

DISCOVERY PARK - LOT #10-A

LEE'S SUMMIT, MO

PRINTS ISSUED
12/20/2024 - CITY SUBMISSION
REVISIONS:
1 01/17/25 ADDENDUM #1



DISCOVERY PARK - LOT #10-A

100 NE ALURA WAY
LEE'S SUMMIT, MISSOURI 64064

SHEET TITLE
TITLE SHEET

PROJECT NUMBER: 24004

SHEET NUMBER:

G-001

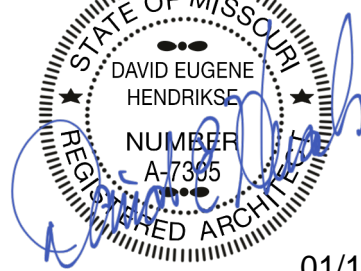
PROJECT CERTIFICATION

I, **David E. Hendrikse**, hereby specify pursuant to the governing requirements of the state, that the documents intended to be authenticated by my seal are limited to:

G-001	G-201	G-213	A-105	A-303	A-406	A-506
G-001.1	G-202	G-214	A-106	A-304	A-407	A-507
G-002	G-203	G-215	A-110	A-305	A-408	A-508
G-003	G-204	G-300	A-120	A-306	A-409	A-600
G-004	G-205	G-301	A-125	A-307	A-410	A-601
G-005	G-206	G-302	A-200	A-308	A-415	A-602
G-006	G-207	G-303	A-201	A-400	A-500	A-603
G-007	G-208	AS-100	A-202	A-401	A-501	A-700
G-100	G-209	A-101	A-203	A-402	A-502	A-710
G-101	G-210	A-102	A-300	A-403	A-503	
G-102	G-211	A-103	A-301	A-404	A-504	
G-200	G-212	A-104	A-302	A-405	A-505	

and I hereby disclaim any responsibility for all other plans, specifications, reports or other documents or instruments relating to or intended to be used for any part or parts of the architectural or engineering project or survey.

SEAL



David E. Hendrikse, AIA

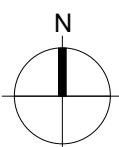
REGIONAL MAP



VICINITY MAP



DISCOVERY PARK - LOT #10-A
100 NE ALURA WAY
LEE'S SUMMIT, MISSOURI 64064



SHEET INDEX

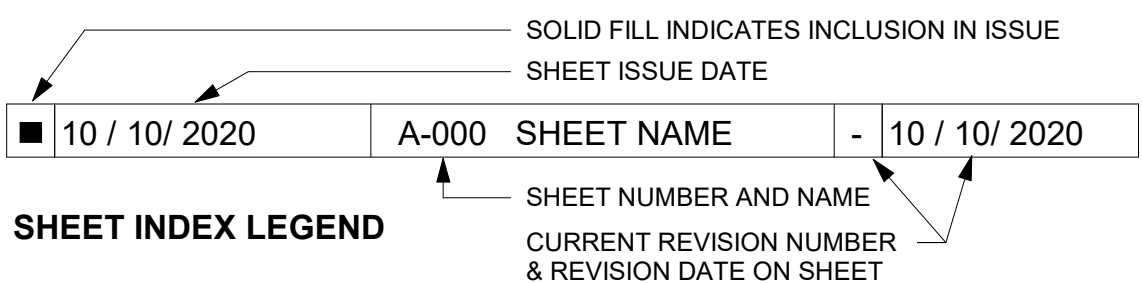
GENERAL

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CIVIL UNDER SEPARATE REVIEW, REFERENCE FDP

STRUCTURAL

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12/20/24	S510	TYPICAL WOOD FRAMING DETAILS		
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ARCHITECTURAL

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12/20/24	A-110	ENLARGED PLAN - 1ST FLOOR GARAGE		
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12/20/24	A-200	EXTERIOR ELEVATIONS		
12/20/24	A-201	EXTERIOR ELEVATIONS		
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12/20/24	A-301	BUILDING SECTION		
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12/20/24	A-303	WALL SECTIONS		
12/20/24	A-304	WALL SECTIONS		
12/20/24	A-305	ELEVATOR SECTION & DETAILS		
12/20/24	A-306	STAIR 1 SECTION & DETAILS		
12/20/24	A-307	STAIR 2 SECTION & DETAILS		
12/20/24	A-308	FRONT CANOPY PLAN / ELEV. / SECTION / & DETAILS		
12/20/24	A-400	ABERDEEN (2 BR) - TYPE A		
12/20/24	A-401	ABERDEEN (2 BR) - TYPE B		
12/20/24	A-402	ADRIAN (1 BR) - TYPE B		
12/20/24	A-403	ADRIAN LRG (1 BR) - TYPE B		
12/20/24	A-404	CONWAY (1 BR) - TYPE B		
12/20/24	A-405	CONWAY II (1 BR) - TYPE B		
12/20/24	A-406	DRAKE (1 BR) - TYPE B		
12/20/24	A-407	LANA (2 BR) - TYPE B		
12/20/24	A-408	TOWNHOME (2 BR)		
12/20/24	A-409	TOWNHOME (2 BR)		
12/20/24	A-410	ENLARGED COMMON AREAS		
12/20/24	A-415	UNIT DETAILS		
12/20/24	A-500	WALL DETAILS		
12/20/24	A-501	WALL DETAILS		
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12/20/24	A-503	BRICK PENETRATION DETAILS		
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12/20/24	A-506	BALCONY WATERPROOFING DETAILS		
12/20/24	A-507	BALCONY DETAILS		
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12/20/24	A-601	STOREFRONT / FACADE ELEVATIONS		
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12/20/24	A-700	FINISH TRANSITION DETAILS		
12/20/24	A-710	FINISH PLANS		

PROJECT DATA

PROJECT DESIGN INFORMATION

NEW CONSTRUCTION:

ZONING: PMIX - PLANNED MIXED USE DISTRICT
CODE: 2018 INTERNATIONAL BUILDING CODE
2018 INTERNATIONAL PLUMBING CODE
2018 INTERNATIONAL MECHANICAL CODE
2018 INTERNATIONAL FUEL GAS CODE
2018 INTERNATIONAL FIRE CODE
2017 NATIONAL ELECTRIC CODE
2009 ACCESSIBILITY CODE ICC/ANSI 117-1
LEE'S SUMMIT AMENDMENTS TO THE ENERGY CODE

OCCUPANCY GROUP: R-2, APARTMENTS
A-2, UNCONCENTRATED
S-2, OPEN PARKING GARAGE

TYPE OF CONSTRUCTION: R-2 & A-2, TYPE VA
S-2, TYPE IIA

ENERGY CONSERVATION: WALLS AS PART OF BLDG ENVELOPE R-13
FLOORS AS PART OF BLDG ENVELOPE R-19
ROOFS AS PART OF BLDG ENVELOPE R-19
CEILING AS PART OF BLDG ENVELOPE R-30

BUILDING SUMMARY:

NUMBER: (1) TOTAL BUILDINGS
HEIGHT: 3 STORIES, 46'-0"

SQUARE FOOTAGES:	GROSS	NET
FIRST FLOOR	22,989 S.F.	22,490 S.F.
SECOND FLOOR	18,347 S.F.	17,973 S.F.
THIRD FLOOR	18,347 S.F.	17,973 S.F.

UNIT SUMMARY: OVERALL UNIT TOTAL = (40) UNITS

TYPE "A" UNITS (2% OF TOTAL) (1) UNITS - ABERDEEN "A"

HIVI UNITS (2% OF TOTAL) (1) UNITS - ADRIAN "HIVI"

STANDARD UNITS (3) UNITS - ABERDEEN (17) UNITS - ADRIAN (2) UNITS - CONWAY I (2) UNITS - CONWAY II (2) UNITS - DRAKE (2) UNITS - LANA (8) UNITS - BROWNSTONES (40) UNITS

TOTAL UNITS

SQUARE FOOTAGE: GROSS NET

ABERDEEN "A" 1,338 S.F. 1,269 S.F.

ABERDEEN "B" 1,338 S.F. 1,269 S.F.

ADRIAN 832 S.F. 781 S.F.

ADRIAN - LRG 1,078 S.F. 1,021 S.F.

CONWAY 843 S.F. 786 S.F.

CONWAY II 1,024 S.F. 962 S.F.

DRAKE 903 S.F. 821 S.F.

LANA 1,082 S.F. 1,020 S.F.

BROWNSTONE 1ST 605 S.F. 549 S.F.

BROWNSTONE 2ND 619 S.F. 563 S.F.

SEE CIVIL FOR SITE SUMMARY

NOTE: SQUARE FOOTAGE

-GROSS - COMMON SPACE CALCULATION: OUTSIDE PERIMETER OF STUD (ENTIRE BUILDING) LESS THE TOTAL OF THE GROSS UNIT SQUARE FOOTAGE PER FLOOR.
-GROSS - UNIT CALCULATION: CENTERLINE OF PARTY WALL TO OUTSIDE OF EXTERIOR STUD WALL AND/OR OUTSIDE OF CORRIDOR STUD WALL.
-NET - PAINT-TO-PAINT AT PERIMETER, TAKEN FROM INSIDE OF DEMISING, EXTERIOR, AND CORRIDOR WALLS.

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MECHANICAL				
Sheet Issue Date	Sheet Number	Sheet Name	Rev.	Current Revision Date
12/20/24	MEP1	MECHANICAL ELECTRICAL PLUMBING COVER SHEET		
12/20/24	MEP2	SITE UTILITIES PLAN		
12/20/24	MEP3	MEP PLAN - ROOF		
12/20/24	M101	HVAC PLAN - 1ST FLOOR - AREA A		
12/20/24	M102	HVAC PLAN - 2ND FLOOR - AREA A		
12/20/24	M103	HVAC PLAN - 3RD FLOOR - AREA A		
12/20/24	M111	HVAC PLAN - 1ST FLOOR - AREA B		
12/20/24	M112	HVAC PLAN - 2ND FLOOR - AREA B		
12/20/24	M113	HVAC PLAN - 3RD FLOOR - AREA B		
12/20/24	M501	HVAC DETAILS & SCHEDULES		
12/20/24	M601	HVAC SCHEDULES		

ELECTRICAL				
Sheet Issue Date	Sheet Number	Sheet Name	Rev.	Current Revision Date
12/20/24	EP101	POWER PLAN - 1ST FLOOR - AREA A		
12/20/24	EP102	POWER PLAN - 2ND FLOOR - AREA A		
12/20/24	EP103	POWER PLAN - 3RD FLOOR - AREA A		
12/20/24	EP111	POWER PLAN - 1ST FLOOR - AREA B		
12/20/24	EP112	POWER PLAN - 2ND FLOOR - AREA B		
12/20/24	EP113	POWER PLAN - 3RD FLOOR - AREA B		
12/20/24	EL101	LIGHTING PLAN - 1ST FLOOR - AREA A	1	01/17/25
12/20/24	EL102	LIGHTING PLAN - 2ND FLOOR - AREA A		
12/20/24	EL103	LIGHTING PLAN - 3RD FLOOR - AREA A		
12/20/24	EL111	LIGHTING PLAN - 1ST FLOOR - AREA B		
12/20/24	EL112	LIGHTING PLAN - 2ND FLOOR - AREA B		
12/20/24	EL113	LIGHTING PLAN - 3RD FLOOR - AREA B		
12/20/24	EL201	EXTERIOR BUILDING MOUNTED LIGHTING PLAN		
12/20/24	E501	ELECTRICAL DETAILS & SCHEDULES		
12/20/24	E601	ELECTRICAL SCHEDULES	1	01/17/25
12/20/24	FP101	FIRE PROTECTION PLAN - 1ST FLOOR - AREA A		
12/20/24	FP102	FIRE PROTECTION PLAN - 2ND FLOOR - AREA A		
12/20/24	FP103	FIRE PROTECTION PLAN - 3RD FLOOR - AREA A		
12/20/24	FP111	FIRE PROTECTION PLAN - 1ST FLOOR - AREA B		
12/20/24	FP112	FIRE PROTECTION PLAN - 2ND FLOOR - AREA B		
12/20/24	FP113	FIRE PROTECTION PLAN - 3RD FLOOR - AREA B		

PLUMBING				
Sheet Issue Date	Sheet Number	Sheet Name	Rev.	Current Revision Date
12/20/24	PS101	SANITARY SEWER PLAN - 1ST FLOOR - AREA A	1	01/17/25
12/20/24	PS102	SANITARY SEWER PLAN - 2ND FLOOR - AREA A		
12/20/24	PS103	SANITARY SEWER PLAN - 3RD FLOOR - AREA A		
12/20/24	PS111	SANITARY SEWER PLAN - 1ST FLOOR - AREA B		
12/20/24	PS112	SANITARY SEWER PLAN - 2ND FLOOR - AREA B		
12/20/24	PS113	SANITARY SEWER PLAN - 3RD FLOOR - AREA B		
12/20/24	PW101	WATER& GAS PLAN - 1ST FLOOR - AREA A		
12/20/24	PW102	WATER& GAS PLAN - 2ND FLOOR - AREA A		
12/20/24	PW103	WATER& GAS PLAN - 3RD FLOOR - AREA A		
12/20/24	PW111	WATER& GAS PLAN - 1ST FLOOR - AREA B		
12/20/24	PW112	WATER& GAS PLAN - 2ND FLOOR - AREA B		
12/20/24	PW113	WATER& GAS PLAN - 3RD FLOOR - AREA B		
12/20/24	P501	PLUMBING DETAILS & SCHEDULES		

UMEP				
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12/20/24	UMEP1.2	MEP PLAN - UNIT TYPE ADRIAN-B		
12/20/24	UMEP1.3	MEP PLAN - UNIT TYPE CONWAY-A		
12/20/24	UMEP1.4.1	HVAC & PLUMBING PLAN - UNIT TYPE CONWAY-B		
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12/20/24	UMEP1.5.1	HVAC & PLUMBING PLAN - UNIT TYPE DRAKE		
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12/20/24	UMEP2.1.1	HVAC & PLUMBING PLAN - UNIT TYPE LANA		
12/20/24	UMEP2.1.2	POWER & LIGHTING PLAN - UNIT TYPE LANA		
12/20/24	UMEP2.2.1	HVAC & PLUMBING PLAN - UNIT TYPE ABERDEEN-A		
12/20/24	UMEP2.2.2	POWER & LIGHTING PLAN - UNIT TYPE ABERDEEN-A		
12/20/24	UMEP2.3.1	HVAC & PLUMBING PLAN - UNIT TYPE ABERDEEN-B		
12/20/24	UMEP2.3.2	POWER & LIGHTING PLAN - UNIT TYPE ABERDEEN-B		
12/20/24	UMEP2.4.1	HVAC & PLUMBING PLAN - UNIT TYPE BROWNSTONE		
12/20/24	UMEP2.4.2	POWER & LIGHTING PLAN - UNIT TYPE BROWNSTONE	1	01/17/25



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ARCHITECTURE
INTERIOR DESIGN
ENGINEERING
PLANNING

DENVER ▲ KANSAS CITY ▲ ST. LOUIS ▲ ATLANTA



01/17/25

DISCOVERY PARK - LOT #10-A

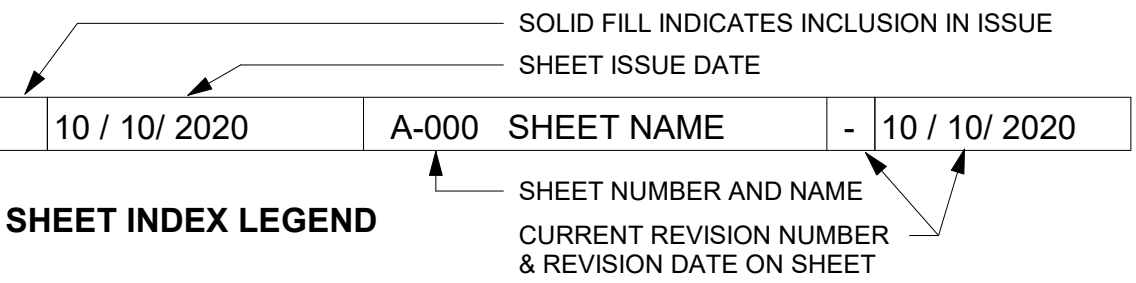
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SHEET TITLE
SHEET INDEX (CONT.)

PROJECT NUMBER: 24004

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G-001.1



ABBREVIATIONS

A	ABV	ABOVE
	ACC	ACCESSIBLE
	ACT	ACOUSTICAL CEILING TILE
	AD	AREA DRAIN
	ADA	AMERICANS WITH DISABILITIES ACT
	ADAAG	ADA ACCESSIBILITY GUIDELINES
	ADF	ACCESSIBLE DRINKING FOUNTAIN
	ADH	ADHESIVE
	ADJ	ADJUSTABLE/ADJACENT
	AEWC	ACCESSIBLE ELECTRIC WATER COOLER

B	B.O.	BOTTOM OF
	BD	BOARD
	BLDG	BUILDING
	BLK	BLOCK / BLACK
	BLKG	BLOCKING
	BM	BENCH MARK
	BO	BY OTHERS
	BOD	BOTTOM OF DECK(ING)
	BOH	BACK OF HOUSE
	BOT	BOTTOM (OF)

C	C TO C	CENTER TO CENTER
	CAB	CABINET
	CB	CERAMIC BASE/CORNER BEAD/CHALKBOARD
	CEM / CEMENT	CEMENT / CEMENTITIOUS
	CFM	CUBIC FEET PER MINUTE
	CI	CAST IRON
	CIP	CAST IN PLACE
	CJ	CONTROL JOINT
	CL	CENTERLINE
	CLG	CEILING

D	DBL	DOUBLE
	DEMO	DEMOLITION / DEMOLISH
	DIA	DIAMETER
	DIAG	DIAGONAL
	DIM	DIMENSION
	DIMS	DIMENSIONS
	DN	DOWN
	DP	DEEP
	DR	DOOR
	DS	DOWNSPOUT

E	EA	EAST
	EACH	EACH
	EJ	EACH FACE
	EL	EXPANSION JOINT
	EL	ELEVATION
	ELEC	ELECTRIC(AL)
	ELEV	ELEVATOR
	ENLG	ENLARGED
	EPDM	ETHYLENE PROPYLENE DIENE TERPOLYMER
	EQ	EQUAL

F	FA	FIRE ALARM
	FACP	FIRE ACCESS CONTROL PANEL
	FAWCM	FULLY ADHERED WATER CONTROL MEMBRANE
	FBG	FIBERGLASS
	FD	FLOOR DRAIN / FIRE DEPARTMENT
	FDN	FOUNDATION
	FE	FIRE EXTINGUISHER
	FEC	FIRE EXTINGUISHER CABINET
	FF	FINISH FLOOR
	FLG	FIBERGLASS

G	GA	GAUGE
	GALV	GALVANIZED
	GB	GRAB BAR
	GC	GENERAL CONTRACTOR
	GEN	GENERAL
	GFR	GLASS FIBER REINFORCED CONCRETE
	GL	GLASS
	GLZ	GLAZED TILE
	GPM	GALLONS/MINUTE
	GR	GRADE

H	HB	HOSE BIBB
	HC	HOLLOW CORE
	HCWD	HOLLOW CORE WOOD
	HD	HEAVY DUTY OR HAND DRYER
	HDBD	HARD BOARD
	HDNR	HARDENER
	HDW	HARDWARE
	HDWD	HARDWOOD
	HM	HOLLOW METAL
	HORIZ	HORIZONTAL

I	IBC	INTERNATIONAL BUILDING CODE
	ID	INTERIOR DESIGNER
	ID	INSIDE DIAMETER
	IDF	INDIVIDUAL DISTRIBUTION FRAME
	IL	INDEPENDENT LIVING
	IN	INCHES
	INDIV	INDIVIDUAL
	INSUL	INSULATION / INSULATED
	INT	INTERIOR
	INV	INVERT

J	JAN	JANITOR
	JST	JOIST
	JT	JOINT
	KB	KNOCKED DOWN
	KIT	KITCHEN
	KN	KNOX BOX
	LA	LANDSCAPE / LANDSCAPE ARCHITECT
	LAM	LAMINATE
	LAV	LAVATORY
	LF	LINEAR FOOT/FEET

K	LD	LANDSCAPE / LANDSCAPE ARCHITECT
	LAM	LAMINATE
	LAV	LAVATORY
	LF	LINEAR FOOT/FEET
	LG	LONG
	LGTH	LENGTH
	LKR	LOCKER
	LSC	LIFE SAFETY CODE
	LT	LIGHT
	MA	MASONRY

L	LA	LANDSCAPE / LANDSCAPE ARCHITECT
	LAM	LAMINATE
	LAV	LAVATORY
	LF	LINEAR FOOT/FEET
	LG	LONG
	LGTH	LENGTH
	LKR	LOCKER
	LSC	LIFE SAFETY CODE
	LT	LIGHT
	MA	MASONRY

M	MA	MASONRY
	MATL	MATERIAL
	MAX	MAXIMUM
	MB	MARKER BOARD / MAIL BOX
	MC	MEMORY CARE
	MDF	MAIN DISTRIBUTION FRAME
	MECH	MECHANICAL
	MFR	MANUFACTURE(ER)
	MH	MANHOLE
	MI	MIRROR

N	N	NORTH
	N/A	NOT APPLICABLE
	NIC	NOT IN COUNT / NOT IN CONTRACT
	NO	NUMBER
	NOM	NOMINAL
	NTS	NOT TO SCALE
	OA	OVERALL
	OC	ON CENTER
	OD	OUTSIDE DIAMETER
	OFD	OVERFLOW ROOF DRAIN

O	OA	OVERALL
	OC	ON CENTER
	OD	OUTSIDE DIAMETER
	OFD	OVERFLOW ROOF DRAIN
	OFF	OFFICE
	OH	OPPOSITE HAND
	OPNG	OPENING
	OPP	OPPOSITE
	OSB	ORIENTED STRAND BOARD
	PA	PUBLIC ADDRESS

P	PA	PUBLIC ADDRESS
	PAR	PARALLEL
	PCP	PORTLAND CEMENT PLASTER
	PERP	PERPENDICULAR
	PH	PRE-HUNG
	PL	PROPERTY LINE
	PLAM	PLASTIC LAMINATE
	PLAS	PLASTER
	PLBG	PLUMBING
	PLBG	PLUMBING

Q	Q	QUANTITY
	RA	RADIUS
	RA	RETURN AIR
	RC	RESILIENT CHANNEL
	RCP	REFLECTED CEILING PLAN / REINFORCED CONCRETE PIPE(ING)
	RD	ROOF DRAIN
	RE / REF	REFER TO
	RECPT	RECEPTACLE
	RECS	RECOMMENDATION(S)
	REF	REFRIGERATOR / REFER TO

R	REIN	REINFORCING
	REQD	REQUIRED
	REV	REVISION
	RFG	ROOFING
	RO	ROUGH OPENING
	RR	RESTROOM
	RTU	ROOF TOP UNIT
	S	SOUTH
	SAF	SELF ADHERED FLASHING
	SAFP	SPRAYED APPLIED FIRE-PROOFING

S	S	SOUTH
	SAF	SELF ADHERED FLASHING
	SAFP	SPRAYED APPLIED FIRE-PROOFING
	SC	SOLID CORE
	SCHED	SCHEDULE
	SCR	SHOWER CURTAIN ROD
	SCWD	SOLID CORE WOOD
	SD	SOAP DISPENSER
	SECT	SECTION
	SF	SQUARE FEET

T	T	TREAD
	T&B	TOP AND BOTTOM
	T&G	TONGUE AND GROOVE
	T.O.	TOP OF
	TB	TOWEL BAR
	TBD	TO BE DETERMINED
	TEL / TELE	TELEPHONE
	TER / TRZ	TERRAZZO (TERRACE)
	TERM	TERMINATE / TERMINAL
	TOC	TOP OF CURB / TOP OF CONC

U	UNO	UNLESS NOTED OTHERWISE
	UON	UNLESS OTHERWISE NOTED
	UR	URINAL
	US	UTILITY SHELF
	VCT	VINYL COMPOSITE TILE
	VENT	VENTILATE / VENTILATION
	VER	VERIFY
	VIF	VERIFY IN FIELD
	VP	VISION PANEL
	VTR	VENT THRU ROOF

V	VCT	VINYL COMPOSITE TILE
	VENT	VENTILATE / VENTILATION
	VER	VERIFY
	VIF	VERIFY IN FIELD
	VP	VISION PANEL
	VTR	VENT THRU ROOF
	W	WEST
	W/	WITH
	W/IN	WITHIN
	W/O	WITHOUT

W	W	WEST
	W/	WITH
	W/IN	WITHIN
	W/O	WITHOUT
	WC	WATER CLOSET
	WD	WOOD
	WDW	WINDOW
	WF	WIDE FLANGE / WATER FOUNTAIN
	WH	WALL HUNG / HYDRANT / WATER HEATER / WEEP HOLE
	WLD	WELD(ED)

X	X	BY (EX: 2X4)
	Y	YARD / YARD DRAIN
	Z	ZONE
	AA	ALUMINUM
	AB	ALUMINUM
	AC	ALUMINUM
	AD	ALUMINUM
	AE	ALUMINUM
	AF	ALUMINUM
	AG	ALUMINUM

Y	Y	YARD / YARD DRAIN
	Z	ZONE
	AA	ALUMINUM
	AB	ALUMINUM
	AC	ALUMINUM
	AD	ALUMINUM
	AE	ALUMINUM
	AF	ALUMINUM
	AG	ALUMINUM
	AH	ALUMINUM

Z	Z	ZONE
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	AB	ALUMINUM
	AC	ALUMINUM
	AD	ALUMINUM
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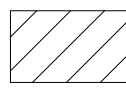

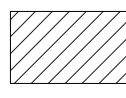

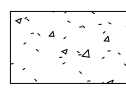

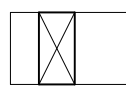

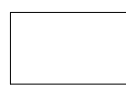

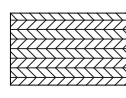

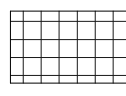

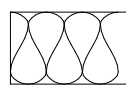
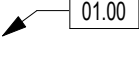
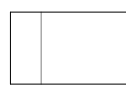
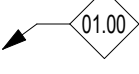
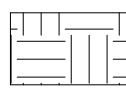
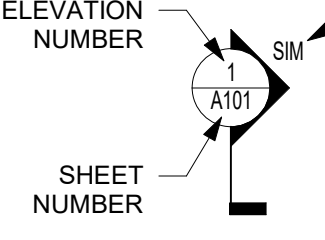
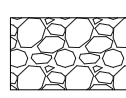
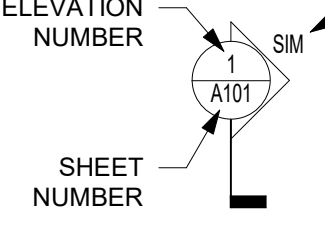
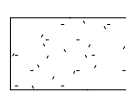
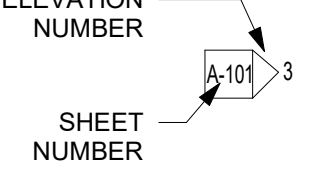
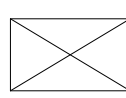
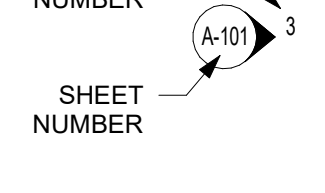
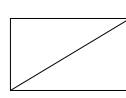
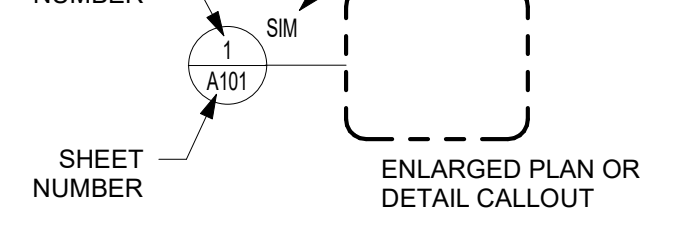
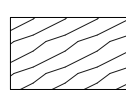
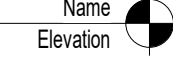
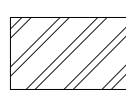


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MATERIAL LEGEND AND SYMBOLS

	MASONRY BLOCK - PLAN 1/2" = 1'-0" AND BELOW		ROOM NUMBER
	BRICK - SECTION		ACCESSIBLE UNIT OR TYPE-A UNIT
	CONCRETE ABOVE 1-1/2" = 1'-0"		HEARING IMPAIRED UNIT
			VISUALLY IMPAIRED UNIT
	STRUCTURAL WALL		DOOR NUMBER
	GYPSUM BOARD		WINDOW TYPE
	PLYWOOD		WALL TYPE
	RIGID INSULATION		ELEVATION KEYNOTE
	BATT INSULATION		PLAN KEYNOTE
	STANDING SEAM METAL ROOF		SIMILAR TO WALL SECTION INDICATED WALL SECTION CUT LINE
	EARTH		SIMILAR TO BUILDING SECTION INDICATED BUILDING SECTION CUT LINE
	CRUSHED ROCK		EXTERIOR ELEVATION
	SAND		INTERIOR ELEVATION
	CONTINUOUS LUMBER		SIMILAR TO BUILDING SECTION INDICATED ENLARGED PLAN OR DETAIL CALLOUT
	NON-CONTINUOUS LUMBER (SHIM)		ELEVATION MARK
	FINISH LUMBER		ARCHITECT TO VERIFY
	STEEL OR METAL		

PRINTS ISSUED
12/20/2024 - CITY SUBMISSION

REVISIONS:



ARCHITECTURE

INTERIOR DESIGN

ENGINEERING

PLANNING

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Kansas City, MO 64108-1404

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12/20/24

DISCOVERY PARK - LOT #10-A

LEE'S SUMMIT, MO

SHEET TITLE
PLAN GENERAL NOTES

PROJECT NUMBER: 24004

SHEET NUMBER:

G-003

ROOF PLAN GENERAL NOTES

- ALL NEW WORK TO MEET ALL APPLICABLE BUILDING, PLUMBING, MECHANICAL, HANDICAP, AND LIFE SAFETY CODES AND REQUIREMENTS.
- THE MINIMUM NET FREE VENTILATING AREA SHALL BE 1/150 OF THE AREA OF THE SPACE VENTILATED. THE OPENINGS SHALL BE COVERED WITH CORROSION-RESISTANT MESH OR OTHER APPROVED MATERIALS WITH OPENINGS NOT MORE THAN 1/2" IN ANY DIRECTION.
- REFERENCE WALL SECTIONS ON A300 SHEETS FOR ALL BEARING HEIGHTS.
- CONTRACTOR TO INSTALL GUTTERS, DOWNSPOUTS AND ALL FLASHING PER APPLICABLE SMACNA GUIDELINES. IF ADDITIONAL DOWNSPOUTS ARE REQUIRED, CONTRACTOR SHALL CONFIRM LOCATIONS WITH ARCHITECT PRIOR TO INSTALLATION.
- MEMBRANE ROOFING SYSTEM ON RIGID INSULATION, ALL ROOF LOCATIONS TYP. U.N.O.
- COLORS T.B.D., COORDINATE WITH ARCHITECT.

REFLECTED CEILING PLAN GENERAL NOTES

- SEE MEP SET FOR LOCATIONS OF ALL LIGHT FIXTURES AND MECHANICAL DIFFUSERS.
- COORDINATE ANY DISCREPANCIES WITH MEP AND ARCHITECT PRIOR TO INSTALLATION.
- REFERENCE ALL INTERIORS DRAWINGS FOR COORDINATION.
- ALL CEILINGS TO CONFORM TO 2018 IBC TABLE 803.13.
- ALL ACT TILES TO BE WHOLE DIMENSIONS AND ARE NOT TO BE FIELD CUT, ALL ACT TO BE FIELD CENTERED IN SPACE, U.N.O. OR DIMENSIONED.
- SEE ENLARGED UNIT PLANS (A-400 SERIES) FOR ALL UNIT RCP PLANS EXCEPT WHERE HEIGHTS ARE LISTED ON RCP PLANS IN A-100 SERIES.
- WHERE CEILING HEIGHT IS B.O. FLOOR ASSEMBLY, FINISH TO BE LEVEL FOUR FINISH. ALL UNITS TO HAVE A LEVEL FOUR FINISH AT CEILINGS.
- ACCESS TO EQUIPMENT SHALL BE THROUGH ACT WHERE AVAILABLE. WHERE NECESSARY, ACCESS THROUGH GWB CEILING TO USE ACCESS HATCHES. GC TO PROVIDE HATCHES AND HATCH LOCATION DIAGRAM PRIOR TO INSTALL.
- ALL DROPPED SOFFIT FRAMING IN COMMON AREAS SHALL BE OUT OF METAL STUDS. ONE (1) HOUR RATED CEILING THROUGHOUT BUILDING AT UNDERSIDE OF ROOF TRUSSES AND ARE PART OF THE FIRE RATED FLOOR-CEILING ASSEMBLY
- ALL GYPSUM BOARD CEILINGS TO BE PAINTED (U.N.O.).
- MISCELLANEOUS SYMBOLS INDICATED ON REFLECTED CEILING PLAN ARE MECHANICAL IN NATURE. REFER TO MEP DRAWING SHEETS FOR FURTHER CLARIFICATION FOR ITEM IDENTIFICATION AND LOCATIONS.

ELEVATION GENERAL NOTES

- ALL EXTERIOR SURFACES TO BE PAINTED U.N.O. INCLUDING BUT NOT LIMITED TO TRIM, SIDING, GRILLS, VENTS, ETC.
- ALL FACADE MATERIAL WRAP BACK TO BUILDING, TYP.
- SOFFITS AND EXTERIOR CEILINGS ARE TO BE CEMENTITIOUS BOARD WITH BATTENS AT JOINTS.
- ALL SURFACE RUNS GREATER THAN 25'-0" & INTERIOR CORNERS TO RECEIVE CONTROL JOINT, TYP. COORDINATE LOCATION WITH ARCH.

PLAN GENERAL NOTES

- 01 - GENERAL
- A. ALL NEW WORK TO MEET ALL APPLICABLE BUILDING, PLUMBING, MECHANICAL, ELECTRICAL, HANDICAP, AND LIFE SAFETY CODES AND REQUIREMENTS.
- B. ALL WALL DIMENSIONS ARE TO FACE OF STUD, UNLESS NOTED OTHERWISE.
- C. DO NOT SCALE DRAWINGS.
- D. NOTIFY ARCHITECT OF ANY DISCREPANCIES BETWEEN PROJECT DOCUMENTS AND EXISTING CONDITIONS. ANY MODIFICATIONS DUE TO DIMENSIONAL CHANGES SHOULD BE PART OF THE PROJECT COST.
- E. GENERAL CONTRACTOR AND ALL SUBCONTRACTORS SHALL THOROUGHLY FAMILIARIZE THEMSELVES TO ALL SITE SPECIFIC REQUIREMENTS AND EXTENTS OF THE NEW WORK PRIOR TO BIDDING. NO CHANGES IN THE CONTRACT WILL BE CONSIDERED FOR INFORMATION DISCERNABLE FROM THE EXISTING CONDITIONS OR THE PROJECT DOCUMENTS.
- F. CONTRACTORS SHALL BE FAMILIAR AND INCORPORATE ALL PROVISIONS AND REQUIREMENTS ESTABLISHED BY CODES APPLICABLE TO THE PROJECT INCLUDING FAIR HOUSING, UFAS, ANSI, & ADAAG.
- G. TYPICAL TOP OF FIRST FLOOR SUBFLOOR ELEVATION IS REFERENCED AS 100'-0". CONTRACTOR SHALL VERIFY BUILDING FINISH FLOOR ELEVATION WITH ACTUAL CONDITIONS. COORDINATE ACTUAL GRADE WITH CIVIL DRAWINGS.
- H. FULLY ACCESSIBLE UNITS SHALL MEET THE REQUIREMENTS OF 2009 ICC/ANSI A117.1 - TYPE 'X' DWELLING UNITS AND 2010 ADAAG (DOJ). ALL OTHER DWELLING UNITS TO BE TYPE 'B'.
- I. MAIN LEVEL ELEVATION IS T.O. GYPCRETE, OR T.O. CONCRETE SLAB, RESPECTIVELY.
- J. LEVELS ABOVE MAIN LEVEL ARE MEASURED TO T.O. SUBFLOOR.
- K. WHOLE BUILDING TO MEET FAIR HOUSING ACT.
- L. ALL PENETRATIONS INTO FIRE-RATED ASSEMBLIES ARE TO BE FIRESTOPPED WITH UL APPROVED FIRESTOPPING ASSEMBLIES. UL INFORMATION SHALL BE PROVIDED BY TRADE RESPONSIBLE FOR PENETRATION. REFERENCE THE G200 SERIES.
- M. THROUGH PENETRATIONS NOT LOCATED WITHIN WALL CAVITY OR FLOOR/CEILING/ROOF ASSEMBLY SHALL BE REQUIRED TO HAVE FIRE RESISTIVE PENETRATION WITH A T-RATING EQUAL TO OR EXCEEDING THE ASSEMBLY THAT IS PENETRATED.
- N. CONTROL JOINTS IN GWB AT ALL UNIT CORRIDORS SHALL BE LOCATED AT INSIDE CORNER OF PILASTERS AND ACROSS TOP OF DROP SOFFIT AT PILASTERS. AT LOCATIONS WHICH THERE IS A 30' SPAN BETWEEN PILASTERS, A CONTROL JOINT SHALL OCCUR AT THE CENTRAL LOCATION BETWEEN THE TWO PILASTERS ADJACENT TO THE NEAREST DOOR. RUNNING FROM HEAD TO T.O. PARTITION AT CORNER. AT LOCATIONS WHICH THERE IS A 30' SPAN BETWEEN SOFFIT WHERE PILASTER OCCURS, A CONTROL JOINT SHALL OCCUR AT THE INSIDE CORNER OF PILASTER AND SOFFITS. CONTROL JOINTS SHALL OCCUR AT THE CORNERS OF ALL STOREFRONT. RUNNING TO THE T.O. THE PARTITION. GC TO VERIFY WITH ARCHITECT DURING CONSTRUCTION ALL CONTROL JOINT LOCATIONS PRIOR TO INSTALL.
- O. PROVIDE FIREBLOCKING AND DRAFTSTOPPING AS REQUIRED AND IN ACCORDANCE WITH 2018 IBC, SECTION 718.0.
- P. CONTRACTOR TO PROVIDE FIRE BLOCKING AT FIRE SEPARATION PARTITION AT 10' ON CENTER VERTICALLY. TYPICAL CONTRACTOR TO PROVIDE FIRE BLOCKING AT FIRE SEPARATION PARTITION AT ALL BACK-TO-BACK ELECTRICAL OUTLETS.
- Q. ALL INTERIOR WALLS ARE TYPE P1, UNLESS NOTED OTHERWISE. ALL EXTERIOR WALLS ARE TYPE P30, UNLESS NOTED OTHERWISE. SEE SHEET G-101 FOR PARTITION SCHEDULE.
- R. ALL EXTERIOR MATERIALS TO BE APPLIED PER MANUFACTURER RECOMMENDATIONS AND WITH ASSOCIATED PRODUCTS (SUCH AS STAPLES, NAILS, TAPER, SEALANT).
- 03 - CONCRETE
- A. CONCRETE SEALANT TO BE USED ON FIRST FLOOR WHERE RECEIVING RESILIENT VINYL FLOORING.
- B. AT SLAB ON GRADE UNITS, LEVEL CONCRETE SURFACE AT AREAS WHERE VCT FLOORING TO BE INSTALLED.
- 04 - MASONRY
- A. ALL EXTERIOR BRICK TO HAVE WEEP HOLES AT MAX 2' ABOVE GRADE
- B. ALL EXTERIOR BRICK TO EXTEND BELOW GRADE BY 3 COURSES (8") MIN. AND HAVE A BRICK LEDGE
- C. ALL LOCATIONS WITH EXTERIOR BRICK TO BE GROUTED SOLID FROM BELOW GRADE CONDITION TO LOWEST WEEP HOLE.
- 05 - METALS
- A. STAIR HANDRAILS, TREADS, STRINGERS TO BE PRE-FINISHED OR PAINTED STEEL.
- B. ALL DOWNSPOUTS TO BE CONNECTED TO UNDERDRAINS, SLOPED AWAY FROM BUILDING.
- C. ALL EXTERIOR METAL TO BE PRE-FINISHED OR PRIMED/PAINTED. COLOR PER ARCH.
- 06 - WOOD, PLASTICS AND COMPOSITES
- A. ALL COMMON SPACE, UNIT TOILET ROOMS, AND BATHROOMS TO HAVE BLOCKING FOR GRAB BARS. SEE G300 SERIES FOR HEIGHTS AND LOCATIONS. GRAB BARS TO BE INSTALLED IN ALL COMMON SPACE, UNIT TOILET ROOMS, AND BATHROOMS. BLOCKING TO BE PROVIDED FOR ALL SHOWER GRAB BARS AND SEATING AS REQUIRED BY MANUFACTURER.
- B. CONTRACTOR TO COORDINATE BLOCKING AT ALL ADJACENT POCKET DOORS, MEDICINE CABINETS, AND OTHER ELEMENTS.
- C. AT ALL IDF, MDF & ELEC ROOMS, INTERIOR FINISH TO BE FIRE-TREATED PLYWOOD PAINTED WHITE ON ALL WALLS
- D. ALL SHEAR WALL LOCATIONS & EXTENT OF SHEATHING TO BE COORDINATE WITH STRUCTURAL DRAWINGS.
- E. ALL EXPOSED CABINET ENDS TO HAVE FINISHED PANELS, INCLUDING BUT NOT LIMITED TO END OF CABINET RUN ADJACENT TO REFRIGERATOR, LOCATIONS OF VERTICAL OFFSETS.
- 07 - THERMAL AND MOISTURE PROTECTION
- A. CAULK ALL JOINTS BETWEEN DISSIMILAR MATERIALS FOR WEATHER TIGHT, WATERTIGHT, AIRTIGHT, ETC. PERFORMANCE.
- B. ALL EXTERIOR WRB TO BE APPLIED, TAPERED AND SEALED PER INSTRUCTIONS
- C. PROVIDE SOUND ATTENUATION INSULATION OVER ALL BATHROOM CEILINGS AND IN BATHROOM WALLS, TYPICAL ALL BATHROOMS
- D. AT EXTERIOR WALLS, CAULK CONTROL JOINTS IN FLOOR SLAB 12" INTO BUILDING TO PREVENT AGAINST WATER INFILTRATION.
- 08 - OPENINGS
- A. DOORS- ELECTRICIAN IS REQUIRED TO COORDINATE WITH DOOR HARDWARE SCHEDULE FOR ALL ELECTRICAL ROUGH IN REQUIREMENTS FOR DOORS, INCLUDING AUTO OPERATORS, MAG HOLD OPENS, ELECTRONIC STRIKES, KEYPADS AND MAG LOCKS.
- B. ALL DOOR HARDWARE SHALL BE COORDINATED W/ OWNER BY DESIGN BUILD CONTRACTOR.
- 09 - FINISHES
- A. PRIME, PAINT AND SEAL ALL WALLS, COLUMNS AND CEILINGS AS REQUIRED PRIOR TO INSTALLATION OF M/E/P/F/TELEPHONE/SECURITY INSTALLATION.
- B. CONTRACTOR TO COORDINATE ALL WET WALLS WITH ADJACENT RATINGS AND TO ACCOMMODATE PLUMBING FIXTURES. WALLS TO BE ALIGNED
- C. ALL WALLS TO BE ALIGNED AS INDICATED ON DRAWINGS - IF WALL IS MISALIGNED MID-WALL AND WILL AFFECT VISUAL APPEARANCE IN ROOM (I.E. 'JOG' WILL APPEAR) GC TO BRING TO ARCH ATTENTION PRIOR TO FINISHING
- D. FLOOR TRANSITION SHALL OCCUR AT MIDDLE OF WALL WHERE OCCURS IN DOORWAY. PROVIDE VINYL REDUCER STRIP.

PLAN GENERAL NOTES - (CONT.)

- 10 - SPECIALTIES
- A. CORNER GUARDS AT COMMON SPACES, PER INTERIORS.
- B. PROVIDE VENTILATED WIRE SHELVING AT ALL CLOSETS AND PANTRY UNO. REFERENCE KEYED ENLARGED FLOOR PLAN NOTES ON A400 SHEETS FOR LOCATIONS. DEPTH TO BE COORDINATED WITH ANY LIGHT FIXTURES TO NOT ENCR OACH ON IFC CLEARANCES.
- C. TOILET PAPER DISPENSER TO BE INSTALLED PER G-300 SERIES AND 2009 ICC ANSI 117.1.
- D. SEE G-300 SERIES FOR SIGNAGE REQUIREMENTS.
- E. NUMBERING OF UNITS AND ROOMS SHALL BE UPDATED TO MEET AHJ AND OWNER REQUIREMENTS PRIOR TO SIGNAGE PRODUCTION.
- 21 - FIRE SUPPRESSION
- A. ALL UNITS TO HAVE APPROPRIATE NUMBER OF SMOKE DETECTORS INSTALLED INTERCONNECTED AND HARD-WIRED WITH BATTERY BACKUP PER CODE, INCLUDING ONE (1) IN EACH BEDROOM. ALL UNITS TO BE ABLE TO COMMUNICATE WITH NURSE CALL SYSTEM. GENERAL CONTRACTOR TO COORDINATE
- B. FIRE EXTINGUISHERS SHALL BE LOCATED SO THAT THE MAXIMUM TRAVEL DISTANCE SHALL NOT EXCEED 75 FEET. GENERAL CONTRACTOR TO PROVIDE SEMI-RECESSED TYPE THROUGHOUT WITH RATED CABINET. PROVIDE (1) TYPE "CLASS K" WITHIN 30 FEET OF COMMERCIAL COOKING EQUIPMENT. PROVIDE RESIDENTIAL TYPE ANSUL SYSTEM AT ALL RESIDENTIAL RANGES AS REQUIRED BY FIRE DEPARTMENT HEIGHT TO MEET ANSI.
- C. CONCEALED SPRINKLER HEADS TO BE USED U.N.O.
- D. IN RESIDENT UNITS, SEMI-RECESSED SPRINKLER HEADS TO BE USED. ALL COMMON AREA SPRINKLERS TO BE FULLY CONCEALED. SEE SPECIFICATION 21 00 00
- E. DRY SPRINKLERS TO BE COORDINATED WITH DESIGN-BUILD CONTRACTOR. ALL SPRINKLERS IN BUILDING CAN BE WET. SPRINKLER LOCATIONS AND SPRINKLER EQUIP TO BE COORDINATED W/ ARCH PRIOR TO INSTALL - GC TO PROVIDE LOCATIONS OF HEADS ON RCPs FOR ARCH REVIEW PRIOR TO INSTALL. GC TO COORD FIRE SPRINKLER LINER W/ ALL MEP IN CORRIDOR SPACE TO MAINTAIN CEILING TYPE & HT. PER ARCH DWGS
- 22 - PLUMBING
- A. PLUMBING VENT STACKS, FLUES, FRESH AIR INTAKES, ETC. NOT SHOWN FOR CLARITY. SEE MEP DRAWINGS FOR HVAC/ELECTRICAL/PLUMBING REQUIREMENTS/EQUIPMENT/LOCATIONS. GC TO VERIFY LOCATIONS OF ALL SIDEWALL VENTS PRIOR TO INSTALL.
- B. PROVIDE FLOOR DRAINS AS INDICATED ON PLUMBING DRAWINGS AND PER APPLICABLE PLUMBING CODE.
- C. DRAINAGE SHALL BE PER 2018 IBC 3201.4 - DRAINAGE WATER COLLECTED FROM A ROOF, AWNING, CANOPY OR MARQUEE AND CONDENSATE FROM MECHANICAL EQUIPMENT SHALL NOT FLOW OVER A PUBLIC WALKING SURFACE
- D. CONTRACTOR TO COORDINATE MECHANICAL DUCT, SPRINKLER, PLUMBING, AND ELECTRICAL SUCH THAT CEILING HEIGHTS AND LOCATIONS ARE MAINTAINED PER REFLECTED CEILING PLANS.
- E. ALL DOWNSPOUTS INTO COURTYARDS AND AT HARDSCAPE TO BE HARDPIPED TO STORM SEWER. GUTTERS/DOWNSPOUTS SHALL NOT FLOW OVER SIDEWALKS OR OTHER HARDSCAPE.
- 23 - HVAC
- A. GC TO COORDINATE MECHANICAL PADS FOR ROOFTOP AND GROUND MOUNTED UNITS.
- 26 - ELECTRICAL
- A. SEE ELECTRICAL PLANS FOR ELECTRIC DEVICE LAYOUTS.
- B. SEE G-300 SERIES FOR ELECTRICAL MOUNTING HEIGHT REQUIREMENTS
- C. PROVIDE EXIT SIGNS AT LOCATIONS AND PER 1013, IBC. - A TACTILE SIGN STATING 'EXIT' AND COMPLYING WITH ICC A117.1 SHALL BE PROVIDED ADJACENT TO EACH DOOR TO AN AREA OF REFUGE, AN EXTERIOR AREA FOR ASSISTED RESCUE, AN EXIT STAIRWAY, AN EXIT RAMP, AN EXIT PASSAGEWAY AND THE EXIT DISCHARGE
- D. PROVIDE DIMMER CAPABILITY FOR ALL COMMON AREA DECORATIVE AND DOWNLIGHTS/SPOTS (CAN LIGHTS).
- E. TIMECLOCK AND PHOTOCELL FOR EXTERIOR LIGHTS. MULTIPLE ZONES MAY BE NECESSARY. INSTALL PER MANUFACTURERS RECOMMENDATIONS.
- F. ALL ELECTRICAL AND IDF/MDF ROOMS TO HAVE SOLID BLOCKING TO ACCOMMODATE PANEL ATTACHMENT. BLOCKING TO BE PAINTED TO MATCH WALLS. WALLS TO REMAIN RATED AS INDICATED PER PLAN.
- G. FIRE PULL STATIONS TO BE PROVIDED PER 2018 IFC AND A.H.J.
- H. ALL LIGHTING, T-STATS AND OTHER SWITCHES TO BE INSTALLED PER ANSI 117.1, 2010 ADAAG, AND THE FAIR HOUSING ACT. LOCATIONS AND GROUPINGS OF SWITCHES TO BE ACCEPTED BY ARCH PRIOR TO INSTALL.

WEATHER-RESISTIVE BARRIER INSTALLATION GUIDELINES

WEATHER-RESISTIVE BARRIER INSTALLATION ON VERTICAL WALLS

PRIOR TO INSTALLATION OF WINDOWS OR DOORS

STEP 1
UNWRAP ROLL AT CORNER, LEAVE 6" TO 12" OVERLAP - PRINTED STUD MARKS TO LINE UP WITH FIRST STUD.

STEP 2
ROLL SHOULD BE PLUMB - EXTEND BOTTOM ROLL EDGE OVER SILL PLATE INTERFACE AT LEAST 2" TO 3".

STEP 3A
WEATHER-RESISTIVE BARRIER TO BE SECURED ON VERTICAL STUD LINE EVERY 12" TO 18". WHEN USING WOOD, INSULATED SHEATHING BOARD, OR EXTERIOR GYPSUM BOARD, LARGE HEAD OR PLASTIC WEATHER HEAD NAIL USE IS BEST PRACTICE. ALSO, 1" MIN. CROWN WIDE STAPLES MAY BE USED.

STEP 3B
WHEN USING MASONRY, TEMPORARILY ATTACH BARRIER WITH ADHESIVES CONTAINING POLYURETHANE, ELASTOMERIC, OR LATEX BASE IN VERTICAL STRIPS SPACE APPROXIMATELY 24" APART (CONSULT BUILDING WRAP MANUFACTURER FOR LIST OF SUGGESTED ADHESIVES). AS A PERMANENT ATTACHMENT, USE CLADDING FASTENERS.

FLASHING SYSTEM INSTALLATION AT WINDOWS/DOORS

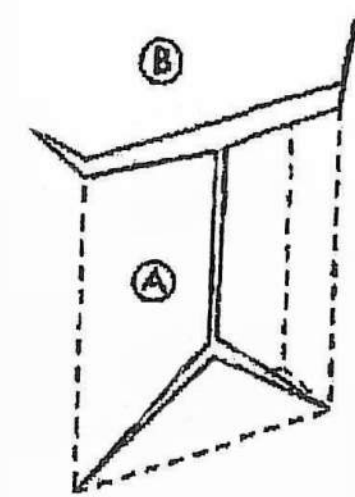
UPON COMPLETION OF WEATHER-RESISTIVE BARRIER INSTALLATION

GENERAL INSTRUCTIONS

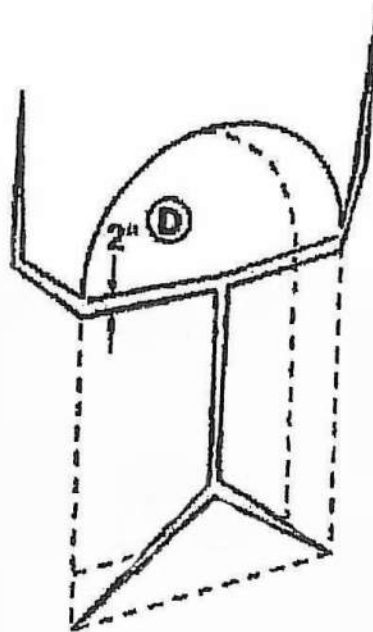
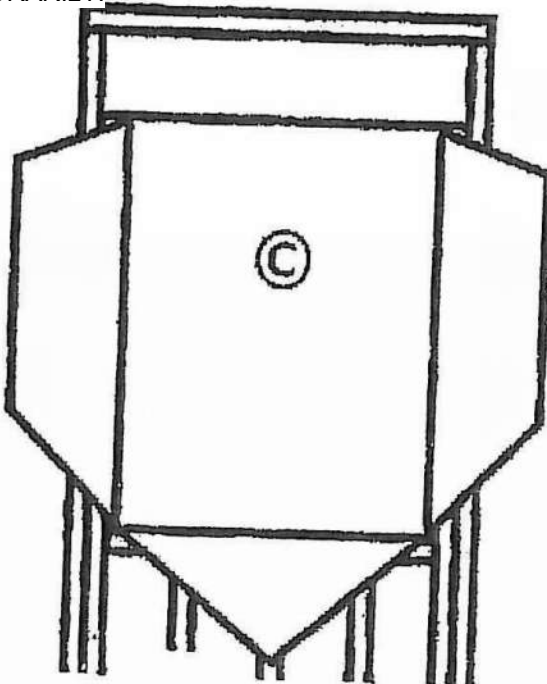
- USE AND INSTALL APPROVED FLASHING PER WEATHER-RESISTIVE BARRIER MANUFACTURER'S RECOMMENDATIONS.
- INSTALL FLASHING ON CLEAN, DRY SURFACES. SURFACES TO BE WIPED TO REMOVE MOISTURE, DIRT, GREASE AND OTHER DEBRIS WHICH MAY INTERFERE WITH ADHESION.
- PRESSURE TO BE APPLIED ALONG ENTIRE SURFACE TO ACHIEVE A GOOD BOND.
- SMOOTH/REPOSITION SURFACE AS NECESSARY TO ELIMINATE ALL WRINKLES AND BUBBLES.

STEP 6
PREPARE WEATHER-RESISTIVE BARRIER FOR WINDOW OR DOOR INSTALLATION:

- MAKE A MODIFIED '1-CUT' IN THE BARRIER, BEGINNING WITH A HORIZONTAL CUT ACROSS THE TOP OF THE WINDOW FRAME. (FOR ROUNDTOP WINDOWS, BEGIN THE CUT 2" ABOVE THE MULL JOINT; SEE D). CUT STRAIGHT DOWN FROM THE CENTER APPROXIMATELY 2/3 OF THE WAY, THEN ANGLE THE CUT TO THE CORNERS (SEE A).
- TO EXPOSE SHEATHING, OR FRAMING MEMBERS, AND TO ALLOW FOR HEAD FLASHING INSTALLATION, CUT A FLAP ABOVE THE ROUGH OPENING.
- INTO THE ROUGH OPENING, FOLD SIDE AND BOTTOM FLAPS AND THEN SECURE.
- FLIP THE HEAD FLAP UP AND SECURE TEMPORARILY.



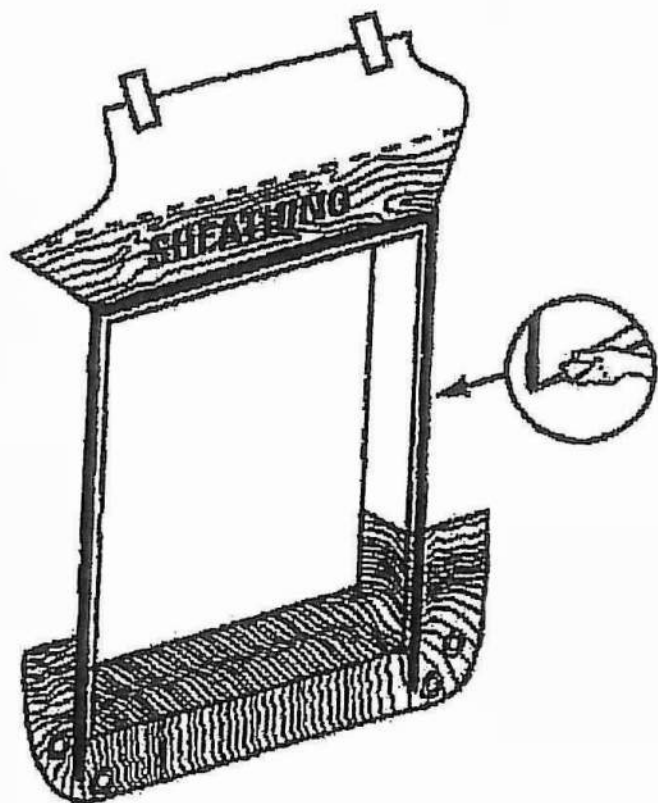
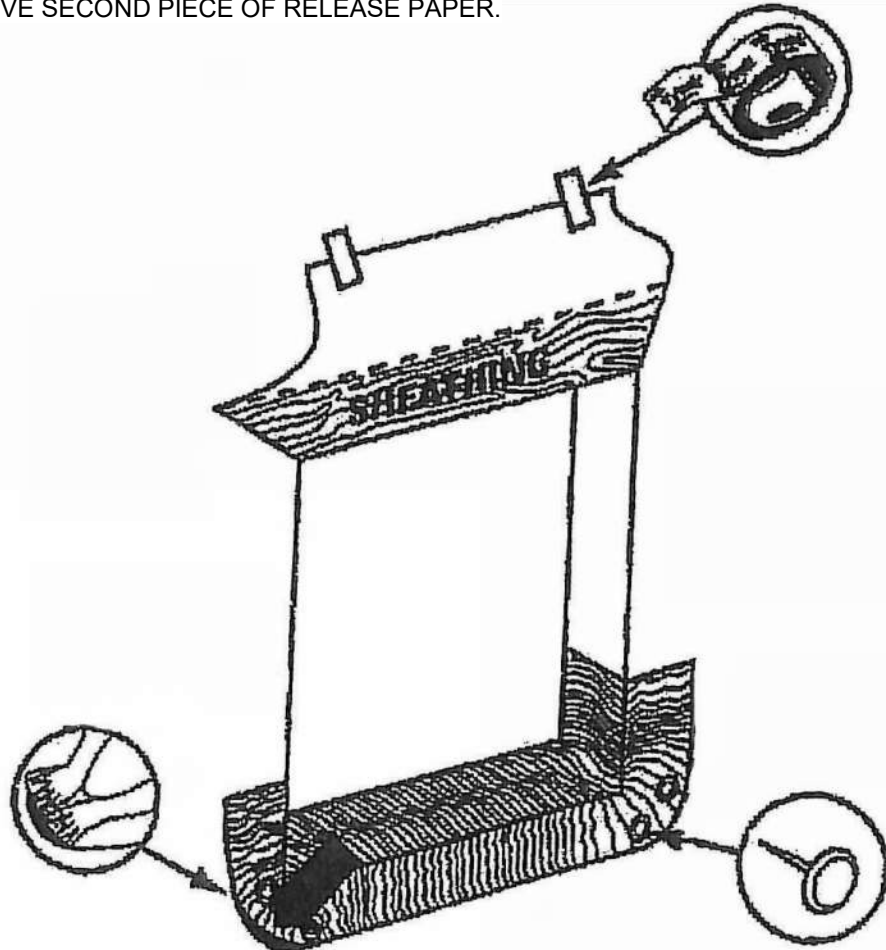
FOR RECTANGULAR
WINDOWS



FOR ROUNDTOP WINDOWS

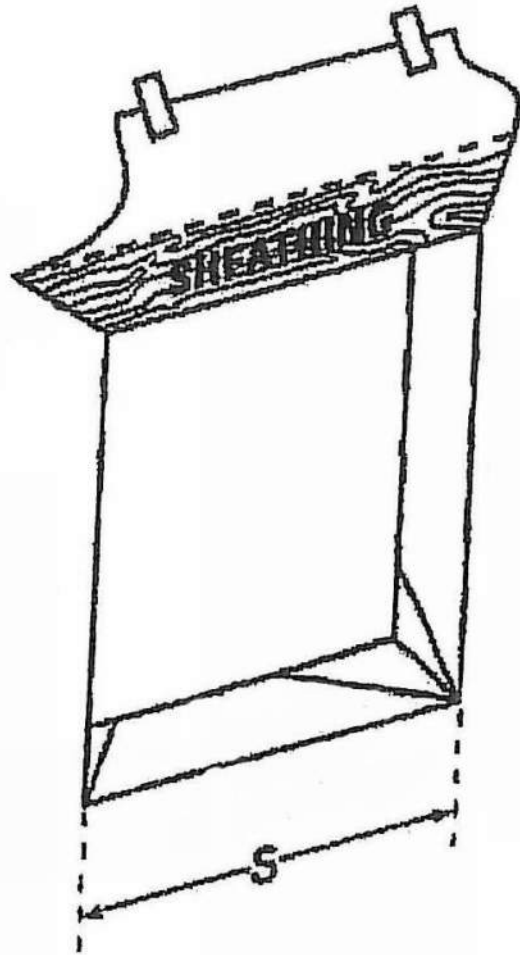
STEP 7

- CUT FLEXIBLE FLASHING AT LEAST 12" LONGER THAN SILL ROUGH OPENING WIDTH.
- REMOVE FIRST PIECE OF RELEASE PAPER, COVER HORIZONTAL SILL BY ALIGNING INSIDE EDGE OF SILL, AND SECURE IN ROUGH OPENING ACROSS SILL AND TURN UP JAMBS - MINIMUM 6". COVER HORIZONTAL SILL BY ALIGNING FLEXIBLE FLASHING EDGE WITH SILL INSIDE EDGE.
- REMOVE SECOND PIECE OF RELEASE PAPER.



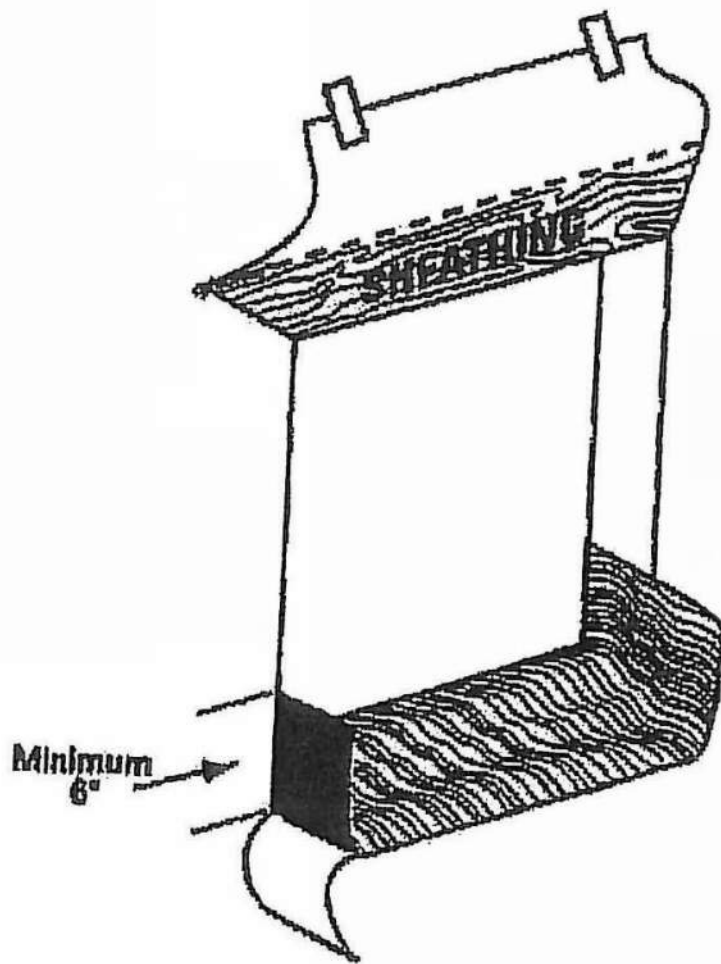
STEP 8

- FAN FLEXIBLE FLASHING ONTO WALL FACE AT BOTTOM CORNERS.
- PRESS SILL FLASHING FIRMLY TO ENSURE FULL ADHESION.
- FANNED EDGES TO BE SECURED WITH MECHANICAL FASTENERS.



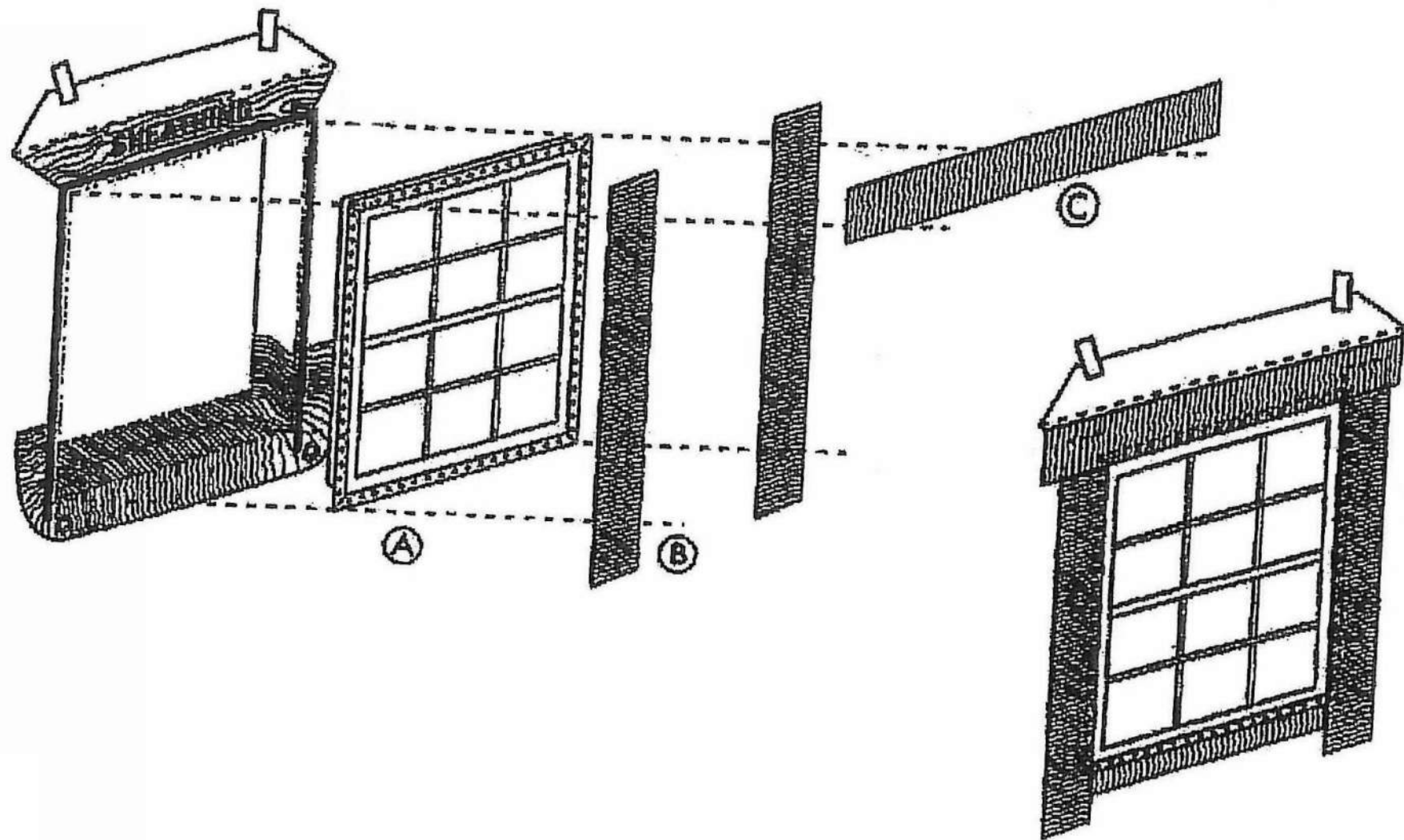
STEP 9

- AT WALL OR BACK SIDE OF WINDOW MOUNTING FLANGE, APPLY A CONTINUOUS BEAD OF CAULK ACROSS JAMBS AND HEAD - BOTTOM SILL FLANGE TO REMAIN UNCAULKED.
- CAULK NOT TO BE APPLIED TO BOTTOM SILL FLANGE.



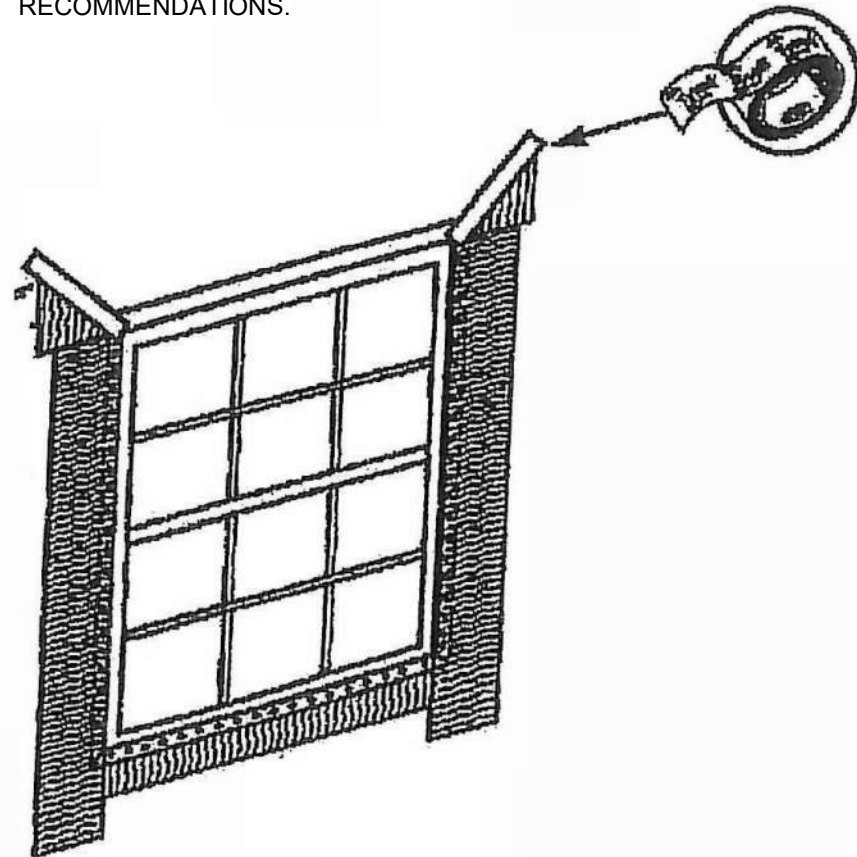
STEP 10

- INSTALL WINDOW/DOOR PER MANUFACTURER'S INSTRUCTIONS. (IMAGE A)
- CUT TWO PIECES OF FLASHING OR FLEXIBLE FLASHING FOR JAMB FLASHING TO EXTEND 1" ABOVE WINDOW HEAD FLANGE AND BELOW BOTTOM EDGE OF SILL FLASHING. REMOVE RELEASE PAPER AND TIGHTLY PRESS ALONG SIDES OF WINDOW FRAME. (IMAGE B)
- CUT A PIECE OF FLASHING OR FLEXIBLE FLASHING FOR HEAD FLASHING, TO EXTEND BEYOND OUTER EDGES OF JAMB FLASHING. REMOVE RELEASE PAPER AND INSTALL COMPLETELY COVERING MOUNTING FLANGE AND ADHERING TO EXPOSED SHEATHING OR FRAMING MEMBERS. (IMAGE C)



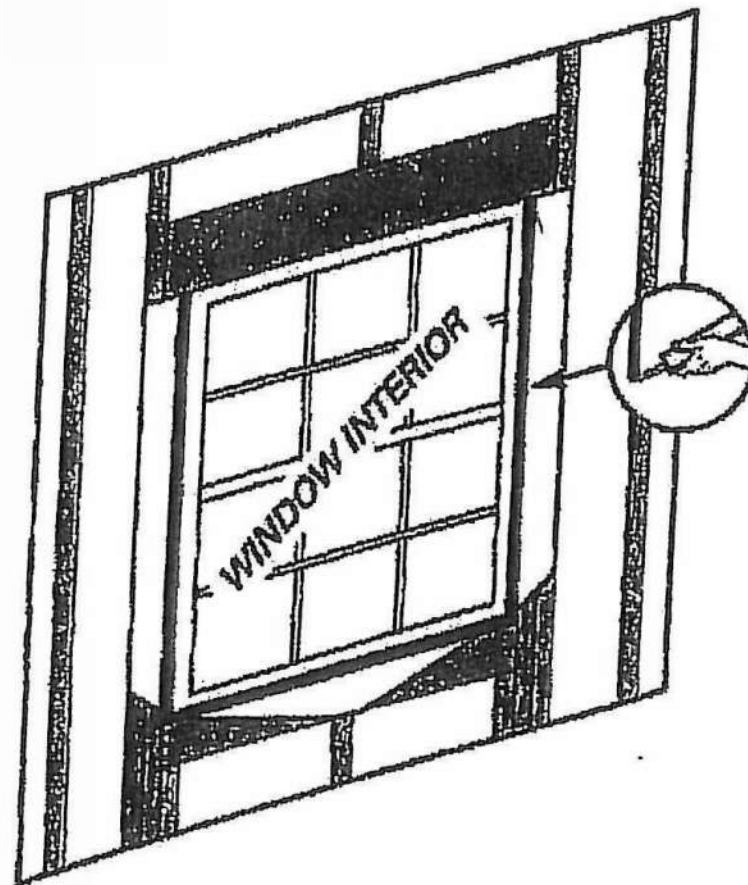
STEP 11

- FLIP DOWN WEATHER-RESISTIVE BARRIER UPPER FLAP SO THAT IT LAYS FLAT ACROSS HEAD FLASHING.
- TAPE ALONG ALL CUTS IN WEATHER-RESISTIVE BARRIER AND ACROSS WINDOW HEAD WITH APPROVED TAPE PER MANUFACTURER'S RECOMMENDATIONS.



STEP 12

CAULK (BACKER ROD, AS NECESSARY) AT REAR OF WINDOW/DOOR FRAME TO SEAL INSIDE OF ROUGH OPENING ACROSS BOTTOM AND A MINIMUM 12" TURN UP AT SIDES TO FORM A BACK DAM. IN ORDER TO AIR SEAL AROUND WINDOW OPENING, COMPLETELY CAULK AROUND BACK EDGE OF WINDOW PERIMETER.



PRINTS ISSUED

12/20/2024 - CITY SUBMISSION

REVISIONS:

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12/20/24

DISCOVERY PARK - LOT #10-A

LEE'S SUMMIT, MO

SHEET TITLE

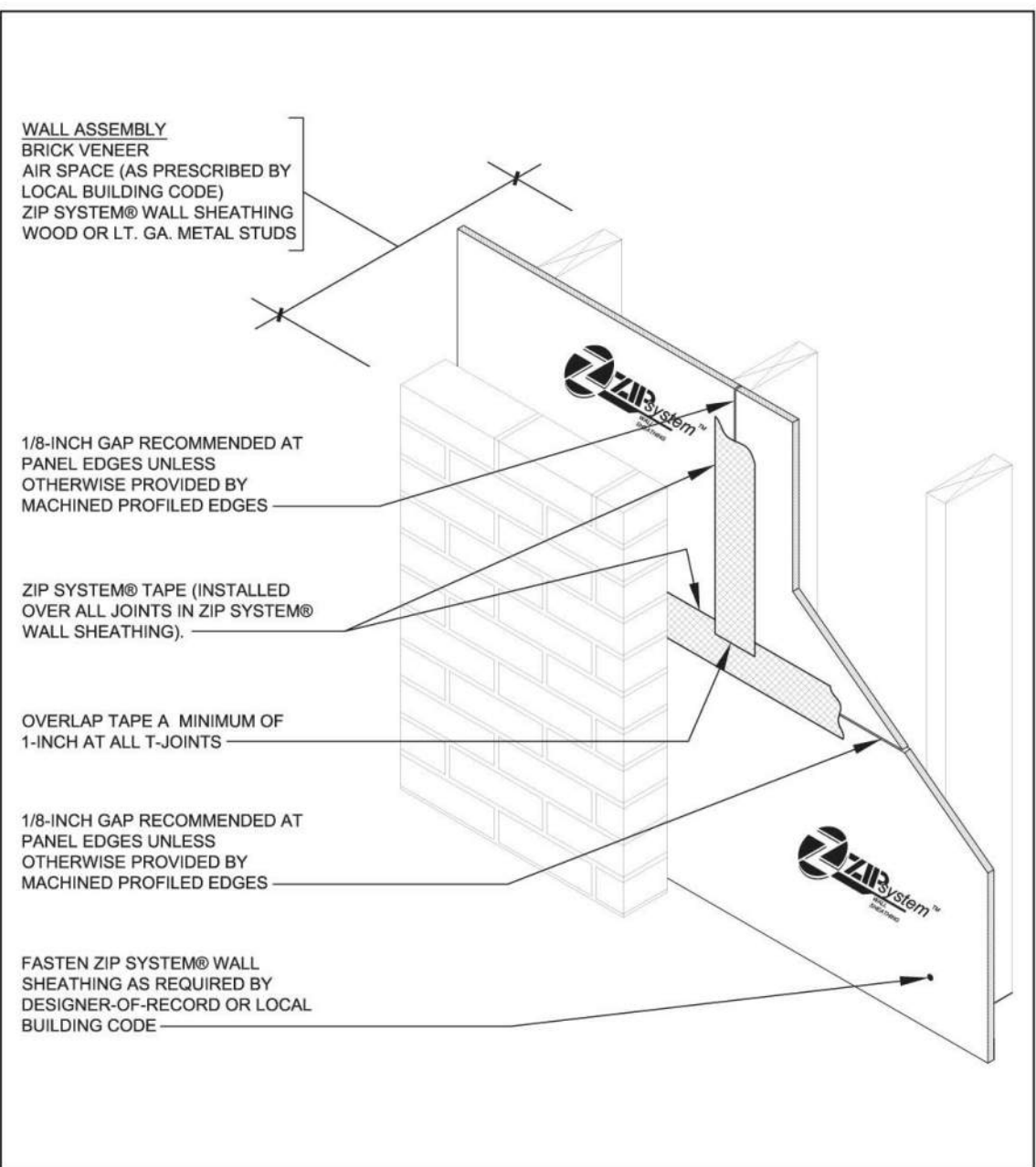
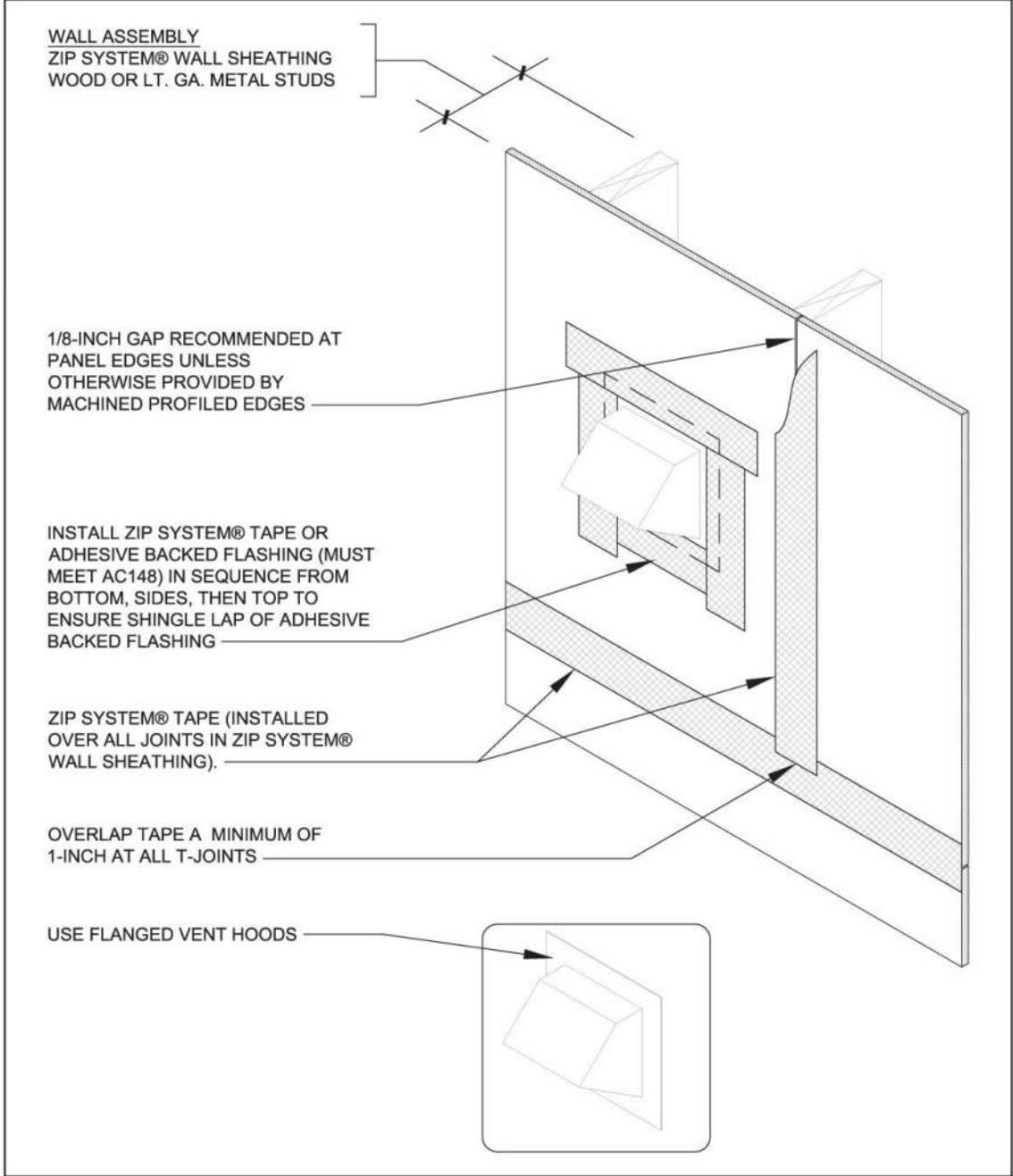
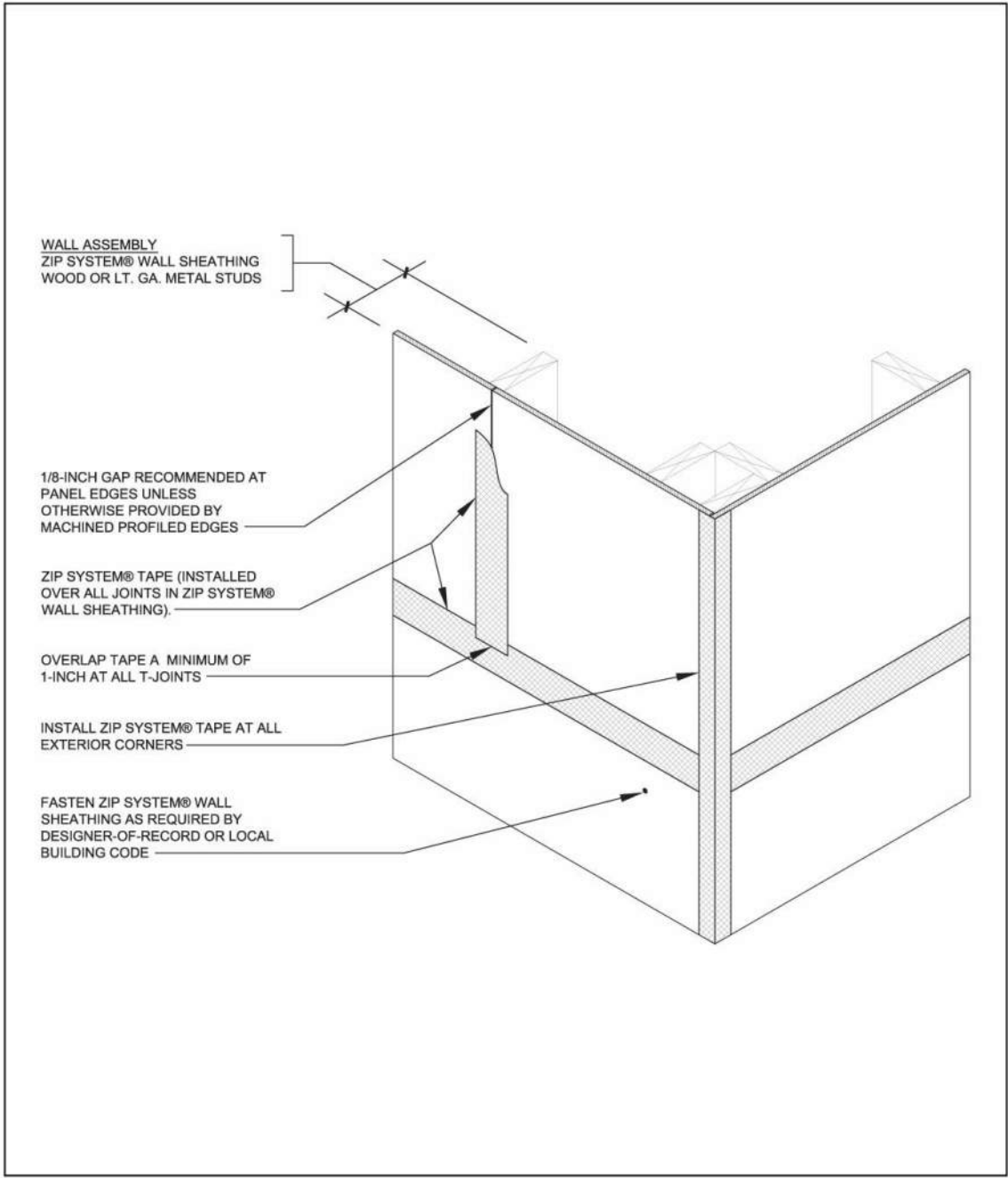
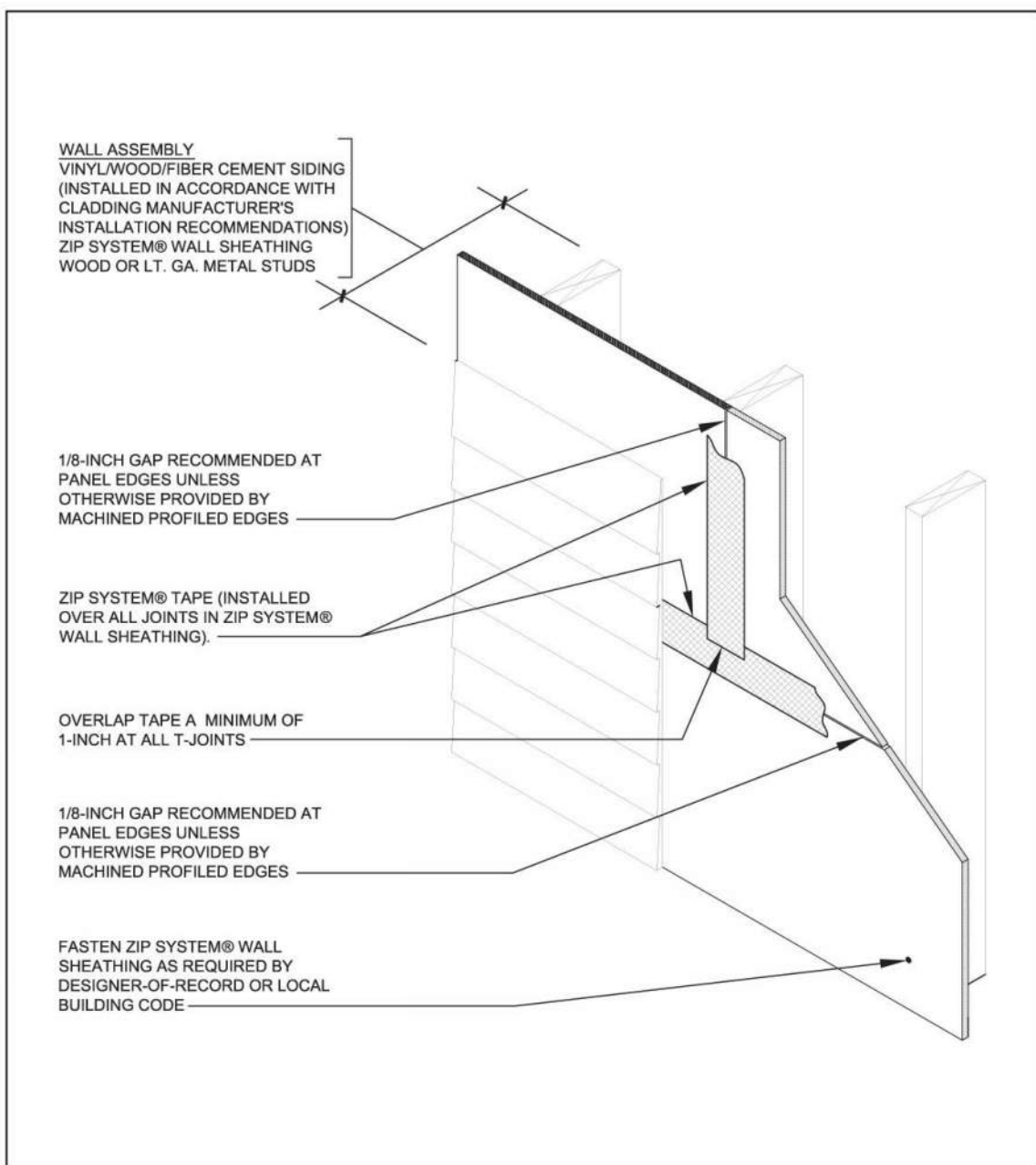
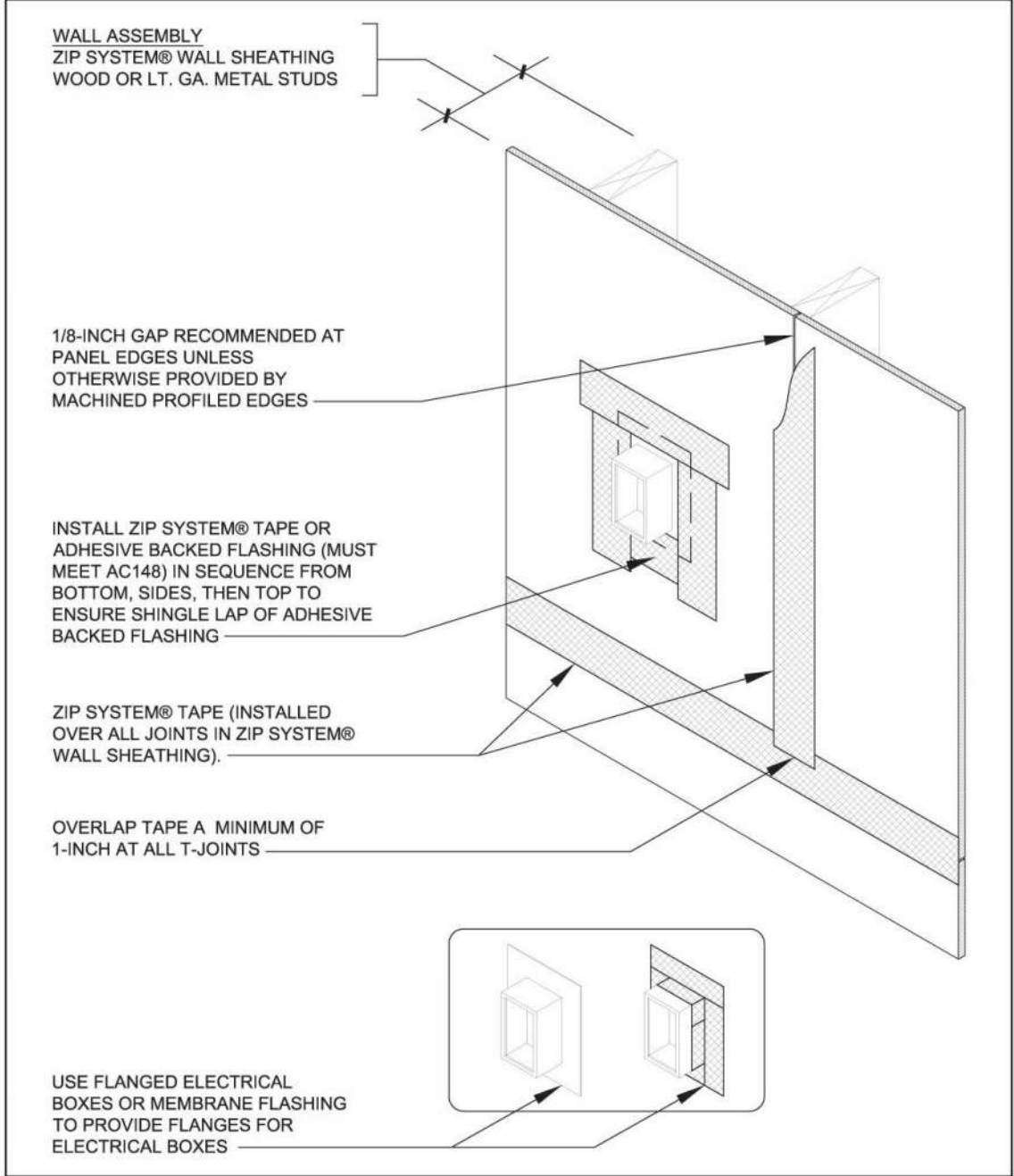
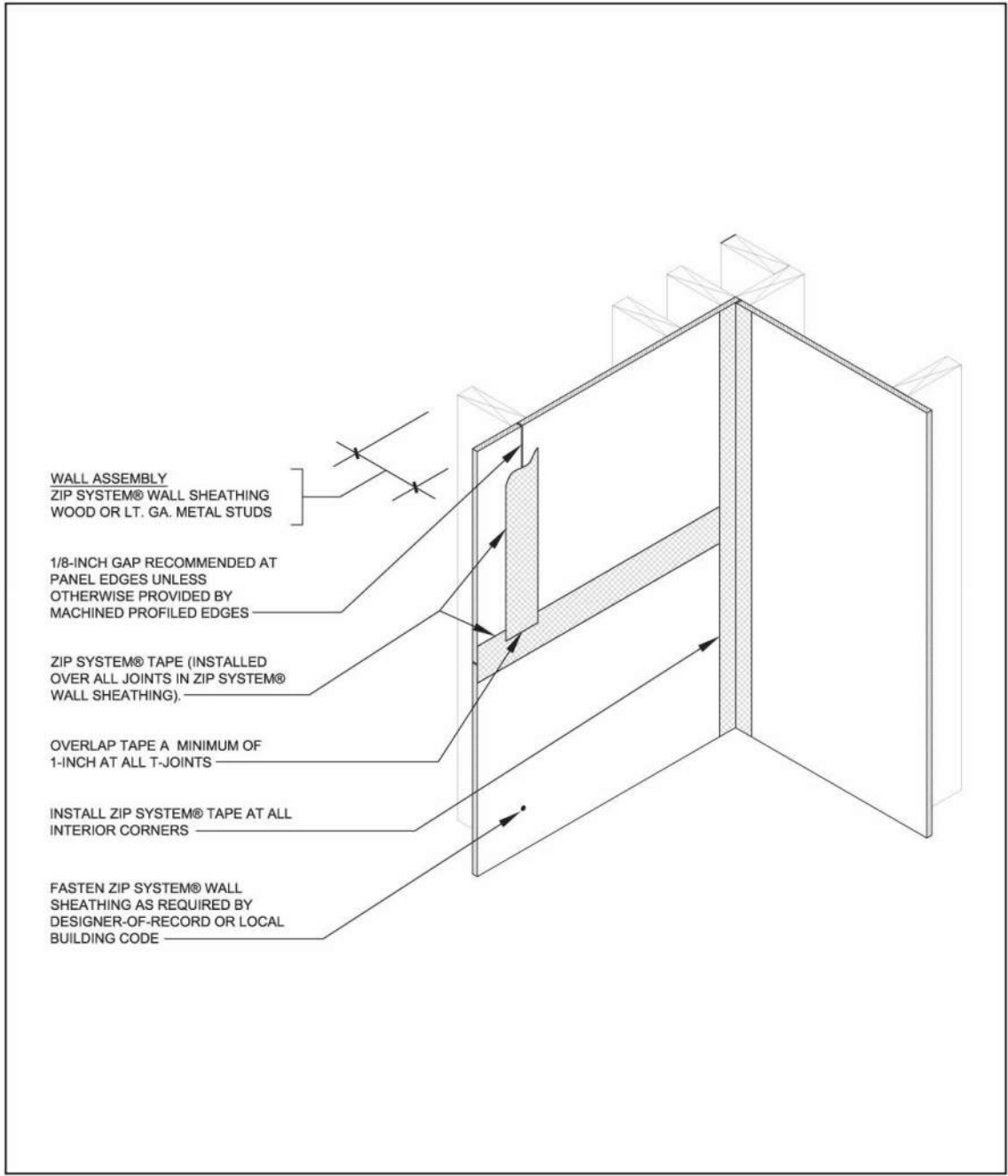
GENERAL INFORMATION

PROJECT NUMBER: 24004

SHEET NUMBER:

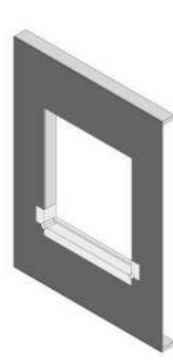
G-004

THIS SHEET IS PROVIDED
FOR REFERENCE ONLY.
ALL INSTALLATION TO BE
PER MANUFACTURER
RECOMMENDATION



Brick Mould Windows (continued)

3. ZIP System tape may be used as pan flashing if installed in accordance with brick mould window installation details posted on zipsystem.com. Other adhesive-based flashing tapes (must meet ICC-ES Acceptance Criteria for Flashing Materials (AC148)) may be used as pan flashing if installed per ASTM 2112-07. Apply the flashing to cover the bottom of the opening, overhanging onto the sheathing by at least 2" and extending a minimum of 6" up each jamb.



4. For vertical jambs, cut ZIP System tape or another adhesive-backed flashing tape (must meet ICC-ES Acceptance Criteria for Flashing Materials (AC148)) and apply to each of the window jambs. Ensure that they cover the entire inside of the rough opening as well as overlap onto the sheathing by at least 2". Flashing shall also extend above the rough opening, such that it will project 1" beyond the exterior trim of the window.



Once the tape is in place, use the tape gun or roller to seal the flashing to the sheathing.

5. Apply sealant to jambs and header allowing for drainage at the sill in accordance with window manufacturer's installation instructions. When using ZIP System tape, use a butyl, polyurethane or silicone sealant. Do not use latex sealants with ZIP System tape. When using another flashing tape, follow the flashing manufacturer's recommendations in selecting a sealant compatible with that flashing.



6. Install and level window per manufacturer's installation instructions.



7. Cut a piece of rigid head flashing so that when installed, it is flush with the edges of the exterior moulding of the window. Apply a bead of sealant to the back and bottom surface of the rigid head flashing. Use sealant recommended by the flashing manufacturer.



8. Secure the rigid head flashing to ZIP System wall sheathing.

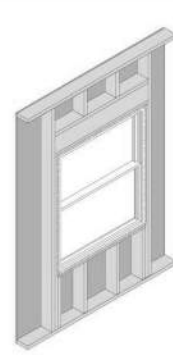


9. Cut a length of ZIP System tape or another adhesive-backed flashing tape (must meet ICC-ES Acceptance Criteria for Flashing Materials (AC148)) and apply to the rigid head flashing, ensuring that the adhesive-backed flashing overlaps the jamb flashings.



Once the tape is in place, use the tape gun or roller to seal the flashing to the sheathing.

10. From the interior, apply low-pressure polyurethane foam (for windows) between the rough opening and the window frame. (Caulk sealant compatible with the sill flashing may be used at the sill if the opening between the sill flashing and window is too narrow to allow the use of low-pressure polyurethane foam.)

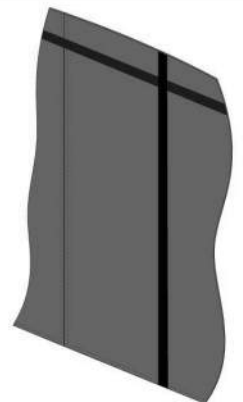


When using ZIP System tape, butyl, silicone or polyurethane sealants are acceptable. Do not use latex sealants with ZIP System tape. If using another flashing tape, follow the flashing manufacturer's recommendation in selecting a sealant compatible with that flashing.

Apply ZIP System tape after all ZIP System wall sheathing panels are fully fastened to wall-framing members. Only ZIP System tape should be used to seal the seams of ZIP System panels. Ensure that the panel surface is dry and free of sawdust and dirt prior to taping. **ZIP System tape is a contact tape that requires pressure for an adequate seal.**

Step 1. Tape all seams using ZIP System tape. Ensure that the tape is centered over the seam within +/- 1/2" to provide adequate coverage and that wrinkles in tape are minimal.

Use the ZIP System tape gun or roller to apply pressure to the tape and smooth out any wrinkles.

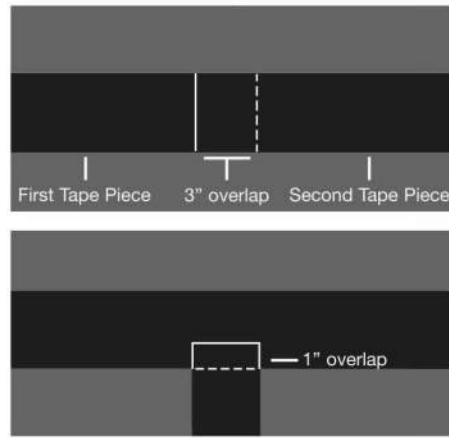


Step 2. Wherever tape splices occur at a horizontal or vertical seam, create an overlapping splice of at least 3".

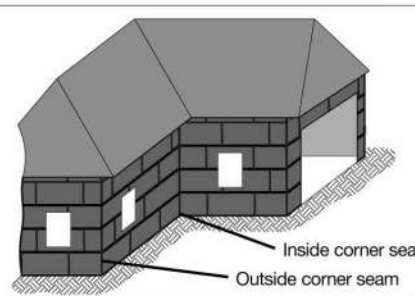
At T-joints, the tape pieces should overlap by at least 1". Apply moderate pressure onto the surface of the tape to ensure a secure bond between the panel and the tape.

Use the ZIP System tape gun or roller to apply pressure to the tape and smooth out any wrinkles.

Take special care to remove any voids and/or trapped air at splice areas and T-joints.

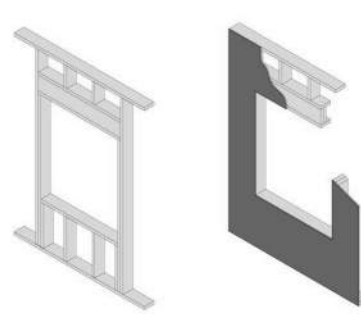


Step 3. Tape inside and outside corner seams.



Flanged Windows

1. Fasten the ZIP System wall sheathing sheathing to the wood frame and install ZIP System tape to all wall panel seams, as de-tailed in sections 02 and 03.



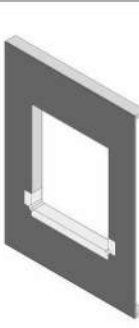
5. Cut a length of ZIP System tape or another adhesive-backed flashing tape (must meet ICC-ES Acceptance Criteria for Flashing Materials (AC148)) and apply to the header, ensuring that the flashing overlaps the jamb flashings.*

Once the tape is in place, use the tape gun or roller to seal the flashing to the sheathing.

*DO NOT tape bottom flange.



2. ZIP System tape may be used as pan flashing if installed in accordance with flanged window installation details posted on zipsystem.com. Other adhesive-based flashing tapes (must meet ICC-ES Acceptance Criteria for Flashing Materials (AC148)) may be used as pan flashing if installed per ASTM 2112-07. Apply the flashing to cover the bottom of the opening, overhanging onto the sheathing by at least 2" and extending a minimum of 6" up each jamb.



6. From the interior, apply low-pressure polyurethane foam (for windows) between the rough opening and the window frame. (Caulk sealant compatible with the sill flashing may be used at the sill if the opening between the sill flashing and window is too narrow to allow the use of low-pressure polyurethane foam.)



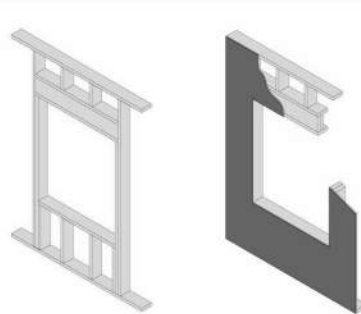
When using ZIP System tape, butyl, silicone or polyurethane sealants are acceptable. Do not use latex sealants with ZIP System tape. If using another flashing tape, follow the flashing manufacturer's recommendation in selecting a sealant compatible with that flashing.

3. Apply sealant around inside face of mounting flange. Sealant must be gapped at the sill to permit drainage. Install and level window per manufacturer's installation instructions. Verify sealant compatibility with window manufacturer. When using ZIP System tape as pan flashing, butyl, silicone or polyurethane sealants are acceptable. Do not use latex sealants.



Brick Mould Windows

1. Fasten the ZIP System wall sheathing sheathing to the wood frame and install ZIP System tape to all wall panel seams, as de-tailed in sections 02 and 03.

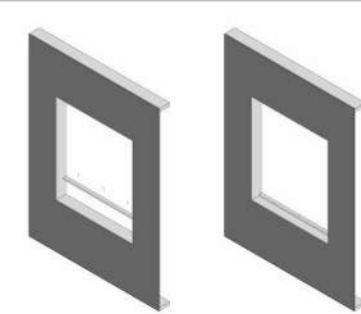


4. Cut two pieces of ZIP System tape or another adhesive-backed flashing tape (must meet ICC-ES Acceptance Criteria for Flashing Materials (AC148)) and apply to each of the window jamb flanges, ensuring the jamb flashings overlap the sill flashing.



Once the tape is in place, use the tape gun or roller to seal the flashing to the sheathing.

2. If recommended by the window manufacturer, cut a strip of wood to function as a back dam at the sill. The wood strip should have a length equal to the width of the rough opening and a height and width of at least 1/2". Position the block at the inside edge of the window frame.



STATE OF MISSOURI
DAVID EUGENE
HENDRIKSE
NUMBER
A-7385
REGISTERED ARCHITECT
12/20/24

Poster prepared for inclusion in Georgia Energy Code
Prepared by Southface Energy Institute
www.southface.org

LEE'S SUMMIT, MO

G-006

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12/20/24

LEE'S SUMMIT, MO

DISCOVERY PARK - LOT #10-A

SHEET TITLE

GENERAL INFORMATION

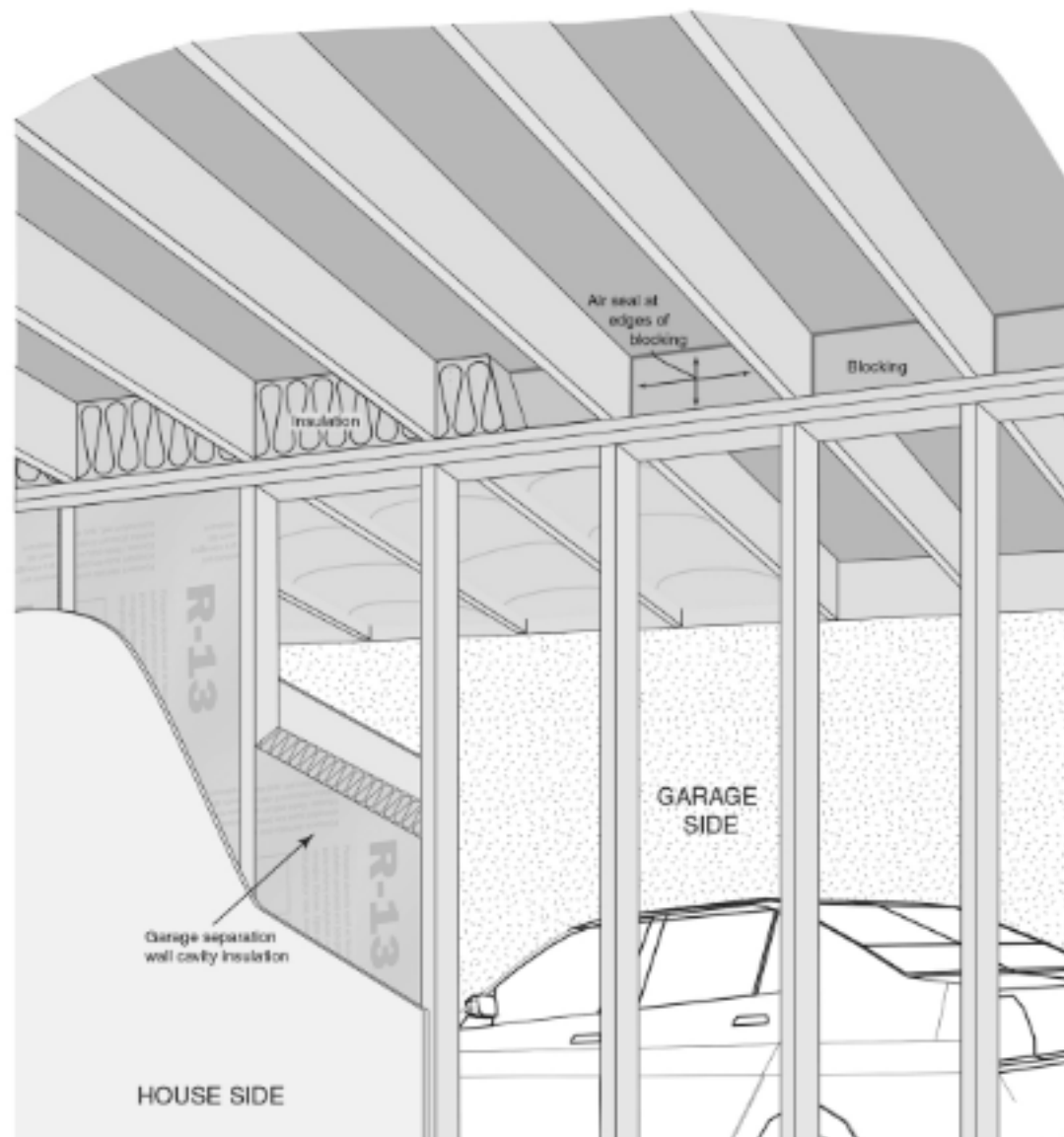
PROJECT NUMBER: 24004

SHEET NUMBER:

G-007

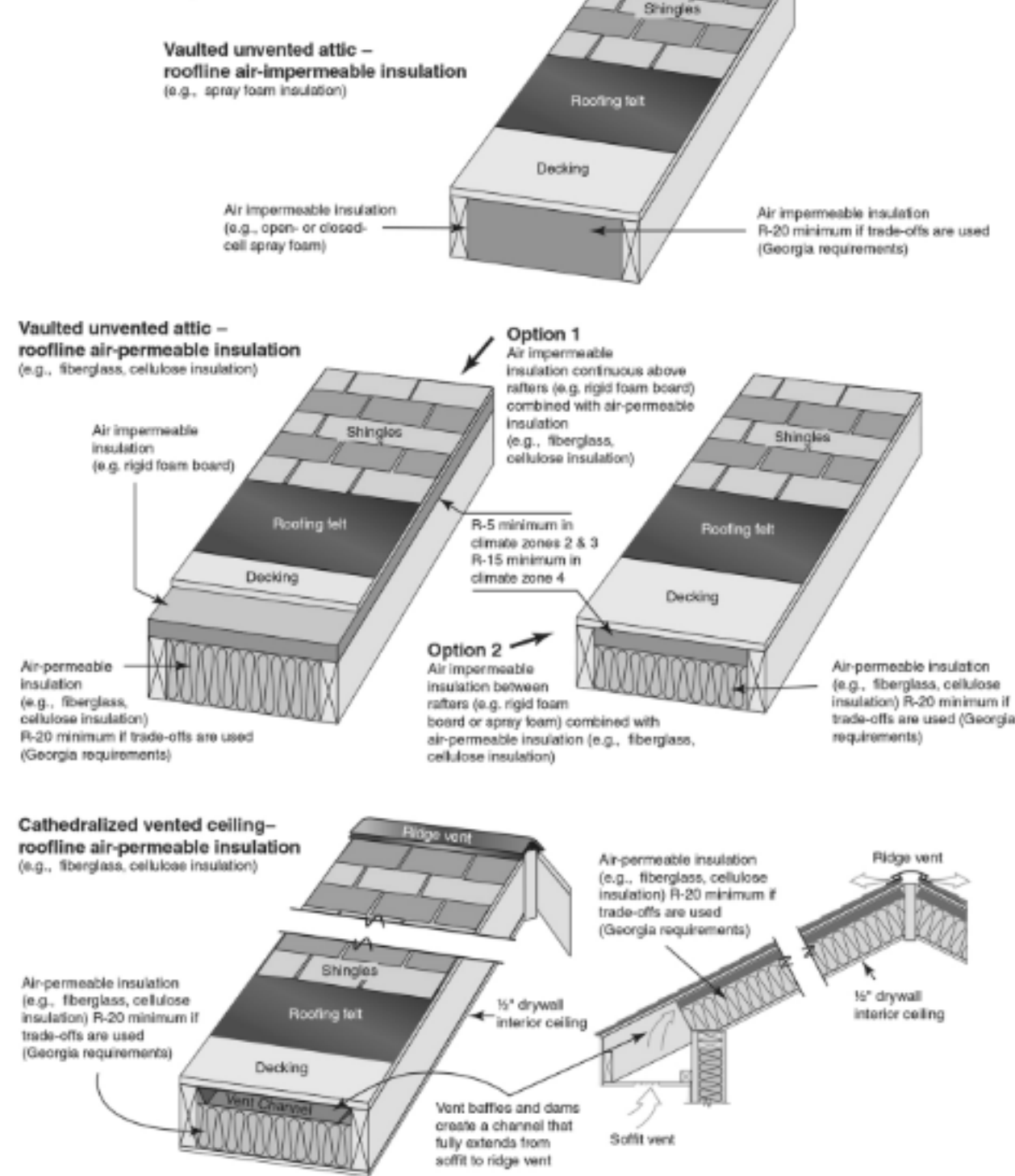
Garage blocking and sealing key points

Blocking, air sealing and insulation required above garage separation wall



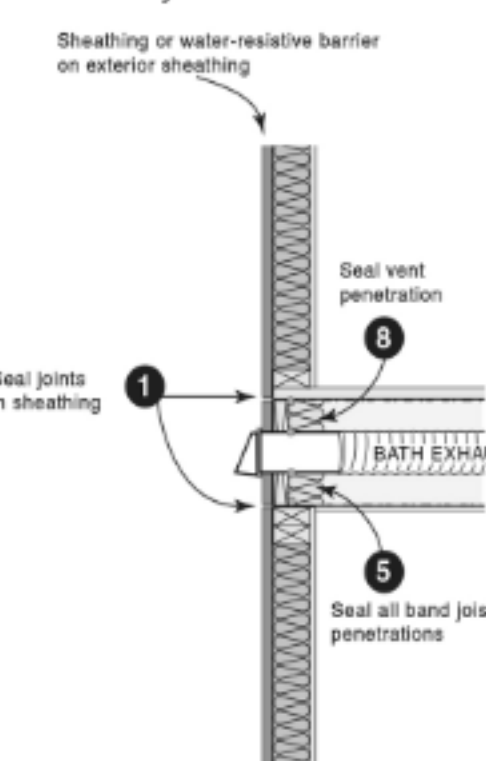
Roofline Installed Insulation Options

Reference Table 402.1.1 and 402.1.6 in the Georgia Energy Code amendments to the 2015 IECC and Section 806.5 "unvented attic assemblies" in the Georgia Amendments to the 2012 IRC



Air sealing key points continued

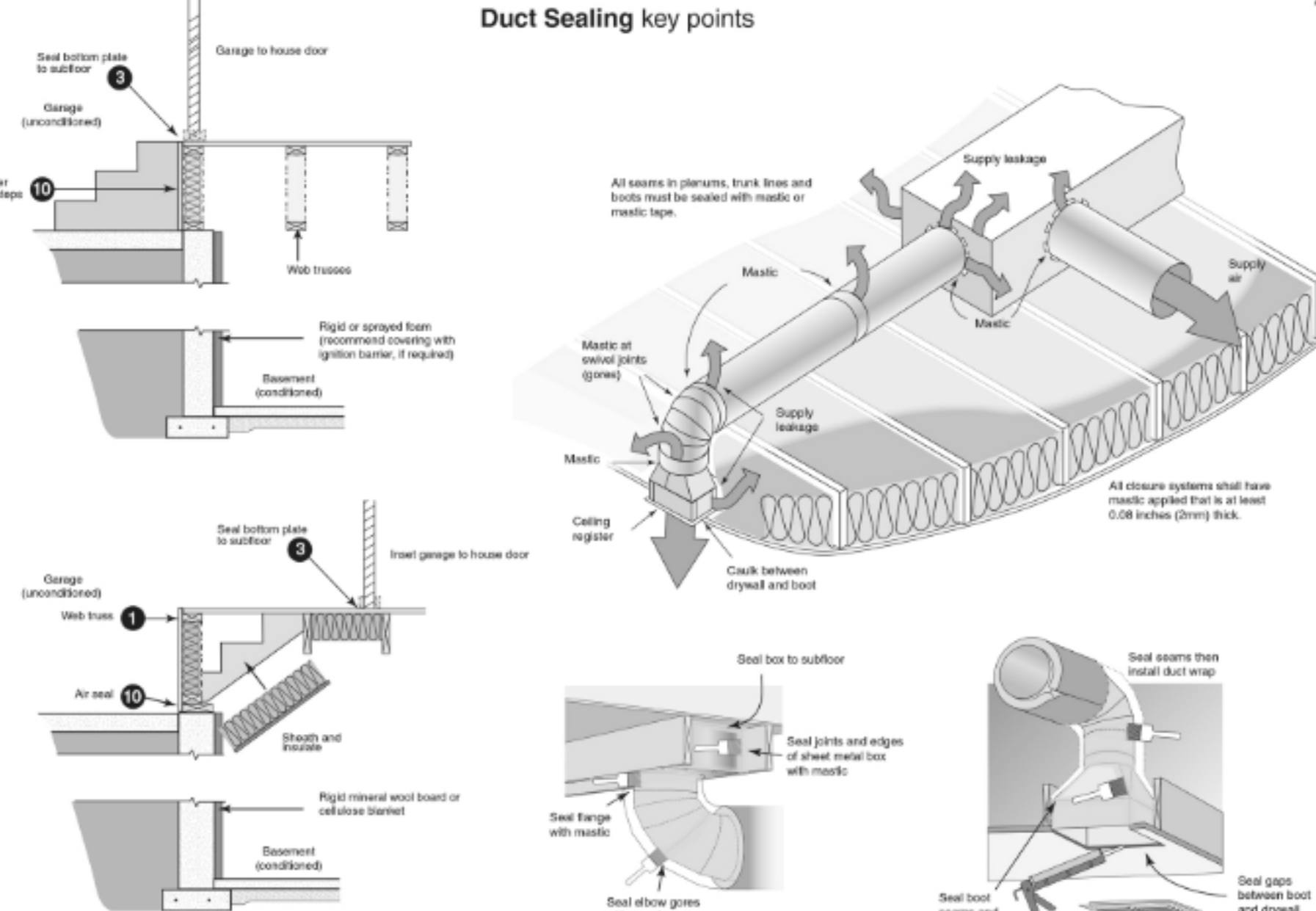
Multifamily



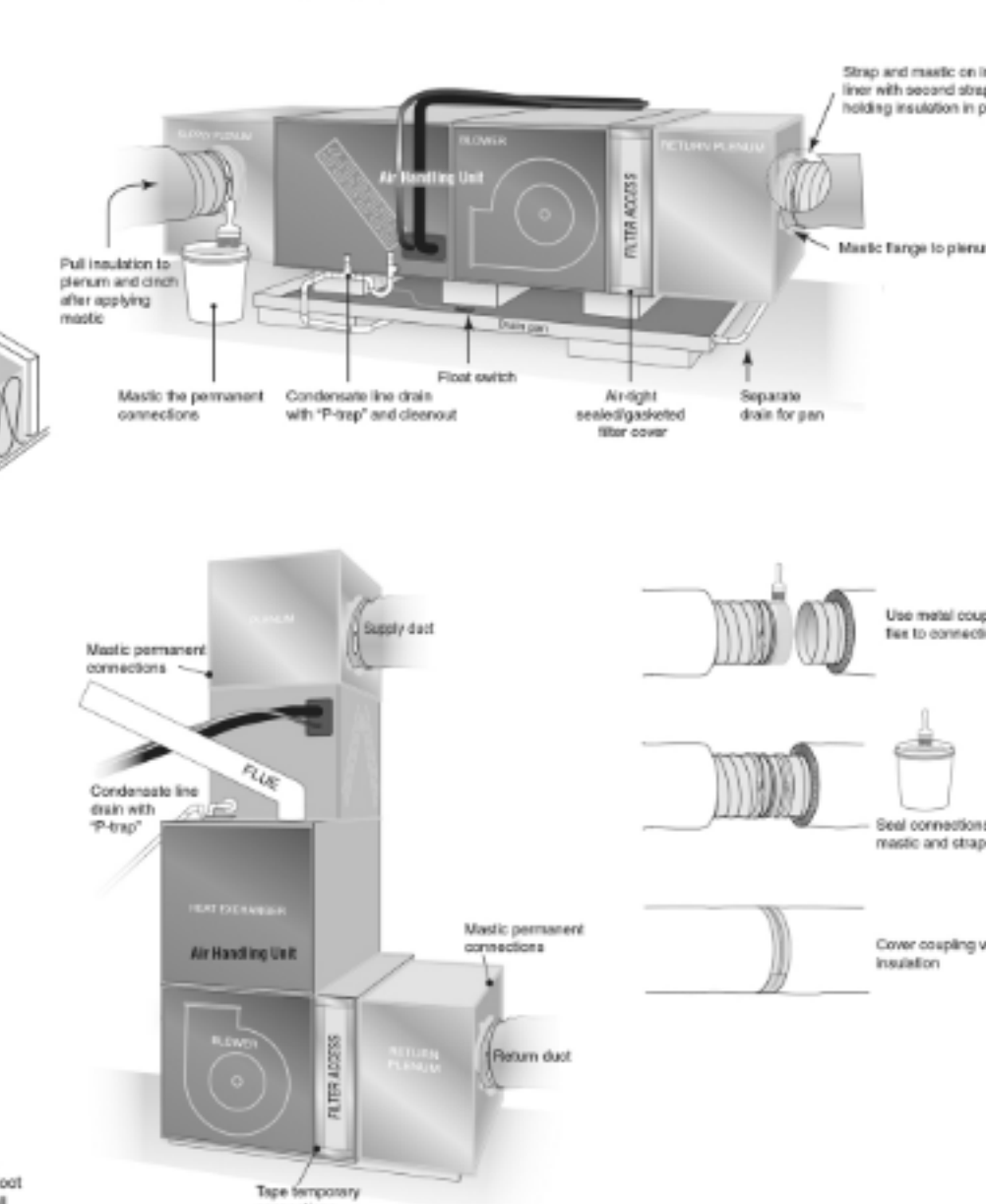
Multifamily Air-sealing Details

- 1 Seal all chases including chases for grouped utility lines and radon vents
- 2 Seal penetrations in mechanical closet including penetrations for the:
 - a supply plenum
 - b outside air ventilation
 - c refrigerant line
 - d plumbing
 - e electrical
 - f gas fuel
- 3 Seal band area at exterior sheathing side and all penetrations through band
- 4 UL-compliant air sealing at drywall finishing for any wall adjacent to stairwell or elevator. Air seal this gap at every change in floor level
- 5 Seal miscellaneous clustered penetrations through building envelope (e.g. refrigerant lines)

Duct Sealing key points

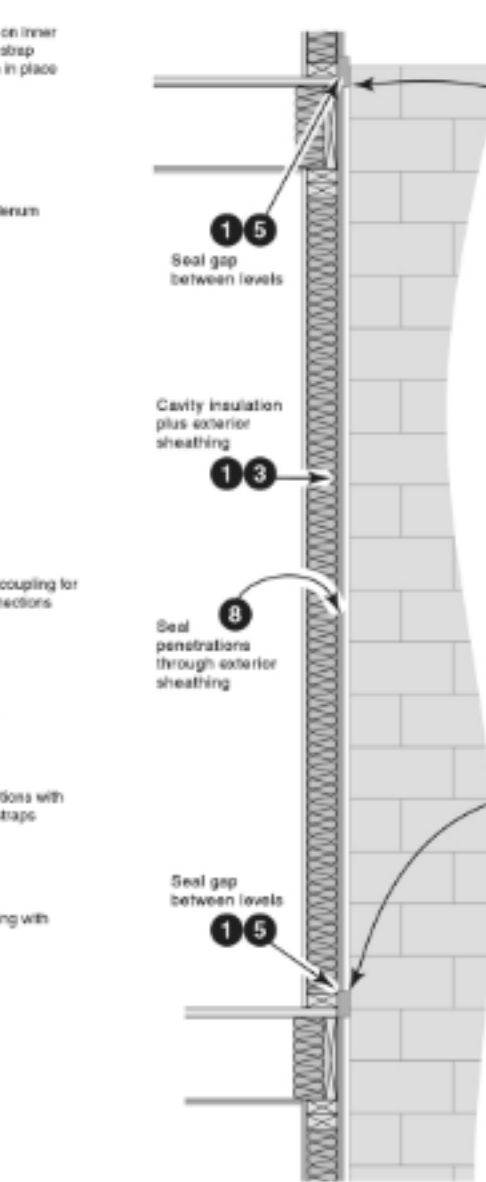


Air Handler Sealing key points

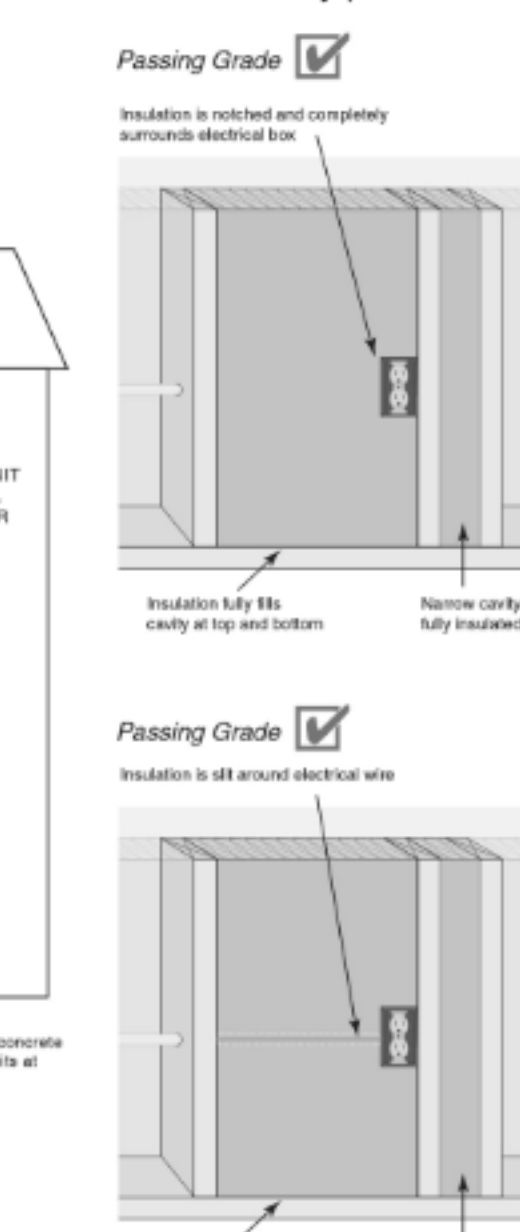


Air sealing key points continued

Multifamily

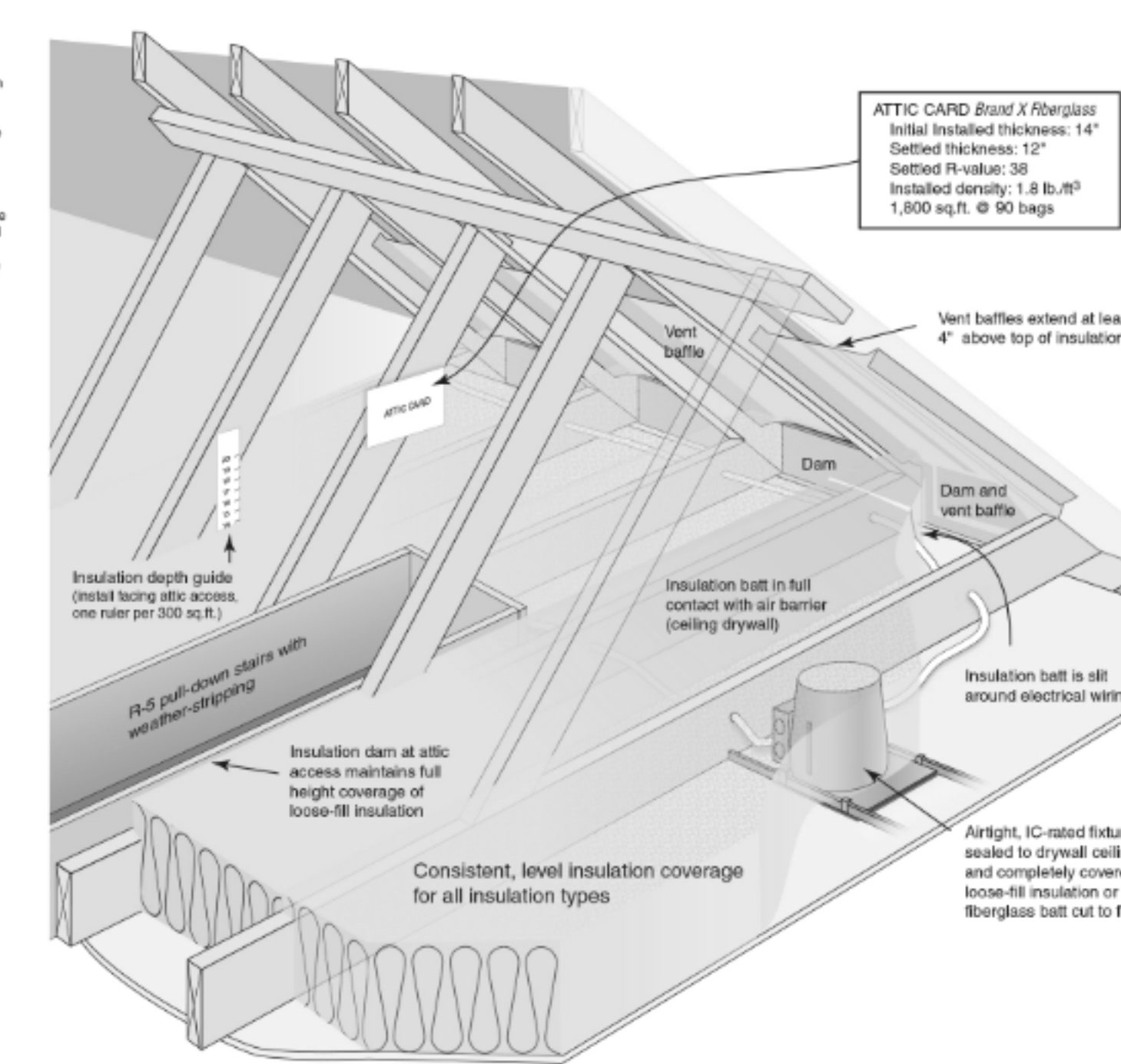


Wall Insulation key points



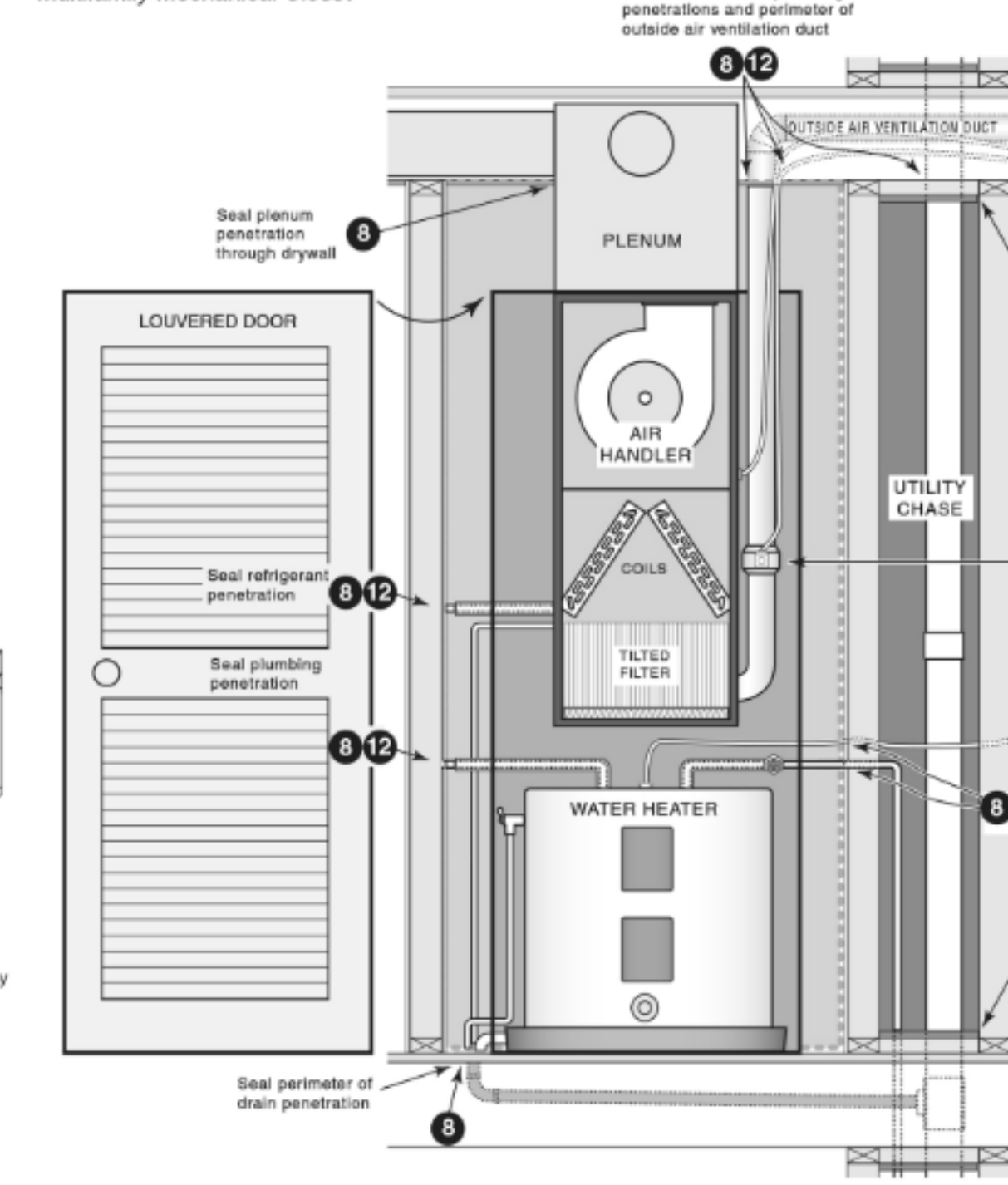
Ceiling Insulation key points

Passing Grade



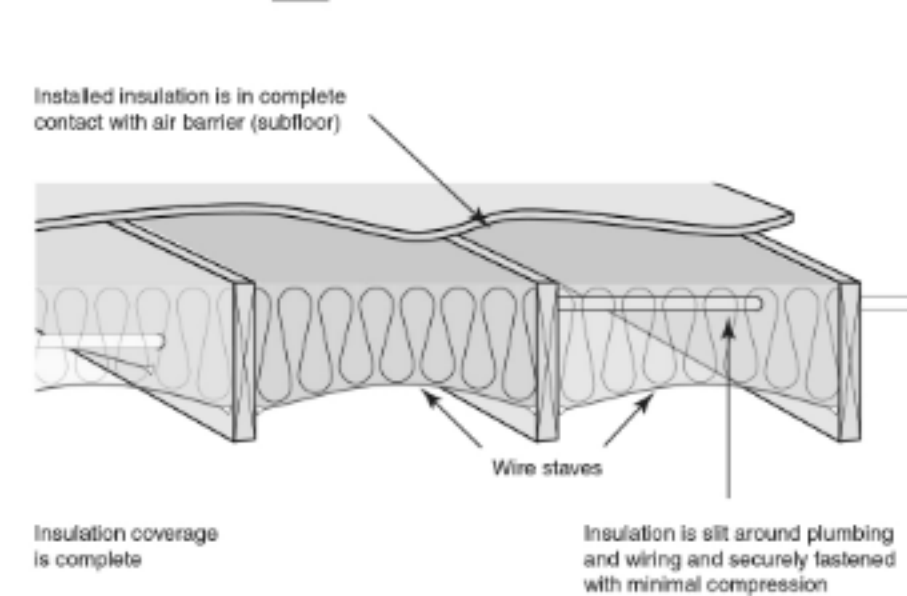
Air sealing key points continued

Multifamily Mechanical Closet



Floor Insulation key points

Passing Grade



Poster prepared for inclusion in Georgia Energy Code
Prepared by Southface Energy Institute
www.southface.org

REFERENCE G-003 FOR GENERAL NOTES

CODE REVIEW

PROJECT NAME: THE VILLAGE AT DISCOVERY - LOT 10A
PROJECT LOCATION: LEE'S SUMMIT, MO
CODE: 2018 IBC
CODE REVIEW COMPLETED BY: A.J. DOLPH

CHAPTER THREE

SECTION 302 OCCUPANCY: R-2, APARTMENTS
A-2, UNCONCENTRATED
S-2, OPEN PARKING GARAGE

CHAPTER FOUR

402 COVERED MALL BUILDINGS:	N/A	416 FLAMMABLE FINISHES:	N/A
403 HIGH RISE BUILDINGS:	N/A	417 DRYING ROOMS:	N/A
404 ATRIUMS:	N/A	418 ORGANIC COATINGS:	N/A
405 UNDERGROUND BUILDINGS:	N/A	419 LIV/WORK UNITS:	N/A
407 GROUP I-2:	N/A	421 HYDROGEN FUEL GAS ROOMS:	N/A
408 GROUP I-3:	N/A	422 AMBULATORY CARE FACILITY:	N/A
409 MOTION PICTURE PROJECTION:	N/A	423 STORM SHELTERS:	N/A
410 STAGES AND PLATFORMS:	N/A	424 CHILDREN'S PLAY STRUCTURE:	N/A
411 SPECIAL AMUSEMENT BUILDINGS:	N/A	425 HYPERBARIC FACILITY:	N/A
412 AIRCRAFT RELATED OCCUP:	N/A	426 COMBUSTIBLE DUSTS & GRAINS:	N/A
413 COMBUSTIBLE STORAGE:	N/A	427 MEDICAL GAS SYSTEMS:	N/A
414 HAZARDOUS MATERIALS:	N/A	428 HIGHER EDUCATION LAB:	N/A
415 GROUPS H-1, H-2, H-3, H-4, H-5:	N/A		

406.5 OPEN PARKING GARAGES: MUST BE TYPE I, II, OR IV CONSTRUCTION
40% MIN. OPENING FOR NATURAL VENTILATION

420 GROUPS I-1, R-1, R-2, R-3, & R-4:
420.2 SEPARATION WALLS: WALLS SEPARATING SLEEPING UNITS TO BE
FIRE PARTITIONS PER SECTION 708

420.3 HORIZONTAL SEPARATION: FLOORS SEPARATING SLEEPING UNITS TO BE
HORIZONTAL ASSEMBLY PER SECTION 711

420.4 AUTOMATIC SPRINKLER: 13R PER 903.3.1.2 FOR R

CHAPTER FIVE

TABLE 504.3 ALLOWABLE HEIGHT IN FEET ABOVE GRADE PLANE: CONSTRUCTION TYPE VA
R: ACTUAL: 52'-0" ALLOWABLE: 60'-0"
A: ACTUAL: 20'-0" ALLOWABLE: 50'-0"

TABLE 504.3 ALLOWABLE HEIGHT IN FEET ABOVE GRADE PLANE: CONSTRUCTION TYPE IIA
S: ACTUAL: 20'-0" ALLOWABLE: 85'-0"

TABLE 504.4 ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE: CONSTRUCTION TYPE VA
R-2: ACTUAL: 3 ALLOWABLE: 4 STORIES
A-2: ACTUAL: 1 ALLOWABLE: 2 STORIES

TABLE 504.4 ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE: CONSTRUCTION TYPE IIA
S-2: ACTUAL: 1 ALLOWABLE: 6 STORIES

TABLE 506.2 ALLOWABLE AREA FACTOR: CONSTRUCTION TYPE VA
R-2: ACTUAL: 46,230 ALLOWABLE: 12,000 SQFT
A-2: ACTUAL: 5,857 ALLOWABLE: 11,500 SQFT

AREA INCREASE TAKEN FOR R OCCUPANCY, SEE CALCULATION 506.2.4
FIRE SEPARATION WALL EMPLOYED IN R OCCUPANCY

TABLE 506.2 ALLOWABLE AREA FACTOR: CONSTRUCTION TYPE IIB
S-2: ACTUAL: 11,443 ALLOWABLE: 117,000 SQFT

506.2.4 MIXED-OCCUPANCY, MULTISTORY BUILDING: Aa = [A1 + (NS x IF)]
Aa = [12,000 + (12,000 x 0.75)]
Aa = 21,000

506.3 FRONTAGE INCREASE: W = (Ln x Wn) / F
W = (100 x 30) / 100
W = 30

506.3.3. AMOUNT OF INCREASE: If = [F/P - 0.25]W/30
If = [100/100 - 0.25]30/30
If = 0.75

TABLE 508.4 REQUIRED SEPARATION OF OCCUPANCIES: R - R: 1 HOUR
R - A: 1 HOUR
R - S: 1 HOUR
A - A: 0 HOUR
A - S: 0 HOUR
S - S: 0 HOUR

TABLE 509 INCIDENTAL USES: LAUNDRY >100 SF, 1HR
STORAGE >100 SF, 1HR

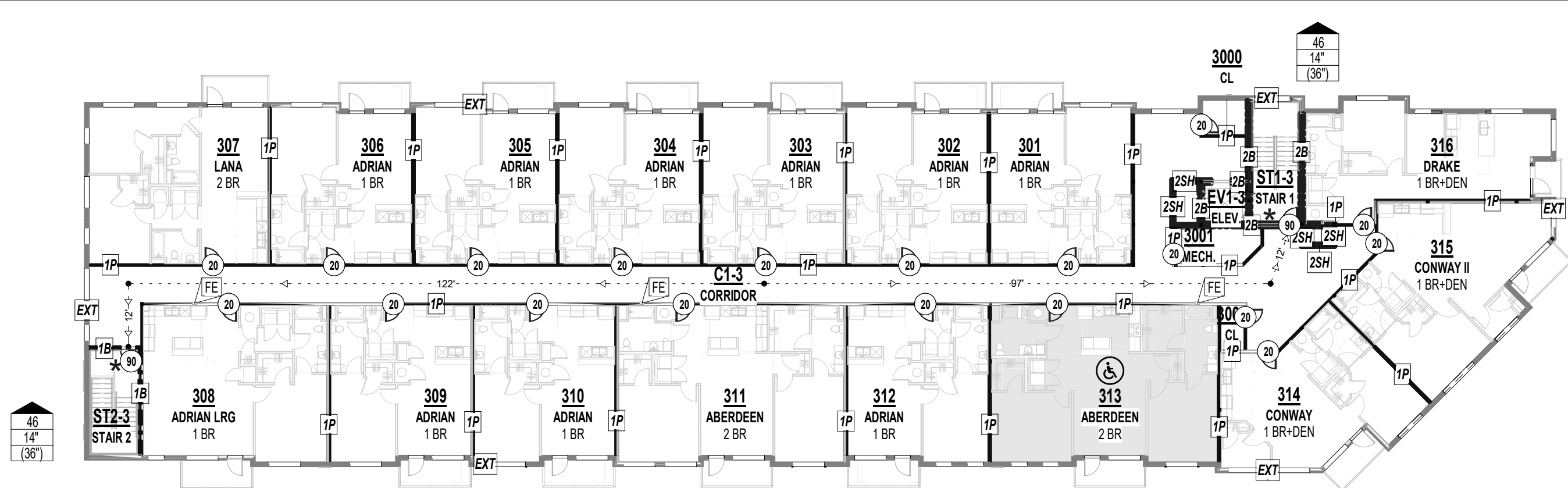
CHAPTER SIX

TABLE 601 FIRE RESISTANCE REQS. FOR BUILDING ELEMENTS (HOURS): CONSTRUCTION TYPE VA & IIA
PRIMARY STRUCTURAL FRAME: 1 HOUR
INTERIOR BEARING WALL: 1 HOUR
EXTERIOR BEARING WALL: 1 HOUR
NON-BEARING WALL: 0 HOUR
FLOOR CONSTRUCTION: 1 HOUR
ROOF CONSTRUCTION: 1 HOUR

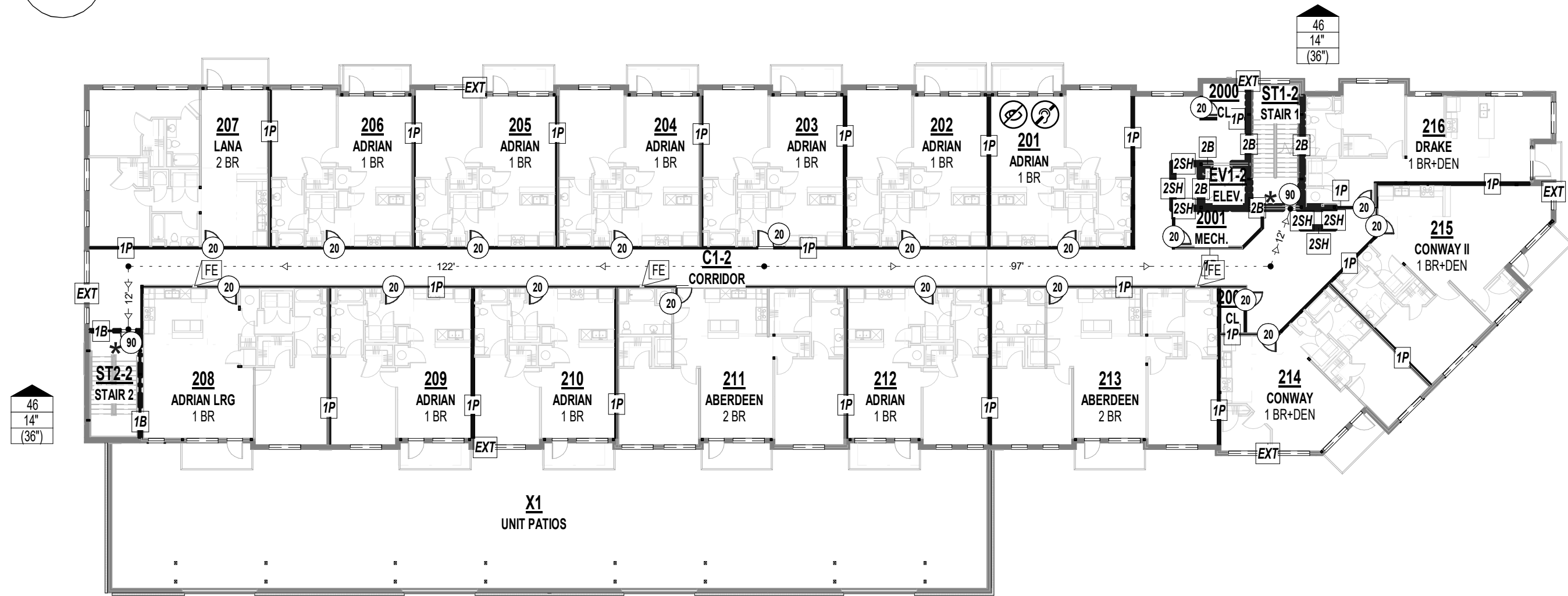
TABLE 602 FIRE RESISTANCE REQS. FOR EXTERIOR WALLS BASED ON FIRE SEP. DISTANCE: 0 HOUR <30 FEET, 0 >30 FEET

CODE PLAN LEGEND

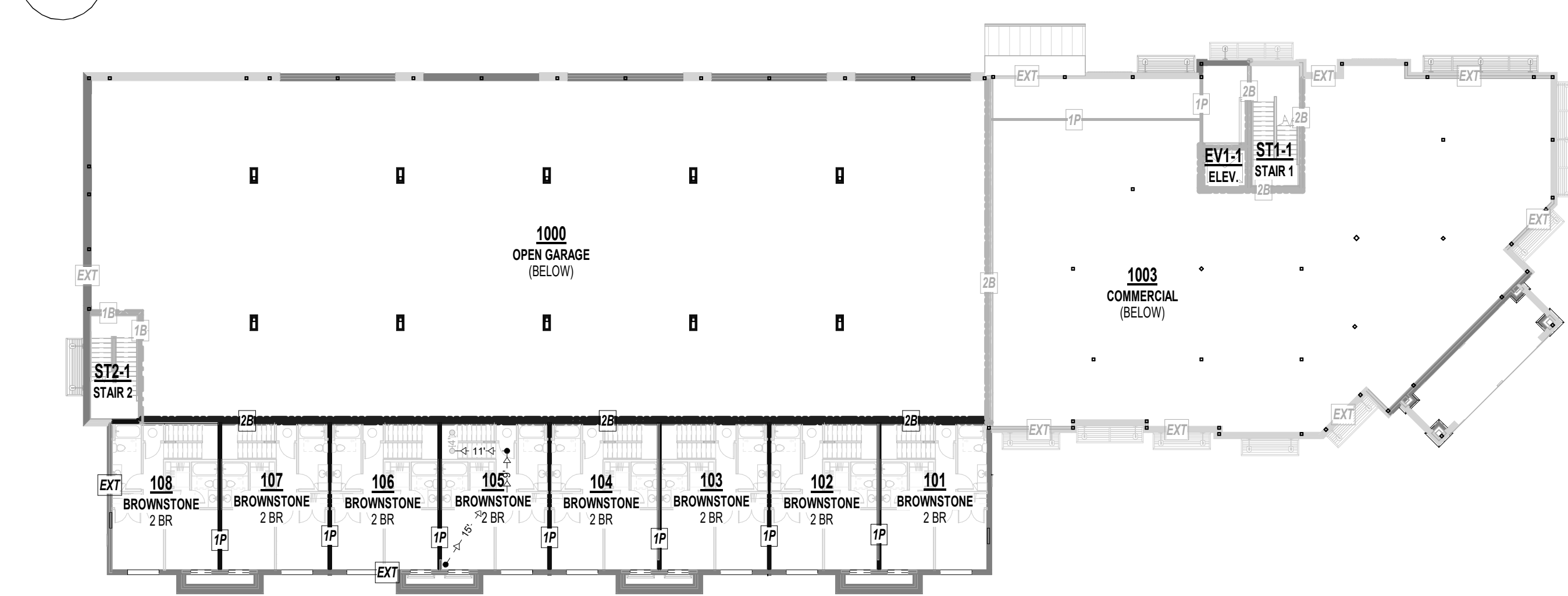
	NUMBER OF OCCUPANTS EXITING REQUIRED EXIT WIDTH EXIT WIDTH PROVIDED BY DESIGN	100	ROOM NUMBER
			FIRE EXTINGUISHER CABINET OR SURFACE MTD. AT CONC.
	EXT. - RATED PARTITION (IBC CH. 6)		FIRE DEPARTMENT CONENCTION
	NON - RATED PARTITION		DOOR RATING
	1 HR RATED PARTITION (IBC 708)		DOOR WITH PANIC HARDWARE (SEE DOOR SCHEDULE)
	1 HR RATED BARRIER (IBC 707)		EXIT SIGNAGE; SEE ELECTRICAL
	1 HR RATED SHAFT ENCLOSURE (IBC 713)		EGRESS STARTING POINT
	2 HR RATED FIRE OR SMOKE BARRIER (IBC 709)		EGRESS DISTANCE OF TRAVEL
	2 HR RATED SHAFT ENCLOSURE (IBC 713)		EGRESS DIRECTION OF TRAVEL



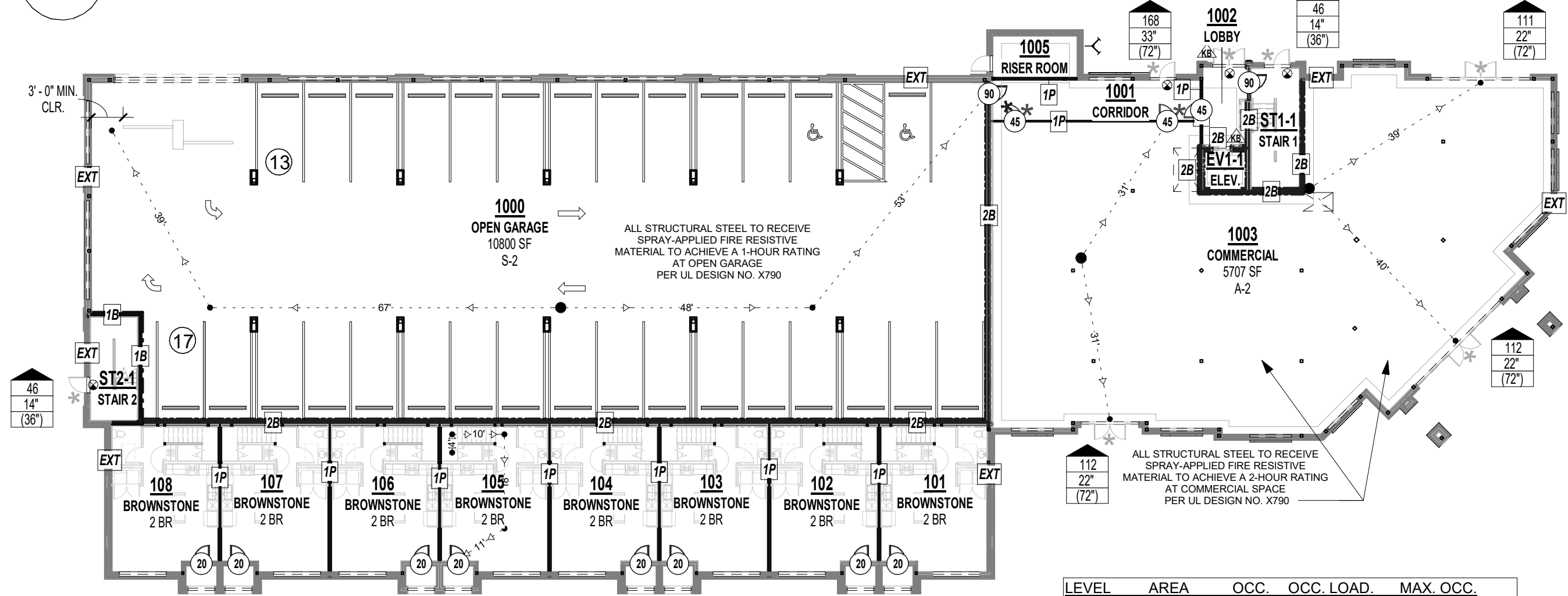
A4 3RD FLOOR CODE PLAN
3/64" = 1'-0"



A3 2ND FLOOR CODE PLAN
3/64" = 1'-0"



A2 2ND FLOOR BROWNSTONES
CODE PLAN
3/64" = 1'-0"



A1 1ST FLOOR CODE PLAN
3/64" = 1'-0"

LEVEL	AREA	OCC.	OCC. LOAD	MAX. OCC.
1	11,400	S-2	200 SQFT	57
1	6,690	A-2	15 SQFT	446
1	4,800	R-2	200 SQFT	24
1.5	4,800	R-2	200 SQFT	24
2	18,400	R-2	200 SQFT	92
3	18,400	R-2	200 SQFT	92

CHAPTER ELEVEN

ACCESSIBILITY TO COMPLY WITH THIS CH. OF IBC, ICC A117.1, ADA, & FAIR HOUSING

TABLE 1106.1 ACC. PARKING: SEE CIVIL

TABLE 1107.6.1.1 ACCESSIBLE DWELLING & SLEEPING UNITS: 2% OF TOTAL REQ'D. TO BE TYPE A

CHAPTER TWELVE

1206 SOUND TRANSMISSION: 50STC RATING BETWEEN SLEEPING UNITS

CHAPTER THIRTY

3006.2 HOISTWAY OPENING PROTECTION REQUIRED EXCEPTION #2: NOT REQUIRED AT EXIT DISCHARGE LEVELS

CODE PLAN GENERAL NOTES:

- FIRE EXTINGUISHERS SHALL BE LOCATED SO THAT THE MAXIMUM TRAVEL DISTANCE SHALL NOT EXCEED 75 FEET. GENERAL CONTRACTOR TO PROVIDE SEMI-RECESSED FIRE EXTINGUISHER CABINETS WITH FIRE EXTINGUISHERS THROUGHOUT AT ACCESSIBLE HEIGHT.
- SIGNS IDENTIFYING FIRE PROTECTION EQUIPMENT, CONTROLS FOR AIR CONDITIONING SYSTEMS, SPRINKLER RISERS AND VALVES, OR OTHER FIRE DETECTION, SUPPRESSION OR CONTROL ELEMENTS SHALL BE IDENTIFIED FOR THE USE OF THE FIRE DEPARTMENT PER 2018 IBC. SIGNAGE SHALL ALSO MEET 2018 IFC REQUIREMENTS FOR HEIGHT AND LETTERING. GC TO COORDINATE WITH AUTHORITY HAVING JURISDICTION ON ALL SIGNAGE.
- KNOX BOX QUANTITY AND LOCATION TO BE COORDINATED BY THE GENERAL CONTRACTOR WITH AUTHORITY HAVING JURISDICTION.
- ANNUNCIATOR PANEL AND FACP QUANTITY AND LOCATION TO BE COORDINATED BY THE GENERAL CONTRACTOR WITH AUTHORITY HAVING JURISDICTION PRIOR TO INSTALL.
- ALL DIMENSIONS ARE APPROXIMATE ON CODE PLAN. ACTUAL ARCHITECTURAL DIMENSIONS PER ARCHITECTURAL AND STRUCTURAL PLAN.

PRINTS ISSUED

12/20/2024 - CITY SUBMISSION

REVISIONS:

rosemann & associates p.c.

ARCHITECTURE
INTERIOR DESIGN
ENGINEERING
PLANNING

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12/20/24

DISCOVERY PARK - LOT #10-A

LEE'S SUMMIT, MO

SHEET TITLE
CODE ANALYSIS

PROJECT NUMBER: 24004

SHEET NUMBER:

G-100

PRINTS ISSUED
12/20/2024 - CITY SUBMISSION

REVISIONS:

rosemann
& ASSOCIATES P.C.

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12/20/24

DISCOVERY PARK - LOT #10-A

LEE'S SUMMIT, MO

SHEET TITLE
PARTITION ASSEMBLIES - WALLS

PROJECT NUMBER: 24004

SHEET NUMBER:

G-101

EXTERIOR ASSEMBLIES - CMU / CONCRETE

P40.1

CMU 8" BLOCK - 1HR FIRE BARRIER - EXTERIOR

- (1) LAYER 5/8" TYPE "X" EXTERIOR RATED GYPSUM BOARD
- 2" RIGID INSULATION
- 8" CMU (REINFORCING PER STRUCT.)

NOTES:

- RATING SHALL MEET IBC 2018 SECTION 721 - PRESCRIPTIVE FIRE RESISTANCE FOR 1HR RATING. SHALL MEET TABLE 721.1(2).3. - CONCRETE MASONRY UNITS. ALL TIES. MORTAR TO MEET IBC SECTION 721.
- APPLY WATERPROOFING AT ALL SUBGRADE PORTION OF WALLS

P45

CMU 8" BLOCK - NON-RATED - EXTERIOR

EXTERIOR

- EXTERIOR FINISH SYSTEM PER ELEVATIONS, BRICK SHOWN
- WEATHER RESISTANT BARRIER PER SPECIFICATIONS
- CONTINUOUS RIGID INSULATION: R VALUE PER IECC AS INDICATED ON DRAWINGS / SPECIFICATIONS.
- 8" CMU (REINFORCING PER STRUCT.)

INTERIOR

EXTERIOR FINISH, MATERIAL VARIES - SEE ELEVATIONS AND DETAILS

NOTES:

- USE 2018 IBC TABLE 721.1 (2) 4 MINIMUM DEPTH FOR 1 HOUR CONCRETE
- APPLY WATERPROOFING AT ALL SUBGRADE PORTION OF WALLS

P46.1

CMU 12" BLOCK - NON-RATED - EXTERIOR (AT PARKING)

EXTERIOR

- EXTERIOR FINISH SYSTEM PER ELEVATIONS, BRICK SHOWN
- WEATHER RESISTANT BARRIER PER SPECIFICATIONS
- (1) LAYER SHEATHING PER STRUCT. DRAWINGS
- 12" CMU (REINFORCING PER STRUCT.)

INTERIOR

EXTERIOR FINISH, MATERIAL VARIES - SEE ELEVATIONS AND DETAILS

NOTES:

- INTERIOR EXPOSED AREAS TO BE PAINTED PER FINISH SCHEDULE
- APPLY WATERPROOFING AT ALL SUBGRADE PORTION OF WALLS

INTERIOR SHAFT ASSEMBLIES (METAL-RATED)

P75

METAL 2 1/2" C-H STUD - 2HR RATED SHAFT - INTERIOR

- (2) LAYERS 5/8" TYPE "X" GYPSUM BOARD PER UL
- 2-1/2" C-H STUDS SPACED 24" O.C.
- (1) LAYER 1" SHAFT WALL LINER

NOTES:

- ASSEMBLY TO COMPLY WITH UL DESIGN U415, SYSTEM A (FEB. 14, 2022)
- REFER TO UL FOR SCREW PATTERN AND OTHER REQUIREMENTS

EXTERIOR PARTITION ASSEMBLIES (METAL)

P80

METAL 6" STUD - NON-RATED PARTITION - EXTERIOR

- EXTERIOR FINISH SYSTEM PER ELEVATIONS - BRICK SHOWN
- WEATHER RESISTANT BARRIER PER SPECIFICATIONS
- (1) LAYER SHEATHING PER STRUCT. DRAWINGS
- 6" METAL STUDS SPACED PER STRUCTURAL ENGINEER (MIN 20 MSG)
- BATT INSULATION PER UL AND IECC
- (1) LAYER 5/8" TYPE "X" GYPSUM BOARD (COMMERCIAL SPACES NOT TO RECEIVE GYP., SEE NOTE b BELOW)

NOTES:

- R-11 MIN. INSULATION R-VALUE
- STUD CAVITIES TO BE LEFT EXPOSED IN COMMERCIAL SPACE

P80.2

DOUBLE METAL 3-5/8" STUD - NON-RATED PARTITION - EXTERIOR - PARKING

- EXTERIOR FINISH SYSTEM PER ELEVATIONS - BRICK SHOWN
- WEATHER RESISTANT BARRIER PER SPECIFICATIONS
- (1) LAYER SHEATHING PER STRUCT. DRAWINGS
- DOUBLE 3-5/8" METAL STUDS WITH 3-3/4" AIR GAP, SPACED PER STRUCTURAL ENGINEER (MIN 20 MSG)
- (1) LAYER 5/8" TYPE "X" GYPSUM BOARD

NOTES:

- ASSEMBLY TO COMPLY WITH UL DESIGN W456 (OCT. 16, 2023)
- REFER TO UL FOR SCREW PATTERN AND OTHER REQUIREMENTS
- ALT. MNFR FOR 5/8" DENSGLASS FIREGUARD SHEATHING, MEETING UL, SHALL BE AS APPROVED BY ARCH ONLY

INTERIOR PARTITION ASSEMBLIES (METAL-RATED)

P60

METAL 3 5/8" STUD - 1HR PARTITION - INTERIOR

- (1) LAYER 5/8" TYPE "X" GYPSUM BOARD PER UL
- 3-5/8" METAL STUDS SPACED PER UL AND STRUCTURAL ENGINEER (MIN 20 MSG)
- 3-1/2" BATT INSULATION PER UL
- (1) LAYER 5/8" TYPE "X" GYPSUM BOARD PER UL

NOTES:

- ASSEMBLY TO COMPLY WITH UL DESIGN U423 (JUN. 14, 2024)
- REFER TO UL FOR SCREW PATTERN AND OTHER REQUIREMENTS
- WHERE PARTITION IS USED FOR STRUCTURAL SHEAR, GC TO COORDINATE ADDITIONAL LAYERS OF STRUCTURAL MATERIAL PER STRUCTURAL DRAWINGS. THESE LAYERS TO BE ADDITIVE TO THE ASSEMBLY LISTED ABOVE AND SHALL BE INCORPORATED PER UL 263.

P61

METAL 6" STUD - 1HR PARTITION - INTERIOR

- (1) LAYER 5/8" TYPE "X" GYPSUM BOARD PER UL
- 6" METAL STUDS, SPACING PER UL AND STRUCTURAL ENGINEER (MIN 20 MSG)
- 6" BATT INSULATION PER UL
- (1) LAYER 5/8" TYPE "X" GYPSUM BOARD PER UL

NOTES:

- ASSEMBLY TO COMPLY WITH UL DESIGN U423 (JUN. 14, 2024)
- REFER TO UL FOR SCREW PATTERN AND OTHER REQUIREMENTS
- WHERE PARTITION IS USED FOR STRUCTURAL SHEAR, GC TO COORDINATE ADDITIONAL LAYERS OF STRUCTURAL MATERIAL PER STRUCTURAL DRAWINGS. THESE LAYERS TO BE ADDITIVE TO THE ASSEMBLY LISTED ABOVE AND SHALL BE INCORPORATED PER UL 263.

P64

METAL 3-5/8" FURRING STUD - 1HR PARTITION - INTERIOR

- (2) LAYERS 5/8" TYPE "X" GYPSUM BOARD
- 3-5/8" STUDS SPACED 16" O.C. MAX, OR PER STRUCT. DWGS.

NOTES:

- ASSEMBLY TO COMPLY WITH 2018 IBC 722.2.1.4.2, INCLUDING TABLE 722.2.1.4 (2)
- REFER TO IBC REFERENCE LISTED ABOVE FOR SCREW PATTERN AND OTHER REQUIREMENTS

INTERIOR PARTITION ASSEMBLIES - WOOD - 2 HR RATED

P23

WOOD 2x6 STUD - 2HR BARRIER - INTERIOR

- (2) LAYERS 5/8" TYPE "X" GYPSUM BOARD
- 25 MSG GALVANIZED RESILIENT CHANNEL, 24" O.C.
- 2x6 WOOD STUDS SPACED 16" O.C. MAX OR PER STRUCT. DWGS.
- 5-1/2" FRICTION FIT BATT INSULATION IN STUD CAVITY
- (2) LAYERS 5/8" TYPE "X" GYPSUM BOARD

NOTES:

- ASSEMBLY TO COMPLY WITH UL DESIGN U301 (SEPT. 10, 2024)
- REFER TO UL FOR SCREW PATTERN AND OTHER REQUIREMENTS
- SHALL COMPLY WITH IBC SECTION 7 FOR FIRE BARRIER
- STC SHALL BE 50 OR OVER AT UNIT ASSEMBLIES, MEETING ASTM E90 (STC 58 BASED UPON TESTING NGC 2011069)

EXTERIOR PARTITION ASSEMBLIES - WOOD - NON RATED

P36

WOOD 2x6 STUD - NON-RATED EXTERIOR

EXTERIOR

- EXTERIOR FINISH SYSTEM PER ELEVATIONS
- WEATHER RESISTANT BARRIER PER SPECIFICATIONS
- (1) LAYER SHEATHING PER STRUCT. DWGS.
- 2x6 WOOD STUDS SPACED 16" O.C. MAX OR PER STRUCT. DWGS.
- (1) LAYER 5/8" TYPE "X" GYPSUM BOARD

INTERIOR

EXTERIOR FINISH, MATERIAL VARIES - SEE ELEVATIONS AND DETAILS

NOTES:

- INTERIOR TO BE PAINTED PER FINISH SCHEDULE
- SCREW PATTERN PER STRUCT.

P36.1

DOUBLE WOOD 2x4 STUD - NON-RATED EXTERIOR

EXTERIOR

- EXTERIOR FINISH SYSTEM PER ELEVATIONS
- WEATHER RESISTANT BARRIER, PER SPECIFICATIONS
- (1) LAYER SHEATHING PER STRUCT. DWGS.
- 2x4 WOOD STUDS SPACED 16" O.C. MAX OR PER STRUCT. DWGS.
- 1" AIR GAP
- 2x4 WOOD STUDS SPACED 16" O.C. MAX OR PER STRUCT. DWGS.
- (1) LAYER 5/8" TYPE "X" GYPSUM BOARD

INTERIOR

EXTERIOR FINISH, MATERIAL VARIES - SEE ELEVATIONS AND DETAILS

PROVIDE 2" GAP BETWEEN EXTERIOR FACE OF STUD AND INSIDE FACE OF MASONRY

1/2" GYP DRAFT STOP @ MAX 10' O.C. (RE: IBC 718.3 FOR LOCATION REQ'S)

NOTES:

- INTERIOR TO BE PAINTED PER FINISH SCHEDULE
- SCREW PATTERN PER STRUCT.

P37

WOOD 2x6 STUD - NON-RATED EXTERIOR

EXTERIOR

- EXTERIOR FINISH SYSTEM PER ELEVATIONS
- WEATHER RESISTANT BARRIER, PER SPECIFICATIONS
- (1) LAYER SHEATHING PER STRUCT. DWGS.
- 2x6 WOOD STUDS SPACED 16" O.C. MAX OR PER STRUCT. DWGS.
- (1) LAYER 5/8" TYPE "X" GYPSUM BOARD

INTERIOR

EXTERIOR FINISH, MATERIAL VARIES - SEE ELEVATIONS AND DETAILS

NOTES:

- INTERIOR TO BE PAINTED PER FINISH SCHEDULE
- SCREW PATTERN PER STRUCT.

INTERIOR ASSEMBLIES - CMU / CONCRETE

P40

CMU 8" BLOCK - 1HR FIRE BARRIER - INTERIOR

- 8" CMU (REINFORCING PER STRUCT.)

NOTES:

- RATING SHALL MEET IBC 2018 SECTION 721 - PRESCRIPTIVE FIRE RESISTANCE FOR 1HR RATING. SHALL MEET TABLE 721.1(2).3. - CONCRETE MASONRY UNITS. ALL TIES. MORTAR TO MEET IBC SECTION 721.
- APPLY WATERPROOFING AT ALL SUBGRADE PORTION OF WALLS

P41

CMU 8" BLOCK - 2HR FIRE BARRIER - INTERIOR

- 8" CMU (REINFORCING PER STRUCT.)

NOTES:

- ASSEMBLY TO COMPLY WITH UL DESIGN U905 (APRIL 14, 2023)
- APPLY WATERPROOFING AT ALL SUBGRADE PORTION OF WALLS

P42

CMU 10" BLOCK - 1HR FIRE BARRIER - INTERIOR

- 10" CMU (REINFORCING PER STRUCT.)

NOTES:

- RATING SHALL MEET IBC 2018 SECTION 721 - PRESCRIPTIVE FIRE RESISTANCE FOR 1HR RATING. SHALL MEET TABLE 721.1(2).3. - CONCRETE MASONRY UNITS. ALL TIES. MORTAR TO MEET IBC SECTION 721.
- APPLY WATERPROOFING AT ALL SUBGRADE PORTION OF WALLS

P43

CMU 10" BLOCK - 2HR FIRE BARRIER - INTERIOR

- 10" CMU (REINFORCING PER STRUCT.)

NOTES:

- ASSEMBLY TO COMPLY WITH UL DESIGN U905 (APRIL 14, 2023)
- APPLY WATERPROOFING AT ALL SUBGRADE PORTION OF WALLS

INTERIOR PARTITION ASSEMBLIES (METAL-NON-RATED)

P54

METAL 1/2" FURRING / HAT CHANNEL - NON-RATED FURRING - INTERIOR

- (1) LAYER 5/8" TYPE "X" GYPSUM BOARD
- 1/2" FURRING / HAT CHANNEL, SPACED 16" O.C. (GAUGE DETERMINED BY WALL HEIGHT)

NOTES:

- ATTACH GYPSUM WITH 1-1/4" TYPE "W" STEEL SCREWS SPACED 12" O.C.

INTERIOR PARTITION ASSEMBLIES - WOOD - NON RATED

P1

WOOD 2x4 STUD - NON-RATED PARTITION - INTERIOR

- (1) LAYER 5/8" TYPE "X" GYPSUM BOARD
- 2x4 WOOD STUDS SPACED 16" O.C.
- (1) LAYER 5/8" TYPE "X" GYPSUM BOARD

NOTES:

- ATTACH GYPSUM WITH 1-1/4" TYPE "W" STEEL SCREWS @ 12" O.C.

P2

WOOD 2x6 STUD - NON-RATED PARTITION - INTERIOR

- (1) LAYER 5/8" TYPE "X" GYPSUM BOARD
- 2x6 WOOD STUDS SPACED 16" O.C.
- (1) LAYER 5/8" TYPE "X" GYPSUM BOARD

NOTES:

- ATTACH GYPSUM WITH 1-1/4" TYPE "W" STEEL SCREWS @ 12" O.C.

P3

WOOD 2x4 STUD - NON-RATED PARTITION - INTERIOR SOUND

- (1) LAYER 5/8" TYPE "X" GYPSUM BOARD
- 1/2" RESILIENT CHANNEL, SPACED 24" O.C.
- 2x4 WOOD STUDS SPACED 16" O.C.
- 3 1/2" BATT INSULATION IN STUD CAVITY
- (1) LAYER 5/8" TYPE "X" GYPSUM BOARD

NOTES:

- ATTACH GYPSUM WITH 1-1/4" TYPE "W" STEEL SCREWS AT 12" O.C.

P4

WOOD 2x4 STUD - NON-RATED PARTITION - INTERIOR SOUND DAMPENING

- (1) LAYER 5/8" TYPE "X" GYPSUM BOARD
- 2x4 WOOD STUDS SPACED 16" O.C.
- 3 1/2" BATT INSULATION IN STUD CAVITY
- (1) LAYER 5/8" TYPE "X" GYPSUM BOARD

NOTES:

- ATTACH GYPSUM WITH 1-1/4" TYPE "W" STEEL SCREWS @ 12" O.C.

P5

WOOD 2x6 STUD - NON-RATED PARTITION - INTERIOR SOUND DAMPENING

- (1) LAYER 5/8" TYPE "X" GYPSUM BOARD
- 2x6 WOOD STUDS SPACED 16" O.C.
- 5 1/2" BATT INSULATION IN STUD CAVITY
- (1) LAYER 5/8" TYPE "X" GYPSUM BOARD

NOTES:

- ATTACH GYPSUM WITH 1-1/4" TYPE "W" STEEL SCREWS @ 12" O.C.

P7

WOOD 2x4 STUD - NON-RATED FURRING - INTERIOR

- (1) LAYER 5/8" TYPE "X" GYPSUM BOARD ON OCCUPIED SIDE
- 2x4 WOOD STUDS SPACED 16" O.C.

NOTES:

- ATTACH GYPSUM WITH 1-1/4" TYPE "W" STEEL SCREWS @ 12" O.C.

P8

WOOD 2x4 STUD - NON-RATED FURRING - INTERIOR SOUND DAMPENING

- (1) LAYER 5/8" TYPE "X" GYPSUM BOARD ON OCCUPIED SIDE
- (1) LAYER OF 1/2" CELLULOSE FIBER WALL BD.
- 3 1/2" BATT INSULATION IN STUD CAVITY
- 2x4 WOOD STUDS SPACED 16" O.C.

NOTES:

- ATTACH INNER LAYER PER MFR RECOMMENDATION.
- ATTACH GYPSUM WITH 2-3/8" TYPE "W" STEEL SCREWS @ 8" O.C.

P9

WOOD 2x6 STUD - NON-RATED FURRING - INTERIOR

- (1) LAYER 5/8" TYPE "X" GYPSUM BOARD ON OCCUPIED SIDE
- 2x6 WOOD STUDS SPACED 16" O.C.

NOTES:

- ATTACH GYPSUM WITH 1-1/4" TYPE "W" STEEL SCREWS @ 12" O.C.

INTERIOR PARTITION ASSEMBLIES - WOOD - 1 HR RATED

P11

WOOD 2x6 STUD - 1HR PARTITION - INTERIOR

- (1) LAYER 5/8" TYPE "X" GYPSUM BOARD
- 2x6 WOOD STUDS SPACED 16" O.C. MAX, OR PER STRUCT. DWGS.
- 5-1/2" FRICTION FIT UNFACED BATT INSULATION IN STUD CAVITY
- (1) LAYER 5/8" TYPE "X" GYPSUM BOARD

NOTES:

- ASSEMBLY TO COMPLY WITH UL DESIGN U305 (JUN. 14, 2024)
- REFER TO UL FOR SCREW PATTERN AND OTHER REQUIREMENTS

P13

WOOD 2x6 STUD - 1HR PARTITION - INTERIOR SOUND DAMPENING

- (1) LAYER 5/8" TYPE "X" GYPSUM BOARD
- 25 MSG GALVANIZED STEEL RESILIENT CHANNEL, 24" O.C.
- 2x6 WOOD STUDS SPACED 16" O.C. MAX, OR PER STRUCT. DWGS.
- 5-1/2" FRICTION FIT UNFACED BATT INSULATION IN STUD CAVITY
- (1) LAYER 5/8" TYPE "X" GYPSUM BOARD

NOTES:

- ASSEMBLY TO COMPLY WITH UL DESIGN U305 (JUN. 14, 2024)
- REFER TO UL FOR SCREW PATTERN AND OTHER REQUIREMENTS
- STC SHALL BE 50 OR OVER AT UNIT ASSEMBLIES, MEETING ASTM E90 (STC 51 BASED UPON TESTING NGC 2011071)
- WHERE PARTITION DIVIDES A CORRIDOR AND UNIT, RESILIENT CHANNEL SHALL BE ON CORRIDOR SIDE OF WALL. GC TO COORDINATE
- WHERE PARTITION IS USED AS A DEMISING WALL AND/OR FOR STRUCTURAL SHEAR, GC TO COORDINATE ADDITIONAL LAYERS OF STRUCTURAL MATERIAL PER STRUCTURAL DRAWINGS. THESE LAYERS TO BE ADDITIVE TO THE ASSEMBLY LISTED ABOVE AND SHALL BE INCORPORATED PER UL 263. WHERE ONLY ONE LAYER IS ADDED FOR STRUCTURAL SHEAR, THIS SHALL BE PLACED ON SIDE OF WALL WHERE ONLY GYPSUM BOARD RESIDES, NOT ON RESILIENT CHANNEL SIDE.

P14

WOOD DOUBLE 2x4 STUD - 1HR PARTITION - INTERIOR

- (1) LAYER 5/8" TYPE "X" GYPSUM BOARD
- 2x4 WOOD STUDS SPACED 16" O.C. MAX, OR PER STRUCT. DWGS.
- 3 1/2" FRICTION FIT BATT INSULATION IN STUD CAVITY
- 1" AIR GAP
- 2x4 WOOD STUDS SPACED 16" O.C. MAX, OR PER STRUCT. DWGS.
- 3 1/2" FRICTION FIT BATT INSULATION IN STUD CAVITY
- (1) LAYER 5/8" TYPE "X" GYPSUM BOARD

NOTES:

- ASSEMBLY TO COMPLY WITH UL U341 (JAN. 31, 2024)
- REFER TO UL FOR SCREW PATTERN AND OTHER REQUIREMENTS
- PROVIDE 1/2" GYP BOARD DRAFT STOP AT MAX 10'-0" O.C.
- STC SHALL BE 50 OR OVER AT UNIT ASSEMBLIES, MEETING ASTM E90 (STC 61 BASED UPON TESTING TL11-120)

P20

WOOD 2x6 STUD - 1HR BARRIER - INTERIOR

- (1) LAYER 5/8" TYPE "X" GYPSUM BOARD
- 2x6 WOOD STUDS SPACED 16" O.C. MAX, OR PER STRUCT. DWGS.
- 5-1/2" FRICTION FIT UNFACED BATT INSULATION IN STUD CAVITY
- (1) LAYER 5/8" TYPE "X" GYPSUM BOARD

NOTES:

- ASSEMBLY TO COMPLY WITH UL DESIGN U305 (JUN. 14, 2024)
- REFER TO UL FOR SCREW PATTERN AND OTHER REQUIREMENTS
- SHALL COMPLY WITH IBC SECTION 7 FOR FIRE BARRIERS

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REVISIONS:



rosemann
& associates P.C.

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INTERIOR DESIGN
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12/20/24

DISCOVERY PARK - LOT #10-A

LEE'S SUMMIT, MO

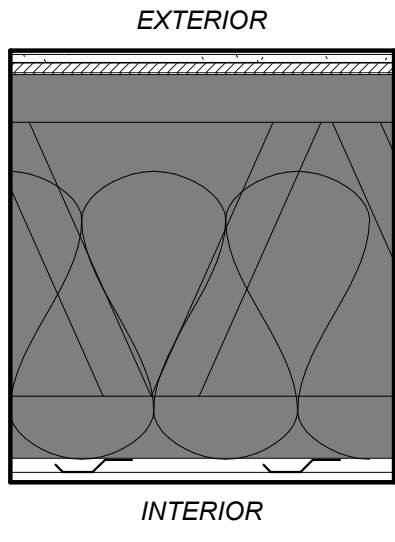
SHEET TITLE
PARTITION ASSEMBLIES -
FLOOR/CEILING

PROJECT NUMBER: 24004

SHEET NUMBER:

G-102

ROOF/CEILING ASSEMBLY-WOOD



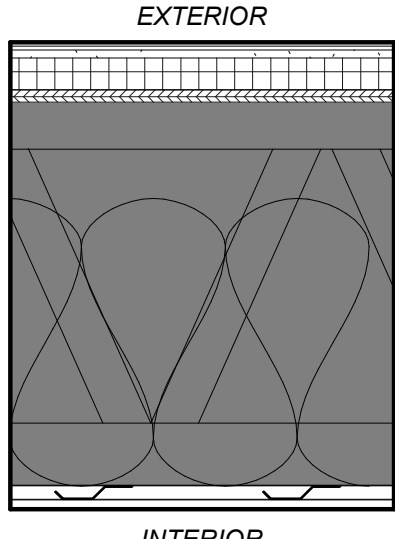
R6

WOOD LOW SLOPE TRUSS - 1HR - TPO

- TPO ROOFING MEMBRANE, PER SPECIFICATION TO MEET IECC
- 1/2" COVERBOARD, NON-COMBUSTIBLE, WATER-RESISTANT
- PRE-SLOPED POLYISO RIGID INSULATION FOR ALL CRICKETS
- 15/32" MIN. ROOF SHEATHING, SEE NOTE b.
- WOOD TRUSS FRAMING PER STRUCT. DWGS, MAX SPACING 24" OC - REFERENCE UL FOR CONSTRUCTION, TRUSS PRE-SLOPED TO DRAIN
- R-38 INSULATION PER IECC, INSTALLED PER UL
- 25 MSG GALVANIZED STEEL RESILIENT CHANNELS, SPACED PER UL
- (1) LAYER OF 5/8" TYPE 'AG-C' GWB, BY AMERICAN GYPSUM CO, PER UL

NOTES:

- ASSEMBLY TO COMPLY WITH UL DESIGN P545 (JUN. 14, 2024)
- STRUCTURAL SHALL SUPERCEDE IF STRUCT SHEATHING IS THICKER OR DIFFERENT TYPE THAN LISTED ABOVE. PROVIDE REQ MIN ABOVE.
- REFER TO UL FOR SCREW PATTERN
- TRUSSES SLOPED TO SCUPPER DRAIN AND DOWNSPOUT.
- CRICKETS AS INDICATED ON ROOF PLAN TO BE FORMED OUT OF PRE-SLOPED POLYISO RIGID INSULATION. SLOPE TO DRAIN
- ROOF VENTS PER ROOF PLAN TO MEET REQUIRED VENTING



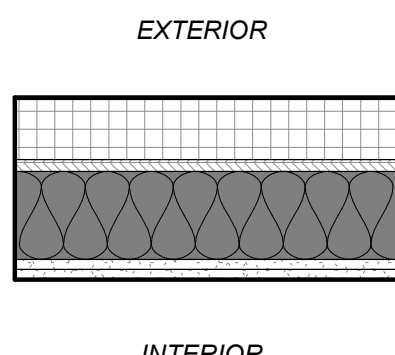
R8

WOOD PARALLEL CHORD TRUSS - 1HR - TPO

- TPO ROOFING, PER SPECIFICATION TO MEET IECC
- 1/2" COVERBOARD, NON-COMBUSTIBLE, WATER-RESISTANT
- TAPERED INSULATION, SLOPE PER PLAN
- 15/32" MIN. ROOF SHEATHING, SEE NOTE b.
- WOOD TRUSS FRAMING PER STRUCT. DWGS, MAX SPACING 24" OC - REFERENCE UL FOR CONSTRUCTION
- R-38 INSULATION PER 2018 IECC, INSTALLED PER UL
- 25 MSG GALVANIZED STEEL RESILIENT CHANNELS, SPACED PER UL
- (1) LAYER OF 5/8" TYPE 'AG-C' GWB, BY AMERICAN GYPSUM CO, PER UL

NOTES:

- ASSEMBLY TO COMPLY WITH UL DESIGN P545 (JUN. 14, 2024)
- STRUCTURAL SHALL SUPERCEDE IF STRUCT SHEATHING IS THICKER OR DIFFERENT TYPE THAN LISTED ABOVE. PROVIDE REQ MIN ABOVE.
- REFER TO UL FOR SCREW PATTERN
- CRICKETS AS INDICATED ON ROOF PLAN TO BE FORMED OUT OF PRE-SLOPED POLYISO RIGID INSULATION. SLOPE TO DRAIN
- ROOF VENTS PER ROOF PLAN TO MEET REQUIRED VENTING



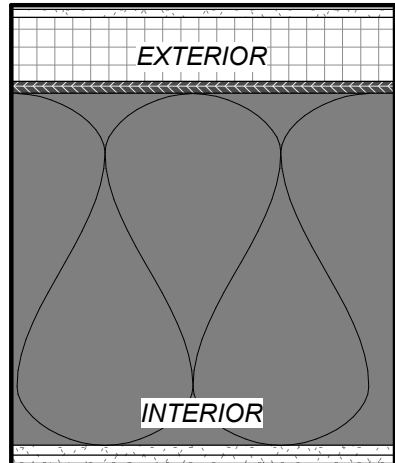
R12

WOOD FLAT 2X6 LUMBER - 1HR - TOP OF ELEVATOR

- TPO ROOFING MEMBRANE PER SPECIFICATIONS TO MEET IECC
- 1/2" COVERBOARD, NON-COMBUSTIBLE, WATER-RESISTANT
- PRE-SLOPED POLYISO RIGID INSULATION FOR SLOPE PER ROOF PLAN
- R-20 RIGID INSULATION MIN. (OR NECESSARY TO MEET MIN. IECC REQUIREMENT)
- SHEATHING PER STRUCTURAL DWGS.
- WOOD 2X6 FRAMING SPACED PER STRUCTURAL
- R-19 BATT INSULATION
- (2) LAYERS OF 5/8" TYPE 'X' GWB. PER GA ASSEMBLY

NOTES:

- ASSEMBLY TO COMPLY WITH GA FILE NO. RC 2601
- REFER TO GA FOR SCREW PATTERN



R17

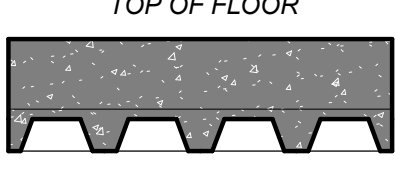
WOOD FLAT 11-7/8" I-JOIST - 1HR - TPO - UNVENTED CAVITY

- TPO ROOFING MEMBRANE TO MEET IECC REQ'S AND SPECIFICATIONS
- 1/2" COVERBOARD, NON-COMBUSTIBLE, WATER-RESISTANT
- PRE-SLOPED POLYISO RIGID INSULATION FOR CRICKETS
- RIGID INSULATION TO MEET IECC REQUIREMENTS
- SHEATHING PER STRUCTURAL
- 11-7/8" I-JOIST, 24" MAX. O.C., SPACED PER STRUCTURAL
- BATT INSULATION, FULLY PACKED TO FILL JOIST CAVITY
- (2) LAYERS OF 5/8" TYPE 'X' GWB, PER IBC

NOTES:

- FIRE RESISTANCE RATING PER 2018 IBC TABLE 721.1(3), ITEM 26-1.1
- REFER TO IBC FOR SCREW PATTERN
- CRICKETS AS INDICATED ON ROOF PLAN TO BE FORMED OUT OF PRE-SLOPED POLYISO RIGID INSULATION. SLOPE TO DRAIN

FLOOR/CEILING ASSEMBLY-METAL



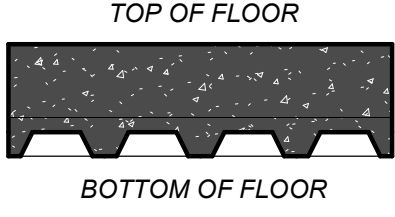
F32

METAL DECK AND CONCRETE - 1HR

- CONCRETE TOPPING SLAB PER STRUCT.
- WELDED WIRE FABRIC PER STRUCT. DWGS.
- METAL DECKING PER STRUCT. DWGS.

NOTES:

- SHALL COMPLY WITH UL DESIGN D916 (AUG. 02, 2024)



F37


METAL DECK AND CONCRETE - 2HR

- CONCRETE TOPPING SLAB PER STRUCT.
- WELDED WIRE FABRIC PER STRUCT. DWGS.
- METAL DECKING PER STRUCT. DWGS.
- SPRAY APPLIED FIRE RESISTANT MATERIAL TO BE APPLIED TO UNDERSIDE OF METAL DECK TO ACHIEVE 2-HOUR FIRE RATING.

NOTES:

- SHALL COMPLY WITH UL DESIGN D916 (AUG. 02, 2024)

FLOOR/CEILING ASSEMBLY-WOOD



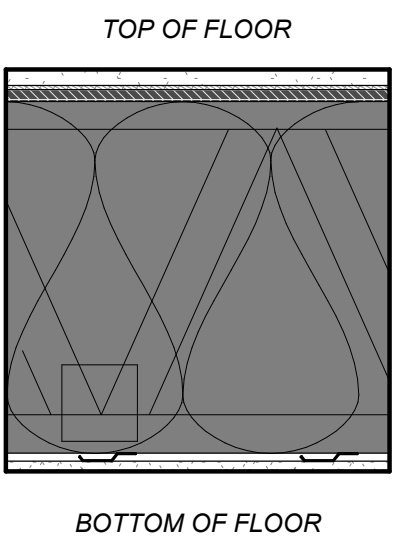
F1

CONCRETE - NON-RATED - SLAB ON GRADE

- CONCRETE SLAB ON GRADE PER STRUCT. DWGS.

NOTES

- SEE STRUCTURAL FOR REINFORCING AND THICKNESS
- VERIFY SLAB ELEVATIONS WITH CIVIL AND LANDSCAPE



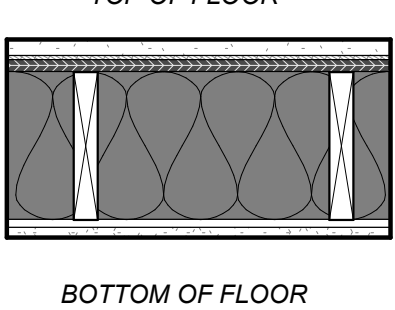
F3

WOOD OPEN WEB TRUSS - 1HR

- 1" GYPCRETE TOPPING
- 3/8" ACOUSTICAL MAT
- 19/32" MIN. PLYWOOD SHEATHING, TYPE 'C/D', SEE ALSO NOTE b.
- WOOD TRUSSES PER STRUCTURAL, REFER TO UL FOR MIN. REQ'S
- UNFACED FIBERGLASS INSULATION COMPLETELY FILLED IN CONCEALED CAVITY TO COMPLY WITH NFPA 13 CONCEALED SPACES.
- 25 MSG GALVANIZED RESILIENT CHANNELS, SPACED PER U.L.
- (1) LAYER OF 5/8" TYPE 'C' GWB PER UL

NOTES:

- ASSEMBLY TO COMPLY WITH UL DESIGN L546 (SEPT. 02, 2024)
- STRUCTURAL SHALL SUPERCEDE IF STRUCT SHEATHING IS THICKER OR DIFFERENT TYPE THAN LISTED ABOVE. PROVIDE REQ MIN ABOVE.
- REFER TO UL FOR SCREW PATTERN
- STC TO BE MIN. 50 PER IBC CHAPTER 12, IIC TO BE EQUAL OR GREATER THAN 50 WHEN TESTED UNDER ASTM E 492. (STC 60 BASED UPON TESTING 30160-08-90744-11. IIC 52 BASED UPON TESTING 30160-08-90744-7 ASSUMING VCT FLOOR FINISH.)
- VERIFY GWB AND RESILIENT CHANNEL WITH UL SPECIFIED, TAKE NOTE OF REQUIRED RESILIENT CHANNEL SPACING WITH INSULATION-FILLED CAVITY
- MIN. DEPTH OF TRUSS SHALL BE 18" WHEN DUCT PRESENT.



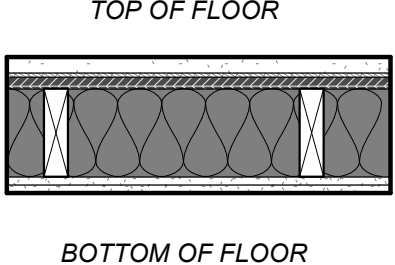
F6

WOOD 2X10 LUMBER - 1HR - STAIR

- 1" GYPCRETE TOPPING
- 3/8" ACOUSTICAL MAT
- MIN 15/32" TYPE 'C/D' SHEATHING OR PER UL SYSTEM, SEE NOTE b.
- 2X10 WOOD JOISTS SPACED MAX 16" O.C.; REFER TO STRUCTURAL FOR REQUIRED SPACING IF MORE RESTRICTIVE
- CROSS BRIDGING PER UL
- UNFACED FIBERGLASS INSULATION COMPLETELY FILLED IN CONCEALED CAVITY TO COMPLY WITH NFPA 13 CONCEALED SPACES AND UL
- 25 MSG GALVANIZED RESILIENT CHANNEL SPACED PER UL
- (1) LAYER OF 5/8" TYPE 'C' GWB PER UL

NOTES:

- ASSEMBLY TO COMPLY WITH UL DESIGN L516, (SEPT. 02, 2024)
- STRUCTURAL SHALL SUPERCEDE IF STRUCT SHEATHING IS THICKER OR DIFFERENT TYPE THAN LISTED ABOVE. PROVIDE REQ MIN ABOVE.
- STC SHALL BE MIN. 50 PER IBC CHAPTER 12, IIC TO BE EQUAL OR GREATER THAN 50 WHEN TESTED UNDER ASTM E 492. (STC 59 BASED UPON TESTING TL88-110. IIC 52 BASED UPON TESTING 100336557/CRT-001m ASSUMING VINYL FLOOR FINISH.)
- REFER TO UL FOR SCREW PATTERN
- VERIFY SHEATHING TYPE, GWB, AND RESILIENT CHANNEL WITH UL SYSTEM SPECIFIED, TAKE NOTE OF REQUIRED RESILIENT CHANNEL SPACING WITH INSULATION-FILLED CAVITY



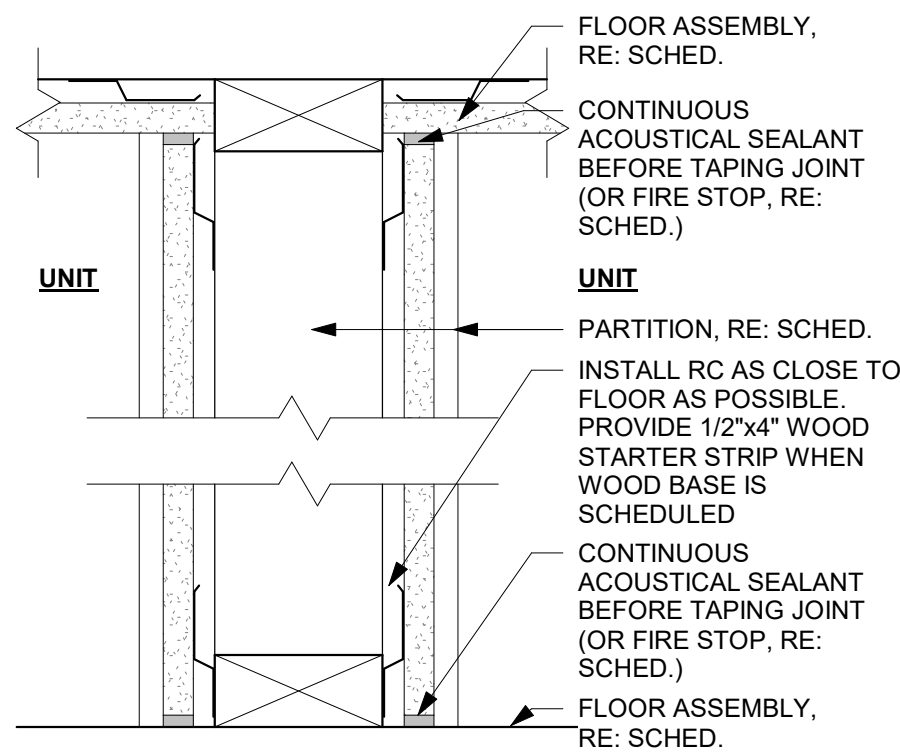
F7

WOOD 2X6 LUMBER - 1HR - CORRIDOR

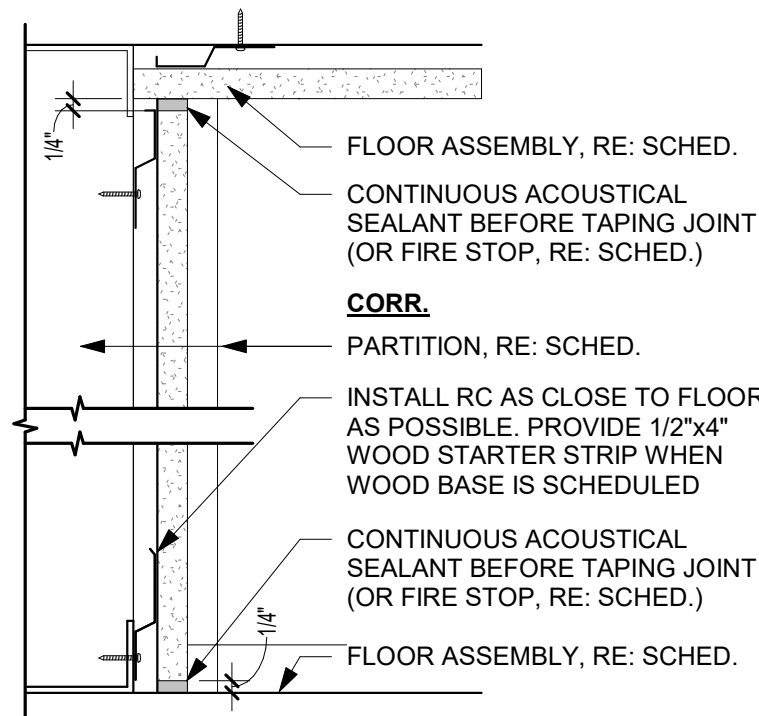
- 1" GYPCRETE TOPPING
- 3/8" ACOUSTICAL MAT
- 15/32" SHEATHING MIN, SEE NOTE b.
- 2X6 WOOD JOISTS SPACED PER STRUCTURAL
- UNFACED FIBERGLASS INSULATION COMPLETELY FILLED IN CONCEALED CAVITY TO COMPLY WITH NFPA 13 CONCEALED SPACES.
- (2) LAYERS OF 5/8" TYPE 'X' GWB PER IBC

NOTES:

- RATING FOR 2X6 DIMENSIONAL LUMBER ASSEMBLY: 2018 IBC TABLE 721.1(3) #21-1.1 & AMERICAN WOOD COUNCIL'S DCA 4 (COMPONENT ADDITIVE METHOD FOR CALCULCULATING AND DEMONSTRATING ASSEMBLY FIRE RESISTANCE)
- STRUCTURAL SHALL SUPERCEDE IF STRUCT SHEATHING IS THICKER OR DIFFERENT TYPE THAN LISTED ABOVE. PROVIDE REQ MIN ABOVE.
- REFER TO IBC TABLE FOR SCREW PATTERN



B1
UNIT/UNIT ACOUSTICAL SEALANT @ FLOOR/CEILING
3" = 1'-0"



A1
ACOUSTIC SEALANT @ FLOOR/CEILING
3" = 1'-0"

- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.
- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance or detail.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
- Only products which bear UL's Mark are considered Certified.

August 02, 2024

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

*For use with 2 or 3 in. steel floor and form units only.

The Unrestrained Assembly Rating is equal to the Unrestrained Beam Rating for a max of 3 Hr. and is limited to the following units and limitations:

The thickness of material required on the steel joist for the various ratings are shown in the following table:

Restrained or

GCP KOREA INC — Types MK-6/CBF, MK-6/ED, MK-6/HY, MK-6s, Monokote Acoustic 1.

PYROK INC — Type LD.

SOUTHWEST FIREPROOFING PRODUCTS CO — Types 4, 5, 5EF, 5GP, 5MD, 7GP, 7HD, 8EF, 8GP, 8MD, 9EF, 9GP, 9MD.

GCP APPLIED TECHNOLOGIES INC — Types MK-6/HY, MK-6s, RG, Monokote Acoustic 1.

Restrained Assembly Rating Hr	Unrestrained Assembly Rating Hr	Unrestrained Beam Rating Hr	Fire Resistive Mtl Thins on Beam In.
1	1	1	1/2
1-1/2	1	1	1/2
1-1/2	1-1/2	1-1/2	13/16
2	1	1	1/2

The thicknesses of Spray-Applied Fire Resistive Materials shown in the table below are applicable when the beams are supporting all fluted floor or form units w/lightweight concrete only:

Restrained Assembly Rating Hr	Unrestrained Assembly Rating Hr	Unrestrained Beam Rating Hr	Spray Applied Fire Resistive Mtl Thkns on Beam In.
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+Thickness applied to beams lower flange edge to be 1/4 in. min.

The thickness of material required on the steel joist for the various Ratings are shown in the following table:

GCP KOREA INC — Types Z-106, Z-106/G, Z-106/HY, Monokote Acoustic 5.

SOUTHWEST FIREPROOFING PRODUCTS CO — Types 7GP, 7HD.

GCP APPLIED TECHNOLOGIES INC — Types Z- 105, Z-106, Z-106/G, Z-106/HY, Monokote Acoustic S.

4B. Alternate Spray-Applied Fire Resistive Materials — Applied by mixing with water and spraying in one or more coats to a final thickness as shown in the tables below to steel beam surfaces which must be clean and free of dirt, loose scale and oil. The thicknesses shown in the table below are applicable to beams supporting all fluted floor or form units. Min avg and min ind density of 40/36 pc², respectively. Min avg and min ind density of 40/36 pc² respectively for Types Z-146, Z-146PC and Z-146T cementitious mixture. Min avg and min ind density of 50/45 pc² respectively for Types Z-156, Z-156T and Z-156PC. For density determination refer to Design Information Section.

UL ASSEMBLY LISTINGS AS SHOWN ARE PROVIDED FOR CONVENIENCE AND REFERENCE ONLY. REFER TO MOST CURRENT AND APPROPRIATE **UL OR GA PUBLICATIONS** FOR COMPLETE LISTINGS. **ROSEMAN & ASSOCIATES, P.C.** IS NOT RESPONSIBLE FOR ANY ADDITIONS OR OMISSIONS TO ASSEMBLIES LISTED IN THIS DOCUMENT.

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12/20/24

DISCOVERY PARK - LOT #10-A

LEE'S SUMMIT, MO

SHEET TITLE
UL ASSEMBLIES - D916 / L516

PROJECT NUMBER: 24004

SHEET NUMBER:

G-201

Unrestrained Beam Rating Hr	Restrained Assembly Rating Hr	Concrete Type	Spray Applied Fire Resistive Mtl Thkns on Beam In.
1	1, 1-1/2, 2	LW	9/16
1-1/2	1, 1-1/2, 2, 3	LW	7/8
1	1, 1-1/2, 2	LW	3/4
1-1/2	1, 1-1/2, 2, 3	LW	1

GCP KOREA INC — Type Z-146 investigated for exterior use

GCP APPLIED TECHNOLOGIES INC — Types Z-146, Z-146T, Z-146PC, Z-156, Z-156T and Z-156PC investigated for exterior use

5. **Shear-Connector Studs** — **Optional** — Studs 3/4 in. diam by 3 in. long, for 1-1/2 in. deep form units to 5-1/4 in. long for 3 in. deep form units, headed type or equivalent per AISC specifications. Welded to the top flange of the beam through the steel form units.

6. **Electrical Inserts** — (Not shown) Classified as "Outlet Boxes and Fittings Classified for Fire Resistance."
KAM INDUSTRIES LTD, DBA CORDECK — Preset Inserts

For use with 2-1/2 in. lightweight concrete topping over QL-WKX steel floor units. Installed over factory-punched holes in floor units per accompanying installation instructions.

Spacing shall not be more than one insert in each 14 sq ft. of floor area with spacing along floor units not less than 48 in. OC. The holes cut in insert cover for passage of wires shall be no more than 1/8 in. larger diam. than wire. Restrained Assembly Rating is 3/4 hr with Tapmate II-FS-1 and 1 hr with Tapmate II-FS-2 inserts.

KAM INDUSTRIES LTD, DBA CORDECK — Tapmate II-FS-1, II-FS-2; Series KEB.

(2) **Wiremold Co.** — After set Inserts.

Single-service after set inserts installed per accompanying installation instructions in 2-1/2 in. diam hole core-drilled through min 3-1/4 in. thick concrete topping to top of cell of any min 3 in. deep cellular steel floor unit specified under Item 3. Spacing shall be no more than one insert in each 10 sq ft of floor area in each span with a min center to center spacing of 16 in. If the high potential and low potential raceways of the cellular steel floor unit are separated by a valley filled with concrete, the center to center spacing of the high potential and low potential single-service after set inserts may be reduced to a min of 7-1/2 in. Restrained Assembly Rating is 2 hr or less with internally protected type 436 after set insert with Type M4-, M6- or M8- Series single-service activation fitting.

WIREMOLD CO — Internally protected Type 436 after set insert with Type M4-, M6- or M8- Series single-service activation fitting.

7. **Mineral and Fiber Boards*** — (Optional, not shown). Applied over concrete floor with no restriction on board thickness. When mineral and fiber boards are used, the unrestrained beam rating shall be increased by a minimum of 1/2 hr.
See Mineral and Fiber Board (CER2) category for names of manufacturers.

8. **Roof Covering Materials*** — (Optional, not shown) Consisting of materials compatible with insulations described herein which provide Class A, B or C coverings. See Built-Up Roof Covering Materials in Building Materials Directory.

9. **Insulating Concrete** — (not shown) Optional. Various types of insulating concrete prepared and applied in the thickness indicated:
A. Vermiculite Concrete — (not shown) Optional.
1. Blend 6 to 8 cu. ft. of Vermiculite Aggregate* to 94 lb. Portland Cement and air entraining agent. Min thickness of 2 in. as measured to the top surface of the structural concrete or foamed plastic (Item 10) when it is used.
ELASTIZELL CORP OF AMERICA
SIPLAST INC
VERMICULITE PRODUCTS INC

12. **Metal Lath** — (Not Shown) — (Required with Z-146, Z-146T, Z-146PC, Z-156, Z-156T and Z-156PC, otherwise optional) - Metal lath may be used to facilitate the spray application of Spray-Applied Fire Resistive Materials on steel bar joist and trusses. The diamond mesh, 3/8 in. expanded steel lath, 1.7 to 3.4 lb per sq yd is secured to both sides of each steel joist with No. 18 SWG galv steel wire at joist web and bottom chord members spaced 15 in. OC max. When used, the metal lath is to be fully covered with Spray-Applied Fire Resistive.
See Foamed Plastic (CCW) category for list of manufacturers.

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

Last Updated on 2024-08-02

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- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.
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- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide information includes specifics concerning alternate materials and alternate methods of construction.
- Only products which bear UL's Mark are considered Certified.

BXUV - Fire Resistance Ratings - ANSI/UL 263 Certified for United States

BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

See General Information for Fire Resistance Ratings - ANSI/UL 263 Certified for United States
Design Criteria and Allowable Variances

See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada
Design Criteria and Allowable Variances

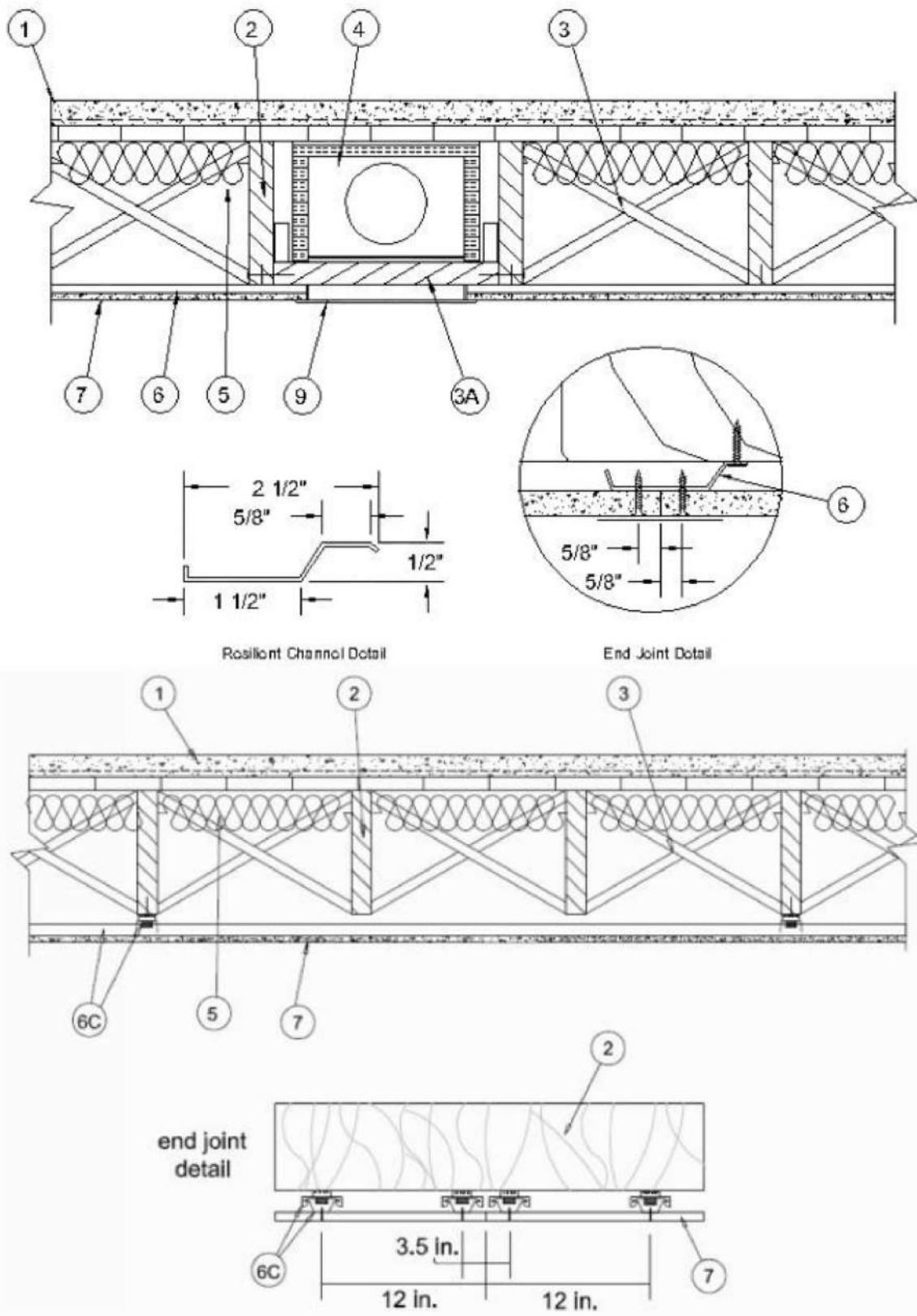
Design No. **L516**

September 2, 2024

Unrestrained Assembly Rating — 1 Hr.
Finish Rating — 28 Min. or (16 Min. See Item 7B)

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

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



1. **Flooring System** — The flooring system shall consist of one of the following:

System No. 1

Subflooring — Min 1 by 6 in. T & G lumber fastened diagonally to joists, or min 15/32 in. thick plywood or min 7/16 in. thick oriented strand board (OSB) wood structural panels, min grade "C-D" or "Sheathing". Face grain of plywood or strength axis of panel to be perpendicular to joists with joints staggered.

Wire Reinforcement — Hexagonal mesh constructed of No. 19 SWG galv steel wire with No. 16 SWG galv steel wire woven longitudinally into the mesh spaced 3 in. OC. Mesh installed with No. 16 SWG wires perpendicular to joists and lapped 5 in. at the sides.

Sheathing Material* — Polyethylene film vapor barrier.

See **Sheathing Materials (BVDV)** Category in the Building Materials Directory for names of manufacturers.

Finish Flooring Perlite Concrete — Min 1-5/8 in. thickness of perlite-sand concrete, having a min compressive strength of 2000 psi. Mixture shall consist of 1 part Portland cement, 2 parts sand and 3 parts **Perlite Aggregate***.

See **Perlite Aggregate (CFX)** category for names of manufacturers.

System No. 2

Subflooring — Min 1 by 6 in. T & G lumber fastened diagonally to joists, or min 15/32 in. thick plywood or min 7/16 in. thick oriented strand board (OSB) wood structural panels, min grade "C-D" or "Sheathing". Face grain of plywood or strength axis of panel to be perpendicular to joists with joints staggered.

Mineral and Fiber Board* — Min 1/2 in. thick, supplied in sizes ranging from 3 ft by 4 ft to 8 ft by 12 ft. All joints to be staggered a min of 12 in. with adjacent sub-floor joints.

HOMASOTE CO — Type 440-32 Mineral and Fiber Board

System No. 3

Subflooring — Min 1 by 6 in. T & G lumber fastened diagonally to joists, or min 15/32 in. thick plywood or min 7/16 in. thick oriented strand board (OSB) wood structural panels, min grade "C-D" or "Sheathing". Face grain of plywood or strength axis of panel to be perpendicular to joists with joints staggered.

Floor Mat Materials* — (Optional) — Floor mat material nom 5/64 in. (2mm) thick adhered to subfloor with Hacker Floor Primer. Primer to be applied to the surface of the mat prior to the placement of a min 1 in. of floor-topping mixture.

HACKER INDUSTRIES INC — Type Hacker Sound-Mat.

Alternate Floor Mat Materials - (Optional) — Floor mat material nom 1/4 in. (6mm) thick adhered to subfloor with Hacker Floor Primer. Primer to be applied to the surface of the mat prior to the placement of a min 1-1/4 in. (32mm) of floor-topping mixture.

HACKER INDUSTRIES INC — Type Hacker Sound-Mat II.

Alternate Floor Mat Materials - (Optional) — Floor mat material nom 1/8 in. (3mm) thick loose laid over the subfloor. Floor topping thickness shall be a min of 3/4 in. (19mm)

HACKER INDUSTRIES INC — FIRM-FILL SCM 125

Alternate Floor Mat Materials - (Optional) — Floor mat material nom 1/4 in. (6mm) thick loose laid over the subfloor. Floor topping thickness shall be a min of 1 in. (25mm)

HACKER INDUSTRIES INC — Type FIRM-FILL SCM 250, Quiet Quil 55/025

Alternate Floor Mat Materials - (Optional) — Floor mat material nom 3/8 in. (10mm) thick loose laid over the subfloor. Floor topping thickness shall be a min of 1-1/4 in. (32mm)

HACKER INDUSTRIES INC — FIRM-FILL SCM 400, Quiet Quil 60/040

Alternate Floor Mat Materials - (Optional) — Floor mat material nom 3/4 in. (19mm) thick loose laid over the subfloor. Floor topping thickness shall be a min of 1-1/2 in. (38mm)

HACKER INDUSTRIES INC — Type FIRM-FILL SCM 750, Quiet Quil 65/075

Metal Lath (Optional) — For use with 3/8 in. (10 mm) floor mat materials, 3/8 in. expanded steel diamond mesh, 3.4 lbs/sq yd placed over the floor mat material. Hacker Floor Primer to be applied prior to the placement of the metal lath. When metal lath is used, floor topping thickness a nom 1-1/4 in. over the floor mat.

Finish Flooring - Floor Topping Mixture* — Min 3/4 in. thickness of floor topping mixture having a min compressive strength of 1100 psi. Mixture shall consist of 6.8 gal of water to 80 lbs of floor topping mixture to 1.9 cu ft of sand.

HACKER INDUSTRIES INC — Type Firm-Fill Gypsum Concrete, Firm-Fill 2010, Firm-Fill 4010, Firm-Fill High Strength, Gyp-Span Radiant, Firm-Fill 3310

Subflooring — Min 1 by 6 in. T & G lumber fastened diagonally to joists, or min 15/32 in. thick plywood or min 7/16 in. thick oriented strand board (OSB) wood structural panels, min grade "C-D" or "Sheathing". Face grain of plywood or strength axis of panel to be perpendicular to joists with joints staggered.

Finish Flooring - Floor Topping Mixture* — Min 3/4 in. thickness of floor topping mixture having a minimum compressive strength of 1500 psi. Refer to manufacturer's instructions accompanying the material for specific mix design.

MAXXON CORP — Type Maxxon Standard and Maxxon High Strength

Floor Mat Materials* - (Optional) — Floor mat material loose laid over the subfloor. Refer to manufacturer's instructions regarding the minimum thickness of floor topping over each floor mat material.

MAXXON CORP — Type Encapsulated Sound Mat.

Floor Mat Reinforcement - (Optional) - Refer to manufacturer's instructions regarding minimum thickness of floor topping for use with floor mat reinforcement.

Metal Lath (Optional) — 3/8 in. expanded galvanized steel diamond mesh, 3.4 lbs/sq yd loose laid over the floor mat material.

Fiber Glass Reinforcement - (Optional, Not Shown) - 0.015 in. thick PVC coated non-woven fiberglass mesh, 0.368 lbs/sq yd loose laid over the floor mat material.

System No. 5

Subflooring — Min 1 by 6 in. T & G lumber fastened diagonally to joists, or min 15/32 in. thick plywood or min 7/16 in. thick oriented strand board (OSB) wood structural panels, min grade "C-D" or "Sheathing". Face grain of plywood or strength axis of panel to be perpendicular to joists with joints staggered.

Vapor Barrier — (Optional) Nom 0.010 in. thick commercial rosin-sized building paper.

Finish Flooring - Floor Topping Mixture* — Min 3/4 in. thickness of floor topping mixture having a min compressive strength of 1000 psi. Refer to manufacturer's instructions accompanying the material for specific mix design.

FORMULATED MATERIALS LLC — FR-25, FR-30, SiteMix, and Treadstone Advantage

Floor Mat Material* — (Optional) Floor mat material nominal 2 - 9.5 mm thick loose laid over the subfloor. Floor topping shall be a min of 3/4 in.

FORMULATED MATERIALS LLC — Types M1, M2, M3, Elite, Duo, R1, and R2

System No. 6

Subflooring — Min 1 by 6 in. T & G lumber fastened diagonally to joists, or min 15/32 in. thick plywood or min 7/16 in. thick oriented strand board (OSB) wood structural panels, min grade "C-D" or "Sheathing". Face grain of plywood or strength axis of panel to be perpendicular to joists with joints staggered.

Vapor Barrier — (Optional) - Nom 0.010 in. thick commercial asphalt saturated felt.

Finish Flooring - Floor Topping Mixture* - Min 3/4 in. thickness of floor topping mixture having a minimum compressive strength of 1800 psi. Refer to manufacturer's instructions accompanying the material for specific mix design.

UNITED STATES GYPSUM CO — Types LRK, HSLRK, CSD

USG MEXICO S A DE C V — Types LRK, HSLRK, CSD

Floor Mat Materials* — (Optional) — Floor mat material loose laid over the subfloor. Refer to manufacturer's instructions regarding the minimum thickness of floor topping over each floor mat material.

UNITED STATES GYPSUM CO — Types SAM, LEVELROCK® Brand Sound Reduction Board, LEVELROCK® Brand Floor Underlayment SRM-25

Alternate Floor Mat Materials* — (Optional) - Nom 3/8 in. thick floor mat material loose laid over the subfloor.

PRINTS ISSUED

12/20/2024 - CITY SUBMISSION

REVISIONS:



ARCHITECTURE

INTERIOR DESIGN

ENGINEERING

PLANNING

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DENVER

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12/20/24

DISCOVERY PARK - LOT #10-A

LEE'S SUMMIT, MO

SHEET TITLE
UL ASSEMBLIES - L516

PROJECT NUMBER: 24004

SHEET NUMBER:

G-202

<p>GRASSWORX L L C — Type SC50</p> <p>System No. 7</p> <p>Subflooring — Min 15/32 in. thick wood structural panels, min grade "C-D" or "Sheathing". Face grain of plywood or strength axis of panels to be perpendicular to the joists with joints staggered.</p> <p>Vapor Barrier — (Optional) - Commercial asphalt saturated felt, 0.030 in. thick.</p> <p>Vapor Barrier — (Optional) - Nom 0.010 in. thick commercial rosin-sized building paper.</p> <p>Finish Flooring* — Min 3/4 in. thickness of any Floor Topping Mixture bearing the UL Classification Marking as to Fire Resistance. See Floor- and Roof-Topping Mixtures (CCOX) category for names of Classified Companies. Refer to the manufacturer's instructions accompanying the material and/or contact the manufacturer's technical support for specific mix design and minimum thickness recommended for use with eligible floor mat(s).</p> <p>Floor Mat Materials* — (Optional) - Nom. 1/4 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 3/4 in.</p> <p>KEENE BUILDING PRODUCTS CO INC — Type Quiet Curl 55/025 and Quiet Curl 55/025 N</p> <p>Alternate Floor Mat Materials* — (Optional) - Floor mat material Nom. 3/8 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 1 in.</p> <p>KEENE BUILDING PRODUCTS CO INC — Type Quiet Curl 60/040 and Quiet Curl 60/040 N</p> <p>Alternate Floor Mat Materials* — (Optional) - Floor mat material Nom. 3/4 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 1-1/2 in.</p> <p>KEENE BUILDING PRODUCTS CO INC — Type Quiet Curl 65/075, Quiet Curl 65/075 N</p> <p>Alternate Floor Mat Materials* — (Optional) - Floor mat material Nom. 1/8 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 3/4 in.</p> <p>KEENE BUILDING PRODUCTS CO INC — Type Quiet Curl 52/013 and Quiet Curl 52/013 N</p> <p>Alternate Floor Mat Materials* — (Optional) - Floor mat material Nom. 1/4 in. entangled net core with a compressible fabric attached to the bottom loose laid over the subfloor. Floor topping thickness shall be a minimum of 1 in.</p> <p>KEENE BUILDING PRODUCTS CO INC — Quiet Curl 55/025 MT and Quiet Curl 55/025 N MT</p> <p>System No. 8</p> <p>Subflooring — Min 1 by 6 in. T & G lumber fastened diagonally to joists, or min 15/32 in. thick plywood or min 7/16 in. thick oriented strand board (OSB) wood structural panels, min grade "C-D" or "Sheathing". Face grain of plywood or strength axis of panel to be perpendicular to joists with joints staggered.</p> <p>Vapor Barrier - (Optional) — Nom 0.010 in. thick commercial rosin-sized building paper.</p> <p>Finish Flooring - Floor Topping Mixture* — Min 3/4 in. thickness of floor topping mixture having a min compressive strength of 1000 psi. Refer to manufacturer's instructions accompanying the material for specific mix design.</p> <p>ARCOSA SPECIALTY MATERIALS — AccuCrete® Types NexGen, Green, Prime and PrePour, AccuRadiant®, AccuLevel® Types G40, G50 and SD30</p> <p>Floor Mat Material* — (Optional) - Floor mat material nominal 2 - 9.5 mm thick loose laid over the subfloor. Floor topping shall be a min of 3/4 in.</p> <p>ARCOSA SPECIALTY MATERIALS — AccuQuiet Types D13, D-18, D25, DX38, EM-125, EM-125S, EM-250, EM-250S, EM-375, EM-375S, EM-750, and EM-750S.</p> <p>Subflooring — Min 23/32 in. thick T&G wood structural panels, min grade "Underlayment" or "Single-Floor". Face grain of plywood or strength axis of panels to be perpendicular to the trusses with end joints staggered 4 ft. Panels secured to trusses with construction adhesive and No. 6d ringed shank nails spaced 12 in. OC along each truss. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.</p>	<p>Floor Mat Materials* — (Optional) — Floor mat material nom 1/8 in. to 3/4 in. thick. Loose laid over the subfloor. When used, Acousti-floor CSM (crack suppression mat) is loose laid over the floor mat material. Floor topping material thickness is dependent on thickness of floor mat used.</p> <p>WALFLOR INDUSTRIES INC — Type Acousti-floor, Acousti-floor CSM. Floor topping thickness depends on products used as follows:</p> <p>Acousti-floor (1/8 in. thick) - Floor topping thickness shall be a minimum of 3/4 in.</p> <p>Acousti-floor (1/4 in. thick) - Floor topping thickness shall be a minimum of 1 in.</p> <p>Acousti-floor (3/8 in. thick) - Floor topping thickness shall be a minimum of 1 in.</p> <p>Acousti-floor (3/4 in. thick) - Floor topping thickness shall be a minimum of 1-1/2 in.</p> <p>Metal Lath — (Optional) — Expanded steel diamond mesh, 2.5 lb / sq yd loose laid over floor mat material.</p> <p>Fiberglass Mesh Reinforcement — (Optional) — Coated non-woven glass fiber mesh grid loose laid over floor mat material.</p> <p>System No. 12</p> <p>Subflooring — Min 1 by 6 in. T & G lumber fastened diagonally to joists, or min 15/32 in. thick plywood or min 7/16 in. thick oriented strand board (OSB) wood structural panels, min grade "C-D" or "Sheathing". Face grain of plywood or strength axis of panel to be perpendicular to joists with joints staggered.</p> <p>Finish Flooring - Floor Topping Mixture* — Min 1 in. thickness of floor topping mixture having a min compressive strength of 4500 psi. Refer to manufacturer's instructions accompanying the material for specific mix design.</p> <p>SIKA DEUTSCHLAND GMBH — Type SCHONOX AP Rapid Plus</p> <p>System No. 13</p> <p>Subflooring — Min 1 by 6 in. T & G lumber fastened diagonally to joists, or min 15/32 in. thick plywood or min 7/16 in. thick oriented strand board (OSB) wood structural panels, min grade "C-D" or "Sheathing". Face grain of plywood or strength axis of panel to be perpendicular to joists with joints staggered.</p> <p>Vapor Barrier — (Optional) - Commercial asphalt saturated felt, 0.030 in. thick.</p> <p>Vapor Barrier — (Optional) - Nom 0.010 in. thick commercial rosin-sized building paper.</p> <p>Finish Flooring - Floor Topping Mixture* — Min 3/4 in. thickness of any Floor Topping Mixture bearing the UL Classification Marking as to Fire Resistance. See Floor- and Roof-Topping Mixtures (CCOX) category for names of Classified Companies.</p> <p>Floor Mat Materials* — (Optional, Not Shown) - Floor mat material loose laid over the subfloor. Refer to manufacturer's instructions regarding the minimum thickness of floor topping over each floor mat material.</p> <p>Freudenberg Performance Materials LP — EnkaSonic® by Colbond a member of the Low & Bonar group Types 125, 250, 250 Plus, 400, 400 Plus, 750, and 750 Plus.</p> <p>Floor Mat Reinforcement — (Optional) - Refer to manufacturer's instructions regarding minimum thickness of floor topping for use with floor mat reinforcement.</p> <p>Metal Lath — (Optional) — Expanded steel diamond mesh, 2.5 lb / sq yd loose laid over floor mat material.</p> <p>Fiberglass Mesh Reinforcement — (Optional) — Coated non-woven glass fiber mesh grid loose laid over floor mat material.</p> <p>2. Wood Joists — Min 2 by 10, spaced 16 in. OC and effectively fireblocked in accordance with local codes.</p> <p>3. Cross Bridging — Min 1 by 3 in. or min 2 by 10 in. solid blocking.</p> <p>3A. Horizontal Bridging — Used in lieu of Item 3 in same joist bay as ceiling damper (Item 4), when ceiling damper is employed. Wood 2 by 4 in. secured between joists with nails.</p>	<p>b. Cold Rolled Channels — 1-1/2 in. by 1/2 in., formed from No. 16 ga. galv steel, positioned vertically and parallel to joists, friction-fitted into the channel caddy on the Steel Framing Members (Item 6Ad). Adjoining lengths of cold rolled channels lapped min. 6 in. and wire-tied together with two double strand 18 SWG galv steel wire ties, one at each end of overlap.</p> <p>c. Blocking — Where joist design does not permit direct, full contact of the hanger bracket, a piece of nominal 2 by 4 in. lumber (blocking), min. 6 in. long to permit full contact of the hanger bracket, to be secured vertically to the side of the joists (Item 2) at the top and bottom of the blocking at each Steel Framing Member (Item 6Ad) location.</p> <p>d. Steel Framing Members* — Hangers spaced 48 in. OC, max along joist, and secured to the Blocking (Item 6Ac) on alternating joists with a single 5/16 in. by 2 in. hex head lag bolt or four #6 1-1/4 in. drywall screws through mounting holes) on the hanger bracket. The two 1/4 in. long steel teeth on the hanger are embedded in the side of the blocking. Hanger positioned on blocking and leveling bolt height adjusted such that furring channels are flush with bottom of joists before gypsum board installation. Spring gauge of hanger chosen per manufacturer's instructions.</p> <p>KINETICS NOISE CONTROL INC — Type ICW.</p> <p>6B. Steel Framing Members* — (Not Shown) As an alternate to Item 6, furring channels and Steel Framing Members as described below.</p> <p>a. Furring Channels — Formed of No. 25 MSG galv steel, 2-9/16 in. wide by 7/8 in. deep, spaced 24 in. OC perpendicular to joists. Channels secured to joists as described in Item b. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap.</p> <p>b. Steel Framing Members* — Used to attach furring channels (Item a) to joists (Item 2). Clips spaced 48 in. OC. RSIC-1 and RSIC-1 (2.75) secured to alternating joists with No. 8 x 1-1/2 in. coarse drywall screw through the center grommet. RSIC-V and RSIC-V (2.75) clips secured to alternating trusses with No. 8 x 1-1/2 in. coarse drywall screw through the center hole. RSIC-SI-X secured to alternating joists with No. 10 x 3-1/2 in. coarse screw. Furring channels are friction fitted into clips. RSIC-1, RSIC-SI-X, and RSIC-V clips for use with 2-9/16 in. wide furring channels. RSIC-1 (2.75) and RSIC-V (2.75) clips for use with 2-23/32 in. wide furring channels. Adjoining channels are overlapped as described in Item a. Additional clips required to hold furring channel that supports the gypsum board butt joints, as described in Item 7.</p> <p>PAC INTERNATIONAL L L C — Types RSIC-1, RSIC-V, RSIC-1 (2.75), RSIC-V (2.75), RSIC-SI-X.</p> <p>6C. Steel Framing Members* — (Not Shown) — As an alternate to Item 6, furring channels and Steel Framing Members as described below.</p> <p>a. Furring Channels — Formed of No. 25 MSG galv steel, 2-3/8 in. wide by 7/8 in. deep, spaced 24 in. OC perpendicular to joists. Channels secured to joists as described in Item b. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap.</p> <p>b. Steel Framing Members* — Used to attach furring channels (Item a) to joists (Item 2). Clips spaced 48 in. OC., and secured to alternating joists with No. 8 x 2-1/2 in. coarse drywall screw through the center grommet. Furring channels are friction fitted into clips. Adjoining channels are overlapped as described in Item a. Additional clips required to hold furring channel that supports the gypsum board butt joints, as described in Item 7.</p> <p>PLITEQ INC — type GENIECLIP.</p> <p>6D. Alternate Steel Framing Members* — (Not Shown) As an alternate to Item 6, furring channels and Steel Framing Members as described below.</p> <p>a. Furring Channels — Formed of No. 25 MSG galv steel, 2-5/8 in. wide by 7/8 in. deep, spaced 24 in. OC, perpendicular to joists. Channels secured to joists as described in Item b.</p> <p>b. Steel Framing Members* — Used to attach furring channels (Item a) to the wood joists (Item 2). Clips spaced at 48 in. OC and secured to the bottom of the joists with one 2-1/2 in. Coarse Drywall Screw with 1 in. diam washer through the center hole. Furring channels are then friction fitted into clips. Ends of channels are overlapped 6" and tied together with double strand of No. 18 AWG galvanized steel wire. Additional clips are required to hold the Gypsum Butt joints as described in Item 7.</p> <p>STUDDO BUILDING SYSTEMS — RESILMOUNT Sound Isolation Clips - Type A237 or A237R</p> <p>6E. Alternate Steel Framing Members* — (Not Shown) As an alternate to Item 6, furring channels and Steel Framing Members as described below.</p>	<p>butt joint and along both additional channels shall be 8 in. OC. Additional screws shall be placed in the adjacent section of gypsum board into the aforementioned 3 in. extension of the extra butt joint channels as well as into the main channel that runs between. Butt joint furring channels shall be attached with one RESILMOUNT Sound Isolation Clip at each end of the channel.</p> <p>When Steel Framing Members (Item 6E) are used, one layer of nom 5/8 in. thick, 4 ft wide gypsum board is installed with long dimensions perpendicular to furring channels. Gypsum board secured to furring channels with nom 1 in. long Type S bugle-head steel screws spaced 8 in. OC in the field of the board. Gypsum board buttend end joints shall be staggered minimum 48 in. and centered over main furring channels. At the gypsum board butt joints, an additional single length of furring channel shall be installed and be spaced approximately 3 in. from the butt joint (6 in. from the continuous furring channels) to support the floating end of the gypsum board. Each of these shorter sections of furring channel shall extend one joint beyond the width of the gypsum panel and be attached to the adjacent joists with one SonuClip at every joint involved with the butt joint.</p> <p>When Steel Framing Members (Item 6F) are used, nom 5/8 in. thick, 4 ft wide gypsum board, installed as described in Item 7. Adjacent butt joints staggered minimum 48 in. OC.</p> <p>When Steel Framing Members (Item 6G) are used, nom 5/8 in. thick, 4 ft wide gypsum board, installed as described in Item 7. Butt joints staggered minimum 24 in. OC.</p> <p>AMERICAN GYPSUM CO — Type AG-C</p> <p>CERTAINTED GYPSUM INC — Type C</p> <p>CGC INC — Type C, IP-X2, IPC-AR</p> <p>CERTAINTED GYPSUM INC — Type LGFC-C/A</p> <p>GEORGIA-PACIFIC GYPSUM L L C — Types S, DAPC, TG-C</p> <p>NATIONAL GYPSUM CO — Types eXP-C, FSK-C, FSW-C, FSW-G</p> <p>PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type C or PG-C</p> <p>PANEL REY S A — Type PRC</p> <p>THAI GYPSUM PRODUCTS PCL — Type C</p> <p>UNITED STATES GYPSUM CO — Types C, IP-X2, IPC-AR</p> <p>USG BORAL DRYWALL SFZ LLC — Type C</p> <p>USG MEXICO S A DE C V — Types C, IP-X2, IPC-AR</p> <p>7A. Gypsum Board — When Steel Framing Members (Item 6A) are used, two layers of nom 5/8 in. thick, 4 ft wide gypsum board are installed with long dimensions perpendicular to furring channels (Item 6Aa). Base layer attached to the furring channels using 1 in. long Type S bugle head steel screws spaced 8 in. OC along buttend end joints and 12 in. OC in the field of the board. Buttend end joints centered on the continuous furring channels. Buttend base layer end joints to be offset a min of 16 in. in adjacent courses. Outer layer attached to the furring channels using 1-5/8 in. long Type S bugle head steel screws spaced 8 in. OC at buttend end joints and 12 in. OC in the field. Buttend end joints centered on the continuous furring channels and offset a min of 16 in. from buttend end joints of base layer. Buttend side joints of outer layer to be offset min 16 in. from buttend side joints of base layer.</p> <p>CGC INC — Type C, IP-X2, IPC-AR</p> <p>UNITED STATES GYPSUM CO — Types C, IP-X2, IPC-AR</p> <p>USG BORAL DRYWALL SFZ LLC — Type C</p> <p>USG MEXICO S A DE C V — Types C, IP-X2, IPC-AR</p> <p>7B. Gypsum Board* — (Finish Rating - 16 min) Required when Air Balance Inc. Type 299 ceiling damper (Item 4) is installed. Nom 5/8 in. thick, 48 in. wide gypsum board, installed and secured as described in Items 7 and 7A.</p> <p>UNITED STATES GYPSUM CO — Type C</p> <p>USG BORAL DRYWALL SFZ LLC — Type C</p> <p>USG MEXICO S A DE C V — Type C</p> <p>7C. Gypsum Board* (As an alternative to Items 7, 7A and 7B) — Nom 5/8 in. thick, 48 in. wide gypsum board, installed and secured as described in Items 7, 7A and 7B with max screw spacing 8 in. OC.</p> <p>CGC INC — Type ULUX</p> <p>UNITED STATES GYPSUM CO — ULUX</p> <p>8. Finishing System - (Not Shown) — Vinyl, dry or premixed joint compound, applied in two coats to joints and screw-heads. Nom 2 in. wide paper tape embedded in first layer of compound over all joints. As an alternate, nom 3/32 in. thick veneer plaster may be applied to the entire surface of gypsum board.</p> <p>9. Grille — Steel grille, installed in accordance with the installation instructions provided with the ceiling damper.</p> <p>10. Discrete Products Installed in Air-handling Spaces* — Automatic Balancing Valve/Damper — (Not Shown - Optional) — For use with item 4, Ruskin Company's Model CFD7 damper (CABS). Ceiling damper to be provided with plenum box per damper manufacturer's instructions with side outlet only. Entire assembly to be installed into any UL Class 0 or Class 1 flexible air duct in accordance with the instructions provided by the automatic balancing valve/damper manufacturer.</p> <p>METAL INDUSTRIES INC — Model ABV-4, ABV-5, ABV-6</p> <p>* Indicates such products shall bear the UL or eUL Certification Mark for jurisdictions employing the UL or eUL Certification (such as Canada), respectively.</p> <p>Last Updated on 2024-09-02</p> <p>The appearance of a company's name or product in this database does not in itself assure that products so identified have been manufactured under UL Solutions' Follow - Up Service. 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<p>Gypsum Board* — One layer of nom 5/8 in. thick, 4 ft wide gypsum board, installed with long dimension perpendicular to joists. Gypsum board secured with 1 in. long No. 6 Type W bugle head steel screws spaced 12 in. OC and located a min of 1-1/2 in. from side and end joints. The joints of the gypsum board are to be staggered a minimum of 12 inches from the joints of the subfloor.</p> <p>GEORGIA-PACIFIC GYPSUM L L C — Type DS</p> <p>Floor Mat Materials* — (As an alternate to the single layer gypsum board) - Floor mat material loose laid over the subfloor.</p> <p>MAXXON CORP — Type Encapsulated Sound Mat.</p> <p>Gypsum Board* — (For use when floor mat is used) Two layers of nom 5/8 in. thick, 4 ft wide gypsum board, installed with long dimension perpendicular to joists on top of the floor mat material. Gypsum board secured to each other with 1 in. long No. 6 Type G bugle head steel screws spaced 12 in. OC and located a min of 1-1/2 in. from side and end joints. The joints of the gypsum board are to be staggered a minimum of 12 inches in between layers and from the joints of the subfloor.</p> <p>GEORGIA-PACIFIC GYPSUM L L C — Type DS</p> <p>System No. 10</p> <p>Subflooring — Min 15/32 in. thick wood structural panels, min grade "C-D" or "Sheathing". Face grain of plywood or strength axis of panels to be perpendicular to the joists with joints staggered.</p> <p>Vapor Barrier — (Optional) — Nom 0.030 in. thick commercial asphalt saturated felt.</p> <p>Finish Flooring — Floor Topping Mixture* — Min 3/4 or 1 in. thickness of floor topping mixture for 19/32 or 15/32 in. thick wood structural panels respectively, having a min compressive strength of 1000 psi. Refer to manufacturer's instructions accompanying the material for specific mix design.</p> <p>DEPENDABLE LLC — Types GSL M3.4, GSL K2.6, GSL-CSD and GSL RH</p> <p>Floor Mat Materials* — (Optional) — Nom. 1/4 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 3/4 in.</p> <p>KEENE BUILDING PRODUCTS CO INC — Types Quiet Curl 55/025 and Quiet Curl 55/025 N</p> <p>Alternate Floor Mat Materials* — (Optional) — Floor mat material Nom. 3/8 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 1 in.</p> <p>KEENE BUILDING PRODUCTS CO INC — Types Quiet Curl 60/040 and Quiet Curl 60/040 N</p> <p>Alternate Floor Mat Materials* — (Optional) — Floor mat material Nom. 3/4 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 1-1/2 in.</p> <p>KEENE BUILDING PRODUCTS CO INC — Types Quiet Curl 65/075, Quiet Curl 65/075 N</p> <p>Alternate Floor Mat Materials* — (Optional) — Floor mat material Nom. 1/8 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 3/4 in.</p> <p>KEENE BUILDING PRODUCTS CO INC — Types Quiet Curl 52/013 and Quiet Curl 52/013 N</p> <p>Alternate Floor Mat Materials* — (Optional) — Floor mat material Nom. 1/4 in. entangled net core with a compressible fabric attached to the bottom loose laid over the subfloor. Floor topping thickness shall be a minimum of 1 in.</p> <p>KEENE BUILDING PRODUCTS CO INC — Types Quiet Curl 55/025 MT and Quiet Curl 55/025 N MT</p> <p>System No. 11</p> <p>Subflooring — Min 1 by 6 in. T & G lumber fastened diagonally to joists, or min 15/32 in. thick plywood or min 7/16 in. thick oriented strand board (OSB) wood structural panels, min grade "C-D" or "Sheathing". Face grain of plywood or strength axis of panel to be perpendicular to joists with joints staggered.</p> <p>Finish Flooring* — Floor Topping Materials — Min 3/4 in. to 1-1/2 in. thickness of any Floor Topping Mixture bearing the UL Classification Marking as to Fire Resistance with a minimum compressive strength of 1500 psi.</p> <p>See Floor- and Roof-Topping Mixtures (CCOX) category for names of Classified Companies.</p>	<p>4. Ceiling Damper* - (Optional) — Max nom area shall be 198 sq in. Max rectangular size shall be 12 in. wide by 16-1/2 in. long. Max height of damper shall be 8-3/4 in. Aggregate damper openings shall not exceed 99 sq in. per 100 sq ft of ceiling area. Damper installed in accordance with the manufacturer's installation instructions provided with the damper. A steel grille (Item 9) shall be installed in accordance with installation instructions.</p> <p>AIR BALANCE INC — Type 299 (See Item 7B)</p> <p>AIR KING VENTILATION SYSTEMS — Series FRAS, Series FRAX, Series FRAKV</p> <p>CENTRAL VENTILATION SYSTEMS CO L L C — Models C-S/R-HC(A), C-RD-HC(A)</p> <p>JAMIL ALI NASSER AL-ZADJALI FOR INDUSTRY — Models C-S/R-HC(A), C-RD-HC(A)</p> <p>BADR & ASFOUR COMPANY FOR ENGINEERING AND METAL INDUSTRIES — Models C-S/R-HC(A), C-RD-HC(A)</p> <p>GREENHECK FAN CORP — Model CRD-1W)</p> <p>METAL-FAB INC — Models MSCDHC, MRCDHC</p> <p>BRISK MFG INC — Model BM1-50-CRD-S/R-WT</p> <p>PRICE INDUSTRIES LTD — Models CD-S/R-HC, CD-RD-HC</p> <p>RUSKIN COMPANY — Model CFD7</p> <p>UNITED ENERTECH CORP — Models C-S/R-HC(A), C-RD-HC(A)</p> <p>5. Batts and Blankets* - (Optional) — Nom 48 by 16 by 3 in. thickness of glass fiber batts secured to joists on both sides with staples spaced 12 in. OC.</p> <p>CERTAINTED CORP</p> <p>KNAUF INSULATION LLC</p> <p>JOHNS MANVILLE</p> <p>KNAUF INSULATION LLC</p> <p>MANSON INSULATION INC</p> <p>OWENS CORNING</p> <p>6. Resilient Channels — Resilient channels, formed from No. 25 MSG galv steel and shaped as shown, spaced 24 in. OC perpendicular to joists. Channels overlapped 1/2 in. at ends and secured to each joist with one 1-1/4 in. long No. 7 Type S bugle head screw. Additional resilient channels positioned so as to coincide with end joints of gypsum board (Item 7). Additional channels shall extend min 3 in. beyond each side edge of board.</p> <p>6A. Steel Framing Members* — (Not Shown) - As an alternate to Item 6. Used with Item 7A only.</p> <p>a. Furring Channels — Hat-shaped furring channels, 7/8 in. deep by 2-5/8 in. wide at the base and 1-1/4 in. wide at the face, formed from No. 25 ga. galv steel, spaced max. 16 in. OC perpendicular to joists and Cold Rolled Channels (Item 6Ab). Furring channels secured to Cold Rolled Channels at every intersection with a 1/2 in. pan head self-drilling screw through each furring channel leg. Ends of adjoining channels overlapped 4 in. and tied together with two double strand No. 18 SWG galv steel wire ties, one at each end of overlap. Supplemental furring channels at base layer and outer layer gypsum board butt joints are not required. Optional Batts and Blankets may be draped over furring channels as described in Item 5. Two layers of gypsum board attached to furring channels as described in Item 7A.</p>	<p>a. Furring Channels — Formed of No. 25 MSG galv steel, 2-1/2 in. wide by 7/8 in. deep, spaced 24 in. OC, perpendicular to joists. Channels secured to joists as described in Item b.</p> <p>b. Steel Framing Members* — Used to attach furring channels (Item a) to the wood joists (Item 2). Clips spaced at 48 in. OC and secured to the bottom of the joists with one 2-1/2 in. Coarse Drywall Screw with 1 in. diam washer through the center hole. Furring channels are then friction fitted into clips. Ends of channels are overlapped 6" and tied together with double strand of No. 18 AWG galvanized steel wire. Additional clips are required to hold the Gypsum Butt joints as described in Item 7.</p> <p>REGUPOOL AMERICA — Type SonuClip</p> <p>6F. Steel Framing Members* — (Optional, Not Shown) — As an alternate to Item 6.</p> <p>a. Furring Channels — Formed of No. 25 MSG galv steel, nominal 2-1/2 in. wide by 7/8 in. deep, spaced 24 in. OC, perpendicular to the joists. Channels secured to Cold Rolled Channels at every intersection with a 3/4 in. TEK screw through each furring channel leg. Ends of adjoining channels overlapped 12 in. and fastened together with two double strand No. 18 SWG galv steel wire ties, one at each end of overlap, or with two 3/4 in. TEK screws in each leg of the overlap section. Two furring channels positioned 3 in. OC, 1-1/2 in. on each side of gypsum board (Item 7) end joints, each extending a min of 6 in. beyond both side edges of the board.</p> <p>b. Cold Rolled Channels — 1-1/2 in. by 1/2 in., formed from No. 16 ga. galv steel, positioned vertically and parallel to joists, friction-fitted into the channel caddy on the Steel Framing Members (Item 6Fc) and secured with two 3/4 in. TEK screws. Adjoining lengths of cold rolled channels lapped min. 12 in. and secured along bottom legs with four 3/4 in. TEK screws and wire-tied together with two double strand 18 SWG galv steel wire ties, one at each end of overlap.</p> <p>c. Steel Framing Members* — Spaced 48 in. OC, max along joist, and secured to the joist on alternating joists with two, #10 x 1-1/2 in. screws through mounting holes on the hanger bracket.</p> <p>PAC INTERNATIONAL L L C — Type RSIC-SI-CRC EZ Clip</p> <p>6G. Steel Framing Members* — (Optional, Not Shown) — As an alternate to Item 6.</p> <p>a. Furring Channels — Formed of No. 25 MSG galv steel, nominal 2-1/2 in. wide by 7/8 in. deep, spaced 24 in. OC perpendicular to joists and friction fit into Steel Framing Members (Item 6Gb). Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap or with two TEK screws along each leg of the 6 in. overlap. Two furring channels positioned 6 in. OC, 3 in. on each side of gypsum board (Item 7) end joints. Butt joint channels held in place by strong back channels placed upside down, on top of, and running perpendicular to primary furring channels, extending 6 in. longer than length of gypsum side joint. Strong back channels spaced maximum 48 in. OC. Strong back channels secured to every intersection of primary furring channels with four 7/16 in. pan head screws, two along each of the legs at intersections. Butt joint channels run perpendicular to strong back channels and shall be minimum 6 in. longer than length of joint, secured to strong back channels with 7/16 in. pan head screws, two along each of the legs at intersection with strong back channels.</p> <p>b. Steel Framing Members* — Used to attach furring channels (Item 6Ga) to joists. Clips spaced 48 in. OC and secured along joist webs at each furring channel intersection with min. 3/4 in. long self-drilling #10 x 1-1/2 in. screws through each of the provided hole locations. Furring channels are friction fitted into clips.</p> <p>PAC INTERNATIONAL L L C — Type RSIC-SI-1 Ultra</p> <p>7. Gypsum Board* — Nom 5/8 in. thick, 48 in. wide gypsum board, installed with long dimension perpendicular to resilient channels and side edges located between joists. Gypsum board secured with 1 in. long No. 7 Type S bugle head steel screws spaced 8 in. OC. End joints of gypsum board similarly fastened to additional resilient channels positioned at end joint locations. Screws located 3/4 and 5/8 in. from side and end joints, respectively.</p> <p>When Steel Framing Members* (Item 6B, 6C) are used, sheets installed with long dimension perpendicular to furring channels and side joints of sheet located beneath joists. Nom 1 in. long No. 6 Type S bugle head screws are driven through channel spaced 12 in. OC in the field. Gypsum board butt joints shall be staggered min. 2 ft. within the assembly, and occur between the main furring channels. At the gypsum board butt joints, each end of each gypsum board shall be supported by a single length of furring channel equal to the width of the gypsum board plus 6 in. on each end. The two furring channels shall be spaced approximately 3-1/2 in. OC, and be attached to the joist with one clip at each end of the channel. Screw spacing along the butt joint to attach the gypsum board to the furring channels shall be 8 in. OC.</p> <p>When Steel Framing Members (Item 6D) are used, one layer of nom 5/8 in. thick, 4 ft wide gypsum board is installed with long dimensions perpendicular to furring channels. Gypsum board secured to furring channels with nom 1 in. long Type S bugle-head steel screws spaced 8 in. OC in the field of the board. Gypsum board buttend end joints shall be staggered minimum 48 in. and centered over main furring channels. At the gypsum board butt joints, each end of each gypsum board shall be supported by a single length of furring channel equal to the width of the gypsum board plus 3 in. on each end. The two support furring channels shall be spaced approximately 3 in. in from joint. Screw spacing along the gypsum board</p>	<p>USG MEXICO S A DE C V — Types C, IP-X2, IPC-AR</p> <p>7B. Gypsum Board* — (Finish Rating - 16 min) Required when Air Balance Inc. Type 299 ceiling damper (Item 4) is installed. Nom 5/8 in. thick, 48 in. wide gypsum board, installed and secured as described in Items 7 and 7A.</p> <p>UNITED STATES GYPSUM CO — Type C</p> <p>USG BORAL DRYWALL SFZ LLC — Type C</p> <p>USG MEXICO S A DE C V — Type C</p> <p>7C. Gypsum Board* (As an alternative to Items 7, 7A and 7B) — Nom 5/8 in. thick, 48 in. wide gypsum board, installed and secured as described in Items 7, 7A and 7B with max screw spacing 8 in. OC.</p> <p>CGC INC — Type ULUX</p> <p>UNITED STATES GYPSUM CO — ULUX</p> <p>8. Finishing System - (Not Shown) — Vinyl, dry or premixed joint compound, applied in two coats to joints and screw-heads. Nom 2 in. wide paper tape embedded in first layer of compound over all joints. As an alternate, nom 3/32 in. thick veneer plaster may be applied to the entire surface of gypsum board.</p> <p>9. Grille — Steel grille, installed in accordance with the installation instructions provided with the ceiling damper.</p> <p>10. Discrete Products Installed in Air-handling Spaces* — Automatic Balancing Valve/Damper — (Not Shown - Optional) — For use with item 4, Ruskin Company's Model CFD7 damper (CABS). Ceiling damper to be provided with plenum box per damper manufacturer's instructions with side outlet only. Entire assembly to be installed into any UL Class 0 or Class 1 flexible air duct in accordance with the instructions provided by the automatic balancing valve/damper manufacturer.</p> <p>METAL INDUSTRIES INC — Model ABV-4, ABV-5, ABV-6</p> <p>* Indicates such products shall bear the UL or eUL Certification Mark for jurisdictions employing the UL or eUL Certification (such as Canada), respectively.</p> <p>Last Updated on 2024-09-02</p> <p>The appearance of a company's name or product in this database does not in itself assure that products so identified have been manufactured under UL Solutions' Follow - Up Service. 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PRINTS ISSUED

12/20/2024 - CITY SUBMISSION

REVISIONS:

<p>4). Alternate Ceiling Damper* — Ceiling damper & fan assembly for use with min 18 in. deep trusses. Max nom area shall be 113 sq in. with the length not to exceed 9'-1/8 in. and the width not to exceed 1'-1/8 in. Aggregate damper openings shall not exceed 57 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturer's installation instructions provided with the damper. A plastic grille (Item 9) shall be installed in accordance with installation instructions.</p> <p>BROAN-NUTONE L L C — Model RDMWT</p> <p>4). Alternate Ceiling Damper* — Ceiling damper & fan assembly for use with min 18 in. deep trusses. Max nom area shall be 79 sq in. with the length not to exceed 10 in. and the width not to exceed 7'-15/16 in. Aggregate damper openings shall not exceed 40 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturer's installation instructions provided with the damper. A metallic grille (Item 9) shall be installed in accordance with installation instructions.</p> <p>BROAN-NUTONE L L C — Models RD1 and RDH</p> <p>4L. Alternate Ceiling Damper* — Ceiling damper & fan assembly for use with min 18 in. deep trusses. Max nom area shall be 87 sq in. with the length not to exceed 9 in. and the width not to exceed 9'-11/16 in. Aggregate damper openings shall not exceed 44 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturer's installation instructions provided with the damper. A plastic grille (Item 9) shall be installed in accordance with installation instructions.</p> <p>BROAN-NUTONE L L C — Model RDMWT</p> <p>4M. Alternate Ceiling Damper* — Ceiling damper & fan assembly for use with min 18 in. deep trusses. Max nom area shall be 87 sq in. with the length not to exceed 9 in. and the width not to exceed 9'-11/16 in. Aggregate damper openings shall not exceed 44 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturer's installation instructions provided with the damper. A plastic grille (Item 9) shall be installed in accordance with installation instructions.</p> <p>BROAN-NUTONE L L C — Model RDMWT12</p> <p>4N. Alternate Ceiling Damper* — (Optional. To be used with Air Duct Item 3) — For use with min 18 in. deep trusses. Max nom 21 in. long by 18 in. wide, fabricated from galvanized steel. Plenum box max size nom 21 in. long by 18 in. wide by 14 in. high (inner dimension) fabricated from either galvanized steel or min 1 in. thick Listed Duct Board bearing the UL Listing Marking having a min R-Value of 4.3. Installed in accordance with the instructions provided by the manufacturer. Max damper openings not to exceed 180 sq in. per 100 sq ft of ceiling area.</p> <p>GREENHECK FAN CORP — Model CRD-1WT</p> <p>4O. Alternate Ceiling Damper* — (Optional. To be used with Air Duct Item 3) — For use with min 18 in. deep trusses. Max nom 12 in. long by 12 in. wide with an 8 in. diameter damper, fabricated from galvanized steel. Installed in accordance with the instructions provided by the manufacturer. Max damper openings not to exceed 72 sq sq in. per 100 sq ft of ceiling area. .</p> <p>GREENHECK FAN CORP — Model CRD-2WT</p> <p>4P. Alternate Ceiling Damper* — (Optional. To be used with Air Duct, Item 3) — For use with min 18 in. deep trusses. Max nom 18 in. long by 18 in. wide, fabricated from galvanized steel. Installed in accordance with the instructions provided by the manufacturer. Max damper openings not to exceed 162 sq in. per 100 sq ft of ceiling area.</p> <p>RUSKIN COMPANY — Model CFDT7, CFDT1-END-BT, CFDT1-90-BT, CFDT7-ST-BT, CFDT7-SB, CFDT7-R6-OB, or CFDT7-I86</p> <p>4Q. Alternate Ceiling Damper* — (Optional. To be used with Air Duct, Item 3) — For use with min 18 in. deep trusses. Max 8 in. diameter damper, fabricated from galvanized steel. Installed in accordance with the instructions provided by the manufacturer. Max damper openings not to exceed 25 sq in. per 100 sq ft of ceiling area.</p> <p>RUSKIN COMPANY — Model CFDT7T</p> <p>4R. Alternate Ceiling Damper* — (Optional. to be used with Air Duct Item 3) For use with min 18 in. deep trusses. Max nom 11'-1/8 in. long by 13'-5/8 in. wide, fabricated from galvanized steel. Installed in accordance with the instructions provided by the manufacturer. Max damper openings not to exceed 76 sq sq in. per 100 sq ft of ceiling area.</p> <p>GREENHECK FAN CORP — Model CRD-310WT</p>	<p>channels, spaced 6 in OC, oriented opposite each gypsum board end joint as shown in the above illustration. Additional channels shall extend 6 in beyond each side edge of board.</p> <p>6A. Steel Framing Members* — (Not Shown) — As an alternate to Item 6, furring channels and Steel Framing Members* as described below:</p> <p>a. Furring Channels — Formed of No. 25 MSG galv steel, 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced 16 in. OC perpendicular to trusses. When batt insulation (Items 5) is draped over the resilient channel/gypsum board ceiling membrane, the resilient channel spacing shall be reduced to 12 in. OC. Channels secured to trusses as described in Item b. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap.</p> <p>b. Steel Framing Members* — Used to attach furring channels (Item a) to trusses (Item 2). Clips spaced 48 in. OC. R5IC-1 and R5IC-1 (2.75) clips secured to alternating trusses with No. 8 x 2-1/2 in. coarse drywall screw through the center grommet. R5IC-Si-X secured with No. 10 x 3-1/2 in. screws. R5IC-V and R5IC-V (2.75) clips secured to alternating trusses with No. 8 x 1-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips. R5IC-1, R5IC-Si-X, and R5IC-V clips for use with 2-9/16 in. wide furring channels. R5IC-1 (2.75) and R5IC-V (2.75) clips for use with 2-23/32 in. wide furring channels. Adjoining channels are overlapped as described in Item a. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping No. 6 framing screws, min 7/16 in. clip at the midpoint of the overlap, with one screw on each flange of the channel. Additional clips required to hold furring channel that supports the gypsum board butt joints, as described in Item 7.</p> <p>PAC INTERNATIONAL L L C — Types R5IC-1, R5IC-V, R5IC-Si-X, R5IC-1 (2.75), R5IC-V (2.75)</p> <p>6B. Alternate Steel Framing Members — (Not Shown) — As an alternate to Items 6 and 6A, main runners, cross tees, cross channels and wall angle as listed below.</p> <p>a. Main Runners — Nom 10 or 12 ft long, 15/16 in. or 1-1/2 in. wide face, spaced 4 ft. OC. Main runners suspended by min 12 SWG galv steel hanger wires spaced 48 in. OC. Hanger wires to be located adjacent to main runner/cross tee intersections. Hanger wires crossed and twist-tied on 16d nails driven in to side of trusses at least 5 in. above the bottom face.</p> <p>b. Cross Tees or Channels — Nom 4 ft long cross tees, with 15/16 in. or 1-1/2 in. wide face, or nom 4 ft long cross channels, with 1-1/2 in. wide face, either spaced 16 in. OC, installed perpendicular to the main runners. Additional cross tees or channels used 8 in. from each side of butted gypsum board end joints. The cross tees or channels may be riveted or screw-attached to the wall angle or channel to facilitate the ceiling installation.</p> <p>c. Wall Angle or Channel — Painted or galv steel angle with 1 in. legs or channel with 1 in. legs, 1-9/16 in. deep attached to walls in perimeter of ceiling with fasteners 16 in. OC. To support steel framing member ends and for screw-attachment of the gypsum panel.</p> <p>CGC INC — Type DGL or RX</p> <p>USG INTERIORS LLC — Type DGL or RX</p> <p>6C. Steel Framing Members* — (Not Shown) — As an alternate to Items 6, 6A and 6B.</p> <p>a. Furring Channels — Hat-shaped furring channels, 7/8 in. deep by 2-5/8 in. wide at the base and 1-1/4 in. wide at the face, formed from No. 25 ga. galv steel, spaced max. 16 in. OC perpendicular to trusses and Cold Rolled Channels (Item 6C). Furring channels secured to Cold Rolled Channels at every intersection with a 1/2 in. pan head self-drilling screw through each furring channel leg. Ends of adjoining channels overlapped 4 in. and tied together with two double strand No. 18 SWG galv steel wire ties, one at each end of overlap. Supplemental furring channels at base layer and outer layer gypsum board butt joints are not required. Batts and Blankets draped over furring channels as described in Item 5. Two layers of gypsum board attached to furring channels as described in Item 7.</p> <p>b. Cold Rolled Channels — 1-1/2 in. by 1/2 in., formed from No. 16 ga. galv steel, positioned vertically and parallel to trusses, friction-fitted into the channel caddy on the Steel Framing Members (Item 6C). Adjoining lengths of cold rolled channels lapped min. 6 in. and wire-tied together with two double strand 18 SWG galv steel wire ties, one at each end of overlap.</p> <p>c. Blocking — Where truss design does not permit direct, full contact of the hanger bracket, a piece of nominal 2 by 4 in. lumber (blocking), min. 6 in. long to permit full contact of the hanger bracket, to be secured vertically to the side of the trusses at the top and bottom of the blocking at each Steel Framing Member (Item 6C) location.</p> <p>d. Steel Framing Members* — Hangers spaced 48 in. OC, max along truss, and secured to the Blocking (Item 6C) on alternating trusses with a single 5/16 in. by 2 in. hex head lag bolt or four #6 1-1/4 in. drywall screws through mounting hole(s) on the hanger bracket. The two 1/4 in. long steel teeth on the hanger are embedded in the side of the blocking. Hanger positioned on blocking and leveling bolt height adjusted such that furring channels are flush with bottom of trusses before gypsum board installation. Spring gauge of hanger chosen per manufacturer's instructions.</p> <p>KINETICS NOISE CONTROL INC — Type ICW.</p> <p>6D. Steel Framing Members* — (Not Shown) — As an alternate to Items 6, 6A, 6B and 6C.</p> <p>a. Furring Channels — Formed of No. 25 MSG galv steel, 2-3/8 in. wide by 7/8 in. deep, spaced 16 in. OC perpendicular to wood structural members. When insulation, Items 5 or 5A is applied over the furring channel/gypsum panel ceiling membrane, the furring channel spacing shall be reduced to 12 in. OC. Channels secured to trusses as described in Item b. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galv steel wire near each end of overlap.</p> <p>b. Steel Framing Members* — Used to attach furring channels (Item a) to trusses (Item 2). Clips spaced 48 in. OC, and secured to the bottom chord of alternating trusses with two No. 8 x 2-1/2 in. coarse drywall screws, one through the hole at each end of the clip. When insulation, Items 5 or 5A is applied over the furring channel/gypsum panel ceiling membrane, the clip spacing shall be reduced to 24 in. OC and secured to consecutive trusses. Furring channels are friction fitted into clips. Adjoining channels are overlapped as described in Item a. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping No. 6 framing screws, min 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Additional clips required to hold furring channel that supports the gypsum board butt joints, as described in Item 7. Two layers of gypsum board required as described in Item 7. Not evaluated for use with Item 5B.</p> <p>KINETICS NOISE CONTROL INC — Type Isomax.</p> <p>6E. Steel Framing Members* — (Optional, Not Shown) — Used as an alternate method to attach min. 1/2 in. deep resilient channels (Item 6) to wood trusses (Item 2). Resilient channels are friction fitted into clips, and then clips are secured to the bottom chord of each wood truss with a min. 1-3/4 in. long Type S bugle head steel screw through the center hole of the clip and the resilient channel flange. Adjoining resilient channels are overlapped 4 in. under trusses. The clip flange is opened slightly to accommodate the two overlapped channels. Additional clips required to hold resilient channel that supports the gypsum board butt joints, as described in Item 7.</p> <p>KEENE BUILDING PRODUCTS CO INC — Type RC Assurance.</p> <p>6F. Steel Framing Members — (Not Shown) — As an alternate to Item 6, furring channels and Steel Framing Members* as described below:</p> <p>a. Furring Channels — Formed of No. 25 MSG galv steel, 2-3/8 in. wide by 7/8 in. deep, spaced 16 in. OC perpendicular to trusses. When batt insulation (Item 5) is draped over the resilient channel/gypsum board ceiling membrane, the resilient channel spacing shall be reduced to 12 in. OC. Channels secured to trusses as described in Item b. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap.</p> <p>b. Steel Framing Members* — Used to attach furring channels (Item a) to trusses (Item 2). Clips spaced 48 in. OC. GenieClips secured to alternating joints with No. 8 x 2-1/2 in. coarse drywall screw through the center grommet. When insulation, Items 5 is applied over the furring channel/gypsum panel ceiling membrane, the clip spacing shall be reduced to 24 in. OC and secured to consecutive trusses. Furring channels are friction fitted into clips. Adjoining channels are overlapped as described in Item a. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping No. 6 framing screws, min 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Additional clips required to hold furring channel that supports the gypsum board butt joints, as described in Item 7. Not evaluated for use with Item 5A or 5B.</p> <p>PLITEG INC — Type GENIECLIP</p> <p>6G. Alternate Steel Framing Members* — (Not Shown) — As an alternate to Items 6-6F, furring channels and Steel Framing Members as described below.</p> <p>a. Furring Channels — Formed of No. 25 MSG galv steel, 2-5/8 in. wide by 7/8 in. deep, spaced 16 in OC, perpendicular to trusses. When batt insulation (Item 5) is draped over the resilient channel/gypsum board ceiling membrane, the resilient channel spacing shall be reduced to 12 in. OC. Channels secured to trusses as described in Item b.</p> <p>b. Steel Framing Members* — Used to attach furring channels (Item a) to trusses (Item 2). Clips spaced at 48" OC and secured to the bottom of the joists with one 2 in. Coarse Drywall Screw with 1 in. diam washer through the center hole. Furring channels are then friction fitted into clips. Ends of channels are overlapped 6" and tied together with double strand of No. 18 AWG galvanized steel wire. Additional clips are required to hold the Gypsum Butt joints as described in Item 7B.</p> <p>STUDCO BUILDING SYSTEMS — RESILMOUNT Sound Isolation Clips - Type A237 or A237R</p> <p>6H. Alternate Steel Framing Members* — (Not Shown) — As an alternate to Items 6-6G, furring channels and Steel Framing Members as described below.</p> <p>a. Furring Channels — Formed of No. 25 MSG galv steel, 2-1/2 in. wide by 7/8 in. deep, spaced 16 in OC, perpendicular to trusses. When batt insulation (Item 5) is draped over the resilient channel/gypsum board ceiling membrane, the resilient channel spacing shall be reduced to 12 in. OC. Channels secured to trusses as described in Item b.</p> <p>b. Steel Framing Members* — Used to attach furring channels (Item a) to trusses (Item 2). Clips spaced at 48" OC and secured to the bottom of the trusses with one 2-1/2 in. Coarse Drywall Screw with 1 in. diam washer through the center hole. Furring channels are then friction fitted into clips. Ends of channels are overlapped 6" and tied together with double strand of No. 18 AWG galvanized steel wire. Additional clips are required to hold the Gypsum Butt joints as described in Item 7B.</p> <p>REGUPO AMERICA — Type Sonuclip</p> <p>6I. Resilient Channels — For Use With Item 7C - Formed from min 25 MSG galv. steel installed perpendicular to trusses and spaced 16 in. OC. Channels secured to each truss with 1-5/8 in. long Type S bugle head steel screws. Channels overlapped 4 in. at splices. Two channels, spaced 6 in. OC, oriented opposite each gypsum panel end joint. Additional channels shall extend min 6 in. beyond each side edge of panel. Insulation, Item 5C is applied over the resilient channel/gypsum panel ceiling membrane.</p> <p>6J. Steel Framing Members* — (Optional, Not Shown) — As an alternate to Item 6.</p> <p>a. Furring Channels — Formed of No. 25 MSG galv steel, nominal 2-1/2 in. wide by 7/8 in. deep, spaced as indicated in Item 6, perpendicular to the trusses. Channels secured to Cold Rolled Channels at every intersection with a 3/4 in. TEK screw. Furring channels along each furring channel leg. Ends of adjoining channels overlapped 12 in. and fastened together with two double strand No. 18 SWG galv steel wire ties, one at each end of overlap, or with two 3/4 in. TEK screws in each leg of the overlap section. Two furring channels used at end joints of gypsum board (Item 7), each extending a min of 6 in. beyond both side edges of the board.</p> <p>b. Cold Rolled Channels — 1-1/2 in. by 1/2 in., formed from No. 16 ga. galv steel, positioned vertically and parallel to trusses, friction-fitted into the channel caddy on the Steel Framing Members (Item 6J) and secured with two 3/4 in. TEK screws. Adjoining lengths of cold rolled channels lapped min. 12 in. and secured along bottom legs with four 3/4 in. TEK screws and wire-tied together with two double strand 18 SWG galv steel wire ties, one at each end of overlap.</p> <p>c. Blocking — Where truss design does not permit direct, full contact of the hanger bracket, a piece of nominal 2 by 4 in. lumber (blocking), min. 12 in. long to permit full contact of the hanger bracket, to be secured vertically to the side of the trusses at the top and bottom of the blocking at each Steel Framing Member (Item 6J) location with 16d nails or minimum 2-1/2 in. screws.</p> <p>d. Steel Framing Members* — Spaced 48 in. OC, max along truss, and secured to the truss on alternating trusses with two, #10 x 2 in. screws through mounting holes on the hanger bracket.</p> <p>6K. Steel Framing Members* — (Optional, Not Shown) — As an alternate to Item 6.</p> <p>a. Furring Channels — Formed of No. 25 MSG galv steel, nominal 2-1/2 in. wide by 7/8 in. deep, spaced as indicated in Item 6, perpendicular to trusses and friction fit into Steel Framing Members (Item 6K). Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap or with two TEK screws along each leg of the 6 in. overlap. Two furring channels used at end joints of gypsum board (Item 7). Butt joint channels held in place by strong back channels placed upside down, on top of, and running perpendicular to primary furring channels, extending 6 in. longer than length of gypsum side joint. Strong back channels spaced maximum 48 in. OC. Strong back channels secured to every intersection of primary furring channels with four 7/16 in. pan head screws, two along each of the legs at intersections. Butt joint channels run perpendicular to strong back channels and shall be minimum 6 in. longer than length of joint, secured to strong back channels with 7/16 in. pan head screws, two along each of the legs at intersection with strong back channels.</p> <p>b. Blocking — Where truss design does not permit direct, full contact of the hanger bracket, a piece of nominal 2 by 4 in. lumber (blocking), min. 12 in. long to permit full contact of the hanger bracket, to be secured vertically to the side of the trusses at the top and bottom of the blocking at each Steel Framing Member (Item 6K) location with 16d nails or minimum 2-1/2 in. screws.</p> <p>c. Steel Framing Members* — Used to attach furring channels (Item 6Ka) to trusses. Clips spaced 48 in. OC and secured along truss webs at each furring channel intersection with min. 3/4 in. long self-drilling #10 x 2 in. screws through each of the provided hole locations. Furring channels are friction fitted into clips.</p> <p>PAC INTERNATIONAL L L C — Type R5IC-SI-CRC EZ Clip</p> <p>6L. Steel Framing Members* — (Not Shown) — As an alternate to Item 6L.</p> <p>a. Furring Channels — Formed of No. 25 MSG galv steel, nominal 2-1/2 in. wide by 7/8 in. deep, spaced as indicated in Item 6, perpendicular to trusses and friction fit into Steel Framing Members (Item 6L). Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap or with two TEK screws along each leg of the 6 in. overlap. Two furring channels used at end joints of gypsum board (Item 7). Butt joint channels held in place by strong back channels placed upside down, on top of, and running perpendicular to primary furring channels, extending 6 in. longer than length of gypsum side joint. Strong back channels spaced maximum 48 in. OC. Strong back channels secured to every intersection of primary furring channels with four 7/16 in. pan head screws, two along each of the legs at intersections. Butt joint channels run perpendicular to strong back channels and shall be minimum 6 in. longer than length of joint, secured to strong back channels with 7/16 in. pan head screws, two along each of the legs at intersection with strong back channels.</p> <p>b. Blocking — Where truss design does not permit direct, full contact of the hanger bracket, a piece of nominal 2 by 4 in. lumber (blocking), min. 12 in. long to permit full contact of the hanger bracket, to be secured vertically to the side of the trusses at the top and bottom of the blocking at each Steel Framing Member (Item 6L) location with 16d nails or minimum 2-1/2 in. screws.</p> <p>c. Steel Framing Members* — Used to attach furring channels (Item 6La) to trusses. Clips spaced 48 in. OC and secured along truss webs at each furring channel intersection with min. 3/4 in. long self-drilling #10 x 2 in. screws through each of the provided hole locations. Furring channels are friction fitted into clips.</p> <p>PAC INTERNATIONAL L L C — Type R5IC-SI-1 Ultra</p> <p>7. Gypsum Board* — Nom 5/8 in. thick, 48 in. wide gypsum board. When resilient channels (Item 6) are used, gypsum board installed with long dimension perpendicular to resilient channels. Gypsum board secured with 1 in. long Type S bugle head screws spaced 12 in. OC and located a min of 1/2 in. from side joints and 3 in. from end joints. End joints secured to both resilient channels as shown in end joint detail. When batt insulation (Item 5) is draped over the resilient channel/gypsum board ceiling membrane, screws spacing shall be 8 in. OC. When Steel Framing Members* (Item 6A, 6F, 6G) are used, gypsum board installed with long dimension</p>	<p>together with double strand of No. 18 SWG galv steel wire near each end of overlap.</p> <p>b. Steel Framing Members* — Used to attach furring channels (Item a) to trusses (Item 2). Clips spaced 48 in. OC. R5IC-1 and R5IC-1 (2.75) clips secured to alternating trusses with No. 8 x 2-1/2 in. coarse drywall screw through the center grommet. R5IC-Si-X secured with No. 10 x 3-1/2 in. screws. R5IC-1, and R5IC-Si-X, clips for use with 2-9/16 in. wide furring channels. R5IC-1 (2.75) clips for use with 2-23/32 in. wide furring channels. Adjoining channels are overlapped as described in Item a. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping No. 6 framing screws, min 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Additional clips required to hold furring channel that supports the gypsum board butt joints, as described in Item 7.</p> <p>PAC INTERNATIONAL L L C — Types R5IC-1, R5IC-Si-X, R5IC-1 (2.75), R5IC-Si-X</p> <p>6R. Steel Framing Members* — (Optional, Not Shown) — As an alternate to Item 6L.</p> <p>a. Furring Channels — Formed of No. 25 MSG galv steel, nominal 2-1/2 in. wide by 7/8 in. deep, spaced as indicated in Item 6, perpendicular to the trusses. Channels secured to Cold Rolled Channels at every intersection with a 3/4 in. TEK screw through each furring channel leg. Ends of adjoining channels overlapped 12 in. and fastened together with two double strand No. 18 SWG galv steel wire ties, one at each end of overlap, or with two 3/4 in. TEK screws in each leg of the overlap section. Two furring channels used at end joints of gypsum board (Item 7), each extending a min of 6 in. beyond both side edges of the board.</p> <p>b. Cold Rolled Channels — 1-1/2 in. by 1/2 in., formed from No. 16 ga. galv steel, positioned vertically and parallel to trusses, friction-fitted into the channel caddy on the Steel Framing Members (Item 6R) and secured with two 3/4 in. TEK screws. Adjoining lengths of cold rolled channels lapped min. 12 in. and secured along bottom legs with four 3/4 in. TEK screws and wire-tied together with two double strand 18 SWG galv steel wire ties, one at each end of overlap.</p> <p>c. Blocking — Where truss design does not permit direct, full contact of the hanger bracket, a piece of nominal 2 by 4 in. lumber (blocking), min. 12 in. long to permit full contact of the hanger bracket, to be secured vertically to the side of the trusses at the top and bottom of the blocking at each Steel Framing Member (Item 6R) location with 16d nails or minimum 2-1/2 in. screws.</p> <p>d. Steel Framing Members* — Spaced 48 in. OC, max along truss, and secured to the truss on alternating trusses with two, #10 x 2 in. screws through mounting holes on the hanger bracket.</p> <p>PAC INTERNATIONAL L L C — Type R5IC-SI-CRC EZ Clip</p> <p>6S. Steel Framing Members* — (Not Shown) — As an alternate to Item 6L.</p> <p>a. Furring Channels — Formed of No. 25 MSG galv steel, nominal 2-1/2 in. wide by 7/8 in. deep, spaced as indicated in Item 6, perpendicular to trusses and friction fit into Steel Framing Members (Item 6K). Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap or with two TEK screws along each leg of the 6 in. overlap. Two furring channels used at end joints of gypsum board (Item 7). Butt joint channels held in place by strong back channels placed upside down, on top of, and running perpendicular to primary furring channels, extending 6 in. longer than length of gypsum side joint. Strong back channels spaced maximum 48 in. OC. Strong back channels secured to every intersection of primary furring channels with four 7/16 in. pan head screws, two along each of the legs at intersections. Butt joint channels run perpendicular to strong back channels and shall be minimum 6 in. longer than length of joint, secured to strong back channels with 7/16 in. pan head screws, two along each of the legs at intersection with strong back channels.</p> <p>b. Blocking — Where truss design does not permit direct, full contact of the hanger bracket, a piece of nominal 2 by 4 in. lumber (blocking), min. 12 in. long to permit full contact of the hanger bracket, to be secured vertically to the side of the trusses at the top and bottom of the blocking at each Steel Framing Member (Item 6S) location with 16d nails or minimum 2-1/2 in. screws.</p> <p>c. Steel Framing Members* — Used to attach furring channels (Item 6Ka) to trusses. Clips spaced 48 in. OC and secured along truss webs at each furring channel intersection with min. 3/4 in. long self-drilling #10 x 2 in. screws through each of the provided hole locations. Furring channels are friction fitted into clips.</p> <p>PAC INTERNATIONAL L L C — Type R5IC-SI-1 Ultra</p> <p>7. Gypsum Board* — Nom 5/8 in. thick, 48 in. wide gypsum board. When resilient channels (Item 6) are used, gypsum board installed with long dimension perpendicular to resilient channels. Gypsum board secured with 1 in. long Type S bugle head screws spaced 12 in. OC and located a min of 1/2 in. from side joints and 3 in. from end joints. End joints secured to both resilient channels as shown in end joint detail. When batt insulation (Item 5) is draped over the resilient channel/gypsum board ceiling membrane, screws spacing shall be 8 in. OC. When Steel Framing Members* (Item 6A, 6F, 6G) are used, gypsum board installed with long dimension</p>
<p>45. Damper* — (Optional. to be used with Air Duct Item 3) For use with min 18 in. deep trusses. Max nom 12-3/8 in. long by 14-1/2 in. wide, fabricated from galvanized steel. Installed in accordance with the instructions provided by the manufacturer. Max damper openings not to exceed 80 sq in. per 100 sq ft of ceiling area.</p> <p>GREENHECK FAN CORP — Model CRD-320WT</p> <p>4T. Alternate Ceiling Damper* — (Optional. to be used with Air Duct Item 3) For use with min 18 in. deep trusses. Max 12 in. diameter damper within max 15 in. by 15 in. register box with max 12 in. by 12 in. register opening fabricated from galvanized steel. Aggregate area of the register opening(s) through the ceiling membrane shall not exceed 72 sq in. per 100 sq ft. of ceiling area. Damper assembly installed in accordance with the manufacturer's installation instructions.</p> <p>RUSKIN COMPANY — Model CFDT7T-SR</p> <p>4U. Alternate Ceiling Damper* - (Optional. to be used with Air Duct Item 3) For use with min 18 in. deep trusses. Maximum 20 in. long by 18 in. wide by 2'-8 in. high, fabricated from galvanized steel. Plenum box maximum size nom 21 in. long by 18 in. wide by 16 in. high fabricated from either galvanized steel or classified Air Duct Materials bearing the UL Class 0 or Class 1 rigid air duct material. Installed in accordance with the instructions provided by the manufacturer. Max damper openings not to exceed 180 sq in. per 100 sq ft of ceiling area.</p> <p>NAILOR INDUSTRIES INC — Types 0755, 0755A, 0756, 0756D, 0757, 0757D, 0757FP, 0757DPP, 0763</p> <p>SAFE AIR DOWCO — 0455, 0455A, 0456, 0456D, 0457, 0457D, 0457-B, 0457-CB, 0463-FB, 0457-EB, 0463-GB, 0463</p> <p>4V. Alternate Ceiling Damper* — (Optional. to be used with Air Duct Item 3) For use with min 18 in. deep trusses. Max nom 10-3/8 in. long by 10-3/8 in. wide, fabricated from galvanized steel. Installed in accordance with the instructions provided by the manufacturer. Max damper openings not to exceed 54 sq in. per 100 sq ft of ceiling area.</p> <p>GREENHECK FAN CORP — Model CRD-300WT</p> <p>5. Batts and Blankets* — (Optional with Items 7 and 7B; Required with Item 7A) — Glass fiber or mineral wool insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance. When the resilient channels (Item 6) or furring channels (Item 6A, 6O) are spaced 16 in. OC, the insulation shall be a max of 3-1/2 in. thick, and shall be secured against the subflooring with staples at 12 in. OC or held suspended in the concealed space with 0.090 in. diam galv steel wires attached to the wood trusses at 12 in. OC. When the resilient channels (Item 6) or furring channels (Item 6A, 6O) are spaced a max of 12 in. OC or when the Steel Framing Members (Item 6B) are used, there is no limit in the overall thickness of insulation, and the insulation can be secured against the subflooring, held suspended in the concealed space or draped over the resilient or furring channels (or Steel Framing Members) and gypsum panel membrane. When Steel Framing Members (Item 6C) are used, max 3-1/2 in. thick insulation shall be draped over the furring channels (Item 6Ca) and gypsum board ceiling membrane, and friction-fitted between the trusses and Steel Framing Members (Item 6Cd). The finished rating will be either determined when the insulation is secured to the subflooring.</p> <p>5A. Fiber, Sprayed* — (Dry Dense Packed 100% Borate Formulation) — As an alternate to Item 5 — When used, the resilient channel and gypsum board attachment is modified as specified in Items 6 and 7 and wire mesh (Item 10) shall be attached to the furring channels to facilitate installation of the material. The fiber is applied rating when Fiber, Sprayed is used has not been determined. The fiber is applied without water or adhesive at a nominal dry density of 3.5 lb/ft³, in accordance with the application instructions supplied with the product. When Item 5A (Fiber, Sprayed) is used, two layers of gypsum board required as described in Item 7. Not evaluated for use with Items 6B, 6C or 6D.</p> <p>APPLIGATE GREENERIE ACQUISITION LLC — Insulmax & SANCTUARY to be used with dry application only.</p> <p>5B. Fiber, Sprayed* — (Loose Fill 100% Borate Formulation) — As an alternate to Items 5 and 5A — The finished rating when Fiber, Sprayed is used has not been determined. The fiber is applied without water or adhesive at a minimum dry density of 0.5 lb/ft³ and at a max thickness of 3-1/2 in., in accordance with the application instructions supplied with the product. Wire mesh (Item 10) shall be attached to the furring channels to facilitate installation of the material. When Item 5B (Fiber, Sprayed) is used, two layers of gypsum board required as described in Item 7. Not evaluated for use with Items 6B, 6C or 6D.</p> <p>APPLIGATE GREENERIE ACQUISITION LLC — Insulmax & SANCTUARY to be used with dry application only.</p> <p>5C. Cavity Insulation - Batts and Blankets* or Fiber, Sprayed* — (Required for Item 7C. As described above in Items 5 through 5B) — Min. 3-1/2 in. thick with no limit on maximum thickness fitted in the concealed space, draped over the resilient channel (Item 6I)/gypsum board (Item 7C) ceiling membrane.</p> <p>6. Resilient Channels — Resilient channels, formed of 25 MSG thick galv steel, spaced 16 in. OC, perpendicular to trusses. When insulation (Items 5, 5A, 5B) is draped over the resilient channel/gypsum board ceiling membrane, the spacing shall be reduced to 12 in. OC. Channels secured to each truss with 1-1/4 in. long Type S bugle head steel screws. Channels overlapped 4 in. at splices. Two</p>	<p>PAC INTERNATIONAL L L C — Type R5IC-SI-1 Ultra</p> <p>6L. Steel Framing Members* — (Optional - Not Shown) — Used to attach resilient channels (Item 6) to trusses (Item 2). Clips spaced 48 in. OC and secured to trusses with one No. 8 x 2-1/2 in. coarse drywall screw through center grommet hole. Channels secured to clips with one #10 x 1/2 in. pan-head self-drilling screw. Ends of adjoining channels overlapped 6 in. and secured together with two #8 15 x 1/2 in. Phillips Modified screws spaced 2-1/2 in. from the center of the overlap. Gypsum board butt joints require additional resilient channels spaced 1-1/2 in. from the butt joint on either side. One edge of the extra channels will extend to an adjacent truss where it is secured with a clip.</p> <p>KEENE BUILDING PRODUCTS CO INC — Type RC+ Assurance Clip</p> <p>6M. Steel Framing Members* — (Optional, Not Shown) — Used as an alternate method to attach resilient channels to structural members. A resilient sound isolation accessory shall be used at each attachment point of the resilient channels and spaced max 24 in. OC. Channel ends butted and centered under the structural members and attached with one accessory at each end. Additional accessories used to hold resilient channels that support the gypsum board end joints. The accessory envelops the mounting edge of the resilient channel. The accessory and resilient channel are fastened to the structural members with the screws supplied with the accessory and per the accessory manufacturer's installation instructions. Gypsum Board butt joints staggered minimum 24 in. OC and Gypsum Board screws spaced 8 in. OC when used.</p> <p>PAC INTERNATIONAL L L C — Type RC-1 Boost</p> <p>6N. Resilient Channels — For use with American Gypsum Co. Type AG-C gypsum board only. Resilient channels, formed of 25 MSG thick galv steel, spaced 16 in. OC, perpendicular to trusses. When insulation (Items 5, 5A, 5B) is applied over the resilient channel/gypsum board ceiling membrane, the spacing may remain at 16 in. OC. Channels secured to each truss with 1-1/4 in. long Type S bugle head steel screws. Channels overlapped 4 in. at splices. Two channels, spaced 6 in OC, oriented opposite each gypsum board end joint as shown in the above illustration. Additional channels shall extend 6 in beyond each side edge of board.</p> <p>6O. Steel Framing Members* — (Optional, Not Shown, As an alternate to Item 6) — Furring channels and Steel Framing Members as described below:</p> <p>a. Furring Channels — Formed of No. 25 MSG galv steel, 2-23/32 in. wide by 7/8 in. When there is no insulation installed in the concealed space the furring channels are spaced 24 in. OC max. When insulation (Item 5) is secured to the underside of the subfloor the furring channels are spaced 16 in. OC max. When insulation (Item 5) is applied over the furring channel/gypsum panel ceiling membrane, the furring channels are spaced 12 in. OC max. Channels secured to trusses as described in Item 6O. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping #6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Additional clips required to hold furring channel that supports the wallboard butt joints, as described in Item 7.</p> <p>b. Steel Framing Members* — Used to attach furring channels (Item 6Oa) to trusses (Item 2). Clips spaced 48 in. OC max with No. 8 x 2-1/2 in. coarse drywall screw through the center grommet. Furring channels are friction fitted into clips.</p> <p>CLARKDIETRICH BUILDING SYSTEMS — Type ClarkDietrich Sound Clips</p> <p>6P. Steel Framing Members* — (Optional, Not Shown) — Used as an alternate method to attach resilient channels (Items 6 and 6I), to structural members. A resilient sound isolation accessory shall be used at each attachment point of the resilient channels and spaced 16 in. OC. Channel ends butted and centered under the structural members and attached with one accessory at each end. Additional accessories used to hold resilient channels that support the gypsum board end joints. The accessory envelops the mounting edge of the resilient channel. The accessory and resilient channel are fastened to the structural members with the 2 in. screws supplied with the accessory and per the accessory manufacturer's installation instructions. Gypsum Board butt joints staggered minimum 24 in. OC and Gypsum Board screws spaced 8 in. OC when used.</p> <p>PAC INTERNATIONAL L L C — Type RC-1 Boost</p> <p>6Q. Steel Framing Members* — (Not Shown) — As an alternate to Item 6I, furring channels and Steel Framing Members* as described below:</p> <p>a. Furring Channels — Formed of No. 25 MSG galv steel, 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced 16 in. OC, perpendicular to trusses. When batt insulation (Item 5) is draped over the resilient channel/gypsum board ceiling membrane, the resilient channel spacing shall be reduced to 12 in. OC. Channels secured to trusses as described in Item b. Ends of adjoining channels overlapped 6 in. and tied</p>	<p>perpendicular to furring channels and side joints of sheet located beneath joists. Gypsum board secured to furring channels with 1 in. long Type S bugle head screws spaced 12 in. OC in the field. Butted end joints shall be staggered min 2 ft within the assembly, and occur between the continuous furring channels. At butted end joints, each end of each gypsum board shall be supported by a single length of furring channel equal to the width of the gypsum board plus 6 in. on each end. The two furring channels shall be spaced approximately 3-1/2 in. OC and be attached to underside of the joist with one clip at each end of the channel. Screw spacing along the end joint shall be 8 in. OC.</p> <p>When Steel Framing Members (Item 6I) are used, nom 5/8 in. thick, 4 ft wide gypsum board, installed as described in Item 7. Adjacent butt joints staggered minimum 48 in. OC.</p> <p>When Steel Framing Members (Item 6K) are used, nom 5/8 in. thick, 4 ft wide gypsum board, installed as described in Item 7. Butt joints staggered minimum 24 in. OC.</p> <p>AMERICAN GYPSUM CO — Type AG-C</p> <p>CGC INC — Types C, IP-X2, IPC-AR</p> <p>CERTAINTED GYPSUM INC — Type LGFC-C/A</p> <p>GEORGIA-PACIFIC GYPSUM L L C — Types S, DAPC, TG-C</p> <p>PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type C</p> <p>UNITED STATES GYPSUM CO — Types C, IP-X2, IPC-AR</p> <p>USG BORAL DRYWALL SFZ LLC — Type C</p> <p>USG MEXICO S A DE C V — Types C, IP-X2, IPC-AR</p> <p>7A. Gypsum Board* — Nom 5/8 in. thick, 48 in. wide gypsum board, installed with long dimension perpendicular to resilient channels. Gypsum board secured with 1-1/8 in. long Type S bugle head screws spaced 8 in. OC and located a min of 1/2 in. from side joints and 3 in. from the end joints. End joints secured to</p>

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12/20/24

DISCOVERY PARK - LOT #10-A

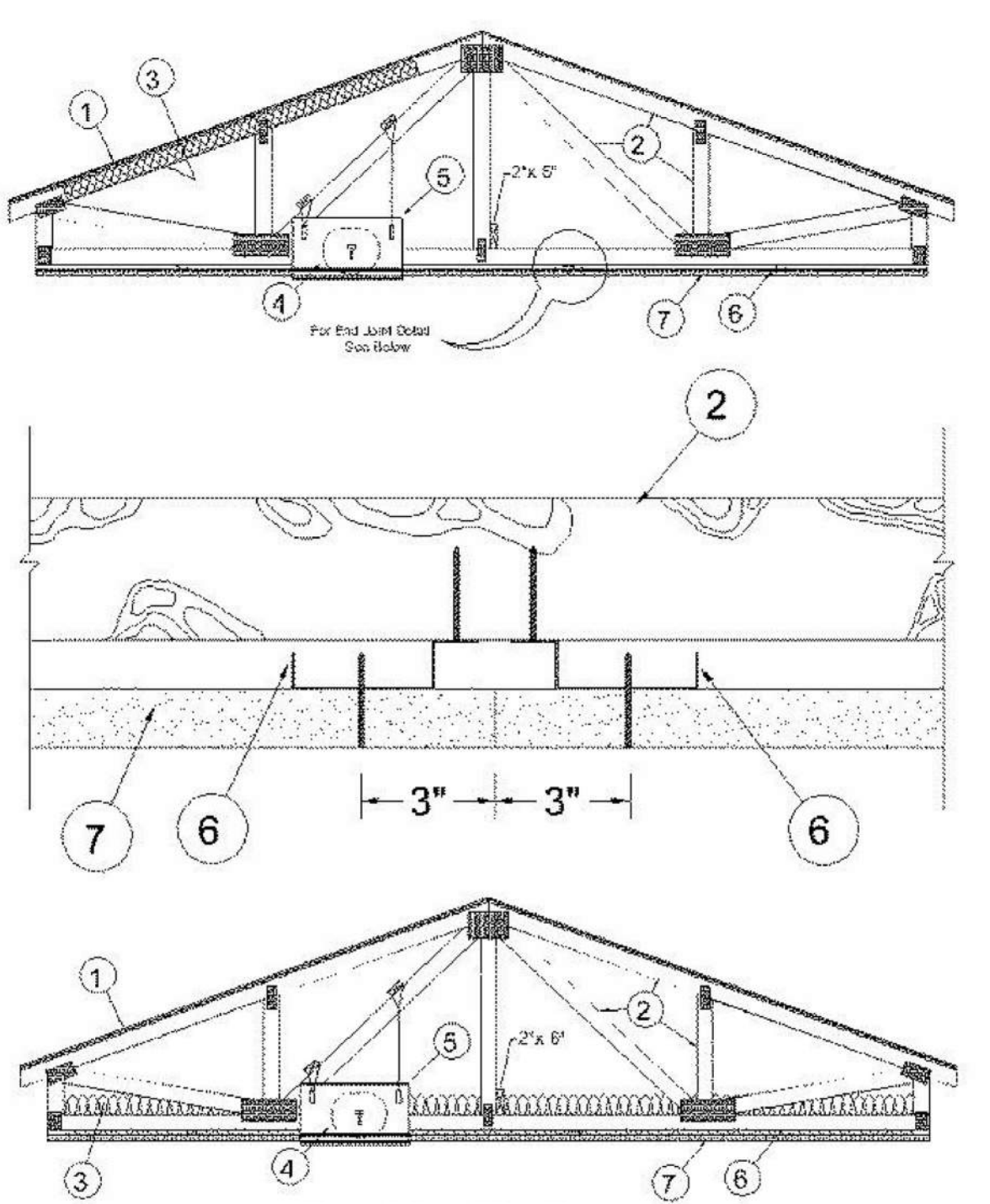
LEE'S SUMMIT, MO

SHEET TITLE
UL ASSEMBLIES - L546 / P545

PROJECT NUMBER: 24004

SHEET NUMBER:

G-205

<p>and Fiber, Sprayed (Items 5A or 5B) are used, furring channels spaced 12 in. OC and two layers of nom 5/8 in. thick, 4 ft wide gypsum board are installed with long dimension perpendicular to furring channels. Base layer secured to furring channels with nom 1 in. long Type 5 bugle head screws spaced 8 in. OC along buttled end joints and in the field of the board. Buttled end joints shall be staggered min. 2 ft within the assembly, and occur midway between the continuous furring channels. Each end of each gypsum board shall be supported by a single length of furring channel equal to the width of the gypsum board plus 6 in. on each end. The two support furring channels shall be spaced approximately 3-1/2 in. OC, and be attached to the underside of the truss with one clip at each end of the channel. Outer layer secured to furring channels using 1-5/8 in. long Type S screws spaced 8 in. OC and 1-1/2 in. from the end joint. Buttled end joints of base layer, 8 in. from base layer end joints. Buttled side joints of outer layer to be offset min. 18 in. from buttled side joints of base layer. When Steel Framing Members (Item 6C) are used, two layers of nom 5/8 in. thick, 4 ft wide gypsum board are installed with long dimensions perpendicular to furring channels (Item 6Ca). Base layer attached to the furring channels using 1 in. long Type 5 bugle head steel screws spaced 8 in. OC along buttled end joints and 12 in. OC in the field of the board. Buttled end joints centered on the continuous furring channels. Buttled base layer end joints to be offset a min of 16 in. in adjacent courses. Outer layer attached to the furring channels using 1-5/8 in. long Type S bugle head steel screws spaced 8 in. OC at buttled end joints and 12 in. OC in the field. Buttled end joints centered on the continuous furring channels and offset a min of 16 in. from buttled end joints of base layer. Buttled side joints of outer layer to be offset min 16 in. from buttled side joints of base layer. When Steel Framing Members (Item 6D) are used, two layers of nom 5/8 in. thick, 4 ft wide gypsum board are installed with long dimensions perpendicular to furring channels. Base layer attached to the furring channels using 1 in. long Type S bugle-head steel screws spaced 12 in. OC in the field of the board. Buttled end joints shall be staggered min 2 ft. within the assembly, and occur midway between the continuous furring channels. Each end of each gypsum board shall be supported by a single length of furring channel equal to the width of the gypsum board plus 6 in. on each end. The two furring channels shall be spaced approximately 4 in. OC, and be attached to underside of the truss with one isomax clip at each end of the channel. Screw spacing along the gypsum board butt joint shall be 8 in. OC. Outer layer attached to the furring channels using 1-5/8 in. long Type S bugle-head steel screws spaced 12 in. OC in the field. The end of the outer layer boards at the butt joint shall be attached to the base layer boards with 1-5/8 in. long Type G screws spaced 8 in. OC and 1-1/2 in. from the end joint. Buttled end joints to be offset a min of 8 in. from base layer end joints. Buttled side joints of outer layer to be offset min 18 in. from buttled side joints of base layer. Outer layer shall be finished as described in Item 8. When Steel Framing Members (Item 6F) are used, two layers of nom 5/8 in. thick, 4 ft wide are installed with long dimensions perpendicular to furring channels. Gypsum board secured to furring channels using 1 in. long No. 6 Type S bugle-head steel screws spaced 12 in. OC in the field of the board. Buttled end joints shall be staggered minimum 2 ft. within the assembly. Additional furring channels constructed as per Item 6F shall be used to support each end of each gypsum board. These additional furring channels shall be attached to underside of the truss with Genie clips as described in Item 6F. Screw spacing along the gypsum board butt joint shall be 8 in. OC. Outer layer attached to the furring channels using 1-5/8 in. long No. 6 Type S bugle-head steel screws spaced 12 in. OC in the field. The outer layer boards at the butt joint shall be attached to the base layer boards with No. 10, 1-1/2 in. long drywall screws spaced 8 in. OC and 1-1/2 in. from the end joint. Buttled end joints to be offset a min of 24 in. from base layer end joints. Buttled side joints of outer layer to be offset min 16 in. from buttled side joints of base layer. When Steel Framing Members (Item 6G) are used, one layer of nom 5/8 in. thick, 4 ft wide gypsum board is installed with long dimensions perpendicular to furring channels. Gypsum board secured to furring channels using 1 in. long Type S bugle-head steel screws spaced 8 in. OC in the field of the board. Gypsum board buttled end joints shall be staggered minimum 48 in. and centered over main furring channels. At the gypsum board butt joints, each end of each gypsum board shall be supported by a single length of furring channel equal to the width of the gypsum board plus 3 in. on each end. The two support furring channels shall be spaced approximately 3 in. in from joint. Screw spacing along the gypsum board butt joint and along both additional channels shall be 8 in. OC. Additional screws shall be placed in the adjacent section of gypsum board into the aforementioned 3 in. extension of the extra butt joint channels as well as into the main channel that runs between. Butt joint furring channels shall be attached with one RESILMOUNT Sound Isolation Clip at each end of the channel. When Steel Framing Members (Item 6H) are used, one layer of nom 5/8 in. thick, 4 ft wide gypsum board is installed with long dimensions perpendicular to furring channels. Gypsum board secured to furring channels with nom 1 in. long Type S bugle-head steel screws spaced 8 in. OC in the field of the board. Gypsum board buttled end joints shall be staggered minimum 48 in. and centered over main furring channels. At the gypsum board butt joints, an additional single length of furring channel shall be installed and be spaced approximately 3 in. from the butt joint (6 in. from the continuous furring channels) to support the floating end of the gypsum board. Each of these shorter sections of furring channel shall extend one truss beyond the width of the gypsum panel and be attached to the adjacent trusses with one SonotClip at every truss involved with the butt joint.</p> <p>CERTAINTED GYPSUM INC — Type C</p> <p>CGC INC — Types C, IP-X2, IPC-AR</p> <p>CERTAINTED GYPSUM INC — Type LGFC-C/A</p>	<p>UL Product iQ®</p> <p>Design/System/Construction/Assembly Usage Disclaimer</p> <ul style="list-style-type: none">• Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.• Authorities Having Jurisdiction should be consulted before construction.• Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.• When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.• Only products which bear UL's Mark are considered Certified. <p>BXUV - Fire Resistance Ratings - ANSI/UL 263 Certified for United States BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada</p> <p><small>See General Information for Fire Resistance Ratings - ANSI/UL 263 Certified for United States Design Criteria and Allowable Variations</small></p> <p><small>See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada Design Criteria and Allowable Variations</small></p> <p>Design No. P545 June 14, 2024</p> <p>Unrestrained Assembly Rating — 1 Hr. Finish Rating — 24 or 25 Min (See Items 3 and 3A)</p> <p>This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7</p> <p>* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.</p>	<p>each tooth has a twist for stiffness. The pairs are repeated on approximately 7/8 in. centers with four rows of teeth per inch of plate width. Where the truss intersects with the interior face of the exterior walls, the min truss depth shall be 5-1/4 in. and a min. average depth of 18 in.. Where the truss intersects with the interior face of the exterior walls, the min truss depth may be reduced to 3 in. if the batts and blankets (Item 3) are used as shown in the above illustration (Alternate Insulation Placement) and are firmly packed against the intersection of the bottom chords and the plywood sheathing. Min roof slope of 3/12 unless American Gypsum boards are used, in which case there is no minimum slope.</p> <p>3. Batts and Blankets* — (Optional) — Glass fiber insulation, secured to the wood structural panels with staples spaced 12 in. OC or to the trusses with 0.090 in. diam galv steel wires spaced 12 in. OC. Any glass fiber insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance, having a min density of 0.5 pcf. As an option, the insulation may be fitted in the concealed space, draped over the resilient channel/gypsum wallboard ceiling membrane when resilient channels and gypsum wallboard attachment is modified as specified in Items 6 and 7. The Finish Rating is 24 min. when the insulation is draped over the resilient channels and gypsum board ceiling membrane and 25 min. when it is installed on underside of the plywood deck or when it is omitted.</p> <p>When Type AG-C panels are installed there is no limit on maximum thickness.</p> <p>When Type TG-C panels are installed the maximum thickness is 3-1/2 in.</p> <p>3A. Loose Fill Material* — As an alternate to Item 3 — Loose fill material bearing the UL Classification Marking for Surface Burning Characteristics, having a min density of 0.5 pcf, fitted in the concealed space, draped over the resilient channel/gypsum wallboard ceiling membrane when resilient channels and gypsum wallboard attachment is modified as specified in Items 6 and 7. The finished rating when this insulation is used has not been determined.</p> <p>When Type AG-C panels are installed there is no limit on maximum thickness.</p> <p>When Type TG-C panels are installed the maximum thickness is 3-1/2 in.</p> <p>3B. Fiber, Sprayed* — For Use With American Gypsum Type AG-C only. As an alternate to Item 3 (not evaluated for use with Item 6B and 6C) — spray-applied cellulose insulation material, having a min density of 0.5 lb/ft³, applied with water, over the resilient channel/gypsum board ceiling membrane when resilient channels and gypsum board attachment is modified as specified in Items 6 and 7. Fiber, Sprayed is applied with moisture in accordance with the application instructions supplied with the product. The finish rating when Fiber Sprayed is used has not been determined. Alternate application method: The fiber is applied without water or adhesive in accordance with the application instructions supplied with a minimum density of 0.5 lb/ft³ over the resilient channel/gypsum board ceiling membrane when resilient channels and gypsum board attachment is modified as specified in Items 6 and 7. Alternate application method: The fiber is applied without water or adhesive to a nominal density of 3.5 lb/ft³ behind netting (Item 11) stapled to the rafters. The netting is stapled at both lower edges of the rafters creating a cavity to accept the cellulose fiber. The finished rating when this insulation is used has not been determined.</p> <p>When Type AG-C panels are installed there is no limit on maximum thickness.</p> <p>When Type TG-C panels are installed the maximum thickness is 3-1/2 in.</p> <p>APPLEGATE GREENFIBER ACQUISITION LLC — Insulmax and SANCTUARY for use with wet or dry application. INS510LD, INS515LD, and INS541LD are to be used for dry application only.</p> <p>3C. Foamed Plastic* — For Use With American Gypsum Type AG-C only. (As an alternate to Item 3, Not Shown) — Spray foam insulation applied directly to the underside of the underside of the roofing system (Item 1). Spray foam insulation installed to a maximum thickness of 10 in. at a nominal 0.5 lb/ft³ density, while maintaining a minimum 8-1/2 in. clearance between the spray foam insulation and the gypsum board. When spray foam insulation is used, resilient channels (Item 6) shall be installed maximum 12 in. OC, with channels adjacent to butt joints of gypsum board (Item 7) installed at 6 in. OC to allow for maximum 3 in. spacing off ends of the gypsum board joints. Gypsum board to be installed using 1-1/4 in. long Type S screws, spaced maximum 8 in. OC, and buttled end joints shall be staggered min. 2 ft within the assembly, and occur midway between the continuous furring channels. If used with a ceiling damper (Items 5 through SAC) in the concealed space, minimum 1 in. clearance to be maintained between damper housing and spray foam insulation. Limited to resilient channels, Item 6 only, no Item 6 alternates. The finished rating when this insulation is used has not been determined.</p> <p>Holcim Solutions and Products US, LLC — SucraSeal</p>	<p>5. Ceiling Damper* — Nom 20 in. long by 18 in. wide by 2-1/8 in. high, fabricated from galvanized steel. Plenum box maximum size nom. 21 in. long by 18 in. wide by 16 in. high fabricated from either galvanized steel or Classified Air Duct Materials bearing the UL Class 0 or Class 1 rigid air duct material. Installed in accordance with the instructions provided by the manufacturer. Max damper openings not to exceed 180 sq in. per 100 sq ft of ceiling area.</p> <p>NAIROL INDUSTRIES INC — Types 0755, 0755A, 0756, 0756D, 0757, 0757D, 0757FP, 0757DFP, 0758, 0759, 0760, 0761, 0762, 0763, CRD5, CRD5D, CRD6, CRD6D, CRD6FP, CRD6DFP.</p> <p>SAFE AIR DOWCO — 0455, 0455A, 0456, 0456D, 0457, 0457D, 0457-DB, 0457-CB, 0463-FB, 0457-EB, 0463-GB, 0463</p> <p>5A. Alternate Ceiling Damper* — Max plenum box size nom 19 in. long by 19 in. wide and 11-7/8 in. high fabricated from galv steel. Aggregate damper openings shall not exceed 128 sq in. per 100 sq ft of ceiling area. Damper installed in accordance with the manufacturers installation instructions provided with the damper.</p> <p>AIRE TECHNOLOGIES INC — Models: CRD model 50 w/Boot, CRD model 50EA w/Boot, CRD model 55 w/Boot, CRD model 55 EA w/Boot</p> <p>LLOYD INDUSTRIES INC — Model CRD 50-BT, CRD 50-EA-BT, CRD 55-BT, CRD 55-EA-BT</p> <p>5B. Alternate Ceiling Damper* — Max plenum box size nom 13 in. long by 13 in. wide and 11-7/8 in. high fabricated from galv steel. Aggregate damper openings shall not exceed 50 sq in. per 100 sq ft of ceiling area. Damper installed in accordance with the manufacturers installation instructions provided with the damper.</p> <p>LLOYD INDUSTRIES INC — Model CRD 50-BT-6, CRD 50-EA-BT-6, CRD 55-BT-6, CRD 55-EA-BT-6, CRD50-X-BT-6</p> <p>5C. Alternate Ceiling Damper* — Max size ceiling outlet in plenum box nom 12 in. long by 12 in. wide. Plenum box fabricated from galv steel. Aggregate damper openings shall not exceed 72 sq in. per 100 sq ft of ceiling area. Installed in accordance with the manufacturers installation instructions provided with the damper.</p> <p>AIRE TECHNOLOGIES INC — Models: CRD model 50 w/Boot, CRD model 50EA w/Boot, CRD model 55 w/Boot, CRD model 55 EA w/Boot</p> <p>LLOYD INDUSTRIES INC — Model CRD 50-95BT, CRD 50-EA-95BT, CRD 55-95BT, CRD 55-EA-95BT</p> <p>5D. Alternate Ceiling Damper* — Max size ceiling outlet in plenum box nom 16 in. long by 16 in. wide. Aggregate damper openings shall not exceed 128 sq in. per 100 sq ft of ceiling area. Damper installed in accordance with the manufacturers installation instructions provided with the damper.</p> <p>LLOYD INDUSTRIES INC — Models CRD 50-FGPB-4.2, -4.2 NI, -6.0, -6.0 NI; CRD50-EA-FGPB-4.2, -4.2 NI, -6.0, -6.0 NI</p> <p>5E. Alternate Ceiling Damper* — Max plenum box size nom 15 in. long by 15 in. wide and 11-7/8 in. high fabricated from galv steel. Aggregate damper openings shall not exceed 72 sq in. per 100 sq ft of ceiling area. Damper installed in accordance with the manufacturers installation instructions provided with the damper.</p> <p>LLOYD INDUSTRIES INC — Models 45-CRD-LT-BT and 45-CRD-LTD-BT</p> <p>5F. Alternate Ceiling Damper* — Max size ceiling outlet in plenum box nom 10 in. long by 10 in. wide. Plenum box fabricated from galv steel. Aggregate damper openings shall not exceed 50 sq in. per 100 sq ft of ceiling area. Installed in accordance with the manufacturers installation instructions provided with the damper.</p> <p>LLOYD INDUSTRIES INC — Model 45-LTD-95-BT-4</p>
<p>GEORGIA-PACIFIC GYPSUM L L C — Types S, DAPC, TG-C</p> <p>PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type C</p> <p>UNITED STATES GYPSUM CO — Types C, IP-X2, IPC-AR</p> <p>USG BORAL DRYWALL SFZ LLC — Type C</p> <p>USG MEXICO S A DE C V — Types C, IP-X2, IPC-AR</p> <p>7C. Gypsum Board* — (As an alternative to Items 7 and 7B, For use with Items 5C and 6I) — Nom 5/8 in. thick, 48 in. wide gypsum board, installed and secured as described in Items 7 and 7B but with max screw spacing 8 in. OC. When used with insulation (Batts and Blankets* or Fiber Sprayed*) that is installed over the resilient channel/Gypsum Board* ceiling membrane, the resilient channels may remain at 16 in. OC and not need to be reduced to 12 in. OC.</p> <p>CGC INC — Type ULIX</p> <p>UNITED STATES GYPSUM CO — ULIX</p> <p>7D. Gypsum Board* — (As an alternative to Items 7, 7A, 7B and 7C) — For use when no insulation is used. Nom 5/8 in. thick, 48 in. wide gypsum board, installed as described in Item 7 with resilient channels (Item 6) spaced 24 in. OC.</p> <p>7E. Gypsum Board* — For use with System No. 15 — Two layers of Nom 5/8 in. thick, 48 in. wide gypsum board, base layer installed as detailed in Item 7. Face layer installed over base layer with 2 in. long Type 5 bugle head screws. All joints and fastener spacing to be consistent with base layer requirements, except staggered with those in base layers. Any Gypsum Board listed in Item 7.</p> <p>AMERICAN GYPSUM CO — Type AG-C</p> <p>8. Finishing System — (Not Shown) — Vinyl, dry or premixed joint compound, applied in two coats to joints and screw-heads. Nom 2 in. wide paper tape embedded in first layer of compound over all joints. As an alternate, nom 3/32 in. thick veneer plaster may be applied to the entire surface of gypsum board.</p> <p>9. Grille — Grille, installed in accordance with the installation instructions provided with the ceiling damper.</p> <p>10. Wire Mesh — (Not Shown) — For use with Item 5A and 5B — 1 in. 20 gauge galvanized poultry netting installed between the furring channels and gypsum board. The poultry netting is attached with washers and 1/2 in. wafer head screws, spaced 24 in. OC., to the furring channels. The Fiber, Sprayed (Item 5A or 5B) is installed through cut-openings in the poultry netting, in-between trusses. The cut-openings in the poultry netting shall be staggered at a maximum of 6 ft.</p> <p>* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.</p> <p>Last Updated on 2024-09-02</p>	 <p>Alternate Insulation Placement</p> <p>1. Roofing System* — Any UL Class A, B or C Roofing System (TGFU) or Prepared Roof Covering (TFW2) acceptable for use over nom 15/32 in. thick wood structural panels, min. grade "C-D" or "Sheathing". Nom 15/32 in. thick wood structural panels secured to trusses with No. 6d ringed shank nails. Nails spaced 12 in. OC along each truss. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Construction adhesive is optional.</p> <p>2. Trusses — Pitch chord trusses, spaced a max of 24 in. OC, fabricated from nom 2 by 4 lumber, with lumber oriented vertically or horizontally. Truss members secured together min.0.0356 in. thick galv steel plates. Plates have 5/16 in. long teeth projecting perpendicular to the plane of the plate. The teeth are in pairs facing each other (made by the same punch), forming a split tooth type plate. Each tooth has a chisel point on its outside edge. These points are diagonally opposite each other for each pair. The top half of</p>	<p>3D. Foamed Plastic* — For Use With American Gypsum Type AG-C only. (As alternate to Item 3 Not Shown) — Spray foam insulation applied directly to the underside of the roofing system. Spray foam insulation installed to a maximum thickness of 10 in. at a nominal 0.5 lb/ft³ or 2.0 lb/ft³ density, depending on the product installed. When spray foam insulation is installed, resilient channels (Item 6) shall be installed maximum 12 in. OC, with channels adjacent to butt joints of gypsum board spaced maximum 3 in. away from gypsum butt joints. Gypsum board to be installed using minimum 1-1/4 in. long Type S screws, spaced maximum 8 in. OC, and buttled end joints shall be staggered min. 2 ft within the assembly, and occur midway between the continuous furring channels. If used with a ceiling damper (Items 5 through SAC) in the concealed space, minimum 1 in. clearance to be maintained between damper housing and spray foam insulation. Limited to resilient channels, Item 6 only, no Item 6 alternates. The finished rating when this insulation is used has not been determined.</p> <p>BAF CORP — Everette® MAX, Everette® G, FE178®, Spraytite® 178, Spraytite® G1206, Walltite® 200, Walltite® US, Walltite® US-N, Walltite® HP+, Walltite® MAX, Walltite® v.s, Walltite® LWP, Walltite® Plus and EnerTite® Max</p> <p>3E. Foamed Plastic* — For Use With American Gypsum Type AG-C only. (As an alternate to Item 3, Not Shown) — Spray foam insulation applied directly to the underside of the underside of the roofing system. Spray foam insulation installed to a maximum thickness of 17 in. at a nominal 0.5 lb/ft³ density, while maintaining a minimum 1-1/2 in. clearance between the spray foam insulation and the gypsum board. When spray foam insulation is used, resilient channels (Item 6) shall be installed maximum 12 in. OC, with channels adjacent to butt joints of gypsum board installed at 6 in. OC to allow for maximum 3 in. spacing off ends of the gypsum board joints. Gypsum board to be installed using 1-1/4 in. long Type S screws, spaced maximum 8 in. OC, and buttled end joints shall be staggered min. 2 ft within the assembly, and occur midway between the continuous furring channels. If used with a ceiling damper (Items 5 through SAC) in the concealed space, no clearance is necessary between damper housing and spray foam insulation. Limited to resilient channels, Item 6 only, no Item 6 alternates. The finished rating when this insulation is used has not been determined.</p> <p>Holcim Solutions and Products US, LLC — EasySeal 5, EasySeal ULD</p> <p>3F. Foamed Plastic* — (As alternate to Item 3) — Spray foam insulation applied directly to the underside of the underside of the roofing system. Spray foam insulation installed to a maximum thickness of 11 in. at a nominal 1.0 lb/ft³ - 2.5 lb/ft³ density, while maintaining a minimum 7 in. clearance between the spray foam insulation and the gypsum board (Item 7). Spray foam insulation is limited for use with minimum 18 in. deep trusses (Item 2). When spray foam insulation is installed, resilient channels (Item 6) shall be installed maximum 12 in. OC, with channels adjacent to butt joints of gypsum board spaced maximum 3 in. away from gypsum butt joints. Gypsum board to be installed using minimum 1-1/4 in. long Type S screws, spaced maximum 8 in. OC, and buttled end joints shall be staggered min. 2 ft within the assembly, and occur midway between the continuous furring channels, as illustrated above. If used with a ceiling damper (Items 5 through SAC) in the concealed space, no clearance is necessary between damper housing and spray foam insulation. Only for use with item 5 not evaluated for use with alternates to item 5. Only for use with item 6 not evaluated for use with alternates to item 6.</p> <p>CARLISLE SPRAY FOAM INSULATION — Types SealTite Pro Closed Cell (CC), SealTite Pro Open Cell (OC), SealTite Pro OCK, SealTite Pro No Trim 21, SealTite Pro One Zero, SealTite PRO HFO, Foamulate Closed Cell, Foamulate OCK, Foamulate 70, Foamulate HFO, and Foamulate HFO 2.0.</p> <p>3G. Foamed Plastic* — For Use With American Gypsum Type AG-C only. (As an alternate to Item 3, Not Shown) — Spray foam insulation applied directly to the underside of the underside of the roofing system. Spray foam insulation installed to a maximum thickness of 17 in. at a nominal 0.5 lb/ft³ density, while maintaining a minimum 1-1/2 in. clearance between the spray foam insulation and the gypsum board. When spray foam insulation is used, resilient channels (Item 6) shall be installed maximum 12 in. OC, with channels adjacent to butt joints of gypsum board installed at 6 in. OC to allow for maximum 3 in. spacing off ends of the gypsum board joints. Gypsum board to be installed using 1-1/4 in. long Type S screws, spaced maximum 8 in. OC, and buttled end joints shall be staggered min. 2 ft within the assembly, and occur midway between the continuous furring channels. If used with a ceiling damper (Items 5 through SAC) in the concealed space, no clearance is necessary between damper housing and spray foam insulation. Limited to resilient channels, Item 6 only, no Item 6 alternates. The finished rating when this insulation is used has not been determined.</p> <p>EVEREST SYSTEMS LLC — Opticell 0.5</p> <p>4. Air Duct* — For use with Ceiling Damper* - Any UL Class 0 or Class 1 flexible air duct installed in accordance with the instructions provided by the damper manufacturer.</p>	<p>5G. Alternate Ceiling Damper* — Max plenum box size nom 19 in. long by 15 in. wide and 11-7/8 in. high fabricated from galv steel. Aggregate damper openings shall not exceed 96 sq in. per 100 sq ft of ceiling area. Damper installed in accordance with the manufacturers installation instructions provided with the damper.</p> <p>LLOYD INDUSTRIES INC — Model CRD50-X-BT</p> <p>5H. Alternate Ceiling Damper* — Max nom area shall be 324 sq in. Max square size shall be 18 in. by 18 in. Rectangular sizes not to exceed 324 sq in. with a max width of 18 in. Max height of damper shall be 14 in. Aggregate damper openings shall not exceed 162 sq in. per 100 sq ft of ceiling area. Damper installed in accordance with the manufacturers installation instructions provided with the damper. A steel grille (Item 9) shall be installed in accordance with installation instructions.</p> <p>C&S AIR PRODUCTS — Model RD-521</p> <p>POTTORFF — Model CFD-521</p> <p>5I. Alternate Ceiling Damper* — Max nom area shall be 196 sq in. Max square size shall be 14 in. by 14 in. Rectangular sizes not to exceed 196 sq in. with a max width of 26 in. Max height of damper shall be 7 in. Aggregate damper openings shall not exceed 98 sq in. per 100 sq ft of ceiling area. Damper installed in accordance with the manufacturers installation instructions provided with the damper. A steel grille (Item 9) shall be installed in accordance with installation instructions.</p> <p>C&S AIR PRODUCTS — Model RD-521-IP, RD-521-NP</p> <p>POTTORFF — Models CFD-521-IP, CFD-521-NP</p> <p>5J. Alternate Ceiling Damper* — Max nom area shall be 256 sq in. with the length not to exceed 24 in. and the width not to exceed 20 in. Max height of damper shall be 17 in. Aggregate damper openings shall not exceed 128 sq in. per 100 sq ft of ceiling area. Damper installed in accordance with the manufacturers installation instructions provided with the damper. A steel grille (Item 9) shall be installed in accordance with installation instructions.</p> <p>C&S AIR PRODUCTS — Model RD-521-90, RD-521-NP90</p> <p>POTTORFF — Models CFD-521-90, CFD-521-90NP</p> <p>5L. Alternate Ceiling Damper* — (Optional) Max nom area shall be 324 sq in. Max square size shall be 18 in. by 18 in. Rectangular sizes not to exceed 324 sq in. with a max width and max length of 18 in. Max round size shall be 18 in. dia. Aggregate damper openings shall not exceed 162 sq in. per 100 sq ft of ceiling area. Damper installed in accordance with the manufacturers installation instructions provided with the damper.</p> <p>RUSKIN COMPANY — Models CFDTT, CFDTT-END-BT, CFDTT-90-BT, CFDTT-ST-BT, CFDTT-58, CFDTT-R6-DB, CFDTT-IB6, or CFDR7T</p> <p>5M. Alternate Ceiling Damper* — Ceiling damper & fan assembly. Max nom area shall be 75 sq in. with the length not to exceed 8-9/16 in. and the width not to exceed 8-3/4 in. Max height of damper shall be 9-7/8 in. Aggregate damper openings shall not exceed</p>

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12/20/24

DISCOVERY PARK - LOT #10-A

LEE'S SUMMIT, MO

SHEET TITLE
UL ASSEMBLIES - P545 / U301
PROJECT NUMBER: 24004
SHEET NUMBER:

G-206

<p>38 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturers installation instructions provided with the damper. A plastic grille shall be installed in accordance with installation instructions.</p> <p>DELTA ELECTRONICS INC — Models CRD2, GBR-CRD, ITG-CRD</p>	<p>5N. Alternate Ceiling Damper* — Max nom area shall be 324 sq in. Max square size shall be 18 in. by 18 in. Rectangular sizes not to exceed 324 sq in. with a max length of 20 in. and a max width of 22 in. Max height of damper shall be 14 in. Aggregate damper openings shall not exceed 154 sq in. per 100 sq ft of ceiling area. Damper installed in accordance with the manufacturer's installation instructions provided with the damper. An aluminum or steel grille shall be installed in accordance with installation instructions.</p> <p>UNITED ENERTECH CORP — Type C-S/R-WT or C-S/R-WTP (Max nom area 324 sq. in.) or C-S/R-WTS or C-S/R-WTPS (Max nom area 162 sq. in.)</p>	<p>5A.C. Alternate Ceiling Damper* — Max nom 12-3/8 in. long by 14-1/2 in. wide, fabricated from galvanized steel. Installed in accordance with the instructions provided by the manufacturer. Max damper openings not to exceed 90 sq in. per 100 sq ft of ceiling area.</p> <p>GREENHECK FAN CORP — Model CRD-320WT</p>	<p>5. Steel Framing Members* — Used to attach furring channels (Item a) to the wood trusses (Item 2). Clips spaced at 48" OC and secured to the bottom of the trusses with one 2-1/2 in. Coarse Drywall Screw with 1 in. diam washer through the center hole. Furring channels are then friction fitted into clips. Ends of channels are overlapped 6" and tied together with double strand of No. 18 AWG galvanized steel wire. Additional clips are required to hold the Gypsum Butt joints as described in Item 7.</p> <p>REGUPOI. AMERICA — Type SonusClip</p>	<p>UL Product iQ®</p> <p>Design/System/Construction/Assembly Usage Disclaimer</p> <ul style="list-style-type: none">• Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.• Authorities Having Jurisdiction should be consulted before construction.• Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.• When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.• Only products which bear UL's Mark are considered Certified.
<p>5P. Alternate Ceiling Damper* — Ceiling damper & fan assembly. Max nom area shall be 131 sq in. with the length not to exceed 11-1/16 in. and the width not to exceed 11-7/8 in. Aggregate damper openings shall not exceed 66 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturer's installation instructions provided with the damper. A plastic grille (Item 9) shall be installed in accordance with installation instructions.</p> <p>DELTA ELECTRONICS INC — Model SMT-CRD</p>	<p>5O. Alternate Ceiling Damper* — Ceiling damper & fan assembly. Max nom area shall be 75 sq in. with the length not to exceed 9-1/4 in. and the width not to exceed 9-3/4 in. Max height of damper shall be 9-7/8 in. Aggregate damper openings shall not exceed 45 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturer's installation instructions provided with the damper. A plastic grille shall be installed in accordance with installation instructions.</p> <p>DELTA ELECTRONICS INC — Model SIG-CRD</p>	<p>5A.E. Alternate Ceiling Damper* — Max 12 in. diameter damper and insulated register box assembly. The maximum size of the register box assembly is nom. 20 in. long by 20 in. wide and 4 in. high fabricated from galv steel. The aggregate area of the register opening(s) through the ceiling membrane shall not exceed 128 sq in. per 100 sq ft of ceiling area. Damper assembly installed in accordance with the manufacturers installation instructions.</p> <p>SOUTHWARK METAL MFG CO — Model 800 w/Box</p>	<p>7. Gypsum Board* — Nom 5/8 in. thick, 48 in. wide, installed with long dimension perpendicular to resilient channels with 1 in. long Type S screws spaced 12 in. OC and located a min of 1/2 in. from side joints and 3 in. from the end joints. At end joints, two resilient channels are used, extending a min of 6 in. beyond both ends of the joint. When batt and blanket insulation, Item 3, is draped over the resilient channel/gypsum wallboard ceiling membrane, screws shall be installed at 8 in. OC. When Steel Framing Members (Item 6B) are used, one layer of nom 5/8 in. thick, 4 ft wide gypsum board is installed with long dimensions perpendicular to furring channels. Gypsum board secured to furring channels with nom 1 in. long Type S bugle-head steel screws spaced 8 in. OC in the field of the board. Gypsum board butted end joints shall be staggered minimum 48 in. and centered over main furring channels. At the gypsum board butt joints, each end of each gypsum board shall be supported by a single length of furring channel equal to the width of the gypsum board plus 3 in. on each end. The two support furring channels shall be spaced approximately 3 in. in from end joint. Screw spacing along the gypsum board butt joint and along both additional channels shall be 8 in. OC. Additional screws shall be placed in the adjacent section of gypsum board into the aforementioned 3 in. extension of the extra butt joint channels as well as into the main channel that runs between. Butt joint furring channels shall be attached with one RESILMOUNT Sound Isolation Clip at each end of the channel.</p> <p>When Steel Framing Members (Item 6C) are used, one layer of nom 5/8 in. thick, 4 ft wide gypsum board is installed with long dimensions perpendicular to furring channels. Gypsum board secured to furring channels with nom 1 in. long Type S bugle-head steel screws spaced 8 in. OC in the field of the board. Gypsum board butted end joints shall be staggered minimum 48 in. and centered over main furring channels. At the gypsum board butt joints, an additional single length of furring channel shall be installed and be spaced approximately 3 in. from the butt joint (6 in. from the continuous furring channels) to support the floating end of the gypsum board. Each of these shorter sections of furring channel shall extend one truss beyond the width of the gypsum panel and be attached to the adjacent trusses with one SonusClip at every truss involved with the butt joint.</p> <p>AMERICAN GYPSUM CO — Types AG-C</p>	<p>UL Product iQ®</p> <p>Design No. U301</p> <p>September 10, 2024</p> <p>Bearing Wall Rating — 2 Hr. Finish Rating — 66 Min.</p> <p>This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7</p> <p>* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.</p>
<p>5Q. Alternate Ceiling Damper* — Ceiling damper & fan assembly. Max nom area shall be 103 sq in. with the length not to exceed 10-1/8 in. and the width not to exceed 10-1/8 in. Aggregate damper openings shall not exceed 52 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturer's installation instructions provided with the damper. A plastic grille shall be installed in accordance with installation instructions.</p> <p>PANASONIC CORPORATION, PANASONIC CORPORATION OF NORTH AMERICA — Model PC-RD05CS</p>	<p>5R. Alternate Ceiling Damper* — Ceiling damper & fan assembly. Max nom area shall be 113 sq in. with the length not to exceed 10-1/8 in. and the width not to exceed 11-1/8 in. Aggregate damper openings shall not exceed 57 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturer's installation instructions provided with the damper. A plastic grille shall be installed in accordance with installation instructions.</p> <p>BROAN-NUTONE L L C — Model RDTWWT</p>	<p>5A.H. Alternate Ceiling Damper* — Max nom 10-3/8 in. long by 10-3/8 in. wide, fabricated from galvanized steel. Installed in accordance with the instructions provided by the manufacturer. Max damper openings not to exceed 54 sq in. per 100 sq ft of ceiling area.</p> <p>GREENHECK FAN CORP — Model CRD-300WT</p>	<p>8. Finishing System — (Not Shown) — Vinyl, dry or premixed joint compound, applied in two coats to joints and screw-heads; paper tape, 2 in. wide, embedded in first layer of compound over all joints. As an alternate, nom 3/32 in. thick veneer plaster may be applied to the entire surface of gypsum wallboard.</p>	<p>UL Product iQ®</p> <p>Design No. U301</p> <p>September 10, 2024</p> <p>Bearing Wall Rating — 2 Hr. Finish Rating — 66 Min.</p> <p>This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7</p> <p>* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.</p>
<p>5S. Alternate Ceiling Damper* — Ceiling damper & fan assembly. Max nom area shall be 79 sq in. with the length not to exceed 10 in. and the width not to exceed 7-15/16 in. Aggregate damper openings shall not exceed 40 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturer's installation instructions provided with the damper. A metallic grille shall be installed in accordance with installation instructions.</p> <p>BROAN-NUTONE L L C — Models RDJ1 and RDH</p>	<p>5T. Alternate Ceiling Damper* — Max plenum box size nom 19 in. long by 19 in. wide and 11-7/8 in. high fabricated from galv steel. Aggregate damper openings shall not exceed 128 sq in. per 100 sq ft of ceiling area. Damper installed in accordance with the manufacturers installation instructions provided with the damper.</p> <p>METAL-FAB INC — Models MSCD-HC and MRCD-HC</p>	<p>5A.I. Alternate Ceiling Damper* — (Optional. To be used with Air Duct Item 4) — For use with min. 18 in. deep trusses. Max 7-11/32 in. long by 7-11/16 in. wide fabricated from galvanized steel. Aggregate area of the register opening(s) through the ceiling membrane shall not exceed 28.5 sq in. per 100 sq ft of ceiling area. Damper assembly installed in accordance with the manufacturer's installation instructions.</p> <p>AIRE TECHNOLOGIES INC — Models ITG-CRD2.</p>	<p>9. Grille — Installed in accordance with the installation instructions provided with the ceiling damper</p>	<p>UL Product iQ®</p> <p>Design No. U301</p> <p>September 10, 2024</p> <p>Bearing Wall Rating — 2 Hr. Finish Rating — 66 Min.</p> <p>This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7</p> <p>* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.</p>
<p>5U. Alternate Ceiling Damper* — Ceiling damper & fan assembly. Max nom area shall be 87 sq in. with the length not to exceed 9 in. and the width not to exceed 9-11/16 in. Aggregate damper openings shall not exceed 44 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturer's installation instructions provided with the damper. A plastic grille shall be installed in accordance with installation instructions.</p> <p>BROAN-NUTONE L L C — Model RDMWT</p>	<p>5V. Alternate Ceiling Damper* — Ceiling damper & fan assembly. Max nom area shall be 87 sq in. with the length not to exceed 9 in. and the width not to exceed 9-11/16 in. Aggregate damper openings shall not exceed 44 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturer's installation instructions provided with the damper. A plastic grille shall be installed in accordance with installation instructions.</p> <p>BROAN-NUTONE L L C — Model RDMWT2</p>	<p>5A.J. Alternate Ceiling Damper* — (Optional. To be used with Air Duct Item 4) — For use with min. 18 in. deep trusses. Max 8-13/16 in. wide and 8-1/2 in. long fabricated from galvanized steel. Aggregate area of the register opening(s) through the ceiling membrane shall not exceed 37.5 sq in. per 100 sq ft of ceiling area. Damper assembly installed in accordance with the manufacturer's installation instructions.</p> <p>AIRE TECHNOLOGIES INC — Models GBR-CRD2</p>	<p>10. Discrete Products Installed in Air-handling Spaces* — Automatic Balancing Valve/Damper — (Not Shown - Optional) — For use with Item 5L, Ruskin Company's Model CFDT7 damper (CABS). Ceiling damper to be provided with plenum box per damper manufacturer's instructions with side outlet only. Entire assembly to be installed into any UL Class 0 or Class 1 flexible air duct in accordance with the instructions provided by the automatic balancing valve/damper manufacturer.</p> <p>METAL INDUSTRIES INC — Model ABV-4, ABV-5, ABV-6</p>	<p>UL Product iQ®</p> <p>Design No. U301</p> <p>September 10, 2024</p> <p>Bearing Wall Rating — 2 Hr. Finish Rating — 66 Min.</p> <p>This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7</p> <p>* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.</p>
<p>5W. Alternate Ceiling Damper* — Max nom 21 in. long by 18 in. wide, fabricated from galvanized steel. Plenum box max size nom 21 in. long by 18 in. wide by 14 in. high (inner dimension) fabricated from either galvanized steel or min 1 in. thick Listed Duct Board bearing the UL Listing Marking having a min R-Value of 4.3. Installed in accordance with the instructions provided by the manufacturer. Max damper openings not to exceed 180 sq in. per 100 sq ft of ceiling area.</p> <p>GREENHECK FAN CORP — Model CRD-1WT</p>	<p>5X. Alternate Ceiling Damper* — Max nom 12 in. long by 12 in. wide with an 8 in. diameter damper, fabricated from galvanized steel. Installed in accordance with the instructions provided by the manufacturer. Max damper openings not to exceed 72 sq in. per 100 sq ft of ceiling area.</p> <p>GREENHECK FAN CORP — Model CRD-2WT</p>	<p>6. Furring Channels — Resilient channels formed of 25 MSG galv steel, spaced 16 in. OC, installed perpendicular to trusses. When insulations are installed or draped over the resilient channel/gypsum wallboard ceiling membrane, the spacing shall be as described below. Channels secured to each truss with 1-1/4 in. long Type S steel screws. Channels overlapped 4 in. at splices. Channels oriented opposite at wallboard butt joints (spaced 6 in. OC) as shown in the above illustration.</p> <p>When Type AG-C panels are attached to the resilient channels, the channels are installed at 12 in. OC.</p>	<p>11. Netting — (Not shown) Fibrous, woven netting material fastened to underside of each joist with staples, with side joints overlapped.</p>	<p>UL Product iQ®</p> <p>Design No. U301</p> <p>September 10, 2024</p> <p>Bearing Wall Rating — 2 Hr. Finish Rating — 66 Min.</p> <p>This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7</p> <p>* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.</p>
<p>5Y. Alternate Ceiling Damper* — Max 12 in. diameter damper and insulated register box assembly. The maximum size of the register box assembly is nom. 20 in. long by 20 in. wide and 4 in. high fabricated from galv steel. The aggregate area of the register opening(s) through the ceiling membrane shall not exceed 128 sq in. per 100 sq ft of ceiling area. Damper assembly installed in accordance with the manufacturers installation instructions.</p> <p>AIRE TECHNOLOGIES INC — Model 57B.</p>	<p>5Z. Alternate Ceiling Damper* — Max 20 in. long by 16 in. wide by 4 in. high rectangular damper with plenum box assembly. The maximum outer dimensions of the plenum box assembly is 23-1/2 in. long by 19-1/2 in. wide and 17 in. high fabricated from 6pcf, 1-1/2 to 2 in. thick Knauf Air Duct Board M*. The aggregate area of the register opening(s) through the ceiling membrane shall not exceed 160 sq in. per 100 sq ft ceiling area. Damper assembly installed in accordance with the manufacturers installation instructions.</p> <p>AIRE TECHNOLOGIES INC — Series 58.</p>	<p>6A. Steel Framing Members* — (Not Shown) — As an alternate to Item 6, furring channels and Steel Framing Members* as described below.</p> <p>a. Furring Channels — Formed of No. 25 MSG galv steel, 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced 16 in. OC, perpendicular to trusses. When batt insulation (Item 3) is draped over the resilient channel/gypsum board ceiling membrane, the resilient channel spacing shall be reduced to 12 in. OC. Channels secured to trusses as described in Item b. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap.</p> <p>b. Steel Framing Members* — Used to attach furring channels (Item a) to trusses (Item 2). Clips spaced 48 in. OC, RSIC-1 and RSIC-1 (2.75) clips secured to alternating trusses with No. 8 x 2-1/2 in. coarse drywall screw through the center grommet. RSIC-V and RSIC-V (2.75) clips secured to alternating trusses with No. 8 x 1-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips. RSIC-1 and RSIC-V clips for use with 2-9/16 in. wide furring channels. RSIC-1 (2.75) and RSIC-V (2.75) clips for use with 2-23/32 in. wide furring channels. Adjoining channels are overlapped as described in Item a. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping No. 6 framing screws, min 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Additional clips required to hold furring channel that supports the gypsum board butt joints, as described in Item 7.</p> <p>PAC INTERNATIONAL L L C — Types RSIC-1, RSIC-V, RSIC-1 (2.75), RSIC-V (2.75)</p>	<p>12. Netting — (Not shown) - Non-woven polypropylene fabric fastened to underside of each joist with staples, with side joints overlapped. For use with Type AG-C gypsum boards only.</p>	<p>UL Product iQ®</p> <p>Design No. U301</p> <p>September 10, 2024</p> <p>Bearing Wall Rating — 2 Hr. Finish Rating — 66 Min.</p> <p>This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7</p> <p>* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.</p>
<p>SAA. Alternate Ceiling Damper* — Max 14 in. long by 14 in. wide and 18 in. high ceiling damper with boot or box assembly, fabricated from galv steel. The aggregate area of the register opening(s) through the ceiling membrane shall not exceed 98 sq in. per 100 sq ft of ceiling area. Damper assembly installed in accordance with the manufacturers installation instructions.</p> <p>AIRE TECHNOLOGIES INC — Model 51 w/Boot.</p>	<p>SAB. Alternate Ceiling Damper* — Max nom 11-1/8 in. long by 13-5/8 in. wide, fabricated from galvanized steel. Installed in accordance with the instructions provided by the manufacturer. Max damper openings not to exceed 76 sq in. per 100 sq ft of ceiling area.</p> <p>GREENHECK FAN CORP — Model CRD-310WT</p>	<p>6B. Alternate Steel Framing Members* — (Not Shown) — Not evaluated with Item 3 (Batts and Blankets). As an alternate to Items 6 or 6A, furring channels and Steel Framing Members as described below.</p> <p>a. Furring Channels — Formed of No. 25 MSG galv steel, 2-5/8 in. wide by 7/8 in. deep, spaced 16 in OC, perpendicular to trusses. Channels secured to trusses as described in Item b.</p> <p>b. Steel Framing Members* — Used to attach furring channels (Item a) to the wood trusses (Item 2). Clips spaced at 48" OC and secured to the bottom of the trusses with one 2 in. Coarse Drywall Screw with 1 in. diam washer through the center hole. Furring channels are then friction fitted into clips. Ends of channels are overlapped 6" and tied together with double strand of No. 18 AWG galvanized steel wire. Additional clips are required to hold the Gypsum Butt joints as described in Item 7.</p> <p>STUDCO BUILDING SYSTEMS — RESILMOUNT Sound Isolation Clips - Type A237 or A237R</p>	<p>11. Netting — (Not shown) Fibrous, woven netting material fastened to underside of each joist with staples, with side joints overlapped.</p>	<p>UL Product iQ®</p> <p>Design No. U301</p> <p>September 10, 2024</p> <p>Bearing Wall Rating — 2 Hr. Finish Rating — 66 Min.</p> <p>This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7</p> <p>* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.</p>
		<p>6C. Alternate Steel Framing Members* — (Not Shown) — Not evaluated with Item 3 (Batts and Blankets). As an alternate to Items 6 through 6B, furring channels and Steel Framing Members as described below.</p> <p>a. Furring Channels — Formed of No. 25 MSG galv steel, 2-1/2 in. wide by 7/8 in. deep, spaced 16 in OC, perpendicular to trusses. Channels secured to trusses as described in Item b.</p>		<p>UL Product iQ®</p> <p>Design No. U301</p> <p>September 10, 2024</p> <p>Bearing Wall Rating — 2 Hr. Finish Rating — 66 Min.</p> <p>This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7</p> <p>* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.</p>
			<p>11. Netting — (Not shown) Fibrous, woven netting material fastened to underside of each joist with staples, with side joints overlapped.</p>	<p>UL Product iQ®</p> <p>Design No. U301</p> <p>September 10, 2024</p> <p>Bearing Wall Rating — 2 Hr. Finish Rating — 66 Min.</p> <p>This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7</p> <p>* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.</p>
			<p>11. Netting — (Not shown) Fibrous, woven netting material fastened to underside of each joist with staples, with side joints overlapped.</p>	<p>UL Product iQ®</p> <p>Design No. U301</p> <p>September 10, 2024</p> <p>Bearing Wall Rating — 2 Hr. Finish Rating — 66 Min.</p> <p>This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7</p> <p>* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.</p>
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			<p>11. Netting — (Not shown) Fibrous, woven netting material fastened to underside of each joist with staples, with side joints overlapped.</p>	<p>UL Product iQ®</p> <p>Design No. U301</p> <p>September 10, 2024</p> <p>Bearing Wall Rating — 2 Hr. Finish Rating — 66 Min.</p> <p>This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7</p> <p>* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.</p>
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			<p>11. Netting — (Not shown) Fibrous, woven netting material fastened to underside of each joist with staples, with side joints overlapped.</p>	<p>UL Product iQ®</p> <p>Design No. U301</p> <p>September 10, 2024</p> <p>Bearing Wall Rating — 2 Hr. Finish Rating — 66 Min.</p> <p>This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7</p> <p>* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.</p>
			<p>11. Netting — (Not shown) Fibrous, woven netting material fastened to underside of each joist with staples, with side joints overlapped.</p>	<p>UL Product iQ®</p> <p>Design No. U301</p> <p>September 10, 2024</p> <p>Bearing Wall Rating — 2 Hr. Finish Rating — 66 Min.</p> <p>This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7</p> <p>* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.</p>
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			<p>11. Netting — (Not shown) Fibrous, woven netting material fastened to underside of each joist with staples, with side joints overlapped.</p>	<p>UL Product iQ®</p> <p>Design No. U301</p> <p>September 10, 2024</p> <p>Bearing Wall Rating — 2 Hr. Finish Rating — 66 Min.</p> <p>This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7</p> <p>* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.</p>
			<p>11. Netting — (Not shown) Fibrous, woven netting material fastened to underside of each joist with staples, with side joints overlapped.</p>	<p>UL Product iQ®</p> <p>Design No. U301</p> <p>September 10, 2024</p> <p>Bearing Wall Rating — 2 Hr. Finish Rating — 66 Min.</p> <p>This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7</p> <p>* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.</p>
			<p>11. Netting — (Not shown) Fibrous, woven netting material fastened to underside of each joist with staples, with side joints overlapped.</p>	<p>UL Product iQ®</p> <p>Design No. U301</p> <p>September 10, 2024</p> <p>Bearing Wall Rating — 2 Hr. Finish Rating — 66 Min.</p> <p>This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7</p> <p>* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.</p>
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			<p>11. Netting — (Not shown) Fibrous, woven netting material fastened to underside of each joist with staples, with side joints overlapped.</p>	<p>UL Product iQ®</p> <p>Design No. U301</p> <p>September 10, 2024</p> <p>Bearing Wall Rating — 2 Hr. Finish Rating — 66 Min.</p> <p>This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7</p> <p>* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.</p>
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<p>PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM —Types C, PG-2, PG-3, PG-3W, PG-4, PG-5, PG-5W, PG-5WS, PG-11, PG-C, PGS-WRS, PGI</p> <p>PANEL REY S A —Types PRC, PRC2, PRX, RHX, MDX, ETX, GREX, GRIX</p> <p>SIAM GYPSUM INDUSTRY (SARABURI) CO LTD —Type EX-1</p> <p>THAI GYPSUM PRODUCTS PCL —Type C or Type X</p> <p>UNITED STATES GYPSUM CO —Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULUX, ULUX, USGX, WRC, WRX</p> <p>USG BORAL DRYWALL SFZ LLC —Types C, SCX, USGX</p> <p>USG MEXICO S A DE C V —Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULUX, USGX, WRC, WRX</p> <p>4A. Gypsum Board* —(As an alternate to Item 4) — Nom 3/4 in. thick, installed as described in Item 4. CGC INC —Types AR, IP-AR</p> <p>UNITED STATES GYPSUM CO —Types AR, IP-AR</p> <p>USG MEXICO S A DE C V —Types AR, IP-AR</p> <p>4B. Gypsum Board* —(As an alternate to Items 4 and 4A) — 5/8 in. thick, 2 ft wide, tongue and groove edge, applied horizontally as the outer layer to one side of the assembly. Secured as described in Item 4. Joint covering (Item 2) not required. CGC INC —Type SHX</p> <p>UNITED STATES GYPSUM CO —Type SHX</p> <p>USG MEXICO S A DE C V —Type SHX</p> <p>4C. Gypsum Board* —(As an alternate to Items 4, 4A or 4B — Not Shown) — For Direct Application to Studs Only- For use on one or both sides of the wall as the base layer or one both sides of the wall as the face layer. Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-5/8 in. long Type W coarse thread gypsum panel steel screws spaced 8 in. OC at perimeter and in the field when applied as the base layer. When applied as the face layer screw length to be increased to 2-1/2 in. Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead batten strips, min 1-1/2 in. wide, max 10 ft long with a max thickness of 0.125 in. placed on the face of studs and attached to the stud with two 1 in. long Type S-12 pan head steel screws, F4J one at the top of the strip and one at the bottom of the strip. Lead discs or tabs may be used in lieu of or in addition to the lead batten strips or optional at other locations. Max 3/4 in. diam by max 0.125 in. thick lead discs compression fitted or adhered over steel screw heads or max 1/2 in. by 1-1/4 in. by max 0.125 in. thick lead tabs placed on gypsum boards underneath screw locations prior to the installation of the screws. Lead batten strips to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Fasteners for face layer gypsum panels (Items 4, 4A or 4B) when installed over lead backed board to be min 2-1/2 in. Type S-12 bugle head steel screws spaced as described in Item 4.</p> <p>RAY-BAR ENGINEERING CORP —Type RB-LBG.</p>	<p>4K. Gypsum Board* —For use with Item 7 — 5/8 in. thick, two layers applied either horizontally or vertically. Inner layer attached to resilient channels with 1 in. long steel screws spaced 8 in. OC. Outer layer attached to resilient channels over inner layer with 1-5/8 in. long steel screws spaced 8 in. OC. All joints in face layers staggered with joints in base layers. Joints of each base layer offset with joints of base layer on opposite side. Insulation, Items 8 or 9 is required.</p> <p>AMERICAN GYPSUM CO —Types AGX-1, M-Glass, AG-C, AGX-11</p> <p>NATIONAL GYPSUM CO —Types eXP-C, FSK, FSK-C, FSK-G, FSW, FSW-3, FSW-5, FSW-6, FSW-C, FSW-G, FSMR-C, SBW8.</p> <p>CERTAINTED GYPSUM INC —Types EGRG, GlasRoc, GlasRoc-2, Type C, Type X-1, Easi- Lite Type X, SilentFX</p> <p>4L. Gypsum Board* —(As an alternate to Items 4) — For Direct Application to Studs Only- For use as the base layer or as the face layer. Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-5/8 in. long Type W coarse thread gypsum panel steel screws spaced 8 in. OC at perimeter and in the field when applied as the base layer. When applied as the face layer screw length to be increased to 2-1/2 in. Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead batten strips, min 2 in. wide, max 8 ft long with a max thickness of 0.14 in. placed on the face of studs and attached to the stud with construction adhesive and two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead discs, nominal 3/8 in. diam by max 0.085 in. thick, compression fitted or adhered over the screw heads. Lead batten strips and discs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Fasteners for face layer gypsum panels (Items 4, 4A or 4B) when installed over lead backed board to be min 2-1/2 in. Type S-12 bugle head steel screws spaced as described in Item 4.</p> <p>RADIATION PROTECTION PRODUCTS INC —Type RPP - Lead Lined Drywall</p> <p>4M. Gypsum Board* —(As an alternate to Item 4) — 5/8 in. thick, 4 ft. wide, two layers applied vertically with vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Secured as described in Item 4.</p> <p>CERTAINTED GYPSUM INC —5/8" Easi-Lite Type X</p> <p>4N. Gypsum Board* —(As an alternate to 5/8 in. Type FSW in Items 4 or 4L) — Nom. 5/16 in. thick gypsum panels applied vertically or horizontally. Two layers of 5/16 in. for every single layer of 5/8 in. gypsum board described in Item 4 or 4L. Horizontal joints on the same side need not be staggered. Inner layer of each double 5/16 in. layer attached with fasteners, as described in item 4 or 4L, spaced 24 in. OC. Outer layer of each double 5/16 in. layer attached per Item 4 or 4L.</p> <p>NATIONAL GYPSUM CO —Type FSW</p> <p>4O. Wall and Partition Facings and Accessories* —(As an alternate to Items 4 through 4N) — Nominal 5/8 in. thick, 4 ft wide panels, applied vertically and secured as described in Item 4.</p> <p>PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM —Type QuietRock 527</p> <p>4P. Gypsum Board* —(As an alternate to Item 4) — 5/8 in. thick, two layers applied either horizontally or vertically. Inner layer attached to studs with 1-1/4 in. long Type W steel screws spaced 10 in. OC with the last two screws 4 and 1 in. from the edges of the board. Outer layer attached to studs over inner layer with 1-7/8 in. long Type W steel screws spaced 10 in. OC offset 5 in. from base layer with the last two screws 4 and 1 in. from the edges of the board. Vertical joints located over studs. Vertical and horizontal joints between inner and outer layers staggered. Outer layer joints covered with joint tape and compound, screwheads covered with joint compound. When used in widths other than 48 in. gypsum panels are to be installed horizontally.</p> <p>CERTAINTED GYPSUM INC —Type LGFC6A, Type LGFC2A, Type LGFC-C/A, Type LGFC-WD, Type LGLX</p> <p>4Q. Gypsum Board* —(As an alternate to Item 4. For use with Item 13) — Any 5/8 in. thick, 4 ft. wide, Gypsum Board UL Classified for Fire Resistance (CKN0) eligible for use in Design Nos. U305 and L501 or G512. Two layers, applied either horizontally or vertically, and screwed to studs with 1-5/8 in. long Type W coarse thread steel screws at 8 in. OC at perimeter and in the field with the last two</p>	<p>GENTEK BUILDING PRODUCTS LTD</p> <p>VYTEC CORP</p> <p>6. Steel Framing Members* —(Optional, Not Shown) — Furring channels and Steel Framing Members as described below:</p> <p>a. Furring Channels — Formed of No. 25 MSG galv steel. 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping #6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Wallboard attached to furring channels as described in Item 4.</p> <p>b. Steel Framing Members* — Used to attach furring channels (Item 6a) to studs. Clips spaced 48 in. OC, and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center grommet. Furring channels are friction fitted into clips. RSIC-1 clip for use with 2-9/16 in. wide furring channels. RSIC-1 (275) clip for use with 2-23/32 in. wide furring channels.</p> <p>PAC INTERNATIONAL L L C —Types RSIC-1, RSIC-1 (275)</p> <p>6A. Steel Framing Members* —(Optional, Not Shown, As an alternate to Item 6) — Furring channels and Steel Framing Members as described below:</p> <p>a. Furring Channels — Formed of No. 25 MSG galv steel. Spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire. Gypsum board attached to furring channels as described in Item 4.</p> <p>b. Steel Framing Members* — Used to attach furring channels (Item 6Aa) to studs. Clips spaced 48 in. OC. and secured to studs with 2-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips.</p> <p>STUDCO BUILDING SYSTEMS —RESILMOUNT Sound Isolation Clips - Type A237R</p> <p>6B. Steel Framing Members* —(Optional, Not Shown, As an alternate to Item 6) — Furring channels and Steel Framing Members as described below:</p> <p>a. Furring Channels — Formed of No. 25 MSG galv steel. Spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item 6Bb. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire. Gypsum board attached to furring channels as described in Item 4.</p> <p>b. Steel Framing Members* — Used to attach furring channels (Item 6Ba) to studs. Clips spaced 48 in. OC., and secured to studs with 2-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips.</p> <p>REGUPOL AMERICA —Type SonusClip</p> <p>6C. Steel Framing Members* —(Optional, Not Shown, As an alternate to Item 6) —Resilient channels and Steel Framing Members as described below:</p> <p>a. Resilient Channels — Formed of No. 25 MSG galv steel, spaced 24 in. OC, and perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and secured in place with two No. 8 15 x 1/2 in. Philips Modified Truss screws spaced 2-1/2 in. from the center of the overlap. Gypsum board attached to resilient channels as described in Item 4.</p> <p>b. Steel Framing Members* — Used to attach resilient channels (Item 6Ca) to studs. Clips spaced 48 in. OC., and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Resilient channels are secured to clips with one No. 10 x 1/2 in. pan-head self-drilling screw.</p> <p>KEENE BUILDING PRODUCTS CO INC —Type RC+ Assurance Clip</p> <p>6D. Steel Framing Members* —(Optional, Not Shown, As an alternate to Item 6) —Used as an alternate method to attach resilient channels to wall studs. A resilient sound isolation accessory shall be used at each attachment point of the resilient channels and</p>	<p>11. Cementitious Backer Units* —(Optional Item Not Shown — For Use On Face Of 2 Hr Systems With All Standard Items Required) — 7/16 in., 1/2 in., 5/8 in., 3/4 in. or 1 in. thick, min. 32 in. wide. Applied horizontally or vertically with vertical joints centered over studs. Face layer fastened over gypsum board to studs and runners with cement board screws of adequate length to penetrate stud by a minimum of 3/8 in. for steel framing members, and a minimum of 3/4 in. for wood framing members spaced a max of 8 in. OC.</p> <p>NATIONAL GYPSUM CO —Type DuraBacker, PernaBase, DuraBacker Plus, or PernaBase Plus</p> <p>12. Wall and Partition Facings and Accessories* —(Optional, Not Shown) - When the Wall Assembly is used as an External Wall, on the External side of the wall one of the following Wall and Partition and Facing Accessories may be used, refer to items (A) to (C) below.</p> <p>A. Non Insulated system with metal channels — Install moisture barrier over the Gypsum Board Item 4 and Install Acry Metal Channels vertically at a horizontal spacing not greater than 24 inches OC, over the moisture barrier. Acry Metal Channels attached through the moisture barrier and the Gypsum Board to the Wood Studs using fasteners specified by the manufacturer and fasteners spaced max. 24 in. OC</p>
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UL Product iQ®

UL Solutions

Design/System/Construction/Assembly Usage Disclaimer

- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.
- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
- Only products which bear UL's Mark are considered Certified.

