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# RESERVE AT BLACKWELL - BUILDING H

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  
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### ELECTRICAL ENGINEER

ENGINEERED 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

### CIVIL ENGINEER

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







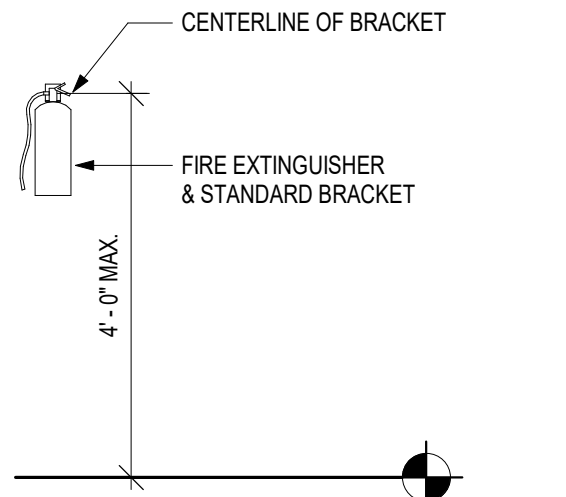


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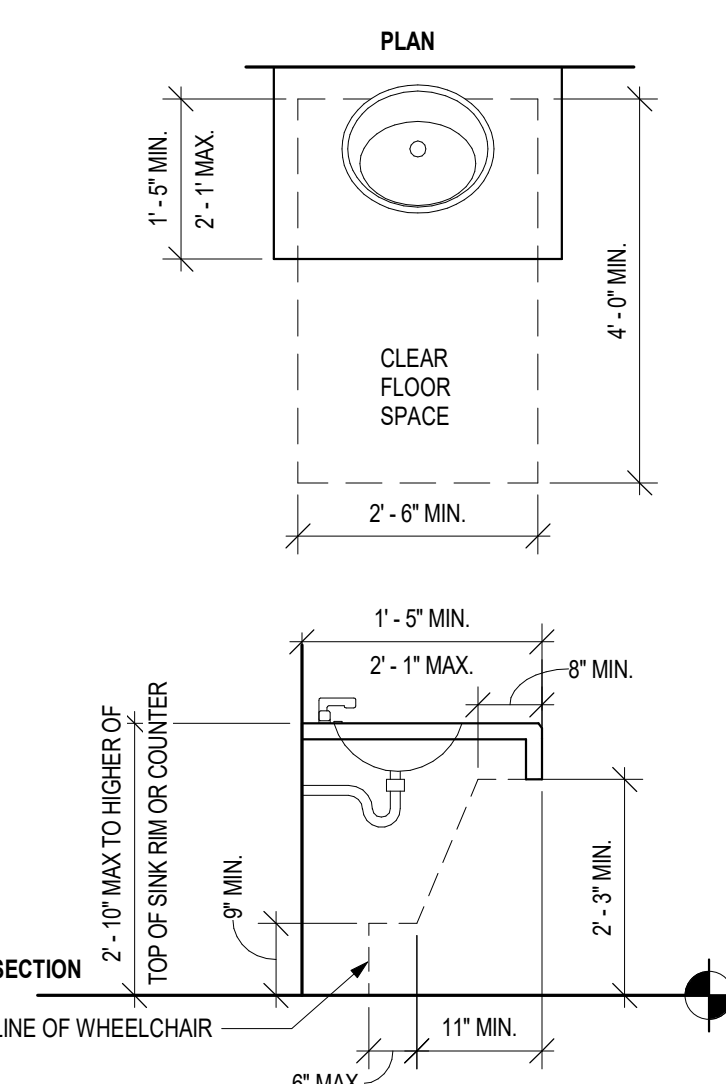
GENERAL NOTES:  
ACCESSIBILITY GUIDELINES

