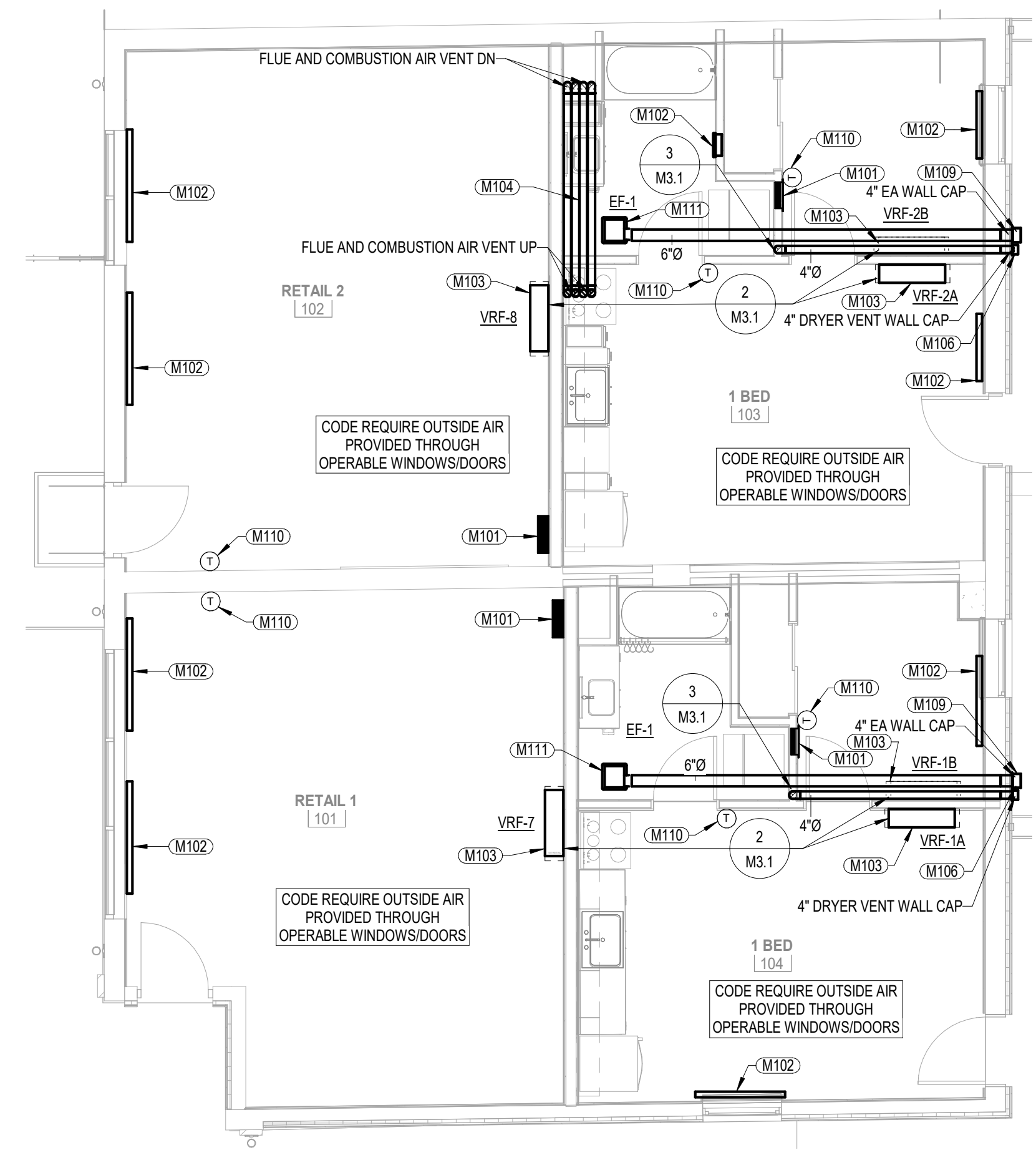
- DO NOT ROUTE DUCTWORK ABOVE ELECTRICAL PANELS. MAINTAIN ALL CODE REQUIRED CLEARANCES.
- ALL ITEMS SHOWN LIGHT OR INDICATED ON PLAN AS (E) ARE EXISTING, AND (R) ARE TO BE RELOCATED. ALL ITEMS SHOWN DARK ARE NEW. NOT ALL MECHANICAL ITEMS ARE SHOWN.
- EXISTING MECHANICAL WORK IS BASED ON ORIGINAL DRAWINGS AND APPROXIMATIONS FROM FIELD OBSERVATIONS. NOT ALL EXISTING MECHANICAL IS INDICATED. CONTACT ARCHITECT/ENGINEER IF EXISTING CONDITIONS SIGNIFICANTLY VARY FROM THOSE SHOWN.
- CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO NEW WORK. CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING DUCTWORK AS NECESSARY TO AVOID CONFLICTS WITH EXISTING STRUCTURE AND WITH ALL TRADES OF NEW WORK.
- PLAN WORK TO MINIMIZE SHUT-DOWNS. COORDINATE ALL REQUIRED SHUT-DOWNS WITH OWNER.
- MAINTAIN MINIMUM 10'-0" CLEARANCE TO EXHAUST FANS FROM ALL FRESH AIR INTAKES.
- MAINTAIN MANUFACTURER'S REQUIRED CLEARANCE AROUND ALL MECHANICAL EQUIPMENT TO ALLOW PROPER OPERATION AND FOR EASY MAINTENANCE AND FILTER ACCESS.
- COORDINATE EXACT LOCATION OF ALL FLOOR, WALL, AND ROOF PENETRATIONS AND WORK TO BE PERFORMED ABOVE THE FLOORS AND ROOF WITH GENERAL CONTRACTOR. SEAL ALL PENETRATIONS OF EXTERIOR ENVELOPE WEATHER TIGHT.
- UNLESS OTHERWISE NOTED, ROUTE DUCTWORK AS HIGH AS POSSIBLE. UTILIZE JOIST SPACE AND OPEN WEBBING OF JOISTS TO AVOID CONFLICTS. COORDINATE EXACT ROUTING WITH STRUCTURE, LIGHTS, AND ALL OTHER TRADES. PROVIDE NECESSARY OFFSETS, TRANSITIONS, AND EXTENSIONS AS REQUIRED TO COMPLETE INSTALLATION AT NO ADDITIONAL COST TO OWNER.
- PLANS ARE SCHEMATIC IN NATURE. DUCTWORK ROUTING IS SHOWN FOR CLARITY AND FOR GENERAL ROUTING INFORMATION. COORDINATE EXACT ROUTING WITH ALL OTHER TRADES. PROVIDE ALL ADDITIONAL OFFSETS AS REQUIRED TO COMPLETE INSTALLATION.
- INSTALL ALL FIRE DAMPERS, FIRE/SMOKE DAMPERS, VOLUME DAMPERS, ETC. ABOVE ACCESSIBLE CEILING OR IN ACCESSIBLE LOCATIONS. PROVIDE ACCESS PANELS WHERE REQUIRED.
- FIRE CAULK ALL DUCTWORK PENETRATIONS THROUGH FIRE RATED WALLS AND ASSEMBLIES. CAULK AROUND ALL DUCTWORK PENETRATIONS THROUGH FULL HEIGHT SOUND WALLS. REFER TO ARCHITECTURAL DRAWINGS FOR WALL CONSTRUCTION. ALL PENETRATIONS OF FIRE-RESISTANT CONSTRUCTION SHALL BE SEALED WITH A LISTED FIRESTOPPING ASSEMBLY BY THE CONTRACTOR RESPONSIBLE FOR THE PENETRATION.
- CONTRACTOR TO PROVIDE ALL LOW VOLTAGE AND LINE VOLTAGE CONTROL WIRING REQUIRED FOR COMPLETE OPERATION OF ALL MECHANICAL EQUIPMENT.
- FOR GENERAL DUCTWORK FITTINGS, SEE DETAIL 1 ON SHEET M3.1.
- SEE ELECTRICAL DRAWINGS DEVICE ALIGNMENT DETAIL FOR ALL SENSOR AND/OR CONTROL DEVICE INSTALLATION HEIGHTS AND SPACING NOTES UNLESS OTHERWISE NOTED. IF DEVICE ALIGNMENT DETAIL NOT AVAILABLE, MOUNT AT PREFERRED MOUNTING HEIGHT WHERE APPLICABLE. SEE SPECIFICATIONS, OR CONFIRM WITH ENGINEER PRIOR TO INSTALLATION.

KEYNOTES

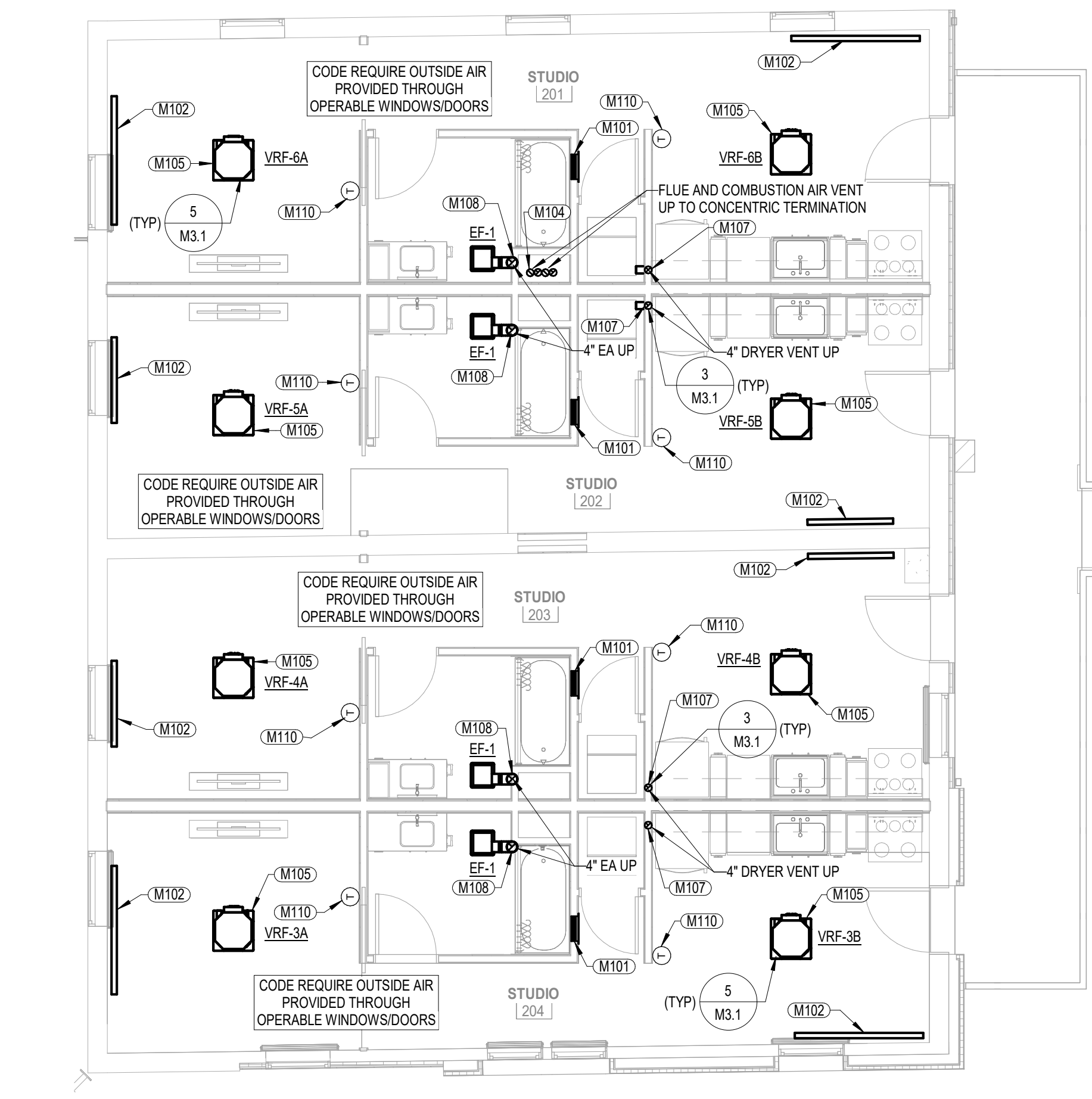
- M101 DO NOT ROUTE DUCTWORK OVER ELECTRICAL PANELS. MAINTAIN ALL CODE REQUIRED CLEARANCES.
- M102 ELECTRIC HEAT BY ELECTRICAL CONTRACTOR. SEE ELECTRICAL DRAWINGS.
- M103 MOUNT VRF UNIT AS HIGH AS POSSIBLE ON WALL. COORDINATE EXACT LOCATION WITH ARCHITECT. MAINTAIN MANUFACTURER'S RECOMMENDED CLEARANCES.
- M104 PROVIDE GAS WATER HEATER FLUE AND COMBUSTION AIR VENT UP FROM BASEMENT TO CONCENTRIC ROOF TERMINATION PER MANUFACTURER'S RECOMMENDATIONS AND NFPA 54. SEAL ROOF PENETRATION WATER TIGHT.
- M105 CEILING MOUNTED VRF SYMMETRICALLY AND EQUALLY SPACED WITH LIGHTS. COORDINATE EXACT LOCATION WITH ADJACENT FINISHES AND ARCHITECT. MAINTAIN MANUFACTURER'S RECOMMENDED CLEARANCES.
- M106 ROUTE DRYER VENT TO EXTERIOR WALL CAP. COORDINATE EXACT LOCATION, CAP STYLE AND FINISH WITH ARCHITECT. SEAL WALL PENETRATION WATER TIGHT.
- M107 ROUTE DRYER VENT UP THROUGH ROOF TO EXTERIOR ROOF TERMINATION. COORDINATE EXACT LOCATION WITH STRUCTURE. GENERAL CONTRACTOR. SEAL ROOF PENETRATION WATER TIGHT.
- M108 EXHAUST FAN IN CEILING. COORDINATE EXACT LOCATION WITH STRUCTURE AND LIGHTS. ROUTE EA DUCT UP THROUGH ROOF TO EXTERIOR ROOF TERMINATION. COORDINATE EXACT LOCATION WITH STRUCTURE. GENERAL CONTRACTOR. SEAL ROOF PENETRATION WATER TIGHT.
- M109 ROUTE EA DUCT VENT TO EXTERIOR WALL CAP. COORDINATE EXACT LOCATION WITH GENERAL CONTRACTOR AND ARCHITECT. SEAL WALL PENETRATION WATER TIGHT. MAINTAIN 3'-0" CLEARANCE TO WINDOW AND DOOR OPENING.
- M110 INSTALL NEW VRF ROOM THERMOSTAT AND ALL REQUIRED CONTROL WIRING PER MANUFACTURER'S RECOMMENDATIONS. COORDINATE SENSOR LOCATION WITH ARCHITECT AND ELECTRICAL CONTRACTOR.
- M111 EXHAUST FAN IN CEILING. COORDINATE EXACT LOCATION WITH STRUCTURE AND LIGHTS. ROUTE 6" EA FROM FAN TO EXTERIOR TERMINATION. MAINTAIN 3'-0" CLEARANCE TO WINDOW AND DOOR OPENING.
- M112 LOCATE NEW VRF-HP UNIT AT APPROXIMATE LOCATION INDICATED. COORDINATE EXACT LOCATION WITH GENERAL CONTRACTOR. MAINTAIN MANUFACTURER'S RECOMMENDED CLEARANCES.
- M113 MAINTAIN 10'-0" CLEARANCE FROM ROOF EDGE TO ALL MECHANICAL EQUIPMENT.
- M114 REFRIGERANT PIPING ROUTED ON ROOF. RACK REFRIGERANT PIPING IN A NEAT AND ORDERLY MANNER ON ROOF. ROUTE REFRIGERANT PIPING ON TREAT WOOD SLEEPERS OR PIPE STANDS COMPATIBLE WITH ROOF.
- M115 PROVIDE REFRIGERANT PIPING HOOD. ROUTE REFRIGERANT PIPING DOWN THROUGH ROOF. COORDINATE PIPING HOOD WITH STRUCTURE.



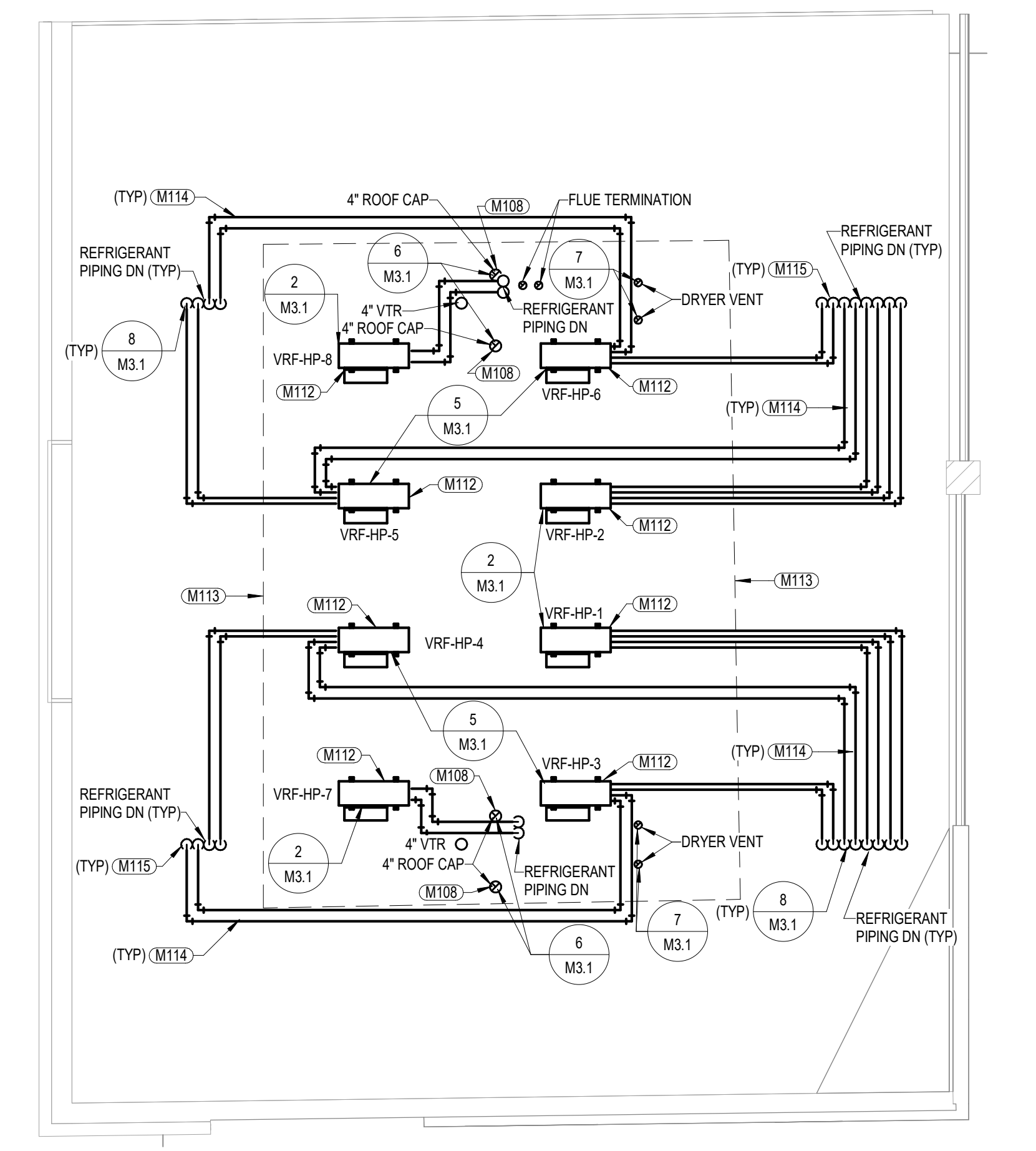
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M1.1 3/16" = 1'-0"
0' 4' 8' 16'



2 FIRST FLOOR - HVAC
M1.1 3/16" = 1'-0"
0' 4' 8' 16'



3 SECOND FLOOR - HVAC
M1.1 3/16" = 1'-0"
0' 4' 8' 16'



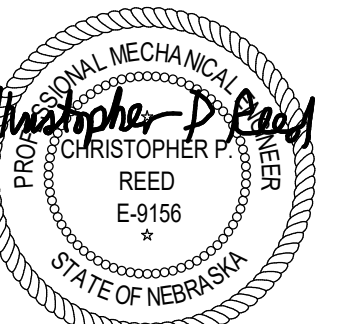
4 ROOF PLAN - MECHANICAL
M1.1 3/16" = 1'-0"
0' 4' 8' 16'

MEI PROJECT NO: 24030



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note: do not scale drawings. verify all dimensions and clearances from architectural, structural, shop and other appropriate drawings or as site. by old and coordinate all work prior to installation to provide clearances required for operation, maintenance, and codes and verify non-interference with other work. do not fabricate prior to verification of clearance for all trades.