BXUV - Fire Resistance Ratings - ANSI/UL 263 Certified for United States

BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

See General Information for Fire Resistance Ratings - ANSI/UL 263 Certified for United States
Design Criteria and Allowable Variances

See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada
Design Criteria and Allowable Variances

Design No. U305

June 14, 2024

Bearing Wall Rating — 1 Hr
Finish Rating — See Items 3, 3A, 3D, 3E, 3F, 3G, 3H, 3J and 3L
STC Rating - 56 (See Item 9)
This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7

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

1. **Wood Studs** — Nom 2 by 4 in. spaced 16 in. OC max, effectively firestopped.

2. **Joints and Nail-Heads** — Joints covered with joint compound and paper tape. Joint compound and paper tape may be omitted when square edge boards are used. As an alternate, nom 3/32 in. thick gypsum veneer plaster may be applied to the entire surface of Classified veneer baseboard with the joints reinforced with paper tape. Nailheads exposed or covered with joint compound.

3. **Gypsum Board*** — 5/8 in. thick paper or vinyl surfaced, with beveled, square, or tapered edges, applied either horizontally or vertically. Gypsum panels nailed 7 in. OC with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 15/64 in. diam heads. When used in widths other than 48 in., gypsum panels are to be installed horizontally. For an alternate method of attachment of gypsum panels, refer to Items 6 through 6F. **Steel Framing Members***, When Items 6, 6B, 6C, 6D, 6E, or 6F, **Steel Framing Members***, are used, gypsum panels attached to furring channels with 1 in. long Type 5 bugle-head steel screws spaced 12 in. OC.

When Item 6A, **Steel Framing Members***, is used, two layers of gypsum panels attached to furring channels. Base layer attached to furring channels with 1 in. long Type 5 bugle-head steel screws spaced 12 in. OC. Face layer attached to furring channels with 1-5/8 in. long Type 5 bugle-head steel screws spaced 12 in. OC. All joints in face layers staggered with joints in base layers. One layer of gypsum board attached to opposite side of wood stud without furring channels as described in Item 3.

When Item 7, resilient channels are used, 5/8 in. thick, 4 ft wide gypsum panels applied vertically. Screw attached furring channels with 1 in. long, self-drilling, self-tapping Type 5 or S-12 steel screws spaced 8 in. OC, vertical joints located midway between studs.

AMERICAN GYPSUM CO — Types AGX-1(finish rating 23 min.), M-Glass (finish rating 23 min.), Type AGX-11 (finish rating 26 min), Type AGX-12 (finish rating 22 min), Type ULightRoc (finish rating 23 min.) or Type AG-C

BEIJING NEW BUILDING MATERIALS PUBLIC LTD CO — Type DBX-1 (finish rating 24 min)

CABOT MANUFACTURING ULC — Type X (finish rating 22 min), 5/8 Type X, Moisture Resistant Type X, Gypsum Sheathing Type X, Mold & Mildew Resistant Type X and Mold & Mildew Resistant AR Type X, Type Blueglas Exterior Sheathing

CERTAINTEEED GYPSUM INC — Type C, Type X-1 (finish rating 26 min), Type EGRG or GlasRoc (finish rating 23 min), GlasRoc-2, Type Habito (finish rating 26 min), Type LWTX (finish rating 18 min), Type LGFC6A (finish rating 34 min), Type LGFC2A, Type LGFC-C/A, Type LGFC-WD, Type LGLXL (finish rating 21 min), Type CLXX (finish rating 24 min)

CGC INC — Type AR (finish rating 24 min), Type C (finish rating 24 min), Type IP-AR (finish rating 24 min), Type IPC-AR (finish rating 24 min), Type IP-X1 (finish rating 24 min), Type IP-X2 (finish rating 24 min), Type SCX (finish rating 24 min), Type SHX (finish rating 24 min), Type ULX (finish rating 22 min), Type WRC (finish rating 24 min), Type WRX (finish rating 24 min), Type ULX (finish rating 20 min)

GEORGIA-PACIFIC GYPSUM L L C — Type 5 (finish rating 26 min), Type 6 (finish rating 23 min), Type 9 (finish rating 26 min), Type C (finish rating 26 min), Type DGG (finish rating 20 min), Type GPF51 (finish rating 20 min), Type GPF52 (finish rating 20 min), Type GPF56 (finish rating 26 min), Type DS, Type DAP, Type DD (finish rating 20 min), Type DA, Type DAPC, Type LS (finish rating 23 min), Type X, Veneer Plaster Base - Type X, Water Rated - Type X, Sheathing - Type X, Soffit - Type X, Type LWX (finish rating 22 min), Veneer Plaster Base-Type LWX (finish rating 22 min), Water Rated-Type LWX (finish rating 22 min), Sheathing-Type LWX (finish rating 22 min), Soffit-Type LWX (finish rating 22 min), Type DGLW (finish rating 22 min), Water Rated-Type DGLW (finish rating 22 min), Sheathing-Type DGLW (finish rating 22 min), Soffit-Type DGLW (finish rating 22 min), Type LWX (finish rating 22 min), Type LWX2 (finish rating 22 min), Veneer Plaster Base - Type LWX2 (finish rating 22 min), Water Rated - Type LWX2 (finish rating 22 min), Sheathing - Type LWX2 (finish rating 22 min), Soffit - Type LWX2 (finish rating 22 min), Type DGLW2 (finish rating 22 min), Water Rated - Type DGLW2 (finish rating 22 min), Sheathing - Type DGLW2 (finish rating 22 min)

NATIONAL GYPSUM CO — Type FSK (finish rating 20 min), Type FSK-G (finish rating 20 min), Type FSW (finish rating 20 min), Type FSW-2 (finish rating 24 min), Type FSW-3 (finish rating 20 min), Type FSW-5 (finish rating 22 min), Type FSW-G (finish rating 20 min), Type FSK-C (finish rating 20 min), Type FSW-C (finish rating 20 min), Type FSMR-C, Type FSW-6 (finish rating 20 min), Type FSL (finish rating 24 min), Type FSW-8, Type FSLX (finish rating 21 min), Type RSX (finish rating 26 min).

NATIONAL GYPSUM CO — Riyadh, Saudi Arabia — Type FR, or WR.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Types C, PG-2 (finish rating 20 min), PG-3 (finish rating 20 min), Types PG-3W, PG-SW (finish rating 20 min), Type PG-4 (finish rating 20 min), Type PG-6 (finish rating 23 min), Types PG-3WS, PG-SWS, PGS-WRS (finish rating 20 min), Types PG-5, PG-9 (finish rating 26 min), PG-11 PG-13 (Nails increased to 2 in.), Type PG-C or PGJ (finish rating 26 min)

PANEL REY S A — Type ARX, GREX, GRGX, PRX, PRC2; Types RHX, Guard Rey, MDX, ETX (finish rating 22 min), PRX2 (finish rating 21 min)

SIAM GYPSUM INDUSTRY (SARABURI) CO LTD — Type EX-1 (finish rating 26 min)

THAI GYPSUM PRODUCTS PCL — Type C, Type X (finish rating 26 min)

UNITED STATES GYPSUM CO — Type AR (finish rating 24 min), Type C (finish rating 24 min), Type FRX-G (finish rating 20 min), Type IP-AR (finish rating 24 min), Type IPC-AR (finish rating 24 min), Type IP-X1 (finish rating 24 min), Type IP-X2 (finish rating 24 min), Type SHX (finish rating 24 min), Type SCX (finish rating 24 min), Type ULX (finish rating 22 min), Type WRX (finish rating 24 min), Type WRC (finish rating 24 min), Type ULX (finish rating 20 min), Type SCX (finish rating 24 min)

USG BORAL DRYWALL SFZ LLC — Type SGX (finish rating 24 min).

USG MEXICO S A DE C V — Type AR (finish rating 24 min), Type C (finish rating 24 min), Type WRX (finish rating 24 min), Type WRC (finish rating 24 min), Type IP-X1 (finish rating 24 min), Type IP-X2 (finish rating 24 min), Type SHX (finish rating 24 min), SCX (finish rating 24 min), Type IP-AR (finish rating 24 min), Type IPC-AR (finish rating 24 min), Type ULX (finish rating 22 min)

3A. **Gypsum Board*** — (As an alternate to Item 3) — 5/8 in. thick gypsum panels, with beveled, square, or tapered edges, applied either horizontally or vertically. Gypsum panels fastened to framing with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screw 1 in. from edge of board. When used in widths of other than .48 in., gypsum boards are to be installed horizontally.

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

CERTAINTEEED GYPSUM INC — Type C, Type X-

PRINTS ISSUED
12/20/2024 - CITY SUBMISSION
REVISIONS:

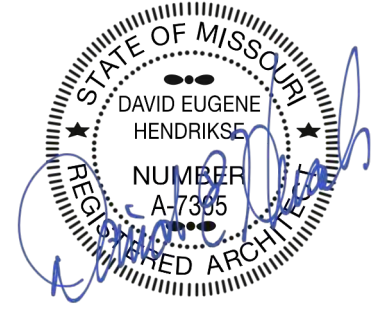


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12/20/24

DISCOVERY PARK - LOT #10-A

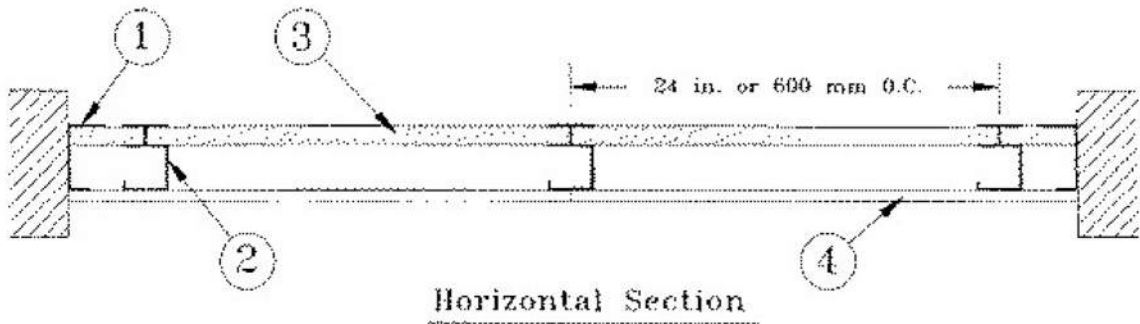
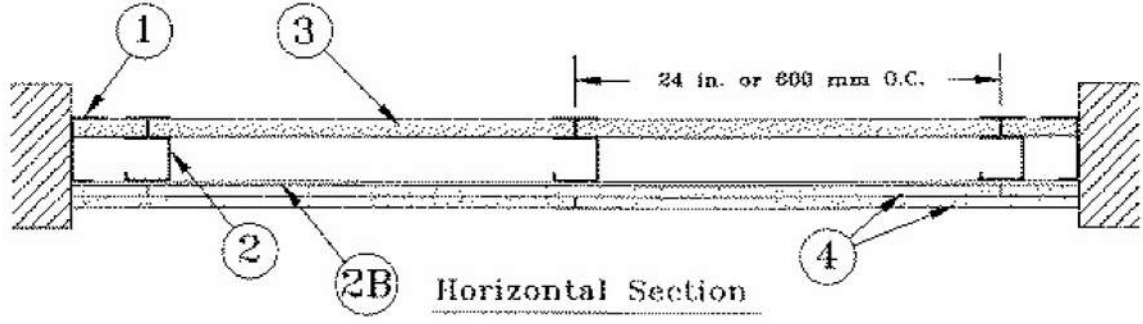
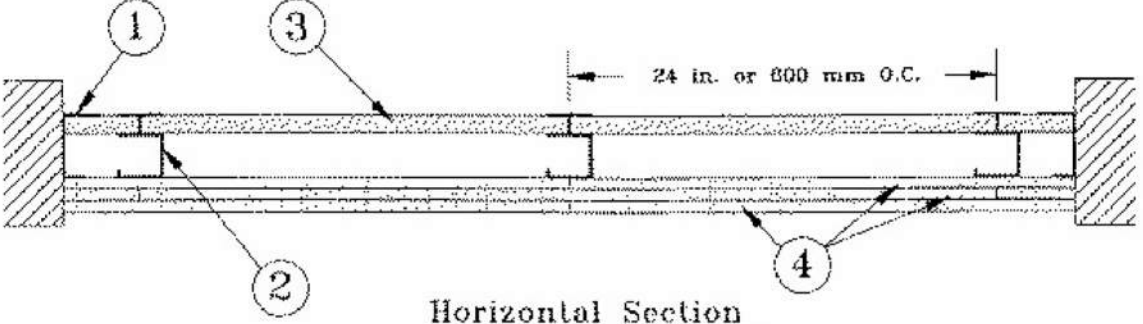
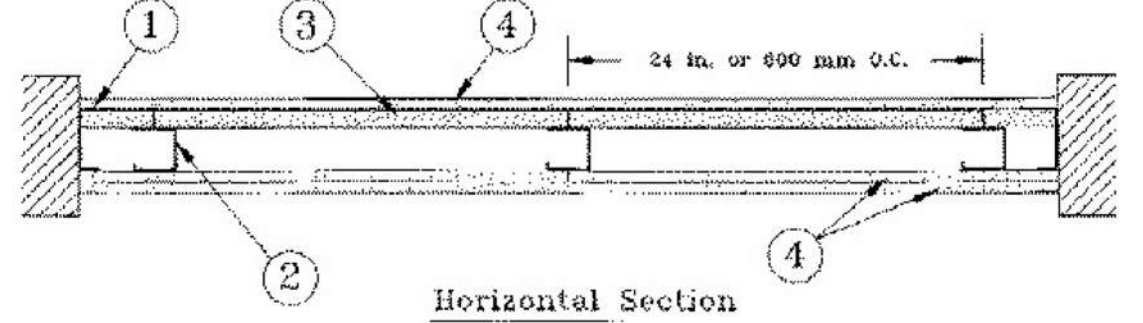
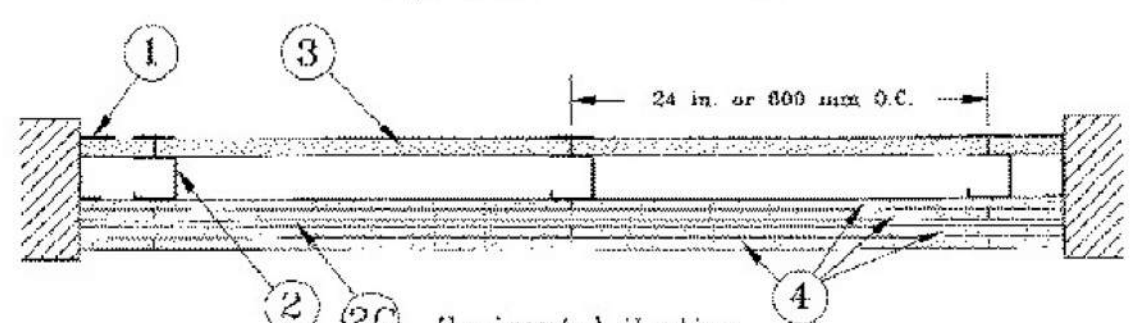
LEE'S SUMMIT, MO

SHEET TITLE
UL ASSEMBLIES - U415

PROJECT NUMBER: 24004

SHEET NUMBER:

G-211

<div><div>UL Product iQ®</div><div><div>Design/System/Construction/Assembly Usage Disclaimer</div><div><ul style="list-style-type: none">• Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.• Authorities Having Jurisdiction should be consulted before construction.• Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.• When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.• Only products which bear UL's Mark are considered Certified.</div></div><div><div>BXUV - Fire Resistance Ratings - ANSI/UL 263 Certified for United States BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada</div><div>See General Information for Fire Resistance Ratings - ANSI/UL 263 Certified for United States Design Criteria and Allowable Variances</div><div>See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada Design Criteria and Allowable Variances</div></div><div>Design No. U415</div><div>February 14, 2022</div><div><div>Nonbearing Wall Ratings — 1, 2, 3 or 4 Hr</div><div>* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.</div><div><div>System A — 1 Hr.</div><div></div><div>Horizontal Section</div></div></div></div>	<div><div>System F — 2 Hr.</div><div></div><div>Horizontal Section</div><div><div>System G — 3 Hr.</div><div></div><div>Horizontal Section</div><div><div>System H — 3 Hr.</div><div></div><div>Horizontal Section</div><div><div>System I — 4 Hr.</div><div></div><div>Horizontal Section</div></div></div><div><div>1. Floor, Side and Ceiling Runners — "J" - shaped runner, min 2-1/2 in. deep (min 4 in. deep when System C is used), with unequal legs of 1 in. and 2 in., fabricated from min 24 MSG (min 20 MSG when Item 4A, 4B, 4C, 4D or 7 are used) galv steel. Runners positioned with short leg toward finished side of wall. Runners attached to structural supports with steel fasteners located not greater than 2 in. from ends and not greater than 24 in. OC. "E" - shaped studs (Item 2A) may be used as side runners in place of "J" - shaped runners.</div><div>2. Steel Studs — "C-H" - shaped studs, min 2-1/2 in. deep (min 4 in. deep when System C is used), fabricated from min 25 MSG (min 20 MSG when Items 2D, 4A, 4B, 4C, 4D or 7 is used) galv steel. Cut to lengths 3/8 to 1/2 in. less than floor-to-ceiling height and spaced 24 in. or 600 mm OC (max 16 in. OC when Items 4A, 4B, 4C, or 4D are used).</div><div>2A. Steel Studs — (Not Shown) — "E" - shaped studs installed back to back in place of "C-H" - shaped studs (Item 2) "E" - shaped studs secured together with steel screws spaced a maximum 12 in. OC. Fabricated from min 25 MSG (min 20 MSG when Item 2D, 4A, 4B or 7 is used) galv steel, min 2-1/2 in. deep (min 4 in. deep when System C is used), with one leg 1 in. long and two legs 3/4 in. long. Shorter legs 1 in. apart to engage gypsum liner panels. Cut to lengths 3/8 to 1/2 in. less than floor to ceiling heights.</div><div>2B. Furring Channels — (Optional, Not Shown) — For use with single or double layer systems. Resilient furring channels fabricated from min 25MSG corrosion protected steel, installed horizontally, and spaced vertically a max 24 in. OC. Flange portion of channel attached to each intersecting "C-H" or "E" stud on side of stud opposite the 1 in. liner panels with 1/2 in. long Type S or S-12 pan-head steel screws. When furring channels are used, wallboard to be installed vertically only. . Not to be used with Type FRX-G gypsum board, lead backed gypsum boards (Items 4A-4D), or cementitious backer units (Item 7).</div><div>2C. Furring Channels — For use with System I - "Hat" - shaped, 25 MSG galv steel furring channels attached directly over the inner layers of wallboard to each stud with 2 in. long Type S pan head steel screws. Screws alternate from top flange to bottom flange at each stud intersection. Furring channels spaced vertically max 24 in. OC.</div><div>2D. Steel Framing Members* — (Optional, Not Shown) — For use with single or double layer systems. Furring channels and Steel Framing Members as described below. Not to be used with Type FRX-G gypsum board, lead backed gypsum boards (Items 4A-4D), or cementitious backer units (Item 7).</div><div>a. Furring Channels — Formed of No. 25 MSG galv steel, 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Gypsum board installed vertically only and attached to furring channels as described in Item 4.</div><div>b. Steel Framing Members* — Used to attach furring channels (Item 2Da) to studs (Item 2 or 2A). Clips spaced max. 24 in. OC, and secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center grommet. Furring channels are friction fitted into clips. RSIC-1 clip for use with 2-9/16 in. wide furring channels. RSIC-1 (2/75) clip for use with 2-23/32 in. wide furring channels.</div><div>PAC INTERNATIONAL L L C — Types RSIC-1, RSIC-1 (2/75)</div><div>2E. Steel Framing Members* — (Optional, Not Shown) — Furring channels and Steel Framing Members as described below. . Not to be used with Type FRX-G gypsum board, lead backed gypsum boards (Items 4A-4D), or cementitious backer units (Item 7).</div><div>a. Furring Channels — Formed of No. 25 MSG galv steel. Spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire. Gypsum board attached to furring channels as described in Item 4.</div><div>b. Steel Framing Members* — Used to attach furring channels (Item 2Ea) to studs. Clips spaced 24 in. OC, and secured to studs with 2 in. coarse drywall screw with 1 in. diam washer through the center hole. Furring channels are friction fitted into clips. STUOCO BUILDING SYSTEMS — RESILMOUNT Sound Isolation Clips - Type A23JR</div><div>2F. Steel Framing Members* — (Optional, Not Shown) — For use with single or double layer systems. Furring channels and Steel Framing Members as described below. Not to be used with Type FRX-G gypsum board, lead backed gypsum boards (Items 4A-4D), or cementitious backer units (Item 7).</div><div>a. Furring Channels — Formed of No. 25 MSG galv steel, 2-3/8 in. wide by 7/8 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Gypsum board installed vertically only and attached to furring channels as described in Item 3.</div><div>b. Steel Framing Members* — Used to attach furring channels (Item 2Da) to studs (Item 2 or 2A). Clips spaced max. 24 in. OC. GENIECLIPS secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center grommet. Furring channels are friction fitted into clips. PLUTEQ INC — Type GENIECLIP</div><div>2G. Steel Framing Members* — (Optional, Not Shown) — Furring channels and Steel Framing Members as described below. Not to</div></div></div></div>	<div>be used with Type FRX-G gypsum board, lead backed gypsum boards (Items 4A-4D), or cementitious backer units (Item 7).</div> <div>a. Furring Channels — Formed of No. 25 MSG galv steel. Spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item 2Gb. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire. Gypsum board attached to furring channels as described in Item 4.</div> <div>b. Steel Framing Members* — Used to attach furring channels (Item 2Ga) to studs. Clips spaced 24 in. OC, and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips. REGUPOUL AMERICA — Type SonusClip</div> <div>2H. Steel Framing Members* — (Optional, Not Shown) — Resilient channels and Steel Framing Members as described below. Not to be used with Type FRX-G gypsum board, lead backed gypsum boards (Items 4A-4D), or cementitious backer units (Item 7).</div> <div>a. Resilient Channels — Formed of No. 25 MSG galv steel, spaced 24 in. OC, and perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and secured in place with two No. 8 15 x 1/2 in. Philips Modified Truss screws spaced 2-1/2 in. from the center of the overlap. Gypsum board attached to resilient channels as described in Item 4.</div> <div>b. Steel Framing Members* — Used to attach resilient channels (Item 2Ha) to studs. Clips spaced 48 in. OC, and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Resilient channels are secured to clips with one No. 10 x 1/2 in. pan-head self-drilling screw. KEENE BUILDING PRODUCTS CO INC — Type RC+ Assurance Clip</div> <div>2I. Steel Framing Members* — (Optional, Not Shown) — For use with single or double layer systems. Furring channels and Steel Framing Members as described below. Not to be used with Type FRX-G gypsum board, lead backed gypsum boards (Items 4A-4D), or cementitious backer units (Item 7).</div> <div>a. Furring Channels — Formed of No. 25 MSG galv steel, 2-23/32 in. wide by 7/8 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Gypsum board installed vertically only and attached to furring channels as described in Item 4.</div> <div>b. Steel Framing Members* — Used to attach furring channels (Item 2Ia) to studs (Item 2 or 2A). Clips spaced max. 24 in. OC, and secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center grommet. Furring channels are friction fitted into clips. CLARKDIETRICH BUILDING SYSTEMS — Type ClarkDietrich Sound Clip</div> <div>3. Gypsum Board* — Gypsum liner panels, nom 1 in. thick, 24 in. or 600 mm (for metric spacing) wide. Panels cut 1 in. less in length than floor to ceiling height. Vertical edges inserted in "H" portion of "C-H" studs or the gap between the two 3/4 in. legs of the "E" studs. Free edge of end panels attached to long leg of vertical "J" - runners with 1-5/8 in. long Type S steel screws spaced not greater than 12 in. OC. When wall height exceeds liner panel length, liner panel may be butted to extend to the full height of the wall. Horizontal joints need not be backed by steel framing. In System I, butt joints in liner panels are staggered min 36 in. Butt joints backed with 6 in. by 22 in. strips of 3/4 in. thick gypsum wallboard (Item 4). Wallboard strips centered over butt joints and secured to liner panels with six 1-1/2 in. long Type G steel screws, three screws along the 22 in. dimension at the top and bottom of the strips. CGC INC — Type SLX</div> <div>UNITED STATES GYPSUM CO — Type SLX</div> <div>USG BORAL DRYWALL SFZ LLC — Type SLX</div> <div>USG MEXICO S A DE C V — Type SLX</div> <div>4. Gypsum Board* —</div> <div>System A — 1 Hr</div> <div>Gypsum panels, with beveled, square or tapered edges, nom 5/8 in. thick, 48 in. or 1200 mm wide, applied vertically or horizontally, attached to studs with 1 in. long Type S steel screws spaced 12 in. when installed vertically or 8 in OC when installed horizontally. Horizontal joints need not be backed by steel framing.</div> <div>CGC INC — Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULX, ULX, USGX, WRC, WRX</div> <div>THE SIAM GYPSUM INDUSTRY (SONGKHLA) CO — Types C and SCX</div>	<div>USG BORAL DRYWALL SFZ LLC — Types C, SCX, SGX, USGX</div> <div>USG MEXICO S A DE C V — Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULX, ULX, USGX, WRC, WRX</div> <div>System E — 2 Hr</div> <div>Gypsum panels, with beveled, square or tapered edges, nom 1/2 in. or 5/8 in. thick, 48 in. or 1200 mm wide, applied vertically or horizontally, attached to studs with 1 in. long Type S steel screws spaced 12 in. OC when installed vertically or 8 in. when installed horizontally. Horizontal joints need not be backed by steel framing.</div> <div>CGC INC — 1/2 in. Types C, IP-X2, IPC-AR, 5/8 in. Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULX, USGX, WRC, WRX</div> <div>THE SIAM GYPSUM INDUSTRY (SONGKHLA) CO — Types C and SCX</div> <div>UNITED STATES GYPSUM CO — 1/2 in. Types C, IP-X2, IPC-AR, 5/8 in. Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SGX, SHX, ULX, ULX, USGX, WRC, WRX</div> <div>USG BORAL DRYWALL SFZ LLC — 1/2 in. Type C, 5/8 in. Types C, SCX, SGX, USGX</div> <div>USG MEXICO S A DE C V — 1/2 in. Types C, IP-X2, IPC-AR, 5/8 in. Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULX, ULX, USGX, WRC, WRX</div> <div>System F — 2 Hr</div> <div>Gypsum panels, with beveled, square or tapered edges, nom 1/2 in. or 5/8 in. thick, 48 in. or 1200 mm wide, applied vertically in two layers. Inner or base layer attached to resilient furring channels (Item 2B) with 1 in. long Type S steel screws spaced 24 in. OC and staggered 12 in. from base layer screws. Joints between inner and outer layers staggered 24 in.</div> <div>CGC INC — 1/2 in. Type C, IP-X2, IPC-AR or WRC, 5/8 in. Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULX, USGX, WRC, WRX</div> <div>THE SIAM GYPSUM INDUSTRY (SONGKHLA) CO — Types C and SCX</div> <div>UNITED STATES GYPSUM CO — 1/2 in. Type C, IP-X2, IPC-AR or WRC, 5/8 in. Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SGX, SHX, ULX, ULX, USGX, WRC, WRX</div> <div>USG BORAL DRYWALL SFZ LLC — 1/2 in. Type C, 5/8 in. Types C, SCX</div> <div>USG MEXICO S A DE C V — 1/2 in. Types C, IP-X2, IPC-AR or WRC, 5/8 in. Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULX, ULX, USGX, WRC, WRX</div> <div>System G — 3 Hr</div> <div>Gypsum panels, with beveled, square or tapered edges, nom 5/8 in. thick, 48 in. or 1200 mm wide, applied vertically or horizontally in three layers. Inner or base layer attached to studs with 1 in. long Type S steel screws spaced 24 in. OC when installed vertically or 16 in OC when installed horizontally. Middle layer attached to studs with 1-5/8 in. long Type S steel screws spaced 24 in. when installed vertically or 16 in. OC when installed horizontally. Outer or face layer attached to studs with 2-1/4 in. long Type S steel screws spaced 16 in. when installed vertically or 12 in. OC when installed horizontally. Screws offset 6 in. from layer below. Horizontal joints on adjacent layers staggered a min of 12 in. . Horizontal joints need not be backed by steel framing. Vertical joints centered over studs and staggered 24 in. on adjacent layers.</div> <div>CGC INC — Types C, IP-X2, IPC-AR, ULX, WRC</div> <div>THE SIAM GYPSUM INDUSTRY (SONGKHLA) CO — Type C</div> <div>UNITED STATES GYPSUM CO — Types C, IP-X2, IPC-AR, ULX, WRC</div> <div>USG BORAL DRYWALL SFZ LLC — Type C</div>	<div>USG MEXICO S A DE C V — Types C, IP-X2, IPC-AR, WRC</div> <div>System H — 3 Hr</div> <div>Gypsum panels, with beveled, square or tapered edges, nom 5/8 in. thick, 48 in. or 1200 mm wide, applied vertically or horizontally, two layers over the flange of the "C" section of the studs, one layer over the flange of the "H" section of the studs. Inner or base layer attached to studs with 1 in. long Type S steel screws spaced 24 in. OC when installed vertically or 16 in. OC when installed horizontally. Face layer attached to studs with 1-5/8 in. long Type S steel screws spaced 24 in. when installed vertically or 16 in. OC when installed horizontally. Outer or face layer attached to studs with 2-1/4 in. long Type S steel screws spaced 16 in. when installed vertically or 12 in. OC when installed horizontally. Screws offset 6 in. from layer below. Horizontal joints on adjacent layers staggered a min of 12 in. Horizontal joints need not be backed by steel framing. Vertical joints centered over studs and staggered 24 in. on adjacent layers.</div> <div>CGC INC — Types C, IP-X2, IPC-AR, ULX, WRC</div> <div>THE SIAM GYPSUM INDUSTRY (SONGKHLA) CO — Type C</div> <div>UNITED STATES GYPSUM CO — Types C, IP-X2, IPC-AR, ULX, WRC</div> <div>USG BORAL DRYWALL SFZ LLC — Type C</div> <div>USG MEXICO S A DE C V — Types C, IP-X2, IPC-AR, WRC</div> <div>System I — 4 Hr</div> <div>Gypsum panels, with beveled, square or tapered edges, nom 3/4 in. thick, 4 ft wide (or 1200 mm for metric spacing) wallboard with square or tapered edges. Total of four layers to be used. First and second (inner) layers applied vertically or horizontally over the steel studs. Horizontal joints need not be backed by steel framing. When applied vertically, joints centered over studs and staggered min 24 in., otherwise all joints staggered min 12 in. In first layer secured to studs with 1-1/4 in. long Type S self-drilling, self-tapping bugle-head steel screws spaced 24 in. OC. Second layer secured to studs with 2-1/4 in. long Type S self-drilling, self-tapping bugle-head steel screws spaced 12 in. OC. Third layer applied vertically over the furring channels (Item 2C) with a 1-1/4 in. long Type S self-drilling, self-tapping bugle-head steel screws spaced 12 in. OC. Fourth layer applied vertically or horizontally with 2-1/4 in. long Type S self-drilling, self-tapping bugle-head steel screws spaced 12 in. OC. When applied vertically, joints to be staggered min 24 in. from third layer, otherwise all joints staggered min 12 in.</div> <div>CGC INC — Types IP-X3 or ULTRACODE</div> <div>UNITED STATES GYPSUM CO — Types IP-X3 or ULTRACODE</div> <div>USG BORAL DRYWALL SFZ LLC — Type ULTRACODE</div> <div>USG MEXICO S A DE C V — Types IP-X3 or ULTRACODE</div> <div>4A. Gypsum Board* — (As an alternate to Item 4 Systems A, B, C, D, E, G, H, and I when used as the base layer, For direct attachment only) — Nom 5/8 in. or 3/4 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. See Items 1, 2, 2A, 2B and 2D. Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. For RAY-BAR ENGINEERING CORP — Type RB-LBG</div> <div>4B. Gypsum Board* — (As an alternate to Item 4 Systems A, B, C, D, E, G, H, and I when used as the base layer, For direct attachment only) — Nominal 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 (or 46 by 1-1/4 in. long bugle head fine-drilled) steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. NEW ENGLAND LEAD BURNING CO INC, DBA NELCO — Type Neko</div> <div>4C. Gypsum Board* — (As an alternate to Item 4 Systems A, B, C, D, E, G, H, and I when used as the base layer, For direct attachment only) — Nom 5/8 or 3/4 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over 20 MSG steel studs and staggered min 1 stud cavity on opposite sides of studs. See Items 1, 2, 2A, 2B and 2D. Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. For</div>
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PRINTS ISSUED

12/20/2024 - CITY SUBMISSION

REVISIONS:

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12/20/24

DISCOVERY PARK - LOT #10-A

LEE'S SUMMIT, MO

SHEET TITLE

UL ASSEMBLIES - U415 / U423

PROJECT NUMBER: 24004

SHEET NUMBER:

G-212

UL Product iQ®



Design/System/Construction/Assembly Usage Disclaimer

- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.
- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
- Only products which bear UL's Mark are considered Certified.

BXUV - Fire Resistance Ratings - ANSI/UL 263 Certified for United States
BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

See General Information for Fire Resistance Ratings - ANSI/UL 263 Certified for United States
Design Criteria and Allowable Variances

See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada
Design Criteria and Allowable Variances

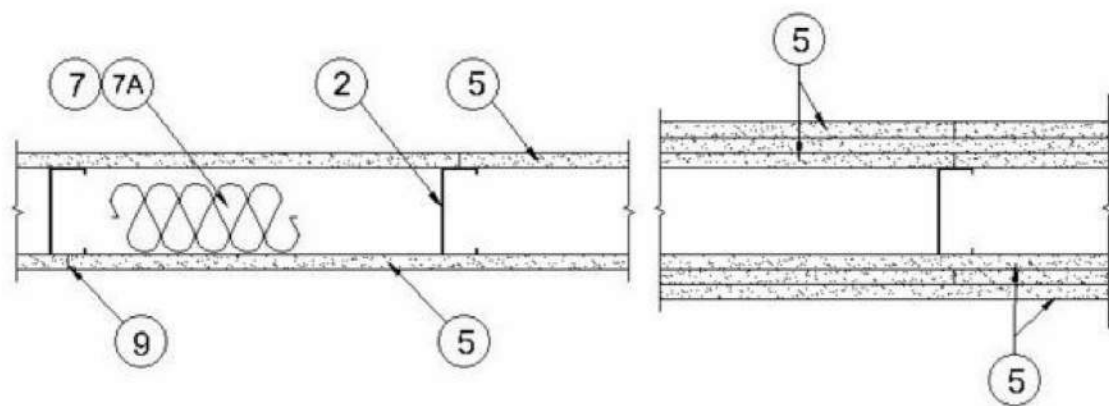
Design No. U423

June 14, 2024

Bearing Wall Ratings — 3/4 Hr, 1, 1-1/2 or 2 Hr (See Items 5 & 7)

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

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



1. **Floor and Ceiling Runners** — (Not Shown) — Channel shaped, fabricated from min 0.0329 in., bare metal thickness (No. 20 MSG) corrosion-protected steel, that provide a sound structural connection between steel studs and adjacent assemblies such as floors, ceilings and/or other walls. Attached to floor and ceiling assemblies with steel fasteners spaced not greater than 24 in. OC.

1A. **Floor and Ceiling Runners** — (Not Shown, As an alternate to Item 1, For Use With Item 5A and 5C) — Channel shaped runners min 3-1/2 in. deep with 1-1/4 in. flanges fabricated from min No. 20 MSG corrosion-protected steel. Attached to floor and ceiling assemblies with steel fasteners spaced not greater than 24 in. OC.

2. **Steel Studs** — Min 0.0329 in., bare metal thickness (No. 20 MSG) corrosion-protected steel studs, min 3-1/2 in. wide, cold formed, designed in accordance with the current edition of the Specification for the Design of Cold-Formed Steel Structural Members by the American Iron and Steel Institute (AISI). All design details enhancing the structural integrity of the wall assembly, including the axial design load of the studs, shall be as specified by the steel stud designer and/or producer, and shall meet the requirements of all applicable local code agencies. The max stud spacing shall not exceed 24 in. OC. Studs attached to floor and ceiling runners with 1/2 in. long Type S-12 steel screws on both sides of the studs or by welded or bolted connections designed in accordance with the AISI specifications.

2A. **Steel Studs** — (As an alternate to Item 2, For use with Item 5A, 5C, 5D, and 5E) — Channel shaped, fabricated from min 20 MSG corrosion-protected or galv steel, 3-1/2 in. min width, min 1-1/2 in. flanges and 1/4 in. return, spaced a max of 16 in. OC. Studs friction-fit into floor and ceiling runners.

2B. **Steel Studs** — (As an alternate to Item 2 and 2A, For Use With Item 5B) — Min 0.0329 in., (No. 20 MSG) corrosion-protected cold formed steel studs, min 3-1/2 in. deep by 1-5/8 in. wide with 1/2 in. returns. Braced at mid-height and designed in accordance with the current edition of the Specification for the Design of Cold-Formed Steel Structural Members by the American Iron and Steel Institute (AISI). All design details enhancing the structural integrity of the wall assembly, including the axial design load of the studs, shall be as specified by the steel stud designer and/or producer, and shall meet the requirements of all applicable local code agencies. The max stud spacing shall not exceed 24 in. OC. Studs attached to floor and ceiling runners with 1/2 in. long Type S-12 steel screws on both sides of the studs or by welded or bolted connections designed in accordance with the AISI specifications.

2C. **Framing Members - Steel Studs** — (As an alternate to Item 2, For use with Item 5C) — Channel shaped, fabricated from min 20 MSG (0.0327 in. thick) corrosion-protected or galv steel, 3-1/2 in. min width, min 1-1/2 in. flanges and 1/4 in. return, spaced a max of 16 in. OC. Studs friction-fit into floor and ceiling runners. Studs to be cut 5/8 to 3/4 in. less than assembly height.

3. **Lateral Support Members** — (Not shown) — Where required for lateral support of studs, support shall be provided by means of steel straps, channels or other similar means as specified in this design of a particular means steel wall system.

4. **Wood Structural Panel Sheathing** — (Optional. For use with Item 5 only) — (Not Shown) — 4 ft wide, 7/16 in. thick oriented strand board (OSB) or 15/32 in. thick structural 1 sheathing (plywood) complying with DOC P51 or P52, or APA Standard PRP-108, manufactured with exterior glue, applied horizontally or vertically to the steel studs. Vertical joints centered on studs, and staggered one stud space from wallboard joints. Attached to studs with flat-head self-drilling tapping screws with a min. head diam. of 0.292 in. at maximum 6 in. OC. in the perimeter and 12 in. OC. in the field. When used, gypsum panels attached over OSB or plywood panels and fastener lengths for gypsum panels increased by min. 1/2 in. The maximum loading on the steel studs was evaluated with the steel studs braced at mid-height and not braced by the plywood sheathing.

Joint Compound see Item 5. To be used with Lead Batten Strips (see Item 9A) or Lead Discs (see Item 10A). Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead batten strips, min 2 in. wide, max 10 ft long with a max thickness of 0.140 in. placed on the face of studs and attached to the stud with two 1 in. long Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip.
MAYCO INDUSTRIES INC — Type X-Ray Shielded Gypsum

4D. **Gypsum Board*** — (As an alternate to Item 4 Systems A, B, C, D, E, G, H, and I when used as the base layer, For direct attachment only) — Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws gypsum panel steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead batten strips, min 2 in. wide, max 8 ft long with a max thickness of 0.14 in. placed on the face of studs and attached to the stud with construction adhesive and two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead discs, nominal 3/8 in. diam by max 0.085 in. thick. Compression fitted or adhered over the screw heads. Lead batten strips and discs to have a purity of 99.9% meeting the Federal specification QQ-L-2011, Grade "C".
RADIATION PROTECTION PRODUCTS INC — Type RPP - Lead Lined Drywall

5. **Joint Tape and Compound** — (Not Shown)

Systems A, B, C, E, F, G, H, I

Joints on outer layers of gypsum boards (Item 4 and 4A) covered with paper tape and joint compound. Paper tape and joint compound may be omitted when gypsum boards are supplied with square edges. Exposed screw heads covered with joint compound.

6. **Batts and Blankets*** —

Systems A, B, E, F, G, H, I

(Optional) — Mineral wool or glass fiber batts partially or completely filling stud cavity. Any mineral wool or glass fiber batt mineral bearing the UL Classification Marking as to Fire Resistance.

Systems C & D

Min 3 in. (System C) and min 1-1/2 in. (System D) thick mineral wool batts, friction fitted between the studs and floor and ceiling runners.

ROCKWOOL — Type AFB, min. density 1.8 pcf / 28.8 kg/m³

THERMAFIBER INC — Type SAFB, SAFB FF

7. **Cementitious Backer Units*** — (System D) — Nom 1/2 or 5/8 in. thick panels, square edge, attached to studs over gypsum wallboard with 1-5/8 in. long, Type S-12, corrosion resistant steel screws spaced 8 in. OC and staggered 8 in. from gypsum wall board screws. Joints covered with glass fiber mesh tape. Vertical joints staggered one stud cavity from gypsum wallboard joints. Horizontal joints staggered a min of 12 in. from the gypsum wallboard joints.
UNITED STATES GYPSUM CO — Type DCB

8. **Laminating Adhesive*** — (Optional, Not Shown) — Used to bond outer layer of Cementitious Backer Units (Item 7) to inner layers of Gypsum Board (Item 4) in System D. ANSI A136.1 Type 1 organic adhesive applied with 1/4 in. square notched trowel. See Adhesives (BYWR) in the Fire Resistance Directory or Adhesives (BILZ) in the Building Materials Directory for names of Classified companies.

9. **Lead Batten Strips** — (Not Shown, For Use With Item 4A) — Lead batten strips, min 1-1/2 in. wide, max 10 ft long with a max thickness of 0.125 in. Strips placed on the interior face of studs and attached from the exterior face of the stud with two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead batten strips to have a purity of 99.9% meeting the Federal specification QQ-L-2011, Grade "C". Lead batten strips required behind vertical joints of lead backed gypsum wallboard (Item 4A) and optional at remaining stud locations. Required behind vertical joints.

9A. **Lead Batten Strips** — (Not Shown, for use with Item 4C) — Lead batten strips, 2 in. wide, max 10 ft long with a max thickness of 0.140 in. Strips placed on the face of studs and attached to the stud with two min. 1 in. long min. Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip or with one min. 1 in. long min. Type S-8 pan head steel screw at the top of the strip. Lead batten strips to have a purity of 99.5% meeting the Federal specification QQ-L-2011, Grades "B, C or D". Lead batten strips required behind vertical joints of lead backed gypsum wallboard (Item 6) and optional at remaining stud locations.

10. **Lead Discs or Tabs** — (Not Shown, For Use With Item 4A) — Used in lieu of or in addition to the lead batten strips (Item 9) or

optional at other locations - Max 3/4 in. diam by max 0.125 in. thick lead discs compression fitted or adhered over steel screw heads or max 1/2 in. by 1-1/4 in. by max 0.125 in. thick lead tabs placed on gypsum boards (Item 4A) underneath screw locations prior to the installation of the screws. Lead discs or tabs to have a purity of 99.9% meeting the Federal specification QQ-L-2011, Grade "C".

10A. **Lead Discs** — (Not Shown, for use with Item 4C) — Max 5/16 in. diam by max 0.140 in. thick lead discs compression fitted or adhered over steel screw heads. Lead discs to have a purity of 99.5% meeting the Federal Specification QQ-L-2011, Grades "B, C or D".

11. **Lead Batten Strips** — (Not Shown, For Use With Item 4B) — Lead batten strips, 2 in. wide, max 10 ft long with a max thickness of 0.142 in. Strips placed on the face of studs and attached to the stud with two min. 1 in. long min. Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip or with one min. 1 in. long min. Type S-8 pan head steel screw at the top of the strip. Lead batten strips to have a purity of 99.9% meeting the Federal specification QQ-L-2011, Grade "C". Lead batten strips required behind vertical joints of lead backed gypsum wallboard (Item 4B) and optional at remaining stud locations.

12. **Lead Tabs** — (Not Shown, For Use With Item 4B) — 2 in. wide, 5 in. long with a max thickness of 0.142 in. Tabs friction-fit around front face of stud, the stud folded back flange, and the back face of the stud. Tabs required at each location where a screw (that secures the gypsum boards, Item 4B) will penetrate the steel stud. Lead tabs to have a purity of 99.9% meeting the Federal specification QQ-L-2011, Grade "C". Lead tabs may be held in place with standard adhesive tape if necessary.

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

Last Updated on 2022-02-14

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5. **Gypsum Board*** — Gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Vertical joints in adjacent layers (multilayer systems) staggered one stud cavity. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered when load is reduced to 90 percent of max stud capacity. When load is at 100 percent, horizontal edge joints and horizontal butt joints on opposite sides of studs staggered a min of 12 in. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered at 100 percent load with Type ULIX. Horizontal edge joints and horizontal butt joints in adjacent layers (multilayer systems) staggered a min of 12 in. Horizontal edge joints and horizontal butt joints in adjacent layers (multilayer systems) with Type ULIX need not be staggered. When used in widths other than 48 in., gypsum panels to be installed horizontally. The thickness and number of layers and percent of design load for the 45 min, 1 hr, 1-1/2 hr, and 2 hr ratings are as follows:

Rating	Wallboard Protection on Each Side of Wall	
	No. of Layers & Thicks of Panel	% of Design Load
45 Min	1 layer, 1/2 in. thick	100
1 hr	1 layer, 5/8 in. thick	100
1-1/2 hr	2 layers, 1/2 in. thick	100
2 hr	2 layers, 5/8 in. thick	80
2 hr@	2 layers, 5/8 in. thick	100
2 hr	3 layers, 1/2 in. thick	100
2 hr	2 layers, 3/4 in. thick	100

@Rating applicable when Batts and Blankets (Item 7) are used.

CGC INC — 1/2 in. thick Type IP-X2, IPC-AR, C, WRC, or; 5/8 in. thick Type SCX, SHX, WRX, IP-X1, AR, C, IP-AR, IP-X2, IPC-AR, ULIX, ULX, or WRC; 3/4 in. thick Types AR, IP-AR, IP-X3, ULTRACODE

UNITED STATES GYPSUM CO — 1/2 in. thick Type C, IP-X2, IPC-AR, or WRC; 5/8 in. thick Type AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SGX, SHX, ULIX, ULX, WRX, or WRC; 3/4 in. thick Types AR, IP-AR or IP-X3, ULTRACODE

USG BORAL DRYWALL SFZ LLC — 1/2 in. Types C; 5/8 in. Types C, SCX, SGX, ULTRACODE

USG MEXICO S A DE C V — 1/2 in. thick Type C, IP-X2, IPC-AR, WRC; 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULX, WRX or WRC; 3/4 in. thick Types AR, IP-AR, IP-X3, ULTRACODE

5A. **Gypsum Board*** — (As an alternate to Item 5 when used as the base layer on one or both sides of wall, For direct attachment only, not to be used with Item 4) — Nom 5/8 in. or 3/4 in. may be used as alternate to all 5/8 in. or 3/4 in. shown in Item 5, Wallboard Protection on Each Side of Wall table. Nom 5/8 in. or 3/4 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. See Items 1A, 2A, 8, 8A(a). Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. To be used with Lead Batten Strips (see Item 12) or Lead Discs or Tabs (see Item 13).
RAY-BAR ENGINEERING CORP — Type RB-LBG

5B. **Gypsum Board*** — (As an alternate to Items 5 and 5A) — Nom 5/8 in. thick gypsum panels with square edges, applied horizontally or vertically. For the 1 hour single layer system -when the gypsum board panels are installed horizontally the joints are to be staggered by a minimum of 12 in. on opposite sides of assembly, they are to be secured on each side of the studs with 1-1/4 in.

long Type S-12 bugle head steel screws spaced 8 in. OC to the top and bottom tracks and in the field with screws 1 in. and 4 in. from the horizontal joints. When the gypsum board panels are installed vertically all vertical joints must be centered over studs and staggered min 1 stud cavity on opposite sides of studs. Gypsum board secured to studs with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC to the top and bottom tracks and in the field with screws 1 in. and 4 in. from the perimeter. For the 2 hour double layer system - when the gypsum board panels are installed horizontally the joints need not be staggered on opposite sides of assembly. Base layer secured on each side of the studs with 1-1/4 in. long Type S-12 bugle head steel screws spaced 16 in. OC to the top and bottom track and in the field with screws beginning 1 in. and 8 in. from the horizontal joints. Face layer horizontal joints staggered 8 in from base layer joints and secured with 1-5/8 in. long Type S-12 bugle head steel screws spaced 16 in. OC to the top and bottom tracks and in the field with screws beginning 1 in. and 8 in. from the horizontal joints. Face layer screws offset 8 in. from base layer screws. When the gypsum board panels are installed vertically all vertical joints must be centered over studs and staggered min 1 stud cavity on opposite sides of studs. Face layer gypsum boards secured to studs with 1-1/4 in. long Type S-12 steel screws spaced 16 in. OC with screws 2 in. and 16 in. from the perimeter. Base layer gypsum boards secured to studs with 1-1/4 in. long Type S-12 steel screws spaced 16 in. OC with screws 1-1/2 in and 8 in. from the perimeter. Face layer screws offset 8 in. from base layer screws.
CGC INC — Type USGX

UNITED STATES GYPSUM CO — 5/8 in. thick Type USGX (Joint tape and compound, Item 9, optional with Type USGX)

USG BORAL DRYWALL SFZ LLC — 5/8 in. thick Type USGX (Joint tape and compound, Item 9, optional with Type USGX)

USG MEXICO S A DE C V — Type USGX

5C. **Gypsum Board*** — (As an alternate to Item 5 when used as the base layer on one or both sides of wall, For direct attachment only, not to be used with Item 4) — Nominal 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 (or #6 by 1-1/4 in. long bugle head fine drill) steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field.
NEW ENGLAND LEAD BURNING CO INC, DBA NELCO — Nelco

5D. **Gypsum Board*** — (As an alternate to Item 5 when used as the base layer on one or both sides of wall, For direct attachment only, not to be used with Item 4) — Nom 5/8 or 3/4 in. may be used as alternate to all 5/8 or 3/4 in. shown in Item 5, Wallboard Protection on Each Side of Wall table. Nom 5/8 or 3/4 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. See Items 1A, 2A, 8, 8A(a). Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. To be used with Lead Batten Strips (see Item 12A) or Lead Discs (see Item 13A).
MAYCO INDUSTRIES INC — Type X-Ray Shielded Gypsum

5E. **Gypsum Board*** — (As an alternate to Item 5 when used as the base layer on one or both sides of wall, For direct attachment only, not to be used with Item 4) — Nom 5/8 in. may be used as alternate to all 5/8 in. shown in Item 5, Wallboard Protection on Each Side of Wall table. Nom 5/8 or 3/4 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over 20 MSG steel studs and staggered min 1 stud cavity on opposite sides of studs. See Items 1A, 2A, 8, 8A(a). Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead batten strips, min 2 in. wide, max 8 ft long with a max thickness of 0.14 in. placed on the face of studs and attached to the stud with construction adhesive and two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead discs, nominal 3/8 in. diam by max 0.085 in. thick. Compression fitted or adhered over the screw heads. Lead batten strips and discs to have a purity of 99.9% meeting the Federal specification QQ-L-2011, Grade "C".
RADIATION PROTECTION PRODUCTS INC — Type RPP - Lead Lined Drywall

PRINTS ISSUED
12/20/2024 - CITY SUBMISSION
REVISIONS:



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ARCHITECTURE
INTERIOR DESIGN
ENGINEERING
PLANNING

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12/20/24

DISCOVERY PARK - LOT #10-A

LEE'S SUMMIT, MO

SHEET TITLE
UL ASSEMBLIES - U423 / U905
PROJECT NUMBER: 24004
SHEET NUMBER:

G-213

<p>5F. Gypsum Board* — (As an alternate to Item 5 when Foam Plastic insulation (Item 7r or 18) is used) — Any 5/8 in. thick, 4 ft. wide. Gypsum Board listed in Item 5 above. Applied vertically with vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Gypsum panels secured to studs with 1-1/4 in. long Type 5 steel screws spaced 8 in. OC at perimeter and in the field. For 2 layer assemblies outer layer will be attached to studs over inner layer with the 1-7/8 in. long steel screws spaced 8 in. OC.</p> <p>6. Fasteners — (Not Shown) — For use with Item 5 - Type 5-12 steel screws used to attach panels to runners (Item 1 or 1A) and studs (Item 2 or 2A) or furring channels (Item 8). Single layer systems: 1 in. long for 1/2 and 5/8 in. thick panels or 1-1/4 in. long for 3/4 in. thick panels, spaced 8 in. OC when panels are applied horizontally, or 12 in. OC when panels are applied vertically. Single layer system with Type ULIX: 1 in. long, spaced 12 in. OC along the perimeter and in the field when panels are applied horizontally or vertically. Two layer systems: First layer- 1 in. long for 1/2 and 5/8 in. thick panels or 1-1/4 in. long for 3/4 in. thick panels, spaced 16 in. OC. Second layer- 1-5/8 in. long for 1/2 in. and 5/8 in. thick panels or 2-1/4 in. long for 3/4 in. thick panels, spaced 16 in. OC with screws offset 8 in. from first layer. Three-layer systems: First layer- 1 in. long for 1/2 in. thick panels, spaced 24 in. OC. Second layer- 1-5/8 in. long for 1/2 in. thick panels, spaced 24 in. OC. Third layer- 2-1/4 in. long for 1/2 in. thick panels, spaced 12 in. OC. Screws offset min 6 in. from layer below.</p> <p>7. Batts and Blankets* — (Required as indicated under Item 5) — Nom 2 in. thick mineral wool batts, friction fitted between studs and runners. See Batts and Blankets (BKNV or BJZJ) Categories for names of Classified companies.</p> <p>7A. Batts and Blankets* — (Optional, Not Shown) — Placed in stud cavities, any glass fiber or mineral wool insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance. See Batts and Blankets (BKNV or BJZJ) Categories for names of Classified companies.</p> <p>7B. Batts and Blankets* — (Optional, Not Shown) — Placed in stud cavities, glass fiber insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance. OWENS CORNING — Type QuietZone Acoustic Batts</p> <p>7C. Fiber, Sprayed* — (Optional) — As an alternate to Batts and Blankets (Item 7) — Not for use with Items 8A or 8B) — Spray applied mineral wool insulation. The fiber is applied with adhesive, at a minimum density of 4.0 pcf, to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. See Fiber, Sprayed (CCA2). AMERICAN ROCKWOOL MANUFACTURING, LLC — Type Rockwool Premium Plus</p> <p>8. Furring Channels — (Optional on one or both sides, not shown, for single or double layer systems) — Resilient furring channels fabricated from min 25 MSG corrosion-protected steel, spaced vertically a max of 24 in. OC. Flange portion attached to each intersecting stud with 1/2 in. long Type 5-12 panhead steel screws. Not for use with type FRX-G gypsum panels and Item 5A, 5C, 5D, or 5E.</p> <p>8A. Steel Framing Members (Not Shown)* — (Optional on one or both sides, not shown, for single or double layer systems) — As an alternate to Item 8, furring channels and Steel Framing Members as described below: a. Furring Channels — Formed of No. 25 MSG galv steel, 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Gypsum board attached to furring channels as described in Item 6. Not for use with type FRX-G gypsum panels and Item 5A, 5C, 5D, or 5E.</p> <p>b. Steel Framing Members* — Used to attach furring channels (Item 8a) to studs (Item 2). Clips spaced max. 48 in. OC, and secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, 5-12 steel screw through the center grommet. Furring channels are friction fitted into clips. RSIC-1 clip for use with 2-9/16 in. wide furring channels. RSIC-1 (2.75) clip for use with 2-23/32 in. wide furring channels. PAC INTERNATIONAL L L C — Types RSIC-1, RSIC-1 (2.75).</p> <p>8B. Steel Framing Members* — (Not Shown) — (Optional on one or both sides, not shown, for single or double layer systems) — As an alternate to Item 8, furring channels and Steel Framing Members as described below: a. Furring Channels — Formed of No. 25 MSG galv steel, 2-3/8 in. wide by 7/8 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Gypsum board attached to furring channels as described in Item 6. Not for use with</p>	<p>b. Steel Framing Members* — Used to attach furring channels (Item 8Fa) to studs. Clips spaced maximum 48 in. OC. Clips secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center grommet. Furring channels are friction fitted into clips.</p> <p>CLARKDIETRICH BUILDING SYSTEMS — Type ClarkDietrich Sound Clip</p> <p>9. Joint Tape and Compound — Vinyl or casein, dry or premixed joint compound applied in two coats to joints and screw heads of outer layers. Paper tape, nom 2 in. wide, embedded in first layer of compound over all joints of outer layers. Paper tape and joint compound may be omitted when gypsum boards are supplied with square edges.</p> <p>10. Siding, Brick or Stucco — (Optional, Not Shown) — Aluminum, vinyl or steel siding, brick veneer or stucco, meeting the requirements of local code agencies. Brick veneer attached to studs with corrugated metal wall ties attached to each stud with steel screws, not more than each sixth course of brick.</p> <p>11. Caulking and Sealants* — (Optional, Not Shown) — A bead of acoustical sealant applied around the partition perimeter for sound control. UNITED STATES GYPSUM CO — Type AS</p> <p>12. Lead Batten Strips — (Not Shown, For Use With Item 5A) — Lead batten strips, min 1-1/2 in. wide, max 10 ft long with a max thickness of 0.125 in. Strips placed on the interior face of studs and attached from the exterior face of the stud with two 1 in. long Type 5-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead batten strips to have a purity of 99.9% meeting the Federal specification QQ-L-2011, Grade "C". Lead batten strips required behind vertical joints of lead backed gypsum wallboard (Item 5A) and optional at remaining stud locations. Required behind vertical joints.</p> <p>12A. Lead Batten Strips — (Not Shown, for use with Item 5D) — Lead batten strips, 2 in. wide, max 10 ft long with a max thickness of 0.140 in. Strips placed on the face of studs and attached to the stud with two min. 1 in. long min. Type 5-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip or with one min. 1 in. long min. Type 5-8 pan head steel screw at the top of the strip. Lead batten strips to have a purity of 99.5% meeting the Federal specification QQ-L-2011, Grades "B, C or D". Lead batten strips required behind vertical joints of lead backed gypsum wallboard (Item 6) and optional at remaining stud locations.</p> <p>13. Lead Discs or Tabs — (Not Shown, For Use With Item 5A) — Used in lieu of or in addition to the lead batten strips (Item 12) or optional at other locations - Max 3/4 in. diam by max 0.125 in. thick lead discs compression fitted or adhered over steel screw heads or max 1/2 in. by 1-1/4 in. by max 0.125 in. thick lead tabs placed on gypsum boards (Item 5A) underneath screw locations prior to the installation of the screws. Lead discs or tabs to have a purity of 99.9% meeting the Federal specification QQ-L-2011, Grade "C".</p> <p>13A. Lead Discs — (Not Shown, for use with Item 5D) — Max 5/16 in. diam by max 0.140 in. thick lead discs compression fitted or adhered over steel screw heads. Lead discs to have a purity of 99.5% meeting the Federal Specification QQ-L-2011, Grades "B, C or D".</p> <p>14. Lead Batten Strips — (Not Shown, For Use With Item 5C) — Lead batten strips, 2 in. wide, max 10 ft long with a max thickness of 0.142 in. Strips placed on the face of studs and attached to the stud with two min. 1 in. long min. Type 5-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip or with one min. 1 in. long min. Type 5-8 pan head steel screw at the top of the strip. Lead batten strips to have a purity of 99.9% meeting the Federal specification QQ-L-2011, Grade "C". Lead batten strips required behind vertical joints of lead backed gypsum wallboard (Item 5C) and optional at remaining stud locations.</p> <p>15. Lead Tabs — (Not Shown, For Use With Item 5C) — 2 in. wide, 5 in. long with a max thickness of 0.142 in. Tabs friction-fit around front face of stud, the stud folded back flange, and the back face of the stud. Tabs required at each location where a screw (that secures the gypsum boards, Item 5C) will penetrate the steel stud. Lead tabs to have a purity of 99.9% meeting the Federal specification QQ-L-2011, Grade "C". Lead tabs may be held in place with standard adhesive tape if necessary.</p> <p>16. Wall and Partition Facings and Accessories* — (CLBV) (Optional, Not Shown) — For use with Item 1, Item 2 to 2C, Item 3, Item 5, Item 6, Item 7A, Item 8 and Item 9. For a maximum fire rating of 1 hour. On one side of the wall, over the first layer of Gypsum Board (Item 5), install Reflexor membrane with the gold side facing outwards. Membrane installed with T50 staples spaced 12 inches on center in both directions as per manufacturer's instructions; seams in membrane to be overlapped by 2 inches. When Reflexor</p>		<p>UL Product iQ®</p> <p>Design/System/Construction/Assembly Usage Disclaimer</p> <ul style="list-style-type: none">• Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.• Authorities Having Jurisdiction should be consulted before construction.• Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.• When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.• Only products which bear UL's Mark are considered Certified. <p>BXUV - Fire Resistance Ratings - ANSI/UL 263 Certified for United States BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada</p> <p>See General Information for Fire Resistance Ratings - ANSI/UL 263 Certified for United States Design Criteria and Allowable Variances</p> <p>See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada Design Criteria and Allowable Variances</p> <p>Design No. U905</p> <p>April 14, 2023</p> <p>Bearing Wall Rating — 2 HR. Nonbearing Wall Rating — 2 HR.</p> <p>This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7</p> <p>* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.</p>  <p>1. Concrete Blocks* — Various designs. Classification D-2 (2 hr). See Concrete Blocks category for list of eligible manufacturers.</p> <p>2. Mortar — Blocks laid in full bed of mortar, nom. 3/8 in. thick, of not less than 2-1/4 and not more than 3-1/2 parts of clean sharp sand to 1 part Portland cement (proportioned by volume) and not more than 50 percent hydrated lime (by cement volume). Vertical</p>
<p>type FRX-G gypsum panels and Item 5A, 5C, 5D, or 5E.</p> <p>b. Steel Framing Members* — Used to attach furring channels to studs (Item 2). Clips spaced max. 48 in. OC, and secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, 5-12 steel screw through the center grommet. Furring channels are friction fitted into clips. PLITEC INC — Type GENIECLIP</p> <p>8C. Steel Framing Members* — (Not Shown) — (Optional on one or both sides, not shown, for single or double layer systems) — As an alternate to Item 8, furring channels and Steel Framing Members as described below: a. Furring Channels — Formed of No. 25 MSG galv steel, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire. Gypsum board attached to furring channels as described in Item 6. Not for use with type FRX-G gypsum panels and Item 5A, 5C, 5D, or 5E.</p> <p>b. Steel Framing Members* — Used to attach furring channels to studs (Item 2). Clips spaced max. 48 in. OC, and secured to studs with 2 in. coarse drywall screw with 1 in. diam washer through the center hole. Furring channels are friction fitted into clips. STUDCO BUILDING SYSTEMS — RESILMOUNT Sound Isolation Clips - Type A237R</p> <p>8D. Steel Framing Members* — (Not Shown) — (Optional on one or both sides, not shown, for single or double layer systems) — As an alternate to Item 8, furring channels and Steel Framing Members as described below: a. Furring Channels — Formed of No. 25 MSG galv steel, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item 8Db. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire. Gypsum board attached to furring channels as described in Item 6. Not for use with type FRX-G gypsum panels and Item 5A, 5C, 5D, or 5E.</p> <p>b. Steel Framing Members* — Used to attach furring channels to studs (Item 2). Clips spaced max. 48 in. OC, and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips. REGUPOL AMERICA — Type SonusClip</p> <p>8E. Steel Framing Members* — (Not Shown) — (Optional on one or both sides, not shown, for single or double layer systems) — As an alternate to Item 8, resilient channels and Steel Framing Members as described below: a. Resilient Channels — Formed of No. 25 MSG galv steel, spaced 24 in. OC, and perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and secured in place with two No. 8 15 x 1/2 in. Phillips Modified Truss screws spaced 2-1/2 in. from the center of the overlap. Gypsum board attached to resilient channels as described in Item 5. Not for use with type FRX-G gypsum panels and Item 5A, 5C, 5D, or 5E.</p> <p>b. Steel Framing Members* — Used to attach resilient channels (Item 8Ea) to studs. Clips spaced 48 in. OC, and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Resilient channels are secured to clips with one No. 10 x 1/2 in. pan-head self-drilling screw. KEENE BUILDING PRODUCTS CO INC — Type RC+ Assurance Clip</p> <p>8F. Steel Framing Members* — (Optional on one or both sides, not shown, for single or double layer systems) — As an alternate to Item 8, furring channels and Steel Framing Members as described below: a. Furring Channels — Formed of No. 25 MSG galv steel, 2-23/32 in. wide by 7/8 in. deep, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping #6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Gypsum board attached to furring channels as described in Item 5.</p>	<p>membrane is used an additional layer of Gypsum Board identical to the one used in the first layer and as specified in Item 5 shall be installed over the membrane. Additional layer of Gypsum Board to be installed through the membrane to the stud as specified in Item 5 except the fastener length shall be increased by a minimum of 5/8 inch. Install Batts and Blankets in the stud cavity as per Item 7A.</p> <p>On the other side of the wall prior to the installation of the Gypsum Board install Resilient Channels as per Item 8. Over the Resilient Channels install 3/4 inch thick SONOpan panel secured to the Resilient Channels with min. 1-1/4 in. long drywall screws and washers spaced at 16 in. OC on the perimeter of the panel and 8 in. OC in the field of the panel. Over the SONOpan panel install the same Gypsum Board as specified in Item 5 with the fastener length increased by minimum 3/4 inch. Not evaluated or intended as a substitute for the required layer(s) of UL Classified Gypsum Board.</p> <p>Alternately, on the other side of the wall prior to the installation of the Gypsum Board (Item 5), install 3/4 in. thick SONOpan panels, secured to one side of studs either horizontally or vertically. Panels secured to each stud with min. 1-1/4 in. long drywall screws spaced 12 in. OC. Over the SONOpan, install 25 MSG galv steel, Resilient Channels, spaced vertically 24 in. OC. Resilient Channels fastened through panels to each stud with min. 2 in. long drywall screws or self-tapping screws. Over the Resilient Channels install Gypsum Board as specified in Item 5 with drywall screws as specified in Item 6. Panels not evaluated or intended as a substitute for the required layer(s) of UL Classified Gypsum Board.</p> <p>MSL — Reflexor membrane. SONOpan panel.</p> <p>17. Foamed Plastic* — (Optional - only for use with item 5F, Not Shown, As an alternate to Item 7) Spray applied, foamed plastic insulation, at any thickness from partial fill to completely filling stud cavity. When foamed plastic is used, minimum stud depth shall be 3-1/2 in. with minimum 20 MSG steel thickness.</p> <p>CARLISLE SPRAY FOAM INSULATION — Types SealTite ONE, SealTite Pro Closed Cell (CC), SealTite Pro Open Cell (OC), SealTite Pro OCK, SealTite Pro No Trim 21, SealTite Pro One Zero, Foamsulate Closed Cell, Foamsulate OCK, Foamsulate 70, and Foamsulate HPO</p> <p>18. Foamed Plastic* - (Optional, Not Shown, Only for use with item 5F, As an alternate to Item 7) Spray applied, foamed plastic insulation, at any thickness from partial fill to completely filling stud cavity. When foamed plastic is used, minimum stud depth shall be 3-1/2 in. with minimum 20 MSG steel thickness.</p> <p>BASF CORP - Enverite® NM, Enertite® G, FE178®, Spraytite® 178, Spraytite® 81206, Walltite® 200, Walltite® US, Walltite® US-N, Walltite® HP+, Spraytite Comfort® XL, Walltite® XL, Walltite® MAX, Walltite® LWP, Walltite® Plus and Enertite® Max</p> <p>* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.</p> <p>Last Updated on 2024-06-14</p> <p>The appearance of a company's name or product in this database does not in itself assure that products so identified have been manufactured under UL Solutions' Follow - Up Service. Only those products bearing the UL Mark should be considered to be Certified and covered under UL Solutions' Follow - Up Service. Always look for the Mark on the product.</p> <p>UL Solutions permits the reproduction of the material contained in Product iQ subject to the following conditions: 1. The Guide Information, Assemblies, Constructions, Designs, Systems, and/or Certifications (files) must be presented in their entirety and in a non-misleading manner, without any manipulation of the data (or drawings). 2. The statement "Reprinted from Product iQ with permission from UL Solutions" must appear adjacent to the extracted material. In addition, the reprinted material must include a copyright notice in the following format: "©2024 UL LLC."</p>		<p>joints staggered.</p> <p>3. Portland Cement Stucco or Gypsum Plaster — Add 1/2 hr to classification if used. Where combustible members are framed in wall, plaster or stucco must be applied on the face opposite framing to achieve a max. Classification of 1-1/2 hr. Attached to concrete blocks (Item 1).</p> <p>4. Loose Masonry Fill — If all core spaces are filled with loose dry expanded slag, expanded clay or shale (Rotary Kiln Process), water repellent vermiculite masonry fill insulation, or silicone treated perlite loose fill insulation add 2 hr to classification.</p> <p>5. Foamed Plastic* — (Optional-Not Shown) — 1-1/2 in. thick max. 4 ft wide sheathing attached to concrete blocks (Item 1). ATLAS ROOFING CORP — EnergyShield Pro Wall Insulation, EnergyShield Pro 2 Wall Insulation, EnergyShield CGF Pro, EnergyShield Ply Pro, EnergyShield® CGF, EnergyShield® PanelCast, EnergyShield® and EnergyShield® XR</p> <p>DUPONT DE NEMOURS, INC. — Types Thermax Sheathing, Thermax Light Duty Insulation, Thermax Heavy Duty Insulation, Thermax Metal Building Board, Thermax White Finish Insulation, Thermax ci Exterior Insulation, Thermax XARMOR ci Exterior Insulation, Thermax IH Insulation, Thermax Plus Liner Panel, Thermax Heavy Duty Plus (HDP), TUFF-R™ ci Insulation, Thermax Butler Stylwall Insulation Board and Thermax Morton Heavy Duty Insulation Board</p> <p>FIRESTONE BUILDING PRODUCTS CO L L C — "Enverge™ CI Foil Exterior Wall Insulation" and "Enverge™ CI Glass Exterior Wall Insulation"</p> <p>HUNTER PANELS, A DIVISION OF CARLISLE CONSTRUCTION MATERIALS, LLC — Types "Xci-Class A", "Xci Foil (Class A)", "Xci 286"</p> <p>RMAX, A BUSINESS UNIT OF SIKA CORPORATION — Types "TSX-8500", "ECOMAXci FR", "TSX-8510", "ECOMAX xi FR White", "ECOMAXci", "ECOMAXci FR Air Barrier", "Thermasheath-XP", "Thermasheath", "Durasheath"</p> <p>JOHNS MANVILLE — Type "AP Foil-Faced Foam Sheathing"</p> <p>5A. Building Units* — As an alternate to Items 5, min. 1 in-thick polyisocyanurate composite foamed plastic insulation boards, nom. 48 by 48 or 96 in.</p> <p>ATLAS ROOFING CORP — EnergyShield® Ply</p> <p>HUNTER PANELS, A DIVISION OF CARLISLE CONSTRUCTION MATERIALS, LLC — "Xci NB", "Xci Ply"</p> <p>RMAX, A BUSINESS UNIT OF SIKA CORPORATION — "Thermasheath-SI", "ECOBASci", "ThermaBase-CI", "ECOMAXci FR Ply", "ECOMAXci Ply".</p> <p>* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.</p> <p>Last Updated on 2023-04-14</p> <p>The appearance of a company's name or product in this database does not in itself assure that products so identified have been manufactured under UL Solutions' Follow - Up Service. Only those products bearing the UL Mark should be considered to be Certified and covered under UL Solutions' Follow - Up Service. 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Design/System/Construction/Assembly Usage Disclaimer

- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.
- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
- Only products which bear UL's Mark are considered Certified.

BXUV - Fire Resistance Ratings - ANSI/UL 263 Certified for United States
BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

See General Information for Fire Resistance Ratings - ANSI/UL 263 Certified for United States
Design Criteria and Allowable Variances

See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada
Design Criteria and Allowable Variances

Design No. X790

November 25, 2019

Ratings — 1, 1-1/2, 2, 3 and 4 Hr.

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

(for column W/D range of 2.51 to 6.68)

Where:

h = Spray-Applied Fire Resistive Materials thickness in the range of 1/4 to 4-1/2 in. (rounded up to the nearest 1/16 in.)

R = Fire resistance rating period in minutes (60-240 mins.)

D = Heated perimeter of the steel column in inches.

W = Weight of the steel column in lbs per foot.

The thicknesses contained in the table below are applicable when the Spray-Applied Fire Resistive Materials applied to the column's flange tips are reduced to one-half that shown in the table below (for contour application):

Column Size In.	1 Hr	1-1/2 Hr	2 Hr	3 Hr	4 Hr
W6x9	1	1-3/8	1-3/4	2-7/16	3-1/8
W6x12	7/8	1-1/4	1-5/8	2-5/16	3-1/16
W6x16	3/4	1-1/8	1-7/16	2-1/16	2-11/16
W8x28	11/16	1	1-5/16	1-15/16	2-1/2
W10x49	5/8	15/16	1-3/16	1-3/4	2-3/8
W12x106	3/8	5/8	7/8	1-3/8	1-13/16
W14x233	5/16	3/8	9/16	15/16	1-5/16
W14x730	5/16	5/16	5/16	7/16	5/8

The min thickness of Spray-Applied Fire Resistive Materials required for various fire resistance ratings of contour sprayed steel pipes or tubes are shown on the table below:

Min Column Size In.	A/P	1 Hr	1-1/2 Hr	Min Thkns In. 2 Hr	3 Hr	4 Hr
SP 4x0.237	0.22	11/16	1	1-3/8	2-1/16	2-3/4
ST 4x4x0.1875	0.18	3/4	1-1/16	1-7/16	2-1/16	2-11/16
ST 4x4x0.3125	0.29	1/2	13/16	1-1/8	1-3/4	2-5/16
ST 4x4x0.375	0.34	7/16	3/4	1	1-9/16	2-1/8
ST 4x4x0.5	0.44	3/8	9/16	7/8	1-3/8	1-7/8
ST20x20x0.75 in	0.72	5/16	1/2	11/16	1-1/16	1-7/16
ST20x20x1 in.	0.95	1/4	3/8	1/2	13/16	1-1/8
ST20x20x1.5 in.	1.39	1/4	1/4	3/8	5/8	13/16
ST20x20x1.75 in.	1.60	1/4	1/4	3/8	1/2	3/4
ST32x32x1.25 in.	1.20	1/4	5/16	7/16	11/16	15/16
ST 36x24x0.5	0.49	5/16	7/16	11/16	1-1/8	1-9/16

As an alternate to the table above, the required thickness of Spray-Applied Fire Resistive Materials to be applied to all surfaces of the steel pipes or tubes for all rating periods may be determined from the following equation:

R

2A. (As an alternate to Item 2) **Spray-Applied Fire Resistive Materials*** — Applied by mixing with water and spraying in one or more coats to the thicknesses shown below, to steel surfaces which are clean and free of dirt, loose scale, and oil. Min average and min individual density of 17.5 and 16 pcf, respectively, for Type 300TW. Min average and min individual density of 22 and 19 pcf, respectively, for Type 400. For method of density determination, see Design Information Section, Sprayed Material. The min thickness of Spray-Applied Fire Resistive Materials required for various fire resistance ratings is shown in Item 2.

BERLIN CO LTD — Type 400.

GREENTECH ASIA PACIFIC SDN BDH — Type 400

GREENTECH THERMAL INSULATION PRODUCTS MFG CO L L C — Type 400.

ISOLATEK INTERNATIONAL — Type 300TW or Type 400.

NEWKEM PRODUCTS CORP — Type 400.

2B. (As an alternate to Item 2 and 2A) — **Spray-Applied Fire Resistive Materials*** — Prepared by mixing with water according to instructions on each bag of mixture and spray- or trowel-applied to steel surfaces which are free of dirt, oil or scale. Min average density of 17.5 pcf with min individual value of 17.0 pcf. For method of density determination, see Design Information Section, Sprayed Material. The min thickness of Spray-Applied Fire Resistive Materials required for various fire resistance ratings is shown in Item 2.

ISOLATEK INTERNATIONAL — Type 280.

3. **Metal Lath** — (Optional for contour application) — 3.4 lb/sq yd galv or painted expanded steel lath. Lath shall be lapped 1 in. and tied together with No. 18 SWG galv steel wire spaced vertically 6 in. OC.

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

Last Updated on 2019-11-25

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1. **Steel Column, Steel Pipe or Steel Tube** — Wide flange steel column (W) or steel circular pipe (SP) or steel square or rectangular tube (ST), min sizes as shown in the tables below.

2. **Spray-Applied Fire Resistive Materials*** — Applied by mixing with water and spraying in one or more coats to the thicknesses shown below, to steel surfaces which are clean and free of dirt, loose scale, and oil. Min average and min individual density of 15 and 14 pcf, for Types 300, 300AC, 300ES, 300HS, 300N, 3000, 3000ES and SB. For Types 400AC and 400ES min average and min individual density of 22 and 19 pcf, respectively. Min avg density of 44 pcf with min ind value of 40 pcf for Types M-II and TG. Min avg density of 47 pcf, with min individual value of 43 pcf for Type M-II/P. For method of density determination, see Design Information Section, Sprayed Material. The min thickness of Spray-Applied Fire Resistive Materials required for various fire resistance ratings of contour sprayed or boxed wide flange columns are shown in the table below.

Column Size	W/D	1 Hr	1-1/2 Hr	2 Hr	3 Hr	4 Hr
W6x9	0.33	15/16	1-1/4	1-9/16	2-1/8	2-11/16
W6x12	0.43	13/16	1-1/8	1-7/16	2	2-9/16
W6x16	0.57	11/16	1	1-5/16	1-7/8	2-3/8
W8x28	0.68	5/8	15/16	1-1/4	1-13/16	2-5/16
W10x49	0.83	9/16	13/16	1-1/8	1-5/8	2-1/8
W12x106	1.46	3/8	9/16	13/16	1-1/4	1-11/16
W14x233	2.52	1/4	3/8	1/2	7/8	1-3/16
W14x730	6.68	1/4	1/4	1/4	3/8	1/2

As an alternate to the above table, the required thickness of Spray-Applied Fire Resistive Materials to be applied to all surfaces of the steel columns for all rating periods may be determined from the following equations:

R

h = $\frac{75 (W/D) + 32}{1}$

(for column W/D range of 0.33 to 2.51)

R

h = $\frac{75 (W/D) + 15}{1}$

h = $\frac{188 (A/P) + 45}{1}$

Where:

h = Spray-Applied Fire Resistive Materials thickness in the range of 5/16 to 4-1/4 in. (rounded up to the nearest 1/16 in.)

R = Fire resistance rating in minutes (60-240 mins.)

A = Cross-sectional area of pipe or tube.

P = Heated perimeter of steel pipe or tube.

A/P = 0.18 to 0.49.

The A/P ratio of a circular pipe is determined by:

t (d — t)

A/P = $\frac{d}{d}$

Where:

d = the outer diameter of the pipe (in.)

t = the wall thickness of the pipe (in.)

The A/P ratio of a rectangular tube is determined by:

t (a + b—2t)

A/P = $\frac{a + b}{a + b}$

Where:

a = the outer width of the tube (in.)

b = the outer length of the tube (in.)

t = the wall thickness of the tube (in.)

BERLIN CO LTD — Types 300, 300ES, 300N, SB, M-II, TG and M-II/P.

GREENTECH ASIA PACIFIC SDN BDH — Types 300, 300ES, 300HS, M-II, or M-II/P

GREENTECH THERMAL INSULATION PRODUCTS MFG CO L L C — Types 300, 300AC, 300HS, 400AC, 3000, M-II, TG, and M-II/P.

ISOLATEK INTERNATIONAL — Type 300, 300AC, 300ES, 300HS, 300N, 400AC, 400ES, SB, 3000, 3000ES, M-II, TG and M-II/P.

NEWKEM PRODUCTS CORP — Types 300, 300ES, 300N, SB, M-II, TG and M-II/P

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12/20/24

DISCOVERY PARK - LOT #10-A

LEE'S SUMMIT, MO

SHEET TITLE
UL ASSEMBLIES - X790

PROJECT NUMBER: 24004

SHEET NUMBER:

G-214



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12/20/24

DISCOVERY PARK - LOT #10-A

LEE'S SUMMIT, MO

SHEET TITLE
UL ASSEMBLIES - W456

PROJECT NUMBER: 24004
SHEET NUMBER:

G-215

UL Product iQ®



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- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.
- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
- Only products which bear UL's Mark are considered Certified.

BXUV - Fire Resistance Ratings - ANSI/UL 263 Certified for United States
BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

See General Information for Fire Resistance Ratings - ANSI/UL 263 Certified for United States
Design Criteria and Allowable Variances

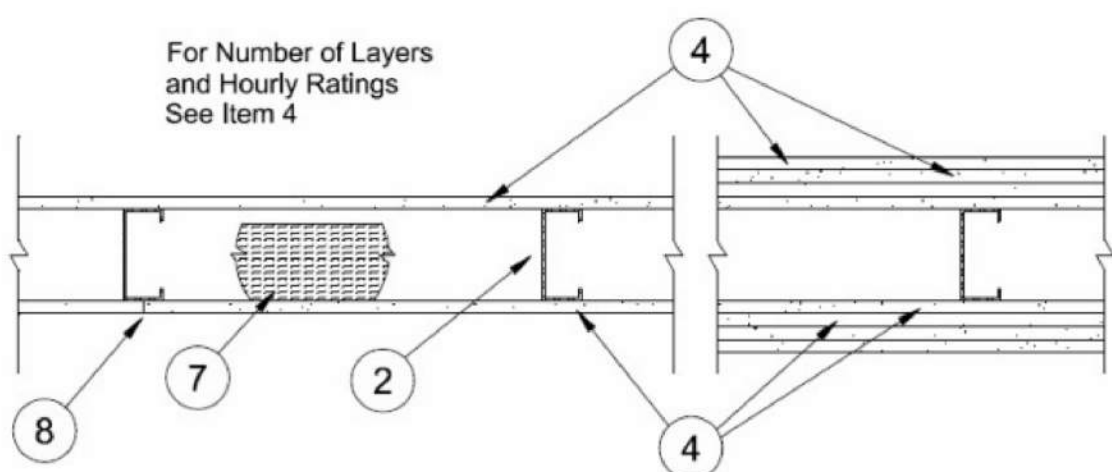
See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada
Design Criteria and Allowable Variances

Design No. W456

October 16, 2023

Bearing Wall Rating 3/4 Hr., 1, 1-1/2 or 2 Hr. (See Item 4)
This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUY or BXUV7

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



1. **Floor and Ceiling Tracks** — (Not Shown) Top and bottom tracks of wall assemblies shall consist of steel members, min No. 20 MSG (0.0329 in., min bare metal thickness) steel or min No. 20 MSG (0.036 in. thick) galv steel or No. 20 MSG (0.033 in. thick) primed steel, that provide a sound structural connection between steel studs, and to adjacent assemblies such as a floor, ceiling, and/or other walls. Attached to floor and ceiling assemblies with steel fasteners spaced not greater than 24 in. OC.

2. **Steel Studs** — Min 3-1/2 in. wide, No. 20 MSG (0.0329 in., min bare metal thickness) corrosion protected cold formed steel studs designed in accordance with the current edition of the Specification for the Design of Cold-Formed Steel Structural Members by the American Iron and Steel Institute. All design details enhancing the structural integrity of the wall assembly, including the axial design load of the studs, shall be as specified by the steel stud designer and/or producer, and shall meet the requirements of all applicable local code agencies. The max stud spacing of wall assemblies shall not exceed 24 in. OC (or 16 in. OC when Item 5b is used). Studs attached to floor and ceiling tracks with 1/2 in. long Type S-12 steel screws on both sides of studs or by welded or bolted connections designed in accordance with the AISI specifications.

2A. **Framing Members* - Steel Studs** — In lieu of Item 2 Min 3-1/2 in. wide, No. 20 MSG (0.0329 in., min bare metal thickness) corrosion protected cold formed steel studs designed in accordance with the current edition of the Specification for the Design of Cold-Formed Steel Structural Members by the American Iron and Steel Institute. All design details enhancing the structural integrity of the wall assembly, including the axial design load of the studs, shall be as specified by the steel stud designer and/or producer, and shall meet the requirements of all applicable local code agencies. The max stud spacing of wall assemblies shall not exceed 24 in. OC (or 16 in. OC when Item 5b is used). Studs attached to floor and ceiling tracks with 1/2 in. long Type S-12 steel screws on both sides of studs or by welded or bolted connections designed in accordance with the AISI specifications.

EB METAL INC — NITROSUTD

2B. **Framing Members* - Steel Studs** — In lieu of Item 2. Min 3-5/8 in. wide, No. 20 MSG (0.036 in. min. thickness) corrosion protected cold formed steel studs designed in accordance with the current edition of the Specification for the Design of Cold-Formed Steel Structural Members by the American Iron and Steel Institute. All design details enhancing the structural integrity of the wall assembly, including the axial design load of the studs, shall be as specified by the steel stud designer and/or producer, and shall meet the requirements of all applicable local code agencies. The max stud spacing of wall assemblies shall not exceed 24 in. OC (or 16 in. OC when Item 5b is used). Studs attached to floor and ceiling tracks with 1/2 in. long Type S-12 steel screws on both sides of studs or by welded or bolted connections designed in accordance with the AISI specifications.

BAILEY METAL PRODUCTS LTD

3. **Lateral Support Members** — (Not Shown) Where required for lateral support of studs, support may be provided by means of steel straps, channels or other similar means as specified in the design of a particular steel stud wall system.

4. **Gypsum Board*** — Any 1/2 in. thick UL Classified Gypsum Board that is eligible for use in Design No. X515. Any 5/8 in. thick UL Classified Gypsum Board that is eligible for use in Design Nos. L501, G512 or U305. Gypsum board bearing the UL Classification Marking as to Fire Resistance. Applied vertically with joints between layers staggered. Outer layer of 3 layer construction may be applied horizontally unless specified below. The thickness and number of layers and percent of design load for the 45 min, 1 hr, 1-1/2 hr and 2 hr ratings are as follows:

Wallboard Protection Both Sides of Wall - No. of Layers & Thins of Board In. Each Layers		
Rating		% of Design Load
45 min	1 layer, 1/2 in. thick	100
1 hr	1 layer, 5/8 in. thick	100
1-1/2 hr	2 layers, 1/2 in. thick	100
1-1/2 hr	2 layers, 5/8 in. thick	100
2 hr	2 layers, 5/8 in. thick or	80
2 hr	3 layers, 1/2 in. thick	100

GEORGIA-PACIFIC GYPSUM L L C (View Classification)

4A. **Gypsum Board*** — (As an alternate to Item 4) Nom. 5/8 in. thick gypsum panels, with square edges, applied horizontally. Gypsum panels fastened to framing with 1 in. long bugle head steel screws spaced a max 8 in. OC, with last 2 screws 3/4 in. and 4 in. from each edge of board. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs on interior walls need not be staggered. Horizontal edge joints and horizontal butt joints in adjacent layers on interior walls (multilayer systems) staggered a min of 12 in.

GEORGIA-PACIFIC GYPSUM L L C — Type DGG

5. **Exterior Facings - Optional - Not shown** — One of the following facings may be applied over the gypsum board (Items 4 or 4A).
a. **Siding, Brick, or Stucco** — Aluminum siding, steel siding, brick veneer, or stucco attached to studs over gypsum sheathing and meeting the requirements of local code agencies. When a min 3-3/4 in. thick brick veneer facing is used, the Exterior Wall Rating is applicable with exposure on either face. Brick veneer wall attached to studs with corrugated metal wall ties attached to each stud with steel screws, not more than each sixth course of brick. When a min 3-3/4 in. thick brick veneer facing is used, Foamed Plastic (Item 10) may be used.

b. **Cementitious Backer Units** — 1/2 or 5/8 in. thick, square edge boards, attached to steel studs over gypsum sheathing with 1-5/8 in. long, Type S-12, corrosion resistant, wafer head steel screws, spaced 8 in. OC. Studs spaced a max of 16 in. OC. Joints covered with glass fiber mesh tape.

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

d. **Molded Plastic*** — Solid vinyl siding mechanically secured to framing members in accordance with manufacturer's recommended installation details.

ALSID, DIV OF ASSOCIATED MATERIALS INC

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

f. **Building Units*** — (Not Shown) 3 in. thick 18 x 24 in. cellular glass blocks, applied to the gypsum sheathing (Item 5) with PG 88 adhesive or fastened with F anchors spaced a maximum 24 in. OC. F anchors fastened to framing members with 1-1/4 in. long #6 drywall screws.

PITTSBURGH CORNING LLC — FOAMGLAS® T3+ Block, FOAMGLAS® T4+ Block, FOAMGLAS® S3 Block, FOAMGLAS® F Block

6. **Fasteners** — (Not Shown) Screws used to attach wallboard to studs: self-tapping bugle head sheet steel type, spaced 12 in. OC. First layer Type S-12 by 1 in. long for 1/2 and 5/8 in. thick wallboards. Second layer Type S-12 by 1-5/8 in. long for 1/2 and 5/8 in. thick wallboards Third layer Type S-12 by 1-7/8 in. long.

7. **Batts and Blankets*** — Placed in stud cavities of all exterior walls. May or may not be used in interior walls. Any glass fiber or mineral wool batt material bearing the UL Classification Marking as to Fire Resistance, of a thickness to completely fill stud cavity. See **Batts and Blankets*** Nom 2 in. thick mineral wool batts, friction fitted between studs and runners. (B&W or BZ12) Category for names of Classified companies.

7A. **Fiber, Sprayed*** — As an alternate to Batts and Blankets (Item 7) (100% Borate Formulation). Spray applied cellulose material. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product with a nominal dry density of 2.7 lb/ft³. Alternate Application Method: The fiber is applied without water or adhesive at a nominal dry density of 3.5 lb/ft³, in accordance with the application instructions supplied with the product.
Applegate Greenfiber Acquisition LLC — Insulmax and SANCTUARY for use with wet or dry application.

7B. **Fiber, Sprayed*** — As an alternate to Item 7 and 7A Spray applied cellulose material. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. Nominal dry density of 4.58 lb/ft³.
NU-WOOL CO INC — Cellulose Insulation

7C. **Fiber, Sprayed*** — As an alternate to Batts and Blankets (Item 7) Spray applied cellulose fiber. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. The minimum dry density shall be 4.30 lbs/ft³.

INTERNATIONAL CELLULOSE CORP — Celbar-RL

7D. **Fiber, Sprayed*** — (Optional) As an alternate to Batts and Blankets (Item 7) Spray applied mineral wool insulation. The fiber is applied with adhesive, at a minimum density of 4.0 pcf, to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. See Fiber, Sprayed (CAAZ).
AMERICAN ROCKWOOL MANUFACTURING, LLC — Type Rockwool Premium Plus

8. **Joint Tape and Compound** — (Not Shown) Vinyl or casein, dry or premixed joint compound applied in two coats to joints and screw heads of outer layer. Perforated paper tape, 2 in. wide, embedded in first layer of compound over all joints of outer layer.

9. **Furring Channels** — (Optional, Not Shown, for single or double layer systems) Resilient furring channels fabricated from min 25 MSG corrosion-protected steel, spaced vertically a max of 24 in. OC. Flange portion attached to each intersecting stud with 1/2 in. long Type S-12 steel screws.

10. **Foamed Plastic*** — Not Shown -For use with brick veneer as outlined in Item 5A - Maximum 2 in. thick rigid polystyrene insulation attached to studs with fasteners of sufficient length to penetrate the foam and 3/16 in. into the stud. A minimum 1 in. air space is to be maintained between the outer surface of the foamed plastic and the inner surface of the brick veneer.
ATLAS MOLDED PRODUCTS, A DIVISION OF ATLAS ROOFING CORPORATION — Type ThermalStar

OWENS CORNING SCIENCE AND TECHNOLOGY, LLC

10A. **Foamed Plastic*** — Optional, (Not Shown) - Mortar drop protection - Foamed plastic with mortar control device attached, continuous, by drainage holes at bottom of air space behind brick veneer.
OWENS CORNING SCIENCE AND TECHNOLOGY, LLC — WeepGuard

10B. **Foamed Plastic*** — Polyisocyanurate foamed plastic insulation boards, any thickness, Classified in accordance with BRVX and / or CCVV. May be used with any exterior facing shown under items 5a, 5c, 5d and 5e.
ATLAS ROOFING CORP — EnergyShield Pro Wall Insulation, EnergyShield Pro 2 Wall Insulation, EnergyShield CGF Pro, EnergyShield Ply Pro, EnergyShield® CGF, EnergyShield® PanelCast, EnergyShield® and EnergyShield® XR

FIRESTONE BUILDING PRODUCTS CO L L C — "Enverge CI Foil Exterior Wall Insulation" and "Enverge CI Glass Exterior Wall Insulation"

HUNTER PANELS, A DIVISION OF CARLISLE CONSTRUCTION MATERIALS, LLC — Type Xci-Class A, Xci 286, "Xci CG", "Xci Foil", "Xci CG NH", "Xci Foil NH"

RMAX, A BUSINESS UNIT OF SIKA CORPORATION — Types "TSX-8500", "ECOMAXci FR", "TSX-8510", "ECOMAX xi FR White", "ECOMAXci", "ECOMAXci FR Air Barrier", "Thermaheath-XP", "Thermaheath", "Durasheath"

THE DOW CHEMICAL CO — Type Thermax Sheathing, Thermax Light Duty Insulation, Thermax Heavy Duty Insulation, Thermax Metal Building Board, Thermax White Finish Insulation, Thermax ci Exterior Insulation, Thermax XARMOR ci Exterior Insulation, Thermax IH Insulation, Thermax Plus Liner Panel, Thermax Heavy Duty Plus (HDP), and TUFF-R ci Insulation

JOHNS MANVILLE — Type "AP Foil-Faced Foam Sheathing"

10C. **Building Units*** — Polyisocyanurate foamed plastic composite insulation boards, any thickness, Classified in accordance with BZXV. May be used with any exterior facing shown under items 5a, 5c, 5d and 5e.

ATLAS ROOFING CORP — EnergyShield® Ply

HUNTER PANELS, A DIVISION OF CARLISLE CONSTRUCTION MATERIALS, LLC — Type "Xci NB" and "Xci Ply"

LAMINATORS INC — Type "Omega ci"

RMAX, A BUSINESS UNIT OF SIKA CORPORATION — Types Thermaheath-SI, ECOBASEci, ECOMAXci FR Ply and ThermaBase-CI attached to studs with Type S screws long enough to penetrate studs a minimum of three threads.

10D. **Foamed Plastic*** — (As an alternate to Item 10) — Expanded polystyrene insulation installed to a maximum nominal density of 2.0 lb/ft³.

BASF CORP STYRENIC FOAMS DIV — Types Neopor® GPS (Roofing Board), Neopor® GPS (EIFS), Neopor® GPS (Stucco), Neopor® GPS (CI), Neopor® GPS (IE), Neopor® GPS (Perma R-Chrome), Neopor® GPS (Termite Treated), Neopor® GPS (HALO Subterra), Neopor® GPS (Foundation PRO), Neopor® GPS (HALO Exterra), Neopor® GPS (HALO Interra), Neopor® GPS (PFI Pro Board), Neopor® GPS (PFT Red Label), and Neopor® GPS (PFT Chrome).

11. **Wall and Partition Facings and Accessories*** — (CLBV) (Optional, Not Shown) For use with Item 1, Items 2 and 2A, Item 3, Item 4, 4A, Item 6, Item 7, Item 8 and Item 9. For maximum fire rating of 1 hour. On one side of the wall, over the first layer of Gypsum Board (Item 4 to 4B), install Reflexor membrane with the gold side facing outwards. Membrane installed with T50 staples spaced 12 inches on center in both directions as per manufacturer's instructions, seams in membrane to be overlapped by 2 inches. When Reflexor membrane is used an additional layer of Gypsum Board that is identical to the one used in the first layer and as specified in Item 4 to 4B shall be installed over the membrane. The additional layer of Gypsum Board to be installed through the membrane to the stud as specified in Item 4 to 4B except the fastener length shall be increased by a minimum of 5/8 inch. Install Batts and Blankets in the stud cavity as per Item 7.

On the other side of the wall prior to the installation of the Gypsum Board install Resilient Channels, 25 MSG galv steel, spaced vertically 24 in. OC, flange portion screw attached to one side of studs with 1-1/4 in. long diamond shaped point, double lead Phillips head steel screws. Over the Resilient Channels install 3/4 inch thick SONOpn panel secured to the Resilient Channels with min. 1-1/4 in. long drywall screws and washers spaced at 16 in. OC on the perimeter of the panel and 8 in. OC in the field of the panel. Over the SONOpn panel install the same Gypsum Board as specified in Item 4 to 4A with the fastener length increased by minimum 3/4 inch. Not evaluated or intended as a substitute for the required layer(s) of UL Classified Gypsum Board.

Alternately, on the other side of the wall prior to the installation of the Gypsum Board, install 3/4 in. thick SONOpn panels, secured to one side of studs either horizontally or vertically. Panels secured to each stud with min. 1-1/4 in. long drywall screws spaced 12 in. OC. Over the SONOpn, install 25 MSG galv steel, Resilient Channels, spaced vertically 24 in. OC. Resilient Channels fastened through panels to each stud with min. 2 in. long drywall screws or self-tapping screws. Over the Resilient Channels install Gypsum Board as specified in Item 4 to 4A with drywall screws specified Item 6. Panels not evaluated or intended as a substitute for the required layer(s) of UL Classified Gypsum Board.

MSL — Reflexor membrane, SONOpn panel

12. **Wall and Partition Facings and Accessories*** — (Optional, Not Shown) - **When the Wall Assembly is used as an External Wall, on the External side of the wall one of the following Wall and Partition and Facing Accessories may be used, refer to Items (A) to (C) below.**

A. **Non Insulated System with Metal Channels** — Install moisture barrier over the Gypsum Board Item 4 and Install Acry Metal Channels vertically at a horizontal spacing not greater than 24 inches OC over the moisture barrier. Acry Metal Channels attached through the moisture barrier and the Gypsum Board to the Steel Studs Item 2 using fasteners specified by the manufacturer and fasteners spaced max., 24 in. OC. Install Acrytec Panels on Acry Metal Channels using 1-1/4" long corrosion coated stainless steel screws spaced at a max spacing of 24 inches OC, along with manufacturer's approved adhesive (3M 540 or Tremco Vulcum 116). Adhesive to be applied in a zigzag pattern along every channel. Joint treatment in between panels shall be Tremco ilmod 600 pre compressed polyurethane foam sealant.

B. **Insulated System with Metal Channels** — Install moisture barrier over the Gypsum Board Item 4. Install galvanized Z girt channels specified by the manufacturer over the moisture barrier and the Gypsum Board Item 4. Z girt channels to be installed horizontally at a max. spacing of 24" OC. Z girt channels attached through the Gypsum Board and the moisture barrier to the Steel Studs Item 2, with screws provided by the manufacturer at a max spacing of 24 inches OC. Install mineral wool insulation between the Z girts. Maximum thickness of mineral wool insulation not to exceed 6 in. As per manufacturer's instructions install Acry Metal Channels vertically over the Z girts at a max horizontal spacing of 24 in. OC. Acrytec Panels installed on Acry channel with 1-1/4" long corrosion coated stainless steel screws at a max spacing of 24 in. OC, along with manufacturers approved adhesive (3M 540 or Tremco Vulcum 116). Adhesive to be applied in a zigzag pattern along every channel. Joint treatment in between panels to be Tremco ilmod 600 pre compressed polyurethane foam sealant.

C. **Non Insulated Wood Strapping System** — Install moisture barrier over the Gypsum Board Item 4 and Install 1" x 3" wood strapping vertically at a horizontal spacing not greater than 24 inches OC, over the moisture barrier. 1" x 3" wood strapping attached through the moisture barrier and the Gypsum Board to the Steel Studs Item 2, using fasteners specified by the manufacturer and fasteners spaced max., 24 in. OC. Acrytec Panels to be installed on the 1" x 3" wood strapping using manufacturers approved stainless steel fasteners spaced at maximum 24 inches OC along with Tremco Vulcum 116 adhesive applied in a zigzag pattern along every wood strap. Joint treatment in between panels to be Tremco ilmod 600 pre compressed polyurethane foam sealant.

D. **Insulated Wood Strapping System** — Install moisture barrier over the Gypsum Board Item 4. Install Extruded Polystyrene Insulation over moisture barrier, max thickness of insulation not to exceed 4 inches. Install 1" x 3" wood strapping vertically at a horizontal spacing not greater than 24 inches OC. Wood strapping attached through the Insulation, the Gypsum Board and moisture barrier to the Steel Studs Item 2 using fasteners specified by the manufacturer and fasteners spaced max. 24 in. OC. Acrytec Panels to be installed over the wood strapping using manufacturers approved stainless steel fasteners at a max spacing of 24 in. OC and Tremco Vulcum 116 adhesive applied in a zigzag pattern along every wood strap. Joint treatment in between panels to be Tremco ilmod 600 pre compressed polyurethane foam sealant.

ACRYTEC PANEL INDUSTRIES — Nominal 5/8 inch thick Acrytec Panel.

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

Last Updated on 2023-10-16

The appearance of a company's name or product in this database does not in itself assure that products so identified have been manufactured under UL Solutions' Follow - Up Service. Only those products bearing the UL Mark should be considered to be Certified and covered under UL Solutions' Follow - Up Service. Always look for the Mark on the product.

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REFERENCE G-003 FOR GENERAL NOTES

DIAGRAMS BELOW ARE APPLICABLE TO PUBLIC SPACES AND ALL UNIT TYPES UNLESS NOTED OTHERWISE

GENERAL NOTES

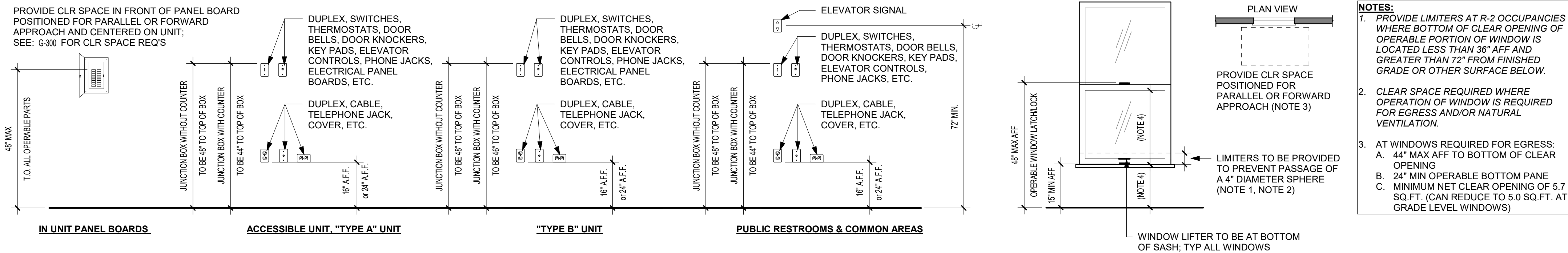
1. THE PROJECT SHALL MEET ALL APPLICABLE CODES SPECIFIED BY LOCAL AND FEDERAL REQUIREMENTS, INCLUDING BUT NOT LIMITED TO THE INFORMATION PRESENTED ON THE FOLLOWING G-300 SHEETS.
 - A. LOCAL AND FEDERAL REQUIREMENTS SHALL SUPERCEDE ANY CONFLICTING INFORMATION
2. ALL DIMENSIONS PROVIDED ON THE FOLLOWING G-300 SHEETS REPRESENT CLEAR DIMENSIONS AND ARE TAKEN FROM FACE OF FINISH/COMPONENT

UNIVERSAL DESIGN REQ'S

REQUIREMENTS FOR UNIVERSAL DESIGN HOUSING FOR THE ELDERLY AND SINGLE FAMILY DWELLINGS.

- | | |
|----|---|
| 1. | EQUITABLE USE
A. FLAT LANDING SURFACES LEADING TO DOORWAYS
B. LEVER ACTION DOOR HARDWARE
C. LEVER ACTION PLUMBING FIXTURE CONTROLS
D. NO THRESHOLDS AND/OR CHANGE OF WALKING SURFACE GREATER THAN 1/2 INCH |
| 2. | FLEXIBILITY IN USE
A. BLOCKING IN BATHROOM WALLS TO ACCEPT GRAB RAILS
B. BLOCKING IN OR BEHIND SHOWER/TUB ENCLOSURES TO ACCEPT GRAB RAILS
C. DOOR ASSEMBLIES AND CABINET DOOR ASSEMBLIES THAT WILL ACCEPT LEVER OR KNOB HARDWARE WITHOUT ALTERATION OR REPLACEMENT |
| 3. | SIMPLE AND INTUITIVE
A. BUTTONS ON CONTROL PANELS THAT CAN BE DISTINGUISHED BY TOUCH |
| 4. | PERCEPTIBLE INFORMATION
A. SIGNAGE WITH LARGE CONTRASTING PRINT IN ADDITION TO GENERALLY RECOGNIZED ICONS
B. CONTRASTING COLORS BETWEEN WIRING DEVICES [RECEPTACLES AND LIGHT SWITCHES] AND SURROUNDING SURFACES
C. CONTRASTING COLORS BETWEEN STEPS AND LANDINGS
D. CONTRASTING COLORS BETWEEN DIFFERENT FLOOR COVERINGS
E. CONTRASTING COLORS BETWEEN COUNTERTOPS AND FLOORING
F. CONTRASTING COLORS BETWEEN PLUMBING FIXTURES AND FLOORING/COUNTERTOPS |
| 5. | TOLERANCE FOR ERROR
A. LIGHT SWITCHES WITH LARGE FLAT PADS
B. NON-SLIP WALKING SURFACES |
| 6. | LOW PHYSICAL EFFORT
A. SELF CLOSING FIRE RATED DOORS MUST BE ON LOWEST SETTING WHILE COMPLYING WITH THE ENFORCED BUILDING CODE
B. NO INTERIOR RAMPS |
| 7. | SIZE AND SPACE FOR APPROACH AND USE
A. 36 INCH WIDE DOORS
B. FLOOR SPACE TO ACCOMMODATE A 60 INCH DIAMETER CIRCLE FOR WHEEL CHAIR TURNING IN KITCHEN AND BATHROOM
C. 42 INCH WIDE RESIDENTIAL UNIT AND COMMON HALLWAYS |

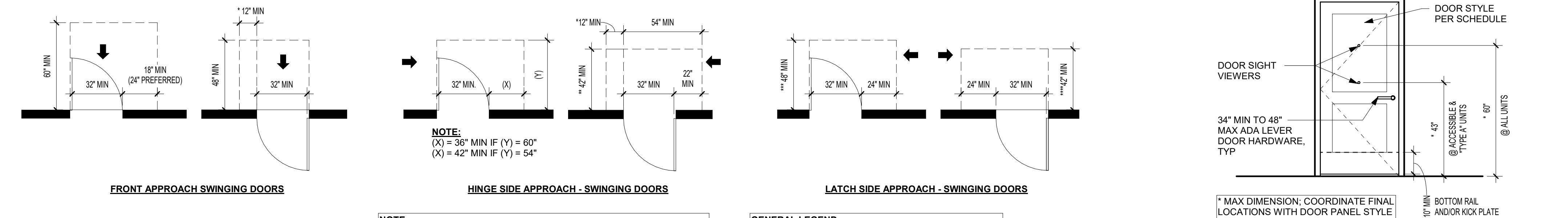
OTHER HEIGHTS



D4 MOUNTING HEIGHTS
NOT TO SCALE

A4 WINDOW LATCH/LOCK REQ'S
NOT TO SCALE

DOORS



D3 DOOR CLEARANCES
NOT TO SCALE

A3 DOOR HARDWARE HEIGHTS
NOT TO SCALE

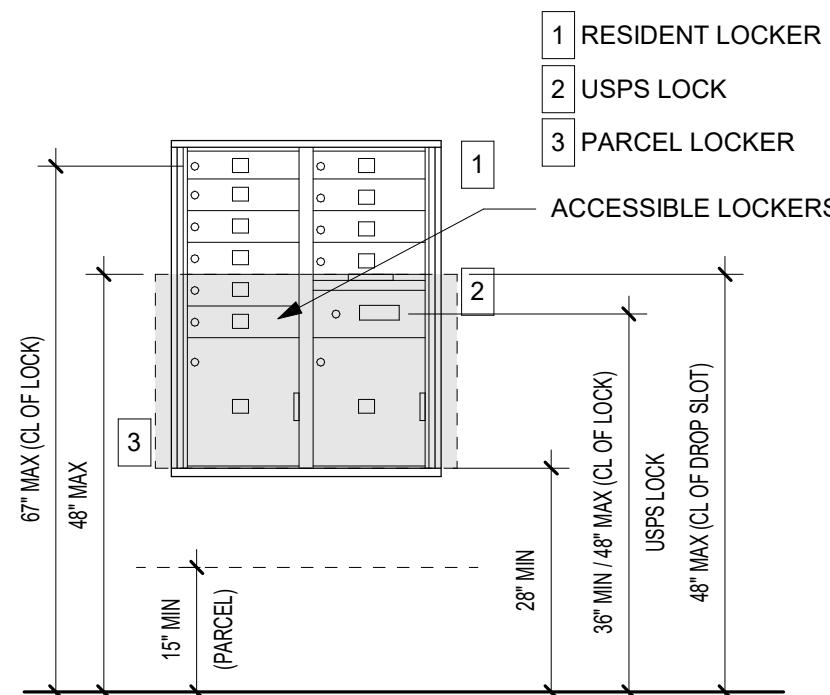
MAILBOXES

ALL MAILBOXES ASSOCIATED WITH DWELLING UNITS
LOCATED ON AN ACCESSIBLE ROUTE AND REQUIRED TO
MEET ANSI AND FHA SHALL BE WITHIN ACCESSIBLE
REACH RANGE (SHADED).

ACCESSIBLE MAILBOXES
48" MAX AFF (CL OF LOCK)
28" MIN AFF (T.O. BOTTOM SHELF)
 PROVIDE 30"X48" CLEAR FLOOR SPACE AT ALL
 ACCESSIBLE LOCKERS, CENTERED ON MAILBOX

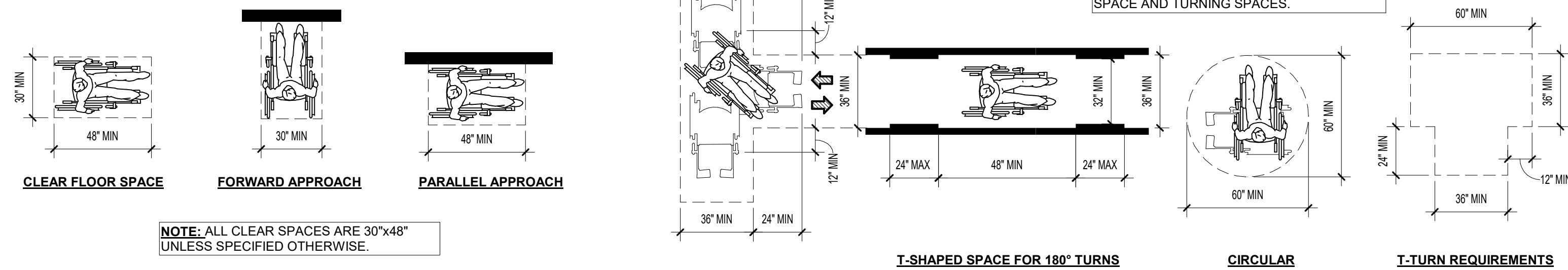
ALL OTHER MAILBOXES
67" MAX AFF (CL OF LOCK)
28" MIN AFF (T.O. BOTTOM SHELF)
 USE 1" ARROW LOOK
36" MIN & 48" MAX AFF (CL OF LOCK)

PARCEL LOCKER
15" AFF MIN (T.O. BOTTOM SHELF)
 MINIMUM OF 1 PARCEL LOCKER FOR EVERY
 5 MAILBOXES



D2 MAIL BOXES
1/2" = 1'-0"

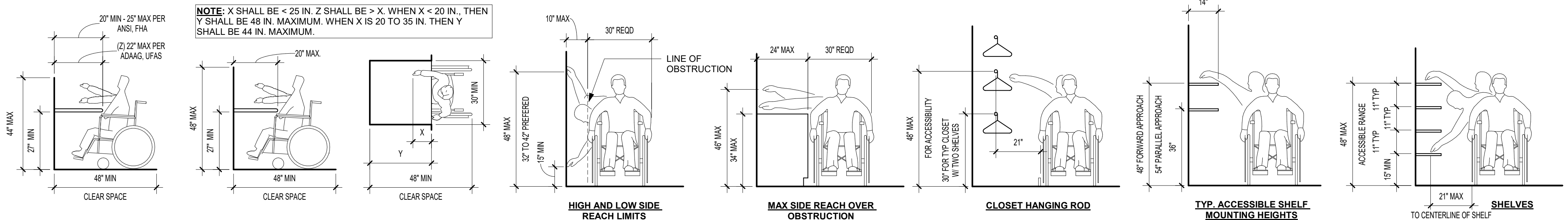
CLEAR FLOOR SPACES



C2 CLEAR FLOOR SPACE
NOT TO SCALE

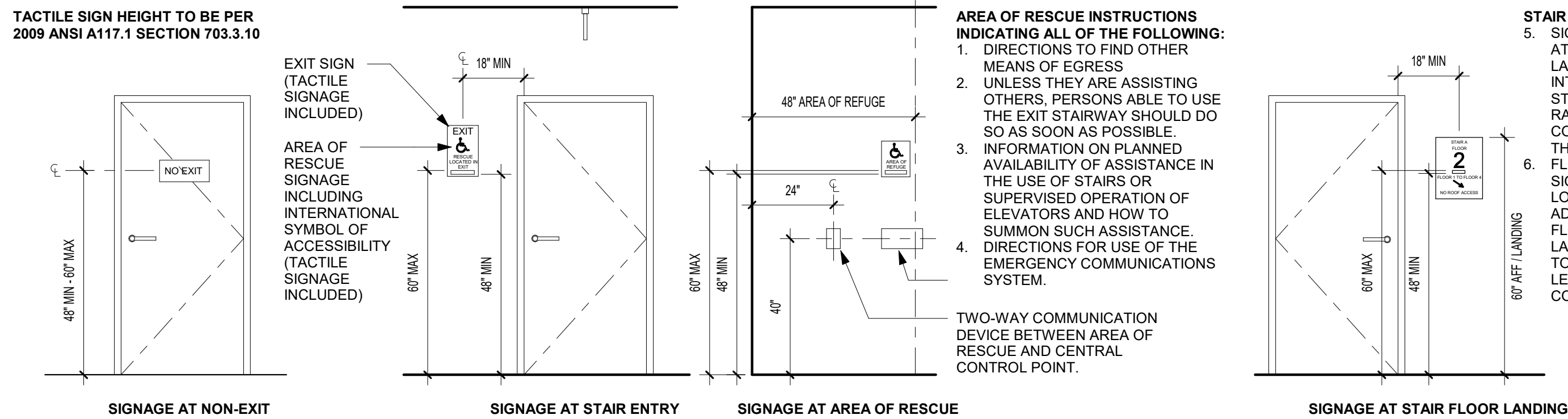
A2 WHEELCHAIR TURNING SPACE
NOT TO SCALE

REACH RANGES

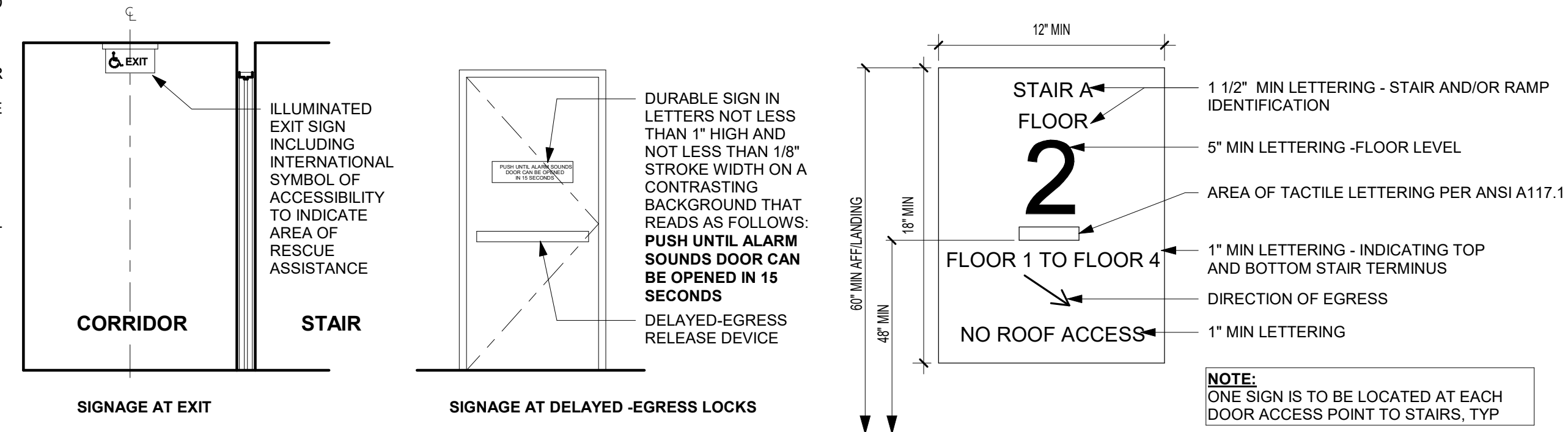


D1 REACH REQUIREMENTS

SIGNAGE

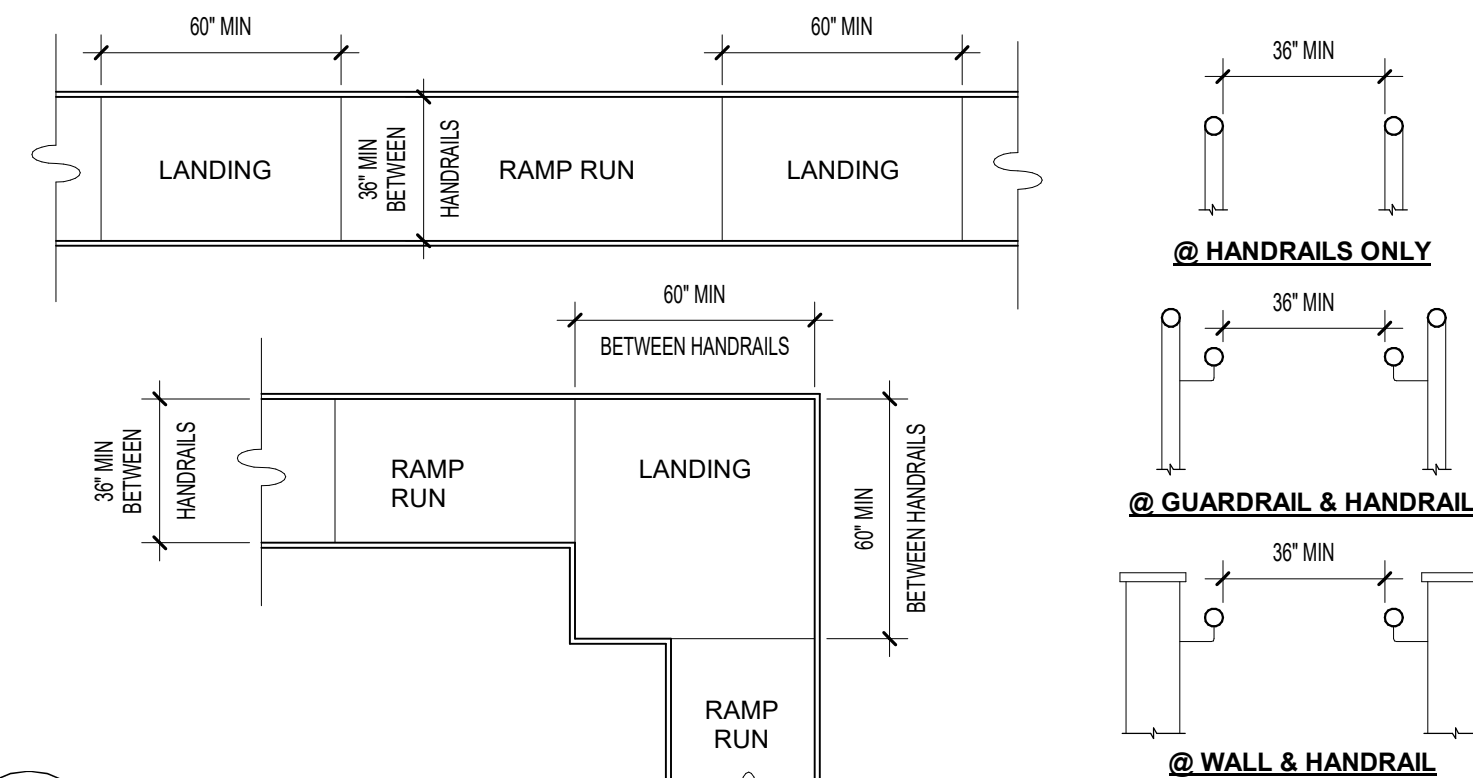


D4 CODE COMPLIANT SIGNAGE
NOT TO SCALE

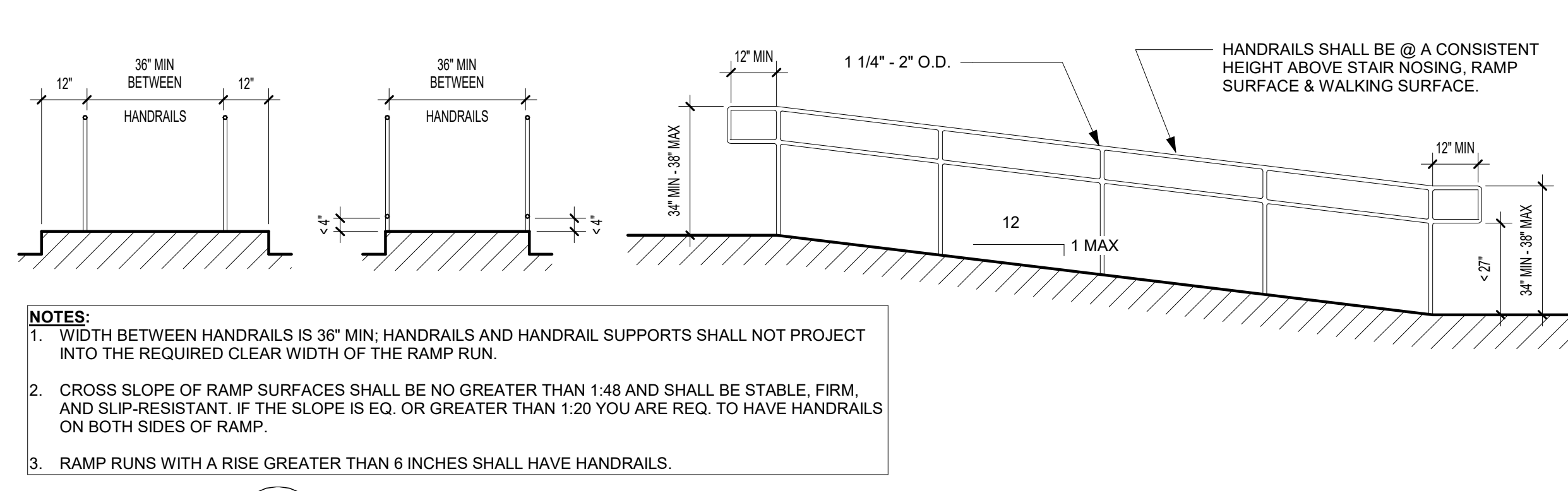


A4 **EGRESS STAIR SIGNAGE**
NOT TO SCALE

RAMPS



D3 RAMP LANDINGS
NOT TO SCALE



C3 RAMP & HANDRAIL SPECS
NOT TO SCALE

ADDITIONAL REQUIREMENTS

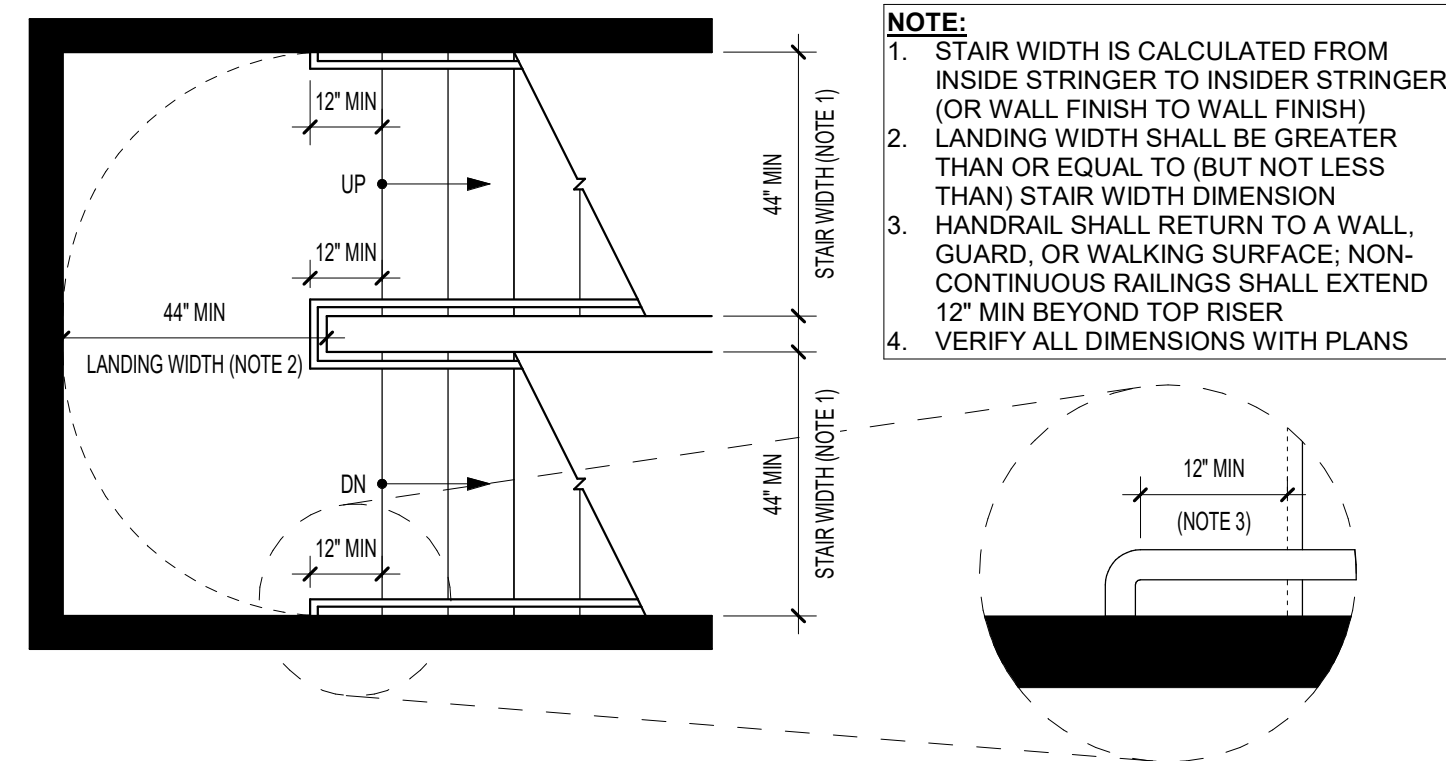
CARPET	MAX PILE HEIGHT SHALL BE 1/2 IN. EXPOSED EDGES OF CARPET SHALL BE FASTENED TO FLOOR SURFACES AND HAVE TRIM ALONG THE ENTIRE LENGTH OF THE EXPOSED EDGE. IF CARPET TILE IS USED ON AN ACCESSIBLE GROUND OF FLOOR SURFACE, IT SHALL HAVE A MAXIMUM COMBINED THICKNESS OF PILE, CUSHION, AND BACKING HEIGHT OF 1/2 IN.		
RAMPS	SLOPE	MAX RISE	MAX HORIZONTAL PROJECTION
	1:12 TO <1:16	30 IN.	30 FT.
	1:16 TO <1:20	30 IN.	40 FT.
	1:12 TO 1:20 - REQUIRES A HANDRAIL		

INTERIOR SIGNAGE	CHARACTER PROPORTION AND COLOR CONTRAST
	LETTERS AND NUMBERS ON SIGNS SHALL HAVE A WIDTH-TO-HEIGHT RATIO BETWEEN 3:5 AND 1:1 AND A STROKE WIDTH-TO-HEIGHT RATIO BETWEEN 1:5 AND 1:10. CHARACTERS AND SYMBOLS SHALL CONTRAST WITH THEIR BACKGROUND AND BE NON-GLARE. CHARACTERS SHALL BE UPPER CASE. CHARACTER HEIGHT, MEASURED VERTICALLY FROM THE BASELINE OF THE CHARACTER, SHALL BE 5/8 IN. MINIMUM, AND 2 IN. MAXIMUM, BASED ON THE UPPERCASE LETTER "I".

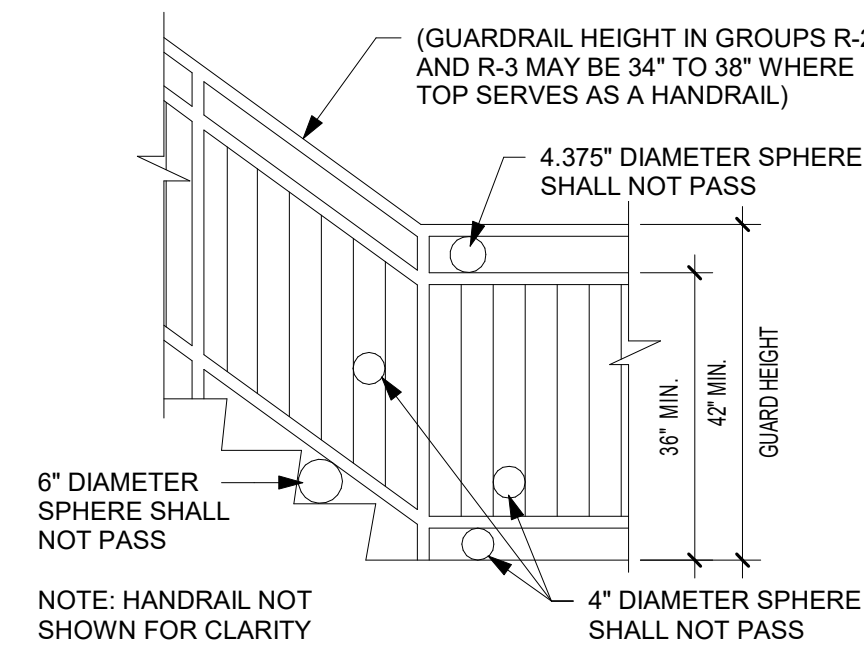
RAISED OR INDENTED CHARACTERS OR SYMBOLS
LETTERS AND NUMBERS ON SIGNS SHALL BE RAISED OR INCISED 1/32 IN. MIN AND SHALL BE SANS SERIF CHARACTERS. RAISED CHARACTERS OR SYMBOLS SHALL BE AT LEAST 5/8 IN HIGH, BUT NO HIGHER THAN 2 IN. INDENTED CHARACTERS OR SYMBOLS SHALL HAVE A STROKE WIDTH OF AT LEAST 1/4 IN. SYMBOLS OR PICTOGRAPHS ON SIGNS SHALL BE RAISED OR INDENTED 1/32 IN MIN

MOUNTING LOCATION AND HEIGHT
INTERIOR SIGNAGE SHALL BE LOCATED ALONGSIDE THE DOOR ON THE LATCH SIDE AND SHALL BE MOUNTED AT A HEIGHT OF BETWEEN 54 IN. AND 66 IN. ABOVE THE FINISHED FLOOR PER UFAS AND BETWEEN 48 IN. AND 60 IN. PER ANSI. REFER TO ICC/ANSI A117.1-2009, 703.2.8 FOR MORE REQUIREMENTS ON MOUNTING LOCATION.

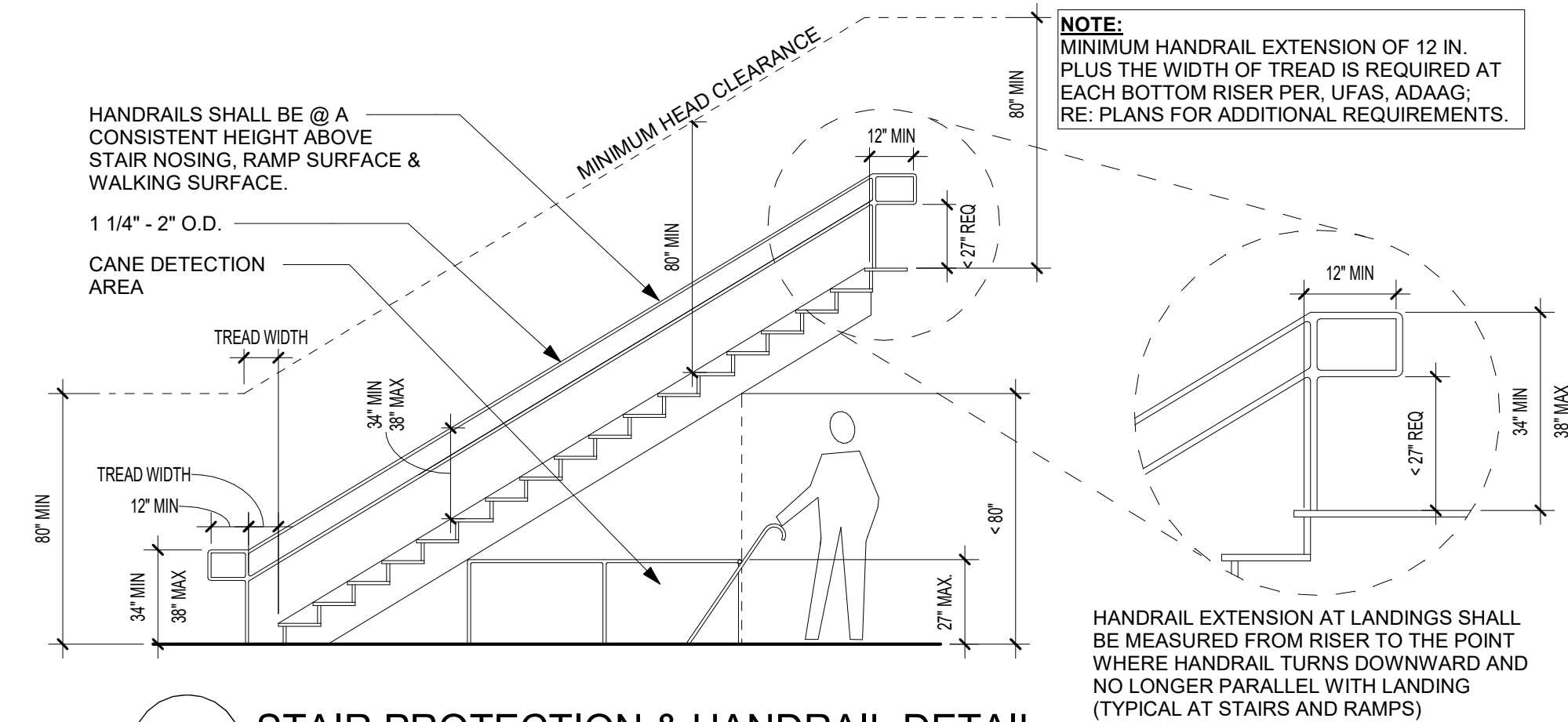
STAIRS AND RAILINGS



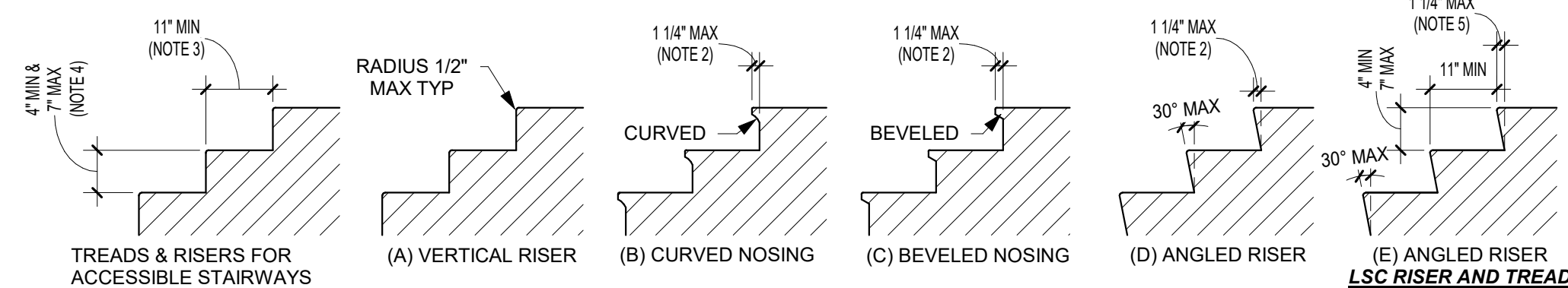
D2 EGRESS STAIR REQ'S
NOT TO SCALE



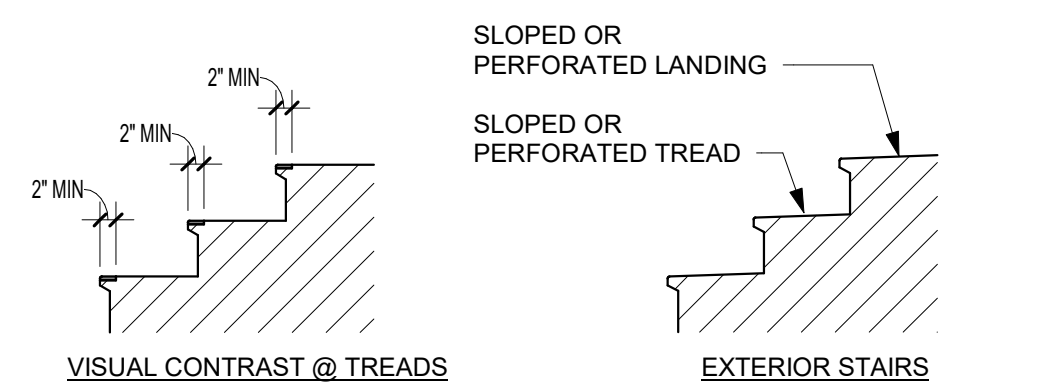
C2 STAIR OPENING GUARD LIMITATIONS
NOT TO SCALE



B2 STAIR PROTECTION & HANDRAIL DETAIL
NOT TO SCALE



D1 STAIR RISER AND TREAD REQ.
NOT TO SCALE



B1 IBC HANDRAIL DETAIL
NOT TO SCALE

 **rosemann
& ASSOCIATES P.C.**

ARCHITECTURE
INTERIOR DESIGN
ENGINEERING
PLANNING

Grand Boulevard
St. Louis, MO 64108-1404
647.2.1448
v.rosemann.com
4 Rosemann & Associates, P.C.

DENVER ■ KANSAS CITY ■ ST. LOUIS ■ ATLANTA



12/20/24

DISCOVERY PARK - LOT #10-A

LEE'S SUMMIT, MO

SHEET TITLE
ACCESSIBILITY STANDARDS

PROJECT NUMBER: 24004

SHEET NUMBER:

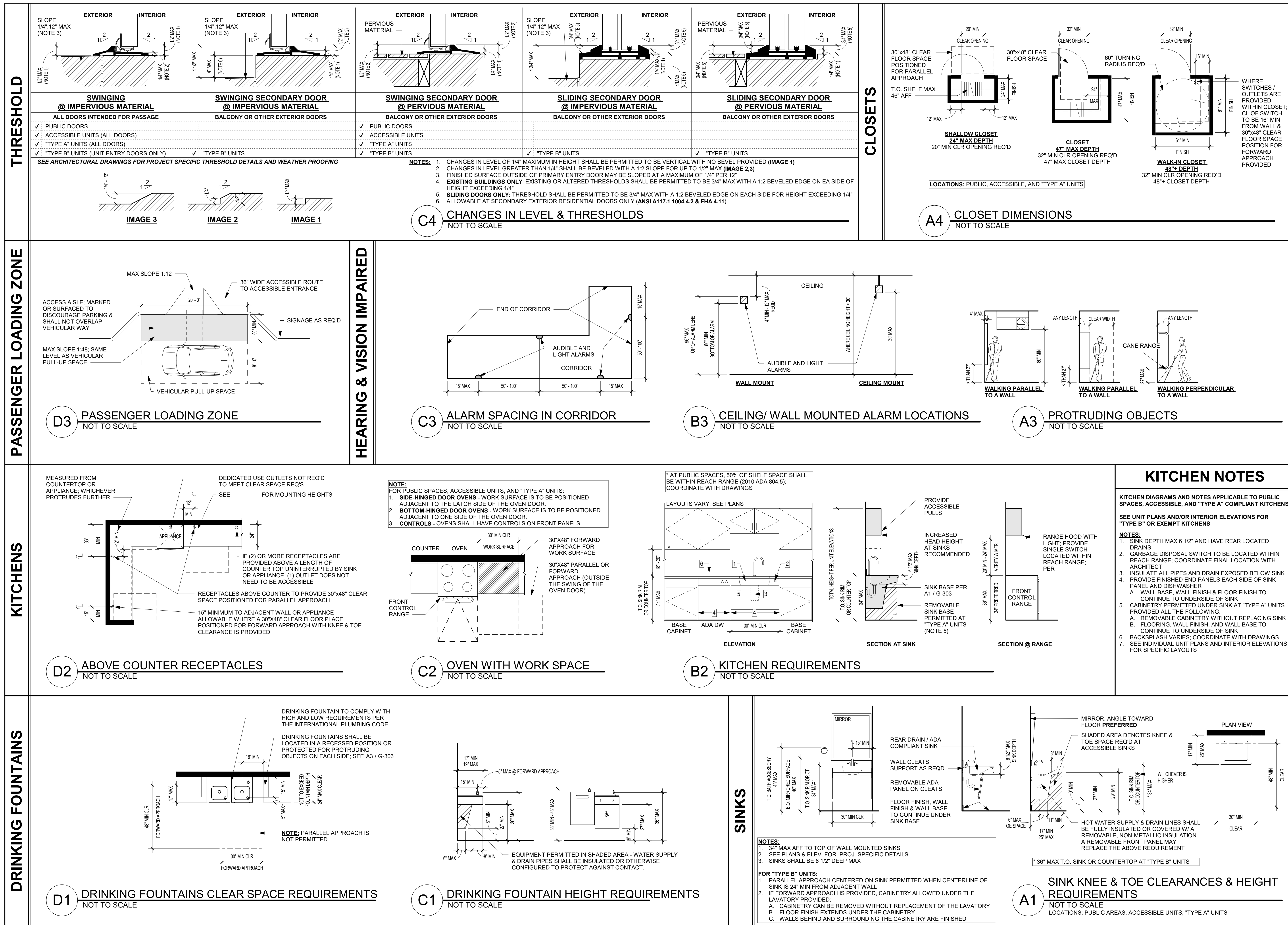
G-301

DIAGRAMS BELOW ARE APPLICABLE TO PUBLIC SPACES AND ALL UNIT TYPES UNLESS NOTED OTHERWISE

12/18/2024 1:20:44 PM
C:\Revit Local\Cache\2023\24004 DPLS LOT10 BLDGA R23 sburdluk7PGKO.rvt

REFERENCE G-003 FOR GENERAL NOTES

DIAGRAMS BELOW ARE APPLICABLE TO PUBLIC SPACES AND ALL UNIT TYPES UNLESS NOTED OTHERWISE



PRINTS ISSUED

PERMIT SUBMITTAL 12/20/2024

REVISIONS:

McCLURE™

2001 W Broadway
Columbia, MO 65203
P 573-314-1568

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MISSOURI CERTIFICATE OF AUTHORITY

NO. E-2006023253

EXPIRES: DECEMBER 31, 2024



12/20/2024

DISCOVERY PARK - LOT #10-A

100 NE ALURA WAY
LEE'S SUMMIT, MO 64064

SHEET TITLE
GENERAL NOTES

PROJECT NUMBER: 2023000333

SHEET NUMBER:

S001

A. DESIGN CRITERIA

1. Design Codes:

a. International Building Code: IBC 2018

b. Minimum Design Loads for Buildings and Other Structures: ASCE 7-16

2. Design Loads:

a. Dead Loads

Wood Floors = 27 psf

Add'l Load in Residential Units to Account for Interior Walls = 15 psf (additive to floor load)

Composite Deck w/ LW Concrete = 51 psf

Main Roof = 20 psf plus mechanical equipment shown on roof plan

Brownstone Roof with Pavers = 42 psf

Balconies = 56-75 psf

King Size Brick Veneer = 36 psf max allowed

Large Format Masonry = 70 psf max allowed

EIFS Finish System = 10 psf max allowed

b. Live Loads (reducible per code UNO)

Stairs and Exitways = 100 psf

Residential Units = 40 psf

Public Rooms = 100 psf (non-reducible)

Corridors (Public) = 100 psf

Mechanical/Storage = 125 psf (non-reducible)

Balconies = 60 psf (1.5 x Occupancy Served)

Typical Roof = 20 psf

Handrails = 200 lb point load at any point on handrail or top rail

Parking = 40 psf (non-reducible)

c. Roof Snow Load

Ground Snow Load (p_g) = 20 psf

Flat Roof Snow Load (p_f) = 14 psf

Balanced Roof Snow Load (p_{ba}) = 14 psf

Minimum Snow Load (p_{min}) = 20 psf

Snow Exposure Factor (C_e) = 1.0

Snow Load Importance (I_s) = 1.0

Thermal Factor (C_t) = 1.0

Slope Factor (C_s) = 1.0

Main Roof Snow Drift Load (p_d) = 33 psf

Main Roof Snow Drift width (w) = 8'-0"

Brownstone Roof Snow Drift Load (Low Roof) (p_d) = 44 psf

Brownstone Roof Snow Drift width (Low Roof) (w) = 11'-0"

Rain on Snow Surcharge = 5 psf

d. Wind Load

Basic Design Wind Speed, V = 109 mph (3 sec. Gust)

ASD Wind Speed, V_{asd} = 85 mph

Risk Category = II

Wind Exposure = C

Internal pressure Coefficient (C_{pi}) = ±0.18

Components and Cladding (psf):

Zone	A=10ft ²	A=50 ft ²	A=100 ft ²
1	+16/-52	+16/-44	+16/-41
1'	+16/-30	+16/-30	+16/-30
2	+30/-49	+27/-59	+26/-54
3	+30/-69	+27/-59	+26/-54
4	+30/-33	+27/-30	+26/-28
5	+30/-40	+27/-34	+26/-31

Notes:

1. A is the Effective Wind Area as defined in ASCE 7 Ch. 26

2. Linear interpolation between tabulated values is permitted.

3. Elements with Tributary Area (A_t) > 700 ft² shall be permitted to be designed using provisions for MWFRS.

e. Earthquake Load

Risk Category II

Soil Site Class: D

Seismic Importance Factor (I_s) 1.0

Mapped Spectral Response Acceleration Parameters

S_s = 0.099g S₁ = 0.068g

Design Spectral Response Acceleration Parameters

S_{DS} = 0.109 S_{D1} = 0.109

Seismic Design Category B

Basic Seismic Force Resisting System(s)

Wood Walls with Wood Structural Panels (ASCE 7 Table 12.2-1 Line A.15)

R = 6.5 O₂ = 3.0 C₂ = 0.017 C₀ = 4.0

(O₂ reduced to 2.5 per ASCE7-16 Table 12.2-1 footnote b)

Ordinary Reinforced Masonry Shear Walls (ASCE 7 Table 12.2-1 Line A.9)

R = 2.0 O₂ = 2.0 C₂ = 0.054 C₀ = 2

Design Base Shear, V = C_s x W = 196 kips based on R = 6.5

Analysis Procedure = Equivalent Lateral Force Procedure (ASCE 7-16 Chapter 12.8)

f. Rain Load

100 Year 15 min. Rain Intensity (i) = 7.5 in/hr

3. Allowable Deflections:

Typical Floor Joists/Trusses

Brownstone Floor and All Roof Joists/Trusses

Wall Framing (flexible finish)

Wall Framing (brittle/brick finish)

Total Load

L/360

L/240

Live/Snow/Wind Load

L/480

L/360

L/360

L/600

Absolute Maximum

1"

1.5"

0.75"

0.5"

Cantilever deflection limits are the more restrictive of 2 x the appropriate L/--- limit (e.g. 2L/360 = L/180) or absolute maximum value listed above, measured at the tip of the cantilever U.N.O.

4. Soil Properties:

a. Foundation design is based on the following to be considered part of the construction documents:

i) Project Geotechnical Report titled "Geotechnical Report – The Village at Discovery Park Lot 10A/B" prepared by OWN Inc dated March 13, 2024. (Herein known as "Geotechnical Report".)

ii) Signed letter from Ground Improvement Engineering by Vaughn Rupnow, PE, dated May 31, 2024 confirming Rammed Aggregate Piers as a viable foundation option with **allowable subgrade bearing pressure of 6,000 psf**.

b. It is the owner's decision to proceed with Rammed Aggregate Piers.

B. STRUCTURAL ENGINEERING DESIGN NARRATIVE

1. McClure Engineering Company (McClure, MEC) is the Structural Engineer of Record (EOR) responsible for the documentation of structural design criteria, strength and stability the primary vertical and lateral load-carrying systems in their completed form, and conformance of the structural design to the applicable building codes. These drawings produced by McClure convey the structural engineering design for the project, which includes the following components and systems:

a. Foundations consisting of concrete frost walls, pedestals, and footings supported by rammed aggregate piers.

b. Slabs on grade.

c. Residential Building Framing:

i. Load-bearing wood walls and opening framing - Level 2 and above

ii. CMU stair and elevator walls – Level 1.

iii. Plywood sheathing on dimensional lumber wood floor and roof joists - Level 3 and Roof.

iv. Steel framed balconies with non-composite deck.

v. Elevated concrete floor slab with composite steel deck on composite steel framing - Level 2

d. Structural steel framing identified on the drawings.

e. The lateral force resisting system of the structure consisting of sheathed wood structural walls, wood sheathing diaphragms, composite deck diaphragms, and masonry shear walls.

2. The following items are Deferred Submittals. Framing intent and additional requirements for these structural components are provided within these drawings*:

a. Structural steel connections – see general notes section "Structural Steel".

b. Wood roof/floor trusses – see general notes section "Wood Framing and Fastening" / see S001 and S002 for applicable design criteria.

c. All premanufactured canopy and sawing framing including connections to the structure.

d. Handrails at balconies – see S001 "Design Criteria" for applicable loading.

e. Cold-formed steel wall framing and miscellaneous Cold-formed steel framing.

* Reference section "D. Submittal Requirements." Coordinate requirements of these drawings with those of other design consultant drawings and the Project Specifications.

3. The following items are specifically excluded from McClure's design scope as represented on these drawings:

a. Requirements for fire rating of assemblies or fire protection of structural members

b. Global stability of soil mass

c. Any exterior slabs, bollards, curbs, and any enclosures not shown on these drawings.

d. Non-load-bearing wood or CFS walls or furring

e. Shoring design, formwork design, temporary bracing, and other means and methods items

f. Mechanical screen walls (screen walls shall be supported off of mechanical unit curbs)

C. GENERAL NOTES

1. All construction shall conform to the Design Codes in Section "A. Design Criteria," including all applicable standards and documents referenced within those codes.

2. Plan and detail notes provided on specific sheets within these drawings supplement information in these General Notes. Always coordinate the requirements of these notes with what is shown within the drawings.

3. Unless noted specifically on a plan, all floor plans show framing for the level indicated and vertical framing (walls, openings, posts, columns) below.

4. Contract Document Coordination:

a. The drawings contained herein are intended to be utilized in conjunction with other design consultant's drawings (architectural, civil, mechanical, etc.). It is the responsibility of the Contractor to coordinate the requirements of the drawings into their shop drawings and construction.

i. Refer to the Project Specifications issued as part of the contract documents for information supplemental to these drawings.

Should conflicts between these drawings and the Specifications exist, the Contractor shall bring them to the attention of the structural engineer for clarification.

b. Refer to the architectural, mechanical, electrical, and civil drawings for location and size of block outs, inserts, openings, curbs, bases & pads, and dimensions not shown on these drawings.

c. Refer to the architectural drawings for size and location of doors and window openings, exterior wall assemblies, and floor, wall, and roof finishes. Refer to the mechanical and electrical drawings for additional information including locations of mechanical units, generators, etc.

d. Omissions or conflicts between various elements of the drawings, notes and details shall be brought to the attention of the structural engineer and resolved before proceeding with the work.

5. Use of Drawings in Construction:

a. The Contractor shall verify all dimensions and conditions at the job site before commencing work and shall report any discrepancies to the engineer responsible for the design of that work.

b. Do not use scaled dimensions; use written dimensions or, where no dimension is provided, consult the structural engineer for clarification before proceeding with the work.

i. Where member locations are not specifically dimensioned, members are either located on columns lines or are equally spaced between located members.

c. Details and keynotes shown shall be incorporated into the project at all appropriate locations, whether specifically called out or not.

d. McClure may provide the contractor with electronic files for their convenience and use in the preparation of shop drawings. These electronic files are not construction documents; the contractor is not relieved of his/her duty to fully comply with the contract documents, including the need to confirm and coordinate all dimensions and details, take field measurements, verify field conditions, and coordinate the contractor's work with that of other contractors for the project.

6. Changes During Construction:

a. Openings shall not be cut or otherwise made in any structural member unless that opening is specifically shown on these drawings. The Contractor shall seek approval in writing from the structural engineer for any design incorporating additional openings.

b. Support details shown for Architectural, Mechanical, Electrical, and Plumbing equipment as well as elevators is based upon available information from the manufacturer (if any). The Contractor shall coordinate requirements of actual equipment supplied with details and shall provide any additional framing required.

c. The Contractor has the responsibility to notify the structural engineer of any architectural, mechanical, electrical, or plumbing load imposed on the structure that is not documented on the Contract Documents or differs from what is originally shown. Provide documentation of location, load, size, and anchorage of all undocumented loads in excess of 250 lbs.

7. Construction Sequence and Methods:

a. These drawings and the related Specifications represent the finished structure and, except where specifically shown, do not indicate the method or means of construction. Loads on the structure during construction shall not exceed the design loads indicated in Section "A. Design Criteria" as a maximum. The Contractor shall supervise and direct the work and shall be solely responsible for all construction means, methods, procedures, techniques, and sequence.

b. The Contractor is responsible for compliance with all applicable job-related safety standards proceeding from governing organizations (e.g. OSHA).

c. It is the responsibility of the Contractor to ensure the stability of the structural elements during construction as a result of means and sequence by providing shoring, bracing, etc. as required.

i. Stability considerations should include all applicable temporary construction and environmental loads per ASCE 37 which may include wind and seismic forces.

ii. Temporary bracing shall remain in place until positive connection is made between the floor/roof diaphragm and the lateral force resisting elements. This is a means and methods item.

The Contractor may at their discretion employ a Specialty Structural Engineer, licensed in the state where the project is located, for the design of any temporary bracing, lifting, rigging, and shoring.

d. The Contractor shall consider the effects of thermal movements due to hot or cold weather construction and the potential for extreme temperature variations before the structure is complete.

e. Any foundation wall restrained by a floor is not designed to be backfilled prior to the complete construction of the floor and the lateral bracing elements (shear walls, braced frames, etc.) below it. For backfilling before this time, temporary bracing shall be designed and provided by the Contractor.

f. The Contractor is responsible for the protection and repair of any adjacent existing structures, surfaces, and areas which may be damaged as a result of the work.

D. SUBMITTAL REQUIREMENTS

1. Submittal Procedures:

a. The Contractor shall provide all submittals in PDF format unless otherwise requested or indicated in the Project Specifications.

b. All submittals must be reviewed by the Contractor prior to McClure's review. The Contractor is responsible for reviewing each submittal for basic coordination with these drawings and to verify that all the required components of the submittal are incorporated. The submittal must bear the electronic review stamp of the Contractor before McClure will proceed with the review.

c. Incomplete submittals or submittals not meeting the requirements of this section will not be reviewed. McClure will notify the contractor that the submittal is incomplete or unacceptable and that resubmission is required.

i. Submittals requiring engineering calculations for all or a portion of the work are considered incomplete without the sealed calculations and will not be reviewed.

ii. Shop Drawings shall be original drawings. Submissions incorporating any portion or reproduction of the contract documents will not be reviewed.

d. Deferred Submittals not meeting the seal requirements of section D.2.b are considered incomplete and will not be reviewed.

iv. Resubmittals with comments from a previous review left unaddressed or without any response will not be reviewed.

d. Allow two weeks for review of all submittals unless an agreement for expedited review is made in writing by McClure.

e. McClure's submittal review scope of work includes a single submittal review and one review of the revised submittal if required (two reviews total of the same submittal). Time required for more than two reviews of a submittal is considered an additional service and will be billed hourly. McClure reserves the right to withhold review of a submittal surpassing this allowance until proper billing to the responsible party can be established.

f. Submittals must be returned to the Contractor by McClure bearing a stamp marked "Reviewed No Exception Taken" or "Reviewed With Comments/Exceptions" prior to proceeding with the work. Submittals marked "Reject/Resubmit" must be revised according to the comments provided prior to commencing with the respective scope of work.

2. Deferred Submittals:

a. See Section "B. Structural Engineering Design Narrative" for the list of items considered Deferred Submittals.

b. Deferred Submittals shall bear the seal of a professional engineer licensed in the state where the project is located. If the project requires a licensed Structural Engineer (S.E.) as the Engineer of Record according to state laws, the same qualification level applies to the engineer sealing the Deferred Submittals.

c. Deferred Submittal items shall not be installed until the Deferred Submittal documents have been approved by the Building Official.

3. Submittal List:

a. Submittals (product data, test records, shop drawings, and/or calculations) are required for the following:

Submittal Name	Items Required:			
	Product Data	Shop Drawings	Test Records	Engineering Calculations
1. Concrete Mix Designs	X		X	
2. Concrete Break Reports			X	
3. Concrete Reinforcing Layout		X		
4. Concrete Anchor Bolts & Embedded Plates	X	X		
5. Concrete & CMU Anchors (Post-Installed)	X			
6. Post-Installed Anchor Substitutions	X			X
7. Post-Installed Connection Geometry Alteration	X			X
8. Structural Steel Framing	X	X		
9. Structural Steel Framing Connections		X		X
10. Steel Floor Deck	X	X		
11. Metal Railings & Connections	X	X		X
12. Wood Framing Materials				
13. Wood Floor & Roof Trusses incl. Reactions			X	X
14. Wood Truss Connections to Supporting Structure			X	X
15. Specialty Wood Fasteners	X			
16. Manufactured Wood Shear Panels	X			
17. Masonry Wall Materials	X		X	
18. Masonry Reinforcing				
19. Exterior Nonload-Bearing Cold-Formed Steel Framing	X	X		X
20. Metal Canopies & Awnings	X	X		X
21. Rammed Aggregate Piers			X	X

b. "Product Data" may indicate mill certifications, material data sheets, Evaluation Service Reports (ESRs), etc. See requirements of each material section of the general notes for further information.

c. Where "Engineering Drawings" and/or "Engineering Calculations" are indicated, the submittal must comply with the requirements of item "2. Deferred Submittals" above.

4. Submittals For Record:

a. The following items impact the structural design and therefore must be submitted to the engineer; however, they do not require review. They will be returned stamped as "Received For Record".

i. Elevator Shop Drawings with Loads to Structure


ii. Mechanical Equipment Shop Drawings with Weight

12/20/2024 5:51:52 PM
Automation Tools 2025030333
Discovery Park Lee's Summit 2025030333
Reamain - Lot 10A_P03A

PRINTS ISSUED

PERMIT SUBMITTAL 12/20/2024

REVISIONS:



2001 W Broadway
Columbia, MO 65203
P 573-314-1568

NOTICE:
McClure Engineering Co. is not responsible or liable for any issues, claims, damages, or losses (collectively, "Losses") which arise from failure to follow these Plans, Specifications, and the engineering intent they convey, or for Losses which arise from failure to obtain and/or follow the engineers' or surveyors' guidance with respect to any alleged errors, omissions, inconsistencies, ambiguities, or conflicts contained within the Plans or Specifications.

MISSOURI CERTIFICATE OF AUTHORITY
NO. E-2006023253
EXPIRES: DECEMBER 31, 2024



12/20/2024

DISCOVERY PARK - LOT #10-A

100 NE ALURA WAY
LEE'S SUMMIT, MO 64064

SHEET TITLE
GENERAL NOTES

PROJECT NUMBER: 2023000333

SHEET NUMBER:

S002

E. CONCRETE

- Reinforced concrete shall have the following minimum 28 day compressive strengths:
 - Slab on grade, unless noted otherwise 4000 psi normal weight
 - Foundations 5000 psi normal weight
 - Slabs on metal deck 4000 psi light weight
- All concrete exposed to weather shall have 6% (+/- 1%) air entrainment.
- Submit mix designs for all concrete mixes prior to placement. All submittals shall include the following:
 - Batch quantities including admixture dosage rates.
 - Strength test results for trial mixes.
 - Aggregate source(s) and gradation(s).
 - Product data for cement, fly ash and other cementitious materials.
 - Product data for all admixtures.
 - Cured unit weight results (for lightweight concrete mixes only)
- Provide protection for reinforcing bars as follows:
 - Cast-in-place concrete
 - Concrete cast against and permanently exposed to earth: 3"
 - Concrete exposed to earth and weather (formed)
 - #5 and smaller 1'-1/2"
 - #6 and larger 2"
 - Concrete not exposed to weather and not in contact with ground:
 - Slabs and walls 3/4"
 - Beams and columns 1'-1/2"
- Provide construction or control joints in slab on grade as shown on plans. If joint pattern is not shown, provide joints at 10'-0" x 10'-0" and at locations to conform to bay spacing wherever possible (at column centerlines, half bays, third bays, etc.).
- Interface of all slab and beam construction joints shall be roughened with 1/4" amplitude. Surface of construction joints shall be clean and free of laitance. Immediately before new concrete is placed, construction joints shall be wetted and standing water removed.
- Construction joints in walls shall be keyed and placed at locations approved by the Architect and Structural Engineer.
- Provide control joints in all retaining walls at 15 ft to 20 ft intervals.
- Elevator pit walls shall not have control joints as they are part of the lateral system.
- Provide PVC waterstops in all below grade construction joints and at other locations as shown.
- All column pockets shall be filled with concrete after column is erected.
- Sleeves and openings in slabs not shown on structural drawings or outside the parameters of typical sleeve details are not permitted, unless approved by the Structural Engineer.
- Conduit and pipes embedded in slabs, walls, or grade beams shall be no larger in outside dimension than 1/3 the overall member thickness and shall be placed no closer than 3 diameters or widths on center.
- Conduits and pipes shall not be permitted in concrete plasters or columns.
- See "G. Foundations" section 5 for requirements at slab on grade.
- Bond break material for slip joints shall be 1/8" thick tempered wood particleboard, 1/8" thick high-density plastic elastomeric strips, two layers of 10mil polyethylene sheeting or equivalent.
- Provide concrete housekeeping pads under all mechanical, plumbing, fire protection, and electrical equipment per plans. Pads shall extend beyond equipment a nominal 6" on all sides. Provide reinforcing per details.
- At floor drains, locally slope floor towards drain. See architectural and plumbing drawings for drain locations.
- Foundation walls shall be temporarily braced until positive attachment is made to floor framing per details. This is a means and methods item.

F. REINFORCING FOR CONCRETE

- General
 - All reinforcing steel to be ASTM A615, Grade 60, deformed bars, unless noted otherwise.
 - Any reinforcing to be welded shall be ASTM A706 welded with E80 electrodes.
 - Alternatively, ASTM A615 reinforcing may be welded with E90 electrodes and proper preheat according to AWS D1.4.
 - E70 electrodes are not permitted for welding rebar.
 - Welded wire fabric shall be ASTM A185. Welded wire fabric shall be in flat sheets.
 - All reinforcing bars to be detailed and placed in accordance with the ACI "Manual of Standard Practice for Detailing Reinforced Concrete Structures" specifications.
 - All reinforcing, including dowels, shall be securely tied and cast with the lower member. Placing reinforcing after concrete has been placed will not be permitted.
 - Field bending of reinforcing partially embedded in concrete will not be allowed unless specifically noted on the drawings or approved by the Structural Engineer.
 - All reinforcing bars shall be contact lap spliced or doweled as follows, unless noted otherwise:

Tension Development and Splice Lengths for f _c = 5,000psi									
Bar Size	Development		Class "B" Splice		Standard 90 deg. Hook		Embed	Leg Length	Bend Dia.
	Top Bar	Other Bar	Top Bar	Other Bar	Top Bar	Other Bar			
#3	17	13	22	17	6	6	6	2-1/4	
#4	22	17	29	22	6	8	3		
#5	28	22	36	28	6	10	3-3/4		
#6	33	26	43	33	9	12	4-1/2		
#7	49	37	63	49	11	14	5-1/4		
#8	55	43	72	55	12	16	6		
#9	63	48	81	63	14	19	9-1/2		
#10	70	54	91	70	15	22	10-3/4		
#11	78	60	101	78	17	24	12		
#14	94	72	---	---	29	31	18-1/4		
#18	125	96	---	---	39	41	24		

Tension Development and Splice Lengths for f _c = 4,000psi									
Bar Size	Development		Class "B" Splice		Standard 90 deg. Hook		Embed	Leg Length	Bend Dia.
	Top Bar	Other Bar	Top Bar	Other Bar	Top Bar	Other Bar			
#3	19	15	24	19	6	6	6	2-1/4	
#4	25	19	32	25	7	8	3		
#5	31	24	40	31	9	10	3-3/4		
#6	37	29	48	37	10	12	4-1/2		
#7	54	42	70	54	12	14	5-1/4		
#8	62	48	80	62	14	16	6		
#9	70	54	91	70	15	19	9-1/2		
#10	79	61	102	79	17	22	10-3/4		
#11	87	67	113	87	19	24	12		
#14	105	81	---	---	32	31	18-1/4		
#18	139	107	---	---	43	41	24		

- Straight development and Class "B" splice lengths shown in above tables are based on uncoated bars assuming center-to-center bar spacing ≥ 3"d, without ties or stirrups or ≥ 2"d, with ties or stirrups, and bar clear cover ≥ 1.0"d. Normal weight concrete as well as no transverse reinforcing are both assumed.
- Standard 90 deg. hook embedment lengths are based on bar side cover ≥ 2.5" and bar end cover ≥ 2" without ties around hook.
- For special seismic considerations, refer to ACI 318 Code Chapter 21.
- All tension splices shall be Class "B" splices unless noted otherwise on plans.

- All welded wire fabric shall be lapped 12" or 48 wire diameters, whichever is greater.
 - Provide (2) #5 x 6'-0" diagonals at all corners of openings and re-entrant corners, unless noted otherwise.
 - Dowels between foundation and walls shall be installed and shall be the same grade, size, and spacing as the vertical wall reinforcing, unless noted otherwise.
 - Provide corner bars to match longitudinal reinforcing in all footings. Provide (2) corner bars at the intersections.
 - To account for any changes made during construction by the engineer or architect, contractor shall include in his/her bid an additional 10 percent of the total cost of the reinforcing bars and labor to install.
- Slabs and Slabs-on-Grade
 - All slabs on grade to be reinforced with 6x6 - W2.9xW2.9 welded wire fabric, unless noted otherwise.
 - Walls
 - Provide corner bars in the outside face and at wall intersections to match horizontal wall bars. Use (3) #5 vertical construction rods at corners.
 - Provide #5 at 12" O.C. each way in each face of walls, unless noted otherwise.

G. FOUNDATIONS

- Foundation design is based on the following to be considered part of the construction documents:
 - Project Geotechnical Report titled "Geotechnical Report - The Village at Discovery Park Lot 10A/B" prepared by OWN Inc dated March 13, 2024. (Herein known as "Geotechnical Report.")
 - Signed letter from Ground Improvement Engineering by Vaughn Rupnow, PE, dated May 31, 2024 confirming Rammed Aggregate Piers as a viable option with **allowable subgrade bearing pressure of 6,000 psf**.
- It is the owner's decision to proceed with Rammed Aggregate Piers.
- A geotechnical representative shall be retained on site for all construction activity to verify that all proper requirements have been met to meet the design requirements outlined in the geotechnical report. Representative shall be OWN Inc. or someone familiar with all documents of the geotechnical investigation provided for the project.
- The Contractor shall provide dewatering of excavations from surface water and ground water. Do not place concrete if water is present at base of excavation.
- Slab on Grade
 - Slabs shall be constructed as shown on the plans.
 - Parking slab-on-grade shall be placed on subgrade prepared in accordance with the requirements of the geotechnical report and the details in these construction documents.
 - A 10mil minimum vapor retarder shall be installed under all slabs on grade in occupied or conditioned spaces per the drawings. See the geotechnical report for additional information regarding the installation of the vapor retarder.
 - Low Volume Change (LVC) material shall be used for upper 24" below basestone. See Geotechnical Report for requirements.
 - Provide joints at 30 x slab thickness (+/-) in both directions and located to conform to bay spacing wherever possible (at column centerlines, half bays, third bays, etc.). Submit control joint layout for approval by the Structural Engineer.
 - Saw cut control joints shall be done late enough to prevent raveling of the cut edges and early enough to prevent racking of the slab ahead of the saw blade.
 - Plumbing and utilities passing through the slab on grade shall be constructed with flexible fittings to allow for slab movement. The expected slab movement for the parking slab shall be considered up to 2" minimum for fittings.
 - Concrete slab to be cured according to ACI Standards. Concrete slab cure to be compatible with any sealer, grout, or adhesive that may be used in the floor later.
 - Locally slope floor towards any floor drains. See architectural and plumbing drawings for drain locations.
- Geotechnical Agency Requirements
 - If the geotechnical representative on site takes exception to anything in the Geotechnical Report and requires additional field investigation to clarify those exceptions, the cost of such investigation shall be included in the additional fee for field quality control and testing and identified as such. All other exceptions shall be documented and approved by the geotechnical engineer.
 - The geotechnical representative must have read all documents pertaining to the geotechnical report for the project and have understood and accepted the criteria contained in the report.
 - The geotechnical representative must understand and be able to make decisions affecting the work for field observations and conditions described in the report during construction. The representative must be capable of advising the owner or contractor for procedures regarding, but not limited to, adjustments of bearing strata, sub-grade preparation, dewatering activities, and other construction considerations.

H. POST-INSTALLED ANCHORS TO CONCRETE AND MASONRY

- Post installed anchors shall be expansion, adhesive, or screw anchors as indicated in the details, unless noted otherwise. Only use the anchor type indicated. All anchors on the project of each type must be by the same manufacturer, see below for substitution requirements.
 - Expansion anchors:
 - Concrete:
 - Hilti Kwik Bolt TZ (ICC-ES ESR1917)
 - Simpson Strong-Bolt 2 (ICC-ES ESR3037)
 - DeWalt Power-Stud+ SD2 (ICC-ES ESR2502)
 - Grout-filled Concrete Masonry:
 - Hilti Kwik Bolt 3 (ICC-ES ESR1385)
 - Simpson Strong-Bolt 2 (UES ER0240)
 - DeWalt Power-Stud+ SD1 (ICC-ES ESR2966)
 - Adhesive anchors (threaded rods shall be ASTM A193 B7 for all anchors):
 - Concrete:
 - Hilti HIT RE 500-SD (ICC-ES ESR2322) or Hilti HIT-HY 200 (ICC-ES ESR3187)
 - Simpson AT-XP (UES ER0263), SET-XP (ICC-ES ESR2508) or ET-HP (ICC-ES ESR3372)
 - DeWalt Pure 110+ (ICC-ES ESR3298), PE1000+ (ICC-ES ESR2583), Pure 50+ (ICC-ES ESR3576), AC 200+ (ICC-ES ESR4027), or AC100+ Gold (ICC-ES ESR2582)
 - Solid grouted concrete masonry:
 - Hilti HIT-HY 70 anchor adhesive (ICC-ES ESR3342)
 - Simpson AT-XP (UES ER0281), SET-XP (UES ER0265) or ET-HP (UES ER0241)
 - DeWalt AC100+ Gold (ICC-ES ESR3200)
 - Hollow concrete or multi-wythe clay masonry:
 - Hilti HIT-HY 70 with screen tubes (ICC-ES ESR3342)
 - Simpson SET-XP (UES ER0265)
 - DeWalt AC100+ Gold with screen tubes (ICC-ES ESR3200)
 - Screw anchors:
 - Concrete:
 - Hilti Kwik HUS EZ (ICC-ES ESR3027)
 - Simpson Titen HD (ICC-ES ESR2713)
 - DeWalt Screw-Bolt+ (ICC-ES ESR2526)
 - Grout-filled concrete masonry:
 - Hilti Kwik HUS EZ (ICC-ES ESR3056)
 - Simpson Titen HD (ICC-ES ESR1056)
 - DeWalt Screw-Bolt+ (ICC-ES ESR1678)
- Post-installed anchors shall only be used where specified in the drawings. The Contractor shall obtain approval from the engineer prior to using post-installed anchors for masonry or misapplied cast-in-place anchors.
- All personnel installing anchors shall be trained and certified by the anchoring system manufacturer or by ACI. Contractor shall submit current certifications for all personnel. ACI certification required for all personnel installing adhesive anchors in a horizontal or overhead conditions. If a failure occurs at any time during testing or construction, personnel shall be retrained and recertified.
- Installation.
 - Do not cut existing reinforcing.
 - The hole through the supported steel member shall be 1/16" larger in diameter (1/8" for screw anchors) than the anchor unless noted otherwise. Use plate washers with a standard size hole welded to steel members where oversized holes must be used.
 - Holes shall be drilled per the manufacturer's written instructions as outlined in the ESR.
 - Where applicable, installation shall follow cleaning procedure indicated in the ESR. Holes shall be made with a hammer drill. Use of a core drill is not allowed.
- Special inspection shall be provided for all post installed anchors as required by the building code and/or ICC-ES report. Written special inspection reports shall be submitted to the registered design professional in responsible charge by the special inspector. The reports shall record and report the following as a minimum:
 - One of every ten anchors installed by each technician in locations listed below shall be randomly tested in direct tension. At least one anchor shall be tested on each day that anchors are installed.
 - Test anchors in the following locations:
 - Shear wall hold down anchors.
 - Shear wall sill plate anchors.
 - Anchors supporting dead or live loads in tension.
 - Test anchor to twice the allowable tension load as provided in the ESR. Test load shall not exceed 80 percent of the yield strength of the anchor (0.8 x A_u x f_y).
 - Post-installed anchors shall not be tested using a torque wrench.
 - If any anchor fails quality control testing, all anchors of the same type shall be randomly tested until (10) consecutive anchors pass. Resume normal frequency after this with approval of the engineer. The failed anchor(s) shall be removed and the affected area patched per engineer's direction. Consult the engineer for anchor replacement instructions. The cost for additional work and testing required due to anchor failure is the responsibility of the installing contractor.
 - Prior to and during installation of anchors, inspection and report shall include:
 - Installer shall have reviewed manufacturer's ESR report and written installation procedures and has been certified by the manufacturer or ACI.
 - General concrete or CMU block conditions (cracked or un-cracked, wet or dry, grouted or hollow, etc).
 - Whether manufacturer's written procedures for preparation of hole were followed. Indicate if hole is wet or dry.
 - Whether hole was made with a hammer drill
 - Whether manufacturer's written procedures for anchor installation were followed.
 - Embedment depth and concrete or block thickness.
 - Anchor diameter, length and type.
 - After installing anchors, inspection and report shall include:
 - All test locations.
 - Anchor size and/or type.
 - Applied load, loading procedure, load increments and rate of loading.
 - Mode of failure.
 - Photographs of test equipment and typical failures.
- Substitution requests for products other than those listed above shall be submitted to the engineer with calculations that are prepared and sealed by a registered structural engineer at least two weeks prior to scheduled installations. Calculations shall demonstrate that the substituted product will achieve an equivalent capacity using the appropriate design procedure required by the building code. Product ICC-ES code reports shall be included with the submittal package.

J. STRUCTURAL STEEL

- Materials:
 - Materials shall conform to the following, unless noted otherwise.
 - Rolled WF shapes ASTM A992, F_y = 50ksi
 - Plates and angles ASTM A572-50
 - Channels ASTM A36
 - HSS: Rectangular ASTM A500, Grade C
 - HSS: Round ASTM A500, Grade C
 - Bolts ASTM F3125
 - All bolts shall be Grade A325 or F1852, UNO
 - Bolts designed as "A490" shall be Grade A490 or F2280
 - Nuts ASTM A563 DH or A194
 - Washers ASTM F436
 - Anchor Bolts ASTM F1554 Grade 36, UNO
 - Threaded Rod ASTM A36
 - Studs ASTM A108, Type B Nelson headed shear stud connectors or equal.
 - Electrodes Matching weld metal, 70 ksi minimum strength.
 - Finishes
 - Prepare all surfaces that will be exposed in accordance with SSPC SP3.
 - All exterior steel components exposed to view or weather shall be galvanized in accordance with ASTM A123.
 - All exterior welded connections shall be cold galvanized in accordance with ASTM A780.
 - Fabricator:
 - Steel fabricator shall be AISC Certified.
 - Structural members shall be detailed, fabricated, and erected in accordance with the latest edition AISC Code of Standard Practice.
 - Structural steel fabrication and erection drawings must be submitted to the engineer for review and approval prior to fabrication.
 - Fabricator shall engage a professional engineer registered in the state of the project for the design and detailing of:
 - Steel connections.
 - Temporary bracing.
 - Steel deck (for continuity and load transfer).
 - Connections:
 - The contractor has the option to use bolted or welded connections. Any connections not specifically detailed on the drawings shall be designed by a professional structural engineer licensed in the project state and retained by the fabricator. In general, any connections shown on the drawings are schematic and are intended to show only the relative relationship of the connected members.
 - Structural design calculations for all beam and bracing connections shall be submitted to the engineer prior to fabrication and should include the following (as a minimum):
 - All plate dimensions and grades (minimum plate thickness shall be 3/8").
 - All weld sizes, lengths, pitches and returns.
 - Number and type of bolts.
 - Connection design forces:
 - Beam shear connections shall be designed for the actual reactions indicated on the drawings. Connection forces shown on drawings are envelope reactions based on ASD load combinations.
 - Connections indicated on the drawings as moment-resisting shall be designed for the moment shown. If moment is not indicated on the drawings, connection shall be designed to develop the full capacity of the member.
 - Columns have not been checked for local effects at connections. Fabricator shall verify if stiffener or web doubler plates are required and provide as necessary. Column size may also be increased with approval of the Structural Engineer.
 - Connection loads indicated on the drawings include compensation for Code permitted stress increases and load reductions for connection design.
 - Bolted Connections:
 - Minimum bolt diameter shall be 3/4".
 - Slip critical connections shall be used for bracing members, moment-resisting connections, cantilevers, and as indicated on the drawings. Standard oversized and long-slotted holes are permitted for friction-type connections.
 - All non-slip-critical connections shall be typical bearing type. Oversized or slotted holes are not permitted unless indicated on the drawings.
 - The fabricator is responsible for verifying the tensile capacity of axially loaded members with the presence of bolt holes. Increase member size; add plates (etc) as required.
 - Welded Connections:
 - All fillet welds shall be sized according to AISC minimums, but never less than 3/16" (UNO).
 - All welds shall be performed in accordance with the latest edition of the AWS Structural Welding Code.
- Erection:
 - All structural steel to be fabricated and erected in accordance with latest AISC specifications.
 - It is the responsibility of the contractor to ensure that structure is maintained in a safe, stable configuration at all times.
 - Any shoring required shall be submitted with engineering calculations for approval.
 - Splicing of steel members not specifically shown on the drawings is prohibited without prior approval from the engineer.
 - All beams shall be installed with the mill camber up.
- Steel Linets:
 - Loose lintels for king brick at all openings shall be the following, one angle per 4" wythe of masonry:
 - L 3-1/2 x 3-1/2 x 5/16 for spans less than 5'-9"
 - L 5 x 3-1/2 x 5/16 for spans between 5'-9" and 7'-11"
 - L 6 x 3-1/2 x 5/16 for spans between 8'-0" and 9'-7"
 - L 7 x 4 x 3/8 for spans between 9'-8" and 11'-10"
 - King brick lintel sizes are based on 36 psf brick weight with 8'-0" max height of brick above the lintel.
 - Loose lintels for large format masonry at all openings shall be the following:
 - L 6 x 6 x 3/8 for spans less than 6'-6"
 - L 8 x 6 x 1/2 for spans between 6'-6" and 9'-3"
 - Large format masonry sizes are based on 70 psf masonry weight with 10'-0" max height of masonry above lintel.
 - Lintels shall bear 8" minimum each end.
 - Lintels shall be galvanized.
 - All double angle lintels back-to-back shall be bolted at 32" O.C. maximum spacing, with 5/8" diameter A307 bolts, a minimum of two bolts per span.
 - See architectural and mechanical drawings for opening sizes and locations.

MINIMUM DESIGN REACTION SCHEDULE (FOR BEAM REACTIONS NOT SHOWN ON PLANS OR DETAILS)			
Beam	Min. No. of Bolts	Shear Tab to Column	Double Angle to Beam
W8	2	12.4 Kips	12.4 Kips
W10	2	13.8 Kips	13.8 Kips
W12	3	23.0 Kips	23.0 Kips
W14	3	26.4 Kips	26.4 Kips
W16	4	39.0 Kips	39.0 Kips
W18	5	53.0 Kips	59.1 Kips
W21	6	63.6 Kips	83.6 Kips
W24	7	74.2 Kips	110.6 Kips
W27	7	74.2 Kips	128.6 Kips
W30	8	84.8 Kips	151.3 Kips
W33	9	95.4 Kips	185.0 Kips
W36	10	103.0 Kips	205.0 Kips

Note: Unless reactions are noted on plan, beam connections shall be designed for these reactions & provided with these minimum bolt quantities. Fabricator shall provide shop drawings indicating the provided capacity of all typical connections. Table assumptions:
- Least web thickness for beam depth series
- 3/8" 36 ksi single shear plate or 5/16" 36 ksi double angles
- 3/4" dia. A325 bolts with threads included
- Standard size bolt holes
- Beam coped top & bottom
- Distance from end of beam to center of bolt holes = 1 1/2" minimum
- Distance from top of coped web to center of first bolt hole = 1 1/4" min.

PRINTS ISSUED

PERMIT SUBMITTAL 12/20/2024

REVISIONS:

K. WOOD FRAMING AND CONNECTIONS

- Install rough carpentry according to the American Institute of Timber Construction Manual. It is the responsibility of the contractor to verify all dimensions prior to erection.
- Material:
 - Sawn lumber
 - Sawn lumber shall be grade stamped and visually graded with maximum 19% moisture content.
 - All members shall meet strength requirements in NDS' National Design Specification for Wood Construction".
 - Joists, rafters, and nailers with nominal depths 8" or less shall be Southern Pine (SP) or Douglas Fir-Larch (DFL), No. 2 or better, UNO.
 - Joists, rafters, and nailers with nominal depth greater than 8" shall be Southern Pine (SP) or Douglas Fir-Larch (DFL), No. 1 or better, UNO.
 - All members used as columns or beams (including headers) shall be void of any significant defects (ie. Checking, warping, etc.) at the time of erection.
 - All exterior posts shall be Western Red Cedar No. 2 or better.
 - Bearing and shear wall studs, and wall plates, shall be Douglas Fir-Larch (DFL), No. 2 or better.
 - Structural Composite Lumber
 - SCL shall meet material specifications in ASTM D5456
 - SCL shall include laminated veneer lumber (LVL), laminated strand lumber (LSL), oriented strand lumber (OSL) and parallel strand lumber (PSL)
 - All SCL materials shall be graded as indicated on the plans.
 - Glued-laminated timber (GluLam) shall be manufactured and identified as required in ANSI/AITC A-190.1 and ASTM D3737.
 - GluLam shall be graded as indicated on the plans.
 - Structural Panels
 - All plywood or oriented strand board (OSB) panels shall meet the strength requirements in Department of Commerce (DOC) PS 1 and PS 2 or ANSI/APA PRG 210.
 - All structural panels (walls, floor and roof) shall meet the Structural 1 grading standard.
 - Connectors and Fasteners
 - Metal connectors and associated fasteners used for the applications indicated shall meet the following minimum standards:
 - Untreated Lumber
 - ConnectorsASTM A653 G90
 - Bolts and Anchor RodsASTM F1554 Gr36
 - Nails and StaplesASTM F1667
 - Sodium Borate (SBX) Pressure Treated Lumber
 - ConnectorsASTM A653 G90
 - BoltsASTM A307
 - Anchor RodsASTM F1554 Gr 55
 - Nails and StaplesASTM F1667 with A153 Hot Dipped Galvanized
 - All Other Pressure Treated Lumber (e.g. ACQ-C, ACQ-D, CA-B, CSA-A, ACZA)
 - ConnectorsAISI SS Type 304 or 316
 - BoltsASTM A193, GrB7
 - Anchor RodsASTM A193, GrB7
 - Nails and StaplesASTM F1667 using AISI Type 304 or 316 Stainless Steel
 - Fasteners utilizing dissimilar materials are prohibited.
 - Power driven fasteners shall comply with NES NER-272.
 - Fastener installation whether power driven or otherwise shall be in accordance with the Building Code and the manufacturer's recommendations. In general fastener heads shall be installed nominally flush with the outer ply of the connection. Sheathing and support framing damaged by overdriven fasteners shall be removed and replaced.
 - Aluminum fasteners and flashing shall not be in contact with pressure treated lumber.
 - General:
 - All light framed wood construction shall be fastened as indicated on the plans. Connections not detailed shall be fastened in accordance with the table below.
 - Sill plates shall be anchored to the foundation as shown on the drawings.
 - Plywood/OSBS wall, floor or roof sheathing shall be fastened per the requirements shown on the drawings.
 - Splicing of structural members is not permitted under any circumstances.
 - All framing in direct contact with water, soil, concrete, masonry, or permanently exposed to weather shall be preservative treated lumber in accordance with the AWPA Standard U1 and M4
 - All framing indicated to be fire-retardant treated or fire resistive on the drawings (Architectural or Structural) shall comply with AWPA U1 UCFA, Type A or ICC-ES ESR 2645 and shall have UL FR-S surface burning characteristics.
 - All wood shall be stored on site and protected from the elements to prevent warping, cupping, bowing, crooking and twisting. Use only material that is straight. All stored wood shall be held off the ground with sacrificial damage blocks.
 - Wood connectors shall be installed to prevent wood from splitting or otherwise damaging either member.
 - All wood denoted as requiring fire-resistive treatment shall be pressure treated according to AWPA Standard requirements.
 - Use 4x4, 4x6 and 6x6 columns as shown on plans. Built-up sections of 2x studs shall not be substituted for timber posts.
 - All multi-ply beams, joists and headers shall be fastened together.
 - Fasten sawn lumber members per schedule below.
 - Fasten structural composite lumber per manufacturer's literature.
 - Standard cut washers shall be used under bolt heads and nuts bearing against wood, unless noted otherwise per shear wall anchorage details.
 - Wall studs are designed based on being fully braced by sheathing. Design of temporary or permanent blocking or bridging for support of construction loads by unsheathed walls is the responsibility of the contractor.
 - Wood joists shall bear on the full width of supporting members (stud walls, beams, nailers, etc.) unless noted otherwise.
 - Subject to compliance with the project requirements, wood connectors, joist hangers, post caps and bases, holdowns, and related hardware shall be manufactured by Simpson Strong-Tie Company, Inc. or approved equal.
 - Contractor shall follow the manufacturer's latest recommendations for installation of connectors.
 - Other manufacturers may be acceptable. Submit substitution request demonstrating that the proposed hardware has the same or greater capacity for each connection. Allow two weeks for review.
 - All beams and joists not bearing on supporting members shall be framed with Simpson joist hangers. Use joist hangers per schedule and details. The joist hangers shall be installed using nails or screws supplied by the hanger manufacturer as required for the hanger type.
 - Sill plates of all bearing walls on concrete shall be anchored with anchors as shown on the drawings. Sill plate anchors shall be located a maximum of 1'-0" from corners, ends of walls and sill plate splices. Provide (2) anchors minimum in each sill plate segment Refer to plans and details for shear wall anchorage requirements.
 - Nailers shall be anchored to steel beams and columns with 1/2" diameter A307 bolts with required washers at a maximum spacing of 24" on center (alternate sides), unless noted otherwise.
 - Wall studs, jamb studs, and beam support studs shall have adequate vertical blocking installed to transfer all vertical loads to the foundation.
 - Wood Floor and Roof Trusses:
 - Provide wood trusses capable of withstanding the design loads within the limits and under the conditions indicated. Truss design shall be in accordance with the Building Code and TPI-1 Nation Design Standard for Metal Plate Connected Wood Truss Construction.
 - Metal gusset plates shall be designed, manufactured, and approved according to IBCO requirements.
 - Wood trusses shall be of sawn lumber with 2x nominal thickness.
 - In addition to the loads indicated in section "A. Design Criteria", wood trusses shall be designed for all applicable wind, seismic, and snow (including drift) loads (including by Building Code and noted on plans.
 - Truss design and shop drawing preparation shall be supervised by a registered professional engineer licensed in the state where the project is located. Submittals shall be signed and sealed and include comprehensive truss layout plans and design calculations that indicate species and grades of lumber, design stresses, size and type of connector plates used.
 - Fabricator shall determine truss diagonal locations. Truss configurations shown on drawings are diagrammatic only. Bearing points shall coincide with intersections of diagonals and chords. All dimensions shall be determined by the truss manufacturer. The manufacturer and contractor shall coordinate all architectural and MEP components with the truss layout and profile.
 - The manufacturer shall provide all open web trusses and accessories as shown on the structural and architectural drawings and as required for a complete project. This includes all blocking, bridging, bracing, and drag components required for construction.
 - All truss-to-truss connections and truss to supporting member connections shall be designed and detailed by the truss supplier and the size and type of connectors included in the sealed shop drawing submittal. Coordinate size, species, and grade of supporting chord and web members with the truss hanger selected.
 - All temporary and permanent bracing shall be in accordance with the TPI standards for bracing. The bracing shall be furnished and installed by the Contractor. Do not use ceilings as uplift bracing at truss bottom chord.
 - Girder trusses shown on drawings shall be designed to carry concentrated reactions from supported members. Girder trusses shall not be located directly above openings unless coordinated with the Structural Engineer.
 - Wood trusses shall be handled and erected in accordance with TPI HIB-91. Trusses shall be unloaded and stored in bundles in an upright position out of contact with the ground until ready for installation.
 - Any damage to the trusses shall be brought to the immediate attention of the Structural Engineer and truss supplier. Field repair and modification of trusses shall not be made with prior written approval from the supplier, except for nominal trimming to correct length where such trimming will not impair the load carrying capacity of the truss
 - Roof trusses shall be designed for the following in addition to any mechanical unit loads shown on plan and mechanical drawings:

TC DL = 10 psf	TC LL = 20 psf	TC SL = 20 psf
BC DL = 10 psf	BC LL = N/A	

Wind Loads Per "A. Design Criteria"
Design Snow Load SL = 20 psf.
Drift Loads per section "A. Design Criteria"
 - Floor trusses shall be designed for the following loads:

TC DL = 17 psf typical + 15 psf residential units to account for interior non-structural walls
TC LL = 40 psf Residential Areas/100 psf Common Areas/125 psf Storage Areas
BC DL = 10 psf
BC LL = ±5 psf

(Coordinate LL with Architectural plans and general note section "A. Design Criteria")
 - The allowable deflection is:
 - Roof Trusses
 - Total Load: L/240
 - Roof Live or Snow Load: L/360
 - Absolute Maximum: 1.5"
 - Typical Floor Trusses
 - Total Load: L/360
 - Live Load: L/480
 - Absolute Maximum: 1"
 - Brownstone Apt. Floor Trusses
 - Total Load: L/240
 - Live Load: L/360
 - Absolute Maximum: 1"

M. STEEL FLOOR AND ROOF DECK

- General:
 - Install steel deck according to procedures outlined in the latest edition of the "SDI Manual of Construction with Steel Deck" published by the Steel Deck Institute. One copy shall be maintained on site.
 - All steel roof deck shall be welded to supporting beams and joists and erected in accordance with manufacturer's latest recommendations.
 - Deck shall be continuous over 3 spans, unless noted otherwise.
 - Provide welds or screws at parallel edges equal to specified fastening as supports. Fasten to all parallel supports -- both at edges and in the field of the deck. Raise steel supports or provide shims at weld points if the deck valley does not engage the support.
 - Provide welding washers as required by manufacturer's recommendations.
 - All miscellaneous accessories -- pour stops, column closures, etc. -- will be installed in accordance with mfg recommendations and the Steel Deck Institute.
 - Four stops shall be A36 steel angles (1/4") to finish floor height unless otherwise noted.
 - The use of any equipment weighing over 150 pounds for installation or finishing of concrete or roofing is prohibited without prior approval from the Engineer. Request MUST be made prior to submittal of shop drawings for deck and supporting structure to be considered.
 - Concrete placed on steel deck shall have a constant thickness. Thickness shall be maintained by probing the deck at supports and at mid-span between supports. It is not permissible to finish the deck to be flat unless a design is submitted demonstrating that the deck and supporting structure can support the additional concrete weight.
- Composite Floor Deck:
 - Floor deck properties shall be as follows based on deck type indicated on plans:
 - Main Floor Slab: 5 1/2" Total Depth Lightweight Concrete with 3" Composite Deck
 - Reinforcing: 6x6-W1.4xW1.4 Welded Wire Mesh
 - Deck: 3" Composite 20 Ga.
 $t_{min} = 0.0358"$, $I_y = 0.919 \text{ in}^4/\text{ft}$, $I_x = 0.6921 \text{ in}^4/\text{ft}$, $S_y = 0.512 \text{ in}^3/\text{ft}$, $S_x = 0.539 \text{ in}^3/\text{ft}$, $F_y = 50\text{ksi}$,
 $t_{min} = 0.0358"$, $I_y = 0.919 \text{ in}^4/\text{ft}$, $I_x = 0.6921 \text{ in}^4/\text{ft}$, $S_y = 0.512 \text{ in}^3/\text{ft}$, $S_x = 0.539 \text{ in}^3/\text{ft}$, $F_y = 50\text{ksi}$,
(3) Maximum Unshored Spans: Single Span = 12'-2", Double Span = 13'-1", Triple Span = 13'-7"
 - Balcony Structural Slab: 2 1/2" Total Depth Light Weight Concrete With 9/16" form deck
 - Reinforcing: 6x6-W1.4xW1.4 Welded Wire Mesh
 - Deck: 9/16" non-composite 28 Ga.
 $t_{min} = 0.149"$, $I_y = 0.012 \text{ in}^4/\text{ft}$, $I_x = 0.012 \text{ in}^4/\text{ft}$, $S_y = 0.035 \text{ in}^3/\text{ft}$, $S_x = 0.036 \text{ in}^3/\text{ft}$, $F_y = 60 \text{ ksi}$.
 - Composite deck to be fastened to supports with Hilti X-ENP-19-L15 PAFs.
 - Typical Fastening:
 - PAF per rib
 - PAFs 36" at o.c. along panel edges
 - #10 screw sidelap fasteners at 36" o.c.
 - Fastening within 30 ft of crnu walls:
 - PAFs per rib + (1) PAF every other rib
 - PAFs at 4' o.c. along panel edges
 - Sidelap fasteners at 4' o.c.
 - Non-composite floor deck shall be fastened to supports with X-ENP-19-L15 PAFs with 30/4 pattern, with 0 sidelap fasteners.
 - Metal floor deck shall be galvanized in accordance with the requirements of ASTM A653-94 G90.

N. COLD FORMED FRAMING – DELEGATED DESIGN

- Any dimensional information shown is included for engineering purposes only. It is the responsibility of the contractor to verify building dimensions with the A/E and MEP drawings and to comply with all other requirements of the Contract Documents.
- All materials shall have 33 ksi minimum yield strength, except studs and track of 16 gauge or heavier shall have a minimum yield strength of 50 ksi.
- All material properties, fabrication, and erection shall be in accordance the latest edition of the AISI "Specifications for the Design of Cold-Formed Structural Members."
- All framing components shall be cut squarely or at an angle to fit squarely against abutting members. Splicing of axially loaded members shall not be permitted. Members shall be held firmly in place until properly fastened. Attachments of similar components shall be by welding, screw attachment, or bolting. Wire tying of components is not permitted.
- All field cutting of members shall be done by sawing, drilling, or shearing. Torching is not permitted.
- Members shall not be spliced other than at the locations indicated on the drawings. All splices shall conform to the details in the drawings.
- No notching or coping of any framing member is allowed, unless stated within this drawing package.
- Per AISI standard for cold-formed framing- wall design, the maximum allowable gap (measured between the web of the stud and of the track) for a stud seated in a track is 1/4" for non-axial load bearing conditions and 1/8" for axial load bearing conditions (U.N.O.) Pressure should be applied to nest the studs into the tracks until the tolerances listed above are achieved. Failure to do so could result in serviceability problems in the future.
- Design CFS framing to laterally support veneer.

N.1. COLD FORMED CONNECTIONS – DELEGATED DESIGN

- All fasteners are to be installed per the manufacturer's recommendations. Do not substitute fasteners without written permission from Engineer.
- PAF point must penetrate through full base steel thickness. Notify PAF manufacturer for instructions where full penetration is not achieved.
- If required, all welded connections are to be performed in accordance with the latest version of AWS D1.3 Structural Welding Code – Sheet Steel. Consult AWS D19.0 Welding Zinc Coated Steel & ANSI Standard Z49.1 for information regarding safe welding procedures.
- Minimum weld throat thickness (t) must match or exceed the base steel thickness of the thinnest connected part unless noted otherwise.
- In welding, the zinc coating on steel framing will be burned away; therefore, a zinc rich paint must be applied to the weld area to provide corrosion resistance.
- All screw connections are based on AISI S100 Section J4, which outlines the AISI Specification provisions for screw connections. Screw penetration through joined materials shall not be less than three exposed threads.
- For screws, a minimum of 1.5 x screw diameter clearance must be maintained from all edges of the steel members. A minimum of 3.0 x screw diameter on-center spacing must be maintained between adjacent screws.
- Power driven fastener systems, expansion anchor systems, masonry screw systems, & adhesive anchor systems connections are based on literature for fastener requirements (e.g. spacing, edge distance, base material thickness, etc.) Alternate manufacturer's fasteners of equivalent specifications & load capacities are acceptable.
- All bottom tracks shall be fastened to each stud with #8 screws at each flange (min.).

O. POWER-ACTUATED FASTENERS (PAFs)

- This section applies to all driven pin installation methods (e.g. powder, pneumatic, electric), regardless of terminology employed.
- All PAFs shall be of the brand, size, and quantity indicated in the sections or details.
- All PAFs shall be Hilti 0.157"Ø X-U, U.N.O
- PAF length is dependent on installation penetration requirement in base material:
 - For concrete: PAFs shall have an embedment of 1-1/2".
 - For steel, the required penetration is dependent on the thickness of the steel substrate. The contractor shall select a PAF that satisfies the following requirements:
 - For steel 1/2" thickness or less, PAFs must penetrate through the full base steel thickness.
 - For steel thickness greater than 1/2", PAFs must penetrate the steel to a depth of at least 1/2" and the head of the PAF shall be flush with the surface.
 - For concrete masonry units (CMU): The PAF must penetrate 1" into the substrate.
 - The contractor must consider the thickness of the component attached to the substrate material to ensure adequate penetration or embedment. A PAF that is equal in length to the specified penetration or embedment is inadequate to comply with this requirement.
- Refer to PAF spacing and edge distance general details for minimum spacing and edge distance requirements in all base materials.
- Notify the manufacturer for instructions if PAFs are not driven flush to surface.
- Do not re-drive PAFs if they do not drive completely on the first charge. Remove and replace the PAF in question or contact the manufacturer for specific alternative instructions.
- PAFs shall not be installed into concrete until the concrete has achieved the minimum compressive strength listed in the concrete requirements of the structural general notes.
- PAFs shall not be driven into steel that is 3/16" thick or less. Notify McClure for alternate connection options.
- PAFs driven into existing concrete may cause damage. The contractor is responsible for ensuring anchors do not damage existing structure. Notify McClure if alternate anchorage requirements are needed to protect existing concrete.
- PAFs have limited use in seismic applications. Additional anchorage may be required as indicated in the details. Deferred submittals shall fully consider the most restrictive implications of ASCE 7 Section 13.1.4. and the manufacturer's product ESR for use of PAFs to resist seismic loads.
- PAF installers must be certified by the manufacturer of the PAFs being installed.
- PAFs shall not be substituted without the written approval of McClure prior to fabrication. Requests after installation may incur additional charges for evaluation.

P. CONCRETE MASONRY

- All construction shall comply with applicable provisions of the following latest ACI standards:
 - ACI 530/ASCE 52/TIMAS 402 – Building Code Requirements for Masonry Structures.
 - ACI 530.1/ASCE 6/TMS 602– Specifications for Masonry Structures.
 - IBC Chapter 21 Masonry
- Concrete block units shall conform to the requirements for Grade N Type 1, load-bearing normal-weight units per ASTM C-90. Use Grade S blocks below grade. All below grade block shall be solid grouted.
- Net area compressive strength of masonry, $f_m = 2,000 \text{ psi}$.
- Standard units shall have nominal face dimensions of 16 x 8 inches high. The minimum compressive strength of the masonry units shall be as follows:

Net Area Compressive Strength Of Masonry (f_m psi)	Net Area Compressive Strength Of Concrete Masonry Units (psi)	
	Type M or S mortar	Type N mortar
2,000	2000	2650

- Mortar for unit masonry shall be proportioned per ASTM C270. The minimum mortar compressive strength is as follows:
 - Type S: 1,800 psi
 - Type M: 2,500 psi
- Grout for unit masonry shall be proportioned per ASTM C476. The minimum grout compressive strength is the larger of 2,000 psi or f_m .
- Maximum coarse aggregate size is 3/8".
- Reinforce all CMU walls with vertical rebar full height, centered in cell as shown on the drawings. Grout reinforced cells solid.
 - When reinforcing is not specified, provide #5 @ 48" o.c., minimum.
- All vertical cells to be filled shall have vertical alignment to maintain an unobstructed cell area not less than 2 in. x 3 in.
- All bond beams shall be grouted solid and reinforced.
 - Provide bent dowels at all wall intersections – one per bond beam at corners, and two at tee intersections.
- Provide bond beams at all walls supporting roof and floor slabs.
- Grout solid under all beams and lintels for full height of wall.
- All masonry walls shall have ladder type horizontal joint reinforcement with two 9 gage wires spaced at 16" o.c. vertically, unless noted otherwise.
 - All wall intersections shall be reinforced with prefabricated tee or corner units.
- Use low lift method of grouting. Maximum grout lift = 5'-0". Alternative methods of grouting may be acceptable. Submit method for approval two weeks in advance.
- Masonry reinforcing lap lengths shall be as follows:

Bar Size	Masonry Strength, f_m (psi)
#3	12"
#4	17"
#5	27"
#6	51"
#7	69"
#8	105"
#9	132"

Notes:

 - Development length is based on 2 1/2" masonry cover for all bars. Use bar spacers to maintain cover.
- Brace all masonry walls until floor and roof framing and metal deck are installed.
 - Design and installation of bracing is the responsibility of the masonry contractor.
 - Submit bracing plan for review.
- When grouting is stopped for more than one hour, horizontal construction joints shall be formed by stopping the pour of grout 1-1/2" below the top of the uppermost course.
- Provide control joints in wall every 40 ft. Provide vertical reinforcing in first cell each side of control joint. Do not locate control joint within 2'-0" of end or opening.
- Conduit pipes and sleeves in masonry shall not displace more than 2 percent of the net cross-sectional area and shall be placed no closer than 3 diameters or widths on center.
- The Contractor shall include in his bid an allowance of 300 lbs of reinforcing steel "in place" to be used in the field as the architect or structural engineer may direct.

DISCOVERY PARK - LOT #10-A

100 NE ALURA WAY
LEE'S SUMMIT, MO 64064

SHEET TITLE
GENERAL NOTES

PROJECT NUMBER: 2023000333


SHEET NUMBER:

S003

PRINTS ISSUED

PERMIT SUBMITTAL 12/20/2024

REVISIONS:



2001 W Broadway
Columbia, MO 65203
P 573-814-1568

NOTICE:
McClure Engineering Co. is not responsible or liable for any issues, claims, damages, or losses (collectively, "Losses") which arise from failure to follow these Plans, Specifications, and the engineering intent they convey, or for Losses which arise from failure to obtain and/or follow the engineers' or surveyors' guidance with respect to any alleged errors, omissions, inconsistencies, ambiguities, or conflicts contained within the Plans or Specifications.

MISSOURI CERTIFICATE OF AUTHORITY
NO. E-2006023253
EXPIRES: DECEMBER 31, 2024



12/20/2024

DISCOVERY PARK - LOT #10-A

100 NE ALURA WAY
LEE'S SUMMIT, MO 64064

SHEET TITLE
STRUCTURAL SPECIAL
INSPECTIONS SCHEDULES

PROJECT NUMBER: 2023000333

SHEET NUMBER:

S004

STRUCTURAL STATEMENT OF SPECIAL INSPECTIONS

Project Name: Discovery Park Lee's Summit Lot 10A Address: 100 NE Alura Way, Lee's Summit, MO 64064

1. This Statement of Special Inspections is submitted as a condition for permit issuance in accordance with the Special Inspection and Structural Testing requirements of the Building Code. It includes a schedule of Special Inspection services applicable to this project as well as the name of the Special Inspector to be retained for conducting these inspections and tests.
2. The Special Inspector shall keep records of all inspections and shall furnish inspection reports to the Building Official and the Registered Design Professional in Responsible Charge. Discovered discrepancies shall be brought to the immediate attention of the Contractor for correction. If such discrepancies are not corrected, the discrepancies shall be brought to the attention of the Building Official and the Registered Design Professional in Responsible Charge. The Special Inspection program does not relieve the Contractor of his or her responsibilities.

3. Interim reports shall be submitted to the Building Official and the Registered Design Professional in Responsible Charge.
4. A Final Report of Special Inspections documenting completion of all required Special Inspections, testing and correction of any discrepancies noted in the inspections shall be submitted prior to issuance of a Certificate of Use and Occupancy.

5. Job site safety and means and methods of construction are solely the responsibility of the Contractor. This Statement of Special Inspections includes the following building systems:

- x Fabricators

x Cast-In-Place Foundations Elements

o Helical Pile Foundations

x Concrete Construction

o Masonry Construction - Level 2

o Steel Construction Other than Structural Steel

x Seismic Resistance
- x Soils

o Driven Deep Foundation Elements

o Cast-In-Place Deep Foundation Elements

x Rammed Aggregate Piers

x Masonry Construction - Level 1

x Structural Steel Construction

x Wood Construction

o Wind Resistance

6. The following components are wind-resisting components or part of the main wind-force resisting system and are subject to special inspections in accordance with the Special Inspection Schedule - Wind Resistance:
7. The following components are designated seismic systems or part of the seismic-force resisting system that are subject to special inspections in accordance with the Special Inspection Schedule - Seismic Resistance:

Wood Shear Walls with Structural Plywood or Gypsum Board Sheathing
Masonry Shear Walls
8. Special Inspection Agency:

Special Inspection Schedule: Fabricators			
Verification And Inspection Task	Applicable To This Project?	Frequency	
		Continuous	Periodic
1. Verify fabrication and implementation procedures:			
a. Steel Construction	X	-	X
b. Concrete Construction (including rebar fabrication)	X	-	X
c. Masonry Construction	X	-	X
d. Wood Construction	X	-	X
e. Cold Formed Metal Construction	-	-	X
f. Other Construction	-	-	X

Special Inspection Schedule: Soils				
Verification And Inspection Task	Applicable To This Project?	Frequency		
		Continuous	Periodic	
1. Verify materials below shallow foundations are adequate to achieve the design bearing capacity.	X	-	X	
2. Verify excavations are extended to proper depth and have reached proper material.	X	-	X	
3. Perform classification and testing of compacted fill materials.	X	-	X	
4. Verify use of proper materials, densities and lift thickness during placement and compaction of compacted fill.	X	X	-	
5. Prior to placement of compacted fill, observe subgrade and verify that site has been prepared properly.	X	-	X	

Special Inspection Schedule: Cast-In-Place Foundation Elements			
Verification And Inspection Task	Applicable To This Project?	Frequency	
		Continuous	Periodic
1. Special Inspections and verifications for concrete foundation construction in accordance with the Special Inspection Schedule: Cast-In-Place Concrete for the following foundation elements:			
a. Isolated spread concrete footings.	X	-	X
b. Continuous concrete footings supporting walls.	X	-	X
c. Concrete foundation walls.	X	X	-

Special Inspection Schedule: Concrete Construction				
Verification And Inspection Task	Applicable To This Project?	Frequency		
		Continuous	Periodic	
1. Inspect reinforcing steel, including prestressing tendons and placement.	X	-	X	
2. Inspect reinforcing steel welding in accordance with the Special Inspection Schedule: Steel Construction (other than Item 3).	X	-	-	
3. Inspect anchors cast in concrete where allowable loads have been increased or where strength design is used.	X	-	X	
4. Inspect anchors post-installed in hardened concrete members.	X	-	X	
5. Verify use of required design mix.	X	-	X	
6. At the time fresh concrete is sampled to fabricate specimens for strength tests, perform slump and air content tests and record the temperature of the concrete.	X	X	-	
7. Inspect concrete and shotcrete placement for proper application techniques.	X	X	-	
8. Inspect for maintenance of specified curing temperature and techniques.	X	-	X	
9. Inspection of Prestressed Concrete:				
a. Observe application of prestressing forces.	-	X	-	
b. Observe grouting of bonded prestressing tendons in the seismic force resisting system.	-	X	-	
10. Inspect erection of precast concrete members.	-	-	X	
11. Verify in-situ concrete strength prior to stressing of tendons in post-tensioned concrete and prior to removal of shores and forms from beams and structural slabs.	-	-	X	
12. Inspect formwork for shape, location, and dimensions of the concrete member being formed.	X	-	X	


Special Inspection Schedule: Structural Steel Construction			
Verification And Inspection Task	Applicable To This Project?	Frequency	
		Continuous	Periodic
1. Material verification of high-strength bolts, nuts and washers:			
a. Identification markings to conform to ASTM standards specified in the approved construction documents.	X	-	X
b. Manufacturer's certificate of compliance required.	X	-	X
2. Inspection of high-strength bolting:			
a. Snug-tight joints.	X	-	X
b. Pretensioned and slip-critical joints using turn-of-nut with match marking, twist-off bolt, or direct tension indicator methods of installation.	-	-	X
c. Pretensioned and slip-critical joints using turn-of-nut without match marking or calibrated wrench methods of installation.	-	X	-
3. Material verification of structural steel:			
a. Identification markings to conform to ASTM standards specified in the approved Construction Documents and AISC 360.	X	-	X
b. Manufacturer's certified test reports.	X	-	X
4. Material verification of weld filler materials:			
a. Identification markings to conform to AWS specification in the approved Construction Documents.	X	-	X
b. Manufacturer's certificate of compliance required.	X	-	X
5. Inspection of welding, structural steel:			
a. Complete and partial penetration groove welds.	X	X	-
b. Multi-pass fillet welds.	X	X	-
c. Single-pass fillet welds > 5/16".	X	X	-
d. Single-pass fillet welds < 5/16".	X	-	X
6. Inspection of steel frame joint details for compliance with approved Construction Documents:			
a. Details such as bracing and stiffening.	X	-	X
b. Member locations.	X	-	X
c. Application of joint details at each connection.	X	-	X

Special Inspection Schedule: Wood Construction				
Verification And Inspection Task	Applicable To This Project?	Frequency		
		Continuous	Periodic	
1. Inspection of high-load diaphragms:				
a. Verify wood structural panel sheathing is of the grade and thickness shown on the Construction Documents.	X	-		X
b. Verify nominal size of framing members at adjoining panel edges agrees with the Construction Documents.	X	-		X
c. Verify fastener diameter and length, number of fastener lines, the spacing of the fasteners, and the edge margins agree with the Construction Documents.	X	-		X
2. Inspection of metal-plate-connected wood trusses spanning 60 feet or greater:				
a. Verify temporary installation restraint/bracing are installed in accordance with approved truss submittal package.	-	-		X
b. Verify permanent individual truss member restraint/bracing are installed in accordance with approved truss submittal package.	-	-		X

Special Inspection Schedule: Masonry Construction - Level 1				
Verification And Inspection Task	Applicable To This Project?	Frequency		
		Continuous	Periodic	
1. Compliance with required inspection provisions of the Construction Documents and the approved submittals shall be verified.	-	-	X	
2. Verify fm and faac prior to construction except where specifically exempted by the building code.	-	-	X	
3. Verify slump flow and VSI as delivered to the site for self-consolidating grout.	-	X	-	
4. As masonry construction begins, the following shall be verified to ensure compliance:				
a. Proportions of site-prepared mortar.	-	-	X	
b. Construction of mortar joints.	-	-	X	
c. Location of reinforcement, connectors, prestressing tendons, and anchorages.	-	-	X	
d. Prestressing technique.	-	-	X	
e. Grade and size of prestressing tendons and anchorages.	-	-	X	
5. During construction, the inspection program shall verify:				
a. Size and location of structural elements.	-	-	X	
b. Type, size, and location of anchors, including other details of anchorage of masonry to structural members, frames, or other construction.	-	-	X	
c. Specified size, grade, and type of reinforcement, anchor bolts, prestressing tendons, and anchorages.	-	-	X	
d. Welding of reinforcing bars.	-	X	-	
e. Preparation, construction, and protection of masonry during cold weather (temperature < 40°F) or hot weather (temperature > 90°F).	-	-	X	
f. Application and measurement of prestressing force.	-	X	-	
6. Prior to grouting, the following shall be verified to ensure compliance:				
a. Grout space is clean.	-	-	X	
b. Placement of reinforcement, connectors, prestressing tendons, and anchorages.	-	-	X	
c. Proportions of site-prepared grout and prestressing grout for bonded tendons.	-	-	X	
d. Construction of mortar joints.	-	-	X	
7. Grout placement shall be verified to ensure compliance with Building Code and Construction Document provisions.				
a. Grouting of prestressing bonded tendons.	-	X	-	
8. Preparation of any required grout specimens, mortar specimens, and/or prisms shall be observed.				
	-	-	X	

Special Inspection Schedule: Seismic Resistance				
Verification And Inspection Task	Applicable To This Project?	Frequency		
		Continuous	Periodic	
1. Inspection of pier foundations:				
a. Inspect placement of reinforcement.	X	-	X	
b. Inspect placement of concrete.	X	-	X	
2. Inspection of concrete reinforcement:				
a. Verify certified mill test reports comply with ACI 318 Chapter 21 requirements.	X	-	X	
b. Where reinforcing complying with ASTM A615 is to be welded, chemical tests shall be performed to determine weldability.	X	-	X	
3. Inspection of structural steel.				
a. Inspections shall be in accordance with the quality assurance plan requirements of AISC 341.	X	-	X	
4. Inspection of cold-formed steel framing:				
a. Inspect welding operations of elements of the seismic force resisting system.	X	-	X	
b. Inspect screw attachment, bolting, anchoring, and other fastening of components within the seismic force resisting system including shear walls, braces, diaphragms, collectors (drag struts), and hold downs.	X	-	X	
5. Inspection of structural wood:				
a. Inspect field gluing operations of elements of the seismic force resisting system.	X	X		
b. Inspect nailing, bolting, anchoring, and other fastening of components within the seismic force resisting system including wood shear walls, wood diaphragms, drag struts, braces, shear panels, and hold downs.	X	-	X	
6. Inspection of storage racks:				
a. Inspect anchorage of storage racks 8 feet or greater in height.	-	-	X	
7. Inspection of architectural components:				
a. Inspect erection and fastening of exterior cladding.	X	-	X	
b. Inspect erection and fastening of interior and exterior nonbearing walls.	X	-	X	
c. Inspect erection and fastening of interior and exterior veneer.	X	-	X	
d. Inspect anchorage of access floors.	-	-	X	
9. Inspection of designated seismic systems:				
a. Verify label, anchorage, or mounting conforms to the certificate of compliance.	-	-	X	
10. Inspection of seismic isolation systems:				
a. Inspect the fabrication and installation of isolator units and energy dissipation devices that are part of the seismic isolation system.	-	-	X	

PRINTS ISSUED
PERMIT SUBMITTAL 12/20/2024
REVISIONS:



2001 W Broadway
Columbia, MO 65203
P 573-814-1568

NOTICE:
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MISSOURI CERTIFICATE OF AUTHORITY
NO. E-2006023253
EXPIRES: DECEMBER 31, 2024



12/20/2024

DISCOVERY PARK - LOT #10-A

100 NE ALURA WAY
LEE'S SUMMIT, MO 64064

SHEET TITLE
SCHEDULES

PROJECT NUMBER: 2023000333
SHEET NUMBER:

S005

SCHEDULE OF MINIMUM NAILING FOR STANDARD CONNECTIONS (1)											
CONNECTION (2) (3) IN INCHES	NUMBER - OR SPACING - OF FASTENERS REQUIRED PER CONNECTION										
	NAIL LENGTHS ARE MINIMUM, NOMINAL LENGTHS, IN INCHES. NAIL SHANK DIAMETERS ARE MINIMUM NOMINAL DIAMETERS										
	3-1/2X0.162	3X0.148	3-1/4X0.131	3X0.131	2-1/2X0.131	3-1/4X0.120	3X0.120	2-3/8X0.113	2X0.113	2-1/4X0.105	2-1/4X0.099
EQUIVALENT COMMON NAIL	16d	10d			8d				6d		
FLOOR FRAMING											
JOIST TO BAND JOISTS	3	5	5	5	N/A	6	6	N/A	N/A	N/A	N/A
LEDGER STRIP	3	4	4	4	6	4	4	N/A	N/A	N/A	N/A
JOIST TO SILL OR GIRDER	3	3	3	3	3	4	4	N/A	N/A	N/A	N/A
BLOCKING BETWEEN JOIST OR RAFTER TO TOP PLATE	3	3	3	4	3	4	4	N/A	N/A	N/A	N/A
BRIDGING TO JOIST	N/A	N/A	N/A	N/A	2	3	3	3	4	3	4
RIM JOIST TO TOP PLATE	8" O.C.	6" O.C.	6" O.C.	6" O.C.	6" O.C.	6" O.C.	4" O.C.	6" O.C.	3 O.C.	3" O.C.	3" O.C.
BUILT-UP GIRDERS & BEAMS											
SPACING ALONG EDGES	24" O.C.	24" O.C.	24" O.C.	24" O.C.	16" O.C.	16" O.C.	16" O.C.	N/A	N/A	N/A	N/A
# AT ENDS & SPLICES	3	3	3	3	3	4	3	3	N/A	N/A	N/A
CEILING & ROOF FRAMING											
CEILING JOISTS TO PLATE	3	4	5	5	5	5	5	6	N/A	N/A	N/A
CEILING JOISTS, LAPS OVER PARTITIONS	3	4	4	4	6	4	4	N/A	N/A	N/A	N/A
CEILING JOISTS TO PARALLEL RAFTER	3	4	4	4	6	4	4	N/A	N/A	N/A	N/A
COLLAR TIE TO RAFTER	3	3	4	4	5	4	4	N/A	N/A	N/A	N/A
JACK FRAFTER TO HIP (TOE-NAILED)	3	3	4	4	5	4	4	N/A	N/A	N/A	N/A
JACK RAFTER TO HIP (FACE-NAILED)	2	3	3	3	3	4	4	N/A	N/A	N/A	N/A
ROOF RAFTER TO PLATE	3	3	3	3	3	4	4	5	5	5	5
ROOF RAFTER TO 2X RIDGE BEAM (DRIVEN THRU BEAM INTO END OF RIDGE)	2	3	3	3	---	4	4	N/A	N/A	N/A	N/A
ROOF RAFTER TO 2X RIDGE BEAM (TOE-NAIL RAFTER TO BEAM)	2	3	3	3	3	4	4	N/A	N/A	N/A	N/A
WALL FRAMING											
TOP OR SOLE PLATE TO STUD (END-NAILED)	2	3	3	3	5	4	4	N/A	N/A	N/A	N/A
STUD TO TOP OR SOLE PLATE (TOE-NAILED)	2	3	3	3	5	4	4	5	5	5	5
CAP/TOP PLATE LAPS & INTERSECTIONS (EACH SIDE OF LAP)	2	3	3	3	4	4	4	N/A	N/A	N/A	N/A
DIAGONAL BRACING	2	2	2	2	2	3	3	3	4	4	4
SOLE PLATE TO JOIST OR BLOCKING @ BRACED PANELS (#16" JOIST SPACE)	2	3	3	4	---	4	4	N/A	N/A	N/A	N/A
SOLE PLATE TO JOIST OR BLOCKING	16" O.C.	8" O.C.	8" O.C.	8" O.C.	6" O.C.	8" O.C.	8" O.C.	N/A	N/A	N/A	N/A
DOUBLE TOP PLATE	16" O.C.	16" O.C.	12" O.C.	12" O.C.	8" O.C.	12" O.C.	12" O.C.	N/A	N/A	N/A	N/A
DOUBLE STUDS	12" O.C.	12" O.C.	8" O.C.	8" O.C.	6" O.C.	8" O.C.	8" O.C.	N/A	N/A	N/A	N/A
CORNER STUDS	24" O.C.	16" O.C.	16" O.C.	16" O.C.	8" O.C.	12" O.C.	12" O.C.	N/A	N/A	N/A	N/A


- N/A - FASTENER NOT APPLICABLE TO CONNECTION
1. THIS FASTENING SCHEDULE APPLIES TO FRAMING MEMBERS HAVING AN ACTUAL THICKNESS OF 1 1/2" (NUMBER "2X" LUMBER)
2. FASTENINGS LISTED ABOVE MAY ALSO BE USED FOR OTHER CONNECTIONS THAT ARE NOTE LISTED BUT THAT HAVE THE SAME CONFIGURATION & THE FASTENER QUANTITY/SPACING & FASTENER SIZE (PENNYWIGHT & STYLE, E.G., 8d COMMON, "8-PENNY COMMON NAIL")
3. FASTENING SCHEDULE ONLY APPLIES TO BUILDINGS OF CONVENTIONAL WOOD FRAM CONSTRUCTION. CONNECTIONS OF SHEAR WALLS & FLOOR & SHOWN ON THE DRAWINGS.

WOOD SHEAR WALL SCHEDULE						
Mark	Level	Sheathing/ Fastener Layout	Post	Hold-Down	Min. Sill/Top Plate	Base Connection
SWA	Level 2	(1) Sided, Wood Structural Panels - S1 - 15/32" Thick, 10d Nail, 6" Edge fastening Unblocked	(2) 2x4	HTT4 w/ (18) 0.162Øx2-1/2" & 5/8"Ø Anchor Rod	(1) 2x4	(2) 10d Nails @ 8" o.c.
	Level 1	(1) Sided, Wood Structural Panels - S1 - 15/32" Thick, 10d Nail, 6" Edge fastening Unblocked	(3) 2x4	HTT4 w/ (18) 0.162Øx2-1/2" & 5/8"Ø Anchor Rod (6" Embedment)	(1) 2x4	1/2"Ø Hilti Kwik HUS-EZ w/ 1-3/4" Embedment @ 48" o.c.
SWB	Level 2	(1) Sided, Wood Structural Panels - S1 - 15/32" Thick, 10d Nail, 4" Edge fastening Unblocked	(2) 2x6	HDU8-SDS2.5 w/ (20) 1/4"Øx2-1/2"SDS Screws & 7/8"Ø Anchor Rod	(1) 2x6	(2) 10d Nails @ 8" o.c.
	Level 1	(1) Sided, Wood Structural Panels - S1 - 15/32" Thick, 10d Nail, 3" Edge fastening Unblocked	(3) 2x6	HD12 w/ (4) 1"Ø Bolts & 1-1/8"Ø Anchor Rod (16" Embedment)	(1) 2x6	1/2"Ø Hilti Kwik HUS-EZ w/ 1-3/4" Embedment @ 16" o.c.
SWC	Level 4	(1) Sided, Wood Structural Panels - S1 - 15/32" Thick, 10d Nail, 3" Edge fastening Unblocked	(2) 2x6	HDU8-SDS2.5 w/ (20) 1/4"Øx2-1/2"SDS Screws & 7/8"Ø Anchor Rod	(1) 2x6	(2) 10d Nails @ 4" o.c.
	Level 3	(2) Sided, Wood Structural Panels - S1 - 15/32" Thick, 10d Nail, 3" Edge fastening Unblocked	(4) 2x6	HD19 w/ (5) 1"Ø Bolts & 1-1/4"Ø Anchor Rod	(1) 2x6	1/2"Ø Hilti Kwik HUS-EZ w/ 1-3/4" Embedment @ 6" o.c.
SWD	Level 4	(1) Sided, Wood Structural Panels - S1 - 15/32" Thick, 10d Nail, 4" Edge fastening Unblocked	(2) 2x6	HTT4 w/ (18) 0.162Øx2-1/2" & 5/8"Ø Anchor Rod	(1) 2x6	(2) 10d Nails @ 6" o.c.
	Level 3	(1) Sided, Wood Structural Panels - S1 - 15/32" Thick, 10d Nail, 4" Edge fastening Unblocked	(3) 2x6	HD12 w/ (4) 1"Ø Bolts & 1-1/8"Ø Anchor Rod	(1) 2x6	1/2"Ø Hilti Kwik HUS-EZ w/ 1-3/4" Embedment @ 16" o.c.
SWE	Level 4	(1) Sided, Wood Structural Panels - S1 - 15/32" Thick, 10d Nail, 4" Edge fastening Unblocked	(4) 2x4	HTT4 w/ (18) 0.162Øx2-1/2" & 5/8"Ø Anchor Rod	(1) 2x4	(2) 10d Nails @ 6" o.c.
	Level 3	(1) Sided, Wood Structural Panels - S1 - 15/32" Thick, 10d Nail, 4" Edge fastening Unblocked	(7) 2x4	HD12 w/ (4) 1"Ø Bolts & 1-1/8"Ø Anchor Rod	(1) 2x4	1/2"Ø Hilti Kwik HUS-EZ w/ 1-3/4" Embedment @ 16" o.c.
SWF	Level 4	(1) Sided, Wood Structural Panels - S1 - 15/32" Thick, 10d Nail, 6" Edge fastening Unblocked	(2) 2x4	HTT4 w/ (18) 0.162Øx2-1/2" & 5/8"Ø Anchor Rod	(1) 2x4	(2) 10d Nails @ 8" o.c.
	Level 3	(1) Sided, Wood Structural Panels - S1 - 15/32" Thick, 10d Nail, 4" Edge fastening Unblocked	(4) 2x4	HDU8-SDS2.5 w/ (20) 1/4"Øx2-1/2"SDS Screws & 7/8"Ø Anchor Rod	(1) 2x4	1/2"Ø Hilti Kwik HUS-EZ w/ 1-3/4" Embedment @ 32" o.c.
SWG	Level 4	(1) Sided, Wood Structural Panels - S1 - 15/32" Thick, 10d Nail, 4" Edge fastening Unblocked	(2) 2x6	HTT4 w/ (18) 0.162Øx2-1/2" & 5/8"Ø Anchor Rod	(1) 2x6	(2) 10d Nails @ 8" o.c.
	Level 3	(1) Sided, Wood Structural Panels - S1 - 15/32" Thick, 10d Nail, 4" Edge fastening Unblocked	(2) 2x6	HD12 w/ (4) 1"Ø Bolts & 1-1/8"Ø Anchor Rod	(1) 2x6	1/2"Ø Hilti Kwik HUS-EZ w/ 1-3/4" Embedment @ 24" o.c.

- Notes:
1. See S540 for typical shear wall framing
2. All hold down embedded anchors in concrete shall use Hilti HIT-HY 500 V3 Adhesive or Equivalent
3. All threaded rods shall be F1554 GR105
4. Floor to floor strap ties at top of wall shall match that of the floor above.
5. All hold downs and strap ties are Simpson Strong-Tie brand, U.N.O.
6. Bottom sill plate connections shall have a 3"x3"x1/4" steel plate washer at each anchor bolt on shear walls only.
7. All drag trusses shall be connected to shear walls per detail 2/S540.
8. Provide floor to floor strapping on the same side as the OSB sheathing.

DRAG TRUSS DESIGN LOAD	
Location Description	Design Wind Load Required For Transfer To Structure Below
Roof - Shear Blocking Panels At Exterior Walls	300 PLF
Roof - Trusses Parallel To Shear Walls	200 PLF

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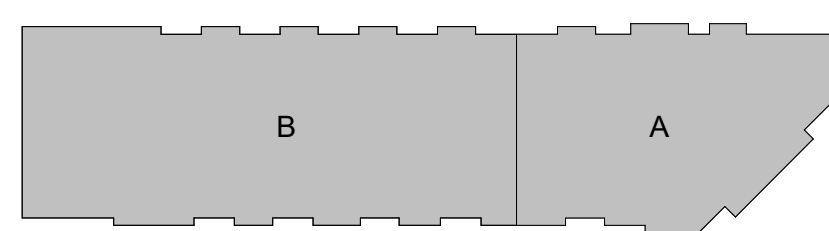
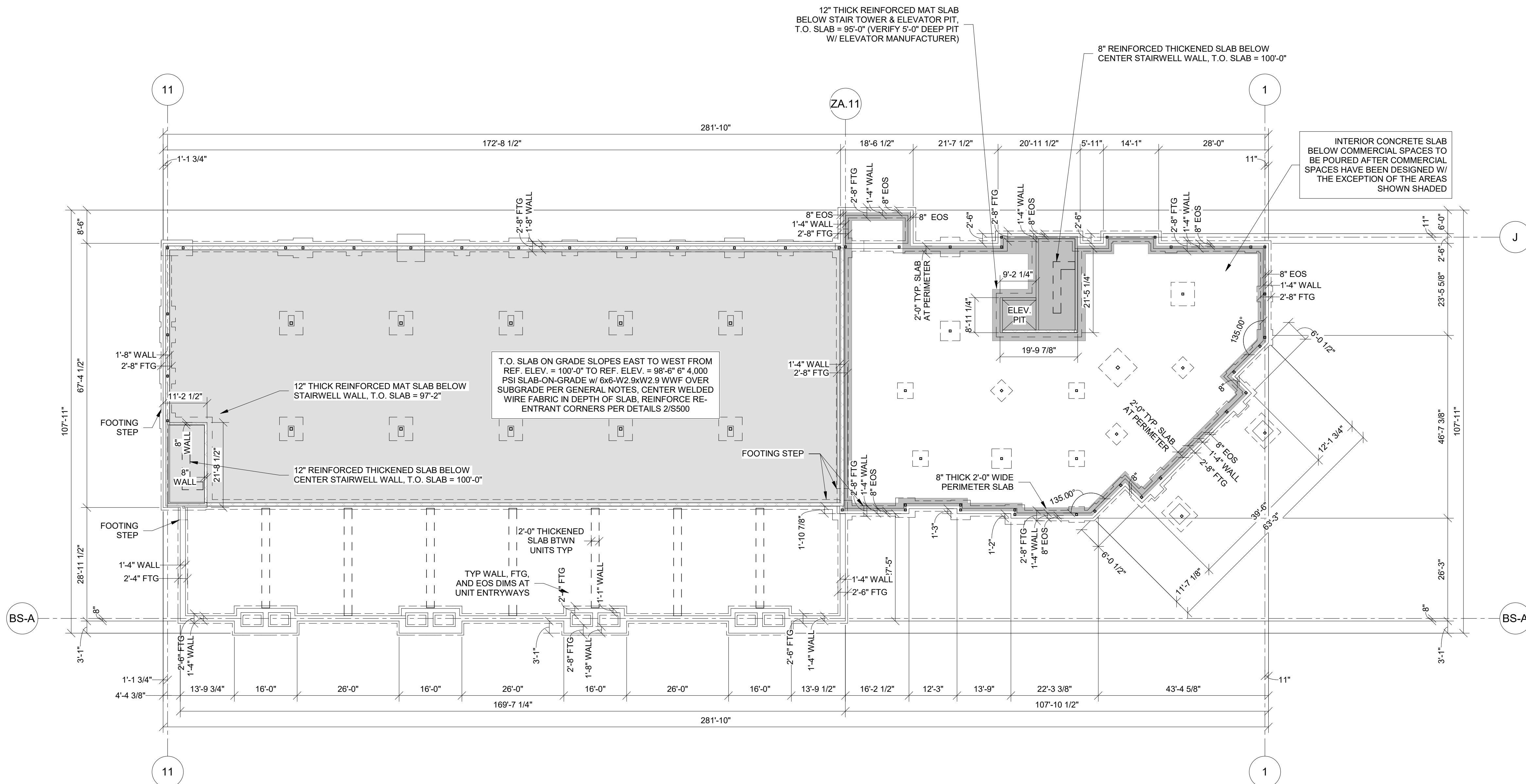
12/20/2024

DISCOVERY PARK - LOT #10-A

100 NE ALURA WAY
LEE'S SUMMIT, MO 64064

SHEET TITLE
EXTERIOR FOUNDATION WALL &
SLAB-ON-GRADE DIMENSION
PLAN
PROJECT NUMBER: 2023000333
SHEET NUMBER:

S100



PRINTS ISSUED
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1 XX/XX/XX Addendum #1

- FOUNDATION PLAN NOTES:
- SEE ARCHITECTURAL DRAWINGS FOR SITE PLAN BENCHMARK ELEVATION. FOR REFERENCE ELEVATIONS, SEE BELOW (VERIFY ALL ELEVATIONS AND DIMENSIONS WITH ARCHITECTURAL DRAWINGS.)
 - LEVEL 01 T.O. SLAB 100'-0"
 - PARKING T.O. SLAB VARIES. SEE PLAN
 - PROVIDE CONTROL JOINTS IN SLAB ON GRADE PER DETAIL 4/ S500 AND PER GENERAL NOTES.
 - PLUMBING FIXTURES AND FLOOR DRAINS ARE TO BE COORDINATED PER ARCH. & MEP DRAWINGS.
 - REFER TO MANUFACTURER'S GUIDELINES FOR INSTALLATION OF STRAP TIES, HOLD DOWNS & OTHER CONNECTIONS.
 - SEE S500 SERIES SHEETS FOR SECTIONS & DETAILS.
 - SEE SHEET S100 FOR FOUNDATION WALL DIMENSIONS

FOOTING SCHEDULE		
Mark	Size	Reinforcing
F3.0	3'-0"x3'-0"x1'-0"	(3) #5 BARS BOT EA WAY
F4.0	4'-0"x4'-0"x1'-0"	(4) #5 BARS BOT EA WAY
F4.0xF4.3	4'-0"x4'-4"x1'-0"	(4) #5 BARS BOT EA WAY
F5.0	5'-0"x5'-0"x1'-0"	(5) #5 BARS BOT EA WAY
F6.0	6'-0"x6'-0"x1'-4"	(6) #5 BARS BOT EA WAY
F7.0	7'-0"x7'-0"x1'-4"	(7) #7 BARS BOT EA WAY
F6.0X7.0	8'-0"x8'-0"x2'-0"	(6) #7 BARS BOT, LONG (7) #7 BARS BOT, SHORT
F4.0X8.0	4'-0"x8'-0"x1'-4"	(4) #5 BARS BOT, LONG (8) #5 BARS BOT, SHORT

Notes:
1. All footings must be centered on walls and columns U.N.O.

FOUNDATION LEGEND	
F#	FOOTING TYPE
P#	PIER TYPE
BP#	BASE PLATE TYPE

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DISCOVERY PARK - LOT #10-A

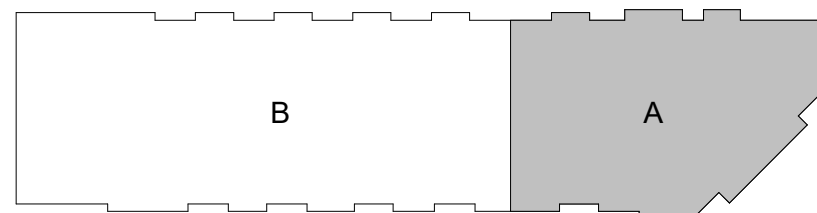
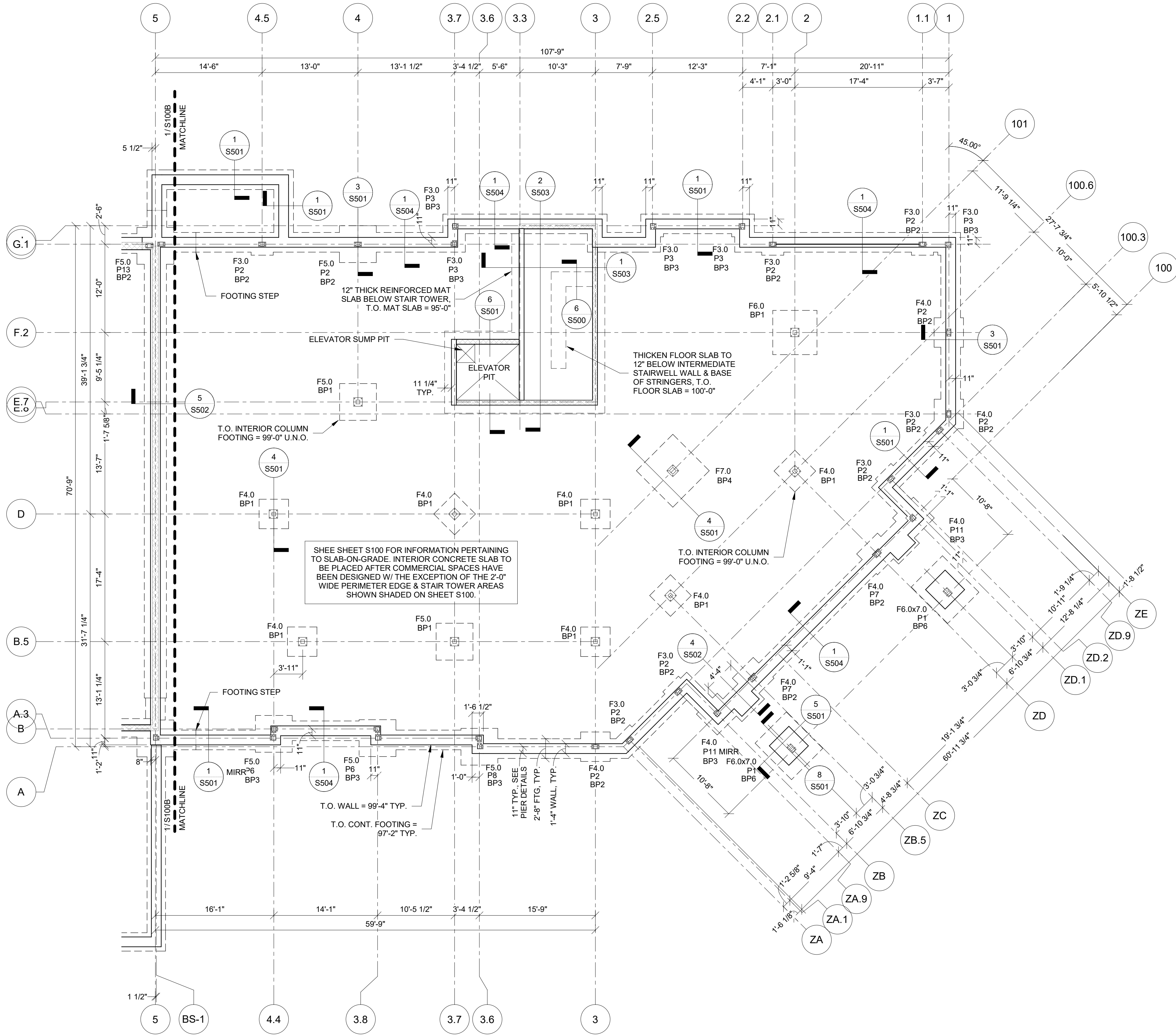
100 NE ALURA WAY
LEE'S SUMMIT, MO 64064

SHEET TITLE
FOUNDATION PLAN ZONE A

PROJECT NUMBER: 2023000333

SHEET NUMBER:

S100A



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DISCOVERY PARK - LOT #10-A
100 NE ALURA WAY
LEE'S SUMMIT, MO 64064

SHEET TITLE
FOUNDATION PLAN ZONE B
PROJECT NUMBER: 2023000333
SHEET NUMBER:

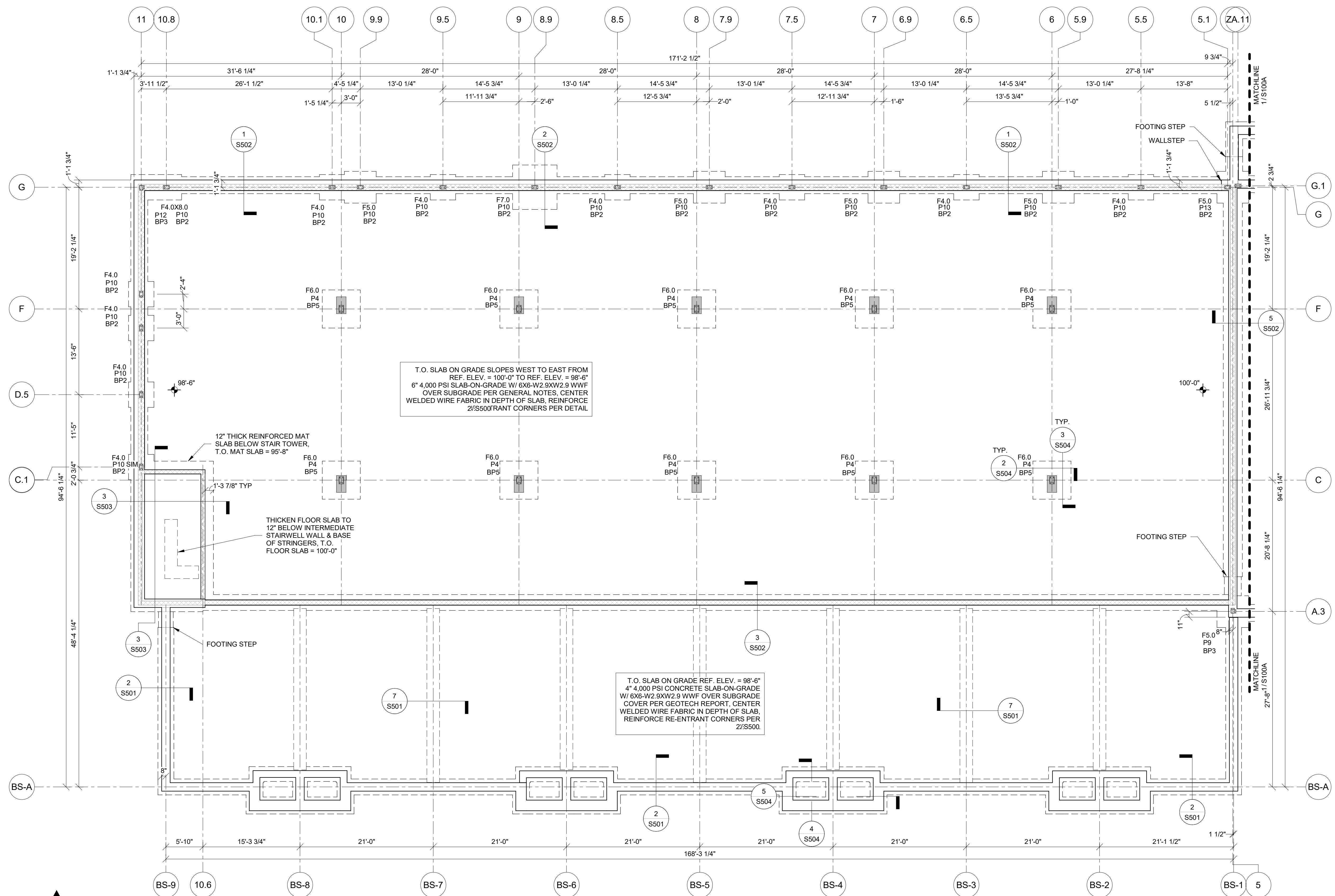
S100B

- FOUNDATION PLAN NOTES:
- SEE ARCHITECTURAL DRAWINGS FOR SITE PLAN BENCHMARK ELEVATION. FOR REFERENCE ELEVATIONS, SEE BELOW (VERIFY ALL ELEVATIONS AND DIMENSIONS WITH ARCHITECTURAL DRAWINGS.)
 - LEVEL 01 T.O. SLAB 100'-0"
 - PARKING T.O. SLAB VARIES, SEE PLAN
 - PROVIDE CONTROL JOINTS IN SLAB ON GRADE PER DETAIL 4/ S500 AND PER GENERAL NOTES.
 - PLUMBING FIXTURES AND FLOOR DRAINS ARE TO BE COORDINATED PER ARCH. & MEP DRAWINGS.
 - REFER TO MANUFACTURER'S GUIDELINES FOR INSTALLATION OF STRAP TIES, HOLD DOWNS & OTHER CONNECTIONS.
 - SEE S500 SERIES SHEETS FOR SECTIONS & DETAILS.
 - SEE SHEET S100 FOR FOUNDATION WALL DIMENSIONS

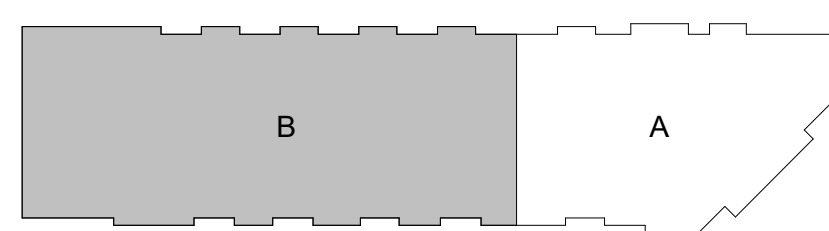
Mark	Size	Reinforcing
F3.0	3'-0"x3'-0"x1'-0"	(3) #5 BARS BOT EA WAY
F4.0	4'-0"x4'-0"x1'-0"	(4) #5 BARS BOT EA WAY
F4.0xF4.3	4'-0"x4'-4"x1'-0"	(4) #5 BARS BOT EA WAY
F5.0	5'-0"x5'-0"x1'-0"	(5) #5 BARS BOT EA WAY
F6.0	6'-0"x6'-0"x1'-4"	(6) #5 BARS BOT EA WAY
F7.0	7'-0"x7'-0"x1'-4"	(7) #7 BARS BOT EA WAY
F6.0X7.0	8'-0"x8'-0"x2'-0"	(6) #7 BARS BOT, LONG (7) #7 BARS BOT, SHORT
F4.0X8.0	4'-0"x8'-0"x1'-4"	(4) #5 BARS BOT, LONG (8) #5 BARS BOT, SHORT

Notes:
1. All footings must be centered on walls and columns U.N.O.

FOUNDATION LEGEND		
F#	FOOTING TYPE	
P#	PIER TYPE	
BP#	BASE PLATE TYPE	




1 FOUNDATION PLAN ZONE B
S100B
1/8" = 1'-0"



CMU WALL SCHEDULE		
Mark	Nominal Width (in)	Vertical Reinforcing
CMU1	8	#5 @ 16" o.c.
CMU2	8	#5 @ 8" o.c. Each Face
CMU3	10	#5 @ 48" o.c. Each Face

Notes:
1. See details on S520 for typical construction

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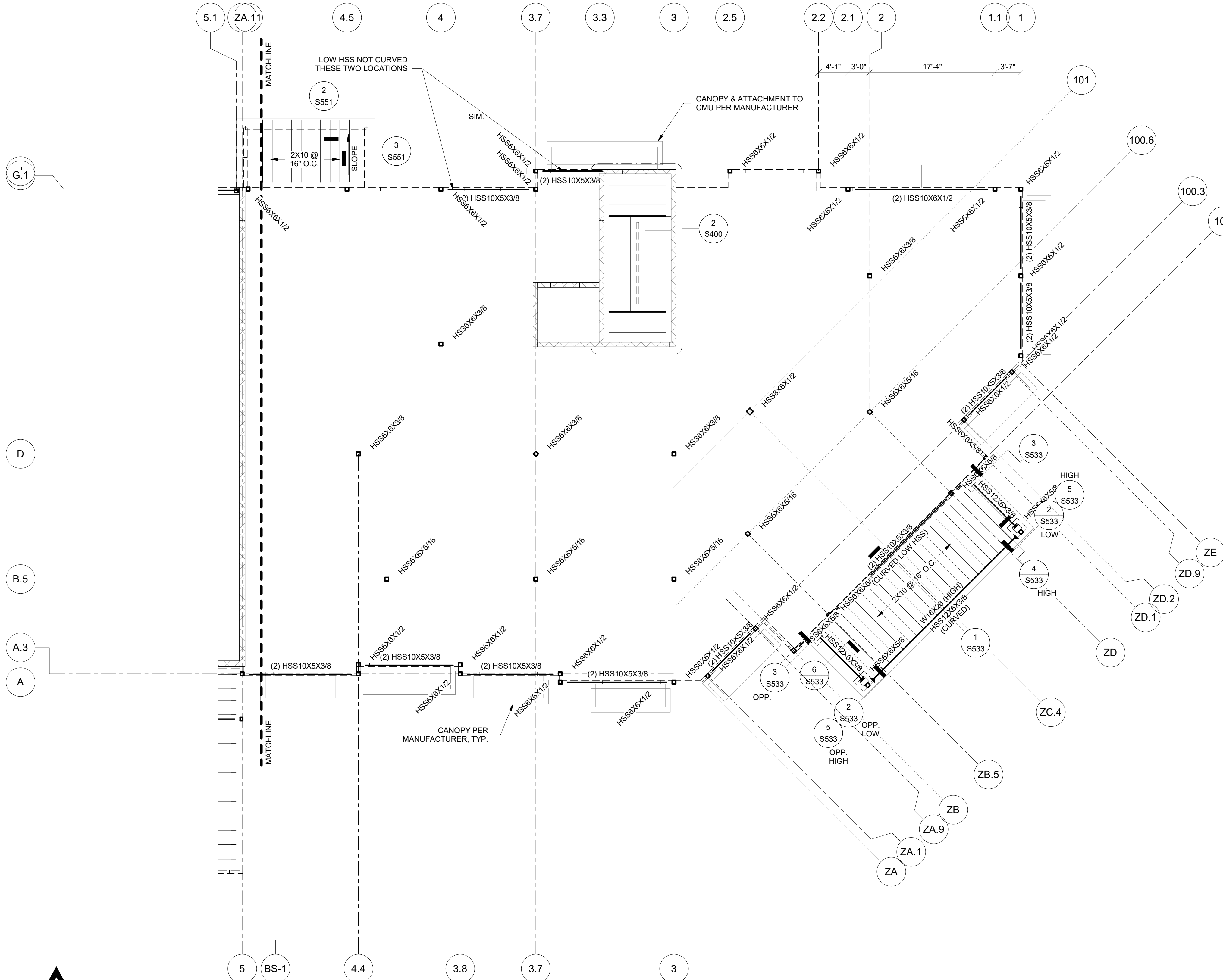
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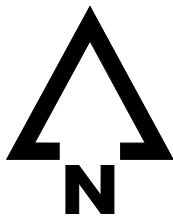
DISCOVERY PARK - LOT #10-A

100 NE ALURA WAY
LEE'S SUMMIT, MO 64064

SHEET TITLE
LEVEL 2 BROWNSTONES ZONE A
FRAMING PLAN
PROJECT NUMBER: 2023000333
SHEET NUMBER:

S101A





1
S101A

BROWNSTONE FLOOR FRAMING PLAN
1/8" = 1'-0"

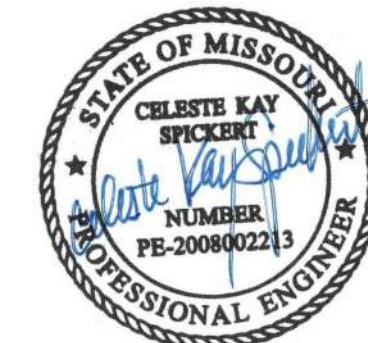
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DISCOVERY PARK - LOT #10-A

100 NE ALURA WAY
LEE'S SUMMIT, MO 64064

SHEET TITLE
LEVEL 2 BROWNSTONES ZONE B
FRAMING PLAN

PROJECT NUMBER: 2023000333

SHEET NUMBER:

S101B

LEVEL 2 BROWNSTONES PLAN NOTES:

- SEE ARCHITECTURAL DRAWINGS FOR SITE PLAN BENCHMARK ELEVATION. FOR REFERENCE ELEVATION, SEE BELOW. (VERIFY ALL ELEVATIONS AND DIMENSIONS WITH ARCHITECTURAL DRAWINGS.)
 - LEVEL 2 BROWNSTONES T.O. SHEATHING 108'-9 7/8" U.N.O.
- FLOOR SHEATHING IS TO BE 3/4" STRUCTURAL GRADE PLYWOOD FASTENED TO FRAMING W/ 10d COMMON NAILS SPACED 6" O.C. AT EDGES, 12" O.C. WITHIN FIELD.
- PLUMBING FIXTURES, SHAFTS, AND FLOOR DRAINS ARE TO BE COORDINATED PER ARCH. & MEP DRAWINGS.
- SEE ARCHITECTURAL FLOOR PLAN FOR NON-BEARING WALL, DOOR, AND WINDOW LOCATIONS.
- WALLS SHOWN ARE BELOW.
- SEE ARCHITECTURAL DRAWINGS FOR ALL RAILING DETAILS. REFER TO GENERAL NOTES FOR DESIGN CRITERIA.
- REFER TO MANUFACTURER'S GUIDELINES FOR INSTALLATION OF STRAP TIES, HOLD DOWNS & OTHER CONNECTIONS.
- ALL EXTERIOR LUMBER (POSTS, BEAMS, DECKING, ETC.) TO BE TREATED.
- WOOD FLOOR TRUSSES TO BE DESIGNED BY OTHERS AND ARE SHOWN FOR THE INTENT OF SPAN DIRECTION AND LOAD PATH ONLY. REFER TO GENERAL NOTES FOR DESIGN CRITERIA.
- TRUSS MANUFACTURER TO DESIGN & PROVIDE GIRDER TRUSSES AT ALL FLOOR OPENINGS & SPECIFY HANGERS FOR GIRDERS & SUPPORTING FRAMING.
- REFER TO ARCHITECTURAL PLANS FOR STAIR DIMENSIONS AND REQUIREMENTS. REFER TO STRUCTURAL GENERAL NOTES FOR STAIR DESIGN CRITERIA.

WOOD POST SCHEDULE	
Mark	Size
C1	(3) 2x6
C2	(3) 2x4
C3	(4) 2x4
C4	(6) 2x4

Notes:

- All exterior columns are to be pressure treated U.N.O.
- Exterior columns supporting canopy to be Western Cedar or Redwood Grade 1 or better.

LVL BEAM SCHEDULE	
Mark	Size
B1	(4) 1 3/4" x 11 7/8" LVL
B2	(3) 1 3/4" x 11 7/8" LVL
B3	(2) 1 3/4" x 11 7/8" LVL

Notes:

- All LVL beam shall be stress class 2.0E-2500F

WOOD HANGER SCHEDULE	
Joist Size	Hanger
2x4	LUS24
2x6	LUS26
2x8	LUS26
2x10	LUS28

Notes:

- Hangers to be installed with typical fasteners per manufacturer product data.
- All exterior members are to be pressure treated.

CMU WALL SCHEDULE		
Mark	Nominal Width (in)	Vertical Reinforcing
CMU1	8	#5 @ 16" o.c.
CMU2	8	#5 @ 8" o.c. Each Face
CMU3	10	#5 @ 48" o.c. Each Face

Notes:

- See details on S520 for typical construction

TYPICAL WALL HEADER SCHEDULE (WALLS SHOWN ON FRAMING PLAN ARE LEVEL BELOW)							
Header Type	Header	Kings/Jacks					
		Level 1 Brownstone		Level 2 Brownstone		Level 2 Main Bldg	
		Level 1 Brownstone	Level 2 Brownstone	Level 2 Main Bldg	Level 3 Main Bldg	Level 2 Main Bldg	Level 3 Main Bldg
HA	(3) 2x8	(2) 2x6 K	(1) 2x6 J	(2) 2x6 K	(1) 2x6 J	---	---
HB	(3) 2x10	(3) 2x6 K	(1) 2x6 J	(3) 2x6 K	(1) 2x6 J	---	---
HC	(3) 2x12	(2) 2x6 K	(1) 2x6 J	(2) 2x6 K	(1) 2x6 J	---	---
HD	(3) 2x8	---	---	---	---	(2) 2x6 K	(1) 2x6 J
HE	(3) 2x10	---	---	---	---	(2) 2x6 K	(1) 2x6 J
HF	(2) LVL 1 3/4"x11 7/8"	---	---	---	---	(3) 2x6 K	(1) 2x6 J

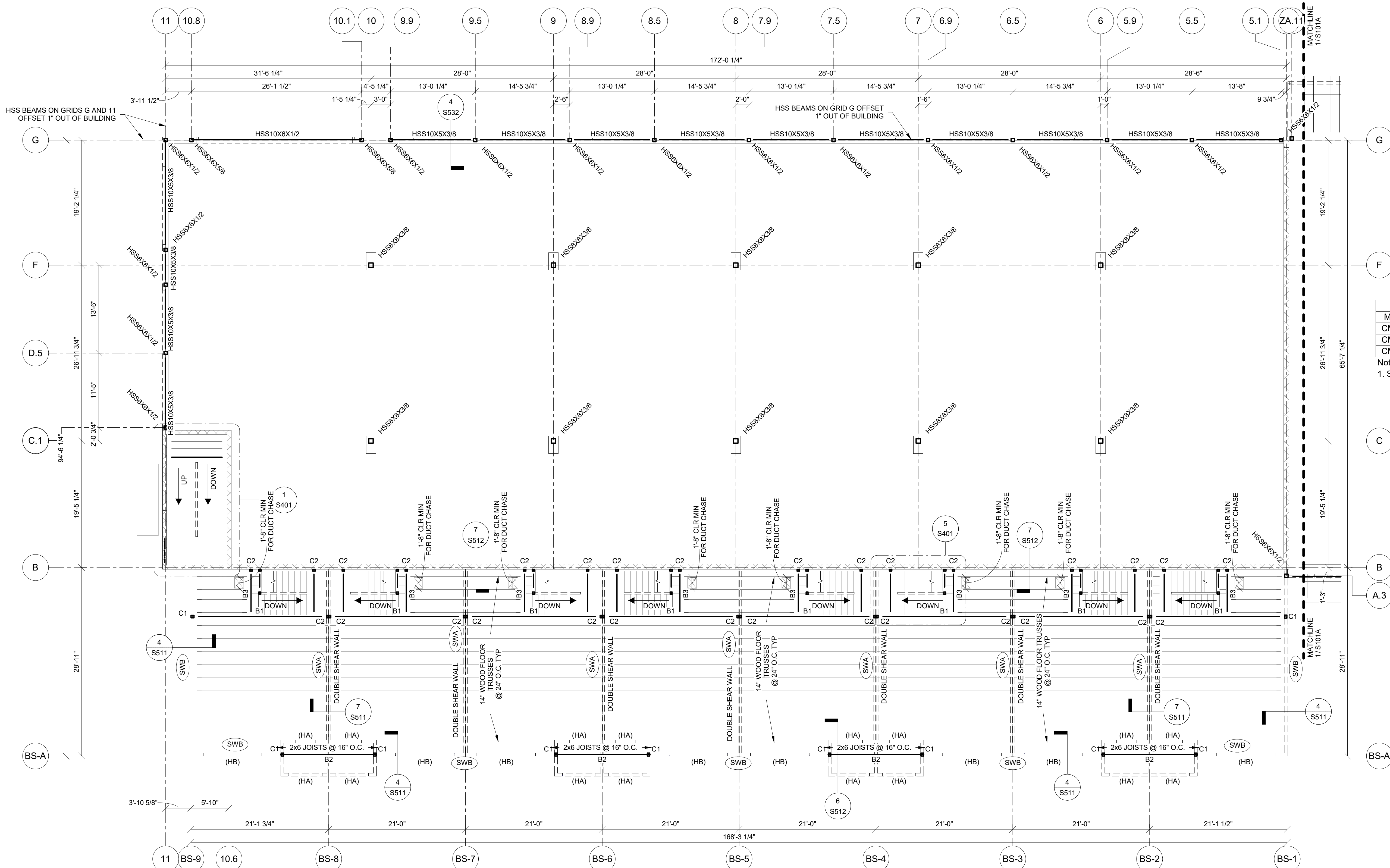
Notes:

- See 5/S510 for typical opening framing.
- Coordinate all dimensions and elevations with architectural drawings.
- Provide double sills below windows at openings greater than 6'-0" in length.
- All LVL shall be stress class 2.0E-2500F.

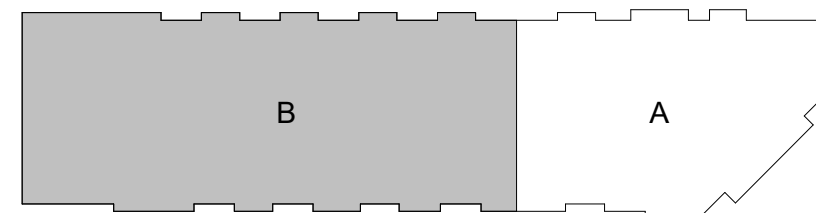
STRUCTURAL WALL SCHEDULE (WALLS SHOWN ON FRAMING PLAN ARE LEVEL BELOW)					
Location	Wall stud size and number of plies @ 16" o.c. U.N.O. on plan				SHEATHING & FASTENING U.N.O. (See Note 3)
	Level 1 Brownstone	Level 2 Brownstone	Level 2 Main Bldg	Level 3 Main Bldg	
EXTERIOR	(1) 2x6	(1) 2x6	(1) 2x6	(1) 2x6	15/32" Structural wood sheathing fastened w/ 10d nails @ 6" o.c. edges, 12" o.c. field
BETWEEN UNITS	(2) 2x4	(2) 2x4	(2) 2x4	(1) 2x4	5/8" Gypsum wallboard fastened w/ 1 5/8" Type W screws @ 7" o.c. edges, 7" o.c. field
WITHIN UNITS	(1) 2x6	---	(2) 2x4	(1) 2x4	5/8" Gypsum wallboard fastened w/ 1 5/8" Type W screws @ 7" o.c. edges, 7" o.c. field
CORRIDOR	---	---	(1) 2x6	(1) 2x6	5/8" Gypsum wallboard fastened w/ 1 5/8" Type W screws @ 7" o.c. edges, 7" o.c. field

Notes:

- Sill plates at foundation to be fastened w/ 1/2"x3-1/2" Hilti KH EZ @ 48" o.c. U.N.O.
- Top and bottom plates at all other levels to be fastened w/ (2) 16d nails @ 16" o.c. U.N.O.
- Shear walls shall be sheathed per Shear Wall Schedule
- Non-structural walls not shown, refer to architectural drawings.
- All top plates are to be continuous. Splice per 4/S510.



1 BROWNSTONE FLOOR FRAMING PLAN
1/8" = 1'-0"

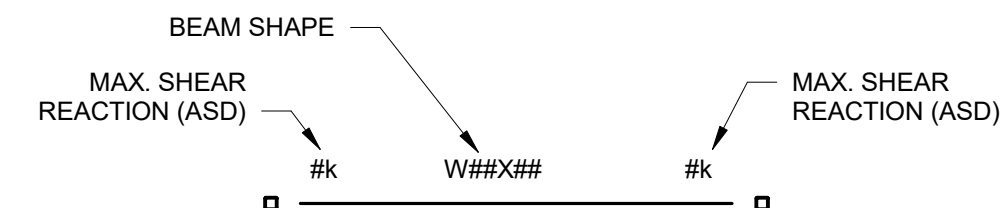


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- LEVEL 2 PODIUM PLAN NOTES:
- SEE ARCHITECTURAL DRAWINGS FOR SITE PLAN BENCHMARK ELEVATION. FOR REFERENCE ELEVATIONS, SEE BELOW (VERIFY ALL ELEVATIONS AND DIMENSIONS WITH ARCHITECTURAL DRAWINGS).
 - LEVEL 02 PODIUM T.O. CONC. 122'-0" U.N.O.
 - LEVEL 02 PODIUM T.O. STEEL 121'-6 1/2" U.N.O.
 - THE STRUCTURE OVER THE RETAIL SPACE IS TO BE COMPOSITE DECK OVER STEEL BEAMS WITH HEADED ANCHOR STUDS. COMPOSITE DECK SHALL BE:
 - 3" DEEP 20GA COMPOSITE DECK W/ 2.5" LW CONCRETE TOPPING (5.5" TOTAL THICKNESS) (TYP. U.N.O.).
 - CONCRETE BALCONY DECKS TO BE 9/16" NON-COMPOSITE 28 GAGE DECK W/ 1 1/2" NORMAL WEIGHT CONCRETE (2 1/16" TOTAL THICKNESS).
 - PLUMBING FIXTURES, SHAFTS, AND FLOOR DRAINS ARE TO BE COORDINATED PER ARCH. & MEP DRAWINGS.
 - SEE ARCHITECTURAL FLOOR PLAN FOR NON-BEARING WALL, DOOR, AND WINDOW LOCATIONS.
 - SEE ARCHITECTURAL DRAWINGS FOR ALL RAILING DETAILS. REFER TO GENERAL NOTES FOR DESIGN CRITERIA.
 - REFER TO MANUFACTURER'S GUIDELINES FOR INSTALLATION OF STRAP TIES, HOLD DOWNS & OTHER CONNECTIONS.
 - ALL EXTERIOR LUMBER (POSTS, BEAMS, DECKING, ETC.) TO BE TREATED.
 - REFER TO ARCHITECTURAL PLANS FOR STAIR DIMENSIONS AND REQUIREMENTS. REFER TO STRUCTURAL GENERAL NOTES FOR STAIR DESIGN CRITERIA.
 - T.O.S. FOR STEEL FRAMING IS -0'-5 1/2" (120'-2") UNLESS SPECIFICALLY NOTED ON PLAN.
 - FOR WIDE FLANGE MEMBERS WITHOUT END REACTIONS ON PLAN, USE SHEAR REACTIONS IN THE TABLE ON S002.



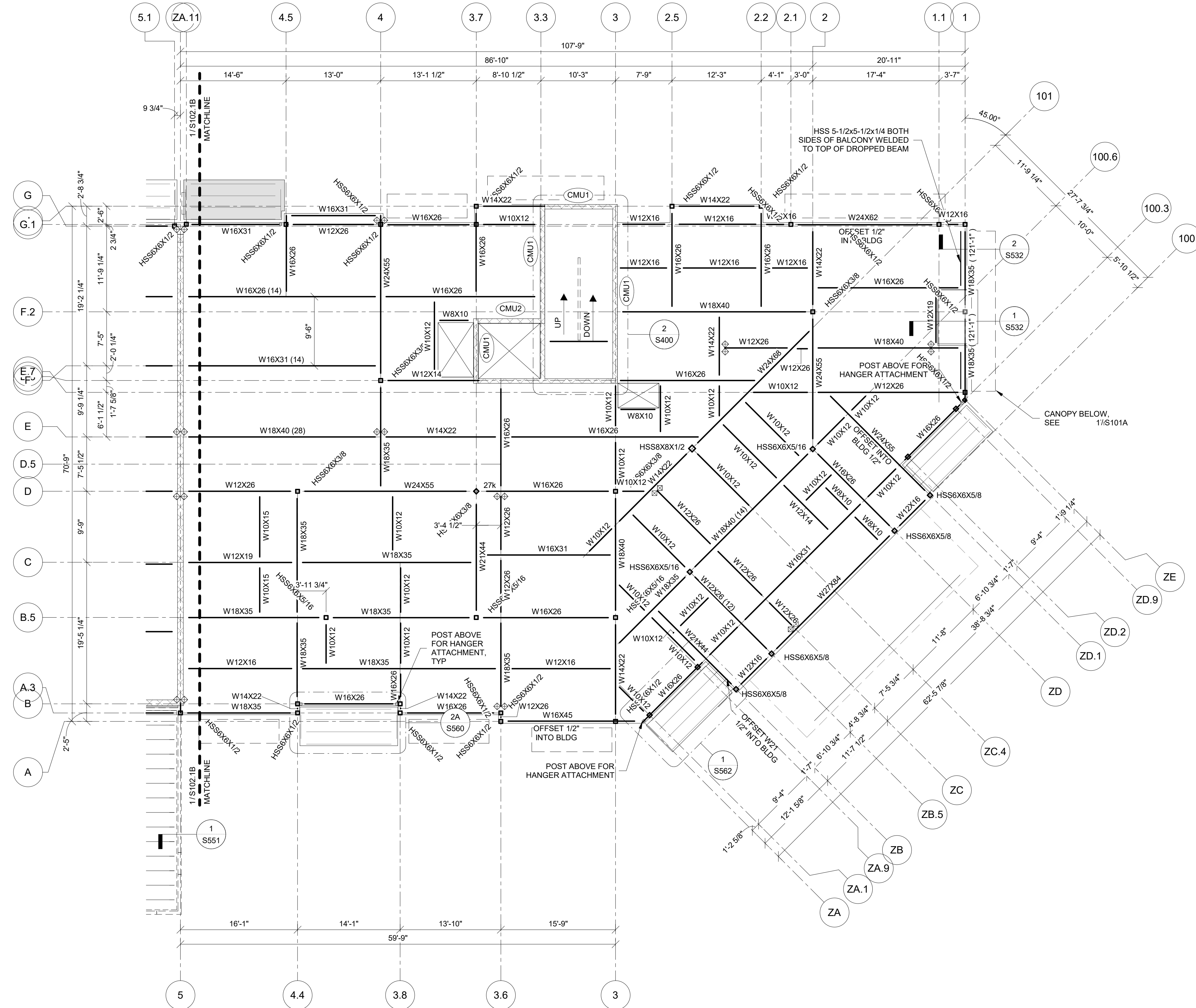
BEAM ANNOTATION LEGEND

- FRAMING PLAN LEGEND
- SHEAR WALL HOLD DOWN PER SHEAR WALL SCHEDULE, SEE S005, SEE ALSO 3/S540
 - CMU WALL
 - HEADER TYPE

CMU WALL SCHEDULE		
Mark	Nominal Width (in)	Vertical Reinforcing
CMU1	8	#5 @ 16" o.c.
CMU2	8	#5 @ 8" o.c. Each Face
CMU3	10	#5 @ 48" o.c. Each Face

Notes:
1. See details on S520 for typical construction

NOTE:
W12, W14, & W16 BEAMS REQUIRE SPECIAL FASTENING:
(1) FASTENER PER FOOT OF KICKER SPACING (IE: KICKERS AT 4'-0" O.C. REQUIRE (4) FASTENERS, KICKERS AT 3'-0" O.C. REQUIRE (3) FASTENERS)



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DISCOVERY PARK - LOT #10-A

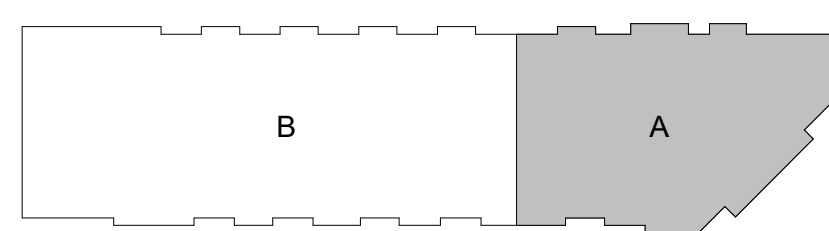
100 NE ALURA WAY
LEE'S SUMMIT, MO 64064

SHEET TITLE
LEVEL 2 ZONE A FRAMING PLAN

PROJECT NUMBER: 2023000333

SHEET NUMBER:

S102.1A



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NO. E-2006023253
EXPIRES: DECEMBER 31, 2024



DISCOVERY PARK - LOT #10-A

100 NE ALURA WAY
LEE'S SUMMIT, MO 64064

SHEET TITLE
LEVEL 2 ZONE B FRAMING PLAN

PROJECT NUMBER: 2023000333

SHEET NUMBER:

S102.1B

STRUCTURAL WALL SCHEDULE (WALLS SHOWN ON FRAMING PLAN ARE LEVEL BELOW)					
Location	Wall stud size and number of plys @ 16" o.c. U.N.O. on plan				SHEATHING & FASTENING U.N.O. (See Note 3)
	Level 1 Brownstone	Level 2 Brownstone	Level 2 Main Bldg	Level 3 Main Bldg	
EXTERIOR	(1) 2x6	(1) 2x6	(1) 2x6	(1) 2x6	15/32" Structural wood sheathing fastened w/ 10d nails @ 6" o.c. edges, 12" o.c. field
BETWEEN UNITS	(2) 2x4	(2) 2x4	(2) 2x4	(1) 2x4	5/8" Gypsum wallboard fastened w/ 1 5/8" Type W screws @ 7" o.c. edges, 7" o.c. field
WITHIN UNITS	(1) 2x6	---	(2) 2x4	(1) 2x4	5/8" Gypsum wallboard fastened w/ 1 5/8" Type W screws @ 7" o.c. edges, 7" o.c. field
CORRIDOR	---	---	(1) 2x6	(1) 2x6	5/8" Gypsum wallboard fastened w/ 1 5/8" Type W screws @ 7" o.c. edges, 7" o.c. field

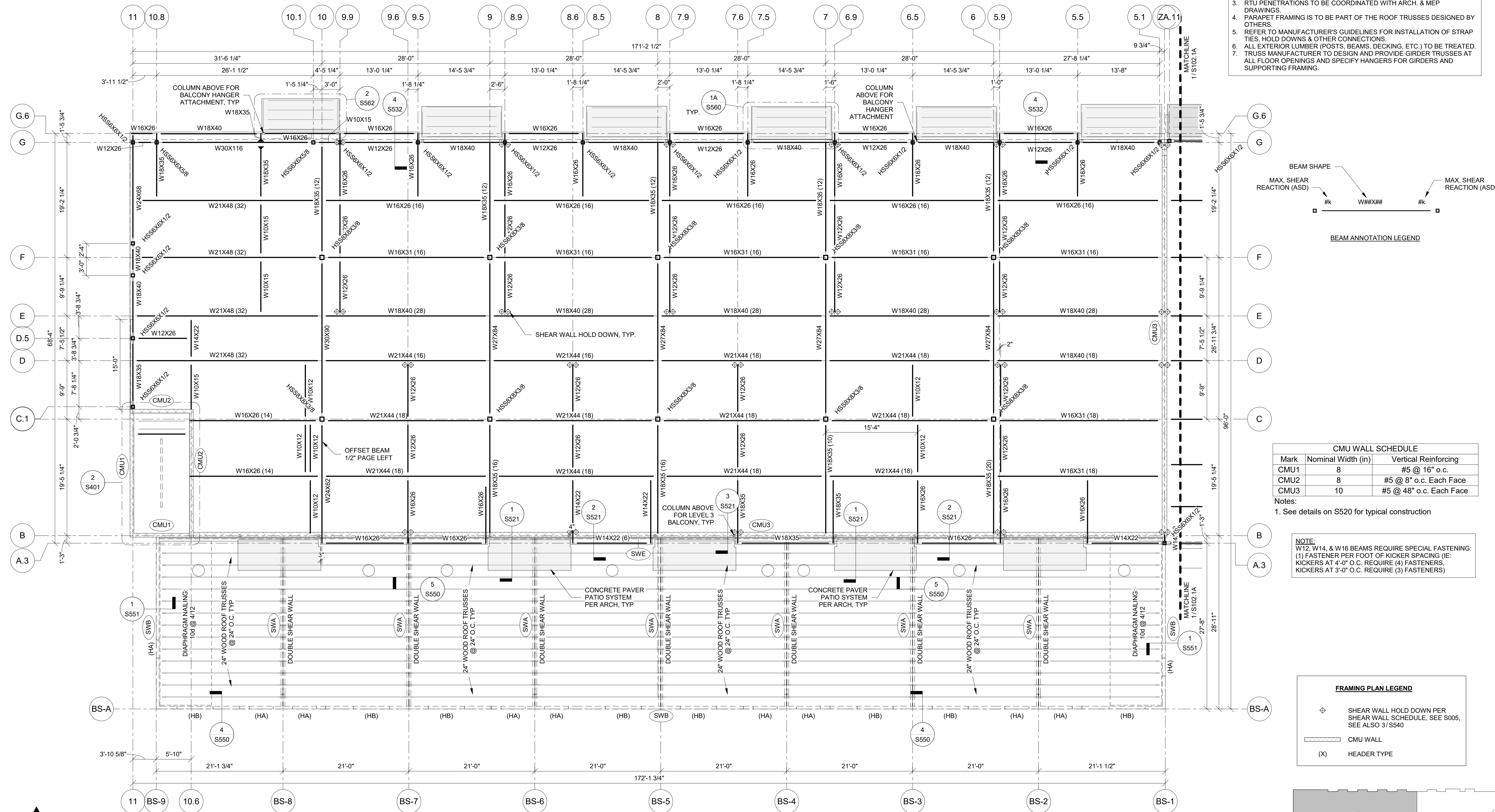
- Notes:
- Sill plates at foundation to be fastened w/ 1/2"Ø x 3-1/2" Hilti KH EZ @ 48" o.c. U.N.O.
 - Top and bottom plates at all other levels to be fastened w/ (2) 16d nails @ 16" o.c. U.N.O.
 - Shear walls shall be sheathed per Shear Wall Schedule
 - Non-structural walls not shown, refer to architectural drawings.
 - All top plates are to be continuous. Splice per 4/S510.

TYPICAL WALL HEADER SCHEDULE (WALLS SHOWN ON FRAMING PLAN ARE LEVEL BELOW)							
Header Type	Header	Kings/Jacks					
		Level 1 Brownstone	Level 2 Brownstone	Level 2 Main Bldg	Level 3 Main Bldg	Level 3 Main Bldg	Level 3 Main Bldg
HA	(3) 2x8	(2) 2x6 K	(1) 2x6 J	(1) 2x6 J	---	---	---
HB	(3) 2x10	(3) 2x6 K	(1) 2x6 J	(3) 2x6 K	(1) 2x6 J	---	---
HC	(3) 2x12	(2) 2x6 K	(1) 2x6 J	(2) 2x6 K	(1) 2x6 J	---	---
HD	(3) 2x8	---	---	---	(2) 2x6 K	(1) 2x6 J	(2) 2x6 K
HE	(3) 2x10	---	---	---	(2) 2x6 K	(1) 2x6 J	(2) 2x6 K
HF	(2) LVL 1 3/4"x11 7/8"	---	---	---	(3) 2x6 K	(1) 2x6 J	(3) 2x6 K

- Notes:
- See 5/S510 for typical opening framing.
 - Coordinate all dimensions and elevations with architectural drawings.
 - Provide double sills below windows at openings greater than 6'-0" in length.
 - All LVL shall be stress class 2.0E-2500F.

- LEVEL 2 PODIUM PLAN NOTES:
- SEE ARCHITECTURAL DRAWINGS FOR SITE PLAN BENCHMARK ELEVATION. FOR REFERENCE ELEVATIONS, SEE BELOW (VERIFY ALL ELEVATIONS AND DIMENSIONS WITH ARCHITECTURAL DRAWINGS).
 - LEVEL 02 PODIUM T.O. CONC. 122'-0" U.N.O.
 - LEVEL 02 PODIUM T.O. STEEL 121'-6 1/2" U.N.O.
 - THE STRUCTURE OVER THE RETAIL SPACE IS TO BE COMPOSITE DECK OVER STEEL BEAMS WITH HEADED ANCHOR STUDS. COMPOSITE DECK SHALL BE:
 - 3" DEEP 20GA COMPOSITE DECK W/ 2.5" LW CONCRETE TOPPING (5.5" TOTAL THICKNESS) (TYP. U.N.O.)
 - CONCRETE BALCONY DECKS TO BE 9/16" NON-COMPOSITE 28 GAGE DECK W/ 1 1/2" NORMAL WEIGHT CONCRETE (2 1/16" TOTAL THICKNESS).
 - PLUMBING FIXTURES, SHAFTS, AND FLOOR DRAINS ARE TO BE COORDINATED PER ARCH. & MEP DRAWINGS.
 - SEE ARCHITECTURAL FLOOR PLAN FOR NON-BEARING WALL, DOOR, AND WINDOW LOCATIONS.
 - SEE ARCHITECTURAL DRAWINGS FOR ALL RAILING DETAILS. REFER TO GENERAL NOTES FOR DESIGN CRITERIA.
 - REFER TO MANUFACTURER'S GUIDELINES FOR INSTALLATION OF STRAP TIES, HOLD DOWNS & OTHER CONNECTIONS.
 - ALL EXTERIOR LUMBER (POSTS, BEAMS, DECKING, ETC.) TO BE TREATED.
 - REFER TO ARCHITECTURAL PLANS FOR STAIR DIMENSIONS AND REQUIREMENTS. REFER TO STRUCTURAL GENERAL NOTES FOR STAIR DESIGN CRITERIA.
 - T.O.S. FOR STEEL FRAMING IS -0'-5 1/2" (120'-2") UNLESS SPECIFICALLY NOTED ON PLAN.
 - FOR WIDE FLANGE MEMBERS WITHOUT END REACTIONS ON PLAN, USE SHEAR REACTIONS IN THE TABLE ON S002.

- LEVEL 2 BROWNSTONE ROOF PLAN NOTES:
- SEE ARCHITECTURAL DRAWINGS FOR SITE PLAN BENCHMARK ELEVATION. FOR REFERENCE ELEVATION, SEE BELOW. (VERIFY ALL ELEVATIONS AND DIMENSIONS WITH ARCHITECTURAL DRAWINGS).
 - ROOF TRUSS BEARING 118'-0 1/4" U.N.O.
 - ROOF STRUCTURE TO BE 3/4" APA RATED STRUCTURAL 1 PLYWOOD SHEATHING OVER WOOD TRUSSES. FASTEN SHEATHING TO ROOF FRAMING WITH 10d COMMON NAILS SPACED AT 6" O.C. AT EDGES, 12" O.C. WITH FIELD, U.N.O.
 - RTU PENETRATIONS TO BE COORDINATED WITH ARCH. & MEP DRAWINGS.
 - PARAPET FRAMING IS TO BE PART OF THE ROOF TRUSSES DESIGNED BY OTHERS.
 - REFER TO MANUFACTURER'S GUIDELINES FOR INSTALLATION OF STRAP TIES, HOLD DOWNS & OTHER CONNECTIONS.
 - ALL EXTERIOR LUMBER (POSTS, BEAMS, DECKING, ETC.) TO BE TREATED.
 - TRUSS MANUFACTURER TO DESIGN AND PROVIDE GIRDER TRUSSES AT ALL FLOOR OPENINGS AND SPECIFY HANGERS FOR GIRDERS AND SUPPORTING FRAMING.



CMU WALL SCHEDULE		
Mark	Nominal Width (in)	Vertical Reinforcing
CMU1	8	#5 @ 16" o.c.
CMU2	8	#5 @ 8" o.c. Each Face
CMU3	10	#5 @ 48" o.c. Each Face

- Notes:
- See details on S520 for typical construction

NOTE:
W12, W14, & W16 BEAMS REQUIRE SPECIAL FASTENING:
(1) FASTENER PER FOOT OF KICKER SPACING (IE, KICKERS AT 4'-0" O.C. REQUIRE (4) FASTENERS, KICKERS AT 3'-0" O.C. REQUIRE (3) FASTENERS)

FRAMING PLAN LEGEND

◆ SHEAR WALL HOLD DOWN PER SHEAR WALL SCHEDULE, SEE S005, SEE ALSO 3/S540

CMU WALL

(X) HEADER TYPE

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REVISIONS:

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NO. E-2006023253
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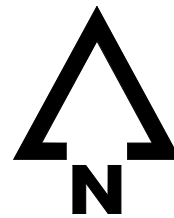
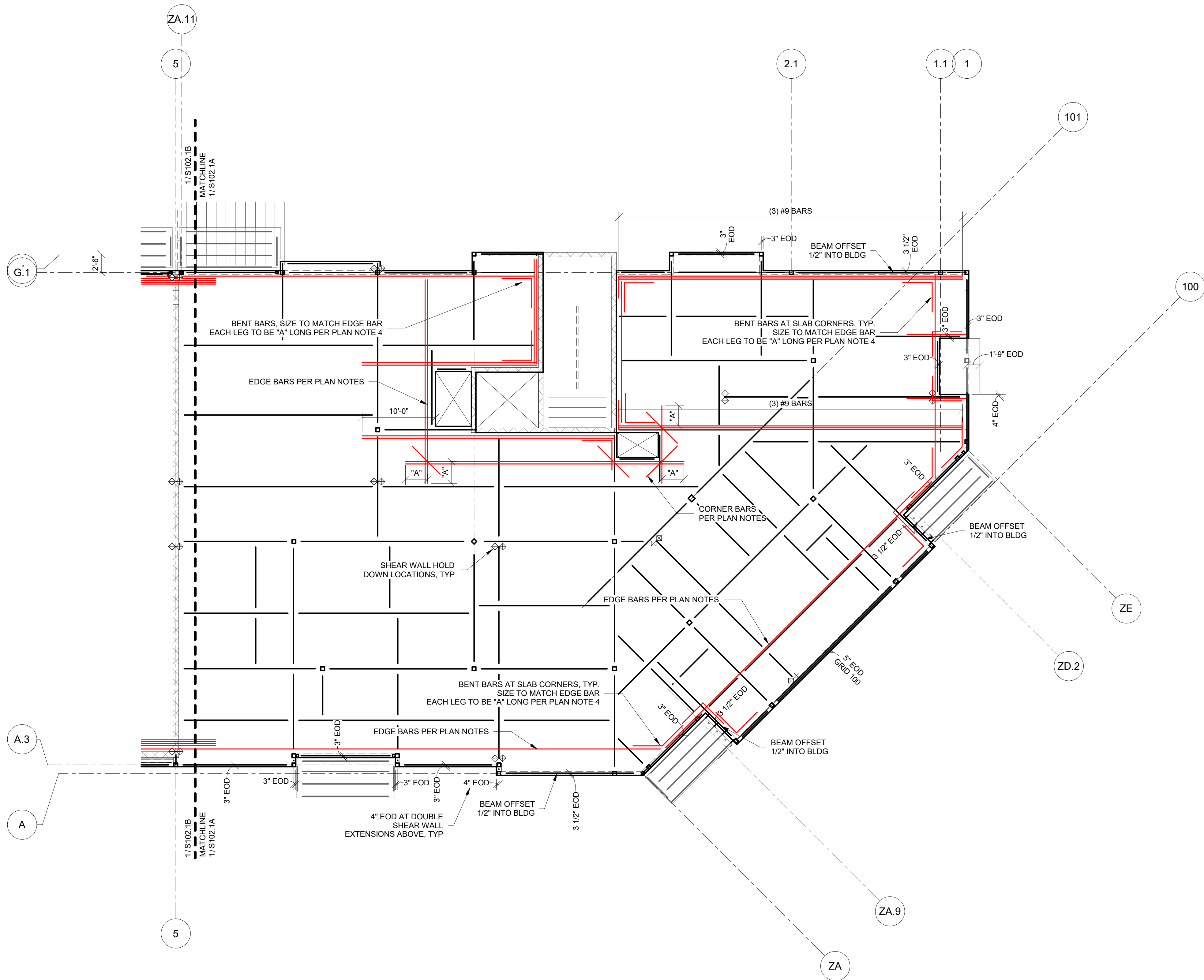
DISCOVERY PARK - LOT #10-A

100 NE ALURA WAY
LEE'S SUMMIT, MO 64064

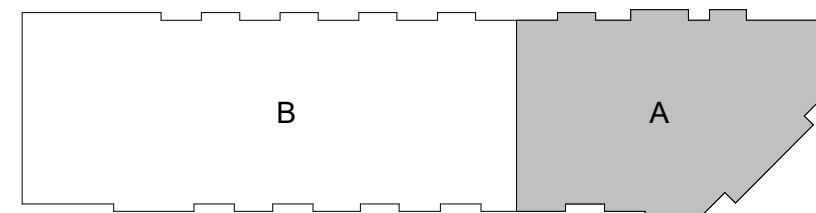
SHEET TITLE
LEVEL 2 ZONE A DIAPHRAGM
REINFORCING AND EDGE OF
DECK PLAN
PROJECT NUMBER: 2023000333
SHEET NUMBER:

S102.2A

- DIAPHRAGM PLAN NOTES:
1. REINFORCING SHOWN IS (2) #5 BARS U.N.O.
 2. (2) #5 x 6'-0" CORNER BARS ARE REQUIRED AT ALL RE-ENTRANT SLAB CORNERS (INCLUDING SLAB OPENINGS) U.N.O.
 3. PROVIDE (2) #5 BARS AS SHOWN AT PERIMETER OF SLAB OPENINGS W/ EXTENSIONS PER NOTE 4
 4. BARS TO CONTINUE "A" DISTANCE PAST PERPENDICULAR REINFORCING WHERE NOTED ON PLAN
A = 3'-0" FOR #4 BARS
A = 3'-6" FOR #5 BARS
A = 4'-0" FOR #6 BARS
A = 6'-0" FOR #7 BARS
 5. MAINTAIN 2" CLEAR COVER BETWEEN REINFORCING AND SLAB EDGE
 6. ALL SLABS ON METAL DECK TO BE REINFORCED W/ WWF PER GENERAL NOTES IN ADDITION TO REINFORCING SHOWN ON THIS PLAN
 7. SEE DETAILS FOR ADDITIONAL REINFORCING REQUIRED AT CONNECTIONS



1 LEVEL 2 ZONE A DIAPHRAGM REINFORCING
S102.2A 1/8" = 1'-0"



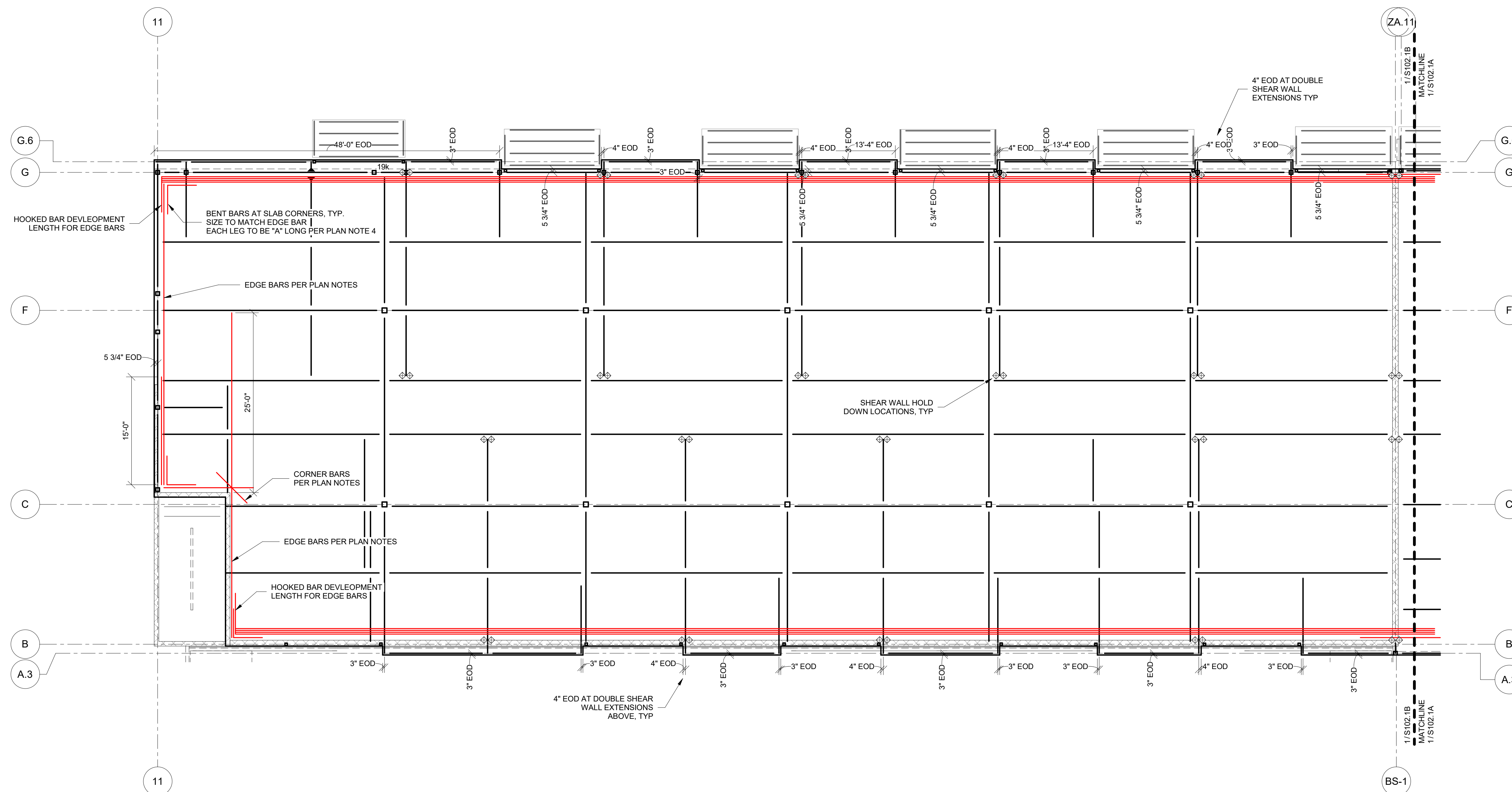
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PERMIT SUBMITTAL 12/20/2024

REVISIONS:

DIAPHRAGM PLAN NOTES:

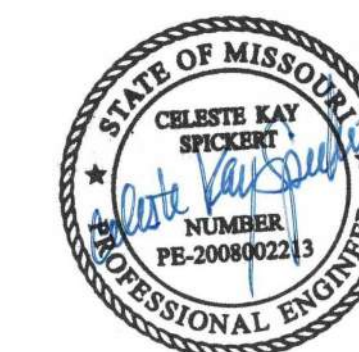
1. REINFORCING SHOWN IS (2) #5 BARS U.O.N.O.
2. (2) #5 x 6'-0" CORNER BARS ARE REQUIRED AT ALL RE-ENTRANT SLAB CORNERS (INCLUDING SLAB OPENINGS) U.O.N.O.
3. PROVIDE (2) #5 BARS AS SHOWN AT PERIMETER OF SLAB OPENINGS W/ EXTENSIONS PER NOTE 4
4. BARS TO CONTINUE "A" DISTANCE PAST PERPENDICULAR REINFORCING WHERE NOTED ON PLAN
 - A = 3'-0" FOR #4 BARS
 - A = 3'-0" FOR #5 BARS
 - A = 4'-0" FOR #6 BARS
 - A = 6'-0" FOR #7 BARS
5. MAINTAIN 2" CLEAR COVER BETWEEN REINFORCING AND SLAB EDGE
6. ALL SLABS ON METAL DECK TO BE REINFORCED W/ WWF PER GENERAL NOTES IN ADDITION TO REINFORCING SHOWN ON THIS PLAN
7. SEE DETAILS FOR ADDITIONAL REINFORCING REQUIRED AT CONNECTIONS



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DISCOVERY PARK - LOT #10-A

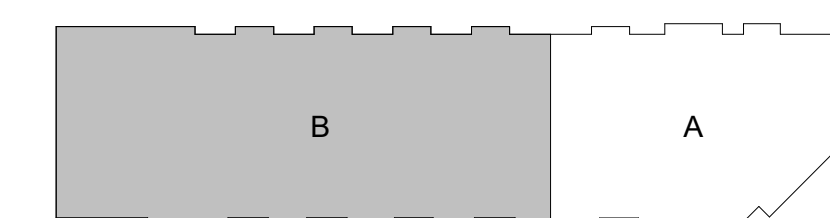
100 NE ALURA WAY
LEE'S SUMMIT, MO 64064

SHEET TITLE
LEVEL 2 ZONE B DIAPHRAGM
REINFORCING AND EDGE OF
DECK PLAN

PROJECT NUMBER: 2023000333

SHEET NUMBER:

S102.2B



1 LEVEL 2 ZONE B DIAPHRAGM REINFORCING
\$102.2B 1/8" = 1'-0"

PERMIT SUBMITTAL 12/20/2024

REVISIONS:

STRUCTURAL WALL SCHEDULE (WALLS SHOWN ON FRAMING PLAN ARE LEVEL BELOW)					
Location	Wall stud size and number of plys @ 16" o.c. U.N.O. on plan				SHEATHING & FASTENING U.N.O. (See Note 3)
	Level 1 Brownstone	Level 2 Brownstone	Level 2 Main Bldg	Level 3 Main Bldg	
EXTERIOR	(1) 2x6	(1) 2x6	(1) 2x6	(1) 2x6	15/32" Structural wood sheathing fastened w/ 10d nails @ 6" o.c. edges , 12" o.c. field
BETWEEN UNITS	(2) 2x4	(2) 2x4	(2) 2x4	(1) 2x4	5/8" Gypsum wallboard fastened w/ 1 5/8" Type W screws @ 7" o.c. edges, 7" o.c. field
WITHIN UNITS	(1) 2x6	---	(2) 2x4	(1) 2x4	5/8" Gypsum wallboard fastened w/ 1 5/8" Type W screws @ 7" o.c. edges, 7" o.c. field
CORRIDOR	---	---	(1) 2x6	(1) 2x6	5/8" Gypsum wallboard fastened w/ 1 5/8" Type W screws @ 7" o.c. edges, 7" o.c. field

Notes:

1. Sill plates at foundation to be fastened w/ 1/2"Ø x 3-1/2" Hilti KH EZ @ 48" o.c. U.N.O.
2. Top and bottom plates at all other levels to be fastened w/ (2) 16d nails @ 16" o.c. U.N.O
3. Shear walls shall be sheathed per Shear Wall Schedule
4. Non-structural walls not shown, refer to architectural drawings.
5. All top plates are to be continuous. Splice per 4/S510.

TYPICAL WALL HEADER SCHEDULE (WALLS SHOWN ON FRAMING PLAN ARE LEVEL BELOW)									
Header Type	Header	Kings/Jacks							
		Level 1 Brownstone		Level 2 Brownstone		Level 2 Main Bldg		Level 3 Main Bldg	
HA	(3) 2x8	(2) 2x6 K	(1) 2x6 J	(2) 2x6 K	(1) 2x6 J	---	---	---	---
HB	(3) 2x10	(3) 2x6 K	(1) 2x6 J	(3) 2x6 K	(1) 2x6 J	---	---	---	---
HC	(3) 2x12	(2) 2x6 K	(1) 2x6 J	(2) 2x6 K	(1) 2x6 J	---	---	---	---
HD	(3) 2x8	---	---	---	---	(2) 2x6 K	(1) 2x6 J	(2) 2x6 K	(1) 2x6 J
HE	(3) 2x10	---	---	---	---	(2) 2x6 K	(1) 2x6 J	(2) 2x6 K	(1) 2x6 J
HF	(2) LVL 1 3/4"x11 7/8"	---	---	---	---	(3) 2x6 K	(1) 2x6 J	(3) 2x6 K	(1) 2x6 J

Notes:

1. See 5/S510 for typical opening framing.
2. Coordinate all dimensions and elevations with architectural drawings.
3. Provide double sills below windows at openings greater than 6'-0" in length.
4. All LVL shall be stress class 2.0E-2500F.

LEVEL 3 PLAN NOTES:

1. SEE ARCHITECTURAL DRAWINGS FOR SITE PLAN BENCHMARK ELEVATION. FOR REFERENCE ELEVATION, SEE BELOW. (VERIFY ALL ELEVATIONS AND DIMENSIONS WITH ARCHITECTURAL DRAWINGS.)
 - LEVEL 03 T.O. SHEATHING 131'-10 5/8" U.N.O.
2. FLOOR SHEATHING IS TO BE 3/4" STRUCTURAL GRADE PLYWOOD FASTENED TO FRAMING WITH 10d COMMON NAILS SPACED AT 6" O.C. AT EDGES, 12" O.C. WITHIN FIELD. U.N.O.
3. CONCRETE BALCONY DECK IS TO BE 6" THICK CONCRETE 28 GAGE DECK W/ 1 1/2" NORMAL WEIGHT CONCRETE (2 1/8" TOTAL THICKNESS).
4. PLUMBING FIXTURES, SHAFTS, AND FLOOR DRAINS ARE TO BE COORDINATED PER ARCH. & MEP DRAWINGS.
5. ALL EXTERIOR AND INTERIOR LOAD BEARING WALLS ARE PER WALL SCHEDULE ON SHEET S003. SEE ARCHITECTURAL FLOOR PLAN FOR NON-BEARING WALL, DOOR, AND WINDOW LOCATIONS.
6. WALLS SHOWN ARE BELOW.
7. SEE ARCHITECTURAL DRAWINGS FOR ALL RAILING DETAILS. REFER TO GENERAL NOTES FOR DESIGN CRITERIA.
8. REFER TO MANUFACTURER'S GUIDELINES FOR INSTALLATION OF STRAP TIES, HOLD DOWNS & OTHER CONNECTIONS.
9. ALL EXTERIOR LUMBER (POSTS, BEAMS, DECKING, ETC.) TO BE TREATED.
10. WOOD FLOOR TRUSSES TO BE DESIGNED BY OTHERS AND ARE SHOWN FOR THE INTENT OF SPAN FUNCTIONAL AND LOAD PATH ONLY. REFER TO GENERAL NOTES FOR DESIGN CRITERIA.
11. TRUSS MANUFACTURER TO DESIGN AND PROVIDE GIRDER TRUSSES AT ALL OPENINGS AND SPECIFY HANGERS FOR GIRDERS AND SUPPORTED FRAMING.
12. REFER TO ARCHITECTURAL PLANS FOR STAIR DIMENSIONS AND REQUIREMENTS. REFER TO STRUCTURAL GENERAL NOTES FOR STAIR DESIGN CRITERIA.

WOOD POST SCHEDULE	
Mark	Size
C1	(3) 2x6
C2	(3) 2x4
C3	(4) 2x4
C4	(6) 2x4

Notes:

1. All exterior columns are to be pressure treated U.N.O.
2. Exterior columns supporting canopy to be Western Cedar or Redwood Grade 1 or better.

LVL BEAM SCHEDULE	
Mark	Size
B1	(4) 1 3/4" x 11 7/8" LVL
B2	(3) 1 3/4" x 11 7/8" LVL
B3	(2) 1 3/4" x 11 7/8" LVL

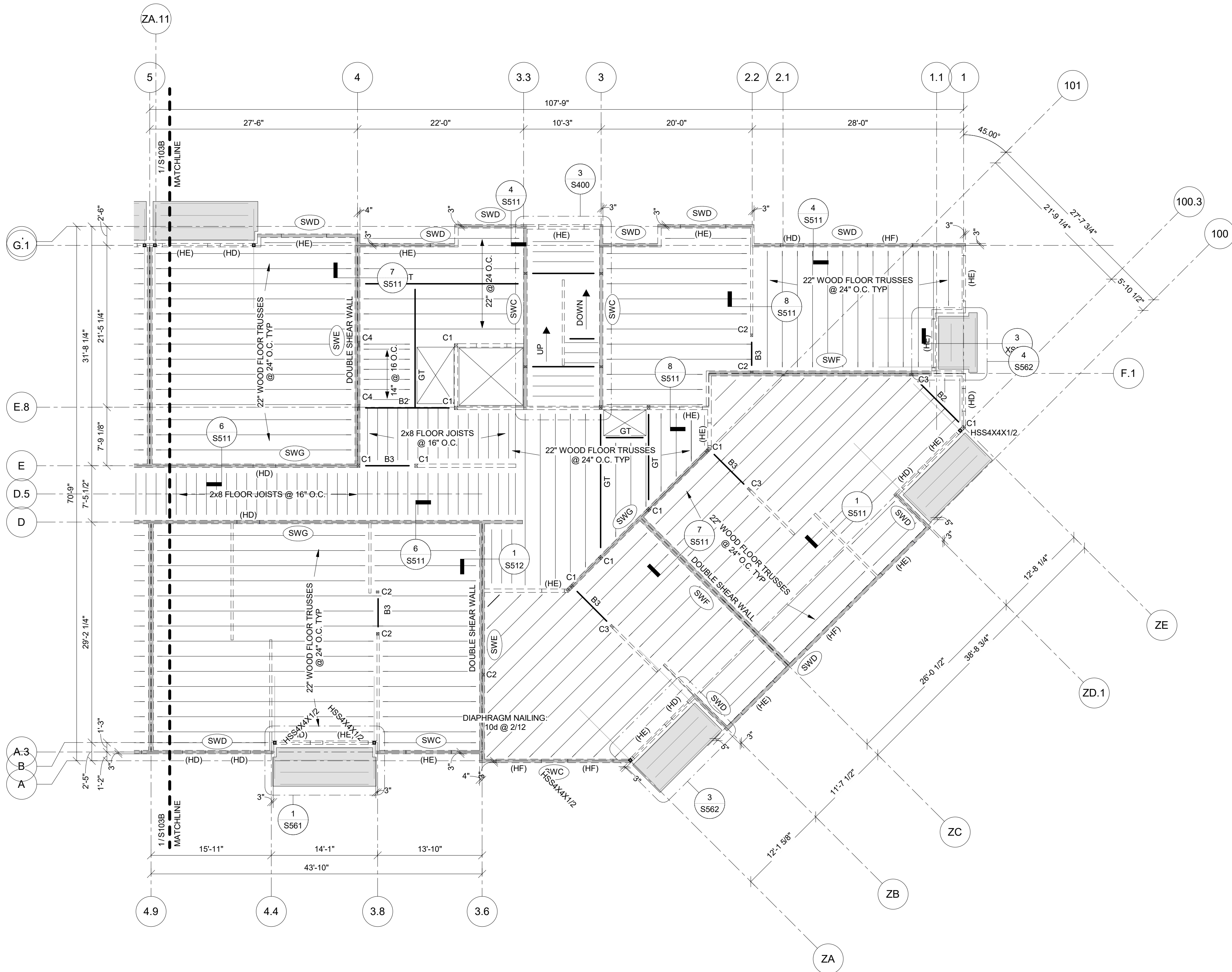
Notes:

1. All LVL beam shall be stress class 2.0E-2500F

WOOD HANGER SCHEDULE	
Joist Size	Hanger
2x4	LUS24
2x6	LUS26
2x8	LUS26
2x10	LUS28

Notes:

1. Hangers to be installed with typical fasteners per manufacturer product data.
2. All exterior members are to be pressure treated.



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NO. E-2006023253
EXPIRES: DECEMBER 31, 2024



12/20/2024

DISCOVERY PARK - LOT #10-A

100 NE ALURA WAY
LEE'S SUMMIT, MO 64064

SHEET TITLE
LEVEL 3 ZONE A FRAMING PLAN

PROJECT NUMBER: 2023000333

SHEET NUMBER:

S103A

1 LEVEL 3 FRAMING PLAN
S103A 1/8" = 1'-0"

STRUCTURAL WALL SCHEDULE (WALLS SHOWN ON FRAMING PLAN ARE LEVEL BELOW)					
Location	Wall stud size and number of plys @ 16" o.c. U.N.O. on plan				SHEATHING & FASTENING U.N.O. (See Note 3)
	Level 1 Brownstone	Level 2 Brownstone	Level 2 Main Bldg	Level 3 Main Bldg	
EXTERIOR	(1) 2x6	(1) 2x6	(1) 2x6	(1) 2x6	15/32" Structural wood sheathing fastened w/ 10d nails @ 6" o.c. edges , 12" o.c. field
BETWEEN UNITS	(2) 2x4	(2) 2x4	(2) 2x4	(1) 2x4	5/8" Gypsum wallboard fastened w/ 1 5/8" Type W screws @ 7" o.c. edges, 7" o.c. field
WITHIN UNITS	(1) 2x6	---	(2) 2x4	(1) 2x4	5/8" Gypsum wallboard fastened w/ 1 5/8" Type W screws @ 7" o.c. edges, 7" o.c. field
CORRIDOR	---	---	(1) 2x6	(1) 2x6	5/8" Gypsum wallboard fastened w/ 1 5/8" Type W screws @ 7" o.c. edges, 7" o.c. field

Notes:

- Sill plates at foundation to be fastened w/ 1/2"Ø x 3-1/2" Hilti KH EZ @ 48" o.c. U.N.O.
- Top and bottom plates at all other levels to be fastened w/ (2) 16d nails @ 16" o.c. U.N.O.
- Shear walls shall be sheathed per Shear Wall Schedule
- Non-structural walls not shown, refer to architectural drawings.
- All top plates are to be continuous. Splice per 4/S510.

TYPICAL WALL HEADER SCHEDULE (WALLS SHOWN ON FRAMING PLAN ARE LEVEL BELOW)								
Header Type	Header	Kings/Jacks						
		Level 1 Brownstone	Level 2 Brownstone	Level 2 Main Bldg	Level 3 Main Bldg	Level 2 Main Bldg	Level 3 Main Bldg	Level 3 Main Bldg
HA	(3) 2x8	(2) 2x6 K	(1) 2x6 J	(2) 2x6 K	(1) 2x6 J	---	---	---
HB	(3) 2x10	(3) 2x6 K	(1) 2x6 J	(3) 2x6 K	(1) 2x6 J	---	---	---
HC	(3) 2x12	(2) 2x6 K	(1) 2x6 J	(2) 2x6 K	(1) 2x6 J	---	---	---
HD	(3) 2x8	---	---	---	---	(2) 2x6 K	(1) 2x6 J	(2) 2x6 K
HE	(3) 2x10	---	---	---	---	(2) 2x6 K	(1) 2x6 J	(2) 2x6 K
HF	(2) LVL 1 3/4"x11 7/8"	---	---	---	---	(3) 2x6 K	(1) 2x6 J	(3) 2x6 K

Notes:

- See 5/S510 for typical opening framing.
- Coordinate all dimensions and elevations with architectural drawings.
- Provide double sills below windows at openings greater than 6'-0" in length.
- All LVL shall be stress class 2.0E-2500F.

LEVEL 3 PLAN NOTES:

- SEE ARCHITECTURAL DRAWINGS FOR SITE PLAN BENCHMARK ELEVATION. FOR REFERENCE ELEVATION, SEE BELOW. (VERIFY ALL ELEVATIONS AND DIMENSIONS WITH ARCHITECTURAL DRAWINGS.)
- LEVEL 03 T.O. SHEATHING 131'-10 5/8" U.N.O.
- FLOOR SHEATHING IS TO BE 3/4" STRUCTURAL GRADE PLYWOOD FASTENED TO FRAMING WITH 10d COMMON NAILS SPACED AT 6" O.C. AT EDGES, 12" O.C. WITHIN FIELD, U.N.O.
- CONCRETE BALCONY DECKS TO BE 9/16" NON-COMPOSITE 28 GAGE DECK W/ 1 1/2" NORMAL WEIGHT CONCRETE (2 1/16" TOTAL THICKNESS).
- PLUMBING FIXTURES, SHAFTS, AND FLOOR DRAINS ARE TO BE COORDINATED PER ARCH. & MEP DRAWINGS.
- ALL EXTERIOR AND INTERIOR LOAD BEARING WALLS ARE PER WALL SCHEDULE ON SHEET S003. SEE ARCHITECTURAL FLOOR PLAN FOR NON-BEARING WALL, DOOR, AND WINDOW LOCATIONS.
- WALLS SHOWN ARE BELOW.
- SEE ARCHITECTURAL DRAWINGS FOR ALL RAILING DETAILS. REFER TO GENERAL NOTES FOR DESIGN CRITERIA
- REFER TO MANUFACTURER'S GUIDELINES FOR INSTALLATION OF STRAP TIES, HOLD DOWNS & OTHER CONNECTIONS.
- ALL EXTERIOR LUMBER (POSTS, BEAMS, DECKING, ETC.) TO BE TREATED.
- WOOD FLOOR TRUSSES TO BE DESIGNED BY OTHERS AND ARE SHOWN FOR THE INTENT OF SPAN DIRECTION AND LOAD PATH ONLY. REFER TO GENERAL NOTES FOR DESIGN CRITERIA.
- TRUSS MANUFACTURER TO DESIGN AND PROVIDE GIRDER TRUSSES AT ALL OPENINGS AND SPECIFY HANGERS FOR GIRDERS AND SUPPORTED FRAMING.
- REFER TO ARCHITECTURAL PLANS FOR STAIR DIMENSIONS AND REQUIREMENTS. REFER TO STRUCTURAL GENERAL NOTES FOR STAIR DESIGN CRITERIA.

WOOD POST SCHEDULE	
Mark	Size
C1	(3) 2x6
C2	(3) 2x4
C3	(4) 2x4
C4	(6) 2x4

Notes:

- All exterior columns are to be pressure treated U.N.O.
- Exterior columns supporting canopy to be Western Cedar or Redwood Grade 1 or better.

LVL BEAM SCHEDULE	
Mark	Size
B1	(4) 1 3/4" x 11 7/8" LVL
B2	(3) 1 3/4" x 11 7/8" LVL
B3	(2) 1 3/4" x 11 7/8" LVL

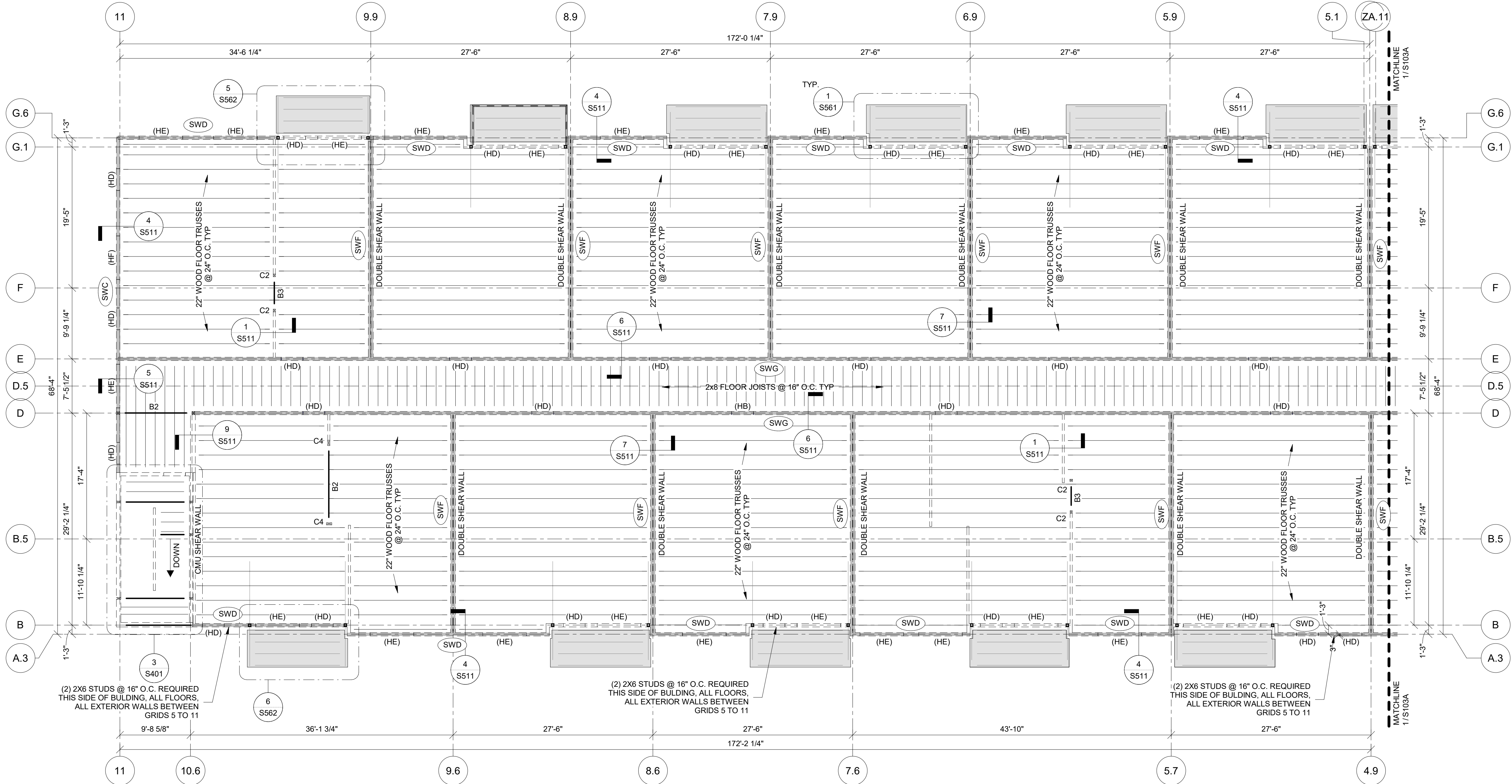
Notes:

- All LVL beam shall be stress class 2.0E-2500F

WOOD HANGER SCHEDULE	
Joist Size	Hanger
2x4	LUS24
2x6	LUS26
2x8	LUS26
2x10	LUS28

Notes:

- Hangers to be installed with typical fasteners per manufacturer product data.
- All exterior members are to be pressure treated.



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EXPIRES: DECEMBER 31, 2024



12/20/2024

DISCOVERY PARK - LOT #10-A

100 NE ALURA WAY
LEE'S SUMMIT, MO 64064

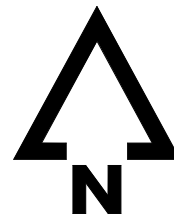
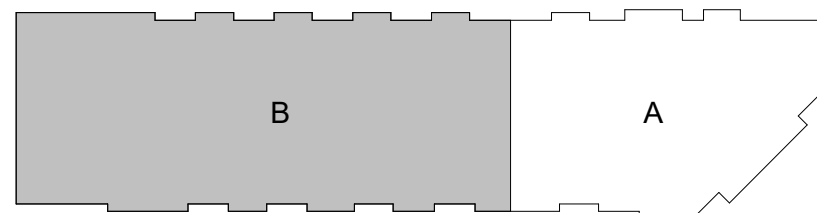
SHEET TITLE

LEVEL 3 ZONE B FRAMING PLAN

PROJECT NUMBER: 2023000333

SHEET NUMBER:

S103B



1
S103B
LEVEL 3 FRAMING PLAN
1/8" = 1'-0"

Header Type	Header	Kings/Jacks							
		Level 1 Brownstone		Level 2 Brownstone		Level 2 Main Bldg		Level 3 Main Bldg	
HA	(3) 2x8	(2) 2x6 K	(1) 2x6 J	(2) 2x6 K	(1) 2x6 J	---	---	---	---
HB	(3) 2x10	(3) 2x6 K	(1) 2x6 J	(3) 2x6 K	(1) 2x6 J	---	---	---	---
HC	(3) 2x12	(2) 2x6 K	(1) 2x6 J	(2) 2x6 K	(1) 2x6 J	---	---	---	---
HD	(3) 2x8	---	---	---	---	(2) 2x6 K	(1) 2x6 J	(2) 2x6 K	(1) 2x6 J
HE	(3) 2x10	---	---	---	---	(2) 2x6 K	(1) 2x6 J	(2) 2x6 K	(1) 2x6 J
HF	(2) LVL 1 3/4"x11 7/8"	---	---	---	---	(3) 2x6 K	(1) 2x6 J	(3) 2x6 K	(1) 2x6 J

Notes:

1. See 5/S510 for typical opening framing.
2. Coordinate all dimensions and elevations with architectural drawings.
3. Provide double sills below windows at openings greater than 6'-0" in length.
4. All LVL shall be stress class 2.0E-2500F.

Location	Wall stud size and number of plies @ 16" o.c. U.N.O. on plan				SHEATHING & FASTENING U.N.O. (See Note 3)
	Level 1 Brownstone	Level 2 Brownstone	Level 2 Main Bldg	Level 3 Main Bldg	
EXTERIOR	(1) 2x6	(1) 2x6	(1) 2x6	(1) 2x6	15/32" Structural wood sheathing fastened w/ 10d nails @ 6" o.c. edges , 12" o.c. field
BETWEEN UNITS	(2) 2x4	(2) 2x4	(2) 2x4	(1) 2x4	5/8" Gypsum wallboard fastened w/ 1 5/8" TYP W screws @ 7" o.c. edges, 7" o.c. field
WITHIN UNITS	(1) 2x6	---	(2) 2x4	(1) 2x4	5/8" Gypsum wallboard fastened w/ 1 5/8" TYP W screws @ 7" o.c. edges, 7" o.c. field
CORRIDOR	---	---	(1) 2x6	(1) 2x6	5/8" Gypsum wallboard fastened w/ 1 5/8" TYP W screws @ 7" o.c. edges, 7" o.c. field

Notes:

1. Sill plates at foundation to be fastened w/ 1/2"Ø x 3-1/2" Hilti KH EZ @ 48" o.c. U.N.O.
2. Top and bottom plates at all other levels to be fastened w/ (2) 16d nails @ 16" o.c. U.N.O.
3. Shear walls shall be sheathed per Shear Wall Schedule
4. Non-structural walls not shown, refer to architectural drawings.
5. All top plates are to be continuous. Splice per 4/S510.

1. SEE ARCHITECTURAL DRAWINGS FOR SITE PLAN BENCHMARK ELEVATION. FOR REFERENCE ELEVATION, SEE BELOW. (VERIFY ALL ELEVATIONS AND DIMENSIONS WITH ARCHITECTURAL DRAWINGS.)
 - ROOF TRUSS BEARING 141'-11 3/4"
2. ROOF SHEATHING IS TO BE 3/4" STRUCTURAL GRADE PLYWOOD FASTENED WITH 10d NAILS SPACED 6" O.C. AT EDGES, 12" O.C. WITHIN FIELD U.N.O. SHEATHING IS TO BE TOPPED WITH SLOPED RIGID INSULATION PER ARCH.
3. RTU PENETRATIONS TO BE COORDINATED PER ARCH. & MEP DRAWINGS.
4. PARAPET FRAMING IS TO BE PART OF THE ROOF TRUSSES DESIGNED BY OTHERS.
5. REFER TO MANUFACTURER'S GUIDELINES FOR INSTALLATION OF STRAP TIES, HOLD DOWNS & OTHER CONNECTIONS.
6. ALL EXTERIOR LUMBER (POSTS, BEAMS, DECKING, ETC.) TO BE TREATED.
7. WOOD ROOF TRUSSES TO BE DESIGNED BY OTHERS AND ARE SHOWN FOR THE INTENT OF SPAN DESIGN AND LOAD RATIO ONLY. REFER TO GENERAL NOTES FOR DESIGN CRITERIA.
8. TRUSS MANUFACTURER TO DESIGN AND PROVIDE GIRDER TRUSSES AT ALL OPENINGS AND SPECIFY HANGERS FOR GIRDERS AND SUPPORTING FRAMING.
9. VERIFY SPECIFIED ELEVATOR HOIST BEAM AND SUPPORTING FRAMING W/ ELEVATOR MANUFACTURER.

PRINTS ISSUED
PERMIT SUBMITTAL 12/20/2024

REVISIONS:

WOOD POST SCHEDULE	
Mark	Size
C1	(3) 2x6
C2	(3) 2x4
C3	(4) 2x4
C4	(6) 2x4

Notes:

1. All exterior columns are to be pressure treated U.N.O.
2. Exterior columns supporting canopy to be Western Cedar or Redwood Grade 1 or better.

LVL BEAM SCHEDULE	
Mark	Size
B1	(4) 1 3/4" x 11 7/8" LVL
B2	(3) 1 3/4" x 11 7/8" LVL
B3	(2) 1 3/4" x 11 7/8" LVL

Notes:

1. All LVL beam shall be stress class 2.0E-2500F

WOOD HANGER SCHEDULE	
Joist Size	Hanger
2x4	LUS24
2x6	LUS26
2x8	LUS26
2x10	LUS28

Notes:

1. Hangers to be installed with typical fasteners per manufacturer product data.
2. All exterior members are to be pressure treated.



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MISSOURI CERTIFICATE OF AUTHORITY
NO. E-2006023253
EXPIRES: DECEMBER 31, 2024



12/20/2024

DISCOVERY PARK - LOT #10-A

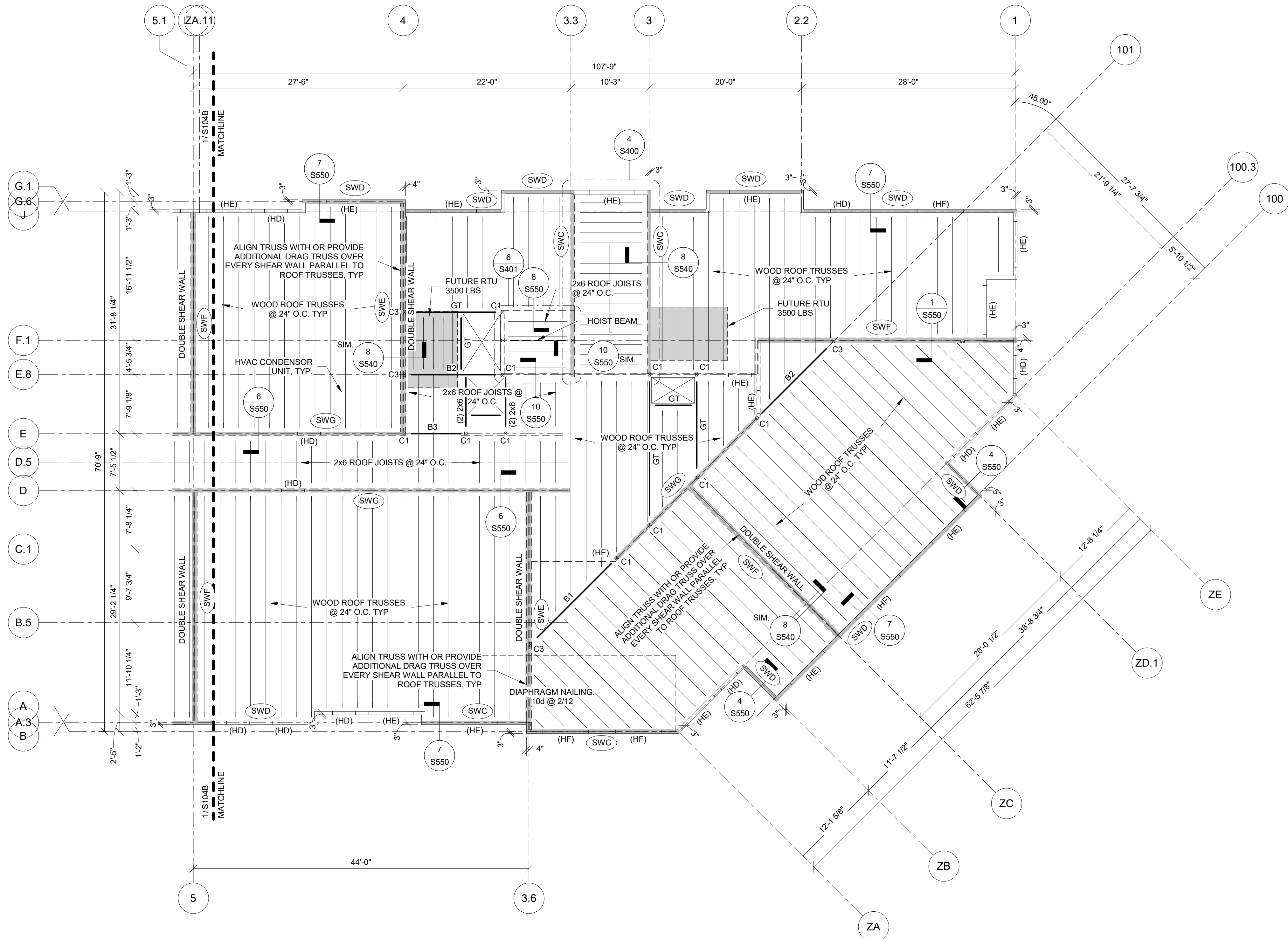
100 NE ALURA WAY
LEE'S SUMMIT, MO 64064

SHEET TITLE
ROOF ZONE A FRAMING PLAN

PROJECT NUMBER: 2023000333

SHEET NUMBER:

S104A



TYPICAL WALL HEADER SCHEDULE (WALLS SHOWN ON FRAMING PLAN ARE LEVEL BELOW)								
Header Type	Header	Kings/Jacks						
		Level 1 Brownstone	Level 2 Brownstone	Level 2 Main Bldg	Level 3 Main Bldg			
HA	(3) 2x8	(2) 2x6 K	(1) 2x6 J	(2) 2x6 K	(1) 2x6 J	---	---	---
HB	(3) 2x10	(3) 2x6 K	(1) 2x6 J	(3) 2x6 K	(1) 2x6 J	---	---	---
HC	(3) 2x12	(2) 2x6 K	(1) 2x6 J	(2) 2x6 K	(1) 2x6 J	---	---	---
HD	(3) 2x8	---	---	---	---	(2) 2x6 K	(1) 2x6 J	(2) 2x6 K
HE	(3) 2x10	---	---	---	---	(2) 2x6 K	(1) 2x6 J	(2) 2x6 K
HF	(2) LVL 1 3/4"x11 7/8"	---	---	---	---	(3) 2x6 K	(1) 2x6 J	(3) 2x6 K

- Notes:
- See 5/S510 for typical opening framing.
 - Coordinate all dimensions and elevations with architectural drawings.
 - Provide double sills below windows at openings greater than 6'-0" in length.
 - All LVL shall be stress class 2.0E-2500F.