- NOTE: ALL DIMENSIONS ARE MEASURED FROM FLOOR, UNLESS NOTED OR SHOWN OTHERWISE.
- ADA UNOBSTRUCTED REACH RANGES: ADA FORWARD REACH = 48" MAX. & 15" MIN. ADA SIDE REACH = 48" MAX. & 15" MIN.
- ELEVATORS: STANDARD CALL BUTTONS: 36" TO 48" TO C.L. & PROTRUDE 1" MAX. ADA CALL BUTTONS: 42" TO C.L. (TYP.) & 48" MAX. (3/4" SMALLEST DIM.). ADA VISIBLE SIGNALS: 72" MIN. TO C.L. (2 1/2" SMALLEST DIM.). TACTILE SIGNAL ON HOISTWAY: 60" TO BASE OF CHARACTERS W/ TACTILE STAR & 2" HIGH CHARACTERS.
- DOOR HARDWARE (TO CENTER OF HARDWARE): STANDARD MOUNTING HEIGHTS: PUSH PLATES = 42". PULL HANDLES = 42". KNOBS/ LEVERS = 40". PANIC EXIT = 42". CENTERLINE OF BAR KICKPLATES: WIDTH = DOOR WIDTH MINUS 2". CENTER HEIGHT = 16" FROM B.O. DOOR. THRESHOLDS: STANDARD = 1/2" MAX. AT EXT. SLIDING DOORS = 3/4" MAX. ADA HARDWARE = 34" MIN. TO 48" MAX.
- DRINKING FOUNTAINS & EWCS (TO SPOUT): STANDARD = 40" TYP. 42" MAX. ADA = 36" MAX. (27" MIN. CLEAR KNEE SPACE).
- COUNTERTOPS (TO SINK RIM COUNTERTOP): ADA = 28" MIN. TO 34" MAX.
- WATER CLOSETS (TO TOP OF SEAT): STANDARD = 14" TO 15". ADA (TO TOP OF SEAT) = 17" TO 19". ADA FLUSH CONTROLS = 44" MAX.
- URNALS (TO RIM): STANDARD = 24" MAX. ADA = 17" MAX. ADA FLUSH CONTROLS = 44" MAX.
- LAVATORIES (TO SINK RIM COUNTERTOP): STANDARD = 36" MAX. ADA = 34" MAX. (29" MIN. CLEAR KNEE SPACE).
- MIRRORS (TO B.O. REFLECTIVE SURFACE): STANDARD = VARIES. ADA = 40" MAX.
- GRAB BARS - ADA (TO TOP OF BAR): WATER CLOSETS = 33" MIN. TO 36" MAX. SHOWERS = 33" MIN. TO 36" MAX. (FROM B.O. SHOWER). BATHTUBS: TOP BAR = 33" MIN. TO 36" MAX. BOT. BAR = 9" ABOVE T.O. TUB.
- SHOWER HEADS (FROM FLOOR TO HEAD): STANDARD = 72" TO 84". ADA = SPRAY UNIT W/ HOSE 60" LONG MIN. ADA = FIXED SHOWER HEAD = 48" AFF.
- SHOWER CONTROLS (TO CONTROL AREA): STANDARD = 48" MAX. (TO TOP). ADA = 38" MIN. TO 48" MAX.
- SHOWER ROD (FROM FLOOR TO C.L.): STANDARD = 78" MAX. ADA = 72" MAX. (29" MIN. CLEAR KNEE SPACE).
- TOILET ROOM PARTITIONS: TOILETS = 12" TO BOT. & 70" TO TOP. URINALS = 18" TO BOT. & 60" TO TOP.
- TOILET PAPER DISPENSERS (TO C.L. OF OUTLET): STANDARD = 24". ADA = 18" MIN. TO 24" MAX.
- WALL MOUNTED SOAP DISPENSERS (TO C.L. OF PUSH BUTTON): STANDARD = 40". ADA = VARIES. RE. OBSTRUCTED AND UNOBSTRUCTED REACH RANGES: ADA SIDE REACH = 48" MAX. ABOVE SINK IN COUNTER.
- PAPER TOWEL DISPENSER, WASTE RECEPTACLE (TO TOWEL SLOT): STANDARD = 40" MAX. ADA FORWARD REACH = 48" MAX. & 15" MIN. ADA SIDE REACH = 48" MAX. & 15" MIN.
- WARM AIR HAND DRYER (TO PUSH SWITCH): STANDARD = 44" MAX. ADA FORWARD REACH = 48" MAX. & 15" MIN. ADA SIDE REACH = 48" MAX. & 15" MIN.
- SANITARY NAPKIN DISPENSER (TO C.L. OF COIN SLOT): STANDARD = 40" MAX. ADA FORWARD REACH = 48" MAX. & 15" MIN. ADA SIDE REACH = 48" MAX. & 15" MIN.
- SANITARY NAPKIN DISPOSAL (TO TOP OF UNIT): STANDARD = 28" MAX. ADA = 18" MIN. TO 24" MAX. (TO OPENING).
- TOILET SEAT COVER DISPENSERS (TO OPENING): STANDARD = 40" MAX. ADA FORWARD REACH = 48" MAX. & 15" MIN. ADA SIDE REACH = 48" MAX. & 15" MIN.
- SHELVES: ADA = 48" MAX.
- COAT HOOKS: STANDARD = 68". ADA = 48" MAX.
- CHALKBOARDS, TACKBOARDS & MARKERBOARDS: STANDARD = 32" TO 39" (TO B.O. BOARD OR CHALKTRAY). STANDARD = 80" (RECOMMENDED). (TO T.O. BOARD).
- THERMOSTATS & CONTROL DEVICES (TO TOP): ADA FORWARD REACH = 48" MAX. ADA SIDE REACH = 48" MAX.
- LIGHT SWITCHES & CARD READERS (TO C.L.): LOCATE 6" FROM DOOR JAMB. ADA = 48" MAX.
- CONVENIENCE RECEPTACLES - ELECTRICAL/ TELEPHONE/ DATA (TO C.L.): STANDARD = 18". ADA = 15" MIN.
- EXIT LIGHTS: WALL MOUNTED: 2" MIN. BELOW CEILING. 2" MIN. ABOVE DOOR FRAME. EQUAL SPACE FROM CEILING TO TOP OF FRAME.
- FIRE EXTINGUISHERS (TO TOP, U.N.O.): GROSS WT. 40 LBS. OR LESS = 60" MAX. GROSS WT. MORE THAN 40 LBS. = 42" MAX. ADA = 40" MAX. (B.O. CABINET).
- FIRE ALARM PULL STATIONS (TO LEVER): STANDARD = 48" MAX. ADA FORWARD REACH = 48" MAX. ADA SIDE REACH = 48" MAX. HEIGHT = CEILING.
- HORN/ SPEAKER: VISUAL SIGNALS: STANDARD = 80" AFF. OR 6' BELOW CEILING - WHICHEVER IS LOWER.
- ROOM SENSING (TO C.L.): STANDARD = 60" HIGH AFF. & WITHIN 18" OF LATCH SIDE OF DOOR.