Revisions |

Project No. | 23042
Issue Date | 07.29.24

**FLOOR PLANS
- PIPING**

PIPING GENERAL NOTES

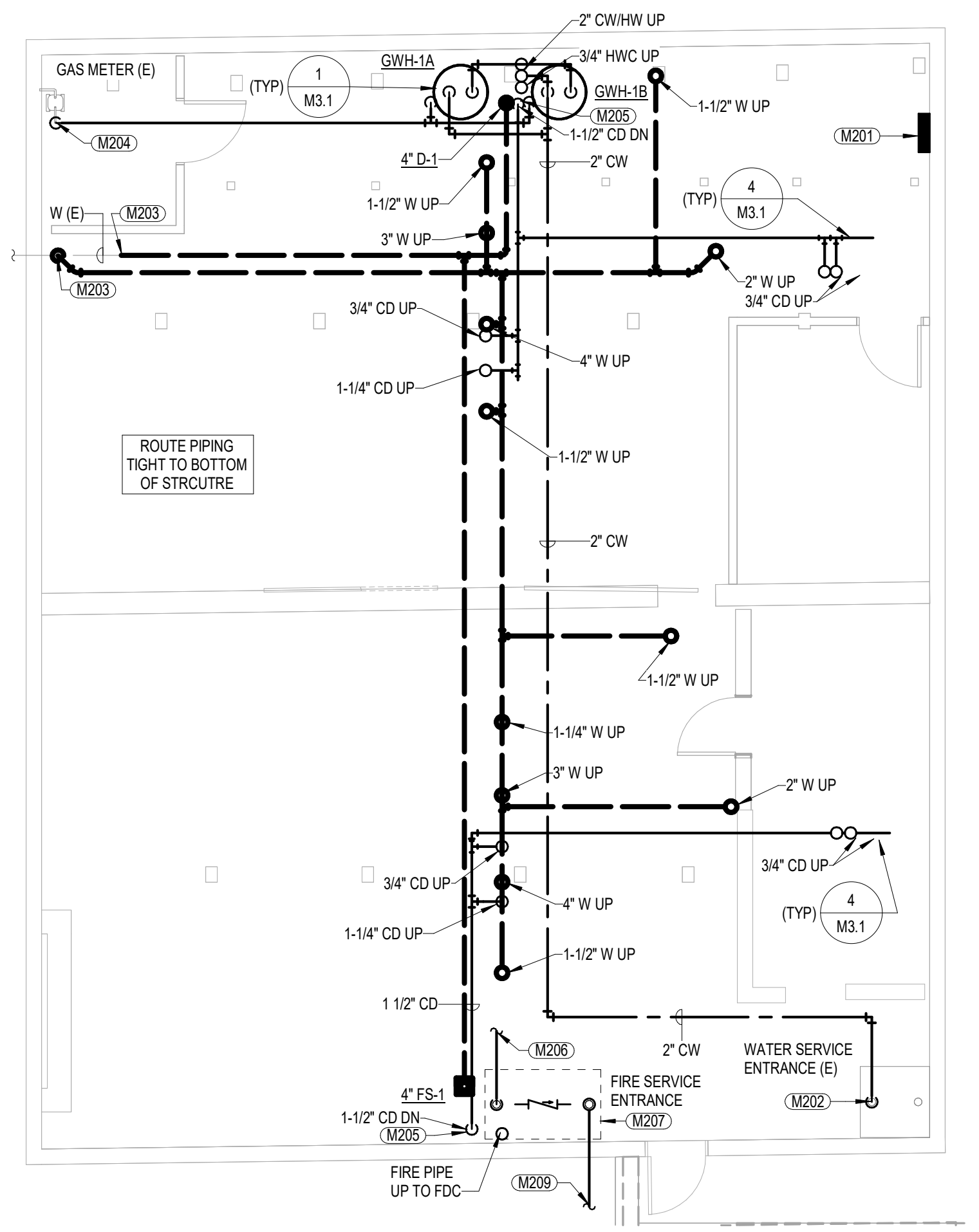
- DO NOT ROUTE PIPING ABOVE ELECTRICAL PANELS. MAINTAIN ALL CODE REQUIRED CLEARANCES.
- ALL ITEMS SHOWN LIGHT OR INDICATED ON PLAN AS (E) ARE EXISTING, AND (R) ARE TO BE RELOCATED. ALL ITEMS SHOWN DARK ARE NEW. NOT ALL MECHANICAL ITEMS ARE SHOWN.
- EXISTING MECHANICAL WORK IS BASED ON ORIGINAL DRAWINGS AND APPROXIMATIONS FROM FIELD OBSERVATIONS. NOT ALL EXISTING MECHANICAL IS INDICATED. CONTACT ARCHITECT/ENGINEER IF EXISTING CONDITIONS SIGNIFICANTLY VARY FROM THOSE SHOWN.
- CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO NEW WORK. CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING DUCTWORK AS NECESSARY TO AVOID CONFLICTS WITH EXISTING STRUCTURE AND WITH ALL TRADES OF NEW WORK.
- PLAN WORK TO MINIMIZE SHUT-DOWNS. COORDINATE ALL REQUIRED SHUT-DOWNS WITH OWNER.
- MAINTAIN MINIMUM 10'-0" CLEARANCE TO WASTE VENTS FROM ALL FRESH AIR INTAKES.
- MAINTAIN MANUFACTURER'S REQUIRED CLEARANCE AROUND ALL MECHANICAL EQUIPMENT TO ALLOW PROPER OPERATION AND FOR EASY MAINTENANCE AND FILTER ACCESS.
- COORDINATE EXACT LOCATION OF ALL FLOOR, WALL, AND ROOF PENETRATIONS AND WORK TO BE PERFORMED ABOVE THE FLOORS AND ROOF WITH GENERAL CONTRACTOR. SEAL ALL PENETRATIONS OF EXTERIOR ENVELOPE WEATHER TIGHT.
- UNLESS OTHERWISE NOTED, ROUTE PIPING AS HIGH AS POSSIBLE. UTILIZE JOIST SPACE AND OPEN WEBBING OF JOISTS TO AVOID CONFLICTS. COORDINATE EXACT ROUTING WITH STRUCTURE, LIGHTS, DUCTWORK, AND ALL OTHER TRADES. PROVIDE NECESSARY OFFSETS, TRANSITIONS, AND EXTENSIONS AS REQUIRED TO COMPLETE INSTALLATION AT NO ADDITIONAL COST TO OWNER.
- PLANS ARE SCHEMATIC IN NATURE. PIPE ROUTING IS SHOWN FOR CLARITY AND FOR GENERAL ROUTING INFORMATION. COORDINATE EXACT ROUTING WITH ALL OTHER TRADES. PROVIDE ALL ADDITIONAL OFFSETS AS REQUIRED TO COMPLETE INSTALLATION.
- INSTALL ALL VALVES ABOVE ACCESSIBLE CEILING OR IN ACCESSIBLE LOCATIONS. PROVIDE ACCESS PANELS WHERE REQUIRED.
- DO NOT ROUTE WATER PIPING IN EXTERIOR WALLS UNLESS OTHERWISE NOTED. PIPING ROUTED IN EXTERIOR WALLS SHALL BE LOCATED ON THE INTERIOR SIDE OF INSULATION.
- FIRE CAULK ALL PIPE PENETRATIONS THROUGH FIRE RATED WALLS AND ASSEMBLIES. CAULK AROUND ALL PIPE PENETRATIONS THROUGH FULL HEIGHT SOUND WALLS. REFER TO ARCHITECTURAL DRAWINGS FOR WALL CONSTRUCTION. ALL PENETRATIONS OF FIRE-RESISTANT CONSTRUCTION SHALL BE SEALED WITH A LISTED FIRESTOPPING ASSEMBLY BY THE CONTRACTOR RESPONSIBLE FOR THE PENETRATION.
- ALL PLUMBING SHALL BE IN ACCORDANCE WITH THE LOCAL PLUMBING CODE. NOT ALL CLEANOUTS SHOWN. PROVIDE CLEANOUTS AS REQUIRED PER AUTHORITY HAVING JURISDICTION. COORDINATE CLEANOUT LOCATIONS WITH GENERAL CONTRACTOR.
- SEE WASTE AND VENT RISER DIAGRAMS ON SHEET M3.2 FOR COMPLETE PLUMBING SIZES AND CONFIGURATION.
- SEE PLUMBING FIXTURE SCHEDULE SHEET M4.1 FOR PLUMBING FIXTURE CONNECTION REQUIREMENTS.

KEYNOTES

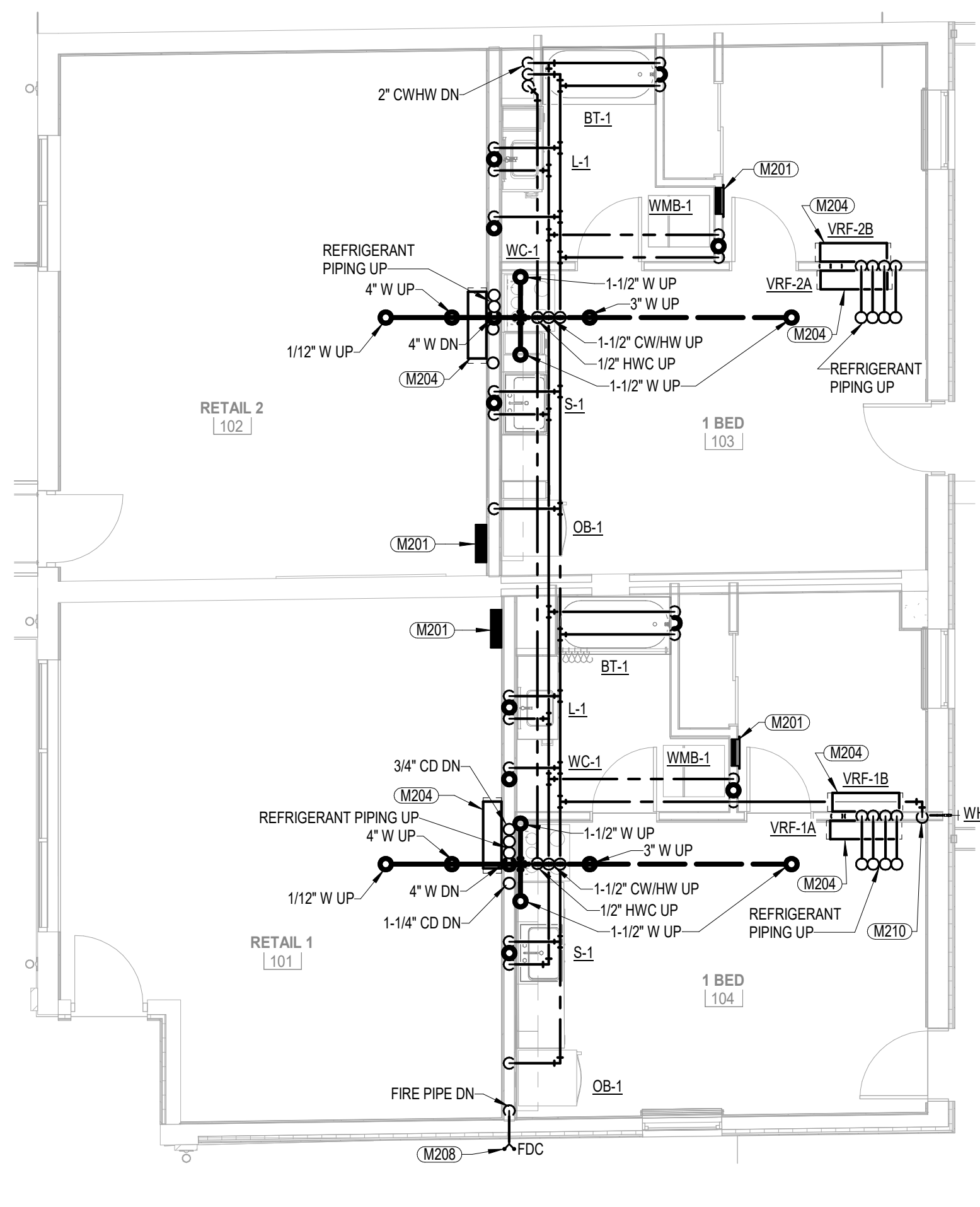
- M201 DO NOT ROUTE PIPING OVER ELECTRICAL PANELS. MAINTAIN ALL CODE REQUIRED CLEARANCES.
- M202 CONNECT NEW 2" CW PIPE TO EXISTING CW PIPING AT LOCATION INDICATED. FIELD VERIFY EXACT SIZE, LOCATION AND ELEVATION OF EXISTING PIPING PRIOR TO CONNECTION. TRANSITION, EXTEND AND OFFSET NEW PIPING AS REQUIRED TO MAKE CONNECTION AND AVOID CONFLICTS.
- M203 CONNECT NEW 4" W PIPE TO EXISTING W PIPING AT LOCATION INDICATED. FIELD VERIFY EXACT SIZE, LOCATION AND ELEVATION OF EXISTING PIPING PRIOR TO CONNECTION. TRANSITION, EXTEND AND OFFSET NEW PIPING AS REQUIRED TO MAKE CONNECTION AND AVOID CONFLICTS.
- M204 PROVIDE COMPLETE REFRIGERANT PIPING FOR VRF SYSTEM. ROUTING IS INDICATED SCHEMATICALLY. ALL PIPING SHALL BE SIZED, INSTALLED AND INSULATED PER MANUFACTURER'S RECOMMENDATIONS AND LOCAL CODE REQUIREMENTS. PIPE ROUTING SHALL BE COORDINATED WITH EXISTING CONDITIONS. ALL PIPING SHALL BE CONCEALED ABOVE CEILING OF IN WALLS.
- M205 ROUTE CONDENSATE PIPING DOWN TIGHT TO WALL TO INDIRECT DISCHARGE AND FLOOR DRAIN/FLOOR SINK.
- M206 FIRE SPRINKLER PIPE SIZING AND ROUTING BY FIRE SPRINKLER CONTRACTOR. COORDINATE PIPING WITH ALL OTHER TRADES.
- M207 6" FIRE WATER MAIN FOR SPRINKLER SERVICE. MAINTAIN CLEAR SPACE FOR FIRE SERVICE ENTRANCE. PROVIDE BACKFLOW PREVENTER AND ALL VALVES AND COMPONENTS AS REQUIRED BY NFPA 13 AND AUTHORITY HAVING JURISDICTION.
- M208 VERIFY LOCATION OF FIRE DEPARTMENT CONNECTION WITH AUTHORITY HAVING JURISDICTION.
- M209 SEE CIVIL FOR CONTINUATION.
- M210 ROUTE 3/4" CW DN IN WALL TO WH-1. ROUTE PIPING ON INTERIOR SIDE OF INSULATION. PROVIDE OWNER WITH OPERATING KEY.
- M211 AUTOMATIC BALANCING VALVE SET AT 0.33 GPM.

FIRE SPRINKLER GENERAL NOTES

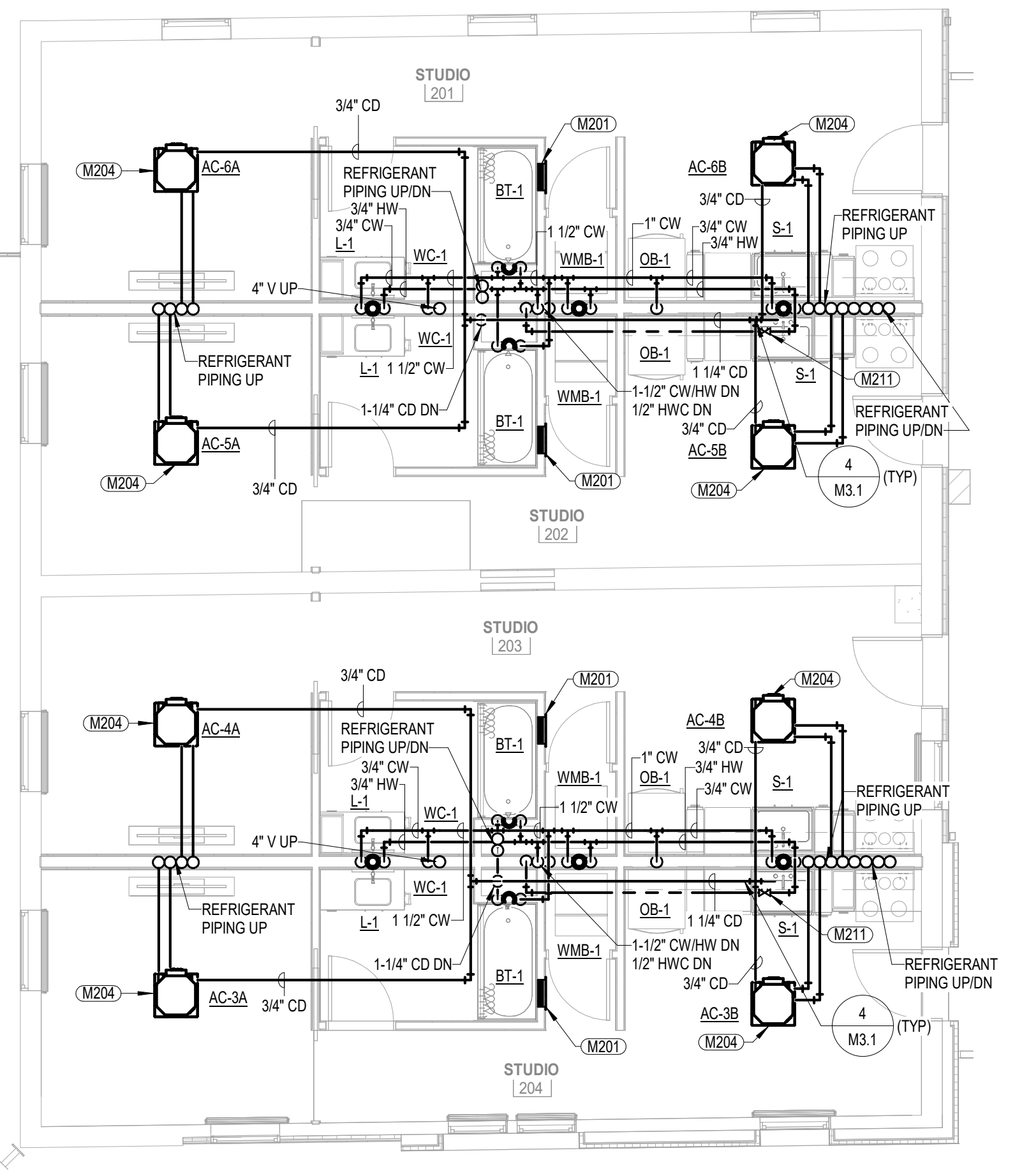
- ENTIRE BUILDING SHALL BE PROTECTED BY FIRE SPRINKLER SYSTEM IN ACCORDANCE WITH THE REQUIREMENTS OF NFPA 13 AND THE AUTHORITY HAVING JURISDICTION. FIRE SPRINKLER CONTRACTOR SHALL VERIFY AVAILABLE PRESSURE AND FLOW AND SIZE PIPING TO MEET THE REQUIREMENTS OF NFPA 13 AND THE AUTHORITY HAVING JURISDICTION.
- HYDRAULIC CALCULATIONS AND SPRINKLER PIPING LAYOUT SHALL BE SUBMITTED TO ENGINEER FOR REVIEW. A SECOND SET OF SHOP DRAWINGS SHALL BE SUBMITTED AFTER THE STATE FIRE MARSHAL HAS REVIEWED DESIGN.
- PROVIDE AN AUTOMATIC WET PIPE SPRINKLER SYSTEM THROUGHOUT THE BUILDING. COMPLETE IN ALL ASPECTS AND READY FOR OPERATION INCLUDING ALL TEST AND DRAIN LINES, PRESSURE GAUGES, HANGERS AND SUPPORTS, SIGNS, AND OTHER STANDARD APPURTENANCES. WIRING SHALL BE PROVIDED UNDER THE ELECTRICAL DIVISION.
- PROVIDE FIRE SERVICE ENTRANCE WITH DOUBLE CHECK BACKFLOW PREVENTER, ISOLATION VALVES, CHECK VALVES, FLOW SWITCH, ETC. AS REQUIRED BY NFPA 13, AUTHORITY HAVING JURISDICTION, AND ALL LOCAL CODES.
- PIPING MATERIAL AND SPRINKLER HEADS SHALL MEET THE REQUIREMENTS OF NFPA 13. FINAL PIPE SIZING AND HEAD LAYOUT BY FIRE SPRINKLER CONTRACTOR.
- MINIMIZE EXPOSED PIPING IN AREAS WITHOUT CEILING. IN SPACES WITHOUT CEILING, SPRINKLER HEADS AND PIPING SHALL BE LOCATED AS HIGH AS POSSIBLE. ROUTE FIRE SPRINKLER MAINS ALONG STRUCTURE TO MINIMIZE VISIBILITY. PAINT EXPOSED PIPING PER ARCHITECTURAL SPECIFICATIONS. DO NOT PAINT HEADS.
- NEW FIRE SPRINKLER HEADS IN ALL AREAS WITH CEILING SHALL BE CONCEALED TYPE WITH STANDARD COLOR COVER PLATES SELECTED BY ARCHITECT FLUSH TO CEILING. FIRE SPRINKLER HEADS SHALL BE CENTERED IN TILE WHERE INSTALLED IN LAY-IN TILE CEILING. COORDINATE WITH ELECTRICAL AND MECHANICAL CONTRACTOR.
- DO NOT INSTALL FIRE SPRINKLER PIPING OR FIRE SPRINKLER HEADS ABOVE ELECTRICAL PANELS OR CODE REQUIRED CLEARANCE SPACES. MINIMIZE PIPING ROUTED THROUGH ELECTRICAL AND IT ROOMS. PROVIDE PIPE GUARDS ON ALL HEADS LOCATED IN THESE SPACES.
- COORDINATE ALL WALL AND FLOOR PENETRATIONS WITH GENERAL CONTRACTOR. SEAL PENETRATIONS OF EXTERIOR ENVELOPE WATERTIGHT. FIRE CAULK ALL PIPE PENETRATIONS THROUGH FIRE RATED WALLS AND ASSEMBLIES. CAULK AROUND ALL PIPE PENETRATIONS THROUGH FULL HEIGHT SOUND WALLS. REFER TO ARCHITECTURAL DRAWINGS FOR WALL CONSTRUCTION. ALL PENETRATIONS OF FIRE-RESISTANT CONSTRUCTION SHALL BE SEALED WITH A LISTED FIRESTOPPING ASSEMBLY BY THE CONTRACTOR RESPONSIBLE FOR THE PENETRATION.
- COORDINATE FIRE SPRINKLER PIPE ROUTING AND FIRE SPRINKLER HEAD LOCATIONS WITH DIFFUSERS, REGISTERS, AND GRILLES, FIRE ALARM DETECTORS, LIGHTS AND CEILING PLANS.
- CONTRACTOR SHALL COORDINATE ALL PIPE ROUTING WITH ALL OTHER TRADES. CONTRACTOR SHALL PROVIDE ALL ADDITIONAL OFFSETS AS REQUIRED TO COMPLETE INSTALLATION AND AVOID CONFLICTS. IF CONFLICTS DO OCCUR SUCH THAT LIGHTS, DUCTWORK, OR CEILING SYSTEMS CANNOT BE INSTALLED DUE TO SPRINKLER PIPING INTERFERENCE, THE PIPING SHALL BE RELOCATED AT NO ADDITIONAL EXPENSE TO THE PROJECT.
- INSTALL ALL VALVES IN ACCESSIBLE LOCATIONS.
- MAINTAIN MANUFACTURER'S REQUIRED CLEARANCE AROUND ALL MECHANICAL EQUIPMENT TO ALLOW PROPER OPERATION AND FOR EASY MAINTENANCE.



1 BASEMENT - PIPING
M2.1 3/16" = 1'-0"
0' 4' 8' 16'



2 FIRST FLOOR - PIPING
M2.1 3/16" = 1'-0"
0' 4' 8' 16'



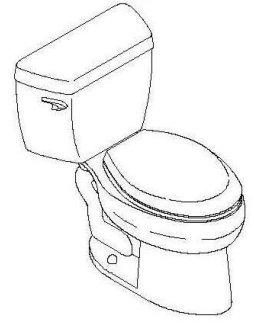
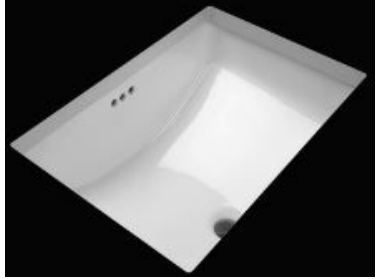
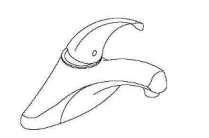


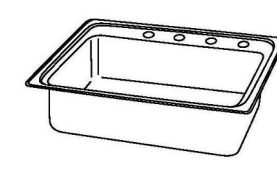






3 SECOND FLOOR - PIPING
M2.1 3/16" = 1'-0"
0' 4' 8' 16'

MEI PROJECT NO: 24030


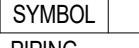
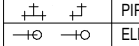
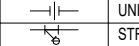
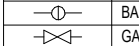

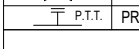
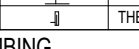
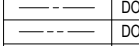
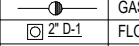
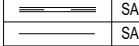
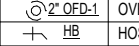
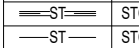
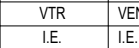
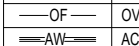
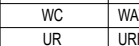
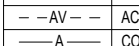
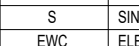
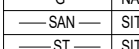
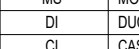
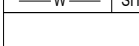
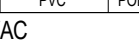
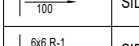
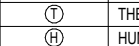
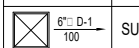
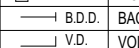

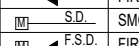
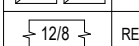
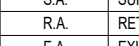
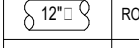
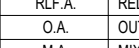
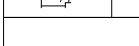

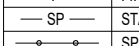
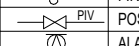
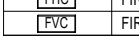
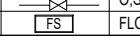






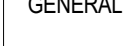










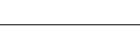
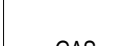





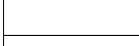
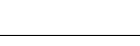

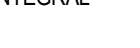













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note:
do not scale drawings. verify all dimensions and clearances from architectural, structural, shop and other appropriate drawings or at site. buy out and coordinate all work prior to installation to provide clearances required for operation, maintenance, and codes and verify non-interference with other work. do not fabricate prior to verification of clearance for all trades.