STRUCTURAL WALL SCHEDULE (WALLS SHOWN ON FRAMING PLAN ARE LEVEL BELOW)					
Location	Wall stud size and number of plys @ 16" o.c. U.N.O. on plan				SHEATHING & FASTENING U.N.O. (See Note 3)
	Level 1 Brownstone	Level 2 Brownstone	Level 2 Main Bldg	Level 3 Main Bldg	
EXTERIOR	(1) 2x6	(1) 2x6	(1) 2x6	(1) 2x6	15/32" Structural wood sheathing fastened w/ 10d nails @ 6" o.c. edges , 12" o.c. field
BETWEEN UNITS	(2) 2x4	(2) 2x4	(2) 2x4	(1) 2x4	5/8" Gypsum wallboard fastened w/ 1 5/8" Type W screws @ 7" o.c. edges, 7" o.c. field
WITHIN UNITS	(1) 2x6	---	(2) 2x4	(1) 2x4	5/8" Gypsum wallboard fastened w/ 1 5/8" Type W screws @ 7" o.c. edges, 7" o.c. field
CORRIDOR	---	---	(1) 2x6	(1) 2x6	5/8" Gypsum wallboard fastened w/ 1 5/8" Type W screws @ 7" o.c. edges, 7" o.c. field

- Notes:
- Sill plates at foundation to be fastened w/ 1/2"Ø x 3-1/2" Hilti KH EZ @ 48" o.c. U.N.O.
 - Top and bottom plates at all other levels to be fastened w/ (2) 16d nails @ 16" o.c. U.N.O.
 - Shear walls shall be sheathed per Shear Wall Schedule
 - Non-structural walls not shown, refer to architectural drawings.
 - All top plates are to be continuous. Splice per 4/S510.

- ROOF PLAN NOTES:
- SEE ARCHITECTURAL DRAWINGS FOR SITE PLAN BENCHMARK ELEVATION. FOR REFERENCE ELEVATION, SEE BELOW. (VERIFY ALL ELEVATIONS AND DIMENSIONS WITH ARCHITECTURAL DRAWINGS.)
 - ROOF TRUSS BEARING 141'-11 3/4"
 - ROOF SHEATHING IS TO BE 3/4" STRUCTURAL GRADE PLYWOOD FASTENED WITH 10d NAILS SPACED 6" O.C. AT EDGES, 12" O.C. WITHIN FIELD U.N.O. SHEATHING IS TO BE TOPPED WITH SLOPED RIGID INSULATION PER ARCH.
 - RTU PENETRATIONS TO BE COORDINATED PER ARCH. & MEP DRAWINGS.
 - PARAPET FRAMING IS TO BE PART OF THE ROOF TRUSSES DESIGNED BY OTHERS.
 - REFER TO MANUFACTURER'S GUIDELINES FOR INSTALLATION OF STRAP TIES, HOLD DOWNS & OTHER CONNECTIONS.
 - ALL EXTERIOR LUMBER (POSTS, BEAMS, DECKING, ETC.) TO BE TREATED.
 - WOOD ROOF TRUSSES TO BE DESIGNED BY OTHERS AND ARE SHOWN FOR THE INTENT OF SPAN DIRECTION AND LOAD PATH ONLY. REFER TO GENERAL NOTES FOR DESIGN CRITERIA.
 - TRUSS MANUFACTURER TO DESIGN AND PROVIDE GIRDER TRUSSES AT ALL OPENINGS AND SPECIFY HANGERS FOR GIRDERS AND SUPPORTED FRAMING.
 - VERIFY SPECIFIED ELEVATOR HOIST BEAM AND SUPPORTING FRAMING W/ ELEVATOR MANUFACTURER.

WOOD POST SCHEDULE	
Mark	Size
C1	(3) 2x6
C2	(3) 2x4
C3	(4) 2x4
C4	(6) 2x4

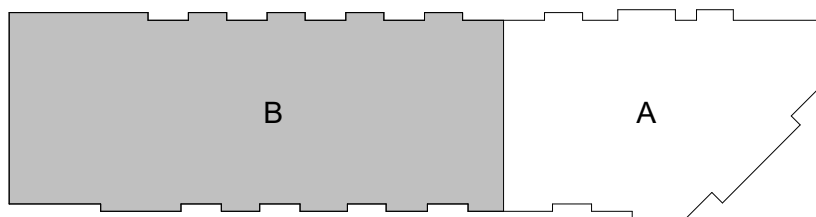
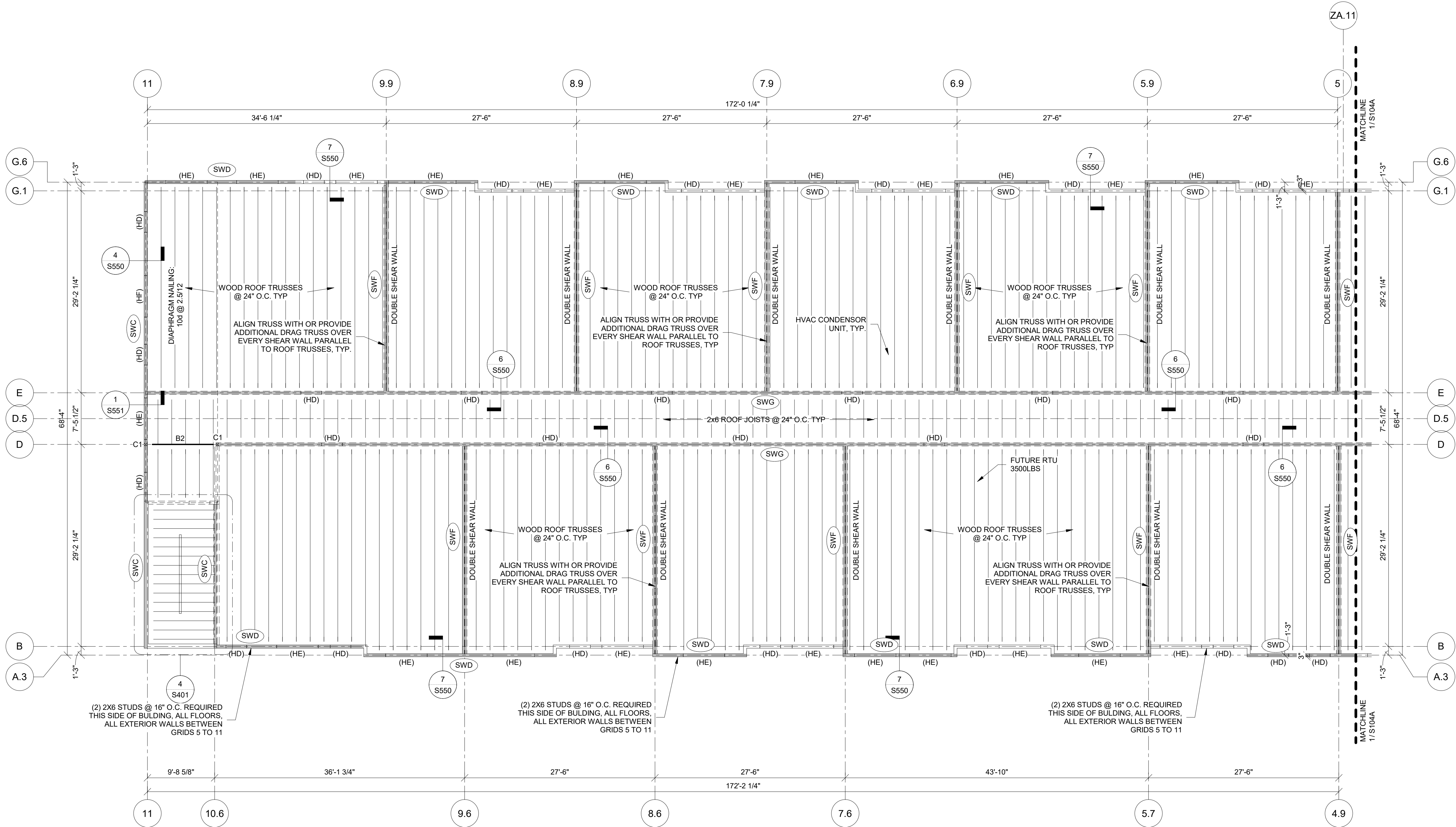
- Notes:
- All exterior columns are to be pressure treated U.N.O.
 - Exterior columns supporting canopy to be Western Cedar or Redwood Grade 1 or better.

LVL BEAM SCHEDULE	
Mark	Size
B1	(4) 1 3/4" x 11 7/8" LVL
B2	(3) 1 3/4" x 11 7/8" LVL
B3	(2) 1 3/4" x 11 7/8" LVL

- Notes:
- All LVL beam shall be stress class 2.0E-2500F

WOOD HANGER SCHEDULE	
Joist Size	Hanger
2x4	LUS24
2x6	LUS26
2x8	LUS26
2x10	LUS28

- Notes:
- Hangers to be installed with typical fasteners per manufacturer product data.
 - All exterior members are to be pressure treated.



DISCOVERY PARK - LOT #10-A

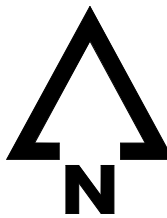
100 NE ALURA WAY
LEE'S SUMMIT, MO 64064

SHEET TITLE
ROOF ZONE B FRAMING PLAN

PROJECT NUMBER: 2023000333

SHEET NUMBER:

S104B



1 ROOF FRAMING PLAN
S104B 1/8" = 1'-0"

PRINTS ISSUED
PERMIT SUBMITTAL 12/20/2024
REVISIONS:

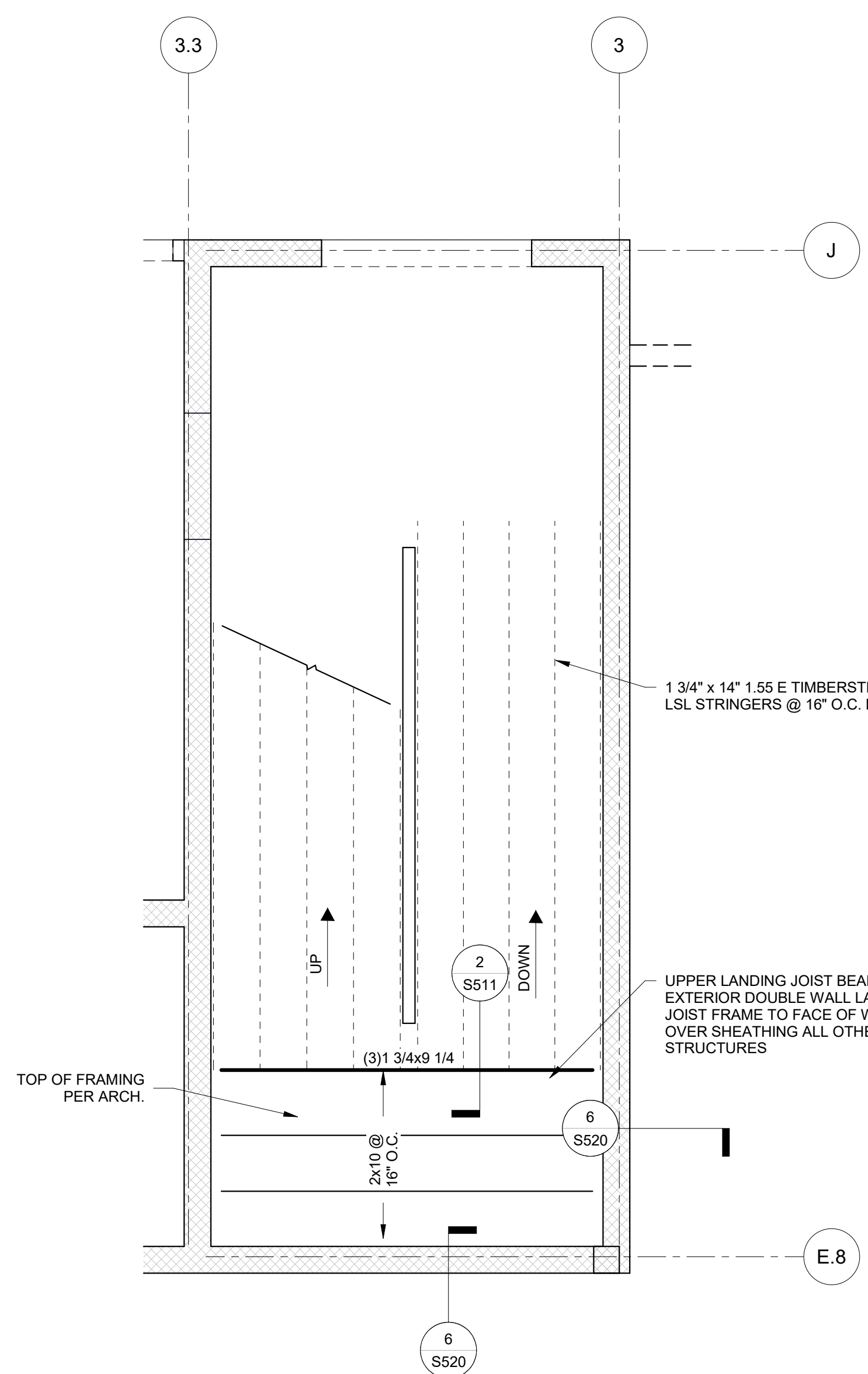
McCLURE
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Columbia, MO 65203
P 573-814-1568
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MISSOURI CERTIFICATE OF AUTHORITY
NO. E-2006023253
EXPIRES: DECEMBER 31, 2024



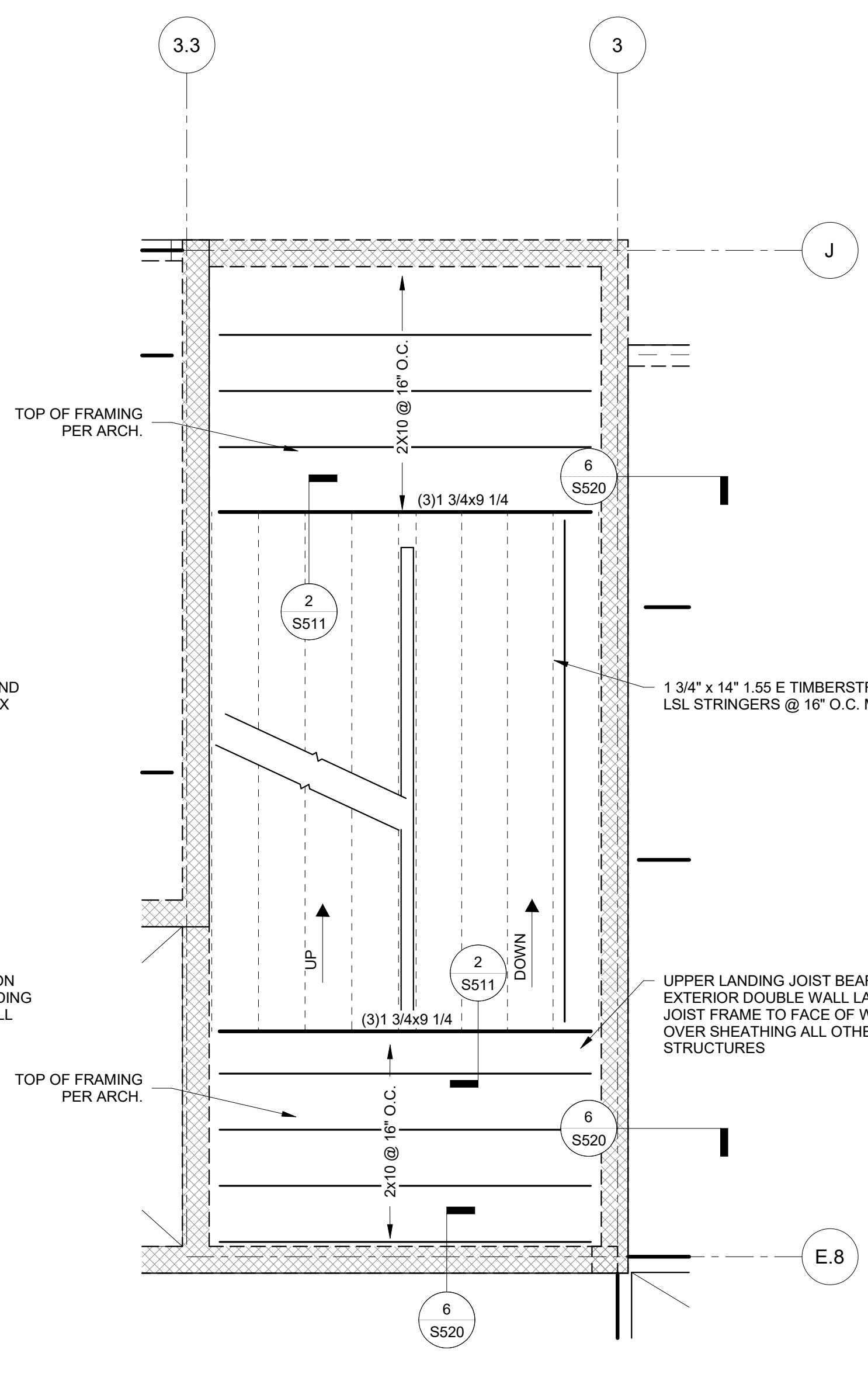
DISCOVERY PARK - LOT #10-A
100 NE ALURA WAY
LEE'S SUMMIT, MO 64064

SHEET TITLE
ENLARGED ZONE A STAIR TOWER
FRAMING PLANS
PROJECT NUMBER: 2023000333
SHEET NUMBER:

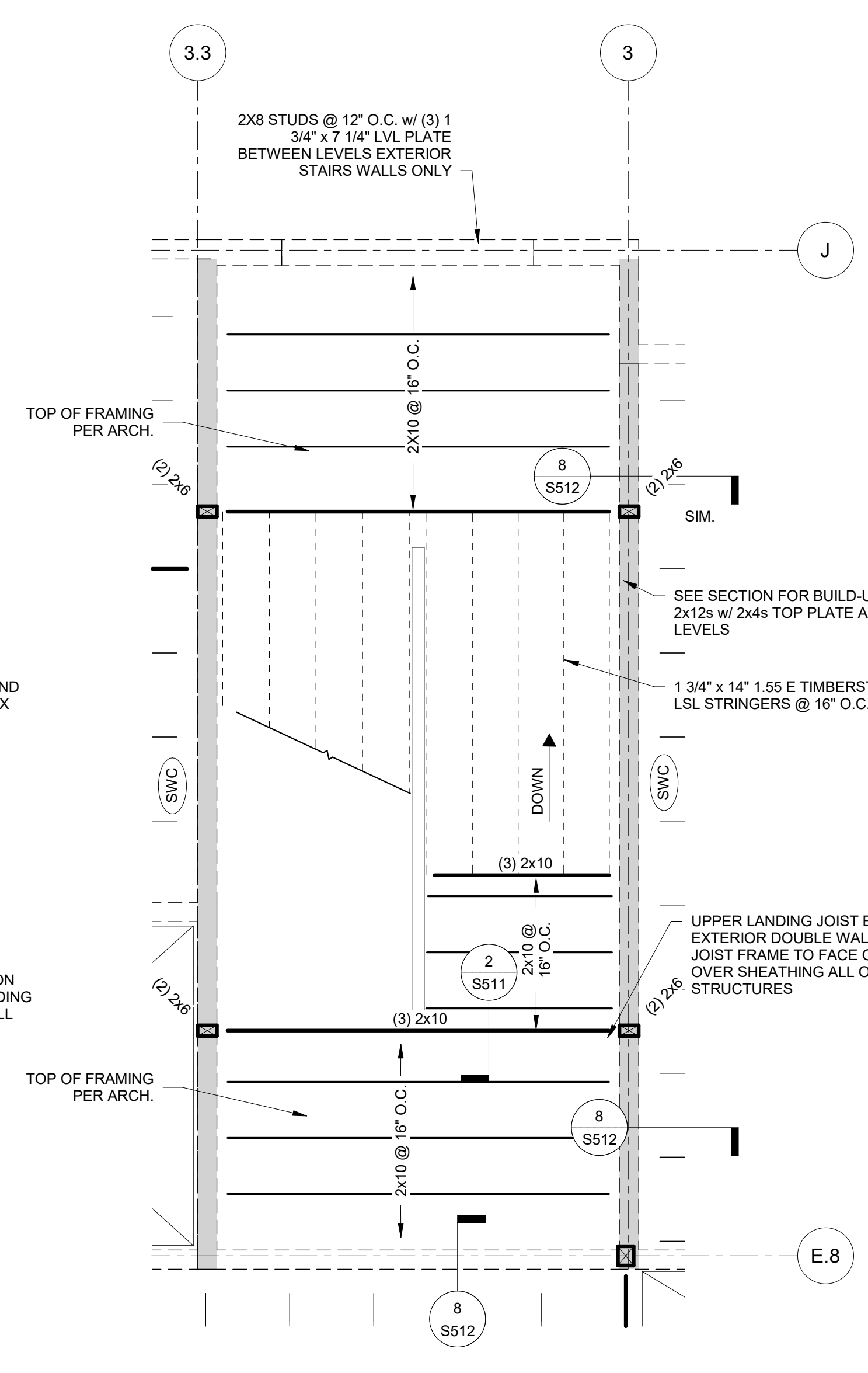
S400



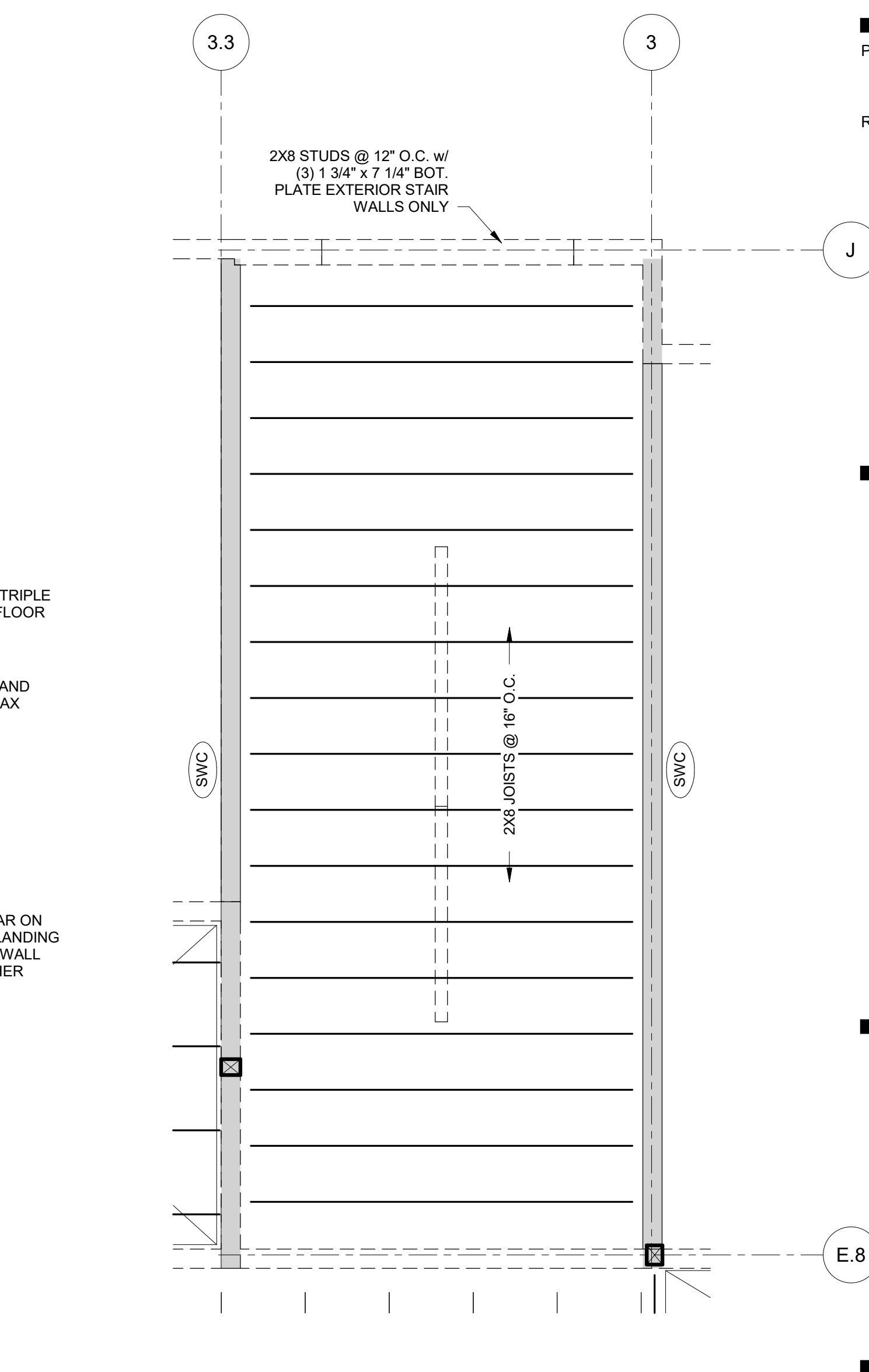
1 LEVEL 2 BROWNSTONE ZONE A ENLARGED STAIR TOWER
S400 3/8" = 1'-0"



2 LEVEL 2 ZONE A ENLARGED STAIR TOWER
S400 3/8" = 1'-0"



3 LEVEL 3 ZONE A ENLARGED STAIR TOWER
S400 3/8" = 1'-0"



4 ROOF ZONE A ENLARGED STAIR TOWER
S400 3/8" = 1'-0"

PERMIT SUBMITTAL 12/20/2024

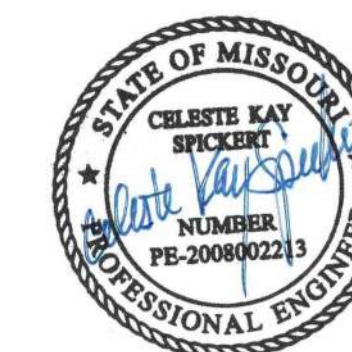
REVISIONS



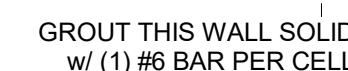
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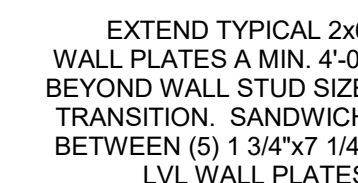
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NO. E-2006023253
EXPIRES: DECEMBER 31, 2024



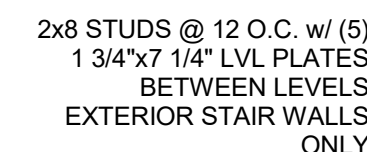
12/20/20



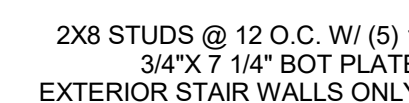
1	LEVEL 2 B
S401	$3/8" = 1'-0"$



2	LEVEL 2 ZONE B ENLARGED STAIR TOWER
S401	3/8" = 1'-0"



3	LEVEL 3 ZONE B ENLARGED STAIR TOWER
S401	3/8" = 1'-0"

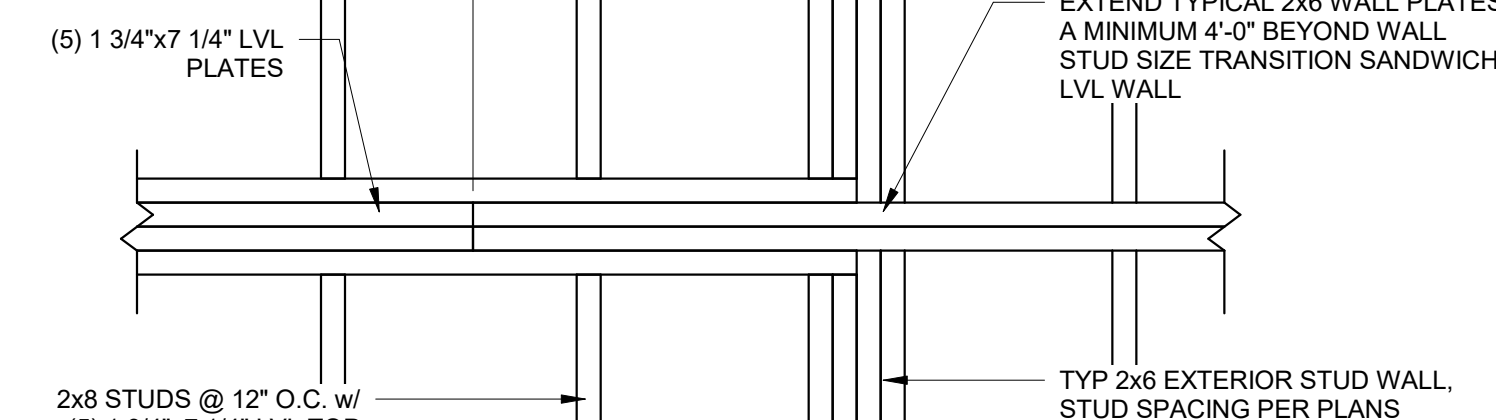


4	ROOF ZONE B ENLARGED STAIR TOWER
S401	3/8" = 1'-0"



5	BROWNST
S401	3/8" = 1'-0"

6	ENLARGED ROOF AT ELEVATOR
S401	3/8" = 1'-0"



7 STAIRS
S401 1" = 1'-0"

DISCOVERY PARK - LOT #10-A

100 NE ALURA WAY
LEE'S SUMMIT, MO 64064


SHEET TITLE
ENLARGED ZONE B STAIR TOWER
AND ELEVATOR ROOF FRAMING
PLANS

PROJECT NUMBER: 202300033

SHEET NUMBER

S401

PRINTS ISSUED
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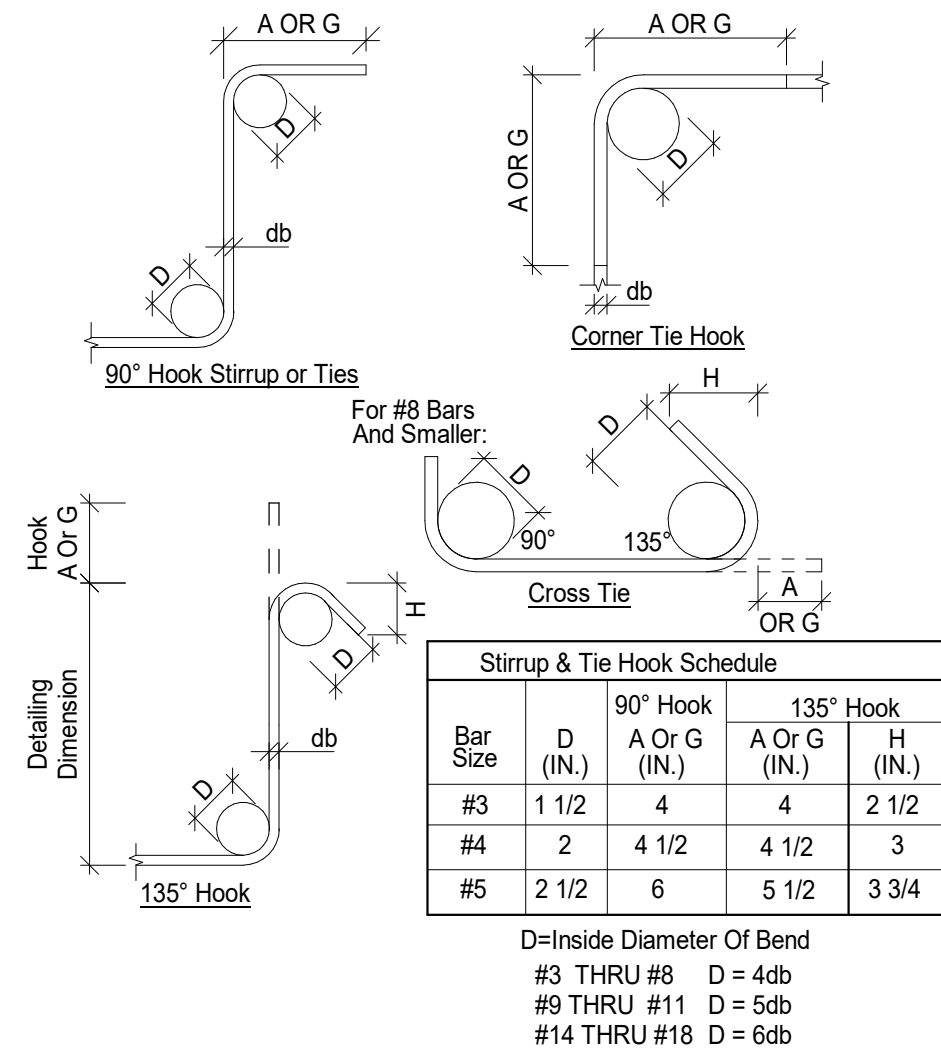
DISCOVERY PARK - LOT #10-A

100 NE ALURA WAY
LEE'S SUMMIT, MO 64064

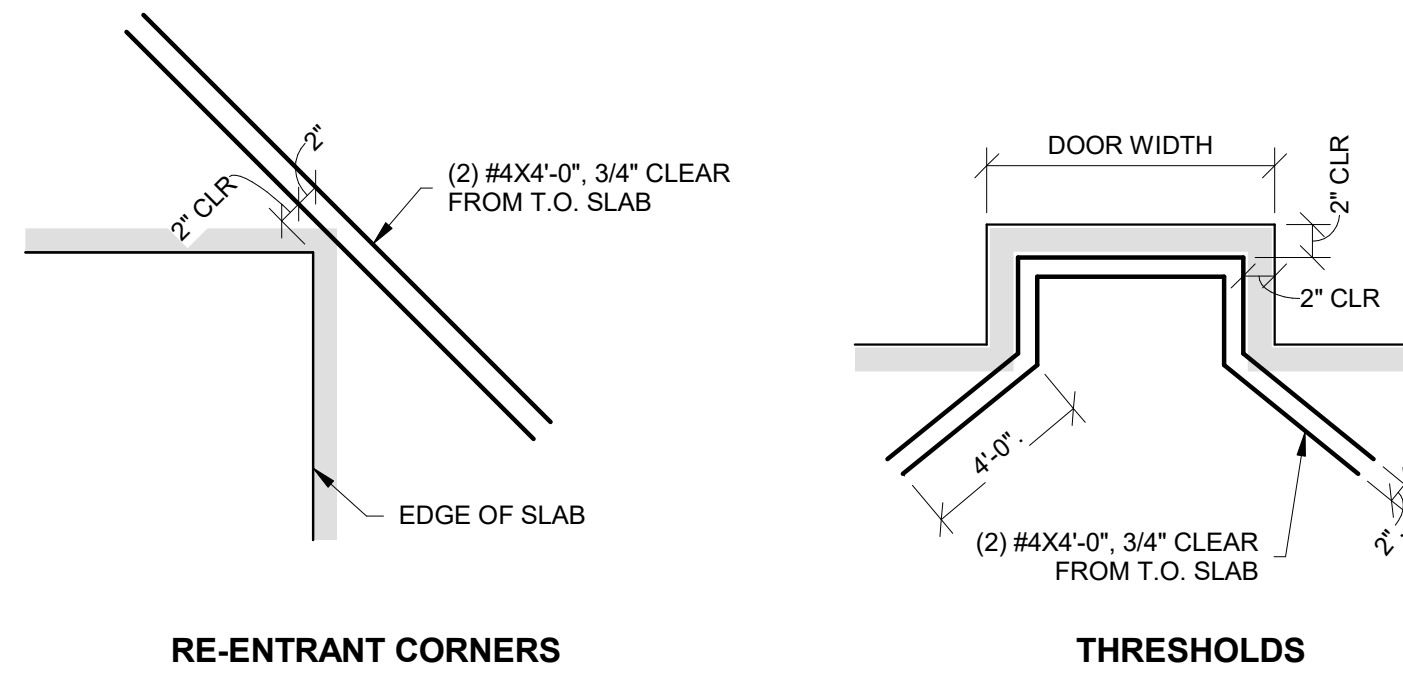
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TYPICAL FOUNDATION DETAILS

PROJECT NUMBER: 2023000333
SHEET NUMBER:

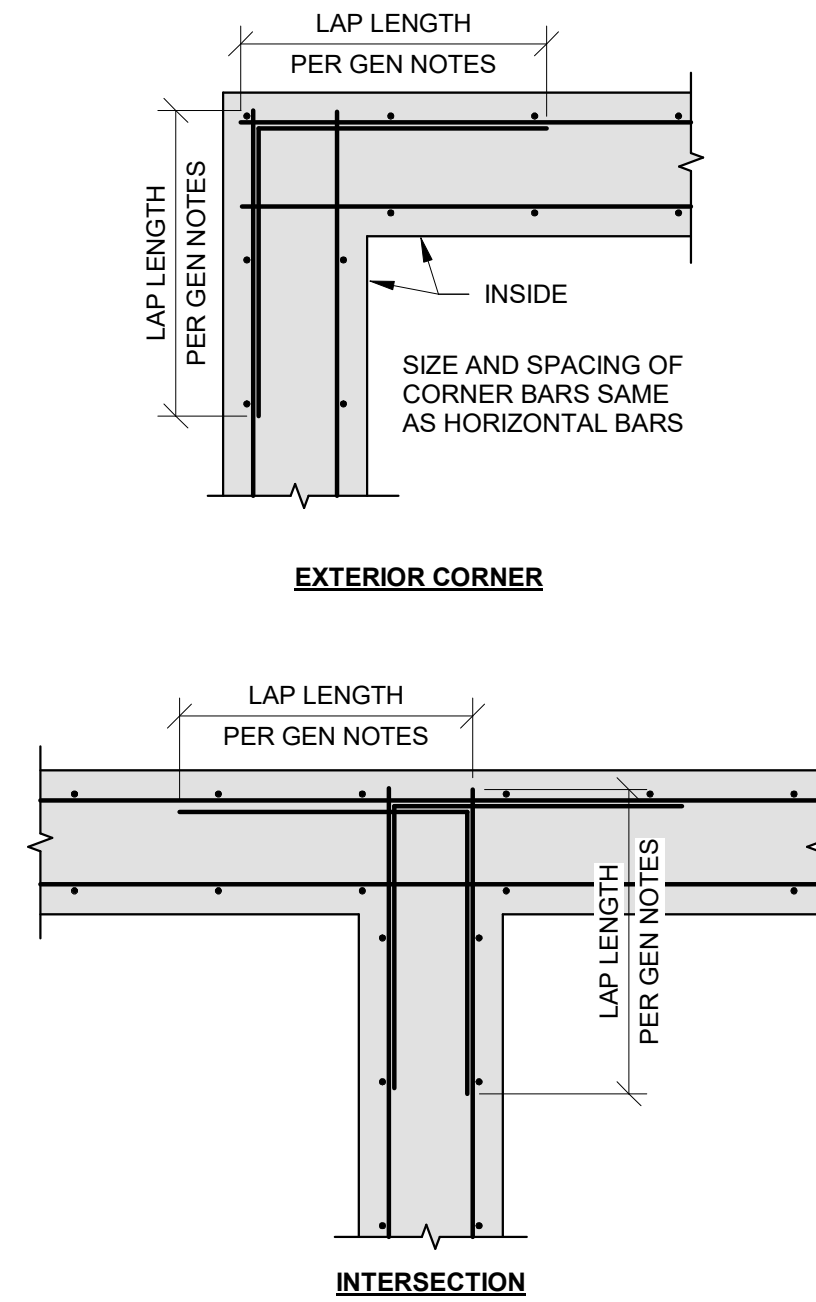
S500



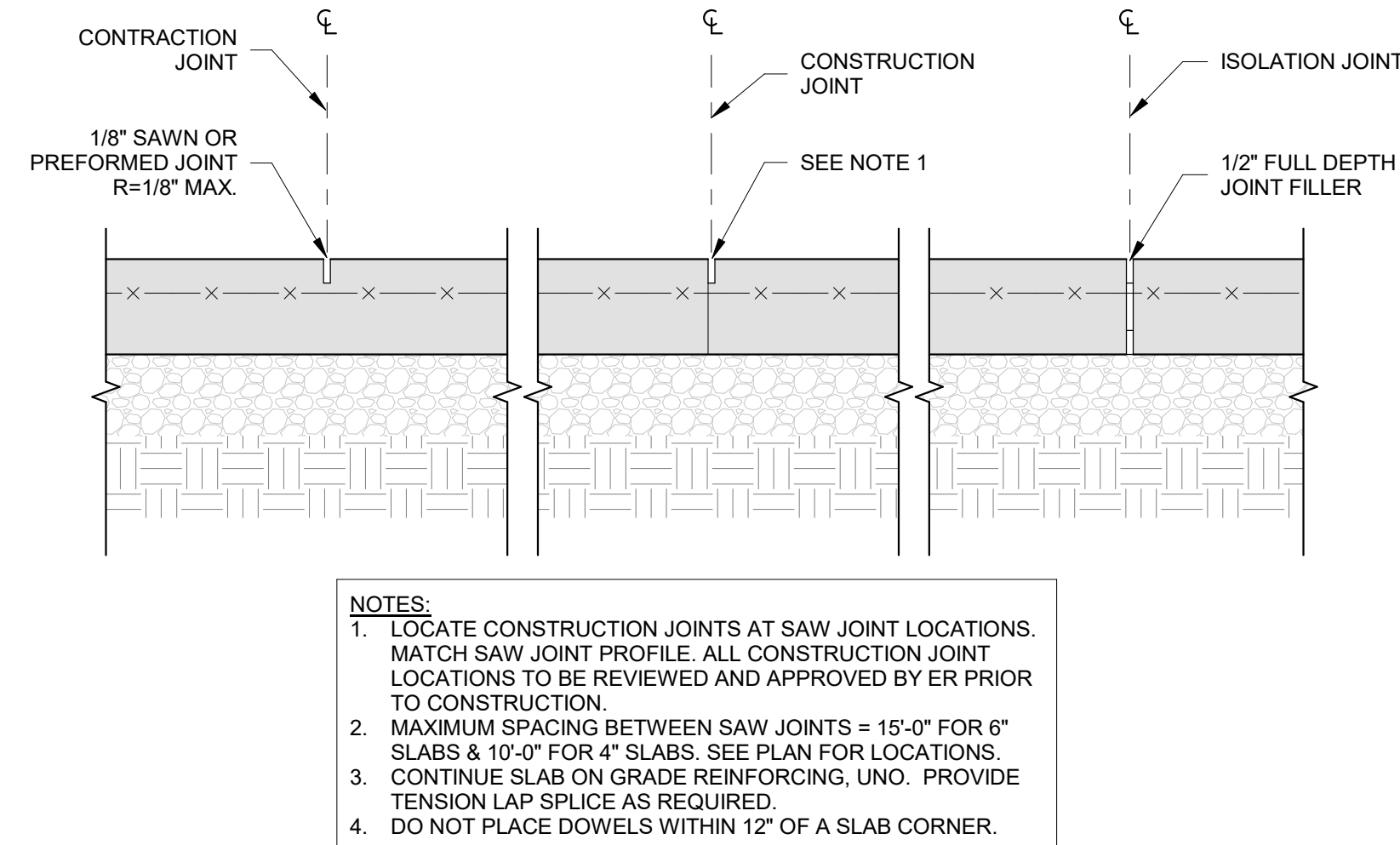
1 TYPICAL BAR BENDING DETAIL
S500 NTS



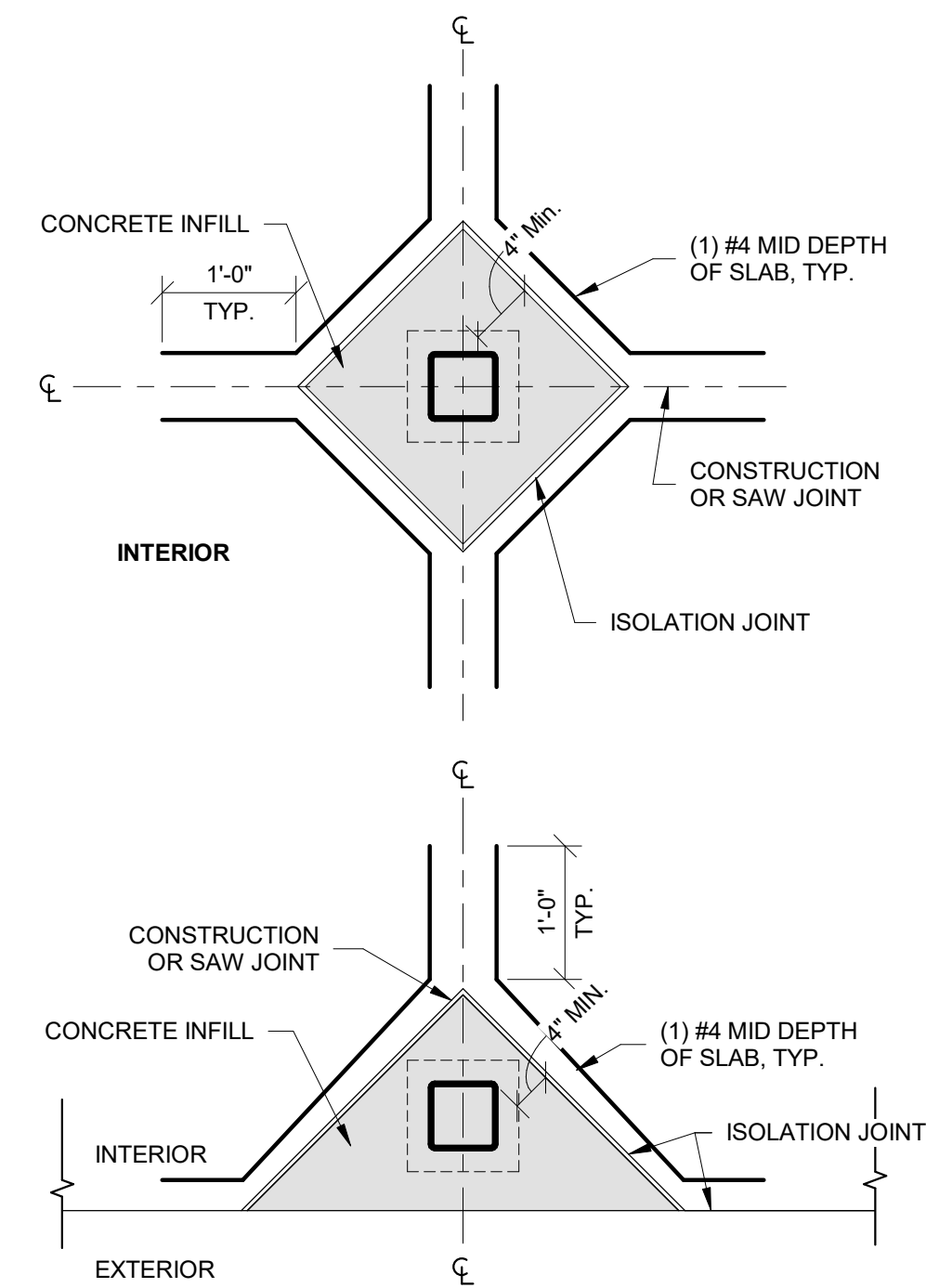
2 TYPICAL ADDITIONAL REINFORCING IN SLABS
S500 NTS



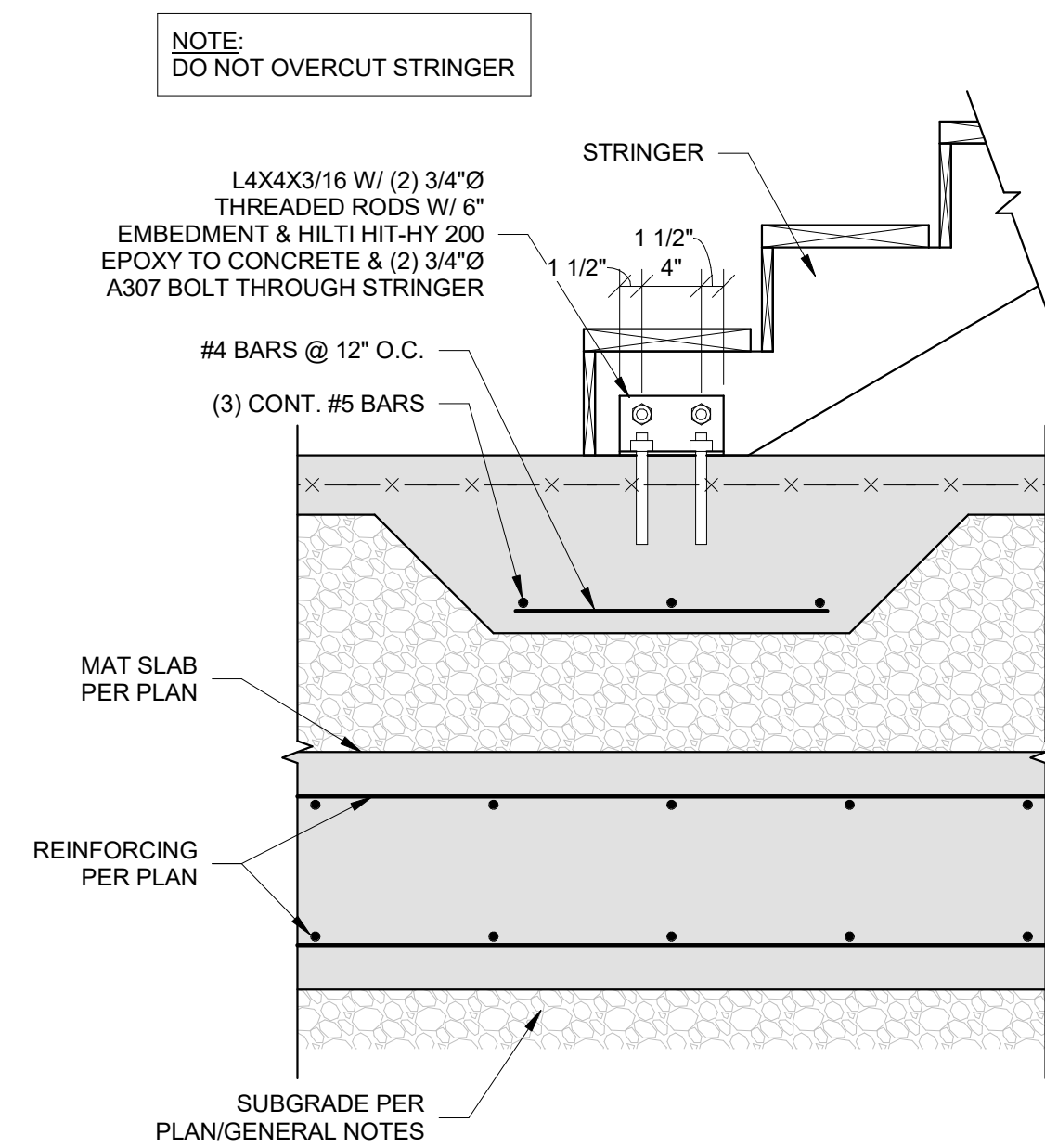
3 TYPICAL FOUNDATION CORNER WALL DETAIL
S500 NTS



4 TYPICAL SLAB ON GRADE JOINTS
S500 NTS



5 SLAB ON GRADE ISOLATION JOINT AT COLUMNS
S500 NTS



6 STAIR TO THICKENED SLAB
S500 1" = 1'-0"

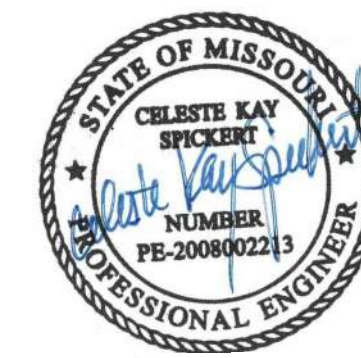
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EXPIRES: DECEMBER 31, 2024



12/20/2024

DISCOVERY PARK - LOT #10-A

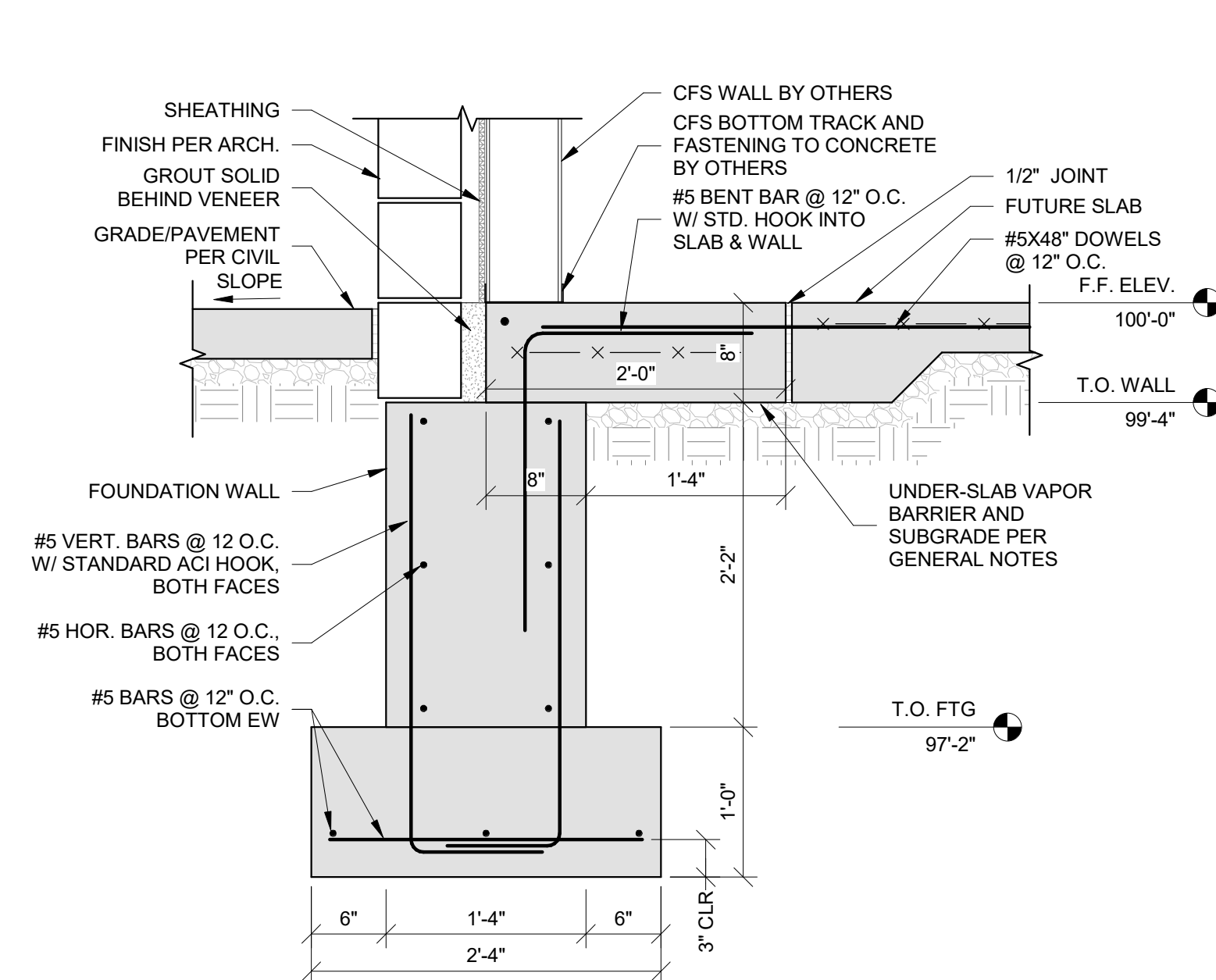
100 NE ALURA WAY
LEE'S SUMMIT, MO 64064

SHEET TITLE
FOUNDATION DETAILS

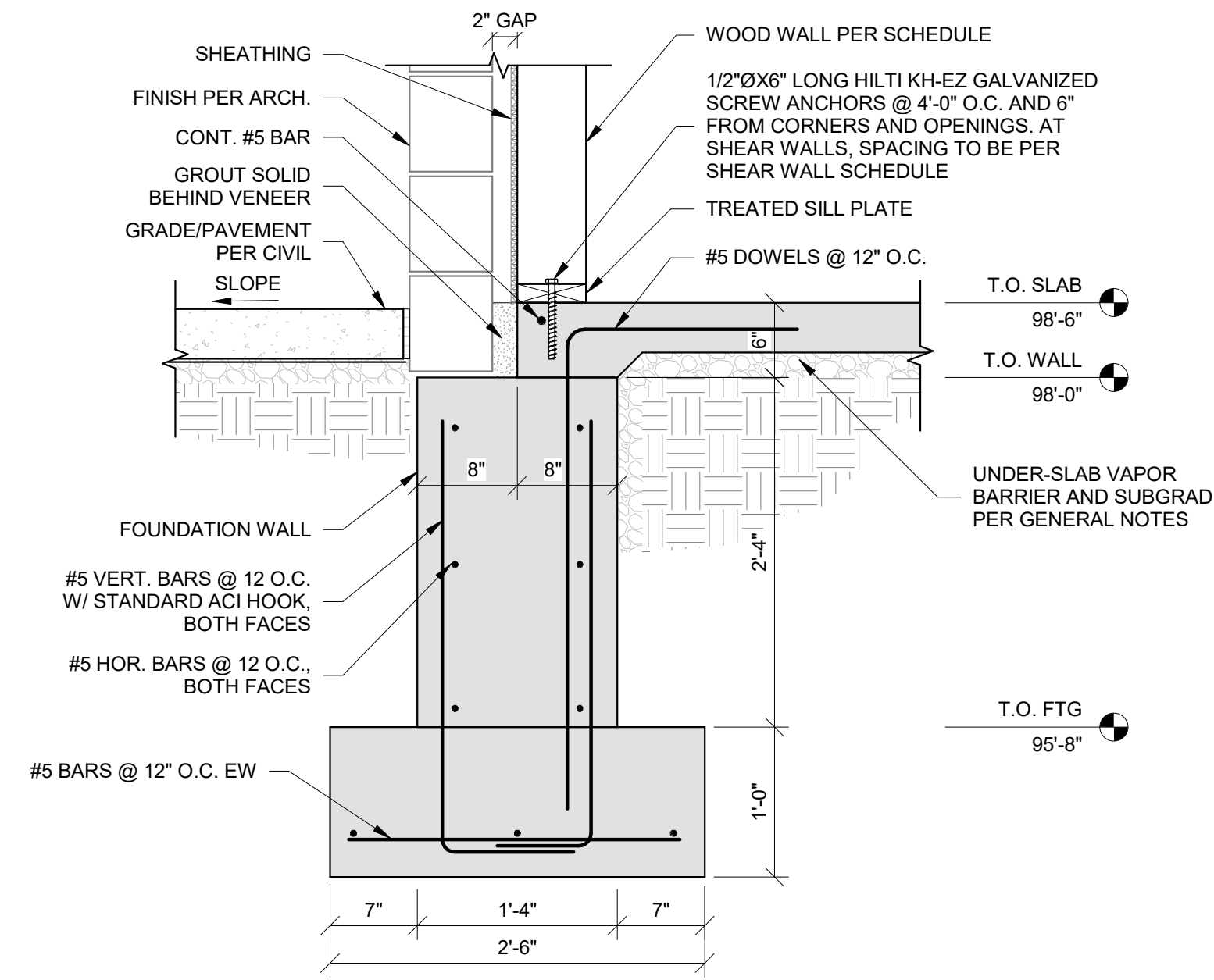
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SHEET NUMBER

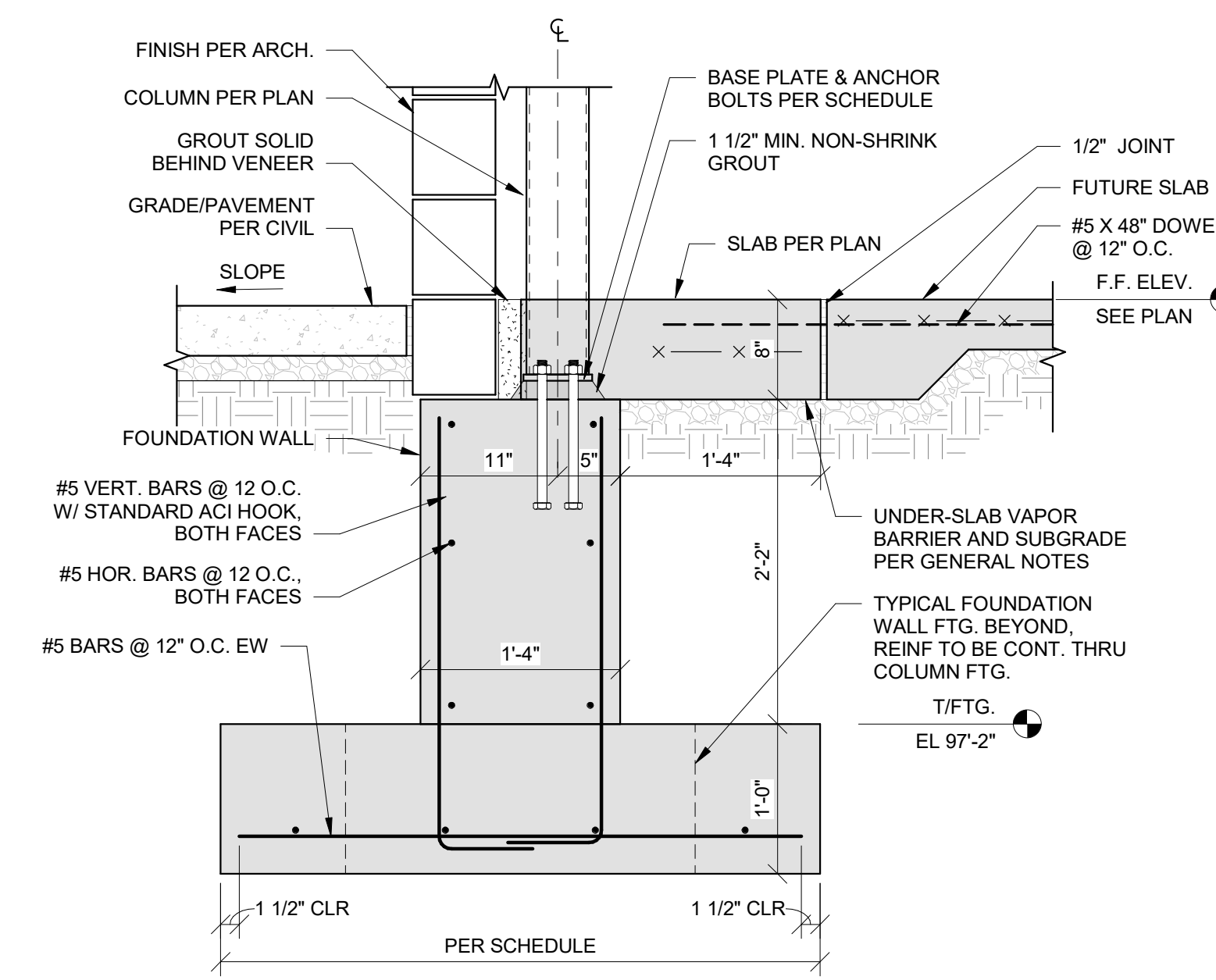
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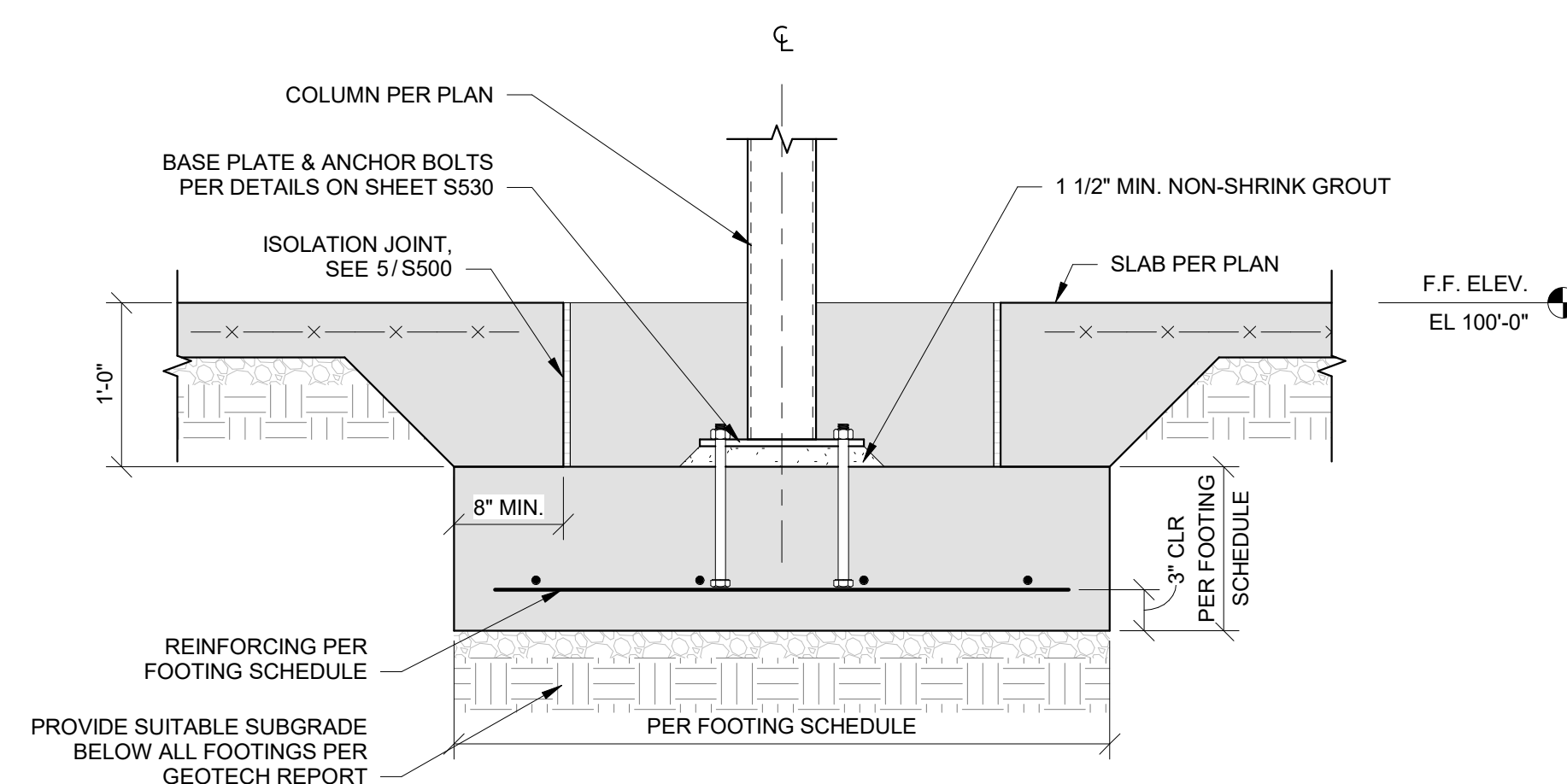
1 FOUNDATION - FROST WALL SECTION, COMMERCIAL
S501 1" = 1'-0"



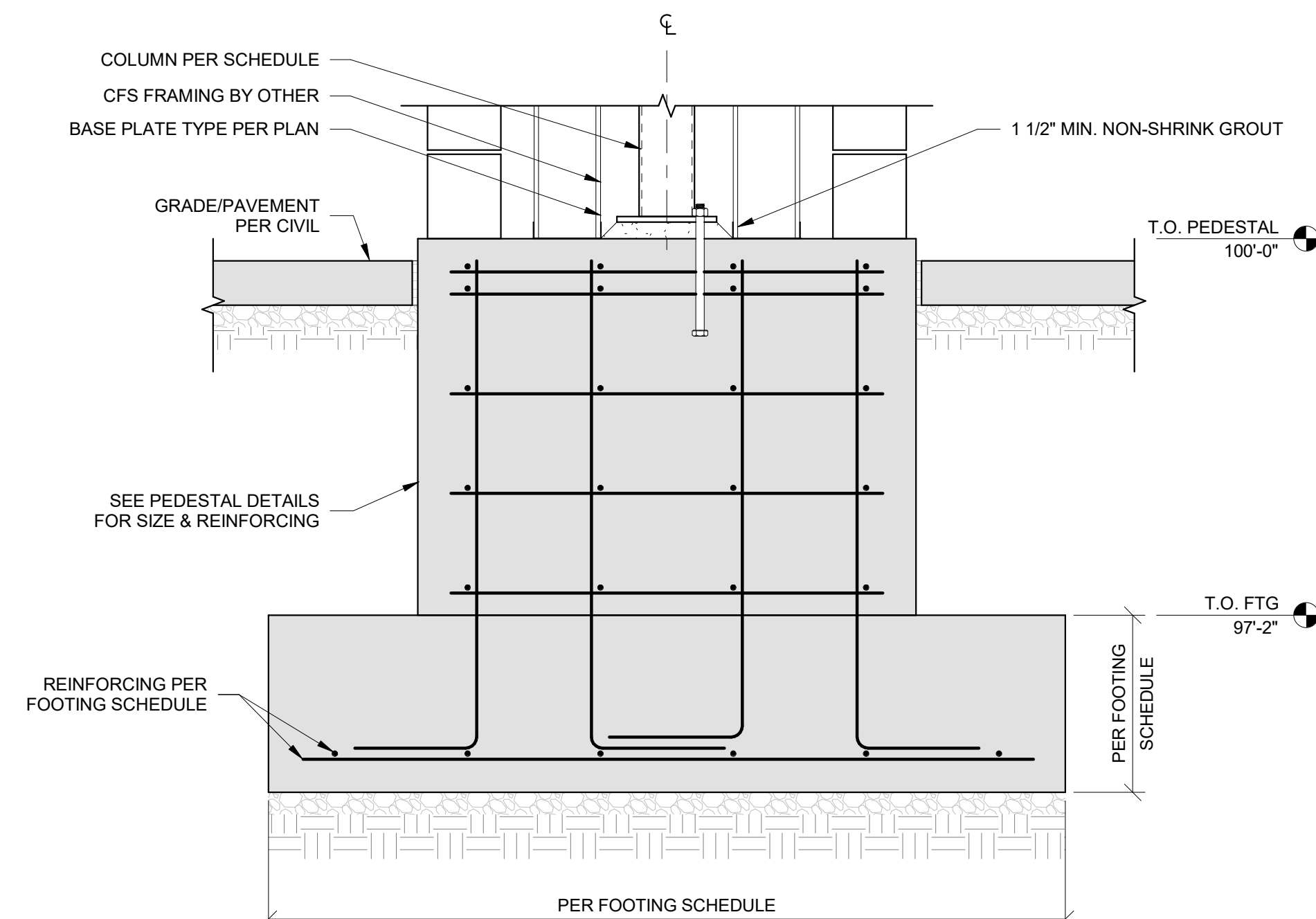
2 FOUNDATION - FROST WALL SECTION, BROWNSTONES
S501 1" = 1'-0"



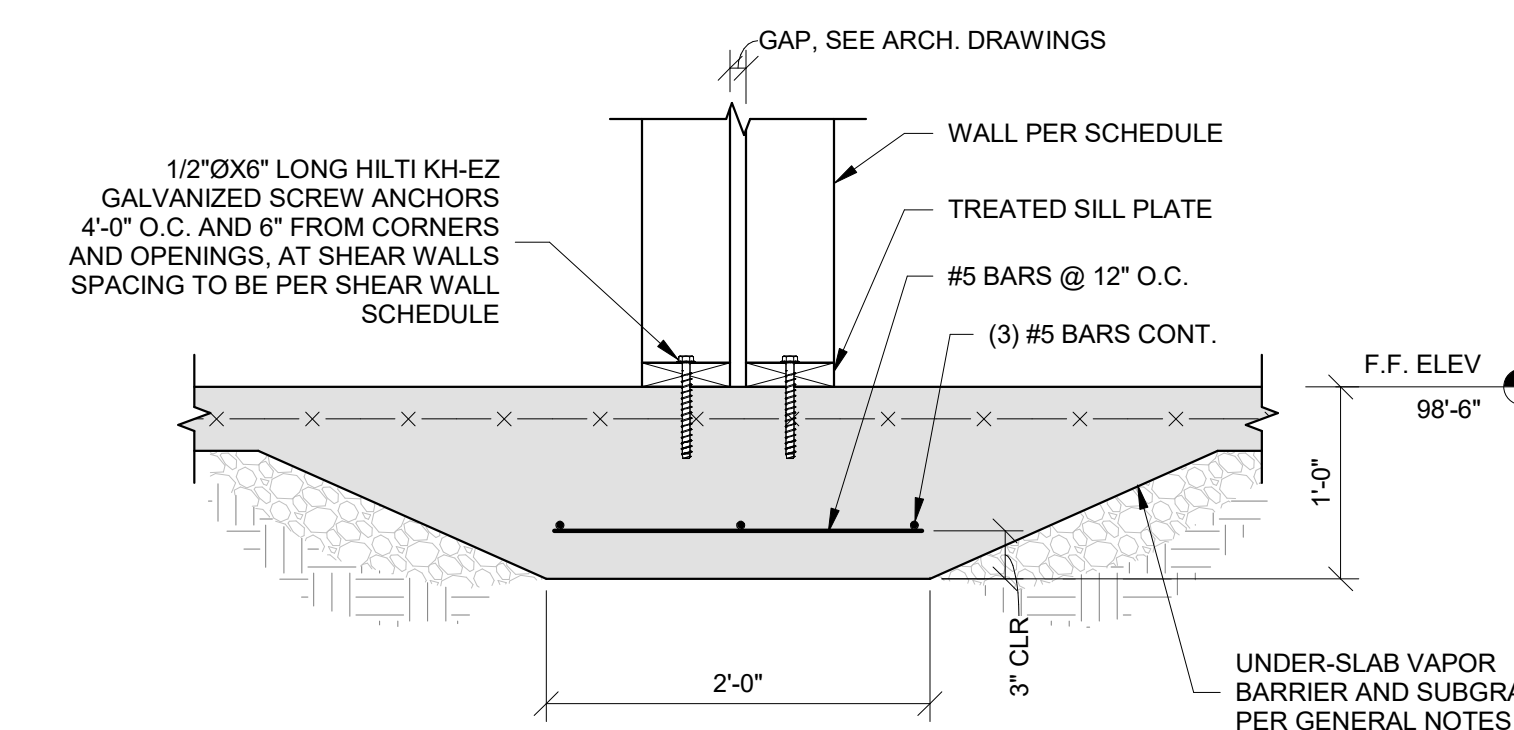
3 FOUNDATION - FROST WALL SECTION AT COLUMN
S501 1" = 1'-0"



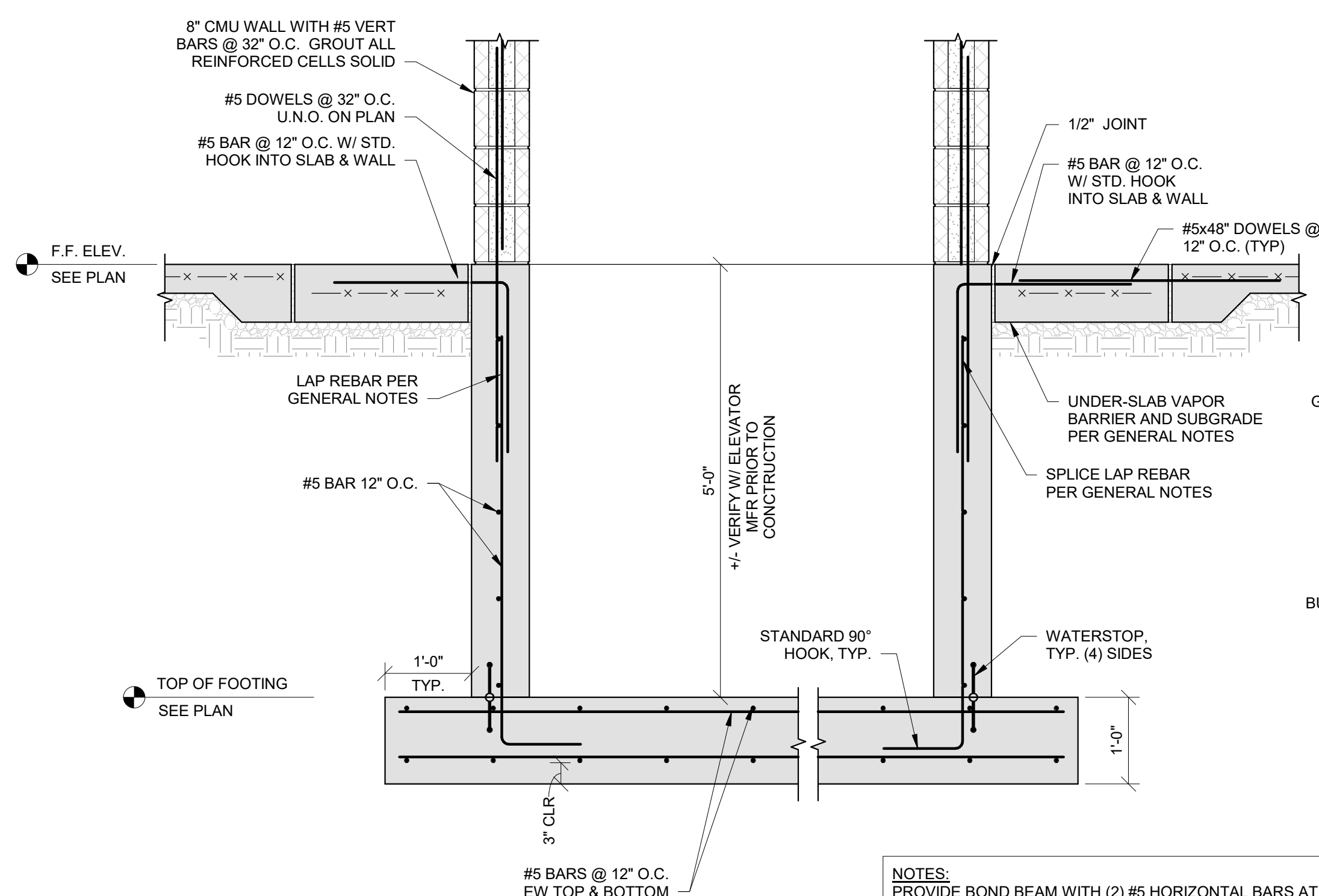
4 TYPICAL INTERIOR COLUMN FOOTING
S501 1" = 1'-0"



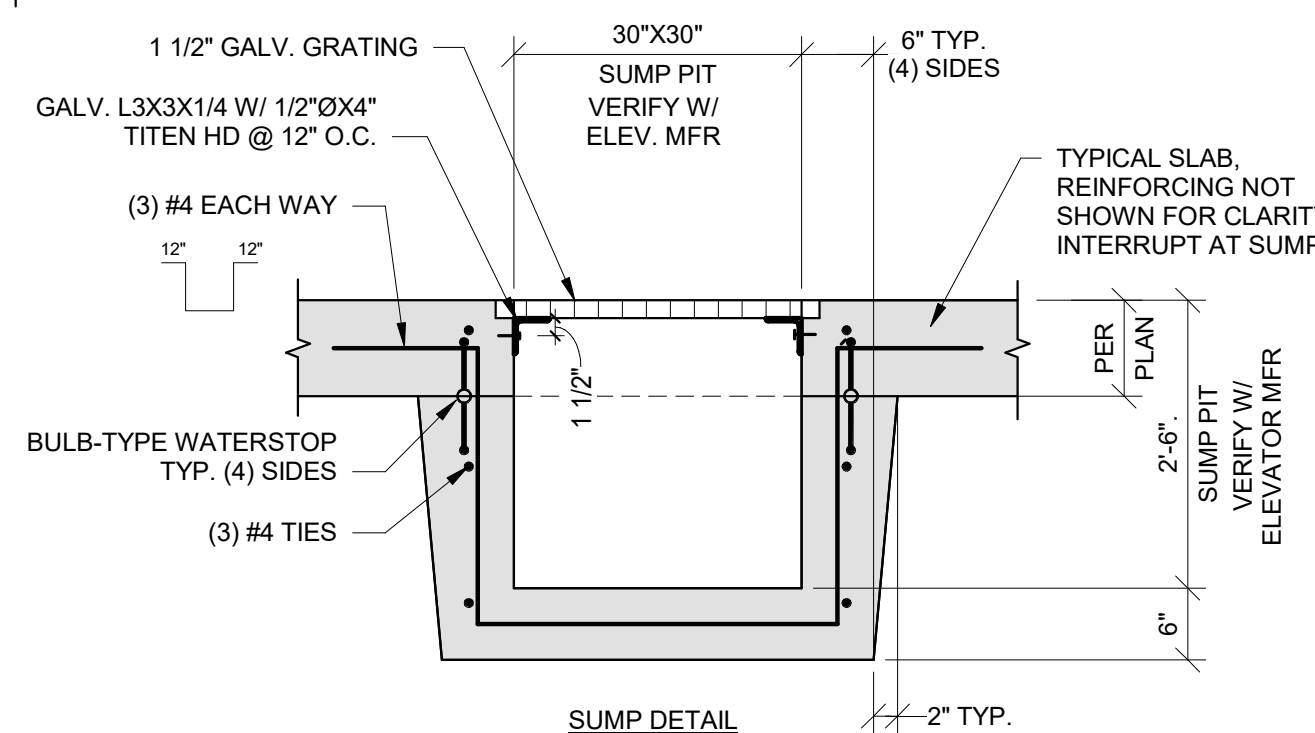
5 STEEL COLUMN AT PEDESTAL
S501 1" = 1'-0"



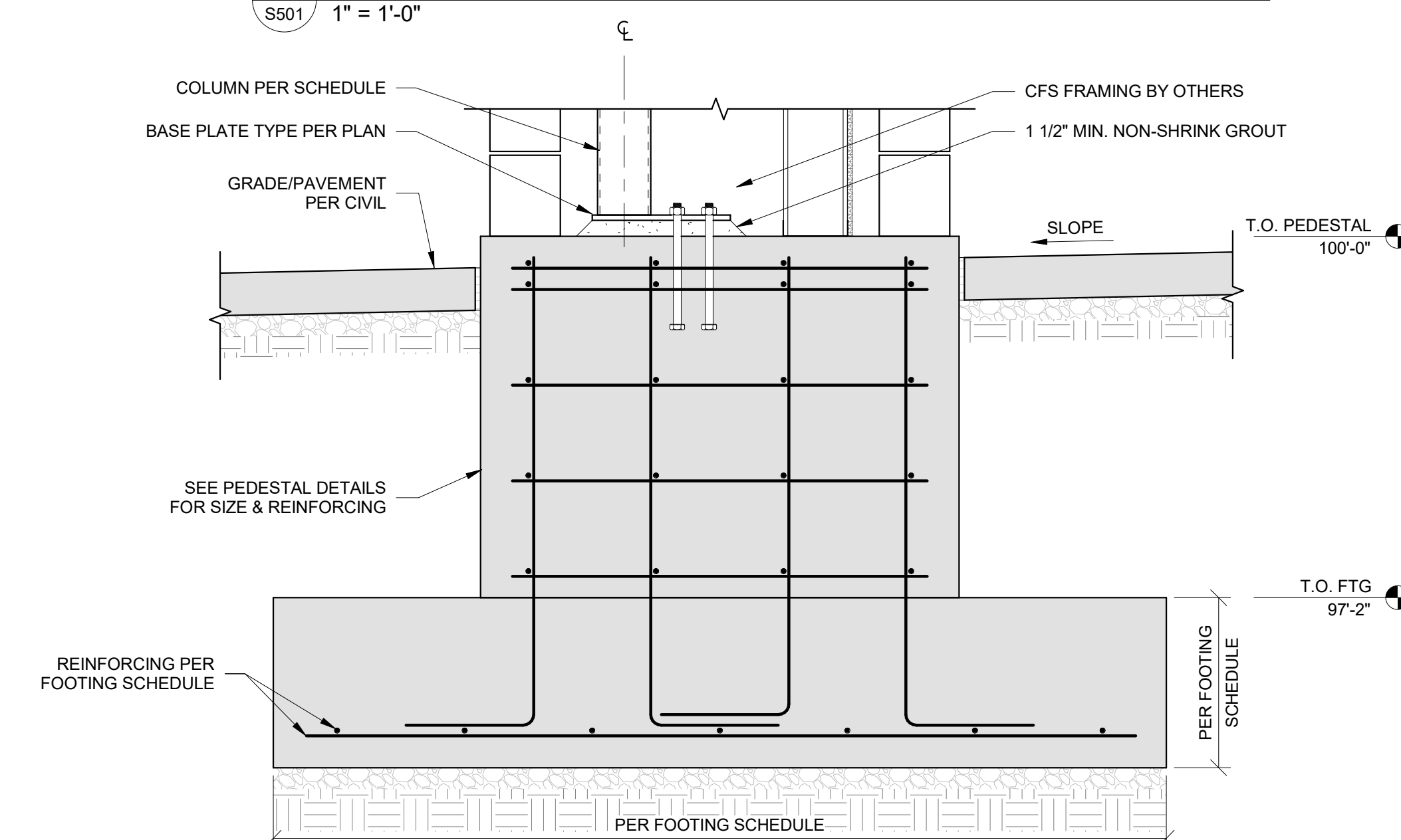
7	INTERIOR BEARING WALL AT THICKENED SLAB
S501	1" = 1'-0"



6 ELEVATOR PIT DETAIL
S501 $\frac{3}{4}" = 1'-0"$



8 STEEL COLUMN AT PEDESTAL
S501 1" = 1'-0"



8 STEEL COLUMN AT PEDESTAL
S501 1" = 1'-0"

PERMIT SUBMITTAL 12/20/2024



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Columbia, MO 65203
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MISSOURI CERTIFICATE OF AUTHORITY
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EXPIRES: DECEMBER 31, 2024



12/20/2024

DISCOVERY PARK - LOT #10-A

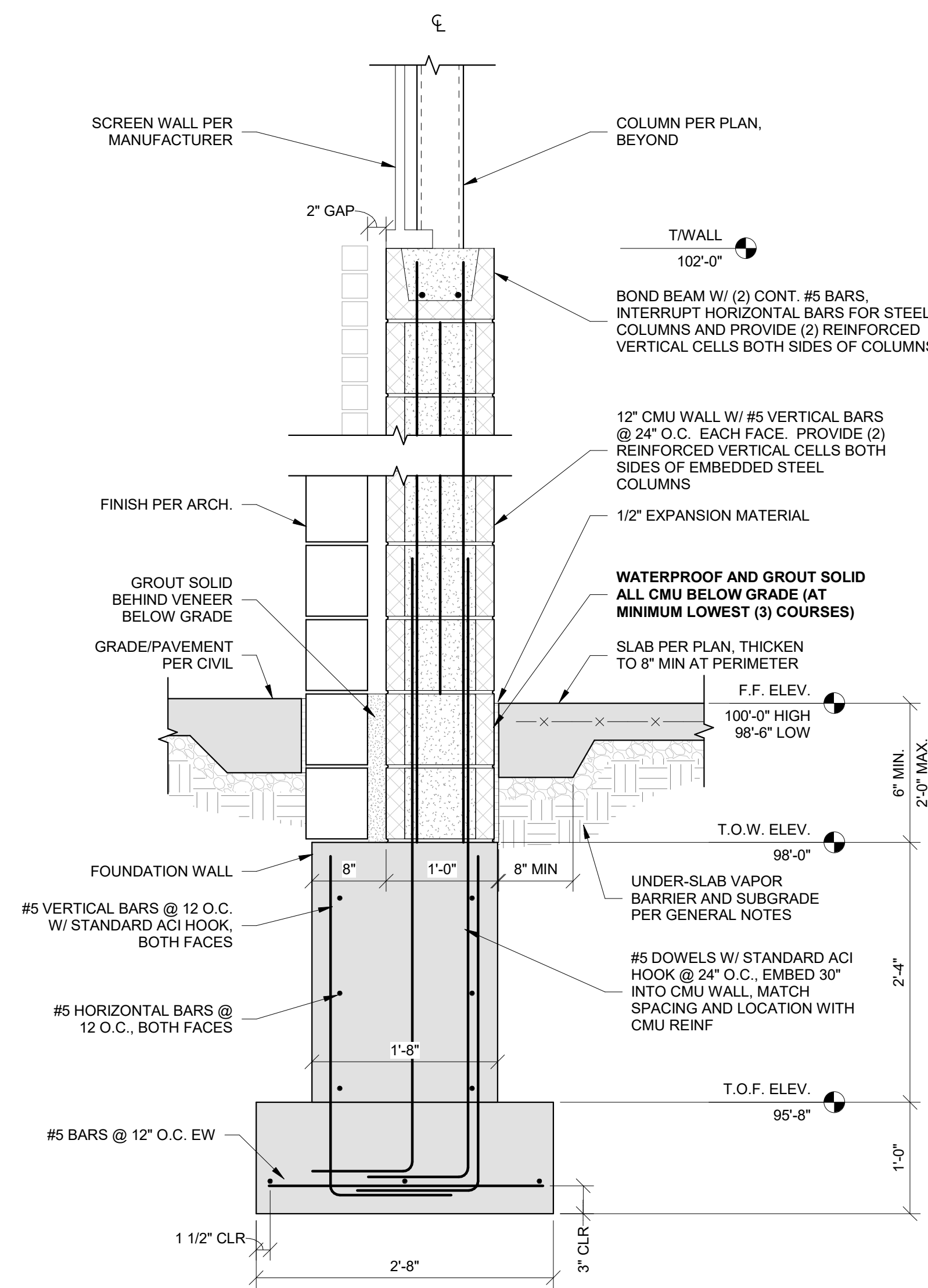
100 NE ALURA WAY
LEE'S SUMMIT, MO 64064

SHEET TITLE
FOUNDATION DETAILS

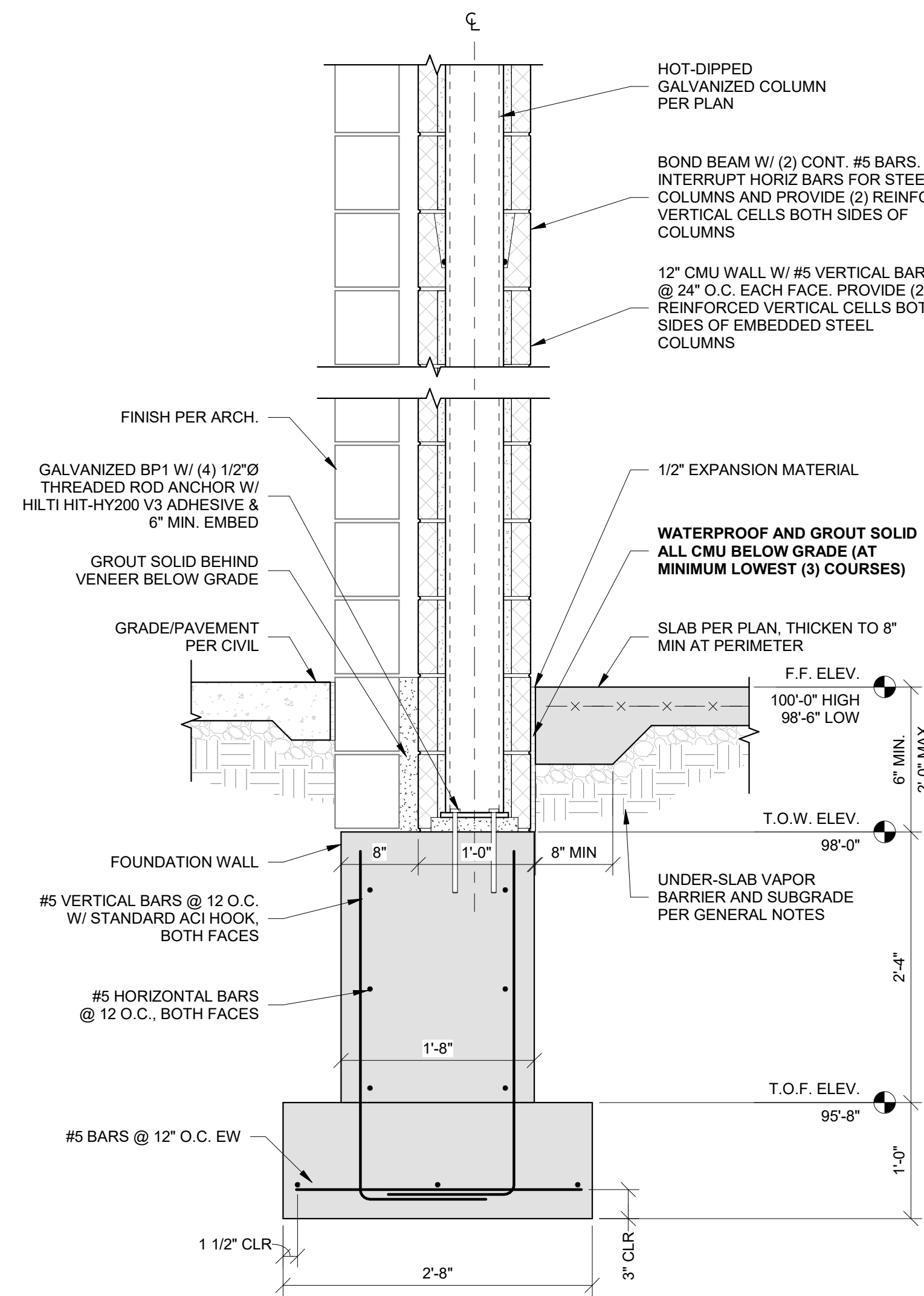
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SHEET NUMBER

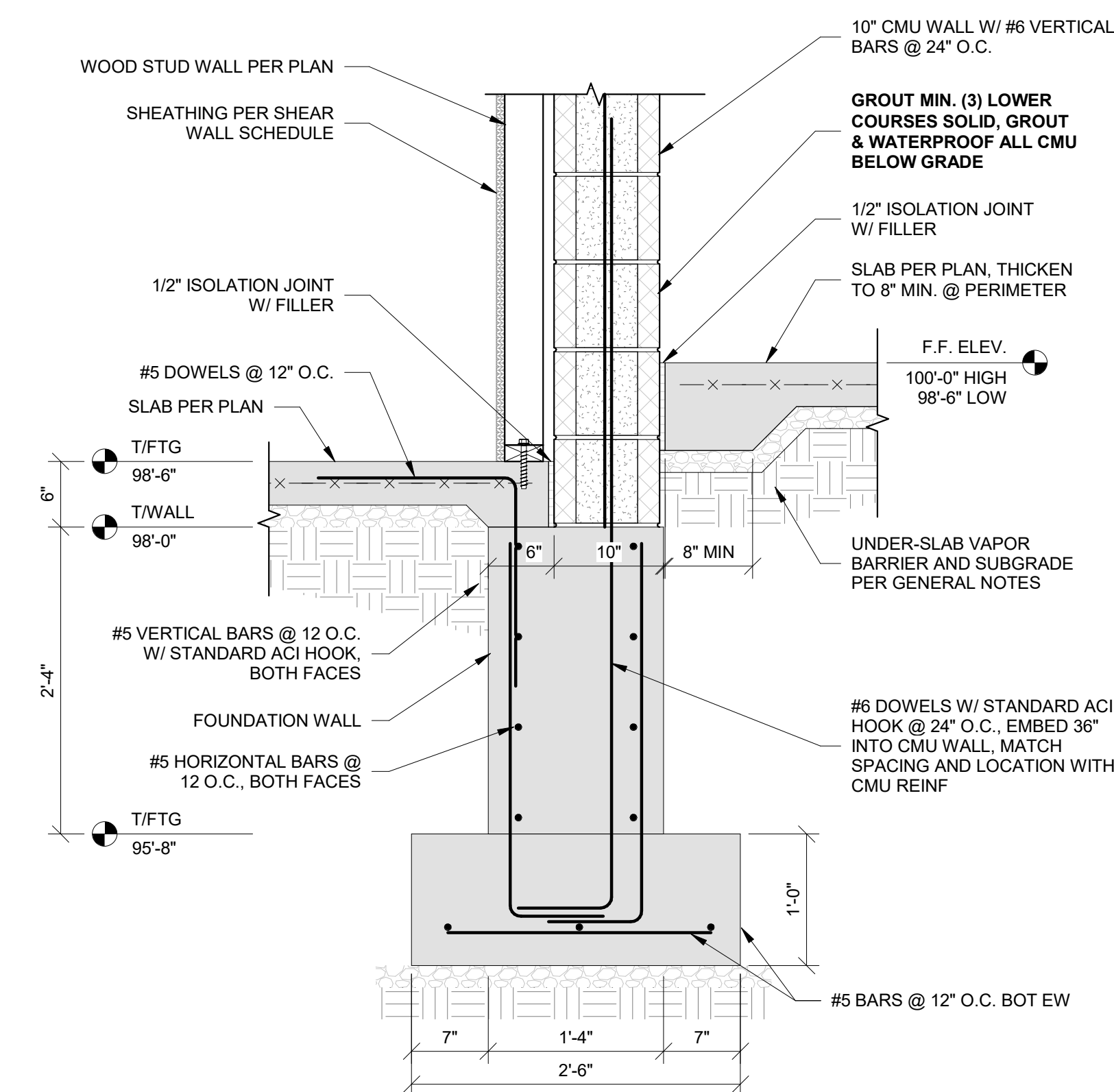
S502



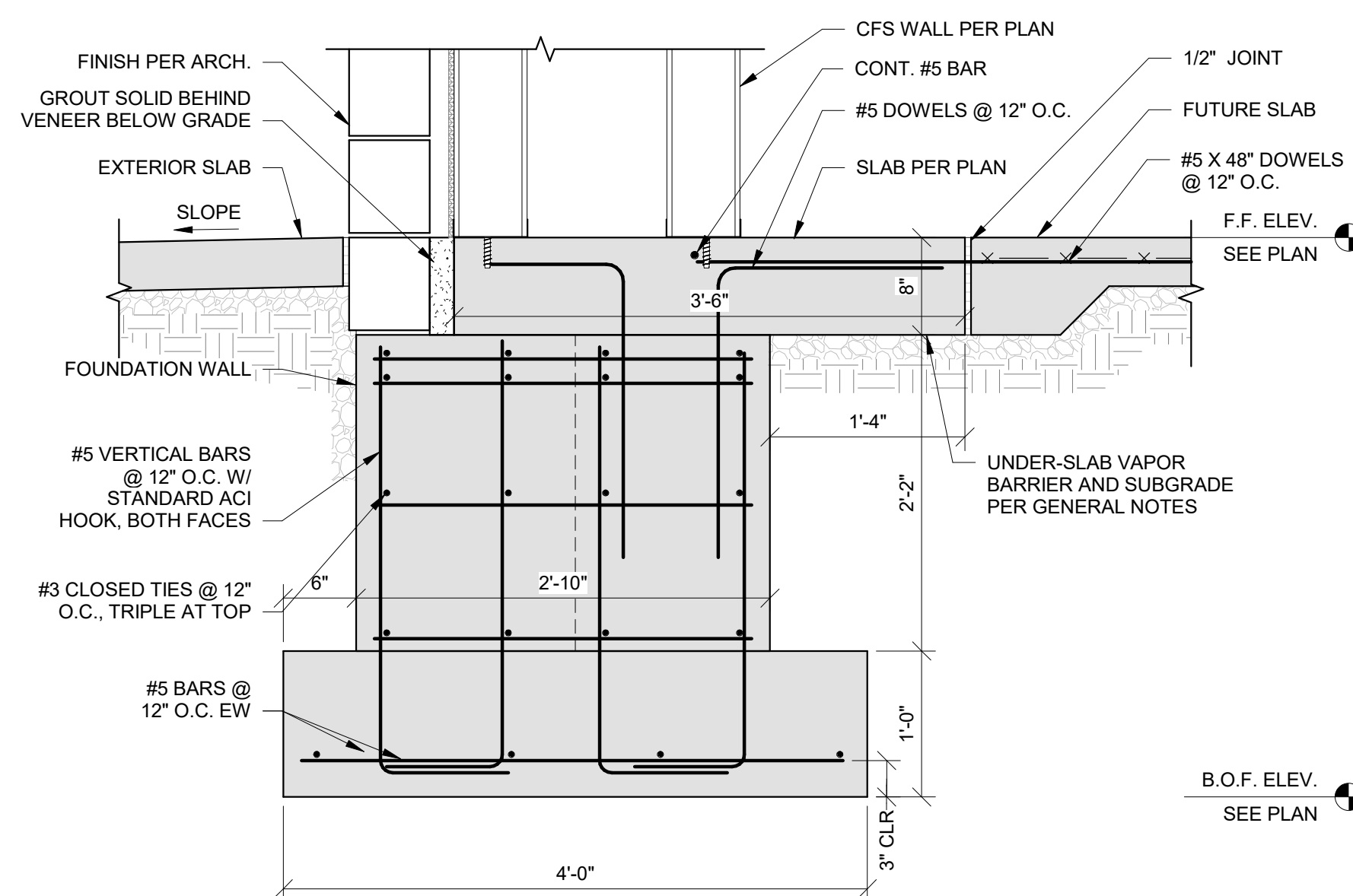
1 SECTION AT GARAGE CMU WALL OPENING
S502 1" = 1'-0"



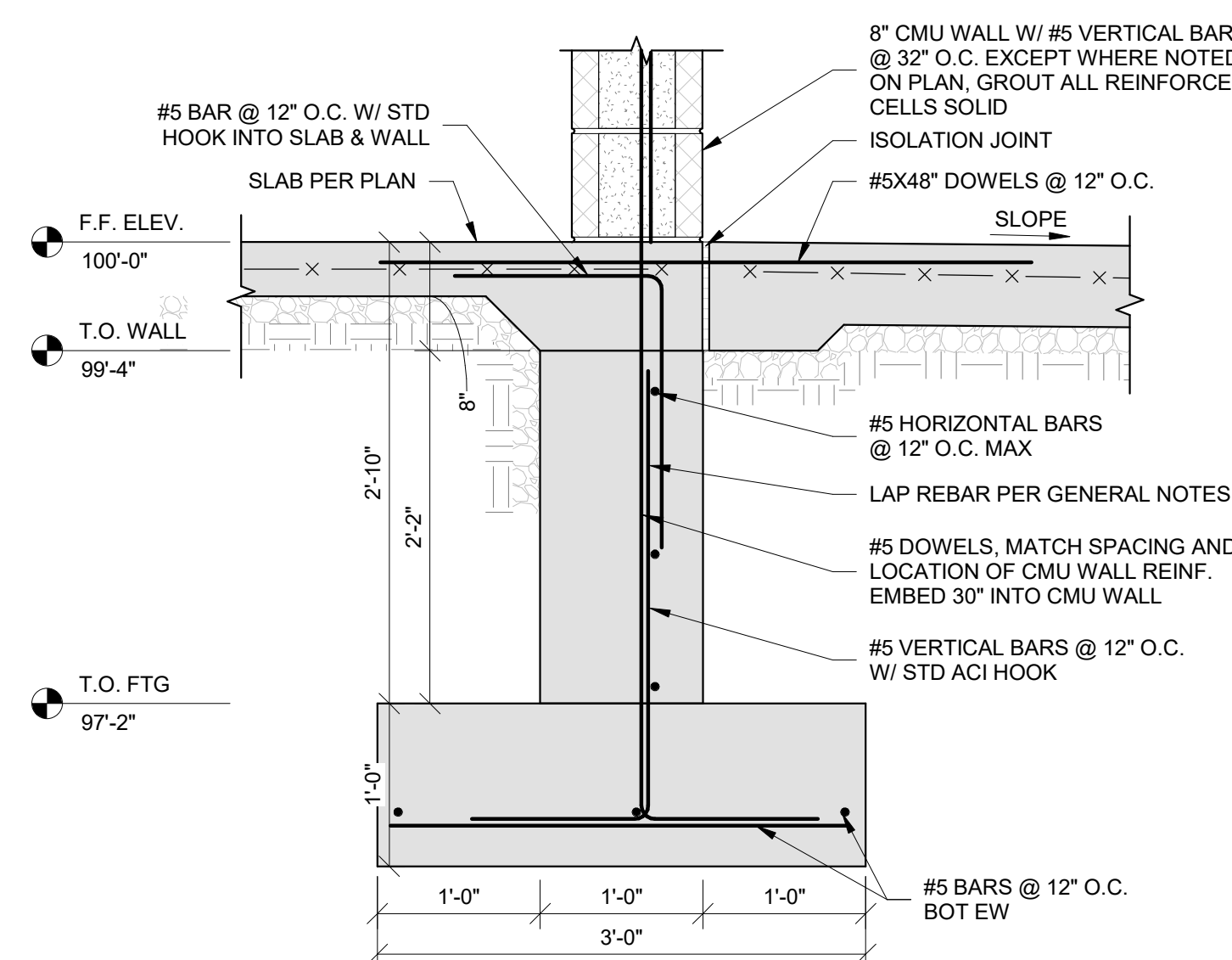
2 SECTION AT EXTERIOR GARAGE WALL COLUMN
S502 1" = 1'-0"



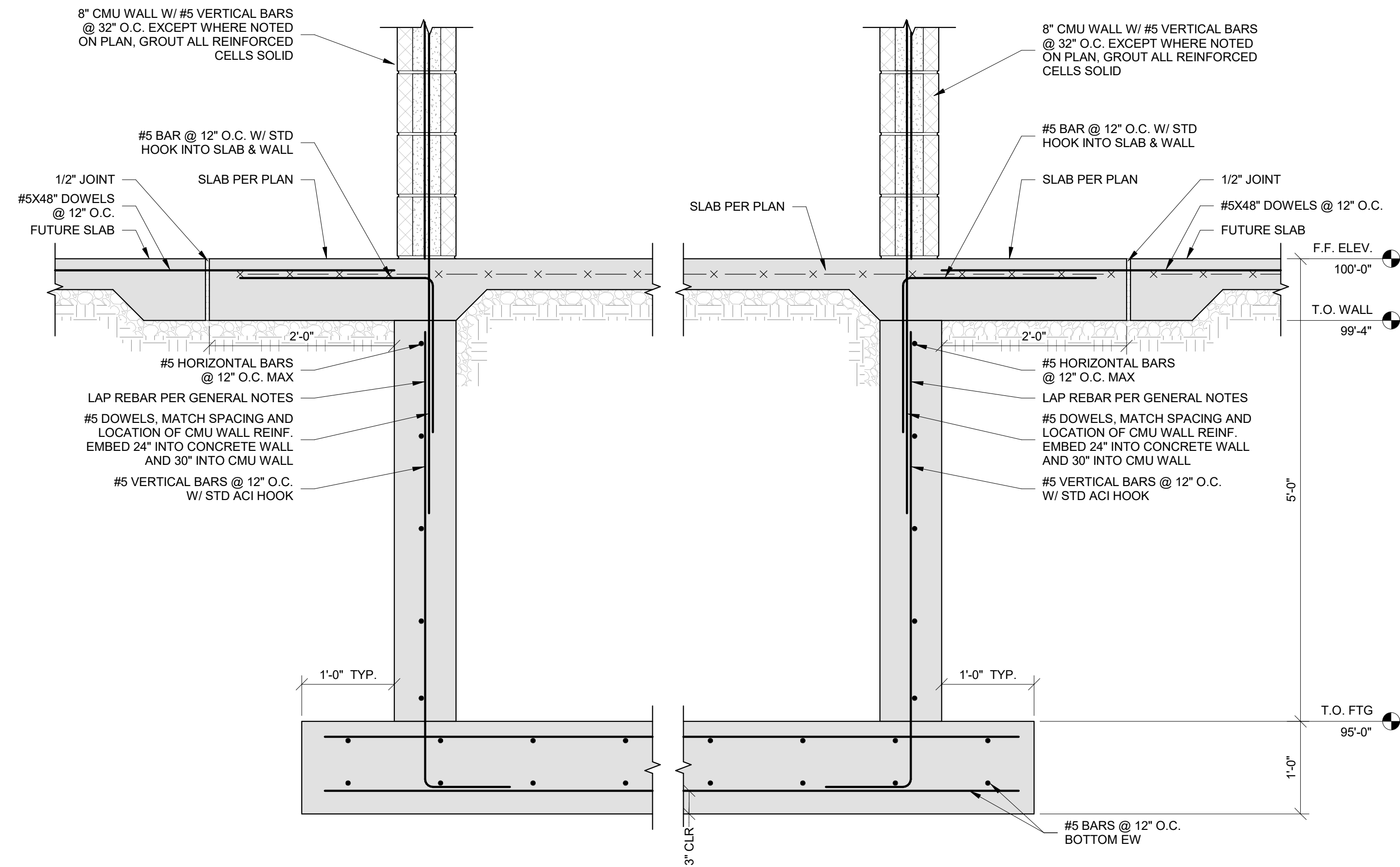
3 SECTION AT BROWNSTONE ELEVATION DROP
S502 1" = 1'-0"



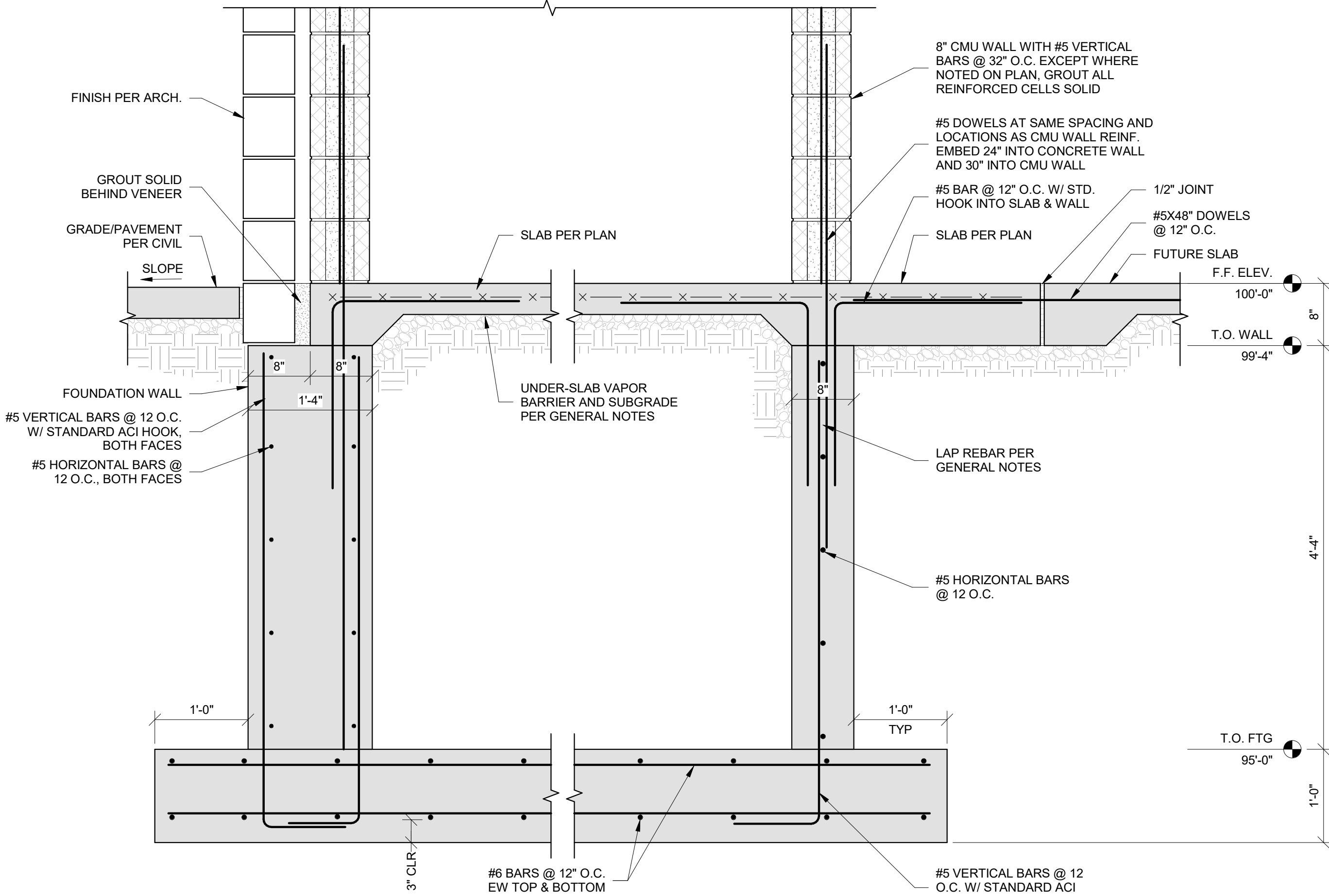
4 SECTION AT FOUNDATION BUMP-OUT
S502 1" = 1'-0"



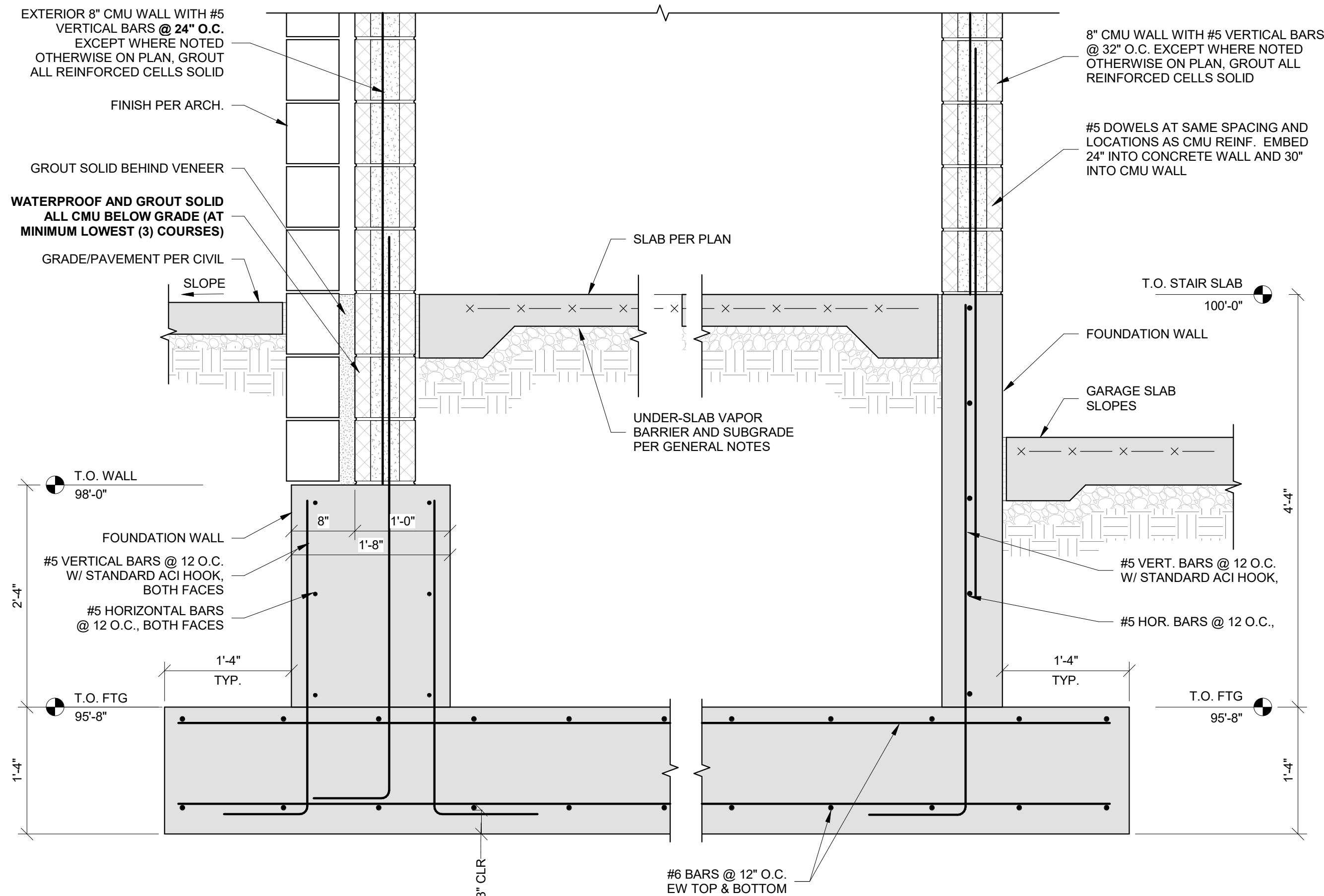
5 SECTION BETWEEN GARAGE @ AMENITY AREAS
S502 1" = 1'-0"



1 MAT SLAB UNDER STAIR TOWER/ELEVATOR PIT
S503 1" = 1'-0"



2 MAT SLAB UNDER STAIR TOWER/ELEVATOR PIT
S503 1" = 1'-0"



3 SECTION AT EAST STAIR FOUNDATION
S503 1" = 1'-0"

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PERMIT SUBMITTAL 12/20/2024

REVISIONS:



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MISSOURI CERTIFICATE OF AUTHORITY
NO. E-2006023253
EXPIRES: DECEMBER 31, 2024



12/20/2024

DISCOVERY PARK - LOT #10-A

100 NE ALURA WAY
LEE'S SUMMIT, MO 64064

SHEET TITLE
FOUNDATION DETAILS

PROJECT NUMBER: 2023000333

SHEET NUMBER:

S503

PRINTS ISSUED
PERMIT SUBMITTAL 12/20/2024
REVISIONS:

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2001 W Broadway
Columbia, MO 65203
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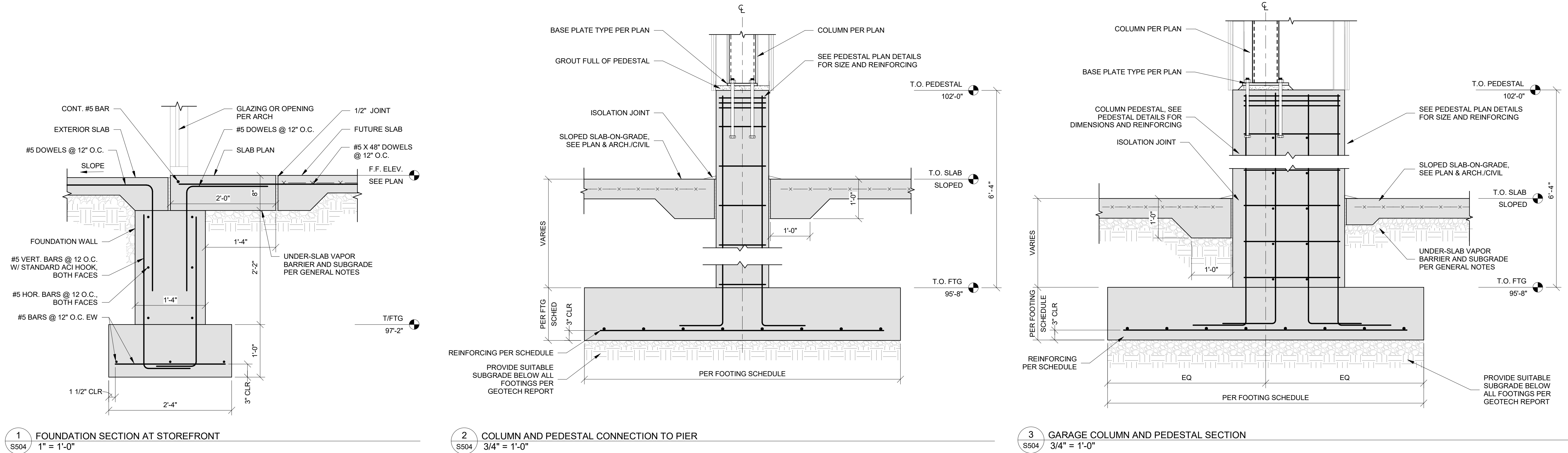
DISCOVERY PARK - LOT #10-A

100 NE ALURA WAY
LEE'S SUMMIT, MO 64064

SHEET TITLE
FOUNDATION DETAILS

PROJECT NUMBER: 2023000333
SHEET NUMBER:

S504



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EXPIRES: DECEMBER 31, 2024



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DISCOVERY PARK - LOT #10-A

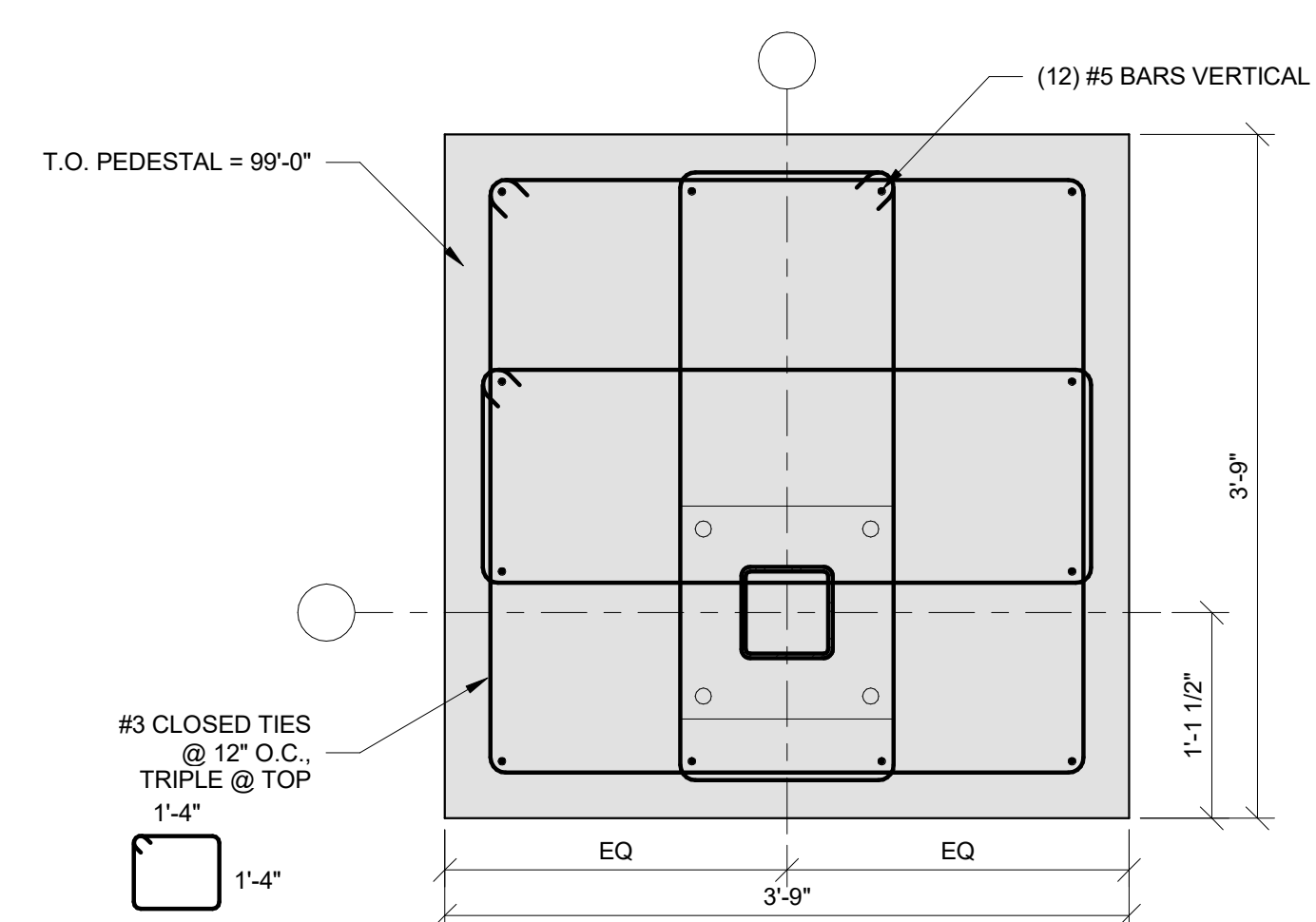
100 NE ALURA WAY
LEE'S SUMMIT, MO 64064

SHEET TITLE
COLUMN PEDESTAL DETAILS

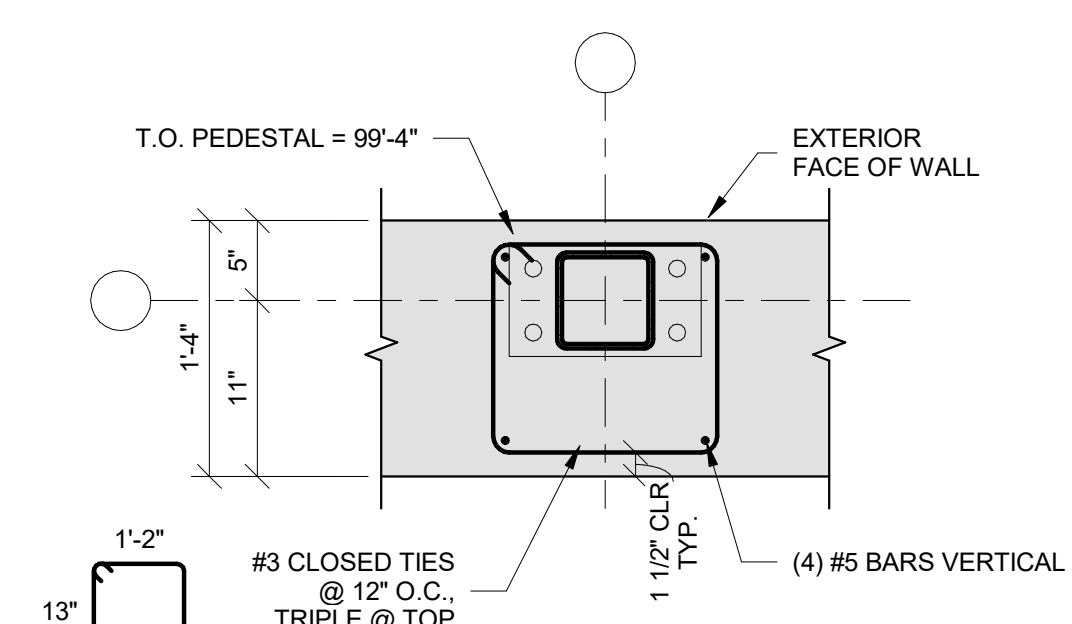
PROJECT NUMBER: 2023000333

SHEET NUMBER:

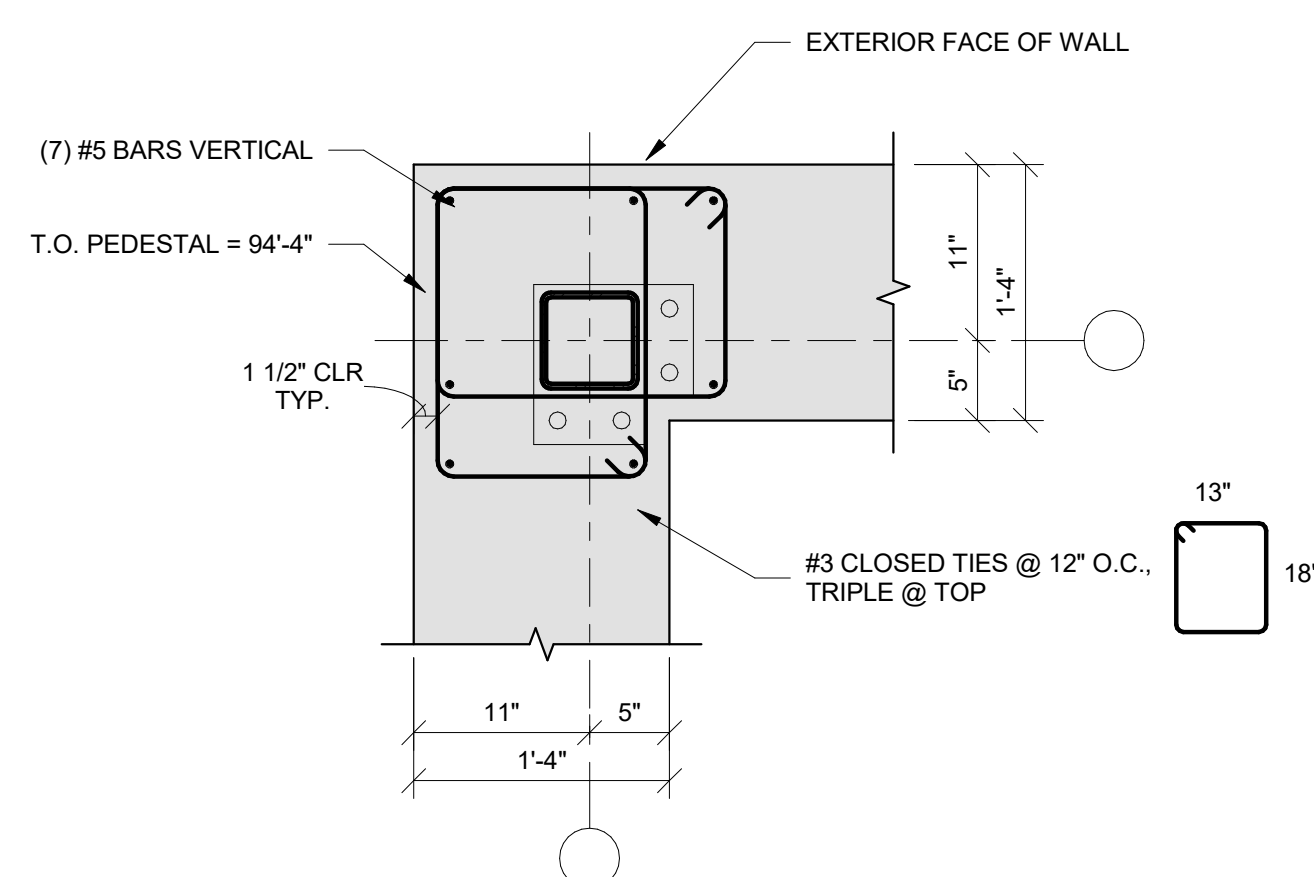
S505



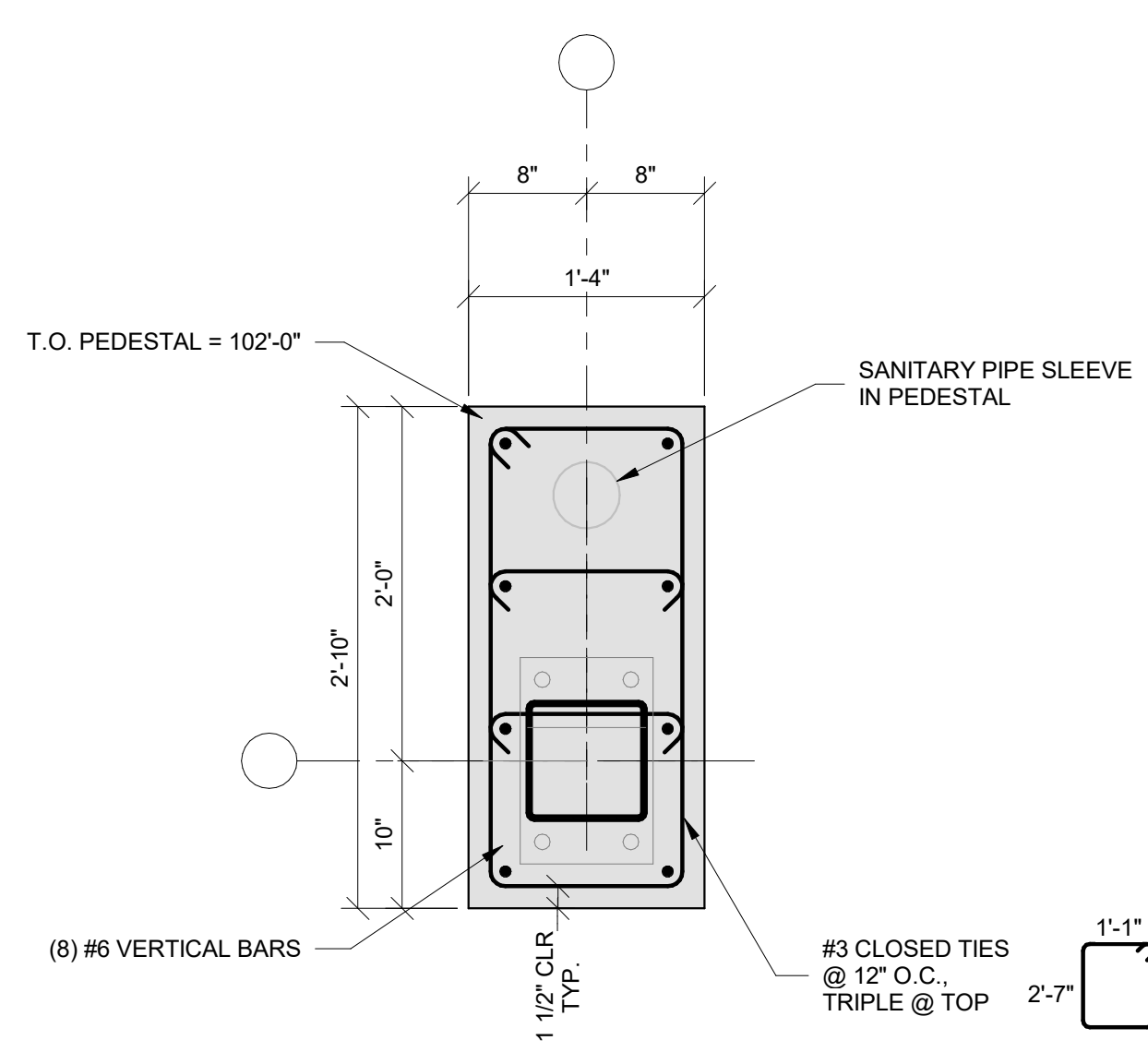
1 PEDESTAL P1
S505 1" = 1'-0"



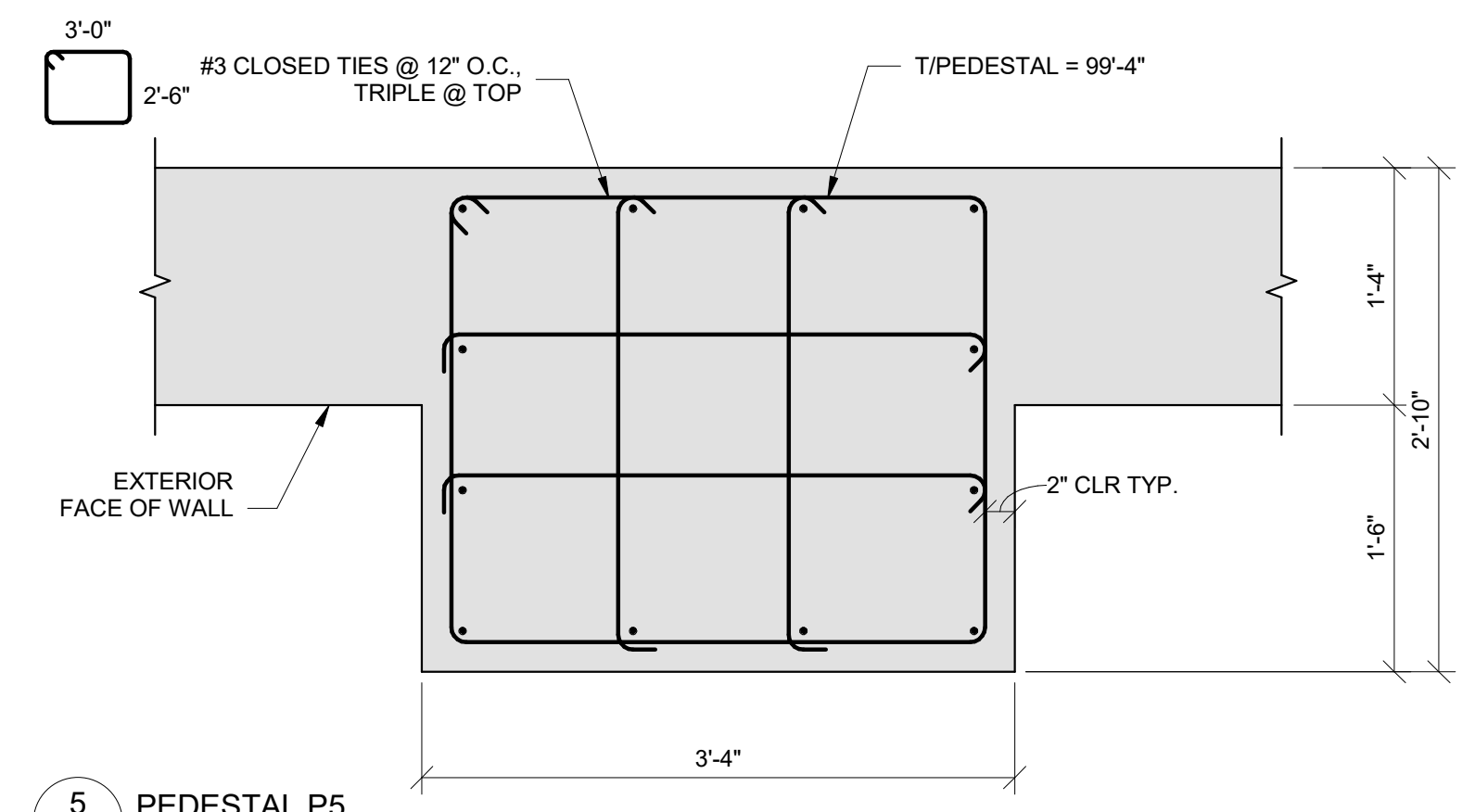
2 PEDESTAL P2
S505 1" = 1'-0"



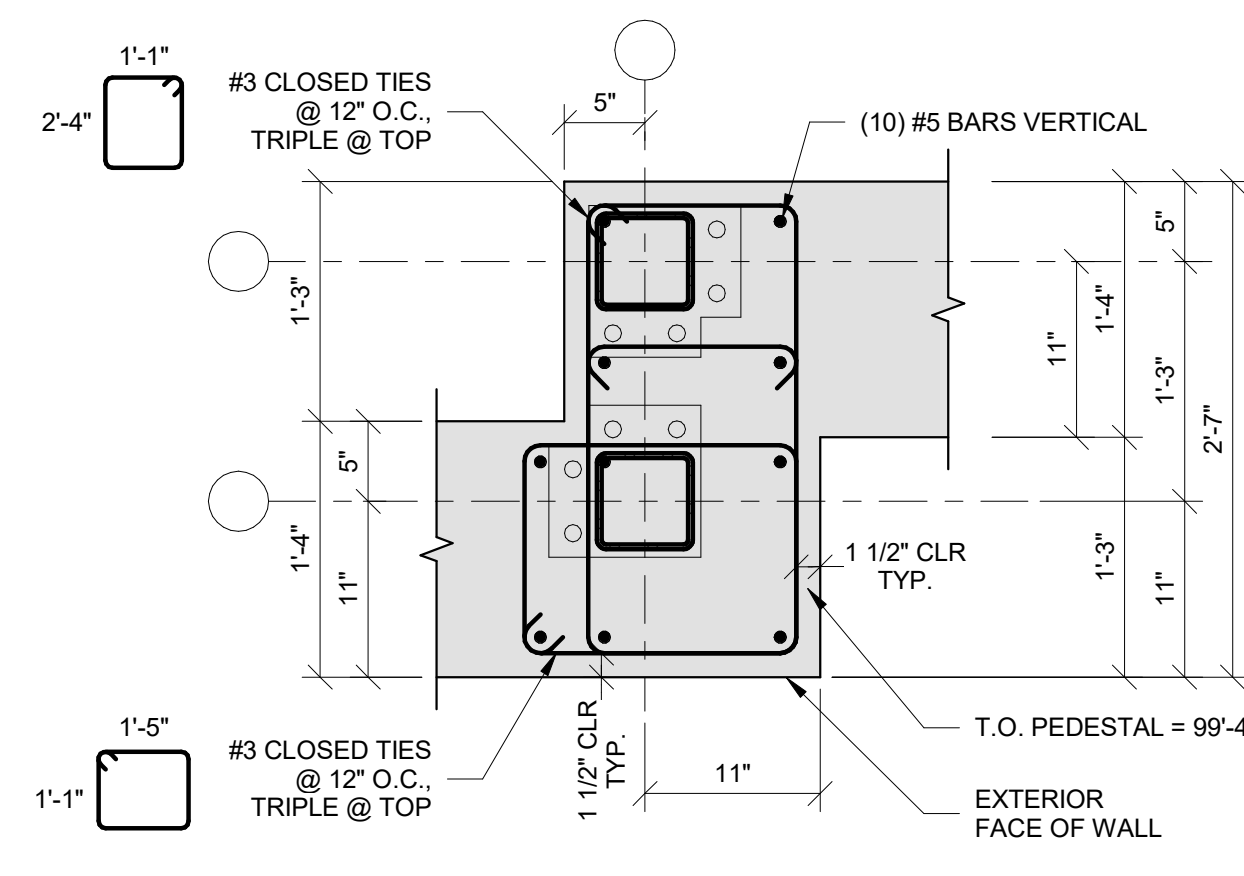
3 PEDESTAL P3
S505 1" = 1'-0"



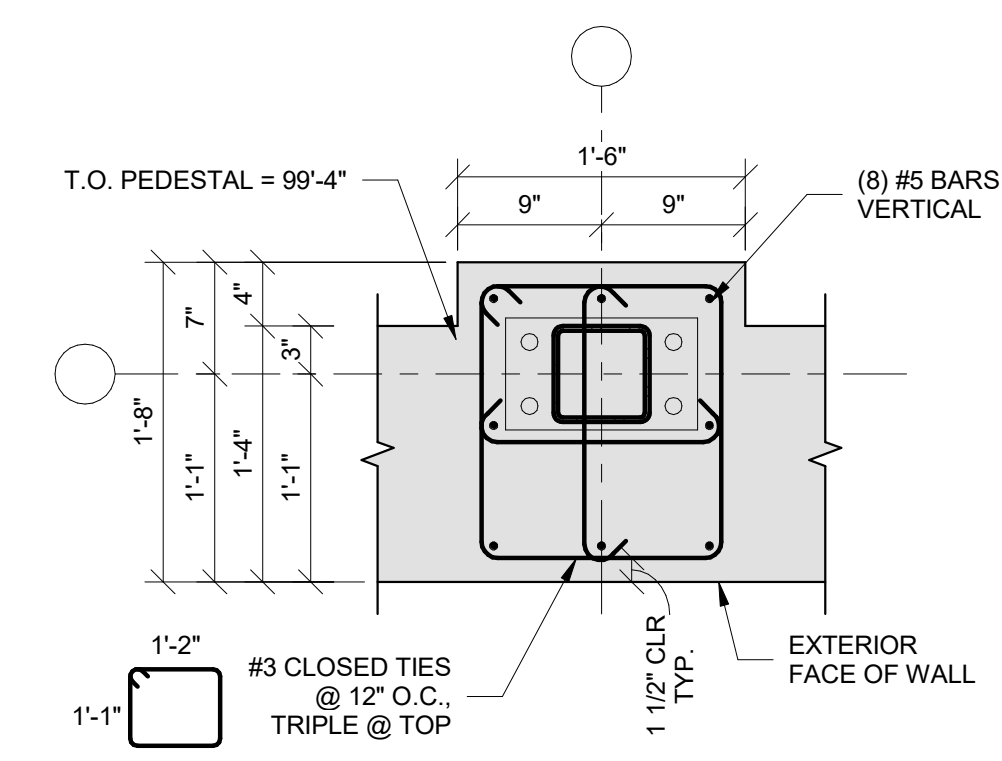
4 PEDESTAL P4
S505 1" = 1'-0"



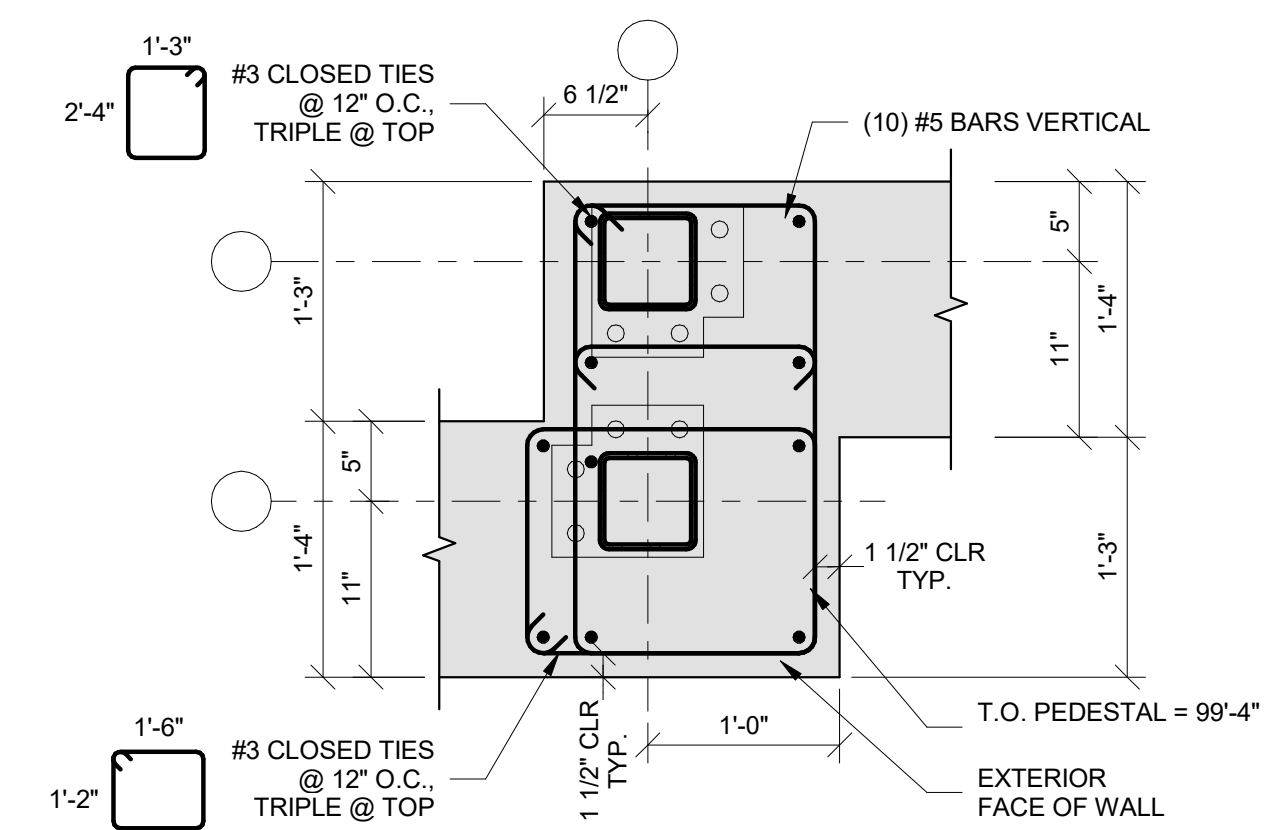
5 PEDESTAL P5
S505 1" = 1'-0"



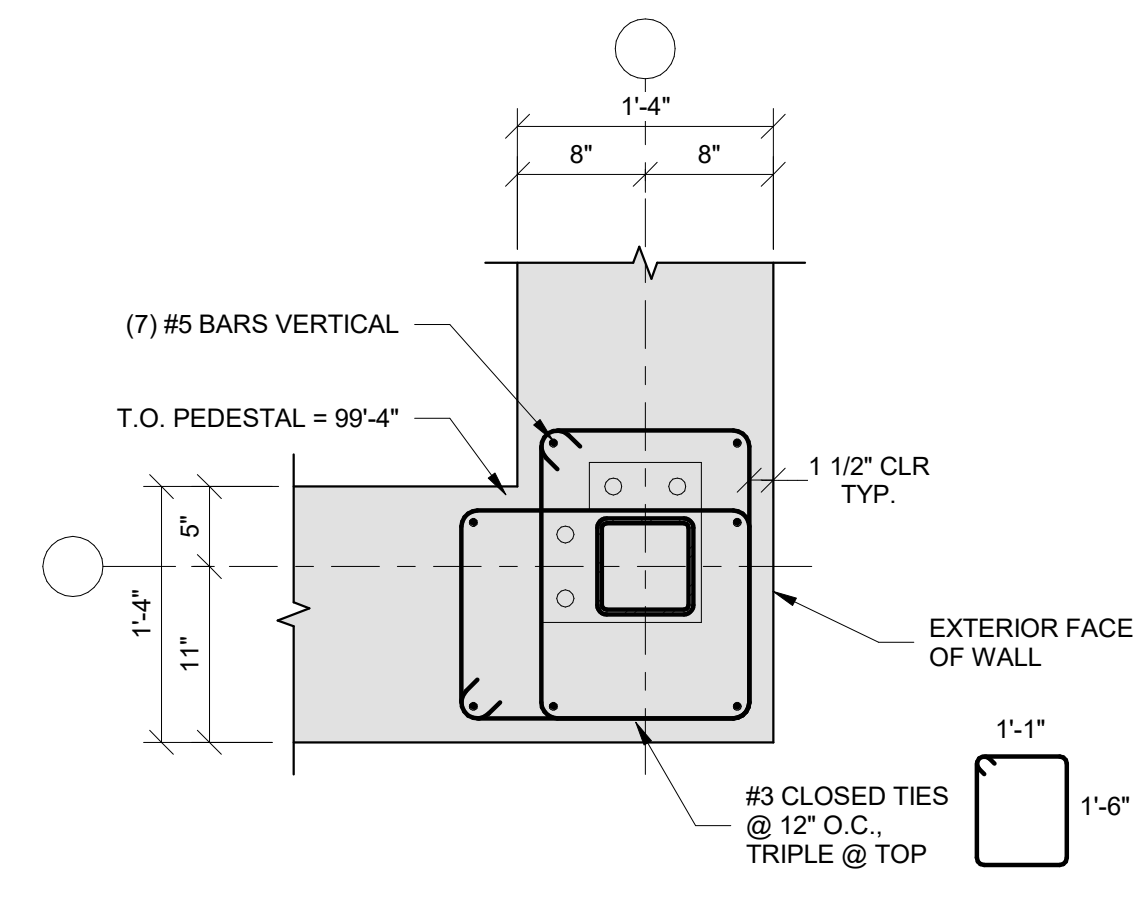
6 PEDESTAL P6
S505 1" = 1'-0"



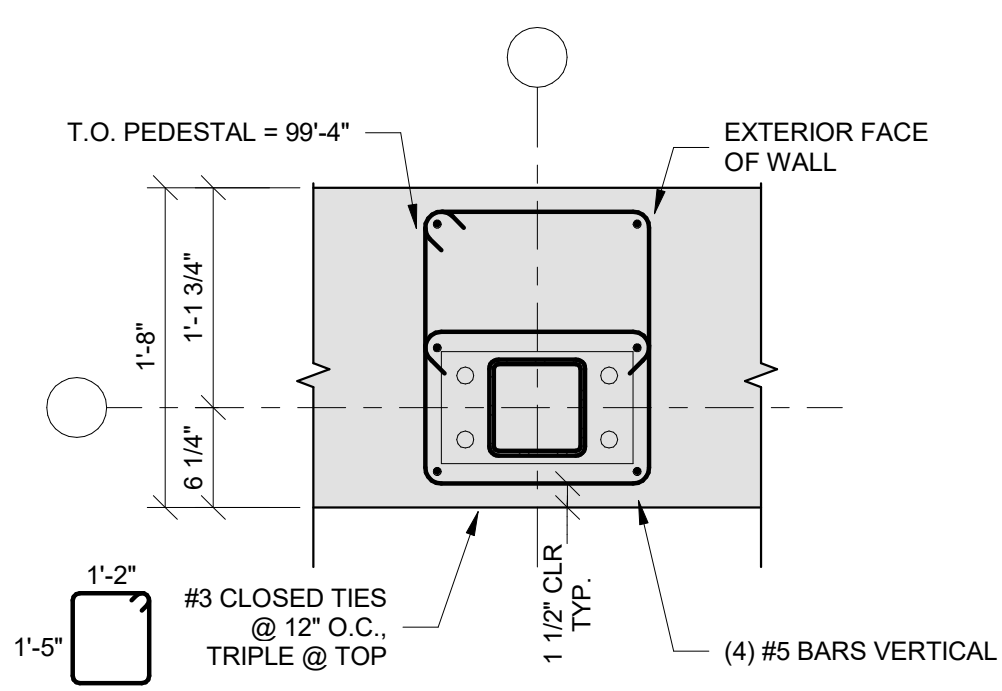
7 PEDESTAL P7
S505 1" = 1'-0"



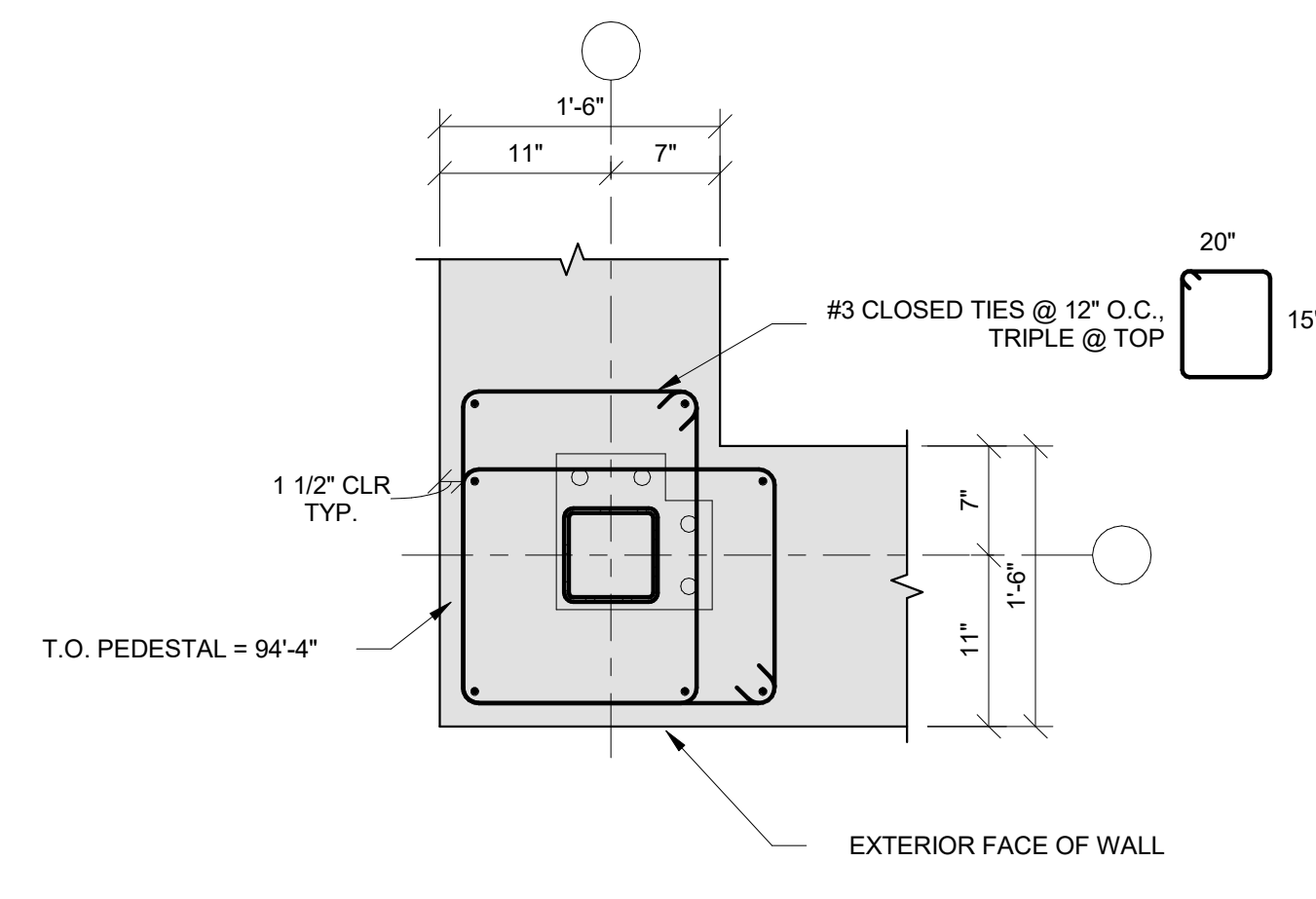
8 PEDESTAL P8
S505 1" = 1'-0"



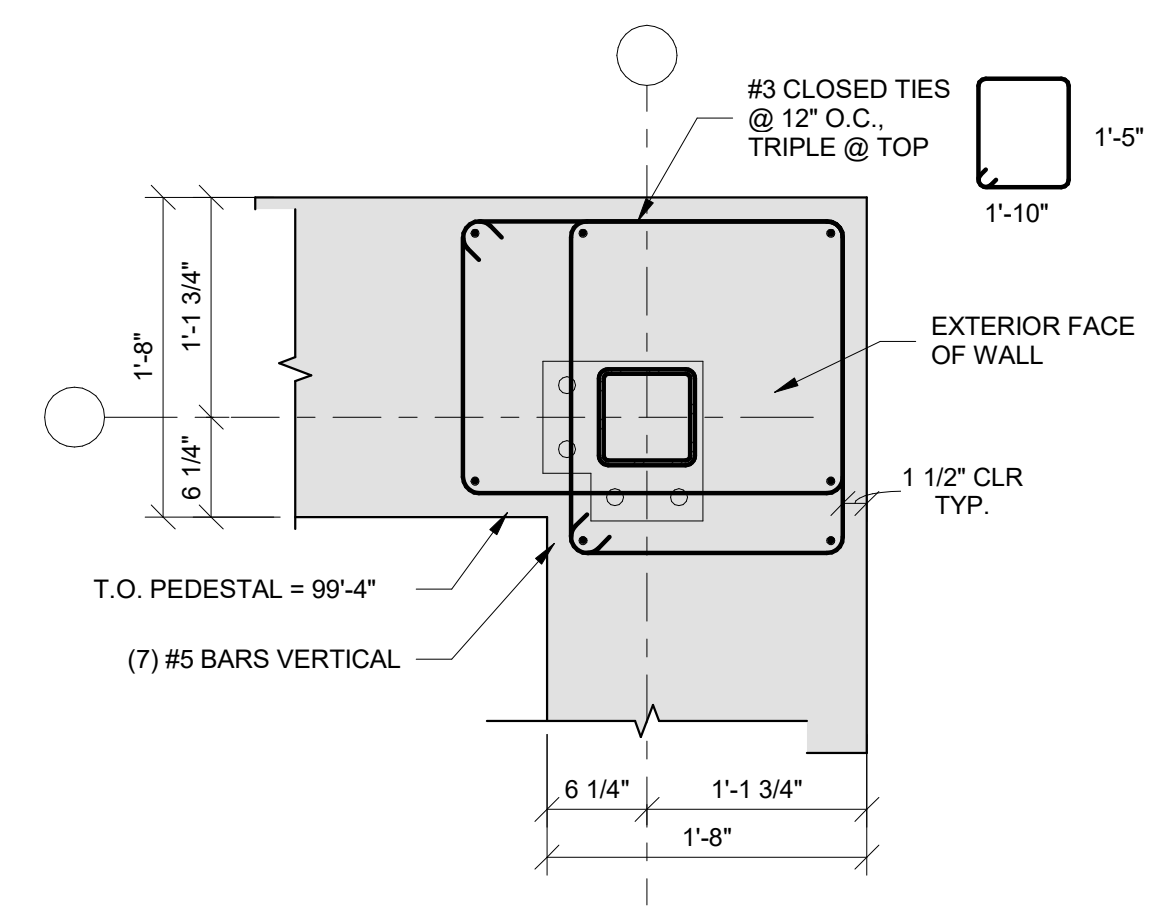
9 PEDESTAL P9
S505 1" = 1'-0"



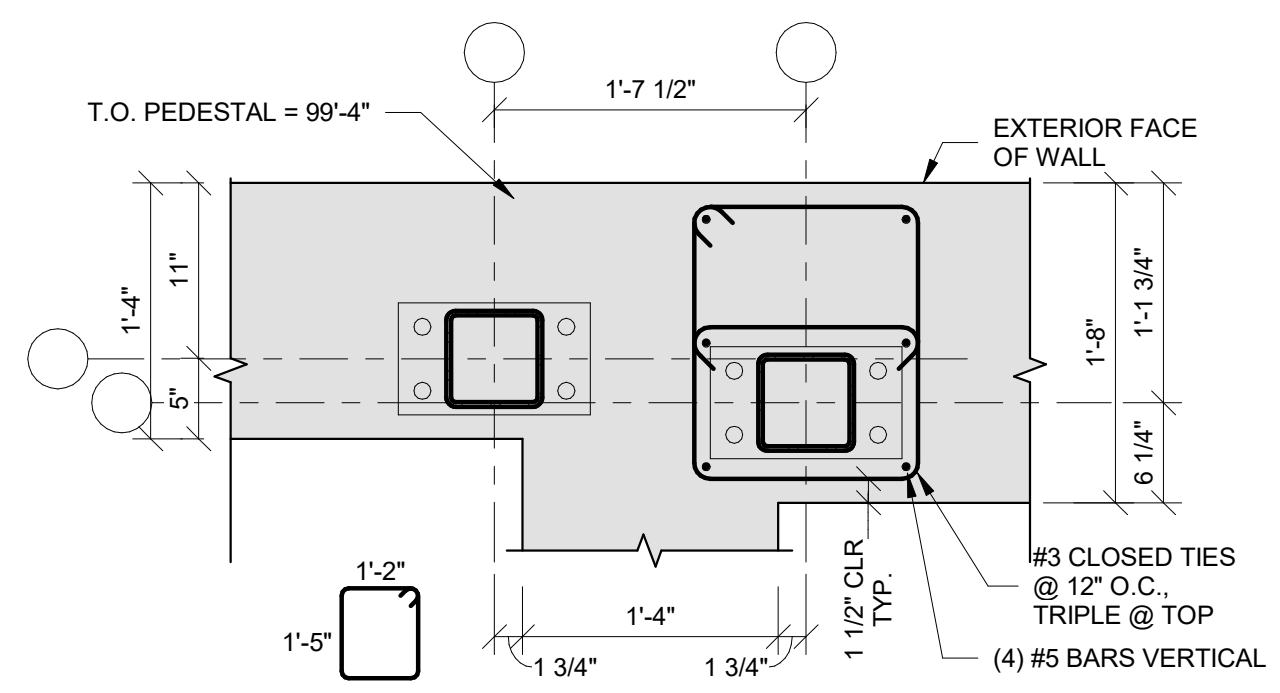
10 PEDESTAL P10
S505 1" = 1'-0"



11 PEDESTAL P11
S505 1" = 1'-0"



12 PEDESTAL P12
S505 1" = 1'-0"



13 PEDESTAL P13
S505 1" = 1'-0"

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DISCOVERY PARK - LOT #10-A

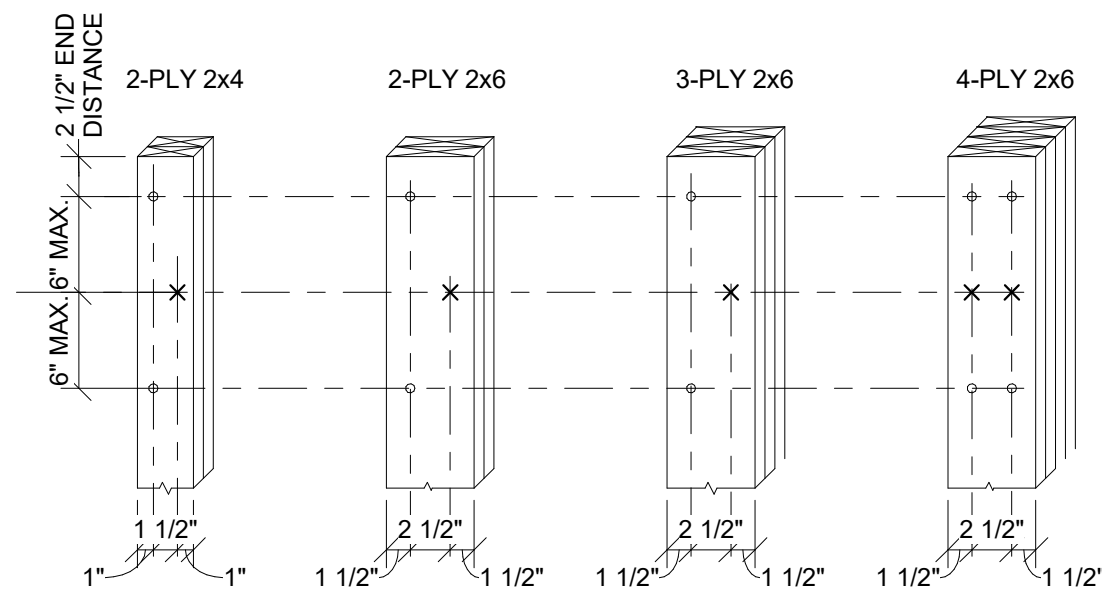
100 NE ALURA WAY
LEE'S SUMMIT, MO 64064

SHEET TITLE
TYPICAL WOOD FRAMING
DETAILS

PROJECT NUMBER: 2023000333

SHEET NUMBER:

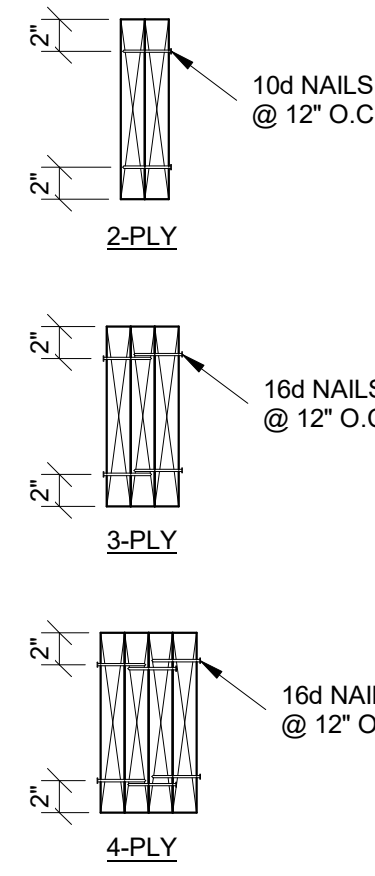
S510



LEGEND
* NAIL FROM THIS SIDE
X NAIL FROM OPPOSITE SIDE

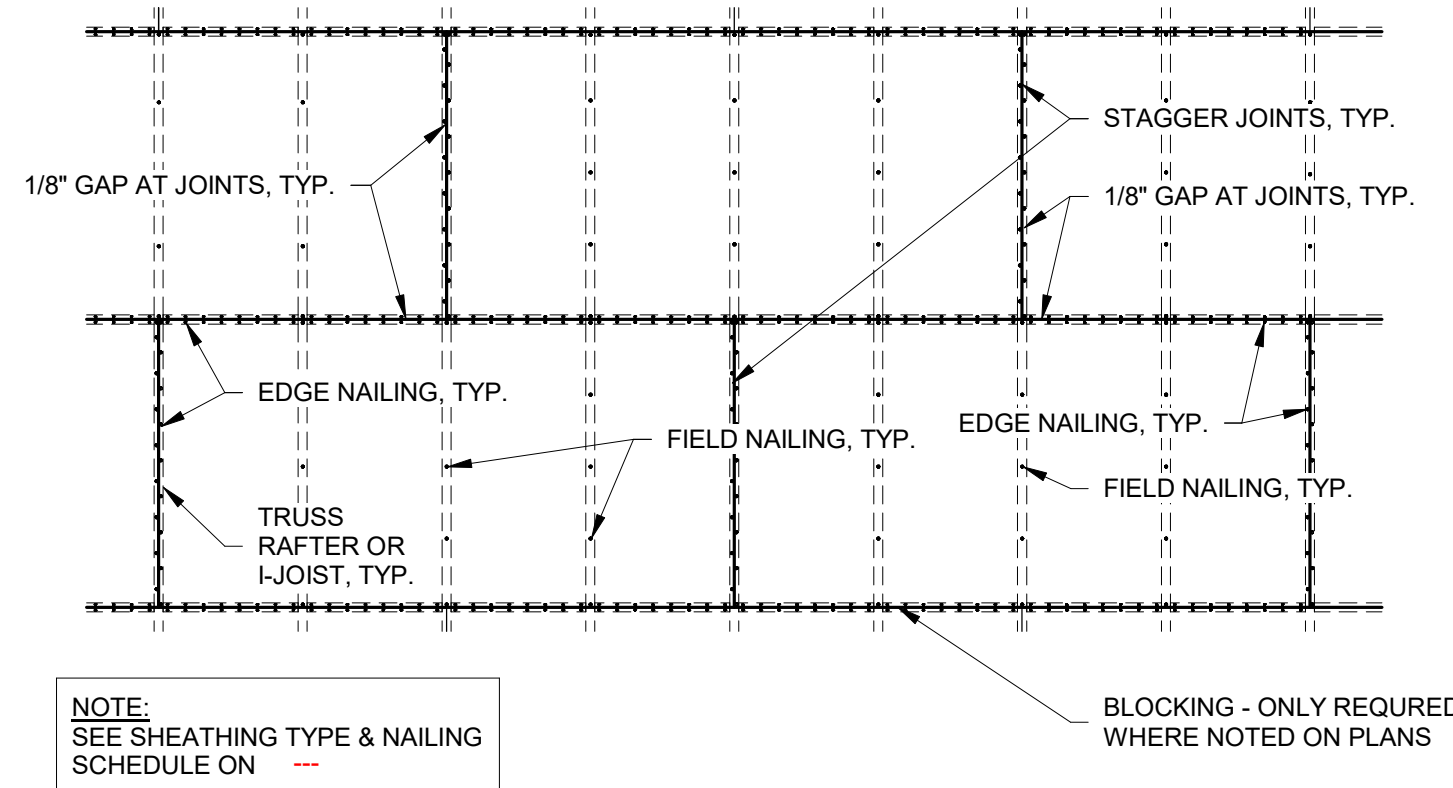
COLUMN NOTES:
1. USE 10d NAILS FOR 2-PLY & 3d FOR 3-PLY AND 4-PLY.
2. ADJACENT NAILS ARE TO BE DRIVEN FROM OPPOSITE SIDES OF COLUMN.

BUILT UP COLUMN



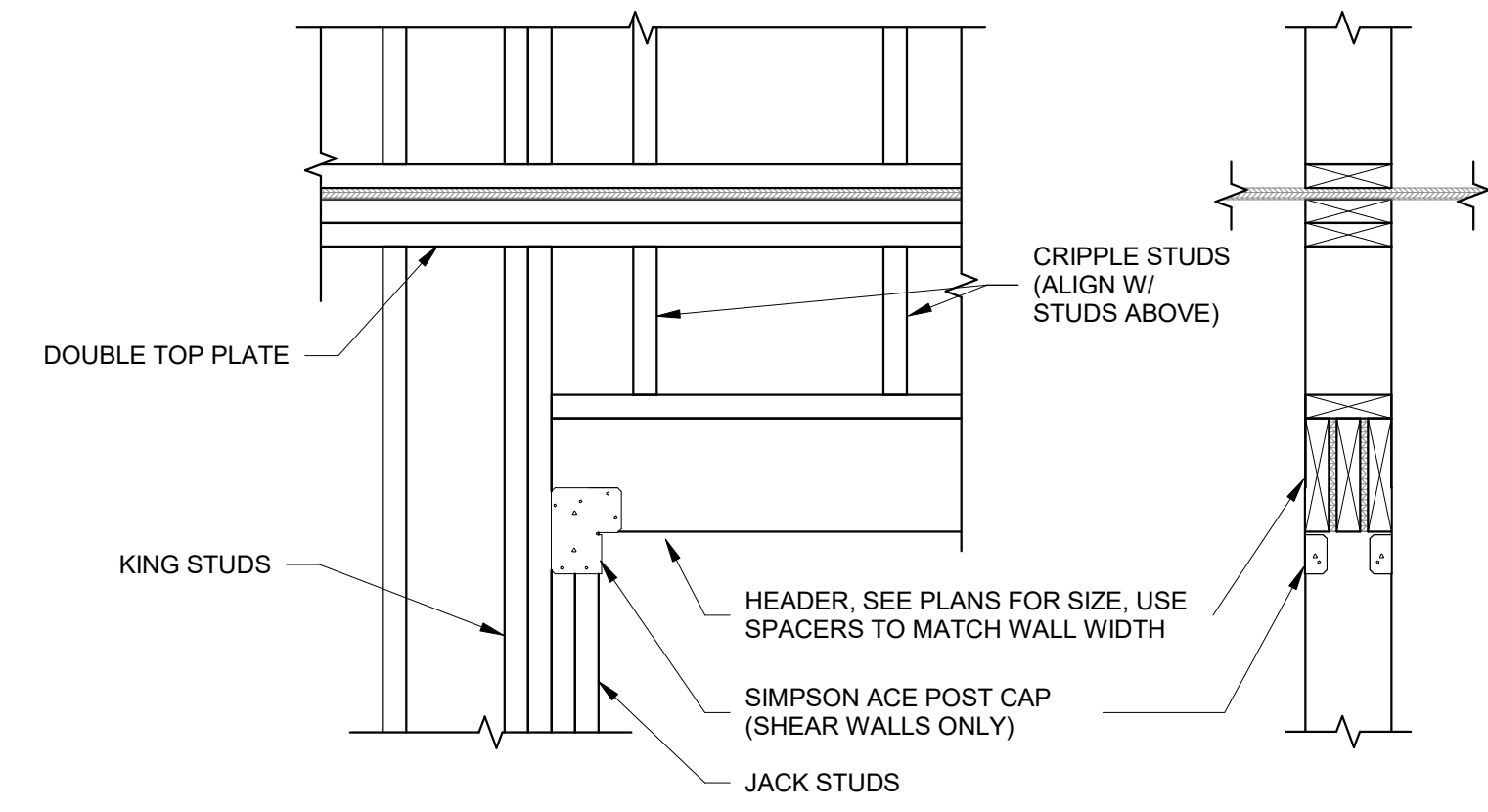
BEAM NOTE:
1. PROVIDE MIN. (3) NAILS EACH END.

BUILT UP BEAM



NOTE:
SEE SHEATHING TYPE & NAILING SCHEDULE ON ---

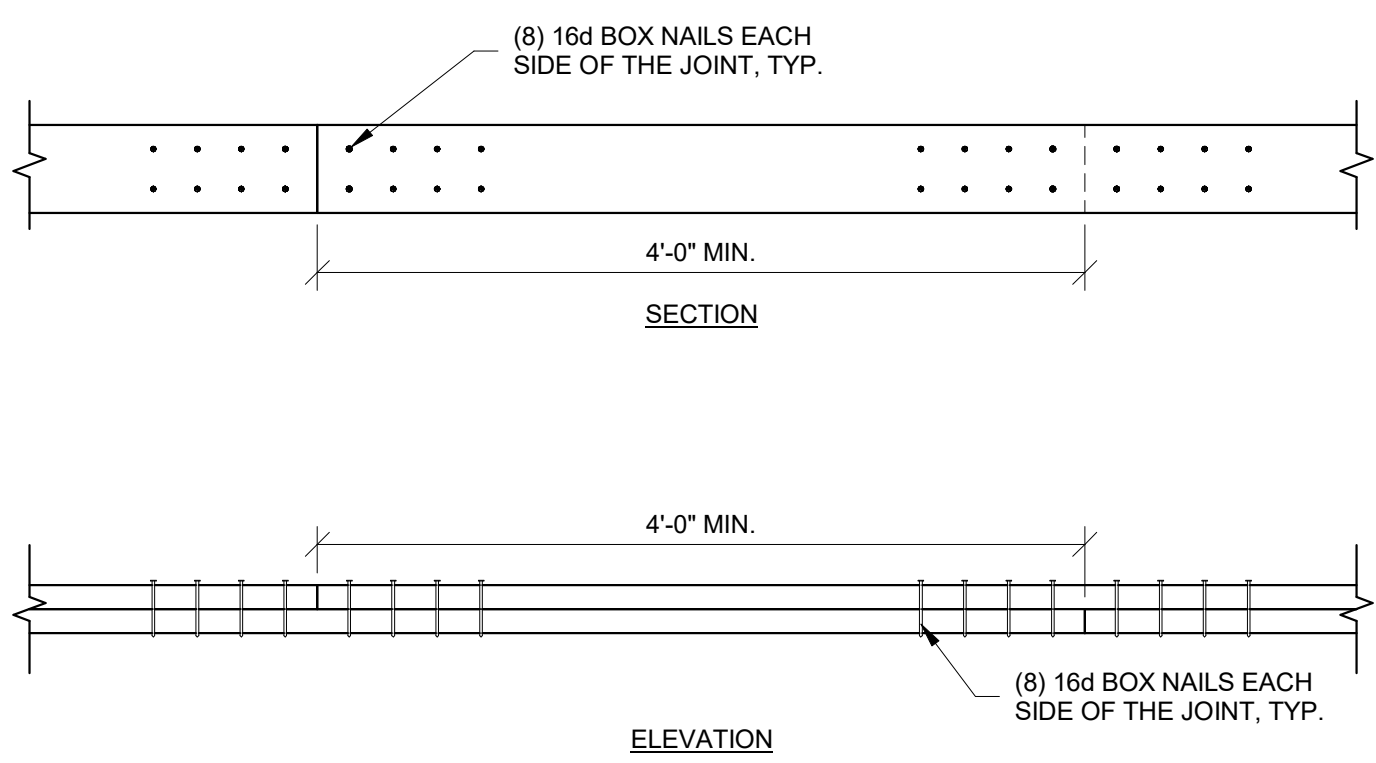
2 TYPICAL DIAPHRAGM NAILING
S510 NTS



ELEVATION

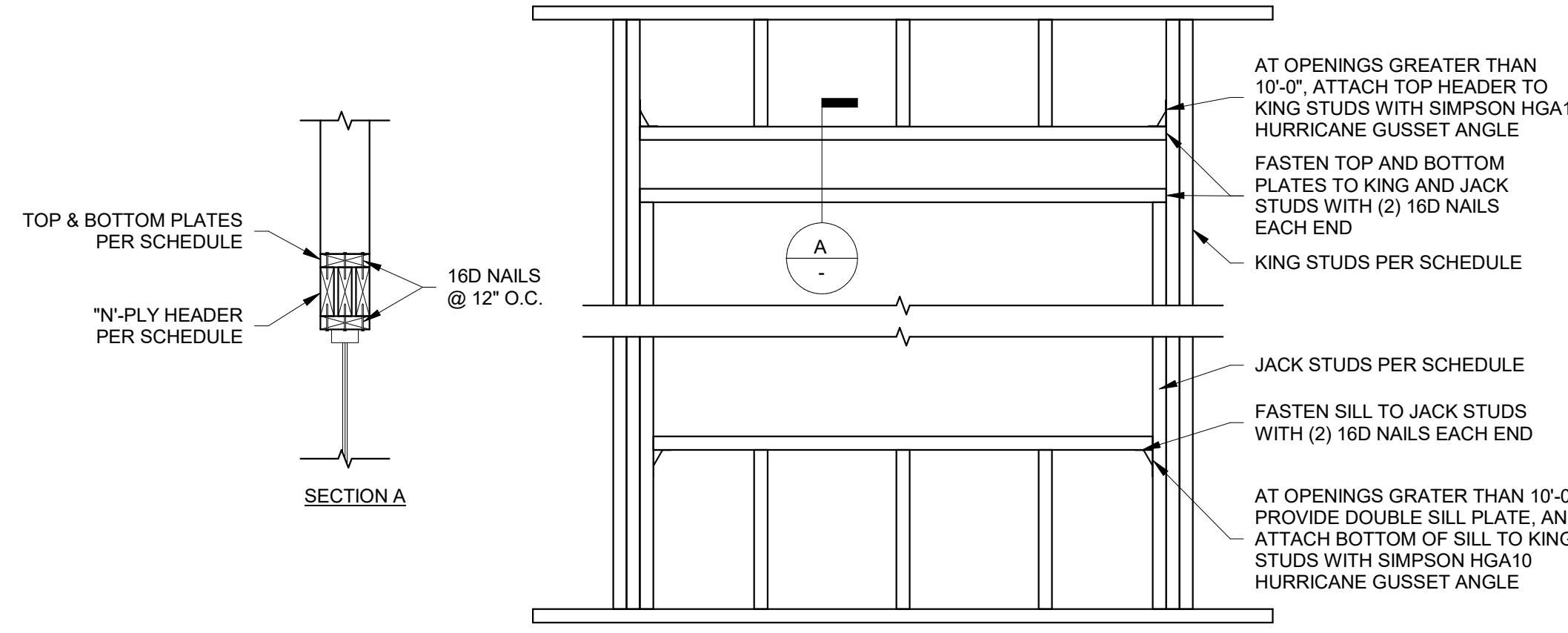
SECTION

3 TYPICAL HEADER CONNECTION AT SHEAR WALLS
S510 NTS



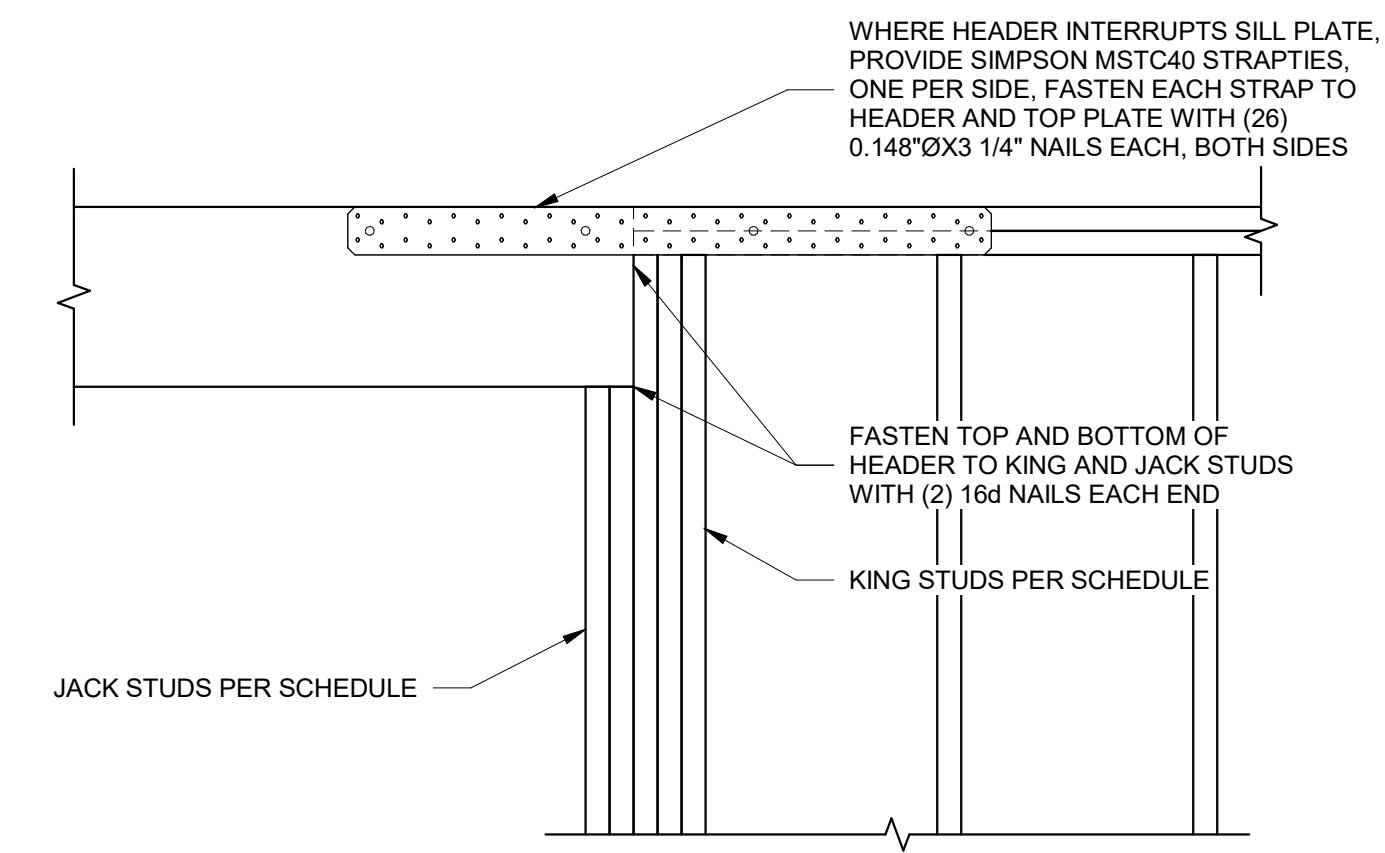
ELEVATION

4 TOP PLATE SPLICE
S510 NTS

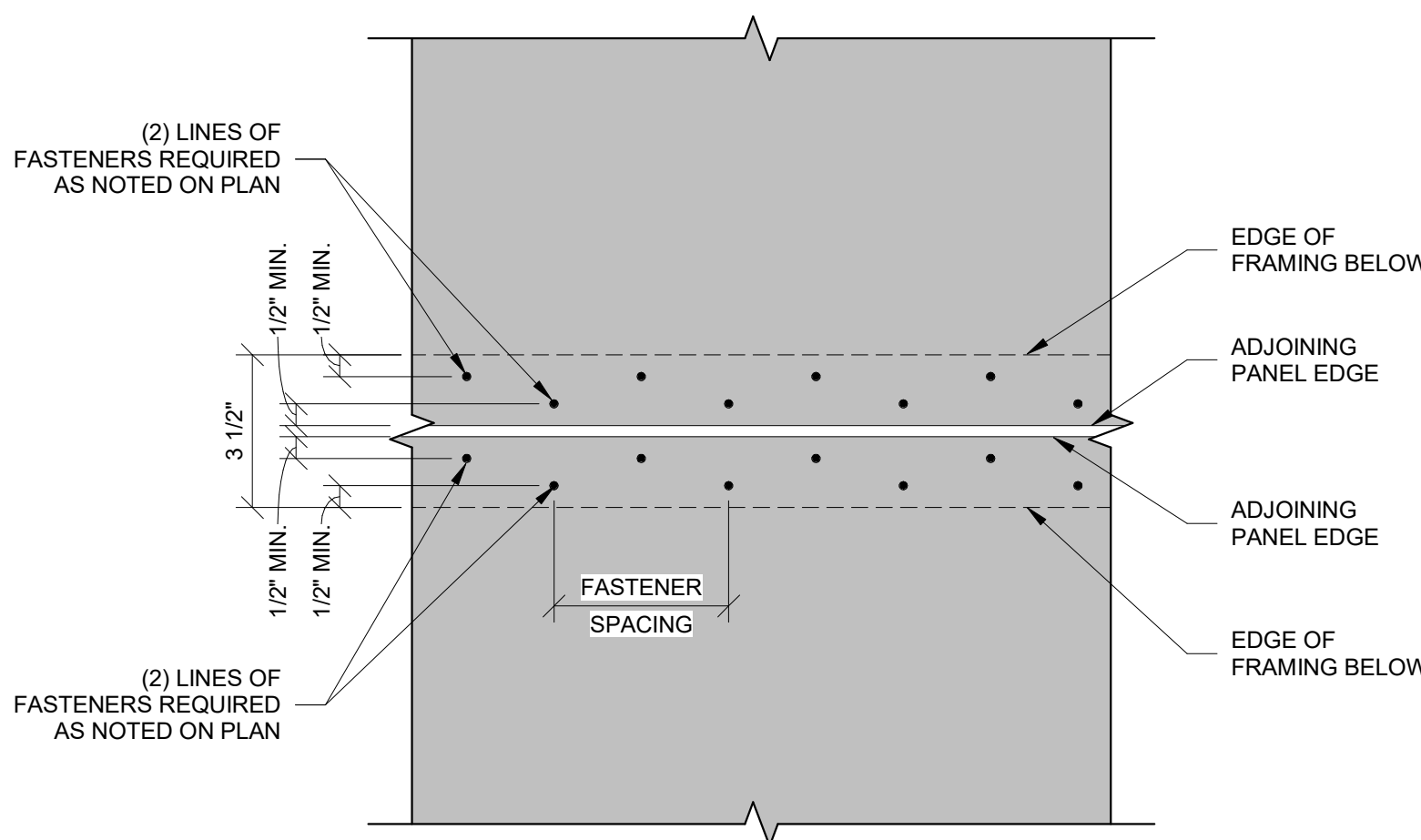


SECTION A

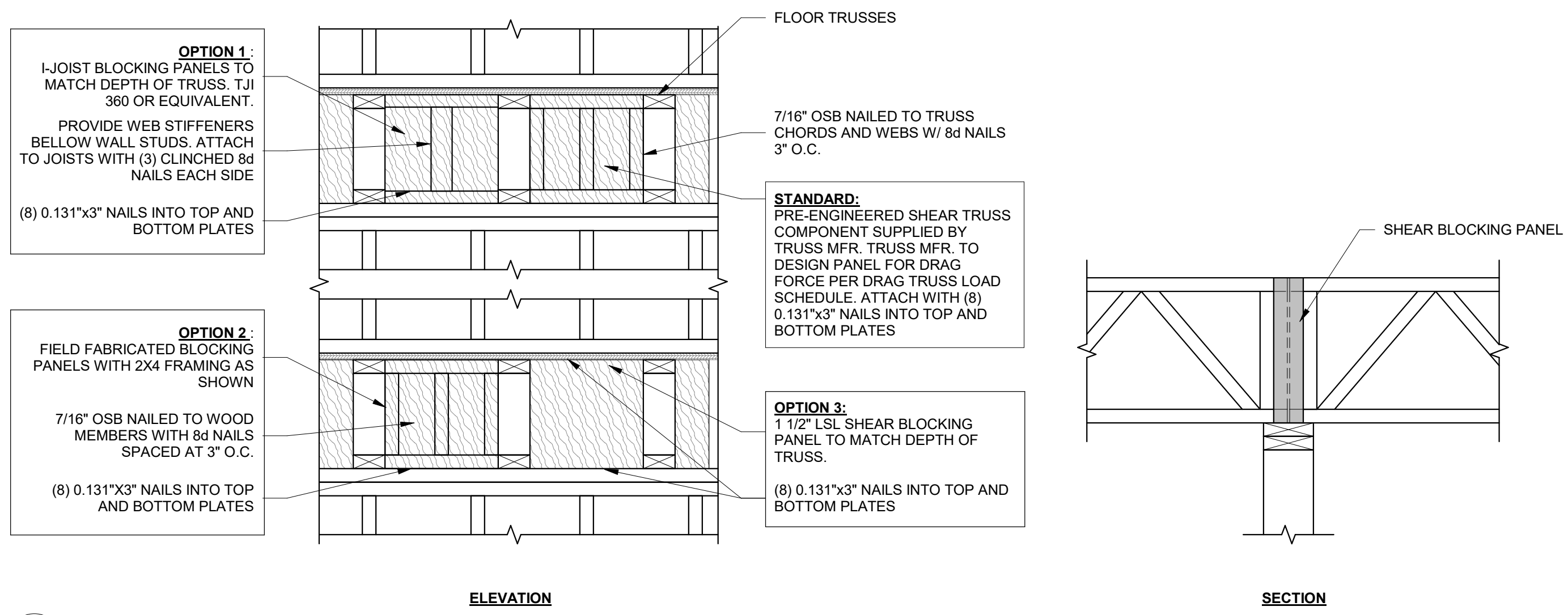
5 FRAMING AT OPENING
S510 NTS



6 FRAMING AT OPENING - RAISED HEADER
S510 NTS



7 TYPICAL MULTIPLE LINE DIAPHRAGM EDGE FASTENING
S510 NTS



SECTION

8 SHEAR BLOCKING PANEL OPTIONS
S510 1\"/>

ELEVATION

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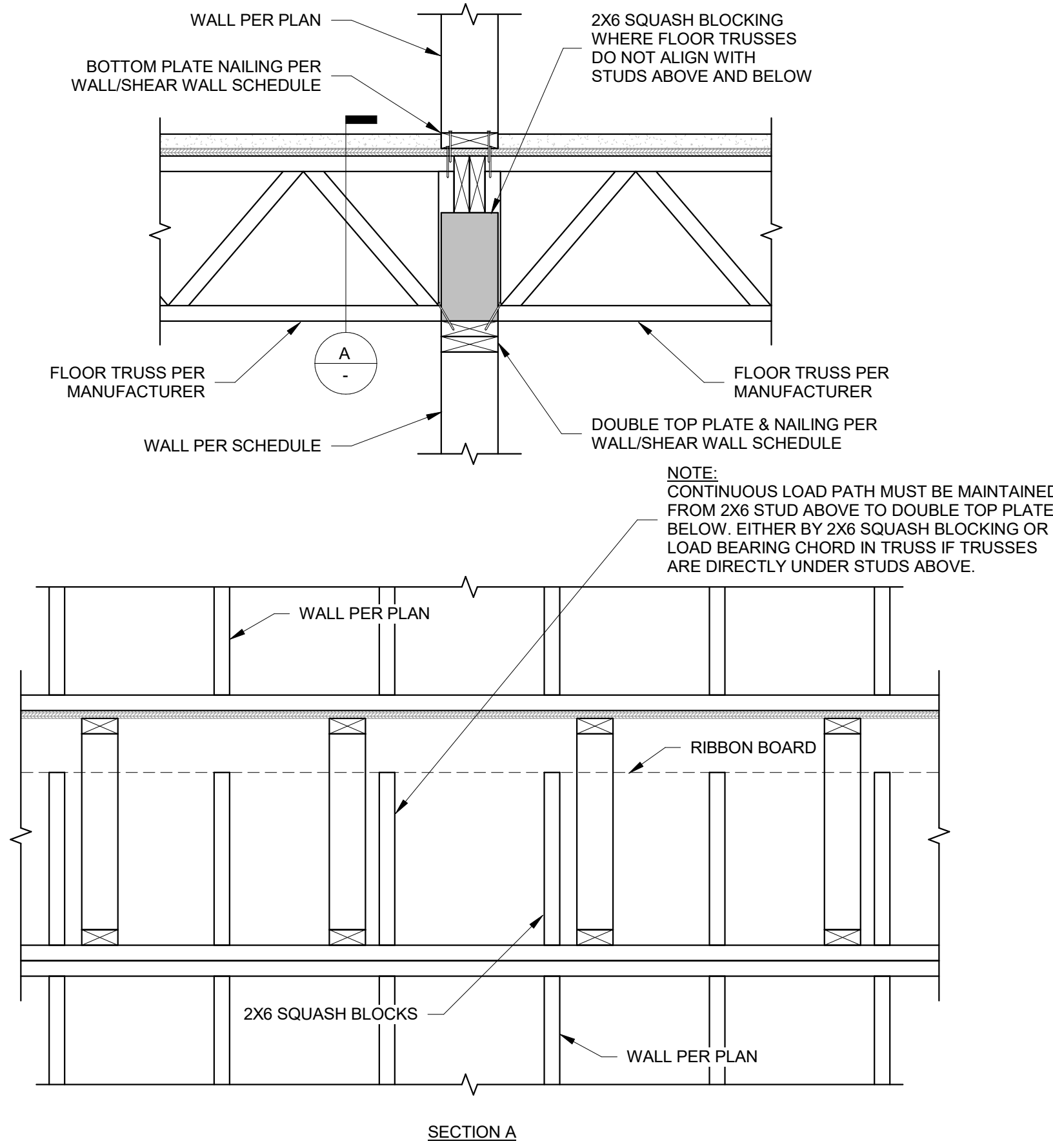
DISCOVERY PARK - LOT #10-A

100 NE ALURA WAY
LEE'S SUMMIT, MO 64064

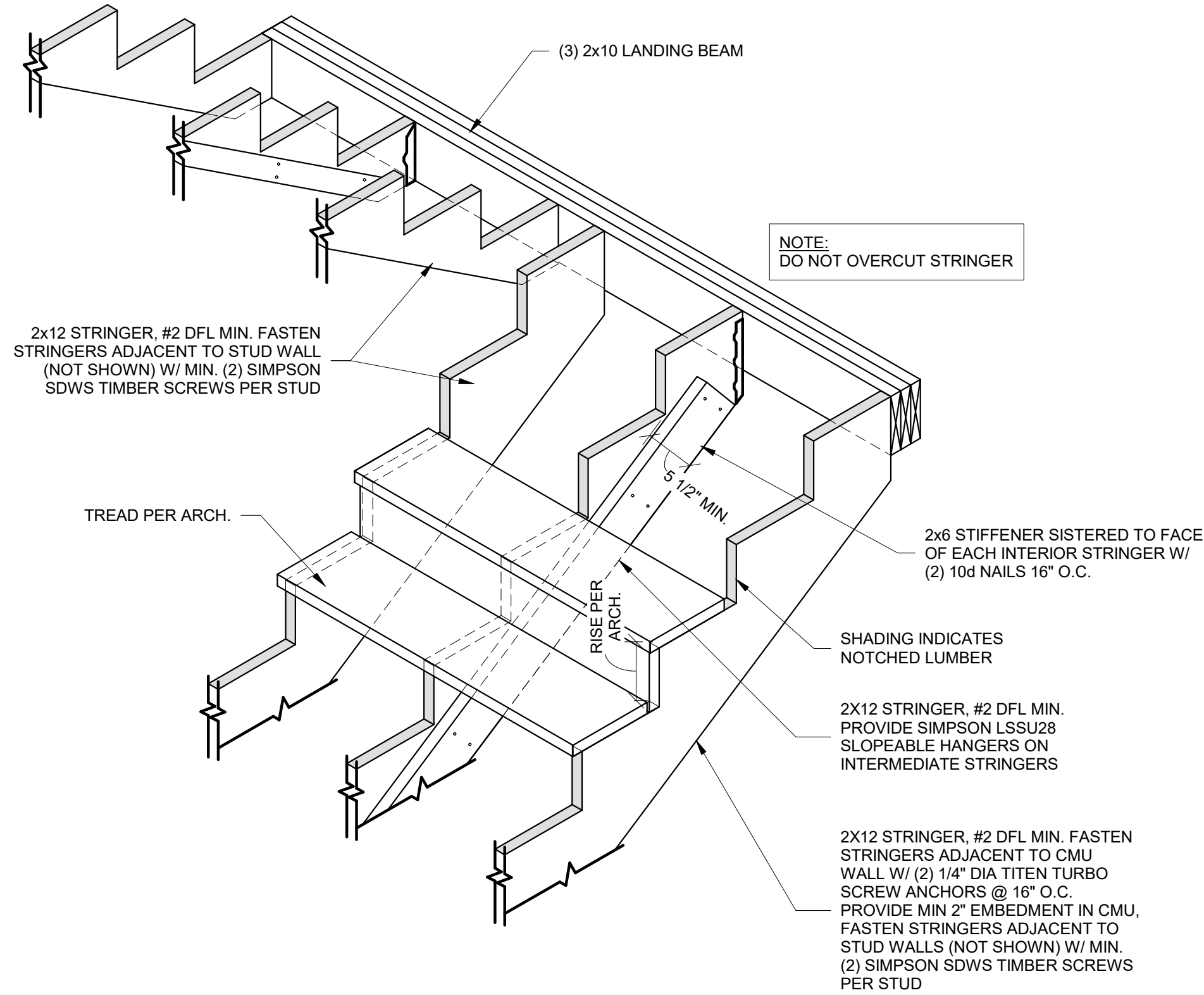
SHEET TITLE
WOOD FLOOR FRAMING DETAILS

PROJECT NUMBER: 2023000333
SHEET NUMBER:

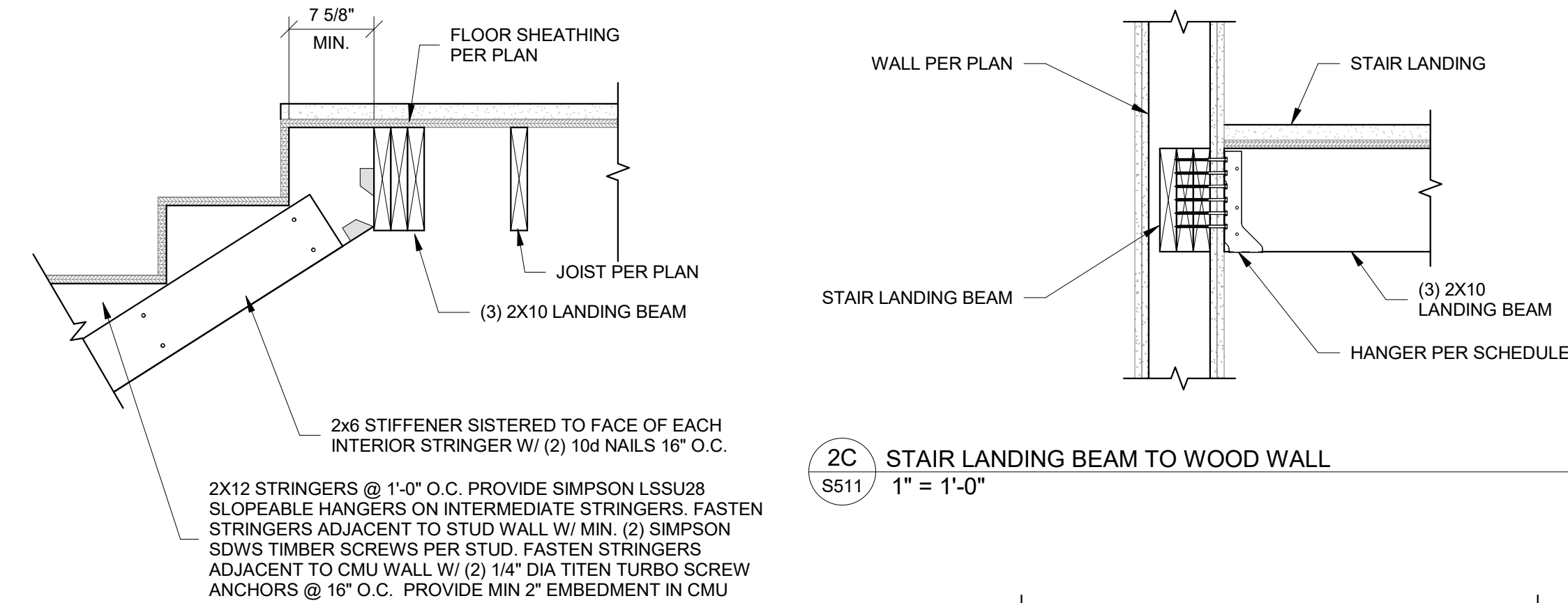
S511



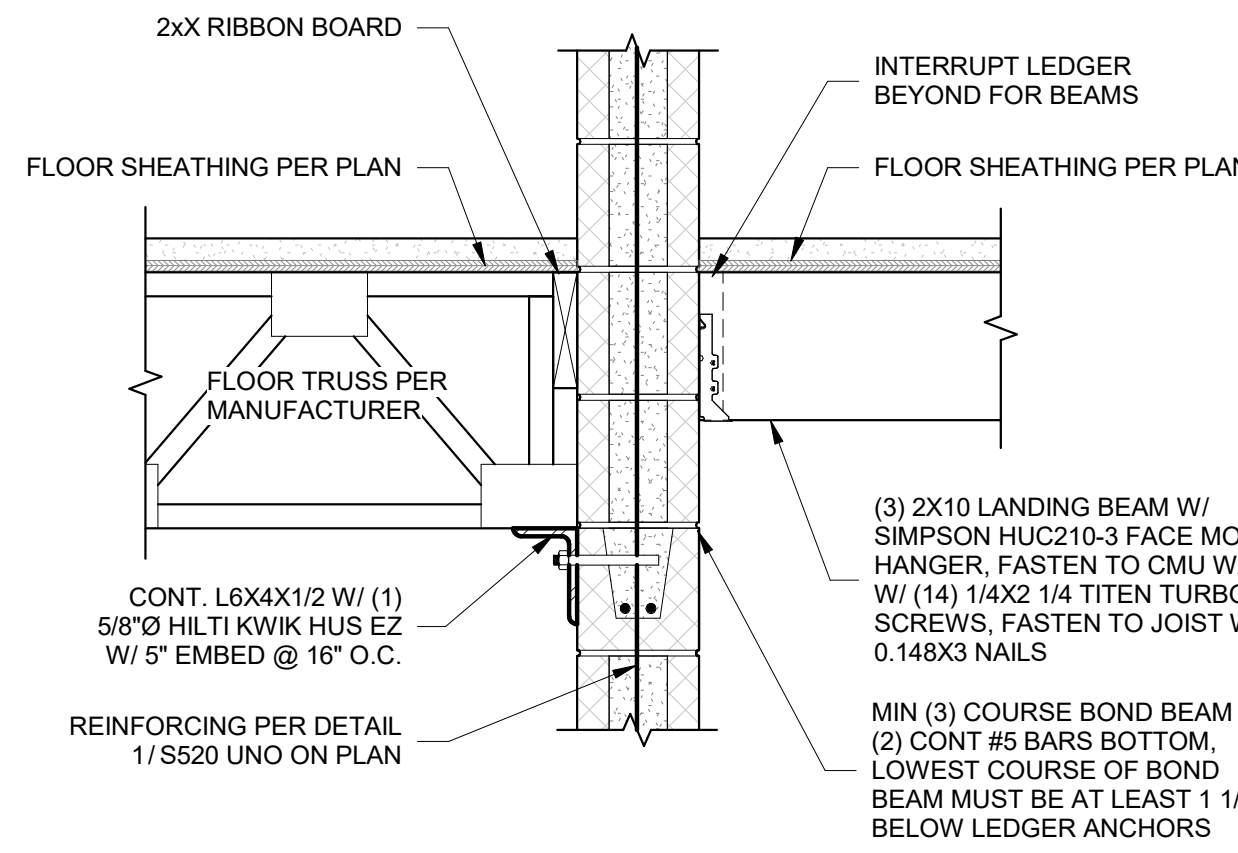
1
S511
FRAMING AT INTERIOR SINGLE WALL
1" = 1'-0"



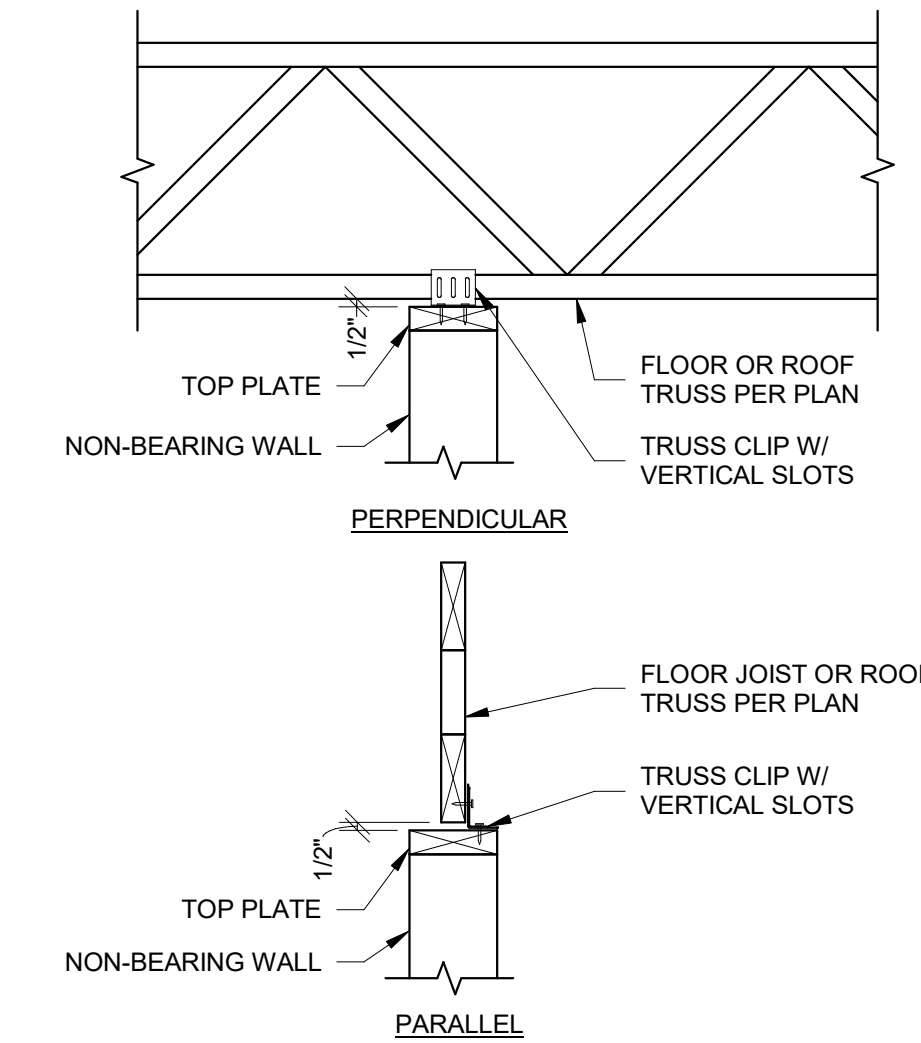
2
S511
WOOD STAIR ISOMETRIC
3/4" = 1'-0"



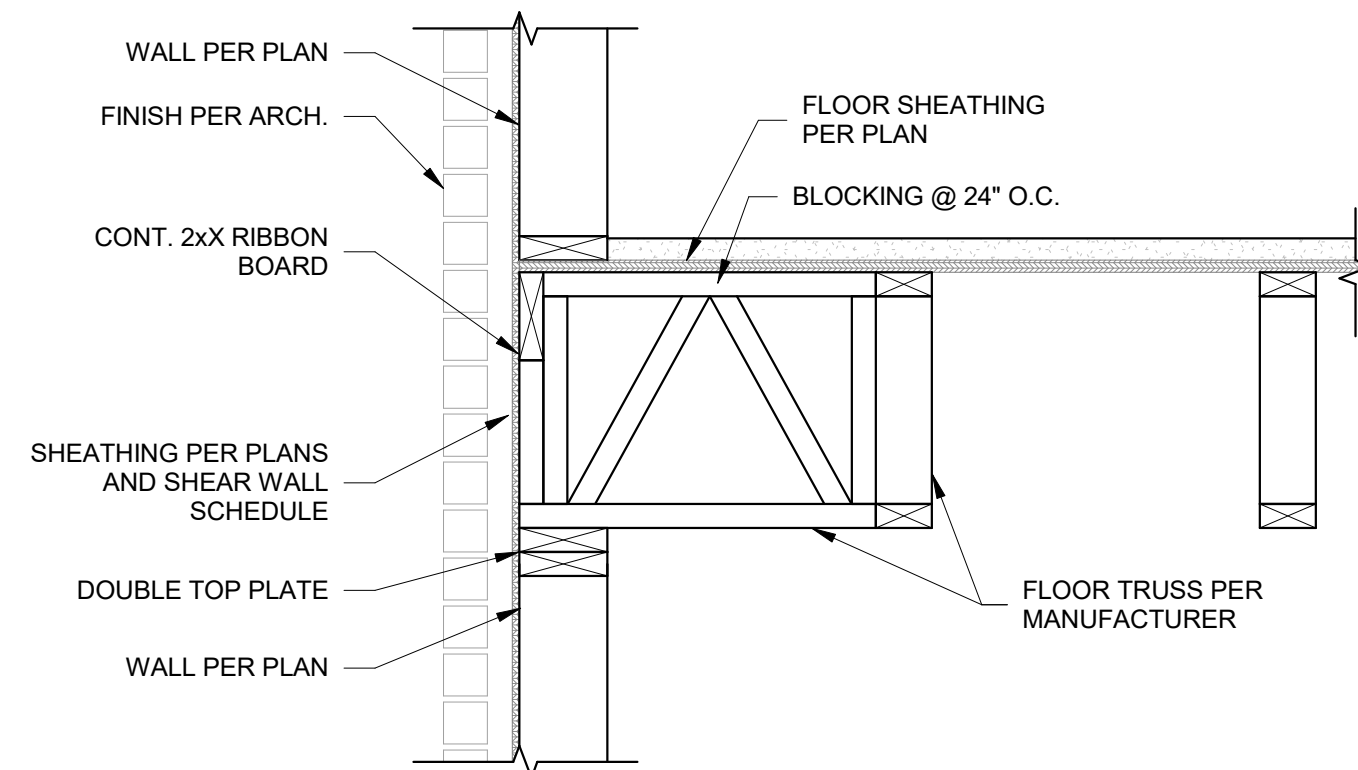
2A
S511
STRINGER TO LANDING BEAM SECTION
1" = 1'-0"



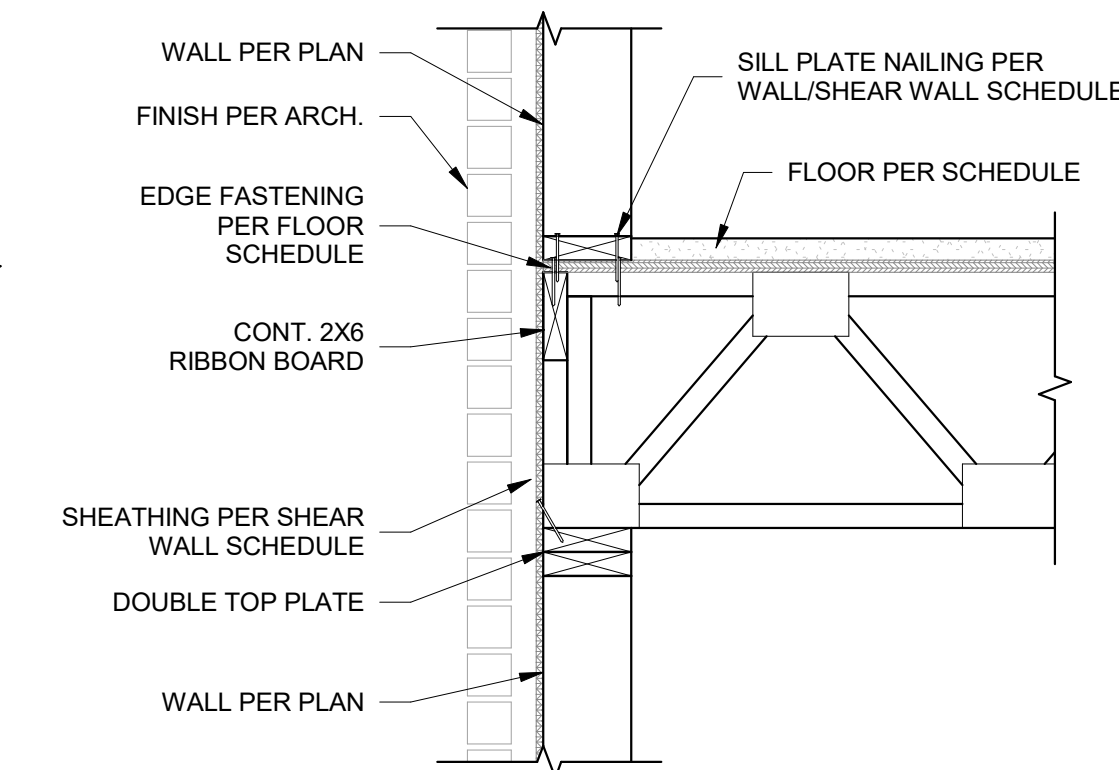
2B
S511
STAIR LANDING BEAM ATTACHMENT TO CMU
1" = 1'-0"



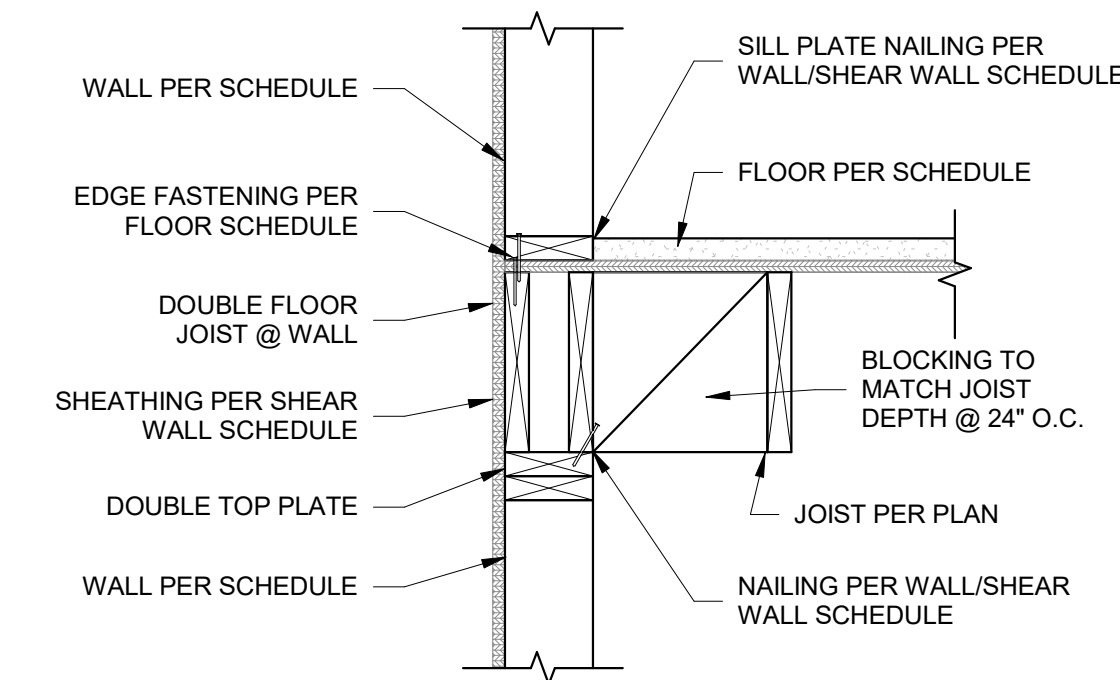
3
S511
NON-BEARING WALL TO FLOOR OR ROOF TRUSS
1" = 1'-0"



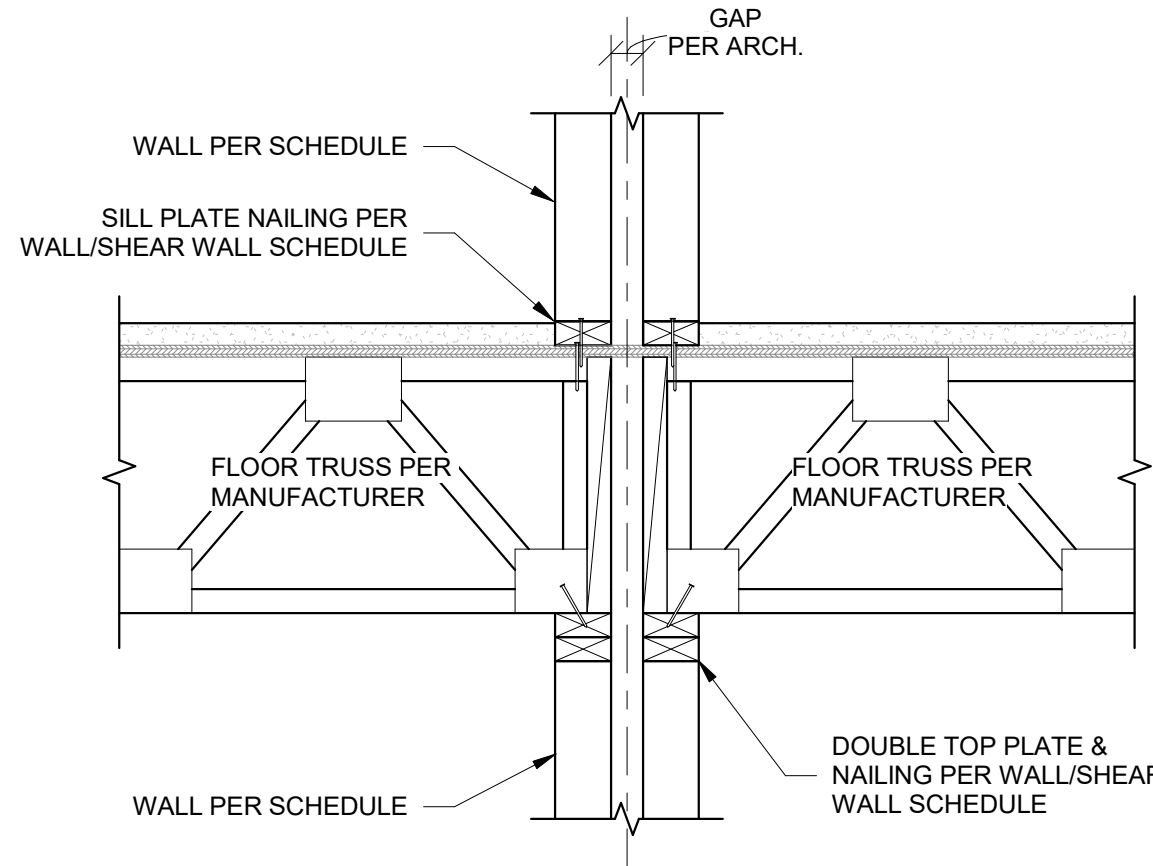
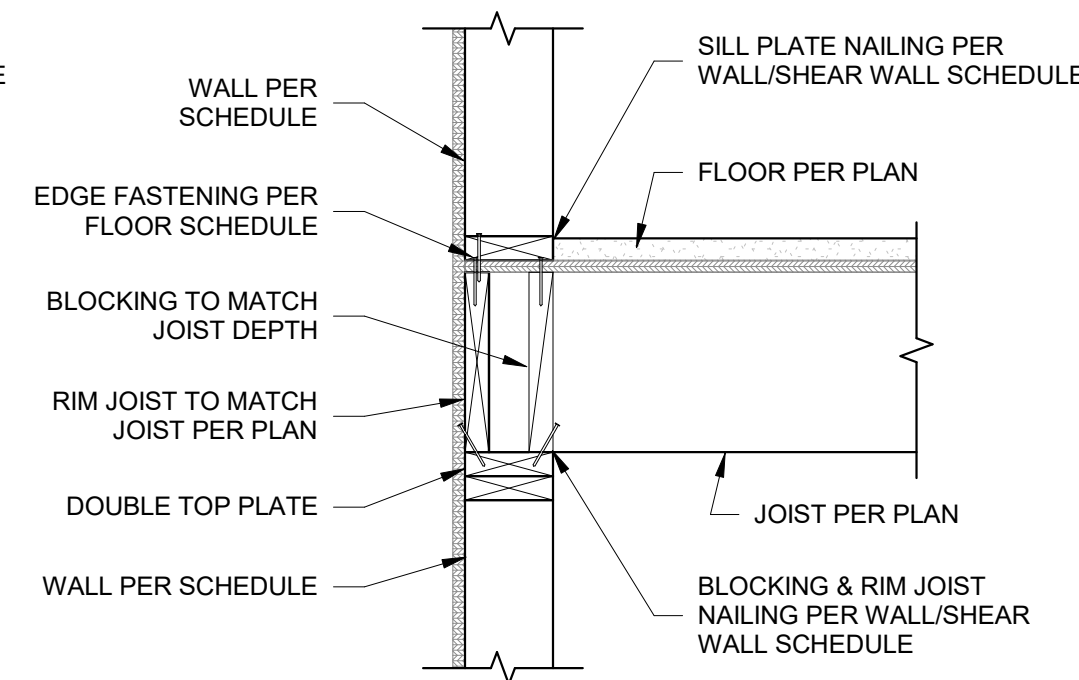
4
S511
FRAMING AT EXTERIOR WALL - OPEN WEB TRUSSES
1" = 1'-0"



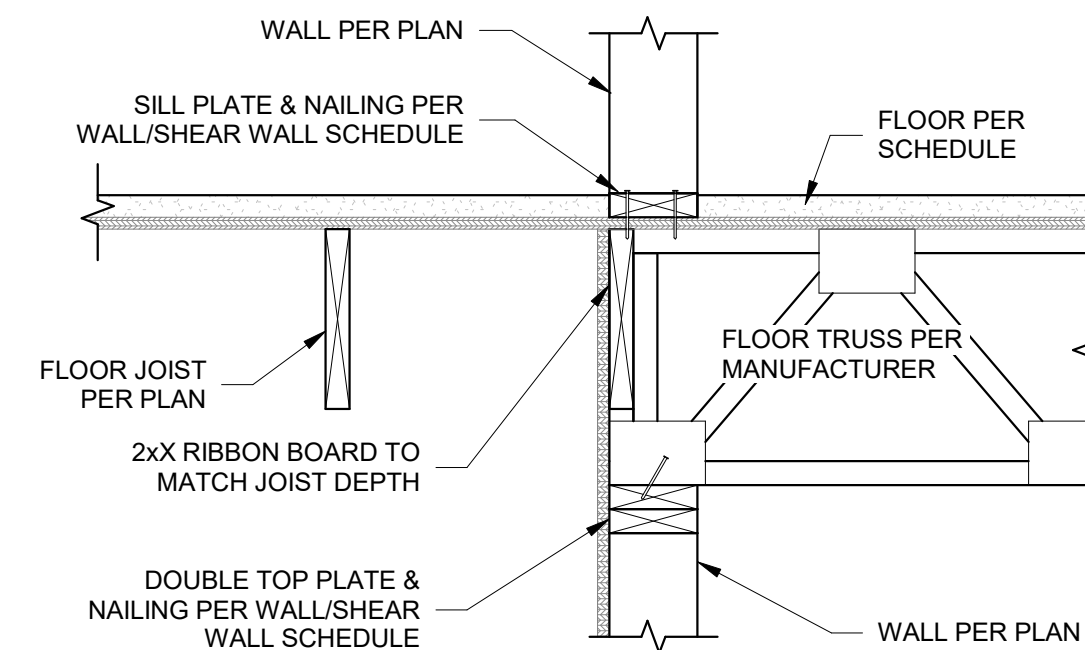
5
S511
2X FRAMING AT EXTERIOR WALL
1" = 1'-0"



NOTES:
1. CONTRACTOR MAY ALTERNATIVELY FASTEN FLOOR JOIST TO DOUBLE RIM JOIST @ END OF WALL W/ HANGER PER SCHEDULE @ EACH JOIST
2. CONTRACTOR MUST USE SIMPSON HANGER @ STAIR LOCATIONS WHERE (2) LAYERS OF GYP ARE TO BYPASS LANDING FRAMING



8
S511
FLOOR TRUSS BEARING TRANSITION AT DEMISING WALL
1" = 1'-0"



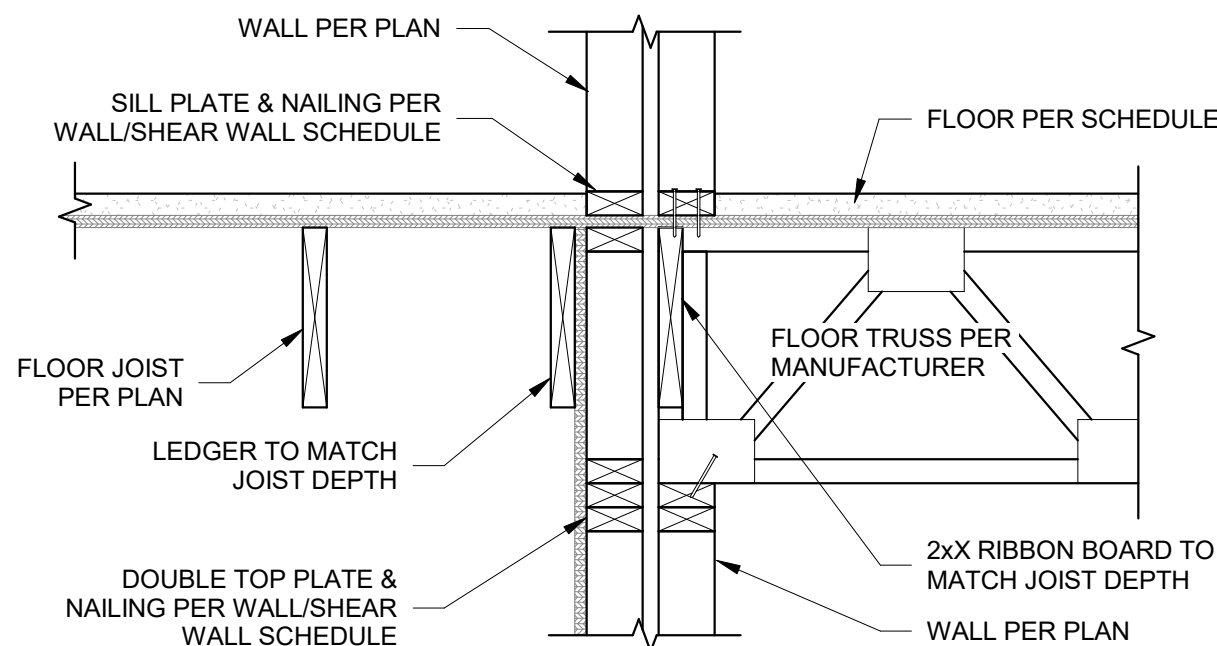
9
S511
FRAMING SECTION AT CORRIDOR
1" = 1'-0"

6
S511
FRAMING AT CORRIDOR
1" = 1'-0"

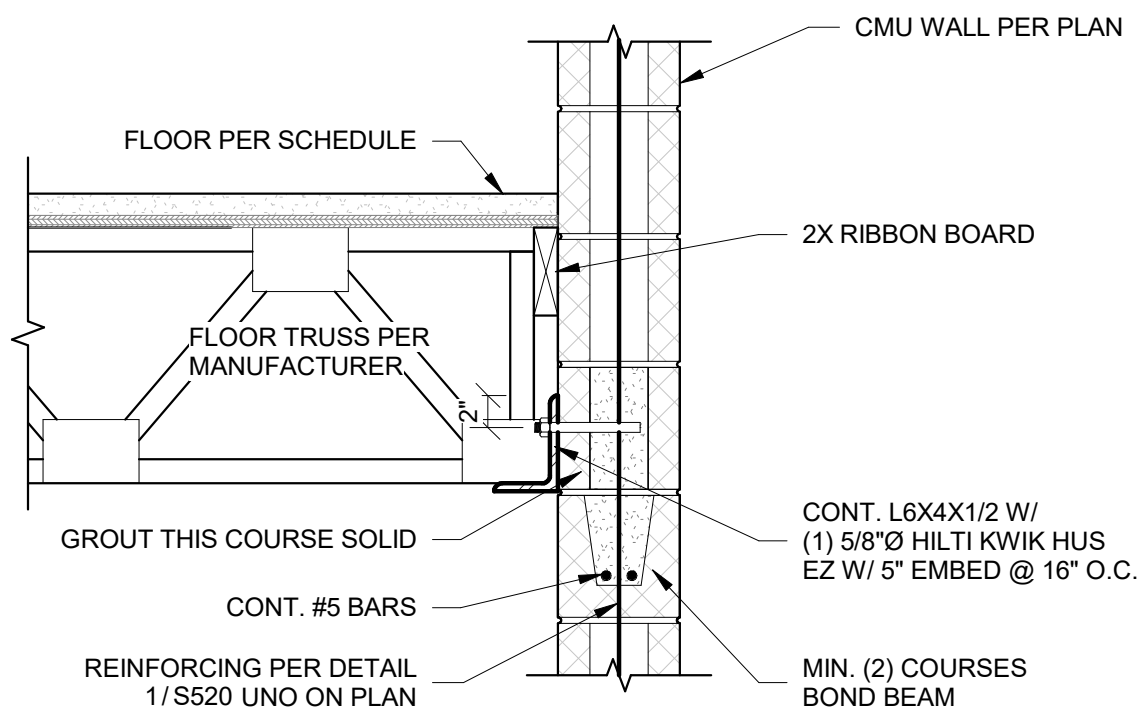
7
S511
FRAMING AT INTERIOR WALL
1" = 1'-0"

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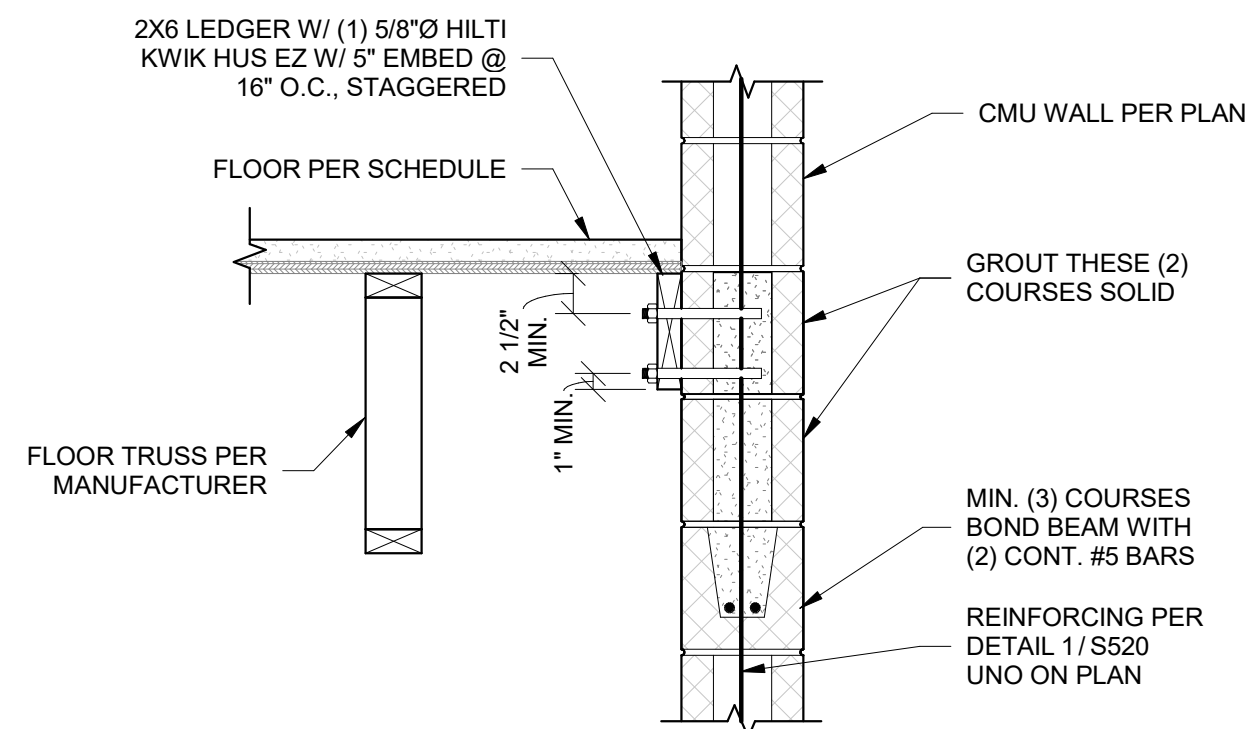
REVISIONS:



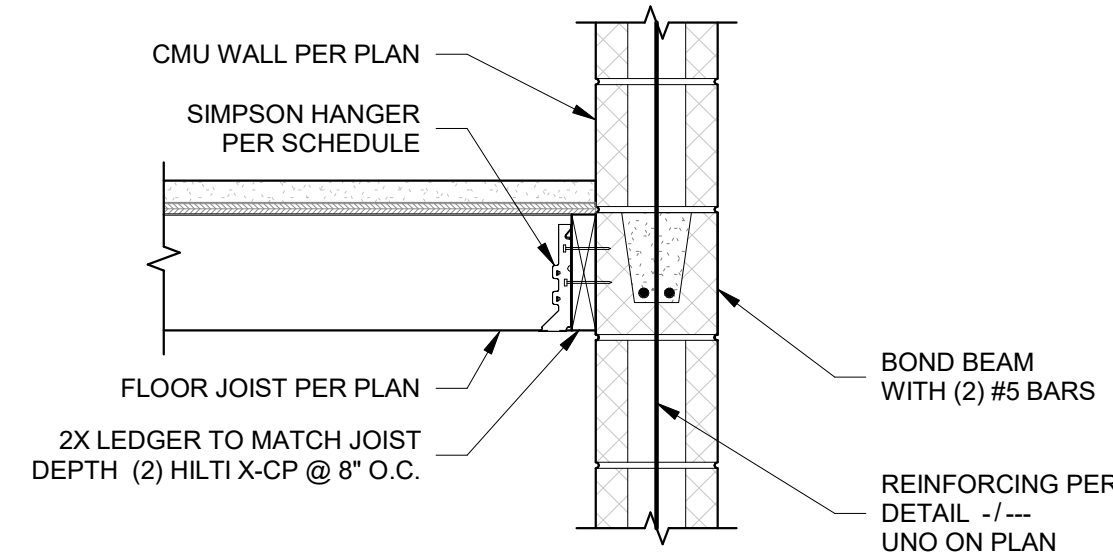
FRAMING SECTION AT CORRIDOR BEARING TRANSITION



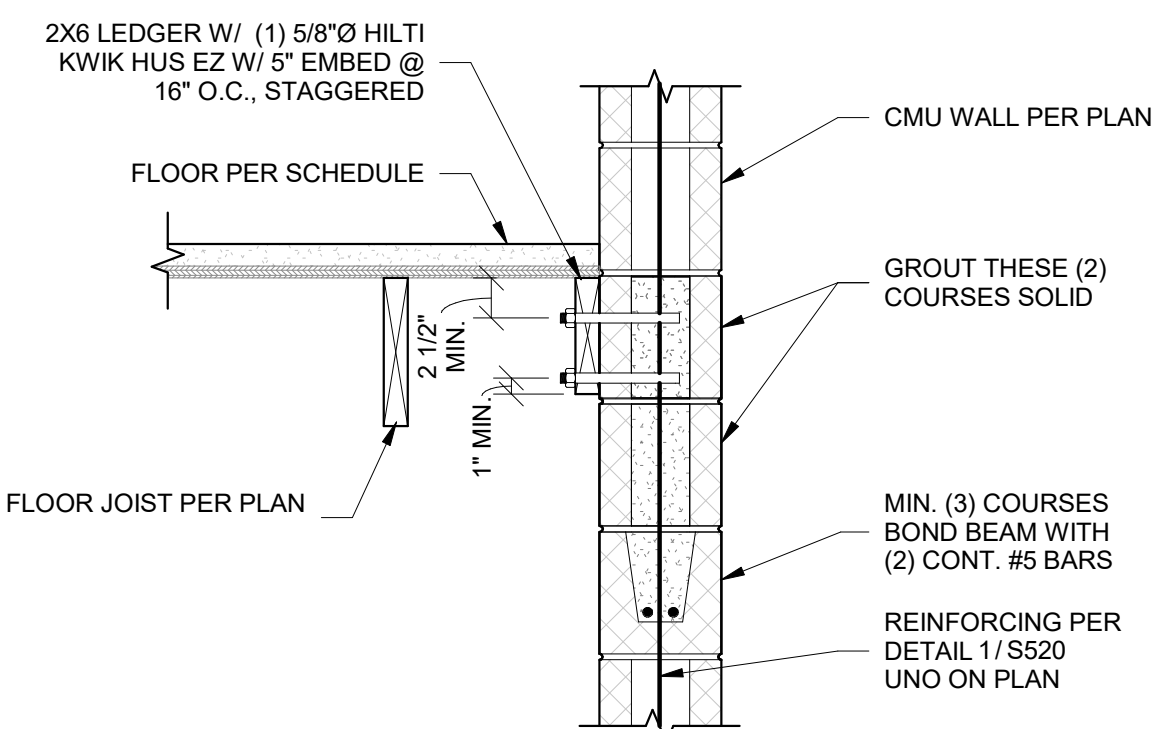
2 FLOOR TRUSS BEARING AT CMU
S512 1" = 1'-0"



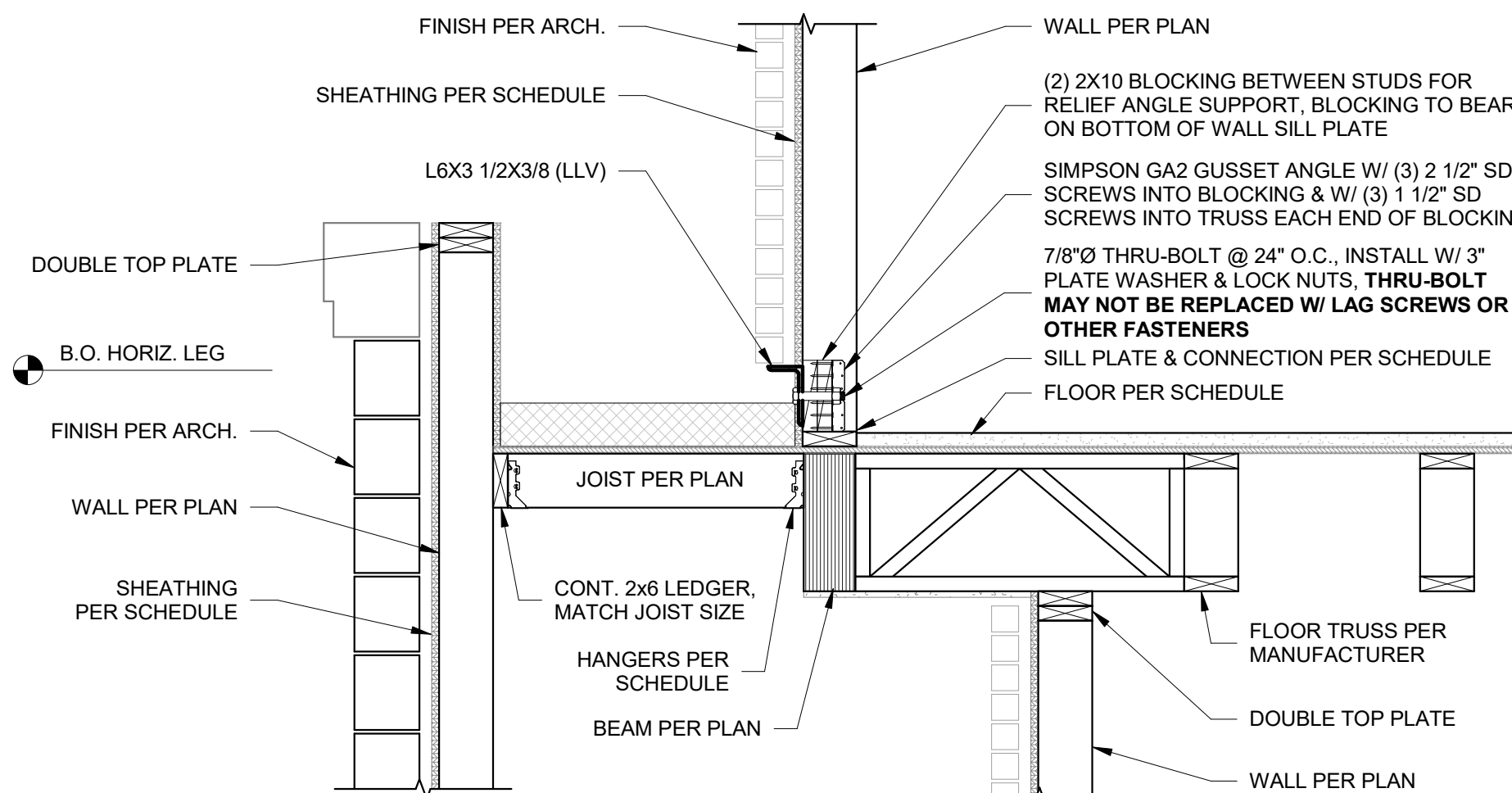
3 FLOOR TRUSS PARALLEL TO CMU
S512 1" = 1'-0"



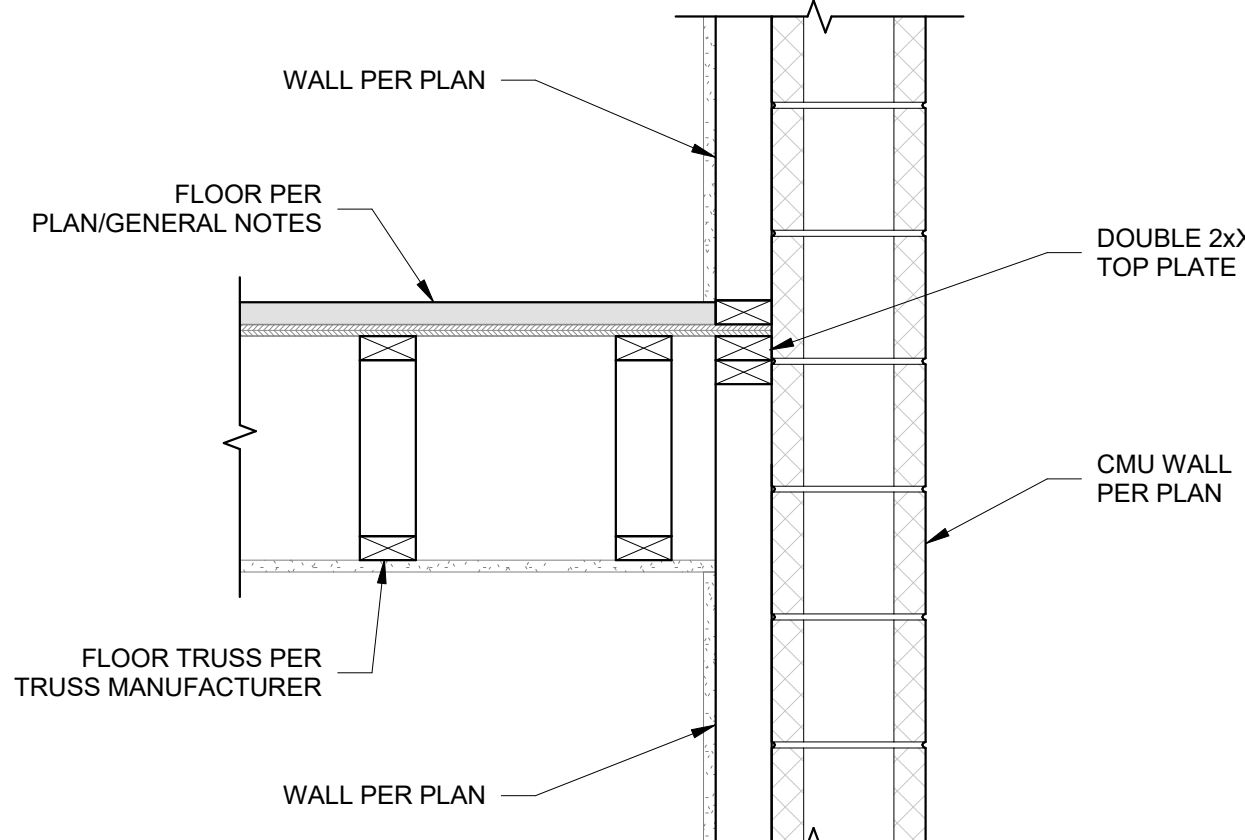
4 FLOOR JOIST BEARING AT CMU
S512 1" = 1'-0"



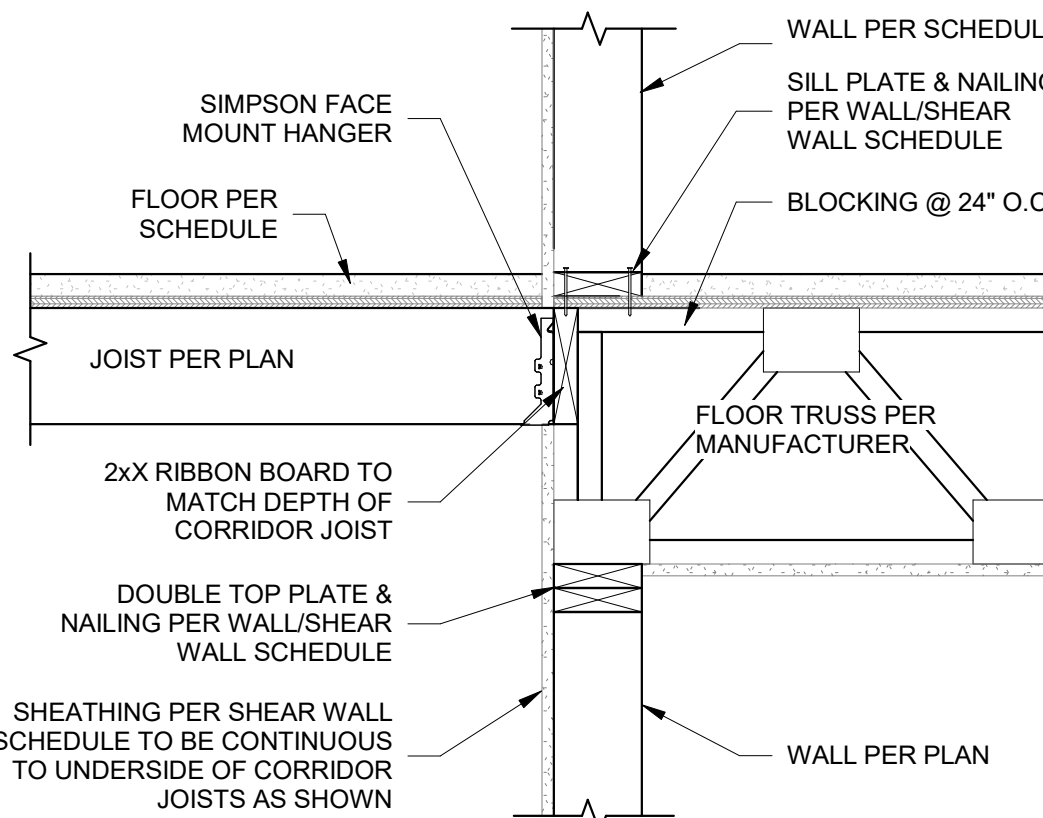
5 JOISTS PARALLEL TO CMU
S512 1" = 1'-0"



6 SECTION AT LOW ROOF
S512 $\frac{3}{4}" = 1'-0"$



7 FLOOR FRAMING AT LEVEL 2 BROWNSTONE
S512 1" = 1'-0"



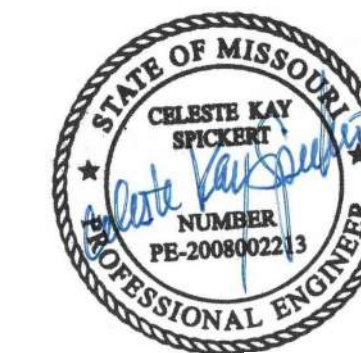
8 SECTION AT STAIR TOWER LANDING
S512 1" = 1'-0"



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EXPIRES: DECEMBER 31, 2024



12/20/2024

DISCOVERY PARK - LOT #10-A

100 NE ALURA WAY
LEE'S SUMMIT, MO 64064

SHEET TITLE
WOOD FLOOR FRAMING DETAILS

PROJECT NUMBER: 2023000333

SHEET NUMBER:

S512

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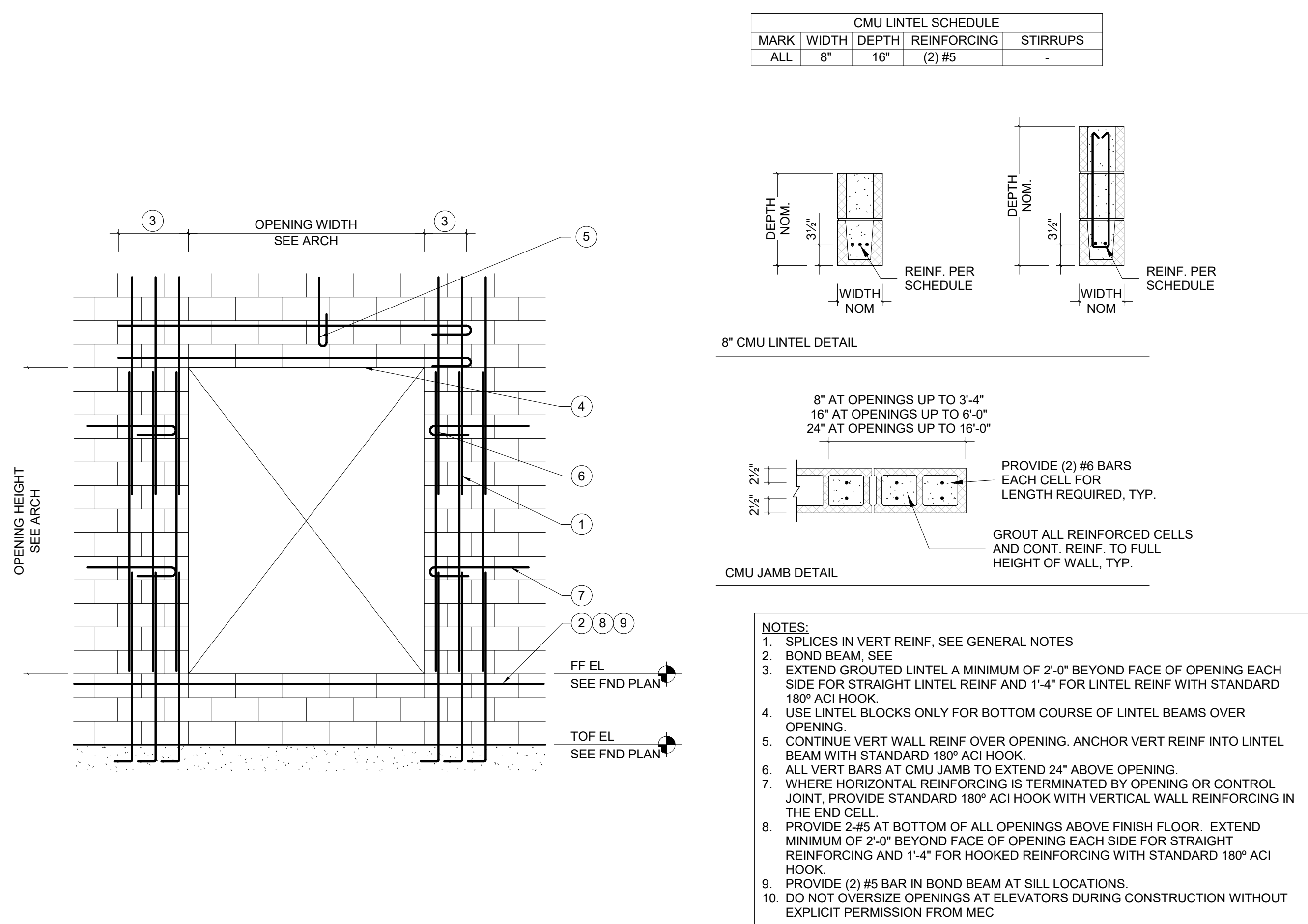
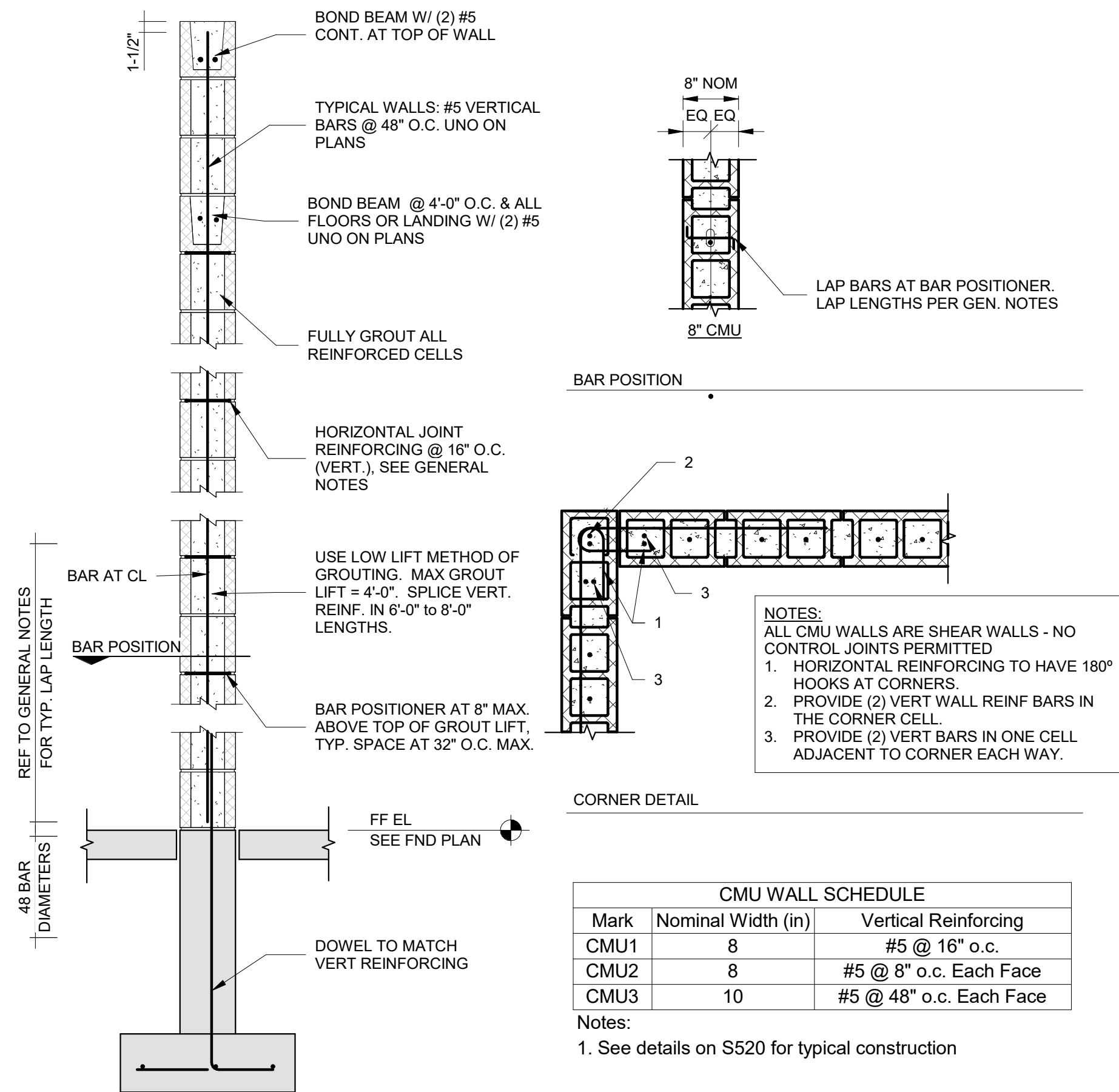
DISCOVERY PARK - LOT #10-A

100 NE ALURA WAY
LEE'S SUMMIT, MO 64064

SHEET TITLE
MASONRY DETAILS

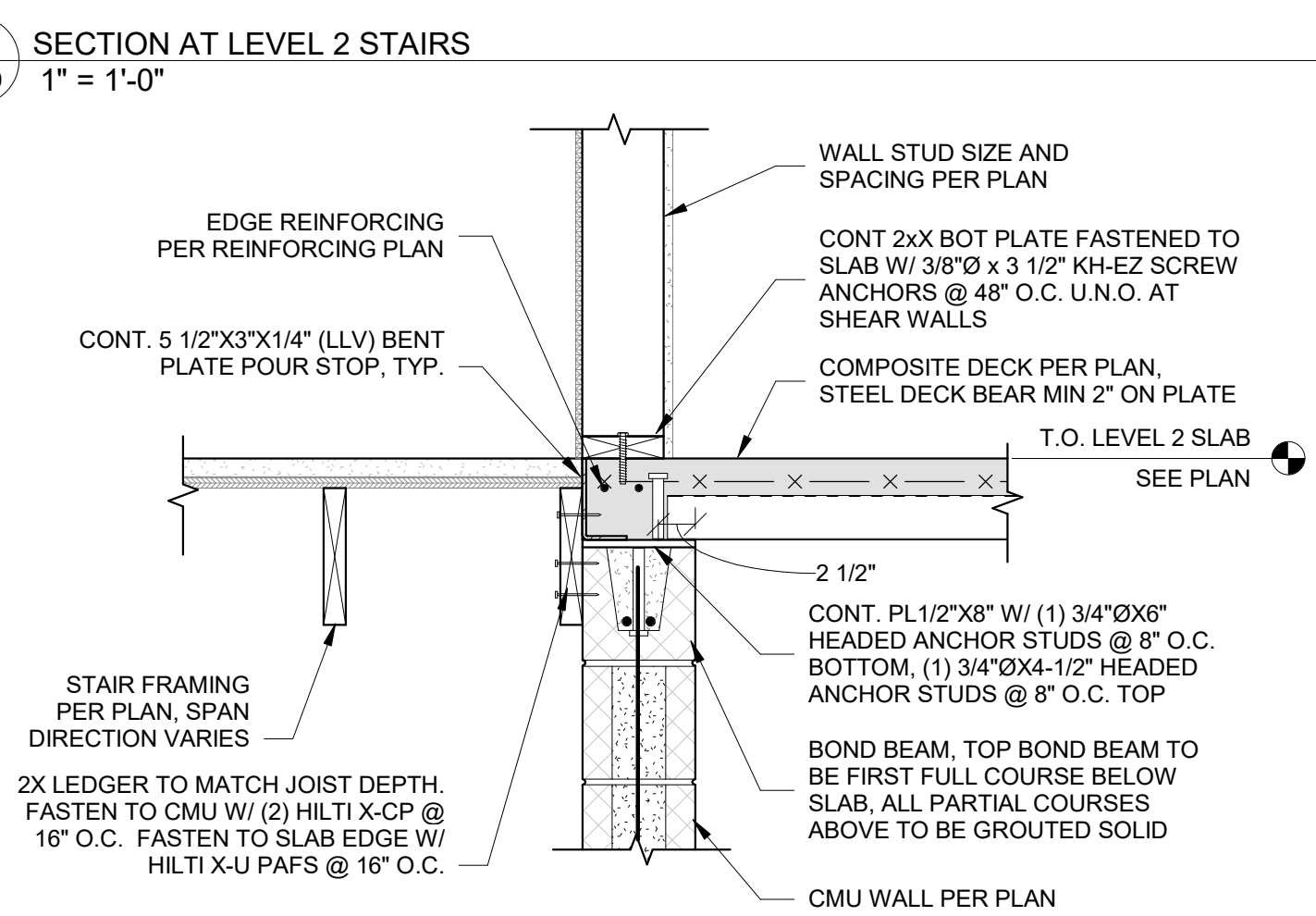
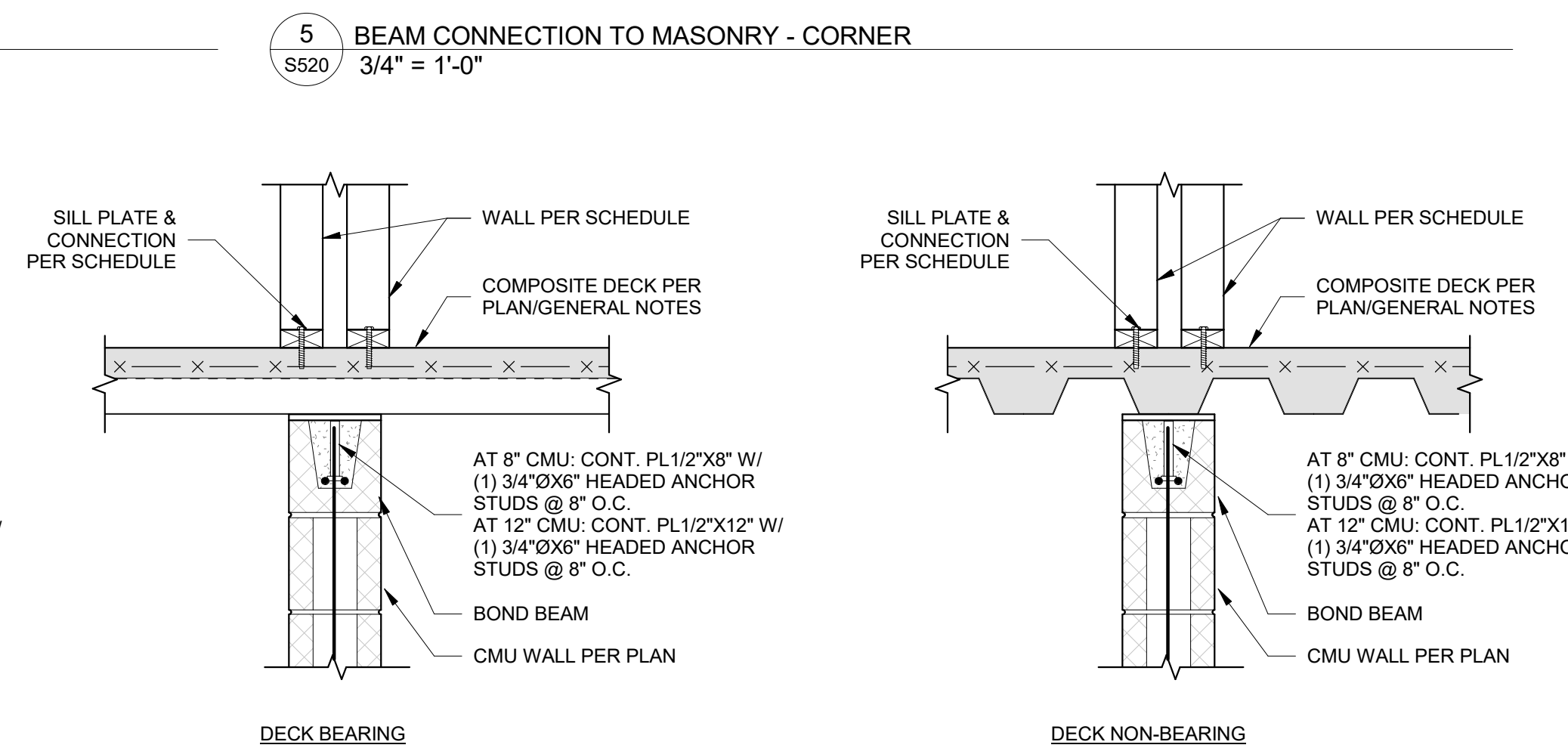
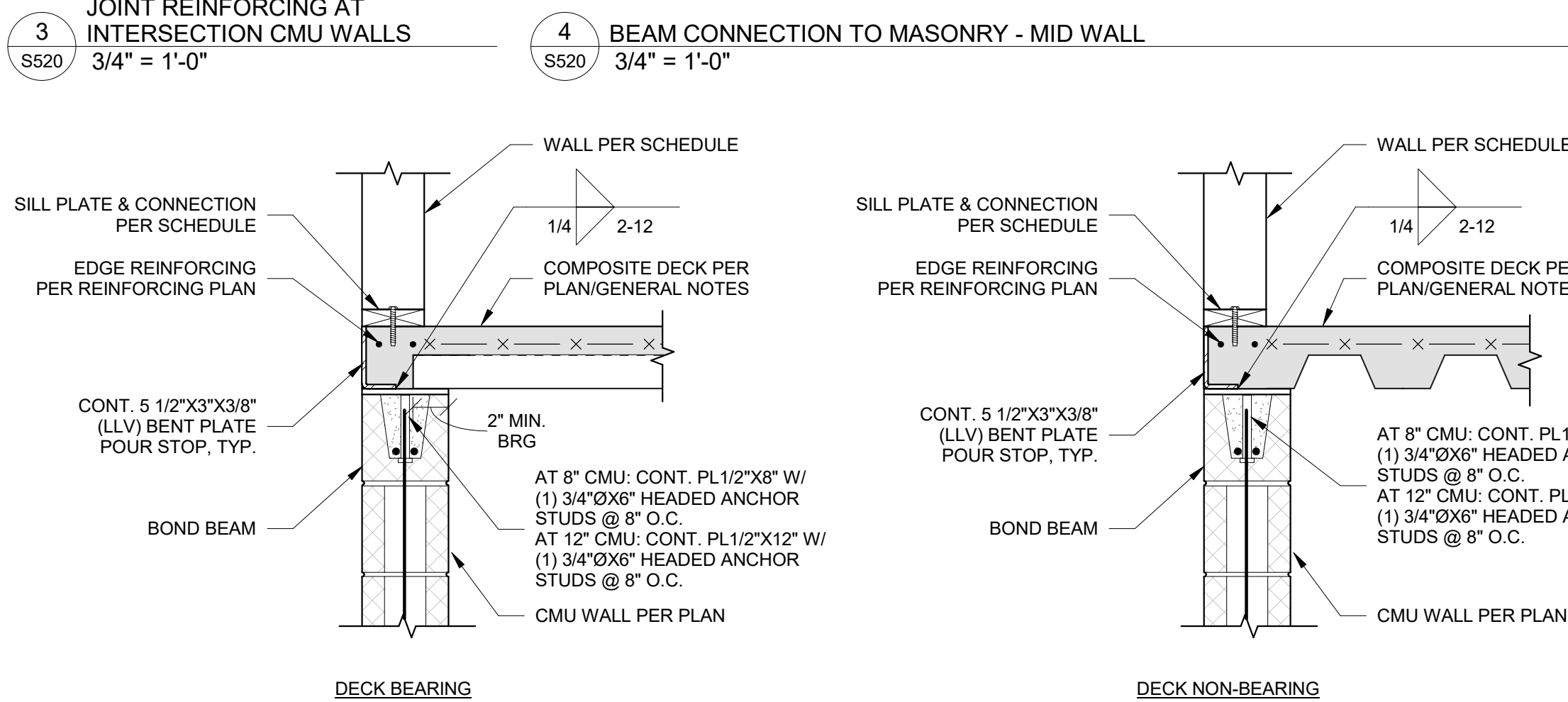
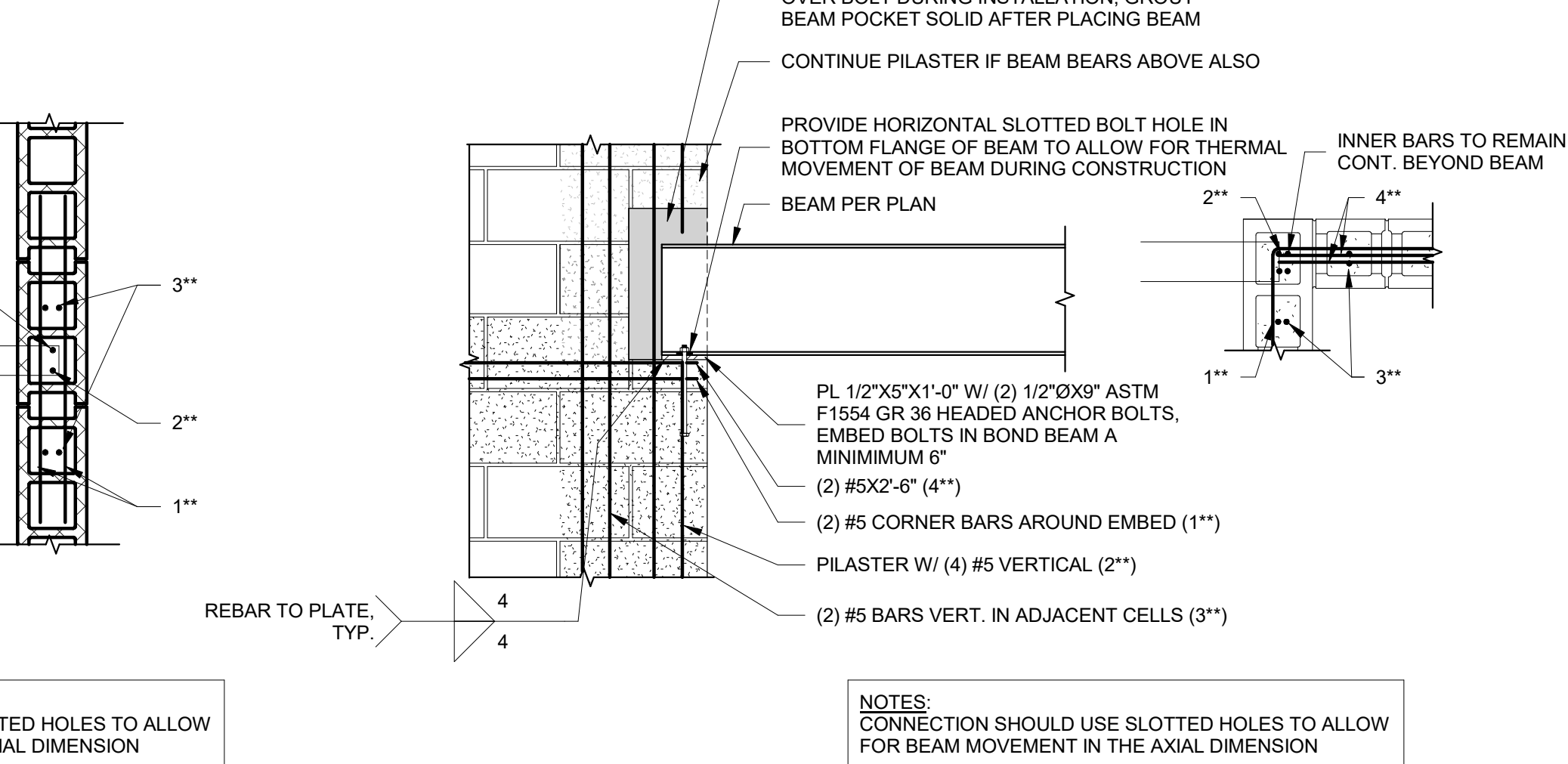
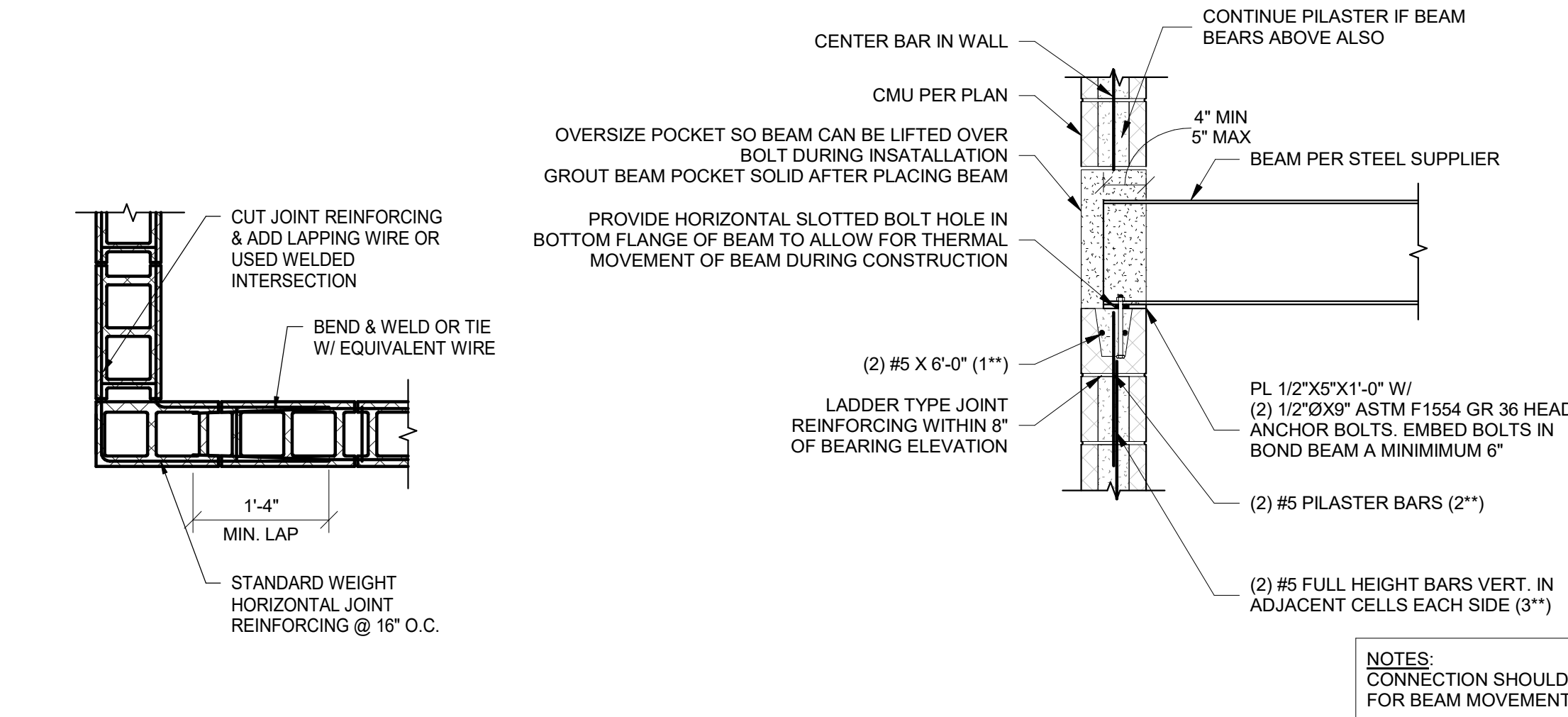
PROJECT NUMBER: 2023000333
SHEET NUMBER:

S520




WOOD HANGER SCHEDULE	
Joist Size	Hanger
2x4	LUS24
2x6	LUS26
2x8	LUS26
2x10	LUS28

Notes:
1. Hangers to be installed with typical fasteners per manufacturer product data.
2. All exterior members are to be pressure treated.



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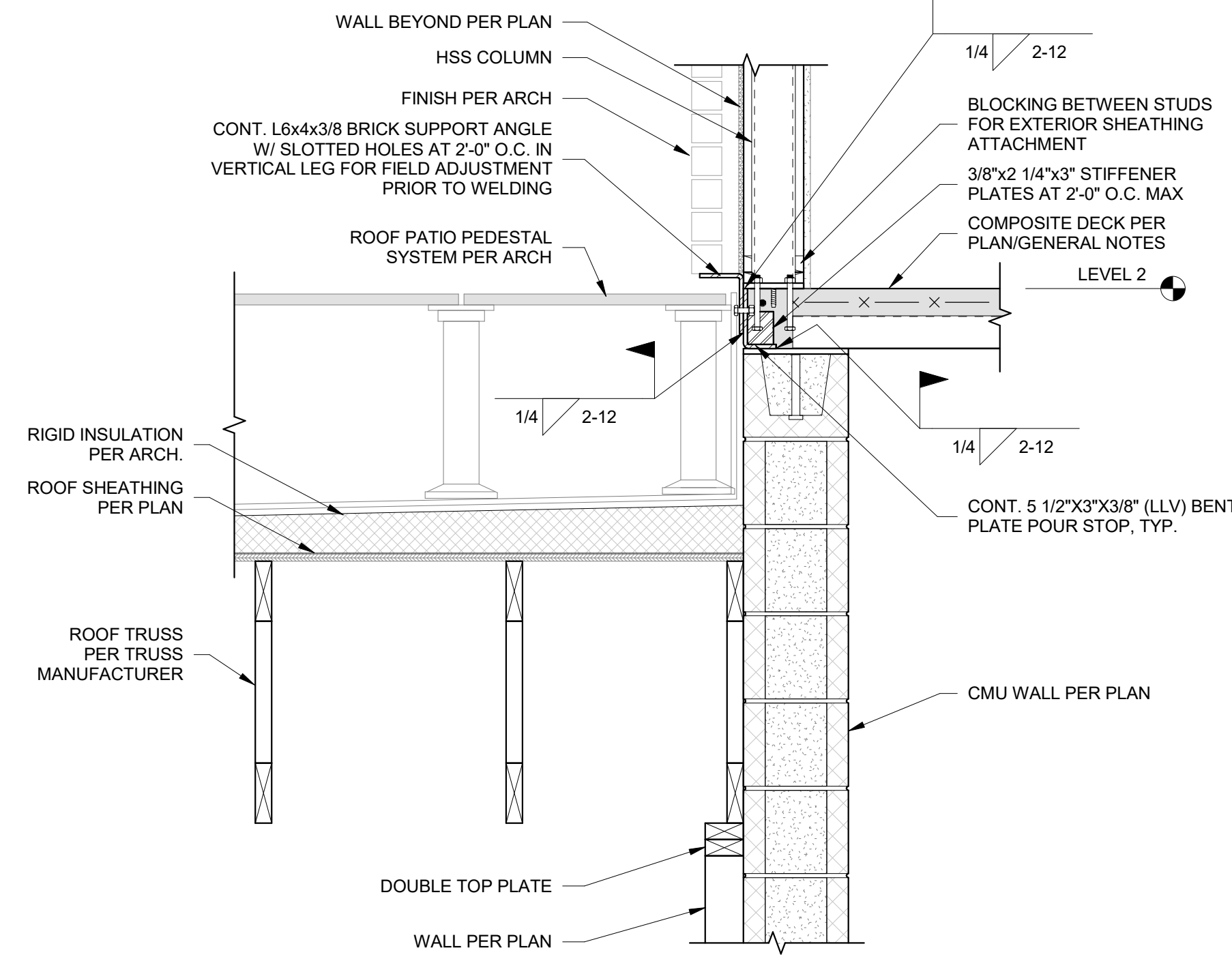
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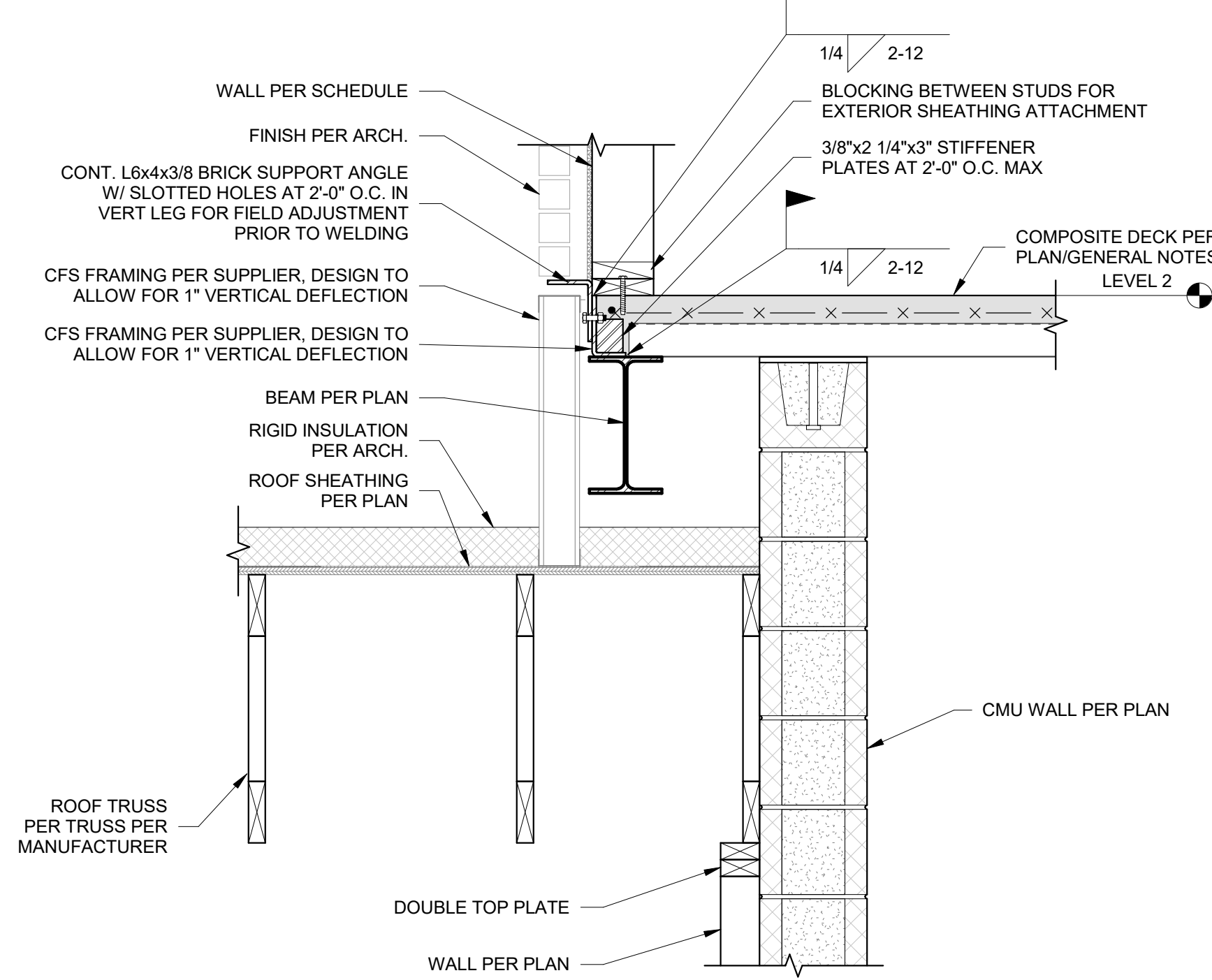
SHEET TITLE
MASONRY DETAILS

PROJECT NUMBER: 2023000333
SHEET NUMBER:

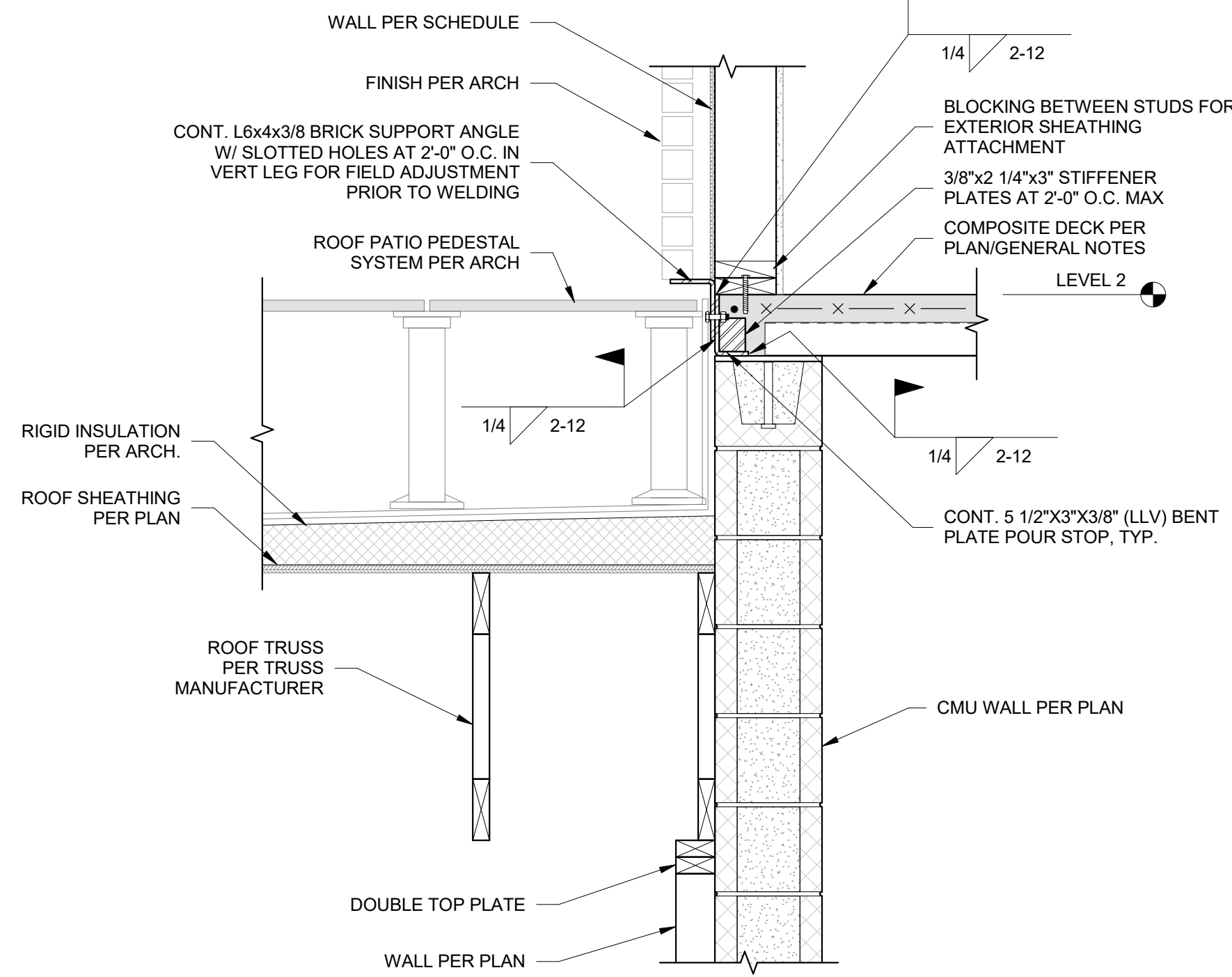
S521



3
S521
LEVEL 2 ZONE B - Section 2
1" = 1'-0"



2
S521
SECTION AT BROWNSTONE ROOF & LEVEL 2 AT BEAM
1" = 1'-0"



1
S521
SECTION AT BROWNSTONE ROOF & BALCONY
1" = 1'-0"

PRINTS ISSUED
PERMIT SUBMITTAL 12/20/2024
REVISIONS:

McCLURETM
2001 W Broadway
Columbia, MO 65203
P 573-814-1568

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MISSOURI CERTIFICATE OF AUTHORITY
NO. E-2006023253
EXPIRES: DECEMBER 31, 2024



12/20/2024

DISCOVERY PARK - LOT #10-A

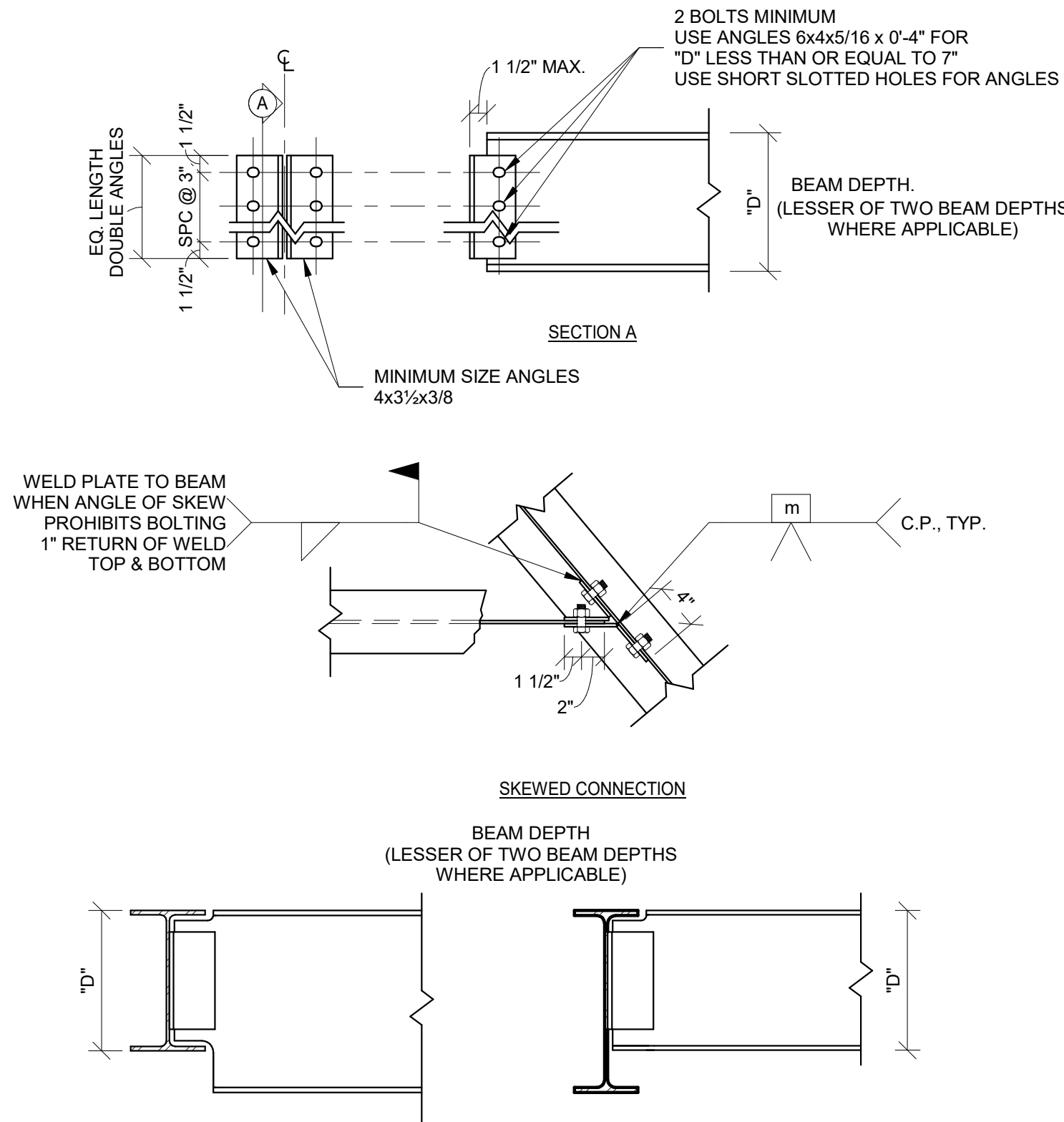
100 NE ALURA WAY
LEE'S SUMMIT, MO 64064

SHEET TITLE
PODIUM DETAILS

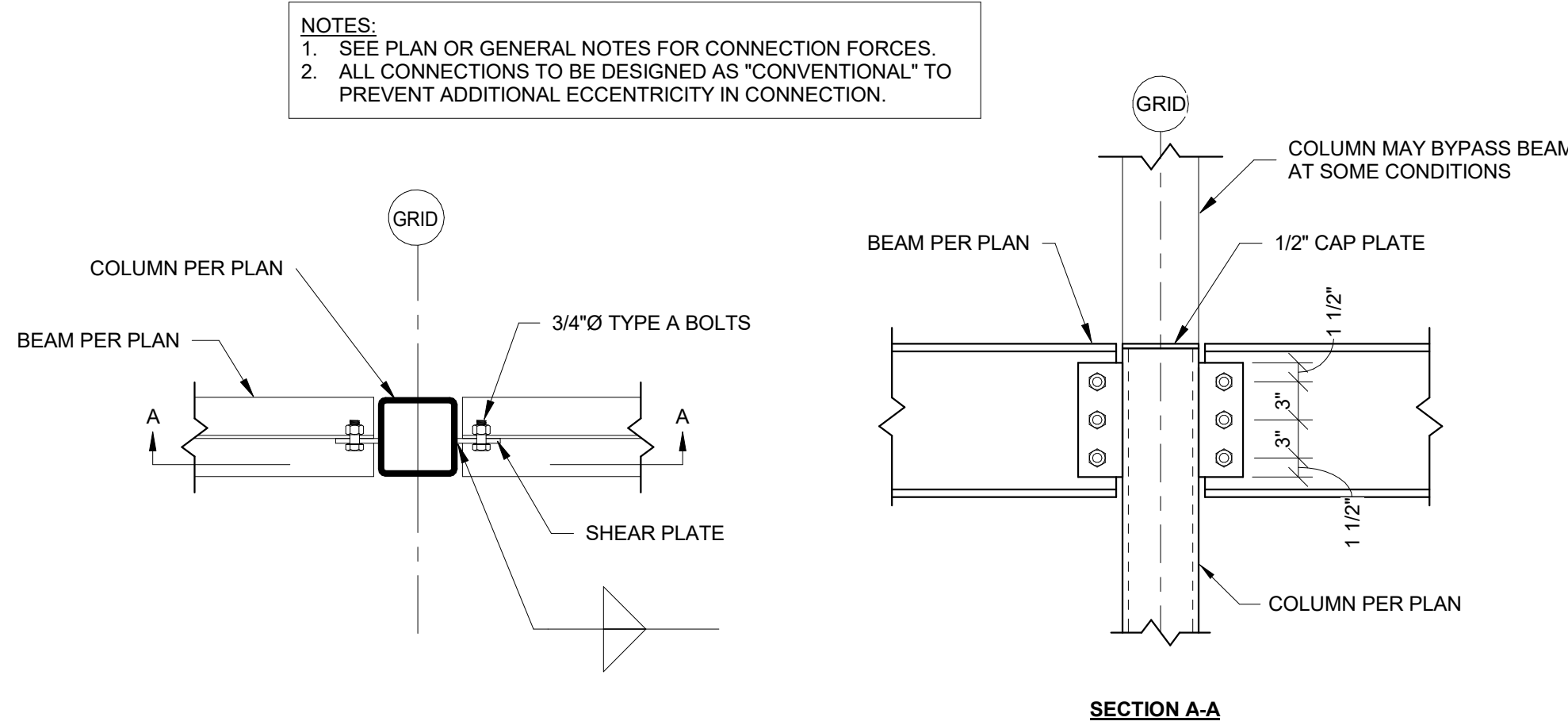
PROJECT NUMBER: 2023000333

SHEET NUMBER:

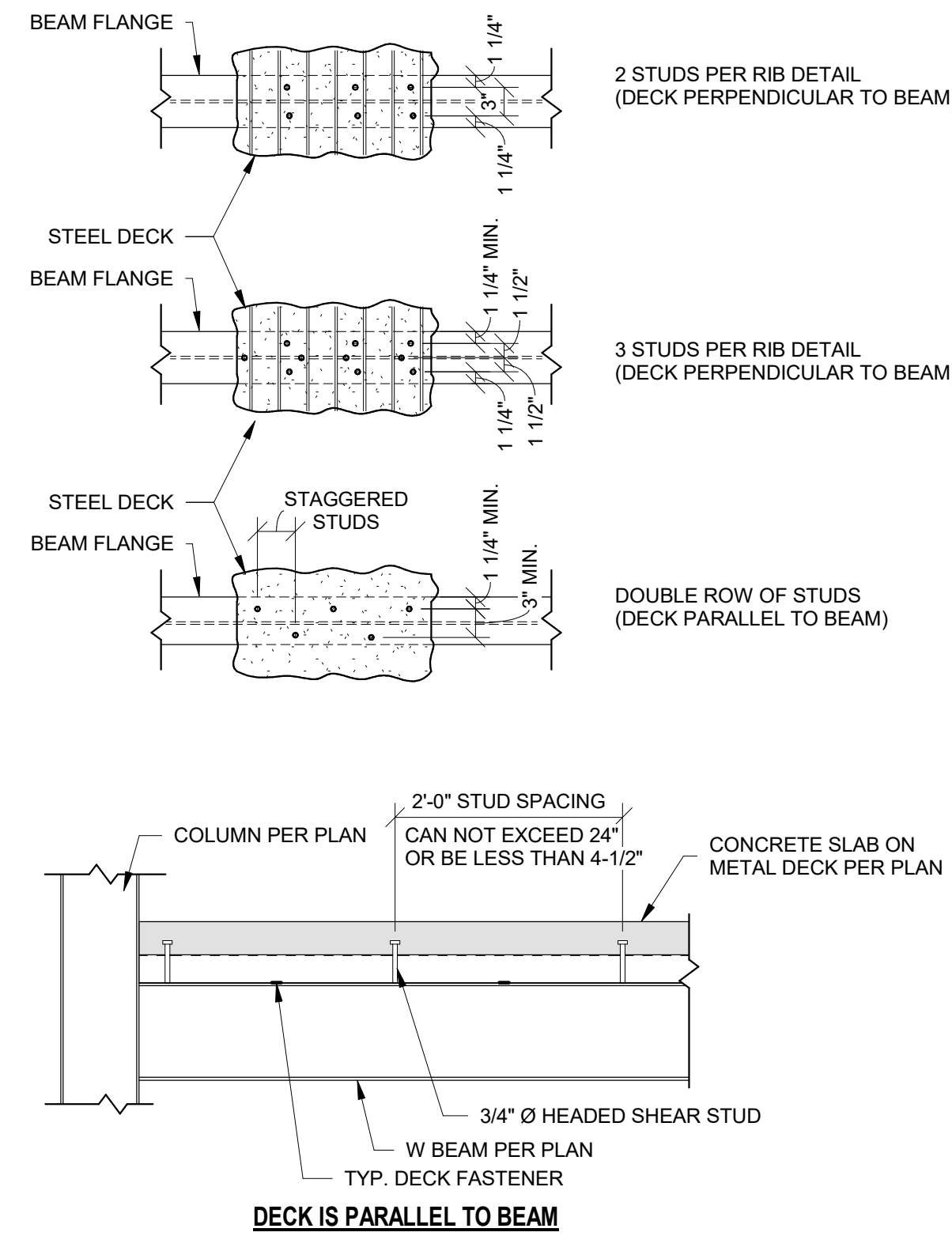
S530



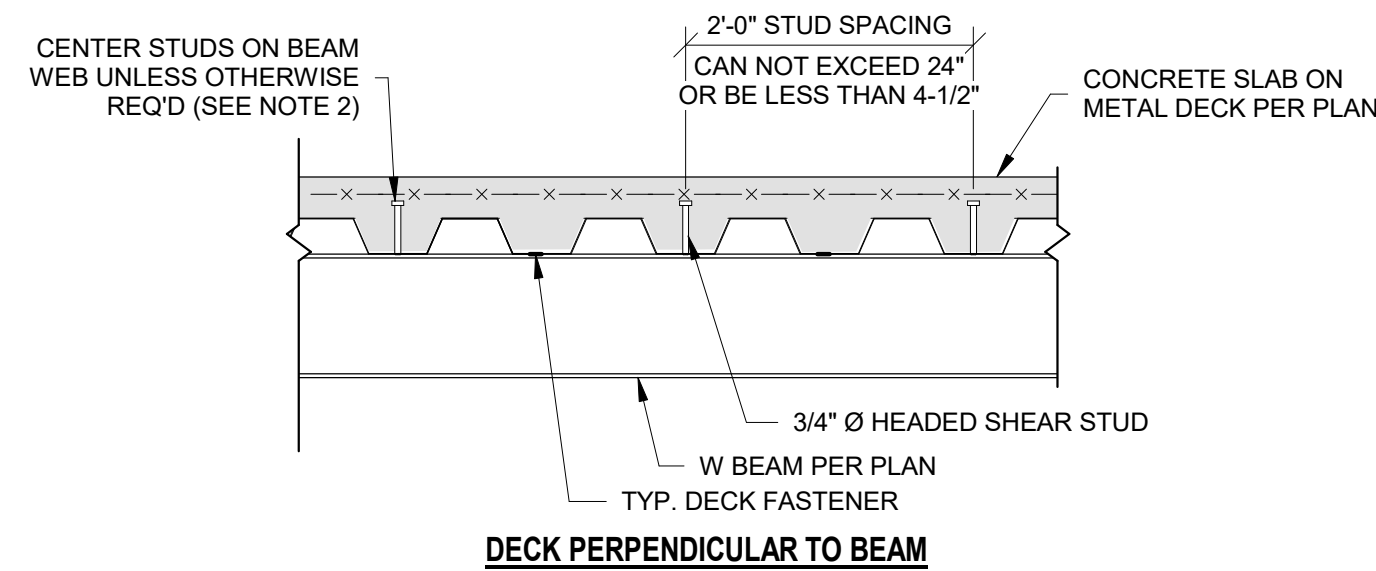
1 BEAM TO BEAM CONNECTION
S530 1\"/>



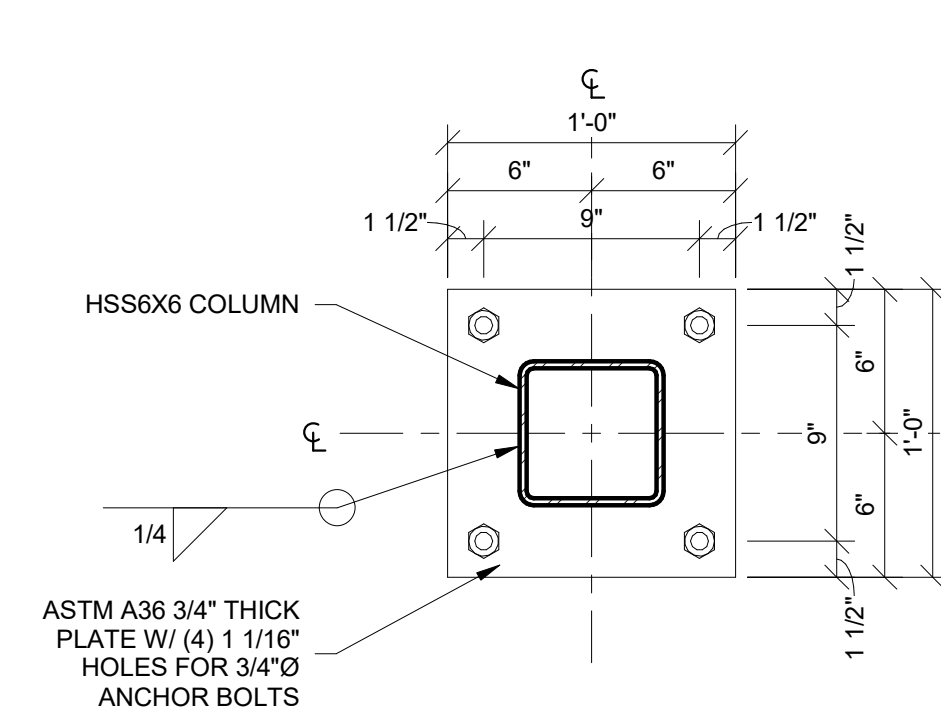
2 TYPICAL BEAM TO COLUMN SHEAR CONNECTION
S530 1\"/>



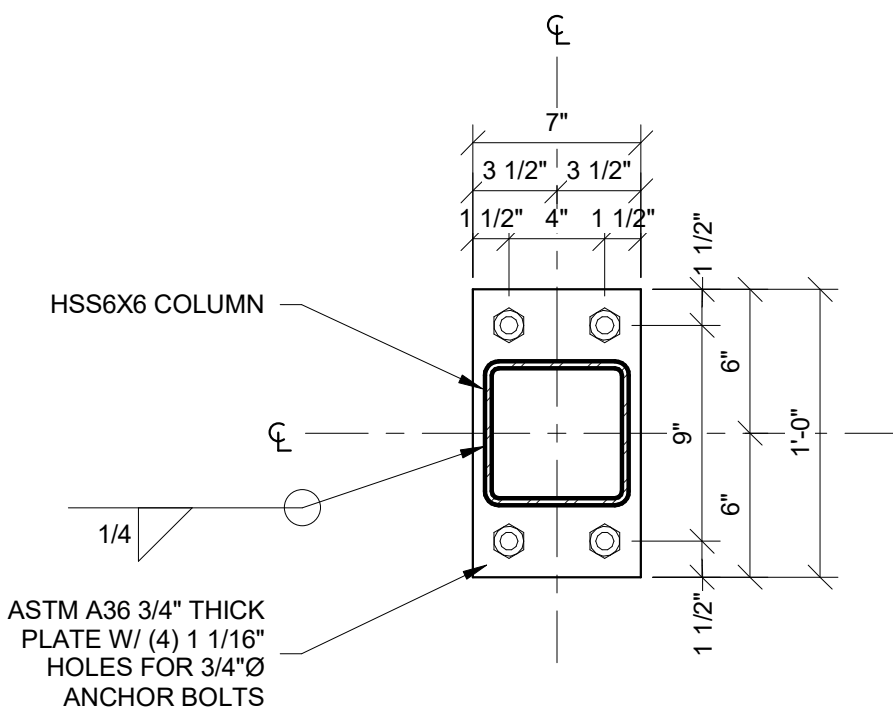
- NOTES:
- SPACE STUDS EQUALLY WITHIN BEAM SEGMENT. WHERE STUD SPACING EXCEEDS 24", PROVIDE ADDITIONAL STUDS AS NECESSARY TO MAINTAIN A 24" MAX STUD SPACING.
 - PLACE STUDS IN SINGLE ROW UNLESS NUMBER OF STUDS RESULTS IN SPACING LESS THAN 4-1/2". WHERE SPACING WOULD BE LESS THAN 4-1/2", PROVIDE A DOUBLE ROW OF STUDS.
 - IN A STAGGERED PATTERN RATHER THAN SIDE BY SIDE. MAINTAIN TRANSVERSE SPACING BETWEEN STUDS & EDGE DIMENSIONS AS SHOWN ON PLAN DETAIL ABOVE.



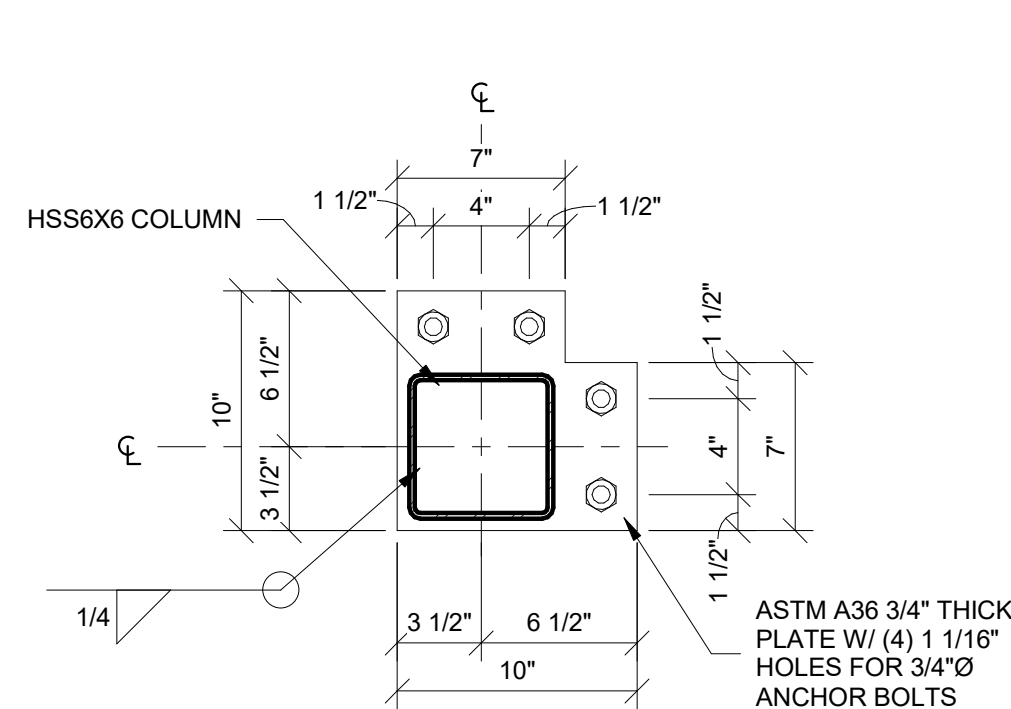
- NOTES:
- SEE PLAN FOR REQUIRED NUMBER OF STUDS. STUDS SHALL BE PLACED AT A MAXIMUM SPACING OF 2-0" ALONG THE BEAM AXIS UNLESS NOTED OTHERWISE ON PLAN. SEE "GENERAL NOTES" FOR MINIMUM NUMBER OF STUDS AND MINIMUM STEEL COMPOSITE DECK TO STEEL BEAM FASTENING REQUIREMENTS.
 - SPACE STUDS AS EVENLY AS POSSIBLE IN AVAILABLE DECK FLUTES. WHERE STUD SPACING EXCEEDS 24", PROVIDE ADDITIONAL STUDS AS NECESSARY TO MAINTAIN A 24" MAX STUD SPACING.
 - WHERE THE NUMBER OF STUDS EXCEEDS THE NUMBER OF FLUTES, INSTALL REMAINING STUDS IN DOUBLE OR TRIPLE ROWS, STARTING FROM THE BEAM ENDS & WORKING TOWARDS THE CENTER. UNLESS NOTED OTHERWISE, STUDS ARE TO BE EQUALLY SPACED ALONG THE BEAM LENGTH AND PLACED SYMMETRICALLY ABOUT THE BEAM CENTERLINE AXIS. IF EQUAL SPACING IS NOT POSSIBLE DUE TO DECK CONFIGURATION, THE STRUCTURAL ENGINEER SHALL BE NOTIFIED.
 - THE REQUIRED NUMBER OF STUD ROWS SHALL BE DETERMINED AS FOLLOWS (BEAM LENGTH IN FEET):
 - FOR DECK FLUTES PERPENDICULAR TO THE BEAM:
 - # ROWS = # STUDS / BEAM LENGTH
 - FOR DECK FLUTES PARALLEL TO THE BEAM:
 - # ROWS = (0.375 x # STUDS) / BEAM LENGTH
 - FOR DECK FLUTES PARALLEL TO THE BEAM, THE FIRST STUD (OR STUDS) SHALL BE PLACED 6" FROM THE BEAM ENDS. FOR DECK FLUTES PERPENDICULAR TO THE BEAM, THE FIRST STUD (OR STUDS) SHALL BE PLACED IN THE FLUTE CLOSEST TO THE BEAM ENDS.
 - FOR CANTILEVER SPANS, STUDS SHALL BE PLACED IN ONE ROW ALONG THE BEAM CENTERLINE AXIS AT A MAXIMUM SPACING OF 2-0". STUDS PLACED ON THE CANTILEVER SPAN ARE NOT INCLUDED IN THE NUMBER OF STUDS SHOWN ON THE DRAWINGS.
 - WHERE BEAM FLANGE THICKNESS IS LESS THAN 0.30", STUDS MUST BE PLACED AT CENTERLINE OF THE BEAM.
 - MAINTAIN TRANSVERSE SPACING BETWEEN STUDS & EDGE DIMENSIONS AS SHOWN ON PLAN DETAILS ABOVE.



