

RESERVE AT BLACKWELL - BUILDING F2

SE SHENANDOAH DRIVE LEE'S SUMMIT, MO 64063

PERMIT DOCUMENTS 17 JAN 2024 COLLINS WEBB #: 21075

OWNER

GRIFFIN RILEY PROPERTY GROUP 21 SE 29TH TERRACE LEE'S SUMMIT, MO 64082 P: 816.366.7900 www.griffinriley.com



ARCHITECT

COLLINS | WEBB ARCHITECTURE 307B SW MARKET STREET LEE'S SUMMIT, MISSOURI 64063 P: 816.249.2270 www.collinsandwebb.com

ELECTRICAL ENGINEER

ENGINEREED BUILDING SOLUTIONS, LLC P: 913.735.5654 www.ebsolutionskc.com

STRUCTURAL ENGINEER

STAND STRUCTURAL ENGINEERING INC. 8234 ROBINSON STREET OVERLAND PARK, KS 662074 P: 913.214.2169 www.stand-sei.com

Type F2 addresses:

CIVIL ENGINEER

SCHLAGEL ASSOCIATES 14920 W. 107TH STREET LENEXA KS, 66215 P: 913.492.5158 www.Schlagelassociates.com



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- 546 SE 5th Ter.
- 595 Wood Ln.
- 603 Wood Ln.
- 609 Wood Ln.
- 617 Wood Ln.
- 625 Wood Ln.
- 633 Wood Ln.
- 628 Highland Park Dr.
- 620 Highland Park Dr.
- 612 Highland Park Dr.
- 604 Highland Park Dr.
- 598 Highland Park Dr.
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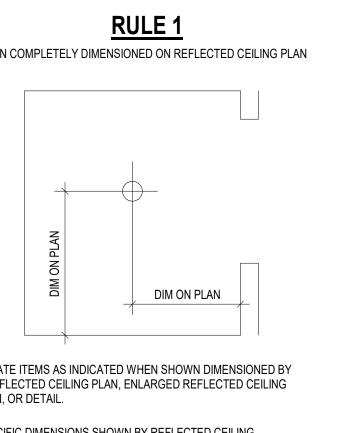
			ARCHI	TECT	CTURAL ABBREVIATIONS		
&	AND	E	EAST	ID		PA	PUBLIC ADDF
< AB	ANGLE	EA		IN		PART	
=	ANCHOR BOLT ACOUSTIC(AL)	EDR EG	EQUIPMENT DRAWING EDGE GUARD	INCAND INCL	INCANDESCENT INCLUDE, INCLUDING	PBD PBX	PARTICLEBO
ACT	ACOUSTICÀL CEILING TILE	EIFS	EXTERIOR INSULATION FINISH SYSTEM	INFO	INFORMATION	PCF	POUNDS PER
ACP ACS PNL	ACOUSTICAL CEILING PANEL ACCESS PANEL	EJ EL	EXPANSION JOINT ELEVATION	INSUL INTR	INSULATION INTERIOR	PCI PERF	POUNDS PER PERFORATEI
AD	AREA DRAIN	ELAST	ELASTOMERIC	INV	INVERT	PERIM	PERIMETER
ADDL	ADDITIONAL	ELEC	ELECTRICAL	IVT	INTRAVENOUS TRACK	PERM	PERMANENT
ADH ADJ	ADHESIVE ADJUSTABLE	ELEV EMER	ELEVATOR EMERGENCY			PERP Pl	PERPENDICU POINT OF INT
ADJ	ADJACENT	ENCL	ENCLOSURE			PL	PLATE
AFF	ABOVE FINISH FLOOR	ENGR	ENGINEER			PLAM	PLASTIC LAN
AFG AFS	ABOVE FINISH GRADE ABOVE FINISH SLAB	EOS EP	EDGE OF SLAB ELECTRICAL PANEL	JAN JST	JANITOR JOIST	PLAS PLBG	PLASTER, PL PLUMBING
AGGR	AGGREGATE	EPB	ELECTRICAL PANEL BOARD	JT	JOINT	PLF	POUNDERS
ALUM, AL ALT	ALUMINUM ALTERNATE	EPDM EQ	ETHYLENE PROPYLENE DIENE MONOMER EQUAL			PLYWD PNEU	PLYWOOD PNEUMATIC
ANOD	ANODIZED	EQL SP	EQUALLY SPACED			PNL	PANEL
APPROX	APPROXIMATE(LY)	EQUIP	EQUIPMENT			PNL BD	PANEL BOAF
ARCH ASPH	ARCHITECT(URAL) ASPHALT	EQUIV ESCAL	EQUIVALENT ESCALATOR	KG KIT	KILOGRAM KITCHEN	PNT, P PORT	PAINT PORTABLE
ASPH	AT	EST	ESCALATOR ESTIMATED(D)	KPL	KICK PLATE	PP	PUSH PLATE
AVG	AVERAGE	EWC	ELECTRIC WATER COOLER	KS	KNEE SPACE	PPM	PARTS PER
		EXC EXH	EXCAVATED EXHAUST			PR PRCST	PAIR PRECAST
BB	BULLETIN BOARD	EXIST, (E)	EXISTING			PREP	PREPARATIO
BD	BOARD	EXP	EXPANSION			PREFAB	PREFABRICA
BTWN BITUM	BETWEEN BITUMINOIUS	EXP JT EXT	EXPANSION JOINT EXTERIOR	L LAB	LENGHT, LONG LABORATORY	PRKG PROJ	PARKING PROJECT
	BLOCK / BLOCKING	EXT EX-BR	EXISTING BRICK	LAB LAM	LABORATORY LAMINATE, LAMINATION	PROJ PROP	PROJECT
BLDG	BUILDING			LAV	LAVATORY	PSF	POUNDS PE
BM BMD	BENCHMARK BOTTOM OF METAL DECK	F/F	FACE TO FACE	LB LED	POUND LIGHT EMITTING DIODE	PSI PT / PTD	POUNDS PE POINT, PAIN
BO	BOTTOM OF / BY OTHERS	FA	FIRE ALARM	LED	LINEAR FOOT	PTN	PARTITION
BOT	BOTTOM	FAS	FIRE ALARM STATION	LG	LENGTH	PTS	PNEUMATIC
BOS BRG	BOTTOM OF STEEL BEARING	FB FCU	FLAT BAR FAN COIL UNIT	LIN LL	LINEAR LEAD LINED	PVC PVG	POLYVINYL (PAVING
BSMT	BASEMENT	FD	FLOOR DRAIN	LPT	LOW POINT	PVMT	PAVEMENT
BUR	BUILT UP ROOFING SYSTEM	FDC	FIRE DEPARTMENT CONNECTION	LT	LIGHT	PWR	POWER
		FDN FEC	FOUNDATION FIRE EXTINGUISHER CABINET	LT WT LTG	LIGHT WEIGHT LIGHTING		
[CHANNEL	FE	FIRE EXTINGUISHER	LVR	LOUVER		
CAB CPT	CABINET CARPET	FF FG	FINISH FACE			OT	QUARRY TIL
CPT	CARPET CAST IRON	FG FHC	FINISH GRADE FIRE HOSE CABINET			QT QTR	QUARRY TIL
СВ	CATCH BASIN	FH/FEC	FIRE HOSE / EXTINGUISHER CABINET			QTY	QUANTITY
CCR CSWK	CARD CONTROL READER CASEWORK	FHMS FHWS	FLAT HEAD MACHINE SCREW FLAT HEAD WOOD SCREW	M MACH	METERS MACHINE		
COVIN	CUBICLE CURTAIN TRACK	FHVS	FIRE HYDRANT	MACH	MACHINE		
CCTV	CLOSED CIRCUIT TELEVISION	FIN	FINISH, FINISHED	MATV	MASTER ANTENNA TELEVISION SYSTEM	_	
CSP CG	COMBINATION STAND PIPE CORNER GUARD	FLAM FLASH	FLAMMABLE FLASHING	MAX MB	MAXIMUM MACHINE BOLT	R RA	RISER RETURN AIR
CEM	CEMENT, CEMENTITIOUS	FLEX	FLEXIBLE	MC	MEDICINE CABINET	RAD	RADIUS
CER	CERAMIC	FLR	FLOOR	MDO	MEDIUM DENSITY OVERLAY	RB	RESILIENT E
CT CH BD	CERAMIC TILE CHALKBOARD	FLUOR FO	FLUORESCENT FACE OF	MECH MED	MECHANICAL MEDIUM	RCP RCPT	REFLECTED RECEPTACL
CL	CENTER LINE	FRT	FIRE RETARDANT TREATMENT	MET, MTL	METAL	RD	ROOF DRAIN
CLG CLR	CEILING CLEAR	FRZ FSB	FREEZER FOLDING SHOWER BENCH		MEMBRANE MANUFACTURER	RECT REF	RECTANGUI REFERENCE
CLO	CLOSET	FSTNR	FASTENER	MH	MANUFACTORER	REFR	REFRIGERA
CMU	CONCRETE MASONRY UNIT	FT	FOOT, FEET	MIN	MINIMUM	REG	REGISTER
CRSC CW	COLD ROLLED STEEL CHANNEL COLD WATER	FTG FURN	FOOTING FURNITURE	MISC MLDG	MISCELLANEOUS MOLDING	REINF REQD	REINFORCE REQUIRED
COL	COLUMN	FXTR	FIXTURE	MM	MILLIMETERS	REQT	REQUIREME
CNTR	COUNTER			MO		RESIL	RESILIENT
CSK CONC	COUNTERSUNK CONCRETE	G	GAS	MOD MTD	MODULE, MODULAR MOUNTED	RET REV	RETURN REVISION
CONF	CONFERENCE	GA	GAUGE, GAGE	MTG	MOUNTING	RF	RESILIENT F
CONN CONSTR	CONNECTION CONSTRUCTION	GAL GALV	GALLON GALVANIZED	MVBL MULL	MOVABLE MULLION	RH RHMS	RIGHT HANE ROUND HEA
	CONTINUOUS	GALV	GRAB BAR	WOLL	MOLLION	RHWS	ROUND HEA
CONTR	CONTRACTOR	GC	GENERAL CONTRACTOR			RM	ROOM
CJ CG	CONTROL JOINT CORNER GUARD	GFCI GFRC	GROUND FAULT CIRCUIT INTERRUPTER GLASS FIBER REINFORCED CONCRETE			RND RO	ROUND ROUGH OPE
CORR	CORRUGATED, CORRIDOR	GFRG	GLASS FIBER REINFORCED GYPSUM	(N)	NEW	ROW	RIGHT OF W
CU	CUBIC	GL	GLASS	Ň	NORTH	RWL	RAIN WATER
		GLU LAM GLZ	GLUE LAMINATED GLAZING	NA NAT	NOT APPLICABLE NATURAL		
D	DEPTH	GR	GRADE OR GRADING	NE	NORTHEAST		
DBL		GVL	GRAVEL	NIC		0	
DBL ACT DEG	DOUBLE ACTING DEGREE	GYP GYP BD	GYPSUM GYPSUM BOARD	NO NOM	NUMBER NOMINAL	S SA	SOUTH SUPPLY AIR
DEMO	DEMOLISH	GYP PLAS	GYPSUM PLASTER	NRC	NOICE REDUCTION COEFFICIENT	SB	SPLASH BLC
					NOT TO SCALE	SC SCHED	SOLID CORE
DET DF	DETAIL DRINKING FOUNTAIN	Н	HIGH	NW	NORTHWEST	SCHED SCRN	SCHEDULE SCREEN
DIA	DIAMETER	HB	HOSE BIBB			SD	STORM DRA
	DIAGONAL DIFFUSER	HC HD	HOLLOW CORE HEAD			SE SECT	SOUTHEAST SECTION
DIFF DIM	DIFFUSER	HD HDBD	HEAD HARDBOARD	OC	ON CENTER	SECT SEG	SECTION
DIM PT	DIMENSION POINT	HDW, HDWR	HARDWARE	OA	OVERALL	SEP	SEPARATION
DISP	DISPENSER	HDWD	HARDWOOD	OD OFCI		SEP JT	SEPARATION SHEET, SHE
DIST DK	DISTANCE DECK	HGT, HT HM	HEIGHT HOLLOW METAL	OFCI OFOI	OWNER FURNISHED-CONTRACTOR INSALLEI OWNER FURNISHED-OWNER INSTALLED	SHUR	SHEET, SHE SHOWER
DN	DOWN	HNDRL	HANDRAIL	OPNG	OPENING	SHV	SHELVES, SI
DR	DRAIN, DOOR	HORIZ	HORIZONTAL	OPP		SIM	SIMILAR
DS DSP	DOWNSPOUT DRY STANDPIPE	HPT HR	HIGH POINT HOUR	ORD OVHD	OVERFLOW ROOF DRAIN OVERHEAD	SK SMS	SINK SHEET MET/
DT	DRAPERY TRACK	HVAC	HEATING-VENTILATION-AIR CONDITIONING		OUNCE	SP	SPACE, SPA
DTL	DETAIL	HW	HOT WATER			SPEC	SPECIFICATI
DW	DISHWASHER						

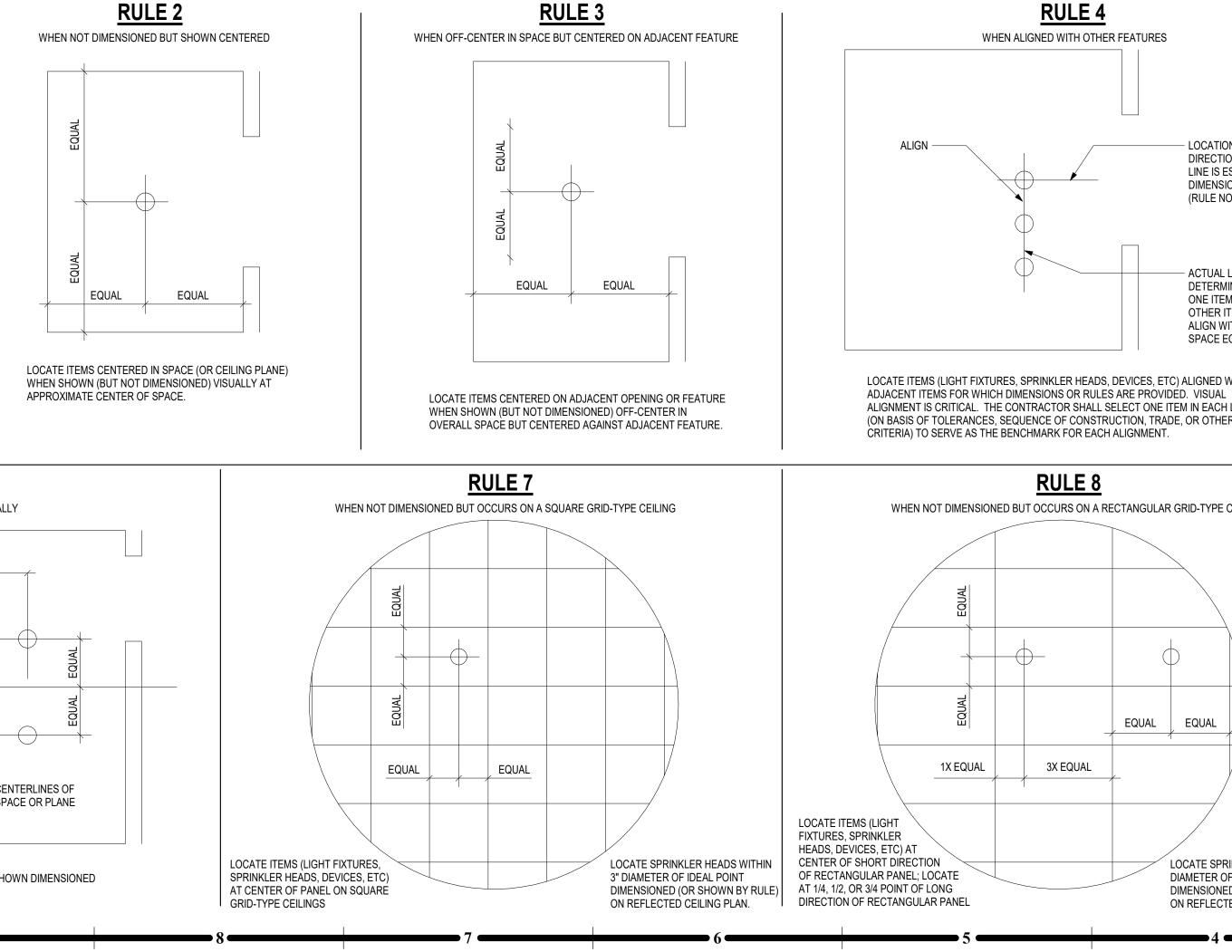
TYPICAL RULES FOR DETERMINING REFLECTED CEILING PLAN LOCATIONS, DIMENSIONS, AND CONFIGURATIONS

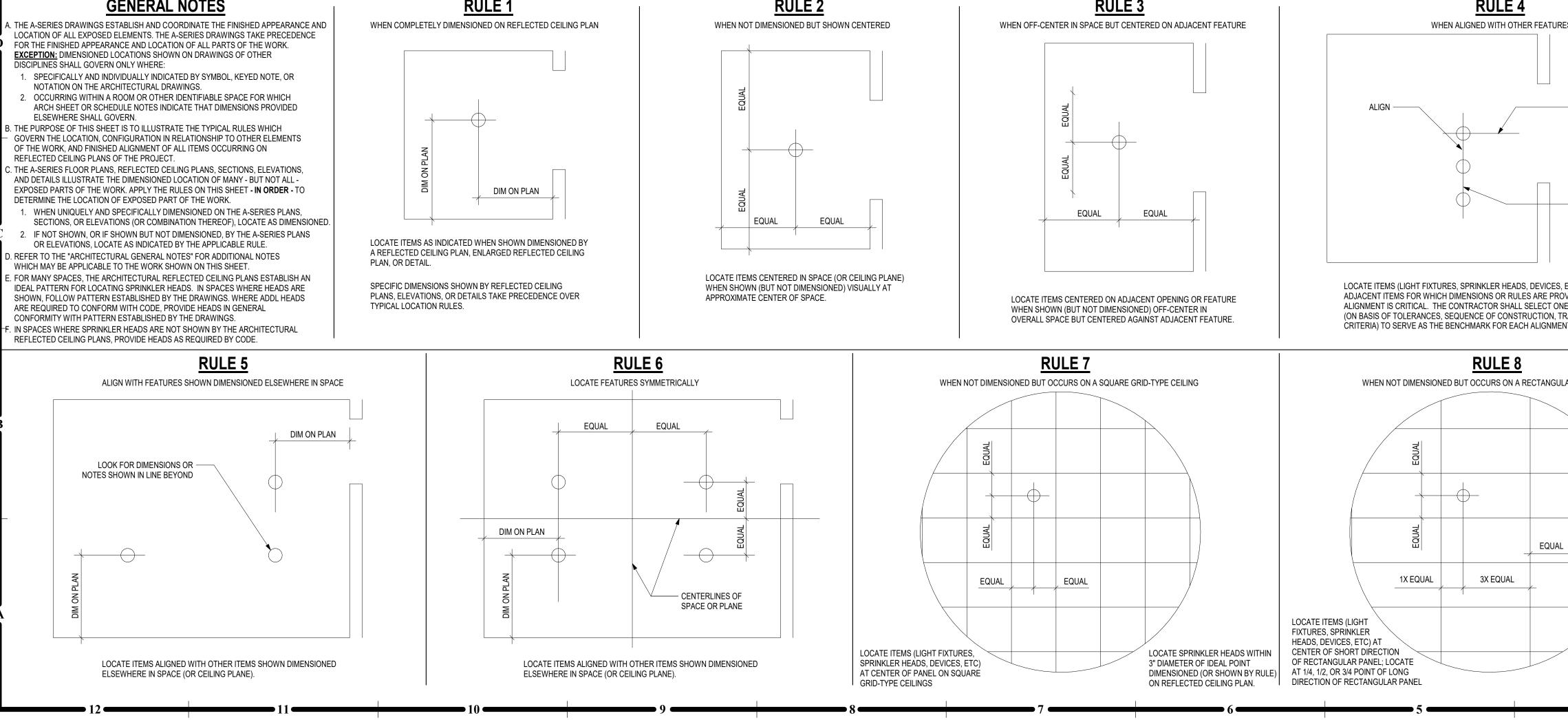


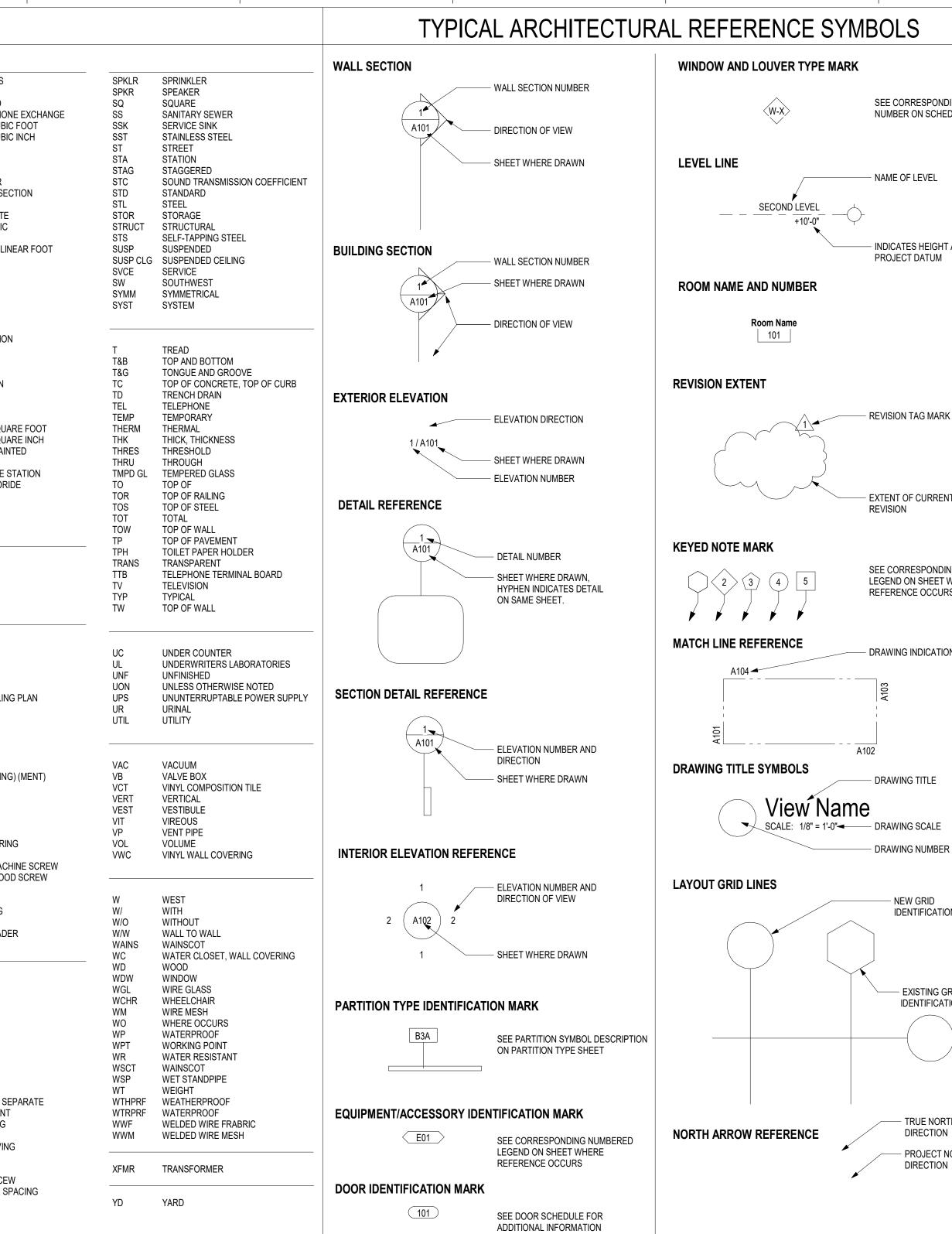
DWG / DWGS DRAWING / DRAWINGS

- 1. SPECIFICALLY AND INDIVIDUALLY INDICATED BY SYMBOL, KEYED NOTE, OR NOTATION ON THE ARCHITECTURAL DRAWINGS.
- ELSEWHERE SHALL GOVERN.
- 1. WHEN UNIQUELY AND SPECIFICALLY DIMENSIONED ON THE A-SERIES PLANS,
- D. REFER TO THE "ARCHITECTURAL GENERAL NOTES" FOR ADDITIONAL NOTES WHICH MAY BE APPLICABLE TO THE WORK SHOWN ON THIS SHEET. E. FOR MANY SPACES. THE ARCHITECTURAL REFLECTED CEILING PLANS ESTABLISH AN IDEAL PATTERN FOR LOCATING SPRINKLER HEADS. IN SPACES WHERE HEADS ARE SHOWN, FOLLOW PATTERN ESTABLISHED BY THE DRAWINGS. WHERE ADDL HEADS









			ARCHITECTURAL	GENERAL INFOR NOTES:
	GENE Sheet Numbe	ERAL r Sheet Name	Sheet Number Sheet Name A100 ARCHITECTURAL SITE PLAN	2. UNLESS OTHERWISE INDICAT EQUIPMENT ON THE DRAWIN
NG DULE	CS G001	COVER SHEET RESERVE GENERAL INFORMATION	A101F2FLOOR PLANS - BUILDING F2A131KITCHEN ENLARGED PLANS AND ELEVATIONS	 INSTALLED BY THE CONTRACT COORDINATE ALL CONSTRUCT WORK AND SUBMIT PROPOSITION
	G002 G111 G500	ACCESSIBILITY GUIDELINES LIFE SAFETY INFORMATION GENERAL PROJECT SPECIFICATIONS 1	A132BATHROOM ENLARGED PLANS AND ELEVATIONSA201F2EXTERIOR ELEVATIONS - BUILDING F2A303EXTERIOR WALL SECTIONS	OWNER & ARCHITECT FOR AU 4. CONTRACTOR SHALL COORE TRADES, SECURE AND PAY F
	G501 G502	GENERAL PROJECT SPECIFICATIONS 2 GENERAL PROJECT SPECIFICATIONS 3	A305 EXTERIOR WALL SECTIONS A305 EXTERIOR WALL SECTIONS + DETAILS A351 WALL CLADDING DETAILS - STOTHERM STUCCO	INSPECTIONS & TESTING REC WORK. THE GENERAL CONTF CHARGE OF THE OPERATION
			A352 WALL CLADDING DETAILS - NEWTECHWOOD A353 WALL CLADDING DETAILS - LP SMARTLAP & BATT	COMMENCEMENT UNTIL THE WHOM ALL ORDERS AND DIR 5. ALL TRADES SHALL BE RESPO
ABOVE	SIRU Sheet Number	JCTURAL Sheet Name	A354WALL CLADDING DETAILS - ELDORADO STONEA355WALL CLADDING DETAILS - ELDORADO STONE 2A501DOOR / WINDOW SCHEDULE + DETAILS	DRAWINGS, DETAILS, & PLAN PACKAGES INCLUDING ARCH MECHANICAL, ELECTRICAL A
ADOVE	S001 S010	STRUCTURAL GENERAL NOTES STRUCTURAL TYPICAL DETAILS	A901 FINISH SCHEDULE + DETAILS	THIS PROJECT TO ENSURE P CONFLICTS EXIST, THAT TRA CONTRACTOR OF THE SAME
	S011 S012 S103	STRUCTURAL TYPICAL DETAILS STRUCTURAL TYPICAL DETAILS FOUNDATION & FRAMING PLANS - F2	ELECTRIC	SHALL IN TURN NOTIFY THE C 7. ALL MATERIALS SHOWN OR C
	S107	FRAMING SECTIONS	SHEET NUMBER SHEET NAME E101 ELECTRICAL NOTES, SYMBOLS, &	J CONSTRUCTION DOCUMENTS ACCORDANCE WITH MANUFA AND SPECIFICATIONS.
			ABBREVIATIONS E201F ELECTRICAL POWER & LIGHTING PLANS E301 ELECTRICAL ONE-LINE DIARAMS & SCHEDULES	 THE GENERAL CONTRACTOR COMPARISON OF SUBSTITUT ARCHITECT APPROVAL. COM
			E401ELECTRICAL SPECIFICATIONSE402ELECTRICAL SPECIFICATIONS	INCLUDE & NOT LIMITED TO S WHICH MAY ALTER VISUAL AI PRODUCT INCLUDING WEIGH
			-	FEATURES & REQUIREMENTS 14. ELECTRICAL CONTRACTOR T DETECTORS, EXIT SIGNS, EM
				ALARM SYSTEM IN ACCORDA CODES. 1. ALL CONTRACTORS AND THE
г				SHALL REVIEW THE GENERAL CONDITIONS TO THE CONTRA 2. ALL WORK SHALL CONFORM
				CODES, REGULATIONS AND C 3. CONTRACTOR AND/OR OWNE
				4. CONTRACTOR SHALL BECOM CONDITIONS RELATED TO TH
G NUMBERED VHERE S				5. CONTRACTOR SHALL BE SOL MEANS, METHODS, AND SEQ THE SAFETY OF ALL CONSTR
				VISITORS. 6. DRAWINGS CONTAINED IN TH REPRODUCED FOR SHOP DR
N			-	 DRAWINGS SUBMITTED AS SI REJECTED AND RETURNED T 7. EACH INSTALLER MUST EXAM
				CONDITIONS UNDER WHICH AND REPORT TO THE CONTR CONDITIONS DETRIMENTAL T
				EXECUTION OF THAT INSTALI UNTIL UNSATISFACTORY CON COMMENCING WITH INSTALL
				G ACCEPTANCE OF THE SUBST 8. DO <u>NOT</u> SCALE DRAWINGS: F
				AND NOTES. CONTACT ARCH REQUIRED. 9. DIMENSIONS SHOWN ON THE
				OF STUD/STRUCTURE (FOS), OF CONCRETE WALLS (FOC), UNLESS OTHERWISE NOTED
			-	10. NOTE: WALL THICKNESSES A TO WALL TYPES SHEET FOR — 11. ALL MASONRY WALL THICKNI
				REFER TO WALL TYPES SHEE 12. "TYPICAL", AS USED IN THESE THE CONDITION OR DIMENSION
N				THE SAME, FOR SIMILAR CON 13. IF THERE IS A DISCREPANCY LARGE SCALE DRAWINGS, (P
				DRAWINGS, ETC.) - CONTACT FOR BIDDING PURPOSES: TH STRICTEST REQUIREMENTS
				CLARIFICATIONS DURING CO EXPENSIVE AND/OR STRICTE BY THE ARCHITECT, SHALL G
RID ION				14. ANY DISCREPANCIES BETWE SPECIFICATIONS - CONTACT
)				FOR BIDDING PURPOSES: TH STRICTEST REQUIREMENTS CLARIFICATIONS DURING CO
			-	EXPENSIVE AND/OR STRICTE — BY THE ARCHITECT, SHALL G 15. ANY DISCREPANCIES BETWE
				CONDITIONS SHALL BE REPO WRITING FOR RESOLUTION, F WORK.
Ή				16. ANY AND ALL DISCREPANCIE ARCHITECT IN WRITING FOR PROCEEDING WITH THE WOF
ORTH				E CHANGE ORDERS OR EXTEN OR ACCEPTED FOR PROCEED THE ARCHITECT'S WRITTEN D
				CONTRACTOR MUST REPAIR UNAUTHORIZED WORK, AS IN NO ADDITIONAL COST TO TH
				 ALL DISSIMILAR METAL MATE AN APPROVED NONMETAL IS OPEN EXTERIOR JOINTS ARC
		MATERIALS LEGEND:		FRAMES, BETWEEN WALLS A WALL PANELS, AND AT PENE — THE BUILDING ENVELOPE, ET
				FLASHED OR WEATHER-STRI COMPATIBILITY WITH ADJACE AIR LEAKAGE AND WATER EN
		EARTH / COMPACT FILL	FIRE RETARDANT PLYWOOD	19. PROVIDE SEALANT AND/OR C ADJOINING INTERIOR MATER BD., ACT CEILINGS TO MASON
				20. DOOR OPENINGS NOT LOCAT CENTERED IN WALL SHOWN
		GRAVEL / GRANULAR FILL	BATT INSULATION	 FINISH WALL TO FINISH JAMB OF 18" FROM THE PULL SIDE INTERSECTING WALL.
				21. CONTRACTOR SHALL VERIFY UNDERGROUND UTILITIES AN WITH THE PROPER UTILITY C
- LOCATION (IN TH DIRECTION) OF (CONCRETE	ROOF INSULATION	23. CONTRACTOR SHALL COORE NUMBER OF ALL ROOF OPEN WITH ALL OTHER TRADES. RE
LINE IS ESTABLIS DIMENSION OR ((RULE NO 3 SHC	OTHER RULE			STRUCTURAL, PLUMBING, ME DRAWINGS. 24. LOCATIONS AND SIZES OF AL
Υ.	,	SAND/ MORTAR/ PLASTER/ CUT STONE	RIGID INSULATION	ELECTRICAL PADS SHALL BE MECHANICAL AND ELECTRICA SELECTED EQUIPMENT MANU
— ACTUAL LINE OF	ALIGNMENT			TO BE APPROVED BY THE AR WITH THE WORK. 25. EXCEPT AT FIRE-RATED PAR
DETERMINED BY ONE ITEM AS BE OTHER ITEMS A	NCHMARK;	BRICK	MASONRY INSULATION	GYPSUM BOARD FACING SHA STRUCTURE, UNLESS DETAIL C 28. ALL CEILING HEIGHTS AS SHO
ALIGN WITH BEN SPACE EQUALLY	ICHMARK ITEM.			FROM SLAB OR TILE FLOOR (CEILING. 29. PROVIDE INDEPENDENT FRA
		CONCRETE MASONRY UNIT	EIFS (ELEVATION)	STRUCTURE – ADEQUATE TO LIGHT FIXTURES, DUCTS, DIF
ED. VISUAL EM IN EACH LINE E, OR OTHER		STONE	FIRE PROOFING	BUS DUCTS. 30. ALL CLOSETS AND ALCOVES IDENTIFICATION NUMBER SH
		(ELEVATION)		 ADJOINING SPACES. 31. CONTRACTOR TO INSTALL W REQUIRED FOR THE MOUNTII
		CAST STONE	FIRE STOPPING	MILLWORK/ CASEWORK, HAN WALL SPEAKERS, POSTER C/ PANELS, FIRE ALARMS, MEP I
GRID-TYPE CEILING				 REFER TO SPECIFICATIONS F INSPECTIONS. ANY/ ALL PROPRIETARY PRO
		STEEL/ METAL	ACOUSTICAL TILE	B DRAWN IN THE DOCUMENTS MEET THE MANUFACTURER'S NOT LIMITED TO THE FOLLOW
				REQUIREMENTS, QUALITY AS APPLICABLE CODES AND IND ASSEMBLY, HANDLING, DELIV
			Sources (Sources and Sources)	OPERATION, ADJUSTMENTS.

GYPSUM BOARD

METAL / WALL PANELS

FINISH WOOD

CONT. FIRE RETARDANT WOOD

DISCONTINUOUS FIRE RETARDANT

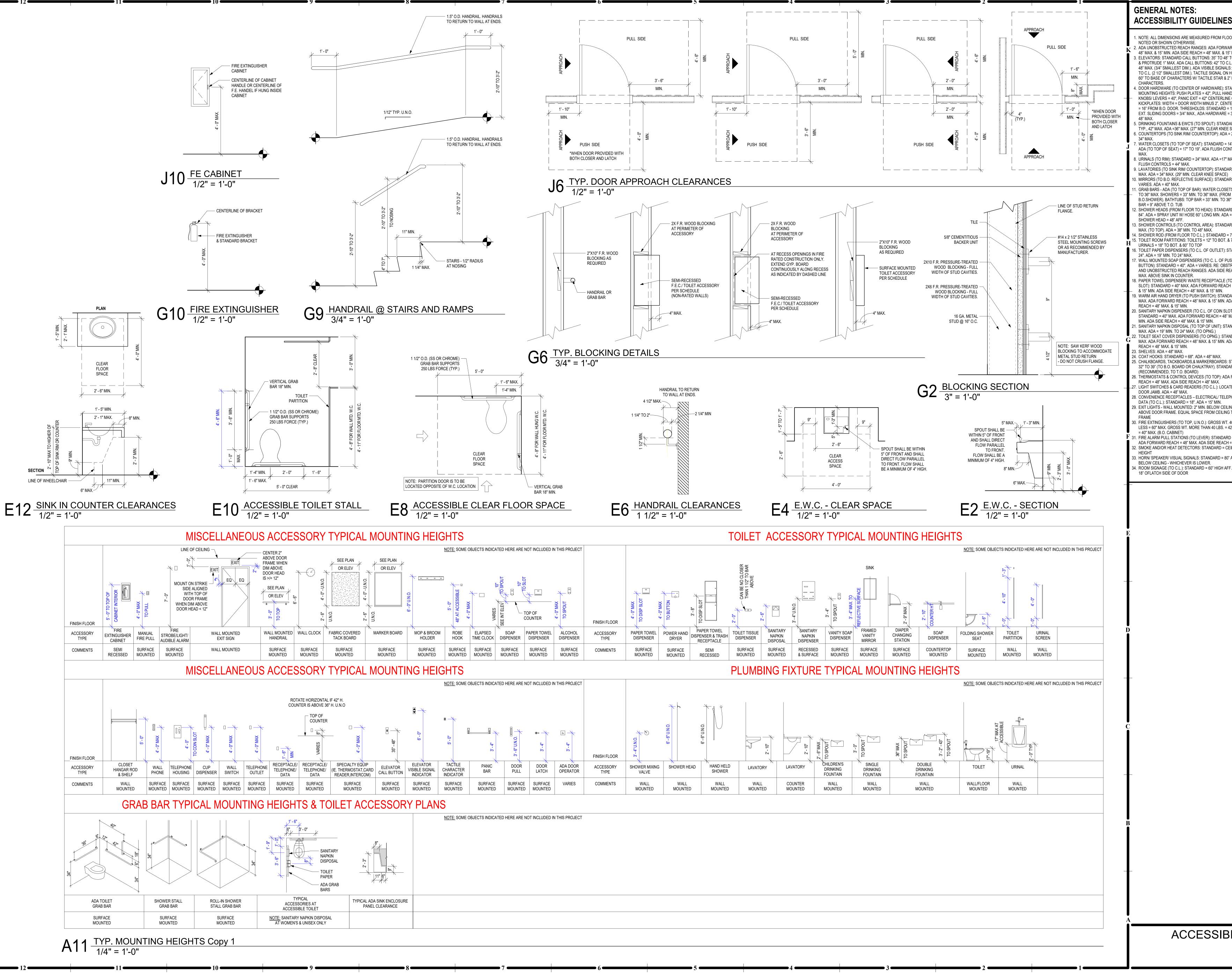
BLOCKING/ ROUGH FRAMING

WOOD BLOCKING / SHIM

LOCATE SPRINKLER HEADS WITHIN 3" DIAMETER OF IDEAL POINT

DIMENSIONED (OR SHOWN BY RULE) ON REFLECTED CEILING PLAN.

-	ENERAL INFORMATION OTES:	ldwebb.com
	UNLESS OTHERWISE INDICATED, ALL MATERIALS AND EQUIPMENT ON THE DRAWINGS IS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR. COORDINATE ALL CONSTRUCTION PRIOR TO BEGINNING WORK AND SUBMIT PROPOSED WORK SCHEDULE TO THE	TURE www.collinsandwebb.com
4.	OWNER & ARCHITECT FOR APPROVAL. CONTRACTOR SHALL COORDINATE THE WORK OF ALL TRADES, SECURE AND PAY FOR ALL PERMITS, FEES, TAXES, INSPECTIONS & TESTING REQUIRED FOR COMPLETE RELATED WORK. THE GENERAL CONTRACTOR SHALL ALSO BE IN	B16.249.2270
- 5.	CHARGE OF THE OPERATION FROM THE TIME OF COMMENCEMENT UNTIL THE COMPLETION OF WORK AND TO WHOM ALL ORDERS AND DIRECTIONS SHALL BE GIVEN. ALL TRADES SHALL BE RESPONSIBLE TO READ ALL DRAWINGS, DETAILS, & PLANS ASSOCIATED WITH ALL	
	PACKAGES INCLUDING ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL AND PLUMBING ASSOCIATED WITH THIS PROJECT TO ENSURE PROPER COORDINATION. IF ANY CONFLICTS EXIST, THAT TRADE SHALL NOTIFY THE	DS Webb AR
7.	CONTRACTOR OF THE SAME PRIOR TO CONSTRUCTION WHO SHALL IN TURN NOTIFY THE G.C. ALL MATERIALS SHOWN OR CALLED FOR ON THESE CONSTRUCTION DOCUMENTS TO BE NEW AND INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS	:Ollins W
8.	AND SPECIFICATIONS. THE GENERAL CONTRACTOR SHALL SUPPLY DETAILED COMPARISON OF SUBSTITUTION ITEMS REQUESTED FOR ARCHITECT APPROVAL. COMPARISON INFORMATION SHALL INCLUDE & NOT LIMITED TO SIGNIFICANT PRODUCT QUALITIES	
⁻ 14.	WHICH MAY ALTER VISUAL AND/OR PERFORMANCE OF A PRODUCT INCLUDING WEIGHT, SIZE, DURABILITY, & SPECIFIC FEATURES & REQUIREMENTS OF SUCH PRODUCT. ELECTRICAL CONTRACTOR TO PROVIDE ALL SMOKE DETECTORS, EXIT SIGNS, EMERGENCY LIGHT AND FIRE	07B SW Market St.
1.	ALARM SYSTEM IN ACCORDANCE WITH ALL APPLICABLE CODES. ALL CONTRACTORS AND THEIR SUPERVISORY PERSONNEL SHALL REVIEW THE GENERAL AND SUPPLEMENTARY CONDITIONS TO THE CONTRACT.	L S
3.	ALL WORK SHALL CONFORM WITH APPLICABLE BUILDING CODES, REGULATIONS AND ORDINANCES. CONTRACTOR AND/OR OWNER SHALL OBTAIN ALL REQUIRED BUILDING AND OCCUPANCY PERMITS.	
	CONTRACTOR SHALL BECOME FULLY ACQUAINTED WITH CONDITIONS RELATED TO THE WORK. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE MEANS, METHODS, AND SEQUENCES OF CONSTRUCTION AND THE SAFETY OF ALL CONSTRUCTION PERSONNEL AND	G F2 ocumen
6.	VISITORS. DRAWINGS CONTAINED IN THIS SET SHALL NOT BE REPRODUCED FOR SHOP DRAWINGS. COPIES OF THESE DRAWINGS SUBMITTED AS SHOP DRAWINGS WILL BE REJECTED AND RETURNED TO THE CONTRACTOR.	
7.	EACH INSTALLER MUST EXAMINE SUBSTRATE AND/OR CONDITIONS UNDER WHICH THE WORK WILL BE INSTALLED AND REPORT TO THE CONTRACTOR IN WRITING ANY CONDITIONS DETRIMENTAL TO THE PROPER AND TIMELY	
8.	EXECUTION OF THAT INSTALLERS WORK. DO NOT PROCEED UNTIL UNSATISFACTORY CONDITIONS ARE CORRECTED. COMMENCING WITH INSTALLATION SHALL CONSTITUTE ACCEPTANCE OF THE SUBSTRATE AND/OR CONDITIONS. DO <u>NOT</u> SCALE DRAWINGS: FOLLOW WRITTEN DIMENSIONS	
9.	AND NOTES. CONTACT ARCHITECT FOR CLARIFICATIONS, IF REQUIRED. DIMENSIONS SHOWN ON THE FLOOR PLAN ARE TO THE FACE OF STUD/STRUCTURE (FOS), FACE OF MASONRY (FOM), FACE OF CONCRETE WALLS (FOC), AND COLUMN GRID LINES,	B
	UNLESS OTHERWISE NOTED OR INDICATED. NOTE: WALL THICKNESSES ARE ACTUAL DIMENSIONS. REFER TO WALL TYPES SHEET FOR THICKENSSES. ALL MASONRY WALL THICKNESSES ACTUAL DIMENSIONS	
	REFER TO WALL TYPES SHEET. "TYPICAL", AS USED IN THESE DOCUMENTS, SHALL MEAN THAT THE CONDITION OR DIMENSION IS REPRESENTATIVE OF, OR THE SAME, FOR SIMILAR CONDITIONS THROUGHOUT. IF THERE IS A DISCREPANCY BETWEEN SMALL SCALE AND	
	LARGE SCALE DRAWINGS, (PLAN, SECTION, & DETAIL DRAWINGS, ETC.) - CONTACT ARCHITECT FOR CLARIFICATION. FOR BIDDING PURPOSES: THE MOST EXPENSIVE AND/OR STRICTEST REQUIREMENTS SHALL GOVERN. FOR CLARIFICATIONS DURING CONSTRUCTION: THE MOST	N N N
14.	EXPENSIVE AND/OR STRICTEST REQUIREMENTS, AS INDICATED BY THE ARCHITECT, SHALL GOVERN. ANY DISCREPANCIES BETWEEN THE DRAWINGS AND SPECIFICATIONS - CONTACT ARCHITECT FOR CLARIFICATION.	\leq
_	FOR BIDDING PURPOSES: THE MOST EXPENSIVE AND/OR STRICTEST REQUIREMENTS SHALL GOVERN. FOR CLARIFICATIONS DURING CONSTRUCTION: THE MOST EXPENSIVE AND/OR STRICTEST REQUIREMENTS, AS INDICATED BY THE ARCHITECT, SHALL GOVERN.	S S
	ANY DISCREPANCIES BETWEEN THE DRAWINGS AND ACTUAL CONDITIONS SHALL BE REPORTED TO THE ARCHITECT IN WRITING FOR RESOLUTION, PRIOR TO PROCEEDING WITH THE WORK. ANY AND ALL DISCREPANCIES SHALL BE REPORTED TO THE	
	ARCHITECT IN WRITING FOR RESOLUTION, PRIOR TO PROCEEDING WITH THE WORK. IN THESE INSTANCES: NO CHANGE ORDERS OR EXTENSIONS OF TIME WILL BE ALLOWED OR ACCEPTED FOR PROCEEDING WITH THE WORK WITHOUT THE ARCHITECT'S WRITTEN DIRECTION AND APPROVAL. ALSO -	
17.	CONTRACTOR MUST REPAIR AND/OR REPLACE ANY UNAUTHORIZED WORK, AS INDICATED BY THE ARCHITECT, AT NO ADDITIONAL COST TO THE OWNER. ALL DISSIMILAR METAL MATERIALS SHALL BE ISOLATED WITH	
18.	AN APPROVED NONMETAL ISOLATION MATERIAL. OPEN EXTERIOR JOINTS AROUND WINDOW AND DOOR FRAMES, BETWEEN WALLS AND FOUNDATIONS, BETWEEN WALL PANELS, AND AT PENETRATIONS OF UTILITIES THROUGH THE BUILDING ENVELOPE, ETC. – SHALL BE SEALED, CAULKED,	Щ Ч Н М П М С И С И С И С И С
19.	FLASHED OR WEATHER-STRIPPED AS REQUIRED FOR COMPATIBILITY WITH ADJACENT MATERIALS & TO ELIMINATE AIR LEAKAGE AND WATER ENTRY. PROVIDE SEALANT AND/OR CAULKING BETWEEN DISSIMILAR ADJOINING INTERIOR MATERIALS. (I.E. WINDOW SILLS TO GYP.	
20.	BD., ACT CEILINGS TO MASONRY WALLS, ETC.) DOOR OPENINGS NOT LOCATED BY DIMENSION SHALL BE CENTERED IN WALL SHOWN OR LOCATED 4 INCHES FROM FINISH WALL TO FINISH JAMB, ALWAYS ALLOWING A MINIMUM OF 18" FROM THE PULL SIDE OF THE DOOR TO THE	SUN SUN
	INTERSECTING WALL. CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL EXISTING UNDERGROUND UTILITIES AND THEIR SERVICE CONNECTIONS WITH THE PROPER UTILITY COMPANY.	
_	CONTRACTOR SHALL COORDINATE SIZE, LOCATIONS AND NUMBER OF ALL ROOF OPENINGS AND ROOF ACCESSORIES WITH ALL OTHER TRADES. REFER TO THE ARCHITECTURAL, STRUCTURAL, PLUMBING, MECHANICAL AND ELECTRICAL DRAWINGS.	
∠4.	LOCATIONS AND SIZES OF ALL CONCRETE MECHANICAL AND ELECTRICAL PADS SHALL BE COORDINATED BY THE MECHANICAL AND ELECTRICAL CONTRACTORS, WITH THE SELECTED EQUIPMENT MANUFACTURER/SUPPLIER; AND ARE TO BE APPROVED BY THE ARCHITECT PRIOR TO PROCEEDING	ARCHITECTURE, LLC REVISION DATES:
	WITH THE WORK. EXCEPT AT FIRE-RATED PARTITIONS, ALL WALL AND COLUMN GYPSUM BOARD FACING SHALL BE HELD AT 5/8 INCH BELOW STRUCTURE, UNLESS DETAILED OR NOTED OTHERWISE. ALL CEILING HEIGHTS AS SHOWN ON PLANS AND DETAILS ARE	
29.	FROM SLAB OR TILE FLOOR (FINISHED FLOOR) TO FINISH CEILING. PROVIDE INDEPENDENT FRAMING & ATTACHMENTS TO THE STRUCTURE – ADEQUATE TO SUPPORT THE CEILING SYSTEM, LIGHT FIXTURES, DUCTS, DIFFUSERS, SPRINKLER PIPING AND	
_	BUS DUCTS. ALL CLOSETS AND ALCOVES WITHOUT A SPACE IDENTIFICATION NUMBER SHALL HAVE THE SAME FINISHES AS ADJOINING SPACES. CONTRACTOR TO INSTALL WOOD BLOCKING AND PLYWOOD AS	
	REQUIRED FOR THE MOUNTING OF ALL TOILET ACCESSORIES, MILLWORK/ CASEWORK, HANDRAILS, FIRE EXTINGUISHERS, WALL SPEAKERS, POSTER CASES, TELEVISIONS, ELECTRICAL PANELS, FIRE ALARMS, MEP ITEMS, AND AV EQUIPMENT, ETC. REFER TO SPECIFICATIONS FOR ALL REQUIRED TESTING AND	TTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTT
	INSPECTIONS. ANY/ ALL PROPRIETARY PRODUCTS DESCRIBED AND/OR DRAWN IN THE DOCUMENTS (BUT NOT SPECIFIED) ARE TO MEET THE MANUFACTURER'S STANDARD CRITERIA WHICH IS	ROGER L. WEBBH
	NOT LIMITED TO THE FOLLOWING: PERFORMANCE REQUIREMENTS, QUALITY ASSURANCE REQUIREMENTS, APPLICABLE CODES AND INDUSTRY STANDARDS, FABRICATION, ASSEMBLY, HANDLING, DELIVERY, STORAGE, INSTALLATION, OPERATION, ADJUSTMENTS, ETC. PROVIDE THE	NUMBER A-2016004008 3-28-24
_	MANUFACTURER'S STANDARD WARRANTY AND STANDARD FINISH WARRANTY. PROVIDE PRODUCT DATA, SHOP DRAWINGS, SAMPLES, AND MAINTENANCE DATA AS REQUIRED. REFER TO DIVISION 01 SPEC. SECTIONS WHICH ALSO APPLY - SUCH AS SUBSTITUTION PROCEDURES, SUBMITTAL	PROFESSIONAL SEAL
3/	PROCEDURES, QUALITY REQUIREMENTS, REFERENCES, EXECUTION, AND CLOSEOUT PROCEDURES. <u>NOTE</u> : ANY SUBSTITUTIONS MUST MEET THE DESIGN INTENT, AS WELL AS THE CRITERIA DESCRIBED ABOVE. PROVIDE MINIMUM WARRANTY PERIOD OF 18 MONTHS FROM	G001
J4.	SUBSTANTIAL COMPLETION ON ALL PRODUCTS/ SERVICES.	ISSUE DATE: 17 JAN 2024 COLLINS WEBB #: 21075
	GENERAL I	NFORMATION





BUILDINGS F2

GENERAL INFORMATION: NO. OF STORIES = 2 ACTUAL BUILDING HT. = 24' - 8" BASEMENT = NO

LIVING AREA = 1.562 SF GARAGE AREA = 398 SF COVERED PORCH AREA = 79 SF USE = SINGLE-FAMILY

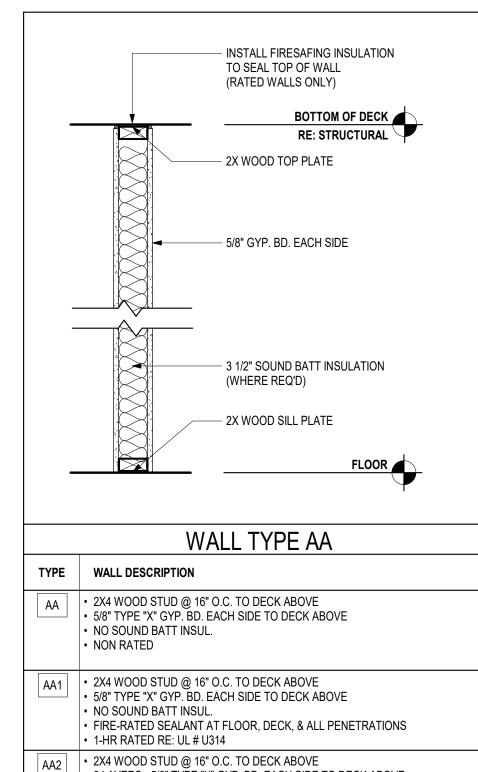
STANDPIPE/SPRINKLER = NOT REQ'D SMOKE DETECTORS = REQ'D PER 2018 IRC SECTION R314.1

WALL PRIORITY LEGEND NOTE: THIS LEGEND IS FOR GRAPHIC REPRESENTATION ONLY. FOUR HOUR FIRE WALL (4FW) THREE HOUR FIRE WALL (3FW) TWO HOUR FIRE WALL (2FW) FOUR HOUR FIRE BARRIER (4FB) THREE HOUR FIRE BARRIER (3FB TWO HOUR FIRE BARRIER (2FB) (INCLUDES THE FOLLOWING) TWO HOUR SHAFT ENCLOSURE (2SE) ONE HOUR FIRE BARRIER (1FB) (INCLUDES THE FOLLOWING) • ONE HOUR SHAFT ENCLOSURE (1SE) SMOKE TIGHT PARTITION (X) (INCLUDES THE FOLLOWING) SMOKE TIGHT PARTITION TO SMOKE TIGHT CEILING (XC) • SMOKE TIGHT PARTITION WITHIN PLENUM ABOVE CEILING (XP) • SMOKE TIGHT PARTITION SEPARATION OF INTERSTITIAL SPACES (XI) DETAIL ABUTMENT OF DISSIMILAR WALL - LOWER PRIORITY WALL - HIGHER PRIORITY WALLS SHALL PASS THROUGH A LOWER PRIORITY WALL INTERSECTION OF RATED WALLS - TAPE & JOINT COMPOUND (TYP) - LOWER PRIORITY WALL - TAPE & SEAL HIGHER PRIORITY -----WALL BEHIND INTERSECTING LOWER PRIORITY WALL (TYP) HIGHER PRIORITY WALL -- TAPE & JOINT COMPOUND (TYP) ------ HIGHER PRIORITY WALL -- LOWER PRIORITY WALL TAPE & JOINT COMPOUND (TYP) - HIGHER PRIORITY WALL LOWER PRIORITY WALL - LOWER PRIORITY WALL - TAPE & JOINT COMPOUND (TYP) - HIGHER PRIORITY WALL

NOTES: 1. REFER TO WALL TYPES ON SHEET G121-TI FOR WALL COMPONENTS, NUMBER OF GYPSUM BOARD LAYERS, TYPE OF GYPSUM BOARD, AND OTHER SIMILAR INFO. 2. THE HIGHER PRIORITY WALL SHALL PASS THROUGH THE LOWER PRIORITY WALL. 3. TAPING AND SEALING OF HIGHER PRIORITY WALLS SHALL BE CONTINUOUS.

OF MULTI-LAYERED RATED GYPSUM BOARD PARTITIONS.

4. ALTERNATE LAYERS OF GYPSUM BOARD SHALL OVERLAP AT CORNER INTERSECTIONS

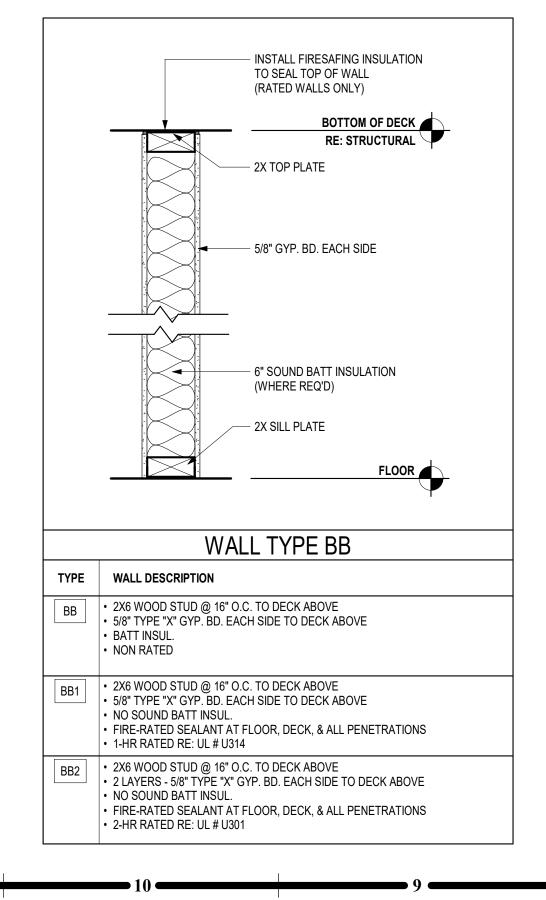


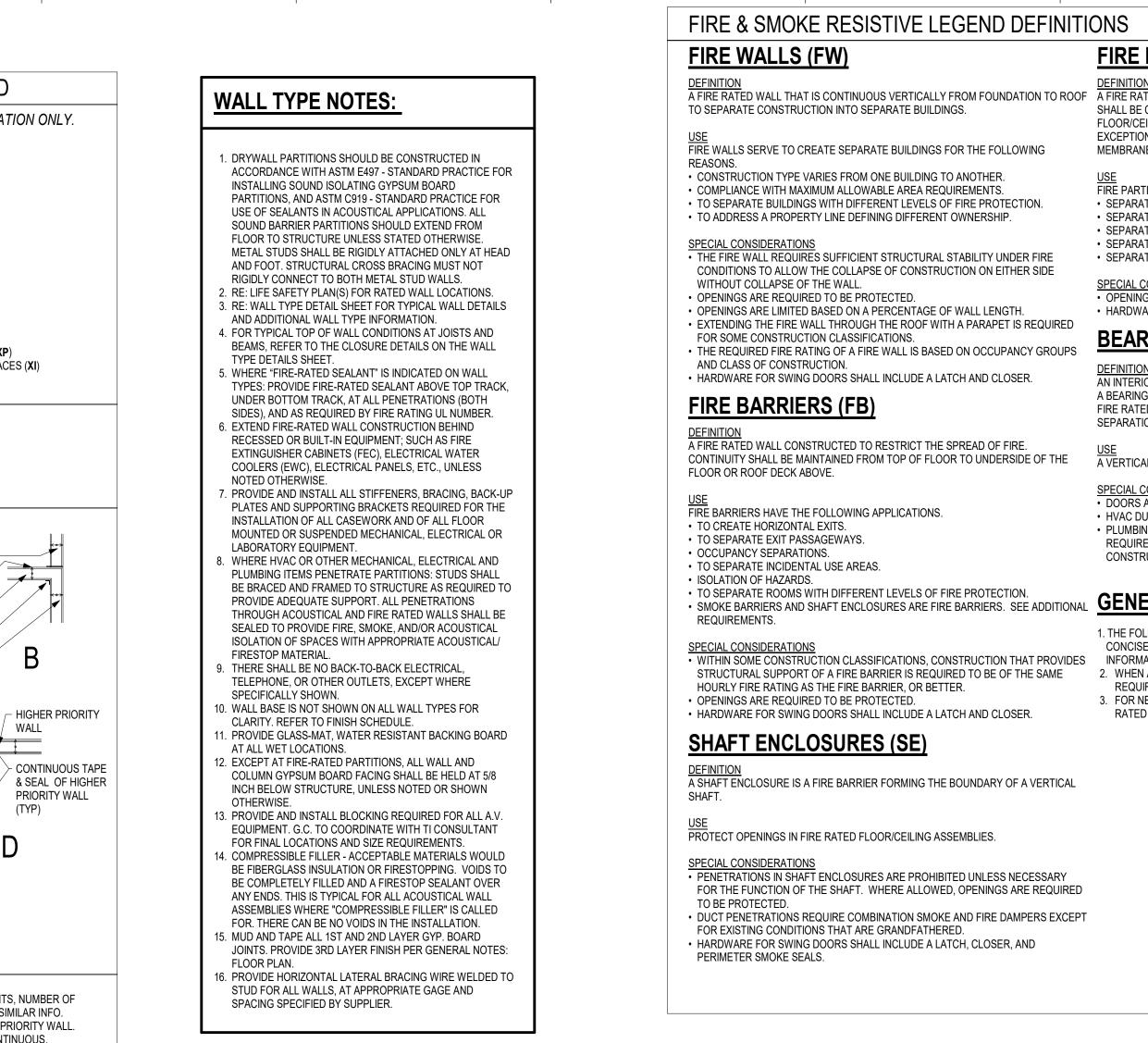
• 2 LAYERS - 5/8" TYPE "X" GYP. BD. EACH SIDE TO DECK ABOVE

• FIRE-RATED SEALANT AT FLOOR, DECK, & ALL PENETRATIONS

NO SOUND BATT INSUL.

• 2-HR RATED RE: UL # U301

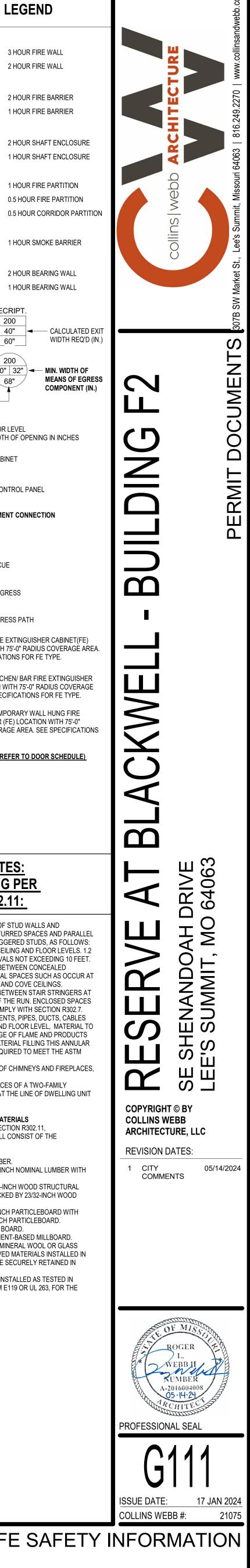




				DOUBLE TOP PLATE 2X4 / 2X6 WOOD STUD @ 16 0 HORIZ. BRACING, AS REQUIR BATT INSULATION PLYWOOD SUBSTRATE SHEA
	BOTTOM OF SOFFIT DOUBLE TOP PLATE 2X4 WOOD STUD @ 16 O.C. WITH HORIZ. BRACING, AS REQUIRED. HOUSE WRAP/ WEATHER BARRIER	BOTTOM OF SOFFIT DOUBLE TOP PLATE 2X4 WOOD STUD @ 16 O.C. WITH HORIZ. BRACING, AS REQUIRED. HOUSE WRAP/ WEATHER BARRIER	6" MIN. AT GRADE	HOUSE WRAP/ WEATHER BA WRB PAPER OR FELT STO DRAINSCREEN STUCCO SCRATCH AND BRO STO PRIME & LOTUSAN FINIS BACKER ROD & SEALANT W/ 2X4 WOOD STUDS BOTTOM F FLOOR
	3 1/2" BATT INSULATION	5 1/2" BATT INSULATION		WALL
6" MIN. AT GRADE	PLYWOOD SUBSTRATE SHEATHING OR LP FLAMEBLOCK SHEATHING VERTICAL OR HORIZONTAL SIDING - SEE ELEVATIONS 2X4 WOOD STUDS BOTTOM PLATE FLOOR CC / CC1	PLYWOOD SUBSTRATE SHEATHING OR LP FLAMEBLOCK SHEATHING VERTICAL OR HORIZONTAL SIDING - SEE ELEVATIONS 2X6 WOOD STUDS BOTTOM PLATE FLOOR	DD	 WALL DESCRIPTION 2X4 STUD @ 16" O.C. 1/2" TYPE "X" GYP. BD. ONE SIDE 3-1/2" BATT INSUL. TO FULL HEIGHT OF WALL 1-SIDED SUBSTRATE SHEATHING HOUSE WRAP/ WEATHER BARRIER CODE COMPLIANT WRB PAPER OR FELT DRAINAGE MAT - STO DRAINSCREEN® CODE COMPLIANT SELF-FURRED GALVANIZED DIAMO STUCCO SCRATCH COAT - STOPOWERWALL® STUCCO STUCCO BROWN COAT - STOPOWERWALL® STUCCO PRIMER COATING - STOPRIME® FINISH - STOLIT® LOTUSAN - COLOR 37203 NON RATED
	WALL TYP		DD1	 2X6 STUD @ 16" O.C. 5-1/2" BATT INSUL. TO FULL HEIGHT OF WALL
CC CC CC1	 WALL DESCRIPTION (ALL WALLS 2X4, EXCEPT •2X4 STUD @ 16" O.C. •1/2" TYPE "X" GYP. BD. ONE SIDE •3-1/2" BATT INSUL. TO FULL HEIGHT OF WALL •HOUSE WRAP/ WEATHER BARRIER •EXT. VERTICAL SIDING WITH SUBSTRATE SHEATHING •NON RATED •2X4 STUD @ 16" O.C. •1/2" TYPE "X" GYP. BD. ONE SIDE 	BASEMENT WALLS TO BE 2X6) G: INSTALL PER MFR DETAILS		 1-SIDED SUBSTRATE SHEATHING - BOTH SIDES HOUSE WRAP/ WEATHER BARRIER - BOTH SIDES CODE COMPLIANT WRB PAPER OR FELT - BOTH SIDES DRAINAGE MAT - STO DRAINSCREEN® - BOTH SIDES CODE COMPLIANT SELF-FURRED GALVANIZED DIAMO STUCCO SCRATCH COAT - STOPOWERWALL® STUCCO STUCCO BROWN COAT - STOPOWERWALL® STUCCO PRIMER COATING - STOPRIME® - BOTH SIDES FINISH - STOLIT® LOTUSAN - COLOR 37203 - BOTH SIL NON RATED
	•3-1/2" BATT INSUL. TO FULL HEIGHT OF WALL •FIRE RATED SEALANT AT ALL PENETRATIONS •HOUSE WRAP/ WEATHER BARRIER	RATED SUBSTRATE SHEATHING: INSTALL PER MFR DETAILS	DD2	 2X4 STUD @ 16" O.C. 3-1/2" BATT INSUL. TO FULL HEIGHT OF WALL 1-SIDED SUBSTRATE SHEATHING - BOTH SIDES HOUSE WRAP/ WEATHER BARRIER - BOTH SIDES
CC2	• 2X6 STUD @ 16" O.C. •5/8" TYPE "X" GYP. BD. ONE SIDE •5-1/2" BATT INSUL. TO FULL HEIGHT OF WALL •HOUSE WRAP/ WEATHER BARRIER • EXT. HORIZONTAL SIDING WITH SUBSTRATE SHEATH • NON RATED	HING: INSTALL PER MFR DETAILS		CODE COMPLIANT WRB PAPER OR FELT - BOTH SIDE DRAINAGE MAT - STO DRAINSCREEN® - BOTH SIDES CODE COMPLIANT SELF-FURRED GALVANIZED DIAMO STUCCO SCRATCH COAT - STOPOWERWALL® STUCCO STUCCO BROWN COAT - STOPOWERWALL® STUCCO PRIMER COATING - STOPRIME® - BOTH SIDES FINISH - STOLIT® LOTUSAN - COLOR 37203 - BOTH SIDE NON RATED
	8 7	6		5

BOTTOM OF SOFFIT

	GENERAL DESCRIPTION PROJECT NAME: BLACKWELL RESERVE (SINGLE-FAMILY HOMES)	FIRE RESISTIVE L
E PARTITIONS (FP) <u>FION</u> RATED PARTITION THAT IS USED FOR THE APPLICATIONS LISTED BELOW. IT BE CONTINUOUS FROM TOP OF FLOOR TO UNDERSIDE OF A FIRE-RATED	PROJECT LOCATION: LEE'S SUMMIT, MISSOURI COUNTY: JACKSON COLLINS WEBB ARCHITECTURE 307B SW MARKET STREET	<u>3FW 3FW 3FW 3FW</u> 3
CONTINUOUS FROM TOP OF FLOOR TO UNDERSIDE OF A FIRE-RATED CEILING OR ROOF/CEILING ASSEMBLY. WHERE ALLOWED BY CODE FION, A FIRE PARTITION SHALL BE ALLOWED TO TERMINATE AT THE UPPER ANE OF A FIRE RATED CEILING	LEES SUMMIT, MISSOURI 64063 APPLICABLE CODES: 2018 INTERNATIONAL RESIDENTAIL CODE	K <u>2FW 2FW 2FW 2FW</u> 2
ARTITIONS ARE USED IN CERTAIN OCCUPANCIES TO DO THE FOLLOWING. RATE DWELLING UNITS RATE SLEEPING SPACES	2018 INTERNATIONAL PLUMBING CODE 2018 INTERNATIONAL MECHANICAL CODE 2018 INTERNATIONAL FUEL GAS CODE 2018 INTERNATIONAL FIRE CODE	<u>2FB 2FB 2FB 2FB</u> 2 <u>1FB 1FB 1FB 1FB</u> 1
RATE CORRIDORS FROM ADJACENT SPACES RATE ELEVATOR LOBBIES RATE TENANT SPACES IN COVERED MALL BUILDINGS	2017 NATIONAL ELECTRICAL CODE ICC/ANSI A117.1-2009, ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES	28 28 28 28 2 1SE 1SE 1SE 1SE 1
L CONSIDERATIONS INGS ARE REQUIRED TO BE PROTECTED. WARE FOR SWING DOORS SHALL INCLUDE A LATCH AND CLOSER.	FIRE EXTINGUISHERS 1. PROVIDE PORTABLE FIRE EXTINGUISHERS IN OCCUPANCIES AND LOCATIONS AS REQUIRED BY THE FIRE PREVENTION CODE.	<u>1FP 1FP 1FP 1FP</u> 1 <u>0.5FP 0.5FP 0.5FP 0.5FP</u> 0.
RING WALLS (BW) <u>TON</u> ERIOR OR EXTERIOR WALL DESIGNED TO SUPPORT FLOOR OR ROOF LOADS.	 PORTABLE FIRE EXTINGUISHERS SHALL BE INSTALLED, INSPECTED, AND MAINTAINED IN ACCORDANCE WITH NFPA 10, STANDARD FOR PORTABLE FIRE EXTINGUISHERS. 	0.5X 0.5X 0.5X 0.5X 0.
ING WALL IS FIRE-RATED ONLY TO MAINTAIN THE INTEGRITY OF ITSELF AS A ATED STRUCTURAL ELEMENT. THE WALL DOES NOT SERVE AS A FIRE ATION FROM ONE SIDE TO THE OTHER SIDE.	CEILING HEIGHT NOTES: (IRC R305) 1. HABITABLE SPACE, HALLWAYS, BATHROOMS, TOILET ROOMS, LAUNDRY ROOMS AND PORTIONS OF	<u>SB SB SB SB</u> 1 2BW 2BW 2BW 2BW 2
ICAL, LOAD BEARING STRUCTURAL ELEMENT.	BASEMENTS CONTAINING THESE SPACES SHALL HAVE A CEILING HEIGHT OF NOT LESS THAN 7'-0" A.F.F. 2. PORTIONS OF BASEMENTS THAT DO NOT CONTAIN HABITABLE SPACE, HALLWAYS, BATHROOMS, TOILET ROOMS AND LAUNDRY ROOMS SHALL HAVE A CEILING HEIGHT OF NOT LESS THAN 6'-8" A.F.F.	<u>1BW 1BW 1BW 1BW</u> 1
RS AND WINDOWS ARE NOT REQUIRED TO BE RATED. DUCT PENETRATIONS ARE NOT REQUIRED TO BE FIRE-DAMPERED. BING, ELECTRICAL, SPRINKLER SYSTEM, AND CABLE PENETRATIONS ARE JIRED TO BE FIRE-STOPPED WITH FIRE SEALANT AT BOTH SIDES, FOR WALLS STRUCTED OF HOLLOW CMU OR STUD FRAMING.	EXCEPTIONS: BEAMS, GIRDERS, DUCTS, OR OTHER OBSTRUCTIONS MAY PROJECT TO WITHIN 6'-4" OF THE FINISHED FLOOR. FIRE SPRINKLER NOTE: (IRC R302)	→ NUMBER OF OCCUPANTS EXITING EXIT WIDTH PROVIDED (IN.) →60
NERAL NOTES	1. FIRE SPRINKLER NOT REQUIRED IF EXTERIOR WALLS OF DWELLINGS ARE SEPERATED BY FIVE FEET OR MORE IF WALL IS UNRATED. IF WALL IS RATED (1 HR) NO SEPERATION IS REQUIRED.	NUMBER OF OCCUPANTS EXITING 000000000000000000000000000000000000
FOLLOWING INFORMATION SERVES TO PROVIDE BUILDING OWNERS WITH CISE DEFINITIONS OF WALL TYPES RELATED TO LIFE SAFETY ISSUES. THIS RMATION IS NOT MEANT TO BE A SUBSTITUTE FOR APPLICABLE BUILDING CODES.		H EXIT WIDTH PROVIDED (IN.)
EN A WALL HAS MORE THAN ONE CLASSIFICATION, THE MOST RESTRICTIVE QUIREMENTS FOR EACH CLASSIFICATION SHALL APPLY. R NEW CONSTRUCTION, PERIMETER SMOKE-SEALS MAY BE REQUIRED AT FIRE TED DOORS IN CERTAIN OCCUPANCIES.		$x^{"}$ FROM ROOM OR LE X = CLEAR WIDTH C
		F.E.C. FIRE RISER CABINE
		G K.B. KNOX BOX
		AR AREA OF RESCUE ASSISTANCE ACCESSIBLE EGRE
		FE-1 INDICATES FIRE EX LOCATION WITH 75 SEE SPECIFICATION
	DOUBLE TOP PLATE	FE-2K INDICATES KITCHE (FE) LOCATION WIT AREA. SEE SPECIFI
	2X4 / 2X6 WOOD STUD @ 16 O.C. WITH HORIZ. BRACING, AS REQUIRED.	F FE-3 INDICATES TEMPO EXTINGUISHER (FE RADIUS COVERAGE
	HOUSE WRAP/ WEATHER BARRIER	FOR FE TYPE.
	FURRING STRIPS @ 16" O.C.	45 MIN. DOOR
	OR LP FLAMEBLOCK SHEATHING NEWTECHWOOD HORIZONTAL SIDING - SEE ELEVATIONS	90 MIN. DOOR
	WOOD STUD BOTTOM PLATE	E GENERAL NOTE
	WALL TYPE FF	FIREBLOCKING SECTION R302.1
BOTTOM OF SOFFIT	TYPE WALL DESCRIPTION FF • 2X4 STUD @ 16" O.C. (0) TYPE INT OVE DED ONE OVER	1. IN CONCEALED SPACES OF S PARTITIONS, INCLUDING FURF ROWS OF STUDS OR STAGGE 1.1 VERTICALLY AT THE CEILII
DOUBLE TOP PLATE	• 1/2" TYPE "X"GYP. BD. ONE SIDE • 3-1/2" BATT INSUL. TO FULL HEIGHT OF WALL • HOUSE WRAP/ WEATHER BARRIER • EXT. NEWTECHWOOD HORIZONTAL SIDING WITH SUBSTRATE SHEATHING:	HORIZONTALLY AT INTERVALS 2. AT INTERCONNECTIONS BETV VERTICAL AND HORIZONTAL S SOFFITS, DROP CEILINGS AND
O.C. WITH RED. 2X4 WOOD STUD @ 16 O.C. WITH HORIZ. BRACING, AS REQUIRED. 3 1/2" BATT INSULATION	INSTALL PER MFR DETAILS • NON RATED • 2X6 STUD @ 16" O.C. • 1/2" TYPE "X" GYP. BD. ONE SIDE	3. IN CONCEALED SPACES BETV THE TOP AND BOTTOM OF TH UNDER STAIRS SHALL COMPL 4. AT OPENINGS AROUND VENT
ARRIER	 HOUSE WRAP/ WEATHER BARRIER EXT. NEWTECHWOOD HORIZONTAL SIDING WITH SUBSTRATE SHEATHING: INSTALL PER MFR DETAILS 	AND WIRES AT CEILING AND F D RESIST THE FREE PASSAGE C OF COMBUSTION. THE MATER SPACE SHALL NOT BE REQUIF E136 REQUIREMENTS.
OWN COAT	• NON RATED	 5. FOR THE FIREBLOCKING OF C SEE SECTION R1003.19. 6. FIREBLOCKING OF CORNICES DWELLING IS REQUIRED AT THE
SH STO PRIME & LOTUSAN FINISH		SEPARATION.
PLATE 2X4 WOOD STUDS BOTTOM PLATE	DOUBLE TOP PLATE	ITEM 4, FIREBLOCKING SHALL C FOLLOWING MATERIALS. 1. TWO-INCH NOMINAL LUMBER. 2. TWO THICKNESSES OF 1-INCH
	2X4 WOOD STUD @ 16 O.C. WITH HORIZ. BRACING, AS REQUIRED.	C PANELS WITH JOINTS BACKEE STRUCTURAL PANELS.
		 4. ONE THICKNESS OF 3/4-INCH JOINTS BACKED BY 3/4-INCH F 5. ONE-HALF-INCH GYPSUM BOA 6. ONE-QUARTER-INCH CEMENT
	(2) LAYERS WRB	7. BATTS OR BLANKETS OF MINE FIBER OR OTHER APPROVED SUCH A MANNER AS TO BE SE PLACE. 8. CELLULOSE INSULATION INST
MOND MESH METAL LATHE CCO CO	MORTAR SETTING BED AND SCRATCH COAT CULTURED STONE VENEER	ACCORDANCE WITH ASTM E1 SPECIFIC APPLICATION.
	2X4 WOOD STUDS BOTTOM PLATE	
		B
DES S MOND MESH METAL LATHE - BOTH SIDES CCO - BOTH SIDES	WALL TYPE EE TYPE WALL DESCRIPTION	
CO - BOTH SIDES SIDES	 EE • 2X4 STUD @ 16" O.C. • 1/2" TYPE "X" GYP. BD. ONE SIDE • 3-1/2" BATT INSUL. TO FULL HEIGHT OF WALL • HOUSE WRAP/ WEATHER BARRIER 	
	MORTAR SETTING BED AND SCRATCH COAT CULTURED STONE VENEER - ELDORADO STONE - CUT COARSE STONE - SEASHELL: INSTALL PER MFR DETAILS NON RATED	
DES S MOND MESH METAL LATHE - BOTH SIDES CCO - BOTH SIDES	 • 2X6 STUD @ 16" O.C. • 1/2" TYPE "X" GYP. BD. ONE SIDE • 3-1/2" BATT INSUL. TO FULL HEIGHT OF WALL • HOUSE WRAP/WEATHER BARRIER 	
CCO - BOTH SIDES CO - BOTH SIDES SIDES	 MORTAR SETTING BED AND SCRATCH COAT CULTURED STONE VENEER - ELDORADO STONE - CUT COARSE STONE - SEASHELL: INSTALL PER MFR DETAILS NON RATED 	LIFE
]



GENERAL REQUIREMENTS APPLICABLE TO ALL MATERIALS FOR THE PROJECT:

1 NO SUBSTITUTIONS OF MATERIALS WITHOUT COMPLETION OF A SUBSTITUTION REQUEST FORM & APPROVAL OF SUBSTITUTION BY BOTH ARCHITECT & OWNER PROJECT MANAGER. FORM CAN BE REQUESTED FROM ARCHITECT. 2. A CONDENSED SET OF SPECIFICATIONS ARE PROVIDED FOR THE PROJECT. STRICT ADHEARANCE TO MANUFACTURER REQUIREMENTS AND INSTALLATION ARE REQUIRED TO BE FOLLOWED WITH SECTIONS PROVIDED WITHIN. IF REQUIRED THE ARCHITECT WILL ISSUE ADDITIONAL SECTIONS TO PROVIDE CLARITY TO PRODUCTS OR INSTALLATION REQUIREMENTS.

DIVISION 1 - GENERAL REQUIREMENTS 1 SEE ADMINISTRATIVE SPECIFICATION FOR GENERAL REQUIREMENTS RELATED TO ADMINISTATION OF THIS CONTRACT

- A. <u>CONTRACTOR LICENSES</u> THE CONTRACTOR AND ALL SUBCONTRACTORS INVOLVED IN THE PROJECT SHALL BE REQUIRED TO OBTAIN AND PAY FOR ALL NECESSARY LICENSES AS REQUIRED BY ANY LAW OR AGENCIES HAVING JURISDICTION (AHJ) OVER THE
- B. <u>Building Permits</u> . THE GENERAL CONTRACTOR WILL PAY FOR ALL PERMITS REQUIRED BY ANY AGENCY HAVING JURISDICTION (AHJ) OVER THE PROJECT FOR ALL WORK TO BE PREFORMED BY THE GENERAL CONTRACTOR.
- C. <u>UTILITY FEES</u> THE CONTRACTOR SHALL PAY THE NECESSARY FEES TO CONNECT TO EXISTING UTILITIES AT THE PROPERTY LINE OR IN ADJACENT STREETS AND RIGHT OF WAY AS SPECIFIED, NECESSARY, AND/OR INCLUDED IN THE CONSTRUCTION DOCUMENTS. THE CONTRACTOR SHALL PAY ALL UTILITY COSTS (BILLS) DURING CONSTRUCTION UNTIL OWNER TAKES POSSESSION OF THE FACILITY OR THE FACILITY IS CERTIFIED AS SUBSTANTIALLY COMPLETE.
- D. <u>PROTECTION OF FINISHED WORK</u> IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROTECT FINISHED SURFACES. PROTECTION FOR FINISHES SUCH AS DOORS, WALLS AND FLOORS SHOULD BE PROVIDED AS REQUIRED. ANY DAMAGES TO THESE AREAS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR OR REPLACE.
- E. GENERAL CONDITIONS . ANY DISCREPANCY OR CONFLICT WITHIN OR BETWEEN DRAWINGS AND ANY DISCREPANCY OR CONFLICT BETWEEN ANY DRAWING AND ANY SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT. NOTWITHSTANDING. DISCREPANCIES OR CONFLICTS NOT BROUGHT TO THE ARCHITECT'S AND/ OWNERS ATTENTION AND CLARIFIED DURING THE BIDDING OF THE PROJECT WILL BE DEEMED TO HAVE BEEN BID OR PROPOSED IN THE MORE COSTLY OR DIFFICULT MANNER, AND THE BETTER QUALITY OR GREATER QUANTITY OF THE WORK SHALL BE PROVIDED BY THE CONTRACTOR IN ACCORDANCE WITH ARCHITECT'S INTERPRETATION. 2. THE GENERAL CONTRACTOR SHALL KEEP A COMPLETE SET OF DOCUMENTS ON THE PROJECT SITE AT ALL TIMES FOR
- REFERENCE DURING CONSTRUCTION 3. THE GENERAL CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK, USING THE CONTRACTOR'S BEST SKILLS AND ATTENTION. THE GENERAL CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR AND HAVE CONTROL OVER CONSTRUCTION MEANS AND METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT. 4. THE GENERAL CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR AND HAVE CONTROL OVER ALL JOB SITE SAFETY
- PROCEDURES AND POLICIES. THE GENERAL CONTRACTOR SHALL HAVE A SAFETY COORDINATOR AND BE RESPONSIBLE TO HOLD REGULARLY SCHEDULED SAFETY TRAINING WITH ALL JOB SITE PERSONNEL, INCLUDING ALL SUB CONTRACTOR PERSONNEL 5. NEITHER THE ARCHITECT'S OR THE OWNERS INSPECTION NOR FAILURE TO INSPECT SHALL RELIEVE THE CONTRACTOR
- OF ANY OBLIGATION HEREUNDER. IF ANY WORK FAILS TO CONFORM TO THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL PROMPTLY REMEDY AND/OR REPLACE THE SAME AT THE CONTRACTOR'S EXPENSE. NO ACCEPTANCE OR PAYMENT BY THE OWNER OR ARCHITECT SHALL CONSTITUTE A WAIVER OF THE FOREGOING AND NOTHING HEREIN SHALL EXCLUDE OR LIMIT ANY WARRANTIES IMPLIED BY LAW. 6. THE GENERAL CONTRACTOR SHALL SO CONDUCT ITS OPERATIONS AS NOT TO UNREASONABLY INTERFERE WITH TRAFFIC ON PUBLIC THOROUGHFARES ADJACENT OR NEAR TO THE PROJECT SITE. 7. DO NOT SCALE DRAWINGS.

- THE GENERAL CONTRACTOR REPRESENTS THAT IT POSSESSES THE SKILLS REQUIRED FOR THE WORK, ASSUMES THE RESPONSIBILITIES OF AN EMPLOYER FOR PERFORMANCE OF THE WORK, AND ACTS AS AN EMPLOYER OF ONE OR MORE EMPLOYEES BY PAYING WAGES, DIRECTING ACTIVITIES AND PERFORMING OTHER SIMILAR FUNCTIONS. THE GENERAL CONTRACTOR IS AN INDEPENDENT CONTRACTOR, FREE TO DETERMINE THE MANNER IN WHICH THE WORK IS PERFORMED
- 2. THE GENERAL CONTRACTOR SHALL PROVIDE, AND MAINTAIN IN GOOD WORKING ORDER, THE FOLLOWING ITEMS FOR USE BY THE PROJECT SUPERINTENDENT DAILY DURING THE ENTIRE DURATION OF THE PROJECT: A. LAPTOP WITH INTERNET ACCESS. B. DIGITAL CAMERA WITH 'DATE STAMP' CAPABILITY AND WITH PROPER CABLES TO ATTACH TO LAPTOP. C. EMAIL ACCESS THROUGH THE LAPTOP. D. A PRINTER/SCANNER/FAX MACHINE WITH PROPER CABLES TO ATTACH TO LAPTOP.
- CELL PHONE F. PROJECT INTERNET CLOUD BASED SITE FOR MANAGEMENT OF PROJECT INFORMATION. SITE WILL BE USED FOR SUBMITTAL OF SHOP DRAWINGS, RFI'S & PHOTOS. SITE SHALL BE PROCORE OR EQUAL FUNCTIONALITY. 3. THE GENERAL CONTRACTOR SHALL HAVE A CONSTRUCTION SUPERINTENDENT ASSIGNED TO THIS PROJECT, AND THIS SUPERINTENDENT SHALL BE ON SITE EVERY DAY THERE IS ANY CONSTRUCTION ON THIS PROJECT. THE SUPERINTENDENT SHALL BE REACHABLE BY PHONE DURING NORMAL BUSINESS HOURS. ONCE ASSIGNED, THE SUPERINTENDENT SHALL NOT BE REMOVED OR REPLACED WITHOUT WRITTEN APPROVAL FROM OWNER & ARCHITECT, UNLESS SPECIFICALLY REQUESTED TO BE REPLACED BY OWNER. 4. THE SUPERINTENDENT WILL BE REQUIRED TO PROVIDE PHOTOGRAPHS (VIA EMAIL USING A DIGITAL CAMERA) TO THE OWNER & ARCHITECT EACH FRIDAY BY NOON CST, SHOWING THE PROGRESS OF CONSTRUCTION. THE GENERAL CONTRACTOR IS ENCOURAGED TO TAKE PHOTOS SEVERAL TIMES EACH WEEK TO HELP MAINTAIN PROOF OF
- CONSTRUCTION PROGRESS, RECORD UNCOVERED CONDITIONS, RECORD CONDITION AND AMOUNTS OF VENDOR GOODS UPON RECEIPT, AND RECORD CONSTRUCTION THAT VARIES FROM THE CD'S (AS PART OF THE AS-BUILTS). ALL PHOTOS WILL HAVE A 'DATE STAMP'. 3. INSPECTIONS/OBSERVATION . IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO OVERSEE CONSTRUCTION OF THE PROJECT,
- CONTINUALLY INSPECTING THE WORK, MATERIALS, AND WORKMANSHIP PROVIDED BY ALL OF HIS TRADESMEN, SUBCONTRACTORS, AND SUPPLIERS. EXCELLENCE IN QUALITY OF CONSTRUCTION CAN ONLY BE ACHIEVED IF THE CONTRACTOR ENFORCES HIGH STANDARDS OF ACCEPTABILITY. THE GENERAL CONTRACTOR CANNOT DELEGATE HIS RESPONSIBILITY TO THE SUBCONTRACTORS, BUT MUST CONTINUALLY MONITOR THE WORK OF EACH TRADE ON THE PROJECT. 2. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ARRANGE AND SCHEDULE ALL AGENCIES HAVING JURISDICTION (AHJ) INSPECTIONS NECESSARY TO OBTAIN THE CERTIFICATE OF OCCUPANCY (CERTIFICATE OF COMPLIANCE). PRIOR TO THE DATE OF THE AGENCY INSPECTION, THE GENERAL CONTRACTOR SHOULD INSPECT THE PROJECT TO INSURE THAT
- CONSTRUCTION COMPLIES WITH THE AGENCY REQUIREMENTS. SCHEDULING FINAL INSPECTIONS WITH AGENCY REPRESENTATIVES WHEN THE PROJECT IS NOT COMPLETE MUST BE AVOIDED. COPIES OF FINAL INSPECTIONS MUST BE PROVIDED TO OWNER & ARCHITECT AS THEY ARE AVAILABLE. 3. PRIOR TO REQUESTING THE SUBSTANTIAL COMPLETION INSPECTION, IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONDUCT HIS OWN PRE-SUBSTANTIAL COMPLETION INSPECTION OF THE CONSTRUCTION FOR
- QUALITY OF CONSTRUCTION AND COMPLIANCE WITH THE CONSTRUCTION DOCUMENTS. 4. THE FOLLOWING PEOPLE SHOULD BE IN ATTENDANCE FOR THE SUBSTANTIAL COMPLETION INSPECTION: A. GENERAL CONTRACTOR **B. GENERAL CONTRACTOR SUPERINTENDENT**
- C. MECHANICAL CONTRACTOR D. ELECTRICAL CONTRACTOR E. PLUMBING CONTRACTOR
- F. PAINTING CONTRACTOR H. FLOORING CONTRACTOR
- 5. ITEMS TO BE SUBMITTED AS A PREREQUISITE TO THE REQUEST FOR THE CERTIFICATE OF SUBSTANTIAL COMPLETION AND OWNER / ARCHITECT OBSERVATION OF ITEMS TO BE COMPLETED AND CORRECTED. A. GENERAL CONTRACTOR'S PUNCH LISTS B. HVAC TEST AND BALANCE REPORT
- C. SPRINKLER SYSTEM ACCEPTANCE INSPECTION REPORT D. COPY OF VIDEO OF COMPLETED SEWER SYSTEM 6. THE REVIEW TEAM SHOULD PROCEED IN AN ORGANIZED MANNER THROUGHOUT THE BUILDING INSPECTING EACH SPACE OR ROOM. THE PUNCH LIST GENERATED BY THE SUBSTANTIAL COMPLETION INSPECTION TOUR IS TO BE PREPARED BY THE CONTRACTOR. ALONG WITH THE PUNCH LIST, THE ARCHITECT SHALL PREPARE THE "CERTIFICATE OF SUBSTANTIAL COMPLETION '
- . IMMEDIATELY AFTER RECEIPT OF THE PUNCH LIST, THE GENERAL CONTRACTOR AND SUBCONTRACTORS ARE EXPECTED TO BEGIN CORRECTION OF THE OUTSTANDING ITEMS. AFTER COMPLETION OF PUNCHLIST, THE CONTRACTOR SHALL NOTIFY OWNER & ARCHITECT IN WRITTING THAT FULL LIST OF ITENMS TO BE COMPLETED AND OR CORRECT IS FINALIZED.
- H. <u>RECORD (CLOSE-OUT) DOCUMENTS</u> THE OWNER REQUIRES THE GENERAL CONTRACTOR AND SUBCONTRACTORS TO MAINTAIN AN ACCURATE, CURRENT SET OF RECORD DOCUMENTS (AS-BUILTS) AS CONSTRUCTION PROGRESSES. ALL PERTINENT INFORMATION RELATING TO THE PROJECT MUST BE TIMELY MAINTAINED ON THE AS-BUILTS. THE AS-BUILTS MUST BE MAINTAINED ON-SITE IN THE GENERAL CONTRACTOR'S OFFICE AND WILL NOT BE USED FOR ANY OTHER PURPOSE. SINCE THE OWNER WILL OWN AND OPERATE THE FACILITY, IT IS IMPERATIVE THAT ALL PARTIES MAINTAIN ACCURATE INFORMATION REGARDING THE ACTUAL CONSTRUCTION OF THE PROJECT. ALL DEVIATIONS FROM THE CONTRACT SET OF DRAWINGS MUST BE NOTED ON THE AS-BUILTS IN RED WITH CLOUDS FOR CLEAR IDENTIFICATION. THE OWNER WILL REVIEW THE AS-BUILTS FOR ACCURACY AND COMPLETENESS MONTHLY,
- DURING THE PAYMENT APPLICATION REVIEW PROCESS. FAILURE TO POST CHANGES TO THE PROJECT ON THE AS-BUILTS AS IDENTIFIED DURING THE ON-SITE MONTHLY REVIEW WILL BE CAUSE TO SUSPEND PAYMENT UNTIL RECTIFIED. IT IS THE GENERAL CONTRACTOR'S RESPONSIBILITY TO ENFORCE THE TIMELY POSTING OF AS-BUILT CHANGES WITH THE SUBCONTRACTORS.
- I. FINAL CLOSE-OUT OF THE PROJECT . WITHIN THIRTY (30) CALENDAR DAYS AFTER THE FINAL PROJECT SUBSTANTIAL COMPLETION, THE GENERAL CONTRACTOR SHALL COMPILE ALL CLOSE-OUT DOCUMENTS AND SUBMIT THEM TO THE OWNER FOR REVIEW. IF THE CONTRACTOR FAILS TO COMPLETE ITS REQUIREMENTS WITHIN THIS TIMELINE NOTED ABOVE THE CONTRACTOR MAY BE SUBJECT TO ADDITONAL ADMINISTATION FEES.
- 1. THE CATEGORIES LISTED BELOW SHOULD BE SUBMITTED AT THE SAME TIME. A. A DISK WITH ALL PHOTOS TAKEN DURING CONSTRUCTION.
- B. CHANGE ORDERS AND ALL ADDENDA ATTACHED AND POSTED TO THE AS-BUILT DRAWINGS. C. AS-BUILT DRAWINGS: ONE HARD COPY TO REMAIN ON SITE AND IN PLAN TUBE; ONE ELECTRONIC COPY TO BE SENT WITH CLOSE-OUT PAPERWORK D. MATERIALS SELECTION DATA - PROVIDE ALL APPROVED SUBMITTALS.
- E. OPERATION AND MAINTENANCE MANUALS (O&M) PROVIDE O&M MANUALS BOXED AND BOUND. THIS ITEM IS OF SIGNIFICANT IMPORTANCE TO MSI FUTURE MAINTENANCE ACTIVITIES.
- F. ALL HVAC TEST AND BALANCE REPORTS. H. RELEASE OF LIEN (AIA FORM 706A), PAYMENT OF DEBT (AIA FORM 706), I. WARRANTIES, CERTIFICATES, AFFIDAVITS:
- 2. ALL INFORMATION INCLUDED IN THIS CATEGORY WILL BE FURNISHED IN ONE (1) COPY AND BOUND IN A STURDY THREE-RING BINDER WITH A LABEL ON THE OUTSIDE READING "GENERAL CLOSE-OUT DOCUMENTS" TO INCLUDE AN INDEX OF THE CONTENTS, ALL AIA DOCUMENTS WILL BE ORIGINAL (WITH RED LETTERING ON THE BOTTOM OF THE FORM) AND NOTARIZED. IF THE ELECTRONIC VERSION IS USED A COPY WITH ORIGINAL SIGNATURES WILL BE SUBMITTED. THE GENERAL CONTRACTOR AND EACH SUBCONTRACTOR WILL HAVE SEPARATE TABS IDENTIFYING EACH BY NAME. THE GENERAL CONTRACTOR WILL LIST EACH SUBCONTRACTOR ALPHABETICALLY AND WILL CHECK TO INSURE THAT A "RELEASE OF LIEN" - AIA FORM G706A AND A "PAYMENT OF DEBT-AIA FORM G706 IS INCLUDED FOR
- HIMSELF AND EACH SUBCONTRACTOR. THE GENERAL CONTRACTOR WILL INCLUDE A "CONSENT OF SURETY" AIA FORM G707. IN ADDITION. THE GENERAL CONTRACTOR WILL INCLUDE BEHIND HIS TAB THE FOLLOWING INFORMATION: A. A LIST OF NAMES, BUISNESS ADDRESSES, PHONE NUMBERS AND EMAIL ADRESSES FOR THE GENERAL CONTRACTOR AND EACH SUBCONTRACTOR. B. AN ANNOTATED COPY OF THE SUBSTANTIAL COMPLETION PUNCH LIST INDICATING ACTION TAKEN ON EACH ITEM. C. WARRANTIES, CERTIFICATES AND AFFIDAVITS SHALL BE INCLUDED FOR ANY EQUIPMENT, MATERIALS OR SYSTEMS,

COMBINED WITH ALL OF THE ABOVE INFORMATION AND PLACED BEHIND THE TAB OF THE CONTRACTOR THAT

DIVISION 4 - MASONRY

- 04 0550 MASONRY VENEERS & SIMULATED STONES A. SUBMITTALS: SHOP DRAWINGS AND CALCULATIONS INDICATING PRODUCTS TYPES AND LAYOUT, VERTICAL AND HORIZONTAL DIMENSIONS, EDGE CONDITIONS, AND CONNECTION DETAILS TO SUBSTRATES. PROVIDE GROUT TYPES AND COLOR SAMPLES.
- B. BASIS OF DESIGN: CANYON LEDGE PROFILE AS MANUFACTURED BY CANYON STONE INC. MATCH THE MODULAR CONFIGURATIONS INDICATED IN THE CONSTRUCTION DOCUMENTS.
- C. MATERIALS 1. MORTAR: TYPE "N" TINTED TO A COLOR SELECTED BY THE ARCHITECT. 2. METAL LATH SHALL BE MINIMUM 2.5 LB. PAPER BACKED GALVANIZED METAL LATH (DIAMOND MESH) ATTACHED WITH 1-1/4" TYPE S-12 GALVANIZED NAILS. GALVANIZED FLASHING MAY ALSO BE USED. 3. IN WALL AND CAP FLASHING SHALL BE CARLISLE "PRE-KLEENED" EPDM OR COMPARABLE PRODUCTS
- MANUFACTURED BY W.R. GRACE OR ALCO. 4. BUILDING FELT TO BE 15# ASPHALT IMPREGNATED BUILDING FELT OVER WEATHER BARRIER OVER WALL SHEATHING.
- C. FABRICATIONS: FABRICATE ITEMS IN LARGEST PRACTICAL SECTIONS FOR DELIVERY TO SITE. . INSTALLATION 1. FOLLOW MANUFACTURER RECOMMENDED INSTALLATION INSTRUCTIONS TO MAINTAIN WARRANTY.
- 2. APPLY MORTAR 1/2" TO 3/4" THICK TO PREPARED SURFACE AREA USING A PLASTERER'S OR MASON'S TROWEL AND LAY SIMULATED STONE UNITS LEVEL AND TRUE TO LINE IN FULL BEDS OF MORTAR. ALL JOINTS MUST BE COMPLETELY FILLED. APPLY ONLY ENOUGH MORTAR TO ALLOW STONES TO BE SET BEFORE MORTAR BEGINS TO HARDEN. 3. ALL JOINTS IN SIMULATED STONE WORK SHALL NOT EXCEED AN AVERAGE OF 1/2" IN WIDTH.
- 4. RETAIN 1/2" DEEP X 1/4" WIDE SEALANT JOINTS AT PERIMETER OF EXTERIOR DOORS, WINDOW FRAMES AND OTHER WALL OPENINGS. 5. DO NOT ALLOW MORTAR DROPPINGS TO HARDEN ON EXPOSED SURFACES. 6. WALLS SHALL BE COVERED WITH 15 LB. BUILDING FELT AND GALVANIZED METAL LATH SHALL BE INSTALLED PRIOR
- **DIVISION 5 METALS**

05 5000 - METAL RAILINGS A. SUBMITTALS

- PRODUCT DATA AND SHOP DRAWINGS WITH PLANS ELEVATIONS AND SEECTIONS INDICATING MEMBER SIZES AND LAYOUT, VERTICAL AND HORIZONTAL DIMENSIONS, EDGE CONDITIONS, AND CONNECTION DETAILS, INCLUDE DETAILS OF EQUIPMENT ASSEMBLIES. INDICATE DIMENSIONS, WEIGHTS, LOADS, REQUIRED CLEARANCES, METHOD OF FIELD ASSEMBLY, COMPONENTS, AND LOCATION AND SIZE OF EACH FIELD CONNECTION. SAMPLES FOR INITIAL SELECTION: FOR EACH TYPE OF EXPOSED FINISH. 1. DELEGATED-DESIGN SUBMITTAL: FOR HANDRAIL AND GUARDRAIL SYSTEMS, INCLUDING ANALYSIS DATA SIGNED AND SEALED BY THE QUALIFIED PROFESSIONAL ENGINEER RESPONSIBLE FOR THEIR PREPARATION.
- B. DESIGN: METAL RAILINGS SHALL BE DESIGNED BY FABRICATOR TO SUPPORT CODE-REQUIRED LOADING AND TO MATCH THE CONFIGURATIONS INDICATED IN THE CONSTRUCTION DOCUMENTS. SEE DRAWINGS FOR REQUIRED RAILING ELEVATIONS.
- C. WARRANTY: MANUFACTURER'S WARRANTY: MANUFACTURER AGREES TO REPAIR OR REPLACE COMPONENTS OF HANDRAIL AND GUARD RAIL SYSTEM THAT FAIL IN MATERIALS OR WORKMANSHIP WITHIN SPECIFIED WARRANTY PERIOD. WARRANTY PERIOD OF 30 YEAR.
- D. BASIS OF DESIGN: DIGGER SPECIALTIES, INC.; WESTBURY® ALUMINUM RAILING, TUSCANY SERIES. STYLE C10
- 1. GENERAL: PROVIDE MANUFACTURE'S STANDARD ACCESSORIES AS REQUIRED FOR COMPLETE RAILING SYSTEM AS INDICATED ON THE DRAWINGS AND AS REQUIRED TO COMPLY WITH PERFORMANCE REQUIREMENTS.
- 1. GENERAL: TYPE 304 STAINLESS-STEEL FASTNERS. PROVIDE EXPOSED FASTENERS WITH FINISH MATCHING APPEARANCE, INCLUDING COLOR AND TEXTURE, OF RAILINGS. G. FABRICATION:
- SIZES AND SPACING, DETAILS, FINISH, AND ANCHORAGE, BUT NOT LESS THAN THAT REQUIRED TO SUPPORT STRUCTURAL LOADS. 2. CUT, DRILL, AND PUNCH ALUMINUM CLEANLY AND ACCURATELY. REMOVE BURRS AND EASE EDGES TO A RADIUS OF APPROX. 1/32 INCH (1 MM) UNLESS OTHERWISE INDICATED. REMOVE SHARP OR ROUGH AREAS ON EXP SURFACES.
- 3. FABRICATE CONNECTIONS THAT ARE EXPOSED TO WEATHER IN A MANNER THAT EXCLUDES WATER. PROVIDE WEEP HOLES WHERE WATER MAY ACCUMULATE.
- 1. POWDER-COAT FINISH: AAMA 2605 EXCEPT WITH A MINIMUM DRY FILM THICKNESS OF 1.5 MILS (0.04 MM). COMPLY WITH COATING MANUFACTURER'S WRITTEN INSTRUCTIONS FOR CLEANING, CONVERSION COATING, AND APPLYING AND BAKING FINISH
- 1. SUPPLY COMPONENTS REQUIRED FOR ANCHORAGE FABRICATED FROM SAME MATERIAL AND FINISH AS FABRICATION UNLESS NOTED OTHERWISE, SHIM AND LEVEL FABRICATIONS AS NECESSARY, COAT CONCEALED SURFACES OF ALUMINUM FABRICATIONS IN CONTACT WITH CONCRETE, GROUT, MASONRY, WOOD, OR DISSIMILAR METALS WITH BITUMINOUS PAINT.
- 2. FIT EXPOSED CONNECTIONS TOGETHER TO FORM TIGHT, HAIRLINE JOINTS. 3. PERFORM CUTTING, DRILLING, AND FITTING REQUIRED FOR INSTALLING RAILINGS. SET RAILINGS ACCURATELY IN LOCATION, ALIGNMENT, AND ELEVATION; MEASURED FROM ESTABLISHED LINES AND LEVELS AND FREE OF RACK. 1.DO NOT WELD, CUT, OR ABRADE SURFACES OF RAILING COMPONENTS THAT ARE COATED OR FINISHED AFTER FABRICATION AND THAT ARE INTENDED FOR FIELD CONNECTION BY MECHANICAL OR OTHER MEANS WITHOUT FURTHER CUTTING OR FITTING. 2. SET POSTS PLUMB WITHIN A TOLERANCE OF 1/16 INCH IN 3 FEET.
- 4. CONTROL OF CORROSION: PREVENT GALVANIC ACTION AND OTHER FORMS OF CORROSION BY INSULATING METALS AND OTHER MATERIALS FROM DIRECT CONTACT WITH INCOMPATIBLE MATERIALS. 5. ADJUST RAILINGS BEFORE ANCHORING TO ENSURE MATCHING ALIGNMENT AT ABUTTING JOINTS. 6. FASTENING TO IN-PLACE CONSTRUCTION: USE ANCHORAGE DEVICES AND FASTENERS WHERE NECESSARY FOR
- SECURING RAILINGS AND FOR PROPERLY TRANSFERRING LOADS TO IN-PLACE CONSTRUCTION.