PLUMBING FIXTURE SCHEDULE (1)

TAG	FIXTURE (2)	FAUCET/FLUSHVALVE/ACCESSORY (2)	DESCRIPTION	CONNECTIONS
				CW HW WASTE VENT
WC-1			DESCRIPTION: ELONGATED BOWL, FLOOR MOUNTED, FLOOR OUTLET, TANK TYPE WATER CLOSET. ADA COMPLIANT: YES. COLOR: WHITE. TANK: CLOSED COUPLED, 1.6 GALLONS PER FLUSH. SEAT: WHITE, ELONGATED, CLOSED FRONT WITH COVER, SEAT WITH CHECK HINGE. RIM HEIGHT: 17.5"-18". FIXTURE SHALL BE MIP TESTED FOR A MINIMUM OF 1,000 GRAMS PER FLUSH.	1/2" - 3" 2"
	MODEL: PROFLO PF1403T ADA			
L-1			DESCRIPTION: UNDERCOUNTER LAVATORY WITH MANUAL FAUCET. ADA COMPLIANT: YES. COLOR: COORDINATE WITH ARCHITECT. FIXTURE DIMENSIONS: COORDINATE WITH ARCHITECT. CONSTRUCTION: FAUCET INLET SPACING TO MATCH LAVATORY OPENINGS. FAUCET VALVE OPERATION: MANUAL. FAUCET FINISH: CHROME. HANDLE: SINGLE-LEVER TOGGLE. SPOUT: INTEGRAL WITH BODY, VANDAL RESISTANT AERATOR. 1/2-GPM FLOW. DRAIN: POP UP DRAIN. ADA INSULATION KIT: PROVIDE SUPPLY AND DRAIN SOFT MOLDED INSULATION KITS FROM FIXTURE TO WALL. COVERINGS TO BE CUSHIONED JACKET PLASTIC COVERING WITH SELF STICKING FASTENING SYSTEM.	1/2" 1/2" 1-1/4" 1-1/4"
	MODEL: PROFLO PF1812U	MODEL: KOHLER K-15-- "CORALAIS" SEE DESCRIPTION FOR OPTIONS		
BT-1			DESCRIPTION: GELCOAT FIBERGLASS TUB/SHOWER ENCLOSURE. TUB/SHOWER MUST MEET THE REQUIREMENTS OF ADA. ADA COMPLIANT: YES. GRAB BARS AND SEAT: PROVIDE BACKING FOR INSTALLATION OF GRAB BARS AND SEAT. COLOR: WHITE. FIXTURE ENCLOSURE: GELCOAT FIBERGLASS, SMOOTH WALL FINISH WITH SLIP RESISTANT TEXTURED BOTTOM. FIXTURE DIMENSIONS: 60" X 32-1/4" X 71-1/2". INSTALLATION: FLUSH MOUNTED TO THE FLOOR. FIXTURE ENCLOSURE DRAIN: INTEGRAL, CORROSION-RESISTANT METAL WITH REMOVABLE STRAINER. SHOWER CURTAIN ROD: FACTORY INSTALLED SHOWER ROD SHOWER VALVE: PRESSURE BALANCED VALVE WITH SCREWDRIVER STOPS. SHOWER HANDLE: SINGLE-LEVER. SHOWER HEAD: ADA COMPLIANT SLIDE BAR AND HAND SHOWER. 1.75 GALLONS PER MINUTE MAXIMUM.	1/2" 1/2" 1-1/2" 1-1/2"
	MODEL: AQUATIC 2603SMTE	MODEL: DELTA T13H152		
S-1			DESCRIPTION: COUNTER MOUNTED 18 GA STAINLESS STEEL SINK W/ GOOSENECK SWING SPOUT. ADA COMPLIANT: YES. FIXTURE DIMENSIONS: SINGLE BOWL 22" X 19" X 6-1/2"(ADA). CONSTRUCTION: FAUCET INLET SPACING TO MATCH SINK OPENINGS. HANDLE: DOUBLE POLISHED CHROME ADA LEVER HANDLES. DRAIN: 1-1/2" GRID STRAINER WITH 3-1/2" REMOVABLE STAINLESS STEEL CRUMB CUP. ADA INSULATION KIT: PROVIDE SUPPLY AND DRAIN SOFT MOLDED INSULATION KITS FROM FIXTURE TO WALL. COVERINGS TO BE CUSHIONED JACKET PLASTIC COVERINGS WITH SELF STICKING FASTENING SYSTEM. FOOD WASTE DISPOSER: IN-SINK ERATOR, BADGER SXP, 15VAC, 3/4 HP DISPOSER. INCLUDE MOTOR WITH OVERLOAD PROTECTION AND RESET BUTTON. WALL SWITCH, CORROSION RESISTANT CHAMBER WITH JAM RESISTANT STAINLESS STEEL GRINDER, SPLASH GUARD, AND COMBINATION COVER/STOPPER.	1/2" 1/2" 1-1/2" 1-1/2"
	MODEL: ELKAY LRAD-2219	MODEL: AM STD COLONY SOFT 4175.100.F15		
D-1			DESCRIPTION: FLOOR DRAIN WITH CAST IRON BODY, FLASHING COLLAR, 6" ROUND ADJUSTABLE NICKEL BRONZE GRATE.	CW HW WASTE VENT - - 2" 1-1/2" - - 3" 1-1/2" - - 4" 2"
	MODEL: J.R. SMITH #2005			
ES-1			DESCRIPTION: FLOOR SINK WITH SEDIMENT BUCKET, ACID RESISTANT COATED CAST IRON BODY, FLASHING COLLAR, AND REMOVABLE 8-1/2" SQUARE NICKEL BRONZE TOP. PROVIDE THE FOLLOWING FEATURES: 1. HINGED GRATE 2. 3/4 GRATE	CW HW WASTE VENT - - 2" 1-1/2" - - 3" 1-1/2" - - 4" 2"
	MODEL: J.R. SMITH #3101			
WMB-1			DESCRIPTION: METAL WASHING MACHINE BOX. CONSTRUCTION: RECESSED BOX AND FACEPLATE, 1/2" MIP/SWEAT CONNECTION VALVES AND A 2" THREADED DRAIN FITTING AND LOCKNUT.	CW HW WASTE VENT 1/2" 1/2" 3" 2"
	MODEL: GUY GRAY B200 OR EQUAL METAL WASHING MACHINE BOX			
OB-1			DESCRIPTION: RECESSED WALL OUTLET BOX WITH ISOLATION VALVE.	CW HW WASTE VENT 1/4" - - -
	MODEL: OATEY #12K			
WH-1			DESCRIPTION: WALL HYDRANT WITH THE FOLLOWING FEATURES: NONFREEZE, AUTOMATIC DRAINING, ANTI-BACKFLOW TYPE, KEY OPERATION, 3/4" NPS THREADED OR SOLDER JOINT INLET, AND GARDEN HOSE THREADS ON OUTLET. INCLUDE OPERATING KEY FOR EACH HYDRANT.	CW HW WASTE VENT 3/4" - - -
	MODEL: WOODFORD MODEL #67			
REMARKS:	(1) SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS INCLUDING STOPS, FITTINGS AND ALL OTHER SPECIALTIES. (2) PICTURES OF FIXTURES DO NOT INDICATE ACTUAL FIXTURE SPECIFIED. PICTURES ARE GRAPHICAL IN NATURE. SEE DESCRIPTION FOR ACTUAL FIXTURE AND MODEL.			

MECHANICAL SYMBOLS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	PIPE TEE / PIPE ELBOW		UNION
	ELBOW ON ELBOW UP		STRAINER WITH BLOWDOWN
	CHECK VALVE (BALL OR BUTTERFLY)		CHECK VALVE (ARROW INDICATES FLOW)
	BALANCING VALVE		AUTOMATIC CONTROL VALVE TWO-WAY / THREE-WAY
	GATE VALVE		PRESSURE REGULATING VALVE (PRV)
	GLOBE VALVE		PRESSURE GAUGE
	PRESSURE/TEMPERATURE TEST PORT		THERMOMETER
PLUMBING			
	DOMESTIC COLD WATER (CW)		GAS PIPE
	DOMESTIC HOT WATER (HW) (NUMBER INDICATES TEMPERATURE)		FLOOR DRAIN - SIZE TYPE
	DOMESTIC HOT WATER CIRCULATION (HW/C) (NUMBER INDICATES TEMPERATURE)		ROOF DRAIN - SIZE TYPE
	SANITARY WASTE (BELOW GRADE)		OVERFLOW ROOF DRAIN - SIZE TYPE
	SANITARY WASTE (ABOVE GRADE)		VASE BIB
	VENT PIPE		WALL HYDRANT (NON-FREEZE)
	STORM PIPE (BELOW GRADE)		VENT THROUGH ROOF
	STORM PIPE (ABOVE GRADE)		E.E. ELEVATED ELEVATION
	OVERFLOW STORM PIPE (BELOW GRADE)		WC WATER CLOSET (SEE SPECIFICATIONS FOR TYPE)
	OVERFLOW STORM PIPE (ABOVE GRADE)		URINAL (SEE SPECIFICATIONS FOR TYPE)
	ADD WASTE PIPE (ABOVE GRADE)		LAV LAVATORY (SEE SPECIFICATIONS FOR TYPE)
	ADD VENT PIPE		SINK (SEE SPECIFICATIONS FOR TYPE)
	COMPRESSED AIR PIPE		ELECTRIC WATER COOLER (SEE SPECIFICATIONS FOR TYPE)
	NATURAL GAS PIPE		MOP SINK (SEE SPECIFICATIONS FOR TYPE)
	SITE SANITARY PIPE		DI DUCTILE IRON
	SITE STORM PIPE		CI CAST IRON
	SITE WATER PIPE		PVC POLYVINYL CHLORIDE
HVAC			
	SIDE WALL SUPPLY REGISTER OR GRILLE (NECK SIZE IN IN. / SQUARE FEET)		SENSOR
	SIDE WALL RETURN OR EXHAUST REGISTER OR GRILLE (NECK SIZE IN IN. / SQUARE FEET)		THERMOSTAT
	SUPPLY AIR REGISTER (NECK SIZE IN IN. / SQUARE FEET)		HUMIDISTAT
	SUPPLY AIR, OUTSIDE AIR OR MIXED AIR DUCT END OR RISER UP / RISER DN		MOTORIZED CONTROL DAMPER WITH ACTUATOR
	RETURN AIR, EXHAUST AIR OR RELIEF AIR DUCT END OR RISER UP / RISER DN		BACKDRAFT DAMPER
	RECTANGULAR DUCTWORK (WIDTH/DEPTH/IN) (FIRST NUMBER IS SIDE SHOWN)		VOLUME DAMPER
	ROUND DUCTWORK (DIAMETER/IN) (SPIRAL DUCT IN EXPOSED AREAS)		FIRE DAMPER WITH SLEEVE AND ACCESS DOOR
	TURNING VANES		SMOKE DAMPER WITH SLEEVE AND ACCESS DOOR
	FIRE SPRINKLER PIPING		S.A. SUPPLY AIR
	STANDOFF PIPING		R.A. RETURN AIR
	SPRINKLER BRANCH AND HEADS		E.A. EXHAUST AIR
	FIRE HOSE CABINET		R.E.A. RELIEF AIR
	FIRE VALVE CABINET		O.A. OUTSIDE AIR
			M.A. MIXED AIR
	FIRE HYDRANT		FI VALVE
	FIRE ALARM CHECK VALVE		FLOW SWITCH

PUMP SCHEDULE

GENERAL	PLAN TAG	HWCP-1
	MANUFACTURER	TACO
	MODEL NUMBER	009
	SERVES	120" HW (1)
	TYPE	IN-LINE (1)
	ACCESSORIES	-
	FLOW (GPM)	2.0
	TOTAL HEAD (FEET)	30
	SHUT-OFF HEAD (FEET)	35
	NPSH AVAILABLE (FEET)	-
	MIN. EFFICIENCY	-
	FLUID	WATER
	SUCTION SIZE (IN)	3/4"
	DISCHARGE SIZE (IN)	3/4"
	MAX. IMPELLER DIA. (IN)	-
	RPM	3250
	HP	1/8
	VOLTS	115
	PHASE	1
	TYPE	ODP
	CONTROL DEVICE	(2)
	REMARKS	-
REMARKS	1. LEAD FREE / ALL BRONZE CONSTRUCTION FOR POTABLE WATER APPLICATIONS. 2. TIMECLOCK AND CONTROL WIRING BY MECHANICAL CONTRACTOR. CYCLE THROUGH AQUASTAT. COORDINATE WITH ELECTRICAL CONTRACTOR.	

WATER HEATER SCHEDULE (GAS)

GENERAL	PLAN TAG	GW-H-1A, B
	MANUFACTURER	A.O. SMITH (6)
	MODEL NUMBER	BTH-199
	SERVES	SEE PLANS
	RECOVERY (GPH @ 70°F RISE)	336
	TYPE	(1)
	STORAGE CAPACITY (GAL.)	100
	DIMENSIONS (LxWxH) (IN.)	28"0 x 76"
	REMARKS	(2)
	FUEL	NATURAL GAS
	INPUT (MBH)	199
	EFFICIENCY	97%
	VENT CONNECTION	(3)
	BURNER MOTOR HP	-
	BURNER MOTOR VOLTS/PHASE	(4)
	REMARKS	(5)
REMARKS	(1) CONCEALED COMBUSTION POWER DIRECT VENT WITH INTEGRAL GLASS LINED STORAGE TANK. (2) INTEGRAL TEMPERATURE AND PRESSURE RELIEF VALVE. (3) PVC EXHAUST AND COMBUSTION AIR PIPING SIZED PER MANUFACTURER'S RECOMMENDATIONS FOR VERTICAL SEALED DIRECT VENT. PROVIDE ROOF TERMINATION PER MANUFACTURER'S RECOMMENDATIONS AND ALL LOCAL CODES. (4) COORDINATE ELECTRICAL REQUIREMENTS WITH MANUFACTURER AND ELECTRICAL CONTRACTOR. (5) 120°F DISCHARGE WATER TEMPERATURE. (6) SUBJECT TO COMPLIANCE WITH REQUIREMENTS. PROVIDE PRODUCT BY ONE OF THE FOLLOWING MANUFACTURERS: AO SMITH, RHEEM AND STATE.	

HYPER-HEATING INVERTER VRF HEAT PUMP

GENERAL	PLAN TAG	VRF-HP-1, 2, 3, 4, 5, 6, 7, 8
	MANUFACTURER	MITSUBISHI/TRANE (10)
	MODEL NUMBER	NTXMPH20A122CA
	SERVES	SEE PLANS
	CONFIGURATION	(9)
	MAXIMUM SIZE (HxWxD) (IN)	38" x 17" x 42"
	MAXIMUM WEIGHT (LBS.)	300
	REMARKS	(3) (4) (6) (8) (9)
	VOLTS	208
	PHASE	1
	MAXIMUM UNIT KW	-
	MAXIMUM OCP (AMPS)	40
	MINIMUM CIRCUIT AMPACITY (MCA)	26.9
	REMARKS	(7)
	AMBIENT AIR TEMPERATURE (F)	95
	MINIMUM NET EER (ARI)	13.5
	NOMINAL CAPACITY (TONS)	1.5
	TOTAL COOLING (MBH)	18.0
	SENSIBLE COOLING (MBH)	-
	AMBIENT AIR TEMPERATURE (F)	47 / 17 / 5
	MINIMUM NET COP (ARI)	4.0 / 2.1 / 1.89
	MINIMUM HEATING CAPACITY (MBH)	22.0
	TYPE	R410A
	REFRIGERANT	-
	MIN. NUMBER OF CIRCUITS	-
	REMARKS	-
	TYPE	(5)
	QUANTITY	1
	HP	-
	REMARKS	-
	TYPE	PROP.
	CONDENSER FANS	1
	HP	-
	REMARKS	-
REMARKS	1. COOLING CAPACITY AT 100% COMBINATION, 95°F DB OUTDOOR AIR TEMPERATURE AND 67°F INDOOR WB TEMPERATURE. 2. HEATING CAPACITY: 100% HEATING CAPACITY AT 5° F OUTDOOR AMBIENT, 75% HEATING CAPACITY AT -13° F OUTDOOR AMBIENT. 3. PROVIDE WITH 10 YEAR COMPRESSOR WARRANTY. 4. AIR-TO-AIR HEAT PUMP SERVING MULTIPLE INDOOR VARIABLE REFRIGERANT VOLUME UNITS WITH MANUFACTURER'S CONTROLS. MANUFACTURER'S STANDARD INVERTER-DRIVEN SCROLL COMPRESSOR AND CONTROLS. 5. PROVIDE WITH LOW AMBIENT KIT FOR OPERATION DOWN TO -20° F AMBIENT, SNOW / HAIL GUARDS AND BASE PAN HEATER. 6. SINGLE POINT ELECTRICAL CONNECTION. SEE ELECTRICAL DRAWINGS. 7. ELECTRICAL DISCONNECTS BY ELECTRICAL CONTRACTOR. SEE ELECTRICAL DRAWINGS. 8. SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCT BY ONE OF THE FOLLOWING MANUFACTURERS: TRANE, MITSUBISHI, DAIKIN, SAMSUNG.	

VRF INDOOR UNIT GENERAL SCHEDULE (1)

GENERAL (1)	MODEL TAG (1)	VRF-1A/B, 2A/B, 7, 8	VRF-3A/B, 4A/B, 5A/B, 6A/B
	MANUFACTURER	TRANE (5)	TRANE (5)
	MODEL NUMBER	MSZ-EF09MHW-1J2	NTXKS09A112BA
	MAX WEIGHT (LBS.)	35	35
	CONFIGURATION	(6)	(8)
	MAXIMUM SIZE (WxDxH) (IN)	35 x 8 x 12	35 x 8 x 12
	REMARKS	(2) (4) (7)	(4) (7) (9)
	AIRFLOW RANGE (CFM)	141-371	230-300
	EXTERNAL STATIC PRESSURE (IN. W.C.)	-	-
	FAN MOTOR OUTPUT (W)	-	-
	MIN. CIRCUIT AMPS (MCA) (A)	1.0	1.0
	MAXIMUM FUSE SIZE	15	15
	VOLTS	208	208
	PHASE	1	1
	REMARKS	(3)	(3)
REMARKS	1. REFER TO SPECIFIC INDOOR VRF UNIT SCHEDULE ABOVE FOR SPECIFIC UNITS AREAS SERVED SYSTEMS, HEATING AND COOLING PERFORMANCE, ACCESSORIES ETC. MODEL TAG INDICATES TONNAGE. 2. PROVIDE WITH CONCEALED CONDENSATE PUMP. 3. DISCONNECT BY ELECTRICAL CONTRACTOR. 4. PROVIDE WITH MANUFACTURER'S COMPATIBLE CONTROL SENSORS TAC-YT53 FOR EACH INDOOR UNIT. 5. SUBJECT TO COMPLIANCE WITH REQUIREMENTS. PROVIDE PRODUCT BY ONE OF THE FOLLOWING MANUFACTURERS: TRANE, MITSUBISHI, DAIKIN, SAMSUNG. 6. WALL MOUNTED 0.75 TON NOMINAL, 9.0 MBH COOLING, 10.0 MBH HEATING. 7. PROVIDE MANUFACTURER'S STANDARD FILTER. 8. CEILING CASSETTE 0.75 TON NOMINAL, 12.0 MBH COOLING, 14.4 MBH HEATING. 9. PROVIDE WITH INTEGRAL FACTORY CONDENSATE PUMP.		

ENERGY CODE COMPLIANCE

CODE	2018 IECC	
ComCHECK	YES	(1)
COMMISSIONING	NO	(2)
TAB REPORT	YES	(3) (4)
REMARKS	1. ComCHECK COMPLIANCE REPORT CAN BE FOUND IN THE PROJECT MANUAL. 2. COMMISSIONING IS NOT REQUIRED BECAUSE EQUIPMENT WITHIN THE SCOPE OF WORK MEETS THE CAPACITY EXCEPTIONS IN THE CODE. 3. REQUIRED DOCUMENTS REFER TO CODE SHALL BE PROVIDED TO THE BUILDING OWNER OR OWNER REPRESENTATIVE WITHIN 30 DAYS OF THE DATE OF RECEIPT OF THE CERTIFICATE OF OCCUPANCY. 4. SEE RESPECTIVE SPECIFICATION SECTIONS FOR ADDITIONAL INFORMATION.	

FAN SCHEDULE

GENERAL	PLAN TAG	EF-1
	MANUFACTURER	BROAN
	MODEL NUMBER	AE110
	SERVES	(1)
	TYPE	CEILING
	MAXIMUM WEIGHT (LBS)	15
	ROOF/WALL OPENING SIZE	-
	ACCESSORIES	(2)
	AIRFLOW (CFM)	60
	TOTAL SP (IN. W.C.)	0.4
	CLASS	-
	WHEEL TYPE	-
	MINIMUM WHEEL DIA.	-
	MAXIMUM SONES	1
	MAXIMUM FAN RPM	-
	MAXIMUM FAN BHP	-
	RPM	-
	HP	-
	VOLTS	120
	PHASE	1
	TYPE	-
	CONTROL DEVICE	(3)
	REMARKS	-
REMARKS	(1) RESIDENTIAL BATHROOMS. (2) PLASTIC INTAKE GRILLE, DISCHARGE DUCT COLLAR, INTEGRAL DISCONNECT, GRAVITY BACKDRAFT DAMPER, CEILING RADIATION DAMPER, & WALL CAP. (3) WALL SWITCH BY ELECTRICAL CONTRACTOR.	

MEI PROJECT NO: 24030

MECHANICAL SPECIFICATIONS

SECTION 210100 - GENERAL REQUIREMENTS FOR FIRE SUPPRESSION

A. RELATED DOCUMENTS

- Drawings and general provisions of the Contract, including General and Supplementary Conditions apply to this Section.
- Division 21, 22 and 23 Conditions apply to this Section.
- SUMMARY**
- This Section includes general mechanical requirements and shall apply to all phases of the work specified indicated on the drawings or required to provide for complete installation of fire suppression systems.
- Refer to Section 230100 for General Requirements for Mechanical
- Refer to Section 230500 for Basic Mechanical Materials and Methods
- Refer to Section 230505 for Basic Piping Materials and Methods

SECTION 211000 - WATER-BASED FIRE-SUPPRESSION SYSTEMS (NEW CONSTRUCTION)

- Entire building shall be protected by a fire sprinkler system in accordance with the requirements of NFPA 13 and the Authority Having Jurisdiction. Fire sprinkler contractor shall verify available existing water pressure and flow and size piping to meet the requirements of NFPA 13 and the Authority Having Jurisdiction. Hydraulic calculations and sprinkler piping layout shall be submitted to engineer for review. A second set of shop drawings shall be submitted after the state fire marshal has reviewed design.
- Provide fire service entrance with double check backflow preventor, isolation valves, check valves, flow switch, etc. as required by NFPA 13, local code requirements, and Authority Having Jurisdiction.
- Drawings indicate general layout. Final pipe sizing, pipe routing, and sprinkler head layout shall be by the fire sprinkler contractor.
- Piping material, fire sprinkler heads, and accessories shall be constructed of materials that meet the requirements of NFPA 13 and the Authority Having Jurisdiction. Steel piping shall be minimum Schedule 10 wall thickness. Warm occupied areas shall be protected by a wet pipe sprinkler system. Attic and areas subject to freezing shall be protected by a dry pipe system.
- Sprinkler heads shall be as follows:
 - Sprinkler heads in unheated attic or other areas subject to freezing shall be dry pipe pendant or sidewall sprinklers.
 - Sprinkler heads in areas without ceilings shall be upright or pendant type.
 - Sprinkler heads in areas with ceiling shall be **concealed sprinkler heads with cover plate. Cover plate color shall be selected by the architect from manufacturer's standard colors.**
 - Fire sprinkler heads shall be centered in tile where installed in lay-in tile ceilings.
- Space above ceilings is limited. Coordinate location of all sprinkler heads and piping with all other trades. If conflicts do occur such that lights, mechanical piping, plumbing or ceiling systems cannot be installed due to sprinkler piping interference, the sprinkler piping shall be relocated at no additional cost to the project.