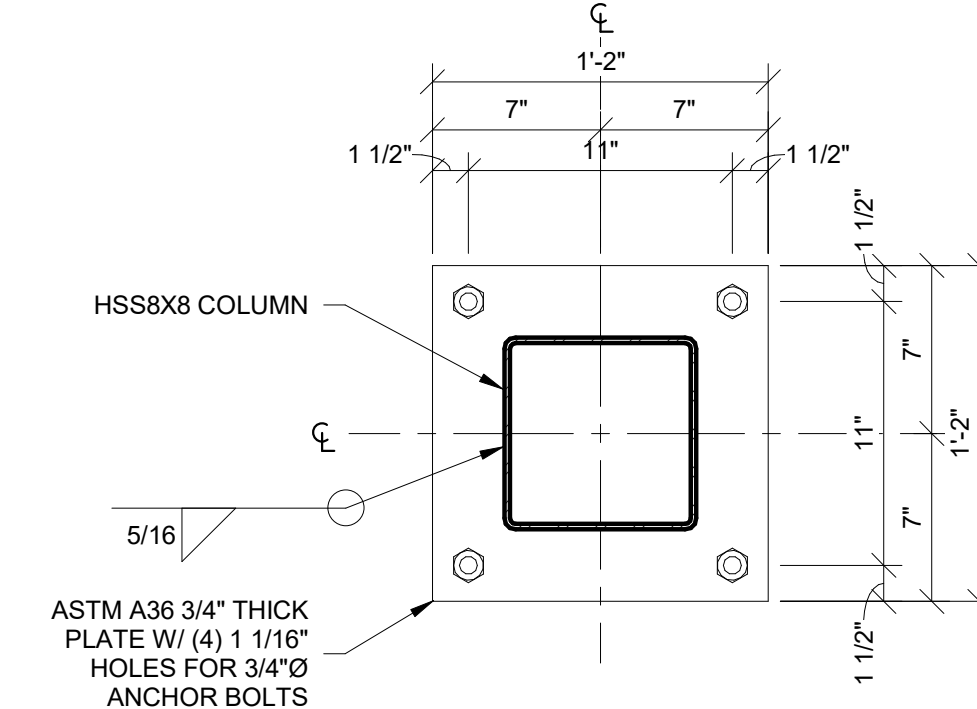
3 BP1
S530 1 1/2\"/>



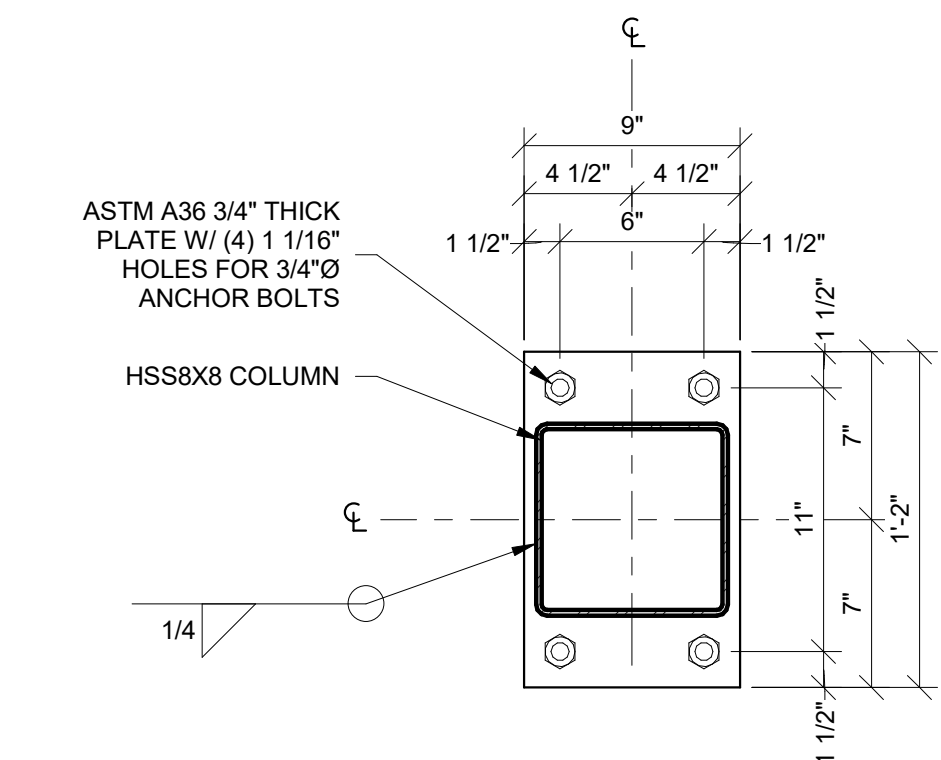
4 BP2
S530 1 1/2\"/>



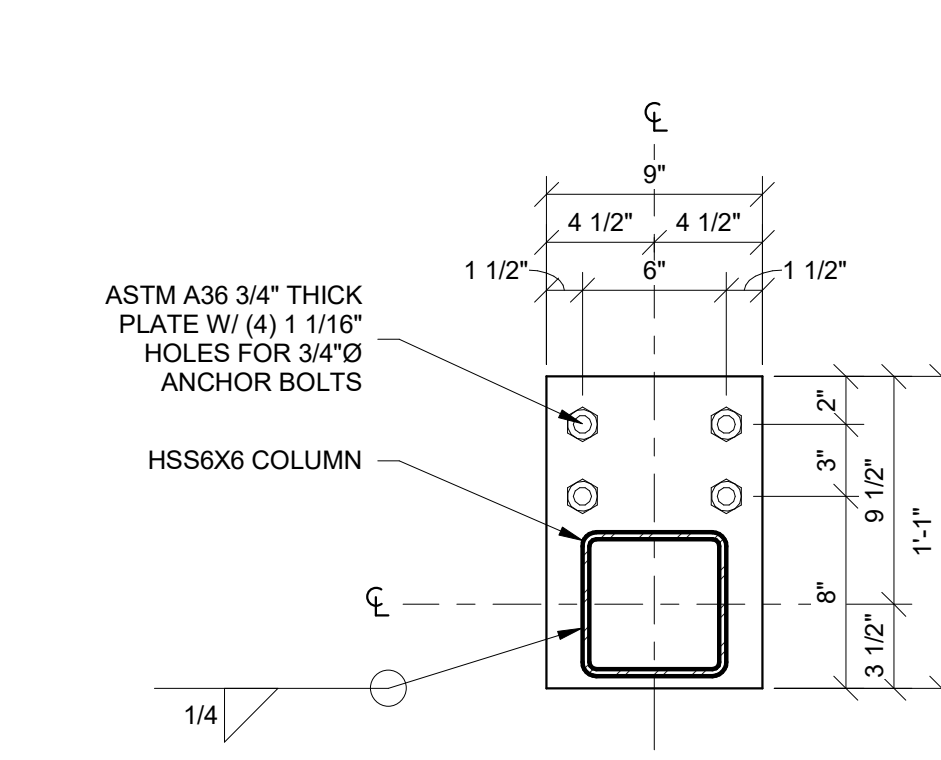
5 BP3
S530 1 1/2\"/>



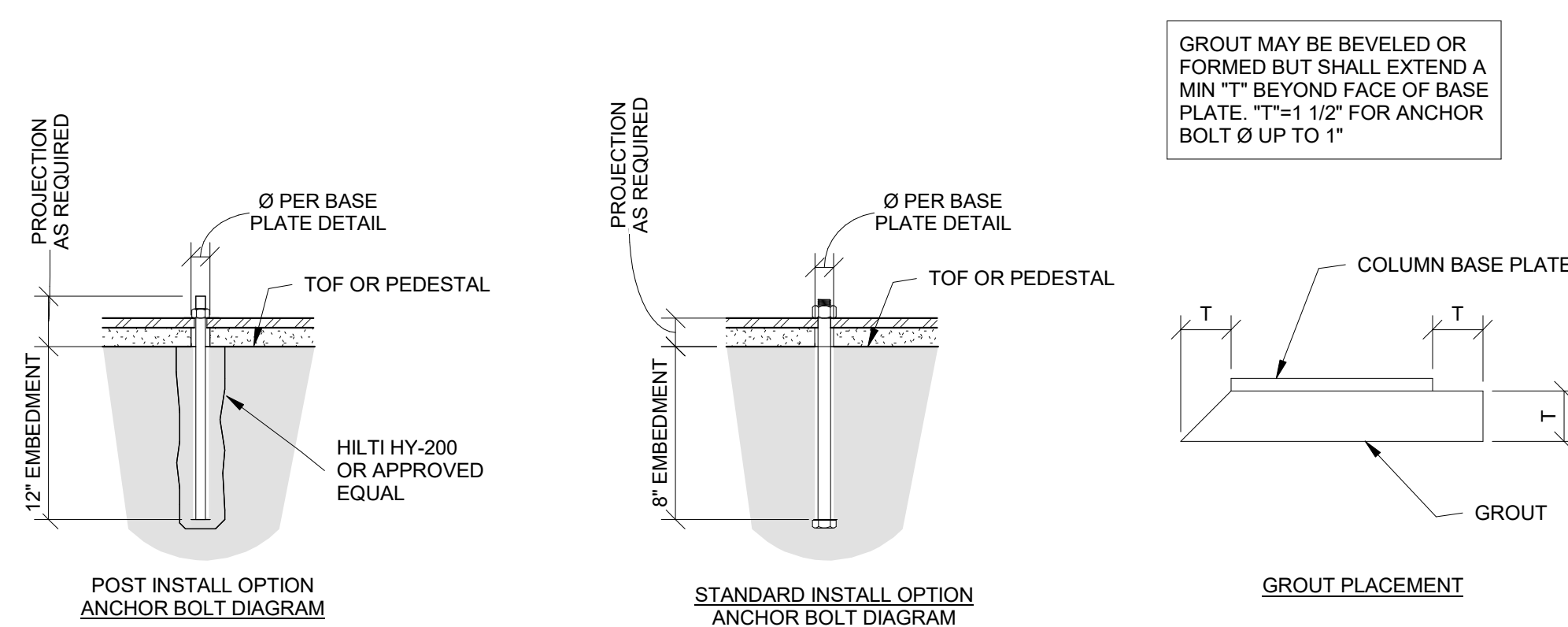
6 BP4
S530 1 1/2\"/>



7 BP5
S530 1 1/2\"/>



8 BP6
S530 1 1/2\"/>



9 COLUMN ANCHOR BOLT DETAILS
S530 1\"/>

10 SHEAR STUD PLACEMENT DIAGRAM
S530 3/4\"/>

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MISSOURI CERTIFICATE OF AUTHORITY
NO. E-2006023253
EXPIRES: DECEMBER 31, 2024



12/20/2024

DISCOVERY PARK - LOT #10-A

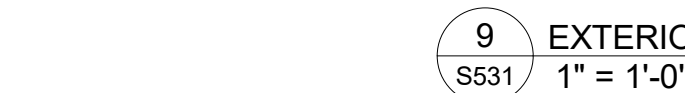
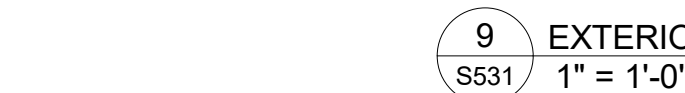
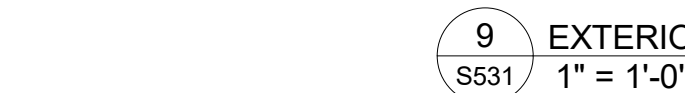
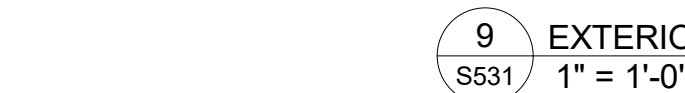
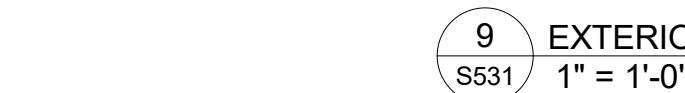
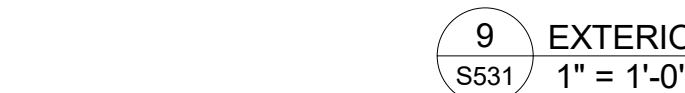
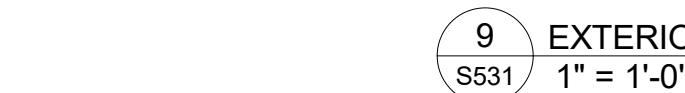
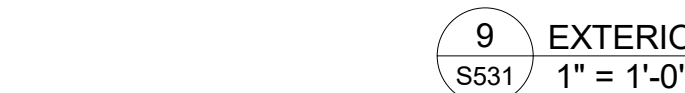
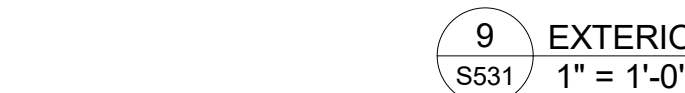
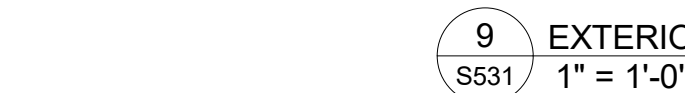
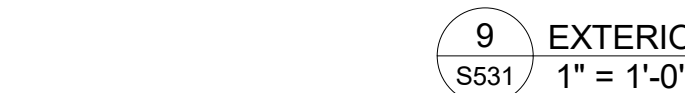
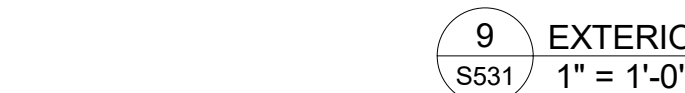
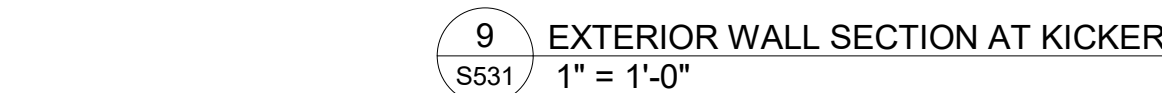
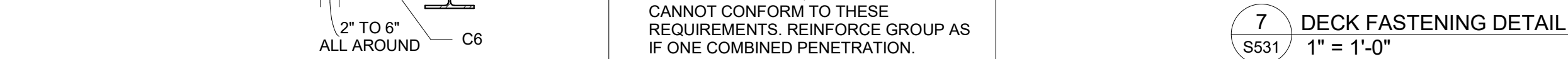
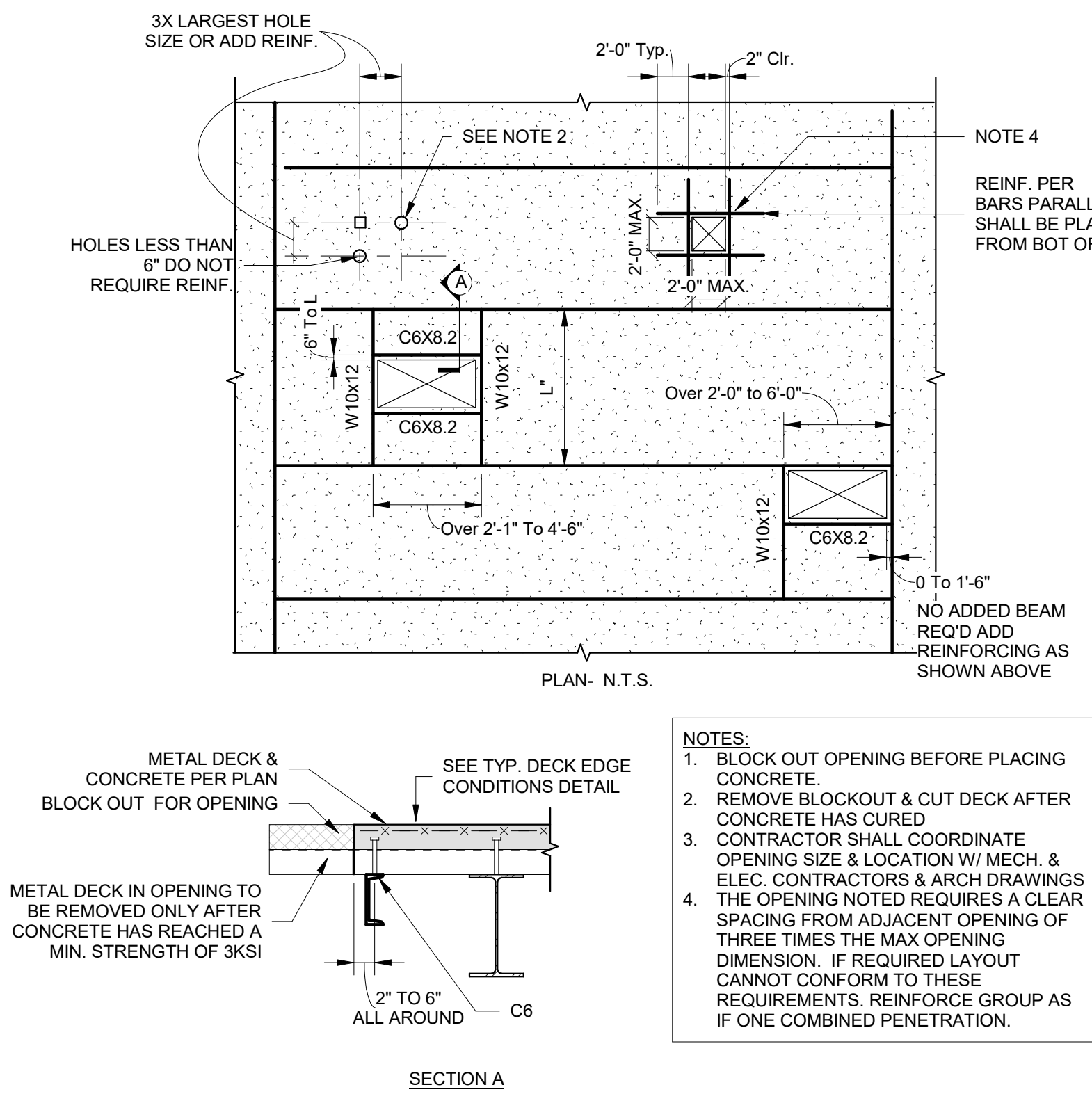
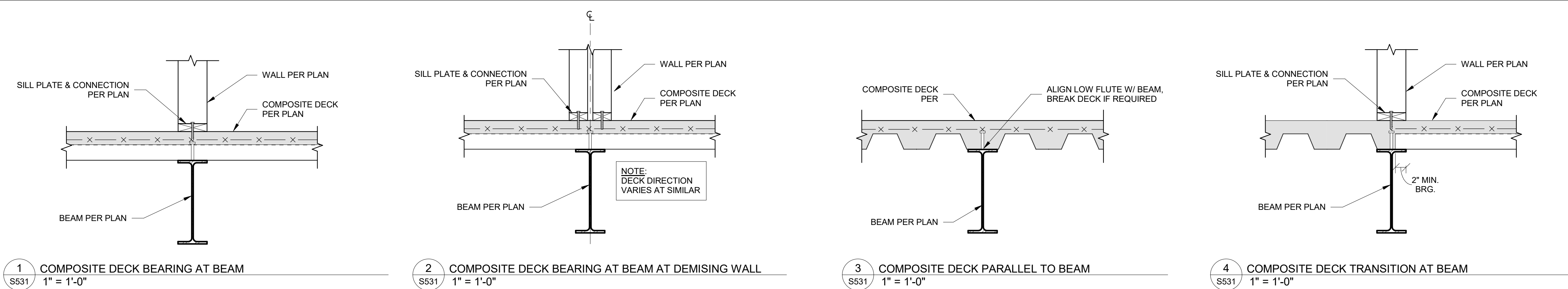
100 NE ALURA WAY
LEE'S SUMMIT, MO 64064

SHEET TITLE
PODIUM DETAILS

PROJECT NUMBER: 2023000333

SHEET NUMBER:

S531



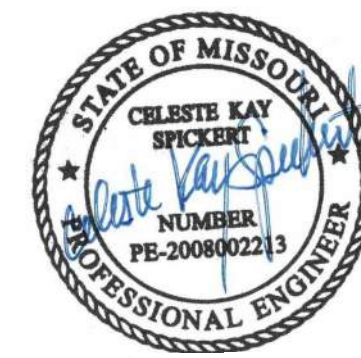
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EXPIRES: DECEMBER 31, 2024



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DISCOVERY PARK - LOT #10-A

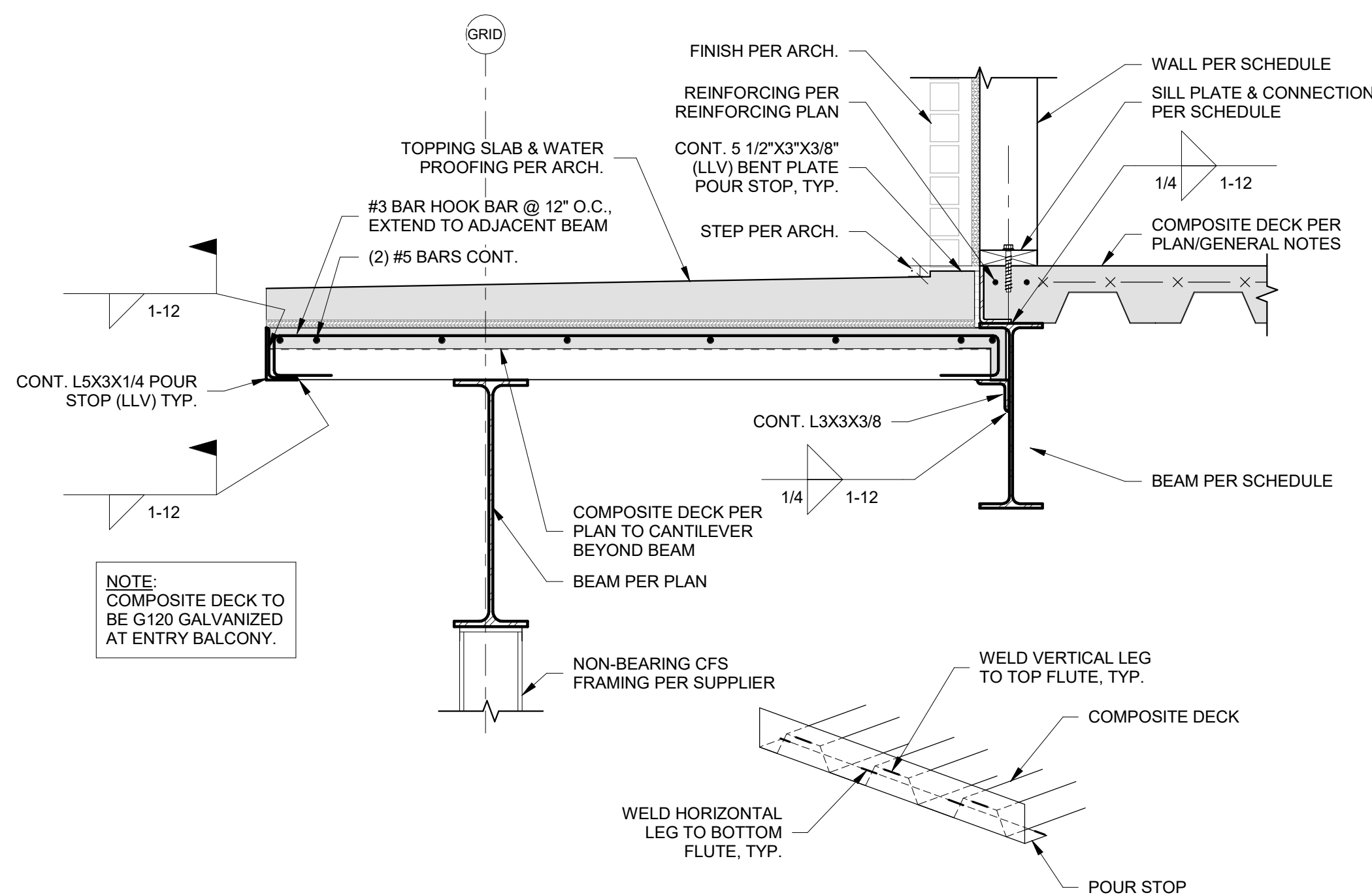
100 NE ALURA WAY
LEE'S SUMMIT, MO 64064

SHEET TITLE
N, PODIUM DETAILS

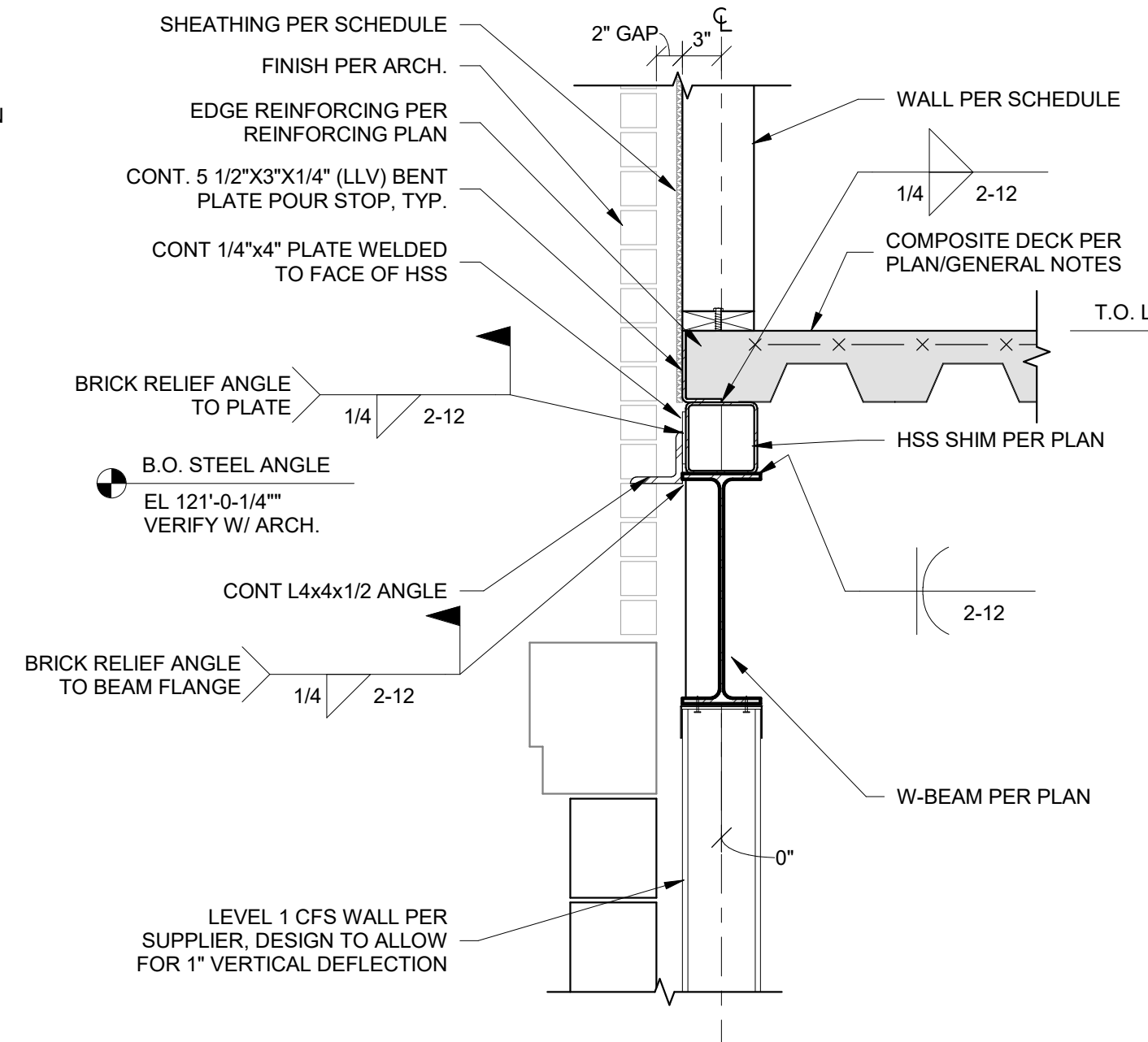
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SHEET NUMBER

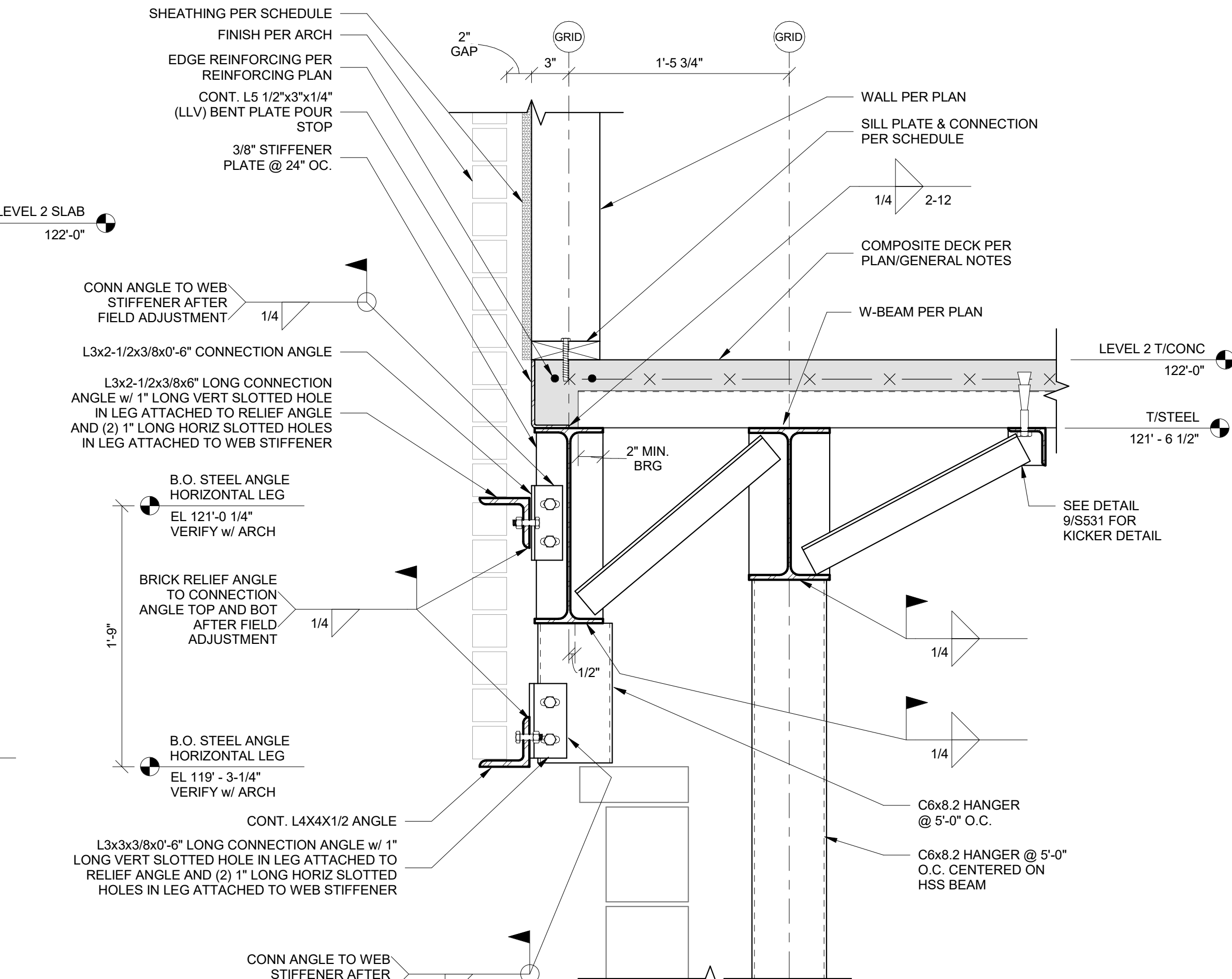
S532



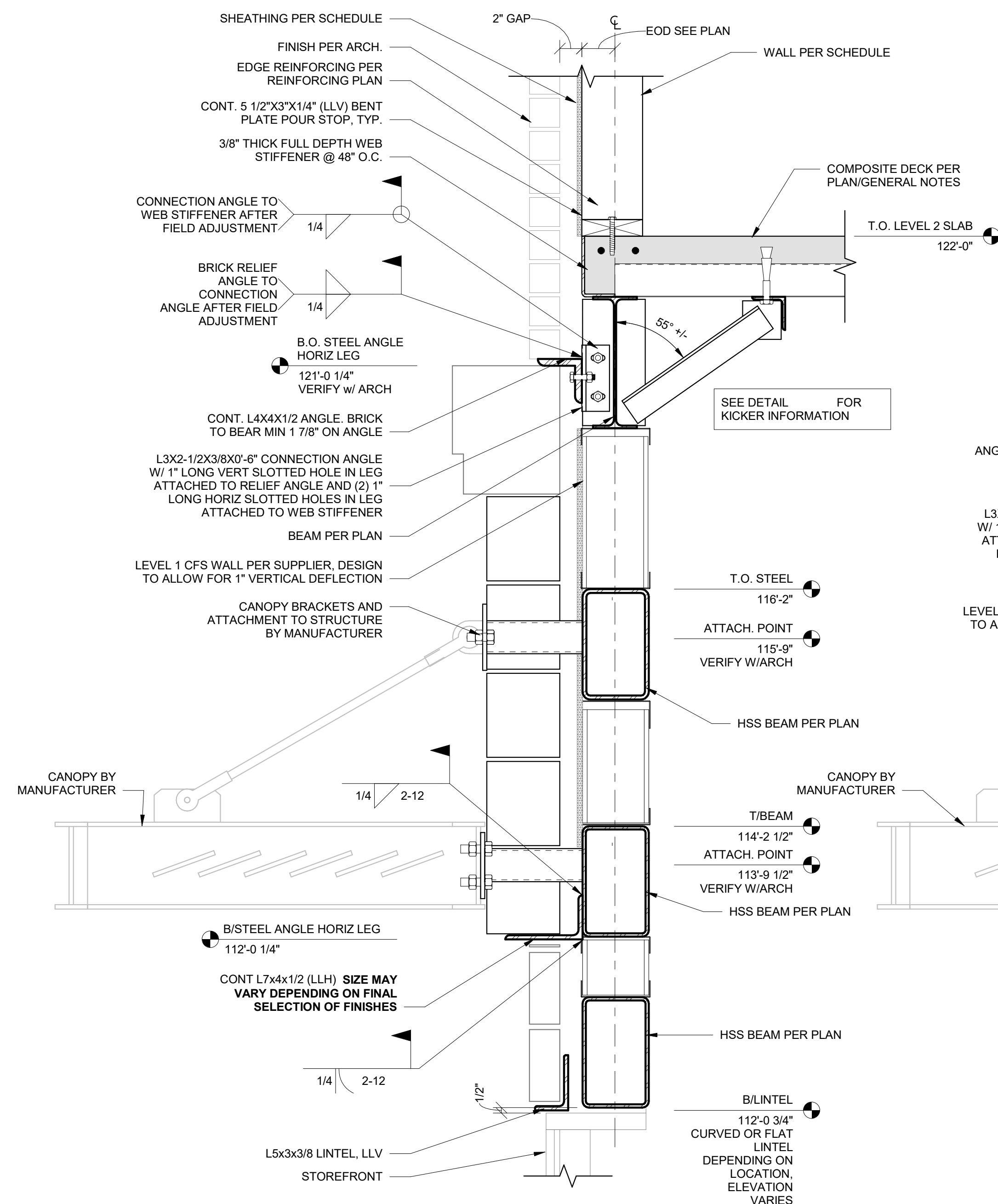
1 SECTION AT BALCONY
S532 1" = 1'-0"



2 SECTION AT BUILT-UP BEAM
S532 1" = 1'-0"



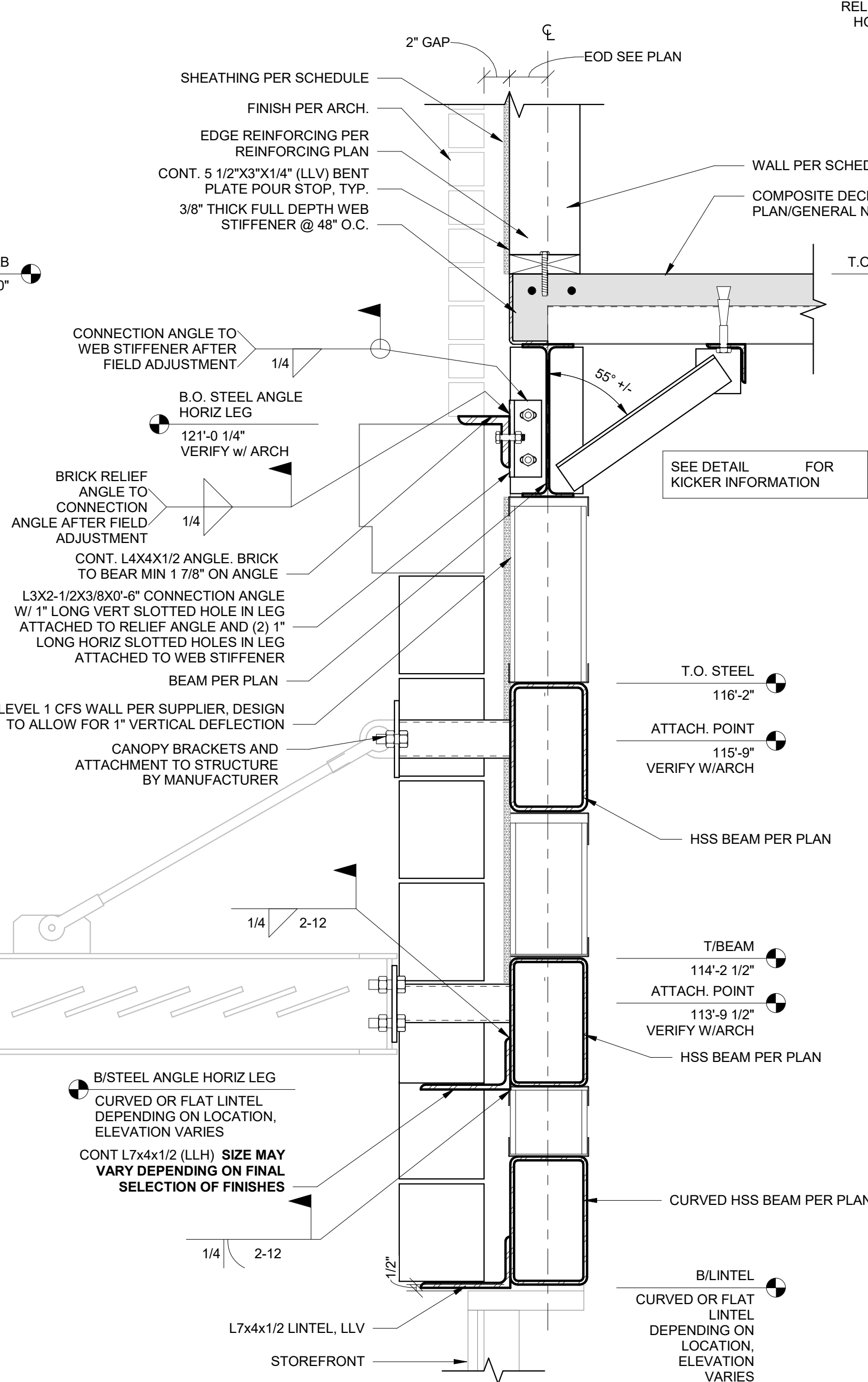
4 SECTION AT GARAGE
S532 1 1/2" = 1'-0"



5
S532

PODIUM SECTION AT CANOPY, DECK PERPENDICULAR

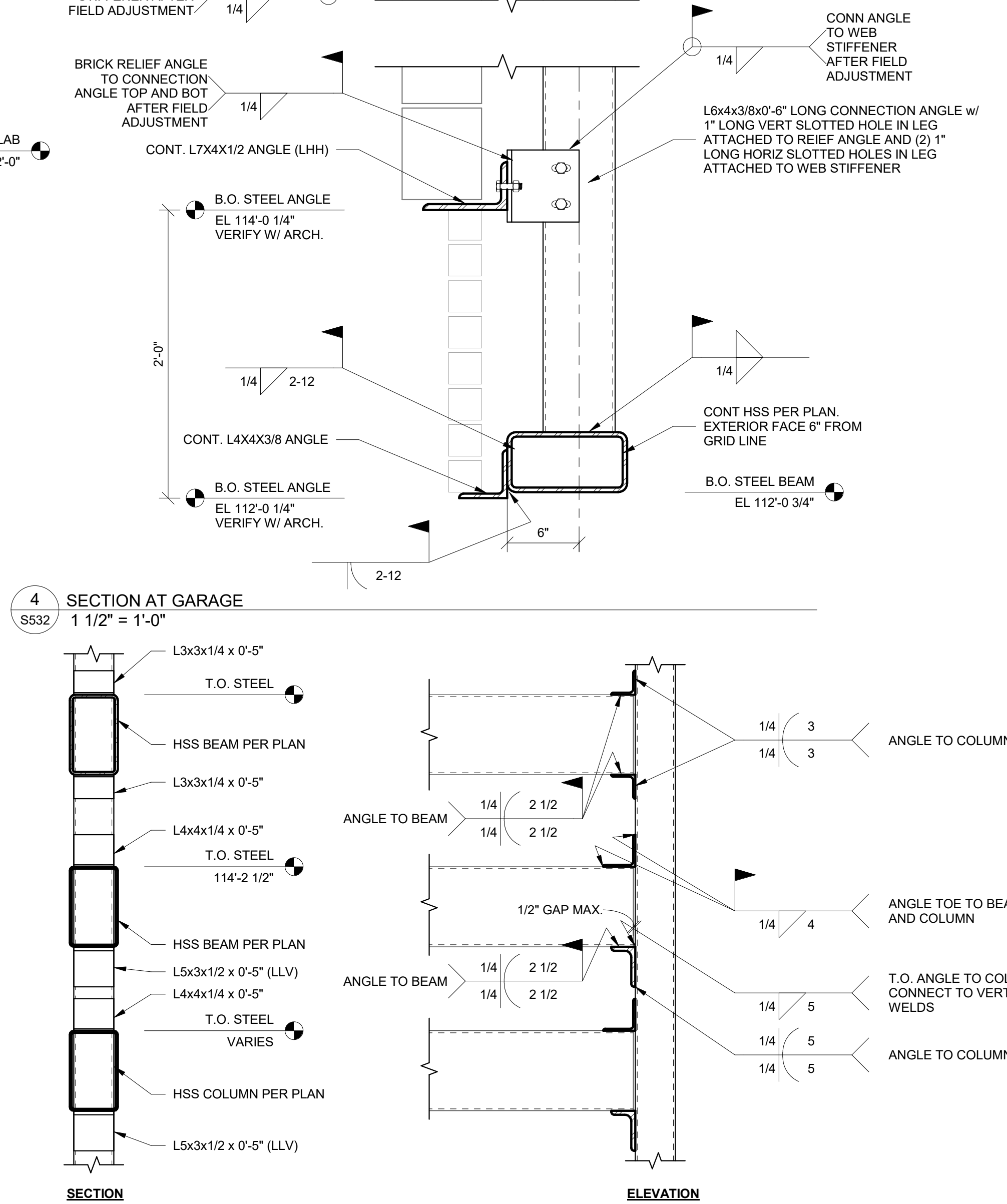
1 1/2" = 1'-0"



6
S532

PODIUM SECTION AT CANOPY, DECK PERPENDICULAR

1 1/2" = 1'-0"



7 CANOPY FRAMING TO COLUMN CONNECTION
S532 1" = 1'-0"

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EXPIRES: DECEMBER 31, 2024



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DISCOVERY PARK - LOT #10-A

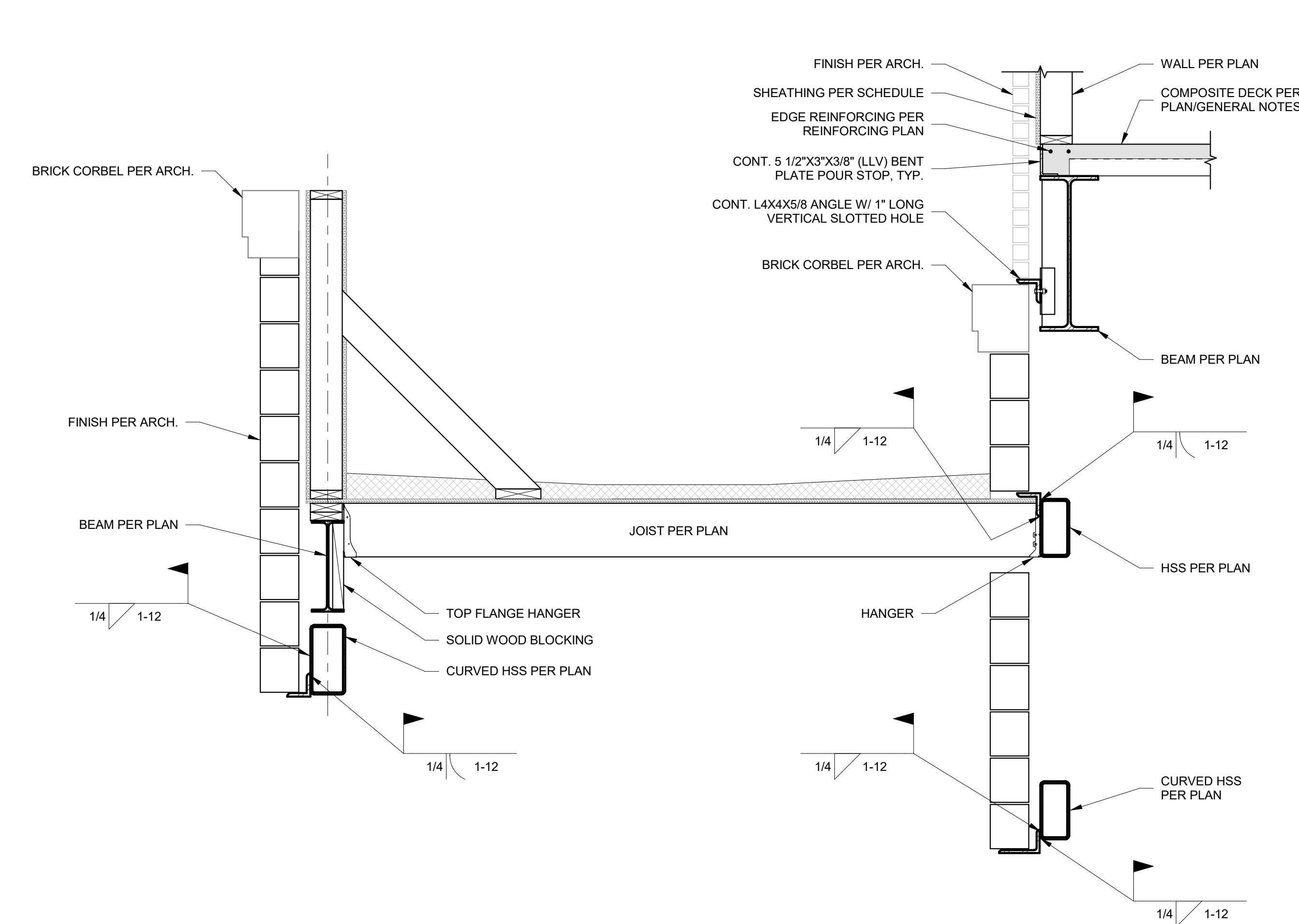
100 NE ALURA WAY
LEE'S SUMMIT, MO 64064

SHEET TITLE
PODIUM DETAILS

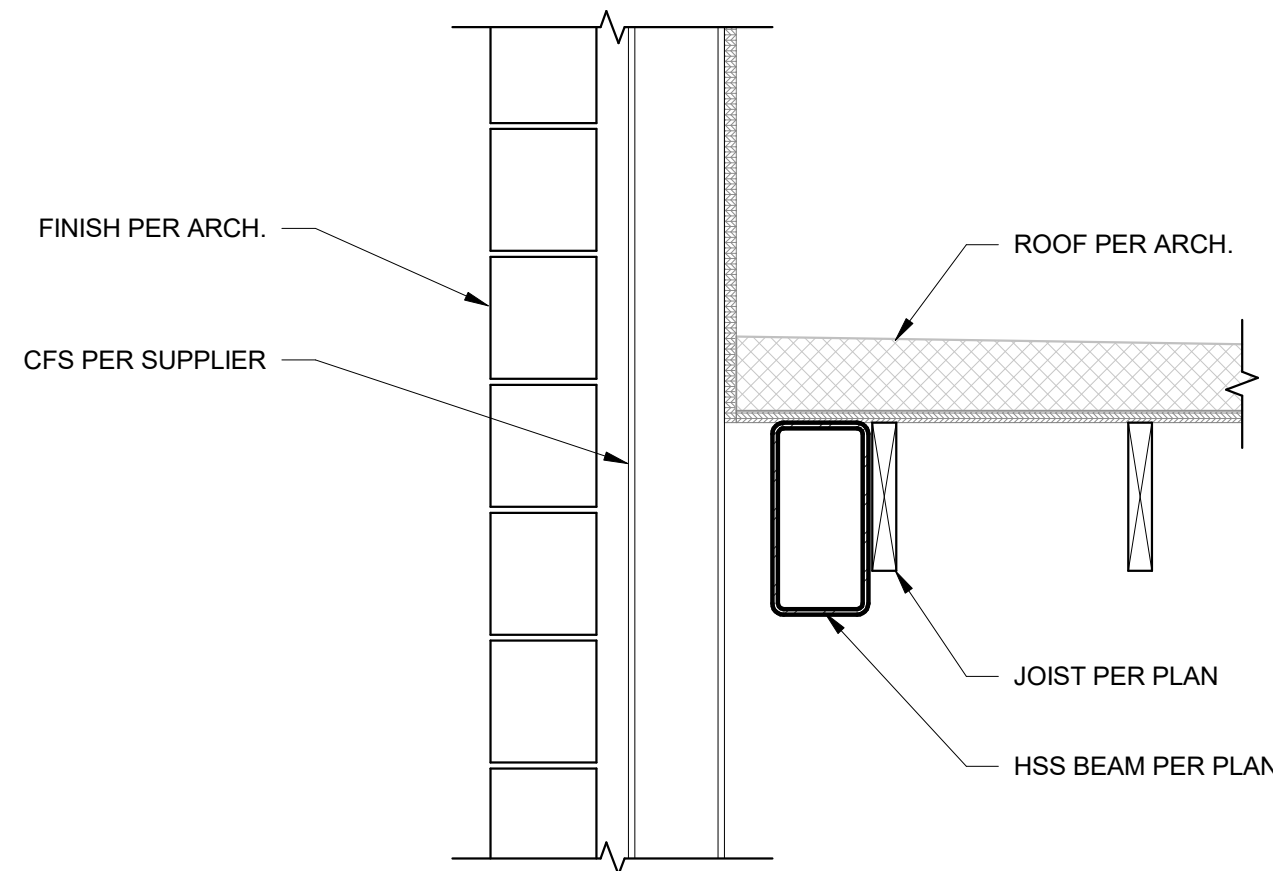
PROJECT NUMBER: 2023000333

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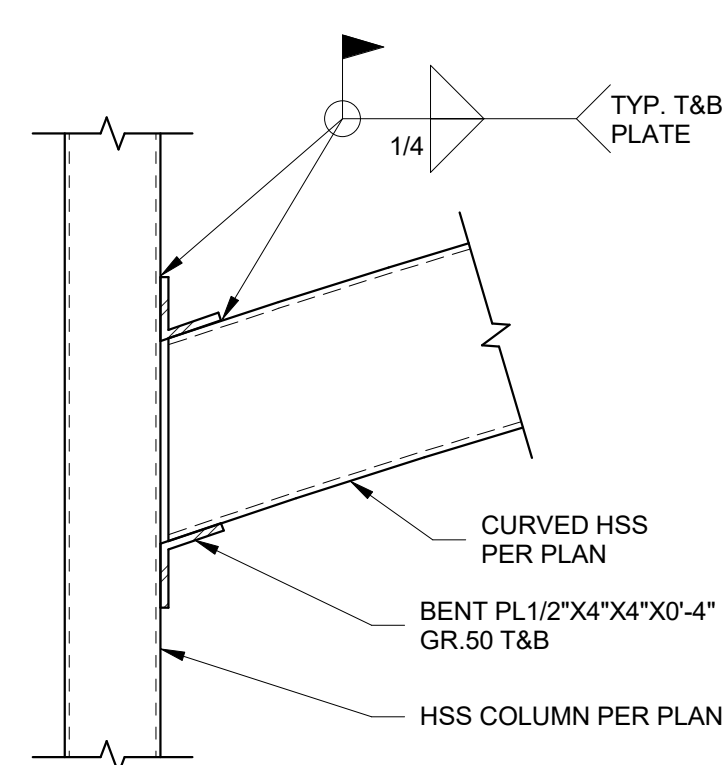
S533



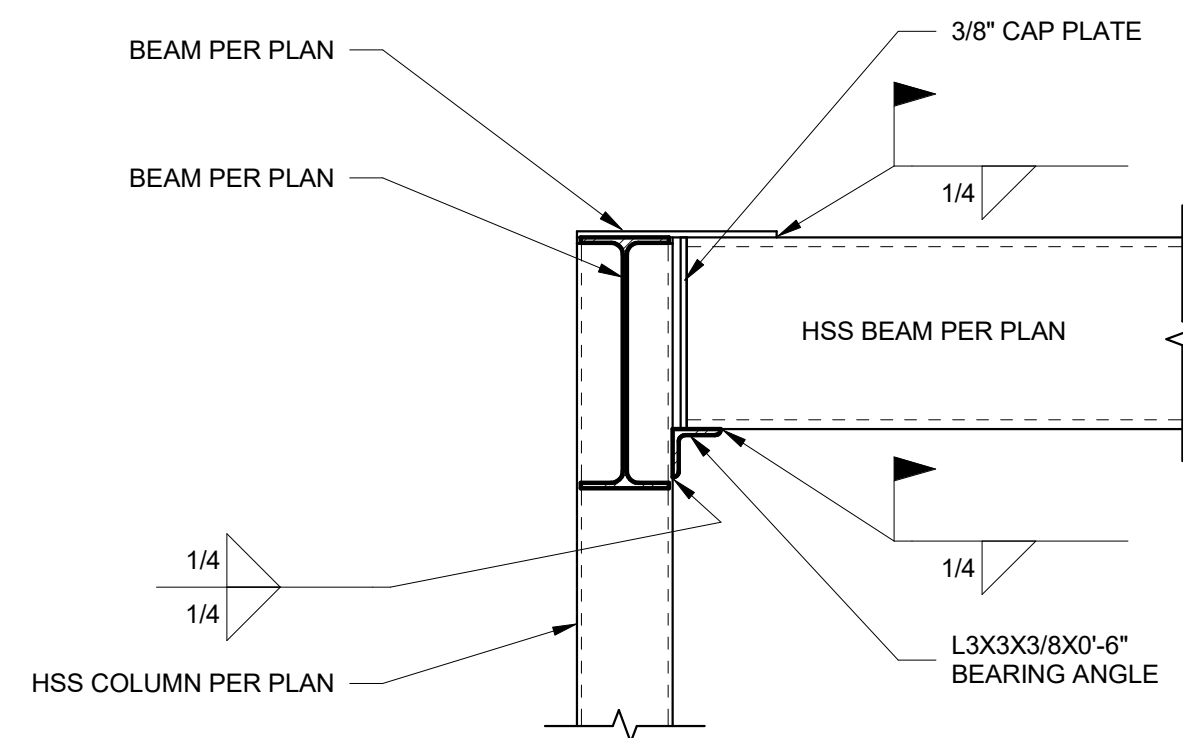
1 SECTION AT ENTRANCE CANOPY
S533 3/4" = 1'-0"



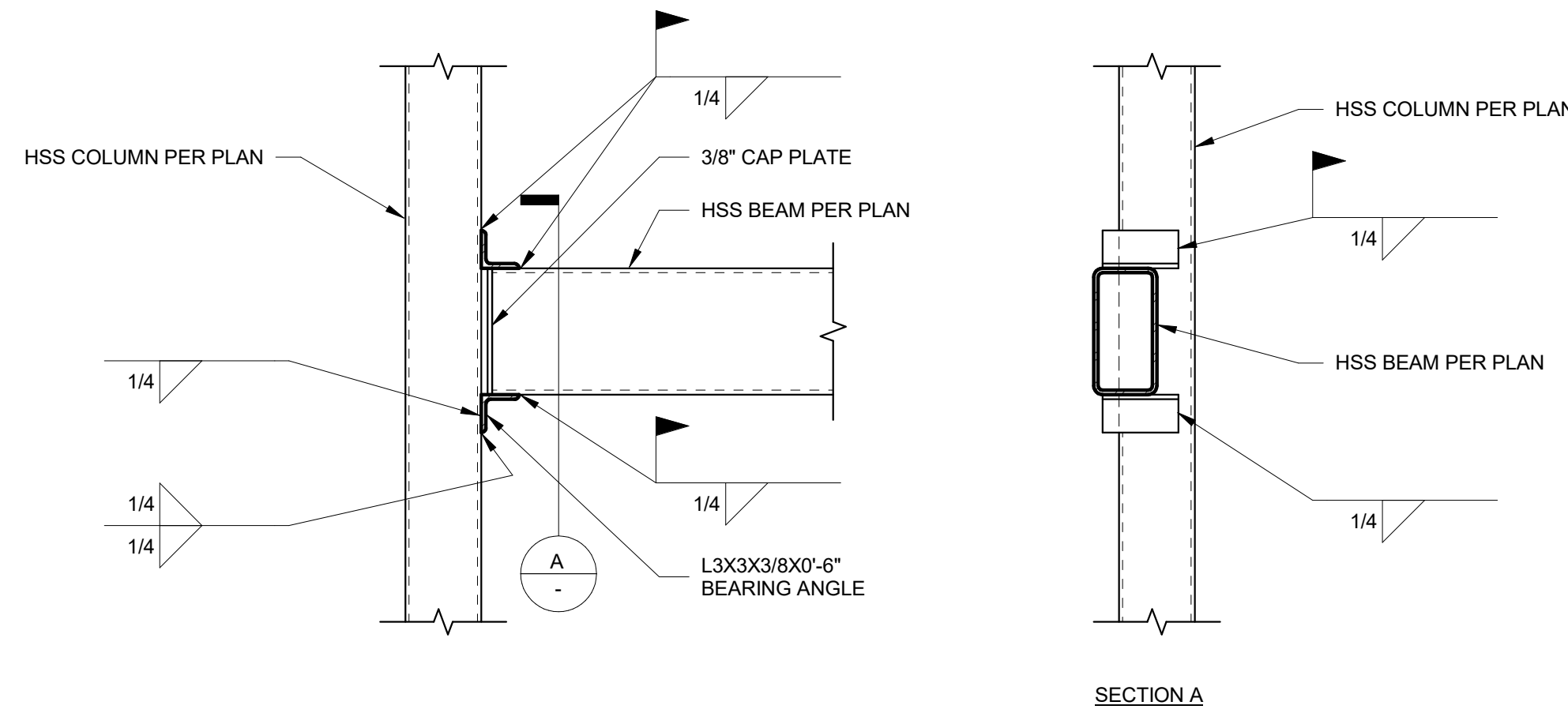
6 SECTION AT ENTRANCE CANOPY ROOF
S533 1" = 1'-0"



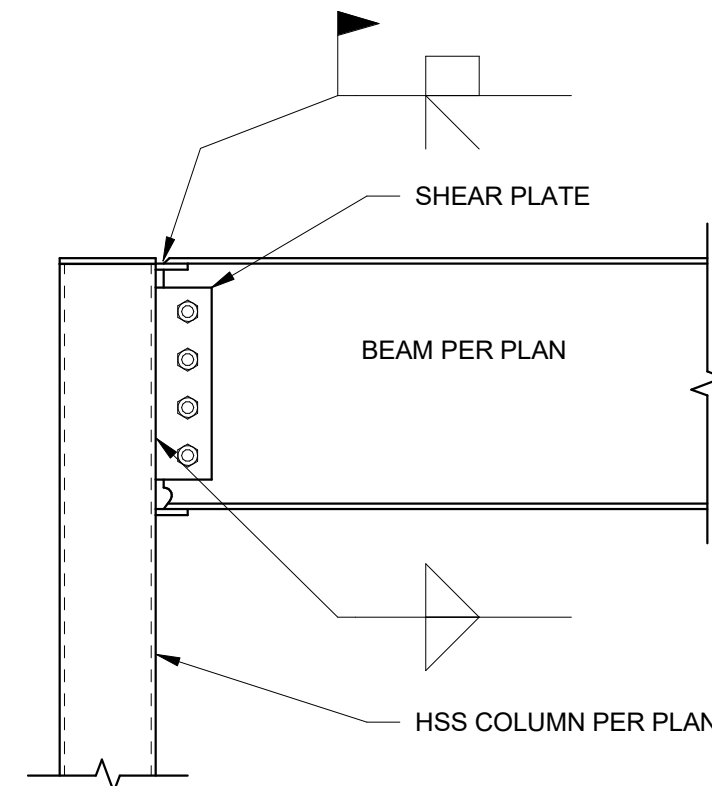
2 CURVED BEAM TO HSS COLUMN
S533 1" = 1'-0"



4 MOMENT CONNECTION AT CANOPY
S533 1" = 1'-0"



3 OFFSET BEAM TO COLUMN CONNECTION
S533 1" = 1'-0"



5 MOMENT CONNECTION AT CANOPY
S533 1" = 1'-0"

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NO. E-2006023253
EXPIRES: DECEMBER 31, 2024



12/20/2024

DISCOVERY PARK - LOT #10-A

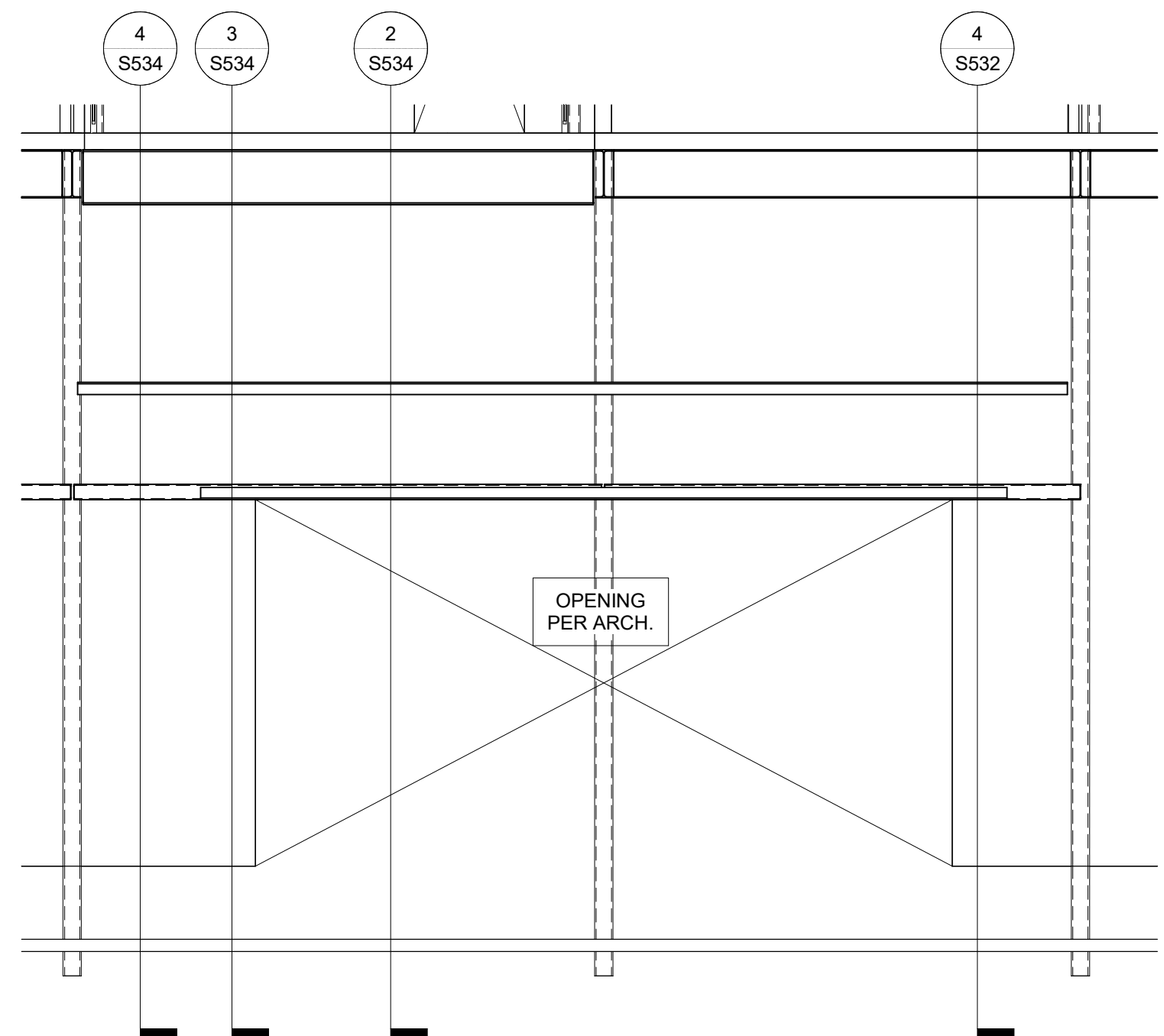
100 NE ALURA WAY
LEE'S SUMMIT, MO 64064

SHEET TITLE
FRAMING AT TYPICAL GARAGE
WALL OPENING

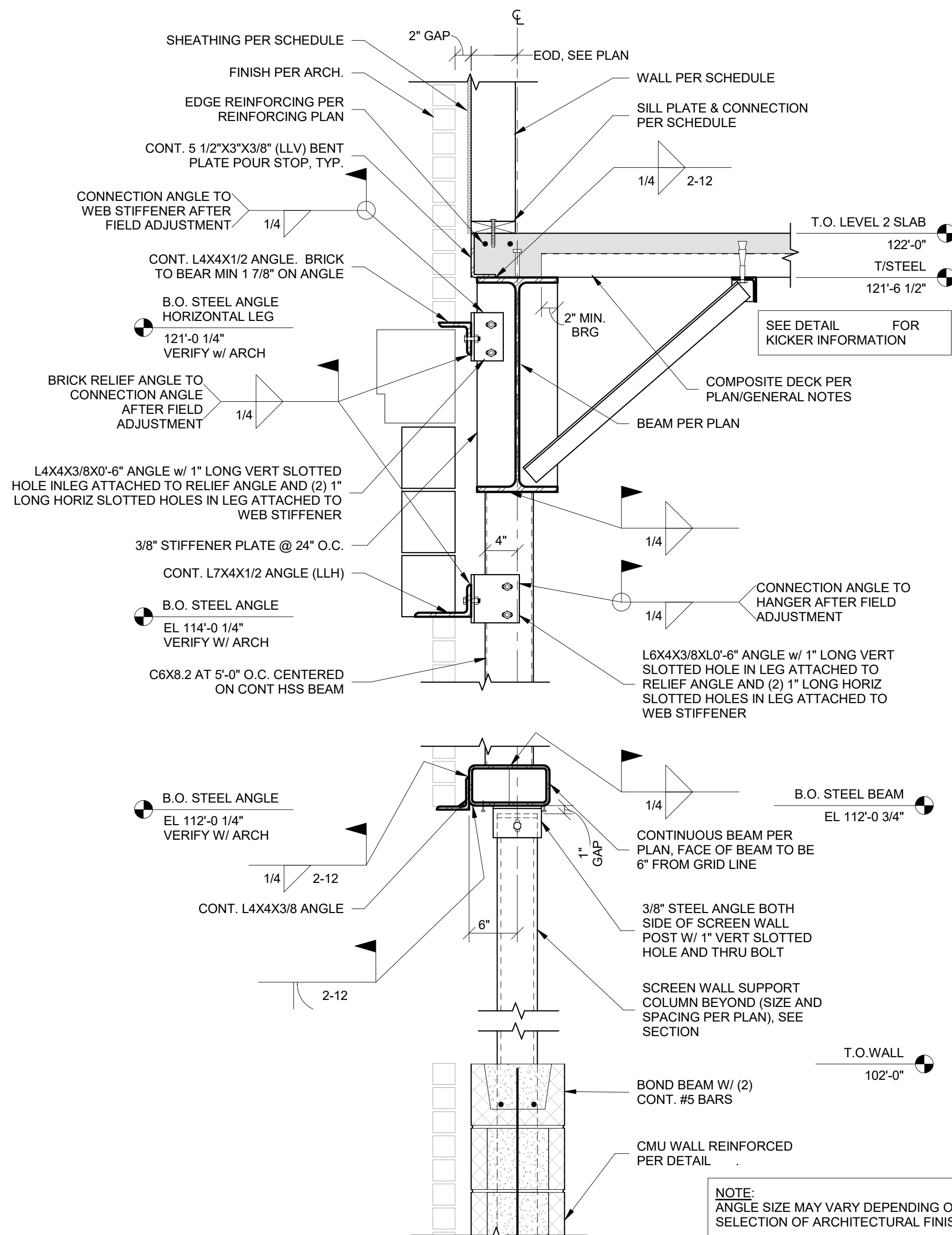
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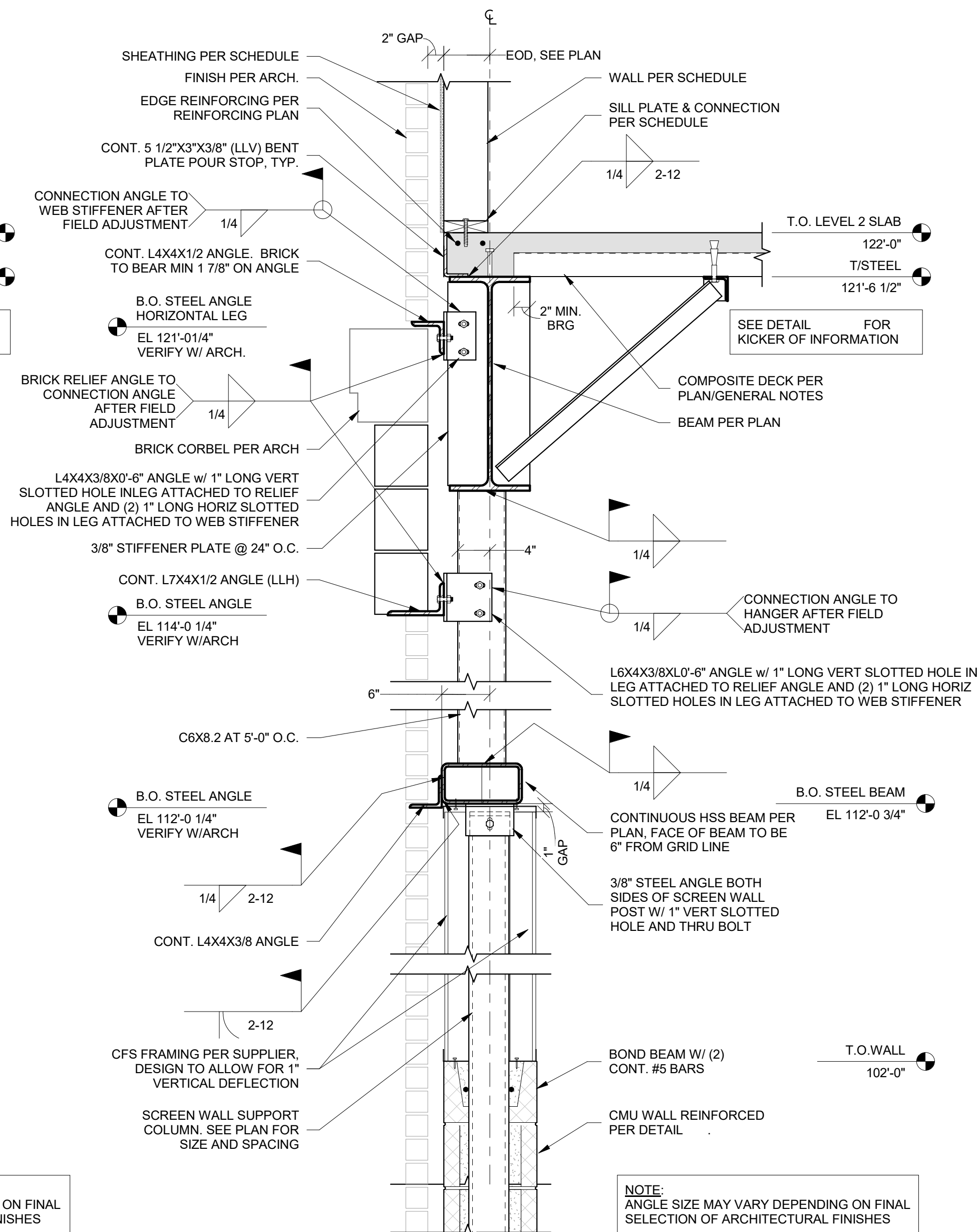
S534



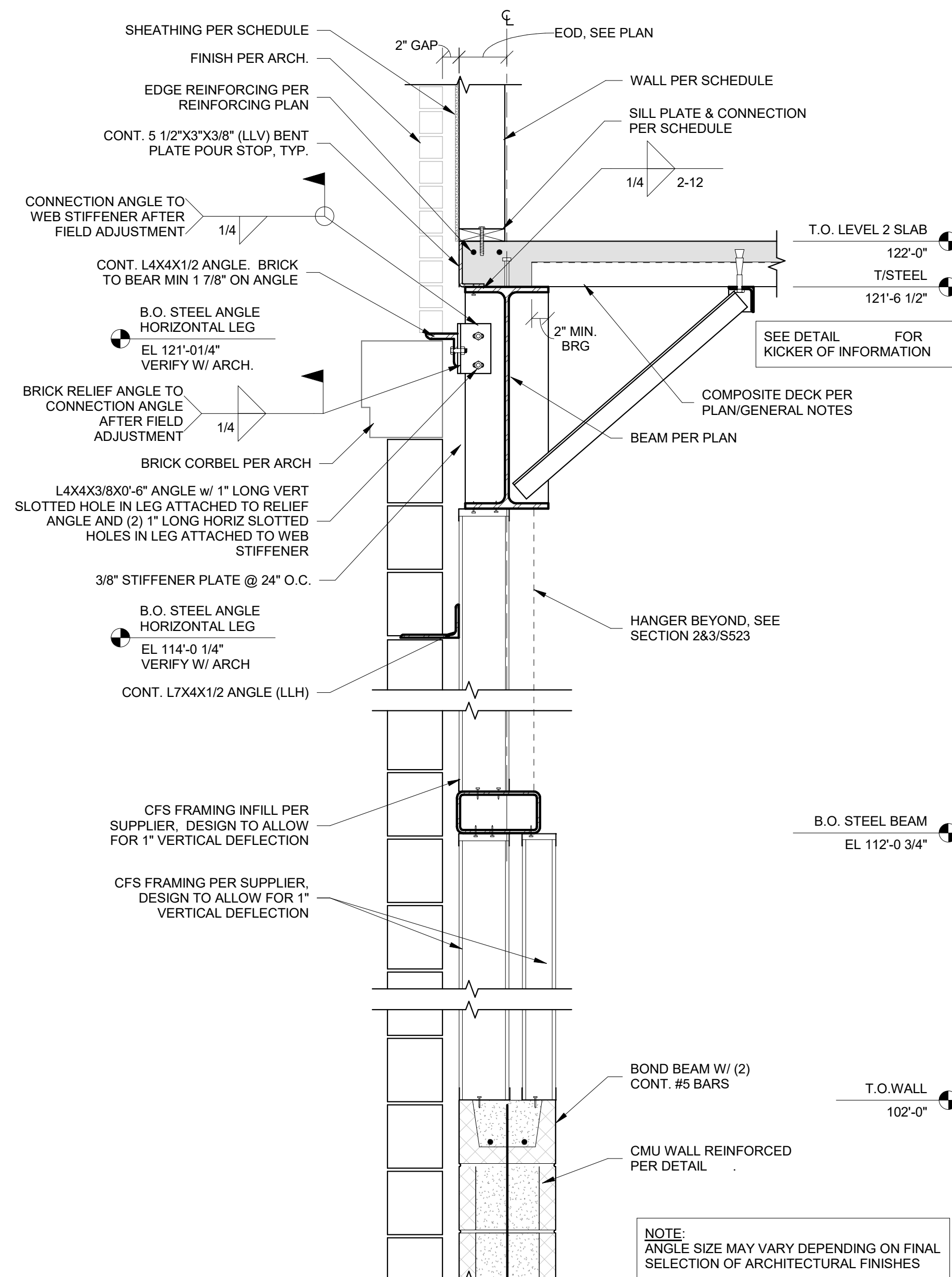
1 Elevation 2 - a
S534 1/4" = 1'-0"



2 SECTION AT TYPICAL GARAGE OPENING FOR SCREEN WALL
S534 1" = 1'-0"



3 SECTION AT GARAGE SCREEN WALL END POST WITHIN FULL HEIGHT WALL
S534 1" = 1'-0"



4 SECTION AT GARAGE BEYOND SCREEN WALL
S534 1" = 1'-0"

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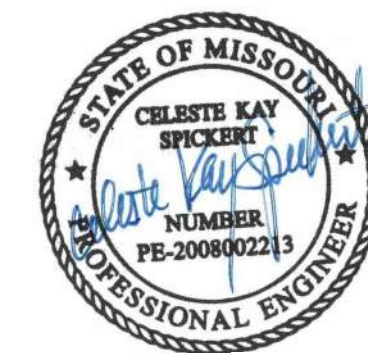
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DISCOVERY PARK - LOT #10-A

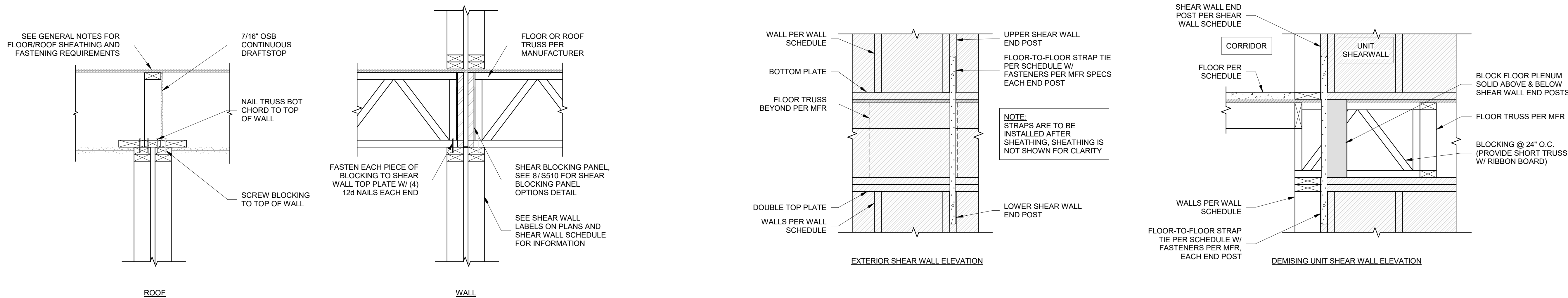
100 NE ALURA WAY
LEE'S SUMMIT, MO 64064

SHEET TITLE
SHEAR WALL DETAILS

PROJECT NUMBER: 2023000333

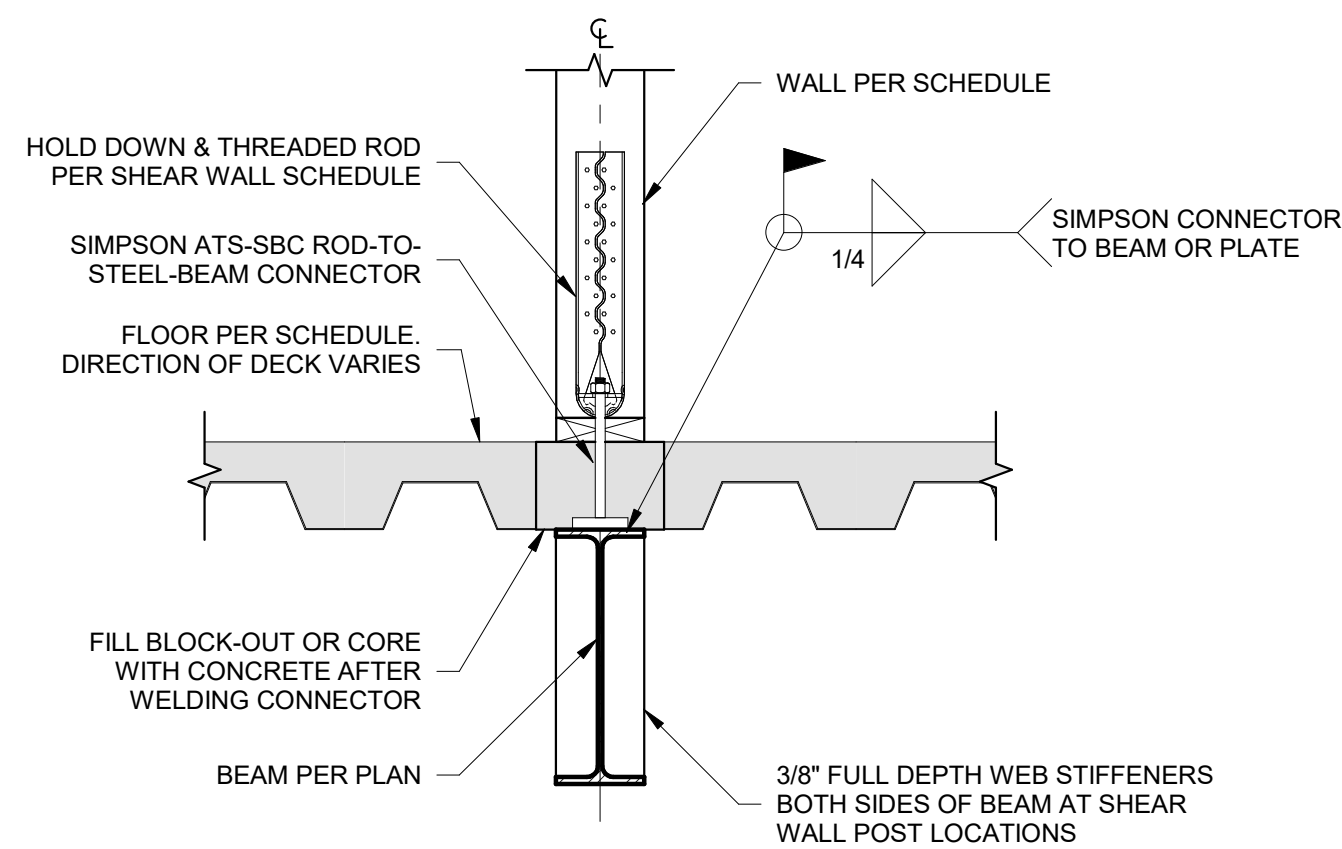
SHEET NUMBER:

S540

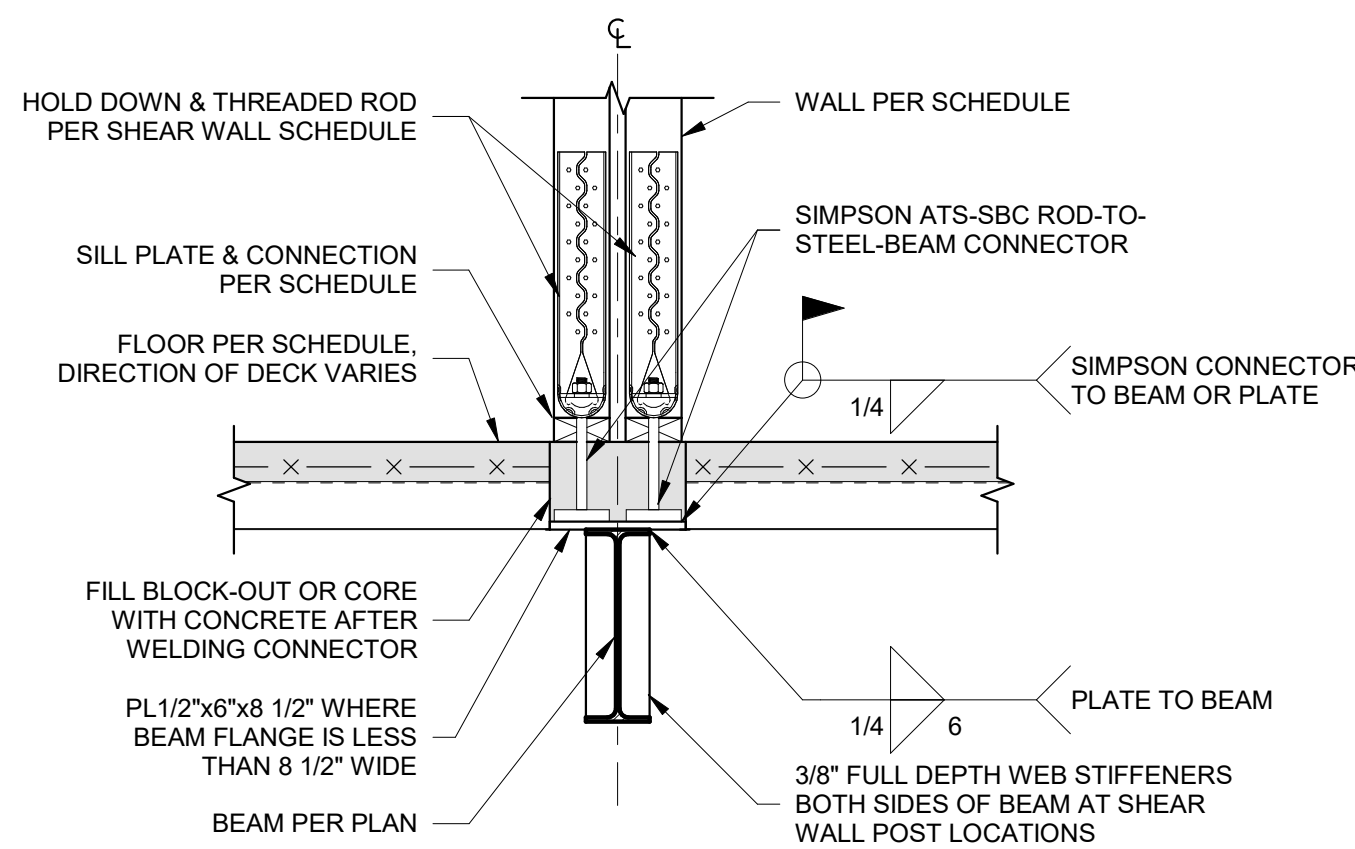


1 TRUSS AT SHEAR WALL
S540 1" = 1'-0"

2 FLOOR-TO-FLOOR STRAP TIE AT SHEAR WALL END POSTS
S540 1" = 1'-0"



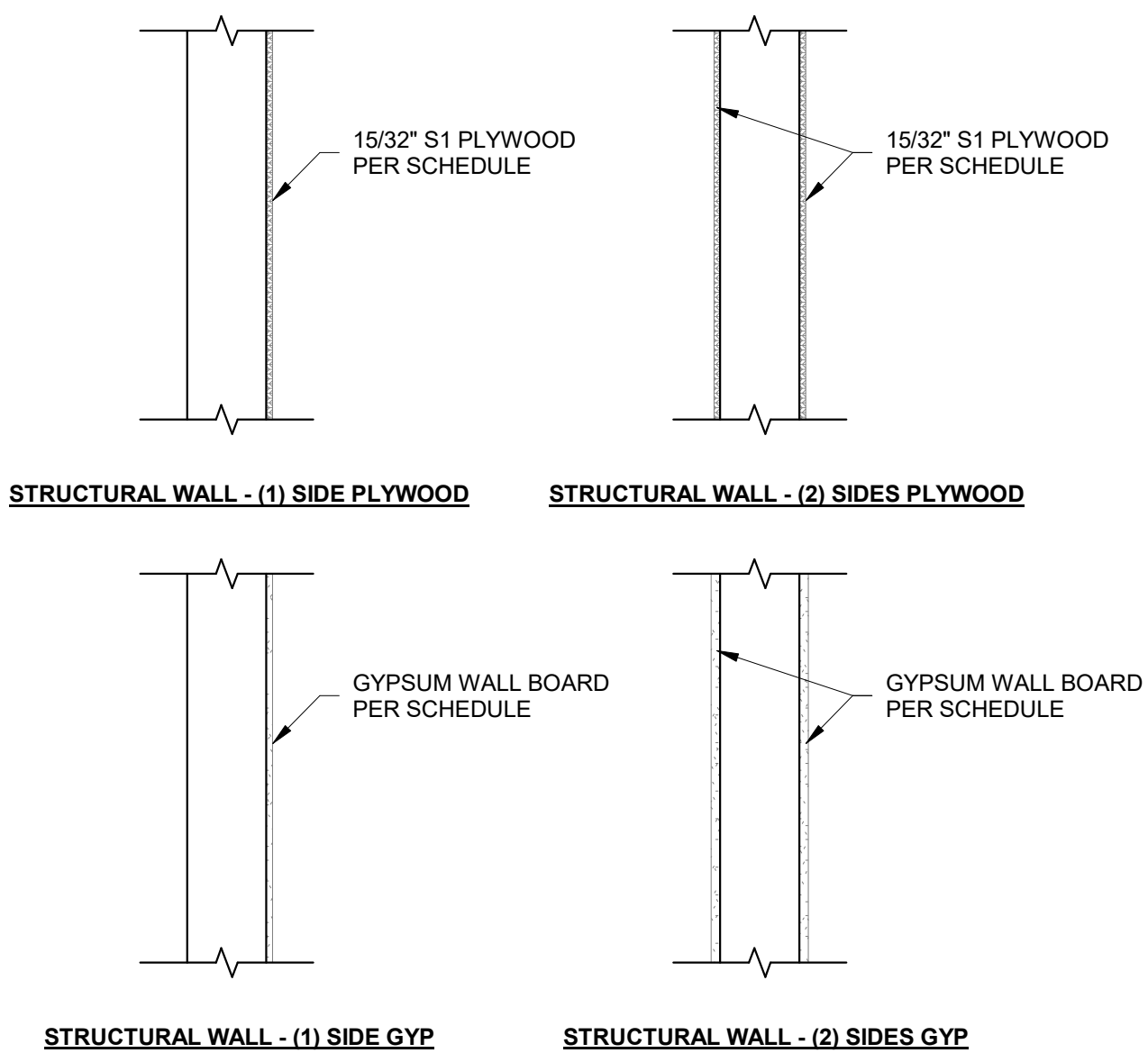
NOTE:
SEE LEVEL 2 FRAMING FOR HOLD DOWN LOCATIONS. WELD SIMPSON ATS-SBC ROD-TO-STEEL-BEAM CONNECTORS TO BEAM AND INSTALL ROD BEFORE PLACING CONCRETE, OR BLOCK OUT SLAB FOR LATER INSTALLATION.



NOTE:
SEE LEVEL 2 FRAMING FOR HOLD DOWN LOCATIONS. WELD SIMPSON ATS-SBC ROD-TO-STEEL-BEAM CONNECTORS TO BEAM AND INSTALL ROD BEFORE PLACING CONCRETE, OR BLOCK OUT SLAB FOR LATER INSTALLATION.

3 SHEAR WALL HOLD DOWN AT STEEL BEAM
S540 1" = 1'-0"

4 SHEAR WALL HOLD DOWN AT STEEL BEAM WITH DEMISING WALL
S540 1" = 1'-0"

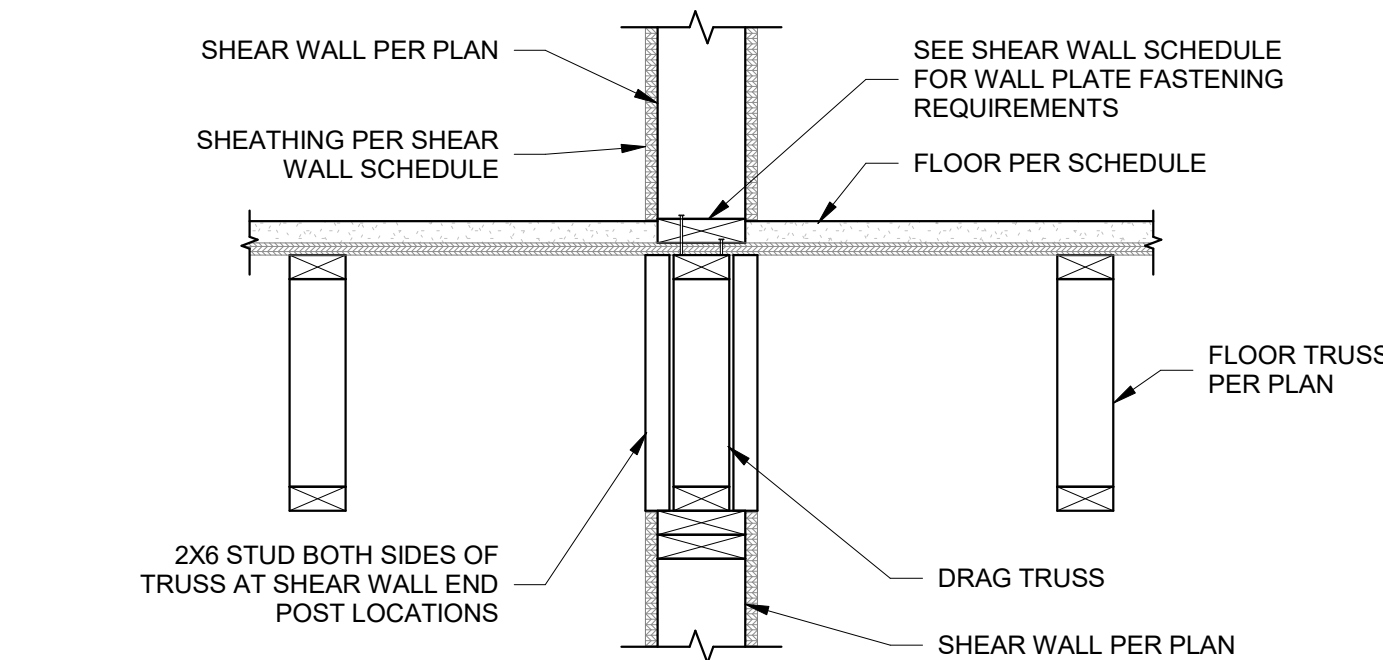


5 TYPICAL SHEAR WALL SECTIONS
S540 1" = 1'-0"

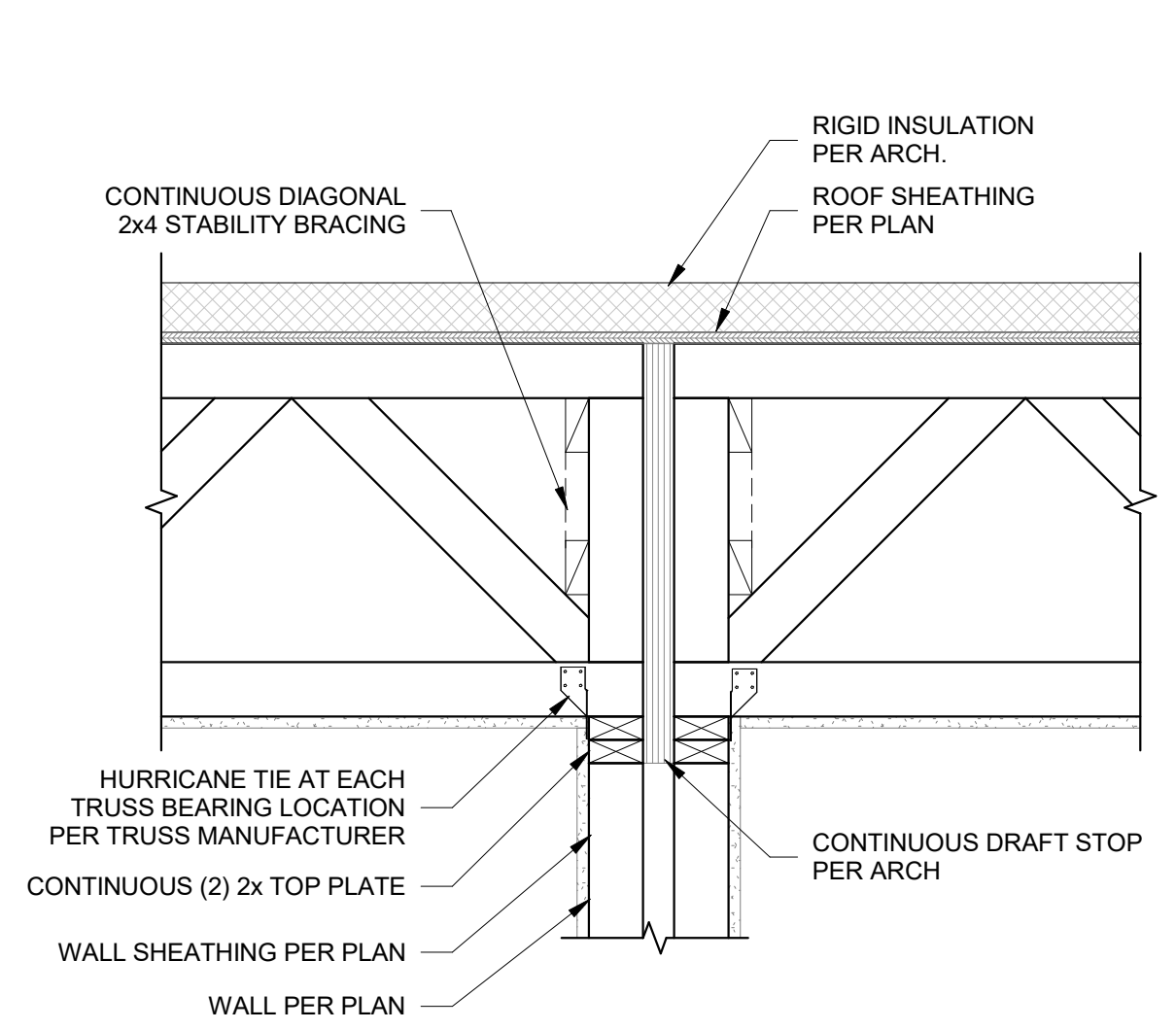
6 TYPICAL SHEAR WALL SECTIONS
S540 1" = 1'-0"

7 SHEAR WALL NAILING
S540 1/2" = 1'-0"

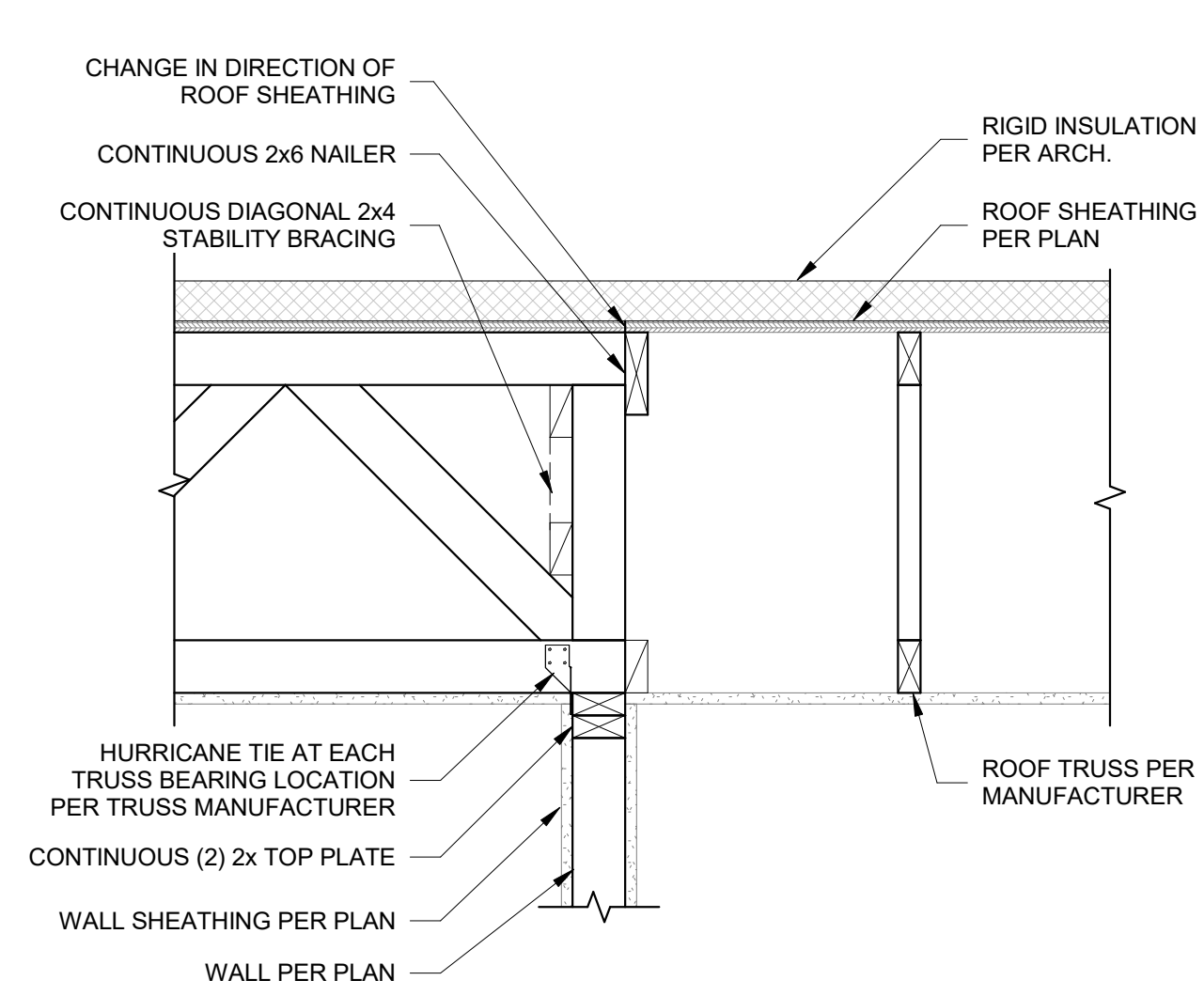
5 SHEAR WALL HOLD DOWN AT TYPICAL INTERIOR WALL
S540 1 1/2" = 1'-0"



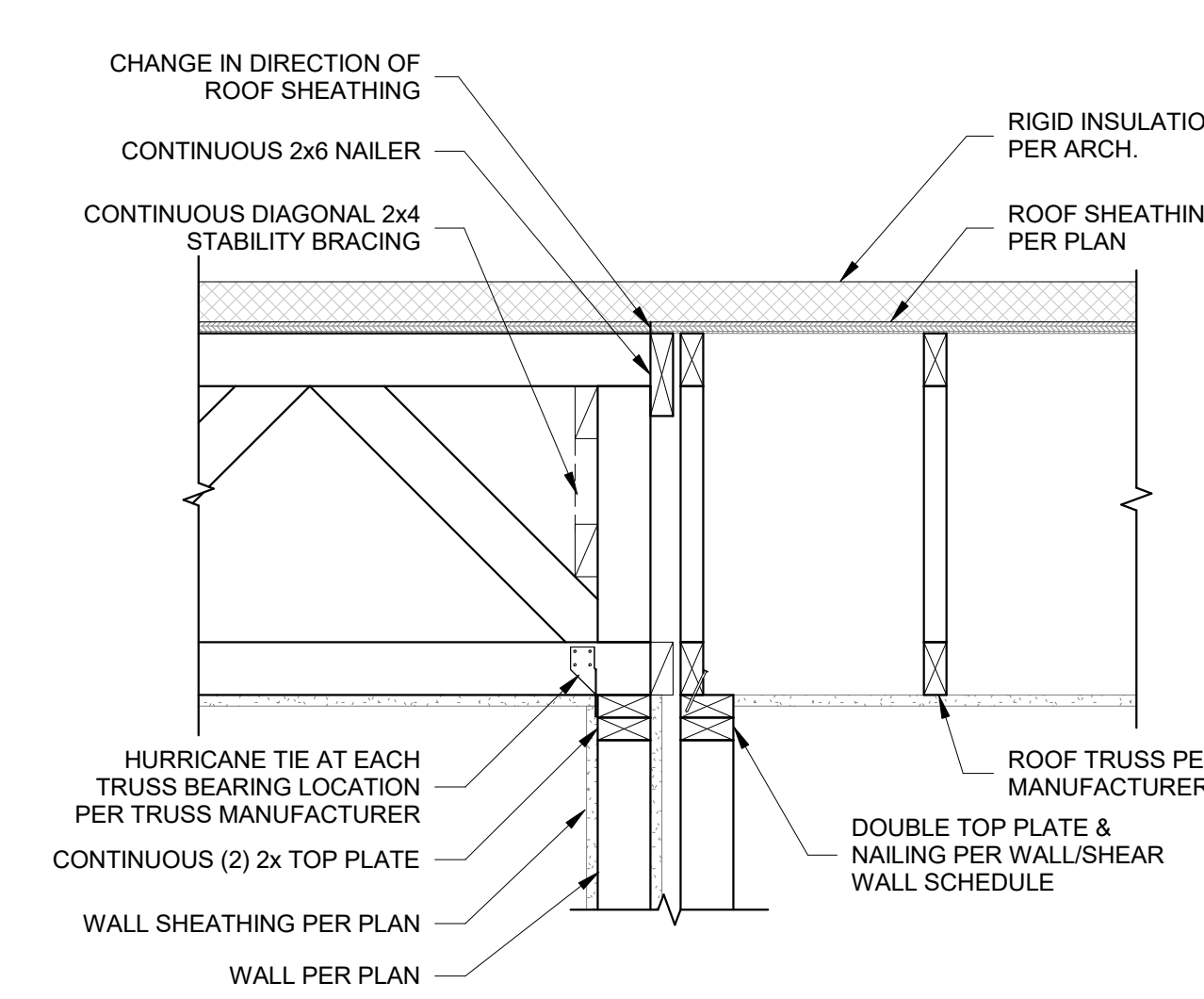
8 SHEAR WALL PARALLEL TO FLOOR TRUSSES
S540 1" = 1'-0"



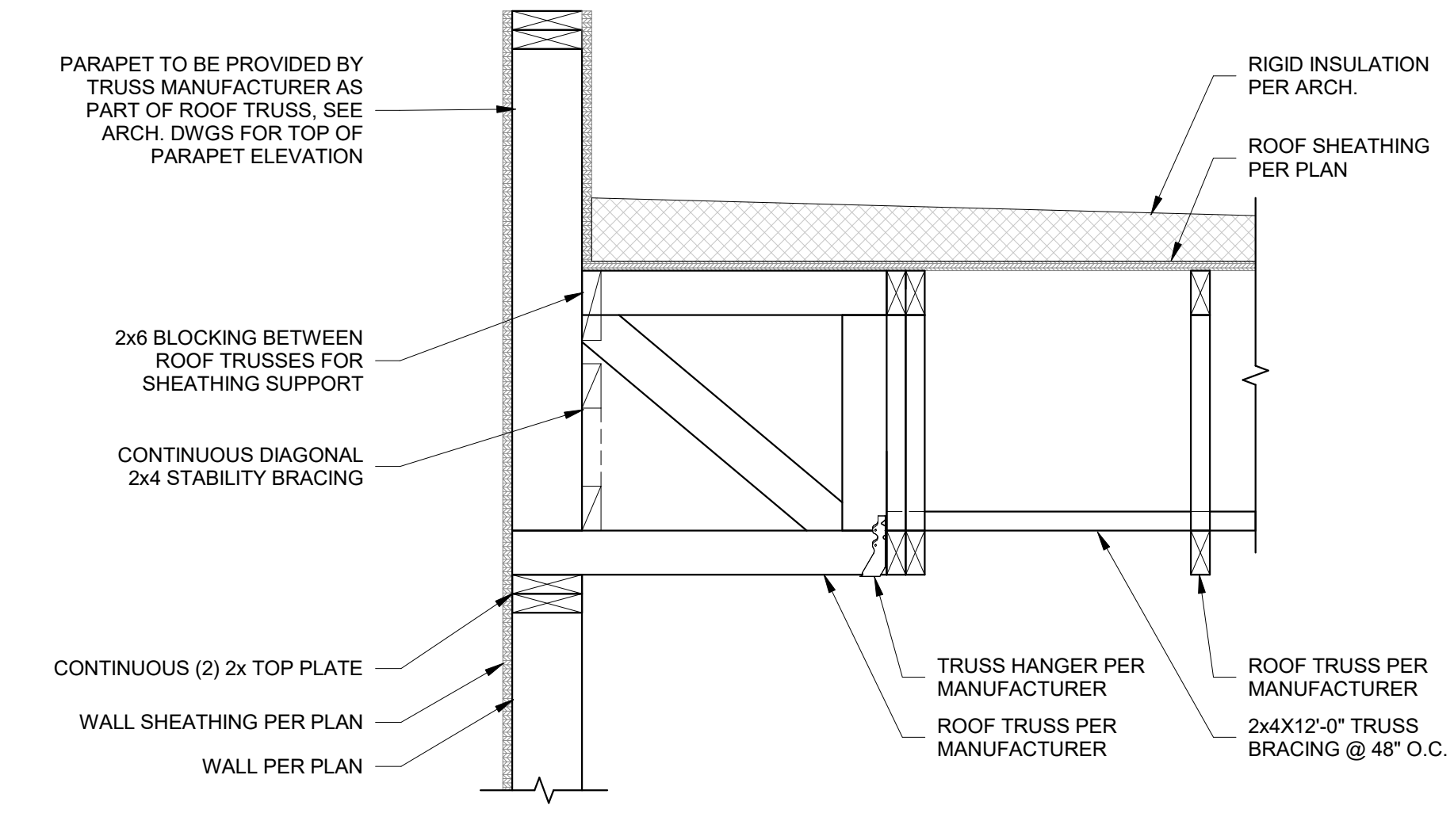
1 ROOF TRUSS BEARING AT INTERIOR DEMISING WALL
S550 1" = 1'-0"



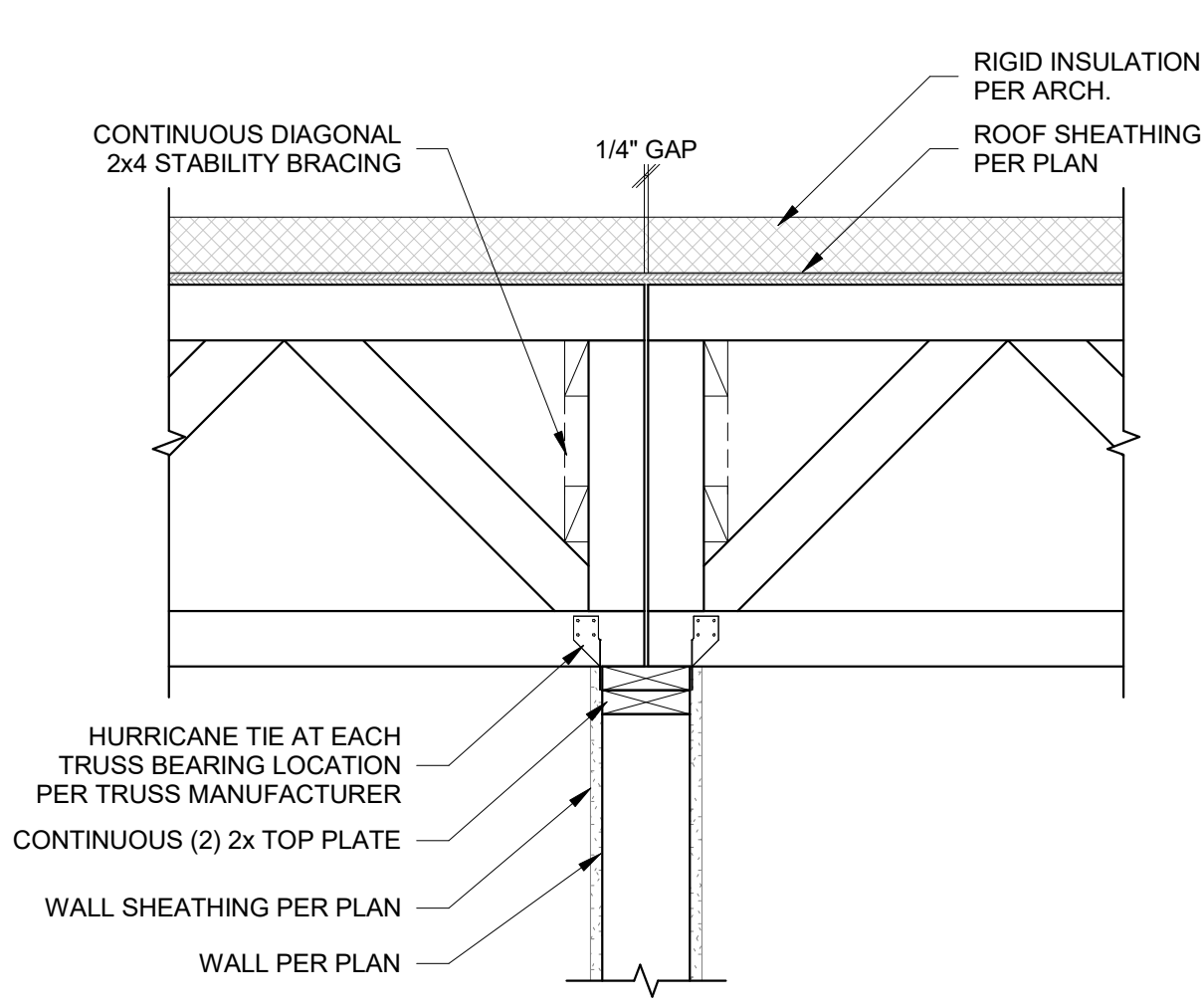
2 ROOF TRUSS BEARING TRANSITION
S550 1" = 1'-0"



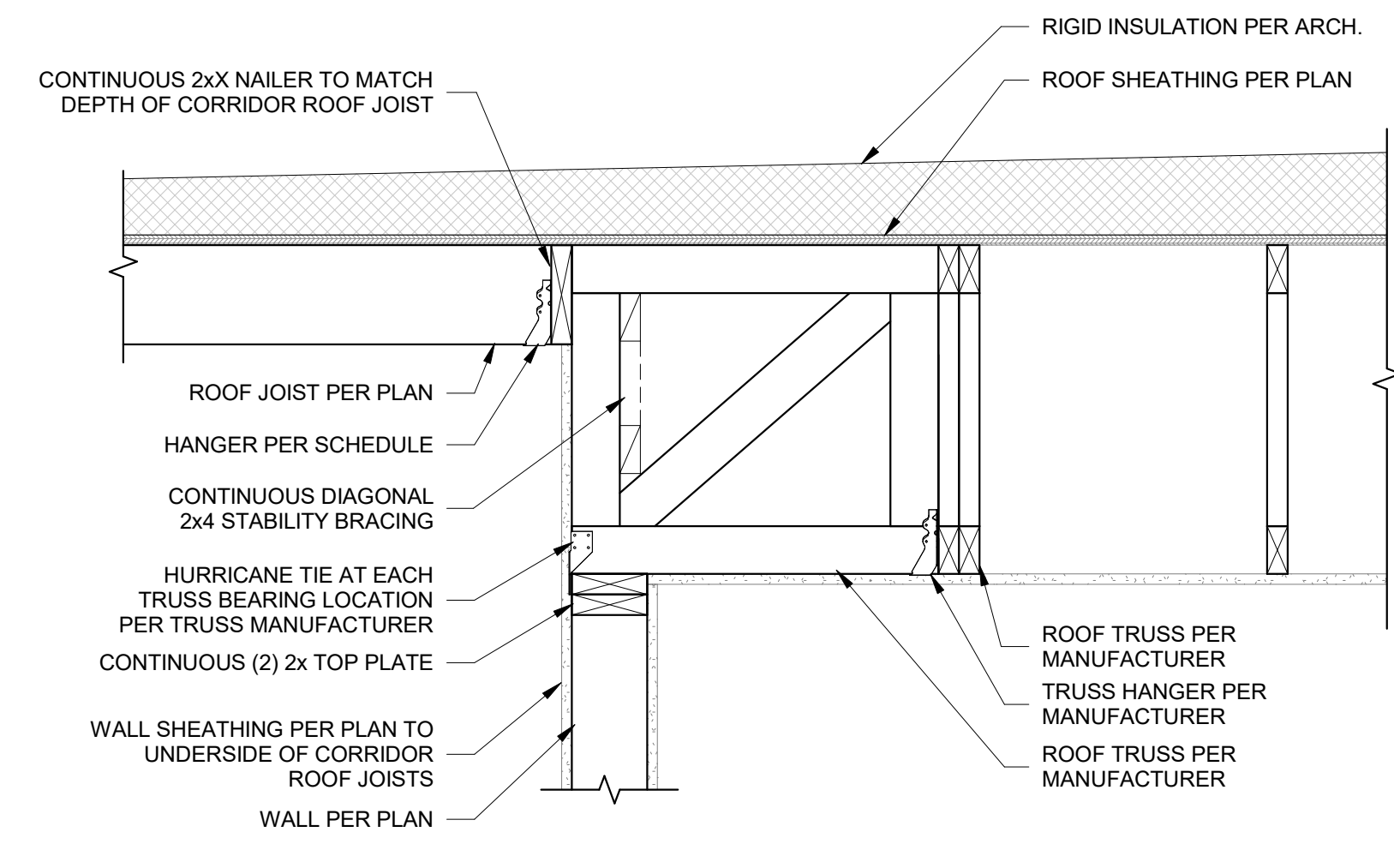
3 ROOF TRUSS BEARING TRANSITION AT DEMISING WALL
S550 1" = 1'-0"



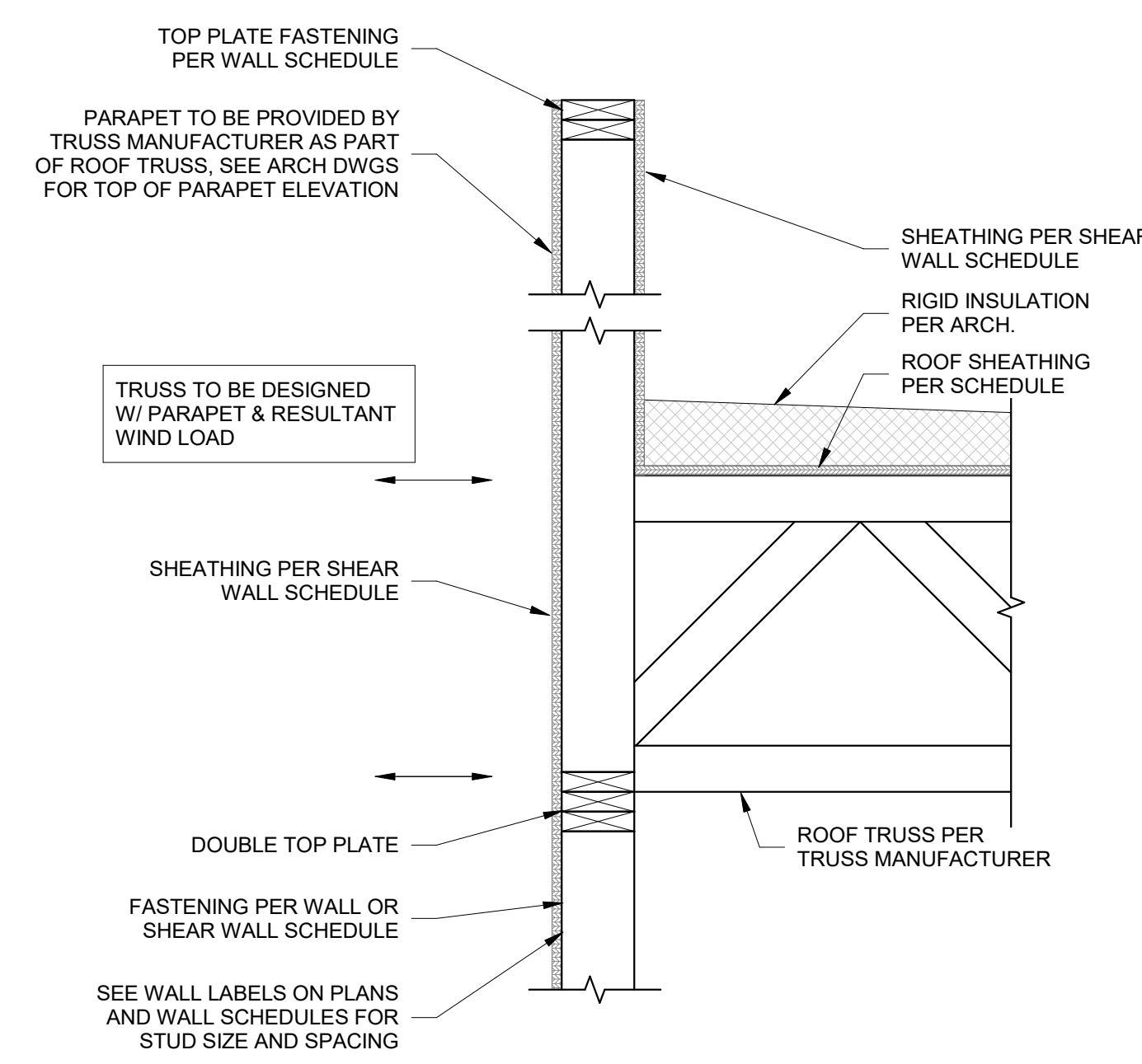
4 ROOF TRUSS PARALLEL AT EXTERIOR WALL
S550 1" = 1'-0"



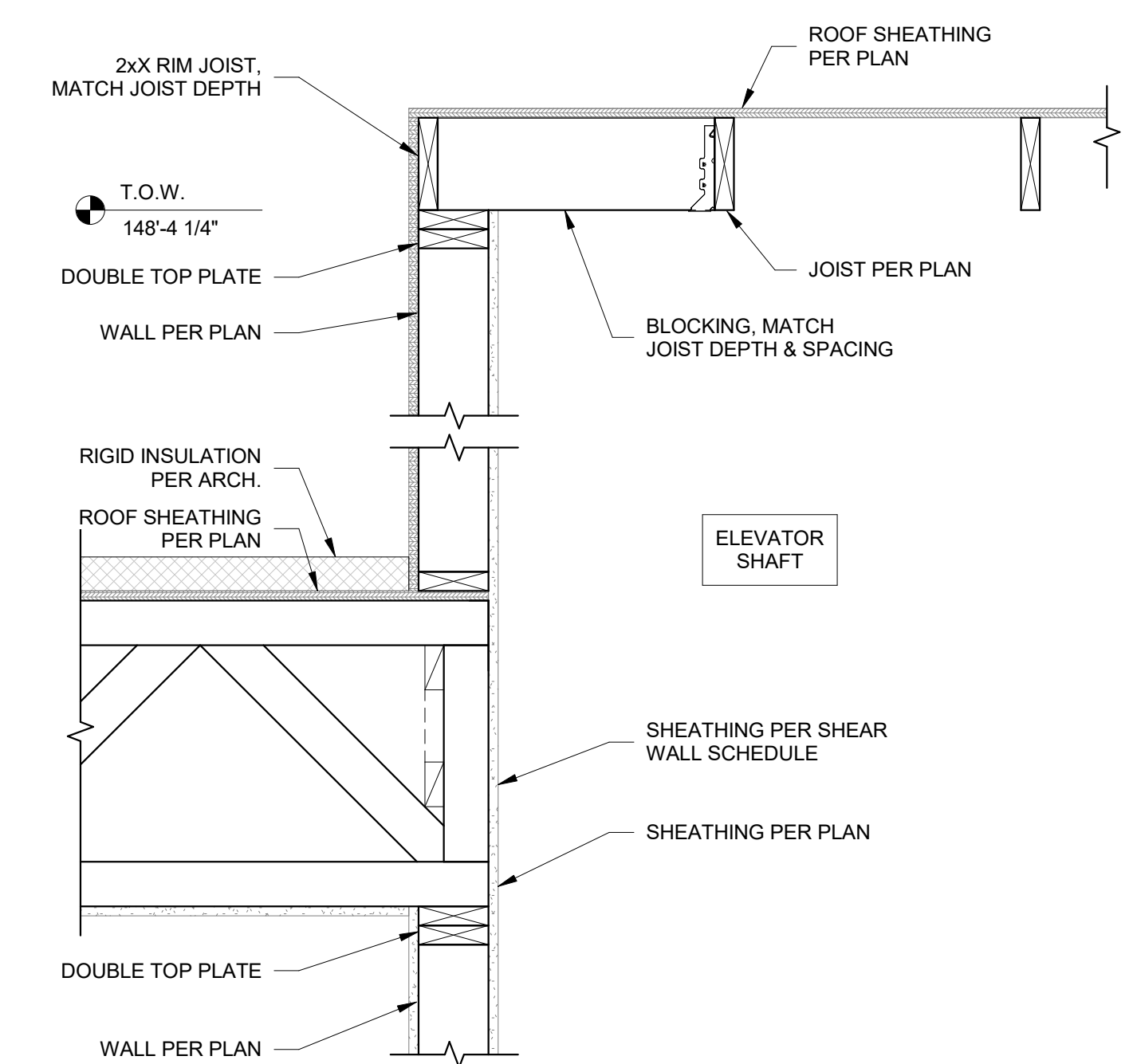
5 ROOF TRUSS AT SINGLE INTERIOR WALL
S550 1" = 1'-0"



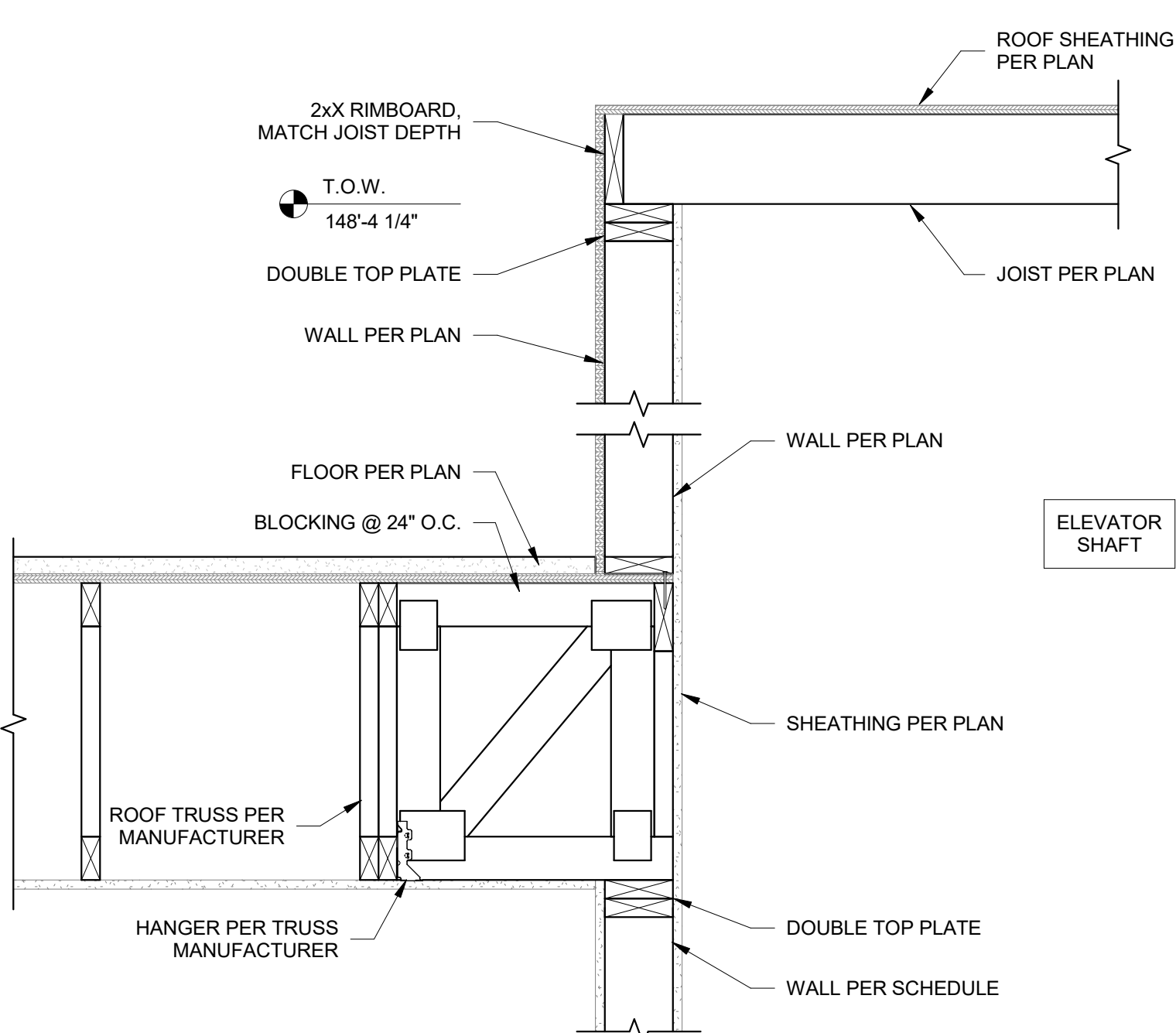
6 FRAMING AT CORRIDOR AT ROOF
S550 1" = 1'-0"



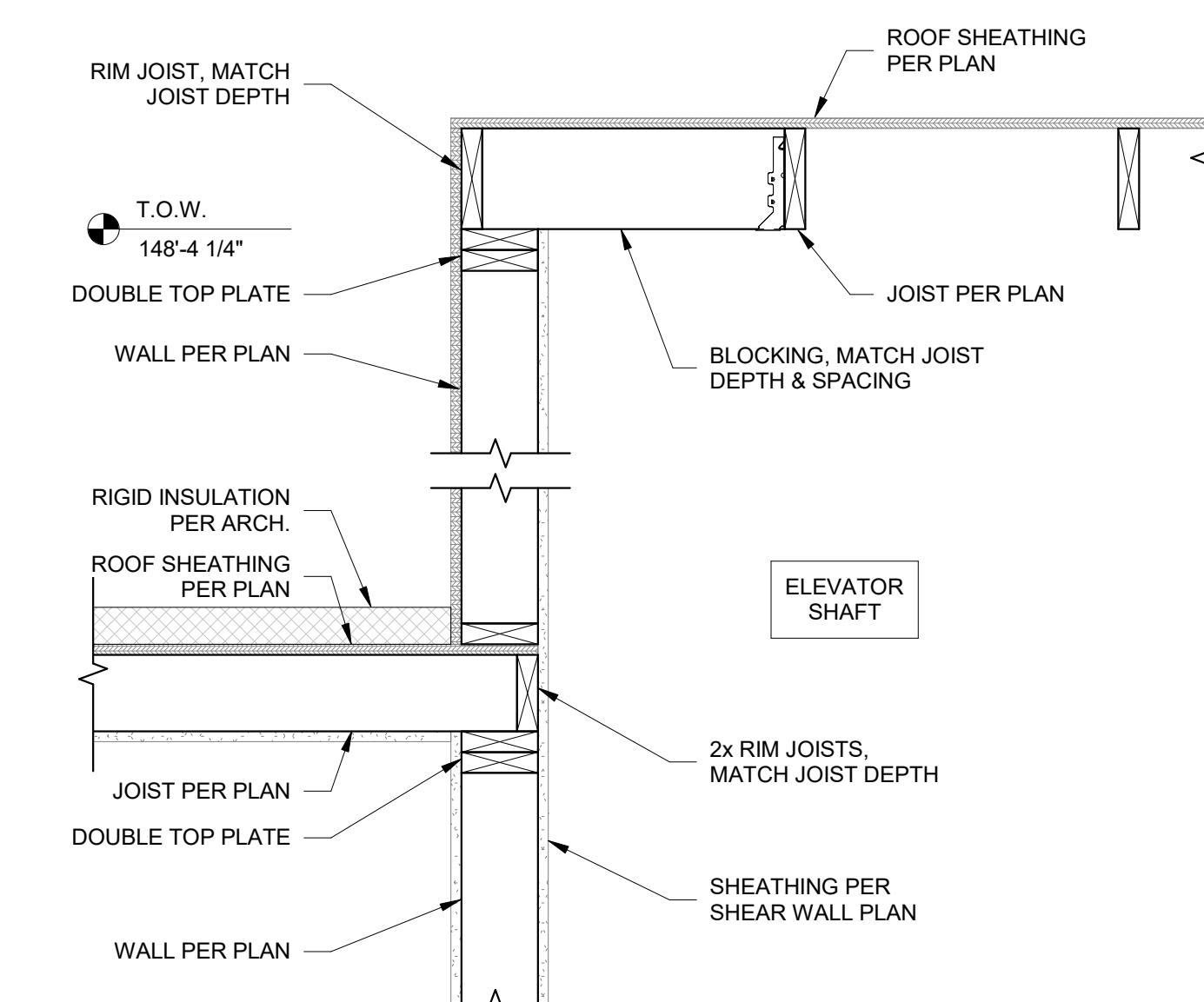
7 ROOF TRUSS BEARING AT EXTERIOR WALL
S550 1" = 1'-0"



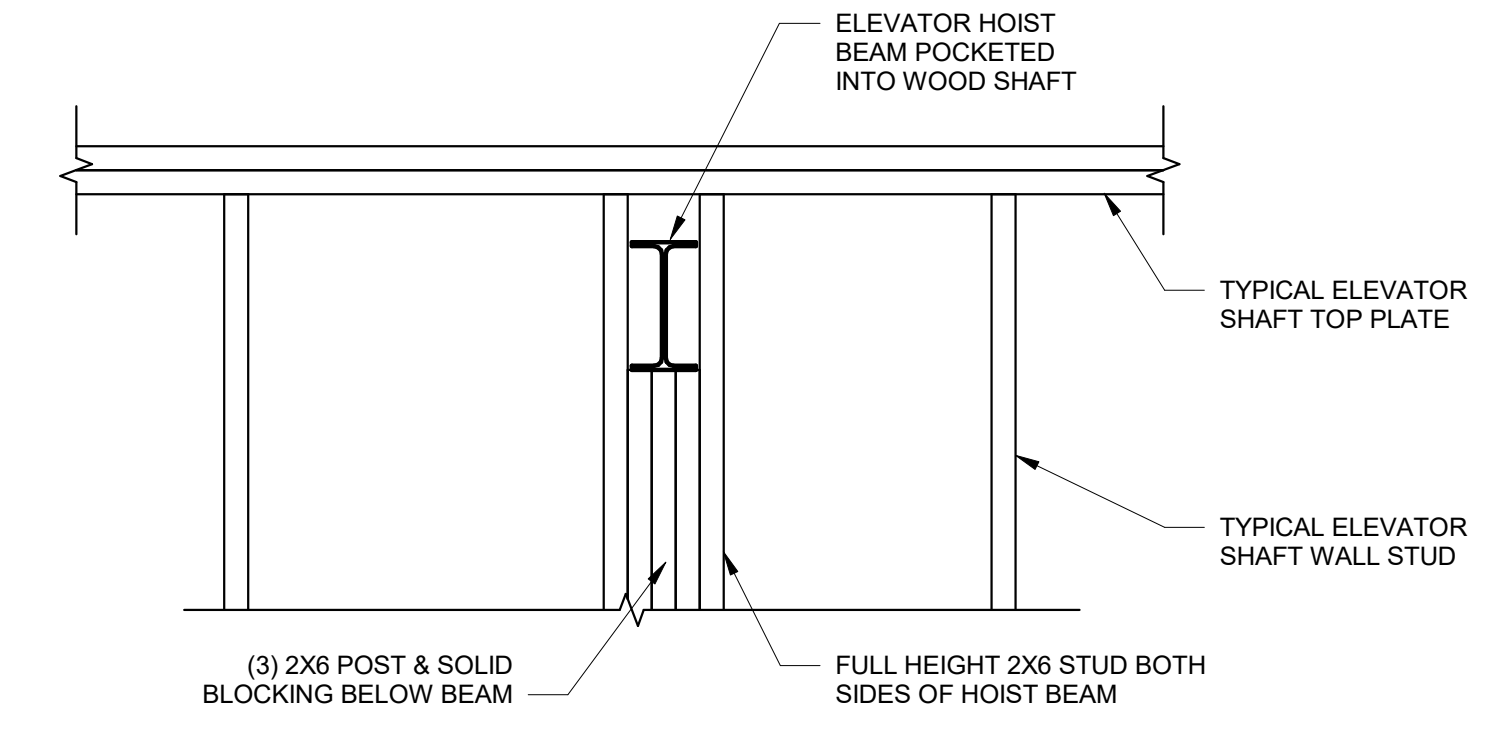
8 SECTION AT ELEVATOR ROOF
S550 1" = 1'-0"



9 SECTION AT ELEVATOR ROOF
S550 1" = 1'-0"



10 SECTION AT ELEVATOR ROOF
S550 1" = 1'-0"



11 TYPICAL ELEVATOR HOIST BEAM ELEVATION
S550 1" = 1'-0"

DISCOVERY PARK - LOT #10-A

100 NE ALURA WAY
LEE'S SUMMIT, MO 64064

SHEET TITLE
ROOF FRAMING DETAILS
PROJECT NUMBER: 2023000333
SHEET NUMBER:

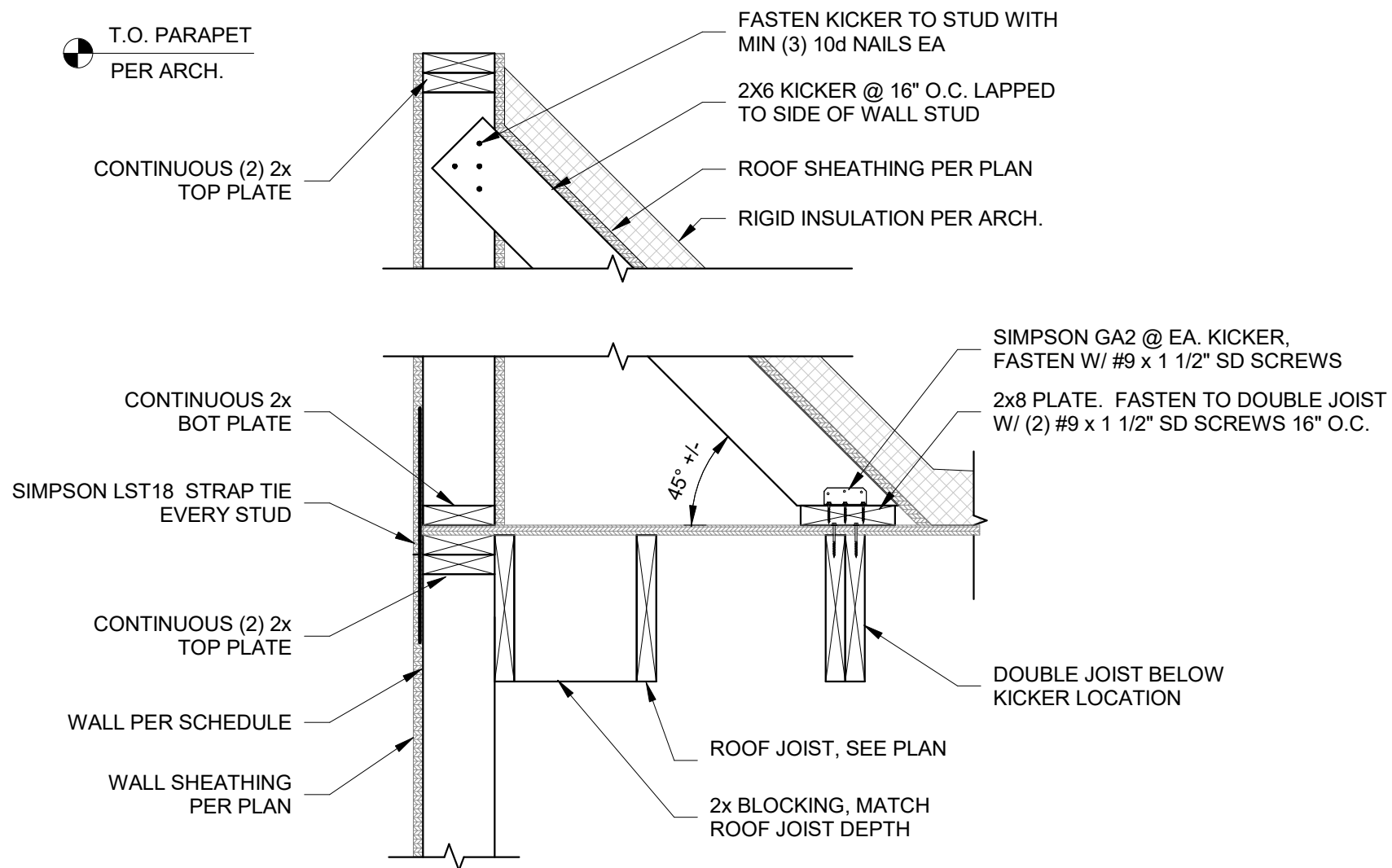
S550

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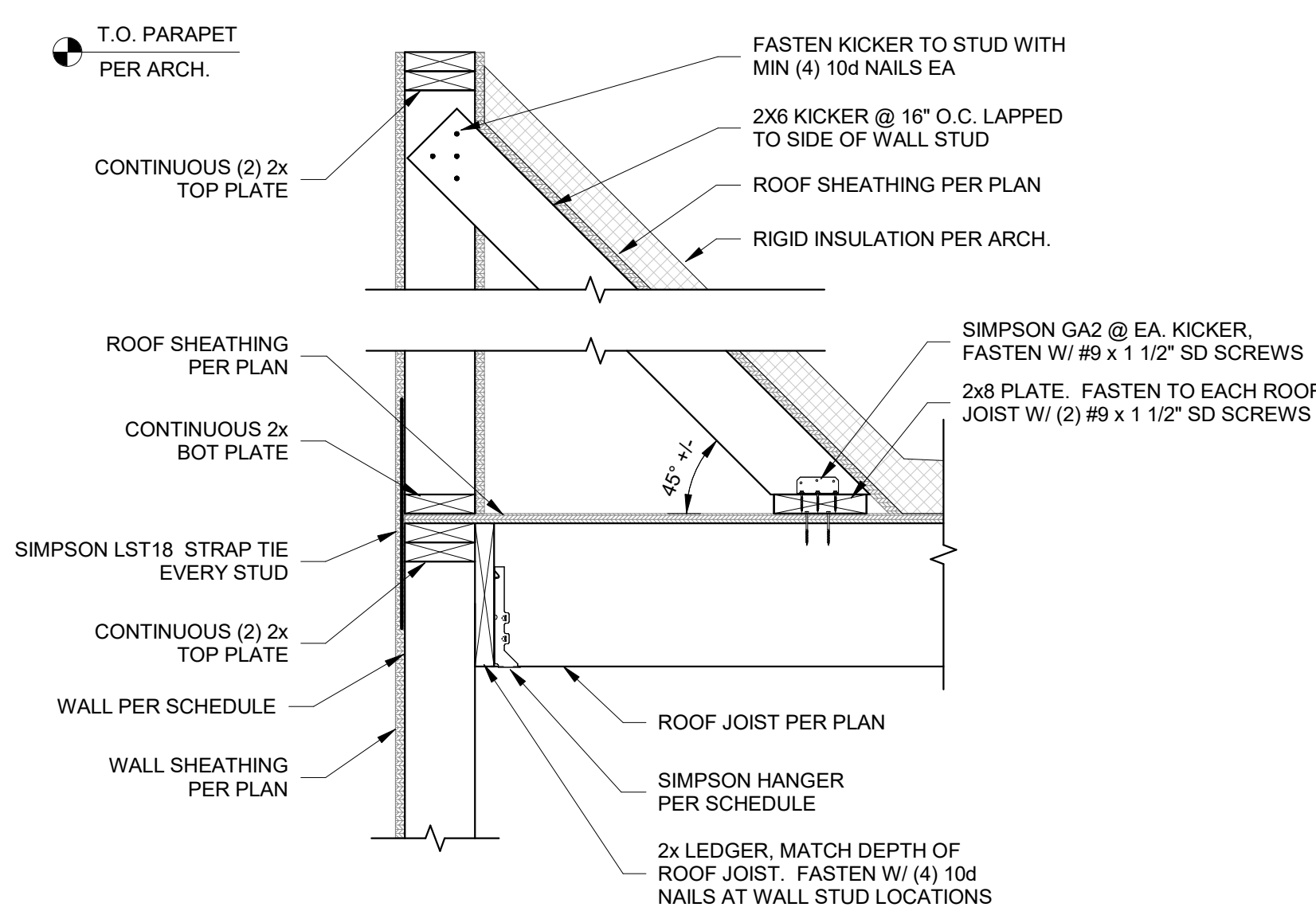
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MISSOURI CERTIFICATE OF AUTHORITY
NO. E-2006023253
EXPIRES: DECEMBER 31, 2024



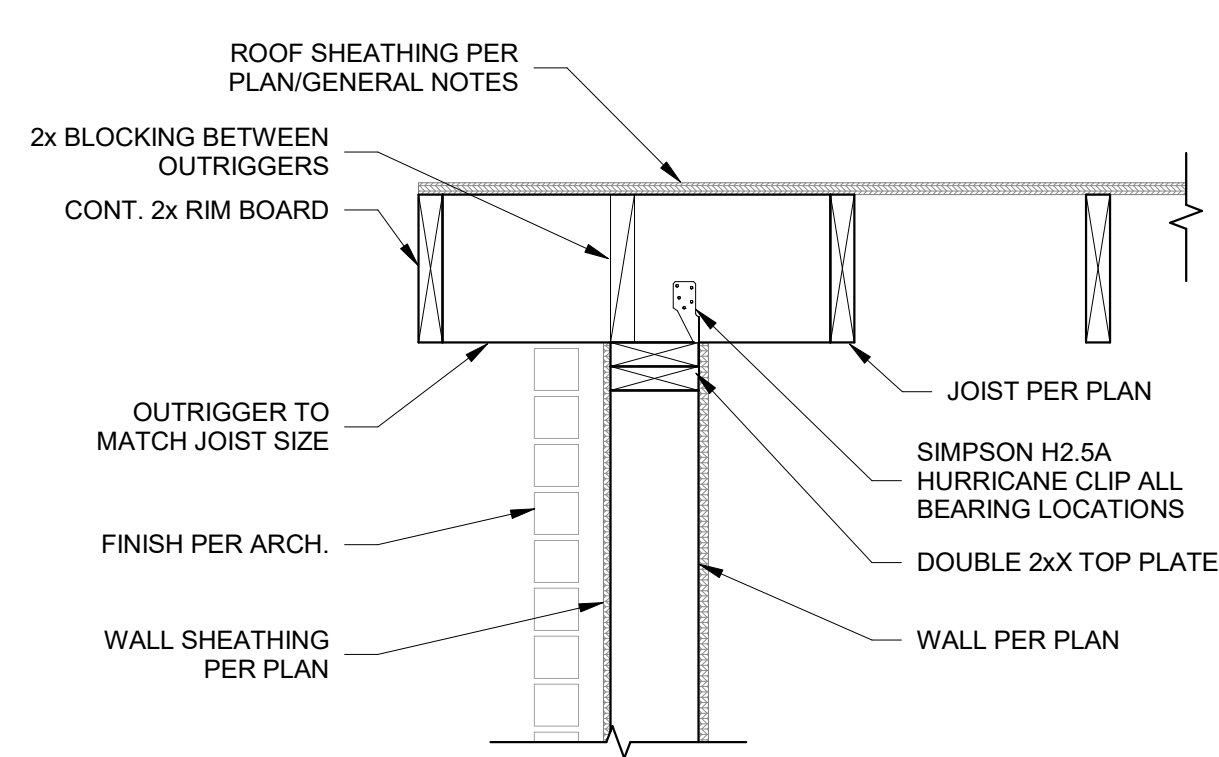
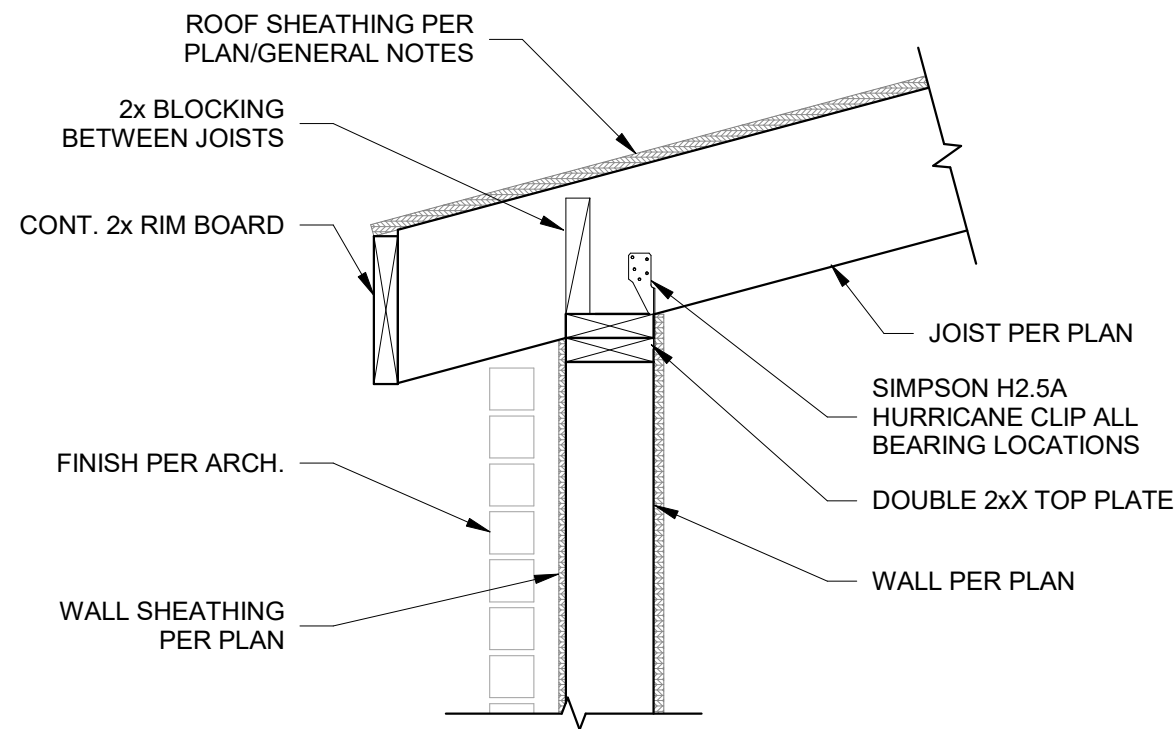
PRINTS ISSUED
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REVISIONS:



1
S551 FRAMING AT EXTERIOR WALL AT ROOF
1" = 1'-0"



2
S551 ROOF JOIST BEARING AT MAINTENANCE ROOM
1" = 1'-0"



3
S551 ROOF JOIST PARALLEL AT MAINTENANCE ROOM
1" = 1'-0"



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DISCOVERY PARK - LOT #10-A

100 NE ALURA WAY
LEE'S SUMMIT, MO 64064

SHEET TITLE
ROOF FRAMING DETAILS

PROJECT NUMBER: 2023000333
SHEET NUMBER:

S551

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NO. E-2006023253
EXPIRES: DECEMBER 31, 2024



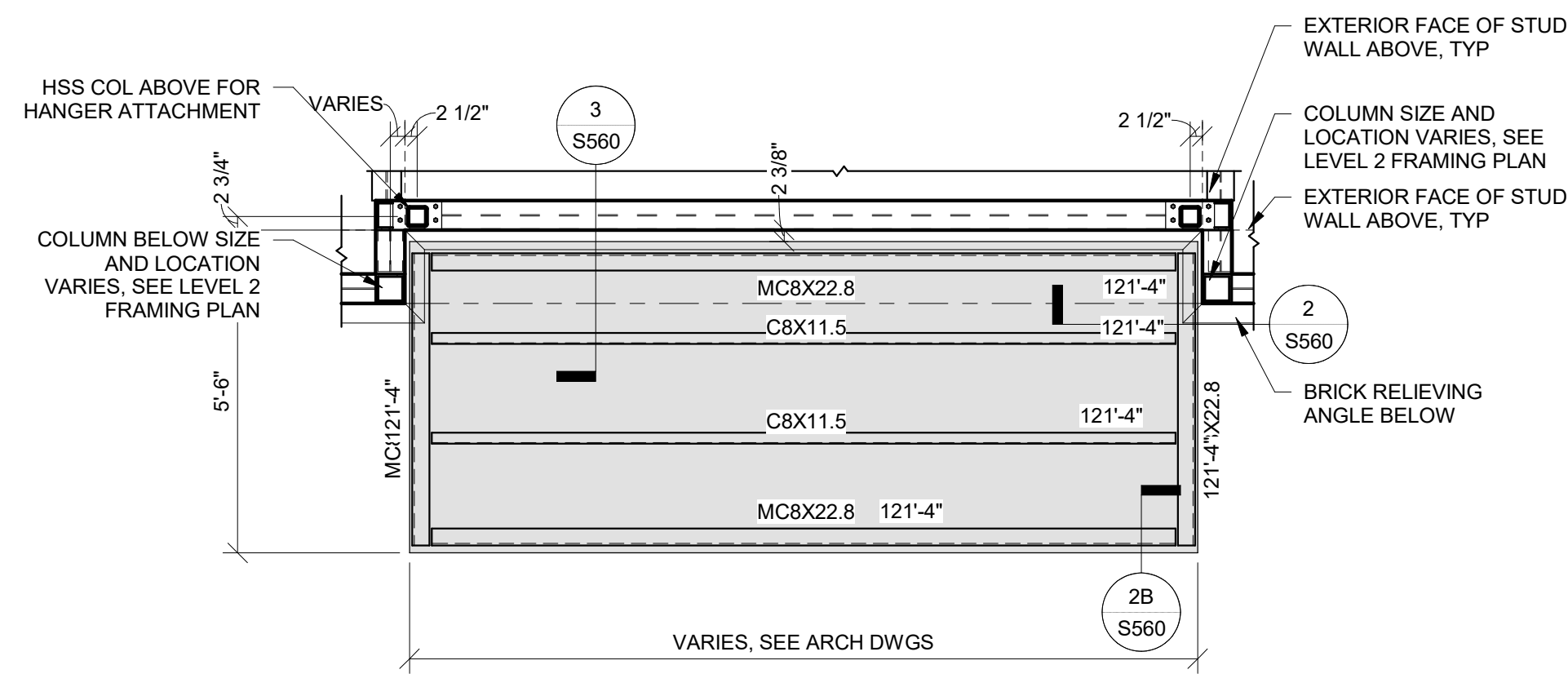
DISCOVERY PARK - LOT #10-A

100 NE ALURA WAY
LEE'S SUMMIT, MO 64064

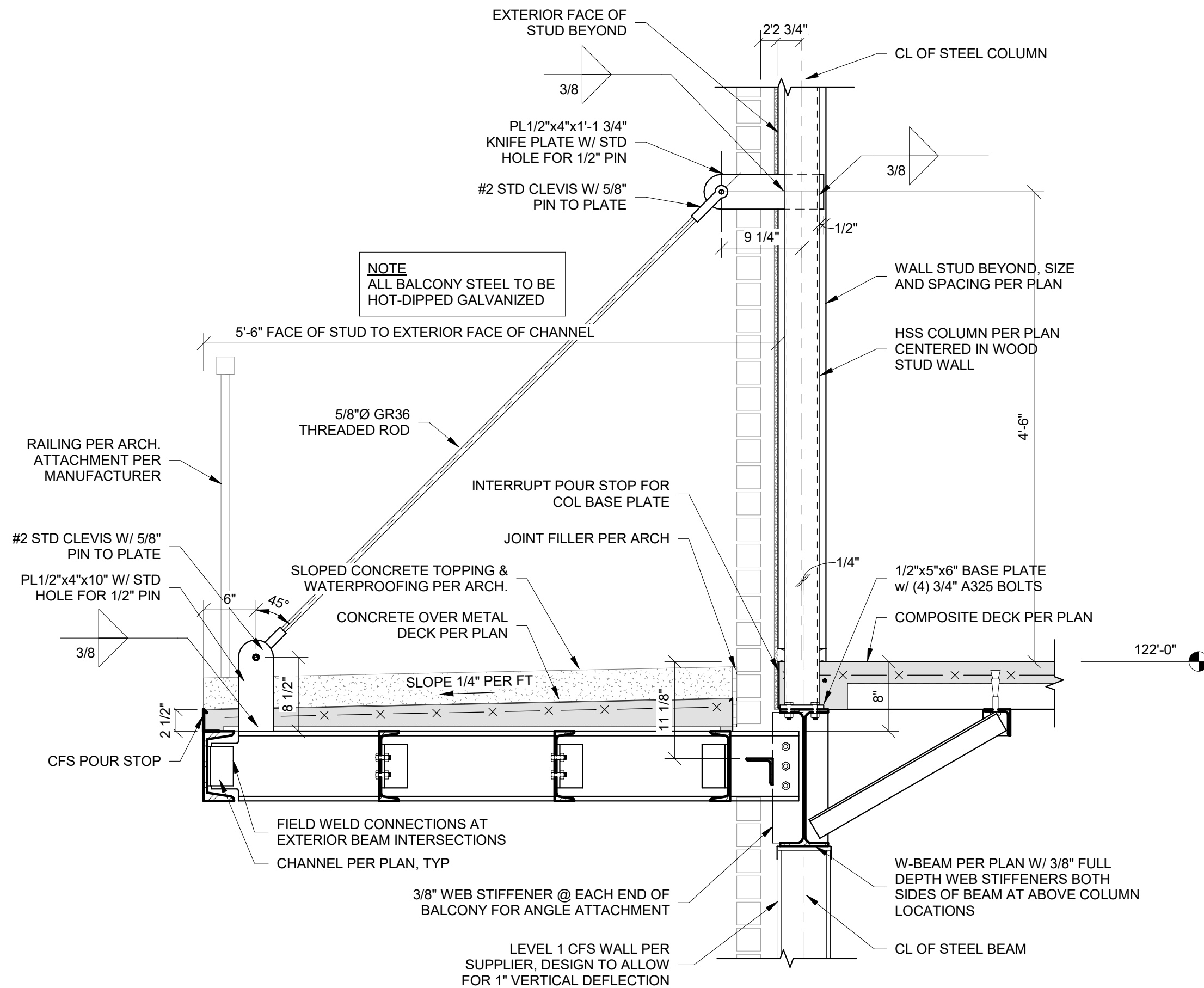
SHEET TITLE
TYPICAL BALCONY PLANS &
DETAILS - LEVEL 2

PROJECT NUMBER: 2023000333
SHEET NUMBER:

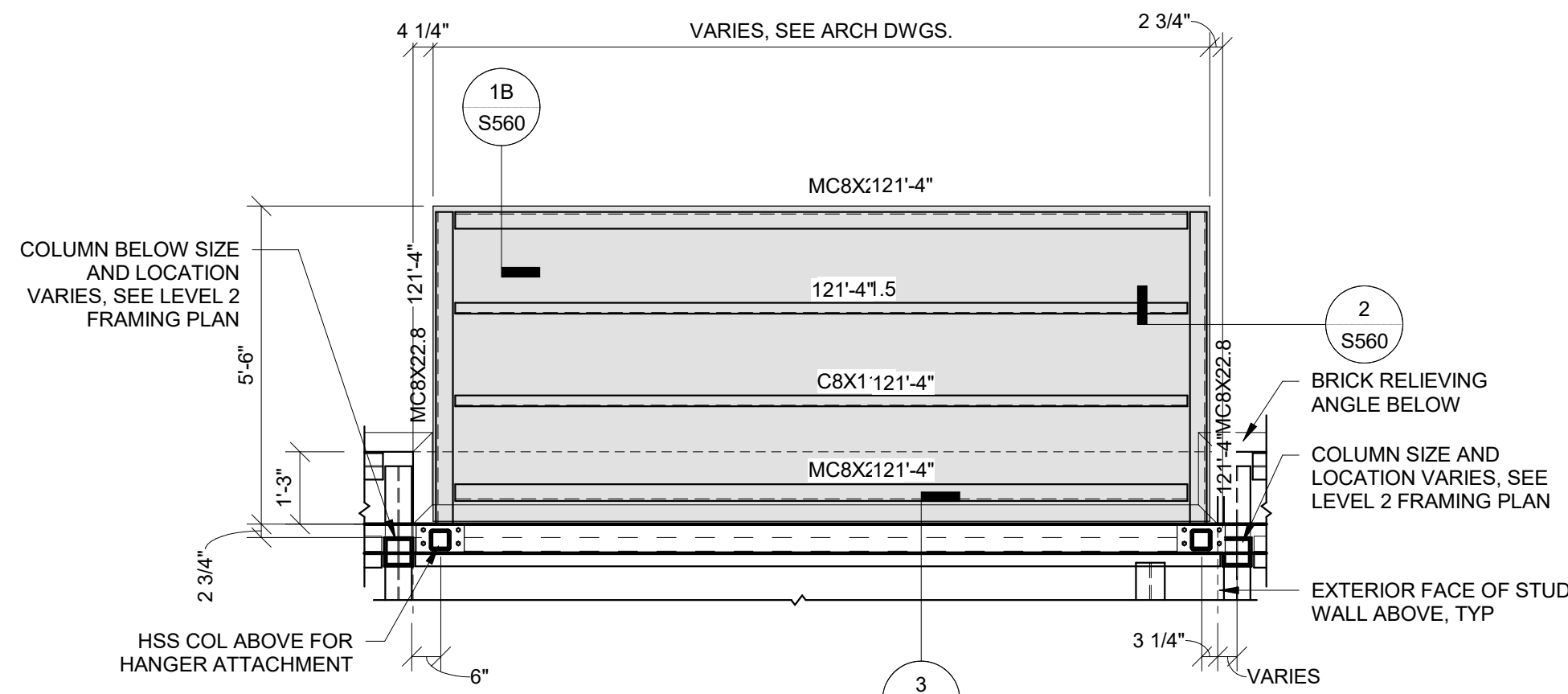
S560



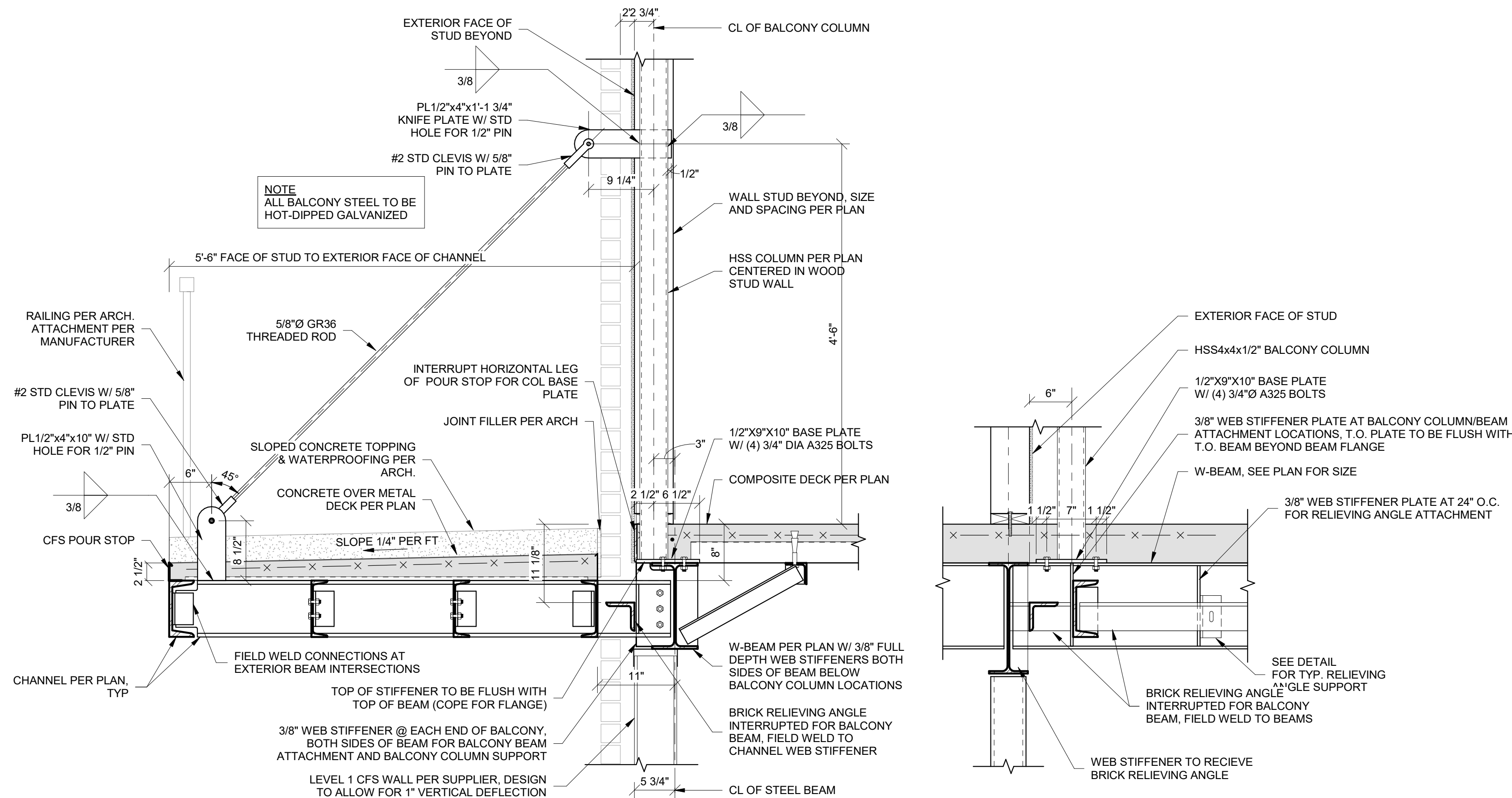
2A TYPICAL BALCONY - LEVEL 2 - ZONE A
S560 3/8" = 1'-0"



2B BALCONY SECTION - LEVEL 2 ZONE A
S560 1" = 1'-0"



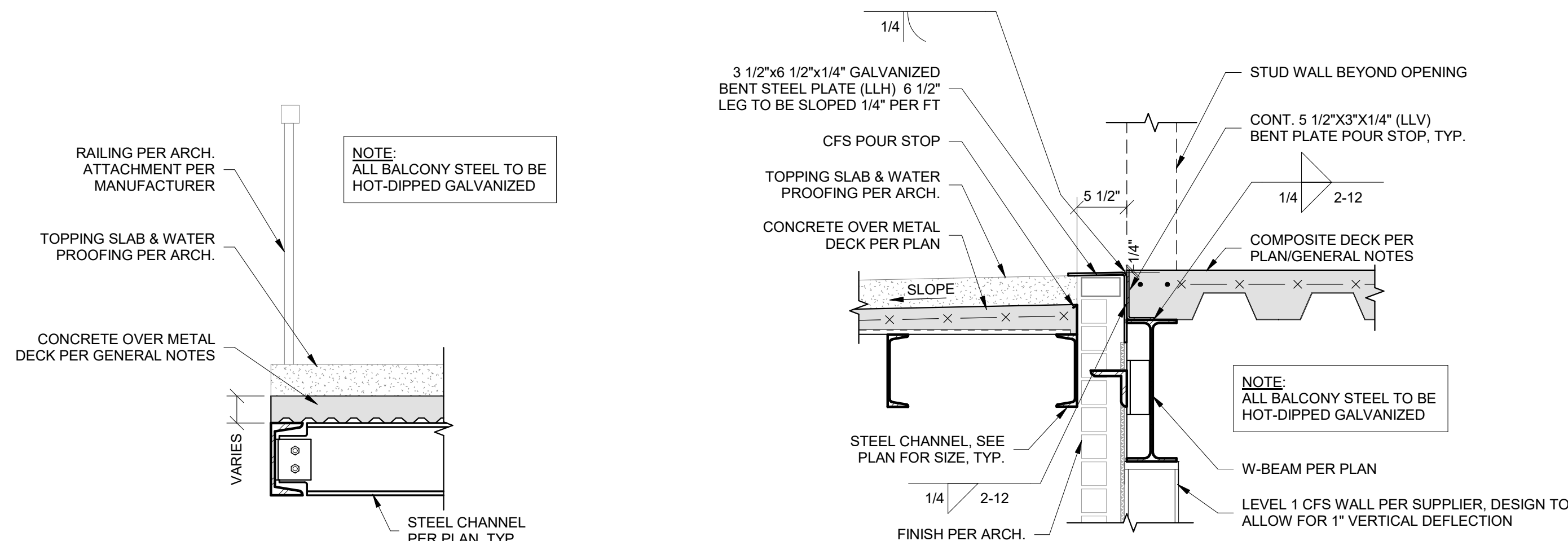
1A TYPICAL BALCONY - LEVEL 2 - ZONE B
S560 3/8" = 1'-0"



SECTION

ELEVATION

1B BALCONY SECTION - LEVEL 2 ZONE B
S560 1" = 1'-0"



2 BALCONY EDGE SECTION
S560 1" = 1'-0"

3 BALCONY SECTION AT DOOR THRESHOLD - LEVEL 2
S560 1" = 1'-0"

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DISCOVERY PARK - LOT #10-A

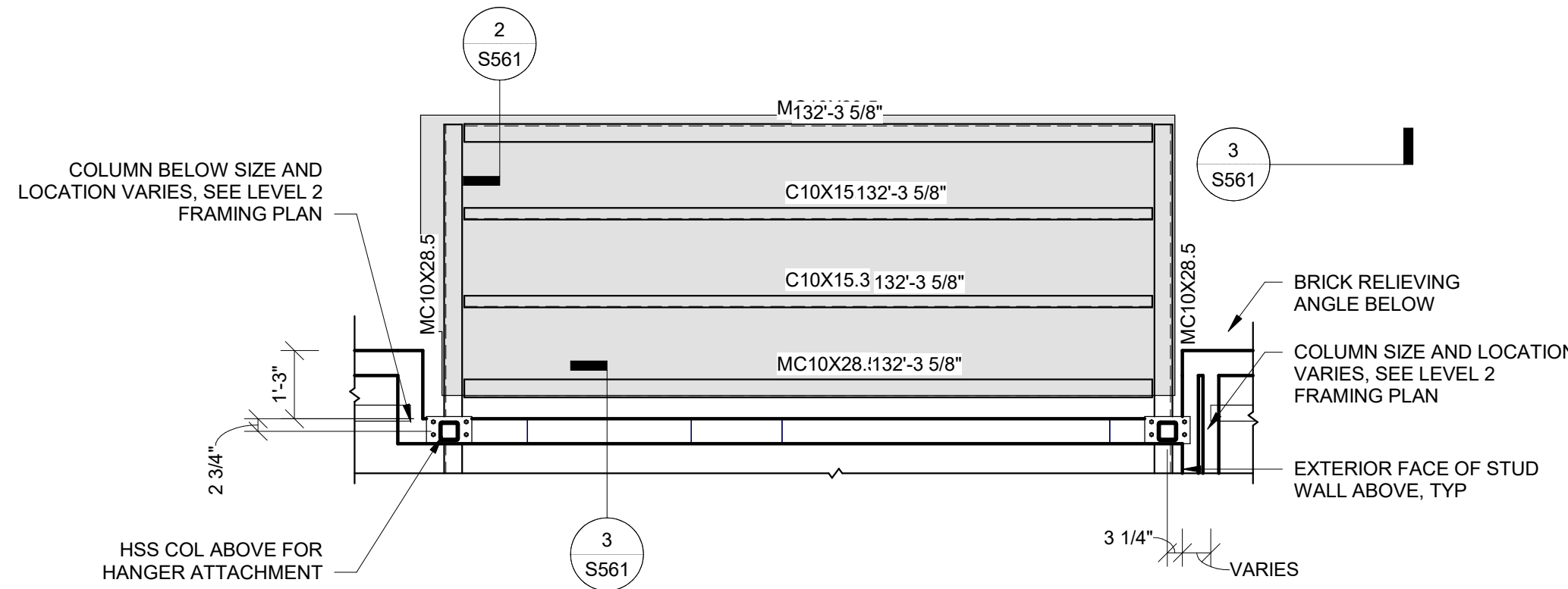
100 NE ALURA WAY
LEE'S SUMMIT, MO 64064

SHEET TITLE
TYPICAL BALCONY PLANS &
DETAILS - LEVEL 3

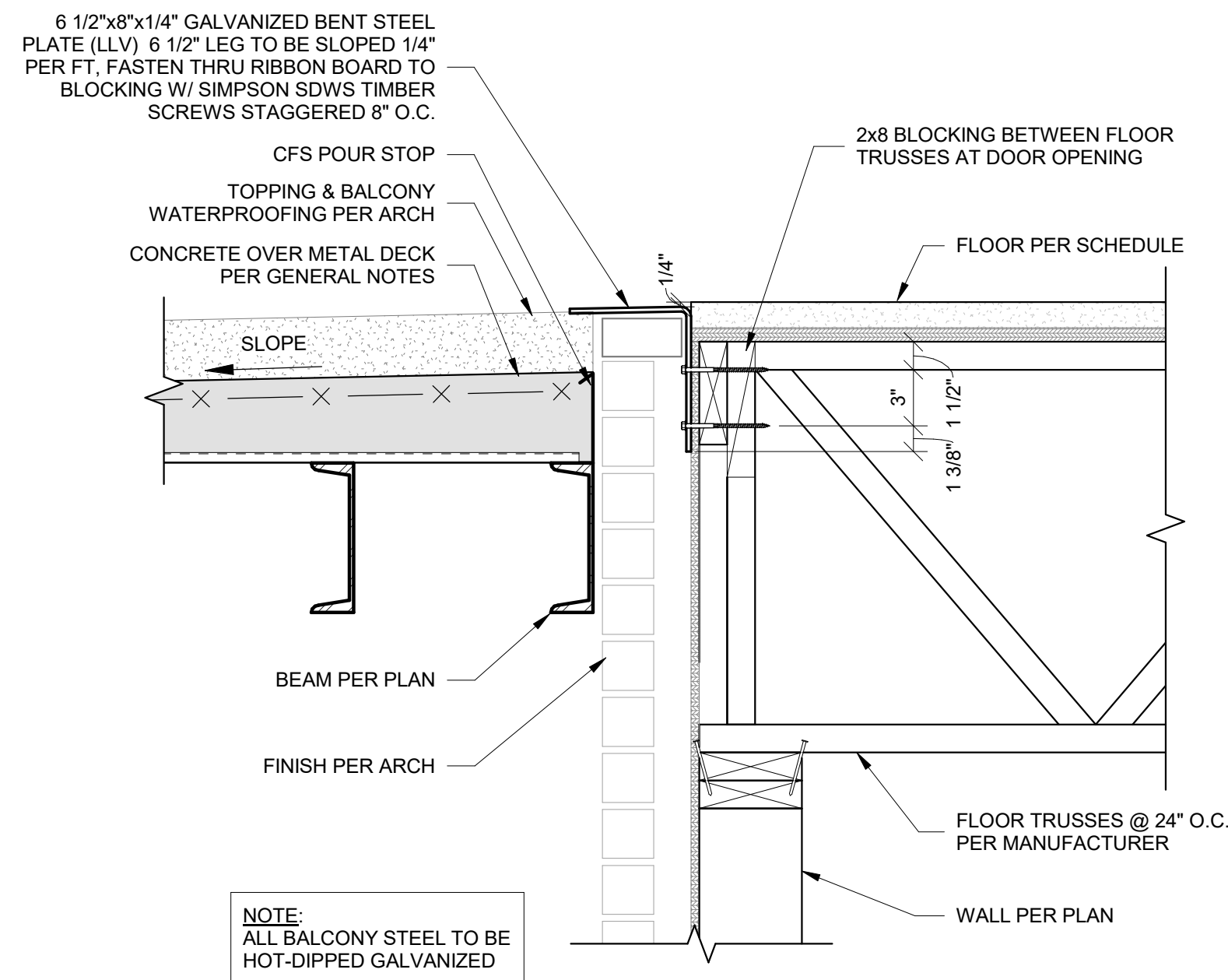
PROJECT NUMBER: 2023000333

SHEET NUMBER:

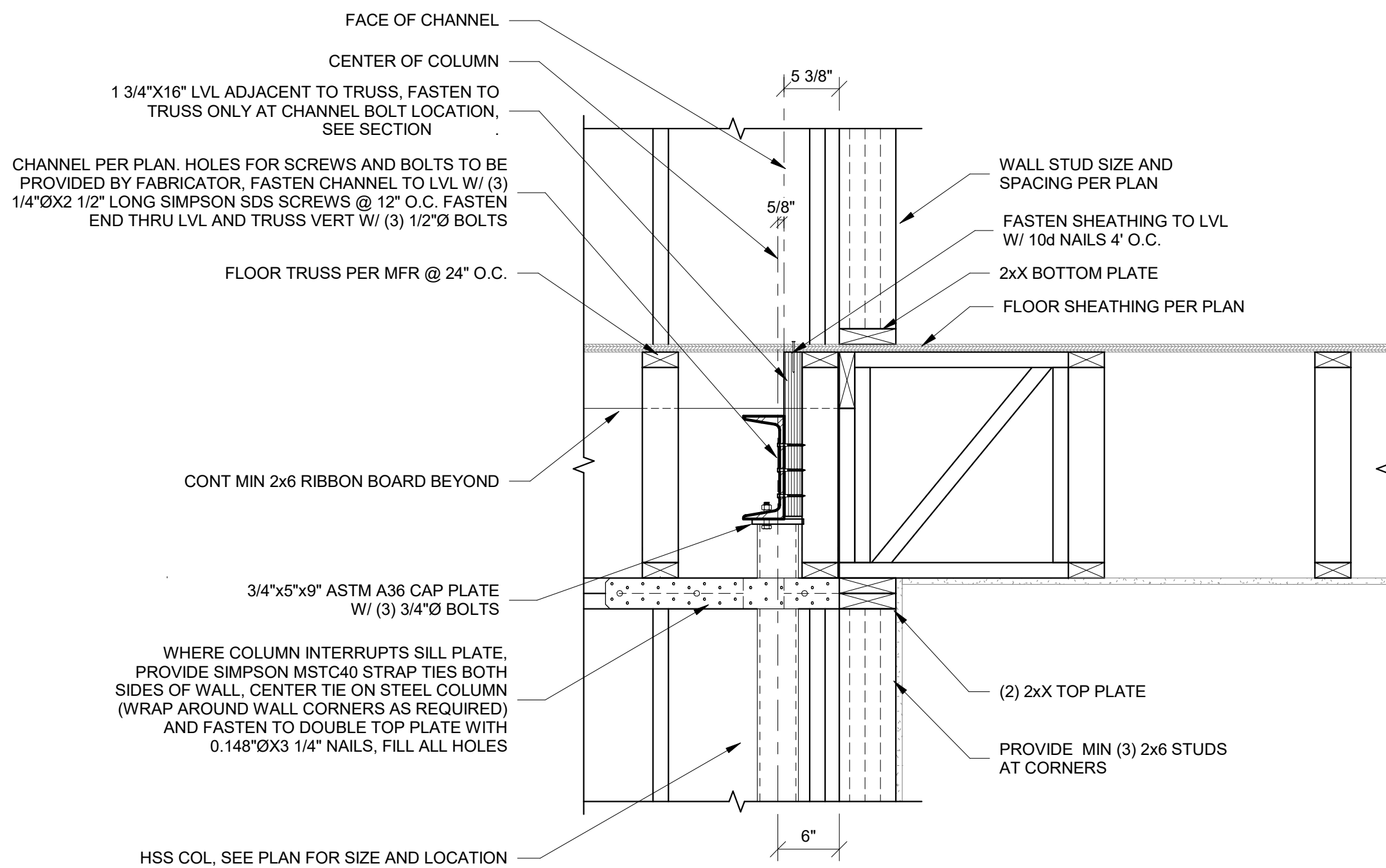
S561



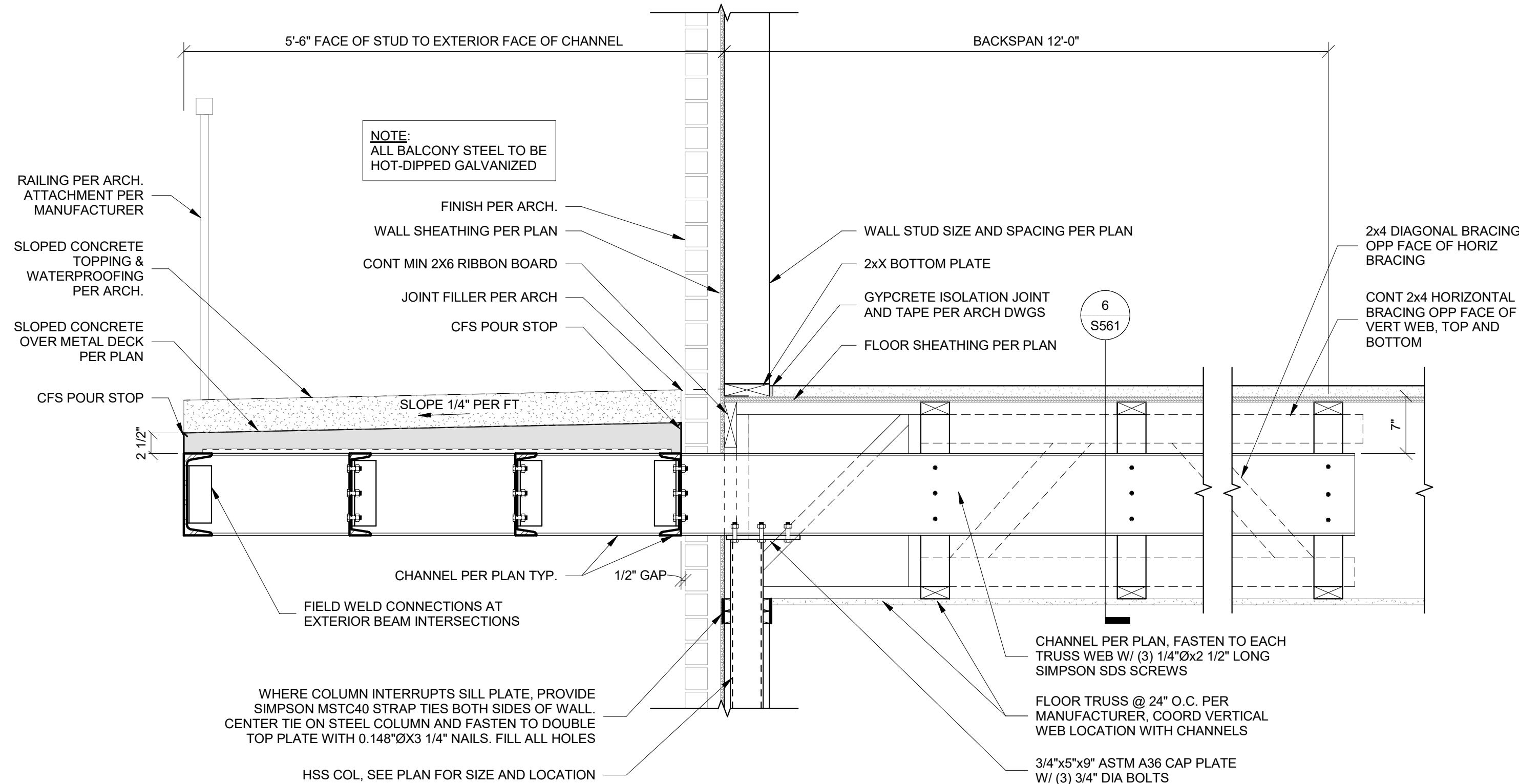
1 TYPICAL BALCONY AT LEVEL 3
S561 3/8" = 1'-0"



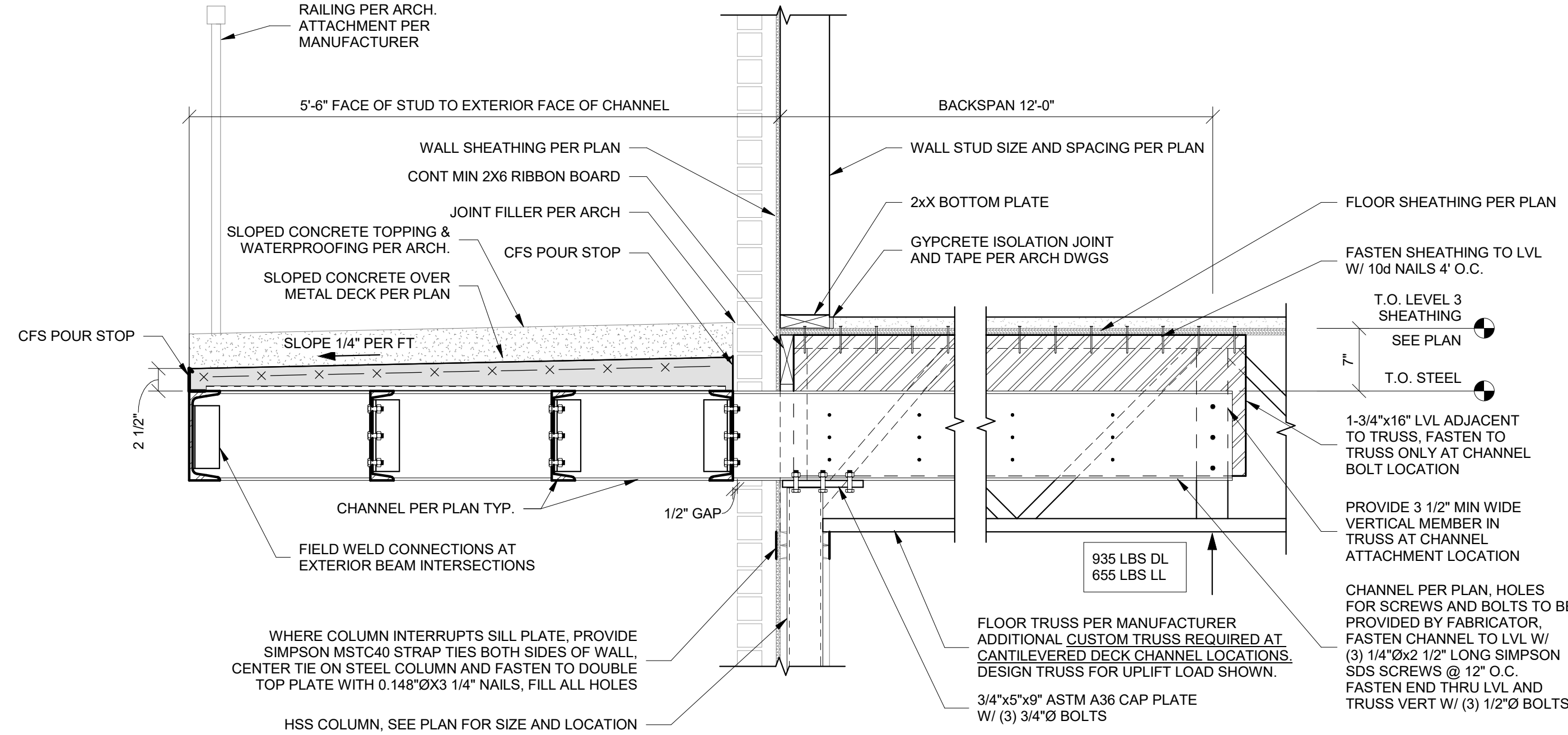
3 BALCONY SECTION AT DOOR THRESHOLD - LEVEL 3
S561 1 1/2" = 1'-0"



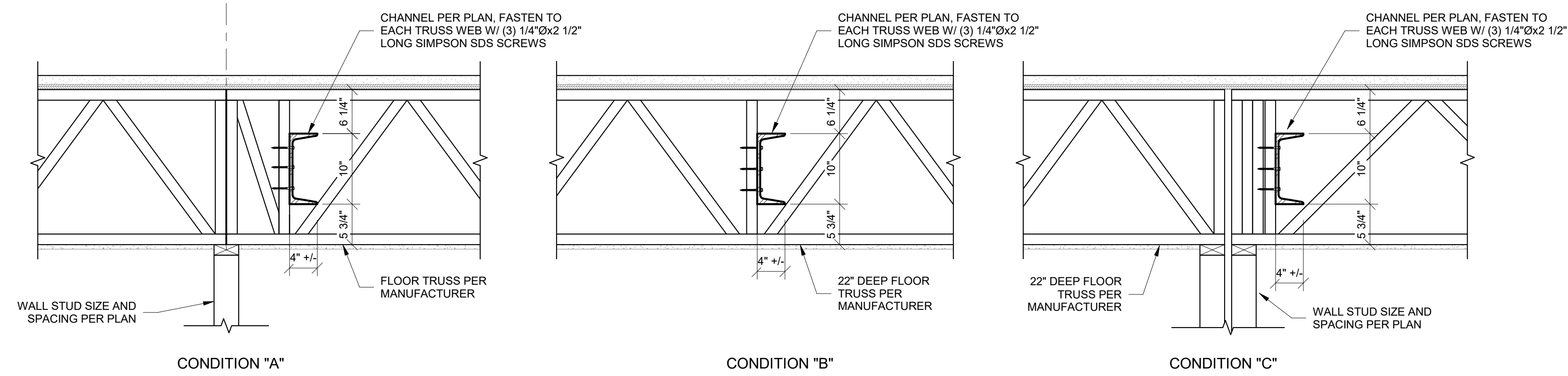
5 BALCONY FRAMING SECTION - CHANNEL BEARING ON COLUMN
S561 1" = 1'-0"



2 BALCONY FRAMING SECTION AT CHANNEL - LEVEL 3
S561 1" = 1'-0"

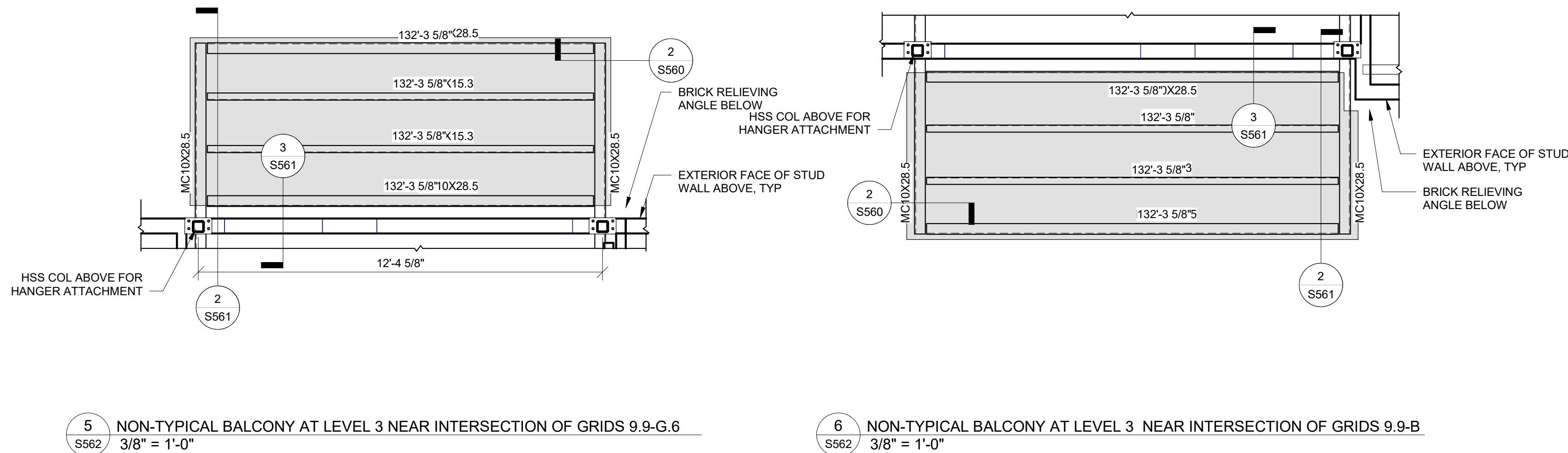
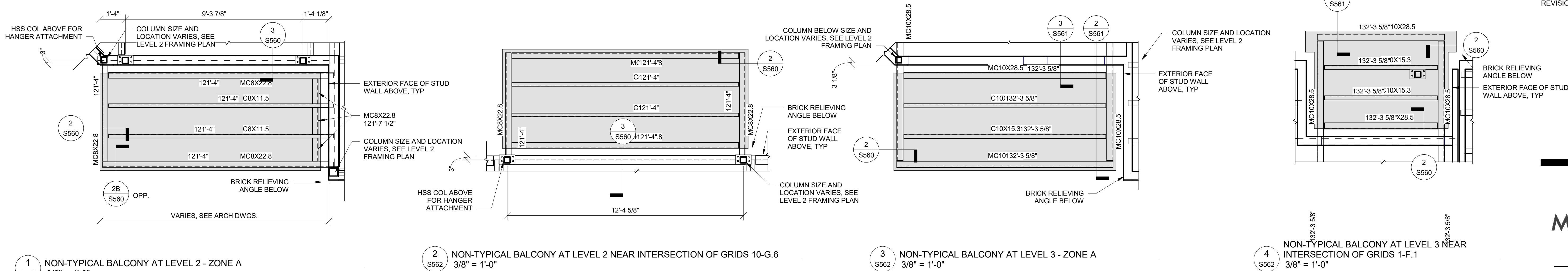


4 BALCONY FRAMING SECTION - AT CHANNEL
S561 1" = 1'-0"



6 BALCONY BEAM PERPENDICULAR TO TRUSS CONNECTION
S561 1" = 1'-0"

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DISCOVERY PARK - LOT #10-A

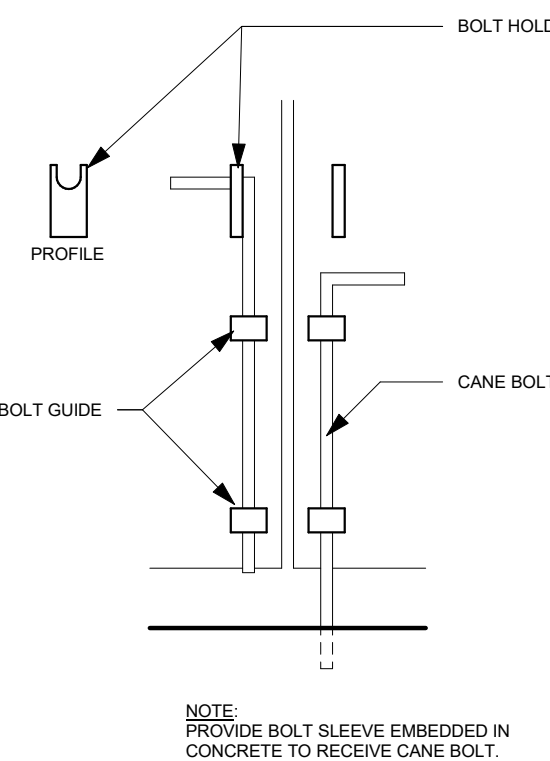
100 NE ALURA WAY
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SHEET TITLE
ADDITIONAL BALCONY PLANS

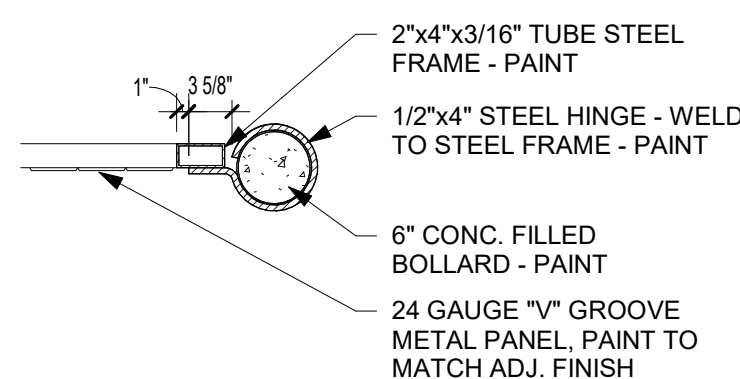
PROJECT NUMBER: 2023000333
SHEET NUMBER:

S562

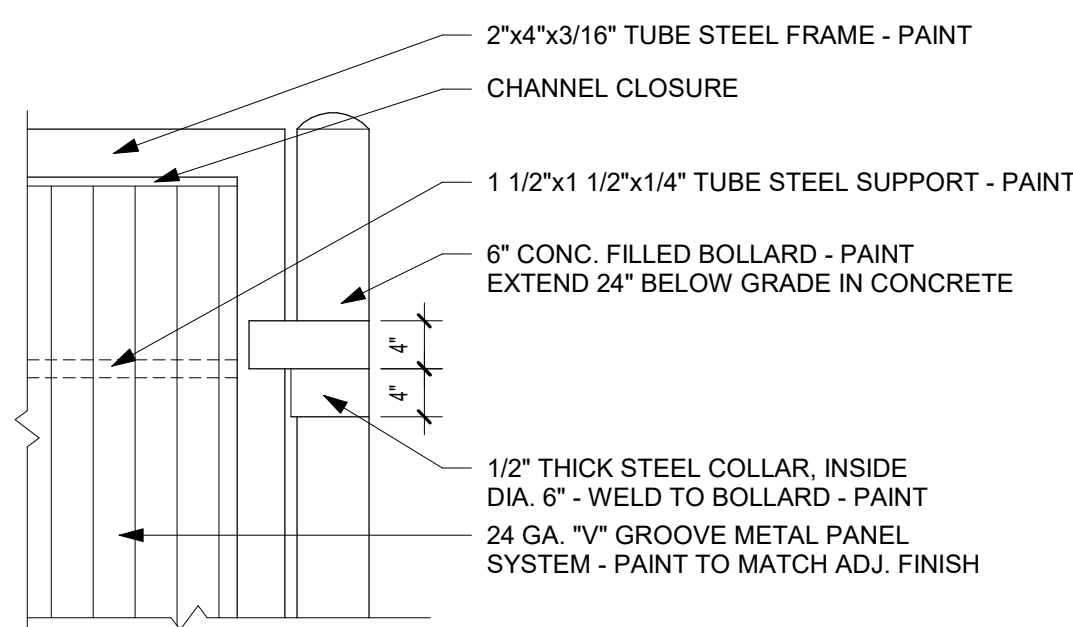
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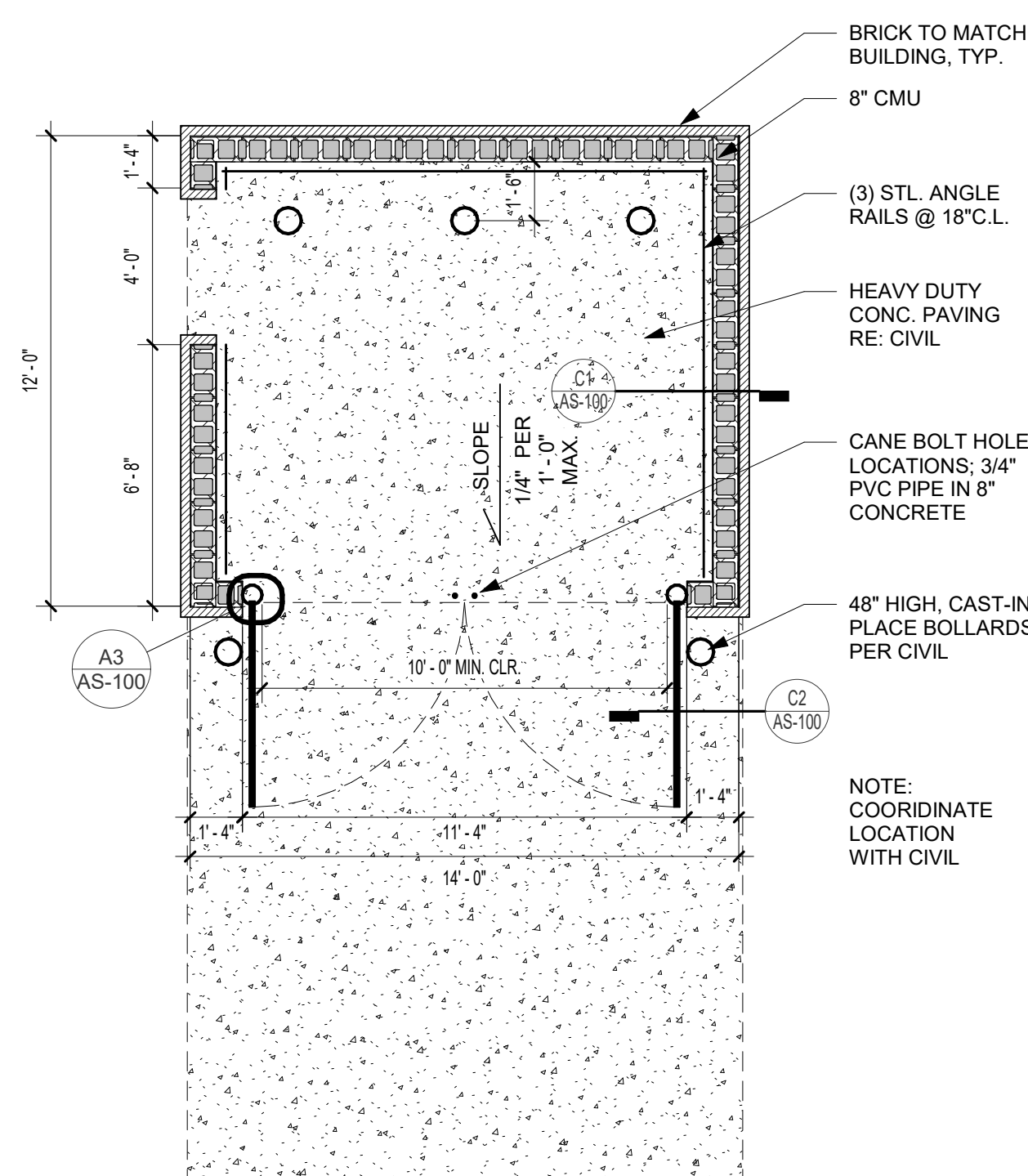
A4 SITE - CANE BOLT DETAIL
3" = 1'-0"



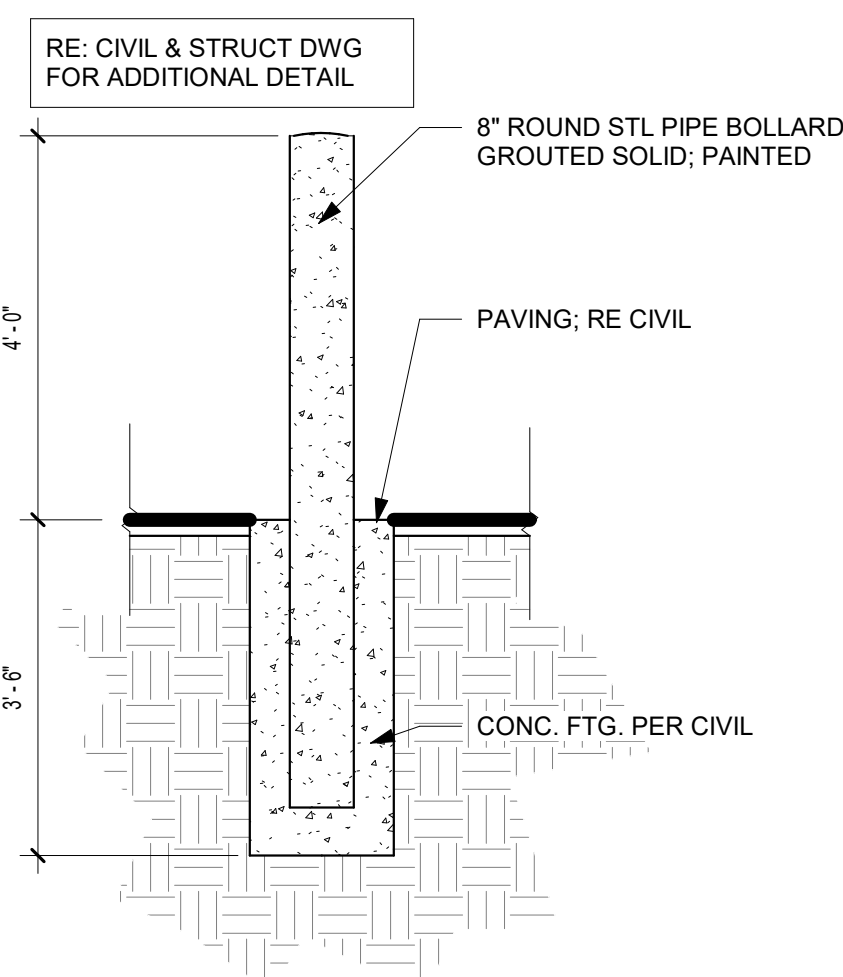
A3 TRASH GATE CROSS SECTION
3/4" = 1'-0"



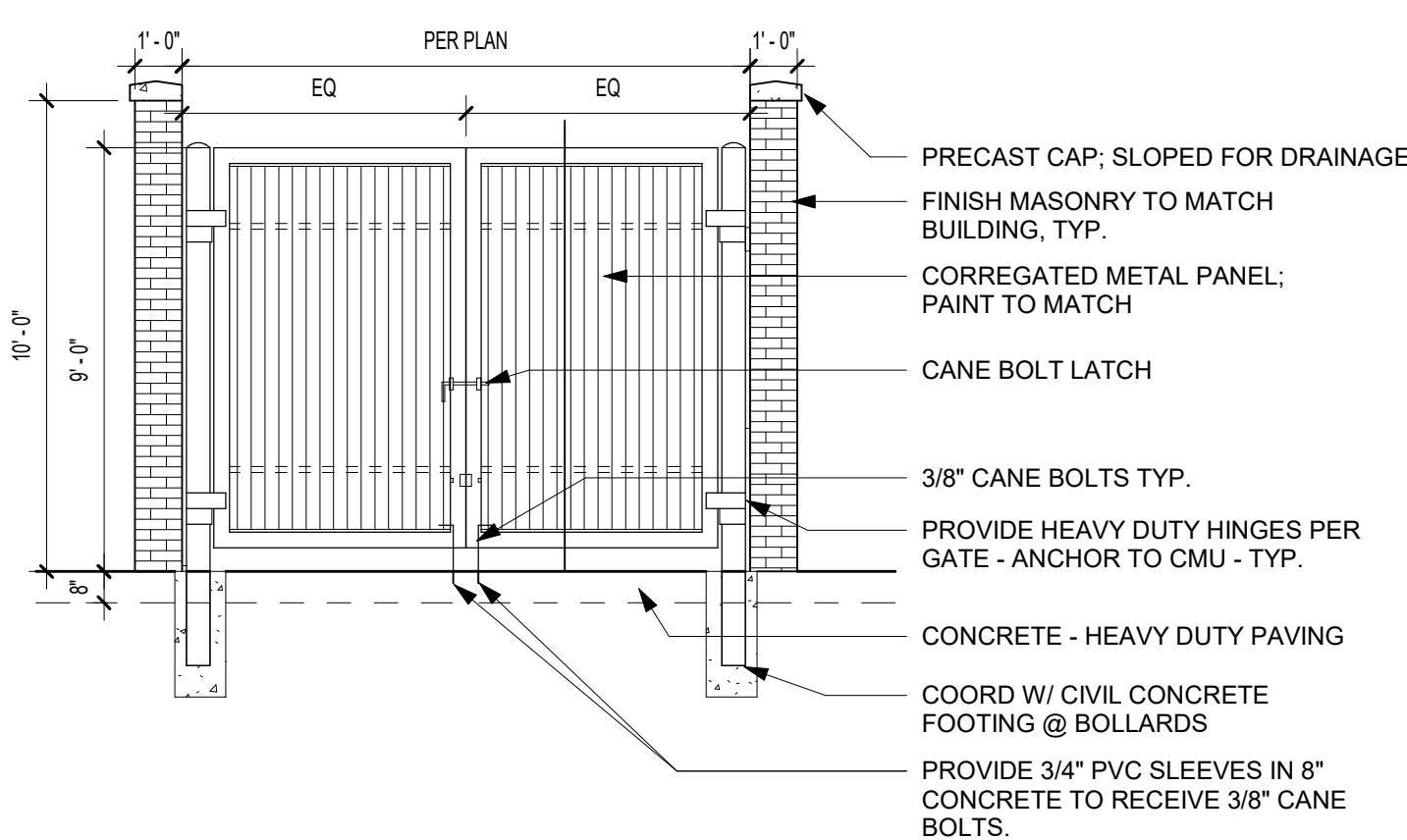
A2 TRASH GATE DETAIL
3/4" = 1'-0"



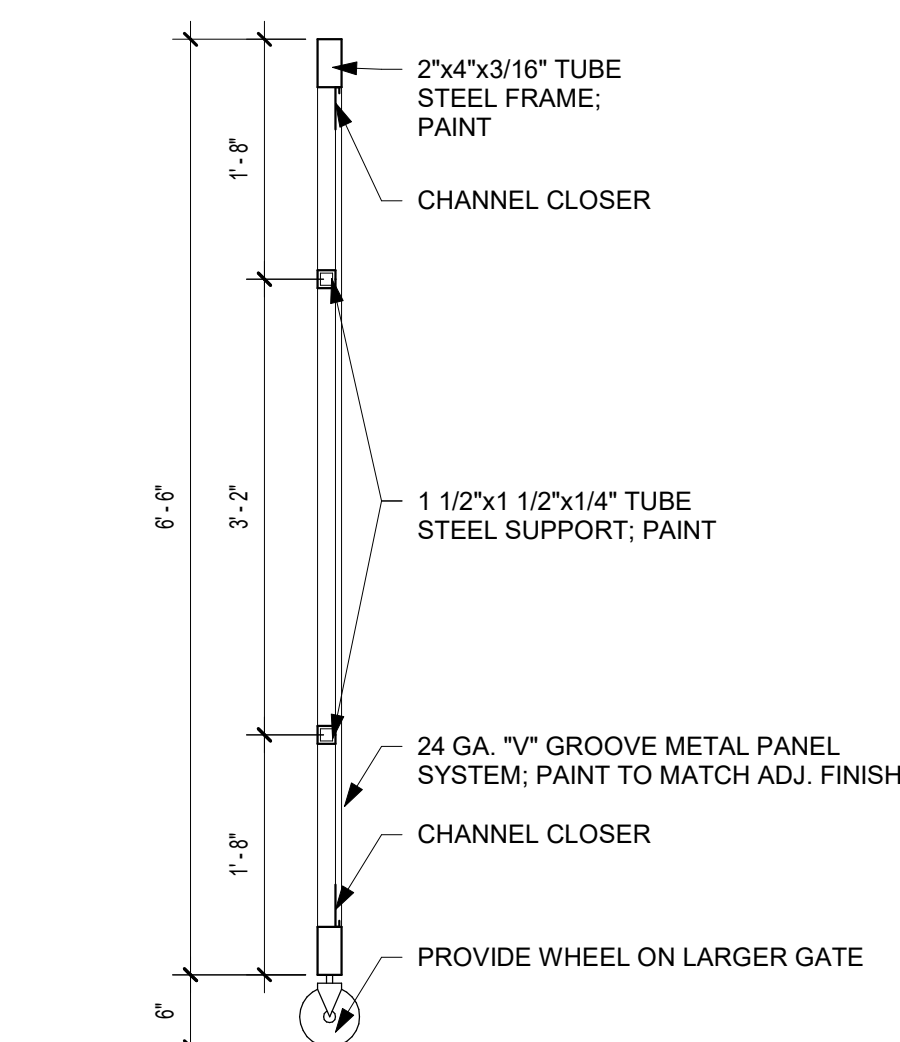
A1 SINGLE DUMPSTER TRASH ENCLOSURE PLAN
1/4" = 1'-0"



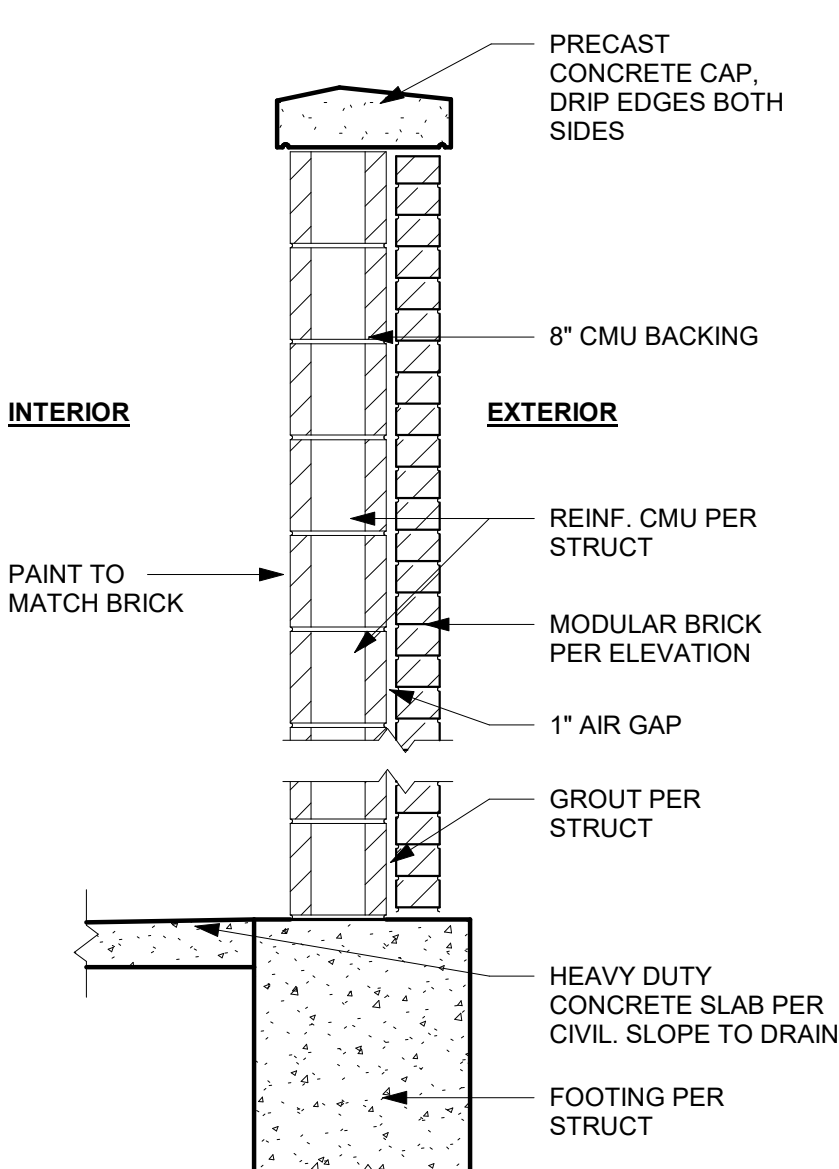
B3 SITE - BOLLARD - STEEL
1/2" = 1'-0"



B2 ENCLOSURE FRONT ELEVATION
1/4" = 1'-0"



C2 TRASH GATE SECTION
3/4" = 1'-0"



C1 SITE - ENCLOSURE - CMU - WALL SECTION
3/4" = 1'-0"



12/20/24

DISCOVERY PARK - LOT #10-A

LEE'S SUMMIT, MO

SHEET TITLE
ARCHITECTURAL SITE AMENITIES

PROJECT NUMBER: 24004
SHEET NUMBER:

AS-100

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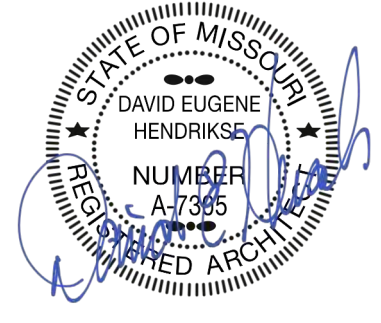


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DISCOVERY PARK - LOT #10-A

LEE'S SUMMIT, MO

SHEET TITLE
FIRST FLOOR PLAN

PROJECT NUMBER: 24004

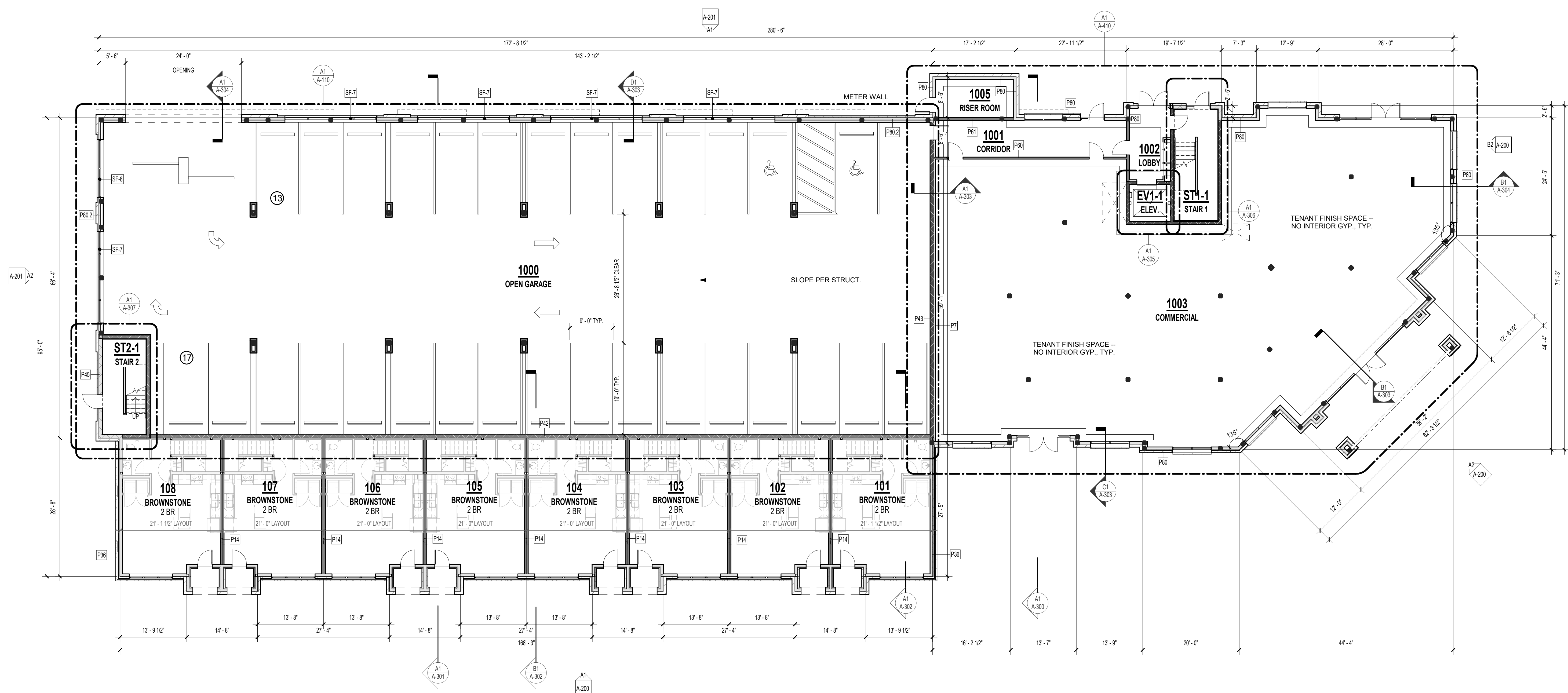
SHEET NUMBER:

A-101

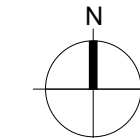
REFERENCE G-003 FOR GENERAL NOTES

PLAN LEGEND

- PARTIAL HEIGHT PARTITION
- NON-RATED PARTITION; SEE ASSEMBLIES G-100s
- 1 HR RATED PARTITION; SEE ASSEMBLIES G-100s
- 2 HR RATED PARTITION; SEE ASSEMBLIES G-100s
- WINDOW TYPE; SEE WINDOW SCHEDULE ON SHEET A-600
- DOOR TYPE; SEE DOOR SCHEDULE ON SHEET A-600
- PARTITION TYPE; SEE ASSEMBLIES G-100s
- FRAMING DIMENSIONS
- LAYOUT LINE DIMENSIONS
- HEARING/VISIBILITY
- ADA/ACCESSIBLE UNITS



A1 1ST FLOOR PLAN
3/32" = 1'-0"



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LEE'S SUMMIT, MO

DISCOVERY PARK - LOT #10-A

SHEET TITLE
SECOND FLOOR BROWNSTONES
PLAN

PROJECT NUMBER: 24004

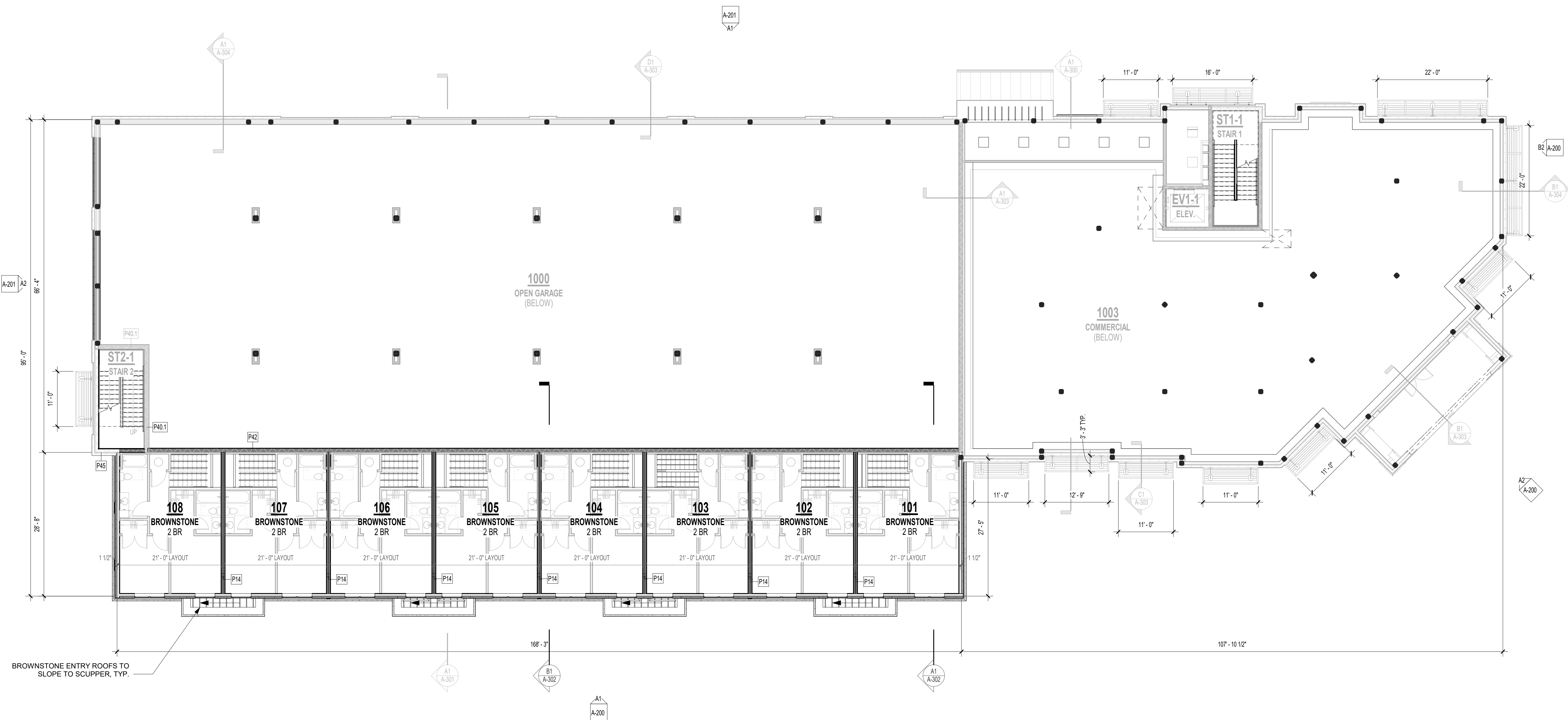
SHEET NUMBER:

A-102

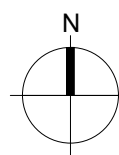
REFERENCE G-003 FOR GENERAL NOTES

PLAN LEGEND

- PARTIAL HEIGHT PARTITION
- NON-RATED PARTITION; SEE ASSEMBLIES G-100s
- 1 HR RATED PARTITION; SEE ASSEMBLIES G-100s
- 2 HR RATED PARTITION; SEE ASSEMBLIES G-100s
- WINDOW TYPE; SEE WINDOW SCHEDULE ON SHEET A-600
- DOOR TYPE; SEE DOOR SCHEDULE ON SHEET A-600
- PARTITION TYPE; SEE ASSEMBLIES G-100s
- FRAMING DIMENSIONS
- LAYOUT LINE DIMENSIONS
- HEARING/VISIBILITY
- ADA/ACCESSIBLE UNITS



A1 SECOND FLOOR BROWNSTONES PLAN
3/32" = 1'-0"



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DISCOVERY PARK - LOT #10-A

LEE'S SUMMIT, MO

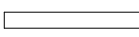
SHEET TITLE
SECOND FLOOR PLAN
PROJECT NUMBER: 24004
SHEET NUMBER:


A-103


Zone 11			Zone 12			Zone 13			Zone 14		
AREA TO BE VENTED			AREA TO BE VENTED			AREA TO BE VENTED			AREA TO BE VENTED		
1120 S.F.			1145 S.F.			1131 S.F.			1136 S.F.		
VENTING CALCULATION FACTOR PER 2018 IBC			VENTING CALCULATION FACTOR PER 2018 IBC			VENTING CALCULATION FACTOR PER 2018 IBC			VENTING CALCULATION FACTOR PER 2018 IBC		
300			300			300			300		
TOTAL REQUIRED VENTING = (1120 S.F. x 144) / 300 = 538 SQ.IN.			TOTAL REQUIRED VENTING = (1145 S.F. x 144) / 300 = 550 SQ.IN.			TOTAL REQUIRED VENTING = (1131 S.F. x 144) / 300 = 543 SQ.IN.			TOTAL REQUIRED VENTING = (1136 S.F. x 144) / 300 = 545 SQ.IN.		
HIGH ROOF VENTING = 538 SQ.IN. x 1 = 538 SQ.IN.			HIGH ROOF VENTING = 550 SQ.IN. x 1 = 550 SQ.IN.			HIGH ROOF VENTING = 543 SQ.IN. x 1 = 543 SQ.IN.			HIGH ROOF VENTING = 545 SQ.IN. x 1 = 545 SQ.IN.		
LOW ROOF VENTING = 538 SQ.IN. x 0 = 0 SQ.IN.			LOW ROOF VENTING = 550 SQ.IN. x 0 = 0 SQ.IN.			LOW ROOF VENTING = 543 SQ.IN. x 0 = 0 SQ.IN.			LOW ROOF VENTING = 545 SQ.IN. x 0 = 0 SQ.IN.		
HIGH ROOF VENTING			HIGH ROOF VENTING			HIGH ROOF VENTING			HIGH ROOF VENTING		
538 SQ.IN. REQUIRED			550 SQ.IN. REQUIRED			543 SQ.IN. REQUIRED			545 SQ.IN. REQUIRED		
PROVIDED HIGH ROOF VENTING			PROVIDED HIGH ROOF VENTING			PROVIDED HIGH ROOF VENTING			PROVIDED HIGH ROOF VENTING		
762 SQ.IN. PROVIDED			762 SQ.IN. PROVIDED			762 SQ.IN. PROVIDED			762 SQ.IN. PROVIDED		
(2) Intake Vent @ 254 NFA = 508 SQ.IN./FT NFA			(2) Intake Vent @ 254 NFA = 508 SQ.IN./FT NFA			(1) Intake Vent @ 254 NFA = 254 SQ.IN./FT NFA			(2) Intake Vent @ 254 NFA = 508 SQ.IN./FT NFA		
(1) Exhaust Vent @ 254 NFA = 254 SQ.IN./FT NFA			(1) Exhaust Vent @ 254 NFA = 254 SQ.IN./FT NFA			(2) Exhaust Vent @ 254 NFA = 508 SQ.IN./FT NFA			(1) Exhaust Vent @ 254 NFA = 254 SQ.IN./FT NFA		
TOTAL ROOF VENTING PROVIDED			TOTAL ROOF VENTING PROVIDED			TOTAL ROOF VENTING PROVIDED			TOTAL ROOF VENTING PROVIDED		
762 SQ.IN. PROVIDED			762 SQ.IN. PROVIDED			762 SQ.IN. PROVIDED			762 SQ.IN. PROVIDED		


REFERENCE G-003 FOR GENERAL NOTES

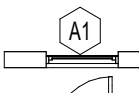
PLAN LEGEND

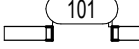
 PARTIAL HEIGHT PARTITION


 NON-RATED PARTITION; SEE ASSEMBLIES G-100s

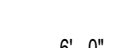
 1 HR RATED PARTITION; SEE ASSEMBLIES G-100s

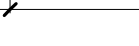
 2 HR RATED PARTITION; SEE ASSEMBLIES G-100s


 WINDOW TYPE; SEE WINDOW SCHEDULE ON SHEET A-600


 DOOR TYPE; SEE DOOR SCHEDULE ON SHEET A-600

 PARTITION TYPE; SEE ASSEMBLIES G-100s


 FRAMING DIMENSIONS

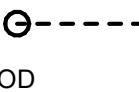
 LAYOUT LINE DIMENSIONS


 HEARING/VISIBILITY


 ADA/ACCESSIBLE UNITS

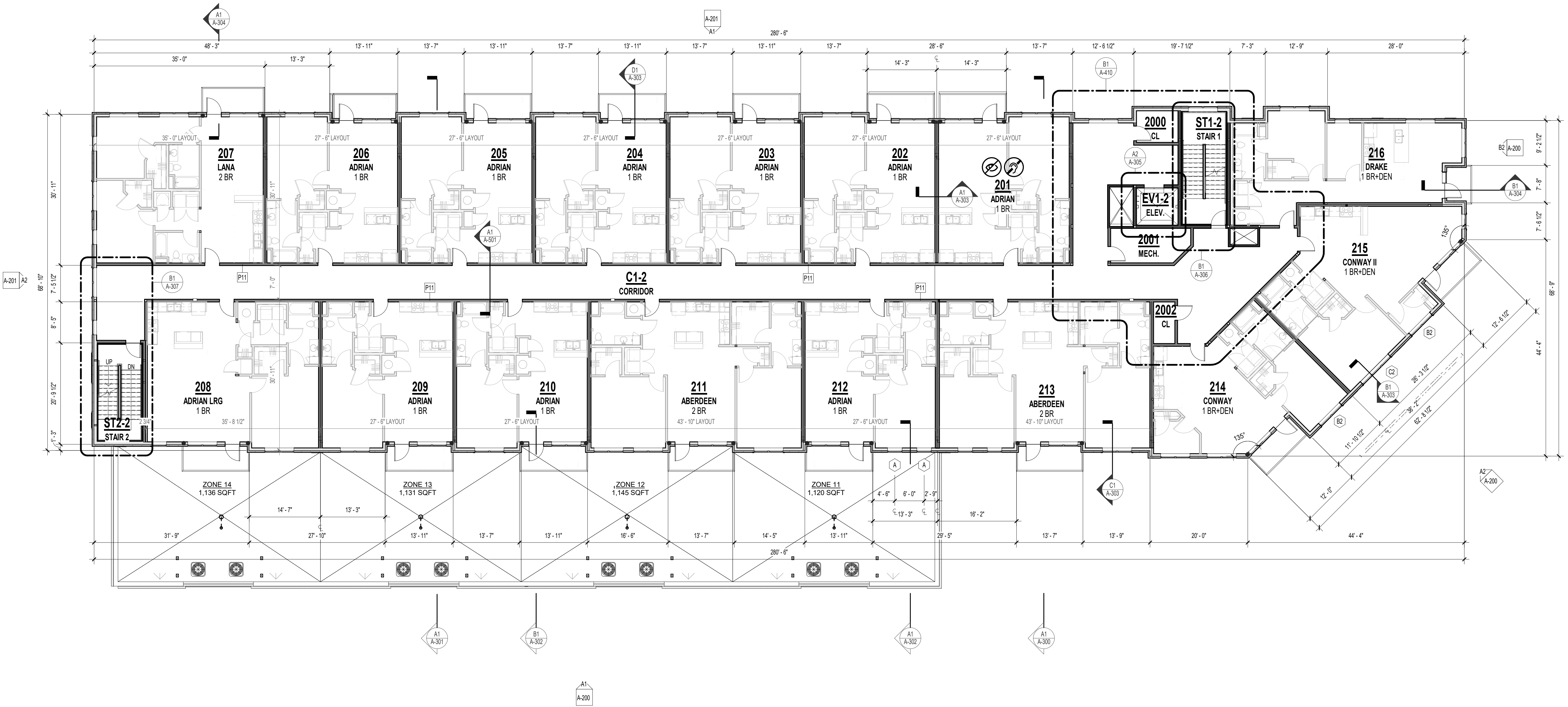
ROOF PLAN LEGEND

 LINE OF DRAFTSTOPPING BELOW

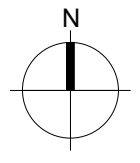
 ROOF DRAIN WITH OVERFLOW DRAIN

 OD

 RD



A1 SECOND FLOOR PLAN
3/32" = 1'-0"



PRINTS ISSUED
12/20/2024 - CITY SUBMISSION

REVISIONS:



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& ASSOCIATES P.C.

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12/20/24

LEE'S SUMMIT, MO

DISCOVERY PARK - LOT #10-A

SHEET TITLE
THIRD FLOOR PLAN

PROJECT NUMBER: 24004

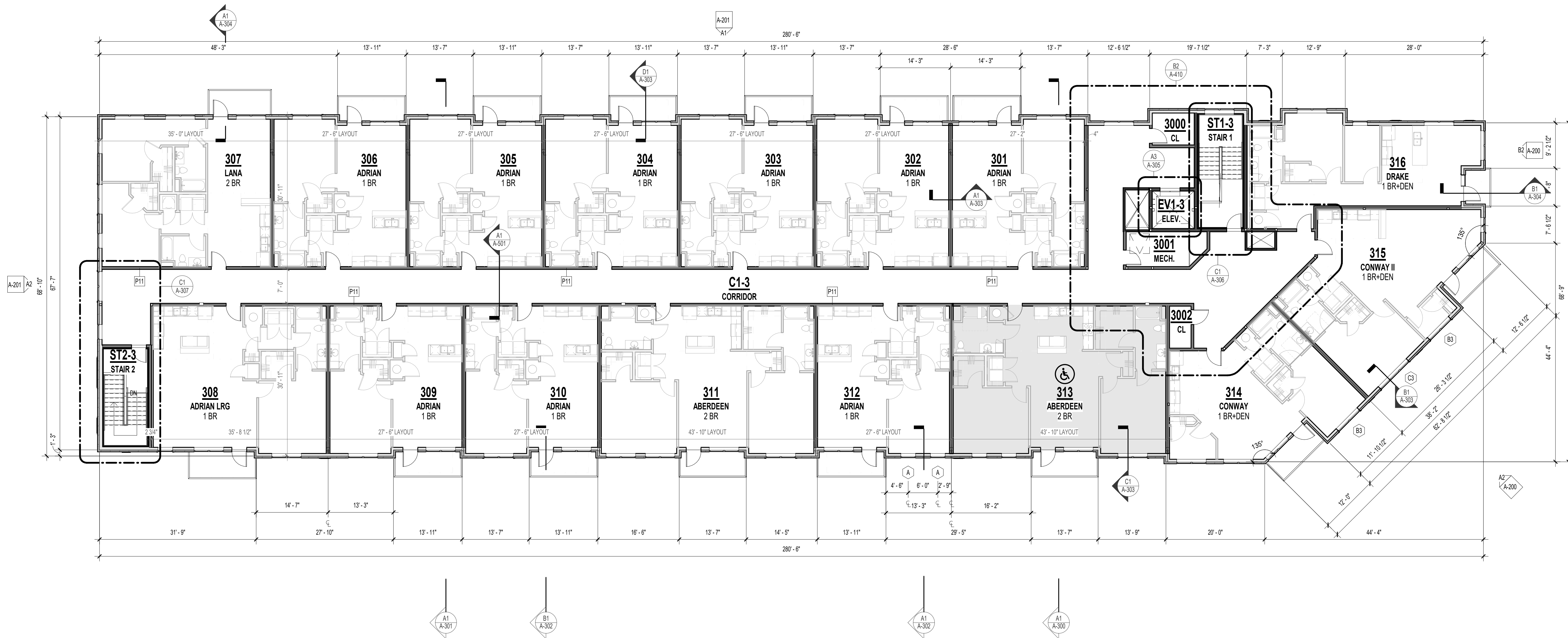
SHEET NUMBER:

A-104

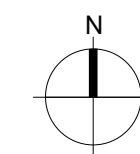
REFERENCE G-003 FOR GENERAL NOTES

PLAN LEGEND

- PARTIAL HEIGHT PARTITION
- NON-RATED PARTITION; SEE ASSEMBLIES G-100s
- 1 HR RATED PARTITION; SEE ASSEMBLIES G-100s
- 2 HR RATED PARTITION; SEE ASSEMBLIES G-100s
- WINDOW TYPE; SEE WINDOW SCHEDULE ON SHEET A-600
- DOOR TYPE; SEE DOOR SCHEDULE ON SHEET A-600
- PARTITION TYPE; SEE ASSEMBLIES G-100s
- FRAMING DIMENSIONS
- LAYOUT LINE DIMENSIONS
- HEARING/VISIBILITY
- ADA/ACCESSIBLE UNITS



A1
THIRD FLOOR PLAN
3/32" = 1'-0"



PRINTS ISSUED

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REVISIONS:

Zone 1				Zone 2				Zone 3				Zone 4				Zone 5			
AREA TO BE VENTED 2300 S.F.				AREA TO BE VENTED 2171 S.F.				AREA TO BE VENTED 2019 S.F.				AREA TO BE VENTED 2131 S.F.				AREA TO BE VENTED 2019 S.F.			
VENTILATION CALCULATION FACTOR PER 2018 IBC 300				VENTILATION CALCULATION FACTOR PER 2018 IBC 300				VENTILATION CALCULATION FACTOR PER 2018 IBC 300				VENTILATION CALCULATION FACTOR PER 2018 IBC 300				VENTILATION CALCULATION FACTOR PER 2018 IBC 300			
TOTAL REQUIRED VENTING = (2300 S.F. x 144) / 300 = 1104 SQ.IN.				TOTAL REQUIRED VENTING = (2171 S.F. x 144) / 300 = 1042 SQ.IN.				TOTAL REQUIRED VENTING = (2019 S.F. x 144) / 300 = 969 SQ.IN.				TOTAL REQUIRED VENTING = (2131 S.F. x 144) / 300 = 1023 SQ.IN.				TOTAL REQUIRED VENTING = (2019 S.F. x 144) / 300 = 969 SQ.IN.			
HIGH ROOF VENTING = 1104 SQ.IN. x 1 = 1104 SQ.IN.				HIGH ROOF VENTING = 1042 SQ.IN. x 1 = 1042 SQ.IN.				HIGH ROOF VENTING = 969 SQ.IN. x 1 = 969 SQ.IN.				HIGH ROOF VENTING = 1023 SQ.IN. x 1 = 1023 SQ.IN.				HIGH ROOF VENTING = 969 SQ.IN. x 1 = 969 SQ.IN.			
LOW ROOF VENTING = 1104 SQ.IN. x 0 = 0 SQ.IN.				LOW ROOF VENTING = 1042 SQ.IN. x 0 = 0 SQ.IN.				LOW ROOF VENTING = 969 SQ.IN. x 0 = 0 SQ.IN.				LOW ROOF VENTING = 1023 SQ.IN. x 0 = 0 SQ.IN.				LOW ROOF VENTING = 969 SQ.IN. x 0 = 0 SQ.IN.			
HIGH ROOF VENTING 1104 SQ.IN. REQUIRED				HIGH ROOF VENTING 1042 SQ.IN. REQUIRED				HIGH ROOF VENTING 969 SQ.IN. REQUIRED				HIGH ROOF VENTING 1023 SQ.IN. REQUIRED				HIGH ROOF VENTING 969 SQ.IN. REQUIRED			
PROVIDED HIGH ROOF VENTING 1270 SQ.IN. PROVIDED				PROVIDED HIGH ROOF VENTING 1270 SQ.IN. PROVIDED				PROVIDED HIGH ROOF VENTING 1016 SQ.IN. PROVIDED				PROVIDED HIGH ROOF VENTING 1270 SQ.IN. PROVIDED				PROVIDED HIGH ROOF VENTING 1016 SQ.IN. PROVIDED			
(3) Intake Vent @ 254 NFA = 762 SQ.IN./FT NFA				(2) Intake Vent @ 254 NFA = 508 SQ.IN./FT NFA				(2) Intake Vent @ 254 NFA = 508 SQ.IN./FT NFA				(3) Intake Vent @ 254 NFA = 762 SQ.IN./FT NFA				(2) Intake Vent @ 254 NFA = 508 SQ.IN./FT NFA			
(2) Exhaust Vent @ 254 NFA = 508 SQ.IN./FT NFA				(3) Exhaust Vent @ 254 NFA = 762 SQ.IN./FT NFA				(2) Exhaust Vent @ 254 NFA = 508 SQ.IN./FT NFA				(2) Exhaust Vent @ 254 NFA = 508 SQ.IN./FT NFA				(2) Exhaust Vent @ 254 NFA = 508 SQ.IN./FT NFA			
TOTAL ROOF VENTING PROVIDED 1270 SQ.IN. PROVIDED				TOTAL ROOF VENTING PROVIDED 1270 SQ.IN. PROVIDED				TOTAL ROOF VENTING PROVIDED 1016 SQ.IN. PROVIDED				TOTAL ROOF VENTING PROVIDED 1270 SQ.IN. PROVIDED				TOTAL ROOF VENTING PROVIDED 1016 SQ.IN. PROVIDED			

Zone 6				Zone 7				Zone 8				Zone 9				Zone 10			
<u>AREA TO BE VENTED</u>		2132 S.F.		<u>AREA TO BE VENTED</u>		1488 S.F.		<u>AREA TO BE VENTED</u>		1815 S.F.		<u>AREA TO BE VENTED</u>		1810 S.F.		<u>AREA TO BE VENTED</u>		288 S.F.	
VENTILATION CALCULATION FACTOR PER 2018 IBC				VENTILATION CALCULATION FACTOR PER 2018 IBC				VENTILATION CALCULATION FACTOR PER 2018 IBC				VENTILATION CALCULATION FACTOR PER 2018 IBC				VENTILATION CALCULATION FACTOR PER 2018 IBC			
300				300				300				300				300			
<u>TOTAL REQUIRED VENTING</u>		= (2132 S.F. x 144) / 300 = 1023 SQ.IN.		<u>TOTAL REQUIRED VENTING</u>		= (1488 S.F. x 144) / 300 = 714 SQ.IN.		<u>TOTAL REQUIRED VENTING</u>		= (1815 S.F. x 144) / 300 = 871 SQ.IN.		<u>TOTAL REQUIRED VENTING</u>		= (1810 S.F. x 144) / 300 = 869 SQ.IN.		<u>TOTAL REQUIRED VENTING</u>		= (288 S.F. x 144) / 300 = 138 SQ.IN.	
HIGH ROOF VENTING		= 1023 SQ.IN. x 1 = 1023 SQ.IN.		HIGH ROOF VENTING		= 714 SQ.IN. x 1 = 714 SQ.IN.		HIGH ROOF VENTING		= 871 SQ.IN. x 1 = 871 SQ.IN.		HIGH ROOF VENTING		= 869 SQ.IN. x 1 = 869 SQ.IN.		HIGH ROOF VENTING		= 138 SQ.IN. x 1 = 138 SQ.IN.	
LOW ROOF VENTING		= 1023 SQ.IN. x 0 = 0 SQ.IN.		LOW ROOF VENTING		= 714 SQ.IN. x 0 = 0 SQ.IN.		LOW ROOF VENTING		= 871 SQ.IN. x 0 = 0 SQ.IN.		LOW ROOF VENTING		= 869 SQ.IN. x 0 = 0 SQ.IN.		LOW ROOF VENTING		= 138 SQ.IN. x 0 = 0 SQ.IN.	
<u>HIGH ROOF VENTING</u>		1023 SQ.IN.		<u>HIGH ROOF VENTING</u>		714 SQ.IN.		<u>HIGH ROOF VENTING</u>		871 SQ.IN.		<u>HIGH ROOF VENTING</u>		869 SQ.IN.		<u>HIGH ROOF VENTING</u>		138 SQ.IN.	
PROVIDED HIGH ROOF VENTING		1270 SQ.IN.		PROVIDED HIGH ROOF VENTING		762 SQ.IN.		PROVIDED HIGH ROOF VENTING		1016 SQ.IN.		PROVIDED HIGH ROOF VENTING		1016 SQ.IN.		PROVIDED HIGH ROOF VENTING		254 SQ.IN.	
(3) Intake Vent @ 254 NFA =		762 SQ.IN./FT NFA		(2) Intake Vent @ 254 NFA =		508 SQ.IN./FT NFA		(2) Intake Vent @ 254 NFA =		508 SQ.IN./FT NFA		(2) Intake Vent @ 254 NFA =		508 SQ.IN./FT NFA		(1) Intake Vent @ 254 NFA =		254 SQ.IN./FT NFA	
(2) Exhaust Vent @ 254 NFA =		508 SQ.IN./FT NFA		(1) Exhaust Vent @ 254 NFA =		254 SQ.IN./FT NFA		(2) Exhaust Vent @ 254 NFA =		508 SQ.IN./FT NFA		(2) Exhaust Vent @ 254 NFA =		508 SQ.IN./FT NFA		(0) Exhaust Vent @ 254 NFA =		0 SQ.IN./FT NFA	
<u>TOTAL ROOF VENTING PROVIDED</u>		1270 SQ.IN.		<u>TOTAL ROOF VENTING PROVIDED</u>		762 SQ.IN.		<u>TOTAL ROOF VENTING PROVIDED</u>		1016 SQ.IN.		<u>TOTAL ROOF VENTING PROVIDED</u>		1016 SQ.IN.		<u>TOTAL ROOF VENTING PROVIDED</u>		254 SQ.IN.	

Zone 11				Zone 12				Zone 13				Zone 14			
<u>AREA TO BE VENTED</u>		1120 S.F.		<u>AREA TO BE VENTED</u>		1145 S.F.		<u>AREA TO BE VENTED</u>		1131 S.F.		<u>AREA TO BE VENTED</u>		1136 S.F.	
VENTILATION CALCULATION FACTOR PER 2018 IBC				VENTILATION CALCULATION FACTOR PER 2018 IBC				VENTILATION CALCULATION FACTOR PER 2018 IBC				VENTILATION CALCULATION FACTOR PER 2018 IBC			
300				300				300				300			
<u>TOTAL REQUIRED VENTING</u>		= (1120 S.F. x 144) / 300 = 538 SQ.IN.		<u>TOTAL REQUIRED VENTING</u>		= (1145 S.F. x 144) / 300 = 550 SQ.IN.		<u>TOTAL REQUIRED VENTING</u>		= (1131 S.F. x 144) / 300 = 543 SQ.IN.		<u>TOTAL REQUIRED VENTING</u>		= (1136 S.F. x 144) / 300 = 545 SQ.IN.	
HIGH ROOF VENTING		= 538 SQ.IN. x 1 = 538 SQ.IN.		HIGH ROOF VENTING		= 550 SQ.IN. x 1 = 550 SQ.IN.		HIGH ROOF VENTING		= 543 SQ.IN. x 1 = 543 SQ.IN.		HIGH ROOF VENTING		= 545 SQ.IN. x 1 = 545 SQ.IN.	
LOW ROOF VENTING		= 538 SQ.IN. x 0 = 0 SQ.IN.		LOW ROOF VENTING		= 550 SQ.IN. x 0 = 0 SQ.IN.		LOW ROOF VENTING		= 543 SQ.IN. x 0 = 0 SQ.IN.		LOW ROOF VENTING		= 545 SQ.IN. x 0 = 0 SQ.IN.	
<u>HIGH ROOF VENTING</u>		538 SQ.IN. REQUIRED		<u>HIGH ROOF VENTING</u>		550 SQ.IN. REQUIRED		<u>HIGH ROOF VENTING</u>		543 SQ.IN. REQUIRED		<u>HIGH ROOF VENTING</u>		545 SQ.IN. REQUIRED	
PROVIDED HIGH ROOF VENTING				PROVIDED HIGH ROOF VENTING				PROVIDED HIGH ROOF VENTING				PROVIDED HIGH ROOF VENTING			
762 SQ.IN. PROVIDED				762 SQ.IN. PROVIDED				762 SQ.IN. PROVIDED				762 SQ.IN. PROVIDED			
(2) Intake Vent		@ 254 NFA = 508 SQ.IN./FT NFA		(2) Intake Vent		@ 254 NFA = 508 SQ.IN./FT NFA		(1) Intake Vent		@ 254 NFA = 254 SQ.IN./FT NFA		(2) Intake Vent		@ 254 NFA = 508 SQ.IN./FT NFA	
(1) Exhaust Vent		@ 254 NFA = 254 SQ.IN./FT NFA		(1) Exhaust Vent		@ 254 NFA = 254 SQ.IN./FT NFA		(2) Exhaust Vent		@ 254 NFA = 508 SQ.IN./FT NFA		(1) Exhaust Vent		@ 254 NFA = 254 SQ.IN./FT NFA	
<u>TOTAL ROOF VENTING PROVIDED</u>		762 SQ.IN. PROVIDED		<u>TOTAL ROOF VENTING PROVIDED</u>		762 SQ.IN. PROVIDED		<u>TOTAL ROOF VENTING PROVIDED</u>		762 SQ.IN. PROVIDED		<u>TOTAL ROOF VENTING PROVIDED</u>		762 SQ.IN. PROVIDED	

REFERENCE G-003 FOR GENERAL NOTES
REFERENCE A-101 FOR PLAN LEGEND

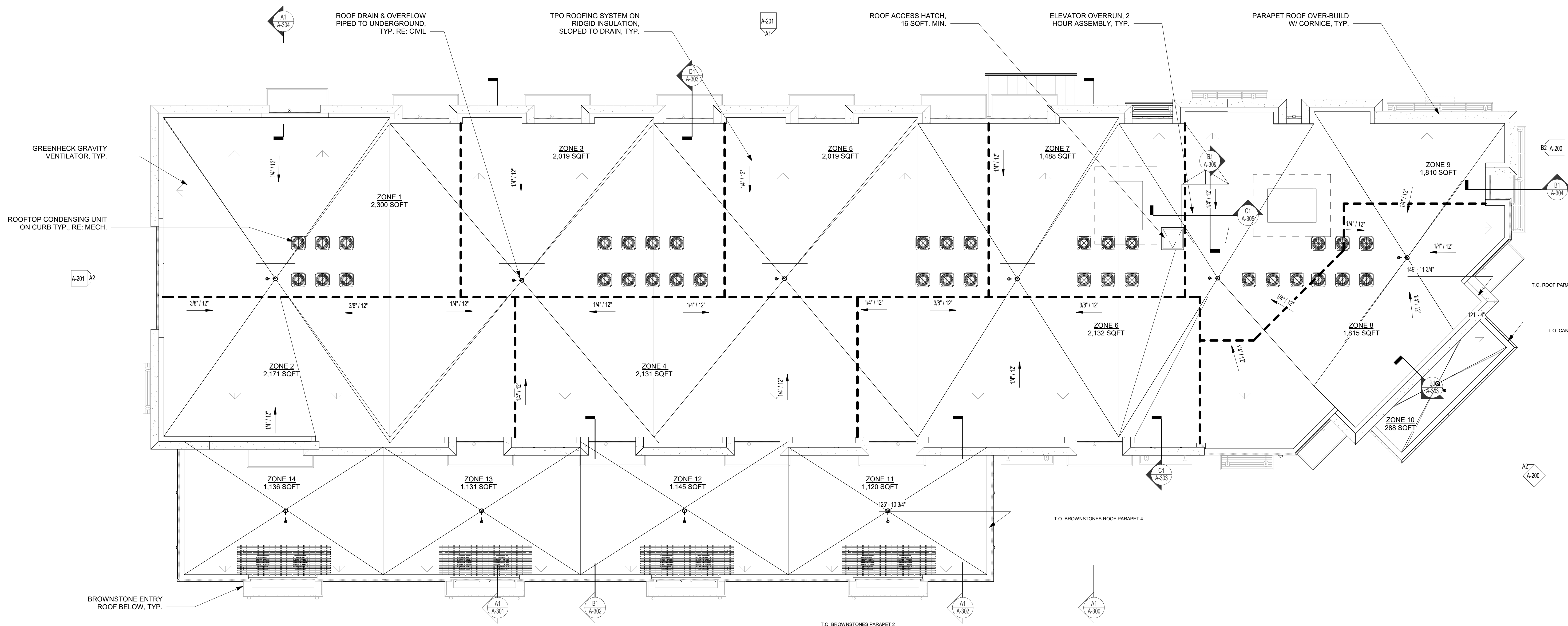
ROOF PLAN LEGEND

--- LINE OF DRAFTSTOPPING BELOW

ROOF DRAIN WITH OVERFLOW DRAIN
 OD RD

OE

RD



STATE OF MISSOURI
DAVID EUGENE
HENDRIKSE
NUMBER
A-7365
REGISTERED ARCHITECT

12/20/24

DISCOVERY PARK - LOT #10-A

LEE'S SUMMIT, MO

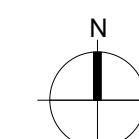
SHEET TITLE
ROOF PLAN

PROJECT NUMBER: 24004

SHEET NUMBER:

A-105

A1 **ROOF PLAN**
3/32" = 1'-0"



NOTE: DETAILS PROVIDED FOR REFERENCE ONLY.
FOLLOW MANUF. RECOMMENDED DETAILS FOR
FLASHING/PENETRATION/SEALING DETAILS, TYP.

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REVISIONS:

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12/20/24

LEE'S SUMMIT, MO

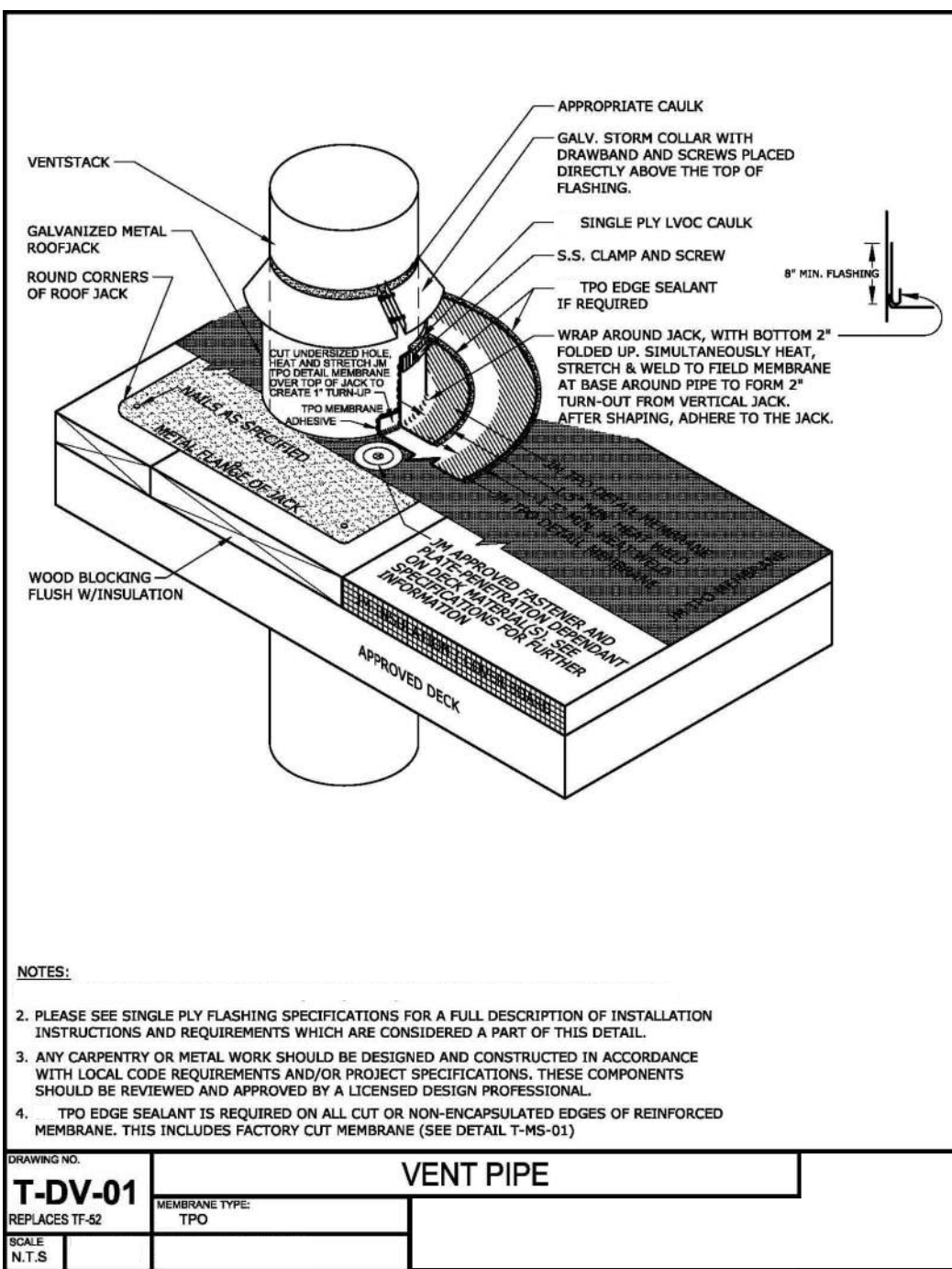
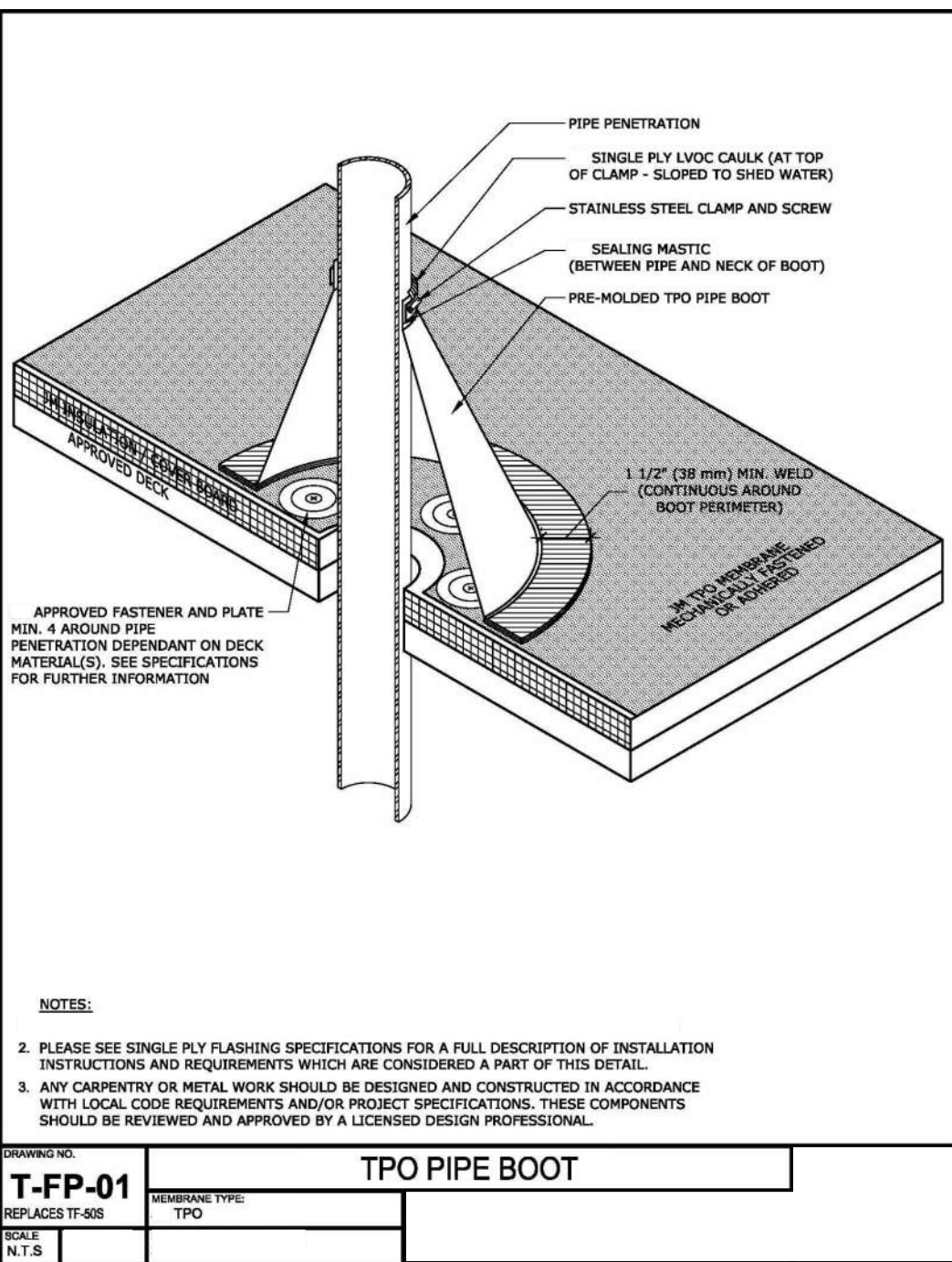
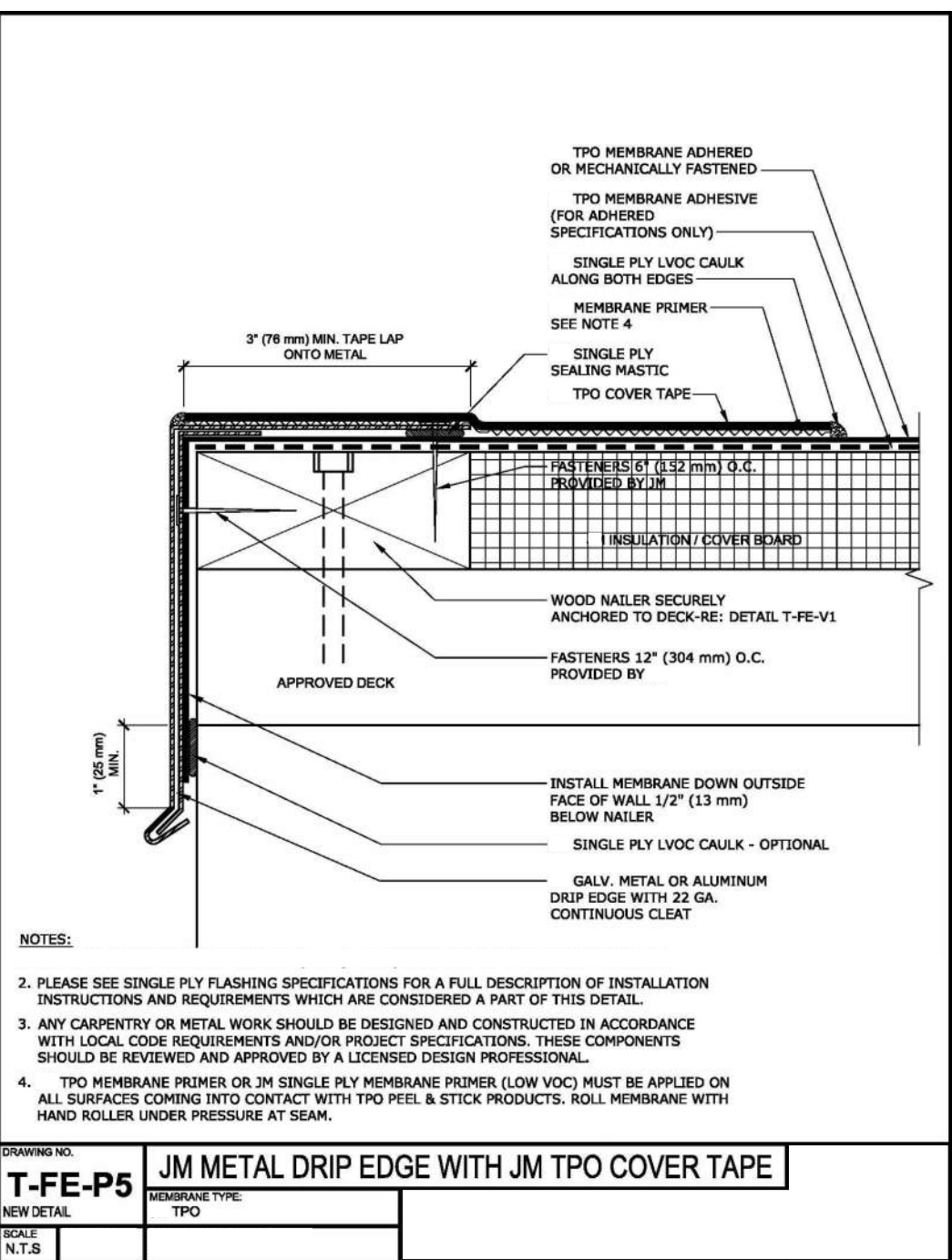
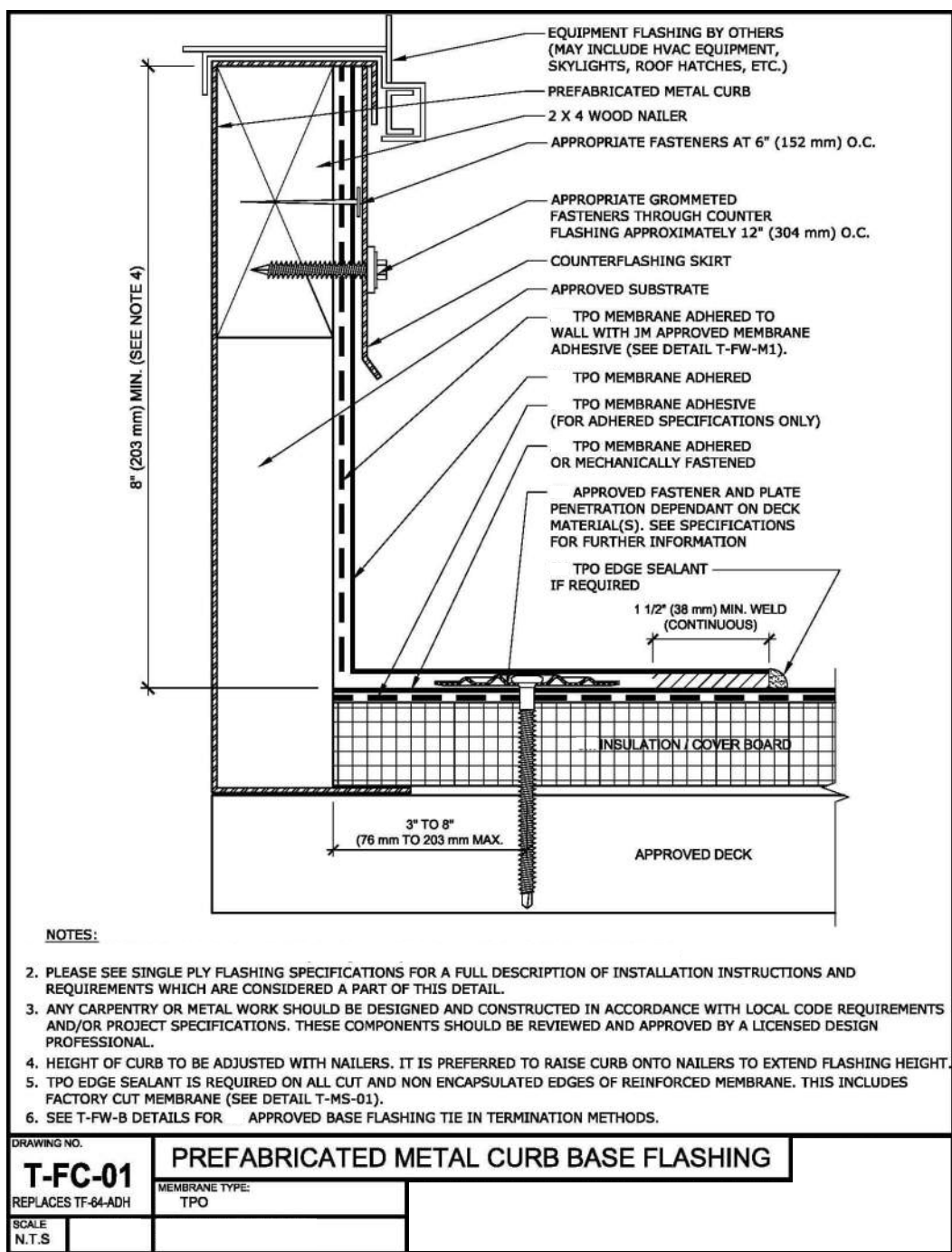
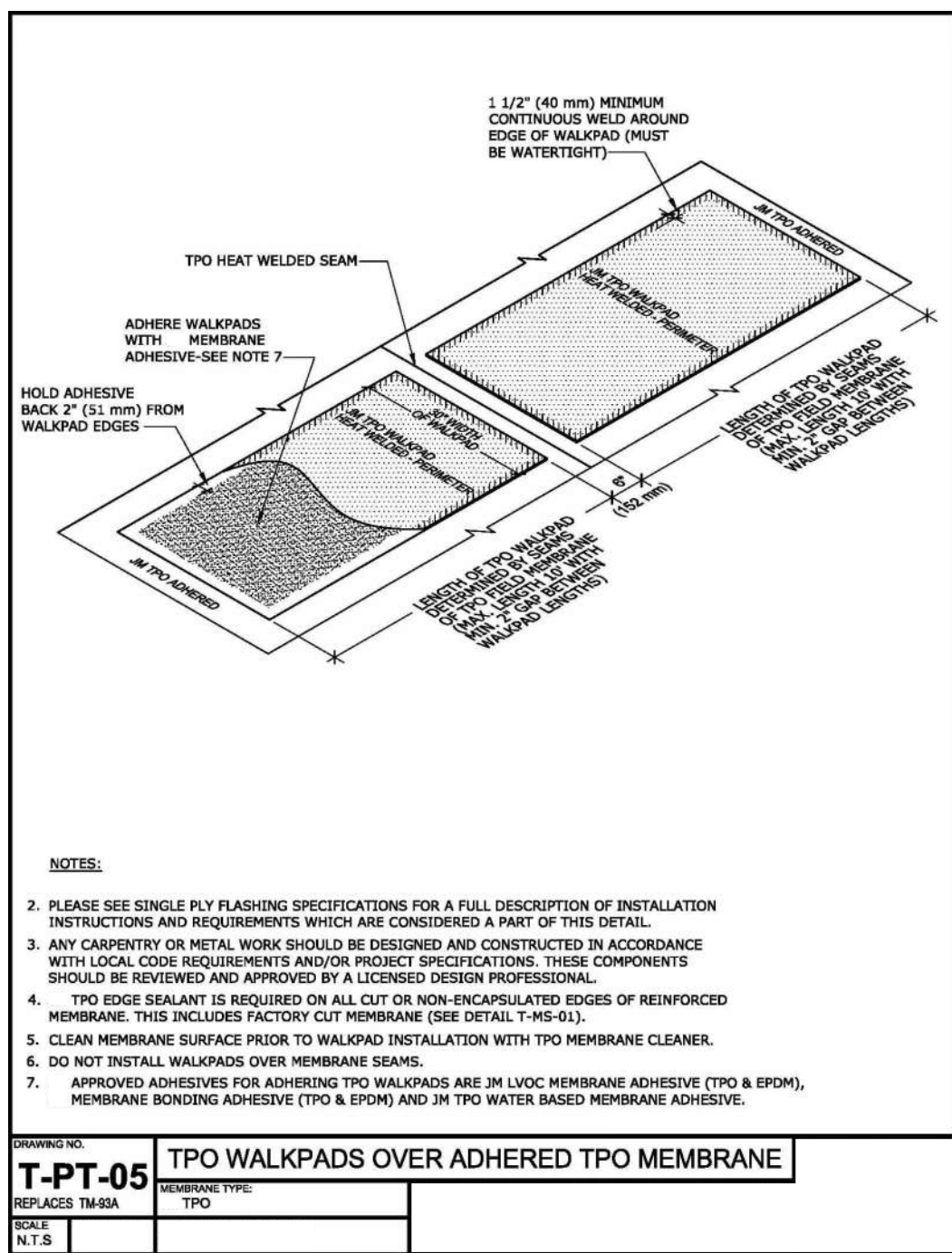
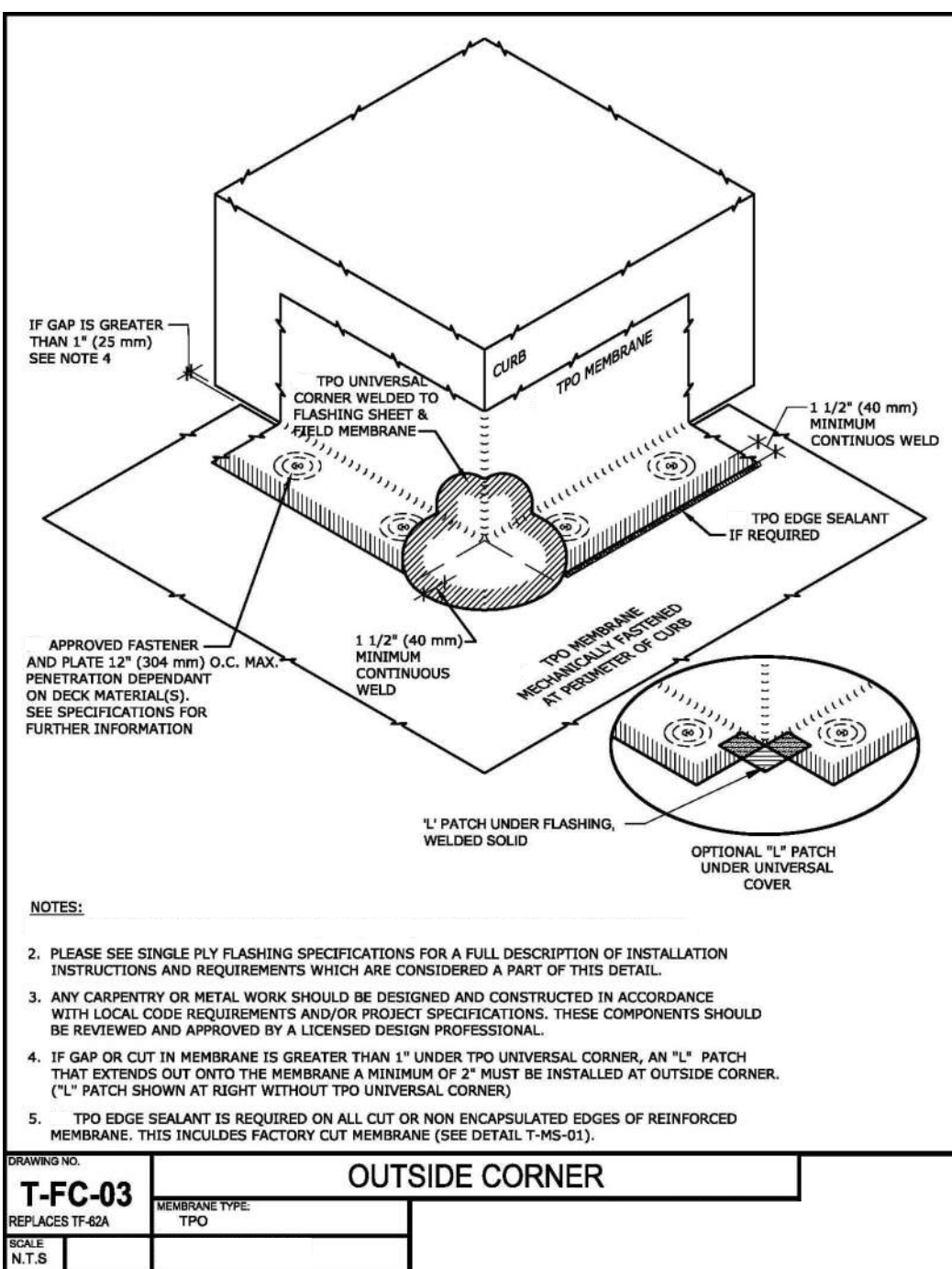
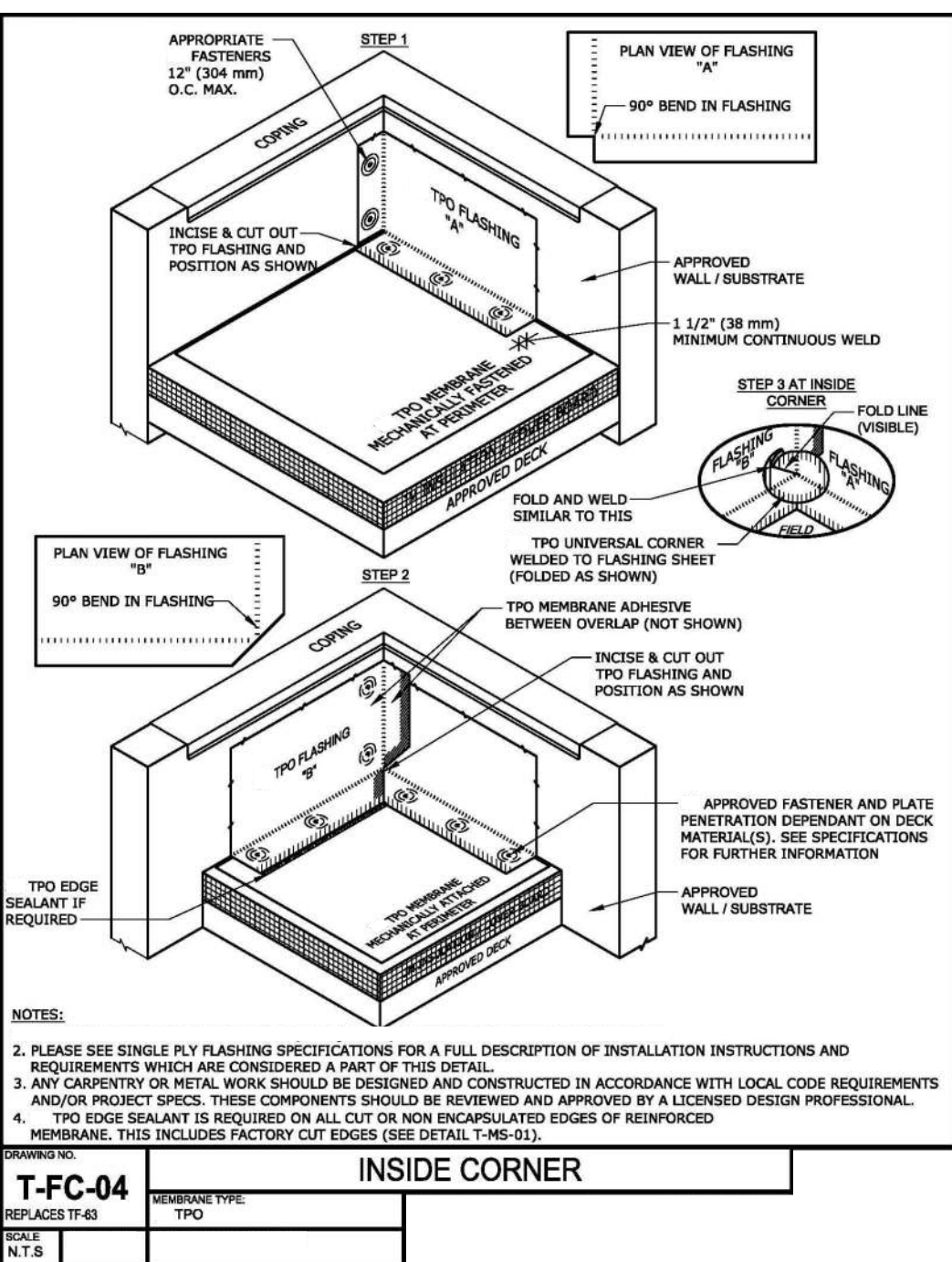
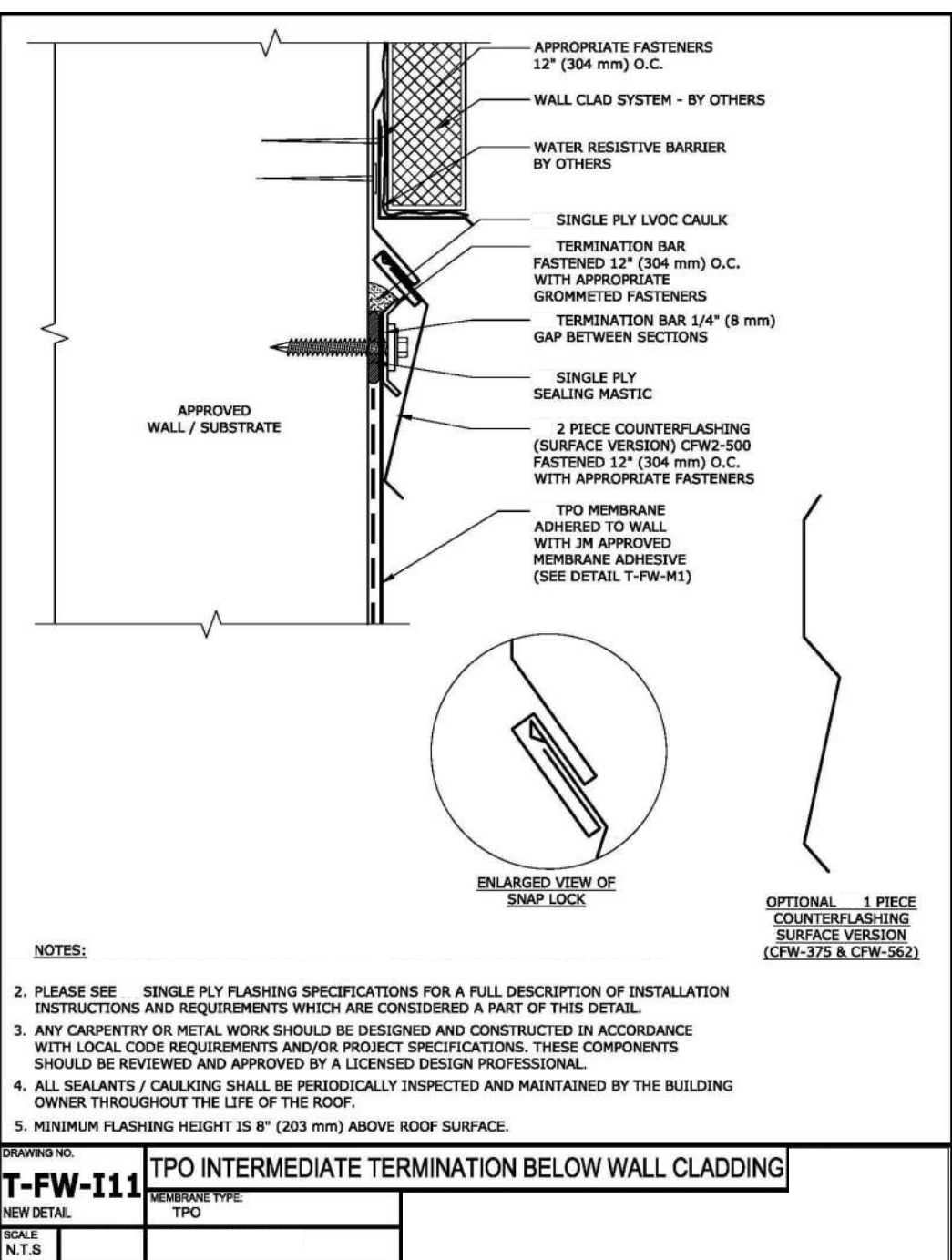
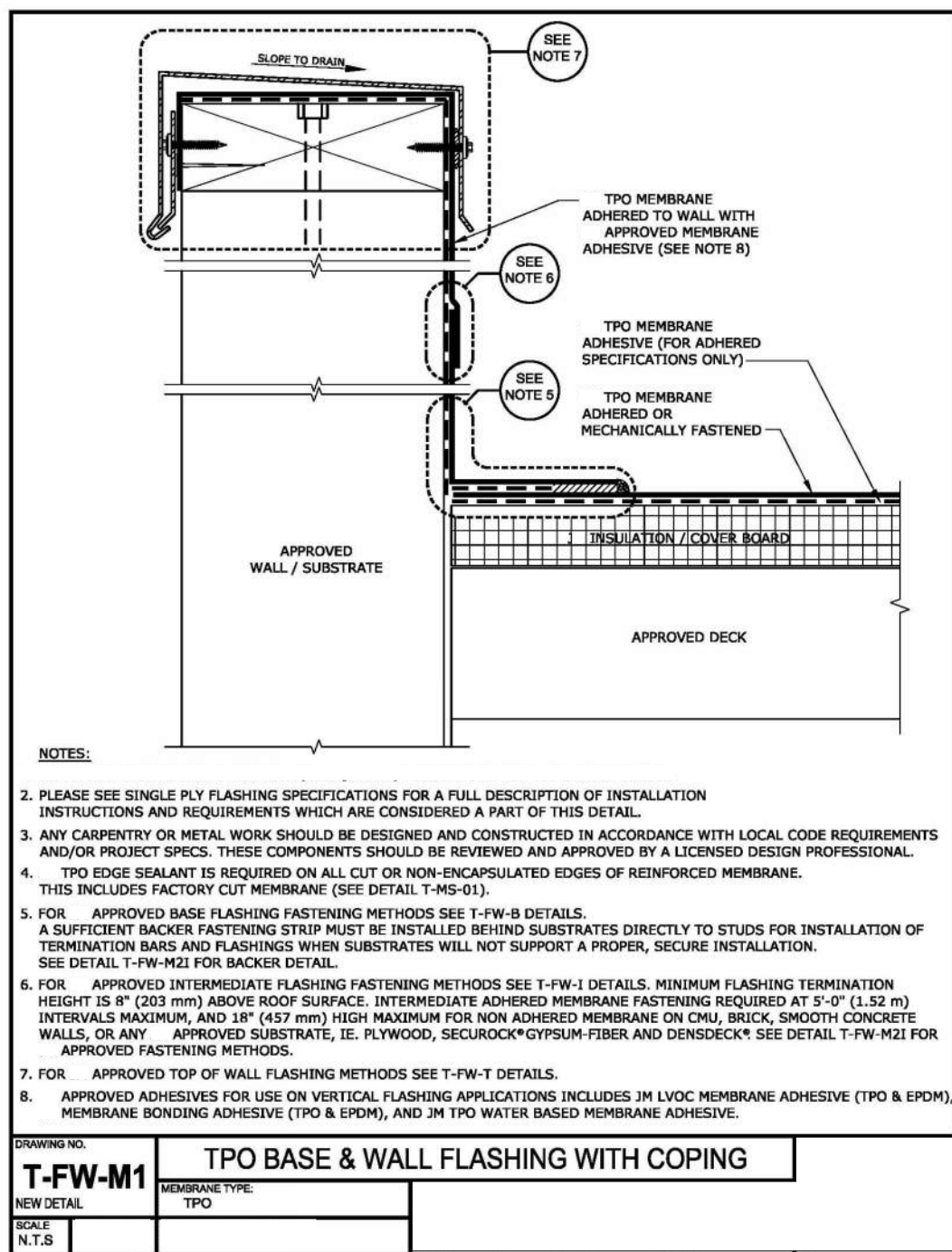
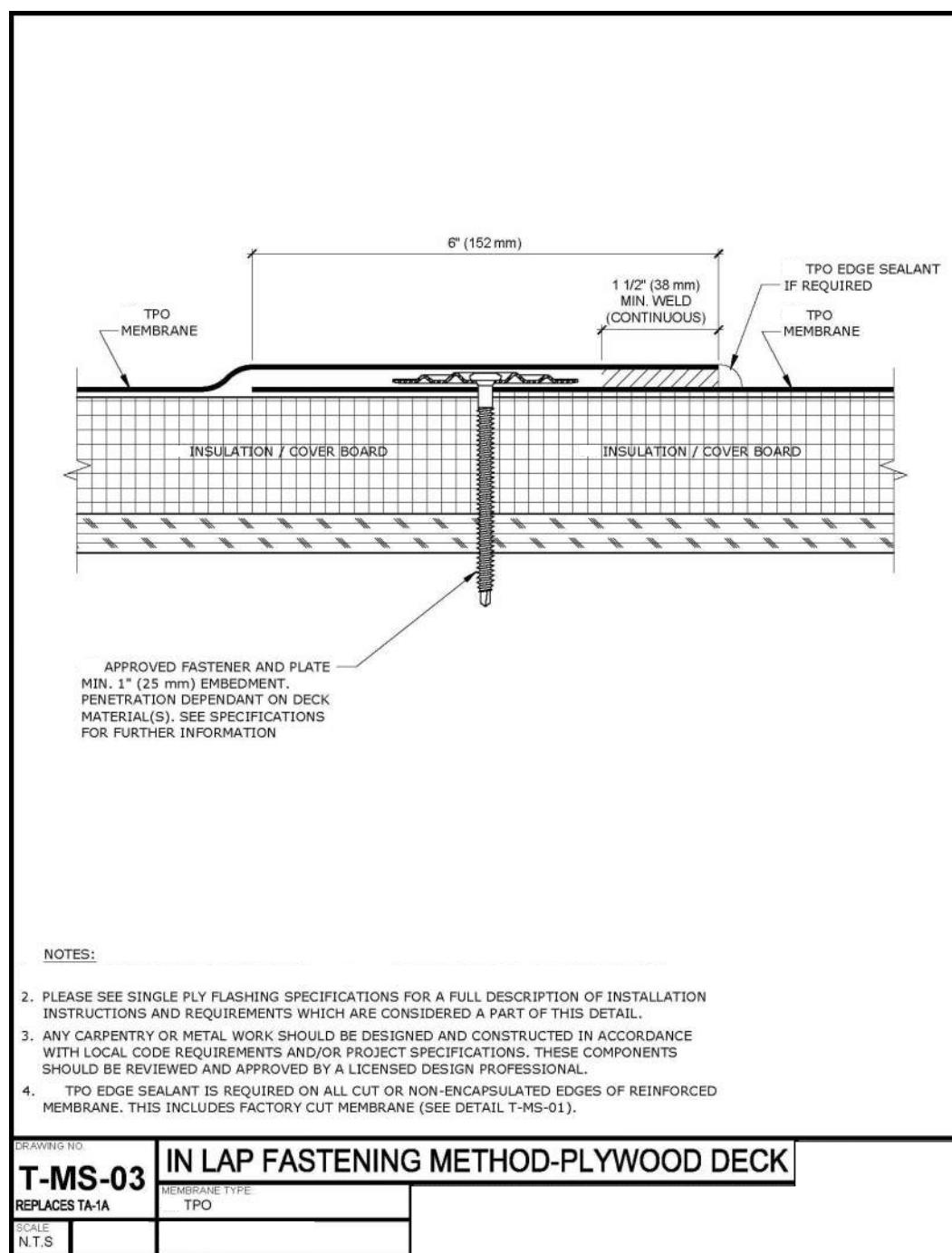
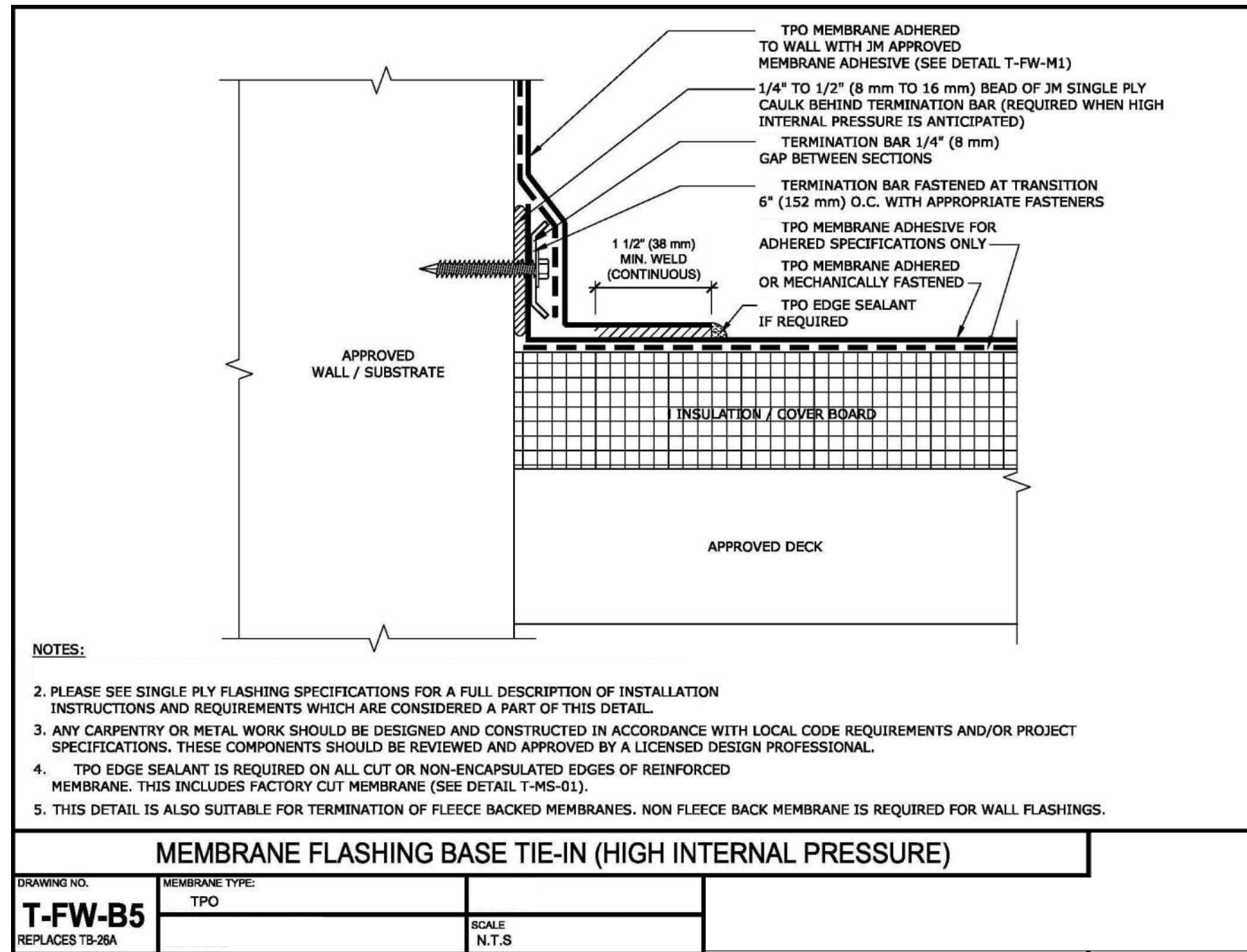
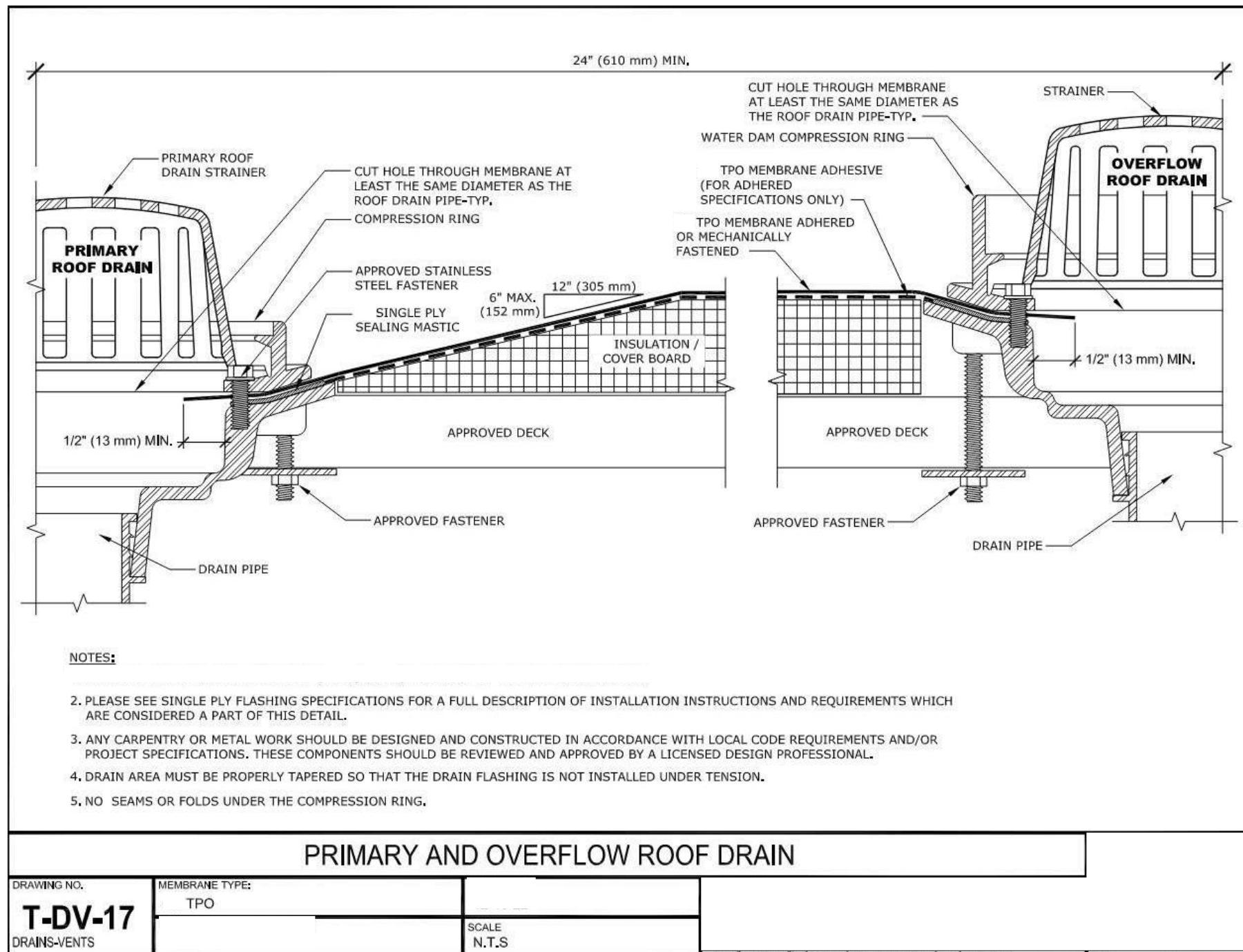
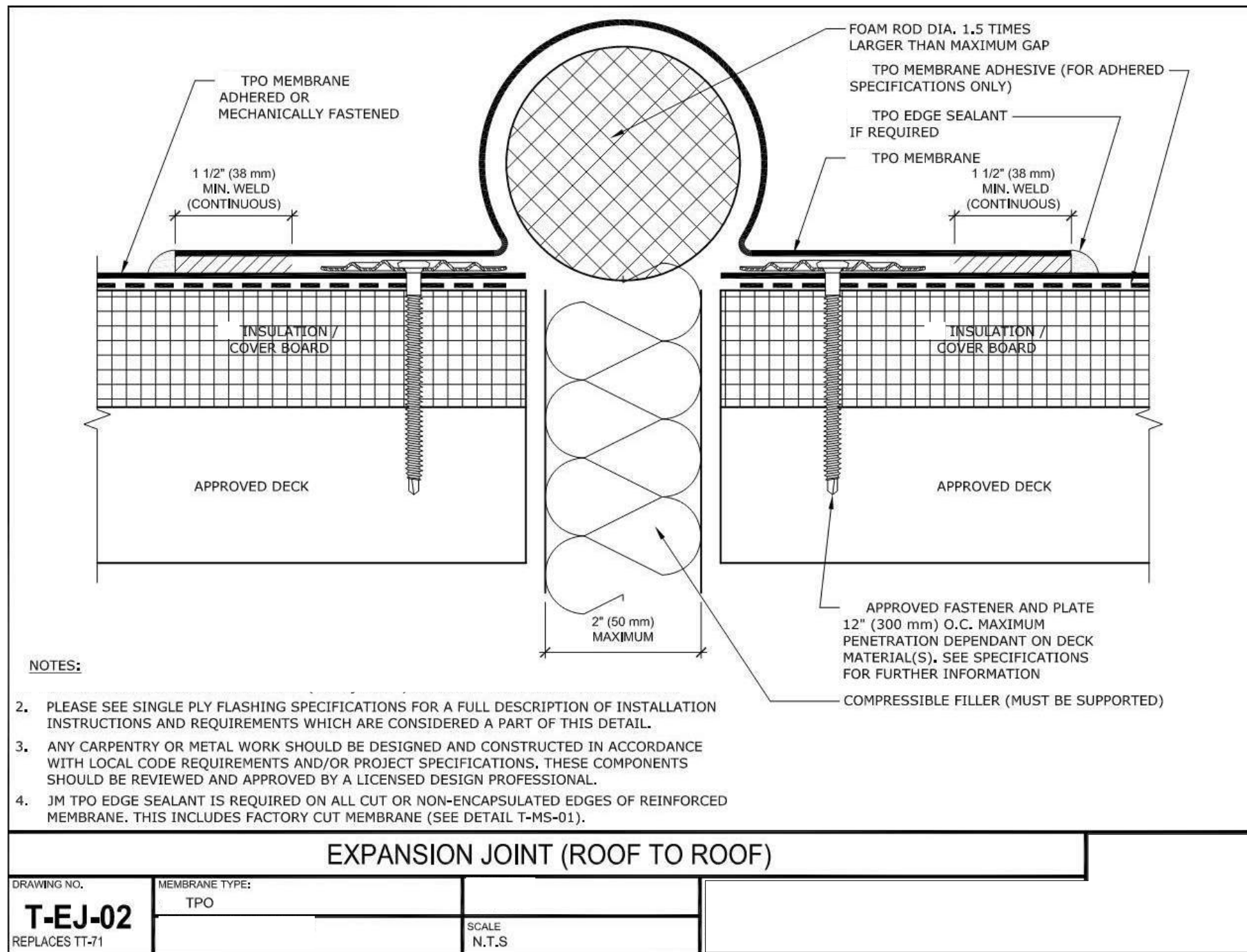
DISCOVERY PARK - LOT #10-A

SHEET TITLE
ROOFING & FLASHING DETAILS

PROJECT NUMBER: 24004

SHEET NUMBER:

A-106



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12/20/24

DISCOVERY PARK - LOT #10-A

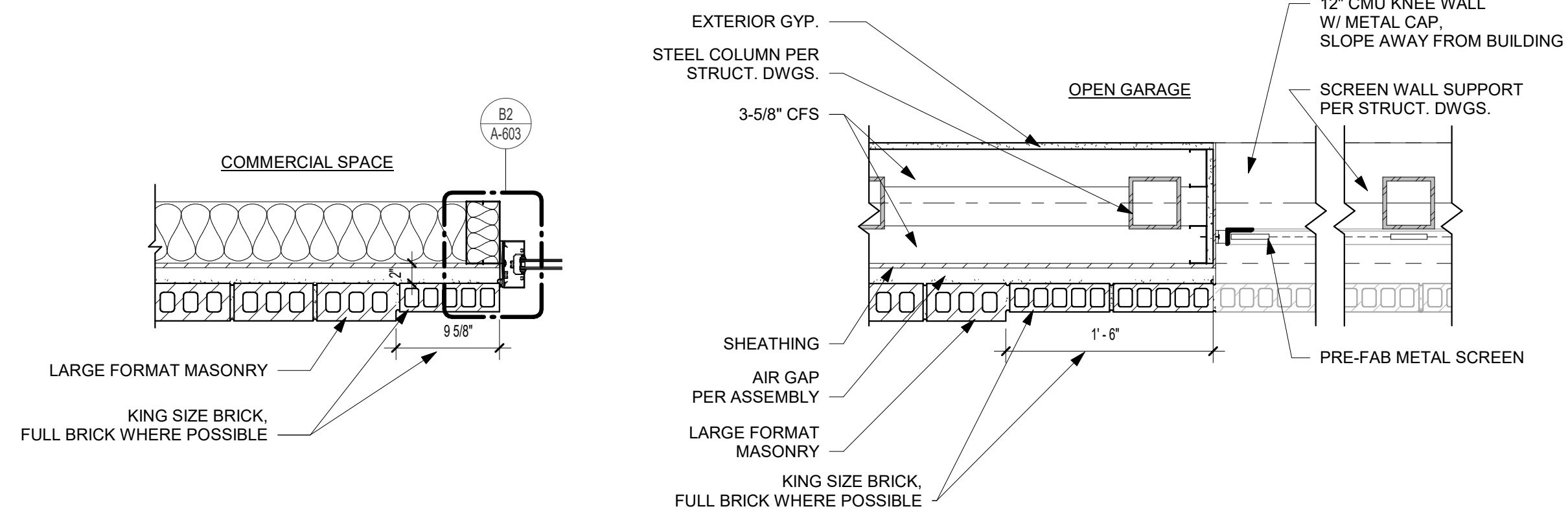
LEE'S SUMMIT, MO

SHEET TITLE
ENLARGED PLAN - 1ST FLOOR
GARAGE
PROJECT NUMBER: 24004
SHEET NUMBER:

A-110

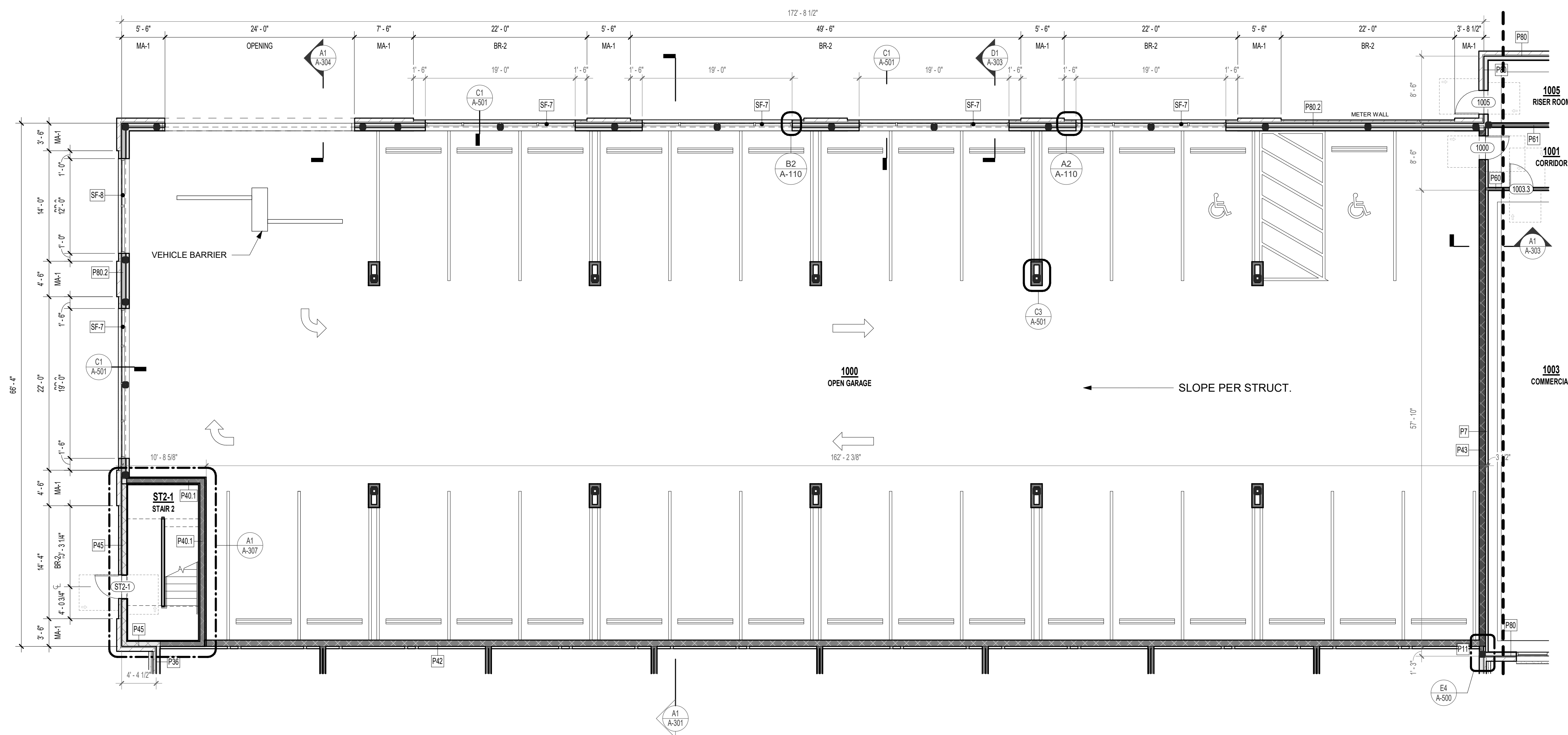
REFERENCE G-003 FOR GENERAL NOTES

PLAN LEGEND	
	PARTIAL HEIGHT PARTITION
	NON-RATED PARTITION; SEE ASSEMBLIES G-100s
	1 HR RATED PARTITION; SEE ASSEMBLIES G-100s
	2 HR RATED PARTITION; SEE ASSEMBLIES G-100s
	WINDOW TYPE; SEE WINDOW SCHEDULE ON SHEET A-600
	DOOR TYPE; SEE DOOR SCHEDULE ON SHEET A-600
	PARTITION TYPE; SEE ASSEMBLIES G-100s
	FRAMING DIMENSIONS
	LAYOUT LINE DIMENSIONS
	HEARING/VISIBILITY
	ADA/ACCESSIBLE UNITS



B2 BRICK TRANSITION @
STOREFRONT (PLAN)
1" = 1'-0"

A2 BRICK TRANSITION @ SCREEN
(PLAN)
1" = 1'-0"



A1 1ST FLOOR ENLARGED PLAN - GARAGE
1/8" = 1'-0"

PRINTS ISSUED
12/20/2024 - CITY SUBMISSION

REVISIONS:

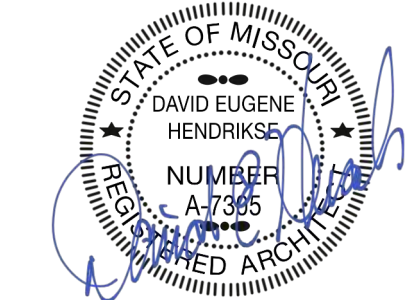


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12/20/24

DISCOVERY PARK - LOT #10-A

LEE'S SUMMIT, MO

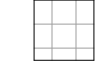
SHEET TITLE
REFLECTED CEILING PLANS


PROJECT NUMBER: 24004
SHEET NUMBER:


A-120


REFERENCE G-003 FOR GENERAL NOTES


RCP LEGEND

- 

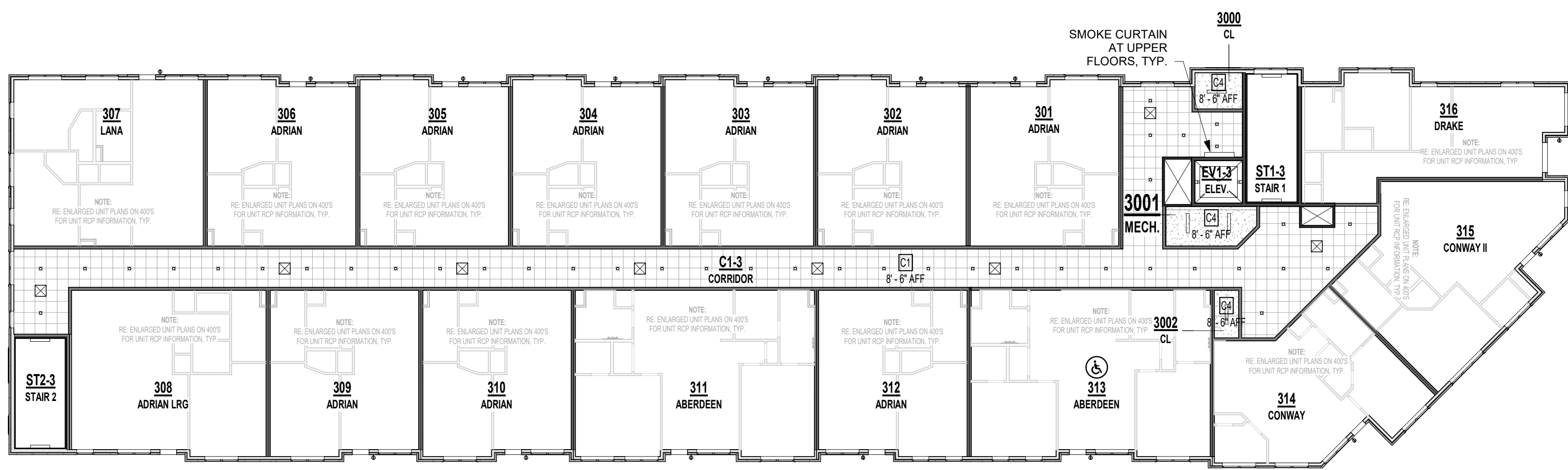
C1 - 2' X 2' ACT SYSTEM 15/16" THICKNESS- ANGULAR
TEGULAR EDGE, PER 095113
- 

C3 - GWB ON METAL STUD
- 

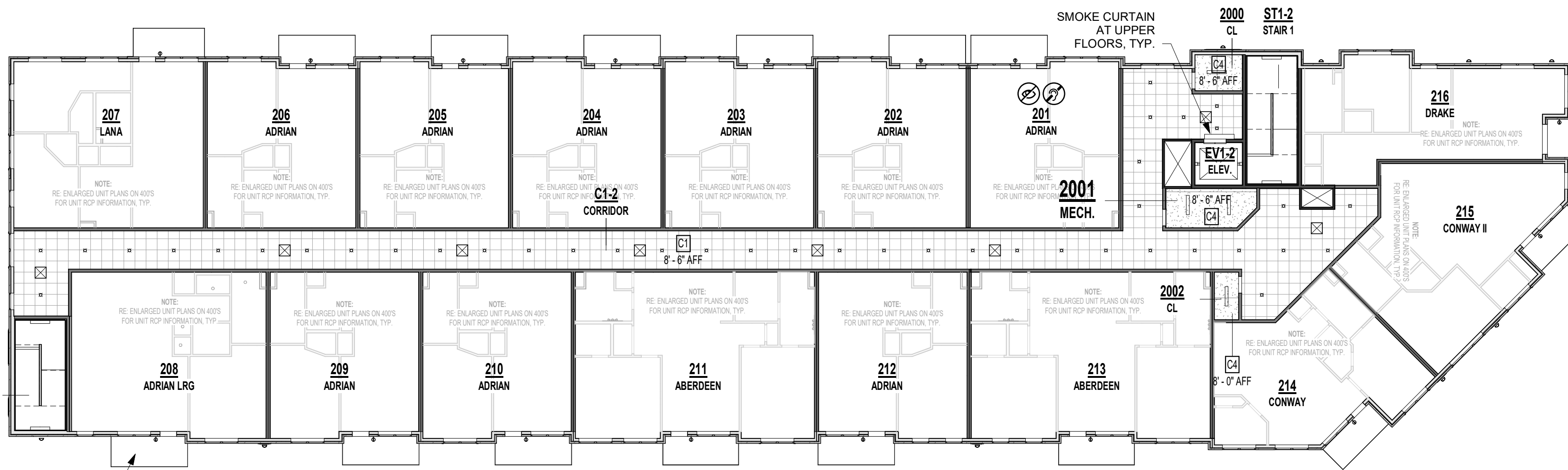
C4 - SMOOTH FIBERCEMENT BOARD.
PROVIDE 1X BATTEN @ SEAMS. PAINT FINISH
- 

C8 - GWB ON METAL STUD (EXTERIOR) WITH
BLOWN INSULATION ABOVE
- 

9'-0" INDICATES CEILING HEIGHT.
NOTE: UNLESS OTHERWISE NOTED ON THE PLANS ALL
CEILINGS ARE TO BE 8'-0" A.F.F.
- GENERAL NOTE:** LIGHTS TO BE CENTERED IN ACT TILES

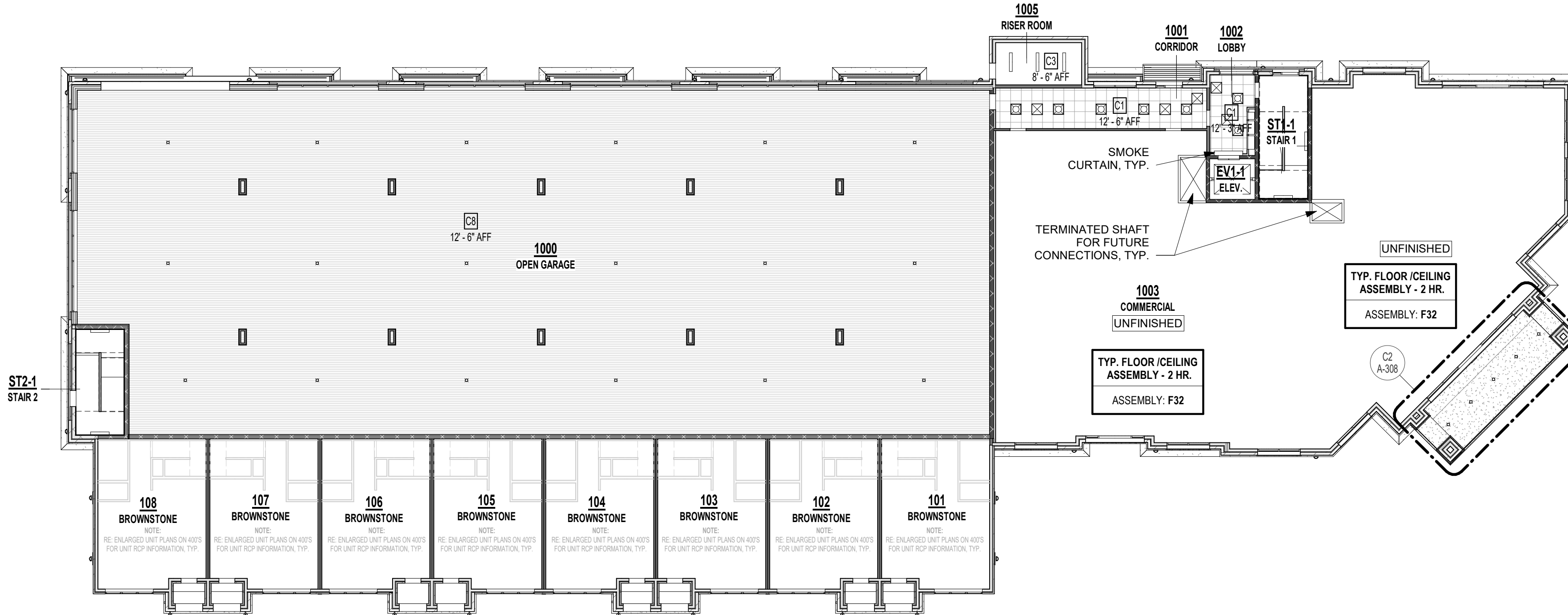


A3 THIRD FLOOR REFLECTED CEILING PLAN
1/16" = 1'-0"

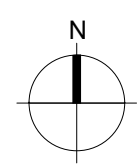


CEILING TYPE C8, TYP. ALL
BALCONIES UNLESS
OTHERWISE NOTED

A2 SECOND FLOOR REFLECTED CEILING PLAN
1/16" = 1'-0"



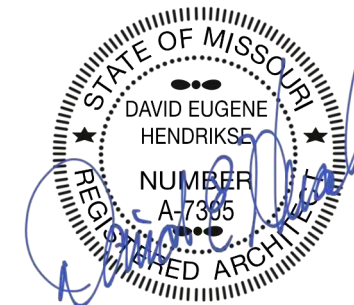
A1 FIRST FLOOR REFLECTED CEILING PLAN
1/16" = 1'-0"



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12/20/24

DISCOVERY PARK - LOT #10-A

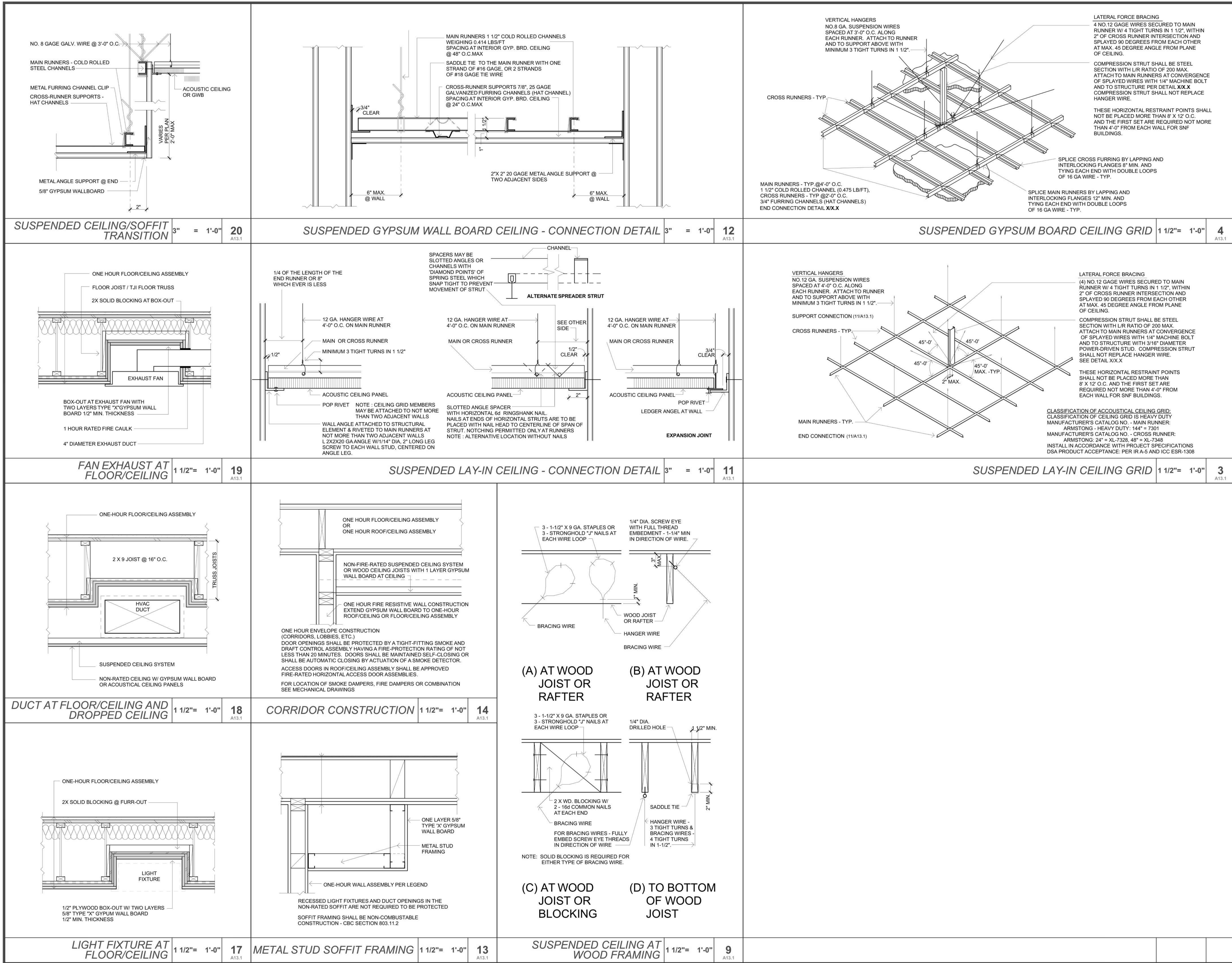
LEE'S SUMMIT, MO

SHEET TITLE
CEILING DETAILS

PROJECT NUMBER: 24004

SHEET NUMBER:

A-125



REFERENCE G-003 FOR GENERAL NOTES

MATERIAL LEGEND

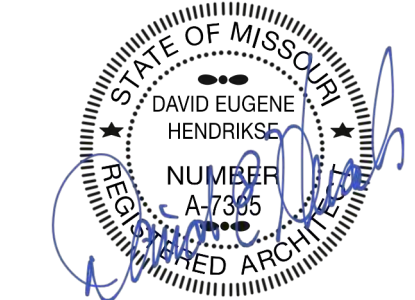
	MA-1 - STONE - ROCK FACE
	MA-2 - STONE SILL - SMOOTH FACE
	BR-1 - BRICK - RED
	BR-2 - BRICK - DARK RED
	BR-3 - BRICK - GREY
	MTL-1 - METAL - DARK BRONZE
	STCO - STUCCO - COLOR TO MATCH STONE
	--- BRICK RELIEF ANGLE LOCATION

PRINTS ISSUED

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12/20/24

DISCOVERY PARK - LOT #10-A

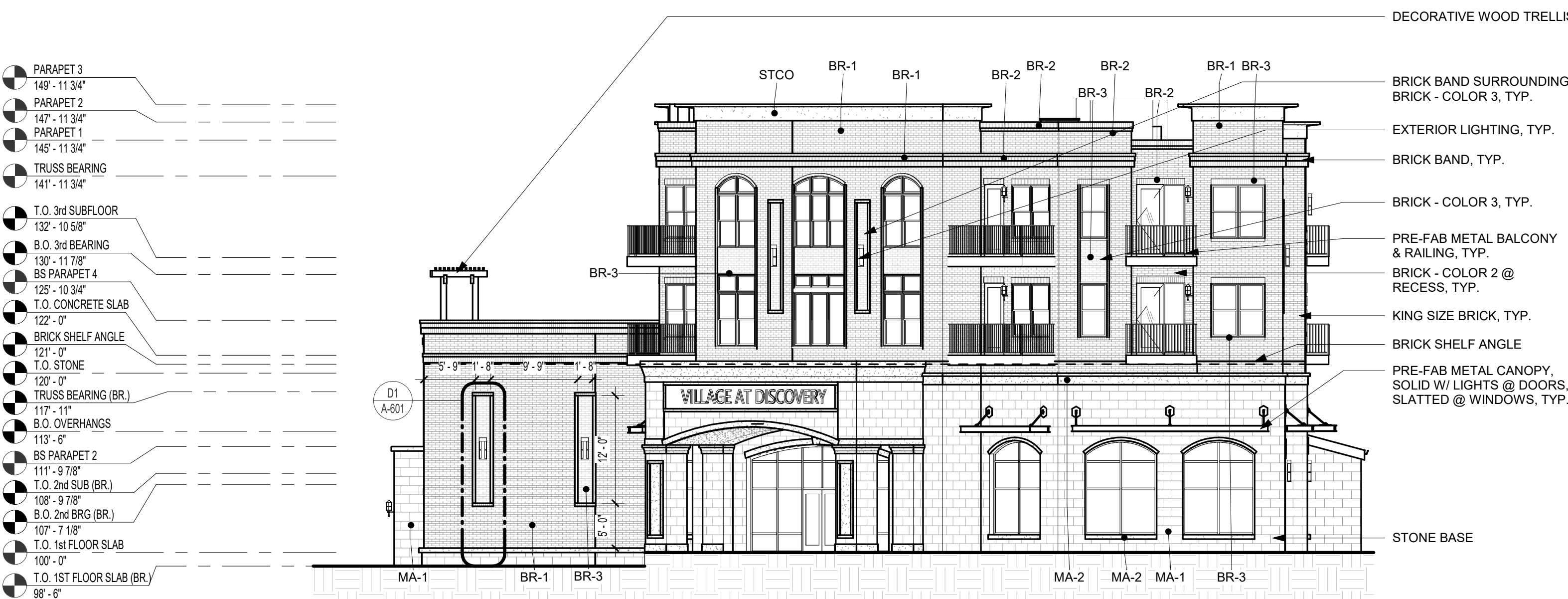
LEE'S SUMMIT, MO

SHEET TITLE
EXTERIOR ELEVATIONS

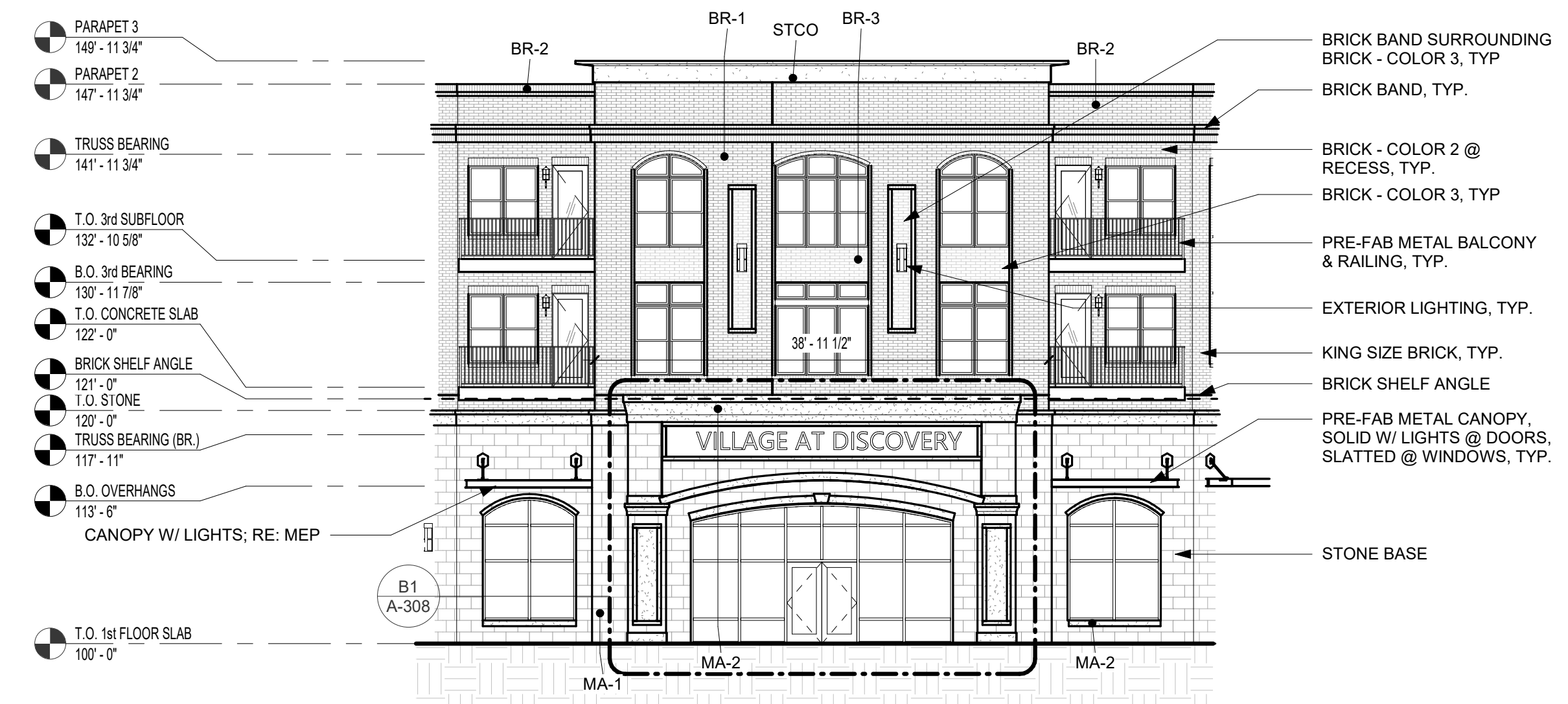
PROJECT NUMBER: 24004

SHEET NUMBER:

A-200



B2 WEST ELEVATION
3/32" = 1'-0"



A2 ENTRY ELEVATION
3/32" = 1'-0"



A1 SOUTH ELEVATION
3/32" = 1'-0"

PRINTS ISSUED
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REVISIONS:

REFERENCE G-003 FOR GENERAL NOTES

MATERIAL LEGEND

	MA-1 - STONE - ROCK FACE
	MA-2 - STONE SILL - SMOOTH FACE
	BR-1 - BRICK - RED
	BR-2 - BRICK - DARK RED
	BR-3 - BRICK - GREY
	MTL-1 - METAL - DARK BRONZE
	STCO - STUCCO - COLOR TO MATCH STONE
	- - - BRICK RELIEF ANGLE LOCATION

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DISCOVERY PARK - LOT #10-A

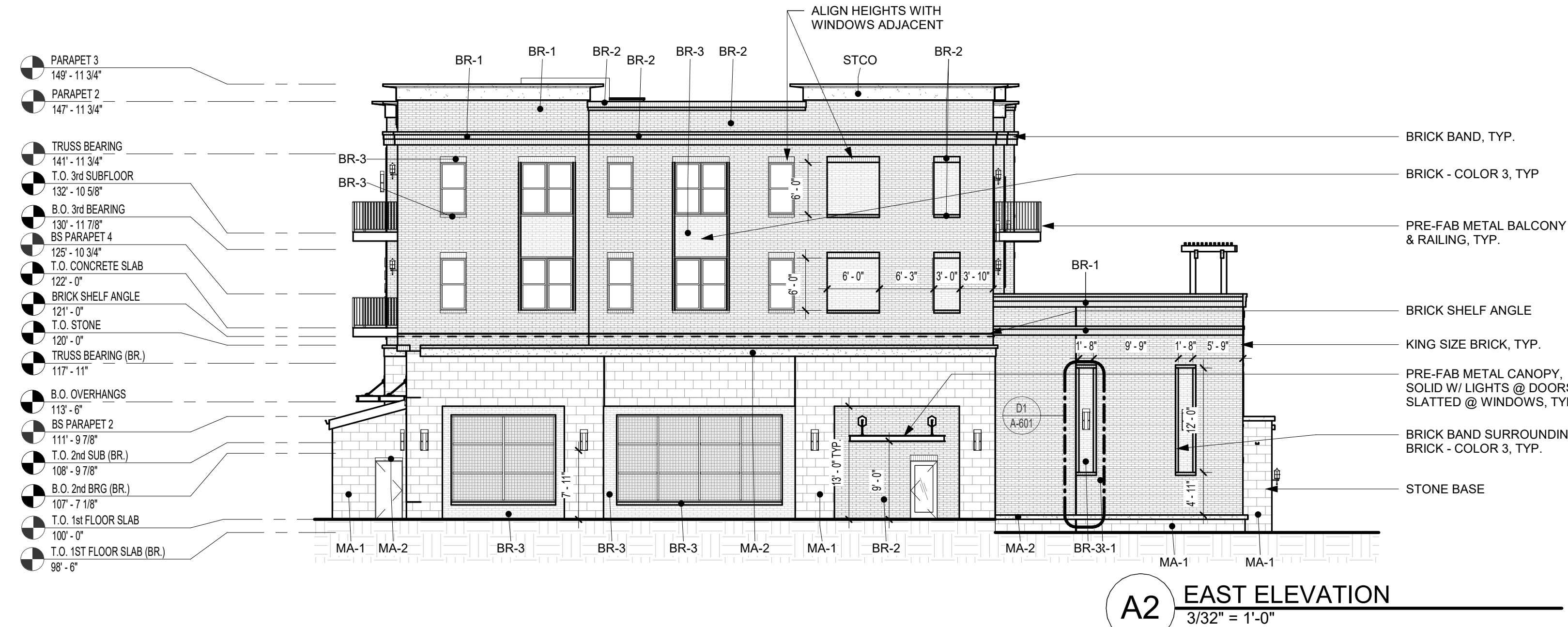
LEE'S SUMMIT, MO

SHEET TITLE
EXTERIOR ELEVATIONS

PROJECT NUMBER: 24004

SHEET NUMBER:

A-201



REFERENCE G-003 FOR GENERAL NOTES

MATERIAL LEGEND

	MA-1 - STONE - ROCK FACE
	MA-2 - STONE SILL - SMOOTH FACE
	BR-1 - BRICK - RED
	BR-2 - BRICK - DARK RED
	BR-3 - BRICK - GREY
	MTL-1 - METAL - DARK BRONZE
	STCO - STUCCO - COLOR TO MATCH STONE
	- - - BRICK RELIEF ANGLE LOCATION

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REVISIONS:

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12/20/24

DISCOVERY PARK - LOT #10-A

LEE'S SUMMIT, MO

SHEET TITLE
COLORED EXTERIOR
ELEVATIONS

PROJECT NUMBER: 24004

SHEET NUMBER:

A-202



B2 COLORED WEST ELEVATION
3/32" = 1'-0"



A2 COLORED ENTRY ELEVATION
3/32" = 1'-0"



A1 COLORED SOUTH ELEVATION
3/32" = 1'-0"

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12/20/24

DISCOVERY PARK - LOT #10-A

LEE'S SUMMIT, MO

SHEET TITLE
COLORED EXTERIOR
ELEVATIONS
PROJECT NUMBER: 24004
SHEET NUMBER:

A-203

REFERENCE G-003 FOR GENERAL NOTES

MATERIAL LEGEND	
	MA-1 - STONE - ROCK FACE
	MA-2 - STONE SILL - SMOOTH FACE
	BR-1 - BRICK - RED
	BR-2 - BRICK - DARK RED
	BR-3 - BRICK - GREY
	MTL-1 - METAL - DARK BRONZE
	STCO - STUCCO - COLOR TO MATCH STONE
	- - - BRICK RELIEF ANGLE LOCATION



A2 COLORED EAST ELEVATION
3/32" = 1'-0"



A1 COLORED NORTH ELEVATION
3/32" = 1'-0"

REFERENCE G-003 FOR GENERAL NOTES

FLOOR/CEILING ASSEMBLY-WOOD	FLOOR/CEILING ASSEMBLY-METAL	EXTERIOR PARTITION ASSEMBLIES	ROOF/CEILING ASSEMBLY-WOOD
F1 CONCRETE - NON-RATED - SLAB ON GRADE • CONCRETE SLAB ON GRADE PER STRUCT. DWGS.	F37 METAL DECK AND CONCRETE - 2HR • CONCRETE TOPPING SLAB PER STRUCT. • WELDED WIRE FABRIC PER STRUCT. DWGS. • METAL DECKING PER STRUCT. DWGS.	P36 WOOD 2x6 STUD - NON-RATED EXTERIOR EXTERIOR • EXTERIOR FINISH SYSTEM PER ELEVATIONS • WEATHER RESISTANT BARRIER PER SPECIFICATIONS • (1) LAYER SHEATHING PER STRUCT. DWGS. • 2x6 WOOD STUDS SPACED 16" O.C. MAX OR PER STRUCT. DWGS. • (1) LAYER 5/8" TYPE "X" GYPSUM BOARD INTERIOR	R8 WOOD PARALLEL CHORD TRUSS - 1HR - TPO • TPO ROOFING, PER SPECIFICATION TO MEET IECC • 1/2" COVERBOARD, NON-COMBUSTIBLE, WATER-RESISTANT • TAPERED INSULATION, SLOPE PER PLAN • 15/32" MIN. ROOF SHEATHING, SEE NOTE b. • WOOD TRUSS FRAMING PER STRUCT. DWGS, MAX SPACING 24" OC - REFERENCE UL FOR CONSTRUCTION • R-30 INSULATION PER LEE'S SUMMIT CODE, INSTALLED PER UL • 25 MSG GALVANIZED STEEL RESILIENT CHANNELS, SPACED PER UL • (1) LAYER OF 5/8" TYPE "AG-C" GWB, BY AMERICAN GYPSUM CO, PER UL
F3 WOOD OPEN WEB TRUSS - 1HR • 1" GYPCRETE TOPPING • 1/4" ACOUSTICAL MAT • 19/32" MIN. PLYWOOD SHEATHING, TYPE 'C/D'. SEE ALSO NOTE b. • WOOD TRUSSES PER STRUCTURAL, REFER TO UL FOR MIN. RIECS • UNFACED FIBERGLASS INSULATION COMPLETELY FILLED IN CONCEALED CAVITY TO COMPLY WITH NFPA 13 CONCEALED SPACES. • 25 MSG GALVANIZED RESILIENT CHANNELS, SPACED PER U.L. • (1) LAYER OF 5/8" TYPE "C" GWB PER UL	INTERIOR PARTITION ASSEMBLIES	P80 METAL 6" STUD - 1HR PARTITION - EXTERIOR • EXTERIOR FINISH SYSTEM PER ELEVATIONS - BRICK SHOWN • WEATHER RESISTANT BARRIER PER SPECIFICATIONS • (1) LAYER OF 5/8" DENSGLASS FIREGUARD SHEATHING PER UL • 6" METAL STUDS SPACED PER UL AND STRUCTURAL ENGINEER (MIN 20 MSG) • BATT INSULATION PER UL AND IECC • (1) LAYER 5/8" TYPE "X" GYPSUM BOARD PER UL	R12 WOOD FLAT 2X6 LUMBER - 1HR - TOP OF ELEVATOR • TPO ROOFING MEMBRANE PER SPECIFICATIONS TO MEET IECC • 1/2" COVERBOARD, NON-COMBUSTIBLE, WATER-RESISTANT • PRE-SLOPED POLYISO RIGID INSULATION FOR SLOPE PER ROOF PLAN • R-20 RIGID INSULATION MIN. (OR NECESSARY TO MEET MIN. IECC REQUIREMENT) • VAPOR BARRIER CLASS 1, SELF ADHERED TO SHEATHING, AS REQUIRED • SHEATHING PER STRUCTURAL DWGS. • WOOD 2X6 FRAMING SPACED PER STRUCTURAL • R-19 BATT INSULATION • (2) LAYERS OF 5/8" TYPE "X" GWB. PER GA ASSEMBLY
F7 WOOD 2X6 LUMBER - 1HR - CORRIDOR • 1" GYPCRETE TOPPING • 3/8" ACOUSTICAL MAT • 15/32" SHEATHING MIN, SEE NOTE b. • 2X6 WOOD JOISTS SPACED PER STRUCTURAL • UNFACED FIBERGLASS INSULATION COMPLETELY FILLED IN CONCEALED CAVITY TO COMPLY WITH NFPA 13 CONCEALED SPACES. • (2) LAYERS OF 5/8" TYPE "X" GWB PER IBC	P7 WOOD 2X4 STUD - NON-RATED FURRING - INTERIOR • (1) LAYER 5/8" TYPE "X" GYPSUM BOARD ON OCCUPIED SIDE • 2x4 WOOD STUDS SPACED 16" O.C.	P11 WOOD 2X6 STUD - 1HR PARTITION - INTERIOR • (1) LAYER 5/8" TYPE "X" GYPSUM BOARD • 2x6 WOOD STUDS SPACED 16" O.C. MAX, OR PER STRUCT. DWGS. • 5-1/2" FRICTION FIT UNFACED BATT INSULATION IN STUD CAVITY • (1) LAYER 5/8" TYPE "X" GYPSUM BOARD	

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12/20/24

DISCOVERY PARK - LOT #10-A

LEE'S SUMMIT, MO

SHEET TITLE
BUILDING SECTION

PROJECT NUMBER: 24004

SHEET NUMBER:

A-300

A1 SECTION @ COMMERCIAL
1/4" = 1'-0"

PARAPET 3
149' - 11 3/4"
PARAPET 2
147' - 11 3/4"
PARAPET 1
145' - 11 3/4"

TRUSS BEARING
141' - 11 3/4"

T.O. 3rd SUBFLOOR
132' - 10 5/8"
B.O. 3rd BEARING
130' - 11 7/8"

BS PARAPET 4
125' - 10 3/4"

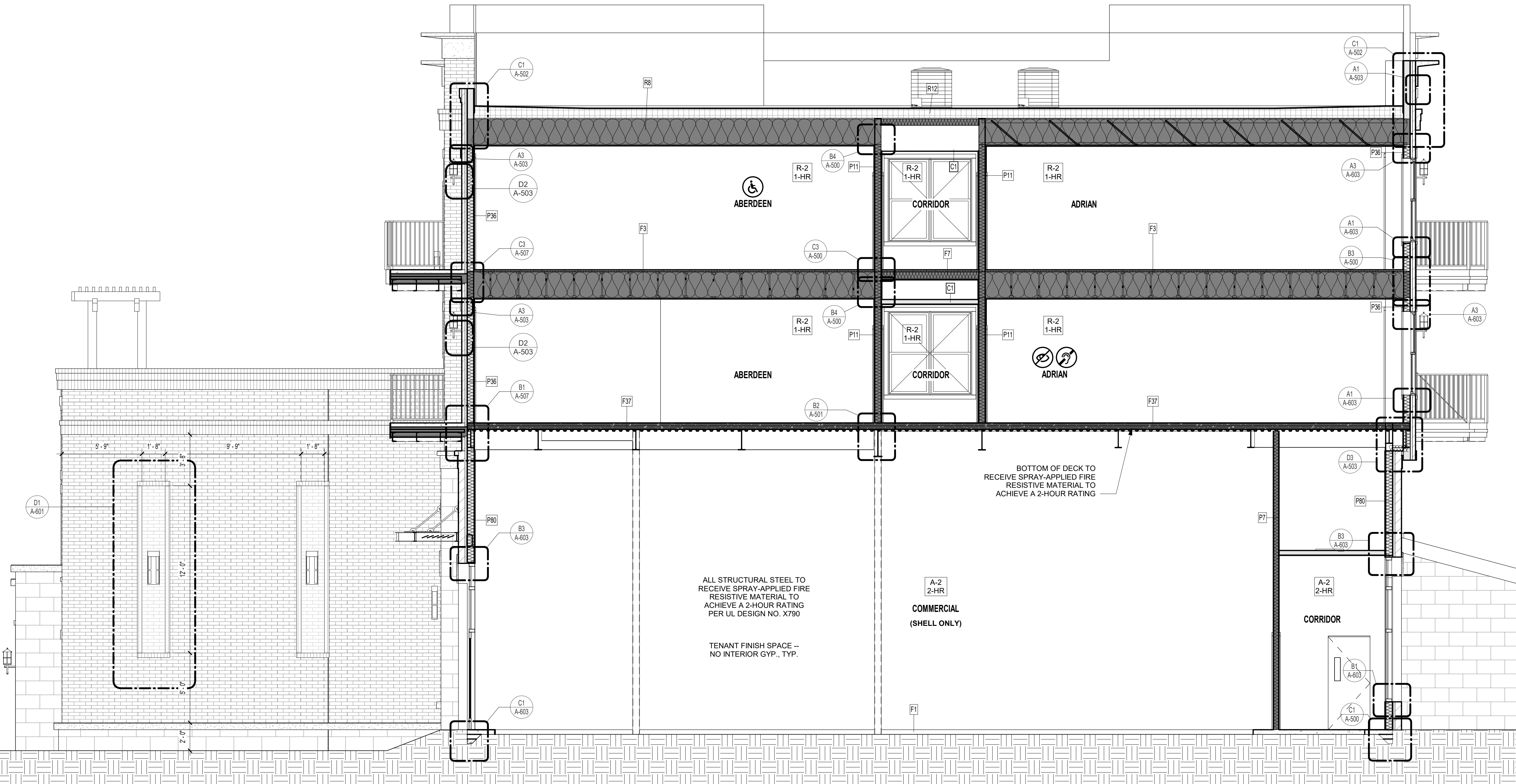
T.O. CONCRETE SLAB
122' - 0"
BRICK SHELF ANGLE
121' - 0" (MAX) ONE
120' - 0"

TRUSS BEARING (BR.)
117' - 11"

B.O. OVERHANGS
113' - 6"
BS PARAPET 2
111' - 9 7/8"

T.O. 2nd SUB (BR.)
108' - 9 7/8"
B.O. 2nd BRG (BR.)
107' - 7 1/8"

T.O. 1st FLOOR SLAB
100' - 0"
T.O. 1st FLOOR SLAB (BR.)
98' - 6"



ALL STRUCTURAL STEEL TO
RECEIVE SPRAY-APPLIED FIRE
RESISTIVE MATERIAL TO
ACHIEVE A 2-HOUR RATING
PER UL DESIGN NO. X790

TENANT FINISH SPACE --
NO INTERIOR GYP., TYP.

A-2
2-HR
COMMERCIAL
(SHELL ONLY)

A-2
2-HR
CORRIDOR

BOTTOM OF DECK TO
RECEIVE SPRAY-APPLIED FIRE
RESISTIVE MATERIAL TO
ACHIEVE A 2-HOUR RATING

REFERENCE G-003 FOR GENERAL NOTES

FLOOR/CEILING ASSEMBLY-WOOD	FLOOR/CEILING ASSEMBLY-METAL	EXTERIOR PARTITION ASSEMBLIES	ROOF/CEILING ASSEMBLY-WOOD
F1 CONCRETE - NON-RATED - SLAB ON GRADE <ul style="list-style-type: none">CONCRETE SLAB ON GRADE PER STRUCT. DWGS.	F32 METAL DECK AND CONCRETE - 1HR <ul style="list-style-type: none">CONCRETE TOPPING SLAB PER STRUCT.WELDED WIRE FABRIC PER STRUCT. DWGS.METAL DECKING PER STRUCT. DWGS.	P36 WOOD 2x6 STUD - NON-RATED EXTERIOR EXTERIOR <ul style="list-style-type: none">EXTERIOR FINISH SYSTEM PER ELEVATIONSWEATHER RESISTANT BARRIER, PER SPECIFICATIONS(1) LAYER SHEATHING PER STRUCT. DWGS.2x6 WOOD STUDS SPACED 16" O.C. MAX OR PER STRUCT. DWGS.(1) LAYER 5/8" TYPE "X" GYPSUM BOARD INTERIOR	R6 WOOD LOW SLOPE TRUSS - 1HR - TPO <ul style="list-style-type: none">TPO ROOFING MEMBRANE, PER SPECIFICATION TO MEET IECC1/2" COVERBOARD, NON-COMBUSTIBLE, WATER-RESISTANT.PRE-SLOPED POLYISO RIGID INSULATION FOR ALL CRICKETS15/32" MIN. ROOF SHEATHING, SEE NOTE b.WOOD TRUSS FRAMING PER STRUCT. DWGS, MAX SPACING 24" OC - REFERENCE UL FOR CONSTRUCTION, TRUSS PRE-SLOPED TO DRAINR-38 INSULATION PER IECC, INSTALLED PER ULVAPOR BARRIER CLASS 1 ON UNDERSIDE OF TRUSS, AS REQUIRED25 MSG GALVANIZED STEEL RESILIENT CHANNELS, SPACED PER UL(1) LAYER OF 5/8" TYPE "AG-C" GWB, BY AMERICAN GYPSUM CO, PER UL
F3 WOOD OPEN WEB TRUSS - 1HR <ul style="list-style-type: none">1" GYPCRETE TOPPING1/4" ACOUSTICAL MAT19/32" MIN. PLYWOOD SHEATHING, TYPE 'C/D', SEE ALSO NOTE b.WOOD TRUSSES PER STRUCTURAL, REFER TO UL FOR MIN. REQSUNFACED FIBERGLASS INSULATION COMPLETELY FILLED IN CONCEALED CAVITY TO COMPLY WITH NFPA 13 CONCEALED SPACES.25 MSG GALVANIZED RESILIENT CHANNELS, SPACED PER U.L.(1) LAYER OF 5/8" TYPE 'C' GWB PER UL	INTERIOR PARTITION ASSEMBLIES	P40 CMU 8" BLOCK - 1HR FIRE BARRIER - INTERIOR <ul style="list-style-type: none">8" CMU (REINFORCING PER STRUCT)	R8 WOOD PARALLEL CHORD TRUSS - 1HR - TPO <ul style="list-style-type: none">TPO ROOFING, PER SPECIFICATION TO MEET IECC1/2" COVERBOARD, NON-COMBUSTIBLE, WATER-RESISTANTTAPERED INSULATION, SLOPE PER PLAN15/32" MIN. ROOF SHEATHING, SEE NOTE b.WOOD TRUSS FRAMING PER STRUCT. DWGS, MAX SPACING 24" OC - REFERENCE UL FOR CONSTRUCTIONR-30 INSULATION PER LEE'S SUMMIT CODE, INSTALLED PER UL25 MSG GALVANIZED STEEL RESILIENT CHANNELS, SPACED PER UL(1) LAYER OF 5/8" TYPE "AG-C" GWB, BY AMERICAN GYPSUM CO, PER UL
F7 WOOD 2X6 LUMBER - 1HR - CORRIDOR <ul style="list-style-type: none">1" GYPCRETE TOPPING3/8" ACOUSTICAL MAT15/32" SHEATHING MIN, SEE NOTE b.2X6 WOOD JOISTS SPACED PER STRUCTURALUNFACED FIBERGLASS INSULATION COMPLETELY FILLED IN CONCEALED CAVITY TO COMPLY WITH NFPA 13 CONCEALED SPACES.(2) LAYERS OF 5/8" TYPE "X" GWB PER IBC	P11 WOOD 2X6 STUD - 1HR PARTITION - INTERIOR <ul style="list-style-type: none">(1) LAYER 5/8" TYPE "X" GYPSUM BOARD2x6 WOOD STUDS SPACED 16" O.C. MAX. OR PER STRUCT. DWGS.5-1/2" FRICTION FIT UNFACED BATT INSULATION IN STUD CAVITY(1) LAYER 5/8" TYPE "X" GYPSUM BOARD	P46.1 CMU 12" BLOCK - NON-RATED - EXTERIOR (AT PARKING) EXTERIOR <ul style="list-style-type: none">EXTERIOR FINISH SYSTEM PER ELEVATIONS, BRICK SHOWNWEATHER RESISTANT BARRIER PER SPECIFICATIONS(1) LAYER SHEATHING PER STRUCT. DRAWINGS12" CMU (REINFORCING PER STRUCT.) INTERIOR	R12 WOOD FLAT 2X6 LUMBER - 1HR - TOP OF ELEVATOR <ul style="list-style-type: none">TPO ROOFING MEMBRANE, PER SPECIFICATIONS TO MEET IECC1/2" COVERBOARD, NON-COMBUSTIBLE, WATER-RESISTANTPRE-SLOPED POLYISO RIGID INSULATION FOR SLOPE PER ROOF PLANR-20 RIGID INSULATION MIN. (OR NECESSARY TO MEET MIN. IECC REQUIREMENT)VAPOR BARRIER CLASS 1, SELF ADHERED TO SHEATHING, AS REQUIREDSHEATHING PER STRUCTURAL DWGS.WOOD 2X6 FRAMING SPACED PER STRUCTURALR-19 BATT INSULATION(2) LAYERS OF 5/8" TYPE "X" GWB. PER GA ASSEMBLY
	P40 CMU 8" BLOCK - 1HR FIRE BARRIER - INTERIOR <ul style="list-style-type: none">8" CMU (REINFORCING PER STRUCT)	P80.1 DOUBLE METAL 3-5/8" STUD - NON-RATED PARTITION - EXTERIOR - PARKING <ul style="list-style-type: none">EXTERIOR FINISH SYSTEM PER ELEVATIONS - BRICK SHOWNWEATHER RESISTANT BARRIER PER SPECIFICATIONS(1) LAYER SHEATHING PER STRUCT. DRAWINGSDOUBLE 3-5/8" METAL STUDS WITH 3-3/4" AIR GAP, SPACED PER STRUCTURAL ENGINEER (MIN 20 MSG)(1) LAYER 5/8" TYPE "X" GYPSUM BOARD	

PARAPET 3
149' - 11 3/4"

PARAPET 2
147' - 11 3/4"

PARAPET 1
145' - 11 3/4"

TRUSS BEARING
141' - 11 3/4"

T.O. 3rd SUBFLOOR
132' - 10 5/8"

B.O. 3rd BEARING
130' - 11 7/8"

BS PARAPET 4
125' - 10 3/4"

BS PARAPET 3
123' - 10 3/4"

T.O. CONCRETE SLAB
122' - 0"

T.O. STONE
120' - 0"

TRUSS BEARING (BR.)
117' - 11"

BS PARAPET 2
111' - 9 7/8"

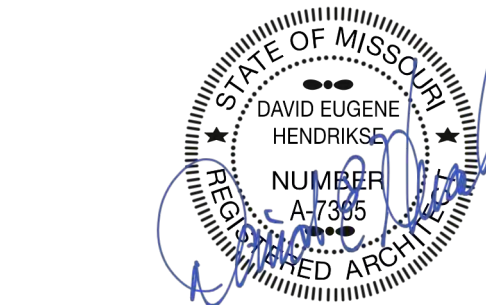
BS PARAPET 1
110' - 9 7/8"

T.O. 2nd SUB (BR.)
108' - 9 7/8"

B.O. 2nd BRG (BR.)
107' - 7 1/8"

T.O. 1st FLOOR SLAB
100' - 0"

T.O. 1st FLOOR SLAB (BR.)
98' - 6"



DISCOVERY PARK - LOT #10-A

SHEET TITLE
BUILDING SECTION

PROJECT NUMBER: 24004

SHEET NUMBER:

A-301

BUILDING SECTION @ BROWNSTONES & PARKING GARAGE
1/4" = 1'-0"

LEE'S SUMMIT, MO

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REVISIONS:

REFERENCE G-003 FOR GENERAL NOTES

FLOOR/CEILING ASSEMBLY-WOOD	INTERIOR PARTITION ASSEMBLIES	ROOF/CEILING ASSEMBLY-WOOD
F1 CONCRETE - NON-RATED - SLAB ON GRADE <ul style="list-style-type: none">CONCRETE SLAB ON GRADE PER STRUCT. DWGS.	P11 WOOD 2X6 STUD - 1HR PARTITION - INTERIOR <ul style="list-style-type: none">(1) LAYER 5/8" TYPE "X" GYPSUM BOARD2x6 WOOD STUDS SPACED 16" O.C. MAX. OR PER STRUCT. DWGS.5-1/2" FRICTION FIT UNFACED BATT INSULATION IN STUD CAVITY(1) LAYER 5/8" TYPE "X" GYPSUM BOARD	R8 WOOD PARALLEL CHORD TRUSS - 1HR - TPO <ul style="list-style-type: none">TPO ROOFING, PER SPECIFICATION TO MEET IECC1/2" COVERBOARD, NON-COMBUSTIBLE, WATER-RESISTANTTAPERED INSULATION, SLOPE PER PLAN15/32" MIN. ROOF SHEATHING, SEE NOTE b.WOOD TRUSS FRAMING PER STRUCT. DWGS, MAX SPACING 24" OC - REFERENCE UL FOR CONSTRUCTIONR-30 INSULATION PER LEE'S SUMMIT CODE, INSTALLED PER UL25 MSG GALVANIZED STEEL RESILIENT CHANNELS, SPACED PER UL(1) LAYER OF 5/8" TYPE "AG-C" GWB, BY AMERICAN GYPSUM CO, PER UL
F3 WOOD OPEN WEB TRUSS - 1HR <ul style="list-style-type: none">1" GYPCRETE TOPPING1/4" ACOUSTICAL MAT19/32" MIN. PLYWOOD SHEATHING, TYPE 'C/D' . SEE ALSO NOTE b.WOOD TRUSSES PER STRUCTURAL, REFER TO UL FOR MIN. REQSUNFACED FIBERGLASS INSULATION COMPLETELY FILLED IN CONCEALED CAVITY TO COMPLY WITH NFPA 13 CONCEALED SPACES.25 MSG GALVANIZED RESILIENT CHANNELS, SPACED PER U.L.(1) LAYER OF 5/8" TYPE 'C' GWB PER UL	P36 WOOD 2x6 STUD - NON-RATED EXTERIOR <div>EXTERIOR<ul style="list-style-type: none">EXTERIOR FINISH SYSTEM PER ELEVATIONSWEATHER RESISTANT BARRIER, PER SPECIFICATIONS(1) LAYER SHEATHING PER STRUCT. DWGS.2x6 WOOD STUDS SPACED 16" O.C. MAX OR PER STRUCT. DWGS.(1) LAYER 5/8" TYPE "X" GYPSUM BOARDINTERIOR</div>	
FLOOR/CEILING ASSEMBLY-METAL		
F32 METAL DECK AND CONCRETE - 1HR <ul style="list-style-type: none">CONCRETE TOPPING SLAB PER STRUCT.WELDED WIRE FABRIC PER STRUCT. DWGS.METAL DECKING PER STRUCT. DWGS.		