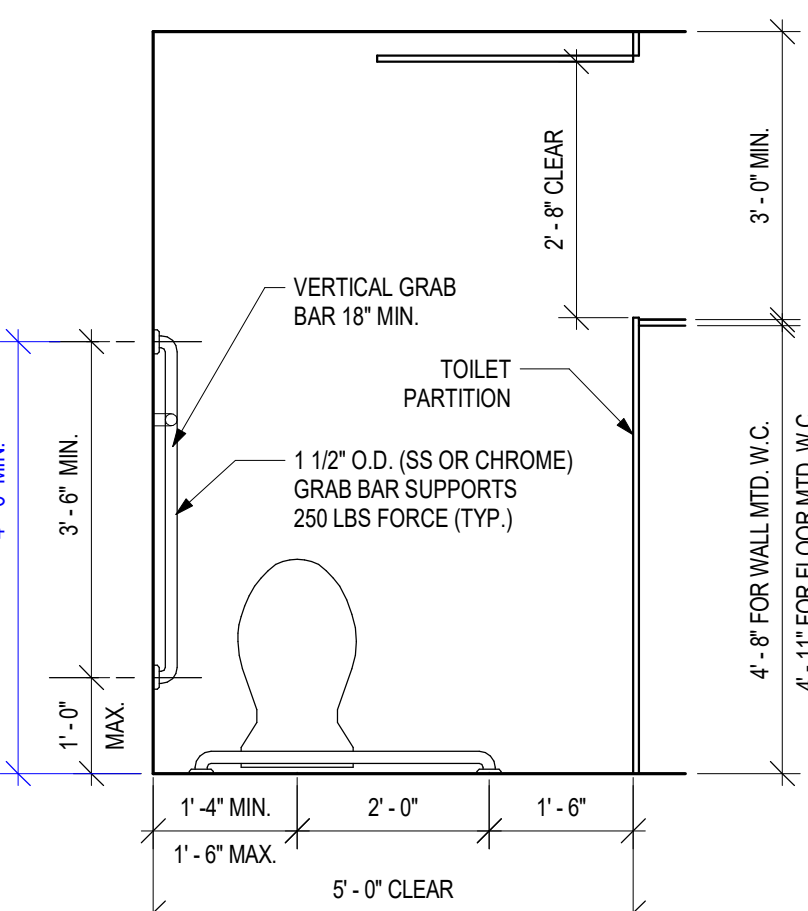
J10 FE CABINET  
1/2" = 1'-0"



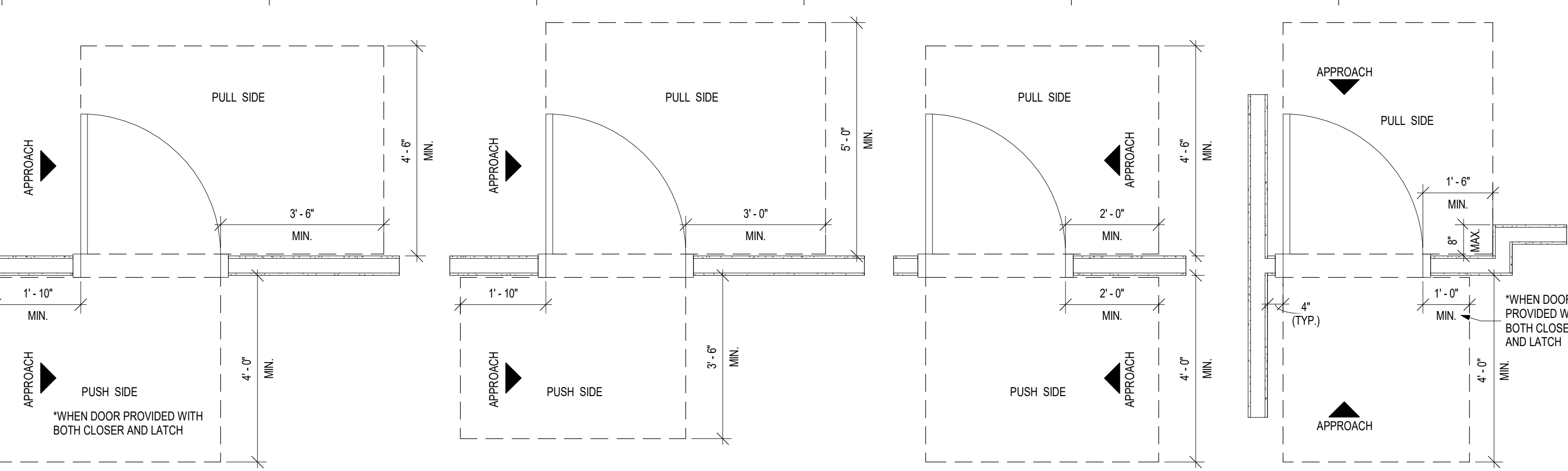
G10 FIRE EXTINGUISHER  
1/2" = 1'-0"