SECTION 220100 - GENERAL REQUIREMENTS FOR PLUMBING

A. RELATED DOCUMENTS

- Drawings and general provisions of the Contract, including General and Supplementary Conditions apply to this Section.
- Division 22 and 23 Conditions apply to this Section.
- SUMMARY**
- This Section includes general mechanical requirements and shall apply to all phases of the work specified indicated on the drawings or required to provide for complete installation of plumbing systems.
- Refer to Section 230100 for General Requirements for Mechanical
- Refer to Section 230500 for Basic Mechanical Materials and Methods

SECTION 220720 - PIPE INSULATION FOR PLUMBING

- MINERAL-FIBER INSULATION:** Glass fibers bonded with a thermosetting resin. Preformed Pipe Insulation: Comply with ASTM C 547, Type I, with factory-applied, all-purpose, vapor-retarder jacket. Flame-spread rating of 25 or less, and smoke-developed rating of 50 or less. Apply insulation to pipes but securing each layer of preformed pipe insulation to pipe with wire, tape, or bands without deforming insulation materials.
- FLEXIBLE ELASTOMERIC THERMAL INSULATION:** Closed-cell, sponge- or expanded-rubber materials. Comply with ASTM C 534, Type I for tubular materials and Type II for sheet materials. Adhesive as recommended by insulation material manufacturer. Ultraviolet-Protective coating as recommended by insulation manufacturer. Flame-spread rating of 25 or less, and smoke-developed rating of 50 or less. Follow manufacturer's written instructions for applying insulation. Seal longitudinal seams and end joints with manufacturer's recommended adhesive
- VAPOR RETARDER:** On piping systems operating below ambient space temperature, seal joints and seams with vapor-retarder mastic. Seal penetrations in insulation at hangers, supports, anchors, and other projections with vapor-retarder mastic Mastics.
- INSULATION APPLICATION SCHEDULE**
 - Service: Domestic cold water (CW)
Thickness/Material: 1/2" Mineral Fiber
Vapor Retarder Required: Yes
 - Service: Domestic hot water and circulating water (HW, HWC)
Thickness/Material: Mineral Fiber. Apply the following insulation thicknesses:
 - Systems without recirculation: 1/2"
 - 1/2" to 2" pipe: 1"
 - 2 1/2" and larger: 1-1/2"Vapor Retarder Required: No
 - Plumbing vents (V or AV), 2 foot section below roof
Thickness/Material: 1/2" Mineral Fiber
Vapor Retarder Required: Yes
 - Service: Sanitary waste piping
Insulation Material: None

SECTION 221116 - WATER DISTRIBUTION PIPING

- DOMESTIC WATER PIPING:** Above ground; hard copper tube, ASTM B 88, Type L; copper, 95-5 solder-joint fittings, and soldered joints. Underground: Soft copper tube, ASTM B 88, Type K; wrought-copper, solder-joint pressure fittings; and soldered joints.
- VALVES:** Provide gate, ball or butterfly isolation valves close to main on each branch and riser serving plumbing fixtures or equipment, and where indicated. Provide globe, ball or butterfly valve for throttling where indicated. Provide supply stops at each plumbing fixture. Provide calibrated or automatic balancing valves as indicated.
- TESTING:** Test water distribution piping according to authority having jurisdiction. Clean and disinfect water distribution piping. Fill water piping. Check components to determine that they are not air bound and that piping is full of water.

SECTION 221316 - DRAINAGE AND VENT PIPING

- ABOVEGROUND, SANITARY WASTE AND VENT AND STORM PIPING:** CISPI 301, ASTM A888, Hubless, cast-iron soil pipe; hubless, cast-iron, soil-pipe fittings and hubless, cast-iron, Neoprene sleeve coupling with stainless steel clamps.
- UNDERGROUND, SANITARY WASTE, AND VENT AND STORM PIPING:** ASTM A74. Hub-and-spigot, cast-iron soil pipe, Service class, hub-and-spigot, cast-iron, soil-pipe fittings, lead & oakum or compression joints.
- PIPING INSTALLATION:** Make changes in direction for drainage and vent piping using appropriate branches, bends, and long-sweep bends. Do not make change in direction of flow greater than 90 degrees. Lay buried building drain piping beginning at low point of each system. Install true to grades and alignment indicated, with unbroken continuity of invert. Place hub ends of piping upstream. Install required gaskets according to manufacturer's written instructions.
- SLOPE:** Install drainage and vent piping at the following minimum slopes, unless otherwise indicated:
 - Sanitary Piping: 2 percent downward in direction of flow for piping 3-inch NPS and smaller, 1 percent downward in direction of flow for piping 4-inch NPS and larger.
 - Vent Piping: 1 percent down toward vertical fixture vent or toward vent stack.
- TESTING:** Test drainage and vent piping according to procedures of authorities having jurisdiction.

SECTION 221319 - PLUMBING SPECIALTIES

- WATER HAMMER ARRESTERS:** ASME A112.26.1M, ASSE 1010, or PDI-WH 201, bellows or piston type with pressurized cushion chamber. Provide at each battery of fixtures.
- WATER PRESSURE REGULATORS:** water regulators, rated for initial working pressure of 150 psig minimum, of size, flow rate, and inlet for 80 psig outlet pressure. Install on building service piping.
- WALL HYDRANTS (WH-1):** nonfreeze, automatic draining, antibackflow type, key operation, with 3/4-inch NPS threaded or solder-joint inlet, and garden-hose threads on outlet. Include operating key for each hydrant. Nickel bronze finish. Woodford Model B65 or equal.
- WALL CLEANOUTS (WCO):** Cast iron body adaptable to pipe with cast bronze, brass cleanout plug; stainless steel cover, vandal proof screws. Install as shown and as required by code.
- CLEANOUT PLUGS (CO):** Cast iron or brass, threads complying with ANSI B2.1, countersunk head. Engrave heads to identify system.
- FLOOR CLEANOUTS (FCO):** Cast iron body and frame with cleanout plug and adjustable round nickel bronze top. Provide to match floor system.
 - Exposed finish type, standard mill finish.
 - Exposed flush type, standard non-slip scored or abrasive finish.
 - Exposed flush type, standard mill finish and carpet marker.
 - Heavy duty for traffic applications.
- VENT FLASHING (VTR):** 24" square minimum. Non-plasticized, chlorinated, polyethylene, concealed, waterproof membrane, 0.40" thick, solvent weldable or Lead sheet, 2-1/2" l'vst, concealed.

224000 PLUMBING FIXTURES

- Installation:** Install handles for accessible water closets and urinals with handle mounted on wide side of compartment. Install individual stop valve in each water supply to fixture. Install water-supply stop valves in accessible locations. Install traps on fixture outlets. Omit traps on fixtures having integral traps and on indirect wastes. Vent all fixtures as required by local code. Seal joints between fixtures and walls, floors, and counters using sanitary-type, 1-part, mildew-resistant, silicone sealant. Match sealant color to fixture color. Install hot and cold water supply, waste and vent piping of sizes indicated, but not smaller than required by authorities having jurisdiction
- See Plumbing Fixture Schedule on this sheet for plumbing fixture specifications.

SECTION 230100 - GENERAL REQUIREMENTS FOR MECHANICAL

- WARRANTIES -** All materials, workmanship and equipment shall be warranted against defects or against injury from proper and usual wear for a period of one year after the date of substantial completion. Any item that becomes defective within the warranty period shall be repaired or replaced, at no additional cost to the Owner. Warranty shall include repair of faulty workmanship.
- DEFINITIONS ABBREVIATIONS -** The following shall apply throughout the contract documents:
Furnish Supply and deliver to site ready for installation
Indicated Noted, scheduled or specified
Provide Furnish, install and connect complete and ready for final use
ADA Americans with Disabilities Act
ANSI American National Standards Institute
ASME American Society of Mechanical Engineers
ASHRAE American Society of Heating, Refrigeration and Air Conditioning Engineers
NEC National Electric Code (NFPA 70)
NEMA National Electrical Manufacturers Association
NFPA National Fire Protection Association
SMAACNA Sheet Metal and Air Conditioning Contractors National Association
UL Underwriters Laboratories Inc.
- CODES AND STANDARDS -** All work shall be performed by competent craftsmen skilled in the trade involved and shall be done in a manner consistent with normal industry standards. All work shall conform to the currently adopted edition of the National Electric Code (NEC), Local Building Code, Local Plumbing Code, Local Mechanical Code, Local Fire Code, and all other applicable state and local codes or standards. Where there is a conflict between the code and the contract documents, the code shall have precedence only then it is more stringent than the contract documents.
- PERMITS -** Contractor shall become familiar and comply with all requirements regarding permits, fees, licenses, etc. All permits, licenses, inspections and arrangements required for the work shall be obtained by Contractor's effort and expense. All utilities shall be installed in accordance with the local rules and regulations and all charges shall be paid by the Contractor.
- SUBMITTALS -** Shop drawings shall be submitted to Architect/Engineer for all items of mechanical equipment including the following:
Diffusers, Registers, Grilles
Sheet Metal Accessories
HVAC equipment
Plumbing Fixtures
Plumbing Specialties
- Shop drawings include fabrication and installation drawings, diagrams, schedules and other data specifically prepared for the project. Include dimensions and notations showing compliance with specified standards. Unless otherwise noted, submit a minimum of six (6) copies of shop drawings for review. Electronic copies (in pdf format) by e-mail are acceptable in lieu of hard copies.
- Architect/Engineer will review or take appropriate action for submittals. Review is only to determine general conformance with design shown in contract documents. Review of submittals shall not relieve contractor of responsibility for deviation from requirements of the contract documents or from errors or omissions within submittals.
- MATERIALS -** All materials and equipment used in the construction of the project shall be new unused and undamaged unless otherwise specified. Materials and equipment shall be of latest design standards of manufacturer specified. Verify installation details and requirements for materials and equipment furnished by others and installed under this contract.
- DEMONSTRATION AND TRAINING -** Instruct Owner's personnel to adjust, operate, and maintain mechanical systems. Schedule training with Owner with at least seven days' advance notice.
- STARTING AND ADJUSTING -** Start and test all equipment and operating components to confirm proper operation. Test and adjust all systems to achieve designed capacity and performance. All equipment and systems discrepancies shall be corrected prior to final acceptance.

SECTION 230500 - BASIC MECHANICAL MATERIALS AND METHODS

- PIPING INSTALLATION:** Install piping at required slope. Install components with pressure rating equal to or greater than system operating pressure. Install piping in concealed locations, except in equipment rooms and service areas. Install piping free of sags and bends. Install piping at right angles or parallel to building walls. Install piping tight to slabs, beams, joists, columns, walls, and other building elements. Locate groups of pipes parallel to each other, spaced to permit valve servicing. Install fittings for changes in direction and branch connections. Install pipe escutcheons for exposed pipe penetrations walls and ceilings. Install sleeves for pipes passing through concrete and masonry walls, and concrete floor and roof slabs. Provide electric fitting where two different types of pipe materials are joined. Comply with MSS-69 for pipe hanger selection and application.
- EQUIPMENT INSTALLATION:** Install equipment per manufacturer's recommendations. Install equipment as high as possible. Install equipment level and plumb, parallel and perpendicular to building. Install mechanical equipment to facilitate service, maintenance, and repair or replacement of components. Connect equipment for ease of disconnecting, with minimum interference to other installations. Install equipment giving right of way to piping installed at required slope.
- LABELING AND IDENTIFYING**
Piping: Provide pipe markers on each system where pipe is exposed to view and above removable ceilings. Include pipe description of system and arrows showing normal direction of flow.
Equipment: Install engraved plastic-laminate sign or equipment marker on or near each major item of mechanical equipment.
- CUTTING AND PATCHING:** Cut, channel, chase, and drill floors, walls, partitions, ceilings, and other surfaces necessary for mechanical installations. Perform cutting by skilled mechanics of trades involved. Repair cut surfaces to match adjacent surfaces.

SECTION 230593 - TESTING, ADJUSTING AND BALANCING

- Examine air-handling equipment to ensure clean filters have been installed, bearings are greased, belts are aligned and tight, and equipment with functioning controls is ready for operation. Check dampers for proper position.
- Perform testing and balancing procedures on each system according to the procedures contained in NEBB's "Procedural Standards for Testing, Adjusting, and Balancing of Environmental Systems" and this Section.
- Adjust fans to deliver total design airflow within the maximum allowable rpm listed by the fan manufacturer. Provide new fan sheaves as required. Measure fan airflow, static pressure, rpm and amp draw.
- Adjust volume dampers to achieve design airflow within 10% of specified values. Adjust diffusers, registers and grilles. Adjust minimum and maximum outside airflow.
- Prepare report listing date, project information, equipment data and measured airflow results. Report shall include drawing indicating locations of air outlets and final measured airflow of each outlet. Submit four copies of report to engineer for review.

SECTION 230700 - DUCT INSULATION

- MINERAL-FIBER BLANKET THERMAL INSULATION:** Glass fibers bonded with a thermosetting resin. Comply with ASTM C 563, Type II, with all-service jacket manufactured from kraft paper, reinforcing scrim, aluminum foil, and vinyl film. Flame-spread rating of 25 or less, and smoke-developed rating of 50 or less. Apply insulation materials, accessories, and finishes according to the manufacturer's written instructions with the least number of joints practical. Seal joints and seams with vapor-retarder mastic on cold air ducts. Seal penetrations in insulation at hangers, supports, anchors, and other projections with vapor-retarder mastic.
- APPLICATION SCHEDULE**
 - Service: GENERAL EXHAUST AIR - From fan back 36" into building
Thickness/Material: 2" Mineral-fiber Blanket
Minimum Installed R-value: R5
Vapor Retarder Required: Yes

SECTION 230720 - PIPE INSULATION FOR HVAC

- MINERAL-FIBER INSULATION:** Glass fibers bonded with a thermosetting resin. Preformed Pipe Insulation: Comply with ASTM C 547, Type I, with factory-applied, all-purpose, vapor-retarder jacket. Flame-spread rating of 25 or less, and smoke-developed rating of 50 or less. Apply insulation to pipes but securing each layer of preformed pipe insulation to pipe with wire, tape, or bands without deforming insulation materials.
- FLEXIBLE ELASTOMERIC THERMAL INSULATION:** Closed-cell, sponge- or expanded-rubber materials. Comply with ASTM C 534, Type I for tubular materials and Type II for sheet materials. Adhesive as recommended by insulation material manufacturer. Ultraviolet-Protective coating as recommended by insulation manufacturer. Flame-spread rating of 25 or less, and smoke-developed rating of 50 or less. Follow manufacturer's written instructions for applying insulation. Seal longitudinal seams and end joints with manufacturer's recommended adhesive
- VAPOR RETARDER:** On piping systems operating below ambient space temperature, seal joints and seams with vapor-retarder mastic. Seal penetrations in insulation at hangers, supports, anchors, and other projections with vapor-retarder mastic.
- INSULATION APPLICATION SCHEDULE**
 - Service: Condensate drain piping (CD)
Thickness/Material: Mineral Fiber. Apply the following insulation thicknesses:
 - PVC piping: None
 - Copper: 1/2"
Vapor Retarder Required: Yes
 - Service: Refrigerant suction (RS), refrigerant liquid (RL) and refrigerant hot gas discharge (RD)
Thickness/Material: 1-1/2" Flexible Elastomeric
Vapor Retarder Required: Yes
Finish: Two coats of manufacturer's coating when exposed to outside

SECTION 231123 - NATURAL GAS PIPING

- STEEL PIPE:** Pipe: ASTM A 53, Type E or S, Grade B, Schedule 40; black, Malleable-iron, Threaded Fittings ASME B16.3, Class 150, standard pattern, with threaded ends according to ASME B1.20.1. Unions: ASME B16.39, Class 150, malleable iron with brass-to-iron seal, ground joint, and threaded ends according to ASME B1.20.1. Joint Compound and Tape: Nuffalo for natural gas.
- Install and test gas piping according to NFPA 54 "National Fuel Gas Code" and Authority having jurisdiction.

SECTION 232300 - REFRIGERANT PIPING

- REFRIGERANT PIPING**
 - Aboveground, ASTM B 280, Type ACR copper tubing with brazed joints (using AWS A5.8 filler material).
 - REFRIGERANT VALVES**
 - Service Valves:
 - Body: Forged brass with brass cap including key end to remove core.
 - Core: Removable ball-type check valve with stainless-steel spring.
 - Seat: Polytetrafluoroethylene.
 - End Connections: Copper spring.
 - Working Pressure Rating: 500 psig.
 - Solenoid Valves: Comply with ARI 760 and UL 429; listed and labeled by an NRTL.
 - Body and Bonnet: Plated steel.
 - Solenoid Tube, Plunger, Closing Spring, and Seal Orifice: Stainless steel.
 - Seat: Polytetrafluoroethylene.
 - End Connections: Threaded.
 - Electrical: Molded, watertight coil in NEMA 250 enclosure of type required by location with 1/2-inch conduit adapter, and 24V ac coil.
 - Working Pressure Rating: 400 psig.
 - Maximum Operating Temperature: 240 deg F.
 - Manual operator.
 - INSTALLATION:**
 - Refrigerant piping to be installed per ASHRAE 15.
 - Sizing, pipe arrangement, and refrigerant specialties shall be determined by the equipment manufacturer based on the final layout / routing worked out in the field. Installation shall follow the recommended requirements of the equipment manufacturer.
 - Piping shall be free of sags and bends and routed in as direct as possible path between components.
 - Pipe shall be insulated per insulation schedule. Use of thermal shields must be used at support points (attaching support/clamps directly to the piping will be unacceptable).

- TESTING:** Purge refrigerant piping systems with dry nitrogen. Prepare and pressure test piping according to ASHRAE 15. Charge system refrigerant.

SECTION 233113 - METAL DUCTS AND ACCESSORIES

- GENERAL:** Drawings indicate general arrangement of ducts, fittings, and accessories. Minor modifications to route, size and shape of duct may be made to meet structural and other interference. Changes which could affect system performance shall be reviewed by Architect/Engineer prior to fabrication or installation of duct. Coordinate layout with suspended ceiling, fire- and smoke-control dampers, lighting layouts, and similar finished work.
- DUCT FABRICATION:** Sizes shown on plans are inside clear dimensions. Ductwork utilizing duct liner shall be increased in size to accommodate the duct liner thickness.
- MATERIAL:** Construct all rectangular and round ducts from galvanized sheet steel. Lock-forming quality; ASTM A 653/A 653M, G90 coating designation; mill-phosphatized finish for surfaces of ducts exposed to view.
- QUALITY ASSURANCE:** Fabricate and install duct per SMAACNA's "HVAC Duct Construction Standards—Metal and Flexible" and applicable codes. Comply with requirements for metal thickness, reinforcing types and intervals, tie-rod applications, and joint types and intervals. Comply with NFPA 90A, "Installation of Air Conditioning and Ventilating Systems," unless otherwise indicated.
- PRESSURE CLASS:** Unless otherwise noted construct all ducts to 2.0' WG positive or 2.0' WG negative pressure class.
- DUCT SEALING:** UL classified, non-combustible, flame spread 25 or less, smoke developed rating of 540 or less, resistant to water, pressure rupture rating of 16" WG minimum, suitable for use alone or with tape, application an operational temperature ranges appropriate for usage. Seal all duct per SMAACNA class 'C' duct seal requirements.
- TURNING VANES:** Fabricate of 1-1/2" wide, curved blades 3/4" on center. Provide turning vanes in all mitered elbows and duct turns.
- DUCT ACCESS DOORS:** Install insulated duct access doors with hinges and latches for access to inlet side of coils, equipment, control dampers, fire dampers, and smoke dampers.
- FLEXIBLE CONNECTORS:** Flame-retarded or noncombustible fabrics, coatings, and adhesives complying with UL 181, Class 1. Neoprene double-coated woven glass fiber fabric in accordance with NFPA 90A, suitable for temperatures and pressures of application, approximately 6" wide, crimped into metal edge strip. Provide flexible connections to motor driven equipment.
- FLEXIBLE DUCTS:** Factory-fabricated, insulated, round duct, with an outer jacket enclosing 1-1/2-inch-thick, glass-fiber insulation around a continuous inner liner, steel-wire helix encapsulated in polyethylene inner liner. Comply with UL 181, Class 1. Final connections to air outlets and terminal units may be made with flexible duct. Install flexible ducts with metal collars or sleeves with draw bands. Length of flexible duct shall not exceed 36" path shall not exceed 45'.

MEI PROJECT NO: 24030



mechanical | electrical | lighting | technology | sustainability

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note:

do not scale drawings, verify all dimensions and clearances from architectural, structural, shop and other appropriate drawings or as site. lay out and coordinate all work prior to installation to provide clearances required for operation, maintenance, and codes and verify non-interference with other work. do not fabricate prior to verification of clearance for all trades.



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MECHANICAL SPECIFICATIONS

Sheet No. | M5.1

ELECTRICAL SPECIFICATIONS

SECTION 26100 - GENERAL ELECTRICAL REQUIREMENTS

A. WARRANTIES - All materials, workmanship and equipment shall be warranted against defects or against injury from proper and usual wear for a period of one year after the date of substantial completion. Any item that becomes defective within the warranty period shall be repaired or replaced, at no additional cost to the Owner. Warranty shall include repair of faulty workmanship.

B. DEFINITIONS ABBREVIATIONS - The following shall apply throughout the contract documents:

Furnish Supply and deliver to site ready for installation

Indicated Noted, scheduled or specified

Provide Furnish, install and connect complete and ready for final use

NEC National Electric Code (NFPA 70)

NEMA National Electrical Manufacturers Association

NFPA National Fire Protection Association

UL Underwriters Laboratories Inc.

C. CODES AND STANDARDS - All work shall be performed by competent craftsmen skilled in the trade involved and shall be done in a manner consistent with normal industry standards. All work shall conform to the currently adopted edition of the National Electric Code (NEC), Local Building Code, and all other applicable state and local codes or standards. Where there is a conflict between the code and the contract documents, the code shall have precedence only then it is more stringent than the contract documents.

D. PERMITS - Contractor shall become familiar and comply with all requirements regarding permits, fees, licenses, etc. All permits, licenses, inspections and arrangements required for the work shall be obtained by Contractor's effort and expense. All utilities shall be installed in accordance with the local rules and regulations and all charges shall be paid by the Contractor.

E. SUBMITTALS - Shop drawings shall be submitted to Architect/Engineer for the following items of electrical equipment:

Wiring devices

Enclosed controllers, switches, and circuit breakers

Panelboards

Lighting fixtures

Fire alarm

1. Shop drawings include fabrication and installation drawings, diagrams, schedules and other data specifically prepared for the project. Include dimensions and notations showing compliance with specified standards. Unless otherwise noted, submit a PDF copy of shop drawings for review.
2. Architect/Engineer will review or take appropriate action for submittals. Review is only to determine general conformance with design shown in contract documents. Review of submittals shall not relieve contractor of responsibility for deviation from requirements of the contract documents or from errors or omissions within submittals.

F. MATERIALS - All materials and equipment used in the construction of the project shall be new unused and undamaged unless otherwise specified. Materials and equipment shall be of latest design standards of manufacturer specified. Verify installation details and requirements for materials and equipment furnished by others and installed under this contract.

G. DEMONSTRATION AND TRAINING - Instruct Owner's personnel to adjust, operate, and maintain electrical systems. Schedule training with Owner with at least seven days' advance notice.

H. STARTING AND ADJUSTING - Start and test all equipment and operating components to confirm proper operation and adjust all systems to achieve designed capacity and performance. All equipment and systems discrepancies shall be corrected prior to final acceptance.

I. TEMPORARY POWER AND LIGHTING - Provide temporary electric power from local utility with metering and payment of use charges.

1. Provide receptacle outlets adequate for connection of power tools and construction equipment.
2. Provide temporary lighting with local switching that provides adequate illumination for construction operations and traffic conditions.

SECTION 26200 - BASIC ELECTRICAL MATERIALS AND METHODS

A. QUALITY ASSURANCE - Electrical Components, Devices, and Accessories shall be listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

B. COORDINATION - Coordinate chases, slots, inserts, sleeves, and openings with general construction work and arrange in building structure during progress of construction to facilitate the electrical installers that follow. Sequence, coordinate, and integrate installing electrical materials and equipment for efficient flow of the work. Coordinate installing large equipment requiring positioning before closing in the building.

1. Coordinate installation and connection of exterior underground and overhead utilities and services, including provision for electricity-metering components. Comply with requirements of authorities having jurisdiction and of utility company providing electrical power and other services.

C. CONDUCTORS - All conductors shall be installed in raceways. Conductors for pilot and control circuits shall be #14. All other conductors shall be #12 or larger.

1. Conductors, No. 10 AWG and Smaller: Solid or stranded copper.
2. Conductors, Larger Than No. 10 AWG: Stranded copper.
3. Insulation: Thermoplastic, rated at 75 deg C minimum.
4. Wire Connectors and Splices: Units of size, ampacity rating, material, type, and class suitable for service indicated.

D. RACEWAYS - Minimum raceway size shall be 1/2". Raceway types and applications shall be as follows:

1. Electrical metallic tubing (EMT): ANSI C80.3, zinc-coated steel, with set-screw or compression fittings. EMT shall be used for all other applications not listed below.
2. Liquid tight flexible metal conduit (LFMC): Zinc-coated steel with vinyl-resistant and mineral-oil-resistant plastic jacket. LFMC shall be used for connections to lighting equipment or in wet or damp locations.
3. Rigid non-metallic conduit (RNC): NEMA TC 2, Schedule 40 PVC, with NEMA TC3 fittings. RNC shall be used for all underground applications.
4. Raceway Fittings: Specifically designed for the raceway type with which used.

E. JUNCTION AND DEVICE BOXES - Minimum box size shall be 4" square with extension or plaster ring as required. Box types and applications shall be as follows

1. Sheet metal boxes: NEMA OS 1 galvanized steel. Sheet metal boxes shall be used for all surface mounted applications and flush mounting in gypsum or plaster walls.
2. Masonry boxes: square cornered suitable for flush mounting in masonry construction.
3. Cast metal boxes: NEMA FB 1, Type FD, cast box with gasketed cover. Cast metal boxes shall be used for exterior surface mounted applications.