COMPLETION. DIVISION 5 - METALS

05 5213 - PIPE AND TUBE RAILINGS

- PRODUCT DATA AND SHOP DRAWINGS WITH PLANS ELEVATIONS AND SEECTIONS INDICATING MEMBER SIZES AND LAYOUT, VERTICAL AND HORIZONTAL DIMENSIONS, EDGE CONDITIONS, AND CONNECTION DETAILS. INCLUDE DETAILS OF EQUIPMENT ASSEMBLIES. INDICATE DIMENSIONS, WEIGHTS, LOADS, REQUIRED CLEARANCES, METHOD OF FIELD ASSEMBLY, COMPONENTS, AND LOCATION AND SIZE OF EACH FIELD CONNECTION. SAMPLES FOR INITIAL SELECTION:
- FOR EACH TYPE OF EXPOSED FINISH. 1. DELEGATED-DESIGN SUBMITTAL: FOR HANDRAIL AND GUARDRAIL SYSTEMS, INCLUDING ANALYSIS DATA SIGNED AND SEALED BY THE QUALIFIED PROFESSIONAL ENGINEER RESPONSIBLE FOR THEIR PREPARATION.
- B. DESIGN: METAL TUBE RAILINGS SHALL BE DESIGNED BY FABRICATOR TO SUPPORT CODE-REQUIRED LOADING AND TO MATCH THE CONFIGURATIONS INDICATED IN THE CONSTRUCTION DOCUMENTS. SEE DRAWINGS FOR REQUIRED RAILING ELEVATIONS.
- 1. FIELD MEASUREMENTS: VERIFY ACTUAL LOCATIONS OF WALLS AND OTHER CONSTRUCTION CONTIGUOUS WITH METAL FABRICATIONS BY FIELD MEASUREMENTS BEFORE FABRICATION.
- D. <u>PERFORMANCE REQUIREMENT</u>
- 1. A. DELEGATED DESIGN: ENGAGE A QUALIFIED PROFESSIONAL ENGINEER, TO DESIGN RAILINGS, INCLUDING ATTACHMENT TO BUILDING CONSTRUCTION. B. STRUCTURAL PERFORMANCE: RAILINGS, INCLUDING ATTACHMENT TO BUILDING CONSTRUCTION, SHALL WITHSTAND THE EFFECTS OF GRAVITY LOADS AND THE FOLLOWING LOADS AND STRESSES WITHIN LIMITS AND
- UNDER CONDITIONS INDICATED: 2. HANDRAILS AND TOP RAILS OF GUARDS: A. UNIFORM LOAD OF 50 LBF/ FT. (0.73 KN/M) APPLIED IN ANY DIRECTION. B. CONCENTRATED LOAD OF 200 LBF (0.89 KN) APPLIED IN ANY DIRECTION. C. UNIFORM AND CONCENTRATED LOADS NEED NOT BE ASSUMED TO ACT CONCURRENTLY.
- 1. FASTENERS FOR ANCHORING RAILINGS TO OTHER CONSTRUCTION: SELECT FASTENERS OF TYPE, GRADE, AND CLASS REQUIRED TO PRODUCE CONNECTIONS SUITABLE FOR ANCHORING RAILINGS TO OTHER TYPES OF CONSTRUCTION INDICATED AND CAPABLE OF WITHSTANDING DESIGN LOADS.
- . MISCELLANEOUS MATERIAL 1. METAL SURFACES, GENERAL: PROVIDE MATERIALS WITH SMOOTH SURFACES, WITHOUT SEAM MARKS, ROLLER MARKS, ROLLED TRADE NAMES, STAINS, DISCOLORATIONS, OR BLEMISHES, 2. BRACKETS, FLANGES, AND ANCHORS: CAST OR FORMED METAL OF SAME TYPE OF MATERIAL AND FINISH AS SUPPORTED RAILS UNLESS OTHERWISE INDICATED.
- 3. PIPE: ASTM A 53/A 53M, TYPE F OR TYPE S, GRADE A, STANDARD WEIGHT (SCHEDULE 40), UNLESS ANOTHER GRADE AND WEIGHT ARE REQUIRED BY STRUCTURAL LOADS.
- 1. GENERAL: FABRICATE RAILINGS TO COMPLY WITH REQUIREMENTS INDICATED FOR DESIGN, DIMENSIONS, MEMBER SIZES AND SPACING, DETAILS, FINISH, AND ANCHORAGE , BUT NOT LESS THAN THAT REQUIRED TO SUPPORT
- STRUCTURAL LOADS. 2. CUT, DRILL, AND PUNCH ALUMINUM CLEANLY AND ACCURATELY. REMOVE BURRS AND EASE EDGES TO A RADIUS OF APPROXIMATELY 1/32 INCH (1 MM) UNLESS OTHERWISE INDICATED. REMOVE SHARP OR ROUGH AREAS ON EXPOSED SURFACES
- 3. FABRICATE CONNECTIONS THAT ARE EXPOSED TO WEATHER IN A MANNER THAT EXCLUDES WATER. PROVIDE WEEP HOLES WHERE WATER MAY ACCUMULATE. 4. WELDED CONNECTIONS: USE FULLY WELDED JOINTS FOR PERMANENTLY CONNECTING RAILING COMPONENTS. COMPLY WITH REQUIREMENTS FOR WELDED CONNECTIONS IN "FABRICATION" ARTICLE WHETHER WELDING IS
- PERFORMED IN THE SHOP OR IN THE FIELD. 1. FOR NONGALVANIZED-STEEL RAILINGS, PROVIDE NONGALVANIZED FERROUS-METAL FITTINGS, BRACKETS,
- FASTENERS, AND SLEEVES: HOWEVER, GALVANIZE ANCHORS TO BE EMBEDDED IN EXTERIOR CONC OR MASONRY. 2. PREPARATION FOR SHOP PRIMING: PREPARE UNCOATED FERROUS-METAL SURFACES TO COMPLY WITH SSPC-SP 3, "POWER TOOL CLEANING." 3. PRIMER APPLICATION: APPLY SHOP PRIMER TO PREPARED SURFACES OF RAILINGS UNLESS OTHERWISE INDICATED. COMPLY WITH REQUIREMENTS IN SSPC-PA 1. "SHOP. FIELD. AND MAINTENANCE PAINTING
- OF STEEL," FOR SHOP PAINTING. PRIMER NEED NOT BE APPLIED TO SURFACES TO BE EMBEDDED IN CONC OR MAS. INSTALLATION
- 1. SUPPLY COMPONENTS REQUIRED FOR ANCHORAGE FABRICATED FROM SAME MATERIAL AND FINISH AS FABRICATION UNLESS NOTED OTHERWISE. SHIM AND LEVEL FABRICATIONS AS NECESSARY. COAT CONCEALED SURFACES OF FABRICATIONS IN CONTACT WITH CONCRETE, GROUT, MASONRY, WOOD, OR DISSIMILAR METALS WITH
- **BITUMINOUS PAINT** 2. FIT EXPOSED CONNECTIONS TOGETHER TO FORM TIGHT, HAIRLINE JOINTS. 3. PERFORM CUTTING, DRILLING, AND FITTING REQUIRED FOR INSTALLING RAILINGS, SET RAILINGS ACCURATELY IN LOCATION, ALIGNMENT, AND ELEVATION: MEASURED FROM ESTABLISHED LINES AND LEVELS AND FREE OF RACK. 1.DO NOT WELD, CUT, OR ABRADE SURFACES OF RAILING COMPONENTS THAT ARE COATED OR FINISHED AFTER FABRICATION AND THAT ARE INTENDED FOR FIELD CONNECTION BY MECHANICAL OR OTHER MEANS WITHOUT
- FURTHER CUTTING OR FITTING. 2. SET POSTS PLUMB WITHIN A TOLERANCE OF 1/16 INCH IN 3 FEET. 4. CONTROL OF CORROSION: PREVENT GALVANIC ACTION AND OTHER FORMS OF CORROSION BY INSULATING METALS AND OTHER MATERIALS FROM DIRECT CONTACT WITH INCOMPATIBLE MATERIALS. 5. ADJUST RAILINGS BEFORE ANCHORING TO ENSURE MATCHING ALIGNMENT AT ABUTTING JOINTS.

COMPLETION.

TO APPLICATION OF THE MORTAR BASE. MORTAR BASE MAY BE APPLIED DIRECTLY TO MASONRY BACK-UP.

1. GENERAL: FABRICATE RAILINGS TO COMPLY WITH REQUIREMENTS INDICATED FOR DESIGN, DIMENSIONS, MEMBER

7. PROTECT FINISHES OF RAILINGS FROM DAMAGE DURING CONSTRUCTION PERIOD WITH TEMPORARY PROTECTIVE COVERINGS APPROVED BY RAILING MANUFACTURER. REMOVE PROTECTIVE COVERINGS AT TIME OF SUBSTANTIAL

6. FASTENING TO IN-PLACE CONSTRUCTION: USE ANCHORAGE DEVICES AND FASTENERS WHERE NECESSARY FOR SECURING RAILINGS AND FOR PROPERLY TRANSFERRING LOADS TO IN-PLACE CONSTRUCTION. 7. PROTECT FINISHES OF RAILINGS FROM DAMAGE DURING CONSTRUCTION PERIOD WITH TEMPORARY PROTECTIVE COVERINGS APPROVED BY RAILING MANUFACTURER. REMOVE PROTECTIVE COVERINGS AT TIME OF SUBSTANTIAL

DIVISION 6 - WOOD AND PLASTICS 06 1000- ROUGH CARPENTRY

1. PROVIDE SUFFICIENT FIRE RETARDANT TREATED WOOD BLOCKING AT ALL STUDS FOR SECURING OF WALL & CEILING ITEMS, WHETHER FURNISHED BY OWNER OR CONTRACTOR. 2. CONCEALED WOOD IS TO BE FIRE RETARDANT TREATED UNLESS NOTED OTHERWISE.

- 3. PRESERVATIVE TREATED LUMBER IS REQUIRED FOR ALL ITEMS TO REMAIN IN CONTACT WITH CONCRETE OR MASONRY TO CONFORM TO AWPA STANDARD 5. 4. PLYWOOD SHALL BE CD GRADE APA FIR OR YELLOW PINE. ALL PLY-WOOD TO BE FIRE RATED WHERE WALLS ARE
- INDICATED AS RATED CONSTRUCTION. 5. BLOCKING SHALL BE CLOSELY FITTED, ACCURATELY SET TO REQUIRED LINES & LEVELS, SECURELY CONNECTED & RIGIDLY FIXED IN PLACE, USING NAILS, SCREWS, &/OR BOLTS AS INDICATED OR REQUIRED BY GOOD PRACTICE AND MANUFACTURER'S RECOMMENDATIONS.

06 2000 - FINISH CARPENTR A. SUBMITTALS: SAMPLES OF FINISH MATERIALS, CATALOG CUTS OF HARDWARE, AND SHOP DRAWINGS INCLUDING

DIMENSIONED PLANS, ELEVATIONS, AND SECTIONS. B. <u>QUALITY STANDARD</u>: ARCHITECTURAL WOODWORK INSTITUTE'S "ARCHITECTURAL WOODWORK QUALITY

- /. <u>MATERIALS</u>: 1. SOFTWOOD LUMBER: MAXIMUM MOISTURE CONTENT OF 6 PERCENT; WITH VERTICAL GRAIN, OF QUALITY SUITABLE FOR SCHEDULED FINISH. 2. HARDWOOD LUMBER: MAXIMUM MOISTURE CONTENT OF 6 PERCENT; WITH VERTICAL GRAIN, OF QUALITY
- SUITABLE FOR SCHEDULED FINISH. 3. SHEET MATERIALS: SOFTWOOD PLYWOOD, EXPOSED TO VIEW: FACE SPECIES AS INDICATED, PLAIN SAWN, MEDIUM DENSITY FIBERBOARD CORE; PS 1 GRADE A-B, GLUE TYPE AS RECOMMENDED FOR APPLICATION.
- **INTERIOR WOODWORI** 1. COMPLETE FABRICATION BEFORE SHIPPING TO PROJECT SITE TO MAXIMUM EXTENT FEASIBLE. DISASSEMBLE ONLY AS NEEDED FOR SHIPPING AND INSTALLING. WHERE NECESSARY FOR FITTING AT PROJECT SITE, PROVIDE FOR SCRIBING AND TRIMMING 2. BACKOUT AND GROOVE BACKS OF FLAT MEMBERS, KERF BACKS OF OTHER WIDE, FLAT MEMBERS, EXCEPT WHERE ENDS WILL BE EXPOSED IN FINISHED WORK.
- 1. DO NOT DELIVER OR INSTALL WOODWORK UNTIL BUILDING IS ENCLOSED, WET WORK IS COMPLETED, HVAC IS OPERATING, AND WOODWORK IS CONDITIONED TO PREVAILING CONDITIONS OF SPACE WHERE INSTALLED. MAINTAIN TEMPERATURE BETWEEN 55 F. AND 75 F. FOR 72 HOURS BEFORE BEGINNING INSTALLATION AND FOR DURATION OF PROJECT. 2. INSTALL WOODWORK LEVEL AND PLUMB AND SHIM AS REQUIRED WITH CONCEALED SHIMS TO 8
- TOLERANCE OF 1 "/96" AND TO COMPLY WITH REFERENCED QUALITY STANDARD FOR GRADE SPECIFIED. 3. SCRIBE AND CUT WOODWORK TO FIT ADJOINING WORK, SEAL CUT SURFACES, AND REPAIR DAMAGED FINISH AT CUTS.
- 4. INSTALL TRIM WITH MINIMUM NUMBER OF JOINTS POSSIBLE USING FULL-LENGTH PIECES TO GREATEST EXTENT POSSIBLE. STAGGER JOINTS IN ADJACENT AND RELATED MEMBERS. 5. LUMBER FOR TRANSPARENT FINISH (STAINED OR CLEAR): USE PIECES MADE OF SOLID LUMBER
- STOCK 6. LUMBER FOR PAINTED FINISH: AT CONTRACTOR'S OPTION, USE PIECES WHICH ARE EITHER GLUED-UP OR MADE OF SOLID LUMBER STOCK.
- 7. DISCARD UNITS OF MATERIAL WHICH ARE UNSOUND, WARPED, BOWED, TWISTED, IMPROPERLY TREATED, NOT ADEQUATELY SEASONED OR TOO SMALL TO FABRICATE WORK WITH MINIMUM OF JOINTS OR OPTIMUM JOINTING ARRANGEMENTS, OR WHICH ARE DEFECTIVELY MANUFACTURED WITH
- RESPECT TO SURFACES, SIZES OR PATTERNS. 8. INSTALL THE WORK PLUMB, LEVEL, TRUE AND STRAIGHT WITH NO DISTORTIONS. SHIM AS REQUIRED USING CONCEALED SHIMS. 9. SCRIBE AND CUT WORK TO FIT ADJOINING WORK, AND REFINISH CUT SURFACES OR REPAIR DAMAGED
- FINISH AT CUTS. 10. SAND WORK SMOOTH AND SET EXPOSED NAILS AND SCREWS.
- 11. APPLY WOOD FILLER IN EXPOSED NAIL AND SCREW INDENTATIONS. 12. FINISH WORK SHALL BE SMOOTH, FREE FROM ABRASION, TOOL MARKS, RAISED GRAIN MARKINGS, OR SIMILAR DEFECTS ON EXPOSED SURFACES.
- 06 4100 ARCHITECTURAL WOOD CASEWORK A. SUBMITTALS: SAMPLES OF FINISH MATERIALS, CATALOG CUTS OF HARDWARE, AND SHOP DRAWINGS INCLUDING DIMENSIONED PLANS, ELEVATIONS, AND SECTIONS, INDICATE COMPONENT PROFILES, FASTENING METHODS, JOINTING DETAILS, AND ACCESSORIES.
- 1. SCALE OF DRAWINGS: 1-1/2 INCH TO 1 FOOT, MINIMUM. 2. PROVIDE THE INFORMATION REQUIRED BY AWI/AWMAC/WI (AWS) OR AWMAC/WI (NAAWS). 3. SAMPLES: SUBMIT ACTUAL SAMPLES OF ARCHITECTURAL CABINET CONSTRUCTION. MINIMUM 12 INCHES SQUARE, ILLUSTRATING PROPOSED CABINET, COUNTERTOP, AND SHELF UNIT SUBSTRATE AND FINISH.
- B. <u>QUALITY STANDARD</u>: ARCHITECTURAL WOODWORK INSTITUTE'S "ARCHITECTURAL WOODWORK QUALITY
- 1. FABRICATOR QUALIFICATIONS: COMPANY SPECIALIZING IN FABRICATING THE PRODUCTS SPECIFIED IN THIS SECTION WITH MINIMUM FIVE YEARS OF DOCUMENTED EXPERIENCE.
- D. <u>CABINE IS</u>: 1. QUALITY STANDARD: CUSTOM GRADE, IN ACCORDANCE WITH AWI/AWMAC/WI (AWS) OR AWMAC/WI (NAAWS), UNLESS NOTED OTHERWISE. 2. WOOD VENEER FACED CABINET: CONCEALED SURFACES: MANUFACTURER'S OPTION. 3. PLASTIC LAMINATE FACED CABINETS: CUSTOM GRADE.
- E. MATERIALS / ACCESSORIES / HARDWARE: 1. LAMINATES AS INDICATED IN SCHEDULES. COMPLY WITH MANUFACTURER INSTRUCTIONS.
- 2. ADHESIVE: TYPE RECOMMENDED BY FABRICATOR TO SUIT APPLICATION. 3. FASTENERS: SIZE AND TYPE TO SUIT APPLICATION. 4. BOLTS, NUTS, WASHERS, LAGS, PINS, AND SCREWS: OF SIZE AND TYPE TO SUIT APPLICATION; GALVANIZED OR CHROME-PLATED FINISH IN CONCEALED LOCATIONS AND STAINLESS STEEL OR CHROME-PLATED FINISH IN EXPOSED LOCATIONS.
- 5. CONCEALED JOINT FASTENERS: THREADED STEEL. 6. GROMMETS: STANDARD PLASTIC, PAINTED METAL, OR RUBBER GROMMETS FOR CUT-OUTS, IN COLOR TO MATCH ADJACENT SURFACE. 7. HARDWARE: BHMA A156.9, TYPES AS RECOMMENDED BY FABRICATOR FOR QUALITY GRADE SPECIFIED 8. ADJUSTABLE SHELF SUPPORTS: STANDARD SIDE-MOUNTED SYSTEM USING RECESSED METAL SHELF STANDARDS OR MULTIPLE HOLES FOR PIN SUPPORTS AND COORDINATED SELF RESTS, POLISHED CHROME
- FINISH, FOR NOMINAL 1 INCH SPACING ADJUSTMENTS. 9. DRAWER SLIDES: TYPE: EXTENSION TYPES AS INDICATED. 10. HINGES: EUROPEAN STYLE CONCEALED SELF-CLOSING TYPE, [<>] STEEL WITH POLISHED FINISH.
- 11. SOFT CLOSE ADAPTER: CONCEALED, FRAME-MOUNTED, SCREW-ADJUSTABLE DAMPER ; STEEL WITH POLISHED FINISH 12. FINISH WORK IN ACCORDANCE WITH AWI/AWMAC/WI (AWS) OR AWMAC/WI (NAAWS).
- 1. INSTALL NO INTERIOR FINISH CARPENTRY OR MILLWORK UNTIL SPACES ARE ENCLOSED, DRY, AND CAPABLE OF BEING HEATED. MAINTAIN TEMPERATURE BETWEEN 55 F. AND 75 F. FOR 72 HOURS BEFORE BEGINNING INSTALLATION AND FOR DURATION OF PROJECT. 2.VERIFY ADEQUACY OF BACKING AND SUPPORT FRAMING.
- 3. VERIFY LOCATION AND SIZES OF UTILITY ROUGH-IN ASSOCIATED WITH WORK OF THIS SECTION. 4. SET AND SECURE CUSTOM CABINETS IN PLACE, ASSURING THAT THEY ARE RIGID, PLUMB, AND LEVEL. 5.USE FIXTURE ATTACHMENTS IN CONCEALED LOCATIONS FOR WALL MOUNTED COMPONENTS. 6.USE CONCEALED JOINT FASTENERS TO ALIGN AND SECURE ADJOINING CABINET UNITS.
- 7.CAREFULLY SCRIBE CASEWORK ABUTTING OTHER COMPONENTS, WITH MAXIMUM GAPS OF 1/32 INCH. DO NOT USE ADDITIONAL OVERLAY TRIM FOR THIS PURPOSE. 8. SECURE CABINETS TO FLOOR USING APPROPRIATE ANGLES AND ANCHORAGES 9. CLEAN CASEWORK, COUNTERS, SHELVES, HARDWARE, FITTINGS, AND FIXTURES.

DIVISION 7 - THERMAL AND MOISTURE PROTECTION

07 1300 - SHEET WATERPROOFING

- A. <u>SUBMITTALS</u>: 1. PRODUCT DATA: PROVIDE DATA FOR MEMBRANE. 2. PROVIDE SHOP DRAWINGS: INDICATE SPECIAL JOINT OR TERMINATION CONDITIONS AND CONDITIONS OF INTERFACE WITH OTHER MATERIALS 3. CERTIFICATE: CERTIFY THAT PRODUCTS MEET OR EXCEED SPECIFIED REQUIREMENTS.
- B. <u>SURFACE BURNING CHARACTERISTICS</u>: 1. FLAME SPREAD INDEX: 25 OR LESS 2. SMOKE DEVELOPED INDEX: 50 OR LESS IN EXPOSED AREAS AND PLENUMS; 450 OR LESS WHERE CONCEALED.
- 1. MAINTAIN AMBIENT TEMPERATURES ABOVE 40 DEGREES F FOR 24 HOURS BEFORE AND DURING APPLICATION AND UNTIL LIQUID OR MASTIC ACCESSORIES HAVE CURED.
- 1. CONTRACTOR SHALL CORRECT DEFECTIVE WORK WITHIN A FIVE YEAR PERIOD AFTER DATE OF SUBSTANTIAL COMPLETION; REMOVE AND REPLACE MATERIALS CONCEALING WATERPROOFING AT NO EXTRA COST TO OWNER.
- . <u>BASIS OF DESIGN</u>: 1. W.R. MEADOWS, INC; MEL-ROL: WWW.WRMEADOWS.COM
- 1. SELF-ADHERED MODIFIED BITUMINOUS SHEET MEMBRANE: LOCATION: LOCATIONS AS IDENTIFIED IN DRAWINGS. 2. ROLLED.SELF-ADHERED MODIFIED BITUMINOUS SHEET MEMBRANE: THICKNESS: 60 MIL, 0.060 INCH, MINIMUM. THICKNESS: 60 MIL, 0.060 INCH, MINIMUM. CARRIER FILM: 4 MILS, POLYMERIC MEMBRANE:56 MILS, SHEET WIDTH: 36 INCH. MINIMUM
- 3. SEAMING MATERIALS: AS RECOMMENDED BY MEMBRANE MANUFACTURER. 4. MEMBRANE SEALANT: AS RECOMMENDED BY MEMBRANE MANUFACTURER. 5. TERMINATION BARS: ALUMINUM: COMPATIBLE WITH MEMBRANE AND ADHESIVES.
- 6. SURFACE CONDITIONER: COMPATIBLE WITH MEMBRAN 7. ADHESIVES: AS RECOMMENDED BY MEMBRANE MANUFACTURER. 8. THINNER AND CLEANER: AS RECOMMENDED BY ADHESIVE MANUFACTURER, COMPATIBLE WITH SHEET
- MEMBRANE . ACCESSORIES
- 1. SEALANT FOR CRACKS AND JOINTS IN SUBSTRATES: RESILIENT ELASTOMERIC JOINT SEALANT COMPATIBLE WITH SUBSTRATES AND WATERPROOFING MATERIALS. 2. PROTECTION BOARD: PROVIDE TYPE CAPABLE OF PREVENTING DAMAGE TO WATERPROOFING DUE TO BACKFILLING AND CONSTRUCTION TRAFFIC.
- . INSTALLATION: 1. DO NOT INSTALL INSULATION ADHESIVES WHEN TEMPERATURE OR WEATHER CONDITIONS ARE DETRIMENTAL TO SUCCESSFUL INSTALLATION. DO NOT APPLY WATERPROOFING TO SURFACES UNACCEPTABLE TO MEMBRANE MANUFACTURER.
- 2. CLEAN AND PREPARE SURFACES TO RECEIVE WATERPROOFING IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS: VACUUM SUBSTRATE CLEAN. 3. FILL NON-MOVING JOINTS AND CRACKS WITH A FILLER COMPATIBLE WITH WATERPROOFING MATERIALS.SEAL MOVING CRACKS WITH SEALANT AND NON-RIGID FILLER, USING PROCEDURES RECOMMENDED BY SEALANT AND WATERPROOFING MANUFACTURERS.
- 4. INSTALL MEMBRANE WATERPROOFING IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND NRCA (WM) APPLICABLE REQUIREMENTS. 5. SELF-ADHERING MEMBRANE: REMOVE RELEASE PAPER LAYER, AND ROLL OUT ONTO SUBSTRATE WITH A
- MECHANICAL ROLLER TO PROVIDE FULL CONTACT BOND. 6. OVERLAP EDGES AND ENDS, MINIMUM 3 INCHES, SEAL PERMANENTLY WATERPROOF BY METHOD
- RECOMMENDED BY MANUFACTURER, AND APPLY UNIFORM BEAD OF SEALANT TO JOINT EDGE. 7. REINFORCE MEMBRANE WITH MULTIPLE THICKNESS OF MEMBRANE MATERIAL OVER JOINTS, WHETHER JOINTS ARE STATIC OR DYNAMIC.

WITH FLEXIBLE FLASHINGS. 10. SEAL MEMBRANE AND FLASHINGS TO ADJOINING SURFACES. INSTALL TERMINATION BAR ALONG EDGES. INSTALL COUNTERFLASHING OVER EXPOSED EDGES. INSTALLATION PROCEDURES. IS PROVEN WATERTIGHT, DRAIN WATER AND REMOVE DAM. 07 1400 - FLUID-APPLIED WATERPROOFING A. <u>SUBMITTALS</u>: COVER SHEET, AND JOINT AND CRACK SEALANTS. 2. WARRANTY: SUBMIT MANUFACTURER WARRANTY AND ENSURE THAT FORMS HAVE BEEN COMPLETED IN OWNER'S NAME AND REGISTERED WITH MANUFACTURER. . REFERENCE STANDARDS EDITORIAL REVISION (2013) 2. NRCA (WM) - THE NRCA WATERPROOFING MANUAL 2021.

07 1300 - SHEET WATERPROOFING (CONTINUED)

- C. <u>QUALITY ASSURANCE</u> AND WITH AT LEAST THREE YEARS OF DOCUMENTED EXPERIENCE.
- FLASHINGS, CONTROL JOINTS, EXPANSION JOINTS, COUNTERFLASHINGS
- FIELD CONDITIONS APPLICATION AND UNTIL CURED.
- I. COLD-APPLIED RUBBERIZED ASPHALT WATERPROOFING: A. AVM INDUSTRIES, INC; AVM SYSTEM 500 (AUSSIE MEMBRANE): WWW.AVMINDUSTRIES.COM/#SLE B. EPRO WATERPROOFING SYSTEMS; ECOLINE-S: WWW.EPROSERV.COM/#SLE.
- SUITABLE FOR INSTALLATION ON CONCRETE AND CONCRETE MASONRY. EVALUATION REPORT CITING ICC-ES AC29. 2. HYDROSTATIC PRESSURE RESISTANCE: WHEN TESTED IN ACCORDANCE WITH ASTM 35 POUNDS PER SQUARE INCH BY THE LONG TERM TEST.
- 5. DECAY RESISTANCE: NO DECAY WHEN TESTED IN ACCORDANCE WITH ASTM E154/E154M.
- ACCORDANCE WITH ASTM C836/C836M. 2. WATER-BASED ASPHALT EMULSION WATERPROOFING: A. MAR-FLEX WATERPROOFING & BUILDING PRODUCTS; ARMORMEMBRANE 363 WATER-BASED: WWW.MAR-FLEX.COM/#SLE. B. TREMCO COMMERCIAL SEALANTS & WATERPROOFING; TREMPROOF 260:
- WWW.TREMCOSEALANTS.COM/#SLE. C. W.R. MEADOWS, INC; MEL-ROL LM: WWW.WRMEADOWS.COM/#SLE 1. CURED THICKNESS: 60 MILS. 0.060 INCH. MINIMUM 2. SUITABLE FOR INSTALLATION OVER CONCRETE SUBSTRATES. 3. ELONGATION: 1000 PERCENT, MEASURED IN ACCORDANCE WITH ASTM D412. 4 PEEL ADHESION: ACCORDING TO ASTM D412 FOR THE FOLLOWING S 5. ADHESION: GREATER THAN 150 PSI, MEASURED IN ACCORDANCE WITH ASTM D4541.
- MATERIAL AND AS RECOMMENDED BY WATERPROOFING MANUFACTURER.
- <u>EXAMINATION</u>:
 VERIFY EXISTING CONDITIONS BEFORE STARTING WORK. OF WATERPROOFING SYSTEM.
- MANUFACTURER'S INSTRUCTIONS; VACUUM SUBSTRATE CLEAN SEALANT AND WATERPROOFING MANUFACTURERS.
- 7. INSTALL CANT STRIPS AT INSIDE CORNERS. INSTRUCTIONS AND NRCA (WM) APPLICABLE REQUIREMENTS.
- PROTECT CONDITIONER FROM RAIN OR FROST UNTIL DRY VERTICAL SURFACES, APPLY 12 INCH WIDE STRIP OF JOINT COVER SHEET. 5. SEAL MEMBRANE AND FLASHINGS TO ADJOINING SURFACES.

07 2100 - THERMAL INSULATION A. <u>SUBMITTALS</u>: PRODUCT DATA FOR EACH TYPE OF INSULATION SPECIFIED. B. SURFACE BURNING CHARACTERISTICS

- 1. FLAME SPREAD INDEX: 25 OR LESS
- : INSULATION PRODU
- B. SMOKE DEVELOPED INDEX: 450 OR LESS, WHEN TESTED IN ACCORDANCE WITH ASTM E84. FACING. IF ANY.
- 2. SMOKE DEVELOPED INDEX (SDI): 450 OR LESS, WHEN TESTED IN ACCORDANCE WITH ASTM E84. 3. BOARD SIZE: 48 INCH BY 96 INCH. 4. BOARD THICKNESS: 1-1/2 INCH.

CCESSORIES

07 2500 - WEATHER BARRIERS

FLASHING

. PREPARATION

WITH PROPER INSTALLATION

INSTRUCTIONS.

INDICATED IN DRAWINGS.

TO SUCCESSFUL INSTALLATION.

RAWINGS OF SPECIAL JOINT CONDITIONS.

DIVISION 7 - THERMAL AND MOISTURE PROTECTION (CONTINUED)

8. WEATHER LAP JOINTS ON SLOPED SUBSTRATE IN DIRECTION OF DRAINAGE, AND SEAL JOINTS AND SEAMS. 9. FLEXIBLE FLASHINGS: SEAL ITEMS WATERTIGHT THAT PENETRATE THROUGH WATERPROOFING MEMBRANE

11. INSTALLATION OF DRAINAGE PANEL AND PROTECTION BOARD. INSTALLER TO FOLLOW MANUFACTURERS 12. UPON COMPLETION OF HORIZONTAL MEMBRANE INSTALLATION, DAM INSTALLATION AREA IN PREPARATION FOR FLOOD TESTING. FLOOD TO MINIMUM DEPTH OF 1 INCH WITH CLEAN WATER. AND AFTER 48 HOURS INSPECT FOR LEAKS, IF LEAKING IS FOUND, REMOVE WATER, REPAIR LEAKING AREAS WITH NEW WATERPROOFING MATERIALS AS DIRECTED BY ARCHITECT; REPEAT FLOOD TEST, AND REPAIR DAMAGE TO BUILDING. WHEN AREA

1. PRODUCT DATA: PROVIDE DATA FOR MEMBRANE, SURFACE CONDITIONER, FLEXIBLE FLASHINGS, JOINT

1. ASTM E154/E154M - STANDARD TEST METHODS FOR WATER VAPOR RETARDERS USED IN CONTACT WITH EARTH UNDER CONCRETE SLABS, ON WALLS, OR AS GROUND COVER 2008A, WITH

1. MANUFACTURER QUALIFICATIONS: COMPANY SPECIALIZING IN MANUFACTURING PRODUCTS SPECIFIED IN THIS SECTION, WITH NOT LESS THAN THREE YEARS DOCUMENTED EXPERIENCE. 2. INSTALLER QUALIFICATIONS: COMPANY SPECIALIZING IN PERFORMING WORK OF THE TYPE SPECIFIED

1. CONSTRUCT MOCK-UP CONSISTING OF 100 SQ FT OF HORIZONTAL WATERPROOFED PANEL; TO REPRESENT FINISHED WORK INCLUDING INTERNAL AND EXTERNAL CORNERS, DRAINAGE PANEL, BASE

I. MAINTAIN AMBIENT TEMPERATURES ABOVE 40 DEGREES F FOR 24 HOURS BEFORE AND DURING

COLD-APPLIED RUBBERIZED ASPHALT WATERPROOFING: RUBBERIZED ASPHALTIC COMPOUND, 1. COMPLYING WITH ICC-ES AC29; EVIDENCE OF COMPLIANCE INCLUDES CURRENT ICC-ES

C1306/C1306M, AT LEAST 50 POUNDS PER SQUARE INCH BY THE RAPID TEST AND AT LEAST 3. LOW TEMPERATURE RESISTANCE: NO CRACKING, LOSS OF ADHESION, SPLITTING OR PINHOLES WHEN TESTED AT MINUS 15 DEGREES F IN ACCORDANCE WITH ASTM C836/C836M. 4. ADHESION: NO SEPARATION WHEN TESTED IN ACCORDANCE WITH ASTM C836/C836M.

6. WET FILM SAG RESISTANCE: NO SAG OR SAG WITHIN PLUS/MINUS 5 MILS WHEN TESTED IN

1. SEALANT FOR JOINTS AND CRACKS IN SUBSTRATE: TYPE COMPATIBLE WITH WATERPROOFING

2. VERIFY SUBSTRATE SURFACES ARE FREE OF FROZEN MATTER, DAMPNESS, LOOSE PARTICLES, CRACKS, PITS, PROJECTIONS, PENETRATIONS, OR FOREIGN MATTER DETRIMENTAL TO ADHESION OR APPLICATION 3. VERIFY THAT SUBSTRATE SURFACES ARE SMOOTH, FREE OF HONEYCOMB OR PITTING, AND NOT DETRIMENTAL TO FULL CONTACT BOND OF WATERPROOFING MATERIALS. 4. VERIFY ITEMS THAT PENETRATE SURFACES TO RECEIVE WATERPROOFING ARE SECURELY INSTALLED.

1. PROTECT ADJACENT SURFACES FROM DAMAGE NOT DESIGNATED TO RECEIVE WATERPROOFING. 2. CLEAN AND PREPARE SURFACES TO RECEIVE WATERPROOFING IN ACCORDANCE WITH 3. DO NOT APPLY WATERPROOFING TO SURFACES UNACCEPTABLE TO WATERPROOFING MANUFACTURER. 4. FILL NON-MOVING JOINTS AND CRACKS WITH A FILLER COMPATIBLE WITH WATERPROOFING MATERIALS. 5. SEAL MOVING CRACKS WITH SEALANT AND NON-RIGID FILLER, USING PROCEDURES RECOMMENDED BY

6. PREPARE BUILDING EXPANSION JOINTS AT LOCATIONS AS INDICATED ON DRAWINGS.

1. INSTALL WATERPROOFING TO SPECIFIED MINIMUM THICKNESS IN ACCORDANCE WITH MANUFACTURERS 2. APPLY PRIMER OR SURFACE CONDITIONER AT A RATE RECOMMENDED BY MANUFACTURER, AND 3. AT JOINTS AND CRACKS LESS THAN 1/2 INCH IN WIDTH INCLUDING JOINTS BETWEEN HORIZONTAL AND 4. APPLY EXTRA THICKNESS OF WATERPROOFING MATERIAL AT CORNERS, INTERSECTIONS, AND ANGLES.

2. SMOKE DEVELOPED INDEX: 50 OR LESS IN EXPOSED AREAS AND PLENUMS; 450 OR LESS WHERE CONCEALED.

1. MINERAL FIBER OR GLASS FIBER BLANKET INSULATION: TYPE I, UNFACED WHERE SPECIFIED WITH SEPARATE VAPOR BARRIER.FIBERS MANUFACTURED FROM GLASS, SLAG WOOL, OR ROCK WOOL. FLEXIBLE PREFORMED BATT OR BLANKET, COMPLYING WITH ASTM C665; FRICTION FIT.SEE DRAWINGS FOR SPECIFIC TYPES. A. FLAME SPREAD INDEX: 25 OR LESS, WHEN TESTED IN ACCORDANCE WITH ASTM E84.

C. COMBUSTIBILITY: NON-COMBUSTIBLE, WHEN TESTED IN ACCORDANCE WITH ASTM E136, EXCEPT FOR 2. BOARD INSULATION: BOARD INSULATION AT CAVITY WALL CONSTRUCTION, EXTERIOR WALL BEHIND [RATED AND ACOUSTIC CONDITIONS] WALL FINISH, AND INTERIOR WALL WITH FACER PROVIDING EXPOSED FINISH. A. EXPANDED POLYSTYRENE (EPS) BOARD INSULATION: COMPLIES WITH ASTM C578. 1. FLAME SPREAD INDEX (FSI): CLASS A - 0 TO 25, WHEN TESTED IN ACCORDANCE WITH ASTM E84.

5. TYPE AND COMPRESSIVE RESISTANCE: TYPE XI, 5 PSI (35 KPA), MINIMUM. 6. TYPE AND WATER ABSORPTION: TYPE XI, 4.0 PERCENT BY VOLUME, MAXIMUM, BY TOTAL IMMERSION.

1. VAPOR RETARDER: 6 MIL POLYETHYLENE AT CONCEALED AREAS (FLAME SPREAD/SMOKE DEVELOPED: 25/450), FOIL/SCRIM AT PLENUMS AND EXPOSED AREAS (FLAME SPREAD/SMOKE DEVELOPED: 25/50). PROVIDE WHERE 2. TAPE: REINFORCED POLYETHYLENE FILM WITH ACRYLIC PRESSURE SENSITIVE ADHESIVE. APPLICATION: SEALING OF INTERIOR CIRCULAR PENETRATIONS, SUCH AS PIPES OR CABLES.

1. DO NOT INSTALL INSULATION ADHESIVES WHEN TEMPERATURE OR WEATHER CONDITIONS ARE DETRIMENTAL 2. INSTALL INSULATION IN AREAS AND IN THICKNESSES INDICATED OR REQUIRED TO PRODUCE R-VALUES WHERE INDICATED. CUT AND FIT TIGHTLY AROUND OBSTRUCTIONS AND FILL VOIDS WITH INSULATION. 3. INSTALL IN EXTERIOR WALL AND CEILING SPACES WITHOUT GAPS OR VOIDS. DO NOT COMPRESS INSULATION. 4. TRIM INSULATION NEATLY TO FIT SPACES. INSULATE MISCELLANEOUS GAPS AND VOIDS. 5. EXTEND VAPOR RETARDER TO EXTREMITIES OF AREAS TO BE PROTECTED FROM VAPOR TRANSMISSION. SECURE IN PLACE WITH ADHESIVES OR OTHER ANCHORAGE AS RECOMMENDED BY MANUFACTURER. LOCATE SEAMS AT FRAMING MEMBERS, OVERLAP AND SEAL WITH SUITABLE TAPE (DUCT TAPE IS NOT SUITABLE). 6. DO NOT PERMIT INSTALLED INSULATION TO BE DAMAGED PRIOR TO ITS CONCEALMENT.

A. <u>SUBMITTALS</u>: PRODUCT DATA: PROVIDE DATA ON MATERIAL CHARACTERISTICS. SHOP DRAWINGS: PROVIDE

B. MOCK-UP: INSTALL AIR BARRIER, VAPOR RETARDER, AND WATER-RESISTIVE BARRIER MATERIALS IN MOCK-UP. C. <u>PRODUCTS</u>: AIR BARRIER, FLUID APPLIED: VAPOR PERMEABLE, ELASTOMERIC WATERPROOFING. D. BASIS OF DESIGN: BASF CORPORATION; MASTERSEAL AWB 665:

E. <u>ACCESSORIES</u>: 1. SEALANTS, TAPES, AND ACCESSORIES FOR SEALING WEATHER BARRIER AND SEALING WEATHER BARRIER TO ADJACENT SUBSTRATES: AS SPECIFIED OR AS RECOMMENDED BY WEATHER BARRIER MANUFACTURER. 2. FLEXIBLE FLASHING: SHEATHING FABRIC SATURATED WITH AIR BARRIER COATING AND COMPLYING WITH THE APPLICABLE REQUIREMENTS OF ICC-ES AC148. 3. LIQUID FLASHING: ONE PART, FAST CURING, NON-SAG, ELASTOMERIC, GUN GRADE, TROWELABLE LIQUID

1. VERIFY THAT SURFACES AND CONDITIONS ARE READY TO ACCEPT THE WORK OF THIS SECTION. 2. REMOVE PROJECTIONS, PROTRUDING FASTENERS, AND LOOSE OR FOREIGN MATTER THAT MIGHT INTERFERE 3. CLEAN AND PRIME SUBSTRATE SURFACES TO RECEIVE ADHESIVES IN ACCORDANCE WITH MANUFACTURER'S

DIVISION 7 - THERMAL AND MOISTURE PROTECTION (CONTINUED)

07 2500 - WEATHER BARRIERS (CONTINUED)

- <u>G. INSTALLATION:</u> 1. INSTALL MATERIALS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. 2. AIR BARRIERS: INSTALL CONTINUOUS AIR TIGHT BARRIER OVER SURFACES INDICATED. WITH SEALED SEAMS AND WITH SEALED JOINTS TO ADJACENT SURFACES. 3. PREPARE SUBSTRATE IN MANNER RECOMMENDED BY COATING MANUFACTURER; TREAT JOINTS IN SUBSTRATE AND BETWEEN DISSIMILAR MATERIALS AS RECOMMENDED BY MANUFACTURER.
- 4. MASTIC COATING: INSTALL BY TROWEL OR ROLLER TO MINIMUM THICKNESS OF 1/4 INCH; USE SHEET SEAL TO JOIN TO ADJACENT CONSTRUCTION, SEAL AIR TIGHT WITH SEALANT. 5. USE FLASHING TO SEAL TO ADJACENT CONSTRUCTION AND TO BRIDGE JOINTS.
- 6. INSTALL FLASHING OVER SILLS, COVERING ENTIRE SILL FRAME MEMBER, EXTENDING AT LEAST 5 INCHES ONTO WEATHER BARRIER AND AT LEAST 6 INCHES UP JAMBS; MECHANICALLY FASTEN STRETCHED EDGES. 7. AT OPENINGS TO BE FILLED WITH FRAMES HAVING NAILING FLANGES, SEAL HEAD AND JAMB FLANGES USING A CONTINUOUS BEAD OF SEALANT COMPRESSED BY FLANGE AND COVER FLANGES WITH SEALING TAPE AT LEAST 4
- INCHES WIDE; DO NOT SEAL SILL FLANGE. 8. AT OPENINGS TO BE FILLED WITH NON-FLANGED FRAMES, SEAL WEATHER BARRIER TO EACH SIDE OF OPENING FRAMING, USING FLASHING AT LEAST 9 INCHES WIDE, COVERING ENTIRE DEPTH OF FRAMING.
- 9. AT HEAD OF OPENINGS, INSTALL FLASHING UNDER WEATHER BARRIER EXTENDING AT LEAST 2 INCHES BEYOND FACE OF JAMBS; SEAL WEATHER BARRIER TO FLASHING. 10. AT INTERIOR FACE OF OPENINGS, SEAL GAP BETWEEN WINDOW/DOOR FRAME AND ROUGH FRAMING, USING JOINT SEALANT OVER BACKER ROD.

07 4020 - EXTERIOR INSULATION AND FINISH SYSTEMS A. SUBMITTALS: PRODUCT DATA: PROVIDE DATA ON SYSTEM MATERIALS, PRODUCT CHARACTERISTICS, PERFORMANCE CRITERIA. 1. SHOP DRAWINGS: INDICATE WALL AND SOFFIT JOINT PATTERNS, JOINT DETAILS, AND MOLDING PROFILES 2. MANUFACTURER'S INSTALLATION INSTRUCTIONS: INDICATE SPECIAL PROCEDURES.

- B. <u>MOCK- UP</u>: 1.CONSTRUCT MOCK-UP OF TYPICAL EIFS APPLICATION ON SPECIFIED SUBSTRATE, SIZE AS INDICATED ON DRAWINGS, AND INCLUDING FLASHINGS, JOINTS, AND EDGE CONDITIONS. 2. MOCK-UP MAY REMAIN AS PART OF THE WORK.
- C. FIELD CONDITIONS 1. DO NOT PREPARE MATERIALS OR APPLY EIFS UNDER CONDITIONS OTHER THAN THOSE DESCRIBED IN THE MANUFACTURER'S WRITTEN INSTRUCTIONS. 2. DO NOT PREPARE MATERIALS OR APPLY EIFS DURING INCLEMENT WEATHER UNLESS AREAS OF INSTALLATION ARE PROTECTED. PROTECT INSTALLED EIFS AREAS FROM INCLEMENT WEATHER UNTIL DRY.
- 1. PROVIDE MANUFACTURER'S STANDARD MATERIAL WARRANTY, COVERING A PERIOD OF NOT LESS THAN 5 YEARS.
- 1. EXTERIOR INSULATION AND FINISH SYSTEM: DRAINAGE TYPE; REINFORCED FINISH COATING ON FLAT-BACKED INSULATION BOARD ADHESIVE-APPLIED DIRECTLY TO WATER-RESISTIVE COATING OVER SUBSTRATE; PROVIDE A COMPLETE SYSTEM THAT HAS BEEN TESTED TO SHOW COMPLIANCE WITH THE FOLLOWINGCHARACTERISTICS; INCLUDE ALL COMPONENTS OF SPECIFIED SYSTEM AND SUBSTRATE(S) IN TESTED SAMPLES.
- 2. FIRE CHARACTERISTICS: A. FLAMMABILITY: PASS, WHEN TESTED IN ACCORDANCE WITH NFPA 285. B. IGNITIBILITY: NO SUSTAINED FLAMING WHEN TESTED IN ACCORDANCE WITH NFPA 268.
- 1. FINISH COATING TOP COAT: WATER-BASED, AIR CURING, ACRYLIC OR POLYMER-BASED FINISH WITH INTEGRAL COLOR AND TEXTURE. 2. REINFORCING MESH: BALANCED, OPEN WEAVE GLASS FIBER FABRIC, TREATED FOR COMPATIBILITY AND IMPROVED BOND WITH COATING, WEIGHT, STRENGTH, AND NUMBER OF LAYERS AS REQUIRED TO MEET
- REQUIRED SYSTEM IMPACT RATING. 3. EXTRUDED POLYSTYRENE (XPS) BOARD INSULATION: COMPLIES WITH ASTM C578, WITH NATURAL SKIN
- SURFACES 4. WATER-RESISTIVE BARRIER COATING: FLUID-APPLIED AIR AND WATER BARRIER MEMBRANE; APPLIED TO SHEATHING; FURNISHED OR APPROVED BY EIFS MANUFACTURER.

G. <u>ACCESSORY MATERIALS</u> 1. INSULATION ADHESIVE: TYPE REQUIRED BY EIFS MANUFACTURER FOR PROJECT SUBSTRATE.

H. INSTALLATION:

- 1. GENERAL: INSTALL IN ACCORDANCE WITH EIFS MANUFACTURER'S INSTRUCTIONS AND ASTM C1397. 2. WATER RESISTIVE BARRIER: APPLY BARRIER COATING AS RECOMMENDED BY COATING MANUFACTURER; PRIME SUBSTRATE AS REQUIRED BEFORE APPLICATION. 3. INSULATION:
- A. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. B. PLACE BOARDS IN A METHOD TO MAXIMIZE TIGHT JOINTS. STAGGER VERTICAL JOINTS AND INTERLOCK AT CORNERS. BUTTEDGES AND ENDS TIGHT TO ADJACENT BOARD AND TO PROTRUSIONS. ACHIEVE A CONTINUOUS FLUSH INSULATION SURFACE, WITH NO GAPS IN EXCESS OF 1/16
- C. FILL GAPS GREATER THAN 1/16 INCH WITH STRIPS OR SHIMS CUT FROM THE SAME INSULATION MATERIAL. 4. CLASS PM FINISH: A. REINFORCING MESH: INSTALL IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. B. BASE COAT: INSTALL TO MINIMUM THICKNESS SPECIFIED, FOLLOWING MANUFACTURER'S INSTRUCTIONS.
- LEAVE BASE COAT IN CONDITION SUITABLE TO RECEIVE FINISH COAT. C. FINISH COAT: APPLY FINISH COAT AFTER BASE COAT HAS DRIED NOT LESS THAN 24 HOURS, EMBED FINISH AGGREGATE, AND FINISH TO A UNIFORM TEXTURE AND COLOR.

07 4643 - ENGINEERED SIDING A. SUBMITTALS: PRODUCT DATA, AND SAMPLES OF LOCATIONS FOR EACH TYPE OF SIDING

- 1. VERTICAL SIDING, LP SMARTSIDE PANEL SIDING. CEDAR TEXTURE PANEL. 2. HORIZONTAL SIDING, LP SMARTSIDE LAP SIDING. CEDAR TEXTURE LAP. 3. SOFFIT, VENTED / NONVENTED, LP SMARTSIDE SOFFIT. CEDAR TEXTURE.
- 1. EXTERIOR TRIM SHALL BE LOUISIANA-PACIFIC SMARTSIDE TRIM-FASCIA TREATED ENGINEERED
- WOOD TRIM OR APPROVED EQUAL, UNLESS OTHERWISE INDICATED, IN SIZES INDICATED ON THE DRAWINGS 2. CELLULAR PVC TRIM SHALL BE AS MANUFACTURED BY AZEK BUILDING PRODUCTS OR APPROVED EQUAL. GLUED-UP MEMBERS SHALL BE GLUED WITH MANUFACTURER'S STANDARD ADHESIVE TO CREATE A CHEMICAL BOND AND CUT TO SHAPES INDICATED.
- 1. GENERAL: INSTALL PRODUCTS IN ACCORDANCE WITH THE LATEST INSTALLATION GUIDELINES OF THE MANUFACTURER AND ALL APPLICABLE BUILDING CODES AND OTHER LAWS, RULES, REGULATIONS AND ORDINANCES. REVIEW ALL MANUFACTURER INSTALLATION, MAINTENANCE INSTRUCTIONS, AND OTHER APPLICABLE DOCUMENTS BEFORE INSTALLATION.

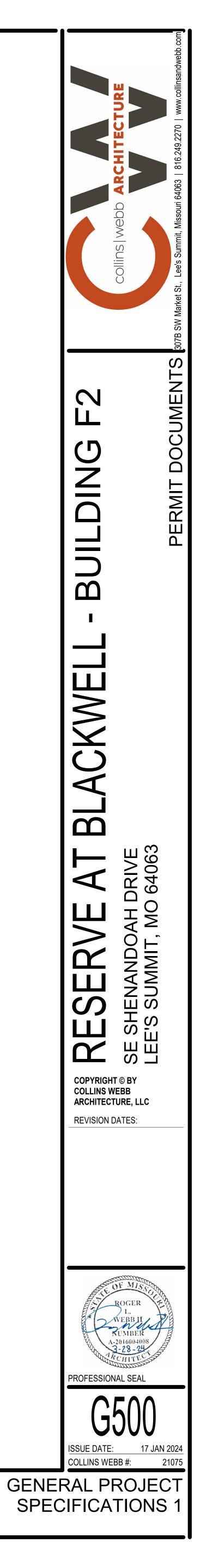
07 3113 - ASPHALT SHINGLES & ACCESSORIES A. <u>SUBMITTALS</u>: PRODUCT DATA, AND SAMPLES OF EACH PRODUCT AND COLOR OPTIONS.

- B. <u>WARRANTY:</u> STANDARD FORM IN WHICH MANUFACTURER AGREES TO REPAIR OR REPLACE ASPHALT SHINGLES THAT FAIL IN MATERIALS OR WORKMANSHIP WITHIN SPECIFIED WARRANTY PERIOD. 1. MATERIAL WARRANTY PERIOD: 30 YEARS FROM DATE OF SUBSTANTIAL COMPLETION, PRORATED, WITH FIRST FIVE YEARS NONPRORATED. 2. ALGAE-DISCOLORATION WARRANTY PERIOD: ASPHALT SHINGLES WILL NOT DISCOLOR 10 YEARS
- FROM DATE OF SUBSTANTIAL COMPLETION. C. BASIS OF DESIGN: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE TIMBERLINE 30 SHINGLES AS MANUFACTURED BY GAF ROOFING PRODUCTS OR APPROVED EQUAL WITH GRANULES TREATED TO RESIST ALGAE DISCOLORATION. COLOR SHALL BE SELECTED BY THE ARCHITECT.
- 1. LAMINATED-STRIP ASPHALT SHINGLES: ASTM D 3462, LAMINATED, MULTI-PLY OVERLAY
- CONSTRUCTION, GLASS-FIBER REINFORCED, MINERAL-GRANULE SURFACED, AND SELF-SEALING. 2. FELT: ASTM D 226, TYPE I, ASPHALT-SATURATED ORGANIC FELTS, NONPERFORATED. 3. SELF-ADHERING SHEET UNDERLAYMENT, POLYETHYLENE FACED: ASTM D 1970/D 1970M,
- MINIMUM OF 40-MIL- (1.0-MM-) THICK, SLIP-RESISTING, POLYETHYLENE-FILM-REINFORCED TOP SURFACE LAMINATED TO SBS-MODIFIED ASPHALT ADHESIVE, WITH RELEASE BACKING; COLD APPLIED. PREFERED PRODUCT GRACE CONSTRUCTION PRODUCTS, ICE AND WATER SHIELD
- ASPHALT ROOFING CEMENT: ASTM D 4586, TYPE II, ASBESTOS FREE. 2. ROOFING NAILS: ASTM F 1667; ALUMINUM OR HOT-DIP GALVANIZED-STEEL WIRE SHINGLE NAILS, MINIMUM 0.120-INCH DIAMETER. BARBED SHANK, SHARP-POINTED, WITH A MINIMUM 3/8-INCH DIAMETER FLAT HEAD AND OF SUFFICIENT LENGTH TO PENETRATE AT LEAST 1/8 INCH THROUGH THE ROOF SHEATHING. WHERE NAILS ARE IN CONTACT WITH METAL FLASHING, USE NAILS MADE FROM SAME METAL AS
- FI ASHING 3. FELT UNDERLAYMENT NAILS: ALUMINUM, STAINLESS-STEEL, OR HOT-DIP GALVANIZED-STEEL WIRE WITH LOW-PROFILE CAPPED HEADS OR DISC CAPS, 1-INCH MINIMUM DIAMETER. 4. FABRICATE SHEET METAL FLASHING AND TRIM TO COMPLY WITH RECOMMENDATIONS IN SMACNA'S
- "ARCHITECTURAL SHEET METAL MANUAL" THAT APPLY TO DESIGN, DIMENSIONS, METAL, AND OTHER CHARACTERISTICS OF THE ITEM. PREFERED MATERIALS:SHEET METAL: PREFINISHED ALUMINUM. . INSTALLATION:
- I.INSTALL ASPHALT SHINGLES ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS. RECOMMENDATIONS IN ARMA'S "RESIDENTIAL ASPHALT ROOFING MANUAL," AND ASPHALT SHINGLE RECOMMENDATIONS IN NRCA'S "THE NRCA ROOFING AND WATERPROOFING MANUAL."
- 2. INSTALL STARTER STRIP ALONG LOWEST ROOF EDGE, CONSISTING OF AN ASPHALT SHINGLE STRIP AT LEAST 7 INCHES WIDE WITH SELF-SEALING STRIP FACE UP AT ROOF EDGE. INSTALL STARTER STRIP ALONG RAKE EDGE. 3. EXTEND ASPHALT SHINGLES 3/8 INCH OVER FASCIA AT EAVES AND RAKES.
- 4. INSTALL FIRST AND REMAINING COURSES OF ASPHALT SHINGLES STAIR-STEPPING DIAGONALLY ACROSS ROOF DECK WITH MANUFACTURER'S RECOMMENDED OFFSET PATTERN AT SUCCEEDING COURSES, MAINTAINING UNIFORM EXPOSURE 5. FASTEN ASPHALT SHINGLE STRIPS WITH ROOFING NAILS LOCATED ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS. WHEN AMBIENT TEMPERATURE DURING INSTALLATION IS BELOW 50 DEG F, SEAL ASPHALT
- SHINGLES PER APPROVED MANUFACTURER INSTALLATION RECOMMENDATIONS. 6. HIP AND RIDGE CAP SHINGLES: MAINTAIN SAME EXPOSURE OF HIP AND RIDGE CAP SHINGLES AS ROOFING SHINGLE EXPOSURE. LAP RIDGE CAP SHINGLES TO SHED WATER AWAY FROM DIRECTION OF PREVAILING WINDS. FASTEN WITH ROOFING NAILS OF SUFFICIENT LENGTH TO PENETRATE SHEATHING.

07 6200 - SHEET METAL FLASHING AND TRIM A. STANDARDS ABRICATED SHEET METAL ITEMS, INCLUDING FLASHINGS, COUNTERFLASHINGS, AND OTHER ITEMS INDICATED IN

- SCHEDULE
- AAMA 611 VOLUNTARY SPECIFICATION FOR ANODIZED ARCHITECTURAL ALUMINUM 2014 (2015 ERRATA). ASTM C920 - STANDARD SPECIFICATION FOR ELASTOMERIC JOINT SEALANTS 2018.
- CDA A4050 COPPER IN ARCHITECTURE HANDBOOK CURRENT EDITION. SMACNA (ASMM) - ARCHITECTURAL SHEET METAL MANUAL 2012.
- B. SUBMITTALS SHOP DRAWINGS: INDICATE MATERIAL PROFILE, JOINTING PATTERN, JOINTING DETAILS, FASTENING METHODS, FLASHINGS, TERMINATIONS, AND INSTALLATION DETAILS.
- . QUALITY ASSURANCE . PERFORM WORK IN ACCORDANCE WITH SMACNA (ASMM) AND CDA A4050 REQUIREMENTS AND
- STANDARD DETAILS, EXCEPT AS OTHERWISE INDICATED. D. DELIVERY, STORAGE, AND HANDLING

. STACK MATERIAL TO PREVENT TWISTING, BENDING, AND ABRASION, AND TO PROVIDE VENTILATION. SLOPE METAL SHEETS TO ENSURE DRAINAGE. 2. PREVENT CONTACT WITH MATERIALS THAT COULD CAUSE DISCOLORATION OR STAINING.



SPECIFICATIONS - PRODUCT & INSTALLATION GENERAL REQUIREMENTS

DIVISION 7 - THERMAL AND MOISTURE PROTECTION (CONTINUED)

07 6200 - SHEET METAL FLASHING AND TRIM (CONTINUED)

- RE-FINISHED ALUMINUM: ASTM B209 (ASTM B209M); 20 GAGE, (0.032 INCH) THICK; PLAIN FINISH SHOP PRE-COATED WITH MODIFIED SILICONE COATING.
- 1. FLUOROPOLYMER COATING: HIGH PERFORMANCE ORGANIC FINISH, AAMA 2604; MULTIPLE COAT THERMALLY CURED FLUOROPOLYMER FINISH SYSTEM. 2. COLOR: AS SELECTED BY ARCHITECT FROM MANUFACTURER'S STANDARD COLORS.

- 1. FORM SECTIONS TRUE TO SHAPE, ACCURATE IN SIZE, SQUARE, AND FREE FROM DISTORTION OR DEFECTS. 2. FORM PIECES IN LONGEST POSSIBLE LENGTHS.
- 3. HEM EXPOSED EDGES ON UNDERSIDE 1/2 INCH; MITER AND SEAM CORNERS. 4. FORM MATERIAL WITH FLAT LOCK SEAMS, EXCEPT WHERE OTHERWISE INDICATED; AT MOVING JOINTS, USE SEALED LAPPED, BAYONET-TYPE OR INTERLOCKING HOOKED SEAMS. 5. FABRICATE FLASHINGS TO ALLOW TOE TO EXTEND 2 INCHES OVER ROOFING GRAVEL. RETURN AND BRAKE
- ACCESSORIE . FASTENERS: GALVANIZED STEEL, WITH SOFT NEOPRENE WASHERS.
- . PRIMER: ZINC CHROMATE TYPE. 3. CONCEALED SEALANTS: NON-CURING BUTYL SEALANT.
- 4. EXPOSED SEALANTS: ASTM C920; ELASTOMERIC SEALANT, WITH MINIMUM MOVEMENT CAPABILITY AS 5. RECOMMENDED BY MANUFACTURER FOR SUBSTRATES TO BE SEALED; COLOR TO MATCH ADJACENT MATERIAL.
- 1. SECURE FLASHINGS IN PLACE USING CONCEALED FASTENERS, AND USE EXPOSED FASTENERS ONLY WHERE PERMITTER
- 2. APPLY PLASTIC CEMENT COMPOUND BETWEEN METAL FLASHINGS AND FELT FLASHINGS. 3. FIT FLASHINGS TIGHT IN PLACE; MAKE CORNERS SQUARE, SURFACES TRUE AND STRAIGHT IN PLANES, AND LINES ACCURATE TO PROFILES.

4. SEAL METAL JOINTS WATERTIGHT.

- 07 8100 APPLIED FIREPROOFING A. SUBMITTALS: PRODUCT DATA: PROVIDE DATA INDICATING PRODUCT CHARACTERISTICS.
- 1. TEST REPORTS: REPORTS FROM REPUTABLE INDEPENDENT TESTING AGENCIES FOR PROPOSED PRODUCTS. INDICATING COMPLIANCE WITH SPECIFIED CRITERIA, CONDUCTED UNDER CONDITIONS SIMILAR TO THOSE ON PROJECT. AS FOLLOWS: A. BOND STRENGTH.
- B. BOND IMPACT. C. COMPRESSIVE STRENGTH.
- D. FIRE TESTS USING SUBSTRATE MATERIALS SIMILAR THOSE ON PROJECT.
- 2. MANUFACTURER'S INSTALLATION INSTRUCTIONS: INDICATE SPECIAL PROCEDURES. 3. MANUFACTURER'S QUALIFICATION STATEMENT.

- . DO NOT APPLY FIREPROOFING WHEN TEMPERATURE OF SUBSTRATE MATERIAL AND SURROUNDING AIR IS BELOW 40 DEGREES F OR WHEN TEMPERATURE IS PREDICTED TO BE BELOW SAID TEMPERATURE FOR 24 HOURS AFTER APPLICATION 2. PROVIDE VENTILATION IN AREAS TO RECEIVE FIREPROOFING DURING APPLICATION AND 24 HOURS AFTERWARD, TO DRY APPLIED MATERIAL. 3. PROVIDE TEMPORARY ENCLOSURE TO PREVENT SPRAY FROM CONTAMINATING AIR.
- CORRECT DEFECTIVE WORK WITHIN A TWO YEAR PERIOD AFTER DATE OF SUBSTANTIAL COMPLETION. A. INCLUDE COVERAGE FOR FIREPROOFING TO REMAIN FREE FROM CRACKING, CHECKING, DUSTING, FLAKING, SPALLING, SEPARATION, AND BLISTERING. B. REINSTALL OR REPAIR FAILURES THAT OCCUR WITHIN WARRANTY PERIOD.
- . GCP APPLIED TECHNOLOGIES : WWW.GCPAT.COM/FIREPROOFING
- 2. ISOLATEK INTERNATIONAL CORP : WWW.ISOLATEK.COM 3. SOUTHWEST FIREPROOFING PRODUCTS COMPANY : WWW.SFRM.COM.

. PROVIDE ASSEMBLIES AS INDICATED ON DRAWINGS.

- 2. PROVIDE FIRE RESISTANCE RATINGS FOR FOLLOWING BUILDING ELEMENTS AS REQUIRED BY LOCAL BUILDING A. PRIMARY STRUCTURAL FRAME, INCLUDING COLUMNS, GIRDERS, AND TRUSSES: [1 HOUR]. B. BEARING WALLS, INTERIOR: [1 HOUR] C. FLOOR CONSTRUCTION, INCLUDING SUPPORTING BEAMS AND JOISTS: [1 HOUR].
- D. ROOF CONSTRUCTION, INCLUDING SUPPORTING BEAMS AND JOISTS: [1HOUR]. F. MATERIALS: APPLIED FIREPROOFING MATERIAL FOR INTERIOR APPLICATIONS, CONCEALED: MANUFACTURER'S
- STANDARD FACTORY MIXED MATERIAL, WHICH WHEN COMBINED WITH WATER IS CAPABLE OF PROVIDING INDICATED FIRE RESISTANCE. AND COMPLYING WITH FOLLOWING REQUIREMENTS: 1. COMPOSITION: GYPSUM-BASED; NOT MINERAL-FIBER-BASED. 2. BOND STRENGTH: 150 POUNDS PER SQUARE FOOT, MINIMUM, WHEN TESTED IN ACCORDANCE WITH ASTM
- E736/E736M WHEN SET AND DRY. 3. DRY DENSITY: AS REQUIRED BY FIRE RESISTANCE DESIGN.
- 4. COMPRESSIVE STRENGTH: 8.33 POUNDS PER SQUARE INCH, MINIMUM. 5. EFFECT OF IMPACT ON BONDING: NO CRACKING, SPALLING OR DELAMINATION, WHEN TESTED IN ACCORDANCE WITH ASTM E760/E760M 6. CORROSIVITY: NO EVIDENCE OF CORROSION. WHEN TESTED IN ACCORDANCE WITH ASTM E937/E937M. 7. SURFACE BURNING CHARACTERISTICS: MAXIMUM FLAME SPREAD INDEX OF 0 (ZERO) AND MAXIMUM SMOKE DEVELOPED INDEX OF 0 (ZERO), WHEN TESTED IN ACCORDANCE WITH ASTM E84.

I. PRIMER ADHESIVE: OF TYPE RECOMMENDED BY APPLIED FIREPROOFING MANUFACTURER. 2. OVERCOAT: AS RECOMMENDED BY MANUFACTURER OF APPLIED FIREPROOFING MATERIAL. 3. METAL LATH: EXPANDED METAL LATH; MINIMUM WEIGHT OF 1.7 PSF, GALVANIZED FINISH.

4. WATER: CLEAN, POTABLE.

- . VERIFY THAT SURFACES ARE READY TO RECEIVE FIREPROOFING. 2. VERIFY THAT DUCTS, PIPING, EQUIPMENT, OR OTHER ITEMS THAT WOULD INTERFERE WITH APPLICATION OF
- FIREPROOFING HAVE NOT BEEN INSTALLED. 3. VERIFY THAT VOIDS AND CRACKS IN SUBSTRATE HAVE BEEN FILLED.
- 4. VERIFY THAT PROJECTIONS HAVE BEEN REMOVED WHERE FIREPROOFING WILL BE EXPOSED TO VIEW AS A FINISH MATERIAL.
- 5. PERFORM TESTS AS RECOMMENDED BY FIREPROOFING MANUFACTURER IN APPLICATIONS WHERE ADHESION OF FIREPROOFING TO SUBSTRATE IS IN QUESTION. 6. REMOVE INCOMPATIBLE MATERIALS THAT COULD EFFECT BOND BY SCRAPING, BRUSHING, SCRUBBING, OR
- SANDBI ASTING 7. PREPARE SUBSTRATES TO RECEIVE FIREPROOFING IN STRICT ACCORDANCE WITH INSTRUCTIONS OF
- FIREPROOFING MANUFACTURER. 8. APPLY FIREPROOFING MANUFACTURER'S RECOMMENDED BONDING AGENT ON PRIMED STEEL.
- 9. INSTALL METAL LATH OVER STRUCTURAL MEMBERS AS INDICATED OR AS REQUIRED BY UL ASSEMBLY DESIGN
- 10. APPLY FIREPROOFING IN UNIFORM THICKNESS AND DENSITY AS NECESSARY TO ACHIEVE REQUIRED RATINGS. 11. INSPECT INSTALLED FIREPROOFING AFTER APPLICATION AND CURING FOR INTEGRITY, PRIOR TO ITS
- CONCEALMEN 12. ENSURE THAT ACTUAL THICKNESSES, DENSITIES, AND BOND STRENGTHS MEET REQUIREMENTS FOR SPECIFIED RATINGS AND REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION (AHJ).
- 13. REMOVE EXCESS MATERIAL, OVERSPRAY, DROPPINGS, AND DEBRIS. 14. REMOVE FIREPROOFING FROM MATERIALS AND SURFACES NOT REQUIRED TO BE FIREPROOFED.

07 4113 - ROOFING MATERIALS & ACCESSORIES

A. <u>SUBMITTALS:</u> PROVIDE DATA ON SHAPE OF COMPONENTS, MATERIALS AND FINISHES, ANCHOR TYPES AND

B. SHOP DRAWINGS: INDICATE CONFIGURATION AND DIMENSION OF COMPONENTS, ADJACENT CONSTRUCTION, REQUIRED CLEARANCES AND TOLERANCES, AND OTHER AFFECTED WORK.

C. <u>WARRANTY:</u> SPECIAL WARRANTY: MANUFACTURER'S STANDARD FORM IN WHICH MANUFACTURER AGREES TO REPAIR OR REPLACE COMPONENTS OF SYSTEMS THAT FAIL IN MATERIALS OR WORKMANSHIP WITHIN SPECIFIED WARRANTY PERIOD. 1. WARRANTY PERIOD: TWO YEARS FROM DATE OF SUBSTANTIAL COMPLETION.

A. ROOF EDGE FLASHINGS: FACTORY FABRICATED TO SIZES REQUIRED; CORNERS MITERED; CONCEALED FASTENERS 1. CONFIGURATION: FASCIA, CANT, AND EDGE SECUREMENT FOR ROOF MEMBRANE. 2. PULL-OFF RESISTANCE: TESTED IN ACCORDANCE WITH ANSI/SPRI/FM 4435/ES-1 USING TEST

METHODS RE-1 AND RE-2 TO POSITIVE AND NEGATIVE DESIGN WIND PRESSURE AS DEFINED BY APPLICABLE LOCAL BUILDING CODE B. COPINGS: FACTORY FABRICATED TO SIZES REQUIRED; CORNERS MITERED; CONCEALED FASTENERS.

1. CONFIGURATION: CONCEALED CONTINUOUS HOLD DOWN CLEAT AT BOTH LEGS; INTERNAL SPLICE PIECE AT JOINTS OF SAME MATERIAL, THICKNESS, AND FINISH AS CAP; CONCEALED STAINLESS STEEL FASTENERS.

- 2. PULL-OFF RESISTANCE: TESTED IN ACCORDANCE WITH ANSI/SPRI/FM 4435/ES-1 USING TEST METHOD RE-3 TO POSITIVE AND NEGATIVE DESIGN WIND PRESSURE AS DEFINED BY APPLICABLE LOCAL BUILDING CODE.
- 3. 24 GA. GALVALUME WITH KYNAR 500, 2.0 MILS THICK FLOUROCARBON FINISH. C. ROOF PENETRATION SEALING SYSTEMS: PREMANUFACTURED COMPONENTS AND ACCESSORIES AS REQUIRED TO PRESERVE INTEGRITY OF ROOFING SYSTEM AND MAINTAIN ROOF WARRANTY; SUITABLE FOR CONDUITS AND ROOFING SYSTEM TO BE INSTALLED; DESIGNED TO ACCOMMODATE EXISTING PENETRATIONS WHERE APPLICABLE.

A. PVDF (POLYVINYLIDENE FLUORIDE) COATING: SUPERIOR PERFORMANCE ORGANIC FINISH, AAMA 2605; MULTIPLE COAT, THERMALLY CURED FLUOROPOLYMER FINISH SYSTEM; COLOR AS INDICATED.

. INSTALLATION: A. INSTALL COMPONENTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND NRCA (RM) APPLICABLE REQUIREMENTS. B. SEAL JOINTS WITHIN COMPONENTS WHEN REQUIRED BY COMPONENT MANUFACTURER.

C. COORDINATE INSTALLATION OF COMPONENTS OF THIS SECTION WITH INSTALLATION OF ROOFING MEMBRANE AND BASE FLASHINGS.

07 8400 - FIRESTOPPING A. SUBMITTALS: PRODUCT DATA: PROVIDE DATA ON PRODUCT LIMITATIONS.

- B. <u>MANUFACTURERS</u> 1. 3M FIRE PROTECTION PRODUCTS: HTTPS://WWW.3M.COM/3 2. HILTI, INC : HTTPS://WWW.HILTI.COM/C/CLS FIRESTOP PROT
- 1. FIRESTOPPING MATERIALS: ANY MATERIALS MEETING REQU
- 2. PRIMERS, SLEEVES, FORMS, INSULATION, PACKING, STUFF MATERIALS AS REQUIRED FOR TESTED FIRESTOPPING ASSE 3. FIRE RATINGS: REFER TO DRAWINGS FOR REQUIRED SYSTI
- D. ASSEMBLY REQUIREMENTS:
- 1. HEAD-OF-WALL JOINT SYSTEM FIRESTOPPING AT JOINTS BE RATED HORIZONTAL ASSEMBLIES: USE SYSTEM THAT HAS E FIRE RESISTANCE F RATING EQUAL TO REQUIRED FIRE RATI
- 2. FLOOR-TO-FLOOR, WALL-TO-WALL, AND WALL-TO-FLOOR JC RATED: USE SYSTEM THAT HAS BEEN TESTED ACCORDING RESISTANCE "F" RATING EQUAL TO REQUIRED FIRE RATING
- 3. THROUGH PENETRATION FIRESTOPPING: USE SYSTEM THAT HAVE FIRE RESISTANCE F RATING EQUAL TO REQUIRED FIRE
- E. <u>INSTALLATION:</u> **1. INSTALLATIONS SHALL CONFORM TO UL REQUIREMENTS OF** PART OF THE BUILT ASSEMBLY

07 9200 - JOINT SEALANTS A. SUBMITTALS: PRODUCT DATA, AND SCHEDULE OF LOCATIONS

C. ENVIRONMENTAL LIMITATIONS: DO NOT PROCEED WITH INSTA SUBSTRATE TEMPERATURE CONDITIONS ARE OUTSIDE LIMITS

E. JOINT SEALANTS:

- 1. COLORS OF EXPOSED JOINT SEALANTS: AS SELECTED BY 2. INTERIOR JOINTS IN CERAMIC TILE AND OTHER HARD SURF PLUMBING FIXTURES: SINGLE COMPONENT, MILDEW-RESIS
- NS, CLASS 25; USES NT, G, A, AND O; FORMULATED WITH FU 3. INTERIOR JOINTS AROUND PERIMETERS OF DOORS AND FF NONSAG, MILDEW-RESISTANT, PAINTABLE, ACRYLIC EMULSI
- 4. ACOUSTICAL SEALANT FOR EXPOSED INTERIOR JOINTS: NO COMPLYING WITH ASTM C 834.
- 5. ACOUSTICAL SEALANT FOR CONCEALED JOINTS: NONDRYIN GUNNABLE. SYNTHETIC-RUBBER SEALANT RECOMMENDED REDUCE TRANSMISSION OF AIRBORNE SOUND. 6. EXTERIOR CONCRETE PANELS, NATURAL STONES, MASONR
- WINDOW PERIMETERS. BASIS OF DESIGN PRODUCTS: A. TREMCO INCORPORATED; SPECTREM 1.
- B. DOW CORNING CORPORATION; 790. C. PECORA CORPORATION: 890NST.
- 7. EXTERIOR JOINTS IN HORIZONTAL TRAFFIC SURFACES. ISOLATION AND CONTRACTION JOINTS IN CAST-IN-PLACE C URETHANE JOINT SEALANT: MULTICOMPONENT, NONSAG, 8. FIRESTOP SEALANTS: INSTALL AT FIRE RATED ASSEMBLIES BASIS OF DESIGN PRODUCTS:

B. 3M

- E. JOINT SEALANT BACKING 1. GENERAL: PROVIDE SEALANT BACKINGS OF MATERIAL THA SUBSTRATES, SEALANTS, PRIMERS, AND OTHER JOINT FILL
- INDICATED BY SEALANT MANUFACTURER BASED ON FIELD 2. CYLINDRICAL SEALANT BACKINGS: ASTM C 1330, TYPE C (C SKIN), AND OF SIZE AND DENSITY TO CONTROL SEALANT
- OPTIMUM SEALANT PERFORMANCE. 3. BOND-BREAKER TAPE: POLYETHYLENE TAPE OR OTHER PL MANUFACTURER FOR PREVENTING SEALANT FROM ADHER JOINT SURFACES AT BACK OF JOINT. PROVIDE SELF-ADHES
- -. <u>MISCELLANEOUS MATERIALS</u> 1. PRIMER: MATERIAL RECOMMENDED BY JOINT-SEALANT MA
- SEALANT TO JOINT SUBSTRATES INDICATED, AS DETERMINI SUBSTRATE TESTS AND FIELD TESTS. 2. CLEANERS FOR NONPOROUS SURFACES: CHEMICAL CLEAN
- SEALANTS AND SEALANT BACKING MATERIALS, FREE OF OIL STAINING OR HARMING JOINT SUBSTRATES AND ADJACENT FORMULATED TO PROMOTE OPTIMUM ADHESION OF SEALAI
- 3. BOND-BREAKER TAPE: POLYETHYLENE TAPE OR OTHER PL PREVENTING SEALANT FROM ADHERING TO RIGID, INFLEXIB BACK OF JOINT 4. MASKING TAPE: NONSTAINING, NONABSORBENT MATERIAL
- ADJACENT TO JOINTS. G. INSTALLATION: COMPLY WITH ASTM C 1193; ASTM C 919 FOR 1. REMOVE ALL LOOSE MATERIAL, CLEAN AND PRIME JOINTS INSTRUCTIONS, AND PROTECT ADJACENT SURFACES.
- 2. INSTALL BOND-BREAKER TAPE WHERE JOINT BACKINGS AF 3. INSTALL SEALANT TOOLED CONCAVE, FREE OF AIR POCKET AND PROTECT UNTIL FULLY CURED. SEALANT WITH DUST A FOR REJECTION.