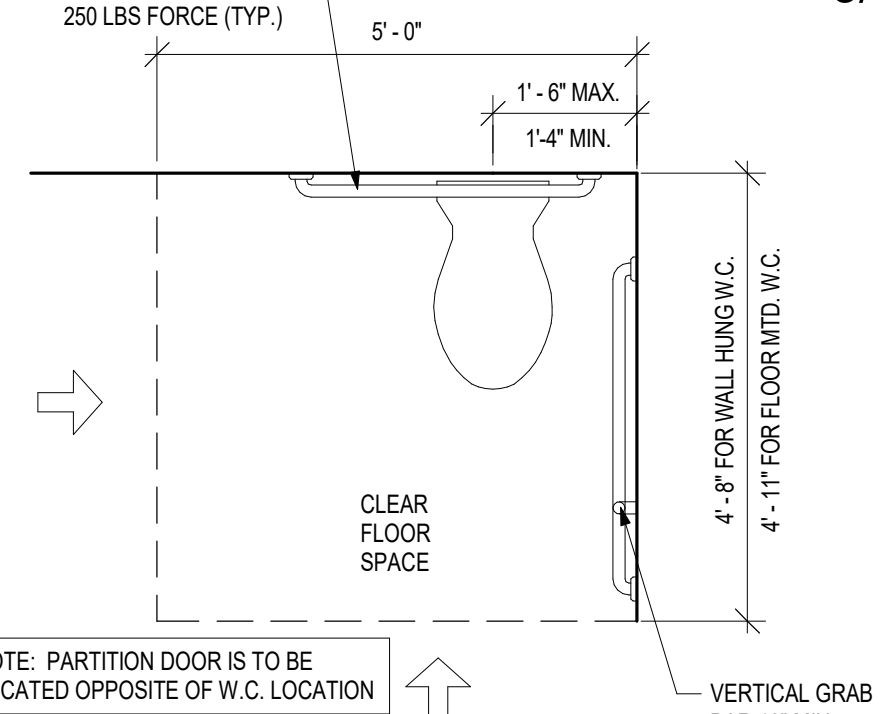
G9 HANDRAIL @ STAIRS AND RAMP  
3/4" = 1'-0"



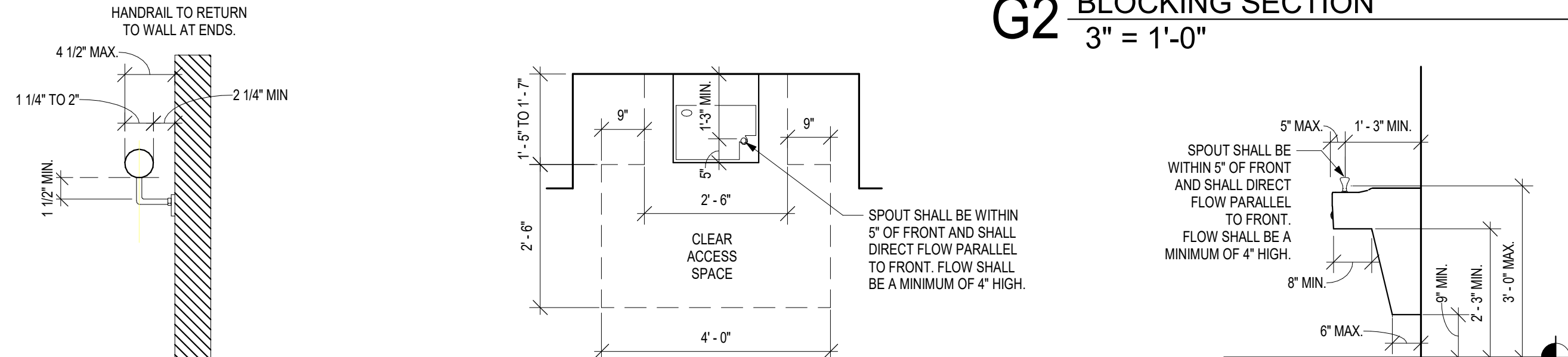
J6 TYP. DOOR APPROACH CLEARANCES  
1/2" = 1'-0"