F. ELECTRICAL IDENTIFICATION - All conductors shall be color coded throughout the installation. Color coding shall be as prescribed by ANSI A13.1 and NFPA 70.

1. Provide engraved-plastic labels for all disconnect switches, switchboards, panelboards, transformers, and control devices. Labels shall be melamine plastic laminate engraving stock with 3/8" engraved lettering and shall be punched or drilled for mechanical fasteners.

G. FIRESTOPPING - Apply firestopping to cable and raceway penetrations of fire-rated floor and wall assemblies to achieve fire-resistance rating of the assembly.

H. DEMOLITION - Protect existing electrical equipment and installations indicated to remain. If damaged or disturbed in the course of the Work, remove damaged portions and install new products of equal capacity, quality, and functionality.

1. Remove exposed electrical equipment and installations, indicated to be demolished, in their entirety.
2. Cut and remove buried raceway and wiring, indicated to be abandoned in place, 2 inches below the surface of adjacent construction. Cap raceways and patch surface to match existing finish.
3. Remove demolished material from Project site.
4. Remove, store, clean, reinstall, reconnect, and make operational components indicated for relocation.
5. Existing utilities shall not be interrupted without prior written approval from the owner. All interruptions shall occur during off hours.

I. CUTTING AND PATCHING - Cut, channel, chase, and drill floors, walls, partitions, ceilings, and other surfaces required to permit electrical installations. Perform cutting by skilled mechanics of trades involved.

1. Repair and refinish disturbed finish materials and other surfaces to match adjacent undisturbed surfaces. Install new fireproofing where existing fireproofing has been disturbed. Repair and refinish materials and other surfaces by skilled mechanics of trades involved.

SECTION 262416 - PANELBOARDS

A. GENERAL - Panelboard cabinets shall be NEMA PB 1, type 1 zinc coated steel with manufacturer's standard enamel finish over corrosion-resistant treatment or primer coat. Each panelboard shall be furnished with a directory card indicating the load served by each branch circuit.

1. Panelboard bus material shall be hard-drawn copper, 98 percent conductivity (Tin-plated aluminum).
2. Provide each panelboard with an equipment ground bus adequate for feeder and branch-circuit equipment ground conductors. Bus shall be bonded to box.
3. Where future devices (spaces) are scheduled provide mounting brackets, bus connections, and necessary appurtenances required for future installation of devices.
4. Each panelboard shall be fully rated to interrupt symmetrical short-circuit current available at terminals. See schedules for required interrupting current (A.I.C.).
5. Panelboards shall be mounted with top of trim at 74" above finished floor, unless otherwise indicated.
6. Panelboards shall be mounted plumb and rigid without distortion of box. Mount recessed panelboards with fronts uniformly flush with wall finish.
7. Panelboards shall be manufactured by Cutler-Hammer, General Electric, Siemens, or Square D.

B. LOAD CENTERS

1. Overcurrent Protective Devices: Plug-in, full-module circuit breaker.
2. Conductor Connections: Mechanical type for main, neutral, and ground lugs and buses.

C. LIGHTING AND APPLIANCE BRANCH-CIRCUIT PANELBOARDS

1. Overcurrent Protective Devices: Bolt-on circuit breakers, replaceable without disturbing adjacent units.
2. Doors: Front mounted with concealed hinges; secured with flush latch with tumblers lock; keyed alike.
3. Overcurrent Protective Devices: Thermal-magnetic circuit breakers with inverse time-current element for low-level overloads, and instantaneous magnetic trip element for short circuits. Adjustable magnetic trip setting for circuit-breaker frame sizes 250 A and larger. Circuit breaker lugs shall be mechanical style, suitable for number, size, trip ratings, and material of conductors.
4. Each overcurrent protective device shall have an application listing appropriate for the application.

SECTION 262726 - WIRING DEVICES

A. GENERAL - Devices shall be installed plumb and secure. Unless otherwise indicated, flush mount wiring devices with long dimension vertical, and grounding terminal of receptacles on bottom.

1. Unless otherwise indicated wiring devices shall be mounted at the following heights, measured from finished floor to centerline of device.

Wall switches and wall box dimmers = 44"

Receptacles = 16"

2. Group adjacent devices under single multi-gang wall plates.
3. Wiring devices shall be manufactured by Pass and Seymour, Leviton, Hubbell, or General Electric.

B. RECEPTACLES - Duplex receptacles shall be specification grade 20 ampere, 120 volt.

1. Ground fault interrupting (GFI) receptacles shall be feed-through type arranged to protect connected downstream receptacles on same circuit.
Receptacles serving owner furnished equipment shall have configuration to match that of equipment plug.

C. SWITCHES - Snap switches shall be specification grade, quiet type, single pole, two pole, or three-way to suit connections.

D. DEVICE COLOR - Color shall be white unless otherwise indicated or required by code.

E. WALL PLATES - Plates shall be smooth finish plastic in single and combination types to match coordinating wiring devices. Match color of associated device(s).

1. Weatherproof plates in wet locations: Self closing transparent cover, lockable weatherproof enclosure, the integrity of which is not affected when the attachment plug cap is inserted. Equal to Cooper Wiring Devices Weatherbox.

SECTION 262816 - ENCLOSED SWITCHES

A. ENCLOSED SWITCHES - Enclosed switches shall be heavy-duty grade with lockable handle. Switches shall be non-hazardous unless otherwise indicated and shall have clips to accommodate fuse sizes indicated on the drawings.

1. Exterior mounted switches shall be NEMA 3R rated and shall be bolted closed.
2. Cartridge fuses shall be class dual-element time delay, Class "RK-1" Busman low peak. Equivalent fuses as manufactured by Gould Shurmut, Littelfuse, or GE are acceptable.
3. Enclosed switches shall be manufactured by Cutler-Hammer, General Electric, Siemens, or Square D.

SECTION 265100 - LIGHTING

A. LUMINAIRE AND FIXTURE COMPONENTS - All metal parts and components shall be free from burrs, sharp corners, and edges. All fixtures shall be shipped pre-wired and ready for mounting.

1. Doors, frames, and other internal access mechanisms shall be smooth operating, free from light leakage under operating conditions, and arranged to permit relamping without use of tools.

B. EMERGENCY POWER SUPPLY UNIT - Unit shall be a self-contained, modular, battery-inverter unit factory mounted within fixture body, 1100 lumen output minimum.

1. Fixture shall be provided with a test switch and light-emitting diode indicator light which is visible and accessible without opening fixture or entering ceiling space.
2. Battery shall be a sealed, maintenance-free, nickel-cadmium type with minimum 5-year nominal life with fully automatic, solid-state, constant-current type charger.
3. Relay shall automatically energize lamp or LEDs from unit when normal supply circuit voltage drops to 80 percent of nominal voltage or below. When normal voltage is restored, relay disconnects lamp, and battery is automatically recharged and floated on charger.

C. LED LIGHT SOURCE REQUIREMENTS:

1. Rated life (L70): Minimum 50,000 hours as defined by IES LM80 and TM21.
2. Color Rendering Index (CRI): 80 CRI minimum.
3. Each luminaire type shall be binned within a three-step MacAdam Ellipse to ensure color consistency among luminaires.

D. LED DRIVER REQUIREMENTS:

1. 0-10 Dimming.
2. Total Harmonic Distortion Rating: Less than 20 percent.
3. Ambient Temperature Rating: -40° to +55° C.
4. Power Factor (100% output): >0.95

E. WARRANTY - Include labor allowance required for replacement on-site at no extra cost to Owner within 1-year construction warranty. Transfer remainder of the manufacturer's warranty, including ballast manufacturer's labor stipend to owner after 1-year construction warranty.

1. Ballast and Drivers: 5-year replacement warranty.
2. LED system Warranty: 5-year replacement warranty.

F. FINISHES - Luminaire finishes shall be manufacturer's standard, unless otherwise indicated. Painted finishes shall be applied over corrosion-resistant treatment or primer, free of defects. Metallic finishes shall be corrosion resistant.

G. INSTALLATION - Luminaires shall be set level, plumb, and square with ceiling and walls, and secured according to manufacturer's written instructions and approved submittal materials.

SECTION 265200 - LIGHTING CONTROL

A. OCCUPANCY SENSORS - Sensor detects or "learns" patterns of use specific to controlled space to reduce false switching.

1. Ceiling Sensors: Dual technology with infrared and microphonic or ultrasonic; 32 kHz or 40 kHz sensors integrated into one housing, 360 degree field of view with a minimum coverage of 20 foot radius at 9' mounting height, with sensor centered in coverage area. Sensor shall mount tight to ceiling surface and shall have a white finish. Provide associated power packs for sensor power and load switching relays. Sensor switch CM PDT 10 or equivalent by Hubbell or Watstopper.
2. Wall Box Sensors: Passive dual technology with 180 degree adjustable field of view capable of sensing small motion 1020' when mounted at 4'. Publication on sensor face provides manual on manual off load control, load may be manually turned on or off at any time. Mount in wall box with decorator style faceplate. Integral switch in sensor housing shall be rated for 800W ballast or incandescent load at 120V, 1200W ballast load at 277V, and 1/4 hp motor load at 120V. Sensorswitch WSX PDT or equivalent by Hubbell or Watstopper.
3. Adjust occupancy sensors tailored to actual use conditions of controlled space. Make adjustments before and after Owner has occupied space.

B. COLOR - See Section 262726 - Wiring Devices.

C. WARRANTY - Manufacturer and Installer agree to repair or replace devices that fail in materials or workmanship within two years from date of substantial completion.

D. MANUFACTURERS

1. Lighting control system shall be manufactured by SensorSwitch, Watstopper or Leviton.

GENERAL RESIDENTIAL UNITS TYPICAL NOTES

1. CONNECT RECEPTACLE SERVING DWELLING UNIT REFRIGERATOR TO ONE OF THE SMALL-APPLIANCE CIRCUITS, PROTECTED BY UPSTREAM GFI DEVICE. DO NOT PROVIDE GFI RECEPTACLE FOR REFRIGERATOR.

2. MINIMUM SIZE FOR BRANCH CIRCUIT CONDUITS SHALL BE 1/2".

3. UNITS INDICATED ARE SPACING. COORDINATE RECEPTACLE LOCATIONS WITH ACTUAL FIELD MEASUREMENTS TO COMPLY WITH NEC TYPICAL REQUIREMENTS. VERIFY KITCHEN APPLIANCE LOCATIONS WITH OWNER AND ADJUST ACCORDINGLY.

4. PROVIDE 'AFCI' TYPE CIRCUIT BREAKER OR DEVICE (WHERE NEUTRALS ARE SHARED) FOR ALL 120 VOLT, SINGLE PHASE 15- AND 20-AMPERE BRANCH CIRCUITS AS REQUIRED BY NEC.

5. PROVIDE 'GFCI' TYPE RECEPTACLES FOR ALL 120 VOLT, SINGLE PHASE, 15- AND 20-AMPERE RECEPTACLES PER NEC 210.8.A. PROVIDE 'GFCI' TYPE RECEPTACLES FOR ALL RECEPTACLES INSTALLED WITHIN 6'-0" OF WATER, PER NEC 210.8.A.9.

6. PROVIDE TAMPER RESISTANT RECEPTACLES PER NEC 406.12. TAMPER RESISTANT RECEPTACLES ARE NOT INDICATED ON THE DRAWINGS.

7. MINIMUM SIZE FOR BRANCH CIRCUIT WIRING SHALL BE #12 AWG FOR 20 AMP CIRCUITS AND #14 FOR 15 AMP CIRCUITS.

8. COORDINATE FINAL DEVICE AND FIXTURE ROUGH-IN LOCATIONS WITH OWNER. ANY INSTALLATION DEVIATION BETWEEN DRAWINGS AND ACTUAL LOCATIONS SHALL BE COORDINATED WITH OWNER/ARCHITECT PRIOR TO ROUGH-IN.

9. ALL KITCHEN RECEPTACLES SHALL BE GFI TYPE PER NEC 210.8.

10. VERIFY RECEPTACLE MOUNTING HEIGHTS WITH FINAL CASEWORK AND UNIT FINISH DRAWINGS.

11. VERIFY FINAL LOCATION OF WASHER/DRYER PRIOR TO ROUGH-IN. COORDINATE WITH GENERAL CONTRACTOR AND MECHANICAL CONTRACTOR.

12. GANG ADJACENT DEVICES WHERE POSSIBLE.

13. SEE "APARTMENT UNIT ELECTRICAL SYMBOLS" ON THIS SHEET FOR ADDITIONAL INFORMATION.

14. DO NOT MOUNT DEVICES BACK TO BACK.

15. SMOKE DETECTORS SHALL NOT BE INSTALLED WITHIN 36" OF AN HVAC DIFFUSER OR RETURN AIR GRILLE PER NFPA 72.

16. ALTERNATE KITCHEN SMALL APPLIANCE RECEPTACLE CIRCUITS BETWEEN TWO BRANCH CIRCUITS INDICATED PER OMAHA MUNICIPAL CODE.

17. PROVIDE COMBINATION 'AFCI/GFCI' TYPE BREAKERS FOR ALL 120 VOLT, SINGLE PHASE, 15- AND 20-AMPERE RECEPTACLES PER NEC 210.8 AND 210.12 WHERE RECEPTACLE IS NON-ACCESSIBLE.

SECTION 268100 - FIRE ALARM

A. GENERAL - Noncoded, zoned system with manual and automatic alarm initiation; and hard-wired for signal transmission, using separate individual circuits for each zone of alarm initiation and notification appliances. [All new devices shall be connected to the existing addressable fire alarm control panel located as shown on the drawings. All new devices shall be compatible with the existing control equipment. The existing fire alarm system shall remain functional throughout construction. Any required outlets shall be coordinated with the fire marshal and owner. Provide panel modifications and programming at the existing fire alarm control panel as required by new work.]

B. FUNCTIONAL DESCRIPTION OF SYSTEM - System shall automatically detect and report open circuits, shorts, and grounds of wiring for initiating device, signaling line, and notification-appliance circuits. All zones shall be manually resettable from the FACP after initiating devices are reset to normal.

1. Automatically route alarm, supervisory, and trouble signals to a remote alarm station by means of a digital alarm communicator transmitter and telephone lines.
2. Loss of primary power at the FACP initiates a trouble signal at the FACP. The FACP indicates when the fire alarm system is operating on the secondary power supply.
3. Unless otherwise indicated, operation of a manual station, automatic alarm operation of a smoke or flame or heat detector, or operation of a sprinkler flow device in public spaces initiates the following:

Notification-appliance operation.

Identification at the FACP of the zone originating the alarm.

Transmission of an alarm signal to the remote alarm receiving station.

Release of fire and smoke doors held open by magnetic door holders.

4. Silencing-switch operation halts alarm operation of notification appliances and activates an "alarm silence" light. Display of identity of the alarm zone or device is retained. Subsequent alarm signals from other devices or zones reactivate notification appliances until silencing switch is operated again.
5. Sprinkler valve-tamper switch operation initiates a supervisory, audible, and visible "valve-tamper" signal indication at the FACP.

C. SUBMISSIONS TO AUTHORITIES HAVING JURISDICTION - Submit to authorities having jurisdiction. Include copies of annotated Contract Drawings as needed to depict component locations to facilitate review. Resubmit if required to make clarifications or revisions to obtain approval. On receipt of comments from authorities having jurisdiction, submit them to Engineer for review.

D. CONTROL PANEL - Cabinet shall be flush [surface] mounted steel with lockable cover. Arrange interior components so operations required for testing or for normal maintenance of the system are performed from the front of the enclosure. If more than one unit is required to form a complete control panel, fabricate with matching modular unit enclosure to accommodate components and to allow ample gutter space for field wiring and interconnecting panels.

1. Alarm and Supervisory Systems: Separate and independent in the FACP. Alarm-initiating zone boards consist of plug-in cards. Construction requiring removal of field wiring for module replacement is unacceptable.
2. Indications: Local, visible, and audible signals announce alarm, supervisory, and trouble conditions. Each type of audible alarm has a different sound.
3. Indicating Lights and System Controls: Individual LED devices identify zones transmitting signals. Zone lights distinguish between alarm and trouble conditions and indicate the type of device initiating the signal. Manual switches and push-to-test buttons do not require a key to operate. Controls shall include the following: Alarm acknowledge switch, alarm silence switch, system reset switch, LED test switch.
4. Instructions: Printed or typewritten instruction card mounted behind a plastic or glass cover in a stainless-steel or aluminum frame. Include interpretation and describe appropriate response for displays and signals. Briefly describe the functional operation of the system under normal, alarm, and trouble conditions.
5. Secondary power supply: Components include valve-regulated, recombinant lead acid battery; charger; and an automatic transfer switch. Battery nominal life expectancy shall be 10 years, minimum.
6. Battery Charger: Solid-state, fully automatic, variable-charging-rate type. Provide capacity for 150 percent of the connected system load while maintaining batteries at full charge. If batteries are fully discharged, the charger recharges them completely within four hours. Charger output is supervised as part of system power supply supervision.
7. Integral Automatic Transfer Switch: Transfers the load to the battery without loss of signals or status indications when normal power fails.

E. Digital Alarm Communicator Transmitter: Unit receives an alarm, supervisory, or trouble signal from the FACP panel, and automatically captures one or two telephone lines and dials a preset number for a remote central station. When contact is made with the central station(s), the signal is transmitted. The unit supervises up to two telephone lines. Where supervising two lines, if service on either line is interrupted for longer than 45 seconds, the unit initiates a local trouble signal and transmits a signal indicating loss of telephone line to the remote alarm receiving station on the remaining line. When telephone service is restored, unit automatically reports that event to the central station. If service is lost on both telephone lines, the local trouble signal is initiated.
1. Listed and labeled under UL 864 and NFPA 72.
2. Unit shall include integral rechargeable battery and automatic charger. Battery capacity is adequate to comply with NFPA 72 requirements.
3. Self Test: Conducted automatically every 24 hours with report transmitted to central station.

F. SMOKE DETECTORS - Smoke detectors shall be photoelectric type with integral LED indicating light and adjustable sensitivity settings.
1. Detectors shall be ionization type with sampling tube sized as recommended by the manufacturer for the specific dust size, air velocity, and installation conditions where applied.
2. Provide fan shutoff relay(s) rated to interrupt fan motor control circuit where required.

G. NOTIFICATION APPLIANCES - Devices shall be combination type with factory-integrated audible and visible devices in a single-mounting assembly.
1. Audible alarm device shall be electric-vibrating polarized type horn with provision for housing the operating mechanism behind a grille. Horns produce a sound-pressure level of 90 dB, measured 10 feet from the horn.
2. Visible alarm devices shall be xenon strobe lights listed under UL 1971 with clear or nominal white polycarbonate lens. The word "FIRE" shall be engraved in minimum 1-inch high letters on the lens. Unit candela output shall meet the strobe layout.
3. Notification devices shall be mounted at 8'2" A.F. or 6" below finished ceiling whichever is lower.

H. WIRE - wiring shall be as follows unless otherwise recommended by the manufacturer or required by the authority having jurisdiction:
Non-Power-Limited Circuits: Solid-copper conductors with 600-V rated, 75 deg C, color-coded insulation.
Low-Voltage Circuits: No. 16 AWG, minimum.
Line-Voltage Circuits: No. 12 AWG, minimum.

Power-Limited Circuits: NFPA 70, Types FPL, FPLR, or FPLP, as recommended by manufacturer.

1. Fire alarm wiring shall be installed in raceway. Conceal raceway except in unfinished spaces and as indicated.

I. INTERCONNECTION TO OTHER SYSTEMS

1. Alarm Indicating: Provide 18/2 cables in 3/4" conduit as required for alarm and trouble contacts in fire alarm control panel to security panel. Coordinate with Security Contractor.
2. Alarm Transmittal: Provide CAT 3 telephone cables in 3/4" conduit as required from Digital Alarm Transmitter in fire alarm control panel to telephone board.
3. Dumper Control: Provide all necessary wiring to smoke dumpers.
4. Access/Security Control: Provide a relay for each electrically locked exit door. Connect so relay will interrupt power to the locking device under alarm condition.
5.

J. MANUFACTURERS - Subject to compliance with requirements, provide products by one of the following: Cerberus Pyrotechnics, Edwards Systems Technology, Notifier, Simplex.

K. FIELD SERVICE AND TESTING - Engage a factory-authorized service representative to inspect field-assembled components and connections and to supervise pretesting, testing, and adjustment of the system. Report results in writing. Test the system according to procedures outlined in NFPA 72. Correct deficiencies indicated by tests and completely retest work affected by such deficiencies.

1. Occupancy Adjustments: When requested within one year of date of Substantial Completion, provide on-site assistance in adjusting sound levels, controls, and sensitivities to suit actual occupied conditions. Provide up to two requested visits to Project site for this purpose.