<u>DIVISION 8 - OPENINGS</u>

- 08 0671 DOOR HARDWARE A. SUBMITTALS: PRODUCT DATA AND HARDWARE SCHEDULE INI LOCATED ON EACH DOOR WITH DOOR AND HARDWARE SET N CONSTRUCTION DOCUMENTS. REFER TO ARCHITECTURAL PL 1. HARDWARE SUPPLIER SHALL SUBMIT FOUR COPIES OF FINA DATE PARTICULARLY WHERE ACCEPTANCE OF HARDWARE
- WORK WHICH IS CRITICAL IN THE PROJECT CONSTRUCTION DRAWINGS OF OTHER WORK AFFECTED BY BUILDERS HARI COORDINATE REVIEW OF HARDWARE SCHEDULE. 2. KEYING SCHEDULE. SUBMIT SEPARATE DETAILED SCHEDUL INSTRUCTIONS ON KEYING OF LOCKS HAS BEEN FULFILLED.
- OWNER. B. PRODUCTS: REFER TO HARDWARE SCHEDULE AND ARCHI 1. STRIKES. PROVIDE MANUFACTURER'S STANDARD WROUG CURVED LIP EXTENDED TO PROTECT FRAME. FINISH TO
- STRIKE PLATES FOR INTERIOR DOORS WHERE WOOL 2. IN GENERAL, HARDWARE FINISH SHALL BE US15 (SATIN NICH SCHEDULE. 3. SUPPLY CAL ROYAL HDFS3 FLEXIBLE DOOR STOPS IN THE A
- STOPS WHERE FLEXIBLE STOPS CANNOT BE USED. 4. SUPPLY OUT SWINGING EXTERIOR DOORS WITH NON REMO

C. INSTALLATION: 1. MOUNT HARDWARE UNITS AT HEIGHTS INDICATED IN "RECO FOR STANDARD STEEL DOORS AND FRAMES" BY THE DOOR A

SET #1. UNIT ENTRY DOORS

2 EACH SPRING HINGES

1 EACH ENTRANCE LOCK

1 EACH DOOR VIEWER

2 EACH SPRING HINGES

1 EACH ENTRANCE LOCK

1 EACH PASSAGE LATCH

SET #2. PATIO DOORS

1 EACH HINGE

3 EACH HINGES

3 EACH HINGES

6 EACH HINGES

1 EACH PRIVACY LOCK

2 EACH DUMMY TRIM

2 EACH BALL CATCH

1 EACH HINGE

- SPECIFICALLY INDICATED OR REQUIRED TO COMPLY WITH GO BE OTHERWISE DIRECTED BY ARCHITECT. MOUNT HARDWAR HANDICAPPED AT HEIGHTS RECOMMENDED FOR USE BY THE 2. INSTALL EACH HARDWARE ITEM IN COMPLIANCE WITH THE RECOMMENDATIONS. WHEREVER CUTTING AND FITTING IS RE
- SURFACES WHICH ARE LATER TO BE PAINTED OR FINISHED IN REINSTALLATION OR APPLICATION OF SURFACE PROTECTION 9 SECTIONS. DO NOT INSTALL SURFACE MOUNTED ITEMS UNT

1 EACH SINGLE CYLINDER DEADBOLT KV116

1 EACH SINGLE CYLINDER DEADBOLT KV116

SET #3. SINGLE SWING CLOSET DOORS

SET #4. BATHROOM / BEDROOM DOORS

SET #5. PAIR SWING LAUNDRY DOORS

BALANCE OF HARDWARE BY DOOR SUPPLIER

BB814X4

SP81 4 X 4

DD01-180UL

BB814X4

SP81 4 X 4

BB814X4

BB814X4

BB814X4

SD211 MEM

SD176 MEM

SD126 MEM

SD116 MEM

SD116 MEM

9	7
8400 - FIRESTOPPING A. <u>SUBMITTALS</u> : PRODUCT DATA: PROVIDE DATA ON PRODUCT CHARACTERISTICS, PERFORMANCE RATINGS, AND LIMITATIONS.	DIVISION 8 - OPENINGS (CONTINUED) 08 0671 - DOOR HARDWARE (CONTINUED)
3. <u>MANUFACTURERS:</u> 1. 3M FIRE PROTECTION PRODUCTS: HTTPS://WWW.3M.COM/3M/EN_US/P/C/BUILDING-MATERIALS/FIRE-PROTECTION/ 2. HILTI, INC:HTTPS://WWW.HILTI.COM/C/CLS_FIRESTOP_PROTECTION_7131	C. <u>HARDWARE SCHEDULE (CONTINUED)</u> <u>SET #6. GARAGE</u>
 <u>MATERIALS:</u> 1. FIRESTOPPING MATERIALS: ANY MATERIALS MEETING REQUIREMENTS. 2. PRIMERS, SLEEVES, FORMS, INSULATION, PACKING, STUFFING, AND ACCESSORIES: PROVIDE TYPE OF MATERIALS AS REQUIRED FOR TESTED FIRESTOPPING ASSEMBLY. 3. FIRE RATINGS: REFER TO DRAWINGS FOR REQUIRED SYSTEMS AND RATINGS. 	3 EACH HINGESBB81 4-1/2X1 EACH STOREROOM LOCKSD115 MEM1 EACH CLOSER7101-PA1 EACH SMOKE GASKET50501 EACH THRESHOLD425E1 EACH WALL STOPWB26
 <u>ASSEMBLY REQUIREMENTS:</u> HEAD-OF-WALL JOINT SYSTEM FIRESTOPPING AT JOINTS BETWEEN FIRE-RATED WALL ASSEMBLIES AND NON- RATED HORIZONTAL ASSEMBLIES: USE SYSTEM THAT HAS BEEN TESTED ACCORDING TO ASTM E2837 TO HAVE FIRE RESISTANCE F RATING EQUAL TO REQUIRED FIRE RATING OF FLOOR OR WALL, WHICHEVER IS GREATER. FLOOR-TO-FLOOR, WALL-TO-WALL, AND WALL-TO-FLOOR JOINTS, EXCEPT PERIMETER, WHERE BOTH ARE FIRE- 	<u>SET #7. CLOSET BIFOLD DOORS</u> BULK HARDWARE TO BE PROVIDED BY MANUFACTUR 1 EACH DUMMY TRIM
 2.1 ECONCTOP ECON, WALEFTO-WALE, AND WALEFTO-FECON CONTO, EXCEPT FERMILTER, WHERE BOTTAKE FIRE RATED: USE SYSTEM THAT HAS BEEN TESTED ACCORDING TO ASTM E1966 OR UL 2079 TO HAVE FIRE RESISTANCE "F" RATING EQUAL TO REQUIRED FIRE RATING OF THE ASSEMBLY IN WHICH THE JOINT OCCURS. 3.THROUGH PENETRATION FIRESTOPPING: USE SYSTEM THAT HAS BEEN TESTED ACCORDING TO ASTM E814 TO HAVE FIRE RESISTANCE F RATING EQUAL TO REQUIRED FIRE RATING OF PENETRATED ASSEMBLY. 	<u>SET #8. CLOSET BYPASS SLIDING DOORS</u> BULK HARDWARE TO BE PROVIDED BY MANUFACTURE 1 EACH DUMMY TRIM
 <u>INSTALLATION</u>: INSTALLATIONS SHALL CONFORM TO UL REQUIREMENTS OF THE ASSEMBLY WHICH FIRESTOPPING IS TO BECOME PART OF THE BUILT ASSEMBLY. 	08 1113 - HOLLOW METAL DOORS AND FRAMES A. <u>SUBMITTALS</u> : PRODUCT DATA AND SHOP DRAWINGS WITI GLAZING, FRAME PROFILES, AND ANY INDICATED FINISH R
9200 - JOINT SEALANTS A. <u>SUBMITTALS</u> : PRODUCT DATA, AND SCHEDULE OF LOCATIONS FOR EACH TYPE OF SEALANT SUBMITTED. B. JOINT-SEALANT SCHEDULE: INCLUDE THE FOLLOWING INFORMATION: 1. JOINT-SEALANT APPLICATION, JOINT LOCATION, AND DESIGNATION. 2. JOINT-SEALANT MANUFACTURER AND PRODUCT NAME.	 B. HOLLOW METAL DOOR AND FRAME MANUFACTURERS: 1. CECO DOOR, AN ASSA ABLOY GROUP COMPANY: WWW 2. DE LA FONTAINE INC: WWW.DELAFONTAINE.COM 3. REPUBLIC DOORS, AN ALLEGION BRAND: WWW.REPUB 4. STEELCRAFT, AN ALLEGION BRAND: WWW.ALLEGION.C
 JOINT-SEALANT FORMULATION. JOINT-SEALANT COLOR. 	C. <u>SOUND-RATED HOLLOW METAL DOORS AND FRAMES:</u> 1. OVERLY DOOR COMPANY: WWW.OVERLY.COM D. <u>DESIGN CRITERIA:</u>
C. <u>ENVIRONMENTAL LIMITATIONS</u> : DO NOT PROCEED WITH INSTALLATION OF JOINT SEALANTS WHEN AMBIENT AND SUBSTRATE TEMPERATURE CONDITIONS ARE OUTSIDE LIMITS PERMITTED BY JOINT SEALANT MANUFACTURER OR ARE BELOW 40 deg F (4.4 deg C). D. <u>COMPATIBILITY</u> : PROVIDE JOINT SEALANTS, JOINT FILLERS, AND OTHER RELATED MATERIALS THAT ARE	1. STEEL USED FOR FABRICATION OF DOORS AND FRAME REQUIREMENTS; GALVANNEALED STEEL CONFORMING CONFORMING TO ASTM A1008/A1008M, OR HOT-ROLLED ASTM A1011/A1011M, COMMERCIAL STEEL (CS) TYPE B F
COMPATIBLE WITH ONE ANOTHER AND WITH JOINT SUBSTRATES UNDER SERVICE AND APPLICATION CONDITIONS.	 TYPICAL DOOR FACE SHEETS: FLUSH. GLAZED LIGHTS: NON-REMOVABLE STOPS ON NON-SEC DRAWINGS. STYLE: MANUFACTURERS STANDARD. HARDWARE PREPARATIONS, SELECTIONS AND LOCATIO 831 OR BHMA A156.115 AND ANSI/SDI A250.8 (SDI-100)
 COLORS OF EXPOSED JOINT SEALANTS: AS SELECTED BY ARCHITECT FROM MANUFACTURER'S FULL RANGE. INTERIOR JOINTS IN CERAMIC TILE AND OTHER HARD SURFACES IN KITCHENS, TOILET ROOMS, AND AROUND PLUMBING FIXTURES: SINGLE COMPONENT, MILDEW-RESISTANT SILICONE SEALANT, ASTM C 920, TYPE S; GRADE NS, CLASS 25; USES NT, G, A, AND O; FORMULATED WITH FUNGICIDE. INTERIOR JOINTS AROUND PERIMETERS OF DOORS AND FRAMES: LATEX SEALANT, SINGLE COMPONENT, NOTE: DOWN OF DAMPINE TO DO THE AND FORMULATED WITH ADDITIONAL SEALANT, SINGLE COMPONENT, 	5. ZINC COATING FOR TYPICAL INTERIOR AND/OR EXTERIO COATED (GALVANIZED) AND/OR ZINC-IRON ALLOY-COAT ACCORDANCE WITH ASTM A653/A653M, WITH MANUFAC OTHERWISE FOR SPECIFIC HOLLOW METAL DOORS AND 6. HOLLOW METAL PANELS: SAME CONSTRUCTION, PERF
 NONSAG, MILDEW-RESISTANT, PAINTABLE, ACRYLIC EMULSION SEALANT COMPLYING WITH ASTM C 834. 4. ACOUSTICAL SEALANT FOR EXPOSED INTERIOR JOINTS: NONSAG, PAINTABLE, NONSTAINING, LATEX SEALANT COMPLYING WITH ASTM C 834. 5. ACOUSTICAL SEALANT FOR CONCEALED JOINTS: NONDRYING, NONHARDENING, NONSKINNING, NONSTAINING, GUNNABLE, SYNTHETIC-RUBBER SEALANT RECOMMENDED FOR SEALING INTERIOR CONCEALED JOINTS TO DEPENDE ON UND. 	7. COMBINED REQUIREMENTS: IF A PARTICULAR DOOR AN THAN ONE TYPE OF REQUIREMENT, COMPLY WITH THE INSTANCE, AN EXTERIOR DOOR THAT IS ALSO INDICATE REQUIREMENTS SPECIFIED FOR EXTERIOR DOORS AND REQUIREMENTS CONFLICT, COMPLY WITH THE MOST S
REDUCE TRANSMISSION OF AIRBORNE SOUND. 6. EXTERIOR CONCRETE PANELS, NATURAL STONES, MASONRY, ALUMINUM CURTAINWALLS, METAL PANELS AND WINDOW PERIMETERS. BASIS OF DESIGN PRODUCTS: A. TREMCO INCORPORATED; SPECTREM 1.	E. <u>HOLLOW METAL DOOR:</u> 1. EXTERIOR DOORS: THERMALLY INSULATED. A. ASED ON SDI STANDARDS: ANSI/SDI A250.8 (SDI-100). B. LEVEL 1 - STANDARD-DUTY.
B. DOW CORNING CORPORATION; 790. C. PECORA CORPORATION; 890NST. 7. EXTERIOR JOINTS IN HORIZONTAL TRAFFIC SURFACES. ISOLATION AND CONTRACTION JOINTS IN CAST-IN-PLACE CONCRETE SLABS.	C. PHYSICAL PERFORMANCE LEVEL C, 250,000 CYCLES; D. MODEL 1 - FULL FLUSH. E. DOOR FACE METAL THICKNESS: 20 GAGE, 0.032 INCH F. DOOR CORE MATERIAL: MANUFACTURERS STANDAR
URETHANE JOINT SEALANT: MULTICOMPONENT, NONSAG, TRAFFIC GRADE, CLASS 25. 8. FIRESTOP SEALANTS:INSTALL AT FIRE RATED ASSEMBLIES AND AS DIRECTED WITHIN UL REFERENCES BASIS OF DESIGN PRODUCTS: A. HILTI B. 3M	WITH REQUIREMENTS. G. DOOR THICKNESS: 1-3/4 INCH, NOMINAL. H. TOP CLOSURES FOR OUTSWINGING DOORS: FLUSH V I. WEATHERSTRIPPING: REFER TO SECTION 08 7100. J. DOOR FINISH: FACTORY PRIMED AND FIELD FINISHED
E. <u>JOINT SEALANT BACKING</u> : 1. GENERAL: PROVIDE SEALANT BACKINGS OF MATERIAL THAT ARE NONSTAINING; ARE COMPATIBLE WITH JOINT SUBSTRATES, SEALANTS, PRIMERS, AND OTHER JOINT FILLERS; AND ARE APPROVED FOR APPLICATIONS INDICATED BY SEALANT MANUFACTURER BASED ON FIELD EXPERIENCE AND LABORATORY TESTING.	2. INTERIOR DOORS, NON-FIRE RATED: A. BASED ON SDI STANDARDS: ANSI/SDI A250.8 (SDI-100) B. LEVEL 1 - STANDARD-DUTY. C. PHYSICAL PERFORMANCE LEVEL C, 250,000 CYCLES;
 CYLINDRICAL SEALANT BACKINGS: ASTM C 1330, TYPE C (CLOSED-CELL MATERIAL WITH A SURFACE SKIN), AND OF SIZE AND DENSITY TO CONTROL SEALANT DEPTH AND OTHERWISE CONTRIBUTE TO PRODUCING OPTIMUM SEALANT PERFORMANCE. BOND-BREAKER TAPE: POLYETHYLENE TAPE OR OTHER PLASTIC TAPE RECOMMENDED BY SEALANT 	D. MODEL 1 - FULL FLUSH. E. DOOR FACE METAL THICKNESS: 20 GAGE, 0.032 INCH F. DOOR THICKNESS: 1-3/4 INCH, NOMINAL. G. DOOR FINISH: FACTORY PRIMED AND FIELD FINISHEE
MANUFACTURER FOR PREVENTING SEALANT FROM ADHERING TO RIGID, INFLEXIBLE JOINT-FILLER MATERIALS OR JOINT SURFACES AT BACK OF JOINT. PROVIDE SELF-ADHESIVE TAPE WHERE APPLICABLE.	3. FIRE-RATED DOORS: A. BASED ON SDI STANDARDS: ANSI/SDI A250.8 (SDI-100) B. LEVEL 1 - STANDARD-DUTY.
 PRIMER: MATERIAL RECOMMENDED BY JOINT-SEALANT MANUFACTURER WHERE REQUIRED FOR ADHESION OF SEALANT TO JOINT SUBSTRATES INDICATED, AS DETERMINED FROM PRECONSTRUCTION JOINT-SEALANT- SUBSTRATE TESTS AND FIELD TESTS. CLEANERS FOR NONPOROUS SURFACES: CHEMICAL CLEANERS ACCEPTABLE TO MANUFACTURERS OF SEALANTS AND SEALANT BACKING MATERIALS, FREE OF OILY RESIDUES OR OTHER SUBSTANCES CAPABLE OF 	C. PHYSICAL PERFORMANCE LEVEL C, 250,000 CYCLES; D. MODEL 1 - FULL FLUSH. E. DOOR FACE METAL THICKNESS: 20 GAGE, 0.032 INCH F. FIRE RATING: AS INDICATED ON DOOR SCHEDULE, TE
STAINING OR HARMING JOINT SUBSTRATES AND ADJACENT NONPOROUS SURFACES IN ANY WAY, AND FORMULATED TO PROMOTE OPTIMUM ADHESION OF SEALANTS TO JOINT SUBSTRATES. 3. BOND-BREAKER TAPE: POLYETHYLENE TAPE OR OTHER PLASTIC TAPE RECOMMENDED BY SEALANT MFR. FOR PREVENTING SEALANT FROM ADHERING TO RIGID, INFLEXIBLE JOINT-FILLER MATERIALS OR JOINT SURFACES AT	("POSITIVE PRESSURE FIRE TESTS"). G. TEMPERATURE-RISE RATING (TRR) ACROSS DOOR TH AND AUTHORITIES HAVING JURISDICTION. H. PROVIDE UNITS LISTED AND LABELED BY UL (DIR) OR
BACK OF JOINT. 4. MASKING TAPE: NONSTAINING, NONABSORBENT MATERIAL COMPATIBLE WITH JOINT SEALANTS AND SURFACES ADJACENT TO JOINTS.	RATED UNIT. I. SMOKE AND DRAFT CONTROL DOORS (INDICATED WIT SELF-CLOSING OR AUTOMATIC CLOSING DOORS IN AC RESISTANCE-RATED WALL CONSTRUCTION RATED TH THE FOLLOWING;
B. INSTALLATION: COMPLY WITH ASTM C 1193; ASTM C 919 FOR ACOUSTICAL JOINTS; AND AS FOLLOWS: 1. REMOVE ALL LOOSE MATERIAL, CLEAN AND PRIME JOINTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS, AND PROTECT ADJACENT SURFACES. 2. INSTALL BOND-BREAKER TAPE WHERE JOINT BACKINGS ARE NOT USED.	1.MAXIMUM AIR LEAKAGE: 3.0 CFM/SQ FT OF DO IN ACCORDANCE WITH UL 1784 AT BOTH AME 2. GASKETING: PROVIDE GASKETING OR EDGE S 3. LABEL: INCLUDE THE "S" LABEL ON FIRE-RATION
3. INSTALL SEALANT TOOLED CONCAVE, FREE OF AIR POCKETS, FOREIGN EMBEDDED MATTER, RIDGES, AND SAGS, AND PROTECT UNTIL FULLY CURED. SEALANT WITH DUST AND DEBRIS EMBEDDED IN SURFACE SHALL BE CAUSE FOR REJECTION.	J. DOOR CORE MATERIAL: MANUFACTURERS STANDARI REQUIREMENTS. K. DOOR THICKNESS: 1-3/4 INCH, NOMINAL. L. DOOR FINISH: FACTORY PRIMED AND FIELD FINISHED
SION 8 - OPENINGS 0671 - DOOR HARDWARE A. <u>SUBMITTALS</u> : PRODUCT DATA AND HARDWARE SCHEDULE INDICATING HARDWARE ITEM, FINISH, AND QUANTITY	F. <u>HOLLOW METAL FRAMES:</u> 1.COMPLY WITH STANDARDS AND/OR CUSTOM GUIDELINE ACCORDANCE WITH APPLICABLE DOOR FRAME REQU 2. INTERIOR DOOR FRAMES, NON-FIRE RATED: FACE WEL
LOCATED ON EACH DOOR WITH DOOR AND HARDWARE SET NUMBERING CORRESPONDING TO THOSE USED IN CONSTRUCTION DOCUMENTS. REFER TO ARCHITECTURAL PLANS AND HARDWARE SCHEDULES PROVIDED. 1. HARDWARE SUPPLIER SHALL SUBMIT FOUR COPIES OF FINAL HARDWARE SCHEDULE AT EARLIEST POSSIBLE DATE PARTICULARLY WHERE ACCEPTANCE OF HARDWARE SCHEDULE MUST PRECEDE FABRICATION OF OTHER	A. FULL LENGTH STOPS B. FRAME METAL THICKNESS: 18 GAGE, 0.042 INCH, MINI 3. DOOR FRAMES, FIRE-RATED: FACE WELDED TYPE. FIRE A. FULL LENGTH STOPS
WORK WHICH IS CRITICAL IN THE PROJECT CONSTRUCTION SCHEDULE. INCLUDE WITH SCHEDULE SHOP DRAWINGS OF OTHER WORK AFFECTED BY BUILDERS HARDWARE, AND OTHER INFORMATION ESSENTIAL TO THE COORDINATE REVIEW OF HARDWARE SCHEDULE. 2. KEYING SCHEDULE. SUBMIT SEPARATE DETAILED SCHEDULE INDICATING CLEARLY HOW THE OWNER'S FINAL	B. FRAME METAL THICKNESS: 18 GAGE, 0.042 INCH, MIN 4. SOUND-RATED DOOR FRAMES: FULL PROFILE/CONTINU A. FRAME METAL THICKNESS: 18 GAGE, 0.042 INCH, MIN 5. FRAMES FOR WOOD DOORS: COMPLY WITH FRAME RE
INSTRUCTIONS ON KEYING OF LOCKS HAS BEEN FULFILLED. ALL KEYING SHALL BE COORDINATED WITH THE OWNER. B. <u>PRODUCTS:</u> REFER TO HARDWARE SCHEDULE AND ARCHITECTURAL DRAWINGS. 1. STRIKES. PROVIDE MANUFACTURER'S STANDARD WROUGHT BOX STRIKE FOR EACH LATCH OR LOCK BOLT, WITH	DOOR. 6. BORROWED LITES GLAZING FRAMES: CONSTRUCTION / INDICATED ON DRAWINGS. 7. FRAMES IN MASONRY WALLS: SIZE TO SUIT MASONRY (
CURVED LIP EXTENDED TO PROTECT FRAME. FINISH TO MATCH HARDWARE SET. PROVIDE STANDARD (OPEN) STRIKE PLATES FOR INTERIOR DOORS WHERE WOOD DOOR FRAMES ARE USED. 2. IN GENERAL, HARDWARE FINISH SHALL BE US15 (SATIN NICKEL) UNLESS SPECIFIED DIFFERENTLY ON HARDWARE SCHEDULE.	OPENING WITHOUT CUTTING MASONRY UNITS. 8. FRAMES WIDER THAN 48 INCHES: REINFORCE WITH STI WITH TOP. G. FINISHES:
 SUPPLY CAL ROYAL HDFS3 FLEXIBLE DOOR STOPS IN THE APARTMENT DWELLING UNITS. USE 2 IVHP-23 HINGE STOPS WHERE FLEXIBLE STOPS CANNOT BE USED. SUPPLY OUT SWINGING EXTERIOR DOORS WITH NON REMOVABLE PINS. 	HINGTHES: RUST-INHIBITING, COMPLYING WITH ANSI/SDI A H. <u>ACCESSORIES:</u> 1. GLAZING: AS INDICATED IN DRAWINGS OR AS SPECIFIED
C. <u>INSTALLATION:</u> 1. MOUNT HARDWARE UNITS AT HEIGHTS INDICATED IN "RECOMMENDED LOCATIONS FOR BUILDERS HARDWARE FOR STANDARD STEEL DOORS AND FRAMES" BY THE DOOR AND HARDWARE INSTITUTE, EXCEPT AS SPECIFICALLY INDICATED OR REQUIRED TO COMPLY WITH GOVERNING REGULATIONS, AND EXCEPT AS MAY BE OTHERWISE DIRECTED BY ARCHITECT. MOUNT HARDWARE IN UNITS DESIGNATED FOR USE BY THE HANDICAPPED AT HEIGHTS RECOMMENDED FOR USE BY THE HANDICAPPED. 2. INSTALL EACH HARDWARE ITEM IN COMPLIANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND	 REMOVABLE STOPS: FORMED SHEET STEEL, SHAPE AS CORNERS; PREPARED FOR COUNTERSINK STYLE TAMP SILENCERS: RESILIENT RUBBER, FITTED INTO DRILLED THREE ON CENTER MULLION OF PAIRS, AND TWO ON I TEMPORARY FRAME SPREADERS: PROVIDE FOR FACTOR E. INSTALLATION:
RECOMMENDATIONS. WHEREVER CUTTING AND FITTING IS REQUIRED TO INSTALL HARDWARE ONTO OR INTO SURFACES WHICH ARE LATER TO BE PAINTED OR FINISHED IN ANOTHER WAY, COORDINATE REMOVAL, STORAGE AND REINSTALLATION OR APPLICATION OF SURFACE PROTECTIONS WITH FINISHING WORK SPECIFIED IN THE DIVISION	1.INSTALL DOORS AND FRAMES IN ACCORDANCE WITH MA REQUIREMENTS OF SPECIFIED DOOR AND FRAME STA 2. INSTALL PREFINISHED FRAMES AFTER PAINTING AND W 3. INSTALL FIRE RATED UNITS IN ACCORDANCE WITH NFP
 9 SECTIONS. DO NOT INSTALL SURFACE MOUNTED ITEMS UNTIL FINISHES HAVE BEEN COMPLETED ON THE SUBSTRATE. 3. SET UNITS LEVEL, PLUMB AND TRUE TO LINE AND LOCATION. ADJUST AND REINFORCE THE ATTACHMENT SUBSTRATE AS NECESSARY FOR PROPER INSTALLATION AND OPERATION. 4.DRILL AND COUNTERSINK UNITS WHICH ARE NOT FACTORY PREPARED FOR ANCHORAGE FASTENERS. SPACE 	4. COORDINATE FRAME ANCHOR PLACEMENT WITH WALL
 4.DRILL AND COUNTERSINK UNITS WHICH ARE NOT FACTORY PREPARED FOR ANCHORAGE FASTENERS. SPACE FASTENERS AND ANCHORS IN ACCORDANCE WITH INDUSTRY STANDARDS. 5.METAL THRESHOLDS SHALL BE SET IN A SOLID BED OF NON STAINING THIOKOL BASE CAULKING. 6. ADJUST AND CHECK EACH OPERATING ITEM OF HARDWARE AND EACH DOOR, TO ENSURE PROPER OPERATION OR FUNCTION OF EVERY UNIT. REPLACE UNITS WHICH CANNOT BE ADJUSTED TO OPERATE FREELY AND SMOOTHLY AS INTENDED FOR THE APPLICATION MADE. 	08 1416 - FLUSH WOOD DOORS A. <u>SUBMITTALS</u> : PRODUCT DATA, PREFINISHED DOOR SKIN S FRAME SIZES. TYPES, ELEVATIONS, DETAILS, AND HARDW CORRESPONDING TO THOSE USED IN CONSTRUCTION DO
7.FINAL ADJUSTMENT: WHEREVER HARDWARE INSTALLATION IS MADE MORE THAN ONE MONTH PRIOR TO ACCEPTANCE OR OCCUPANCY OF A SPACE OR AREA, RETURN TO THE WORK DURING THE WEEK PRIOR TO ACCEPTANCE OR OCCUPANCY, AND MAKE FINAL CHECK AND ADJUSTMENT OF ALL HARDWARE ITEMS IN SUCH SPACE OR AREA. CLEAN OPERATING ITEMS AS NECESSARY TO RESTORE PROPER FUNCTION AND FINISH OF	B. <u>BASIS OF DESIGN:</u> LINCOLN PARK, MASONITE, LE CHATE/ EQUAL C. <u>DOORS</u> : 1-3/8" THICK PREHING. SIZES, SPECIES, AND DES 1. GRADE: PREMIUM
HARDWARE AND DOORS. ADJUST DOOR CONTROL DEVICES TO COMPENSATE FOR FINAL OPERATION OF HEATING AND VENTILATING EQUIPMENT. C. <u>HARDWARE SCHEDULE</u> SET #1. UNIT ENTRY DOORS	 2. VENEER MATCHING: BOOK AND RUNNING 3. PAIR MATCHING AND SET MATCHING 4. CONSTRUCTION: A.INTERIOR VENEER: FIVE OR SEVEN PLY, STRUCTURAL 5. SIZES AS INDICATED IN DRAWINGS

AS INDICATED IN ELEVATIONS

	A. <u>SUBMITTALS</u> : PRODUCT DATA.
C. <u>HARDWARE SCHEDULE (CONTINUED)</u> <u>SET #6. GARAGE</u> 3 EACH HINGES BB81 4-1/2X 4-1/2 1 EACH STOREROOM LOCK SD115 MEM 4 EACH CLOSER	B. <u>PRODUCTS:</u> PRIME-PAINTED FLUSH, UNINSULATED ACCESS DOORS FOR WALLS AND CEILINGS WITH TRIMLESS FRAME AND SCREWDRIVER OPERATED LOCK FLUSH WITH FINISHED SURFACE. FIRE-RATED, SELF-LATCHING. AUTOMATIC CLOSING AT FIRE-RATED WALLS OR CEILINGS.
1 EACH CLOSER7101-PA1 EACH SMOKE GASKET50501 EACH THRESHOLD425E1 EACH WALL STOPWP26	C. <u>INSTALLATION</u> : INSTALL FLUSH TO FINISHED DRYWALL SURFACE WITH FRAME TAPED AND SANDED FLUSH WITH WALL OR CEILING SURFACE AND FINISH TO MATCH ADJACENT SURFACE.
1 EACH WALL STOP WB26 <u>SET #7. CLOSET BIFOLD DOORS</u> BULK HARDWARE TO BE PROVIDED BY MANUFACTURER	 08 3613 - SECTIONAL DOORS A. <u>SUBMITTALS</u>: PRODUCT DATA, AND COLOR SAMPLES. DOOR SCHEDULE INDICATING DOOR AND FRAME SIZES. TYPE ELEVATIONS, DETAILS, AND HARDWARE WITH DOOR AND HARDWARE NUMBERING CORRESPONDING TO THOSE US IN CONSTRUCTION DOCUMENTS.
1 EACH DUMMY TRIM <u>SET #8. CLOSET BYPASS SLIDING DOORS</u> BULK HARDWARE TO BE PROVIDED BY MANUFACTURER 1 EACH DUMMY TRIM	 B. <u>BASIS OF DESIGN</u>: 1. C.H.I OVERHEAD DOORS. 5602 SHORELINE, CARRIAGE HOUSE DESIGNS. SQUARE TOP, NUMBER #32, COLOR WHITE. 2. WIND LOAD RATING: 115 MPH PER OCAL CODE REQUIREMENTS. 3. WINDOW DESIGN, STOCKTON, GLASS- FAUX.
 08 1113 - HOLLOW METAL DOORS AND FRAMES A. <u>SUBMITTALS</u>: PRODUCT DATA AND SHOP DRAWINGS WITH DETAILS OF EACH OF GLAZING, FRAME PROFILES, AND ANY INDICATED FINISH REQUIREMENTS. B. <u>HOLLOW METAL DOOR AND FRAME MANUFACTURERS:</u> 	OPENER OR APPROVED EQUAL. OPERATOR SHALL HAVE A WALL MOUNTED MULTI- FUNCTION CONTROL PANEL AND TWO HAND+ HELD ROLLING CODE TRANSMITTERS. SUPPLY AND INSTALL DOOR JAMB KEYPAD. GARAGE DOOR JAMBS SHALL HAVE PHOTOCELLS AT EACH SIDE OF EACH GARAGE DOOR. PROVIDE TIMERS FOR DOORS T
 CECO DOOR, AN ASSA ABLOY GROUP COMPANY: WWW.ASSAABLOYDSS.COM DE LA FONTAINE INC: WWW.DELAFONTAINE.COM REPUBLIC DOORS, AN ALLEGION BRAND: WWW.REPUBLICDOOR.COM STEELCRAFT, AN ALLEGION BRAND: WWW.ALLEGION.COM 	D. <u>INSTALLATION:</u> 1. INSTALL DOOR ASSEMBLY IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. 2. ANCHOR TO ADJACENT CONSTRUCTION WITHOUT DISTORTION OR STRESS. 3. SECURELY BRACE DOOR TRACKS SUSPENDED FROM STRUCTURE. SECURE TRACKS TO STRUCTURAL MEMBERS
 C. <u>SOUND-RATED HOLLOW METAL DOORS AND FRAMES:</u> 1. OVERLY DOOR COMPANY: WWW.OVERLY.COM D. <u>DESIGN CRITERIA:</u> 1. STEEL USED FOR FABRICATION OF DOORS AND FRAMES SHALL COMPLY WITH REQUIREMENTS; GALVANNEALED STEEL CONFORMING TO ASTM A653/A653M, CONFORMING TO ASTM A1008/A1008M, OR HOT-ROLLED PICKLED AND OILED (HASTM A1011/A1011M, COMMERCIAL STEEL (CS) TYPE B FOR EACH. 	ONLY. 4. FIT AND ALIGN DOOR ASSEMBLY INCLUDING HARDWARE, LEVEL AND PLUMB, TO PROVIDE SMOOTH OPERATION. 5. POSITION HEAD AND JAMB WEATHERSTRIPPING TO CONTACT DOOR SECTIONS WHEN CLOSED; SECURE IN POSITION. 6. MAKE WIRING CONNECTIONS BETWEEN POWER SUPPLY AND OPERATOR AND BETWEEN OPERATOR AND
 TYPICAL DOOR FACE SHEETS: FLUSH. GLAZED LIGHTS: NON-REMOVABLE STOPS ON NON-SECURE SIDE; SIZES AND DRAWINGS. STYLE: MANUFACTURERS STANDARD. HARDWARE PREPARATIONS, SELECTIONS AND LOCATIONS: COMPLY WITH NA 831 OR BHMA A156.115 AND ANSI/SDI A250.8 (SDI-100) IN ACCORDANCE WITH 	INSTALLATION SHALL INCLUDE GARAGE DOOR SILENCER ISOLATION PADS. CONFIGURATIONS AS INDICATED ON AMM HMMA 830 AND NAAMM HMMA 08 4313 - ALUMINUM FRAMED STOREFRONTS
 5. ZINC COATING FOR TYPICAL INTERIOR AND/OR EXTERIOR LOCATIONS: PROVII COATED (GALVANIZED) AND/OR ZINC-IRON ALLOY-COATED (GALVANNEALED) B ACCORDANCE WITH ASTM A653/A653M, WITH MANUFACTURER'S STANDARD CO OTHERWISE FOR SPECIFIC HOLLOW METAL DOORS AND FRAMES. 6. HOLLOW METAL PANELS: SAME CONSTRUCTION, PERFORMANCE, AND FINISH 7. COMBINED REQUIREMENTS: IF A PARTICULAR DOOR AND FRAME UNIT IS INDIG THAN ONE TYPE OF REQUIREMENT, COMPLY WITH THE SPECIFIED REQUIREM INSTANCE, AN EXTERIOR DOOR THAT IS ALSO INDICATED AS BEING SOUND-RA 	DE METAL COMPONENTS ZINC- Y THE HOT-DIP PROCESS IN DATING THICKNESS, UNLESS NOTED AS DOORS. CATED TO COMPLY WITH MORE IENTS FOR EACH TYPE; FOR
 E. <u>HOLLOW METAL DOOR:</u> E. <u>HOLLOW METAL DOOR:</u> 1. EXTERIOR DOORS: THERMALLY INSULATED. A. ASED ON SDI STANDARDS: ANSI/SDI A250.8 (SDI-100). B. LEVEL 1 - STANDARD-DUTY. 	
 C. PHYSICAL PERFORMANCE LEVEL C, 250,000 CYCLES; IN ACCORDANCE WITH D. MODEL 1 - FULL FLUSH. E. DOOR FACE METAL THICKNESS: 20 GAGE, 0.032 INCH, MINIMUM. F. DOOR CORE MATERIAL: MANUFACTURERS STANDARD CORE MATERIAL/CON WITH REQUIREMENTS. 	1. OTHER MANUFACTURERS: PROVIDE EITHER THE PRODUCT IDENTIFIED AS "BASIS OF DESIGN" OR AN EQUIVALEN PRODUCT.
 G. DOOR THICKNESS: 1-3/4 INCH, NOMINAL. H. TOP CLOSURES FOR OUTSWINGING DOORS: FLUSH WITH TOP OF FACES AN I. WEATHERSTRIPPING: REFER TO SECTION 08 7100. J. DOOR FINISH: FACTORY PRIMED AND FIELD FINISHED. 2. INTERIOR DOORS, NON-FIRE RATED: 	D. <u>MATERIALS:</u> 1. ALUMINUM-FRAMED STOREFRONT: FACTORY FABRICATED, FACTORY FINISHED ALUMINUM FRAMING MEMBERS WITH INFILL, AND RELATED FLASHINGS, ANCHORAGE AND ATTACHMENT DEVICES. 2. ALUMINUM FRAMING MEMBERS: TUBULAR ALUMINUM SECTIONS[<>], DRAINAGE HOLES AND INTERNAL WEEP DRAINAGE SYSTEM. 3. EXTRUDED ALUMINUM: ASTM B221 (ASTM B221M). 4. STRUCTURAL STEEL SECTIONS: ASTM A36/A36M; SHOP PRIMED.
 A. BASED ON SDI STANDARDS: ANSI/SDI A250.8 (SDI-100). B. LEVEL 1 - STANDARD-DUTY. C. PHYSICAL PERFORMANCE LEVEL C, 250,000 CYCLES; IN ACCORDANCE WITH D. MODEL 1 - FULL FLUSH. E. DOOR FACE METAL THICKNESS: 20 GAGE, 0.032 INCH, MINIMUM. F. DOOR THICKNESS: 1-3/4 INCH, NOMINAL. G. DOOR FINISH: FACTORY PRIMED AND FIELD FINISHED. 	5. FASTENERS: STAINLESS STEEL. 6. CONCEALED FLASHINGS: STAINLESS STEEL, 26 GAGE, 0.0187 INCH MINIMUM THICKNESS. ANSI/SDI A250.4. 7. SEALANT FOR SETTING THRESHOLDS: NON-CURING BUTYL TYPE. 8. GLAZING GASKETS: TYPE TO SUIT APPLICATION TO ACHIEVE WEATHER, MOISTURE, AND AIR INFILTRATION REQUIREMENTS. E. FINISHES:
 3. FIRE-RATED DOORS: A. BASED ON SDI STANDARDS: ANSI/SDI A250.8 (SDI-100). B. LEVEL 1 - STANDARD-DUTY. C. PHYSICAL PERFORMANCE LEVEL C, 250,000 CYCLES; IN ACCORDANCE WITH 	 T. CLASS I COLOR ANODIZED FINISH: AAMA 611 AA-M12C22A44 ELECTROLYTICALLY DEPOSITED COLORED ANODIC COATING NOT LESS THAN 0.7 MILS THICK. COLOR AS SELECTED BY OWNER & ARCHITECT. F. <u>HARDWARE:</u>
 D. MODEL 1 - FULL FLUSH. E. DOOR FACE METAL THICKNESS: 20 GAGE, 0.032 INCH, MINIMUM. F. FIRE RATING: AS INDICATED ON DOOR SCHEDULE, TESTED IN ACCORDANCE ("POSITIVE PRESSURE FIRE TESTS"). G. TEMPERATURE-RISE RATING (TRR) ACROSS DOOR THICKNESS: IN ACCORD AND AUTHORITIES HAVING JURISDICTION. 	2. OTHER DOOR HARDWARE: STOREFRONT MANUFACTURER'S STANDARD TYPE TO SUIT APPLICATION. A. FINISH ON HAND-CONTACTED ITEMS: POLISHED CHROME. B. FOR EACH DOOR, INCLUDE BUTT HINGES, PIVOTS, PUSH HANDLE, PULL HANDLE, EXIT DEVICE, NARROW STILE HANDLE LATCH, AND CLOSER. COORDINATE ADA PUSH BUTTON LOCATION.
 H. PROVIDE UNITS LISTED AND LABELED BY UL (DIR) OR ITS (DIR). ATTACH FIRE RATED UNIT. I. SMOKE AND DRAFT CONTROL DOORS (INDICATED WITH LETTER "S" ON DRAV SELF-CLOSING OR AUTOMATIC CLOSING DOORS IN ACCORDANCE WITH NFP. RESISTANCE-RATED WALL CONSTRUCTION RATED THE SAME OR GREATER THE FOLLOWING; 1.MAXIMUM AIR LEAKAGE: 3.0 CFM/SQ FT OF DOOR OPENING AT 0.10 IN 	1. VERIFY DIMENSIONS, TOLERANCES, AND METHOD OF ATTACHMENT WITH OTHER WORK.VINGS AND/OR DOOR SCHEDULE): A 80 AND NFPA 105, WITH FIRE- THAN THE FIRE-RATED DOORS, AND1. VERIFY DIMENSIONS, TOLERANCES, AND METHOD OF ATTACHMENT WITH OTHER WORK.2. VERIFY THAT WALL OPENINGS AND ADJOINING AIR AND VAPOR SEAL MATERIALS ARE READY TO RECEIVE WORK OF THIS SECTION.2. VERIFY THAT WALL OPENINGS AND ADJOINING AIR AND VAPOR SEAL MATERIALS ARE READY TO RECEIVE WORK OF THIS SECTION.3. INSTALL WALL SYSTEM IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. 4. ATTACH TO STRUCTURE TO PERMIT SUFFICIENT ADJUSTMENT TO ACCOMMODATE CONSTRUCTION TOLERANCES AND OTHER IRREGULARITIES.
IN ACCORDANCE WITH UL 1784 AT BOTH AMBIENT AND ELEVATED T 2. GASKETING: PROVIDE GASKETING OR EDGE SEALING AS NECESSAR 3. LABEL: INCLUDE THE "S" LABEL ON FIRE-RATING LABEL OF DOOR. J. DOOR CORE MATERIAL: MANUFACTURERS STANDARD CORE MATERIAL/CON REQUIREMENTS. K. DOOR THICKNESS: 1-3/4 INCH, NOMINAL. L. DOOR FINISH: FACTORY PRIMED AND FIELD FINISHED.	Y TO ACHIEVE LEAKAGE LIMIT. TOLERANCES, ALIGNING WITH ADJACENT WORK. 6. PROVIDE THERMAL ISOLATION WHERE COMPONENTS PENETRATE OR DISRUPT BUILDING INSULATION.
 F. <u>HOLLOW METAL FRAMES:</u> 1.COMPLY WITH STANDARDS AND/OR CUSTOM GUIDELINES AS INDICATED FOR CACCORDANCE WITH APPLICABLE DOOR FRAME REQUIREMENTS. 2. INTERIOR DOOR FRAMES, NON-FIRE RATED: FACE WELDED TYPE. FRAME FIN A. FULL LENGTH STOPS B. FRAME METAL THICKNESS: 18 GAGE, 0.042 INCH, MINIMUM. 	OPERATION. ISH: FACTORY FINISHED. ISH: FACTORY FINISHED. I2. WASH DOWN SURFACES WITH A SOLUTION OF MILD DETERGENT IN WARM WATER, APPLIED WITH SOFT, CLEAN WIPING CLOTHS, AND TAKE CARE TO REMOVE DIRT FROM CORNERS AND TO WIPE SURFACES CLEAN. I3. PROTECT INSTALLED PRODUCTS FROM DAMAGE UNTIL DATE OF SUBSTANTIAL COMPLETION.
 DOOR FRAMES, FIRE-RATED: FACE WELDED TYPE. FIRE RATING: SAME AS DO A. FULL LENGTH STOPS FRAME METAL THICKNESS: 18 GAGE, 0.042 INCH, MINIMUM. SOUND-RATED DOOR FRAMES: FULL PROFILE/CONTINUOUSLY WELDED TYPE A. FRAME METAL THICKNESS: 18 GAGE, 0.042 INCH, MINIMUM. FRAMES FOR WOOD DOORS: COMPLY WITH FRAME REQUIREMENTS IN ACCO DOOR. 	RDANCE WITH CORRESPONDING A. <u>SUBMITTALS:</u> THE CONTRACTOR SHALL PREPARE, AND SUBMIT TO THE ARCHITECT FOR APPROVAL, COMPLETE SHOP DRAWINGS FOR ALL WORK INCLUDED IN THIS SECTION, AND SHALL NOT PROCEED WITH FABRICATION AND DELIVERY PRIOR TO RECEIVING SLICH APPROVAL
 BORROWED LITES GLAZING FRAMES: CONSTRUCTION AND FACE DIMENSIONS INDICATED ON DRAWINGS. FRAMES IN MASONRY WALLS: SIZE TO SUIT MASONRY COURSING WITH HEAD OPENING WITHOUT CUTTING MASONRY UNITS. FRAMES WIDER THAN 48 INCHES: REINFORCE WITH STEEL CHANNEL FITTED 1 WITH TOP. 	MEMBER 4 INCH HIGH TO FILL B. BASIS OF DESIGN: VINYL CASEMENT WINDOWS- BASIS OF DESIGN: MI 3500 VINYL SINGLE- HUNG WINDOWS. C. INSTALLATION: ALL WINDOWS SHALL BE SET TRUE. PLUMB LEVEL AND IN STRICT ACCORDANCE WITH THE
 G. <u>FINISHES:</u> 1.PRIMER: RUST-INHIBITING, COMPLYING WITH ANSI/SDI A250.10, DOOR MANUFACH H. <u>ACCESSORIES:</u> 1. GLAZING: AS INDICATED IN DRAWINGS OR AS SPECIFIED. 	CTURER'S STANDARD. 08 8000 - GLAZING A. <u>SUBMITTALS</u> : PRODUCT DATA ON INSULATING GLASS UNIT, GLAZING UNIT, AND [SPANDREL] GLAZING TYPES: PROVIDE STRUCTURAL, PHYSICAL AND ENVIRONMENTAL CHARACTERISTICS, SIZE LIMITATIONS, SPECIAL HANDLING AND INSTALLATION REQUIREMENTS.
 2. REMOVABLE STOPS: FORMED SHEET STEEL, SHAPE AS INDICATED ON DRAWN CORNERS; PREPARED FOR COUNTERSINK STYLE TAMPER PROOF SCREWS. 3. SILENCERS: RESILIENT RUBBER, FITTED INTO DRILLED HOLE; PROVIDE THREE THREE ON CENTER MULLION OF PAIRS, AND TWO ON HEAD OF PAIRS WITHO 4. TEMPORARY FRAME SPREADERS: PROVIDE FOR FACTORY- OR SHOP-ASSEMINATION 	ENVIRONMENTAL CHARACTERISTICS, LIMITATIONS, SPECIAL APPLICATION REQUIREMENTS, AND IDENTIFY AVAILABLE COLORS. UT CENTER MULLIONS. 2. SAMPLES: SUBMIT TWO SAMPLES [12] BY [12] INCH IN SIZE OF GLASS UNITS.
 E. <u>INSTALLATION:</u> 1.INSTALL DOORS AND FRAMES IN ACCORDANCE WITH MANUFACTURER'S INSTR REQUIREMENTS OF SPECIFIED DOOR AND FRAME STANDARDS OR CUSTOM 2. INSTALL PREFINISHED FRAMES AFTER PAINTING AND WALL FINISHES ARE CON 3. INSTALL FIRE RATED UNITS IN ACCORDANCE WITH NFPA 80. 4. COORDINATE FRAME ANCHOR PLACEMENT WITH WALL CONSTRUCTION. 	AVECTIONS AND RELATED COMPLETED IN OWNER'S NAME AND REGISTERED WITH MANUFACTURER. 1. INSULATING GLASS UNITS: PROVIDE A FIVE (5) YEAR MANUFACTURER WARRANTY TO INCLUDE COVERAGE FOR SEAL FAILURE, INTERPANE DUSTING OR MISTING, INCLUDING PROVIDING PRODUCTS TO REPLACE FAILED UNITS
 08 1416 - FLUSH WOOD DOORS A. <u>SUBMITTALS</u>: PRODUCT DATA, PREFINISHED DOOR SKIN SAMPLES, AND DOOR SFRAME SIZES. TYPES, ELEVATIONS, DETAILS, AND HARDWARE WITH DOOR AND CORRESPONDING TO THOSE USED IN CONSTRUCTION DOCUMENTS. B. <u>BASIS OF DESIGN</u>: LINCOLN PARK, MASONITE, LE CHATEAU COLLECTION. HOLL 	HARDWARE NUMBERING 2. GLAZING PUBLICATIONS: WHERE APPLICABLE, COMPLY WITH WITH THE PUBLISHED RECOMMENDATIONS OF THE FOLLOWING: A. GANA PUBLICATIONS: "GLAZING MANUAL" AND "LAMINATED GLASS DESIGN GUIDE".
EQUAL C. <u>DOORS</u> : 1-3/8" THICK PREHING. SIZES, SPECIES, AND DESIGNS AS INDICATED CO 1. GRADE: PREMIUM 2. VENEER MATCHING: BOOK AND RUNNING 3. PAIR MATCHING AND SET MATCHING 4. CONSTRUCTION: A.INTERIOR VENEER: FIVE OR SEVEN PLY, STRUCTURAL COMPOSITE LUMBER	 HEAT-TREATED FLOAT GLASS: ASTM C 1048, TYPE I, QUALITY q3, HEAT STRENGTHENED OR FULLY TEMPERED WHERE INDICATED AND WHERE REQUIRED BY CODE OR INSTALLATION CONDITIONS. MIRROR GLASS: ASTM C 1036, TYPE I, CLASS 1, QUALITY q1, SILVER COATED PER FS DDM411C,
 5. SIZES AS INDICATED IN DRAWINGS D. <u>FABRICATION AND FINISHING</u>: FACTORY FIT DOORS TO SUIT FRAME OPENINGS TO COMPLY WITH REFERENCE FOR FIRE-RESISTANCE RATED DOORS. FACTORY MACHINE DOORS FOR HARDWARE THAT IS NOT SURFACE APPLIED. 	FILLED WITH AIR. EXTERIOR GLASS COLOR TO MATCH EXISTING. INTERIOR GLASS SHALL BE
 FACTORY MACHINE DOORS FOR HARDWARE THAT IS NOT SURFACE APPLIED. CUT AND TRIM OPENINGS TO COMPLY WITH REFERENCED STANDARDS. LITE KITS: MATCHING WOOD STOPS FACTORY FINISH DOORS FOR TRANSPARENT FINISH WITH STAIN AND MANUFA COMPARABLE TO AWI, SYSTEM TR-4, CONVERSION VARNISH OR AWI SYSTEM ⁻ 	R-6, CATALYZED POLYURETHANE. GASKETS, AND OTHER GLAZING MATERIALS, UNLESS MORE STRINGENT REQUIREMENTS ARE
E. <u>INSTALLATION:</u> 1. COMPLY WITH WDMA'S "HOW TO STORE, HANDLE, FINISH, INSTALL, AND MAINT FITTED IN FRAMES WITH UNIFORM CLEARANCES. 2. SET IN TWO PIECE W.P. SPLIT JAMB FRAMES WITH 1X4 WOOD CASING.	CONTAINED IN GANA'S "GLAZING MANUAL". 2. SET GLASS LITES IN EACH SERIES WITH UNIFORM PATTERN, DRAW, BOW, AND SIMILAR CHARACTERISTICS. 3. AFTER GLASS INSTALLATION IS COMPLETE, REMOVE GLAZING MATERIALS AND LABELS FROM FINISHED SURFACES, AND THOROUGHLY CLEAN GLASS AND ADJACENT FRAMING AND SURFACES. REPEAT AS NECESSARY PRIOR TO FINAL WALK-THROUGH.

SULATED ACCESS DOORS FOR WALLS AND CEILINGS WITH

RATED LOCK FLUSH WITH FINISHED SURFACE. FIRE-RATED, IRE-RATED WALLS OR CEILINGS.

DRYWALL SURFACE WITH FRAME TAPED AND SANDED ND FINISH TO MATCH ADJACENT SURFACE.

DIVISION 8 - OPENINGS (CONTINUED)

SAMPLES. DOOR SCHEDULE INDICATING DOOR AND FRAME SIZES. TYPES, TH DOOR AND HARDWARE NUMBERING CORRESPONDING TO THOSE USED

ARDWARE AND LIFTMASTER 3265, 1/2 HP CHAIN DRIVE GARAGE DOOR OR SHALL HAVE A WALL MOUNTED MULTI FUNCTION CONTROL PANEL ANSMITTERS. SUPPLY AND INSTALL DOOR JAMB KEYPAD. GARAGE AT EACH SIDE OF EACH GARAGE DOOR. PROVIDE TIMERS FOR DOORS TO R AN EXTENDED PERIOD OF TIME.

CE WITH MANUFACTURER'S INSTRUCTIONS. WITHOUT DISTORTION OR STRESS.

OMPONENT DIMENSIONS, DESCRIBE COMPONENTS WITHIN ASSEMBLY, INFILL, DOOR HARDWARE, INTERNAL DRAINAGE DETAILS. IZATION OF EACH ITEM OF HARDWARE TO BE PROVIDED FOR EACH NTIFICATION NUMBERS IN CONTRACT DOCUMENTS. IENSIONS, FRAMED OPENING REQUIREMENTS AND TOLERANCES,

OF UNITS WITH EXCESSIVE FADING, CHALKING, OR FLAKING. EDIUM STILE . ANODIZED. VERIFY FINISH WITH OWNER. IER THE PRODUCT IDENTIFIED AS "BASIS OF DESIGN" OR AN EQUIVALENT

36/A36M; SHOP PRIMED.

611 AA-M12C22A44 ELECTROLYTICALLY DEPOSITED COLORED ANODIC . COLOR AS SELECTED BY OWNER & ARCHITECT.

METHOD OF ATTACHMENT WITH OTHER WORK. INING AIR AND VAPOR SEAL MATERIALS ARE READY TO RECEIVE WORK

OMPONENTS PENETRATE OR DISRUPT BUILDING INSULATION. AND EDGES; SEAL TO ADJACENT WORK TO FORM WATER TIGHT DAM. ASHINGS, MAKE WATERTIGHT BY SEATING AND SEALING FASTENER CES AT PERIMETER OF ASSEMBLY TO MAINTAIN CONTINUITY OF THERMAL

EPARE, AND SUBMIT TO THE ARCHITECT FOR APPROVAL, COMPLETE D IN THIS SECTION, AND SHALL NOT PROCEED WITH FABRICATION AND

NG GLASS UNIT, GLAZING UNIT, AND [SPANDREL] GLAZING TYPES: ONMENTAL CHARACTERISTICS, SIZE LIMITATIONS, SPECIAL HANDLING

SUBMIT MANUFACTURER WARRANTY AND ENSURE THAT FORMS AND REGISTERED WITH MANUFACTURER. VE (5) YEAR MANUFACTURER WARRANTY TO INCLUDE COVERAGE FOR

COMPLYING WITH TESTING REQUIREMENTS IN 16 CFR

48. TYPE I, QUALITY q3, HEAT STRENGTHENED OR WHERE REQUIRED BY CODE OR INSTALLATION ASS 1, QUALITY q1, SILVER COATED PER FS DDM411C,

TIONS OF MANUFACTURERS OF GLASS. SEALANTS. LS, UNLESS MORE STRINGENT REQUIREMENTS ARE

DIVISION 8 - OPENINGS (CONTINUED)

08 8100 - MIRRORS A. SUBMITTALS: FOR EACH TYPE OF PRODUCT INDICATED. THE CONTRACTOR SHALL PREPARE. AND SUBMIT TO THE ARCHITECT FOR APPROVAL, COMPLETE SHOP DRAWINGS: INCLUDE MIRROR ELEVATIONS, EDGE DETAILS, MIRROR

- HARDWARE, AND ATTACHMENTS TO OTHER WORK. WARRANTY: SAMPLE OF SPECIAL WARRANTY. B. QUALITY ASSURANCE: VINYL CASEMENT WINDOWS- BASIS OF DESIGN: MI 3500 VINYL SINGLE- HUNG WINDOWS. . GLAZING PUBLICATIONS: COMPLY WITH GANA'S "GLAZING MANUAL" AND "MIRRORS, HANDLE WITH EXTREME
- CARE: TIPS FOR THE PROFESSIONAL ON THE CARE AND HANDLING OF MIRRORS." 2.SAFETY GLAZING PRODUCTS: FOR MIRRORS, PROVIDE PRODUCTS COMPLYING WITH TESTING REQUIREMENTS IN 16 CFR 1201 FOR CATEGORY II MATERIALS. 3. PRECONSTRUCTION MIRROR MASTIC COMPATIBILITY TEST: SUBMIT MIRROR MASTIC PRODUCTS TO MIRROR
- MANUFACTURER FOR TESTING TO DETERMINE COMPATIBILITY OF MASTIC WITH MIRROR BACKING AND SUBSTRATES ON WHICH MIRRORS ARE INSTALLED. C. WARRANTY: SPECIAL WARRANTY: MANUFACTURER'S STANDARD FORM IN WHICH MIRROR MANUFACTURER

AGREES TO REPLACE MIRRORS THAT DETERIORATE WITHIN SPECIFIED WARRANTY PERIOD. DETERIORATION OF MIRRORS IS DEFINED AS DEFECTS DEVELOPED FROM NORMAL USE THAT ARE NOT ATTRIBUTED TO MIRROR BREAKAGE OR TO MAINTAINING AND CLEANING MIRRORS CONTRARY TO MANUFACTURER'S WRITTEN INSTRUCTIONS. DEFECTS INCLUDE DISCOLORATION, BLACK SPOTS, AND CLOUDING OF THE SILVER FILM. 1. WARRANTY PERIOD: FIVE YEARS FROM DATE OF SUBSTANTIAL COMPLETION.

D. <u>BASIS OF DESIGN</u>: SILVERED FLAT GLASS MIRRORS 1. GLASS MIRRORS, GENERAL: ASTM C 1503; MANUFACTURED USING COPPER FREE, LOW LEAD MIRROR COATING PROCESS.

- 2. CLEAR GLASS: MIRROR GLAZING QUALITY; ULTRACLEAR (LOW IRON) FLOAT GLASS WITH A MINIMUM 91 PERCENT VISIBLE LIGHT TRANSMISSION, NOMINAL THICKNESS: 1/4 INCH. 3. TEMPERED CLEAR GLASS: MIRROR GLAZING QUALITY, FOR BLEMISH REQUIREMENTS; AND COMPLY WITH ASTM C 1048 FOR KIND FT, CONDITION A, TEMPERED FLOAT GLASS BEFORE SILVER COATING IS APPLIED. NOMINAL THICKNESS: 1/4 INCH.
- E. MIRROR HARDWARE: TOP AND BOTTOM ALUMINUM J CHANNELS: ALUMINUM EXTRUSIONS WITH A RETURN DEEP ENOUGH TO PRODUCE A GLAZING CHANNEL TO ACCOMMODATE MIRRORS OF THICKNESS INDICATED AND IN LENGTHS REQUIRED TO COVER BOTTOM AND TOP EDGES OF EACH MIRROR IN A SINGLE PIECE. FINISH: CLEAR BRIGHT ANODIZED.
- 1. TOP AND BOTTOM MIRROR MOUNTING CLIPS: #277 MIRROR CLIPS AS MANUFACTURED BY KNAPE & VOGT OR APPROVED EQUAL.
- 2. FASTENERS: FABRICATED OF SAME BASIC METAL AND ALLOY AS FASTENED METAL AND MATCHING IT IN FINISHED COLOR AND TEXTURE WHERE FASTENERS ARE EXPOSED.
- F. INSTALLATION: GENERAL: EXAMINE SUBSTRATES, OVER WHICH MIRRORS ARE TO BE MOUNTED, WITH INSTALLER PRESENT, FOR COMPLIANCE WITH INSTALLATION TOLERANCES. SUBSTRATE PREPARATION, AND OTHER
- CONDITIONS AFFECTING PERFORMANCE OF THE WORK. A. VERIFY COMPATIBILITY WITH AND SUITABILITY OF SUBSTRATES, INCLUDING COMPATIBILITY OF
- MIRROR MASTIC WITH EXISTING FINISHES OR PRIMERS. B. PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED AND SURFACES ARE DRY.
- 1.INSTALL MIRRORS TO COMPLY WITH MIRROR MANUFACTURER'S WRITTEN INSTRUCTIONS AND WITH REFERENCED GANA PUBLICATIONS. MOUNT MIRRORS ACCURATELY IN PLACE IN A MANNER THAT AVOIDS DISTORTING REFLECTED IMAGES.
- 2. INSTALL WALL MOUNTED ANNEALED GLASS MIRRORS IN THE APARTMENT UNITS WITH MIRROR CLIPS. ATTACH MIRROR HARDWARE SECURELY TO MOUNTING SURFACES WITH MECHANICAL FASTENERS INSTALLED WITH
- 3. ANCHORS OR INSERTS AS APPLICABLE. INSTALL FASTENERS SO HEADS DO NOT IMPOSE POINT LOADS ON BACKS OF MIRRORS.
- 4. PROTECT MIRRORS FROM BREAKAGE AND CONTAMINATING SUBSTANCES RESULTING FROM CONSTRUCTION OPERATIONS.
- 5. MAINTAIN ENVIRONMENTAL CONDITIONS THAT WILL PREVENT MIRRORS FROM BEING EXPOSED TO MOISTURE FROM CONDENSATION OR OTHER SOURCES FOR CONTINUOUS PERIODS OF TIME.
- 6. WASH EXPOSED SURFACE OF MIRRORS NOT MORE THAN FOUR DAYS BEFORE DATE SCHEDULED FOR INSPECTIONS THAT ESTABLISH DATE OF SUBSTANTIAL COMPLETION. WASH MIRRORS AS RECOMMENDED IN WRITING BY MIRROR MANUFACTURER.

DIVISION 9 - FINISHES

- 09 2116 GYPSUM BOARD ASSEMBLIES A. STEEL FRAMING MEMBERS: COMPLY WITH ASTM C754 IN DEPTHS AND GAGES AS INDICATED IN THE CONSTRUCTION DRAWINGS AND AS FOLLOWS: 1. STEEL SHEET COMPONENTS: COMPLY WITH ASTM C645 WITH MANUFACTURER'S STANDARD CORROSION-RESISTANT ZINC COATING.
- 2. TIE WIRE: ASTM A 641/A 641M, CLASS 1 ZINC COATING, SOFT TEMPER. .0625" DIAMETER OR DOUBLE STRAND OF .0475" DIAMETER WIRE. 3. WIRE HANGERS: ASTM A 641/A 641M, CLASS 1 ZINC COATING, SOFT TEMPER. .0162" DIAMETER.
- B. PANEL PRODUCTS: PROVIDE IN THICKNESS AND TYPE INDICATED IN THE CONSTRUCTION DRAWINGS IN MAXIMUM LENGTHS AVAILABLE TO MINIMIZE END-TO-END BUTT JOINTS AND AS FOLLOWS:
- 1. GYPSUM WALLBOARD: ASTM C 36, TYPE 'X' WITH TAPERED EDGES, SAG-RESISTANT TYPE FOR CEILING SURFACES 2. WATER-RESISTANT GYPSUM BACKING BOARD: ASTM C 630, TYPE 'X' ON ALL TOILET ROOM AND SHOWER ROOM WALLS, BEHIND ALL PLUMBING FIXTURES, AND AS INDICATED.
- I. TRIM: ASTM 1047, FORMED FROM GALVANIZED OR ALUMINUM COATED STEEL SHEET, ROLLED ZINC, OR PLASTIC a. OUTSIDE CORNERS: PROVIDE CORNER BEAD UNLESS NOTED OTHERWISE
- b. EXPOSED PANEL EDGES: PROVIDE LC-BEAD (J-BEAD) UNLESS NOTED OTHERWISE; USE TEAR-AWAY BEAD WHERE GYP. BD. MEETS WINDOW FRAMES OR CEILING GRID. C. CONTROL JOINTS: PROVIDE WHERE INDICATED OR APPROXIMATELY 30'-O" MAX. CONTACT ARCHITECT FOR LOCATIONS IF NOT INDICATED. 2. SOUND-ATTENUATION BLANKETS: ASTM C 665, TYPE I (UNFACED)
- 3. ACOUSTICAL SEALANT: COMPLY WITH ASTM C 834, NONSAG, PAINTABLE, NONSTAINING LATEX.
- 1. FRAMING: COMPLY WITH ASTM C 754 AND ASTM C 840 AND WITH U.S. GYPSUM'S "GYPSUM CONSTRUCTION HANDBOOK" ISOLATE FRAMING FROM BUILDING STRUCTURE TO PREVENT TRANSFER OF LOADING IMPOSED BY STRUCTURAL MOVEMENT AND PROVIDE BRACING AS
- NECESSARY FOR PROPER SUPPORT WHETHER INDICATED OR NOT. 2. GYPSUM PANELS AND FINISH: COMPLY WITH ASTM C 840 AND GA-216. ISOLATE GYPSUM BOARD ASSEMBLIES FROM ABUTTING STRUCTURAL AND MASONRY WORK AND FINISH AS FOLLOWS:
- A. LEVEL 1 (EMBED TAPE AT JOINTS): AT CONCEALED AREAS UNLESS A HIGHER LEVEL IS INDICATED OR REQUIRED FOR FIRE-RESISTANCE-RATED ASSEMBLY.
- B. LEVEL 2 (EMBED TAPE AND APPLY SEPARATE FIRST COAT OF JOINT COMPOUND TO TAPE. FASTENERS, AND TRIM FLANGES AND SAND SMOOTH AFTER EACH COAT): AT SUBSTRATES BEHIND TILE.
- C. LEVEL 4 (EMBED TAPE AND APPLY SEPARATE FIRST, FILL, AND FINISH COATS OF JOINT COMPOUND TO TAPE, FASTENERS, AND TRIM FLANGES AND SAND SMOOTH AFTER EACH COAT): AT ALL WALLS RECEIVING FLAT, EGGSHELL, OR SATIN SHEEN PAINT OR
- WALLCOVERING D. LEVEL 5 (EMBED TAPE, APPLY SEPARATE FIRST, FILL, AND FINISH COATS OF JOINT COMPOUND TO TAPE, FASTENERS, AND TRIM FLANGES, AND APPLY THIN SKIM COAT OF JOINT COMPOUND OVER ENTIRE SURFACE AND SAND SMOOTH AFTER EACH COAT): AT ALL WALLS RECEIVING SEMI-GLOSS OR GLOSS SHEEN PAINT, AND ALL GYPSUM BOARD

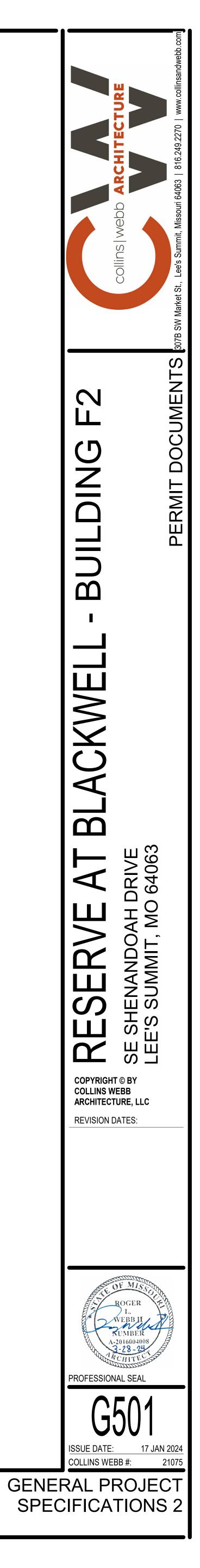
09 2216 - NON-STRUCTURAL METAL FRAMING

CEILINGS)

- A. SUBMITTALS: SHOP DRAWINGS: INDICATE PREFABRICATED WORK, COMPONENT DETAILS, STUD LAYOUT, FRAMED OPENINGS, ANCHORAGE TO STRUCTURE, ACOUSTIC DETAILS, TYPE AND LOCATION OF FASTENERS, ACCESSORIES, AND ITEMS OF OTHER RELATED WORK. DESCRIBE METHOD FOR SECURING STUDS TO TRACKS, SPLICING, AND FOR BLOCKING AND REINFORCEMENT OF FRAMING CONNECTIONS.
- 1. PRODUCT DATA: PROVIDE MANUFACTURER'S DATA ON PARTITION HEAD TO STRUCTURE CONNECTORS, SHOWING COMPLIANCE WITH REQUIREMENTS. 2. MANUFACTURER'S INSTALLATION INSTRUCTIONS: INDICATE SPECIAL PROCEDURES AND PERIMETER CONDITIONS
- REQUIRING SPECIAL ATTENTION.
- 1. CLARKDIETRICH BUILDING SYSTEMS: WWW.CLARKDIETRICH.COM. 2. CEMCO: WWW.CEMCOSTEEL.COM.
- 3. JAIMES INDUSTRIES: WWW.JAIMESIND.COM 4. STEEL CONSTRUCTION SYSTEMS: WWW.STEELCONSYSTEMS.COM

FRAMING MATERIALS

- 1. FIRE RATED ASSEMBLIES: COMPLY WITH APPLICABLE CODE AND AS FOLLOWS: A. TOP OF FIRE RATED PARTITIONS: LISTED ASSEMBLY BY UL. NO. [ON DRAWINGS]; [1 AND 2] HOUR RATING. B. FIRE RATED SHAFT WALL REQUIREMENTS: LISTED ASSEMBLY BY UL, NO. [ON DRAWINGS]; [1] HOUR RATING.
- 2. NON-LOADBEARING FRAMING SYSTEM COMPONENTS: ASTM C645; GALVANIZED SHEET STEEL, OF SIZE AND PROPERTIES NECESSARY TO COMPLY WITH ASTM C754 FOR THE SPACING INDICATED, WITH MAXIMUM
- DEFLECTION OF WALL FRAMING OF L/240 AT 5 PSF. A. TRACKS AND RUNNERS: SAME MATERIAL AND THICKNESS AS STUDS, BENT LEG RETAINER NOTCHED TO RECEIVE STUDS WITH PROVISION FOR CRIMP LOCKING TO STUD. STUDS: C SHAPED WITH FLAT OR FORMED WEBS WITH KNURLED FACES.
- B. CEILING CHANNELS: C SHAPED. C. FURRING: HAT-SHAPED SECTIONS, MINIMUM DEPTH OF 7/8 INCH. D. CONTRACTOR TO PROVIDE BRACING AS REQUIRED TO COMPLETE SYSTEM.
- F. WHERE INDICATED IN DRAWINGS, SHAFT WALL STUDS AND ACCESSORIES: ASTM C645; GALVANIZED SHEET STEEL, OF SIZE AND PROPERTIES NECESSARY TO COMPLY WITH ASTM C754 AND SPECIFIED PERFORMANCE REQUIREMENTS
- G. CEILING HANGERS: TYPE AND SIZE AS SPECIFIED IN ASTM C754 FOR SPACING REQUIRED. H. PARTITION HEAD TO STRUCTURE CONNECTIONS: PROVIDE MECHANICAL ANCHORAGE DEVICES THAT ACCOMMODATE DEFLECTION USING SLOTTED HOLES, SCREWS AND ANTI-FRICTION BUSHINGS, PREVENTING ROTATION OF STUDS WHILE MAINTAINING STRUCTURAL PERFORMANCE OF PARTITION.
- I. FIT, REINFORCE, AND BRACE FRAMING MEMBERS TO SUIT DESIGN REQUIREMENTS. D. INSTALLATION:
- 1.COMPLY WITH REQUIREMENTS OF ASTM C754. 2.VERIFY EXISTING CONDITIONS BEFORE STARTING WORK.
- 3. VERIFY THAT ROUGH-IN UTILITIES ARE IN PROPER LOCATION. 4.EXTEND PARTITION FRAMING TO STRUCTURE WHERE INDICATED AND TO CEILING IN OTHER LOCATIONS. 5. PARTITIONS TERMINATING AT CEILING: ATTACH CEILING RUNNER SECURELY TO CEILING TRACK IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
- 6.PARTITIONS TERMINATING AT STRUCTURE: ATTACH TOP RUNNER TO STRUCTURE, MAINTAIN CLEARANCE BETWEEN TOP OF STUDS AND STRUCTURE, AND CONNECT STUDS TO TRACK USING SPECIFIED MECHANICAL DEVICES IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS; VERIFY FREE MOVEMENT OF TOP OF STUD CONNECTIONS; DO NOT LEAVE STUDS UNATTACHED TO TRACK.
- 7.FIT RUNNERS UNDER AND ABOVE OPENINGS; SECURE INTERMEDIATE STUDS TO SAME SPACING AS WALL STUDS. 8. ALIGN STUD WEB OPENINGS HORIZONTALLY. 9. SECURE STUDS TO TRACKS USING CRIMPING METHOD. DO NOT WELD. 10. STUD SPLICING IS NOT PERMISSIBLE.
- 11. FABRICATE CORNERS USING A MINIMUM OF THREE STUDS. 12. DOUBLE STUD AT WALL OPENINGS, DOOR AND WINDOW JAMBS, NOT MORE THAN 2 INCHES FROM EACH SIDE OF OPENINGS. 13. BRACE STUD FRAMING SYSTEM RIGID.
- 14. COORDINATE ERECTION OF STUDS WITH REQUIREMENTS OF DOOR FRAMES; INSTALL SUPPORTS AND ATTACHMENTS
- 15. COORDINATE INSTALLATION OF BUCKS, ANCHORS, AND BLOCKING WITH ELECTRICAL, MECHANICAL, AND OTHER WORK TO BE PLACED WITHIN OR BEHIND STUD FRAMING. 16. BLOCKING: USE WOOD BLOCKING SECURED TO STUDS. PROVIDE BLOCKING FOR SUPPORT OF PLUMBING FIXTURES, WALL CABINETS, TOILET ACCESSORIES, HARDWARE, AND OPENING FRAMES.



- SPECIFICATIONS PRODUCT & INSTALLATION GENERAL REQUIREMENTS
- 09 6500 RESILIENT FLOORING AND WALL BASE A. SUBMITTALS: PRODUCT DATA AND (1) SAMPLES OF EACH TILE AND BASE SPECIFIED FOR /ERIFICATION PURPOSES.
- 1. METROFLOR, KONECTO PLANK, PROJECT 54012 OR APPROVED EQUAL.
- C. <u>ATTIC STOCK</u>: FURNISH ONE (1) BOX FOR EACH 50 BOXES OR FRACTION THEREOF OF EACH TYPE OF FLOOR TILE AND 20' OF EACH COLOR AND TYPE OF WALL BASE PACKAGED WITH PROTECTIVE COVERING AND LABELED FOR STORAGE.
- . RESILIENT TILE PRODUCTS: PROVIDE FLOOR TILE IN TYPE AND SIZES INDICATED IN THE CONSTRUCTION DOCUMENTS COMPLYING WITH THE FOLLOWING:
- E. <u>RESILIENT WALL BASE:</u> ASTM TYPE TS (RUBBER, VULCANIZED THERMOSET) 1/8" THICK, FURNISHED IN COILS IN STYLES AND SIZES INDICATED IN THE CONSTRUCTION DOCUMENTS WITH JOB-FORMED INSIDE AND OUTSIDE CORNERS
- INSTALLATION ACCESSORIES I. LEVELING AND PATCHING COMPOUNDS: LATEX-MODIFIED, PORTLAND CEMENT, OR BLENDED HYDRAULIC CEMENT-BASED FORMULATION PROVIDED OR APPROVED BY FLOORING MANUFACTURER TO SUIT RESILIENT PRODUCTS AND SUBSTRATE CONDITIONS.
- 2. ADHESIVES: WATER-RESISTANT TYPE RECOMMENDED BY MANUFACTURER TO SUIT RESILIENT PRODUCTS AND SUBSTRATE CONDITIONS. SPREAD ONLY ENOUGH ADHESIVE TO PERMIT INSTALLATION OF MATERIALS BEFORE INITIAL SET. 3. MOLDINGS, TRANSITION AND EDGE STRIPS: SAME MATERIAL AS FLOORING.
- . INSTALLATION 1. PREPARE CONCRETE SUBSTRATES PER ASTM F 710. VERIFY THAT SUBSTRATES ARE DRY AND FREE OF CURING COMPOUNDS. SEALERS AND HARDENERS.
- 2. LAY OUT TILES SO WIDTHS AT OPPOSITE EDGES OF ROOM ARE EQUAL AND NOT LESS THAN HAI F-WIDTH 3. LAY TILES IN PATTERNS INDICATED WITH GRAIN DIRECTION ALTERNATING IN ADJACENT TILES, UNLESS NOTED OTHERWISE 4. CLEAN, SEAL, AND WAX RESILIENT FLOORING IN ACCORDANCE WITH MANUFACTURER'S
- INSTRUCTIONS. H. WALL BASE AND ACCESSORY INSTALLATION: 1. CONFIRM THAT SOLID BACKING IS PROVIDED BEHIND ALL WALL BASE. AREAS WHERE GYPSUM BOARD IS HELD MORE THAN 1/2" ABOVE SLAB SHALL BE FILLED IN PRIOR TO BASE INSTALLATION. 2. INSTALL WALL BASE WITH MANUFACTURER'S RECOMMENDED ADHESIVE IN MAXIMUM LENGTHS
- POSSIBLE. APPLY TO WALLS, COLUMNS, PILASTERS, CASEWORK, AND OTHER PERMANENT FIXTURES 3. INSTALL TRANSITION STRIPS WHERE FLOORING MATERIALS MEET OR WHERE EDGE OF TILE IS EXPOSED AS INDICATED IN THE FINISH SCHEDULE.
- 09 6813 TILE CARPETING A. <u>SUBMITTALS:</u> PRODUCT DATA AND SAMPLES OF EACH CARPET PRODUCT INDICATED. SUBMIT ACTUAL TILE SAMPLES OF EACH CARPET REQUIRED
- B. WARRANTY: PROVIDE SPECIAL PROJECT WARRANTY, SIGNED BY CONTRACTOR, INSTALLER AND MANUFACTURER (CARPET MILL), AGREEING TO REPAIR OR REPLACE DEFECTIVE MATERIALS AND WORKMANSHIP OF CARPETING WORK DURING 1-YEAR WARRANTY PERIOD FOLLOWING SUBSTANTIAL COMPLETION. ATTACH COPIES OF PRODUCT WARRANTIES
- C. ATTIC STOCK: FURNISH FULL-WIDTH CARPET EQUAL TO 5% OF EACH TYPE AND COLOR CARPET NSTALLED, PACKAGED WITH PROTECTIVE COVERING AND LABELED FOR STORAGE.
- D. PRODUCTS: PROVIDE CARPET IN PATTERNS AND COLORS AND WITH BACKINGS AS INDICATED IN THE CONSTRUCTION DOCUMENTS WITH CRITICAL RADIANT FLUX CLASSIFICATION CLASS I, NOT LESS THAN 0.45 W/SQ. CM PER ASTM E 648. ORDER ALL MATERIALS FROM THE SAME FACTORY DYE LOT.
- 1.TROWELABLE LEVELING AND PATCHING COMPOUNDS: LATEX-MODIFIED, HYDRAULIC-CEMENT-BASED FORMULATION PROVIDED OR RECOMMENDED BY CARPET MANUFACTURER. 2. ADHESIVES: WATER-RESISTANT, MILDEW-RESISTANT, NONSTAINING TYPE TO SUIT PRODUCTS AND SUBFLOOR CONDITIONS INDICATED. THAT COMPLIES WITH FLAMMABILITY REQUIREMENTS FOR INSTALLED CARPET AND IS RECOMMENDED OR PROVIDED BY CARPET MANUFACTURER.
- F. INSTALLATION: FOR CARPET TILE COMPLY CRI 104, SECTION 13 "CARPET MODULES (TILES)". 1. GENERAL: COMPLY WITH CRI'S "CRI CARPET INSTALLATION STANDARD" AND WITH CARPET MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS FOR PREPARING SUBSTRATES. 2. USE TROWELABLE LEVELING AND PATCHING COMPOUNDS, ACCORDING TO MANUFACTURER'S WRITTEN
- INSTRUCTIONS, TO FILL CRACKS, HOLES, DEPRESSIONS, AND PROTRUSIONS IN SUBSTRATES, FILL OR LEVEL CRACKS, HOLES AND DEPRESSIONS 1/8 INCH WIDE OR WIDER, AND PROTRUSIONS MORE THAN 1/32 INCH,
- UNLESS MORE STRINGENT REQUIREMENTS ARE REQUIRED BY MANUFACTURER'S WRITTEN INSTRUCTIONS. 3. BROOM AND VACUUM CLEAN SUBSTRATES TO BE COVERED IMMEDIATELY BEFORE INSTALLING CARPET. 4.LAY CARPET TILE IN PATTERN AS INDICATED ON CONSTRUCTION DOCUMENTS AND SO WIDTHS AT OPPOSITE EDGES OF ROOM ARE EQUAL AND NOT LESS THAN HALF-WIDTH.
- 5. TRIM CARPET NEATLY AND TIGHT TO WALLS AND AROUND INTERRUPTIONS. 6.INSTALL PATTERN PARALLEL TO WALLS AND BORDERS UNLESS OTHERWISE INDICATED.
- 7.DO NOT BRIDGE BUILDING EXPANSION JOINTS WITH CARPET. 8. CUT AND FIT CARPET TO BUTT TIGHTLY TO VERTICAL SURFACES, PERMANENT FIXTURES, AND BUILT-IN FURNITURE INCLUDING CABINETS, PIPES, OUTLETS, EDGINGS, THRESHOLDS, AND NOSINGS. BIND OR SEAL CUT
- EDGES AS RECOMMENDED BY CARPET MANUFACTURER. 9. EXTEND CARPET INTO TOE SPACES, DOOR REVEALS, CLOSETS, OPEN-BOTTOMED OBSTRUCTIONS, REMOVABLE FLANGES, ALCOVES, AND SIMILAR OPENINGS.
- 10. MAINTAIN REFERENCE MARKERS, HOLES, AND OPENINGS THAT ARE IN PLACE OR MARKED FOR FUTURE CUTTING BY REPEATING ON CARPET AS MARKED ON SUBFLOOR. USE NONPERMANENT, NONSTAINING MARKING DEVICE.
- 11. PROTECT CARPET AGAINST DAMAGE FROM CONSTRUCTION OPERATIONS AND PLACEMENT OF EQUIPMENT AND FIXTURES DURING THE REMAINDER OF CONSTRUCTION PERIOD. USE PROTECTION METHODS RECOMMENDED IN WRITING BY CARPET MANUFACTURER. 12. INSTALL TRANSITION STRIPS AT CARPET TERMINATIONS AS SPECIFIED ON THE CONSTRUCTION DOCUMENTS.
- A. <u>SUBMITTALS:</u> PRODUCT DATA AND SAMPLES OF EACH CARPET PRODUCT INDICATED. SUBMIT 18" X 27" SAMPLES
- OF EACH CARPET REQUIRED, AND 6" LENGTHS OF EXPOSED EDGE STRIPPING. B. WARRANTY: PROVIDE SPECIAL PROJECT WARRANTY, SIGNED BY CONTRACTOR, INSTALLER AND MANUFACTURER (CARPET MILL), AGREEING TO REPAIR OR REPLACE DEFECTIVE MATERIALS AND WORKMANSHIP OF CARPETING WORK DURING 1-YEAR WARRANTY PERIOD FOLLOWING SUBSTANTIAL COMPLETION. ATTACH COPIES OF PRODUCT WARRANTIES
- C. <u>ATTIC STOCK:</u> FULL-SIZE UNITS EQUAL TO 5 PERCENT OF AMOUNT INSTALLED FOR EACH TYPE INDICATED, BUT NOT LESS THAN 10 SQ. YD.
- A. APARTMENT UNIT CARPET SHALL BE SUPPLIED AND INSTALLED UNDER AN ALLOWANCES OF \$8.00/SQUARE YARD FOR THE PURCHASE AND DELIVERY OF THE CARPET MATERIAL ONLY. 1. COSTS FOR THE PAD ACCESSORIES, TAXES, LABOR, ETC. ARE NOT INCLUDED IN THE ALLOWANCES STATED ABOVE BUT SHALL BE INCLUDED IN THE BID PRICE FOR A COMPLETE INSTALLATION. B. CARPET PAD SHALL BE 1/2" - 6# DENSITY REBOND PAD AS REQUIRED FOR A COMPLETE INSTALLATION.
- 1.TROWELABLE LEVELING AND PATCHING COMPOUNDS: LATEX-MODIFIED, HYDRAULIC-CEMENT-BASED FORMULATION PROVIDED OR RECOMMENDED BY CARPET MANUFACTURER. 2. ADHESIVES: WATER-RESISTANT, MILDEW-RESISTANT, NONSTAINING TYPE TO SUIT PRODUCTS AND SUBFLOOR CONDITIONS INDICATED, THAT COMPLIES WITH FLAMMABILITY REQUIREMENTS FOR INSTALLED CARPET AND IS RECOMMENDED OR PROVIDED BY CARPET MANUFACTURER. 3. SEAM ADHESIVE: HOT-MELT ADHESIVE TAPE OR SIMILAR PRODUCT RECOMMENDED BY CARPET MANUFACTURER FOR SEALING AND TAPING SEAMS AND BUTTING CUT EDGES AT BACKING TO FORM SECURE SEAMS AND TO PREVENT PILE LOSS AT SEAMS. 4. TACKLESS CARPET STRIPPING: WATER RESISTANT PLYWOOD STRIPS, 3/8" THICK WITH ANGULAR PINS
- PROTRUDING FROM TOP DESIGNED TO GRIP AND HOLD STRETCHED CARPET AT THE BACKING. PROVIDE STRIPPING WITH 2 ROWS OF PINS. 5. CARPET EDGE GUARD: EXTRUDED ALUMINUM BEND DOWN TYPE EDGE GUARD; WITH CONCEALED GRIPPER TEETH AND MINIMUM 1-1/2" WIDE PUNCHED ANCHORAGE FLANGE AND MINIMUM 5/8" WIDE FACE
- 1. GENERAL: COMPLY WITH CRI'S "CRI CARPET INSTALLATION STANDARD" AND WITH CARPET MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS FOR PREPARING SUBSTRATES. 2. USE TROWELABLE LEVELING AND PATCHING COMPOUNDS, ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS, TO FILL CRACKS, HOLES, DEPRESSIONS, AND PROTRUSIONS IN SUBSTRATES. FILL OR LEVEL CRACKS, HOLES AND DEPRESSIONS 1/8 INCH WIDE OR WIDER, AND PROTRUSIONS MORE THAN 1/32 INCH, UNLESS MORE STRINGENT REQUIREMENTS ARE REQUIRED BY MANUFACTURER'S WRITTEN INSTRUCTIONS. 3.BROOM AND VACUUM CLEAN SUBSTRATES TO BE COVERED IMMEDIATELY BEFORE INSTALLING CARPET. 4.UNIT INSTALLATION, STRETCH-IN INSTALLATION WITH PAD. 5.COMPLY WITH CARPET MANUFACTURER'S WRITTEN INSTRUCTIONS AND SHOP DRAWINGS FOR SEAM LOCATIONS AND DIRECTION OF CARPET; MAINTAIN UNIFORMITY OF CARPET DIRECTION AND LAY OF PILE. AT DOORWAYS, CENTER SEAMS UNDER THE DOOR IN CLOSED POSITION.
- 6.INSTALL PATTERN PARALLEL TO WALLS AND BORDERS UNLESS OTHERWISE INDICATED. 7.DO NOT BRIDGE BUILDING EXPANSION JOINTS WITH CARPET. 8. CUT AND FIT CARPET TO BUTT TIGHTLY TO VERTICAL SURFACES, PERMANENT FIXTURES, AND BUILT-IN FURNITURE INCLUDING CABINETS, PIPES, OUTLETS, EDGINGS, THRESHOLDS, AND NOSINGS. BIND OR SEAL CUT EDGES AS RECOMMENDED BY CARPET MANUFACTURER. 9. EXTEND CARPET INTO TOE SPACES, DOOR REVEALS, CLOSETS, OPEN-BOTTOMED OBSTRUCTIONS, REMOVABLE FLANGES, ALCOVES, AND SIMILAR OPENINGS. 10. MAINTAIN REFERENCE MARKERS, HOLES, AND OPENINGS THAT ARE IN PLACE OR MARKED FOR FUTURE CUTTING BY REPEATING ON CARPET AS MARKED ON SUBFLOOR. USE NONPERMANENT, NONSTAINING MARKING DEVICE.
- 11. PROTECT CARPET AGAINST DAMAGE FROM CONSTRUCTION OPERATIONS AND PLACEMENT OF EQUIPMENT AND FIXTURES DURING THE REMAINDER OF CONSTRUCTION PERIOD. USE PROTECTION METHODS RECOMMENDED IN WRITING BY CARPET MANUFACTURER.
- 09 9000 PAINTING AND COATING A. SUBMITTALS: PRODUCT DATA AND THREE (3) DRAW-DOWN SAMPLES OF EACH COLOR AND SHEEN
- B. ATTIC STOCK: FURNISH ONE (1) GALLON OF EACH PAINT COLOR AND SHEEN, IN CONTAINERS, PROPERLY LABELED AND SEALED.
- C. PRODUCTS: PROVIDE MANUFACTURER'S BEST QUALITY PAINTS OF COLOR AND SHEEN AS INDICATED IN THE CONSTRUCTION DOCUMENTS THAT ARE FORMULATED AND RECOMMENDED BY MANUFACTURER FOR APPLICATION INDICATED. PROVIDE MATERIALS THAT ARE COMPATIBLE WITH ONE ANOTHER AND WITH SUBSTRATES.
- D. PAINT SYSTEMS 1. ALL PAINT. STAIN. AND VARNISH SHALL BE PRODUCTS OF DEVOE, KWAL, SHERWIN WILLIAMS, PPG INDUSTRIES, PRATT & LAMBERT OR APPROVED EQUAL 2. ALL MATERIAL SHALL BE OF THE STANDARD RESIDENTIAL GRADE OF THE TYPES DESIGNATED.
- 3. ALL MATERIAL SHALL BE DELIVERED TO THE JOB SITE IN THE ORIGINAL UNOPENED, LABELED CONTAINERS. COLORS NOT SPECIFICALLY CALLED FOR IN THE PAINT SCHEDULE WILL BE SELECTED BY THE ARCHITECT.

- 09 9000 PAINTING AND COATING (CONTINUED)
- E. APPLICATION / INSTALLATION: . EQUIPMENT: APPLY COATINGS BY BRUSH, ROLLER, SPRAY, OR OTHER APPLICATORS ACCORDING TO COATING MANUFACTURER'S WRITTEN INSTRUCTIONS. WHEN SPRAYED. EXTERIOR COATINGS SHALL BE BACK-ROLLED FOLLOWING SPRAY APPLICATION. USE ROLLERS FOR FINISH COAT ON INTERIOR WALLS AND CEILINGS. 2. PIGMENTED (OPAQUE) FINISHES: COMPLETELY COVER SURFACES TO PROVIDE A SMOOTH, OPAQUE SURFACE OF UNIFORM APPEARANCE. PROVIDE A FINISH FREE OF CLOUDINESS, SPOTTING, HOLIDAYS, LAPS, BRUSH MARKS, RUNS, SAGS, ROPINESS, OR OTHER SURFACE IMPERFECTIONS. 3. APPLY PRODUCTS PER MANUFACTURER RECOMMENDED GUIDELINES. PRODUCT COVERAGE MINIMUM ONE
- COAT OF PRIMER AND TWO FINAL COATS ON MATERIALS.APPLY PRODUCTS TO MATERIALS APPROVED BY MANUFCTURER PRODUCT DATA SHEETS. A. Exterior Work:
- 1. ALL EXTERIOR GALVANIZED METAL FLASHINGS, CONNECTORS, ETC.
- 2. ALL EXPOSED STEEL FRAMES, ANGLES,
- 3. ALL EXPOSED MISC. FERROUS METAL ITEMS
- INCLUDING RAILS, PLATES, ANGLES, BOLTS, GRATES, CONDUITS, POSTS, PIPING, ETC. 4. ALL UNPRIMED EXTERIOR MILLWORK, TRIM, SMOOTH WOOD MATERIALS, ETC. SEMI-GLOSS PAINT.
- 5. PRIMED MILLWORK AND TRIM.
- 6. ROUGH SAWN TRIM, BEAMS, COLUMNS, ETC.
- 7. PRIMED METAL ENTRY DOORS, FRENCH DOORS AND METAL FRAMES, GARAGE DOORS.
- 8. ANY OTHER PAINTING REQUIRED BY THE DRAWINGS.
- B. INTERIOR WORK:
- 1. GYPSUM BOARD WALLS EXCEPT IN KITCHENS, BATHROOMS, LAUNDRIES AND COMMON AREA CORRIDORS, UNLESS SCHEDULED FOR WALLCOVERING
- 2. GYPSUM BOARD WALLS IN KITCHENS, BATHROOMS AND LAUNDRIES UNLESS SCHEDULED FOR WALLCOVERING OR TILE.
- 3. GYPSUM BOARD WALLS IN COMMON AREA CORRIDORS
- 4. GYPSUM BOARD CEILINGS.
- 5. DOOR CASINGS, BASE, WOOD, MILL-WORK, ETC. (PRE-PRIMED.)
- 6. PRIMED HARDWOOD DOORS.
- 7. ALL MISCELLANEOUS FERROUS METAL, INCLUDING GRILLES, REGISTERS, ETC.
- 8. ANY OTHER PAINTING WORK REQUIRED BY THE DRAWINGS.
- A. SUBMITTALS: PRODUCT DATA FOR SETTING AND GROUTING MATERIALS AND THREE (3) SAMPLES OF
- EACH TILE SPECIFIED FOR VERIFICATION PURPOSES. B. ATTIC STOCK: FURNISH 2% OF EACH TYPE OF CERAMIC TILE PACKAGED WITH PROTECTIVE COVERING AND LABELED FOR STORAGE.
- C. BASIS OF DESIGN: SEE DRAWING SCHEDULES.
- D. <u>TILE:</u> COMPLY WITH STANDARD GRADE REQUIREMENTS IN ANSI A137.1 "SPECIFICATIONS FOR CERAMIC TILE" FOR PRODUCTS AND SIZES INDICATED IN THE CONSTRUCTION DOCUMENTS. E. INSTALLATION MATERIALS:
- 1. THIN-SET MORTAR: A. TYPICAL INTERIOR INSTALLATIONS: LATEX/POLYMER MODIFIED PORTLAND CEMENT COMPLYING WITH ANSI A108.5 AND ANSI 118.4. 2. GROUT: UNSANDED FOR JOINTS 1/16" WIDTH OR LESS, SANDED FOR JOINTS GREATER THAN 1/16" IN COLOR INDICATED IN SCHEDULE OR TO BE SELECTED BY ARCHITECT AND OWNER. A. TYPICAL INTERIOR INSTALLATIONS: STANDARD CEMENT GROUT WITH INTEGRAL STAIN INHIBITORS (TEC ACCUCOLOR XT, OR EQUAL) 3. SETTING BED ACCESSORIES: ANSI A 108.1A
- . INSTALLATION METHODS: COMPLY WITH TILE INSTALLATION STANDARDS IN ANSI'S "SPECIFICATIONS FOR THE INSTALLATIONS OF CERAMIC TILE" AND TCA'S "HANDBOOK FOR CERAMIC TILE INSTALLATION" THAT APPLY TO THE MATERIALS AND METHODS INDICATED BELOW:
- 1. WHERE CUT TILE IS SPECIFIED AS THE TOP COURSE ON WALL WAINSCOTING OR WALL BASE WITH AN EXPOSED TOP EDGE, THE FACTORY EDGE SHALL BE USED AS THE EXPOSED EDGE.
- H. <u>CONFLICTS:</u> IF NOT ADDRESSED ON DRAWINGS, WHERE ELECTRICAL DEVICES OR TOILET ACCESSORIES STRADDLE THE TRANSITION FROM THE TOP EDGE OF WAINSCOT WALL TILE TO GYPSUM BOARD SUBSTRATE, CONTACT ARCHITECT FOR RESOLUTION.
- 1. JOINT SIZE: SET TILE WITH THE SMALLEST GROUT JOINT ACHIEVABLE AND AS RECOMMENDED BY THE MFR. BASED ON THE TILE PRODUCT AND SUBSTRATE CONDITIONS, UNLESS NOTED
- 2. TILE PATTERN: LAY TILE IN PATTERNS AS INDICATED IN THE CONSTRUCTION DOCUMENTS. ALIGN JOINTS WHERE ADJOINING TILES ON FLOOR, BASE, WALLS, AND TRIM ARE THE SAME
- SIZE, UNLESS INDICATED OTHERWISE 3. INSTALLATION: INSTALL GROUT PER MANUFACTURER'S INSTRUCTIONS, EXERCISING CARE TO
- AVOID REMOVAL OF GROUT COLOR BY USE OF EXCESS WATER DURING INSTALLATION. FADED OR CHALKY GROUT SHALL BE CAUSE FOR REJECTION. 4. SEALER: AFTER FULLY CURED, GROUT SHALL BE SEALED WITH TWO (2) COATS OF COMMERCIAL QUALITY PENETRATING SILICONE SEALER.
- 09 5100 ACOUSTICAL CEILINGS A. <u>SUBMITTALS</u>: PRODUCT DATA ONLY
- 3. ATTIC STOCK: FURNISH 2% OF EACH TYPE OF CEILING TILE PACKAGED WITH PROTECTIVE COVERING AND LABELED FOR STORAGE.
- C. ACOUSTICAL TILE PRODUCTS: PROVIDE CEILING TILE IN TYPE AND SIZES INDICATED IN THE CONSTRUCTION DOCUMENTS COMPLYING WITH ASTM E 1264, CLASS A MATERIALS, TESTED PER ASTM
- D. <u>SUSPENSION SYSTEM:</u> PROVIDE HEAVY DUTY, DIRECT-HUNG, SUSPENSION SYSTEMS AS INDICATED IN THE CONSTRUCTION DOCUMENTS COMPLYING WITH ASTM C 635. FURNISH ALUMINUM GRID IN SHOWERS, KITCHENS, AND OTHER HIGH-HUMIDITY AREAS. 1. ATTACHMENT DEVICES: SIZE FOR FIVE (5) TIMES THE DESIGN LOAD INDICATED IN ASTM C 635, TABLE 1, DIRECT HUNG UNLESS OTHERWISE INDICATED.
- 2. WIRE HANGERS, BRACES, AND TIES: ZINC-COATED CARBON-STEEL WIRE; ASTM A 641/ (A 641 M). CLASS 1 ZINC COATING, SOFT TEMPER WITH A YIELD STRENGTH AT LEAST THREE (3) TIMES THE HANGER DESIGN LOAD (ASTM C 635, TABLE 1, DIRECT HUNG), BUT NOT LESS THAN 0.135" DIAMFTER WIRE 3. SEISMIC STRUTS: MANUFACTURER'S STANDARD PRODUCT DESIGNED TO ACCOMMODATE
- SEISMIC FORCES. 4. HOLD-DOWN CLIPS: PROVIDE HOLD-DOWN CLIPS ON CEILING TILE IN ENTRANCE VESTIBULES, OMPUTER ROOMS EMPLOYING DRY CHEMICAL FIRE-SUPPRESSION SYSTEMS, AND OTHER AREAS AS INDICATED.
- F. INSTALLATION: COMPLY WITH ASTM C 636 AND CISCA'S "CEILING SYSTEMS HANDBOOK". I. SEQUENCE WORK TO ENSURE ACOUSTICAL CEILINGS ARE NOT INSTALLED UNTIL BUILDING IS ENCLOSED, SUFFICIENT HEAT IS PROVIDED, DUST GENERATION ACTIVITIES HAVE TERMINATED, AND OVERHEAD WORK IS COMPLETED, TESTED, AND APPROVED. 2. INSTALL CEILING GRID AS INDICATED TO BE SYMMETRICAL ABOUT BOTH AXES OF EACH ROOM USING NOT LESS THAN HALF-SIZE TILE UNLESS INDICATED OTHERWISE ON THE REFLECTED
- CEILING PLAN. 3. SUPPORT SUSPENSION SYSTEM INDEPENDENTLY OF DUCTS, PIPES, AND CONDUITS. 4. SUPPORT FIXTURE LOADS USING SUPPLEMENTARY HANGERS LOCATED WITHIN 6" OF EACH
- CORNER OR SUPPORT FIXTURES INDEPENDENTLY. 5. PROVIDE MATCHING PERIMETER MOLDING INSTALLED IN BEAD OF ACOUSTICAL SEALANT AT ALL
- LOCATIONS WHERE CEILING INTERSECTS VERTICAL SURFACES. USE MATCHING PRE-FORMED CLOSURES AT ROUND OR CURVED OBSTRUCTIONS. 6. FIELD-CUT EDGES SHALL MATCH PROFILE OF FACTORY EDGES.

ONE COAT COMMERCIAL METAL ETCH. ONE COAT EXTERIOR METAL PRIMER. TWO COATS EXTERIOR SEMI-GLOSS METAL PAINT.

TWO COATS SEMI-GLOSS METAL PAINT. (PRIME COAT CHANNELS, POSTS, RAILINGS, BEAMS, ETC. SURFACES THAT ARE NOT PRIMED.) TWO COATS SEMI-GLOSS METAL PAINT. (PRIME COAT SURFACES THAT ARE NOT PRIMED.)

PRIME AND BACK LATEX PRIMER. TWO COATS OF EXTERIOR LATEX SATIN OR

TOUCH-UP PRIME. TWO COATS OF EXTERIOR 100% SATIN OR SEMI-GLOSS ACRYLIC LATEX PAINT. ONE COAT PRIMER. TWO COATS EXTERIOR

HEAVY BODIED STAIN. PATCH DENTS, TOUCH UP PRIMER, TWO COATS OF OIL BASE SEMI-GLOSS PAINT

INSIDE AND OUTSIDE. TWO COATS TO MATCH ADJACENT SURFACES

ONE COAT OF PRIME LATEX PAINT AND ONE FINISH COAT OF LATEX EGGSHELL WALL PAINT. (TWO COATS IF REQUIRED TO ACHIEVE FULL COVERAGE.) ONE WALL IN EACH APARTMENT UNIT LIVING SPACE AND EACH BEDROOM SHALL BE PAINTED ACCENT COLORS.

ONE COAT OF EPOXY COMPATABLE PRIMER PAINT AND ONE FINISH COAT OF EPOXY EGGSHELL WALL PAINT. (TWO COATS IF REQUIRED TO ACHIEVE FULL COVFRAGE)

ONE COAT OF PRIME LATEX PAINT AND ONE FINISH COAT OF SCRUBABLE LATEX FLAT WALL PAINT. (TWO COATS IF REQUIRED TO ACHIEVE FULL COVERAGE.) TWO COATS OF LATEX FLAT PAINT.

TWO COATS OF CLASS II VAPOR RETARDER PAINT AT CEILINGS ADJACENT TO ATTICS. ONE PRIME COAT OF LATEX PAINT, ONE

COAT LATEX PAINT AND ONE FINISH COAT OF LATEX SEMI-GLOSS PAINT

ONE COAT OF LATEX PAINT AND ONE FINISH COAT OF LATEX SEMI-GLOSS PAINT. TWO COATS METAL PAINT TO MATCH

ADJACENT SURFACES UNLESS FACTORY PREFINISHED WHITE

FINISH TO MATCH SIMILAR CONDITIONS.

DIVISION 10 - SPECIALTIES

10 2800 TOILET AND BATH ACCESSORIES

A. REFERENCE CONSTRUCTION DRAWINGS & SCHEDULES FOR TYPE, QUANTITY, AND LOCATIONS OF TOILET AND BATH ACCESSORIES. 3. <u>SUBMITTALS</u> 1. PRODUCT DATA: MANUFACTURER'S DATA SHEETS ON EACH PRODUCT TO BE USED, INCLUDING:

2. PREPARATION INSTRUCTIONS AND RECOMMENDATIONS. 3. STORAGE AND HANDLING REQUIREMENTS AND RECOMMENDATIONS. 4. INSTALLATION METHODS.

B. INSTALLATION:

1. INSTALLER MUST EXAMINE SUBSTRATES, PREVIOUSLY INSTALLED INSERTS AND ANCHORAGES NECESSARY FOR MOUNTING OF TOILET ACCESSORIES, AND OTHER CONDITIONS UNDER WHICH INSTALLATION IS TO OCCUR, AND MUST NOTIFY CONTRACTOR IN WRITING OF CONDITIONS DETRIMENTAL

TO PROPER AND TIMELY COMPLETION OF WORK. DO NOT PROCEED WITH WORK UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED IN MANNER ACCEPTABLE TO INSTALLER. 2. INSTALL ACCESSORIES ACCORDING TO RESPECTIVE MANUFACTURERS' WRITTEN INSTRUCTIONS. USING FASTENERS APPROPRIATE TO SUBSTRATE INDICATED AND RECOMMENDED BY UNIT MANUFACTURER. NSTALL UNITS LEVEL, PLUMB, AND FIRMLY ANCHORED IN LOCATIONS AND AT HEIGHTS INDICATED. ADHESIVE

INSTALLATIONS ARE NOT PERMITTED. 3. MOUNTING HEIGHTS SHALL BE AS RECOMMENDED BY THE ACCESSORY MANUFACTURER AND AT HEIGHTS RECOMMENDED BY USE FOR PHYSICALLY HANDICAPPED TO COMPLY WITH THE AMERICANS WITH DISABILITIES ACT 4. GRAB BARS: INSTALL TO WITHSTAND A DOWNWARD LOAD OF AT LEAST 250 LBF, WHEN TESTED

ACCORDING TO ASTM F 446. 5. ADJUST ACCESSORIES FOR PROPER OPERATION AND VERIFY THAT MECHANISMS FUNCTION SMOOTHLY. 6. CLEAN AND POLISH ALL EXPOSED SURFACES AFTER REMOVING PROTECTIVE COATINGS.

10 3000 SOLID PLASTIC TOILET COMPARTMENTS A. REFERENCE CONSTRUCTION DRAWINGS & SCHEDULES FOR TYPE, QUANTITY, AND LOCATIONS OF TOILET

- AND BATH ACCESSORIES. BASIS OF DESIGN: ECLIPSE TOILET PARTITIONS AS MANUFACTURED BY AND SUPPLIED BY SCRANTON 1. STYLE: FLOOR MOUNTED OVERHEAD-BRACED TOILET COMPARTMENTS. 2. DOORS AND PANELS: HIGH DENSITY POLYETHYLENE (HDPE), FABRICATED FROM SEQ
- CHAPTER 1 EXTRUDED POLYMER RESINS, FORMING SINGLE THICKNESS PANEL. A. WATERPROOF AND NONABSORBENT, WITH SELF-LUBRICATING SURFACE, RESISTANT TO MARKS BY PENS, PENCILS, MARKERS, AND OTHER WRITING INSTRUMENTS. B. THICKNESS: 1 INCH (25 MM).
- C. EDGES: SHIPLAP. 3. PANEL COLOR: TRADITIONAL SERIES:1. SHALE - ORANGE PEEL. 4. DOORS AND PANELS: HIGH PRIVACY: HEIGHT: 62 INCHES (1575 MM) HIGH AND MOUNTED AT 8 TO 14 INCHES (203 TO 356 MM) ABOVE THE FINISHED FLOOR.
- . PRODUCT DATA: MANUFACTURER'S DATA SHEETS ON EACH PRODUCT TO BE USED, INCLUDING:
- 2. PREPARATION INSTRUCTIONS AND RECOMMENDATIONS. 3. STORAGE AND HANDLING REQUIREMENTS AND RECOMMENDATIONS. 4. INSTALLATION METHODS.
- 5. SHOP DRAWINGS: PROVIDE LAYOUT DRAWINGS AND INSTALLATION DETAILS WITH LOCATION AND TYPE OF HARDWARE REQUIRED.
- 6. SELECTION SAMPLES: FOR EACH FINISH PRODUCT SPECIFIED, TWO COMPLETE SETS OF COLOR CHIPS REPRESENTING MANUFACTURER'S FULL RANGE OF AVAILABLE COLORS AND PATTERNS.
- D. POSTS, RAILS AND HARDWARE 1. METAL POSTS: 82.75 INCHES (2102 MM) HIGH, HEAVY DUTY EXTRUDED ALUMINUM, CLEAR ANODIZED FINISH, FASTENED TO FOOT WITH STAINLESS STEEL TAMPER RESISTANT SCREW.
- 2. HIDDEN SHOE (FOOT): ONE-PIECE MOLDED POLYETHYLENE INVISIBLE SHOE INSERTED INTO METAL POST AND SECURED TO METAL POST WITH STAINLESS STEEL TAMPER RESISTANT SCREW.
- 3. HEADRAIL CAP AND CORNER CAP: ONE-PIECE MOLDED POLYETHYLENE SECURED TO METAL POST WITH STAINLESS STEEL TAMPER RESISTANT SCREW: ADJUSTABLE TO LEVEL HEADRAIL TO FINISHED FLOOR. 4. WALL BRACKETS: CONTINUOUS HEAVY DUTY EXTRUDED ALUMINUM, CLEAR ANODIZED FINISH, INSERTED
- INTO SLOTTED PANEL AND FASTENED TO PANELS WITH STAINLESS STEEL TAMPER RESISTANT SCREWS. 5. HEADRAIL: HEAVY DUTY EXTRUDED ALUMINUM, CLEAR ANODIZED FINISH, SECURED TO WALL WITH STAINLESS STEEL TAMPER SCREWS.
- 6 DOOR HARDWARE A. HINGES: EDGE-MOUNTED HELIX STYLE STAINLESS STEEL CONTINUOUS HINGE, CLOSING DEGREE: 5 DEGREES, COMES TO A FULL CLOSE ON ITS OWN WEIGHT B.OCCUPANCY INDICATOR LATCH AND HOUSING: MATERIAL: SATIN STAINLESS STEEL. OCCUPANCY INDICATORS: GREEN FOR OCCUPIED AND RED NOT OCCUPIED. SLIDE BOLT AND BUTTON. COAT HOOK AND DOOR BUMPER COMBINATION: MATERIAL: CHROME PLATED ZAMAK. HANDICAP DOOR: EQUIP WITH SECOND DOOR PULL AND DOOR STOP.
- D. DOOR PULLS: CHROME PLATED ZAMAK:
- 1. CLEAN SURFACES THOROUGHLY PRIOR TO INSTALLATION. 2. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND APPROVED SHOP DRAWINGS. 3. INSTALL PARTITIONS RIGID, STRAIGHT, PLUMB, AND LEVEL.
- 4. LOCATE BOTTOM EDGE OF DOORS AND PANELS INCHES ABOVE FINISHED FLOOR. 5. CLEARANCE AT VERTICAL EDGES OF DOORS SHALL BE UNIFORM TOP TO BOTTOM AND SHALL NOT EXCEED 3/8 INCH (9.5 MM) 6. NO EVIDENCE OF CUTTING, DRILLING, AND/OR PATCHING SHALL BE VISIBLE ON THE FINISHED WORK.
- 7. FINISHED SURFACES SHALL BE CLEANED AFTER INSTALLATION AND BE LEFT FREE OF IMPERFECTIONS. 8. ADJUST DOORS AND LATCHES TO OPERATE CORRECTLY. 9. PROTECT INSTALLED PRODUCTS UNTIL COMPLETION OF PROJECT. 10. TOUCH-UP, REPAIR OR REPLACE DAMAGED PRODUCTS BEFORE SUBSTANTIAL COMPLETION.
- 10 4400 FIRE PROTECTION SPECIALTIES
- A. REFERENCE CONSTRUCTION DRAWINGS FOR TYPE, SIZE AND LOCATIONS OF FIRE EXTINGUISHERS AND CABINETS.