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12/20/24

DISCOVERY PARK - LOT #10-A

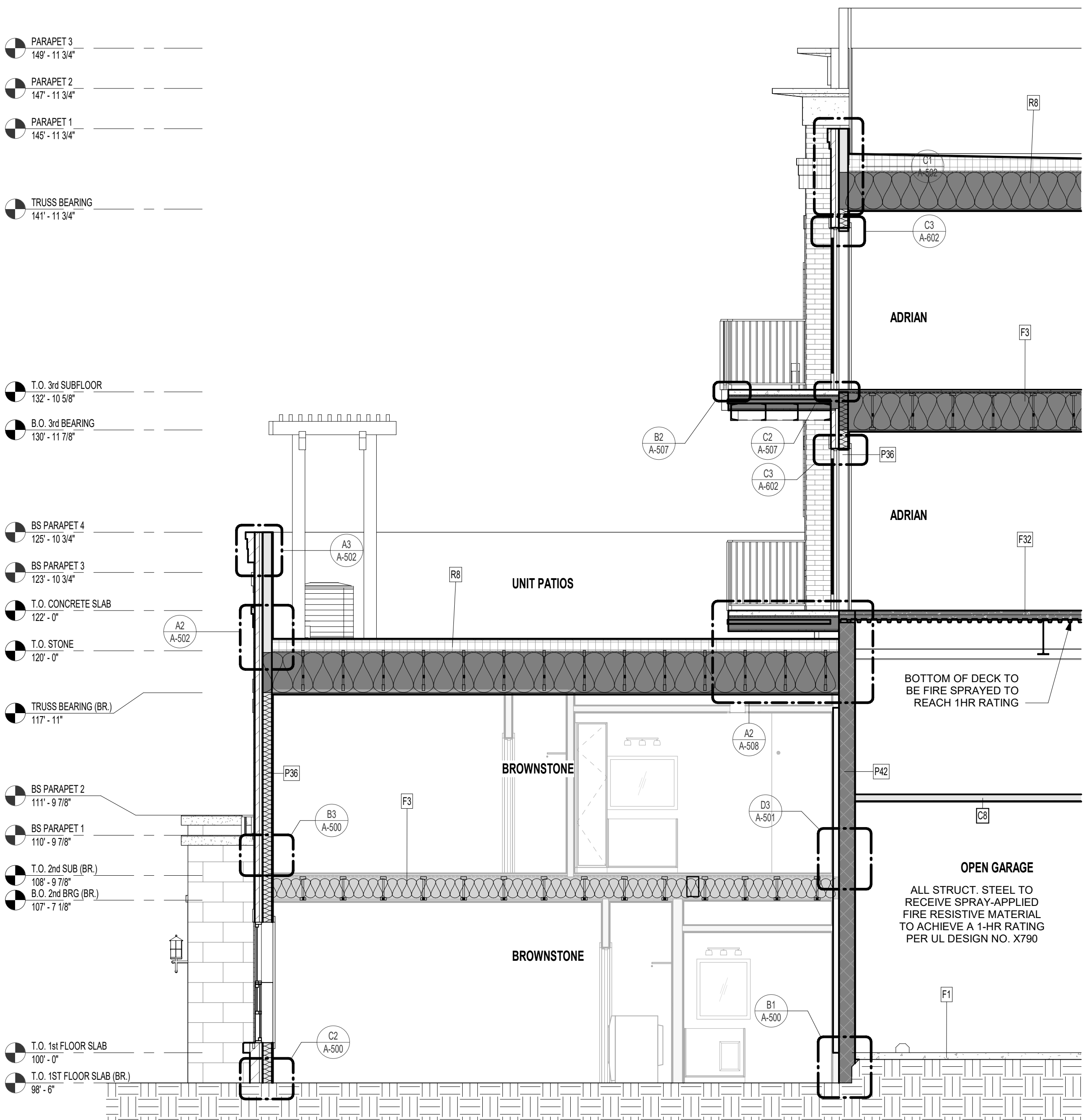
LEE'S SUMMIT, MO

SHEET TITLE
BUILDING SECTIONS

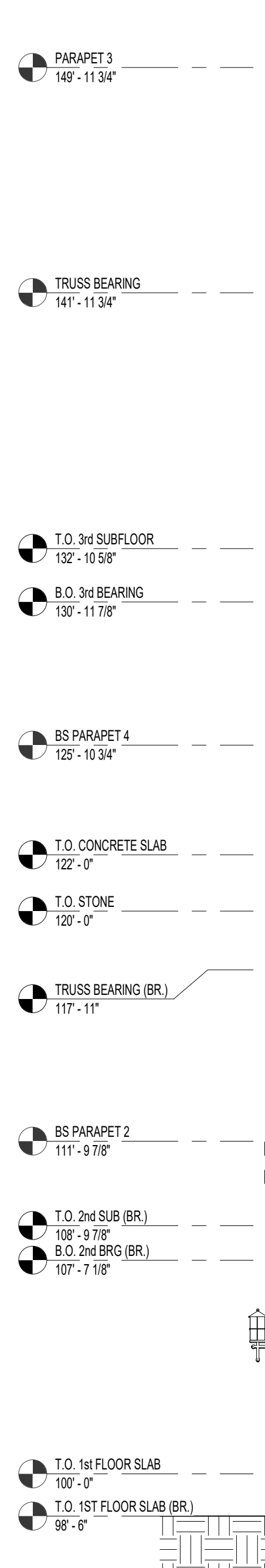
PROJECT NUMBER: 24004

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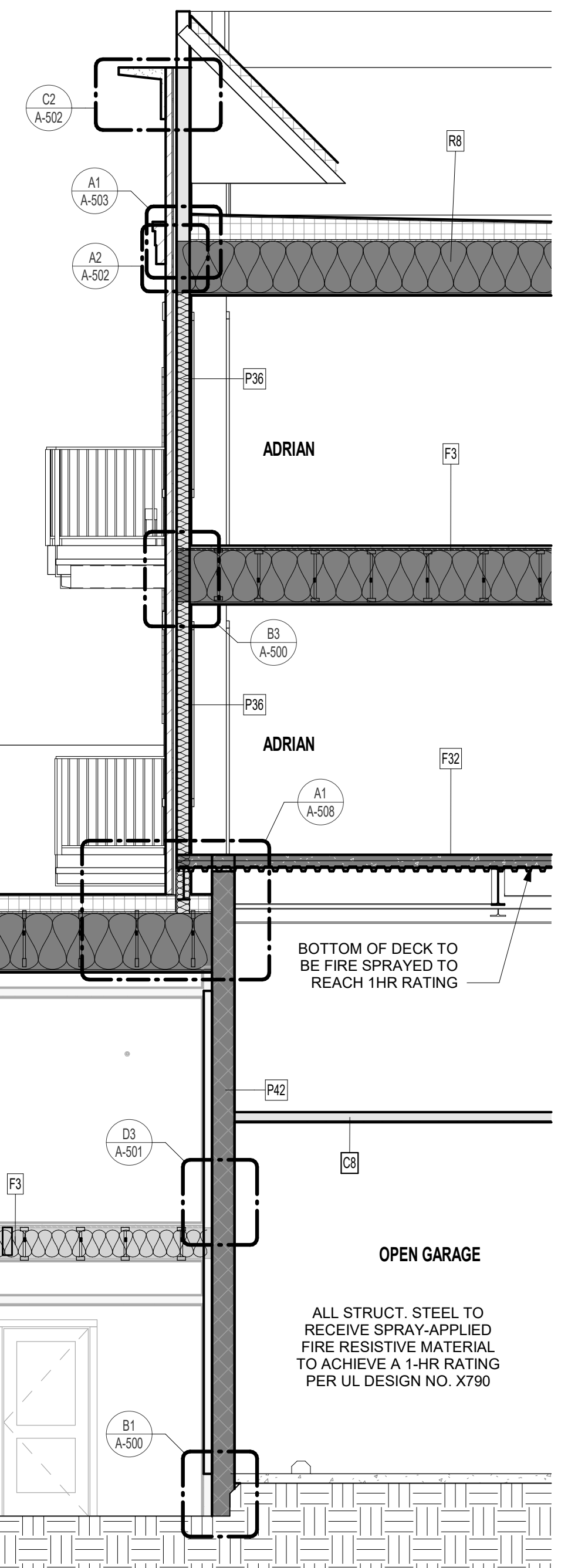
A-302



B1 SECTION @ BROWNSTONES
1/4" = 1'-0"

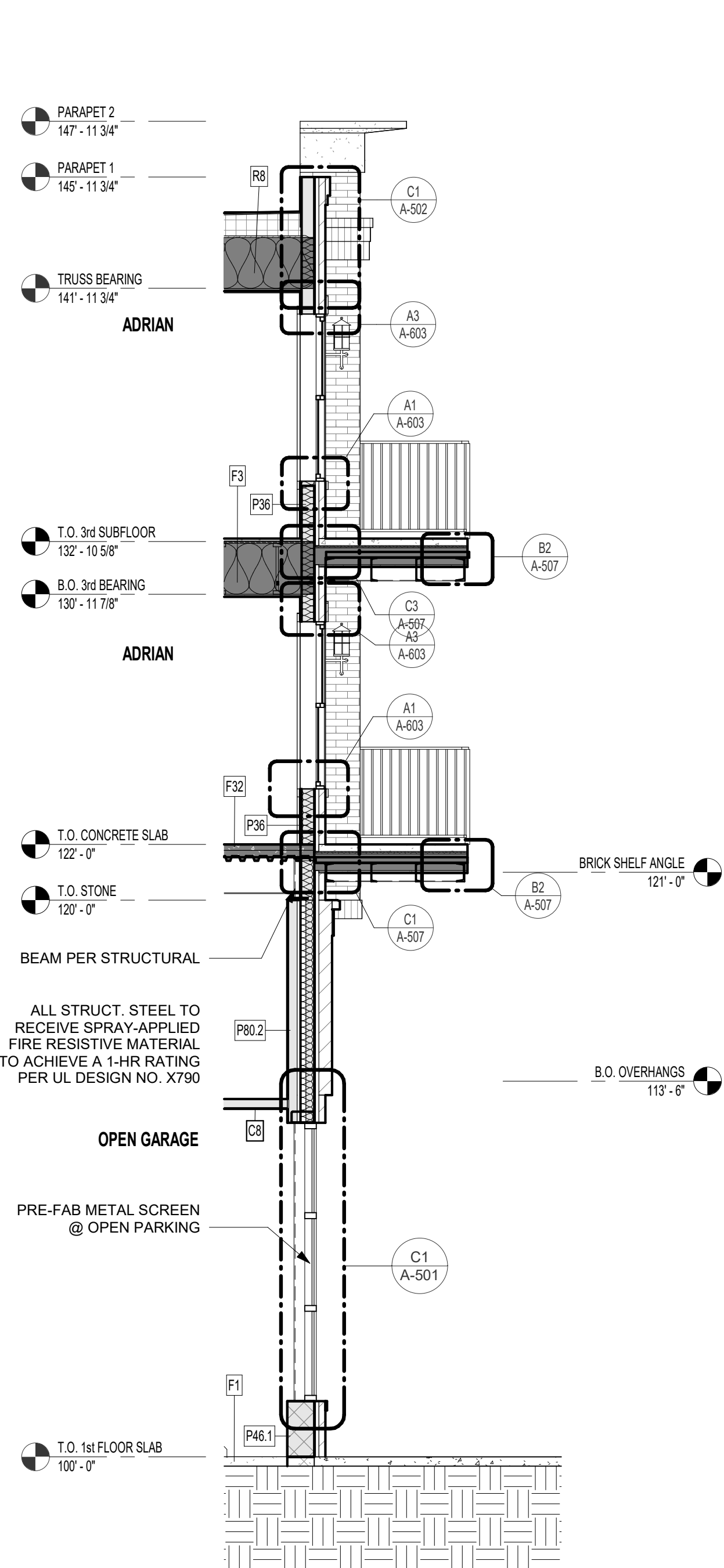


A1 SECTION @ BROWNSTONES & PARKING GARAGE
1/4" = 1'-0"

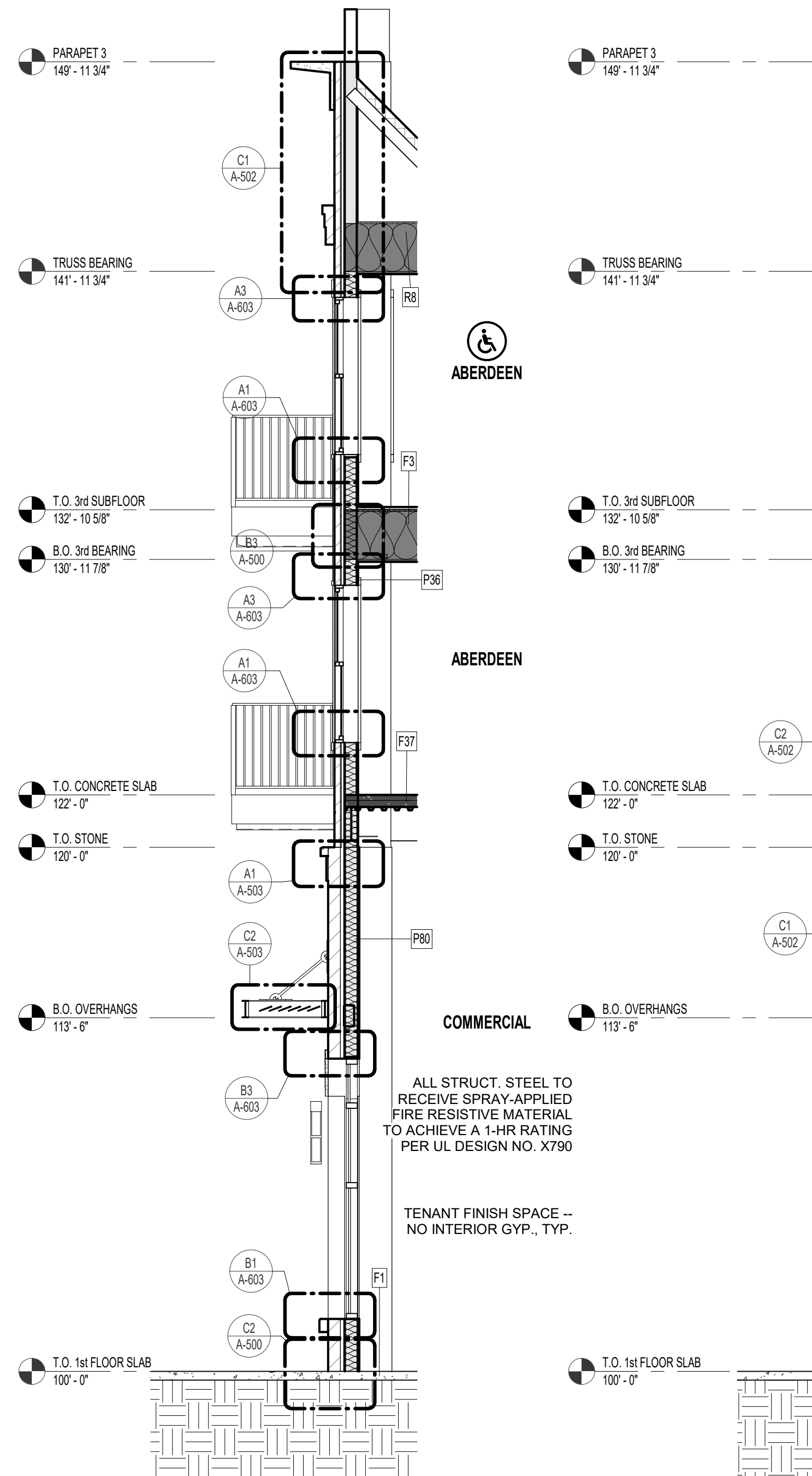


REFERENCE G-003 FOR GENERAL NOTES

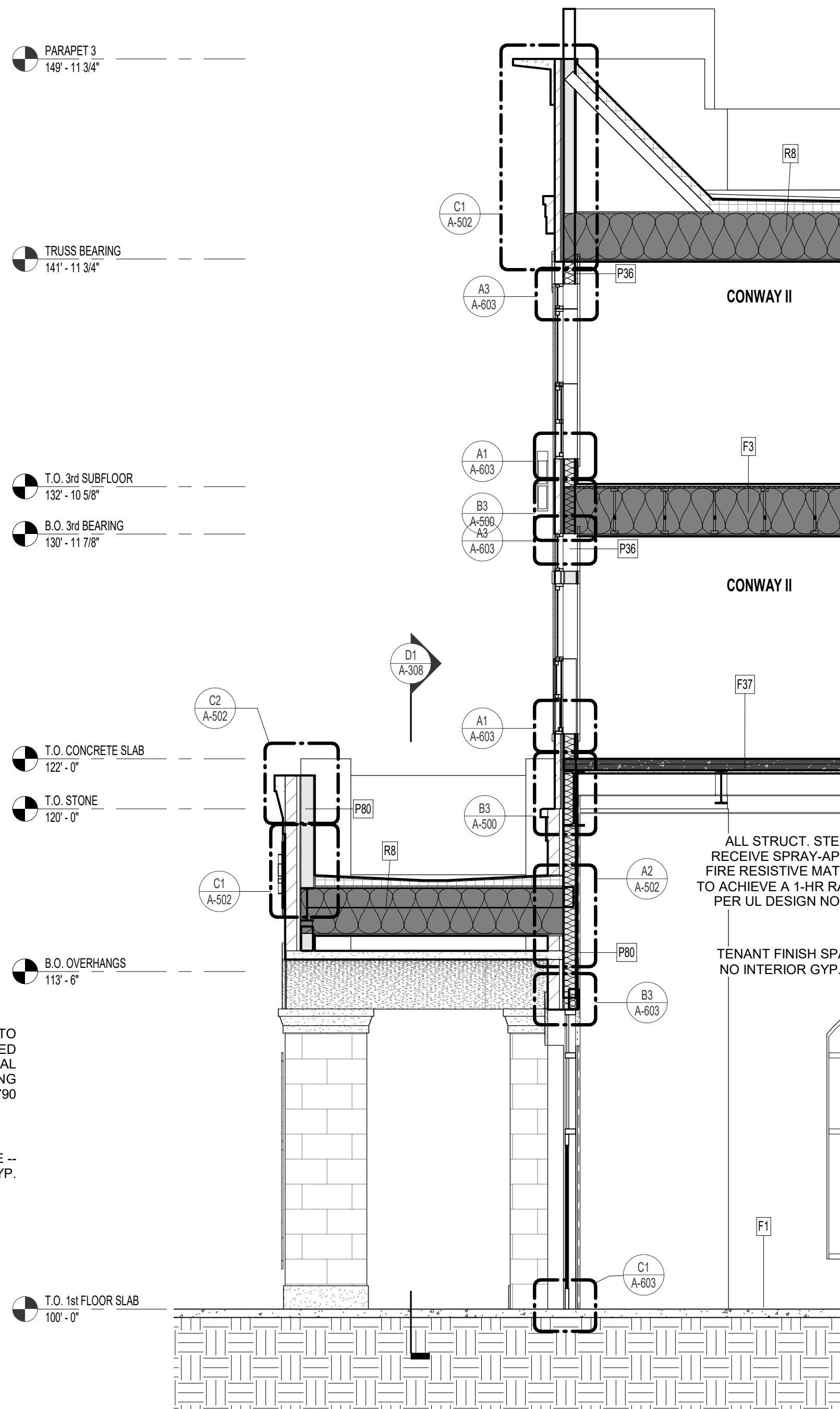
FLOOR/CEILING ASSEMBLY-WOOD	FLOOR/CEILING ASSEMBLY-METAL	EXTERIOR PARTITION ASSEMBLIES	ROOF/CEILING ASSEMBLY-WOOD
F1 CONCRETE - NON-RATED - SLAB ON GRADE <ul style="list-style-type: none">CONCRETE SLAB ON GRADE PER STRUCT. DWGS.	F32 METAL DECK AND CONCRETE - 1HR <ul style="list-style-type: none">CONCRETE TOPPING SLAB PER STRUCT.WELDED WIRE FABRIC PER STRUCT. DWGS.METAL DECKING PER STRUCT. DWGS.	P36 WOOD 2x6 STUD - NON-RATED EXTERIOR <i>EXTERIOR</i> <ul style="list-style-type: none">EXTERIOR FINISH SYSTEM PER ELEVATIONSWEATHER RESISTANT BARRIER PER SPECIFICATIONS(1) LAYER SHEATHING PER STRUCT. DWGS.2x6 WOOD STUDS SPACED 16" O.C. MAX OR PER STRUCT. DWGS.(1) LAYER 5/8" TYPE "X" GYPSUM BOARD <i>INTERIOR</i>	R8 WOOD PARALLEL CHORD TRUSS - 1HR - TPO <ul style="list-style-type: none">TPO ROOFING, PER SPECIFICATION TO MEET IECC1/2" COVERBOARD, NON-COMBUSTIBLE, WATER-RESISTANTTAPERED INSULATION, SLOPE PER PLAN15/32" MIN. ROOF SHEATHING, SEE NOTE b.WOOD TRUSS FRAMING PER STRUCT. DWGS, MAX SPACING 24" OC - REFERENCE UL FOR CONSTRUCTIONR-30 INSULATION PER LEE'S SUMMIT CODE, INSTALLED PER UL25 MSG GALVANIZED STEEL RESILIENT CHANNELS, SPACED PER UL(1) LAYER OF 5/8" TYPE "AG-C" GWB, BY AMERICAN GYPSUM CO, PER UL
F3 WOOD OPEN WEB TRUSS - 1HR <ul style="list-style-type: none">1" GYPCRETE TOPPING1/4" ACOUSTICAL MAT19/32" MIN. PLYWOOD SHEATHING, TYPE 'C/D', SEE ALSO NOTE b.WOOD TRUSSES PER STRUCTURAL, REFER TO UL FOR MIN. REQSUNFACED FIBERGLASS INSULATION COMPLETELY FILLED IN CONCEALED CAVITY TO COMPLY WITH NFPA 13 CONCEALED SPACES.25 MSG GALVANIZED RESILIENT CHANNELS, SPACED PER U.L.(1) LAYER OF 5/8" TYPE 'C' GWB PER UL	F37 METAL DECK AND CONCRETE - 2HR <ul style="list-style-type: none">CONCRETE TOPPING SLAB PER STRUCT.WELDED WIRE FABRIC PER STRUCT. DWGS.METAL DECKING PER STRUCT. DWGS.	P46.1 CMU 12" BLOCK - NON-RATED - EXTERIOR (AT PARKING) <i>EXTERIOR</i> <ul style="list-style-type: none">EXTERIOR FINISH SYSTEM PER ELEVATIONS, BRICK SHOWNWEATHER RESISTANT BARRIER PER SPECIFICATIONS(1) LAYER SHEATHING PER STRUCT. DRAWINGS12" CMU (REINFORCING PER STRUCT.) <i>INTERIOR</i>	
F7 WOOD 2x6 LUMBER - 1HR - CORRIDOR <ul style="list-style-type: none">1" GYPCRETE TOPPING3/8" ACOUSTICAL MAT15/32" SHEATHING MIN, SEE NOTE b.2x6 WOOD JOISTS SPACED PER STRUCTURALUNFACED FIBERGLASS INSULATION COMPLETELY FILLED IN CONCEALED CAVITY TO COMPLY WITH NFPA 13 CONCEALED SPACES.(2) LAYERS OF 5/8" TYPE 'X' GWB PER IBC	P7 WOOD 2x4 STUD - NON-RATED FURRING - INTERIOR <ul style="list-style-type: none">(1) LAYER 5/8" TYPE "X" GYPSUM BOARD ON OCCUPIED SIDE2x4 WOOD STUDS SPACED 16" O.C.	P80 METAL 6" STUD - 1HR PARTITION - EXTERIOR <ul style="list-style-type: none">EXTERIOR FINISH SYSTEM PER ELEVATIONS - BRICK SHOWNWEATHER RESISTANT BARRIER PER SPECIFICATIONS(1) LAYER OF 5/8" DENSGLASS FIREGUARD SHEATHING PER UL6" METAL STUDS SPACED PER UL AND STRUCTURAL ENGINEER (MIN 20 MSG)BATT INSULATION PER UL AND IECC(1) LAYER 5/8" TYPE "X" GYPSUM BOARD PER UL	
	P14 WOOD DOUBLE 2x4 STUD - 1HR PARTITION - INTERIOR <ul style="list-style-type: none">(1) LAYER 5/8" TYPE "X" GYPSUM BOARD2x4 WOOD STUDS SPACED 16" O.C. MAX, OR PER STRUCT. DWGS.3 1/2" FRICTION FIT BATT INSULATION IN STUD CAVITY1" AIR GAP2x4 WOOD STUDS SPACED 16" O.C. MAX, OR PER STRUCT. DWGS.3 1/2" FRICTION FIT BATT INSULATION IN STUD CAVITY(1) LAYER 5/8" TYPE "X" GYPSUM BOARD	P80.1 DOUBLE METAL 3-5/8" STUD - NON-RATED PARTITION - EXTERIOR - PARKING <ul style="list-style-type: none">EXTERIOR FINISH SYSTEM PER ELEVATIONS - BRICK SHOWNWEATHER RESISTANT BARRIER PER SPECIFICATIONS(1) LAYER SHEATHING PER STRUCT. DRAWINGSDOUBLE 3-5/8" METAL STUDS WITH 3-3/4" AIR GAP, SPACED PER STRUCTURAL ENGINEER (MIN 20 MSG)(1) LAYER 5/8" TYPE "X" GYPSUM BOARD	
	P41 CMU 8" BLOCK - 2HR FIRE BARRIER - INTERIOR <ul style="list-style-type: none">8" CMU (REINFORCING PER STRUCT)		



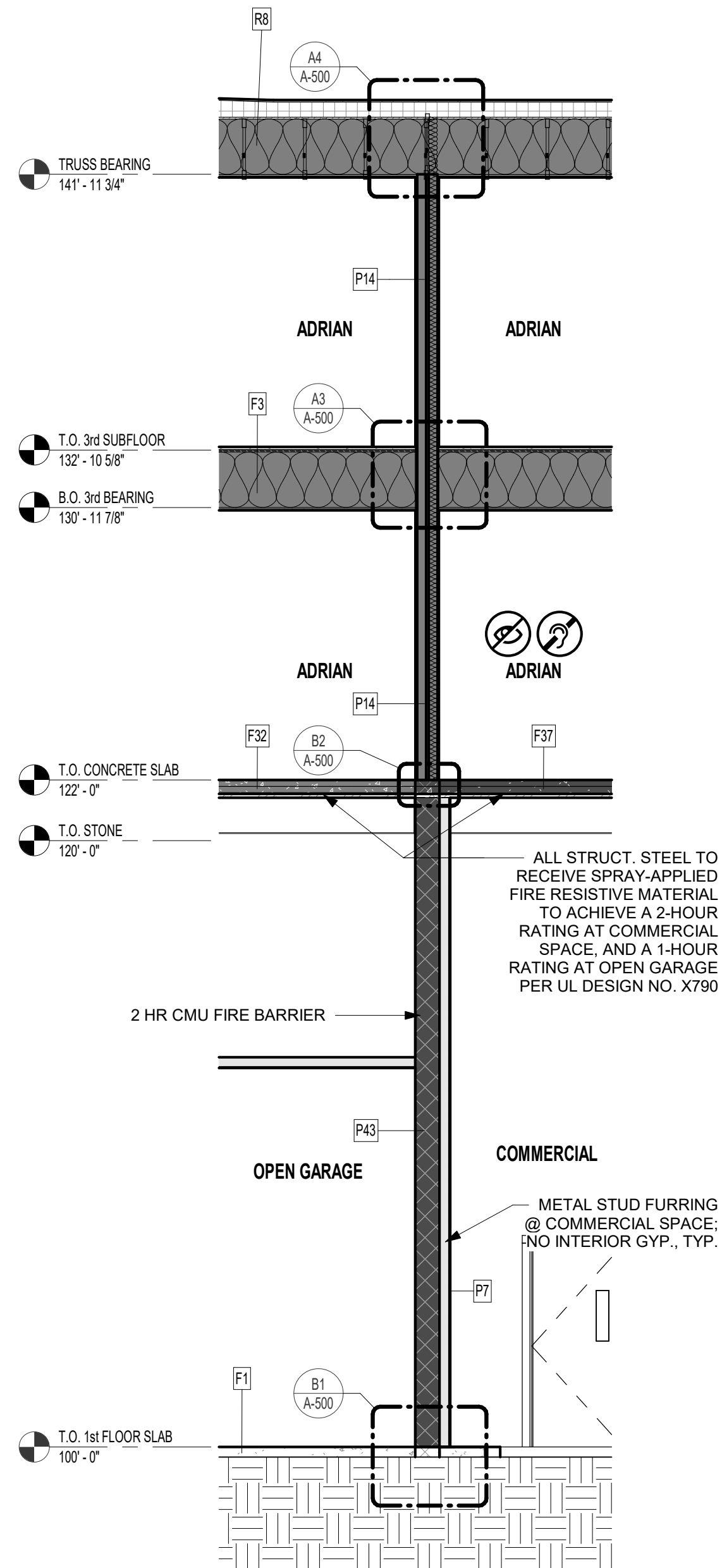
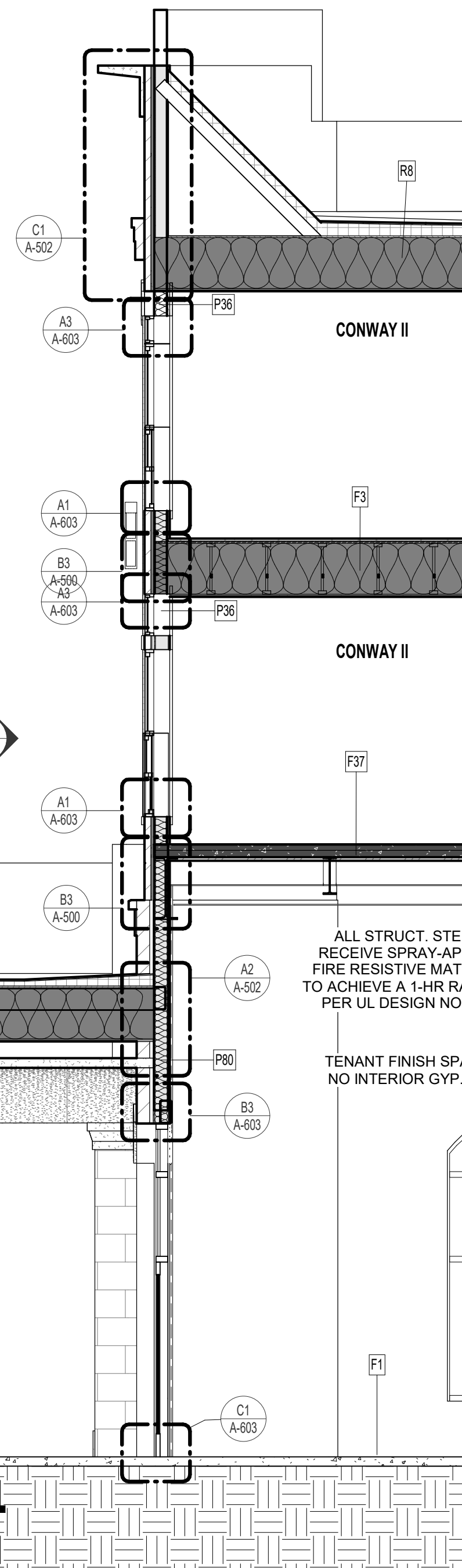
D1 SECTION @ PARKING GARAGE
1/4" = 1'-0"



C1 TYP. SECTION
1/4" = 1'-0"



B1 SECTION @ ENTRY
1/4" = 1'-0"



A1 SECTION @ FIRE BARRIER
1/4" = 1'-0"

PRINTS ISSUED
12/20/2024 - CITY SUBMISSION
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12/20/24

DISCOVERY PARK - LOT #10-A

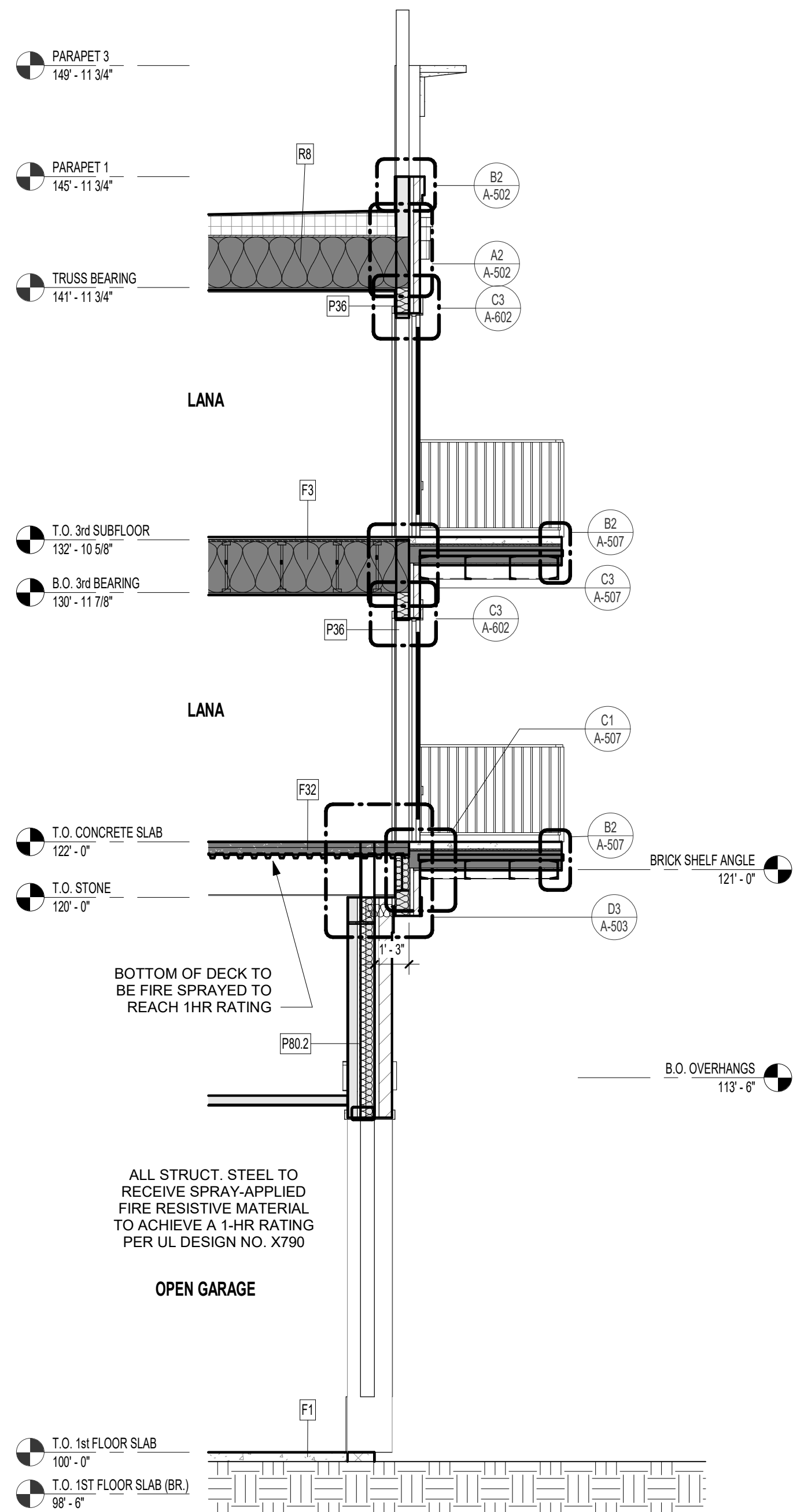
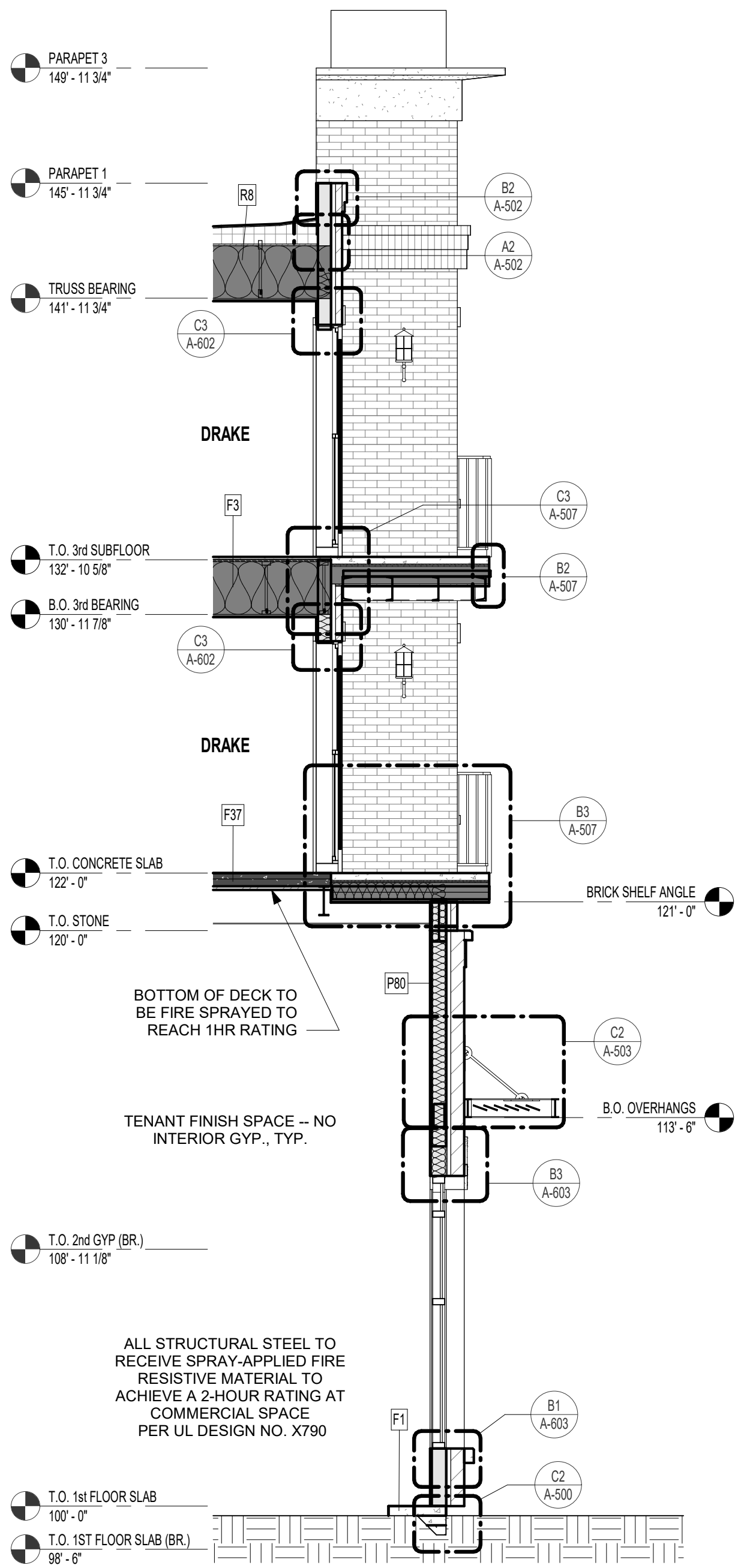
LEE'S SUMMIT, MO

SHEET TITLE
WALL SECTIONS

PROJECT NUMBER: 24004
SHEET NUMBER:

A-303

FLOOR/CEILING ASSEMBLY-WOOD	FLOOR/CEILING ASSEMBLY-METAL	EXTERIOR PARTITION ASSEMBLIES	ROOF/CEILING ASSEMBLY-WOOD
<div>F1</div> <div>CONCRETE - NON-RATED - SLAB ON GRADE</div> <div>• CONCRETE SLAB ON GRADE PER STRUCT. DWGS.</div>	<div>F32</div> <div>METAL DECK AND CONCRETE - 1HR</div> <div>• CONCRETE TOPPING SLAB PER STRUCT.</div> <div>• WELDED WIRE FABRIC PER STRUCT. DWGS.</div> <div>• METAL DECKING PER STRUCT. DWGS.</div>	<div>P36</div> <div>WOOD 2x6 STUD - NON-RATED EXTERIOR</div> <div>EXTERIOR</div> <div>• EXTERIOR FINISH SYSTEM PER ELEVATIONS</div> <div>• WEATHER RESISTANT BARRIER, PER SPECIFICATIONS</div> <div>• (1) LAYER SHEATHING PER STRUCT. DWGS.</div> <div>• 2x6 WOOD STUDS SPACED 16" O.C. MAX OR PER STRUCT. DWGS.</div> <div>• (1) LAYER 5/8" TYPE "X" GYPSUM BOARD</div> <div>INTERIOR</div>	<div>R8</div> <div>WOOD PARALLEL CHORD TRUSS - 1HR - TPO</div> <div>• TPO ROOFING, PER SPECIFICATION TO MEET IECC</div> <div>• 1/2" COVERBOARD, NON-COMBUSTIBLE, WATER-RESISTANT</div> <div>• TAPERED INSULATION, SLOPE PER PLAN</div> <div>• 15/32" MIN. ROOF SHEATHING, SEE NOTE b.</div> <div>• WOOD TRUSS FRAMING PER STRUCT. DWGS, MAX SPACING 24" OC -</div> <div>REFERENCE UL FOR CONSTRUCTION</div> <div>• R-30 INSULATION PER LEE'S SUMMIT CODE, INSTALLED PER UL</div> <div>• 25 MSG GALVANIZED STEEL RESILIENT CHANNELS, SPACED PER UL</div> <div>• (1) LAYER OF 5/8" TYPE "AG-C" GWB, BY AMERICAN GYPSUM CO, PER UL</div>
<div>F3</div> <div>WOOD OPEN WEB TRUSS - 1HR</div> <div>• 1" GYPCRETE TOPPING</div> <div>• 1/4" ACOUSTICAL MAT</div> <div>• 19/32" MIN. PLYWOOD SHEATHING, TYPE 'C/D', SEE ALSO NOTE b.</div> <div>• WOOD TRUSSES PER STRUCTURAL, REFER TO UL FOR MIN. REQs</div> <div>• UNFACED FIBERGLASS INSULATION COMPLETELY FILLED IN CONCEALED CAVITY TO COMPLY WITH NFPA 13 CONCEALED SPACES.</div> <div>• 25 MSG GALVANIZED RESILIENT CHANNELS, SPACED PER U.L.</div> <div>• (1) LAYER OF 5/8" TYPE 'C' GWB PER UL</div>	<div>F37</div> <div>METAL DECK AND CONCRETE - 2HR</div> <div>• CONCRETE TOPPING SLAB PER STRUCT.</div> <div>• WELDED WIRE FABRIC PER STRUCT. DWGS.</div> <div>• METAL DECKING PER STRUCT. DWGS.</div>	<div>P80</div> <div>METAL 6" STUD - 1HR PARTITION - EXTERIOR</div> <div>• EXTERIOR FINISH SYSTEM PER ELEVATIONS - BRICK SHOWN</div> <div>• WEATHER RESISTANT BARRIER PER SPECIFICATIONS</div> <div>• (1) LAYER OF 5/8" DENSGLASS FIREGUARD SHEATHING PER UL</div> <div>• 6" METAL STUDS SPACED PER UL AND STRUCTURAL ENGINEER (MIN 20 MSG)</div> <div>• BATT INSULATION PER UL AND IECC</div> <div>• (1) LAYER 5/8" TYPE "X" GYPSUM BOARD PER UL</div>	
		<div>P80.1</div> <div>DOUBLE METAL 3-5/8" STUD - NON-RATED PARTITION - EXTERIOR - PARKING</div> <div>• EXTERIOR FINISH SYSTEM PER ELEVATIONS - BRICK SHOWN</div> <div>• WEATHER RESISTANT BARRIER PER SPECIFICATIONS</div> <div>• (1) LAYER SHEATHING PER STRUCT. DRAWINGS</div> <div>• DOUBLE 3-5/8" METAL STUDS WITH 3-3/4" AIR GAP, SPACED PER STRUCTURAL ENGINEER (MIN 20 MSG)</div> <div>• (1) LAYER 5/8" TYPE "X" GYPSUM BOARD</div>	



12/20/24

DISCOVERY PARK - LOT #10-A

LEE'S SUMMIT, MO

SHEET TITLE
WALL SECTIONS

PROJECT NUMBER: 24004

SHEET NUMBER:

A-304

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FLOOR/CEILING ASSEMBLY-WOOD		INTERIOR PARTITION ASSEMBLIES		ROOF/CEILING ASSEMBLY-WOOD		FLOOR/CEILING ASSEMBLY-METAL	
F1	CONCRETE - NON-RATED - SLAB ON GRADE <ul style="list-style-type: none">CONCRETE SLAB ON GRADE PER STRUCT. DWGS.	P7	WOOD 2x4 STUD - NON-RATED FURRING - INTERIOR <ul style="list-style-type: none">(1) LAYER 5/8" TYPE "X" GYPSUM BOARD ON OCCUPIED SIDE2x4 WOOD STUDS SPACED 16" O.C.	R8	WOOD PARALLEL CHORD TRUSS - 1HR - TPO <ul style="list-style-type: none">TPO ROOFING, PER SPECIFICATION TO MEET IECC1/2" COVERBOARD, NON-COMBUSTIBLE, WATER-RESISTANTTAPERED INSULATION, SLOPE PER PLAN15/32" MIN. ROOF SHEATHING, SEE NOTE b.WOOD TRUSS FRAMING PER STRUCT. DWGS, MAX SPACING 24" OC - REFERENCE UL FOR CONSTRUCTIONR-30 INSULATION PER LEE'S SUMMIT CODE, INSTALLED PER UL25 MSG GALVANIZED STEEL RESILIENT CHANNELS, SPACED PER UL(1) LAYER OF 5/8" TYPE 'AG-C' GWB, BY AMERICAN GYPSUM CO, PER UL	F37	METAL DECK AND CONCRETE - 2HR <ul style="list-style-type: none">CONCRETE TOPPING SLAB PER STRUCT.WELDED WIRE FABRIC PER STRUCT. DWGS.METAL DECKING PER STRUCT. DWGS.
F3	WOOD OPEN WEB TRUSS - 1HR <ul style="list-style-type: none">1" GYPCRETE TOPPING1/4" ACOUSTICAL MAT15/32" MIN. PLYWOOD SHEATHING, TYPE 'C/D', SEE ALSO NOTE b.WOOD TRUSSES PER STRUCTURAL, REFER TO UL FOR MIN. REQOSUNFACED FIBERGLASS INSULATION COMPLETELY FILLED IN CONCEALED CAVITY TO COMPLY WITH NFPA 13 CONCEALED SPACES.25 MSG GALVANIZED RESILIENT CHANNELS, SPACED PER U.L.(1) LAYER OF 5/8" TYPE 'C' GWB PER UL	P23	WOOD 2X6 STUD - 2HR BARRIER - INTERIOR <ul style="list-style-type: none">(2) LAYERS 5/8" TYPE "X" GYPSUM BOARD25 MSG GALVANIZED RESILIENT CHANNEL, 24" O.C.2x6 WOOD STUDS SPACED 16" O.C. MAX OR PER STRUCT. DWGS.5-1/2" FRICTION FIT BATT INSULATION IN STUD CAVITY(2) LAYERS 5/8" TYPE "X" GYPSUM BOARD		R12	WOOD FLAT 2X6 LUMBER - 1HR - TOP OF ELEVATOR <ul style="list-style-type: none">TPO ROOFING MEMBRANE PER SPECIFICATIONS TO MEET IECC1/2" COVERBOARD, NON-COMBUSTIBLE, WATER-RESISTANTPRE-SLOPED POLYISO RIGID INSULATION FOR SLOPE PER ROOF PLANR-20 RIGID INSULATION MIN. (OR NECESSARY TO MEET MIN. IECC REQUIREMENT)VAPOR BARRIER CLASS 1, SELF ADHERED TO SHEATHING, AS REQUIREDSHEATHING PER STRUCTURAL DWGS.WOOD 2X6 FRAMING SPACED PER STRUCTURALR-19 BATT INSULATION(2) LAYERS OF 5/8" TYPE 'X' GWB, PER GA ASSEMBLY	
F6	WOOD 2X10 LUMBER - 1HR - STAIR <ul style="list-style-type: none">1" GYPCRETE TOPPING3/8" ACOUSTICAL MATMIN 15/32" TYPE 'C/D' SHEATHING OR PER UL SYSTEM, SEE NOTE b.2X10 WOOD JOISTS SPACED MAX 16" O.C., REFER TO STRUCTURAL FOR REQUIRED SPACING IF MORE RESTRICTIVECROSS BRIDGING PER ULUNFACED FIBERGLASS INSULATION COMPLETELY FILLED IN CONCEALED CAVITY TO COMPLY WITH NFPA 13 CONCEALED SPACES AND UL25 MSG GALVANIZED RESILIENT CHANNEL SPACED PER UL.(1) LAYER OF 5/8" TYPE 'C' GWB PER UL	P41	CMU 8" BLOCK - 2HR FIRE BARRIER - INTERIOR <ul style="list-style-type: none">8" CMU (REINFORCING PER STRUCT)				
		P75	METAL 2 1/2" C-H STUD - 2HR RATED SHAFT - INTERIOR <ul style="list-style-type: none">(2) LAYERS 5/8" TYPE "X" GYPSUM BOARD PER UL2-1/2" C-H STUDS SPACED 24" O.C.(1) LAYER 1" SHAFT WALL LINER				
F7	WOOD 2X6 LUMBER - 1HR - CORRIDOR <ul style="list-style-type: none">1" GYPCRETE TOPPING3/8" ACOUSTICAL MAT15/32" SHEATHING MIN, SEE NOTE b.2X6 WOOD JOISTS SPACED PER STRUCTURALUNFACED FIBERGLASS INSULATION COMPLETELY FILLED IN CONCEALED CAVITY TO COMPLY WITH NFPA 13 CONCEALED SPACES.(2) LAYERS OF 5/8" TYPE "X" GWB PER IBC	P54	METAL 1/2" FURRING / HAT CHANNEL - NON-RATED FURRING - INTERIOR <ul style="list-style-type: none">(1) LAYER 5/8" TYPE "X" GYPSUM BOARD1/2" FURRING / HAT CHANNEL, SPACED 16" O.C. (GAUGE DETERMINED BY WALL HEIGHT) <p>NOTES:</p> <p>a. ATTACH GYPSUM WITH 1-1/4" TYPE "W" STEEL SCREWS SPACED 12" O.C.</p>				








B1
A-305

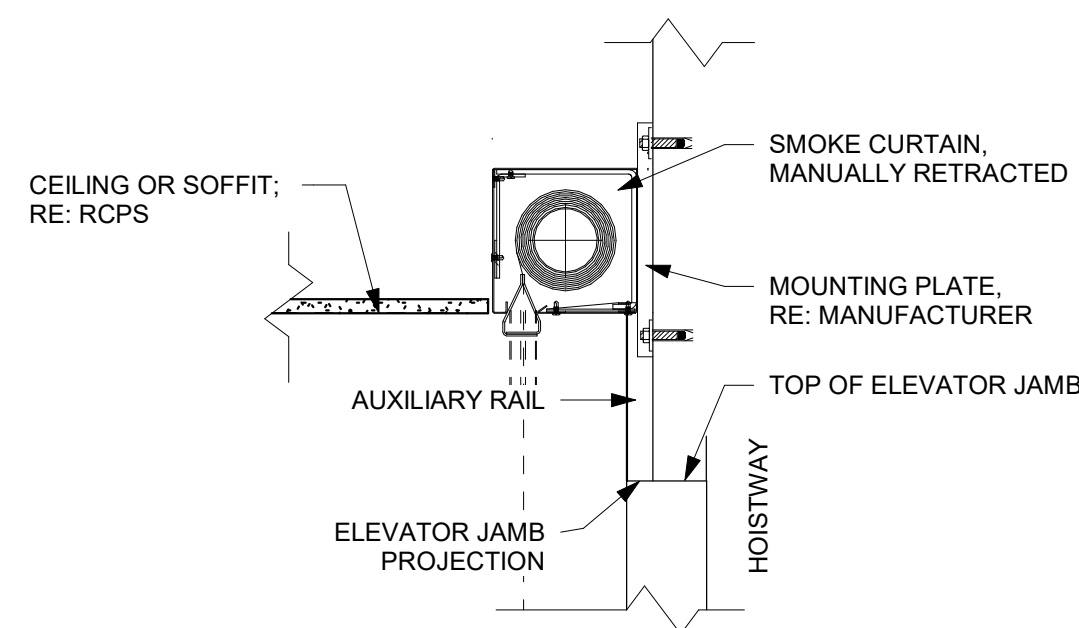
C1
A-305

REFERENCE G-003 FOR GENERAL NOTES

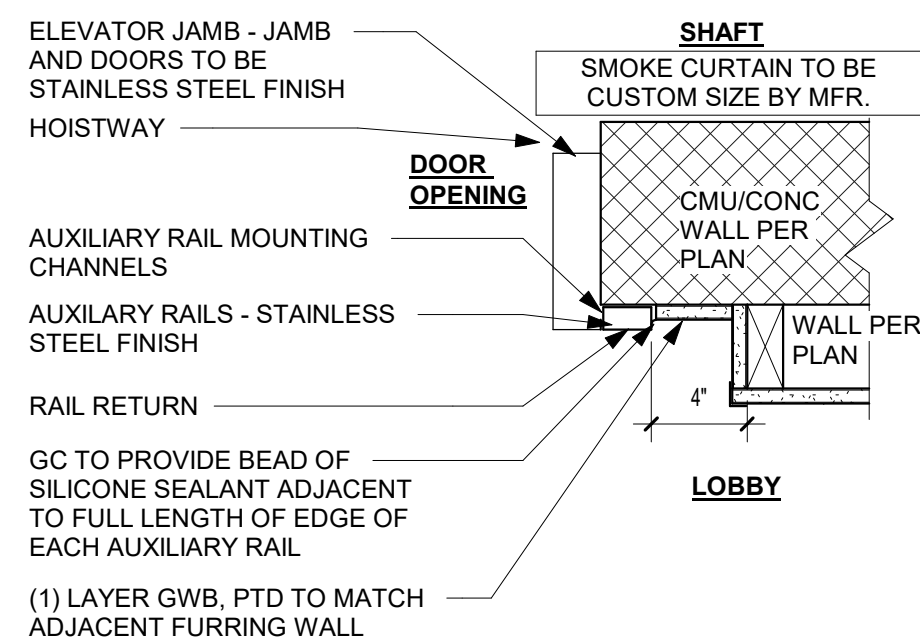
PLAN LEGEND

-  PARTIAL HEIGHT PARTITION
 NON-RATED PARTITION; SEE ASSEMBLIES G-100s
 1 HR RATED PARTITION; SEE ASSEMBLIES G-100s
 2 HR RATED PARTITION; SEE ASSEMBLIES G-100s

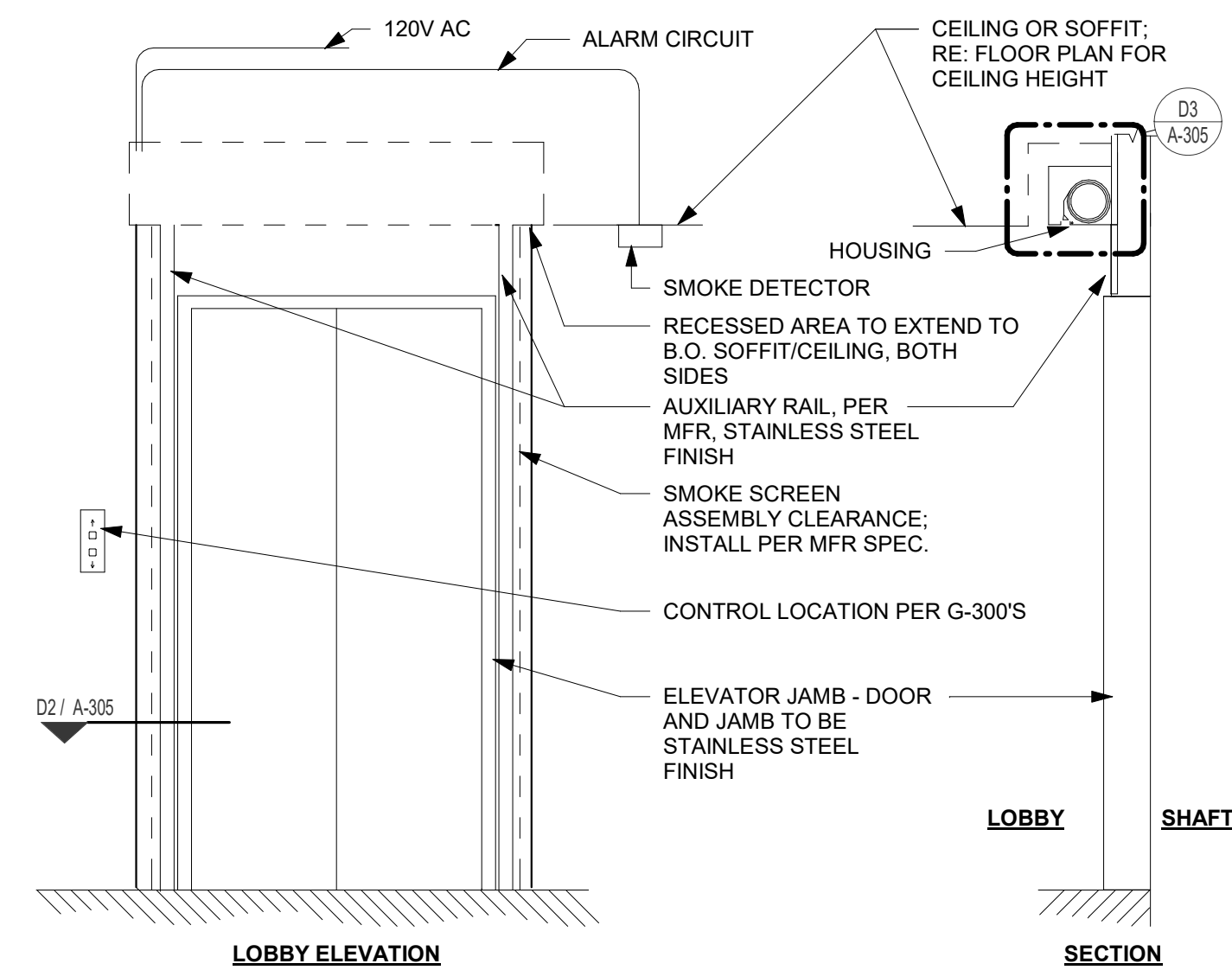
-  WINDOW TYPE; SEE WINDOW SCHEDULE ON SHEET A-600
-  DOOR TYPE; SEE DOOR SCHEDULE ON SHEET A-600
-  PARTITION TYPE; SEE ASSEMBLIES G-100s
-  FRAMING DIMENSIONS
-  LAYOUT LINE DIMENSIONS
-  HEARING/VISIBILITY
-  ADA/ACCESSIBLE UNITS



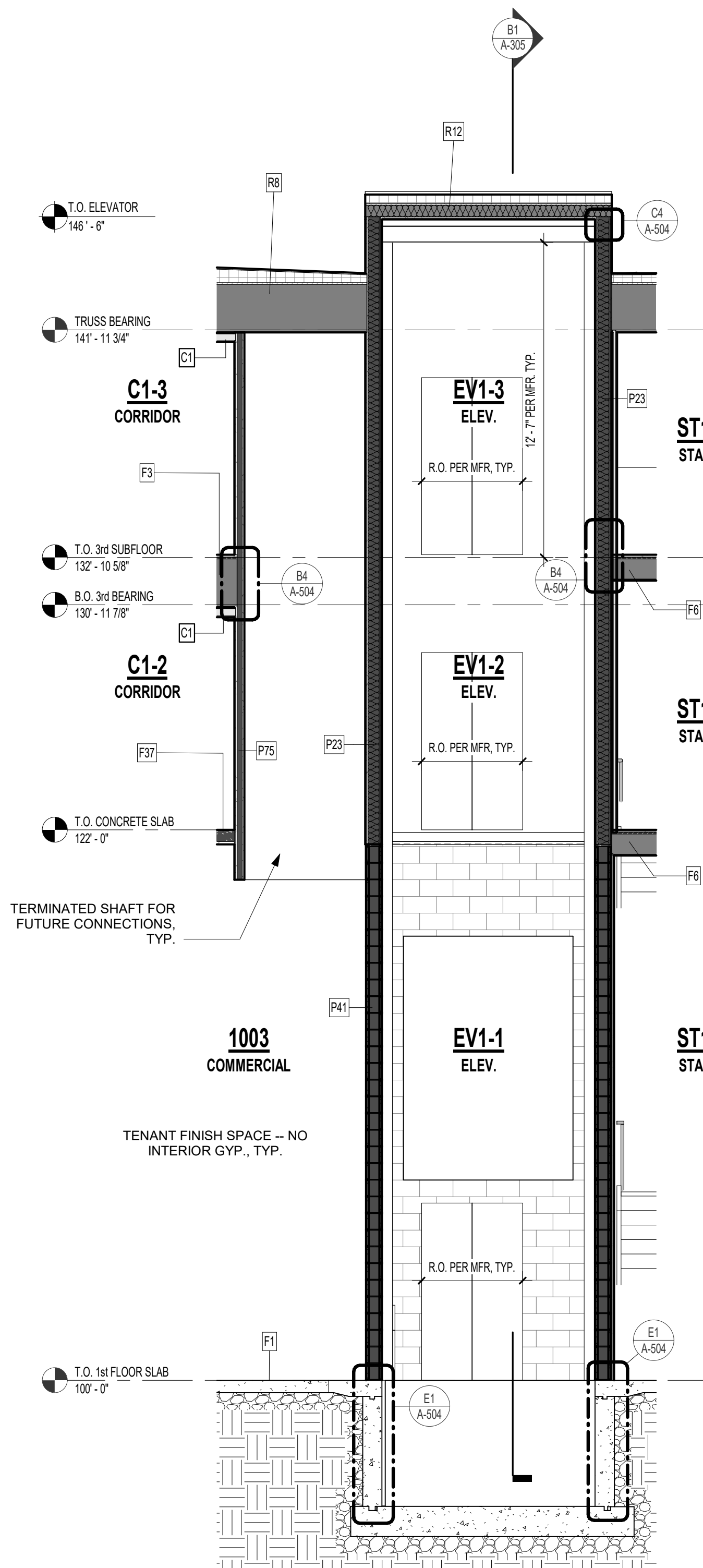
D3 SMOKE CURTAIN HEAD DTL
1 1/2" = 1'-0"



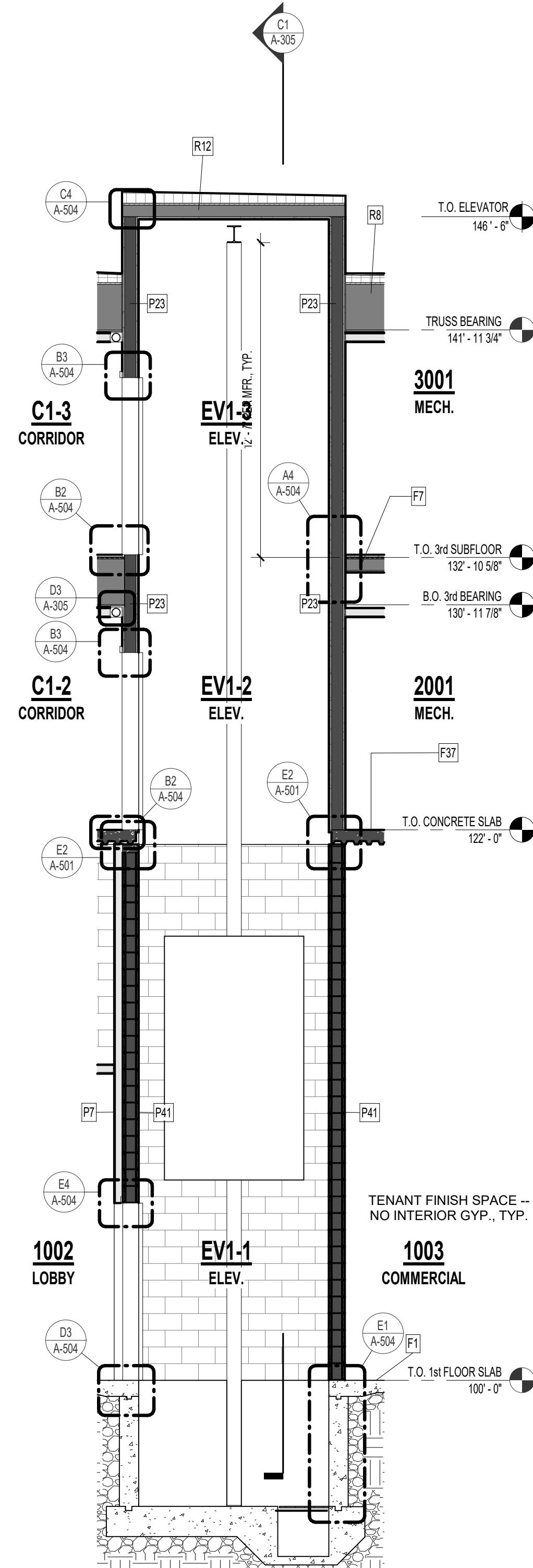
D2 SMOKE CURTAIN JAMB DTL
1 1/2" = 1'-0"



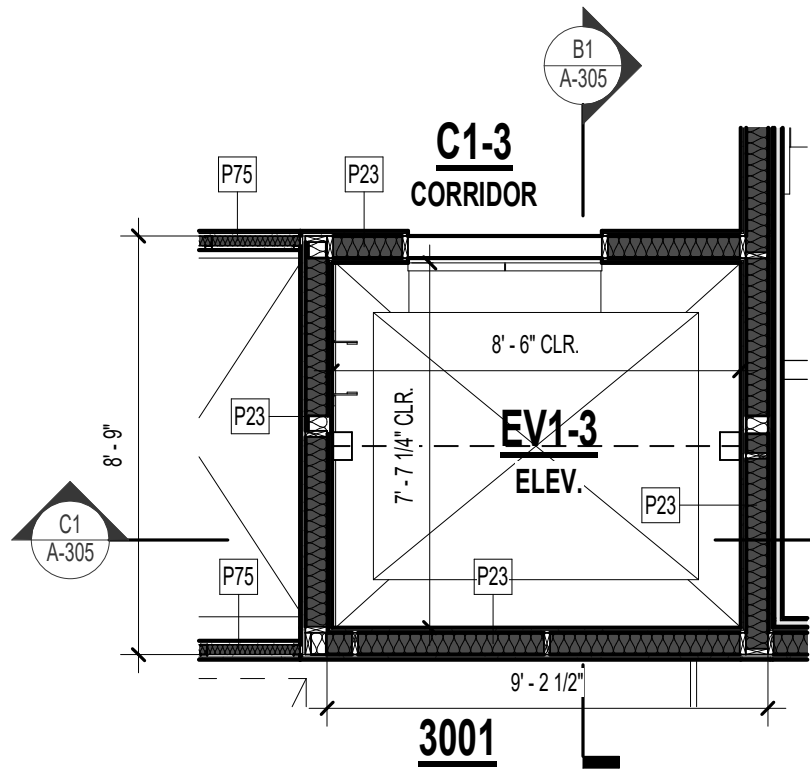
D1 SMOKE CURTAIN SECTION AND ELEVATION
1/2" = 1'-0"



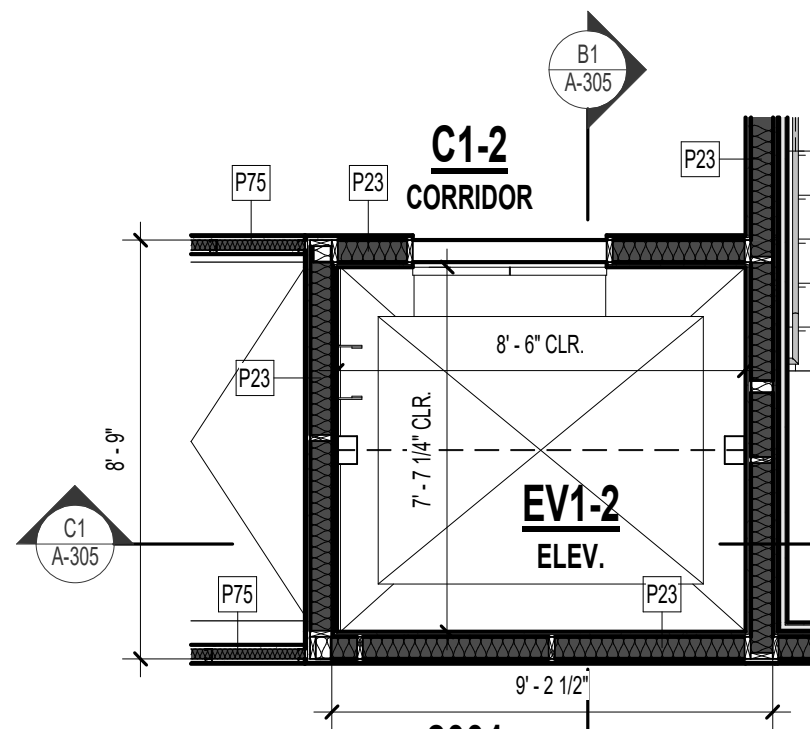
C1 **ELEVATOR - SECTION 2**
1/4" = 1'-0"



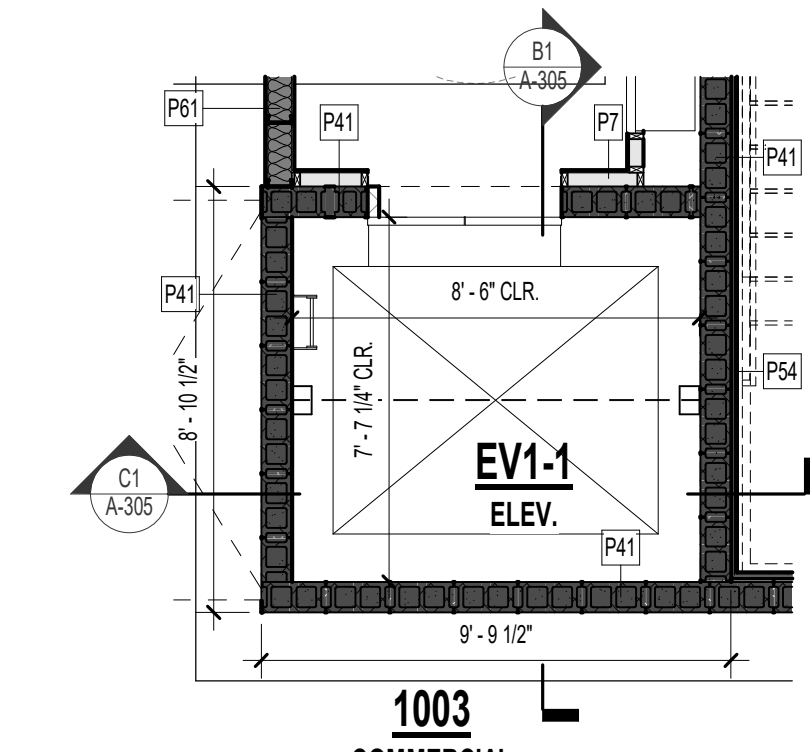
B1 ELEVATOR - SECTION 1
1/4" = 1'-0"



A3 ELEVATOR - 3RD FLOOR
1/4" = 1'-0"



A2 ELEVATOR - 2ND FLOOR
1/4" = 1'-0"



A1 ELEVATOR - 1ST FLOOR
1/4" = 1'-0"

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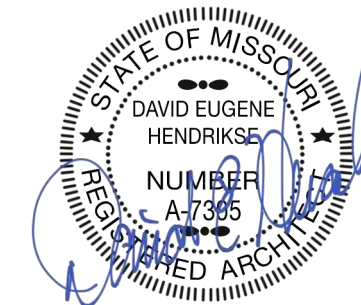
REVISIONS:

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12/20/24

DISCOVERY PARK - LOT #10-A

LEE'S SUMMIT, MO

SHEET TITLE
STAIR 1 SECTION & DETAILS

PROJECT NUMBER: 24004

SHEET NUMBER

A-306

FLOOR/CEILING ASSEMBLY-WOOD

F1	<u>CONCRETE - NON-RATED - SLAB ON GRADE</u> • CONCRETE SLAB ON GRADE PER STRUCT. DWGS.
----	---

WOOD OPEN WEB TRUSS - 1HR

- 1" GYPCRETE TOPPING
- 1/4" ACOUSTICAL MAT
- 19/32" MIN. PLYWOOD SHEATHING, TYPE 'C/D', SEE ALSO NOTE D.
- WOOD TRUSSES PER STRUCTURAL, REFER TO UL FOR MIN. REQS
- UNFACED FIBERGLASS INSULATION COMPLETELY FILLED IN CONCEALED CAVITY TO COMPLY WITH NFPA 13 CONCEALED SPACES.
- 25 MSG GALVANIZED RESILIENT CHANNELS, SPACED PER U.L.
- (1) LAYER OF 5/8" TYPE 'C' GWB PER UL

WOOD 2X6 LUMBER - 1HR - CORRIDOR

- 1" GYPCRETE TOPPING
- 3/8" ACOUSTICAL MAT
- 15/32" SHEATHING MIN. SEE NOTE b.
- 2X6 WOOD JOISTS SPACED PER STRUCTURAL
- UNFACED FIBERGLASS INSULATION COMPLETELY FILLED IN CONCEALED
- CAVITY TO COMPLY WITH NFPA 13 CONCEALED SPACES.
- (2) LAYERS OF 5/8" TYPE "X" GWB PER IBC

F6

WOOD 2X10 LUMBER - 1HR - STAIR

- 1" GYPCRETE TOPPING
- 3/8" ACUSTICAL MAT
- MIN 1/32" TYPE C/D SHEATHING OR PER UL SYSTEM, SEE NOTE B.
- 2X10 WOOD JOISTS SPACED MAX 16" O.C.; REFER TO STRUCTURAL FOR REQUIRED SPACING IF MORE RESTRICTIVE
- CROSS BRIDGING PER
- UNFACED FIBERGLASS INSULATION COMPLETELY FILLED IN CONCEALED CAVITY TO COMPLY WITH WFPB IN 13 CONCEALED SPACES AND UL 25 MSG GALVANIZED RESIST CHANNEL SPACED PER UL.
- (1) LAYER OF 5/8" TYPE C, GFWB PER UL.

FLOOR/CEILING ASSEMBLY-METAL

F37	<p><u>METAL DECK AND CONCRETE - 2HR</u></p> <ul style="list-style-type: none"> • CONCRETE TOPPING SLAB PER STRUCT. • WELDED WIRE FABRIC PER STRUCT. DWGS. • METAL DECKING PER STRUCT. DWGS.
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INTERIOR PARTITION ASSEMBLIES

P1	WOOD 2X4 STUD - NON-RATED PARTITION - INTERIOR <ul style="list-style-type: none"> • (1) LAYER 5/8" TYPE 'X' GYPSUM BOARD • 2x4 WOOD STUDS SPACED 16" O.C. • (1) LAYER 5/8" TYPE 'X' GYPSUM BOARD
----	--

P6	<u>WOOD 2X2 STUD - NON-RATED FURRING - INTERIOR</u>
	<ul style="list-style-type: none"> • (1) LAYER 5/8" TYPE 'X' GYPSUM BOARD ON OCCUPIED SIDE • 2x2 WOOD STUDS SPACED 16" O.C.

P23

WOOD 2X6 STUD - 2HR BARRIER - INTERIOR

- (2) LAYERS 5/8" TYPE "X" GYPSUM BOARD
- 25 MSG GALVANIZED RESILIENT CHANNEL, 24" O.C.
- 2x6 WOOD STUDS SPACED 16" O.C. MAX OR PER STRUCT. DWGS.
- 5-1/2" FRICTION FIT BATT INSULATION IN STUD CAVITY
- (2) LAYERS 5/8" TYPE "X" GYPSUM BOARD

P41	<u>CMU 8" BLOCK - 2HR FIRE BARRIER - INTERIOR</u> • 8" CMU (REINFORCING PER STRUCT)
-----	--

METAL 1/2" FURRING / HAT CHANNEL - NON-RATED FURRING - INTERIOR

- (1) LAYER 5/8" TYPE 'X' GYPSUM BOARD
- 1/2" FURRING / HAT CHANNEL, SPACED 16" O.C. (GAUGE DETERMINED BY WALL HEIGHT)

NOTES:

- a. ATTACH GYPSUM WITH 1-1/4" TYPE 'W' STEEL SCREWS SPACED 12" O.C.

EXTERIOR PARTITION ASSEMBLIES

WOOD 2x6 STUD - NON-RATED EXTERIOR

EXTERIOR

- EXTERIOR FINISH SYSTEM PER ELEVATIONS
- WEATHER RESISTANT BARRIER, PER SPECIFICATIONS
- (1) LAYER SHEATHING PER STRUCT. DWGS.
- 2x6 WOOD STUDS SPACED 16" O.C. MAX OR PER STRUCT. DWGS.
- (1) LAYER 5/8" TYPE "X" GYPSUM BOARD

INTERIOR

CMU 8" BLOCK - 1HR - EXTERIOR

EXTERIOR

- EXTERIOR FINISH SYSTEM PER ELEVATIONS - BRICK SHOWN
- WEATHER RESISTANT BARRIER PER SPECIFICATIONS
- R VALUE PER IECC AS INDICATED ON DRAWINGS / SPECIFICATIONS

8" CMU (SIZING AND REINFORCING PER STRUCT)

P54 WALL ASSEMBLY ATTACHED DIRECTLY TO CMU

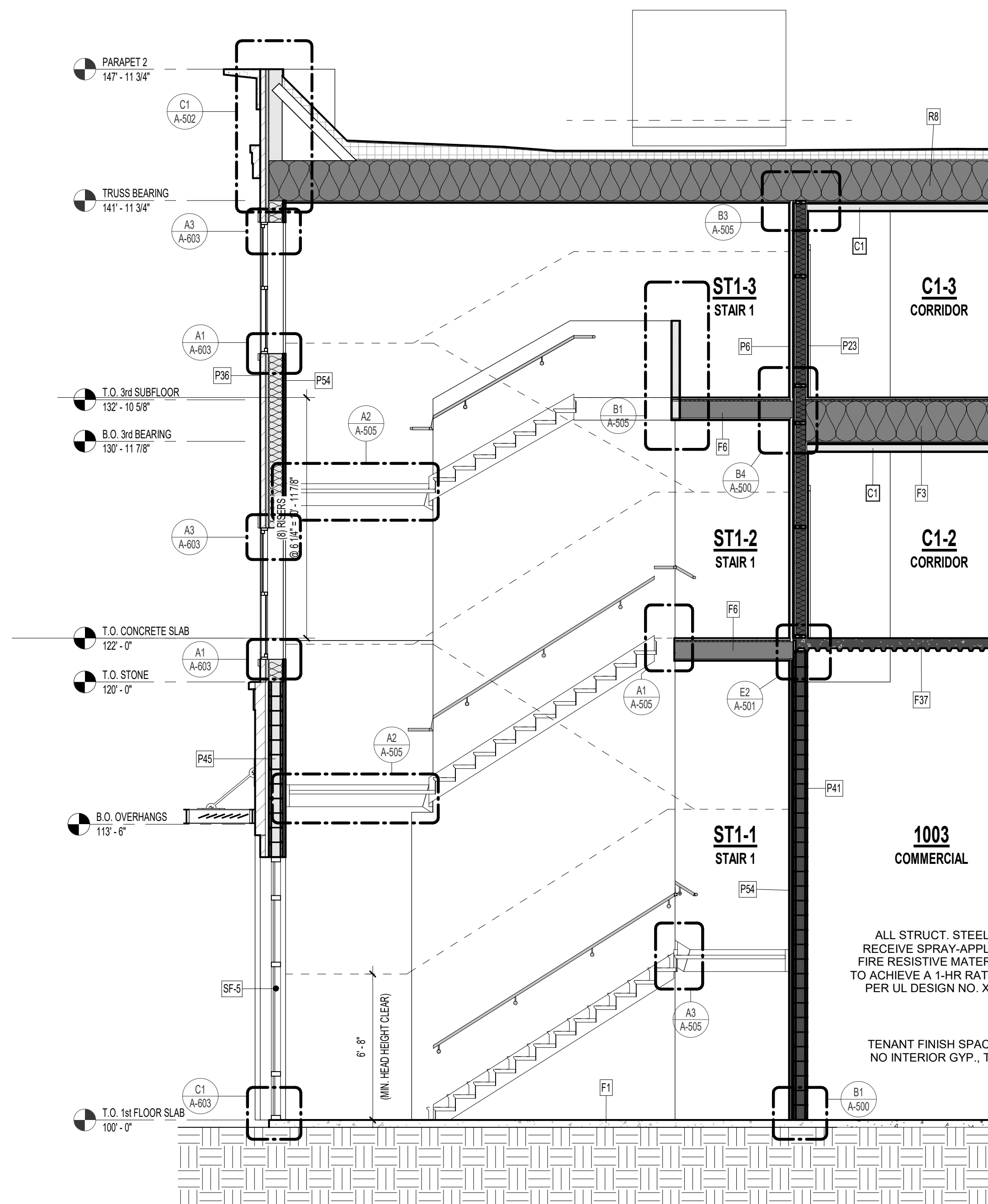
- 1. 7/8" FURRING / HAT CHANNEL, SPACED 16" O.C. (GAUGE DETERMINED BY WALL HEIGHT)
- 2. 1) LAYER 5/8" TYPE "X" GYPSUM BOARD

INTERIOR

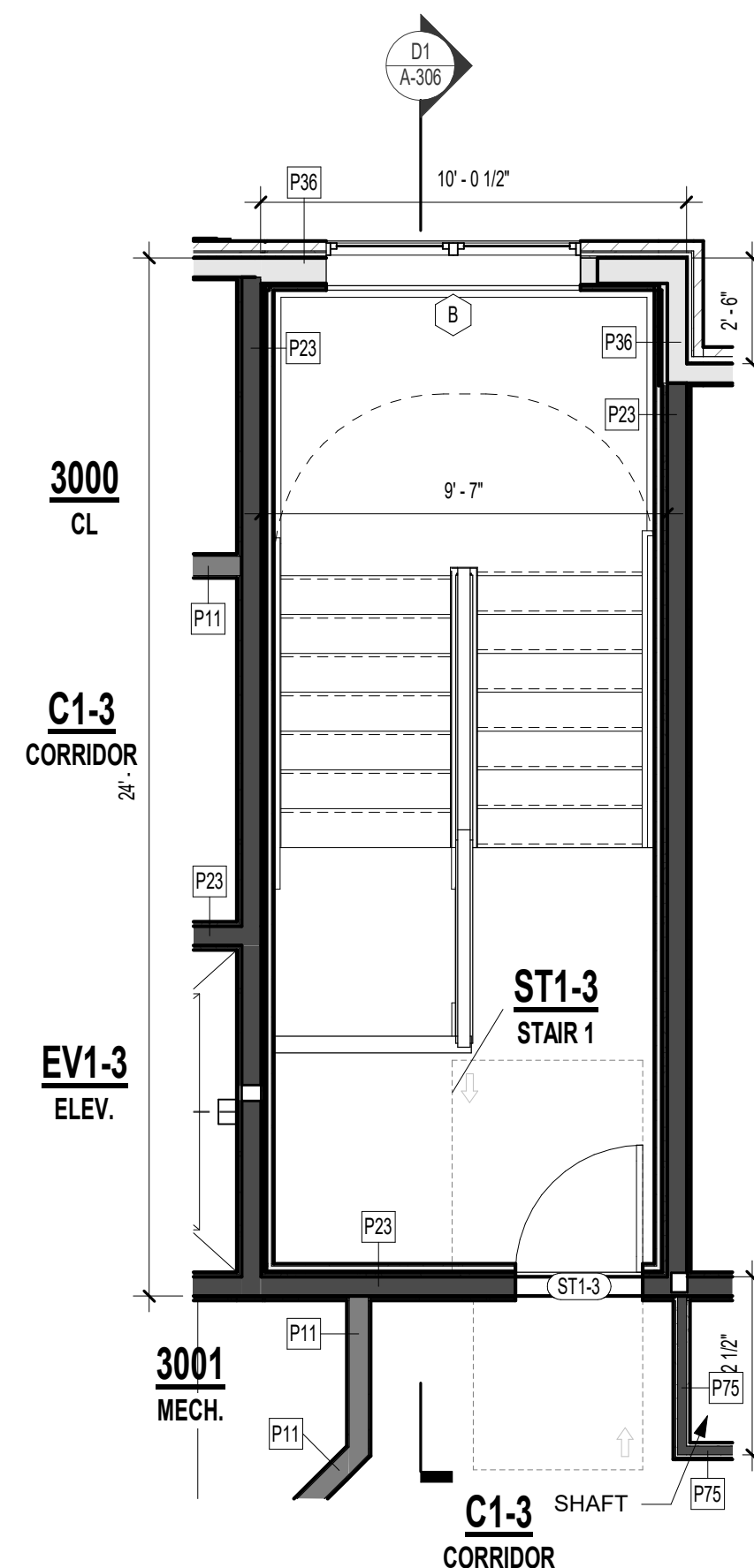
ROOF/CEILING ASSEMBLY-WOOD

WOOD PARALLEL CHORD TRUSS - 1HR - TPO

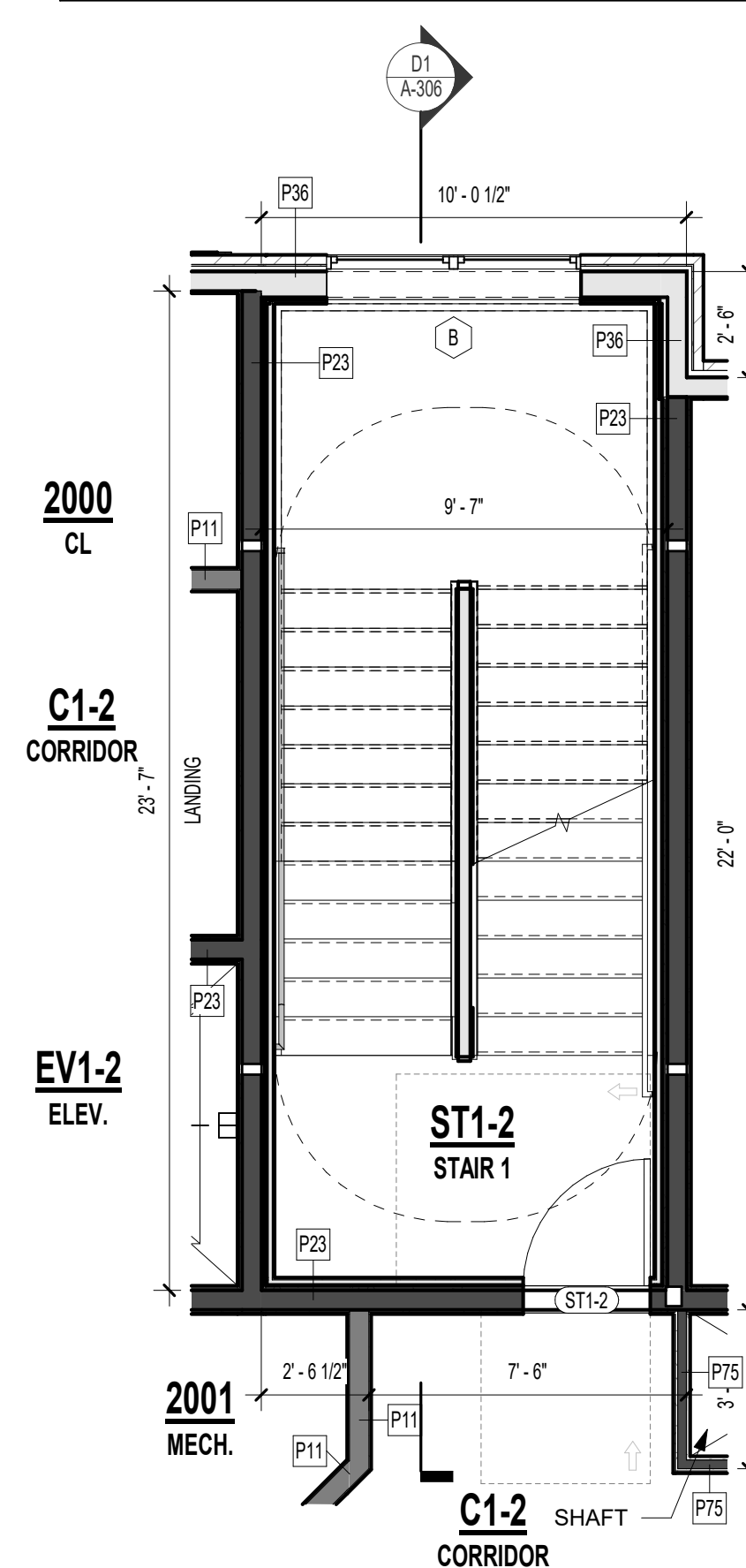
- TPO ROOFING, PER SPECIFICATION TO MEET IECC
- 1/2" COVERBOARD, NON-COMBUSTIBLE, WATER-RESISTANT
- TAPERED INSULATION, SLOPE PER PLAN
- 1932" MIN. ROOF SLOPE (SEE NOTE b)
- WOOD TRUSS FRAMING PER STRUCT. DWGS, MAX SPACING 24" OC -
- REFERENCE UL FOR CONSTRUCTION
- R-30 INSULATION PER LEE'S SUMMIT CODE, INSTALLED PER UL
- 25 MSG GALVANIZED STEEL RESILIENT CHANNELS, SPACED PER UL
- (1) LAYER OF 5/8" TYPE 'AG-C' GWB, BY AMERICAN GYPSUM CO, PER UL



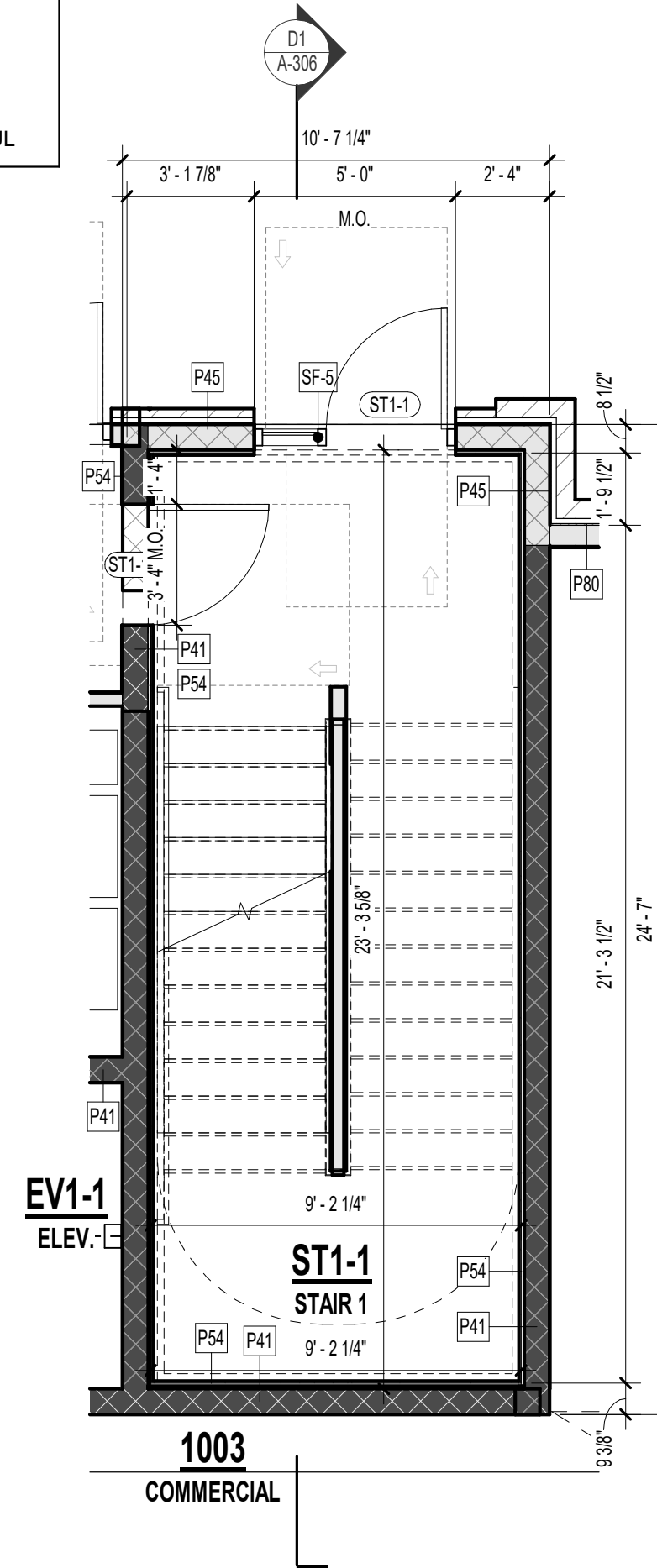
D1 STAIR 1 - SECTION
1/4" = 1'-0"



C1 STAIR 1 - 3RD FLOOR PLAN
1/4" = 1'-0"



B1 STAIR 1 - 2ND FLOOR PLAN
1/4" = 1'-0"



A1 STAIR 1 - 1ST FLOOR PLAN
1/4" = 1'-0"

FLOOR/CEILING ASSEMBLY-WOOD

F1

CONCRETE - NON-RATED - SLAB ON GRADE
• CONCRETE SLAB ON GRADE PER STRUCT. DWGS.

F3

WOOD OPEN WEB TRUSS - 1HR
• 1" GYPCRETE TOPPING
• 1/4" ACOUSTICAL MAT
• 19/32" MIN. PLYWOOD SHEATHING, TYPE 'C/D', SEE ALSO NOTE b.
• WOOD TRUSSES PER STRUCTURAL, REFER TO UL FOR MIN. REQS
• UNFACED FIBERGLASS INSULATION COMPLETELY FILLED IN CONCEALED CAVITY TO COMPLY WITH NFPA 13 CONCEALED SPACES.
• 25 MSG GALVANIZED RESILIENT CHANNELS, SPACED PER U.L.
• (1) LAYER OF 5/8" TYPE 'X' GWB PER UL

F7

WOOD 2X6 LUMBER - 1HR - CORRIDOR
• 1" GYPCRETE TOPPING
• 3/8" ACOUSTICAL MAT
• 15/32" SHEATHING MIN. SEE NOTE b.
• 2X6 WOOD JOISTS SPACED PER STRUCTURAL
• UNFACED FIBERGLASS INSULATION COMPLETELY FILLED IN CONCEALED CAVITY TO COMPLY WITH NFPA 13 CONCEALED SPACES.
• (2) LAYERS OF 5/8" TYPE 'X' GWB PER IBC

F6

WOOD 2X10 LUMBER - 1HR - STAIR
• 1" GYPCRETE TOPPING
• 3/8" ACOUSTICAL MAT
• MIN 15/32" TYPE 'C/D' SHEATHING OR PER UL SYSTEM, SEE NOTE b.
• 2X10 WOOD JOISTS SPACED MAX 16" O.C.; REFER TO STRUCTURAL FOR REQUIRED SPACING IF MORE RESTRICTIVE
• CROSS BRIDGING PER UL
• UNFACED FIBERGLASS INSULATION COMPLETELY FILLED IN CONCEALED CAVITY TO COMPLY WITH NFPA 13 CONCEALED SPACES AND UL
• 25 MSG GALVANIZED RESILIENT CHANNEL SPACED PER UL.
• (1) LAYER OF 5/8" TYPE 'X' GWB PER UL

FLOOR/CEILING ASSEMBLY-METAL

F32

METAL DECK AND CONCRETE - 1HR
• CONCRETE TOPPING SLAB PER STRUCT.
• WELDED WIRE FABRIC PER STRUCT. DWGS.
• METAL DECKING PER STRUCT. DWGS.

INTERIOR PARTITION ASSEMBLIES

P1

WOOD 2X4 STUD - NON-RATED PARTITION - INTERIOR
• (1) LAYER 5/8" TYPE 'X' GYPSUM BOARD
• 2x4 WOOD STUDS SPACED 16" O.C.
• (1) LAYER 5/8" TYPE 'X' GYPSUM BOARD

P6

WOOD 2X2 STUD - NON-RATED FURRING - INTERIOR
• (1) LAYER 5/8" TYPE 'X' GYPSUM BOARD ON OCCUPIED SIDE
• 2x2 WOOD STUDS SPACED 16" O.C.

P20

WOOD 2X6 STUD - 1HR BARRIER - INTERIOR
• (1) LAYER 5/8" TYPE 'X' GYPSUM BOARD
• 2x6 WOOD STUDS SPACED 16" O.C. MAX. OR PER STRUCT. DWGS.
• 5-1/2" FRICTION FIT UNFACED BATT INSULATION IN STUD CAVITY
• (1) LAYER 5/8" TYPE 'X' GYPSUM BOARD

P40

CMU 8" BLOCK - 1HR FIRE BARRIER - INTERIOR
• 8" CMU (REINFORCING PER STRUCT)

P54

METAL 1/2" FURRING / HAT CHANNEL - NON-RATED FURRING - INTERIOR
• (1) LAYER 5/8" TYPE 'X' GYPSUM BOARD
• 1/2" FURRING / HAT CHANNEL, SPACED 16" O.C. (GAUGE DETERMINED BY WALL HEIGHT)

NOTES:
a. ATTACH GYPSUM WITH 1-1/4" TYPE 'W' STEEL SCREWS SPACED 12" O.C.

EXTERIOR PARTITION ASSEMBLIES

P36

WOOD 2X6 STUD - NON-RATED EXTERIOR
EXTERIOR
• EXTERIOR FINISH SYSTEM PER ELEVATIONS
• WEATHER RESISTANT BARRIER, PER SPECIFICATIONS
• (1) LAYER SHEATHING PER STRUCT. DWGS.
• 2x6 WOOD STUDS SPACED 16" O.C. MAX OR PER STRUCT. DWGS.
• (1) LAYER 5/8" TYPE 'X' GYPSUM BOARD
INTERIOR

P40.1

CMU 8" BLOCK - 1HR FIRE BARRIER - EXTERIOR
• (1) LAYER 5/8" TYPE 'X' EXTERIOR RATED GYPSUM BOARD
• 2" RIGID INSULATION
• 8" CMU (REINFORCING PER STRUCT)

NOTES:
a. RATING SHALL MEET IBC 2018 SECTION 721 - PRESCRIPTIVE FIRE RESISTANCE FOR 1HR RATING. SHALL MEET TABLE 721.1(2).3 - CONCRETE MASONRY UNITS. ALL TIES. MORTAR TO MEET IBC SECTION 721.
b. APPLY WATERPROOFING AT ALL SUBGRADE PORTION OF WALLS

ROOF/CEILING ASSEMBLY-WOOD

R8

WOOD PARALLEL CHORD TRUSS - 1HR - TPO
• TPO ROOFING, PER SPECIFICATION TO MEET IECC
• 1/2" COVERBOARD, NON-COMBUSTIBLE, WATER-RESISTANT
• TAPERED INSULATION, SLOPE PER PLAN
• 15/32" MIN. ROOF SHEATHING, SEE NOTE b.
• WOOD TRUSS FRAMING PER STRUCT. DWGS, MAX SPACING 24" OC - REFERENCE UL FOR CONSTRUCTION
• R-30 INSULATION PER LEE'S SUMMIT CODE, INSTALLED PER UL
• 25 MSG GALVANIZED STEEL RESILIENT CHANNELS, SPACED PER UL
• (1) LAYER OF 5/8" TYPE 'AG-C' GWB, BY AMERICAN GYPSUM CO, PER UL

REFERENCE G-003 FOR GENERAL NOTES

PLAN LEGEND

- PARTIAL HEIGHT PARTITION
— NON-RATED PARTITION; SEE ASSEMBLIES G-100s
— 1 HR RATED PARTITION; SEE ASSEMBLIES G-100s
— 2 HR RATED PARTITION; SEE ASSEMBLIES G-100s
- (A1) WINDOW TYPE; SEE WINDOW SCHEDULE ON SHEET A-600
(101) DOOR TYPE; SEE DOOR SCHEDULE ON SHEET A-600
- (P7) PARTITION TYPE; SEE ASSEMBLIES G-100s
- 6'-0" FRAMING DIMENSIONS
6'-0" LAYOUT LAYOUT LINE DIMENSIONS
- (H) HEARING/VISIBILITY
(A) ADA/ACCESSIBLE UNITS

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DISCOVERY PARK - LOT #10-A

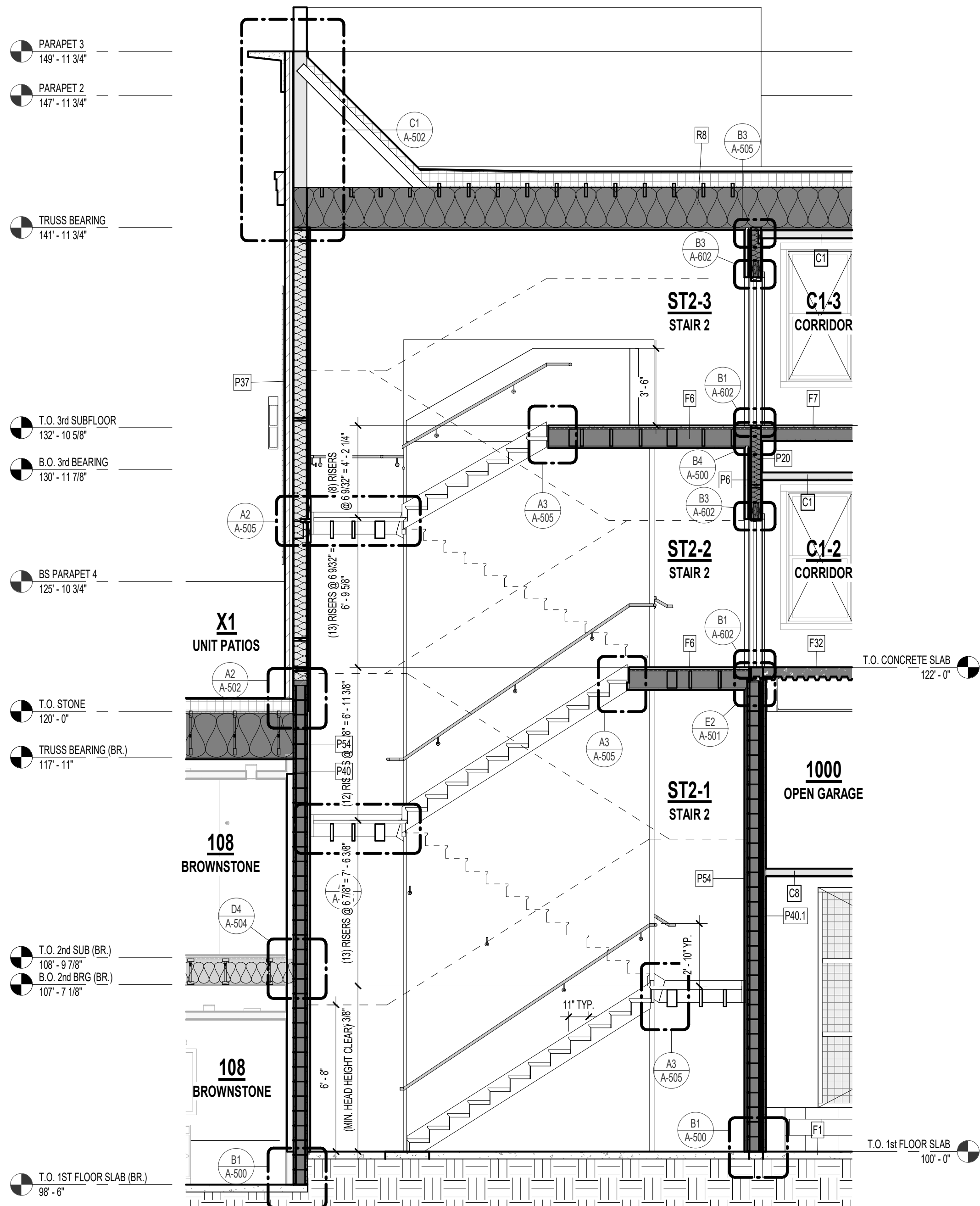
LEE'S SUMMIT, MO

SHEET TITLE
STAIR 2 SECTION & DETAILS

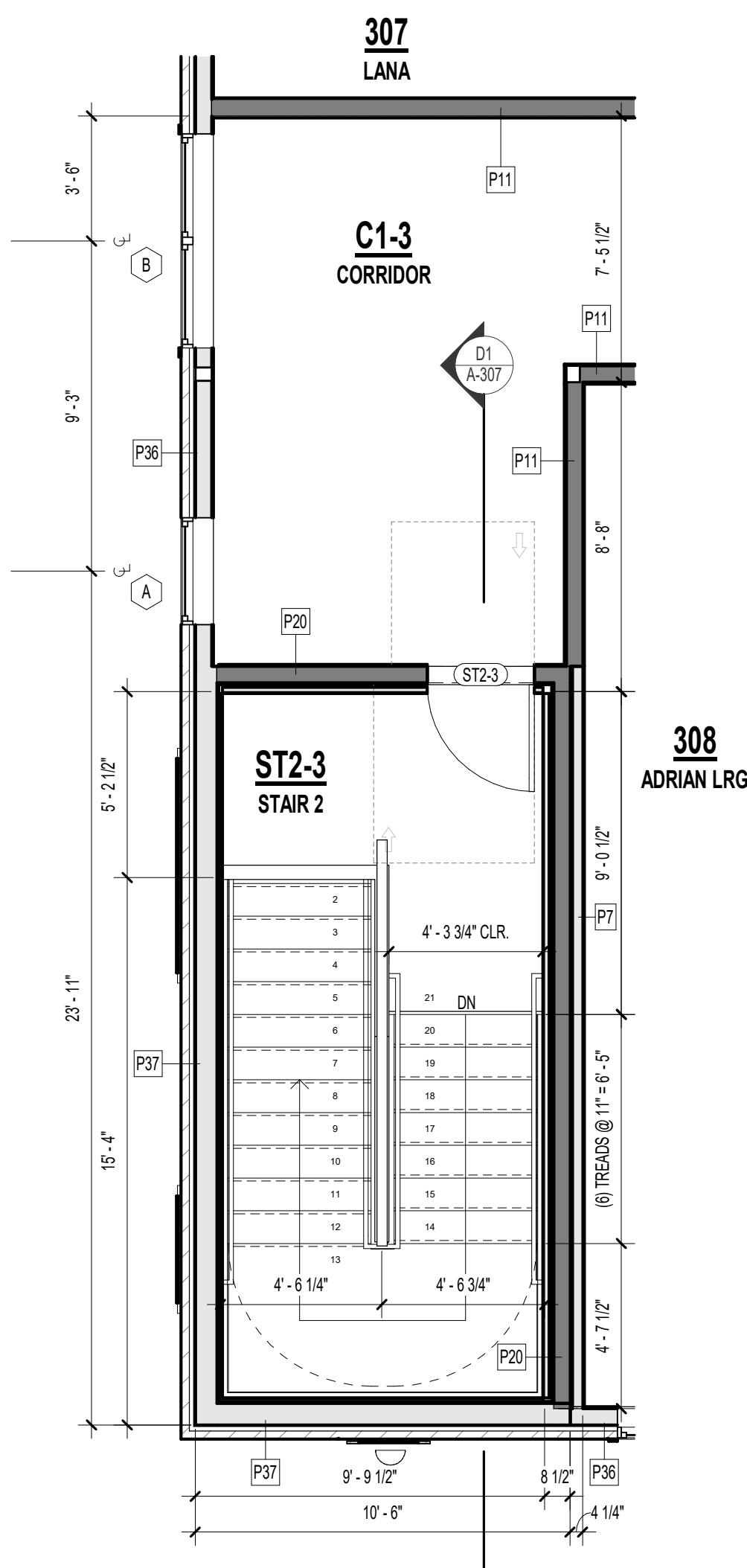
PROJECT NUMBER: 24004

SHEET NUMBER:

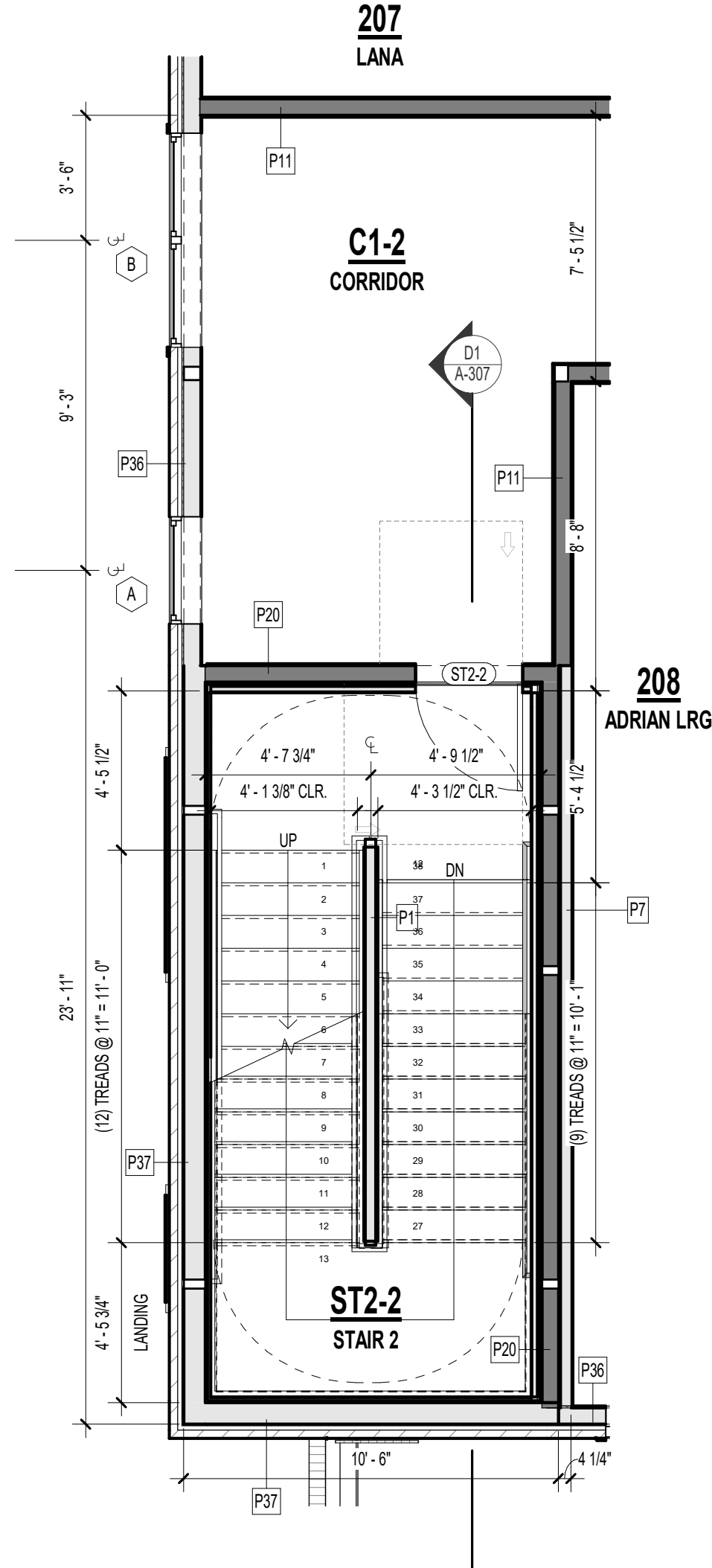
A-307



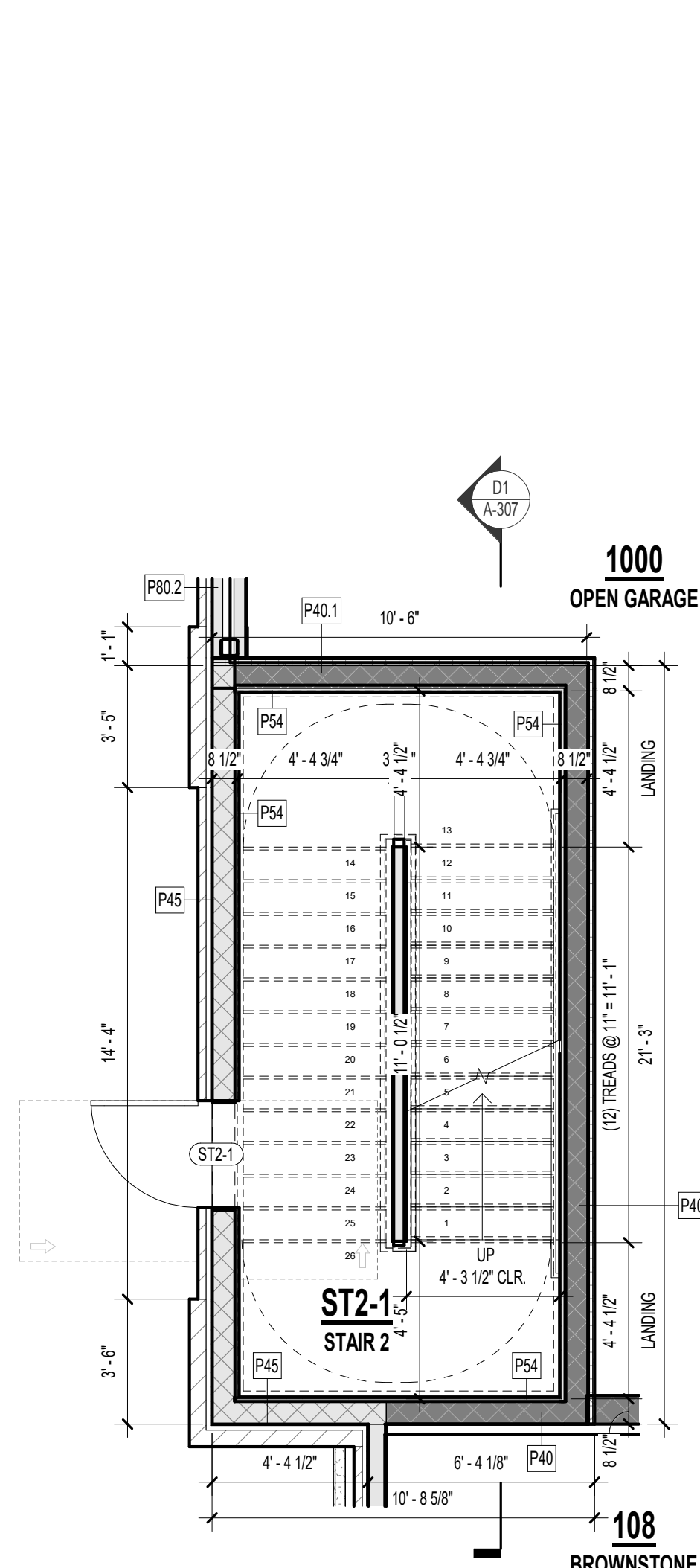
D1 STAIR 2 - SECTION
1/4" = 1'-0"



C1 STAIR 2 - 3RD FLOOR
1/4" = 1'-0"



B1 STAIR 2 - 2ND FLOOR
1/4" = 1'-0"

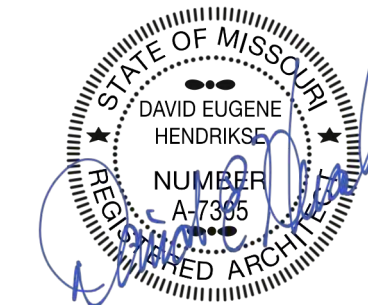


A1 STAIR 2 - 1ST FLOOR
1/4" = 1'-0"

REFERENCE G-003 FOR GENERAL NOTES
REFERENCE A-101 FOR PLAN LEGEND
REFERENCE A-120 FOR RCP LEGEND

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DISCOVERY PARK - LOT #10-A

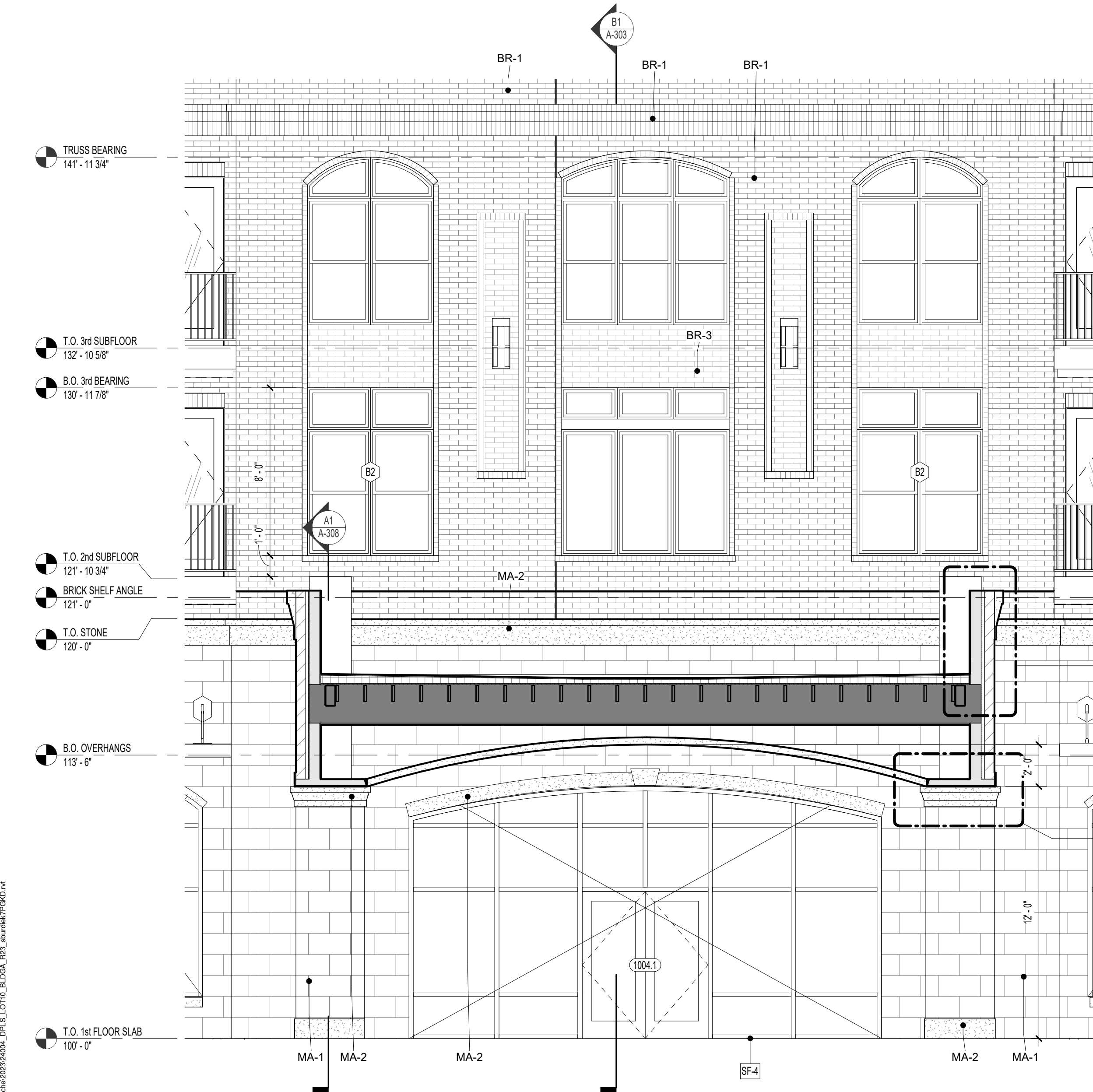
LEE'S SUMMIT, MO

SHEET TITLE
FRONT CANOPY PLAN / ELEV. /
SECTION / & DETAILS

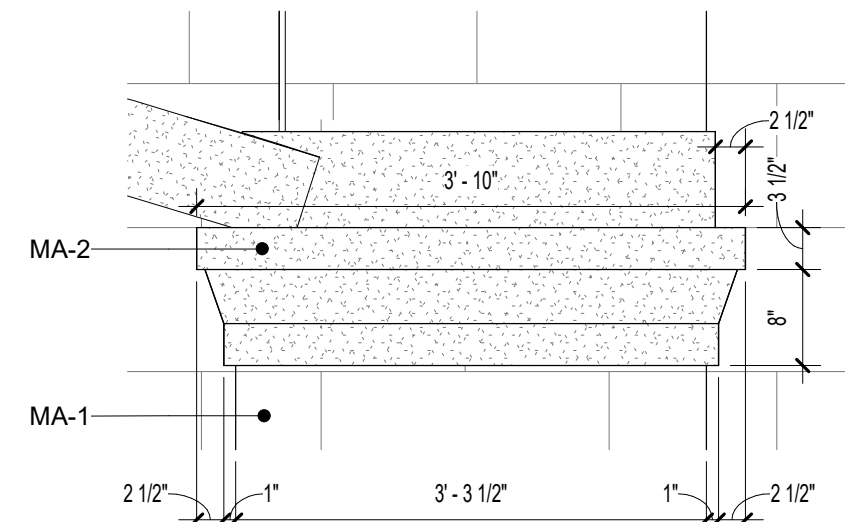
PROJECT NUMBER: 24004

SHEET NUMBER:

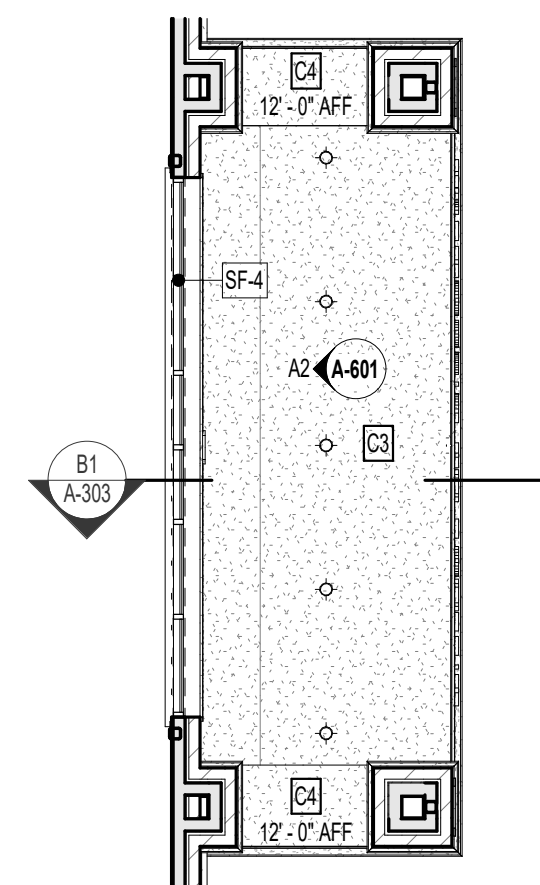
A-308



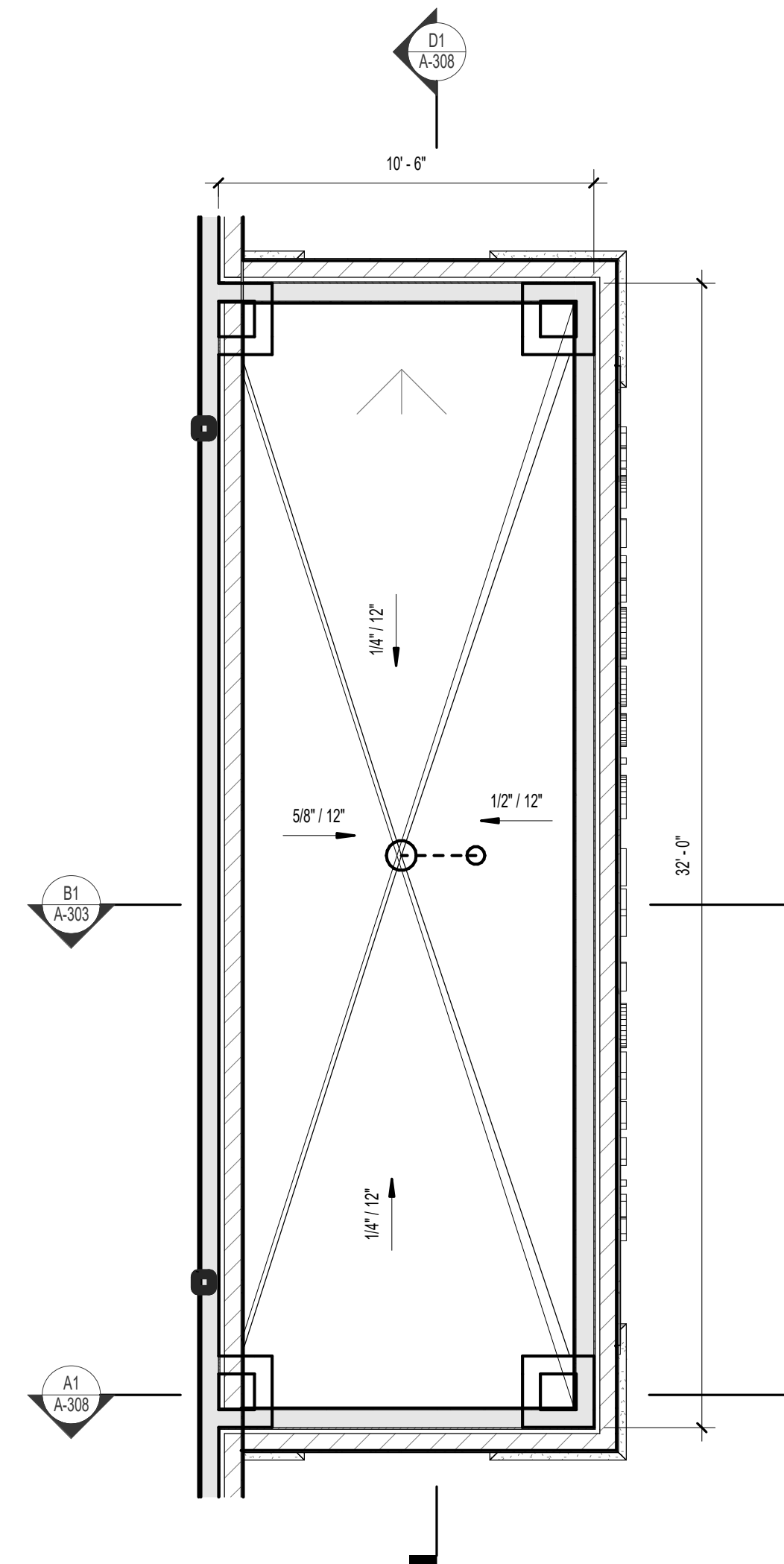
D1 FRONT CANOPY SECTION 1
1/4" = 1'-0"



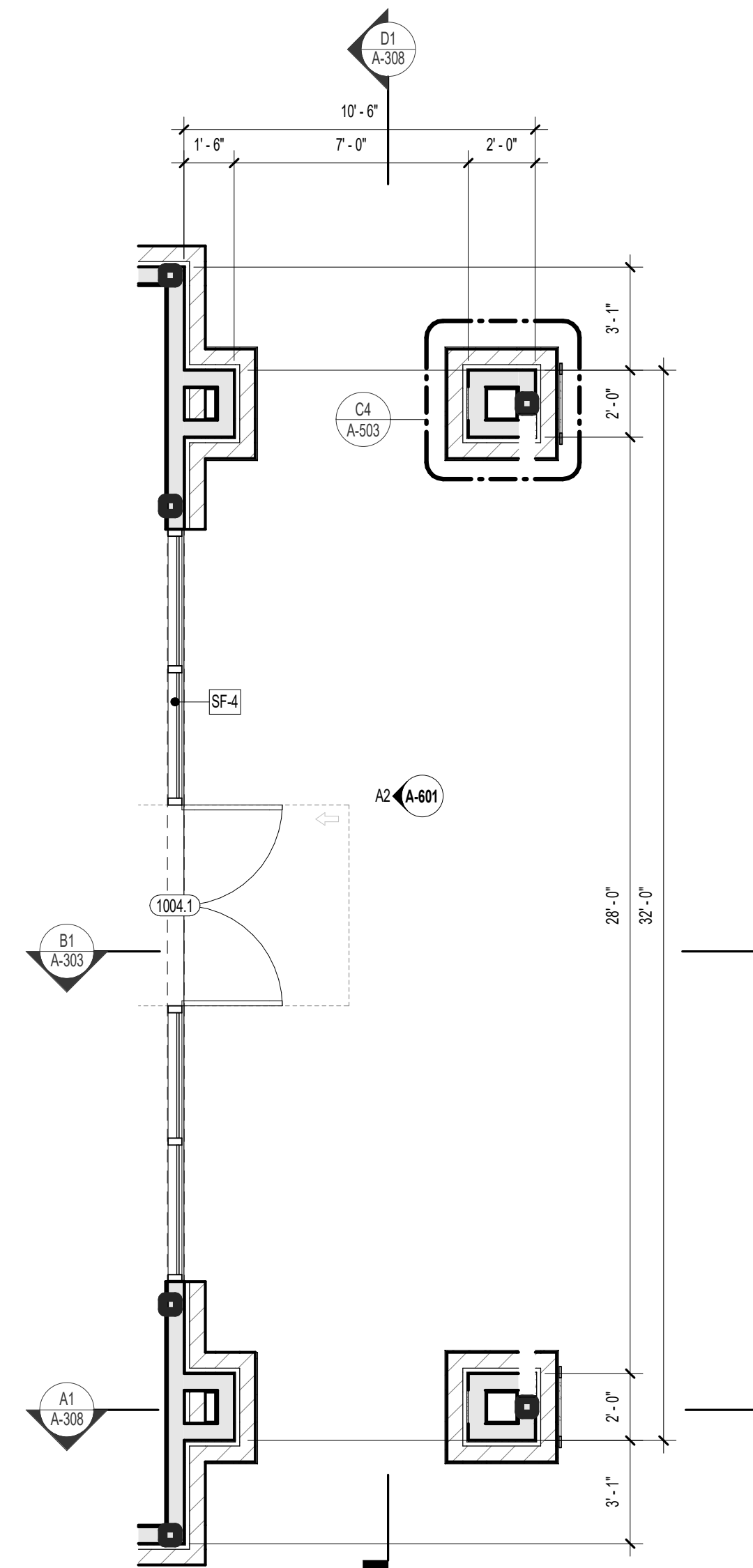
C3 ENTRY COLUMN CAP
3/4" = 1'-0"



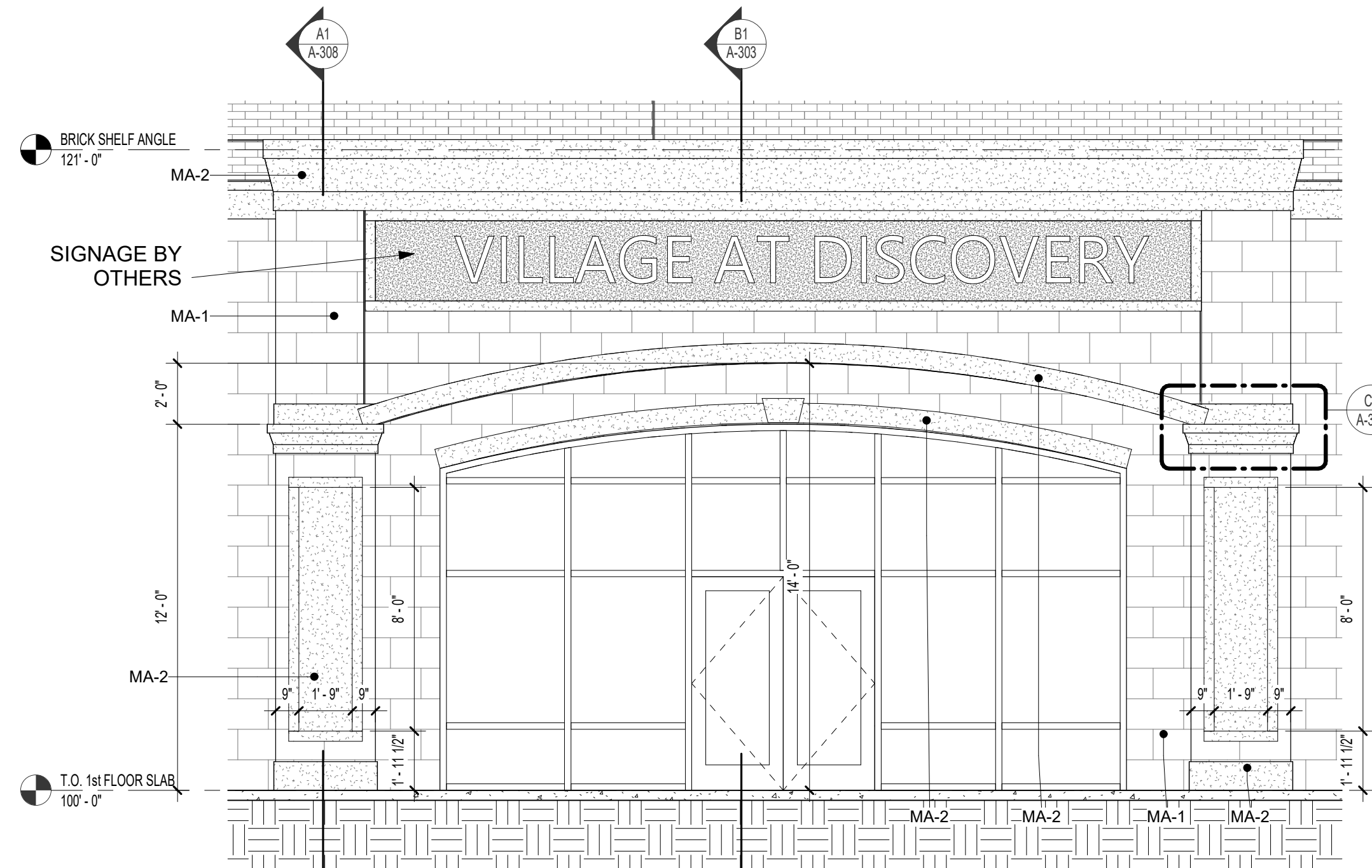
C2 FRONT CANOPY RCP
1/8" = 1'-0"



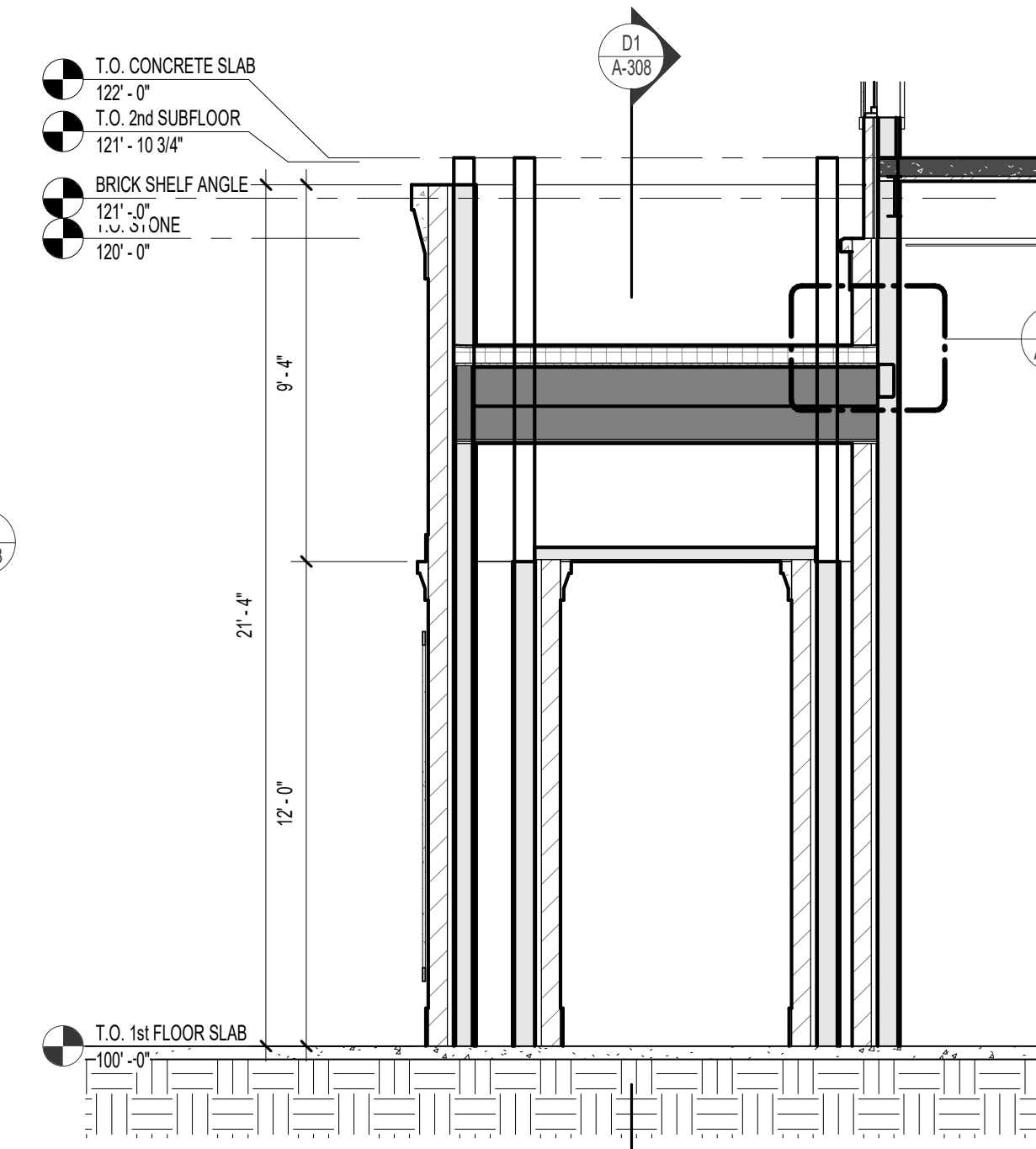
B2 FRONT CANOPY ROOF PLAN
1/4" = 1'-0"



A2 FRONT CANOPY FLOOR PLAN
1/4" = 1'-0"

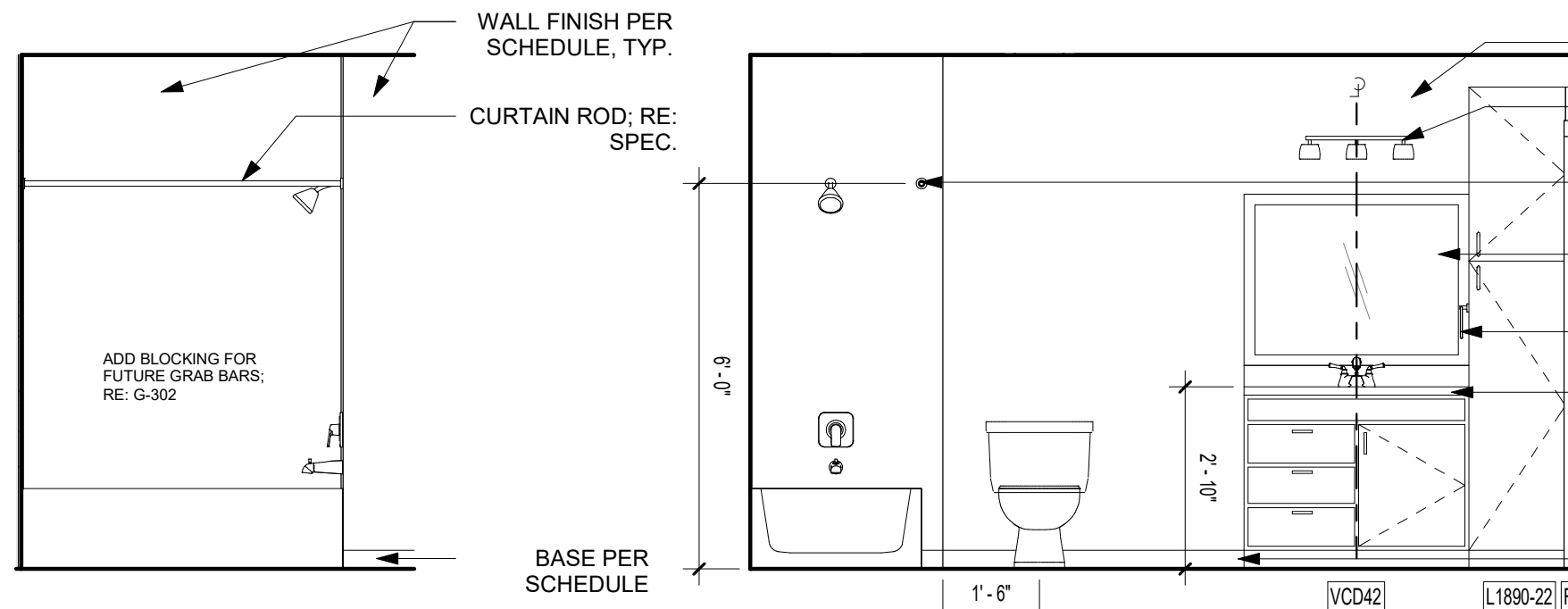


B1 CANOPY ELEVATION
1/4" = 1'-0"



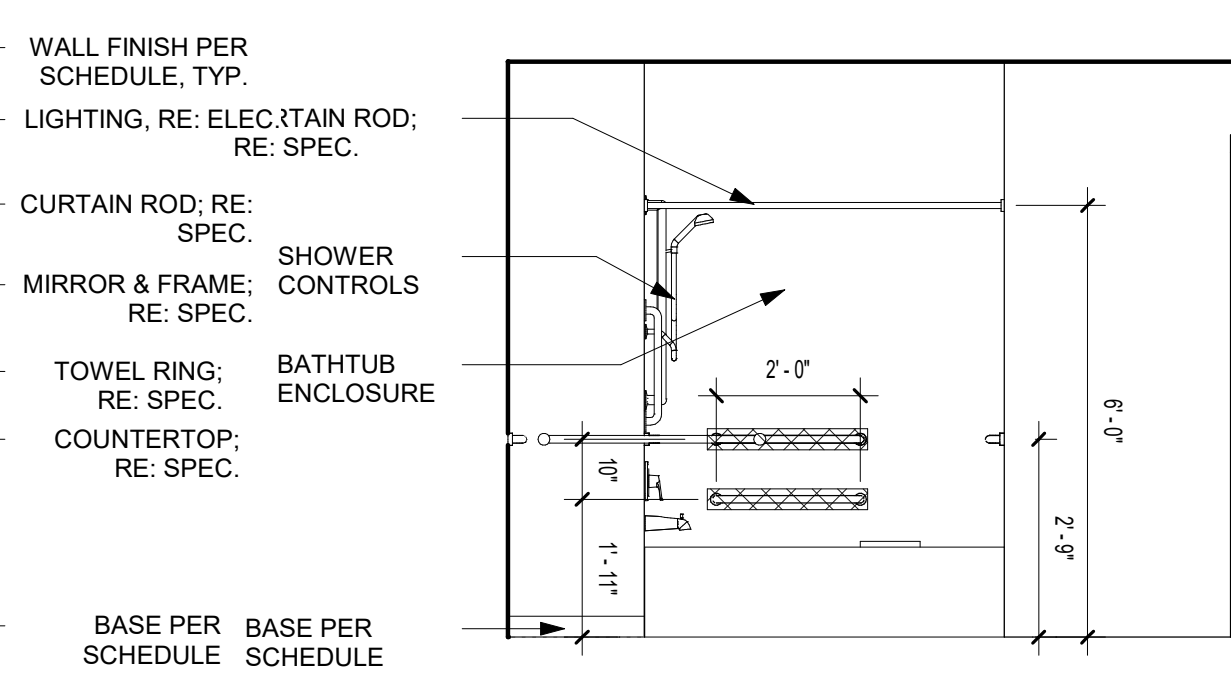
A1 FRONT CANOPY SECTION 2
1/4" = 1'-0"

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REVISIONS:



E4 ABERDEEN BATH 2 ELEV. 2
3/8" = 1'-0"

D4 ABERDEEN BATH 2 ELEV. 1
3/8" = 1'-0"

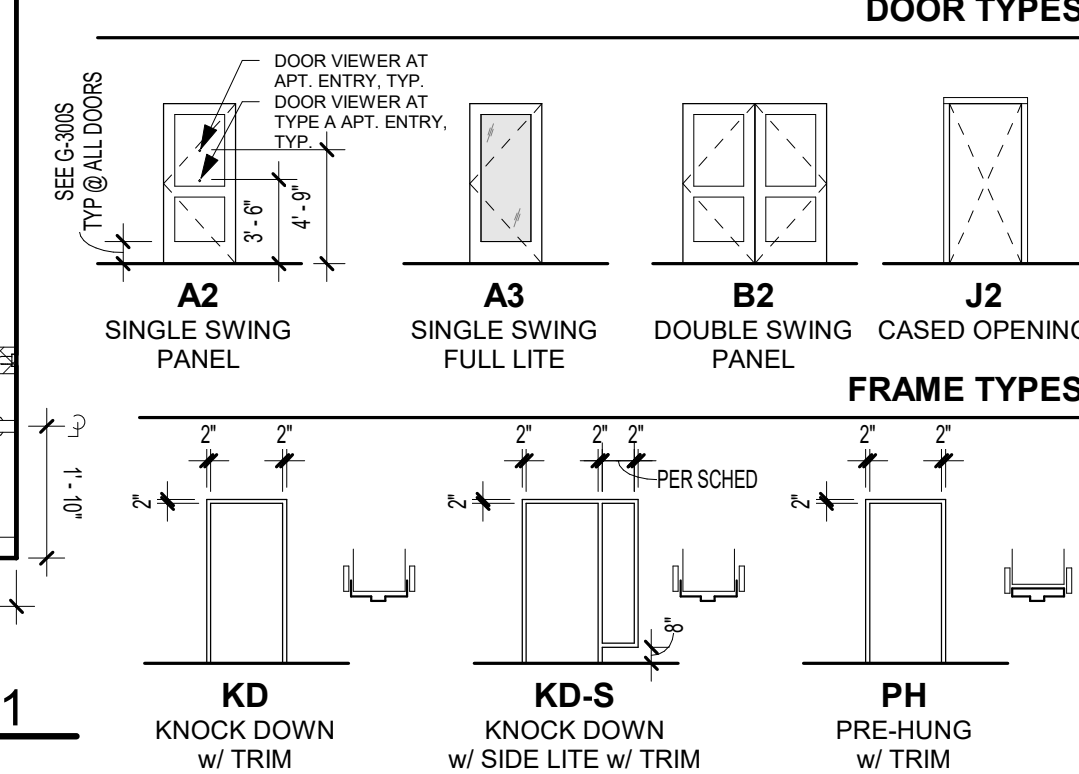


C4 ABERDEEN BATH 1 ELEV. 3
3/8" = 1'-0"

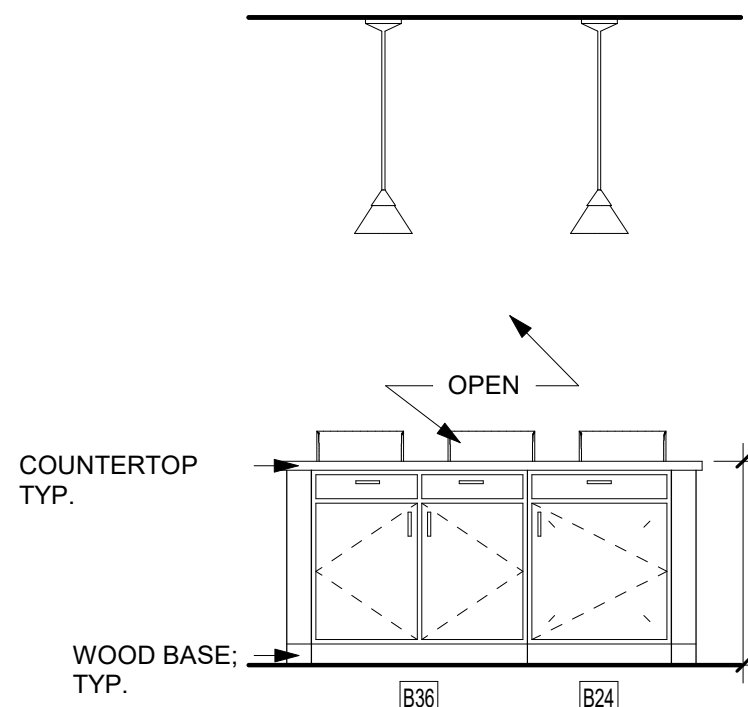
B4 ABERDEEN BATH 1 ELEV. 2
3/8" = 1'-0"

A4 ABERDEEN BATH 1 ELEV. 1
3/8" = 1'-0"

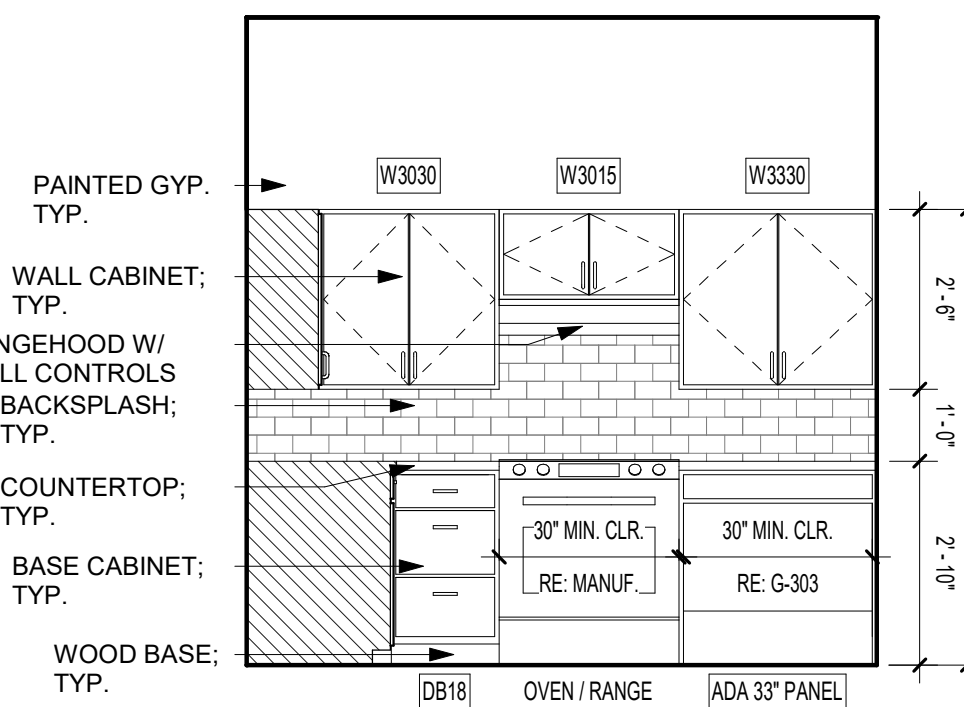
REFERENCE G-003 FOR GENERAL NOTES
REFERENCE A-120 FOR RCP LEGEND



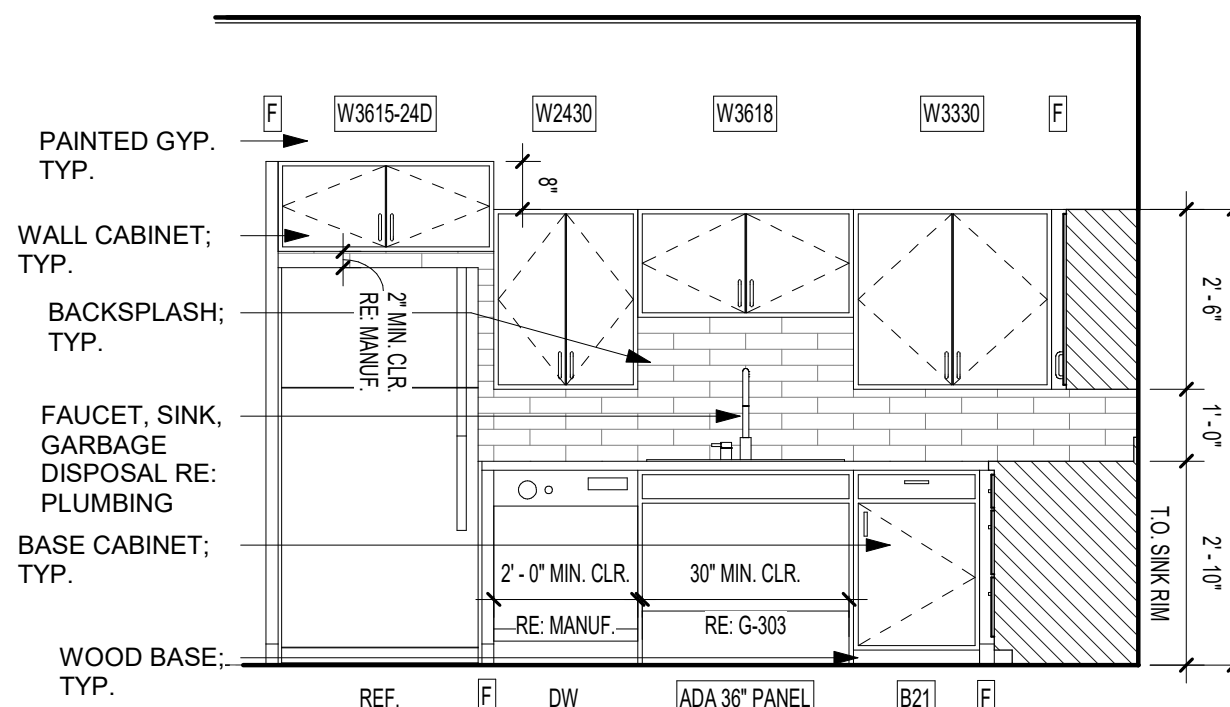
UNIT PLAN LEGEND	
	PARTIAL HEIGHT PARTITION
	P1 WALL (UNLESS NOTED OTHERWISE); SEE PARTITION SCHEDULE FOR ASSEMBLY INFORMATION
	CASEWORK TAG
	DOOR TAG
	ACCESSIBLE ROUTE (36" CLEAR, 32" MIN REQ'D @ DOOR OPENING PER ANSI A117.1)
	DRYER BOX LOCATION; COORD WITH MECH
NOTES:	
1. SEE G-002 FOR ADDITIONAL GENERAL NOTES	
2. COORDINATE PLYWOOD BLOCKING AT POCKET DOORS WITH TOWEL BARS, TOWEL RIGNS, ROBE HOOKS, AND CLOSET SHELVE	
3. WINDOW LOCATIONS & TYPE VARY PER PLAN; SEE A-100s FOR MORE INFORMATION	
4. ALL LIGHT FIXTURES TO BE GENETED IN ROOM UNO	
5. SEE G-300s FOR ACCESSIBILITY STANDARDS	



C3 ABERDEEN KITCHEN ELEV. 3
3/8" = 1'-0"



B3 ABERDEEN KITCHEN ELEV. 2
3/8" = 1'-0"



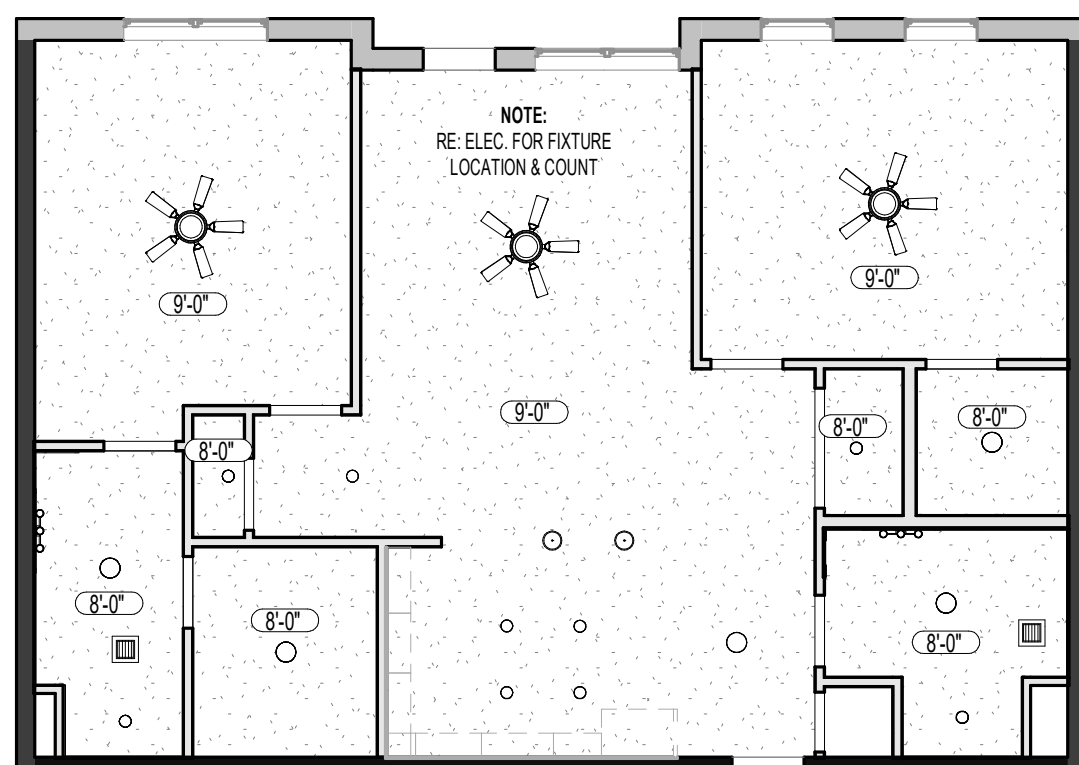
A3 ABERDEEN KITCHEN ELEV. 1
3/8" = 1'-0"

DOOR SCHEDULE - UNIT DOORS (BY UNIT TYPE)									
Mark	Width	Height	Thickness	Fire Rating (Minutes)	Door Type	Frame Type	Hardware Group	Comments	
001	3'-0"	6'-8"	1 3/4"	45	A2	KD	U1		
002	3'-0"	6'-8"	1 3/4"		A2	PH	U2		
005	2'-6"	6'-8"	1 3/4"		A2	PH	U6	UNDERCUT IF REQ'D	
006.1	5'-0"	6'-8"	1 3/4"		B2	PH	U3	UNDERCUT IF REQ'D	
008	3'-0"	6'-8"	1 3/4"		A2	PH	U4		
009	3'-0"	6'-8"	1 3/4"		A2	PH	U4		
010	3'-0"	6'-8"	1 3/4"		A2	PH	U4		
011	3'-0"	6'-8"	1 3/4"		A2	PH	U2		
012	3'-0"	6'-8"	1 3/4"		A2	PH	U4		
013	3'-0"	6'-8"	1 3/4"		A2	PH	U2		
014	3'-0"	8'-0"	1 3/4"		A3	SF/ALUM	U5		

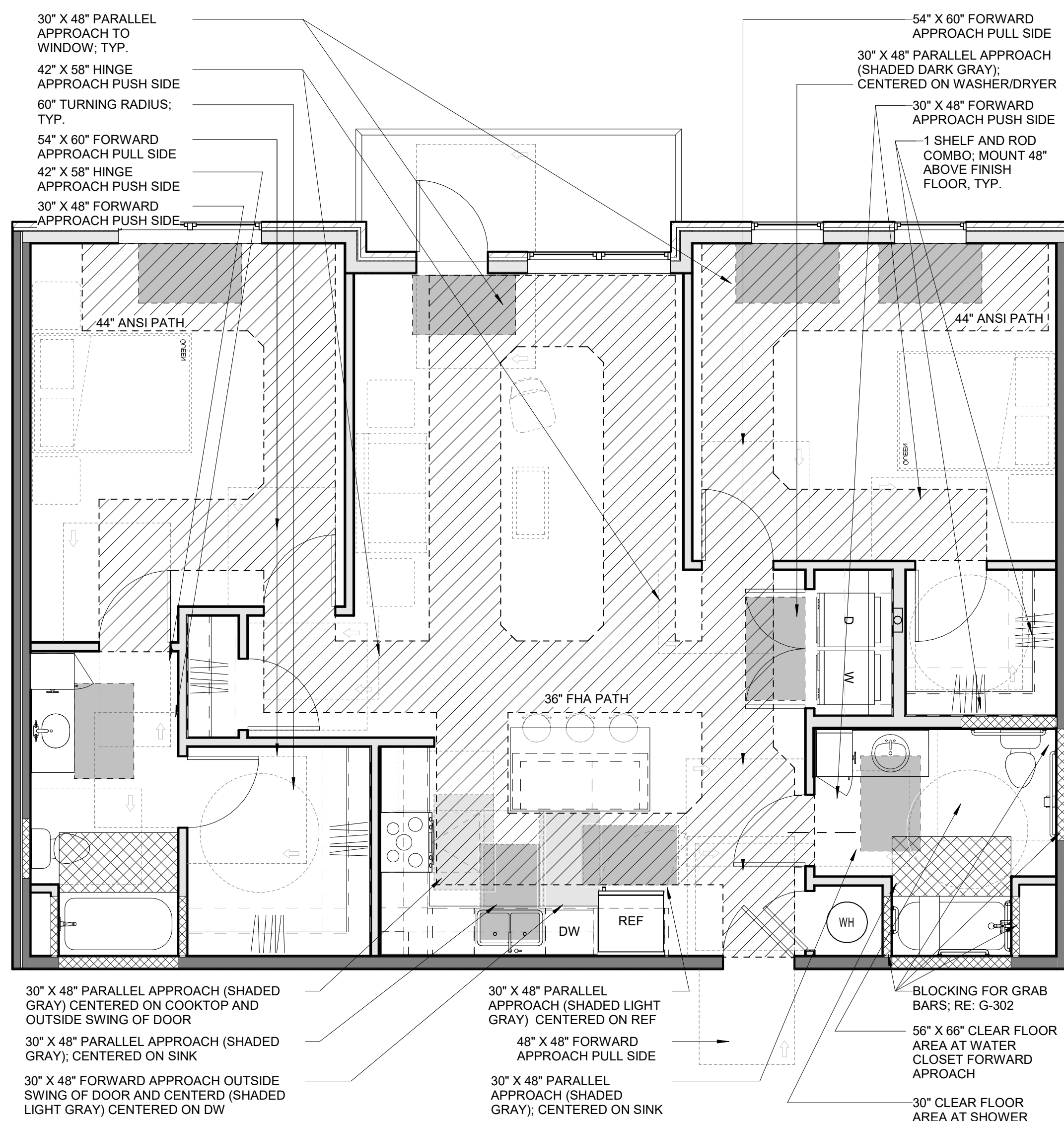
ROOM FINISH SCHEDULE - UNITS					
Number	Name	Floor Finish	Base Finish	Wall Finish	Ceiling Finish
001	ENTRY	LVT1	WB, PT3	PT1	PT4
002	COAT	LVT1	WB, PT3	PT2	PT4
003	LIVING	LVT1	WB, PT3	PT1	PT4
004	KITCHEN	LVT1	WB, PT3	PT1	PT4
005	MECH.	LVT1	--	PT2	--
006	LAUNDRY	LVT1	WB, PT3	PT2	PT4
007	HALLWAY	LVT1	WB, PT3	PT1	PT4
008	BATH 1	LVT2	WB, PT3	PT1	PT4
009	BATH 2	LVT2	WB, PT3	PT1	PT4
010	BEDROOM 1	LVT1	WB, PT3	PT1	PT4
011	CLOSET 1	LVT1	WB, PT3	PT2	PT4
012	BEDROOM 2	LVT1	WB, PT3	PT1	PT4
013	CLOSET 2	LVT1	WB, PT3	PT1	PT4
014	BALCONY	CONCRETE			



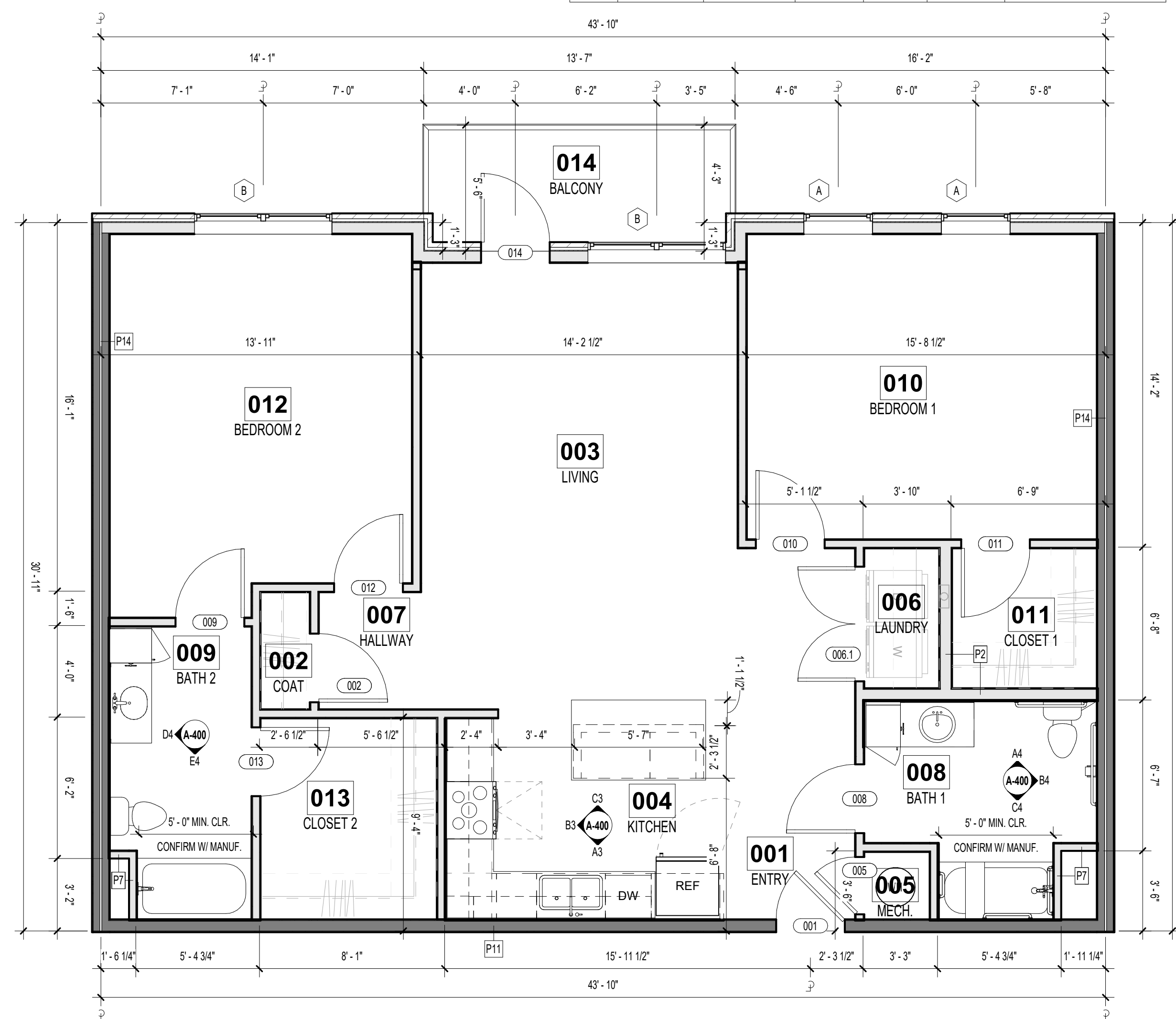
C2 UNIT FINISH PLAN - ABERDEEN (2 BR) - TYPE A
1/8" = 1'-0"



C1 UNIT RCP - ABERDEEN (2 BR) - TYPE A
1/8" = 1'-0"

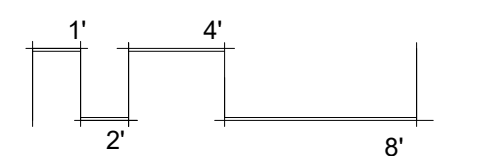


B1 UNIT CLEAR SPACE PLAN - ABERDEEN (2 BR) - TYPE A
1/4" = 1'-0"

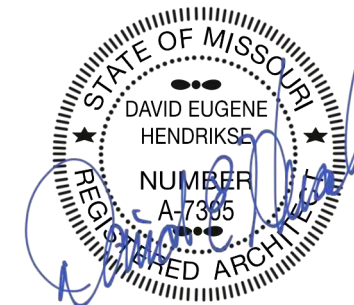


A1 UNIT FLOOR PLAN - ABERDEEN (2 BR) - TYPE A
1/4" = 1'-0"

1,300 G.S.F.



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DISCOVERY PARK - LOT #10-A

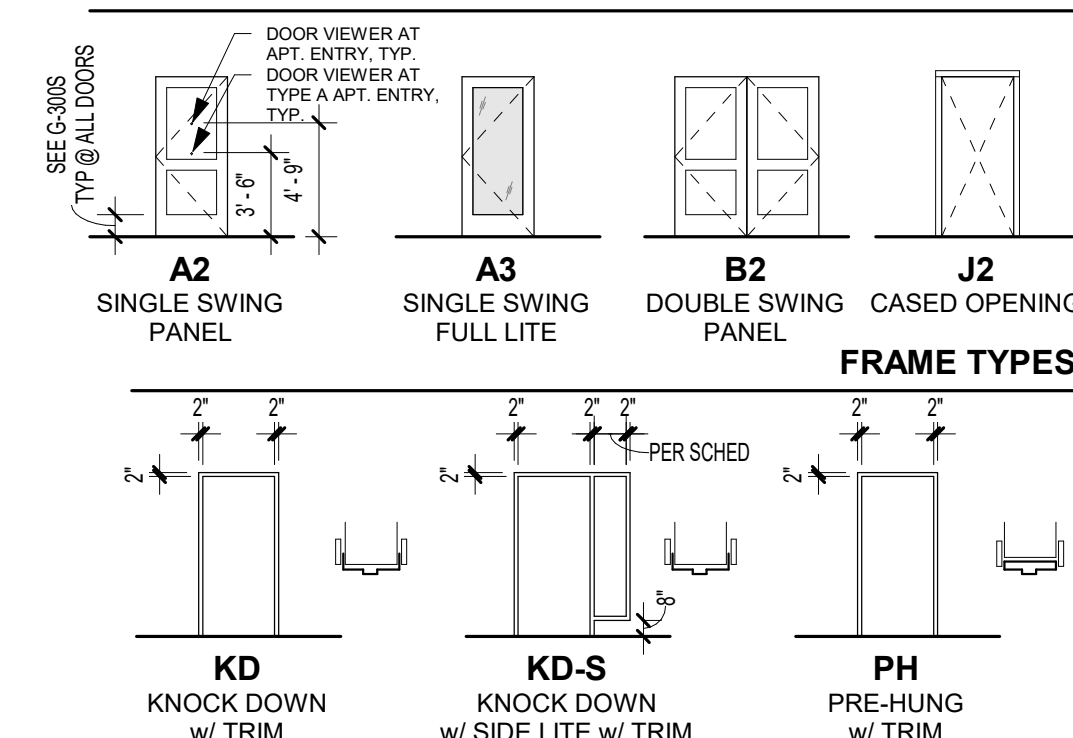
LEE'S SUMMIT, MO

SHEET TITLE
ABERDEEN (2 BR) - TYPE A
PROJECT NUMBER: 24004
SHEET NUMBER:

A-400

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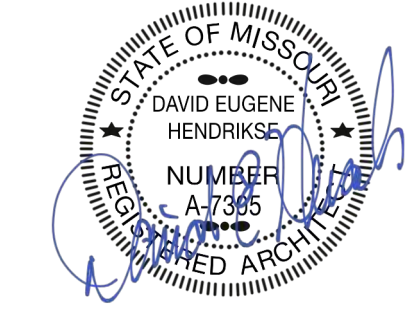
REFERENCE G-003 FOR GENERAL NOTES
REFERENCE A-400 FOR UNIT PLAN LEGEND
REFERENCE A-120 FOR RCP LEGEND



DOOR SCHEDULE - UNIT DOORS (BY UNIT TYPE)									
Mark	Width	Height	Thickness	Fire Rating (Minutes)	Door Type	Frame Type	Hardware Group	Comments	
001	3'-0"	6'-8"	1 3/4"	45	A2	KD	U1		
002	3'-0"	6'-8"	1 3/4"		A2	PH	U2		
005	2'-6"	6'-8"	1 3/4"		A2	PH	U6	UNDERCUT IF REQ'D	
006.1	5'-0"	6'-8"	1 3/4"		B2	PH	U3	UNDERCUT IF REQ'D	
008	3'-0"	6'-8"	1 3/4"		A2	PH	U4		
009	3'-0"	6'-8"	1 3/4"		A2	PH	U4		
010	3'-0"	6'-8"	1 3/4"		A2	PH	U4		
011	3'-0"	6'-8"	1 3/4"		A2	PH	U2		
012	3'-0"	6'-8"	1 3/4"		A2	PH	U4		
013	3'-0"	6'-8"	1 3/4"		A2	PH	U2		
014	3'-0"	8'-0"	1 3/4"		A3	SF/ALUM	U5		

ROOM FINISH SCHEDULE - UNITS						
Number	Name	Floor Finish	Base Finish	Wall Finish	Ceiling Finish	Comments
001	ENTRY	LVT1	WB, PT 3	PT1	PT4	
002	COAT	LVT1	WB, PT 3	PT2	PT4	
003	LIVING	LVT1	WB, PT 3	PT1	PT4	
004	KITCHEN	LVT1	WB, PT 3	PT1	PT4	
005	MECH.	LVT1	--	PT2	--	
006	LAUNDRY	LVT1	WB, PT 3	PT2	PT4	
007	HALLWAY	LVT1	WB, PT 3	PT1	PT4	
008	BATH 1	LVT1	WB, PT 3	PT1	PT4	
009	BATH 2	LVT1	WB, PT 3	PT1	PT4	
010	BEDROOM 1	LVT1	WB, PT 3	PT1	PT4	
011	CLOSET 1	LVT1	WB, PT 3	PT2	PT4	
012	BEDROOM 2	LVT1	WB, PT 3	PT1	PT4	
013	CLOSET 2	LVT1	WB, PT 3	PT2	PT4	
014	BALCONY	CONCRETE				

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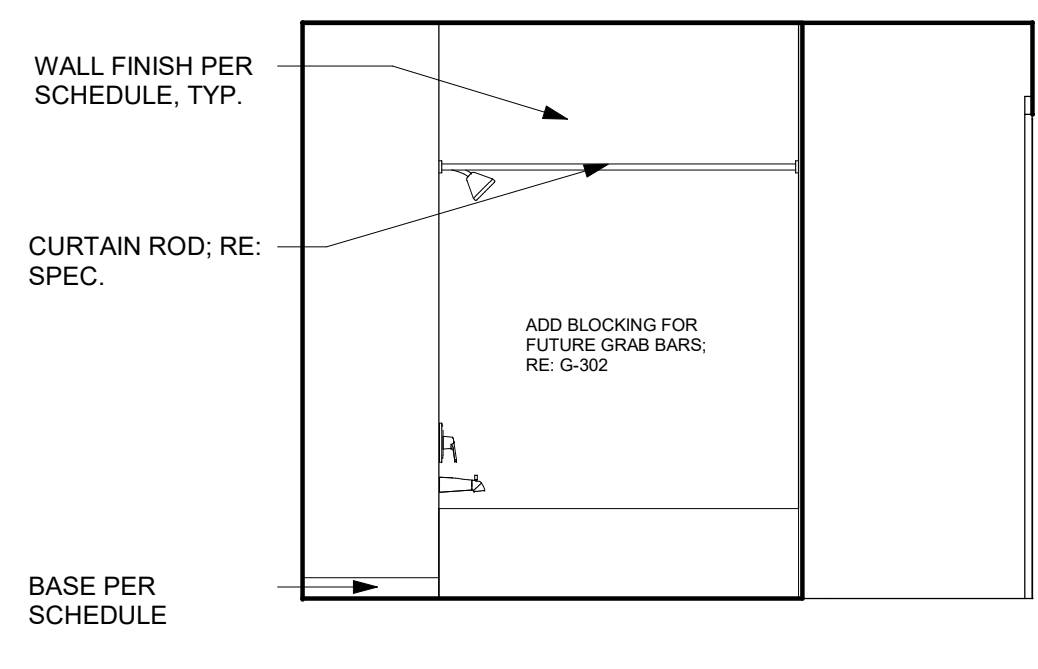
12/20/24

DISCOVERY PARK - LOT #10-A

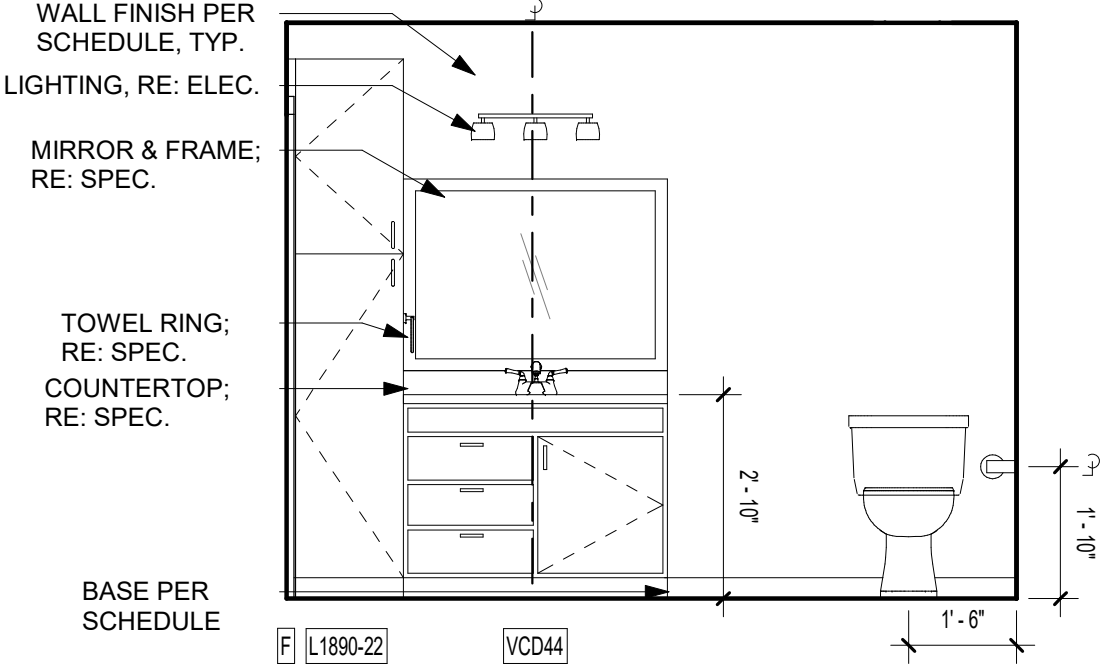
LEE'S SUMMIT, MO

SHEET TITLE
ABERDEEN (2 BR) - TYPE B
PROJECT NUMBER: 24004
SHEET NUMBER:

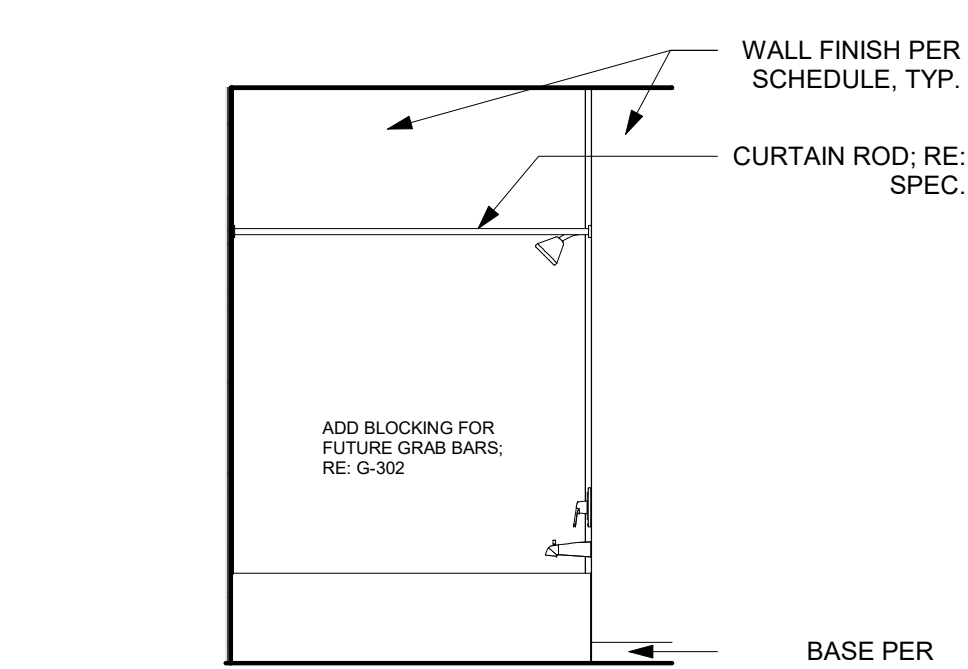
A-401



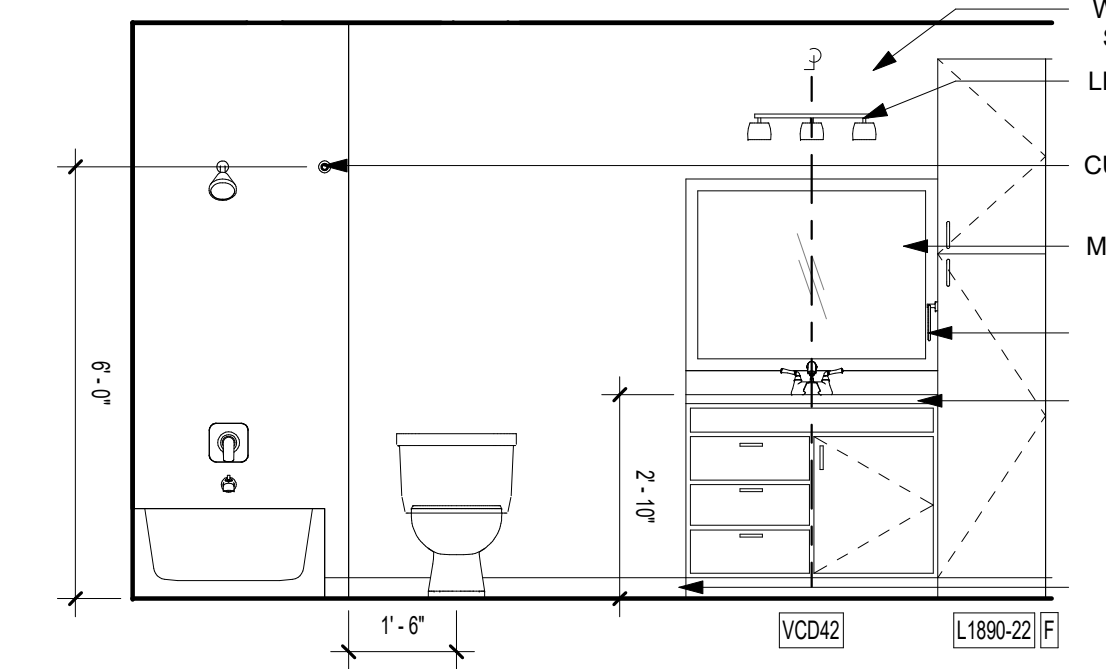
D4 ABERDEEN (TYPE B) BATH 1
ELEV. 3
3/8" = 1'-0"



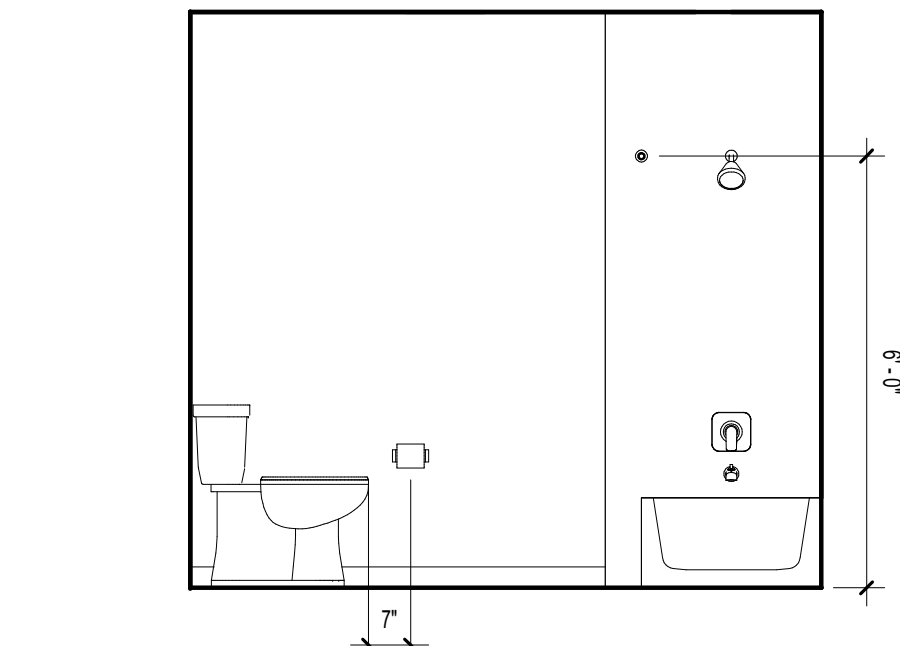
C4 ABERDEEN (TYPE B) BATH 1
ELEV. 1
3/8" = 1'-0"



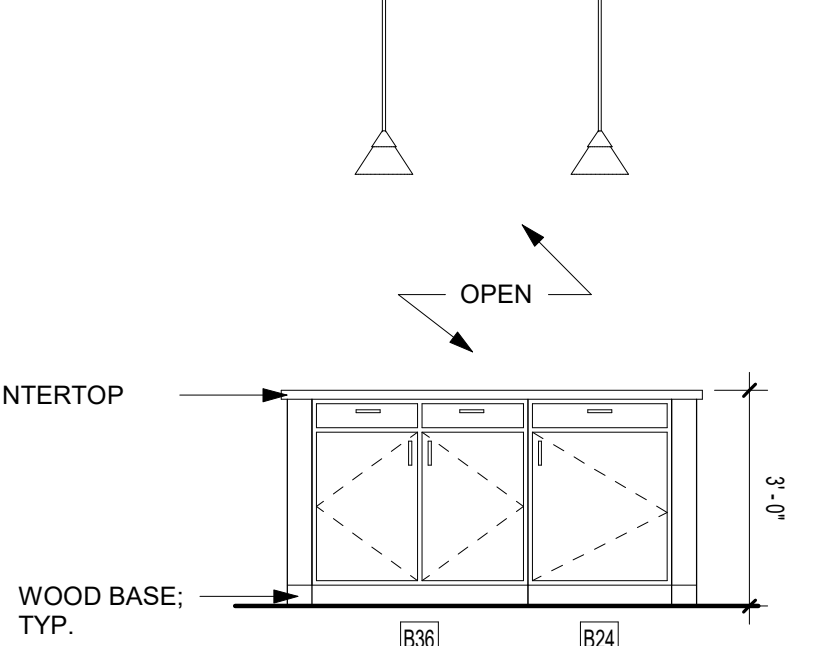
B4 ABERDEEN (TYPE B) BATH 2
ELEV. 2
3/8" = 1'-0"



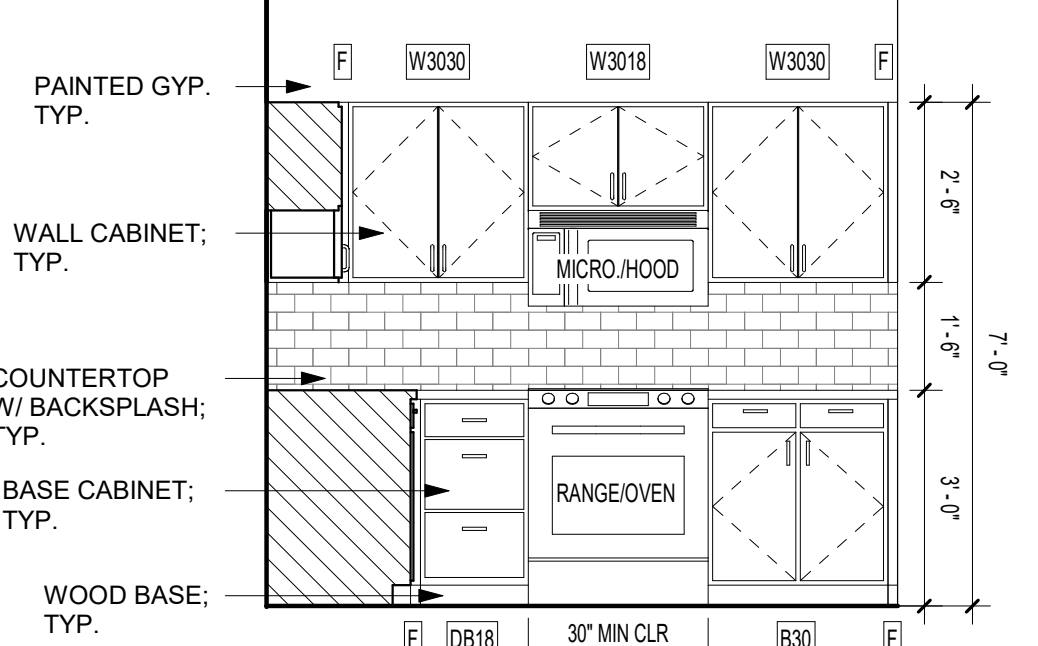
A4 ABERDEEN (TYPE B) BATH 2
ELEV. 1
3/8" = 1'-0"



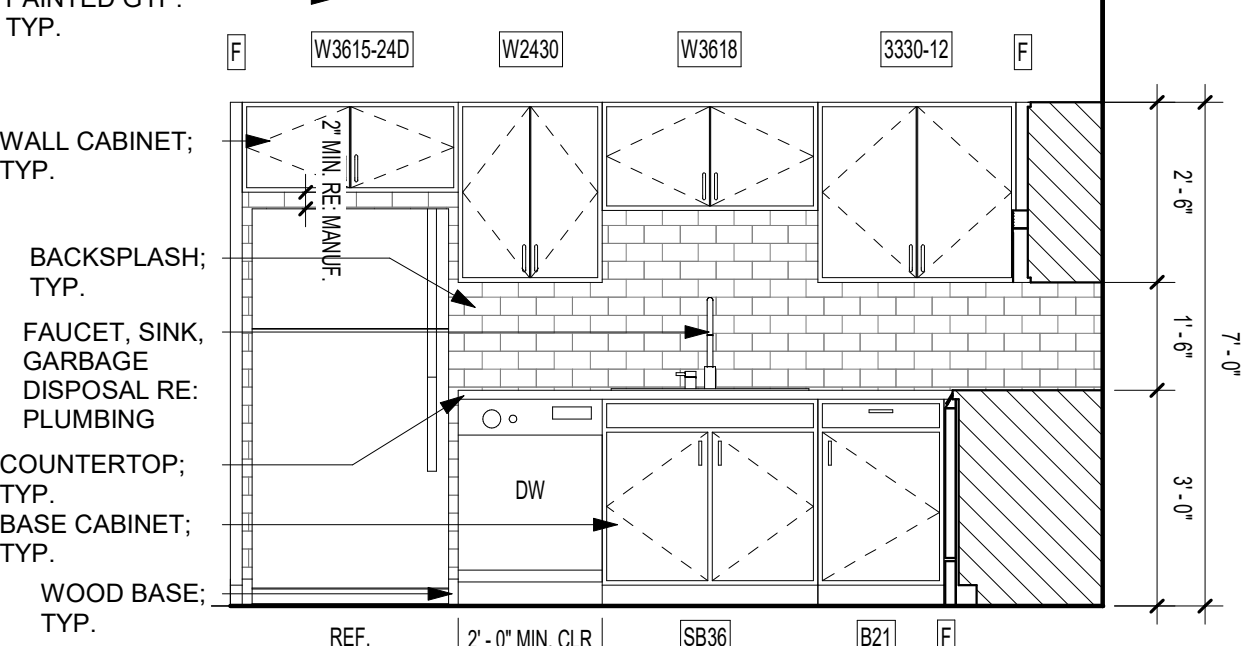
D3 ABERDEEN (TYPE B) BATH 1
ELEV. 2
3/8" = 1'-0"



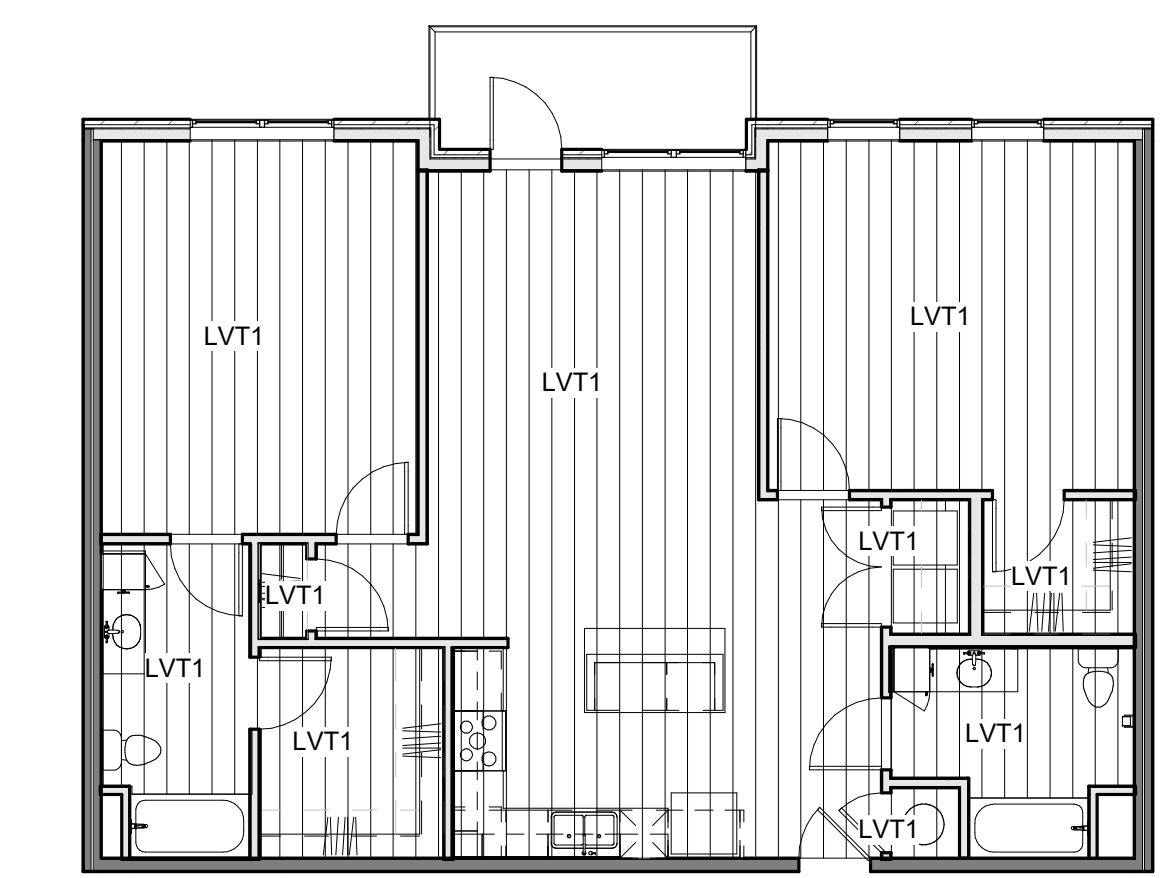
C3 ABERDEEN (TYPE B) KITCHEN
ELEV. 3
3/8" = 1'-0"



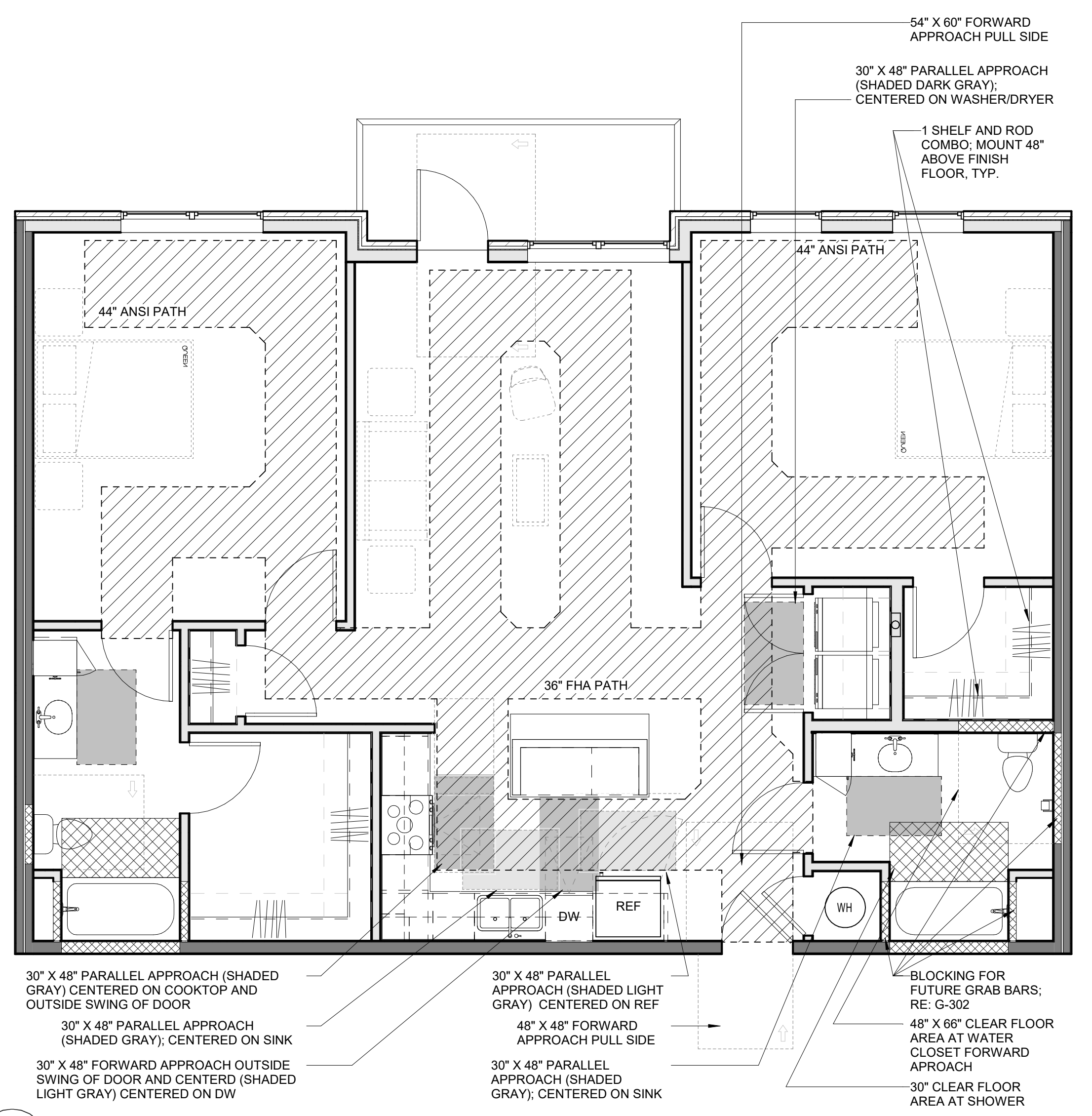
B3 ABERDEEN (TYPE B) KITCHEN
ELEV. 2
3/8" = 1'-0"



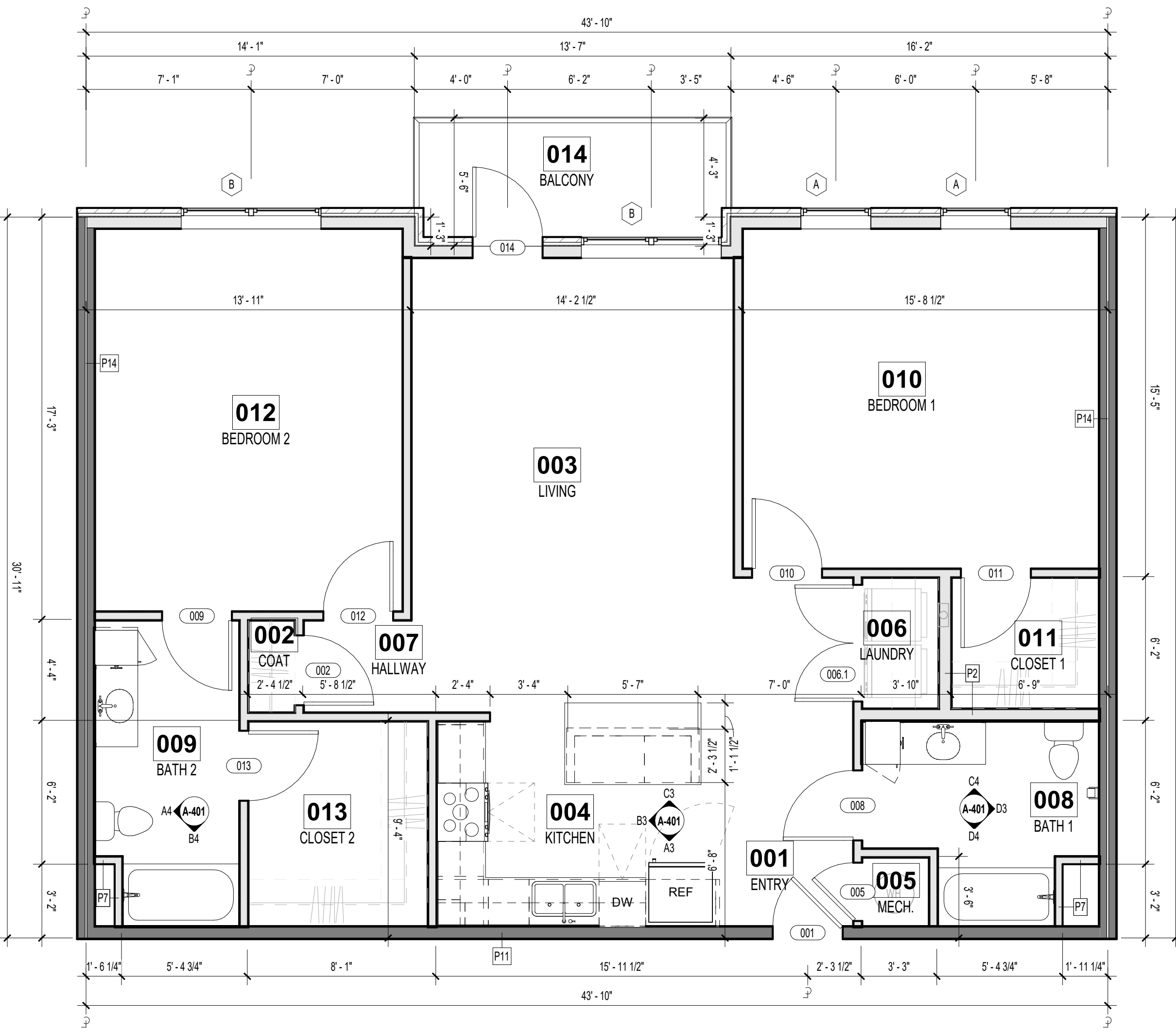
A3 ABERDEEN (TYPE B) KITCHEN
ELEV. 1
3/8" = 1'-0"



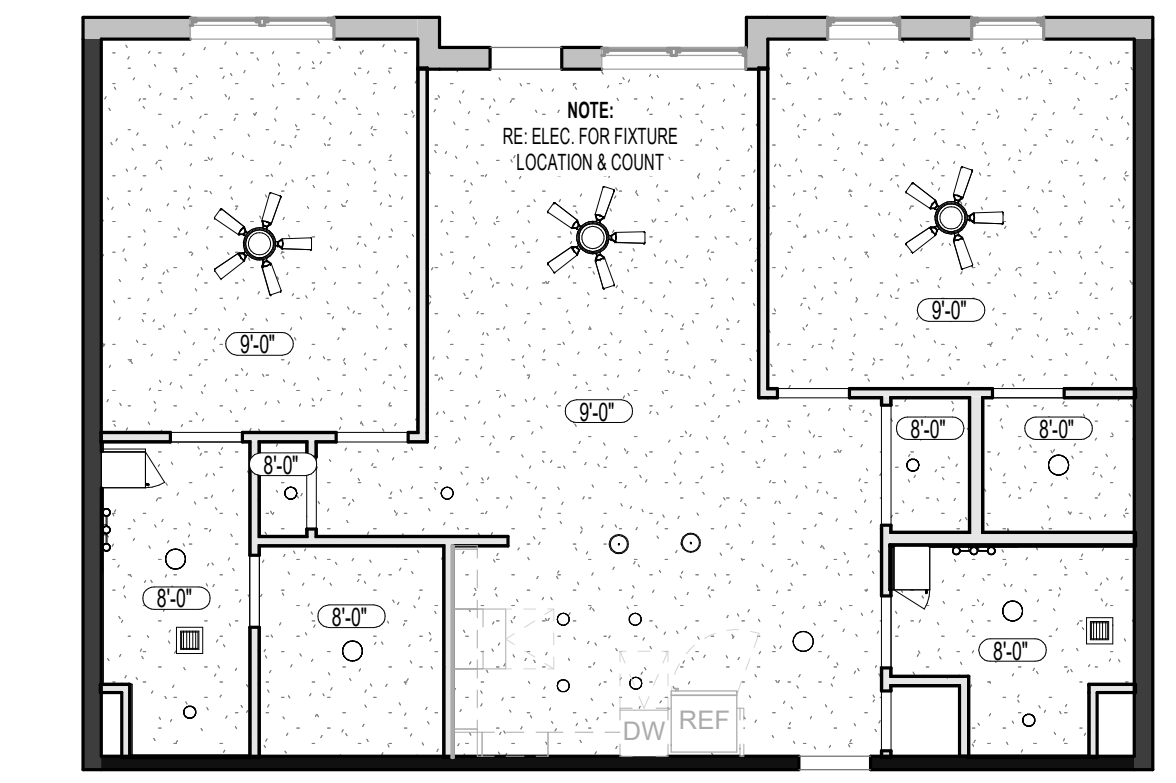
C2 UNIT FINISH PLAN - ABERDEEN (2 BR) - TYPE B
1/8" = 1'-0"



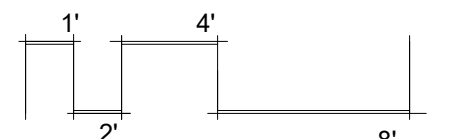
B1 UNIT CLEAR SPACE PLAN - ABERDEEN (2 BR) - TYPE B
1/4" = 1'-0"



A1 UNIT FLOOR PLAN - ABERDEEN (2 BR) - TYPE B
1/4" = 1'-0"

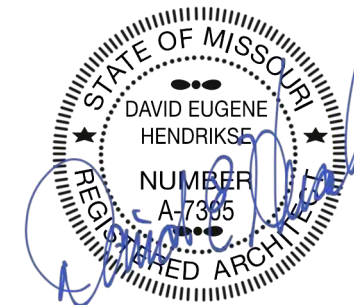


C1 UNIT RCP - ABERDEEN (2 BR) - TYPE B
1/8" = 1'-0"



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DISCOVERY PARK - LOT #10-A

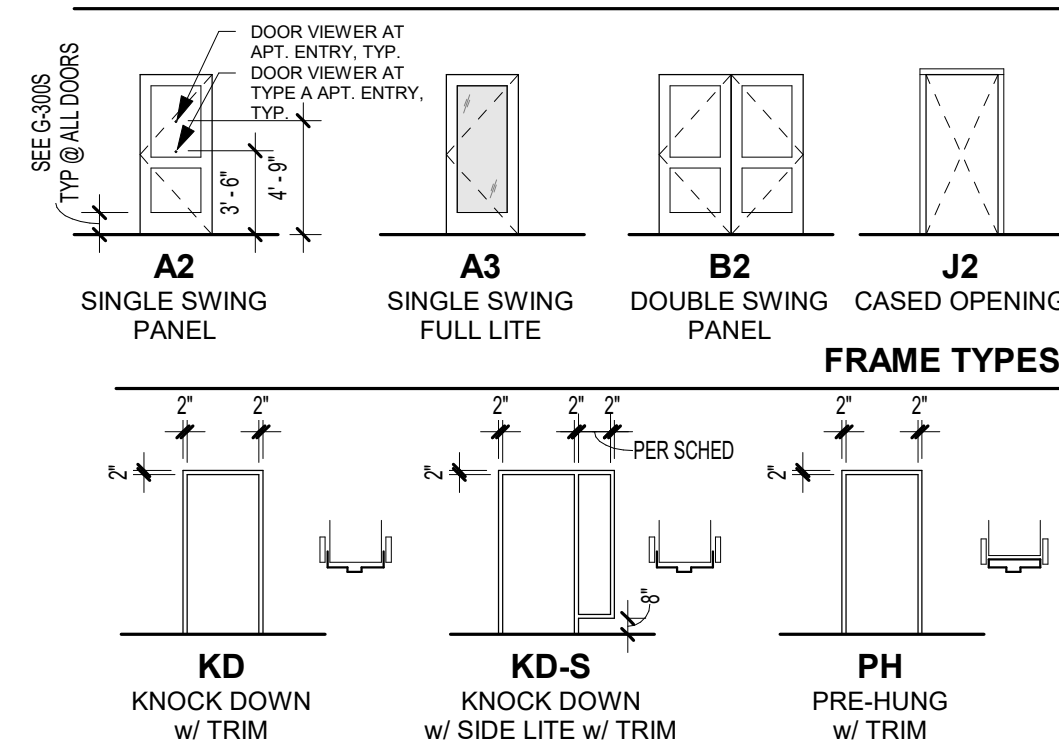
LEE'S SUMMIT, MO

SHEET TITLE
ADRIAN (1 BR) - TYPE B
PROJECT NUMBER: 24004
SHEET NUMBER:

A-402

REFERENCE G-003 FOR GENERAL NOTES
REFERENCE A-400 FOR UNIT PLAN LEGEND
REFERENCE A-120 FOR RCP LEGEND

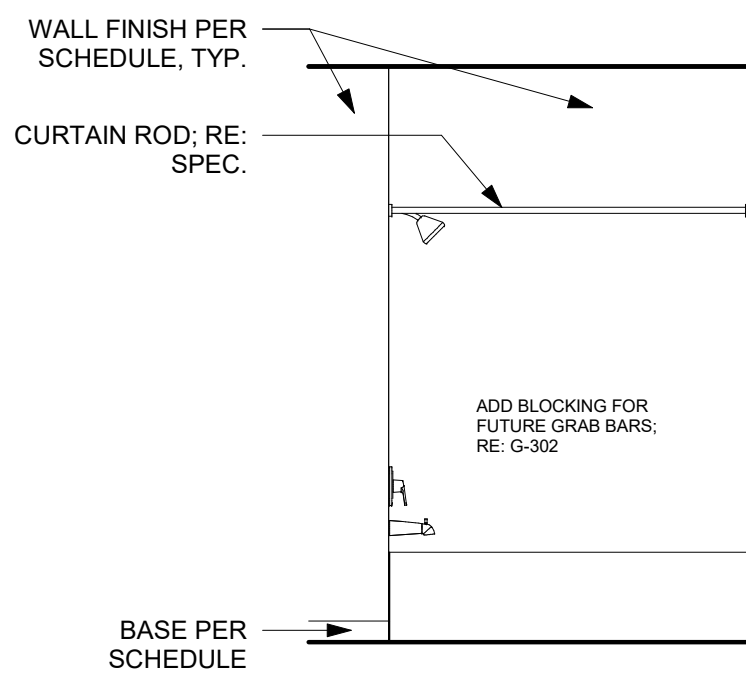
DOOR TYPES



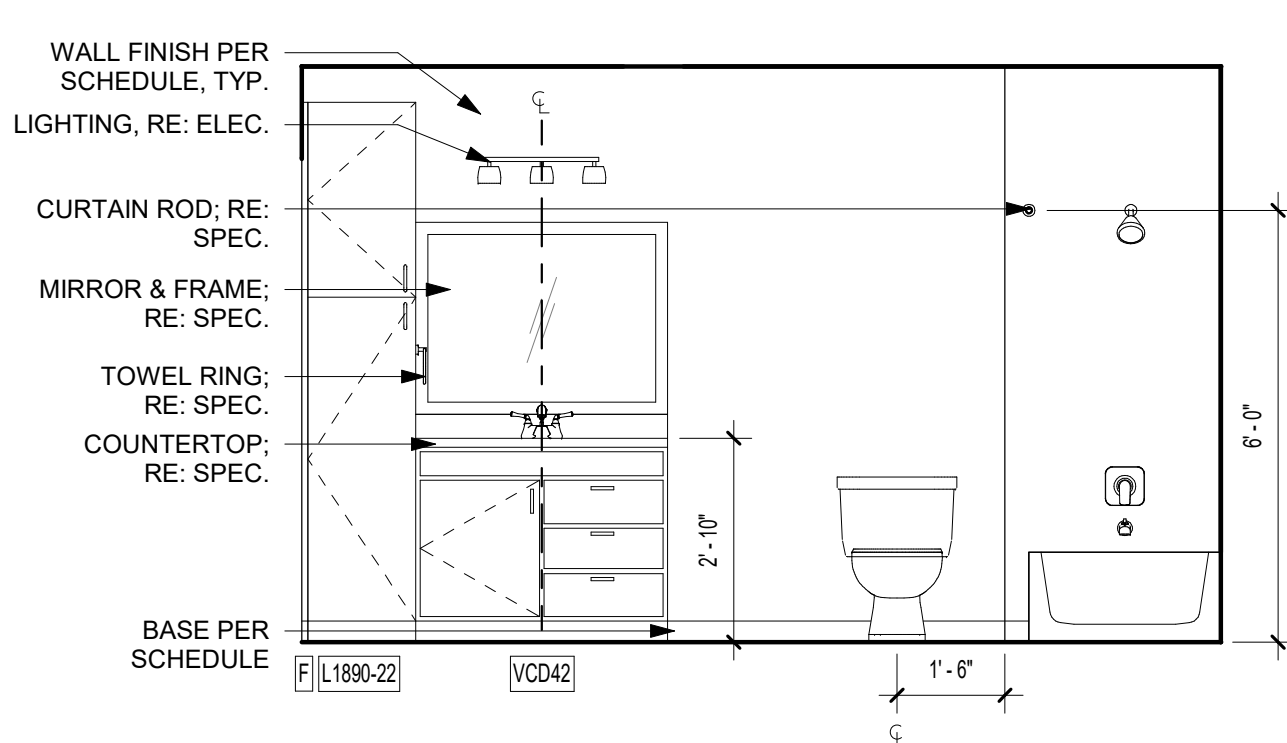
DOOR SCHEDULE - UNIT DOORS (BY UNIT TYPE)								
Mark	Width	Height	Thickness	Fire Rating (Minutes)	Door Type	Frame Type	Hardware Group	Comments
001	3'-0"	6'-8"	1 3/4"	45	A2	KD	U1	
002	2'-6"	6'-8"	1 3/4"		A2	PH	U6	
005	3'-0"	6'-8"	1 3/4"		A2	PH	U2	UNDERCUT IF REQ'D
006.1	5'-0"	6'-8"	1 3/4"		B2	PH	U3	UNDERCUT IF REQ'D
008	3'-0"	6'-8"	1 3/4"		A2	PH	U4	
008A	3'-0"	6'-8"	1 3/4"		A2	PH	U4	
010	3'-0"	6'-8"	1 3/4"		A2	PH	U4	
011	3'-0"	6'-8"	1 3/4"		A2	PH	U2	
013	2'-6"	6'-8"	1 3/4"		A2	PH	U2	
014	3'-0"	8'-0"	1 3/4"		A3	SF/ALUM	U5	

ROOM FINISH SCHEDULE - UNITS

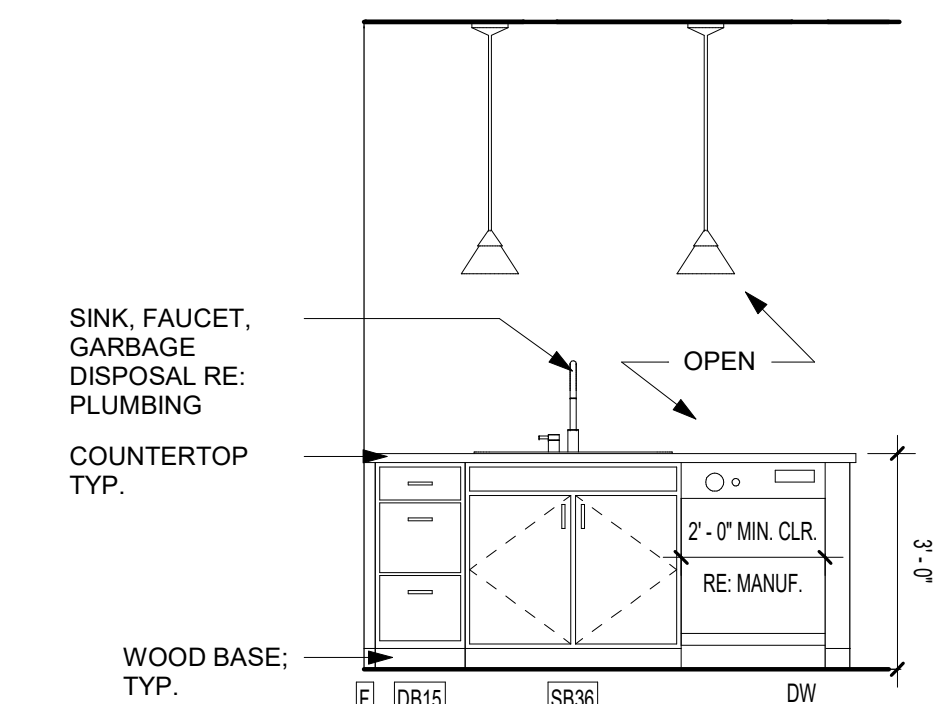
Number	Name	Floor Finish	Base Finish	Wall Finish	Ceiling Finish	Comments
001	ENTRY	LVT1	WB, PT3	PT1	PT4	
002	COAT	LVT1	WB, PT3	PT2	PT4	
003	LIVING	LVT1	WB, PT3	PT1	PT4	
004	KITCHEN	LVT1	WB, PT3	PT1	PT4	
005	MECH.	LVT1	--	PT2	--	
006	LAUNDRY	LVT1	WB, PT3	PT2	PT4	
008	BATHROOM	LVT1	WB, PT3	PT2	PT4	
010	BEDROOM	LVT1	WB, PT3	PT1	PT4	
011	CLOSET	LVT1	WB, PT3	PT2	PT4	
013	CLOSET	LVT1	WB, PT3	PT2	PT4	
014	BALCONY	CONCRETE	WB, PT3	PT2	PT4	



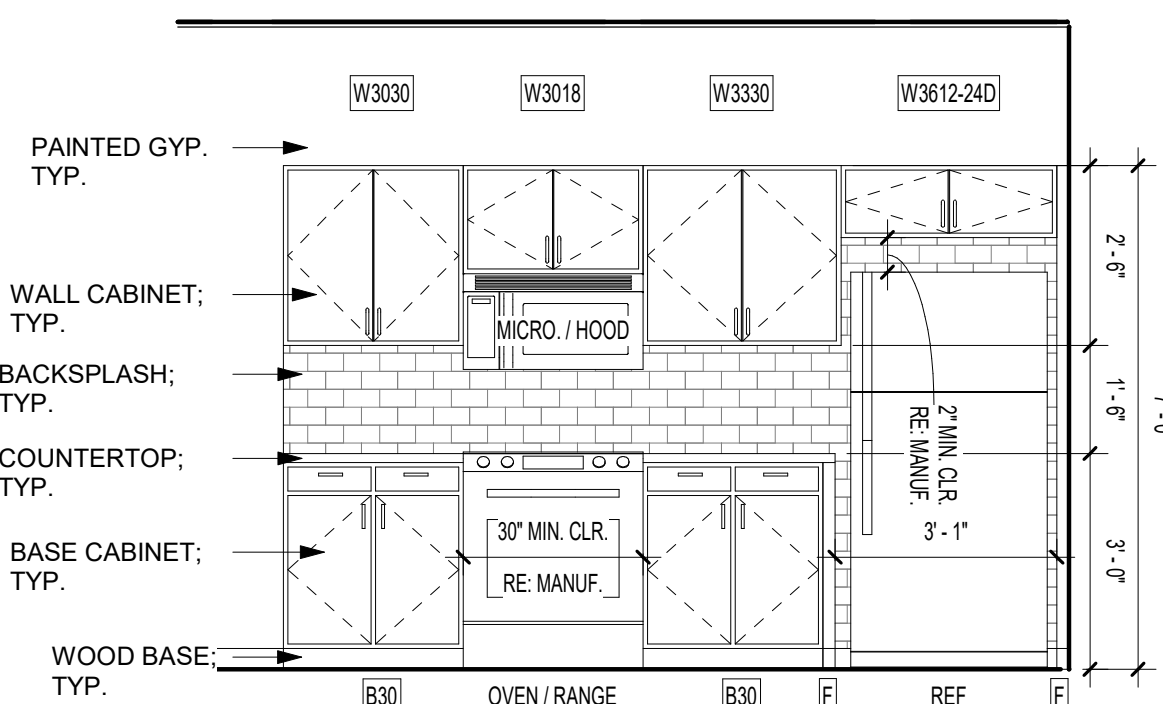
B4 ADRIAN BATH ELEV. 2
3/8" = 1'-0"



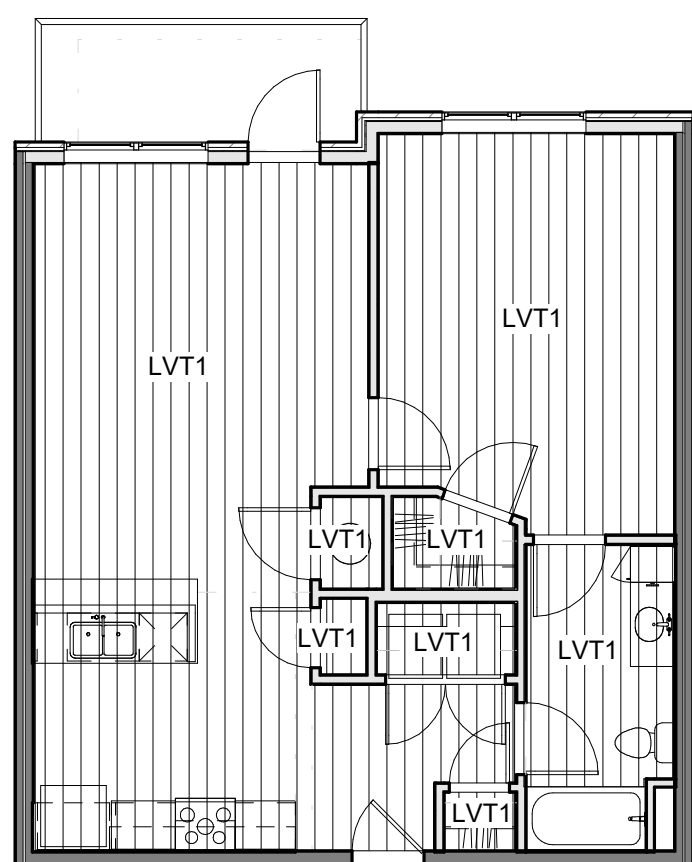
A4 ADRIAN BATH ELEV. 1
3/8" = 1'-0"



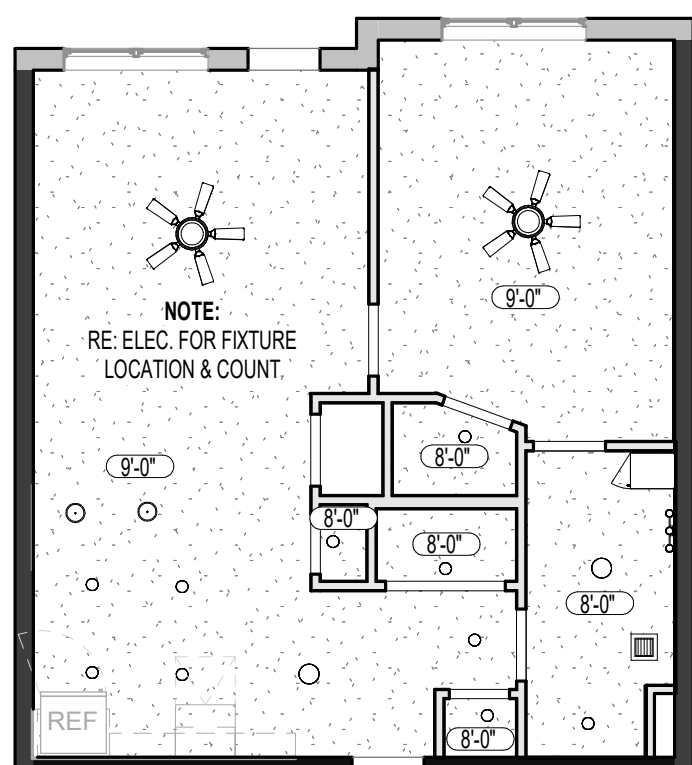
B3 ADRIAN KITCHEN ELEV. 2
3/8" = 1'-0"



A3 ADRIAN KITCHEN ELEV. 1
3/8" = 1'-0"

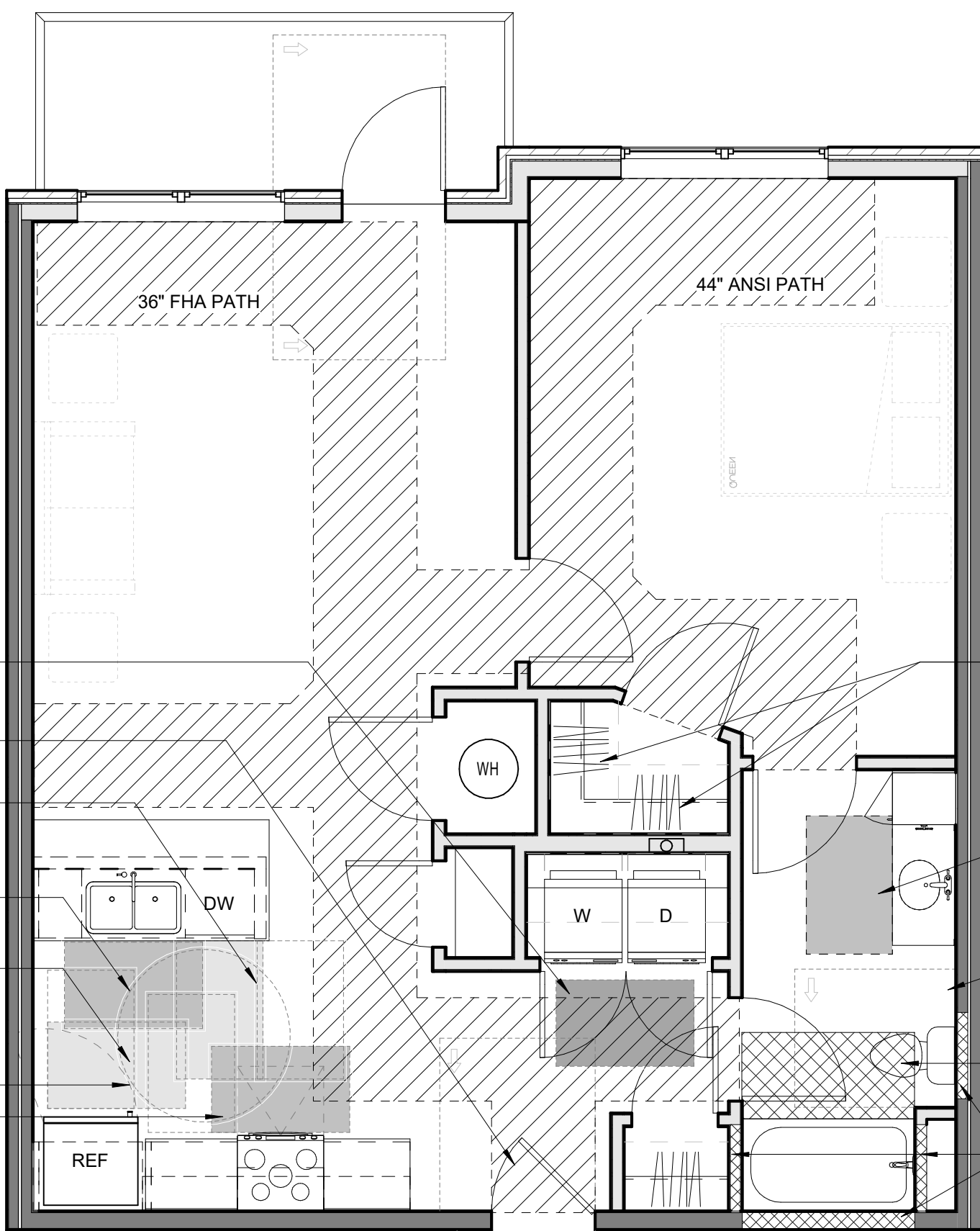


C2 UNIT FINISH PLAN - ADRIAN (1 BR) - TYPE B
1/8" = 1'-0"

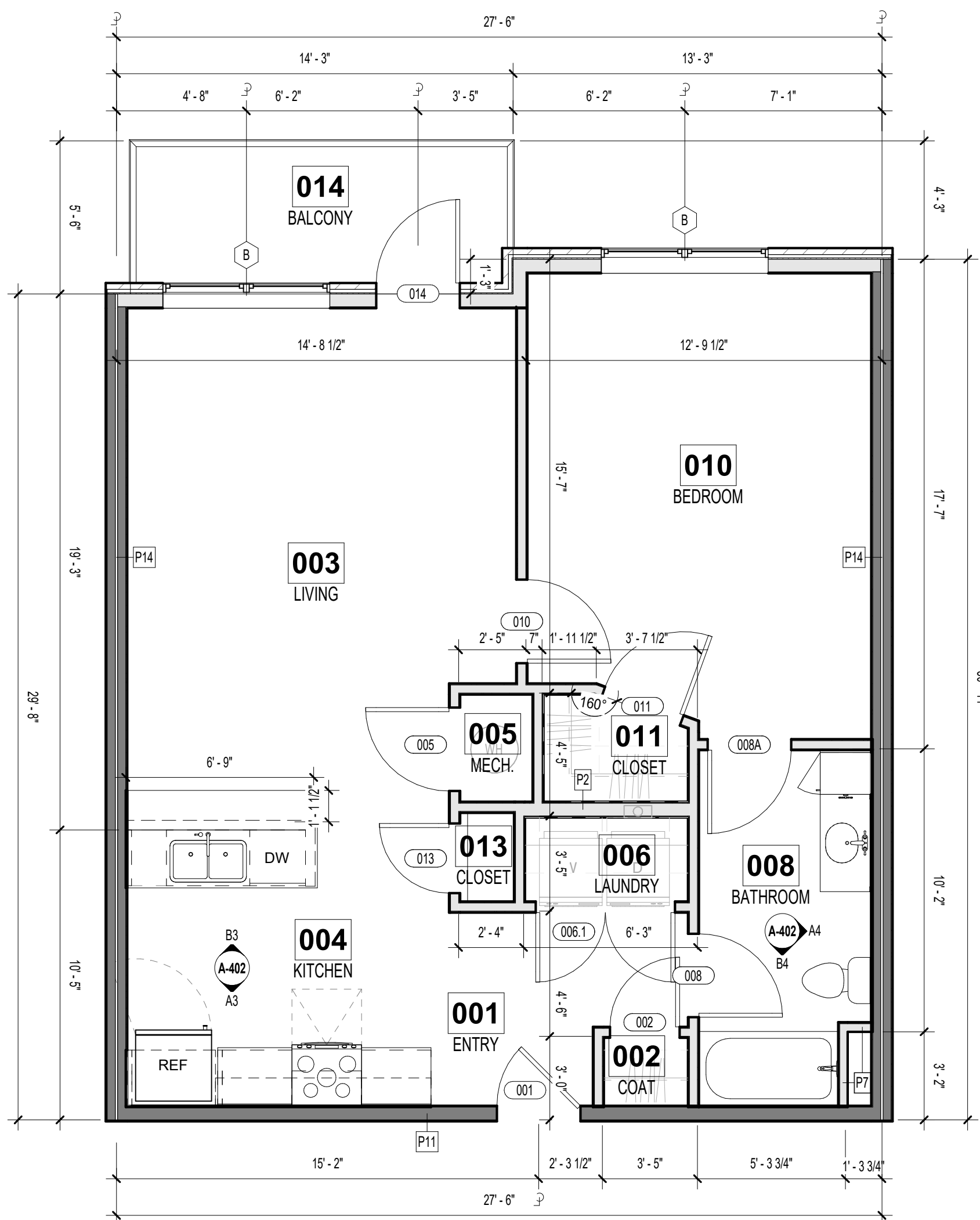


C1 UNIT RCP - ADRIAN (1 BR) - TYPE B
1/8" = 1'-0"

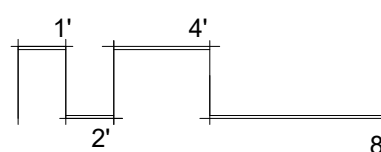
30" X 48" PARALLEL APPROACH (SHADED DARK GRAY); CENTERED ON WASHER/DRYER
54" X 60" FORWARD APPROACH PULL SIDE
30" X 48" PARALLEL APPROACH OUTSIDE SWING OF DOOR AND CENTERED (SHADED LIGHT GRAY); CENTERED ON DW
30" X 48" PARALLEL APPROACH (SHADED GRAY); CENTERED ON SINK
30" X 48" PARALLEL APPROACH (SHADED LIGHT GRAY) OFFSET MAX 24" FROM CL AND 30" X 48" FORWARD APPROACH CENTERED ON REF
60" TURNING RADIUS
30" X 48" PARALLEL APPROACH (SHADED GRAY) CENTERED ON COOKTOP; 30" X 48" FORWARD APPROACH OUTSIDE SWING OF DOOR



B1 UNIT CLEAR SPACE PLAN - ADRIAN (1 BR) - TYPE B
1/4" = 1'-0"



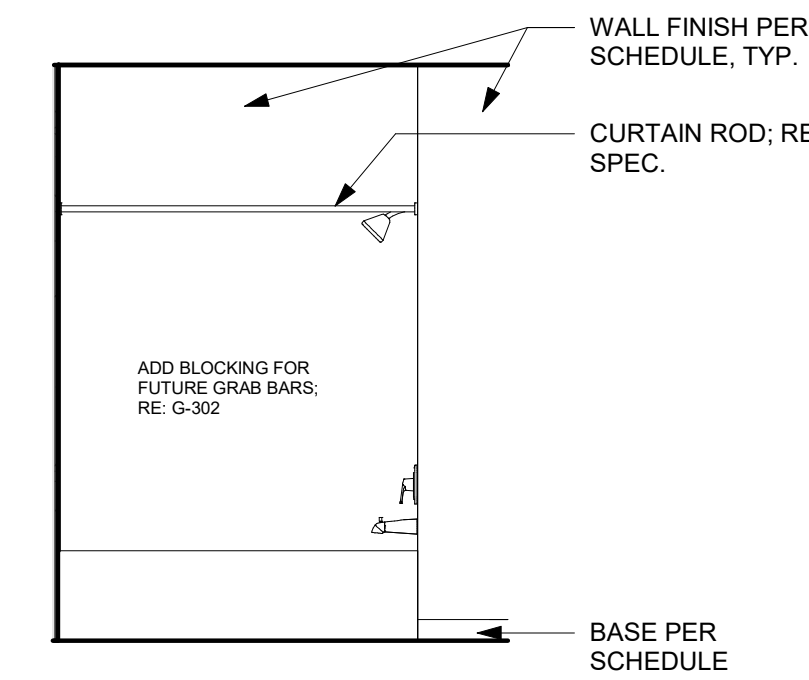
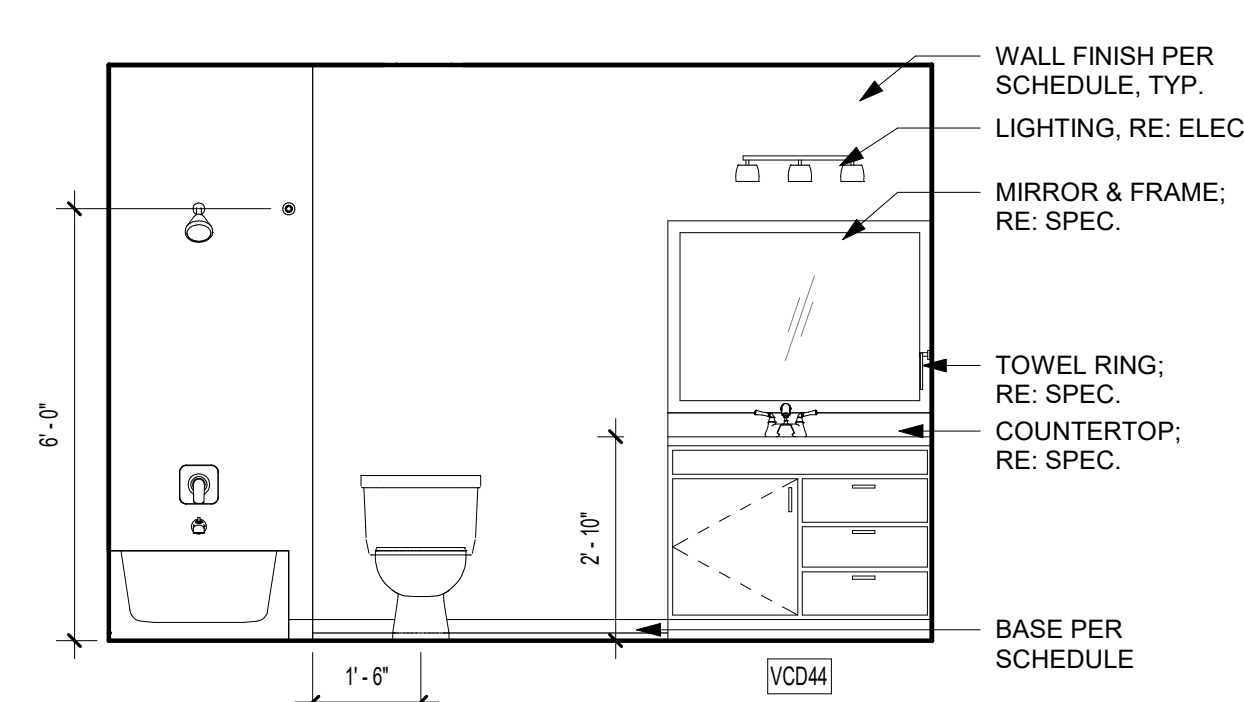
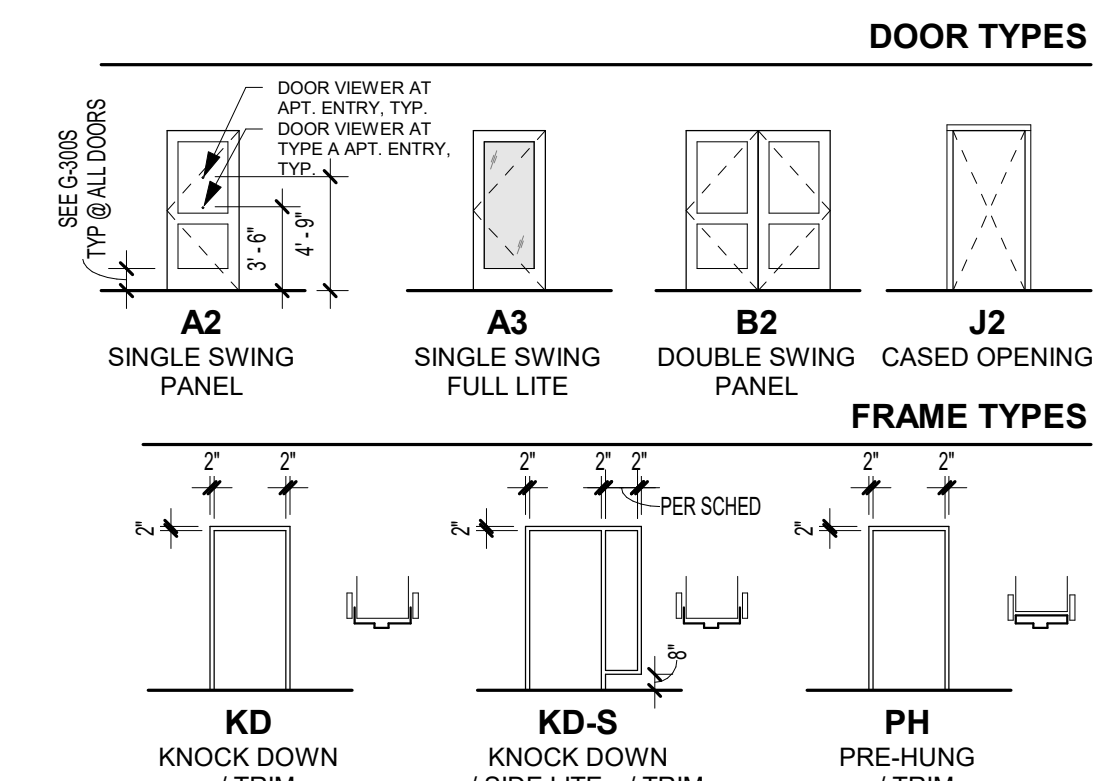
A1 UNIT FLOOR PLAN - ADRIAN (1 BR) - TYPE B
1/4" = 1'-0"



REFERENCE G-003 FOR GENERAL NOTES
REFERENCE A-400 FOR UNIT PLAN LEGEND
REFERENCE A-120 FOR RCP LEGEND

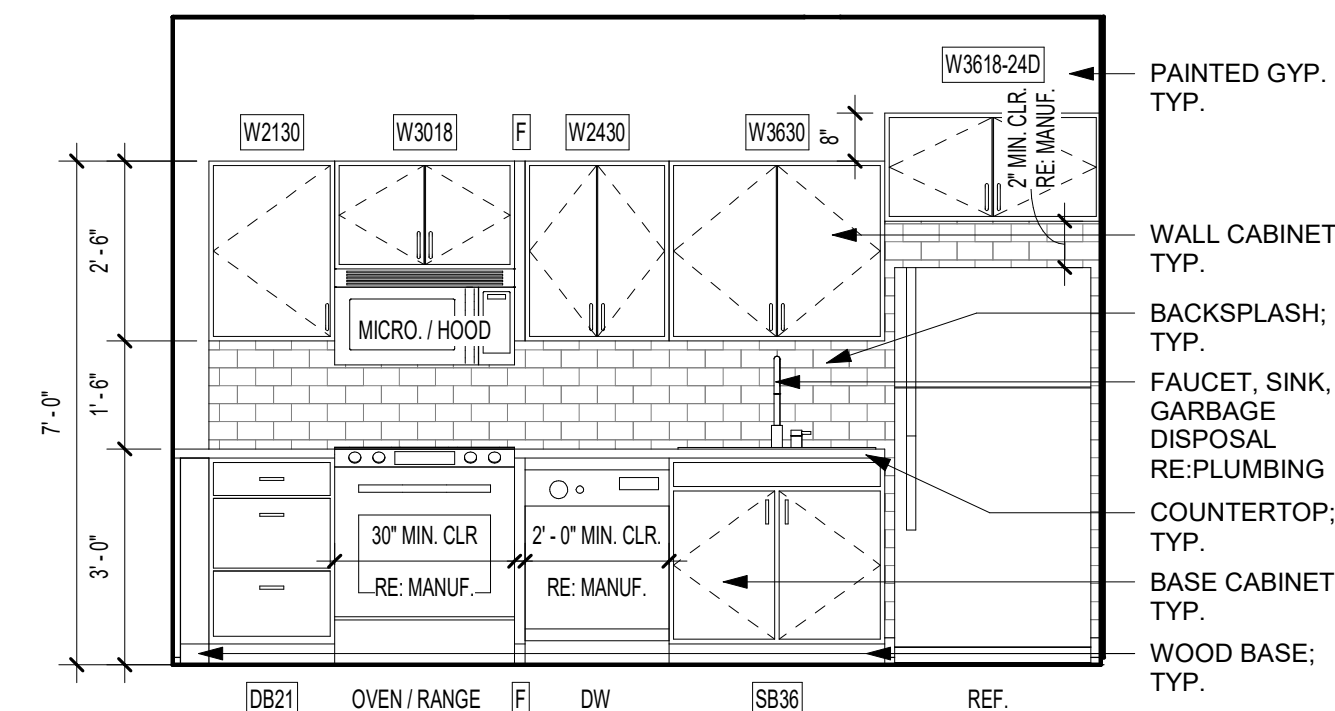
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B4 CONWAY BATH ELEV. 2
3/8" = 1'-0"

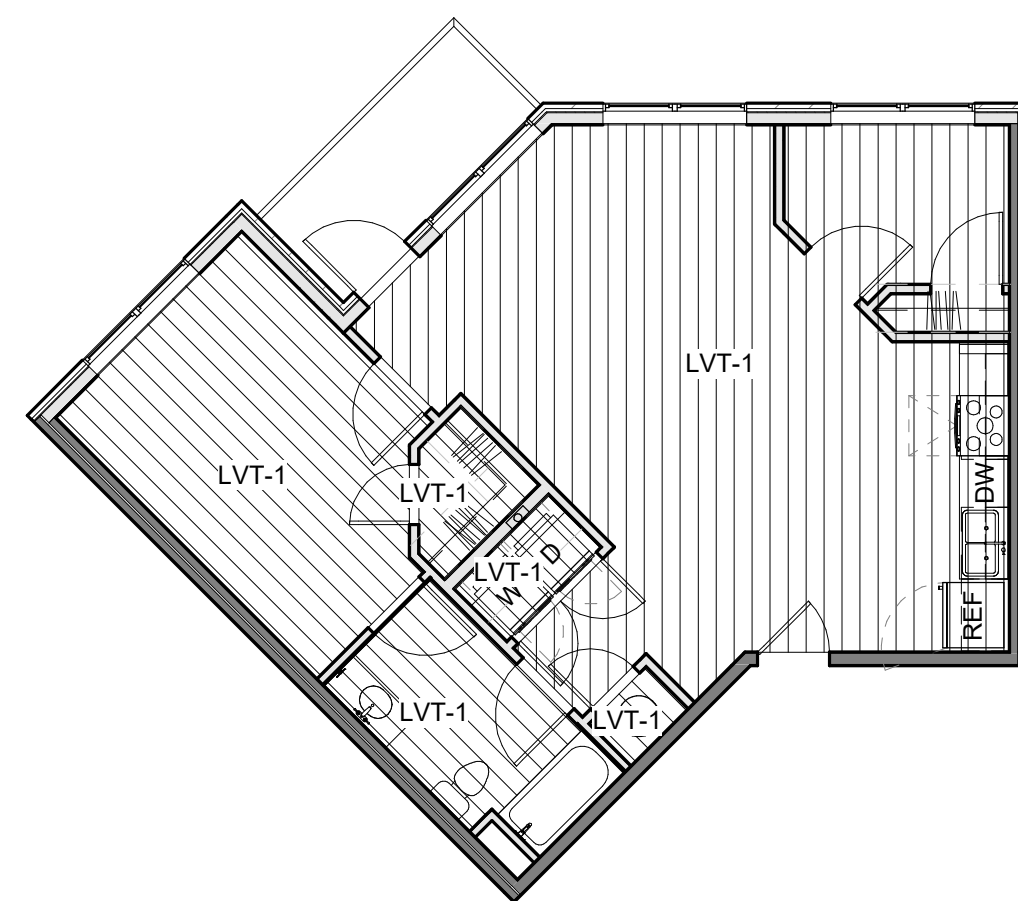
A4 CONWAY BATH ELEV. 1
3/8" = 1'-0"



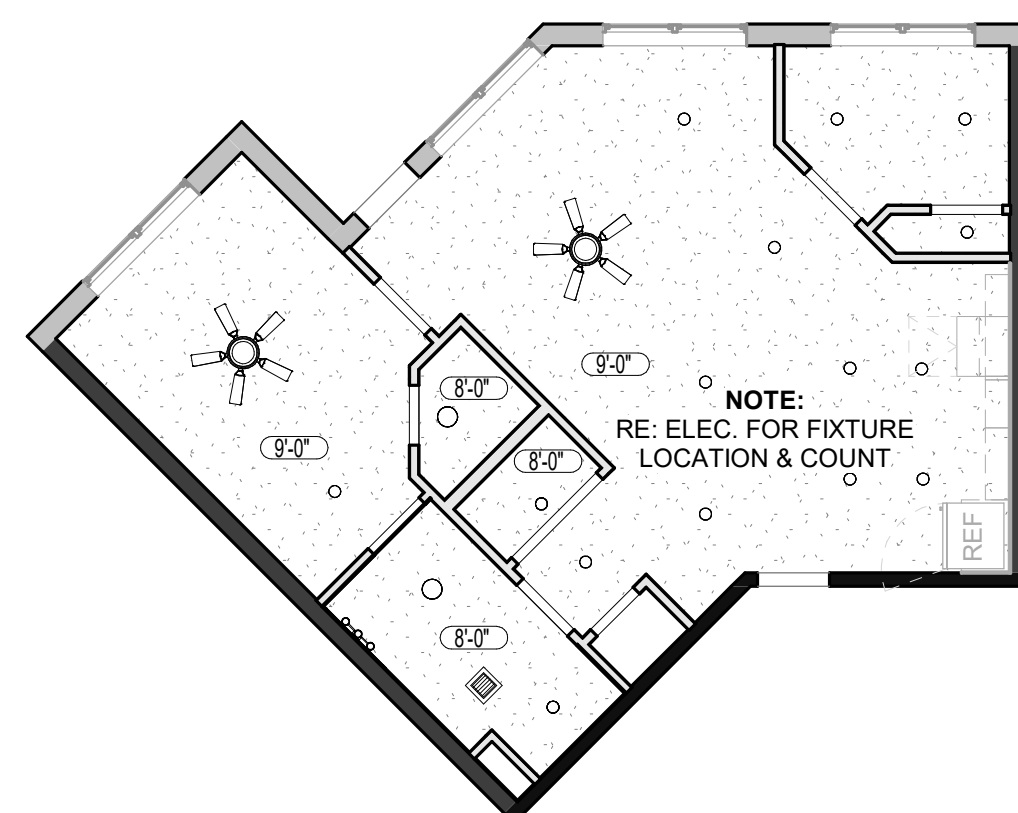
B3 CONWAY KITCHEN ELEV.
3/8" = 1'-0"

DOOR SCHEDULE - UNIT DOORS (BY UNIT TYPE)								
Mark	Width	Height	Thickness	Fire Rating (Minutes)	Door Type	Frame Type	Hardware Group	Comments
001	3'-0"	6'-8"	1 3/4"	45	A2	KD	U1	UNDERCUT IF REQ'D UNDERCUT IF REQ'D
005	2'-6"	6'-8"	1 3/4"		A2	PH	U6	
006-1	5'-0"	6'-8"	1 3/4"		B2	PH	U3	
007	3'-0"	6'-8"	1 3/4"		A2	PH	U4	
007A	3'-0"	6'-8"	1 3/4"		A2	PH	U2	
008A	3'-0"	6'-8"	1 3/4"		A2	PH	U4	
008B	3'-0"	6'-8"	1 3/4"		A2	PH	U4	
010	3'-0"	6'-8"	1 3/4"		A2	PH	U4	
011	2'-6"	6'-8"	1 3/4"		A2	PH	U2	
014	3'-0"	8'-0"	1 3/4"		A3	SF/ALUM	U5	

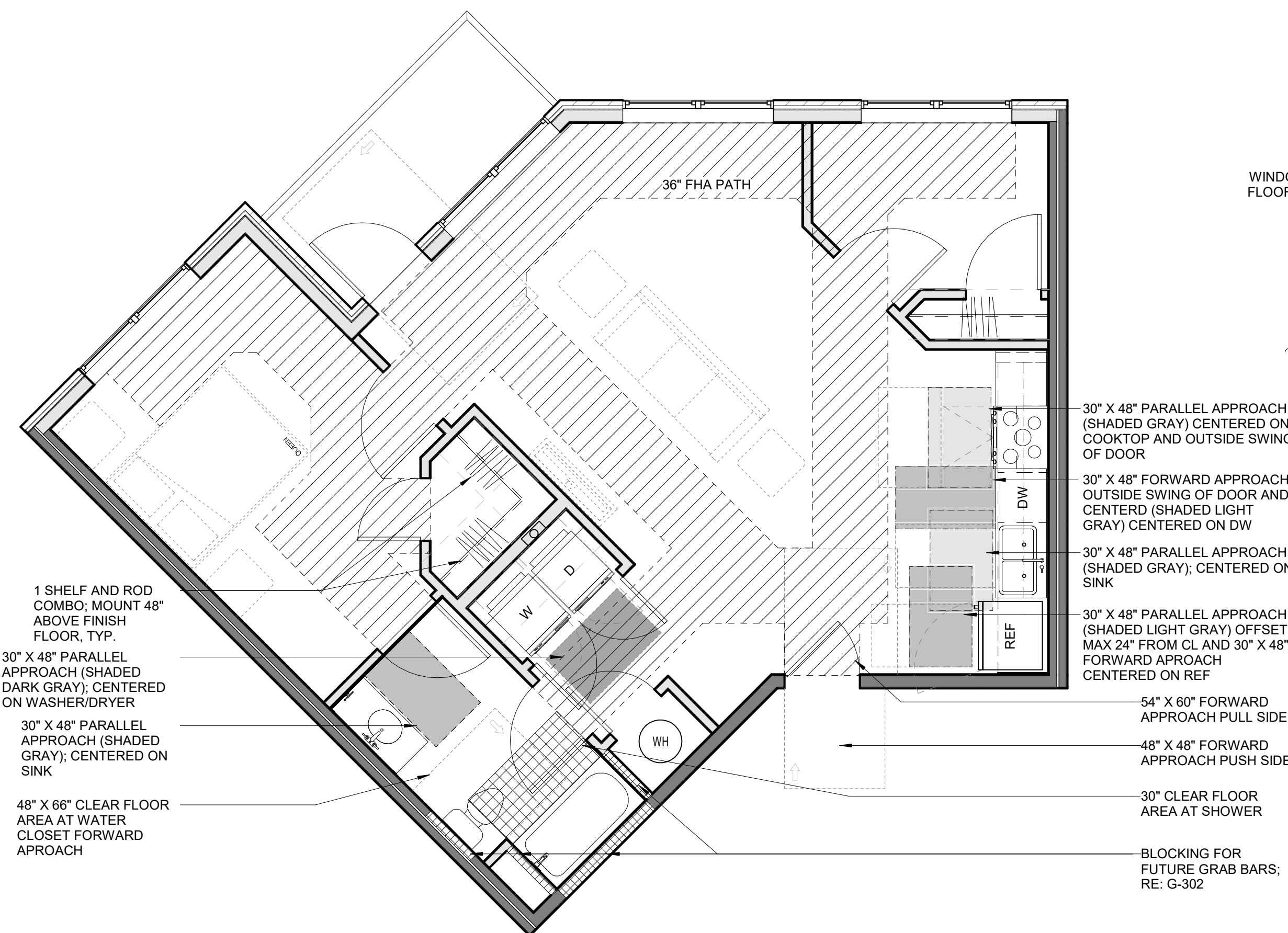
ROOM FINISH SCHEDULE - UNITS						
Number	Name	Floor Finish	Base Finish	Wall Finish	Celling Finish	Comments
001	ENTRY	LVT1	WB, PT3	PT1	PT4	
003	LIVING	LVT1	WB, PT3	PT1	PT4	
004	KITCHEN	LVT1	WB, PT3	PT1	PT4	
005	MECH.	LVT1		PT2	-	
006	LAUNDRY	LVT1	WB, PT3	PT2	PT4	
007	DEN	LVT1	WB, PT3	PT1	PT4	
007A	CL.	LVT1	WB, PT3	PT2	PT4	
008	BATHROOM	LVT1	WB, PT3	PT2	PT4	
010	BEDROOM	LVT1	WB, PT3	PT1	PT4	
011	CLOSET	LVT1	WB, PT3	PT2	PT4	
014	BALCONY	CONCRETE				



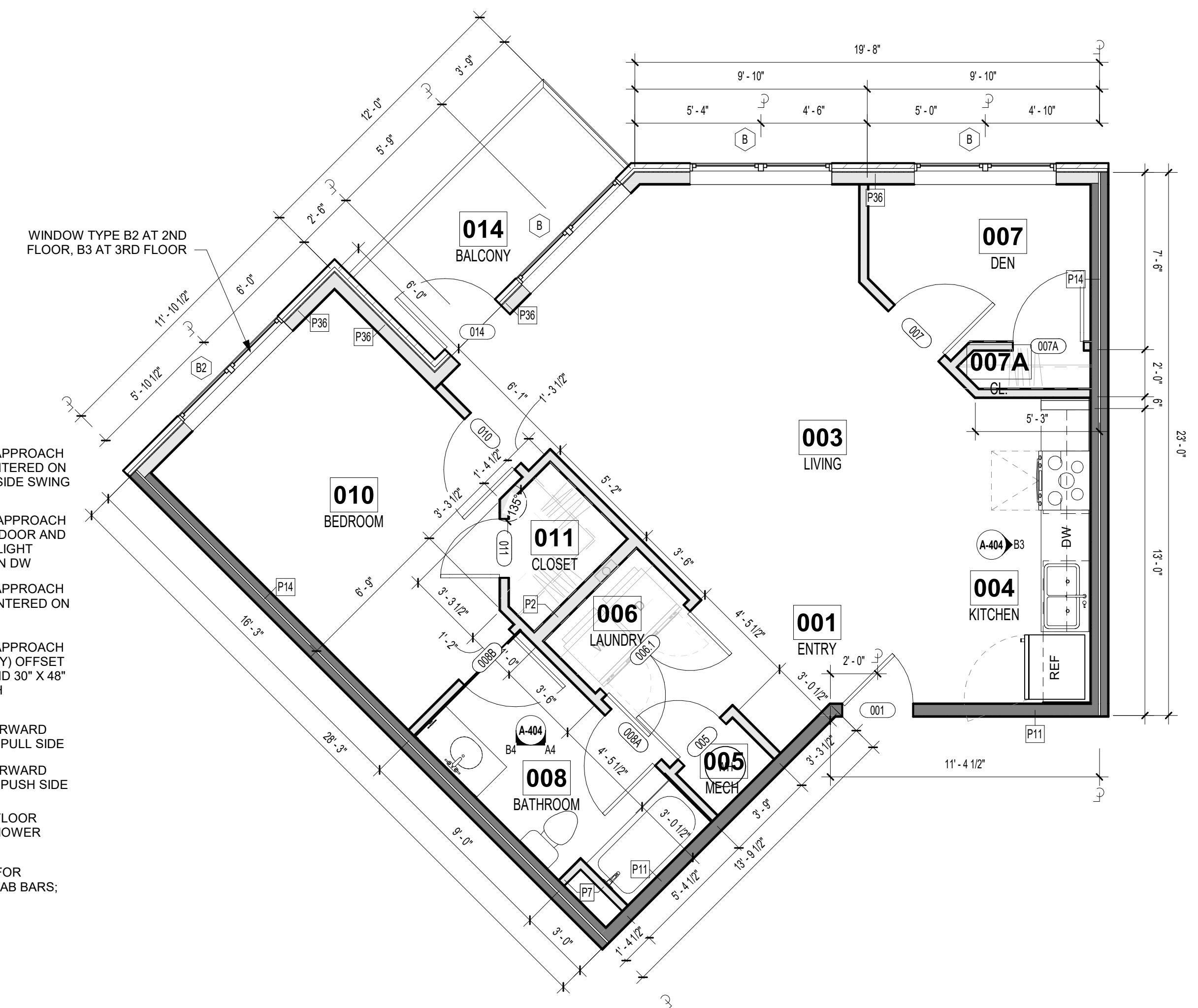
C2 UNIT FINISH PLAN - CONWAY (1 BR) - TYPE B
1/8" = 1'-0"



C1 UNIT RCP - CONWAY (1 BR) - TYPE B
1/8" = 1'-0"

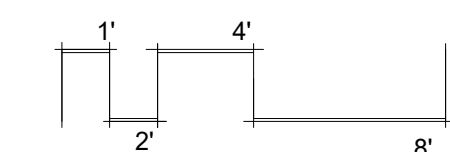


B1 UNIT CLEAR SPACE PLAN - CONWAY (1 BR) - TYPE B
1/4" = 1'-0"



A1 UNIT FLOOR PLAN - CONWAY (1 BR) - TYPE B
1/4" = 1'-0"

843 G.S.F



DISCOVERY PARK - LOT #10-A

SHEET TITLE
CONWAY (1 BR) - TYPE B

PROJECT NUMBER: 24004
SHEET NUMBER:

LEE'S SUMMIT, MO

12/20/24

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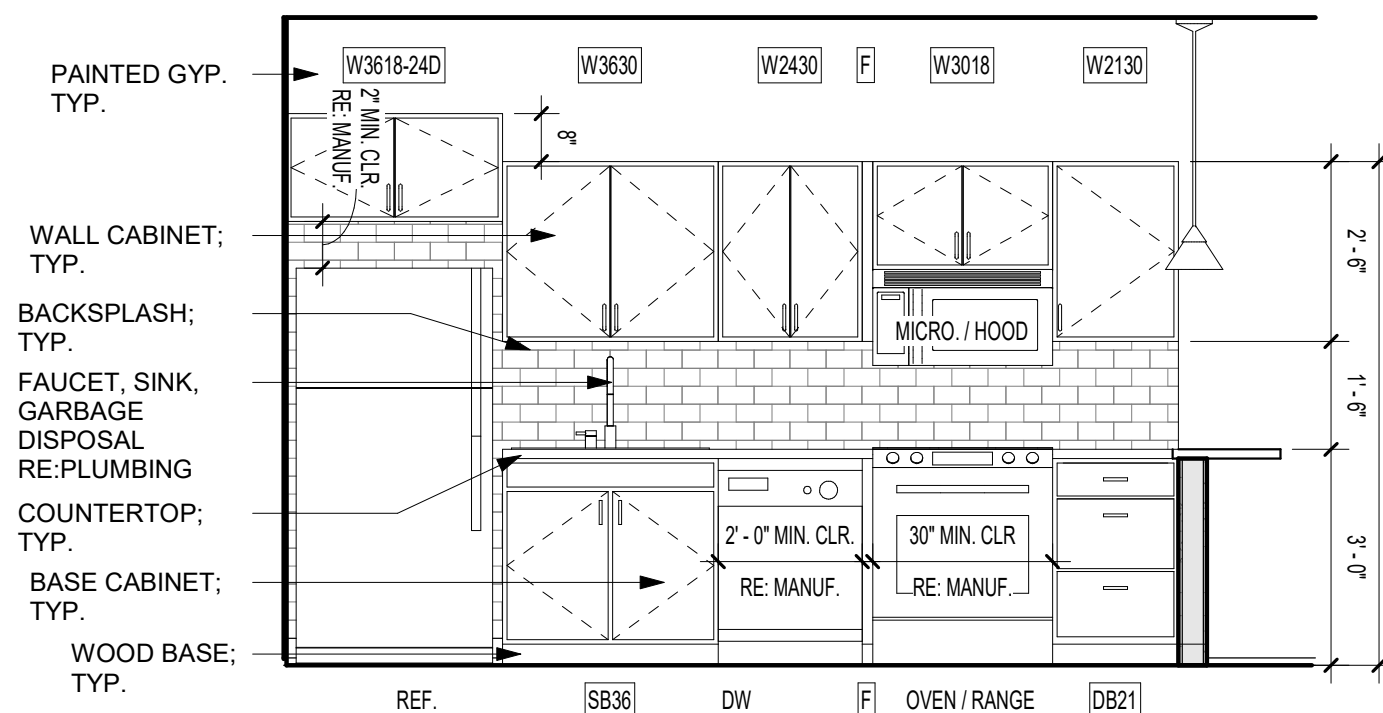
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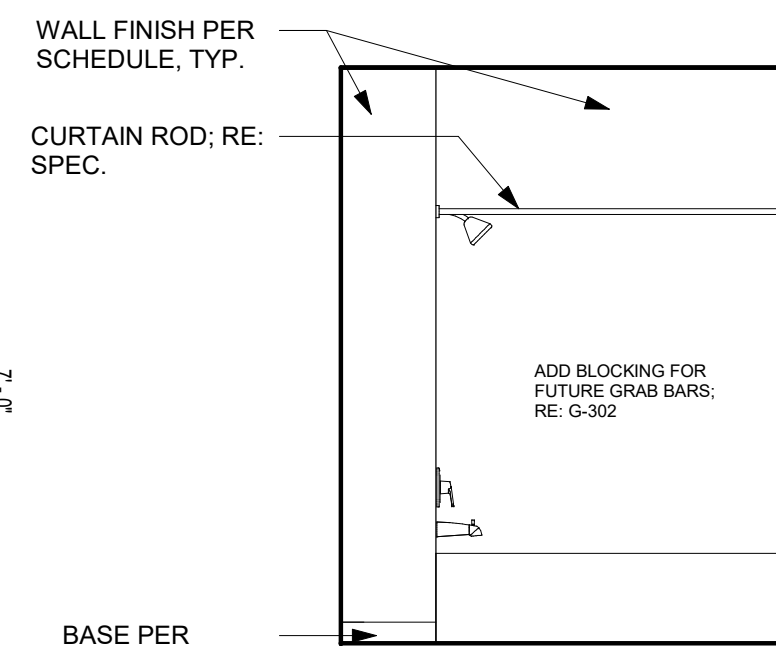
A-404

12/20/2024 - CITY SUBMISSION

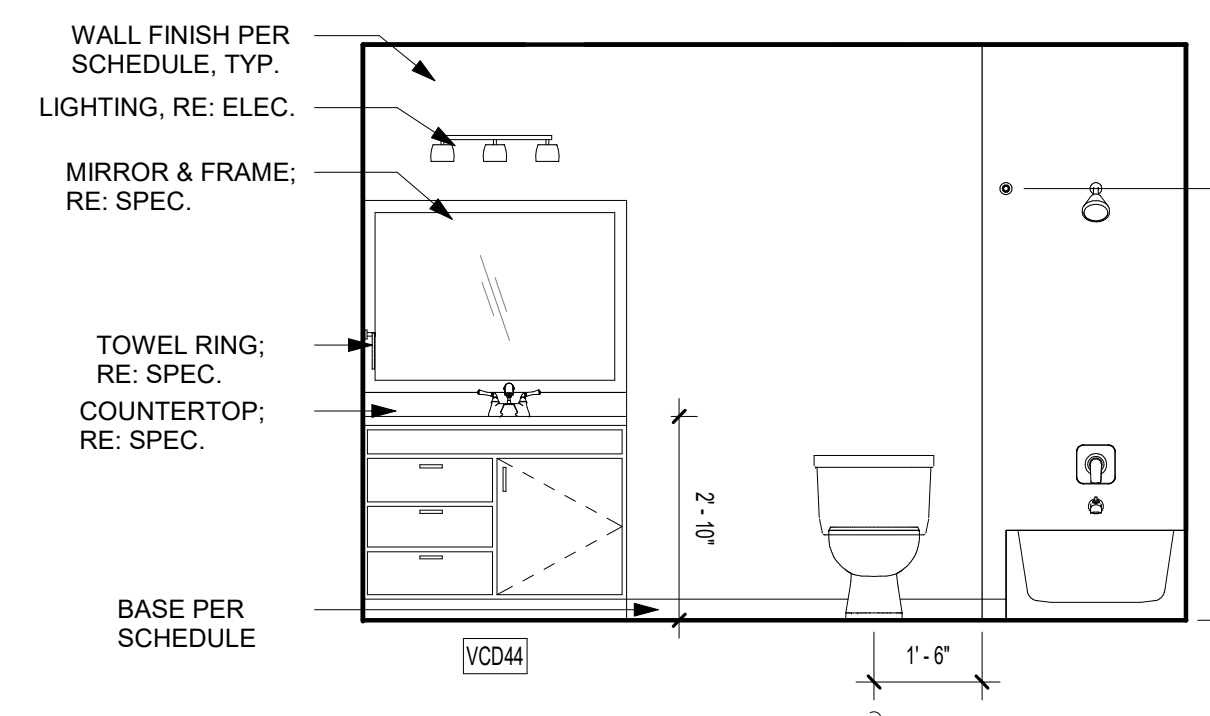
REFERENCE G-003 FOR GENERAL NOTES
REFERENCE A-400 FOR UNIT PLAN LEGEND
REFERENCE A-120 FOR RCP LEGEND



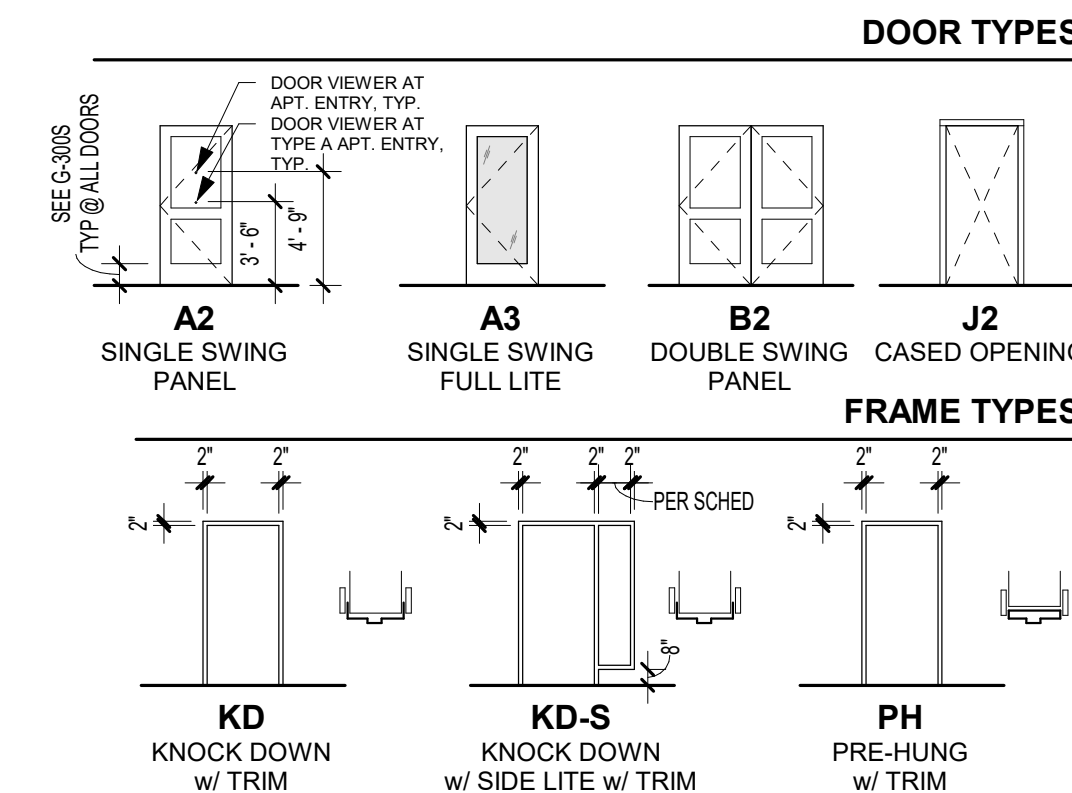
C4 CONWAY II KITCHEN ELEV. 1
3/8" = 1'-0"



B4 CONWAY II BATH ELEV. 2
3/8" = 1'-0"

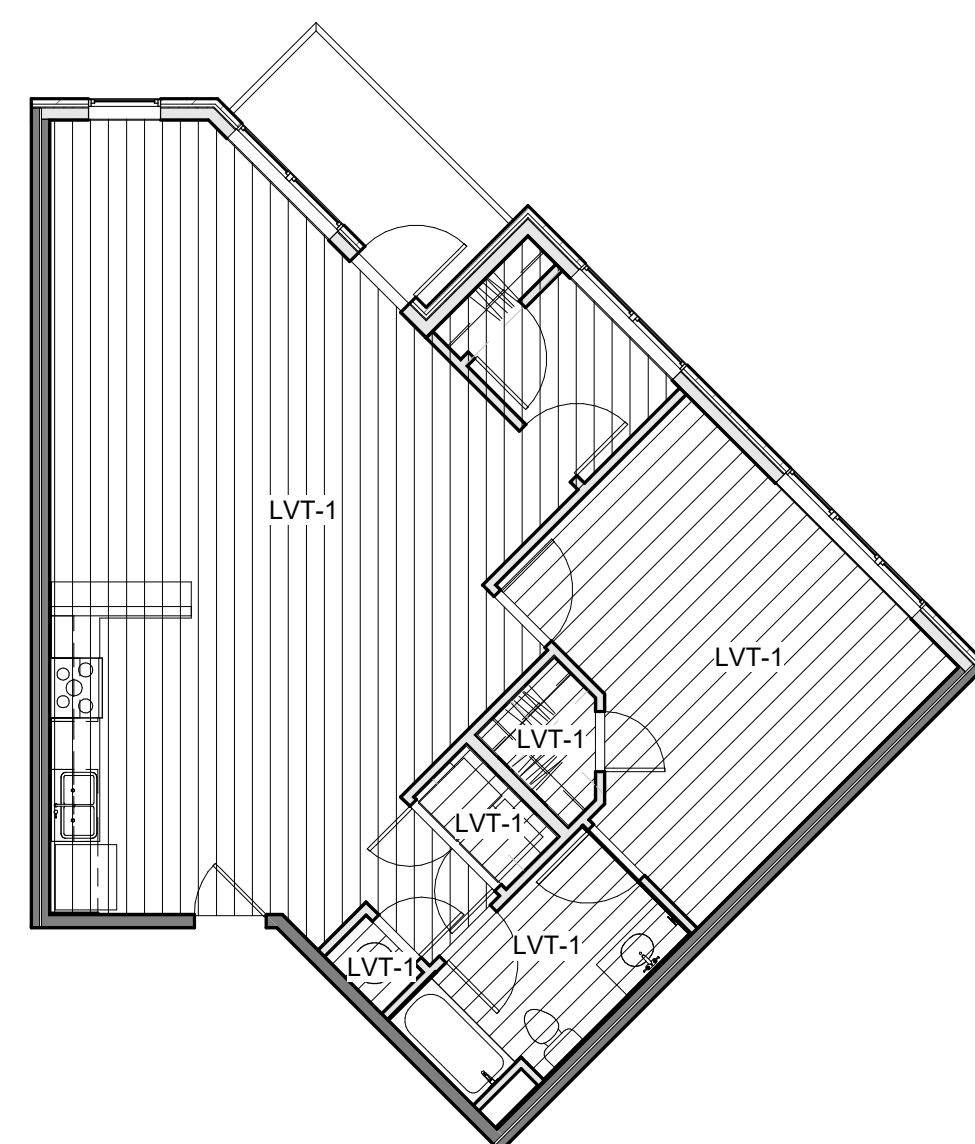


A4 CONWAY II BATH ELEV. 1
3/8" = 1'-0"

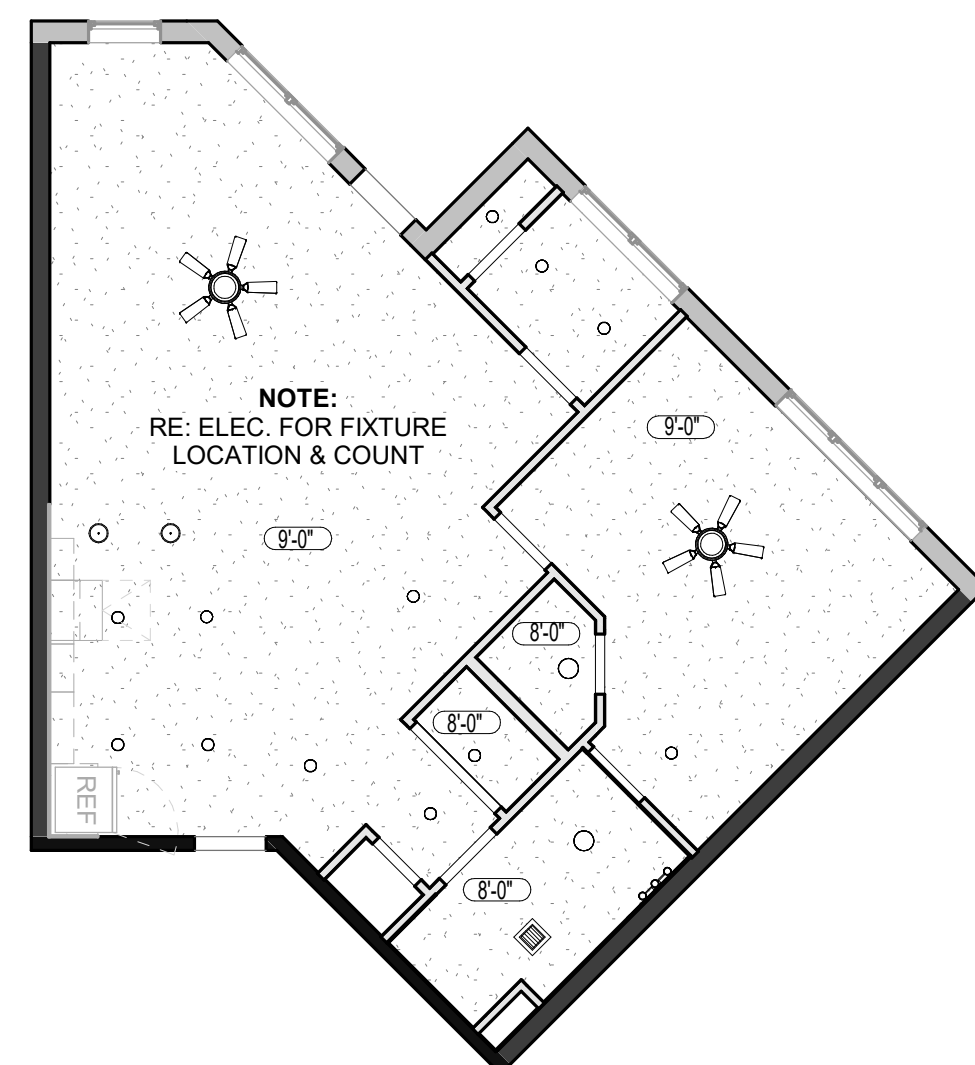


ROOM FINISH SCHEDULE - UNITS						
Number	Name	Floor Finish	Base Finish	Wall Finish	Ceiling Finish	Comments
001	ENTRY	LV1T1	WB, PT 3	PT1	PT4	
003	LIVING	LV1T1	WB, PT 3	PT1	PT4	
004	KITCHEN	LV1T1	WB, PT 3	PT1	PT4	
005	MECH.	LV1T1	-	PT2		
006	LAUNDRY	LV1T1	WB, PT 3	PT2	PT4	
007	DEN	LV1T1	WB, PT 3	PT1	PT4	
007A	CL.	LV1T1	WB, PT 3	PT2	PT4	
008	BATHROOM	LV1T1	WB, PT 3	PT2	PT4	
010	BEDROOM	LV1T1	WB, PT 3	PT1	PT4	
011	CLOSET	LV1T1	WB, PT 3	PT2	PT4	
014	BALCONY	CONCRETE				

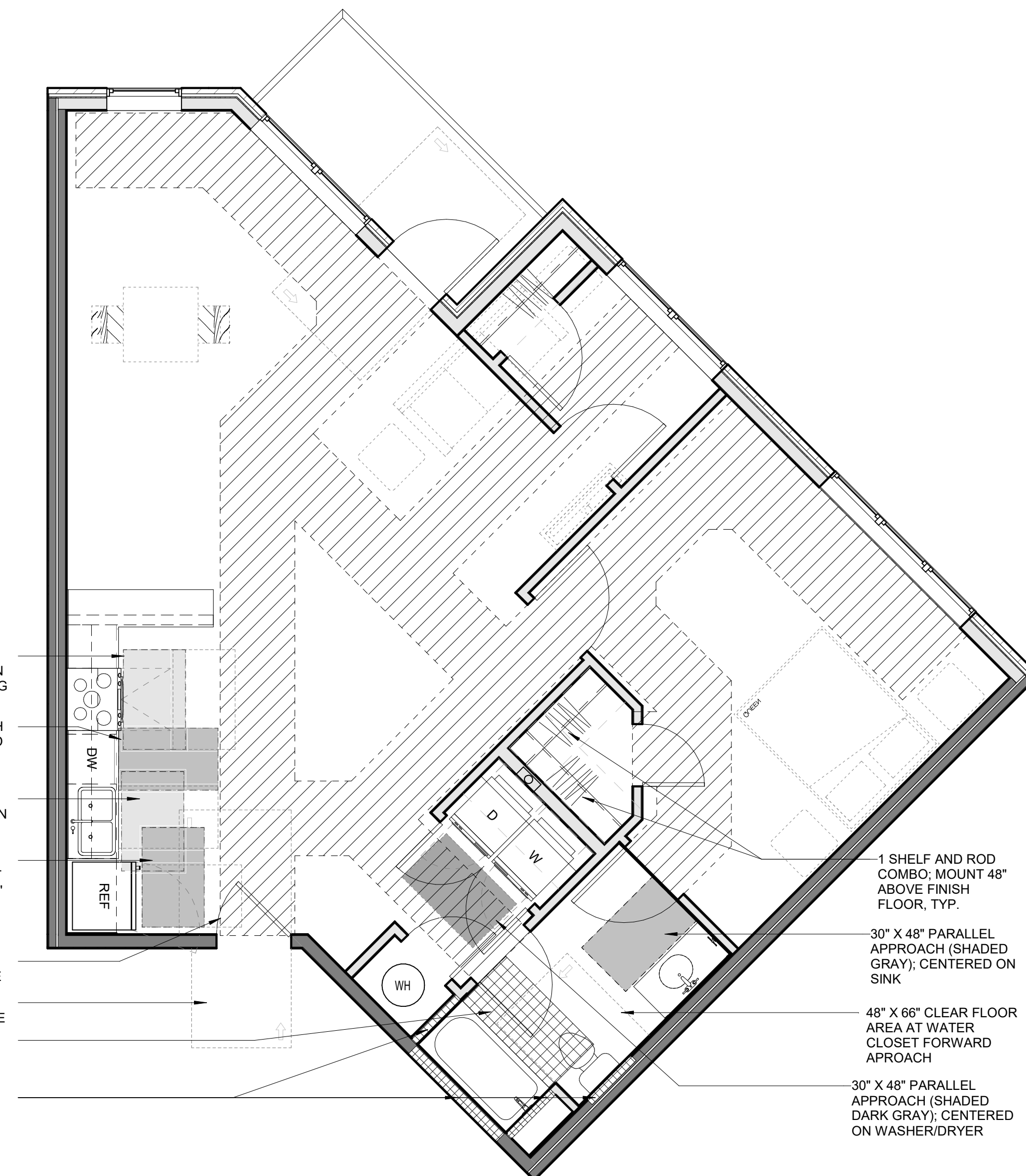
DOOR SCHEDULE - UNIT DOORS (BY UNIT TYPE)								
Mark	Width	Height	Thickness	Fire Rating (Minutes)	Door Type	Frame Type	Hardware Group	Comments
001	3' - 0"	6' - 8"	1 3/4"		A2	KD	U1	
005	2' - 6"	6' - 8"	1 3/4"		A2	PH	U6	UNDERCUT IF REQ'D
006.1	5' - 0"	6' - 8"	1 3/4"		B2	PH	U3	UNDERCUT IF REQ'D
007	3' - 0"	6' - 8"	1 3/4"		A2	PH	U4	
007A	3' - 0"	6' - 8"	1 3/4"		A2	PH	U2	
008	3' - 0"	6' - 8"	1 3/4"		A2	PH	U4	
008A	3' - 0"	6' - 8"	1 3/4"		A2	PH	U4	
010	3' - 0"	6' - 8"	1 3/4"		A2	PH	U4	
011	2' - 6"	6' - 8"	1 3/4"		A2	PH	U2	
014	3' - 0"	8' - 0"	1 3/4"		A3	SF/ALUM	U5	



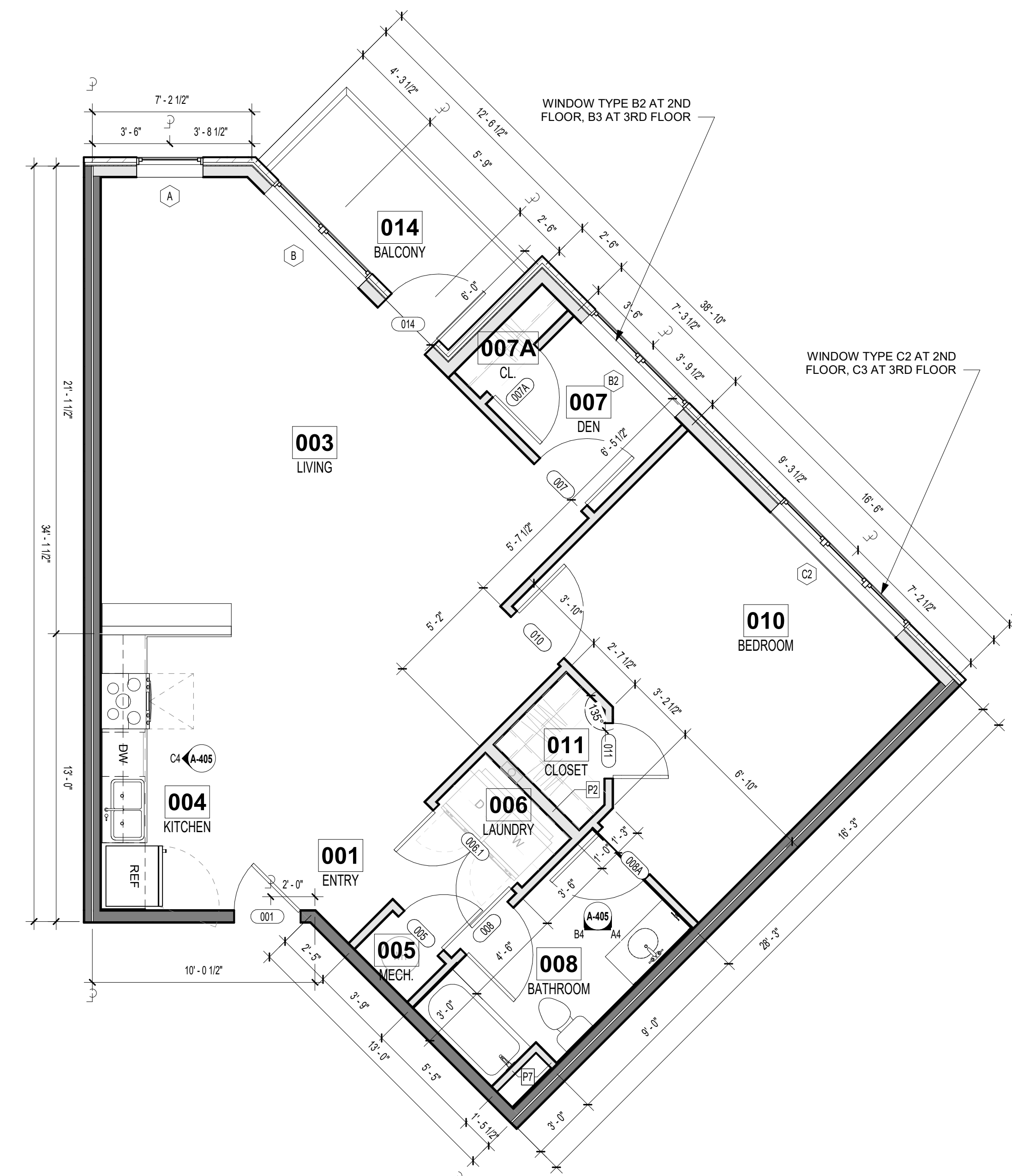
C2 UNIT FINISH PLAN - CONWAY II (1 BR) - TYPE B
1/8" = 1'-0"



C1 UNIT RCP - CONWAY II (1 BR) - TYPE B
1/8" = 1'-0"



B1 UNIT CLEAR SPACE PLAN - CONWAY II (1 BR) - TYPE B
1/4" = 1'-0"



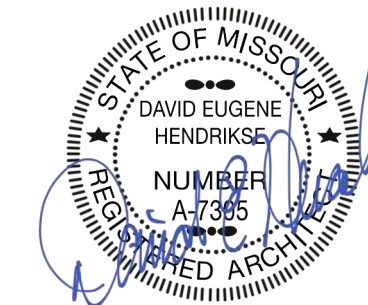
A1 UNIT FLOOR PLAN - CONWAY II (1 BR) - TYPE B 1,024 G.S.F.
1/4" = 1'-0"

 **rosemann
& ASSOCIATES** P.C.

ARCHITECTURE
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DISCOVERY PARK - LOT #10-A

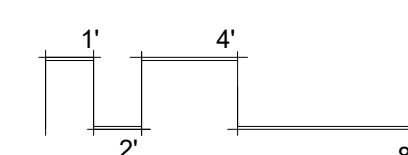
LEE'S SUMMIT, MO

SHEET TITLE
CONWAY II (1 BR) - TYPE B

PROJECT NUMBER: 24004

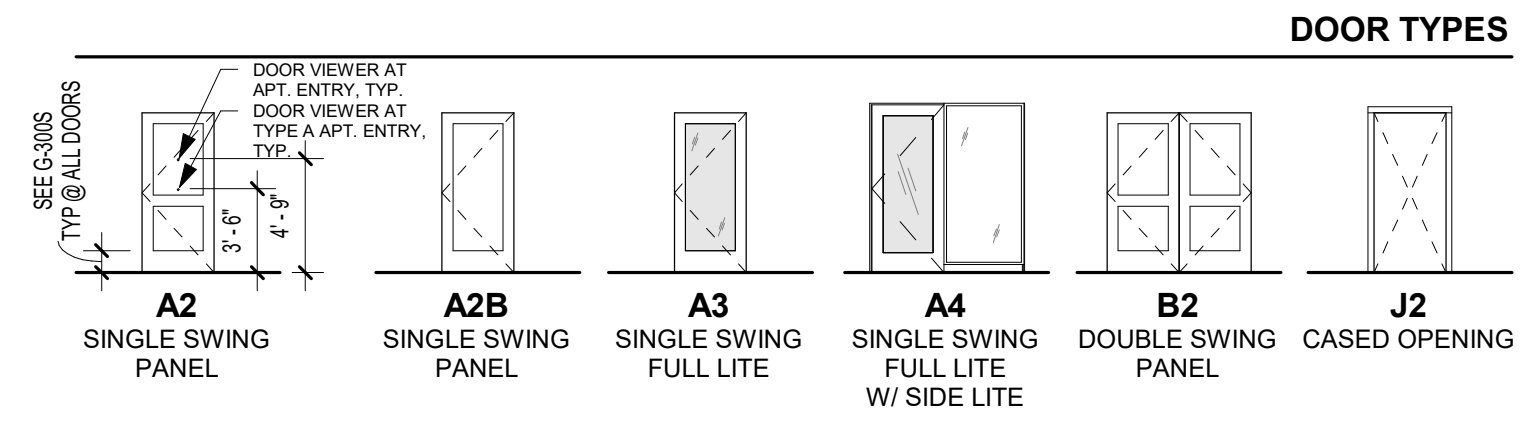
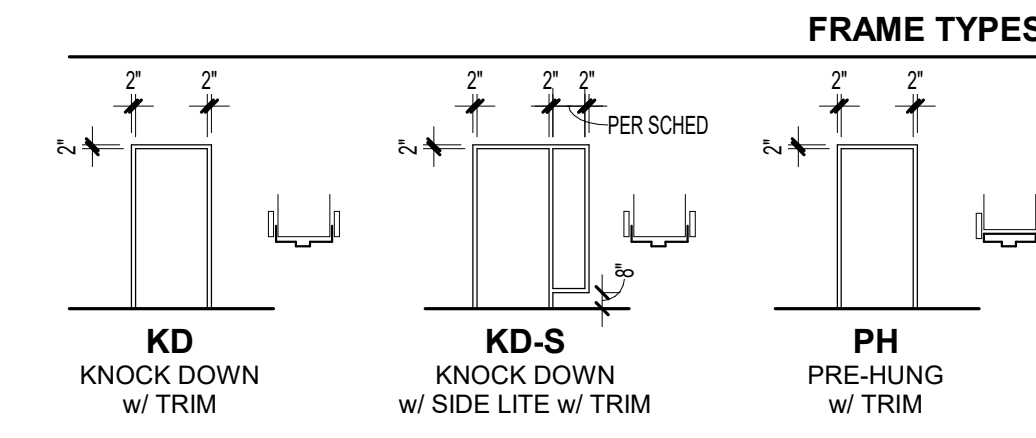
SHEET NUMBER:

A-405



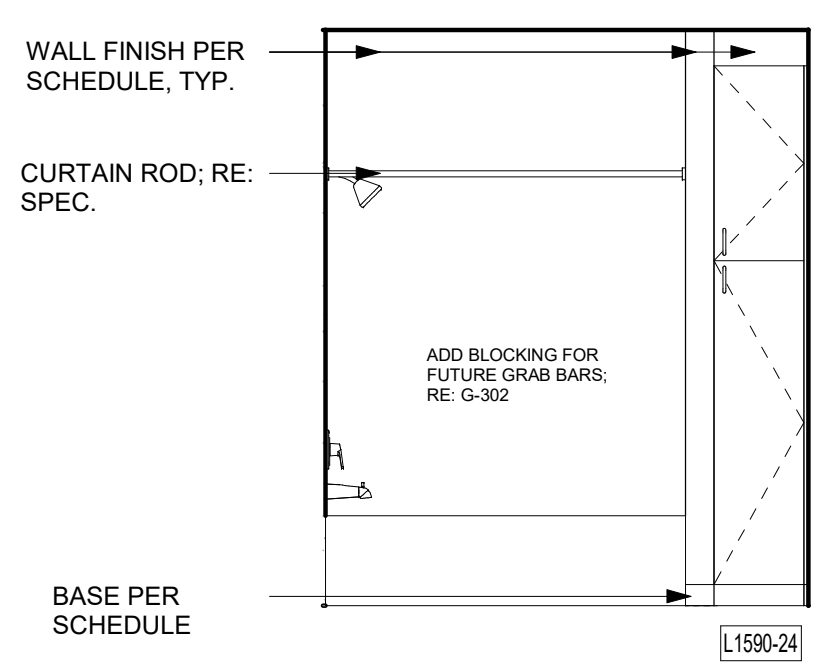
REFERENCE G-003 FOR GENERAL NOTES
REFERENCE A-400 FOR UNIT PLAN LEGEND
REFERENCE A-120 FOR RCP LEGEND

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REVISIONS:

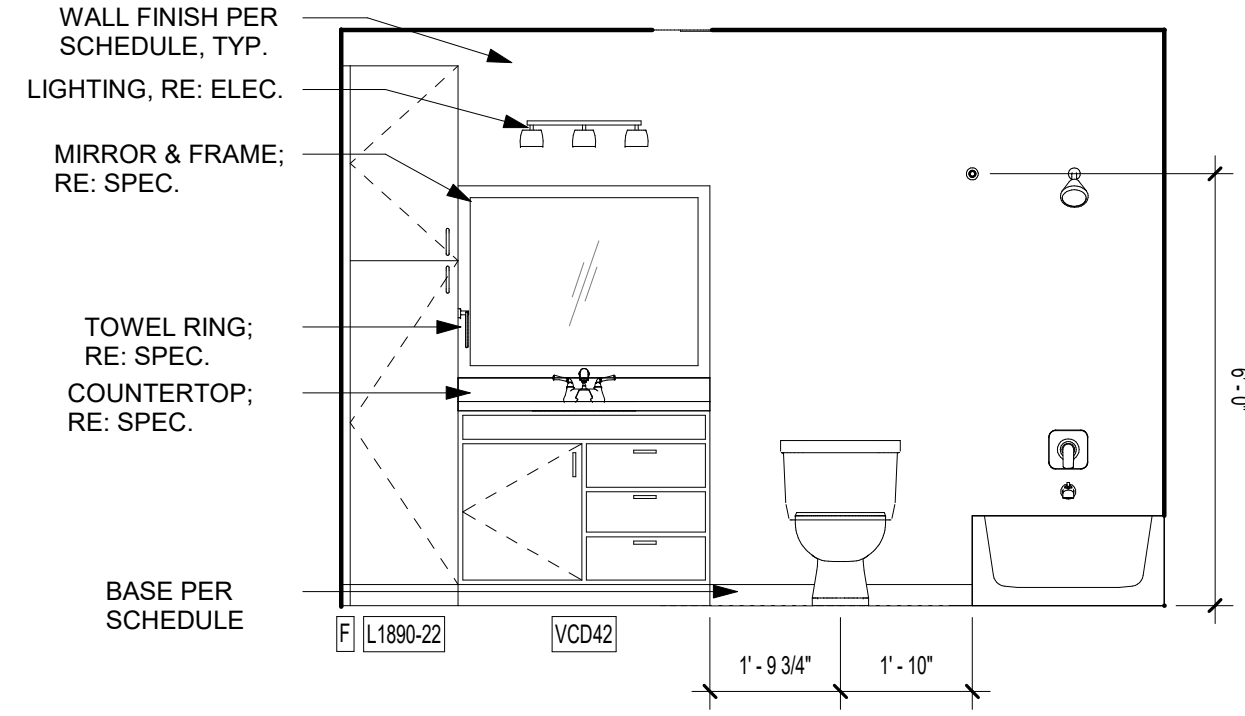


DOOR SCHEDULE - UNIT DOORS (BY UNIT TYPE)							
Mark	Width	Height	Thickness	Fire Rating (Minutes)	Door Type	Frame Type	Hardware Group
001	3'-0"	6'-8"	1 3/4"		A2	KD	U1
005	3'-0"	6'-8"	1 3/4"		A2	PH	U6
006	5'-0"	6'-8"	1 3/4"		B2	PH	U3
007	3'-0"	6'-8"	1 3/4"		A2	PH	U4
008	2'-6"	6'-8"	1 3/4"		A2	PH	U4
008A	3'-0"	6'-8"	1 3/4"		A2	PH	U4
010	3'-0"	6'-8"	1 3/4"		A2	PH	U4
011	3'-0"	6'-8"	1 3/4"		A2	PH	U2
014	3'-0"	8'-0"	1 3/4"		A4	KD-S	U5
							2'-0" SIDELITE

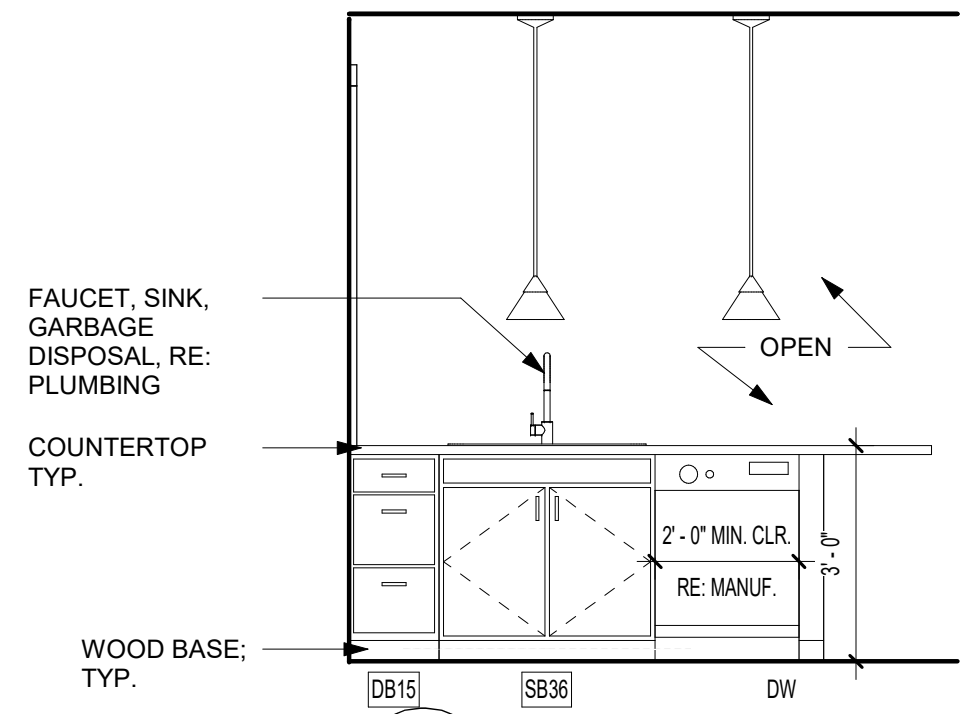
ROOM FINISH SCHEDULE - UNITS						
Number	Name	Floor Finish	Base Finish	Wall Finish	Ceiling Finish	Comments
001	ENTRY	LVT1	WB, PT3	PT1	PT4	
003	LIVING	LVT1	WB, PT3	PT1	PT4	
004	KITCHEN	LVT1	WB, PT3	PT1	PT4	
005	MECH	LVT1	-	PT2	-	
006	LAUNDRY	LVT1	WB, PT3	PT2	PT4	
007	DEN	LVT1	WB, PT3	PT1	PT4	
008	BATHROOM	LVT1	WB, PT3	PT2	PT4	
010	BEDROOM	LVT1	WB, PT3	PT1	PT4	
011	CLOSET	LVT1	WB, PT3	PT2	PT4	
014	BALCONY	CONCRETE				



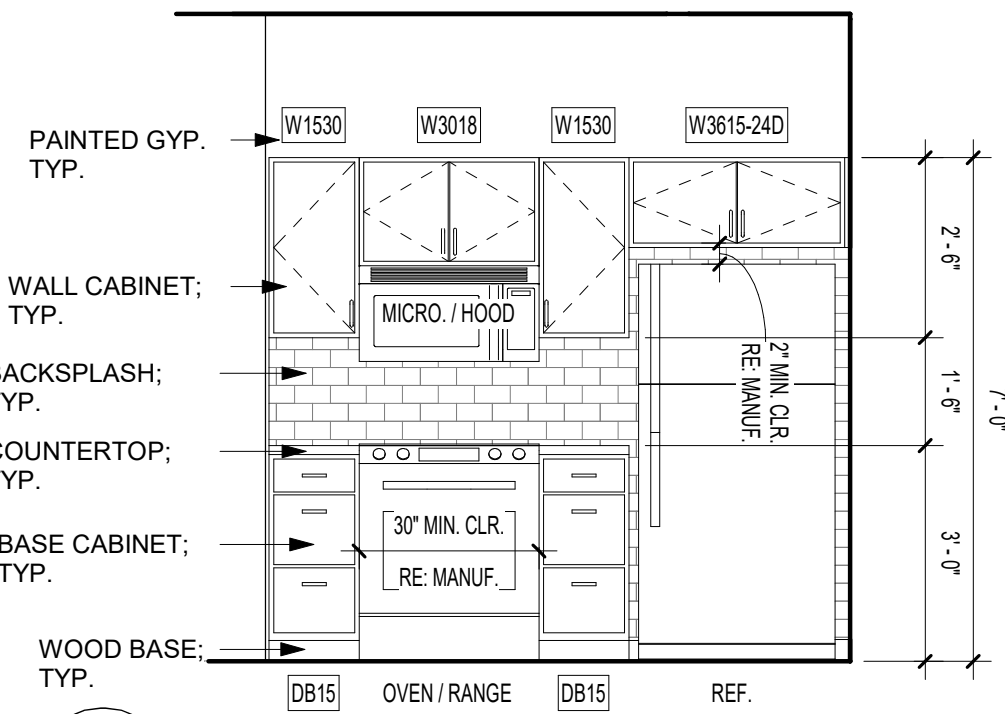
D3 DRAKE BATH ELEV. 2
3/8" = 1'-0"



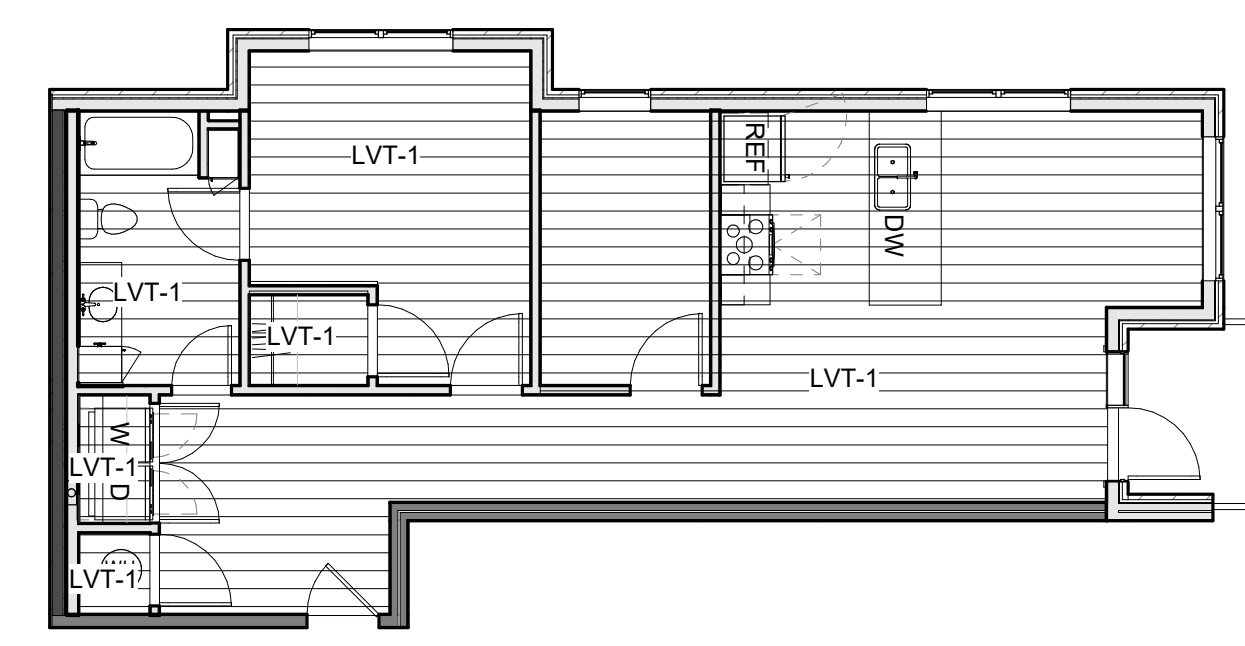
C3 DRAKE BATH ELEV. 1
3/8" = 1'-0"



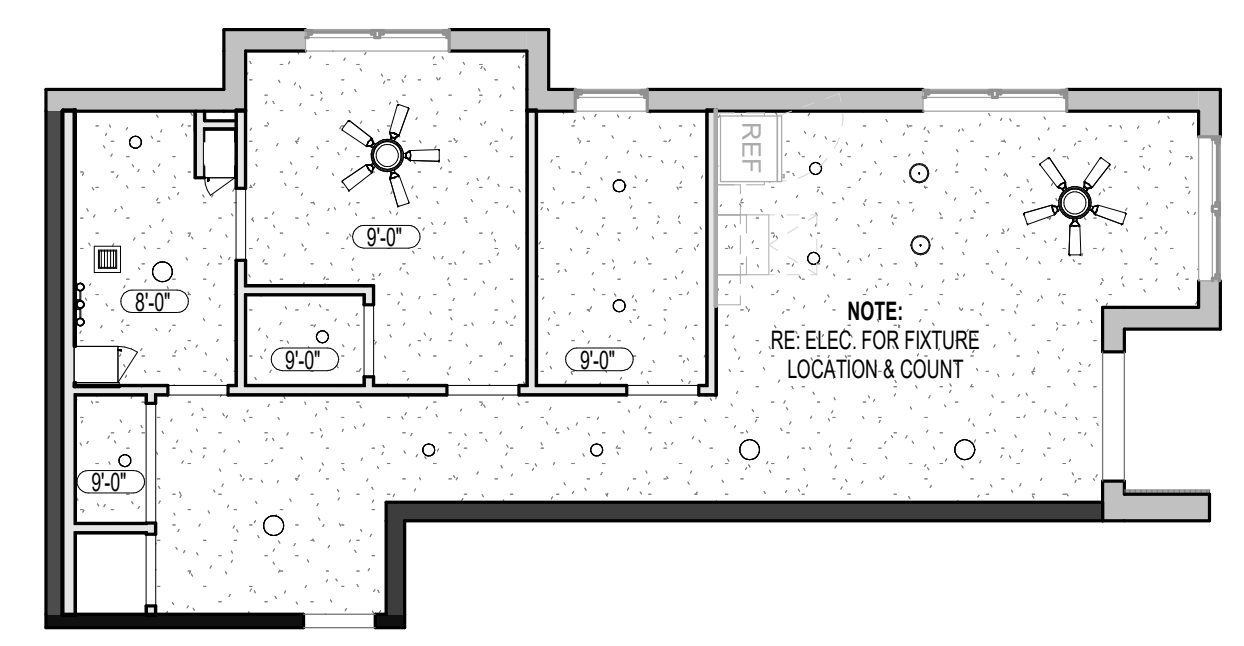
D2 DRAKE KITCHEN ELEV. 1
3/8" = 1'-0"



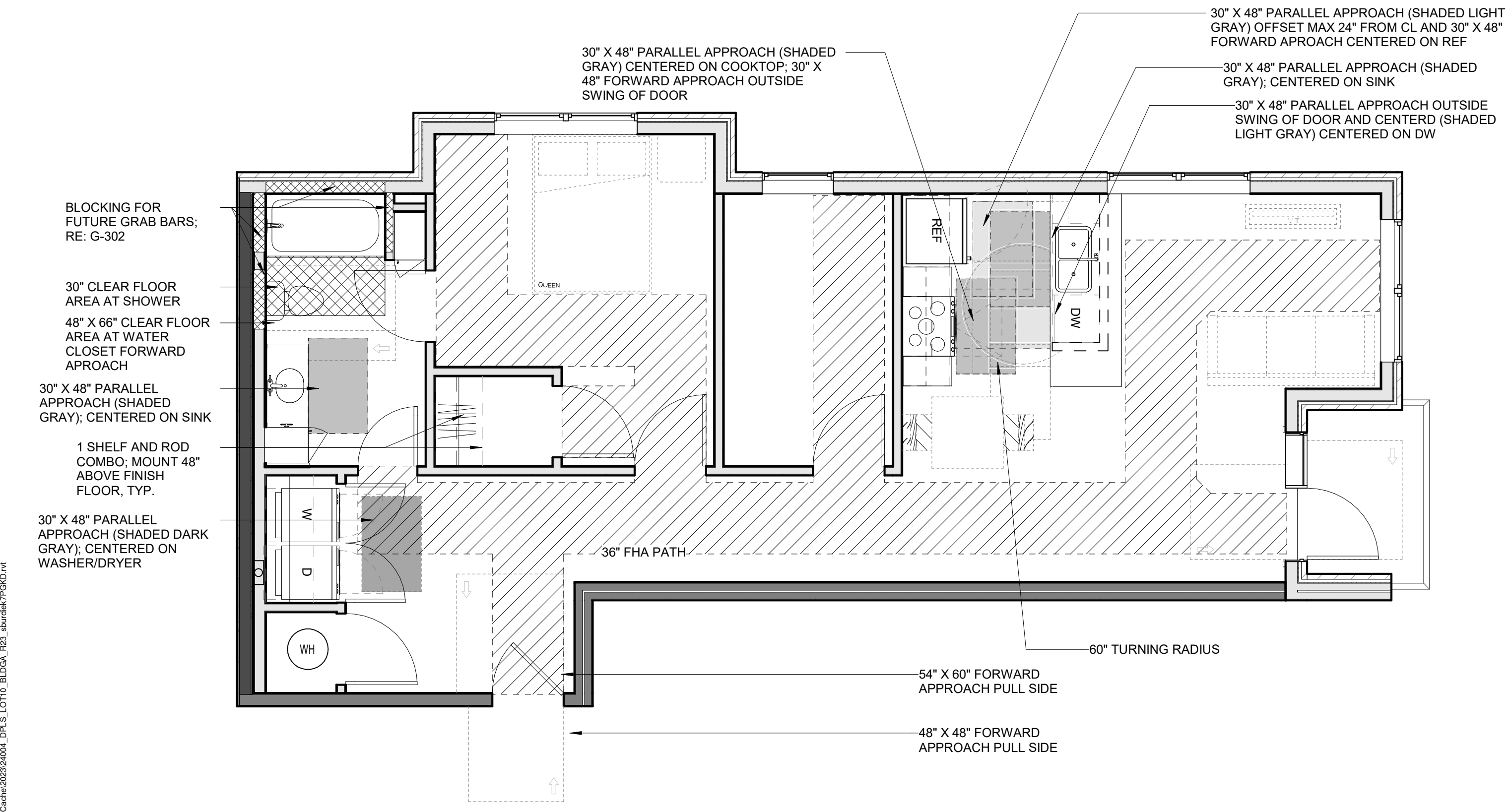
C2 DRAKE KITCHEN ELEV. 2
3/8" = 1'-0"



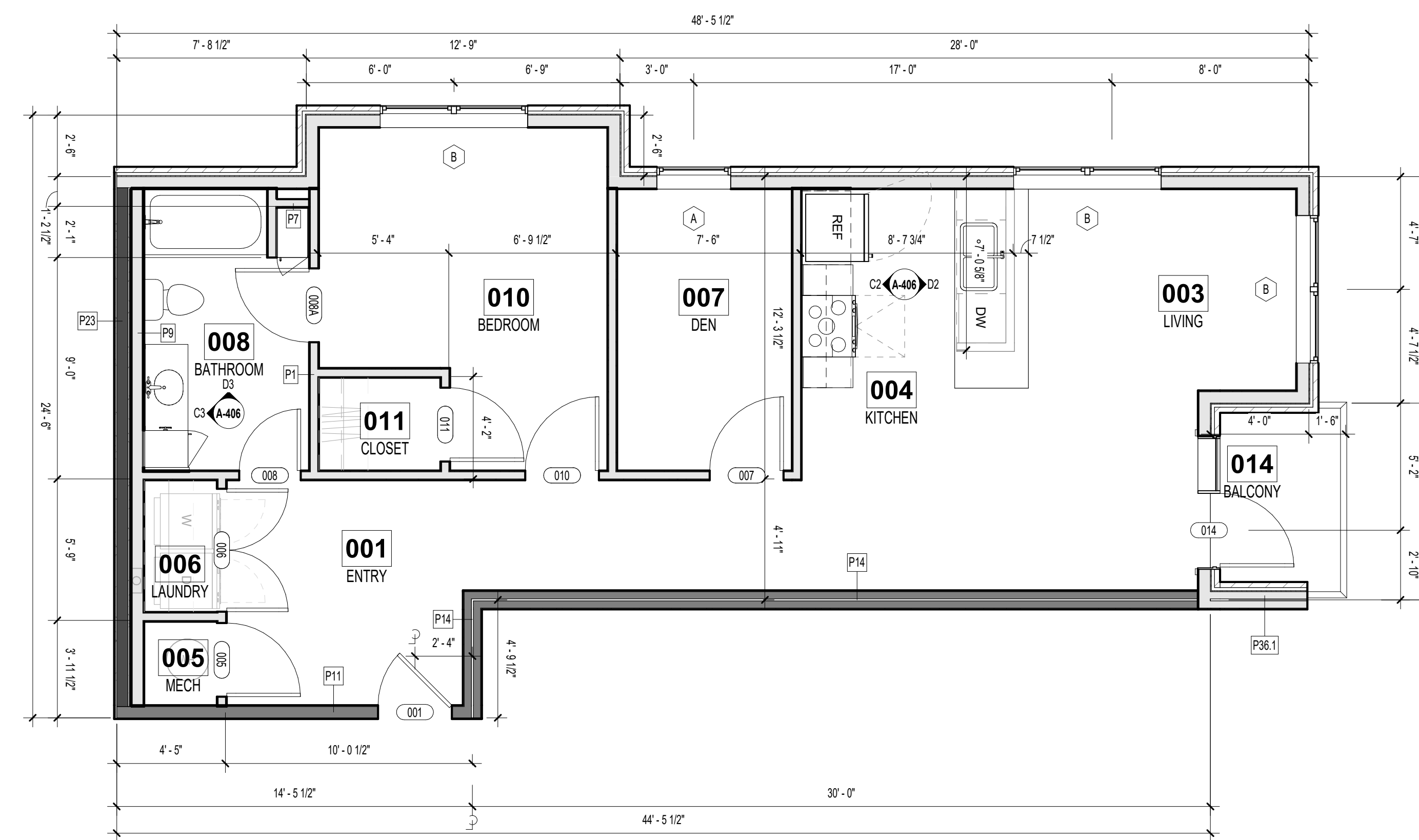
B2 UNIT FINISH PLAN - DRAKE (1 BR) - TYPE B
1/8" = 1'-0"



A2 UNIT RCP - DRAKE (1 BR) - TYPE B
1/8" = 1'-0"



D1 UNIT CLEAR SPACE PLAN - DRAKE (1 BR) - TYPE B
1/4" = 1'-0"



A1 UNIT FLOOR PLAN - DRAKE (1 BR) - TYPE B
1/4" = 1'-0"

rosemann & ASSOCIATES P.C.

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12/20/24

DISCOVERY PARK - LOT #10-A

LEE'S SUMMIT, MO

SHEET TITLE
DRAKE (1 BR) - TYPE B

PROJECT NUMBER: 24004

SHEET NUMBER:

A-406

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12/20/24

DISCOVERY PARK - LOT #10-A

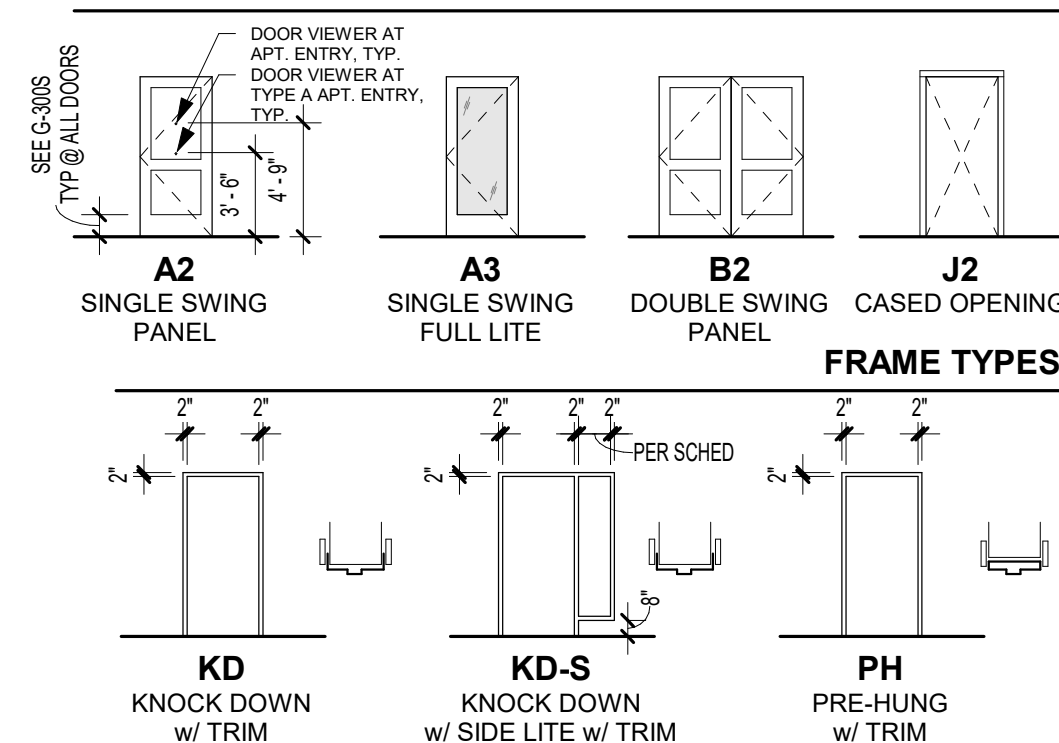
LEE'S SUMMIT, MO

SHEET TITLE
LANA (2 BR) - TYPE B
PROJECT NUMBER: 24004
SHEET NUMBER:

A-407

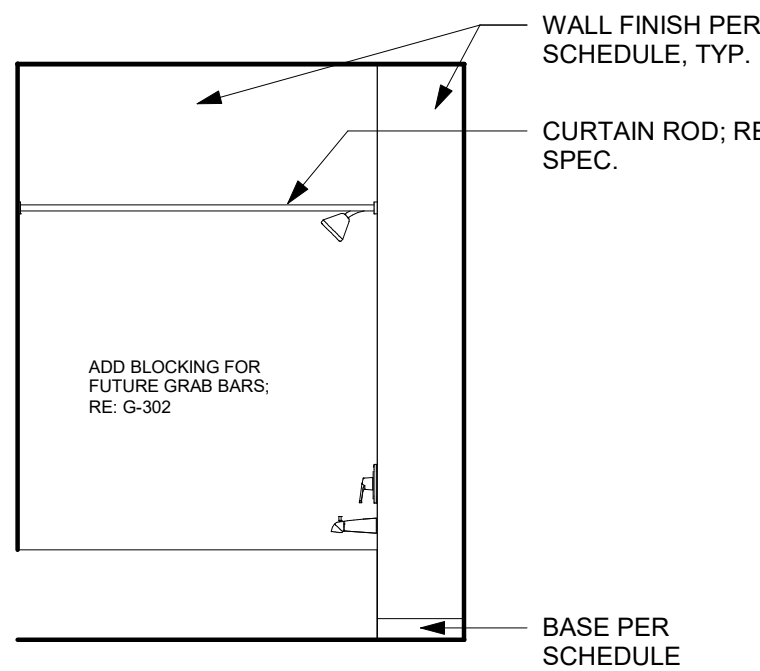
REFERENCE G-003 FOR GENERAL NOTES
REFERENCE A-400 FOR UNIT PLAN LEGEND
REFERENCE A-120 FOR RCP LEGEND

DOOR TYPES

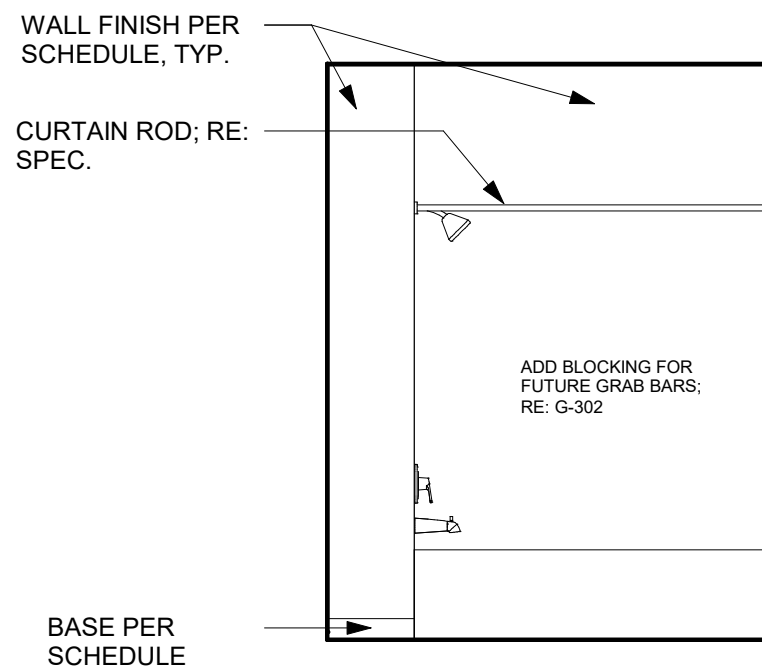


DOOR SCHEDULE - UNIT DOORS (BY UNIT TYPE)							
Mark	Width	Height	Thickness	Fire Rating (Minutes)	Door Type	Frame Type	Hardware Group
001	3'-0"	6'-8"	1 3/4"		A2	KD	U1
005	2'-6"	6'-8"	1 3/4"		A2	PH	U6
006.1	5'-0"	6'-8"	1 3/4"		B2	PH	U3
008	3'-0"	6'-8"	1 3/4"		A2	PH	U4
009	3'-0"	6'-8"	1 3/4"		A2	PH	U4
010	3'-0"	6'-8"	1 3/4"		A2	PH	U4
011	3'-0"	6'-8"	1 3/4"		A2	PH	U2
012	3'-0"	6'-8"	1 3/4"		A2	PH	U4
013	3'-0"	6'-8"	1 3/4"		A2	PH	U2
014	3'-0"	8'-0"	1 3/4"		A3	SF/ALUM	U5

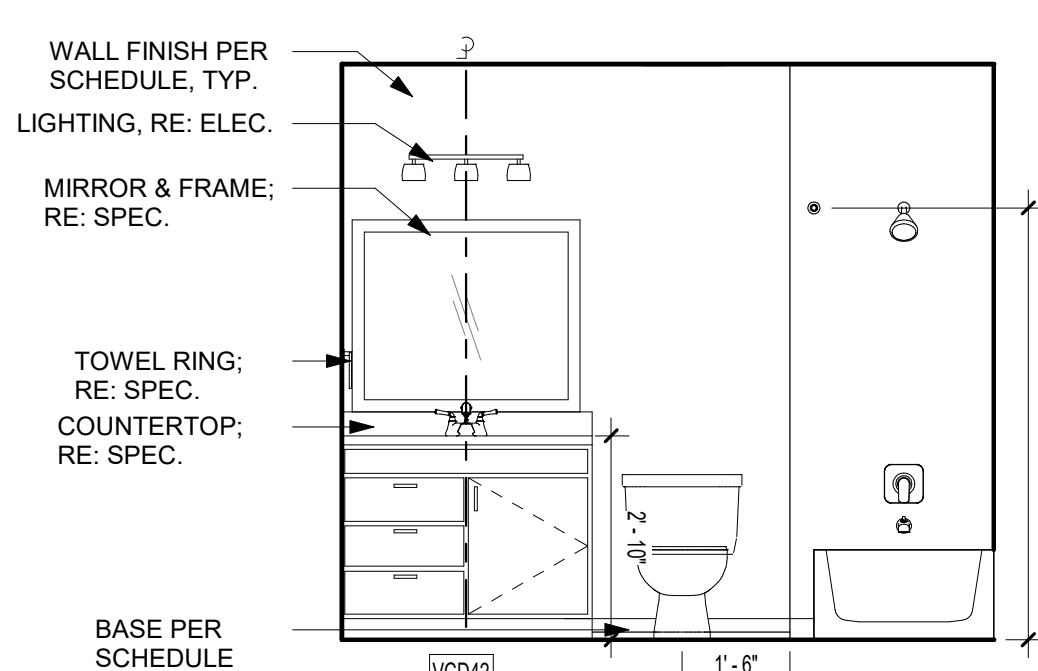
ROOM FINISH SCHEDULE - UNITS						
Number	Name	Floor Finish	Base Finish	Wall Finish	Ceiling Finish	Comments
001	ENTRY	LVT1	WB, PT3	PT1	PT4	
003	LIVING	LVT1	WB, PT3	PT1	PT4	
004	KITCHEN	LVT1	WB, PT3	PT1	PT4	
005	MECH.	LVT1	-	PT2	-	
006	LAUNDRY	LVT1	WB, PT3	PT2	PT4	
007	HALLWAY	LVT1	WB, PT3	PT1	PT4	
008	BATHROOM 1	LVT1	WB, PT3	PT2	PT4	
009	BATHROOM 2	LVT1	WB, PT3	PT2	PT4	
010	BEDROOM 1	LVT1	WB, PT3	PT1	PT4	
011	CLOSET	LVT1	WB, PT3	PT2	PT4	
012	BEDROOM 2	LVT1	WB, PT3	PT1	PT4	
013	CLOSET	LVT1	WB, PT3	PT2	PT4	
014	BALCONY	CONCRETE				



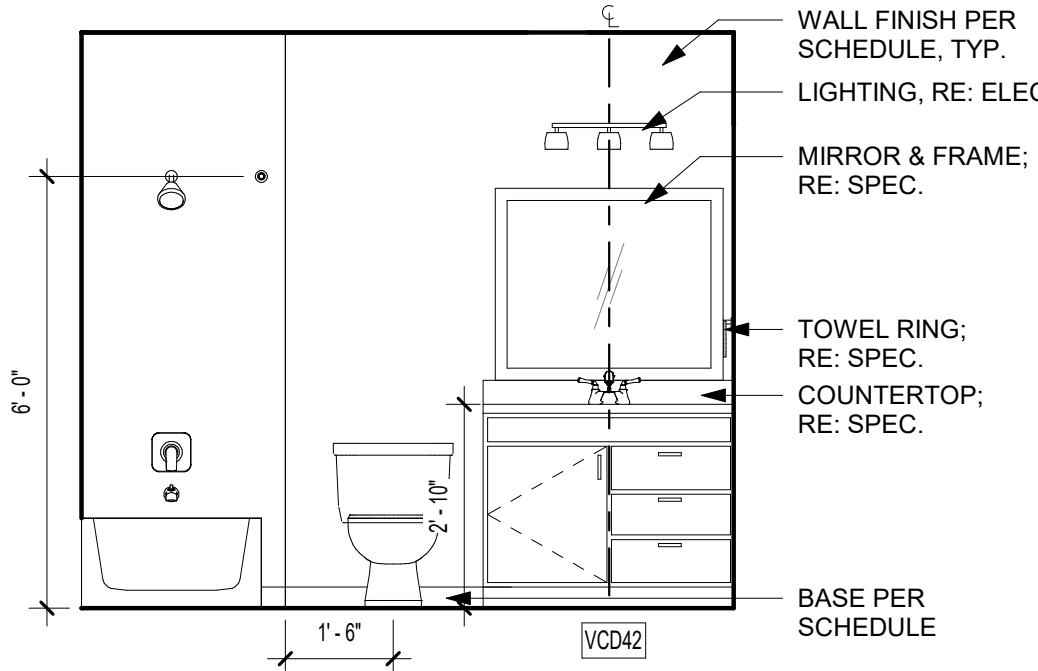
C4 LANA BATH 2 ELEV. 1
3/8" = 1'-0"



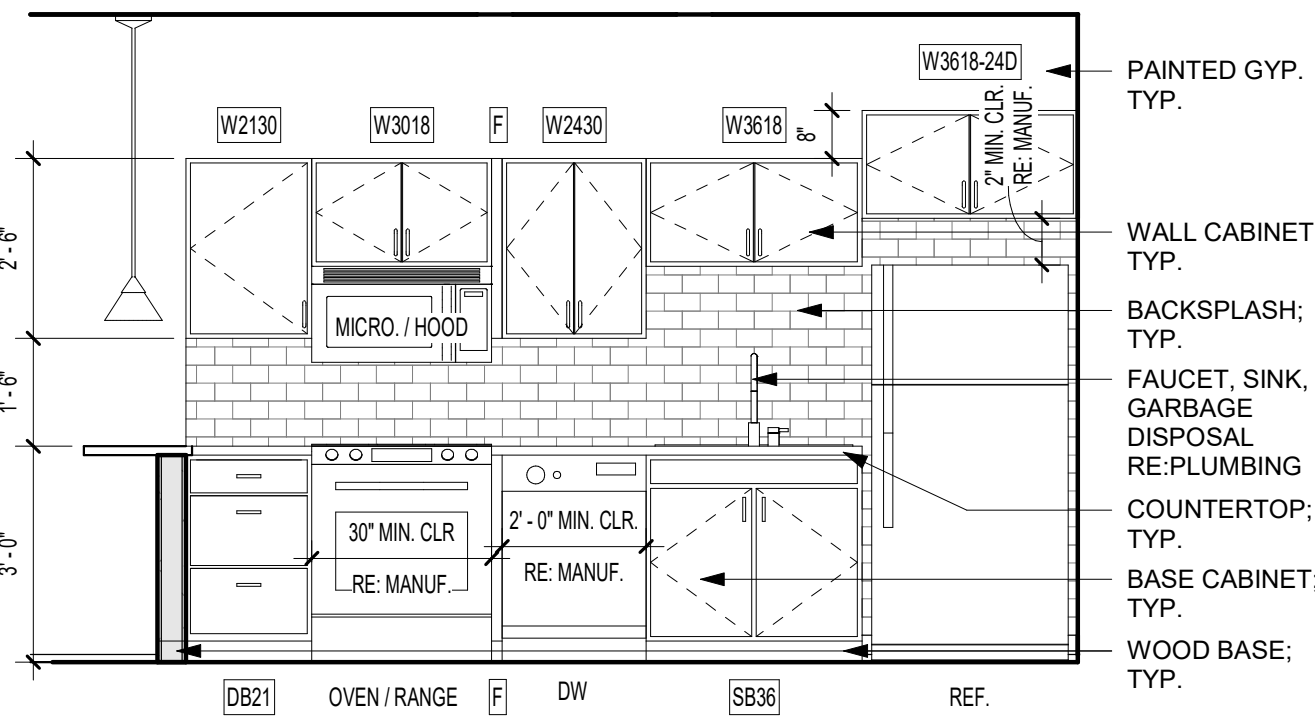
B4 LANA BATH 1 ELEV. 2
3/8" = 1'-0"



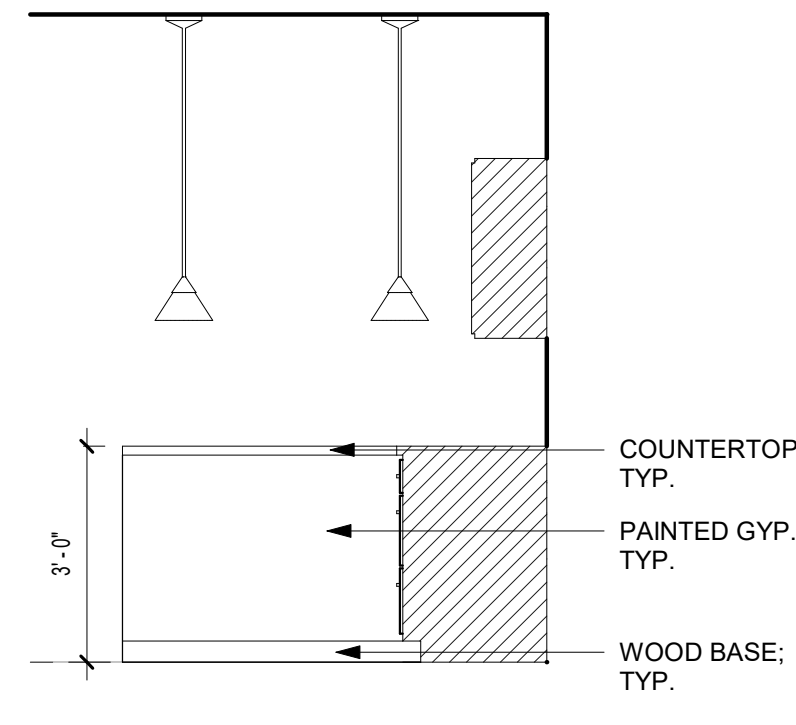
A4 LANA BATH 1 ELEV. 1
3/8" = 1'-0"



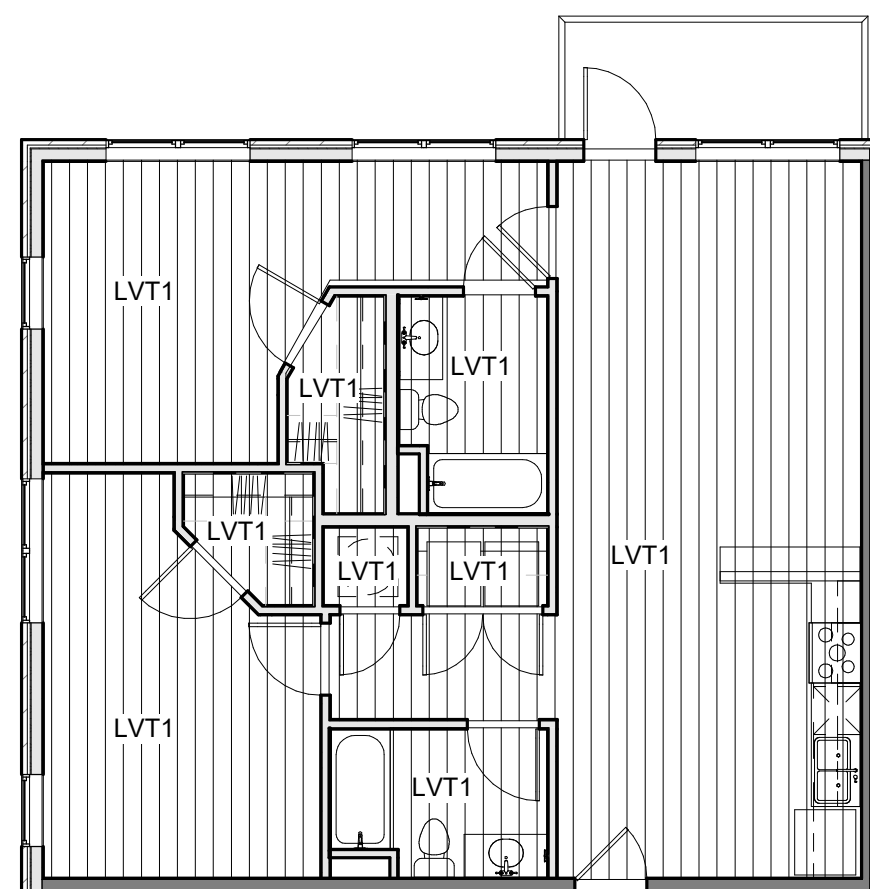
C3 LANA BATH 2 ELEV. 2
3/8" = 1'-0"



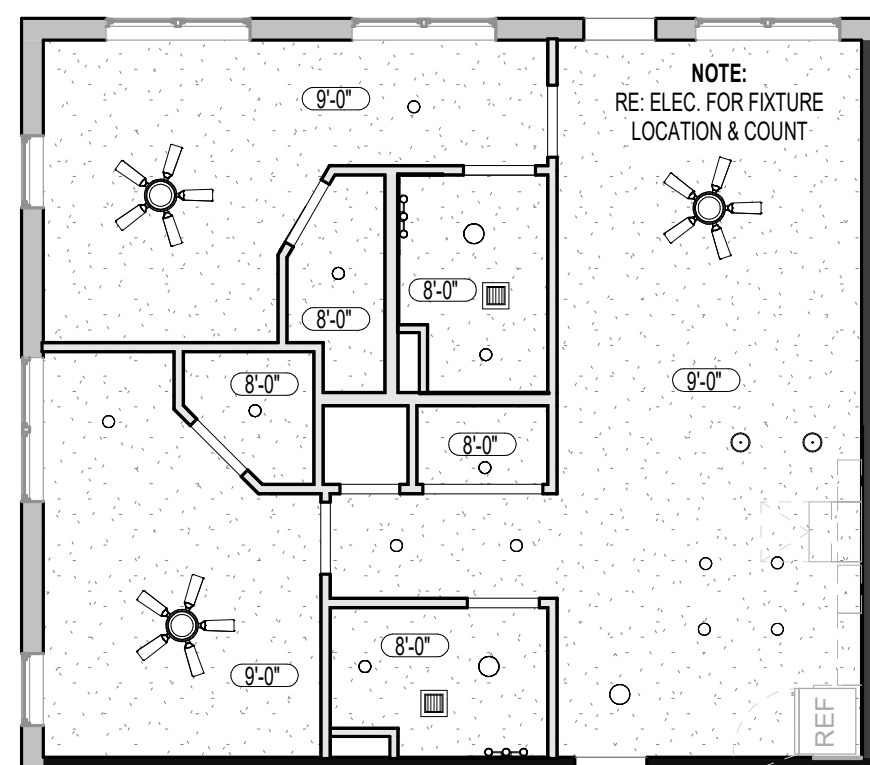
B3 LANA KITCHEN ELEV. 2
3/8" = 1'-0"



A3 LANA KITCHEN ELEV. 1
3/8" = 1'-0"



C2 UNIT FINISH PLAN - LANA (2 BR) - TYPE B
1/8" = 1'-0"

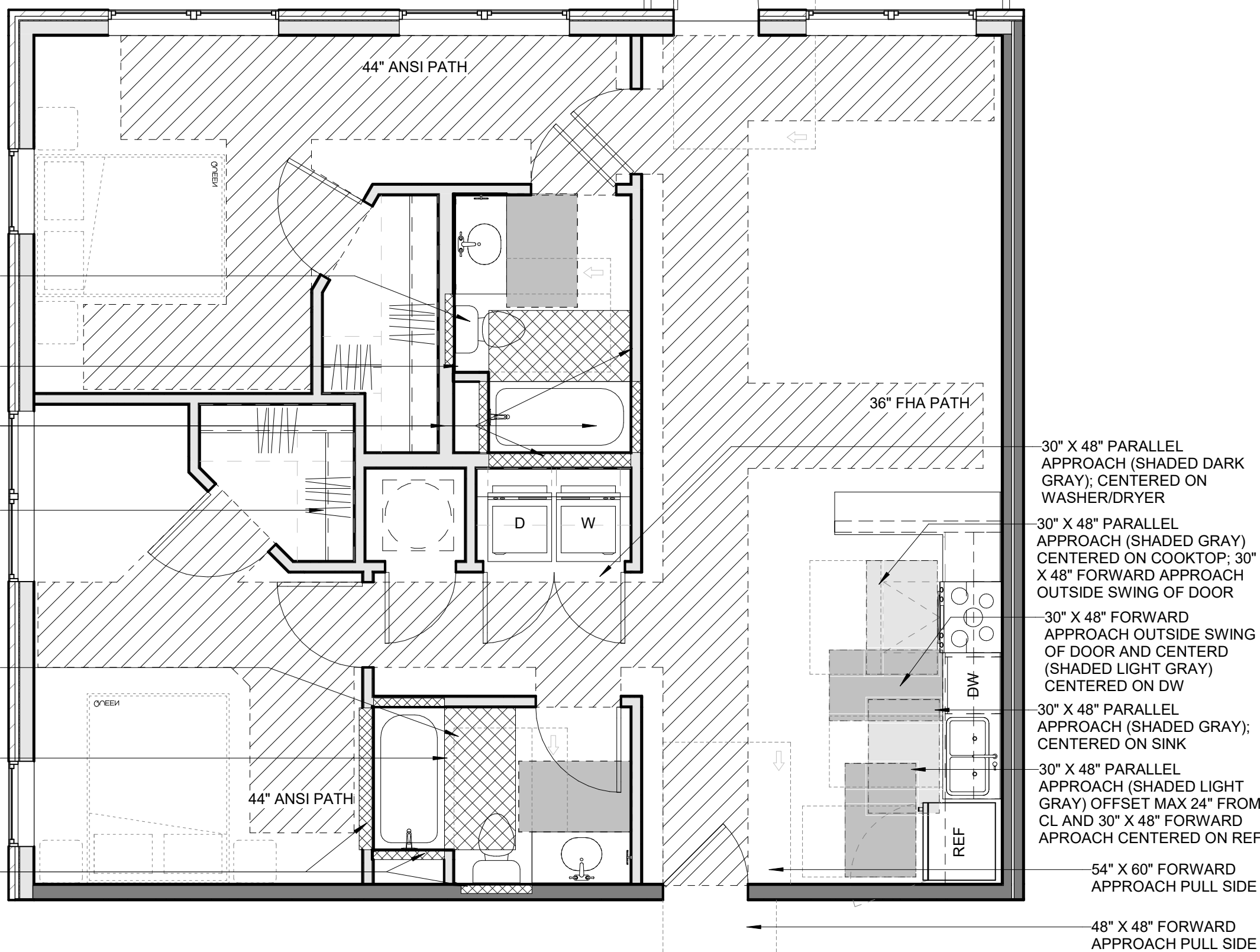


C1 UNIT RCP - LANA (2 BR) - TYPE B
1/8" = 1'-0"

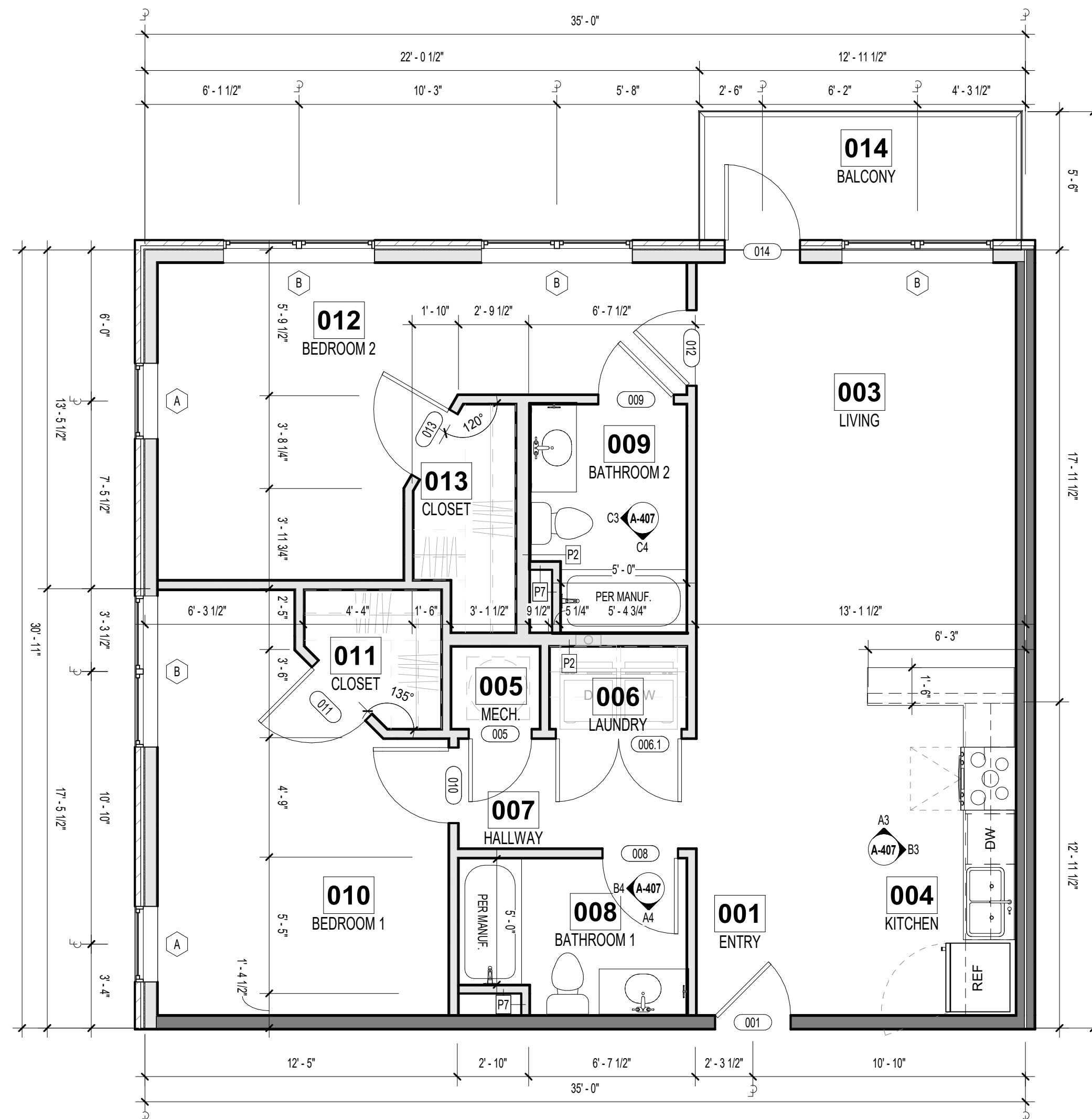
48" X 66" CLEAR FLOOR AREA AT WATER CLOSET FORWARD APPROACH WITH SINK OVERLAP
30" CLEAR FLOOR AREA AT SHOWER
BLOCKING FOR FUTURE GRAB BARS; RE: G-302

1 SHELF AND ROD COMBO; MOUNT 48" ABOVE FINISH FLOOR, TYP.

48" X 66" CLEAR FLOOR AREA AT WATER CLOSET FORWARD APPROACH WITH SINK OVERLAP
30" CLEAR FLOOR AREA AT SHOWER
BLOCKING FOR FUTURE GRAB BARS; RE: G-302

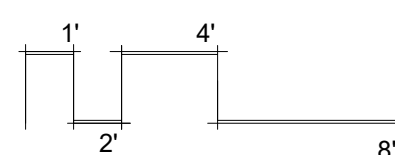


B1 UNIT CLEAR SPACE PLAN - LANA (2 BR) - TYPE B
1/4" = 1'-0"



A1 UNIT FLOOR PLAN - LANA (2 BR) - TYPE B
1/4" = 1'-0"

1,062 G.S.F.