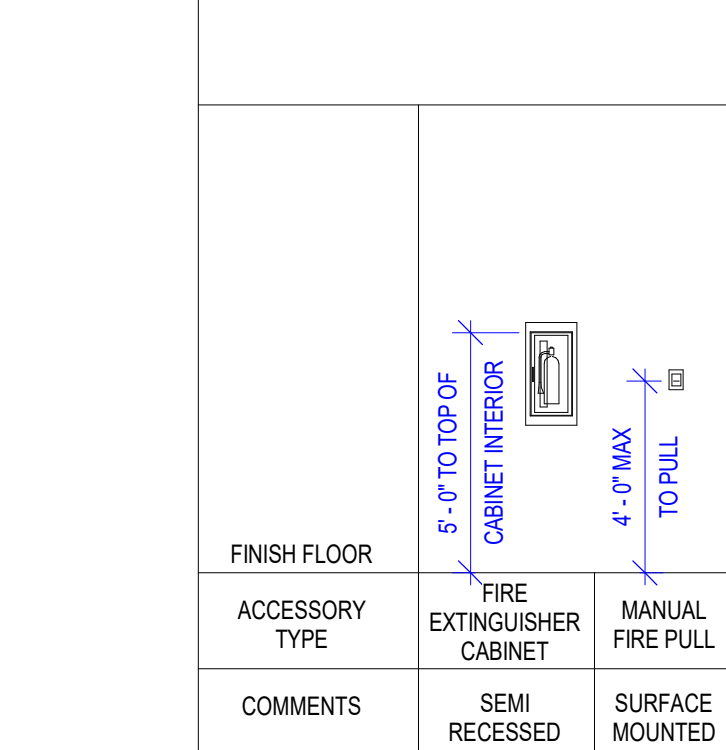
G6 TYP. BLOCKING DETAILS  
3/4" = 1'-0"



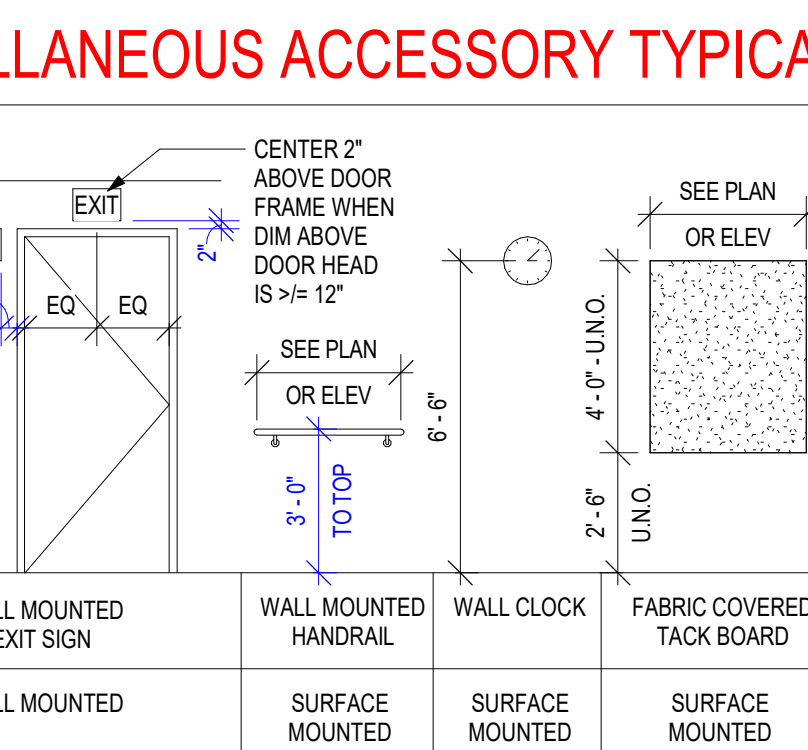
G2 BLOCKING SECTION  
3" = 1'-0"