ELECTRICAL SYMBOLS

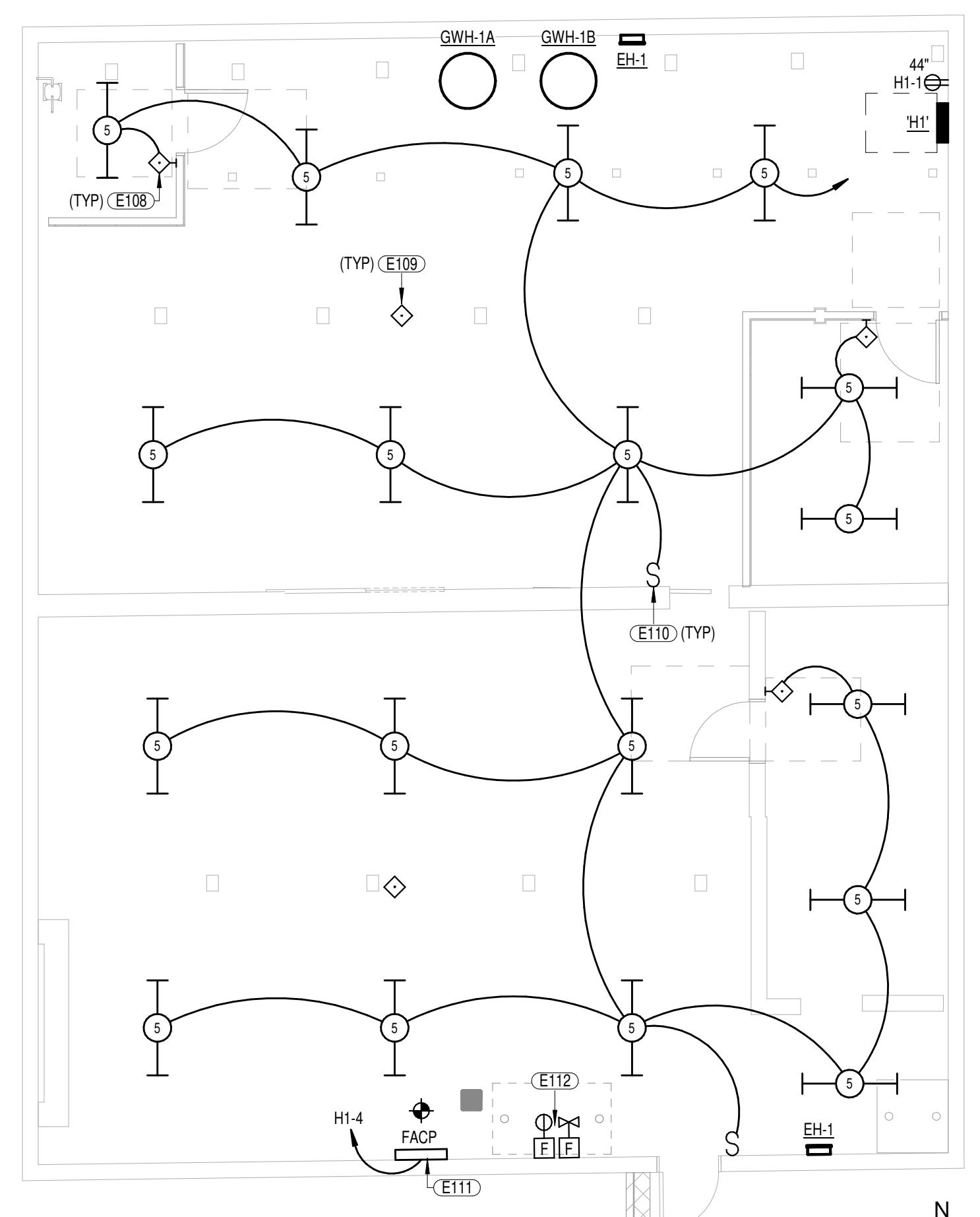
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
LIGHTING			
[Symbol]	LUMINAIRE	[Symbol]	SINGLE POLE SWITCH
[Symbol]	LUMINAIRE CONNECTED TO EMERGENCY CIRCUIT OR BATTERY	[Symbol]	3-WAY SWITCH
[Symbol]	STRIP LUMINAIRE	[Symbol]	4-WAY SWITCH
[Symbol]	WALL MOUNTED LUMINAIRE	[Symbol]	WALL BOX DIMMER SWITCH
[Symbol]	TRUCK LUMINAIRE	[Symbol]	CEILING MOUNTED MOTION SENSOR SWITCH
[Symbol]	EMERGENCY BATTERY PACK	[Symbol]	WALL MOUNTED MOTION SENSOR SWITCH WITH 10V DIMMING
[Symbol]	CEILING MOUNTED EXIT LIGHT WITH DIRECTIONAL ARROW	[Symbol]	LOW VOLTAGE LIGHTING CONTROL SWITCH
[Symbol]	WALL OR END MOUNTED EXIT LIGHT WITH DIRECTIONAL ARROW	[Symbol]	WALL MOUNTED PHOTOCELL SWITCH
[Symbol]	ROLL MOUNTED LUMINAIRE	[Symbol]	CEILING MOUNTED PHOTOCELL
[Symbol]	BOLLARD LUMINAIRE	[Symbol]	POWER PACK
FIRE ALARM			
[Symbol]	FIRE ALARM SMOKE DETECTOR	[Symbol]	FIRE ALARM HORN & STROBE COMBINATION
[Symbol]	DUCT MOUNTED SMOKE DETECTOR	[Symbol]	CEILING FIRE ALARM STROBE
[Symbol]	FIRE ALARM MANUAL PULL STATION	[Symbol]	WALL FIRE ALARM STROBE
[Symbol]	FIRE SPRINKLER VALVE TAMPER SWITCH	[Symbol]	CEILING FIRE ALARM HORN & STROBE COMBINATION
[Symbol]	FIRE SPRINKLER FLOW SWITCH	[Symbol]	CEILING FIRE ALARM SPEAKER & STROBE COMBINATION
[Symbol]	FIRE ALARM CONTROL PANEL	[Symbol]	WALL FIRE ALARM SPEAKER & STROBE COMBINATION
[Symbol]	FIRE ALARM ANNUNCIATOR PANEL	[Symbol]	CEILING FIRE ALARM SPEAKER
[Symbol]	FIRE ALARM MAGNETIC DOOR HOLDER	[Symbol]	WALL FIRE ALARM SPEAKER
POWER			
[Symbol]	DUPLEX RECEPTACLE	[Symbol]	CEILING MOUNTED DOUBLE DUPLEX RECEPTACLE
[Symbol]	'G' DENOTES SPD TYPE	[Symbol]	FLOOR BOX - COMBINATION POWER & DATA
[Symbol]	'N' DENOTES ISOLATED GROUND TYPE	[Symbol]	POKE THRU - COMBINATION POWER & DATA
[Symbol]	'H' DENOTES HOSPITAL GRADE TYPE	[Symbol]	FLOOR MOUNTED DUPLEX RECEPTACLE
[Symbol]	'TR' DENOTES TAMPER RESISTANT TYPE	[Symbol]	MOTOR ('F' DENOTES HORSEPOWER RATING)
[Symbol]	'U' DENOTES UNIVERSAL SERIAL BUS (USB) TYPE	[Symbol]	DISCONNECT SWITCH
[Symbol]	DOUBLE SHIMING DENOTES RED DEVICE	[Symbol]	TERMINAL ELEMENT SWITCH
[Symbol]	SINGLE SHIMING DENOTES SPLIT WIRED DEVICE	[Symbol]	SWITCH & FUSE
[Symbol]	HORIZONTAL MOUNTED DUPLEX RECEPTACLE	[Symbol]	SWITCH & FUSE/ST
[Symbol]	CEILING MOUNTED DUPLEX RECEPTACLE	[Symbol]	MAGNETIC MOTOR STARTER
[Symbol]	DOUBLE DUPLEX RECEPTACLE	[Symbol]	COMBINATION MAGNETIC STARTER/DISCONNECT
[Symbol]	SINGLE RECEPTACLE	[Symbol]	MOTOR CONTROL PUSHBUTTON SWITCH
[Symbol]	RELAY RECEPTACLE NEMA 14-30 (125/250V 30		

GENERAL NOTES:

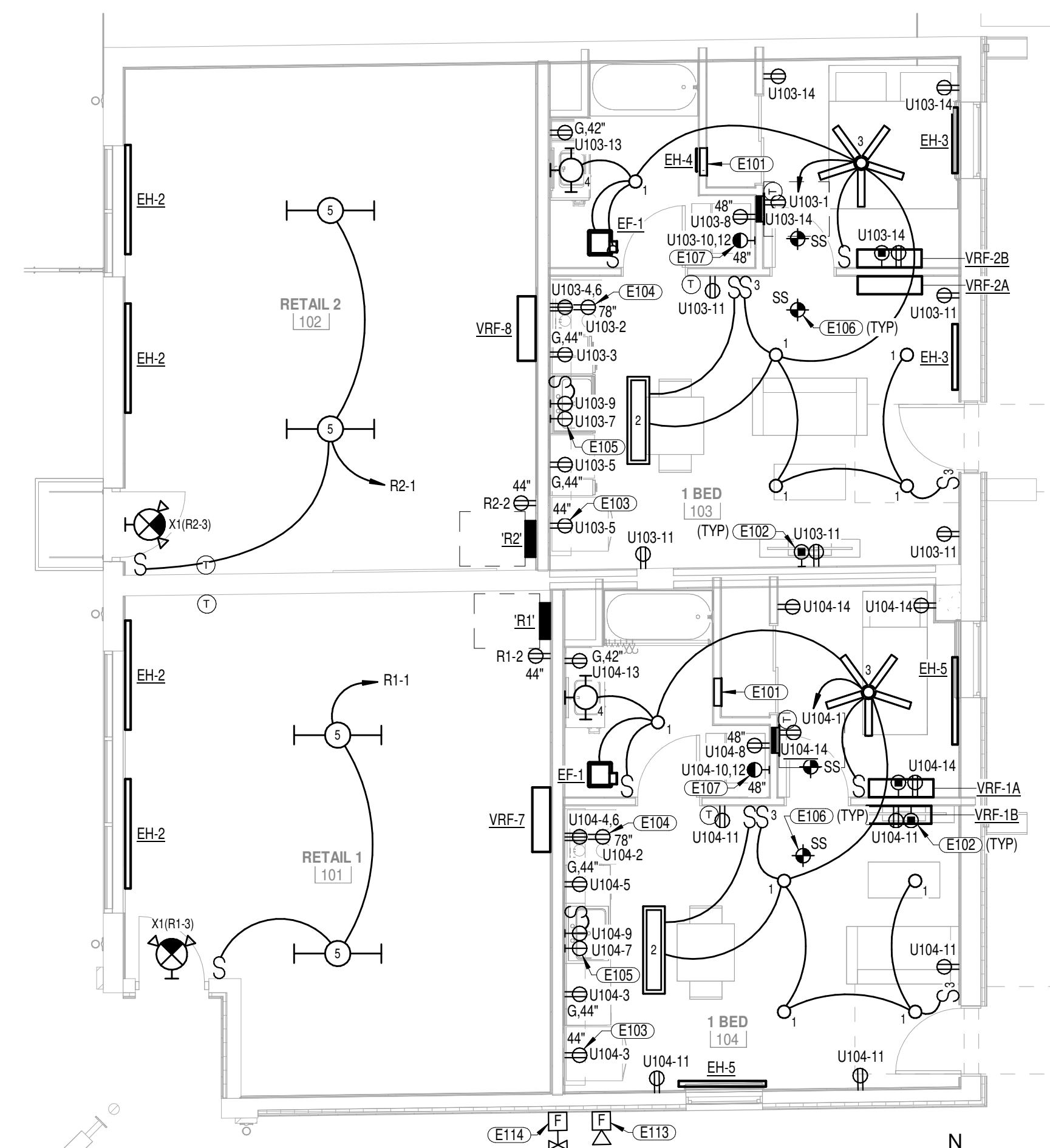
1. SEE ELECTRICAL COVER SHEET E0.0 FOR ELECTRICAL GENERAL NOTES.

KEYNOTES:

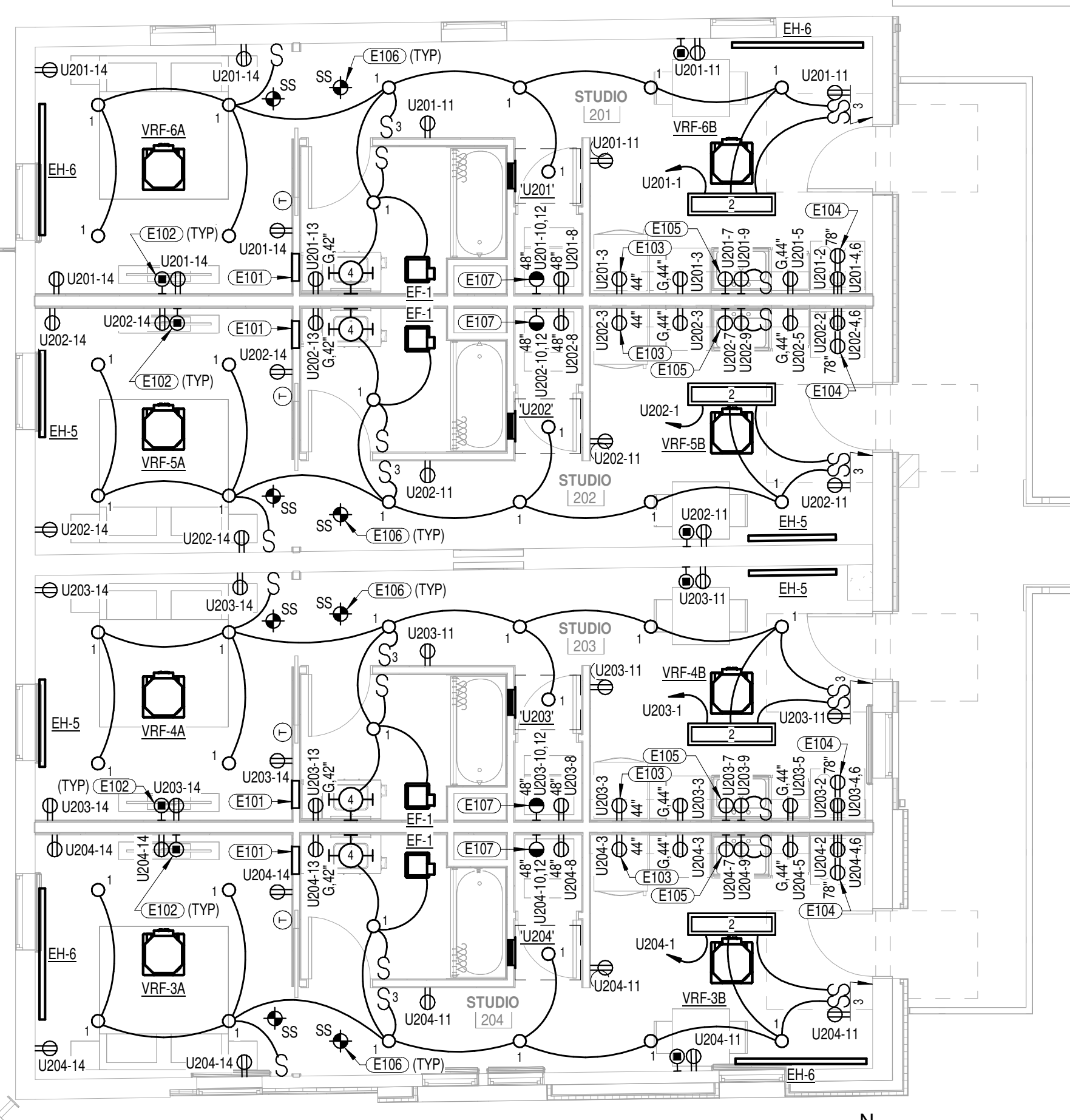
- E101 PROVIDE TELEPHONE/CATV TERMINAL BOX, SUTTLE SOHO ACCESS ENCLOSURE MIXE-15E-102 (OR APPROVED EQUAL). INSTALL FLUSH IN WALL AT 36" AFF. PROVIDE DUPLEX RECEPTACLE INSIDE CABINET AND CIRCUIT TO NEAREST HALLWAY RECEPTACLE CIRCUIT. PROVIDE 1/4" CONDUIT CONCEALED TO COMMUNICATIONS BOARD IN BASEMENT.
- E102 PROVIDE SINGLE GANG CADDY RING FOR DATA ROUGH-IN. SEE DETAIL 4E2.0 FOR ADDITIONAL INFORMATION.
- E103 RECEPTACLE SHALL BE CONNECTED AS FEED-THRU FROM ADJACENT GFCI.
- E104 RECEPTACLE FOR MICROWAVE OR TR HOOD. VERIFY EXACT MOUNTING HEIGHT WITH CABINETS AND APPLIANCES.
- E105 RECEPTACLE FOR DISHWASHER. SEE DETAIL 3E2.0 FOR MORE INFORMATION. PRIOR TO ROUGH IN, COORDINATE LOCATION OF RECEPTACLE AND CONDUIT WITH GENERAL CONTRACTOR AND OTHER TRADES TO AVOID CONFLICTS BETWEEN ELECTRICAL AND PLUMBING WORK.
- E106 PROVIDE SYSTEM SMOKE DETECTORS WITHIN APARTMENT UNIT WITH LOW FREQUENCY SOUNDER BASE (SEE SPECIFICATIONS). INTERLOCK DETECTORS WITHIN UNIT PER NFPA REQUIREMENTS. CONNECT FAN COIL UNIT AND RESTROOM EXHAUST FAN TO AUXILIARY CONTACTS TO SHUT DOWN IN THE EVENT OF ALARM CONDITION IN RESPECTIVE UNIT.
- E107 PROVIDE 120V POWER CONNECTION TO IN-LINE CLOTHES DRYER BOOSTER FAN WHERE REQUIRED. VERIFY FAN LOCATION WITH MECHANICAL CONTRACTOR. PROVIDE SINGLE POLE TOGGLE SWITCH DISCONNECT AT FAN. COORDINATE SWITCH AND FAN ACCESS MEANS WITH GENERAL CONTRACTOR.
- E108 PROVIDE LINE VOLTAGE WALL BOX OCCUPANCY SENSOR - SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- E109 PROVIDE NEW CEILING MOUNTED OCCUPANCY SENSOR - SEE SPECIFICATIONS. ROUTE CIRCUIT THROUGH NEW POWER PACK WITH AUXILIARY RELAYS, CONTROLLED BY NEW OCCUPANCY SENSOR(S). PROVIDE AUXILIARY POWER PACKS AS REQUIRED.
- E110 CONNECT SWITCH DOWNSTREAM OF OCCUPANCY SENSORS. SWITCH SHALL SERVE AS MANUAL SHUTOFF ONLY.
- E111 PROVIDE NEW ADDRESSABLE FIRE ALARM CONTROL PANEL - SEE SPECIFICATIONS. PROVIDE LOCKABLE CIRCUIT BREAKER.
- E112 PROVIDE FIRE ALARM CONNECTION TO FLOW AND TAMPER SWITCHES AT FIRE ALARM RISER. COORDINATE LOCATION AND QUANTITY OF SWITCHES REQUIRED WITH FIRE SPRINKLER CONTRACTOR PRIOR TO ROUGH IN.
- E113 PROVIDE NOTIFICATION APPLIANCE ABOVE FIRE DEPARTMENT CONNECTION. COORDINATE LOCATION WITH FIRE MARSHAL AND FIRE SPRINKLER CONTRACTOR PRIOR TO ROUGH IN.
- E114 PROVIDE FIRE ALARM CONNECTION TO TAMPER SWITCH AT POST INDICATOR VALVE. USE RGS CONDUIT ABOVE GRADE. COORDINATE LOCATION WITH FIRE SPRINKLER CONTRACTOR AND CIVIL SITE DRAWINGS PRIOR TO ROUGH IN.



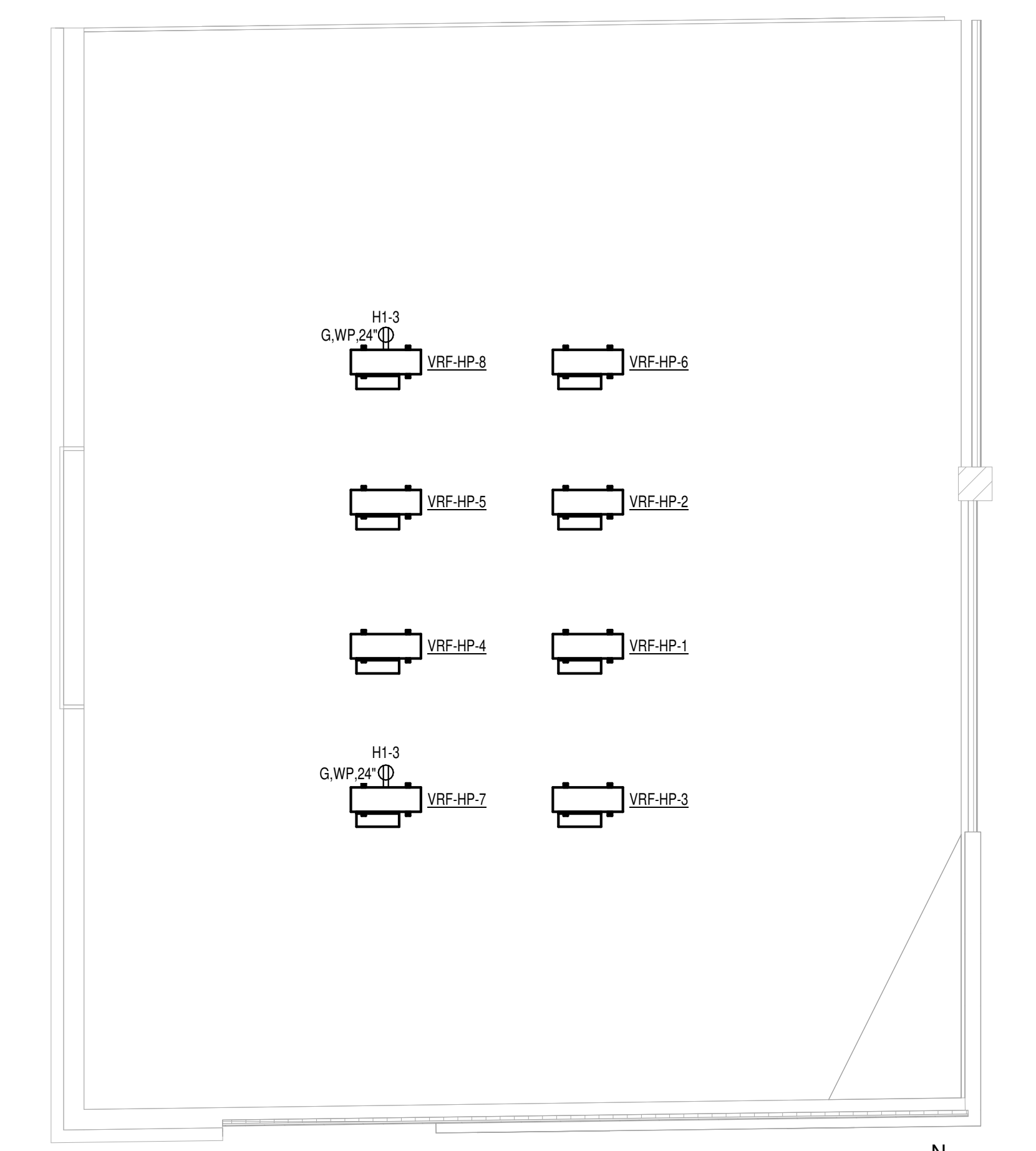
1 BASEMENT - ELECTRICAL
E1.1 3/16" = 1'-0"
0' 4' 8' 16'



2 FIRST FLOOR - ELECTRICAL
E1.1 3/16" = 1'-0"
0' 4' 8' 16'



3 SECOND FLOOR - ELECTRICAL
E1.1 3/16" = 1'-0"
0' 4' 8' 16'



4 ROOF PLAN - ELECTRICAL
E1.1 3/16" = 1'-0"
0' 4' 8' 16'

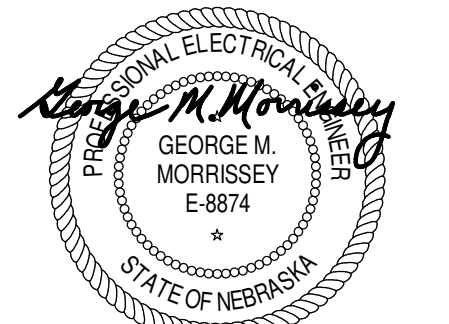
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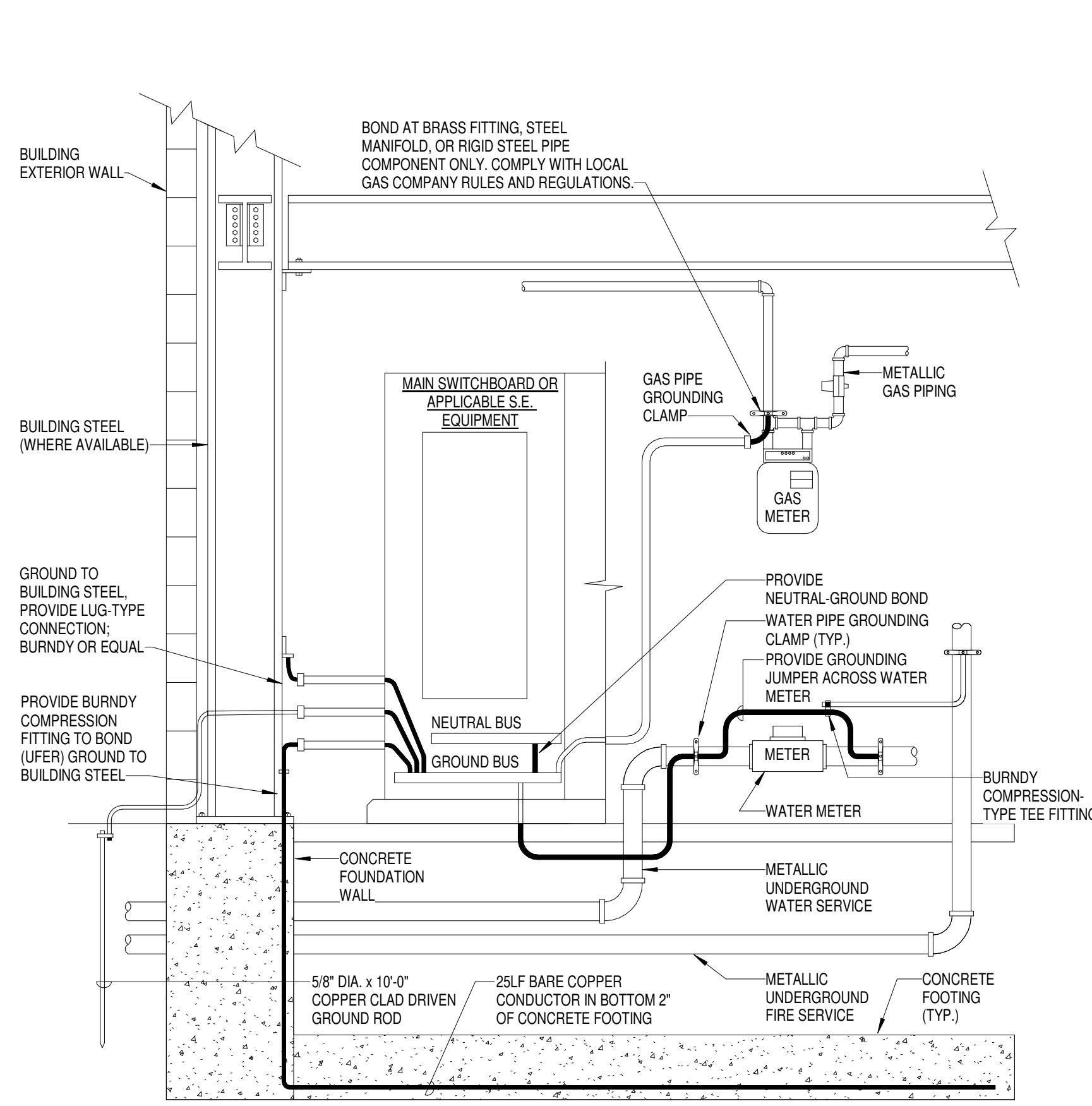
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note: do not scale drawings. verify all dimensions and clearances from architectural, structural, shop and other appropriate drawings or at site. by out and coordinate all work prior to installation to provide clearances required for operation, maintenance, and codes and verify non-interference with other work. do not fabricate prior to verification of clearance for all trades.