DIVISION 11 - EQUIPMEN

- 11 3000 APPLIANCES A. REFERENCE CONSTRUCTION DRAWINGS FOR QUANTITY, AND LOCATION OF APPLIANCES TO BE FURNISHED BY OWNER.
- 12 3661 STONE COUNTERTOPS A. REFERENCE CONSTRUCTION DRAWINGS & SCHEDULES FOR TYPE, QUANTITY, AND LOCATIONS OF TOILET AND BATH ACCESSORIES.
- B. <u>SUBMITTALS</u>: INCLUDE PLANS, SECTIONS, DETAILS, AND ATTACHMENTS TO OTHER WORK: 1. PRODUCT DATA :FOR EACH STONE, STONE ACCESSORY, AND MANUFACTURED PRODUCT. 2. STORAGE AND HANDLING REQUIREMENTS AND RECOMMENDATIONS.
- 3. SAMPLES: FOR EACH STONE TYPE INDICATED.
- I. FIELD MEASUREMENTS: VERIFY DIMENSIONS OF CONSTRUCTION TO RECEIVE STONE COUNTERTOPS BY FIELD MEASUREMENTS BEFORE FABRICATION.
- 1. SOURCE LIMITATIONS FOR STONE: OBTAIN STONE FROM A SINGLE QUARRY WITH RESOURCES TO PROVIDE MATERIALS OF CONSISTENT QUALITY IN APPEARANCE AND PHYSICAL PROPERTIES.
- 2. QUARTZ: MATERIAL STANDARD: COMPLY WITH ASTM C 615. 3. ALL COUNTERTOPS SHALL BE GRANITE AS SELECTED BY THE OWNER WITH SQUARE EDGES AND MATCHING SIDE AND BACKSPLASHES. TOP AND BOTTOM EXPOSED EDGES SHALL BE SLIGHTLY EASED. 4. FINISH: POLISHED. 5. WATER CLEANABLE EPOXY ADHESIVE: ANSI A118.3., WATER • CLEANABLE EPOXY GROUT: ANSI A118.3,
- CHEMICAL RESISTANT, WATER · CLEANABLE, TILE SETTING AND GROUTING EPOXY. 6. SEALANT FOR COUNTERTOPS: MILDEW RESISTANT JOINT SEALANT: MILDEW RESISTANT, SINGLE COMPONENT, NONSAG, NEUTRAL CURING, SILICONE. COLOR: AS SELECTED BY ARCHITECT FROM MANUFACTURER'S FULL RANGE. 7. GROMMETS: 2 INCH ROUND GROMMETS BY DOUG MOCKETT & COMPANY, INC. OR APPROVED EQUAL.
- 1. SELECT MATERIAL FOR INTENDED USE TO PREVENT FABRICATED UNITS FROM CONTAINING CRACKS, SEAMS, AND STARTS THAT COULD IMPAIR STRUCTURAL INTEGRITY OR FUNCTION.
- 2. FABRICATE STONE COUNTERTOPS IN SIZES AND SHAPES REQUIRED TO COMPLY WITH REQUIREMENTS INDICATED. 3. GENERAL: COMPLY WITH RECOMMENDATIONS IN MIA'S "DIMENSION STONE DESIGN MANUAL VI." 4. NOMINAL THICKNESS: PROVIDE THICKNESS INDICATED, BUT NOT LESS THAN 3 CM (EXCEPT APARTMENT
- UNIT BATHROOM COUNTERTOPS SHALL BE NOT LESS THAN 2CM). GAGE BACKS TO PROVIDE UNITS OF IDENTICAL THICKNESS 5. SPLASHES: PROVIDE 3/4 INCH THICK BACKSPLASHES AND END SPLASHES UNLESS OTHERWISE INDICATED
- 6. JOINTS: FABRICATE COUNTERTOPS WITHOUT JOINTS WHEREVER POSSIBLE. 7. CUTOUTS & HOLES: UNDERCOUNTER FIXTURES: MAKE CUTOUTS FOR UNDERCOUNTER FIXTURES IN SHOP USING TEMPLATE OR PATTERN FURNISHED BY FIXTURE MANUFACTURER. FORM CUTOUTS TO SMOOTH, EVEN CURVES. 8. COUNTER MOUNTED FIXTURES: PREPARE COUNTERTOPS IN SHOP FOR FIELD CUTTING OPENINGS FOR COUNTER MOUNTED FIXTURES. MARK TOPS FOR CUTOUTS AND DRILL HOLES AT CORNERS OF CUTOUT
- LOCATIONS. MAKE CORNER HOLES OF LARGEST RADIUS PRACTICAL. 9. FITTINGS: DRILL COUNTERTOPS IN SHOP FOR PLUMBING FITTINGS, UNDERCOUNTER SOAP DISPENSERS, AND SIMILAR ITEMS.
- 1. GENERAL: INSTALL COUNTERTOPS OVER PLYWOOD SUBTOPS WITH FULL SPREAD OF WATER CLEANABLE EPOXY ADHESIVE. 2. GENERAL: INSTALL COUNTERTOPS BY ADHERING TO SUPPORTS WITH WATER CLEANABLE EPOXY ADHESIVE
- 3. SET STONE TO COMPLY WITH REQUIREMENTS INDICATED. SHIM AND ADJUST STONE TO LOCATIONS INDICATED, WITH UNIFORM JOINTS OF WIDTHS INDICATED AND WITH EDGES AND FACES ALIGNED ACCORDING TO ESTABLISHED RELATIONSHIPS. 4. SPACE JOINTS WITH 1/16. INCH GAP FOR FILLING WITH SEALANT. USE TEMPORARY SHIMS TO ENSURE
- UNIFORM SPACING. CLAMP UNITS TO TEMPORARY BRACING, SUPPORTS, OR EACH OTHER TO ENSURE THAT COUNTERTOPS ARE PROPERLY ALIGNED AND JOINTS ARE OF SPECIFIED WIDTH. 5. COMPLETE CUTOUTS NOT FINISHED IN SHOP. MASK AREAS OF COUNTERTOPS ADJACENT TO CUTOUTS TO PREVENT DAMAGE WHILE CUTTING. USE POWER SAWS WITH DIAMOND BLADES TO CUT STONE. MAKE CUTOUTS TO ACCURATELY FIT ITEMS TO BE INSTALLED, AND AT RIGHT ANGLES TO FINISHED SURFACES UNLESS
- BEVELING IS REQUIRED FOR CLEARANCE. EASE EDGES SLIGHTLY TO PREVENT SNIPPING. 6. INSTALL BACKSPLASHES AND END SPLASHES BY ADHERING TO WALL WITH WATER • CLEANABLE EPOXY ADHESIVE, LEAVE 1/16 INCH GAP BETWEEN COUNTERTOP AND SPLASHES FOR FILLING WITH SEALANT. USE TEMPORARY SHIMS TO ENSURE UNIFORM SPACING.
- 7. GROUT JOINTS TO COMPLY WITH ANSI A108.10. REMOVE TEMPORARY SHIMS BEFORE GROUTING. TOOL GROUT UNIFORMLY AND SMOOTHLY WITH PLASTIC TOOL. 8. APPLY SEALANT TO JOINTS AND GAPS SPECIFIED FOR FILLING WITH SEALANT; COMPLY WITH
- SECTION 079200 "JOINT SEALANTS." REMOVE TEMPORARY SHIMS BEFORE APPLYING SEALANT.
- 9. ASSURE THAT SEAMS ARE SMOOTH, LEVEL AND TIGHT. SEAMS SHALL BE FILLED ENTIRELY SO FLUSH WITH COUNTERTOP, POLISH SURFACE AT SEAM, ASSURE THAT FILLER IS "NON · YELLOWING." 10. CLEANING: CLEAN COUNTERTOPS AS WORK PROGRESSES. REMOVE ADHESIVE, GROUT
- MORTAR, AND SEALANT SMEARS IMMEDIATELY. CLEAN STONE COUNTERTOPS NO FEWER THAN SIX DAYS AFTER COMPLETION OF INSTALLATION, USING CLEAN WATER AND SOFT RAGS, DO NOT USE WIRE BRUSHES. ACID TYPE CLEANING AGENTS, CLEANING COMPOUNDS WITH CAUSTIC OR HARSH FILLERS, OR OTHER MATERIALS OR METHODS THAT COULD DAMAGE STONE.
- 11.SEALER APPLICATION: APPLY STONE SEALER TO COMPLY WITH STONE PRODUCER'S AND SEALER MANUFACTURER'S WRITTEN INSTRUCTIONS.

3. SAMPLES: FOR EACH STONE TYPE INDICATED. BONDED TO SUBSTRATE. COVERED WITH MATCHING LAMINATE. MANUFACTURERS: 1. REFER TO FINISH LEGEND. CONSISTENT THROUGHOUT THICKNESS. MANUFACTURERS: SUBSTRATE BOARD OF 5/8 INCH. EPOXY ADHESIVE ADHESIVE METHODS THAT COULD DAMAGE STONE. DIVISION 32 - EXTERIOR IMPROVEMENTS 32 3113 - FENCES, GATES & HARDWARE APPLICATIONS. INDICATED

12 3661 COUNTERTOPS A. REFERENCE CONSTRUCTION DRAWINGS & SCHEDULES FOR TYPE, QUANTITY, AND LOCATIONS OF TOILET AND BATH ACCESSORIES. B. SUBMITTALS: INCLUDE PLANS, SECTIONS, DETAILS, AND ATTACHMENTS TO OTHER WORK: 1. PRODUCT DATA FOR EACH STONE, STONE ACCESSORY, AND MANUFACTURED PRODUCT. 2. STORAGE AND HANDLING REQUIREMENTS AND RECOMMENDATIONS. . FIELD MEASUREMENTS: VERIFY DIMENSIONS OF CONSTRUCTION TO RECEIVE STONE COUNTERTOPS BY FIELD MEASUREMENTS BEFORE FABRICATION. 1. SOURCE LIMITATIONS FOR STONE: OBTAIN FROM A SINGLE SOURCE TO PROVIDE MATERIALS OF CONSISTENT QUALITY IN APPEARANCE AND PHYSICAL PROPERTIES. 1. QUALITY STANDARD: PREMIUM GRADE, IN ACCORDANCE WITH AWI/AWMAC/WI (AWS) OR AWMAC/WI (NAAWS), UNLESS NOTED OTHERWISE. 2. QUALITY STANDARD: SEFA 3 FOR LABORATORY WORKSURFACES. 3. PLASTIC LAMINATE COUNTERTOPS: HIGH-PRESSURE DECORATIVE LAMINATE (HPDL) SHEET A. LAMINATE SHEET: NEMA LD 3, GRADE HGS, 0.048 INCH NOMINAL THICKNESS. B. EXPOSED EDGE TREATMENT: AS NOTED , SUBSTRATE BUILT UP TO MINIMUM 1-1/4 INCH THICK; C. BACK AND END SPLASHES: SAME MATERIAL, SAME CONSTRUCTION. D. FABRICATE IN ACCORDANCE WITH AWI/AWMAC/WI (AWS) OR AWMAC/WI (NAAWS), SECTION 11 - COUNTERTOPS, CUSTOM GRADE. 4. NATURAL QUARTZ AND RESIN COMPOSITE COUNTERTOPS: SHEET OR SLAB OF NATURAL QUARTZ AND PLASTIC RESIN OVER CONTINUOUS SUBSTRATE. A. FLAT SHEET THICKNESS: 1-1/4 INCH, MINIMUM. B. NATURAL QUARTZ AND RESIN COMPOSITE SHEETS, SLABS AND CASTINGS: COMPLYING WITH ISFA 3-01 AND NEMA LD 3; ORTHOPHTHALIC POLYESTER RESIN, MINERAL FILLER, AND PIGMENTS; HOMOGENOUS, NON-POROUS AND CAPABLE OF BEING WORKED AND REPAIRED USING STANDARD WOODWORKING TOOLS; NO SURFACE COATING; COLOR AND PATTERN 1. REFER TO FINISH LEGEND FOR SOLID SURFACE AND CORIAN QUARTZ DESCRIPTIONS, MANUFACTURERS, PRODUCT NUMBERS, COLORS, SIZES AND CONTACT INFORMATION. C. FACTORY FABRICATE COMPONENTS TO THE GREATEST EXTENT PRACTICAL IN SIZES AND SHAPES INDICATED; COMPLY WITH THE MIA DIMENSION STONE DESIGN MANUAL. D. FINISH ON EXPOSED SURFACES: POLISHED. E. COLOR AND PATTERN: AS INDICATED ON DRAWINGS. I. SECURELY ATTACH COUNTERTOPS TO CABINETS OR SUPPORTS USING CONCEALED FASTENERS. MAKE FLAT SURFACES LEVEL; SHIM WHERE REQUIRED. 2. ATTACH PLASTIC LAMINATE COUNTERTOPS USING SCREWS WITH MINIMUM PENETRATION INTO 3. SEAL JOINT BETWEEN BACK/END SPLASHES AND VERTICAL SURFACES. 4. GENERAL: INSTALL COUNTERTOPS OVER PLYWOOD SUBTOPS WITH FULL SPREAD OF WATER CLEANABLE 5. GENERAL: INSTALL COUNTERTOPS BY ADHERING TO SUPPORTS WITH WATER CLEANABLE EPOXY 6. SET STONE TO COMPLY WITH REQUIREMENTS INDICATED. SHIM AND ADJUST STONE TO LOCATIONS INDICATED, WITH UNIFORM JOINTS OF WIDTHS INDICATED AND WITH EDGES AND FACES ALIGNED ACCORDING TO ESTABLISHED RELATIONSHIPS. 7. SPACE JOINTS WITH 1/16. INCH GAP FOR FILLING WITH SEALANT. USE TEMPORARY SHIMS TO ENSURE UNIFORM SPACING. CLAMP UNITS TO TEMPORARY BRACING, SUPPORTS, OR EACH OTHER TO ENSURE THAT COUNTERTOPS ARE PROPERLY ALIGNED AND JOINTS ARE OF SPECIFIED WIDTH. 8. COMPLETE CUTOUTS NOT FINISHED IN SHOP. MASK AREAS OF COUNTERTOPS ADJACENT TO CUTOUTS TO PREVENT DAMAGE WHILE CUTTING. USE POWER SAWS WITH DIAMOND BLADES TO CUT STONE. MAKE CUTOUTS TO ACCURATELY FIT ITEMS TO BE INSTALLED, AND AT RIGHT ANGLES TO FINISHED SURFACES UNLESS BEVELING IS REQUIRED FOR CLEARANCE. EASE EDGES SLIGHTLY TO PREVENT SNIPPING. 9. INSTALL BACKSPLASHES AND END SPLASHES BY ADHERING TO WALL WITH WATER • CLEANABLE EPOXY ADHESIVE. LEAVE 1/16 INCH GAP BETWEEN COUNTERTOP AND SPLASHES FOR FILLING WITH SEALANT. USE TEMPORARY SHIMS TO ENSURE UNIFORM SPACING. 10. GROUT JOINTS TO COMPLY WITH ANSI A108.10. REMOVE TEMPORARY SHIMS BEFORE GROUTING. TOOL GROUT UNIFORMLY AND SMOOTHLY WITH PLASTIC TOOL 11. APPLY SEALANT TO JOINTS AND GAPS SPECIFIED FOR FILLING WITH SEALANT; COMPLY WITH SECTION 079200 "JOINT SEALANTS." REMOVE TEMPORARY SHIMS BEFORE APPLYING SEALANT 12. ASSURE THAT SEAMS ARE SMOOTH, LEVEL AND TIGHT. SEAMS SHALL BE FILLED ENTIRELY SO FLUSH WITH COUNTERTOP. POLISH SURFACE AT SEAM. ASSURE THAT FILLER IS "NON • YELLOWING." 13. CLEANING: CLEAN COUNTERTOPS AS WORK PROGRESSES. REMOVE ADHESIVE, GROUT, MORTAR, AND SEALANT SMEARS IMMEDIATELY. CLEAN STONE COUNTERTOPS NO FEWER THAN SIX DAYS AFTER COMPLETION OF INSTALLATION, USING CLEAN WATER AND SOFT RAGS. DO NOT USE WIRE BRUSHES, ACID TYPE CLEANING AGENTS, CLEANING COMPOUNDS WITH CAUSTIC OR HARSH FILLERS, OR OTHER MATERIALS OR 14. SEALER APPLICATION: APPLY STONE SEALER TO COMPLY WITH STONE PRODUCER'S AND SEALER MANUFACTURER'S WRITTEN INSTRUCTIONS. A. REFERENCE CONSTRUCTION DRAWINGS FOR QUANTITY, AND LOCATIONS 3.SUBMITTALS: THE CONTRACTOR SHALL PREPARE, AND SUBMIT TO THE ARCHITECT FOR APPROVAL, COMPLETE SHOP DRAWINGS FOR ALL WORK INCLUDED. PROVIDE PRODUCT DATA IN THE FORM OF MANUFACTURER'S TECHNICAL DATA, SPECIFICATIONS, AND INSTALLATIONS FOR FENCE, POSTS, GATE UPRIGHTS, POST CAPS, GATES, GATE HARDWARE AND ACCESSORIES. VERIFY LAYOUT INFORMATION FOR FENCES AND GATES SHOWN ON THE DRAWINGS IN RELATION TO THE PROPERTY SURVEY AND EXISTING STRUCTURES. VERIFY DIMENSIONS BY FIELD MEASUREMENTS. PROVIDE SAMPLES IN THE FORM OF 3" LENGTHS OF ACTUAL PRODUCT USED. WARRANTY: LIFETIME NON-PRORATED LIMITED TRANSFERABLE WARRANTY APPLIES TO ORIGINAL HOMEOWNER/CONSUMER, OR 30 YEAR NON-PRORATED LIMITED WARRANTY APPLIES TO COMMERCIAL D. BASIS OF DESIGN: DIGGER SPECIALTIES INC.(DSI), POLYVINYL FENCE SYSTEMS. TRI-MAX II, HEIGHT -72" E. <u>MATERIALS:</u> 1. POSTS, RAILS, PICKETS, GATE UPRIGHTS, POST CAPS, AND ACCESSORIES SHALL BE OF HIGH IMPACT, ULTRA VIOLET (U.V.) RESISTANT, RIGID PVC, AND SHALL COMPLY WITH ASTM D 1784, CLASS 14344B. 2.FENCE POSTS: ONE PIECE EXTRUDED, OF LENGTHS INDICATED AND PRE-ROUTED TO RECEIVE RAILS AT SPACING INDICATED. PROVIDE CROSS SECTION, WALL THICKNESS AND CORNER RADIUS MINIMUM TOLERANCES. 3.RAILS: ONE PIECE EXTRUDED, OF LENGTHS INDICATED PRE-ROUTED TO RECEIVE PICKETS AT SPACING PROVIDE CROSS SECTION, WALL THICKNESS AND CORNER RADIUS MINIMUM TOLERANCES. 4. PICKETS: ONE PIECE EXTRUDED, OF LENGTHS INDICATED. PROVIDE CROSS SECTION, WALL THICKNESS AND CORNER RADIUS MINIMUM TOLERANCES. PICKET SPACING FULL PRIVACY. 5.GATE UPRIGHTS: ONE PIECE EXTRUDED, OF LENGTHS INDICATED WITH ALUMINUM U CHANNEL INSERT. PROVIDE CROSS SECTION, WALL THICKNESS AND CORNER RADIUS MINIMUM TOLERANCES 6. POST CAPS: MOLDED, ONE PIECE. CROSS SECTION TO MATCH POST OR GATE SECTION. PROVIDE MINIMUM THICKNESS REQUIREMENTS. CONFIGURATION: FLAT OR FOUR-SIDED AS REQUIRED FOR INSTALLATION TO TOP OF POSTS AND GATE. ACCESSORIES: MANUFACTURERS' STANDARD GATE BRACE, SCREW CAPS, RAIL END REINFORCERS, AND OTHER ACCESSORIES AS REQUIRED. 7. STIFFENER CHANNELS, GALVANIZED STEEL STRUCTURAL CHANNEL. CONFIGURE CHANNELS FOR CONCEALED INSTALLATION WITHIN PVC RAILS WITH PRE-DRILLED HOLES FOR DRAINAGE. ALUMINUM EXTRUDED CHANNEL AVAILABLE UPON REQUEST. CROSS SECTION: 1.775 X 1.700 GALVANIZED STEEL CHANNEL THICKNESS: 0.040 GAUGE (MINIMUM). 8. FASTENERS AND ANCHORAGE: STAINLESS STEEL. ALL FASTENERS TO BE CONCEALED OR COLORED HEADS TO MATCH. PROVIDE SIZES AS RECOMMENDED BY FENCE MANUFACTURER. 9. PVC CEMENT: AS RECOMMENDED BY FENCE MANUFACTURER. 1. GENERAL: PROVIDE HARDWARE AND ACCESSORIES FOR EACH GATE ACCORDING TO THE FOLLOWING REQUIREMENTS: 2. HINGES: COLOR- BLACK, SIZE AND MATERIAL TO SUIT GATE SIZE, NON LIFT-OFF TYPE, SELF CLOSING, GLASS FILLED NYLON WITH ADJUSTER PLATE, OFFSET TO PERMIT 120 DEGREE GATE OPENING. PROVIDE ONE PAIR OF HINGES FOR EACH GATE. 3. LATCH: FINISH TO MATCH HINGE. MANUFACTURERS' STANDARD SELF LATCHING, GLASS FILLED NYLON AND STAINLESS STEEL COMPOSITION SINGLE OR DUAL ACCESS GRAVITY LATCH. PROVIDE ONE LATCH PER GATE. 4. HARDWARE: FINISH TO MATCH HINGE.STAINLESS STEEL. PROVIDE SIZES AS RECOMMENDED BY FENCE MANUFACTURER. 1. CONCRETE: PROVIDE CONCRETE CONSISTING OF PORTLAND CEMENT PER ASTM C 150, AGGREGATES PER ASTM C 33, AND POTABLE WATER. MIX MATERIALS TO OBTAIN CONCRETE WITH A MINIMUM 28-DAY COMPRESSIVE

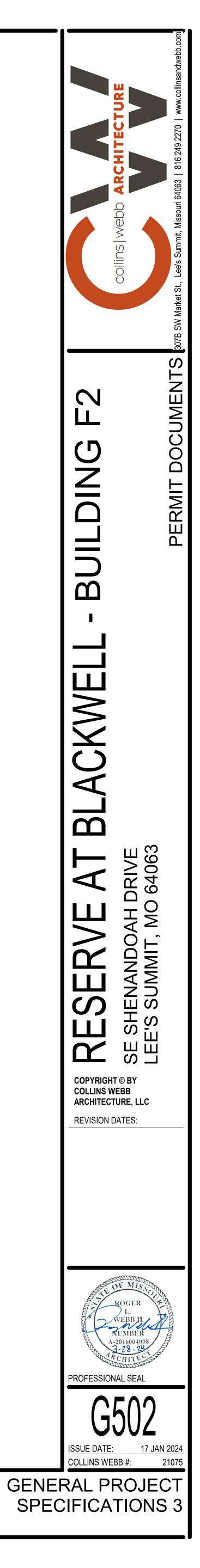
WITH CLEAN WATER TO OBTAIN A 2 TO 3 INCH SLUMP.

I. INSTALLATION INSTALL COMPONENTS IN SEQUENCE AS RECOMMENDED BY FENCE MANUFACTURER.

- A. INSTALL FENCING AS INDICATED ON THE DRAWINGS PROVIDED. B. VARIATIONS FROM THE INSTALLATION INDICATED MUST BE APPROVED. C. VARIATIONS FROM THE FENCE AND GATE INSTALLATION INDICATED AND ALL COSTS FOR REMOVAL AND REPLACEMENT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- D. ALLOW MINIMUM 72 HOURS TO LET CONCRETE SET-UP BEFORE OPENING GATES. E. CLEANING, REMOVE ALL TRACES OF DIRT AND SOILED AREAS.

STRENGTH OF 2000 PSI. USE AT LEASE FOUR SACKS OF CEMENT PER CUBIC YARD, 1-INCH MAXIMUM SIZE AGGREGATE, 3-INCH MAXIMUM SLUMP. USE 1/2 INCH MAXIMUM SIZE AGGREGATE IN POST WHERE REQUIRED. 2. PACKAGES CONCRETE MIX: MIX DRY-PACKAGED NORMAL-WEIGHT CONCRETE CONFORMING TO ASTM C 387

1. INSTALL FENCE IN COMPLIANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS. DURING INSTALLATION, PVC COMPONENTS SHALL BE CAREFULLY HANDLED AND STORED TO AVOID CONTACT WITH ABRASIVE SURFACES.



Abbreviation	03_Abbreviation Schedule Abbreviation Name
+/- ADDNL	PLUS OR MINUS ADDITIONAL
ADJ	ADJACENT
AESS	ARCHITECTURALLY EXPOSED STRUCTURAL STEEL
AFF ALT	ABOVE FINISHED FLOOR
AR	ANCHOR ROD
ARCH B/	ARCHITECT OR ARCHITECTURAL BOTTOM OF
B/W	BETWEEN
BLDG BLKG	BUILDING BLOCKING
BM	BEAM
BOT BRG	BOTTOM BEARING
BWP CFS	BRACED WALL PANEL COLD FORMED STEEL
CHKD	CHECKED
CIP CJ	CAST IN PLACE CONTROL JOINT
CJP	COMPLETE JOINT PENETRATION
CL CLR	CENTERLINE CLEAR
COL CONC	COLUMN CONCRETE
CONN	CONNECTION
CONT CTR	CONTINUOUS CENTER
db	DIA OF REINF BAR, DIA OF BOLT
DBA DIA or Ø	DEFORMED BAR ANCHOR DIAMETER
DIAG	DIAGONAL
DIR DWL	DIRECTION DOWEL
EA EE	EACH EXTENDED END
EJ	EXPANSION JOINT
ELEV ENGR	ELEVATION ENGINEER
EOD	EDGE OF DECK
EOS EQ	EDGE OF SLAB EQUAL
EW	EACH WAY
EXIST EXT	EXISTING EXTERIOR
FDN FLG	FOUNDATION
FLR	FLOOR
FS FTG	FAR SIDE FOOTING
FV	FIELD VERIFY
GA GALV	GAUGE GALVANIZED
GB	GRADE BEAM
GC HORIZ	GENERAL CONTRACTOR HORIZONTAL
HSA HSS	HEADED STUD ANCHOR HOLLOW STRUCTURAL SECTION
IF	INSIDE FACE
INT JST	INTERIOR JOIST
К	KIPS (1000 LBS)
LCE LCS	COMPRESSION EMBEDMENT LENGTH COMPRESSION LAP SPLICE LENGTH
LLH LLV	LONG LEG HORIZONTAL
LTE	TENSION EMBEDMENT LENGTH
LTS LW	TENSION LAP SLICE LENGTH
MFCR	MANUFACTURER
MTL NIC	METAL NOT IN CONTRACT
NS NTS	NEAR SIDE NOT TO SCALE
OC	ON CENTER
OF OPP	OUTSIDE FACE OPPOSITE
OVS	OVERSIZED
P/C PAF	PRECAST POWDER ACTUATED FASTENER
PAR	PARALLEL
PEMB PEN	PRE-ENGINEERED METAL BUILDING PENETRATION
PERP	PERPENDICULAR PLATE
PLF	POUNDS PER LINEAR FOOT
PREFAB PRELIM	PREFABRICATED PRELIMINARY
PSF	POUNDS PER SQUARE FOOT
PSI RC	POUNDS PER SQUARE INCH REINFORCED CONCRETE
RE: REINF	REFER TO REINFORCING
REQD	REQUIRED
RF SC	RIGID FRAME SLIP CRITICAL
SDS	SELF DRILLING SCREW
SIM SLV	SIMILAR SHORT LEG VERTICAL
SOG SQ	SLAB ON GRADE
SS	STAINLESS STEEL
STD STIR	STANDARD STIRRUPS
STL	STEEL
SW SYM	SHEAR WALL SYMMETRIC
T&B	TOP AND BOTTOM
T/ TRANS	TOP OF TRANSVERSE
TYP	TYPICAL UNLESS NOTED OTHERWISE
VERT	VERTICAL
W/ W/O	WITH WITHOUT
	WITHOUT WIDE FLANGE
WF WP	WORK POINT

STRUCTURAL GENERAL NOTES **DESIGN CRITERIA:**

- 1. LIVE LOADS [UNIFORM (PSF) / POINT LOADS (KIPS)]: -- ROOF: 20 PSF / 1.0 K -- ELEVATED FLOORS ... 40 PSF / 1.0 K -- ELEVATED GARAGE FLOORS...... 50 PSF / 2.0 K
- 2. GROUND SNOW LOAD (Pg):..... 20 PSF
- 3. BASIC WIND SPEED (3 SEC GUST):..... 115 MPH
- 4. DECK GUARD RAIL LOAD:.... 200# CONCENTRATED LOAD APPLIED IN ANY DIRECTION
- 5. PREFABRICATED WOOD ROOF TRUSS DESIGN CRITERIA: -- TOP CHORD DEAD LOAD

TOP CHORD DEAD LOAD TOP CHORD ROOF LIVE LOAD BOT CHORD DEAD LOAD BOT CHORD LIVE LOAD LIVE LOAD DEFLECTION CRITERIA TOTAL LOAD DEFLECTION CRITERIA	20 PSF 10 PSF 20 PSF OVER GAR 10 PSF EVERYWHE MIN OF L/360	AGES ERE EXCEPT GARAG
AREA	MIN DEAD LOAD	MIN LIVE LOAD
BALCONIES (EXTERIOR) AND DECKS	10	40
CEILING JOISTS W/O STORAGE (SCUTTLE ACCESS ONLY)	10	10
CEILING JOISTS - ATTICS W/ STORAGE (DOOR OR PULL DOWN LADDER ACCESS)	10	20
ROOMS - NON SLEEPING	15	40
SLEEPING ROOMS	15	30
ROOF - LIGHT ROOF COVERING	15	20
ROOF - HEAVY ROOF COVERING (CONCRETE/TILE/SLATE)	20	20

STRUCTURAL GENERAL NOTES:

1. DESIGN AND CONSTRUCTION SHALL CONFORM TO THE "INTERNATIONAL RESIDENTIAL CODE, 2018 EDITION". CONSULT WITH THE LOCAL JURISDICTION FOR INSPECTION REQUIREMENTS

2. CONTRACTOR TO VERIFY ALL DIMENSIONS, ELEVATIONS AND EXISTING CONDITIONS AND REPORT ANY DISCREPANCIES TO THE ARCHITECT IMMEDIATELY. 3. IF DISCREPANCIES EXIST BETWEEN STRUCTURAL PLANS, ARCHITECTURAL PLANS,

OTHER PLANS, OR SPECIFICATIONS, THE CONTRACTOR OR SUBCONTRACTOR SHALL PROVIDE A WRITTEN REQUEST FOR CLARIFICATION FROM THE ARCHITECT AND/OR ENGINEER PRIOR TO PROCEEDING WITH THE WORK

4. THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER THE BUILDING IS FULLY COMPLETED. IT IS SOLELY THE CONTRACTOR'S RESPONSIBILITY TO EXECUTE AND DETERMINE FINAL ERECTION PROCEDURES, SEQUENCING AND TO ENSURE THE SAFETY OF THE BUILDING AND ITS COMPONENT PARTS DURING ERECTION.

5. FABRICATORS AND SUPPLIERS SHALL CLEARLY NOTE AND HIGHLIGHT CHANGES MADE IN SHOP DRAWINGS, WHICH DO NOT COMPLY WITH THE CONTRACT DOCUMENTS. 6. BEAMS, COLUMNS, WALLS, AND FOOTING CENTERS SHALL BE CENTERED UNDER SUPPORTING MEMBERS (TYPICAL UNLESS NOTED OTHERWISE).

EARTHWORK AND FOUNDATIONS:

1. PRESUMPTIVE ALLOWABLE BEARING PRESSURE = 1,500 PSF (PER THE IRC), ALL FOOTINGS AND FOUNDATIONS SHALL BEAR ON NATIVE UNDISTURBED SOIL. NOTIFY ENGINEER IF FILL IS ENCOUNTERED BELOW FOOTING BEARING LOCATIONS. 2. ALL PERIMETER AND EXTERIOR FOOTINGS SHALL EXTEND AT LEAST 3'-0" BELOW FINAL ADJACENT GRADE. DEEPEN FOOTINGS AS REQUIRED TO PROVIDE THIS MINIMUM

BOTTOM OF FOOTING. 3. SURFACE WATER SHALL NOT BE ALLOWED TO STAND ADJACENT TO OR DRAIN TOWARDS THE FOUNDATION UNDER ANY CIRCUMSTANCES. PAVEMENTS OR GRADED SOILS AT THE PERIMETER OF THE BUILDING. EXCEPT AS REQUIRED AT EXITS OR AS NOTED, SHALL BE SLOPED AWAY AT 5% OR 6" MIN FOR THE FIRST TEN FEET.

4. FOOTINGS MAY BE POURED TO NEAT LINES OF EXCAVATIONS PROVIDING VERTICAL LINES OF EXCAVATIONS CAN BE MAINTAINED DURING CONCRETE PLACEMENT.

5. FOUNDATION CONTRACTOR TO ENSURE PROPER ANCHOR ROD PROJECTION AND THAT ANCHOR RODS ARE HELD SECURELY IN POSITION PRIOR TO CONCRETE PLACEMENT. STRUCTURAL STEEL COLUMN ANCHOR RODS SHALL BE SET WITH A TEMPLATE.

6. FOUNDATION WALL BACKFILL SHALL NOT BE UNBALANCED BY MORE THAN TWO FEET ON EITHER SIDE AT ANY TIME. BASEMENT WALL AND RESTRAINED RETAINING WALL BACKFILL SHALL NOT BE PLACED, UNLESS THE WALL IS ADEQUATELY BRACED. RETAINING WALL AND BASEMENT WALL BACKFILL SHALL BE FREE DRAINING GRANULAR BACKFILL.

7. SOIL CONDITIONS AT THE TIME OF CONSTRUCTION SHOULD BE EVALUATED BY THE CONTRACTOR. SOIL THAT IS TOO DRY OR TOO WET MAY BE SUBJECT TO EXCESSIVE SHRINKING OR SWELLING. IN ADDITION, SOME ON-SITE SOILS MAY BE UNSUITABLE FOR BACK FILL. CONSULT WITH A GEOTECHNICAL ENGINEER AS NEEDED FOR SITE PREP REQUIREMENTS.

PRE-FABRICATED WOOD ROOF TRUSS NOTES:

1. THE WOOD FLOOR TRUSS MANUFACTURER SHALL SUBMIT SHOP DRAWINGS FOR ENGINEER'S REVIEW. THE SHOP DRAWINGS SHALL INCLUDE PLACING PLANS OF ALL TRUSSES CLEARLY LABELED, DETAILS OF TRUSS CONNECTIONS AND ANCHORAGES, DETAILS OF METAL CONNECTORS USED AT JOINTS, AND ENGINEERING DESIGN DATA. THE ENGINEERING DESIGN FOR EACH TYPE OF TRUSS SHALL INCLUDE: TRUSS LOCATION IDENTIFICATION, ALL LOADINGS AND REACTIONS, WOOD SPECIES AND STRESS GRADES, MEMBER STRESSES, JOINT CONNECTIONS, CONFIGURATION, TRUSS TO TRUSS CONNECTIONS, BRACING FOR LATERAL STABILITY OF THE COMPLETED FRAMING SYSTEM, AND THE PROFESSIONAL ENGINEERS SEAL OF THE PERSON RESPONSIBLE FOR THE DESIGN OF THE TRUSSES/TRUSS SYSTEM.

2. THE CONTRACTOR SHALL FURNISH A COPY OF THE PREFAB TRUSS SHOP DRAWINGS TO BUILDING OFFICIAL FOR THEIR RECORDS.

3. TRUSS MEMBERS AND COMPONENTS SHALL NOT BE FIELD CUT, NOTCHED, DRILLED, OR ALTERED IN ANY WAY WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER RESPONSIBLE FOR THE TRUSS DESIGN.

WHICHEVER IS GREATER.

NOTED OTHERWISE).

ALLOWED. CAST IN PLACE CONCRETE:

2. REQUIRED MINIM

a. FOOTING AND b. FOUNDATION c. INTERIOR SOC d. EXTERIOR SLAB ON GRADE AND GARAGE FLOOR SLABS ... 4,000 PSI

8. ALL CONCRETE IS REINFORCED UNLESS SPECIFICALLY NOTED AS

CHANGES IN WALL THICKNESS.

UNLESS NOTED OTHERWISE.

SPACING. 15. MINIMUM REINFORCING IN PERIMETER STEM WALL SHALL BE #4 VERTS @ 16"

16" OC MAX.

STRUCTURAL STEEL: UNLESS NOTED OTHERWISE): e. ROUND PIPE - ASTM A53, GRB (FY=35 KSI MIN)

EXCLUDING SECTION 4.4.1.B.

c. AWS D1.6 – STRUCTURAL WELDING CODE – STAINLESS STEEL

STRUCTURAL ENGINEER. CONFORMING TO ASTM C1107.

CONCRETE AND MASONRY REINFORCING STEEL:

1. ALL REINFORCING BARS SHALL MEET ASTM A615 GRADE 40. 2. ALL MESH SHALL MEET ASTM A-185: LAP A MINIMUM OF 8" OR ONE FULL MESH,

3. CONCRETE PROTECTION FOR REINFORCEMENT SHALL BE ³/₄" CLEAR FOR SLABS, 2" CLEAR FOR FORMED SURFACES AND 3" CLEAR FOR FOOTINGS (TYPICAL UNLESS

4. CONTRACTOR SHALL VERIFY THAT ALL REINFORCEMENT, SLAB DOWELS, INSERTS. SLEEVES AND EMBEDDED ITEMS ARE PROPERLY LOCATED AND RIGIDLY SECURED PRIOR TO CONCRETE PLACEMENT, "WET STICKING" DOWELS WILL NOT BE

1. CONCRETE CONSTRUCTION SHALL ADHERE TO THE RECOMMENDATIONS AND REQUIREMENTS OF ACI 332 - "REQUIREMENTS FOR RESIDENTIAL CONCRETE CONSTRUCTION" (UNLESS NOTED OTHERWISE)

MUM CONCRETE COMPRESSIVE STR	RENGTHS AT 28 DAYS:
D GRADEBEAM CONCRETE	
WALL CONCRETE	4,000 PSI
)G	3,500 PSI

3. EXTERIOR CONCRETE (FLOOR SLABS, WALLS, ETC) INCLUDING GARAGE FLOORS SHALL HAVE 6% (PLUS/MINUS 1%) ENTRAINED AIR.

4. CHAMFER ALL EXPOSED CONCRETE EDGES 3/4" (VERIFY WITH ARCHITECT).

5. NO ALUMINUM SHALL BE EMBEDDED IN ANY CONCRETE

6. NO CALCIUM CHLORIDE SHALL BE USED IN CONCRETE.

7. THE DESIGN, CONSTRUCTION, AND SAFETY OF ALL FORMWORK IS THE RESPONSIBILITY OF THE CONTRACTOR.

UNREINFORCED. REINFORCE ALL CONCRETE NOT OTHERWISE SHOWN WITH THE SAME REINFORCING AS SIMILAR SECTIONS OR AREAS.

9. CONSTRUCTION JOINTS IN GRADE BEAMS, CONTINUOUS FOOTINGS, AND WALLS THAT DO NOT CHANGE DIRECTION SHALL BE SPACED NO GREATER THAN 60'-0". INTERMEDIATE CONTROL JOINTS SHALL BE SPACED AT 25'-0" MAX FOR WALLS. CONTROL JOINTS IN WALLS SHALL ALSO BE LOCATED 15'-0" FROM CORNERS AND AT

10. WHERE FRESH CONCRETE IS DEPOSITED AGAINST HARDENED CONCRETE (GREATER THAN 8 HRS OLD), CLEAN EXISTING SURFACE OF LAITANCE AND FOREIGN MATERIAL AND DAMPEN THE EXISTING SURFACE. IF REQUIRED, ROUGHEN EXISTING CONCRETE TO 1/4" AMPLITUDE.

11. SLABS ON GRADE SHALL BE 4" THICK MIN ON 6" OF GRANULAR FILL. REINF SLAB WITH 6 x 6-W2.1xW2.1 WWR. #3 BARS AT 18" OC. OR #4 BARS AT 24" OC (UNLESS NOTED OTHERWISE). ALL REINF SHALL BE PLACED IN UPPER 1/3 OF SLAB THICKNESS. AT INTERIOR SLABS, AN 8 MIL VAPOR BARRIER SHALL BE PLACED BETWEEN THE CONCRETE AND GRANULAR BASE AND CARE SHOULD BE TAKEN DURING CURING TO PREVENT SLAB CURLING. THIS NOTE SHALL BE TYPICAL

12. SAW CUT JOINTS OR KEYED CONSTRUCTION JOINTS IN SLABS ON GRADE SHALL BE SPACED TO DIVIDE THE SLAB INTO PANELS NOT TO EXCEED 225 SQUARE FEET. THE LONGER DIMENSION OF EACH PANEL SHALL NOT EXCEED THE SHORTER DIMENSIONS BY MORE THAN 40%. JOINTS SHALL BE LOCATED AT COLUMN CENTERLINES WHERE POSSIBLE. SPACING BETWEEN JOINTS SHALL NOT EXCEED 15

FEET. CONTRACTOR SHALL SUBMIT JOINT LAYOUT TO ARCHITECT FOR APPROVAL. 13. REINFORCEMENT SHALL BE CONTINUOUS AND LAPPED 53 BAR DIAMETERS (2' -6" MIN) EXCEPT AS NOTED AND PROVIDE CORNER BARS OF SAME SIZE AND

14. MINIMUM REINFORCING AROUND CONCRETE WALL OPENINGS 2'-0" OR GREATER (TYPICAL UNLESS NOTED OTHERWISE): (2) #5, EXTEND REINF 2'-0" PAST OPENINGS. PROVIDE (2) #5 x 4'-0" DIAGONAL BARS AT CORNERS.

OC WITH STD HOOKS INTO FOOTING AND #4 HORIZ @ 16" OC MAX. IN FOOTING PROVIDE (2) #4 CONTINUOUS W/ #4 TRANSVERSE @ 16" OC MAX. 16. MINIMUM REINFORCING IN ROUND PIERS SHALL BE (5) #3 VERTS W/ #3 TIES AT

1. STRUCTURAL STEEL SHAPES AND PLATE MATERIAL REQUIREMENTS (TYPICAL a. WIDE FLANGE SHAPES – ASTM A992 (FY = 50 KSI MIN.) b. CHANNELS, ANGLES, AND PLATES: - ASTM A36 (FY = 36 KSI MIN) c. RECTANGULAR HSS – ASTM A500, GR B (FY = 46 KSI) d. ANCHOR RODS – ASTM F1554 (FY = 36 KSI MIN)

2. STRUCTURAL STEEL SHALL BE NEW AND MEET THE 15TH EDITION AISC "SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS AND BRIDGES", AND THE "CODE OF STANDARD PRACTICES FOR STEEL BUILDINGS AND BRIDGES",

3. WELDING SHALL CONFORM TO THE CURRENT AND APPLICABLE AWS STANDARDS AND BE COMPLETED BY AN AWS CERTIFIED WELDER. a. AWS D1.1 – STRUCTURAL WELDING CODE – STEEL b. AWS D1.3 – STRUCTURAL WELDING CODE – SHEET STEEL

4. WELD SIZES SHALL BE INCREASED TO MEET THE REQUIRED EFFECTIVE THROAT WIDTH IF GAPS EXIST AT THE FAYING SURFACE.

5. NO COLUMN OR BEAM SPLICES, UNLESS CLEARLY INDICATED ON THE STRUCTURAL DRAWINGS, WILL BE ALLOWED WITHOUT WRITTEN APPROVAL OF THE

6. GROUT WHERE INDICATED ON PLANS AT BASE PLATES SHALL BE NON-METALLIC NON-SHRINK WITH A MINIMUM COMPRESSIVE STRENGTH OF 6,000 PSI AT 28 DAYS

7. ALL POST INSTALLED ANCHORS WHERE NOTED SHALL BE MANUFACTURED BY HILTI, INC. OR SIMPSON STRONG TIE AND BE INSTALLED PER THE MANUFACTURERS SPECIFICATIONS. SUBSTITUTIONS SHALL BE SUBMITTED FOR REVIEW AND

APPROVAL WITH APPROPRIATE ICBO EVALUATION REPORTS.

WOOD:

1. FRAMING MATERIAL: A. NOMINAL STRUCTURAL LUMBER -- NO.2 OR BETTER, KD D. FIR, MIN Fb = 900 PSI, MIN E = 1,400 KSI. B. EXPOSED NOMINAL STRUCT LUMBER -- PRESS TREATED NO.2 OR BETTER, MIN Fb = 1,000 PSI, MIN E = 1,300 KSI C. MICROLLAM LVL (LAMINATED VENEER LUMBER) BEAMS SHALL MEET TRUS JOIST SPECIFICATIONS: MINIMUM Fb = 2,600 PSI AND MINIMUM E = 1,900 KSI. D. TIMBERSTRAND LSL (LAMINATED STRAND LUMBER) BEAMS SHALL MEET TRUS

JOIST SPECIFICATIONS: MINIMUM Fb = 2.600 PSI AND MINIMUM E = 1.700 KSI.

E. GLULAM FRAMING: 24F-V4 DOUGLAS FIR, ARCHITECTURAL FINISH (COORD W/ ARCH). 2. SUBSTITUTIONS OF SPECIFIED WOOD MEMBERS SHALL NOT BE MADE WITHOUT REVIEW OF THE ARCHITECT/ENGINEER.

3. WOOD SHEATHING: A. ROOF SHEATHING SHALL BE 7/16" WITH AN APA SPAN RATING OF 32/16, EXPOSURE 1, MINIMUM 2 SPAN, FASTEN PER THE CHART ON THIS PAGE. IF ROOF

RAFTER SPACING IS 24" OR GREATER THEN USE PLYCLIPS AT MIDSPAN. B. FLOOR SHEATHING SHALL BE TONGUE AND GROOVE, EXPOSURE 1, MINIMUM 2 SPAN, FASTENED WITH APA APPROVED ADHESIVE AND PER THE CHART ON THIS PAGE -WHEN CLEAR DISTANCE BETWEEN FLOOR JOISTS OR FLOOR TRUSSES IS

16" OR LESS USE 3/4" SHEATHING WITH AN APA SPAN RATING OF 48/24. --WHEN CLEAR DISTANCE BETWEEN FLOOR JOISTS OR FLOOR TRUSSES IS GREATER THAN 16" USE 7/8" SHEATHING WITH AN APA SPAN RATING OF 60/32

C. WALL SHEATHING FOR EXTERIOR WALLS SHALL BE 7/16" WITH AN APA SPAN RATING OF 24/16, UNLESS NOTED OTHERWISE. ALL PANEL EDGES SHALL BE BACKED WITH 2 INCH NOMINAL OR WIDER FRAMING. FASTEN WITH 8d COMMON NAILS AT 6" OC MAXIMUM AT ALL TOP PLATES, BLOCKING, BOUNDARIES AND 10" OC MAXIMUM IN THE FIELD.

4. ALL WOOD SHEATHING TO BE STAGGERED 4'x8' SHEETS ORIENTED PERPENDICULAR TO SUPPORTING MEMBERS.

5. PROVIDE 1/8" GAP AT ALL SHEATHING PANEL EDGES AND END JOINTS UNLESS OTHERWISE SPECIFIED BY THE MANUFACTURER. DUE TO CONSTRUCTION CONDITIONS, TEMPORARY EXPANSION JOINTS MAY BE REQUIRED IN FLOOR/ROOF SHEATHING.

6. ALL HEADERS IN EXTERIOR OR INTERIOR BEARING WALLS SPANNING MORE THAN 3'-8" SHALL BE SUPPORTED ON DOUBLE STUDS UNLESS NOTED OTHERWISE.

7. LIGHT GAUGE WOOD FRAMING CONNECTORS AS NOTED ON THE PLANS FOR WOOD JOISTS, COLUMNS, BEAMS AND TRUSSES SHALL BE "STRONG – TIE" CONNECTORS BY THE SIMPSON CO. OR REVIEWED EQUIVALENT. CONNECTORS IN DIRECT CONTACT WITH PRESSURE TREATED LUMBER SHALL HAVE "ZMAX" G185 HOT DIP GALVANIZED COATING OR REVIEWED EQUIVALENT.

8. STAINLESS STEEL FASTENERS, ANCHOR BOLTS, LIGHT GAUGE CONNECTORS, ETC. MAY BE SUBSTITUTED FOR HOT DIP GALVANIZED MATERIALS AT THE CONTRACTORS OPTION.

9. ALL RAFTER AND CEILING JOIST CONNECTIONS SHALL COMPLY WITH IRC SECTION 802.3. PROVIDE UPLIFT CONNECTORS AT ROOF TO WALL CONNECTIONS PER IRC SECTION 802.11.

10. STUDS SHALL BE CONTINUOUS FROM FLOOR TO ROOF DIAPHRAGM PER IRC SECTION 602.3. WALL STUDS SHOULD NOT BE INTERRUPTED AT GABLE WALLS UNLESS BRACED BY A CEILING. WALLS EXTENDING HIGHER THAN TYPICAL SINGLE FLOOR PLATFORM FRAMING, SHALL BE CONTINUOUS (NOT INTERRUPTED) TO NEXT FLOOR ELEVATION OR ROOF.

11. SILL ANCHOR RODS SHALL BE 1/2" DIAMETER EMBEDDED 7" MIN INTO CONCRETE, SPACED NO FURTHER THAN 3'-0" OC, AND SHALL OCCUR WITHIN 12" OF THE ENDS OF A SILL PLATE. EACH SILL PLATE SHALL HAVE A MINIMUM OF 2 ANCHOR RODS. PROVIDE 2" SQ PLATE WASHERS AND NUTS.

12. PROVIDE FULL DEPTH 2x BLOCKING BETWEEN JOISTS OVER ALL INTERIOR LOAD BEARING WALLS AND AT DOWNSET GIRDERS

13. PROVIDE SOLID BLOCKING IN FLOOR FRAMING BELOW LOAD BEARING WALLS AND POINT LOADS ABOVE. BELOW POINT LOADS BLOCKING AREA SHOULD MATCH SIZE OF POST ABOVE.

GARAGE

1. THE GARAGE FLOOR SHALL SLOPE TOWARD THE GARAGE DOOR.

2. NEW GARAGE DOOR SHALL BE A 20 MINUTE OR 1-3/8" SOLID WOOD DOOR BETWEEN THE HOUSE AND GARAGE.

3. 1/2" GYP BOARD SHALL BE USED ON WALLS BETWEEN GARAGE AND HOUSE. 5/8" TYPE-X GYP BOARD SHALL BE USED ON THE GARAGE CEILING.

GENERAL NOTES:

1. THE DRAWING SET IS CONSIDERED TO BE "BUILDERS PLANS" WHEREBY SOME ASPECTS OF THE PROJECT'S REQUIREMENTS ARE LEFT TO THE CONTRACTOR TO UNDERSTAND AND IMPLEMENT. AS SUCH, IT IS A REQUIREMENT THAT THE CONTRACTOR (BUILDER) BE COMPETENT IN RESIDENTIAL CONSTRUCTION AND HAVE A THOROUGH UNDERSTANDING OF THE APPLICABLE INTERNATIONAL RESIDENTIAL CODES (IRC). THE CONTRACTOR IS RESPONSIBLE FOR MEETING THE REQUIREMENTS OF THE BUILDING CODE WHETHER EXPLICITLY STATED OR NOT. IF ADDITIONAL DETAIL OR GUIDANCE IS NEEDED BY THE CONTRACTOR OR HOMEOWNER, A WRITTEN REQUEST FOR SUCH GUIDANCE MAY BE SUBMITTED TO THE ENGINEER.

2. REFER TO THE IRC FOR ALL REQUIREMENTS NOT SPECIFICALLY STATED IN THE PLANS. THIS INCLUDES FIRE RATINGS, LIGHTING AND VENTILATION, SANITATION, GLAZING, GARAGES, SMOKE ALARMS AND CARBON MONOXIDE ALARMS, MEANS OF EGRESS, AND PROTECTION AGAINST DECAY AND TERMITES.

3. CONTRACTOR SHALL ENSURE THAT ALL MECHANICAL, ELECTRICAL, AND PLUMBING IS DESIGNED AND INSTALLED TO MEET THE REQUIREMENTS OF THE APPLICABLE IRC.

4. EGRESS WINDOWS SHALL COMPLY WITH SECTION 310 OF THE IRC. 5. WALL COVERINGS SHALL BE WATER-RESISTANT AND COMPLY WITH SECTION 703.2 OF THE IRC.

6. WINDOWS SHALL HAVE FALL PROTECTION PER IRC 312.2.

7. PROVIDE CARBON MONOXIDE DETECTORS PER IRC SECTION R315.

8. ALL NEW CONSTRUCTION SHALL COMPLY WITH THE ENERGY CONSERVATION CODE AS LISTED IN CHAPTER 11 OF THE IRC. THIS INCLUDES:

-- WALLS - INSULATE WITH R-13 MIN -- ATTICS - INSULATE WITH R-49 MIN (EXCEPTION: R-38 FOR VAULTED CEILINGS); USE 8" OF RIGID INSULATION (R40) IN VAULTED CEILINGS

-- FLOORS OVER UNCONDITIONED SPACE - INSULATE WITH R-19 MIN -- CRAWL SPACE WALLS - INSULATE WITH R-10 MIN -- BASEMENT WALLS - R-13 CAVITY OR R-10 CONTINUOUS

-- SLABS SHALL BE R-10 FOR A DEPTH OF 2'-0" -- DUCTWORK OUTSIDE OF CONDITIONED SPACES - R-8 MIN -- WINDOWS SHALL HAVE A "U" VALUE OF 0.35 OR BETTER

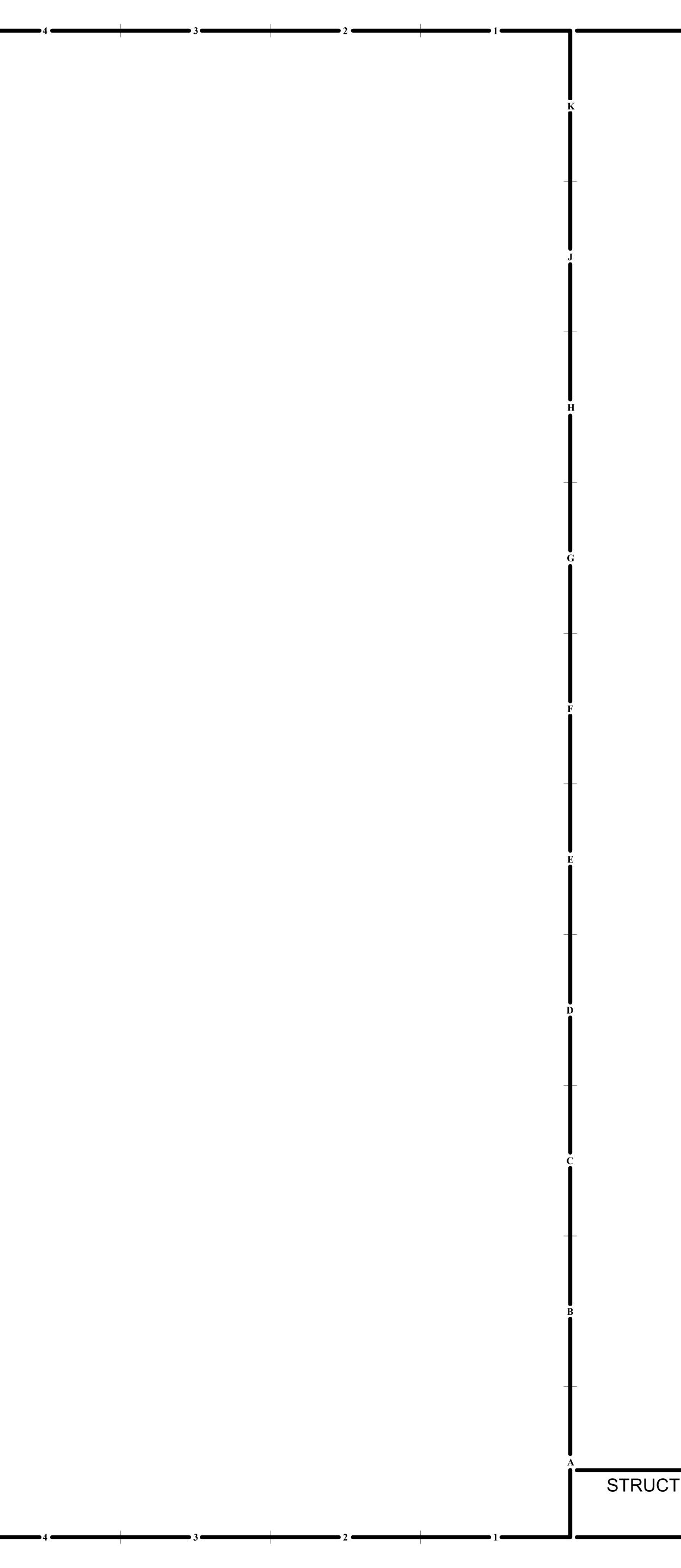
9. ALL EXTERIOR DOORS INCLUDING THE DOOR LEADING FROM THE GARAGE TO THE DWELLING UNIT SHALL INCORPORATE THE PHYSICAL SECURITY REQUIREMENTS OF THE LOCAL JURISDICTION AS REQUIRED.

10. THE THERMAL ENVELOPE OF THE BUILDING IS REQUIRED TO BE SEALED PER IRC SECTION N1102.4.1 AND TABLE N1102.4.1.1.

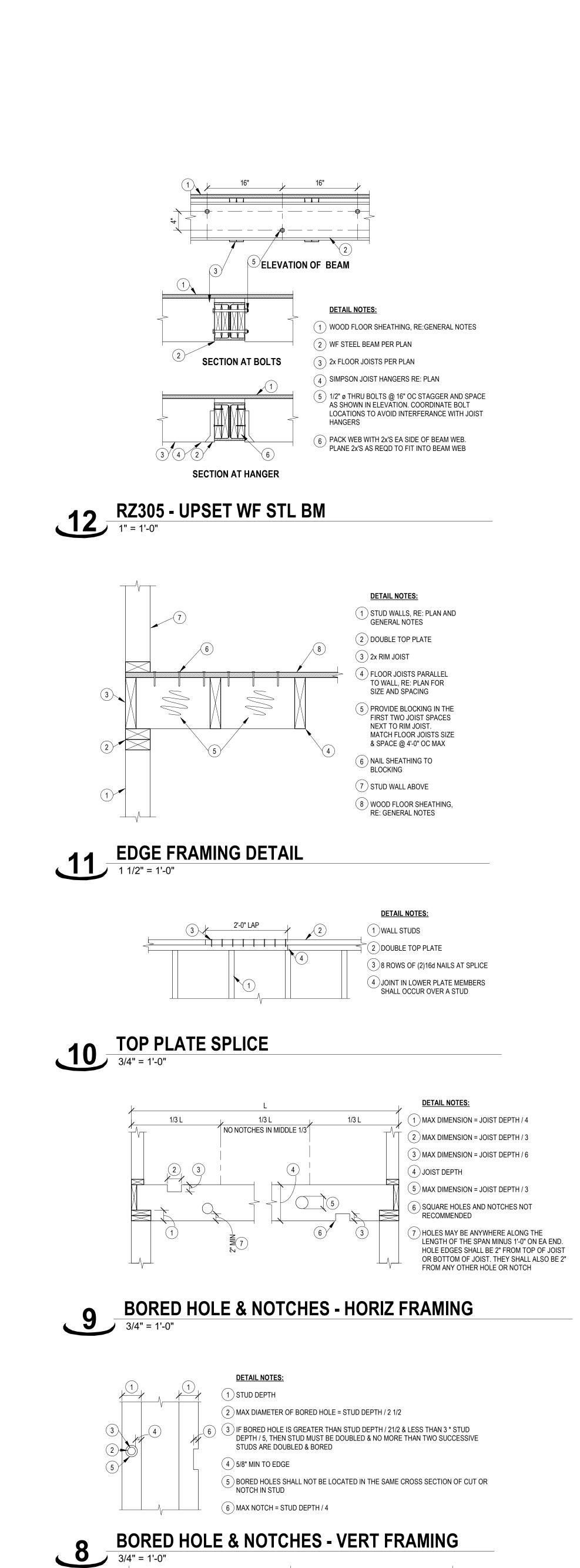
11. ALL DUCTS, AIR HANDLERS, FILTER BOXES, AND BUILDING CAVITIES USED AS DUCTS SHALL BE SEALED PER IRC SECTION N1103.2.2.

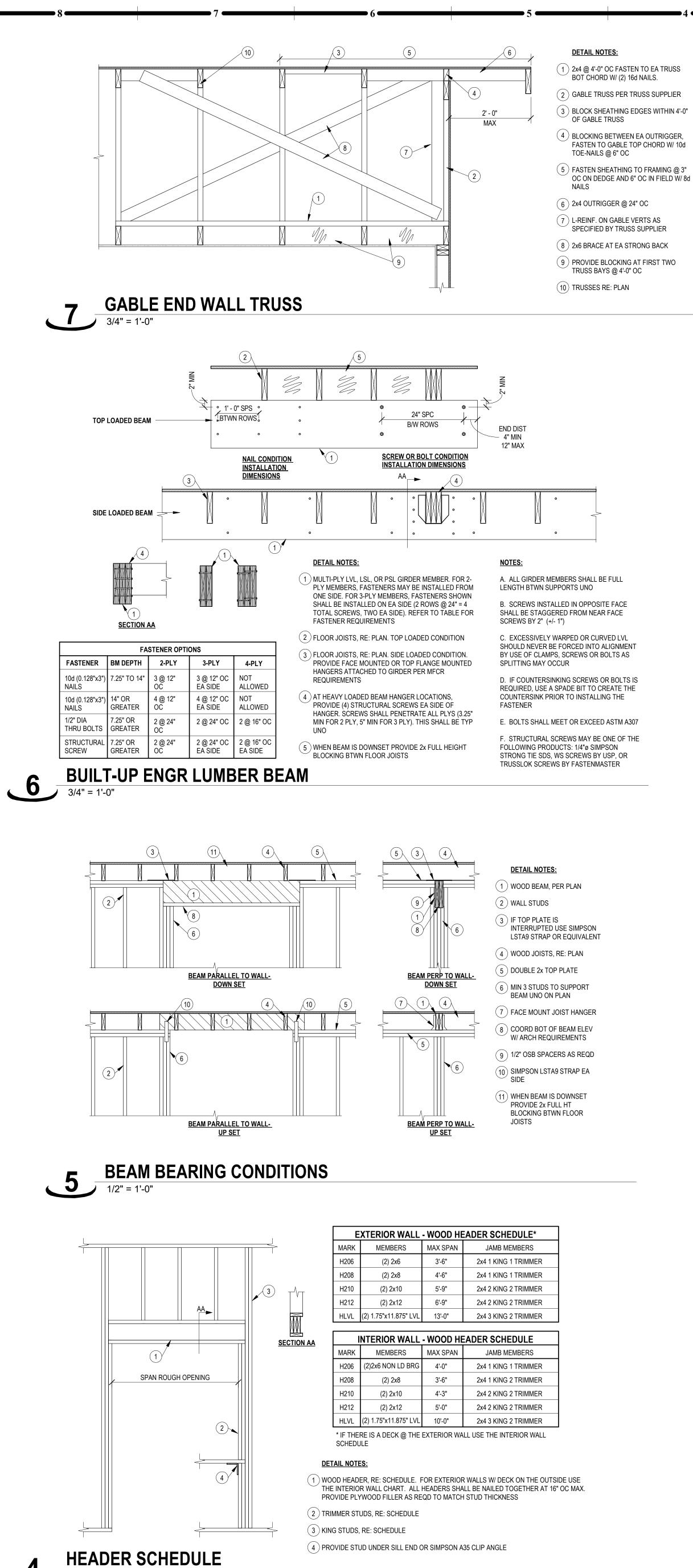
<u>GLAZING</u>

1. GLAZING IN HAZARDOUS LOCATIONS SHALL BE APPROVED SAFETY GLAZING MATERIALS PER IRC SECTION R308.

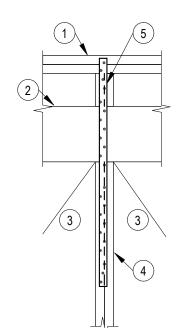








4 1/2" = 1'-0"



DETAIL NOTES: 1) DOUBLE TOP PLATE) HEADER, RE: PLAN FOR SIZE RUN CONT OVER TOP OF CENTER STUDS (3) WINDOW OR DOOR OPENING (4) MIN (2) STUDS BTWN OPENINGS

(5) LSTA36 STRAP ON BOTH SIDES OF THE WALL

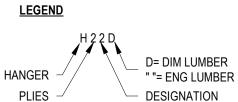
STRAP BETWEEN OPENINGS 3/4" = 1'-0"

DIM	DIM LUMBER - FACE MOUNTED HANGER SCHEDULE				
MARK	HANGER	FACE NAILS	JOIST NAILS	CAPACITY (LB)	
H11D	LUS210	(8) 10d x 1 1/2"	(4) 10d x 1 1/2"	1,032	
H21D	LUS210-2	(8) 10d	(6) 10d	1,537	
H22D	HU210-2	(18) 10d	(10) 10d	2,251	
H23D	HHUS210-2	(30) 10d	(10) 10d	4,738	
H31D	LUS210-3	(8) 10d	(6) 10d	1,537	
H32D	HHUS210-3	(30) 10d	(10) 10d	4,738	
H33D	HGUS210-3	(46) 10d	(16) 10d	7,644	
H41D	HU210-4	(18) 10d	(8) 10d	2,253	
H42D	HHUS210-4	(30) 10d	(10) 10d	4,733	
H43D	HGUS210-4	(46) 10d	(16) 10d	7,644	

ENG LUMBER - FACE MOUNTED HANGER SCHEDULE

MARK	HANGER	FACE NAILS	JOIST NAILS	CAPACITY (LB)
H1	HU9	(18) 10d x 1 1/2"	(6) 10d x 1 1/2"	1,715
H21	HUS410	(8) 10d	(8) 10d	1,785
H22	HHUS410	(30) 10d	(10) 10d	4,754
H23	HGUS410	(46) 10d	(16) 10d	7,644
H31	HU610	(18) 10d	(8) 10d	2,251
H32	HHUS5.50/10	(30) 10d	(10) 10d	4,754
H33	HGUS5.50/10	(46) 10d	(16) 10d	7,644
H41	HU410	(18) 10d	(8) 10d	2,251
H42	HHUS7.25/10	(30) 10d	(10) 10d	4,754
H43	HGUS7.25/10	(46) 10d	(16) 10d	7,644

HANGER SCHEDULE NOTES: 1. ALL HANGER DESIGNATIONS ARE BASED ON SIMPSON STRONG TIE, D. FIR



2. IF HANGER DESIGNATION IS FOLLOWED BY (16d) ON PLANS, USE 16d NAILS IN LIEU OF 10d. 3. NAILS: 10d = 0.148" DIA x 3" LONG, 16d = 0.162" DIA x 3.5" LONG, 10d x 1 1/2" = 0.148" DIA x 1 1/2" LONG



DETAIL NOTES:

2) ROOF RAFTERS, RE: PLAN

(4) GUTTER ON FASCIA BOARD

(5) 2x6 SUB-FASCIA, OR AS REQD

3) ROOFING, RE: ARCH

6)SOFFIT BOARD

LSL W/ I JOISTS

12 NOT USED

11) HOUSEWRAP OVER SHEATHING

13) VAPOR BARRIER BELOW SLAB, RE: GENERAL NOTES

(17) 2x6 TREATED SILL PLATE. ANCHOR, RE: GENERAL NOTES

DIRECTION, PROVIDE BLOCKING PER TYP DTL WD-110

(19) WOOD FLOOR SHEATHING, RE: GENERAL NOTES

(23) INSULATION, RE: ENERGY REQUIREMENT NOTES

ADDITIONAL FASTENER REQUIREMENT LOCATIONS

(18) WOOD FLOOR JOIST, RE: PLAN. WHERE JOISTS RUN OPPOSITE

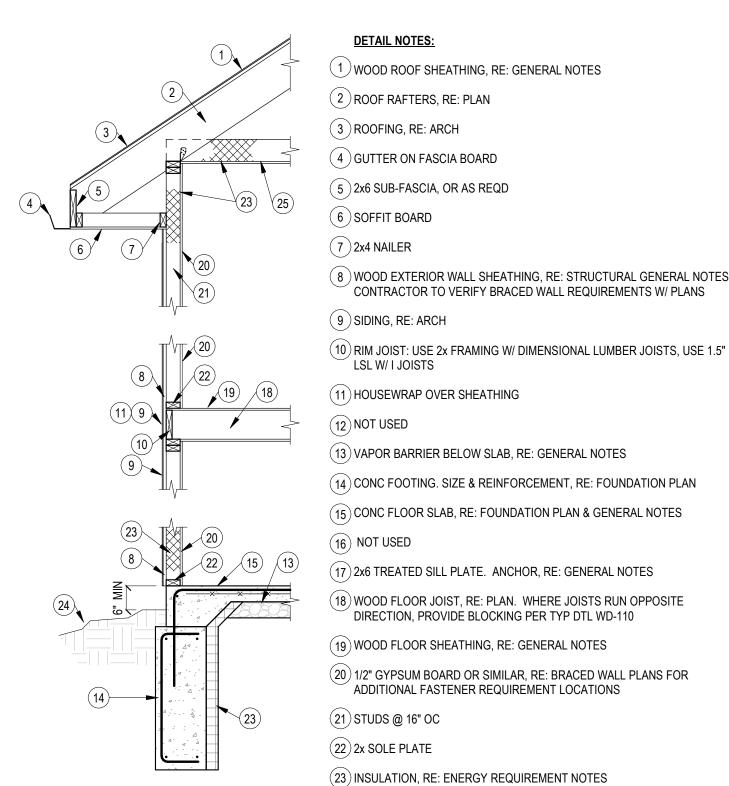
20) 1/2" GYPSUM BOARD OR SIMILAR, RE: BRACED WALL PLANS FOR

(14) CONC FOOTING. SIZE & REINFORCEMENT, RE: FOUNDATION PLAN

7)2x4 NAILER

1) WOOD ROOF SHEATHING, RE: GENERAL NOTES

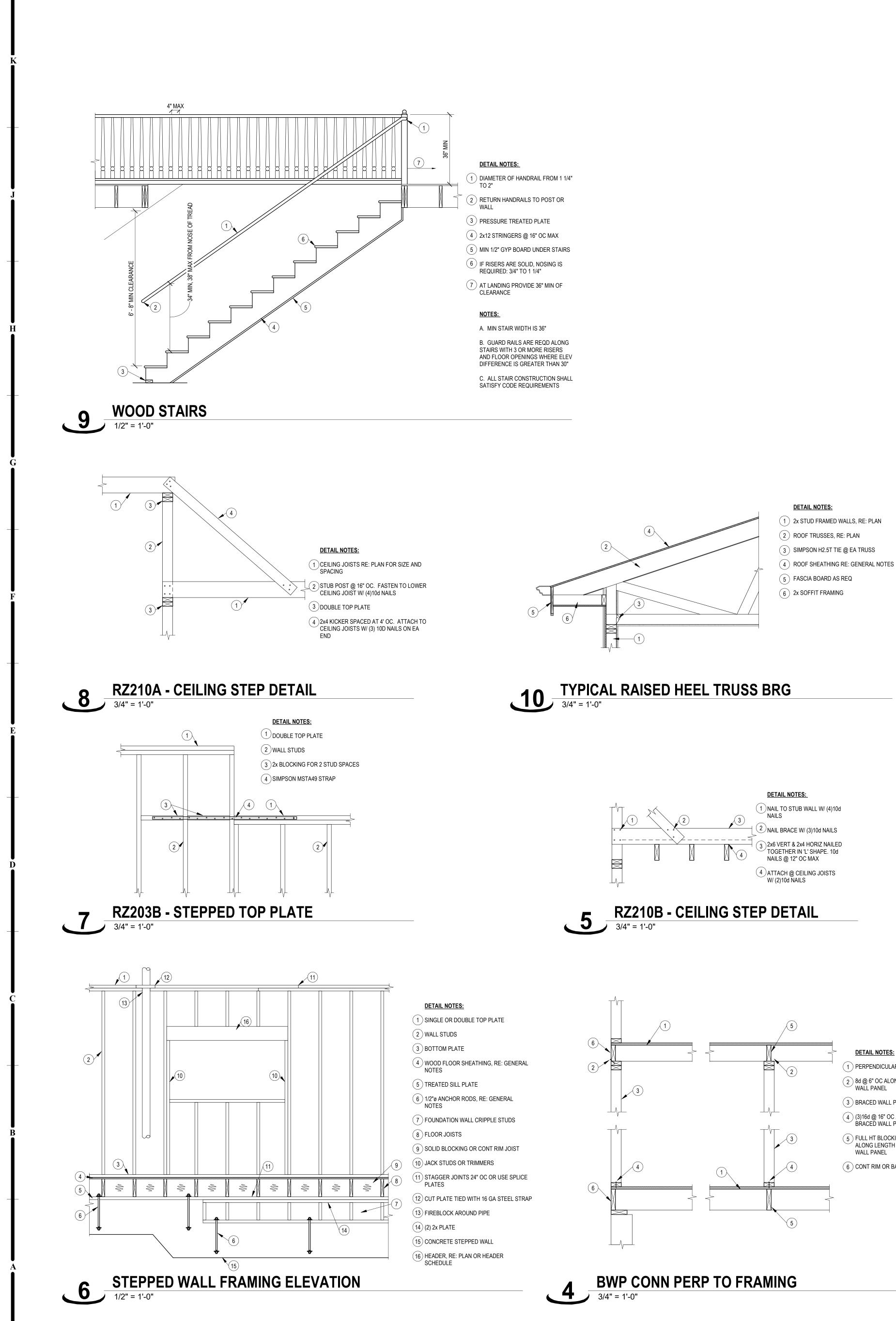
(8) WOOD EXTERIOR WALL SHEATHING, RE: STRUCTURAL GENERAL NOTES. CONTRACTOR TO VERIFY BRACED WALL REQUIREMENTS W/ PLANS



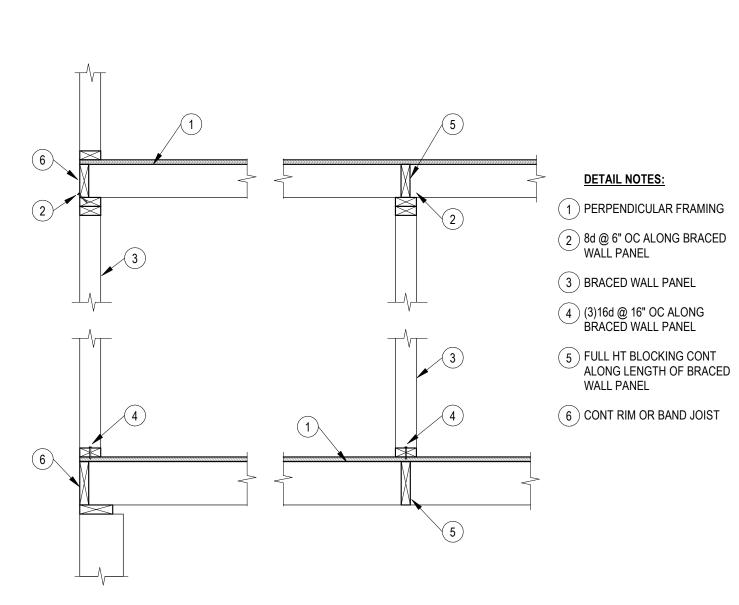
(24) GRADE (25) CEILING JOISTS, RE: PLAN (2x6 MIN)

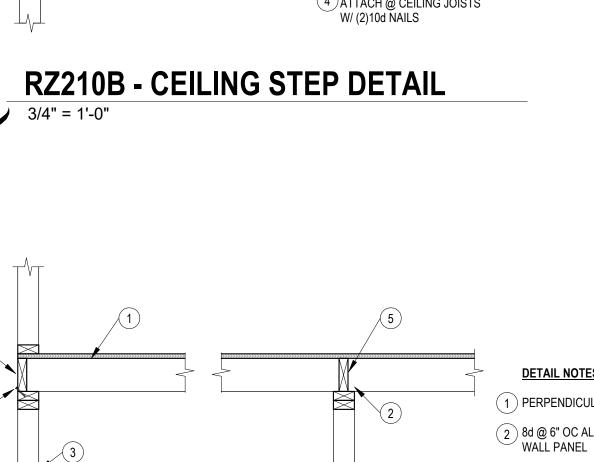
WD-102 TYPICAL WALL SECTION 1/2" = 1'-0"

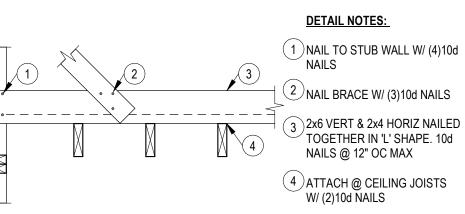




BWP CONN PERP TO FRAMING







(5)

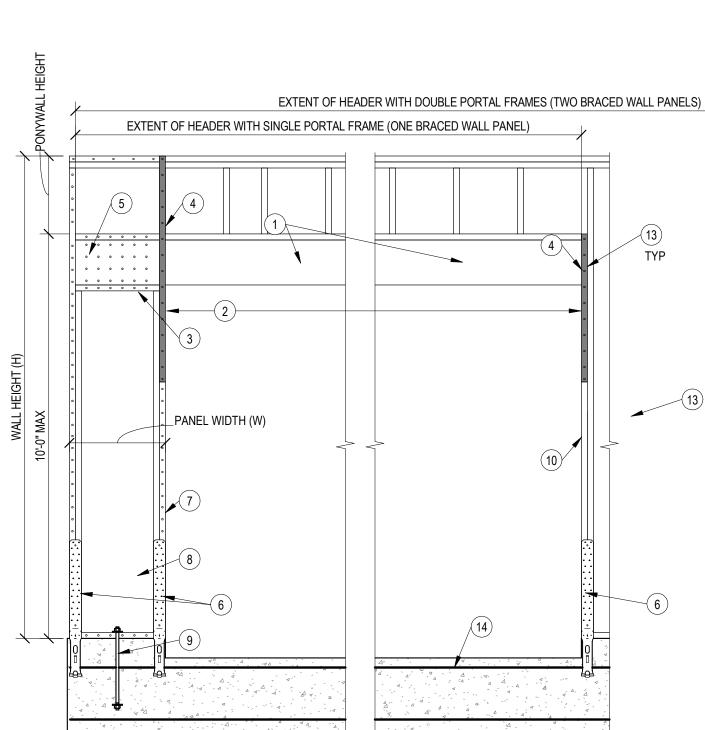
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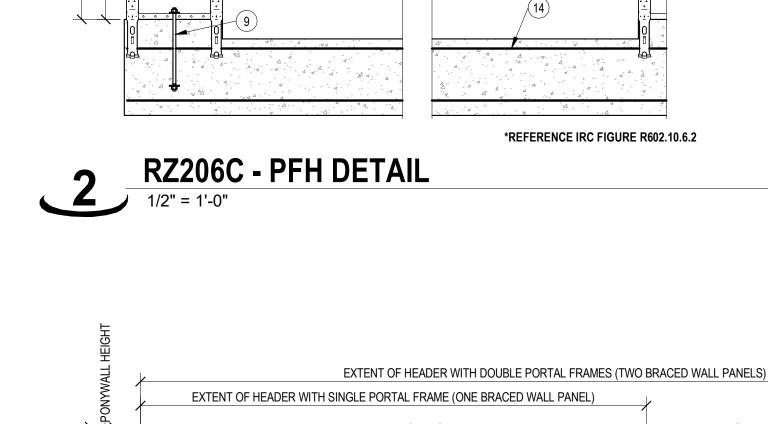
*REFERENCE IRC FIGURE R602.10.6.2

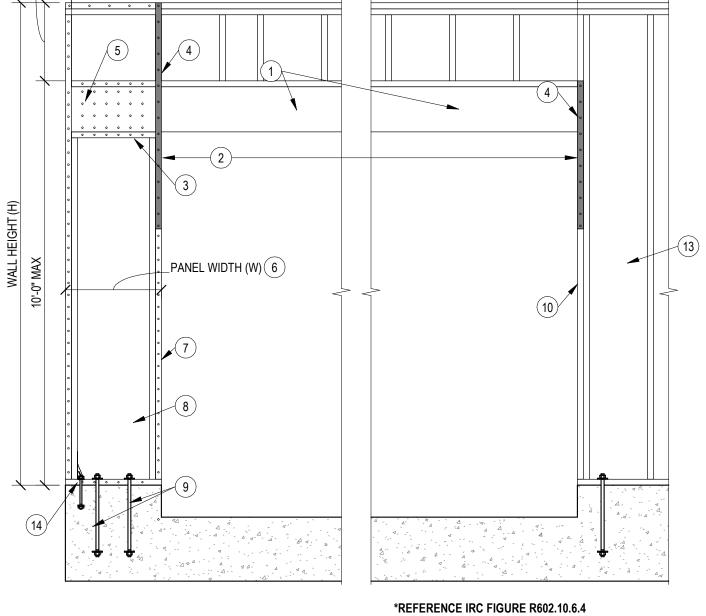
TYP

13

BWP CONN PAR TO FRAMING 3/4" = 1'-0"







RZ206B - CS-PF 1/2" = 1'-0"

(14)

WASHER

(9) MIN (2) 1/2" ANCHOR RODS WITH 2" x 2" x 3/16" PLATE

(8) MIN 7/16" THICKNESS WOOD STRUCTURAL PANEL

(3) FASTEN TOP PLATE TO HEADER WITH TWO ROWS OF 16d

5 FASTEN SHEATHING TO HEADER WITH 8d COMMON OR GALVANIZED BOX NAILS IN 3" GRID PATTERN AS SHOWN AND

3" OC IN ALL FRAMING (STUDS, BLOCKING, AND SILLS) TYP

(12) FOR A PANEL SPLICE (IF NEEDED), PANEL EDGES SHALL BE BLOCKED AND OCCUR WITHIN 24" OF MID-HEIGHT. ONE ROW

OF TYP SHEATHING-TO-FRAMING NAILING IS REQUIRED. IF

⁾ BRACED WALL LINE CONTINUOUSLY SHEATHED WITH WOOD

14) AT CONDITIONS THAT REQ 800# HOLD DOWN DEVICE USE

FASTENERS, 1/2"Ø ANCHOR RODS (5" MIN EMBED), &

SIMPSON DTT2Z-SDS2.5 INSTALLED W/ (8) 1/4 x 2 1/2" SDS

2x4 BLOCKING IS USED, THE 2x4S MUST BE NAILED

- (10) MIN DOUBLE 2x4 DOUBLE POST

DETAIL NOTES:

) FRAMING ORIENTED PARALLEL

TO BRACED WALL PANEL

2 CONT RIM OR END JOIST

WALL PANEL

WALL PANEL

WALL PANEL

MEMBER

DETAIL NOTES:

2) SPAN = 2'-0" TO 18'-0"

7) MIN 2x4 FRAMING

WASHER

BARS 15" MIN

DETAIL NOTES:

(2) SPAN = 6'-0" TO 18'-0"

(7) MIN 2x4 FRAMING

SHEATHING

(1) MINIMUM 3" x 11.25" NET HEADER

SINKER NAILS AT 3" OC TYP

(4) 1000# STRAP OPPOSITE SHEATHING

(6) REFER TO PANEL WIDTH SCHEDULE

10) MIN DOUBLE 2x4 DOUBLE POST

11) TYPICAL PORTAL FRAME CONSTRUCTION

TOGETHER WITH (3) 16d SINKERS

0 0 0 0 0 0 0 0 0 0

(1) MINIMUM 3" x 11 1/4" NET HEADER

SINKER NAILS AT 3" OC TYP

3 FASTEN TOP PLATE TO HEADER WITH TWO ROWS OF 16d

(4) 2500# STRAP ON OPPOSITE SIDE OF SHEATHING

5 FASTEN SHEATHING TO HEADER WITH 8d COMMON OR

6) MIN 3500 LB STRAP-TYPE HOLD-DOWNS (EMBED INTO

8 MIN 7/16" THICKNESS WOOD STRUCTURAL PANEL SHEATHING ATTACHED USING 8d COMMON OR GALV BOX NAILS @ 3" OC IN ALL FRAMING, TYP

9 MIN (1) 5/8" Ø ANCHOR RODS WITH 2" x 2" x 3/16" PLATE

12) FOR A PANEL SPLICE (IF NEEDED), PANEL EDGES SHALL BE BLOCKED AND OCCUR WITHIN 24" OF MID-HEIGHT. ONE ROW

OF TYP SHEATHING-TO-FRAMING NAILING IS REQUIRED. IF

2x4 BLOCKING IS USED, THE 2x4S MUST BE NAILED

13) FASTEN KING STUD TOP HEADER W/ (6) 16d SINKERS

14) MIN REINF. OF FND, ONE #4 BAR TOP & BOT OF FTG. LAP

CONCRETE AND NAILED INTO FRAMING)

GALVANIZED BOX NAILS IN 3" GRID PATTERN AS SHOWN AND 3" OC IN ALL FRAMING (STUDS, BLOCKING, AND SILLS) TYP

(4) BRACED WALL PANEL

(3) 8d @ 6" OC ALONG BRACED

(5) (3)16d @ 16" OC ALONG BRACED

6 ADDITIONAL FRAMING MEMBER DIRECTLY BELOW BRACED

7 FULL HEIGHT BLOCKING @ 16" OC ALONG BRACED WALL

(2) 16d NAILS @ EA BLOCKING MEMBER

(9) (3)16d NAILS @ EA BLOCKING

10 TOE NAIL (3) 8d NAILS @ EA BLOCKING MEMBER

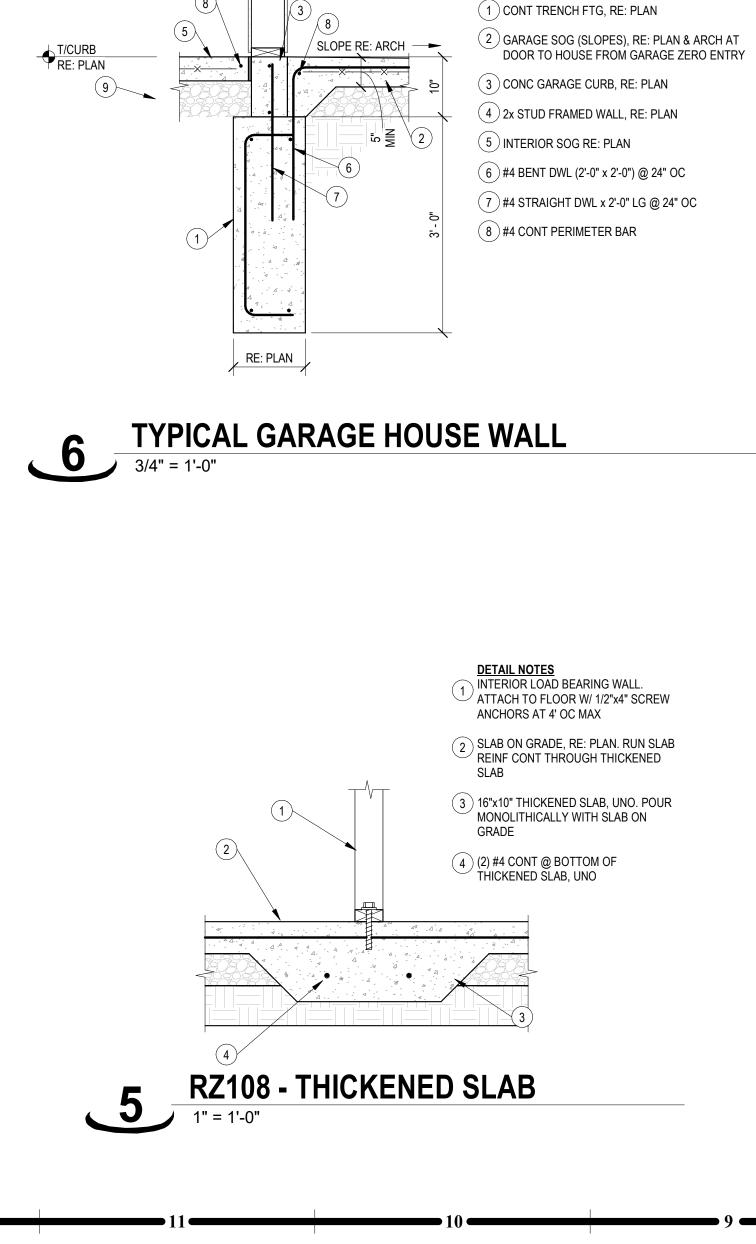
(11) TYPICAL PORTAL FRAME CONSTRUCTION

TOGETHER WITH (3) 16d SINKERS

STRUCTURAL PANELS

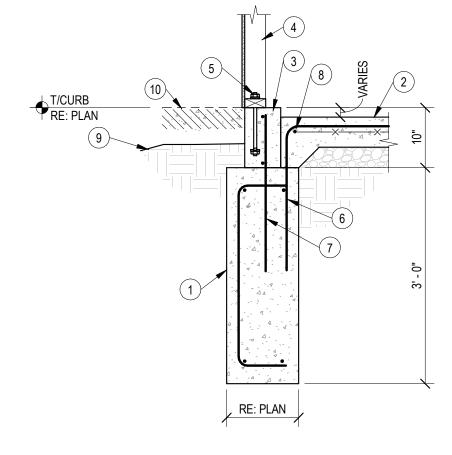
SIMPSON AT-XP ADHEASIVE



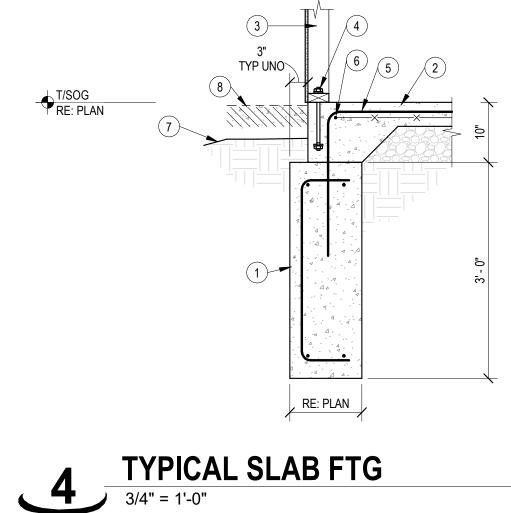


DETAIL NOTES:





- (10) @ SIM LOCATIONS CONC SOG, RE: PLAN
- 9 GRADE, RE: ARCH AND CIVIL
- (7) #4 STRAIGHT DWL x 2'-0" LG @ 24" OC 8 #4 CONT PERIMETER BAR
- 6) #4 BENT DWL (2'-0" x 2'-0") @ 24" OC
- (5) SILL ANCHOR, RE: GENERAL NOTES
- CONC GARAGE CURB, RE: PLAN (4) 2x STUD FRAMED WALL, RE: PLAN
- 1) CONT TRENCH FTG, RE: PLAN 2) GARAGE SOG (SLOPES), RE: PLAN & ARCH
- DETAIL NOTES:

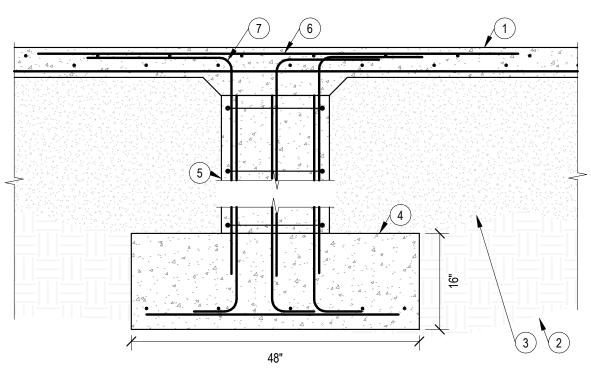


(7) GRADE, RE: ARCH AND CIVIL

(8) @ SIM LOCATIONS CONC SOG, RE: PLAN

- 5) #4 BENT DWL (2'-0" x 2'-0") @ 24" OC (6) #4 CONT PERIMETER BAR
- (3) 2x STUD FRAMED WALL, RE: PLAN (4) SILL ANCHOR, RE: GENERAL NOTES
- (1) CONT TRENCH FTG, RE: PLAN (2) SOG, RE: PLAN & ARCH

DETAIL NOTES:



) SLAB ON GRADE. REINF W/ #4 BOT BARS EA WAY

2 UNDISTURBED NATIVE SOIL (3) FILL MATERIAL

DETAIL NOTES:

- 4 4'-0" SQ x 16" CONC FTG. REINF W/ (8) # 4 EA WAY BOT. BOT OF FTG TO BEAR ON UNDISTURBED SOIL, DEPTH AS REQD
- 5 1'-0" SQ CONC PIER. HOLD TOP DOWN 8" BELOW TOP OF SLAB. REINF W/ (8) #4 VERTS (EMBED W/ STD HOOK INTO FTG). PROVIDE #3 CLOSED TIES @ 12" 00

6 (8) #4 TOP BARS x 6'-8" @ 8" OC. EA WAY. 1 1/2" CLEAR TO TOP OF SLAB

(7) (8) #4 DWLS (1'-6" x 1'-6") 3 EA SIDE OF PIER

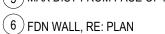
RZ137 - GARAGE PIER 3/4" = 1'-0"

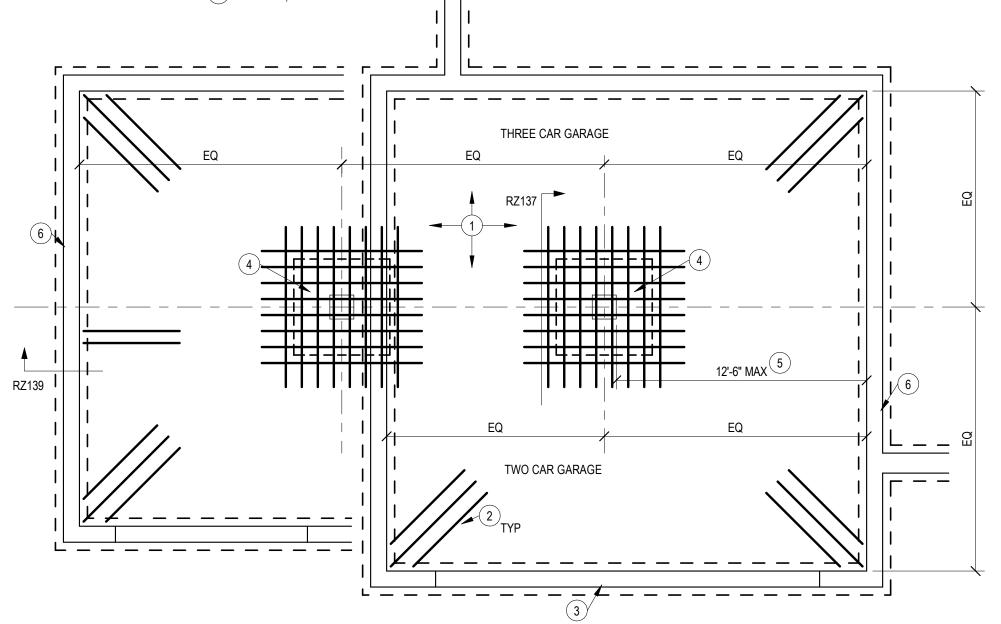
DETAIL NOTES:

1 6" THICK CONC GARAGE SLAB. REINF W/ #4 @ 12" OC EA WAY. PROVIDE HOOKED DWLS INTO WALLS PER TYP DTL RZ139 (2) (3) #4 CORNER BARS. SPACED 8" OC MAX

(3) HOLD DOWN SLAB AT GARAGE DOORS AND MAN DOORS. PROVIDE HOOKED DWLS INTO FDN WALL

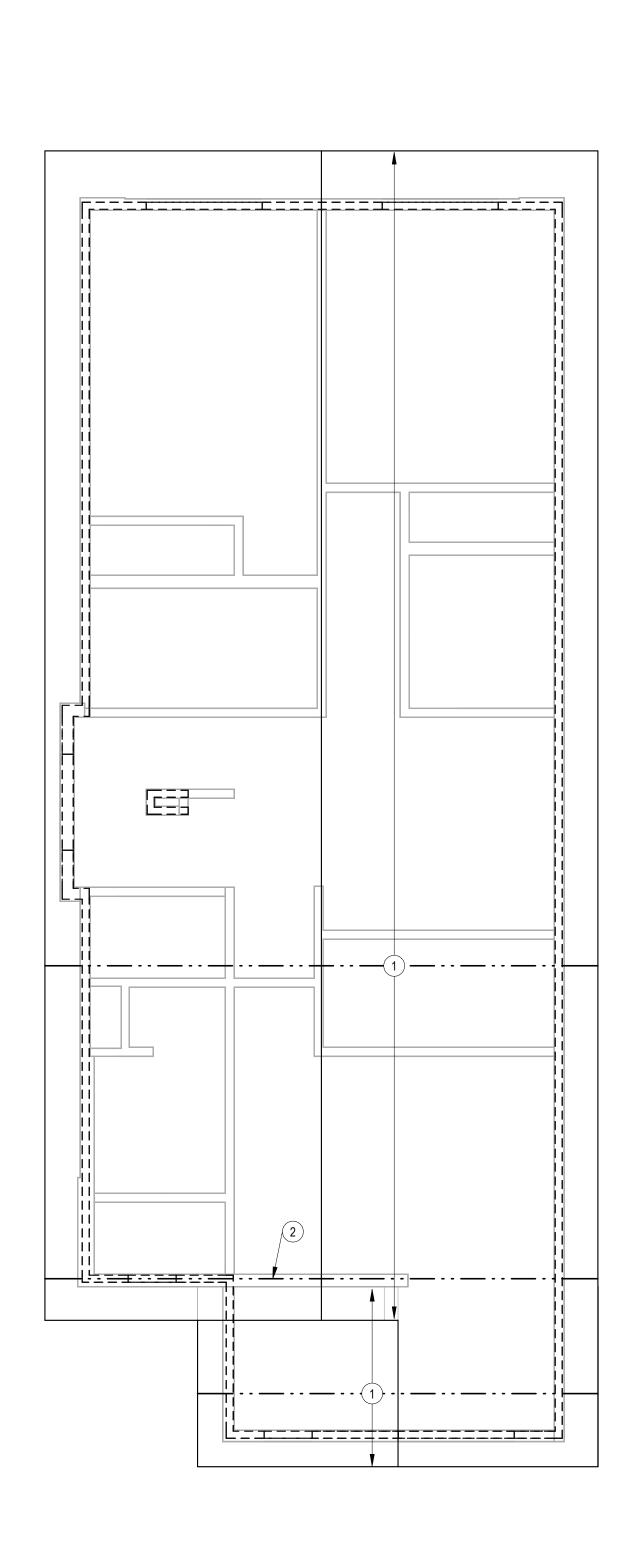
(4) CONC PEDESTAL AND FTG PER TYP DTL RZ137. (1) PIER REQD FOR 2 CAR GARAGE, (2) PIERS REQD FOR 3 CAR GARAGE 5 MAX DIST FROM FACE OF PIER TO ANY CONC WALL OR ADDITIONAL PIER SHALL BE 12'-6" OR LESS



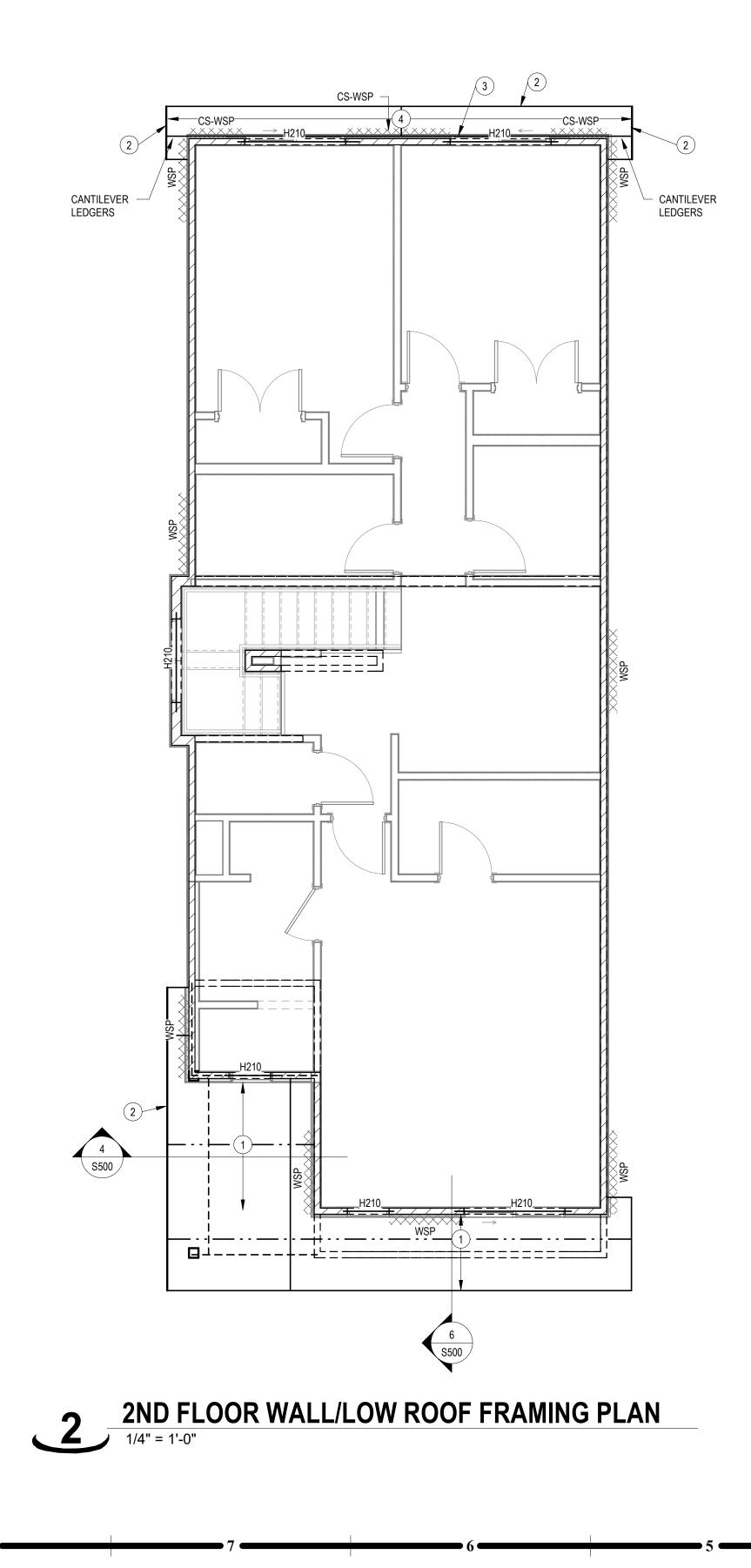


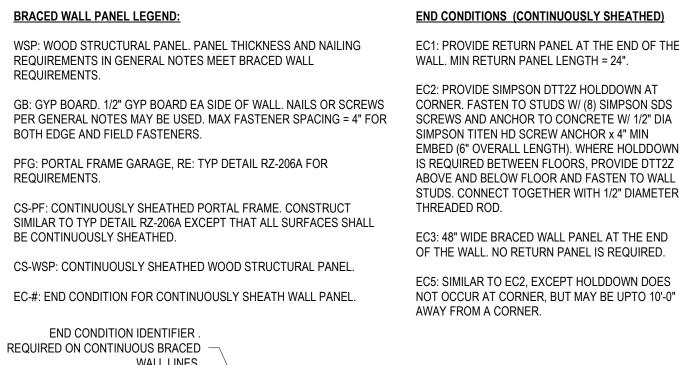
RZ136 - GARAGE SLAB ON FILL 1/4" = 1'-0"

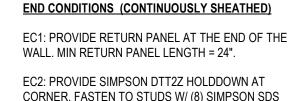






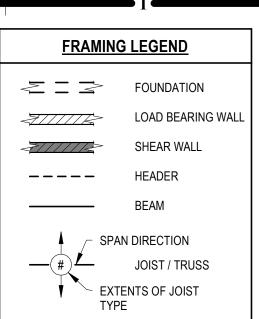




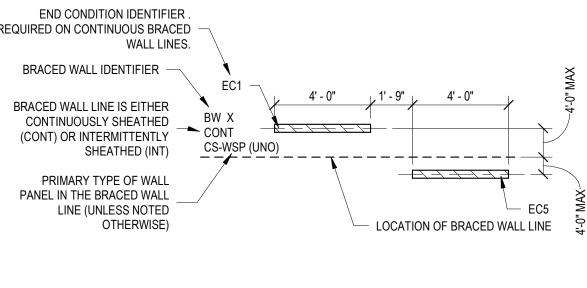


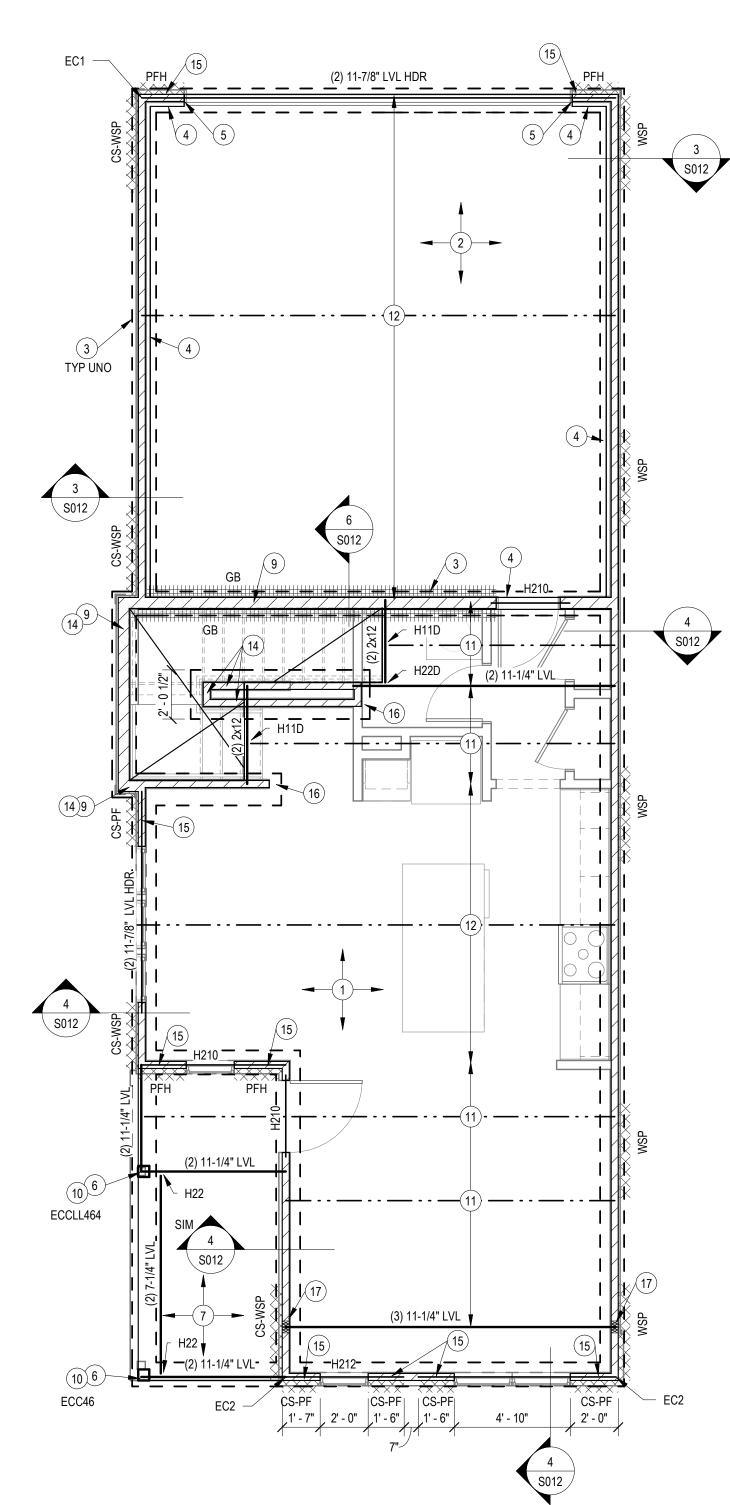
SIMPSON TITEN HD SCREW ANCHOR x 4" MIN EMBED (6" OVERALL LENGTH). WHERE HOLDDOWN IS REQUIRED BETWEEN FLOORS, PROVIDE DTT2Z ABOVE AND BELOW FLOOR AND FASTEN TO WALL STUDS. CONNECT TOGETHER WITH 1/2" DIAMETER THREADED ROD.