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LEE'S SUMMIT, MO

DISCOVERY PARK - LOT #10-A

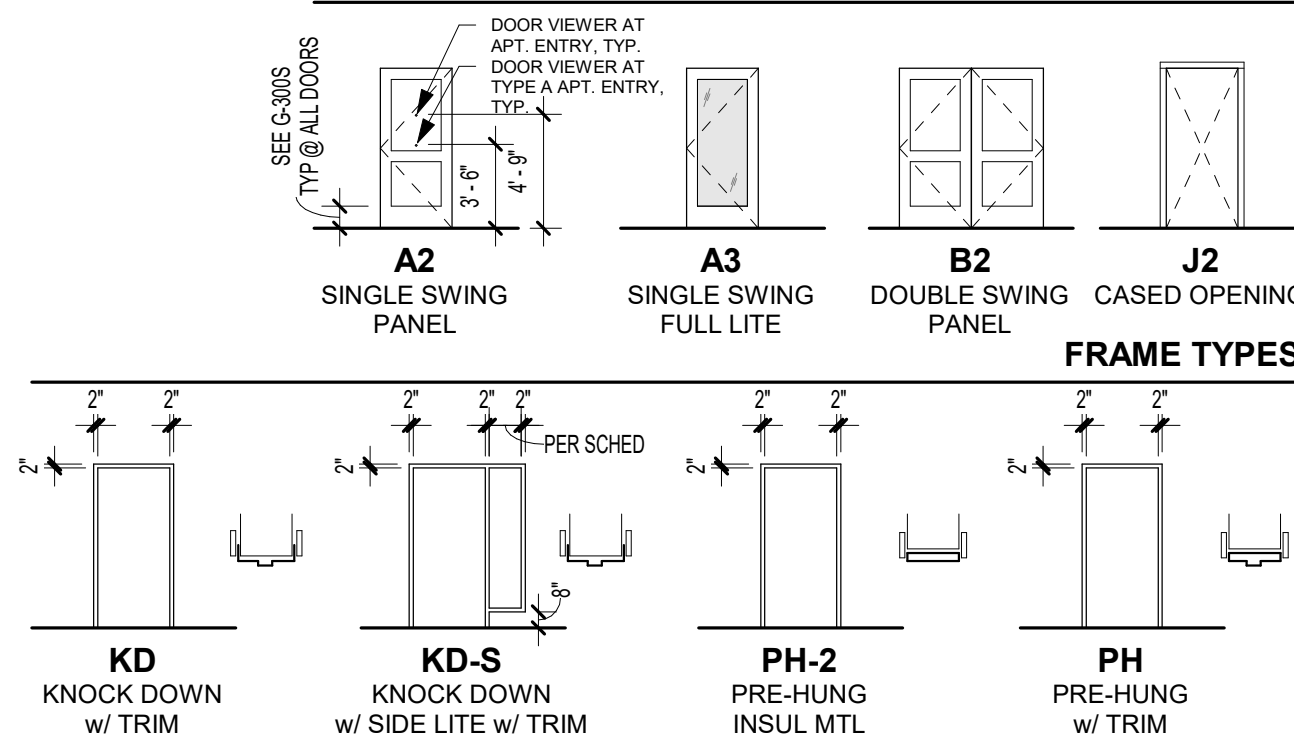
SHEET TITLE
TOWNHOME (2 BR)

PROJECT NUMBER: 24004

SHEET NUMBER:

A-408

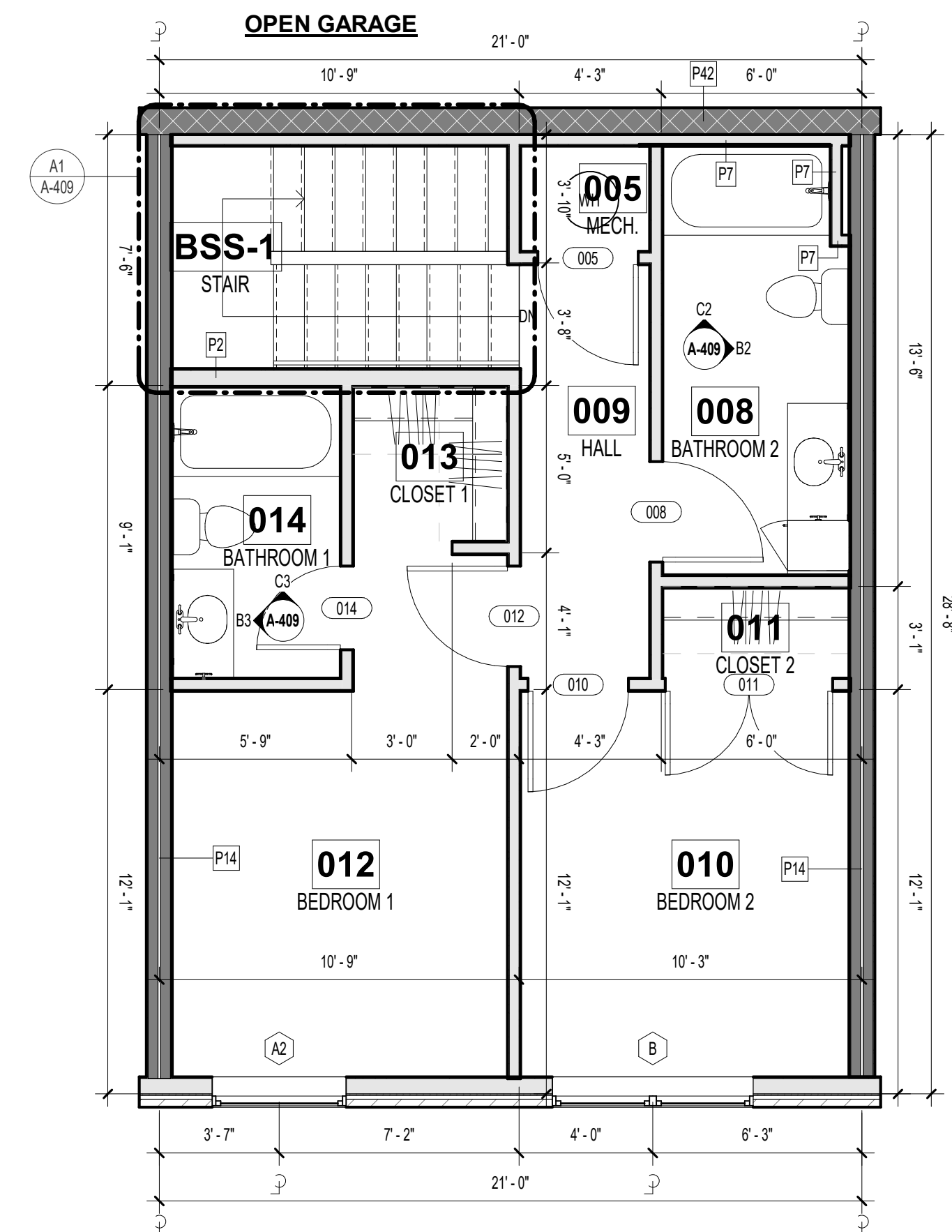
DOOR TYPES



DOOR SCHEDULE - UNIT DOORS (BY UNIT TYPE)							
Mark	Width	Height	Thickness	Fire Rating (Minutes)	Door Type	Frame Type	Hardware Group
001A	5'-0"	9'-0"	1 3/4"		J2	--	U8
001B	3'-0"	6'-8"	1 3/4"		A2	PH-2	U1
002	2'-6"	6'-8"	1 3/4"		A2	PH	U2
005	3'-0"	6'-8"	1 3/4"		A2	PH	U6
006.1	5'-0"	6'-8"	1 3/4"		B2	PH	U3
007	3'-0"	6'-8"	1 3/4"		A2	PH	U4
008	3'-0"	6'-8"	1 3/4"		A2	PH	U4
010	3'-0"	6'-8"	1 3/4"		A2	PH	U4
011	5'-0"	6'-8"	1 3/4"		B2	PH	U3
012	3'-0"	6'-8"	1 3/4"		A2	PH	U4
014	2'-6"	6'-8"	1 3/4"		A2	PH	U4

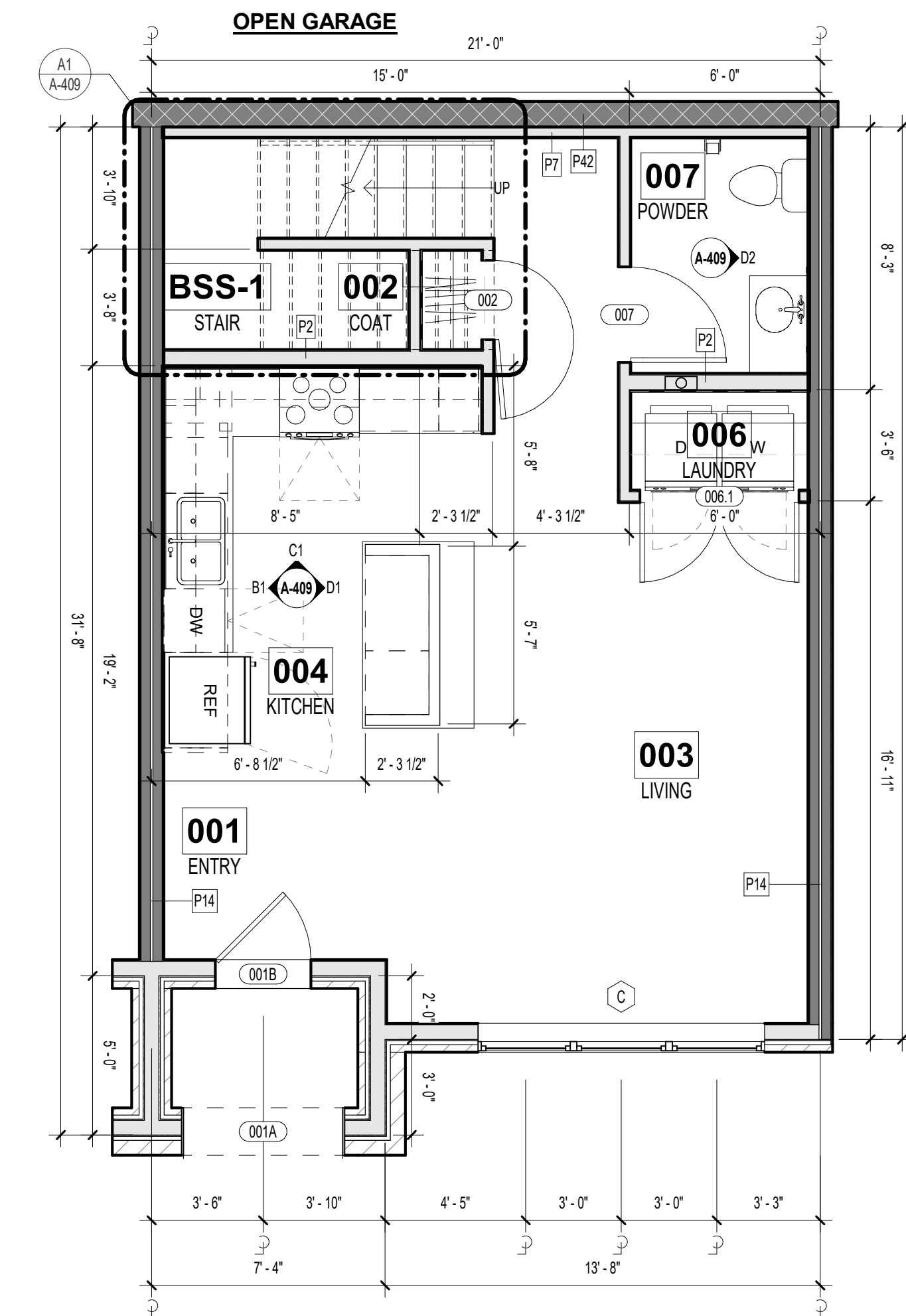
ROOM FINISH SCHEDULE - UNITS						
Number	Name	Floor Finish	Base Finish	Wall Finish	Ceiling Finish	Comments
001	ENTRY	LVT1	WB, PT3	PT1	PT-4	
002	COAT	LVT1	WB, PT3	PT2	PT-4	
003	LIVING	LVT1	WB, PT3	PT1	PT-4	
004	KITCHEN	LVT1	WB, PT3	PT1	PT-4	
005	MECH.	LVT1	--	PT2	--	
006	LAUNDRY	LVT1	WB, PT3	PT2	PT-4	
007	POWDER	LVT1	WB, PT3	PT2	PT-4	
008	BATHROOM 2	LVT1	WB, PT3	PT2	PT-4	
009	HALL	LVT1	WB, PT3	PT1	PT-4	
010	BEDROOM 2	LVT1	WB, PT3	PT1	PT-4	
011	CLOSET 2	LVT1	WB, PT3	PT2	PT-4	
012	BEDROOM 1	LVT1	WB, PT3	PT1	PT-4	
013	CLOSET 1	LVT1	WB, PT3	PT2	PT-4	
014	BATHROOM 1	LVT1	WB, PT3	PT2	PT-4	

REFERENCE G-003 FOR GENERAL NOTES
REFERENCE A-400 FOR UNIT PLAN LEGEND
REFERENCE A-120 FOR RCP LEGEND



UNIT FLOOR PLAN - TOWNHOME
(2 BR) - SECOND FLOOR 602 G.S.F

1/4" = 1'-0"



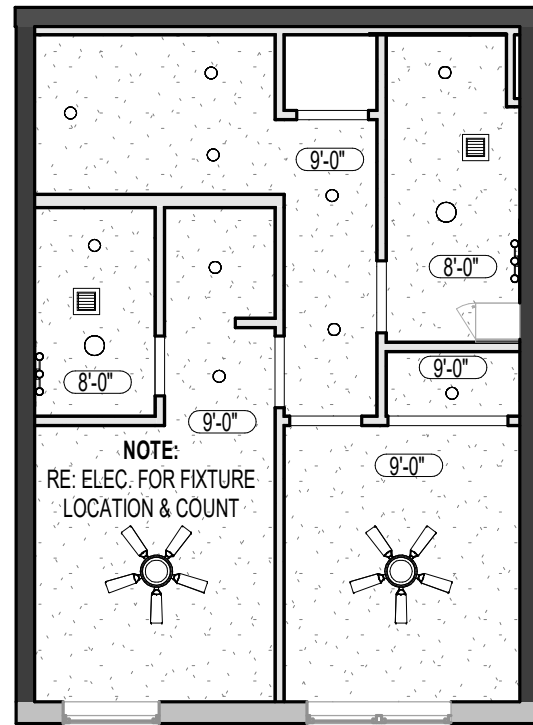
UNIT FLOOR PLAN - TOWNHOME
(2 BR) - FIRST FLOOR 590 G.S.F

1/4" = 1'-0"

UNIT CLEAR SPACE PLAN - TOWNHOME (2
BR) - FLR 1

1/4" = 1'-0"

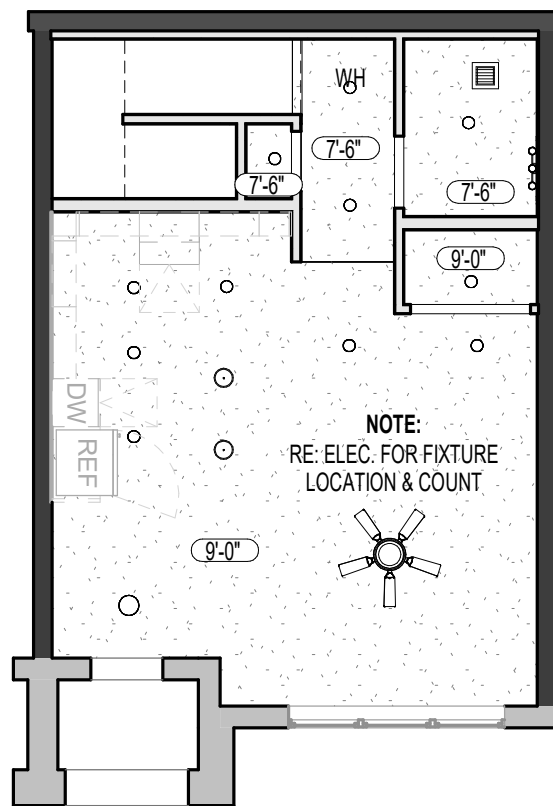
B1



UNIT RCP - TOWNHOME (2 BR) -
FLR 2

1/8" = 1'-0"

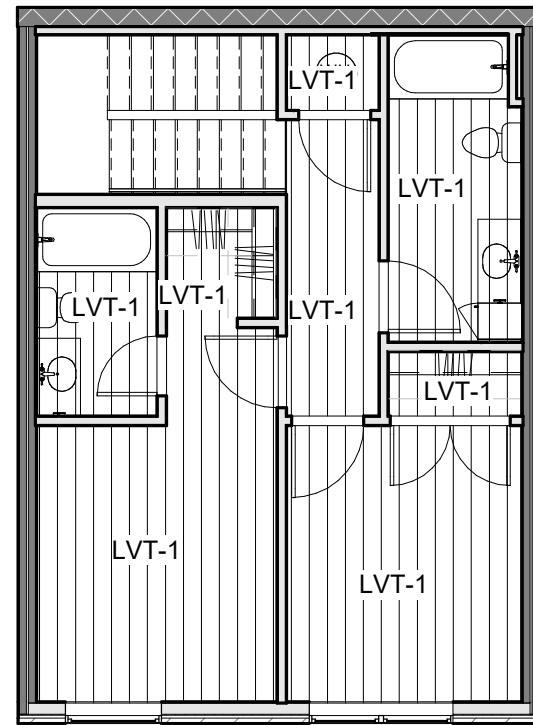
C2



UNIT RCP - TOWNHOME (2 BR) -
FLR 1

1/8" = 1'-0"

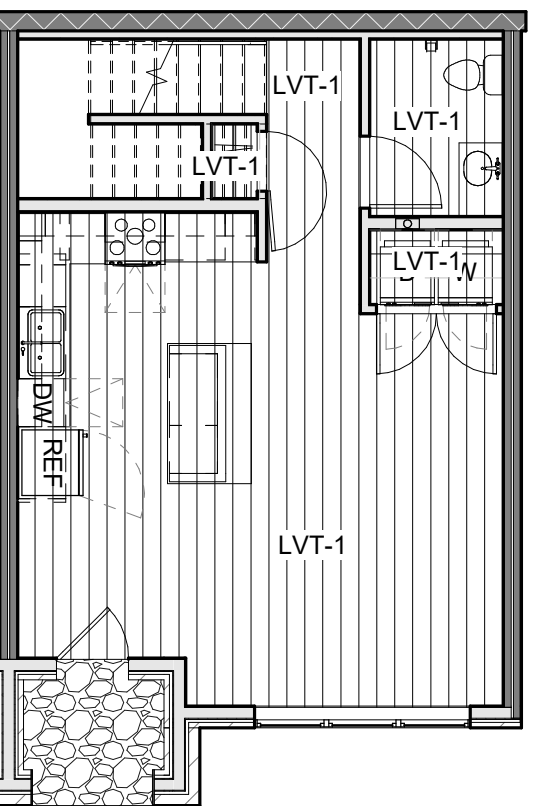
C1



UNIT FINISH PLAN - TOWNHOME
(2 BR) - FLR 2

1/8" = 1'-0"

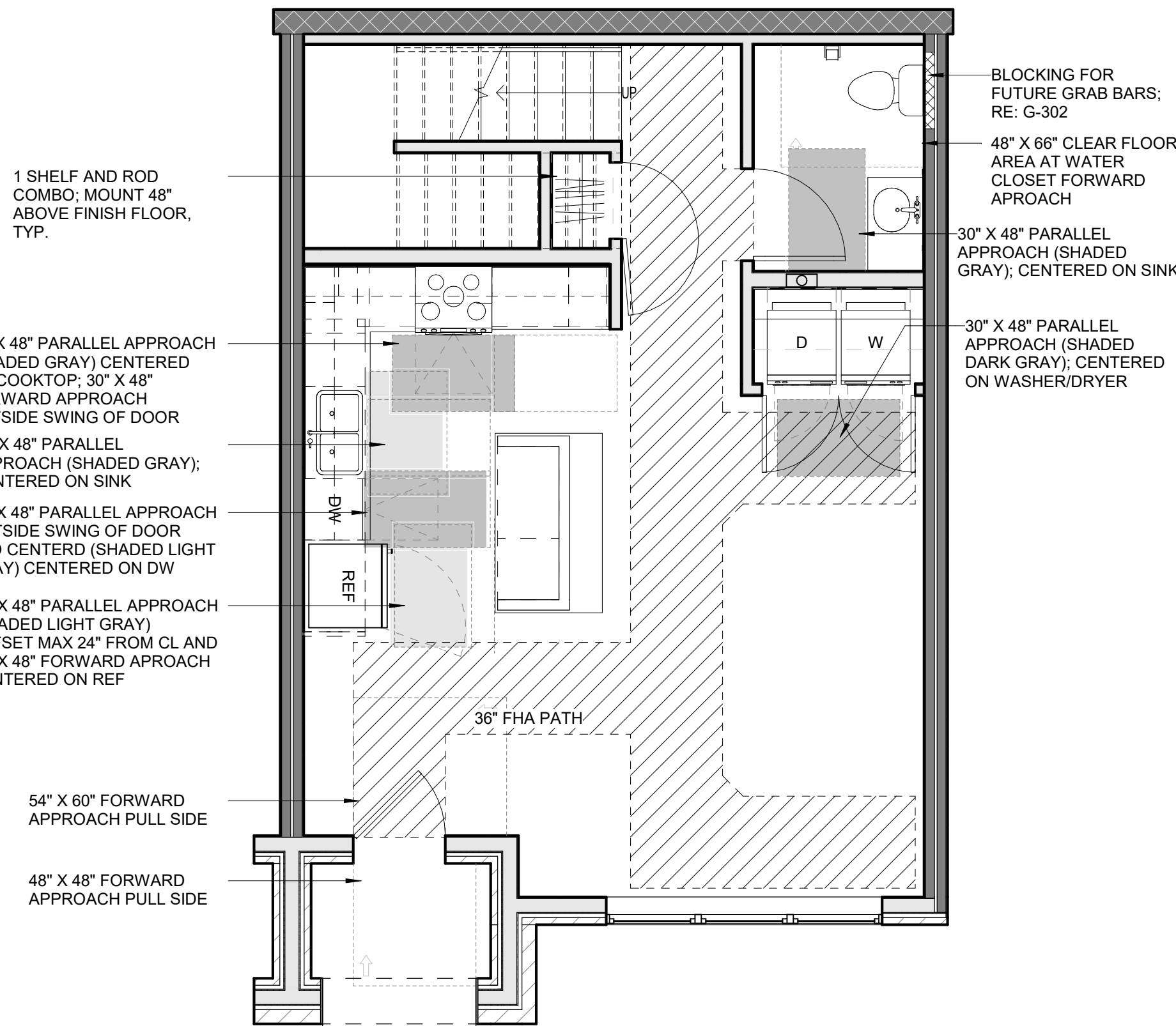
D2



UNIT FINISH PLAN - TOWNHOME
(2 BR) - FLR 1

1/8" = 1'-0"

D1



30" X 48" PARALLEL APPROACH
(SHADED GRAY) CENTERED
ON COOKTOP; 30" X 48"
FORWARD APPROACH
OUTSIDE SWING OF DOOR
30" X 48" PARALLEL
APPROACH (SHADED GRAY);
CENTERED ON SINK
30" X 48" PARALLEL APPROACH
OUTSIDE SWING OF DOOR
AND CENTERED (SHADED LIGHT
GRAY) CENTERED ON DW
30" X 48" PARALLEL APPROACH
(SHADED LIGHT GRAY)
OFFSET MAX 24" FROM CL AND
30" X 48" FORWARD APPROACH
CENTERED ON REF

54" X 60" FORWARD
APPROACH PULL SIDE
48" X 48" FORWARD
APPROACH PULL SIDE

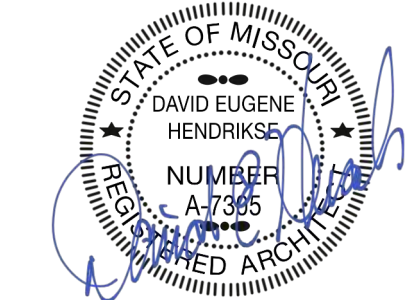
BLOCKING FOR
FUTURE GRAB BARS;
RE: G-302
48" X 66" CLEAR FLOOR
AREA AT WATER
CLOSET FORWARD
APPROACH
30" X 48" PARALLEL
APPROACH (SHADED
GRAY); CENTERED ON SINK
30" X 48" PARALLEL
APPROACH (SHADED
DARK GRAY); CENTERED
ON WASHER/DRYER

36" FHA PATH

REFERENCE G-003 FOR GENERAL NOTES
REFERENCE A-400 FOR UNIT PLAN LEGEND

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DISCOVERY PARK - LOT #10-A

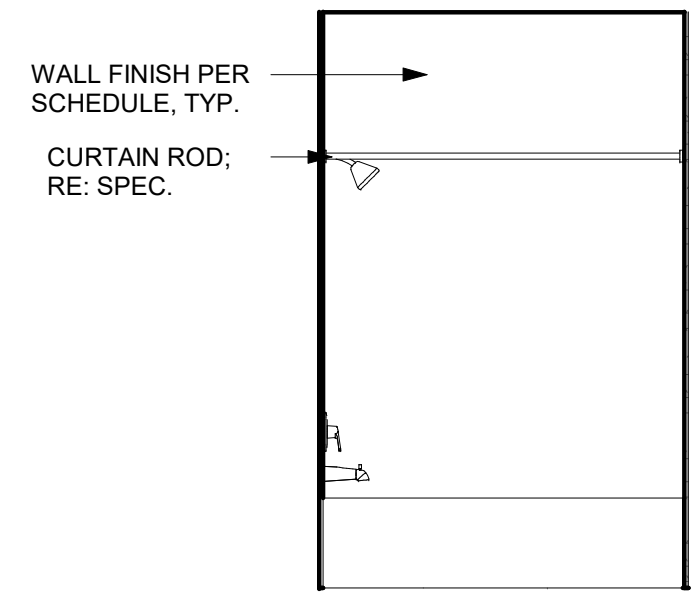
LEE'S SUMMIT, MO

SHEET TITLE
TOWNHOME (2 BR)

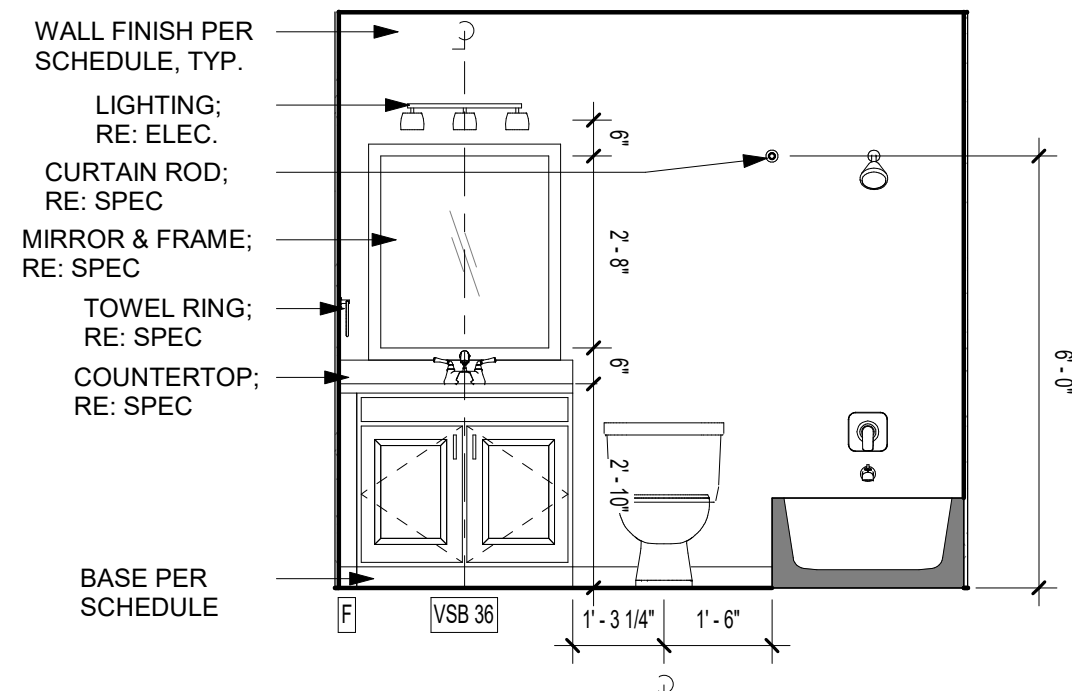
PROJECT NUMBER: 24004

SHEET NUMBER:

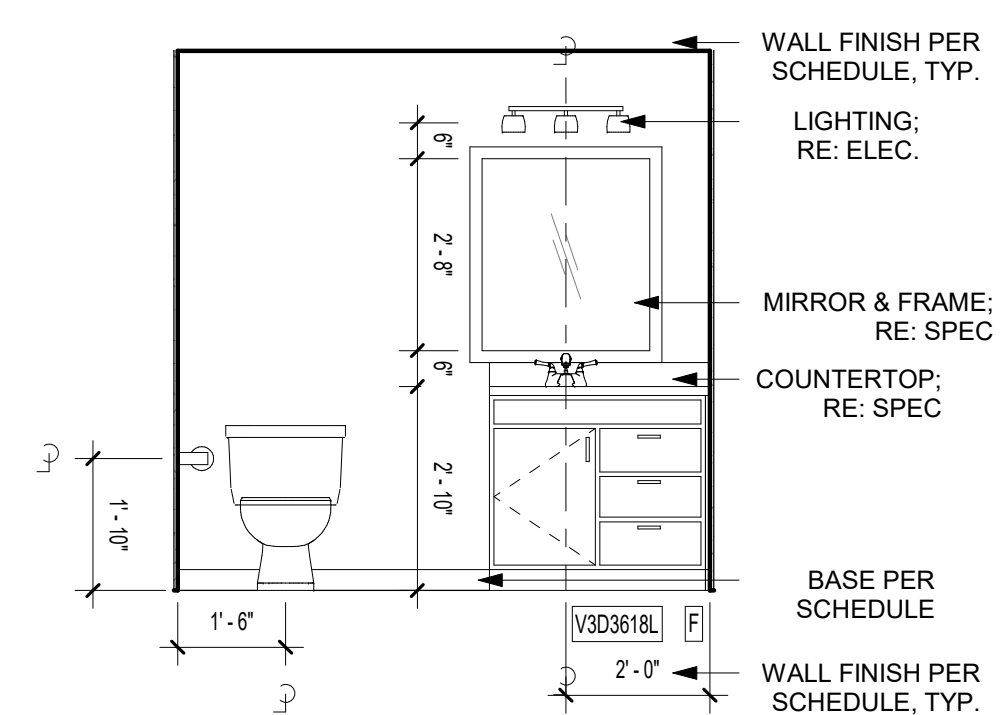
A-409



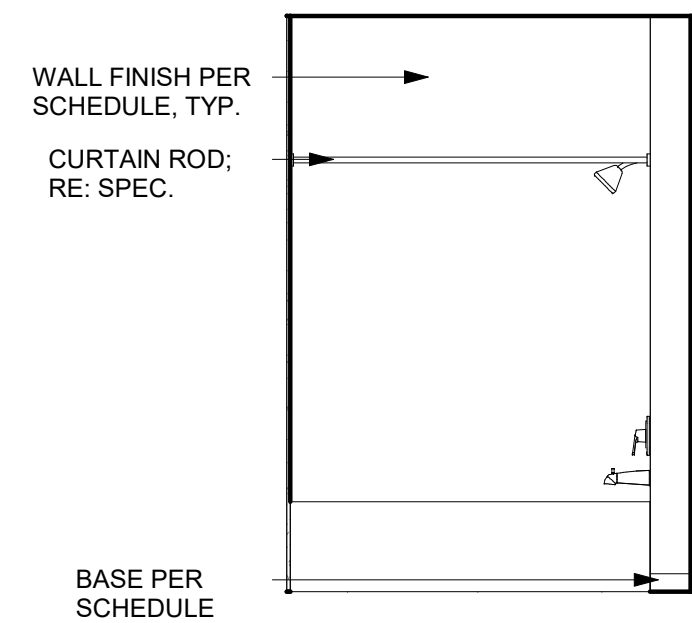
C3 TOWNHOME BATH 1 ELEV. 2
3/8" = 1'-0"



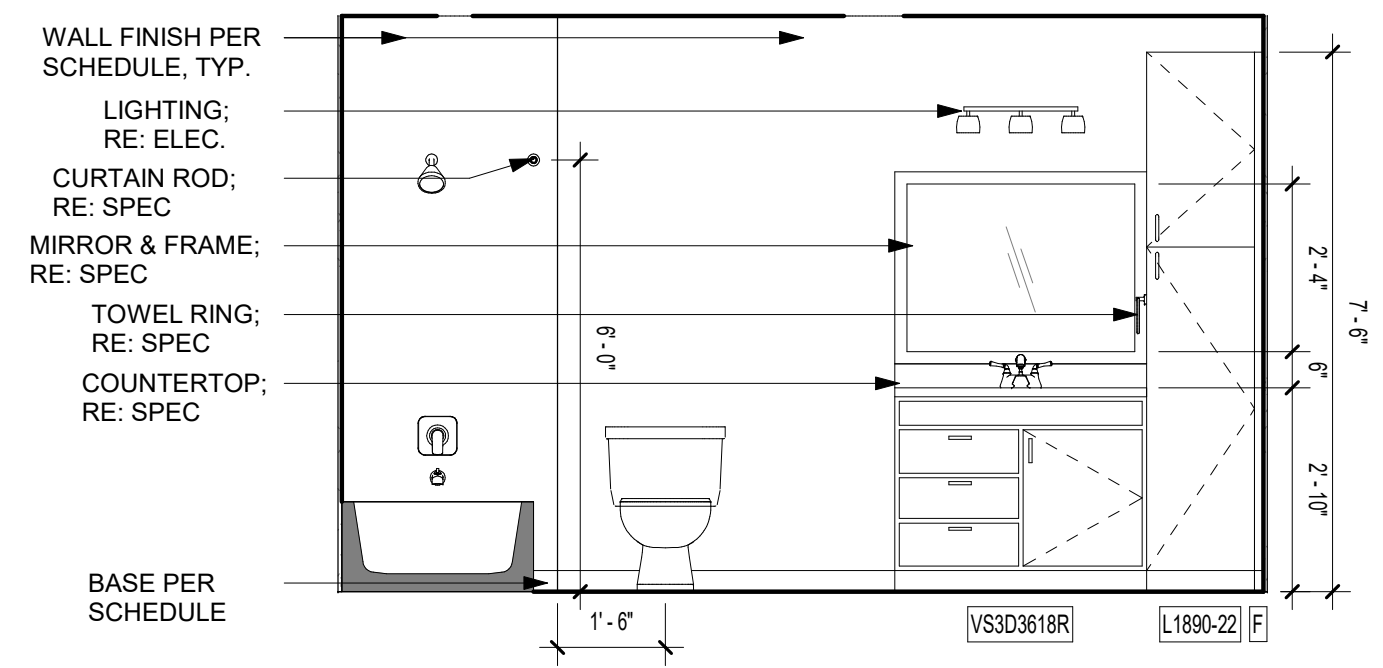
B3 TOWNHOME BATH 1 ELEV. 1
3/8" = 1'-0"



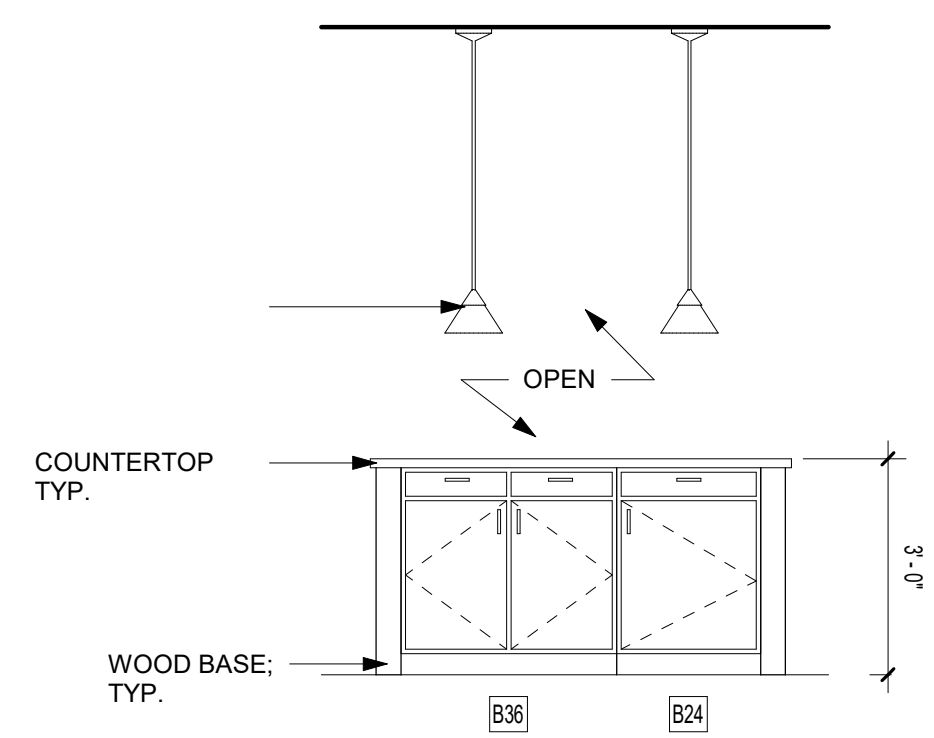
D2 TOWNHOME POWDER ELEV.
3/8" = 1'-0"



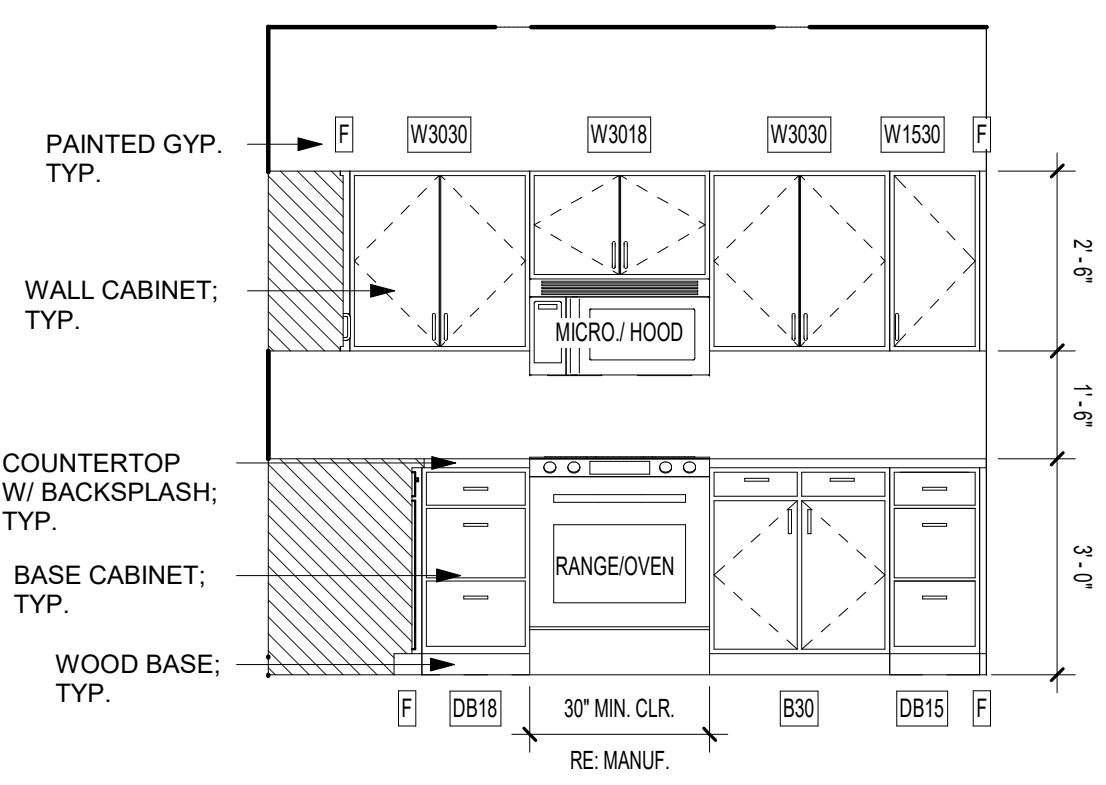
C2 TOWNHOME BATH 2 ELEV. 1
3/8" = 1'-0"



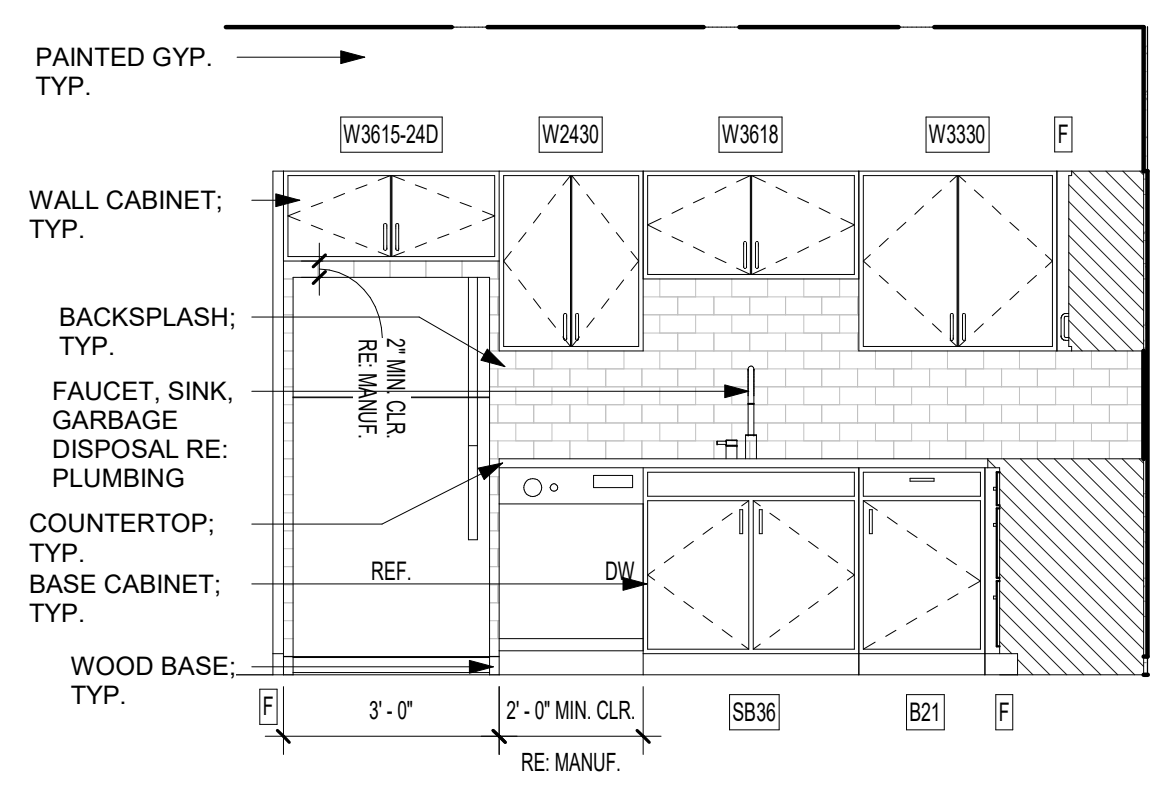
B2 TOWNHOME BATH 2 ELEV. 2
3/8" = 1'-0"



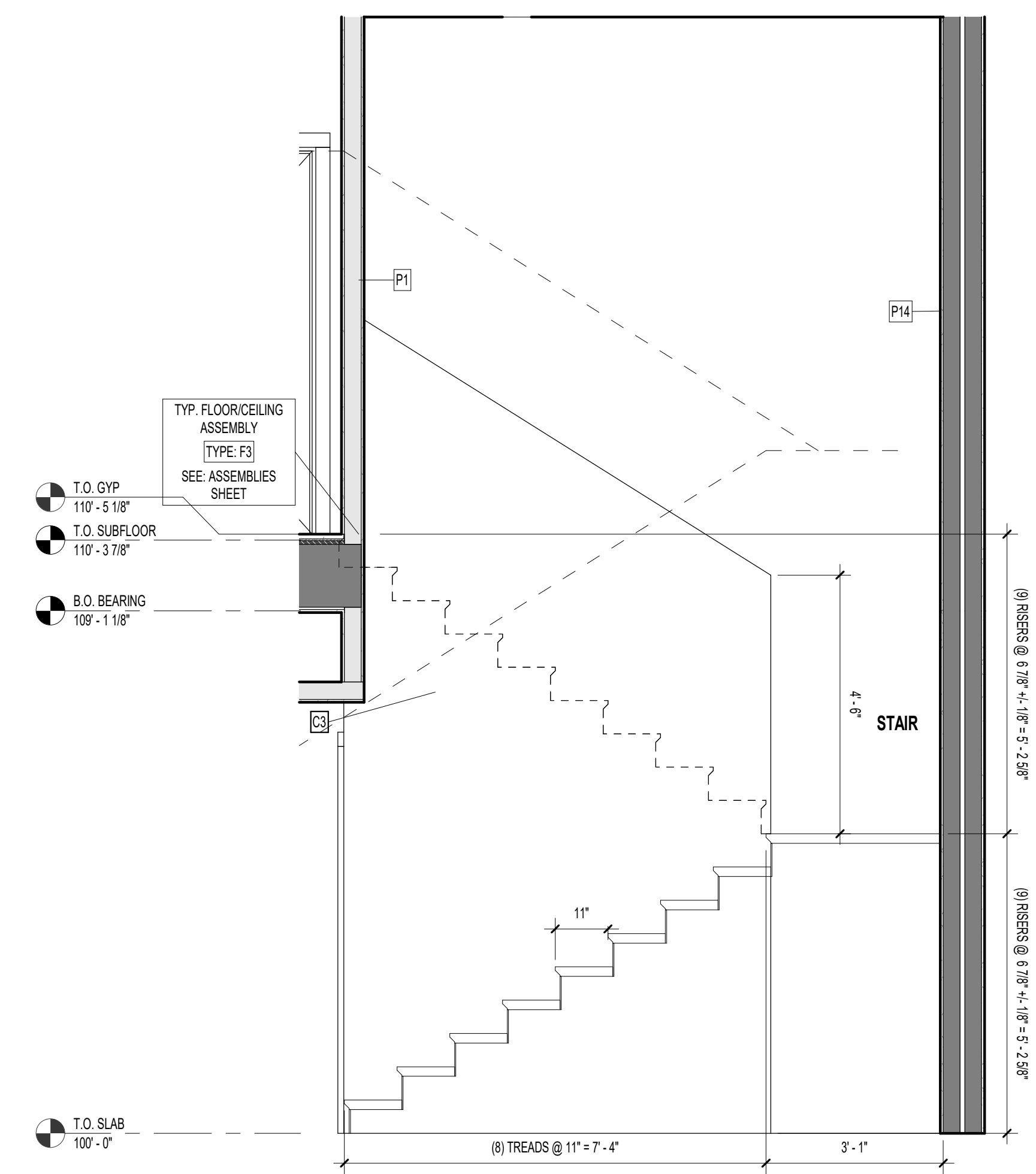
D1 TOWNHOME KITCHEN ELEV. 3
3/8" = 1'-0"



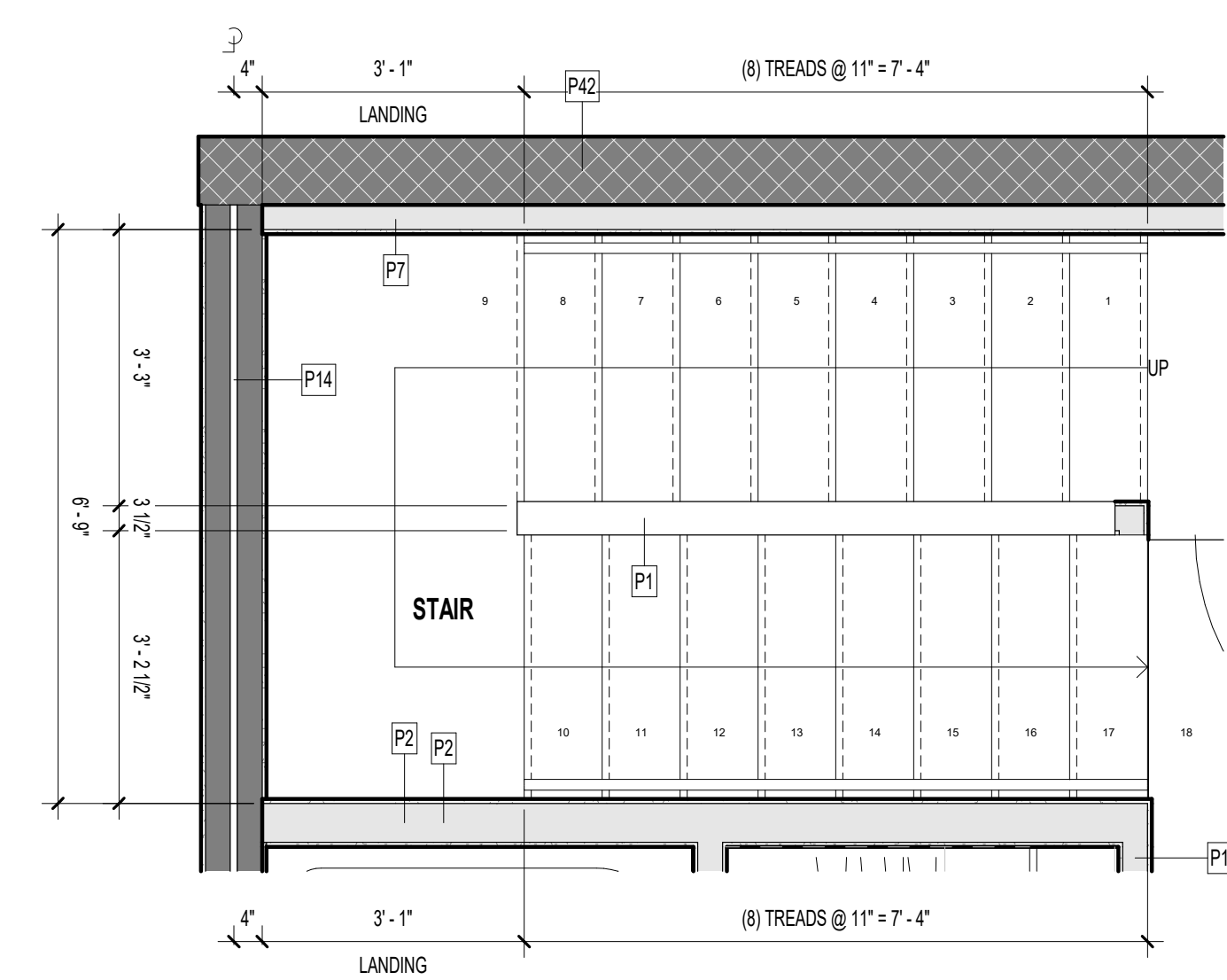
C1 TOWNHOME KITCHEN ELEV. 2
3/8" = 1'-0"



B1 TOWNHOME KITCHEN ELEV. 1
3/8" = 1'-0"



A2 BROWNSTONE STAIR SECTION
1/2" = 1'-0"



A1 TOWNHOME (2 BR) - STAIR PLAN
1/2" = 1'-0"

REFERENCE G-003 FOR GENERAL NOTES

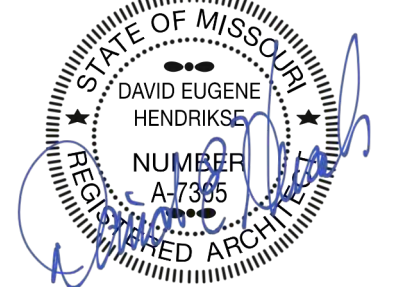
PLAN LEGEND

- PARTIAL HEIGHT PARTITION
- NON-RATED PARTITION; SEE ASSEMBLIES G-100s
- 1 HR RATED PARTITION; SEE ASSEMBLIES G-100s
- 2 HR RATED PARTITION; SEE ASSEMBLIES G-100s
- WINDOW TYPE; SEE WINDOW SCHEDULE ON SHEET A-600
- DOOR TYPE; SEE DOOR SCHEDULE ON SHEET A-600
- PARTITION TYPE; SEE ASSEMBLIES G-100s
- FRAMING DIMENSIONS
- LAYOUT LINE DIMENSIONS
- HEARING/VISIBILITY
- ADA/ACCESSIBLE UNITS

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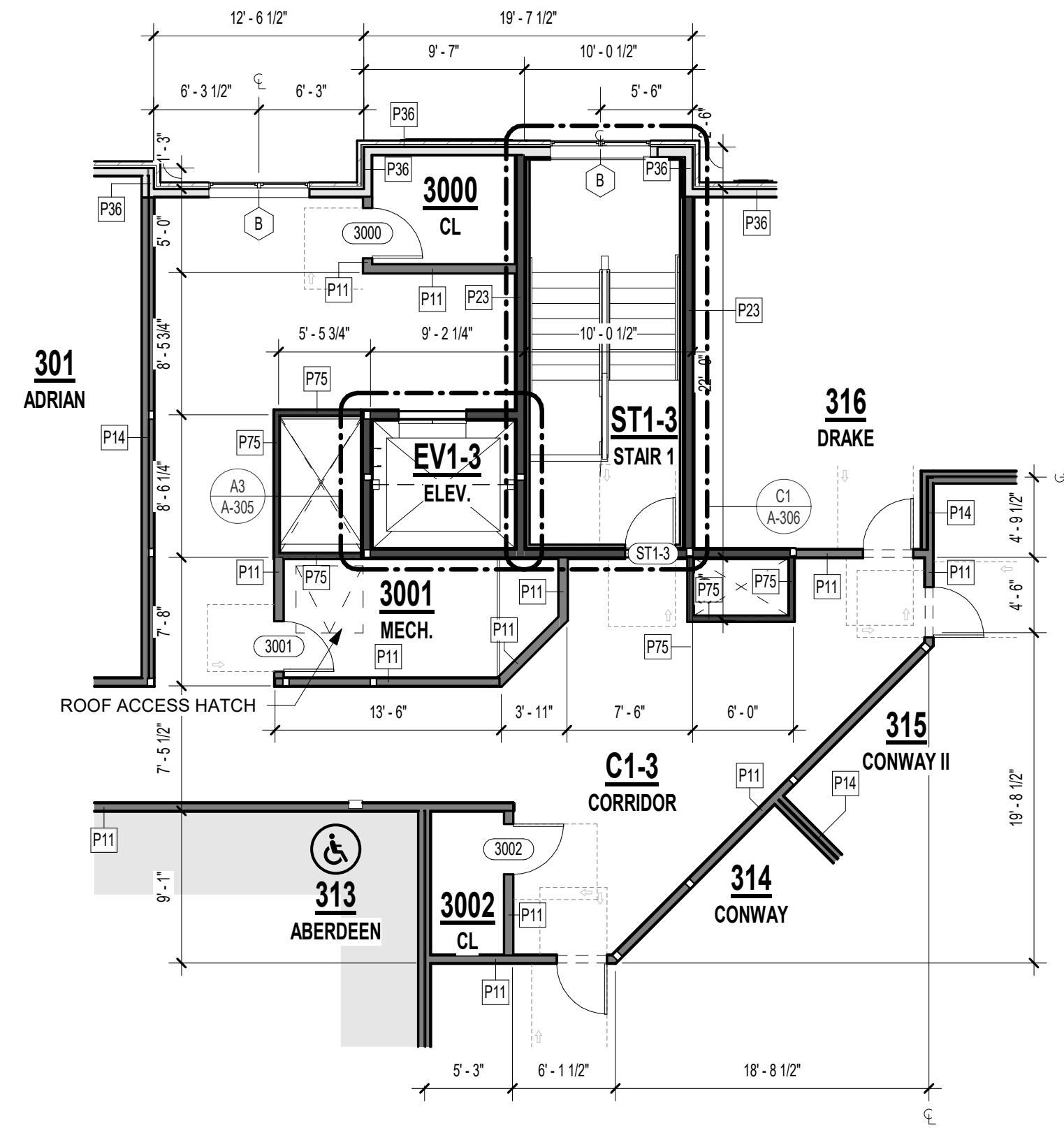
DISCOVERY PARK - LOT #10-A

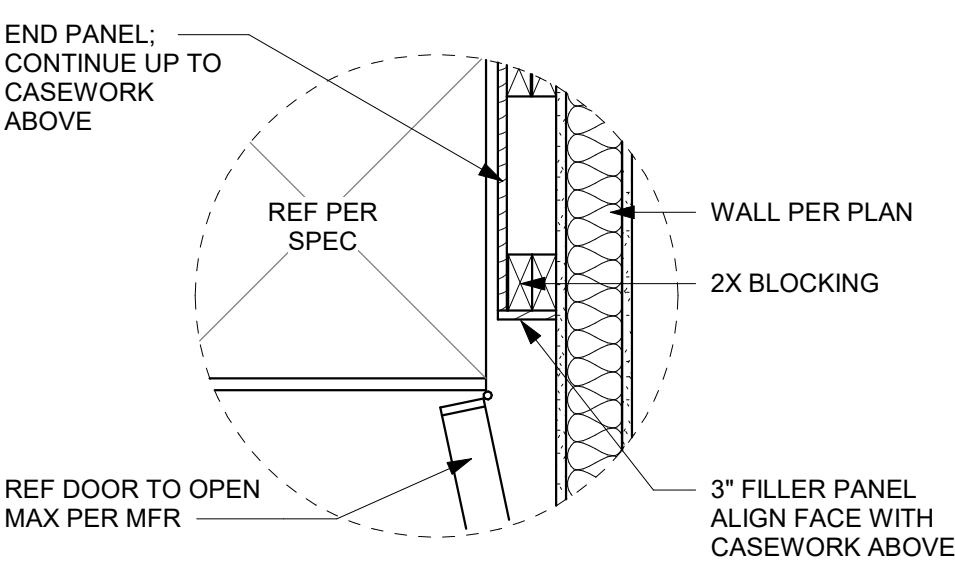
SHEET TITLE
ENLARGED COMMON AREAS

PROJECT NUMBER: 24004

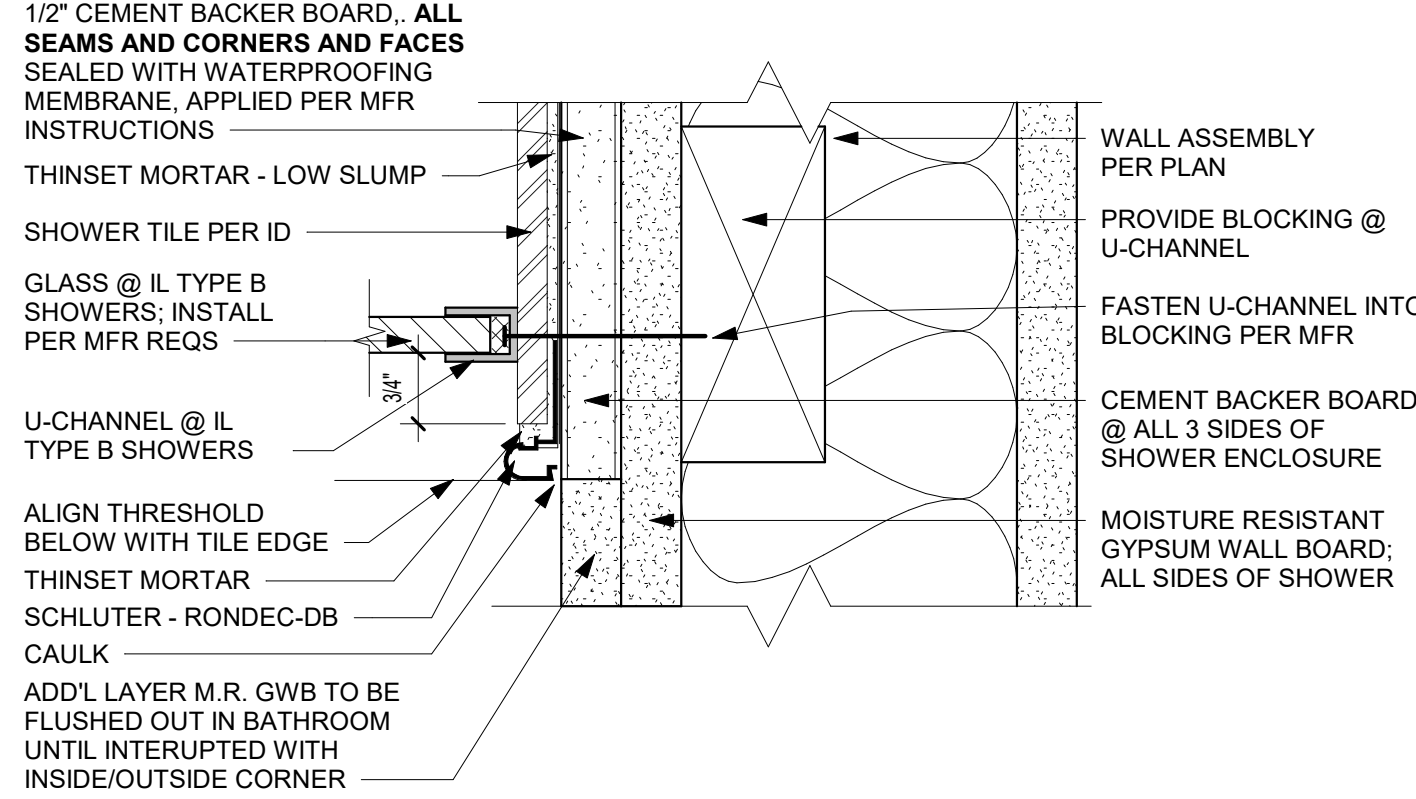
SHEET NUMBER:

A-410

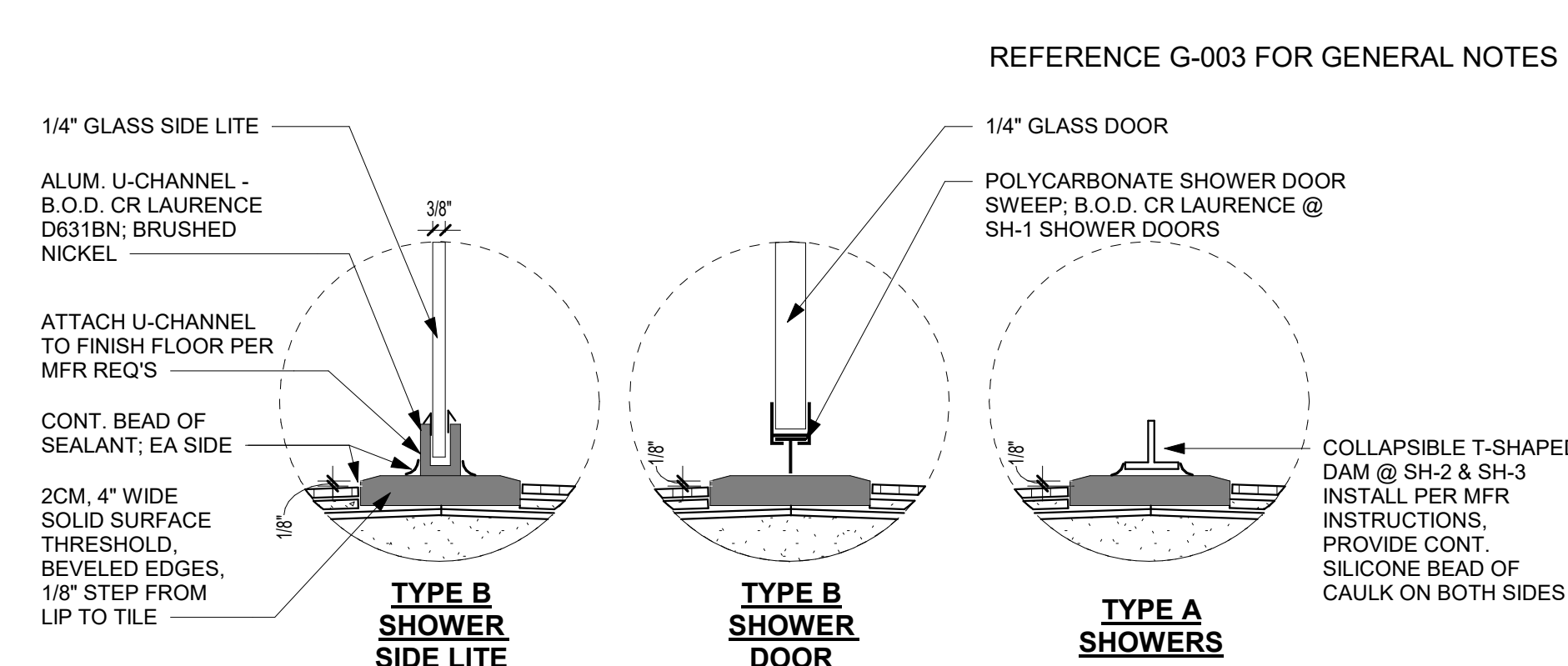




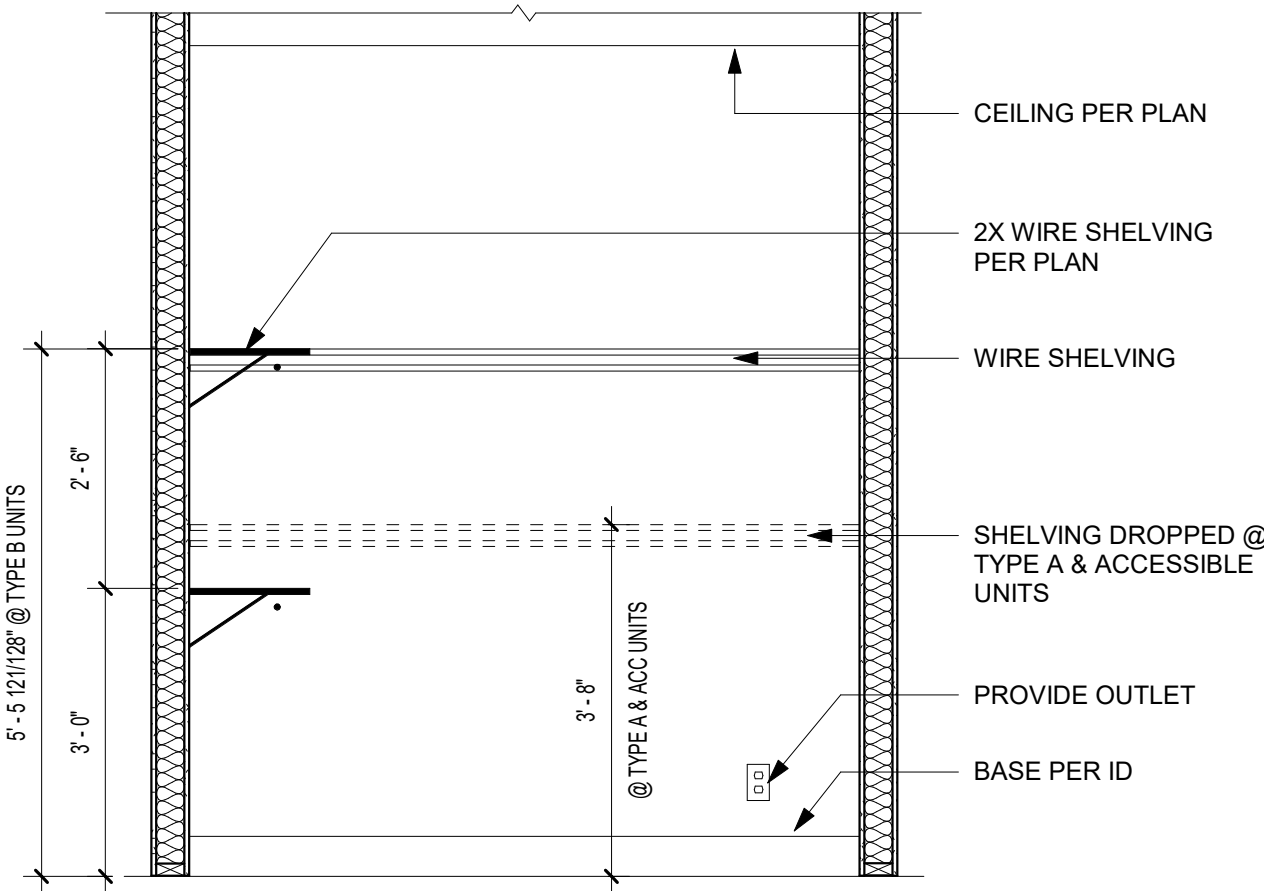
D4 UNIT DETAIL - REF FILLER
1" = 1'-0"



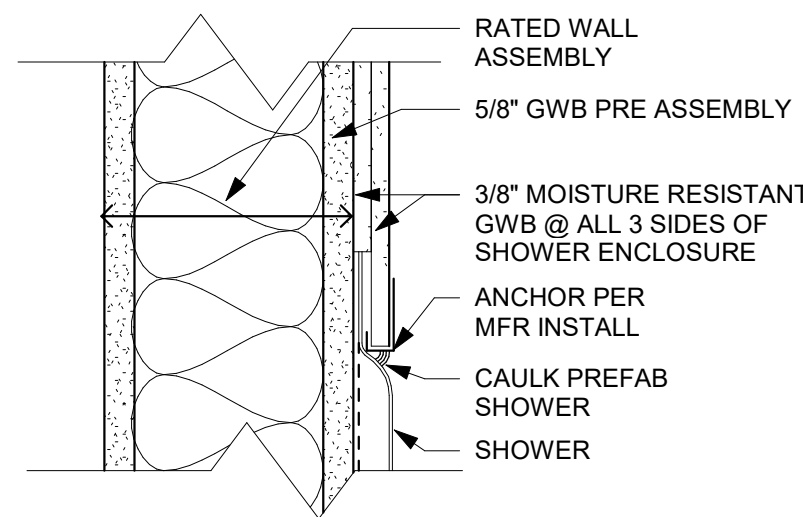
B4 UNIT DETAIL - TYPE B SHOWER -
JAMB DETAIL (RATED WALL)
6" = 1'-0"



A4 UNIT DETAIL - SHOWER THRESHOLDS
3" = 1'-0"

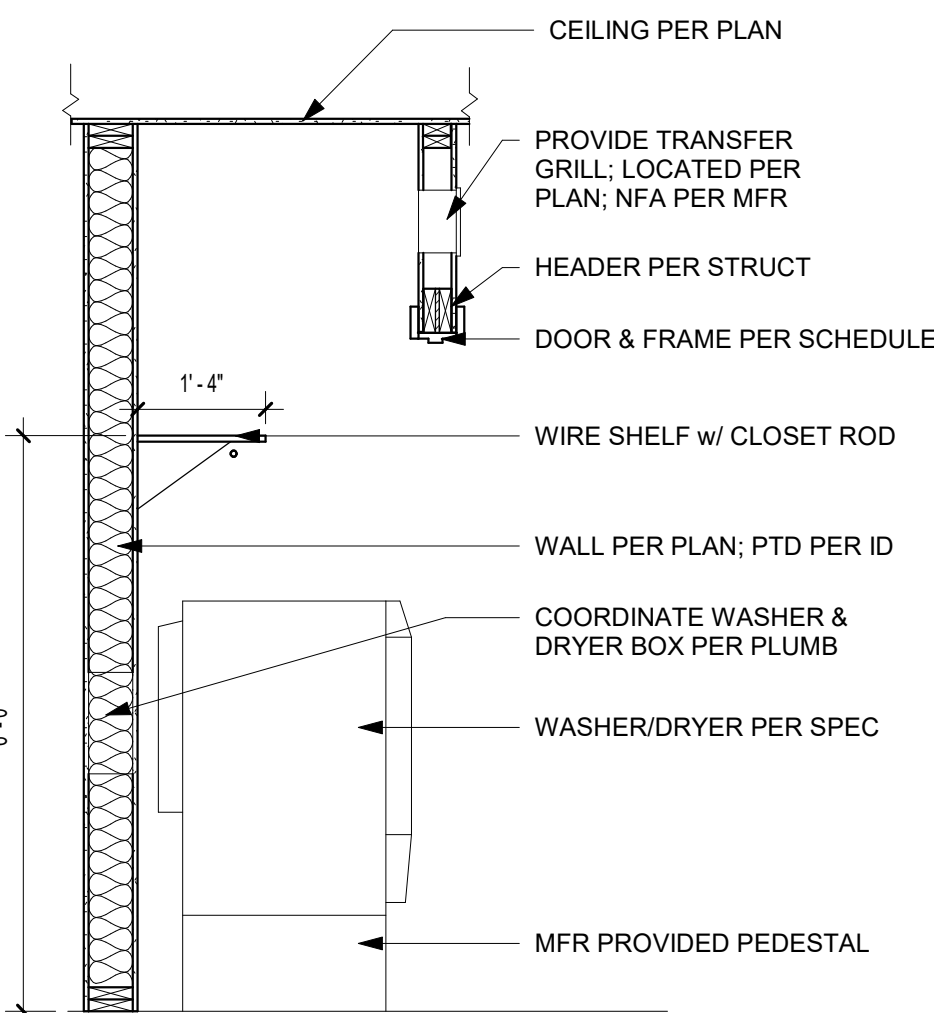


D3 UNIT DETAIL -TYPICAL WALK-IN CLOSET
1/2" = 1'-0"

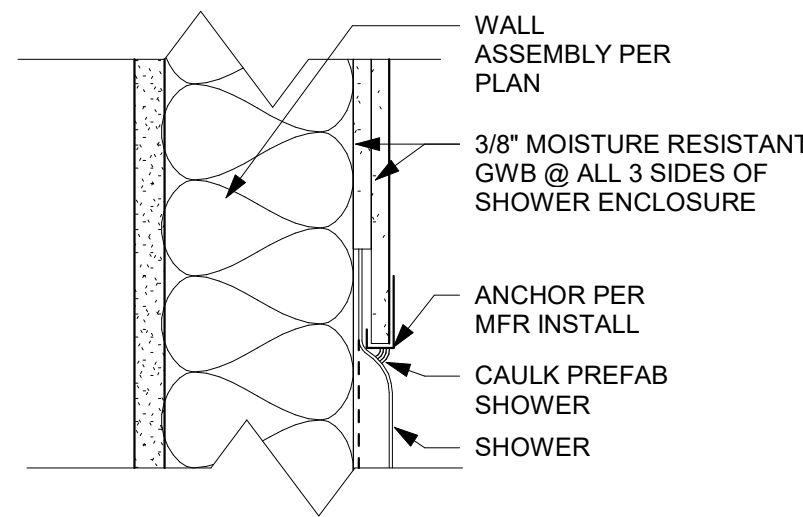


C3 UNIT DETAIL - SHOWER @ RATED
WALL @ HEAD/JAMB
3" = 1'-0"

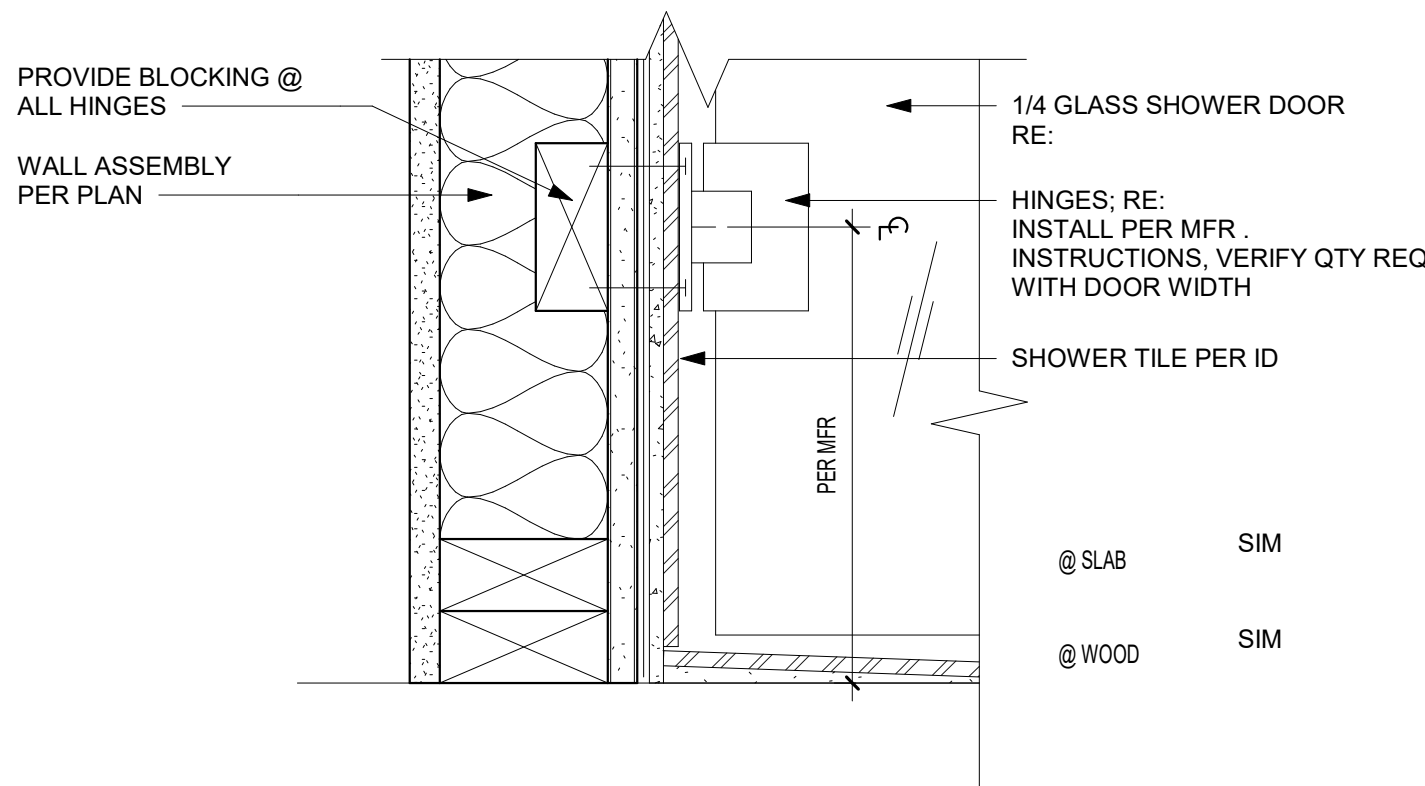
B3 UNIT DETAIL - TYPE B SHOWER - JAMB
DETAIL (NON RATED WALL)
6" = 1'-0"



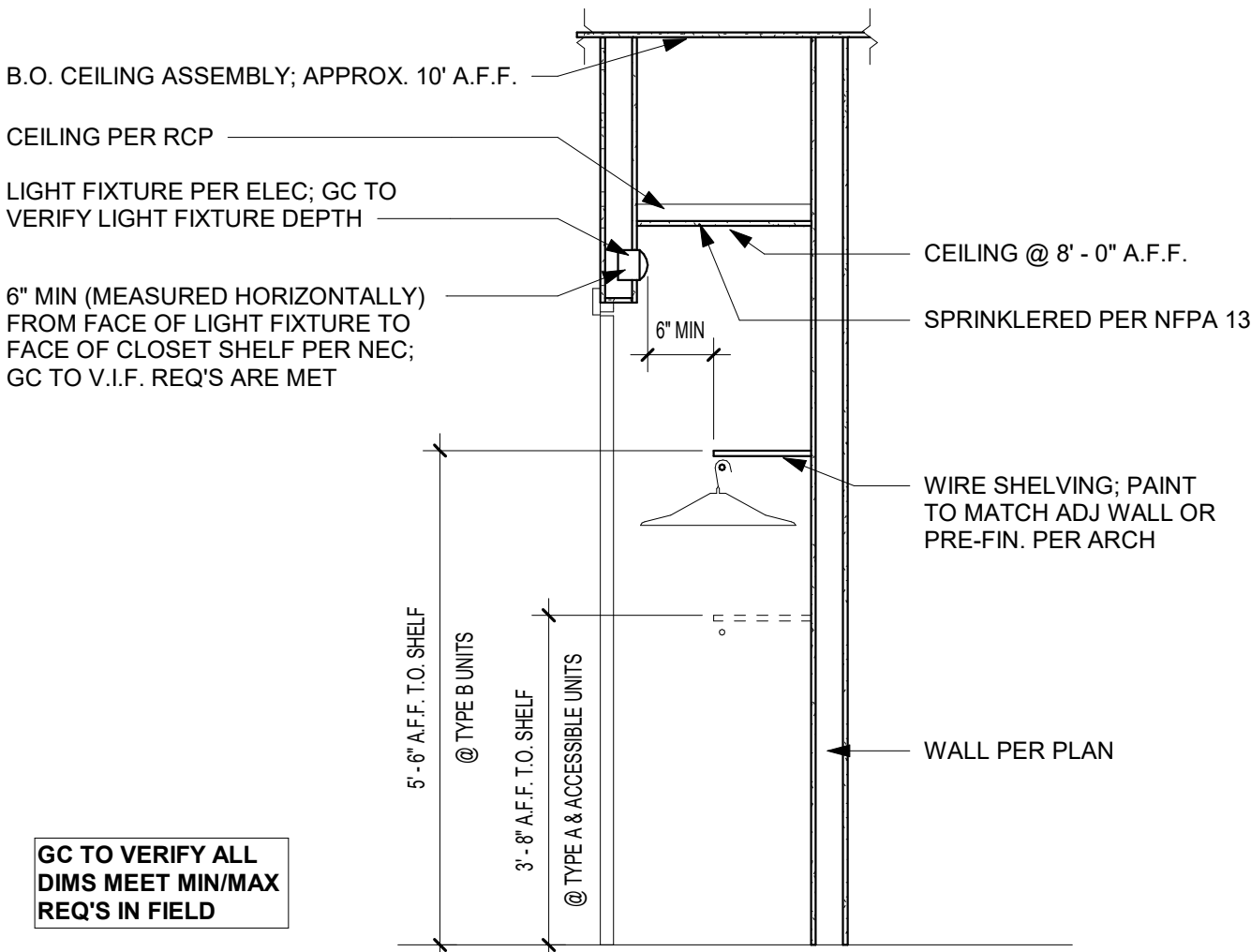
D2 UNIT DETAIL - TYP W/D CLOSET SECTION
1/2" = 1'-0"



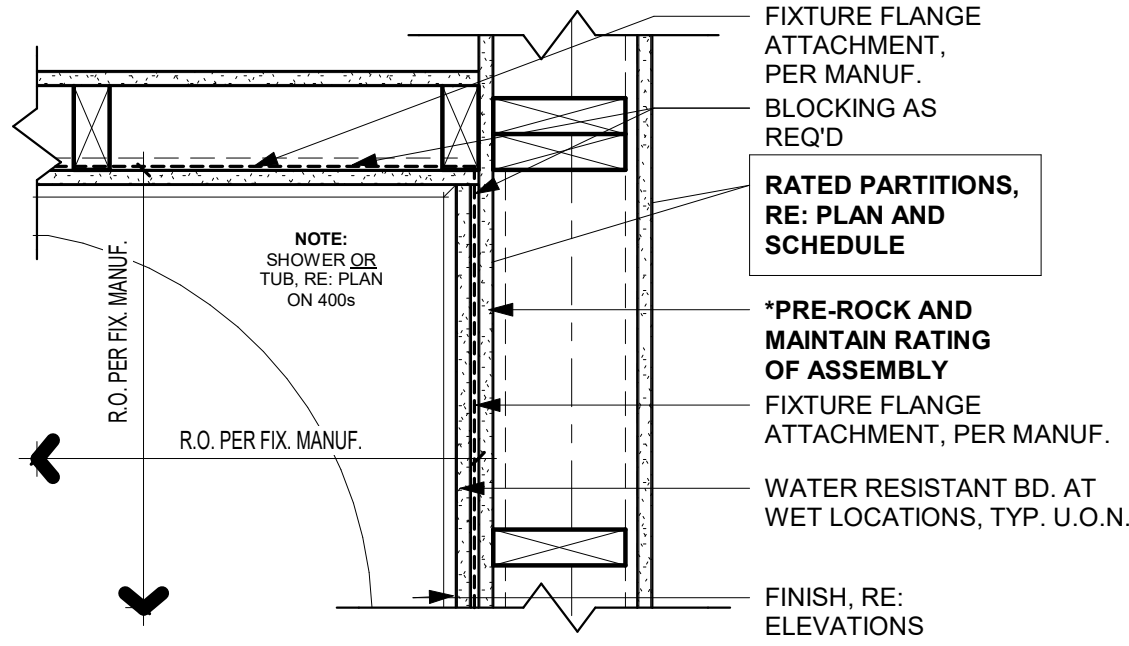
C2 UNIT DETAIL - SHOWER @ NON
RATED WALL @ HEAD/JAMB
3" = 1'-0"



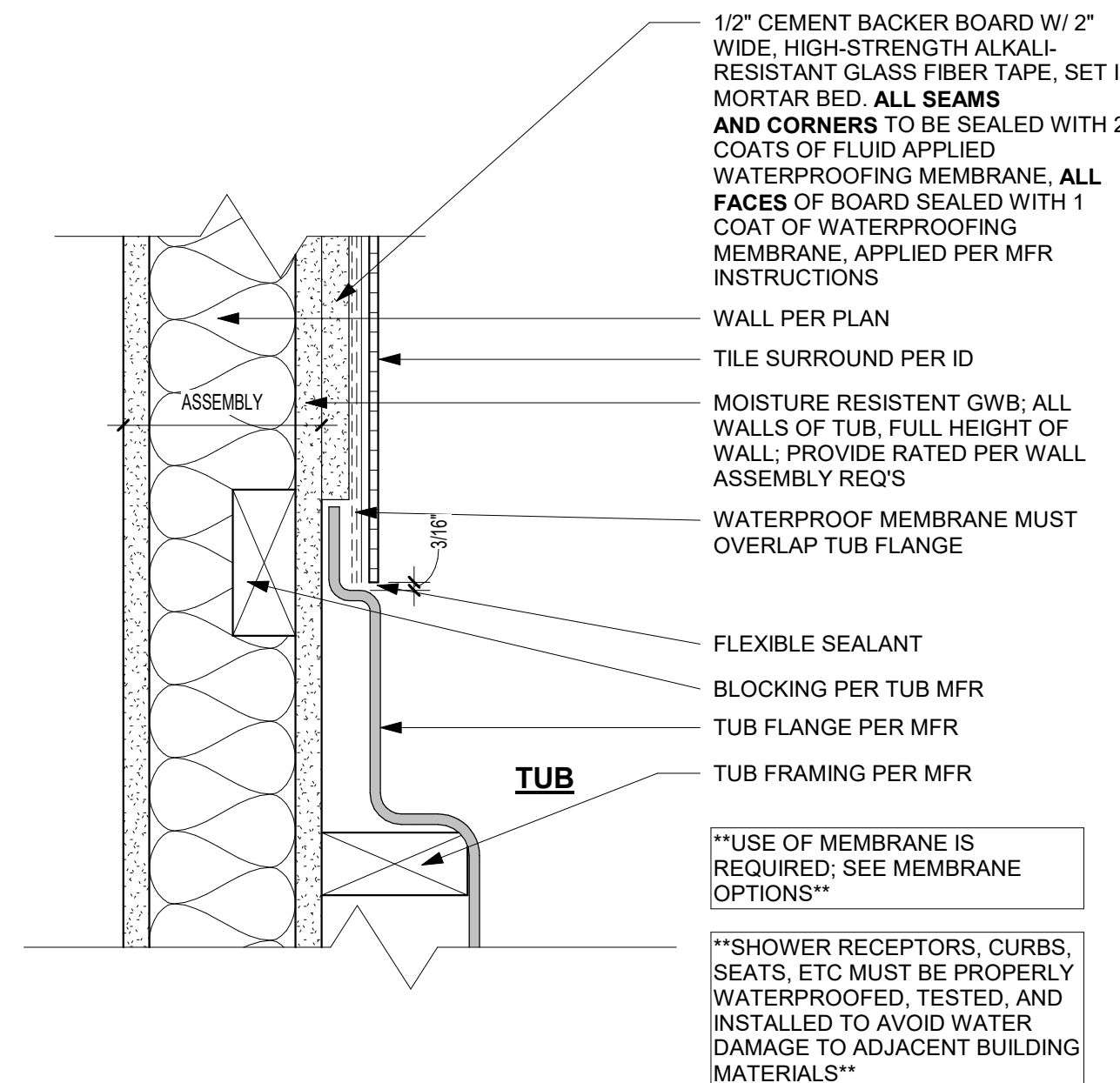
B2 UNIT DETAIL - TYPE B SHOWER DOOR HINGE
3" = 1'-0"



D1 UNIT DETAIL - TYPICAL CLOSET SECTION
1/2" = 1'-0"



C1 FRAMING - RATED WALL TUB/
SHOWER
1 1/2" = 1'-0"



B1 UNIT DETAIL - TUB SURROUND DETAIL
3" = 1'-0"

REFERENCE G-003 FOR GENERAL NOTES

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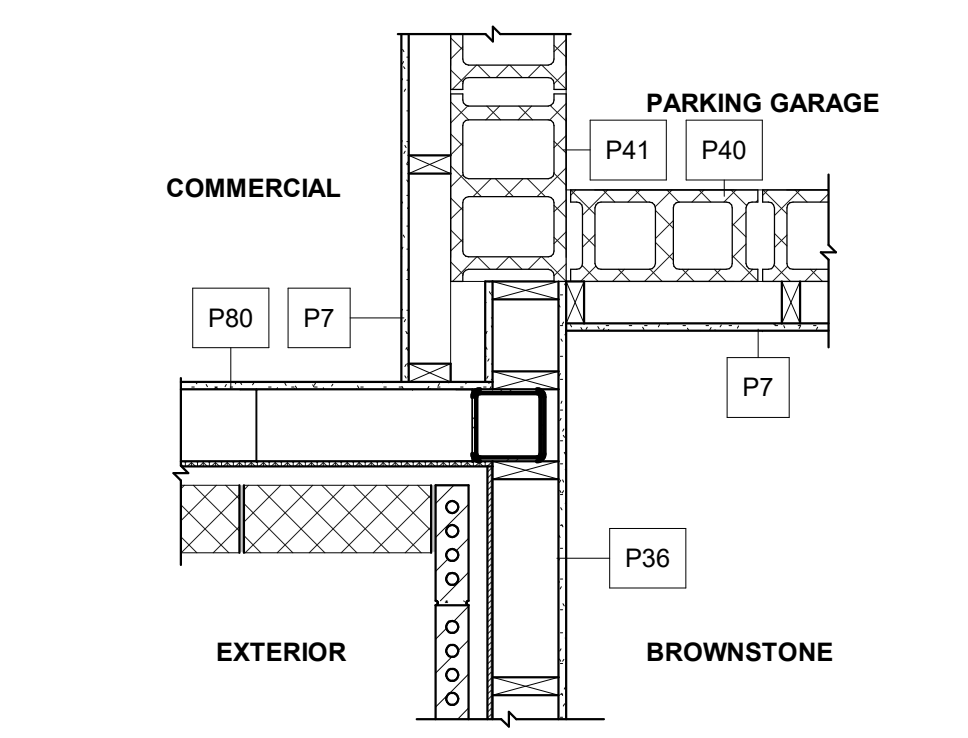
DISCOVERY PARK - LOT #10-A

LEE'S SUMMIT, MO

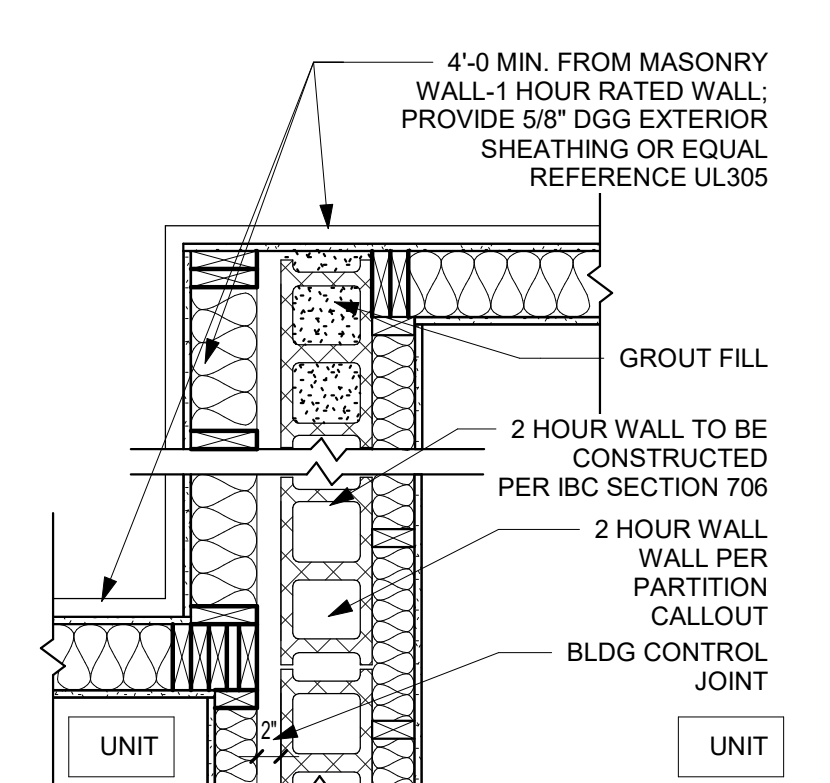
SHEET TITLE
WALL DETAILS

PROJECT NUMBER: 24004
SHEET NUMBER:

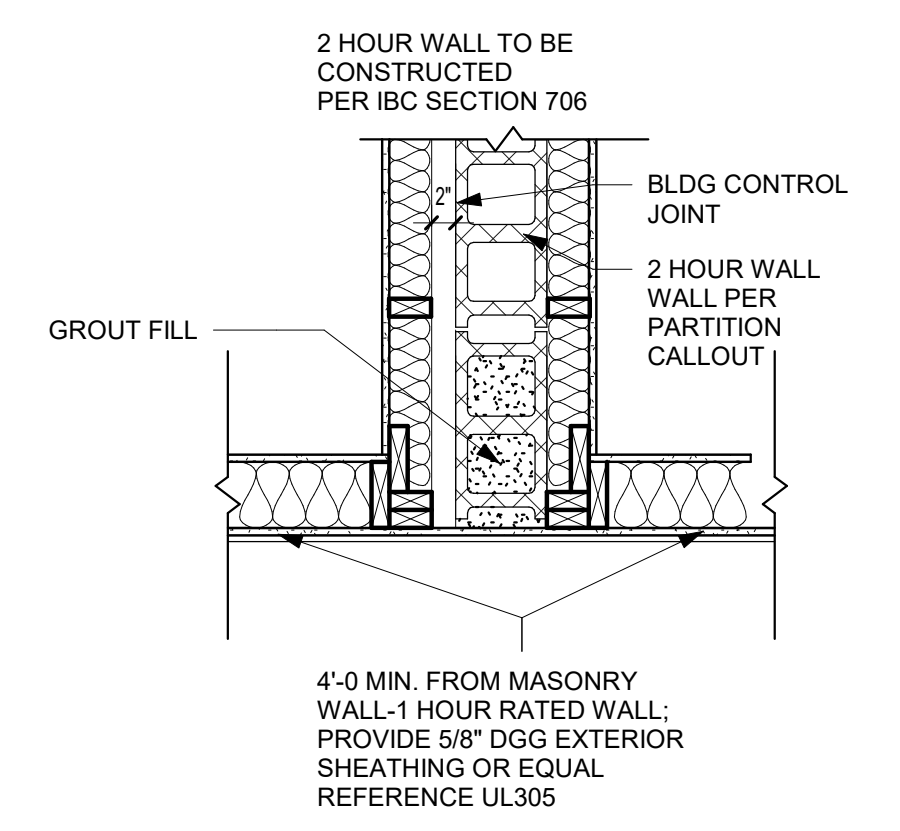
A-500



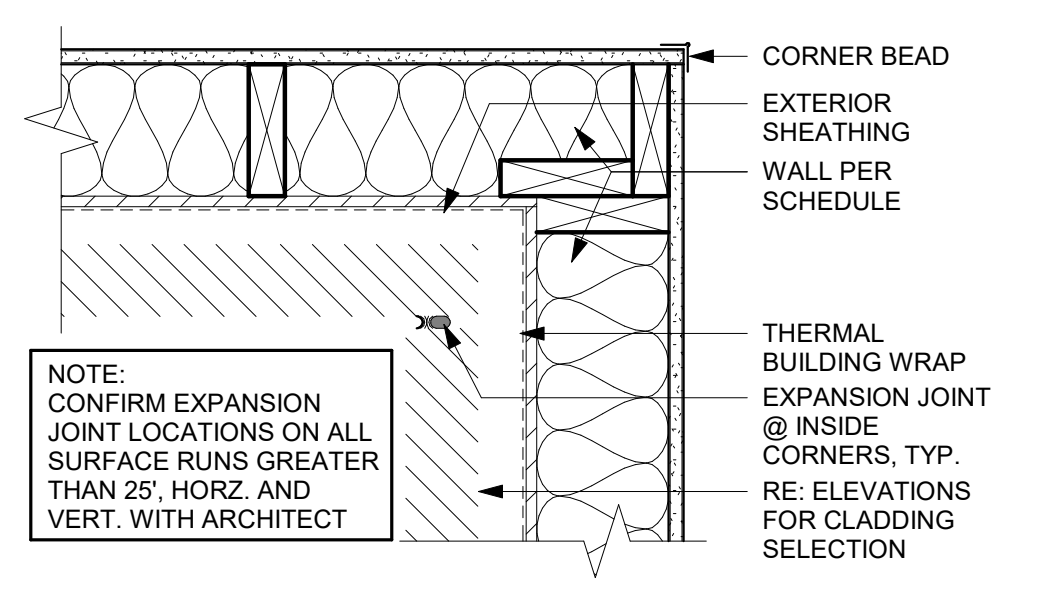
E4 Brownstone, Commercial, Parking
Corner
3/4" = 1'-0"



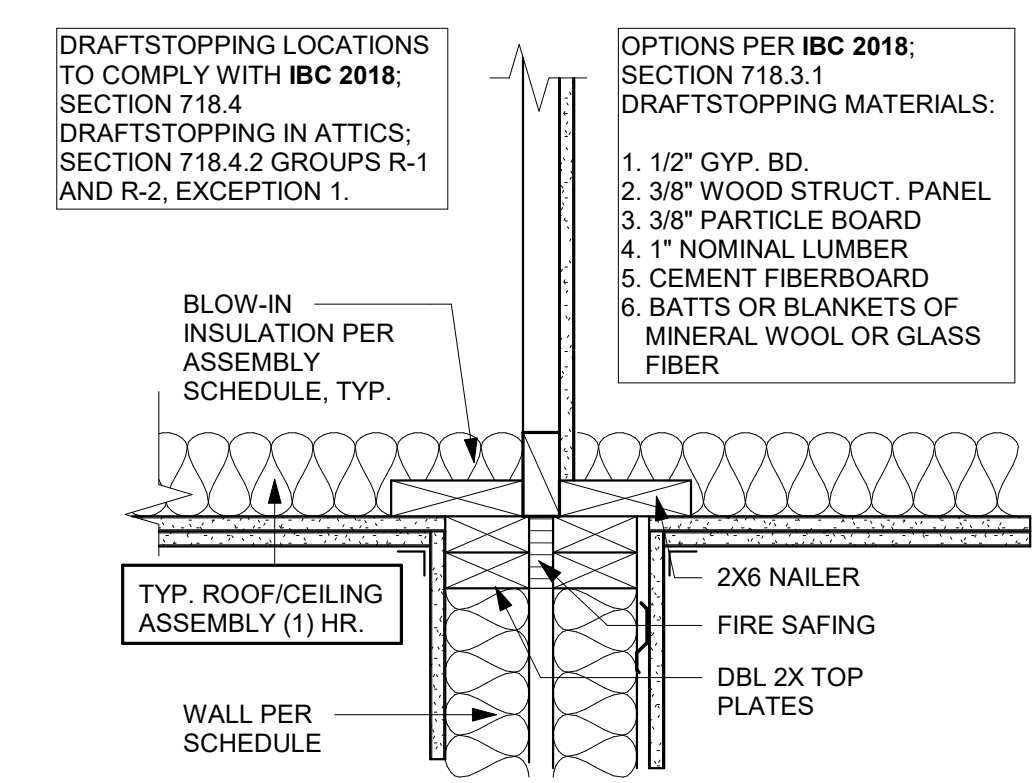
D4 2 HOUR WALL DETAIL 1 (PLAN)
3/4" = 1'-0"



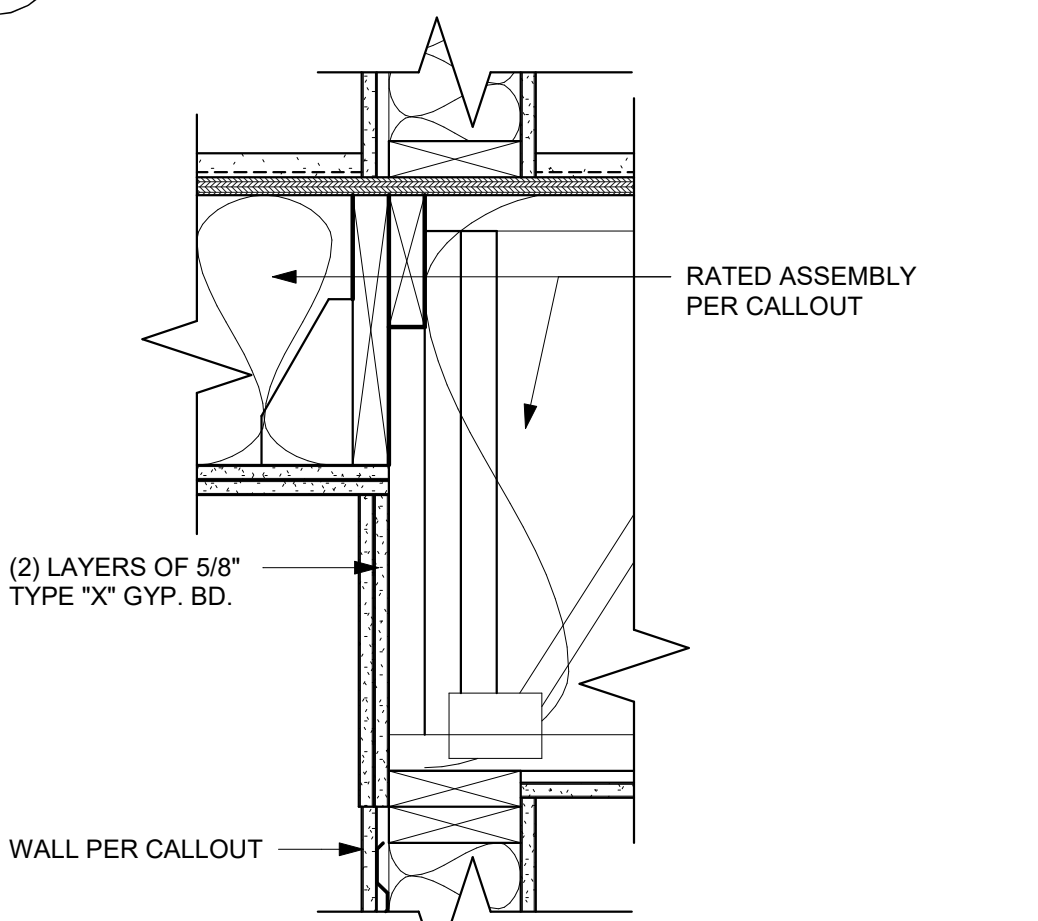
C4 2 HOUR WALL DETAIL 2 (PLAN)
3/4" = 1'-0"



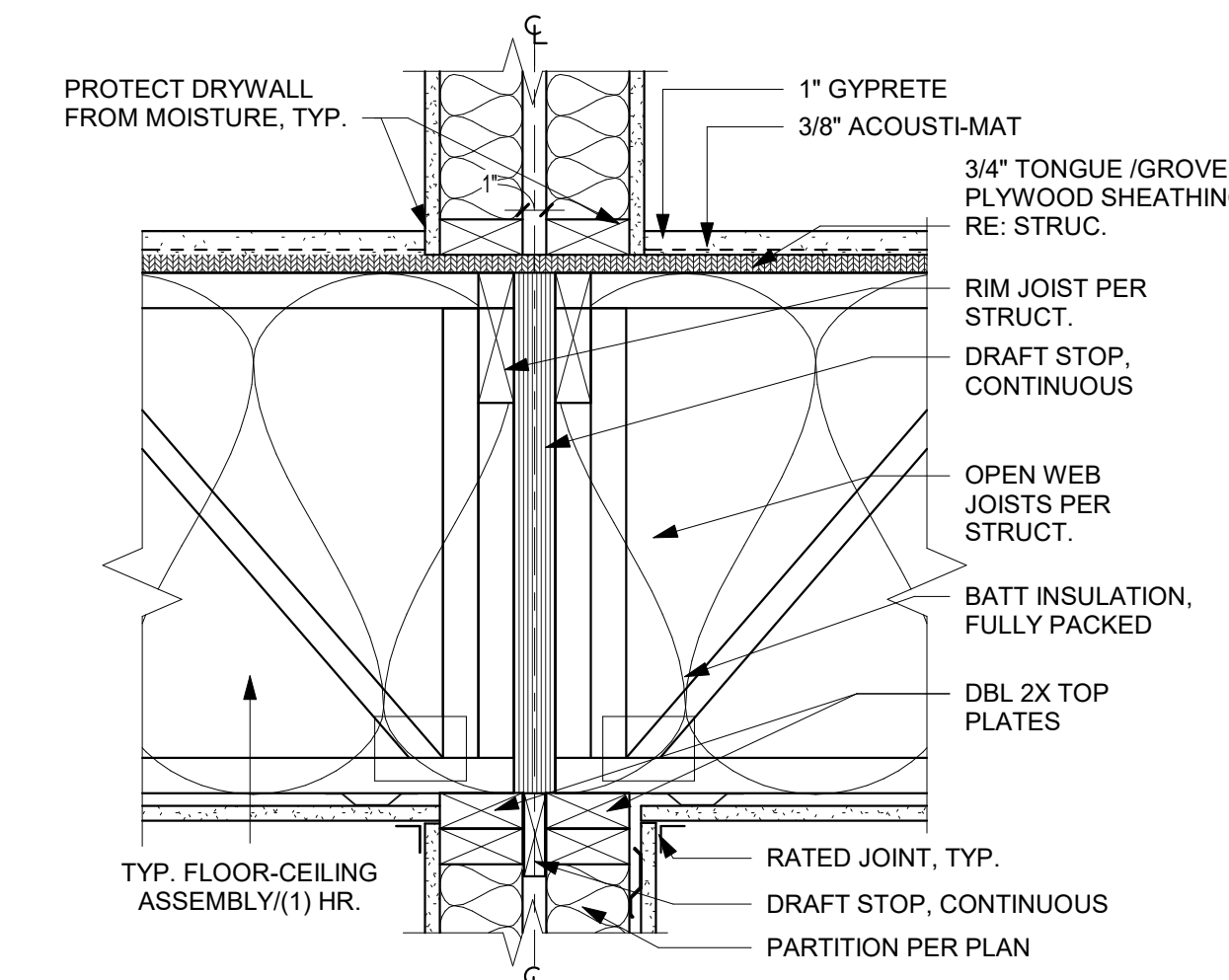
B5 FRAMING INSIDE CORNER (PLAN)
1 1/2" = 1'-0"



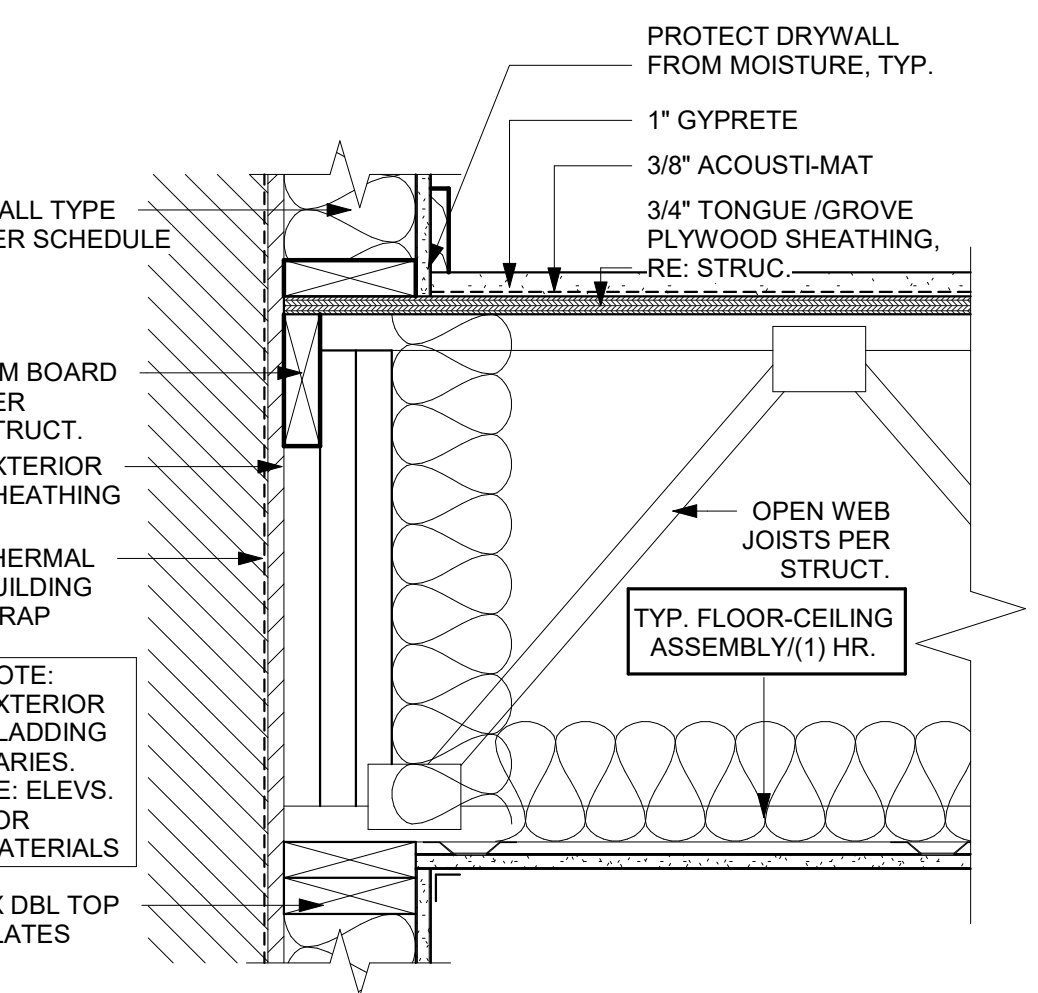
A4 PARTY WALL - DRAFTSTOP
1 1/2" = 1'-0"



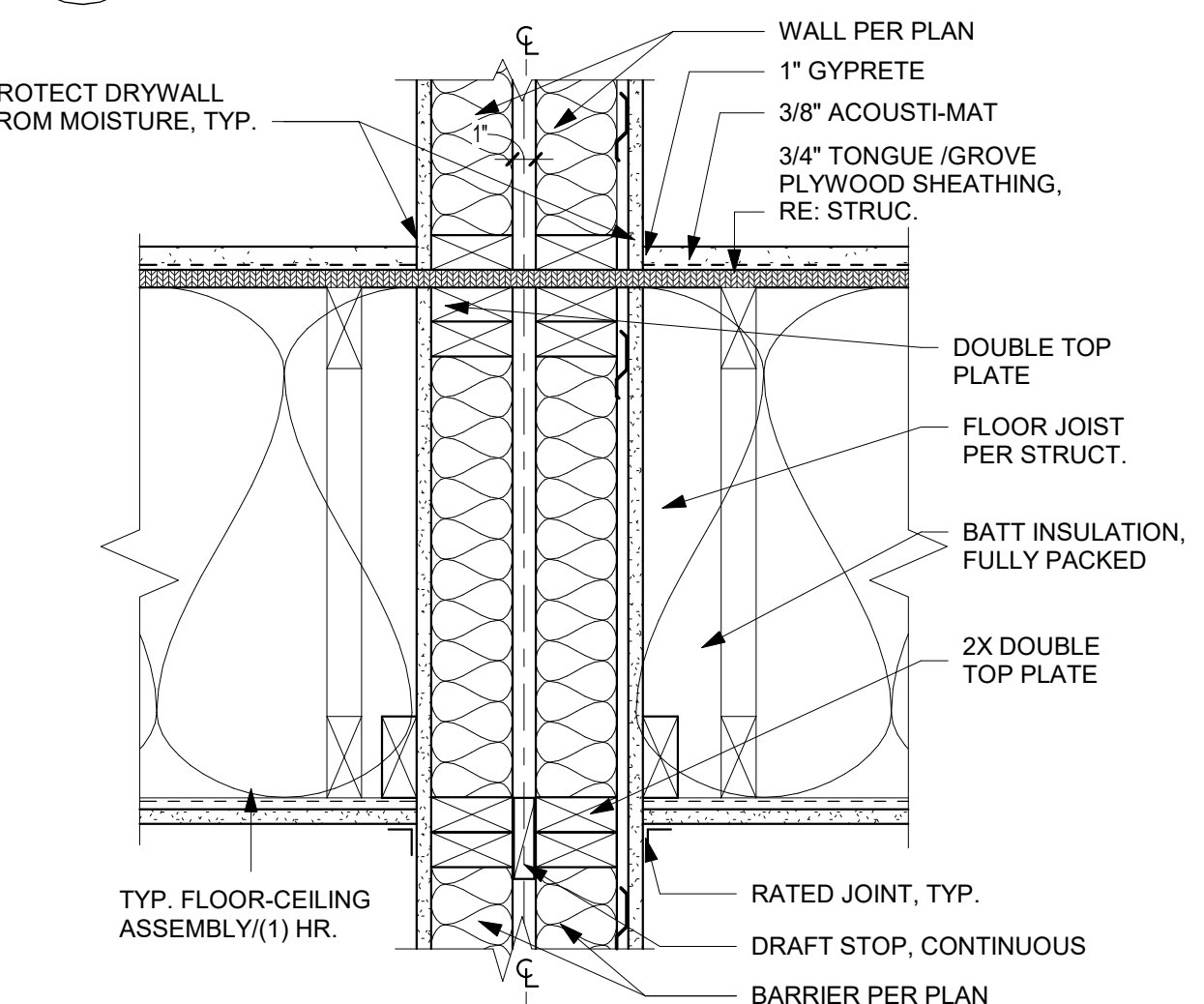
B4 FRAMING UPSET @ CORRIDORS
1 1/2" = 1'-0"



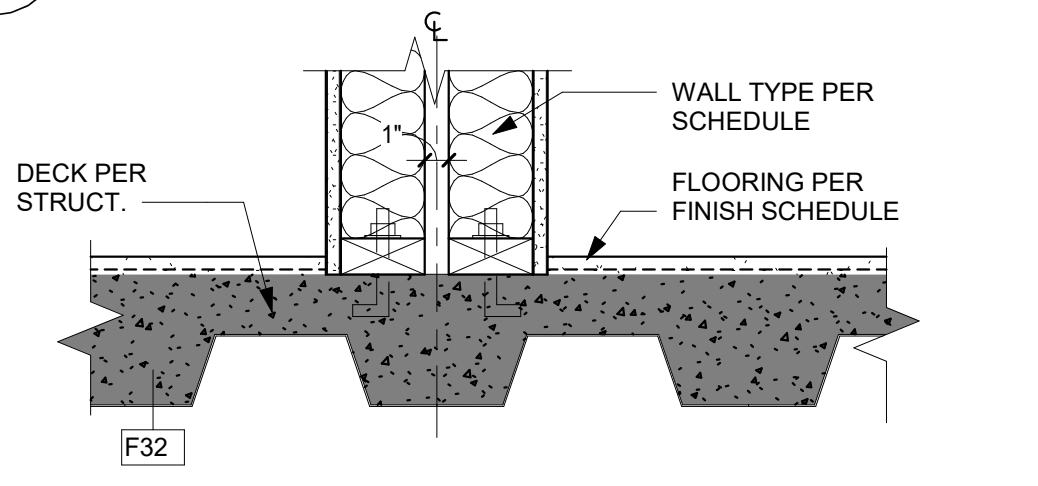
A3 PARTY WALL - SECTION 2
1 1/2" = 1'-0"



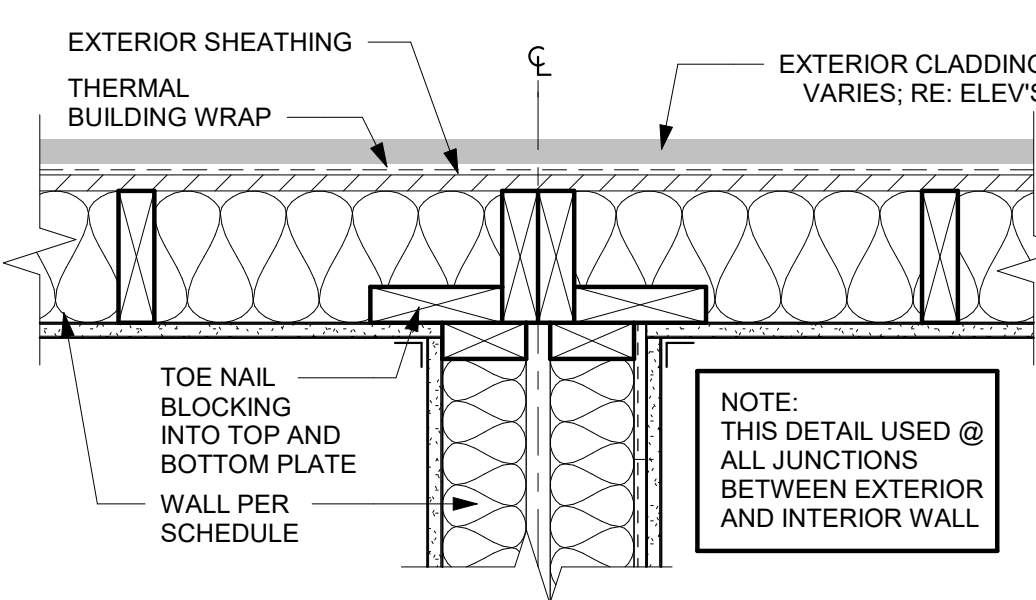
B3 FRAMING FLOOR/CLG DTL.
1 1/2" = 1'-0"



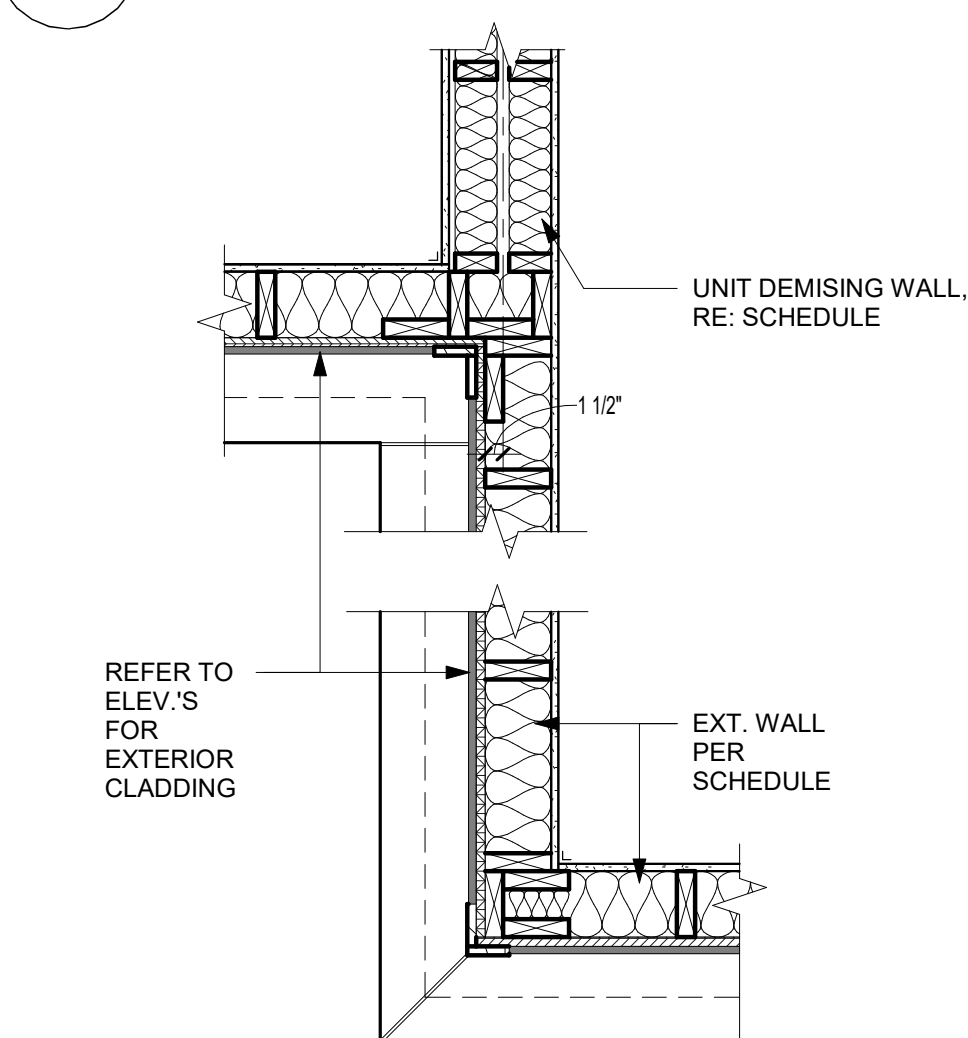
A2 PARTY WALL - SECTION
1 1/2" = 1'-0"



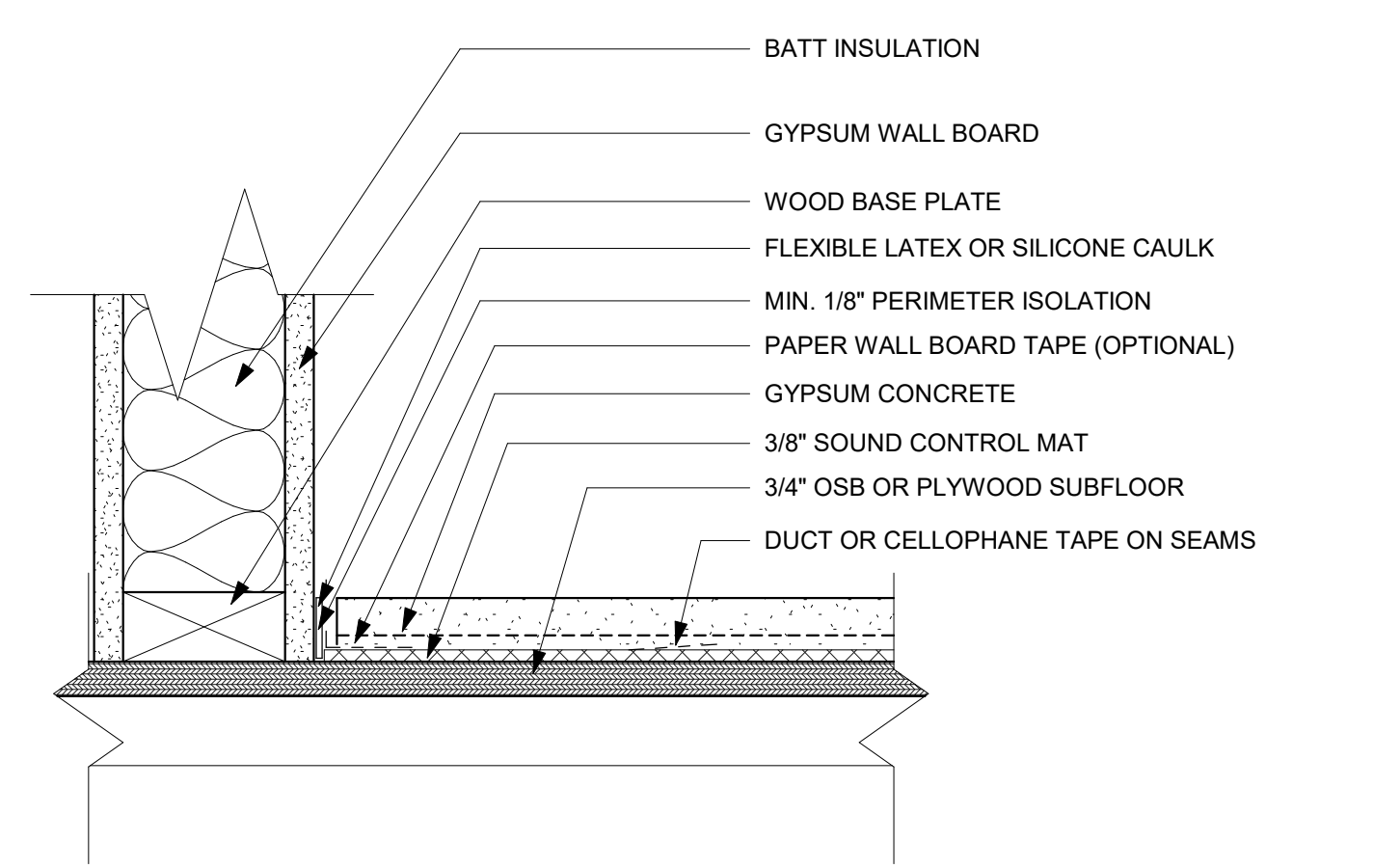
B2 PARTY WALL @ DECK
1 1/2" = 1'-0"



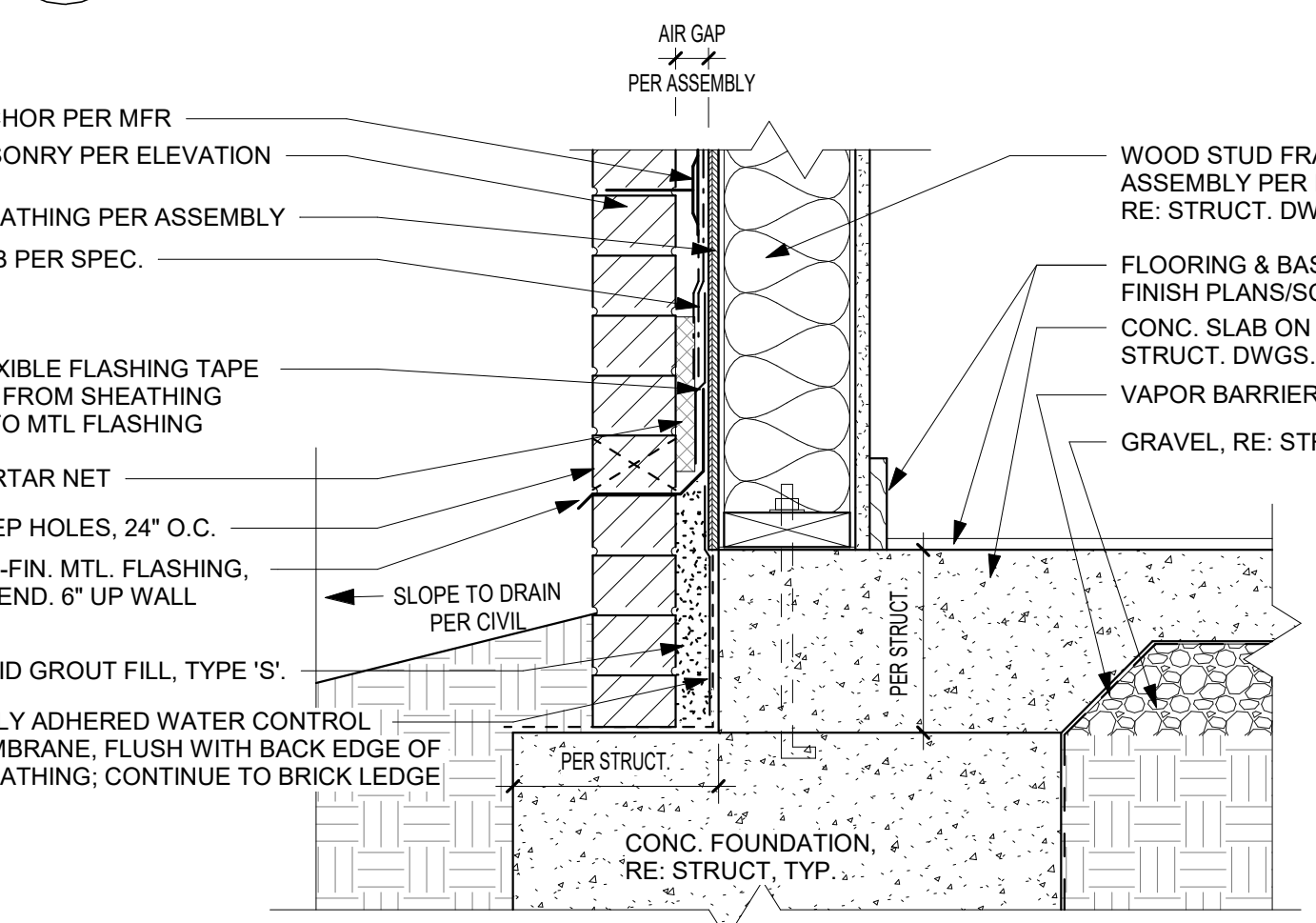
A1 PARTY WALL (PLAN)
1 1/2" = 1'-0"



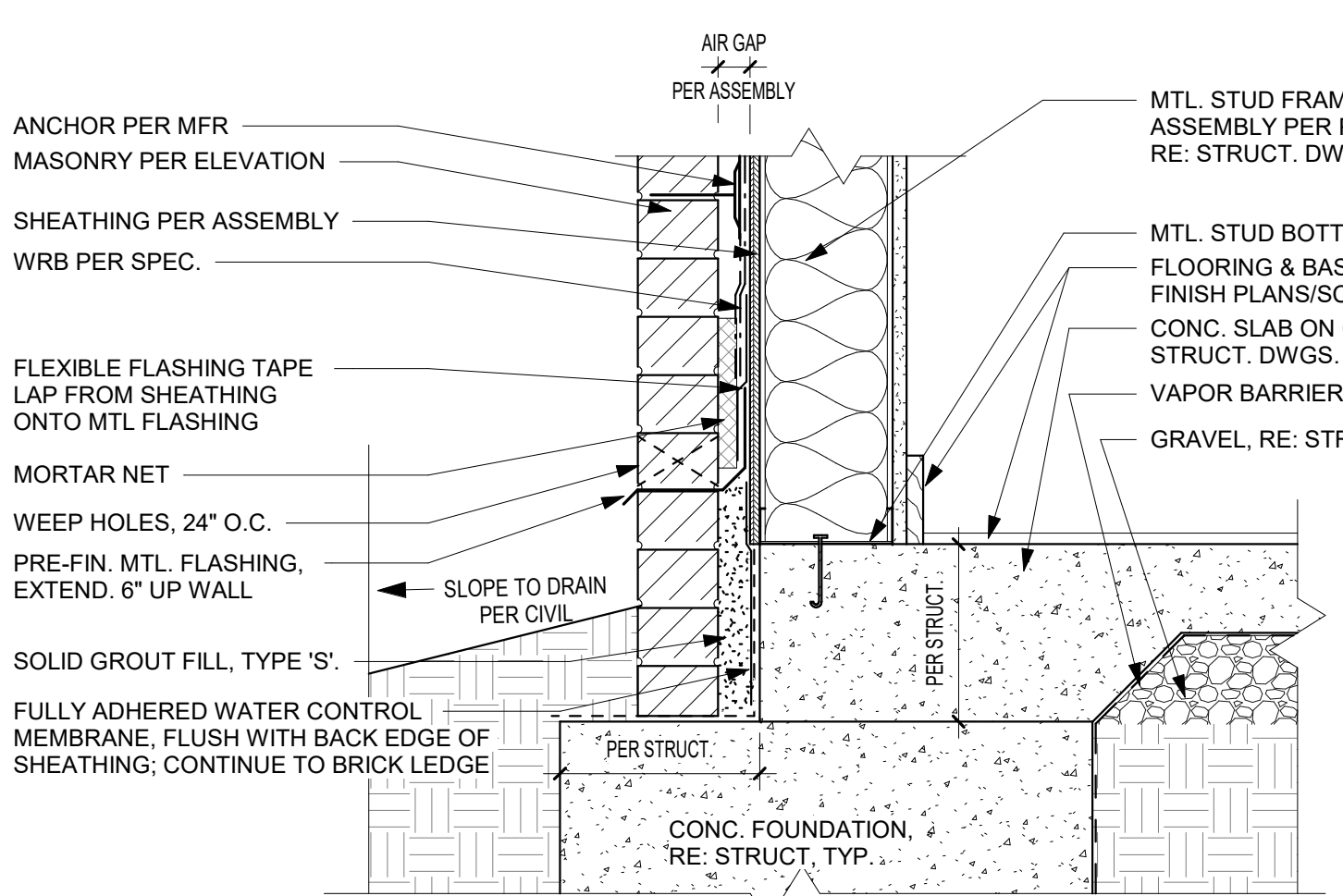
D3 CORNER FRAMING DETAIL - PLAN
3/4" = 1'-0"



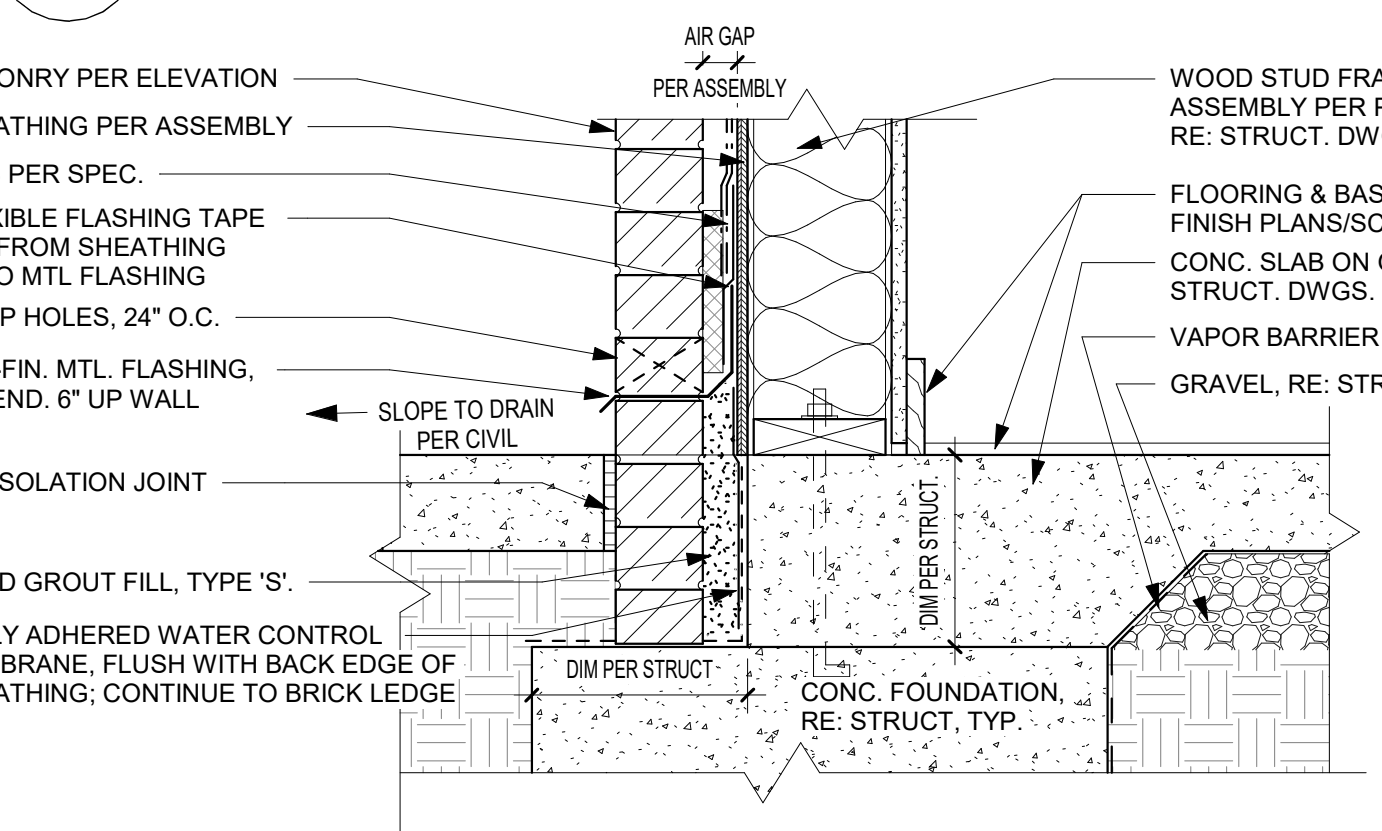
C3 FLOORS WITH SOUND
CONTROLMATT, INTERIOR,
PERIMETER ISOLATION DETAIL
3" = 1'-0"



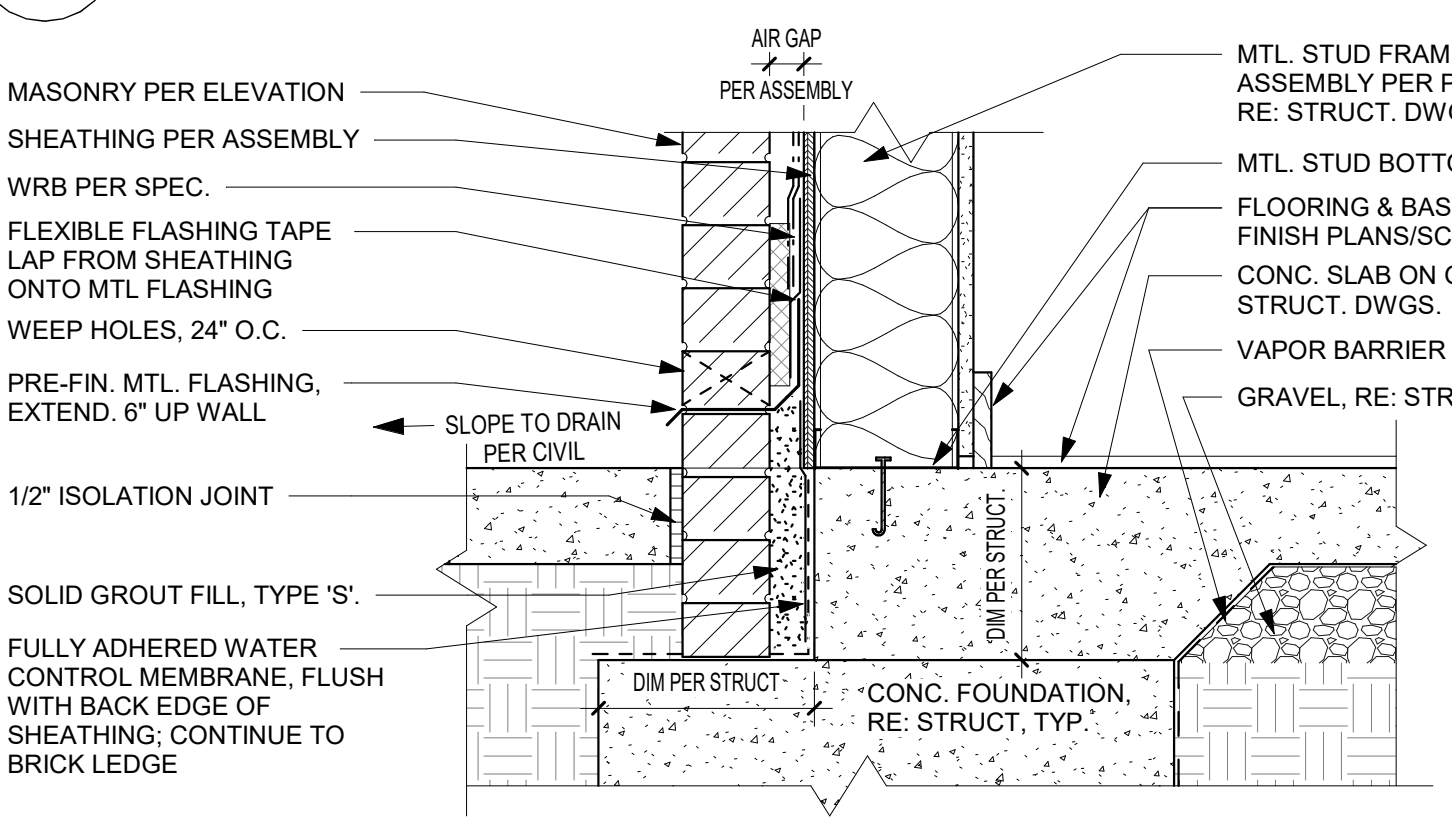
D2 FOUNDATION AT GRADE - WOOD STUD
1 1/2" = 1'-0"



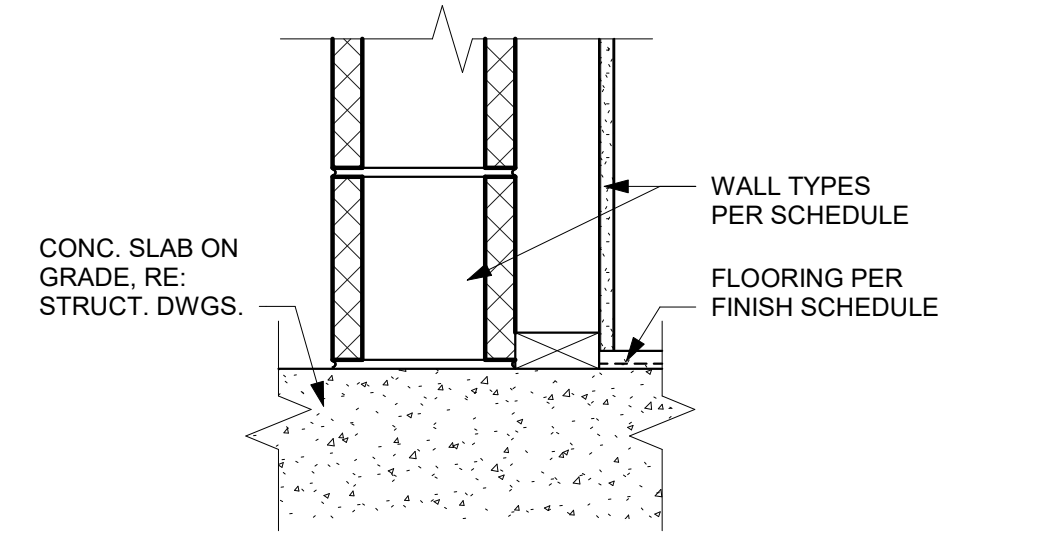
C2 FOUNDATION AT GRADE - MTL STUD
1 1/2" = 1'-0"



D1 FOUNDATION AT HARDSCAPE - WOOD STUD
1 1/2" = 1'-0"



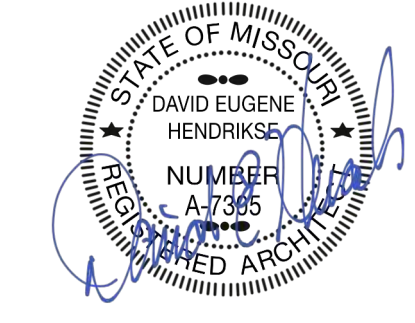
C1 FOUNDATION AT HARDSCAPE - MTL STUD
1 1/2" = 1'-0"



B1 CMU WALL @ FOUNDATION
1 1/2" = 1'-0"

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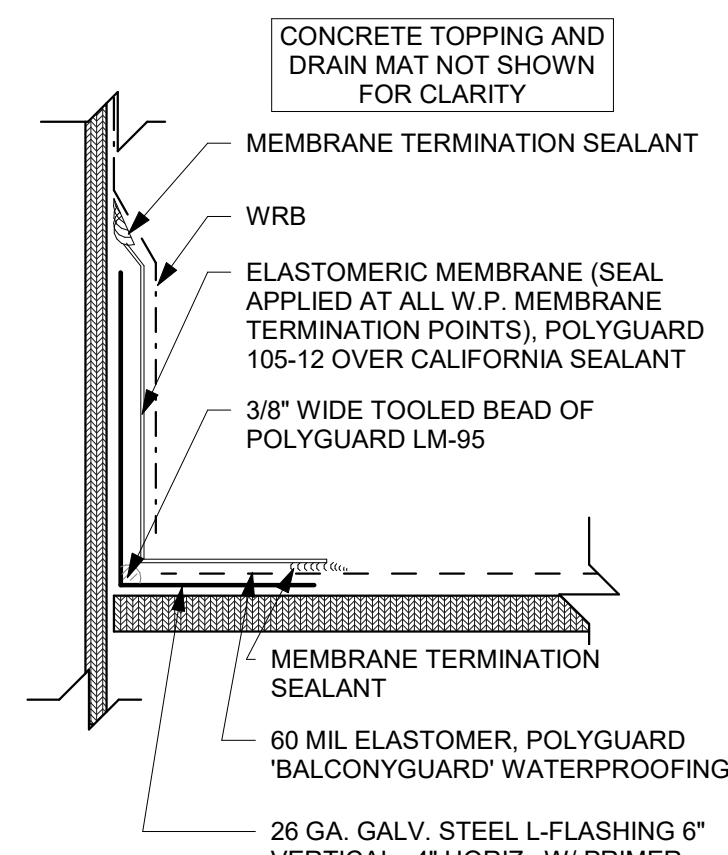
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DISCOVERY PARK - LOT #10-A

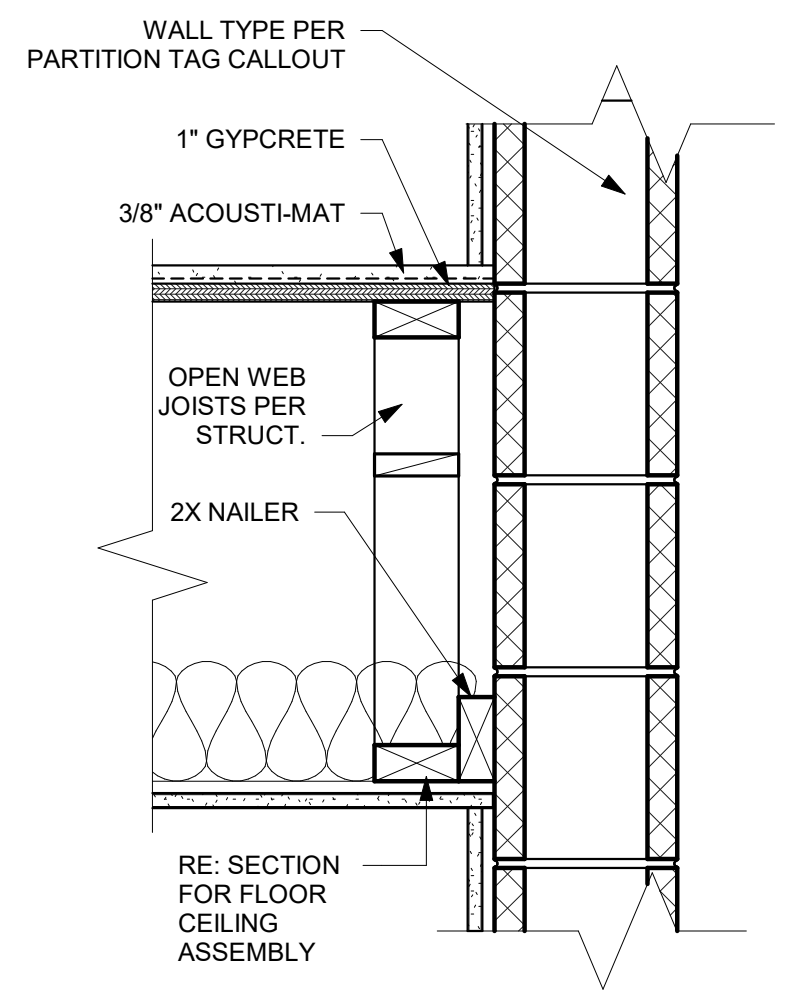
LEE'S SUMMIT, MO

SHEET TITLE
WALL DETAILS
PROJECT NUMBER: 24004
SHEET NUMBER:

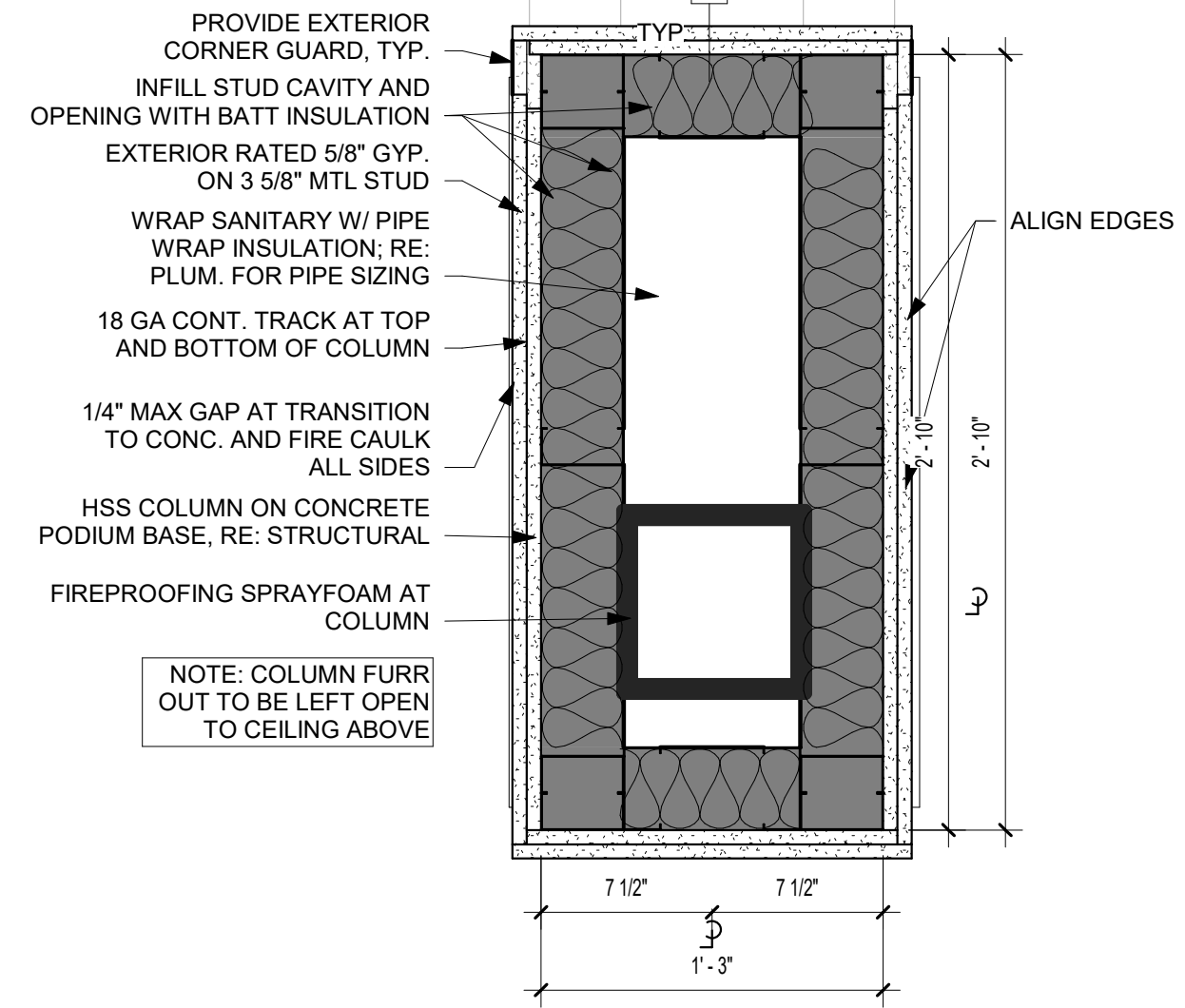
A-501



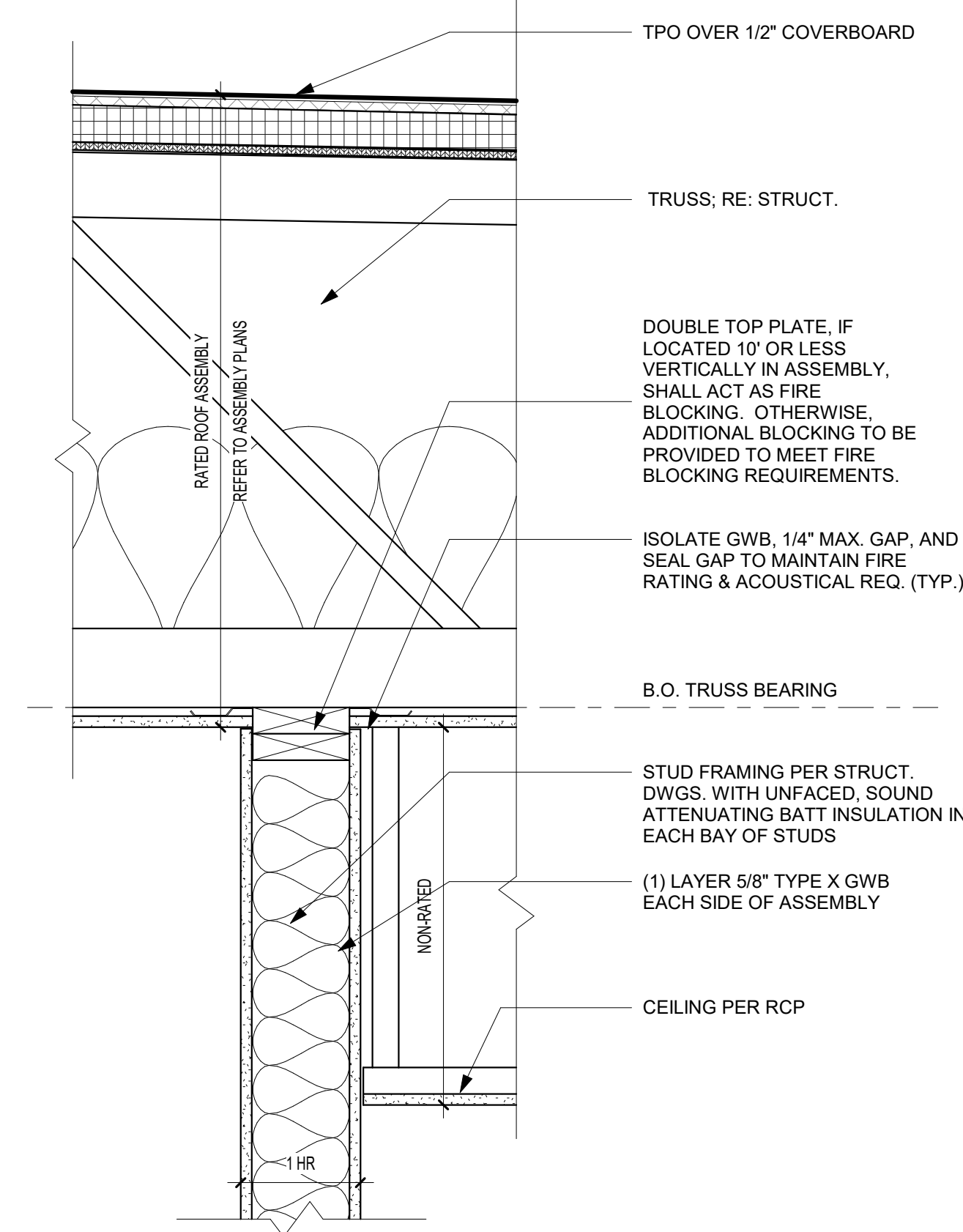
E3 FLASHING DETAIL AT BALCONY WALL
3" = 1'-0"



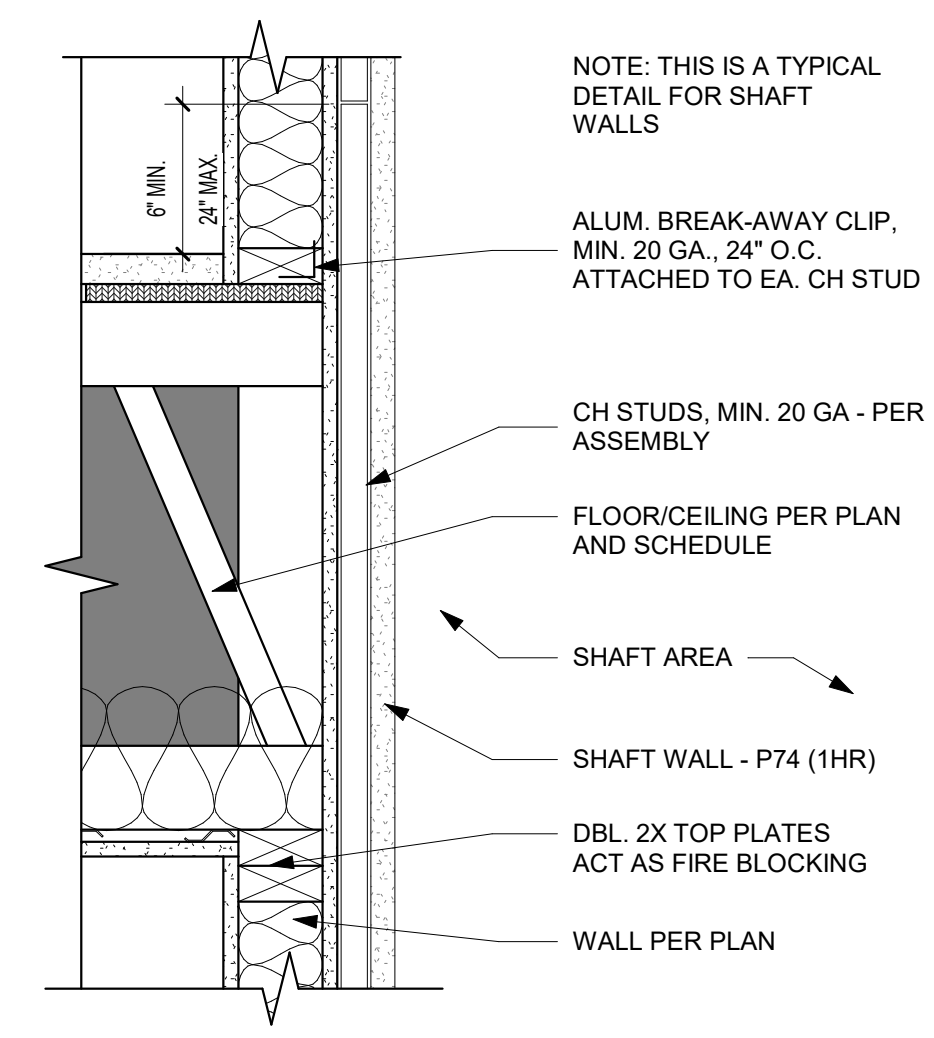
D3 CMU WALL FRAMING DETAIL
1 1/2" = 1'-0"



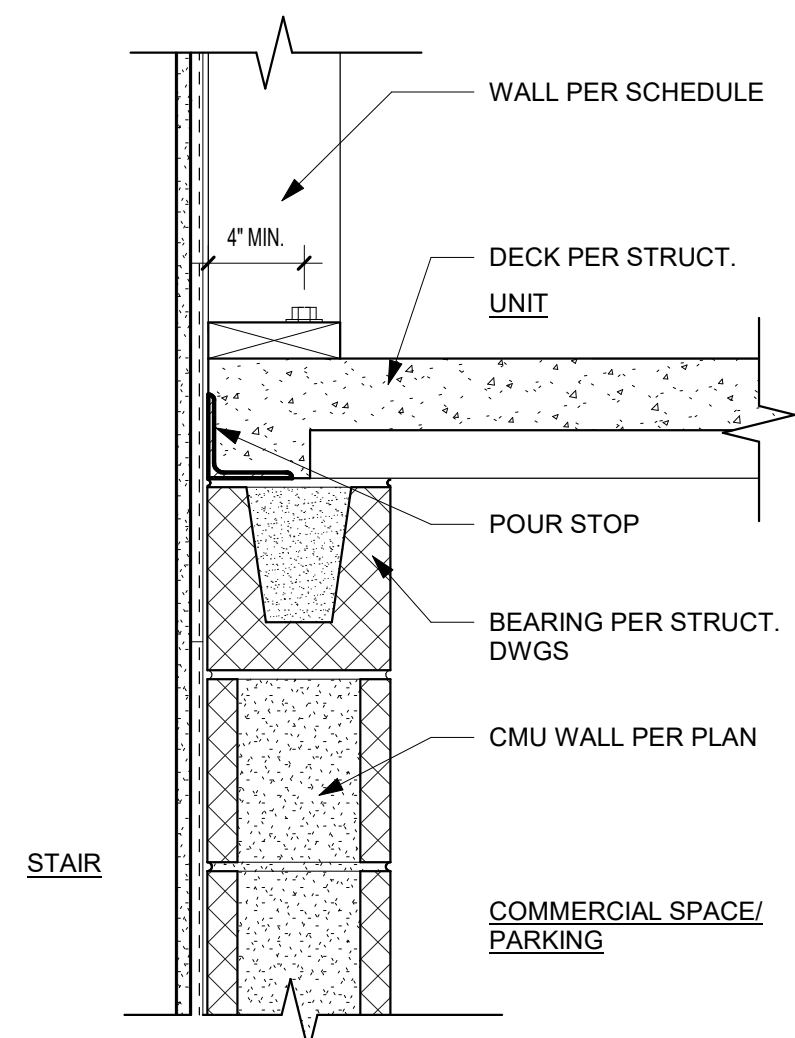
C3 TYP. GARAGE COLUMN FURR OUT
1 1/2" = 1'-0"



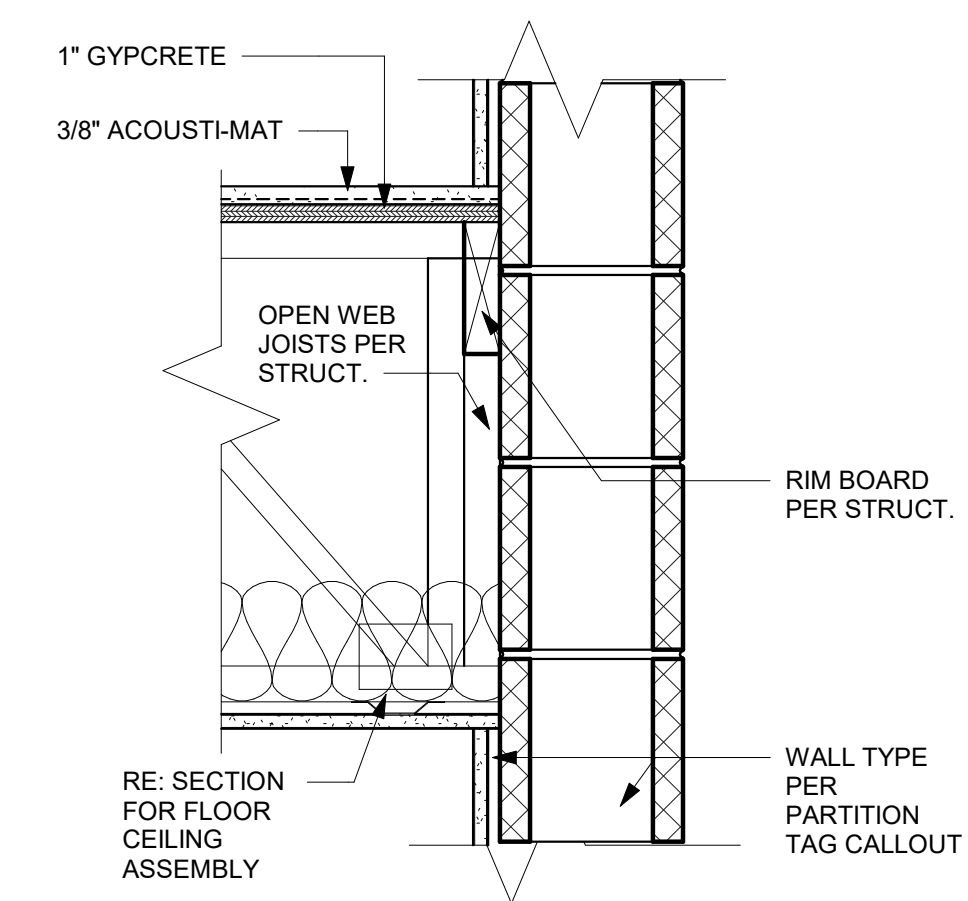
B3 WALL/RATED - WOOD STUD - 1 HOUR - ROOF/CEILING ASSEMBLY @ PARTITION PERP TO TRUSS (SECTION)
1 1/2" = 1'-0"



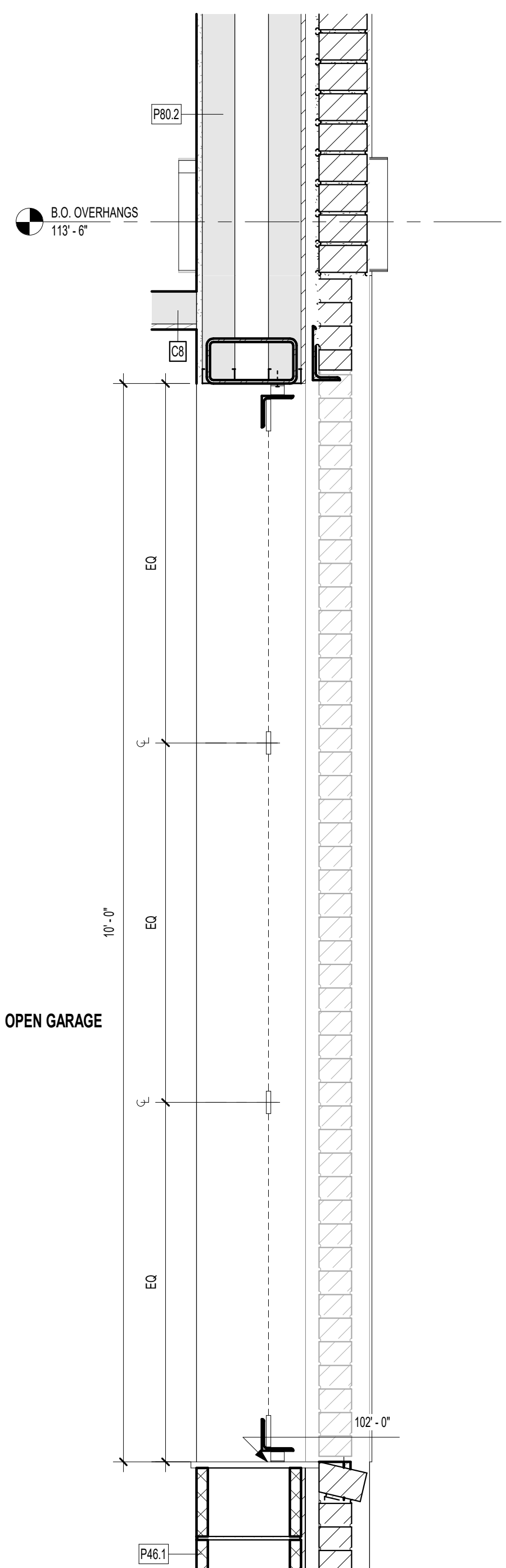
A3 SHAFT @ 2ND & 3RD FLOORS
1 1/2" = 1'-0"



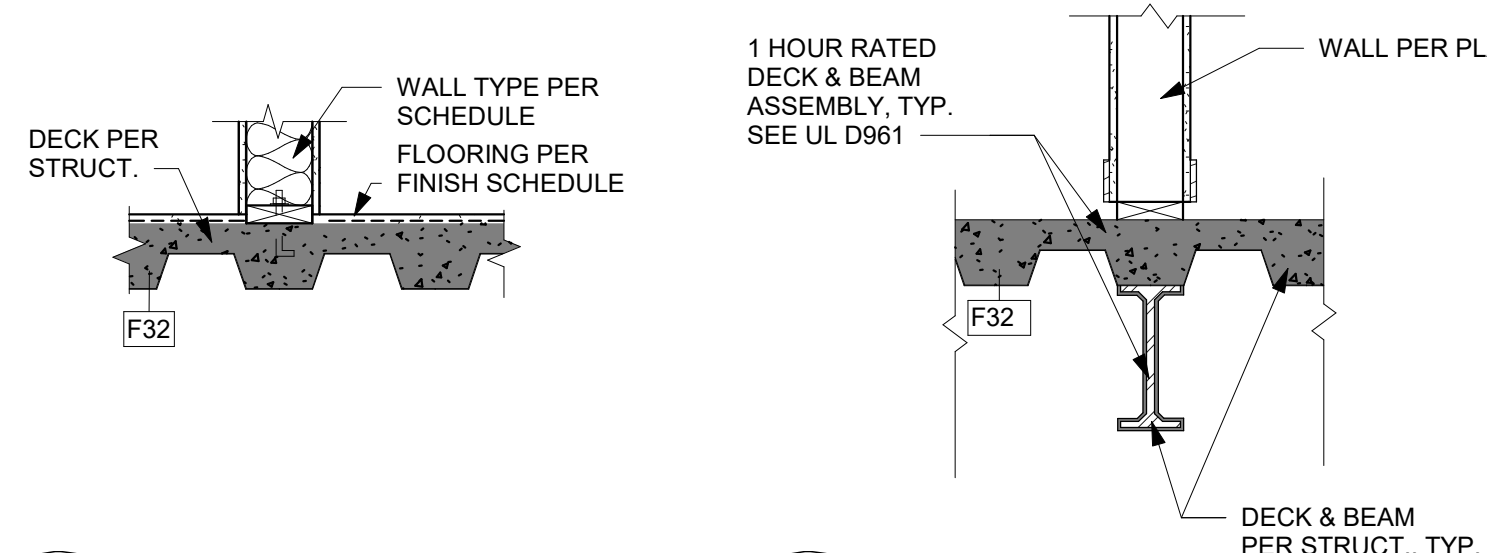
E2 DECK BEARING @ CMU
1 1/2" = 1'-0"



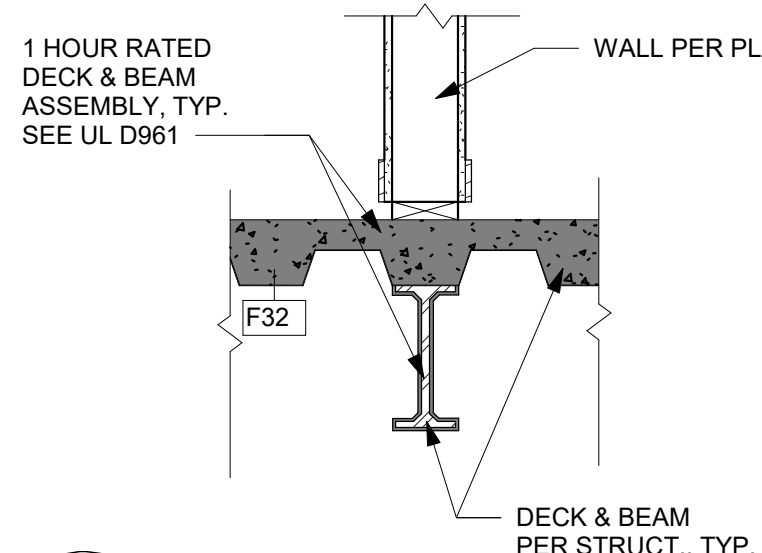
D2 CMU WALL FRAMING DETAIL
1 1/2" = 1'-0"



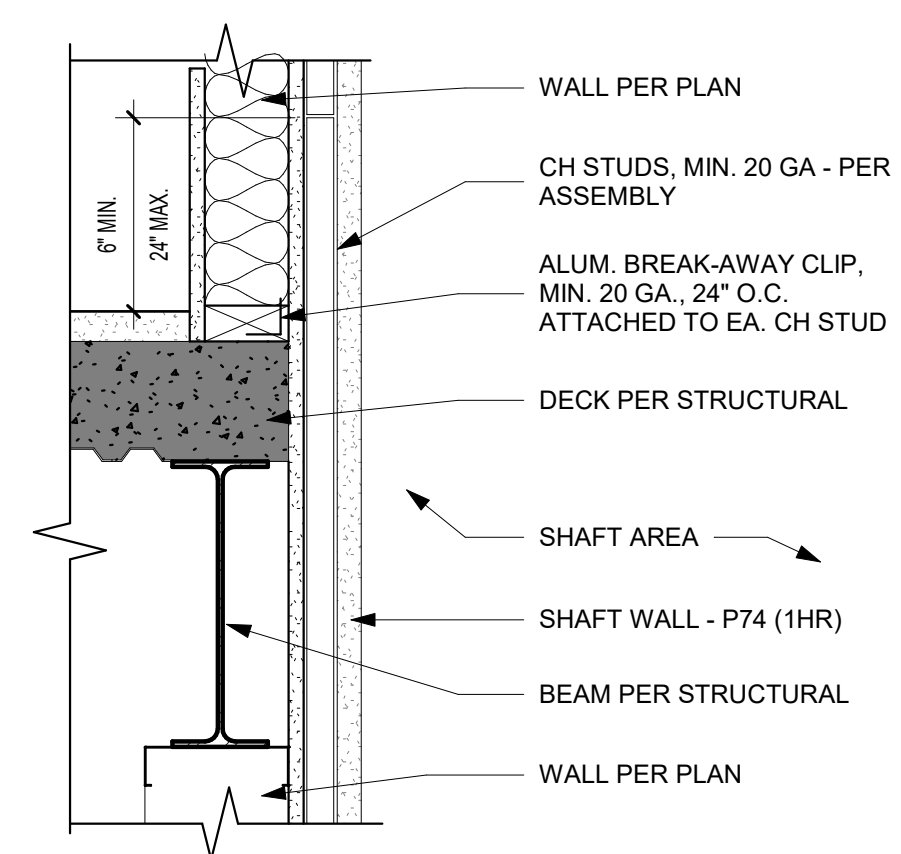
C1 PRE-FAB METAL SCREEN @ OPEN PARKING
1" = 1'-0"



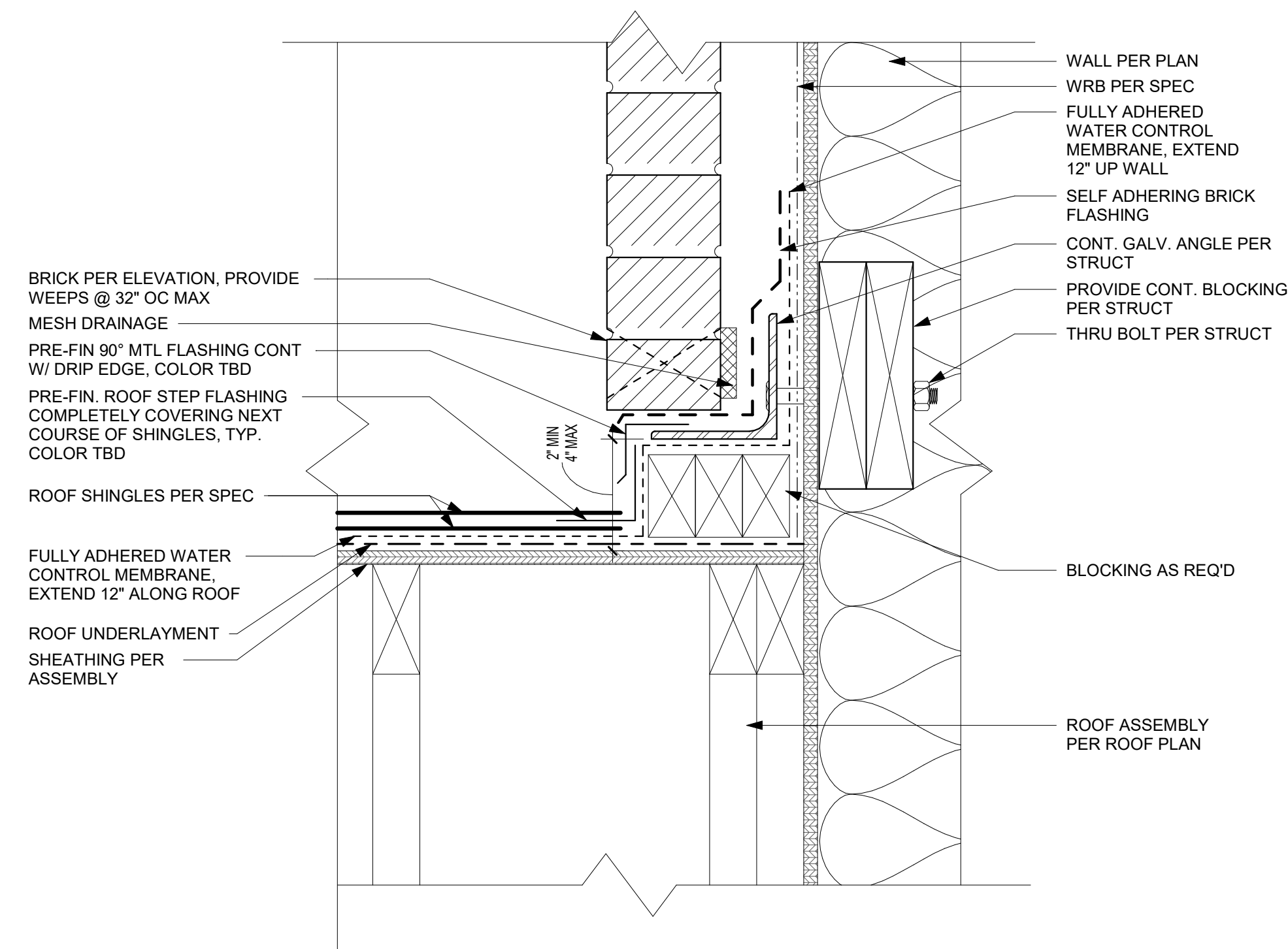
C2 WALL @ DECK
3/4" = 1'-0"



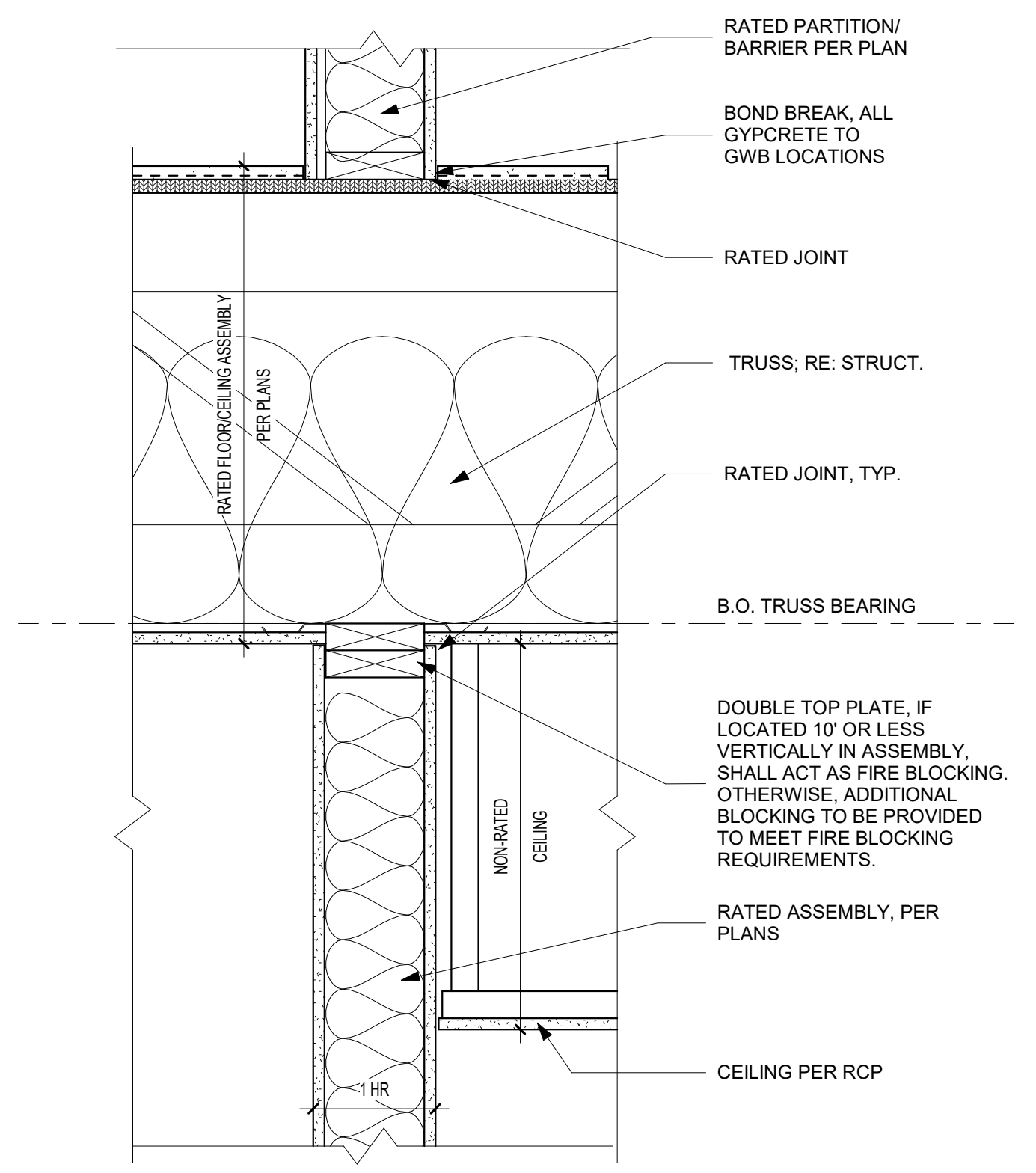
B2 BEAM @ DECK
3/4" = 1'-0"



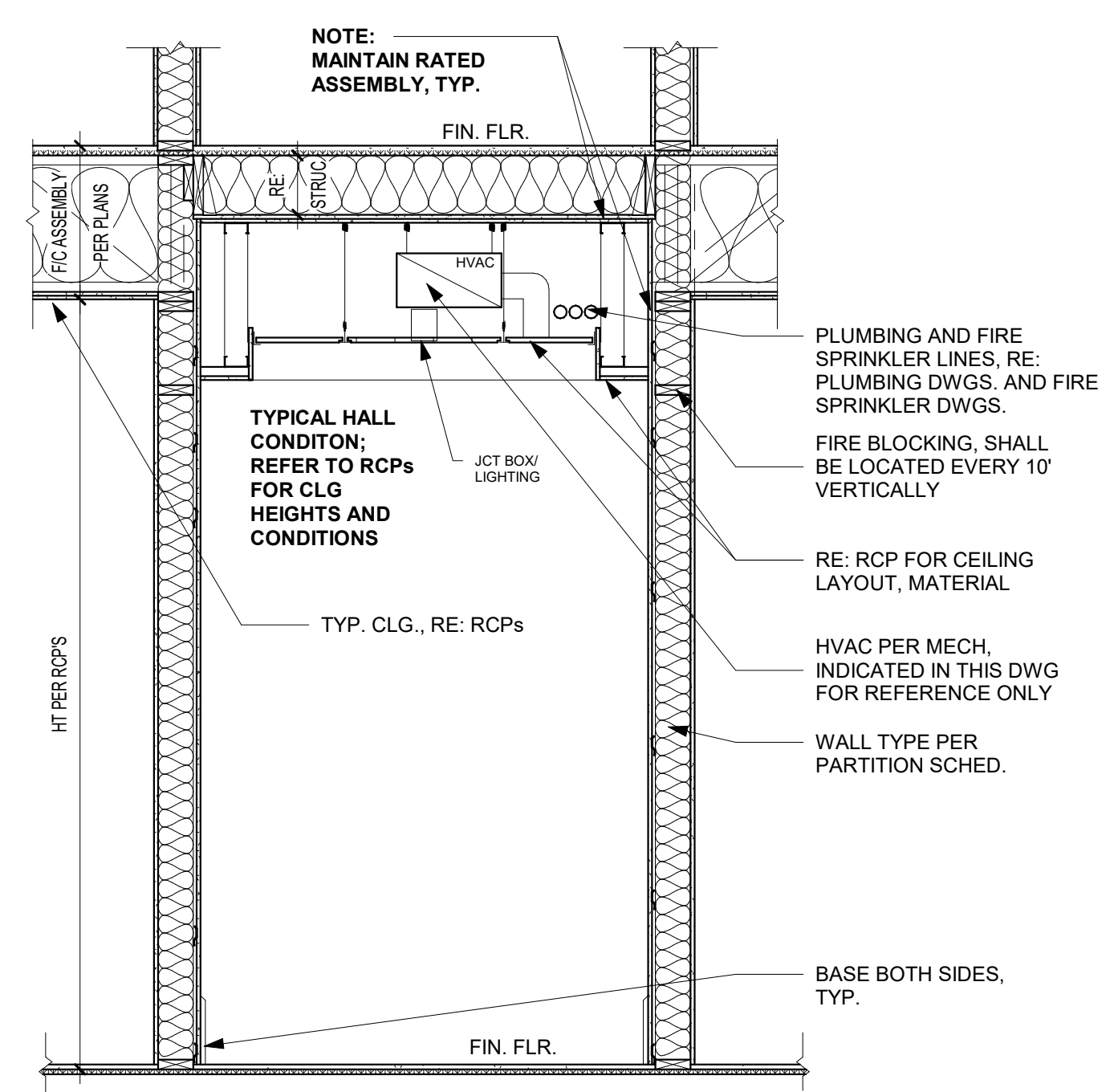
A2 SHAFT @ 1ST FLOOR COMMERCIAL SPACE
1 1/2" = 1'-0"



D1 THROUGH WALL FLASHING @ ROOF
3" = 1'-0"



B1 WALL/RATED - WOOD STUD - 1 HOUR - PARTITION WALL @ F/C (SECTION)
1 1/2" = 1'-0"



A1 FLOOR/CEILING @ CORRIDOR (SECTION)
1/2" = 1'-0"

12/20/2024 9:54:40 AM
C:\PWA\Local\24004\24004.dwg, L:\LOT10_BLDG_103_00.dwg, TPO2024

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DISCOVERY PARK - LOT #10-A

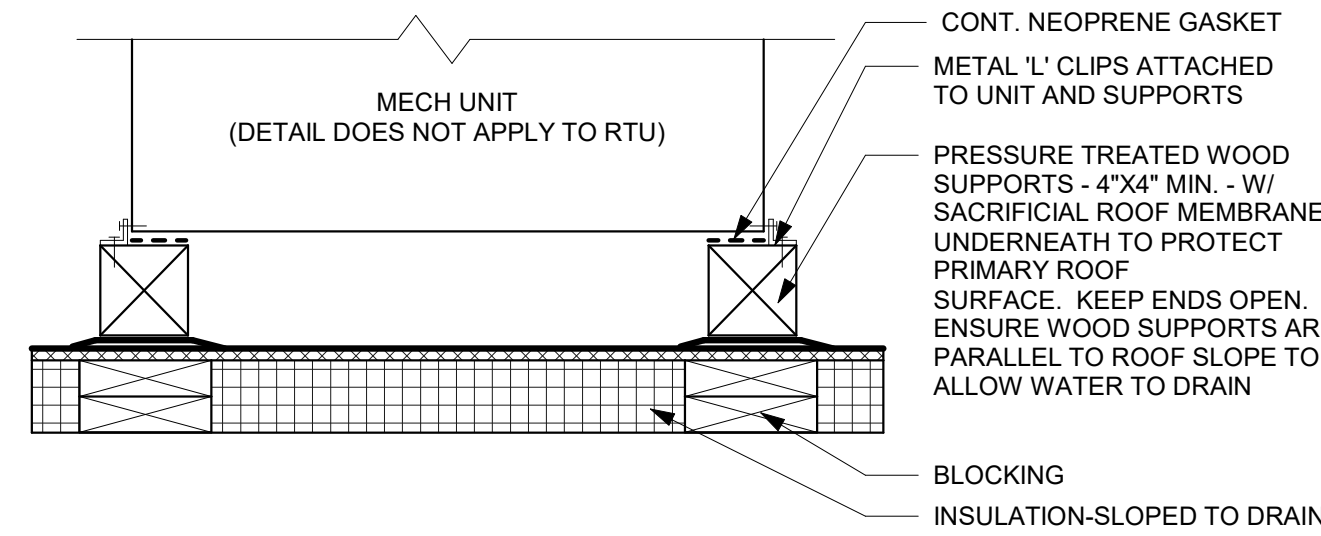
LEE'S SUMMIT, MO

SHEET TITLE
PARAPET DETAILS

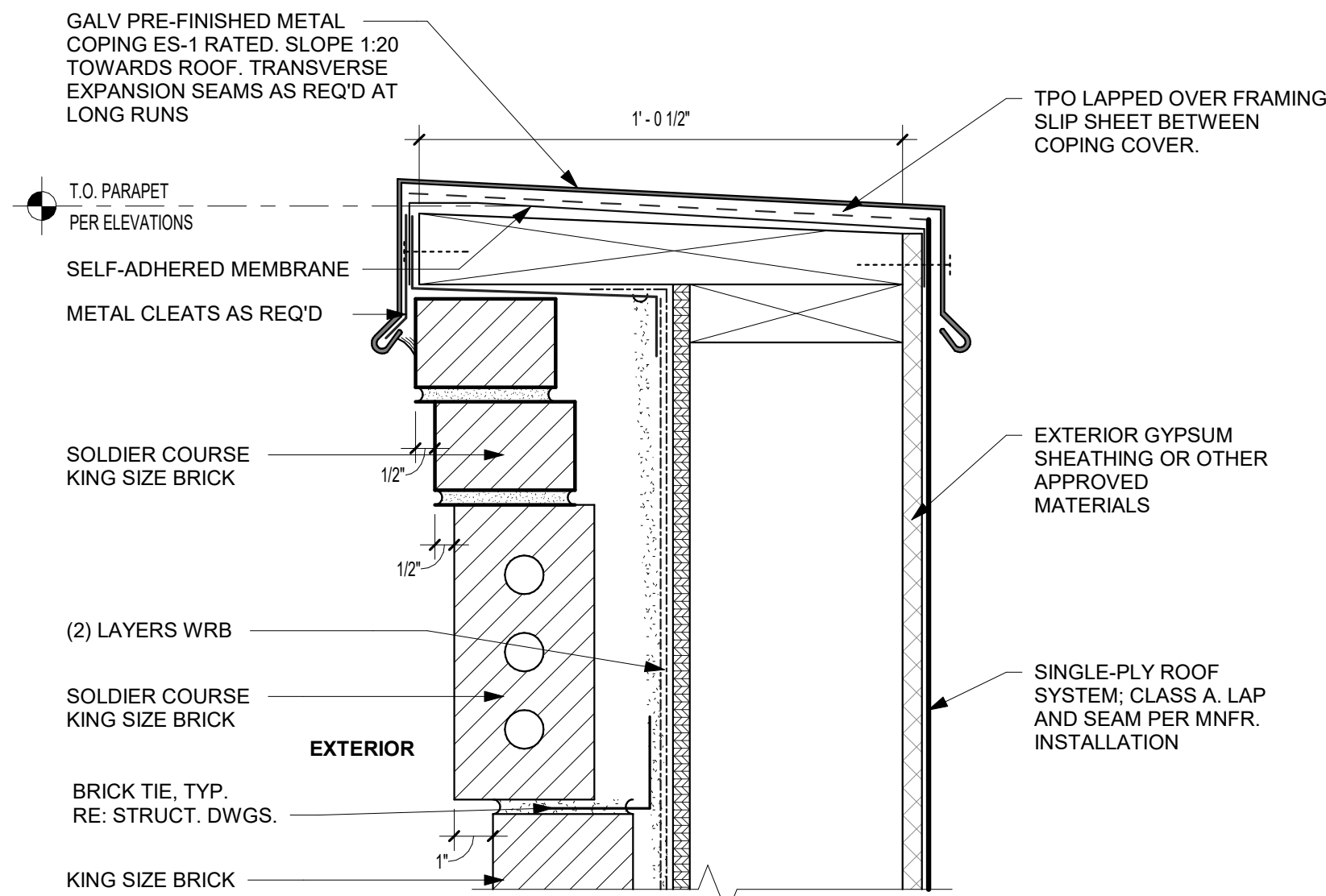
PROJECT NUMBER: 24004
SHEET NUMBER:

A-502

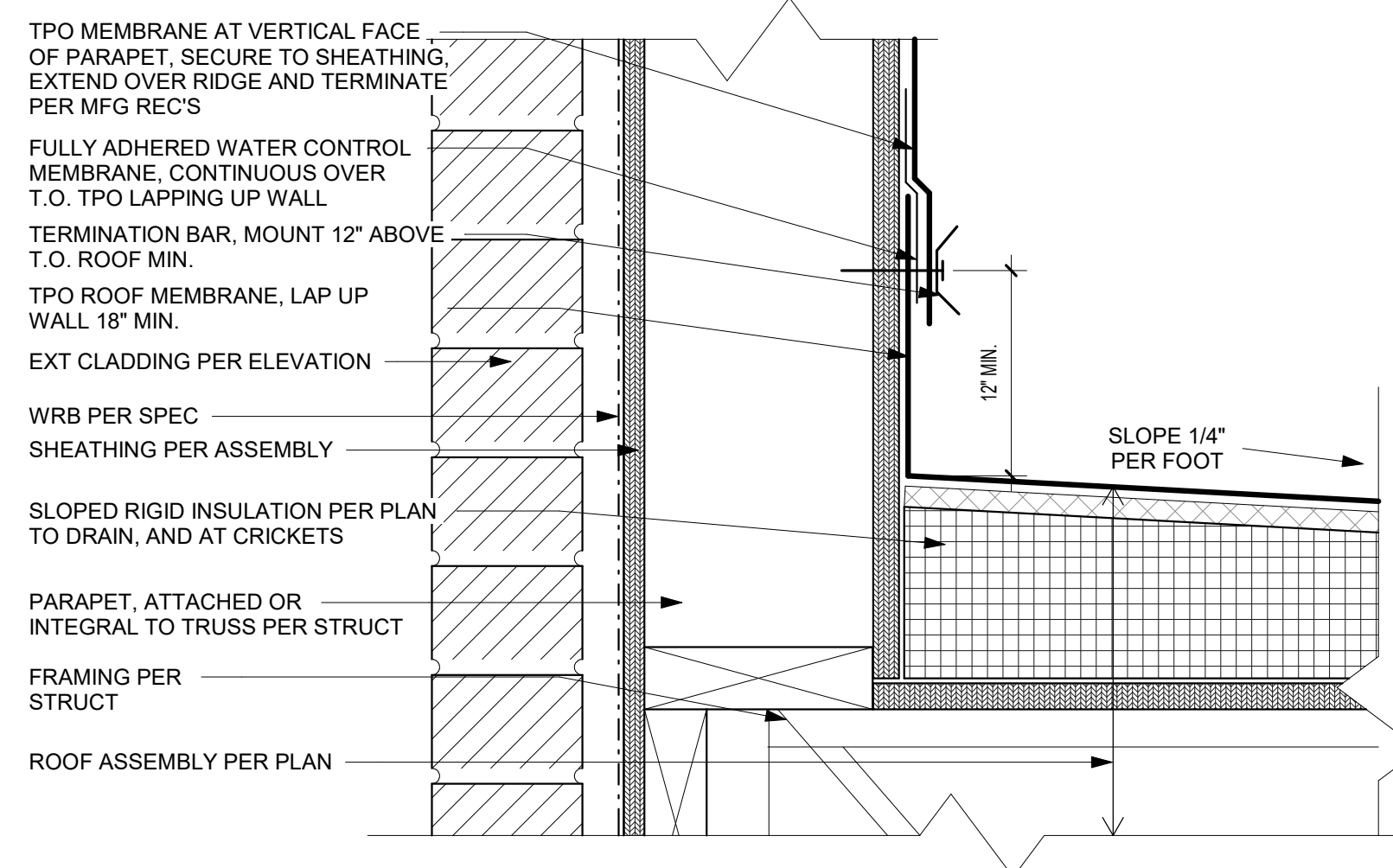
REFERENCE G-003 FOR GENERAL NOTES



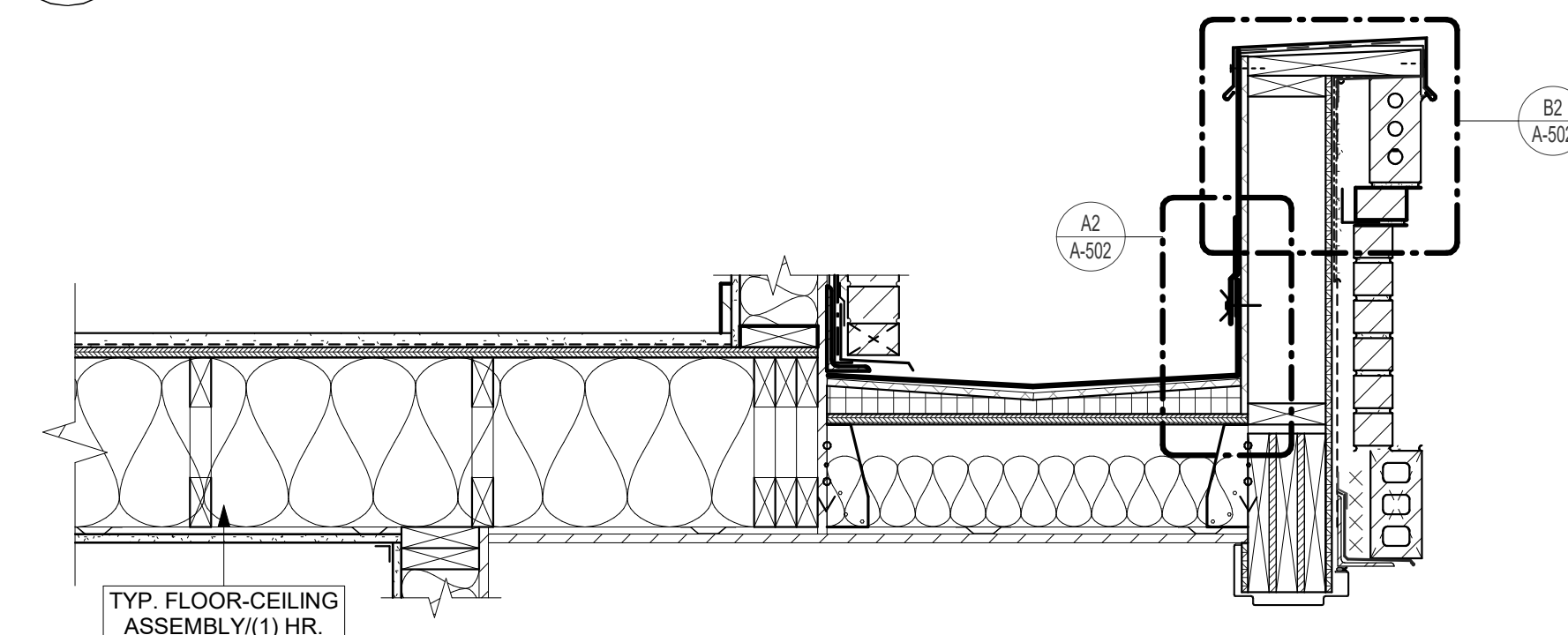
A4 ROOF - MECH UNIT ROOF SUPPORT BLOCKS
1 1/2" = 1'-0"



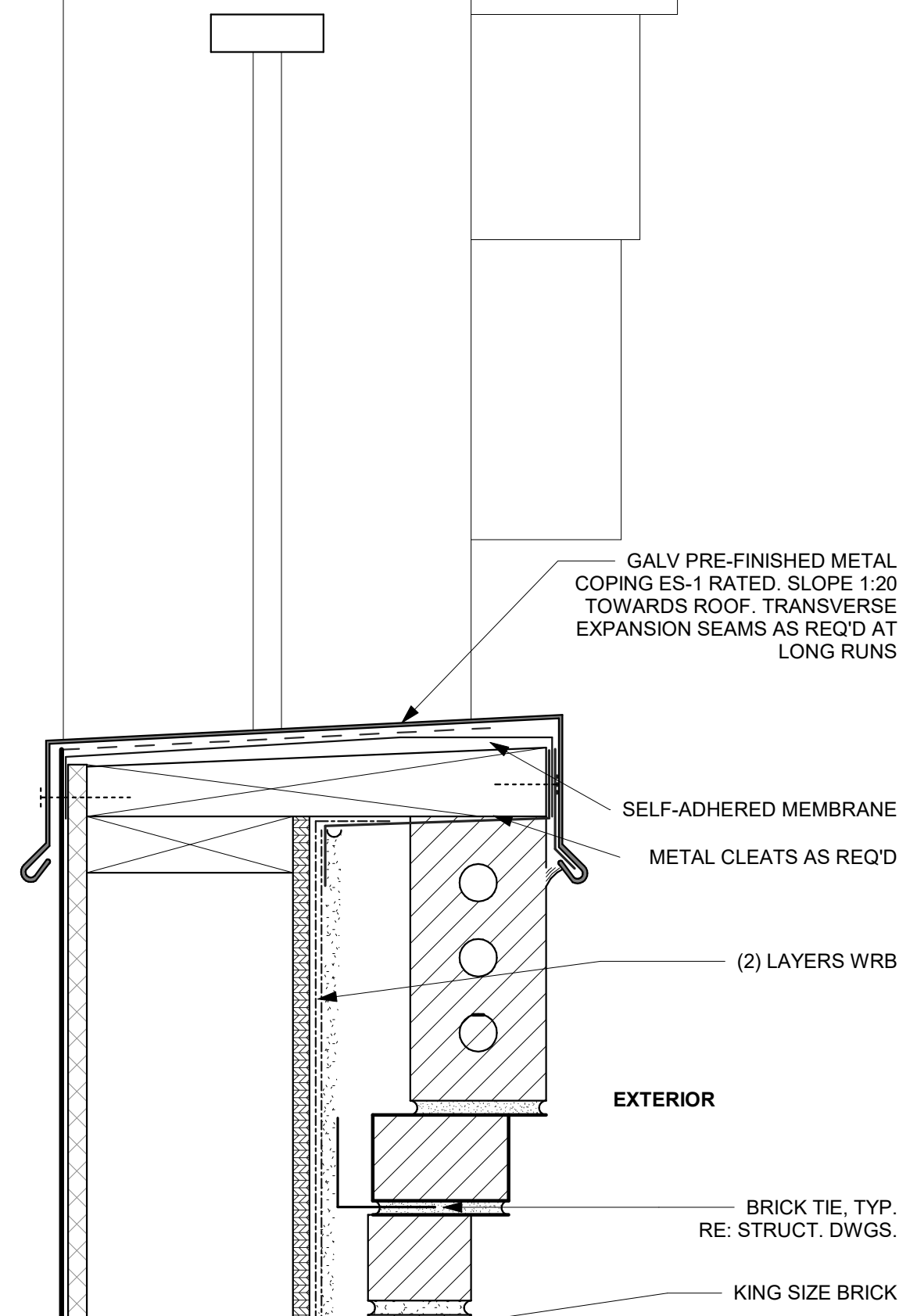
A3 PARAPET CAP @ BRICK - ALTERNATIVE
3" = 1'-0"



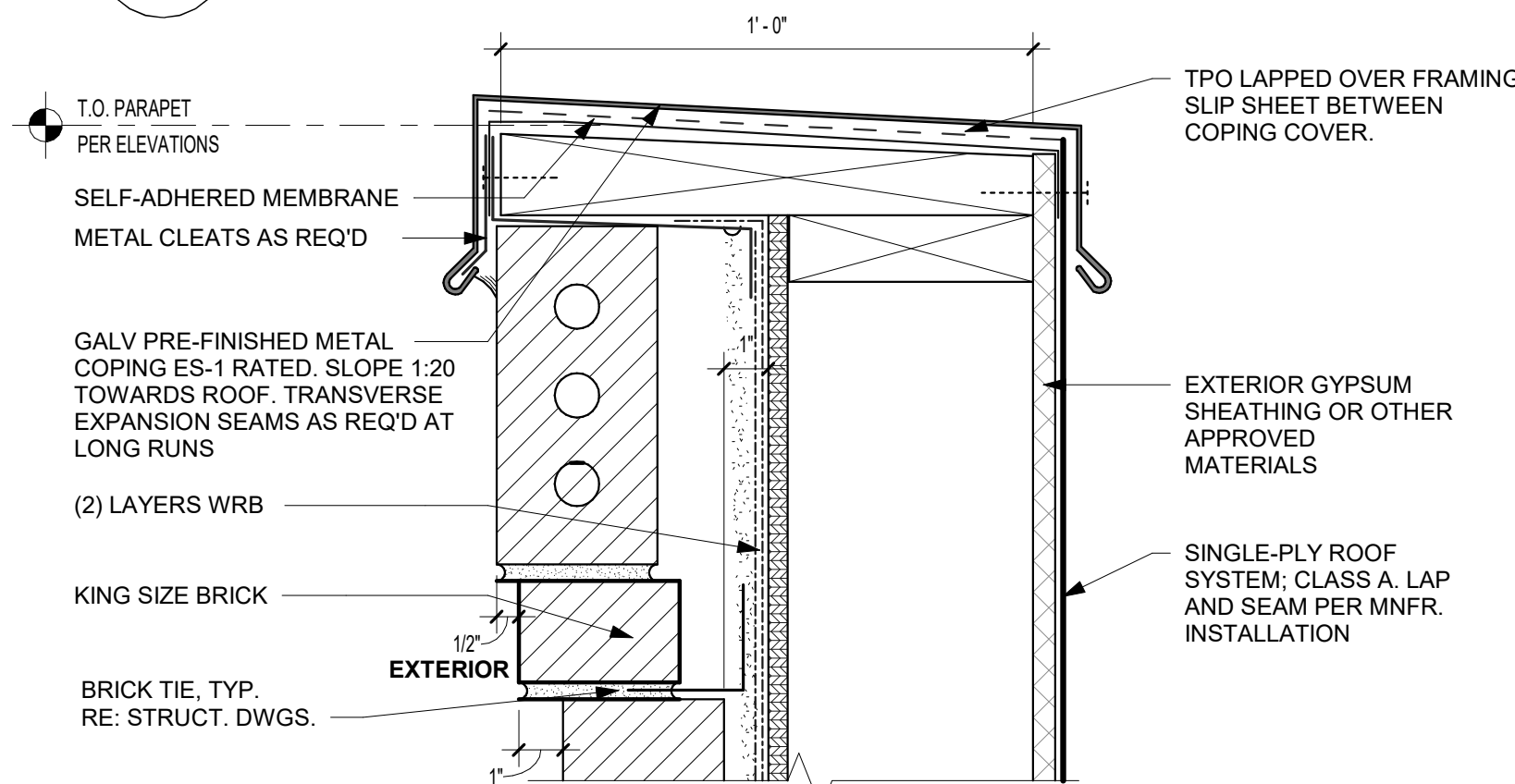
A2 ROOF - WOOD STUD - TPO PARAPET BASE AT WALL
3" = 1'-0"



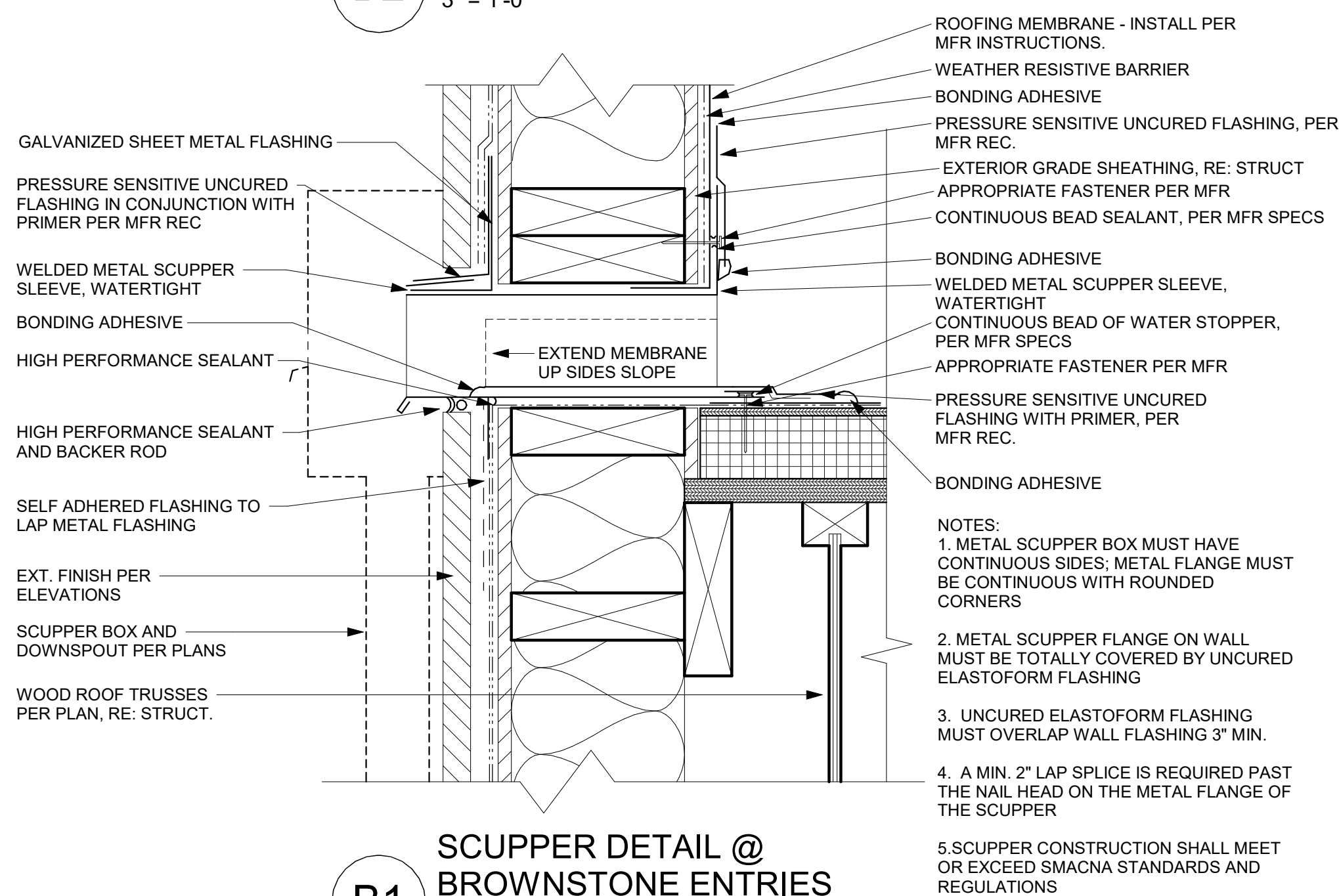
A1 BROWNSTONE ENTRY
1" = 1'-0"



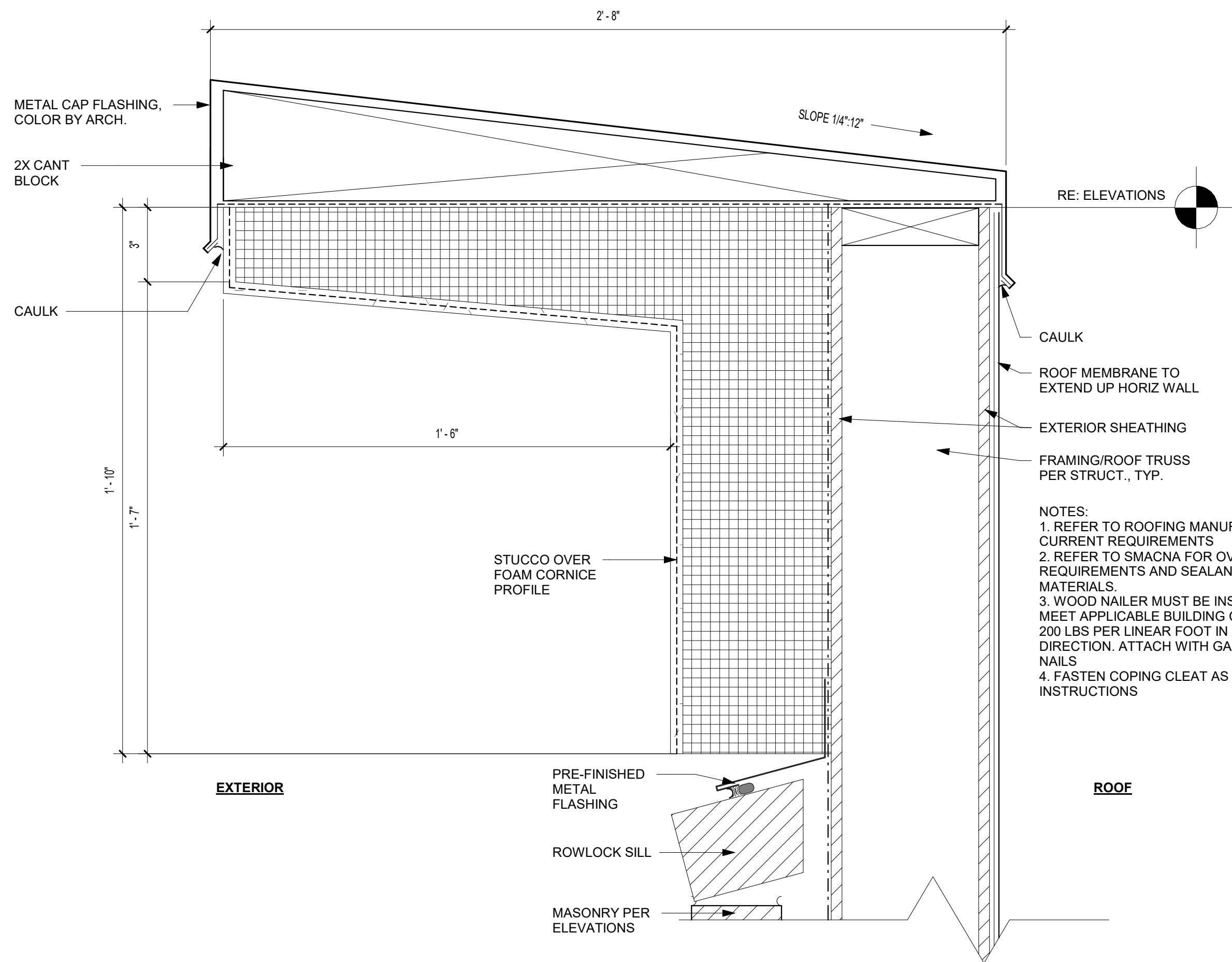
B3 PARAPET CAP @ BRICK W/ ATTACHED RAILING
3" = 1'-0"



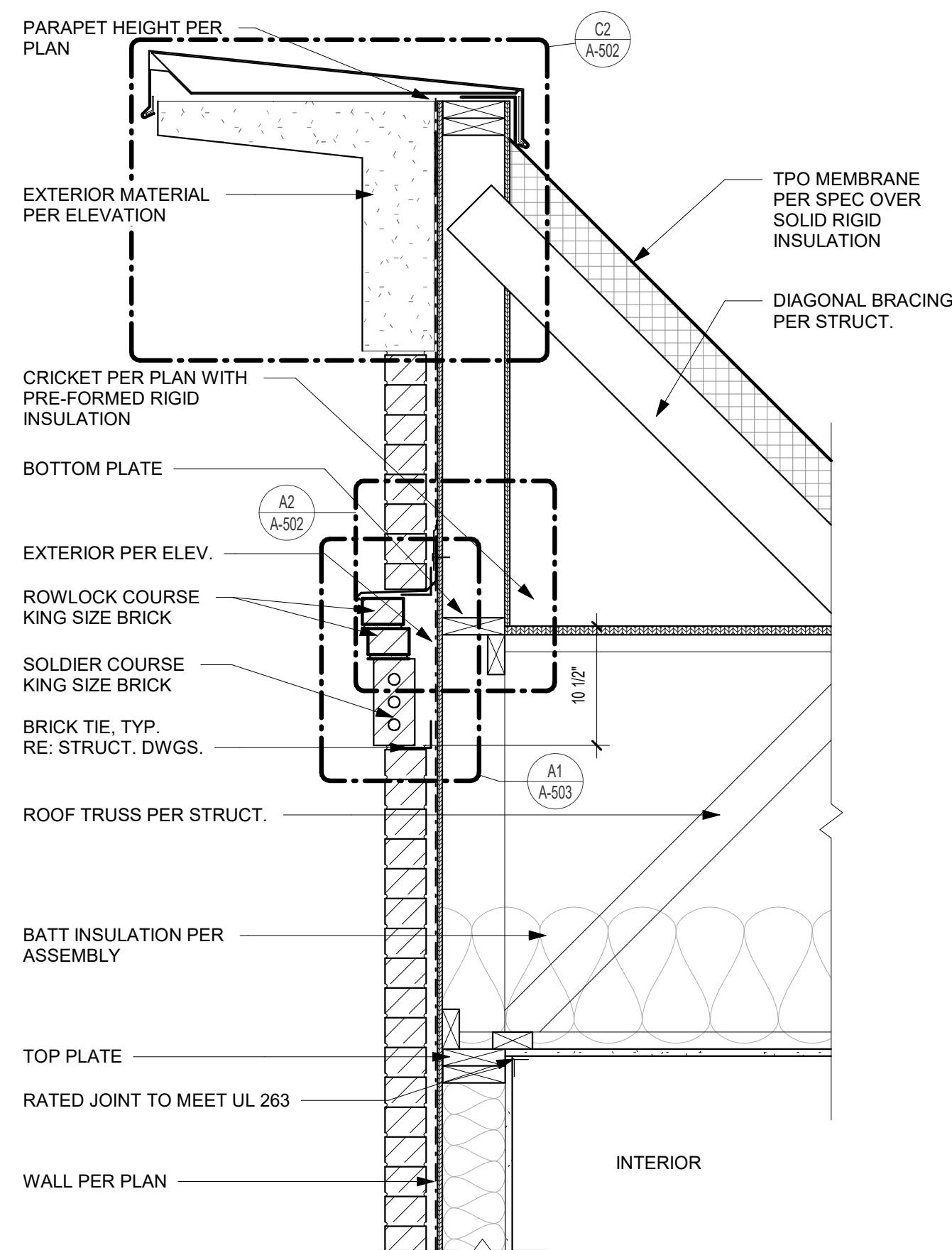
B2 PARAPET CAP @ BRICK
3" = 1'-0"



B1 SCUPPER DETAIL @ BROWNSTONE ENTRIES
3" = 1'-0"



C2 PARAPET CORNICE
3" = 1'-0"



C1 PARAPET (SECTION)
1" = 1'-0"

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DISCOVERY PARK - LOT #10-A

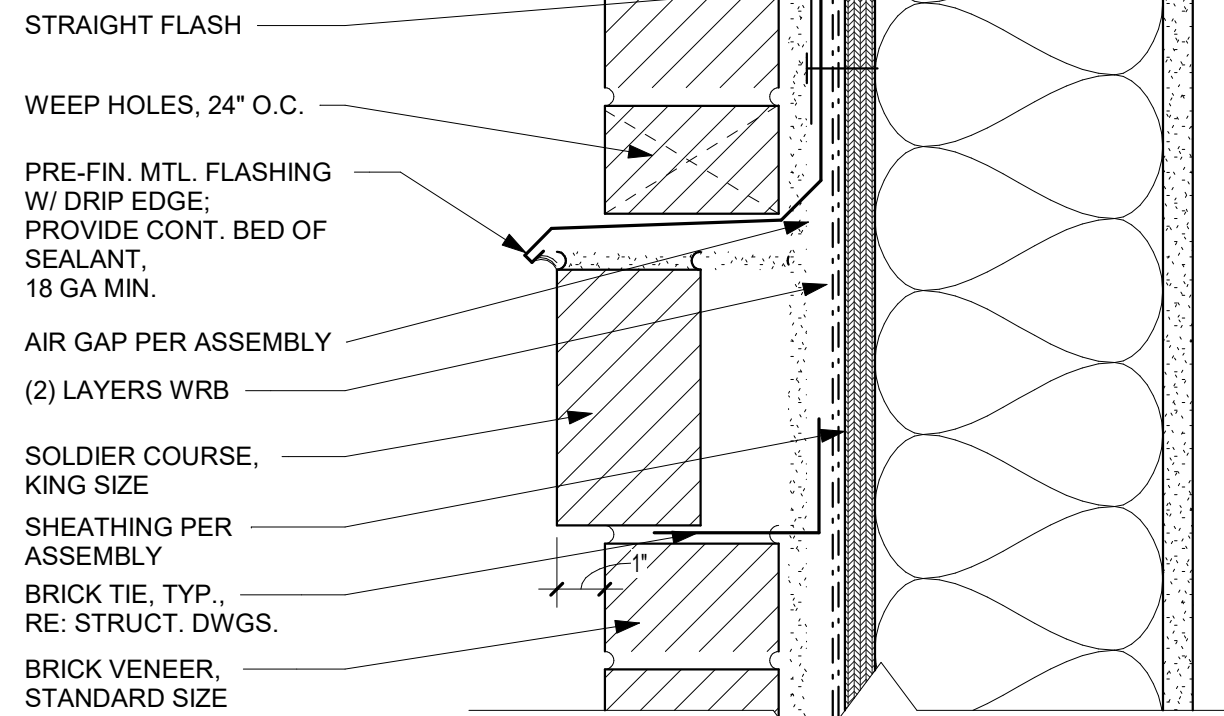
SHEET TITLE
BRICK PENETRATION DETAILS

PROJECT NUMBER: 24004

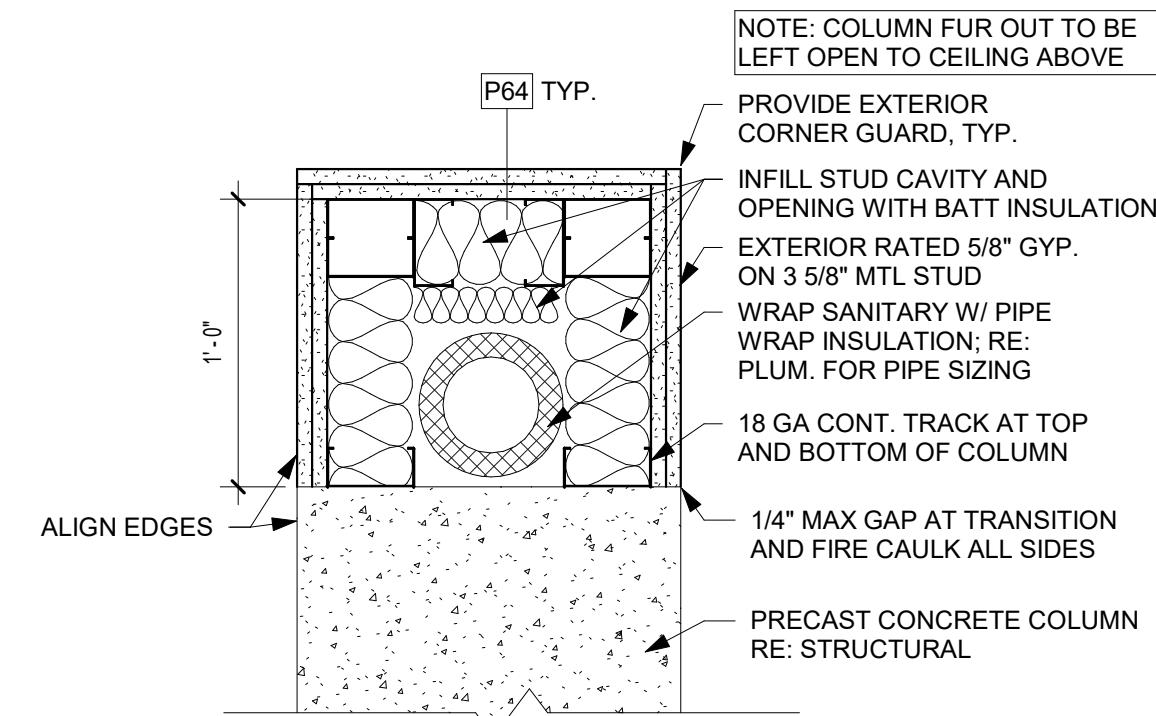
SHEET NUMBER:

A-503

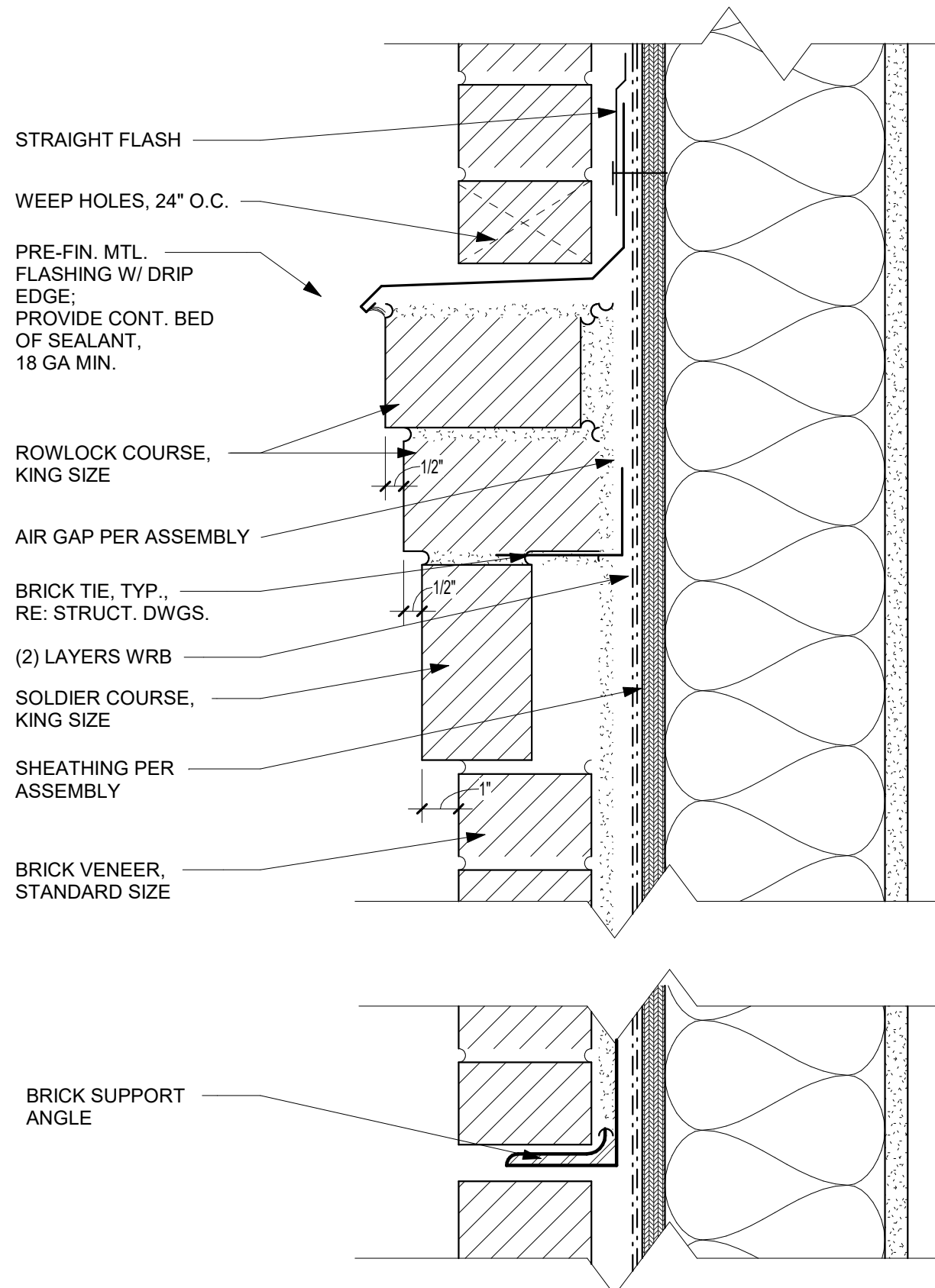
REFERENCE G-003 FOR GENERAL NOTES



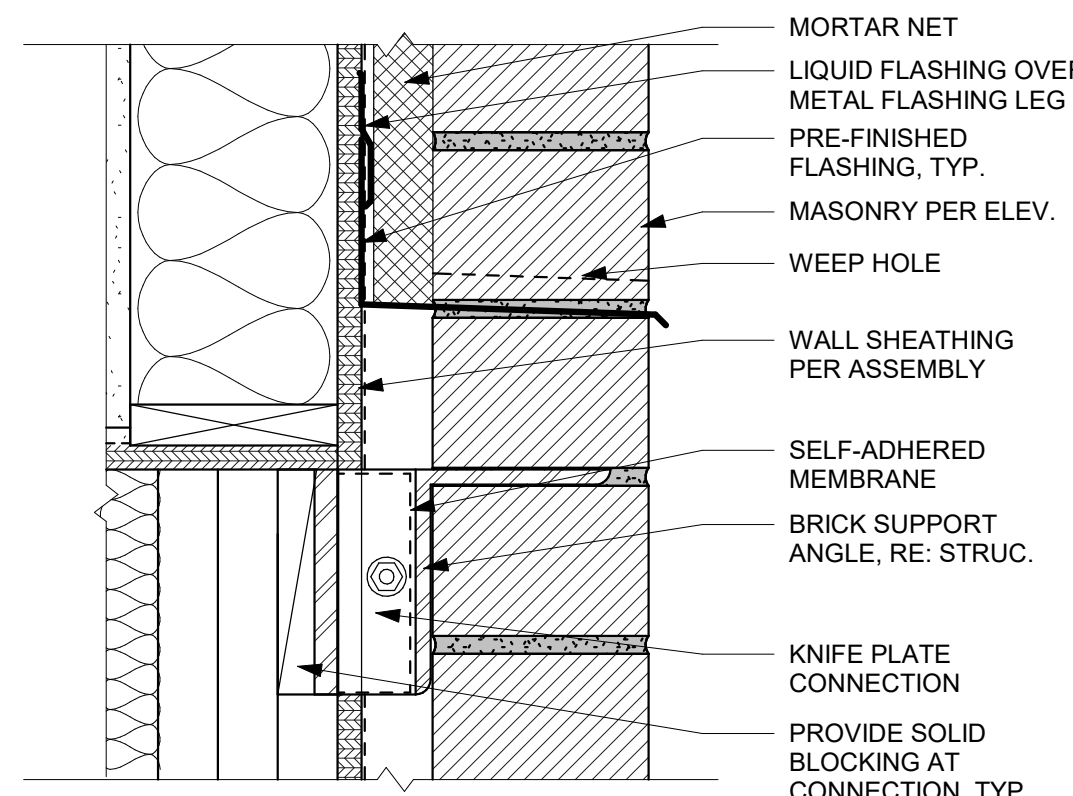
A3 SOLDIER BRICK BAND DETAIL
3" = 1'-0"



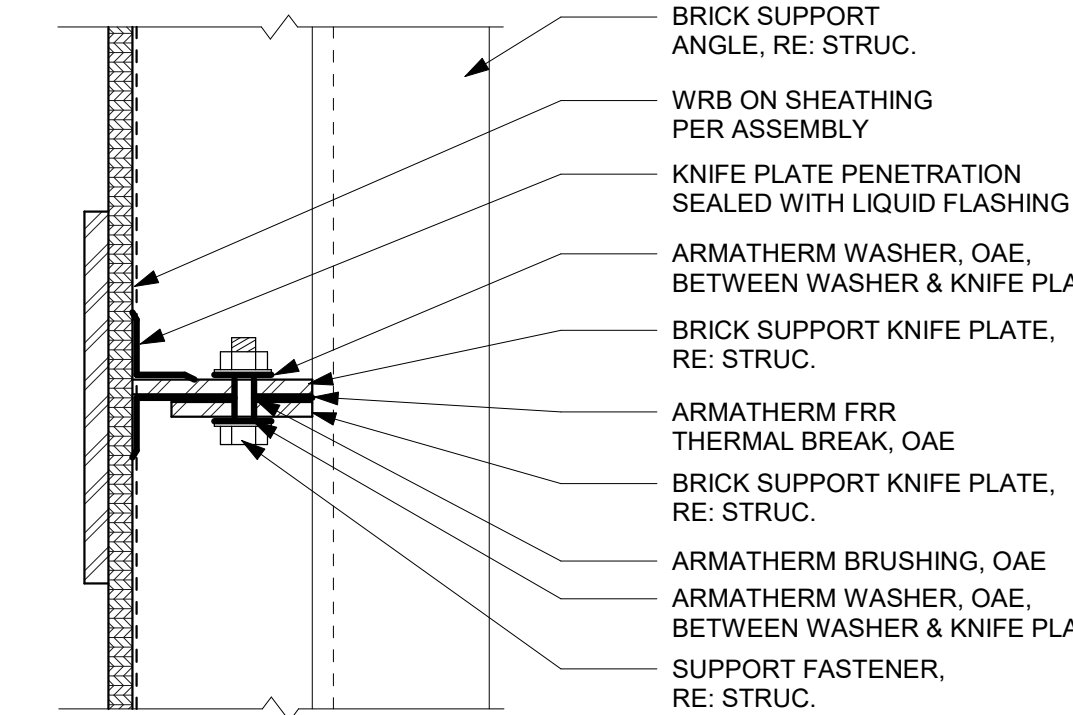
A2 FUR OUT AT COLUMN (PLAN)
1 1/2" = 1'-0"



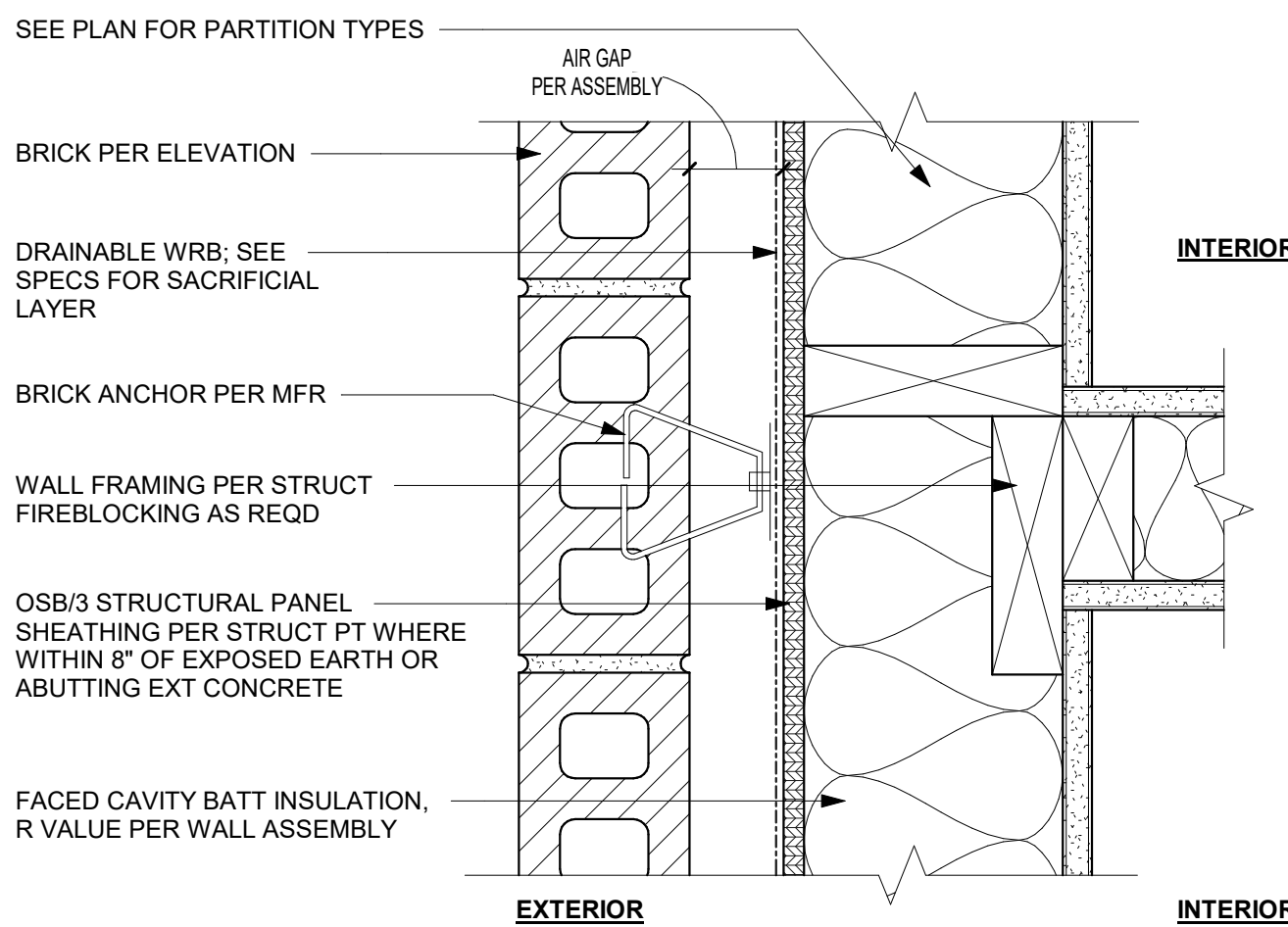
A1 WALL/EXTERIOR - BRICK BAND DETAIL
3" = 1'-0"



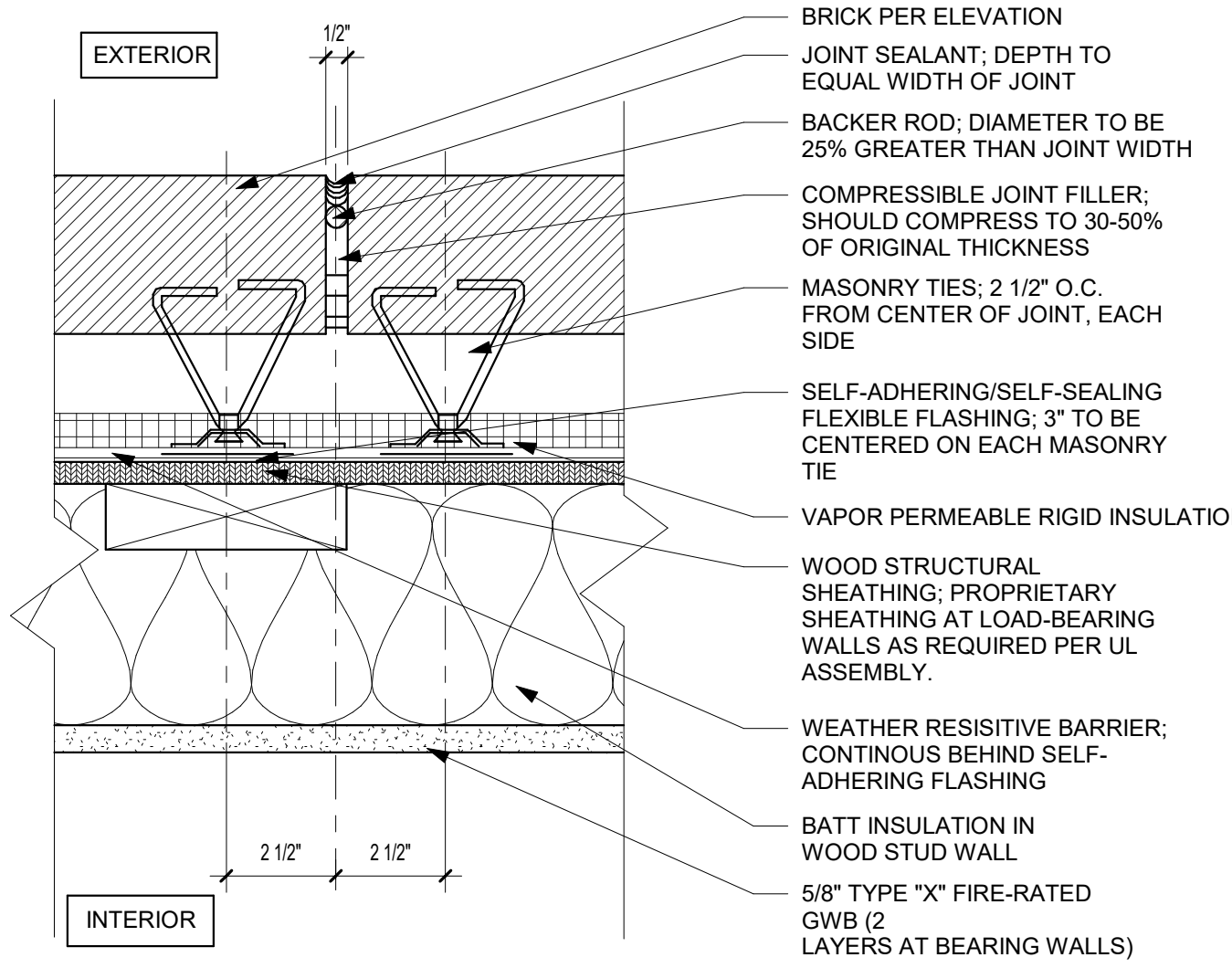
B4 BRICK SUPPORT ANGLE
N.T.S.



B3 KNIFE PLATE CONNECTION
N.T.S.

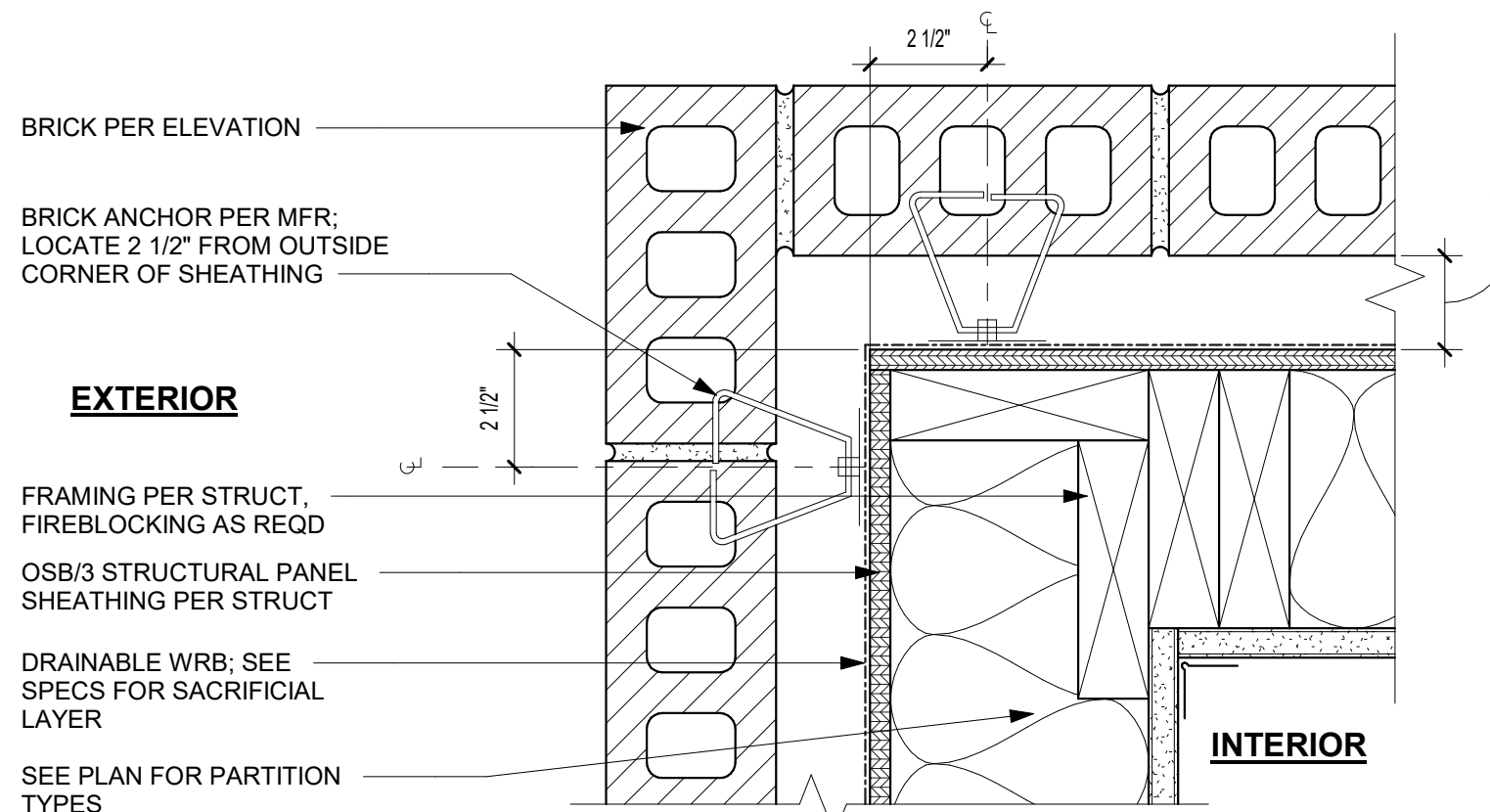


B2 BRICK - INTERIOR PARTITION TO EXTERIOR WALL (PLAN)
3" = 1'-0"

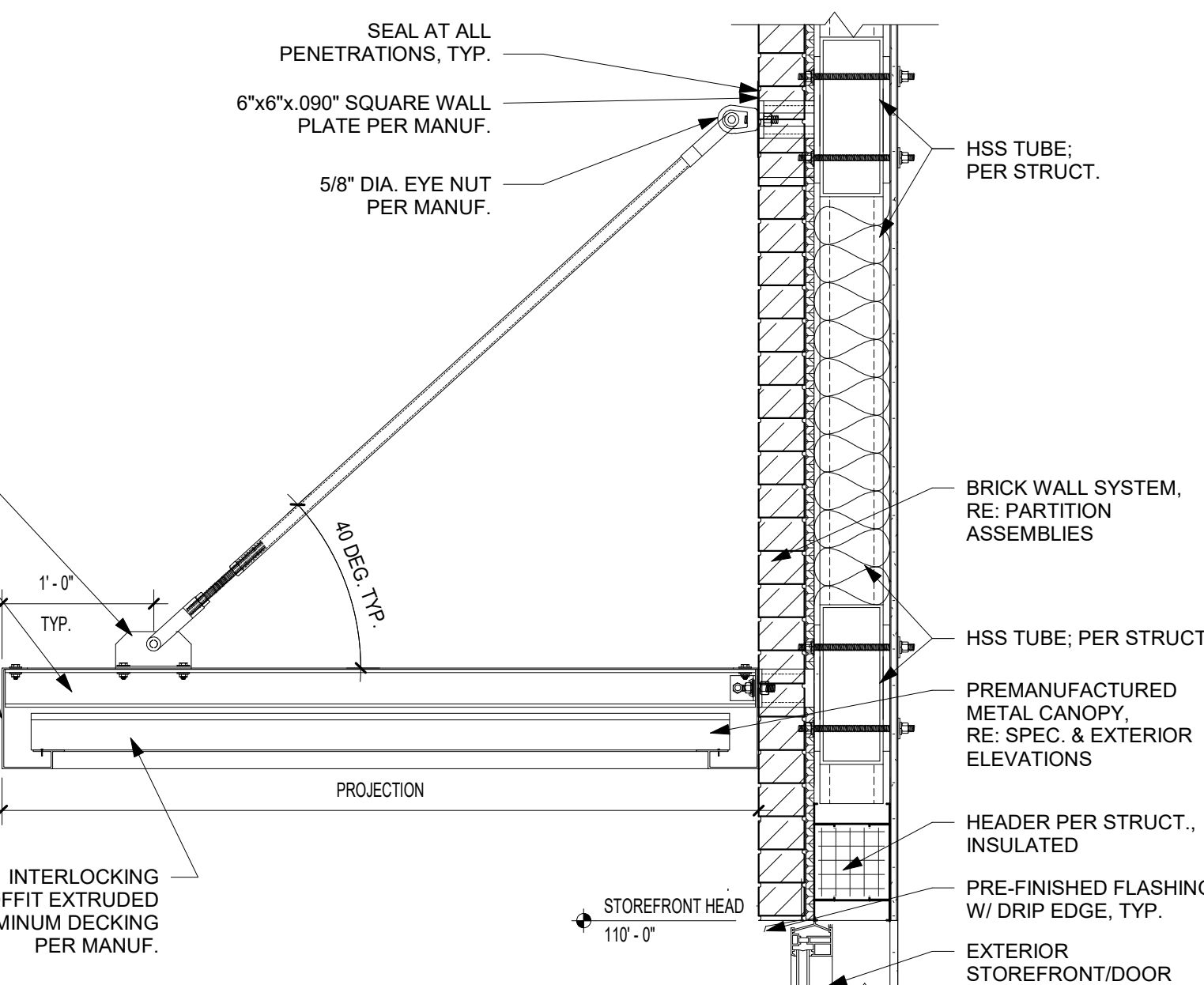


B1 WALL/EXTERIOR - WOOD STUD/BRICK @ VERTICAL CONTROL JOINT (PLAN)
3" = 1'-0"

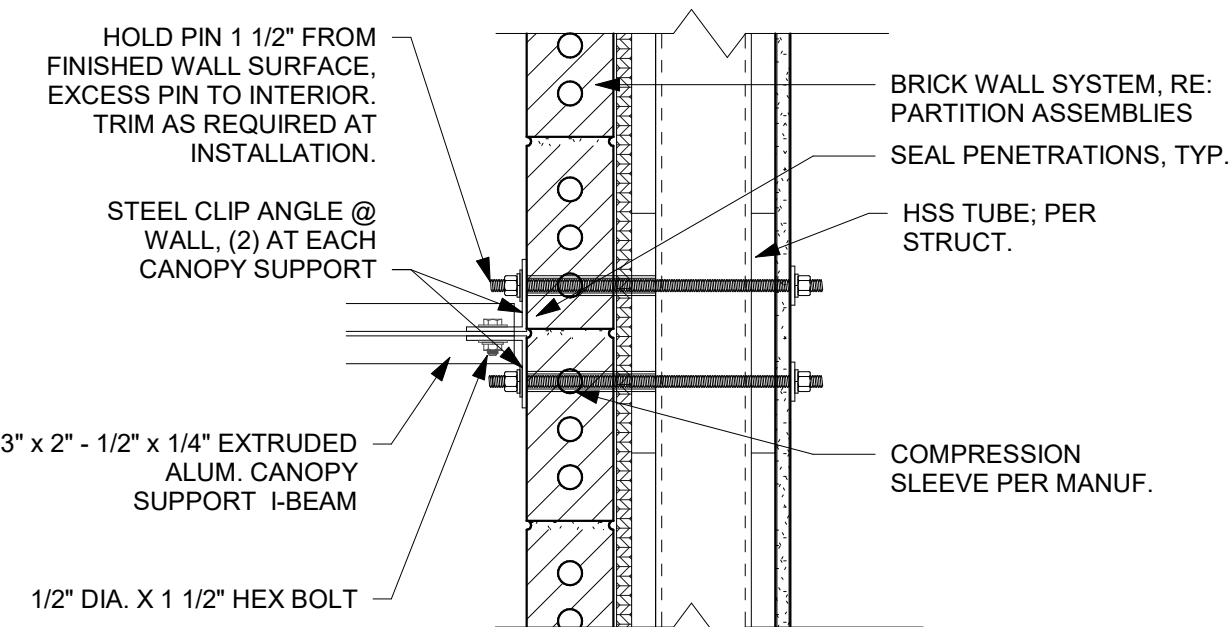
C4 FRONT CANOPY COLUMN DETAIL
3/4" = 1'-0"



C3 BRICK - OUTSIDE CORNER (PLAN)
3" = 1'-0"

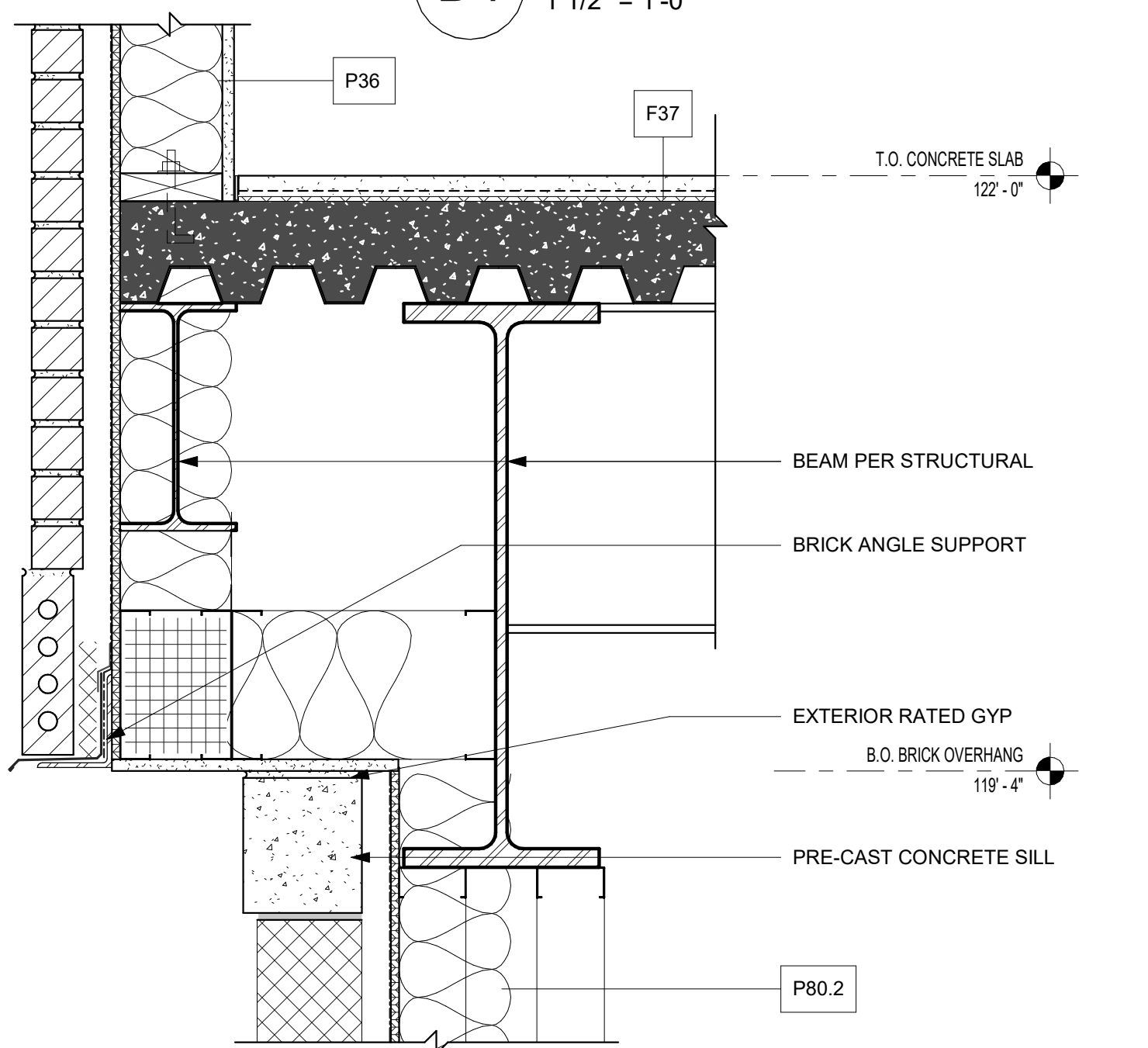


C2 CANOPY @ STEEL (SECTION)
1" = 1'-0"

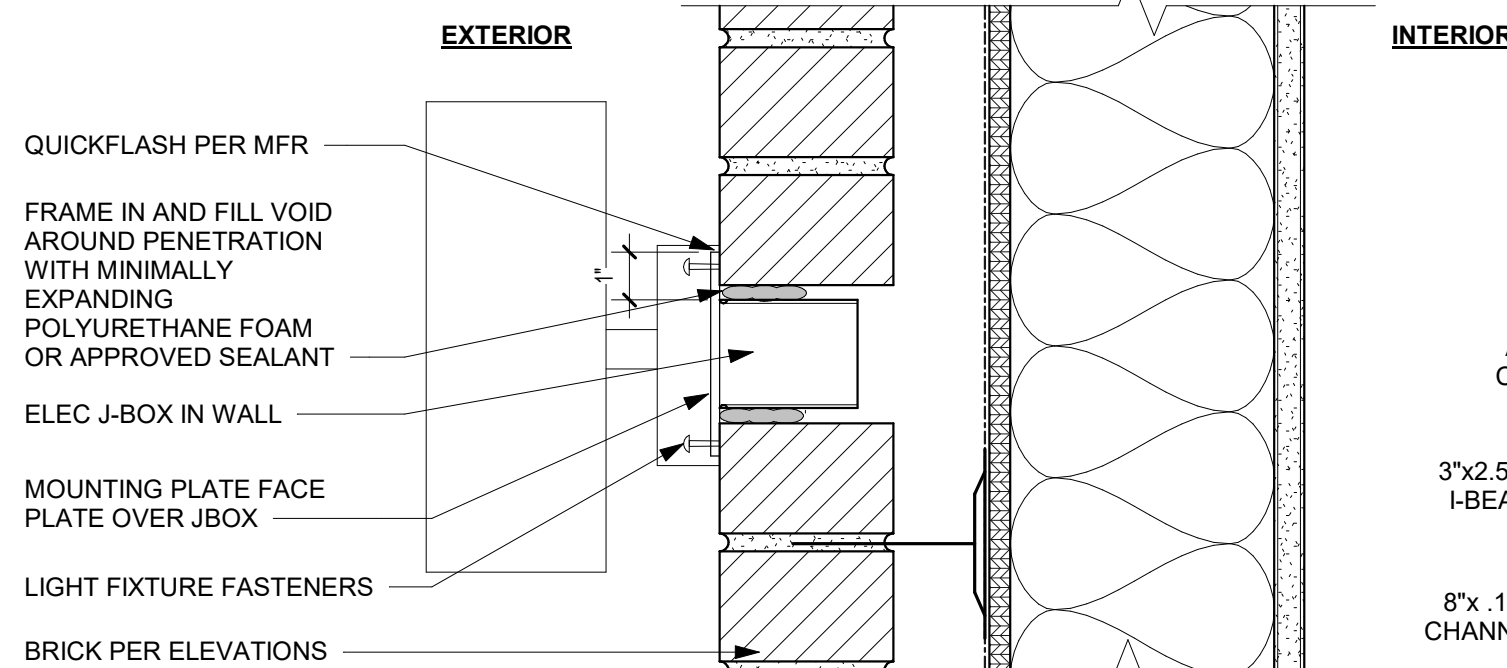


C1 CANOPY DETAIL @ STEEL (PLAN)
1 1/2" = 1'-0"

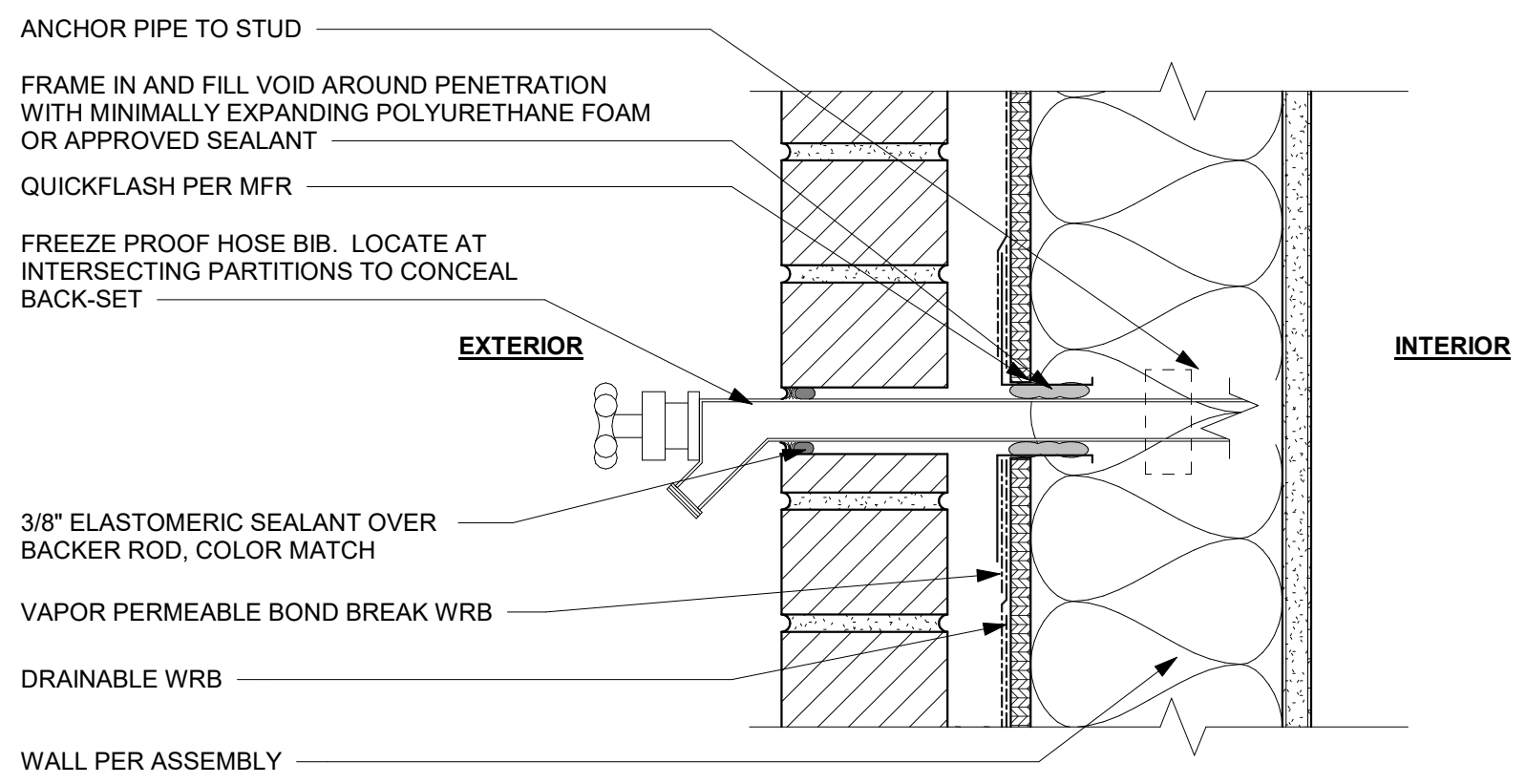
D4 BRICK - DECORATIVE DETAIL (PLAN)
1 1/2" = 1'-0"



D3 BRICK OVERHANG OVER STONE BASE
1 1/2" = 1'-0"



D2 FIXTURE PENETRATION
3" = 1'-0"

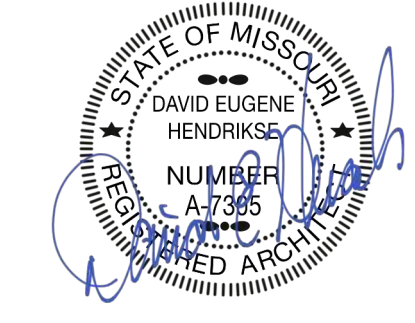


D1 HOSEBIB PENETRATION
3" = 1'-0"

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DISCOVERY PARK - LOT #10-A

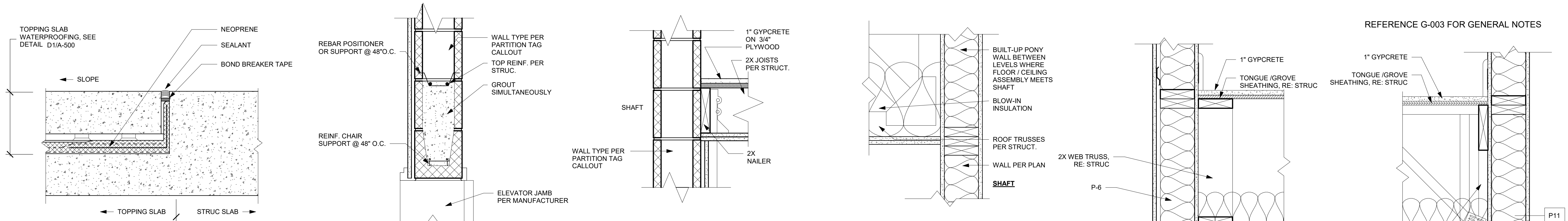
SHEET TITLE
ELEVATOR DETAILS

PROJECT NUMBER: 24004

SHEET NUMBER:

A-504

REFERENCE G-003 FOR GENERAL NOTES



F4 TOPPING SLAB TRANSITION
N.T.S.

E4 ELEVATOR DOOR HEAD DETAIL
1 1/2" = 1'-0"

D4 ELEVATOR SHAFT DETAIL
1 1/2" = 1'-0"

C4 ELEVATOR - WOOD/SHAFT @ T.O.
ELEVATOR SHAFT
1 1/2" = 1'-0"

B4 ELEVATOR SHAFT DETAIL
1 1/2" = 1'-0"

A4 ELEVATOR SHAFT DETAIL
1 1/2" = 1'-0"

E3 ELEVATOR PIT WALL TO SLAB
N.T.S.

D3 ELEVATOR SHAFT AT
THRESHOLD DETAIL
1 1/2" = 1'-0"

C3 ELEVATOR SHAFT THRESHOLD AT PIT
1 1/2" = 1'-0"

B3 ELEVATOR DOOR HEAD DETAIL
1 1/2" = 1'-0"

A2 ELEVATOR - CONC/PIT @ LADDER
(SECTION)
1/2" = 1'-0"

B2 ELEVATOR SHAFT @ THRESHOLD
DETAIL
1 1/2" = 1'-0"

E2 SUBGRADE CONCRETE WALL
N.T.S.

D2 ELEVATOR PIT SLAB TO WALL
TRANSITION
N.T.S.

C2 WATERPROOFING TERMINATION
N.T.S.

B1 ELEVATOR - CONC/PIT @ LADDER
(ELEVATION)
1/2" = 1'-0"

A1 ELEVATOR - CONC/PIT (SECTION)
1/2" = 1'-0"

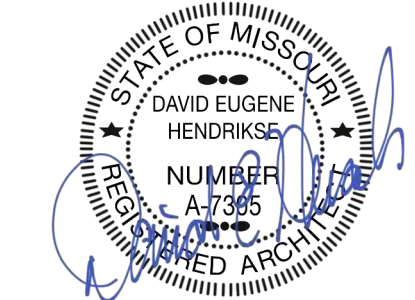
C1 ELEVATOR - CONC/PIT @ SUMP
1 1/2" = 1'-0"

E1 ELEVATOR PIT WATERPROOFING
N.T.S.

12/10/2024 12:54:44 PM
C:\Users\adam\OneDrive\Documents\24004\DWG\LOT10\BUSA_103.dwg (17502) x

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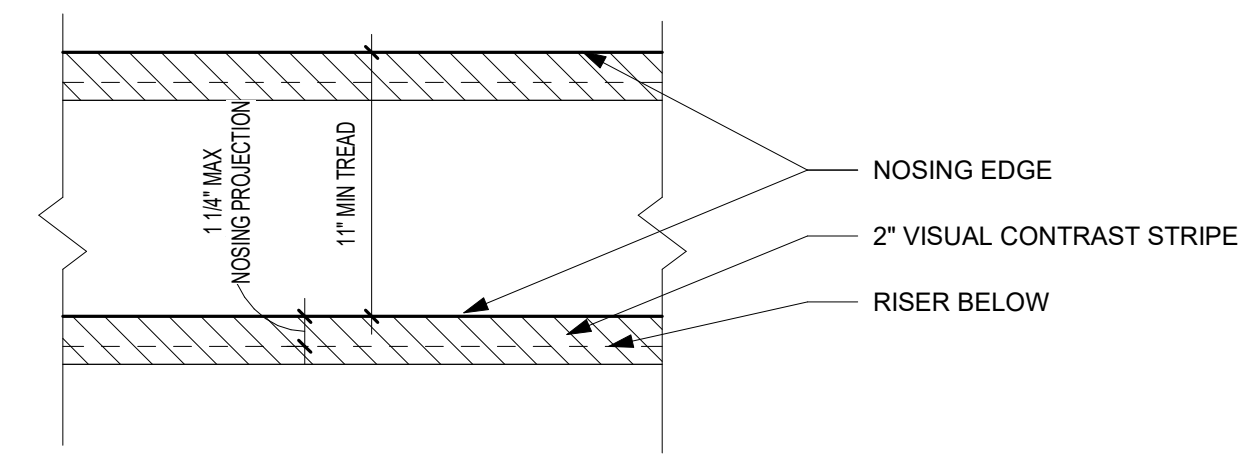
DISCOVERY PARK - LOT #10-A

LEE'S SUMMIT, MO

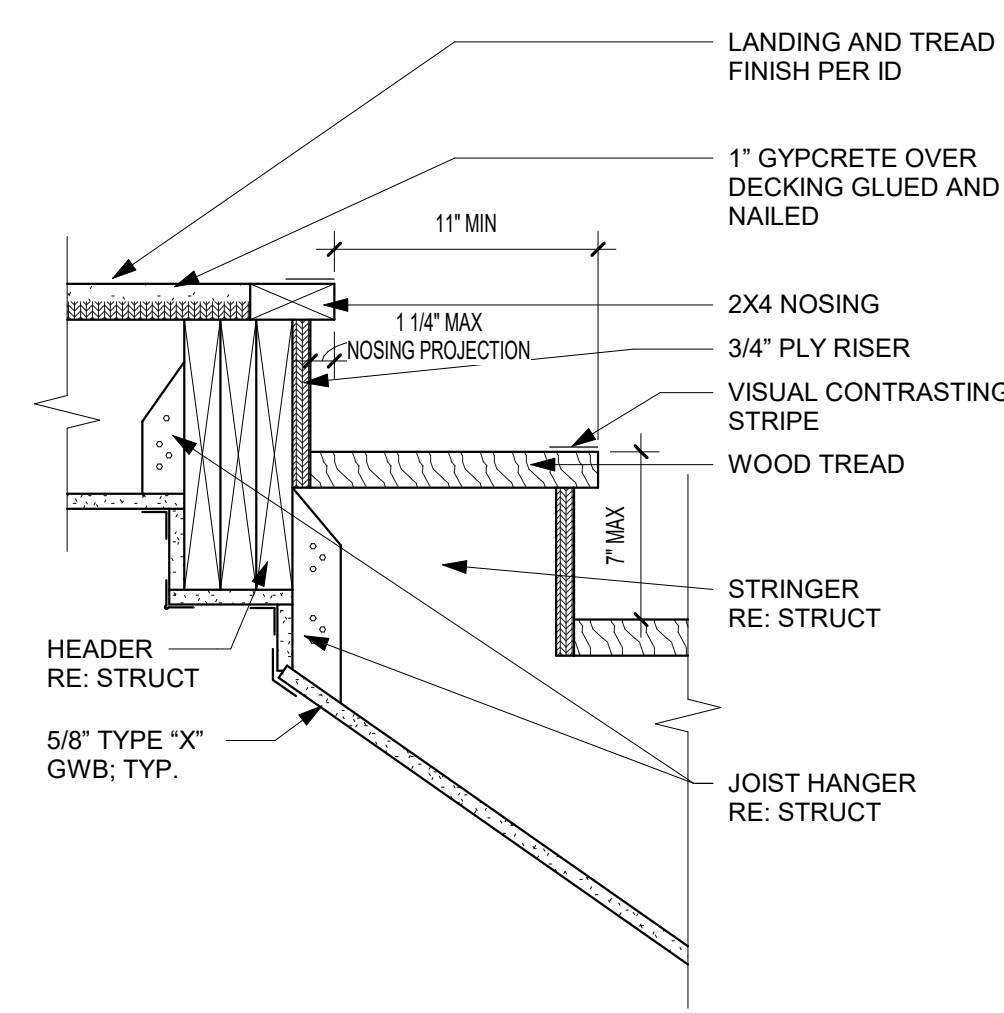
SHEET TITLE
STAIR DETAILS
PROJECT NUMBER: 24004
SHEET NUMBER:

A-505

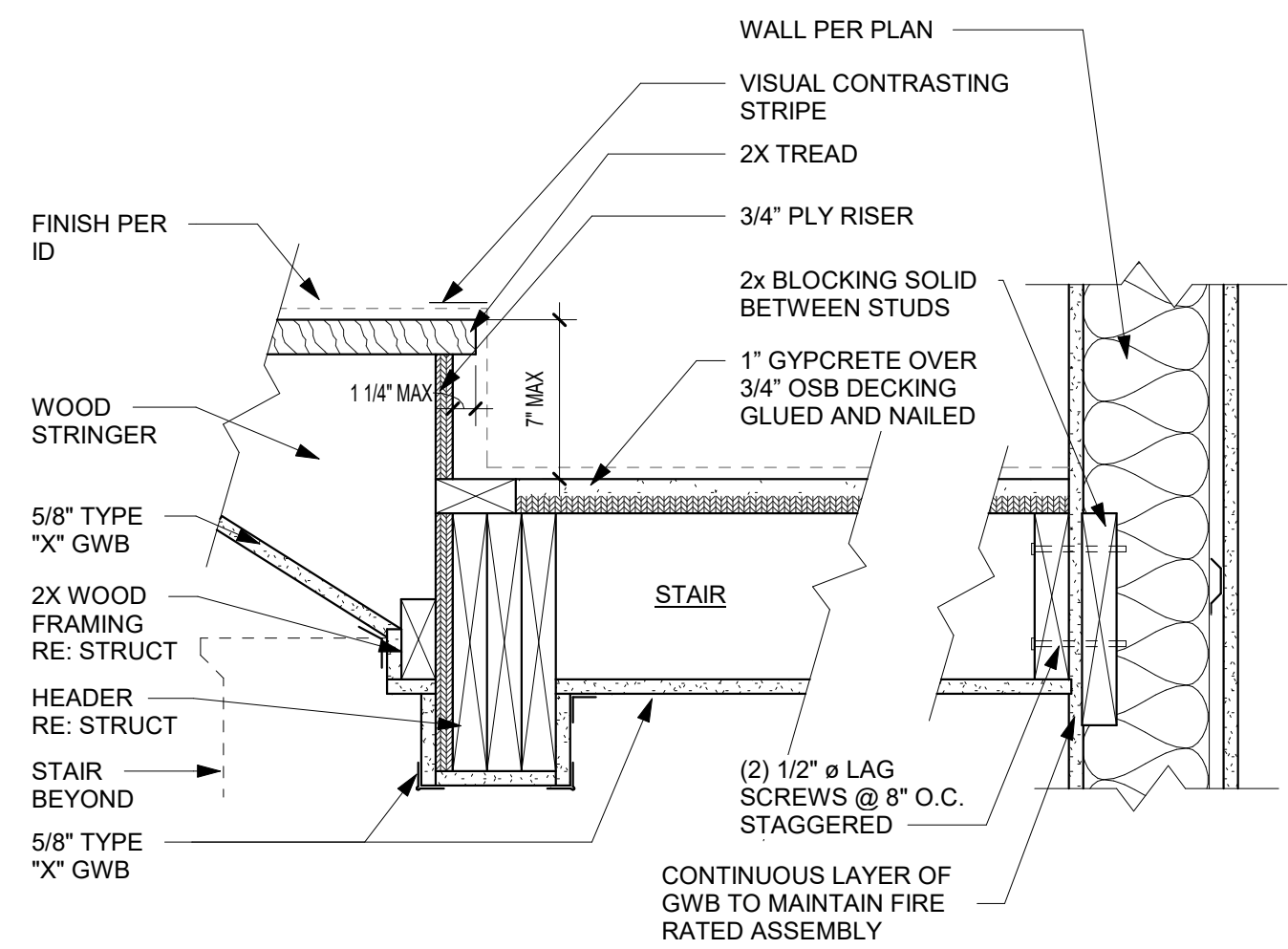
REFERENCE G-003 FOR GENERAL NOTES



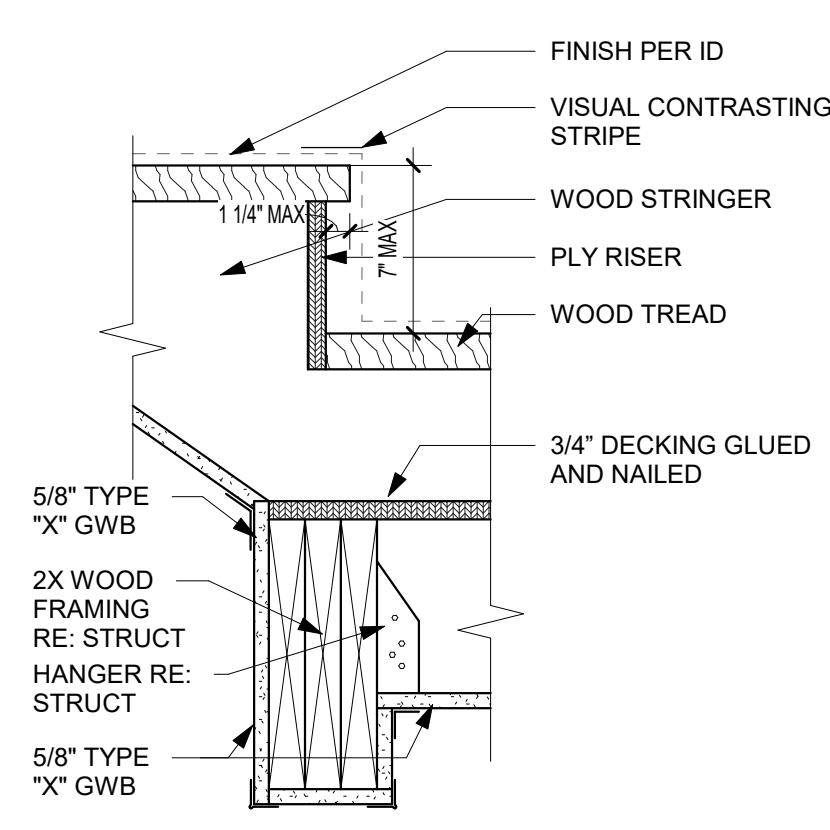
A4 STAIR - (WOOD) - PLAN W. VISUAL CONTRAST
1 1/2" = 1'-0"



A3 STAIR - (WOOD) TOP @ FLOOR
1 1/2" = 1'-0"



A2 STAIR - (WOOD) BASE @ PLATFORM
1 1/2" = 1'-0"

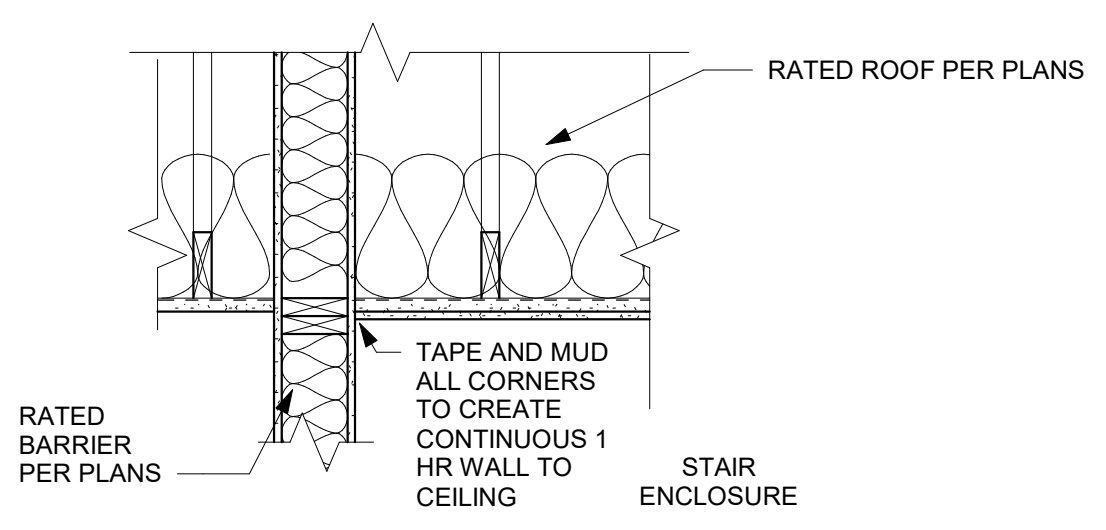


A1 STAIR - (WOOD) BASE @ LANDING
1 1/2" = 1'-0"

NOTE: Floor identification signs.
-A sign shall be provided at each floor landing in exit enclosures designating the floor level, the terminus of the top and bottom of the exit enclosure and the identification of the stair.
- story number
- the direction to the exit discharge
- and the availability of roof access from the enclosure for the fire department.

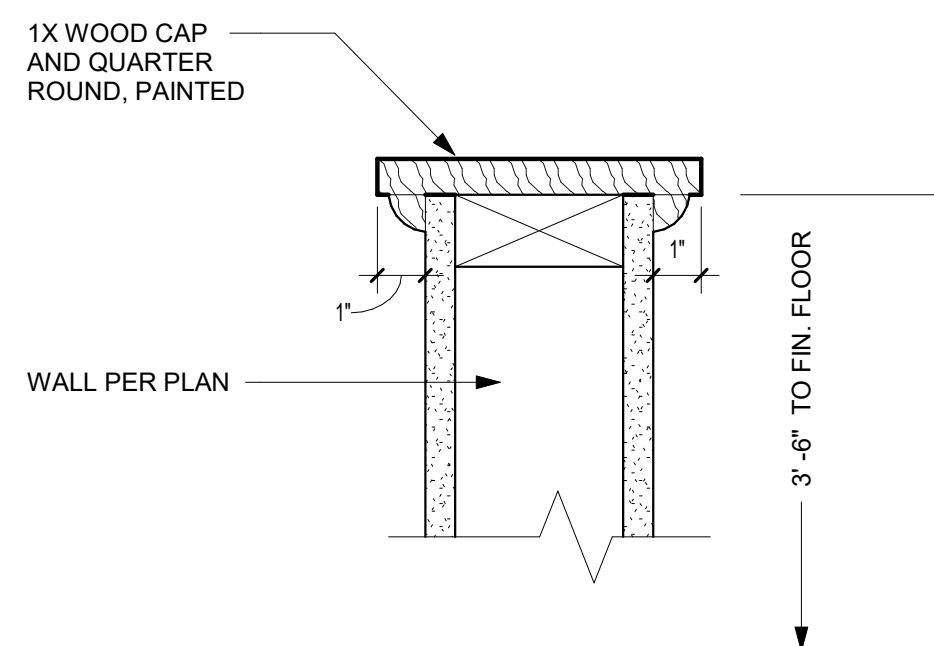
- Located 5 feet above the floor landing in a position that is readily visible when the doors are in the open and closed positions.
- Floor level identification signs in tactile characters complying with ICC A117.1 shall be located at each floor level landing adjacent to the door leading from the enclosure into the corridor to identify the floor level.

NOTE:
Stairway identification signs shall comply with all of the following requirements:
1. The signs shall be a minimum size of 18 inches by 12 inches.
2. The letters designating the identification of the stair enclosure shall be a minimum of 1 1/2 inches (38 mm) in height.
3. The number designating the floor level shall be a minimum of 5 inches (127 mm) in height and located in the center of the sign.
4. All other lettering and numbers shall be a minimum of 1 inch (25 mm) in height.
5. Characters and their background shall have a nonglare finish. Characters shall contrast with their background, with either light characters on a dark background or dark characters on a light background.

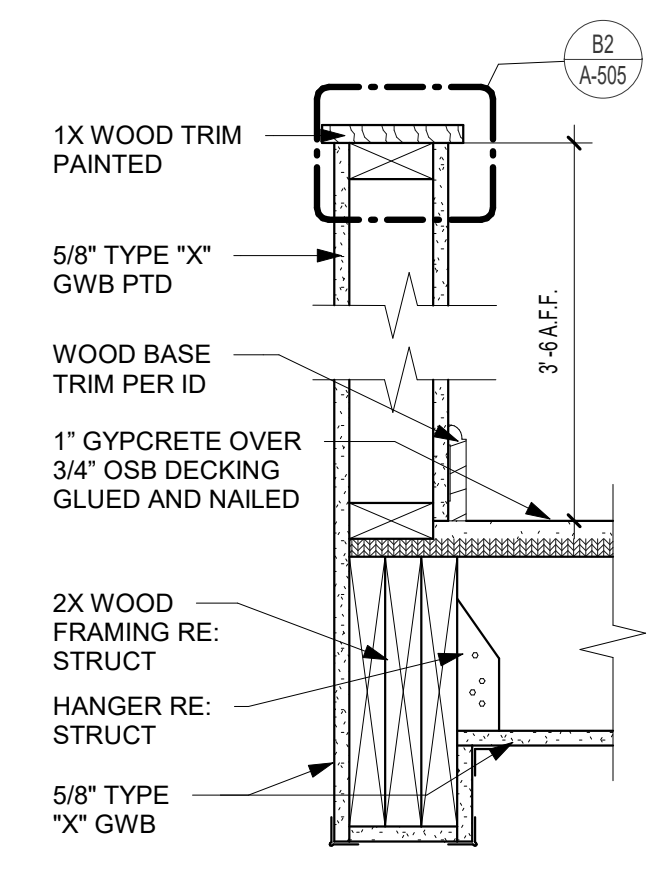


STAIR ENCAPSULATION - 1 HR:
(2) LAYERS 5/8" TYPE "X" GWB. TO MEET IBC CHAPTER 722.6.2. VERTICAL DRYWALL AT BARRIER TO EXTEND UP TO B.O. R/C ASSEMBLY DECK. STAIR ENCLOSURE TO BE 1 HR RATED, CONTINUOUSLY.

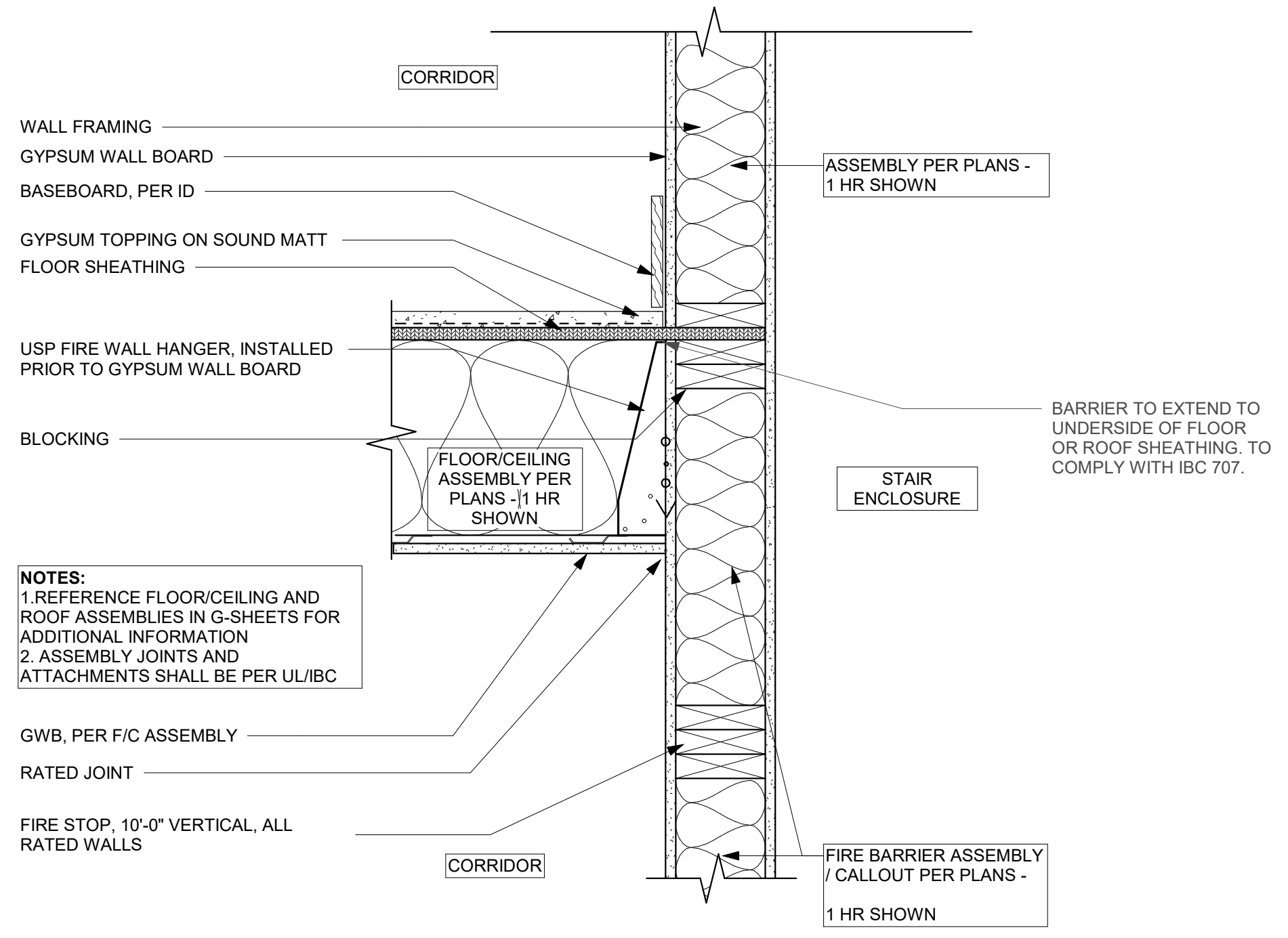
B3 STAIR - WOOD FRAMED RATED CEILING (SECTION)
3/4" = 1'-0"



B2 STAIR - WOOD FRAMED KNEE WALL TOP
3" = 1'-0"



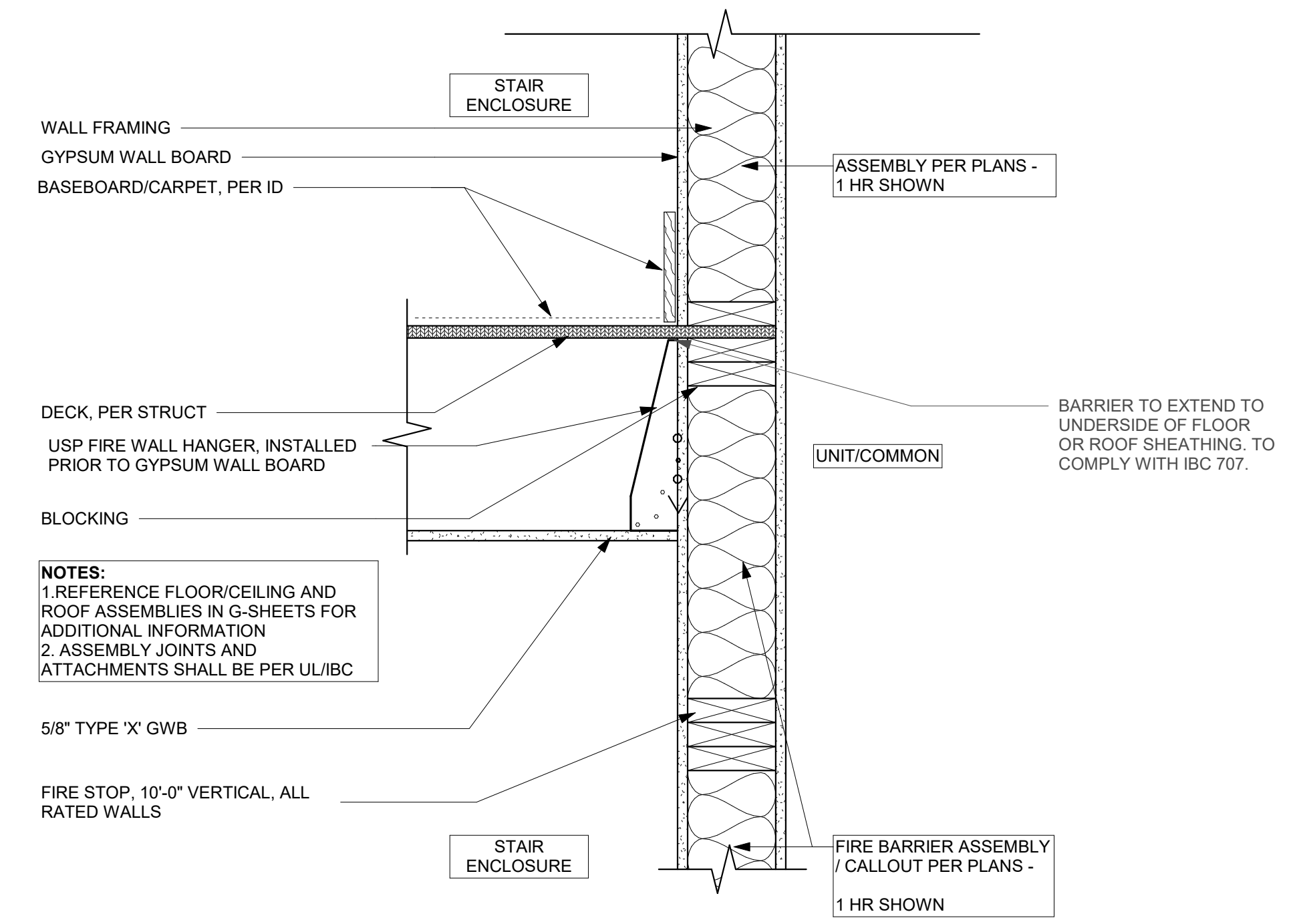
B1 STAIR - WOOD FRAMED KNEE WALL
1 1/2" = 1'-0"



NOTES:
1. REFERENCE FLOOR/CEILING AND ROOF ASSEMBLIES IN G-SHEETS FOR ADDITIONAL INFORMATION
2. ASSEMBLY JOINTS AND ATTACHMENTS SHALL BE PER UL/IBC

GWb, PER F/C ASSEMBLY
RATED JOINT
FIRE STOP, 10'-0" VERTICAL, ALL RATED WALLS

C2 STAIR - WOOD FRAMED RATED WALL (SECTION) 1
1 1/2" = 1'-0"



NOTES:
1. REFERENCE FLOOR/CEILING AND ROOF ASSEMBLIES IN G-SHEETS FOR ADDITIONAL INFORMATION
2. ASSEMBLY JOINTS AND ATTACHMENTS SHALL BE PER UL/IBC

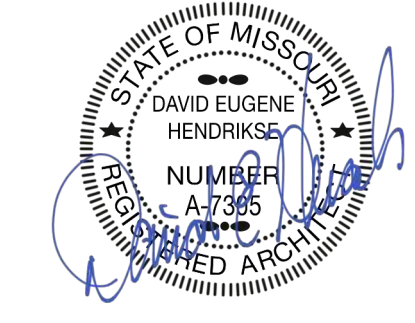
5/8" TYPE "X" GWB
FIRE STOP, 10'-0" VERTICAL, ALL RATED WALLS

C1 STAIR - WOOD FRAMED AT LANDING (SECTION)
1 1/2" = 1'-0"

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DISCOVERY PARK - LOT #10-A

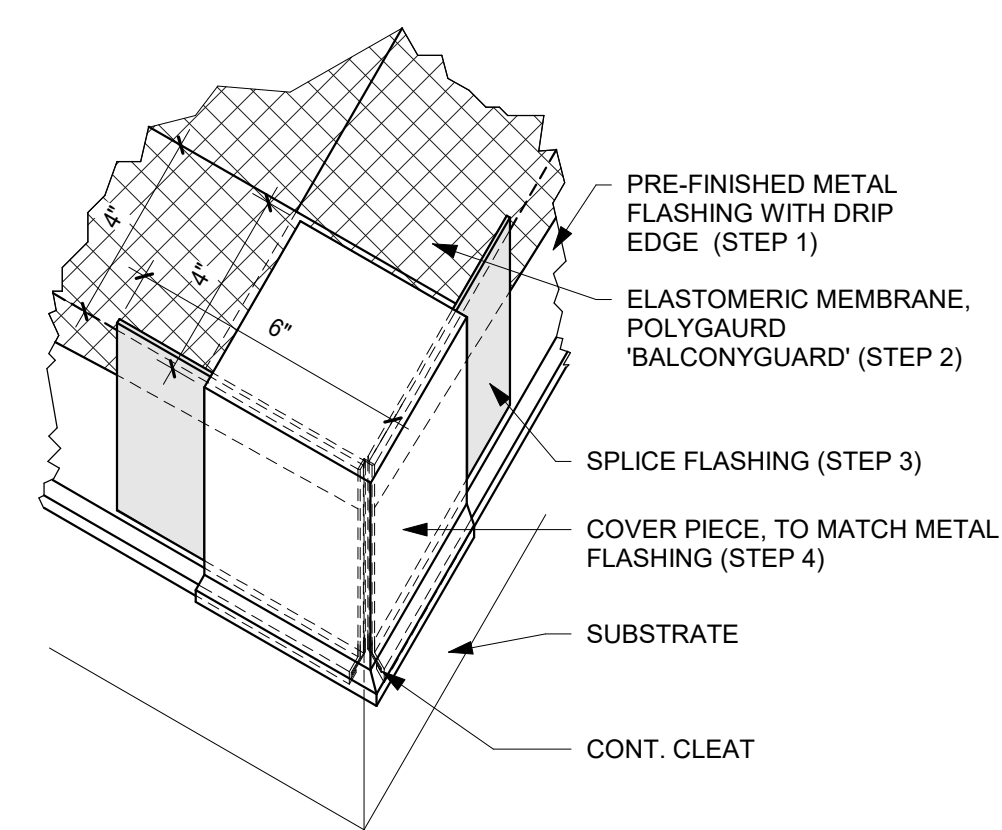
LEE'S SUMMIT, MO

SHEET TITLE
BALCONY WATERPROOFING
DETAILS

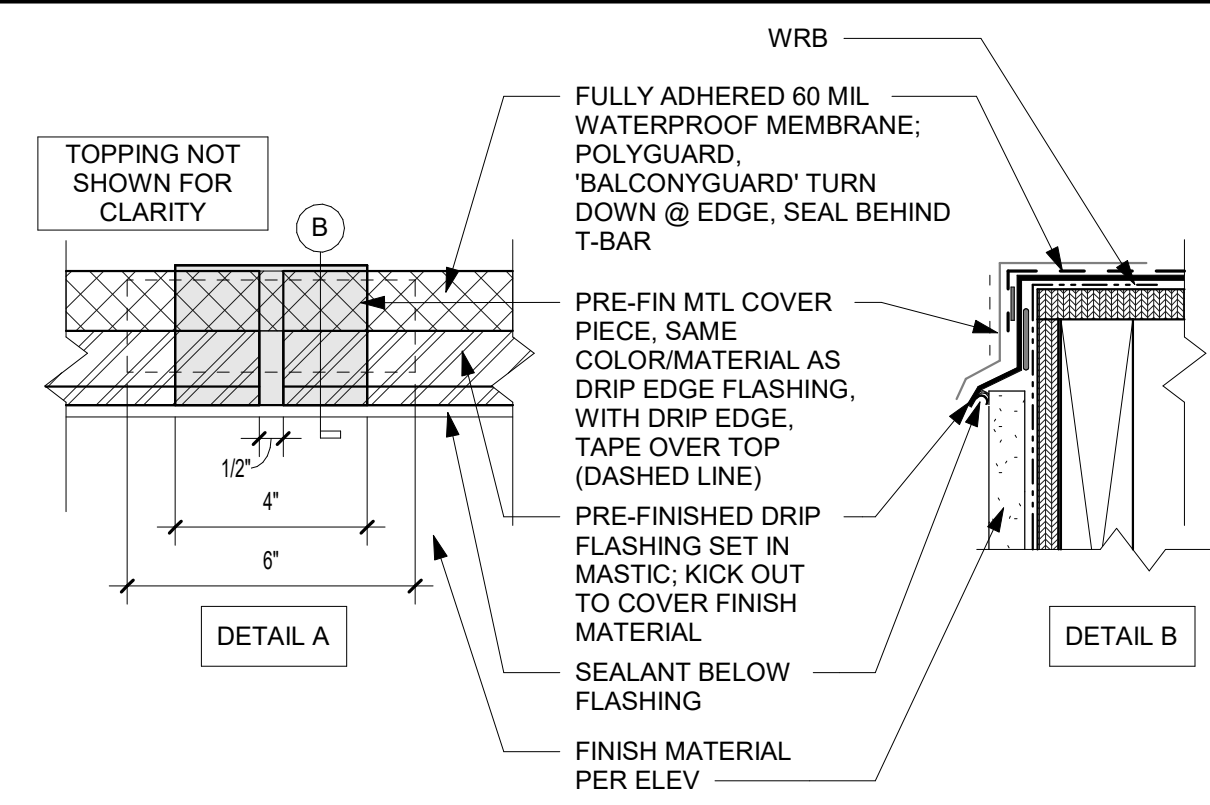
PROJECT NUMBER: 24004

SHEET NUMBER:

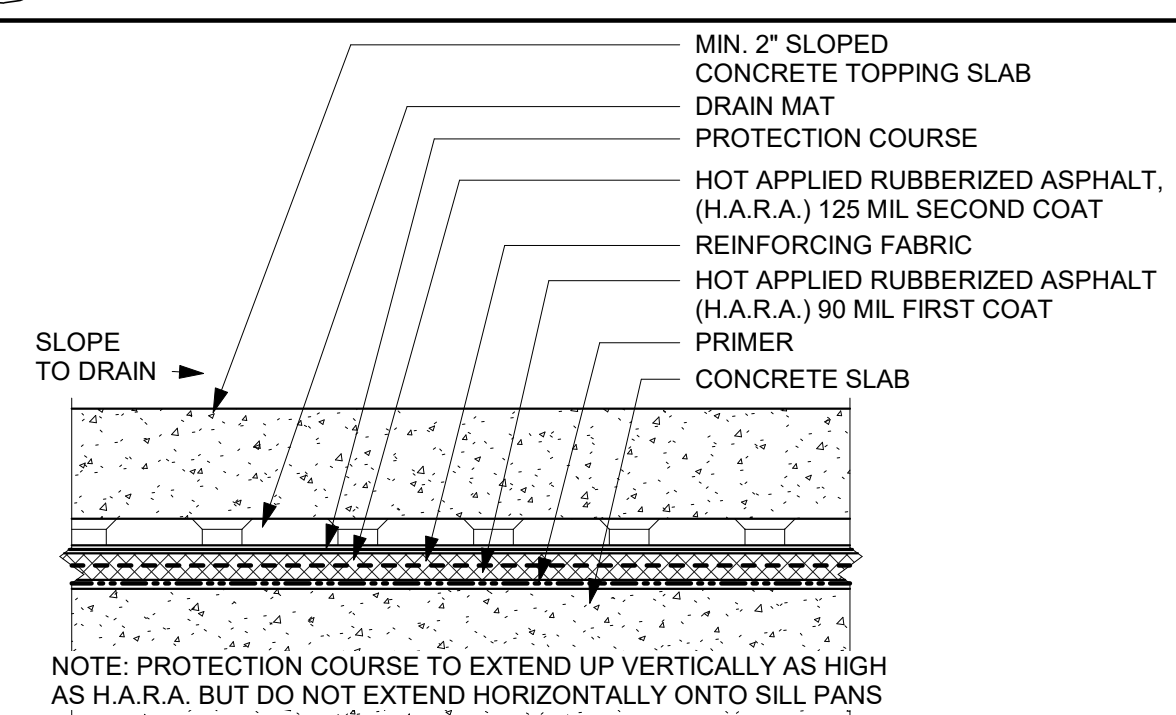
A-506



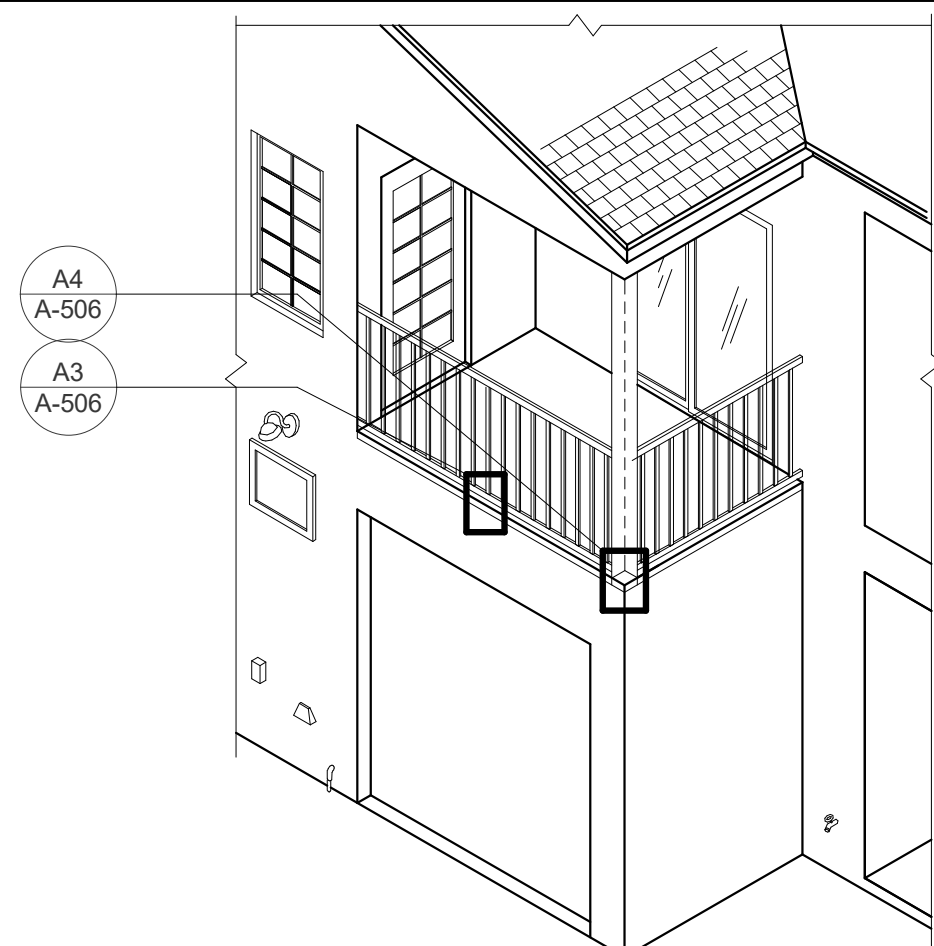
A4 OUTSIDE CORNER DETAIL @ FRAMED BALCONY
3" = 1'-0"



A3 OUTSIDE EDGE DETAIL @ FRAMED BALCONY
3" = 1'-0"



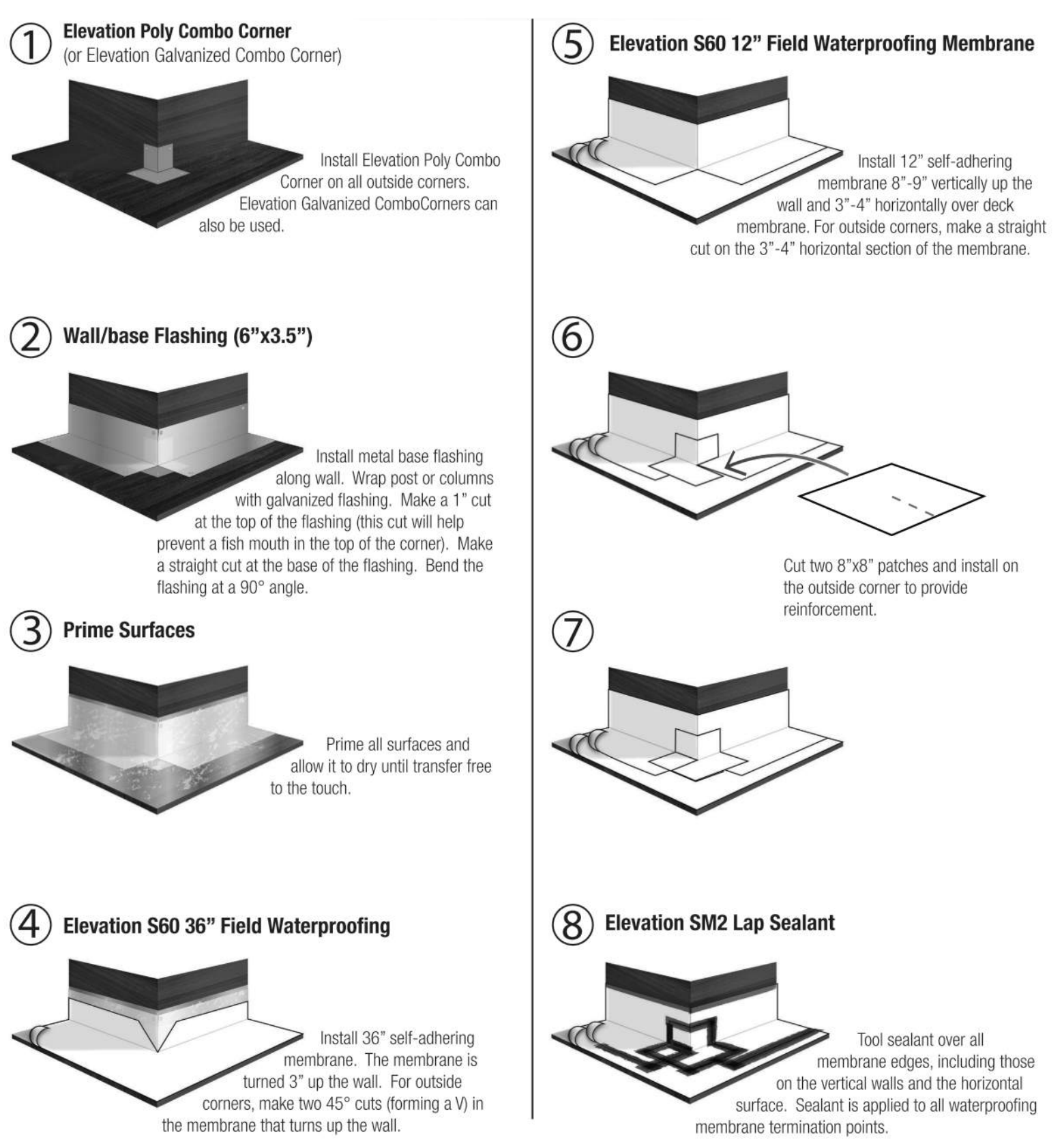
A2 TOPPING SLAB DECK WATERPROOFING
N.T.S.



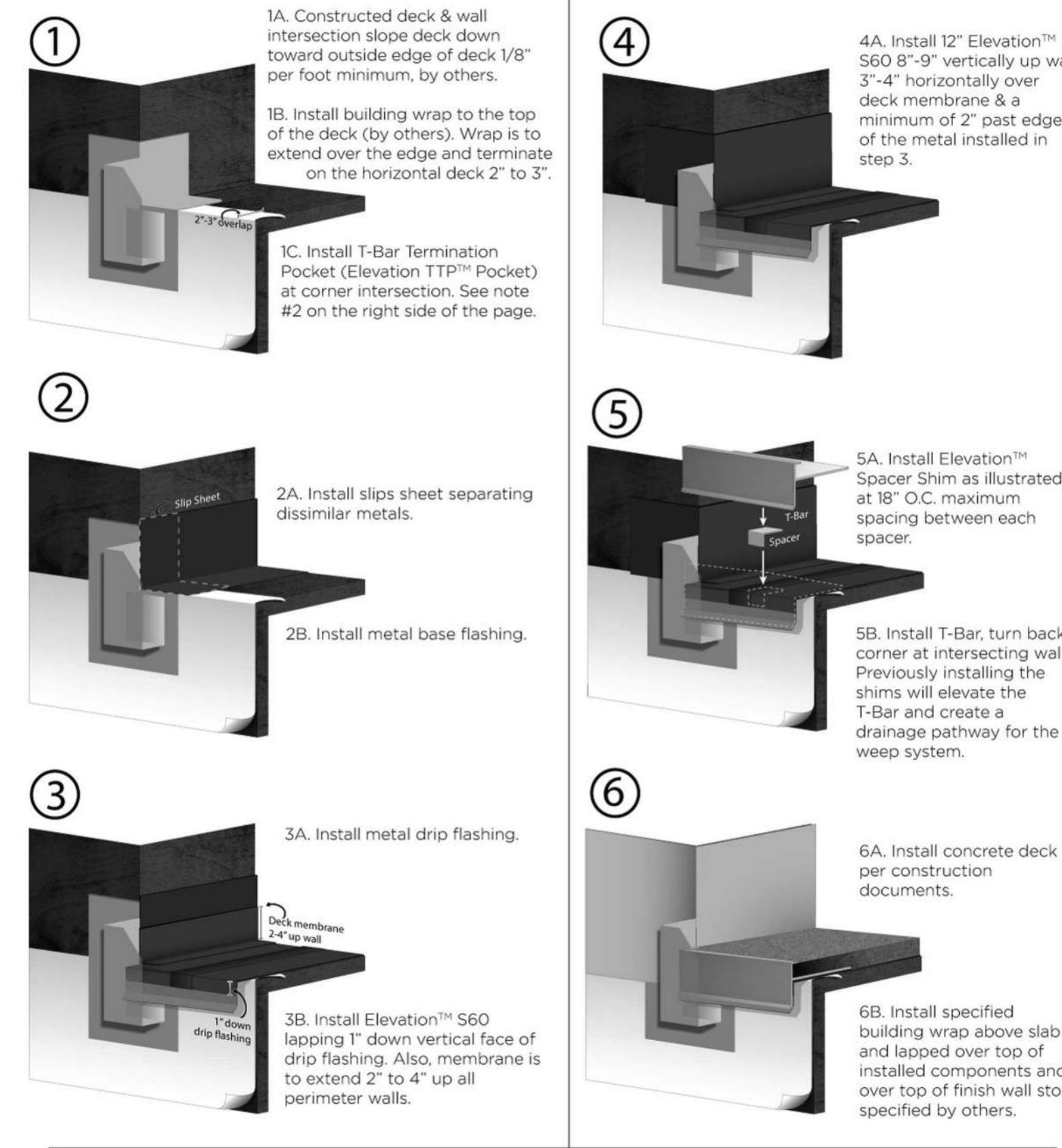
NOTE: FLASHING AND WATERPROOFING DETAILS SHOWN ARE INTENDED TO BE TYPICAL FOR ALL AREAS REQUIRING ATTENTION TO WATERPROOFING OF THE BUILDING ENVELOPE. NOT ALL THE CONDITIONS ARE COVERED BY DETAILS. REFER TO SMACNA PUBLICATIONS AND FOLLOW ALL PRODUCT MFR'S RECOMMENDATIONS AND REQUIREMENTS FOR CONDITIONS NOT SHOWN IN ARCHITECT'S DRAWINGS AND SPECIFICATIONS. THE ABOVE DWG IS FOR DETAIL REFERENCE UNDERSTANDING ONLY, NOT FOR DESIGN INTENT OF THE PROJECT.

A1 ISO REFERENCE
N.T.S.

B2 - OUTSIDE CORNER INSTALLATION - DETAIL



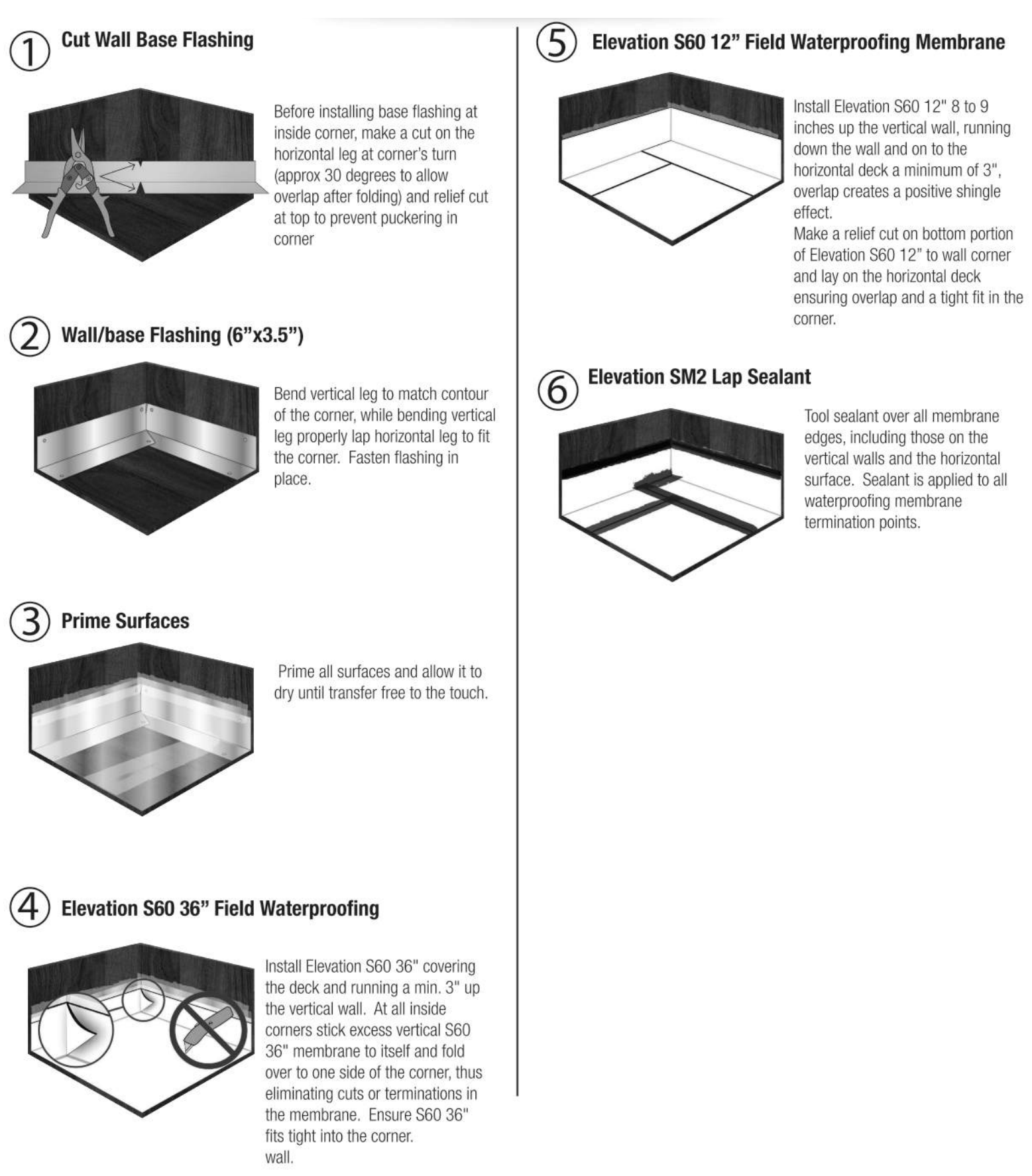
C2 -DECK INSTALLATION-INTERSECTING WALL



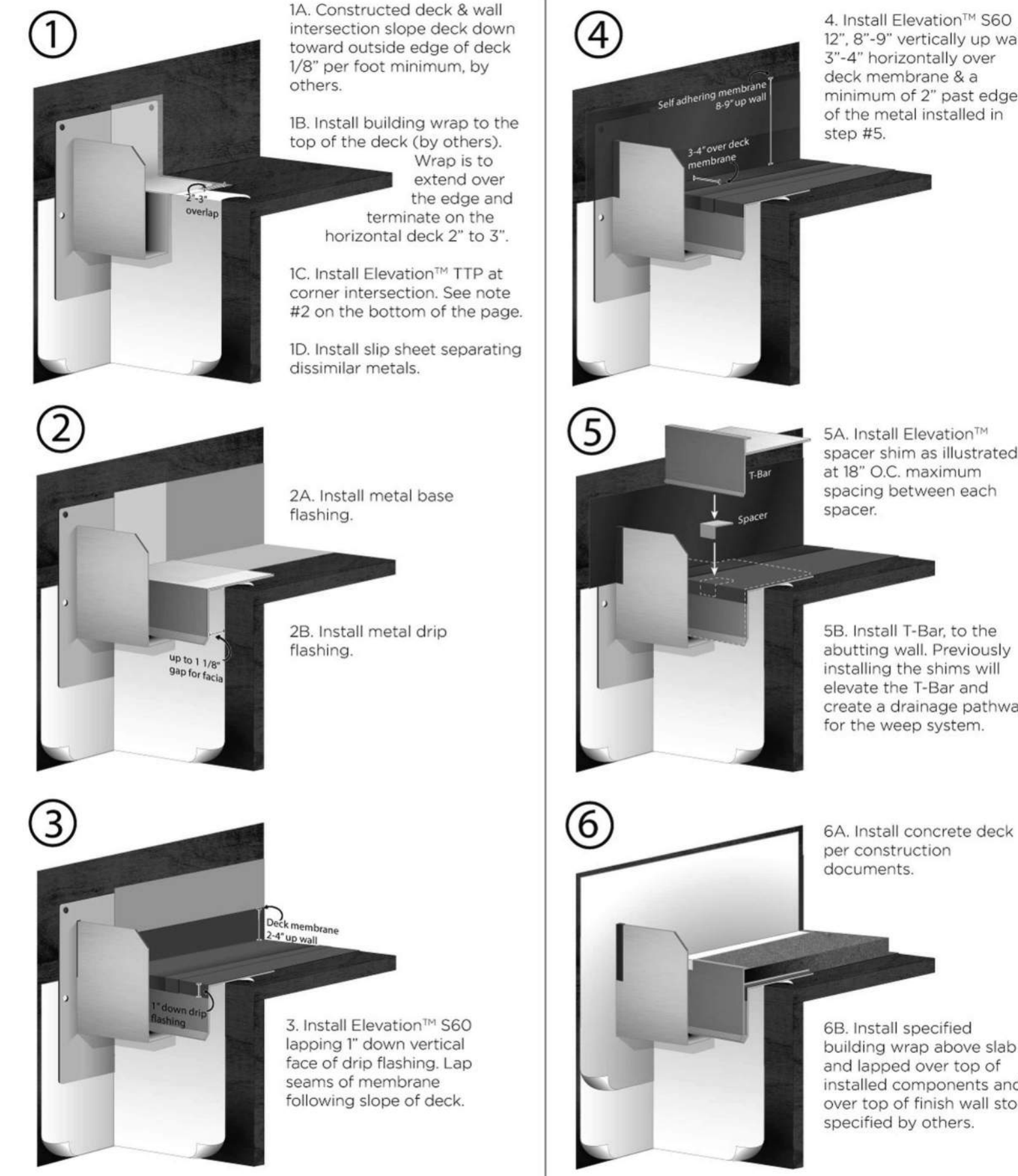
Note #1 - Elevation™ SM1 is applied to all waterproofing membrane termination points and to all exposed nailhead fasteners. (SM1 not required at 1" drip edge lap down termination)

Note #2 - The fascia system allowance area of the Elevation TTP™ Pocket is 1-1/8" wide. Whatever fascia system is specified cannot be more than 1-1/8" thick. If thicker, the a custom made Elevation TTP™ pocket (or alternate method) may be required at added costs. Any gap left between the fascia system and the inside edge of the pocket trough is the responsibility of others to install sealant or to accommodate in any other way, if needed. For projects with decking that extends beyond the fascia, then this decking extension cannot exceed 1-1/8" and must be notched out at the balcony, breezeway or landing edge ends to allow for the pocket.

B1 - INSIDE CORNER INSTALLATION - DETAIL



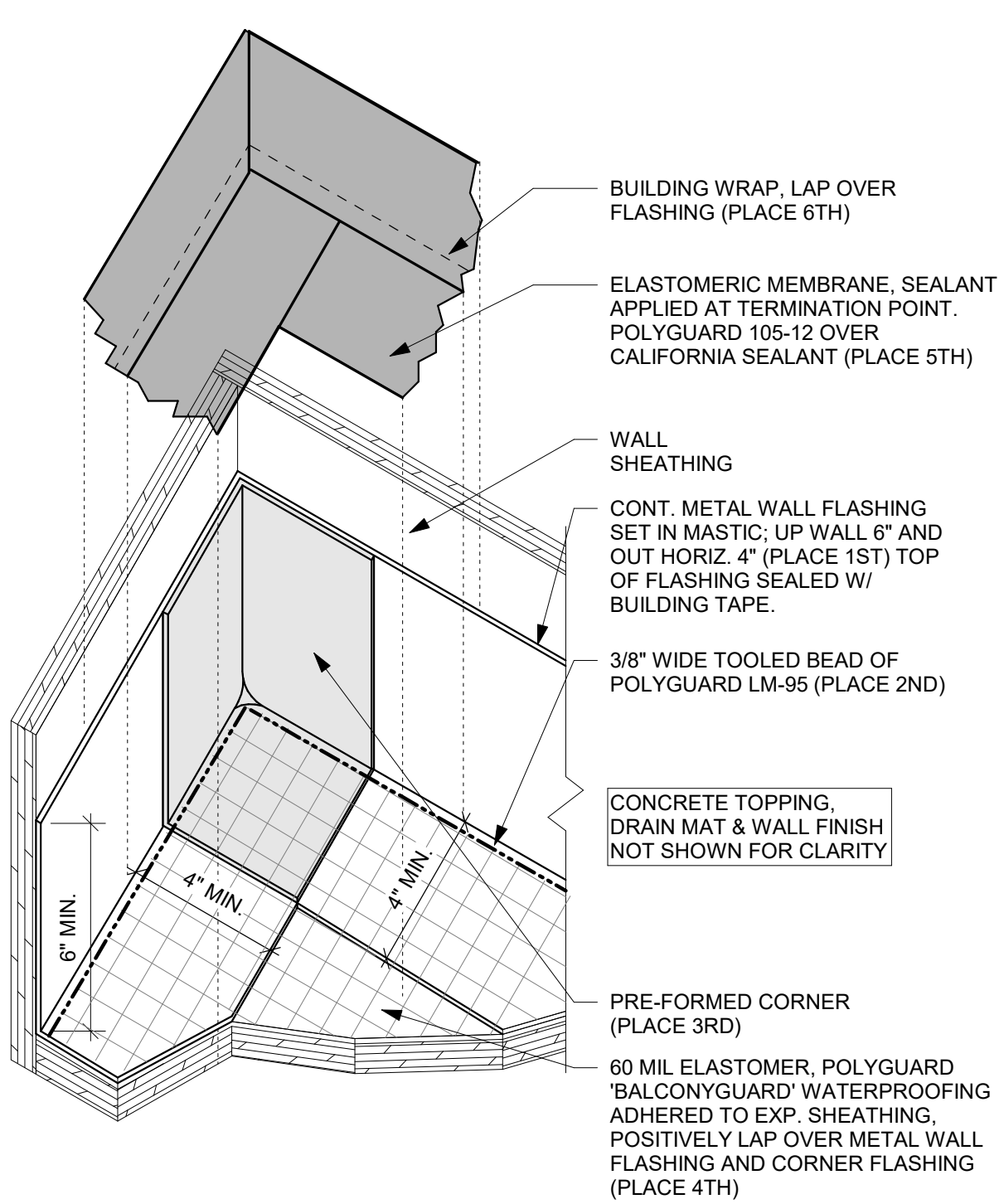
C1 - DECK INSTALLATION-ABUTTING WALL-DTL.



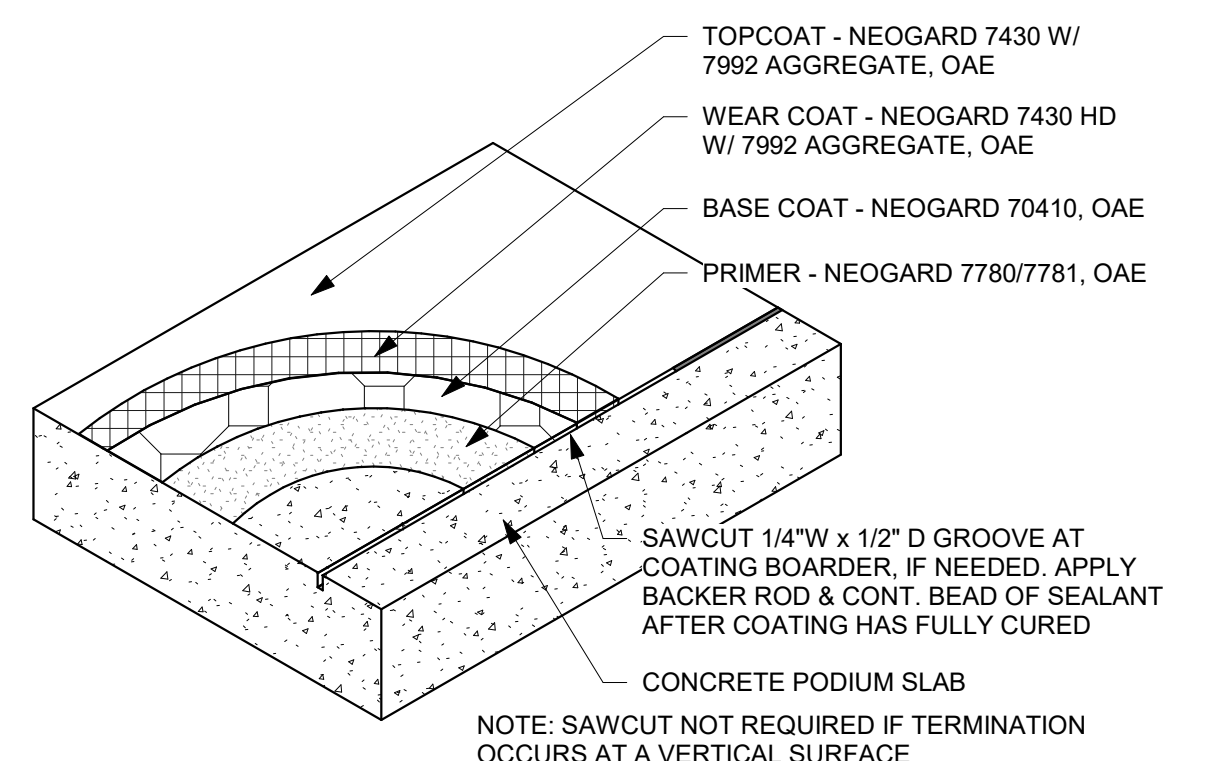
Note #1 - Lap sealant is applied to all Elevation™ S60 termination points (not required at 1" drip edge lap down termination) and to all exposed nail-head fasteners.

Note #2 - Any gap left between the fascia system and the inside edge of the TTP trough is the responsibility of others to install sealant or to accommodate in any other way, if needed.

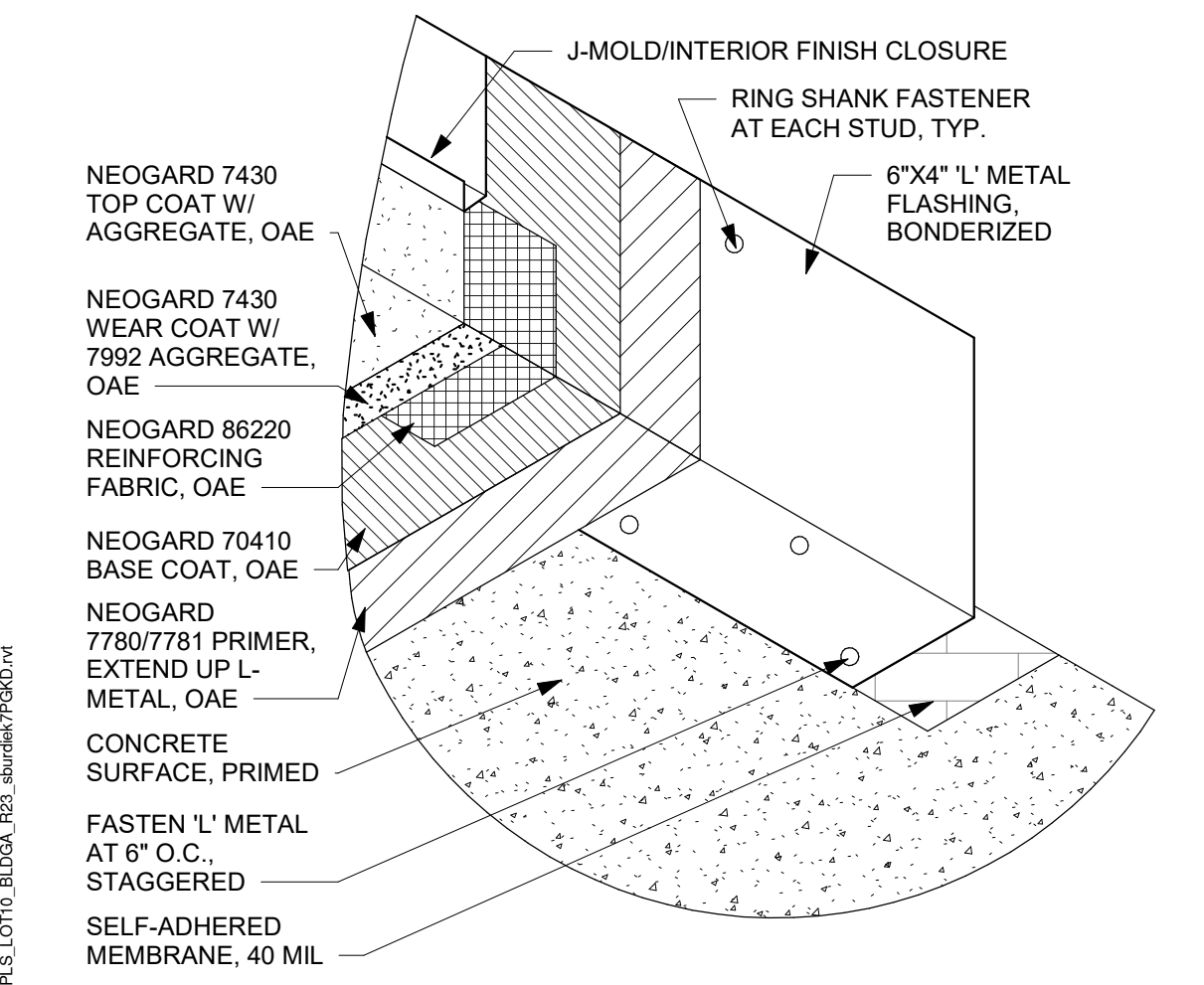
Note #3 - For brick or stone, do not cover trough of pocket with brick. Extension may be required.



B3 INSIDE CORNER DETAIL @ FRAMED BALCONY
3" = 1'-0"



B2 VEHICULAR TRAFFIC COATING
N.T.S.



B1 TRAFFIC COATING WALL BASE
N.T.S.