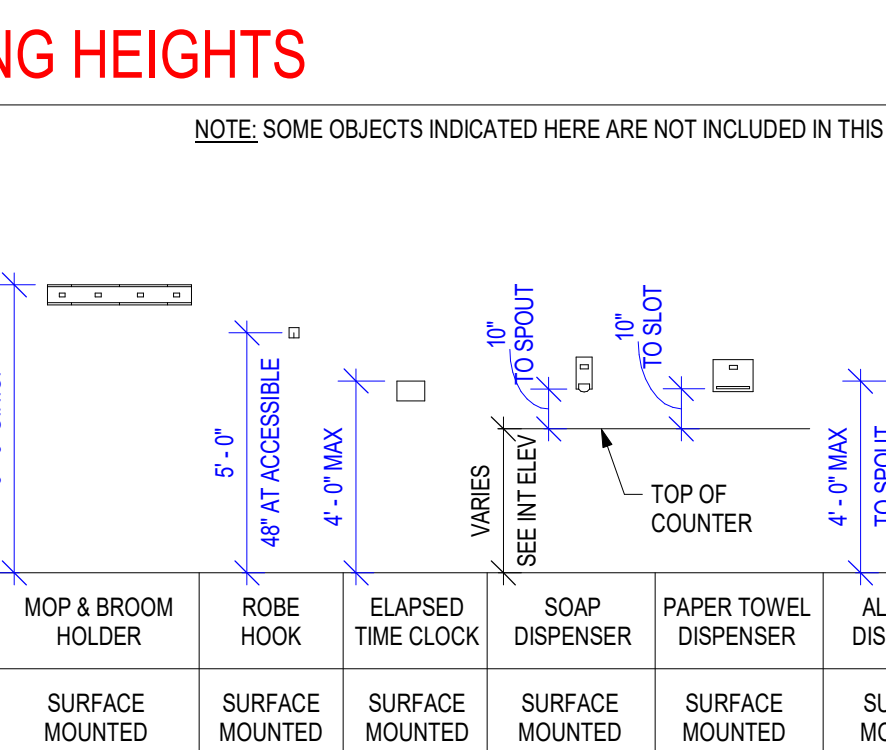
E12 SINK IN COUNTER CLEARANCES  
1/2" = 1'-0"



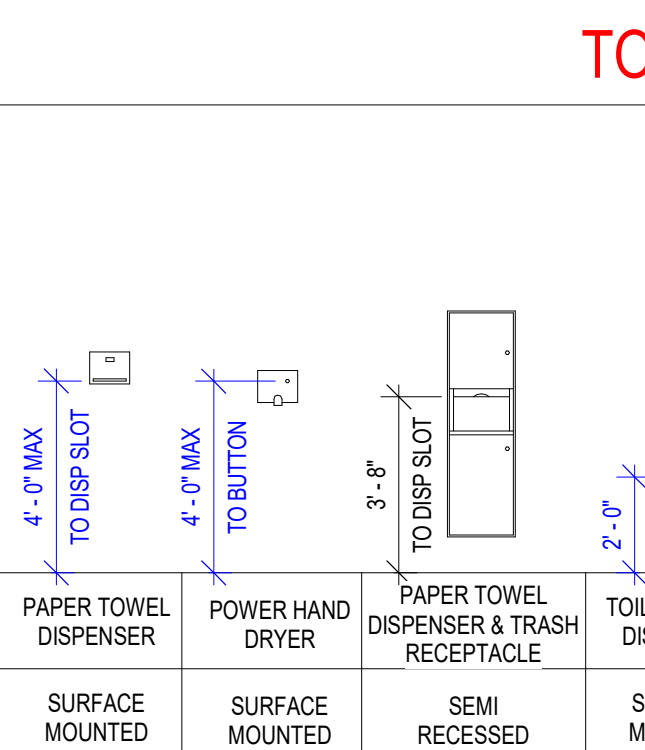
E10 ACCESSIBLE TOILET STALL  
1/2" = 1'-0"



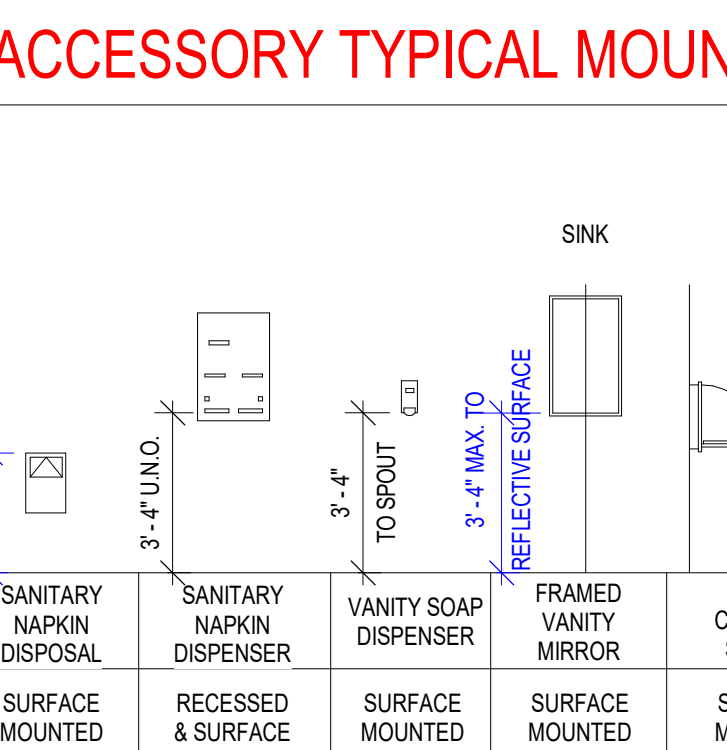
E8 ACCESSIBLE CLEAR FLOOR SPACE  
1/2" = 1'-0"