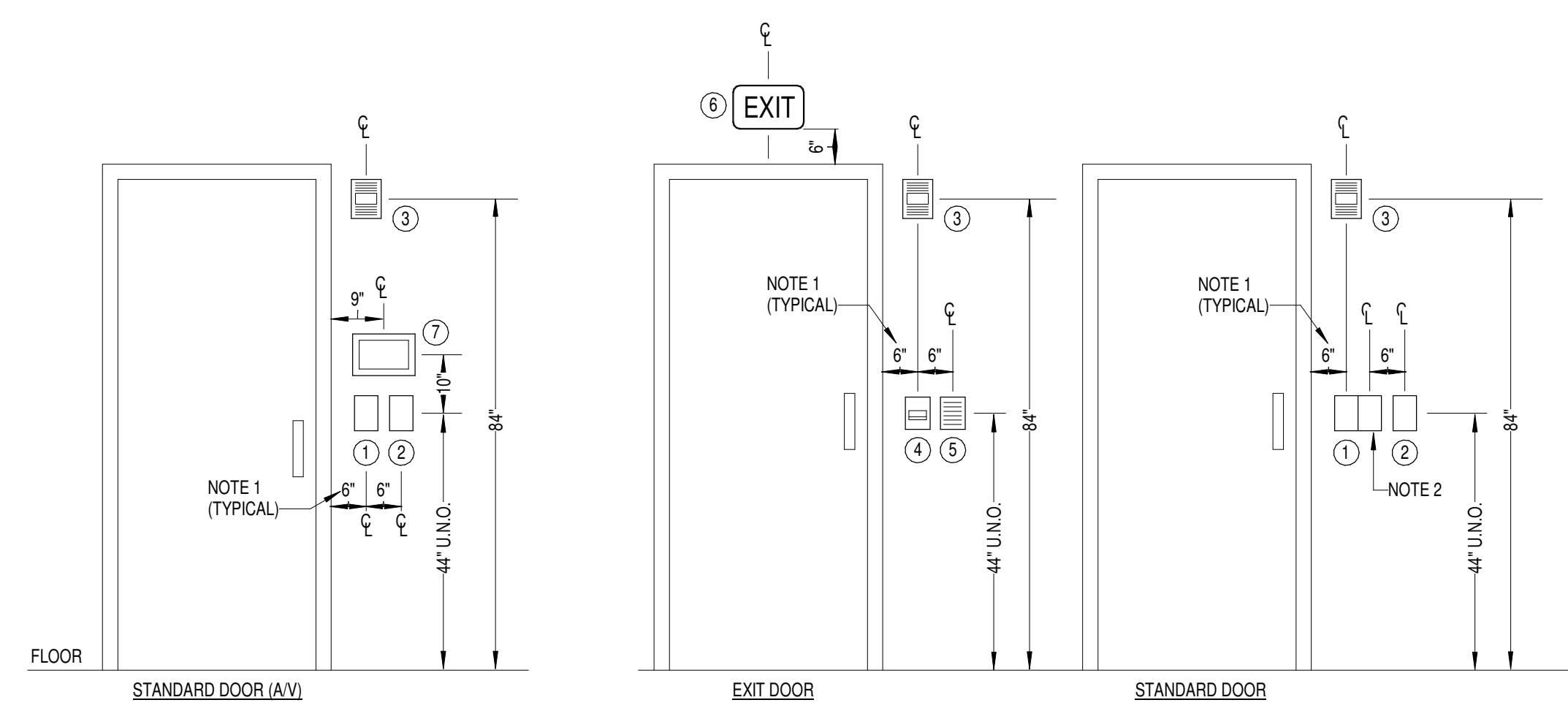
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RALSTON APARTMENT RENOVATIONS
5617 S 77TH ST
RALSTON, NE 68127

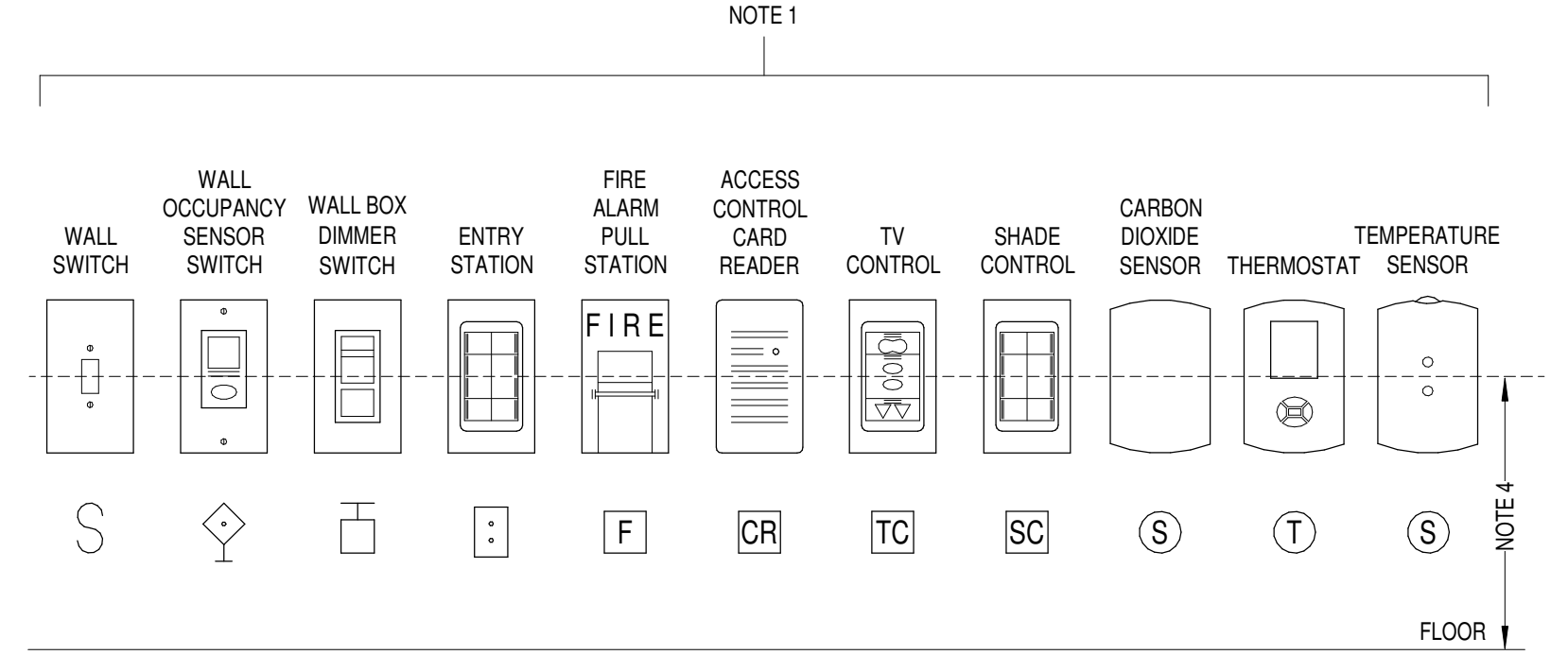


- NOTES:**
- PHYSICAL LAYOUT SHOULD BE DETERMINED FROM FLOOR PLAN DRAWINGS AND FIELD DIMENSIONS.
 - ALL GROUNDING CONDUCTORS SIZED IN ACCORDANCE WITH NEC TABLE 250.66.
 - ALL CLAMPS AND FITTINGS SHALL BE UL LISTED FOR THE APPLICATION.

1 MAIN SERVICE GROUNDING DETAIL
E2.0 NOT TO SCALE

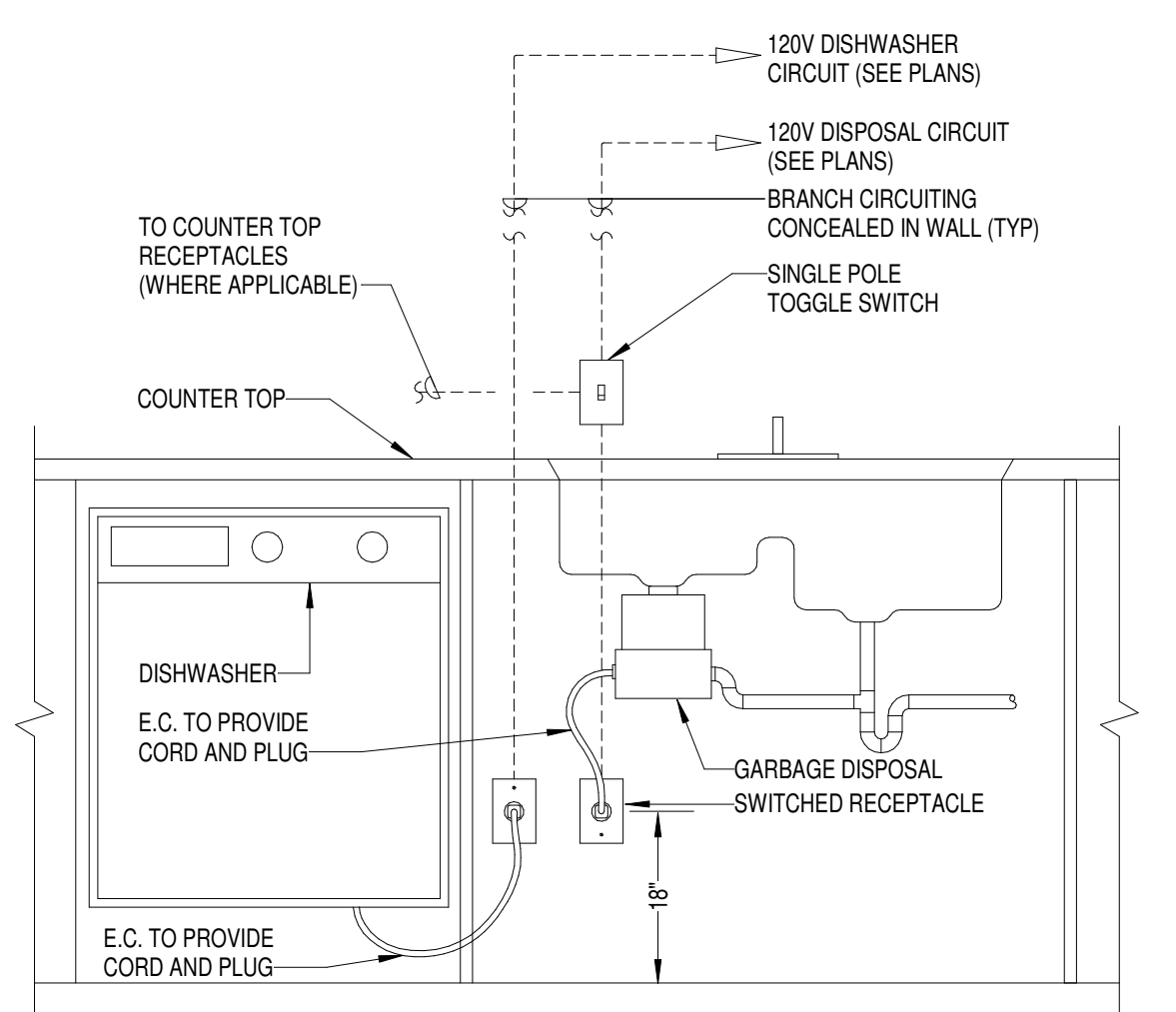


- DEVICES:**
- WALL SWITCH, WALL OCCUPANCY SENSOR SWITCH, WALL BOX DIMMER SWITCH, OR ENTRY STATION
 - THERMOSTAT, TEMPERATURE SENSOR, OR CARBON DIOXIDE SENSOR ROUGH-IN
 - FIRE ALARM AUDIOVISUAL INDICATING DEVICE
 - FIRE ALARM PULL STATION
 - ACCESS CONTROL CARD READER
 - EXIT SIGN
 - AV TOUCHSCREEN

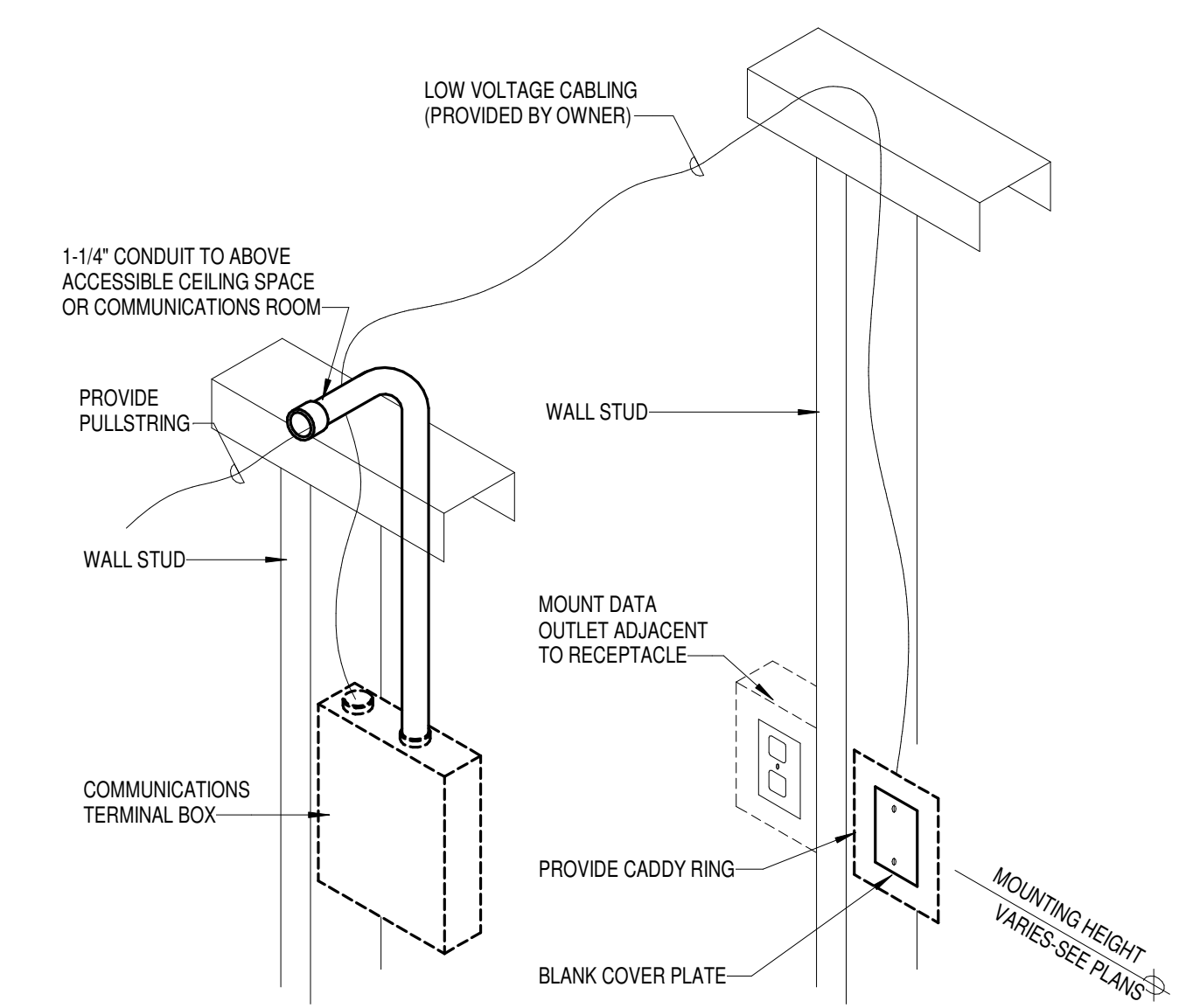


- NOTES:**
- ALIGN DEVICES VERTICALLY AND HORIZONTALLY WHEREVER POSSIBLE. NOT ALL DEVICES OR CONFIGURATIONS ARE DEPICTED ON THIS DETAIL. FOR ANY CONFIGURATIONS WITH FOUR OR MORE DEVICES, COORDINATE ARRANGEMENT WITH THE ENGINEER PRIOR TO ROUGH-IN. SEE FLOOR PLANS FOR INDIVIDUAL DOOR REQUIREMENTS.
 - WHERE MULTIPLE SWITCHES OR WALL BOX DIMMERS ARE GANGED TOGETHER, ALIGN FIRST GANG WITH DEVICES ABOVE AND ADD DEVICES TO THE RIGHT AS REQUIRED.
 - DIMENSIONS ARE TO BE MEASURED FROM OUTSIDE EDGE OF DOOR FRAME OR TRIM. WHERE SIDE LIGHT WINDOWS ARE PROVIDED, DIMENSIONS SHOULD BE MEASURED FROM OUTSIDE EDGE OF SIDE LIGHT WINDOW FRAME OR TRIM.
 - ALL DEVICES SHALL BE LOCATED TO MAINTAIN ALL A.D.A. MOUNTING HEIGHT REQUIREMENTS AND SUCH THAT CENTER OF ADJACENT DEVICES ARE AT SAME ELEVATION (TYPICALLY 44" A.F.F. TO CENTER OF DEVICE). NOTIFY ENGINEER OF ANY CONFLICTS WITH THE PROPOSED INSTALLATION.

2 DEVICE ALIGNMENT DETAIL
E2.0 NOT TO SCALE



3 DISHWASHER/DISPOSAL CONNECTION
E2.0 NOT TO SCALE

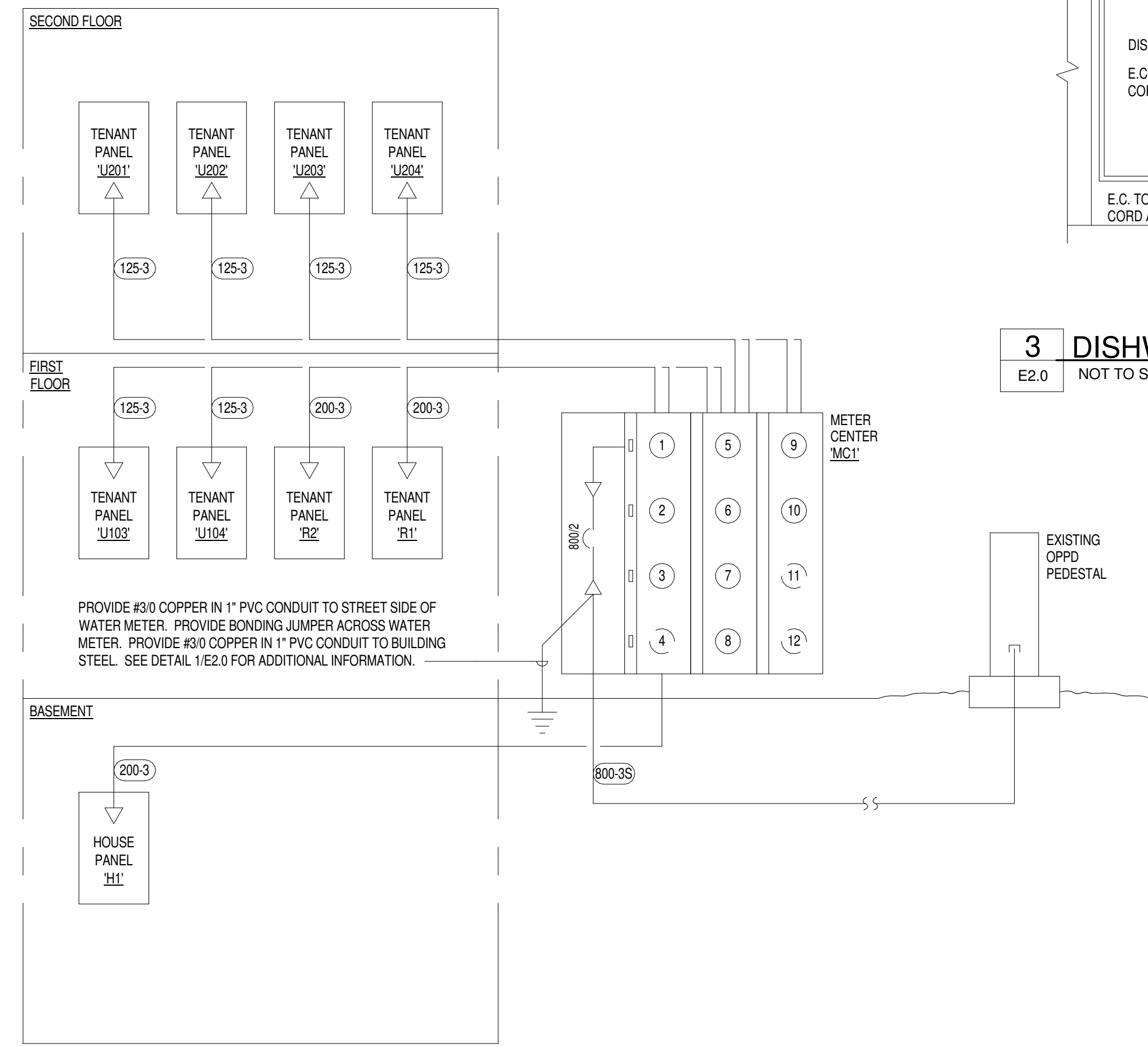


4 UNIT DATA/COMM ROUGH-IN DETAIL
E2.0 NOT TO SCALE

METER CENTER SCHEDULE				
DESCRIPTION	NO.	LABEL	SOCKET SIZE	MAIN C.B.
'MC1'	1	HOUSE PANEL 'H1'	225A	200/2
240Y/120V, 1PH, 3W, INPUT	2	TENANT PANEL 'R1'	225A	200/2
240Y/120V, 1PH, 3W, OUTPUT	3	TENANT PANEL 'R2'	225A	200/2
800A MAIN BREAKER	4	SPACE	225A	...
RINGLESS METER SOCKETS	5	TENANT PANEL 'U1102'	225A	125/2
XX K A I.C.	6	TENANT PANEL 'U1104'	225A	125/2
	7	TENANT PANEL 'U201'	225A	125/2
	8	TENANT PANEL 'U202'	225A	125/2
	9	TENANT PANEL 'U203'	225A	125/2
	10	TENANT PANEL 'U204'	225A	125/2
	11	SPACE	225A	...
	12	SPACE	225A	...

FEEDER SCHEDULE	
MARK	WIRE AND CONDUIT
(125-3)	3-#1, #6 G - 1-1/2" C.
(200-3)	3-#3/0, #6 G - 2" C.
(800-3S)	3-600 KCMIL IN EACH OF (2) 3-1/2" C.

- FEEDER SCHEDULE NOTES:**
- AT CONTRACTOR'S OPTION, COMPACT ELECTRICAL GRADE ALUMINUM CONDUCTORS MAY BE USED FOR FEEDERS 100 AMPS AND LARGER. IF ALUMINUM IS USED, CONTRACTOR TO SIZE ALUMINUM EQUAL TO FEEDER SCHEDULE (COPPER) AS INDICATED ON CONTRACT DOCUMENTS AND SHALL BE SUBMITTED TO ENGINEER FOR REVIEW.



5 ELECTRICAL RISER DIAGRAM
E2.0 NOT TO SCALE

MEI PROJECT NO: 24030

morrissey engineering inc
mechanical | electrical | lighting | technology | sustainability
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note: do not scale drawings. verify all dimensions and clearances from architectural, structural, shop and other appropriate drawings or at site. by out and coordinate all work prior to installation to provide clearances required for operation, maintenance, and codes and verify non-interference with other work. do not fabricate prior to verification of clearance for all trades.