REFERENCE G-003 FOR GENERAL NOTES

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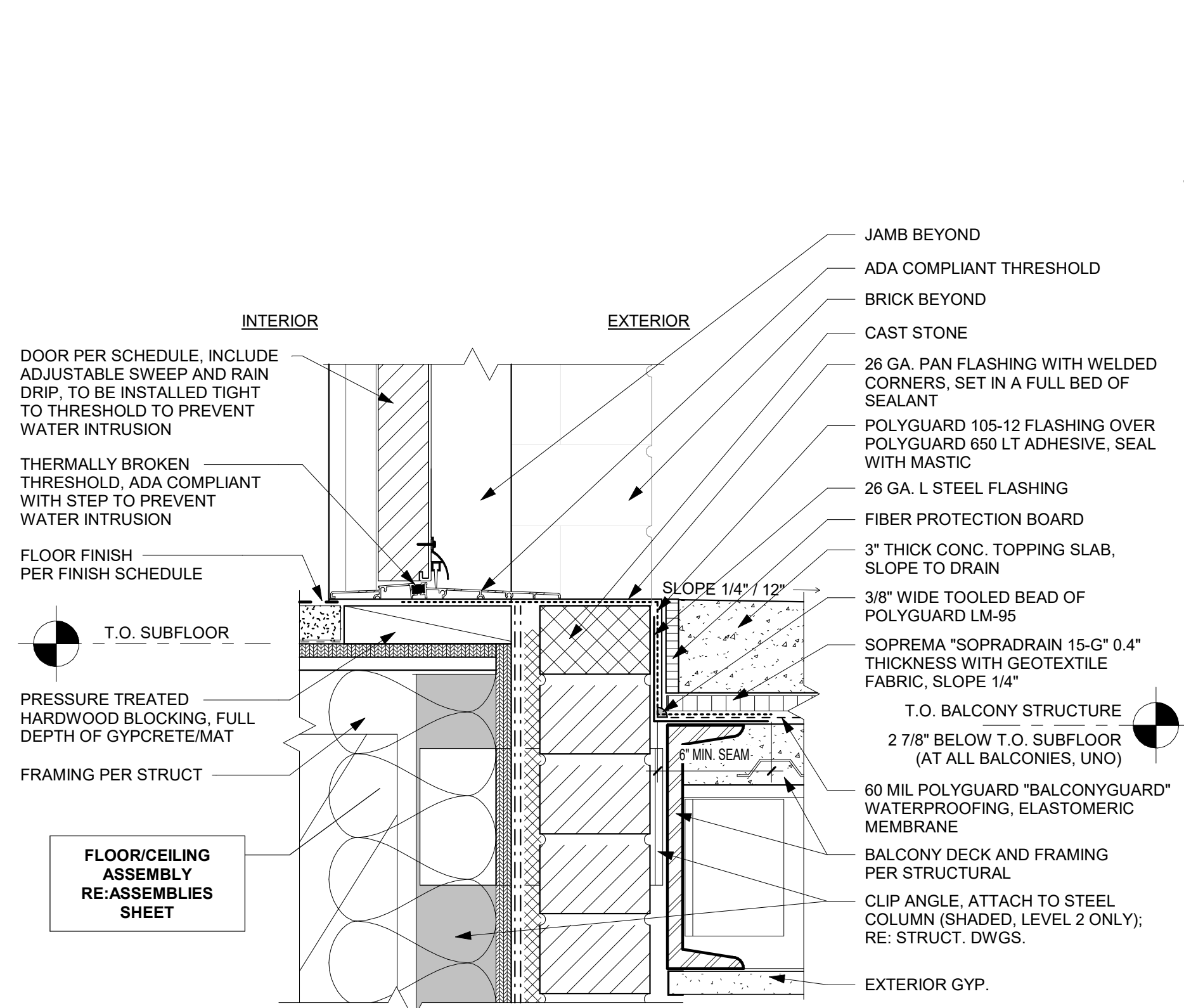
LEE'S SUMMIT, MO

DISCOVERY PARK - LOT #10-A

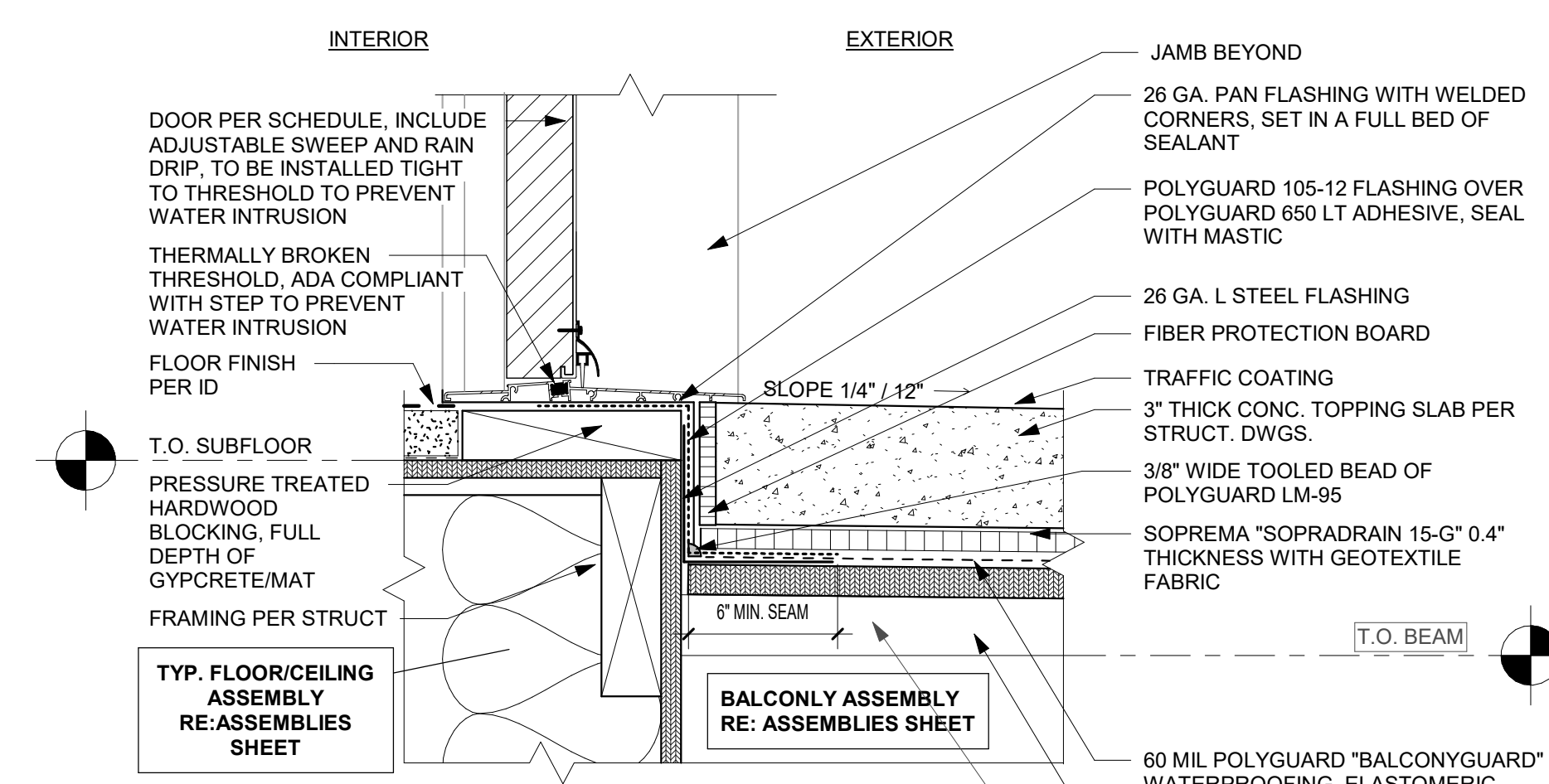
SHEET TITLE
BALCONY DETAILS

PROJECT NUMBER: 24004
SHEET NUMBER:

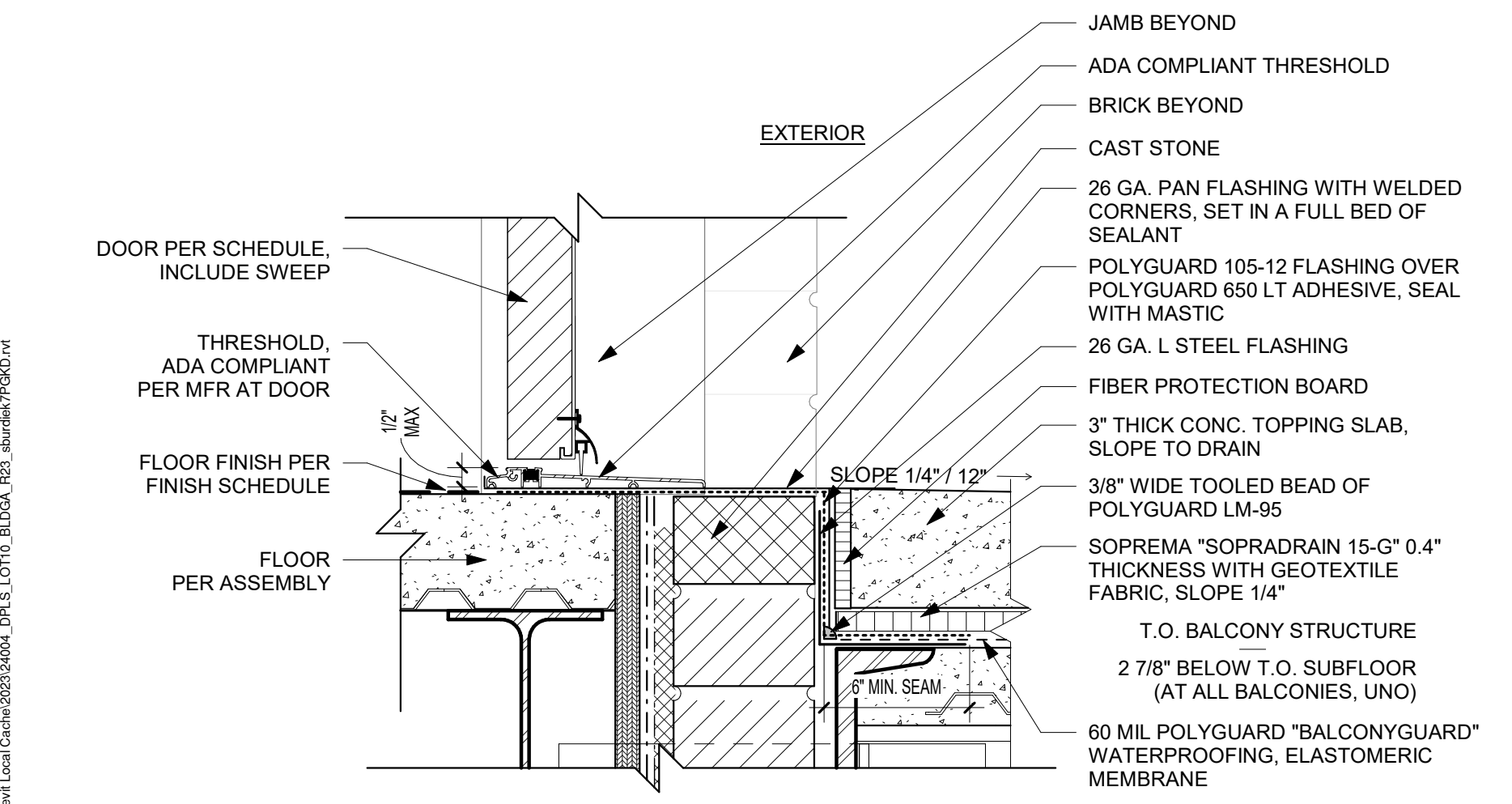
A-507



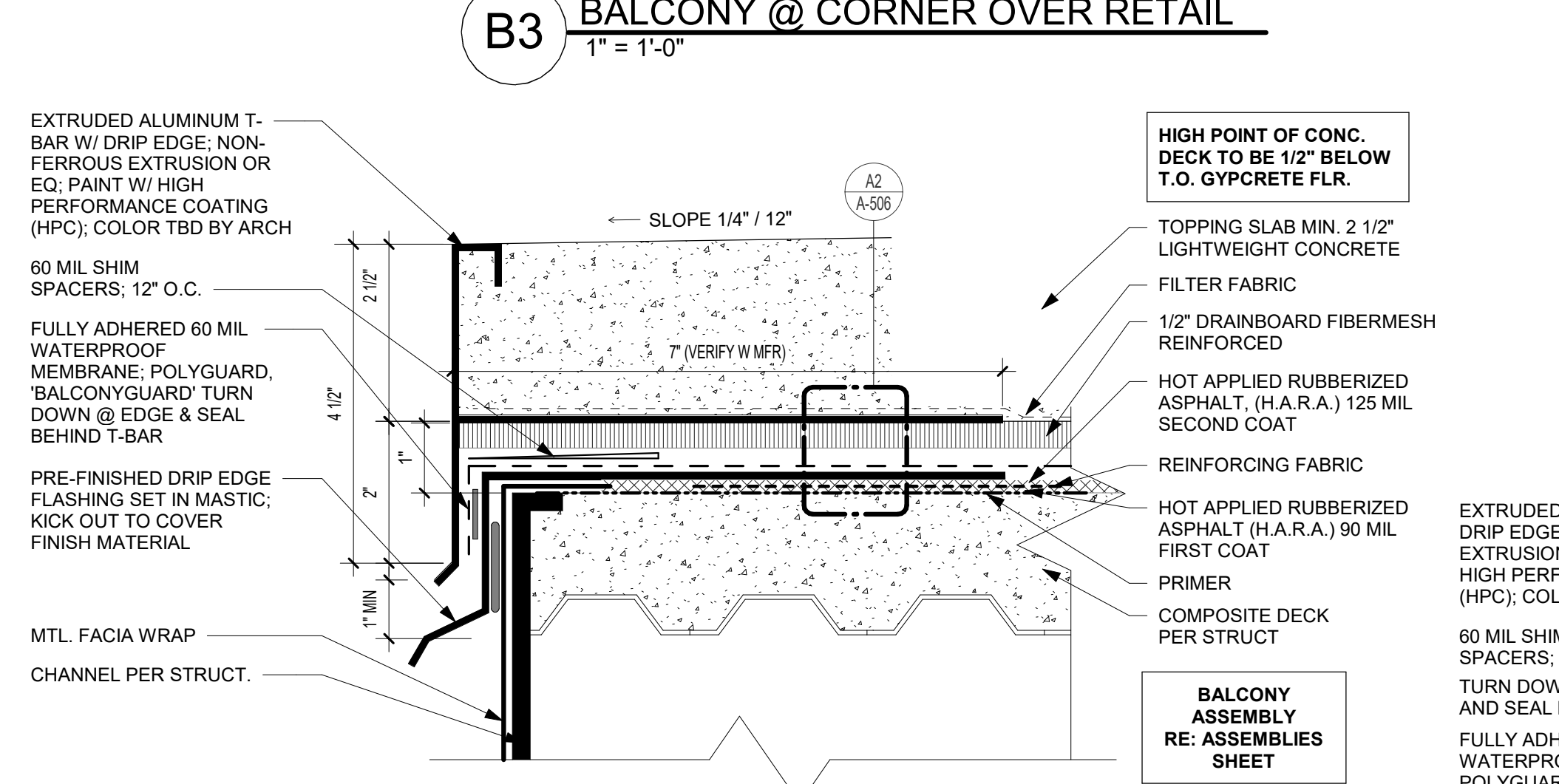
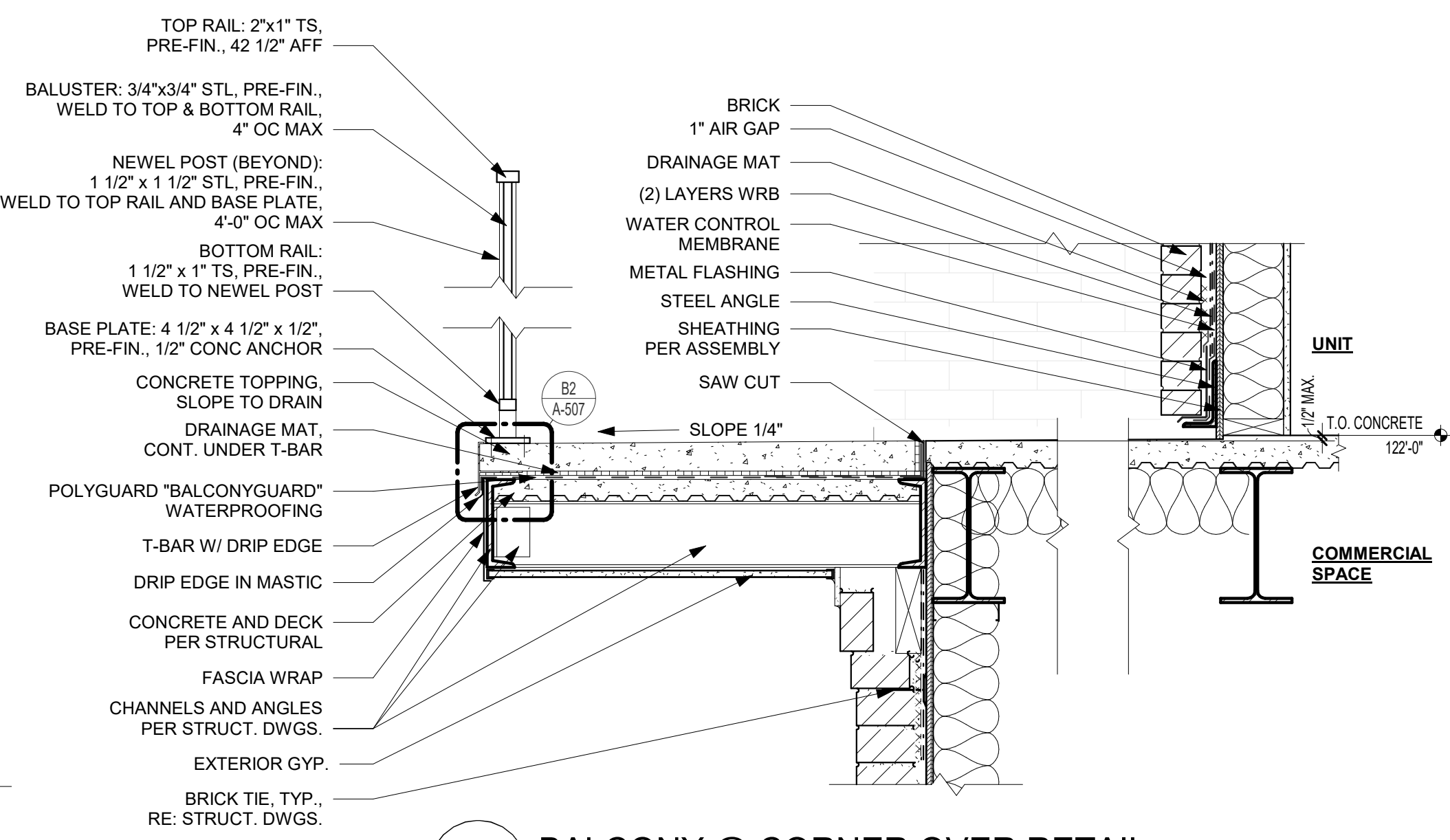
C3 BALCONY THRESHOLD DETAIL @ 3RD FLOOR
3" = 1'-0"



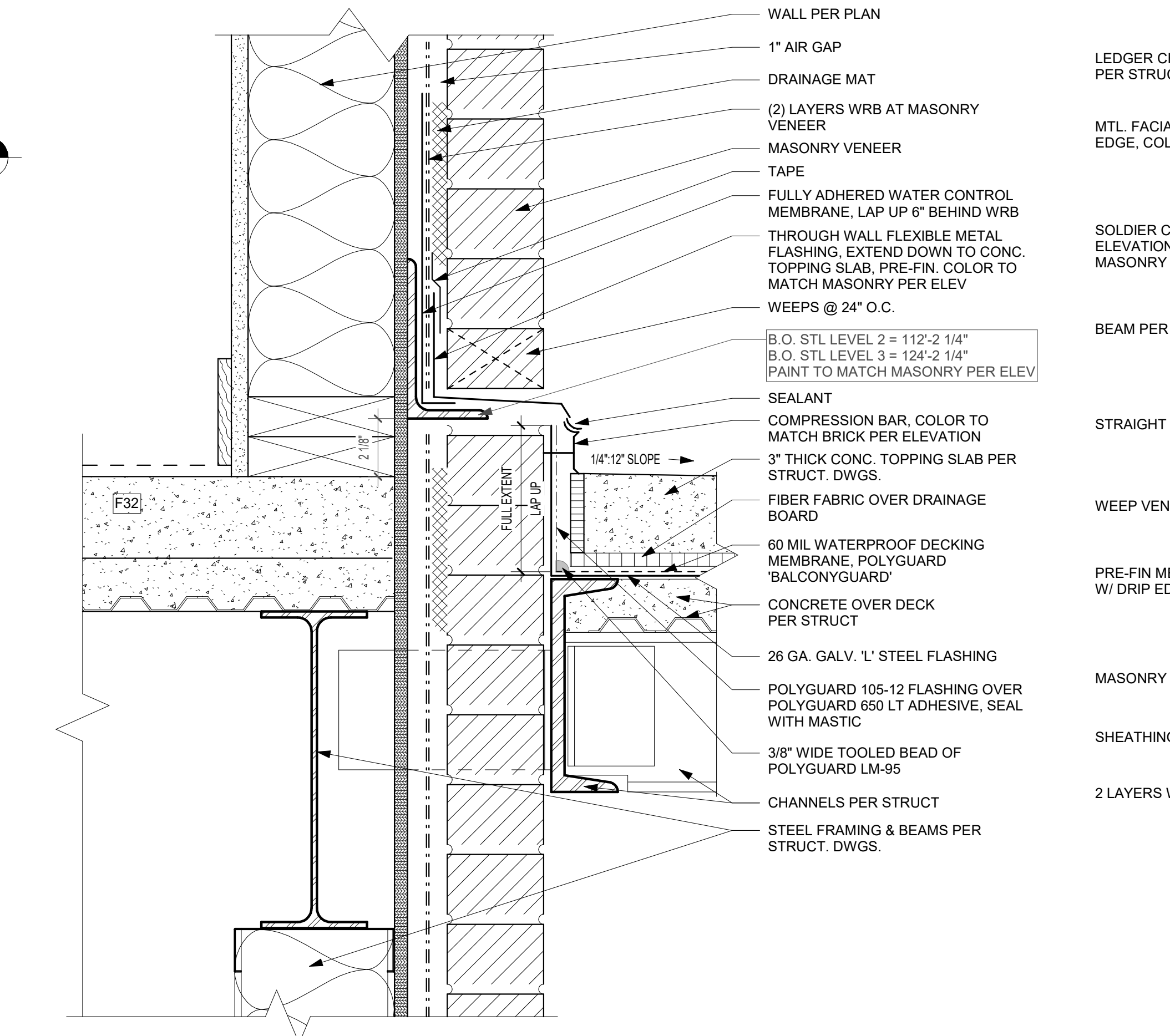
C2 BALCONY DTL - WD FRAMING - THRESHOLD (OUTSWING SHOWN)
3" = 1'-0"



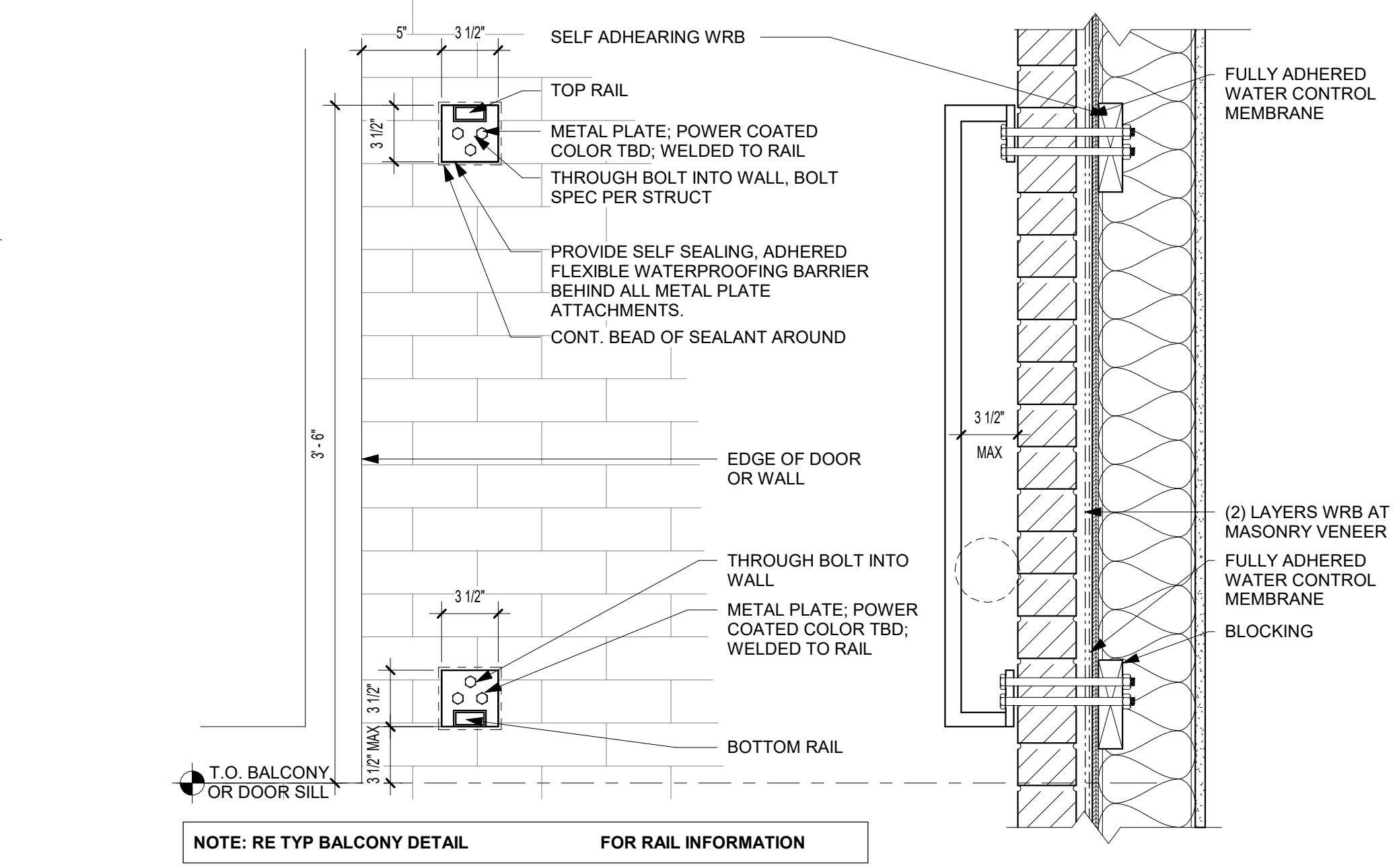
C1 BALCONY THRESHOLD DETAIL @ COMMERCIAL SPACE
3" = 1'-0"



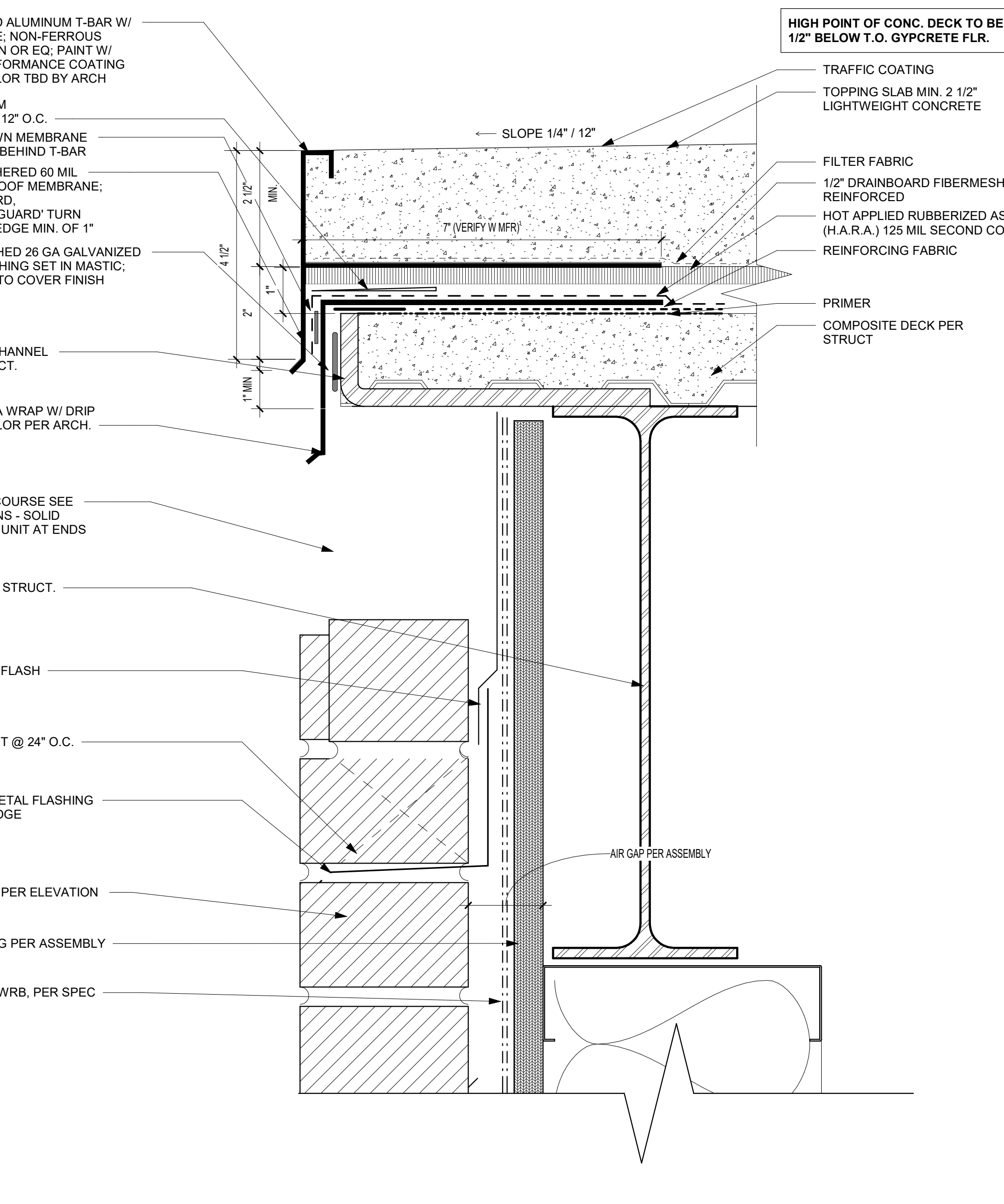
B2 BALCONY DETAIL - T-BAR AND FLASHING
6" = 1'-0"



B1 BALCONY @ COMMERCIAL SPACE
3" = 1'-0"



A3 RAILING - CONNECTIONS @ MASONRY VENEER
1 1/2" = 1'-0"



A1 BALCONY DETAIL - T-BAR AND FLASHING BRICK TRANSITION
6" = 1'-0"

REFERENCE G-003 FOR GENERAL NOTES

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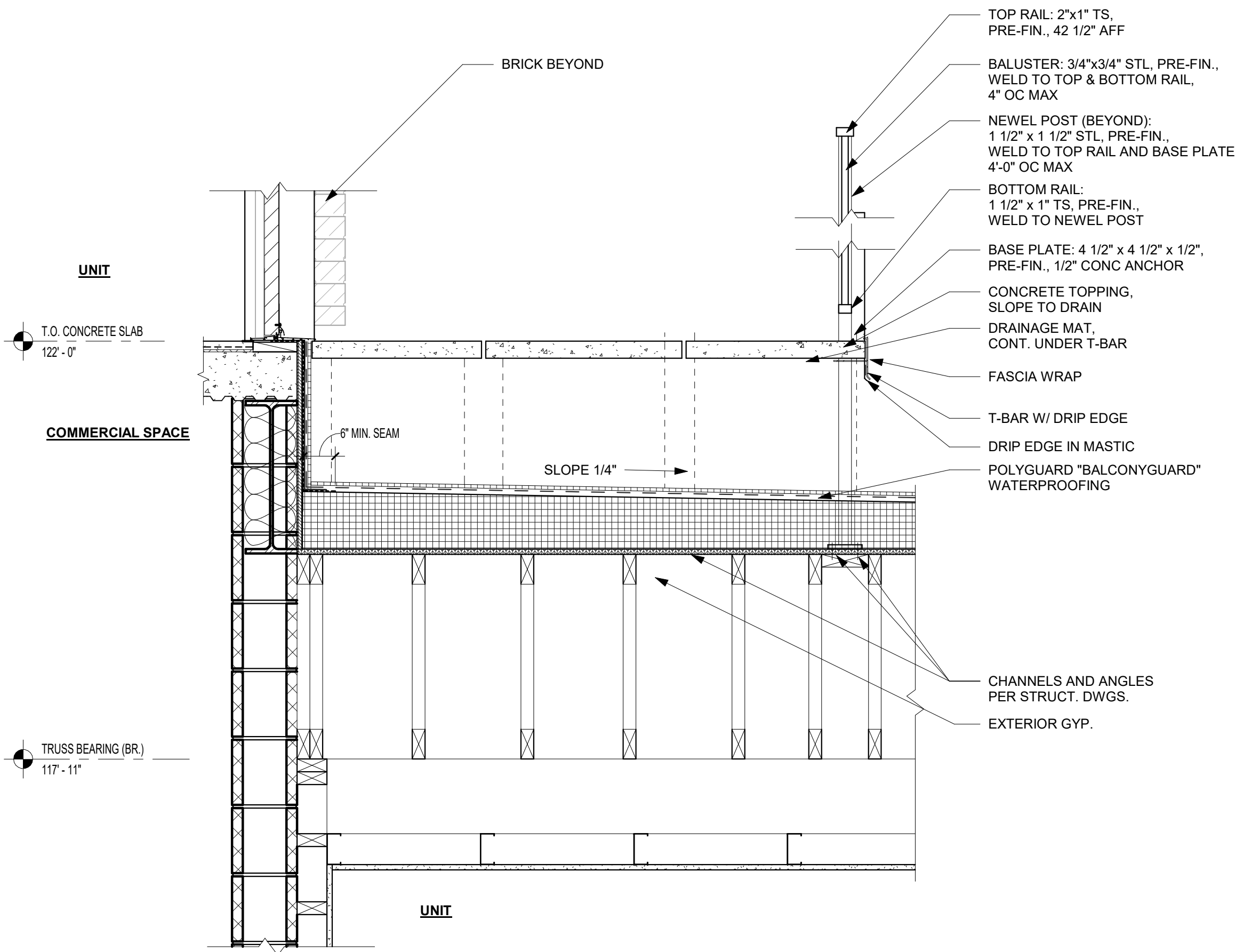
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DISCOVERY PARK - LOT #10-A

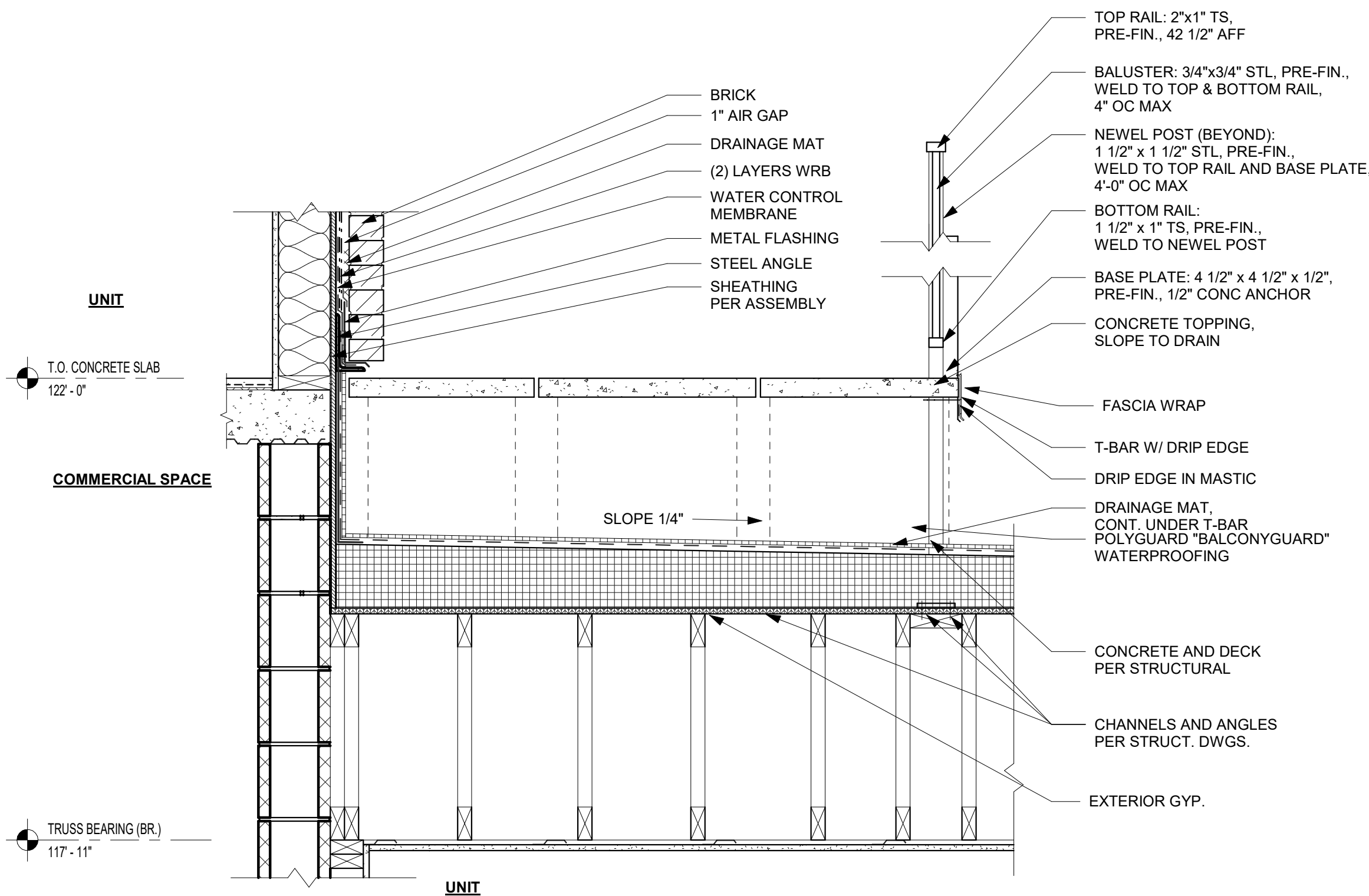
LEE'S SUMMIT, MO

SHEET TITLE
BALCONY DETAILS AT
BROWNSTONES
PROJECT NUMBER: 24004
SHEET NUMBER:

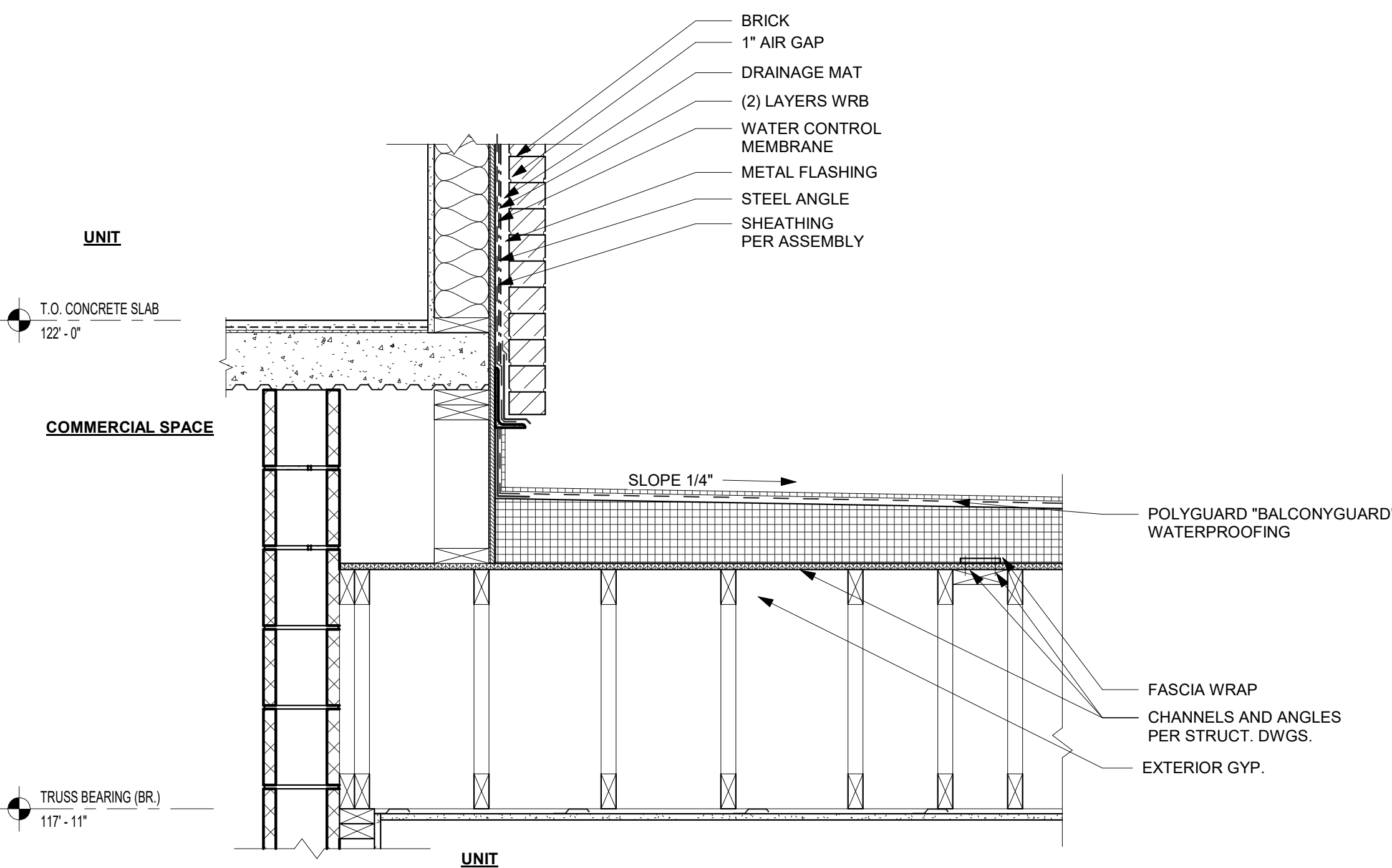
A-508



A2
BALCONY @ DOOR THRESHOLD
OVER BROWNSTONES
1" = 1'-0"



B1
BALCONY @ CORNER OVER
BROWNSTONES
1" = 1'-0"

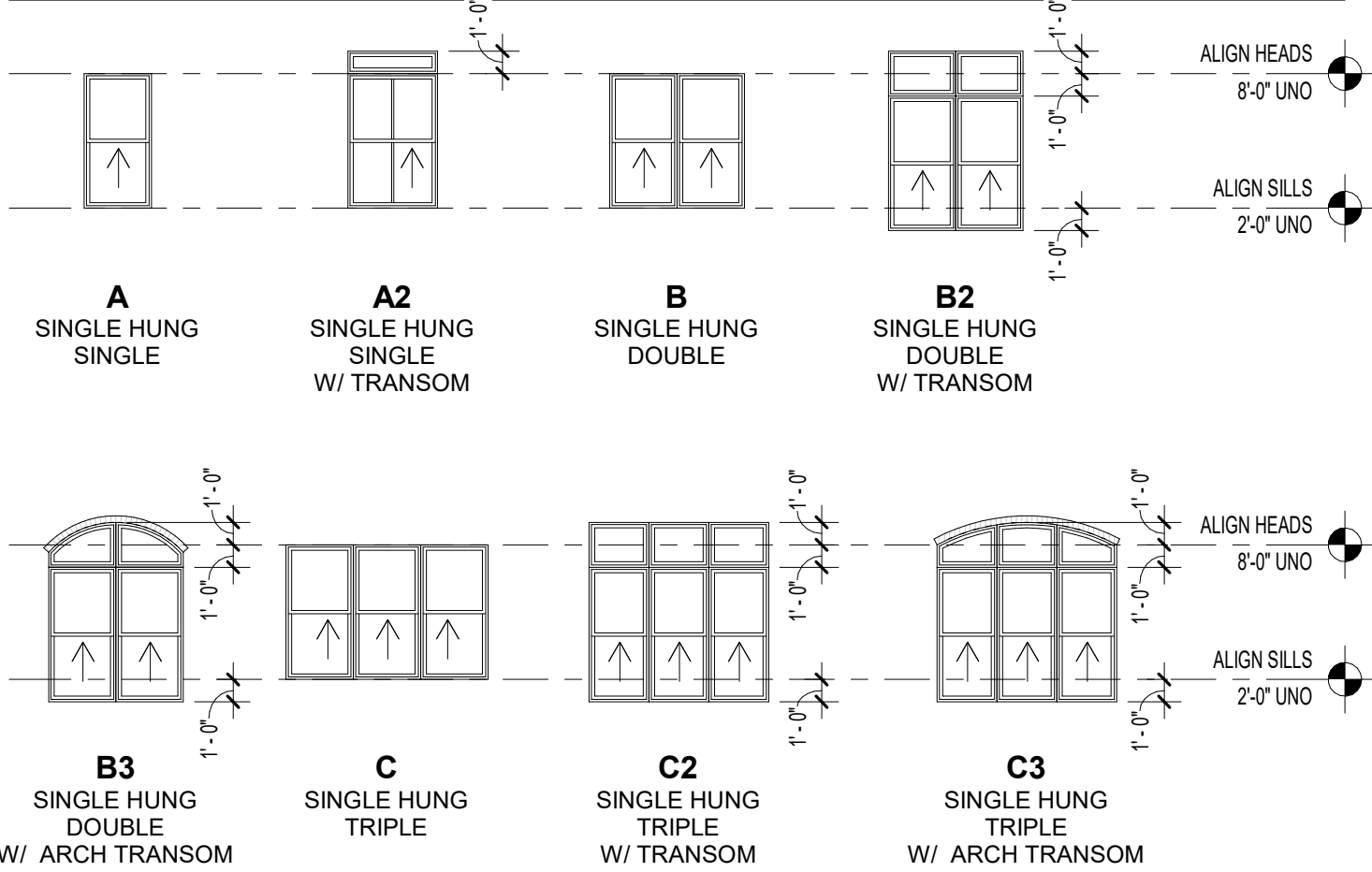


A1
BUMP OUT WALL OVER
BROWNSTONES
1" = 1'-0"

REFERENCE G-003 FOR GENERAL NOTES
REFERENCE A-602 & A-603 FOR DOOR AND WINDOW DETAILS

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WINDOW TYPES



WINDOW SCHEDULE			
Type Mark	Width	Height	Comments
A	3' - 0"	6' - 0"	
A2	4' - 0"	7' - 0"	
B	6' - 0"	6' - 0"	
B2	6' - 0"	8' - 0"	
B3	6' - 0"	8' - 0"	
C	9' - 0"	6' - 0"	
C2	8' - 0"	8' - 0"	
C3	8' - 0"	8' - 0"	

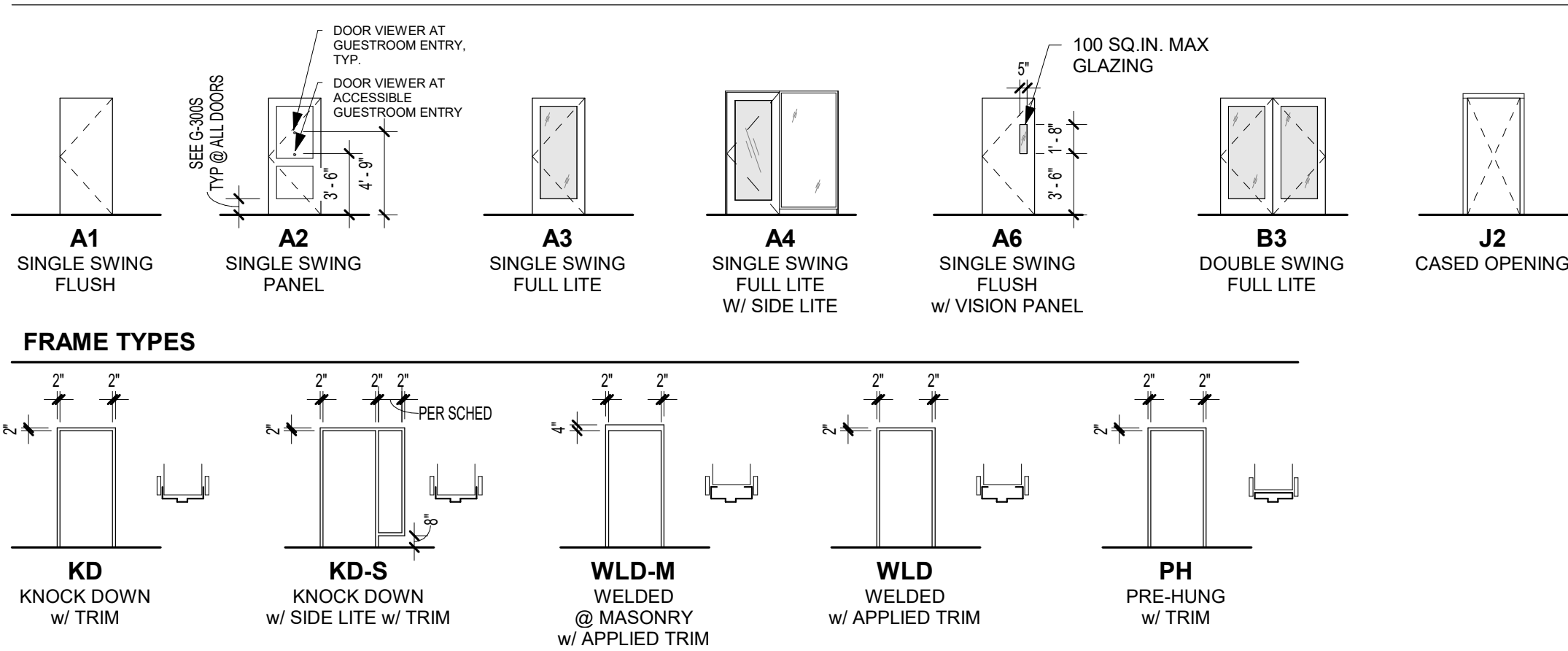
WINDOW COMMENTS:

- GLAZING DEEMED TO BE IN A HAZARDOUS LOCATION SHALL BE TEMPERED / SAFETY GLAZING.
- EACH PANE OF SAFETY GLAZING INSTALLED IN HAZARDOUS LOCATIONS SHALL BE IDENTIFIED BY MFR'S DESIGNATION.
- CONFIRM OPERATION OF SASH LOCKS AT "TYPE A" UNITS WILL BE WITHIN 48" REQUIRED REACH RANGE PER A4 / G-300
- ALL WINDOWS IN PUBLIC SPACES SHALL RECEIVE TRIM PER A1 / A-600
- SEE A1 / A-600 FOR EXTERIOR WINDOW & DOOR TRIM
- REFER TO CODE SHEET FOR ALL FIRE RATINGS
- WINDOWS ON AND ABOVE SECOND FLOOR MUST HAVE WINDOW LIMITERS PER
- WINDOW LOCATIONS PER PLANS
- OPERABLE PARTS SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST. THE FORCE REQUIRED TO ACTIVATE OPERABLE PARTS SHALL BE 5.0 POUNDS (22.2 N) MAXIMUM
- PROVIDE WINDOW OPENING CONTROL DEVICES (WOCDS) THAT COMPLY WITH ASTM F2090
- WINDOW HEADERS TO ALIGN WITH ADJACENT DOOR HEADERS; UNO

DOOR COMMENTS:

- BOTTOM RAIL TO BE MINIMUM 10" TO ALLOW FOR A 10" KICK PLATE; TYPICALL ALL DOORS.
- ALL DOORS TO BE 1-3/4" THICK, UNO.
- SEE SPECIFICATIONS FOR DOOR HARDWARE SCHEDULE; FINAL HARDWARE SCHEDULE AND FINAL GROUPS TO BE DETERMINED BY DOOR SUB-CONTRACTOR. VERIFY FINAL HARDWARE INSTALLATION WITH CLIENT AND ARCHITECT.
- DOOR HARDWARE SHALL NOT REQUIRE TIGHT GRASPING, TIGHT PINCHING, OR TWISTING OF THE WRIST TO OPERATE.
- ALL DOOR HARDWARE TO BE LEVER TYPE HARDWARE, UNO.
- DOOR HARDWARE TO BE CENTERED ON RAIL OF PANEL DOORS.
- DOOR FRAMES TO BE FINISHED PER SCHEDULE.
- TOPS AND BOTTOMS OF ALL HOLLOW METAL DOORS EXPOSED TO WEATHER TO BE PATINED.
- VERIFY KEYING SCHEDULE WITH OWNER. ALL KEYS TO BE GIVEN TO OWNER AT SUBSTANTIAL COMPLETION.
- ALL COMMON AREA RATED DOORS TO HAVE SMOKE SEALS (GASKETS), CLOSURES, AND LATCH HARDWARE.
- UNIT ENTRY DOORS TO HAVE SPRING HINGES & LATCH HARDWARE, TYP UNO.
- ALL DOORS INTENDED FOR PASSAGE TO HAVE 32" MIN. CLEAR WIDTH PER ICC ANSI A117.1

DOOR TYPES



DOOR SCHEDULE ABBREVIATIONS:							
ALUM	ALUMINUM	FGL / FBG	FIBERGLASS	N/A	NOT APPLICABLE	STL	STEEL
ANO	ANODIZED	HC WOOD / HCWD	HOLLOW CORE WOOD	PER MFR	PER MANUFACTURER	WD CLAD	WOOD CLAD
BLK	BLACK	HM	HOLLOW METAL	PRE-FIN	PRE-FINISHED		
BRZ	BRONZE	INSUL MTL	INSULATED METAL	PT / PTD	PAINTED		
CLR	CLEAR	MTL	METAL	SC WOOD / SCWD	SOLID CORE WOOD		

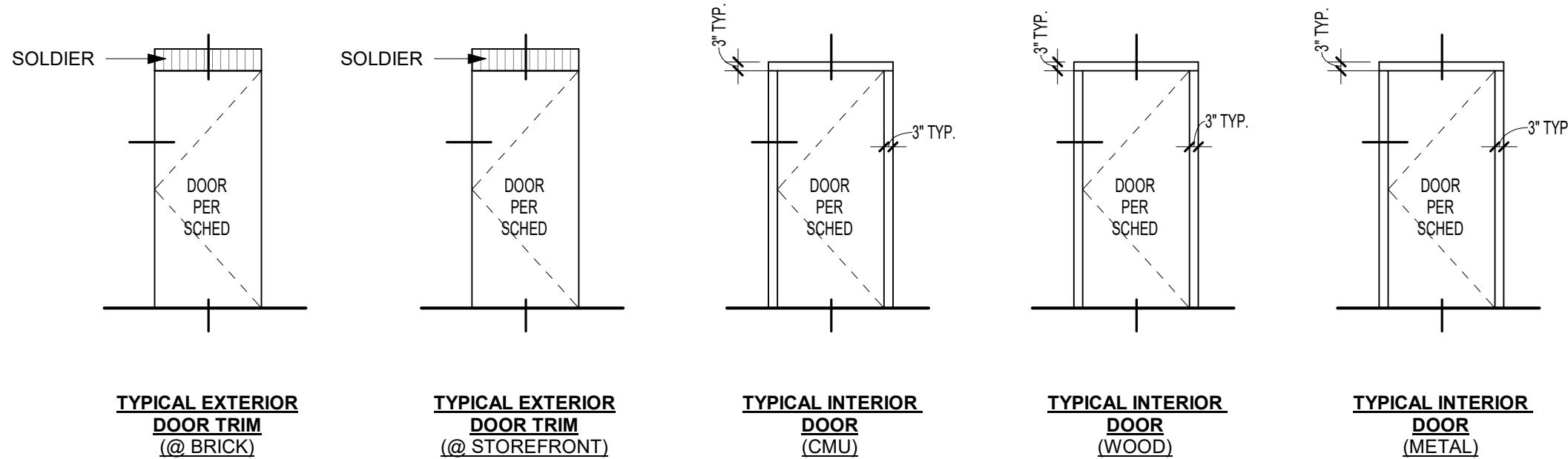
DOOR SCHEDULE - COMMON AREA DOORS

Mark	Width	Height	Thickness	Fire Rating (Minutes)	Access Control (AC)	Panic Hardware	Door Type	Door Material	Door Finish	Frame Type	Frame Material	Frame Finish	Hardware Group	Comments
T.O. 1st FLOOR SLAB														
1000	3' - 0"	6' - 8"	1 3/4"	90		Yes	A6	INSUL MTL	PTD	WLD-M	INSUL MTL	PTD	04	
1001.2	3' - 0"	6' - 8"	1 3/4"	45		No	A6	HM	PTD	WLD	HM	PTD	06	
1002	6' - 0"	7' - 0"	1 3/4"			Yes	B3	ALUM	PRE-FIN	SF	ALUM	PRE-FIN	01	
1003.1	6' - 0"	7' - 0"	1 3/4"			Yes	B3	ALUM	PRE-FIN	SF	ALUM	PRE-FIN	02	
1003.2	3' - 0"	6' - 8"	1 3/4"	45		Yes	A6	HM	PTD	WLD	HM	PTD	05	
1003.3	3' - 0"	6' - 8"	1 3/4"	45		Yes	A6	HM	PTD	WLD	HM	PTD	05	
1004.1	6' - 0"	7' - 0"	1 3/4"			Yes	B3	ALUM	PRE-FIN	ALUM	ALUM	PRE-FIN	02	
1004.2	6' - 0"	7' - 0"	1 3/4"			Yes	B3	ALUM	PRE-FIN	ALUM	ALUM	PRE-FIN	02	
1005	3' - 0"	6' - 8"	1 3/4"			No	A1	INSUL MTL	PTD	WLD-M	INSUL MTL	PTD	08	
1008	3' - 0"	7' - 0"	1 3/4"			Yes	A3	ALUM	PRE-FIN	SF	ALUM	PRE-FIN	03	
ST1-1	3' - 0"	7' - 0"	1 3/4"			Yes	A3	ALUM	PRE-FIN	SF	ALUM	PRE-FIN	09	
ST1-1.2	3' - 0"	6' - 8"	1 3/4"	90		No	A6	HM	PTD	WLD-M	HM	PTD	06	
ST2-1	3' - 0"	6' - 8"	1 3/4"			Yes	A3	ALUM	PRE-FIN	SF	ALUM	PRE-FIN	03	
T.O. 2nd GYPCRETE														
2000	3' - 0"	7' - 0"	1 3/4"	20		No	A1	SC WOOD	STAINED	KD	HM	PTD	06	
2001	3' - 0"	7' - 0"	1 3/4"	20		No	A1	SC WOOD	STAINED	KD	HM	PTD	06	
2002	3' - 0"	7' - 0"	1 3/4"	20		No	A1	SC WOOD	STAINED	KD	HM	PTD	07	
ST1-2	3' - 0"	6' - 8"	1 3/4"	90		Yes	A6	HM	PTD	WLD	HM	PTD	10	
ST2-2	3' - 0"	6' - 8"	1 3/4"	90		Yes	A6	HM	PTD	WLD	HM	PTD	10	
T.O. 3rd GYPCRETE														
3000	3' - 0"	7' - 0"	1 3/4"	20		No	A1	SC WOOD	STAINED	KD	HM	PTD	06	
3001	3' - 0"	7' - 0"	1 3/4"	20		No	A1	SC WOOD	STAINED	KD	HM	PTD	06	
3002	3' - 0"	7' - 0"	1 3/4"	20		No	A1	SC WOOD	STAINED	KD	HM	PTD	07	
ST1-3	3' - 0"	6' - 8"	1 3/4"	90		Yes	A6	HM	PTD	WLD	HM	PTD	10	
ST2-3	3' - 0"	6' - 8"	1 3/4"	90		Yes	A6	HM	PTD	WLD	HM	PTD	10	

ROOM FINISH SCHEDULE

Number	Name	Floor Finish	Base Finish	Wall Finish	Ceiling Finish	Comments
T.O. 1st FLOOR SLAB						
1000	OPEN GARAGE	CONCRETE	--	--	--	
1001	CORRIDOR	CT2	WOOD	PAINTED GYP. BD.	PAINTED GYP. BD.	
1002	LOBBY	LVT1	WOOD	PAINTED GYP. BD.	PAINTED GYP. BD.	
1003	COMMERCIAL	--	--	--	--	
1005	RISER ROOM	CONCRETE	--	--	--	
EV1-1	ELEV.	CT1	--	--	--	
ST1-1	STAIR 1	CT1	VINYL	PAINTED GYP. BD.	--	
ST2-1	STAIR 2	CT1	VINYL	PAINTED GYP. BD.	--	
T.O. 2nd GYPCRETE						
2000	CL	CT1	VINYL	PAINTED GYP. BD.	PAINTED GYP. BD.	
2001	MECH.	CT1	VINYL	PAINTED GYP. BD.	PAINTED GYP. BD.	
2002	CL	CT1	VINYL	PAINTED GYP. BD.	PAINTED GYP. BD.	
C1-2	CORRIDOR	CT2	WOOD	PAINTED GYP. BD.	PAINTED GYP. BD.	
EV1-2	ELEV.	CT1	--	--	--	
ST1-2	STAIR 1	CT1	VINYL	PAINTED GYP. BD.	--	
ST2-2	STAIR 2	CT1	VINYL	PAINTED GYP. BD.	--	
T.O. 3rd GYPCRETE						
3000	CL	CT1	VINYL	PAINTED GYP. BD.	PAINTED GYP. BD.	
3001	MECH.	CT1	VINYL	PAINTED GYP. BD.	PAINTED GYP. BD.	
3002	CL	CT1	VINYL	PAINTED GYP. BD.	PAINTED GYP. BD.	
C1-3	CORRIDOR	CT2	WOOD	PAINTED GYP. BD.	PAINTED GYP. BD.	
EV1-3	ELEV.	CT1	--	--	--	
ST1-3	STAIR 1	CT1	VINYL	PAINTED GYP. BD.	--	
ST2-3	STAIR 2	CT1	VINYL	PAINTED GYP. BD.	--	

A1 DOOR TRIM & CASING - TYPICAL
1/4" = 1'-0"



DISCOVERY PARK - LOT #10-A

LEE'S SUMMIT, MO

SHEET TITLE
WINDOW / DOOR / FINISH
SCHEDULES

PROJECT NUMBER: 24004

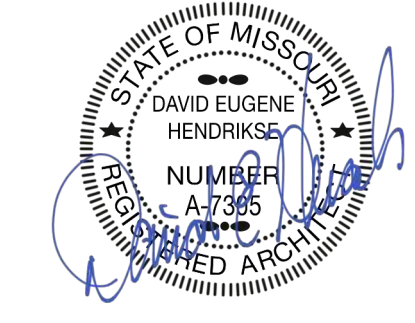
SHEET NUMBER:

A-600

REFERENCE G-003 FOR GENERAL NOTES
REFERENCE A-602 & A-603 FOR DOOR AND WINDOW DETAILS

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REVISIONS:

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12/20/24

DISCOVERY PARK - LOT #10-A

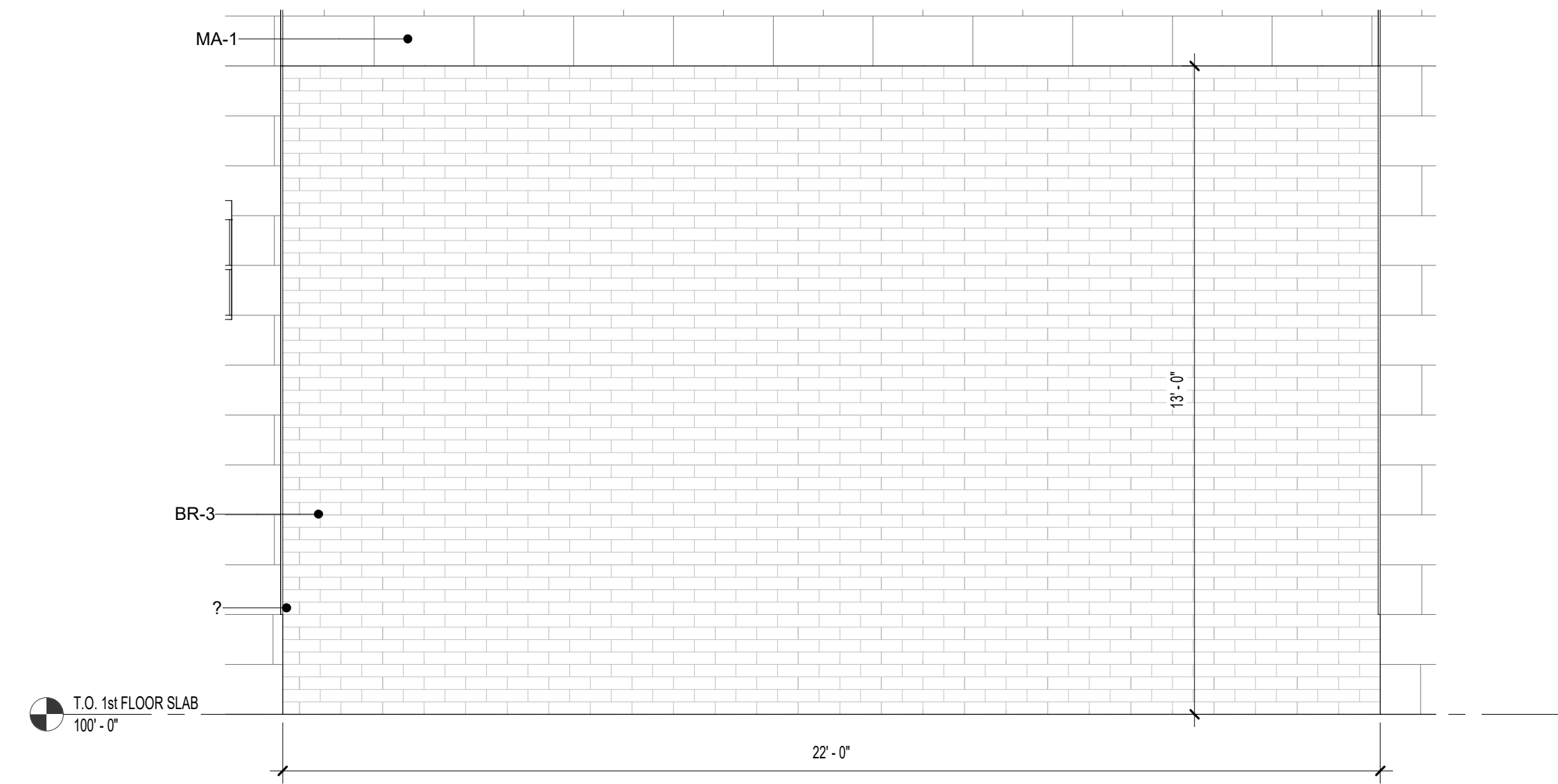
LEE'S SUMMIT, MO

SHEET TITLE
STOREFRONT / FACADE
ELEVATIONS

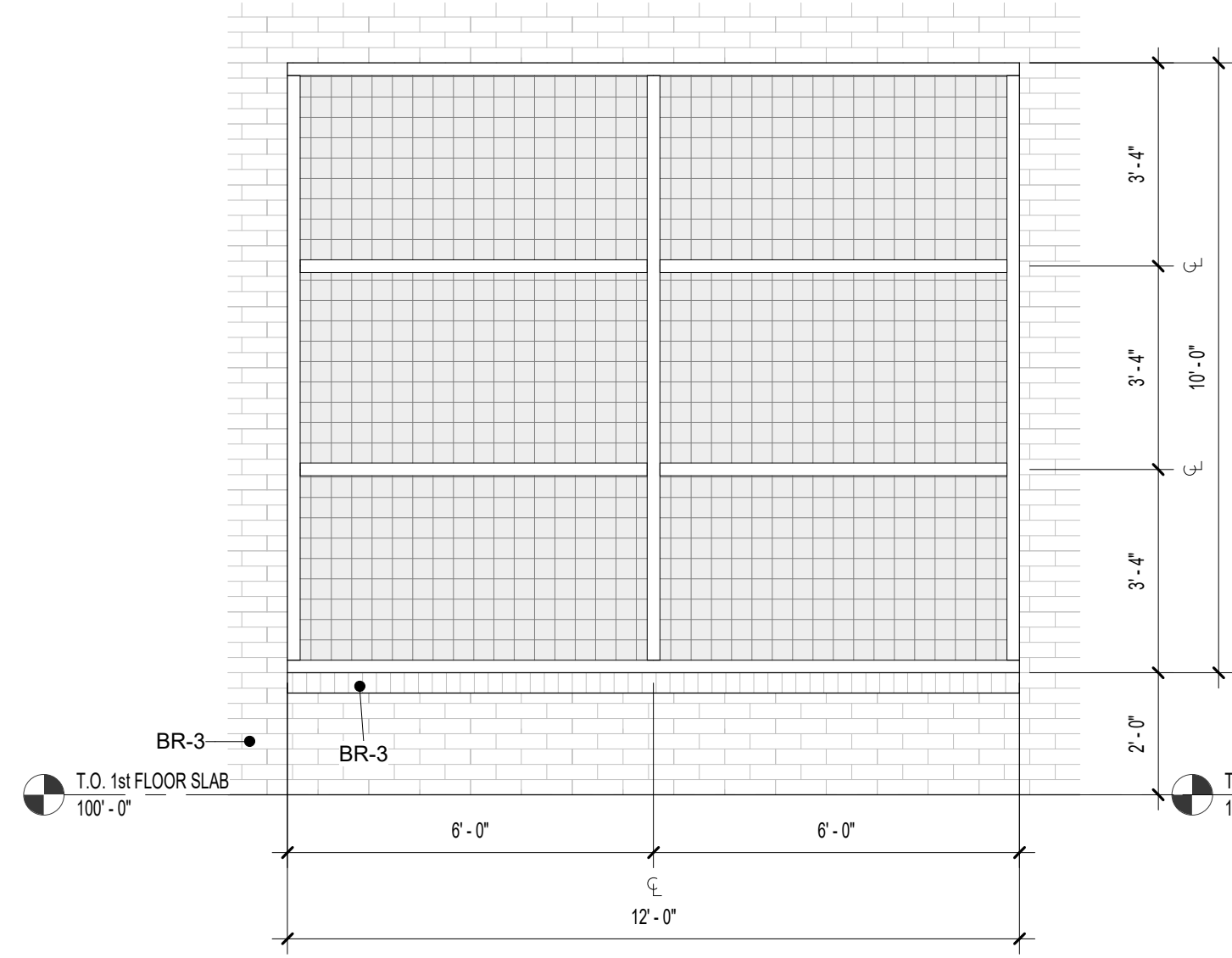
PROJECT NUMBER: 24004

SHEET NUMBER:

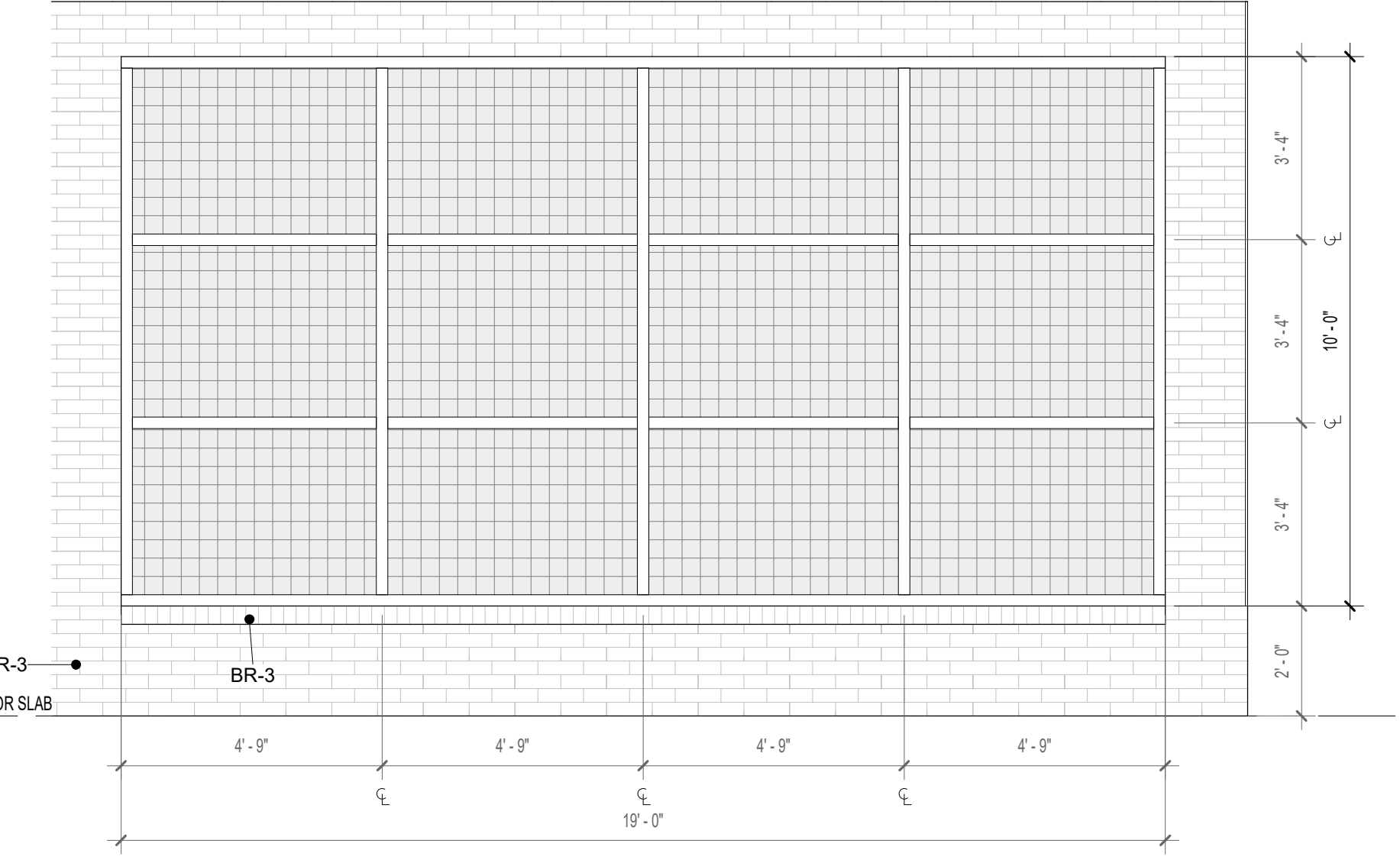
A-601



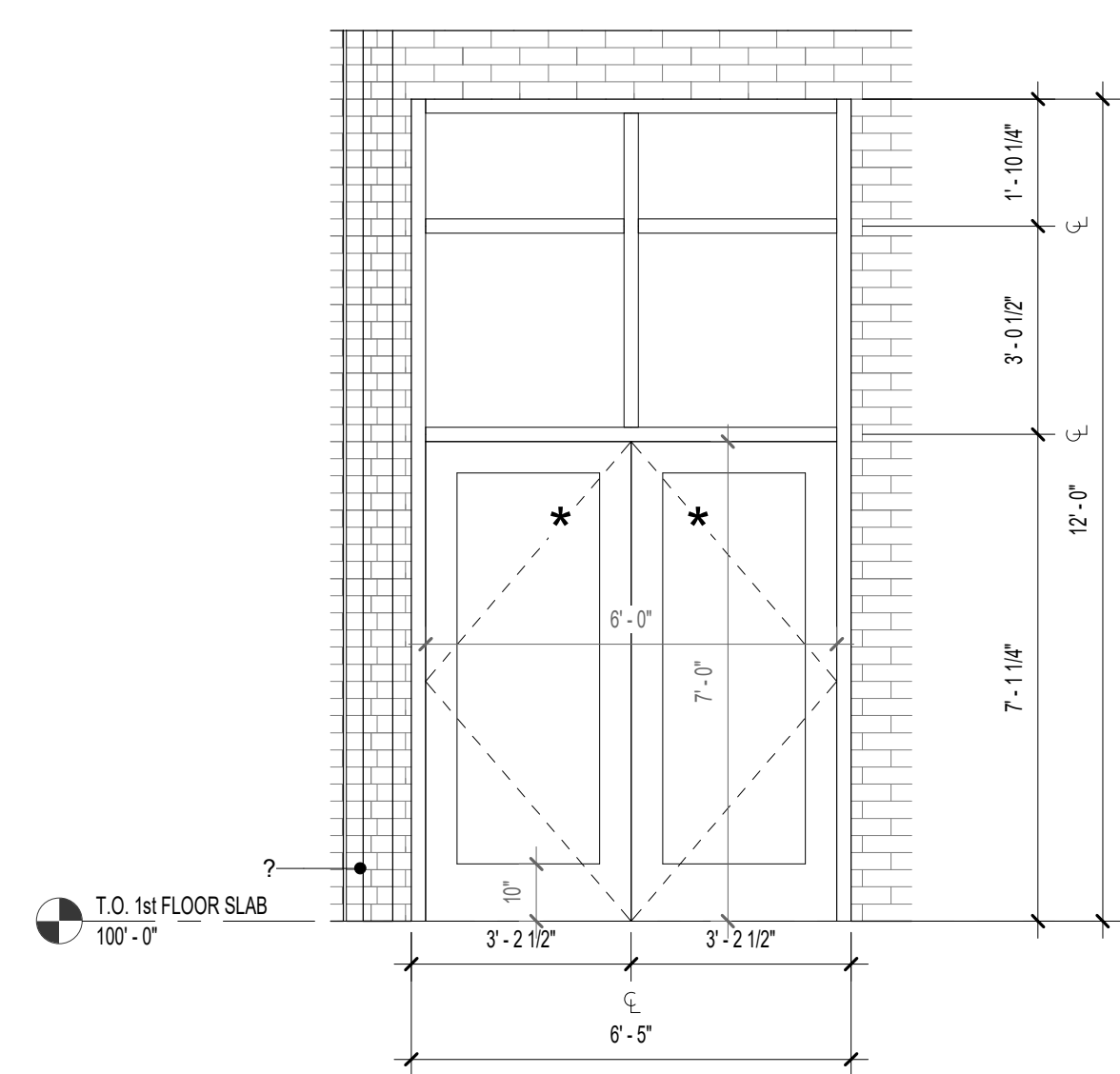
C3 METER WALL ELEVATION
3/8" = 1'-0"



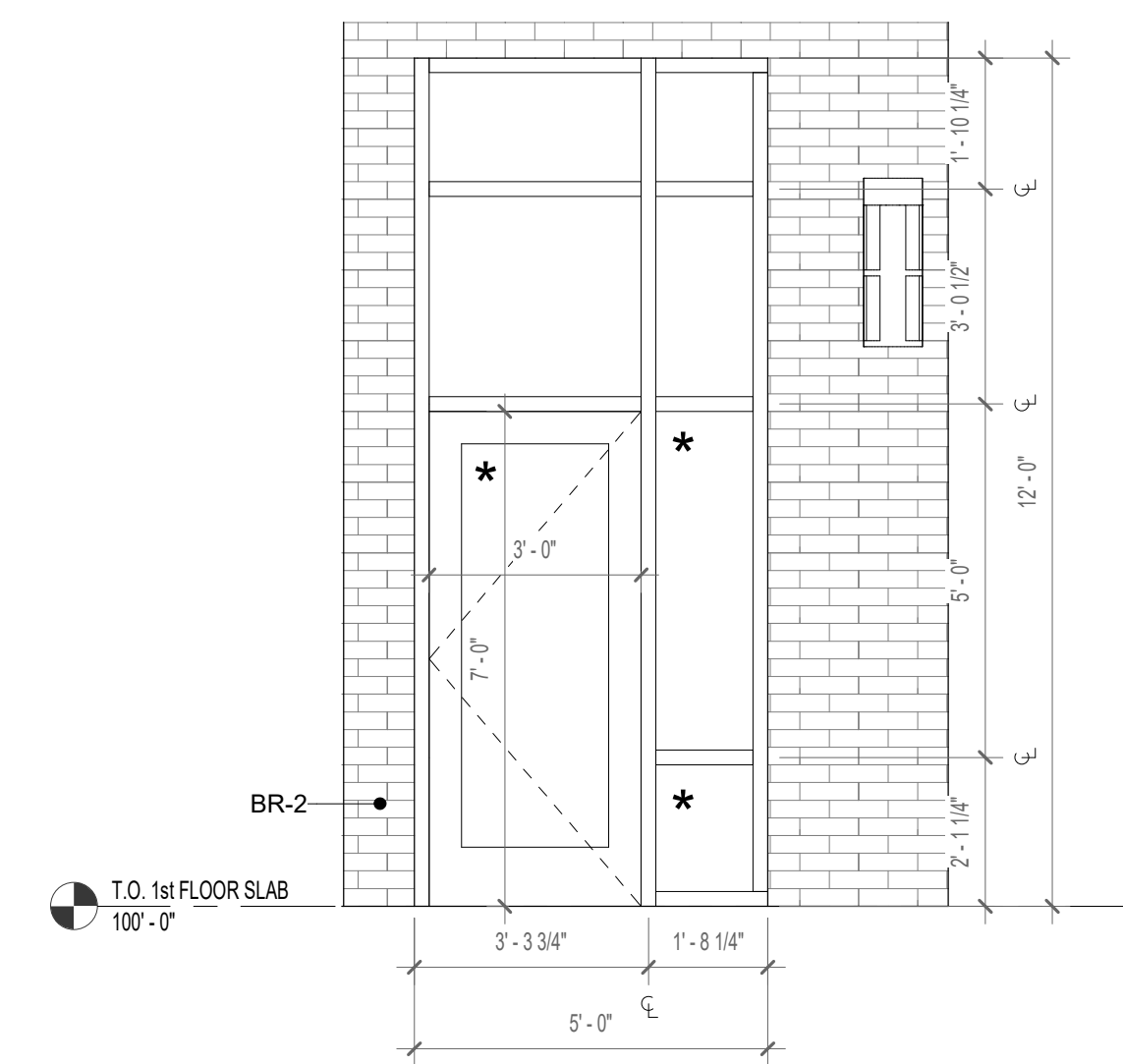
B3 SF-8 PANEL
3/8" = 1'-0"



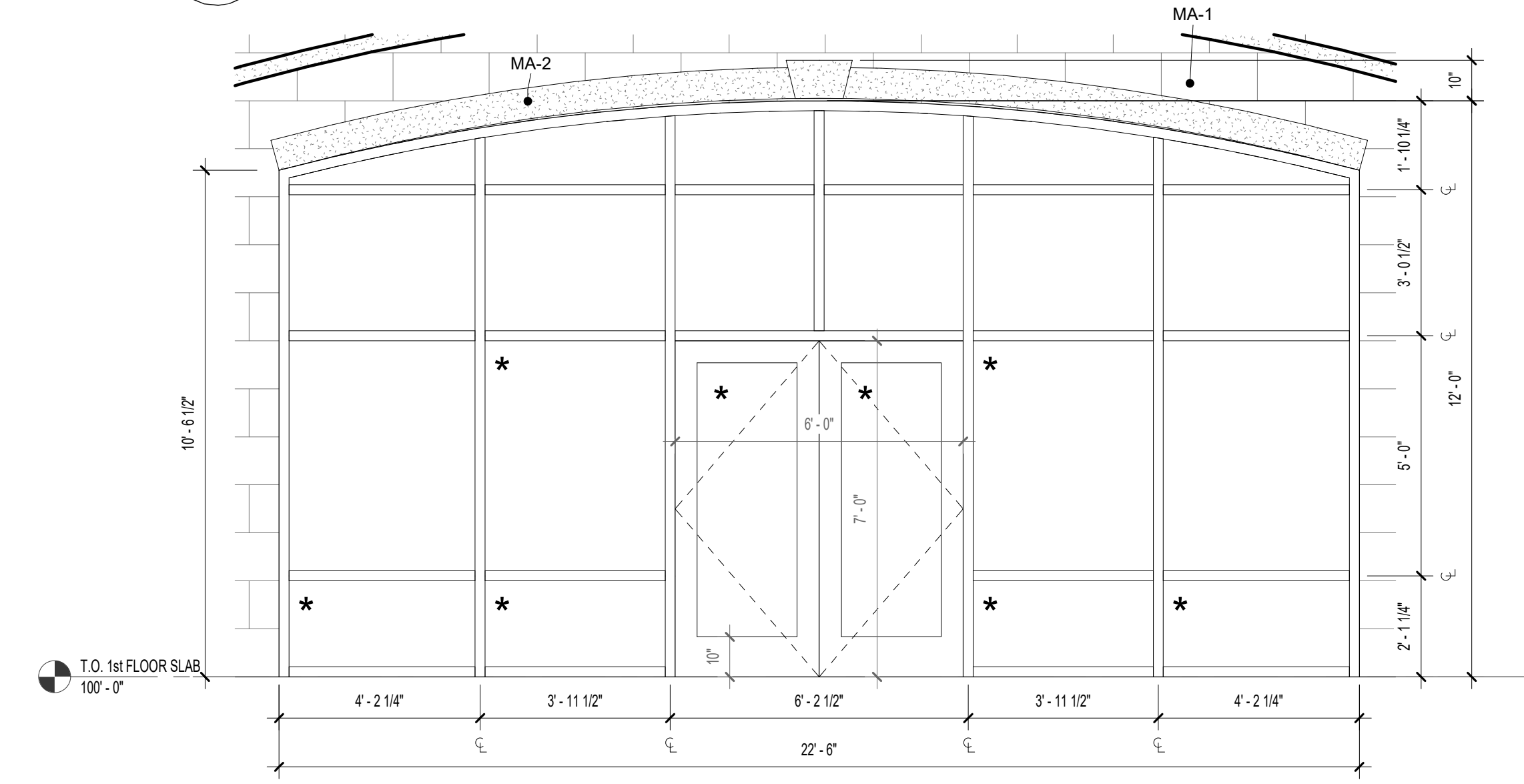
A3 SF-7 PANEL
3/8" = 1'-0"



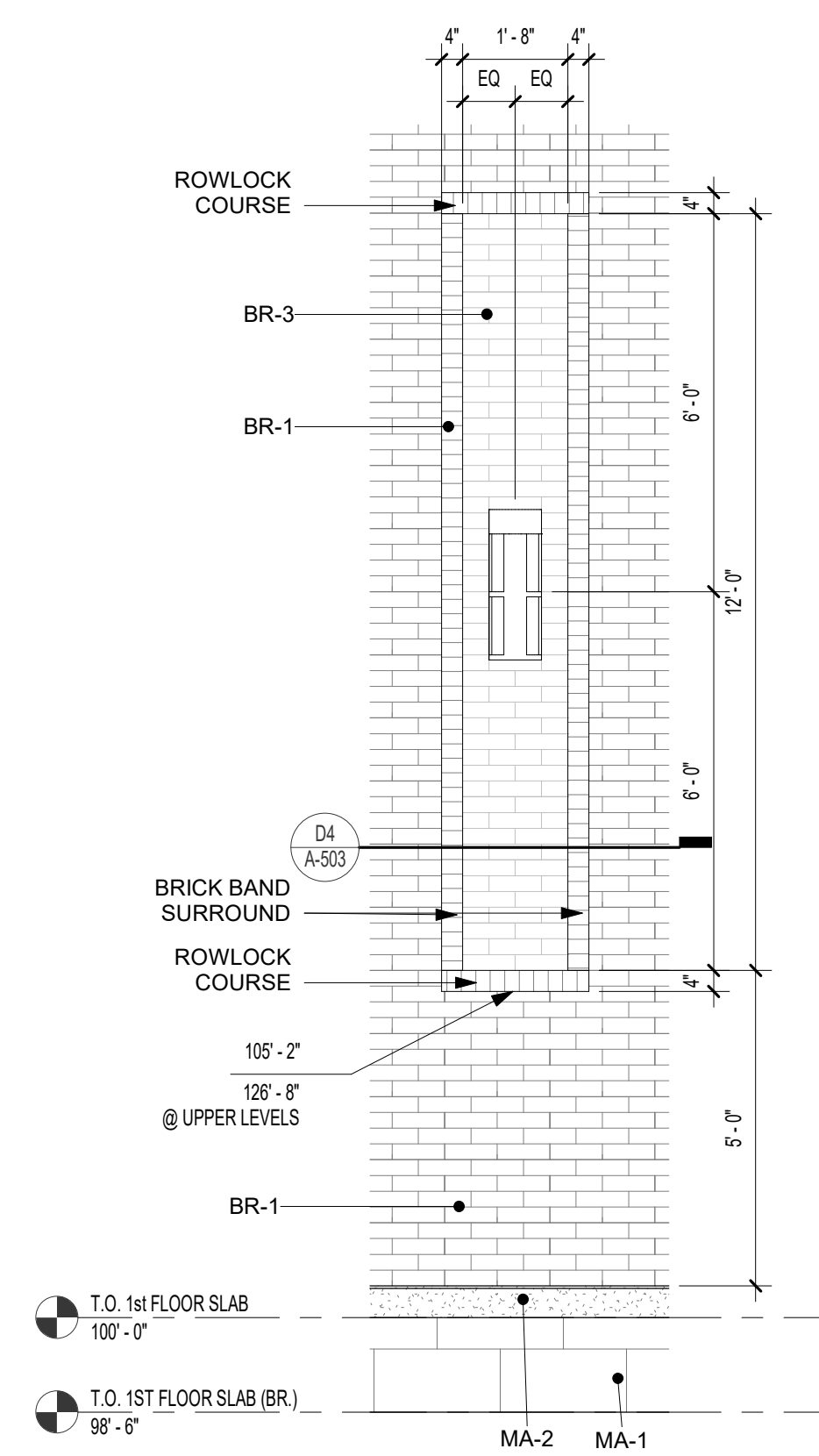
C2 SF-6 PANEL W/ DOOR
3/8" = 1'-0"



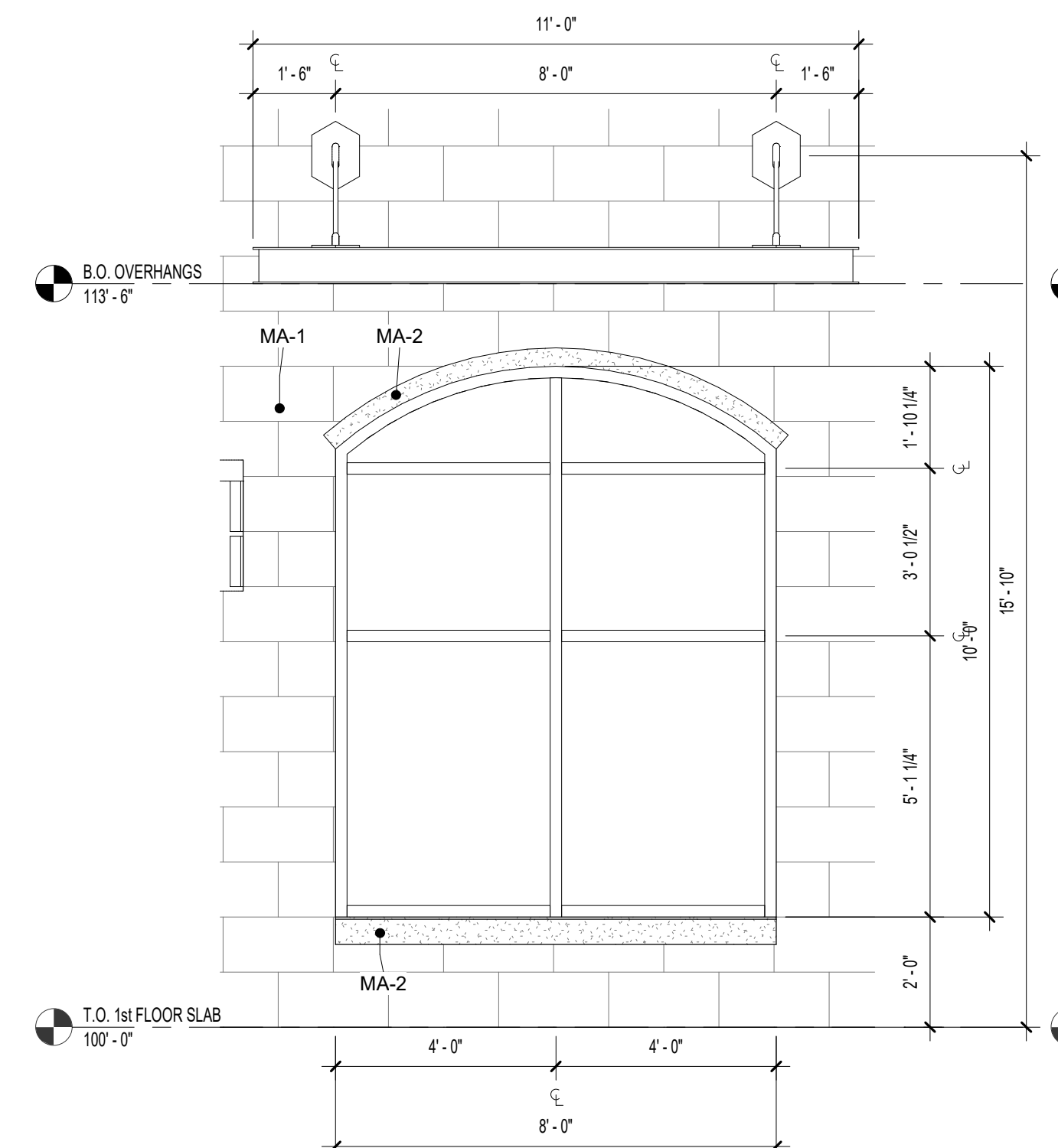
B2 SF-5 PANEL W/ DOOR
3/8" = 1'-0"



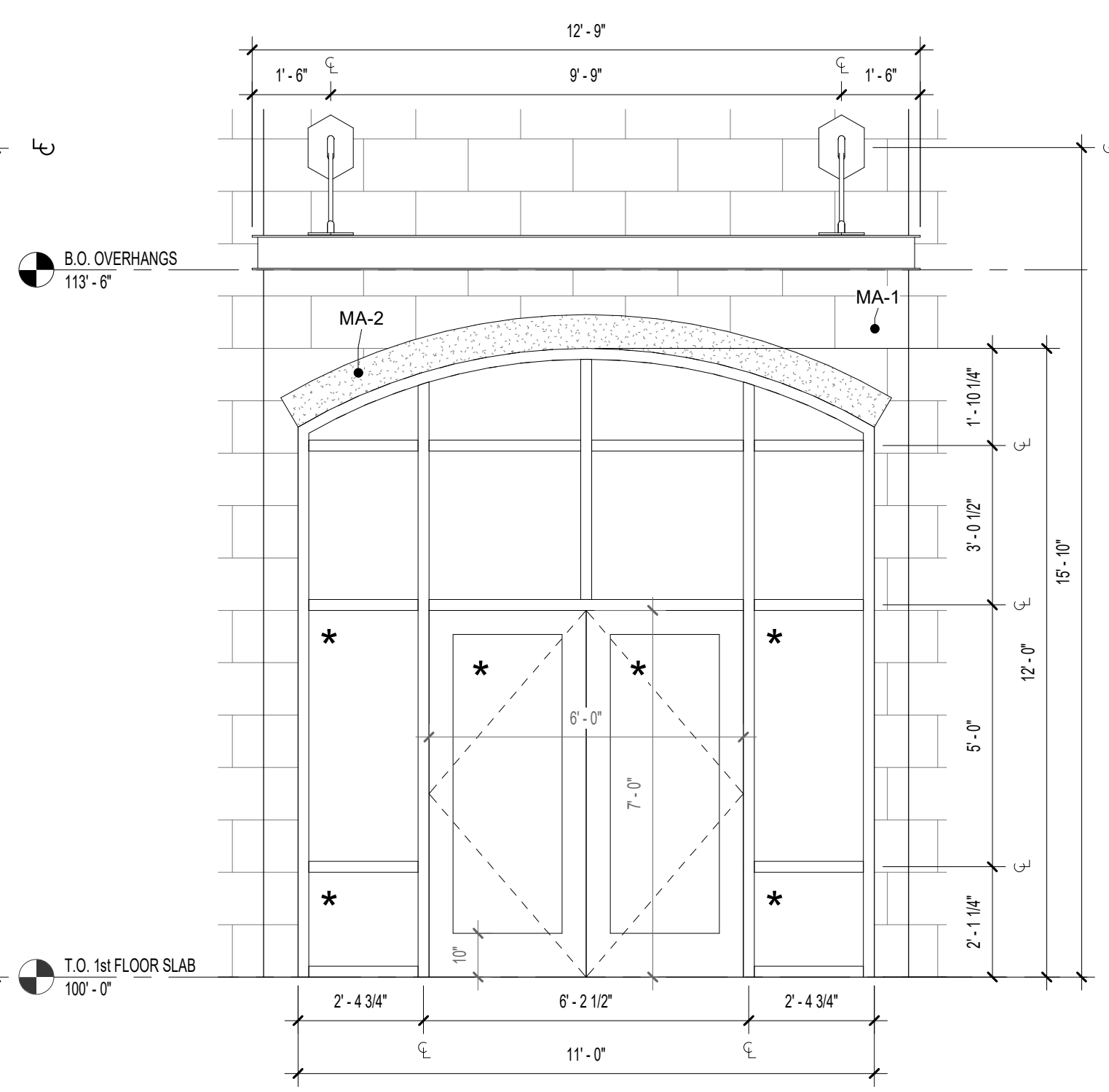
A2 SF-4 PANEL W/ DOOR
3/8" = 1'-0"



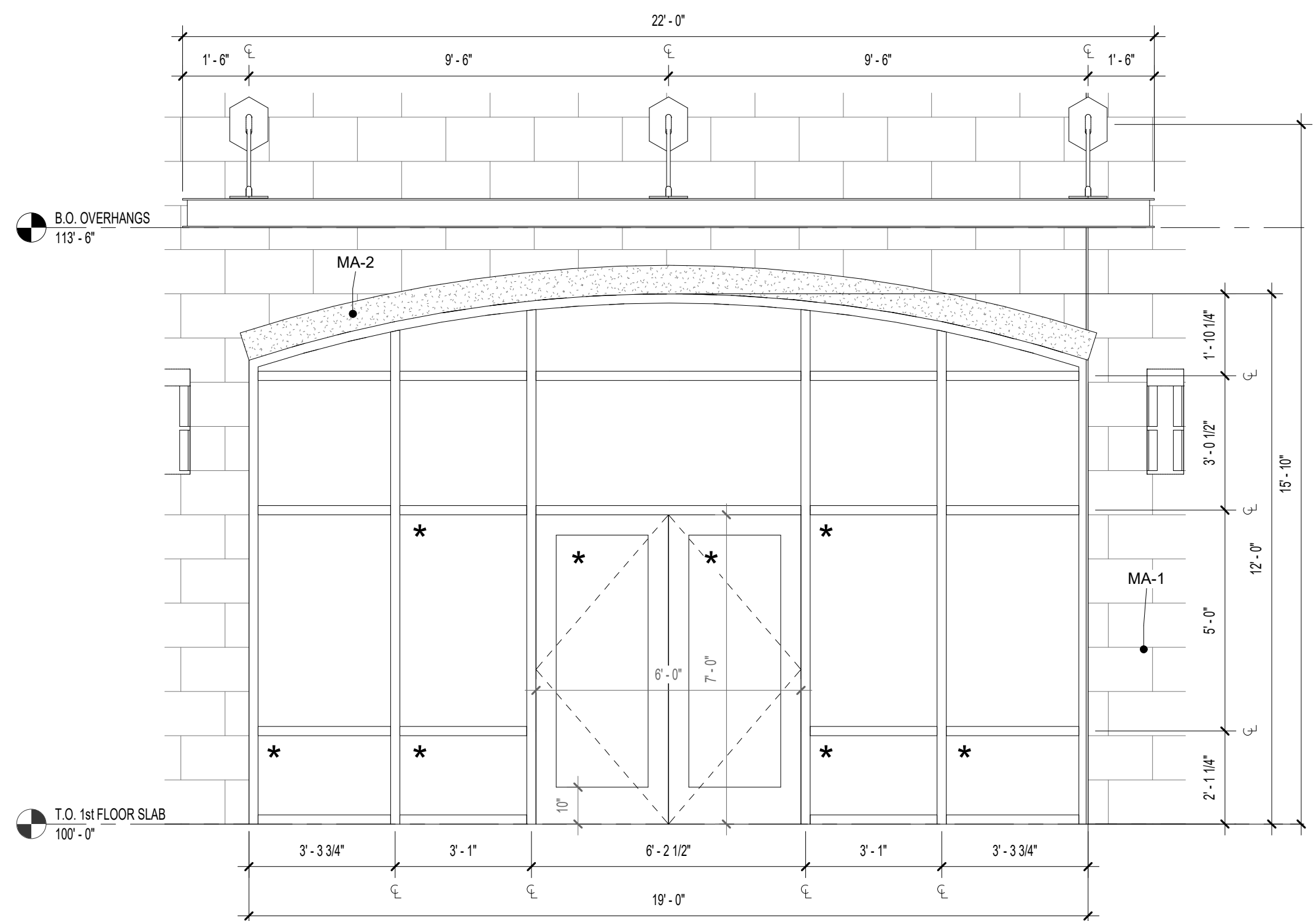
D1 DECORATIVE BRICK ELEVATION
3/8" = 1'-0"



C1 SF-3 PANEL
3/8" = 1'-0"



B1 SF-2 PANEL W/ DOOR
3/8" = 1'-0"



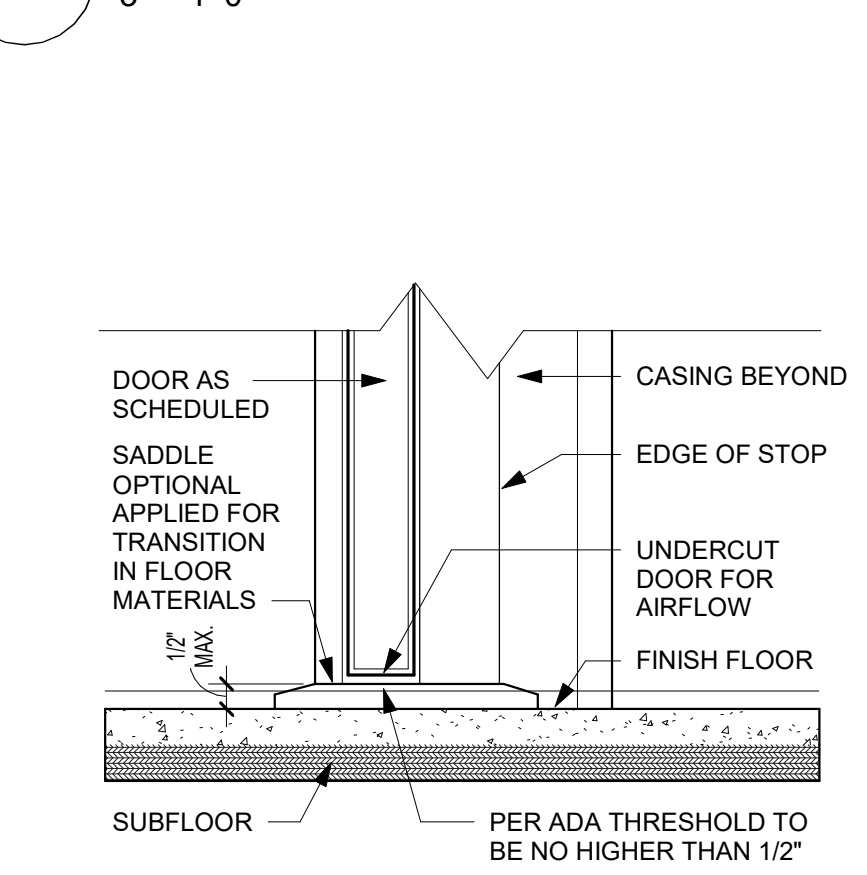
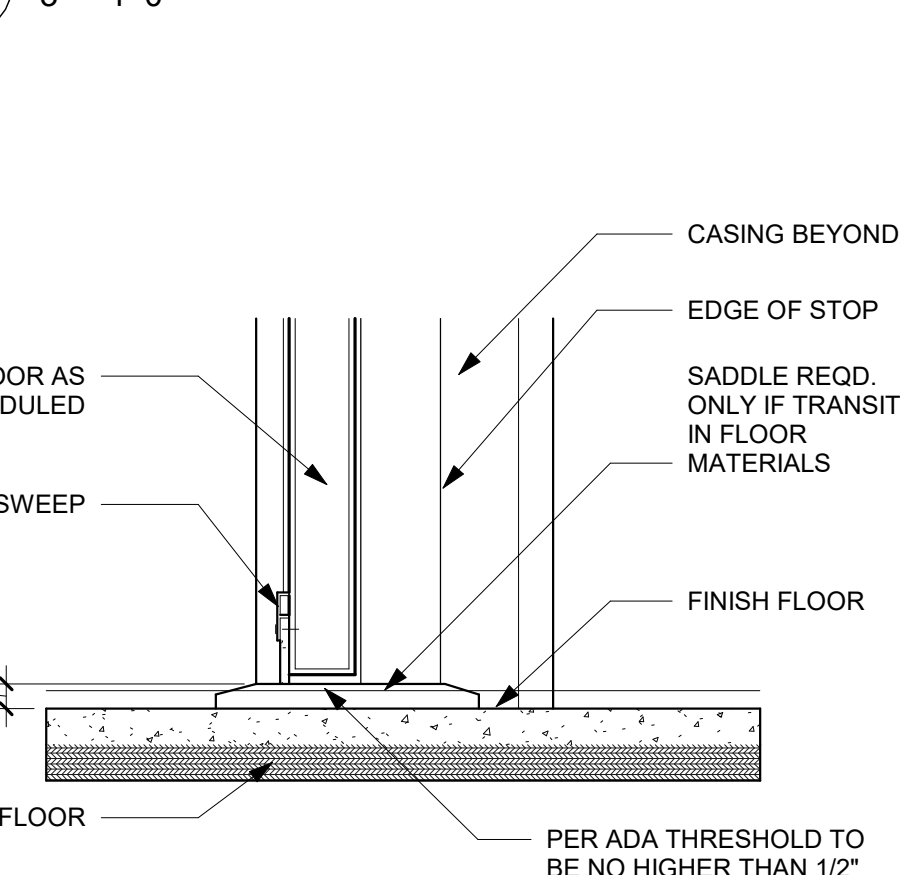
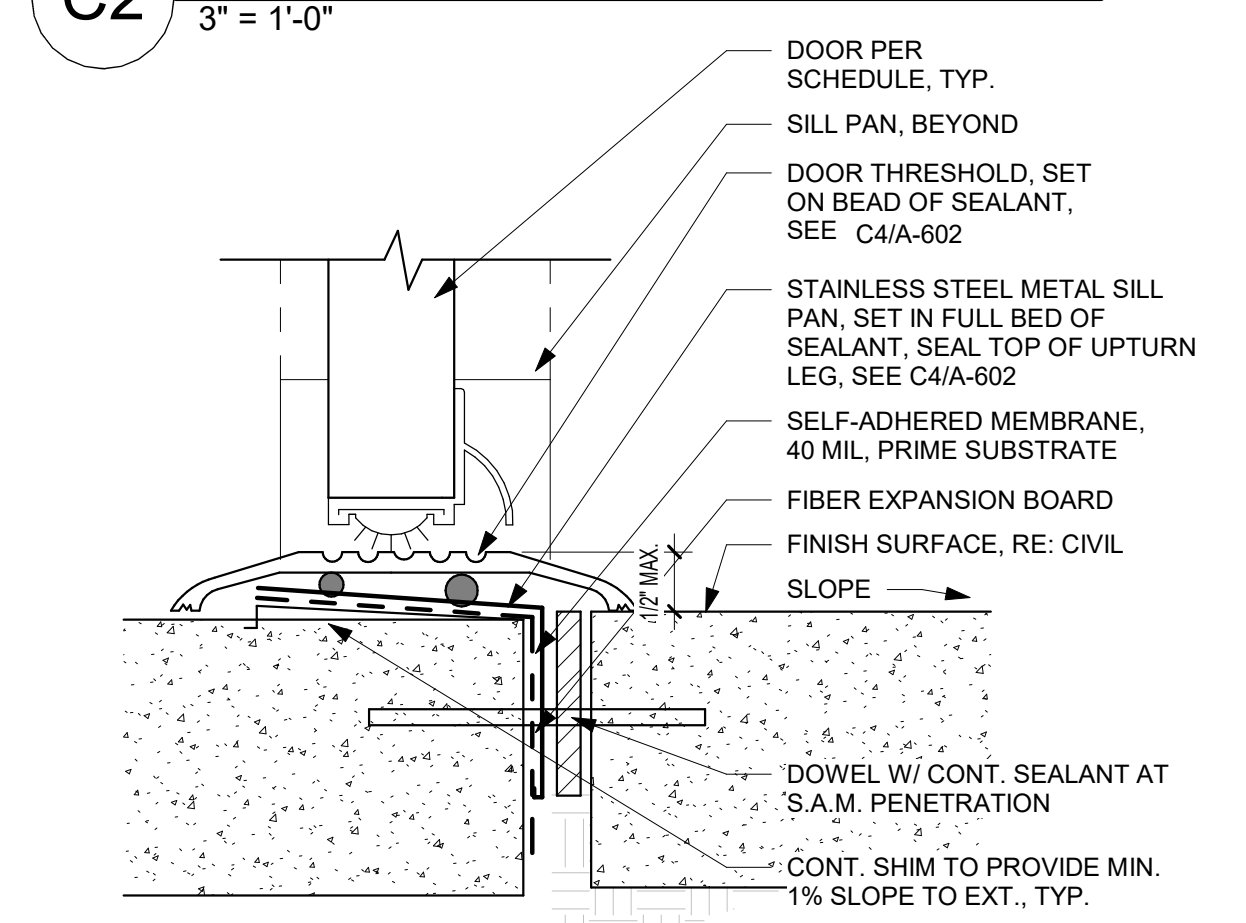
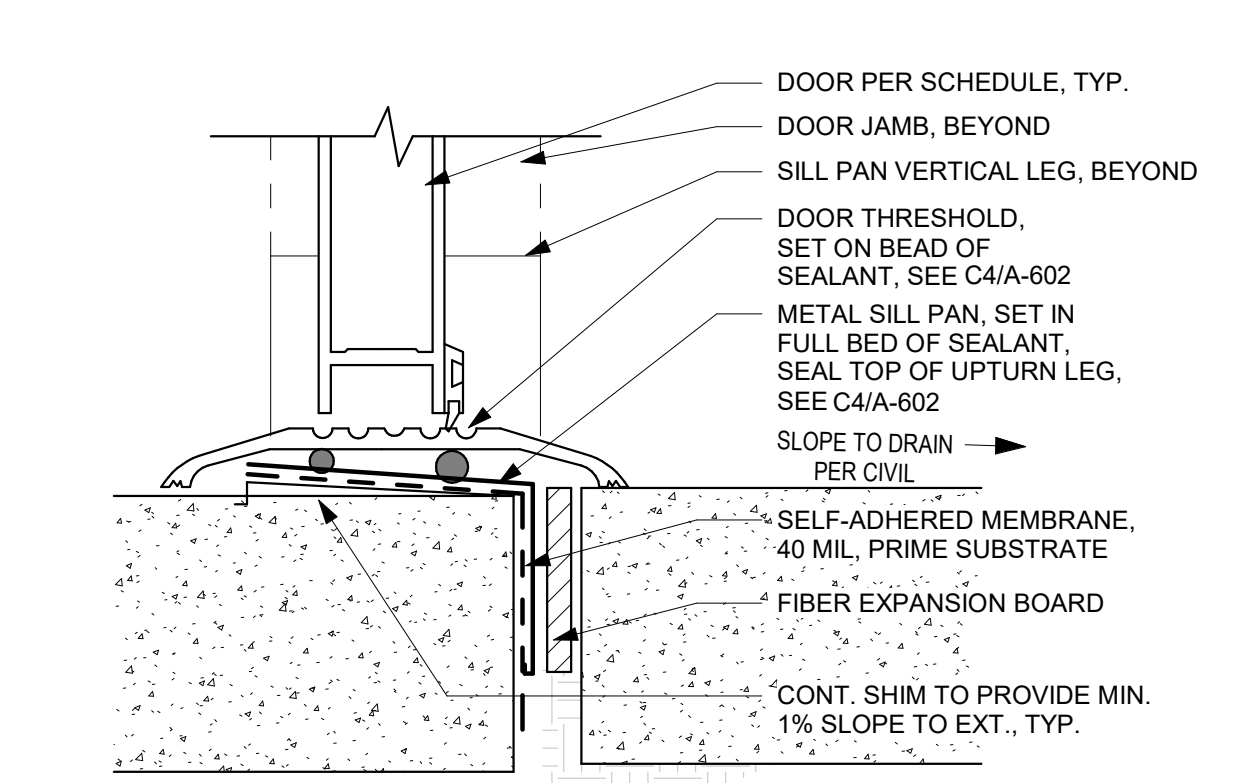
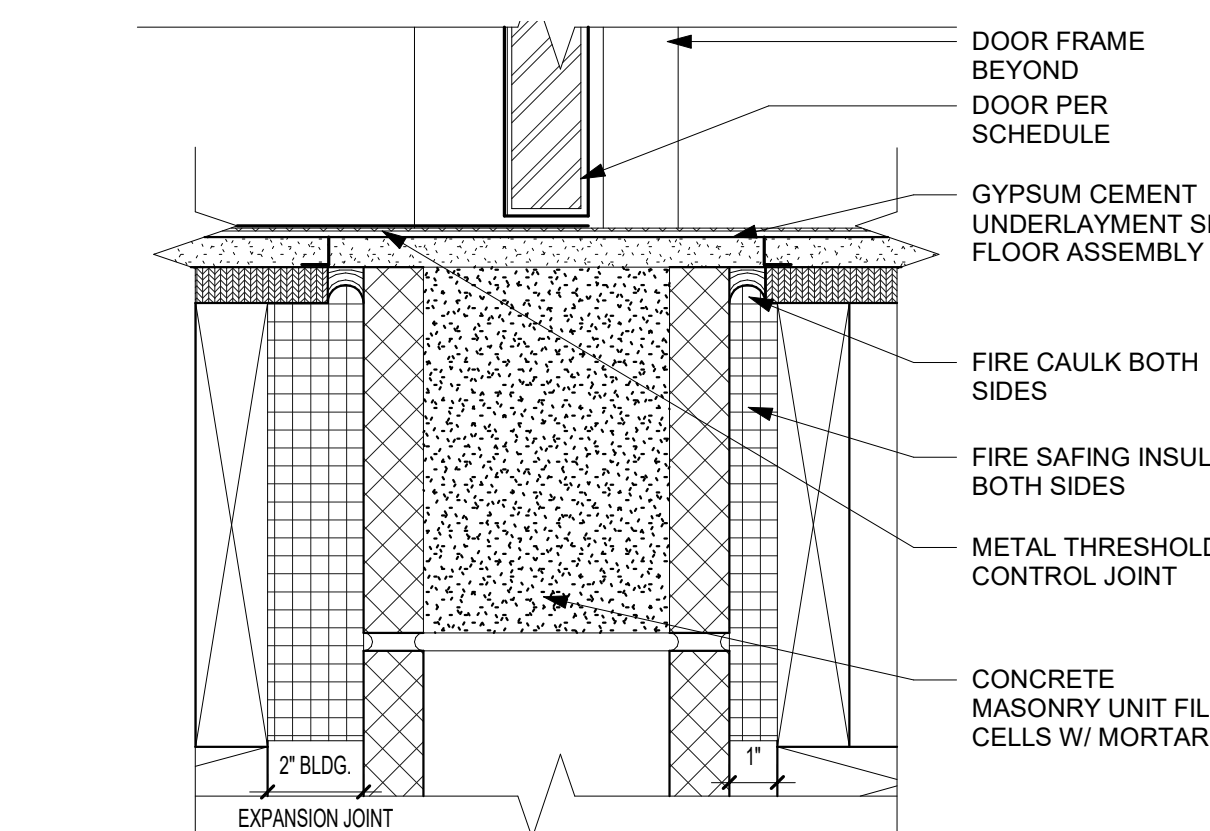
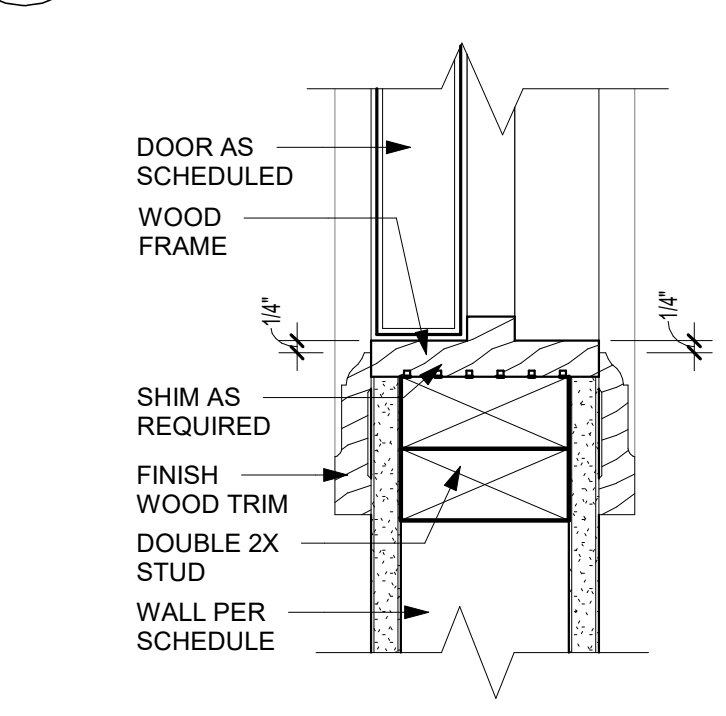
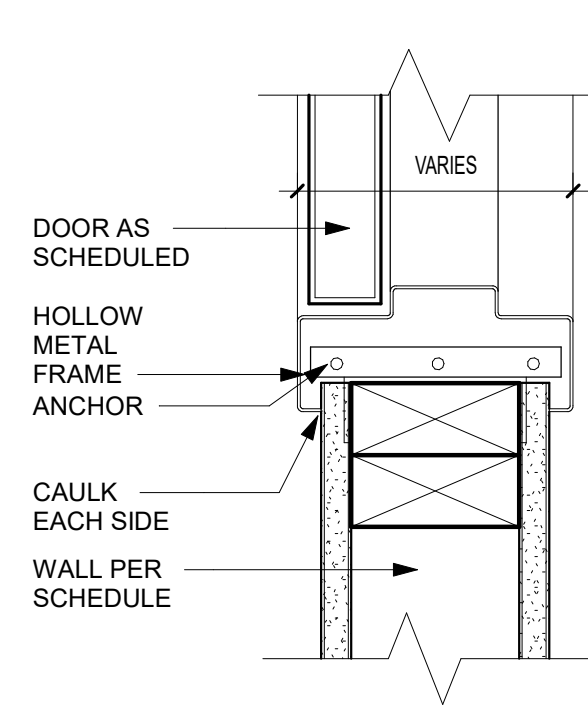
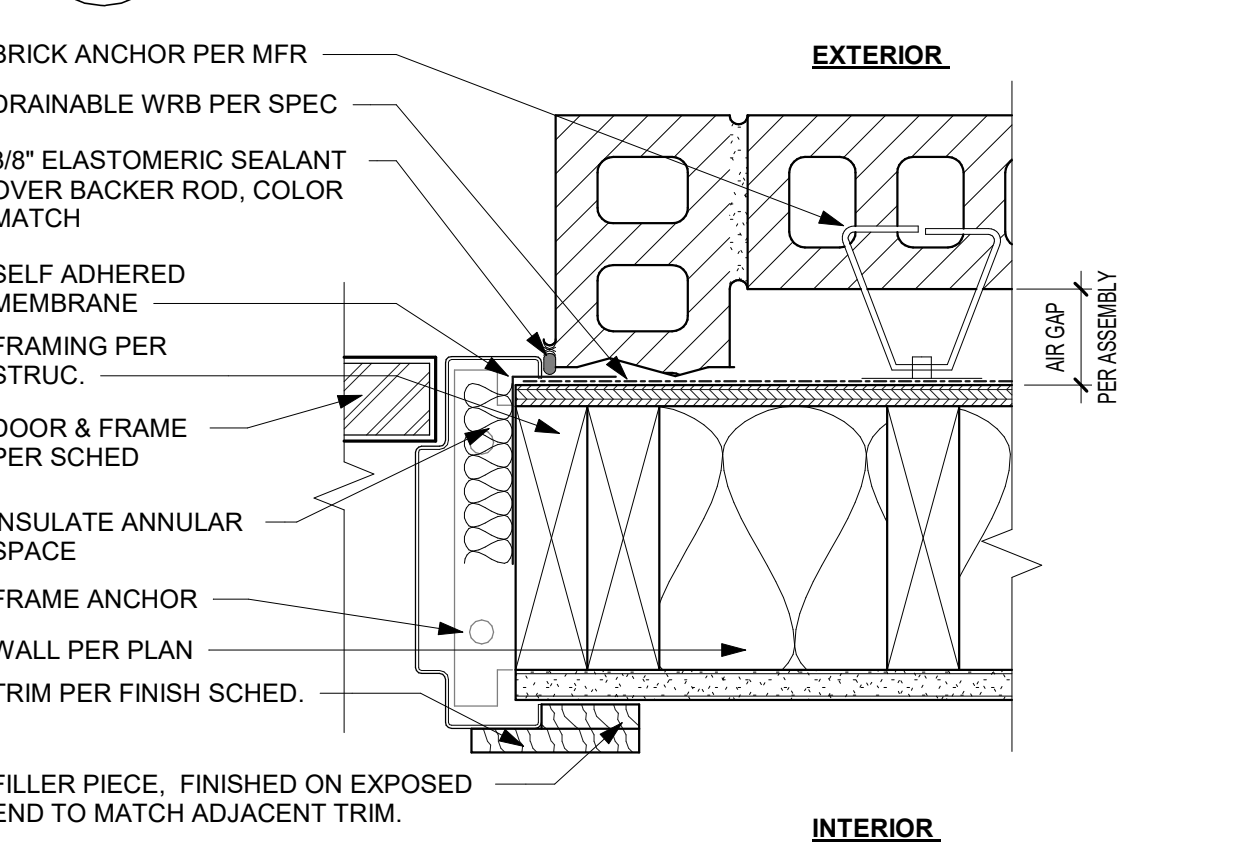
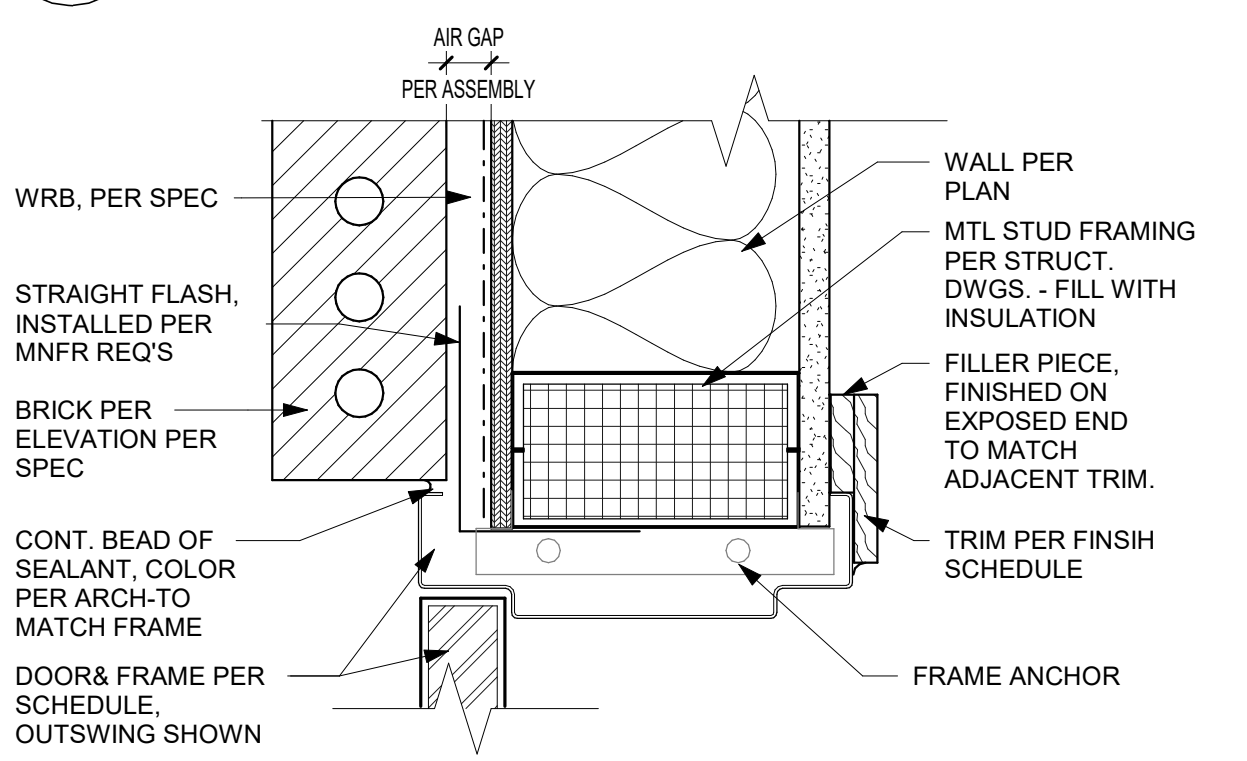
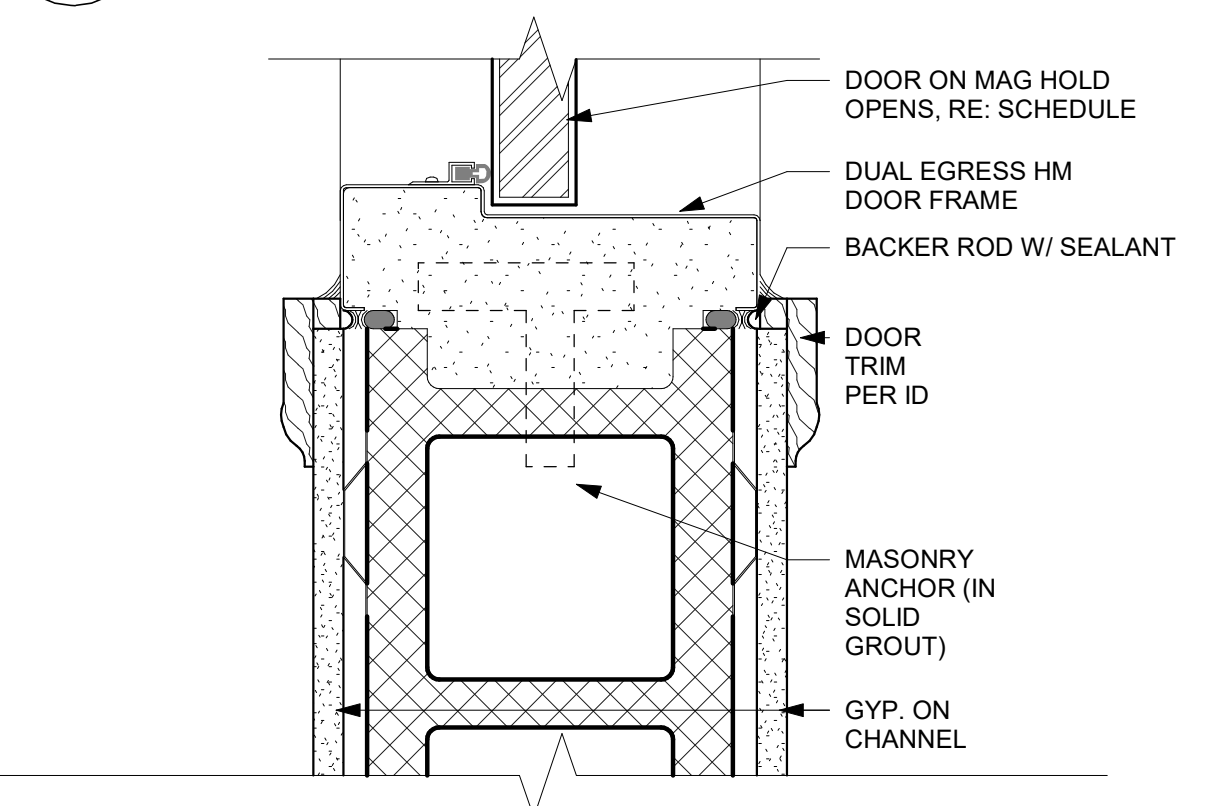
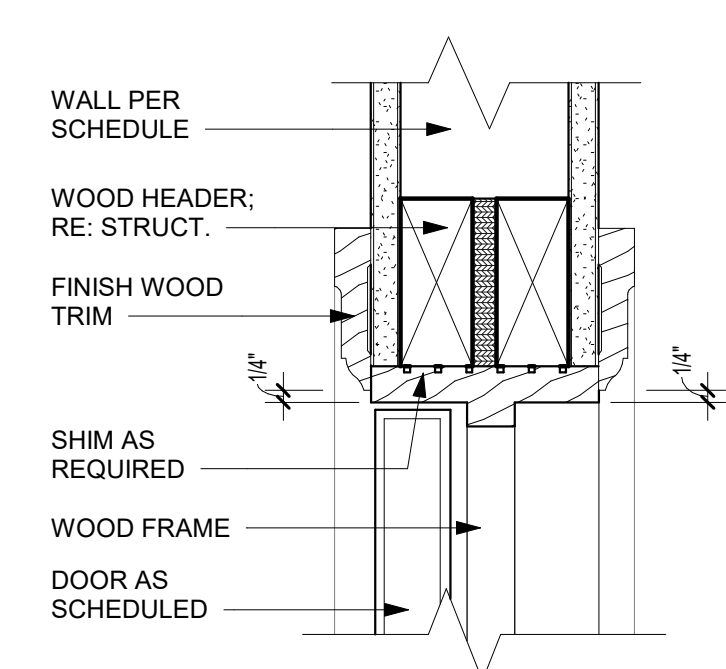
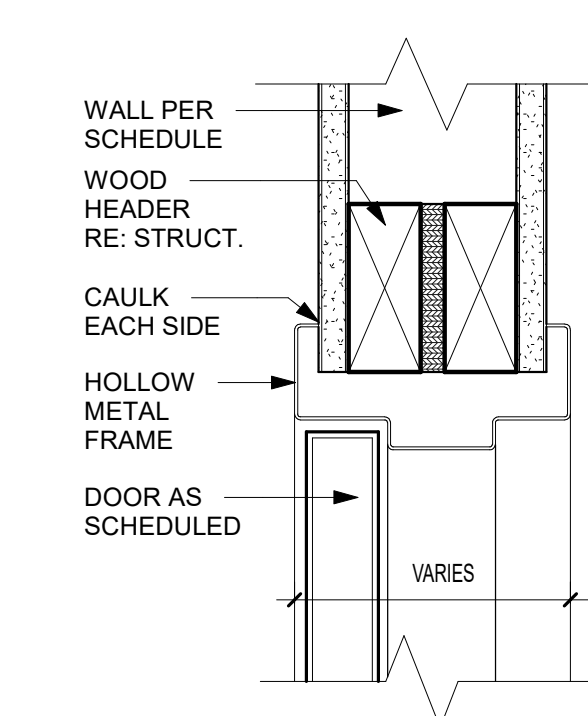
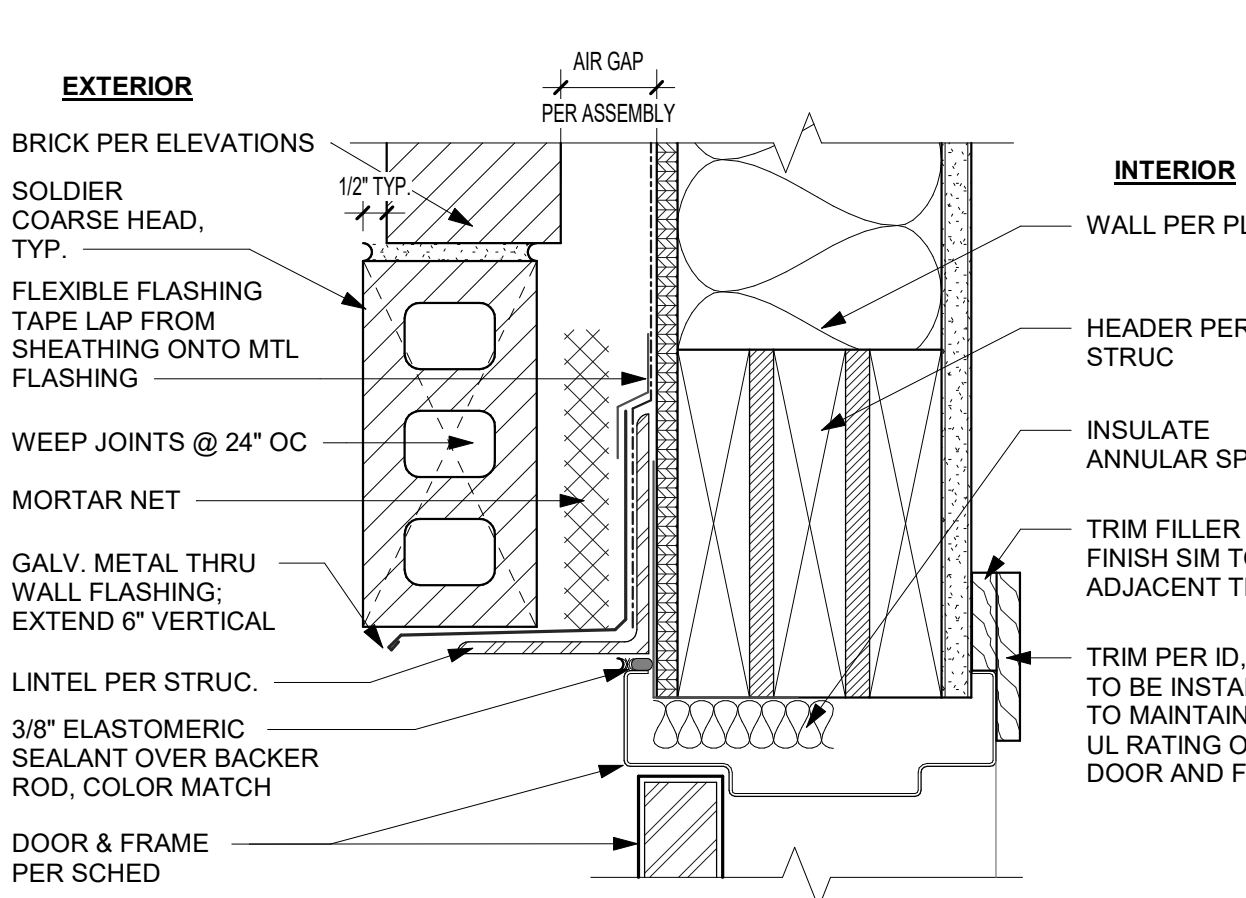
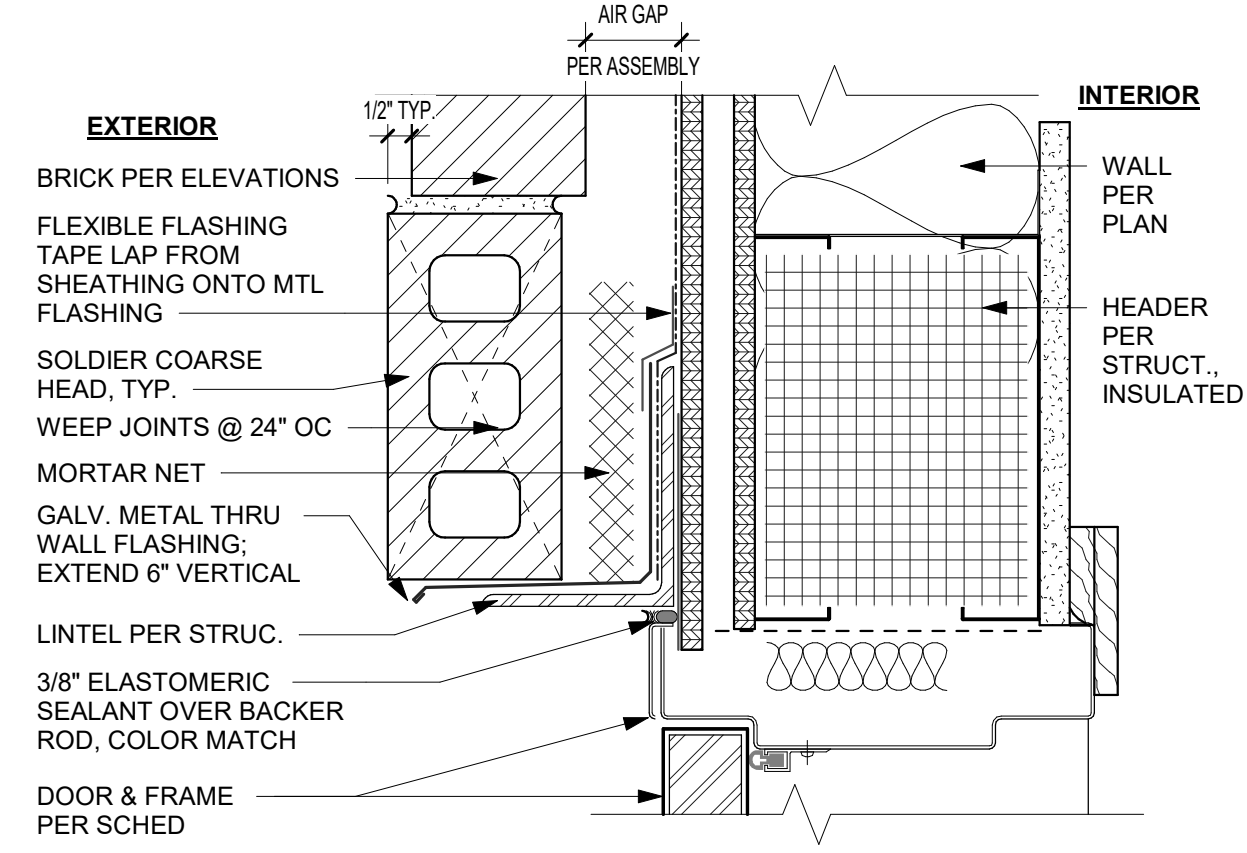
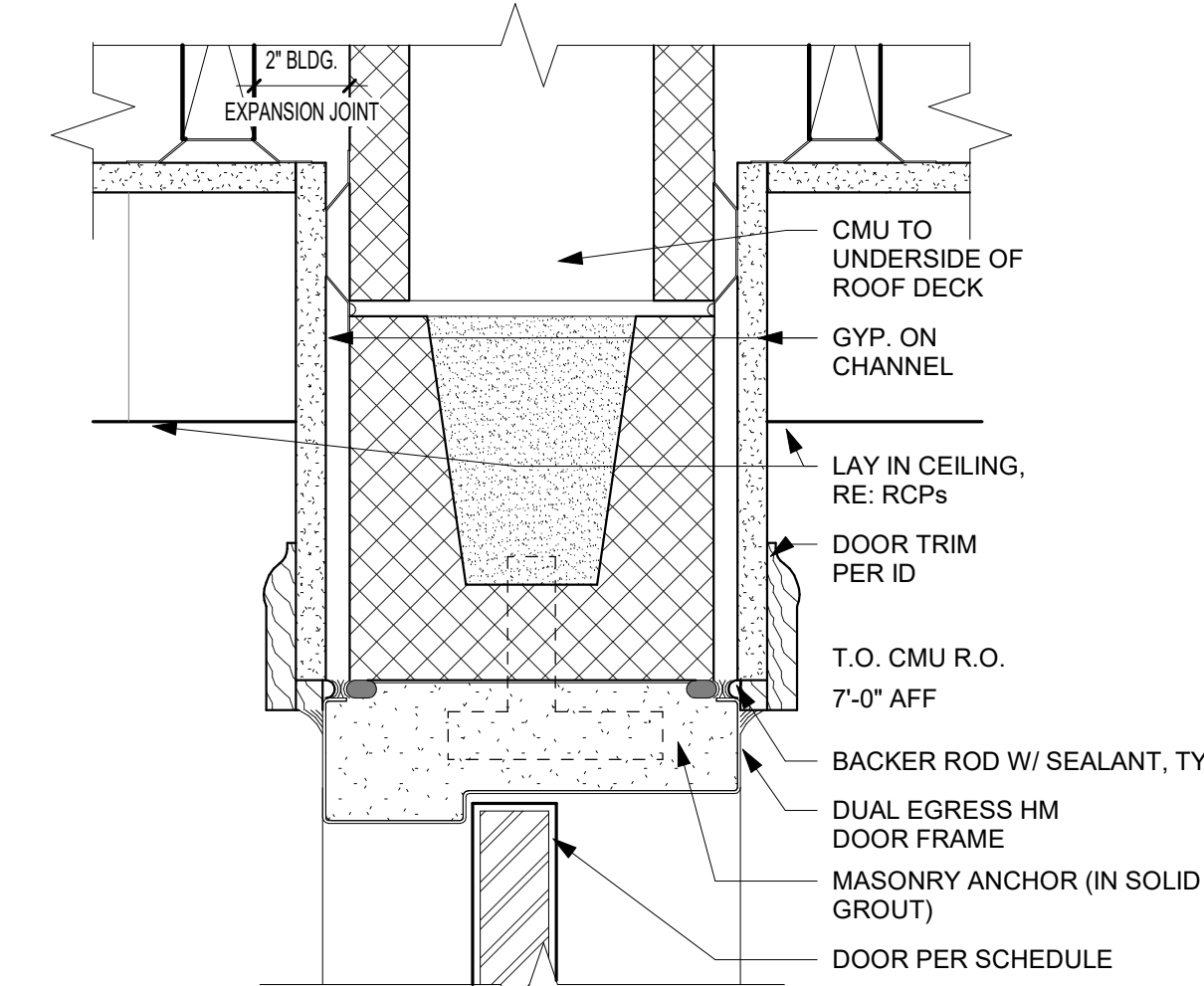
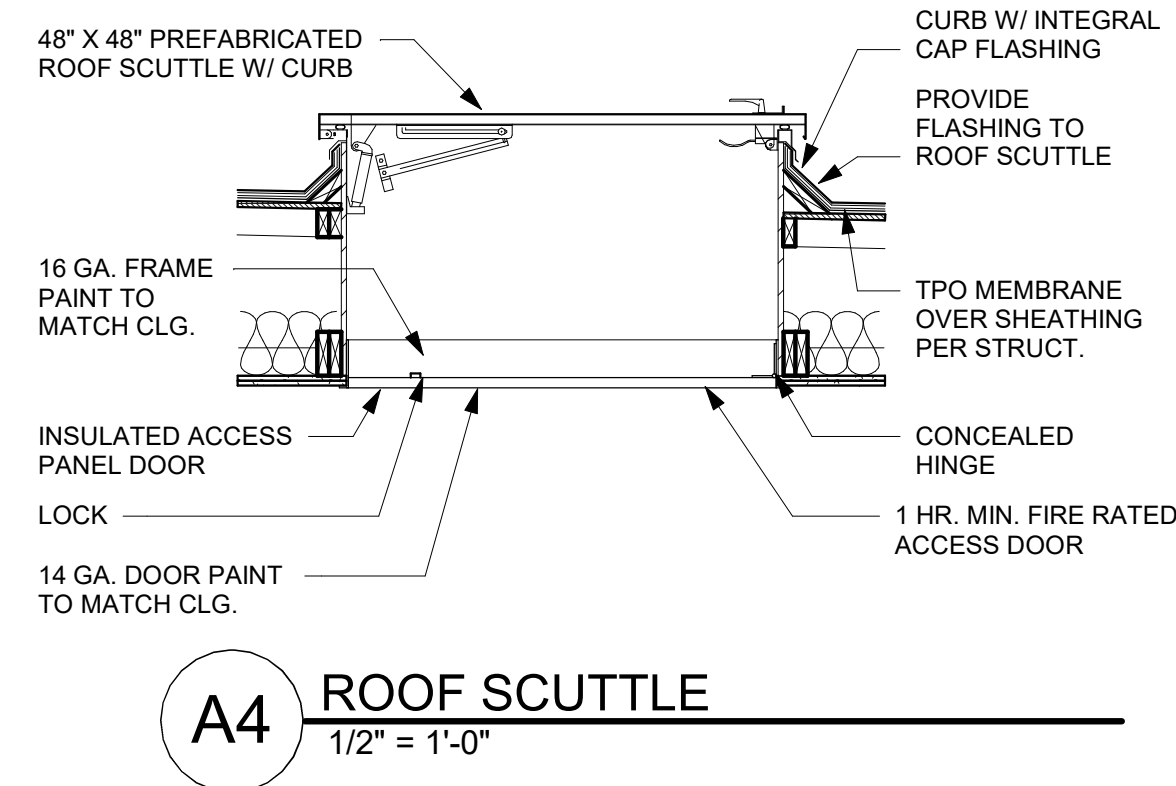
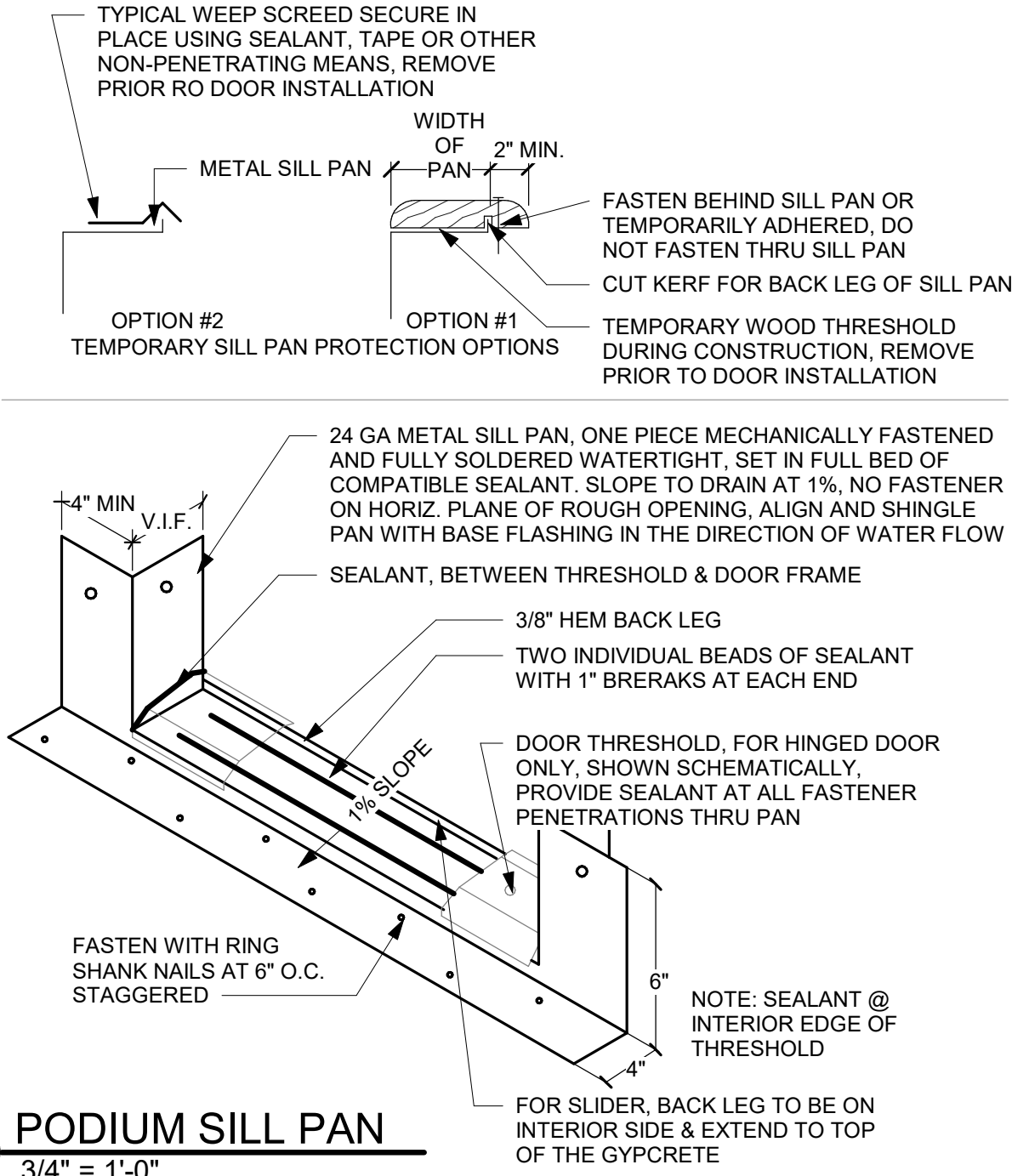
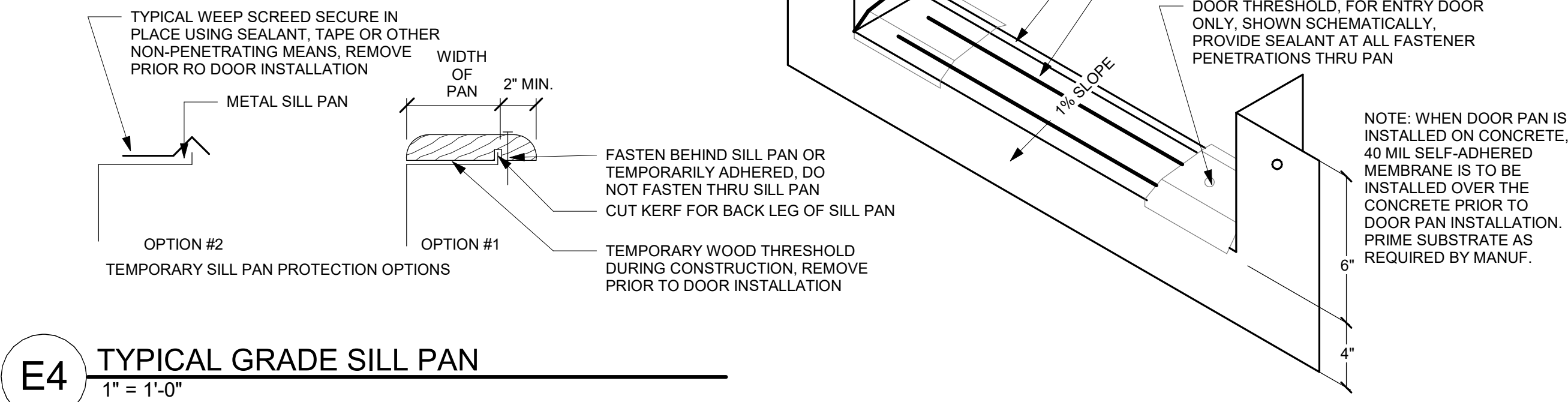
A1 SF-1 PANEL W/ DOOR
3/8" = 1'-0"

REFERENCE G-003 FOR GENERAL NOTES

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DISCOVERY PARK - LOT #10-A

LEE'S SUMMIT, MO

SHEET TITLE
DOOR DETAILS

PROJECT NUMBER: 24004

SHEET NUMBER:

A-602



12/20/24

LEE'S SUMMIT, MO

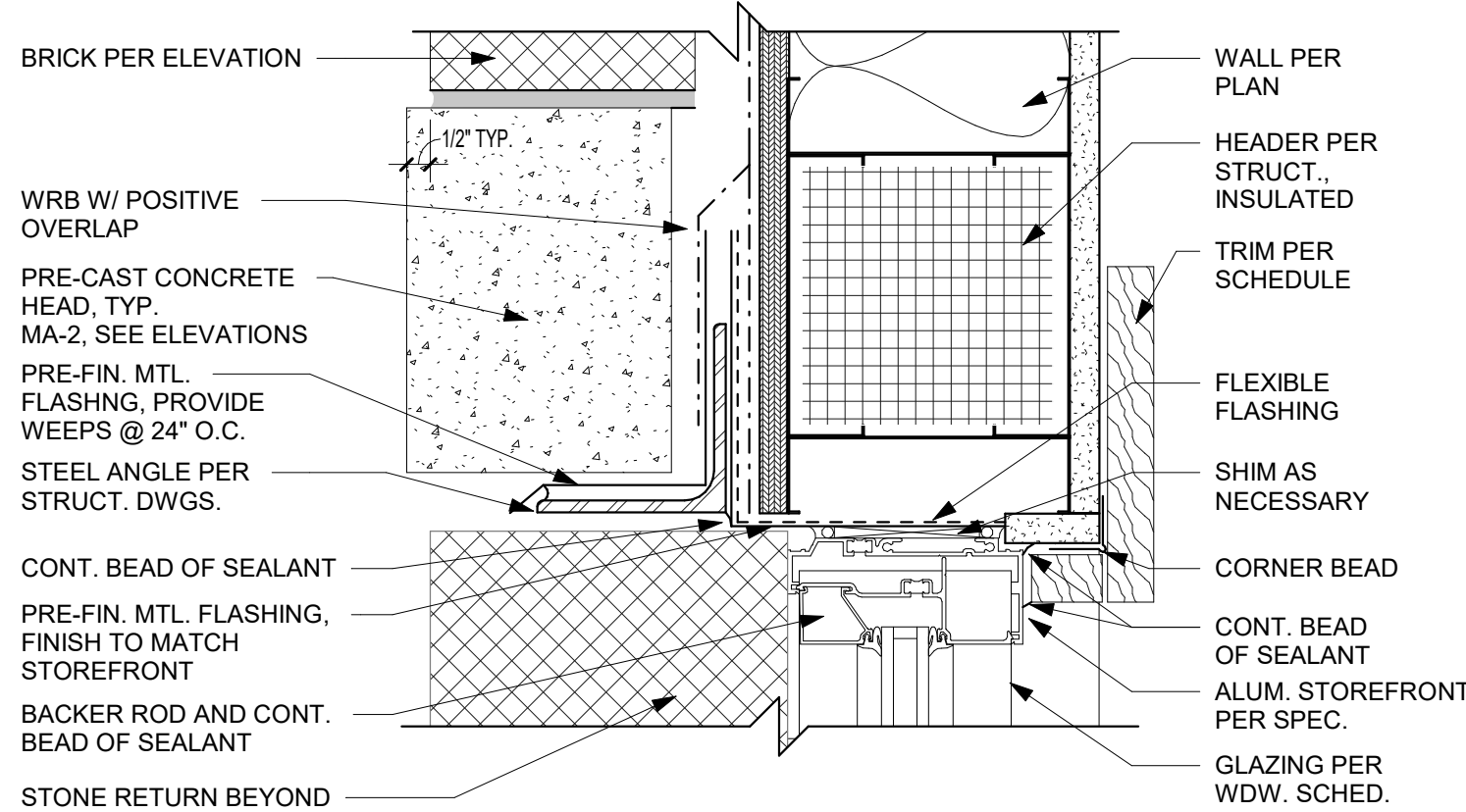
DISCOVERY PARK - LOT #10-A

SHEET TITLE
WINDOW DETAILS

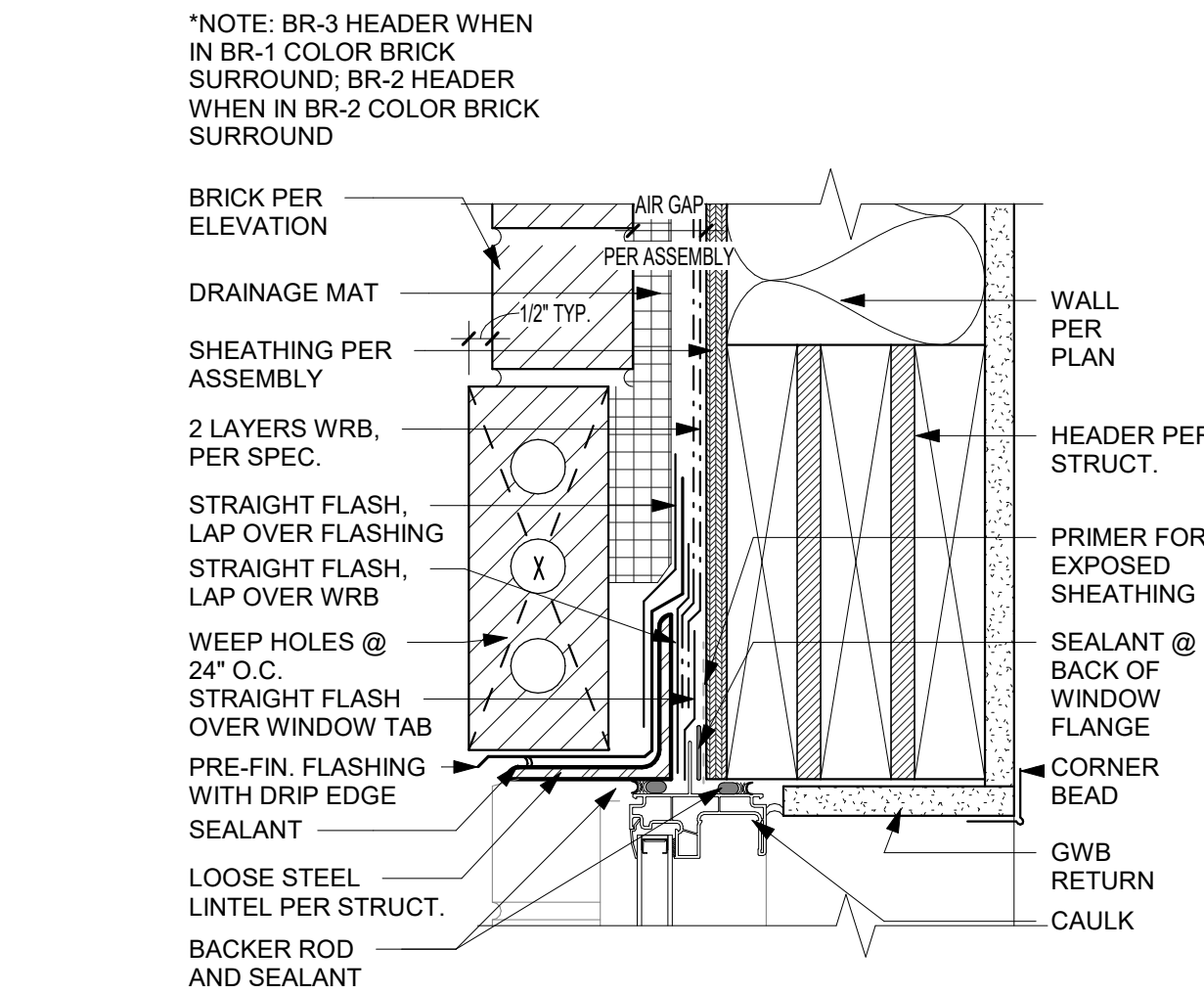
PROJECT NUMBER: 24004

SHEET NUMBER:

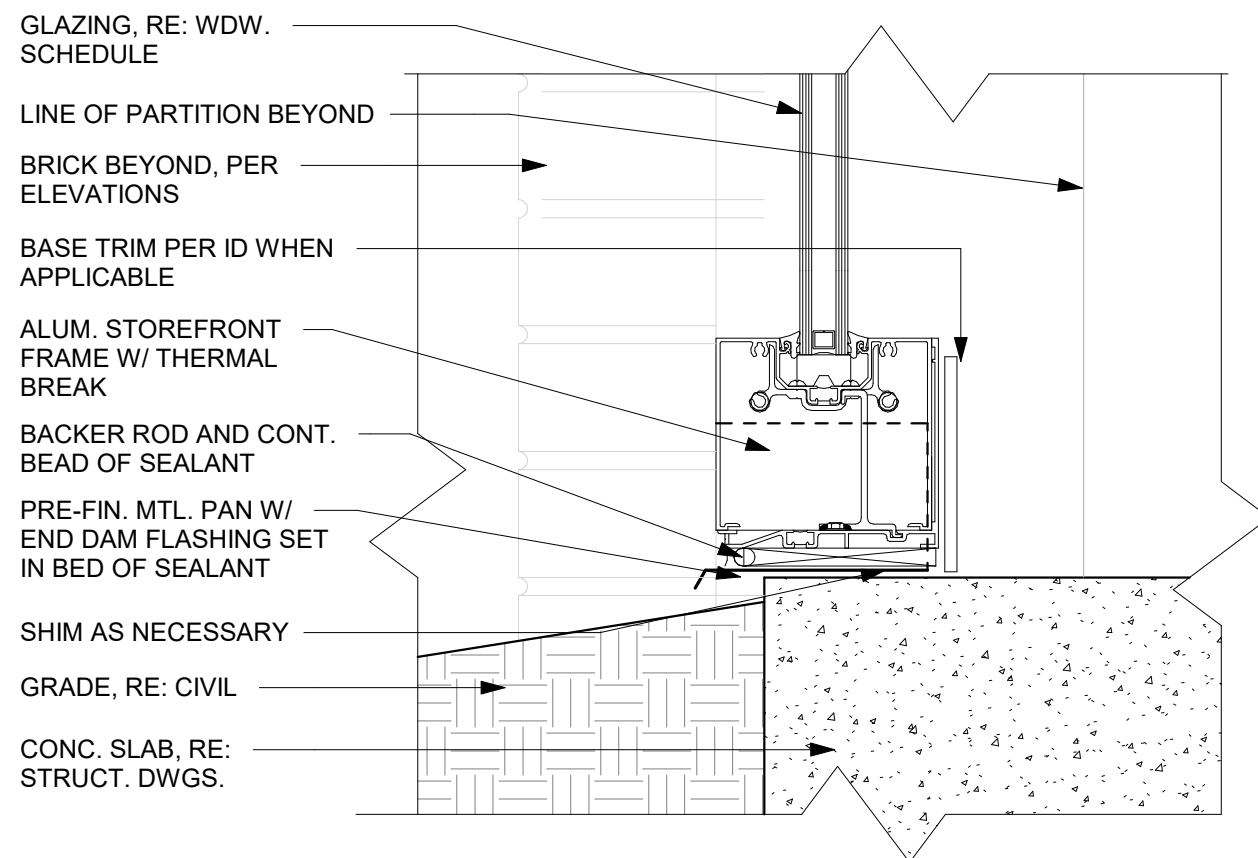
A-603



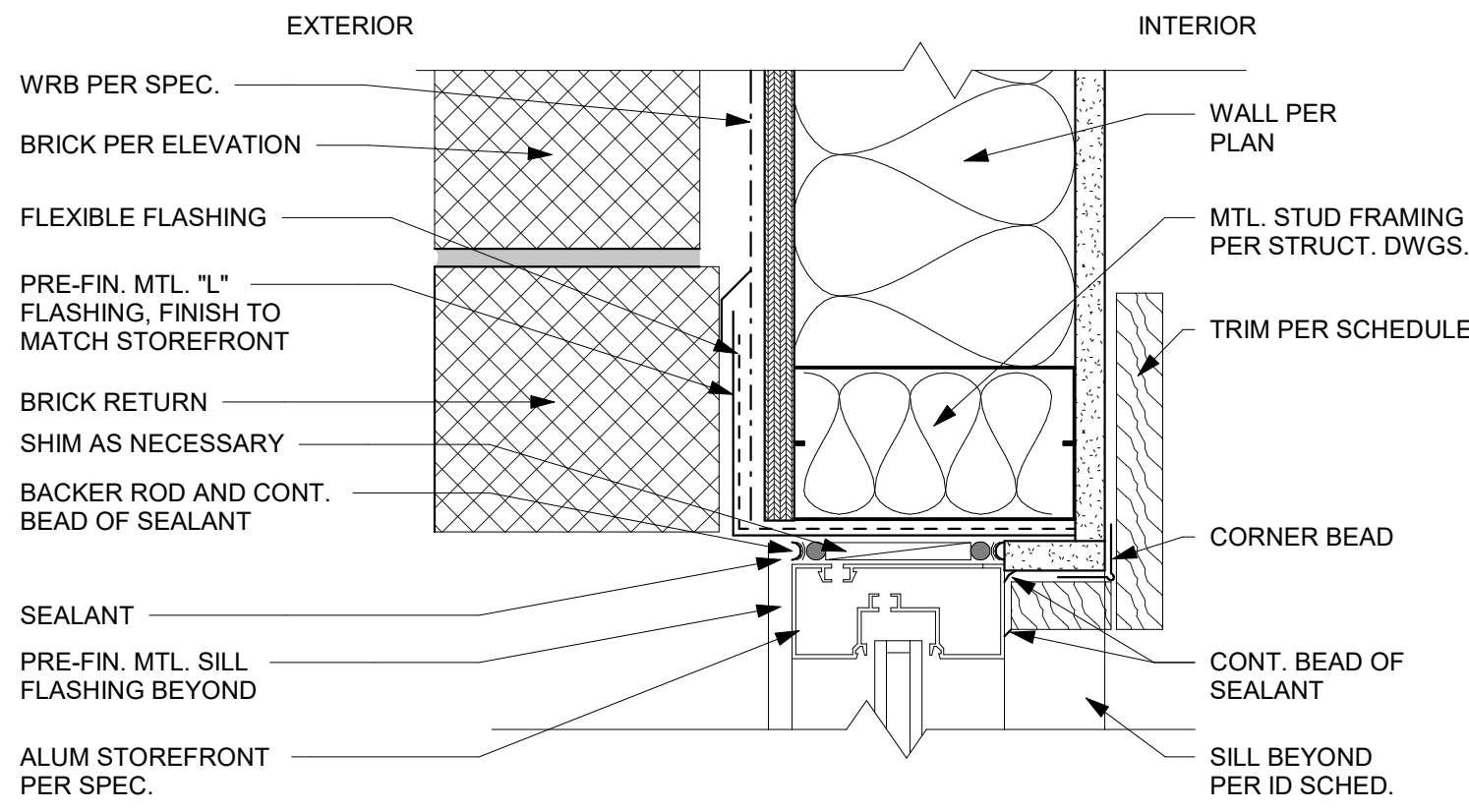
B3 STOREFRONT MTL HEAD - STONE
3" = 1'-0"



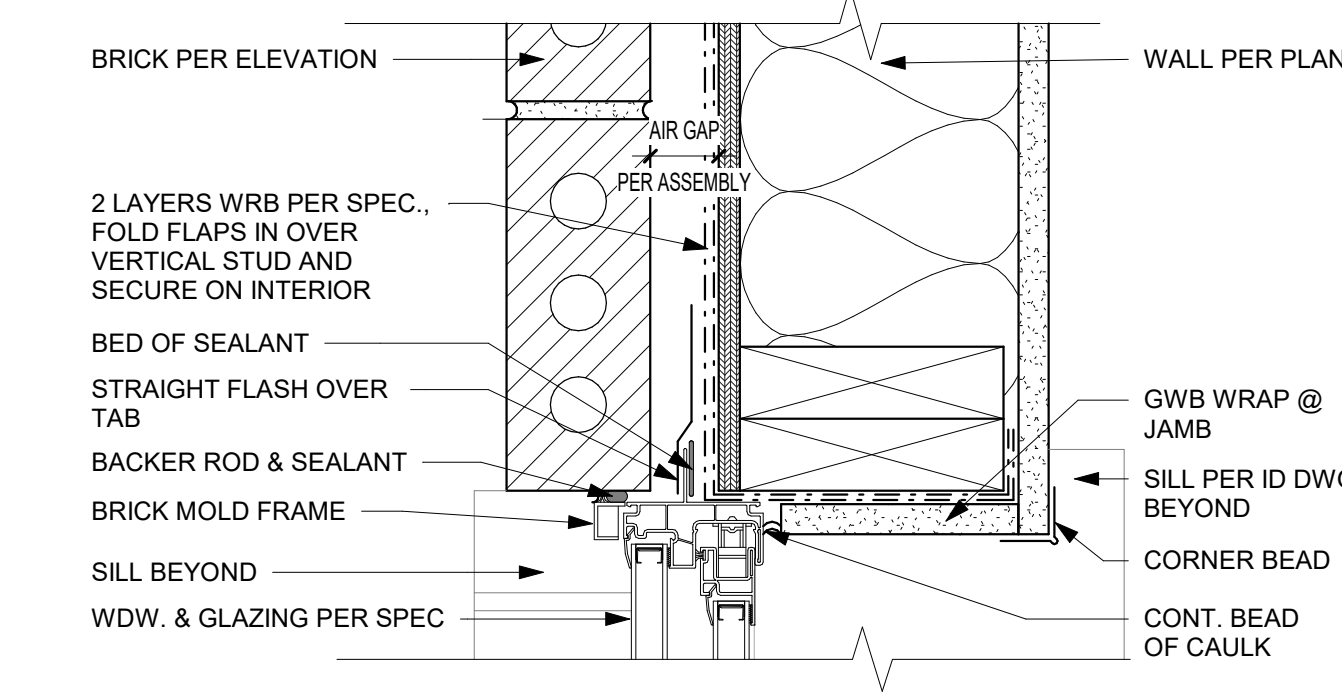
A3 WINDOW HEAD - BRICK
3" = 1'-0"



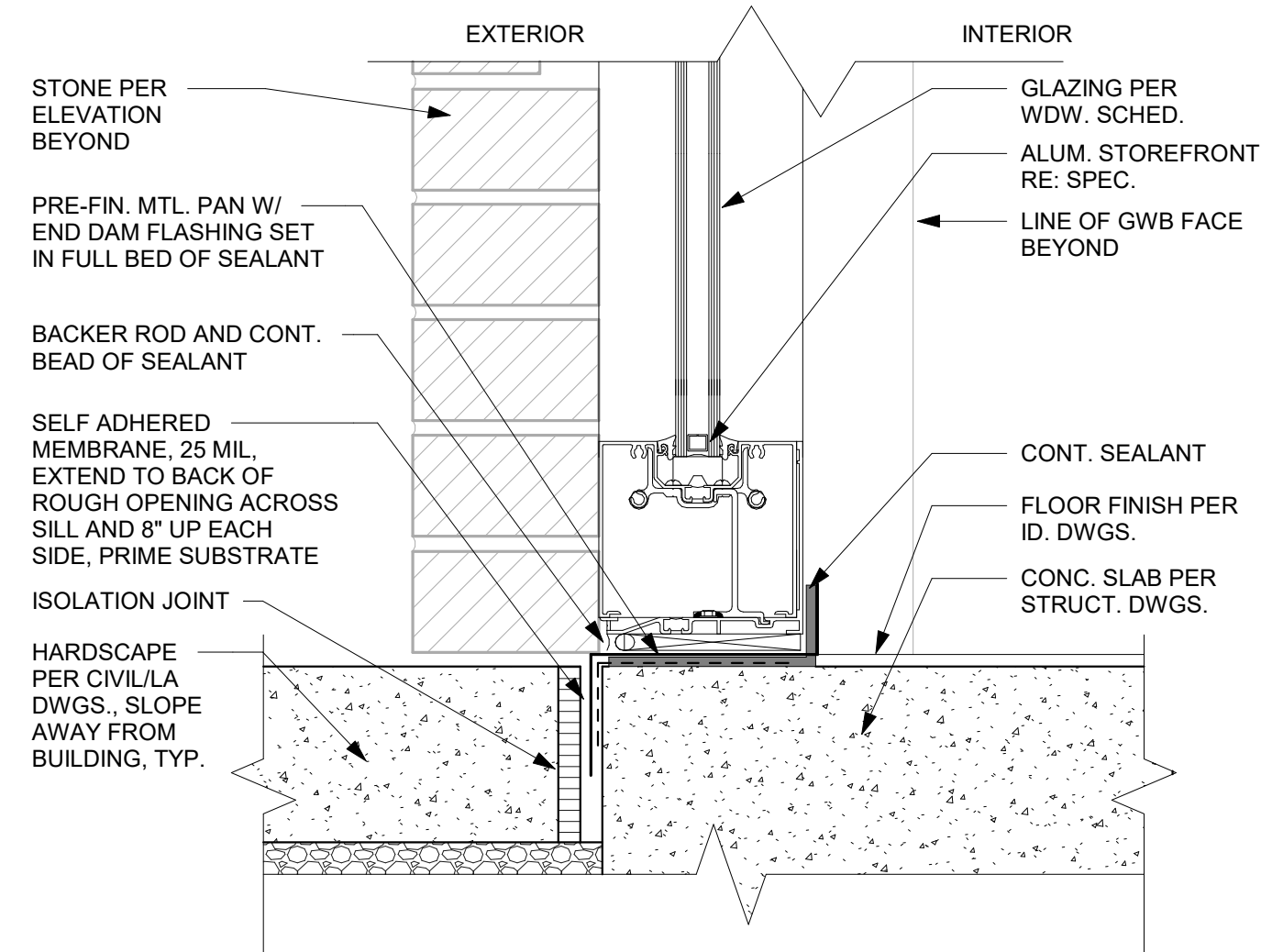
C2 STOREFRONT THRESHOLD - GRADE
3" = 1'-0"



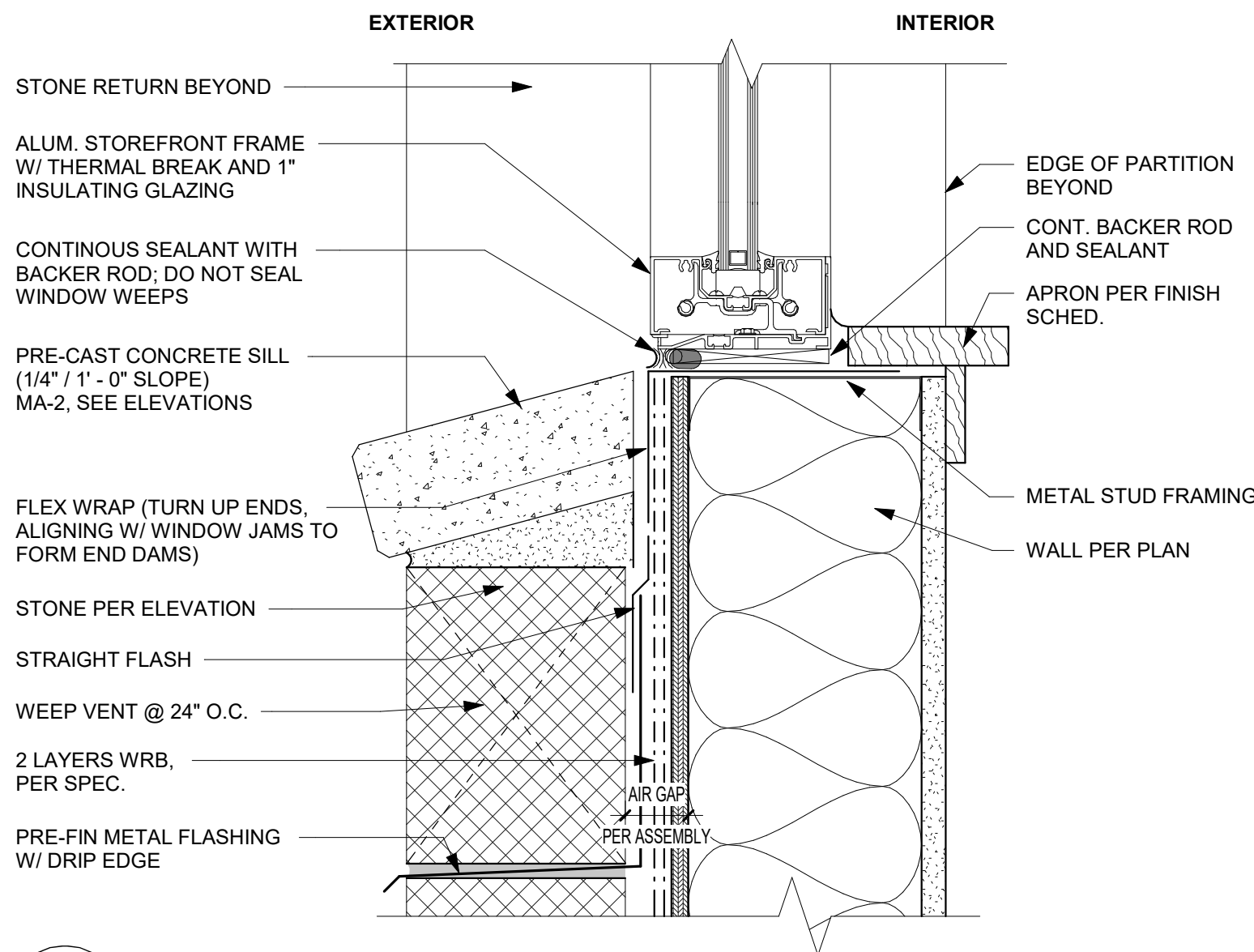
B2 STOREFRONT MTL JAMB - STONE
3" = 1'-0"



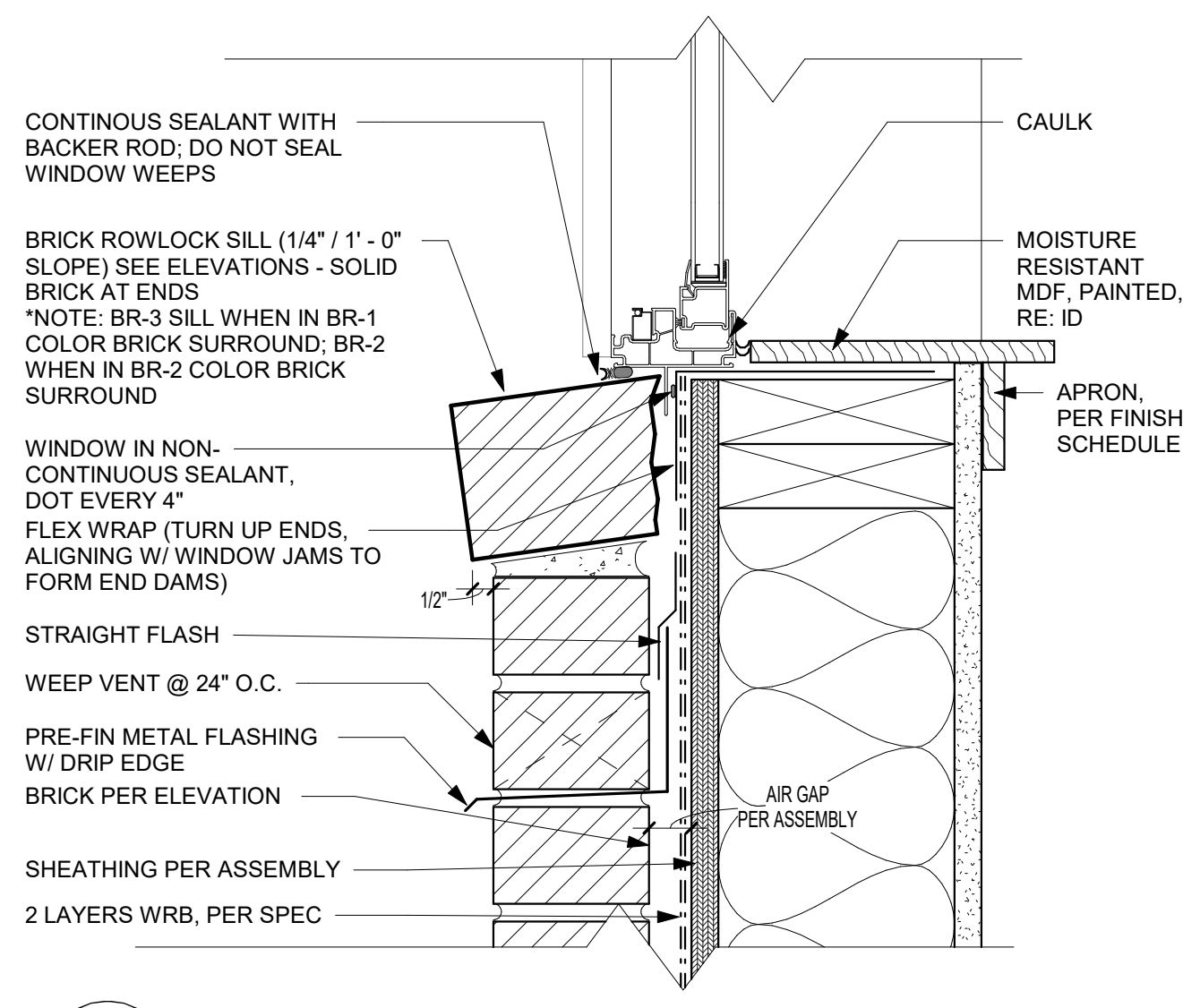
A2 WINDOW JAMB - BRICK
3" = 1'-0"



C1 STOREFRONT THRESHOLD - HARDSCAPE
3" = 1'-0"



B1 STOREFRONT SILL - STONE
3" = 1'-0"



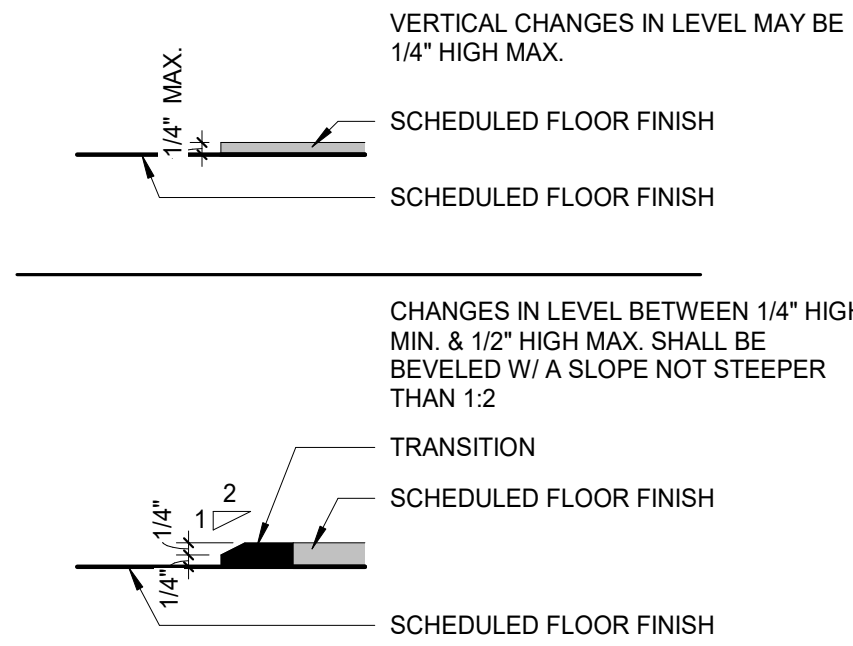
A1 WINDOW SILL - BRICK
3" = 1'-0"

REFERENCE G-003 FOR GENERAL NOTES

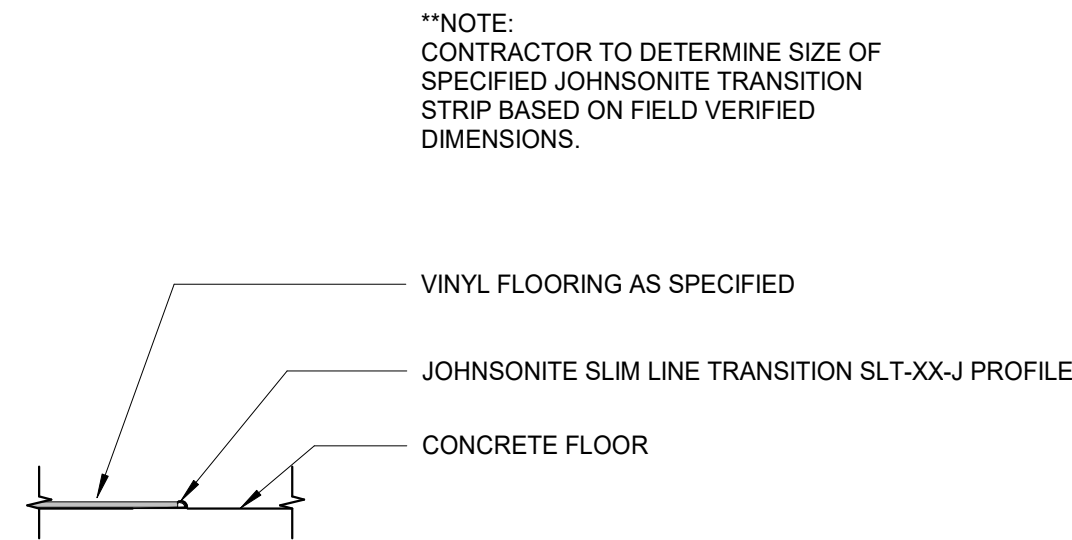
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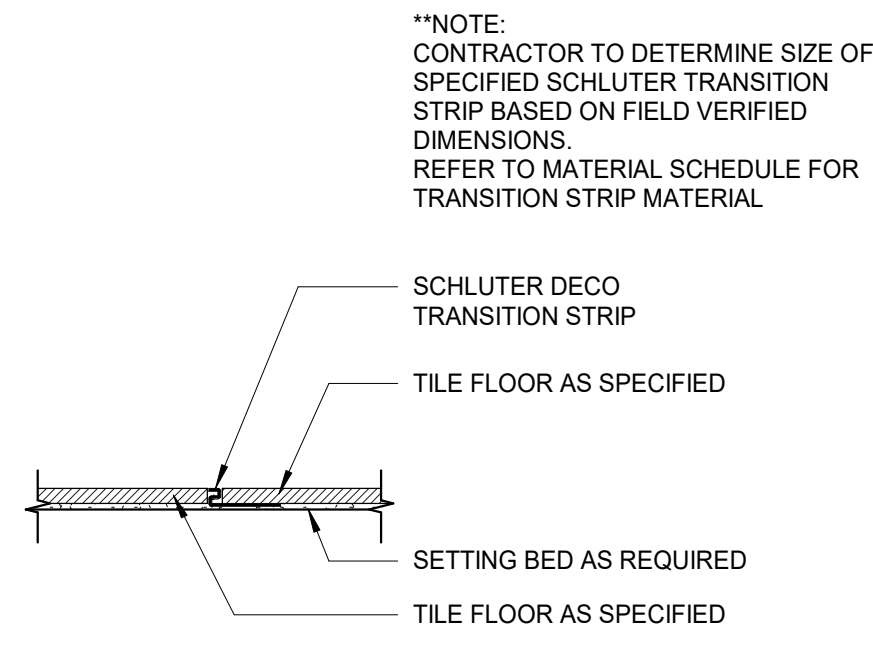
REVISIONS:



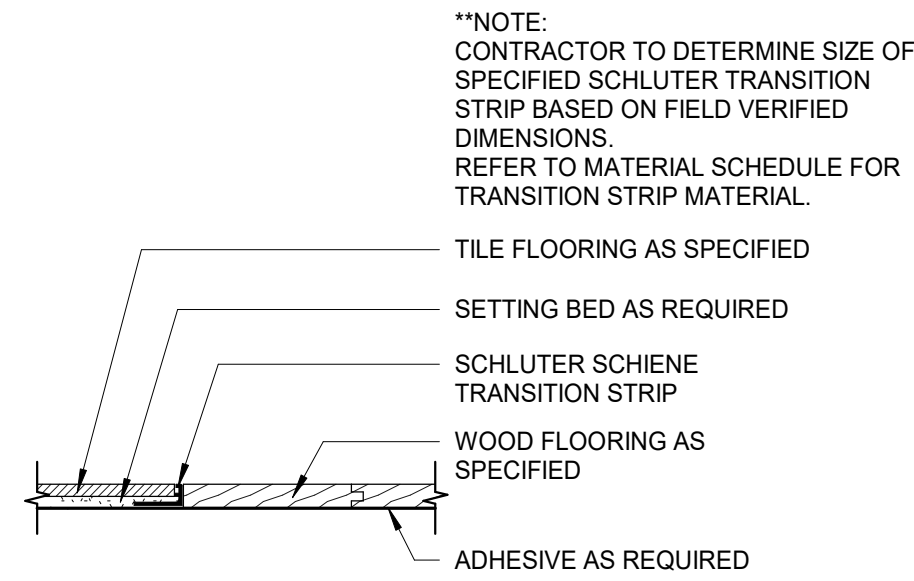
D4 FLOOR FINISH
TRANSITION-CHANGE IN LEVEL
3" = 1'-0"



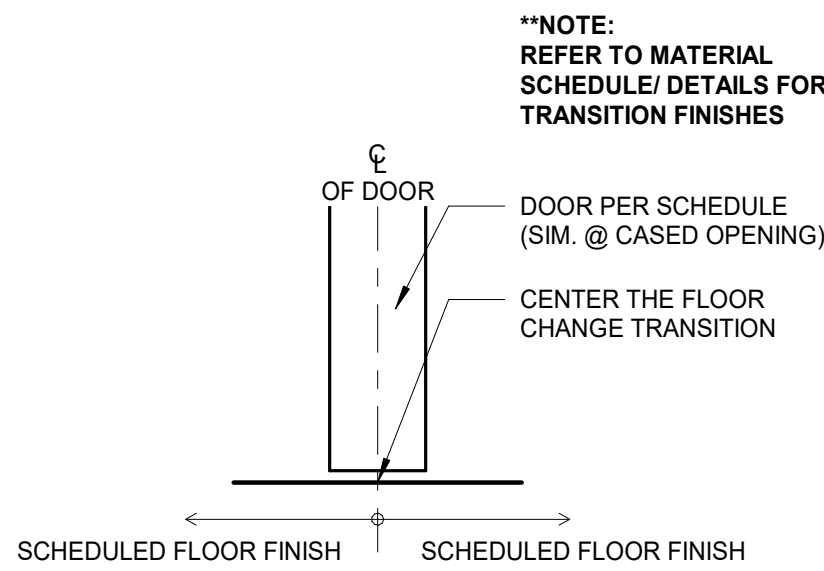
C4 VINYL / CONCRETE TRANSITION
3" = 1'-0"



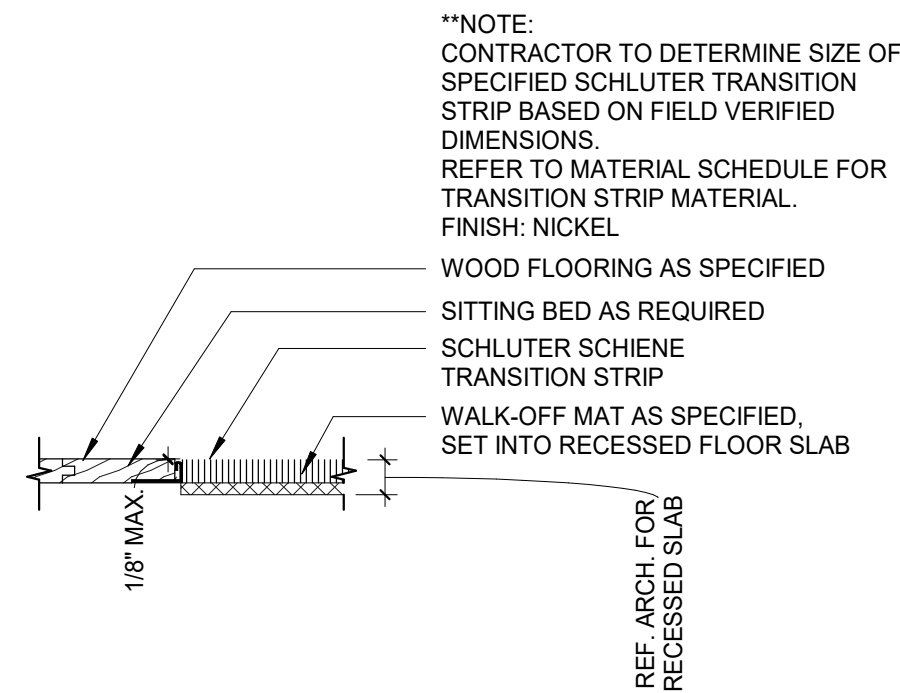
B4 TILE / TILE TRANSITION
3" = 1'-0"



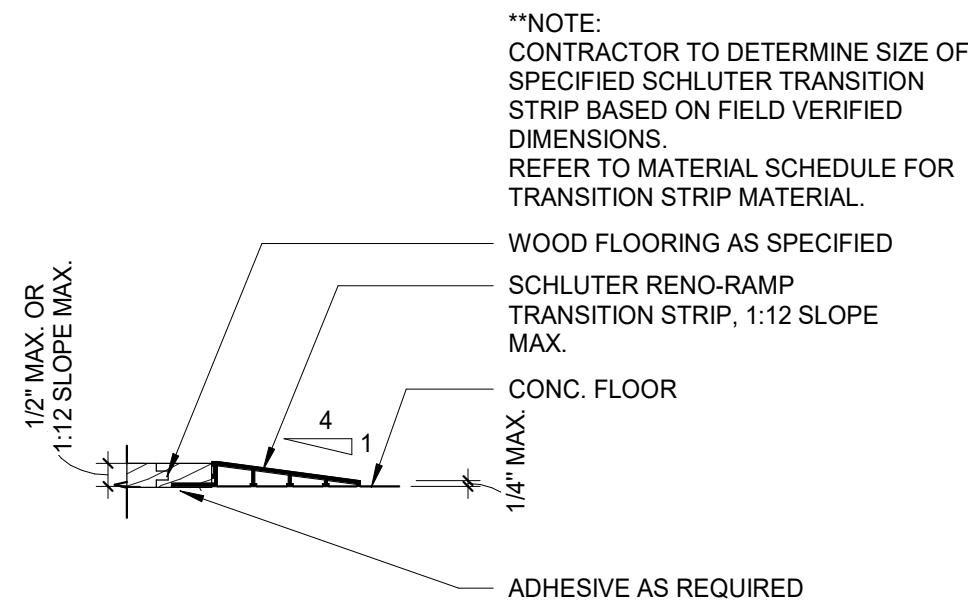
A4 TILE / WOOD TRANSITION
3" = 1'-0"



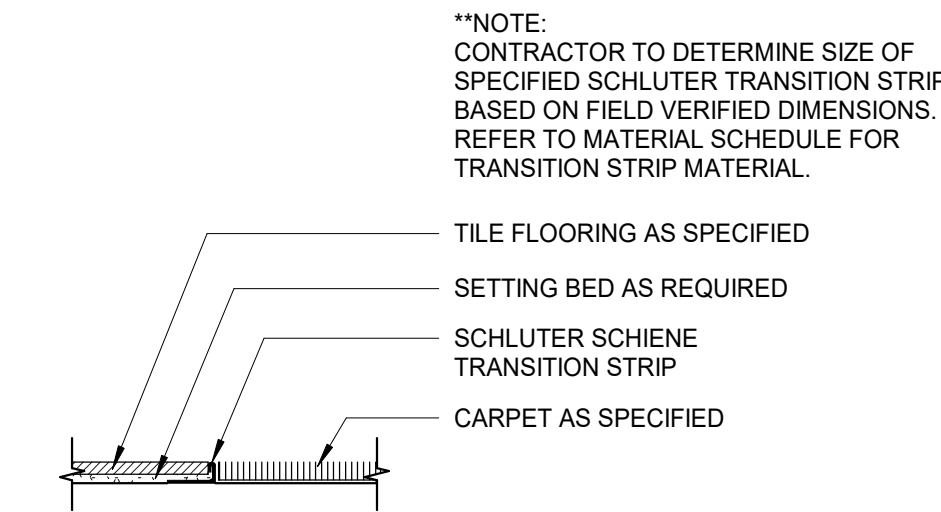
D3 FLOOR FINISH TRANSITION
LOCATION
3" = 1'-0"



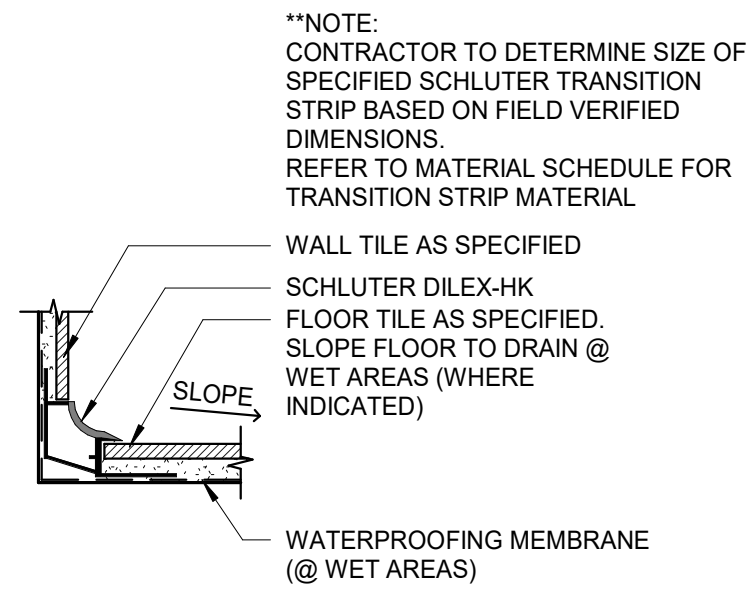
C3 WOOD / WALK-OFF MAT
TRANSITION
3" = 1'-0"



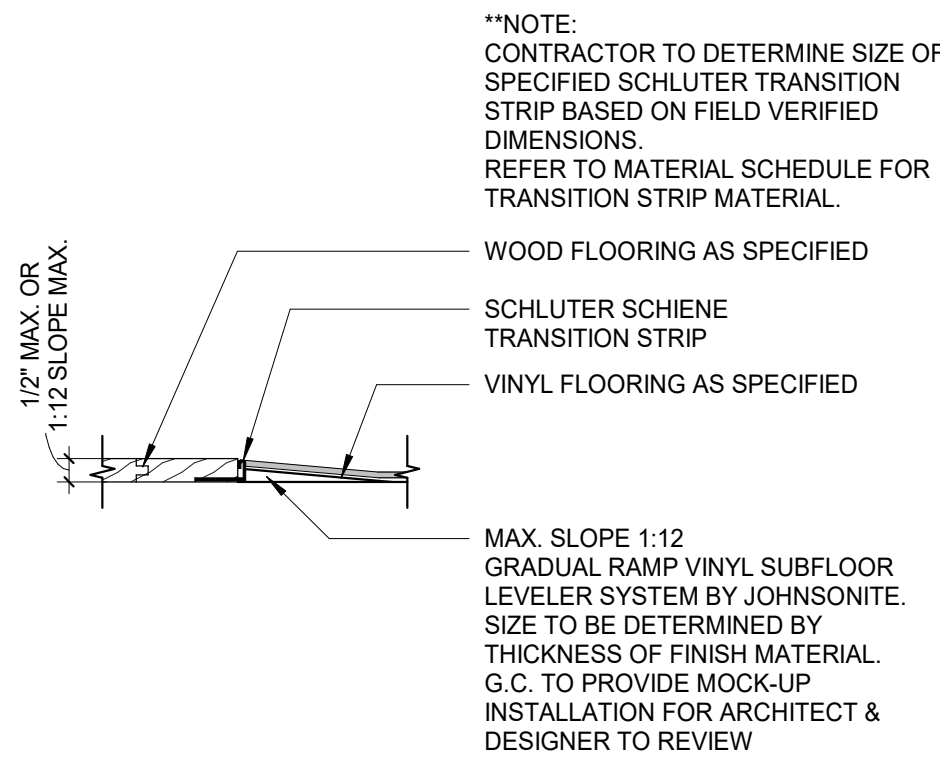
B3 WOOD / CONC. TRANSITION
3" = 1'-0"



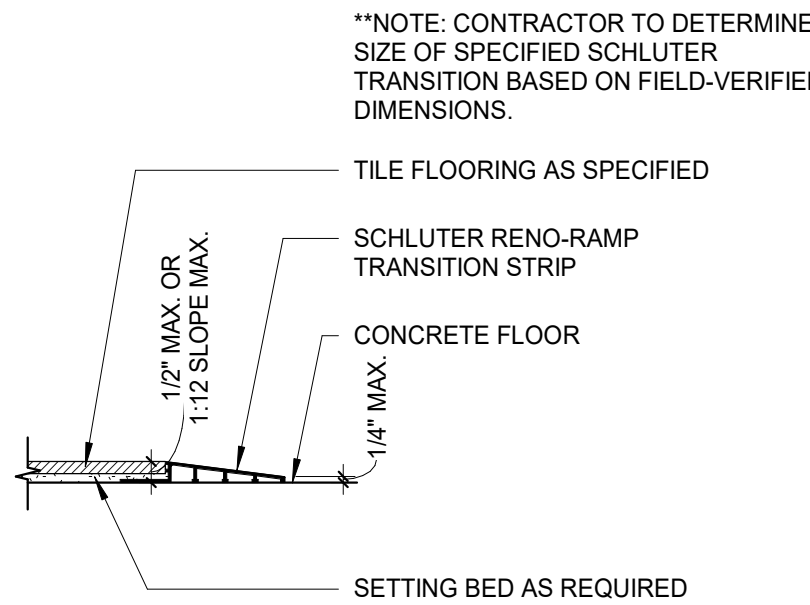
A3 TILE / CARPET TRANSITION
3" = 1'-0"



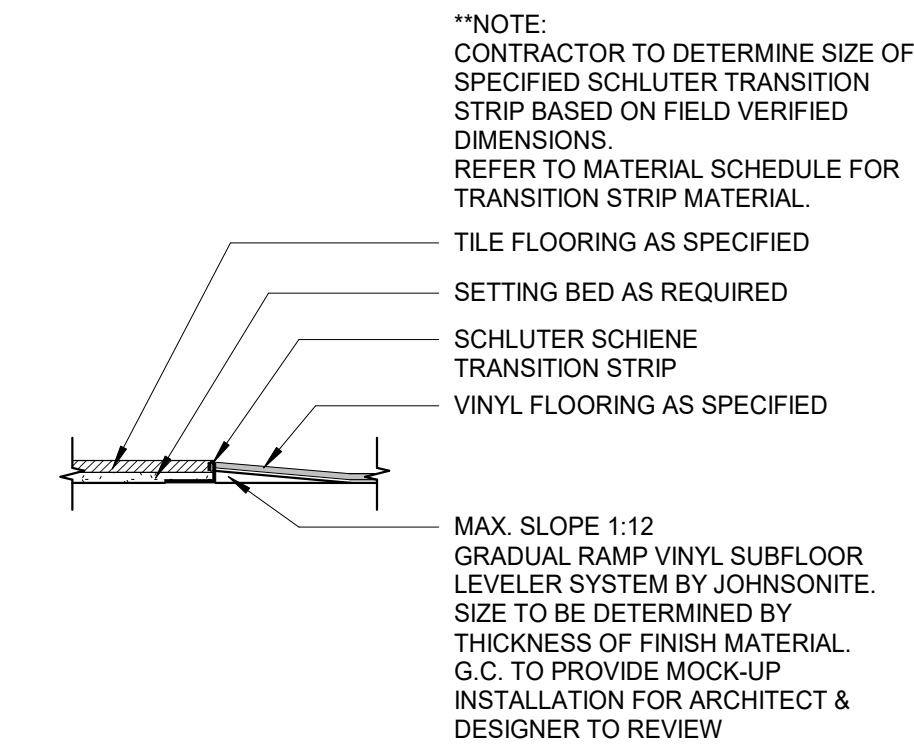
D2 FLOOR TILE TO WALL TILE
TRANSITION
3" = 1'-0"



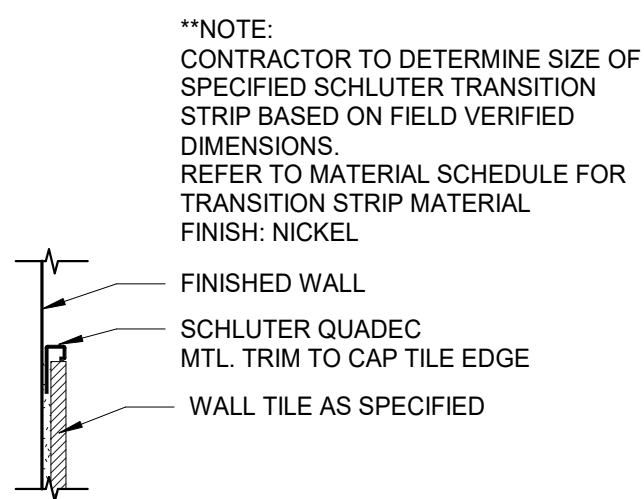
C2 WOOD / VINYL TRANSITION
3" = 1'-0"



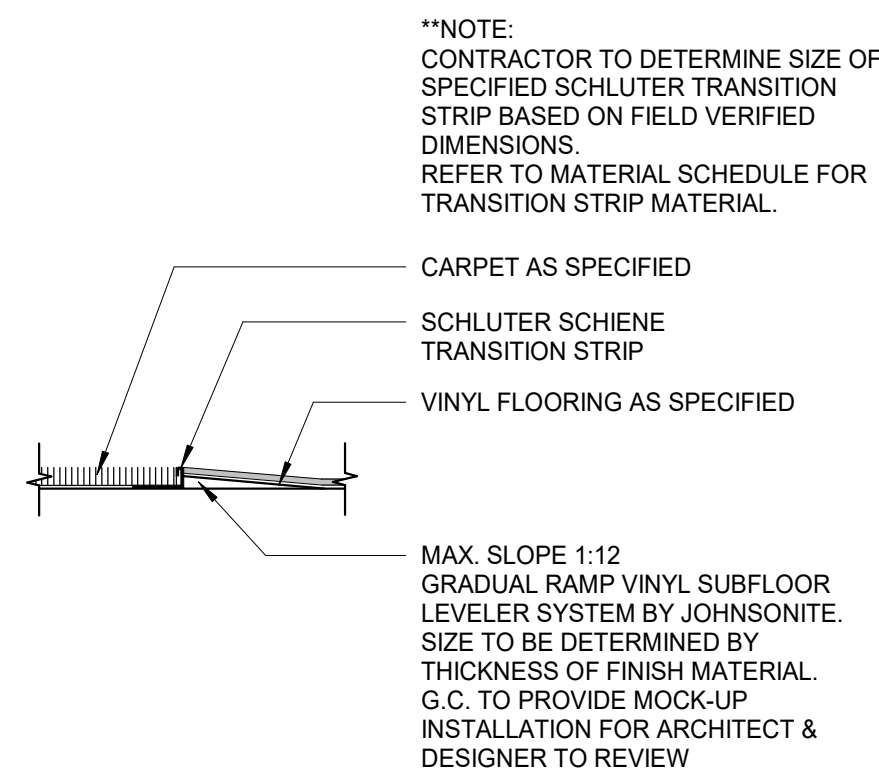
B2 TILE / CONC. TRANSITION
3" = 1'-0"



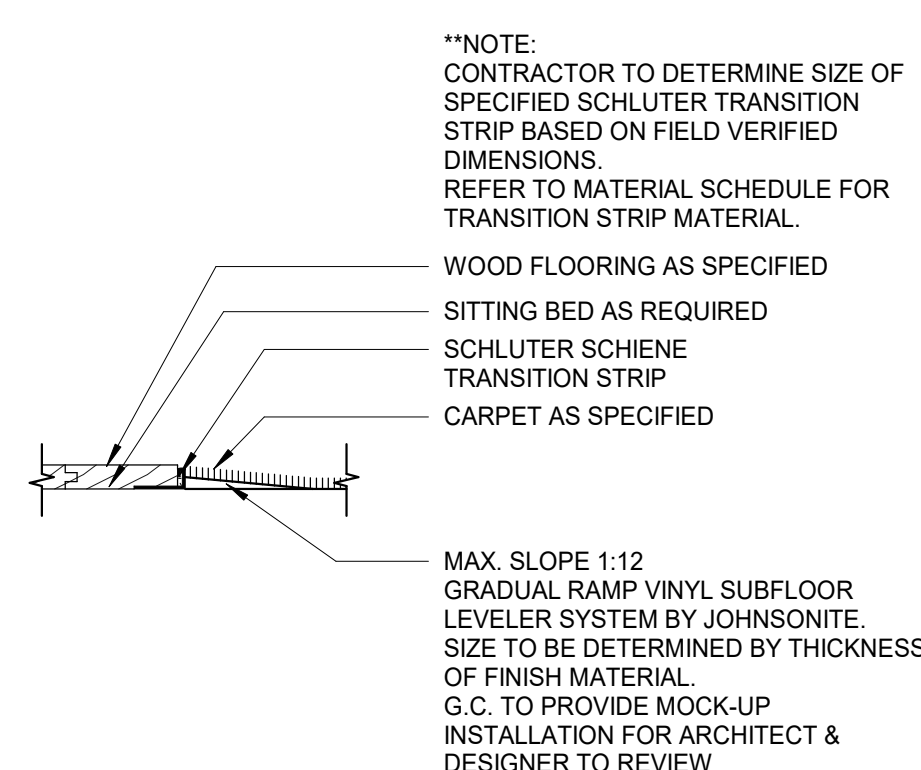
A2 TILE / VINYL TRANSITION
3" = 1'-0"



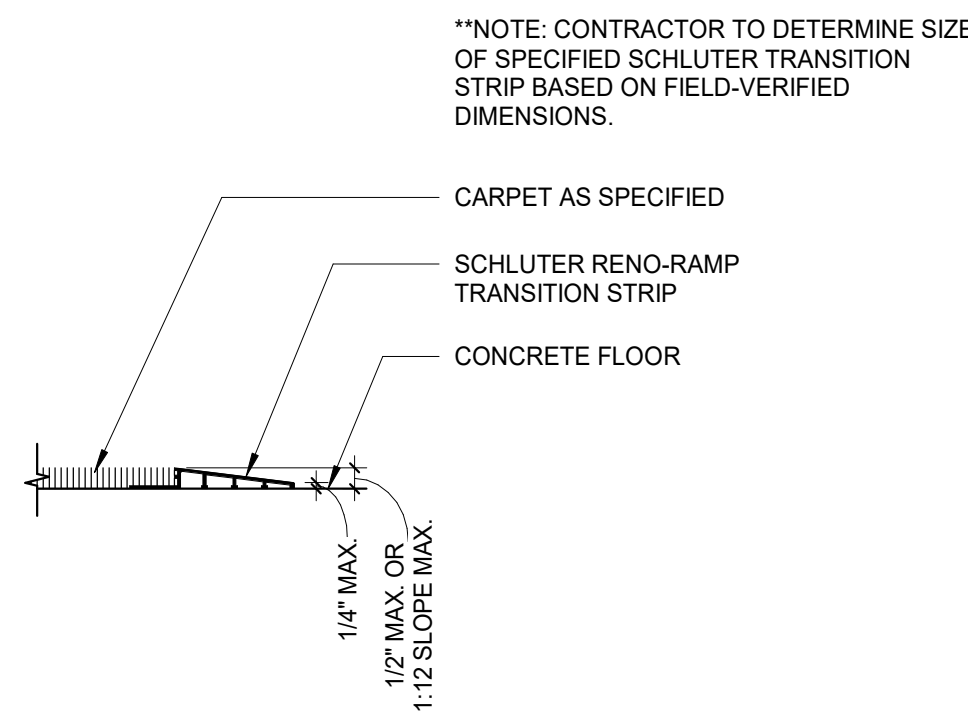
D1 WALL TILE EDGE AT BASE (VERT.
& HORIZ.)
3" = 1'-0"



C1 CARPET / VINYL TRANSITION
3" = 1'-0"

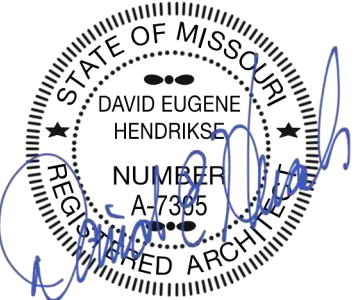


B1 WOOD / CARPET TRANSITION
3" = 1'-0"



A1 CARPET / CONC. TRANSITION
3" = 1'-0"

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12/20/24

DISCOVERY PARK - LOT #10-A

LEE'S SUMMIT, MO

SHEET TITLE
FINISH TRANSITION DETAILS

PROJECT NUMBER: 24004

SHEET NUMBER:

A-700






REFERENCE G-003 FOR GENERAL NOTES

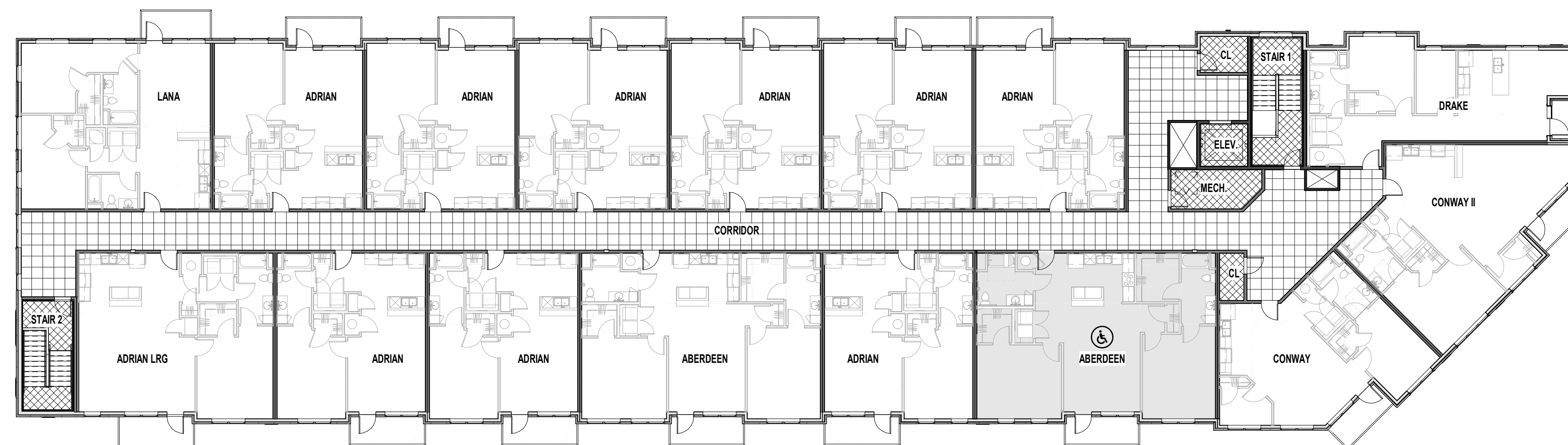
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FINISH LEGEND

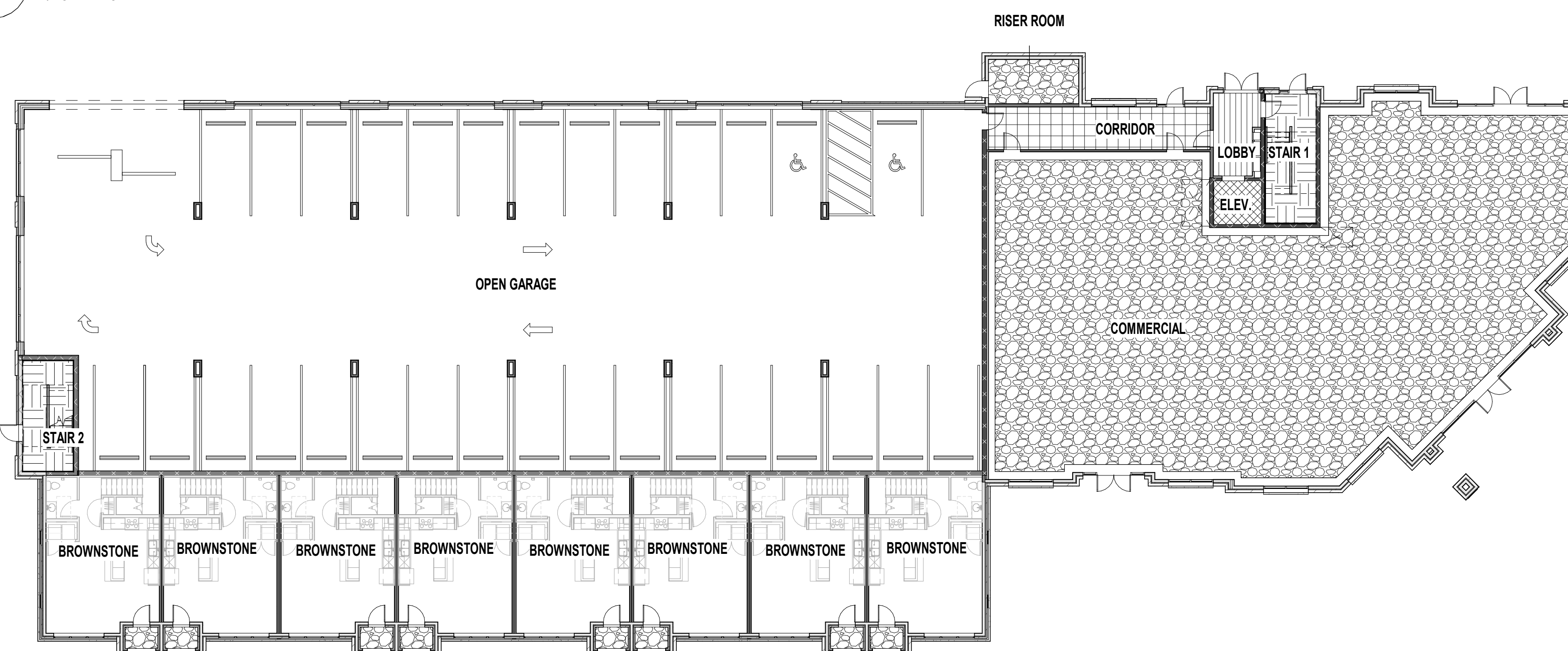
	LVT1	LUXURY VINYL PLANK
	CT1	CARPET TILE 1
	CT2	CARPET TILE 2
	WOM	WALK OFF MAT
		UNFINISHED FLOOR



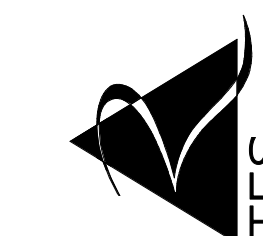
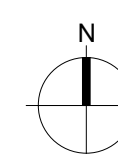
A3 **THIRD FLOOR PLAN**
1/16" = 1'-0"



A2 SECOND FLOOR PLAN
1/16" = 1'-0"



A1 1ST FLOOR FINISH PLAN
1/16" = 1'-0"

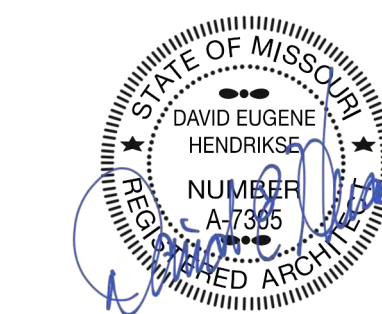


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12/20/24

DISCOVERY PARK - LOT #10-A

LEE'S SUMMIT, MO

SHEET TITLE
FINISH PLANS

PROJECT NUMBER: 24004

SHEET NUMBER:

A-710

Mechanical - Electrical - Plumbing Design Drawings for

The Village at Discovery - Lot 10A

100 Northeast Alura Way
Lee's Summit, Jackson County, MO 64064

GENERAL MEP SPECIFICATIONS

1.

GENERAL
- 1.1.

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

LAYOUT OF SYSTEMS SHOWN ON PLANS ARE APPROXIMATE AND SCHEMATIC IN NATURE. ALL SYSTEMS WILL NEED TO BE FIELD-COORDINATED. CONTRACTOR SHALL INCLUDE THIS COORDINATION IN THEIR SCOPE AND INCLUDE ALL COSTS OF MODIFYING LAYOUT AS REQUIRED IN THEIR BID. PLANS ARE NOT INTENDED TO BE SHOP DRAWINGS FROM WHICH MATERIALS CAN BE ORDERED, FABRICATED, OR INSTALLED WITHOUT ADDITIONAL FIELD MEASUREMENTS AND COORDINATION.
- 1.3.

NOT ALL SPECIFIC PIECES AND COMPONENTS OF EACH SYSTEM ARE DETAILED OR OUTLINED ON PLANS. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY PARTS AND LABOR TO PRODUCE A COMPLETE AND FULLY OPERATIONAL SYSTEM UNLESS STATED OTHERWISE ON PLANS. CONTRACTOR IS TO PROVIDE AND INCLUDE ALL EQUIPMENT AND MATERIAL NEEDED TO COMPLETE WORK ASSOCIATED WITH THEIR BID UNLESS ANY ITEMS ARE SPECIFICALLY NOTED ON PLANS AS PROVIDED BY OTHERS. ALL MATERIALS TO BE NEW, FIRST CLASS, AND INSTALLED PER MANUFACTURER'S PUBLISHED INSTRUCTIONS.
- 1.4.

WHERE CONFLICTS EXIST BETWEEN MEP PLANS AND CIVIL, ARCHITECTURAL, OR STRUCTURAL PLANS, NOTIFY MEP ENGINEER OF DISCREPANCIES FOR CLARIFICATION PRIOR TO PERFORMING ANY WORK THAT MAY CONTRADICT INFORMATION ELSEWHERE IN THE PROJECT PLANS.
- 1.5.

THESE PLANS ARE NOT TO BE SCALED. SEE ARCHITECTURAL PLANS FOR DIMENSIONS. WHERE THERE IS A CONFLICT BETWEEN ARCHITECTURAL DIMENSIONS AND MEP DIMENSIONS, ARCHITECTURAL SHALL GOVERN.
- 1.6.

CONTRACTOR IS TO INCLUDE IN THEIR SCOPE THE COST OF ALL PERMITS, INSPECTIONS, METERING, TAPS, ETC. ASSOCIATED WITH THEIR WORK.
- 1.7.

CONTRACTOR IS RESPONSIBLE FOR ALL EXCAVATION, CUTTING, CORING, PATCHING, AND BACKFILL REQUIRED TO COMPLETE THEIR WORK, UNLESS NOTED OTHERWISE ON PLANS.
- 1.8.

SPECIFIC EQUIPMENT MANUFACTURERS AND/OR MODEL NUMBERS LISTED ON PLANS ARE TO ESTABLISH A BASIS-OF-DESIGN FOR QUALITY AND PERFORMANCE, VERIFY THAT SUBSTITUTIONS WILL BE ACCEPTABLE PRIOR TO PURCHASE & INSTALLATION.
- 1.9.

NOTIFY ENGINEER OF ANY MAJOR PLAN DISCREPANCIES OR CONFLICTS PRIOR TO PROVIDING BIDS OR COMPLETING ANY WORK.
- 1.10.

SEE DISCIPLINE SHEETS FOR ADDITIONAL TRADE SPECIFIC SPECIFICATIONS.
- 1.11.

WHERE SHUTDOWN OF ANY EXISTING UTILITY OR SERVICE TO BUILDING IS REQUIRED FOR COMPLETION OF WORK, COORDINATE OUTAGE WITH OWNER AS TO NOT DISRUPT TYPICAL OPERATIONS.
- 1.12.
2.

WORKMANSHIP
- 2.1.

SYSTEMS SHALL BE INSTALLED IN A FIRST-CLASS MANNER USING BEST ACCEPTABLE METHODS AND PRACTICES.
- 2.2.

ALL SYSTEMS SHALL BE INSTALLED PARALLEL OR PERPENDICULAR TO BUILDING ORIENTATION. COMPONENTS SHALL BE INSTALLED LEVEL AND PLUMB WITH ATTENTION GIVEN TO OVERALL AESTHETICS.
- 2.3.

CONTRACTOR IS RESPONSIBLE FOR COORDINATING EQUIPMENT LOCATIONS AND SYSTEM ROUTING WITH OTHER TRADES PRIOR TO INSTALLATION.
- 2.4.

CONTRACTOR TO GUARANTEE ALL MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM THE DATE THE COMPLETED PROJECT IS RELEASED TO THE OWNER, UNLESS NOTED OTHERWISE ON PLANS.
- 2.5.

DURING INSTALLATION OF MATERIALS OR ACTIVITIES IN NEW WORK SCOPE, AVOID DAMAGING EXISTING SURFACES AND EQUIPMENT TO REMAIN. ANY DAMAGE TO EXISTING SURFACES OR EQUIPMENT SHALL BE CORRECTED AT NO COST TO OWNER.

DEFERRED SUBMITTAL NOTES

1.

FIRE ALARM SYSTEM
- 1.1.

FIRE ALARM SYSTEM COMPONENTS SHOWN (IF APPLICABLE) ARE GENERAL AND SCHEMATIC IN NATURE, SHOWN FOR APPROXIMATE ROUGH-IN LOCATIONS AND QUANTITIES ONLY. CONTRACTOR TO VERIFY EXACT DEVICE LOCATIONS AND REQUIREMENTS WITH FIRE ALARM SYSTEM DESIGNER OF RECORD PRIOR TO ROUGH-IN.
- 1.2.

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

FIRE SPRINKLER SYSTEM
- 2.1.

WHERE COMBINED FIRE & DOMESTIC WATER SUPPLY LINES ARE SHOWN ON PLANS, INSTALLING CONTRACTOR SHALL VERIFY WITH FIRE SPRINKLER CONTRACTOR THAT INCOMING LINE SIZE IS ADEQUATE FOR FIRE SUPPRESSION SYSTEM.
- 2.2.

FIRE SPRINKLER CONTRACTOR TO PROVIDE DEFERRED SUBMITTAL PACKAGE FOR FIRE SPRINKLER SYSTEM. SUBMITTAL SHALL INCLUDE HYDRAULIC CALCULATIONS AND SPRINKLER SYSTEM DRAWINGS SEALED BY A QUALIFIED DESIGN PROFESSIONAL LICENSED BY THE STATE.

REFERENCED CODES IN EFFECT

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

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

FIRE RATED PENETRATION NOTES

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

SHEET LIST TABLE

SHEET #	SHEET TITLE
MEP1	MECHANICAL ELECTRICAL PLUMBING COVER SHEET
MEP2	SITE UTILITIES PLAN
MEP3	MEP PLAN - ROOF
M101	HVAC PLAN - 1ST FLOOR - AREA A
M102	HVAC PLAN - 2ND FLOOR - AREA A
M103	HVAC PLAN - 3RD FLOOR - AREA A
M111	HVAC PLAN - 1ST FLOOR - AREA B
M112	HVAC PLAN - 2ND FLOOR - AREA B
M113	HVAC PLAN - 3RD FLOOR - AREA B
M501	HVAC DETAILS
M601	HVAC SCHEDULES
EP101	POWER PLAN - 1ST FLOOR - AREA A
EP102	POWER PLAN - 2ND FLOOR - AREA A
EP103	POWER PLAN - 3RD FLOOR - AREA A
EP111	POWER PLAN - 1ST FLOOR - AREA B
EP112	POWER PLAN - 2ND FLOOR - AREA B
EP113	POWER PLAN - 3RD FLOOR - AREA B
EL101	LIGHTING PLAN - 1ST FLOOR - AREA A
EL102	LIGHTING PLAN - 2ND FLOOR - AREA A
EL103	LIGHTING PLAN - 3RD FLOOR - AREA A
EL111	LIGHTING PLAN - 1ST FLOOR - AREA B
EL112	LIGHTING PLAN - 2ND FLOOR - AREA B
EL113	LIGHTING PLAN - 3RD FLOOR - AREA B
EL201	EXTERIOR BUILDING MOUNTED LIGHTING PLAN
E501	ELECTRICAL DETAILS
E601	ELECTRICAL SCHEDULES
FP101	FIRE PROTECTION PLAN - 1ST FLOOR - AREA A
FP102	FIRE PROTECTION PLAN - 2ND FLOOR - AREA A
FP103	FIRE PROTECTION PLAN - 3RD FLOOR - AREA A
FP111	FIRE PROTECTION PLAN - 1ST FLOOR - AREA B

SHEET LIST TABLE (CONT.)

SHEET #	SHEET TITLE
FP112	FIRE PROTECTION PLAN - 2ND FLOOR - AREA B
FP113	FIRE PROTECTION PLAN - 3RD FLOOR - AREA B
PS101	SANITARY SEWER PLAN - 1ST FLOOR - AREA A
PS102	SANITARY SEWER PLAN - 2ND FLOOR - AREA A
PS103	SANITARY SEWER PLAN - 3RD FLOOR - AREA A
PS111	SANITARY SEWER PLAN - 1ST FLOOR - AREA B
PS112	SANITARY SEWER PLAN - 2ND FLOOR - AREA B
PS113	SANITARY SEWER PLAN - 3RD FLOOR - AREA B
PW101	WATER PLAN - 1ST FLOOR - AREA A
PW102	WATER PLAN - 2ND FLOOR - AREA A
PW103	WATER PLAN - 3RD FLOOR - AREA A
PW111	WATER PLAN - 1ST FLOOR - AREA B
PW112	WATER PLAN - 2ND FLOOR - AREA B
PW113	WATER PLAN - 3RD FLOOR - AREA B
P501	PLUMBING DETAILS & SCHEDULES
UMEP1.1	MEP PLAN - UNIT TYPE ADRIAN-A
UMEP1.2	MEP PLAN - UNIT TYPE ADRIAN-B
UMEP1.3	MEP PLAN - UNIT TYPE CONWAY
UMEP1.4.1	HVAC & PLUMBING PLAN - UNIT TYPE CONWAY II
UMEP1.4.2	POWER & LIGHTING PLAN - UNIT TYPE CONWAY II
UMEP1.5.1	HVAC & PLUMBING PLAN - UNIT TYPE DRAKE
UMEP1.5.2	POWER & LIGHTING PLAN - UNIT TYPE DRAKE
UMEP2.1.1	HVAC & PLUMBING PLAN - UNIT TYPE LANA
UMEP2.1.2	POWER & LIGHTING PLAN - UNIT TYPE LANA
UMEP2.2.1	HVAC & PLUMBING PLAN - UNIT TYPE ABERDEEN-A
UMEP2.2.2	POWER & LIGHTING PLAN - UNIT TYPE ABERDEEN-A
UMEP2.3.1	HVAC & PLUMBING PLAN - UNIT TYPE ABERDEEN-B
UMEP2.3.2	POWER & LIGHTING PLAN - UNIT TYPE ABERDEEN-B
UMEP2.4.1	HVAC & PLUMBING PLAN - UNIT TYPE BROWNSTONE
UMEP2.4.2	POWER & LIGHTING PLAN - UNIT TYPE BROWNSTONE

RELEASED FOR CONSTRUCTION
As Noted on Plans Review

Development Services Department
Jackson County, Missouri
64002

JAMES P. WATSON
NUMBER
PE-2015017071
PROFESSIONAL ENGINEER

James Watson, P.E. December 20, 2024
PE-2015017071
MO Certificate of Authority # 2018029680

J-SQUARED
ENGINEERING

2400 Bluff Creek Drive, Suite 101
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573.234.4492
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J2 PROJECT No:	J21013
J2 DESIGN:	ACW

ISSUE TITLE	DATE
CITY SUBMITTAL	12 - 20 - 2024

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

The Village at Discovery - Lot 10A

100 Northeast Alura Way

Lee's Summit, Jackson County, MO 64064

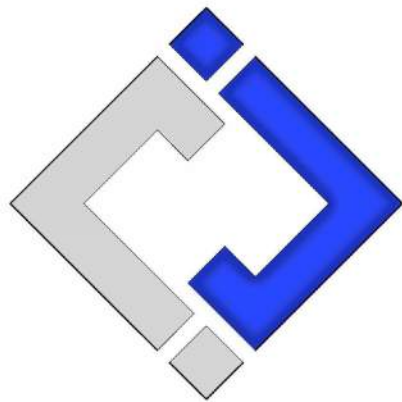
HAJ APPROVAL STAMP

SHEET TITLE

MECHANICAL
ELECTRICAL
PLUMBING COVER
SHEET

SHEET NUMBER

MEP1



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J2 PROJECT No: J221013

J2 DESIGN: ACW

ISSUE TITLE DATE

CITY SUBMITTAL 12 - 20 - 2024

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The Village at Discovery - Lot 10A

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AHJ APPROVAL STAMP

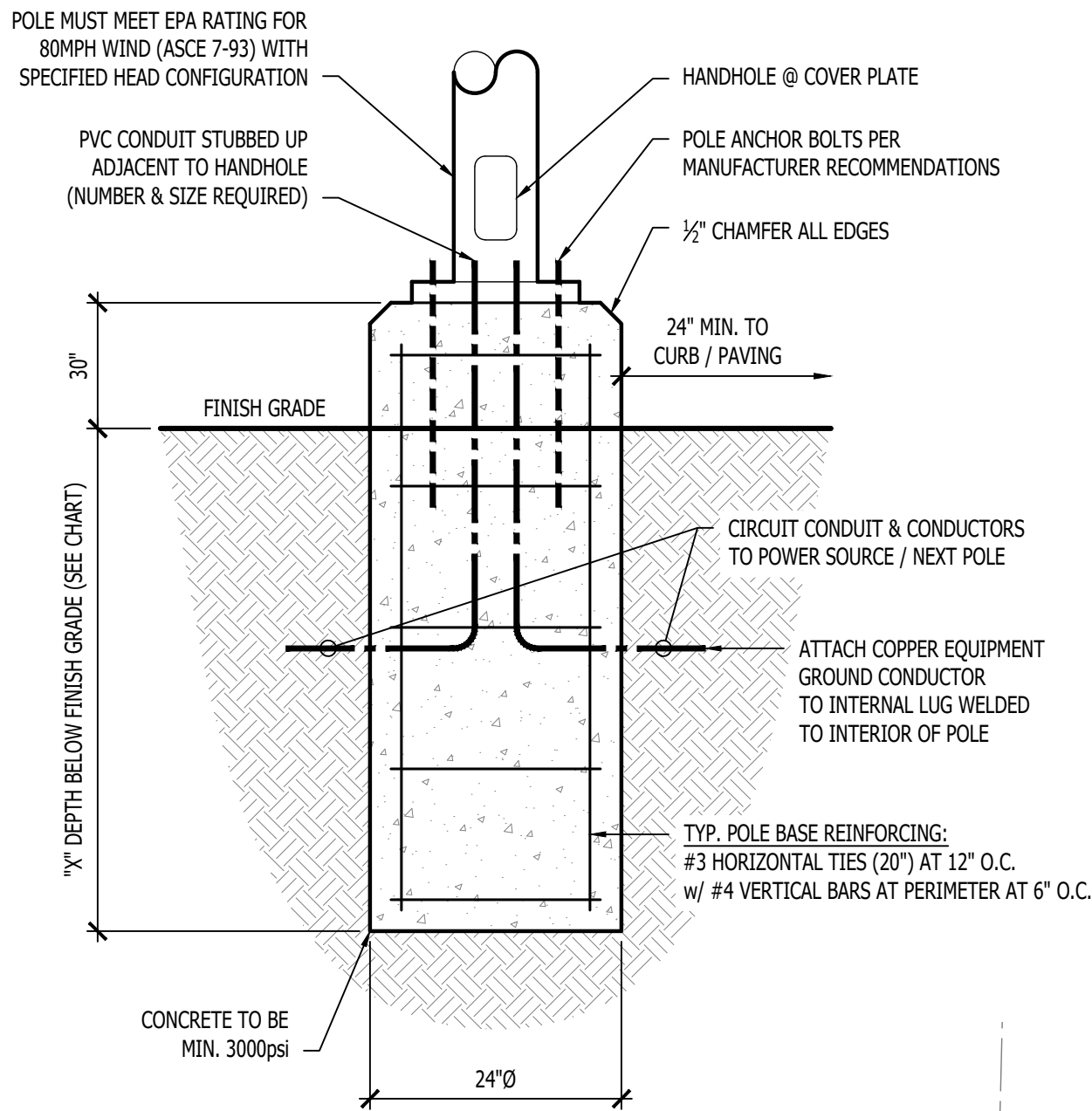
SHEET TITLE

SITE UTILITIES
PLAN

SHEET NUMBER

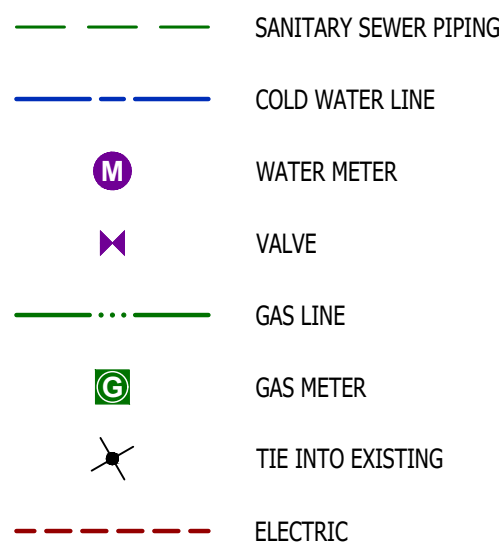
MEP2

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



TYPICAL LIGHT POLE DETAIL - 1

SITE UTILITIES PLAN SYMBOL LEGEND



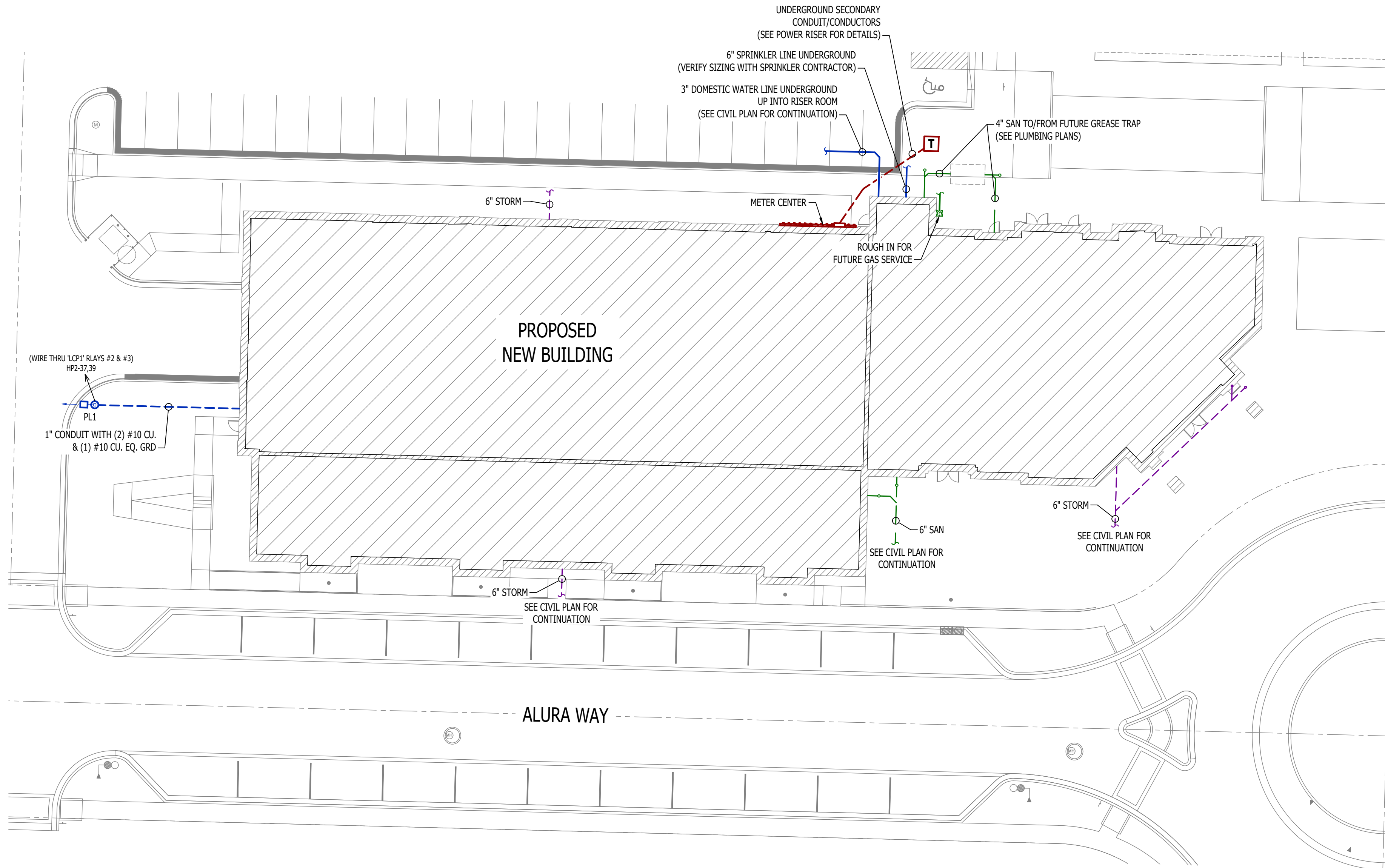
SITE UTILITIES PLAN GENERAL NOTES:

- REFER TO CIVIL PLANS FOR EXACT UTILITY LOCATIONS, CONNECTIONS, DETAILS, ETC.
- COORDINATE EXACT LOCATIONS OF ALL ELECTRICAL CONDUITS & EQUIPMENT WITH EVERYONE.
- SEE SEPARATE PLAN SUBMITTAL FOR LOT 10B FOR SITE LIGHTING ASSOCIATED WITH PARKING AREAS FOR LOT 10A.
- ALL BUILDING-MOUNTED LIGHTING WILL BE INTENDED AS ACCENT LIGHTING AND NOT INTENDED TO PROVIDE GENERAL AREA LIGHTING. ALL BUILDING-MOUNTED LIGHTING SHALL COMPLY WITH CITY OF LEE'S SUMMIT UDO SECTIONS 8.220, 8.260, & 8.270.

SITE LIGHTING FIXTURE SCHEDULE

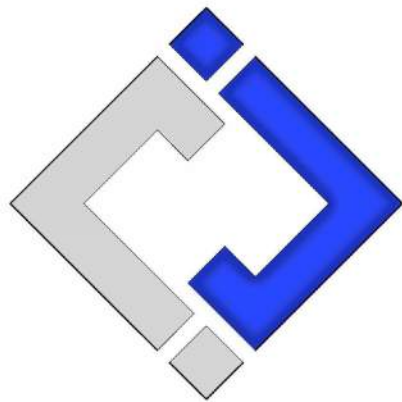
TAG	MANUFACTURER (OR EQUAL)	MODEL NUMBER (OR EQUAL)	DESCRIPTION	MOUNTING	LUMEN OUTPUT	CCT (°K)	CRI	VOLTS	WATTS	NOTES
PL1	LUMARK	PRV-XL-PA3B-740-U-5WQ	POLE LIGHT	20' POLE ON 30" BASE	31,559	4000	70	208	234	WITH 20' #5SS POLE

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



SITE UTILITIES PLAN

SCALE: 1" = 20 ft



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J2 PROJECT No:	J21013
J2 DESIGN:	ACW

ISSUE TITLE	DATE
CITY SUBMITTAL	12 - 20 - 2024

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:
The Village at Discovery - Lot 10A

100 Northeast Alura Way
Lee's Summit, Jackson County, MO 64064

AHJ APPROVAL STAMP

SHEET TITLE

MEP PLAN - ROOF

SHEET NUMBER

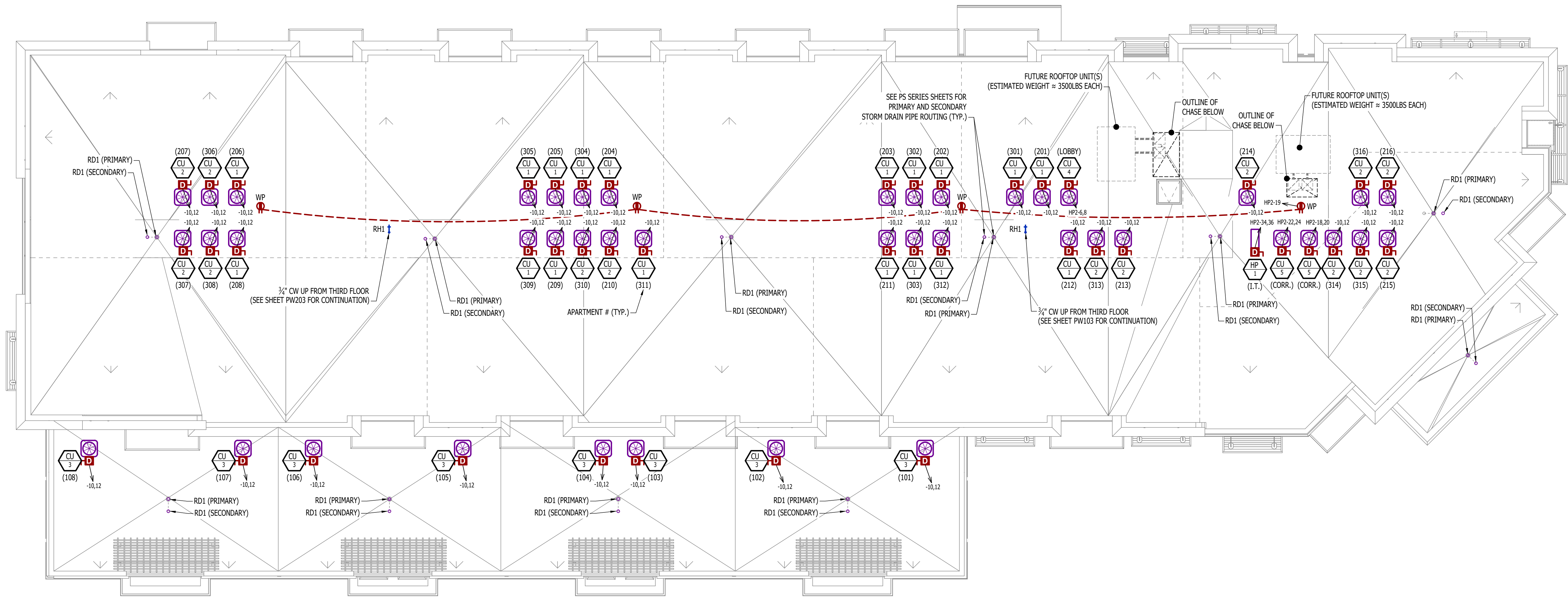
MEP3

ROOF MEP PLAN SYMBOL LEGEND

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

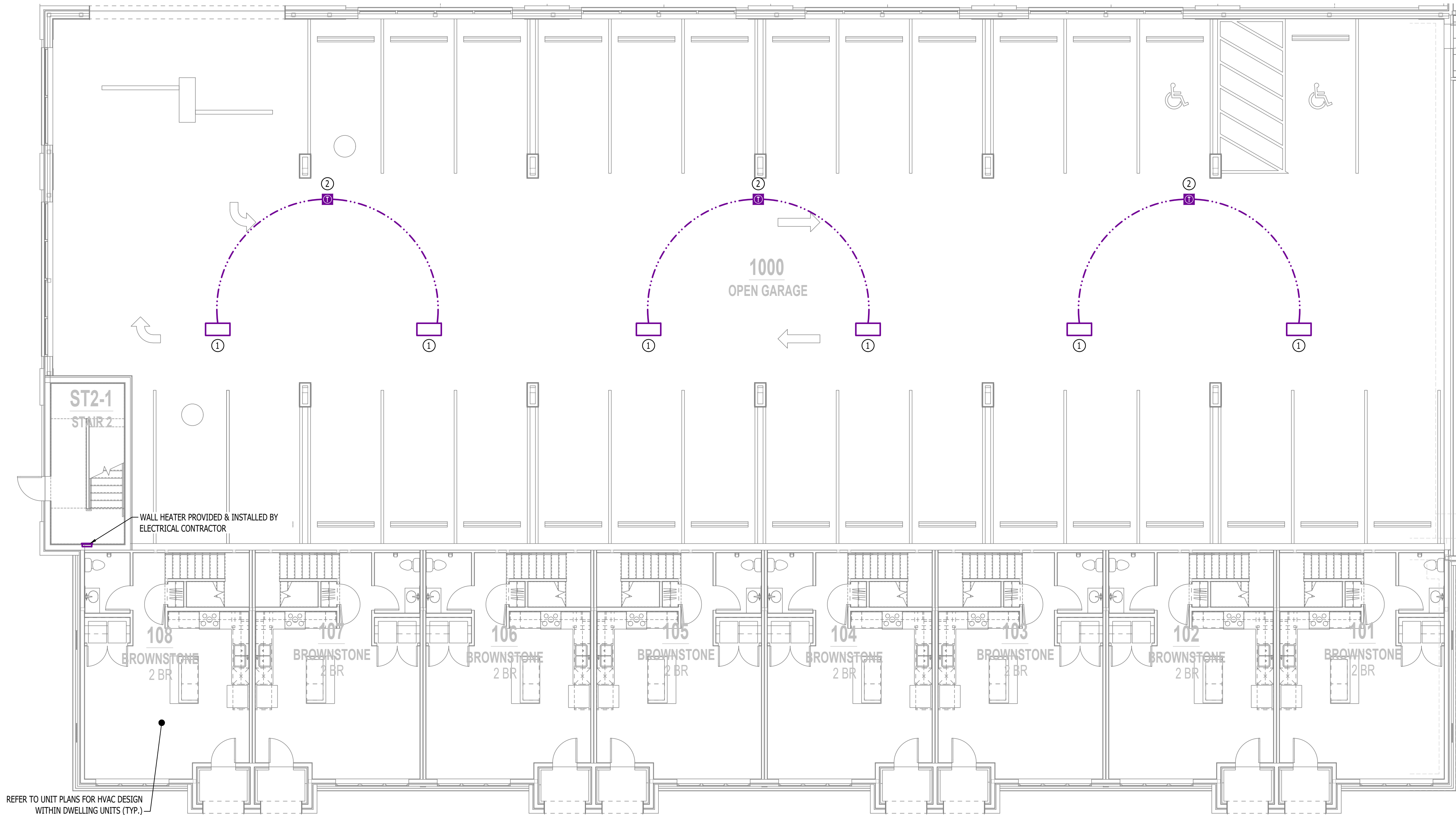
ROOF MEP PLAN GENERAL NOTES:

1. REFER TO TRADE SPECIFIC SHEETS FOR ADDITIONAL INFORMATION.



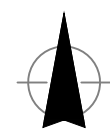
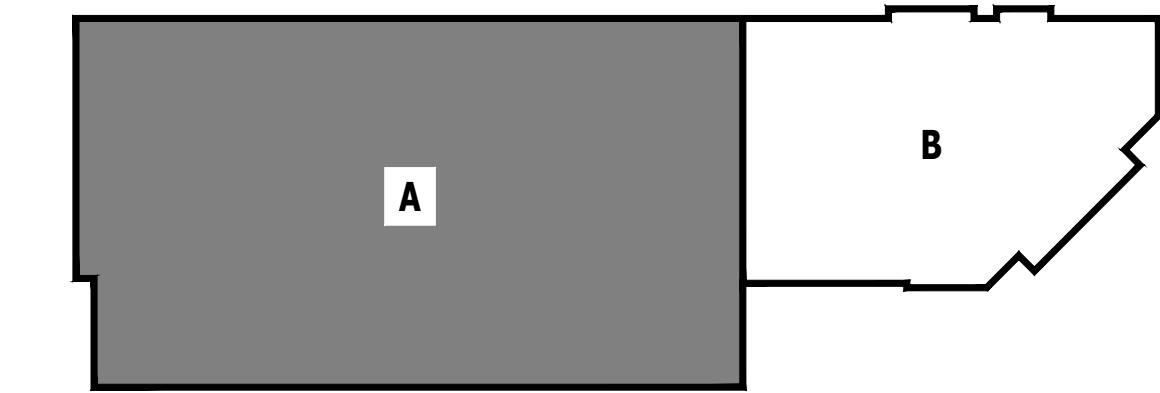
MEP PLAN - ROOF

SCALE: 3/32" = 1'-0"



HVAC PLAN - 1ST FLOOR - AREA A

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



KEY PLAN

SCALE: NTS

HVAC PLAN SYMBOL LEGEND

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

HVAC PLAN GENERAL NOTES:

- SEE M500 & M600 SERIES SHEETS FOR ADDITIONAL HVAC NOTES, DETAIL, AND SCHEDULES.

HVAC PLAN KEY NOTES:

- PROVIDE & INSTALL 208V, 3PH, SKW CONCEALED ZERO CLEARANCE PLENUM UNIT HEATER ABOVE CEILING (EQUAL TO BERKO #BPH138324) PROVIDE & INSTALL 24"x24" ACCESS PANEL.
- THERMOSTAT IN PLENUM SPACE FOR PLENUM HEATERS. SET TO 55°F. PROVIDE & INSTALL ACCESS PANEL.

RELEASED FOR CONSTRUCTION
As Noted on Plans Review

Development Services Department
Columbia, Missouri
856.243.4492

JAMES P. WATSON
NUMBER
PE-2015017071
PROFESSIONAL ENGINEER

James Watson, P.E. December 20, 2024
PE-2015017071
MO Certificate of Authority # 2018029680

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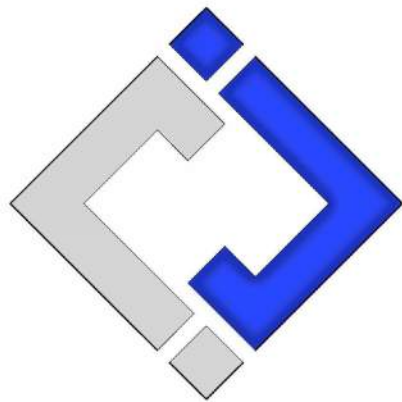
AHJ APPROVAL STAMP

SHEET TITLE

HVAC PLAN - 1ST FLOOR - AREA A

SHEET NUMBER

M101



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The Village at Discovery - Lot 10A

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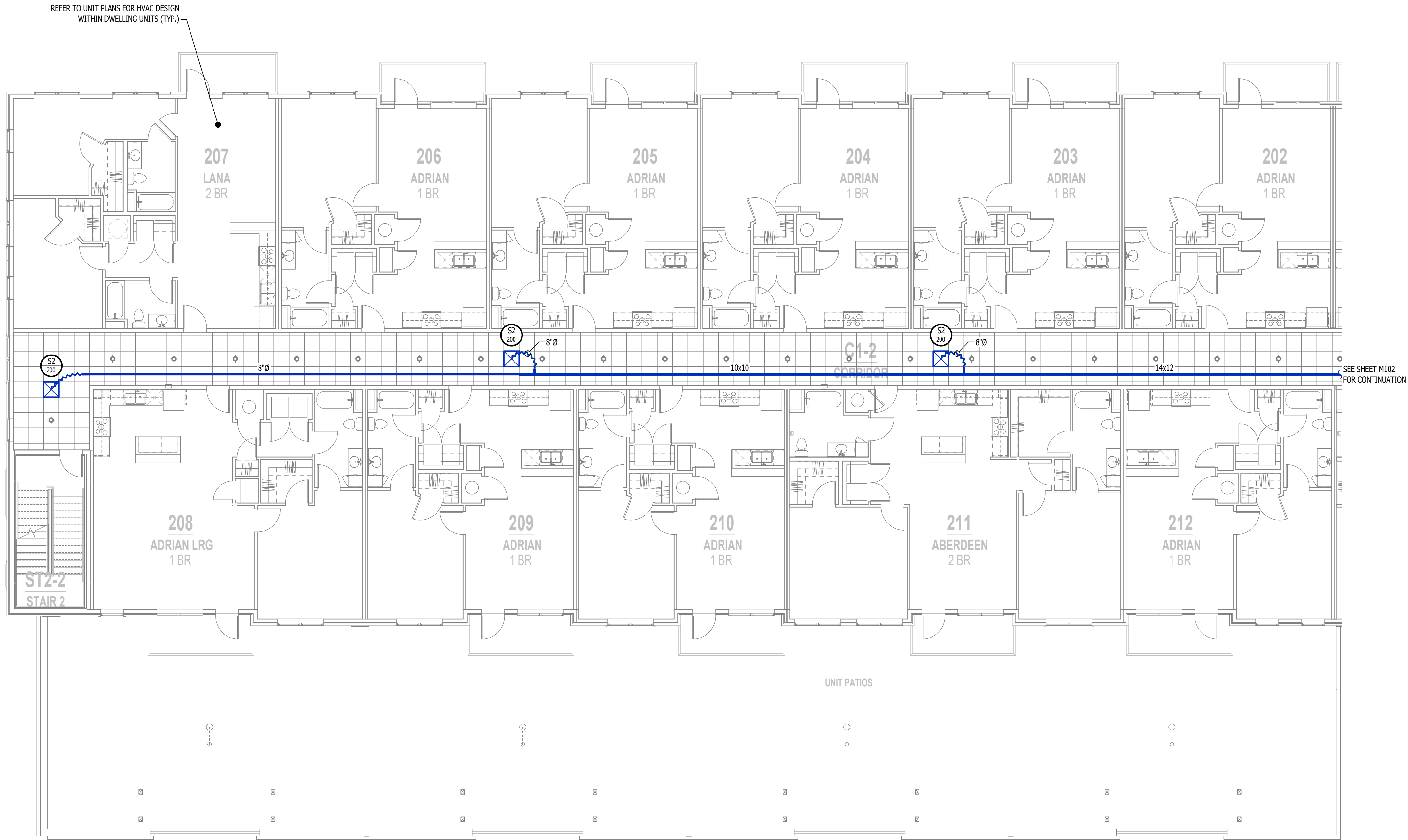
AHJ APPROVAL STAMP

SHEET TITLE

HVAC PLAN - 2ND
FLOOR - AREA A

SHEET NUMBER

M102



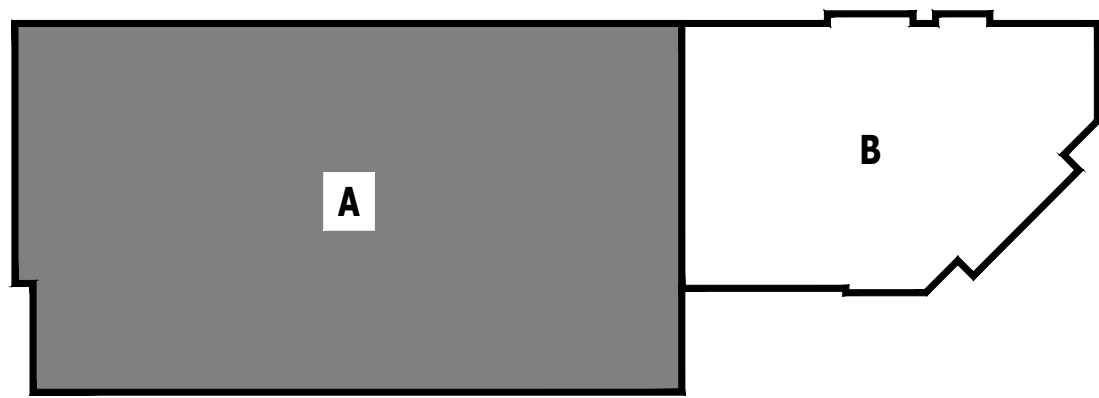
- HVAC PLAN SYMBOL LEGEND**
- EQUIPMENT TYPE (REFER TO EQUIPMENT SCHEDULE)
 - EQUIPMENT REFERENCE NUMBER
 - DIFFUSER/GRILLE TYPE (REFER TO SCHEDULE)
 - CUBIC FEET PER MINUTE (CFM) / FACE SIZE
 - SUPPLY DUCTWORK
 - RETURN DUCTWORK
 - EXHAUST DUCTWORK
 - OUTSIDE AIR DUCTWORK
 - FLEX DUCT
 - TIE INTO EXISTING
 - SUPPLY DIFFUSER (HATCH INDICATES "NO FLOW ZONE")
 - RETURN DIFFUSER
 - BALANCE DAMPER
 - MOTORIZED DAMPER
 - CEILING RADIATION DAMPER
 - FIRE RATED DAMPER
 - SMOKE DAMPER
 - THERMOSTAT

- HVAC PLAN GENERAL NOTES:**
- SEE M500 & M600 SERIES SHEETS FOR ADDITIONAL HVAC NOTES, DETAIL, AND SCHEDULES.



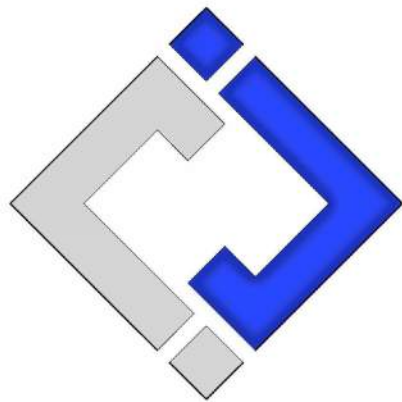
HVAC PLAN - 2ND FLOOR - AREA A

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



KEY PLAN

SCALE: NTS



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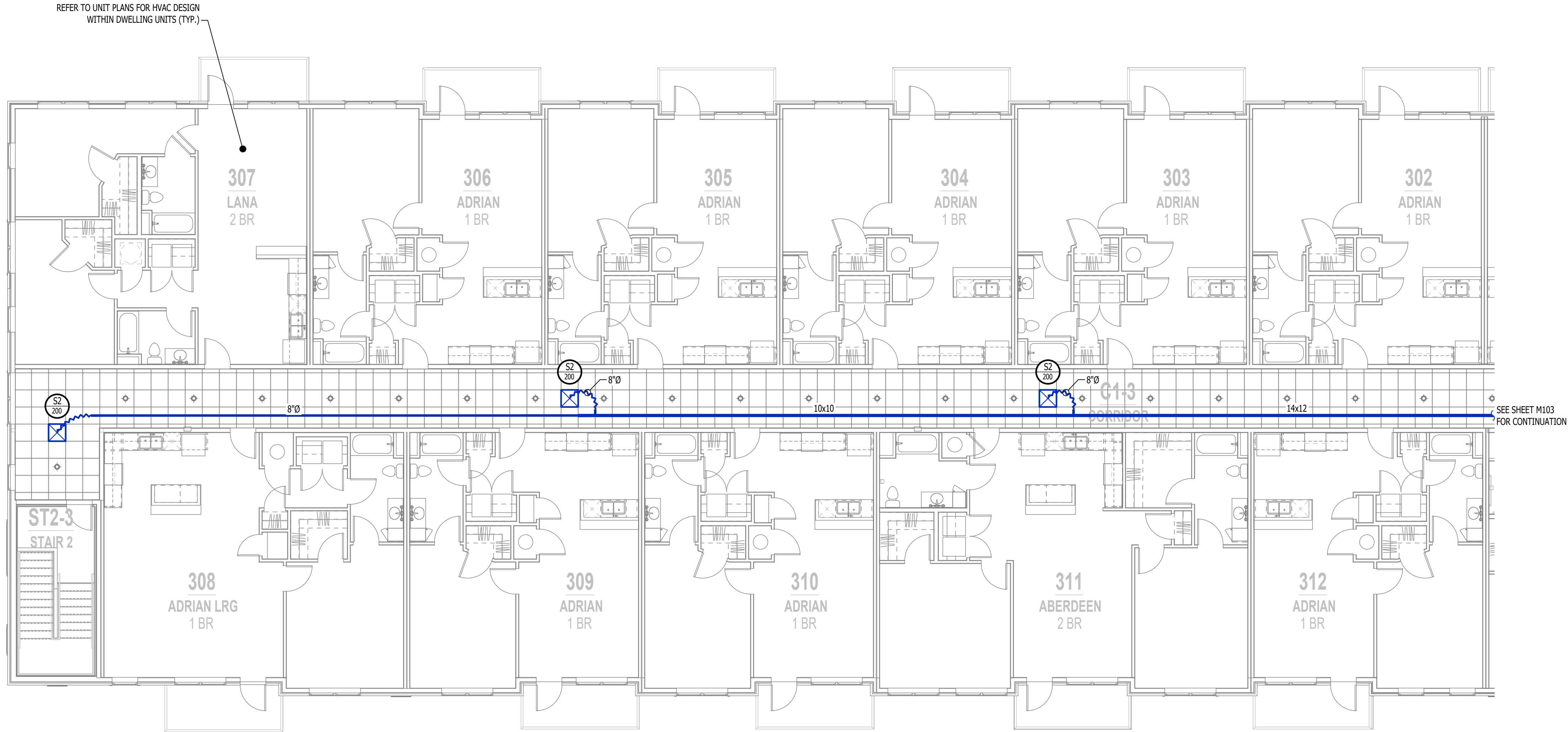
AHJ APPROVAL STAMP

SHEET TITLE

HVAC PLAN - 3RD
FLOOR - AREA A

SHEET NUMBER

M103



HVAC PLAN - 3RD FLOOR - AREA A

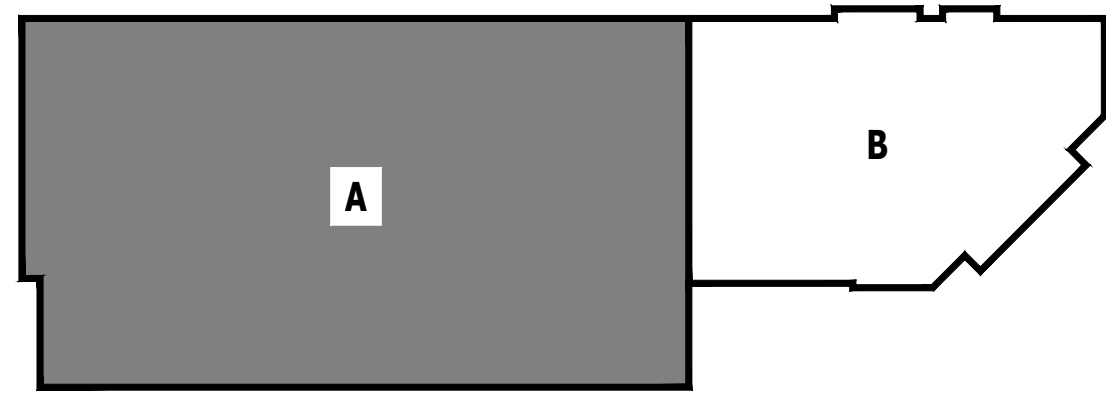
SCALE: 1/8" = 1'-0"

HVAC PLAN SYMBOL LEGEND

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

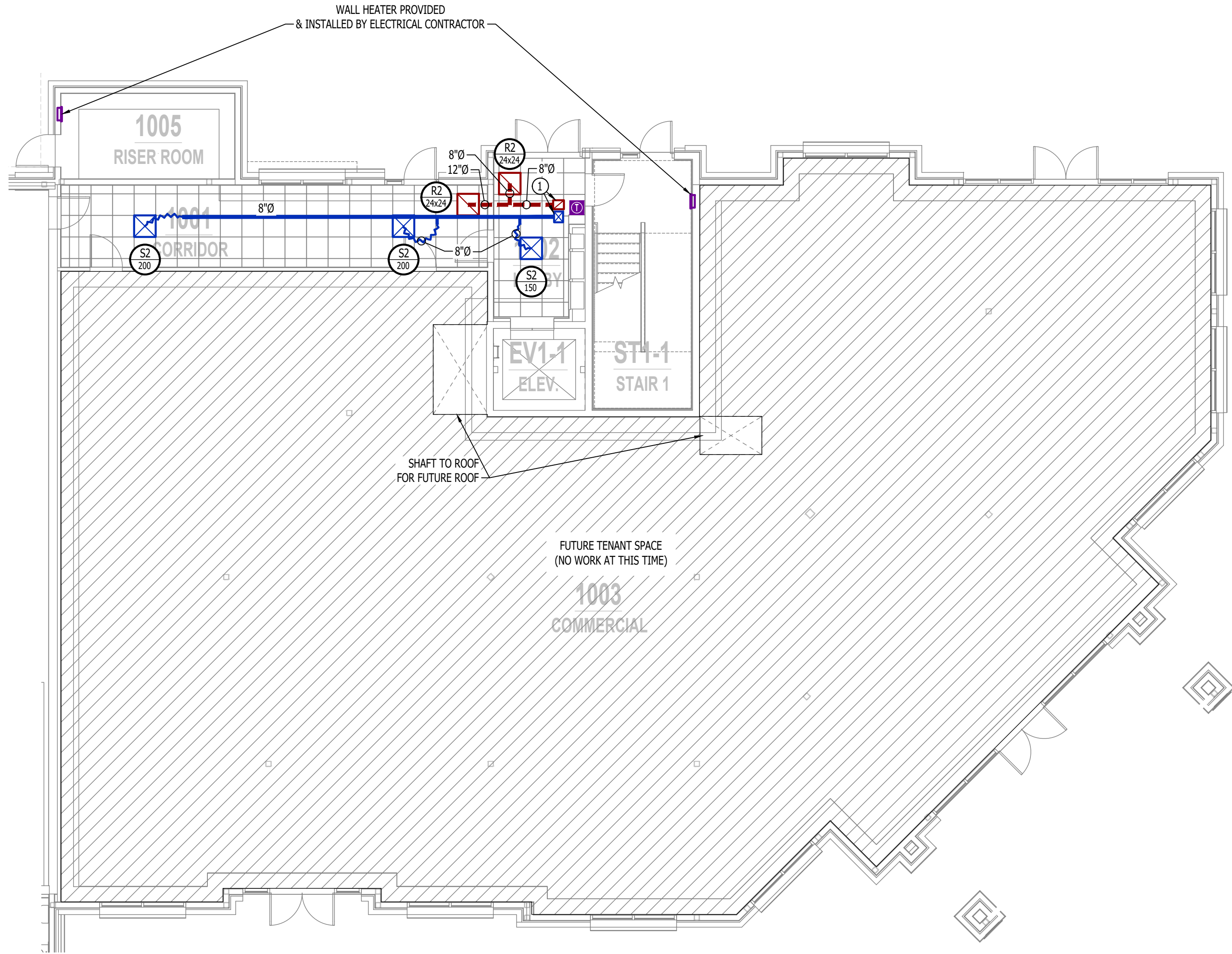
HVAC PLAN GENERAL NOTES:

1. SEE M500 & M600 SERIES SHEETS FOR ADDITIONAL HVAC NOTES, DETAIL, AND SCHEDULES.



KEY PLAN

SCALE: NTS



HVAC PLAN - 1ST FLOOR - AREA B
SCALE: 1/8" = 1'-0"

HVAC PLAN SYMBOL LEGEND

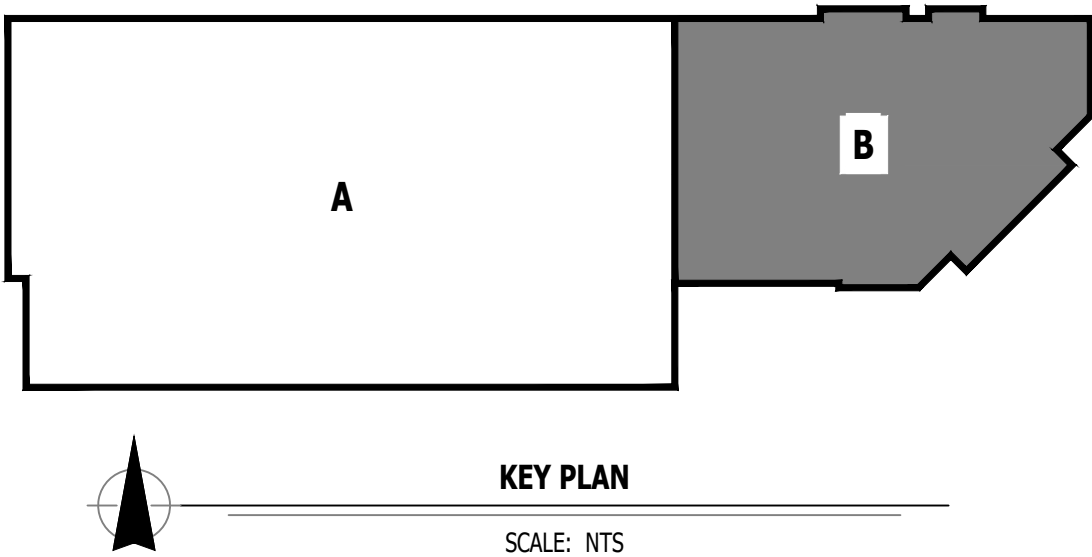
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- CUBIC FEET PER MINUTE (CFM) / FACE SIZE
- SUPPLY DUCTWORK
- RETURN DUCTWORK
- EXHAUST DUCTWORK
- OUTSIDE AIR DUCTWORK
- FLEX DUCT
- TIE INTO EXISTING
- SUPPLY DIFFUSER (HATCH INDICATES "NO FLOW ZONE")
- RETURN DIFFUSER
- BALANCE DAMPER
- MOTORIZED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

HVAC PLAN GENERAL NOTES:

- SEE M500 & M600 SERIES SHEETS FOR ADDITIONAL HVAC NOTES, DETAIL, AND SCHEDULES.

HVAC PLAN KEY NOTES:

- 12x10 (OR EQUAL) SUPPLY & RETURN DOWN FROM SECOND FLOOR (SEE SHEET M102 FOR AIR-HANDLER LOCATION ON 2ND FLOOR).



RELEASED FOR CONSTRUCTION
As Noted on Plans Review

Development Services Department
Columbia, Missouri
856.449.2525

JAMES P. WATSON
NUMBER
PE-2015017071
PROFESSIONAL ENGINEER

James Watson, P.E. December 20, 2024
PE-2015017071
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J2 PROJECT No: J21013

J2 DESIGN: ACW

ISSUE TITLE DATE

CITY SUBMITTAL 12 - 20 - 2024

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:
The Village at Discovery - Lot 10A

100 Northeast Alura Way
Lee's Summit, Jackson County, MO 64064

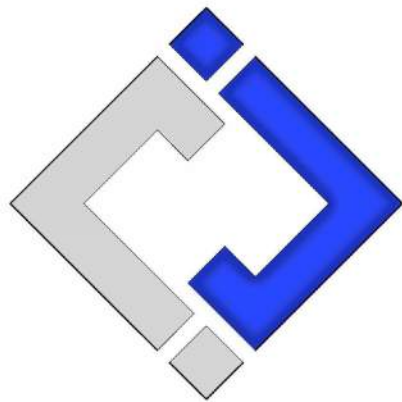
AHJ APPROVAL STAMP

SHEET TITLE

HVAC PLAN - 1ST FLOOR - AREA B

SHEET NUMBER

M111



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The Village at Discovery - Lot 10A

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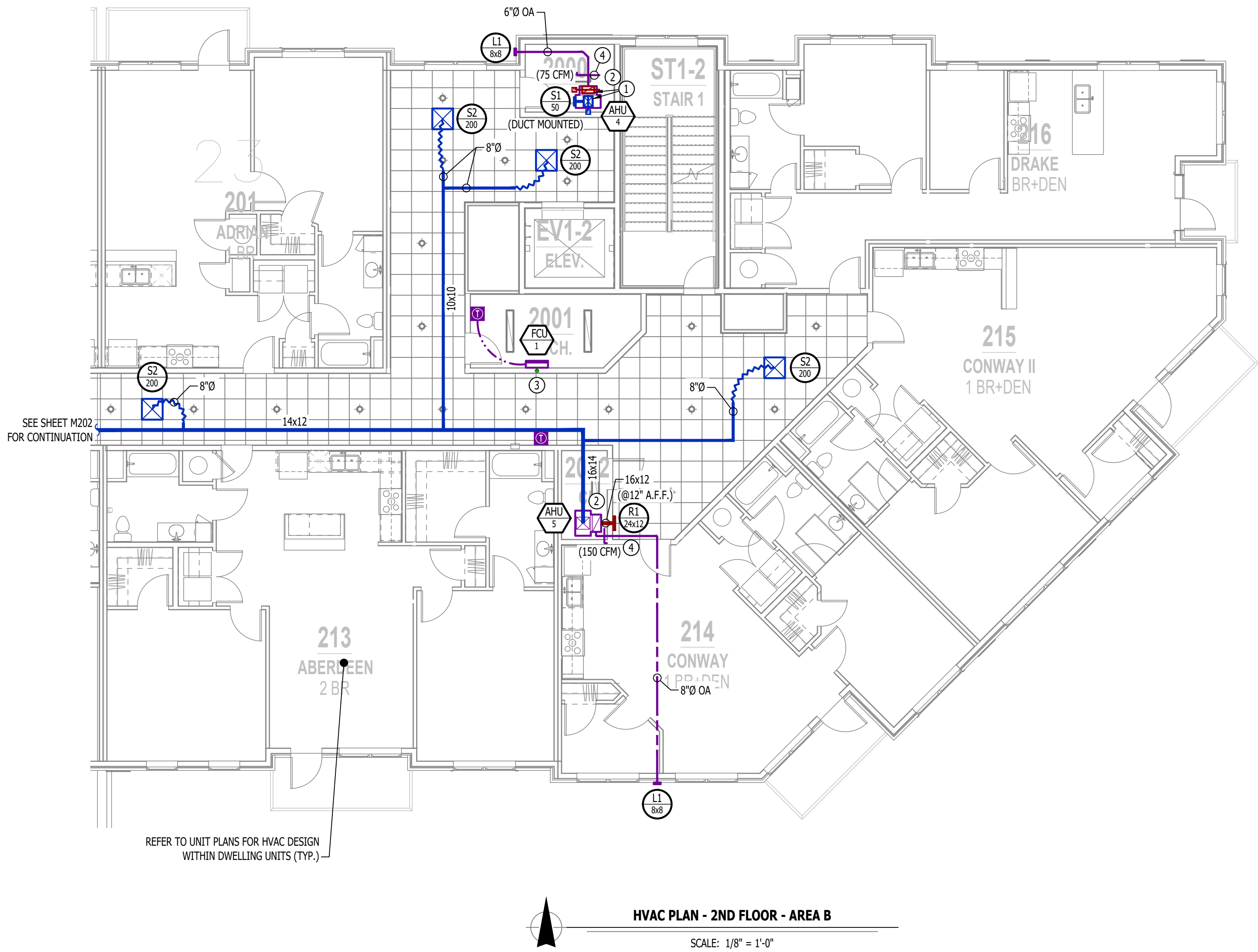
AHJ APPROVAL STAMP