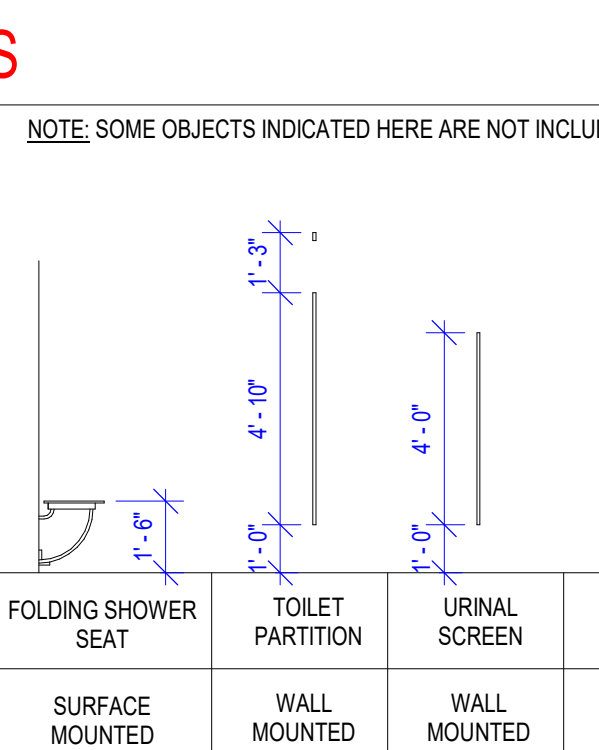
E6 HANDRAIL CLEARANCES  
1 1/2" = 1'-0"



E4 E.W.C. - CLEAR SPACE  
1/2" = 1'-0"



E2 E.W.C. - SECTION  
1/2" = 1'-0"



MISCELLANEOUS ACCESSORY TYPICAL MOUNTING HEIGHTS

ACCESSORY TYPE	COMMENTS	HEIGHT
FIRE EXTINGUISHER CABINET	SEMI RECESSED	4'-0" MAX.
MANUAL FIRE PULL	SURFACE MOUNTED	4'-0" MAX.
FIRE STROBE/LIGHT/AUDIBLE ALARM	SURFACE MOUNTED	7'-0" MIN.
WALL MOUNTED EXIT SIGN	WALL MOUNTED	4'-0" MIN.
WALL MOUNTED HANDRAIL	SURFACE MOUNTED	4'-0" MIN.
SURFACE CLOCK	SURFACE MOUNTED	4'-0" MIN.
FABRIC COVERED TACK BOARD	SURFACE MOUNTED	4'-0" MIN.
MARKER BOARD	SURFACE MOUNTED	4'-0" MIN.
MOP & BROOM HOLDER	SURFACE MOUNTED	4'-0" MIN.
ROBE HOOK	SURFACE MOUNTED	4'-0" MIN.
ELAPSED TIME CLOCK	SURFACE MOUNTED	4'-0" MIN.
SOAP DISPENSER	SURFACE MOUNTED	4'-0" MIN.
PAPER TOWEL DISPENSER	SURFACE MOUNTED	4'-0" MIN.
ALCOHOL DISPENSER	SURFACE MOUNTED	4'-0" MIN.

TOILET ACCESSORY TYPICAL MOUNTING HEIGHTS

ACCESSORY TYPE	COMMENTS	HEIGHT
PAPER TOWEL DISPENSER	SURFACE MOUNTED	4'-0" MAX.
POWER HAND DRYER	SURFACE MOUNTED	4'-0" MAX.
PAPER TOWEL DISPENSER & TRASH RECEPTACLE	SEMI RECESSED	4'-0" MAX.
TOILET TISSUE DISPENSER	SURFACE MOUNTED	4'-0" MAX.
SANITARY NAPKIN DISPOSAL	SURFACE MOUNTED	4'-0" MAX.
SANITARY NAPKIN DISPENSER	RECESSED & SURFACE	4'-0" MAX.
VANITY SOAP DISPENSER	SURFACE MOUNTED	4'-0" MAX.
FRAMED VANITY MIRROR	SURFACE MOUNTED	4'-0" MAX.
DIAPER CHANGING STATION	SURFACE MOUNTED	4'-0" MAX.
SOAP DISPENSER	COUNTERTOP MOUNTED	4'-0" MAX.
FOLDING SHOWER SEAT	SURFACE MOUNTED	4'-0" MAX.
TOILET PARTITION	WALL MOUNTED	4'-0" MAX.
URNAL SCREEN	WALL MOUNTED	4'-0" MAX.