EC3: 48" WIDE BRACED WALL PANEL AT THE END OF THE WALL. NO RETURN PANEL IS REQUIRED. EC5: SIMILAR TO EC2, EXCEPT HOLDDOWN DOES NOT OCCUR AT CORNER, BUT MAY BE UPTO 10'-0"

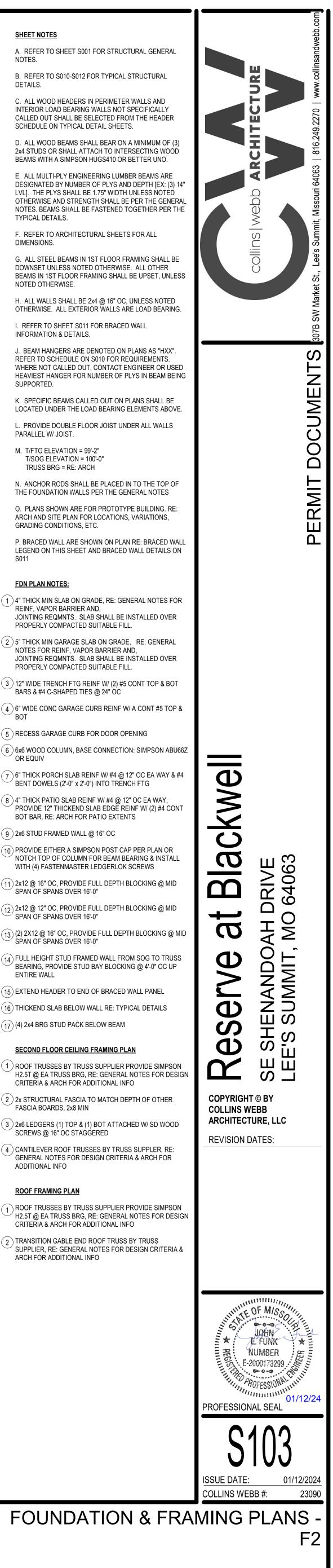


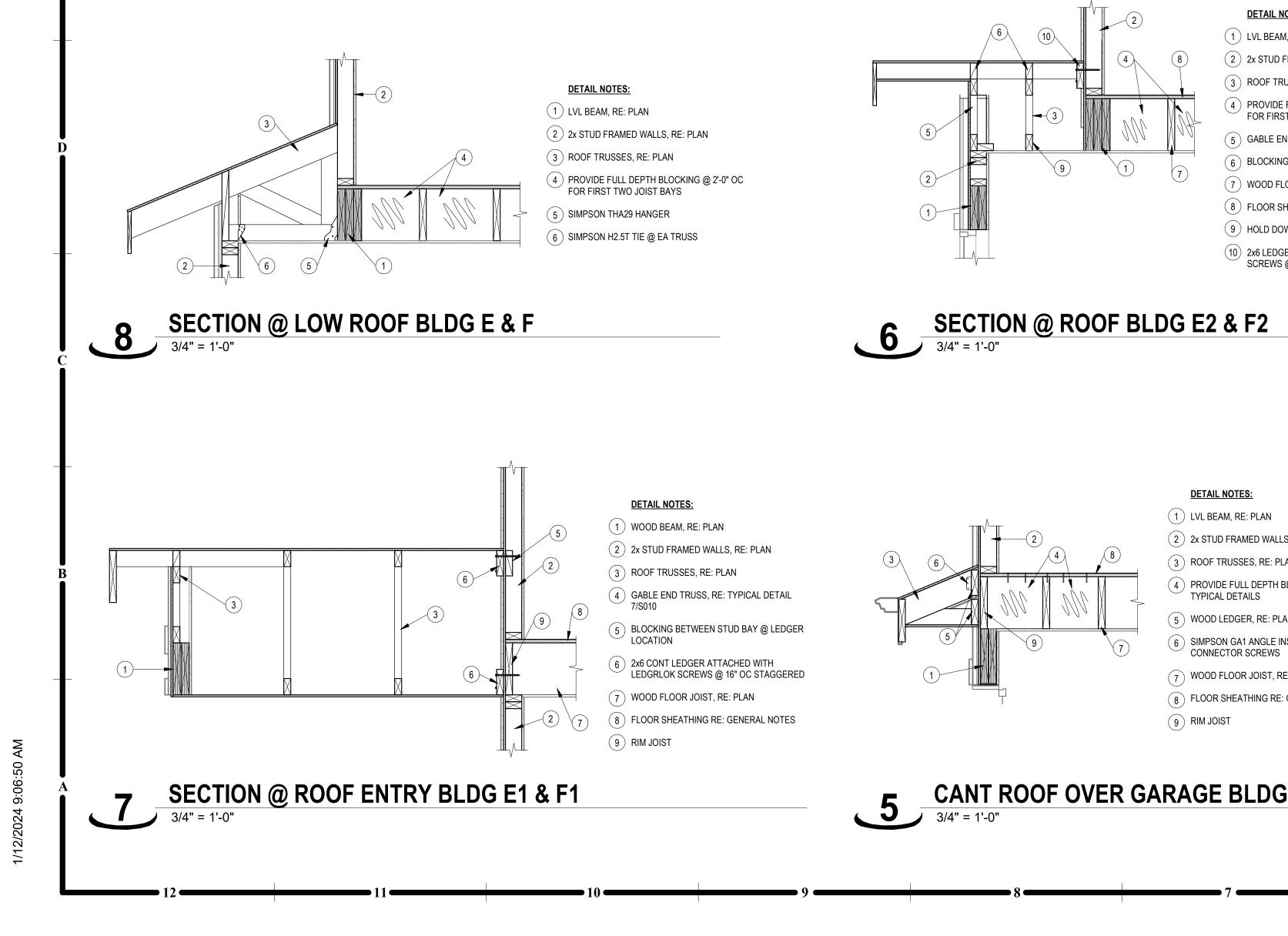
7		SHEET NOTES
		A. REFER TO SHEET S001 FO NOTES.
		B. REFER TO S010-S012 FOR DETAILS.
	K	C. ALL WOOD HEADERS IN PE INTERIOR LOAD BEARING WA CALLED OUT SHALL BE SELEC SCHEDULE ON TYPICAL DETA
		D. ALL WOOD BEAMS SHALL E 2x4 STUDS OR SHALL ATTACH
-		BEAMS WITH A SIMPSON HUG E. ALL MULTI-PLY ENGINEERI DESIGNATED BY NUMBER OF
		DESIGNATED BY NUMBER OF LVL]. THE PLYS SHALL BE 1.75 OTHERWISE AND STRENGTH NOTES. BEAMS SHALL BE FAS TYPICAL DETAILS.
		F. REFER TO ARCHITECTURA DIMENSIONS.
		G. ALL STEEL BEAMS IN 1ST F DOWNSET UNLESS NOTED OT BEAMS IN 1ST FLOOR FRAMIN NOTED OTHERWISE.
		H. ALL WALLS SHALL BE 2x4 (OTHERWISE. ALL EXTERIOR)
		I. REFER TO SHEET S011 FOR INFORMATION & DETAILS.
		J. BEAM HANGERS ARE DENC REFER TO SCHEDULE ON S01 WHERE NOT CALLED OUT, CC HEAVIEST HANGER FOR NUM SUPPORTED.
]		K. SPECIFIC BEAMS CALLED (LOCATED UNDER THE LOAD B
		L. PROVIDE DOUBLE FLOOR PARALLEL W/ JOIST.
		M. T/FTG ELEVATION = 99'-2" T/SOG ELEVATION = 100'-0 TRUSS BRG = RE: ARCH
	_	N. ANCHOR RODS SHALL BE I THE FOUNDATION WALLS PEF
		O. PLANS SHOWN ARE FOR P ARCH AND SITE PLAN FOR LO
		GRADING CONDITIONS, ETC. P. BRACED WALL ARE SHOWN
		LEGEND ON THIS SHEET AND S011
		FDN PLAN NOTES:
		4" THICK MIN SLAB ON GRADE REINF, VAPOR BARRIER AND, JOINTING REQMNTS. SLAB SI PROPERLY COMPACTED SUIT
		5" THICK MIN GARAGE SLAB C NOTES FOR REINF, VAPOR BA JOINTING REQMNTS. SLAB SI PROPERLY COMPACTED SUIT 12" WIDE TRENCH FTG REINF
		BARS & #4 C-SHAPED TIES @ 6" WIDE CONC GARAGE CURB
]		BOT RECESS GARAGE CURB FOR
		6x6 WOOD COLUMN, BASE CO
	7	6" THICK PORCH SLAB REINF ' BENT DOWELS (2'-0" x 2'-0") IN
	8	4" THICK PATIO SLAB REINF W PROVIDE 12" THICKEND SLAB
	9	BOT BAR, RE: ARCH FOR PATI 2x6 STUD FRAMED WALL @ 16
]	E	PROVIDE EITHER A SIMPSON NOTCH TOP OF COLUMN FOR WITH (4) FASTENMASTER LED
		2x12 @ 16" OC, PROVIDE FULL SPAN OF SPANS OVER 16'-0"
		2x12 @ 12" OC, PROVIDE FULL SPAN OF SPANS OVER 16'-0"
	-	(2) 2X12 @ 16" OC, PROVIDE F SPAN OF SPANS OVER 16'-0"
	(14)	FULL HEIGHT STUD FRAMED \ BEARING, PROVIDE STUD BAY ENTIRE WALL
		EXTEND HEADER TO END OF THICKEND SLAB BELOW WALL
]		(4) 2x4 BRG STUD PACK BELO
		SECOND FLOOR CEILING FRA
	(1)	ROOF TRUSSES BY TRUSS SU H2.5T @ EA TRUSS BRG, RE: (CRITERIA & ARCH FOR ADDITI
	_2	2x STRUCTURAL FASCIA TO M FASCIA BOARDS, 2x8 MIN
	3	2x6 LEDGERS (1) TOP & (1) BO SCREWS @ 16" OC STAGGERI
	4	CANTILEVER ROOF TRUSSES GENERAL NOTES FOR DESIGN
	C	ADDITIONAL INFO
		ROOF TRUSSES BY TRUSS SU H2.5T @ EA TRUSS BRG, RE: (
	(2)	CRITERIA & ARCH FOR ADDITI
	_	SUPPLIER, RE: GENERAL NOT ARCH FOR ADDITIONAL INFO
]	B	
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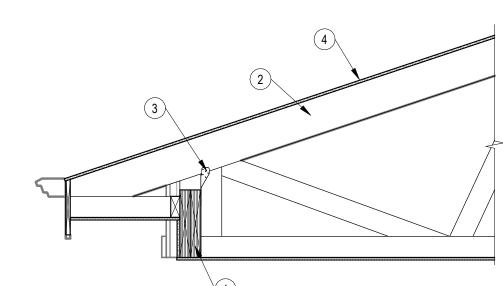


FOUNDATION AND 2ND FLOOR FRAMING PLAN **FOUND** 1/4" = 1'-0"





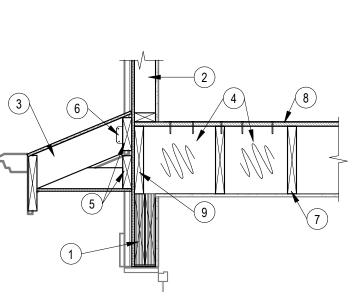




(3) SIMPSON H2.5T TIE @ EA TRUSS (4) ROOF SHEATHING RE: GENERAL NOTES

2 ROOF TRUSSES, RE: PLAN

DETAIL NOTES: 1 LVL BEAM, RE: PLAN



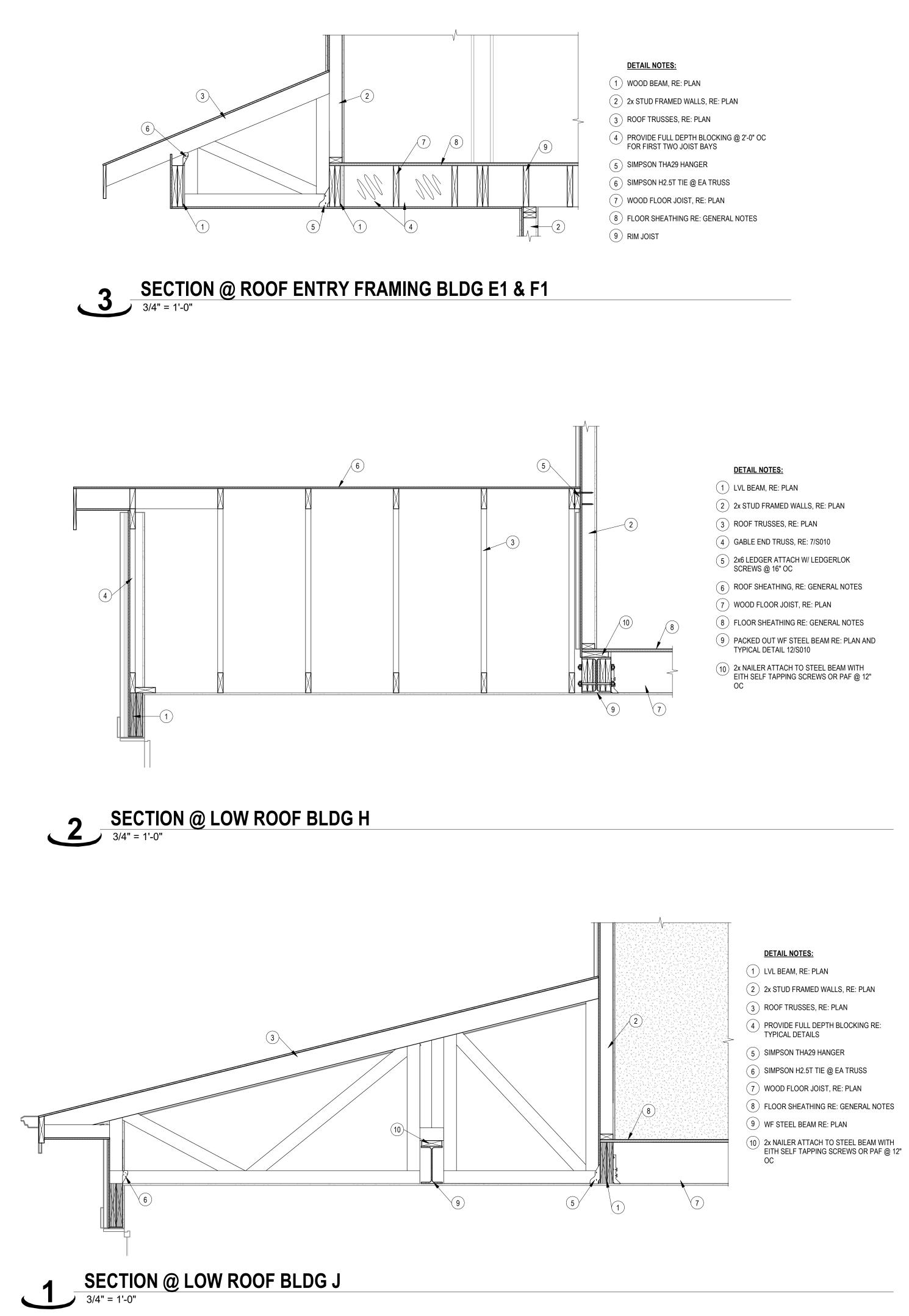


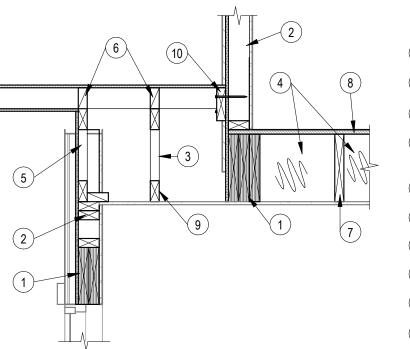
- 2 2x STUD FRAMED WALLS, RE: PLAN

- 1 LVL BEAM, RE: PLAN

- (3) ROOF TRUSSES, RE: PLAN
- 4 PROVIDE FULL DEPTH BLOCKING RE: TYPICAL DETAILS
- WOOD LEDGER, RE: PLAN
- 6 SIMPSON GA1 ANGLE INSTALLED W/ SD
- CONNECTOR SCREWS
- 7 WOOD FLOOR JOIST, RE: PLAN
- 8 FLOOR SHEATHING RE: GENERAL NOTES
- 9 RIM JOIST

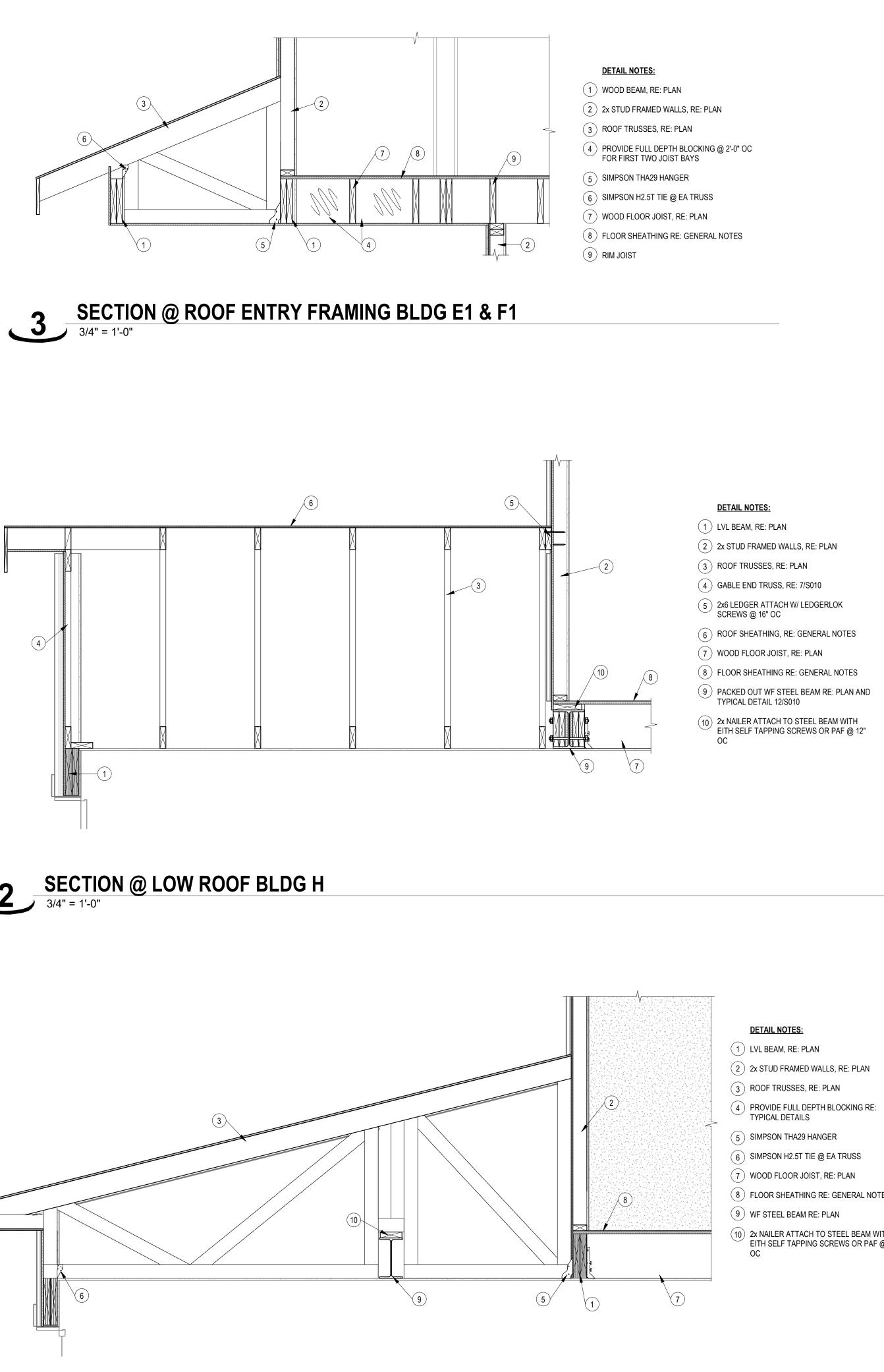


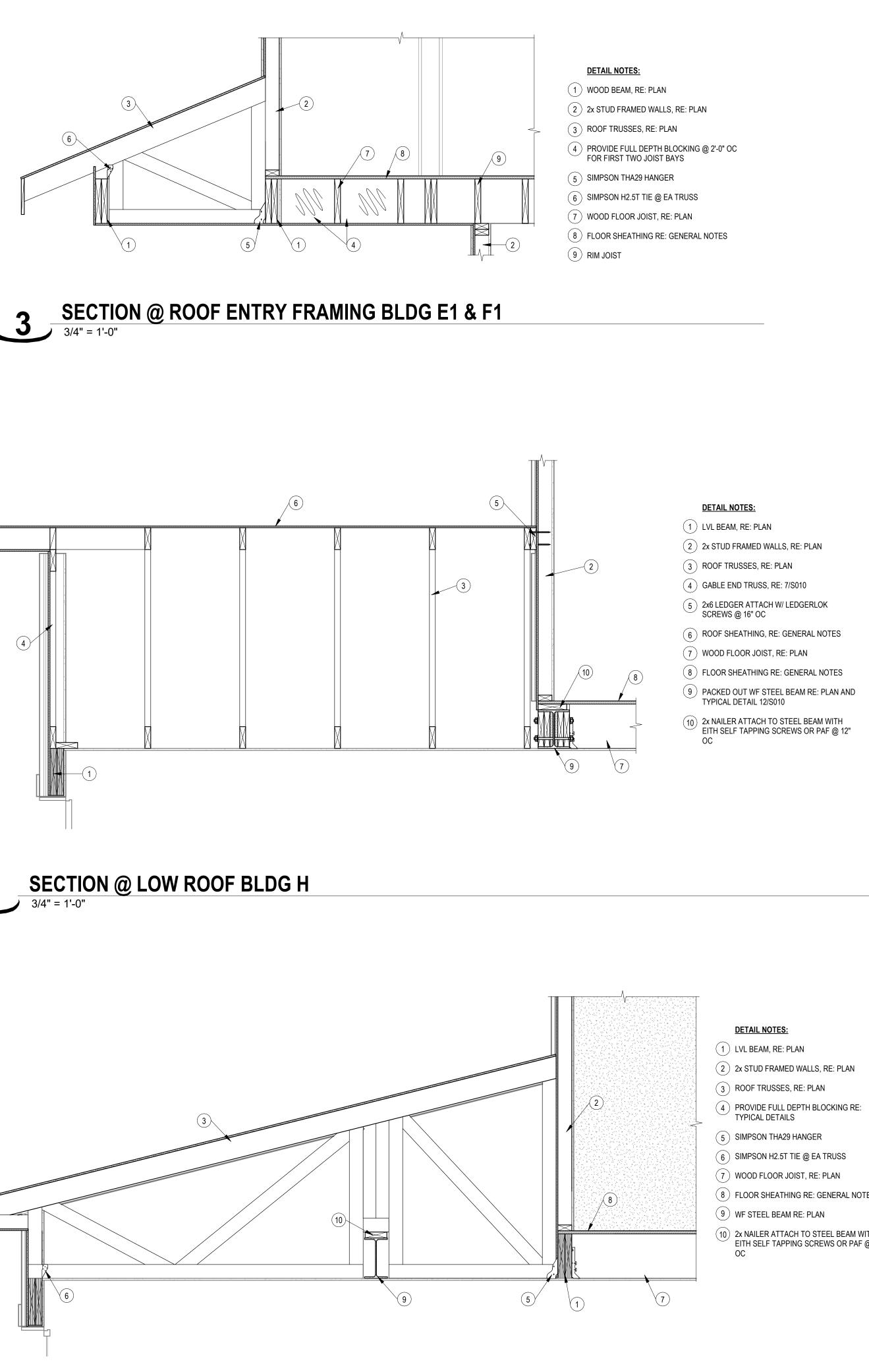


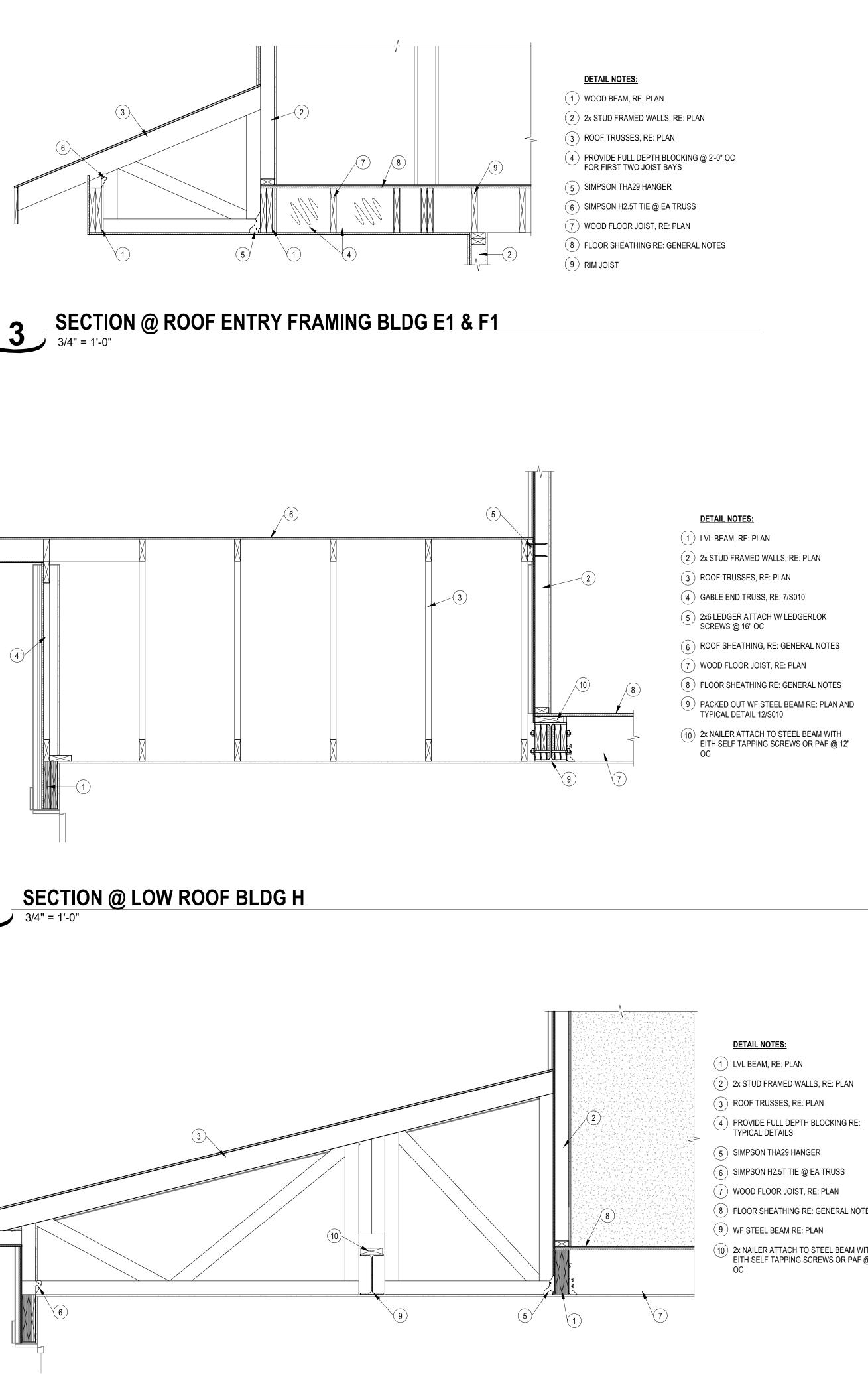


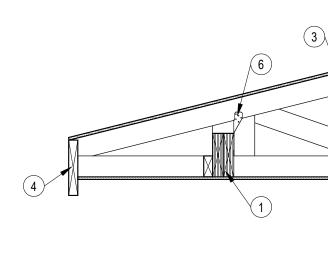
DETAIL NOTES:

- 1 LVL BEAM, RE: PLAN
- 2) 2x STUD FRAMED WALLS, RE: PLAN
- ROOF TRUSSES, RE: PLAN
- PROVIDE FULL DEPTH BLOCKING @ 2'-0" OC FOR FIRST TWO JOIST BAYS
- GABLE END TRUSS RE: 7/S010
-) BLOCKING BETWEEN OUTRIGGERS
- WOOD FLOOR JOIST, RE: PLAN
- 8) FLOOR SHEATHING RE: GENERAL NOTES
- 9) HOLD DOWN TRUSS FOR OUTRIGGER
- (10) 2x6 LEDGER ATTACHED W/ LEDGERLOK SCREWS @ 16" OC STAGGERED











5

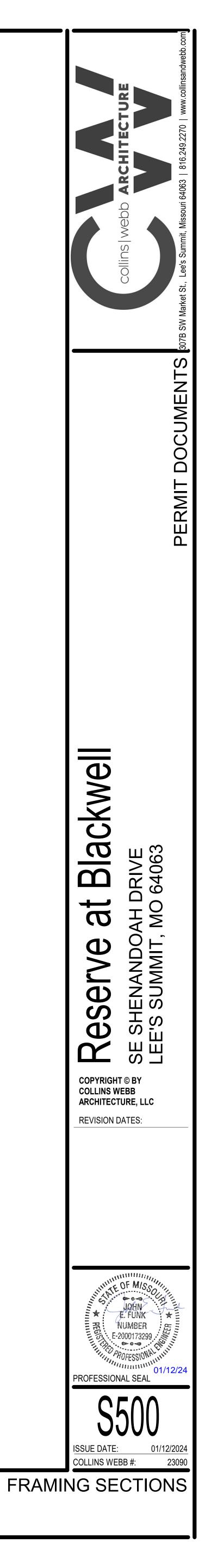
- DETAIL NOTES:
- (1) WOOD BEAM, RE: PLAN

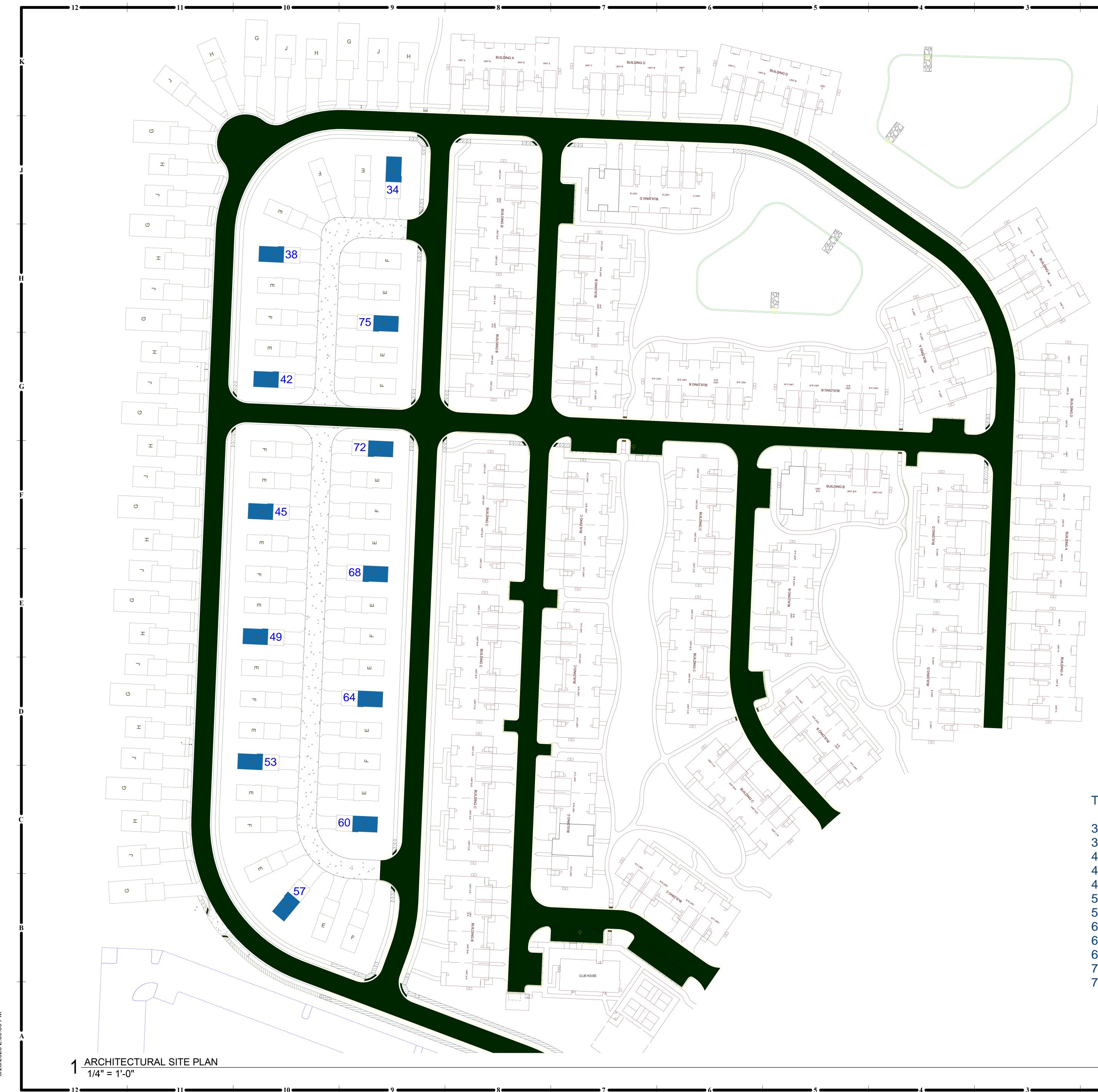
- 9 (8) (4) STRUCTURAL FASCIA RE: PLAN

 - 8 FLOOR SHEATHING RE: GENERAL NOTES

- **SECTION @ ENTRY ROOF BLDG E2 & F2** 3/4" = 1'-0"
- - (2) 2x STUD FRAMED WALLS, RE: PLAN
 - (3) ROOF TRUSSES, RE: PLAN

 - (5) SIMPSON THA29 HANGER
 - 6 SIMPSON H2.5T TIE @ EA TRUSS
 - 7) WOOD FLOOR JOIST, RE: PLAN
- (9) RIM JOIST





Type F2 addresses:

34 - 546 SE 5th Ter. 38 - 595 Wood Ln. 42 - 603 Wood Ln. 45 - 609 Wood Ln. 49 - 617 Wood Ln. 53 - 625 Wood Ln. 57 - 633 Wood Ln. 60 - 628 Highland Park Dr. 64 - 620 Highland Park Dr. 68 - 612 Highland Park Dr. 72 - 604 Highland Park Dr. 75 - 598 Highland Park Dr.

Building Type F2

 \bigcirc

NORTH

SITE PLAN KEY

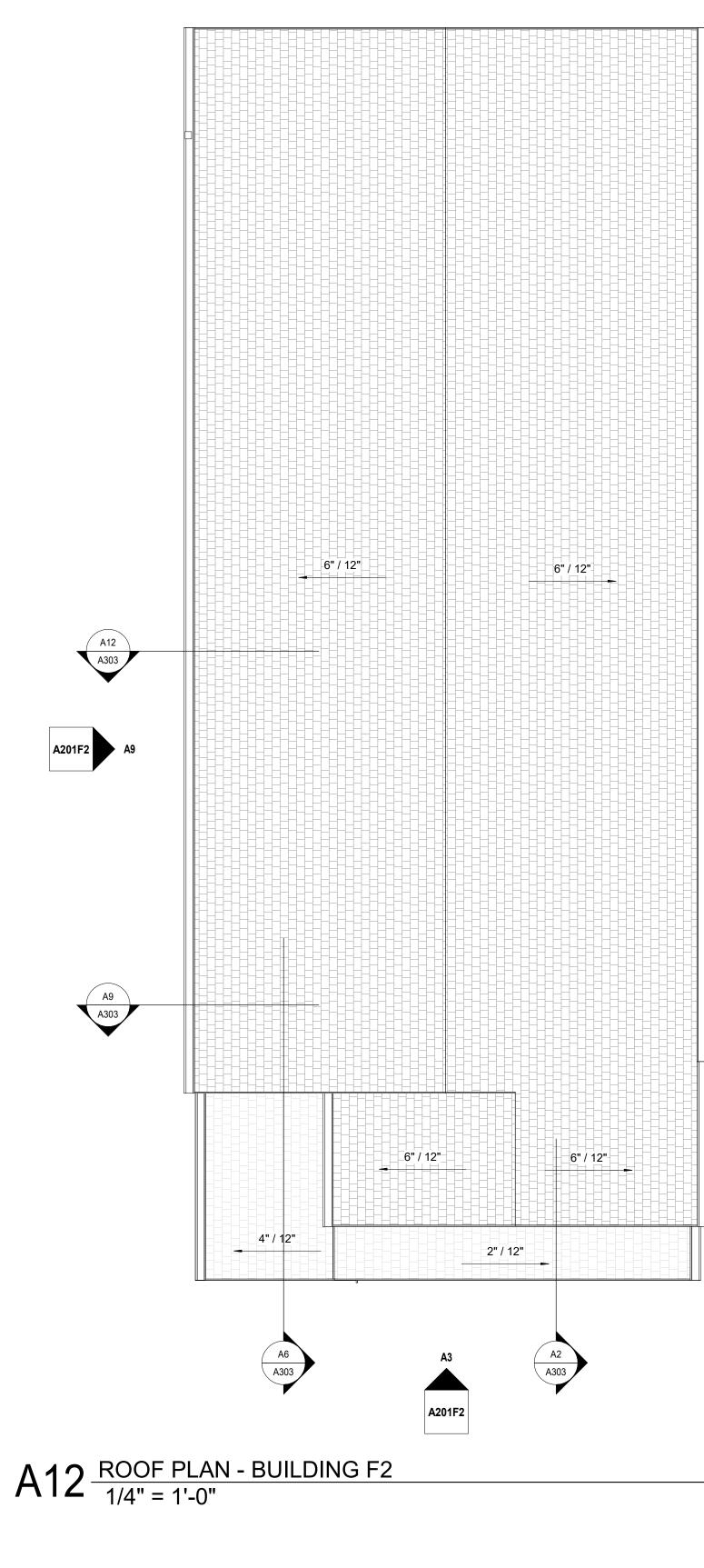


1. RE: CIVIL DRAWINGS - FOR ADDITIONAL SITE

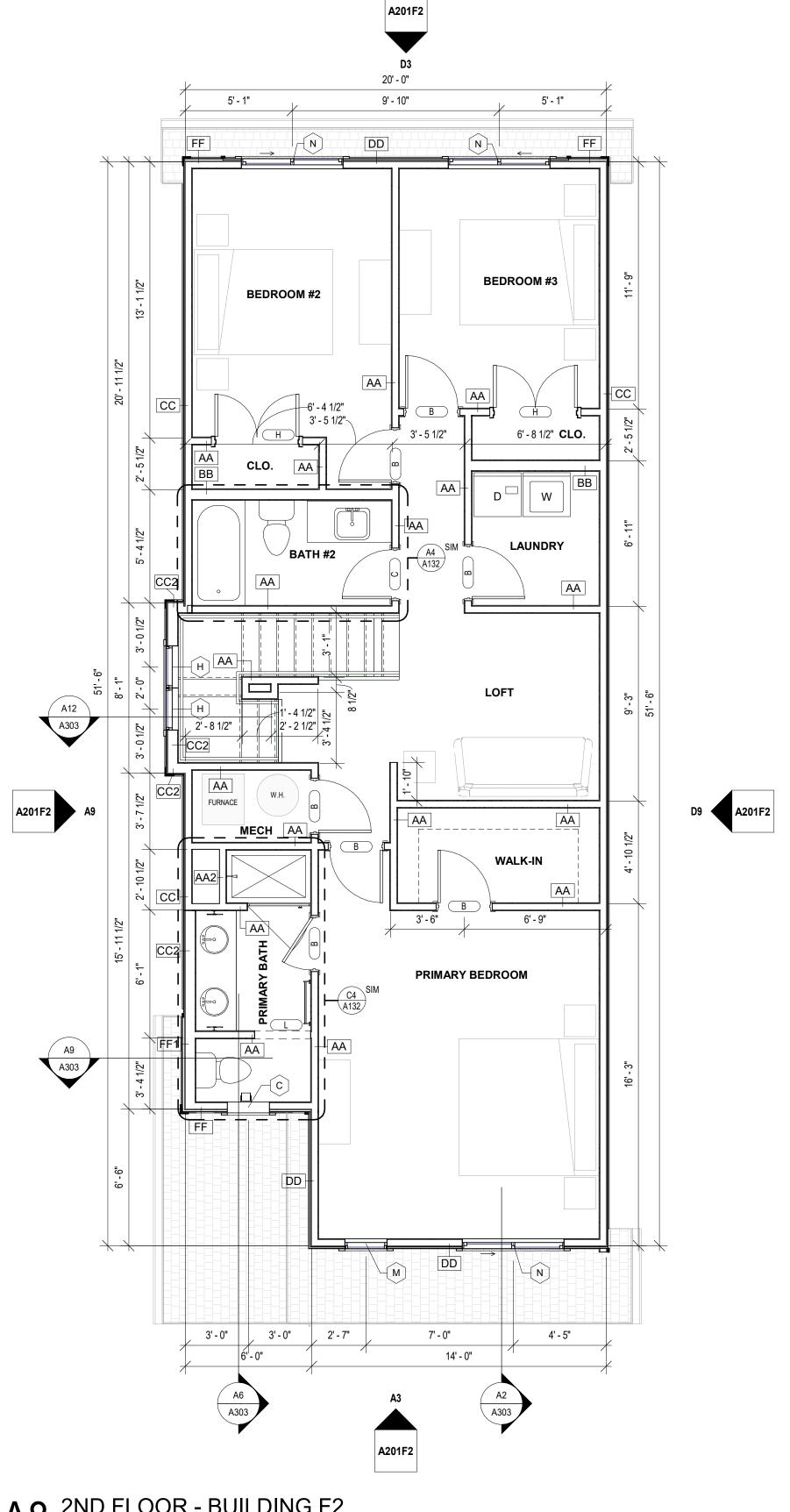
RE: CIVIL DRAWINGS - FOR ADDITIONAL SITE INFORMATION AND DETAILS.
 RE: SHEET G002 - FOR TYPICAL MOUNTING HEIGHTS.
 RE: SHEET AG003 - FOR DETAILED PLANS OF EACH SPECIFIED A-TYPE UNIT.





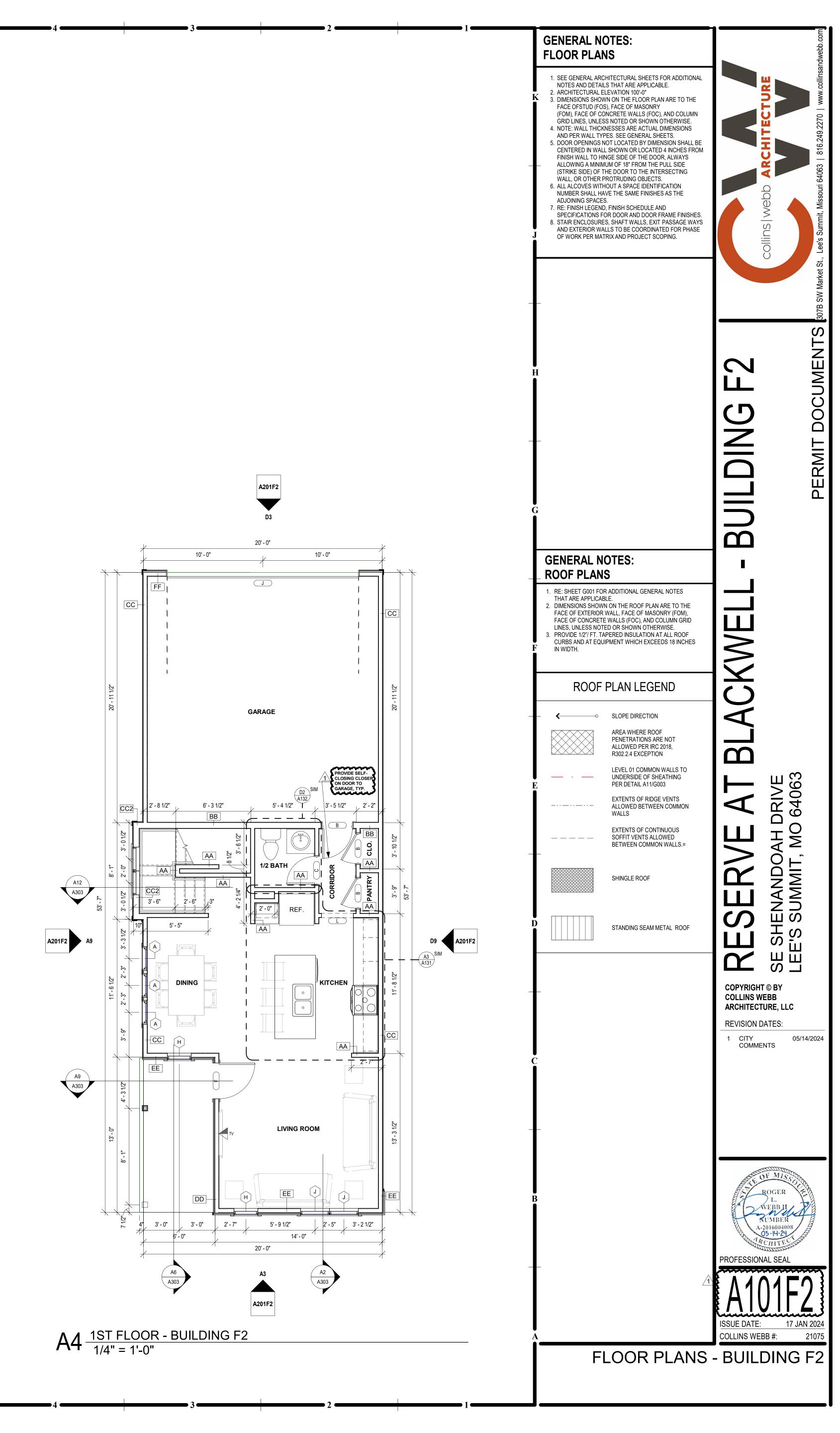




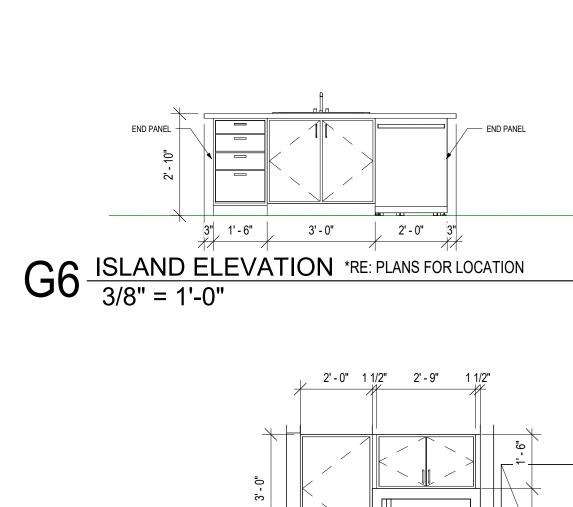


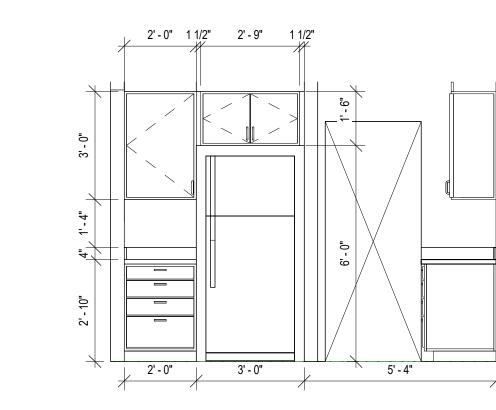
D9 A201F2

A8 $\frac{2\text{ND FLOOR - BUILDING F2}}{1/4" = 1'-0"}$

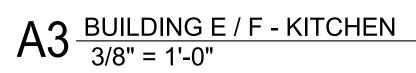


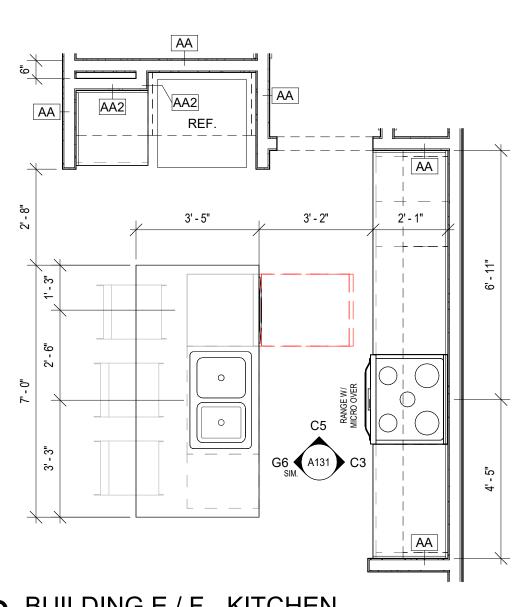
42 24 3:13:





C5 BUILDING E / F KITCHEN - 3 3/8" = 1'-0"



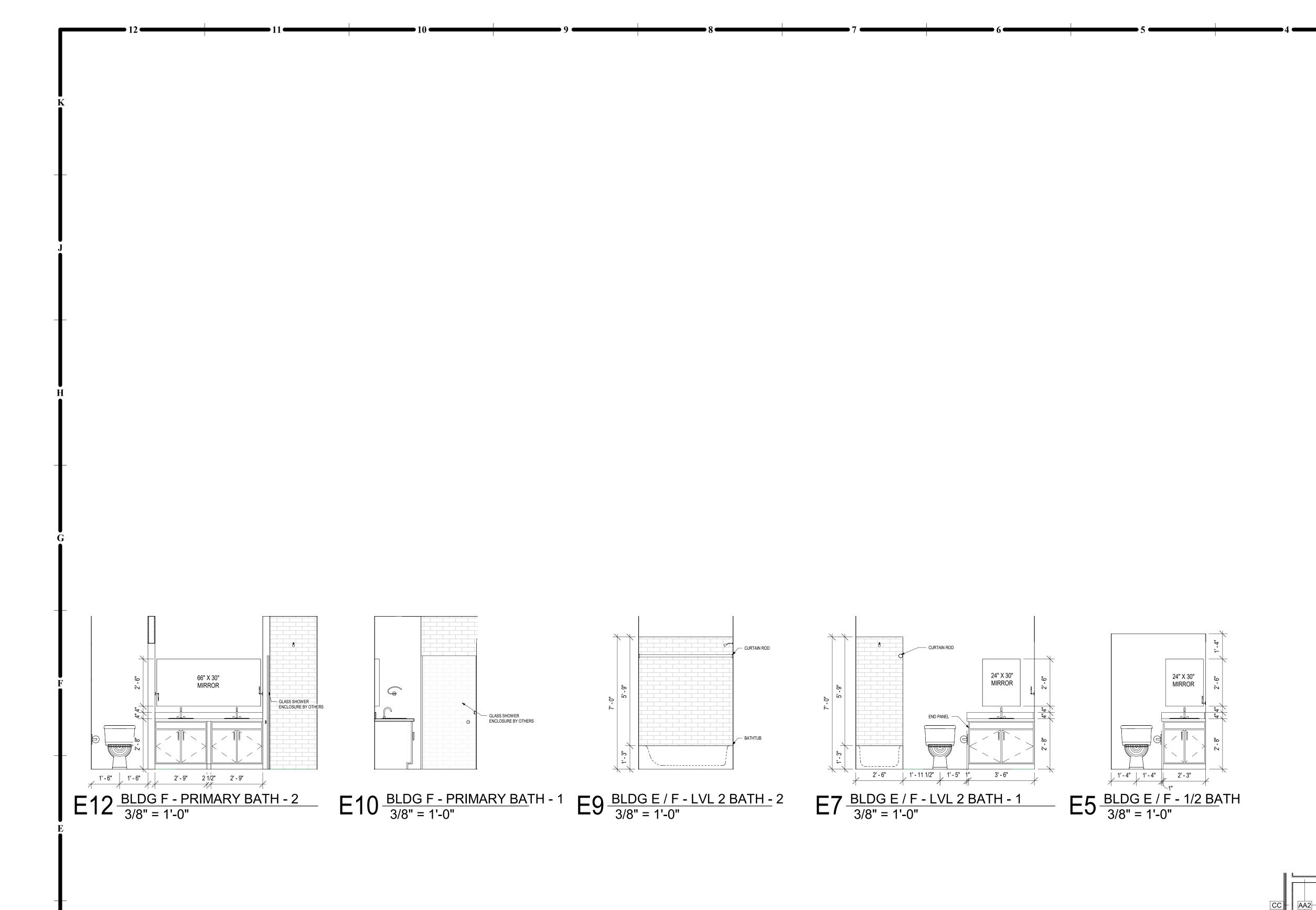


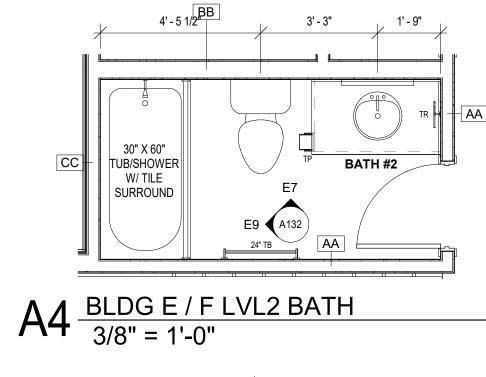


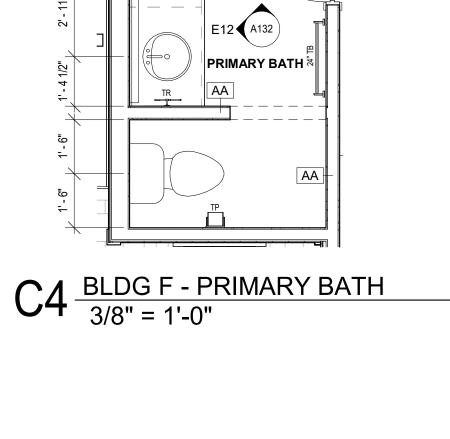


2" 2'-6" 3'-0" 2'-6" 3'-0"







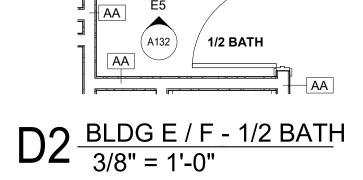


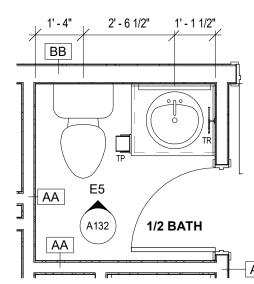
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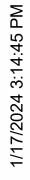
30" X 48" SHOWER W/ TILE SURROUND

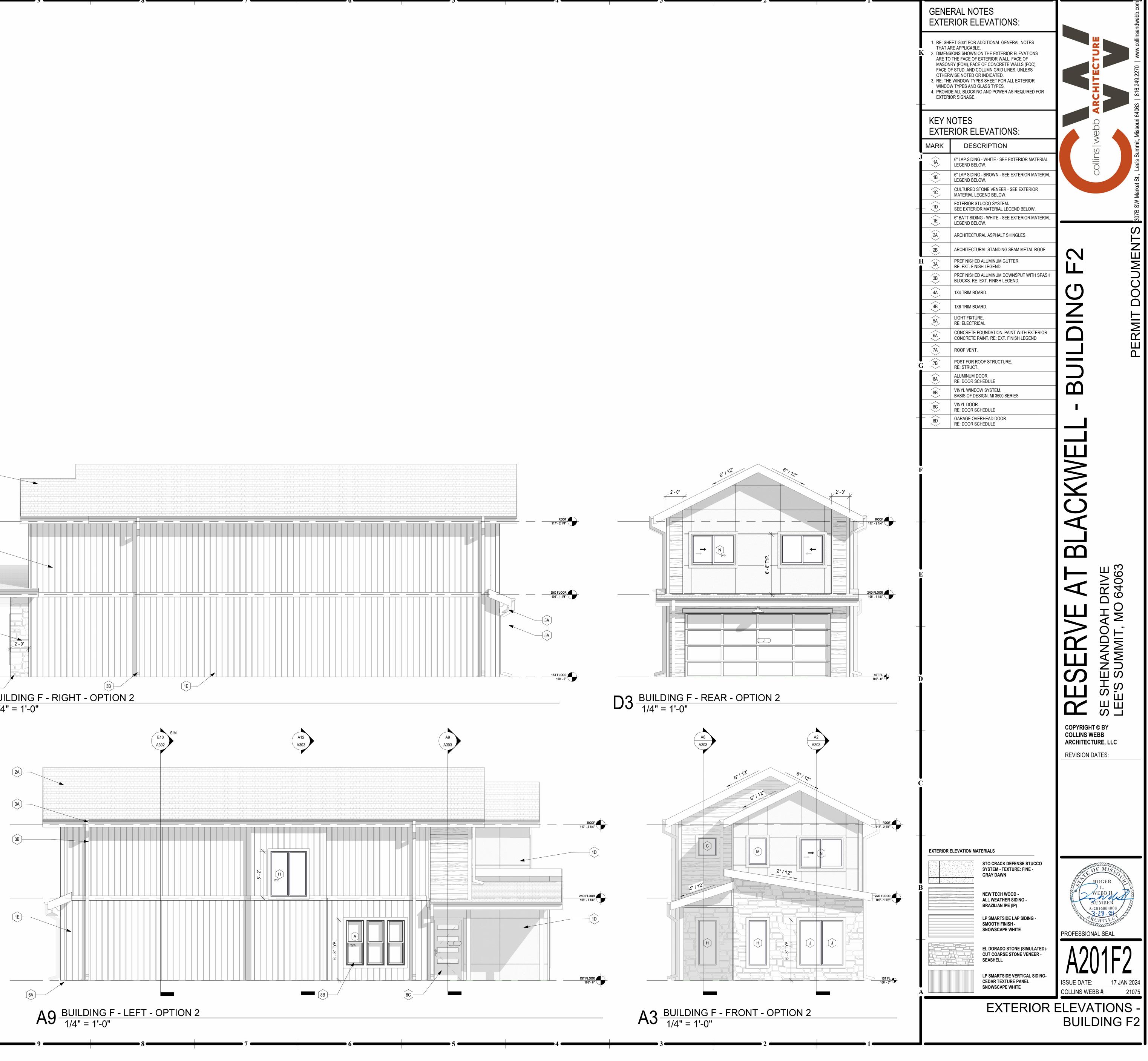
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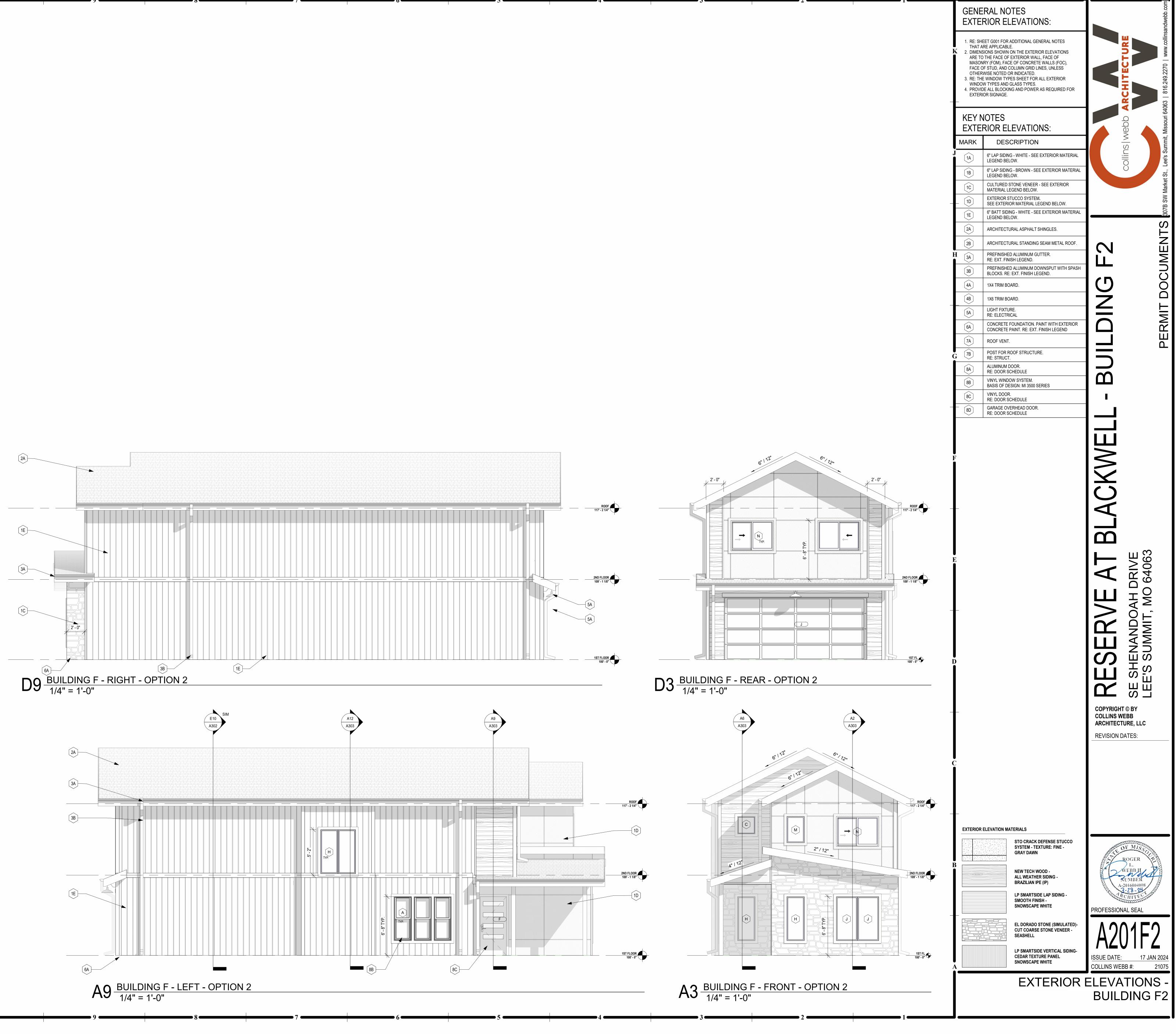




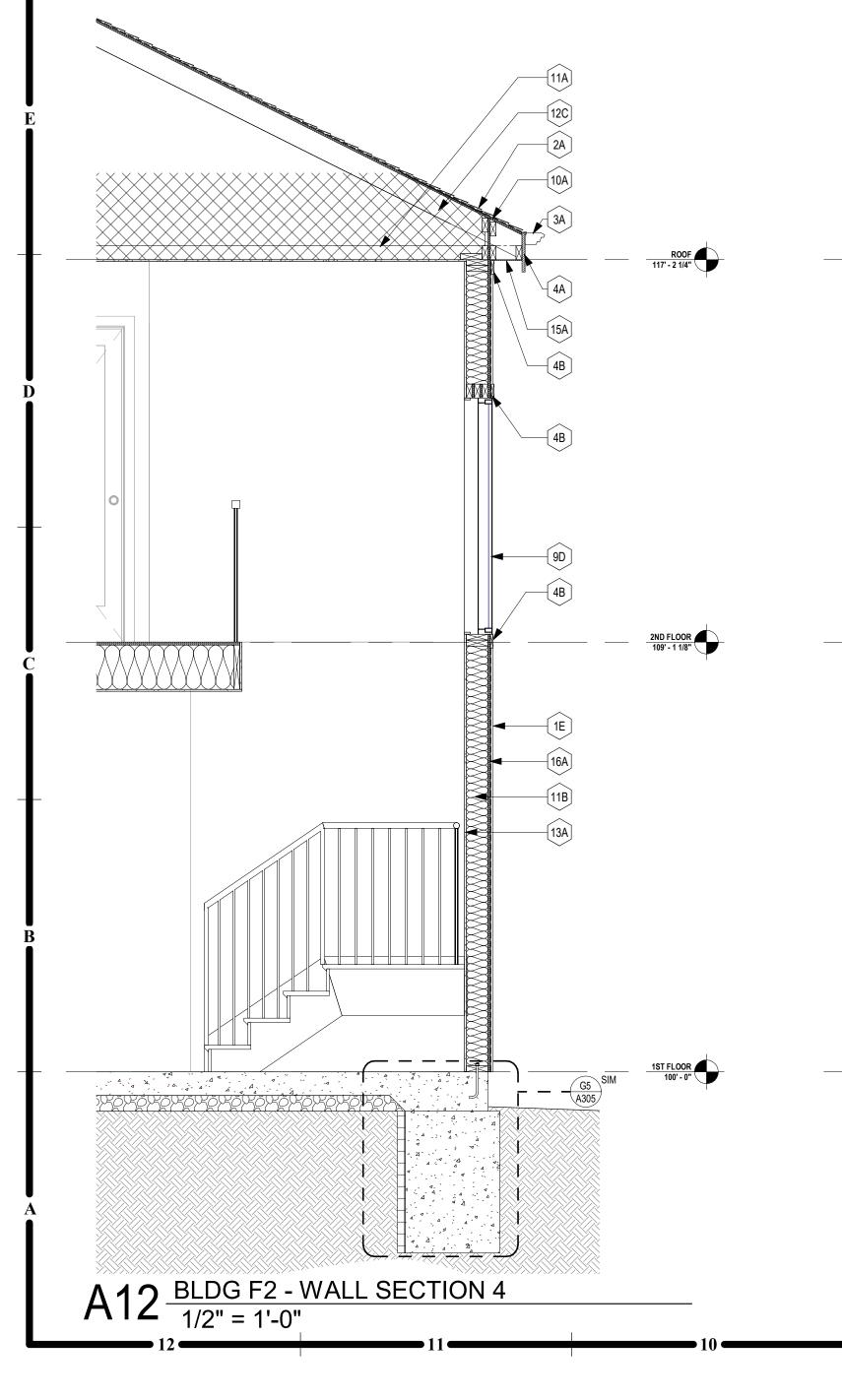


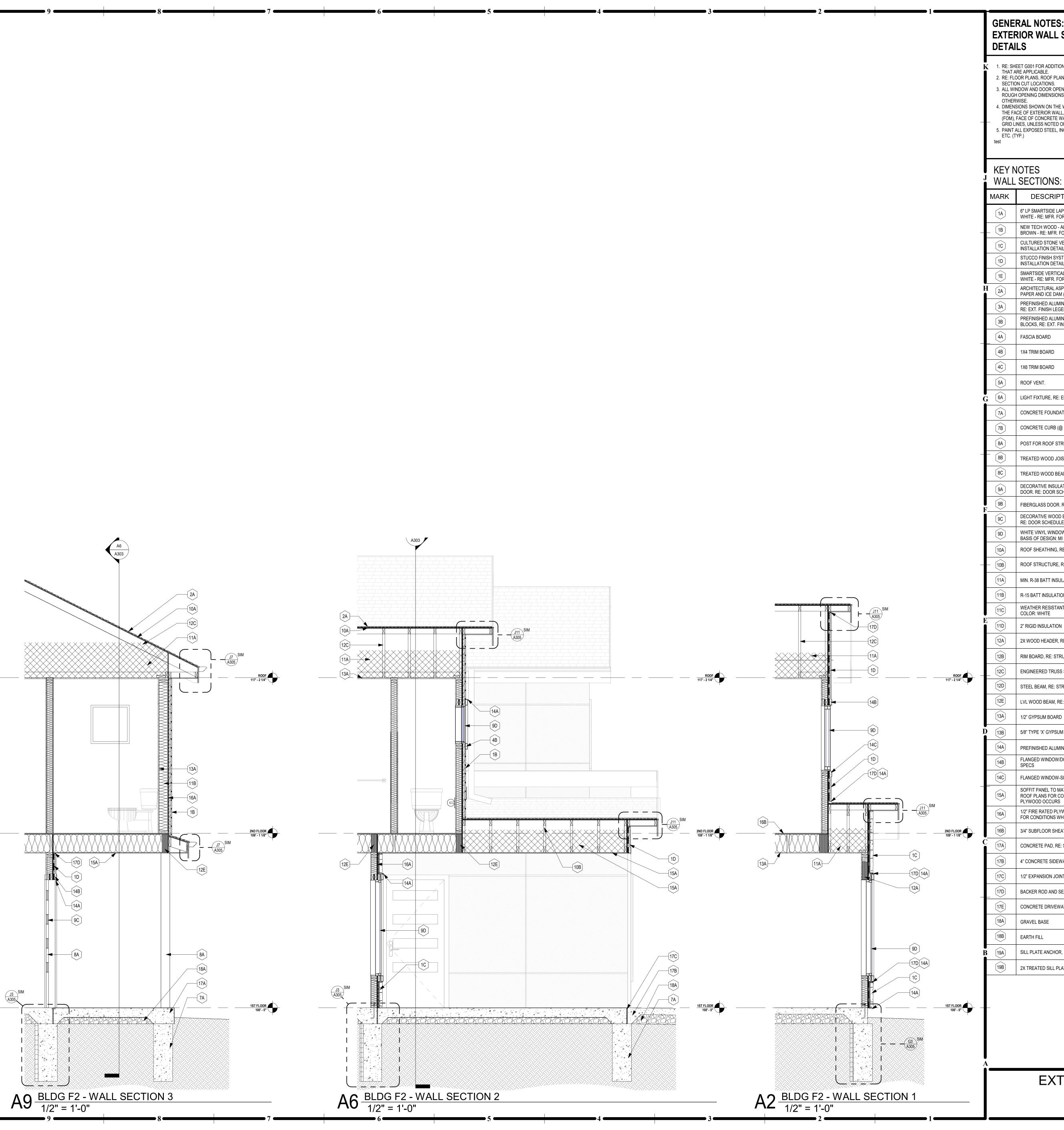






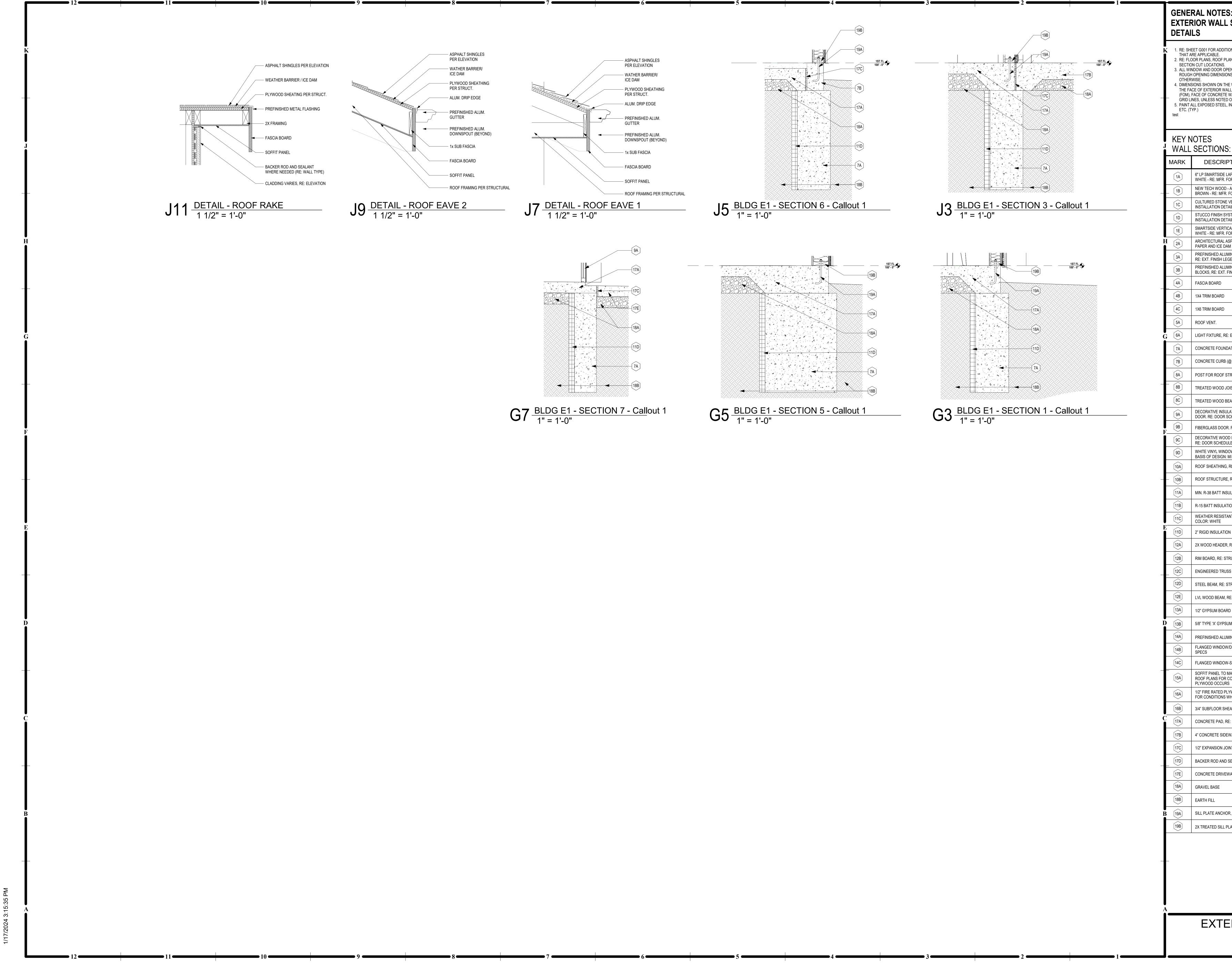




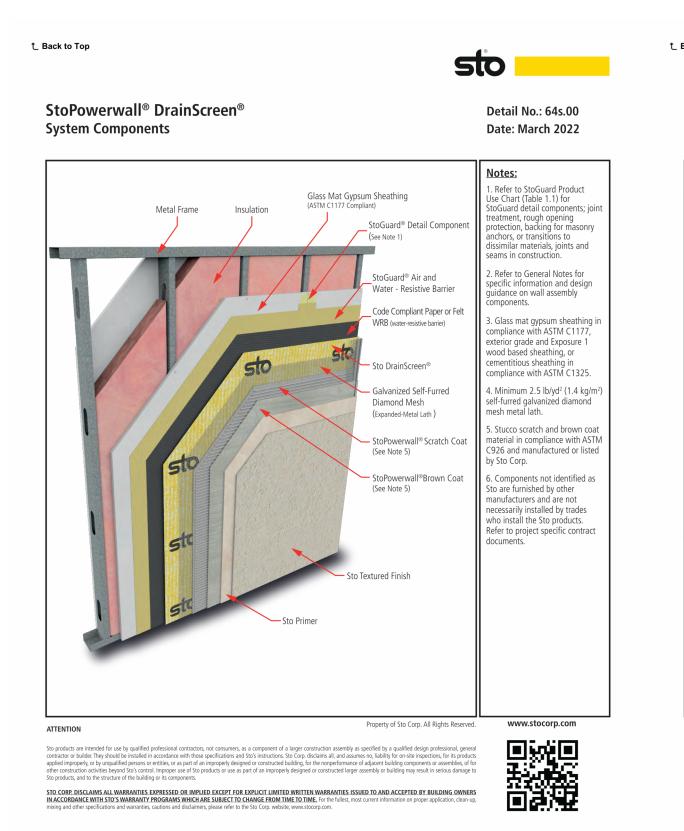




| S:<br>SECTIONS/<br>TIONAL GENERAL NOTES<br>VAN AND ELEVATIONS FOR<br>PENING DIMENSIONS ARE<br>DNS, UNLESS NOTED<br>HE WALL SECTIONS ARE TO<br>ALL, FACE OF MASONRY<br>E WALLS (FOC), AND COLUMN<br>D OR SHOWN OTHERWISE.<br>, INCLUDING STEEL LINTELS, |                                                   |                                                                                                                                                                                                      | 307B SW Market St., Lee's Summit, Missouri 64063   816.249.2270   www.collinsandwebb.com |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| S:<br>PTION<br>LAP SIDING OVER HOUSE WRAP -                                                                                                                                                                                                            |                                                   | collin                                                                                                                                                                                               | rket St., Lee's Su                                                                       |
| FOR INSTALLATION DETAILS<br>- ALL WEATHER SIDING -<br>R. FOR INSTALLATION DETAILS<br>E VENEER - RE: MFR. FOR<br>TAILS                                                                                                                                  |                                                   |                                                                                                                                                                                                      |                                                                                          |
| YSTEM - RE: MFR. FOR<br>TAILS<br>ICAL SIDING OVER HOUSE WRAP -<br>FOR INSTALLATION DETAILS<br>ASPHALT SHINGLES OVER FELT<br>AM (AT FASCHIA EDGES)<br>IMINUM GUTTER,<br>EGEND<br>IMINUM DOWNSPUT WITH SPASH<br>FINISH LEGEND                            | G F2                                              |                                                                                                                                                                                                      | ERMIT DOCUMENTS                                                                          |
|                                                                                                                                                                                                                                                        | ILDIN                                             |                                                                                                                                                                                                      | <b>PERMIT D</b>                                                                          |
| E: ELECTRICAL<br>DATION, RE: STRUCTURAL<br>(@ GARAGE), RE: STRUCT                                                                                                                                                                                      | - BU                                              |                                                                                                                                                                                                      |                                                                                          |
| STRUCTURE, RE: STRUCT.<br>JOIST SYSTEM, RE: STRUCT.<br>BEAM SYSTEM, RE: STRUCT.<br>JLATED METAL PANEL OVERHEAD<br>SCHEDULE                                                                                                                             |                                                   |                                                                                                                                                                                                      |                                                                                          |
| R. RE: DOOR SCHEDULE<br>OD ENTRY DOOR.<br>ULE<br>DOW SYSTEM.<br>: MI 3500 SERIES                                                                                                                                                                       | CKW                                               |                                                                                                                                                                                                      |                                                                                          |
| G, RE: STRUCT.<br>E, RE: STRUCT.<br>SULATION                                                                                                                                                                                                           | BLA(                                              |                                                                                                                                                                                                      |                                                                                          |
| ANT PVC SOFFIT VENT.                                                                                                                                                                                                                                   | AT                                                | DRIVE<br>D 64063                                                                                                                                                                                     |                                                                                          |
| ITRUCT.<br>USS SYSTEM, RE: STRUCT.<br>STRUCT.<br>RE: STRUCT.                                                                                                                                                                                           | ERVE                                              | ANDOAH<br>MMIT, MC                                                                                                                                                                                   |                                                                                          |
| RD<br>SUM BOARD (GARAGE CEILINGS)<br>IMINUM FLASHING<br>W/DOOR HEAD DETAIL PER MFR'S                                                                                                                                                                   | SESE                                              | E SHEN<br>EE'S SU                                                                                                                                                                                    |                                                                                          |
| W-SILL DETAIL PER MFR'S SPECS<br>MATCH SIDING MATERIAL. RE:<br>CONDITIONS WHERE RATED<br>RS<br>PLYWOOD SHEATHING. RE: PLAN                                                                                                                             | COPYRIGHT<br>COLLINS W<br>ARCHITECT<br>REVISION D | EBB<br>URE, LLC                                                                                                                                                                                      |                                                                                          |
| WHERE RATED PLYWOOD OCCURS<br>HEATHING<br>RE: STRUCT.<br>EWALK, RE: STRUCT.                                                                                                                                                                            |                                                   |                                                                                                                                                                                                      |                                                                                          |
| OINT<br>) SEALANT<br>EWAY, RE: CIVIL                                                                                                                                                                                                                   |                                                   |                                                                                                                                                                                                      |                                                                                          |
| OR, RE: STRUCT.<br>PLATE                                                                                                                                                                                                                               |                                                   | $\begin{array}{c} F & MISSOL\\ \hline F & MISSOL\\ \hline ROGER \\ L.\\ \hline WEBB II \\ \hline WBBB II \\ \hline UMBER \\ 2016004008 \\ \hline S-28-24 \\ \hline CHITE^{C1} \\ \hline \end{array}$ |                                                                                          |
|                                                                                                                                                                                                                                                        | PROFESSION                                        | <b>303</b><br>17 JAN                                                                                                                                                                                 | <u>1 2024</u><br>21075                                                                   |
| TERIOR WA                                                                                                                                                                                                                                              |                                                   |                                                                                                                                                                                                      |                                                                                          |

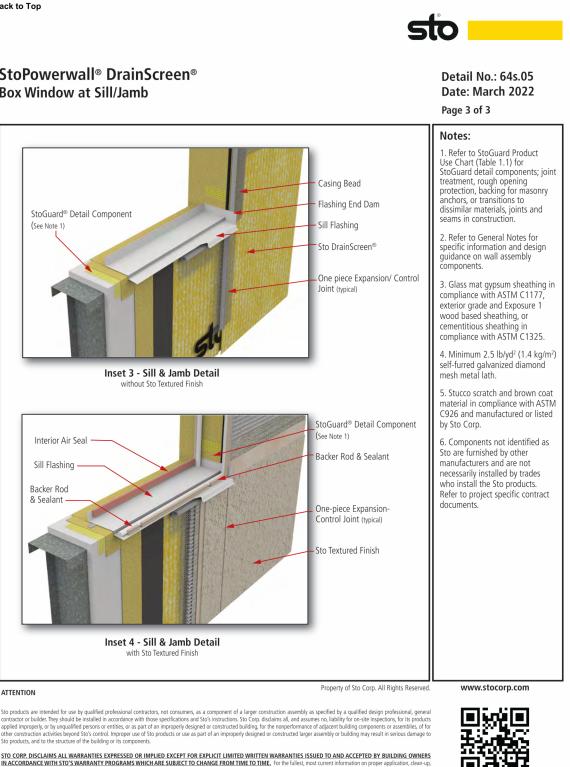


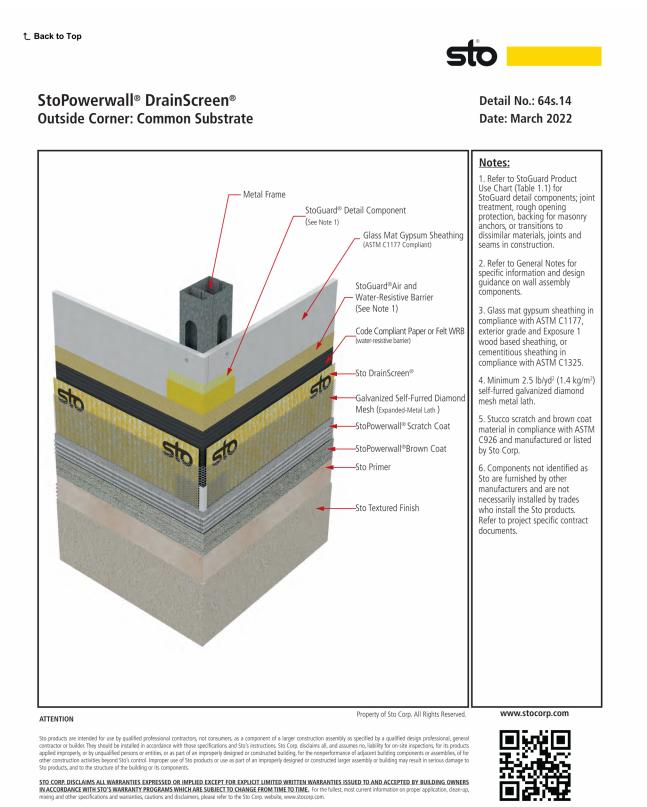
| S:<br>_SECTIONS/<br>TIONAL GENERAL NOTES<br>PLAN AND ELEVATIONS FOR<br>PENING DIMENSIONS ARE<br>ONS, UNLESS NOTED<br>HE WALL SECTIONS ARE TO<br>ALL, FACE OF MASONRY<br>E WALLS (FOC), AND COLUMN<br>D OR SHOWN OTHERWISE.<br>_, INCLUDING STEEL LINTELS,<br>S:<br>PTION<br>LAP SIDING OVER HOUSE WRAP -<br>FOR INSTALLATION DETAILS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | B SW Market St., Lee's Summit, Missouri 64063   816.249.2270   www.collinsandwebb.com                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| E. FOR INSTALLATION DETAILS E. VENEER - RE: MFR. FOR TAILS ICAL SIDING OVER HOUSE WRAP - FOR INSTALLATION DETAILS ASPHALT SHINGLES OVER FELT AM (AT FASCHIA EDGES) IMINUM DUNNSPUT WITH SPASH E. ELECTRICAL E. ELECTRICAL DATION, RE: STRUCTURAL C. G. GARAGE), RE: STRUCT E. ELECTRICAL DATION, RE: STRUCT. IOIST SYSTEM, RE: STRUCT. IOIST SYSTEM, RE: STRUCT. IOIST SYSTEM, RE: STRUCT. IDI E. DOOR SCHEDULE IDOW SYSTEM. IM ISSO SERIES S., RE: STRUCT. E., RE: STRUCT. ISULATION ITION IANT PVC SOFFIT VENT. INI SIDUS SYSTEM, RE: STRUCT. ISULATION ITION IANT PVC SOFFIT VENT. INI SIDUS SYSTEM, RE: STRUCT. ISTRUCT. ISTRUCT.ISTRUCT. ISTRUCT. | RESERVE AT BLACKWELL - BUILDING F2<br>SE SHENANDOAH DRIVE<br>LEE'S SUMMIT, MO 64063<br>PERMIT DOCUMENTS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| D SEALANT<br>EWAY, RE: CIVIL<br>OR, RE: STRUCT.<br>PLATE<br>ERIOR WALI                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Image: Note of the second |



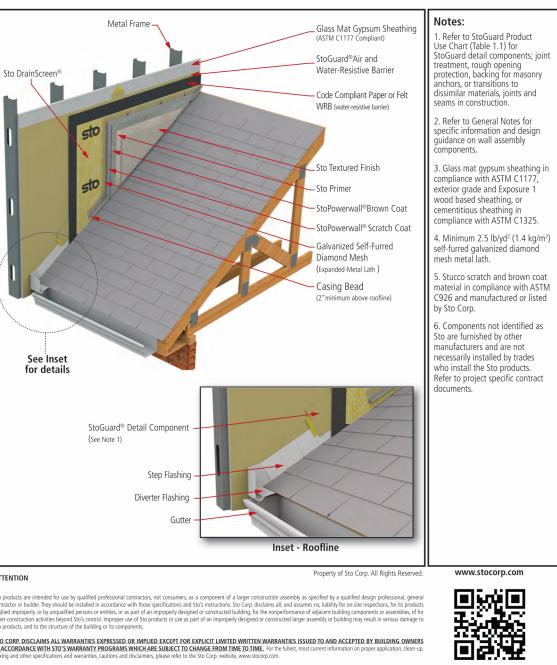


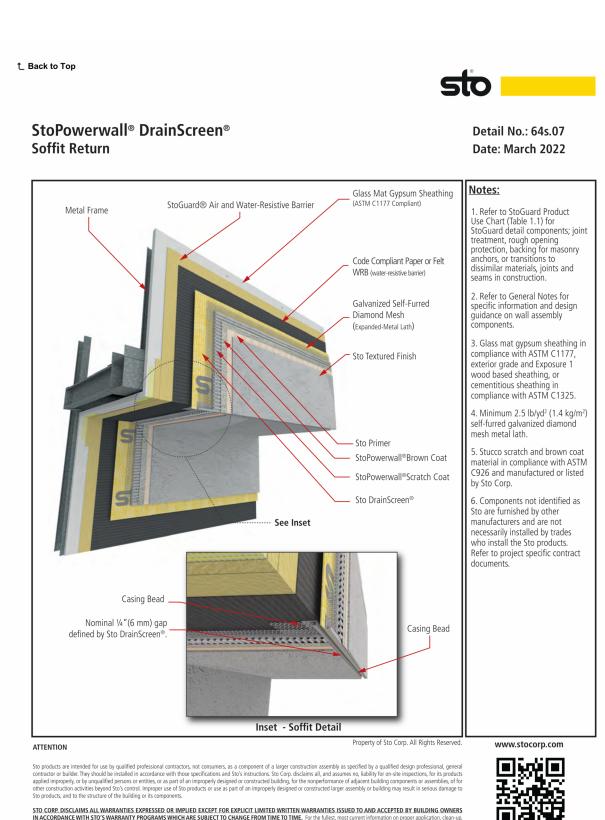


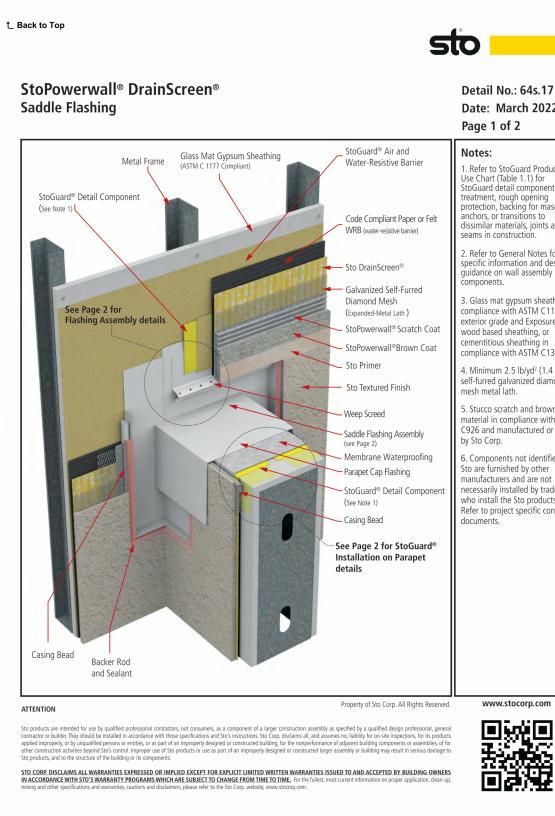




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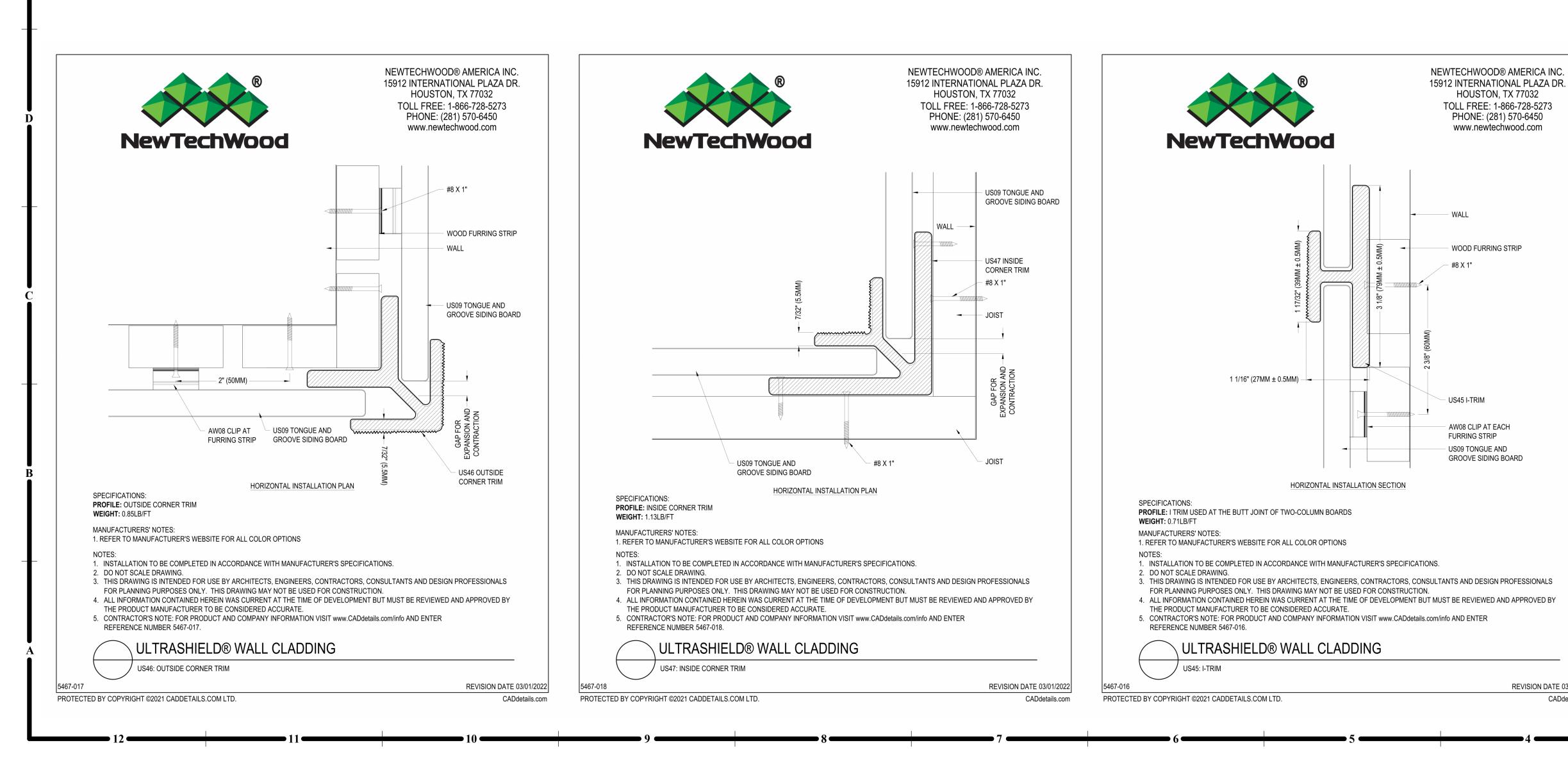