SHEET TITLE

HVAC PLAN - 2ND
FLOOR - AREA B

SHEET NUMBER

M112



HVAC PLAN SYMBOL LEGEND

- X
#

←

EQUIPMENT TYPE (REFER TO EQUIPMENT SCHEDULE)
- X
#

←
- EQUIPMENT REFERENCE NUMBER
- X
#

←
- DIFFUSER/GRILLE TYPE (REFER TO SCHEDULE)
- X
#

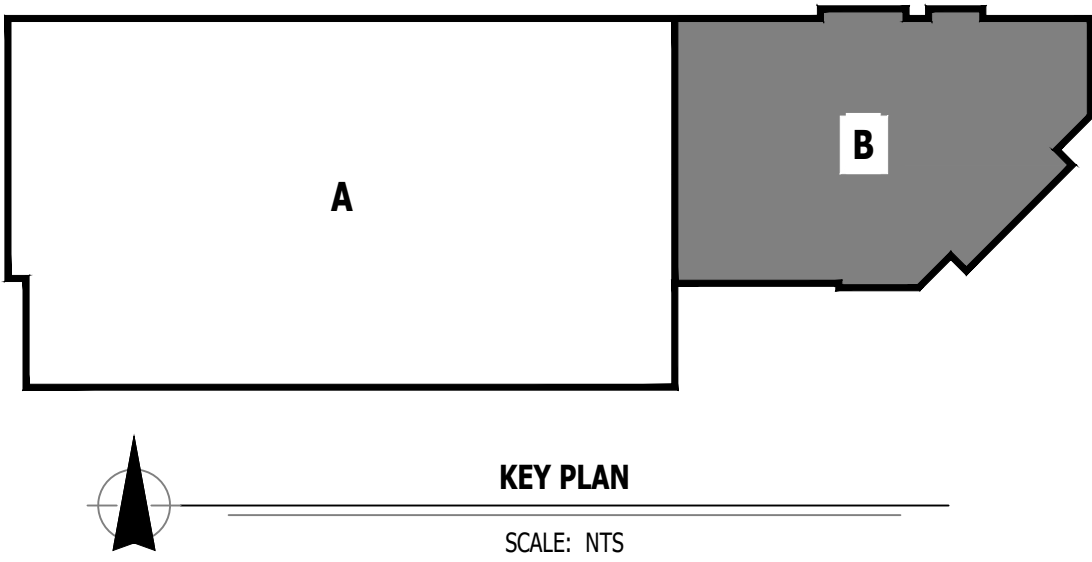
←
- CUBIC FEET PER MINUTE (CFM) / FACE SIZE
-
- SUPPLY DUCTWORK
-
- RETURN DUCTWORK
-
- EXHAUST DUCTWORK
-
- OUTSIDE AIR DUCTWORK
- ~~~~~
- FLEX DUCT
- ✕
- TIE INTO EXISTING
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-
- BALANCE DAMPER
- ⊠
- MOTORIZED DAMPER
- ⊠
- CEILING RADIATION DAMPER
- ⊠
- FIRE RATED DAMPER
- ⊠
- SMOKE DAMPER
- ⊠
- THERMOSTAT


HVAC PLAN GENERAL NOTES:

1. SEE M500 & M600 SERIES SHEETS FOR ADDITIONAL HVAC NOTES, DETAIL, AND SCHEDULES.

HVAC PLAN KEY NOTES:

- ① 12x10 (OR EQUAL) SUPPLY & RETURN DOWN TO 1ST FLOOR WITH FIRE-DAMPER AT FLOOR/CEILING PENETRATION.
② AC CONDENSATE TO INDIRECT DISCHARGE INTO FLOOR DRAIN WITHIN MECHANICAL ROOM.
③ AC CONDENSATE TO INDIRECT DISCHARGE INTO HUB DRAIN; COORDINATE WITH PLUMBING CONTRACTOR.
④ BALANCE OUTSIDE AIR (OA) TO AMOUNT SHOWN (XXX CFM).



The logo for J-Squared Engineering features a stylized 'J' and 'S' combined into a single geometric shape. The 'J' is light gray and the 'S' is blue, with a small blue square at the top right and a small gray square at the bottom left. Below the logo, the text 'J-SQUARED' is in a large, blue, serif font, and 'ENGINEERING' is in a smaller, gray, serif font. The contact information is listed at the bottom in a black, sans-serif font.

J-SQUARED
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ISSUE TITLE	DATE
CITY SUBMITTAL	12 - 20 - 2024

**100 Northeast Alura Way
Lee's Summit, Jackson County, MO 64064**

SHEET NUMBER

M113



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



SCALE: NTS

HVAC SPECIFICATIONS

1.

GENERAL
- 1.1.

REFER TO GENERAL MEP SPECIFICATIONS SECTION FOR ADDITIONAL REQUIREMENTS.
2.

WORKMANSHIP
- 2.1.

COORDINATE WITH ALL OTHER TRADES SO THAT HVAC EQUIPMENT AND DUCT WORK DOES NOT BLOCK REQUIRED ACCESS OR CLEARANCE TO ANY EQUIPMENT, ACCESS PANELS, ELECTRICAL JUNCTION BOXES, ELECTRICAL PANELS, ETC.
- 2.2.

ALL HVAC EQUIPMENT IS TO BE INSTALLED PER MANUFACTURER'S PUBLISHED RECOMMENDATIONS AND/OR INSTALLATION INSTRUCTIONS.
- 2.3.

ALL EQUIPMENT TO BE INSTALLED LEVEL AND PLUMB, PARALLEL OR PERPENDICULAR TO BUILDING ORIENTATION WHERE POSSIBLE.
- 2.4.

ROOFTOP MOUNTED RTUs SHALL BE INSTALLED ON CURBS PER MANUFACTURER'S INSTRUCTIONS. CURB HEIGHT SHALL PROVIDE A MINIMUM OF 6' BETWEEN EQUIPMENT AND TOP OF ROOF IN ALL LOCATIONS.
- 2.5.

GRADE MOUNTED RTUs, CONDENSING UNITS, AND HEAT PUMPS TO BE INSTALLED ON 4" REINFORCED CONCRETE PAD EXTENDING 4" BEYOND EACH EDGE OF THE EQUIPMENT, OR A MANUFACTURER APPROVED PRE-MANUFACTURED BASE.
- 2.6.

APPROPRIATE ATTENTION SHALL BE GIVEN TO INDOOR AIR QUALITY THROUGHOUT CONSTRUCTION; PROTECT INSIDE OF NEW DUCTWORK & AIR-HANDLING EQUIPMENT FROM DUST, DIRT, DEBRIS, PAINT, MOISTURE, ETC. INSULATION SHALL BE REPLACED IF EXPOSED TO MOISTURE. AN INDEPENDENT, PROFESSIONAL DUCT CLEANING COMPANY SHALL CLEAN ALL NEW DUCTWORK IF EQUIPMENT WAS USED DURING CONSTRUCTION, AND EQUIPMENT/COILS SHALL ALSO BE THOROUGHLY CLEANED.
- 2.7.

FIELD COORDINATE LOCATIONS OF ALL DIFFUSERS, GRILLES, REGISTERS, ETC. WITH LIGHT FIXTURE LOCATIONS AND ADJUST AS NECESSARY.
3.

EQUIPMENT
- 3.1.

ALL EQUIPMENT SHOWN ON MECHANICAL PLANS SHALL BE PROVIDED & INSTALLED BY MECHANICAL CONTRACTOR UNLESS NOTED OTHERWISE.
- 3.2.

ALL EQUIPMENT MUST PROVIDE PERFORMANCE AS SPECIFIED ON PLANS. WHERE SPECIFIC MANUFACTURERS AND/OR MODELS ARE INDICATED ON PLANS, CONTRACTOR TO PROVIDE MODEL INDICATED OR APPROVED EQUAL. VERIFY SUBSTITUTION APPROVAL PRIOR TO PURCHASE OR INSTALLATION OF EQUIPMENT.
- 3.3.

CONTRACTOR TO SUPPLY SUBMITTALS FOR ALL EQUIPMENT FOR REVIEW BY ARCHITECT AND ENGINEER. FORMAL APPROVAL SHALL BE RECEIVED BY CONTRACTOR PRIOR TO EQUIPMENT PURCHASE.
- 3.4.

CONTRACTOR TO SHARE APPROVED EQUIPMENT SUBMITTALS WITH ANY PERTINENT ELECTRICAL OR PLUMBING REQUIREMENTS WITH RESPECTIVE CONTRACTORS WITHIN TWO WEEKS OF RECEIVING APPROVED SUBMITTALS FROM ARCHITECT/ENGINEER.
- 3.5.

ALL EQUIPMENT SHOWN ON PLANS SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS WITH ADEQUATE ACCESS AND CLEARANCE FOR SERVICING OR REPLACEMENT.
- 3.6.

ALL HORIZONTAL FURNACES WITH AC COILS SHALL BE EQUIPPED WITH CORROSION RESISTANT DRAIN PAIN. DRAIN PAN TO DISCHARGE TO SANITARY WASTE VIA INDIRECT CONNECTION WITH AIR GAP. DRAIN PAN TO PROVIDE SECONDARY OVERFLOW OR FLOAT SWITCH INTERLOCKED WITH UNIT TO SHUT DOWN UNIT ON HIGH WATER SIGNAL.
- 3.7.

ALL EXTERIOR REFRIGERANT COILS TO BE PROTECTED BY FACTORY EQUIPPED HAIL GUARDS.
- 3.8.

REFRIGERANT PIPING TO BE A/C COPPER OR TYPE L COPPER.
- 3.9.

ALL AIR HANDLING EQUIPMENT SHALL BE EQUIPPED WITH MERV-8 FILTRATION AT RETURN OPENING UNLESS OTHERWISE NOTED.
- 3.10.

ALL AIR FILTERS SHALL BE SIZED FOR A MAXIMUM FACE VELOCITY OF 500FPM.
- 3.11.

PROVIDE & INSTALL ALL EQUIPMENT FLUES/VENTS PER MANUFACTURER'S SPECIFICATIONS. TERMINATIONS SHALL BE AT LEAST 10' FROM ANY FRESH AIR INTAKE.
- 3.12.

PROVIDE NEW AIR FILTERS IN ALL EQUIPMENT PRIOR TO TESTING & BALANCING AND BEFORE TURNING OVER SYSTEM(S) TO OWNERSHIP.
- 3.13.

IF ANY EXISTING EQUIPMENT IS TO BE REUSED, CLEAN AND INSPECT EQUIPMENT PRIOR TO BEGINNING WORK. VERIFY THAT EQUIPMENT IS IN GOOD WORKING CONDITION, REPORT ANY DEFICIENCIES TO ENGINEER.
4.

DUCTWORK
- 4.1.

DUCTWORK TO BE GALVANIZED STEEL, SEAL CLASS B, CONSTRUCTED PER SMACNA STANDARDS.
- 4.2.

DUCTWORK THICKNESS:
- 4.2.1.

26 GA. MINIMUM UP TO 16" DUCT
- 4.2.2.

24 GA. UP TO 20"
- 4.2.3.

22 GA. UP TO 24"
- 4.2.4.

20 GA. UP TO 28"
- 4.2.5.

18 GA. UP TO 36"
- 4.3.

TURNING VANES SHALL BE PROVIDED AND INSTALLED AT ALL 90° BENDS AND TEES.
- 4.4.

ALL DUCT DIMENSIONS LISTED ARE TO INTERIOR OF DUCT LINER UNLESS NOTED OTHERWISE ON PLANS.
- 4.5.

BALANCE DAMPERS MUST BE PROVIDED TO ALLOW ADJUSTMENT AT EACH AIR TERMINAL.
- 4.5.1.

WHERE BRANCH TAKEOFF IS ACCESSIBLE (ABOVE LAY-IN CEILING OR EXPOSED DUCT), BALANCE DAMPER IS TO BE INSTALLED AT TAKEOFF.
- 4.5.2.

WHERE TAKEOFF IS INACCESSIBLE (IN ATTIC OR SOFFIT), BALANCE DAMPER IS TO BE LOCATED SUCH THAT IT IS ACCESSIBLE FROM FACE OF AIR DEVICE.
- 4.6.

HVAC CONTRACTOR RESPONSIBLE FOR ALL DUCTWORK TRANSITIONS AND FITTINGS AS REQUIRED FOR FINAL CONNECTIONS TO HVAC EQUIPMENT.
- 4.7.

UNLESS NOTED OTHERWISE ON PLANS, FLEXIBLE DUCT CONNECTIONS MAY USED FROM BRANCH DUCTS TO FINAL AIR DEVICES, BUT SHALL NOT EXCEED 8'-0" IN LENGTH. FLEXIBLE DUCT CONNECTORS MUST BE SUPPORTED PER PLAN DETAILS.
5.

INSULATION
- 5.1.

DUCTWORK
- 5.1.1.

SEE "TYPICAL DUCT INSULATION DIAGRAM" FOR INSTALLATION SPECIFIC REQUIREMENTS.
- 5.1.2.

INTERNAL DUCT LINER TO BE EQUAL TO 'JOHNS MANVILLE LINACOUSTIC R-300'.
- 5.1.3.

EXTERNAL DUCT WRAP TO INCLUDE VAPOR BARRIER. EQUAL TO 'JOHNS MANVILLE MICROLITE' WITH FSK JACKET.
- 5.2.

REFRIGERANT PIPING
- 5.2.1.

SPLIT SYSTEM (SUCTION LINE ONLY) - 1" CLOSED CELL ELASTOMERIC FOAM (EQUAL TO 'ARMAFLEX AP').
- 5.3.

VRV/VRF SYSTEMS (BOTH SUCTION AND HOT GAS LINES) 1 1/2" EPDM (EQUAL TO 'AEROFLEX AEROCEL AC') WITHIN CONDITIONED SPACES & 2" EPDM (EQUAL TO 'AEROFLEX AEROCEL AC') IN UNCONDITIONED SPACES, AND WITH BANDED ALUMINUM SHIELDING IN EXTERIOR SPACES.
- 5.4.

CONDENSATE PIPING
- 5.4.1.

SPLIT SYSTEMS - WHERE CONDENSATE PIPING IS LOCATED IN UNCONDITIONED SPACE, INSULATE WITH 1/2" ELASTOMERIC. NO INSULATION REQUIRED WITHIN CONDITIONED SPACES.
- 5.4.2.

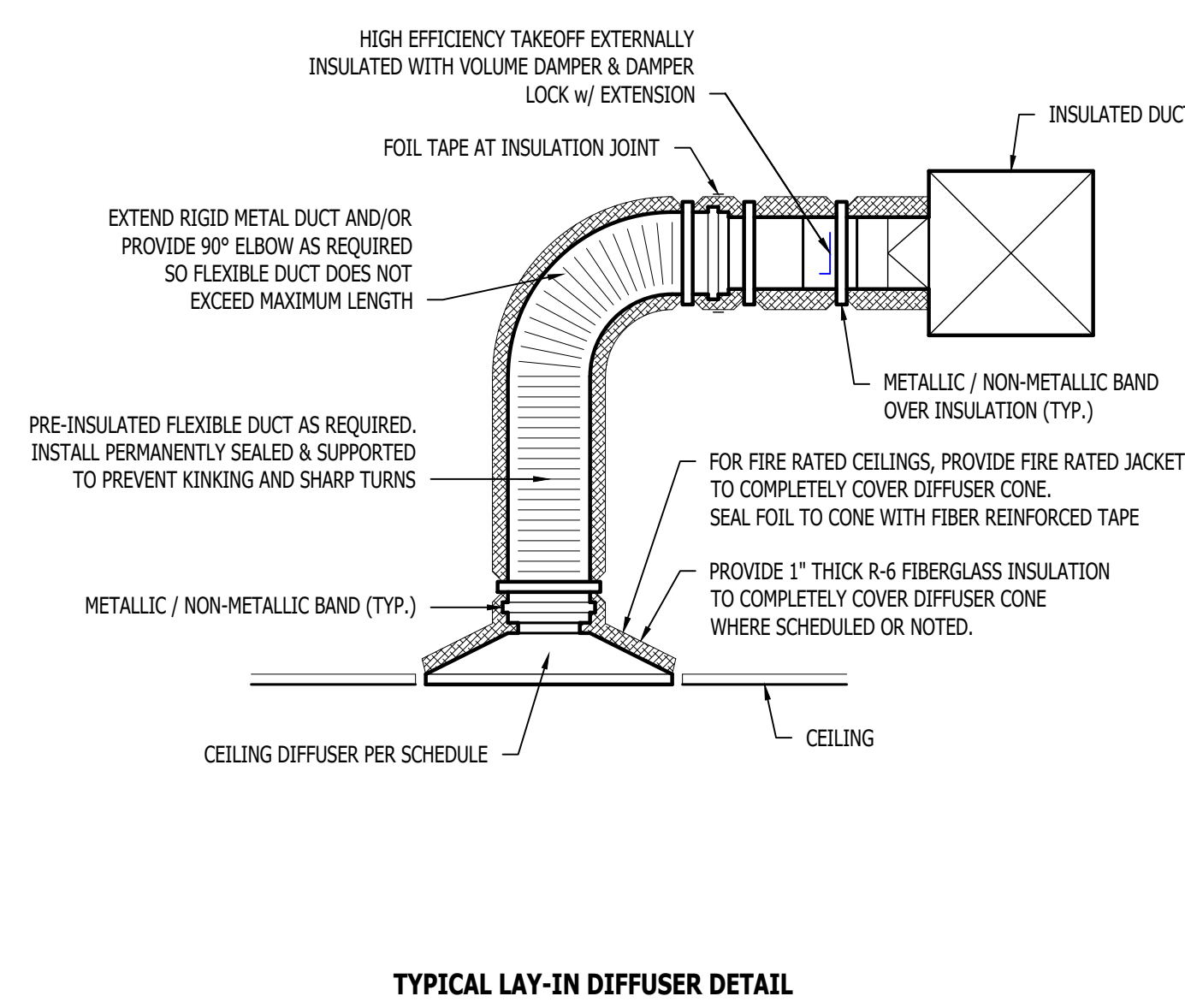
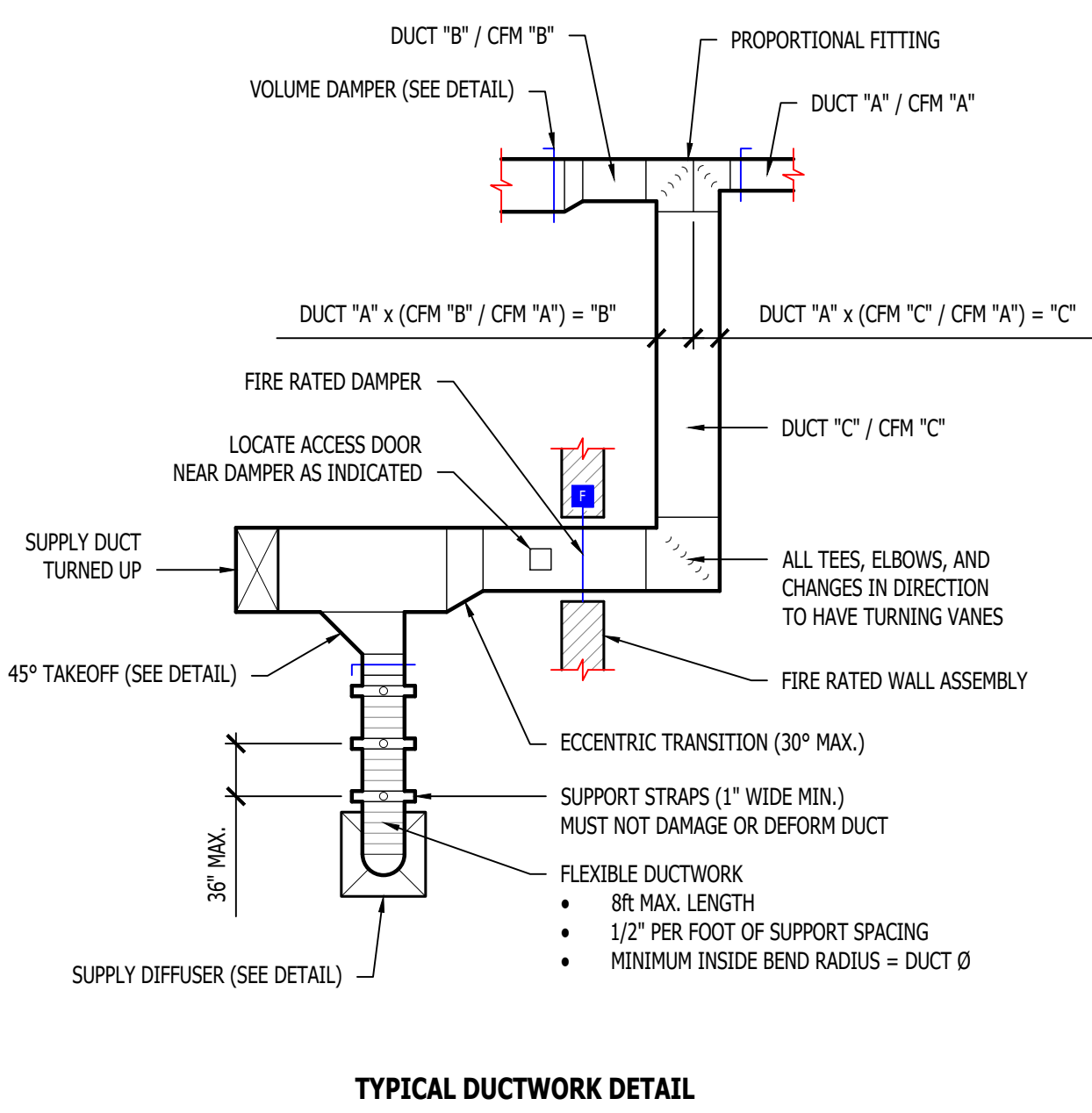
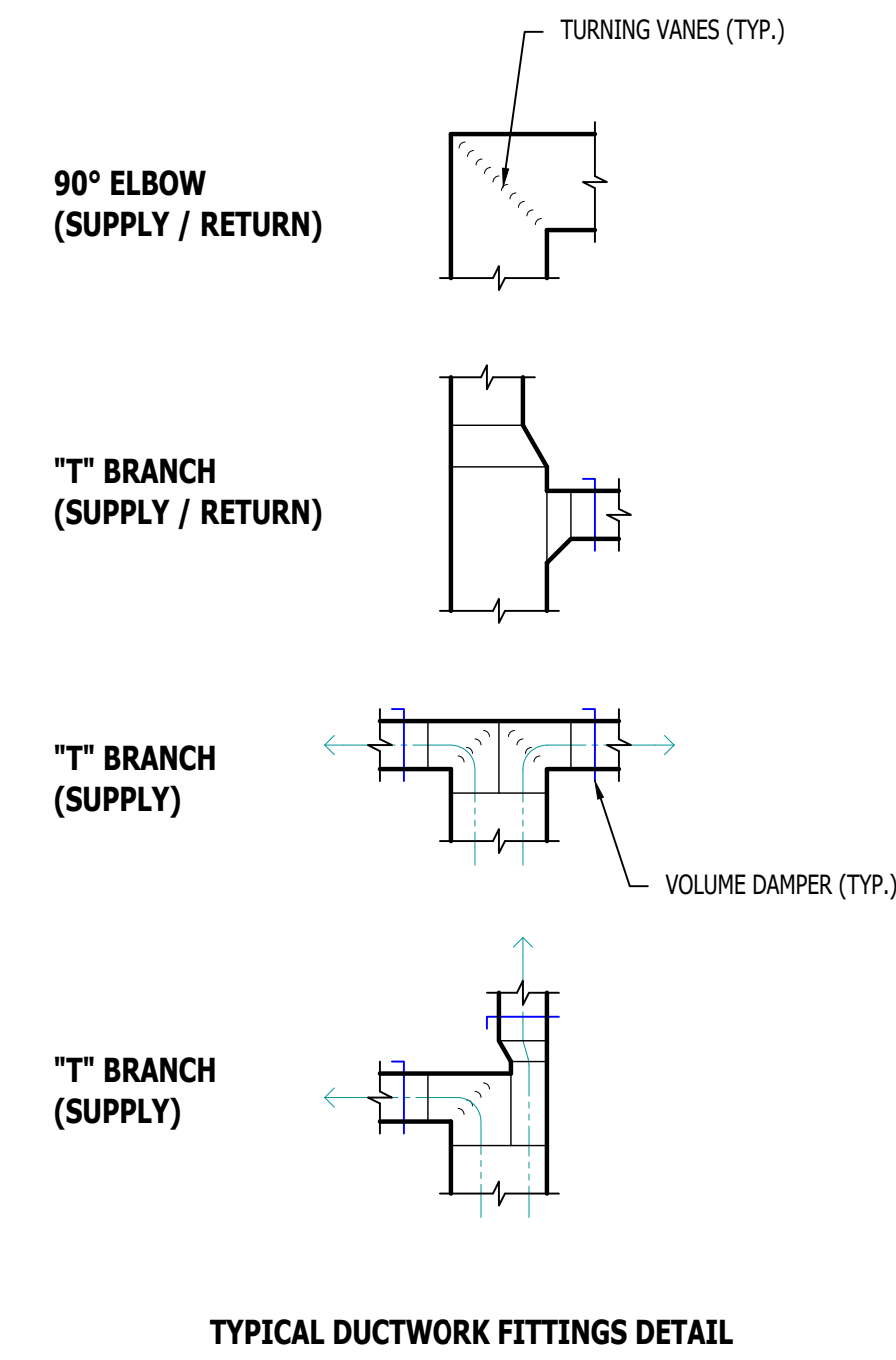
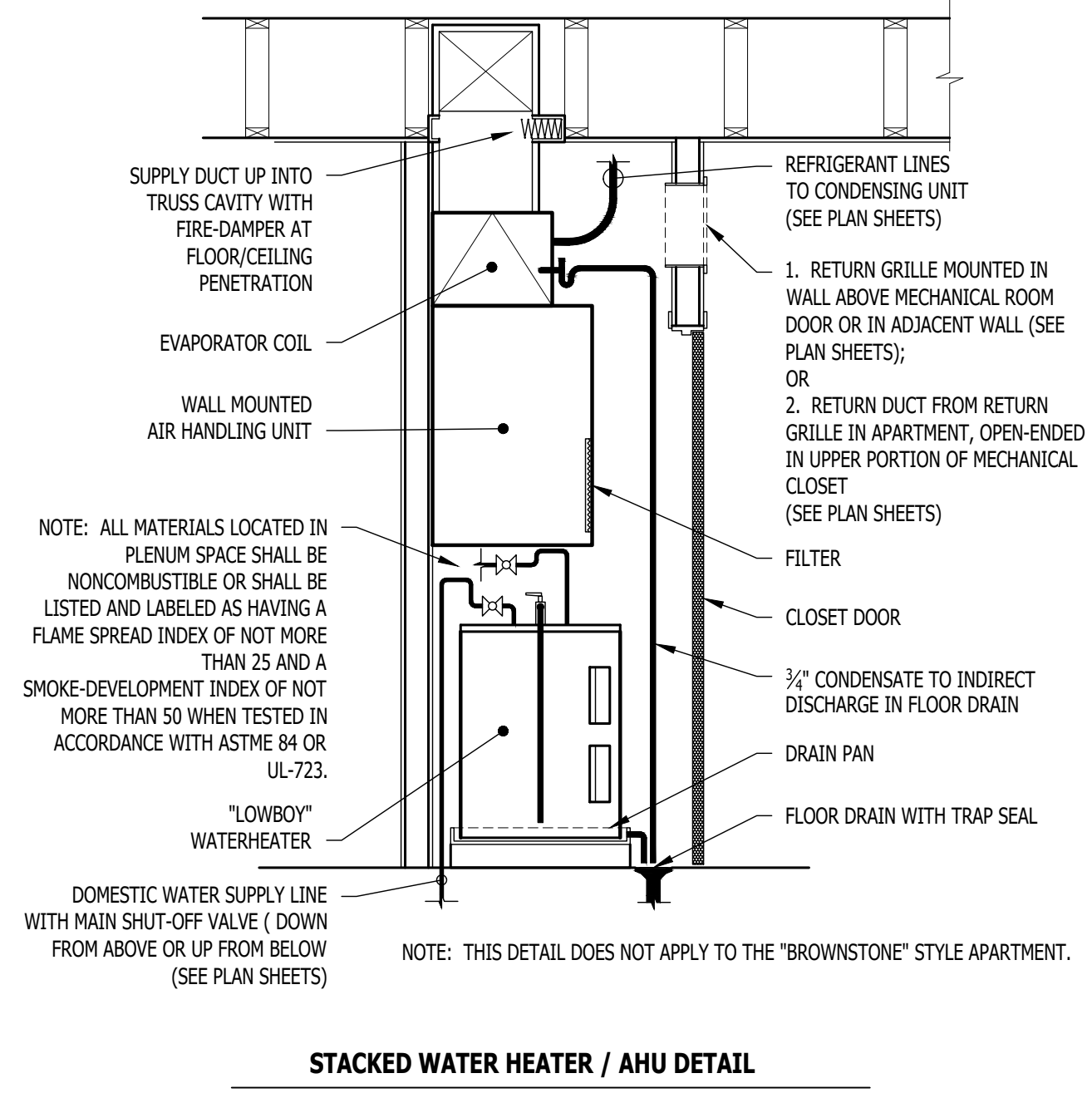
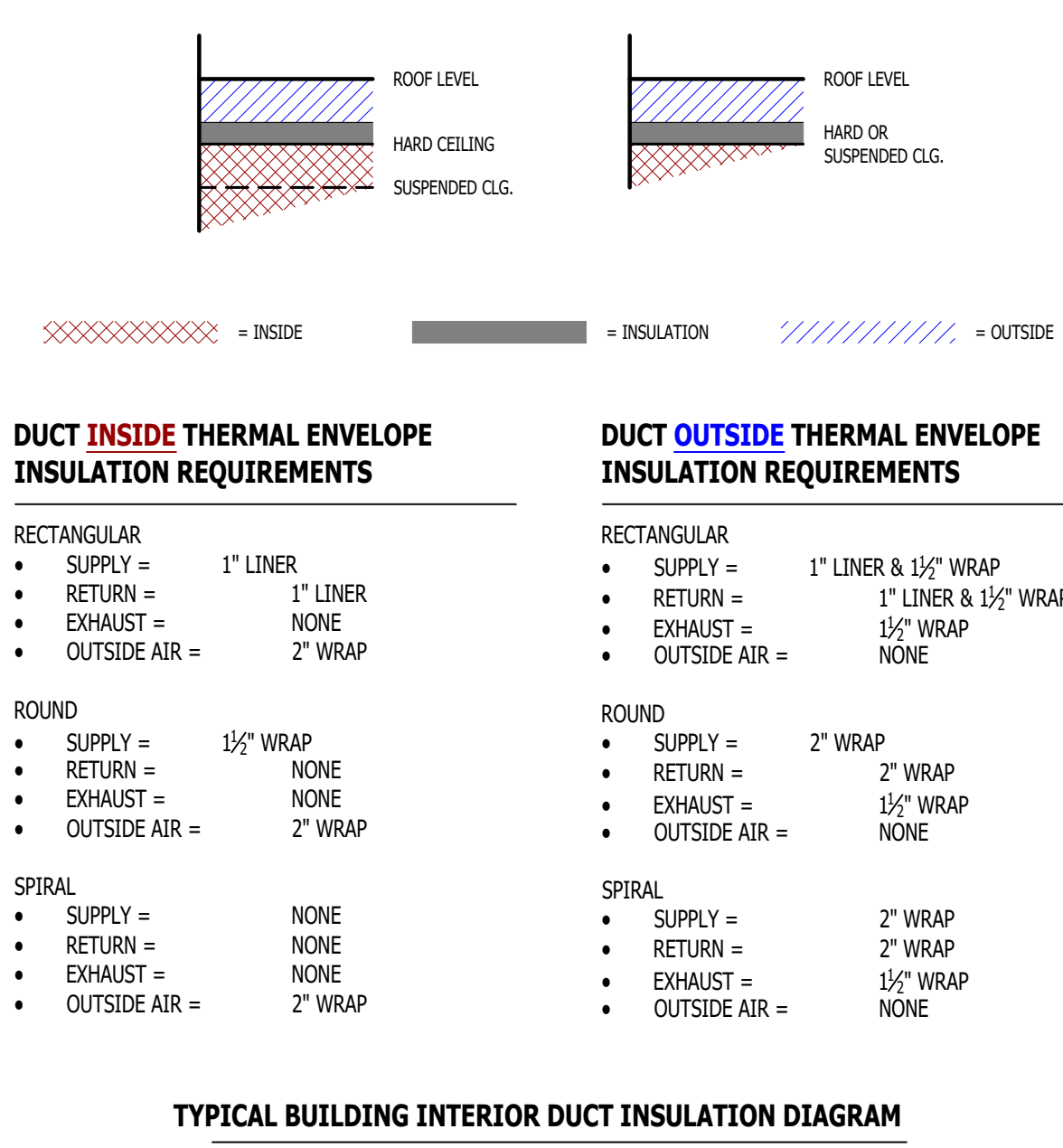
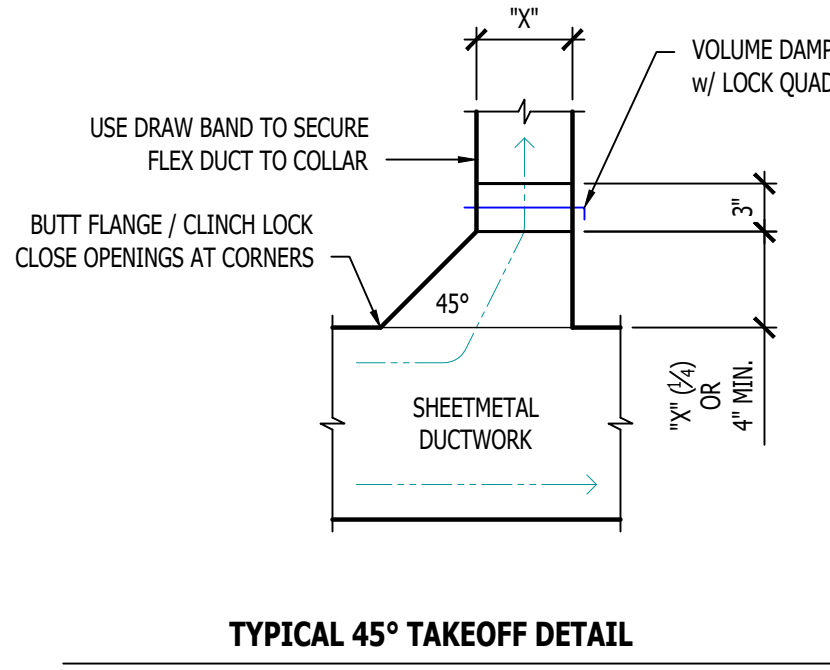
VRV/VRF - INSULATE WITH 1/2" ELASTOMERIC.
6.

TESTING AND BALANCING
- 6.1.

ALL SYSTEMS MUST BE BALANCED TO WITHIN 10% OF VALUES INDICATED ON PLAN.
- 6.2.

HVAC CONTRACTOR TO PROVIDE WRITTEN BALANCE REPORT INCLUDING FLOW VALUES INDICATED ON PLANS, INITIAL MEASURED FLOW VALUES, AND FINAL MEASURED VALUES.
- 6.3.

THIRD PARTY CERTIFIED TEST AND BALANCE NOT REQUIRED UNLESS OTHERWISE NOTED ON PLANS OR WITHIN PROJECT MANUAL.



RELEASED FOR CONSTRUCTION
As Noted on Plans Review

Development Services Department
Columbia, Missouri
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JAMES P. WATSON
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J2 PROJECT No:

J21013

J2 DESIGN:

ACW

ISSUE TITLE

DATE

CITY SUBMITTAL

12 - 20 - 2024

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

The Village at Discovery - Lot 10A

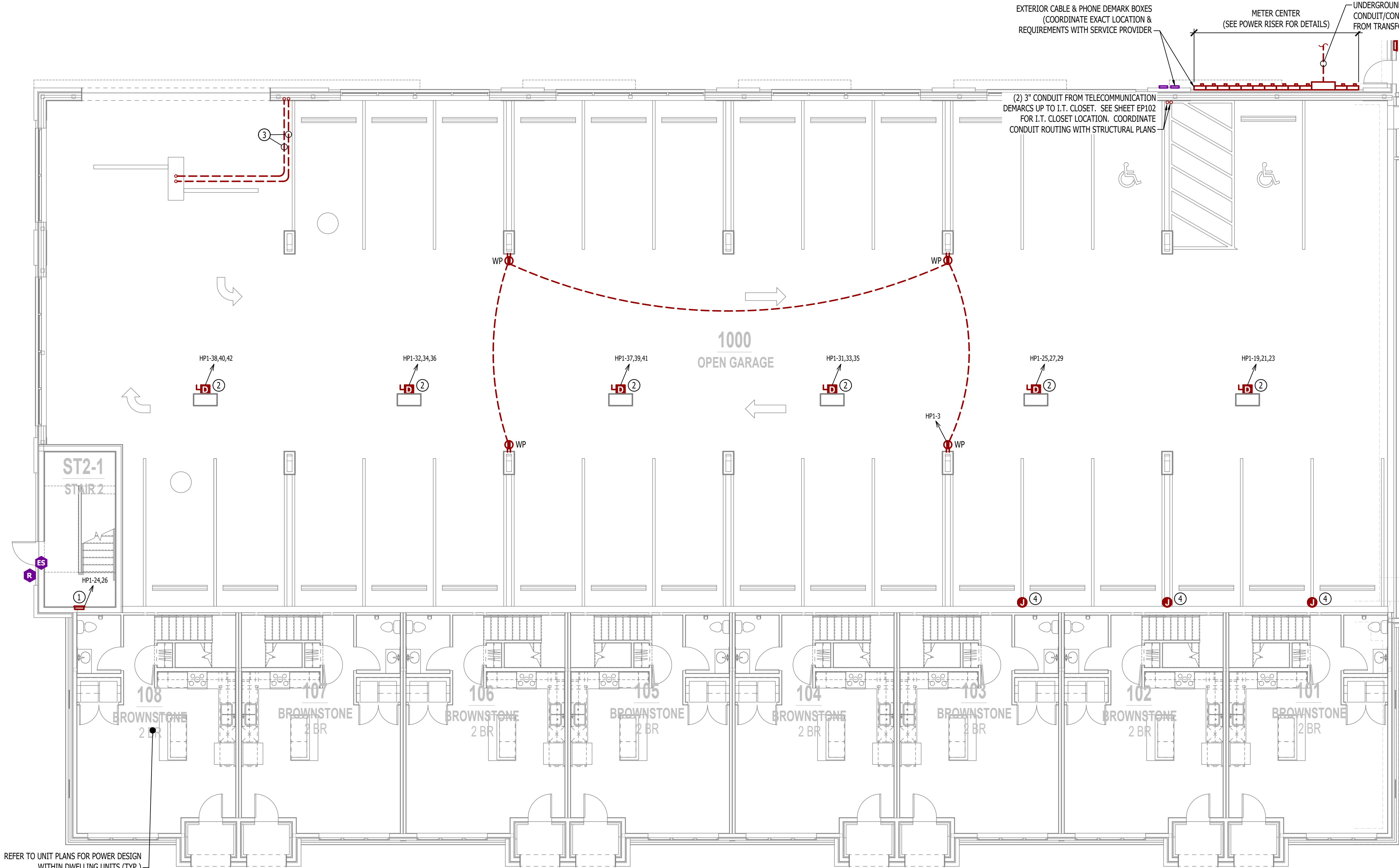
100 Northeast Alura Way
Lee's Summit, Jackson County, MO 64064

AHJ APPROVAL STAMP

SHEET TITLE

HVAC DETAILS

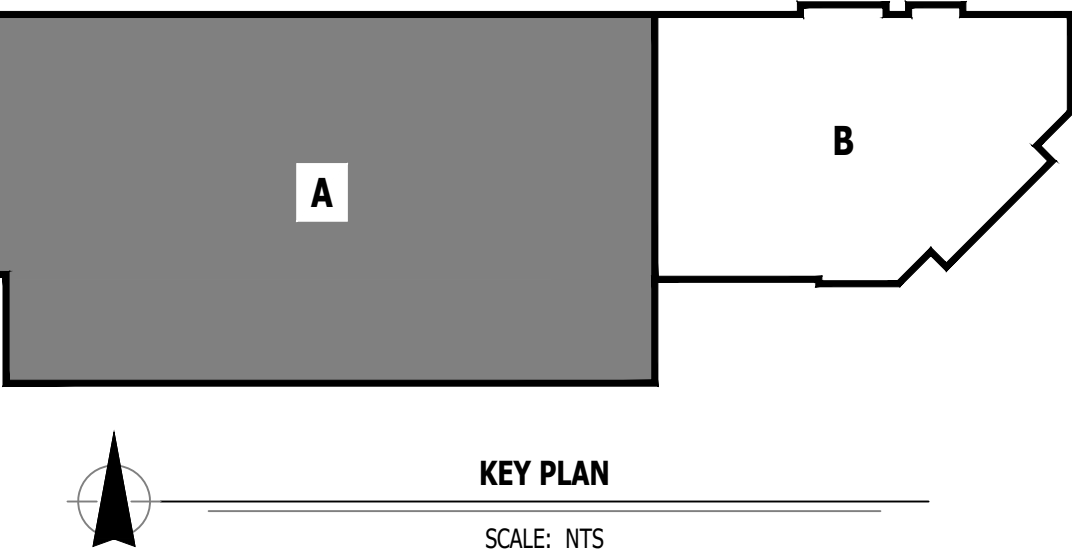
M501



- POWER PLAN SYMBOL LEGEND**
- CIRCUIT WIRING
 - CIRCUIT TAG
 - JUNCTION BOX
 - RECEPTACLE
 - INDICATES MOUNTING HEIGHT TO BOTTOM OF BOX (STANDARD @ 18" AFF UNLESS NOTED OTHERWISE)
 - "WP" = WEATHERPROOF OUTDOOR RECEPTACLE
 - "AW" = ABOVE WINDOW RECEPTACLE
 - "AC" = ABOVE CEILING RECEPTACLE
 - "EX" = EXISTING RECEPTACLE TO REMAIN
 - GFCI DUPLEX CONVENIENCE RECEPTACLE
 - 208V RECEPTACLE
 - QUADPLEX CONVENIENCE RECEPTACLE
 - USB OUTLET WITH USB-A & USB-C CHARGING PORT
 - DATA / PHONE JACK BOX WITH 1" CONDUIT & PULL STRING UP TO CEILING SPACE (STANDARD @ 18" AFF UNLESS NOTED OTHERWISE)
 - WIRELESS ACCESS POINT, CEILING MOUNTED
 - DISCONNECT
 - READER
 - ELECTRIC STRIKE

- POWER PLAN GENERAL NOTES:**
- SEE E500 & E600 SERIES SHEETS FOR ADDITIONAL ELECTRICAL NOTES, DETAILS, & SCHEDULES.

- POWER PLAN KEY NOTES:**
- PROVIDE & INSTALL RECESSED WALL HEATER (EQUAL TO #VFK404F).
 - POWER FOR PLENUM HEATER.
 - (2) 3/4" UNDERGROUND PVC CONDUITS FOR POWER & COMMUNICATION FOR FUTURE ACCESS CONTROL/GATE OPERATOR. COORDINATE WITH G.C.
 - ROUGH IN FOR FUTURE EV-CHARGING STATION; PROVIDE & INSTALL 2" CONDUIT WITH PULL-STRING FROM ELECTRICAL ROOM; COORDINATE WITH G.C.



RELEASED FOR CONSTRUCTION
As Noted on Plans Review

Development Services Department
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J2 PROJECT No:	J21013
J2 DESIGN:	ACW
ISSUE TITLE	DATE
CITY SUBMITTAL	12 - 20 - 2024

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:
The Village at Discovery - Lot 10A

100 Northeast Alura Way
Lee's Summit, Jackson County, MO 64064

AHJ APPROVAL STAMP

SHEET TITLE

POWER PLAN - 1ST FLOOR - AREA A

SHEET NUMBER

EP101



POWER PLAN SYMBOL LEGEND

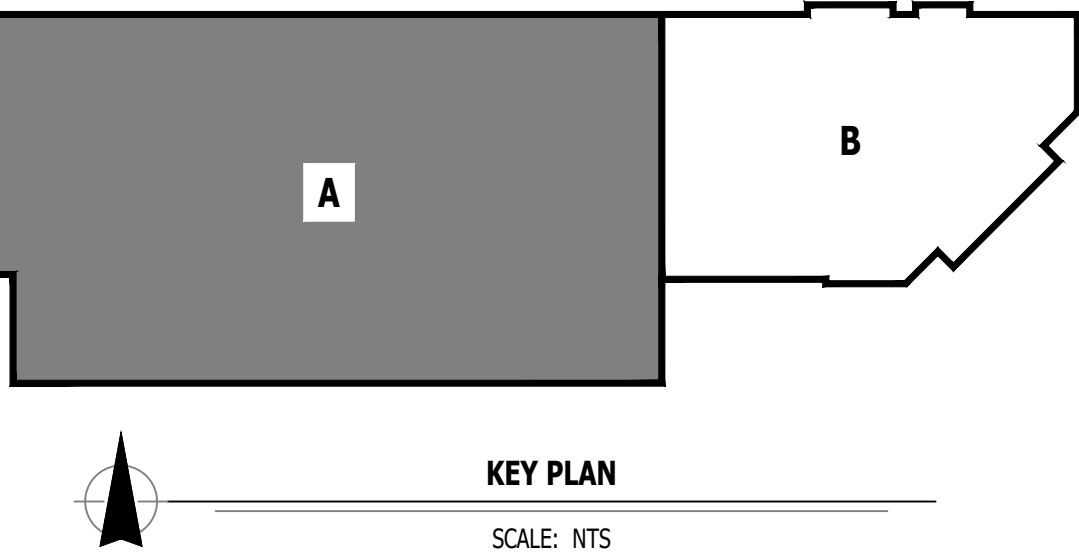
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- RECEPTACLE
- INDICATES MOUNTING HEIGHT TO BOTTOM OF BOX (STANDARD @ 18" AFF UNLESS NOTED OTHERWISE)
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- 208V RECEPTACLE
- QUADPLEX CONVENIENCE RECEPTACLE
- USB OUTLET WITH USB-A & USB-C CHARGING PORT
- DATA / PHONE JACK BOX WITH 1" CONDUIT & PULL STRING UP TO CEILING SPACE (STANDARD @ 18" AFF UNLESS NOTED OTHERWISE)
- WIRELESS ACCESS POINT, CEILING MOUNTED
- DISCONNECT
- READER
- ELECTRIC STRIKE

POWER PLAN GENERAL NOTES:

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

POWER PLAN KEY NOTES:

- POWER FOR MAG HOLD. WIRE THRU FIRE ALARM. SYSTEM TO RELEASE ON ALARM SIGNAL.



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Professional Services Department
Columbia, Missouri
December 20, 2024

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MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

The Village at Discovery - Lot 10A

100 Northeast Alura Way
Lee's Summit, Jackson County, MO 64064

AHJ APPROVAL STAMP

SHEET TITLE

POWER PLAN - 2ND FLOOR - AREA A

SHEET NUMBER

EP102



POWER PLAN - 3RD FLOOR - AREA A

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

POWER PLAN SYMBOL LEGEND

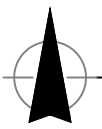
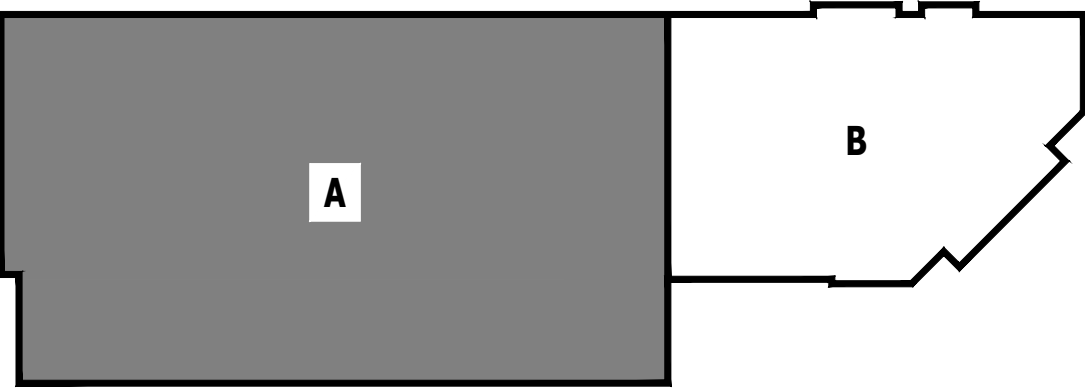
- CIRCUIT WIRING
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- WIRELESS ACCESS POINT, CEILING MOUNTED
- DISCONNECT
- READER
- ELECTRIC STRIKE

POWER PLAN GENERAL NOTES:

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

POWER PLAN KEY NOTES:

- POWER FOR MAG HOLD. WIRE THRU FIRE ALARM. SYSTEM TO RELEASE ON ALARM SIGNAL.



KEY PLAN

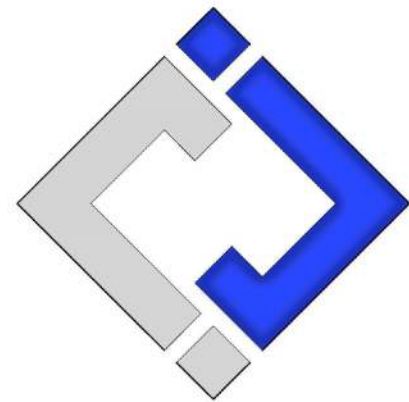
SCALE: NTS

RELEASED FOR CONSTRUCTION
As Noted on Plans Review

Development Services Department
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J2 PROJECT No:	J221013
J2 DESIGN:	ACW

ISSUE TITLE	DATE
CITY SUBMITTAL	12 - 20 - 2024

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

The Village at Discovery - Lot 10A

100 Northeast Alura Way
Lee's Summit, Jackson County, MO 64064

AHJ APPROVAL STAMP

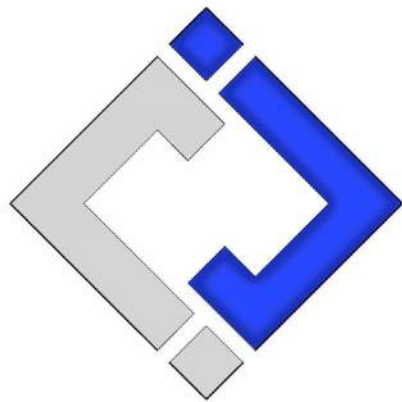
SHEET TITLE

POWER PLAN - 3RD
FLOOR - AREA A

SHEET NUMBER

EP103

James Watson, P.E. December 20, 2024
PE-2015017071
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J-SQUARED
ENGINEERING

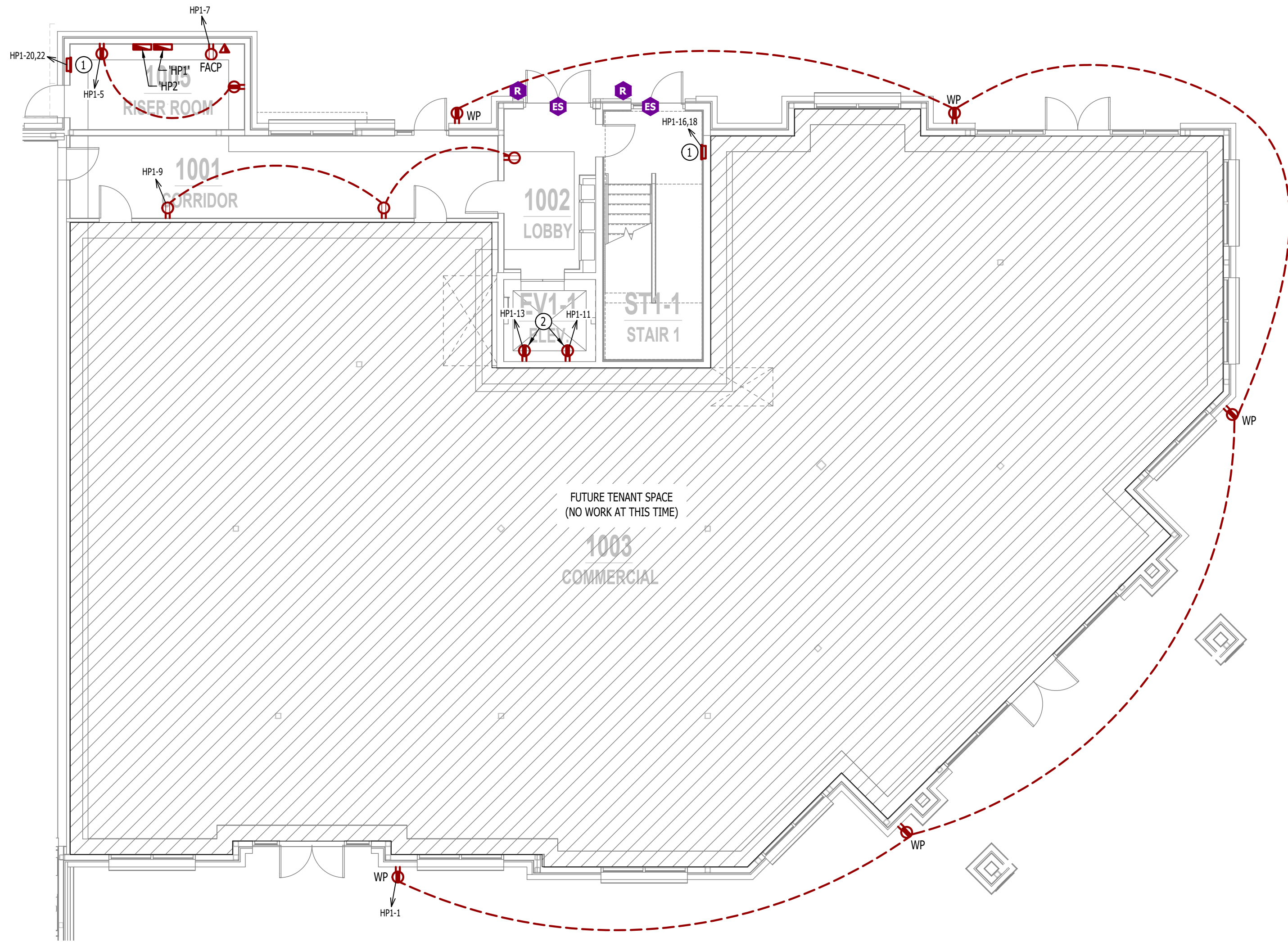
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J2 PROJECT No: J221013

J2 DESIGN: ACW

ISSUE TITLE DATE

CITY SUBMITTAL 12 - 20 - 2024



POWER PLAN - 1ST FLOOR - AREA B

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

POWER PLAN SYMBOL LEGEND

- CIRCUIT WIRING
- CIRCUIT TAG
- JUNCTION BOX
- RECEPTACLE
INDICATES MOUNTING HEIGHT TO BOTTOM OF BOX
(STANDARD @ 18" AFF UNLESS NOTED OTHERWISE)
"WP" = WEATHERPROOF OUTDOOR RECEPTACLE
"AW" = ABOVE WINDOW RECEPTACLE
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- GFCI DUPLEX CONVENIENCE RECEPTACLE
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- QUADPLEX CONVENIENCE RECEPTACLE
- USB OUTLET
WITH USB-A & USB-C CHARGING PORT
- DATA / PHONE JACK
BOX WITH 1" CONDUIT & PULL STRING UP TO CEILING SPACE
(STANDARD @ 18" AFF UNLESS NOTED OTHERWISE)
- WIRELESS ACCESS POINT, CEILING MOUNTED
- DISCONNECT
- READER
- ELECTRIC STRIKE

POWER PLAN GENERAL NOTES:

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

POWER PLAN KEY NOTES:

- PROVIDE & INSTALL 120/208V, 1PH, 3000W RECESSED WALL HEATER (EQUAL TO #VFK404F).
- RECEPTACLE(S) LOCATED IN ELEVATOR PIT; SEE ELEVATOR PIT DETAIL FOR ADDITIONAL INFORMATION.



KEY PLAN

SCALE: NTS

AHJ APPROVAL STAMP

SHEET TITLE

POWER PLAN - 1ST
FLOOR - AREA B

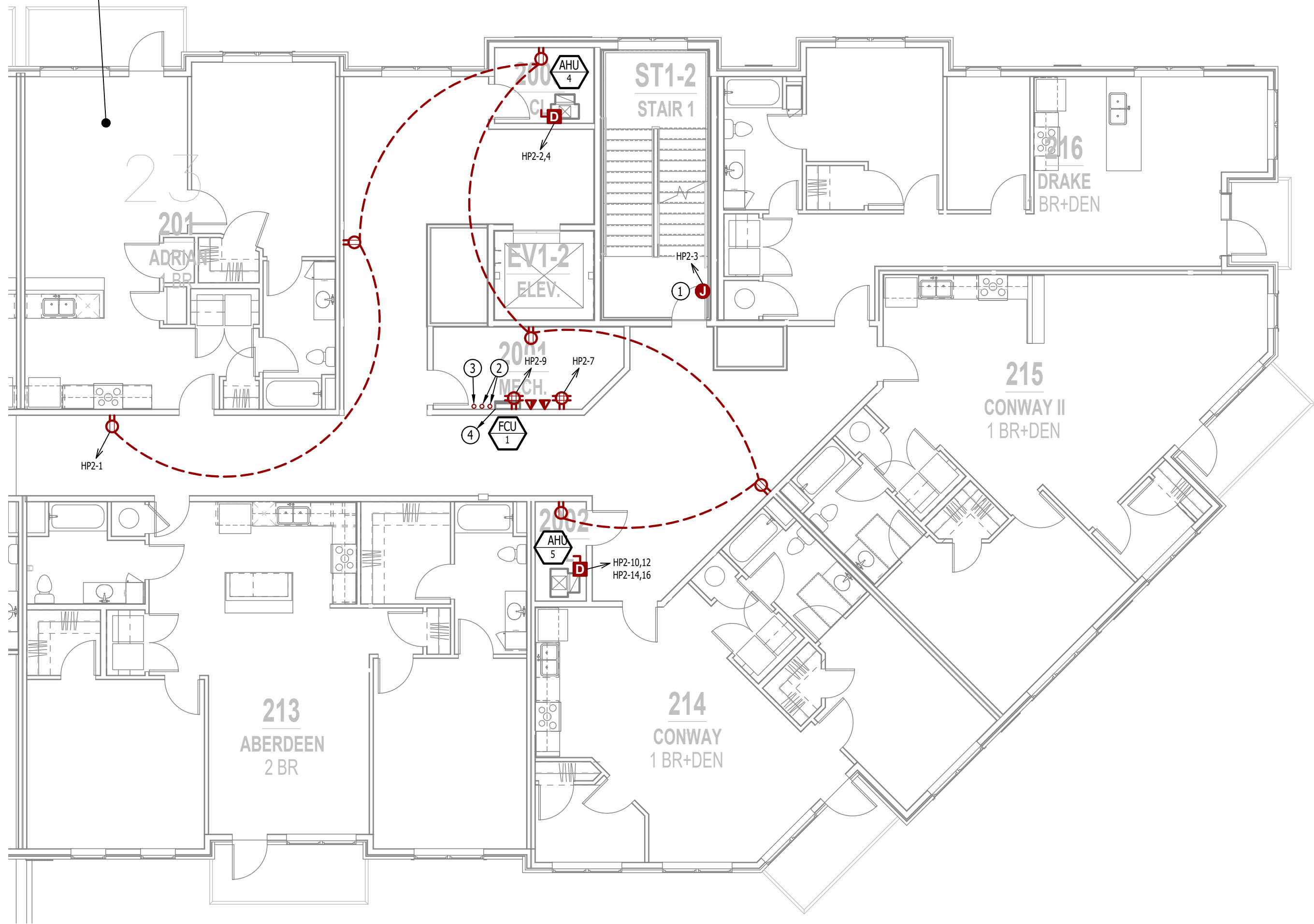
SHEET NUMBER

EP111

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:
The Village at Discovery - Lot 10A

100 Northeast Alura Way
Lee's Summit, Jackson County, MO 64064

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



POWER PLAN - 2ND FLOOR - AREA B

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

POWER PLAN SYMBOL LEGEND

- CIRCUIT WIRING
- CIRCUIT TAG
- JUNCTION BOX
- RECEPTACLE
INDICATES MOUNTING HEIGHT TO BOTTOM OF BOX
(STANDARD @ 18" AFF UNLESS NOTED OTHERWISE)
"WP" = WEATHERPROOF OUTDOOR RECEPTACLE
"AW" = ABOVE WINDOW RECEPTACLE
"AC" = ABOVE CEILING RECEPTACLE
"EX" = EXISTING RECEPTACLE TO REMAIN
- GFCI DUPLEX CONVENIENCE RECEPTACLE
- 208V RECEPTACLE
- QUADPLEX CONVENIENCE RECEPTACLE
- USB OUTLET
WITH USB-A & USB-C CHARGING PORT
- DATA / PHONE JACK
BOX WITH 1" CONDUIT & PULL STRING UP TO CEILING SPACE
(STANDARD @ 18" AFF UNLESS NOTED OTHERWISE)
- WIRELESS ACCESS POINT, CEILING MOUNTED
- DISCONNECT
- READER
- ELECTRIC STRIKE

POWER PLAN GENERAL NOTES:

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

POWER PLAN KEY NOTES:

- POWER FOR MAG HOLD. WIRE THRU FIRE ALARM. SYSTEM TO RELEASE ON ALARM SIGNAL.
- (2) 3" CONDUIT FROM TELECOMMUNICATION DEMARCS STUBBED INTO I.T. CLOSET.
- 4" SLEEVE IN CEILING TO THIRD FLOOR.
- FAN COIL UNIT POWERED THRU HEAT PUMP *HP-1* ON ROOF (SEE SHEET MEP3 FOR DETAILS).



KEY PLAN

SCALE: NTS

RELEASED FOR
CONSTRUCTION
As Noted on Plans Review

Professional Services Department
Columbia, Missouri
800.422.2225

JAMES P. WATSON
NUMBER
PE-2015017071

PROFESSIONAL ENGINEER

James Watson, P.E. December 20, 2024
PE-2015017071
MO Certificate of Authority # 2018029680

J-SQUARED
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J2 PROJECT No:	J221013
J2 DESIGN:	ACW

ISSUE TITLE	DATE
CITY SUBMITTAL	12 - 20 - 2024

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

The Village at Discovery - Lot 10A

100 Northeast Alura Way
Lee's Summit, Jackson County, MO 64064

AHJ APPROVAL STAMP

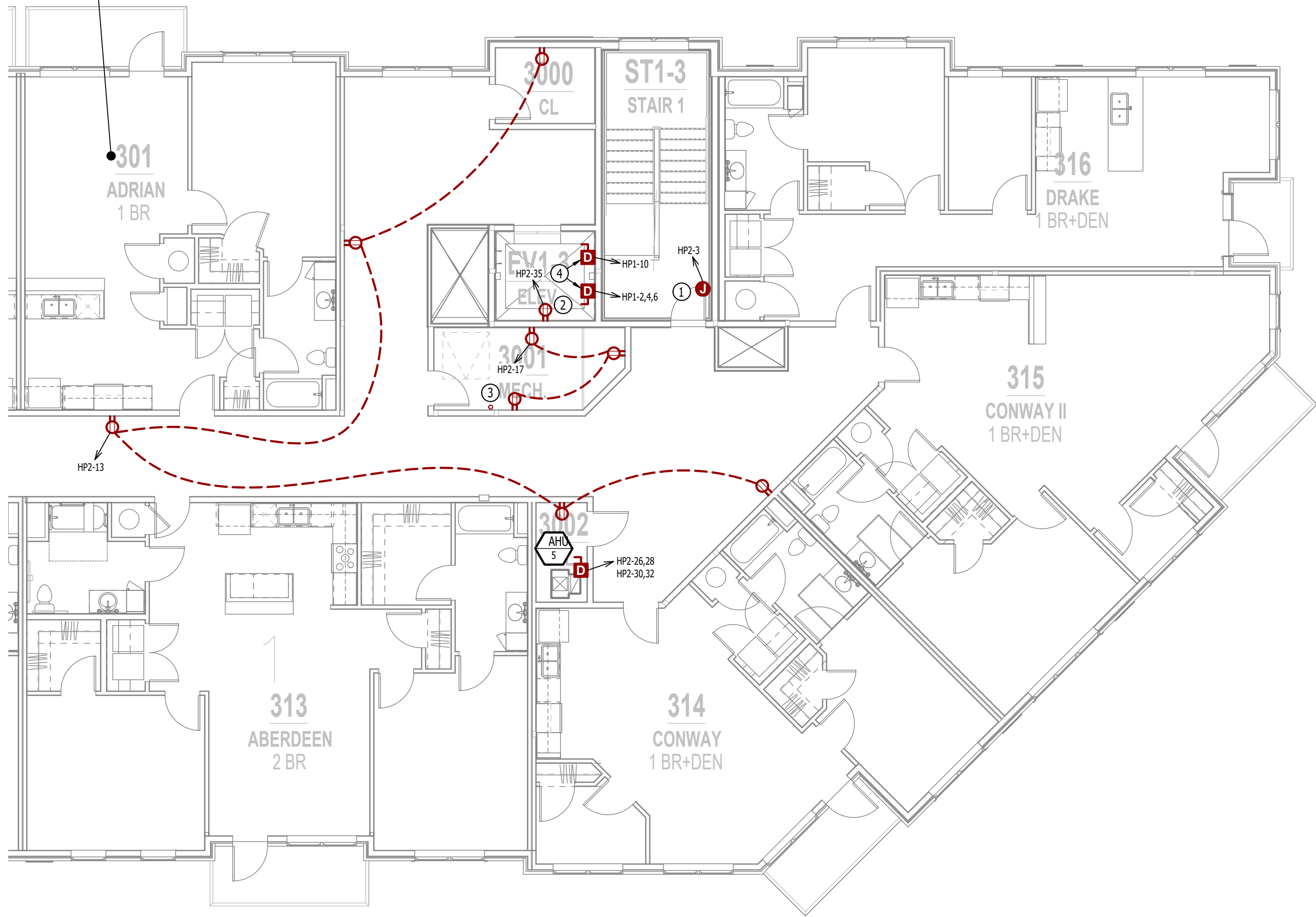
SHEET TITLE

POWER PLAN - 2ND
FLOOR - AREA B

SHEET NUMBER

EP112

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



POWER PLAN - 3RD FLOOR - AREA B

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

POWER PLAN SYMBOL LEGEND

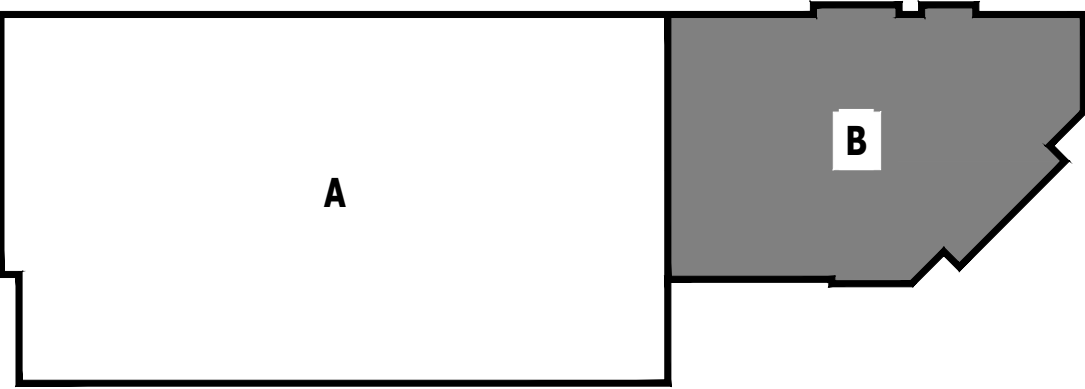
- CIRCUIT WIRING
- CIRCUIT TAG
- JUNCTION BOX
- RECEPTACLE
INDICATES MOUNTING HEIGHT TO BOTTOM OF BOX
(STANDARD @ 18" AFF UNLESS NOTED OTHERWISE)
"WP" = WEATHERPROOF OUTDOOR RECEPTACLE
"AW" = ABOVE WINDOW RECEPTACLE
"AC" = ABOVE CEILING RECEPTACLE
"EX" = EXISTING RECEPTACLE TO REMAIN
- GFCI DUPLEX CONVENIENCE RECEPTACLE
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- QUADPLEX CONVENIENCE RECEPTACLE
- USB OUTLET
WITH USB-A & USB-C CHARGING PORT
- DATA / PHONE JACK
BOX WITH 1" CONDUIT & PULL STRING UP TO CEILING SPACE
(STANDARD @ 18" AFF UNLESS NOTED OTHERWISE)
- WIRELESS ACCESS POINT, CEILING MOUNTED
- DISCONNECT
- READER
- ELECTRIC STRIKE

POWER PLAN GENERAL NOTES:

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

POWER PLAN KEY NOTES:

- POWER FOR MAG HOLD, WIRE THRU FIRE ALARM, SYSTEM TO RELEASE ON ALARM SIGNAL.
- RECEPTACLE IN ELEVATOR SHAFT; COORDINATE EXACT LOCATION & REQUIREMENTS WITH ELEVATOR EQUIPMENT SUPPLIER.
- SLEEVE UP THRU FLOOR UP FROM SECOND FLOOR.
- ELEVATOR DISCONNECT(S) LOCATED IN SHAFT ON THIRD FLOOR; COORDINATE EXACT LOCATION & REQUIREMENTS WITH ELEVATOR EQUIPMENT SUPPLIER. MAIN ELEVATOR DISCONNECT SHALL BE EQUAL TO BUSSMAN #PS SERIES QUIK-SPEC POWER MODULE.



KEY PLAN

SCALE: NTS

RELEASED FOR
CONSTRUCTION
As Noted on Plans Review

Development Services Department
Columbia, Missouri
856.242.2525

James Watson, P.E. December 20, 2024
PE-2015017071
MO Certificate of Authority # 2018029680

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J2 PROJECT No:	J21013
J2 DESIGN:	ACW
ISSUE TITLE	DATE
CITY SUBMITTAL	12 - 20 - 2024

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

The Village at Discovery - Lot 10A

100 Northeast Alura Way
Lee's Summit, Jackson County, MO 64064

AHJ APPROVAL STAMP

SHEET TITLE

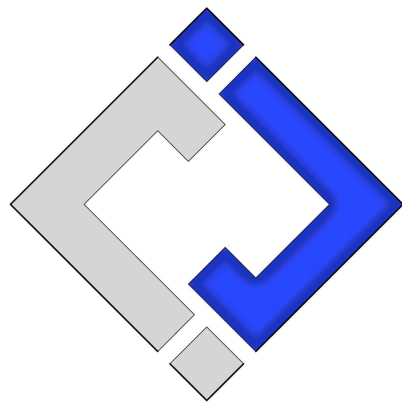
POWER PLAN - 3RD
FLOOR - AREA B

SHEET NUMBER

EP113



James Watson, P.E. January 17, 2025
PE-2015017071
MO Certificate of Authority # 2018029680



**J-SQUARED
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J2 PROJECT No: J221013

J2 DESIGN: ACW

ISSUE TITLE DATE

CITY SUBMITTAL 12 - 20 - 2024

ADDENDUM #1 01 - 17 - 2025

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:
The Village at Discovery - Lot 10A

100 Northeast Alura Way
Lee's Summit, Jackson County, MO 64064

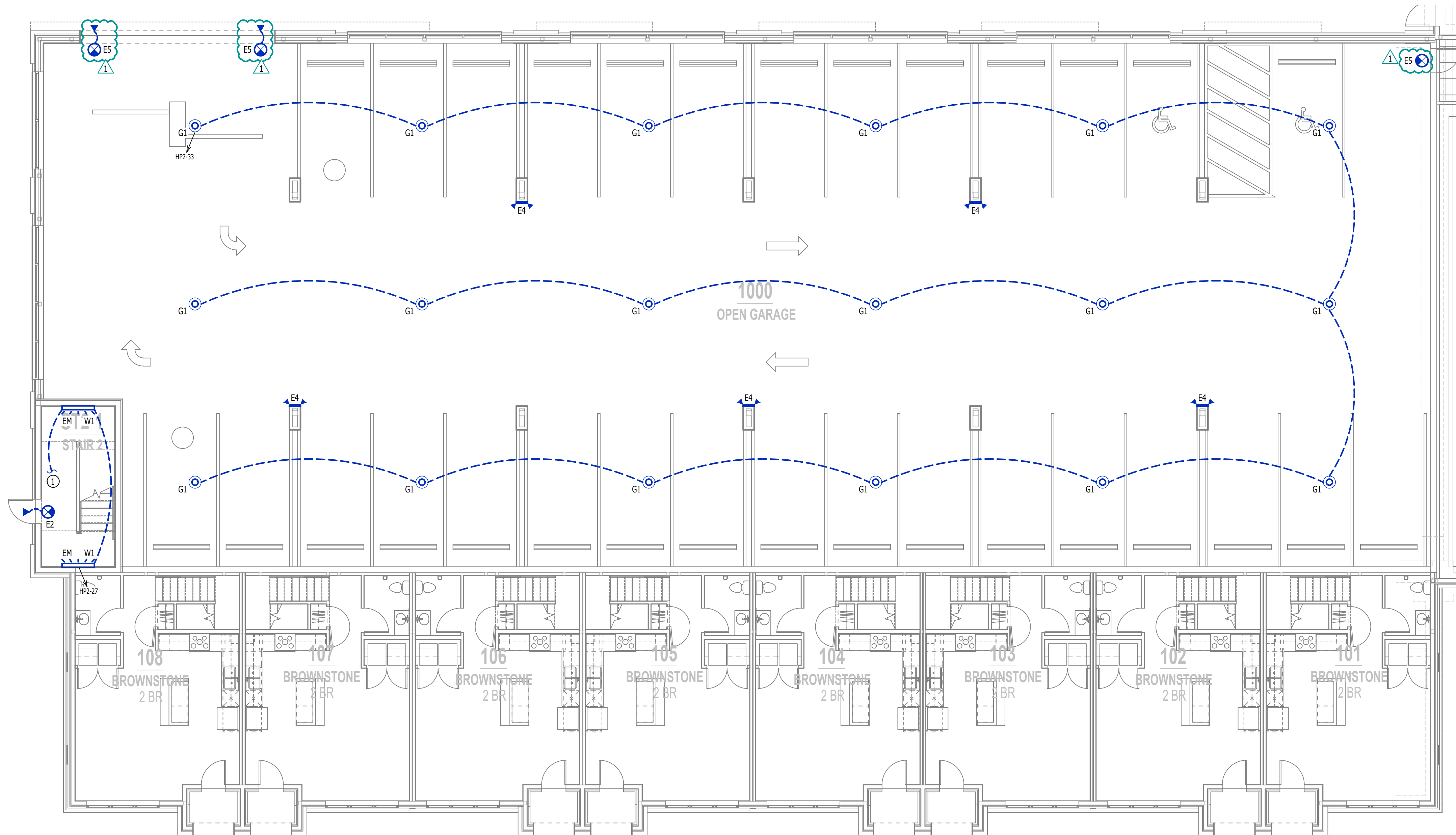
AHJ APPROVAL STAMP

SHEET TITLE

LIGHTING PLAN - 1ST FLOOR - AREA A

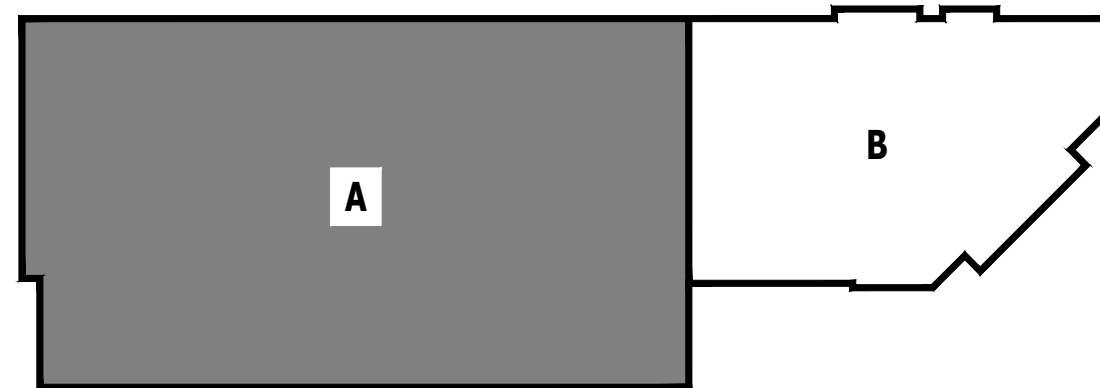
SHEET NUMBER

EL101



LIGHTING PLAN - 1ST FLOOR - AREA A

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



KEY PLAN

SCALE: NTS



LIGHTING PLAN GENERAL NOTES:

- SEE "UMEP" SHEETS FOR WORK INSIDE INDIVIDUAL UNITS.
- REFER TO E500 AND/OR E600 SERIES SHEETS FOR ADDITIONAL LIGHTING NOTES, DETAILS, REQUIREMENTS, AND SCHEDULES. SEE SHEET EL201 FOR ALL EXTERIOR BUILDING MOUNTED LIGHTING LOCATIONS AND DETAILS.
- OCCUPANCY / VACANCY SENSOR QUANTITIES AND GENERAL LOCATIONS SHOWN FOR REFERENCE ONLY. CONTRACTOR TO PROVIDE AND INSTALL SENSOR WITH SPACING PER MANUFACTURER SPECIFICATIONS AND INCLUDE ADDITIONAL SENSORS IF NECESSARY. CEILING-MOUNTED SENSORS SHALL BE INSTALLED WITHIN MANUFACTURER'S ACCEPTABLE MOUNTING HEIGHT RANGE.


LIGHTING PLAN KEY NOTES:

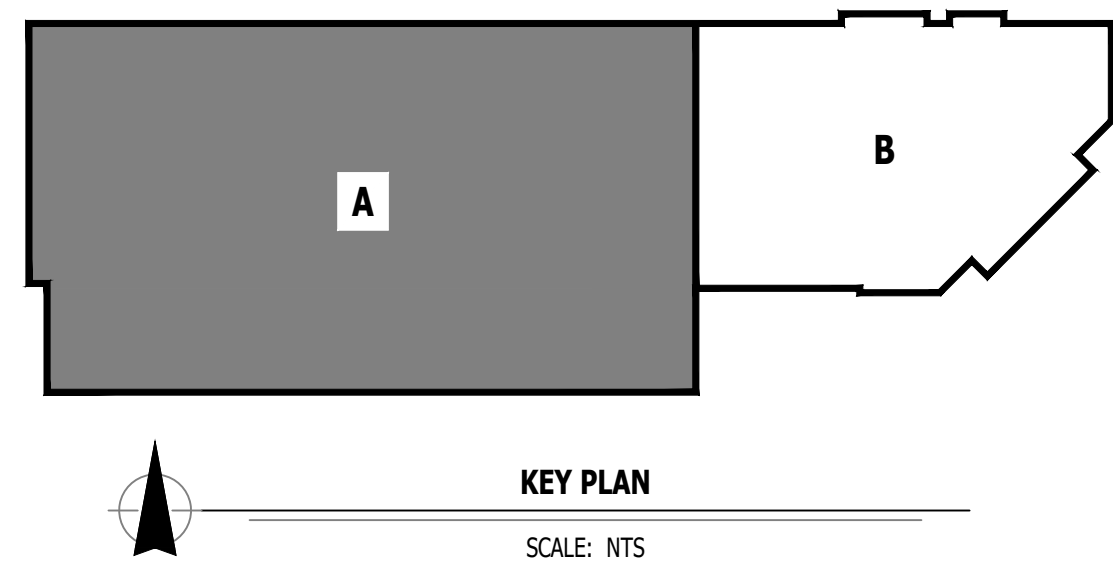
- ① CIRCUIT CONTINUES TO LEVEL ABOVE.

LIGHTING PLAN SYMBOL LEGEND

- X1 "X1" INDICATES FIXTURE TYPE (REFER TO SCHEDULE)
- LIGHTING FIXTURE
- EM "EM" INDICATES EMERGENCY BATTERY BACKUP
- NL "NL" INDICATES UN-SWITCHED NIGHT LIGHT
- EXIT LIGHT
- INDICATES REQUIRED REMOTE HEAD
- EMERGENCY EGRESS LIGHT
- SWITCH (WALL MOUNTED)
- SWITCH TYPE:
 - 3 = 3-WAY
 - 4 = 4-WAY



 **LIGHTING PLAN - 2ND FLOOR - AREA A**
SCALE: 1/8" = 1'-0"



LIGHTING PLAN GENERAL NOTES:

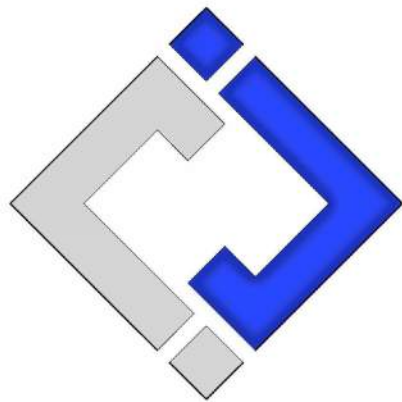
- REFER TO E500 AND/OR E600 SERIES SHEETS FOR ADDITIONAL LIGHTING NOTES, DETAILS, REQUIREMENTS, AND SCHEDULES. SEE SHEET EL201 FOR ALL EXTERIOR BUILDING MOUNTED LIGHTING LOCATIONS AND DETAILS.
- OCCUPANCY / VACANCY SENSOR QUANTITIES AND GENERAL LOCATIONS SHOWN FOR REFERENCE ONLY. CONTRACTOR TO PROVIDE AND INSTALL SENSOR WITH SPACING PER MANUFACTURER SPECIFICATIONS AND INCLUDE ADDITIONAL SENSORS IF NECESSARY. CEILING-MOUNTED SENSORS SHALL BE INSTALLED WITHIN MANUFACTURE'S ACCEPTABLE MOUNTING HEIGHT RANGE.

LIGHTING PLAN KEY NOTES:

- ① CIRCUIT CONTINUES TO LEVEL ABOVE/BELOW.

LIGHTING PLAN SYMBOL LEGEND

- X1 → "X1" INDICATES FIXTURE TYPE (REFER TO SCHEDULE)
- → LIGHTING FIXTURE
- EM → "EM" INDICATES EMERGENCY BATTERY BACKUP
- NL → "NL" INDICATES UN-SWITCHED NIGHT LIGHT
- EXIT LIGHT
- INDICATES REQUIRED REMOTE HEAD
- EMERGENCY EGRESS LIGHT
- SWITCH (WALL MOUNTED)
- SWITCH TYPE:
- 3 = 3-WAY
 - 4 = 4-WAY



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J2 PROJECT No: J21013

J2 DESIGN: ACW

ISSUE TITLE DATE

CITY SUBMITTAL 12 - 20 - 2024

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:
The Village at Discovery - Lot 10A

100 Northeast Alura Way
Lee's Summit, Jackson County, MO 64064

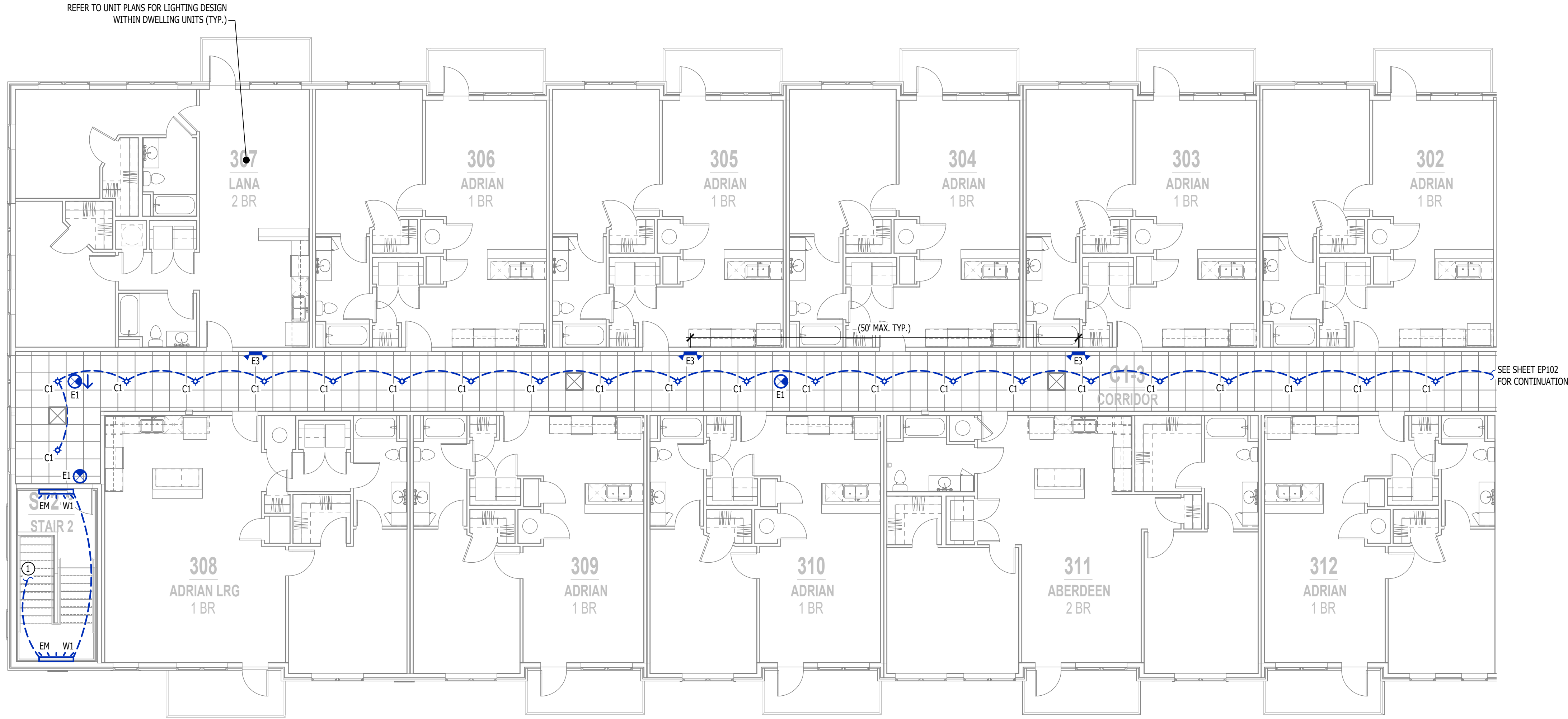
AHJ APPROVAL STAMP

SHEET TITLE

LIGHTING PLAN - 3RD
FLOOR - AREA A

SHEET NUMBER

EL103



LIGHTING PLAN GENERAL NOTES:

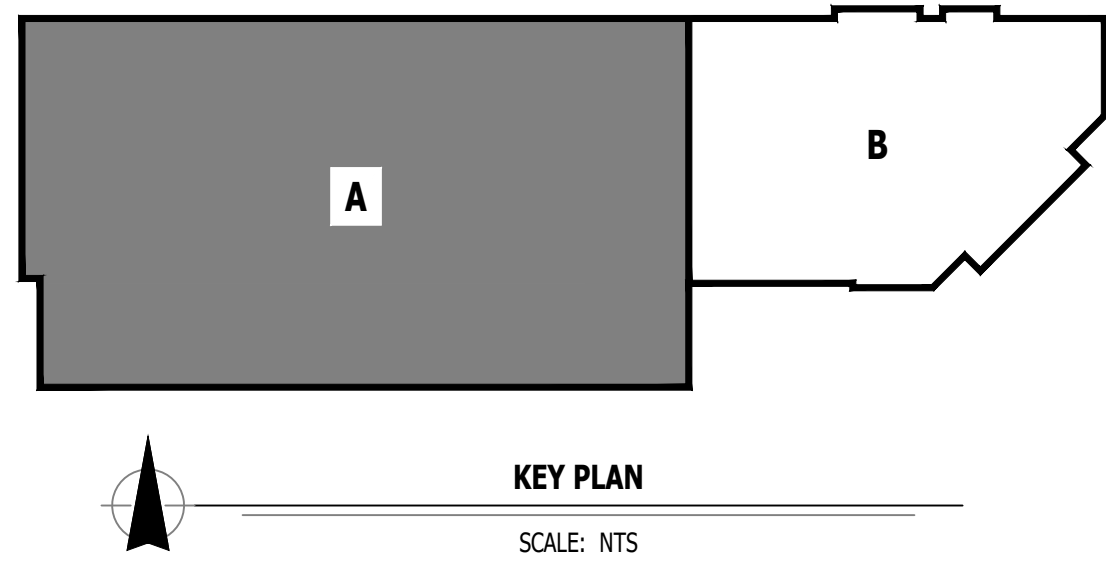
- REFER TO E500 AND/OR E600 SERIES SHEETS FOR ADDITIONAL LIGHTING NOTES, DETAILS, REQUIREMENTS, AND SCHEDULES. SEE SHEET EL201 FOR ALL EXTERIOR BUILDING MOUNTED LIGHTING LOCATIONS AND DETAILS.
- OCCUPANCY / VACANCY SENSOR QUANTITIES AND GENERAL LOCATIONS SHOWN FOR REFERENCE ONLY. CONTRACTOR TO PROVIDE AND INSTALL SENSOR WITH SPACING PER MANUFACTURER SPECIFICATIONS AND INCLUDE ADDITIONAL SENSORS IF NECESSARY. CEILING-MOUNTED SENSORS SHALL BE INSTALLED WITHIN MANUFACTURE'S ACCEPTABLE MOUNTING HEIGHT RANGE.

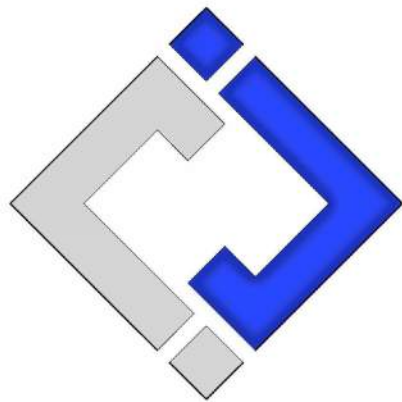
LIGHTING PLAN KEY NOTES:

- ① CIRCUIT UP FROM LEVEL BELOW.

LIGHTING PLAN SYMBOL LEGEND

- X1 "X1" INDICATES FIXTURE TYPE (REFER TO SCHEDULE)
LIGHTING FIXTURE
EM "EM" INDICATES EMERGENCY BATTERY BACKUP
NL "NL" INDICATES UN-SWITCHED NIGHT LIGHT
- EXIT LIGHT
INDICATES REQUIRED REMOTE HEAD
- EMERGENCY EGRESS LIGHT
- SWITCH (WALL MOUNTED)
SWITCH TYPE:
• 3 = 3-WAY
• 4 = 4-WAY





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MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

The Village at Discovery - Lot 10A

100 Northeast Alura Way
Lee's Summit, Jackson County, MO 64064

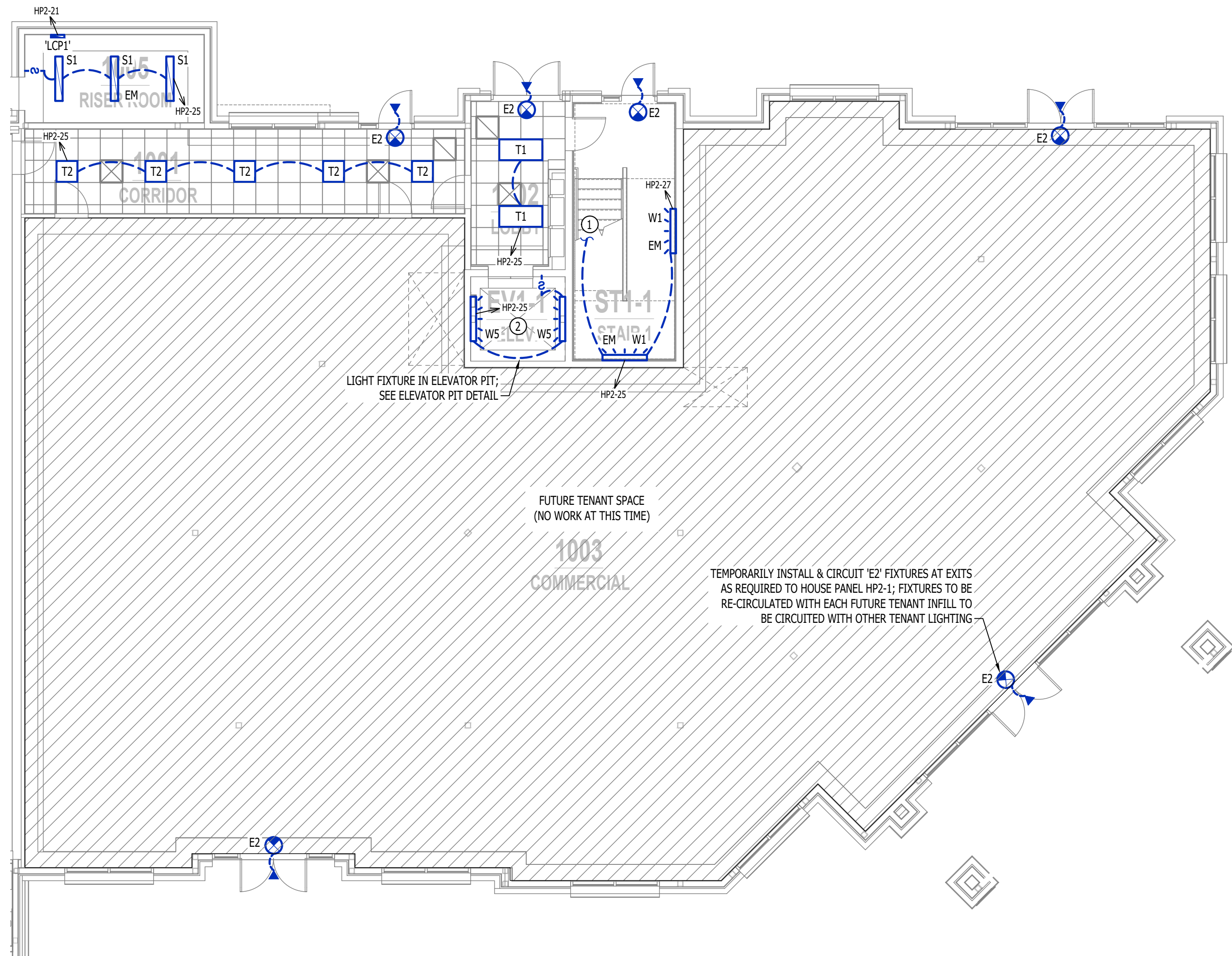
AHJ APPROVAL STAMP

SHEET TITLE

LIGHTING PLAN - 1ST
FLOOR - AREA B

SHEET NUMBER

EL111



LIGHTING PLAN - 1ST FLOOR - AREA B

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

LIGHTING PLAN GENERAL NOTES:

- REFER TO E500 AND/OR E600 SERIES SHEETS FOR ADDITIONAL LIGHTING NOTES, DETAILS, REQUIREMENTS, AND SCHEDULES. SEE SHEET EL201 FOR ALL EXTERIOR BUILDING MOUNTED LIGHTING LOCATIONS AND DETAILS.
- OCCUPANCY / VACANCY SENSOR QUANTITIES AND GENERAL LOCATIONS SHOWN FOR REFERENCE ONLY. CONTRACTOR TO PROVIDE AND INSTALL SENSOR WITH SPACING PER MANUFACTURER SPECIFICATIONS AND INCLUDE ADDITIONAL SENSORS IF NECESSARY. CEILING-MOUNTED SENSORS SHALL BE INSTALLED WITHIN MANUFACTURE'S ACCEPTABLE MOUNTING HEIGHT RANGE.

LIGHTING PLAN KEY NOTES:

- CIRCUIT CONTINUES TO LEVEL ABOVE.
- ORIENT LIGHT FIXTURE(S) TO PROVIDE MINIMUM 10FC AT ALL POINTS ON FLOOR OF ELEVATOR PIT.

LIGHTING PLAN SYMBOL LEGEND

- | | |
|----|---|
| X1 | "X1" INDICATES FIXTURE TYPE (REFER TO SCHEDULE) |
| EM | LIGHTING FIXTURE |
| NL | "EM" INDICATES EMERGENCY BATTERY BACKUP |
| | "NL" INDICATES UN-SWITCHED NIGHT LIGHT |
-
- | | |
|--|--------------------------------|
| | EXIT LIGHT |
| | INDICATES REQUIRED REMOTE HEAD |
| | EMERGENCY EGRESS LIGHT |
| | SWITCH (WALL MOUNTED) |
| | SWITCH TYPE: |
| | • 3 = 3-WAY |
| | • 4 = 4-WAY |



KEY PLAN

SCALE: NTS

SCALE: NTS

J2 PROJECT No:	J21013
J2 DESIGN:	ACW
ISSUE TITLE	DATE
CITY SUBMITTAL	12 - 20 - 2024

LIGHTING PLAN SYMBOL LEGEND

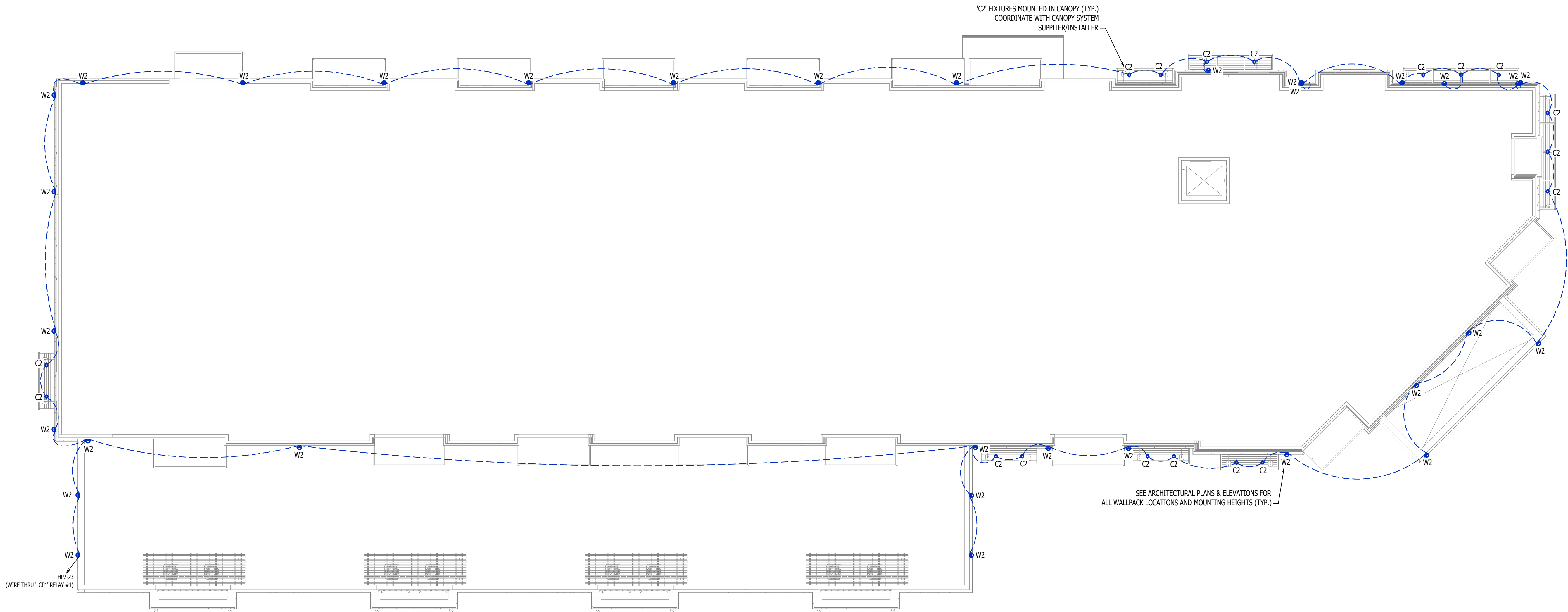
- X1

EM

NL
- ← "X1" INDICATES FIXTURE TYPE (REFER TO SCHEDULE)
- LIGHTING FIXTURE
- ← "EM" INDICATES EMERGENCY BATTERY BACKUP
- ← "NL" INDICATES UN-SWITCHED NIGHT LIGHT
- EXIT LIGHT
- INDICATES REQUIRED REMOTE HEAD
- EMERGENCY EGRESS LIGHT
- SWITCH (WALL MOUNTED)
- SWITCH TYPE:
 - 3 = 3-WAY
 - 4 = 4-WAY

LIGHTING PLAN GENERAL NOTES:

- SEE E500 & E600 SERIES SHEETS FOR ADDITIONAL ELECTRICAL NOTES, DETAILS, & SCHEDULES.
- OCCUPANCY / VACANCY SENSOR QUANTITIES AND GENERAL LOCATIONS SHOWN FOR REFERENCE ONLY. CONTRACTOR TO PROVIDE AND INSTALL SENSOR WITH SPACING PER MANUFACTURER SPECIFICATIONS AND INCLUDE ADDITIONAL SENSORS IF NECESSARY. CEILING-MOUNTED SENSORS SHALL BE INSTALLED WITHIN MANUFACTURE'S ACCEPTABLE MOUNTING HEIGHT RANGE.

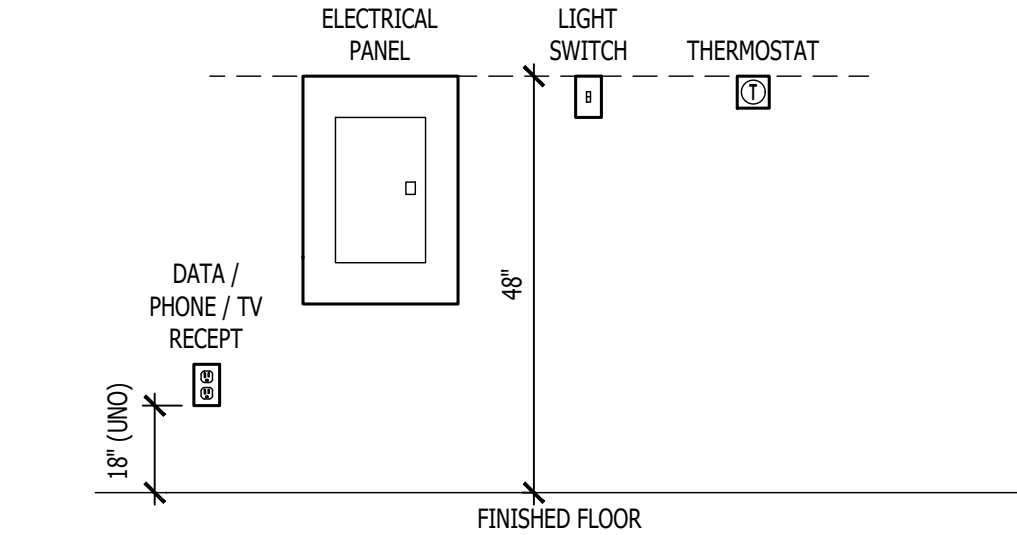


EXTERIOR BUILDING MOUNTED LIGHTING PLAN

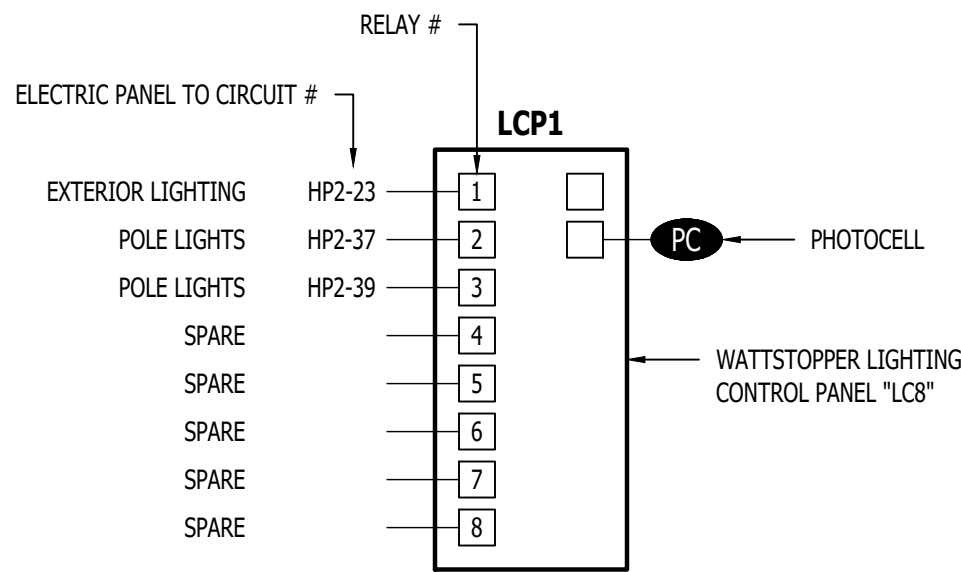
SCALE: 3/32" = 1'-0"

ELECTRICAL SPECIFICATIONS

- 1. GENERAL**
- 1.1. CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL NECESSARY PIECES AND COMPONENTS TO PROVIDE A COMPLETE AND COMPLIANT ELECTRICAL SYSTEM UNLESS OTHERWISE NOTED ON PLANS.
- 1.2. THE ENTIRE ELECTRICAL SYSTEM SHALL BE CONTINUOUSLY GROUNDED. EVERY BRANCH CONDUIT SHALL INCLUDE A GREEN GROUND CONDUCTOR SIZED PER NEC.
- 1.3. ARC-FAULT CIRCUITS SHALL BE RUN WITH A DEDICATED NEUTRAL AS REQUIRED BY MANUFACTURER.
- 1.4. PROVIDE PERMANENT ARC-FLASH LABEL AFFIXED TO EVERY DISCONNECT AND PANEL.
- 1.5. PROVIDE TYPE WRITTEN PANEL SCHEDULE FOR EACH PANEL.
- 2. WORKMANSHIP**
- 2.1. ALL ELECTRICAL SYSTEM COMPONENTS SHALL BE INSTALLED LEVEL, PLUMB, AND PARALLEL/PERPENDICULAR TO BUILDING ORIENTATION WHERE POSSIBLE.
- 2.2. ALL ELECTRICAL DEVICES AND LIGHT FIXTURES SHALL BE INSTALLED IN A SAFE, FIRST-CLASS MANNER WITH ATTENTION GIVEN TO OVERALL AESTHETICS.
- CARE SHOULD BE TAKEN TO ALLOW FOR FUTURE REPLACEMENT AND ACCESS FOR SERVICE.
- 3. MATERIALS**
- 3.1. CONDUIT & CONDUCTORS
- 3.1.1. ALL CONDUCTORS SIZES INDICATED ARE COPPER UNLESS NOTED OTHERWISE ON PLANS.
- 3.1.2. ABOVE GRADE CONDUCTORS SHALL BE TYPE THHN.
- 3.1.3. BELOW GRADE CONDUCTORS SHALL BE TYPE XHHW-2.
- 3.1.4. MINIMUM CONDUCTOR SIZE SHALL BE #12 AWG UNLESS NOTED OTHERWISE. 120-VOLT, 20-AMP CIRCUITS WITH CONDUCTOR LENGTHS GREATER THAN 100' SHALL BE #10 AWG MINIMUM.
- 3.1.5. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR MEASURING ACTUAL CONDUCTOR LENGTH AND INCREASING CONDUCTOR SIZE TO COMPENSATE FOR VOLTAGE DROP AS REQUIRED BY NEC.
- 3.1.6. RIGID GALVANIZED OR SCHEDULE 40 PVC CONDUIT SHALL BE USED FOR SERVICE WIRING, BELOW GRADE INSTALLATIONS, OR WHERE EXPOSED TO WEATHER.
- 3.1.7. IN APPLICATIONS OTHER THAN THOSE LISTED IN 3.1.4, EMT OR MC CABLE IS ACCEPTABLE.
- 3.1.8. WHERE CONDUCTORS ARE PROTECTED FROM DAMAGE, ENCLOSED IN BUILDING MATERIALS, AND CONSTRUCTION IS OF A PERMITTED TYPE, NM CABLE MAY BE USED.
- 3.1.9. FOR CAST-IN-PLACE CONCRETE, TILT-UP WALL CONSTRUCTION, OR PRE-MANUFACTURED WALL SYSTEMS, COORDINATE EXACT LOCATIONS OF ALL DEVICES WITHIN WALLS WITH WALL SUPPLIER.
- 3.1.10. CONDUIT EMBEDDED IN WALLS SHALL BE SCHEDULE 80 PVC OR LFMC, OR OTHER SYSTEM APPROVED BY WALL MANUFACTURER.
- 3.1.11. EXPOSED CONDUIT SHALL BE PAINTED TO MATCH ADJACENT SURFACES, VERIFY COLOR WITH ARCHITECT/OWNER.
- 3.2. DEVICES
- 3.2.1. CONTRACTOR TO PROVIDE J-BOXES, COVER PLATES, AND ANY ACCESSORIES REQUIRED TO PROVIDE A COMPLETE SYSTEM. SEE ARCHITECTURAL PLANS FOR DEVICE COLORS.
- 3.2.2. DUPLEX RECEPTACLES SHALL BE TAMPER RESISTANT, 20-AMP, EQUAL TO LEVITON #TBR-20.
- 3.2.3. SINGLE POLE TOGGLE WALL SWITCHES SHALL BE EQUAL TO LEVITON CS120-2.
- 3.2.4. THREE-WAY TOGGLE WALL SWITCHES SHALL BE EQUAL TO LEVITON CS320-2.
- 3.2.5. DIMMER SWITCHES SHALL BE TESTED WITH FIXTURES AND LAMPS FOR COMPATIBILITY. SEE LIGHTING PLANS FOR DETAILS.
- 3.2.6. WHERE GFCI PROTECTION IS SHOWN ON PLANS AND UNLESS OTHERWISE NOTED, PROVIDE A LISTED GFCI-PROTECTED RECEPTACLE WHERE THE RECEPTACLE IS ACCESSIBLE ON PLANS. IF THE RECEPTACLE LOCATION IS NOT ACCESSIBLE AS DEFINED BY NEC, PROVIDE GFCI PROTECTION AT CIRCUIT BREAKER.
- 3.2.7. DO NOT INSTALL OCCUPANCY/VACANCY SENSORS WITHIN 48" OF HVAC DIFFUSERS/GRILLES OR SIMILAR OBSTRUCTION THAT MAY AFFECT SENSOR FUNCTIONALITY. ALL SENSORS SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.
- 3.2.8. ALL APPLICABLE SWITCHES, RECEPTACLES, CONTROLS, ETC. SHALL BE MOUNTED AT ADA-ACCESSIBLE HEIGHTS.
- 3.2.9. WIRING DEVICES SHOWN ON PLANS NEXT TO ONE ANOTHER SHALL UTILIZE A SINGLE COVER PLATE UNLESS NOTED OTHERWISE.
- 3.3. WIRING DEVICES SHOWN BACK-TO-BACK ON EACH SIDE OF A WALL SHALL BE OFFSET TO REDUCE SOUND TRANSMISSION.
- 3.4. EACH RECEPTACLE COVER SHALL BE NEATLY AND LEGIBLY LABELED WITH CORRESPONDING PANEL AND CIRCUIT NUMBER FOR CIRCUIT IDENTIFICATION.
- 4. EMERGENCY LIGHTING**
- 4.1. BRANCH CIRCUIT FEEDING EMERGENCY FIXTURE(S) SHALL BE SAME BRANCH CIRCUIT AS THAT SERVING NORMAL LIGHTING IN SAME AREA AND CONNECTED AHEAD OF ANY LOCAL SWITCHES.
- 4.2. EMERGENCY LIGHTING SYSTEM SHALL PROVIDE 1FC AVERAGE AND 0.1FC MINIMUM ALONG EGRESS PATHS. ADJUST ANY EMERGENCY FIXTURES AS NECESSARY TO PROVIDE PROPER ILLUMINATION WITHOUT OBSTRUCTION FROM FURNITURE OR OBSTACLES.



TYPICAL ADA MOUNTING HEIGHTS DETAIL



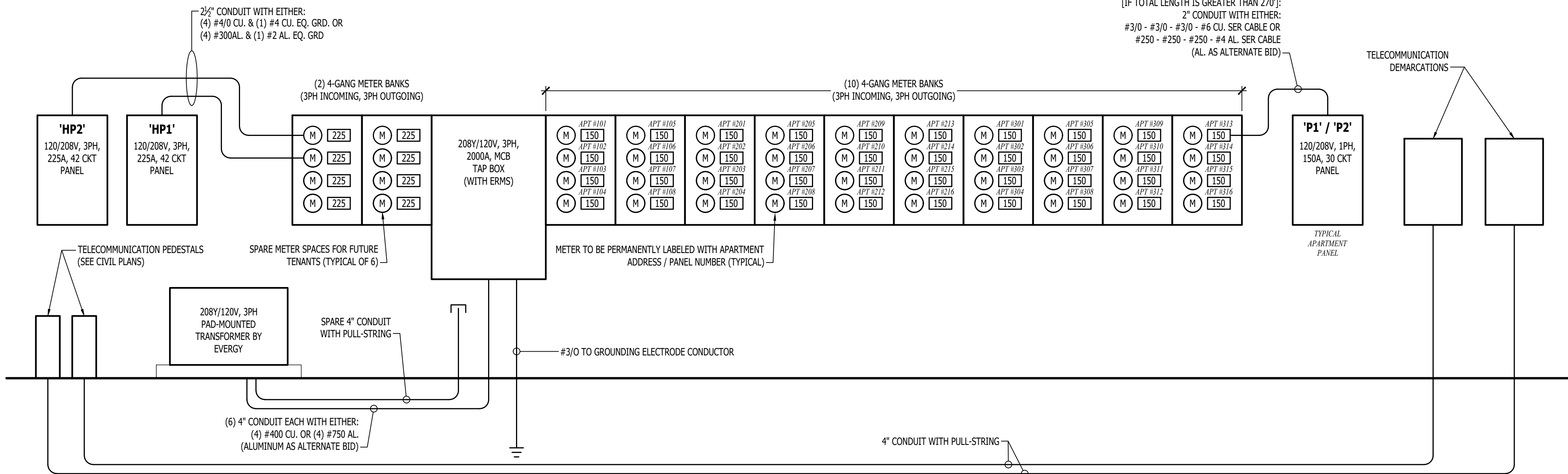
LIGHTING CONTROL PANEL SCHEDULE

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

LIGHTING CONTROL PANEL

POWER RISER NOTES:

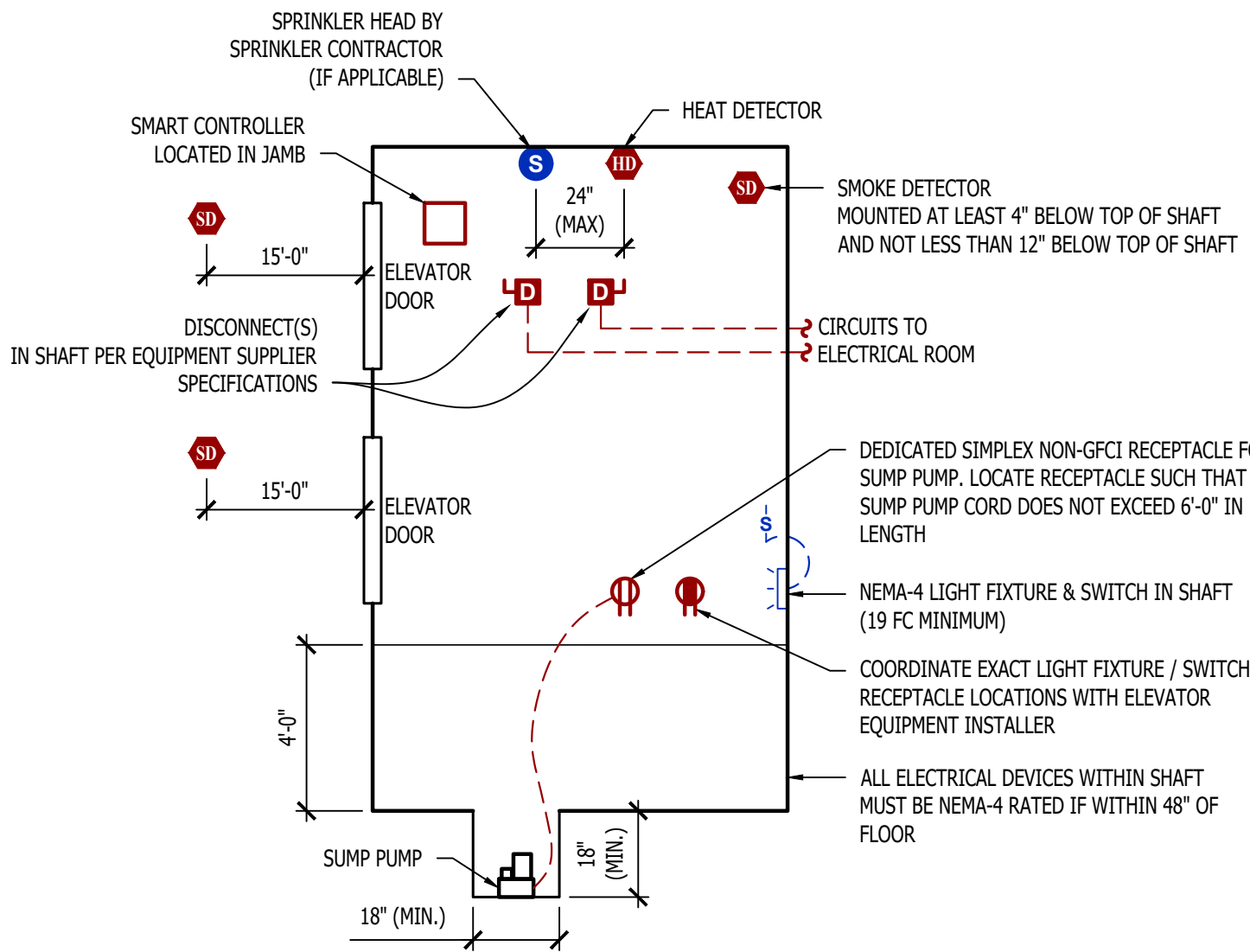
1. COORDINATE DETAILS & REQUIREMENTS OF NEW ELECTRIC SERVICE WITH EVERGY.
2. ALL NEW METERING EQUIPMENT MUST BE APPROVED BY EVERGY.
3. EACH METER PERMANENTLY LABELED.
4. METER CENTER #1 AIC-RATINGS BASED ON:
- 4.1. TRANSFORMER: 300 kVA, 100% POWER FACTOR, 4.00% Z, LOCATED APPROXIMATELY WHERE SHOWN ON PLANS.
- 4.2. METER CENTER LOCATION INSTALLED APPROXIMATELY WHERE SHOWN ON PLANS.
- 4.3. ELECTRICAL PANEL LOCATIONS INSTALLED APPROXIMATELY WHERE SHOWN ON PLANS.
- 4.4. CONTRACTOR TO FIELD VERIFY FINAL EQUIPMENT LOCATIONS AND PERFORM ADDITIONAL AIC RATING CALCULATIONS IF NECESSARY.
- 4.5. APARTMENT ELECTRICAL PANELS SHALL HAVE AIC RATINGS AS FOLLOWS:
- 4.5.1. 10,000 A IF LOCATED GREATER THAN 50' FROM METER CENTER.
- 4.5.2. 22,000 A IF LOCATED LESS THAN 50' FROM METER CENTER.
5. METER CENTER #2 AIC-RATINGS BASED ON:
- 4.1. TRANSFORMER: 500 kVA, 100% POWER FACTOR, 4.00% Z, LOCATED APPROXIMATELY WHERE SHOWN ON PLANS.
- 4.2. METER CENTER LOCATION INSTALLED APPROXIMATELY WHERE SHOWN ON PLANS.
- 4.3. ELECTRICAL PANEL LOCATIONS INSTALLED APPROXIMATELY WHERE SHOWN ON PLANS.
- 4.4. CONTRACTOR TO FIELD VERIFY FINAL EQUIPMENT LOCATIONS AND PERFORM ADDITIONAL AIC RATING CALCULATIONS IF NECESSARY.
- 4.5. APARTMENT ELECTRICAL PANELS SHALL HAVE AIC RATINGS AS FOLLOWS:
- 4.5.1. 10,000 A IF LOCATED GREATER THAN 45' FROM METER CENTER.
- 4.5.2. 22,000 A IF LOCATED LESS THAN 45' FROM METER CENTER.



POWER RISER

NOTES:

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



MACHINE - ROOM - LESS ELEVATOR DETAIL

- [IF TOTAL LENGTH IS LESS THAN 210']:
2" CONDUIT WITH EITHER:
#1/0 - #1/0 - #1/0 - #6 CU. SER CABLE OR
#3/0 - #3/0 - #3/0 - #4 AL. SER CABLE
(AL. AS ALTERNATE BID)
- [IF TOTAL LENGTH IS BETWEEN 270' & 210']:
2" CONDUIT WITH EITHER:
#2/0 - #2/0 - #2/0 - #6 CU. SER CABLE OR
#4/0 - #4/0 - #4/0 - #4 AL. SER CABLE
(AL. AS ALTERNATE BID)
- [IF TOTAL LENGTH IS GREATER THAN 270']:
2" CONDUIT WITH EITHER:
#3/0 - #3/0 - #3/0 - #6 CU. SER CABLE OR
#250 - #250 - #250 - #4 AL. SER CABLE
(AL. AS ALTERNATE BID)

HOUSE PANEL 'HP1' SCHEDULE								
VOLTAGE		PANEL SIZE		MOUNTING		AIC RATING		
208Y/120V 3-PH		225A MLO		SURFACE		22,000	PHASE "A" LOAD	175.5
NEMA RATING: 1							PHASE "B" LOAD	171
							PHASE "C" LOAD	164.5
CIRCUIT NUMBER	DESCRIPTION	BREAKER SIZE	AMPS	PHASE	AMPS	BREAKER SIZE	DESCRIPTION	CIRCUIT NUMBER
1	EXTERIOR RECEPTS.	20-1	7.5	A	42	60-3	ELEVATOR	2
3	GARAGE RECEPTS.	20-1	6	B	42	-	-	4
5	RISER ROOM RECEPTS.	20-1	3	C	42	-	-	6
7	FACP	20-1	3	A		ST	SHUNT TRIP SPACE	8
9	SPARE	20-1		B	5	20-1 ST	ELEVATOR LIGHTS & MISC.	10
11	ELEVATOR PIT RECEPT.	20-1	1.5	C		ST	SHUNT TRIP SPACE	12
13	SUMP PUMP RECEPT.	20-1	5	A			OPEN	14
15	SPARE	20-1		B	14	20-2	WALL HEATER	16
17	SPARE	20-1		C	14	-	-	18
19	PLENUM HEATER	20-3	15	A	14	20-2	WALL HEATER	20
21	-	-	15	B	14			22
23	-	-	15	C	14	20-2	WALL HEATER	24
25	PLENUM HEATER	20-3	15	A	14	-	-	26
27	-	-	15	B			OPEN	28
29	-	-	15	C			OPEN	30
31	PLENUM HEATER	20-3	15	A	15	20-3	PLENUM HEATER	32
33	-	-	15	B	15	-	-	34
35	-	-	15	C	15	-	-	36
37	PLENUM HEATER	20-3	15	A	15	20-3	PLENUM HEATER	38
39	-	-	15	B	15	-	-	40
41	-	-	15	C	15	-	-	42
NOTES:								
A: PANEL SHALL BE EQUAL TO SQUARE D MODEL "QO"								
B: ELECTRICIAN SHALL VERIFY BREAKER WITH EQUIPMENT PRIOR TO PURCHASE & INSTALL.								
C: AFTER COMPLETION OF WORK, ELECTRICAN SHALL PROVIDE A TYPE WRITTEN PANEL DIRECTORY IN NEW PANEL.								

HOUSE PANEL 'HP2' SCHEDULE								
VOLTAGE		PANEL SIZE		MOUNTING		AIC RATING		
208Y/120V 3-PH		225A MLO		SURFACE		22,000	PHASE "A" LOAD	146
NEMA RATING: 1							PHASE "B" LOAD	152
							PHASE "C" LOAD	137
CIRCUIT NUMBER	DESCRIPTION	BREAKER SIZE	AMPS	PHASE	AMPS	BREAKER SIZE	DESCRIPTION	CIRCUIT NUMBER
1	2ND FLOOR CORRIDOR RECEPTS.	20-1	7.5	A	35	45-2	AHU-4	2
3	MAG HOLDS	20-1	5	B	35	-	-	4
5	MAG HOLDS	20-1	5	C	12	20-2	CU-4	6
7	2ND FLOOR I.T. QUAD	20-1	3	A	12	-	-	8
9	2ND FLOOR I.T. QUAD	20-1	3	B	41	60-2	AHU-5	10
11	2ND FLOOR CORRIDOR RECEPTS.	20-1	6	C	41	-	-	12
13	3RD FLOOR CORRIDOR RECEPTS.	20-1	7.5	A	18	25-2	AHU-5	14
15	3RD FLOOR CORRIDOR RECEPTS.	20-1	6	B	18	-	-	16
17	3RD FLOOR CLOSET RECEPTS.	20-1	4.5	C	24	40-2	CU-5	18
19	ROOF RECEPTS	20-1	6	A	24	-	-	20
21	LIGHTING CONTROL PANEL	20-1	1	B	24	40-2	CU-5	22
23	EXTERIOR BUILDING LIGHTING	20-1	10	C	24	-	-	24
25	LOBBY LIGHTING	20-1	4	A	18	25-2	AHU-5	26
27	STAIRTOWER LIGHTING	20-1	4	B	18	-	-	28
29	SECOND LEVEL LIGHTING	20-1	5	C	41	60-2	AHU-5	30
31	THIRD LEVEL LIGHTING	20-1	5	A	41	-	-	32
33	GARAGE LIGHTING	20-1	9	B	11	20-2	FCU-1 / HP-1	34
35	ELEVATOR RECEPT.	20-1	1.5	C	11	-	-	36
37	POLE LIGHTS	20-2	1	A			OPEN	38
39	-	-	1	B			OPEN	40
41	SPARE	20-1		C			OPEN	42
NOTES:								
A: PANEL SHALL BE EQUAL TO SQUARE D MODEL "QO"								
B: ELECTRICIAN SHALL VERIFY BREAKER WITH EQUIPMENT PRIOR TO PURCHASE & INSTALL.								
C: AFTER COMPLETION OF WORK, ELECTRICAN SHALL PROVIDE A TYPE WRITTEN PANEL DIRECTORY IN NEW PANEL.								

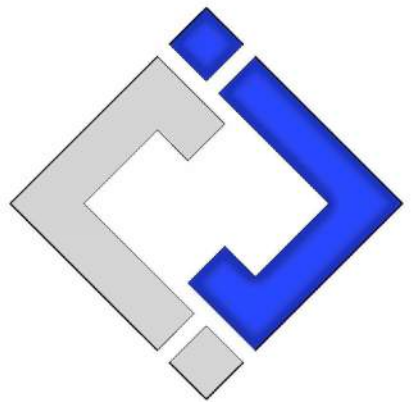
LIGHT FIXTURE SCHEDULE										
TAG	MANUFACTURER (OR EQUAL)	MODEL NUMBER (OR EQUAL)	DESCRIPTION	MOUNTING	LUMEN OUTPUT	CCT (*K)	CRI	VOLTS	WATTS	NOTES
C1	HALO	HL59129301EWH	9" LED SURFACE CAN	SURFACE / CEILING	1,200	3000	90	120	18	
C2	HALO	SLD612951EMW	6" LED SURFACE CAN	SURFACE / CANOPY	1,200	4000	90	120	16	WITH PAINTABLE TRIM - PAINT TO MATCH UNDERSIDE OF CANOPY
E1	SURE LITES	APC7R	INTERIOR EXIT LIGHT WITH HEADS	WALL / CEILING	-	-	-	120	1	WITH RED LETTERS
E2	SURE LITES	APCH7R WITH APWR1	INTERIOR EXIT LIGHT WITH EXTERIOR REMOTE HEAD	CEILING	-	-	-	120	1	WITH RED LETTERS
E3	SURE LITES	SEL50	EMERGENCY EGRESS LIGHT	INTERIOR WALL	-	-	-	120	1	
E4	SURE LITES	SEL D W 60 SD	EXTERIOR EMERGENCY EGRESS LIGHT	WALL	-	-	-	120	5	
E5	RP LIGHTING	RXEL25	EXTERIOR EXIT LIGHT WITH RMT HD	SURFACE / CEILING	-	-	-	120	1	WITH #RH19 REMOTE HEAD WHERE SHOWN ON PLANS
F1	MONTÉ CARLO	5HV52BS	CEILING FAN W/ LED LIGHT KIT	SURFACE/ CEILING	1,275	3000	80	120	21	WITH #MC261BS LIGHT KIT
G1	MCGRAW-EDISON	TT-D4-740-U-MQ	LED PARKING GARAGE LIGHT	SURFACE / CEILING	8,002	4000	70	120	58	
P1	RP LIGHTING	4430-BN	LED PENDANT	SURACE / CEILING	600	3000	80	120	8	
S1	METALUX	4SNX-SL3-LW-UNV-CC83-CD-1-FKO-U	4" LED STRIP	SURFACE / CEILING	4,511	4000	70	120	38	WITH 'EL14W' EMERGENCY BATTERY BACKUP WHERE INDICATED
T1	METALUX	24FPS125CT3	2x4 LED FLAT PANEL	ACT GRID / SURFACE	4,500	3000	80	120	40	
V1	RP LIGHTING	4904-BN-4	LED VANITY	SURFACE / WALL	2,110	3000	80	120	30	
T2	METALUX	22FP4235C	2x2 LED FLAT PANEL	ACT GRID / SURFACE	4,641	3500	80	120	39	
W1	METALUX	4SNX-SL3-LW-UNV-CC83-CD-1-FKO-U	4" LED WALL BRACKET	INTERIOR WALL	4,000	4000	85	120	42	WITH 'EL14W' EMERGENCY BATTERY BACKUP WHERE INDICATED & WITH DECORATIVE END COVERS
W2	TECH LIGHTING	7000WVEX9404ZUNV	UP / DOWN WALL SCONCE	EXTERIOR WALL	554	4000	90	120	19	
W3	LUMARK	XTOR4B-W	LED WALLPACK	EXTERIOR WALL	3,995	4000	70	120	38	
W4	TERON LIGHTING	MTG-L13.0-120V-TRIAC-XX-40K	PATIO SCONCE	EXTERIOR WALL	1,140	4000	80	120	13	
W5	METALUX	4VT3-LD5-8-G-UNV-EL10W-L840-CD1-U	4" VAPORTITE LED	ELEVATOR PIT	8,694	4000	80	120	67	
NOTES:										
1. LIGHT FIXTURES PROVIDED BY OWNER THRU NATIONAL ACCOUNT AND INSTALLED BY ELECTRICAL CONTRACTOR.										
2. ALL FIXTURE QUANTITIES TO BE VERIFIED BY ELECTRICAL CONTRACTOR PRIOR TO ORDERING.										
3. CONTACT JUSTIN HATFIELD (573) 289-0880 (JHATFIELD@LAIWEB.NET) OR PAUL WARNER (314) 351-3500 (PWARNER@LAIWEB.NET) AT LIGHTING ASSOCIATES FOR NATIONAL ACCOUNT DETAILS.										
4. CONTACT TRAVIS VOGT (417) 621-5210 (TVOGT@CED1135.COM) AT CED-PHILLIPS & COMPANY FOR NATIONAL ACCOUNT DETAILS.										

TYPICAL APARTMENT PANEL 'P1' SCHEDULE								
VOLTAGE		PANEL SIZE		MOUNTING		AIC RATING		
120/208V 1-PH		150A MLO		RECESSED		SEE RISER	PHASE "A" LOAD	167.5
NEMA RATING: 1							PHASE "B" LOAD	164.5
CIRCUIT NUMBER	DESCRIPTION	BREAKER SIZE	AMPS	PHASE	AMPS	BREAKER SIZE	DESCRIPTION	CIRCUIT NUMBER
1	REFRIGERATOR	20-1	8	A	44	45-2	AHU-1	2
3	STOVE	50-2	30	B	44	-	-	4
5	-	-	30	A	22	30-2	WATER HEATER	6
7	RANGE HOOD / MICROWAVE	20-1	8	B	22	-	-	8
9	KITCHEN RECEPTS.	20-1	4.5	A	12	20-2	CU-1	10
11	DISHWASHER	20-1	8	B	12	-	-	12
13	KITCHEN RECEPTS.	20-1	4.5	A		20-1	SPARE	14
15	LIVING ROOM RECEPTS.	15-1	12	B	6	15-1	LIGHTING	16
17	BEDROOM RECEPTS.	15-1	9	A	4	20-1	DISPOSAL	18
19	BATHROOM RECEPT.	20-1	1.5	B			OPEN	20
21	SPARE	15-1		A			OPEN	22
23	SPARE	20-1		B			OPEN	24
25	WASHING MACHINE	20-1	8	A	1.5	20-1	MEDIA PANEL	26
27	DRYER	30-2	20	B	1	15-1	SMOKE DETECTORS	28
29	-	-	20	A			OPEN	30
NOTES:								
A: PANEL SHALL BE EQUAL TO SQUARE D MODEL "HOMELINE"								
B: ELECTRICIAN SHALL VERIFY BREAKER WITH EQUIPMENT PRIOR TO PURCHASE & INSTALL.								
C: AFTER COMPLETION OF WORK, ELECTRICAN SHALL PROVIDE A TYPE WRITTEN PANEL DIRECTORY IN NEW PANEL.								
D: CIRCUIT BREAKERS SHOWN ABOVE IN BOLD UNDERLINED TEXT SHALL BE ARC-FAULT CIRCUIT INTERRUPTER (AFCI) PER NEC 210.12.								
E: TOTAL SIMULTANEOUS PHASE LOADS SHOWN MAY EXCEED PANEL AMPACITY AS SERVICE LOADS HAVE BEEN CALCULATED IN ACCORDANCE WITH NEC 220.82								

TYPICAL APARTMENT PANEL 'P2' SCHEDULE								
VOLTAGE		PANEL SIZE		MOUNTING		AIC RATING		
120/208V 1-PH		150A MLO		RECESSED		SEE RISER	PHASE "A" LOAD	189.5
NEMA RATING: 1							PHASE "B" LOAD	179
CIRCUIT NUMBER	DESCRIPTION	BREAKER SIZE	AMPS	PHASE	AMPS	BREAKER SIZE	DESCRIPTION	CIRCUIT NUMBER
1	REFRIGERATOR	20-1	8	A	51	60-2	AHU-1 / AHU-2	2
3	STOVE	50-2	30	B	51	-	-	4
5	-	-	30	A	22	30-2	WATER HEATER	6
7	RANGE HOOD / MICROWAVE	20-1	8	B	22	-	-	8
9	KITCHEN RECEPTS.	20-1	4.5	A	17 / 18	25-2 / 30-2	CU-1 / CU-2	10
11	DISHWASHER	20-1	8	B	17 / 18	-	-	12
13	KITCHEN RECEPTS.	20-1	4.5	A		20-1	SPARE	14
15	LIVING ROOM RECEPTS.	15-1	12	B	6	15-1	LIGHTING	16
17	BEDROOM RECEPTS.	15-1	9	A	4	20-1	DISPOSAL	18
19	BATHROOM RECEPT.	20-1	1.5	B			OPEN	20
21	BEDROOM RECEPTS.	15-1	9	A			OPEN	22
23	BATHROOM RECEPT.	20-1	1.5	B			OPEN	24
25	WASHING MACHINE	20-1	8	A	1.5	20-1	MEDIA PANEL	26
27	DRYER	30-2	20	B	1	15-1	SMOKE DETECTORS	28
29	-	-	20	A			OPEN	30
NOTES:								
A: PANEL SHALL BE EQUAL TO SQUARE D MODEL "HOMELINE"								
B: ELECTRICIAN SHALL VERIFY BREAKER WITH EQUIPMENT PRIOR TO PURCHASE & INSTALL.								
C: AFTER COMPLETION OF WORK, ELECTRICAN SHALL PROVIDE A TYPE WRITTEN PANEL DIRECTORY IN NEW PANEL.								
D: CIRCUIT BREAKERS SHOWN ABOVE IN BOLD UNDERLINED TEXT SHALL BE ARC-FAULT CIRCUIT INTERRUPTER (AFCI) PER NEC 210.12.								
E: TOTAL SIMULTANEOUS PHASE LOADS SHOWN MAY EXCEED PANEL AMPACITY AS SERVICE LOADS HAVE BEEN CALCULATED IN ACCORDANCE WITH NEC 220.82								

BRANCH CIRCUIT CONDUCTOR SCHEDULE						
AMPACITY	COPPER AWG SIZE	MAXIMUM DISTANCE (FEET)				MINIMUM CONDUIT SIZE
		1Ø		3Ø		
		120V	277V	208V	480V	
20	12	55'	130'	115'	260'	1/2"
	10	90'	205'	180'	415'	3/4"
30	10	60'	135'	120'	275'	3/4"
	8	95'	220'	190'	445'	1"
35	8	80'	190'	165'	380'	1"
	6	130'	300'	260'	605'	1"
40	8	70'	165'	145'	330'	1"
	6	110'	260'	225'	525'	1"
45	6	100'	235'	200'	470'	1"
	4	160'	370'	325'	750'	1-1/4"
50	6	90'	210'	180'	420'	1-1/4"
	4	145'	335'	290'	675'	1-1/4"
60	6	75'	175'	150'	350'	1-1/4"
	4	120'	280'	240'	560'	1-1/4"
70	4	105'	240'	205'	480'	1-1/4"
	3	130'	300'	260'	605'	1-1/4"
80	4	55'	210'	180'	420'	1-1/4"
	3	90'	260'	230'	530'	1-1/4"
90	3	100'	235'	200'	470'	1-1/4"
	2	125'	295'	255'	595'	1-1/4"
100	3	90'	210'	180'	420'	1-1/4"
	2	115'	265'	230'	535'	1-1/4"
NOTES:						
1. ALL BRANCH CIRCUIT CONDUCTORS SHALL BE COPPER. ALL WIRE SIZES SHOWN ARE BASED ON CONDUCTOR TEMPERATURE RATING OF 75°C & AMBIENT TEMPERATURE OF 30°C PER NEC.						
2. DISTANCE SHOWN ABOVE IS LENGTH FROM OVERCURRENT PROTECTION TO DEVICE/EQUIPMENT.						
3. REFER TO PLAN SHEETS FOR BRANCH CONDUCTOR SIZING LENGTHS GREATER THAN SHOWN ABOVE.						
4. VOLTAGE DROP CALCULATIONS BASED ON 3% DROP, 80% CIRCUIT LOAD, THHN/TW/INSULATION, 100% POWER FACTOR, BALANCED LOAD, NEGLIGIBLE REACTANCE, & SIX OR LESS CURRENT-CARRYING CONDUCTORS IN RACEWAY.						

FOR ESTIMATING PURPOSES ONLY -
NOT FOR CONSTRUCTION.



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J2 PROJECT No: J21013

J2 DESIGN: ACW

ISSUE TITLE DATE

CITY SUBMITTAL 12 - 20 - 2024

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

The Village at Discovery - Lot 10A

100 Northeast Alura Way
Lee's Summit, Jackson County, MO 64064

AHJ APPROVAL STAMP

SHEET TITLE

FIRE PROTECTION
PLAN - 2ND FLOOR -
AREA A

SHEET NUMBER

FP102

FIRE ALARM SYSTEM SPECIFICATIONS

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

DEFERRED SUBMITTAL NOTES

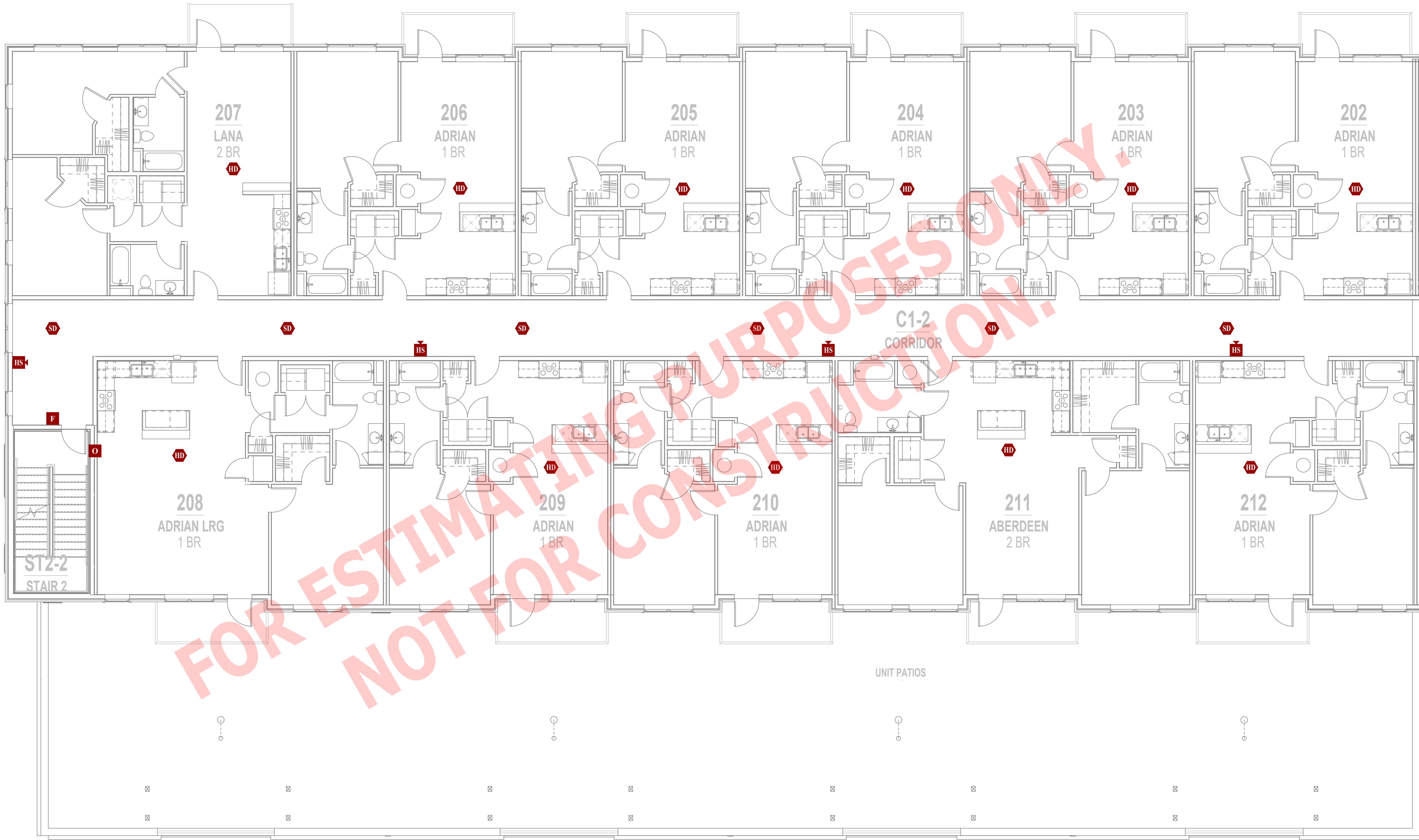
- FIRE ALARM CONTRACTOR SHALL PROVIDE DEFERRED SUBMITTAL PACKAGE FOR FIRE ALARM SYSTEM. SUBMITTAL SHALL INCLUDE BATTERY CALCULATIONS, VOLTAGE DROP CALCULATIONS, EQUIPMENT SPECIFICATIONS FOR DEVICES AND PANELS, ETC. DESIGN SHALL BE SEALED BY A QUALIFIED DESIGN PROFESSIONAL LICENSED BY THE STATE.
- FIRE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

FIRE ALARM DEVICE TYPICAL LOCATIONS:

- VERIFY EXACT LOCATIONS WITH LATEST NFPA REQUIREMENTS;
- CEILING MOUNTED SMOKE / HEAT DETECTORS:
 - MUST BE MOUNTED AT LEAST 36" FROM HVAC GRILLES / DIFFUSERS
 - MUST BE LOCATED AT LEAST 4" FROM WALL/CEILING INTERSECTIONS (MEASURED FROM EDGE OF DEVICE)
- WALL MOUNTED SMOKE / HEAT DETECTORS:
 - MUST BE LOCATED AT LEAST 4" FROM WALL/CEILING INTERSECTIONS (MEASURED FROM EDGE OF DEVICE)
 - MUST BE LOCATED WITHIN AT LEAST 12" FROM WALL/CEILING INTERSECTION (MEASURED FROM EDGE OF DEVICE)
- MANUAL PULL STATIONS:
 - MUST BE LOCATED WITHIN 5' OF EXTERIOR DOORWAY (MEASURED FROM CENTER OF PULL STATION TO NEAREST EDGE OF DOOR)
 - MUST BE LOCATED BETWEEN 42" AND 54" A.F.F. (MEASURED FROM FINISH FLOOR TO CENTER OFF PULL STATION)
- MAGNETIC DOOR HOLDER:
 - MUST BE LOCATED 6" BELOW TOP OF DOOR (MEASURED FROM TOP OF DOOR TO TOP OF DOOR HOLDER)
 - MUST BE LOCATED DOOR WIDTH MINUS THREE INCHES FROM DOOR (MEASURED FROM NEAREST EDGE OF HOLDER TO NEAREST EDGE OF DOOR).
- FIRE ALARM CONTROL PANEL:
 - MUST BE LOCATED AT MAXIMUM OF 72" A.F.F. (MEASURED FROM FINISH FLOOR TO TOP OF FIRE ALARM CONTROL PANEL)
- FIRE ALARM ANNUNCIATOR:
 - MUST BE LOCATED AT MAXIMUM OF 60" A.F.F. (MEASURED FROM FINISH FLOOR TO TOP OF FIRE ALARM ANNUNCIATOR PANEL)
- WALL MOUNTED STROBE DEVICES (VISUAL ONLY):
 - MUST BE LOCATED AT 84" A.F.F. (MEASURED FROM FINISH FLOOR TO BOTTOM OF BACK BOX)
 - MUST BE LOCATED AT MOST 24" FROM WALL/CEILING INTERSECTION WITHIN HANDICAP BEDROOMS (MEASURED FROM WALL/CEILING INTERSECTION TO BOTTOM OF BACK BOX)
- WALL-MOUNTED HORN / STROBE DEVICES (AUDIBLE & VISUAL):
 - MUST BE LOCATED AT 84" A.F.F. (MEASURED FROM FINISH FLOOR TO BOTTOM OF BACK BOX)

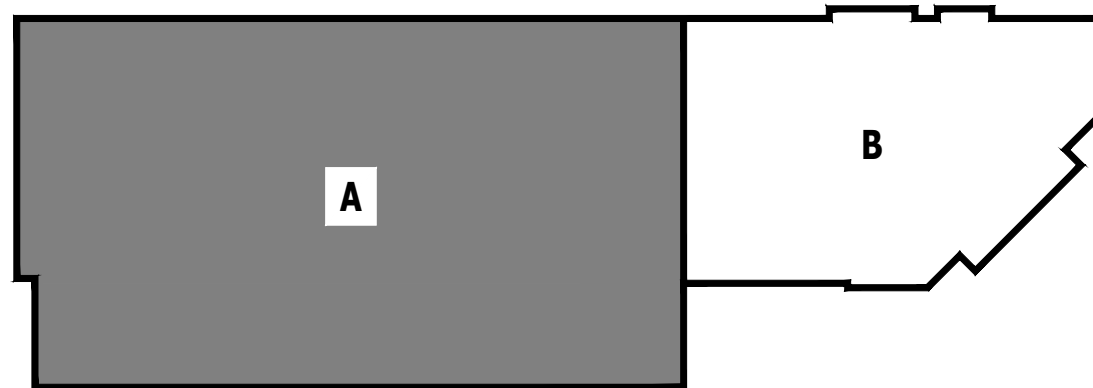
FIRE ALARM PLAN SYMBOL LEGEND

- | | |
|------|--------------------------------|
| F | MANUAL PULL STATION |
| M | MODULE |
| O | OUTPUT MODULE |
| SD | SMOKE DETECTOR |
| HD | HEAT DETECTOR |
| S | STROBE - CEILING MOUNT |
| S | STROBE - WALL MOUNT |
| HS | HORN STROBE - WALL MOUNT |
| HS | HORN STROBE - CEILING MOUNT |
| SS | SPEAKER STROBE - WALL MOUNT |
| SS | SPEAKER STROBE - CEILING MOUNT |
| T | TAMPER SWITCH |
| WF | WATER FLOW SWITCH |
| FACP | FIRE ALARM CONTROL PANEL |
| ANN | FIRE ALARM ANNUNCIATOR |



FIRE PROTECTION PLAN - 2ND FLOOR - AREA A

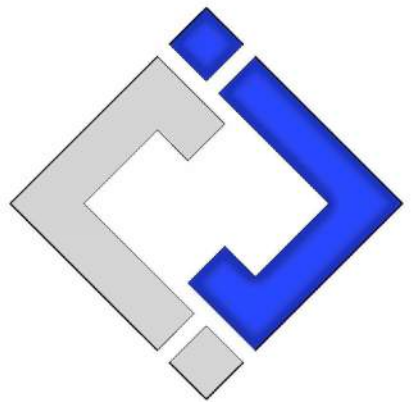
SCALE: 1/8" = 1'-0"



KEY PLAN

SCALE: NTS

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NOT FOR CONSTRUCTION.



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J2 PROJECT No: J21013

J2 DESIGN: ACW

ISSUE TITLE DATE

CITY SUBMITTAL 12 - 20 - 2024

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

The Village at Discovery - Lot 10A

100 Northeast Alura Way
Lee's Summit, Jackson County, MO 64064

AHJ APPROVAL STAMP

SHEET TITLE

FIRE PROTECTION
PLAN - 3RD FLOOR -
AREA A

SHEET NUMBER

FP103

FIRE ALARM SYSTEM SPECIFICATIONS

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

DEFERRED SUBMITTAL NOTES

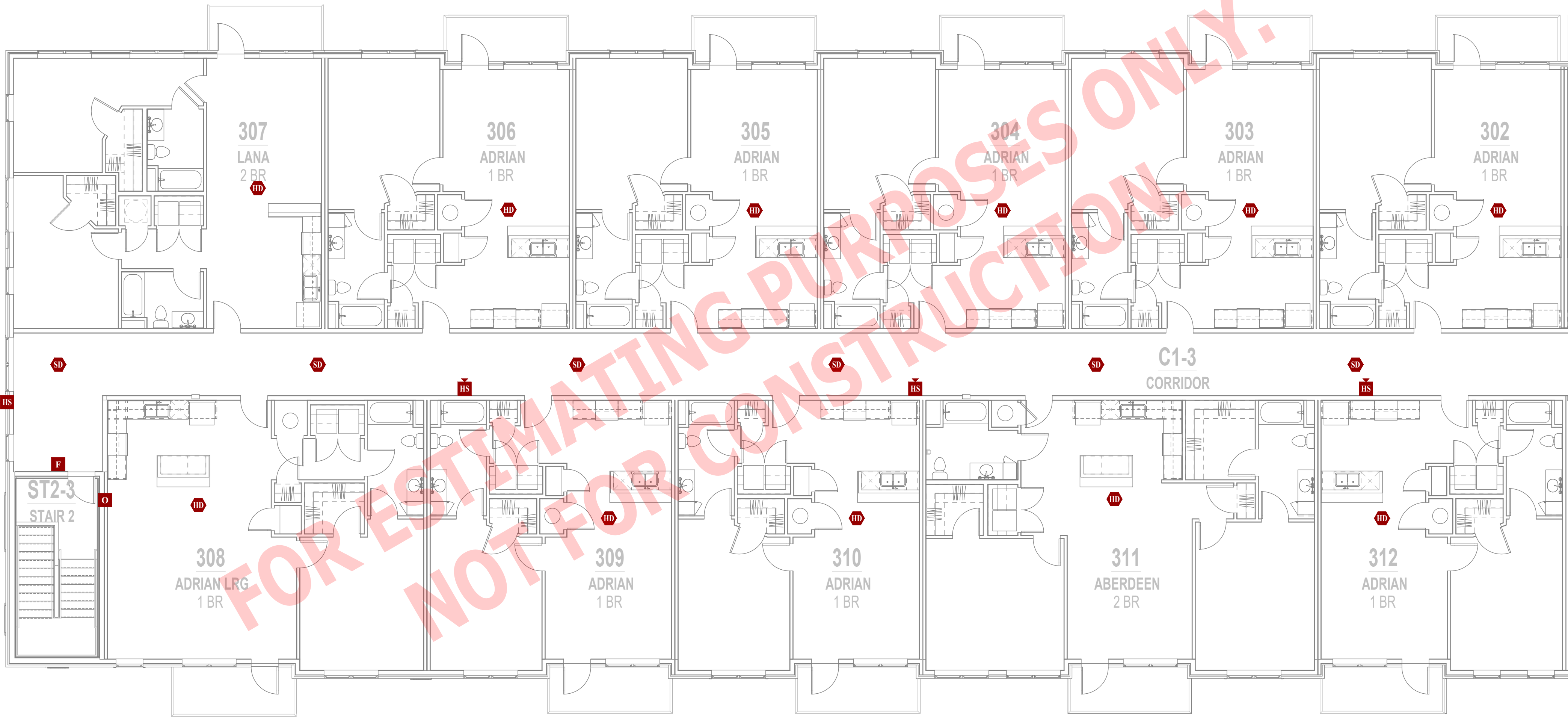
1. FIRE ALARM CONTRACTOR SHALL PROVIDE DEFERRED SUBMITTAL PACKAGE FOR FIRE ALARM SYSTEM. SUBMITTAL SHALL INCLUDE BATTERY CALCULATIONS, VOLTAGE DROP CALCULATIONS, EQUIPMENT SPECIFICATIONS FOR DEVICES AND PANELS, ETC. DESIGN SHALL BE SEALED BY A QUALIFIED DESIGN PROFESSIONAL LICENSED BY THE STATE.
2. FIRE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

FIRE ALARM DEVICE TYPICAL LOCATIONS:

1. VERIFY EXACT LOCATIONS WITH LATEST NFPA REQUIREMENTS;
2. CEILING MOUNTED SMOKE / HEAT DETECTORS:
 - 2.1. MUST BE MOUNTED AT LEAST 36" FROM HVAC GRILLES / DIFFUSERS
 - 2.2. MUST BE LOCATED AT LEAST 4" FROM WALL/CEILING INTERSECTIONS (MEASURED FROM EDGE OF DEVICE)
3. WALL MOUNTED SMOKE / HEAT DETECTORS:
 - 3.1. MUST BE LOCATED AT LEAST 4" FROM WALL/CEILING INTERSECTIONS (MEASURED FROM EDGE OF DEVICE)
 - 3.2. MUST BE LOCATED WITHIN AT LEAST 12" FROM WALL/CEILING INTERSECTION (MEASURED FROM EDGE OF DEVICE)
4. MANUAL PULL STATIONS:
 - 4.1. MUST BE LOCATED WITHIN 5' OF EXTERIOR DOORWAY (MEASURED FROM CENTER OF PULL STATION TO NEAREST EDGE OF DOOR)
 - 4.2. MUST BE LOCATED BETWEEN 42" AND 54" A.F.F. (MEASURED FROM FINISH FLOOR TO CENTER OFF PULL STATION)
5. MAGNETIC DOOR HOLDER:
 - 5.1. MUST BE LOCATED 6" BELOW TOP OF DOOR (MEASURED FROM TOP OF DOOR TO TOP OF DOOR HOLDER)
 - 5.2. MUST BE LOCATED DOOR WIDTH MINUS THREE INCHES FROM DOOR (MEASURED FROM NEAREST EDGE OF HOLDER TO NEAREST EDGE OF DOOR).
6. FIRE ALARM CONTROL PANEL:
 - 6.1. MUST BE LOCATED AT MAXIMUM OF 72" A.F.F. (MEASURED FROM FINISH FLOOR TO TOP OF FIRE ALARM CONTROL PANEL)
7. FIRE ALARM ANNUNCIATOR:
 - 7.1. MUST BE LOCATED AT MAXIMUM OF 60" A.F.F. (MEASURED FROM FINISH FLOOR TO TOP OF FIRE ALARM ANNUNCIATOR PANEL)
8. WALL MOUNTED STROBE DEVICES (VISUAL ONLY):
 - 8.1. MUST BE LOCATED AT 84" A.F.F. (MEASURED FROM FINISH FLOOR TO BOTTOM OF BACK BOX)
 - 8.2. MUST BE LOCATED AT MOST 24" FROM WALL/CEILING INTERSECTION WITHIN HANDICAP BEDROOMS (MEASURED FROM WALL/CEILING INTERSECTION TO BOTTOM OF BACK BOX)
9. WALL-MOUNTED HORN / STROBE DEVICES (AUDIBLE & VISUAL):
 - 9.1. MUST BE LOCATED AT 84" A.F.F. (MEASURED FROM FINISH FLOOR TO BOTTOM OF BACK BOX)

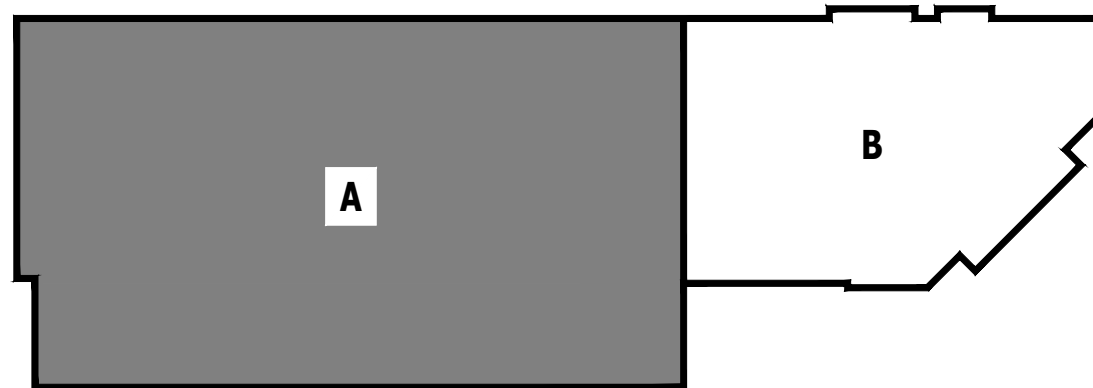
FIRE ALARM PLAN SYMBOL LEGEND

- | | |
|------|--------------------------------|
| F | MANUAL PULL STATION |
| M | MODULE |
| O | OUTPUT MODULE |
| SD | SMOKE DETECTOR |
| HD | HEAT DETECTOR |
| S | STROBE - CEILING MOUNT |
| S | STROBE - WALL MOUNT |
| HS | HORN STROBE - WALL MOUNT |
| HS | HORN STROBE - CEILING MOUNT |
| SS | SPEAKER STROBE - WALL MOUNT |
| SS | SPEAKER STROBE - CEILING MOUNT |
| T | TAMPER SWITCH |
| WF | WATER FLOW SWITCH |
| FACP | FIRE ALARM CONTROL PANEL |
| ANN | FIRE ALARM ANNUNCIATOR |



FIRE PROTECTION PLAN - 3RD FLOOR - AREA A

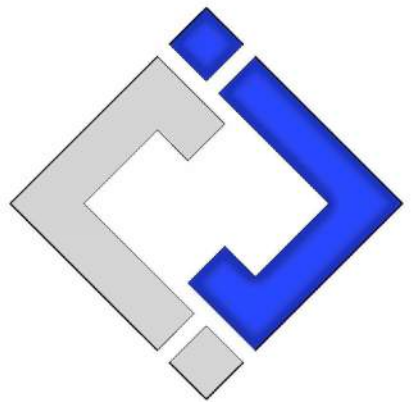
SCALE: 1/8" = 1'-0"



KEY PLAN

SCALE: NTS

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J2 PROJECT No: J221013

J2 DESIGN: ACW

ISSUE TITLE DATE

CITY SUBMITTAL 12 - 20 - 2024

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

The Village at Discovery - Lot 10A

100 Northeast Alura Way
Lee's Summit, Jackson County, MO 64064

AHJ APPROVAL STAMP

SHEET TITLE

FIRE PROTECTION
PLAN - 1ST FLOOR -
AREA B

SHEET NUMBER

FP111

FIRE ALARM SYSTEM SPECIFICATIONS

- FIRE ALARM SYSTEM SHALL BE AN ADDRESSABLE SYSTEM THAT IS NONCODED, UL-LISTED, WITH MULTIPLEX SIGNAL TRANSMISSION AND HORN/STROBE EVACUATION.
- EVERY FIRE ALARM SYSTEM COMPONENT SHALL BE UL-LISTED AND UL-CERTIFIED, TESTED BY MANUFACTURERS AS A COMPLETE SYSTEM, AND MEET ALL APPLICABLE REQUIREMENTS OF NFPA 72.
- ALL FIRE ALARM WIRING TO BE PLENUM RATED.
- ALL INITIATING DEVICES INSTALLED IN UNCONDITIONED SPACES SHALL BE CONVENTIONAL DEVICES SUITABLE FOR USE IN EXTREME HIGH AND LOW TEMPERATURES AND HIGH HUMIDITY. SUCH DEVICES SHALL BE SUPERVISED BY ADDRESSABLE MONITOR MODULES LOCATED IN CONDITIONED SPACES.
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DEFERRED SUBMITTAL NOTES

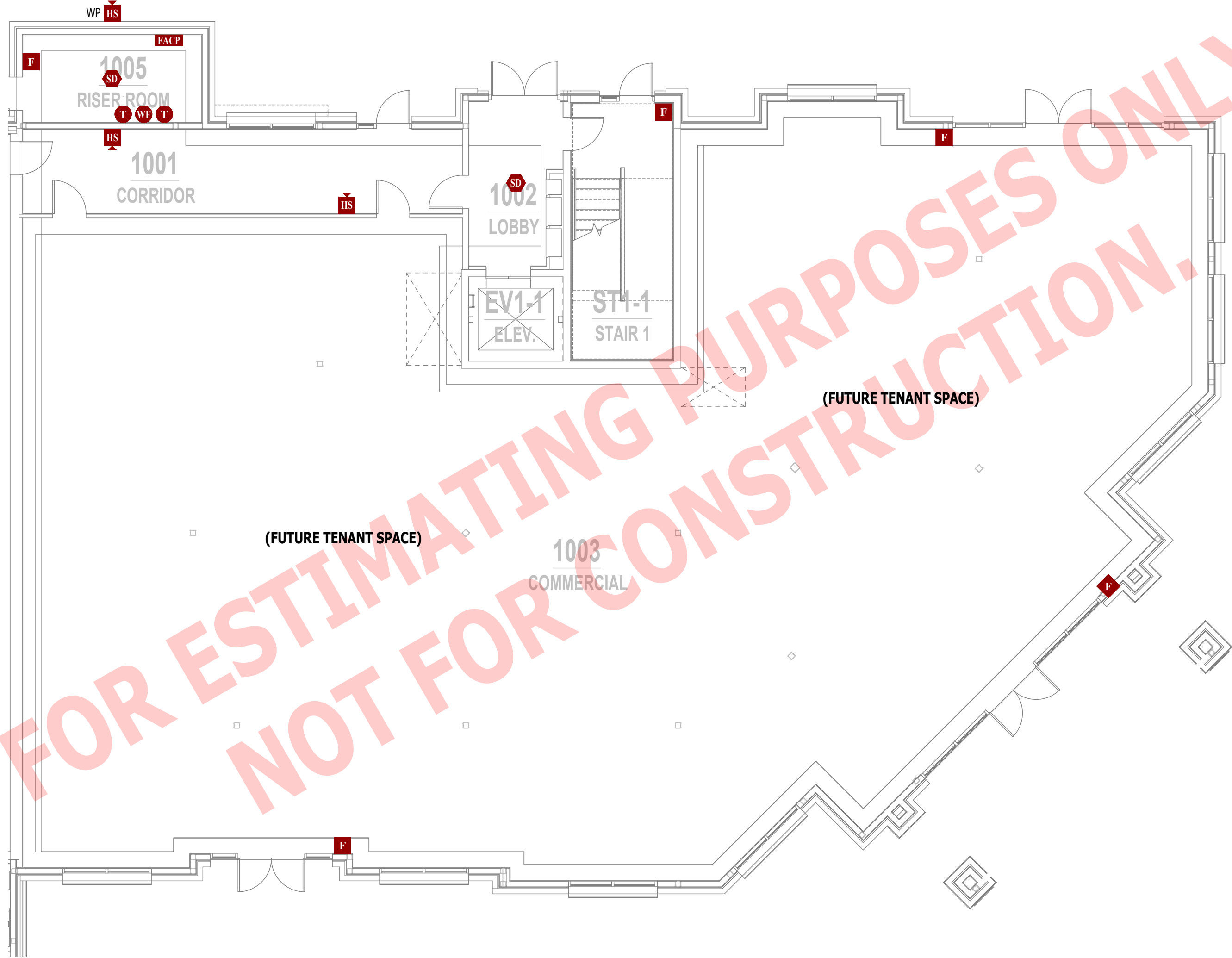
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- WALL MOUNTED SMOKE / HEAT DETECTORS:
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 - MUST BE LOCATED 6" BELOW TOP OF DOOR (MEASURED FROM TOP OF DOOR TO TOP OF DOOR HOLDER)
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FIRE ALARM PLAN SYMBOL LEGEND

F	MANUAL PULL STATION
M	MODULE
O	OUTPUT MODULE
SD	SMOKE DETECTOR
HD	HEAT DETECTOR
S	STROBE - CEILING MOUNT
S	STROBE - WALL MOUNT
HS	HORN STROBE - WALL MOUNT
HS	HORN STROBE - CEILING MOUNT
SN	SPEAKER STROBE - WALL MOUNT
SN	SPEAKER STROBE - CEILING MOUNT
T	TAMPER SWITCH
WP	WATER FLOW SWITCH
EACP	FIRE ALARM CONTROL PANEL
ANN	FIRE ALARM ANNUNCIATOR



FIRE PROTECTION PLAN - 1ST FLOOR - AREA B

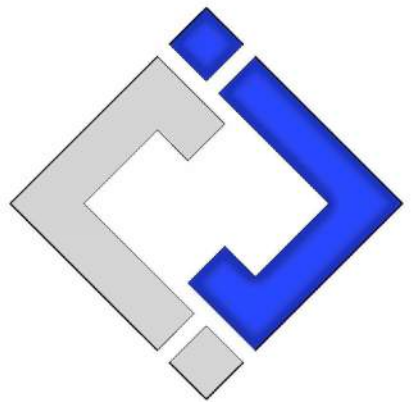
SCALE: 1/8" = 1'-0"



KEY PLAN

SCALE: NTS

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J2 PROJECT No: J21013

J2 DESIGN: ACW

ISSUE TITLE DATE

CITY SUBMITTAL 12 - 20 - 2024

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

The Village at Discovery - Lot 10A

100 Northeast Alura Way
Lee's Summit, Jackson County, MO 64064

AHJ APPROVAL STAMP

SHEET TITLE

FIRE PROTECTION
PLAN - 2ND FLOOR -
AREA B

SHEET NUMBER

FP112

FIRE ALARM SYSTEM SPECIFICATIONS

- FIRE ALARM SYSTEM SHALL BE AN ADDRESSABLE SYSTEM THAT IS NONCODED, UL-LISTED, WITH MULTIPLEX SIGNAL TRANSMISSION AND HORN/STROBE EVACUATION.
- EVERY FIRE ALARM SYSTEM COMPONENT SHALL BE UL-LISTED AND UL-CERTIFIED, TESTED BY MANUFACTURERS AS A COMPLETE SYSTEM, AND MEET ALL APPLICABLE REQUIREMENTS OF NFPA 72.
- ALL FIRE ALARM WIRING TO BE PLENUM RATED.
- ALL INITIATING DEVICES INSTALLED IN UNCONDITIONED SPACES SHALL BE CONVENTIONAL DEVICES SUITABLE FOR USE IN EXTREME HIGH AND LOW TEMPERATURES AND HIGH HUMIDITY. SUCH DEVICES SHALL BE SUPERVISED BY ADDRESSABLE MONITOR MODULES LOCATED IN CONDITIONED SPACES.
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DEFERRED SUBMITTAL NOTES

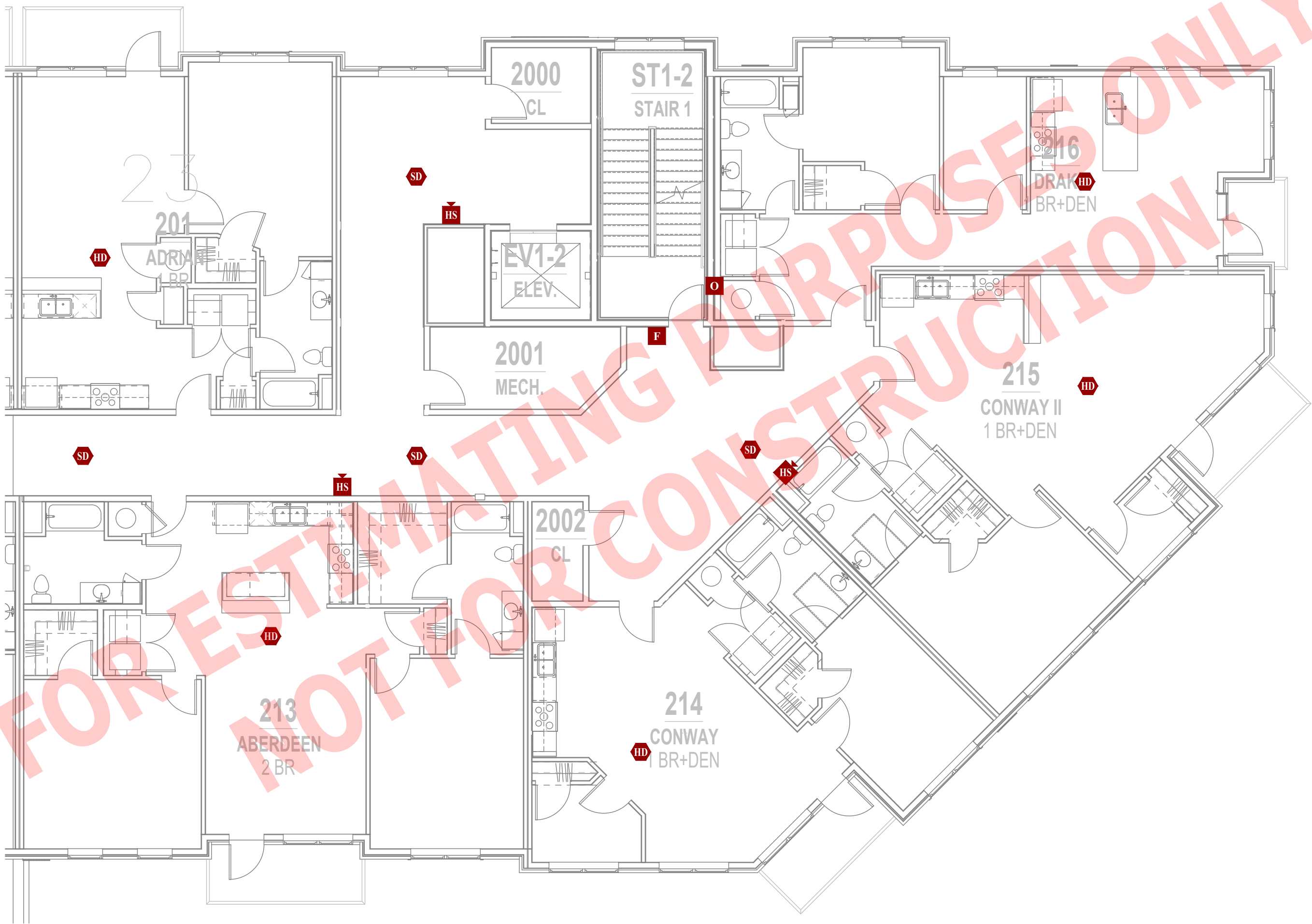
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 - MUST BE LOCATED AT MAXIMUM OF 60" A.F.F. (MEASURED FROM FINISH FLOOR TO TOP OF FIRE ALARM ANNUNCIATOR PANEL)
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FIRE ALARM PLAN SYMBOL LEGEND

F	MANUAL PULL STATION
M	MODULE
O	OUTPUT MODULE
SD	SMOKE DETECTOR
HD	HEAT DETECTOR
SC	STROBE - CEILING MOUNT
SW	STROBE - WALL MOUNT
HS	HORN STROBE - WALL MOUNT
HS	HORN STROBE - CEILING MOUNT
SS	SPEAKER STROBE - WALL MOUNT
SS	SPEAKER STROBE - CEILING MOUNT
T	TAMPER SWITCH
WF	WATER FLOW SWITCH
FACP	FIRE ALARM CONTROL PANEL
ANN	FIRE ALARM ANNUNCIATOR



FIRE PROTECTION PLAN - 2ND FLOOR - AREA B

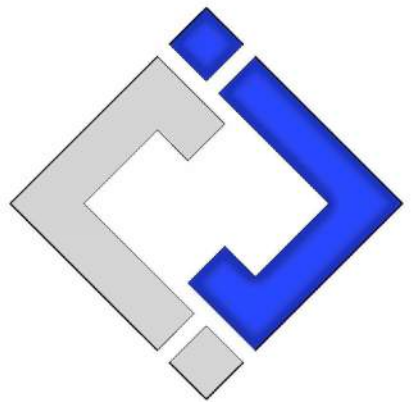
SCALE: 1/8" = 1'-0"



KEY PLAN

SCALE: NTS

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J2 PROJECT No: J21013

J2 DESIGN: ACW

ISSUE TITLE DATE

CITY SUBMITTAL 12 - 20 - 2024

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:
The Village at Discovery - Lot 10A

100 Northeast Alura Way
Lee's Summit, Jackson County, MO 64064

AHJ APPROVAL STAMP

SHEET TITLE

FIRE PROTECTION
PLAN - 3RD FLOOR -
AREA B

SHEET NUMBER

FP113

FIRE ALARM SYSTEM SPECIFICATIONS

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DEFERRED SUBMITTAL NOTES

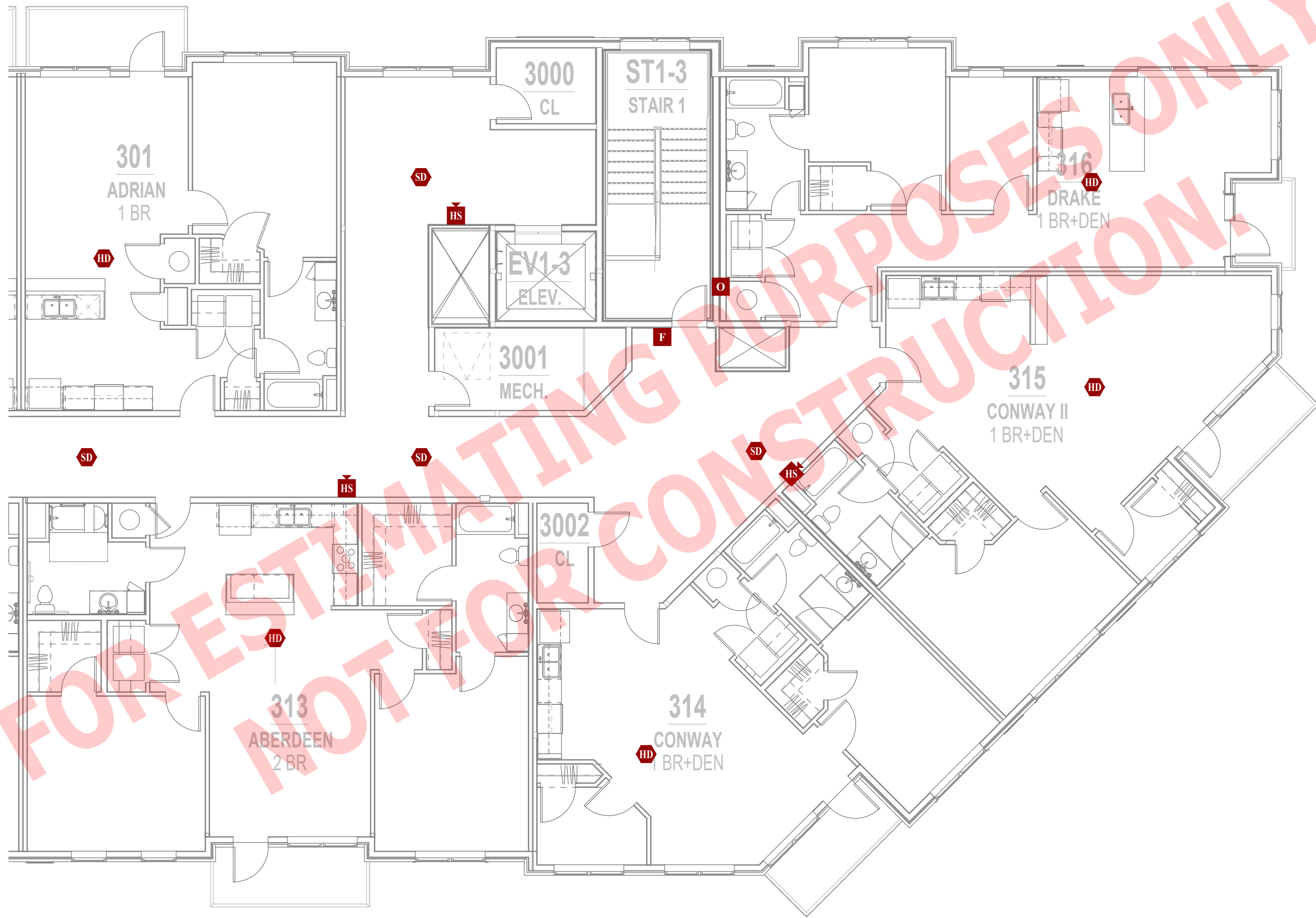
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 - MUST BE LOCATED AT MAXIMUM OF 60" A.F.F. (MEASURED FROM FINISH FLOOR TO TOP OF FIRE ALARM ANNUNCIATOR PANEL)
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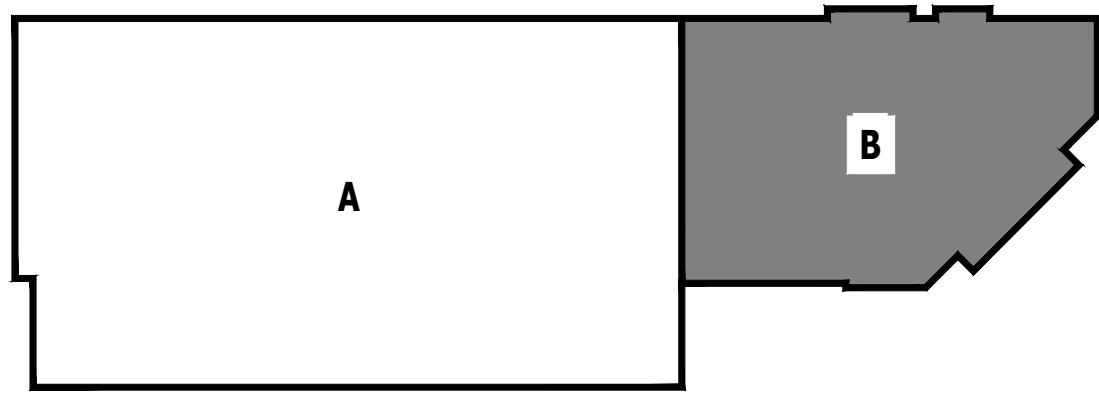
FIRE ALARM PLAN SYMBOL LEGEND

F	MANUAL PULL STATION
M	MODULE
O	OUTPUT MODULE
SD	SMOKE DETECTOR
HD	HEAT DETECTOR
SC	STROBE - CEILING MOUNT
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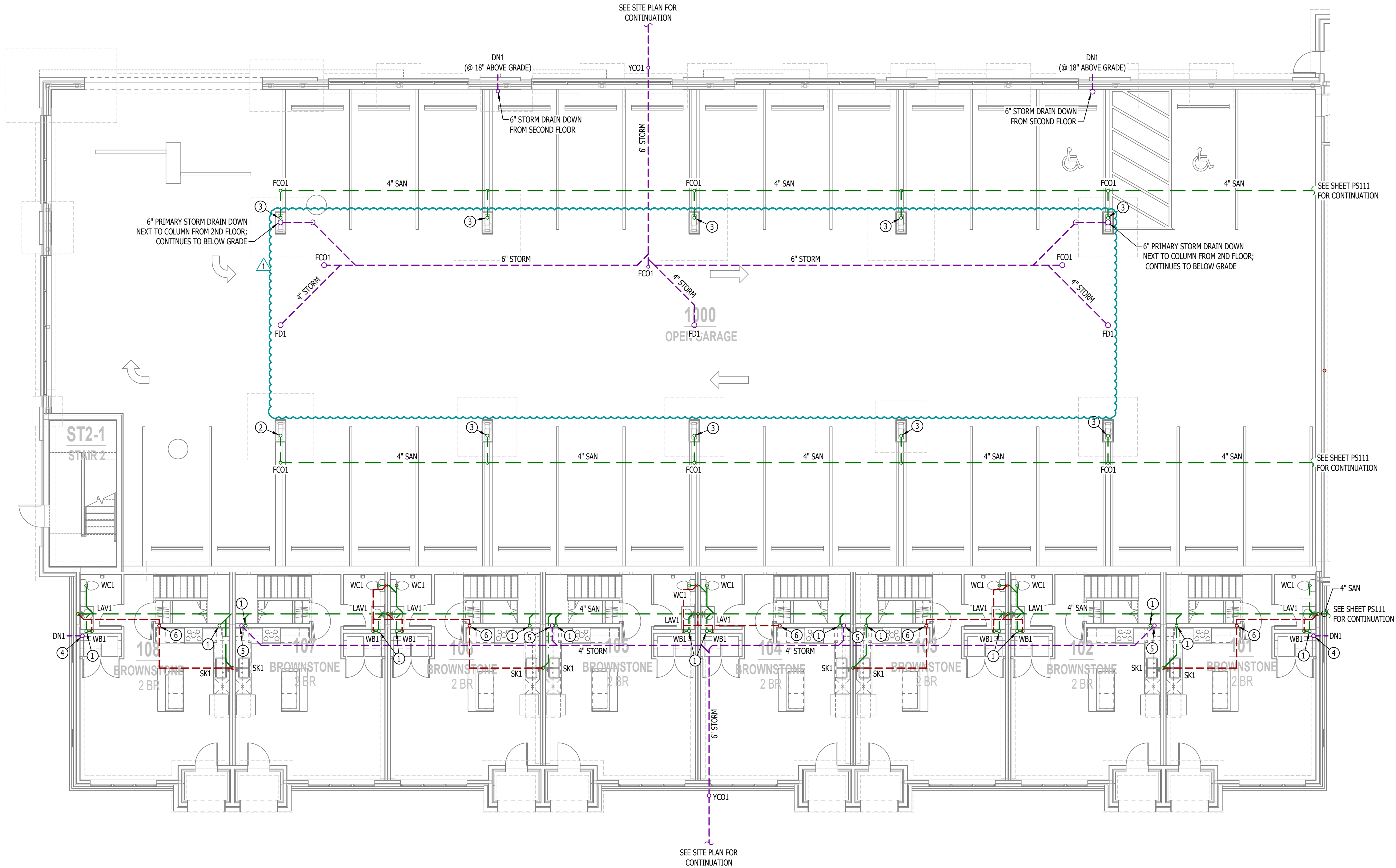
FIRE PROTECTION PLAN - 3RD FLOOR - AREA B

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



KEY PLAN

SCALE: NTS



SANITARY SEWER PLAN SYMBOL LEGEND

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

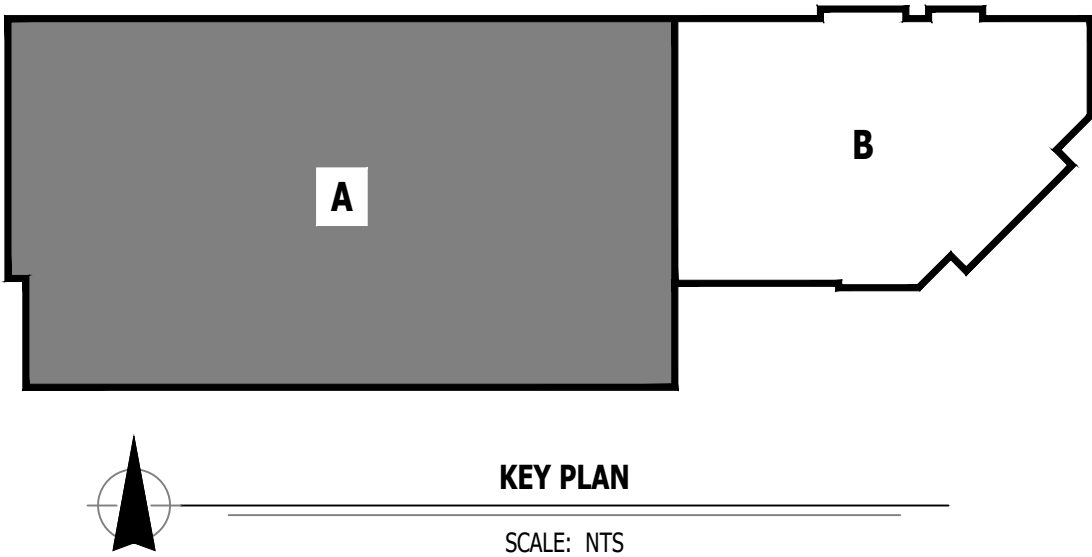
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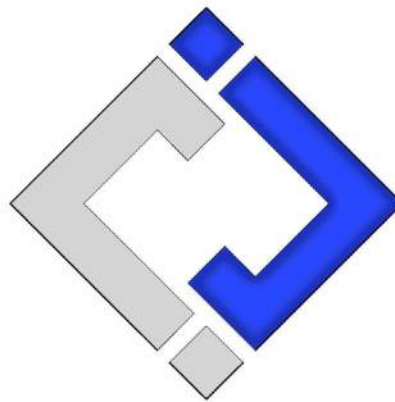
- SEE SHEET PS01 FOR ADDITIONAL PLUMBING NOTES, DETAILS, & SCHEDULES.

SANITARY SEWER PLAN KEY NOTES:

- 3" SAN DOWN FROM SECOND FLOOR.
- 3" SAN DOWN FROM SECOND FLOOR NEXT TO COLUMN.
- 4" SAN DOWN FROM SECOND FLOOR NEXT TO COLUMN.
- 6" SECONDARY STORM DRAIN PIPING DOWN FROM LEVEL ABOVE TO DOWNSPOUT NOZZLE 'DN1' AT 18" ABOVE GRADE.
- 4" PRIMARY STORM DRAIN DOWN FROM LEVEL ABOVE.
- 2" V UP TO LEVEL ABOVE.
- 2" STORM DOWN FROM ENTRY ROOF ABOVE TO DOWNSPOUT NOZZLE 'DN1' AT 18" ABOVE GRADE.

SANITARY SEWER PLAN - 1ST FLOOR - AREA A
SCALE: 1/8" = 1'-0"





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J2 PROJECT No: J21013
J2 DESIGN: ACW

ISSUE TITLE DATE
CITY SUBMITTAL 12 - 20 - 2024

1. SEE SHEET P501 FOR ADDITIONAL PLUMBING NOTES, DETAILS, & SCHEDULES.

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:
The Village at Discovery - Lot 10A
100 Northeast Alura Way
Lee's Summit, Jackson County, MO 64064

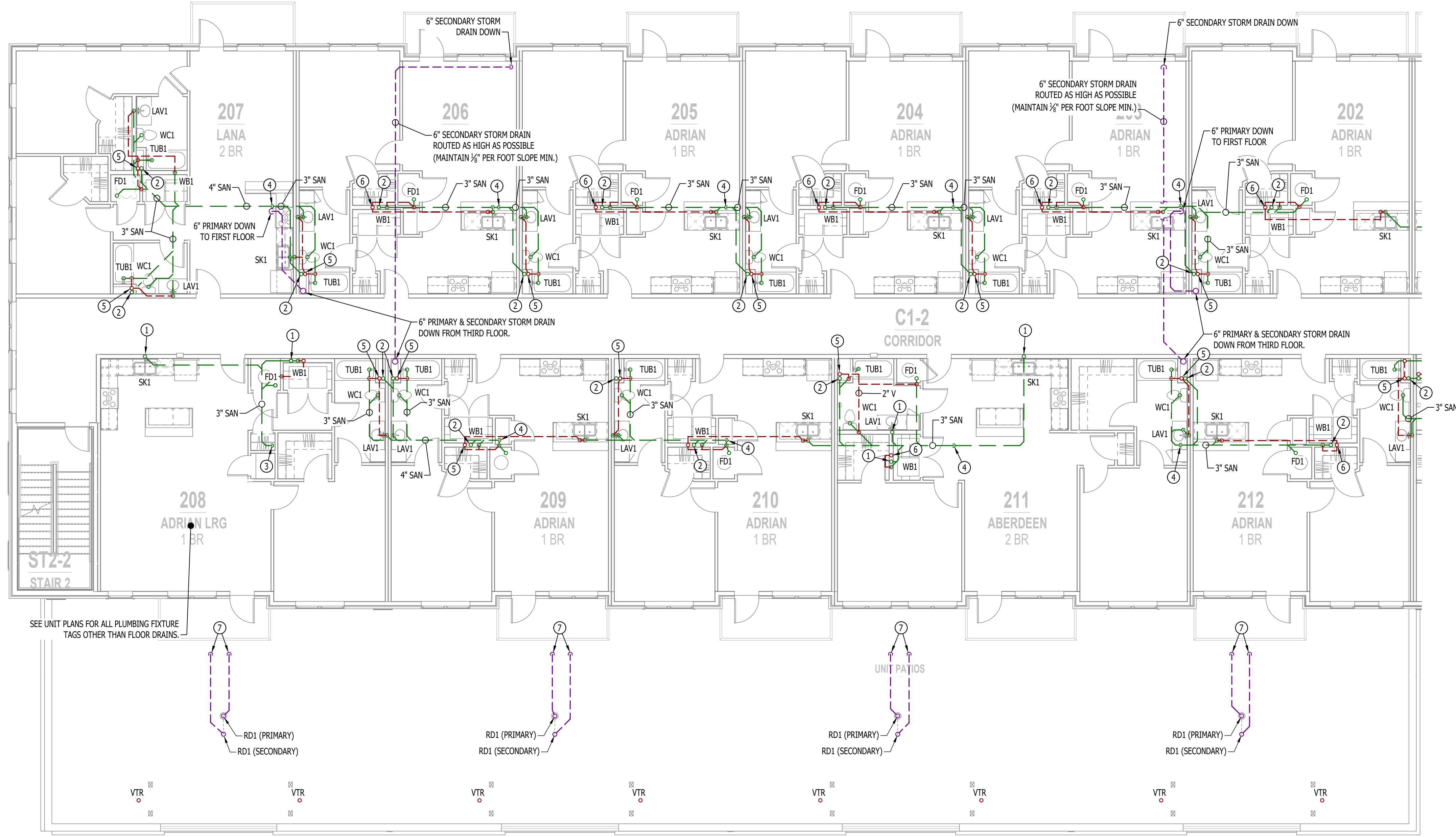
AHJ APPROVAL STAMP

SHEET TITLE

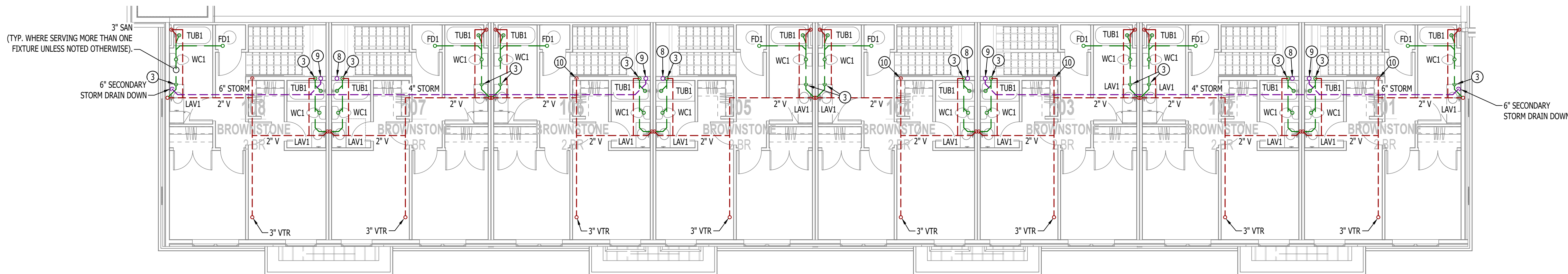
SANITARY SEWER PLAN
- 2ND FLOOR - AREA A

SHEET NUMBER

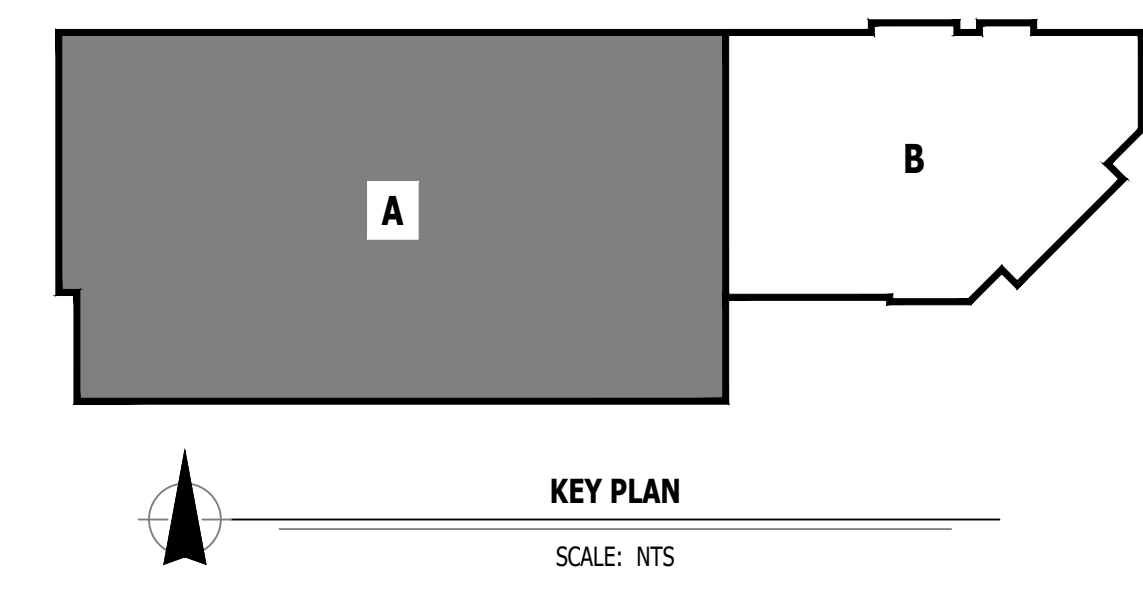
PS102



SANITARY SEWER PLAN - 2ND FLOOR - AREA A
SCALE: 1/8" = 1'-0"



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



SANITARY SEWER PLAN SYMBOL LEGEND

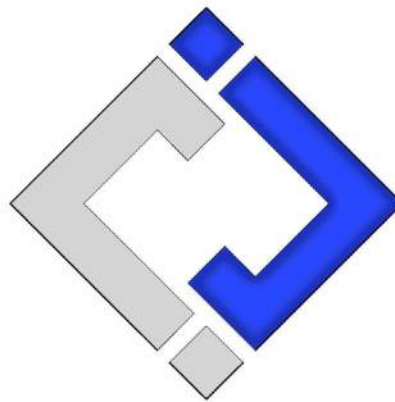
- SANITARY SEWER PIPING
- VENT PIPING
- PIPING TURNED DOWN / TURNED UP
- TIE INTO EXISTING

SANITARY SEWER PLAN GENERAL NOTES:

- SEE SHEET P501 FOR ADDITIONAL PLUMBING NOTES, DETAILS, & SCHEDULES.

SANITARY SEWER PLAN KEY NOTES:

- 2" SAN (WASTE STACK) DOWN FROM 3RD FLOOR.
- 3" SAN DOWN FROM 3RD FLOOR.
- 3" SAN DOWN TO 1ST FLOOR.
- 4" SAN DOWN TO 1ST FLOOR.
- 3" VENT UP TO THIRD FLOOR.
- 2" VENT UP TO 3RD FLOOR.
- 4" PRIMARY & SECONDARY STORM DRAIN DOWN IN WALL BELOW.
- 4" PRIMARY STORM DRAIN DOWN FROM ABOVE; CONTINUES DOWN TO LEVEL BELOW.
- 4" SECONDARY STORM DRAIN DOWN FROM ABOVE.
- 2" VENT UP FROM BELOW.



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J2 PROJECT No: J21013

J2 DESIGN: ACW

ISSUE TITLE DATE

CITY SUBMITTAL 12 - 20 - 2024

SANITARY SEWER PLAN SYMBOL LEGEND

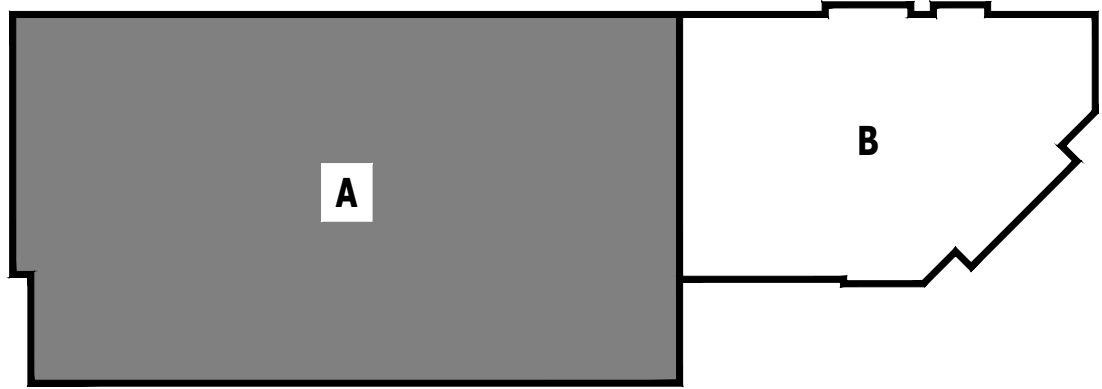
- SANITARY SEWER PIPING
- - - VENT PIPING
- PIPING TURNED DOWN / TURNED UP
- ✕ TIE INTO EXISTING

SANITARY SEWER PLAN GENERAL NOTES:

1. SEE SHEET P501 FOR ADDITIONAL PLUMBING NOTES, DETAILS, & SCHEDULES.

SANITARY SEWER PLAN KEY NOTES:

- ① 3" SANITARY DOWN TO LEVEL BELOW. 3" VENT UP FROM LEVEL BELOW; CONTINUES UP TO VENT THRU ROOF
- ② 2" SAN (WASTE STACK) DOWN TO LEVEL BELOW
- ③ 3" SAN (WASTE STACK) DOWN TO LEVEL BELOW
- ④ 2" VENT ROUTED BELOW FLOOR.



KEY PLAN

SCALE: NTS

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

The Village at Discovery - Lot 10A

100 Northeast Alura Way
Lee's Summit, Jackson County, MO 64064

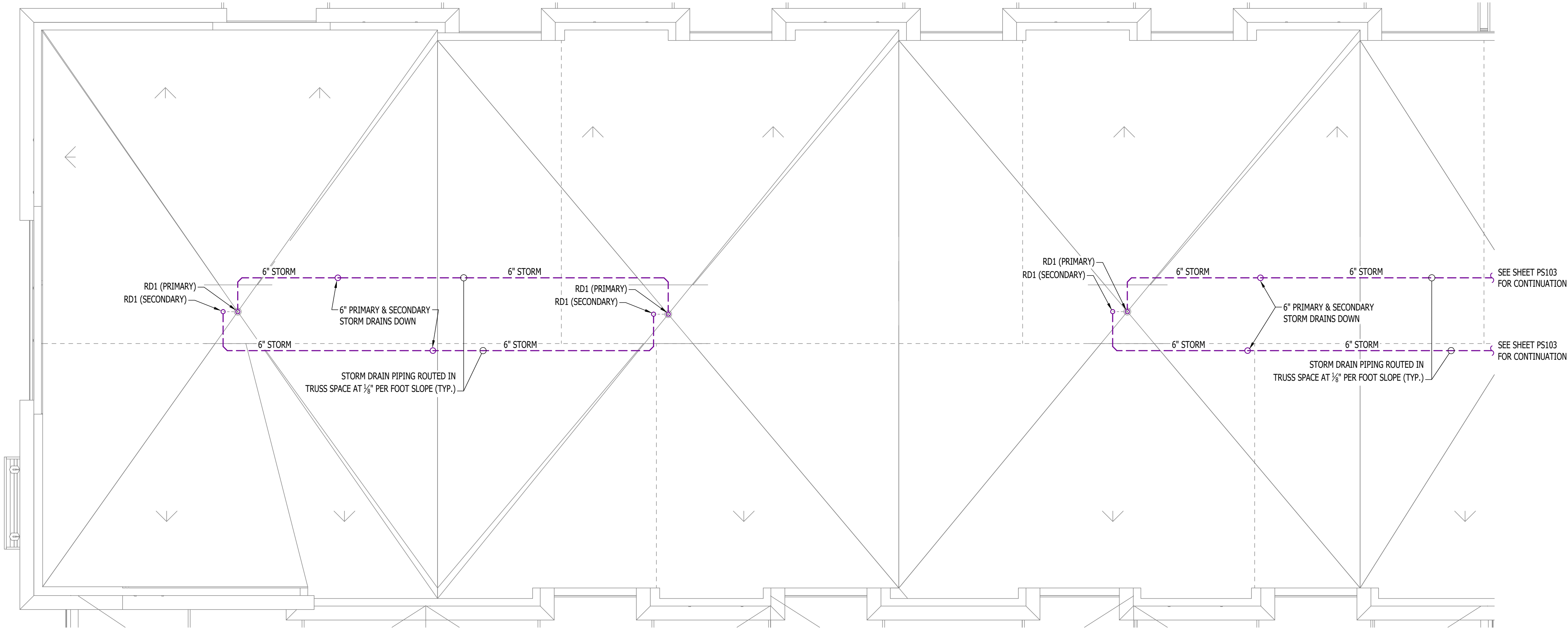
AHJ APPROVAL STAMP

SHEET TITLE

SANITARY SEWER PLAN
- 3RD FLOOR - AREA A

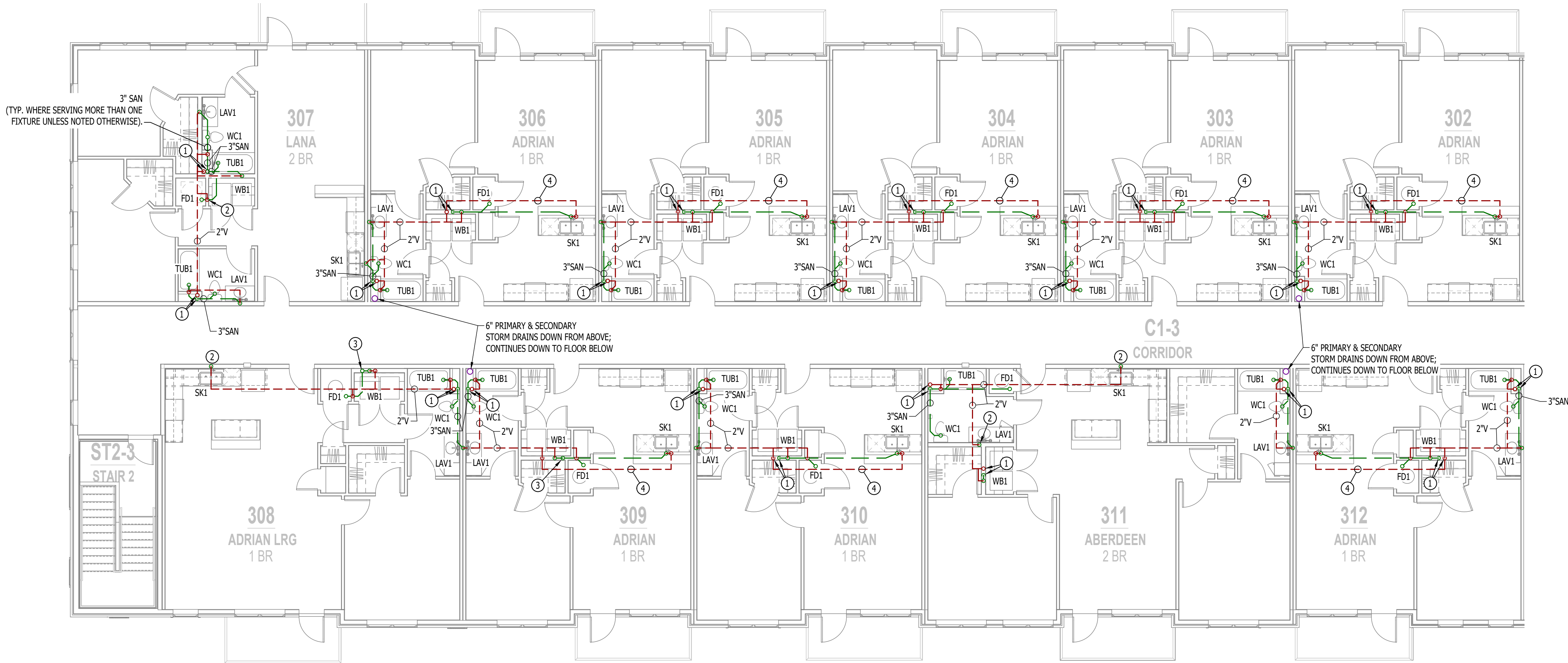
SHEET NUMBER

PS103



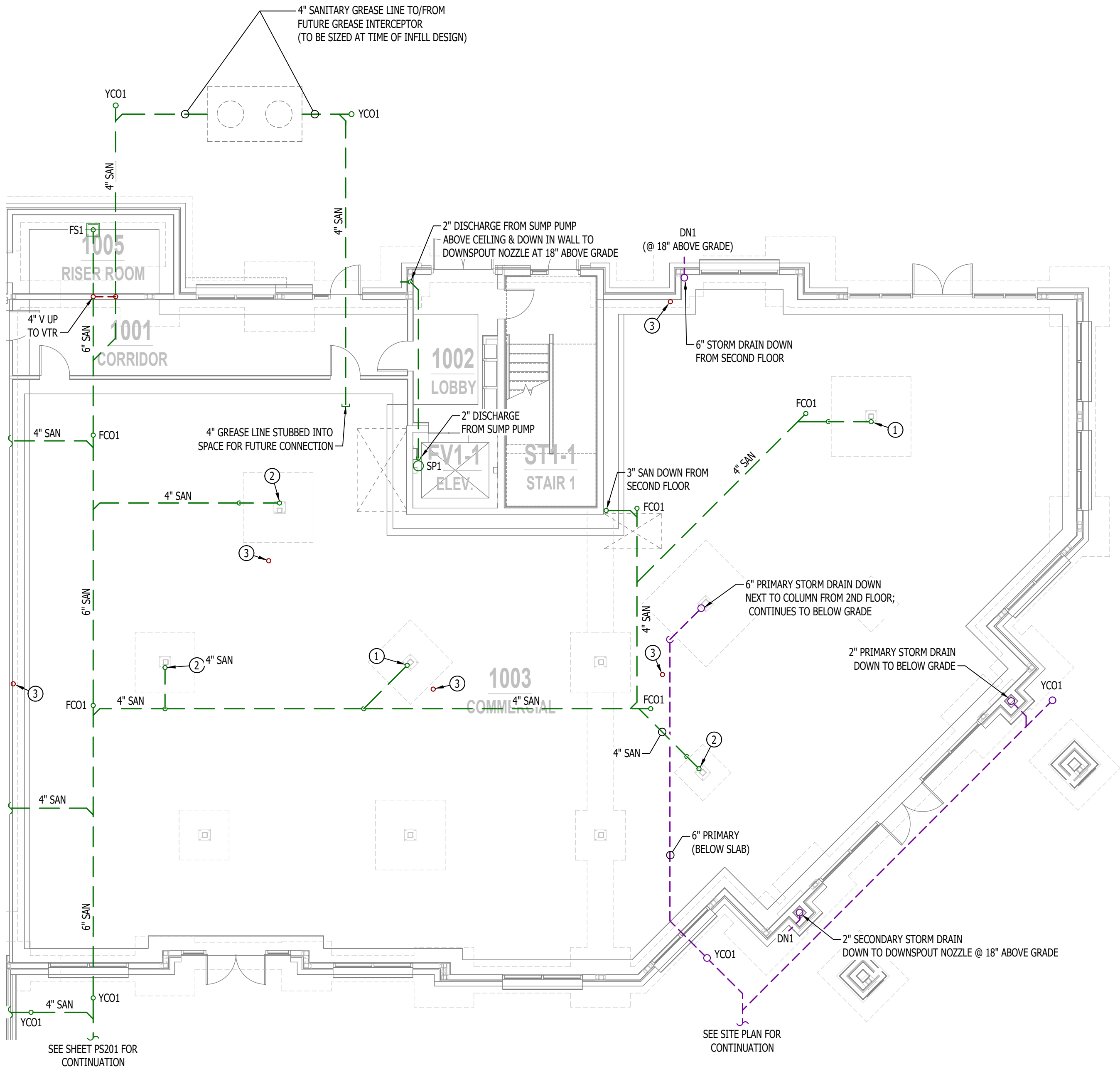
STORM DRAIN PLAN - ROOF - AREA B

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



SANITARY SEWER PLAN - 3RD FLOOR - AREA A

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



SANITARY SEWER PLAN - 1ST FLOOR - AREA B
SCALE: 1/8" = 1'-0"

SANITARY SEWER PLAN SYMBOL LEGEND

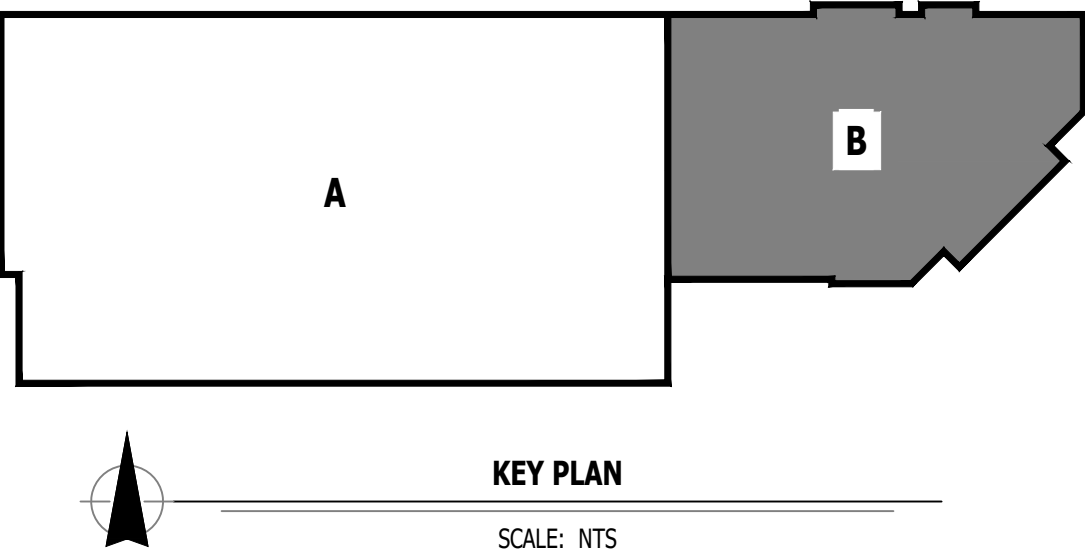
- SANITARY SEWER PIPING
- VENT PIPING
- PIPING TURNED DOWN / TURNED UP
- TIE INTO EXISTING

SANITARY SEWER PLAN GENERAL NOTES:

- SEE SHEET PS01 FOR ADDITIONAL PLUMBING NOTES, DETAILS, & SCHEDULES.

SANITARY SEWER PLAN KEY NOTES:

- 3" SAN DOWN FROM SECOND FLOOR NEXT TO COLUMN W/ C.O. AT BASE OF STACK.
- 4" SAN DOWN FROM SECOND FLOOR NEXT TO COLUMN.
- 3" VENT (CAPPED FOR FUTURE CONNECTION) UP TO SECOND FLOOR.



RELEASED FOR CONSTRUCTION
As Noted on Plans Review

Professional Services Department
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JAMES P. WATSON
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J2 PROJECT No:	J21013
J2 DESIGN:	ACW
ISSUE TITLE	DATE
CITY SUBMITTAL	12 - 20 - 2024

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:
The Village at Discovery - Lot 10A
100 Northeast Alura Way
Lee's Summit, Jackson County, MO 64064

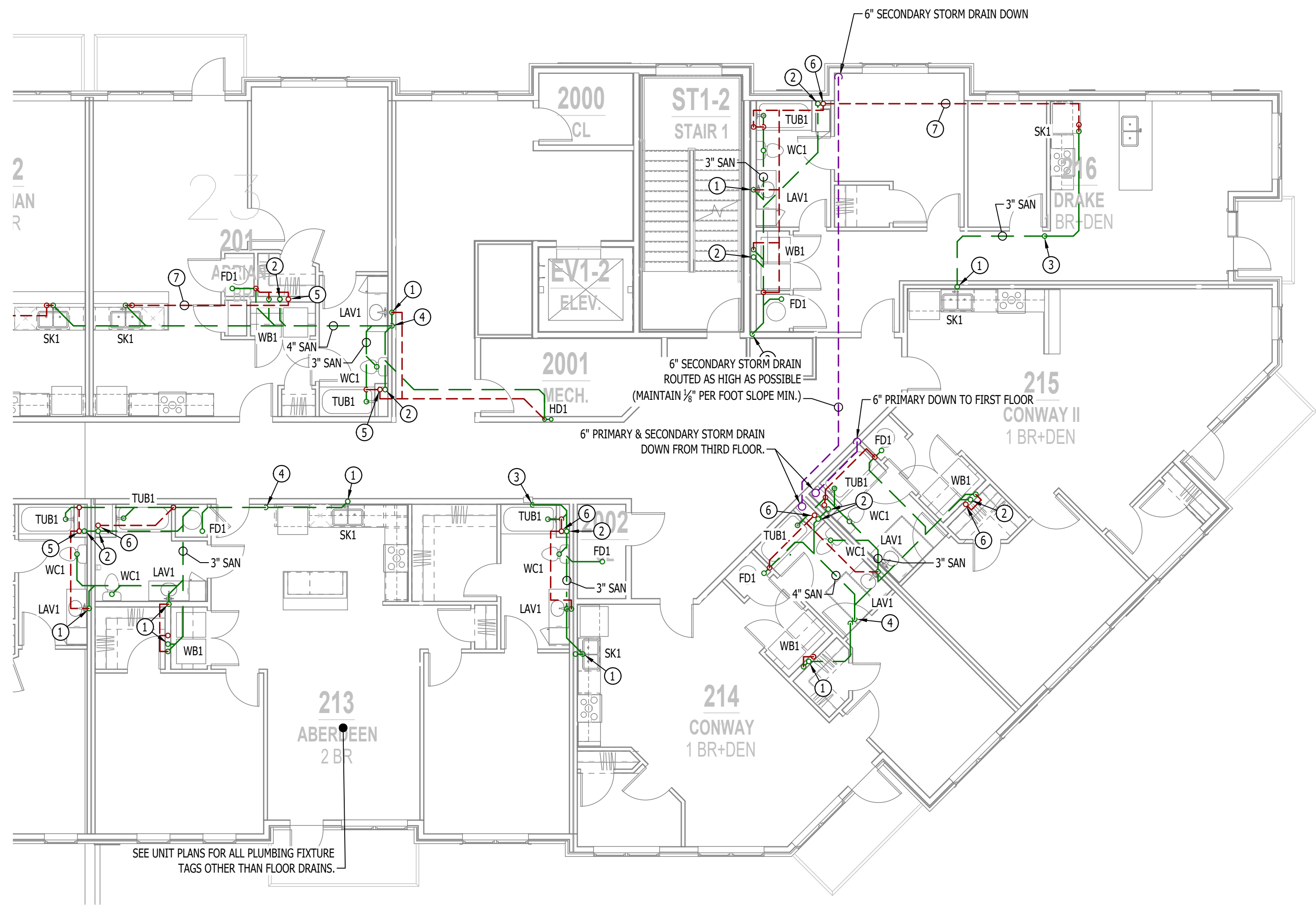
AHJ APPROVAL STAMP

SHEET TITLE

**SANITARY SEWER PLAN
- 1ST FLOOR - AREA B**

SHEET NUMBER

PS111



SANITARY SEWER PLAN - 2ND FLOOR - AREA B

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



KEY PLAN

SCALE: NTS

SANITARY SEWER PLAN SYMBOL LEGEND

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

SANITARY SEWER PLAN GENERAL NOTES:

- SEE SHEET P501 FOR ADDITIONAL PLUMBING NOTES, DETAILS, & SCHEDULES.

SANITARY SEWER PLAN KEY NOTES:

- 2" SAN (WASTE/VENT STACK) DOWN FROM 3RD FLOOR.
- 3" SAN DOWN FROM 3RD FLOOR.
- 3" SAN DOWN TO 1ST FLOOR.
- 4" SAN DOWN TO 1ST FLOOR.
- 3" VENT UP TO THIRD FLOOR
- 3" VENT UP FROM 1ST FLOOR CONTINUES UP TO 3RD FLOOR.
- 2" ISLAND VENT, PER IPC 916, ROUTED BELOW FLOOR.

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J2 PROJECT No:	J21013
J2 DESIGN:	ACW

ISSUE TITLE	DATE
CITY SUBMITTAL	12 - 20 - 2024

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

The Village at Discovery - Lot 10A

100 Northeast Alura Way
Lee's Summit, Jackson County, MO 64064

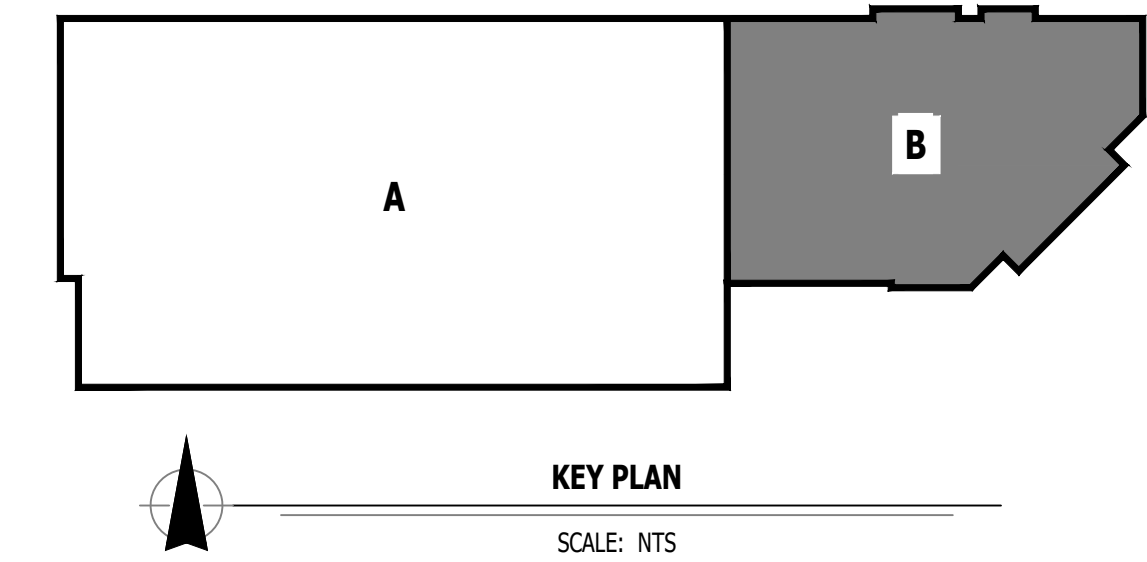
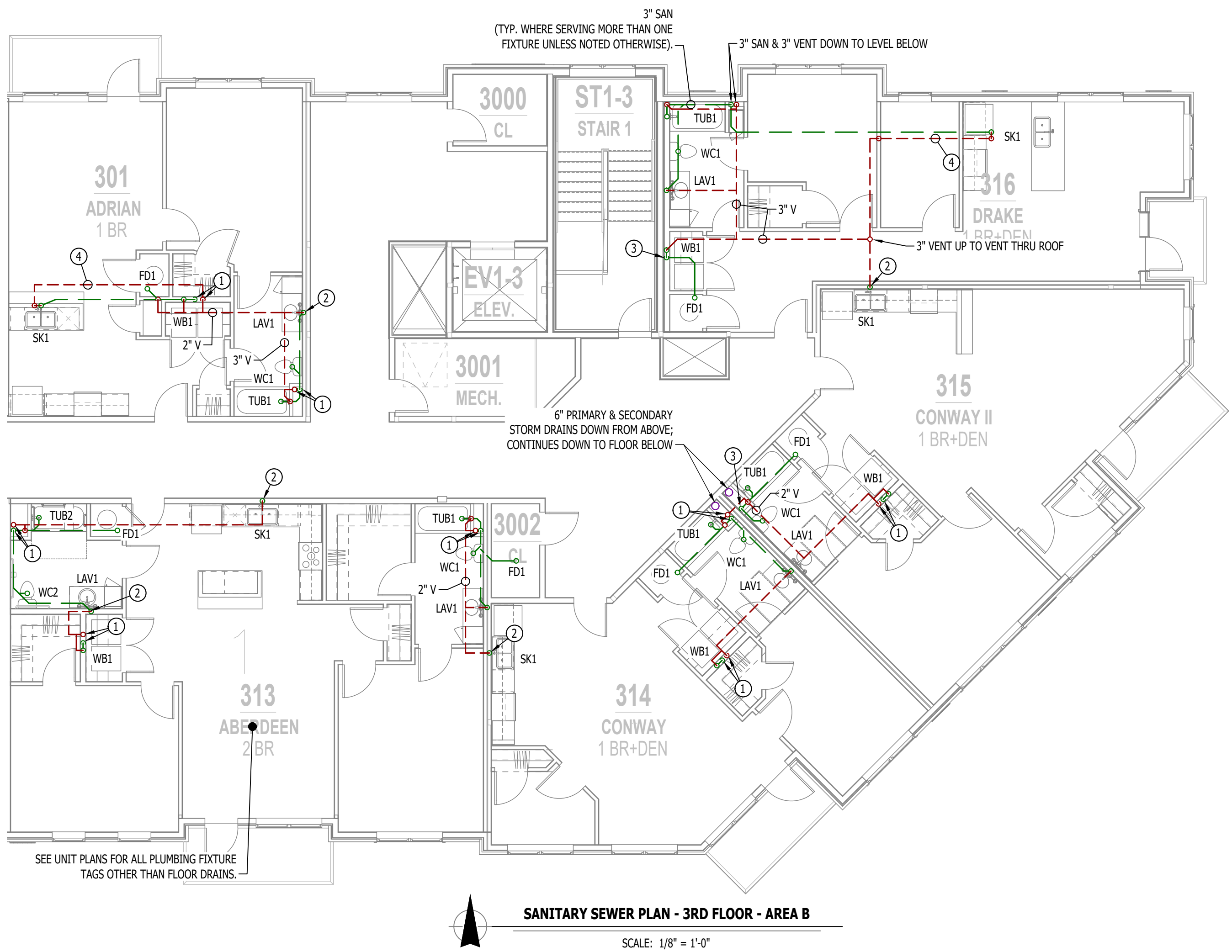
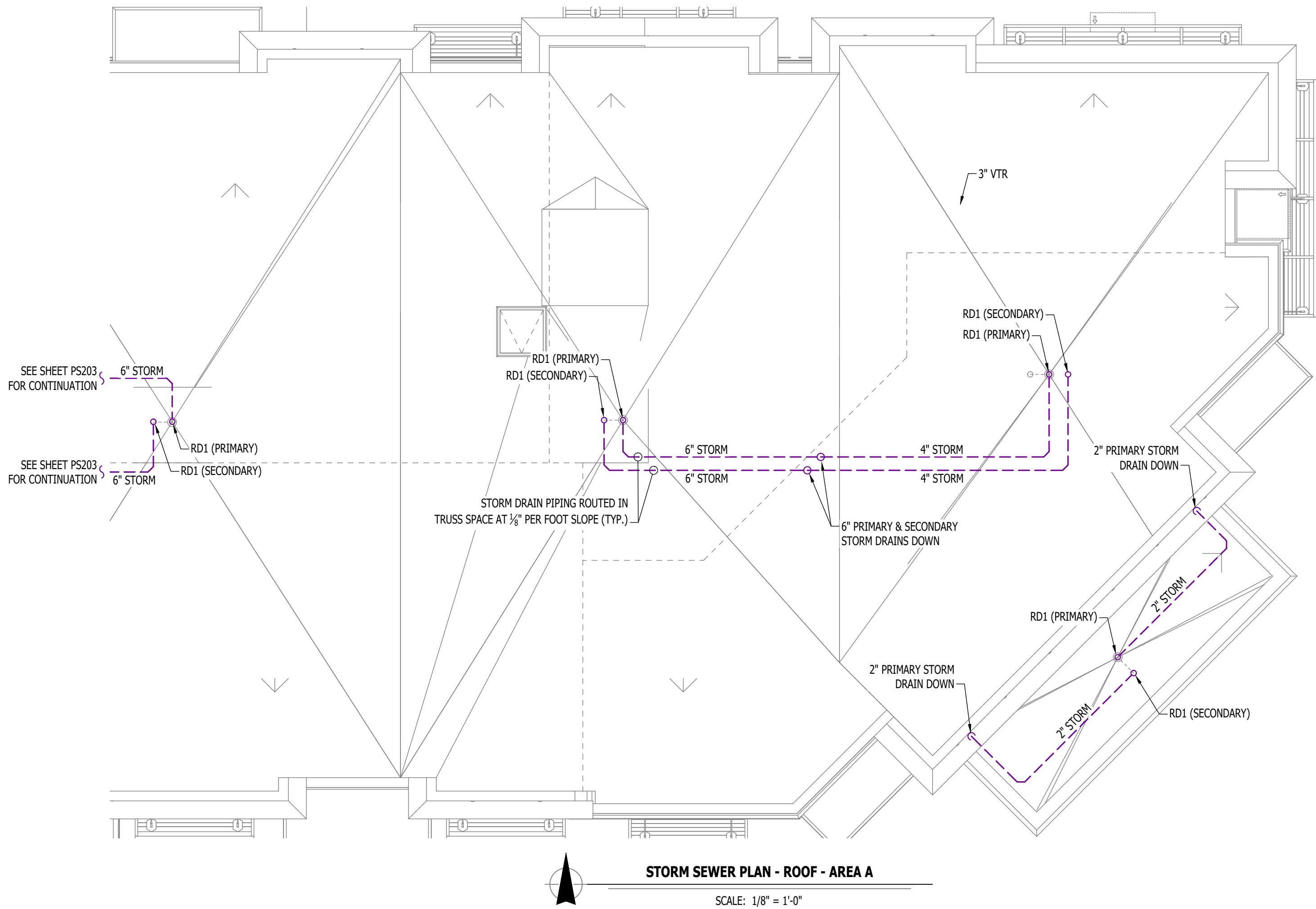
AHJ APPROVAL STAMP

SHEET TITLE

SANITARY SEWER PLAN
- 2ND FLOOR - AREA B

SHEET NUMBER

PS112



SANITARY SEWER PLAN SYMBOL LEGEND	
	SANITARY SEWER PIPING
	VENT PIPING
	PIPING TURNED DOWN / TURNED UP
	TIE INTO EXISTING
SANITARY SEWER PLAN GENERAL NOTES:	
1. SEE SHEET PS01 FOR ADDITIONAL PLUMBING NOTES, DETAILS, & SCHEDULES.	
SANITARY SEWER PLAN KEY NOTES:	
① 3" SANITARY DOWN TO LEVEL BELOW. 3" VENT UP FROM LEVEL BELOW; CONTINUES UP TO VENT THRU ROOF	
② 2" SAN (WASTE STACK) DOWN TO LEVEL BELOW	
③ 3" SAN (WASTE STACK) DOWN TO LEVEL BELOW	
④ 2" ISLAND VENT, PER IPC 916, ROUTED BELOW FLOOR.	

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MO Certificate of Authority # 2018029680

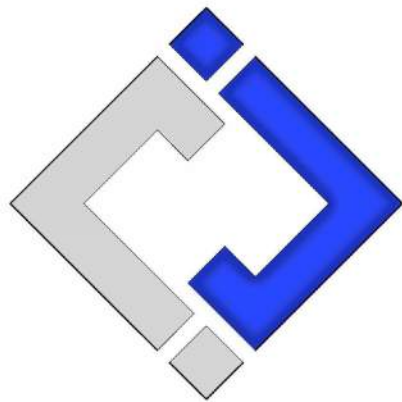
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J2 PROJECT No:	J21013
J2 DESIGN:	ACW
ISSUE TITLE	DATE
CITY SUBMITTAL	12 - 20 - 2024

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:
The Village at Discovery - Lot 10A
100 Northeast Alura Way
Lee's Summit, Jackson County, MO 64064

AHJ APPROVAL STAMP
SHEET TITLE
SANITARY SEWER PLAN - 3RD FLOOR - AREA B
SHEET NUMBER
PS113



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J2 PROJECT No: J221013

J2 DESIGN: ACW

ISSUE TITLE DATE

CITY SUBMITTAL 12 - 20 - 2024

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:
The Village at Discovery - Lot 10A

100 Northeast Alura Way
Lee's Summit, Jackson County, MO 64064

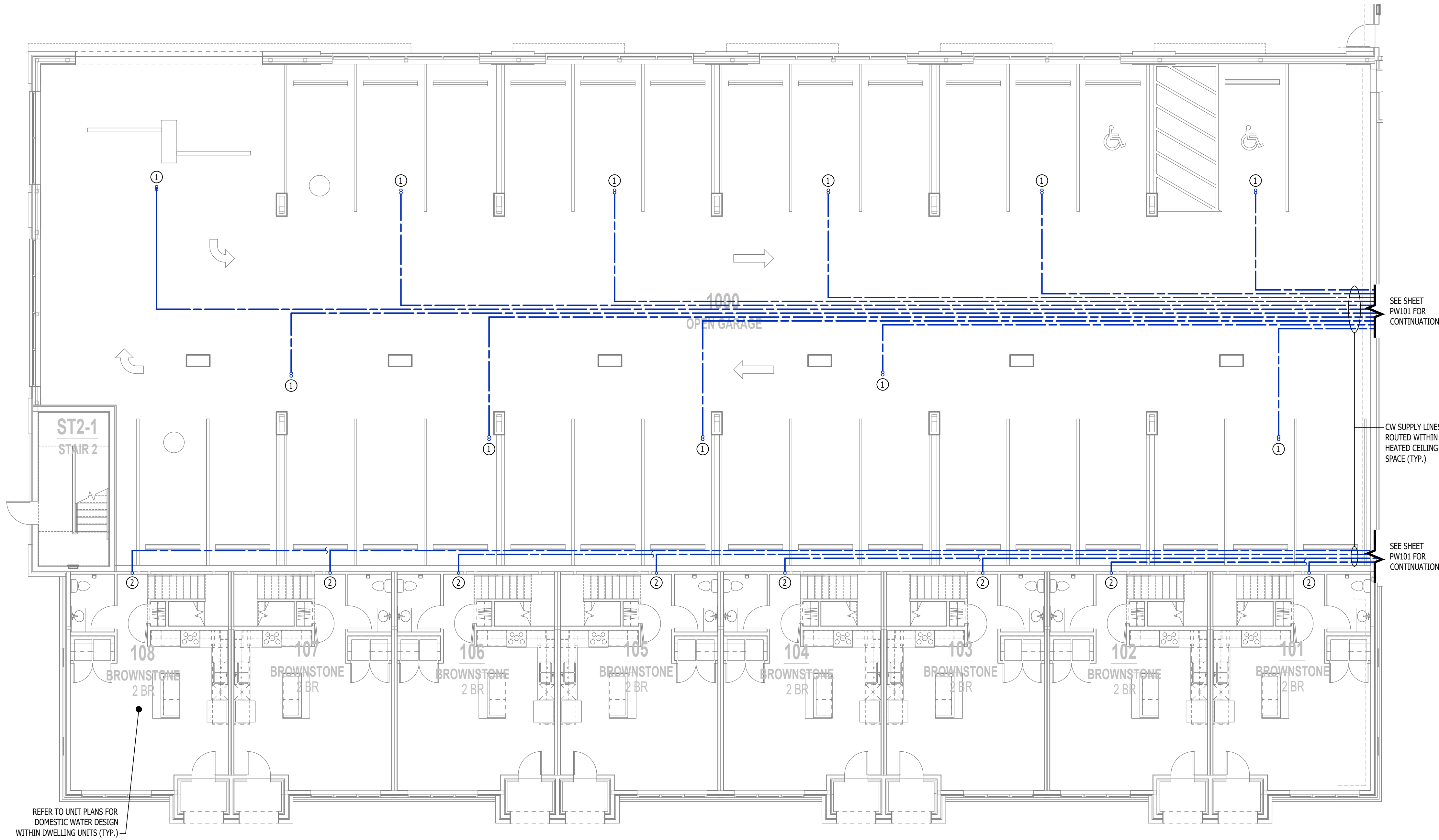
AHJ APPROVAL STAMP

SHEET TITLE

**WATER PLAN - 1ST
FLOOR - AREA A**

SHEET NUMBER

PW101



WATER PLAN SYMBOL LEGEND

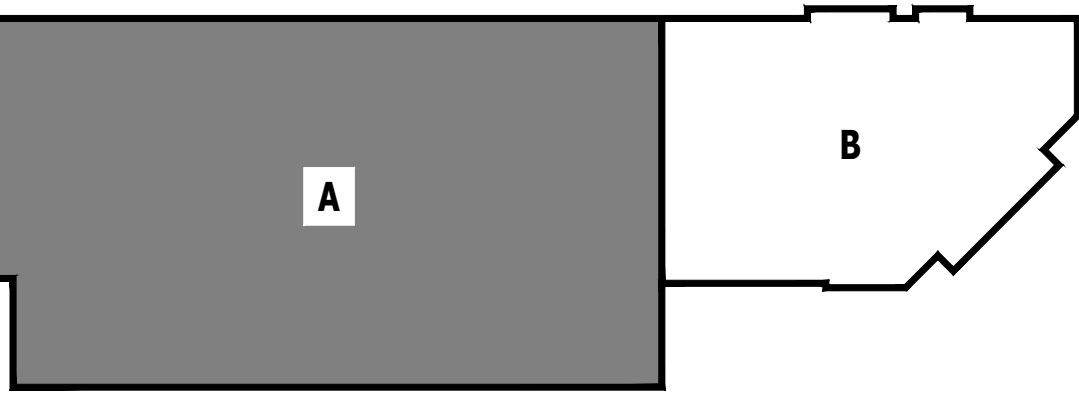
- COLD WATER LINE
- HOT WATER LINE
- HOT WATER RECIRCULATION LINE
- WATER METER
- VALVE
- PUMP
- GAS LINE
- GAS METER
- PIPING TURNED DOWN / TURNED UP
- TIE INTO EXISTING

WATER PLAN GENERAL NOTES:

- SEE SHEET PS01 FOR ADDITIONAL PLUMBING NOTES, DETAILS, & SCHEDULES.

WATER PLAN KEY NOTES:

- (2) 1" CW UP INTO WALL ON SECOND LEVEL FOR APARTMENTS (SEE SHEET PW202 FOR CONTINUATION)
- (1) 1" CW UP INTO MECHANICAL ROOM ON SECOND LEVEL FOR APARTMENTS (SEE SHEET PW202 FOR CONTINUATION)

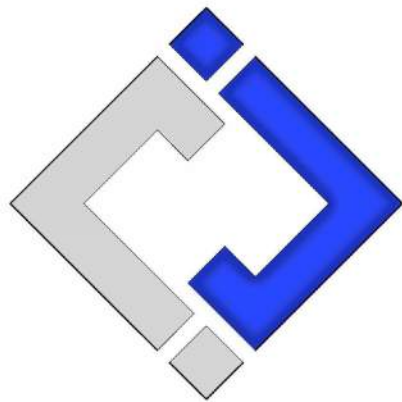


KEY PLAN

SCALE: NTS

WATER PLAN - 1ST FLOOR - AREA A

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



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J2 DESIGN:	ACW

ISSUE TITLE	DATE
CITY SUBMITTAL	12 - 20 - 2024

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:
The Village at Discovery - Lot 10A

100 Northeast Alura Way
Lee's Summit, Jackson County, MO 64064

AHJ APPROVAL STAMP

SHEET TITLE

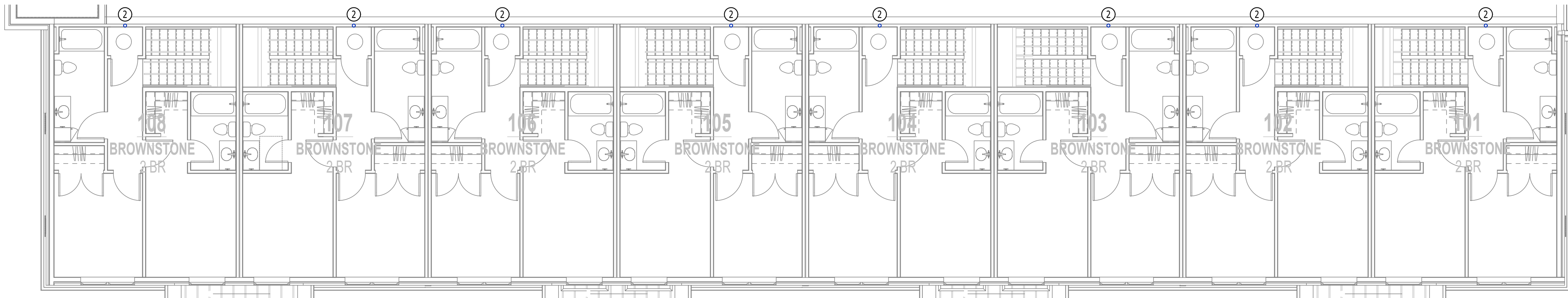
WATER PLAN - 2ND
FLOOR - AREA A

SHEET NUMBER

PW102



WATER PLAN - 2ND FLOOR - AREA A
SCALE: 1/8" = 1'-0"



WATER PLAN - 2ND FLOOR - BROWNSTONE
SCALE: 1/8" = 1'-0"

WATER PLAN SYMBOL LEGEND

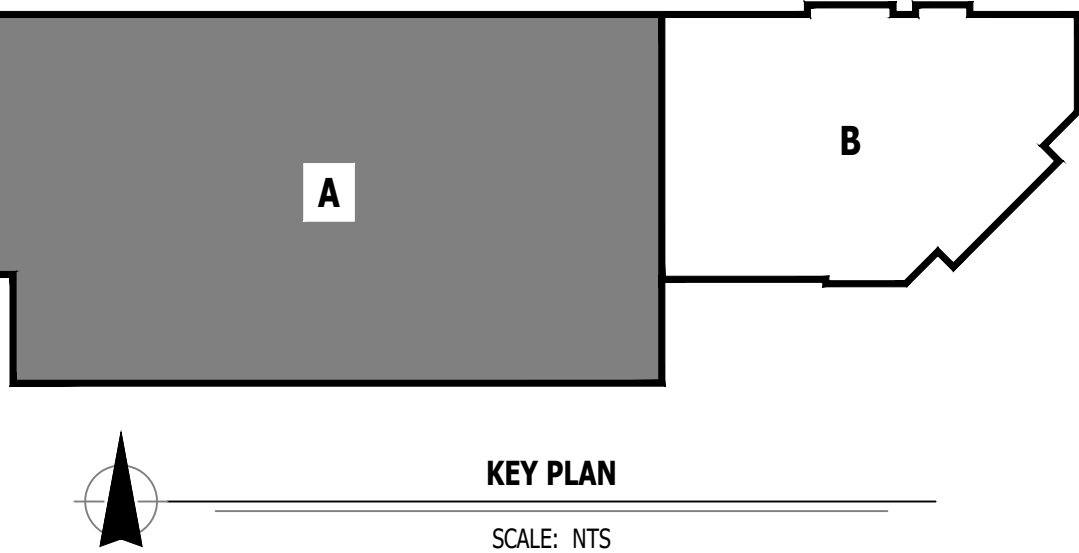
- COLD WATER LINE
- HOT WATER LINE
- HOT WATER RECIRCULATION LINE
- WATER METER
- VALVE
- PUMP
- GAS LINE
- GAS METER
- PIPING TURNED DOWN / TURNED UP
- TIE INTO EXISTING

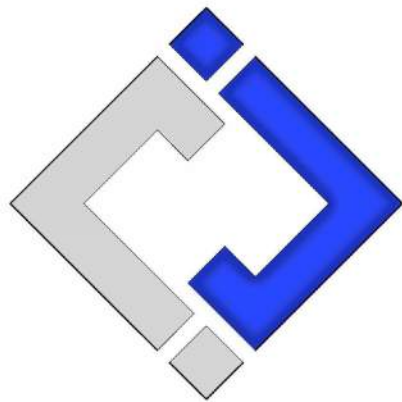
WATER PLAN GENERAL NOTES:

- SEE SHEET PS01 FOR ADDITIONAL PLUMBING NOTES, DETAILS, & SCHEDULES.

WATER PLAN KEY NOTES:

- (2) 1" CW UP INTO WALL FROM FIRST FLOOR
 - (1) 1" CW TO SERVE APARTMENT ON SECOND FLOOR
 - (1) 1" CW CONTINUES UP TO THIRD FLOOR (SEE SHEET PW103 FOR CONTINUATION).
- 1" CW UP INTO MECHANICAL CLOSET ON 2ND FLOOR TOWN HOME. SEE UNIT PLANS (UMEP SERIES SHEETS) FOR CONTINUATION.





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J2 PROJECT No:	J21013
J2 DESIGN:	ACW

ISSUE TITLE	DATE
CITY SUBMITTAL	12 - 20 - 2024

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:
The Village at Discovery - Lot 10A

100 Northeast Alura Way
Lee's Summit, Jackson County, MO 64064

AHJ APPROVAL STAMP

SHEET TITLE

**WATER PLAN - 3RD
FLOOR - AREA A**

SHEET NUMBER

PW103



WATER PLAN - 3RD FLOOR - AREA A
SCALE: 1/8" = 1'-0"

WATER PLAN SYMBOL LEGEND

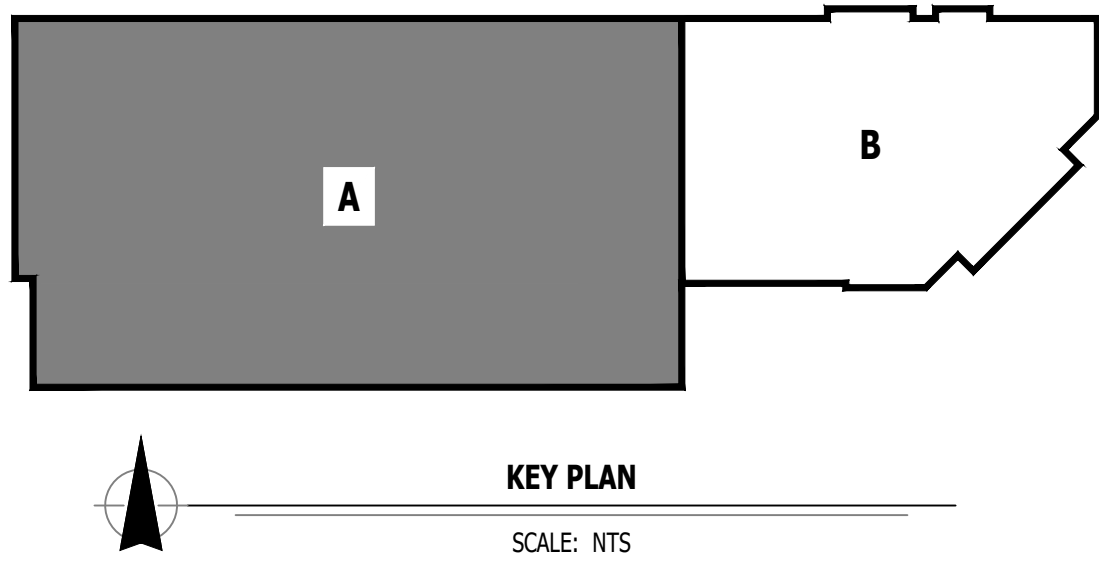
- COLD WATER LINE
- HOT WATER LINE
- HOT WATER RECIRCULATION LINE
- WATER METER
- VALVE
- PUMP
- GAS LINE
- GAS METER
- PIPING TURNED DOWN / TURNED UP
- TIE INTO EXISTING

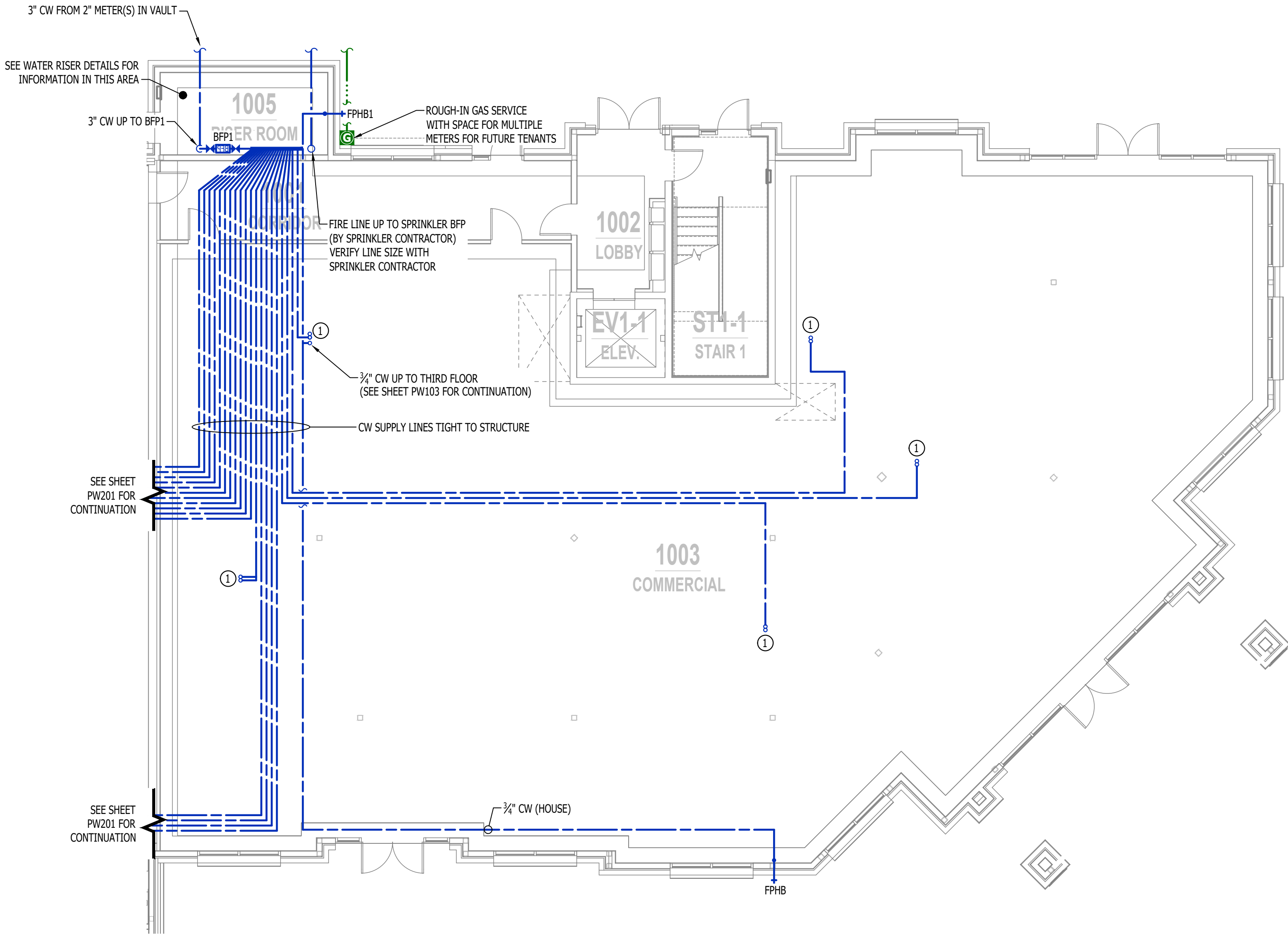
WATER PLAN GENERAL NOTES:

- SEE SHEET PS01 FOR ADDITIONAL PLUMBING NOTES, DETAILS, & SCHEDULES.

WATER PLAN KEY NOTES:

- (1) 1" CW UP FROM SECOND FLOOR TO SERVE APARTMENT ON THIRD FLOOR.
- (2) 3/4" CW UP TO ROOF HYDRANT 'RH1' ON ROOF (SEE SHEET MEP4)





WATER PLAN - 1ST FLOOR - AREA B
SCALE: 1/8" = 1'-0"

WATER PLAN SYMBOL LEGEND

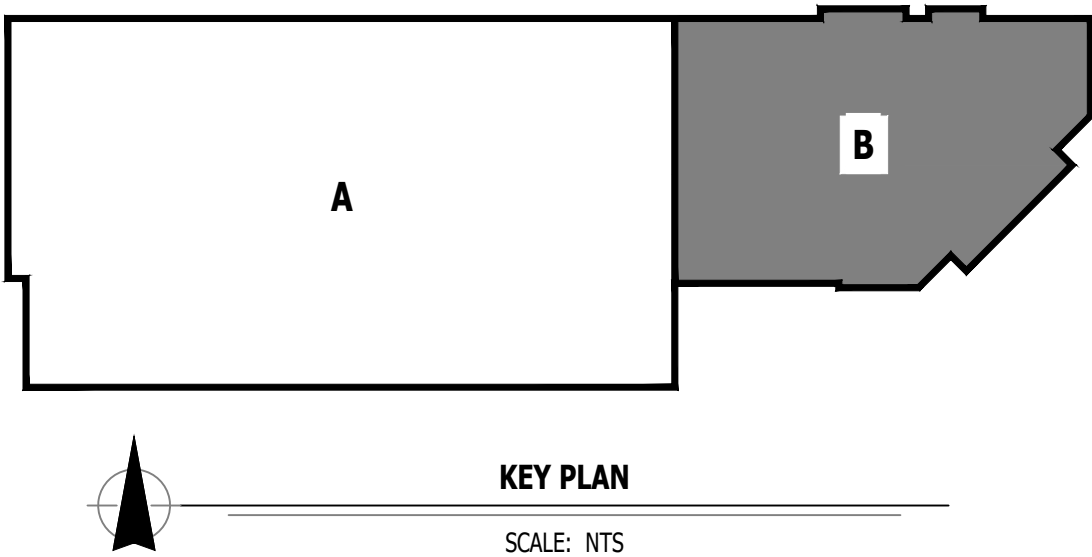
- COLD WATER LINE
- HOT WATER LINE
- HOT WATER RECIRCULATION LINE
- WATER METER
- VALVE
- PUMP
- GAS LINE
- GAS METER
- PIPING TURNED DOWN / TURNED UP
- TIE INTO EXISTING

WATER PLAN GENERAL NOTES:

- SEE SHEET P501 FOR ADDITIONAL PLUMBING NOTES, DETAILS, & SCHEDULES.

WATER PLAN KEY NOTES:

- (2) 1" CW UP INTO WALL ON SECOND LEVEL FOR APARTMENTS (SEE SHEET PW102 FOR CONTINUATION)



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As Noted on Plans Review

Professional Services Department
Columbia, Missouri
856-2425

JAMES P. WATSON
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James Watson, P.E.
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December 20, 2024

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J2 PROJECT No:	J221013
J2 DESIGN:	ACW
ISSUE TITLE	DATE
CITY SUBMITTAL	12 - 20 - 2024

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:
The Village at Discovery - Lot 10A
100 Northeast Alura Way
Lee's Summit, Jackson County, MO 64064

AHJ APPROVAL STAMP

SHEET TITLE

**WATER PLAN - 1ST
FLOOR - AREA B**

SHEET NUMBER

PW111

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



WATER PLAN - 2ND FLOOR - AREA B

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

WATER PLAN SYMBOL LEGEND

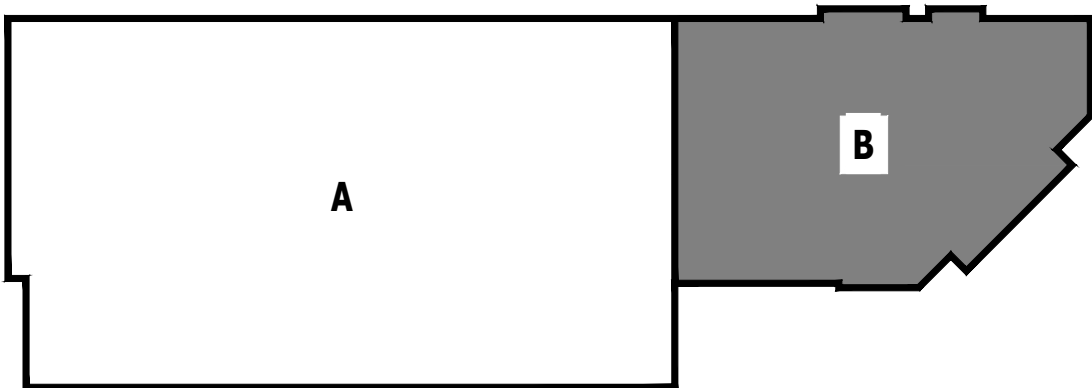
- COLD WATER LINE
- HOT WATER LINE
- HOT WATER RECIRCULATION LINE
- WATER METER
- VALVE
- PUMP
- GAS LINE
- GAS METER
- PIPING TURNED DOWN / TURNED UP
- TIE INTO EXISTING

WATER PLAN GENERAL NOTES:

- SEE SHEET P501 FOR ADDITIONAL PLUMBING NOTES, DETAILS, & SCHEDULES.

WATER PLAN KEY NOTES:

- (2) 1" CW UP INTO WALL FROM FIRST FLOOR
 - (1) 1" CW TO SERVE APARTMENT ON SECOND FLOOR
 - (1) 1" CW CONTINUES UP TO THIRD FLOOR (SEE SHEET PW103 FOR CONTINUATION).
- (1) 3/4" HOUSE CW LINE UP TO ROOF HYDRANT.



KEY PLAN

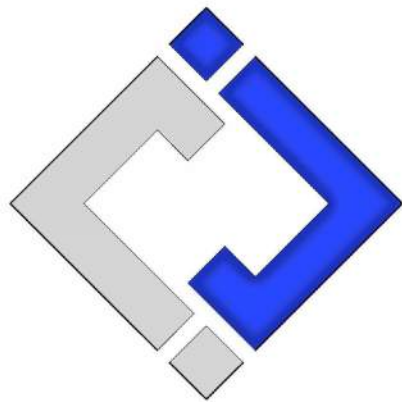
SCALE: NTS

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ISSUE TITLE	DATE
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MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:
The Village at Discovery - Lot 10A

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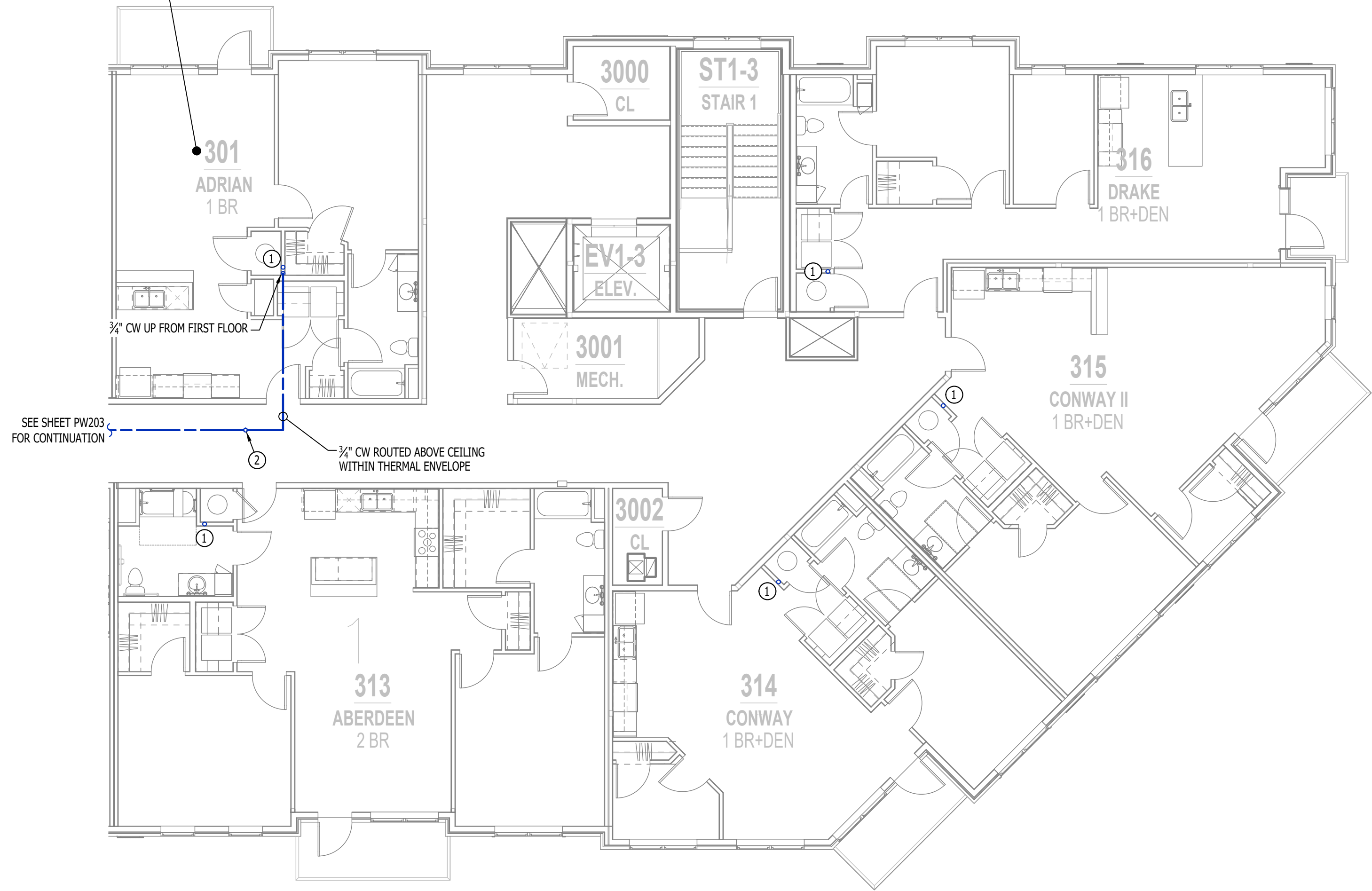
SHEET TITLE

WATER PLAN - 2ND
FLOOR - AREA B

SHEET NUMBER

PW112

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



WATER PLAN - 3RD FLOOR - AREA B

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

WATER PLAN SYMBOL LEGEND

- COLD WATER LINE
- HOT WATER LINE
- HOT WATER RECIRCULATION LINE
- WATER METER
- VALVE
- PUMP
- GAS LINE
- GAS METER
- PIPING TURNED DOWN / TURNED UP
- TIE INTO EXISTING

WATER PLAN GENERAL NOTES:

- SEE SHEET P501 FOR ADDITIONAL PLUMBING NOTES, DETAILS, & SCHEDULES.

WATER PLAN KEY NOTES:

- (1) 1" CW UP FROM SECOND FLOOR TO SERVE APARTMENT ON THIRD FLOOR.
- (2) 3/4" CW UP TO ROOF HYDRANT 'RH1' ON ROOF (SEE SHEET MEP4)



KEY PLAN

SCALE: NTS

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Professional Services Department
Columbia, Missouri
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JAMES P. WATSON
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PROFESSIONAL ENGINEER

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J2 PROJECT No:	J21013
J2 DESIGN:	ACW
ISSUE TITLE	DATE
CITY SUBMITTAL	12 - 20 - 2024

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:
The Village at Discovery - Lot 10A

100 Northeast Alura Way
Lee's Summit, Jackson County, MO 64064

AHJ APPROVAL STAMP

SHEET TITLE

WATER PLAN - 3RD
FLOOR - AREA B

SHEET NUMBER

PW113

PLUMBING SPECIFICATIONS

1.

GENERAL
- 1.1.

PLUMBING CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL ESCUTCHEONS, ¼ TURN STOPS, P-TRAPS, AND SUPPLY LINES TO PROVIDE A COMPLETE SYSTEM AT EACH FIXTURE INDICATED ON PLANS UNLESS NOTED OTHERWISE.
- 1.2.

ALL PLUMBING SYSTEMS SHALL BE INSTALLED LEVEL, PLUMB, AND PARALLEL/PERPENDICULAR TO BUILDING ORIENTATION WHERE POSSIBLE.
- 1.3.

COORDINATE ALL PIPING INSTALLATIONS WITH STRUCTURAL GRADE BEAMS, FOOTINGS, COLUMN PIERS, ETC. SLEEVE PIPING THRU STRUCTURAL ELEMENTS AS NECESSARY, VERIFY WITH STRUCTURAL ENGINEER.
- 1.4.

VERIFY ALL UTILITY CONNECTION POINTS WITH PROPOSED PLUMBING LAYOUTS PRIOR TO BEGINNING WORK.
- 1.5.

CLEAN ALL PLUMBING FIXTURES AND CHANGE FAUCET AERATORS AND SINK STRAINERS AT PROJECT COMPLETION PRIOR TO TURNING OVER TO OWNERSHIP.
2.

EQUIPMENT / FIXTURES
- 2.1.

ALL EQUIPMENT AND/OR FIXTURES MUST MEET OR EXCEED THE PERFORMANCE, FUNCTIONAL INTENT, AND AESTHETICS AS MODELS SPECIFIED ON PLANS. WHERE SPECIFIC MANUFACTURERS AND/OR MODELS ARE INDICATED ON PLANS OR WITHIN SCHEDULES, CONTRACTOR TO PROVIDE MODEL INDICATED OR APPROVED EQUAL. VERIFY SUBSTITUTION APPROVAL PRIOR TO PURCHASE OR INSTALLATION OF EQUIPMENT.
- 2.2.

CONTRACTOR TO SUPPLY SUBMITTALS FOR ALL EQUIPMENT FOR REVIEW BY ARCHITECT AND ENGINEER. FORMAL APPROVAL SHALL BE RECEIVED BY CONTRACTOR PRIOR TO EQUIPMENT PURCHASE.
- 2.3.

CONTRACTOR TO SHARE APPROVED EQUIPMENT SUBMITTALS WITH ANY PERTINENT ELECTRICAL REQUIREMENTS WITH ELECTRICAL CONTRACTORS WITHIN TWO WEEKS OF RECEIVING APPROVED SUBMITTALS FROM ARCHITECT/ENGINEER.
3.

SANITARY
- 3.1.

BELOW AND ABOVE GRADE WASTE AND VENT PIPING IN BUILDING TO BE SOLID CORE SCHEDULE 40 PVC LISTED FOR DWV APPLICATIONS.
- 3.2.

NO WASTE OR VENT PIPING INSTALLED BELOW GRADE SHALL BE SMALLER THAN 2".
- 3.3.

MINIMUM SLOPES FOR WASTE PIPING (UNLESS NOTED OTHERWISE ON PLANS):
- 3.3.1.

2 ½" OR LESS DIAMETER: ¼" PER FOOT
- 3.3.2.

3" TO 6" DIAMETER: ⅛" PER FOOT
- 3.3.3.

8" OR LARGER DIAMETER: ⅙" PER FOOT
- 3.4.

ACCESSIBLE FULL PIPE SIZE CLEANOUTS SHALL BE PROVIDED & INSTALLED ON BUILDING SANITARY LINES AT LOCATIONS SHOWN ON PLANS, AT INTERVALS OF NO MORE THAN 100', AT EVERY CHANGE IN DIRECTION GREATER THAN 45°, AND AT THE BASE OF EACH WASTE STACK.
- 3.5.

WASTE AND VENT PIPING IN PLENUMS SHALL BE CAST IRON, PLENUM-RATED CPVC, OR PVC WITH AN INSULATION WRAP LISTED FOR USE AS SUCH AN ASSEMBLY.
- 3.6.

ALL VENT PIPE TERMINATIONS SHALL BE LOCATED EITHER 10' HORIZONTALLY OR 3' ABOVE MECHANICAL AIR INTAKE LOCATIONS. TERMINATIONS SHALL NOT BE INSTALLED UNDER ANY OPERABLE BUILDING OPENING OR OPERABLE ADJACENT BUILDING OPENING. CONTRACTOR TO OFFSET VENT PIPING AS NECESSARY TO MEET THESE REQUIREMENTS.
4.

DOMESTIC WATER
- 4.1.

ALL DOMESTIC WATER PIPING TO BE EITHER COPPER OR PEX, SHALL CONFORM TO NSF 61 AND BE LISTED FOR USE IN POTABLE WATER SYSTEMS.
- 4.1.1.

WHERE PEX PIPING IS USED, IT SHALL BE INCREASED ONE PIPE SIZE FROM WHAT IS INDICATED ON PLANS FOR ALL PORTIONS OF DISTRIBUTION SYSTEM.
- 4.1.2.

PEX-A MAY BE INSTALLED AT SIZES INDICATED ON PLANS ONLY IF AN ENGINEERED PLAN IS SUBMITTED SHOWING ACCEPTABLE PRESSURE DROPS AND FLUID VELOCITIES, APPROVAL MUST BE GRANTED PRIOR TO PURCHASE AND INSTALLATION.
- 4.1.3.

COPPER WATER PIPING BELOW GRADE SHALL BE TYPE "K". BELOW GRADE JOINTS SHALL BE SILVER SOLDERED. THERE SHALL BE NO JOINTS IN WATER PIPING LOCATED BENEATH BUILDING SLAB.
- 4.1.4.

COPPER WATER PIPING ABOVE GRADE SHALL BE TYPE "L".
- 4.2.

PROVIDE WATER HAMMER ARRESTORS AT ALL QUICK-CLOSE VALVES, FIXTURES REQUIRING WATER HAMMER ARRESTORS INCLUDE BUT ARE NOT LIMITED TO FLUSH VALVES, SENSOR FAUCETS, AND WASHING MACHINE BOXES. AIR CHAMBERS SHALL NOT BE PERMITTED.
- 4.3.

ALL DOMESTIC WATER PIPING SHALL BE ROUTED WITHIN BUILDING THERMAL ENVELOPE AND WITHIN WALL CAVITIES, ABOVE FINISHED CEILINGS, OR BELOW SLAB TO REMAIN CONCEALED UNLESS OTHERWISE NOTED. NOTIFY ENGINEER OF ANY NECESSARY ADJUSTMENTS THAT REQUIRE PIPING TO BE EXPOSED.
- 4.4.

DOMESTIC WATER PIPING INSULATION
- 4.4.1.

ALL HW PIPING, WHETHER COPPER OR PEX, SHALL BE INSULATED WITH PLENUM RATED CLOSED CELL ELASTOMERIC INSULATION.
- 4.4.1.1.

FOR PIPING LESS THAN 1½", INSULATION THICKNESS TO BE 1".
- 4.4.1.2.

FOR PIPING 1½" OR GREATER, INSULATION THICKNESS SHALL BE 1½".
- 4.4.2.

CW COPPER PIPING TO INSULATED WITH ½" PLENUM RATED CLOSED CELL ELASTOMERIC INSULATION. CW PEX NEED NOT BE INSULATED UNLESS NOTED OTHERWISE ON PLANS.
5.

GAS PIPING
- 5.1.

GAS PIPING SHALL BE INSTALLED LEVEL, PLUMB, AND PARALLEL OR PERPENDICULAR TO BUILDING ORIENTATION WHERE POSSIBLE.
- 5.2.

QUARTER-TURN FULL-PORT SHUTOFF VALVES SHALL BE INCLUDED AT EACH APPLIANCE CONNECTION, AS WELL AS AN IN-LINE REGULATOR FROM DELIVERY PRESSURE TO APPLIANCE OPERATING PRESSURE IF REQUIRED. INCLUDE SEDIMENT TRAPS PER IFGC REQUIREMENTS.
- 5.1.

NATURAL GAS AND LIQUID PROPANE (LP) PIPING TO SHALL BE SCHEDULE 40 BLACK STEEL.
- 5.2.

PIPE JOINTS SHALL BE THREADED WITH CLASS 150 FITTINGS, OR WELDED. NOTIFY OWNER/GC OF ANY NECESSARY HOT-WORK ASSOCIATED WITH WELDED CONNECTIONS.
- 5.3.

WHERE PIPING IS EXPOSED ON EXTERIOR FACE OF BUILDING, PAINT TO MATCH BUILDING. PAINT YELLOW IN ALL OTHER LOCATIONS.
- 5.4.

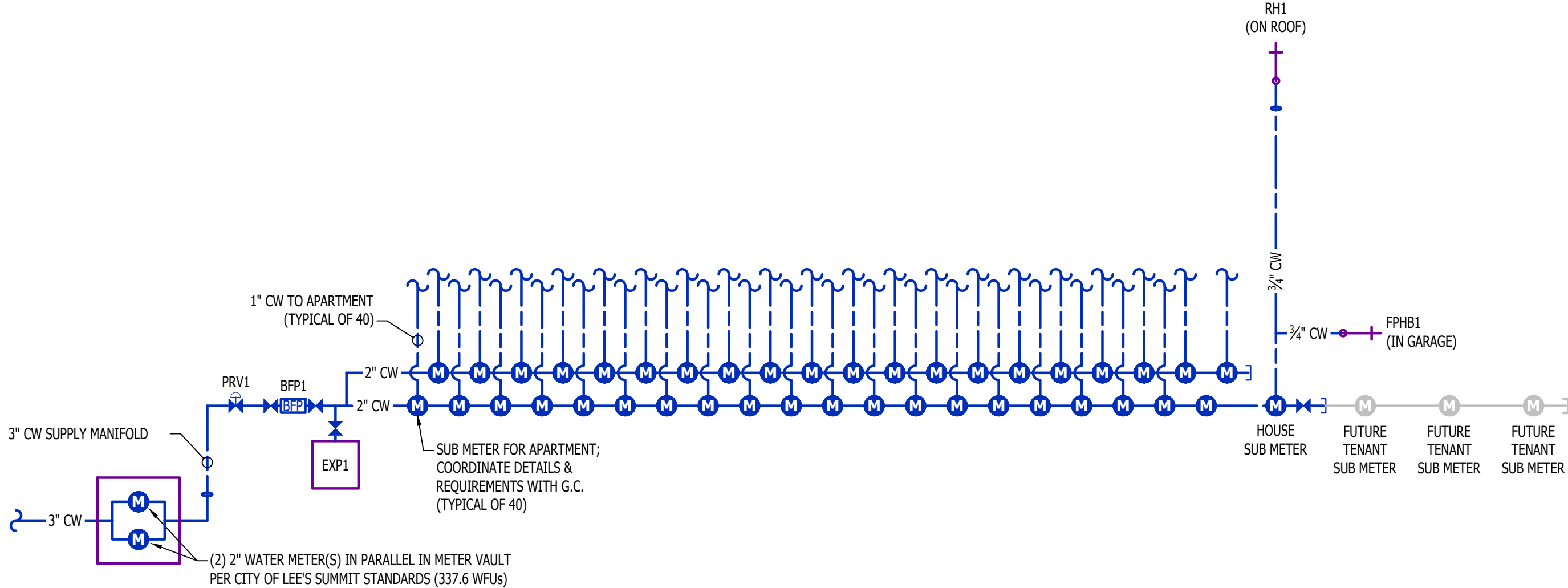
ON ROOFTOPS, INSTALL GAS PIPE WITH "ROOFTOP BLOX" PER MANUFACTURER'S INSTRUCTION.
6.

STORM DRAIN PIPING
- 6.1.

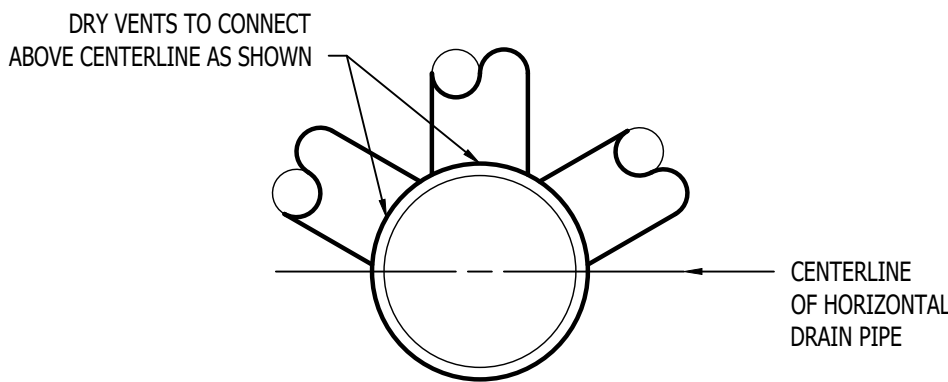
ABOVE AND BELOW GRADE STORM PIPING SHALL BE SOLID CORE SCHEDULE 40 PVC.
- 6.2.

ALL PRIMARY & SECONDARY STORM DRAIN PIPING & FITTINGS SHALL BE INSULATED WITH ½" FIBERGLASS INSULATION WITH ASJ JACKET.
- 6.3.

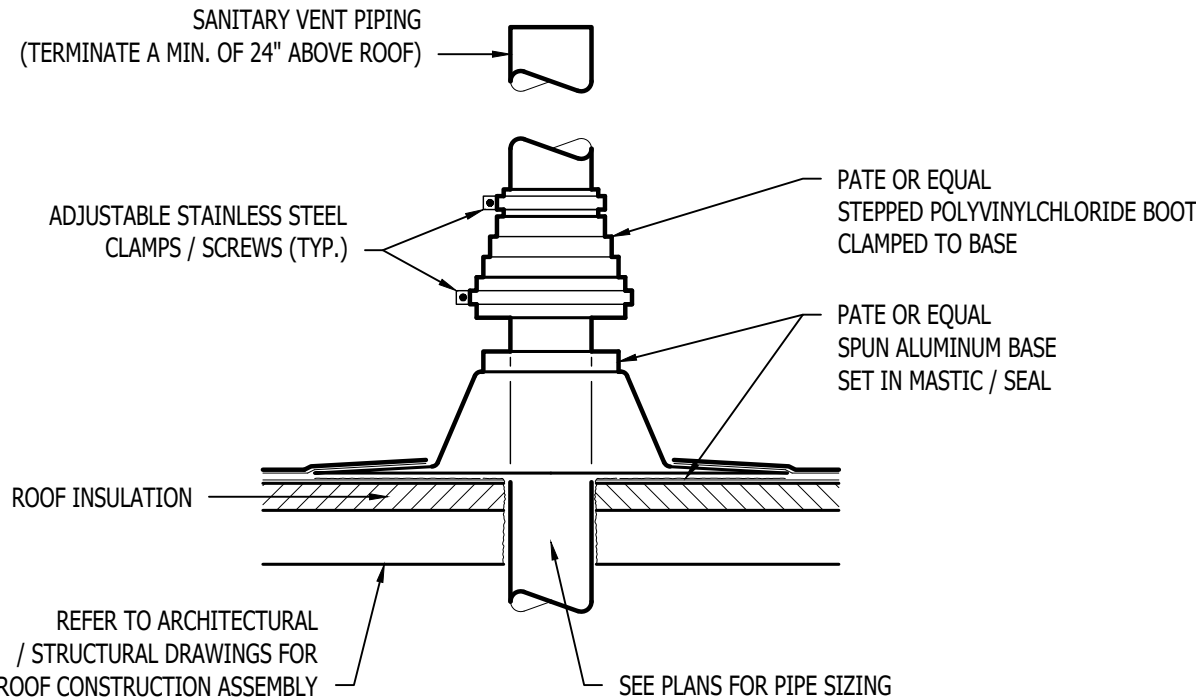
STORM DRAIN PIPING IN PLENUMS SHALL BE CAST IRON, PLENUM-RATED CPVC, OR PVC WITH AN INSULATION WRAP LISTED FOR USE AS SUCH AN ASSEMBLY.



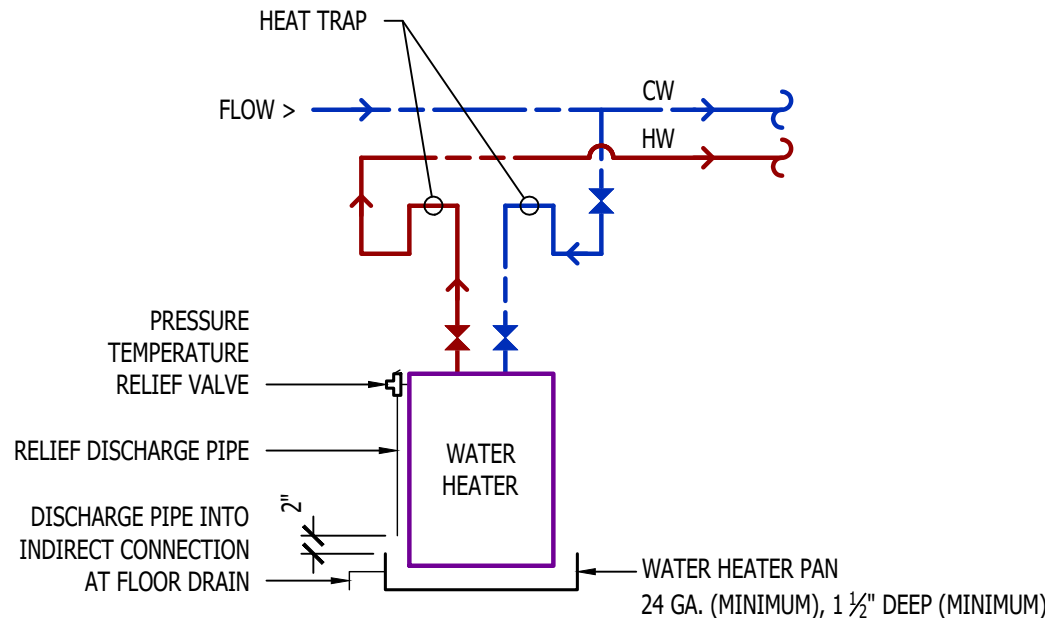
WATER RISER



DRY VENT DETAIL



SANITARY VENT THRU ROOF DETAIL



WATER HEATER DETAIL

PLUMBING FIXTURE SCHEDULE

TAG	DESCRIPTION	MANUFACTURER (OR EQUAL)	MODEL (OR EQUAL)	NOTES
AAV1	AIR ADMITTANCE VALVE	OATEY	39020	1.5" - 6 DFJ MAX
BFP1	BACKFLOW PREVENTER	WILKINS	975XL2	RPZ - 2.5"
DN1	DOWNSPOUT NOZZLE	ZURN	Z199	
EXP1	EXPANSION TANK	WATT'S	DETA-100	
FCO1	FLOOR CLEAN OUT	ZURN	Z1400	
FD1	FLOOR DRAIN	ZURN	Z415-BZ	WITH Z1072 TRAP SEAL
FPHB1	FROST PROOF HOSE BIB	WOODFORD	MODEL 67	
FS1	FLOOR SINK	ZURN	FD2370	
LAV1	LAVATORY - INTEGRAL BOWL	-	-	WITH PFISTER #G142-8000 CHROME FAUCET
PRV1	PRESSURE REDUCING VALVE	ZURN	600XL	3" INLET / 3" OUTLET
RD1	ROOF DRAIN	ZURN	Z100	
REF1	REFRIGERATOR BOX	SIOUX CHIEF	696-G1000	
RH1	ROOF HYDRANT	WOODFORD	SRH-MS	
SK1	KITCHEN SINK	DAYTON	DSESR12722	WITH PFISTER #F-529-CRS FAUCET,ISE DISPOSAL #BADGER-1 & STS-00 AIR SWITCH
SP1	SUMP PUMP	ZOELLER	153-0002	120V, 1/2 HP
TUB1	TUB / SHOWER	AQUARIS	G6030TS	WITH PFISTER R89-0300 SHOWER TRIM KIT
TUB2	ADA TUB / SHOWER	AQUATIC	2603SMTE	WITH GRAB BARS & ADA HANDHELD SHOWER ASSEMBLY
WB1	WASHER BOX	SIOUX CHIEF	696-G2303	
WC1	WATER CLOSET - STANDARD HEIGHT - TANK	AMERICAN STANDARD	215CA.004	WITH CHURCH 7200SLEC SEAT AND COVER, STAINLESS BRAIDED SUPPLY, AND 1/4 TURN SHUT-OFF.
WC2	WATER CLOSET - ADA HEIGHT - TANK	AMERICAN STANDARD	215AA.004	WITH CHURCH 7200SLEC SEAT AND COVER, STAINLESS BRAIDED SUPPLY, AND 1/4 TURN SHUT-OFF.
WH1	WATER HEATER - ELECTRIC - LOWBOY	AO SMITH	ECLB-40	38 GALLON, 208V 1PH, 4500W; WITH 'EXP1'
YCO1	YARD CLEAN OUT	ZURN	Z1400	
NOTES:				
1. VERIFY NECESSARY FIXTURES MEET ADA REQUIREMENTS WITH ARCHITECT PRIOR TO INSTALLATION				

PLUMBING CONNECTION SIZING SCHEDULE

FIXTURE	TYPICAL ABBREVIATION	SANITARY PIPING		SUPPLY PIPING	
		WASTE CONNECTION	VENT CONNECTION	COLD WATER CONNECTION	HOT WATER CONNECTION
DRINKING FOUNTAIN	DF	1-1/2"	1-1/4"	1/2"	-
FLOOR DRAIN	FD	3"	2"	-	-
HAND / HAIR SINK	HS / SK	2"	1-1/4"	1/2"	1/2"
HOSE BIBB	HB	-	-	3/4"	-
LAVATORY	LAV	1-1/2"	1-1/4"	1/2"	1/2"
MOP SINK	MS	3"	1-1/2"	1/2"	1/2"
ICE MAKER OUTLET BOX	REF	-	-	1/2"	-
SHOWER	SH	3"	1-1/2"	1/2"	1/2"
URINAL	UR	2"	1-1/4"	3/4"	-
WATER CLOSET (FLUSH TANK)	WC	3"	2"	1/2"	-
WATER CLOSET (FLUSH VALVE)	WC	3"	2"	1"	-
NOTES:					
1. SIZES SHOWN ABOVE ARE TYPICAL UNLESS NOTED OTHERWISE ON PLANS					

RELEASED FOR CONSTRUCTION
As Noted on Plans Review

Development Services Department
Columbia, Missouri
PE-2015017071
MO Certificate of Authority # 2018029680

JAMES P. WATSON
PROFESSIONAL ENGINEER
NUMBER PE-2015017071

James Watson, P.E. December 20, 2024
PE-2015017071
MO Certificate of Authority # 2018029680

J-SQUARED ENGINEERING

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J2 PROJECT No:	J21013
J2 DESIGN:	ACW
ISSUE TITLE DATE	
CITY SUBMITTAL	12 - 20 - 2024

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:
The Village at Discovery - Lot 10A

100 Northeast Alura Way
Lee's Summit, Jackson County, MO 64064

AHJ APPROVAL STAMP

SHEET TITLE

PLUMBING DETAILS & SCHEDULES

SHEET NUMBER

P501

HVAC PLAN SYMBOL LEGEND

- X

#

← EQUIPMENT TYPE (REFER TO EQUIPMENT SCHEDULE)
- ← EQUIPMENT REFERENCE NUMBER
- X

#
- ← DIFFUSER/GRILLE TYPE (REFER TO SCHEDULE)

← CUBIC FEET PER MINUTE (CFM) / FACE SIZE

— SUPPLY DUCTWORK

--- RETURN DUCTWORK

--- EXHAUST DUCTWORK

~~~~ FLEX DUCT

⊠

 SUPPLY DIFFUSER (HATCH INDICATES "NO FLOW ZONE")

⊠

 RETURN DIFFUSER

— BALANCE DAMPER

⊠

 MOTORIZED DAMPER

⊠

 CEILING RADIATION DAMPER

⊠

 BACK DRAFT DAMPER

⊠

 THERMOSTAT

HVAC PLAN GENERAL NOTES:

1. SEE M500 & M600 SERIES SHEETS FOR HVAC SCHEDULES, DETAILS, REQUIREMENTS, ETC.
2. SEE SHEET MEP4 FOR CONDENSING UNIT LOCATIONS. REFRIGERANT PIPING SHALL ROUTE IN SPACES ABOVE FINISHED CEILINGS AND WITHIN WALL CAVITIES TO REMAIN CONCEALED.
3. SUPPLY DUCTWORK FROM AHU AT FLOOR/CEILING PENETRATION SHALL BE PROTECTED BY A FIRE DAMPER. INSTALL PER MANUFACTURER'S SPECIFICATIONS.
4. WRAP ALL DRYER DUCTS WITH FIREMASTER (OR EQUAL) DUCT WRAP.
5. TOTAL DEVELOPED LENGTH OF EXHAUST DUCT SHALL BE INDICATED ON A PERMANENT LABEL WITHIN 6' OF DRYER VENT CONNECTION. DRYER DUCT ROUTING SHOWN IS FOR REFERENCE ONLY. OVERALL DUCT LENGTH SHALL BE CALCULATED BY HVAC CONTRACTOR PER 2018 IMC 504.8.4.
6. LOCATE ALL EXHAUST / DRYER VENT TERMINATIONS AT LEAST 36" FROM OPERABLE OPENINGS INTO APARTMENTS (WINDOWS, DOORS, ETC.).
7. ALL DUCTWORK SHOWN SHALL ROUTE IN SPACE BETWEEN / THRU TRUSSES UNLESS NOTED OTHERWISE. SEE STRUCTURAL DRAWINGS FOR DETAILS.

HVAC PLAN KEY NOTES:

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

POWER PLAN SYMBOL LEGEND

- CIRCUIT WIRING
- PK-XX CIRCUIT TAG
- ⊠

 JUNCTION BOX
- ⊠

 RECEPTACLE
- XX-142 INDICATES MOUNTING HEIGHT TO BOTTOM OF BOX (STANDARD @ 18" AFF UNLESS NOTED OTHERWISE)
- "WP" = WEATHERPROOF OUTDOOR RECEPTACLE
- ⊠

 GFCI DUPLEX CONVENIENCE RECEPTACLE
- ⊠

 208V RECEPTACLE
- ⊠

 QUADPLEX CONVENIENCE RECEPTACLE
- ▽

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

 DISCONNECT
- ⊠

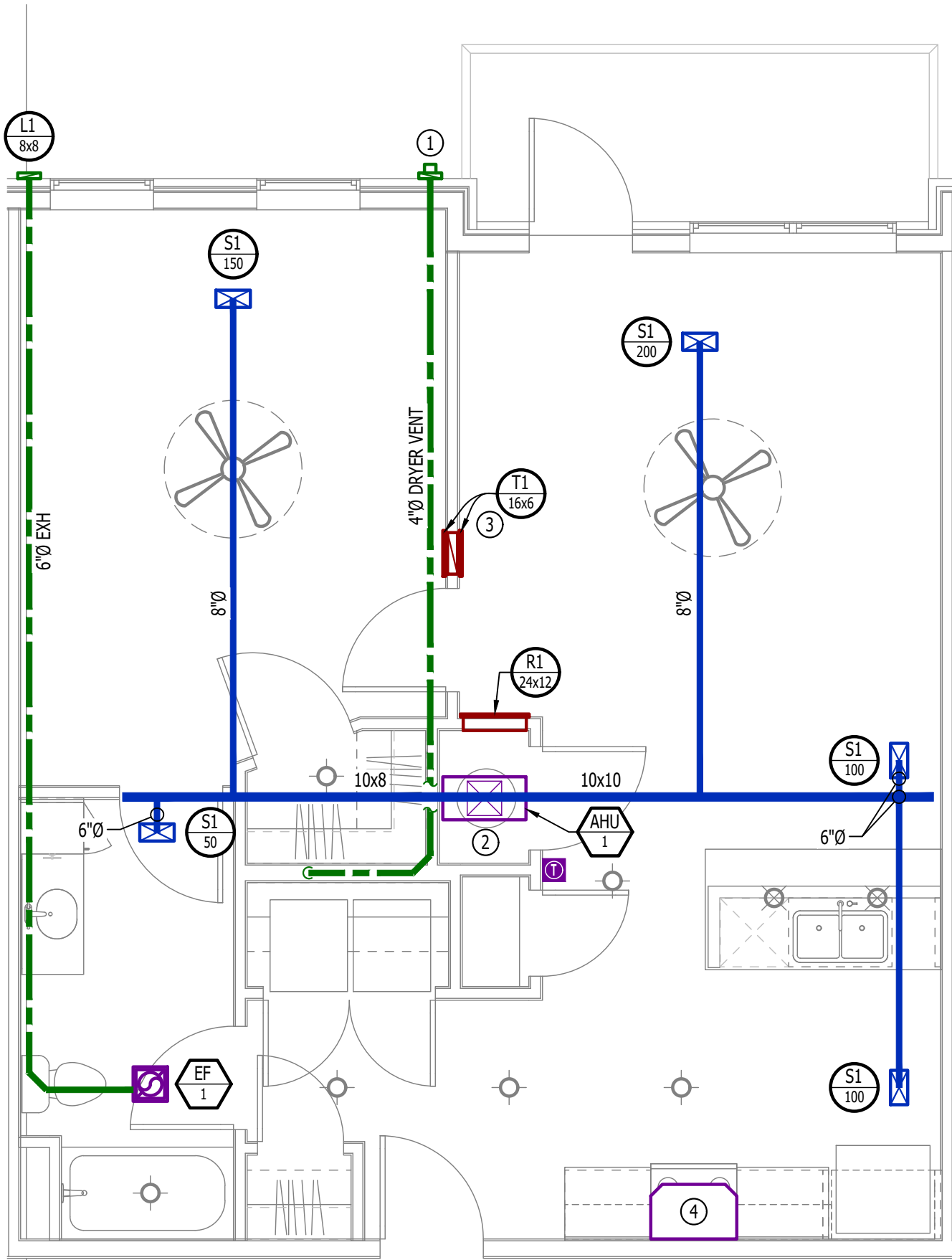
 120V IONIZATION SMOKE 520Hz LOW FREQUENCY ALARM WITH SILENCING CAPABILITIES & LOW-VOLTAGE CONTACTS WIRED TO SHUT DOWN AHU UPON FIRE DETECTION. COORDINATE WITH HVAC CONTRACTOR. SMOKE DETECTOR MUST BE LOCATED AT LEAST 3' FROM CEILING FAN BLADES AND AT LEAST 10' FROM ANY COOKING APPLIANCE (FIELD-COORDINATE)

POWER PLAN GENERAL NOTES:

1. SEE E500 & E600 SERIES SHEETS FOR POWER SCHEDULES, DETAILS, REQUIREMENTS, ETC.
2. SEE SHEET MEP3 FOR CONDENSING UNIT LOCATIONS.
3. VERIFY EACH DATA/RECEPTACLE LOCATION WITH OWNER PRIOR TO INSTALLATION.
4. REFER TO "TYPICAL ADA MOUNTING HEIGHTS DETAIL", E500 & E600 SERIES SHEETS, OR MOUNTING HEIGHTS OF DEVICES IN "ANSI A" UNITS.

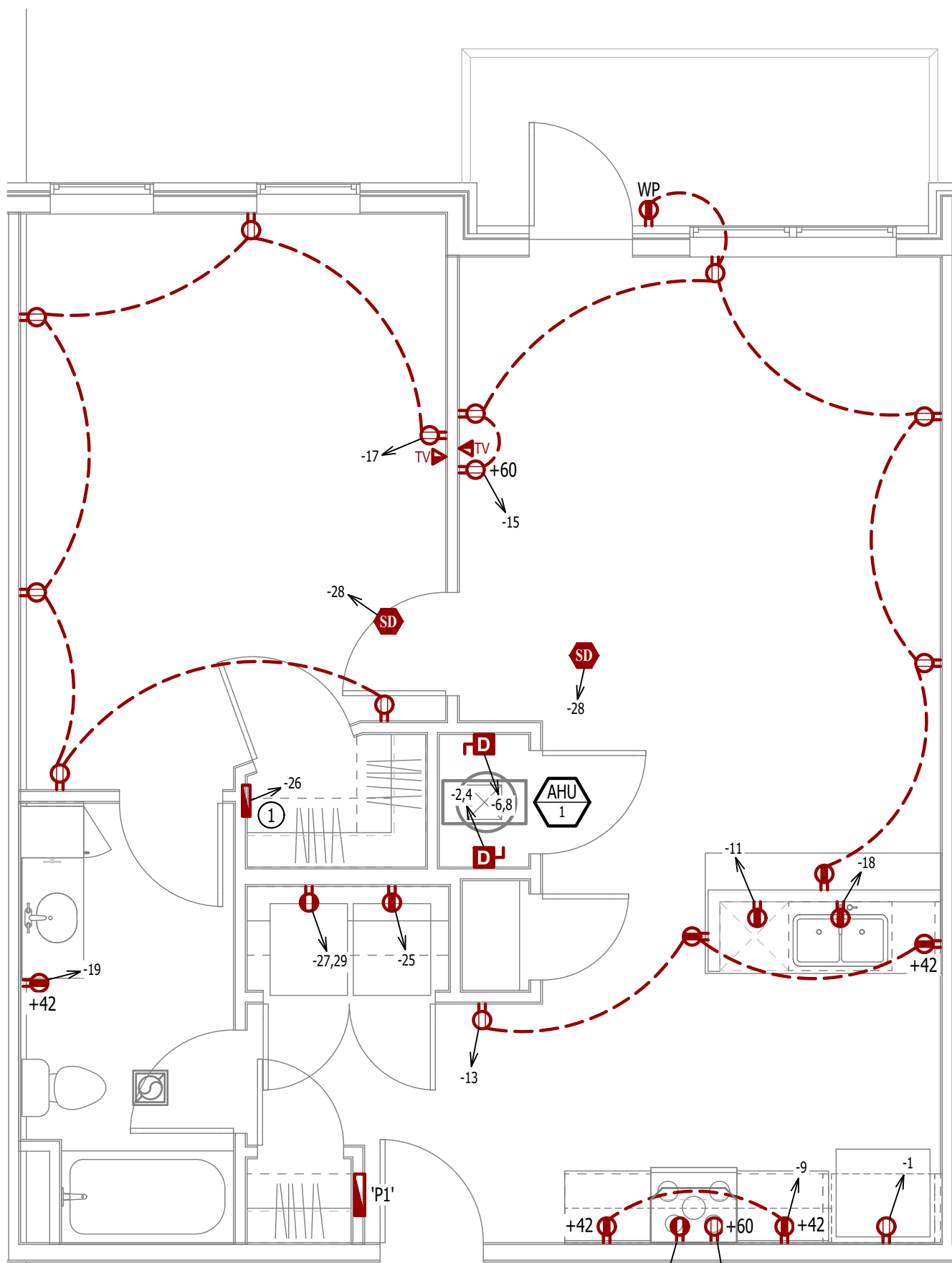
POWER PLAN KEY NOTES:

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



HVAC PLAN

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



POWER PLAN

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

PLUMBING PLAN SYMBOL LEGEND

- COLD WATER LINE
- HOT WATER LINE
- ⊠

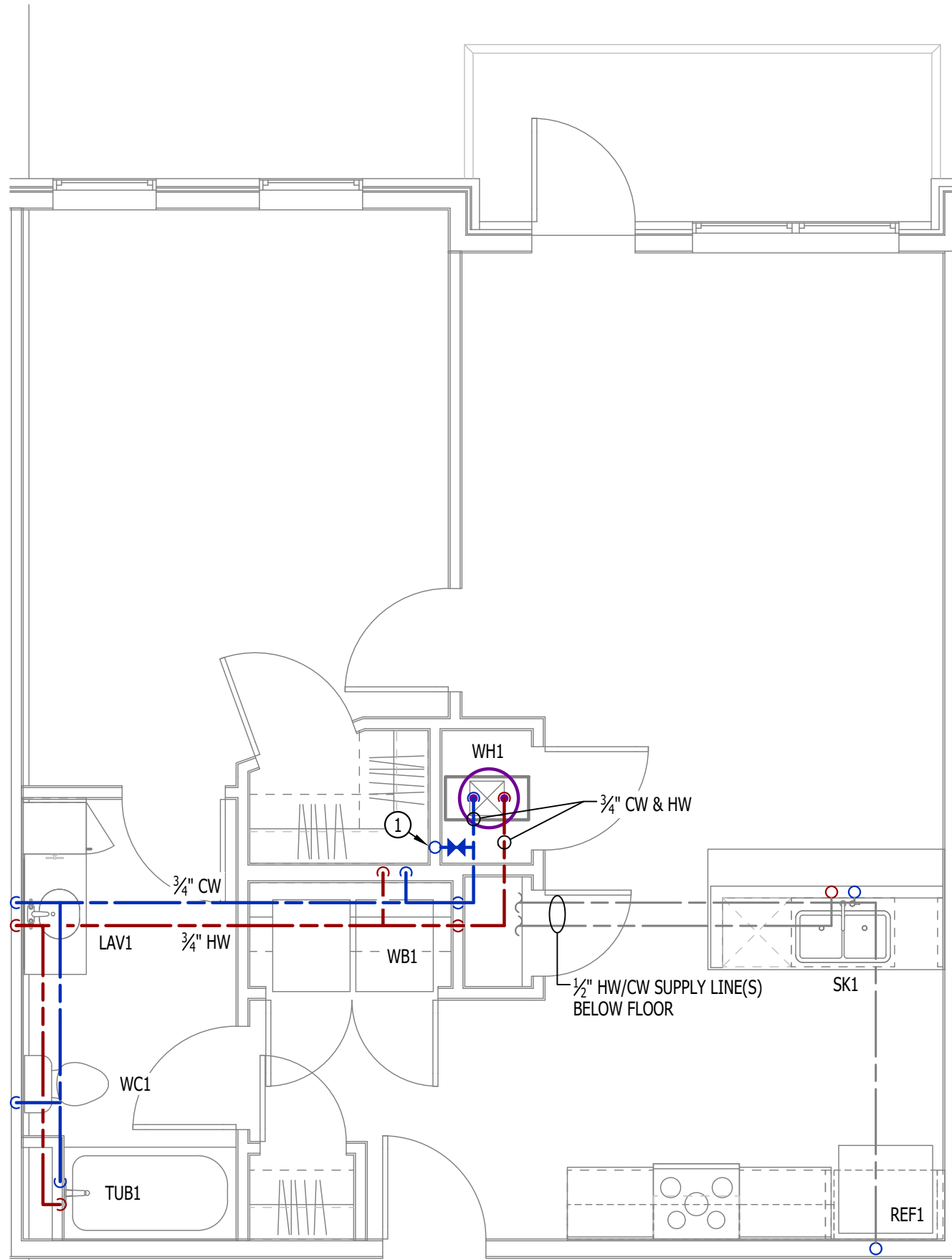
 VALVE
- PIPING TURNED DOWN / TURNED UP

WATER PLAN GENERAL NOTES:

1. SEE SHEET P501 FOR ADDITIONAL PLUMBING NOTES, DETAILS, & SCHEDULES.
2. ALL PLUMBING LOCATED ON EXTERIOR WALLS SHALL ROUTE WITHIN INSULATION BARRIER.
3. ALL DOMESTIC SUPPLY LINES SERVING MORE THAN (1) FIXTURE SHALL BE 3/4" UNLESS NOTED OTHERWISE.

WATER PLAN KEY NOTES:

- ① 3/4" CW PIPE UP FROM BELOW WITH SHUT-OFF VALVE IN ACCESSIBLE LOCATION. SEE OVERALL PLUMBING PLANS FOR DETAILS.



WATER PLAN

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

LIGHTING PLAN SYMBOL LEGEND

- ⊠

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

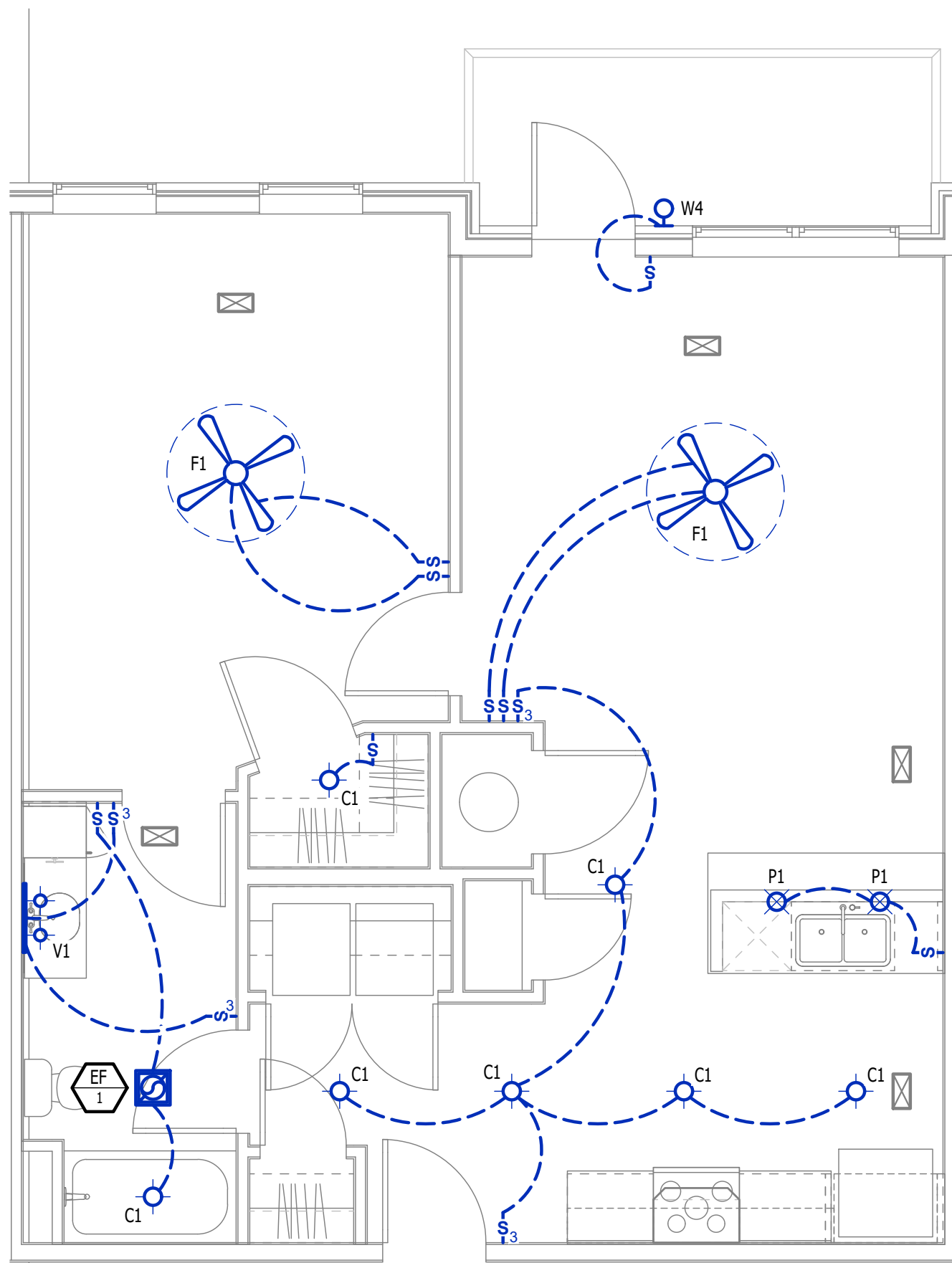
 TOGGLE SWITCH
- ⊠

 SWITCH TYPE
- ⊠

 DIMMER SWITCH

LIGHTING PLAN GENERAL NOTES:

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



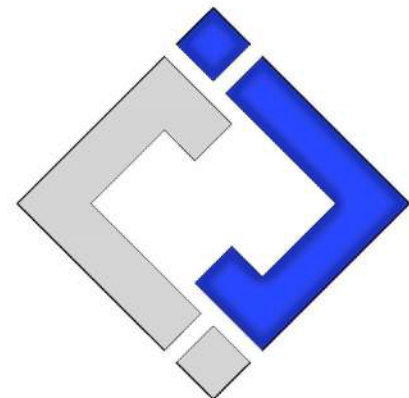
POWER PLAN

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





James Watson, P.E. December 20, 2024  
PE-2015017071  
MO Certificate of Authority # 2018029680



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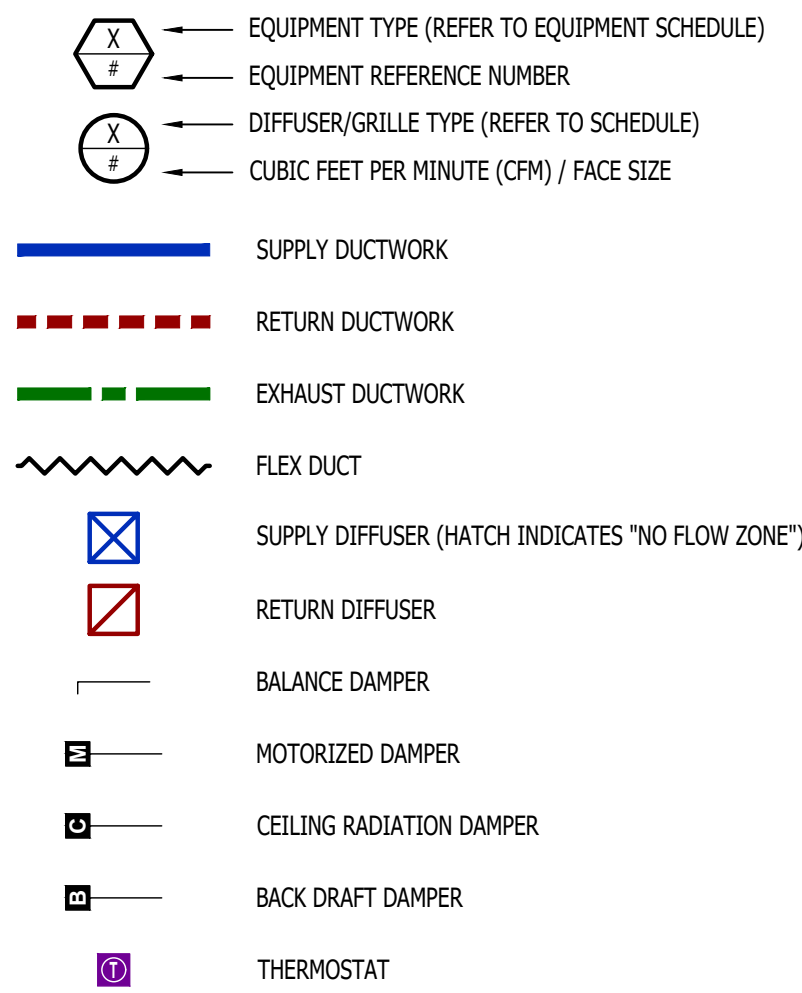
J2 PROJECT No: J21013

J2 DESIGN: ACW

| ISSUE TITLE | DATE |
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| CITY SUBMITTAL | 12 - 20 - 2024 |
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### HVAC PLAN SYMBOL LEGEND



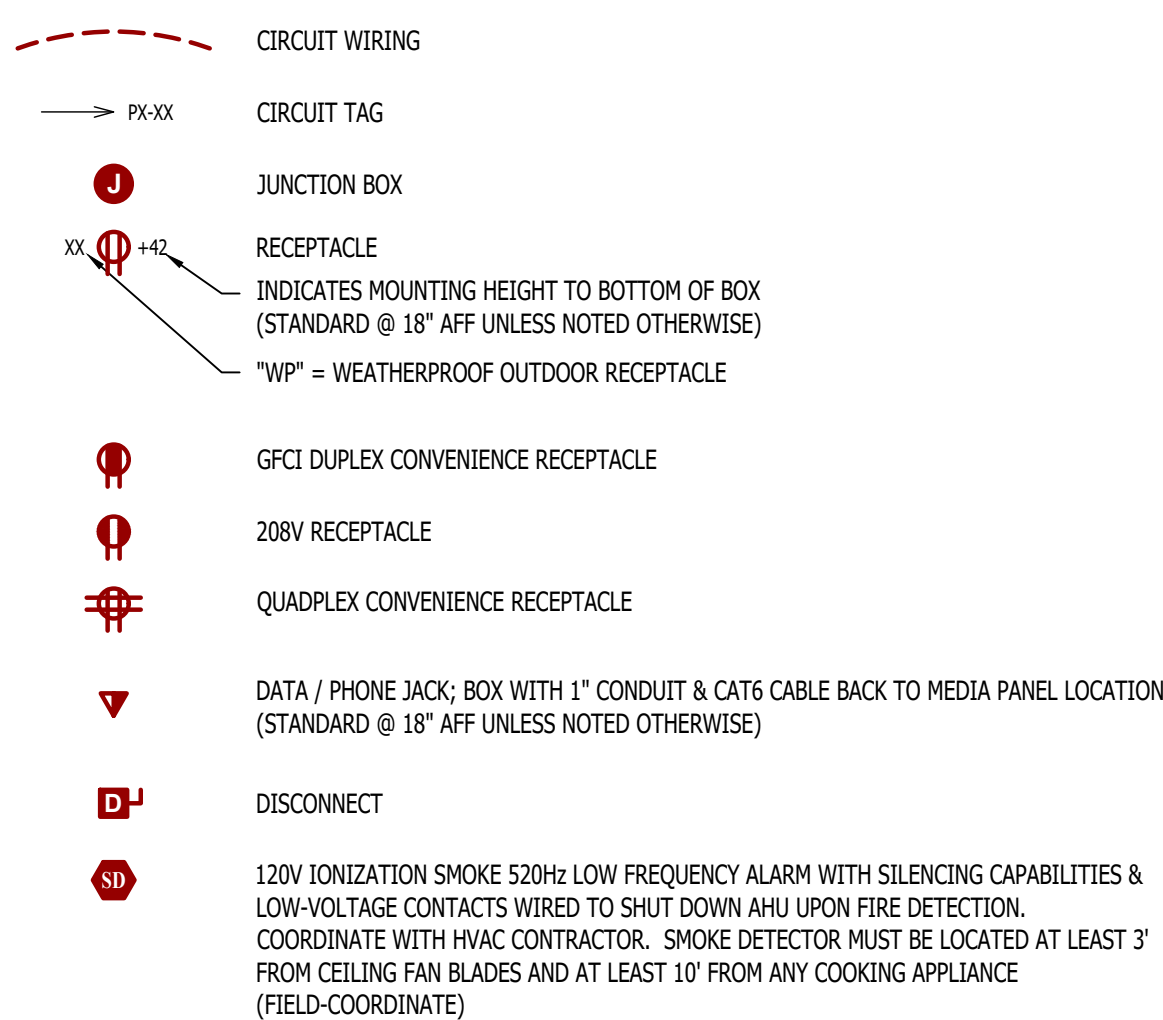
**HVAC PLAN GENERAL NOTES:**

1. SEE M500 & M600 SERIES SHEETS FOR HVAC SCHEDULES, DETAILS, REQUIREMENTS, ETC.
2. USE SHEET M2P4 FOR CONDENSING UNIT LOCATIONS. REFRIGERANT PIPING SHALL RUN IN SPACES ABOVE FINISHED CEILINGS AND WITHIN WALL CAVITIES TO REMAIN CONCEALED.
3. SUPPLY DUCTWORK FROM AHU AT FLOOR/CEILING PENETRATION SHALL BE PROTECTED BY A FIRE DAMPER. INSTALL PER MANUFACTURER'S SPECIFICATIONS.
4. WRAP ALL DRYER DUCTS WITH FIREMASTER (OR EQUAL) DUCT WRAP.
5. TOTAL DEVELOPED LENGTH OF EXHAUST DUCT SHALL BE INDICATED ON A PERMANENT LABEL WITHIN 6' OF EXHAUST TERMINATION. DRYER DUCT ROUTING SHOWN IS FOR REFERENCE ONLY. OVERALL DUCT LENGTH SHALL BE CALCULATED BY HVAC CONTRACTOR PER 2018 ASHRAE 90.1-5.4.2.
6. LOCATE ALL EXHAUST/ DRYER VENT TERMINATIONS AT LEAST 36" FROM OPERABLE OPENINGS INTO APARTMENTS (WINDOWS, DOORS, ETC.).
7. ALL DUCTWORK SHOWN SHALL RUN IN SPACE BETWEEN / THRU TRUSSES UNLESS NOTED OTHERWISE. SEE STRUCTURAL DRAWINGS FOR DETAILS.

**HVAC PLAN KEY NOTES:**

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

### POWER PLAN SYMBOL LEGEND

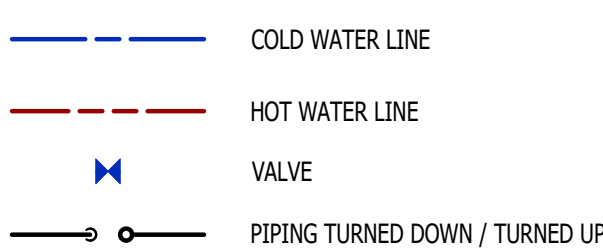
**POWER PLAN GENERAL NOTES:**

1. SEE E500 & E600 SERIES SHEETS FOR POWER SCHEDULES, DETAILS, REQUIREMENTS, ETC.
2. SEE SHEET MEP3 FOR CONDENSING UNIT LOCATIONS.
3. VERIFY EACH DATA/RECEPTACLE LOCATION WITH OWNER PRIOR TO INSTALLATION.
4. REFER TO "TYPICAL ADA MOUNTING HEIGHTS DETAIL", E500 & E600 SERIES SHEETS, OR MOUNTING HEIGHTS OF DEVICES IN "ANSI A" UNITS.

**POWER PLAN KEY NOTES:**

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

## PLUMBING PLAN SYMBOL LEGEND



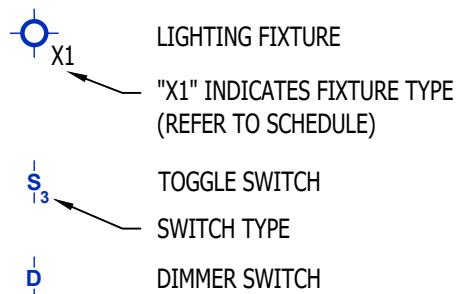
**WATER PLAN GENERAL NOTES:**

1. SEE SHEET P501 FOR ADDITIONAL PLUMBING NOTES, DETAILS, & SCHEDULES.
2. ALL PLUMBING LOCATED ON EXTERIOR WALLS SHALL ROUTE WITHIN INSULATION BARRIER.
3. ALL DOMESTIC SUPPLY LINES SERVING MORE THAN (1) FIXTURE SHALL BE  $\frac{3}{4}$ " UNLESS NOTED OTHERWISE.

**WATER PLAN KEY NOTES:**

- ① 3/4" CW PIPE UP FROM BELOW WITH SHUT-OFF VALVE IN ACCESSIBLE LOCATION. SEE OVERALL PLUMBING PLANS FOR DETAILS.

### LIGHTING PLAN SYMBOL LEGEND



**LIGHTING PLAN GENERAL NOTES:**

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

## HVAC PLAN

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

## POWER PLAN

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

## WATER PLAN

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

## POWER PLAN

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

**MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:**  
**The Village at Discovery - Lot 10A**

**100 Northeast Alura Way  
Lee's Summit, Jackson County, MO 64064**

AHJ APPROVAL STAMP

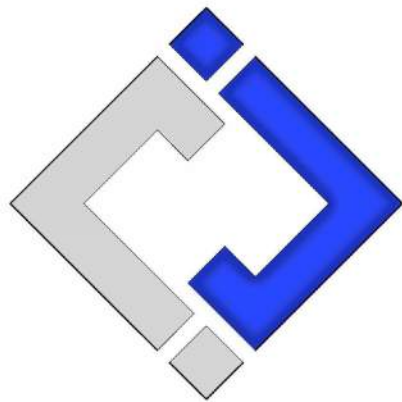
SHEET TITLE

MEP PLAN -  
UNIT TYPE  
ADRIAN-B

SHEET NUMBER

## UMEP1.2





J-SQUARED  
ENGINEERING

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| J2 PROJECT No: | J221013 |
| J2 DESIGNV:    | ACW     |

|                |                |
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| ISSUE TITLE    | DATE           |
| CITY SUBMITTAL | 12 - 20 - 2024 |

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MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

The Village at Discovery - Lot 10A

100 Northeast Alura Way  
Lee's Summit, Jackson County, MO 64064

AHJ APPROVAL STAMP

SHEET TITLE

MEP PLAN -  
UNIT TYPE  
CONWAY

SHEET NUMBER

UMEP1.3

#### HVAC PLAN SYMBOL LEGEND

- X

1

→

EQUIPMENT TYPE (REFER TO EQUIPMENT SCHEDULE)
- →

EQUIPMENT REFERENCE NUMBER
- →

DIFFUSER/GRILLE TYPE (REFER TO SCHEDULE)
- →

CUBIC FEET PER MINUTE (CFM) / FACE SIZE
- →

SUPPLY DUCTWORK
- →

RETURN DUCTWORK
- →

EXHAUST DUCTWORK
- →

FLEX DUCT
- →

SUPPLY DIFFUSER (HATCH INDICATES "NO FLOW ZONE")
- →

RETURN DIFFUSER
- →

BALANCE DAMPER
- →

MOTORIZED DAMPER
- →

CEILING RADIATION DAMPER
- →

BACK DRAFT DAMPER
- →

THERMOSTAT

#### HVAC PLAN GENERAL NOTES:

- SEE M500 & M600 SERIES SHEETS FOR HVAC SCHEDULES, DETAILS, REQUIREMENTS, ETC.
- SEE SHEET MEP4 FOR CONDENSING UNIT LOCATIONS. REFRIGERANT PIPING SHALL ROUTE IN SPACES ABOVE FINISHED CEILINGS AND WITHIN WALL CAVITIES TO REMAIN CONCEALED.
- SUPPLY DUCTWORK FROM AHU AT FLOOR/CEILING PENETRATION SHALL BE PROTECTED BY A FIRE DAMPER. INSTALL PER MANUFACTURER'S SPECIFICATIONS.
- WRAP ALL DRYER DUCTS WITH FIREMASTER (OR EQUAL) DUCT WRAP.
- TOTAL DEVELOPED LENGTH OF EXHAUST DUCT SHALL BE INDICATED ON A PERMANENT LABEL WITHIN 6' OF DRYER VENT CONNECTION. DRYER DUCT ROUTING SHOWN IS FOR REFERENCE ONLY. OVERALL DUCT LENGTH SHALL BE CALCULATED BY HVAC CONTRACTOR PER 2018 IMC 504.8.4.
- LOCATE ALL EXHAUST / DRYER VENT TERMINATIONS AT LEAST 36" FROM OPERABLE OPENINGS INTO APARTMENTS (WINDOWS, DOORS, ETC.).
- ALL DUCTWORK SHOWN SHALL ROUTE IN SPACE BETWEEN / THRU TRUSSES UNLESS NOTED OTHERWISE. SEE STRUCTURAL DRAWINGS FOR DETAILS.

#### HVAC PLAN KEY NOTES:

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

#### POWER PLAN SYMBOL LEGEND

- →

CIRCUIT WIRING
- →

CIRCUIT TAG
- →

JUNCTION BOX
- →

RECEPTACLE
- →

INDICATES MOUNTING HEIGHT TO BOTTOM OF BOX  
(STANDARD @ 18" AFF UNLESS NOTED OTHERWISE)
- →

"WP" = WEATHERPROOF OUTDOOR RECEPTACLE
- →

GFCI DUPLEX CONVENIENCE RECEPTACLE
- →

208V RECEPTACLE
- →

QUADPLEX CONVENIENCE RECEPTACLE
- →

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

DISCONNECT
- →

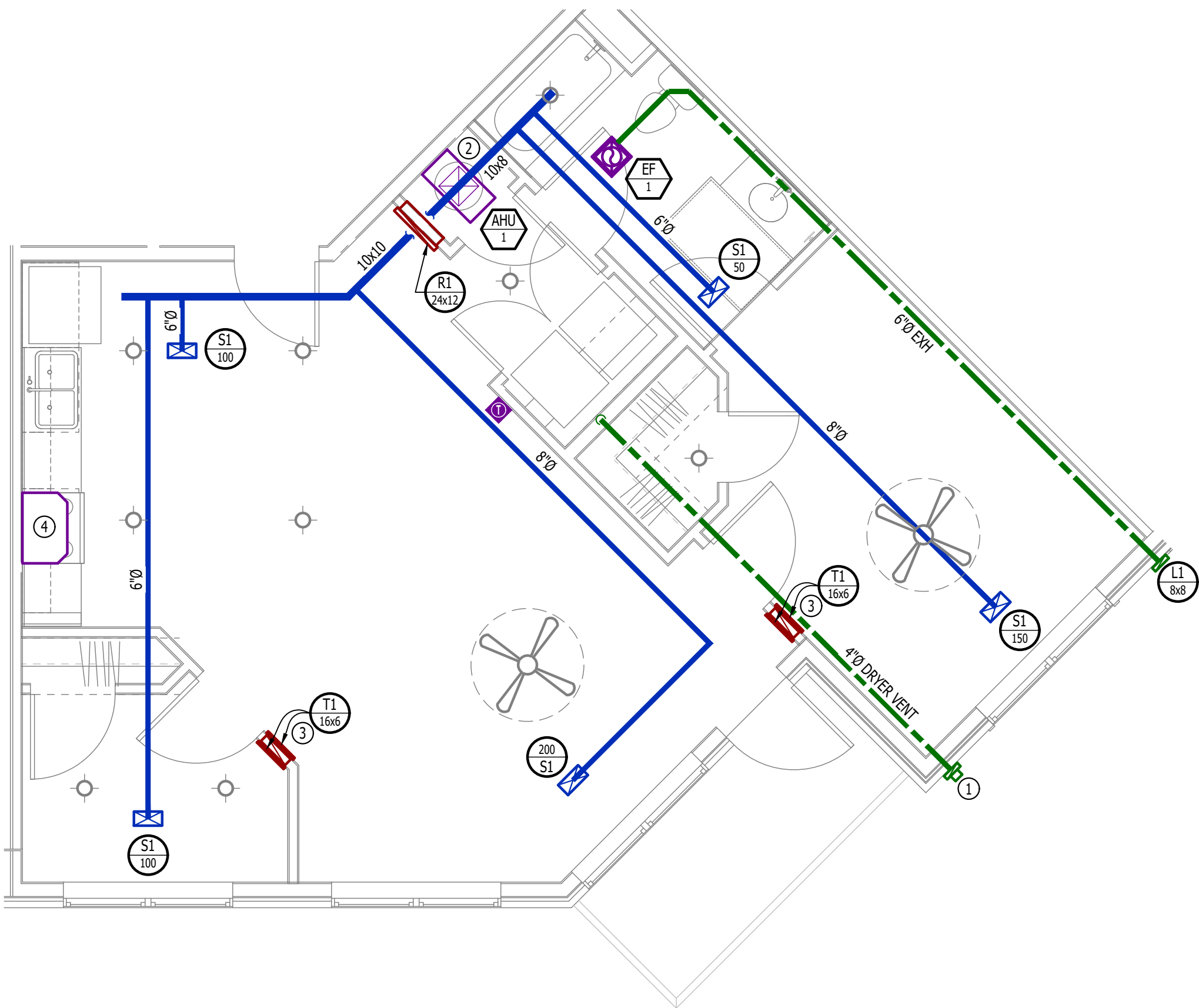
120V IONIZATION SMOKE 520Hz LOW FREQUENCY ALARM WITH SILENCING CAPABILITIES &  
LOW-VOLTAGE CONTACTS WIRED TO SHUT DOWN AHU UPON FIRE DETECTION.  
COORDINATE WITH HVAC CONTRACTOR. SMOKE DETECTOR MUST BE LOCATED AT LEAST 3'  
FROM CEILING FAN BLADES AND AT LEAST 10' FROM ANY COOKING APPLIANCE  
(FIELD-COORDINATE)

#### POWER PLAN GENERAL NOTES:

- SEE E500 & E600 SERIES SHEETS FOR POWER SCHEDULES, DETAILS, REQUIREMENTS, ETC.
- SEE SHEET MEP3 FOR CONDENSING UNIT LOCATIONS.
- VERIFY EACH DATA/RECEPTACLE LOCATION WITH OWNER PRIOR TO INSTALLATION.
- REFER TO "TYPICAL ADA MOUNTING HEIGHTS DETAIL", E500 & E600 SERIES SHEETS, OR MOUNTING HEIGHTS OF DEVICES IN "ANSI A" UNITS.

#### POWER PLAN KEY NOTES:

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









POWER PLAN SYMBOL LEGEND

- CIRCUIT WIRING
- CIRCUIT TAG
- JUNCTION BOX
- RECEPTACLE
- INDICATES MOUNTING HEIGHT TO BOTTOM OF BOX  
(STANDARD @ 18" AFF UNLESS NOTED OTHERWISE)
- "WP" = WEATHERPROOF OUTDOOR RECEPTACLE
- GFCI DUPLEX CONVENIENCE RECEPTACLE
- 208V RECEPTACLE
- QUADPLEX CONVENIENCE RECEPTACLE
- DATA / PHONE JACK; BOX WITH 1" CONDUIT & CAT5 CABLE BACK TO MEDIA PANEL LOCATION  
(STANDARD @ 18" AFF UNLESS NOTED OTHERWISE)
- DISCONNECT
- 120V IONIZATION SMOKE 520Hz LOW FREQUENCY ALARM WITH SILENCING CAPABILITIES &  
LOW-VOLTAGE CONTACTS WIRED TO SHUT DOWN AHU UPON FIRE DETECTION.  
COORDINATE WITH HVAC CONTRACTOR. SMOKE DETECTOR MUST BE LOCATED AT LEAST 3'  
FROM CEILING FAN BLADES AND AT LEAST 10' FROM ANY COOKING APPLIANCE  
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POWER PLAN GENERAL NOTES:

1.

SEE E500 & E600 SERIES SHEETS FOR POWER SCHEDULES, DETAILS, REQUIREMENTS, ETC.
2.

SEE SHEET MEP3 FOR CONDENSING UNIT LOCATIONS.
3.

VERIFY EACH DATA/RECEPTACLE LOCATION WITH OWNER PRIOR TO INSTALLATION.
4.

REFER TO "TYPICAL ADA MOUNTING HEIGHTS DETAIL", E500 & E600 SERIES SHEETS, OR MOUNTING HEIGHTS  
OF DEVICES IN "ANSI A" UNITS.

POWER PLAN KEY NOTES:

- ①

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

LIGHTING PLAN SYMBOL LEGEND

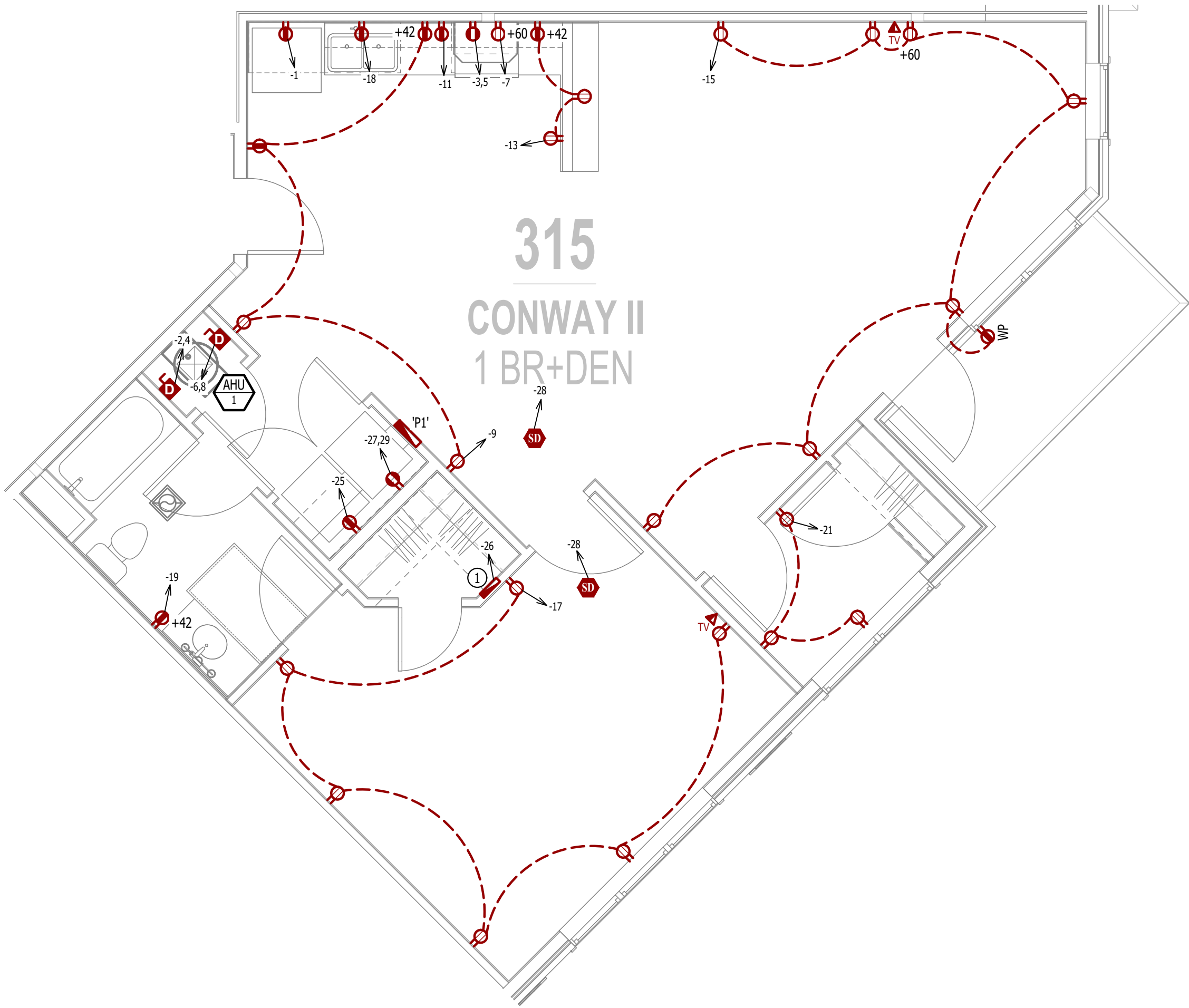
- LIGHTING FIXTURE
- "X1" INDICATES FIXTURE TYPE  
(REFER TO SCHEDULE)
- TOGGLE SWITCH
- SWITCH TYPE
- DIMMER SWITCH

LIGHTING PLAN GENERAL NOTES:

1.

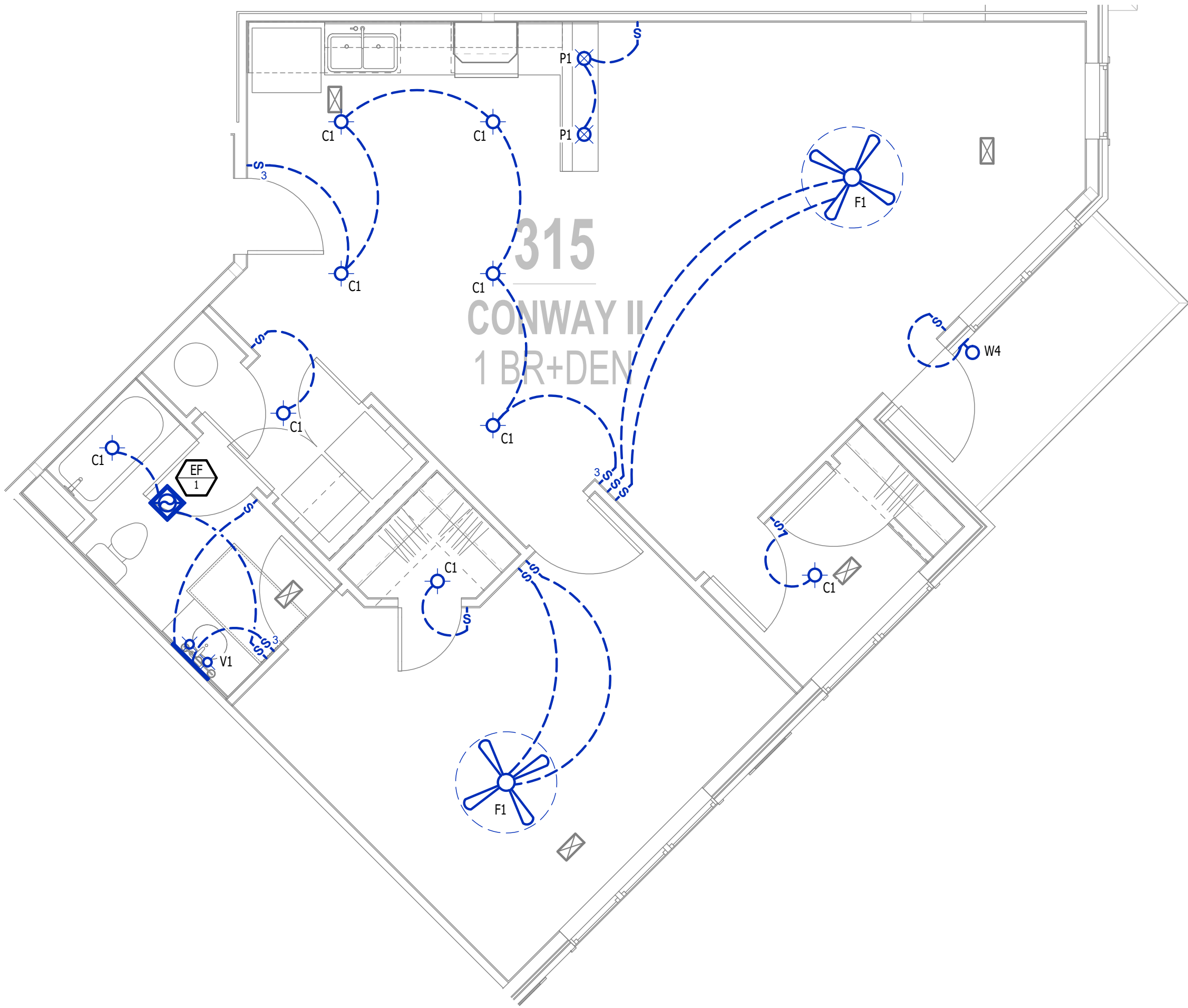
SEE E500 & E600 SERIES SHEETS FOR ADDITIONAL ELECTRICAL NOTES, DETAILS, & SCHEDULES.
2.

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



POWER PLAN

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



LIGHTING PLAN

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

RELEASED FOR  
CONSTRUCTION  
As Noted on Plans Review

Development Services Department  
Columbia, Missouri  
856.449.2525

JAMES P. WATSON  
NUMBER  
PE-2015017071  
PROFESSIONAL ENGINEER

James Watson, P.E. December 20, 2024  
PE-2015017071  
MO Certificate of Authority # 2018029680

J-SQUARED  
ENGINEERING

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

J2 PROJECT No: J21013

J2 DESIGN: ACW

ISSUE TITLE

DATE

CITY SUBMITTAL

12 - 20 - 2024

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:  
The Village at Discovery - Lot 10A

100 Northeast Alura Way  
Lee's Summit, Jackson County, MO 64064

AHJ APPROVAL STAMP

SHEET TITLE

POWER & LIGHTING PLAN  
- UNIT TYPE CONWAY II

SHEET NUMBER

UMEP1.4.2



HVAC PLAN SYMBOL LEGEND

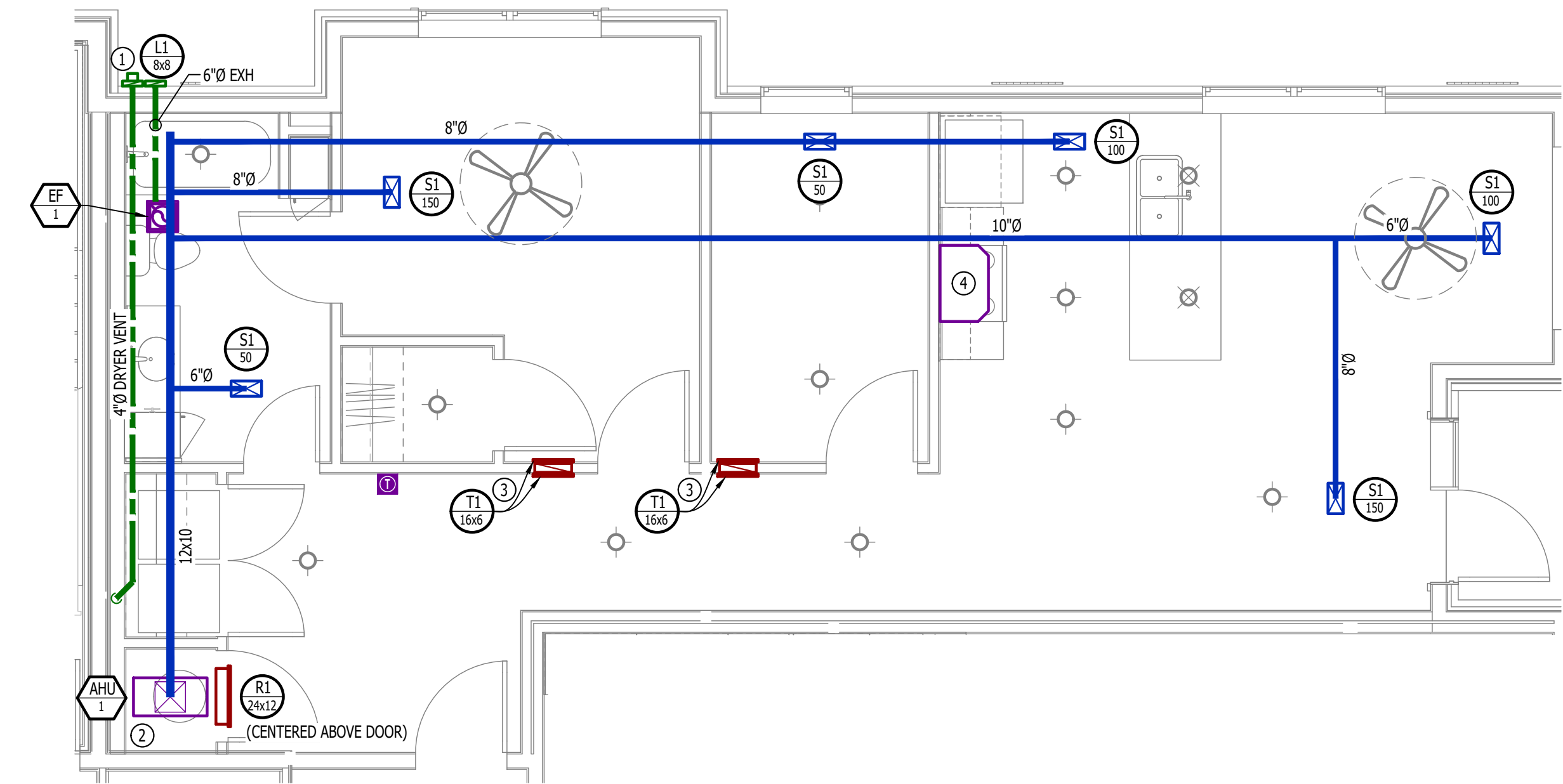
- ⬅ X # ⬅ EQUIPMENT TYPE (REFER TO EQUIPMENT SCHEDULE)  
⬅ X # ⬅ EQUIPMENT REFERENCE NUMBER  
⬅ X # ⬅ DIFFUSER/GRILLE TYPE (REFER TO SCHEDULE)  
⬅ X # ⬅ CUBIC FEET PER MINUTE (CFM) / FACE SIZE
- SUPPLY DUCTWORK  
- - - RETURN DUCTWORK  
- - - EXHAUST DUCTWORK  
~ FLEX DUCT
- ⊠ SUPPLY DIFFUSER (HATCH INDICATES "NO FLOW ZONE")  
⊠ RETURN DIFFUSER  
— BALANCE DAMPER  
— MOTORIZED DAMPER  
— CEILING RADIATION DAMPER  
— BACK DRAFT DAMPER  
T THERMOSTAT

HVAC PLAN GENERAL NOTES:

1. SEE M500 & M600 SERIES SHEETS FOR HVAC SCHEDULES, DETAILS, REQUIREMENTS, ETC.
2. SEE SHEET MEP4 FOR CONDENSING UNIT LOCATIONS. REFRIGERANT PIPING SHALL ROUTE IN SPACES ABOVE FINISHED CEILINGS AND WITHIN WALL CAVITIES TO REMAIN CONCEALED.
3. SUPPLY DUCTWORK FROM AHU AT FLOOR/CEILING PENETRATION SHALL BE PROTECTED BY A FIRE DAMPER. INSTALL PER MANUFACTURER'S SPECIFICATIONS.
4. WRAP ALL DRYER DUCTS WITH FIREMASTER (OR EQUAL) DUCT WRAP.
5. TOTAL DEVELOPED LENGTH OF EXHAUST DUCT SHALL BE INDICATED ON A PERMANENT LABEL WITHIN 6' OF DRYER VENT CONNECTION. DRYER DUCT ROUTING SHOWN IS FOR REFERENCE ONLY. OVERALL DUCT LENGTH SHALL BE CALCULATED BY HVAC CONTRACTOR PER 2018 IMC 504.8.4.
6. LOCATE ALL EXHAUST / DRYER VENT TERMINATIONS AT LEAST 36" FROM OPERABLE OPENINGS INTO APARTMENTS (WINDOWS, DOORS, ETC.).
7. ALL DUCTWORK SHOWN SHALL ROUTE IN SPACE BETWEEN / THRU TRUSSES UNLESS NOTED OTHERWISE. SEE STRUCTURAL DRAWINGS FOR DETAILS.

HVAC PLAN KEY NOTES:

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



HVAC PLAN

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

PLUMBING PLAN SYMBOL LEGEND

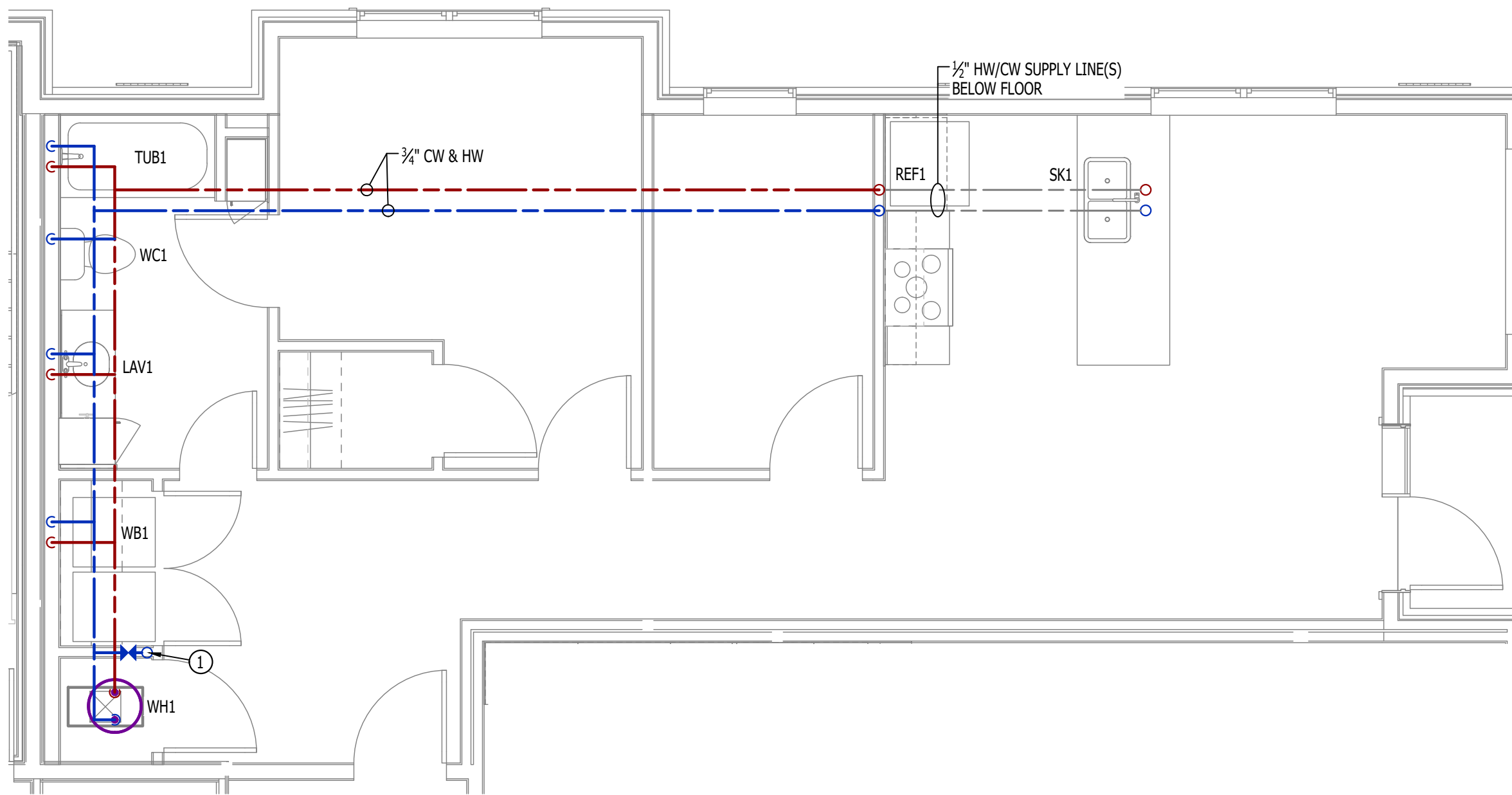
- COLD WATER LINE  
— HOT WATER LINE  
X VALVE  
→ PIPING TURNED DOWN / TURNED UP

WATER PLAN GENERAL NOTES:

1. SEE SHEET P501 FOR ADDITIONAL PLUMBING NOTES, DETAILS, & SCHEDULES.
2. ALL PLUMBING LOCATED ON EXTERIOR WALLS SHALL ROUTE WITHIN INSULATION BARRIER.
3. ALL DOMESTIC SUPPLY LINES SERVING MORE THAN (1) FIXTURE SHALL BE 3/4" UNLESS NOTED OTHERWISE.

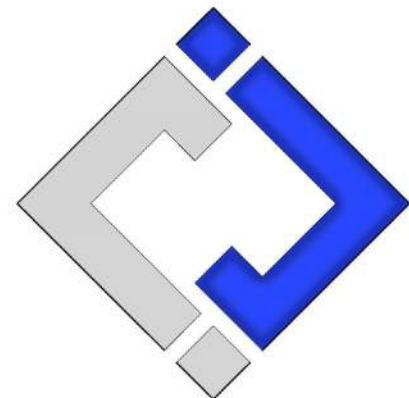
WATER PLAN KEY NOTES:

- ① 3/4" CW PIPE UP FROM BELOW WITH SHUT-OFF VALVE IN ACCESSIBLE LOCATION. SEE OVERALL PLUMBING PLANS FOR DETAILS.



WATER PLAN

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



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www.j-squaredeng.com

J2 PROJECT No: J21013

J2 DESIGN: ACW

ISSUE TITLE DATE

CITY SUBMITTAL 12 - 20 - 2024

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:  
**The Village at Discovery - Lot 10A**

100 Northeast Alura Way  
Lee's Summit, Jackson County, MO 64064

AHJ APPROVAL STAMP

SHEET TITLE

HVAC & PLUMBING PLAN  
- UNIT TYPE DRAKE

SHEET NUMBER

UMEP1.5.1



POWER PLAN SYMBOL LEGEND

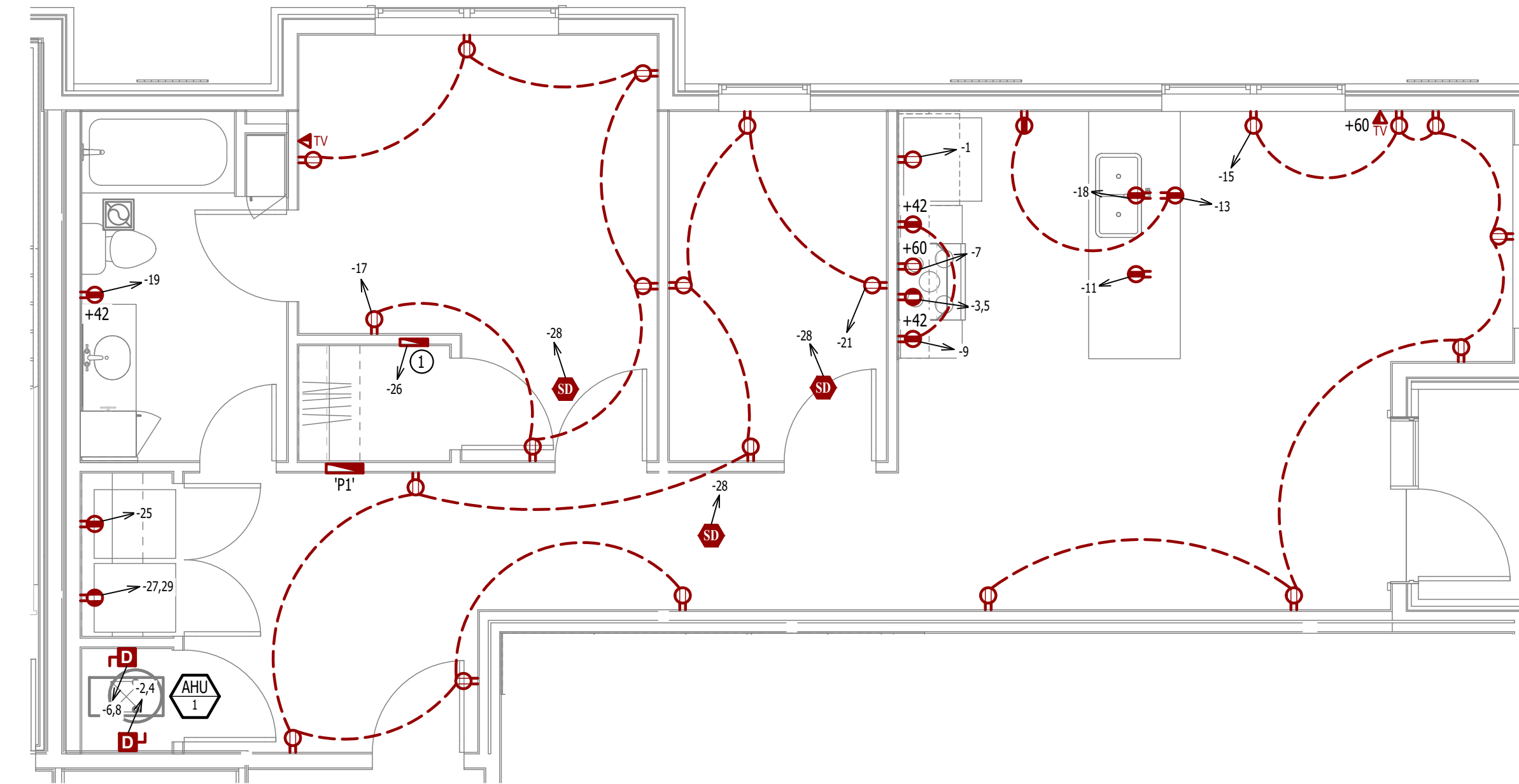
- CIRCUIT WIRING
- Px-xx CIRCUIT TAG
- ⬤ J JUNCTION BOX
- ⓧⓧ ⓧ+42 RECEPTACLE
- INDICATES MOUNTING HEIGHT TO BOTTOM OF BOX (STANDARD @ 18" AFF UNLESS NOTED OTHERWISE)
- "WP" = WEATHERPROOF OUTDOOR RECEPTACLE
- ⓧ GFCI DUPLEX CONVENIENCE RECEPTACLE
- ⓧ 208V RECEPTACLE
- ⓧ QUADPLEX CONVENIENCE RECEPTACLE
- ▼ DATA / PHONE JACK; BOX WITH 1" CONDUIT & CAT6 CABLE BACK TO MEDIA PANEL LOCATION (STANDARD @ 18" AFF UNLESS NOTED OTHERWISE)
- ⓧ DISCONNECT
- ⓧ 120V IONIZATION SMOKE 520Hz LOW FREQUENCY ALARM WITH SILENCING CAPABILITIES & LOW-VOLTAGE CONTACTS WIRED TO SHUT DOWN AHU UPON FIRE DETECTION. COORDINATE WITH HVAC CONTRACTOR. SMOKE DETECTOR MUST BE LOCATED AT LEAST 3' FROM CEILING FAN BLADES AND AT LEAST 10' FROM ANY COOKING APPLIANCE (FIELD-COORDINATE)

POWER PLAN GENERAL NOTES:

- SEE E500 & E600 SERIES SHEETS FOR POWER SCHEDULES, DETAILS, REQUIREMENTS, ETC.
- SEE SHEET MEP3 FOR CONDENSING UNIT LOCATIONS.
- VERIFY EACH DATA/RECEPTACLE LOCATION WITH OWNER PRIOR TO INSTALLATION.
- REFER TO "TYPICAL ADA MOUNTING HEIGHTS DETAIL", E500 & E600 SERIES SHEETS, OR MOUNTING HEIGHTS OF DEVICES IN "ANSI A" UNITS.

POWER PLAN KEY NOTES:

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



POWER PLAN

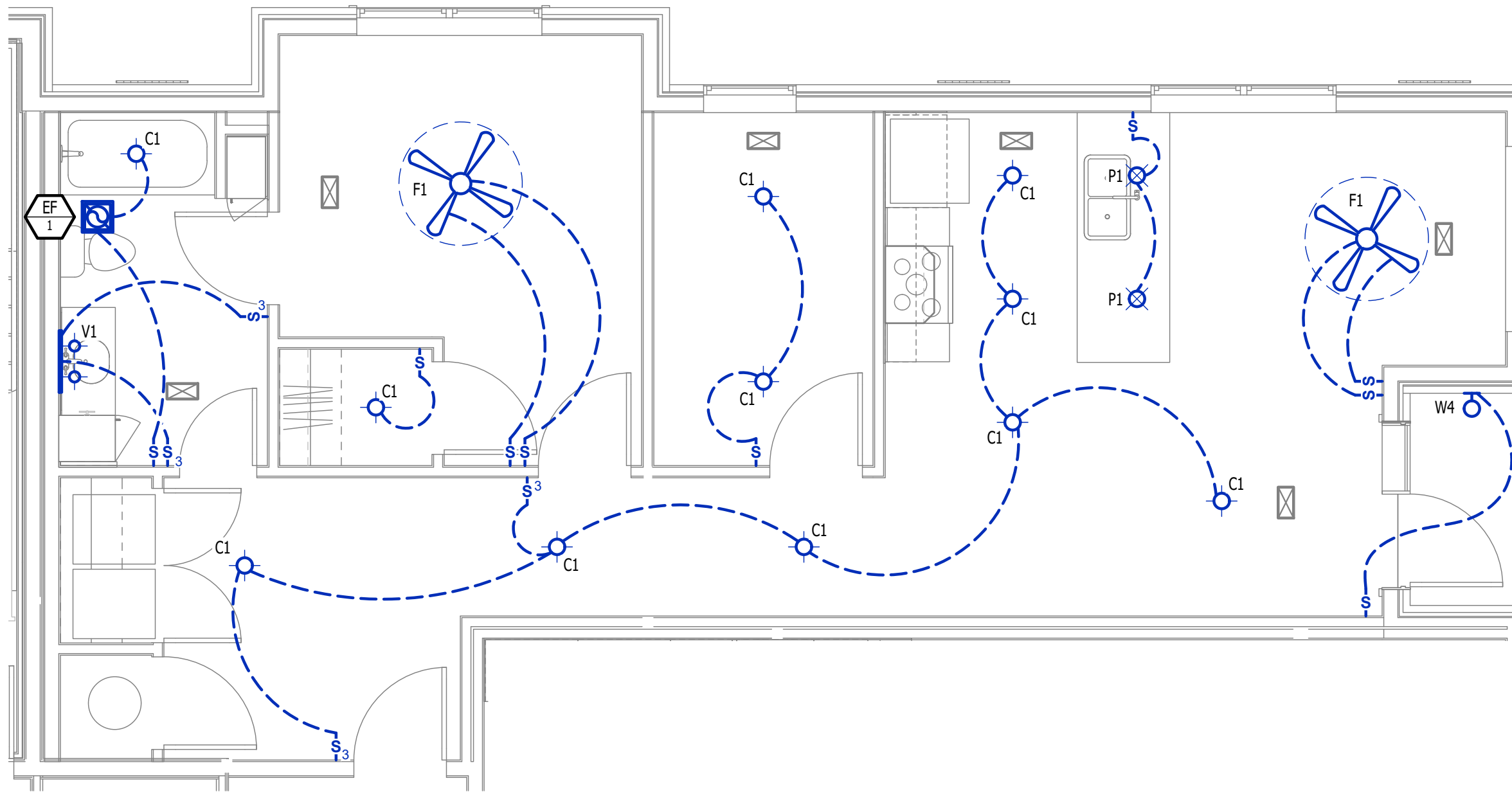
SCALE: 1/4" = 1'-0"

LIGHTING PLAN SYMBOL LEGEND

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

LIGHTING PLAN GENERAL NOTES:

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



LIGHTING PLAN

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

J2 PROJECT No: J221013

J2 DESIGN: ACW

ISSUE TITLE DATE

CITY SUBMITTAL 12 - 20 - 2024

AHJ APPROVAL STAMP

SHEET TITLE

SHEET NUMBER



HVAC PLAN SYMBOL LEGEND

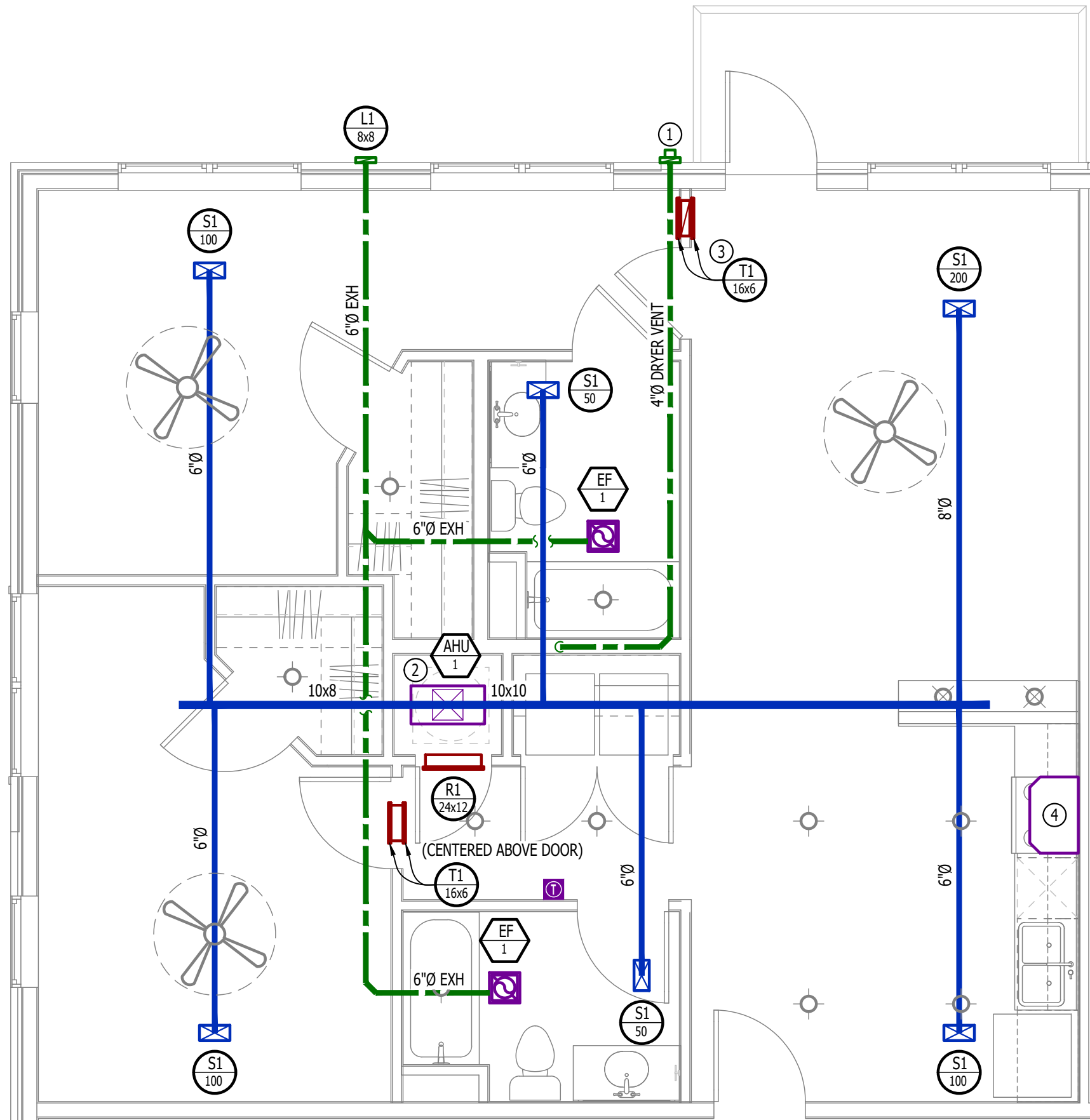
- ⬅️ EQUIPMENT TYPE (REFER TO EQUIPMENT SCHEDULE)  
⬅️ EQUIPMENT REFERENCE NUMBER  
⬅️ DIFFUSER/GRILLE TYPE (REFER TO SCHEDULE)  
⬅️ CUBIC FEET PER MINUTE (CFM) / FACE SIZE
- SUPPLY DUCTWORK  
 RETURN DUCTWORK  
 EXHAUST DUCTWORK  
 FLEX DUCT
- SUPPLY DIFFUSER (HATCH INDICATES "NO FLOW ZONE")  
 RETURN DIFFUSER  
 BALANCE DAMPER  
 MOTORIZED DAMPER  
 CEILING RADIATION DAMPER  
 BACK DRAFT DAMPER  
 THERMOSTAT

HVAC PLAN GENERAL NOTES:

- SEE M500 & M600 SERIES SHEETS FOR HVAC SCHEDULES, DETAILS, REQUIREMENTS, ETC.
- SEE SHEET MEP4 FOR CONDENSING UNIT LOCATIONS. REFRIGERANT PIPING SHALL ROUTE IN SPACES ABOVE FINISHED CEILINGS AND WITHIN WALL CAVITIES TO REMAIN CONCEALED.
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HVAC PLAN KEY NOTES:

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



HVAC PLAN

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

PLUMBING PLAN SYMBOL LEGEND

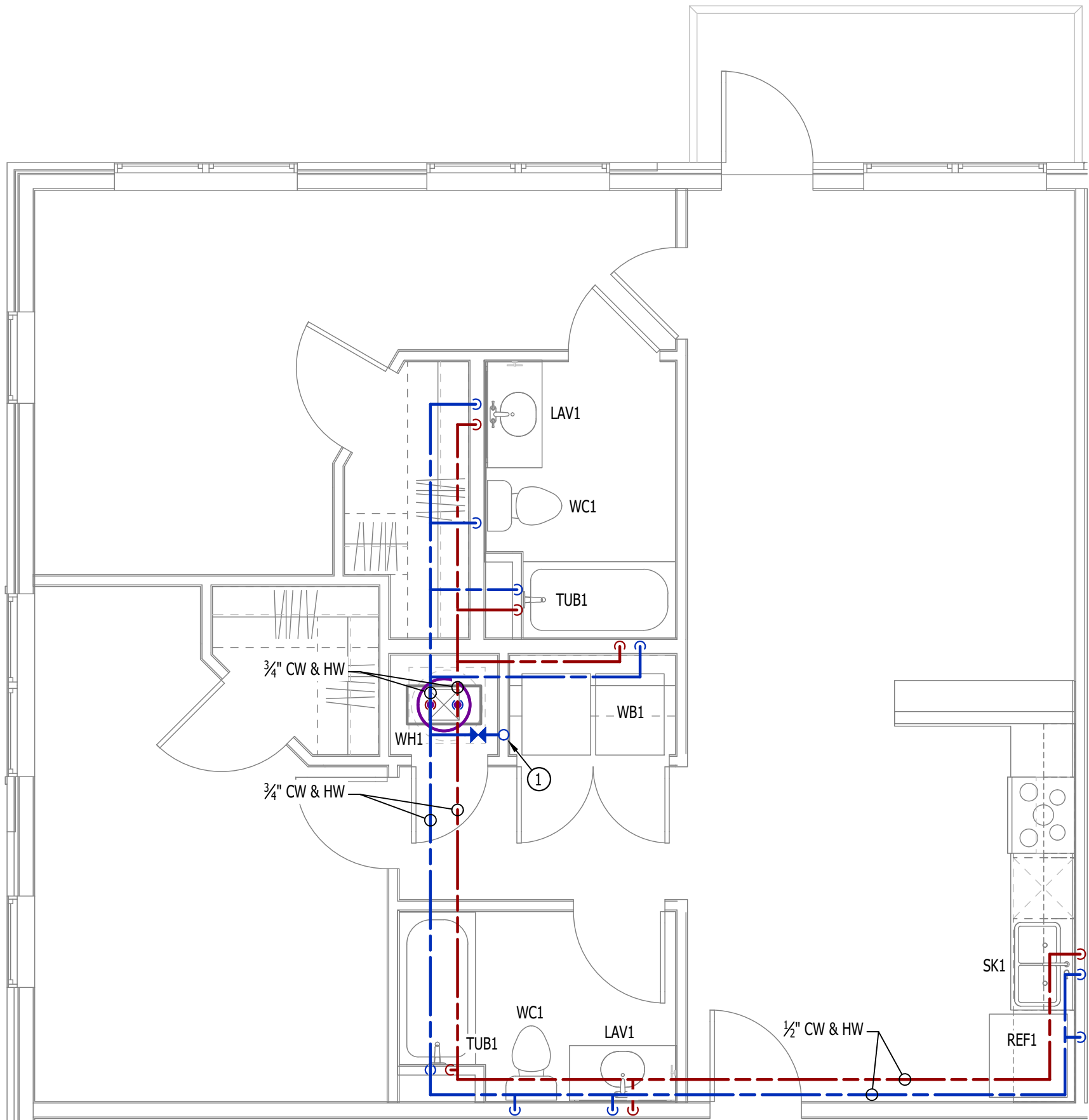
- COLD WATER LINE  
 HOT WATER LINE  
 VALVE  
 PIPING TURNED DOWN / TURNED UP

WATER PLAN GENERAL NOTES:

- SEE SHEET PS01 FOR ADDITIONAL PLUMBING NOTES, DETAILS, & SCHEDULES.
- ALL PLUMBING LOCATED ON EXTERIOR WALLS SHALL ROUTE WITHIN INSULATION BARRIER.
- ALL DOMESTIC SUPPLY LINES SERVING MORE THAN (1) FIXTURE SHALL BE 3/4" UNLESS NOTED OTHERWISE.

WATER PLAN KEY NOTES:

- 3/4" CW PIPE UP FROM BELOW WITH SHUT-OFF VALVE IN ACCESSIBLE LOCATION. SEE OVERALL PLUMBING PLANS FOR DETAILS.



WATER PLAN

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







HVAC PLAN SYMBOL LEGEND

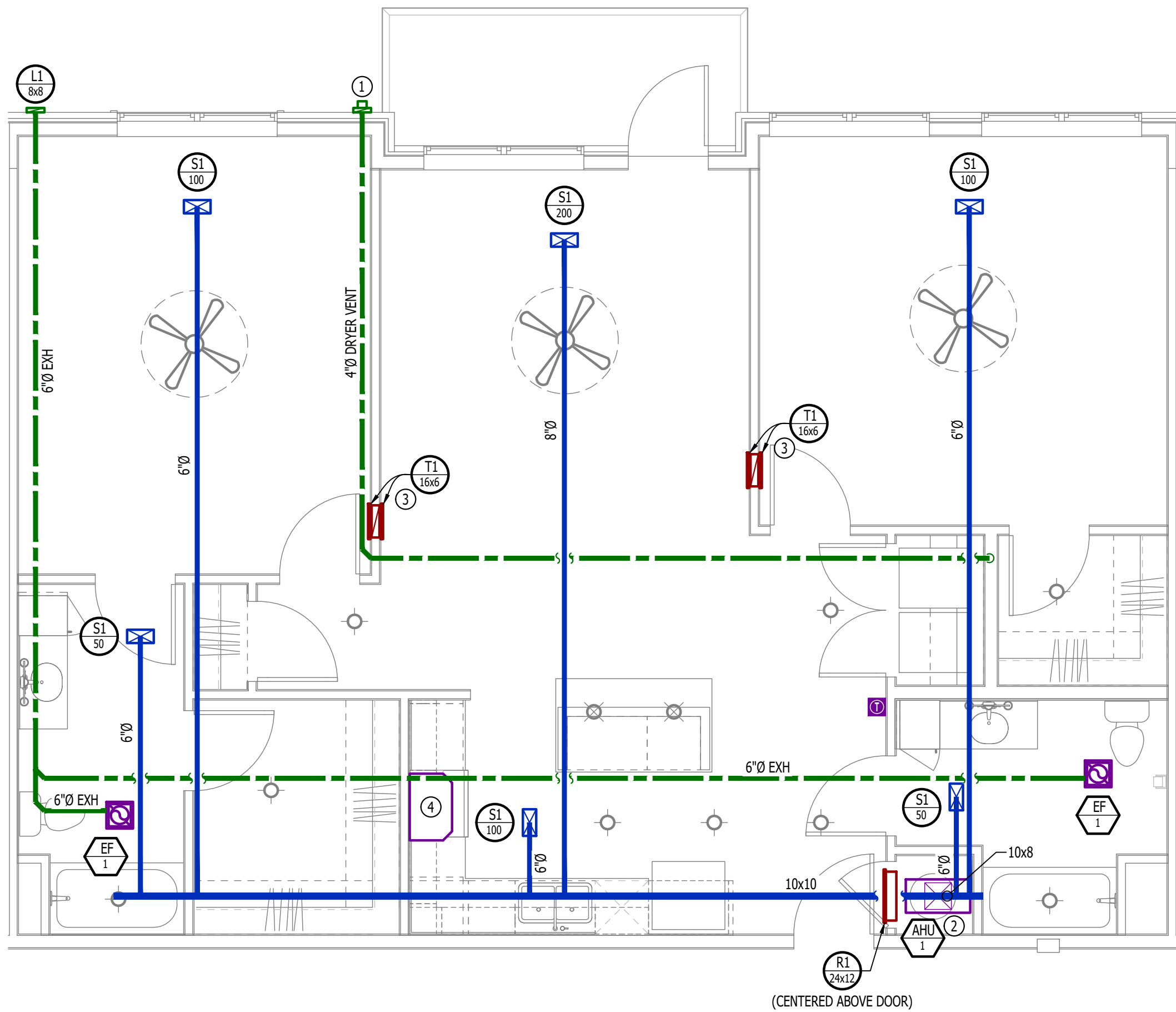
- ⬅️ EQUIPMENT TYPE (REFER TO EQUIPMENT SCHEDULE)  
⬅️ EQUIPMENT REFERENCE NUMBER  
⬅️ DIFFUSER/GRILLE TYPE (REFER TO SCHEDULE)  
⬅️ CUBIC FEET PER MINUTE (CFM) / FACE SIZE
- SUPPLY DUCTWORK  
 RETURN DUCTWORK  
 EXHAUST DUCTWORK  
 FLEX DUCT
- SUPPLY DIFFUSER (HATCH INDICATES "NO FLOW ZONE")  
 RETURN DIFFUSER  
 BALANCE DAMPER  
 MOTORIZED DAMPER  
 CEILING RADIATION DAMPER  
 BACK DRAFT DAMPER  
 THERMOSTAT

HVAC PLAN GENERAL NOTES:

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HVAC PLAN

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

PLUMBING PLAN SYMBOL LEGEND

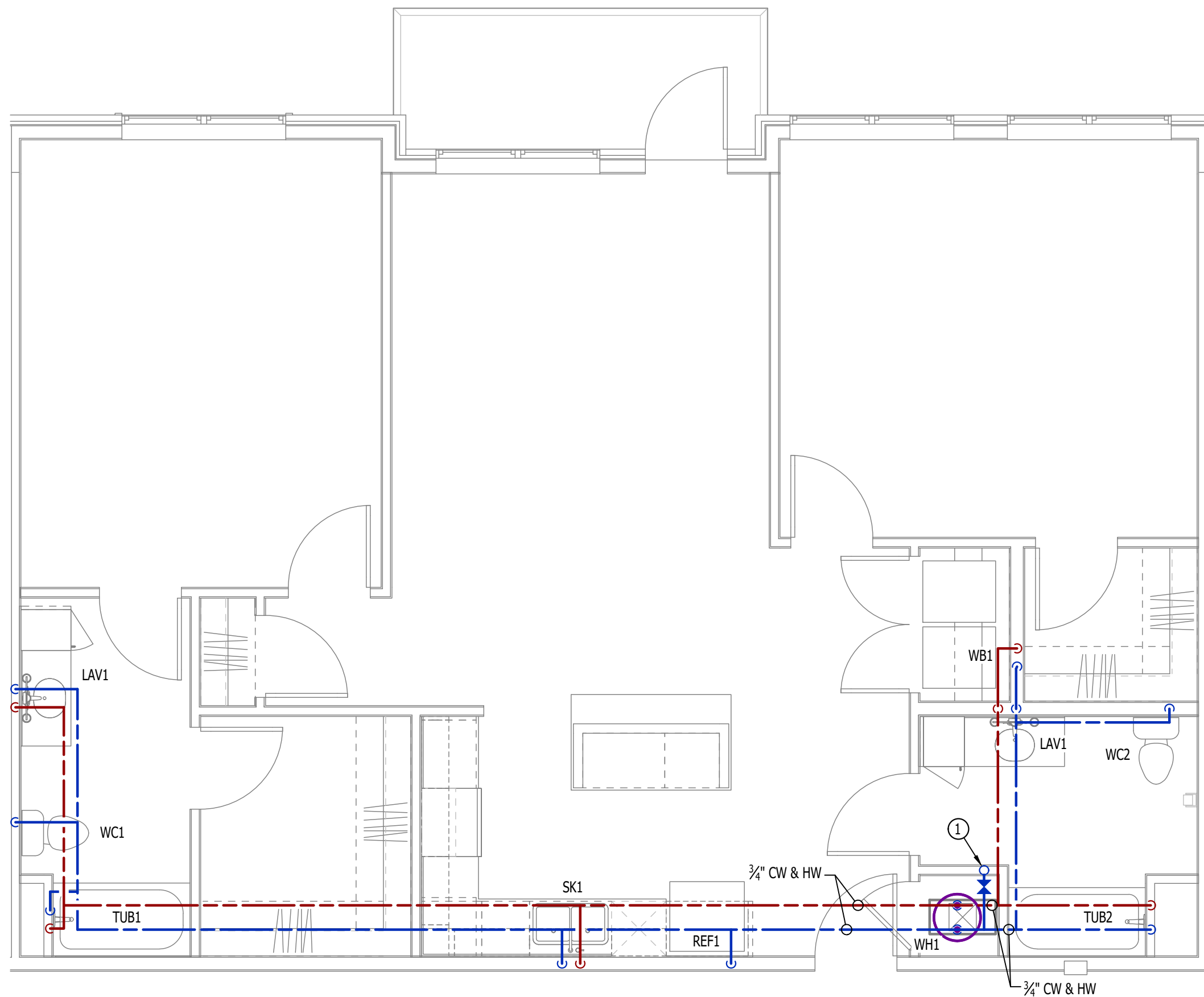
- COLD WATER LINE  
 HOT WATER LINE  
 VALVE  
 PIPING TURNED DOWN / TURNED UP

WATER PLAN GENERAL NOTES:

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WATER PLAN KEY NOTES:

- 3/4" CW PIPE UP FROM BELOW WITH SHUT-OFF VALVE IN ACCESSIBLE LOCATION. SEE OVERALL PLUMBING PLANS FOR DETAILS.



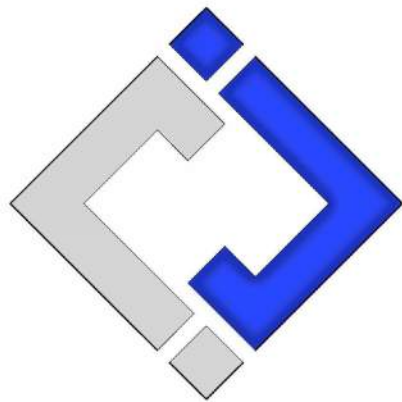
WATER PLAN

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









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573.234.4492  
www.j-squaredeng.com

J2 PROJECT No: J21013

J2 DESIGN: ACW

ISSUE TITLE                      DATE

CITY SUBMITTAL              12 - 20 - 2024

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:  
**The Village at Discovery - Lot 10A**

100 Northeast Alura Way  
Lee's Summit, Jackson County, MO 64064

AHJ APPROVAL STAMP

SHEET TITLE

HVAC & PLUMBING PLAN  
- UNIT TYPE ABERDEEN-B

SHEET NUMBER

UMEP2.3.1

#### HVAC PLAN SYMBOL LEGEND

- X  
#

← EQUIPMENT TYPE (REFER TO EQUIPMENT SCHEDULE)
- ← X  
#
- ← EQUIPMENT REFERENCE NUMBER

X  
#

← DIFFUSER/GRILLE TYPE (REFER TO SCHEDULE)

← X  
#

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⊠

SUPPLY DIFFUSER (HATCH INDICATES "NO FLOW ZONE")

⊠

RETURN DIFFUSER

—

⊠

MOTORIZED DAMPER

⊠

CEILING RADIATION DAMPER

⊠

BACK DRAFT DAMPER

⊠

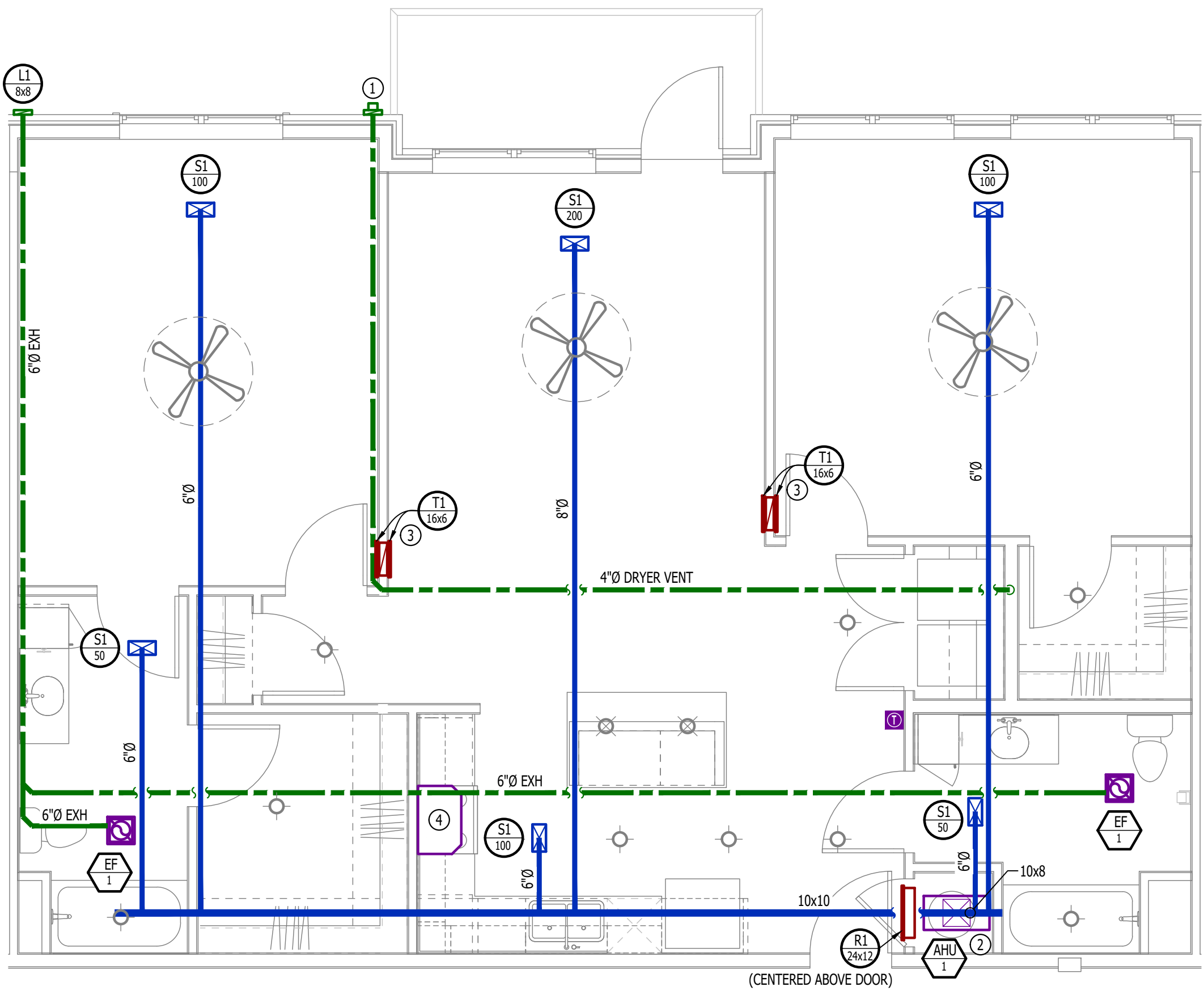
THERMOSTAT

HVAC PLAN GENERAL NOTES:

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- RESIDENTIAL RECIRCULATION HOOD TO BE SUPPLIED & INSTALLED BY GC.



HVAC PLAN

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

PLUMBING PLAN SYMBOL LEGEND

-
- COLD WATER LINE

⊠

VALVE

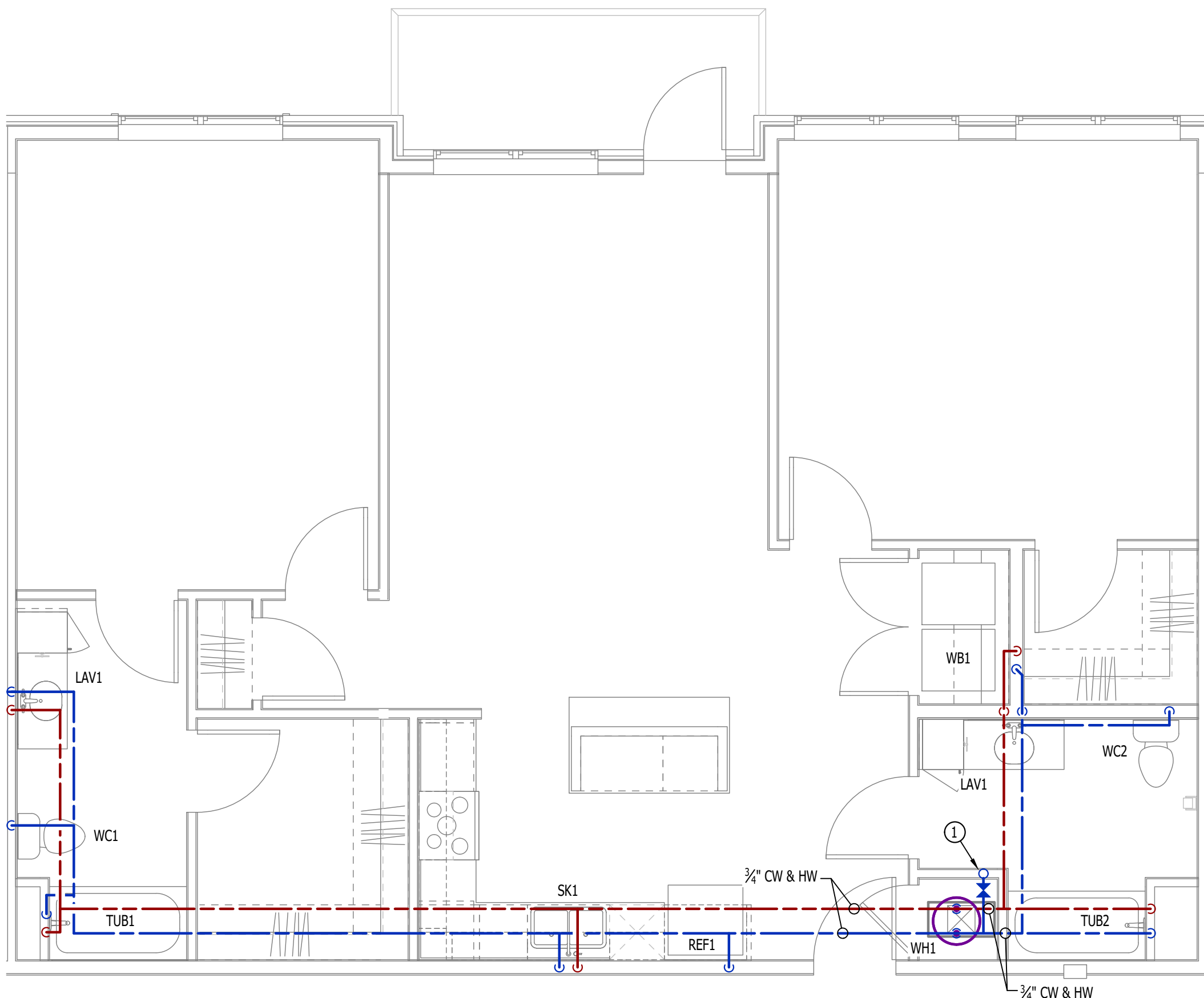
—○—

WATER PLAN GENERAL NOTES:

- SEE SHEET PS01 FOR ADDITIONAL PLUMBING NOTES, DETAILS, & SCHEDULES.
- ALL PLUMBING LOCATED ON EXTERIOR WALLS SHALL ROUTE WITHIN INSULATION BARRIER.
- ALL DOMESTIC SUPPLY LINES SERVING MORE THAN (1) FIXTURE SHALL BE 3/4" UNLESS NOTED OTHERWISE.

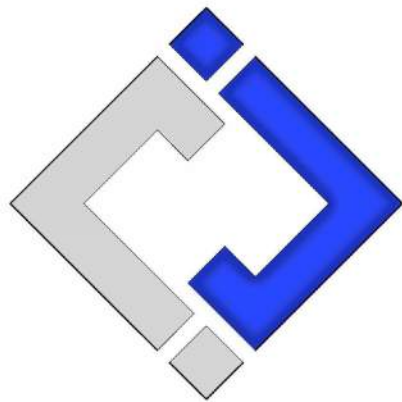
WATER PLAN KEY NOTES:

- 3/4" CW PIPE UP FROM BELOW WITH SHUT-OFF VALVE IN ACCESSIBLE LOCATION. SEE OVERALL PLUMBING PLANS FOR DETAILS.



WATER PLAN

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



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J2 PROJECT No: J21013
J2 DESIGN: ACW

ISSUE TITLE	DATE
CITY SUBMITTAL	12 - 20 - 2024

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:
The Village at Discovery - Lot 10A

100 Northeast Alura Way
Lee's Summit, Jackson County, MO 64064

AHJ APPROVAL STAMP

SHEET TITLE

POWER & LIGHTING PLAN
- UNIT TYPE ABERDEEN-B

SHEET NUMBER

UMEP2.3.2

POWER PLAN SYMBOL LEGEND

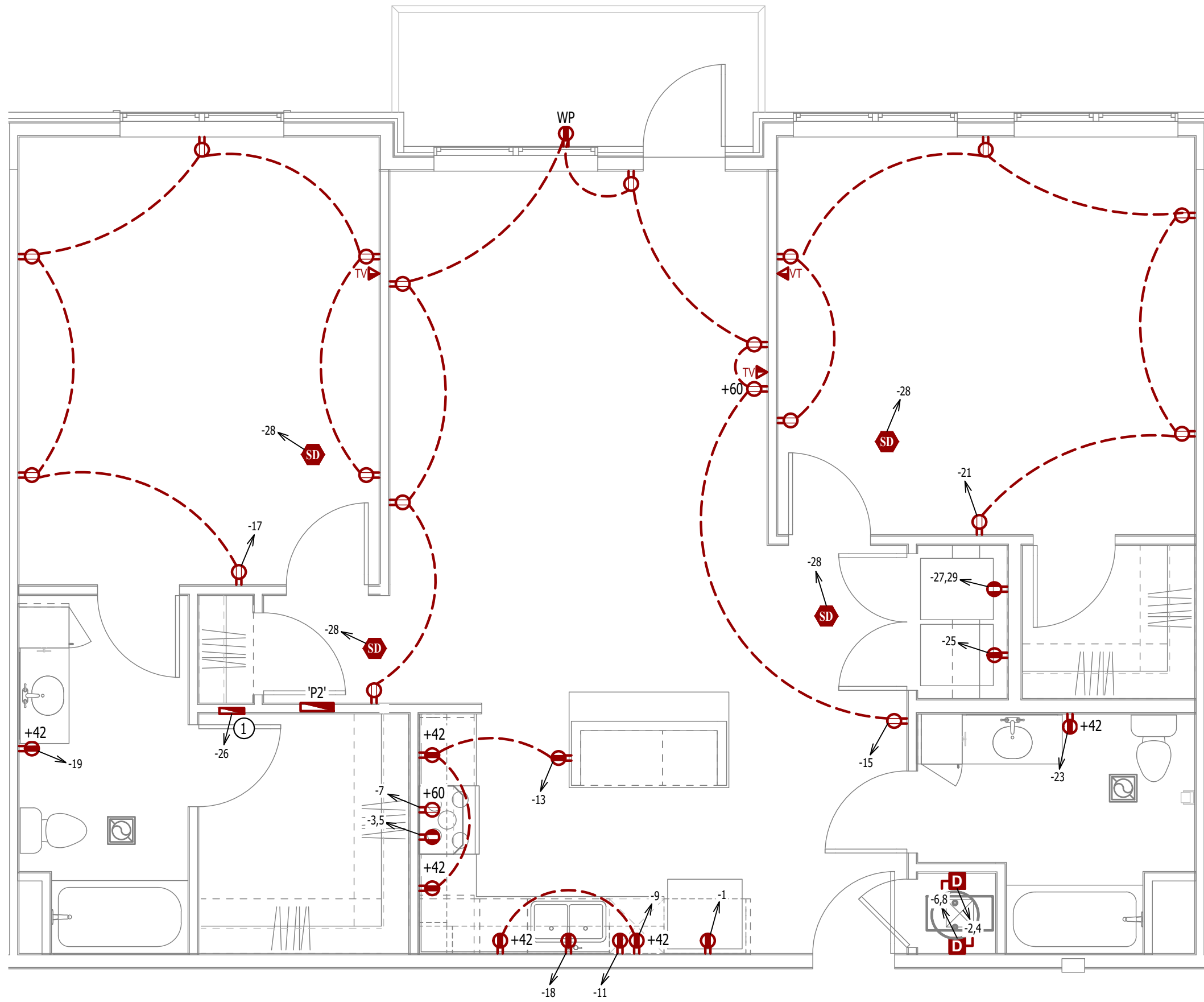
- CIRCUIT WIRING
- CIRCUIT TAG
- JUNCTION BOX
- RECEPTACLE
INDICATES MOUNTING HEIGHT TO BOTTOM OF BOX
(STANDARD @ 18" AFF UNLESS NOTED OTHERWISE)
"WP" = WEATHERPROOF OUTDOOR RECEPTACLE
- GFCI DUPLEX CONVENIENCE RECEPTACLE
- 208V RECEPTACLE
- QUADPLEX CONVENIENCE RECEPTACLE
- DATA / PHONE JACK; BOX WITH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

POWER PLAN GENERAL NOTES:

- SEE E500 & E600 SERIES SHEETS FOR POWER SCHEDULES, DETAILS, REQUIREMENTS, ETC.
- SEE SHEET MEP3 FOR CONDENSING UNIT LOCATIONS.
- VERIFY EACH DATA/RECEPTACLE LOCATION WITH OWNER PRIOR TO INSTALLATION.
- REFER TO "TYPICAL ADA MOUNTING HEIGHTS DETAIL", E500 & E600 SERIES SHEETS, OR MOUNTING HEIGHTS OF DEVICES IN "ANSI A" UNITS.

POWER PLAN KEY NOTES:

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



POWER PLAN

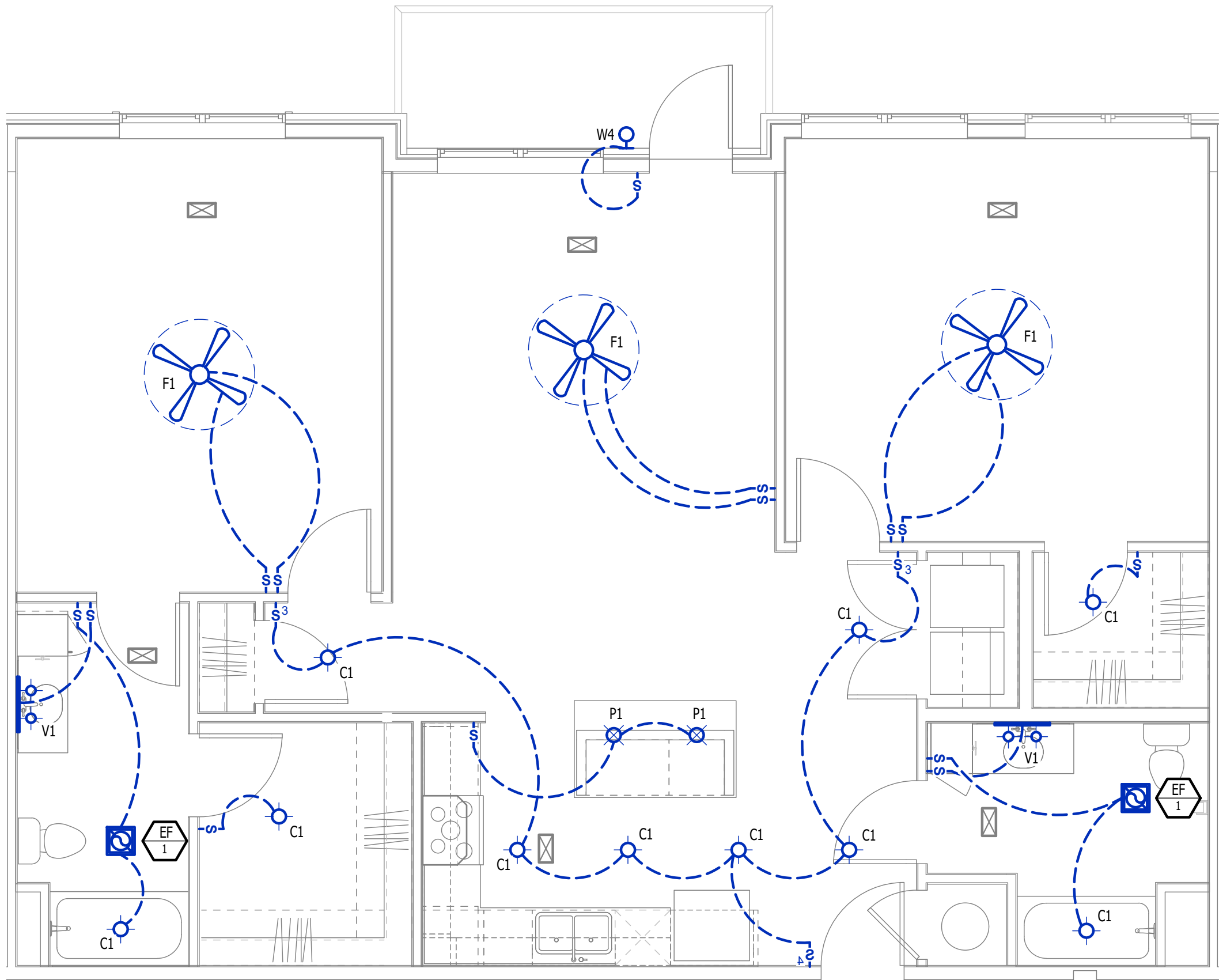
SCALE: 1/4" = 1'-0"

LIGHTING PLAN SYMBOL LEGEND

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

LIGHTING PLAN GENERAL NOTES:

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



LIGHTING PLAN

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

HVAC PLAN SYMBOL LEGEND

- X

#

←

EQUIPMENT TYPE (REFER TO EQUIPMENT SCHEDULE)
- X

#

←

EQUIPMENT REFERENCE NUMBER
- X

#

←

DIFFUSER/GRILLE TYPE (REFER TO SCHEDULE)
- X

#

←

CUBIC FEET PER MINUTE (CFM) / FACE SIZE
- SUPPLY DUCTWORK
- - -

RETURN DUCTWORK
- - -

EXHAUST DUCTWORK
- ~~~~~

FLEX DUCT
- X

X

—

SUPPLY DIFFUSER (HATCH INDICATES "NO FLOW ZONE")
- X

X

—

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

HVAC PLAN GENERAL NOTES:

1. SEE MS00 & M600 SERIES SHEETS FOR HVAC SCHEDULES, DETAILS, REQUIREMENTS, ETC.
2. SEE SHEET MEP4 FOR CONDENSING UNIT LOCATIONS. REFRIGERANT PIPING SHALL ROUTE IN SPACES ABOVE FINISHED CEILINGS AND WITHIN WALL CAVITIES TO REMAIN CONCEALED.
3. SUPPLY DUCTWORK FROM AHU AT FLOOR/CEILING PENETRATION SHALL BE PROTECTED BY A FIRE DAMPER. INSTALL PER MANUFACTURER'S SPECIFICATIONS.
4. WRAP ALL DRYER DUCTS WITH FIREMASTER (OR EQUAL) DUCT WRAP.
5. TOTAL DEVELOPED LENGTH OF EXHAUST DUCT SHALL BE INDICATED ON A PERMANENT LABEL WITHIN 6' OF DRYER VENT CONNECTION. DRYER DUCT ROUTING SHOWN IS FOR REFERENCE ONLY. OVERALL DUCT LENGTH SHALL BE CALCULATED BY HVAC CONTRACTOR PER 2018 IMC 504.8.4.
6. LOCATE ALL EXHAUST / DRYER VENT TERMINATIONS AT LEAST 36" FROM OPERABLE OPENINGS INTO APARTMENTS (WINDOWS, DOORS, ETC.).
7. ALL DUCTWORK SHOWN SHALL ROUTE IN SPACE BETWEEN / THRU TRUSSES UNLESS NOTED OTHERWISE. SEE STRUCTURAL DRAWINGS FOR DETAILS.

HVAC PLAN KEY NOTES:

- ① TERMINATE 4" DRYER EXHAUST WITH VENT EQUAL TO DRYER WALL VENT #DWW4.
- ② AHU FLOOR MOUNTED BELOW WATER HEATER ON SHELF ABOVE.
- ③ HI/LOW TRANSFER GRILLE (12" A.F.F. ON BEDROOM SIDE OF WALL; 84" A.F.F. ON OPPOSITE SIDE OF WALL).
- ④ RESIDENTIAL RECIRCULATION HOOD TO BE SUPPLIED & INSTALLED BY GC.
- ⑤ SUPPLY DIFFUSER IN FLOOR. SEE FIRST FLOOR HVAC PLAN FOR DUCT ROUTING.

PLUMBING PLAN SYMBOL LEGEND

- — —

COLD WATER LINE
- - -

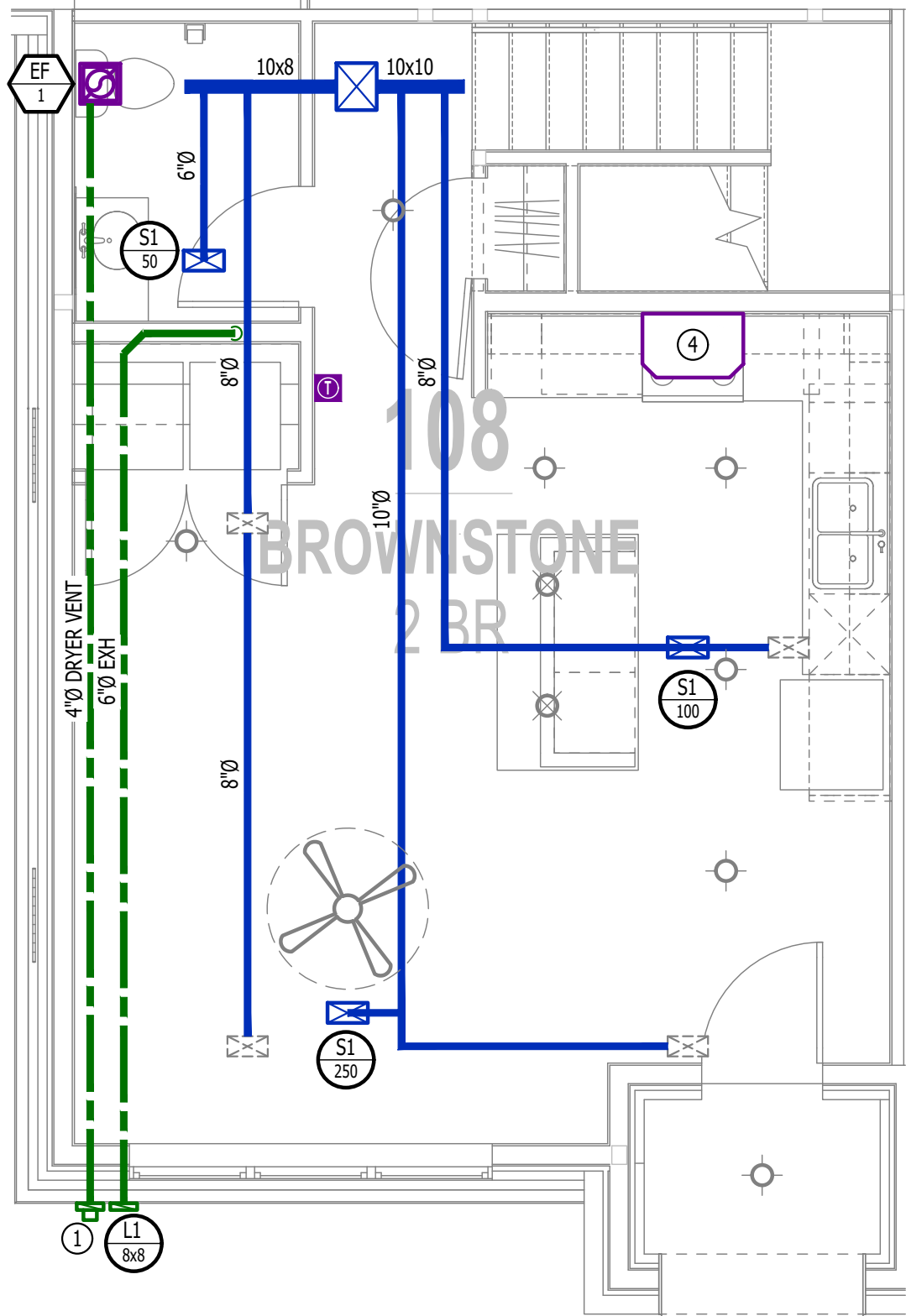
HOT WATER LINE
- VALVE
- PIPING TURNED DOWN / TURNED UP

WATER PLAN GENERAL NOTES:

1. SEE SHEET P501 FOR ADDITIONAL PLUMBING NOTES, DETAILS, & SCHEDULES.
2. ALL PLUMBING LOCATED ON EXTERIOR WALLS SHALL ROUTE WITHIN INSULATION BARRIER.
3. ALL DOMESTIC SUPPLY LINES SERVING MORE THAN (1) FIXTURE SHALL BE ¾" UNLESS NOTED OTHERWISE.

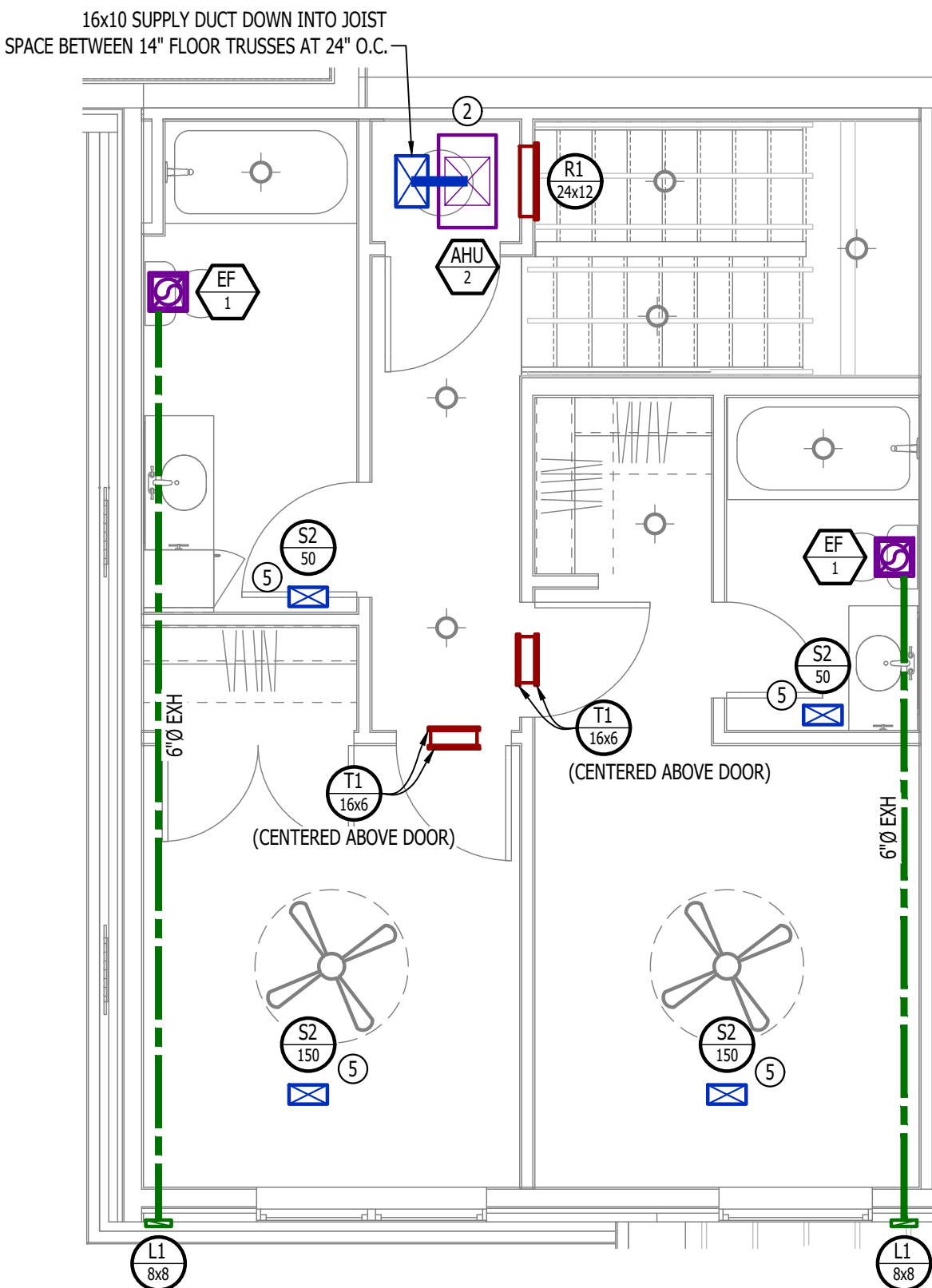
WATER PLAN KEY NOTES:

- ① ¾" CW PIPE UP FROM BELOW WITH SHUT-OFF VALVE IN ACCESSIBLE LOCATION. SEE OVERALL PLUMBING PLANS FOR DETAILS.



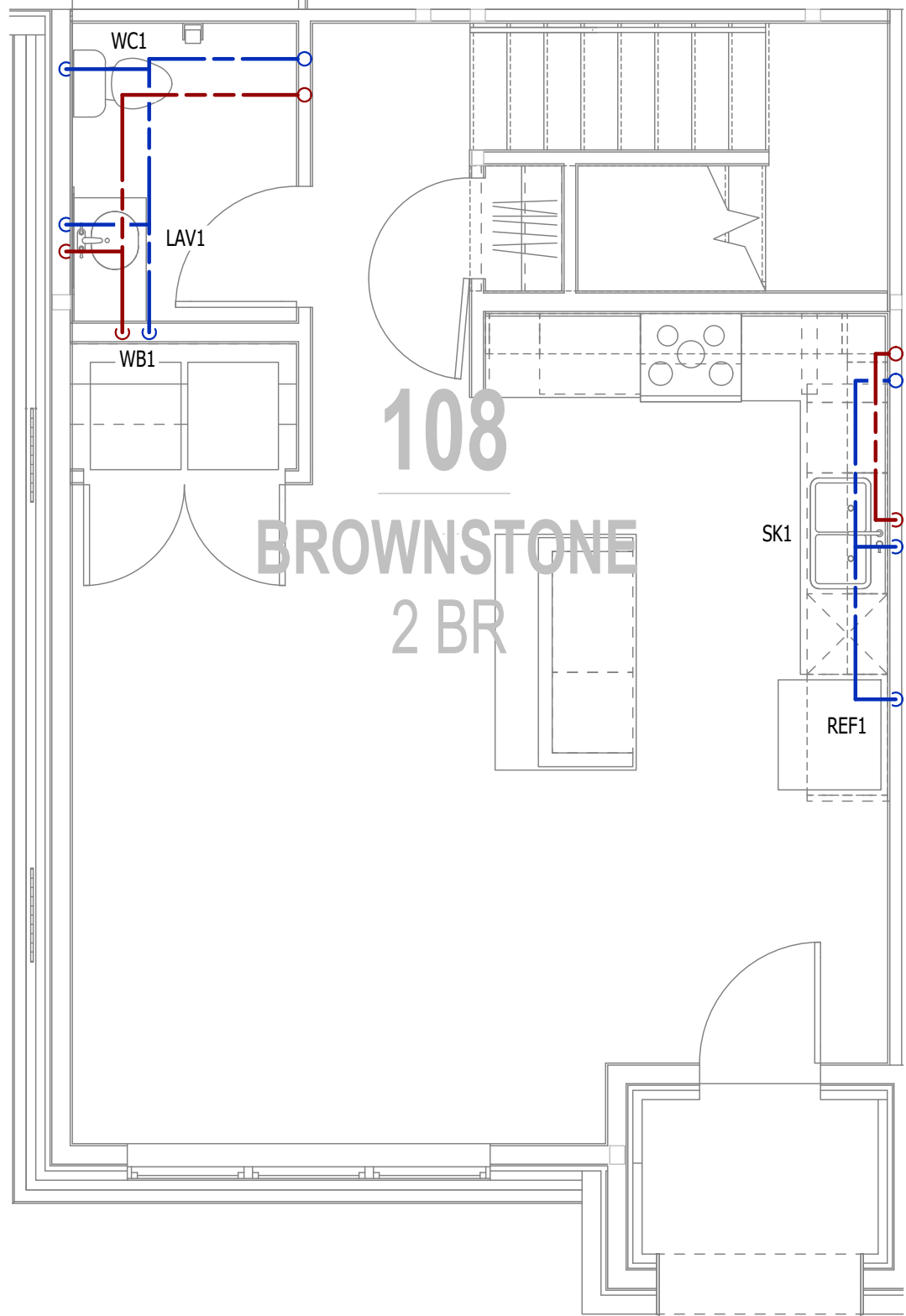
HVAC PLAN - FIRST FLOOR

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



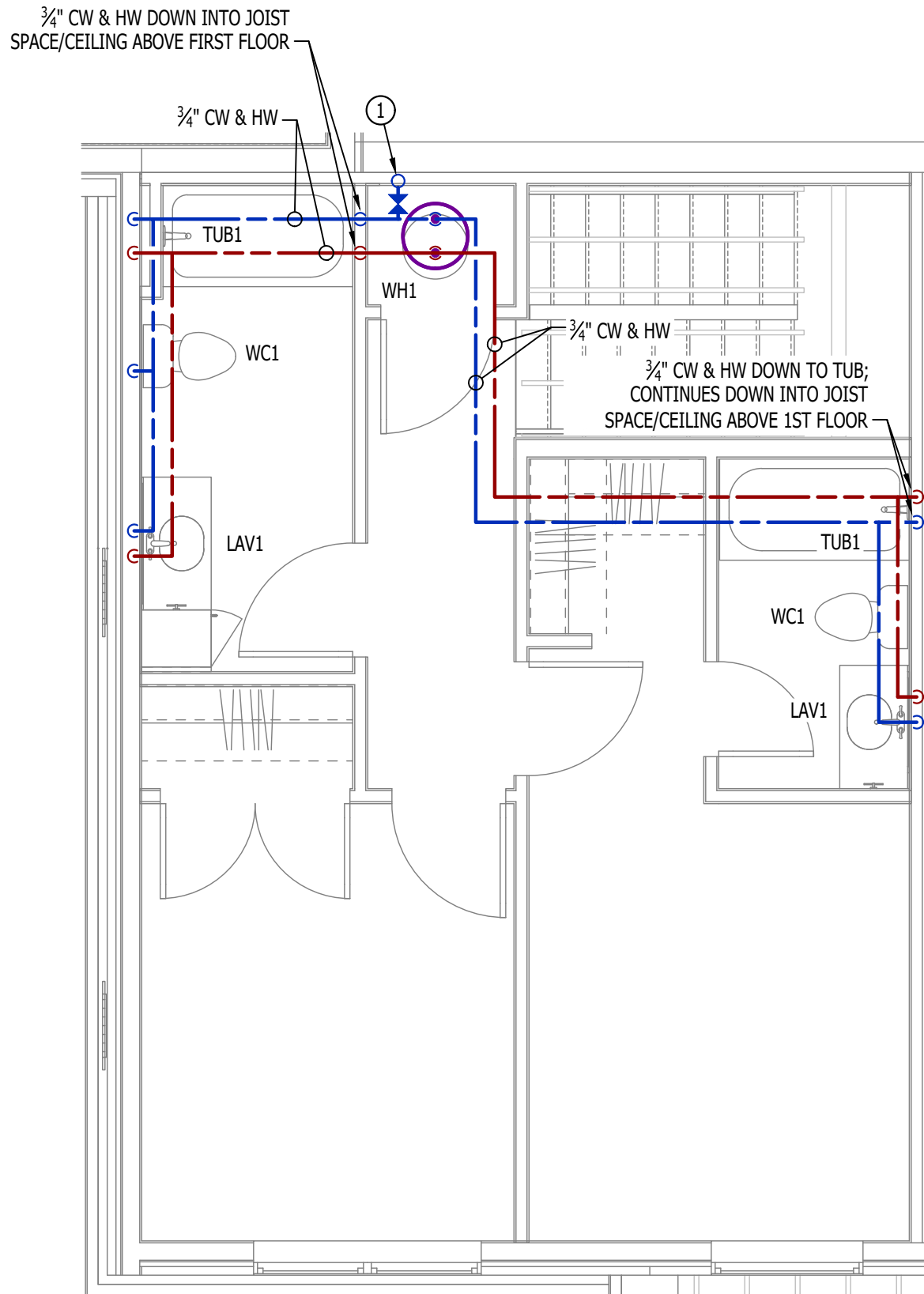
HVAC PLAN - SECOND FLOOR

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



WATER PLAN - FIRST FLOOR

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



WATER PLAN - SECOND FLOOR

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

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:
The Village at Discovery - Lot 10A

100 Northeast Alura Way
Lee's Summit, Jackson County, MO 64064

AHJ APPROVAL STAMP

SHEET TITLE

HVAC & PLUMBING PLAN
- UNIT TYPE
BROWNSTONE

SHEET NUMBER

UMEP2.4.1

RELEASED FOR
CONSTRUCTION
As Noted on Plans Review

Development Services Department
Jackson County, Missouri
800.425.2225

JAMES P. WATSON
NUMBER
PE-2015017071
PROFESSIONAL ENGINEER

James Watson, P.E. December 20, 2024
PE-2015017071
MO Certificate of Authority # 2018029680

POWER PLAN SYMBOL LEGEND

- PK-XX
CIRCUIT WIRING
- PK-XX
CIRCUIT TAG
- JUNCTION BOX
- XX ● +42
RECEPTACLE
INDICATES MOUNTING HEIGHT TO BOTTOM OF BOX
(STANDARD @ 18" AFF UNLESS NOTED OTHERWISE)
"WP" = WEATHERPROOF OUTDOOR RECEPTACLE
- GFCI DUPLEX CONVENIENCE RECEPTACLE
- 208V RECEPTACLE
- QUADPLEX CONVENIENCE RECEPTACLE
- ▼
DATA / PHONE JACK; BOX WITH 1" CONDUIT & CAT6 CABLE BACK TO MEDIA PANEL LOCATION
(STANDARD @ 18" AFF UNLESS NOTED OTHERWISE)
- DISCONNECT
- SD
120V IONIZATION SMOKE 520Hz LOW FREQUENCY ALARM WITH SILENCING CAPABILITIES & LOW-VOLTAGE CONTACTS WIRED TO SHUT DOWN AHU UPON FIRE DETECTION. COORDINATE WITH HVAC CONTRACTOR. SMOKE DETECTOR MUST BE LOCATED AT LEAST 3' FROM CEILING FAN BLADES AND AT LEAST 10' FROM ANY COOKING APPLIANCE (FIELD-COORDINATE)

POWER PLAN GENERAL NOTES:

- SEE E500 & E600 SERIES SHEETS FOR POWER SCHEDULES, DETAILS, REQUIREMENTS, ETC.
- SEE SHEET MEP3 FOR CONDENSING UNIT LOCATIONS.
- VERIFY EACH DATA/RECEPTACLE LOCATION WITH OWNER PRIOR TO INSTALLATION.
- REFER TO "TYPICAL ADA MOUNTING HEIGHTS DETAIL", E500 & E600 SERIES SHEETS, OR MOUNTING HEIGHTS OF DEVICES IN "ANSI A" UNITS.

POWER PLAN KEY NOTES:

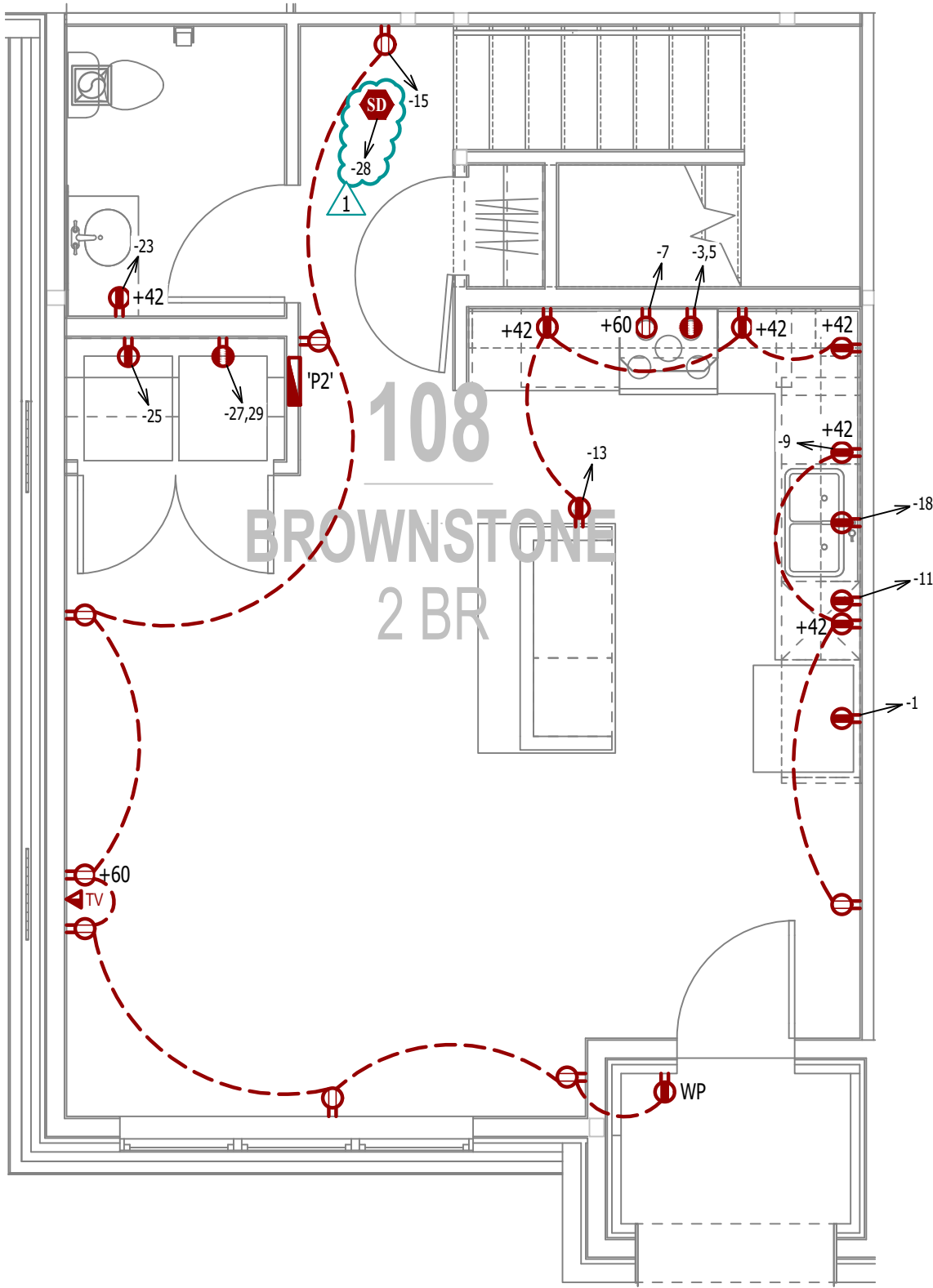
- ① MEDIA PANEL LOCATION; DATA/TV WIRING TO TERMINATE AT THIS LOCATION. DETERMINE EXACT LOCATION & DETAILS WITH OWNER PRIOR TO INSTALLATION.

LIGHTING PLAN SYMBOL LEGEND

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

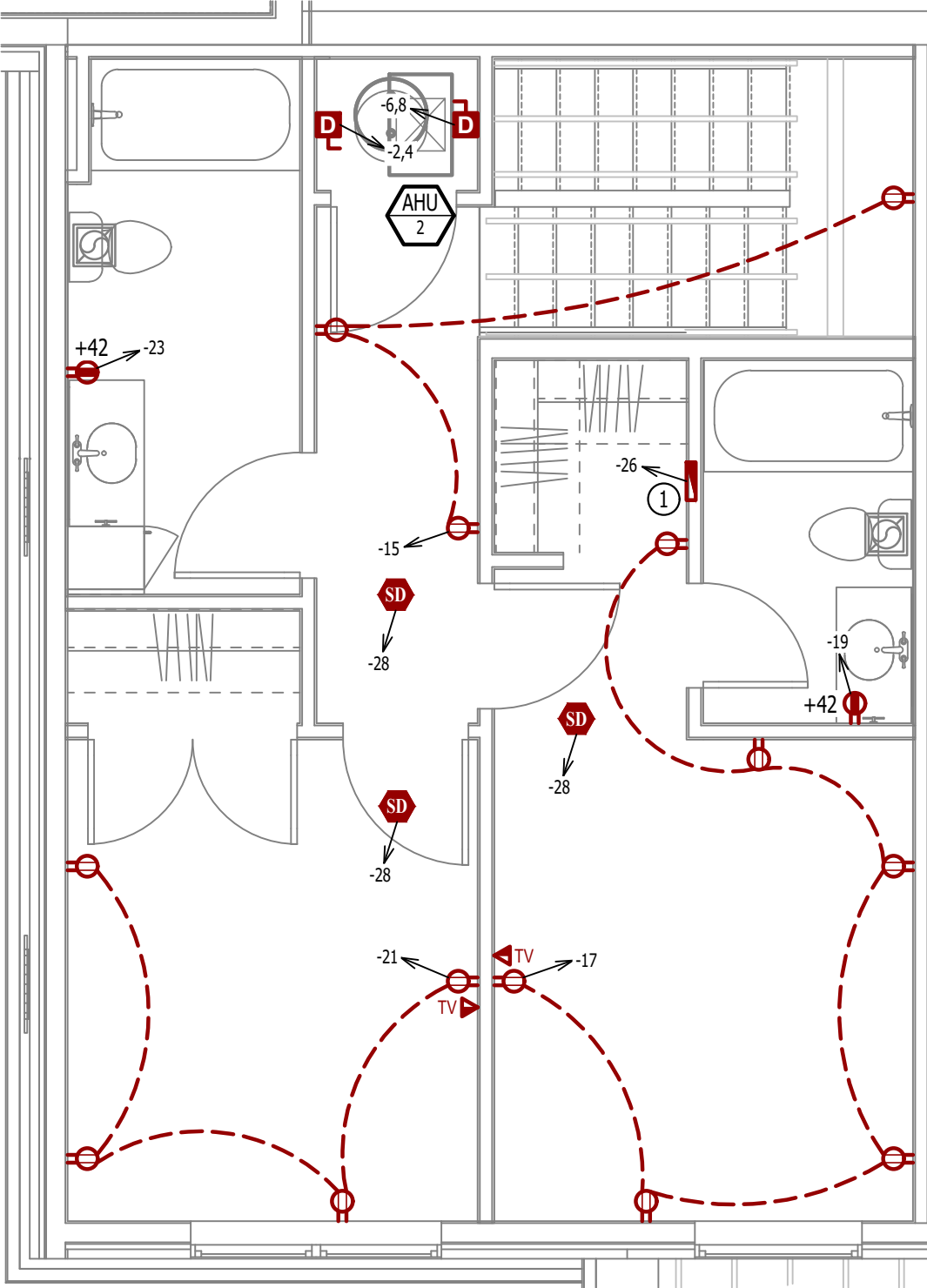
LIGHTING PLAN GENERAL NOTES:

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



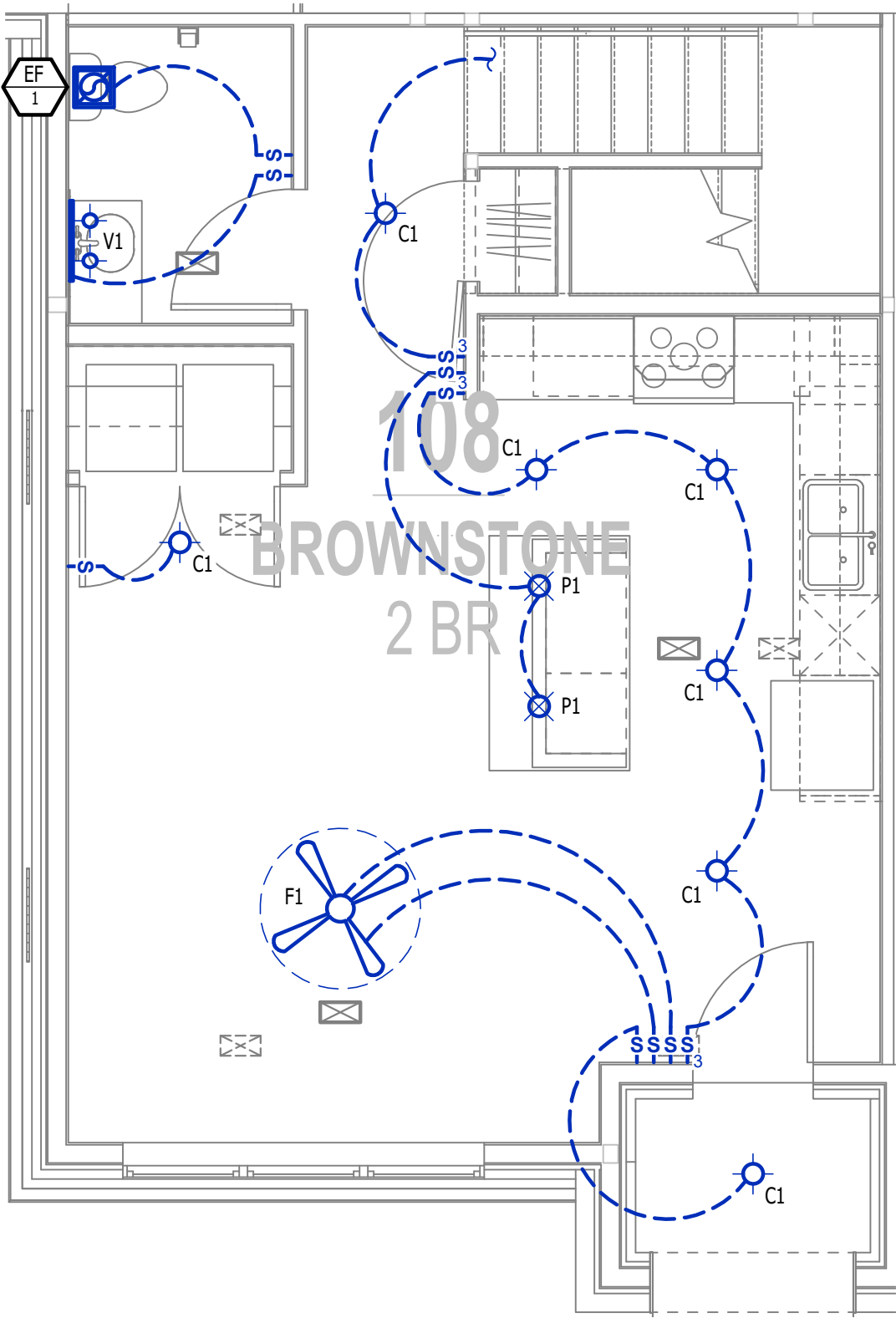
POWER PLAN - FIRST FLOOR

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



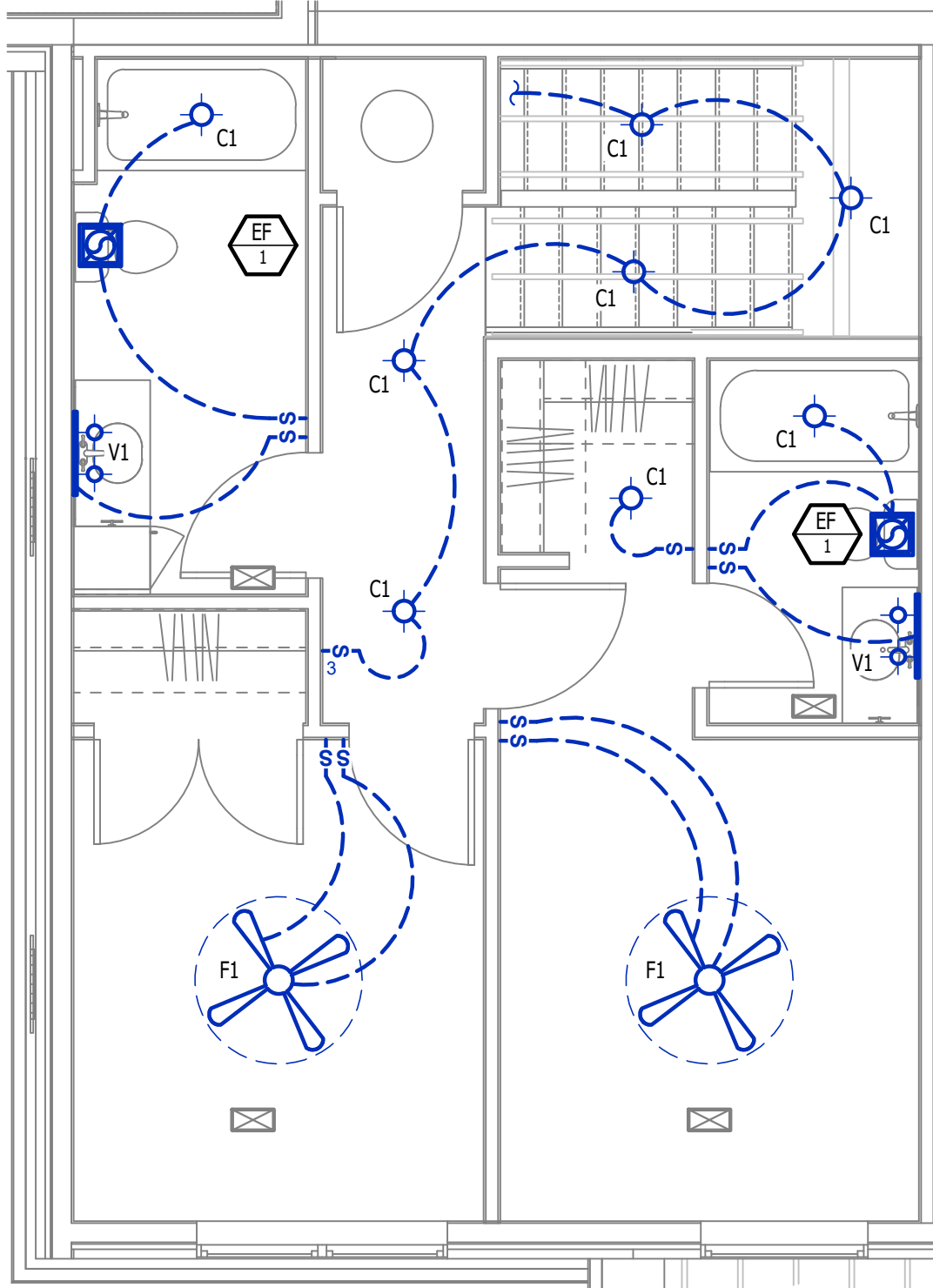
POWER PLAN - SECOND FLOOR

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



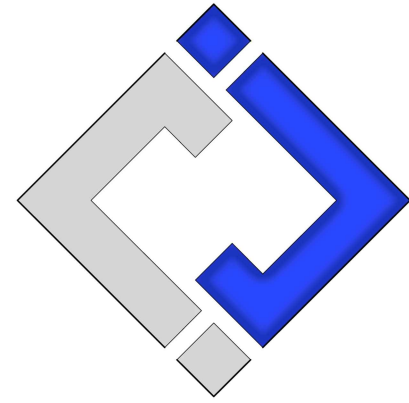
LIGHTING PLAN - FIRST FLOOR

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



LIGHTING PLAN - SECOND FLOOR

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



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J2 PROJECT No: J21013

J2 DESIGN: ACW

ISSUE TITLE DATE

CITY SUBMITTAL 12 - 20 - 2024

ADDENDUM #1 01 - 17 - 2025