Revisions |
Project No. | 23042
Issue Date | 07.29.24

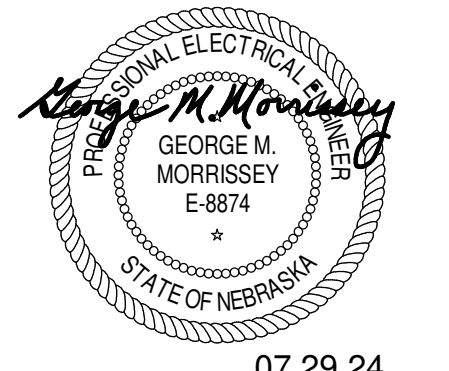
ELECTRICAL DETAILS & RISER

Sheet No. | **E2.0**



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07.29.24

RALSTON APARTMENT RENOVATIONS
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RALSTON, NE 68127

Revisions |

Project No. | 23042
Issue Date | 07.29.24

ELECTRICAL SCHEDULES

Sheet No. | E3.0

LOAD CENTER SCHEDULE														
Panel: U103 Rating: 125 A Mounting: RECESSED Type: MLO W/GND. BAR				Voltage: 120/240 Phase: 1 Wire: 3 A.I.C. Rating: SERIES RATED WITH UPSTREAM OVERCURRENT PROTECTIVE DEVICE										
Circuit Description	OPT	R	P	CKT	A	B	CKT	P	R	OPT	Circuit Description	OPT	R	
LTG - GENERAL		20	1	1	...	2	1	20	G		REC - MICROWAVE		20	1
REC - KITCHEN		20	1	3	...	4	2	50	G		RANGE		20	1
REC - KITCHEN		20	1	5	...	6	2	50	G		RANGE		20	1
REC - DISHWASHER	G	20	1	7	...	8	1	20	G		REC - WASHER		20	1
REC - DISPOSAL	G	20	1	9	...	10	2	30	G		DRYER		20	1
REC - LIVING ROOM		20	1	11	...	12	2	30	G		DRYER		20	1
REC - BATHROOM		20	1	13	...	14	1	20	G		REC - BEDROOM		20	1
VRF-2A / 2B		15	2	15	...	16	2	40			VRF-HP-2		15	2
EH-3		15	2	19	...	20	1	--	--		SPACE		15	2
EH-3		15	2	21	...	22	1	--	--		SPACE		15	2
EH-3		15	2	23	...	24	1	--	--		SPACE		15	2
EH-4		15	2	25	...	26	1	--	--		SPACE		15	2
EH-4		15	2	27	...	28	1	--	--		SPACE		15	2
EH-4		15	2	29	...	30	1	--	--		SPACE		15	2

Options:
G - GFCI type circuit breaker. S - Shunt trip type circuit breaker.
L - Locking handle type circuit breaker. N - New circuit breaker.

Notes:

LOAD CENTER SCHEDULE														
Panel: U104 Rating: 125 A Mounting: RECESSED Type: MLO W/GND. BAR				Voltage: 120/240 Phase: 1 Wire: 3 A.I.C. Rating: SERIES RATED WITH UPSTREAM OVERCURRENT PROTECTIVE DEVICE										
Circuit Description	OPT	R	P	CKT	A	B	CKT	P	R	OPT	Circuit Description	OPT	R	
LTG - GENERAL		20	1	1	...	2	1	20	G		REC - MICROWAVE		20	1
REC - KITCHEN		20	1	3	...	4	2	50	G		RANGE		20	1
REC - KITCHEN		20	1	5	...	6	2	50	G		RANGE		20	1
REC - DISHWASHER	G	20	1	7	...	8	1	20	G		REC - WASHER		20	1
REC - DISPOSAL	G	20	1	9	...	10	2	30	G		DRYER		20	1
REC - LIVING ROOM		20	1	11	...	12	2	30	G		DRYER		20	1
REC - BATHROOM		20	1	13	...	14	1	20	G		REC - BEDROOM		20	1
VRF-1A / 1B		15	2	15	...	16	2	40			VRF-HP-1		15	2
EH-5		15	2	19	...	20	1	--	--		SPACE		15	2
EH-5		15	2	21	...	22	1	--	--		SPACE		15	2
EH-5		15	2	23	...	24	1	--	--		SPACE		15	2
SPACE		--	--	1	...	27	1	--	--		SPACE		--	--
SPACE		--	--	1	...	29	1	--	--		SPACE		--	--

Options:
G - GFCI type circuit breaker. S - Shunt trip type circuit breaker.
L - Locking handle type circuit breaker. N - New circuit breaker.

Notes:

LOAD CENTER SCHEDULE														
Panel: U201 Rating: 125 A Mounting: RECESSED Type: MLO W/GND. BAR				Voltage: 120/240 Phase: 1 Wire: 3 A.I.C. Rating: SERIES RATED WITH UPSTREAM OVERCURRENT PROTECTIVE DEVICE										
Circuit Description	OPT	R	P	CKT	A	B	CKT	P	R	OPT	Circuit Description	OPT	R	
EF-1		20	1	1	...	2	1	20	G		REC - MICROWAVE		20	1
REC - KITCHEN		20	1	3	...	4	2	50	G		RANGE		20	1
REC - KITCHEN		20	1	5	...	6	2	50	G		RANGE		20	1
REC - DISHWASHER	G	20	1	7	...	8	1	20	G		REC - WASHER		20	1
REC - DISPOSAL	G	20	1	9	...	10	2	30	G		DRYER		20	1
REC - LIVING ROOM		20	1	11	...	12	2	30	G		DRYER		20	1
REC - BATHROOM		20	1	13	...	14	1	20	G		REC - BEDROOM		20	1
VRF-6B		15	2	15	...	16	2	40			VRF-HP-6		15	2
EH-6		20	2	19	...	20	1	--	--		SPACE		20	2
EH-6		20	2	21	...	22	1	--	--		SPACE		20	2
EH-6		20	2	23	...	24	1	--	--		SPACE		20	2
SPACE		--	--	1	...	27	1	--	--		SPACE		--	--
SPACE		--	--	1	...	29	1	--	--		SPACE		--	--

Options:
G - GFCI type circuit breaker. S - Shunt trip type circuit breaker.
L - Locking handle type circuit breaker. N - New circuit breaker.

Notes:

LOAD CENTER SCHEDULE														
Panel: U202 Rating: 125 A Mounting: RECESSED Type: MLO W/GND. BAR				Voltage: 120/240 Phase: 1 Wire: 3 A.I.C. Rating: SERIES RATED WITH UPSTREAM OVERCURRENT PROTECTIVE DEVICE										
Circuit Description	OPT	R	P	CKT	A	B	CKT	P	R	OPT	Circuit Description	OPT	R	
EF-1		20	1	1	...	2	1	20	G		REC - MICROWAVE		20	1
REC - KITCHEN		20	1	3	...	4	2	50	G		RANGE		20	1
REC - KITCHEN		20	1	5	...	6	2	50	G		RANGE		20	1
REC - DISHWASHER	G	20	1	7	...	8	1	20	G		REC - WASHER		20	1
REC - DISPOSAL	G	20	1	9	...	10	2	30	G		DRYER		20	1
REC - LIVING ROOM		20	1	11	...	12	2	30	G		DRYER		20	1
REC - BATHROOM		20	1	13	...	14	1	20	G		REC - BEDROOM		20	1
VRF-5A / 5B		15	2	15	...	16	2	40			VRF-HP-5		15	2
EH-5		15	2	19	...	20	1	--	--		SPACE		15	2
EH-5		15	2	21	...	22	1	--	--		SPACE		15	2
EH-5		15	2	23	...	24	1	--	--		SPACE		15	2
SPACE		--	--	1	...	27	1	--	--		SPACE		--	--
SPACE		--	--	1	...	29	1	--	--		SPACE		--	--

Options:
G - GFCI type circuit breaker. S - Shunt trip type circuit breaker.
L - Locking handle type circuit breaker. N - New circuit breaker.

Notes:

LOAD CENTER SCHEDULE														
Panel: U203 Rating: 125 A Mounting: RECESSED Type: MLO W/GND. BAR				Voltage: 120/240 Phase: 1 Wire: 3 A.I.C. Rating: SERIES RATED WITH UPSTREAM OVERCURRENT PROTECTIVE DEVICE										
Circuit Description	OPT	R	P	CKT	A	B	CKT	P	R	OPT	Circuit Description	OPT	R	
LTG - GENERAL		20	1	1	...	2	1	20	G		REC - MICROWAVE		20	1
REC - KITCHEN		20	1	3	...	4	2	50	G		RANGE		20	1
REC - KITCHEN		20	1	5	...	6	2	50	G		RANGE		20	1
REC - DISHWASHER	G	20	1	7	...	8	1	20	G		REC - WASHER		20	1
REC - DISPOSAL	G	20	1	9	...	10	2	30	G		DRYER		20	1
REC - LIVING ROOM		20	1	11	...	12	2	30	G		DRYER		20	1
REC - BATHROOM		20	1	13	...	14	1	20	G		REC - BEDROOM		20	1
VRF-4A / 4B		15	2	15	...	16	1	--	--		SPACE		15	2
VRF-HP-4		40	2	19	...	20	1	--	--		SPACE		40	2
EH-5		15	2	23	...	24	1	--	--		SPACE		15	2
EH-5		15	2	25	...	26	1	--	--		SPACE		15	2
EH-5		15	2	27	...	28	1	--	--		SPACE		15	2
EH-5		15	2	29	...	30	1	--	--		SPACE		15	2

Options:
G - GFCI type circuit breaker. S - Shunt trip type circuit breaker.
L - Locking handle type circuit breaker. N - New circuit breaker.

Notes:

LOAD CENTER SCHEDULE														
Panel: U204 Rating: 125 A Mounting: RECESSED Type: MLO W/GND. BAR				Voltage: 120/240 Phase: 1 Wire: 3 A.I.C. Rating: SERIES RATED WITH UPSTREAM OVERCURRENT PROTECTIVE DEVICE										
Circuit Description	OPT	R	P	CKT	A	B	CKT	P	R	OPT	Circuit Description	OPT	R	
LTG - GENERAL		20	1	1	...	2	1	20	G		REC - MICROWAVE		20	1
REC - KITCHEN		20	1	3	...	4	2	50	G		RANGE		20	1
REC - KITCHEN		20	1	5	...	6	2	50	G		RANGE		20	1
REC - DISHWASHER	G	20	1	7	...	8	1	20	G		REC - WASHER		20	1
REC - DISPOSAL	G	20	1	9	...	10	2	30	G		DRYER		20	1
REC - LIVING ROOM		20	1	11	...	12	2	30	G		DRYER		20	1
REC - BATHROOM		20	1	13	...	14	1	20	G		REC - BEDROOM		20	1
VRF-4A / 4B		15	2	15	...	16	2	40			VRF-HP-3		15	2
EH-6		20	2	19	...	20	1	--	--		SPACE		20	2
EH-6		20	2	21	...	22	1	--	--		SPACE		20	2
EH-6		20	2	23	...	24	1	--	--		SPACE		20	2
SPACE		--	--	1	...	27	1	--	--		SPACE		--	--
SPACE		--	--	1	...	29	1	--	--		SPACE		--	--

Options:
G - GFCI type circuit breaker. S - Shunt trip type circuit breaker.
L - Locking handle type circuit breaker. N - New circuit breaker.

Notes:

LIGHTING PANEL SCHEDULE														
Panel: H1 Rating: 200 A Mounting: SURFACE Type: MLO W/GND. BAR Integral SPD: NO				Voltage: 120/240 Phase: 1 Wire: 3 A.I.C. Rating: SERIES RATED WITH UPSTREAM OVERCURRENT PROTECTIVE DEVICE										
Circuit Description	OPT	R	P	CKT	A	B	CKT	P	R	OPT	Circuit Description	OPT	R	
REC - BASEMENT		20	1	1	...	2	1	20			LTG - BASEMENT		20	1
REC - ROOF		20	1	3	...	4	1	20	L		FIRE ALARM PANEL		20	1
SPARE		--	--	1	...	5	...	6	2	15			--	--
SPARE		--	--	1	...	7	...	8	2	15	EH-1		--	--
SPARE		--	--	1	...	9	...	10	2	15	EH-1		--	--
SPARE		--	--	1	...	11	...	12	2	15	EH-1		--	--
SPARE		--	--	1	...	13	...	14	1	20	GW-H-1A		--	--
SPARE		--	--	1	...	15	...	16	1	20	GW-H-1B		--	--
SPACE		--	--	1	...	17	...	18	1	--	SPACE		--	--
SPACE		--	--	1	...	19	...	20	1	--	SPACE		--	--
SPACE		--	--	1	...	21	...	22	1	--	SPACE		--	--
SPACE		--	--	1	...	23	...	24	1	--	SPACE		--	--
SPACE		--	--	1	...	25	...	26	1	--	SPACE		--	--
SPACE		--	--	1	...	27	...	28	1	--	SPACE		--	--
SPACE		--	--	1	...	29	...	30	1	--	SPACE		--	--
SPACE		--	--	1	...	31	...	32	1	--	SPACE		--	--
SPACE		--	--	1	...	33	...	34	1	--	SPACE		--	--
SPACE		--	--	1	...	35	...	36	1	--	SPACE		--	--
SPACE		--	--	1	...	37	...	38	1	--	SPACE		--	--
SPACE		--	--	1	...	39	...	40	1	--	SPACE		--	--
SPACE		--	--	1	...	41	...	42	1	--	SPACE		--	--

Options:
G - GFCI type circuit breaker. S - Shunt trip type circuit breaker.
L - Locking handle type circuit breaker.

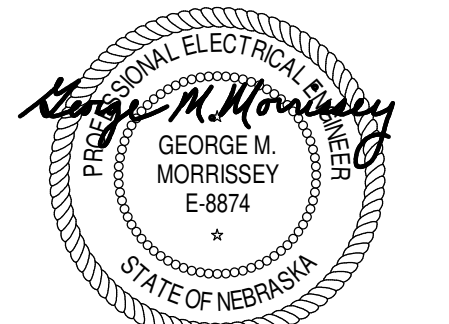
Notes:

LIGHTING PANEL SCHEDULE													
Panel: R1 Rating: 200 A Mounting: SURFACE Type: MLO W/GND. BAR Integral SPD: NO				Voltage: 120/240 Phase: 1 Wire: 3 A.I.C. Rating: SERIES RATED WITH UPSTREAM OVERCURRENT PROTECTIVE DEVICE									
Circuit Description	OPT	R	P	CKT	A	B	CKT						



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07.29.24

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LUMINAIRE SCHEDULE

MARK	DESCRIPTION	MANUFACTURER	CATALOG NUMBER	LIGHT SOURCE			ELECTRICAL		FINISH	MOUNTING	ACCEPTABLE MANUFACTURERS	REMARKS
				SPEC.	CCT	TYPE	LOAD	VOLTS				
1	SLIM SURFACE	JUNO	JSF 5IN 07LM 30K 90CRI MVOLT ZT WH - JSFTRIM 5IN XX	700 LM	3000 K	LED	10 W	120 V	TBD	SURFACE / CEILING	NOTE 1	
2	1x4 TROFFER	LITHONIA	EPANL 1X4 4800LM 80CRI 30K MIN10 ZT MVOLT	4,800 LM	3500 K	LED	45 W	120 V	WHITE	RECESSED	NOTE 1	
3	48" CEILING FAN	TBD	TBD	-	-	-	0 W	120 V	TBD	SURFACE / CEILING		
4	VANITY LIGHT	LITHONIA	FMVCSL 24IN MVOLT 30K 90CRI BN	1,300 LM	3000 K	LED	18 W	120 V	SATIN NICKEL	WALL		
5	4" LED STRIPLIGHT	LITHONIA	ZL1D L48 5000LM FST MVOLT 35K	5,000 LM	3500 K	LED	41 W	120 V	WHITE	SUSPENDED	NOTE 1	
X1	SINGLE FACE EXIT SIGN	COMPASS	CU2	FURN. W/ LUMINAIRE	FURN. W/ LUMINAIRE	LED	2 W	120 V	WHITE	NOTE 2	NOTE 1	W/ EMERG. BATTERY

GENERAL REQUIREMENTS:

- A. CONTRACTOR SHALL VERIFY CATALOG NUMBERS AND INSTALLATION REQUIREMENTS PRIOR TO ORDERING. NOTIFY ENGINEER OF ANY CONFLICTS WITH PROPOSED INSTALLATION.
- B. UNLESS NOTED OTHERWISE REFER TO PLANS FOR SUSPENSION LENGTHS REQUIRED FOR ALL SUSPENDED LUMINAIRES.

LUMINAIRE SCHEDULE NOTES:

- 1. LUMINAIRE SHALL BE CONSIDERED EQUAL AS MANUFACTURED BY: ACUITY BRANDS, COOPER, CURRENT, SIGNIFY, CREE LIGHTING.
- 2. REFER TO PLANS FOR MOUNTING REQUIREMENTS SUCH AS WALL MOUNT, END MOUNT, CEILING MOUNT AND PROVIDE LUMINAIRES ACCORDINGLY. PROVIDE DIRECTIONAL CHEVRON ARROWS AS INDICATED ON PLANS.

ELECTRIC HEAT SCHEDULE

MARK	MANUFACTURER	CATALOG NUMBER	WATTS	VOLTAGE	PHASE	LENGTH	REMARKS
EH-1	KING ELECTRIC	LPWA2445-S-TP-G	2250 VA	240 V	1		NOTES 1 AND 2
EH-2	KING ELECTRIC	LB52425	2500 VA	240 V	1		NOTES 1 AND 3
EH-3	KING ELECTRIC	LB32415	1500 VA	240 V	1		NOTES 1 AND 3
EH-4	KING ELECTRIC	LPWA2445-S-TP-G-LPWAIC	2250 VA	240 V	1		NOTES 1 AND 2
EH-5	KING ELECTRIC	LB42420	2000 VA	240 V	1		NOTES 1 AND 3
EH-6	KING ELECTRIC	LB62430	3000 VA	240 V	1		NOTES 1 AND 3

ELECTRIC HEAT SCHEDULE NOTES:

- 1. PROVIDE WITH INTEGRAL SERVICE DISCONNECT AND THERMOSTAT. INSTALL PER MANUFACTURERS INSTRUCTIONS.
- 2. HEATER IS FURNISHED FROM FACTORY WITH SELECTABLE WATTAGE OUTPUT. CONNECT AT WATTAGE SCHEDULED.
- 3. PROVIDE WITH ALL REQUIRED ACCESSORIES FOR A COMPLETE INSTALLATION (END CAPS, PEDESTALS, ETC.).

MECHANICAL EQUIPMENT CONNECTION SCHEDULE

PLAN TAG	VOLTAGE	PHASE	DISCONNECT	CIRCUIT	WIRE AND CONDUIT	REMARKS
EF-1	115 V	1	NOTE 1	U104-1	2#12.#12G-1/2"	
EF-1	115 V	1	NOTE 1	U204-1	2#12.#12G-1/2"	
EF-1	115 V	1	NOTE 1	U203-1	2#12.#12G-1/2"	
EF-1	115 V	1	NOTE 1	U202-1	2#12.#12G-1/2"	
EF-1	115 V	1	NOTE 1	U201-1	2#12.#12G-1/2"	
EF-1	115 V	1	NOTE 1	U103-1	2#12.#12G-1/2"	
EH-1	240 V	1	NOTE 1	H1-10,12	2#12.#12G-1/2"	
EH-1	240 V	1	NOTE 1	H1-6,8	2#12.#12G-1/2"	
EH-2	240 V	1	NOTE 1	R1-16,18	2#12.#12G-1/2"	
EH-2	240 V	1	NOTE 1	R1-12,14	2#12.#12G-1/2"	
EH-2	240 V	1	NOTE 1	R2-12,14	2#12.#12G-1/2"	
EH-2	240 V	1	NOTE 1	R2-16,18	2#12.#12G-1/2"	
EH-3	240 V	1	NOTE 1	U103-23,25	2#12.#12G-1/2"	
EH-3	240 V	1	NOTE 1	U103-19,21	2#12.#12G-1/2"	
EH-4	240 V	1	NOTE 1	U103-27,29	2#12.#12G-1/2"	
EH-5	240 V	1	NOTE 1	U104-19,21	2#12.#12G-1/2"	
EH-5	240 V	1	NOTE 1	U104-23,25	2#12.#12G-1/2"	
EH-5	240 V	1	NOTE 1	U202-19,21	2#12.#12G-1/2"	
EH-5	240 V	1	NOTE 1	U203-23,25	2#12.#12G-1/2"	
EH-5	240 V	1	NOTE 1	U202-23,25	2#12.#12G-1/2"	
EH-5	240 V	1	NOTE 1	U203-27,29	2#12.#12G-1/2"	
EH-6	240 V	1	NOTE 1	U201-23,25	2#12.#12G-1/2"	
EH-6	240 V	1	NOTE 1	U204-19,21	2#12.#12G-1/2"	
EH-6	240 V	1	NOTE 1	U201-19,21	2#12.#12G-1/2"	
EH-6	240 V	1	NOTE 1	U204-23,25	2#12.#12G-1/2"	
GWH-1A	120 V	1	NOTE 3	H1-14	2#12.#12G-1/2"	
GWH-1B	120 V	1	NOTE 3	H1-16	2#12.#12G-1/2"	
VRF-6	240 V	1	NOTE 2	R2-4,6	2#12.#12G-1/2"	
VRF-7	240 V	1	NOTE 2	R1-4,6	2#12.#12G-1/2"	
VRF-1A	240 V	1	NOTE 2	U104-15,17	2#12.#12G-1/2"	
VRF-1B	240 V	1	NOTE 2	U104-15,17	2#12.#12G-1/2"	
VRF-2A	240 V	1	NOTE 2	U103-15,17	2#12.#12G-1/2"	
VRF-2B	240 V	1	NOTE 2	U103-15,17	2#12.#12G-1/2"	
VRF-3B	240 V	1	NOTE 2	U204-15,17	2#12.#12G-1/2"	
VRF-3A	240 V	1	NOTE 2	U204-15,17	2#12.#12G-1/2"	
VRF-4B	240 V	1	NOTE 2	U203-15,17	2#12.#12G-1/2"	
VRF-4A	240 V	1	NOTE 2	U203-15,17	2#12.#12G-1/2"	
VRF-5B	240 V	1	NOTE 2	U202-15,17	2#12.#12G-1/2"	
VRF-5A	240 V	1	NOTE 2	U202-15,17	2#12.#12G-1/2"	
VRF-6B	240 V	1	NOTE 2	U201-15,17	2#12.#12G-1/2"	
VRF-6A	240 V	1	NOTE 2	U201-15,17	2#12.#12G-1/2"	
VRF-HP-8	240 V	1	602.NF.3R	R2-8,10	2#6.#10G-1" C.	
VRF-HP-5	240 V	1	602.NF.3R	U202-16,18	2#6.#10G-1" C.	
VRF-HP-4	240 V	1	602.NF.3R	U203-19,21	2#6.#10G-1" C.	
VRF-HP-7	240 V	1	602.NF.3R	R1-8,10	2#6.#10G-1" C.	
VRF-HP-6	240 V	1	602.NF.3R	U201-16,18	2#6.#10G-1" C.	
VRF-HP-2	240 V	1	602.NF.3R	U103-16,18	2#6.#10G-1" C.	
VRF-HP-1	240 V	1	602.NF.3R	U104-16,18	2#6.#10G-1" C.	
VRF-HP-3	240 V	1	602.NF.3R	U204-16,18	2#6.#10G-1" C.	

MECHANICAL EQUIPMENT CONNECTION SCHEDULE NOTES:

- 1. EQUIPMENT PROVIDED WITH INTEGRAL DISCONNECT.
- 2. PROVIDE TWO POLE, MOTOR RATED TOGGLE SWITCH AT INDOOR EQUIPMENT FOR LOCAL DISCONNECTING MEANS. PROVIDE LOW VOLTAGE CONNECTION BETWEEN INDOOR UNIT AND ASSOCIATED OUTDOOR UNIT PER MANUFACTURER'S INSTALLATION RECOMMENDATIONS.
- 3. PROVIDE TOGGLE SWITCH RATED FOR USE WITH WATER HEATER AS DISCONNECTING MEANS.

MEI PROJECT NO: 24030



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note:
do not scale drawings. verify all dimensions and clearances from architectural, structural, shop and other appropriate drawings or at site. lay out and coordinate all work prior to installation to provide clearances required for operation, maintenance, and codes and verify non-interference with other work. do not fabricate prior to verification of clearance for all trades.

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Revisions |

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ELECTRICAL SCHEDULES

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