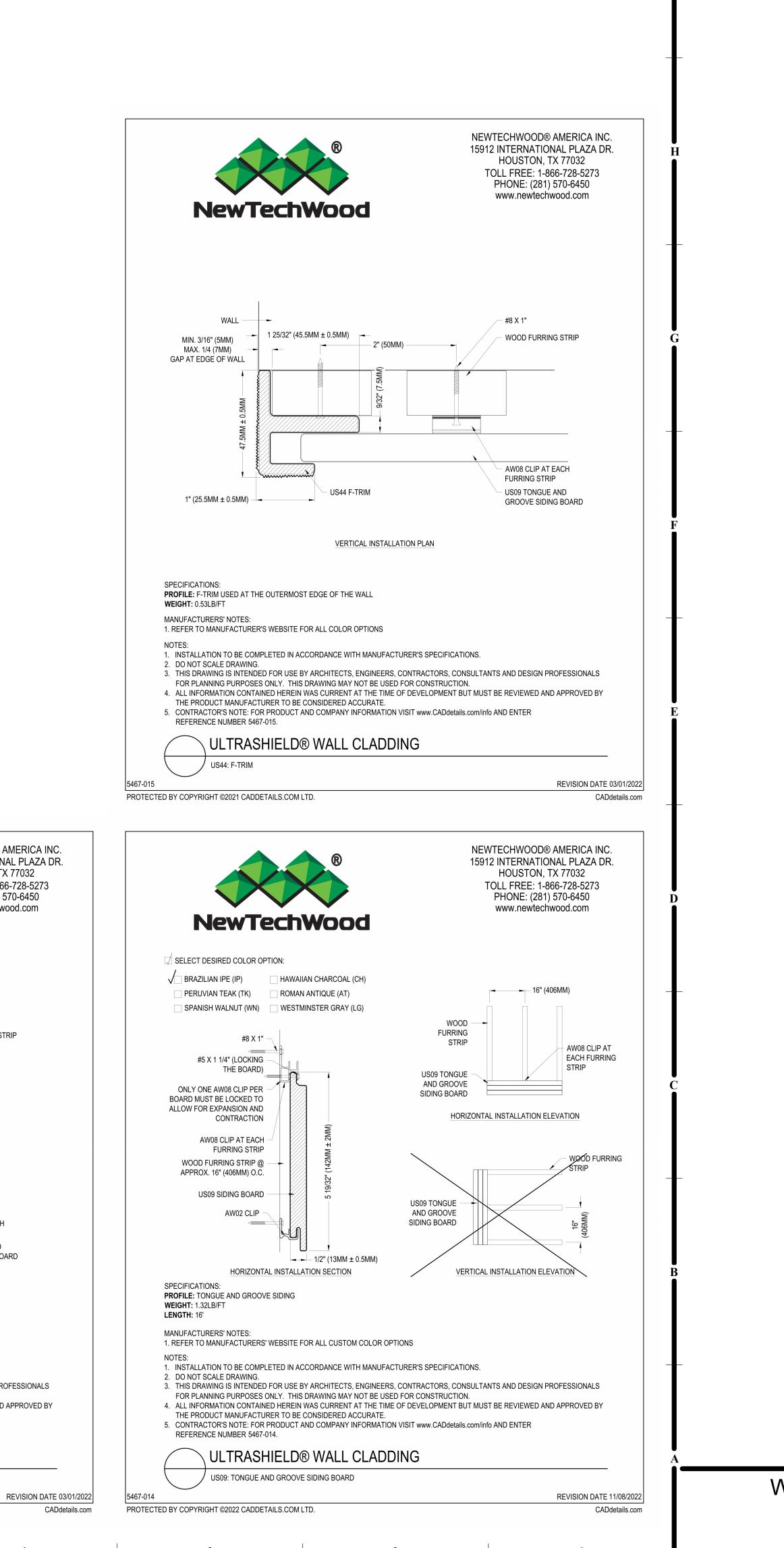




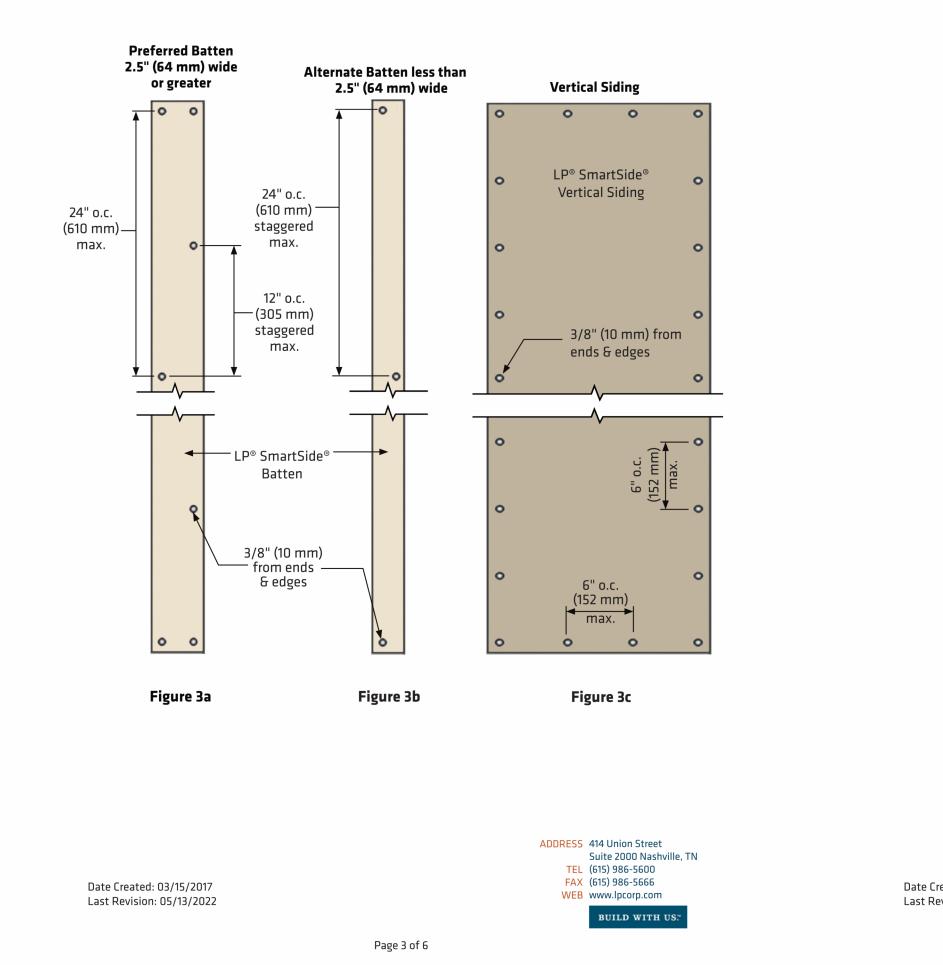




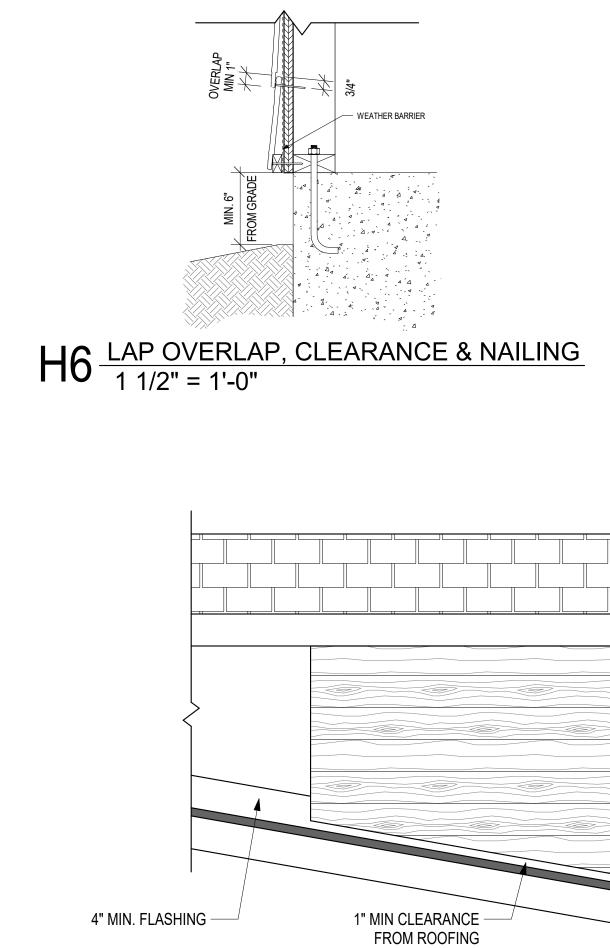




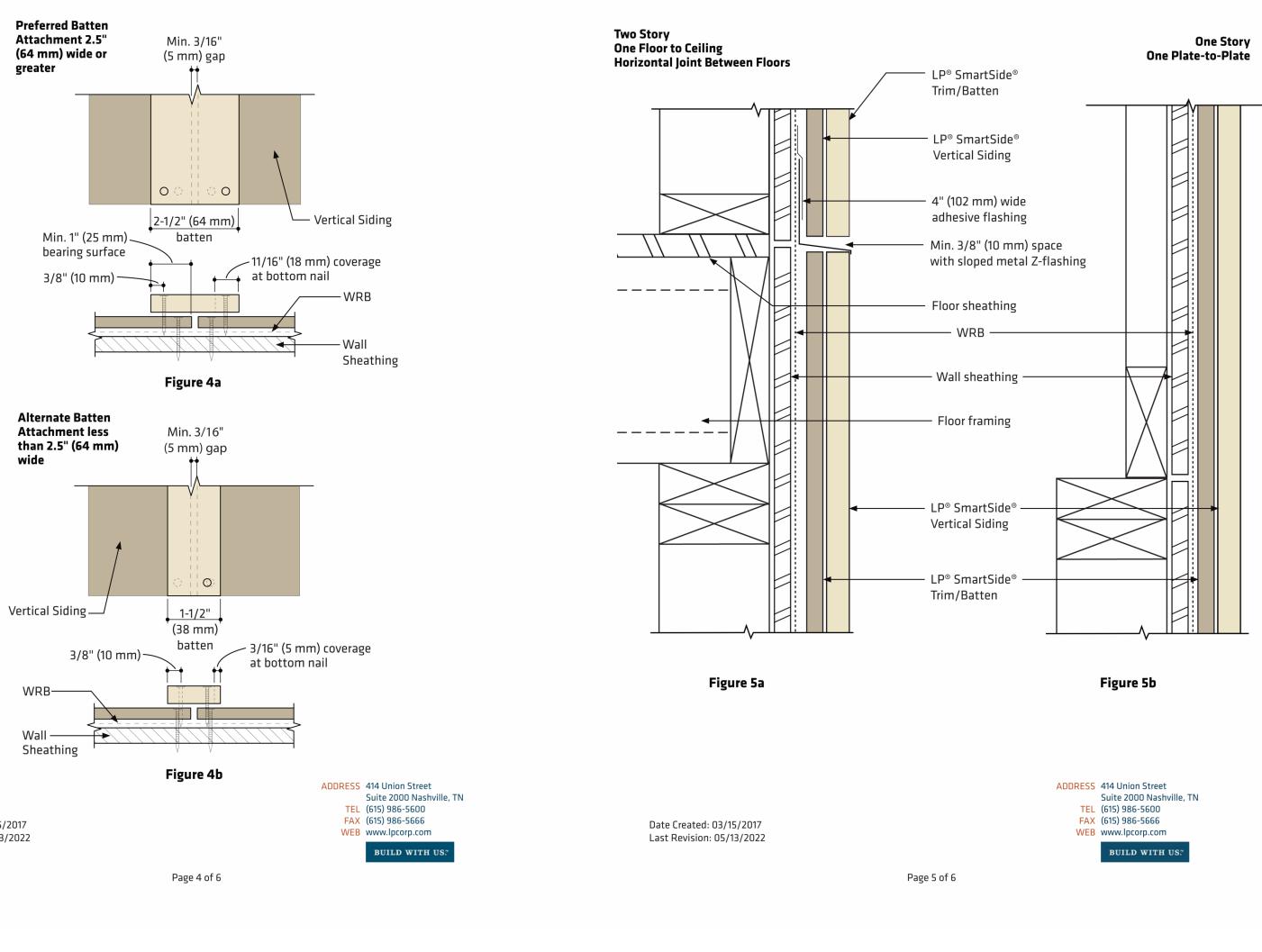


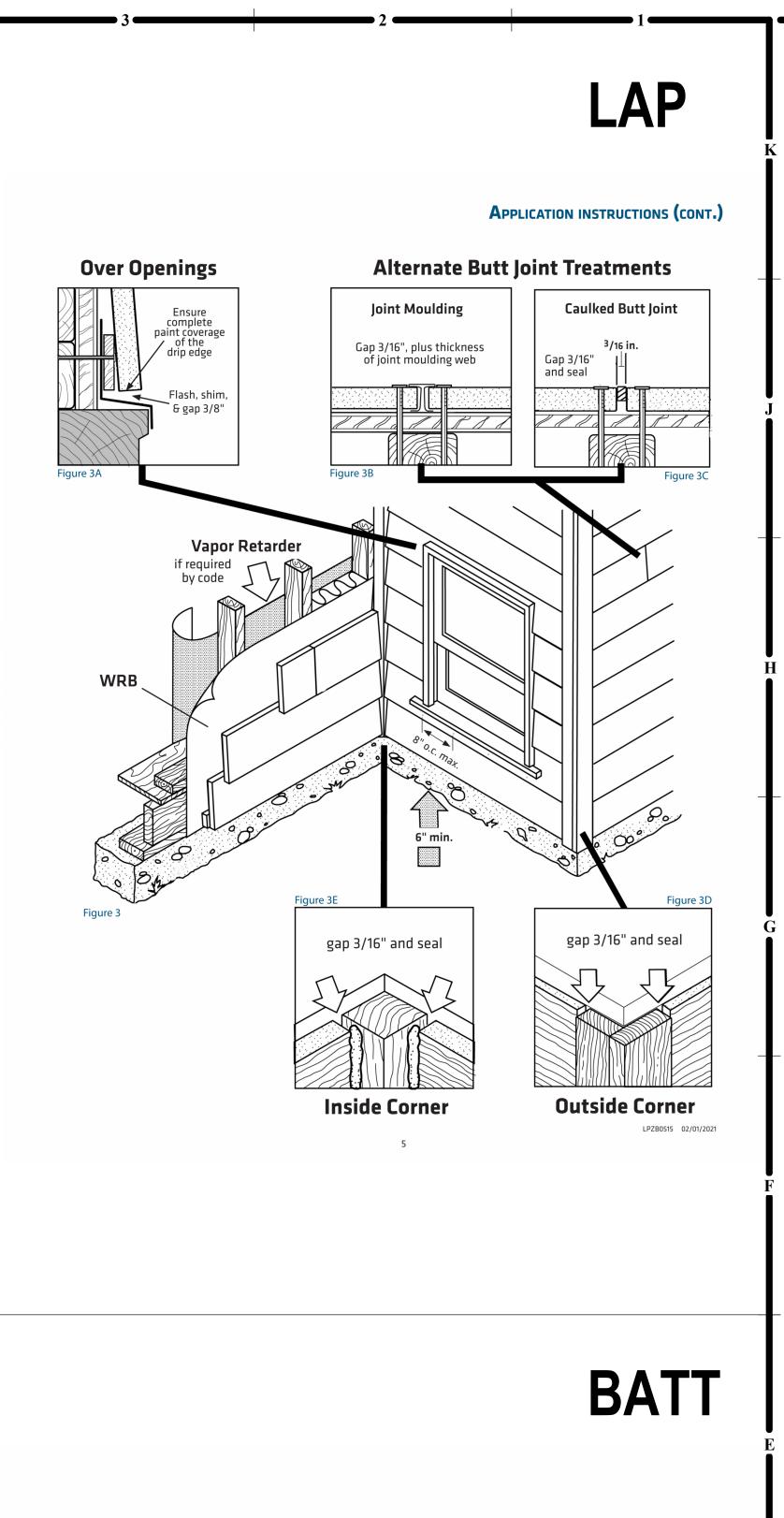


Date Created: 03/15/2017 Last Revision: 05/13/2022











Section View Plan View - WRB —— Stucco, brick or Wall sheathing ——/ cultured stone Vertical Siding —— └──── 3/8" (10 mm) gap -Battenwith backer rod and sealant – Min. 3/8" (10 mm) space with sloped metal Z-flashing – Stucco, brick or cultured stone Figure 6

Page 6 of 6

ADDRESS 414 Union Street

TEL (615) 986-5600

FAX (615) 986-5666

WEB www.lpcorp.com

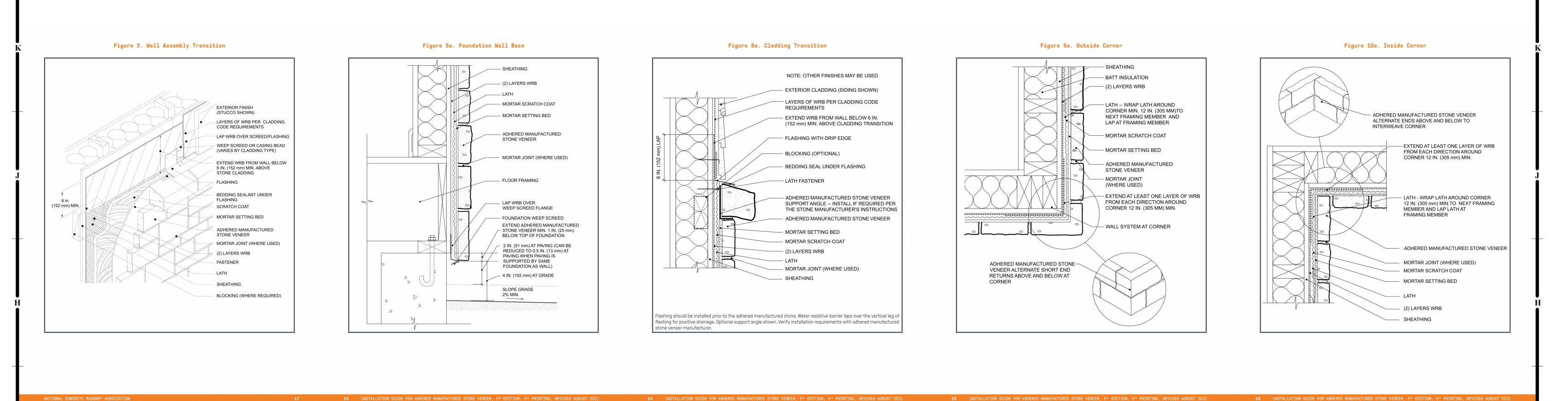
BUILD WITH US."

Suite 2000 Nashville, TN

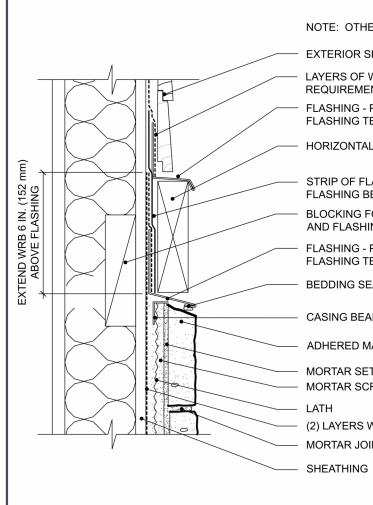
Date Created: 03/15/2017

Last Revision: 05/13/2022



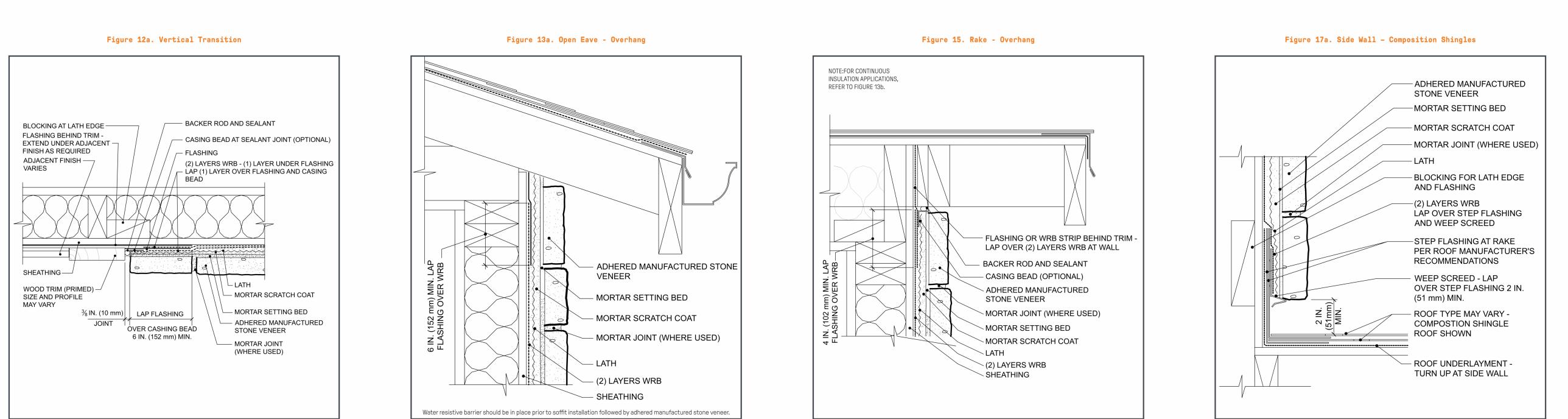


### Figure 11a. Horizontal Transition

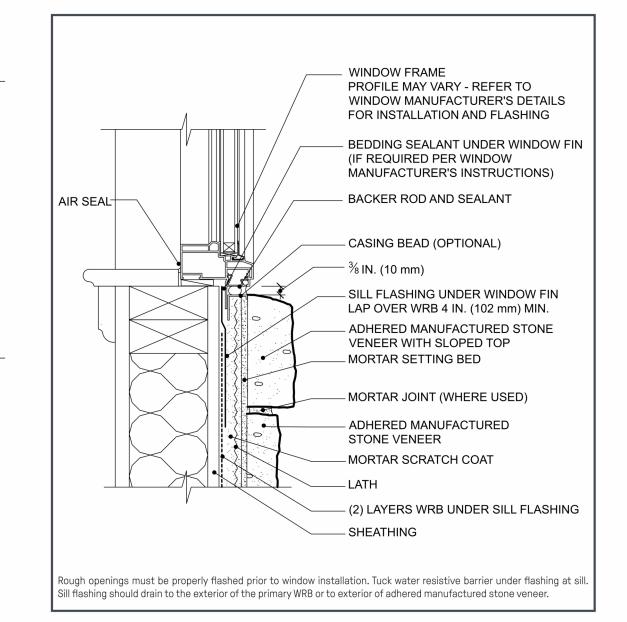


NOTE: OTHER FINISHES MAY BE USED - EXTERIOR SHEATHING (SIDING SHOWN) - LAYERS OF WRB PER CLADDING CODE REQUIREMENTS - FLASHING - PROVIDE END DAM AT FLASHING TERMINATION HORIZONTAL WOOD TRIM

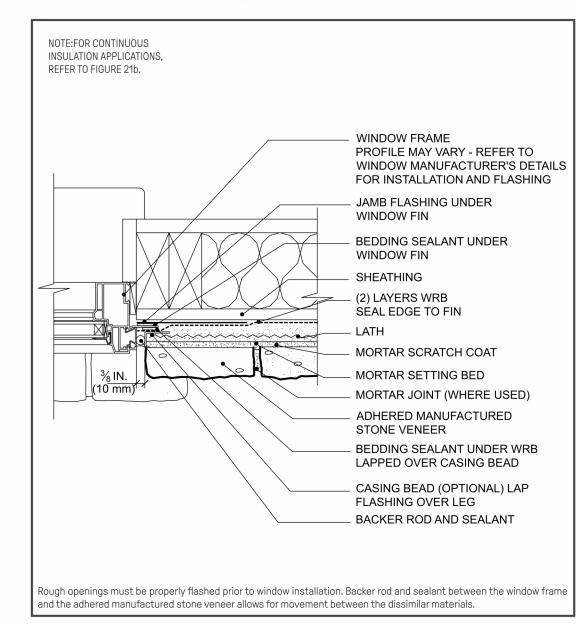
STRIP OF FLASHING - LAP OVER FLASHING BELOW BLOCKING FOR LATH EDGE AND FLASHING FLASHING - PROVIDE END DAM AT FLASHING TERMINATION BEDDING SEAL UNDER FLASHING CASING BEAD (OPTIONAL) OVER WRB - ADHERED MANUFACTURED STONE VENEER MORTAR SETTING BED MORTAR SCRATCH COAT LATH (2) LAYERS WRB - MORTAR JOINT (WHERE USED)



### Figure 21a. Window Sill



### Figure 22. Window Jamb



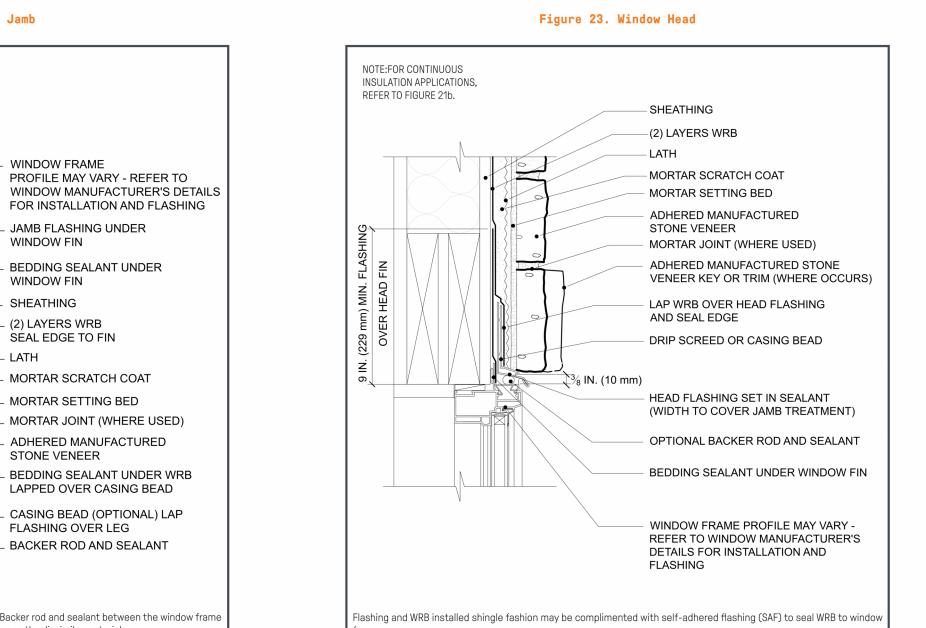
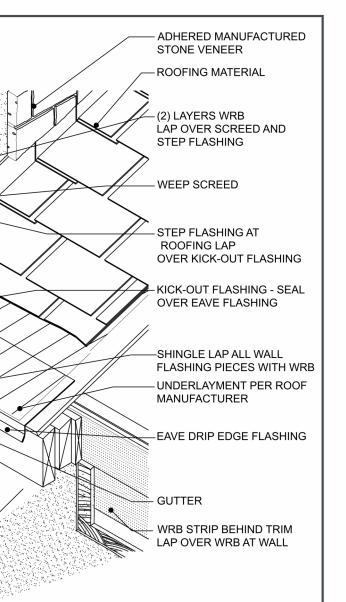
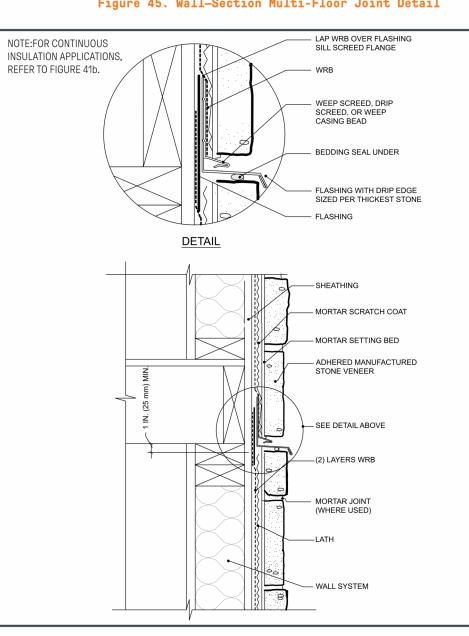


Figure 24. Kick-Out Flashing

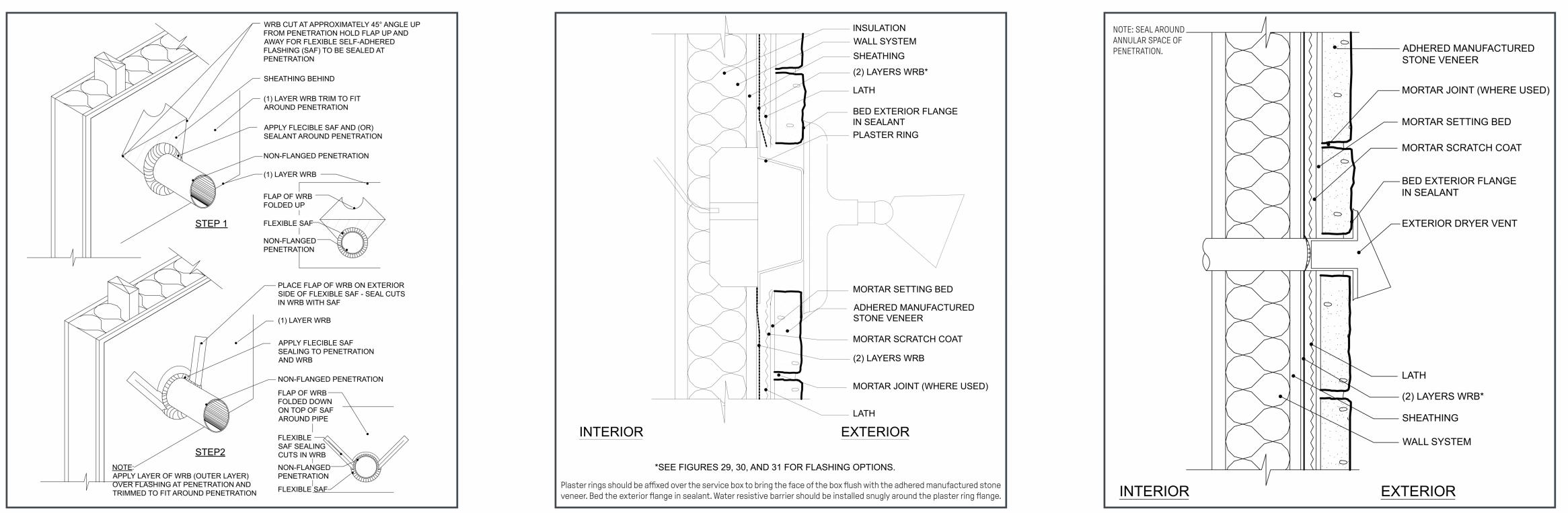






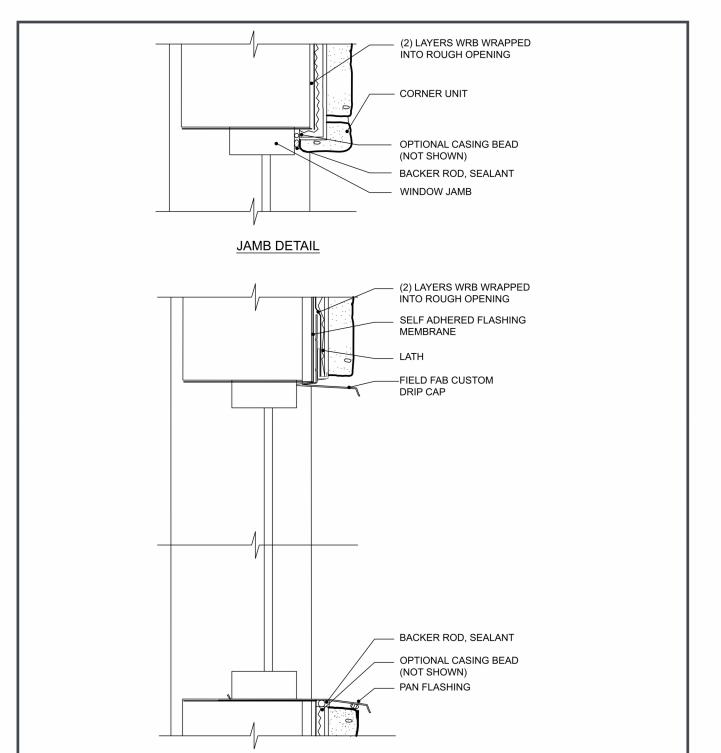






### Figure 30. Penetration Non-Flanged, with Housewrap WRB

### Figure 41a. Forward Mounted Commercial Window

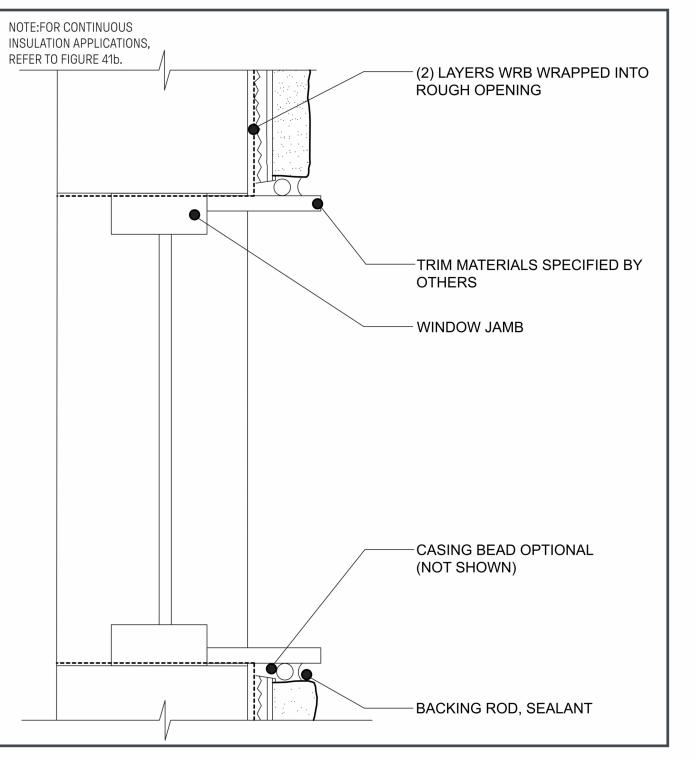




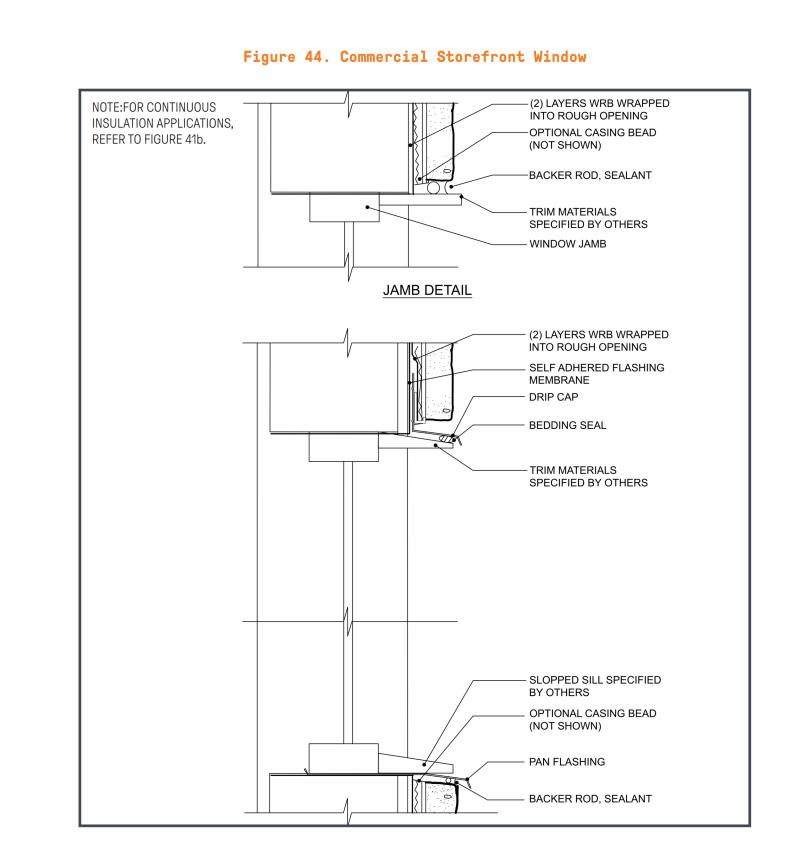


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### Figure 43. Commercial Storefront Window — Top View

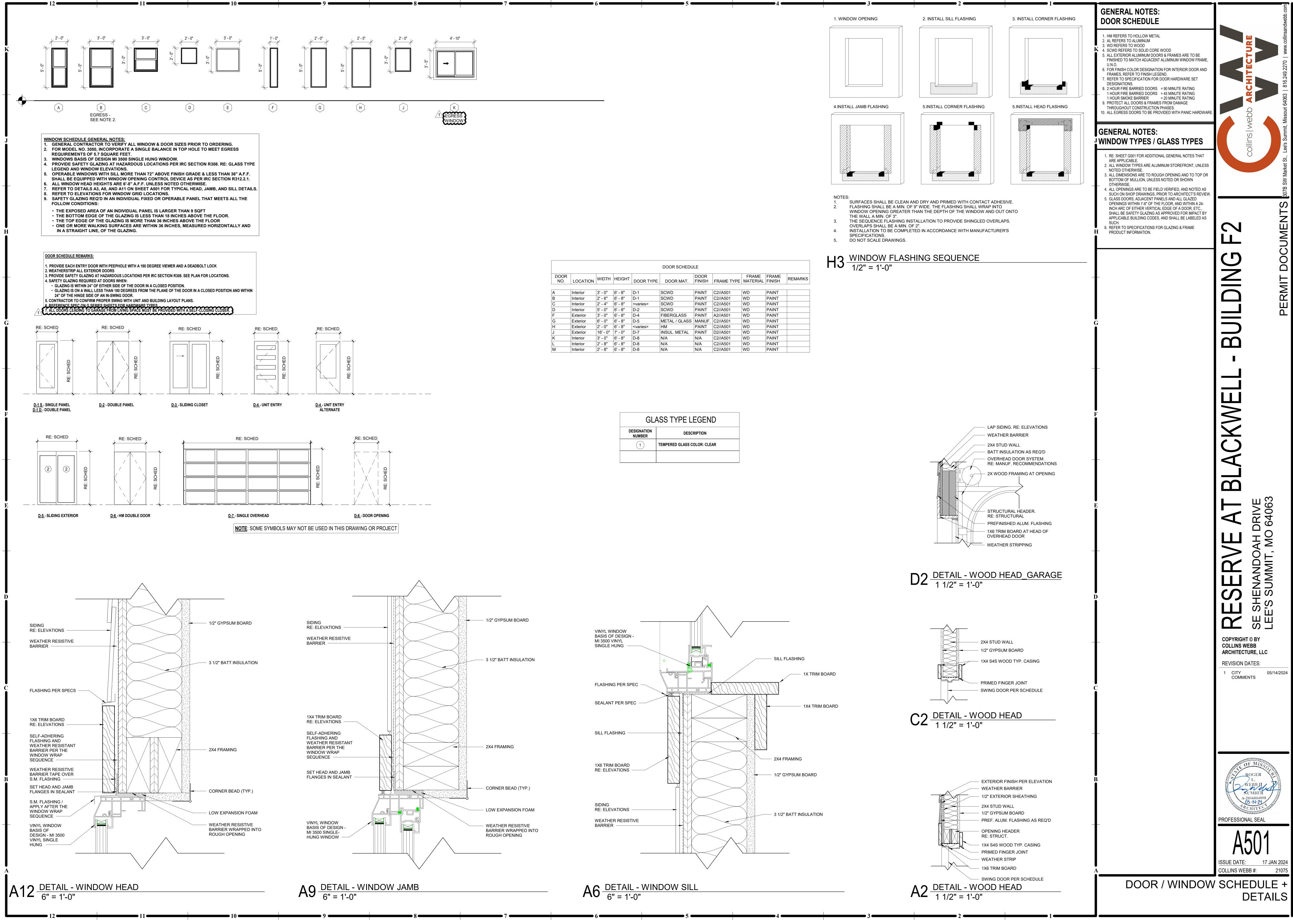


**68** INSTALLATION GUIDE FOR ADHERED MANUFACTURED STONE VENEER, 5<sup>th</sup> EDITION, 5<sup>th</sup> PRINTING, REVISED AUGUST 2021



### Figure 32. Penetration, Dryer Vent

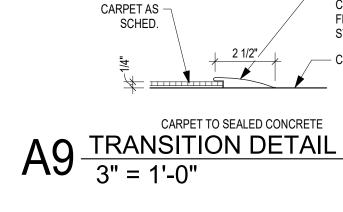




|             |          |          |         |                   | DOOR SCHEDU   | LE             |            |                 |
|-------------|----------|----------|---------|-------------------|---------------|----------------|------------|-----------------|
| DOOR<br>NO. | LOCATION | WIDTH    | HEIGHT  | DOOR TYPE         | DOOR MAT.     | DOOR<br>FINISH | FRAME TYPE | FRAME<br>MATERI |
|             |          |          |         |                   |               |                |            |                 |
| A           | Interior | 3' - 0"  | 6' - 8" | D-1               | SCWD          | PAINT          | C2//A501   | WD              |
| В           | Interior | 2' - 6"  | 6' - 8" | D-1               | SCWD          | PAINT          | C2//A501   | WD              |
| С           | Interior | 2' - 4"  | 6' - 8" | <varies></varies> | SCWD          | PAINT          | C2//A501   | WD              |
| D           | Interior | 5' - 0"  | 6' - 8" | D-2               | SCWD          | PAINT          | C2//A501   | WD              |
| F           | Exterior | 3' - 0"  | 6' - 8" | D-4               | FIBERGLASS    | PAINT          | A2//A501   | WD              |
| G           | Exterior | 6' - 0"  | 6' - 8" | D-5               | METAL / GLASS | MANUF.         | C2//A501   | WD              |
| Н           | Exterior | 2' - 0"  | 6' - 8" | <varies></varies> | HM            | PAINT          | C2//A501   | WD              |
| J           | Exterior | 16' - 0" | 7' - 0" | D-7               | INSUL. METAL  | PAINT          | D2//A501   | WD              |
| K           | Interior | 3' - 0"  | 6' - 8" | D-8               | N/A           | N/A            | C2//A501   | WD              |
| L           | Interior | 2' - 8"  | 6' - 8" | D-8               | N/A           | N/A            | C2//A501   | WD              |
| М           | Interior | 2' - 8"  | 6' - 8" | D-8               | N/A           | N/A            | C2//A501   | WD              |

| GL/                   | ASS TYPE LEGEND             |
|-----------------------|-----------------------------|
| DESIGNATION<br>NUMBER | DESCRIPTION                 |
| 1                     | TEMPERED GLASS COLOR: CLEAR |
|                       |                             |

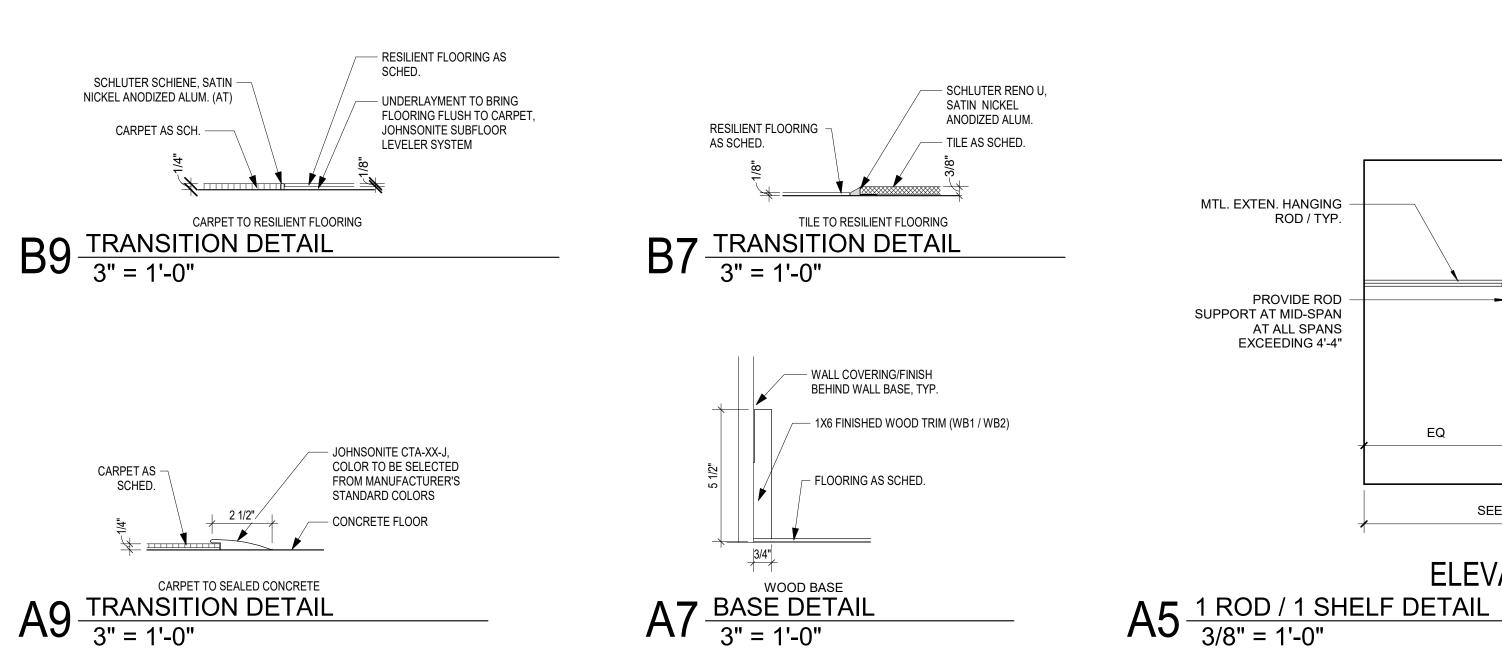
31 ά.



NICKEL ANODIZED ALUM. (AT) CARPET AS SCH. —

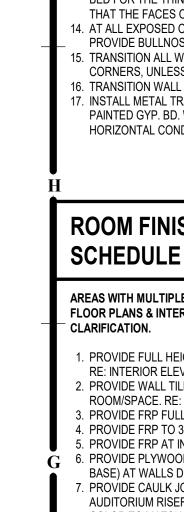
|                        |                  |                           |                  |        |                                                               | FINISH LEGEND         |                                                          |                           |                                                          |
|------------------------|------------------|---------------------------|------------------|--------|---------------------------------------------------------------|-----------------------|----------------------------------------------------------|---------------------------|----------------------------------------------------------|
| Silverspot<br>Approved | TYPE<br>ORDERING | FLOOR / WALL /<br>CEILING | BUILDING<br>TYPE | SYMBOL | MATERIAL                                                      | MANUFACTURER          | ТҮРЕ                                                     | COLOR                     | TYP. AREA / REMARKS                                      |
| RESERVE                |                  |                           |                  |        |                                                               |                       |                                                          |                           |                                                          |
| LOOR FINISH            |                  |                           |                  |        |                                                               |                       |                                                          |                           |                                                          |
| х                      | А                | FLOOR FINISH              | .RESERVE         | C1     | CARPET TILE (23oz, 18"X36")                                   | MANNINGTON COMMERCIAL | AGAINST THE GRAIN / HAND SCRAPED                         | 14300 CARVED              | INSTALLATION METHOD: VERTICAL ASHLAR                     |
| ALL BASE               |                  |                           |                  |        |                                                               |                       |                                                          |                           |                                                          |
|                        | В                | WALL BASE                 | .RESERVE         | MB1    | METAL BASE - DECORATIVE PLATE STEEL (1/8"X6"H, BAR<br>HEIGHT) |                       |                                                          | BLACK (EP5)               | CONCIERGE, LOUNGE / BAR                                  |
| ALL FINISH             |                  |                           |                  |        |                                                               |                       |                                                          |                           |                                                          |
|                        | С                | WALL FINISH               | .RESERVE         | EP1    | PAINT - EPOXY                                                 | SHERWIN WILLIAMS      | SATIN ENAMEL                                             | SW 7674 PEPPERCORN        | HM DOOR FRAMES, PORT GLASS WINDOW FRAMES                 |
| IILLWORK / CA          | SEWORK           |                           |                  |        |                                                               |                       | · · · · ·                                                |                           |                                                          |
| x                      | D                | MILLWORK / CASEWORK       | .RESERVE         | PL1    | PLASTIC LAMINATE                                              | WILSONART             | PREMIUM, GLOSS LINE W/ AEON SCRATCH<br>RESISTANCE FINISH | 8214K-28 PHANTOM CHARCOAL | ELEVATOR CABS                                            |
| VALL PROTECT           | TION             |                           |                  |        |                                                               |                       |                                                          |                           |                                                          |
|                        | E                | WALL PROTECTION           | .RESERVE         | CG1    | CORNER GUARD - ALUMINUM (3/4" x 3/4")                         |                       | FULL HEIGHT                                              | BLACK                     | HIGH PROFILE AREAS. SEE FINISH FLOOR PLANS FOR LOCATIONS |
| EILING FINISH          |                  |                           |                  |        |                                                               |                       | · ·                                                      |                           |                                                          |
| х                      | F                | CEILING FINISH            | .RESERVE         | ACT1   | VINYL-FACED CEILING TILE (2'x4')                              | CERTAINTEED CEILINGS  | VINYL SHIELD A, 1100-CRF-1                               | WHITE                     | KITCHEN, SERVICE, DRY GOODS, TRASH                       |

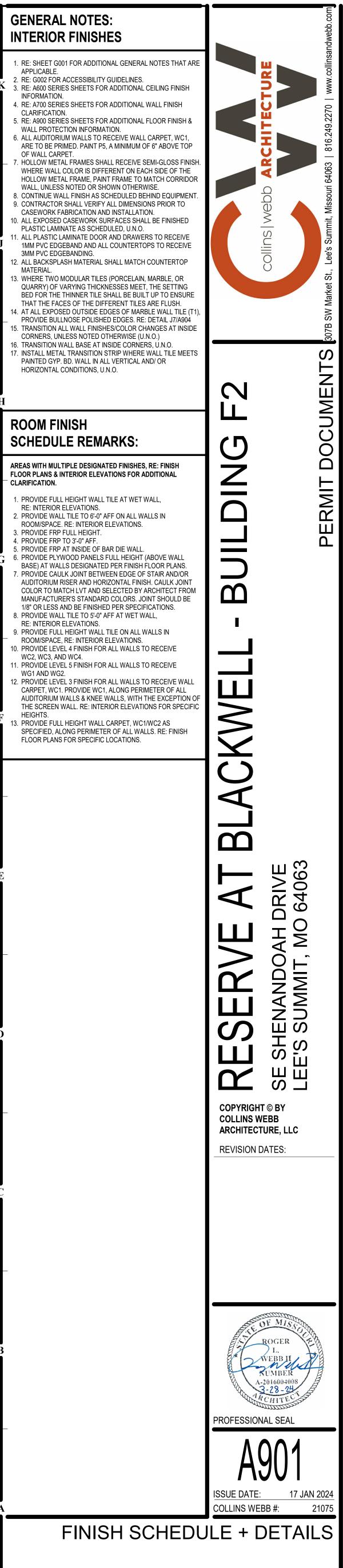
### **GENERAL NOTE:**

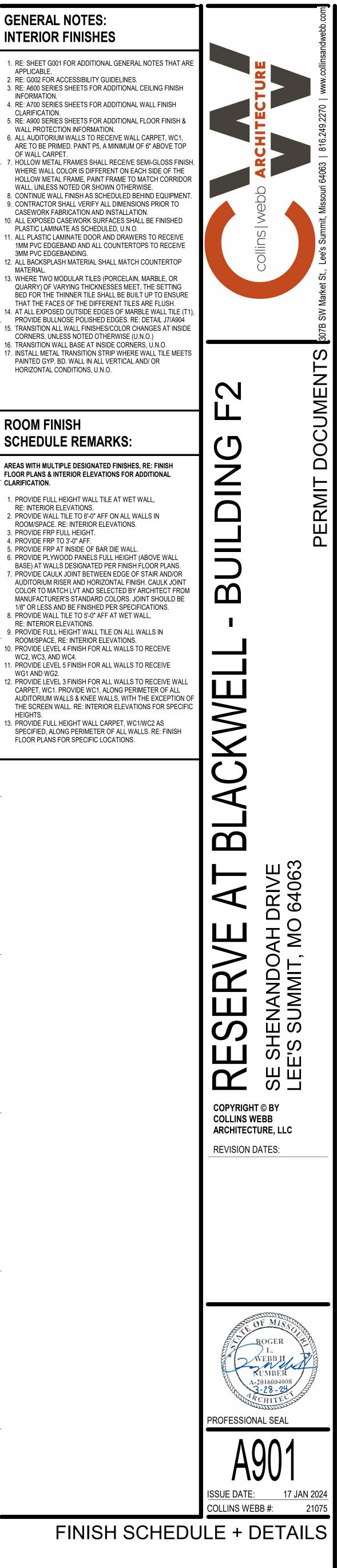


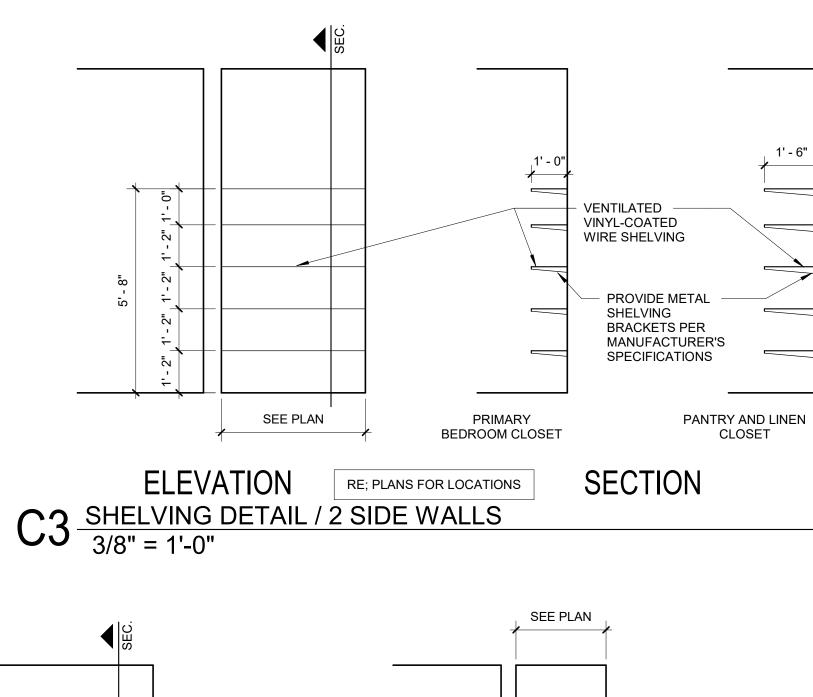
### FINISH MATERIALS TO BE PROCURRED FROM OWNER SELECTED / SPECIFIED VENDOR, AS LISTED ABOVE. ALTERNATES OR SUBSTITUTIONS WILL NOT BE ACCEPTED.

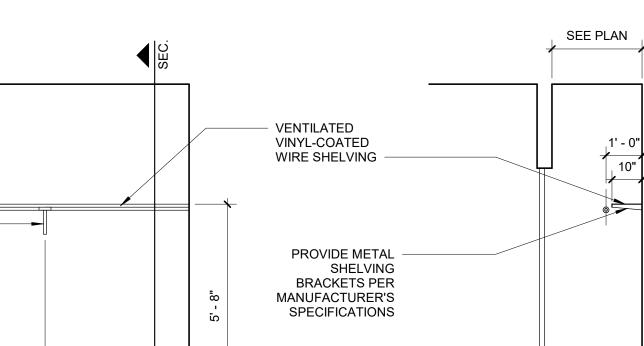
|                                                     |                               | ROOM F    | INISH SCHEDULE        |             |            |         |
|-----------------------------------------------------|-------------------------------|-----------|-----------------------|-------------|------------|---------|
|                                                     | FLOOI                         | RS        |                       |             | CASEWORK   |         |
| ROOM NAME                                           | FLOOR                         | WALL BASE | <b>CEILING FINISH</b> | Wall Finish | COUNTERTOP | REMARKS |
| RESERVE                                             |                               |           |                       |             |            |         |
| 1/2 BATH                                            | TILE                          | TB1       | P2                    | P1          | QUARTZ     |         |
| BATH #2                                             | TILE                          | TB1       | P2                    | P1          | QUARTZ     |         |
| BEDROOM #2                                          | CPT                           | WB        | P2                    | P1          | doratiz    |         |
| BEDROOM #3                                          | CPT                           | WB        | P2                    | P1          |            |         |
| BEDROOM #4                                          | CPT                           | WB        | P2                    | P1          |            |         |
| CLO.                                                | MATCH<br>ADJACENT<br>FLOORING | WB        | P2                    | P1          |            |         |
| CORR.                                               | CPT                           | WB        | P2                    | P1          |            |         |
| DINING                                              | LVT                           | WB        | P2                    | P1          |            |         |
| GARAGE                                              | SMOOTH CONC                   | NONE      | TAPE + MUD            | TAPE + MUD  |            |         |
| KITCHEN                                             | LVT                           | WB        | P2                    | P1          | QUARTZ     |         |
| LAUNDRY                                             | LVT                           | WB        | P2                    | P1          |            |         |
| LIVING ROOM                                         | LVT                           | WB        | P2                    | P1          |            |         |
| LOFT                                                | CPT                           | WB        | P2                    | P1          |            |         |
| MECH                                                | SMOOTH CONC                   | NONE      | TAPE + MUD            | TAPE + MUD  |            |         |
| PANTRY                                              | LVT                           | WB        | P2                    | P1          |            |         |
| PRIMARY BATH                                        | TILE                          | TB1       | P2                    | P1          | QUARTZ     |         |
| PRIMARY BEDROOM                                     | CPT                           | WB        | P2                    | P1          |            |         |
| WALK-IN                                             | CPT                           | WB        | P2                    | P1          |            |         |
| SINGLE FAMILY<br>1/2 BATH<br>BATH #2<br>BATHROOM #2 |                               |           |                       |             |            |         |
| BEDROOM #2                                          |                               |           |                       |             |            |         |
| BEDROOM #3                                          |                               |           |                       |             |            |         |











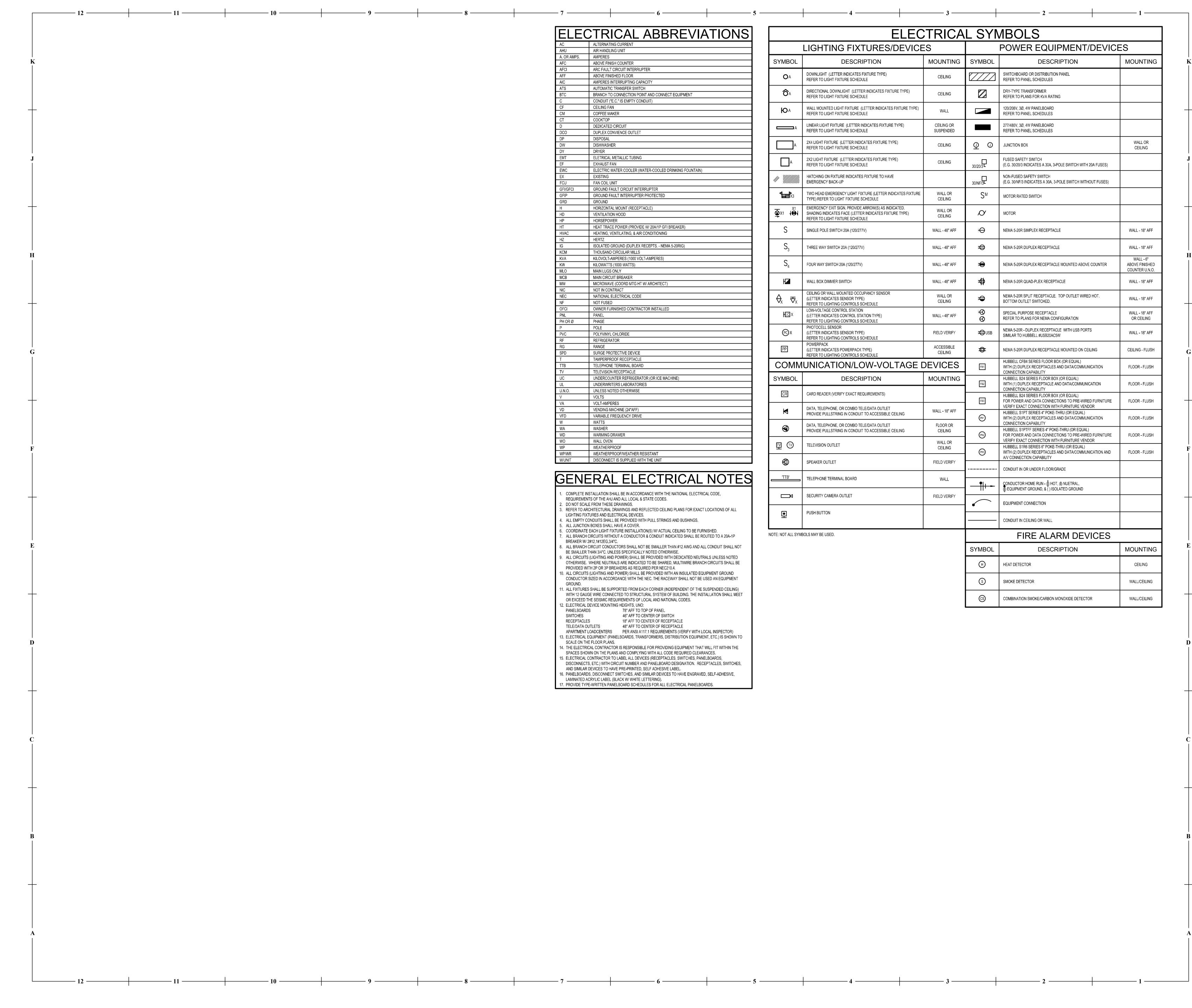
EQ

SEE PLAN

ELEVATION

EQ

SECTION



| AIR HANDLING UNIT<br>AMPERES<br>ABOVE FINISH COUNTER<br>ARC FAULT CIRCUIT INTERRUPTER<br>ABOVE FINISHED FLOOR<br>AMPERES INTERRUPTING CAPACITY<br>AUTOMATIC TRANSFER SWITCH<br>BRANCH TO CONNECTION POINT AND CONNECT EQUIPMENT<br>CONDUIT ("E.C." IS EMPTY CONDUIT)<br>CEILING FAN<br>COFFEE MAKER<br>COOKTOP |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ABOVE FINISH COUNTER<br>ARC FAULT CIRCUIT INTERRUPTER<br>ABOVE FINISHED FLOOR<br>AMPERES INTERRUPTING CAPACITY<br>AUTOMATIC TRANSFER SWITCH<br>BRANCH TO CONNECTION POINT AND CONNECT EQUIPMENT<br>CONDUIT ("E.C." IS EMPTY CONDUIT)<br>CEILING FAN<br>COFFEE MAKER                                            |
| ABOVE FINISHED FLOOR<br>AMPERES INTERRUPTING CAPACITY<br>AUTOMATIC TRANSFER SWITCH<br>BRANCH TO CONNECTION POINT AND CONNECT EQUIPMENT<br>CONDUIT ("E.C." IS EMPTY CONDUIT)<br>CEILING FAN<br>COFFEE MAKER                                                                                                     |
| AMPERES INTERRUPTING CAPACITY<br>AUTOMATIC TRANSFER SWITCH<br>BRANCH TO CONNECTION POINT AND CONNECT EQUIPMENT<br>CONDUIT ("E.C." IS EMPTY CONDUIT)<br>CEILING FAN<br>COFFEE MAKER                                                                                                                             |
| AUTOMATIC TRANSFER SWITCH<br>BRANCH TO CONNECTION POINT AND CONNECT EQUIPMENT<br>CONDUIT ("E.C." IS EMPTY CONDUIT)<br>CEILING FAN<br>COFFEE MAKER                                                                                                                                                              |
| BRANCH TO CONNECTION POINT AND CONNECT EQUIPMENT<br>CONDUIT ("E.C." IS EMPTY CONDUIT)<br>CEILING FAN<br>COFFEE MAKER                                                                                                                                                                                           |
| CONDUIT ("E.C." IS EMPTY CONDUIT)<br>CEILING FAN<br>COFFEE MAKER                                                                                                                                                                                                                                               |
| CEILING FAN<br>COFFEE MAKER                                                                                                                                                                                                                                                                                    |
| COFFEE MAKER                                                                                                                                                                                                                                                                                                   |
|                                                                                                                                                                                                                                                                                                                |
| 500(())                                                                                                                                                                                                                                                                                                        |
| DEDICATED CIRCUIT                                                                                                                                                                                                                                                                                              |
| DUPLEX CONVIENCE OUTLET                                                                                                                                                                                                                                                                                        |
| DISPOSAL                                                                                                                                                                                                                                                                                                       |
| DISHWASHER                                                                                                                                                                                                                                                                                                     |
| DRYER<br>ELETRICAL METALLIC TUBING                                                                                                                                                                                                                                                                             |
| ELETRICAL METALLIC TODING                                                                                                                                                                                                                                                                                      |
| ELECTRIC WATER COOLER (WATER-COOLED DRINKING FOUNTAIN)                                                                                                                                                                                                                                                         |
| EXISTING                                                                                                                                                                                                                                                                                                       |
| FAN COIL UNIT                                                                                                                                                                                                                                                                                                  |
| GROUND FAULT CIRCUIT INTERRUPTER                                                                                                                                                                                                                                                                               |
| GROUND FAULT INTERRUPTER PROTECTED                                                                                                                                                                                                                                                                             |
| GROUND<br>HORIZONTAL MOUNT (RECEPTACLE)                                                                                                                                                                                                                                                                        |
| VENTILATION HOOD                                                                                                                                                                                                                                                                                               |
| HORSEPOWER                                                                                                                                                                                                                                                                                                     |
| HEAT TRACE POWER (PROVIDE W/ 20A/1P GFI BREAKER)                                                                                                                                                                                                                                                               |
| HEATING, VENTILATING, & AIR CONDITIONING                                                                                                                                                                                                                                                                       |
| HERTZ                                                                                                                                                                                                                                                                                                          |
| ISOLATED GROUND (DUPLEX RECEPTS NEMA 5-20RIG)                                                                                                                                                                                                                                                                  |
| THOUSAND CIRCULAR MILLS                                                                                                                                                                                                                                                                                        |
| KILOVOLT-AMPERES (1000 VOLT-AMPERES)<br>KILOWATTS (1000 WATTS)                                                                                                                                                                                                                                                 |
| MAIN LUGS ONLY                                                                                                                                                                                                                                                                                                 |
| MAIN CIRCUIT BREAKER                                                                                                                                                                                                                                                                                           |
| MICROWAVE (COORD MTG HT W/ ARCHITECT)                                                                                                                                                                                                                                                                          |
| NOT IN CONTRACT                                                                                                                                                                                                                                                                                                |
| NATIONAL ELECTRICAL CODE                                                                                                                                                                                                                                                                                       |
|                                                                                                                                                                                                                                                                                                                |
| OWNER FURNISHED CONTRACTOR INSTALLED PANEL                                                                                                                                                                                                                                                                     |
| PHASE                                                                                                                                                                                                                                                                                                          |
| POLE                                                                                                                                                                                                                                                                                                           |
| POLYVINYL CHLORIDE                                                                                                                                                                                                                                                                                             |
| REFRIGERATOR                                                                                                                                                                                                                                                                                                   |
| RANGE                                                                                                                                                                                                                                                                                                          |
|                                                                                                                                                                                                                                                                                                                |
| TAMPERPROOF RECEPTACLE                                                                                                                                                                                                                                                                                         |
| TELEPHONE TERMINAL BOARD TELEVISION RECEPTACLE                                                                                                                                                                                                                                                                 |
| UNDERCOUNTER REFRIGERATOR (OR ICE MACHINE)                                                                                                                                                                                                                                                                     |
| UNDERWRITERS LABORATORIES                                                                                                                                                                                                                                                                                      |
| UNLESS NOTED OTHERWISE                                                                                                                                                                                                                                                                                         |
| VOLTS                                                                                                                                                                                                                                                                                                          |
| VOLT-AMPERES                                                                                                                                                                                                                                                                                                   |
| VENDING MACHINE (24"AFF)                                                                                                                                                                                                                                                                                       |
| VARIABLE FREQUENCY DRIVE                                                                                                                                                                                                                                                                                       |
| WATTS<br>WASHER                                                                                                                                                                                                                                                                                                |
| WASHER<br>WARMING DRAWER                                                                                                                                                                                                                                                                                       |
| WARMING DRAWER                                                                                                                                                                                                                                                                                                 |
|                                                                                                                                                                                                                                                                                                                |
| WEATHERPROOF                                                                                                                                                                                                                                                                                                   |
| WEATHERPROOF<br>WEATHERPROOF/WEATHER RESISTANT                                                                                                                                                                                                                                                                 |
|                                                                                                                                                                                                                                                                                                                |

|                | LIGHTING FIXTURES/DEVICE                                                                                                                         | S                       |                            | POWER EQUIPMENT/DEVIC                                                                                                                                  | ES                                            |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| YMBOL          | DESCRIPTION                                                                                                                                      | MOUNTING                | SYMBOL                     | DESCRIPTION                                                                                                                                            | MOUNTING                                      |
| OA             | DOWNLIGHT (LETTER INDICATES FIXTURE TYPE)<br>REFER TO LIGHT FIXTURE SCHEDULE                                                                     | CEILING                 |                            | SWITCHBOARD OR DISTRIBUTION PANEL<br>REFER TO PANEL SCHEDULES                                                                                          |                                               |
| <b>ô</b> A     | DIRECTIONAL DOWNLIGHT (LETTER INDICATES FIXTURE TYPE)<br>REFER TO LIGHT FIXTURE SCHEDULE                                                         | CEILING                 |                            | DRY-TYPE TRANSFORMER<br>REFER TO PLANS FOR KVA RATING                                                                                                  |                                               |
| ΜΑ             | WALL MOUNTED LIGHT FIXTURE (LETTER INDICATES FIXTURE TYPE)<br>REFER TO LIGHT FIXTURE SCHEDULE                                                    | WALL                    |                            | 120/208V, 3Ø, 4W PANELBOARD<br>REFER TO PANEL SCHEDULES                                                                                                |                                               |
| A              | LINEAR LIGHT FIXTURE (LETTER INDICATES FIXTURE TYPE)<br>REFER TO LIGHT FIXTURE SCHEDULE                                                          | CEILING OR<br>SUSPENDED |                            | 277/480V, 3Ø, 4W PANELBOARD<br>REFER TO PANEL SCHEDULES                                                                                                |                                               |
| A              | 2X4 LIGHT FIXTURE (LETTER INDICATES FIXTURE TYPE)<br>REFER TO LIGHT FIXTURE SCHEDULE                                                             | CEILING                 | Q 0                        | JUNCTION BOX                                                                                                                                           | WALL OR<br>CEILING                            |
| A              | 2X2 LIGHT FIXTURE (LETTER INDICATES FIXTURE TYPE)<br>REFER TO LIGHT FIXTURE SCHEDULE                                                             | CEILING                 | 30/20/3                    | FUSED SAFETY SWITCH<br>(E.G. 30/20/3 INDICATES A 30A, 3-POLE SWITCH WITH 20A FUSES)                                                                    |                                               |
|                | HATCHING ON FIXTURE INDICATES FIXTURE TO HAVE<br>EMERGENCY BACK-UP                                                                               |                         | 30/NF/3L                   | NON-FUSED SAFETY SWITCH<br>(E.G. 30/NF/3 INDICATES A 30A, 3-POLE SWITCH WITHOUT FUSES)                                                                 |                                               |
| <b>1</b>       | TWO HEAD EMERGENCY LIGHT FIXTURE (LETTER INDICATES FIXTURE<br>TYPE) REFER TO LIGHT FIXTURE SCHEDULE                                              | WALL OR<br>CEILING      | S™                         | MOTOR RATED SWITCH                                                                                                                                     |                                               |
|                | EMERGENCY EXIT SIGN. PROVIDE ARROW(S) AS INDICATED.<br>SHADING INDICATES FACE (LETTER INDICATES FIXTURE TYPE)<br>REFER TO LIGHT FIXTURE SCHEDULE | WALL OR<br>CEILING      | N                          | MOTOR                                                                                                                                                  |                                               |
| S              | SINGLE POLE SWITCH 20A (120/277V)                                                                                                                | WALL - 48" AFF          | ю                          | NEMA 5-20R SIMPLEX RECEPTACLE                                                                                                                          | WALL - 18" AFF                                |
| S <sub>3</sub> | THREE WAY SWITCH 20A (120/277V)                                                                                                                  | WALL - 48" AFF          | Ð                          | NEMA 5-20R DUPLEX RECEPTACLE                                                                                                                           | WALL - 18" AFF                                |
| S <sub>4</sub> | FOUR WAY SWITCH 20A (120/277V)                                                                                                                   | WALL - 48" AFF          | Ð                          | NEMA 5-20R DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER                                                                                                     | WALL - 6"<br>ABOVE FINISHED<br>COUNTER U.N.O. |
| HZ             | WALL BOX DIMMER SWITCH                                                                                                                           | WALL - 48" AFF          | + <del>\$</del>            | NEMA 5-20R QUAD-PLEX RECEPTACLE                                                                                                                        | WALL - 18" AFF                                |
| x ₹x           | CEILING OR WALL MOUNTED OCCUPANCY SENSOR<br>(LETTER INDICATES SENSOR TYPE)<br>REFER TO LIGHTING CONTROLS SCHEDULE                                | WALL OR<br>CEILING      | ÷                          | NEMA 5-20R SPLIT RECEPTACLE. TOP OUTLET WIRED HOT.<br>BOTTOM OUTLET SWITCHED.                                                                          | WALL - 18" AFF                                |
| HLC X          | LOW-VOLTAGE CONTROL STATION<br>(LETTER INDICATES CONTROL STATION TYPE)<br>REFER TO LIGHTING CONTROLS SCHEDULE                                    | WALL - 48" AFF          | B<br>B                     | SPECIAL PURPOSE RECEPTACLE<br>REFER TO PLANS FOR NEMA CONFIGURATION                                                                                    | WALL - 18" AFF<br>OR CEILING                  |
| PCX            | PHOTOCELL SENSOR<br>(LETTER INDICATES SENSOR TYPE)<br>REFER TO LIGHTING CONTROLS SCHEDULE                                                        | FIELD VERIFY            | <b>₩</b> USB               | NEMA 5-20R - DUPLEX RECEPTACLE WITH USB PORTS<br>SIMILAR TO HUBBELL #USB20AC5W                                                                         | WALL - 18" AFF                                |
| PP             | POWERPACK<br>(LETTER INDICATES POWERPACK TYPE)<br>REFER TO LIGHTING CONTROLS SCHEDULE                                                            | ACCESSIBLE<br>CEILING   | <b></b>                    | NEMA 5-20R DUPLEX RECEPTACLE MOUNTED ON CEILING                                                                                                        | CEILING - FLUSH                               |
| COMM           | UNICATION/LOW-VOLTAGE                                                                                                                            | DEVICES                 | FB1                        | HUBBELL CFB4 SERIES FLOOR BOX (OR EQUAL)<br>WITH (2) DUPLEX RECEPTACLES AND DATA/COMMUNICATION                                                         | FLOOR - FLUSH                                 |
| YMBOL          | DESCRIPTION                                                                                                                                      | MOUNTING                | FB2                        | CONNECTION CAPABILITY<br>HUBBELL B24 SERIES FLOOR BOX (OR EQUAL)<br>WITH (1) DUPLEX RECEPTACLE AND DATA/COMMUNICATION                                  | FLOOR - FLUSH                                 |
| CR             | CARD READER (VERIFY EXACT REQUIREMENTS)                                                                                                          |                         | FB3                        | CONNECTION CAPABILITY<br>HUBBELL B24 SERIES FLOOR BOX (OR EQUAL)<br>FOR POWER AND DATA CONNECTIONS TO PRE-WIRED FURNITURE                              | FLOOR - FLUSH                                 |
| V              | DATA, TELEPHONE, OR COMBO TELE/DATA OUTLET<br>PROVIDE PULLSTRING IN CONDUIT TO ACCESSIBLE CEILING                                                | WALL - 18" AFF          | <br>                       | VERIFY EXACT CONNECTION WITH FURNITURE VENDOR<br>HUBBELL S1PT SERIES 4" POKE-THRU (OR EQUAL)<br>WITH (2) DUPLEX RECEPTACLES AND DATA/COMMUNICATION     | FLOOR - FLUSH                                 |
|                | DATA, TELEPHONE, OR COMBO TELE/DATA OUTLET<br>PROVIDE PULLSTRING IN CONDUIT TO ACCESSIBLE CEILING                                                | FLOOR OR<br>CEILING     | PK2                        | CONNECTION CAPABILITY<br>HUBBELL S1PTFF SERIES 4" POKE-THRU (OR EQUAL)<br>FOR POWER AND DATA CONNECTIONS TO PRE-WIRED FURNITURE                        | FLOOR - FLUSH                                 |
|                | TELEVISION OUTLET                                                                                                                                | WALL OR<br>CEILING      | <br>                       | VERIFY EXACT CONNECTION WITH FURNITURE VENDOR<br>HUBBELL S1R6 SERIES 6" POKE-THRU (OR EQUAL)<br>WITH (2) DUPLEX RECEPTACLES AND DATA/COMMUNICATION AND | FLOOR - FLUSH                                 |
|                | SPEAKER OUTLET                                                                                                                                   | FIELD VERIFY            |                            | A/V CONNECTION CAPABILITY<br>CONDUIT IN OR UNDER FLOOR/GRADE                                                                                           |                                               |
| 'TTB'          | TELEPHONE TERMINAL BOARD                                                                                                                         | WALL                    | │<br>│ ── <del>╿</del> ┼╺╾ | CONDUCTOR HOME RUN - () HOT, () NUETRAL,                                                                                                               |                                               |
| <b>∐</b> X     | SECURITY CAMERA OUTLET                                                                                                                           | FIELD VERIFY            |                            | EQUIPMENT GROUND, & () ISOLATED GROUND                                                                                                                 |                                               |
| ▣              | PUSH BUTTON                                                                                                                                      |                         | •<br>                      | CONDUIT IN CEILING OR WALL                                                                                                                             |                                               |
| : NOT ALL SYMI | BOLS MAY BE USED.                                                                                                                                |                         |                            | FIRE ALARM DEVICES                                                                                                                                     | <u> </u>                                      |
|                |                                                                                                                                                  |                         | SYMBOL                     | DESCRIPTION                                                                                                                                            | MOUNTING                                      |
|                |                                                                                                                                                  |                         | (H)                        | HEAT DETECTOR                                                                                                                                          | CEILING                                       |
|                |                                                                                                                                                  |                         | <u> </u>                   | SMOKE DETECTOR                                                                                                                                         | WALL/CEILING                                  |
|                |                                                                                                                                                  |                         |                            |                                                                                                                                                        |                                               |

GROUND. 11. ALL FIXTURES SHALL BE SUPPORTED FROM EACH CORNER (INDEPENDENT OF THE SUSPENDED CEILING) WITH 12 GAUGE WIRE CONNECTED TO STRUCTURAL SYSTEM OF BUILDING. THE INSTALLATION SHALL MEET OR EXCEED THE SEISMIC REQUIREMENTS OF LOCAL AND NATIONAL CODES. 

 12. ELECTRICAL DEVICE MOUNTING HEIGHTS, UNO:

 PANELBOARDS
 78" AFF TO TOP OF PANEL

 SWITCHES
 46" AFF TO CENTER OF SWITCH

 RECEPTACLES
 18" AFF TO CENTER OF RECEPTACLE

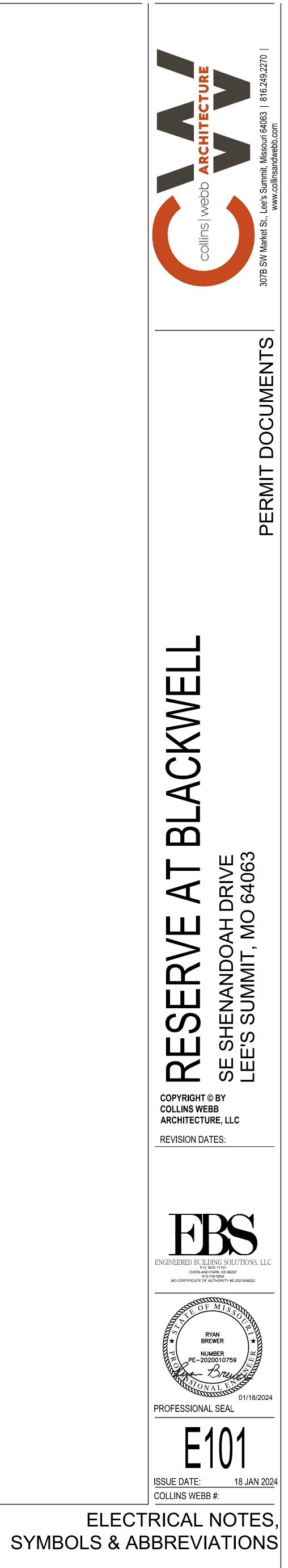
 TELE/DATA OUTLETS

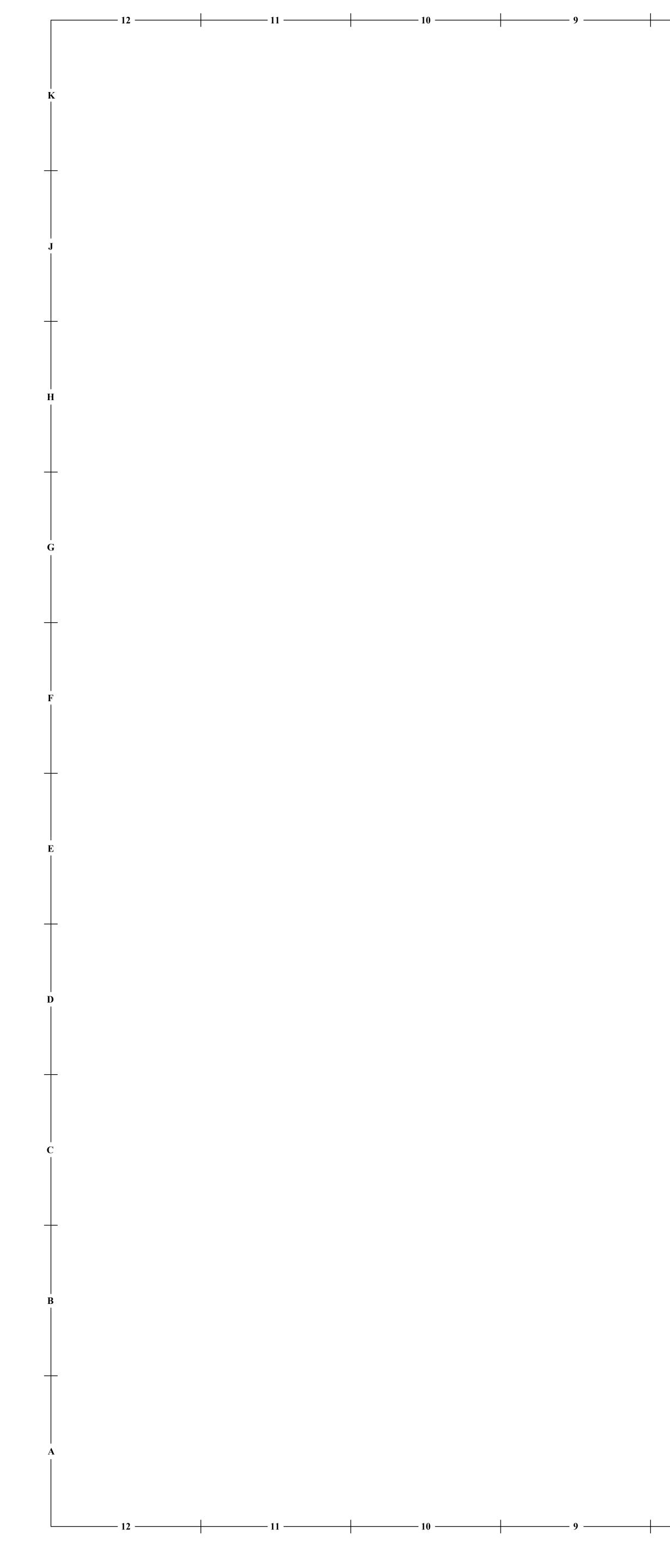
|     | TELE/DATA OUTLETS            | 48" AFF TO CENTER OF RECEPTACLE                                 |
|-----|------------------------------|-----------------------------------------------------------------|
|     | APARTMENT LOADCENTERS        | PER ANSI A117.1 REQUIREMENTS (VERIFY WITH LOCAL INSPECTOR)      |
| 13. | ELECTRICAL EQUIPMENT (PANELE | 30ARDS, TRANSFORMERS, DISTRIBUTION EQUIPMENT, ETC.) IS SHOWN TO |
|     |                              |                                                                 |

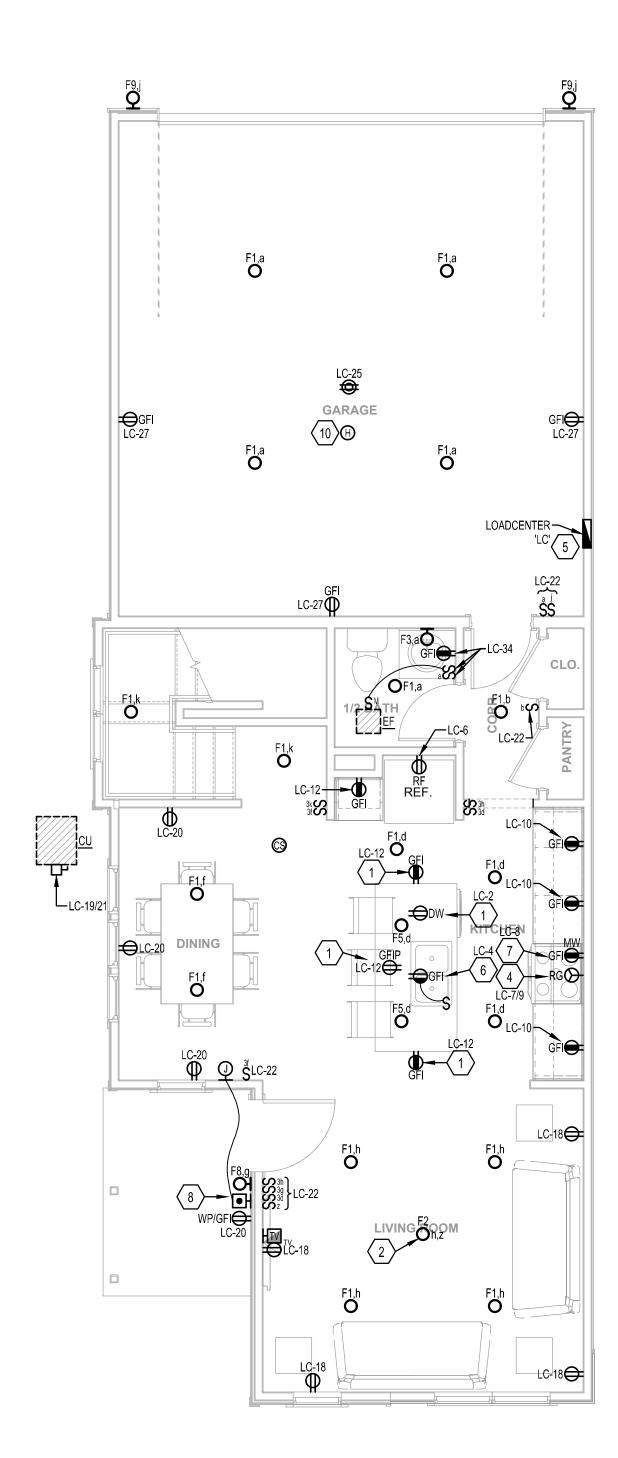
SCALE ON THE FLOOR PLANS. 14. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR PROVIDING EQUIPMENT THAT WILL FIT WITHIN THE SPACES SHOWN ON THE PLANS AND COMPLYING WITH ALL CODE REQUIRED CLEARANCES. 15. ELECTRICAL CONTRACTOR TO LABEL ALL DEVICES (RECEPTACLES, SWITCHES, PANELBOARDS,

DISCONNECTS, ETC.) WITH CIRCUIT NUMBER AND PANELBOARD DESIGNATION. RECEPTACLES, SWITCHES, AND SIMILAR DEVICES TO HAVE PRE-PRINTED, SELF ADHESIVE LABEL. 16. PANELBOARDS, DISCONNECT SWITCHES, AND SIMILAR DEVICES TO HAVE ENGRAVED, SELF-ADHESIVE,

LAMINATED ACRYLIC LABEL (BLACK W/ WHITE LETTERING). 17. PROVIDE TYPE-WRITTEN PANELBOARD SCHEDULES FOR ALL ELECTRICAL PANELBOARDS.

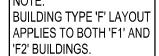


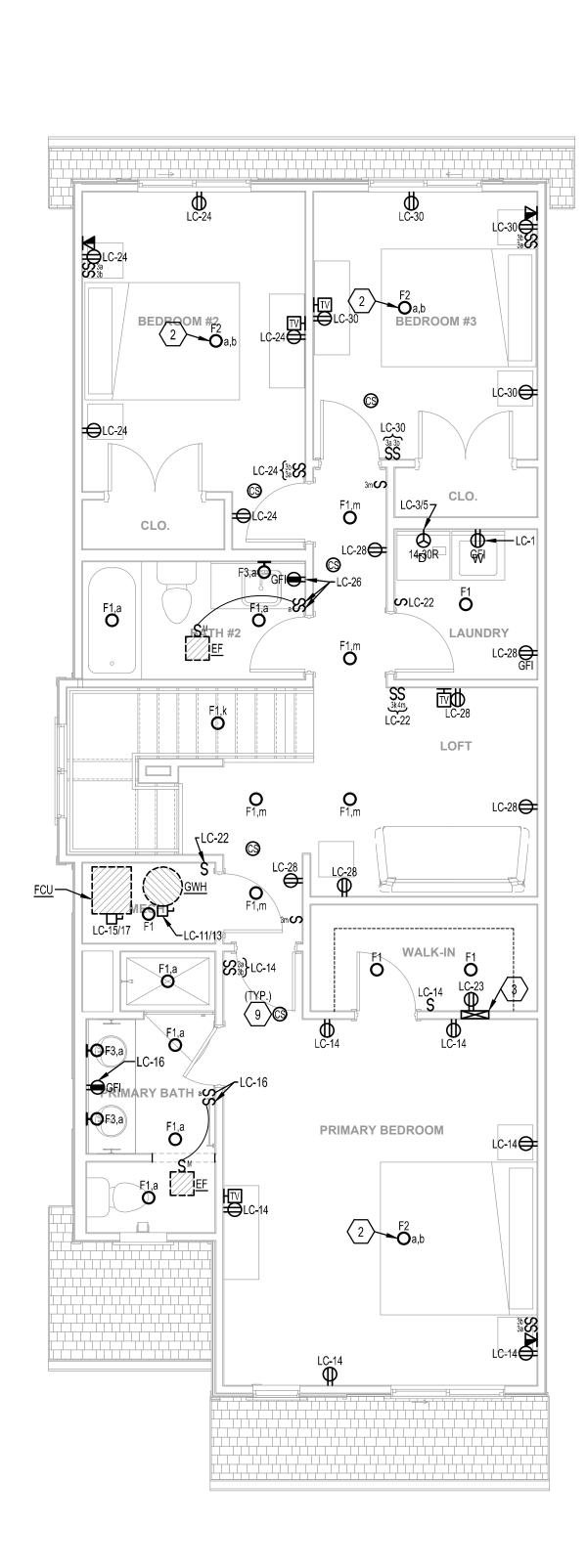


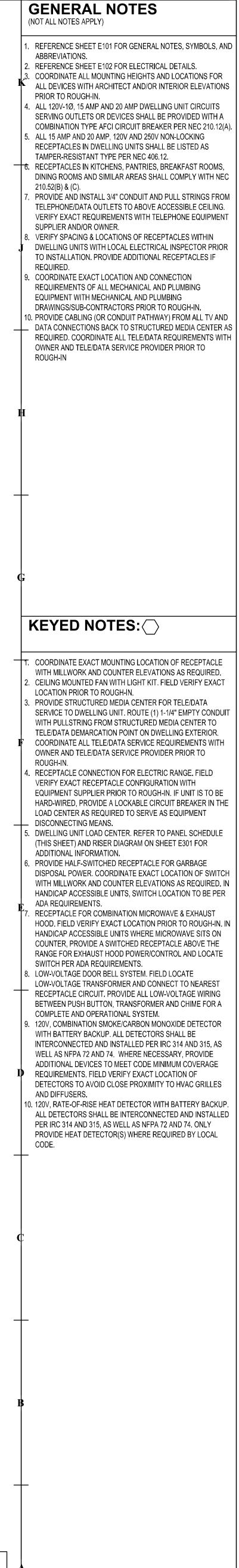




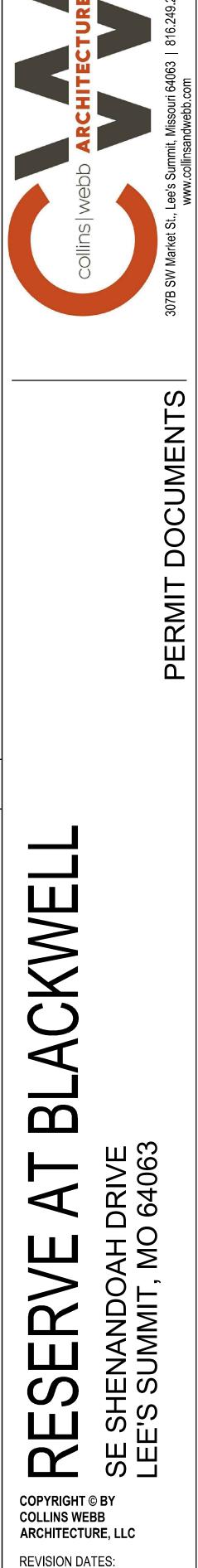
| NOTES | CONDUCTORS         | DESCRIPTION                  | TYPE | AMP/P |    |   |    | AMP/P | TYPE | DESCRIPTION                              | CONDUCTORS         | NOTES |
|-------|--------------------|------------------------------|------|-------|----|---|----|-------|------|------------------------------------------|--------------------|-------|
| 1,2   | 2#12,1#12EG,3/4"C. | WASHER                       | DFCI | 20/1  | 1  | А | 2  | 20/1  | DFCI | DISHWASHER (DW)                          | 2#12,1#12EG,3/4"C. | 1,2   |
|       |                    |                              |      | 30    | 3  | В | 4  | 20/1  | AFCI | DISPOSAL (DP)                            | 2#12,1#12EG,3/4"C. | 1,2   |
| 6     | 3#10,1#10EG,3/4"C. | DRYER (NEMA 14-30R)          |      | 2     | 5  | А | 6  | 20/1  | DFCI | REFRIGERATOR (RF)                        | 2#12,1#12EG,3/4"C. | 1,2   |
|       |                    |                              |      | 50    | 7  | В | 8  | 20/1  | AFCI | MICROWAVE (MW)                           | 2#12,1#12EG,3/4"C. | 1,2   |
| 6     | 3#8,1#10EG,3/4"C.  | ELECTRIC RANGE (NEMA 14-50R) |      | 2     | 9  | А | 10 | 20/1  | AFCI | KIT SMALL APPL CKT#1 (COUNTER GFCI'S)    | 2#12,1#12EG,3/4"C. | 1,2,3 |
|       |                    |                              |      | 30    | 11 | В | 12 | 20/1  | AFCI | KIT SMALL APPL CKT#2 (WHERE APPLICABLE)  | 2#12,1#12EG,3/4"C. | 1,2,3 |
| 4,6   | 2#10,1#10EG,3/4"C. | WATER HEATER 'EWH'           |      | 2     | 13 | А | 14 | 20/1  | AFCI | BEDROOM #1 RCPTS & LTS                   | 2#12,1#12EG,3/4"C. | 1,2   |
|       |                    |                              |      | 45    | 15 | В | 16 | 20/1  | AFCI | BATHROOM #1 RCPTS AND EF                 | 2#12,1#12EG,3/4"C. | 1,2   |
| 4,6   | 2#8,1#10EG,3/4"C.  | FAN COIL UNIT 'FCU-*'        | HACR | 2     | 17 | А | 18 | 20/1  | AFCI | GENERAL RCPTS (6 RCPTS/CKT MAX)          | 2#12,1#12EG,3/4"C. | 1,2   |
|       |                    |                              |      | 25 /  | 19 | В | 20 | 20/1  | AFCI | GENERAL RCPTS (6 RCPTS/CKT MAX)          | 2#12,1#12EG,3/4"C. | 1,2   |
| 5,6   | 2#10,1#10EG,3/4"C. | CONDENSING UNIT 'CU-*'       | HACR | 2     | 21 | А | 22 | 20/1  | AFCI | GENERAL LIGHTING (KITCHEN,LIVING,DINING) | 2#12,1#12EG,3/4"C. | 1     |
| 1,2   | 2#12,1#12EG,3/4"C. | STRUCTURED MEDIA CENTER      | AFCI | 20/1  | 23 | В | 24 | 20/1  | AFCI | BEDROOM #2 RCPTS & LTS                   | 2#12,1#12EG,3/4"C. | 1,2   |
| 1,2   | 2#12,1#12EG,3/4"C. | GARAGE DOOR OPENER           | AFCI | 20/1  | 25 | А | 26 | 20/1  | AFCI | BATHROOM #2 RCPTS AND EF                 | 2#12,1#12EG,3/4"C. | 1,2   |
| 1,2   | 2#12,1#12EG,3/4"C. | GARAGE RCPTS & LTS           | AFCI | 20/1  | 27 | В | 28 | 20/1  | AFCI | GENERAL RCPTS (6 RCPTS/CKT MAX)          | 2#12,1#12EG,3/4"C. | 1,2   |
| 1,2   | 2#12,1#12EG,3/4"C. | SMOKE & HEAT DETECTORS       | AFCI | 20/1  | 29 | А | 30 | 20/1  | AFCI | BEDROOM #3 RCPTS & LTS                   | 2#12,1#12EG,3/4"C. | 1,2   |
|       |                    | SPACE ONLY                   |      |       | 31 | В | 32 | 20/1  | AFCI | BEDROOM #4 RCPTS & LTS                   | 2#12,1#12EG,3/4"C. | 1,2   |
|       |                    | SPACE ONLY                   |      |       | 33 | А | 34 | 20/1  | AFCI | BATHROOM #3 RCPTS AND EF                 | 2#12,1#12EG,3/4"C. | 1,2   |
|       |                    | SPACE ONLY                   |      |       | 35 | В | 36 |       |      | SPACE ONLY                               |                    |       |
|       |                    | SPACE ONLY                   |      |       | 37 | А | 38 |       |      | SPACE ONLY                               |                    |       |
|       |                    | SPACE ONLY                   |      |       | 39 | В | 40 |       |      | SPACE ONLY                               |                    |       |

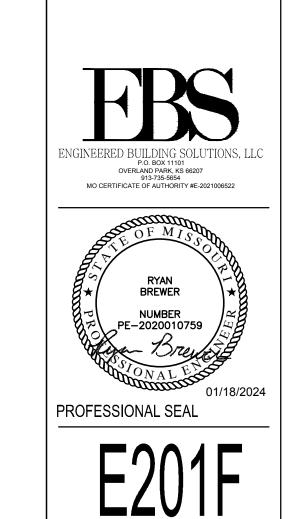


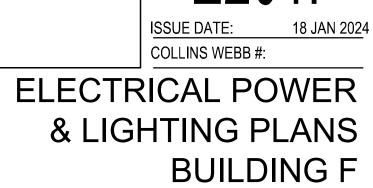




WHERE ALLOWED BY LOCAL AHJ, TYPE 'NM' CABLING MAY BE USED. INCREASE WIRE SIZES SHOWN IN LOADCENTER SCHEDULE AS REQUIRED TO ENSURE AMPACITY RATING OF 'NM' CABLING MEETS (OR EXCEEDS) THE RATING OF THE OVERCURRENT PROTECTION FOR THE CIRCUIT.







|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        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n Amperes<br>e total VA by the voltage<br>n Size Service and/or Feeder - N                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Supply Voltage      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                                                                       | Total Genera<br>Minimum Ar<br>Divide the tot<br>Minimum Si                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 13 Divide the                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          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n Amperes<br>e total VA by the voltage<br>n Size Service and/or Feeder - N<br>Single                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Supply Voltage<br>IEC 240.6(A)<br>e-Family Dwel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 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  |   | 13                                                                          | Minimum Ar<br>Divide the tot<br>Minimum Si                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 13 Divide the<br>14 Minimum<br>Unit Ty<br>General                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      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n Amperes<br>e total VA by the voltage<br>n Size Service and/or Feeder - N<br>Single<br>pe: UNIT T<br>Lighting and Receptacle Load -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Supply Voltage<br>IEC 240.6(A)<br>PE 'J'<br>NEC 220.84(C)(1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    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  |   | 13<br>14                                                                    | Minimum Ar<br>Divide the tot<br>Minimum Si<br>Jnit Type<br>General Lig                                                                                                                                                                                                                                                                                                                                                                                                             |
| 13 Divide the<br>14 Minimum<br>Unit Ty<br>General                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      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n Amperes<br>e total VA by the voltage<br>n Size Service and/or Feeder - N<br>Single<br>pe: UNIT T<br>Lighting and Receptacle Load -<br>not include open porches, garages                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Supply Voltage<br>IEC 240.6(A)<br>PE 'J'<br>NEC 220.84(C)(1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    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  |   | 13<br>14                                                                    | Minimum Ar<br>Divide the tot<br>Minimum Si<br>Jnit Type<br>General Lig<br>Note: Do not                                                                                                                                                                                                                                                                                                                                                                                             |
| 13 Divide the<br>14 Minimum<br>Unit Ty<br>General<br>Note: Do<br>Square Fe<br>VA Unit L                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                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n Amperes<br>e total VA by the voltage<br>n Size Service and/or Feeder - N<br>Single<br>pe: UNIT T<br>Lighting and Receptacle Load -<br>not include open porches, garages<br>ootage =<br>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Supply Voltage<br>IEC 240.6(A)<br>C-Family Dwel<br>(PE 'J'<br>NEC 220.84(C)(1)<br>, unused or unfinished spa                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    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  |   | 13<br>14                                                                    | Minimum Ar<br>Divide the tot<br>Minimum Si<br>Jnit Type<br>General Lig<br>Note: Do not<br>Square Foota                                                                                                                                                                                                                                                                                                                                                                             |
| 13 Divide the<br>14 Minimum<br>Unit Ty<br>General<br>Note: Do<br>Square Fo<br>VA Unit L<br>Small Ap                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    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n Amperes<br>e total VA by the voltage<br>n Size Service and/or Feeder - N<br>Single<br>pe: UNIT T<br>Lighting and Receptacle Load -<br>not include open porches, garages<br>ootage =<br>oad =<br>oad =                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Supply Voltage<br>IEC 240.6(A)<br>PE-Family Dwel<br>(PE 'J'<br>NEC 220.84(C)(1)<br>, unused or unfinished spa                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   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                                                                                                                                                                                                                  | re Footage:                                                                                                           | 13 14                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 113.7<br>125<br><b>1685</b>                                                                                      |   | 13<br>14<br>1                                                               | Minimum Ar<br>Divide the tot<br>Minimum Si<br>Jnit Type<br>General Lig<br>Note: Do not<br>Square Foota<br>VA Unit Load<br>Small Applia                                                                                                                                                                                                                                                                                                                                             |
| 13       Divide the         14       Minimum         14       Minimum         1       General         Note: Do       Square Fo         VA Unit L       Small Ap         2       At least to         Quantity       Output                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              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n Amperes<br>e total VA by the voltage<br>In Size Service and/or Feeder - N<br>Single<br>pe: UNIT TY<br>Lighting and Receptacle Load -<br>not include open porches, garages<br>ootage =<br>_oad =<br>pliance Branch Circuits - NEC 2<br>wo small appliance branch circuits<br>of Small Appliance Circuits =                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Supply Voltage<br>IEC 240.6(A)<br>C-Family Dwel<br>(PE 'J'<br>NEC 220.84(C)(1)<br>, unused or unfinished spa<br>20.84(C)(2)<br>must be included per NEC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         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  |   | 13<br>14<br>1                                                               | Minimum Ar<br>Divide the tot<br>Minimum Si<br>Jnit Type<br>General Lig<br>Note: Do not<br>Square Foota<br>VA Unit Load<br>Small Applia<br>At least two s                                                                                                                                                                                                                                                                                                                           |
| 13 Divide the<br>14 Minimum<br>14 Minimum<br>Unit Ty<br>General<br>Note: Do<br>Square For<br>VA Unit L<br>Small Ap<br>2 At least to<br>Quantity of<br>Laundry                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          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n Amperes<br>e total VA by the voltage<br>n Size Service and/or Feeder - N<br>Single<br>pe: UNIT T<br>Lighting and Receptacle Load -<br>not include open porches, garages<br>ootage =<br>_oad =<br>ppliance Branch Circuits - NEC 2<br>wo small appliance branch circuits<br>of Small Appliance Circuits =<br>Branch Circuits - NEC 220.52B a                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Supply Voltage<br>IEC 240.6(A)<br>C-Family Dwel<br>(PE 'J'<br>NEC 220.84(C)(1)<br>, unused or unfinished spa<br>20.84(C)(2)<br>must be included per NEC<br>nd NEC 220.84(C)(2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | ces not adap                                                                                                                                                                                                                                  | bad Calcu<br>Unit Squa<br>table for future us<br>1,685<br>3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>re Footage:</b><br>se.<br>sf<br>VA/sf                                                                              | 13<br>14<br>1<br>1<br>2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 113.7<br>125<br>1685<br>5055<br>3000                                                                             |   | 13<br>14<br>1<br>2                                                          | Minimum Ar<br>Divide the tot<br>Minimum Si<br>Jnit Type<br>General Lig<br>Note: Do not<br>Square Foota<br>VA Unit Load<br>Small Appli<br>At least two s<br>Quantity of S<br>Laundry Bra                                                                                                                                                                                                                                                                                            |
| 13       Divide the         14       Minimum         14       Minimum         14       Minimum         15       General         16       Note: Do         17       Square For         18       Small Appendix         20       At least the         Quantity       At least the         Quantity       At least the         Quantity       At least the                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                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n Amperes<br>e total VA by the voltage<br>In Size Service and/or Feeder - N<br>Single<br>pe: UNIT TY<br>Lighting and Receptacle Load -<br>not include open porches, garages<br>ootage =<br>load =<br>opliance Branch Circuits - NEC 2<br>wo small appliance branch circuits<br>of Small Appliance Circuits =<br>Branch Circuits - NEC 220.52B a<br>one laundry branch circuit must be<br>of Laundry Circuits =                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Supply Voltage<br>IEC 240.6(A)<br>C-Family Dwel<br>(PE 'J'<br>NEC 220.84(C)(1)<br>, unused or unfinished spa<br>20.84(C)(2)<br>must be included per NEC<br>nd NEC 220.84(C)(2)<br>included per NEC 210.11(C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Ling Lc<br>ces not adap<br>2 210.11(C)(1)                                                                                                                                                                                                     | bad Calcu<br>Unit Squa<br>table for future us<br>1,685<br>3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>re Footage:</b><br>se.<br>sf<br>VA/sf                                                                              | 13 14 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 113.7<br>125<br>1685<br>5055                                                                                     |   | 13<br>14<br>1<br>2                                                          | Minimum Ar<br>Divide the tot<br>Minimum Si<br>Jnit Type<br>General Lig<br>Note: Do not<br>Square Foota<br>VA Unit Load<br>Small Appli<br>At least two s<br>Quantity of S<br>Laundry Bra<br>At least one                                                                                                                                                                                                                                                                            |
| 13 Divide the<br>14 Minimum<br>14 Minimum<br>14 Minimum<br>14 Minimum<br>15 General<br>Note: Do<br>Square For<br>VA Unit L<br>2 At least to<br>Quantity of<br>3 At least of<br>Quantity of<br>Fasteneo                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 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n Amperes<br>e total VA by the voltage<br>n Size Service and/or Feeder - N<br>Single<br>pe: UNIT TY<br>Lighting and Receptacle Load -<br>not include open porches, garages<br>ootage =<br>_oad =<br>pliance Branch Circuits - NEC 2<br>wo small appliance branch circuits<br>of Small Appliance Circuits =<br>Branch Circuits - NEC 220.52B a<br>one laundry branch circuit must be i<br>of Laundry Circuits =<br>d-In-Place Appliances - NEC 220.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Supply Voltage           IEC 240.6(A)           e-Family Dwel           ('PE 'J'           NEC 220.84(C)(1)           unused or unfinished spa           20.84(C)(2)           must be included per NEC           nd NEC 220.84(C)(2)           included per NEC 210.11(C           53 and NEC 220.84(C)(3)/                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Ling Lc<br>ces not adap<br>2 210.11(C)(1)<br>C)(2)<br>(4)                                                                                                                                                                                     | bad Calcu<br>Unit Squa<br>table for future us<br>1,685<br>3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | re Footage:<br>se.<br>sf<br>VA/sf<br>x 1500 VA (Ea.)                                                                  | 13<br>14<br>1<br>1<br>2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 113.7<br>125<br>1685<br>5055<br>3000                                                                             |   | 13<br>14<br>1<br>2                                                          | Minimum Ar<br>Divide the tot<br>Minimum Si<br>Minimum Si<br>General Lig<br>Note: Do not<br>Square Foota<br>VA Unit Load<br>Small Appli<br>At least two s<br>Quantity of S<br>Laundry Bra<br>At least one<br>Quantity of Li<br>Fastened-In                                                                                                                                                                                                                                          |
| 13       Divide the         14       Minimum         14       Minimum         14       Minimum         15       General         16       Square For         17       Small App         2       At least the         Quantity       At least or         Quantity       Fasteneor         Use the melectric radius       Stateneor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       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n Amperes<br>e total VA by the voltage<br>n Size Service and/or Feeder - N<br>Single<br>pe: UNIT T<br>Lighting and Receptacle Load -<br>not include open porches, garages<br>ootage =<br>_oad =<br>opliance Branch Circuits - NEC 2<br>wo small appliance branch circuits<br>of Small Appliance Circuits =<br>Branch Circuits - NEC 220.52B a<br>one laundry branch circuit must be<br>of Laundry Circuits =<br>d-In-Place Appliances - NEC 220.<br>hameplate rating. Do not include<br>anges, clothes dryers, space-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Supply Voltage<br>IEC 240.6(A)<br>C-Family Dwel<br>(PE 'J'<br>NEC 220.84(C)(1)<br>, unused or unfinished spa<br>20.84(C)(2)<br>must be included per NEC<br>nd NEC 220.84(C)(2)<br>included per NEC 210.11(C                                                                                                                                                                                                                                                                               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                                                                            | bad Calcu<br>Unit Squa<br>table for future us<br>1,685<br>3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | re Footage:<br>se.<br>sf<br>VA/sf<br>x 1500 VA (Ea.)                                                                  | 13<br>14<br>1<br>1<br>2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 113.7<br>125<br>1685<br>5055<br>3000                                                                             |   | 13<br>14<br>1<br>2                                                          | Minimum Ar<br>Divide the tot<br>Minimum Si<br>Minimum Si<br>General Lig<br>Note: Do not<br>Square Foota<br>VA Unit Load<br>Small Appli<br>At least two s<br>Quantity of S<br>Laundry Bra<br>At least one<br>Quantity of Li<br>Fastened-In<br>Use the name                                                                                                                                                                                                                          |
| 13       Divide the         14       Minimum         14       Minimum         14       Minimum         15       General         16       Square For         17       Small App         2       At least the         Quantity       At least or         Quantity       Fasteneor         Use the melectric radius       Stateneor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       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n Amperes<br>e total VA by the voltage<br>n Size Service and/or Feeder - N<br>Single<br>pe: UNIT T<br>Lighting and Receptacle Load -<br>not include open porches, garages<br>ootage =<br>oad =<br>opliance Branch Circuits - NEC 2<br>wo small appliance branch circuits<br>of Small Appliance Circuits =<br>Branch Circuits - NEC 220.52B a<br>one laundry branch circuit must be i<br>of Laundry Circuits =<br>d-In-Place Appliances - NEC 220.<br>hameplate rating. Do not include<br>anges, clothes dryers, space-<br>quipment, or air-conditioning                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Supply Voltage<br>IEC 240.6(A)<br>C-Family Dwel<br>(PE 'J'<br>NEC 220.84(C)(1)<br>, unused or unfinished spa<br>20.84(C)(2)<br>must be included per NEC<br>ind NEC 220.84(C)(2)<br>included per NEC 210.11(C<br>53 and NEC 220.84(C)(3)/<br>Appliance<br>#1 Refrigerator<br>#2 Microwave                                                                                                                                                                                                   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                                                                           | bad Calcu<br>Unit Squa<br>table for future us<br>1,685<br>3<br>2<br>2<br>1<br>Load<br>1200<br>1200                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | re Footage:<br>se.<br>sf<br>VA/sf<br>x 1500 VA (Ea.)                                                                  | 13       14       1       2       3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 113.7<br>125<br>1685<br>5055<br>3000<br>1500                                                                     |   | 13<br>14<br>1<br>2                                                          | Minimum Ar<br>Divide the tot<br>Minimum Si<br>Minimum Si<br>Jnit Type<br>General Lig<br>Note: Do not<br>Square Foota<br>VA Unit Load<br>Small Appli<br>At least two s<br>Quantity of S<br>Laundry Bra<br>At least one I<br>Quantity of Li<br>Fastened-In<br>Use the name<br>electric range<br>heating equip                                                                                                                                                                        |
| 13       Divide the         14       Minimum         14       Minimum         14       Minimum         15       General         16       Square For         17       Small App         2       At least the         Quantity       At least the         Quantity       At least the         Quantity       Guantity         3       At least the         Quantity       Guantity         Quantity       Guantity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       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n Amperes<br>e total VA by the voltage<br>n Size Service and/or Feeder - N<br>Single<br>pe: UNIT T<br>Lighting and Receptacle Load -<br>not include open porches, garages<br>ootage =<br>oad =<br>opliance Branch Circuits - NEC 2<br>wo small appliance branch circuits<br>of Small Appliance Circuits =<br>Branch Circuits - NEC 220.52B a<br>one laundry branch circuit must be i<br>of Laundry Circuits =<br>d-In-Place Appliances - NEC 220.<br>hameplate rating. Do not include<br>anges, clothes dryers, space-<br>quipment, or air-conditioning                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Supply Voltage<br>IEC 240.6(A)<br>P-Family Dwel<br>(PE 'J'<br>NEC 220.84(C)(1)<br>, unused or unfinished spa<br>20.84(C)(2)<br>must be included per NEC<br>nd NEC 220.84(C)(2)<br>included per NEC 210.11(C<br>53 and NEC 220.84(C)(3)/<br>Appliance<br>#1 Refrigerator<br>#2 Microwave<br>#3 Dishwashe                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | ling Lc<br>ces not adap<br>ces not adap<br>c 210.11(C)(1)<br>c)(2)<br>(4)<br>s                                                                                                                                                                | bad Calcu<br>Unit Squa<br>table for future us<br>1,685<br>3<br>2<br>2<br>1<br>Load<br>1200                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | re Footage:<br>se.<br>sf<br>VA/sf<br>x 1500 VA (Ea.)                                                                  | 13<br>14<br>1<br>1<br>2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 113.7<br>125<br>1685<br>5055<br>3000                                                                             |   | 13<br>14<br>1<br>2                                                          | Minimum Ar<br>Divide the tot<br>Minimum Si<br>Jnit Type<br>General Lig<br>Note: Do not<br>Square Foota<br>VA Unit Load<br>Small Applia<br>At least two s<br>Quantity of S<br>Laundry Bra<br>At least one I<br>Quantity of Laundry Bra             |
| 13       Divide the         14       Minimum         14       Minimum         14       Minimum         15       General         16       Square For         17       Small App         2       At least the         Quantity       At least the         Quantity       At least the         Quantity       Guantity         3       At least the         Quantity       Guantity         Quantity       Guantity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       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n Amperes<br>e total VA by the voltage<br>n Size Service and/or Feeder - N<br>Single<br>pe: UNIT T<br>Lighting and Receptacle Load -<br>not include open porches, garages<br>ootage =<br>oad =<br>opliance Branch Circuits - NEC 2<br>wo small appliance branch circuits<br>of Small Appliance Circuits =<br>Branch Circuits - NEC 220.52B a<br>one laundry branch circuit must be i<br>of Laundry Circuits =<br>d-In-Place Appliances - NEC 220.<br>hameplate rating. Do not include<br>anges, clothes dryers, space-<br>quipment, or air-conditioning                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Supply Voltage<br>IEC 240.6(A)<br>C-Family Dwel<br>(PE 'J'<br>NEC 220.84(C)(1)<br>, unused or unfinished spa<br>20.84(C)(2)<br>must be included per NEC<br>20.84(C)(2)<br>included per NEC 210.11(C<br>53 and NEC 220.84(C)(2)<br>included per NEC 210.11(C<br>53 and NEC 220.84(C)(3)/<br>Appliance<br>#1 Refrigerator<br>#2 Microwave<br>#3 Dishwashe<br>#4 Garbage Di<br>#5 Water Heat                                                                                                  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                                                                           | Dad Calcu         Unit Squa         table for future us         1,685         3         2         1         Load         1200         1200         684         4500                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | re Footage:<br>se.<br>sf<br>VA/sf<br>x 1500 VA (Ea.)                                                                  | 13       14       1       2       3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 113.7<br>125<br>1685<br>5055<br>3000<br>1500                                                                     |   | 13<br>14<br>1<br>2<br>3                                                     | Minimum Ar<br>Divide the tot<br>Minimum Si<br>Minimum Si<br>Jnit Type<br>General Lig<br>Note: Do not<br>Square Foota<br>VA Unit Load<br>Small Appli<br>At least two s<br>Quantity of S<br>Laundry Bra<br>At least one I<br>Quantity of Li<br>Fastened-In<br>Use the name<br>electric range<br>heating equip                                                                                   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| 13       Divide the         14       Minimum         14       Minimum         14       Minimum         15       General         16       Square For         17       Small App         2       At least the         Quantity       At least the         Quantity       At least the         Quantity       Guantity         3       At least the         Quantity       Guantity         Quantity       Guantity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       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n Amperes<br>e total VA by the voltage<br>n Size Service and/or Feeder - N<br>Single<br>pe: UNIT T<br>Lighting and Receptacle Load -<br>not include open porches, garages<br>ootage =<br>oad =<br>opliance Branch Circuits - NEC 2<br>wo small appliance branch circuits<br>of Small Appliance Circuits =<br>Branch Circuits - NEC 220.52B a<br>one laundry branch circuit must be i<br>of Laundry Circuits =<br>d-In-Place Appliances - NEC 220.<br>hameplate rating. Do not include<br>anges, clothes dryers, space-<br>quipment, or air-conditioning                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Supply Voltage<br>IEC 240.6(A)<br>P-Family Dwel<br>(PE 'J'<br>NEC 220.84(C)(1)<br>, unused or unfinished spa<br>20.84(C)(2)<br>must be included per NEC<br>20.84(C)(2)<br>must be included per NEC<br>10.11(C<br>53 and NEC 220.84(C)(2)<br>included per NEC 210.11(C<br>53 and NEC 220.84(C)(3)/<br>Appliance<br>#1 Refrigerator<br>#2 Microwave<br>#3 Dishwashee<br>#4 Garbage Di<br>#5 Water Heat<br>#6 Garage Do                                                                       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                                                                           | Dad Calcu         Unit Squa         table for future us         1,685         3         2         1         Load         1200         1200         684                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | re Footage:<br>se.<br>sf<br>VA/sf<br>x 1500 VA (Ea.)                                                                  | 13       14       1       2       3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 113.7<br>125<br>1685<br>5055<br>3000<br>1500                                                                     |   | 13<br>14<br>1<br>2<br>3                                                     | Minimum Ar<br>Divide the tot<br>Minimum Si<br>Minimum Si<br>Jnit Type<br>General Lig<br>Note: Do not<br>Square Foota<br>VA Unit Load<br>Small Applia<br>At least two s<br>Quantity of S<br>Laundry Bra<br>At least one I<br>Quantity of Li<br>Fastened-In-<br>Use the name<br>electric range<br>heating equip                                                                                                                                                                      |
| 13       Divide the         14       Minimum         14       Minimum         14       Minimum         1       General         1       Note: Do         Square For       VA Unit L         2       At least the         Quantity       Laundry         3       At least or         Quantity       Fastened         Use the melectric rational strength       Strength         4       Strength         Clothes I       Clothes I                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       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n Amperes<br>e total VA by the voltage<br>n Size Service and/or Feeder - N<br>Single<br>pe: UNIT TY<br>Lighting and Receptacle Load -<br>not include open porches, garages<br>ootage =<br>_oad =<br>opliance Branch Circuits - NEC 2<br>wo small appliance branch circuits<br>of Small Appliance Circuits =<br>Branch Circuits - NEC 220.52B a<br>one laundry branch circuit must be i<br>of Laundry Circuits =<br>d-In-Place Appliances - NEC 220.<br>hameplate rating. Do not include<br>anges, clothes dryers, space-<br>quipment, or air-conditioning<br>*                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Supply Voltage<br>IEC 240.6(A)<br>C-Family Dwel<br>(PE 'J'<br>NEC 220.84(C)(1)<br>, unused or unfinished spa<br>20.84(C)(2)<br>must be included per NEC<br>10 NEC 220.84(C)(2)<br>included per NEC 210.11(C<br>53 and NEC 220.84(C)(3)/<br>Appliance<br>#1 Refrigerator<br>#2 Microwave<br>#3 Dishwashe<br>#4 Garbage Di<br>#5 Water Heat<br>#6 Garage Dod<br>#7                                                                                                                             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                                                                         | Dad Calcu         Unit Squa         table for future us         1,685         3         2         1         Load         1200         1200         684         4500                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | re Footage:<br>se.<br>sf<br>VA/sf<br>x 1500 VA (Ea.)                                                                  | 13       14       1       2       3       4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 113.7<br>125<br>1685<br>5055<br>3000<br>1500                                                                     |   | 13<br>14<br>1<br>2<br>3<br>4                                                | Minimum Ar<br>Divide the tot<br>Minimum Si<br>Jnit Type<br>General Lig<br>Note: Do not<br>Square Foota<br>VA Unit Load<br>Small Applia<br>At least two s<br>Quantity of S<br>Laundry Bra<br>At least one I<br>Quantity of La<br>Fastened-In-<br>Use the name<br>electric range<br>heating equip                                                                                                                                                                                    |
| 13       Divide the         14       Minimum         14       Minimum         14       Minimum         1       General         1       Note: Do         Square For       VA Unit L         2       At least the         Quantity       Laundry         3       At least or         Quantity       Fastened         Use the melectric rational strength       Strength         4       Strength         Clothes I       Clothes I                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       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n Amperes<br>a total VA by the voltage<br>n Size Service and/or Feeder - N<br>Single<br>pe: UNIT T<br>Lighting and Receptacle Load -<br>not include open porches, garages<br>ootage =<br>_oad =<br>opliance Branch Circuits - NEC 2<br>wo small appliance branch circuits<br>of Small Appliance Circuits =<br>Branch Circuits - NEC 220.52B a<br>one laundry branch circuit must be i<br>of Laundry Circuits =<br>d-In-Place Appliances - NEC 220.<br>hameplate rating. Do not include<br>anges, clothes dryers, space-<br>quipment, or air-conditioning                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Supply Voltage<br>IEC 240.6(A)<br>C-Family Dwel<br>(PE 'J'<br>NEC 220.84(C)(1)<br>, unused or unfinished spa<br>20.84(C)(2)<br>must be included per NEC<br>10 NEC 220.84(C)(2)<br>included per NEC 210.11(C<br>53 and NEC 220.84(C)(3)/<br>Appliance<br>#1 Refrigerator<br>#2 Microwave<br>#3 Dishwashe<br>#4 Garbage Di<br>#5 Water Heat<br>#6 Garage Dod<br>#7                                                                                                                            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                                                                          | Dad Calcu         Unit Squa         table for future us         1,685         3         2         1         Load         1200         1200         684         4500                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | re Footage:<br>se.<br>sf<br>VA/sf<br>x 1500 VA (Ea.)                                                                  | 13       14       1       2       3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 113.7<br>125<br>1685<br>5055<br>3000<br>1500                                                                     |   | 13<br>14<br>1<br>1<br>2<br>3<br>4                                           | Minimum An<br>Divide the tot<br>Minimum Si<br>Minimum Si<br>Jnit Type<br>General Lig<br>Note: Do not<br>Square Foota<br>VA Unit Load<br>Small Appli<br>At least two s<br>Quantity of S<br>Laundry Bra<br>At least one<br>Quantity of L<br>Fastened-In<br>Use the nam<br>electric range<br>heating equip                                                                                                                                                                            |
| 13       Divide the         14       Minimum         14       Minimum         14       Minimum         1       General         1       Note: Do         Square For       VA Unit L         2       At least the         Quantity       At least the         Quantity       At least the         Quantity       Fastened         Use the needlectric ratheating eff       Scheden         5       Clothes I         5       Use the late         Ranges,       Ranges,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  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n Amperes<br>e total VA by the voltage<br>n Size Service and/or Feeder - N<br>Single<br>pe: UNIT TY<br>Lighting and Receptacle Load -<br>not include open porches, garages<br>ootage =<br>_oad =<br>pliance Branch Circuits - NEC 2<br>wo small appliance branch circuits<br>of Small Appliance Circuits =<br>Branch Circuits - NEC 220.52B a<br>one laundry branch circuit must be<br>of Laundry Circuits =<br>d-In-Place Appliances - NEC 220.<br>hameplate rating. Do not include<br>anges, clothes dryers, space-<br>quipment, or air-conditioning<br>                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Supply Voltage<br>IEC 240.6(A)<br>E-Family Dwel<br>(PE 'J'<br>NEC 220.84(C)(1)<br>, unused or unfinished spa<br>20.84(C)(2)<br>must be included per NEC<br>20.84(C)(2)<br>must be included per NEC<br>10 NEC 220.84(C)(2)<br>included per NEC 210.11(C<br>53 and NEC 220.84(C)(3)/<br>Appliance<br>#1 Refrigerator<br>#2 Microwave<br>#3 Dishwashe<br>#4 Garbage Dor<br>#5 Water Heat<br>#6 Garage Dor<br>#7<br>te rating.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | ces not adap<br>ces not adap<br>210.11(C)(1)<br>c)(2)<br>(4)<br>s<br>r<br>sposal<br>ter<br>or Opener                                                                                                                                          | Dad Calcu         Unit Squa         table for future us         1,685         3         2         1         Load         1200         1200         684         4500         1200         684         4500         1200         Electric                                                                                                                                                                                                                                                                                                                                                                                                                                                   | re Footage:<br>se.<br>sf<br>VA/sf<br>x 1500 VA (Ea.)<br>x 1500 VA (Ea.)                                               | 13       14       1       2       3       4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 113.7<br>125<br>1685<br>5055<br>3000<br>1500                                                                     |   | 13<br>14<br>1<br>1<br>2<br>3<br>4<br>5                                      | Minimum Ar<br>Divide the tot<br>Minimum Si<br>Minimum Si<br>Jnit Type<br>General Lig<br>Note: Do not<br>Square Foota<br>VA Unit Load<br>Small Applia<br>At least two s<br>Quantity of S<br>Laundry Bra<br>At least one I<br>Quantity of La<br>Fastened-In-<br>Use the name<br>electric range<br>heating equip                                                                                                                                                                      |
| 13       Divide the         14       Minimum         14       Minimum         1       General         1       Note: Do         Square For       VA Unit L         2       At least to         Quantity       At least to         Quantity       Fastened         3       At least to         Quantity       Fastened         3       Clothes I         5       Use the late         6       Ranges,         Note: Do       Ranges,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     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n Amperes<br>e total VA by the voltage<br>n Size Service and/or Feeder - N<br>Single<br>pe: UNIT T<br>Lighting and Receptacle Load -<br>not include open porches, garages<br>ootage =<br>_oad =<br>opliance Branch Circuits - NEC 2<br>wo small appliance branch circuits<br>of Small Appliance Circuits =<br>Branch Circuits - NEC 220.52B a<br>one laundry branch circuit must be i<br>of Laundry Circuits =<br>d-In-Place Appliances - NEC 220.<br>hameplate rating. Do not include<br>anges, clothes dryers, space-<br>quipment, or air-conditioning<br>Dryer - NEC 220.54<br>arger of 5,000 watts or the namepla                                                                                                                                                                                                                                                                                                                                                                                              | Supply Voltage<br>IEC 240.6(A)<br>E-Family Dwel<br>(PE 'J'<br>NEC 220.84(C)(1)<br>, unused or unfinished spa<br>20.84(C)(2)<br>must be included per NEC<br>20.84(C)(2)<br>must be included per NEC<br>10 NEC 220.84(C)(2)<br>included per NEC 210.11(C<br>53 and NEC 220.84(C)(3)/<br>Appliance<br>#1 Refrigerator<br>#2 Microwave<br>#3 Dishwashe<br>#4 Garbage Dor<br>#5 Water Heat<br>#6 Garage Dor<br>#7<br>te rating.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Ling LC<br>ces not adap<br>ces not adap<br>c 210.11(C)(1)<br>c)(2)<br>(4)<br>s<br>r<br>r<br>isposal<br>ter<br>or Opener                                                                                                                       | Ad Calcu<br>Unit Squa<br>table for future us<br>1,685<br>3<br>2<br>1<br>Load<br>1200<br>1200<br>684<br>4500<br>1200<br>684<br>4500<br>1200<br>584<br>4500<br>1200<br>50 Watts - NEC<br>Load                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | re Footage:<br>se.<br>sf<br>VA/sf<br>x 1500 VA (Ea.)<br>x 1500 VA (Ea.)                                               | 13       14       1       2       3       4       5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 113.7<br>125<br>1685<br>5055<br>3000<br>1500<br>9984<br>5000                                                     |   | 13<br>14<br>1<br>1<br>2<br>3<br>4<br>5                                      | Minimum Ar<br>Divide the tot<br>Minimum Si<br>Minimum Si<br>Jnit Type<br>General Lig<br>Note: Do not<br>Square Foota<br>VA Unit Load<br>Small Applia<br>At least two s<br>Quantity of S<br>Laundry Bra<br>At least two s<br>Quantity of La<br>Fastened-In-<br>Use the name<br>electric range<br>heating equip                                                                                                                                                                      |
| 13       Divide the         14       Minimum         14       Minimum         14       Minimum         1       General         1       Note: Do         Square For       VA Unit L         2       At least the         Quantity       At least the         Quantity       At least the         Quantity       Fastened         Use the needlectric ratheating eff       Scheden         5       Clothes I         5       Use the late         Ranges,       Ranges,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  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n Amperes<br>e total VA by the voltage<br>n Size Service and/or Feeder - N<br>Single<br>pe: UNIT TY<br>Lighting and Receptacle Load -<br>not include open porches, garages<br>ootage =<br>_oad =<br>pliance Branch Circuits - NEC 2<br>wo small appliance branch circuits<br>of Small Appliance Circuits =<br>Branch Circuits - NEC 220.52B a<br>one laundry branch circuit must be<br>of Laundry Circuits =<br>d-In-Place Appliances - NEC 220.<br>hameplate rating. Do not include<br>anges, clothes dryers, space-<br>quipment, or air-conditioning<br>                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Supply Voltage<br>IEC 240.6(A)<br>P-Family Dwel<br>(PE 'J'<br>NEC 220.84(C)(1)<br>, unused or unfinished spa<br>20.84(C)(2)<br>must be included per NEC<br>20.84(C)(2)<br>must be included per NEC<br>10 NEC 220.84(C)(2)<br>included per NEC 210.11(C<br>53 and NEC 220.84(C)(3)/<br>Appliance<br>#1 Refrigerator<br>#2 Microwave<br>#3 Dishwashe<br>#4 Garbage Do<br>#5 Water Heat<br>#6 Garage Do<br>#7<br>te rating.<br>Usehold Cooking Appliant<br>ire under 1,750 watts<br>Cooking Appliant<br>#1 Electric Ra                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Ling LC<br>ces not adap<br>ces not adap                                                                                       | Dad Calcu         Unit Squa         table for future us         1,685         3         2         1         Load         1200         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         0         0         1200         0         0         0         1200         0         0         0         0         0         0         0         0         0         0         0         1200         1200         1200         1200      <                 | re Footage:<br>se.<br>sf<br>VA/sf<br>x 1500 VA (Ea.)<br>x 1500 VA (Ea.)                                               | 13       14       1       2       3       4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 113.7<br>125<br>1685<br>5055<br>3000<br>1500                                                                     |   | 13<br>14<br>1<br>1<br>2<br>3<br>4<br>5                                      | Minimum An<br>Divide the tot<br>Minimum Si<br>Minimum Si<br>General Lig<br>Note: Do not<br>Square Foota<br>VA Unit Load<br>Small Appli<br>At least two s<br>Quantity of S<br>Laundry Bra<br>At least one<br>Quantity of L<br>Fastened-In<br>Use the name<br>electric range<br>heating equip<br>Subment<br>Clothes Drye<br>Use the large<br>Ranges, Ove                                                                                                                             |
| 13       Divide the         14       Minimum         14       Minimum         1       General         1       Note: Do         Square For       VA Unit L         2       At least to         Quantity       At least to         Quantity       Fastened         3       At least to         Quantity       Fastened         3       Clothes I         5       Use the late         6       Ranges,         Note: Do       Ranges,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              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n Amperes<br>e total VA by the voltage<br>n Size Service and/or Feeder - N<br>Single<br>pe: UNIT TY<br>Lighting and Receptacle Load -<br>not include open porches, garages<br>ootage =<br>_oad =<br>pliance Branch Circuits - NEC 2<br>wo small appliance branch circuits<br>of Small Appliance Circuits =<br>Branch Circuits - NEC 220.52B a<br>one laundry branch circuit must be<br>of Laundry Circuits =<br>d-In-Place Appliances - NEC 220.<br>hameplate rating. Do not include<br>anges, clothes dryers, space-<br>quipment, or air-conditioning<br>                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Supply Voltage<br>IEC 240.6(A)<br>E-Family Dwel<br>(PE 'J'<br>NEC 220.84(C)(1)<br>, unused or unfinished spa<br>20.84(C)(2)<br>must be included per NEC<br>20.84(C)(2)<br>must be included per NEC<br>and NEC 220.84(C)(2)<br>included per NEC 210.11(C<br>53 and NEC 220.84(C)(3)/<br>Appliance<br>#1 Refrigerator<br>#2 Microwave<br>#3 Dishwashe<br>#4 Garbage Di<br>#5 Water Heat<br>#6 Garage Dod<br>#7<br>te rating.<br>Usehold Cooking Appliant<br>ire under 1,750 watts<br>Cooking Appliant                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Ling LC<br>ces not adap<br>ces not adap                                                                                       | Ad Calcu<br>Unit Squa<br>table for future us<br>1,685<br>3<br>2<br>1<br>Load<br>1200<br>1200<br>684<br>4500<br>1200<br>684<br>4500<br>1200<br>584<br>4500<br>1200<br>50 Watts - NEC<br>Load                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | re Footage:<br>se.<br>sf<br>VA/sf<br>x 1500 VA (Ea.)<br>x 1500 VA (Ea.)                                               | 13       14       1       2       3       4       5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 113.7<br>125<br>1685<br>5055<br>3000<br>1500<br>9984<br>5000                                                     |   | 13<br>14<br>1<br>1<br>2<br>3<br>4<br>5                                      | Minimum An<br>Divide the tot<br>Minimum Si<br>Minimum Si<br>General Lig<br>Note: Do not<br>Square Foota<br>VA Unit Load<br>Small Appli<br>At least two s<br>Quantity of S<br>Laundry Bra<br>At least one<br>Quantity of L<br>Fastened-In<br>Use the name<br>electric range<br>heating equip<br>Subment<br>Clothes Drye<br>Use the large<br>Ranges, Ove                                                                                                                             |
| 13       Divide the         14       Minimum         14       Minimum         1       General         1       Note: Do         Square For       VA Unit L         2       At least to         Quantity       At least to         Quantity       Fastened         3       At least to         Quantity       Fastened         Use the nelectric ratheating each       Statened         4       Clothes I         5       Use the latheating each         6       Ranges,         Note: Do       At least to         9       Clothes I         9       Note: Do                                                                                                                                                                                                                                                                                                                                                                                                                                                                          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n Amperes<br>e total VA by the voltage<br>n Size Service and/or Feeder - N<br>Single<br>pe: UNIT TY<br>Lighting and Receptacle Load -<br>not include open porches, garages<br>ootage =<br>_oad =<br>pliance Branch Circuits - NEC 2<br>wo small appliance branch circuits<br>of Small Appliance Circuits =<br>Branch Circuits - NEC 220.52B a<br>one laundry branch circuit must be<br>of Laundry Circuits =<br>d-In-Place Appliances - NEC 220.<br>hameplate rating. Do not include<br>anges, clothes dryers, space-<br>quipment, or air-conditioning<br>                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Supply Voltage<br>IEC 240.6(A)<br>P-Family Dwel<br>(PE 'J'<br>NEC 220.84(C)(1)<br>, unused or unfinished spa<br>20.84(C)(2)<br>must be included per NEC<br>20.84(C)(2)<br>must be included per NEC<br>210.11(C)<br>53 and NEC<br>220.84(C)(2)<br>must be included per NEC<br>210.11(C)<br>53 and NEC<br>220.84(C)(2)<br>must be included per NEC<br>210.11(C)<br>53 and NEC<br>220.84(C)(2)<br>must be included per NEC<br>210.11(C)<br>53 and NEC<br>20.84(C)(2)<br>must be included per NEC<br>210.11(C)<br>54 and NEC<br>210.11(C)<br>54 | Ling LC<br>ces not adap<br>ces not adap                                                                                       | Ad Calcu<br>Unit Squa<br>table for future us<br>1,685<br>3<br>2<br>1<br>Load<br>1200<br>1200<br>684<br>4500<br>1200<br>684<br>4500<br>1200<br>584<br>4500<br>1200<br>50 Watts - NEC<br>Load                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | re Footage:<br>se.<br>sf<br>VA/sf<br>x 1500 VA (Ea.)<br>x 1500 VA (Ea.)                                               | 13       14       1       2       3       4       5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 113.7<br>125<br>1685<br>5055<br>3000<br>1500<br>9984<br>5000                                                     |   | 13<br>14<br>1<br>1<br>2<br>3<br>4<br>5<br>6                                 | Minimum Ar<br>Divide the tot<br>Minimum Si<br>Minimum Si<br>Jnit Type<br>General Lig<br>Note: Do not<br>Square Foota<br>VA Unit Load<br>Small Applia<br>At least two s<br>Quantity of S<br>Laundry Bra<br>At least two s<br>Quantity of La<br>Fastened-In-<br>Use the name<br>electric range<br>heating equip<br>Contes Drye<br>Use the large<br>Ranges, Ove<br>Note: Do not                                                                                                       |
| 13       Divide the         14       Minimum         14       Minimum         1       General         1       Sequere For         VA Unit L       Small App         2       At least the         Quantity of       Fastened         3       At least of         Quantity of       Fastened         3       Clothes I         5       Clothes I         5       Use the late         6       Ranges,         7       General                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            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n Amperes<br>e total VA by the voltage<br>n Size Service and/or Feeder - N<br>Single<br>pe: UNIT TY<br>Lighting and Receptacle Load -<br>not include open porches, garages<br>ootage =<br>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Supply Voltage<br>IEC 240.6(A)<br>P-Family Dwel<br>(PE 'J'<br>NEC 220.84(C)(1)<br>, unused or unfinished spa<br>20.84(C)(2)<br>must be included per NEC<br>20.84(C)(2)<br>must be included per NEC<br>20.84(C)(2)<br>40.84(C)(2)<br>10.84(C)(2)<br>10.84(C)(2)<br>10.84(C)(2)<br>10.84(C)(2)<br>10.84(C)(2)<br>10.84(C)(2)<br>10.84(C)(2)<br>10.84(C)(2)<br>10.84(C)(2)<br>10.84(C)(2)<br>10.84(C)(2)<br>10.84(C)(2)<br>10.84(C)(2)<br>10.84(C)(2)<br>10.84(C)(2)<br>10.84(C)(2)<br>10.84(C)(2)<br>10.84(C)(2)<br>10.84(C)(2)<br>10.84(C)(2)<br>10.84(C)(2)<br>10.84(C)(2)<br>10.84(C)(2)<br>10.84(C)(2)<br>10.84(C)(2)<br>10.84(C)(2)<br>10.84(C)(2)<br>10.84(C)(2)<br>10.84(C)(2)<br>10.84(C)(2)<br>10.84(C)(2)<br>10.84(C)(2)<br>10.84(C)(2)<br>10.84(C)(2)<br>10.84(C)(2)<br>10.84(C)(2)<br>10.84(C)(2)<br>10.84(C)(2)<br>10.84(C)(2)<br>10.84(C)(                            | ling LC<br>ces not adap<br>ces not adap<br>c 210.11(C)(1)<br>c)(2)<br>(4)<br>s<br>r<br>r<br>isposal<br>ter<br>or Opener<br>nces Over 1,<br>ances<br>nge                                                                                       | Dad Calcu         Unit Squa         table for future us         1,685         3         2         1         Load         1200         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         0         0         0         1200         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0                               | re Footage:<br>se.<br>sf<br>VA/sf<br>x 1500 VA (Ea.)<br>x 1500 VA (Ea.)                                               | 13       14       14       1       2       3       4       5       6       7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 113.7<br>125<br>1685<br>5055<br>3000<br>1500<br>9984<br>9984<br>5000                                             |   | 13<br>14<br>1<br>1<br>2<br>3<br>4<br>5<br>6<br>7                            | Minimum Ar<br>Divide the tot<br>Minimum Si<br>Minimum Si<br>Jnit Type<br>General Lig<br>Note: Do not<br>Square Foota<br>VA Unit Load<br>Small Applia<br>At least two s<br>Quantity of S<br>Laundry Bra<br>At least two s<br>Quantity of La<br>Fastened-In-<br>Use the name<br>electric range<br>heating equip<br>Couloment<br>Clothes Drye<br>Use the large<br>Ranges, Ove<br>Note: Do not                                                                                         |
| 13       Divide the         14       Minimum         14       Minimum         14       Minimum         1       General         1       Salare For         1       Small Appendiction         2       At least the         Quantity       At least the         Quantity       At least the         Quantity       Fasteneed         3       At least of         Quantity       Fasteneed         3       Clothes I         4       Subsetheneed         5       Clothes I         5       Use the last         6       Ranges,         7       General         7       General         7       General         8       General         Calculati       Calculati                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          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n Amperes<br>e total VA by the voltage<br>n Size Service and/or Feeder - N<br>Single<br>pe: UNIT TY<br>Lighting and Receptacle Load -<br>not include open porches, garages<br>ootage =<br>.oad =<br>opliance Branch Circuits - NEC 2<br>wo small appliance branch circuits<br>of Small Appliance Circuits =<br>Branch Circuits - NEC 220.52B a<br>one laundry branch circuit must be i<br>of Laundry Circuits =<br>d-In-Place Appliances - NEC 220.<br>nameplate rating. Do not include<br>anges, clothes dryers, space-<br>quipment, or air-conditioning<br>*<br>Dryer - NEC 220.54<br>arger of 5,000 watts or the namepla<br>Ovens, Cooktops, and Other Hou<br>not include gas appliances which a<br>Connected Load - Subtotal of Ite<br>Demand Load - First 10 KVA at 7<br>ion ( 1000                                                                                                                                                                                                                           | Supply Voltage<br>IEC 240.6(A)<br>P-Family Dwel<br>(PE 'J'<br>NEC 220.84(C)(1)<br>, unused or unfinished spa<br>20.84(C)(2)<br>must be included per NEC<br>20.84(C)(2)<br>must be included per NEC<br>20.84(C)<br>20.84(C)<br>20.84(C)<br>20.84(C)<br>20.84(C)<br>20.84(C)<br>20.84(C)<br>20.84(C)<br>20.84(C)<br>20.84(C)<br>20.84(C)<br>20.84(C)<br>20.84(C)<br>20.84(C)<br>20.84(C)<br>20.84(C)<br>20.84(C)<br>20.84(C)<br>20.84(C)<br>2                                    | Ling LC<br>ces not adap<br>ces not adap<br>ces not adap<br>c 210.11(C)(1)<br>c)(2)<br>(4)<br>s<br>r<br>r<br>sposal<br>ter<br>or Opener<br>nces Over 1,<br>ances<br>nge                                                                        | Dad Calcu         Unit Squa         table for future us         1,685         3         2         1         Load         1200         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         8000         0         20.82(B)         6 KVA ) =                                                                                                                                                                                                                                                                                                                  | re Footage:<br>se.<br>sf<br>VA/sf<br>x 1500 VA (Ea.)<br>x 1500 VA (Ea.)<br>x 1500 VA (Ea.)                            | 13       14       14       1       1       2       3       4       5       6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 113.7<br>125<br>1685<br>5055<br>3000<br>1500<br>9984<br>9984<br>5000                                             |   | 13<br>14<br>1<br>1<br>2<br>3<br>4<br>5<br>6<br>7                            | Minimum Ar<br>Divide the tot<br>Minimum Si<br>Minimum Si<br>Jnit Type<br>General Lig<br>Note: Do not<br>Square Foota<br>VA Unit Load<br>Small Applia<br>At least two s<br>Quantity of S<br>Laundry Bra<br>At least two s<br>Quantity of La<br>Fastened-In-<br>Use the name<br>electric range<br>heating equip<br>Source the large<br>Note: Do not<br>Clothes Drye<br>Use the large<br>Ranges, Ove<br>Note: Do not                                                                  |
| 13       Divide the         14       Minimum         14       Minimum         14       Minimum         14       General         16       Square Fill         17       Small Ap         18       Small Ap         20       At least to         Quantity       At least to         Quantity       Fastened         31       Fastened         32       At least to         Quantity       Fastened         33       At least to         Quantity       Fastened         34       Iost the n         electric ra       heating end         4       Clothes D         5       Use the la         5       Use the la         6       Note: Do         6       General         7       General         7       General         7       General         8       General         Calculati       Calculati                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | n Amperes<br>e total VA by the voltage<br>n Size Service and/or Feeder - N<br>Single<br>pe: UNIT TY<br>Lighting and Receptacle Load -<br>not include open porches, garages<br>ootage =<br>load =<br>opliance Branch Circuits - NEC 2<br>wo small appliance branch circuits<br>of Small Appliance Circuits =<br>Branch Circuits - NEC 220.52B a<br>one laundry branch circuit must be in<br>of Laundry Circuits =<br>d-In-Place Appliances - NEC 220.<br>nameplate rating. Do not include<br>anges, clothes dryers, space-<br>quipment, or air-conditioning<br><br>Dryer - NEC 220.54<br>arger of 5,000 watts or the nameplate<br>ot include gas appliances which a<br>Connected Load - Subtotal of Ita<br>Demand Load - First 10 KVA at f                                                                                                                                                                                                                                                                          | Supply Voltage<br>IEC 240.6(A)<br>P-Family Dwel<br>(PE 'J'<br>NEC 220.84(C)(1)<br>, unused or unfinished spa<br>20.84(C)(2)<br>must be included per NEC<br>20.84(C)(2)<br>must be included per NEC<br>20.84(C)(2)<br>must be included per NEC<br>20.84(C)(2)<br>included per NEC 210.11(C<br>53 and NEC 220.84(C)(3)/<br>Appliance<br>#1 Refrigerator<br>#2 Microwave<br>#3 Dishwashe<br>#4 Garbage Di<br>#5 Water Heat<br>#6 Garage Dou<br>#7<br>te rating.<br>Usehold Cooking Appliant<br>ire under 1,750 watts<br>Cooking Appliant<br>#1 Electric Ra<br>#2<br>#3<br>ems 1-6<br>100% plus Remainder at<br>0 KVA +<br>Iude the smaller of the t                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Ling LC<br>ces not adap<br>ces not adap<br>c 210.11(C)(1)<br>c)(2)<br>(4)<br>s<br>r<br>s<br>sor Opener<br>nces Over 1,<br>ances<br>nge<br>40% - NEC 2<br>9010<br>wo) NEC 220                                                                  | Dad Calcu         Unit Squa         table for future us         1,685         3         2         1         Load         1200         1200         1200         1200         584         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         9         20.82(B)         6 KVA ) =         0.18(A) and NEC                                                                                                                                                           | re Footage:<br>se.<br>sf<br>VA/sf<br>x 1500 VA (Ea.)<br>x 1500 VA (Ea.)<br>x 1500 VA (Ea.)<br>T220.55<br>220.84(C)(5) | 13       14       14       1       2       3       4       5       6       7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 113.7<br>125<br>1685<br>5055<br>3000<br>1500<br>9984<br>9984<br>5000                                             |   | 13<br>14<br>1<br>1<br>2<br>3<br>4<br>5<br>6<br>7<br>8                       | Minimum An<br>Divide the tot<br>Minimum Si<br>Minimum Si<br>Minimum Si<br>Si<br>General Lig<br>Note: Do not<br>Square Foota<br>VA Unit Load<br>Small Appli<br>At least two si<br>Quantity of Li<br>Fastened-In<br>Use the name<br>electric range<br>heating equip<br>Scuipment<br>Clothes Drye<br>Use the large<br>Ranges, Ove<br>Note: Do not<br>General Der<br>Calculation                                                                                                       |
| 13       Divide the         14       Minimum         14       Minimum         14       Minimum         1       General         1       Signare For         1       Note: Do         Square For       VA Unit L         2       Small Ap         2       At least to         Quantity       At least or         Quantity       Fastened         Use the nellectric ratheating each       State ach         5       Clothes D         5       Use the latheating each         6       State ach         7       General         8       General         7       General<                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | n Amperes<br>a total VA by the voltage<br>n Size Service and/or Feeder - N<br>Single<br>pe: UNIT T<br>Lighting and Receptacle Load -<br>not include open porches, garages<br>ootage =<br>.oad =<br>opliance Branch Circuits - NEC 2<br>wo small appliance branch circuits<br>of Small Appliance Circuits =<br>Branch Circuits - NEC 220.52B a<br>one laundry branch circuit must be<br>of Laundry Circuits =<br>d-In-Place Appliances - NEC 220.<br>hameplate rating. Do not include<br>anges, clothes dryers, space-<br>quipment, or air-conditioning<br><br>Dryer - NEC 220.54<br>arger of 5,000 watts or the namepla<br>Ovens, Cooktops, and Other Hou<br>not include gas appliances which a<br>Connected Load - Subtotal of Ite<br>Demand Load - First 10 KVA at f<br>ion ( 1000<br>/stem (Compare heat & A/C, exc<br>ing unit to be included for both sce<br>of electric heating that can operate a                                                                                                           | Supply Voltage<br>IEC 240.6(A)<br>P-Family Dwel<br>(PE 'J'<br>NEC 220.84(C)(1)<br>, unused or unfinished spa<br>20.84(C)(2)<br>must be included per NEC<br>20.84(C)(2)<br>must be included per NEC<br>20.84(C)(2)<br>must be included per NEC<br>20.84(C)(2)<br>included per NEC 210.11(C<br>53 and NEC 220.84(C)(3)/<br>Appliance<br>#1 Refrigerator<br>#2 Microwave<br>#3 Dishwashe<br>#4 Garbage Do<br>#5 Water Heat<br>#6 Garage Do<br>#7<br>te rating.<br>Usehold Cooking Appliant<br>ire under 1,750 watts<br>Cooking Appliant<br>#1 Electric Ra<br>#2<br>#3<br>ems 1-6<br>100% plus Remainder at<br>0 KVA +<br>Iude the smaller of the to<br>harios. Heat pumps shall in<br>simultaneously with the con                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Ling LC<br>ces not adap<br>ces not adap<br>c 210.11(C)(1)<br>c)(2)<br>(4)<br>s<br>r<br>csposal<br>ter<br>or Opener<br>nces Over 1,<br>ances<br>nge<br>40% - NEC 2<br>9010<br>wo) NEC 220<br>nclude the compressor.                            | Dad Calcu         Unit Squa         table for future us         1,685         3         2         1         Load         1200         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         0         1200         684         4500         1200         0         0         1200         1200         1200         1200         1200         1200         1200         1200 | re Footage:<br>se.<br>sf<br>VA/sf<br>x 1500 VA (Ea.)<br>x 1500 VA (Ea.)<br>x 1500 VA (Ea.)<br>T220.55<br>220.84(C)(5) | 13         14         14         1         1         1         1         3         4         5         6         7         8                                                                                                                                                                                                                                                                                                                                                                                                                                                | 113.7<br>125<br>1685<br>5055<br>3000<br>1500<br>9984<br>9984<br>5000<br>8000                                     |   | 13<br>14<br>1<br>1<br>1<br>2<br>3<br>4<br>5<br>6<br>7<br>8                  | Minimum Ar<br>Divide the tot<br>Minimum Si<br>Minimum Si<br>Jnit Type<br>General Lig<br>Note: Do not<br>Square Foota<br>VA Unit Load<br>Small Applia<br>At least two s<br>Quantity of S<br>Laundry Bra<br>At least two s<br>Quantity of La<br>Fastened-In-<br>Use the name<br>electric range<br>heating equip<br>Subset the name<br>electric range<br>heating equip<br>Subset the large<br>Ranges, Ove<br>Note: Do not<br>General Cor<br>General Der<br>Calculation<br>HVAC System |
| 13       Divide the         14       Minimum         14       Minimum         14       Minimum         15       General         16       Note: Do         17       Square For         18       Small Ap         19       Small Ap         10       Small Ap         11       Small Ap         12       At least or         Quantity or       Fasteneor         19       Fasteneor         10       Set the neilectric ratheating er         11       Stateneor         12       Clothes I         13       Clothes I         14       Set the la         15       Clothes I         16       Set the la         17       General         18       General         18       General         17       General         18       General         17       Air handli                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | n Amperes<br>e total VA by the voltage<br>n Size Service and/or Feeder - N<br>Single<br>pe: UNIT T<br>Lighting and Receptacle Load -<br>not include open porches, garages<br>ootage =<br>load =<br>opliance Branch Circuits - NEC 2<br>wo small appliance branch circuits<br>of Small Appliance Circuits =<br>Branch Circuits - NEC 220.52B a<br>one laundry branch circuit must be<br>of Laundry Circuits =<br>d-In-Place Appliances - NEC 220.<br>hameplate rating. Do not include<br>anges, clothes dryers, space-<br>quipment, or air-conditioning<br>*<br>Dryer - NEC 220.54<br>arger of 5,000 watts or the namepla<br>Ovens, Cooktops, and Other Hou<br>not include gas appliances which a<br>Connected Load - Subtotal of Ite<br>Demand Load - First 10 KVA at f<br>ion ( 1000<br>rstem (Compare heat & A/C, exc<br>ing unit to be included for both scent<br>of electric heating that can operate s<br>HVAC Units                                                                                          | Supply Voltage<br>IEC 240.6(A)<br>P-Family Dwel<br>(PE 'J'<br>NEC 220.84(C)(1)<br>, unused or unfinished spa<br>20.84(C)(2)<br>must be included per NEC<br>20.84(C)(2)<br>must be included per NEC<br>20.84(C)(2)<br>must be included per NEC<br>20.84(C)(2)<br>included per NEC 210.11(C<br>53 and NEC 220.84(C)(3)/<br>Appliance<br>#1 Refrigerator<br>#2 Microwave<br>#3 Dishwashe<br>#4 Garbage Do<br>#5 Water Heat<br>#6 Garage Do<br>#7<br>te rating.<br>Usehold Cooking Appliant<br>ire under 1,750 watts<br>Cooking Appliant<br>#1 Electric Ra<br>#2<br>#3<br>ems 1-6<br>100% plus Remainder at<br>0 KVA +<br>Iude the smaller of the to<br>harios. Heat pumps shall in<br>simultaneously with the con                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Ling LC<br>ces not adap<br>ces not adap<br>c 210.11(C)(1)<br>c)(2)<br>(4)<br>s<br>r<br>sposal<br>ter<br>or Opener<br>nces Over 1,<br>ances<br>nge<br>40% - NEC 2<br>9010<br>wo) NEC 220<br>nclude the co                                      | Dad Calcu         Unit Squa         table for future us         1,685         3         2         1         Load         1200         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         0         1200         684         4500         1200         0         0         1200         1200         1200         1200         1200         1200         1200         1200 | re Footage:<br>se.<br>sf<br>VA/sf<br>x 1500 VA (Ea.)<br>x 1500 VA (Ea.)<br>x 1500 VA (Ea.)<br>T220.55<br>220.84(C)(5) | 13       14       14       1       2       3       4       5       6       7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 113.7<br>125<br>1685<br>5055<br>3000<br>1500<br>9984<br>9984<br>5000                                             |   | 13<br>14<br>1<br>1<br>2<br>3<br>4<br>5<br>6<br>7<br>8                       | Minimum Ar<br>Divide the tot<br>Minimum Si<br>Minimum Si<br>General Lig<br>Note: Do not<br>Square Foota<br>VA Unit Load<br>Small Applia<br>At least two s<br>Quantity of Li<br>Fastened-In-<br>Use the name<br>electric range<br>heating equip<br>Clothes Drye<br>Use the large<br>Ranges, Ove<br>Note: Do not<br>General Cor<br>General Der<br>Calculation<br>HVAC Syster                                                                                                         |
| 13       Divide the         14       Minimum         14       Minimum         14       Minimum         1       General         1       Signare For         1       Note: Do         Square For       VA Unit L         2       Small Ap         2       At least to         Quantity       At least or         Quantity       Fastened         Use the nellectric ratheating each       State ach         5       Clothes D         5       Use the latheating each         6       State ach         7       General         8       General         7       General<                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | n Amperes<br>a total VA by the voltage<br>n Size Service and/or Feeder - N<br>Single<br>pe: UNIT T<br>Lighting and Receptacle Load -<br>not include open porches, garages<br>ootage =<br>.oad =<br>opliance Branch Circuits - NEC 2<br>wo small appliance branch circuits<br>of Small Appliance Circuits =<br>Branch Circuits - NEC 220.52B a<br>one laundry branch circuit must be<br>of Laundry Circuits =<br>d-In-Place Appliances - NEC 220.<br>hameplate rating. Do not include<br>anges, clothes dryers, space-<br>quipment, or air-conditioning<br><br>Dryer - NEC 220.54<br>arger of 5,000 watts or the namepla<br>Ovens, Cooktops, and Other Hou<br>not include gas appliances which a<br>Connected Load - Subtotal of Ite<br>Demand Load - First 10 KVA at f<br>ion ( 1000<br>/stem (Compare heat & A/C, exc<br>ing unit to be included for both sce<br>of electric heating that can operate a                                                                                                           | Supply Voltage<br>IEC 240.6(A)<br>P-Family Dwel<br>(PE 'J'<br>NEC 220.84(C)(1)<br>, unused or unfinished spa<br>20.84(C)(2)<br>must be included per NEC<br>20.84(C)(2)<br>must be included per N                                                        | Ling LC<br>ces not adap<br>ces not adap<br>c 210.11(C)(1)<br>c)(2)<br>(4)<br>s<br>r<br>csposal<br>ter<br>or Opener<br>nces Over 1,<br>ances<br>nge<br>40% - NEC 2<br>9010<br>wo) NEC 220<br>nclude the compressor.<br>d Elec. Hea             | Dad Calcu         Unit Squa         table for future us         1,685         3         2         1         Load         1200         1200         1200         1200         584         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         9000         20.82(B)         6 KVA ) =         0.18(A) and NEC         ompressor and mode                                                                                       | re Footage:<br>se.<br>sf<br>VA/sf<br>x 1500 VA (Ea.)<br>x 1500 VA (Ea.)<br>x 1500 VA (Ea.)<br>T220.55<br>220.84(C)(5) | 13         14         14         1         1         1         1         3         4         5         6         7         8                                                                                                                                                                                                                                                                                                                                                                                                                                                | 113.7<br>125<br>1685<br>5055<br>3000<br>1500<br>9984<br>9984<br>5000<br>8000                                     |   | 13<br>14<br>1<br>1<br>1<br>2<br>3<br>4<br>5<br>6<br>7<br>8                  | Minimum Ar<br>Divide the tot<br>Minimum Si<br>Minimum Si<br>Jnit Type<br>General Lig<br>Note: Do not<br>Square Foota<br>VA Unit Load<br>Small Applia<br>At least two s<br>Quantity of S<br>Laundry Bra<br>At least two s<br>Quantity of La<br>Fastened-In-<br>Use the name<br>electric range<br>heating equip<br>Subset the name<br>electric range<br>heating equip<br>Subset the large<br>Ranges, Ove<br>Note: Do not<br>General Cor<br>General Der<br>Calculation<br>HVAC System |
| 13       Divide the         14       Minimum         14       Minimum         11       General<br>Note: Do<br>Square Fa<br>VA Unit L         2       Small Ap<br>At least of<br>Quantity of<br>At least of<br>Quantity of<br>Sastened<br>Use the n<br>electric ra<br>heating en<br>Sastened<br>Use the la         3       Clothes I<br>Clothes I<br>Sastened<br>Use the la         5       Clothes I<br>Clothes I<br>Clothes I<br>Sastened<br>Sastened<br>Use the la         6       Sastened<br>Cluipped<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Saste                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | n Amperes<br>a total VA by the voltage<br>n Size Service and/or Feeder - N<br>Single<br>pe: UNIT TY<br>Lighting and Receptacle Load -<br>not include open porches, garages<br>ootage =<br>load =<br>opliance Branch Circuits - NEC 2<br>wo small appliance branch circuits<br>of Small Appliance Circuits =<br>Branch Circuits - NEC 220.52B a<br>one laundry branch circuit must be in<br>of Laundry Circuits =<br>d-In-Place Appliances - NEC 220.<br>hameplate rating. Do not include<br>anges, clothes dryers, space-<br>quipment, or air-conditioning<br>*<br>Dryer - NEC 220.54<br>arger of 5,000 watts or the nameplat<br>Ovens, Cooktops, and Other Hom<br>not include gas appliances which a<br>Connected Load - Subtotal of Ite<br>Demand Load - First 10 KVA at f<br>ion (1000<br>rstem (Compare heat & A/C, exc<br>ing unit to be included for both scent<br>of electric heating that can operate st<br>HVAC Units<br>#1 <u>D/X Unit w/ Condenser</u><br>#2<br>#3                                      | Supply Voltage<br>IEC 240.6(A)<br>P-Family Dwel<br>(PE'J'<br>NEC 220.84(C)(1)<br>, unused or unfinished spa<br>20.84(C)(2)<br>must be included per NEC<br>and NEC 220.84(C)(2)<br>included per NEC 210.11(C<br>53 and NEC 220.84(C)(3)/<br>Appliance<br>#1 Refrigerator<br>#2 Microwave<br>#3 Dishwashe<br>#4 Garbage Do<br>#5 Water Heat<br>#6 Garage Do<br>#7<br>te rating.<br>Usehold Cooking Appliant<br>includer 1,750 watts<br>Cooking Appliant<br>includer 1,750 watts<br>includer 1,750 watts<br>inclu                                                          | Ling LC<br>ces not adap<br>ces not adap<br>c 210.11(C)(1)<br>c)(2)<br>(4)<br>s<br>r<br>csposal<br>ter<br>or Opener<br>nces Over 1,<br>ances<br>nge<br>40% - NEC 2<br>9010<br>wo) NEC 220<br>nclude the compressor.<br>d Elec. Hea             | Dad Calcu         Unit Squa         table for future us         1,685         3         2         1         Load         1200         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         9         20.82(B)         6         6 KVA ) =         0.18(A) and NEC         pmpressor and modes         t       Load                                                                                                                                                                                                      | re Footage:<br>se.<br>sf<br>VA/sf<br>x 1500 VA (Ea.)<br>x 1500 VA (Ea.)<br>x 1500 VA (Ea.)<br>T220.55<br>220.84(C)(5) | 13         14         14         1         1         1         1         3         4         5         6         7         8                                                                                                                                                                                                                                                                                                                                                                                                                                                | 113.7<br>125<br>16855<br>5055<br>3000<br>1500<br>9984<br>9984<br>9984<br>5000<br>8000                            |   | 13<br>14<br>1<br>1<br>2<br>3<br>4<br>5<br>6<br>7<br>8                       | Minimum An<br>Divide the tot<br>Minimum Si<br>Minimum Si<br>Minimum Si<br>General Lig<br>Note: Do not<br>Square Foota<br>VA Unit Load<br>Small Appli<br>At least two s<br>Quantity of S<br>Laundry Bra<br>At least two s<br>Quantity of Li<br>Fastened-In<br>Use the name<br>electric range<br>heating equip<br>Cauloment<br>Clothes Drye<br>Use the large<br>Ranges, Ove<br>Note: Do not<br>General Der<br>Calculation<br>HVAC Syster<br>Air handling u<br>amount of ele          |
| 13       Divide the         14       Minimum         14       Minimum         11       General<br>Note: Do<br>Square Fa<br>VA Unit L         2       Small Ap<br>At least of<br>Quantity of<br>At least of<br>Quantity of<br>Sastened<br>Use the n<br>electric ra<br>heating en<br>Sastened<br>Use the la         3       Clothes I<br>Clothes I<br>Sastened<br>Use the la         5       Clothes I<br>Clothes I<br>Clothes I<br>Sastened<br>Sastened<br>Use the la         6       Sastened<br>Cluipped<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Sastened<br>Saste                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | n Amperes<br>a total VA by the voltage<br>n Size Service and/or Feeder - N<br>Single<br>pe: UNIT T<br>Lighting and Receptacle Load -<br>not include open porches, garages<br>ootage =<br>.oad =<br>opliance Branch Circuits - NEC 2<br>wo small appliance branch circuits<br>of Small Appliance Circuits =<br>Branch Circuits - NEC 220.52B a<br>one laundry branch circuit must be i<br>of Laundry Circuits =<br>d-In-Place Appliances - NEC 220.<br>hameplate rating. Do not include<br>anges, clothes dryers, space-<br>quipment, or air-conditioning<br>*<br>Dryer - NEC 220.54<br>arger of 5,000 watts or the namepla<br>Ovens, Cooktops, and Other Hom<br>not include gas appliances which a<br>Connected Load - Subtotal of Ite<br>Demand Load - First 10 KVA at 7<br>ion ( 1000<br>/stem (Compare heat & A/C, exc<br>ing unit to be included for both sce<br>of electric heating that can operate a<br>HVAC Units<br>#1 <u>D/X Unit w/ Condenser</u><br>#2                                                 | Supply Voltage<br>IEC 240.6(A)<br>P-Family Dwel<br>(PE'J'<br>NEC 220.84(C)(1)<br>, unused or unfinished spa<br>20.84(C)(2)<br>must be included per NEC<br>and NEC 220.84(C)(2)<br>included per NEC 210.11(C<br>53 and NEC 220.84(C)(3)/<br>Appliance<br>#1 Refrigerator<br>#2 Microwave<br>#3 Dishwashe<br>#4 Garbage Do<br>#5 Water Heat<br>#6 Garage Do<br>#7<br>te rating.<br>Usehold Cooking Appliant<br>includer 1,750 watts<br>Cooking Appliant<br>includer 1,750 watts<br>includer 1,750 watts<br>inclu                                                          | Ling LC<br>ces not adap<br>ces not adap<br>c 210.11(C)(1)<br>c)(2)<br>(4)<br>s<br>r<br>csposal<br>ter<br>or Opener<br>nces Over 1,<br>ances<br>nge<br>40% - NEC 2<br>9010<br>wo) NEC 220<br>nclude the compressor.<br>d Elec. Hea             | Dad Calcu         Unit Squa         table for future us         1,685         3         2         1         Load         1200         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         900         20.82(B)         6 KVA ) =         0.18(A) and NEC         ompressor and mode         0                                                                                                        | re Footage:<br>se.<br>sf<br>VA/sf<br>x 1500 VA (Ea.)<br>x 1500 VA (Ea.)<br>x 1500 VA (Ea.)<br>T220.55<br>220.84(C)(5) | 13         14         14         1         1         1         1         3         4         5         6         7         8                                                                                                                                                                                                                                                                                                                                                                                                                                                | 113.7<br>125<br>1685<br>5055<br>3000<br>1500<br>9984<br>9984<br>5000<br>8000                                     |   | 13<br>14<br>1<br>1<br>2<br>3<br>4<br>5<br>6<br>7<br>8<br>9                  | Minimum Ar<br>Divide the tot<br>Minimum Si<br>Minimum Si<br>General Lig<br>Note: Do not<br>Square Foota<br>VA Unit Load<br>Small Applia<br>At least two s<br>Quantity of S<br>Laundry Bra<br>At least two s<br>Quantity of La<br>Fastened-In-<br>Use the name<br>electric range<br>heating equip<br>Cuinmont<br>Clothes Drye<br>Use the large<br>Ranges, Ove<br>Note: Do not<br>General Der<br>Calculation<br>HVAC Systen<br>Air handling u<br>amount of elec                      |
| 13       Divide the         14       Minimum         14       Minimum         1       General         1       Salare For         1       Note: Do         Square For       VA Unit L         2       Small Appendice         2       Small Appendice         3       At least or         Quantity       At least or         Quantity       Fastened         3       At least or         Quantity       Fastened         3       Clothes I         4       Statened         5       Clothes I         5       Clothes I         6       Ranges,         7       General         6       Calculati         7       General         7       General <t< td=""><td>n Amperes<br/>a total VA by the voltage<br/>n Size Service and/or Feeder - N<br/>Single<br/>pe: UNIT T<br/>Lighting and Receptacle Load -<br/>not include open porches, garages<br/>coad =<br/>opliance Branch Circuits - NEC 2<br/>wo small appliance branch circuits<br/>of Small Appliance Circuits =<br/>Branch Circuits - NEC 220.52B a<br/>one laundry branch circuit must be i<br/>of Laundry Circuits =<br/>d-In-Place Appliances - NEC 220.<br/>nameplate rating. Do not include<br/>anges, clothes dryers, space-<br/>quipment, or air-conditioning<br/>+<br/>Dryer - NEC 220.54<br/>arger of 5,000 watts or the namepla<br/>Ovens, Cooktops, and Other Hom<br/>not include gas appliances which a<br/>Connected Load - Subtotal of Ita<br/>ion ( 1000<br/>/stem (Compare heat &amp; A/C, exc<br/>ing unit to be included for both scel<br/>of electric heating that can operate a<br/>HVAC Units<br/>#1 <u>D/X Unit w/ Condenser</u><br/>#2<br/>#3<br/>neral Connected Load - Total of Ita</td><td>Supply Voltage         IEC 240.6(A)         E-Family Dwel         (PE 'J'         NEC 220.84(C)(1)         unused or unfinished spa         20.84(C)(2)         must be included per NEC         10.11(C         53 and NEC 220.84(C)(3)/         Appliance         #1 Refrigerator         #2 Microwave         #3 Dishwashe         #4 Garbage Di         #5 Water Heat         #6 Garage Doi         #7         te rating.         usehold Cooking Appliance         #1 Electric Ra         #3         under 1,750 watts         Cooking Appliance         #1 Electric Ra         #2         #3         under 1,750 watts         Cooking Appliance         #1 Electric Ra         #2         #3         image for the time inder start         0 K VA       +         Iude the smaller of the time inder start         0 K VA       +         Iude the smaller of the tin</td><td>Ling LC<br/>ces not adap<br/>ces not adap<br/>c 210.11(C)(1)<br/>c)(2)<br/>(4)<br/>s<br/>r<br/>csposal<br/>ter<br/>or Opener<br/>nces Over 1,<br/>ances<br/>nge<br/>40% - NEC 2<br/>9010<br/>wo) NEC 220<br/>nclude the compressor.<br/>d Elec. Hea</td><td>Dad Calcu         Unit Squa         table for future us         1,685         3         2         1         Load         1200         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         900         20.82(B)         6 KVA ) =         0.18(A) and NEC         ompressor and mode         0</td><td>re Footage:<br/>se.<br/>sf<br/>VA/sf<br/>x 1500 VA (Ea.)<br/>x 1500 VA (Ea.)<br/>x 1500 VA (Ea.)<br/>T220.55<br/>220.84(C)(5)</td><td>13         14         14         14         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1</td><td>113.7<br/>125<br/>16855<br/>5055<br/>3000<br/>1500<br/>9984<br/>9984<br/>9984<br/>5000<br/>8000</td><td></td><td>13<br/>14<br/>1<br/>1<br/>1<br/>2<br/>3<br/>4<br/>5<br/>6<br/>7<br/>8<br/>9<br/>10</td><td>Minimum An<br/>Divide the tot<br/>Minimum Si<br/>Minimum Si<br/>General Lig<br/>Note: Do not<br/>Square Foota<br/>VA Unit Load<br/>Small Applia<br/>At least two s<br/>Quantity of Li<br/>Fastened-In<br/>Use the name<br/>electric range<br/>heating equip<br/>Squipment<br/>Clothes Drye<br/>Use the large<br/>Ranges, Ove<br/>Note: Do not<br/>General Der<br/>Calculation<br/>HVAC Syster<br/>Air handling to<br/>amount of ele</td></t<>                                                                                                                                           | n Amperes<br>a total VA by the voltage<br>n Size Service and/or Feeder - N<br>Single<br>pe: UNIT T<br>Lighting and Receptacle Load -<br>not include open porches, garages<br>coad =<br>opliance Branch Circuits - NEC 2<br>wo small appliance branch circuits<br>of Small Appliance Circuits =<br>Branch Circuits - NEC 220.52B a<br>one laundry branch circuit must be i<br>of Laundry Circuits =<br>d-In-Place Appliances - NEC 220.<br>nameplate rating. Do not include<br>anges, clothes dryers, space-<br>quipment, or air-conditioning<br>+<br>Dryer - NEC 220.54<br>arger of 5,000 watts or the namepla<br>Ovens, Cooktops, and Other Hom<br>not include gas appliances which a<br>Connected Load - Subtotal of Ita<br>ion ( 1000<br>/stem (Compare heat & A/C, exc<br>ing unit to be included for both scel<br>of electric heating that can operate a<br>HVAC Units<br>#1 <u>D/X Unit w/ Condenser</u><br>#2<br>#3<br>neral Connected Load - Total of Ita                                                  | Supply Voltage         IEC 240.6(A)         E-Family Dwel         (PE 'J'         NEC 220.84(C)(1)         unused or unfinished spa         20.84(C)(2)         must be included per NEC         10.11(C         53 and NEC 220.84(C)(3)/         Appliance         #1 Refrigerator         #2 Microwave         #3 Dishwashe         #4 Garbage Di         #5 Water Heat         #6 Garage Doi         #7         te rating.         usehold Cooking Appliance         #1 Electric Ra         #3         under 1,750 watts         Cooking Appliance         #1 Electric Ra         #2         #3         under 1,750 watts         Cooking Appliance         #1 Electric Ra         #2         #3         image for the time inder start         0 K VA       +         Iude the smaller of the time inder start         0 K VA       +         Iude the smaller of the tin                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Ling LC<br>ces not adap<br>ces not adap<br>c 210.11(C)(1)<br>c)(2)<br>(4)<br>s<br>r<br>csposal<br>ter<br>or Opener<br>nces Over 1,<br>ances<br>nge<br>40% - NEC 2<br>9010<br>wo) NEC 220<br>nclude the compressor.<br>d Elec. Hea             | Dad Calcu         Unit Squa         table for future us         1,685         3         2         1         Load         1200         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         900         20.82(B)         6 KVA ) =         0.18(A) and NEC         ompressor and mode         0                                                                                                        | re Footage:<br>se.<br>sf<br>VA/sf<br>x 1500 VA (Ea.)<br>x 1500 VA (Ea.)<br>x 1500 VA (Ea.)<br>T220.55<br>220.84(C)(5) | 13         14         14         14         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1 | 113.7<br>125<br>16855<br>5055<br>3000<br>1500<br>9984<br>9984<br>9984<br>5000<br>8000                            |   | 13<br>14<br>1<br>1<br>1<br>2<br>3<br>4<br>5<br>6<br>7<br>8<br>9<br>10       | Minimum An<br>Divide the tot<br>Minimum Si<br>Minimum Si<br>General Lig<br>Note: Do not<br>Square Foota<br>VA Unit Load<br>Small Applia<br>At least two s<br>Quantity of Li<br>Fastened-In<br>Use the name<br>electric range<br>heating equip<br>Squipment<br>Clothes Drye<br>Use the large<br>Ranges, Ove<br>Note: Do not<br>General Der<br>Calculation<br>HVAC Syster<br>Air handling to<br>amount of ele                                                                        |
| 13       Divide the         14       Minimum         14       Minimum         1       General         1       Note: Do         Square For       VA Unit L         2       Small Ap         2       At least to         Quantity of       At least to         Quantity of       Fastened         3       At least of         Quantity of       Fastened         3       At least of         Quantity of       Fastened         3       Clothes D         4       Statened         5       Clothes D         5       Clothes D         6       Statened         7       General         6       At least of         7       General         8       General         7       General         7       General         8       General         7       General <td>n Amperes<br/>a total VA by the voltage<br/>n Size Service and/or Feeder - N<br/>Single<br/>pe: UNIT T<br/>Lighting and Receptacle Load -<br/>not include open porches, garages<br/>ootage =<br/>load =<br/>opliance Branch Circuits - NEC 2<br/>wo small appliance branch circuits<br/>of Small Appliance Circuits =<br/>Branch Circuits - NEC 220.52B a<br/>one laundry branch circuit must be i<br/>of Laundry Circuits =<br/>d-In-Place Appliances - NEC 220.<br/>nameplate rating. Do not include<br/>anges, clothes dryers, space-<br/>quipment, or air-conditioning<br/><br/>Dryer - NEC 220.54<br/>arger of 5,000 watts or the namepla<br/>Ovens, Cooktops, and Other Hom<br/>not include gas appliances which a<br/>connected Load - Subtotal of Ital<br/>Demand Load - First 10 KVA at a<br/>ion ( 1000<br/>rstem (Compare heat &amp; A/C, exc<br/>ing unit to be included for both scent<br/>of electric heating that can operate a<br/>HVAC Units<br/>#1 <u>D/X Unit w/ Condenser</u><br/>#2<br/>#3<br/>neral Connected Load - Total of Ital</td> <td>Supply Voltage         IEC 240.6(A)         E-Family Dwel         (PE 'J'         NEC 220.84(C)(1)         unused or unfinished spa         20.84(C)(2)         must be included per NEC         10.11(C         53 and NEC 220.84(C)(3)/         Appliance         #1 Refrigerator         #2 Microwave         #3 Dishwashe         #4 Garbage Di         #5 Water Heat         #6 Garage Doi         #7         te rating.         usehold Cooking Appliance         #1 Electric Ra         #3         under 1,750 watts         Cooking Appliance         #1 Electric Ra         #2         #3         under 1,750 watts         Cooking Appliance         #1 Electric Ra         #2         #3         image for the time inder start         0 K VA       +         Iude the smaller of the time inder start         0 K VA       +         Iude the smaller of the tin</td> <td>Ling LC<br/>ces not adap<br/>ces not adap<br/>c 210.11(C)(1)<br/>c)(2)<br/>(4)<br/>s<br/>r<br/>csposal<br/>ter<br/>or Opener<br/>nces Over 1,<br/>ances<br/>nge<br/>40% - NEC 2<br/>9010<br/>wo) NEC 220<br/>nclude the compressor.<br/>d Elec. Hea</td> <td>Dad Calcu         Unit Squa         table for future us         1,685         3         2         1         Load         1200         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         900         20.82(B)         6 KVA ) =         0.18(A) and NEC         ompressor and mode         0</td> <td>re Footage:<br/>se.<br/>sf<br/>VA/sf<br/>x 1500 VA (Ea.)<br/>x 1500 VA (Ea.)<br/>x 1500 VA (Ea.)<br/>T220.55<br/>220.84(C)(5)</td> <td>13       14       14       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1</td> <td>113.7<br/>125<br/>1685<br/>5055<br/>3000<br/>1500<br/>1500<br/>9984<br/>9984<br/>9984<br/>32539<br/>19016<br/>32539<br/>19016</td> <td></td> <td>13<br/>14<br/>1<br/>1<br/>1<br/>2<br/>3<br/>4<br/>5<br/>6<br/>7<br/>8<br/>9<br/>10</td> <td>Minimum An<br/>Divide the tot<br/>Minimum Si<br/>Minimum Si<br/>Minimum Si<br/>General Lig<br/>Note: Do not<br/>Square Foota<br/>VA Unit Load<br/>Small Appli<br/>At least two s<br/>Quantity of S<br/>Laundry Bra<br/>At least two s<br/>Quantity of L<br/>Fastened-In<br/>Use the nam<br/>electric range<br/>heating equip<br/>Squinment<br/>Clothes Drye<br/>Use the large<br/>Ranges, Ove<br/>Note: Do not<br/>General Der<br/>Calculation<br/>HVAC Syste<br/>Air handling to<br/>amount of election</td> | n Amperes<br>a total VA by the voltage<br>n Size Service and/or Feeder - N<br>Single<br>pe: UNIT T<br>Lighting and Receptacle Load -<br>not include open porches, garages<br>ootage =<br>load =<br>opliance Branch Circuits - NEC 2<br>wo small appliance branch circuits<br>of Small Appliance Circuits =<br>Branch Circuits - NEC 220.52B a<br>one laundry branch circuit must be i<br>of Laundry Circuits =<br>d-In-Place Appliances - NEC 220.<br>nameplate rating. Do not include<br>anges, clothes dryers, space-<br>quipment, or air-conditioning<br><br>Dryer - NEC 220.54<br>arger of 5,000 watts or the namepla<br>Ovens, Cooktops, and Other Hom<br>not include gas appliances which a<br>connected Load - Subtotal of Ital<br>Demand Load - First 10 KVA at a<br>ion ( 1000<br>rstem (Compare heat & A/C, exc<br>ing unit to be included for both scent<br>of electric heating that can operate a<br>HVAC Units<br>#1 <u>D/X Unit w/ Condenser</u><br>#2<br>#3<br>neral Connected Load - Total of Ital | Supply Voltage         IEC 240.6(A)         E-Family Dwel         (PE 'J'         NEC 220.84(C)(1)         unused or unfinished spa         20.84(C)(2)         must be included per NEC         10.11(C         53 and NEC 220.84(C)(3)/         Appliance         #1 Refrigerator         #2 Microwave         #3 Dishwashe         #4 Garbage Di         #5 Water Heat         #6 Garage Doi         #7         te rating.         usehold Cooking Appliance         #1 Electric Ra         #3         under 1,750 watts         Cooking Appliance         #1 Electric Ra         #2         #3         under 1,750 watts         Cooking Appliance         #1 Electric Ra         #2         #3         image for the time inder start         0 K VA       +         Iude the smaller of the time inder start         0 K VA       +         Iude the smaller of the tin                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Ling LC<br>ces not adap<br>ces not adap<br>c 210.11(C)(1)<br>c)(2)<br>(4)<br>s<br>r<br>csposal<br>ter<br>or Opener<br>nces Over 1,<br>ances<br>nge<br>40% - NEC 2<br>9010<br>wo) NEC 220<br>nclude the compressor.<br>d Elec. Hea             | Dad Calcu         Unit Squa         table for future us         1,685         3         2         1         Load         1200         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         900         20.82(B)         6 KVA ) =         0.18(A) and NEC         ompressor and mode         0                                                                                                        | re Footage:<br>se.<br>sf<br>VA/sf<br>x 1500 VA (Ea.)<br>x 1500 VA (Ea.)<br>x 1500 VA (Ea.)<br>T220.55<br>220.84(C)(5) | 13       14       14       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1                | 113.7<br>125<br>1685<br>5055<br>3000<br>1500<br>1500<br>9984<br>9984<br>9984<br>32539<br>19016<br>32539<br>19016 |   | 13<br>14<br>1<br>1<br>1<br>2<br>3<br>4<br>5<br>6<br>7<br>8<br>9<br>10       | Minimum An<br>Divide the tot<br>Minimum Si<br>Minimum Si<br>Minimum Si<br>General Lig<br>Note: Do not<br>Square Foota<br>VA Unit Load<br>Small Appli<br>At least two s<br>Quantity of S<br>Laundry Bra<br>At least two s<br>Quantity of L<br>Fastened-In<br>Use the nam<br>electric range<br>heating equip<br>Squinment<br>Clothes Drye<br>Use the large<br>Ranges, Ove<br>Note: Do not<br>General Der<br>Calculation<br>HVAC Syste<br>Air handling to<br>amount of election       |
| 13       Divide the         14       Minimum         14       Minimum         11       General         12       General         11       Note: Do         Square For       VA Unit L         2       Small Ap         2       At least to         Quantity of       At least of         Quantity of       Fastened         3       At least of         Quantity of       Fastened         3       At least of         Quantity of       Fastened         3       Clothes D         4       Statened         5       Clothes D         5       Clothes D         6       Statened         7       General         6       At least of         7       General                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | n Amperes<br>a total VA by the voltage<br>n Size Service and/or Feeder - N<br>Single<br>pe: UNIT T<br>Lighting and Receptacle Load -<br>not include open porches, garages<br>coad =<br>opliance Branch Circuits - NEC 2<br>wo small appliance branch circuits<br>of Small Appliance Circuits =<br>Branch Circuits - NEC 220.52B a<br>one laundry branch circuit must be i<br>of Laundry Circuits =<br>d-In-Place Appliances - NEC 220.<br>nameplate rating. Do not include<br>anges, clothes dryers, space-<br>quipment, or air-conditioning<br>+<br>Dryer - NEC 220.54<br>arger of 5,000 watts or the namepla<br>Ovens, Cooktops, and Other Hom<br>not include gas appliances which a<br>Connected Load - Subtotal of Ita<br>ion ( 1000<br>/stem (Compare heat & A/C, exc<br>ing unit to be included for both scel<br>of electric heating that can operate a<br>HVAC Units<br>#1 <u>D/X Unit w/ Condenser</u><br>#2<br>#3<br>neral Connected Load - Total of Ita                                                  | Supply Voltage         IEC 240.6(A)         E-Family Dwel         (PE 'J'         NEC 220.84(C)(1)         unused or unfinished spa         20.84(C)(2)         must be included per NEC         10.11(C         53 and NEC 220.84(C)(3)/         Appliance         #1 Refrigerator         #2 Microwave         #3 Dishwashe         #4 Garbage Di         #5 Water Heat         #6 Garage Doi         #7         te rating.         usehold Cooking Appliance         #1 Electric Ra         #3         under 1,750 watts         Cooking Appliance         #1 Electric Ra         #2         #3         under 1,750 watts         Cooking Appliance         #1 Electric Ra         #2         #3         image for the time inder start         0 K VA       +         Iude the smaller of the time inder start         0 K VA       +         Iude the smaller of the tin                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Ling LC<br>ces not adap<br>ces not adap<br>c 210.11(C)(1)<br>c)(2)<br>(4)<br>s<br>r<br>r<br>sposal<br>ter<br>or Opener<br>nces Over 1,<br>ances<br>nge<br>40% - NEC 2<br>9010<br>wo) NEC 220<br>nclude the compressor.<br>d Elec. Hea<br>7500 | Dad Calcu         Unit Squa         table for future us         1,685         3         2         1         Load         1200         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         4500         1200         684         900         20.82(B)         6 KVA ) =         0.18(A) and NEC         ompressor and mode         0                                                                                                        | re Footage:<br>se.<br>sf<br>VA/sf<br>x 1500 VA (Ea.)<br>x 1500 VA (Ea.)<br>x 1500 VA (Ea.)<br>T220.55<br>220.84(C)(5) | 13       14       14       1       1       1       1       3       4       5       6       7       8       9       10       11                                                                                                                                                                                                                                                                                                                                                                                                                                              | 113.7<br>125<br>1685<br>5055<br>3000<br>1500<br>1500<br>9984<br>9984<br>5000<br>32539<br>19016<br>32539<br>19016 |   | 13<br>14<br>1<br>1<br>2<br>3<br>4<br>5<br>6<br>7<br>8<br>9<br>9<br>10<br>11 | Minimum Ar<br>Divide the tot<br>Minimum Si<br>Minimum Si<br>Minimum Si<br>General Lig<br>Note: Do not<br>Square Foota<br>VA Unit Load<br>Small Applia<br>At least two s<br>Quantity of S<br>Laundry Bra<br>At least two s<br>Quantity of Li<br>Fastened-In-<br>Use the name<br>electric range<br>heating equip<br>Cauloment<br>Clothes Drye<br>Use the large<br>Ranges, Ove<br>Note: Do not<br>General Der<br>Calculation<br>HVAC Syster<br>Air handling u<br>amount of ele        |

10

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FEEDER CALCULATION ARE ASSUMED VALUES AND SHOULD BE VERIFIED WITH ACTUAL HVAC SYSTEM TO BE INSTALLED. NOTIFY ENGINEER IF ACTUAL LOADS ARE GREATER THAN THOSE SHOWN IN THE CALCULATIONS.

|                                                  | Single-Family Dwelling Load Calculation UNIT TYPES 'E' & 'F' Unit Square Footage:     |               |                   |                 | 1495 |        |
|--------------------------------------------------|---------------------------------------------------------------------------------------|---------------|-------------------|-----------------|------|--------|
|                                                  | IT TYPES 'E' & 'F' Unit Square Footage:<br>tacle Load - NEC 220.84(C)(1)              |               |                   |                 |      | 1435   |
| -                                                |                                                                                       | es not adants | ble for future us | •               |      |        |
| n porches, galages, i                            | porches, garages, unused or unfinished spaces not adaptable for future use.  1,495 sf |               |                   |                 |      | 4485   |
|                                                  |                                                                                       |               | 3                 | VA/sf           |      |        |
| ch Circuits - NEC 220                            | ).84(C)(2)                                                                            |               |                   | 11051           |      |        |
|                                                  | nust be included per NEC                                                              | 210.11(C)(1)  |                   |                 | 2    | 3000   |
| nce Circuits =                                   |                                                                                       | (•,(.),       | 2                 | x 1500 VA (Ea.) |      |        |
| ts - NEC 220.52B and                             | d NEC 220.84(C)(2)                                                                    |               |                   |                 |      |        |
| ch circuit must be included per NEC 210.11(C)(2) |                                                                                       |               |                   |                 |      | 1500   |
| uits =                                           | , ,                                                                                   |               | 1                 | x 1500 VA (Ea.) |      |        |
| liances - NEC 220.5                              | 3 and NEC 220.84(C)(3)/(                                                              | 4)            |                   |                 |      |        |
| . Do not include                                 | Appliances                                                                            | -             | Load              |                 |      |        |
| lryers, space-                                   | #1 Refrigerator                                                                       |               | 1200              |                 |      |        |
| -conditioning                                    | #2 Microwave                                                                          |               | 1200              |                 |      |        |
|                                                  | #3 Dishwasher                                                                         |               | 1200              |                 | 4    | 9984   |
|                                                  | #4 Garbage Dis                                                                        | posal         | 684               |                 |      |        |
|                                                  | #5 Water Heate                                                                        |               | 4500              |                 |      |        |
|                                                  | #6 Garage Doo                                                                         | r Opener      | 1200              |                 |      |        |
|                                                  | #7                                                                                    |               |                   |                 |      |        |
| ).54                                             |                                                                                       |               |                   |                 |      |        |
| atts or the nameplate                            | e rating.                                                                             |               | Dryer Type        |                 | 5    | 5000   |
|                                                  |                                                                                       |               | Electric          |                 |      |        |
| ps, and Other Hous                               | ehold Cooking Applian                                                                 | ces Over 1,7  | 50 Watts - NEC    | T220.55         |      |        |
| appliances which are                             |                                                                                       |               |                   |                 |      |        |
|                                                  | Cooking Applia                                                                        | nces          | Load              |                 |      | 0000   |
|                                                  | #1 Electric Ran                                                                       |               | 8000              |                 | 6    | 8000   |
| #2                                               |                                                                                       |               |                   |                 |      |        |
| #2                                               |                                                                                       |               |                   |                 |      |        |
| ad - Subtotal of Iter                            | ns1-6                                                                                 | ;             |                   |                 | 7    | 31969  |
|                                                  |                                                                                       |               |                   |                 |      | 01000  |
|                                                  | 0% plus Remainder at 4                                                                |               |                   |                 | 8    | 18788  |
| ( 10000                                          |                                                                                       |               | KVA)=             |                 |      |        |
|                                                  | de the smaller of the tw                                                              |               |                   |                 |      |        |
|                                                  | arios. Heat pumps shall in                                                            |               | npressor and ma   | aximum          |      |        |
|                                                  | multaneously with the con                                                             |               |                   |                 |      | 05.00  |
| nits                                             |                                                                                       | Elec. Heat    | Load              |                 | 9    | 8580   |
| w/ Condenser                                     | 1080                                                                                  | 7500          | 8580              |                 |      |        |
|                                                  |                                                                                       |               | 0                 |                 |      |        |
|                                                  | tama 7.9.0                                                                            |               | U                 |                 |      | 105.10 |
| ed Load - Total of I                             | uenns / & 9                                                                           |               |                   |                 | 10   | 40549  |
| Load - Total of Iter                             | n s 8 & 9                                                                             |               |                   |                 | 11   | 27368  |
|                                                  |                                                                                       |               |                   |                 |      |        |
| e voltage                                        |                                                                                       |               |                   |                 | 13   | 114.0  |
|                                                  | Supply Voltage                                                                        | 240/12        | 20V-1Ph           |                 |      |        |
| and/or Feeder - NEC 240.6(A)                     |                                                                                       |               |                   |                 |      | 125    |
|                                                  |                                                                                       |               |                   |                 | 14   |        |
| Single-                                          | Family Dwell                                                                          | ing Lo        | ad Calcu          | lation          |      |        |
|                                                  | -                                                                                     | <u> </u>      |                   | re Footage:     |      | 1205   |
|                                                  |                                                                                       |               | onn oqua          | re rootage.     |      | 1205   |
| eceptacle Load - N                               | IEC 220.84(C)(1)                                                                      |               |                   |                 |      |        |
|                                                  |                                                                                       |               |                   |                 |      |        |

|                                                                               |               | 1            | Unit Square Footage: |                 |                 | 1205 |       |  |
|-------------------------------------------------------------------------------|---------------|--------------|----------------------|-----------------|-----------------|------|-------|--|
| eceptacle Load - NEC 220.84(C)(1)                                             |               |              |                      |                 |                 |      |       |  |
| n porches, garages, unused or unfinished spaces not adaptable for future use. |               |              |                      |                 |                 | 1    | 3615  |  |
|                                                                               |               |              | 1,205                | sf              |                 | 0010 |       |  |
|                                                                               |               |              |                      | 3               | VA/sf           |      |       |  |
| h Circuits - NEC 220.84(C)(2)                                                 |               |              |                      |                 |                 |      |       |  |
| nce branch circuits must be included per NEC 210.11(C)(1)                     |               |              |                      |                 | 2               | 3000 |       |  |
| ce Circuits =                                                                 |               |              |                      | 2               | x 1500 VA (Ea.) |      |       |  |
| s - NEC 220.52B and NEC 220.84(C)(2)                                          |               |              |                      |                 |                 |      | 4500  |  |
| ch circuit must be in                                                         | cluded per NE | -C 210.11(C) | (2)                  | 4               | 4700.111        | 3    | 1500  |  |
| its =                                                                         |               | 00.04/00     |                      | 1               | x 1500 VA (Ea.) |      |       |  |
| iances - NEC 220.53<br>. Do not include                                       |               |              |                      |                 |                 |      |       |  |
| . Do not include<br>ryers, space-                                             |               | Appliances   |                      | Load            | i l             |      |       |  |
| conditioning                                                                  |               | Refrigerator |                      | 1200            |                 |      |       |  |
|                                                                               |               | Microwave    |                      | 1200            |                 |      | 0004  |  |
|                                                                               |               | Dishwasher   |                      | 1200            |                 | 4    | 9984  |  |
|                                                                               |               | Garbage Dis  |                      | 684             |                 |      |       |  |
|                                                                               | #5            | Water Heate  | ŧ٢                   | 4500            | ļ               |      |       |  |
|                                                                               | #6            | Garage Door  | <sup>r</sup> Opener  | 1200            |                 |      |       |  |
|                                                                               | #7            |              |                      |                 |                 |      |       |  |
| ).54                                                                          | _             | _            | _                    |                 |                 |      |       |  |
| atts or the nameplate                                                         | rating.       |              |                      | Dryer Type      | , l             | 5    | 5000  |  |
|                                                                               |               |              |                      | Electric        |                 |      |       |  |
| ps, and Other Hous                                                            | ehold Cook    | ing Appliand | ces Over 1,7         | 50 Watts - NEC  | T220.55         |      |       |  |
| appliances which are                                                          | e under 1,750 | watts        |                      |                 |                 |      |       |  |
|                                                                               | Coo           | king Appliar | nces                 | Load            |                 | 6    | 8000  |  |
| #1 Electric Range 8000                                                        |               |              |                      |                 | J               | 0000 |       |  |
| #2                                                                            |               |              |                      |                 |                 |      |       |  |
|                                                                               | #3            |              |                      |                 |                 |      |       |  |
| ad - Subtotal of Iten                                                         | ns 1-6        |              |                      |                 |                 | 7    | 31099 |  |
| - First 10 KVA at 10                                                          |               |              | 0% - NEC 22          | 0.82 <b>(B)</b> |                 | 8    | 18440 |  |
| ( 10000                                                                       |               | +            |                      | KVA)=           |                 |      |       |  |
| e heat & A/C, exclu                                                           |               |              |                      |                 |                 |      |       |  |
| luded for both scena                                                          |               |              |                      | npressor and m  | aximum          |      |       |  |
| g that can operate si                                                         | -             |              |                      |                 |                 |      |       |  |
| nits                                                                          |               | HP or Cond   |                      | Load            | ,               | 9    | 8580  |  |
| v/ Condenser                                                                  | 1080          |              | 7500                 | 8580            |                 |      |       |  |
|                                                                               |               |              |                      | 0               |                 |      |       |  |
|                                                                               |               |              |                      | 0               |                 |      |       |  |
| ed Load - Total of Items 7 & 9                                                |               |              |                      |                 |                 | 10   | 39679 |  |
| Load - Total of Items 8 & 9                                                   |               |              |                      |                 |                 | 11   | 27020 |  |
| a voltorro                                                                    |               |              |                      |                 |                 | 13   | 112.6 |  |
| e voltage Supply Voltage 240/120V-1Ph                                         |               |              |                      |                 |                 | 10   | 112.0 |  |
| and/or Feeder - NEC 240.6(A)                                                  |               |              |                      |                 |                 | 14   | 125   |  |
|                                                                               |               |              |                      |                 |                 |      |       |  |
|                                                                               |               |              |                      |                 |                 |      |       |  |

HVAC DESIGN TO BE COMPLETED BY OTHERS, LOADS SHOWN IN

### FEEDER SCHEDULE THHN/THWN COPPER CONDUCTORS W/ EG CONDUCTOR XHHW ALUMINUM CONDUCTORS W/ EG CONDUCTOR CONDUCTORS & GROUND CODE SETS CONDUCTORS RACEWAY S123 1-1/2" 3#1 (CU) NOTES:

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ALL CONDUCTORS AMPACITY BASED ON THE NEC TABLE 310-16 FOR CONDUCTORS W/ 75°C INSULATION. ALL RACEWAY SIZES (EMT/RMC/PVC 40) BASED ON THE NEC TABLE

4(CHAPTER 9), 40% FILL COLUMN. ELECTRICAL CONTRACTOR TO VERIFY ALL EQUIPMENT CONDUCTOR

TERMINATION TEMPERATURE RATINGS (IE, 60°C OR 75°C). ADJUST CONDUCTOR AMPACITY AND CONDUIT SIZES ACCORDINGLY. VERIFY MAXIMUM NO. OF SETS OF SERVICE ENTRANCE CONDUCTORS

ALLOWED W/ UTILITY CO. EQUIPMENT GROUNDING CONDUCTORS BASED ON T250.122. GROUND

TO BE ADJUSTED PER T250.66 FOR SEPARATELY DERIVED SYSTEMS. ALUMINUM FEEDERS NOT TO BE USED ON TRANSFORMER SECONDARY CONDUCTORS.

### VOLTAGE DROP CHART VOLTAGE DROP WIRING SCHEDULE FOR 1Ø LOADCENTER FEEDERS

| FEEDER<br>CIRCUIT<br>RATING<br>(AMPS) | MAX LENGTH<br>OF FEEDER<br>(FEET) | FEEDER WIRE (AWG) &<br>CONDUIT SIZE (IN.) |  |  |  |
|---------------------------------------|-----------------------------------|-------------------------------------------|--|--|--|
| 125A                                  | 150                               | REFER TO FEEDER SCHEDULE                  |  |  |  |
|                                       | 225                               | (3)#1/0, (1)#4G - 1-1/2"C.                |  |  |  |
|                                       | 300                               | (3)#2/0, (1)#4G - 2"C.                    |  |  |  |
| 150A                                  | 150                               | REFER TO FEEDER SCHEDULE                  |  |  |  |
|                                       | 225                               | (3)#2/0, (1)#4G - 2"C.                    |  |  |  |
|                                       | 300                               | (3)#3/0, (1)#4G - 2"C.                    |  |  |  |

NOTES: PROVIDE FEEDERS FOR LOADCENTERS AS INDICATED IN THE TABLE ABOVE. THE CONTRACTOR MAY PERFORM VOLTAGE DROP CALCULATIONS BASED ON ACTUAL INSTALLED FEEDER ROUTING AND PROVIDE CONDUCTORS APPROPRIATELY SIZED TO LIMIT VOLTAGE DROP TO A MAXIMUM OF 3%.

CONDUCTOR SIZES ARE BASED ON SOLID COPPER CONDUCTORS FOR WIRES SMALLER THAN #6 AND STRANDED COPPER CONDUCTORS FOR WIRES #6 AND LARGER, IN A SINGLE METAL CONDUIT.

LIMITS FOR CONDUCTOR LENGTH SHOWN ARE BASED ON A MAXIMUM OF 3% VOLTAGE DROP TO COMPLY WITH THE NEC FOR CIRCUITS LOADED UP TO 80% OF THE BREAKER RATING. FIELD VERIFY EXACT FEEDER LENGTHS AND PROVIDE CONDUCTORS APPROPRIATELY SIZED TO LIMIT VOLTAGE DROP TO 3%.

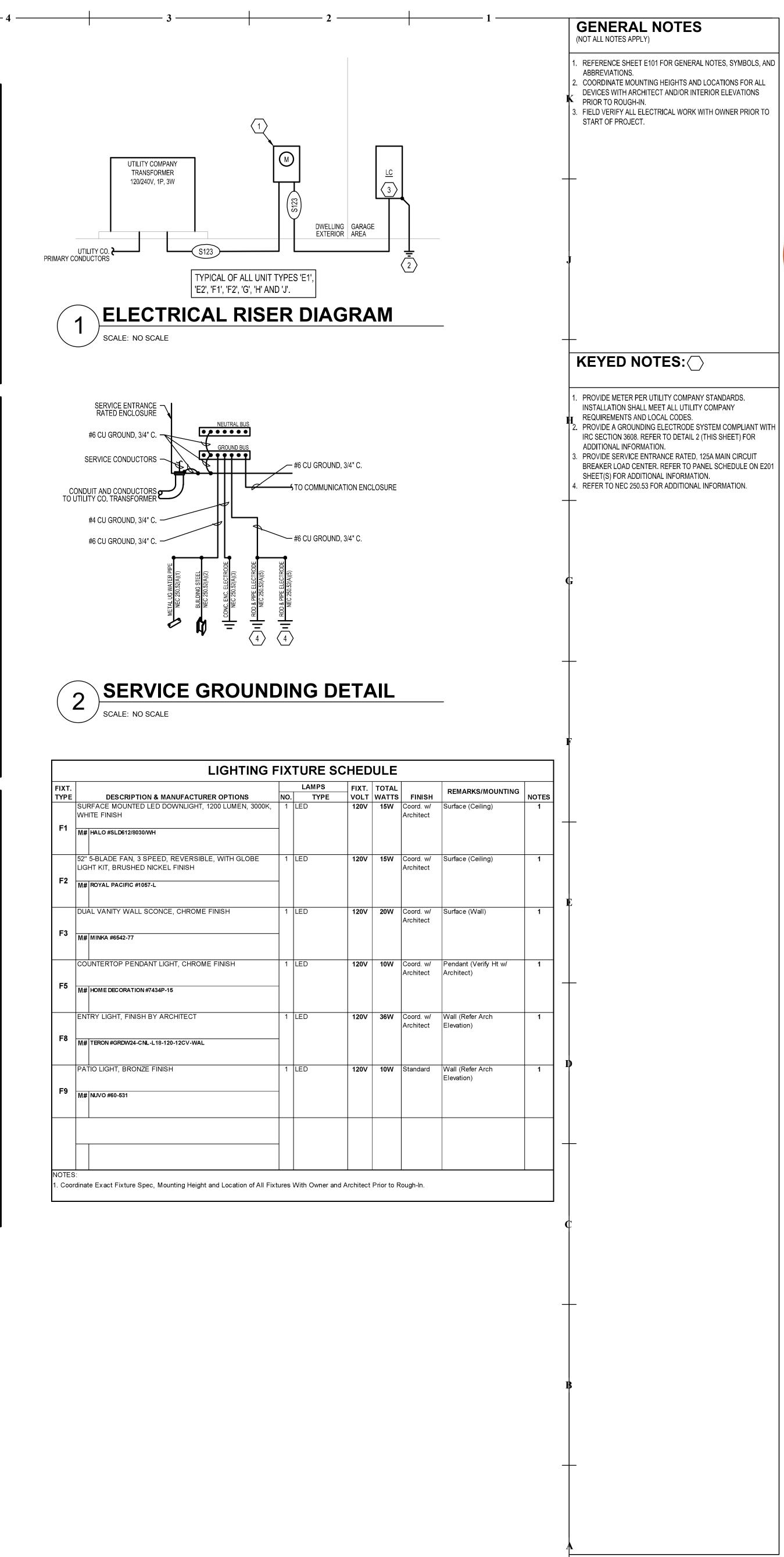
| VOLTAGE DROP CHART                                             |                       |                                            |      |      |      |      |  |  |  |
|----------------------------------------------------------------|-----------------------|--------------------------------------------|------|------|------|------|--|--|--|
| BRANCH CIRCUIT VOLTAGE DROP WIRING<br>SCHEDULE FOR 1Ø CIRCUITS |                       |                                            |      |      |      |      |  |  |  |
| BRANCH<br>CIRCUIT<br>RATING<br>(AMPS)                          | WIRE<br>SIZE<br>(AWG) | MAXIMUM LENGTH OF BRANCH<br>CIRCUIT (FEET) |      |      |      |      |  |  |  |
|                                                                |                       | 120V                                       | 208V | 240V | 277V | 480V |  |  |  |
| 20A                                                            | #12                   | 50                                         | 90   | 110  | 125  | 200  |  |  |  |
|                                                                | #10                   | 80                                         | 150  | 175  | 200  | 350  |  |  |  |
|                                                                | #8                    | 140                                        | 230  | 280  | 320  | 550  |  |  |  |
|                                                                | #6                    | 215                                        | 375  | 430  | 500  | 870  |  |  |  |
| 30A                                                            | #10                   | 50                                         | 100  | 110  | 130  | 225  |  |  |  |
|                                                                | #8                    | 80                                         | 160  | 180  | 210  | 360  |  |  |  |
|                                                                | #6                    | 135                                        | 250  | 280  | 325  | 560  |  |  |  |
|                                                                | #4                    | 220                                        | 400  | 450  | 525  | 910  |  |  |  |

NOTES: PROVIDE BRANCH CIRCUIT CONDUCTORS AS INDICATED IN THE TABLE ABOVE FOR ALL LIGHTING AND RECEPTACLE BRANCH CIRCUITS. WHERE BRANCH CIRCUITS SERVE DEDICATED EQUIPMENT, THE CONTRACTOR MAY PERFORM VOLTAGE DROP CALCULATIONS BASED ON ACTUAL EQUIPMENT CONNECTED LOAD AND PROVIDE CONDUCTORS

APPROPRIATELY SIZED TO LIMIT VOLTAGE DROP TO A MAXIMUM OF 3% CONDUCTOR SIZES ARE BASED ON SOLID COPPER CONDUCTORS FOR WIRES SMALLER THAN #6 AND STRANDED COPPER CONDUCTORS FOR WIRES #6 AND LARGER, IN A SINGLE METAL CONDUIT.

LIMITS FOR CONDUCTOR LENGTH SHOWN ARE BASED ON A MAXIMUM OF 3% VOLTAGE DROP TO COMPLY WITH THE NEC FOR CIRCUITS LOADED UP TO 80% OF THE BRANCH BREAKER RATING. FIELD VERIFY EXACT BRANCH CIRCUIT LENGTHS AND PROVIDE CONDUCTORS APPROPRIATELY SIZED TO LIMIT VOLTAGE DROP TO 3%.

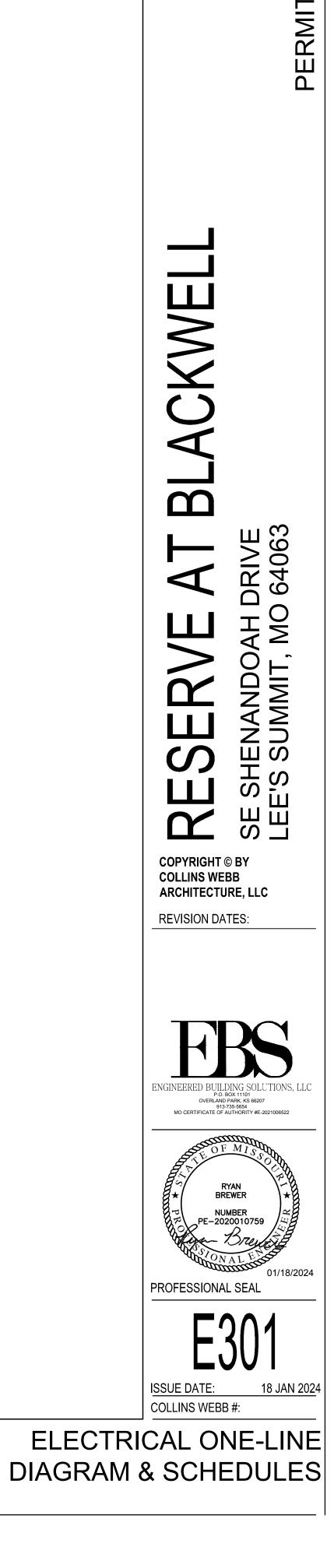
UNLESS NOTED OTHERWISE, WIRE SIZES CALLED OUT IN PANEL SCHEDULES DO NOT ACCOUNT FOR VOLTAGE DROP. CONTRACTOR SHALL INCREASE WIRE SIZES AS REQUIRED UTILIZING VOLTAGE DROP TABLE PROVIDED.





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DOCUMEN



### 16000 - ELECTRICAL

DIVISION 16 OF THE SPECIFICATIONS COVERS ALL ELECTRICAL WORK FOR THE PROJECT. WORK SHALL INCLUDE LABOR, MATERIAL AND ACCESSORIES NECESSARY TO ACCOMPLISH THE WORK AS SPECIFIED AND SHOWN ON THE DRAWINGS, INCLUDING CONNECTION AND CHECKOUTS OF EQUIPMENT FURNISHED BY OTHERS (OTHER TRADES, THE OWNER AND OTHER OR AS REQUIRED

THE ARCHITECTURAL SPECIFICATIONS AND DRAWINGS INCLUDING THE GENERAL A PART OF THESE SPECIFICATIONS AND ELECTRICAL DRAWINGS. THIS TRADE SHALL CONSULT THEM FOR INSTRUCTIONS WHICH APPLY. DRAWINGS INDICATE

THE GENERAL ARRANGEMENT OF THE ELECTRICAL LAYOUT AND WORK INCLUDED. ELECTRICIAN SHALL FOLLOW DRAWINGS IN LAYOUT THE ELECTRICAL WORK AND INSTALLATION STUDIES ARE REQUIRED TO COORDINATE THE ELECTRICAL WORK CONSULT THE DRAWINGS AND LAYOUTS OF OTHER TRADES TO VERIFY LOCATION WITH THE WORK OF OTHER TRADES. PREPARE COORDINATION DRAWINGS AT AND SPACES IN WHICH WORK WILL BE INSTALLED. CODES, PERMITS, INSPECTION AND COMMISSIONING

INSTALLATION SHALL COMPLY WITH ALL LAWS APPLYING TO ELECTRICAL WORK IN EFFECT, INCLUDING THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (N.E.C.), THE NATIONAL ELECTRICAL SAFETY CODE, ALL LOCAL GOVERNING CODES AND ORDINANCES, WITH THE REGULATIONS OF THE SERVING ELECTRICAL UTILITY COMPANY. PROVIDE ALL REQUIRED PERMITS AND INCLUDE THE COST OF PROVIDE APPROVED SHOP DRAWINGS TO ALL REQUIRED DISCIPLINES AND SAME IN THE COST OF THE PROJECT. OBTAIN AND PAY FOR (WITHOUT ADDITIONAL EXPENSE TO THE OWNER) ALL REQUIRED INSPECTIONS AND REVIEWS. PROVIDE FOR AND PAY ALL EXPENSES (WITHOUT ADDITIONAL EXPENSE DIFFERS FROM CONTEMPLATED DESIGN, MAKE NECESSARY ADJUSTMENTS TO TO THE OWNER) ASSOCIATED WITH LIGHTING AND LIGHTING CONTROLS COMMISSIONING. ALL COMMISSIONING DOCUMENTATION SHALL BE CERTIFIED AND GIVEN TO OWNER AND DESIGN PROFESSIONAL.

THE FOLLOWING INDUSTRY STANDARDS AS APPLICABLE TO ELECTRICAL WORK SHALL APPLY TO THE WORK OF THIS DIVISION EXCEPT THAT, WHERE THE REQUIREMENTS OF THESE SPECIFICATIONS ARE MORE THAN THE LISTED STANDARD, THESE SPECIFICATIONS SHALL TAKE PRECEDENCE:

### UL - UNDERWRITERS' LABORATORIES NEMA - NATIONAL ELECTRICAL MANUFACTURERS' ASSOCIATION

NECA - NATIONAL ELECTRICAL CONTRACTOR'S ASSOCIATION ANSI - AMERICAN NATIONAL STANDARDS INSTITUTE ASTM - AMERICAN SOCIETY OF TESTING MATERIALS.

ALL MATERIALS SHALL BE NEW, UL LISTED AND LABELED WHERE LABELED MATERIALS ARE AVAILABLE, UNDAMAGED AND FREE OF DEFECTS AT TIME OF INSTALLATION. MATERIALS OR EQUIPMENT DAMAGED IN SHIPMENT OR OTHERWISE DAMAGED PRIOR TO OR DURING INSTALLATION SHALL NOT BE REPAIRED AT THE JOB SITE, BUT SHALL BE REPLACED WITH NEW MATERIALS. WHEN THE MANUFACTURER'S NAME APPEARS IN THESE SPECIFICATIONS AND DRAWINGS, IT SHALL BE CONSTRUED THAT THE MANUFACTURER HAS TO MEET THE FULL REQUIREMENTS OF THE SPECIFICATIONS AND DRAWINGS.

### SUBMIT SHOP DRAWINGS AND PRODUCT DATA FOR EQUIPMENT TO THE

ARCHITECT FOR ENGINEER'S REVIEW ELECTRONICALLY OR HARD COPIES. INCLUDE SUFFICIENT INFORMATION TO INDICATE COMPLETE COMPLIANCE WITH SPECIFICATIONS. PROVIDE SUBMITTALS AS EARLY AS REQUIRED TO SUPPORT THE PROJECT SCHEDULE. ALLOW ONE WEEK FOR ENGINEER REVIEW TIME. THE ENGINEER'S SUBMITTAL REVIEWS WILL NOT RELIEVE THE CONTRACTOR FROM RESPONSIBILITY FOR ERRORS IN DIMENSIONS, DETAILS, SIZE OF MEMBERS, OR QUANTITIES: OR FOR OMITTING COMPONENTS OR FITTINGS: OR FOR NOT COORDINATING ITEMS WITH ACTUAL BUILDING CONDITIONS AND/OR OTHER TRADES.

ACCUMULATE DURING THE PROGRESS OF THE JOB, THE FOLLOWING DATA IN DUPLICATE, AND PREPARE IN A NEAT BROCHURE OR PACKET FOLDER TO BE TURNED OVER TO THE OWNER AT SUBSTANTIAL COMPLETION: RECORD DRAWINGS PER ABOVE.

ALL WARRANTIES, GUARANTEES, AND MANUFACTURER'S DIRECTION ON EQUIPMENT & MATERIAL FURNISHED.

COMPLETE PLAIN ENGLISH STEP-BY-STEP OPERATING INSTRUCTIONS FOR THE ELECTRICAL SYSTEM. ONE COPY OF THESE INSTRUCTIONS SHALL BE FRAMED AND POSTED AS DIRECTED ON THE PREMISES.

CERTIFIED LIGHTING AND LIGHTING CONTROLS COMMISSIONING AS REQUIRED BY UNLESS OTHERWISE INDICATED. CURRENTLY ADOPTED ENERGY CODE REQUIREMENTS.

### MANUFACTURERS' NAMES AND CATALOG NUMBERS

MANUFACTURER'S NAME AND MODEL OR CATALOG NUMBERS. USE OF NAMES TRAY PENETRAIONS THROUGH FIRE-RATED WALLS AND FLOORS. SEALANTS AND PROPER TYPE, SIZE AND NUMBER AS REQUIRED TO ACCOMPLISH SPECIFIED AND CATALOG NUMBERS DOES NOT INDICATE THAT THE EQUIPMENT SPECIFIED IN ACCESSORIES SHALL HAVE FIRE-RESISTANCE RATINGS INDICATED, AS NECESSARILY AN "OFF THE SHELF" ITEM. VARIANCES MAY BE DUE TO REQUIREMENT OF DESIRED FINISH, MATERIAL OR OTHER MODIFICATION.

IN THE CASE OF PANELBOARDS, SAFETY SWITCHES AND OTHER EQUIPMENT REQUIRING WIRE AND CABLE TERMINATIONS, ASCERTAIN THAT LUG SIZES AND WIRING GUTTERS OR WIRING SPACE ALLOWED IS PROPER FOR THE WIRES AND CABLES CONTAINED THEREIN.

WHEN APPROVAL IS GIVEN FOR THE USE OF EQUIPMENT DIFFERING FROM THAT SHOWN ON DRAWINGS IN REGARD TO FOUNDATIONS, SPACE FOR PIPING, DUCTWORK, WIRING, INSULATION, ETC. CHANGES REQUIRED TO ACCOMPLISH SUCH DIFFERENCES SHALL BE ACCOMPLISHED AT NO COST TO THE OWNER.

### OTECTION OF EQUIPMENT

ELECTRICAL EQUIPMENT SHALL BE PROTECTED FROM THE WEATHER, IN PARTICULAR, DRIPPING OR SPLASHING WATER, AT ALL TIMES DURING SHIPMENT, PROVIDE ALL REQUIRED GROUNDING FOR A COMPLETE SERVICE ENTRANCE STORAGE AND CONSTRUCTION. MANUFACTURER'S RECOMMENDATIONS WITH REGARD TO STORAGE, PROTECTION, AND HANDLING SHALL BE FOLLOWED.

SHALL BE THOROUGHLY DRIED AND PUT THROUGH A DIELECTRIC TEST, AT THE EXPENSE OF THE CONTRACTOR. TO ASCERTAIN THE SUITABILITY OF THE APPARATUS OR IT SHALL BE REPLACED WITHOUT ADDITIONAL COST TO THE OWNER.

DAMAGED OR DEFECTIVE EQUIPMENT: INSPECT ALL ELECTRICAL EQUIPMENT AND REQUIREMENTS. MATERIALS PRIOR TO INSTALLATION. INSTALLATION OR PLACEMENT INTO SERVICE OF DAMAGED MATERIALS WITHOUT THE PRIOR WRITTEN CONSENT OF THE OWNER IS PROHIBITED. REPLACE OR REPAIR TO NEW CONDITION, AS CERTIFIED BY THE MANUFACTURER, AND TEST DAMAGED EQUIPMENT IN COMPLIANCE WITH INDUSTRY STANDARDS AT NO ADDITIONAL COST TO THE OWNER. EQUIPMENT REQUIRED FOR THE TESTING SHALL BE PROVIDED BY THE CONTRACTOR.

ALLOCATED SPACE.

INSTALL ALL EQUIPMENT IN A MANNER TO PERMIT ACCESS TO ALL SURFACES. MAINTAIN PROPER CLEARANCE TO MEET ALL SAFETY AND OPERATING CODES, CONTRACTORS), AND TO ALL EQUIPMENT ITEMS AND AS INDICATED ON DRAWINGS PARTICULARLY N.E.C. INCLUDE ALL REQUIREMENTS DICTATED BY OPERATION. CONTROL, ADJUSTMENT, MAINTENANCE AND POSSIBLE REPLACEMENT OF EQUIPMENT IN DETERMINING CLEARANCE.

CONDITIONS, INCLUDING ALL SUPPLEMENTS ISSUED THERETO, INSTRUCTIONS TO SHOULD THERE BE APPARENT VIOLATIONS OF N.E.C. CLEARANCE, NOTIFY THE BIDDERS, AND OTHERS PERTINENT DOCUMENTS ISSUED BY THE ARCHITECT ARE ARCHITECT-ENGINEER BEFORE PROCEEDING WITH CONNECTION OR PLACEMENT OF FOUIPMEN

ANY MATERIAL ITEMS OR WORK NOT SHOWN ON THE DRAWINGS, BUT MENTIONED ANNEALED (SOFT) COPPER COMPLYING WITH ICEA S-95-658/NEMA WC70; SOLID IN THESE SPECIFICATIONS OR VISA-VERSA, OR ANY ACCESSORIES NECESSARY TO CONDUCTOR FOR NO. 10 AWG AND SMALLER; CONCENTRIC, COMPRESSED MAKE THE WORK COMPLETE IN ALL RESPECTS AND READY FOR OPERATION SHALL BE PROVIDED WITHOUT ADDITIONAL COST TO THE OWNER.

AND PATCHING NECESSARY FOR THE INSTALLATION OF THIS WORK. NO CUTTING ICEA S-95-658/NEMA WC70; SOLID CONDUCTOR FOR NO. 10AWG AND SMALLER; IN CONSTRUCTIVE PARTS OF THE BUILDING LIKELY TO IMPAIR ITS STRENGTH SHALL BE DONE WITHOUT THE ARCHITECT-ENGINEER'S WRITTEN APPROVAL.

EXCAVATION AND BACKFILL EXCAVATION, TRENCHING AND BACKFILLING ARE SPECIFIED IN SECTION EXCAVATION TRENCHING AND BACKFILLING FOR UTILITIES. CONDUIT IS TO BE INSTALLED AS SPECIFIED FOR PIPELINES. CONDUIT INSTALLED BENEATH FLOOR SLAB SHALL BE A MINIMUM OF 6" BELOW SLAB, BACKFILL OVER CONDUIT SHALL BE COMPACTED AS FOR SLAB BEDDING MATERIAL. REFER TO STRUCTURAL DRAWINGS FOR DETAILS OF CONDUIT (PIPE) PENETRATION OF EXTERIOR FOOTINGS. COMPLETE INSTALLATION SHALL CONFORM TO N.E.C.

COORDINATE SLEEVE SELECTION AND APPLICATION WITH SELECTION AND APPLICATION OF FIRE-STOPPING SPECIFIED IN ARCHITECTURAL SPECIFICATIONS

ROOFS: COORDINATE ALL ROOF PENETRATIONS WITH ENGINEER. OWNER. AND AS APPLICABLE. THE ROOFING CONTRACTOR PROVIDING A ROOF WARRANTY. KEEP ALL RACEWAY PENETRATIONS WITHIN MECHANICAL EQUIPMENT CURBS WHEREVER POSSIBLE. COORDINATE WITH DIVISION 15. FLASH AND COUNTERFLASH ALL OPENINGS THROUGH ROOF, AND/OR PROVIDE PRE-FABRICATED MOLDED SEALS COMPATIBLE WITH THE ROOF CONSTRUCTION INSTALLED, OR AS REQUIRED BY THE ENGINEER, OWNER, OR ROOFING CONTRACTOR. ALL ROOF PENETRATIONS SHALL BE LEAKTIGHT AT THE TERMINATINO OF THE WORK AND SHALL NOT VOID ANY NEW OR EXISTING ROOF WARRANTIES.

WALLS AND FLOORS - SLEEVES FOR RACEWAYS AND CABLES: STEEL PIPE SLEEVES: ASTM A 53/A 53M, TYPE E, GRADE B, SCHEDULE 40, GALVANIZED STEEL, PLAIN ENDS AND DRIP RINGS.

CAST IRON PIPE SLEEVES: CAST OR FABRICATED "WALL PIPE", EQUIVALIENT TO DUCTILE-IRON PRESSURE PIPE, WITH PLAIN ENDS AND INTEGRAL SATERSTOP,

FIRESTOPPING: FIRE RESISTANT THROUGH PENETRAION SEALANTS - TWO PART, AS RECOMMENDED BY THE SYSTEM EQUIPMENT MANUFACTURER. FOAMED-IN-PLACE, SILICONE SEALANT FORMULATED FOR USE IN IN SOME INSTANCES, SPECIFIC REFERENCES HAVE BEEN MADE TO ONE OR MORE THROUGH-PENETRAION FIRE-STOPPING AROUND CABLES, RACEWAYS, AND CABLE CONTROL WIRING; STRANDED COPPER CONDUCTORS, 600V INSULATION, OF THE ESTABLISHED BY TESTING IDENTICAL ASSEMBLIES IN ACCORDANCE WITH ASTM E

> 814, BY UNDERWRITER'S LABORATORIES, INC., OR OTHER NRTL ACCEPTABLE TO TECHNOLOGY INC., UNITED STATES GYPSUM COMPANY.

SERVICE SHALL BE AS SHOWN ON DRAWINGS.

GROUNDING SYSTEM. PERMANENTLY AND EFFECTIVELY GROUND AND BOND THE ELECTRICAL INSTALLATION IN A THOROUGH AND EFFICIENT MANNER, AND IN CONFORMANCE (AT A MINIMUM) WITH N.E.C. OR THESE DOCUMENTS, WHERE SHOULD ANY APPARATUS BE SUBJECTED TO POSSIBLE INJURY DUE TO WATER, IT THEY EXCEED CODE REQUIREMENTS. USE BARE OR INSULATED CONDUCTORS, AS SPECIFIED HEREIN, AND OTHER MATERIALS INDICATED ON THE DRAWINGS.

PROVIDE ALL NECESSARY ENCLOSURES REQUIRED BY THE OWNER FOR THE UTILITY COMPANY METERING, REFER TO DRAWINGS FOR MINIMUM REQUIREMENTS. COORDINATE WITH UTILITY COMPANY PRIOR TO BID FOR ALL

PRODUCTS

THE SIZE OF ELECTRICAL EQUIPMENT SHOWN ON THE DRAWINGS IS BASED ON WHILE OTHER MANUFACTURERS MAY BE ACCEPTABLE, IT IS THE RESPONSIBILITY REQUIRED. OF THE TRADE TO DETERMINE IF THE EQUIPMENT PROPOSED WILL FIT IN THE

ACCURATE SCALE WHERE SEVERAL ELEMENTS OF ELECTRICAL OR COMBINED MECHANICAL/STRUCTURAL/ELECTRICAL WORK MUST BE SEQUENCED AND POSITIONED WITH PRECISION IN ORDER TO FIT INTO THE AVAILABLE SPACE.

SHOW THE ACTUAL PHYSICAL DIMENSIONS REQUIRED FOR PROPER INTEGRATION OF EQUIPMENT WITH BUILDING SYSTEMS.

TO ANY EQUIPMENT. WHEN ELECTRICAL DATA ON APPROVED SHOP DRAWINGS THE WIRING, DISCONNECTS, AND BRANCH-CIRCUIT PROTECTION FOR THE EQUIPMENT ACTUALLY INSTALLED AT NO ADDITIONAL COST TO THE OWNER.

DAMAGE FROM INTERFERENCE CAUSED BY INADEQUATE COORDINATION SHALL BE RECTIFIED AT NO ADDITIONAL COST TO THE OWNER.

ALL WORK SHALL BE EXECUTED IN A WORKMANLIKE MANNER AND SHALL PRESENT A NEAT MECHANICAL APPEARANCE WHEN COMPLETED.

ACCEPTABLE MANUFACTURERS - HILTI, INC., 3M CORP, RECTORSEAL, SPECIFY

PROVIDE SECONDARY SERVICE INTO THE BUILDING WITH CONDUIT AND WIRING AS SHOWN ON THE PLANS, INCLUDING, BUT NOT LIMITED TO, UNDERGROUND RACEWAYS AND CABLES AND SECONDARY CONNECTIONS TO UTILITY TRANSFORMERS AS REQUIRED BY SERVING ELECTRICAL UTILITY COMPANY. COORDINATE ALL REQUIREMENTS WITH UTILITY COMPANY PRIOR TO BID.

ALL EQUIPMENT OF A PARTICULAR KIND. SUCH AS WIRING DEVICES AND PANELBOARDS AND ALL LIGHTING FIXTURES OF THE SAME TYPE, SHALL BE THE PRODUCT OF THE SAME MANUFACTURER.

PANELS. SIZE AS REQUIRED FOR PROPER ACCESS AND MAINTENANCE, MINIMUM DIMENSIONS OF A PARTICULAR MANUFACTURER, (GENERALLY THE FIRST NAMED). ACCEPTABLE IS 12 IN BY 12 IN CLEAR OPENING WHERE HAND ACCESS ONLY IS

> PROVIDE LABELS FOR EACH MOTOR CONTROLLER, SAFETY SWITCH, RELAY, PANELBOARD, CONTACTOR, TIMER, CONTROL DEVICE, METER AND CIRCUIT BREAKER. LABELS SHALL BE LAMINATED, PHENOLIC STRIPS 1/16" THICK, AND ENGRAVED TO SHOW BLACK LETTERS ON A WHITE BACKGROUND NOT LESS THAN DESCRIBED BELOW UNDER "PLATES". 1/4" HIGH. SIZE STRIPS TO PROPERLY FIT MANUFACTURER'S BRACKETS AND BE LEGIBLE. WHERE MANUFACTURER'S BRACKETS ARE NOT PROVIDED, MOUNT LABELS WITH PROPER SCREWS, OR AN APPROVED ADHESIVE.

CONDUIT, RIGID STEEL; GALVANIZED OR SHERADIZED AND MANUFACTURED IN ACCORDANCE WITH ANSI STANDARD C80.L. FITTINGS SHALL BE PIPE THREADED. MALLEABLE IRON. CONNECTORS SHALL BE INSULATED THROAT TYPE.

CONDUIT, PVC: POLYVINYLCHLORIDE SCHEDULE 40 PIPE SPECIFICALLY MANUFACTURED AND LABELED (UL STANDARD 651) FOR USE AS ELECTRICAL CONDUIT. FITTINGS SHALL BE EITHER SOCKET WELDED TYPE OR PIPE THREADED DUST AND MOISTURE RESISTANT, MELAMINE BODY, GRAY NYLON FACE BACKED WITH INSULATED THROAT.

CONDUIT, FLEXIBLE METALLIC: GALVANIZED, INTERLOCKED SPIRALLY WOUND STEEL STRIP WITH GALVANIZED OR SHERADIZED FITTINGS. LISTED PER UL-L. FITTINGS SHALL BE OF THE SQUEEZE TYPE WITH INSULATED THROATS.

CONDUIT, LIQUIDTIGHT FLEXIBLE METALLIC: GALVANIZED, INTERLOCKED VERIFY FINAL ELECTRICAL CHARACTERISTICS BEFORE ROUGHING POWER FEEDS SPIRALLY WOUND STEEL STRIP WITH OVERALL JACKET OF LIQUID TIGHT PVC, UL LISTED. FITTINGS SHALL BE STEEL OR MALLEABLE IRON INSULATED THROAT, WATERTIGHT.

> ELECTRIC METALLIC TUBING: GALVANIZED OR SHERADIZED AND MANUFACTURED SPECIFICATION GRADE, ORANGE FACE, GROUND CONTACT FULLY ISOLATED FROM CIRCUIT BREAKERS: CIRCUIT BREAKERS OF THE PROPER SIZE, RATING, AND IN ACCORDANCE WITH ANSI STANDARD C80.3. FITTINGS 1/2 INCH THROUGH 2 INCH STRAP AND EQUIPPED WITH SCREW TERMINAL. HUBBELL #IG-5362\* OR EQUAL. TRADE SIZE SHALL BE COMPRESSION TYPE, MANUFACTURED FROM MALLEABLE IRON OR STEEL, AND RAIN AND/OR CONCRETE-TIGHT AS REQUIRED BY INSTALLATION. POT METAL OR DIE CAST TYPE FITTINGS ARE PROHIBITED. CONNECTORS SHALL BE INSULATED THROAT TYPE.

### NDUCTORS AND CABLES

GENERAL: SERVICE LATERALS AND PANELBOARD FEEDERS SHALL BE OF STRANDED FOR NO. 8 AWG AND LARGER. ALL FEEDER CONDUCTORS NO 8 AWG PRIOR TO INSTALLATION. AND LARGER; STRANDED, TYPE THWN-2 OR XHHW-2 INSULATION.

THIS TRADE SHALL DO OR HAVE DONE BY COMPETENT TRADESMEN ALL CUTTING ALL BRANCH CIRCUITS SHALL BE ANNEALED (SOFT) COPPER COMPLYING WITH CONCENTRIC, COMPRESSED STRANDED FOR NO. 8 AWG AND LARGER. ALL BRANCH CIRCUIT CONDUCTORS NO 8 AWG AND LARGER; STRANDED, TYPE THWN-2 OR XHHW-2 INSULATION. ALL CONDUCTORS, NO 10 AWG AND SMALLER. USED FOR POWER AND LIGHTNG CIRCUITS; SOLID COPPER, TYPE THWN-2 INSULATION (WET OR DAMP LOCATIONS, OR IN CONDUIT BELOW GRADE OR SLAB), TYPE THHN INSULATION (DRY LOCATIONS ONLY ABOVE GRADE), OR DUAL RATED TYPE THHN/THWN-2. ALL BRANCH CIRCUIT WIRING SHALL NOT BE SMALLER THAN NO 12 AWG. IF NO CONDUCTOR SIZE IS INDICATED ON THE DRAWINGS FOR A BRANCH CIRCUIT, PROVIDE CONDUCTORS AND CONDUIT SIZED PER NFPA 70 AND UNATTENDED USE AS APPLICABLE. BASED ON THE INDICATED BRANCH CIRCUIT OVERCURRENT PROTECTIVE DEVICE RATING AND NUMBER OF POLES. WHERE NO CIRCUIT SIZE (CONDUCTORS AND OVERCURRENT PROTECTIVE DEVICE) IS INDICATED ON THE DRAWINGS FOR A BRANCH CIRCUIT, PROVIDE THREE NO 12 AWG CONDUCTORS IN 3/4" RACEWAY, AND A 20A SINGLE POLE CIRCUIT BREAKER.

> CONDUCTOR INSULATION TYPES; 90-DEGREE C-RATED, TYPE THHN/THWN-2 OR XHHW-2 COMPLYING WITH ICEA S-95-658/NEMA WC70

COLORS FOR 208/120V CONDUCTORS PHASE A: BLACK PHASE B: RED PHASE C: BLUE NEUTRAL: WHITE EQUIPMENT GROUND: GREEN ISOLATED GROUND: GREEN WITH YELLOW STRIPE COLORS FOR 480/277V CONDUCTORS

PHASE A: BROWN PHASE B: ORANGE PHASE C: YELLOW NEUTRAL: WHITE EQUIPMENT GROUND: GREEN

UNLESS NOTED OTHERWISE, SPECIAL PURPOSE CONDUCTORS AND CABLES. SUCH AS LOW VOLTAGE CONTROL AND SHIELDED INSTRUMENT WIRING, SHALL BE SHALL BE FURNISHED COMPLETE WITH PROPER FUSES.

FUNCTION. MINIMUM SIZE; NO. 14 AWG UNLESS NOTED OTHERWISE.

MC TYPE CABLE CAN BE USED IF ACCEPTED BY LOCAL AUTHORITY AND GOVERNING CODES FOR WHIPS FROM JUNCTION BOX TO LIGHT FIXTURES ONLY. TYPE MC CABLE; 600V, UNJACKETED; ANSI E119 AND E814, UL STANDARDS 44 OR SHEET STEEL AND FINISH WITH BAKED ON GRAY ENAMEL OVER RUST INHIBITOR. 83 (AS APPLICABLE), AND 1569, NFPA 70 ARTICLE 330; ALUMINUM OR GALVANIZED STEEL INTERLOCKED ARMOR; THHN- OR XHHW-INSULATED CONDUCTORS; COLOR A CYLINDER LOCK, INDEX CARD CIRCUIT DIRECTORY MOUNTED BEHIND CLEAR CODE; ICEA METHOD 1, WITH GREEN INSULATED GROUDING CONDUCTOR.

PROVIDE A DEDICATED EQUIPMENT-GROUNDING CONDUCTOR, OR BONDING JUMPER, AS APPLICABLE, IN ALL BRANCH CIRCUITS AND FEEDERS, SIZED IN ACCORDANCE WITH NFPA 70, UNLESS INDICATED AS LARGER ON THE DRAWINGS.

PROVIDE A DEDICATED NEUTRAL (WHERE REQUIRED) AND DEDICATED GROUNDING CONDUCTOR FOR EACH BRANCH CIRCUIT.

VOLTAGE DROP IN BRANCH CIRCUITS SHALL NOT EXCEED 2%.

GFCI CIRCUITS: DO NOT USE MULTI-CONDUCTOR CIRCUITS, WITH A SHARED NEUTRAL FOR ANY GFCI CIRCUIT BREAKER OR RECEPTACLE CIRCUIT. BRANCH CIRCUITS FED FROM GFCI CIRCUIT BREAKERS, LIMIT THE ONE-WAY CONDUCTOR LENGTH TO 100 FEET BETWEEN THE PANELBOARD AND THE MOST REMOTE RECEPTACLE OR LOAD ON THE GFCI CIRCUIT.

OUTLET BOXES: GALVANIZED PRESSED STEEL WITH GALVANIZED STEEL EXTENSION RINGS OR PLASTER RINGS OR TILE RINGS TO PROVIDE EXPOSED SURFACE FLUSH WITH WALL OR CEILING FINISH. PROVIDE ALL CEILING OUTLET BOXES WITH "NO-BOLT" OR THROUGH AND LOCKNUTTED TYPE FIXTURE STUDS.

STANDARDS AND REQUIREMENTS INSOFAR AS MATERIAL, GAUGES, DIMENSIONS, TOGGLE-TYPE OPERATING ACTION AND POSITIVE HANDLE INDICATION OF AND FABRICATION METHODS. BOXES SHALL BEAR THE UL LABEL. WHERE BOXES BREAKER STATUS. CIRCUIT BREAKERS SHALL BE UL LISTED IN ACCORDANCE ARE NOT SIZED ON THE DRAWINGS. THEY SHALL BE SIZED IN ACCORDANCE WITH WITH UL STANDARDS.

N.E.C. REQUIREMENTS. FINISH IN STANDARD GRAY ENAMEL, WITH SIDES AND WITH BRASS MACHINE SCREWS.

SWITCHES: HEAVY DUTY AC, RATED 20 AMPERES, 120/277 VOLTS, SINGLE-POLE, DOUBLE-POLE, THREE-POLE, OR FOUR-WAY AS NOTED ON DRAWINGS OR AS REQUIRED FOR THE SWITCHING ARRANGEMENTS IN EACH SPACE. HUBBELL #HBL122\*\* OR EQUAL. COORDINATE SWITCH COLORS WITH COVERPLATES AS

SWITCHES, SPECIAL PURPOSE: KEY OPERATED, HEAVY-DUTY AC, RATED 20 AMPERES, 120/277 VOLTS, SINGLE OR MULTI-POLE AS NOTED OR AS REQUIRED. HUBBELL #HBL122\*\* OR EQUAL.

RECEPTACLES: THREE WIRE GROUNDING TYPE, 120 VOLT RATED, SPECIFICATION GRADE 20 AMPERES DUPLEX UNLESS NOTED OTHERWISE ON DRAWINGS. HUBBELL #5362 OR EQUAL. COORDINATE RECEPTACLE COLOR WITH COVERPLATE AS DESCRIBED BELOW UNDER "PLATES". SINGLE RECEPTACLE, 20 AMPERE, 120 VOLT, SPECIFICATION GRADE, HUBBELL #5361 OR EQUAL.

BY FABRIC REINFORCED NEOPRENE GASKET SLIT TO PROVIDE WIPING ACTION ON CAP BLADES. PASS & SEYMOUR #6307 OR APPROVED EQUAL. GROUND FAULT CIRCUIT INTERRUPTER, NYLON FACE CLASS A, NEMA 5-20R, SPECIFICATION GRADE. HUBBELL #GF-5362\* OR EQUAL.

CORROSION RESISTANT, SIMILAR AND APPROVED EQUAL TO STANDARD RECEPTACLE, EXCEPT FABRICATED FROM YELLOW MELAMINE PLASTIC WITH YELLOW NYLON FACE AND EXPOSED METAL PARTS FINISHED TO RESIST CORROSION. (NEMA 5-15R = HUBBELL #52CM61).

ISOLATED GROUND, DUPLEX OR SIMPLEX THREE WIRE GROUNDING TYPE

RECEPTACLES, SPECIAL PURPOSE: SPECIAL PURPOSE OUTLETS SHALL BE AS SCHEDULED ON DRAWINGS.

PLATES: PROVIDE PLATES FOR ALL OUTLET BOXES. PLATES SHALL BE OF SUITABLE CONFIGURATION FOR THE NUMBER AND TYPE OF DEVICES SERVED, SHALL BE ONE PIECE, SHALL OVERLAP OUTLET BOX EDGE AND ROOM SURFACES, AND SHALL BE SMOOTH FINISH NYLON TYPE OF SAME MANUFACTURER AS THE WIRING DEVICES. VERIFY DESIRED MATERIALS AND COLORS WITH ARCHITECT

STANDARD INTERIOR: IVORY FINISHED ON LIGHT COLORED WALLS - COORDINATE ALL COLORS WITH ARCHITECT

INTERIOR DAMP LOCATIONS: STAINLESS STEEL.

EXTERIOR LOCATIONS: FOR UNATTENDED WET LOCATIONS, PROVIDE IN-USE NEMA 3R. UL LABELED PLATES MOLDED FROM A CLEAR HIGH IMPACT ULTRAVIOLET STABILIZED POLYCARBONATE MATERIAL FOR EASY VERIFICATION THAT CORDS ARE PLUGGED IN AND THAT THE GFCI IS FUNCTIONING. COVER PLATES SHALL BE BY THE SAME MANUFACTURER AS THE WIRING DEVICES; COMPLYING WITH NFPA 70 406.8 (A) OR (B) REQUIREMENTS FOR ATTENDED OR

ACCEPTABLE MANUFACTURERS: HUBBELL, PASS & SEYMOUR, LEVITON AND COOPER.

URNISH AND INSTALL FLUSH CABINETS AND ENCLOSURES AS SHOWN ON THE PLANS AND AS HEREIN SPECIFIED. UNIT SHALL BE PROVIDED WITH DEAD FRONT SUB PANEL, RECESSED AS REQUIRED, TO HOUSE CONTROLS, DOOR SHALL BE PROVIDED WITH CONCEALED HINGES AND FLUSH KEY OPERATED LOCK. DOOR SPECIAL FINISHES. AND TRIM SHALL BE PRIME PAINTED FOR FIELD PAINTING TO MATCH WALL FINISHES. PROVIDE KNOCK-OUTS, LOUVERS AND IDENTIFICATION ENGRAVING AS RACEWAYS: MATERIALS FOR TELEPHONE RACEWAY SYSTEM WORK SHALL BE IN REQUIRED TO MEET FIELD CONDITIONS. EXACT BACKBOX SIZE TO BE COORDINATED WITH EQUIPMENT SUPPLIER.

CIRCUIT DISCONNECTS SAFETY SWITCHES: SAFETY SWITCHES SHALL CONSIST OF A BOX, FRONT COVER, AND CIRCUIT PROTECTOR DEVICE ALL MANUFACTURED AND ASSEMBLED IN ACCORDANCE WITH NEMA STANDARDS

THE BOX SHALL BE FABRICATED FROM CODE GAUGE GALVANIZED SHEET STEEL IN ACCORDANCE WITH U.L. LISTING AND LABEL. THE CIRCUIT PROTECTOR DEVICE TELEPHONE SERVICE CONDUIT LAYOUT SHALL HAVE THE JOB SITE APPROVAL OF UNITS SHALL BE FURNISHED FOR SURFACE OR FLUSH MOUNTING WITH EITHER GENERAL PURPOSE OR RAINTIGHT ENCLOSURES, AS REQUIRED. FUSED UNITS

SHALL CONSIST OF BOX. INTERIOR, FRONT, AND CIRCUIT PROTECTIVE DEVICES. THE ASSEMBLY SHALL BE U.L. LABELED AND BE LISTED FOR SERVICE. THE ASSEMBLY SHALL BE DESIGNED AND MANUFACTURED IN ACCORDANCE WITH NEMA STANDARD PB-1. THE LATEST UL STANDARD (UL-50) AND SHALL HAVE A PROVIDE STANDARD KNOCKOUTS ON REMOVABLE BOX ENDS. FABRICATE FROM EACH FRONT SHALL HAVE A DOOR MOUNTED ON SEMI-CONCEALED HINGES WITH PLASTIC AND HELD IN A METAL FRAME, AND CONCEALED TRIM CLAMPS FOR MOUNTING TO THE BOX. ALL LOCKS SHALL BE MASTER KEYED AND ALL PANEL DIRECTORIES SHALL BE TYPEWRITTEN.

ALL INTERIORS SHALL BE COMPLETELY FACTORY ASSEMBLED. THE DESIGN OF THE INTERIOR SHALL PERMIT REPLACEMENT OF INDIVIDUAL BRANCH BREAKERS WITHOUT DISTURBING ADJACENT UNITS AND WITHOUT MACHINE DRILLING OR TAPPING. BUS BARS FOR PANELS RATED 600 AMPERES OR MORE SHALL BE TIN PLATED 98% CONDUCTIVITY COPPER OR TIN FINISH ALUMINUM (57% CONDUCTIVITY) OF RECTANGULAR CROSS-SECTION. BUS BARS FOR PANELS RATED LESS THAN 600 AMPERES SHALL BE TIN PLATED 98% CONDUCTIVITY COPPER OF RECTANGULAR CROSS-SECTION. BUS BAR CONNECTIONS TO BRANCH CIRCUIT BREAKERS SHALL BE THE PHASE SEQUENCE TYPE AND ACCEPT PROVIDE FLUORESCENT FIXTURES WITH ELECTRONIC BALLASTS SUITABLE FOR BOLT-ON TYPE BREAKERS ONLY. PANELBOARD BUS STRUCTURE AND MAIN

BREAKER OR MAIN LUGS SHALL BE RATED AS SCHEDULED ON DRAWING. SUCH RATINGS SHALL BE ESTABLISHED BASED ON HEAT RISE TESTS IN ACCORDANCE WITH UL STANDARDS. GROUP INCOMING CABLE LUGS AT ONE END FOR SEPARATION FROM LOAD SIDE CABLES. EQUIPMENT NEUTRAL BUSSING WITH A LUG FOR EACH BRANCH BREAKER POSITION. INTERIOR SHALL MOUNT TO BOX WITHOUT TOOLS.

BREAKERS SHALL BE QUICK-MAKE, QUICK-BREAK, BOLT-ON THERMAL-MAGNETIC MOLDED CASE CIRCUIT BREAKERS ONE, TWO OR THREE POLE WITH INTEGRAL

PROVIDE ACCESS PANELS FOR ALL EQUIPMENT AND DEVICES REQUIRING SUCH BACK SPOT-WELDED IN POSITION AND THE REMOVABLE SCREW COVER MOUNTED EACH PANELBOARD, AS A COMPLETE UNIT, SHALL HAVE A SHORT CIRCUIT RATING EQUAL TO OR GREATER THAN THE INTEGRATED EQUIPMENT RATING SHOWN ON DRAWINGS. THE RATING SHALL BE ESTABLISHED BY TESTING WITH THE OVERCURRENT DEVICES MOUNTED IN THE PANELBOARD. THE SHORT CIRCUIT TESTS ON THE OVERCURRENT DEVICES ON THE STRUCTURE SHALL BE MADE SIMULTANEOUSLY BY CONNECTING THE FAULT TO EACH OVERCURRENT DEVICE WITH THE PANELBOARD CONNECTED TO ITS RATED SUPPLY VOLTAGE.

> REFER TO PANELBOARD SCHEDULES FOR FULLY RATED OR SERIES-RATED REQUIREMENTS. SERIES-RATED SYSTEMS ARE NOT ALLOWED UNLESS SPECIFICALLY INDICATED ON PANELBOARD SCHEDULES. WHERE ALLOWED, SERIES-RATED SYSTEMS SHALL BE PROPERLY LABELLED BY NEC REQUIREMENTS.

> METHOD OF TESTING SHALL BE PER UL STANDARDS. PANELBOARDS SHALL BE MARKED WITH THEIR MAXIMUM SHORT CIRCUIT CURRENT RATING AT THE SUPPLY VOI TAGE

APPROVED MANUFACTURERS: SQUARE-D CO. OR EQUAL BY GE, SIEMENS AND/OR INDICATED. FULL-CAPACITY PRIMARY TAPS: BELOW 25 KVA - MINIMUM OF TWO 5% FATON

### OVERCURRENT PROTECTIVE DEVICES

FUSES OF THE PROPER SIZE, RATING AND ELECTRICAL CHARACTERISTICS SHALL BE PROVIDED IN EACH FUSIBLE DEVICE. FUSES OF 600 VOLTS AND BELOW SHALL BE UL CLASS RK-1, CURRENT-LIMITING, TIME-DELAY, DUAL-ELEMENT, 200,000 AMPERE RMS SYMMETRICAL INTERRUPTING CAPACITY ON NON-MOTOR CIRCUITS SHEET STEEL CONSTRUCTION. MANUFACTURERS: SQUARE D, GENERAL AND UL CLASS RK-5, TIME-DELAY, DUAL-ELEMENT, 200,000 AMPERES RMS SYMMETRICAL INTERRUPTING CAPACITY ON MOTOR CIRCUITS.

APPROVED MANUFACTURERS: BUSSMANN, LITTLEFUSE OR FERRAZ-SHAWMUT (ALL FUSES SHALL BE OF SAME MANUFACTURER TO ENSURE SELECTIVE COORDINATION).

ELECTRICAL CHARACTERISTICS SHALL BE PROVIDED WHERE CALLED FOR ON DRAWINGS. BREAKERS SHALL BE THERMAL MAGNETIC MOLDED-CASE WITH QUICK-MAKE, QUICK-BREAK, OVER CENTER TOGGLE TYPE MECHANISM AND TRIP-FREE HANDLE MECHANISM. THE BREAKER SHALL BE ENCLOSED IN A SUITABLE NEMA RATED ENCLOSURE. BREAKERS SHALL BE OF SAME MANUFACTURER AS THOSE IN THE PANELBOARDS.

ELECTRONIC TIME SWITCHES: ELECTRONIC, SOLID STATE PROGRAMMABLE UNITS WITH ALPHANUMERIC DISPLAY; COMPLYING WITH UL917. SPST, 30 AMPERE INDUCTIVE OR RESISTIVE, 240VAC, CONTACT RATING. 2 PROGRAMMABLE ON-OFF SET POINTS ON A 24-HOUR SCHEDULE, ALLOWING DIFFERENT SET POINTS FOR EACH DAY OF THE WEEK. ALLOW CONNECTION OF A PHOTOELECTRIC RELAY AS SUBSTITUE FOR ON-OFF FUNCTION OF A PROGRAM. ASTRONOMIC TIME ON ALL CHANNELS. BATTERY BACKUP FOR SCHEDULES AND TIME CLOCK.

### OOR PHOTOELECTRIC SWITCHES

SOLID STATE, WITH SPST DRY CONTACT RATED FOR 1800-VA TUNGSTEN OR 1000-VA INDUCTIVE, TO OPERATE CONNECTED RELAY, CONTACTOR COILS OR MICROPROCESSOR INPUT, COMPLYING WITH UL 773A.

### PHONE AND DATA SYS

FURNISH AND INSTALL A SYSTEM OF PROPERLY SIZED AND PROPERLY LOCATED OUTLETS WITH ASSOCIATED CONNECTING CONDUIT RUNS, EXTENDING TO PULL BOXES AND TELEPHONE BACKBOARD. FURNISH AND INSTALL RACEWAYS, FOR INCOMING SERVICE WHERE INDICATED. OUTLET BOXES: UNLESS OTHERWISE INDICATED, ALL TELEPHONE OUTLETS AND

JUNCTION BOXES SHALL BE PROVIDED AS REQUIRED TO ACCOMMODATE INTERNAL TERMINAL STRIPS BY TELEPHONE CO.

OUTLET COVER PLATES: TELEPHONE OUTLET COVER PLATES SHALL MATCH THOSE SPECIFIED FOR ADJACENT WIRING DEVICES. INCLUDING THOSE WITH

ACCORDANCE WITH CORRESPONDING RACEWAYS SPECIFIED HEREIN AND IN OTHER SECTIONS.

VERIFY LOCATION OF WALL OUTLETS BEFORE ROUGHING IN TO ENSURE COORDINATION WITH OWNER'S FINAL INTENDED FURNITURE LAYOUT. PLAN INDICATIONS SHALL NOT BE SCALED UNLESS DIRECTED. OUTLETS SHALL BE RELOCATED WITHIN ROOMS BEFORE ROUGH-IN WHERE DIRECTED BY ARCHITECT-ENGINEER WITHOUT ADDITIONAL COST TO OWNER.

SHALL BE HEAVY DUTY, QUICK-MAKE, QUICK-BREAK FUSED OR UNFUSED SWITCH AN AUTHORIZED REPRESENTATIVE OF THE TELEPHONE CO. COORDINATE WORK RATED FOR MOTOR CIRCUITS AND/OR SERVICE ENTRANCE DUTY. IF REQUIRED. SO THAT BOTH TELEPHONE CO. AND OWNER'S REPRESENTATIVES ARE PRESENT AT THE SAME TIME FOR APPROVAL OR CHANGES IN AMPLE TIME FOR ANY REQUIRED CORRECTIONS BEFORE COMPLETION OF PROJECT.

> FROM EACH TELEPHONE OUTLET, PROVIDE 3/4" EMT CONDUIT CONCEALED IN WALL TO 6" ABOVE ACCESSIBLE CEILING OR UP TO STRUCTURE WHERE NO CEILING EXISTS, UNLESS SHOWN OTHERWISE ON DRAWINGS.

TELEPHONE TERMINAL BOARD: PRIOR TO INSTALLATION OF TELEPHONE TERMINAL BOARD, THE EXACT LOCATION SHALL BE VERIFIED WITH THE TURNED EDGE AROUND THE FRONT FOR RIGIDITY AND FOR CLAMPING ON FRONT. TELEPHONE CO. THE TELEPHONE TERMINAL BOARD SHALL BE PROVIDED WITH A DOUBLE DUPLEX RECEPTACLE LOCATED WHERE INDICATED ON THE DRAWINGS. THE TERMINAL BOARD SHALL BE CONSTRUCTED OF 4' X 8' X 3/4" PLYWOOD WITH TWO (2) COATS OF FLAME RETARDANT PAINT UNLESS NOTED OTHERWISE ON DRAWINGS.

### FIXTURES ARE SPECIFIED IN THE SCHEDULE BY MANUFACTURER'S NAME AND

CATALOG NUMBER. ALL RECESSED LIGHT FIXTURES SHALL BE PROVIDED WITH FACTORY INSTALLED

THERMAL PROTECTION.

ALL LAMPS USED ON THIS PROJECT SHALL BE NEW, DELIVERED TO THE JOB SITE IN THE ORIGINAL PACKING CASES AND SLEEVES AND SHALL BE OF THE SAME MANUFACTURER.

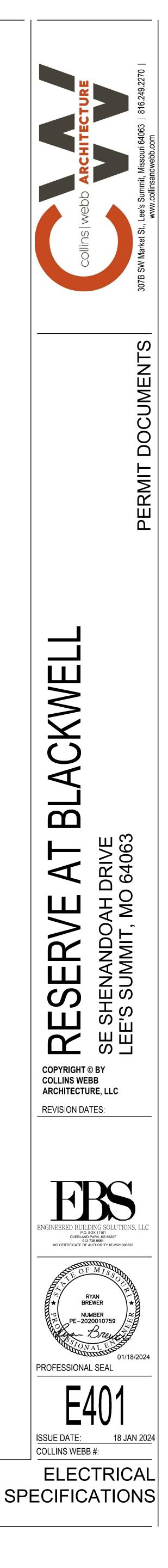
OPERATION OF LAMPS SPECIFIED; TOTAL HARMONIC DISTORTION LESS THAN 20%; FREQUENCY OF OPERATION OF 20 KHZ OR GREATER WITH NO VISIBLE FLICKER; LINE TRANSIENT WITHSTAND RATINGS AS DEFINED IN ANSI/IEEE, CATEGORY A. APPROVED MANUFACTUERERS: ADVANCE OR EQUAL BY MAGNETEK, MOTOROLA OR OSRAM.

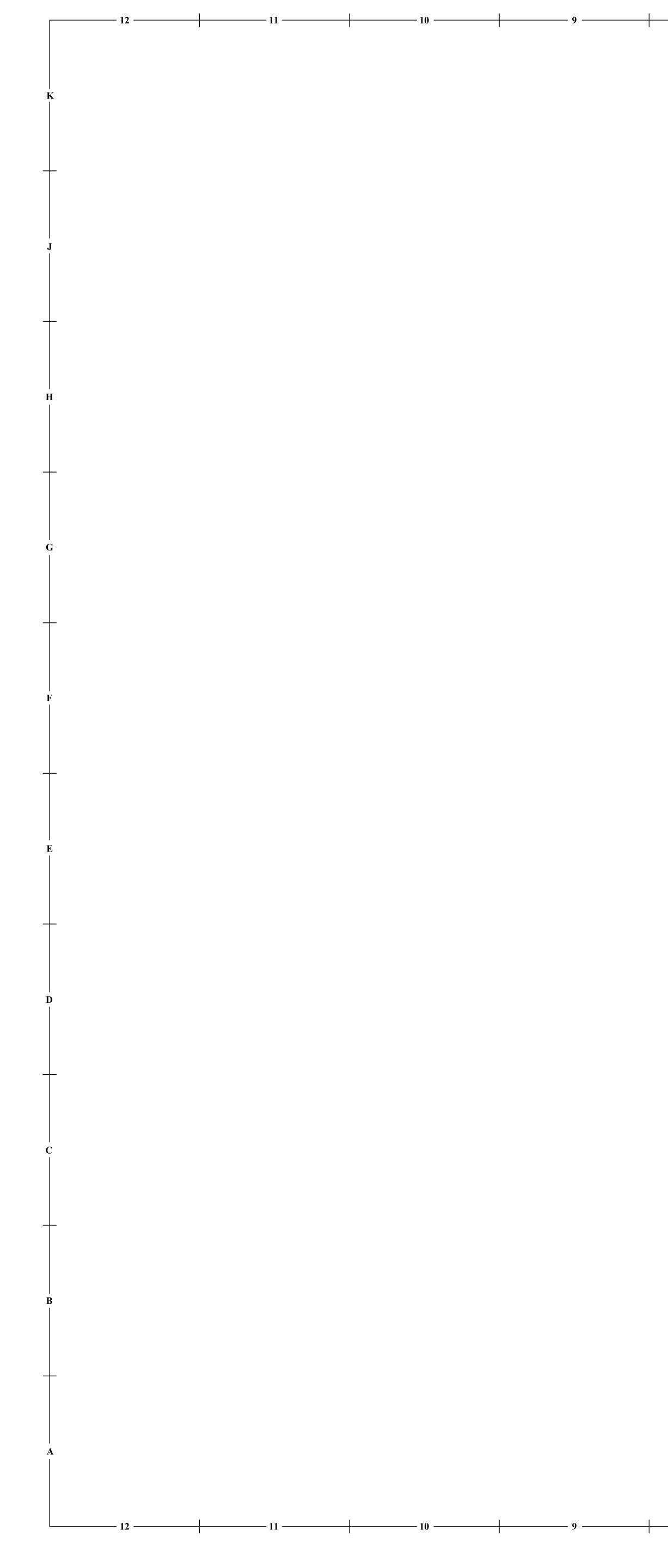
HID BALLASTS SHALL BE AUTO TRANSFORMER REACTOR, HIGH POWER FACTOR POTTED AND ENCASED TO MINIMIZE SOUND. APPROVED MANUFACTURERS: GE, SYLVANIA, OR OSRAM.

JUNCTION AND PULL BOXES: FABRICATE IN ACCORDANCE WITH NEMA AND N.E.C. CROSSBAR FOR MULTI-POLE UNITS, EQUIPPED WITH AN OVERCENTER, TRIP-FREE, LED LIGHT FIXTURES ARE TO BE PROVIDED WITH COMPATIBLE DRIVER AND MUST BE COORDINATED WITH CONTROL TYPE INDICATED. CONTRACTOR IS RESPONSIBLE TO ENSURE CONTROLS ARE CAPABLE OF PROPERLY CONTROLLING LIGHT FIXTURES AS INDICATED WITHIN THESE DRAWINGS.

CONTACTORS AND RELAY ALL CONTACTORS AND RELAYS SHALL BE UL LISTED AND LABELED, GENERAL PURPOSE, ELECTRICALLY HELD TYPE, IN NEMA 1 ENCLOSURES, WHERE SPECIFICALLY NOTED ON DRAWINGS, UNITS SHALL BE ELECTRICALLY HELD OR MOMENTARY OPERATIONAL TYPE. UNITS SHALL BE FURNISHED WITH LINE OR LOW VOLTAGE CONTROL AS NOTED AND WITH THE CORRECT NUMBER OF POLES AND CURRENT CHARACTERISTICS. WHERE LOW VOLTAGE OPERATION IS INDICATED, PROVIDE PROPER STEPDOWN TRANSFORMERS AND RECTIFIERS. APPROVED MANUFACTURERS: ASCO, OR MANUFACTURER OF APPROVED PANELBOARDS FURNISHED.

GENERAL PURPOSE, UL-LISTED/LABELED 150 DEGREES C TEMPERATURE RISE ABOVE 40 DEGREES C AMBIENT, INSULATING MATERIALS: EXCEED NEMA ST-020 STANDARDS, RATED FOR 220 DEGREES C, UL-COMPONENT RECOGNIZED INSULATION SYSTEM. PHASES, VOLTAGES, AND SIZES: AS INDICATED ON THE DRAWINGS. SOUND LEVEL: NOT EXCEEDING NEMA STANDARDS FOR THE SIZES (2-); 25 KVA TO 300 KVA - MINIMUM OF SIX 2.5% (2+, 4-); ABOVE 300 KVA - FOUR 2.5% (2+, 2-). TRANSFORMER CORE AND COIL ASSEMBLIES: MOUNTED ON INTEGRAL VIBRATION-ABSORBING PADS. MAKE FINAL CONDUIT CONNECTIONS TO TRANSFORMERS WITH FLEXIBLE CONDUIT, WITH AT LEAST 6" OF SLACK IN ALL DIRECTIONS. TRANSFORMER ENCLOSURES: FULLY ENCLOSED (EXCEPT FOR VENTILATION OPENINGS), NEMA 2, DRIP-PROOF, FABRICATED OF HEAVY GAUGE ELECTRIC, ACME, SIEMENS.





PROVIDE ALL RACEWAYS AND POWER WIRING FOR ALL DIVISION 15 EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS, INCLUDING, BUT NOT LIMITED TO, PUMPS, INTERLOCK WIRING NOT PROVIDED UNDER DIVISION 15. CONNECT PER MANUFACTURER'S WIRING DIAGRAMS. COORDINATE WITH DIVISION 15 FOR DISCONNECTS FURNISHED WITH EQUIPMENT, AND PROVIDE ALL DISCONNECT SWITCHES AS REQUIRED. AFTER INSTALLING WIRING, VERIFY THAT EACH MOTOR LOAD HAS THE CORRECT PHASE ROTATION.

WIRING OF MECHANICAL EQUIPMENT

VERIFY THE ACTUAL "MAXIMUM OVERCURRENT PROTECTION" DEVICE RATINGS AND "MINIMUM CIRCUIT AMPACITY" CONDUCTOR SIZING FOR MECHANICAL EQUIPMENT FROM THE EQUIPMENT NAMEPLATE. BASE ELECTRICAL INSTALLATIONS ON ACTUAL REQUIRED AMPERAGES, WHICH MAY VARY SOMEWHAT FROM THE CONDUCTOR AND EQUIPMENT SIZES SHOWN ON THE DRAWINGS; HOWEVER, IN NO CASE, REDUCE THE SIZE OF CONDUCTORS INDICATED ON THE DRAWINGS WITHOUT AUTHORIZATION FROM THE ENGINEER. PROVIDE PROPERLY SIZED ELECTRICAL WIRING AND EQUIPMENT WITHOUT EXTRA MOISTURE, USE LIQUIDTIGHT FLEXIBLE CONDUIT WITH WATERTIGHT FITTINGS. COST TO THE OWNER. NOTIFY THE ENGINEER OF ALL CHANGES REQUIRED IN THE ELECTRICAL INSTALLATION DUE TO EQUIPMENT VARIANCES SO THAT THE EFFECTS ON FEEDERS, BRANCH CIRCUITS, PANELBOARDS, FUSES AND CIRCUIT BREAKERS CAN BE CHECKED PRIOR TO PURCHASING AND INSTALLATION. BE RESPONSIBLE FOR COORDINATING WITH DIVISION 15 TO VERIFY THE ACTUAL AMPACITIES AND CORRECT SIZES OF ALL CONDUCTORS AND OVERCURRENT FOR ALL MOTORS, WHEN STARTERS ARE PROVIDED UNDER DIVISION 16.

PROVIDE ALL RACEWAYS, POWER WIRING, AND LINE-VOLTAGE CONTROL AND INTERLOCK WIRING NOT PROVIDED UNDER DIVISION 15, FOR ALL THERMOSTATS, TEMPERATURE CONTROL DEVICES, AND CONTROLS, INCLUDING, BUT NOT LIMITED TO, NIGHT-STATS, WATER HEATER INTERLOCKS, TIME SWITCHES AND OVERRIDE TIMERS. SEE MECHANICAL DRAWINGS FOR LOCATIONS AND TEMPERATURE CONTROL DIAGRAMS. LOW-VOLTAGE CONDUCTORS FOR THERMOSTATS AND TEMPERATURE CONTROL SYSTEMS MAY BE RUN EXPOSED ABOVE FINISHED ACCESSIBLE CEILINGS, IF APPROVED AND LISTED FOR THIS PURPOSE, BUT SHALL ON CENTERS BE INSTALLED IN CONDUIT WITHIN WALLS AND WHERE EXPOSED IN THE WORK AREAS.

### EXECUTION

METHOD OF PROCEDUR

ERECT EQUIPMENT PARTS AT SUCH TIME AND IN SUCH MANNER AS TO MINIMIZE INTERFERENCES AND DELAYS IN THE EXECUTION OF THE WORK CARE SHALL BE USED IN THE ERECTION AND INSTALLATION OF ALL EQUIPMENT AND MATERIALS TO AVOID MARRING SURFACES OF THE WORK. DAMAGES SHALL BE REPAIRED AT NO ADDITIONAL COST TO THE OWNER.

EQUIPMENT REQUIRING ELECTRICAL SERVICE SHALL NOT BE ENERGIZED OR PLACED IN SERVICE UNTIL ALL INTERESTED PARTIES HAVE BEEN DULY NOTIFIED AND ARE PRESENT OR HAVE WAIVED THEIR RIGHT TO BE PRESENT. WHERE EQUIPMENT TO BE PLACED IN SERVICE INVOLVES SERVICE OR CONNECTION FROM ANOTHER CONTRACTOR OR THE OWNER, NOTIFY THE OWNER IN WRITING BE COMPLETE.

REQUIRED TO ALL MISCELLANEOUS EQUIPMENT FURNISHED BY OTHERS, OR UNDER OTHER DIVISIONS OF THE WORK. THIS SHALL INCLUDE POWER AND CONTROL WIRING. WIRING DEVICES AND COVER-PLATES FOR BUILT-IN EQUIPMENT ARE INCLUDED IN THE WORK OF THIS DIVISION. SAFETY DISCONNECTS AND OTHER MISCELLANEOUS PROTECTIVE DEVICES REQUIRED BY N.E.C. ARE INCLUDED IN THE WORK OF THIS DIVISION. DO ALL ROUGHING-IN AND FINAL CONNECTIONS FROM APPROVED SHOP DRAWINGS ONLY.

COMPLIANCE WITH THE DRAWING AND ANY NOTES THEREON IS REQUIRED. PROVIDE OPENINGS THROUGH WALLS, PARTITIONS, FLOORS, AND ROOFS AS REQUIRED FOR ELECTRICAL WORK.

PROVIDE SLEEVES FOR ELECTRICAL WORK PASSING THROUGH WALLS, OTHERWISE SPECIFIED. FIRE WALL AND/OR FLOOR INTEGRITY SHALL BE CONCRETE FLOORS AND ROOFS, SHALL BE FABRICATED FROM STANDARD GALVANIZED STEEL PIPE WITH ENDS FINISHED SMOOTH. BURR FREE. WITHOUT SHARP EDGES. SLEEVES IN WALLS, ROOFS, AND FLOORS OF OTHER CONSTRUCTION AND THROUGH SUSPENDED CEILINGS SHALL BE FABRICATED BE FABRICATED SUCH THAT WATERPROOFING CAN BE FLASHED ONTO AND AROUND THE SLEEVE.

ALL POWER AND LIGHTING CIRCUITS SHALL BE RUN IN METALLIC RACEWAYS EXCEPT WHERE SPECIFICALLY NOTED OTHERWISE. THESE RACEWAYS SHALL BE RUN CONCEALED IN ALL FINISHED AREAS, AND WHERE RUN EXPOSED SHALL BE SQUARE TO THE BUILDING AND HELD TIGHT TO THE BUILDING CONSTRUCTION. LOW VOLTAGE, TELEPHONE, INTERCOM, MUSIC, ALARM AND SECURITY WIRING RUN ABOVE ACCESSIBLE CEILINGS SHALL BE RUN USING INSULATED, PLENUM AHJ. VERIFY ALL REQUIREMENTS PRIOR TO INSTALLATION. METALLIC CONDUIT PROVIDE FOR A FUTURE DEVICE IN THE BOX. FOR THESE SYSTEMS SHALL BE PROVIDED ONLY WHERE RUN INSIDE WALLS. THE DRAWINGS INDICATE THE REQUIRED SIZE OF ALL RACEWAYS (EXCEPT AS HEREINAFTER SPECIFIED), THE POINTS OF TERMINATION AND THE SUGGESTED ROUTING. HOWEVER, THE INSTALLER IS RESPONSIBLE FOR PROPER AND N.E.C. FILL

CONDUIT SHALL BE CONSTRUED AS ELECTRICAL RACEWAYS AND SHALL CONFORM TO THE FOLLOWING: CONCEALED IN SUSPENDED CEILINGS AND INTERIOR PARTITIONS - EMT WITH SET SCREW TYPE FITTINGS. UNDERGROUND BUILDING EXTERIOR - GRS.

CONDUIT BENDS SHALL BE MADE TO THE LARGEST POSSIBLE RADIUS FOR EASE IN ADAPTER RING. PULLING CONDUCTORS AND TO PROVIDE A NEATLY INSTALLED APPEARANCE. EQUIPMENT AND CONDITIONS PERMITTING, POWER CONDUIT BENDS SHALL IN, - 24 IN, RADIUS; 3 IN, - 36 IN, RADIUS,

GRS CONDUIT SHALL BE CUT WITH POWER OR HACKSAW AND CLEANLY REAMED

TO REMOVE ALL "BURRS" AND ALL FIELD CUT THREADS SHALL BE PAINTED WITH WHITE LEAD BEFORE COUPLINGS ARE APPLIED.

WATER HEATERS, AND HVAC EQUIPMENT, AND ALL LINE-VOLTAGE CONTROL AND EMPTY CONDUIT SYSTEMS INSTALLED FOR COMMUNICATION SYSTEMS, PUBLIC TELEPHONES, OWNER ITEMS AND OTHER SYSTEMS AS INDICATED ON DRAWINGS GROUND RECEPTACLES AND POWER OUTLETS TO THE CONDUIT SYSTEM WITH A SHALL BE INSTALLED COMPLETE WITH NYLON PULL WIRES PROPERLY TAGGED AT GREEN GROUNDING CONDUCTOR SIZE IN ACCORDANCE WITH N.E.C. AND BOTH ENDS FOR IDENTIFICATION.

> WHERE BUILDING VENTILATION CONDITIONS ARE SUCH THAT AIR MAY FLOW CONTINUOUSLY IN CONDUITS, CAUSING CONDENSATION AND THE COLLECTION OF EQUIPMENT CONNECTED TO THE ELECTRICAL SYSTEM SHALL BE GROUNDED MOISTURE, THE CONDUITS SHALL BE SEALED AT EACH END WITH A PLIABLE X DUCT SEALING COMPOUND. ALSO SEAL ALL CONDUITS ENTERING AND LEAVING REFRIGERATED EQUIPMENT AND PROVIDE EXPANSION JOINTS PER N.E.C.

SWITCHES, AND SIMILAR APPARATUS SHALL BE FLEXIBLE CONDUIT WHERE PERMITTED. WHERE EQUIPMENT IS INSTALLED OUTDOORS OR EXPOSED TO

### EQUIPMENT LEVELING, HANGERS AND SUPPORTS SET EACH PIECE INSTALLED UNDER THIS DIVISION TRUE AND LEVEL.

ADEQUATELY SUPPORT ALL RACEWAYS FROM THE STRUCTURE USING SCREW CLAMPS TO SECURE TO SAME. ARRANGE SUPPORTS TO PREVENT MOISTURE COLLECTION AND ALLOW ENTRANCE TO BOXES WITHOUT BENDS. INSTALL PROTECTIVE DEVICES FOR ALL EQUIPMENT, AND CORRECT OVERLOAD HEATERS MULTIPLE CONDUITS USING CHANNEL TRAPEZE SUPPORTS TIGHT TO STRUCTURE GROUND CONDUCTOR - SIZE AS PER N.E.C. REQUIREMENTS, SOFT DRAWN OR ABOVE. USE APPROVED SPACERS TO INSULATE FROM CONTACT WITH BUILDING. SIZE CLAMPS, INSERTS, CHANNELS AND ALL OTHER MEMBERS TO SUPPORT A LOAD EQUAL TO 200% OF THE COMBINED WEIGHT OF ALL SUPPORTED MATERIAL PLUS THE WEIGHT OF A MAN.

> WHERE SEVERAL RACEWAYS ARE SUPPORTED ON A COMMON TRAPEZE HANGER, SUPPORTS SHALL BE SPACED TO ACCOMMODATE THE SMALLEST SIZE RACEWAY INVOLVED. SPACE HANGERS AS FOLLOWS: RIGID CONDUIT: 1/2 AND 3/4 IN. SIZE; 6'-0" ON CENTERS; 1 AND 1-1/4 IN. SIZE; 9'-0"

ELECTRIC METALLIC TUBING: 1/2 AND 3/4 IN. SIZE; 5'-0" ON CENTERS; 1 AND 1-1/4 IN SIZE; 6'-0" ON CENTERS.

SECURELY ATTACH HANGERS AND SUPPORTS TO CONSTRUCTION BY METHODS RECOMMENDED IN THE "NECA STANDARDS OF INSTALLATION" MANUAL COORDINATION WITH MECHANICAL TRADES: THE INTENT OF THE ABOVE CEILING SUPPORTS IS TO COMBINE AS MANY PIPES, CONDUITS, ETC., AS IS POSSIBLE WITHIN SAFE STRUCTURAL LIMITS, ON EACH HORIZONTAL SECTION OF A TRAPEZE CONDUCTORS WITH ADHESIVE WRAP LABELS WITHIN 2 IN. OF THE CONDUCTOR HANGER. PRIOR TO SELECTING THE HORIZONTAL MEMBER, ALL TRADES, MECHANICAL AND ELECTRICAL, SHALL COORDINATE ACTUAL NUMBER OF PIPES, CONDUITS, ETC., SUCH THAT FINAL SELECTION RESULTS IN A NEATLY GROUPED, DISCIPLINED AND ACCESSIBLE INSTALLATION.

### VIRING INSTALLATION

EXCEPT FOR SUCH ITEMS AS ARE NORMALLY WIRED AT THEIR POINT OF MANUFACTURE AND SO DELIVERED - AND UNLESS SPECIFICALLY NOTED TO THE CONTRARY HEREIN - THE ELECTRICAL TRADE SHALL DO ALL ELECTRICAL WIRING WHEN THE EQUIPMENT WILL BE READY. THE OWNER SHALL BE NOTIFIED AS FAR OF EVERY CHARACTER. IT IS THE INTENT OF THESE SPECIFICATIONS AND IN ADVANCE AS POSSIBLE, OF THE DATE THE VARIOUS ITEMS OF EQUIPMENT WILL DRAWINGS THAT ALL SYSTEMS AND EQUIPMENT SHALL BE PROVIDED WITH ALL NECESSARY UTILITY CONNECTIONS, COMPLETED TO ALLOW SAFE AND PROPER OPERATION OF SAID SYSTEMS. WHEN IT IS NECESSARY FOR TRADES THE WORK OF THIS TRADE INCLUDES ROUGH-IN FOR AND FINAL CONNECTION AND PERFORMING WORK COVERED BY THIS DIVISION TO MAKE FINAL CONNECTIONS TO ITEMS OF EQUIPMENT BEING FURNISHED BY OTHERS, OR BY OTHER TRADES UNDER OTHER DIVISIONS, ALL SUCH WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THIS DIVISION AND ALL MATERIALS USED SHALL BE AS SPECIFIED HEREIN.

MINIMUM WIRE SIZE FOR BRANCH CIRCUITS SHALL BE #12 AWG, EXCEPT THAT HOMERUNS LONGER THAN 100 FT, LENGTH FROM THE PANEL TO THE CIRCUIT'S ELECTRICAL LOAD CENTER SHALL BE #10 AWG MINIMUM. WHERE RUNS EXCEED 150', CONTRACTOR MUST ENSURE WIRE SIZE BEING UTILIZED DOES NOT CREATE A VOLTAGE DROP GREATER THAN 3%. REQUEST PROPER WIRE SIZE PRIOR TO THOROUGHLY CLEAN ALL FIXTURES, SWITCHES, OTHER DEVICES, PANELBOARDS, INSTALLATION IF A 3% VOLTAGE DROP MAY OCCUR FOR ANY BRANCH CIRCUIT. AND EQUIPMENT PROVIDED OR CONNECTED IN THIS CONTRACT. ALL SURFACES WHERE MORE THAN THREE CURRENT CARRYING CONDUCTORS ARE ENCLOSED IN SHALL BE PROPERLY POLISHED AND SHALL BE FREE OF PAINT AND ALL OTHER THE SAME RACEWAY, CONDUCTORS ARE TO BE DERATED PER N.E.C. AND WIRE DIRT OR DEBRIS. TOUCHUP OR COMPLETELY REFINISH ALL EQUIPMENT PARTITIONS, ROOFS, AND FLOORS. SLEEVES SHALL EXTEND THROUGH FLOORS, SIZE INCREASED AS REQUIRED. WHERE THE INCREASED CONDUCTOR SIZE FURNISHED WITH FACTORY FINISHES THAT IS DAMAGED DURING DELIVERY OR WALLS AND PARTITIONS AND SHALL BE CUT FLUSH WITH EACH SURFACE UNLESS REQUIRES, INCREASE THE RACEWAY SIZE AS WELL. FOR CONTROL WIRING, USE CONSTRUCTION. PROPERLY PROTECT THE FRONTS OF ALL PANELBOARDS, #14 AWG MINIMUM, FOR FIXTURE WIRING, AS PERMITTED BY N.E.C., USE #18 AWG SWITCHBOARDS AND SIMILAR EQUIPMENT TO PREVENT MARRING AND OTHER RESTORED AFTER PENETRATION. SLEEVES IN CONCRETE AND MASONRY WALLS, MINIMUM. FOR SIGNAL AND COMMUNICATIONS SYSTEMS USE WIRE SIZE AS SPECIFICALLY REQUIRED BY THE SYSTEM SUPPLIER.

MAKE CONNECTIONS TO TERMINALS USING PRESSURE TYPE CONNECTORS. SOLDERED JOINTS ARE PROHIBITED. ALL JOINTS IN CONDUCTORS SHALL BE FROM 22 U.S. GAUGE GALVANIZED STEEL. FLOOR SLEEVES SHALL EXTEND THREE MADE AT AN ACCESSIBLE LOCATION WITHIN A BOX BY TWISTING THE BARE INCHES ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED. SPACE BETWEEN CONDUCTOR ENDS TOGETHER AND APPLYING A WIRE CONNECTOR IN ALL SIZES FLOOR SLEEVES AND PASSING CONDUIT SHALL BE FILLED WITH DUCT SEAL UP TO THE MAXIMUM CAPACITY OF THE CONNECTOR. JOINTS SHALL BE TAPED PACKING AND CAULKED WITH WATERPROOF COMPOUND AS APPROVED. WHERE WITH AN APPROVED ELECTRICAL TAPE. SPLICES FOR CONDUCTORS LARGER CONDUITS PASS THROUGH WATERPROOFED FLOORS OR WALLS, SLEEVES SHALL THAN #10 AWG SHALL BE MADE WITH AN APPROVED COMPRESSION (SQUEEZE) CONNECTOR INSULATED WITH NOT LESS THAN TWO LAYERS OF ELECTRICAL FILL TEST ALL CIRCUITS TO ASSURE THEM TO BE FREE OF GROUNDS AND SHORTS. TAPE TO 1.5 TIMES THE THICKNESS OF INSULATION, FOLLOWED BY TWO (MINIMUM) LAYERS OF HALF-LAPPED ELECTRICAL TAPE FOR MECHANICAL PROTECTION. LOCATE ALL SPLICES IN BOXES OR FITTINGS OF PROPER SIZE PER

IDENTIFY ALL WIRES AND CABLES WITH BRADY ADHESIVE WIRE MARKERS AT EACH BOX, PANEL, AND OUTLET. IDENTIFICATION SHALL, AS A MINIMUM, INDICATE CAPACITY, SPEED, AND OVERALL SATISFACTORY OPERATION. CHECK THAT THE THE PANEL AND CIRCUIT SUPPLYING THE OUTLET. AT THE PANEL END, THE LOAD PROPER OVERLOAD HEATERS HAVE BEEN INSTALLED BY READING THE MOTOR SERVED AND ITS LOCATION SHALL BE INDICATED. PROVIDE A MINIMUM OF 8 IN. NAMEPLATE. ADJUST THE SIZE OF THE OVERLOAD HEATER AS REQUIRED TO RATED CABLE. PROVIDE LOW VOLTAGE CABLE IN CONDUIT IF REQUIRED BY LOCAL SLACK WIRE AT EACH OUTLET FOR MAKING CONNECTION TO THE DEVICE OR TO MATCH THE MOTOR NAMEPLATE. OPERATE ALL MAIN AND FEEDER SWITCHES AND

EACH BOX SHALL BE OF PROPER SIZE TO ACCOMMODATE THE DEVICE AND FUNCTION FOR WHICH IT IS SHOWN. BOXES FOR WALL DEVICES SHALL BE COORDINATION WITH BUILDING STRUCTURE AND THE WORK OF OTHER TRADES. FURNISHED COMPLETE WITH PLASTER RING OR TILE RING ACCORDING TO WALL FURNISH ALL REQUIRED BENDS, ELBOWS, FITTINGS, JUNCTION AND PULL BOXES, CONSTRUCTION WHERE REQUIRED. BOXES FOR INSTALLATION IN MASONRY WHETHER OR NOT SPECIFICALLY SHOWN ON DRAWINGS, THAT MAY BE REQUIRED WALLS SHALL BE SPECIAL SQUARE CORNER MASONRY TYPE. BOXES FOR TO SATISFY CODES AND THE STANDARDS OF GOOD PRACTICE. WHERE CONDUITS MOUNTING OF LIGHTING FIXTURES SHALL BE FOUR INCH OCTAGON, EQUIPPED FOR BOTH BRANCH AND FEEDER CIRCUITS ARE RUN CONCEALED, THEY MAY BE WITH 3/8 IN. "NO-BOLT" FIXTURE STUD. BOXES FOR FLOOR OUTLETS SHALL BE RUN OUT OF SQUARE TO THE BUILDING PROVIDING THE SHORTEST POSSIBLE RUN CONCRETE PROOF STEEL BOXES WITH ADJUSTABLE TOPS AND DEVICES AS IS UTILIZED. RACEWAY SIZES ARE BASED ON THE USE OF COPPER CONDUCTORS HEREINAFTER NOTED OR SHOWN. ALL BOXES SHALL BE FURNISHED COMPLETE WITH PROPER COVER AND/OR DEVICE PLATE AND DEVICE. UNLESS OTHERWISE NOTED, PLACE OUTLET BOXES AT THE FOLLOWING HEIGHTS (BOX CENTER TO FINISH FLOOR): WALL SWITCHES 48" AND CONVENIENCE OUTLETS 18" UNLESS NOTED OTHERWISE ON DRAWINGS.

OR BELOW INTERIOR SLABS - GRS. (NOTE: PVC CONDUIT IS PERMITTED OUTSIDE TELEPHONE, ALARM, AND SIGNAL SYSTEM OUTLET BOXES SHALL BE STANDARD FOR PARKING AREA LIGHTING, SIGNS, ETC. ELBOWS SHALL BE GRS). EXPOSED ON OUTLET BOX TYPE WHERE ONLY ONE CONDUIT ENTERS SAME. UNLESS OTHERWISE SPECIFIED OR INDICATED ON DRAWINGS, WHERE TWO OR MORE CONDUITS ENTER, BOX SHALL BE 4-11/16 IN. SQUARE MINIMUM WITH SUITABLE

LOCATE ALL OUTLETS AS INDICATED ON DRAWINGS, HOWEVER, AT INSTALLATION CONFORM TO THE FOLLOWING: 1-1/2 IN. - 18 IN. RADIUS; 2 IN. - 24 IN. RADIUS; 2-1/2 INSPECT ARCHITECTURAL DRAWINGS AND LOCATE LOCAL SWITCHES ON THE STRIKE SIDE OF THE DOOR.

SYSTEM GROUNDING

N.E.C.

EQUIPMENT, RACEWAY SYSTEMS, WIRING SYSTEM NEUTRALS, RECEPTACLES AND POWER OUTLETS, MOTORS AND MOTORIZED EQUIPMENT, SHALL BE GROUNDED IN ACCORDANCE WITH N.E.C. ARTICLE 250.

CONNECTED BETWEEN THE DEVICE GROUNDING SCREW AND THE OUTLET BOX. CONNECTION TO THE BOX MAY BE A "G" CLIP OR BY A 10/24 SCREW THREADED INTO A HOLE IN THE BACK OF THE BOX AND USED FOR NO OTHER PURPOSE. WITHIN INSULATED GREEN GROUNDING CONDUCTOR SIZED IN ACCORDANCE WITH N.E.C. AND INSTALLED WITHIN THE RACEWAY. CONDUCTOR SHALL BE CONTINUOUS BETWEEN A GROUNDING SCREW IN THE EQUIPMENT JUNCTION BOX AND A GROUND ATTACHMENT IN THE NEAREST OUTLET BOX IN THE RIGID ALL CONNECTIONS TO MOTORS, SOLENOID VALVES, PRESSURE SWITCHES, LIMIT METALLIC CONDUIT SYSTEM. THIS REQUIREMENT INCLUDES ALL FLEXIBLE CONDUIT.

> GENERALLY FOR TELEPHONE AND SUPPLEMENTAL COMMUNICATION SYSTEMS NO 6 AWG CONDUCTOR TO EACH PROTECTOR CABINET, OTHER CABINET, OR DEVICE INSTALLATION SHALL BE CONSIDERED SUFFICIENT, FROM THE SERVICE GROUND (UNLESS INDICATED OTHERWISE).

### GROUNDING MATERIAL: GROUND-RODS - 1/2" DIA., 10' LONG, COPPERWELD

SOFT ANNEALED, COPPER WIRE. JOINTS AND CONNECTIONS - MOLDED FUSION WELDING PROCESS USING PROPER MOLD AND THE NUMBER, SIZE AND TYPE CARTRIDGE FOR THE JOINT OR

CONNECTION. WATERPIPE CONNECTION, SILICON BRONZE APPROVED MECHANICAL CONNECTOR DESIGNED FOR THE PIPE AND CABLE TO BE BONDED. PANELBOARD INSTALLATION:

MOUNT PANELBOARDS WITH CENTERLINE AT 5 FT.-6IN. ABOVE FINISH FLOOR, EXCEPT THAT THE HIGHEST BREAKER HANDLE SHALL BE BELOW 6 FT.-5 IN. ABOVE FINISH FLOOR. ARRANGE BREAKERS SO THAT THE BREAKER RATING IS VISIBLE WITH THE PANEL FRONT IN PLACE.

PANEL DIRECTORIES, AS A MINIMUM, SHALL BE TYPEWRITTEN AND INDICATE BREAKER POSITION NUMBER AND EQUIPMENT SERVED. THE PANEL IDENTIFICATION SHALL BE LOCATED ON THE PANEL TRIM AND SHALL CONSIST OF A BLACK LAMINATED PHENOLIC LABEL, SCREW MOUNTED, WITH THE PANEL IDENTIFICATION MATCHING PANEL IDENTIFICATION ON DRAWINGS. LABEL ALL TERMINATION PRIOR TO INSTALLATION OF TRIM.

### LIGHTING FIXTURE INSTALLATION

PROVIDE A LIGHTING FIXTURE FOR EACH AND EVERY OUTLET IN ACCORDANCE WITH TYPE DESIGNATION AND FIXTURE SCHEDULE ON THE DRAWINGS. VERIFY THE ARCHITECTURAL FINISHES AND CEILING CONSTRUCTION AND - REGARDLESS OF THE CATALOG NUMBER PREFIXES AND SUFFIXES SHOWN - PROVIDE FIXTURES WITH THE PROPER TRIM, FRAMES, SUPPORTS, AND HANGER AND OTHER MISCELLANEOUS APPURTENANCES TO PROPERLY COORDINATE WITH SAID FINISHES. REINFORCE CEILING CONSTRUCTION AS REQUIRED TO PROPERLY SUPPORT THE WEIGHT OF FIXTURES INSTALLED THEREON.

IMMEDIATELY PRIOR TO FINAL INSPECTION: THOROUGHLY CLEAN ALL FIXTURES INSIDE AND OUT, INCLUDING PLASTICS AND GLASSWARE. ADJUST TRIM TO FIT ADJACENT SURFACES. REPLACE BROKEN OR DAMAGED PARTS. INSTALL NEW LAMPS. ELECTRICALLY AND MECHANICALLY TEST THE SYSTEM FOR PROPER OPERATION.

THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING APPROVAL FROM LOCAL CODE AUTHORITIES AND MAKING ANY REVISIONS DIRECTED BY THEM ON EMERGENCY AND EXIT LIGHTING.

DEFACING.

AT ALL TIMES, KEEP THE PREMISES FREE FROM ACCUMULATIONS OF WASTE MATERIALS OR RUBBISH CAUSED BY THE WORK OF THE TRADESMEN DOING ELECTRICAL WORK. AT COMPLETION OF THE WORK, REMOVE ALL RUBBISH, TOOLS, EQUIPMENT, AND SURPLUS MATERIALS. BROOM CLEAN ALL ASSIGNED SPACES PRIOR TO LEAVING THE PREMISES.

### TESTING AND LOAD BALANCING

LIGHT AND TEST EACH LAMP. PROVE AND TEST THE AVAILABLE VOLTAGE ON THE LOAD SIDE OF EACH DISCONNECT. VERIFY PROPER OPERATION OF THE DISCONNECT. VERIFY THE PHASE SEQUENCE, VOLTAGE, AND ROTATION AT EACH MOTOR IN THE PRESENCE OF THE INSTALLER. RUN EACH MOTOR WITH ITS CONTROL AS NEARLY AS POSSIBLE UNDER OPERATING CONDITIONS FOR A SUFFICIENT LENGTH OVER TIME TO DEMONSTRATE CORRECT ALIGNMENT, WIRING BREAKERS.

THE VARIOUS BRANCH CIRCUITS SERVED FROM THE LIGHTING PANELBOARDS VARY IN LOADING. CAREFULLY BALANCE THE ACTUAL OPERATING LOAD ON EACH PANELBOARD WHEN ALL LOAD IS TURNED ON AND THE SYSTEM IS OPERATING AT 100% DEMAND, THE UNBALANCE SHALL NOT EXCEED 10%. DURING FINAL INSPECTION, FURNISH THE TEST INSTRUMENTS AND QUALIFIED PERSONNEL TO PERFORM COMPLETE TESTING. COSTS OF ALL TESTING, INCLUDING THE INCIDENT COSTS FOR RETESTING OCCASIONED BY DEFECTS AND FAILURES OF THE EQUIPMENT TO MEET THE SPECIFICATIONS, SHALL BE BORNE BY THE CONTRACTOR.

FURNISH AT THE COMPLETION OF THE PROJECT A FINAL INSPECTION CERTIFICATE FROM THE LOCAL INSPECTING AUTHORITY. END OF SECTION 16000