MISCELLANEOUS ACCESSORY TYPICAL MOUNTING HEIGHTS

ACCESSORY TYPE	COMMENTS	HEIGHT
CLOSET HANGAR ROD & SHELF	WALL MOUNTED	4'-0" MAX.
WALL PHONE	SURFACE MOUNTED	4'-0" MAX.
TELEPHONE HOUSING	SURFACE MOUNTED	4'-0" MAX.
CUB DISPENSER	SURFACE MOUNTED	4'-0" MAX.
WALL SWITCH	SURFACE MOUNTED	4'-0" MAX.
TELEPHONE OUTLET	SURFACE MOUNTED	4'-0" MAX.
RECEPTACLE/ TELEPHONE/ DATA	SURFACE MOUNTED	4'-0" MAX.
SPECIALTY EQUIP (IE. THERMOSTAT CARD READER/ INTERCOM)	SURFACE MOUNTED	4'-0" MAX.
ELEVATOR CALL BUTTON	SURFACE MOUNTED	4'-0" MAX.
ELEVATOR VISIBLE SIGNAL INDICATOR	SURFACE MOUNTED	4'-0" MAX.
TACTILE CHARACTER INDICATOR	SURFACE MOUNTED	4'-0" MAX.
PANIC BAR	SURFACE MOUNTED	4'-0" MAX.
DOOR PULL	SURFACE MOUNTED	4'-0" MAX.
DOOR LATCH	SURFACE MOUNTED	4'-0" MAX.
ADA DOOR OPERATOR	VARIES	4'-0" MAX.

PLUMBING FIXTURE TYPICAL MOUNTING HEIGHTS

ACCESSORY TYPE	COMMENTS	HEIGHT
SHOWER MIXING VALVE	WALL MOUNTED	4'-0" MAX.
SHOWER HEAD	WALL MOUNTED	4'-0" MAX.
HAND HELD SHOWER	WALL MOUNTED	4'-0" MAX.
LAVATORY	WALL MOUNTED	4'-0" MAX.
CHILDREN'S DRINKING FOUNTAIN	COUNTER MOUNTED	4'-0" MAX.
SINGLE DRINKING FOUNTAIN	WALL MOUNTED	4'-0" MAX.
DOUBLE DRINKING FOUNTAIN	WALL MOUNTED	4'-0" MAX.
TOILET	WALL/FLOOR MOUNTED	4'-0" MAX.
URNAL	WALL MOUNTED	4'-0" MAX.

GRAB BAR TYPICAL MOUNTING HEIGHTS & TOILET ACCESSORY PLANS

ACCESSORY TYPE	COMMENTS	HEIGHT
ADA TOILET GRAB BAR	SURFACE MOUNTED	4'-0" MAX.
SHOWER STALL GRAB BAR	SURFACE MOUNTED	4'-0" MAX.
ROLL-IN SHOWER STALL GRAB BAR	SURFACE MOUNTED	4'-0" MAX.
TYPICAL ADA SINK ENCLOSURE PANEL CLEARANCE	NOTE: SANITARY NAPKIN DISPOSAL AT WOMEN'S & UNISEX ONLY	4'-0" MAX.

A11 TYP. MOUNTING HEIGHTS Copy 1  
1/4" = 1'-0"



## BUILDINGS H

GENERAL INFORMATION:

NO. OF STORIES = 2  
ACTUAL BUILDING HT. = 22' - 9"  
BASEMENT = NO  
LIVING AREA = 1,320 SF  
GARAGE AREA = 406 SF  
COVERED PORCH AREA = 16 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  
HIGHER PRIORITY WALL  
HIGHER PRIORITY WALL  
HIGHER PRIORITY WALL  
HIGHER PRIORITY WALL  
HIGHER PRIORITY WALL

LOWER PRIORITY WALL  
TAPE & JOINT  
COMPOUND (TYP)  
HIGHER PRIORITY WALL  
HIGHER PRIORITY WALL  
HIGHER PRIORITY WALL  
CONTINUOUS TAPE  
& SEAL OF HIGHER  
PRIORITY WALL  
(TYP)

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.
4. ALTERNATE LAYERS OF GYPSUM BOARD SHALL OVERLAP AT CORNER INTERSECTIONS OF MULTI-LAYERED RATED GYPSUM BOARD PARTITIONS.

## WALL TYPE NOTES:

1. DRYWALL PARTITIONS SHOULD BE CONSTRUCTED IN ACCORDANCE WITH ASTM E487 - STANDARD PRACTICE FOR INSTALLING SOUND ISOLATING GYPSUM BOARD PARTITIONS AND ASTM C919 - STANDARD PRACTICE FOR USE OF SEALANTS IN ACoustICAL APPLICATIONS. ALL SOUND BARRIER PARTITIONS SHOULD EXTEND FROM FLOOR TO STRUCTURE UNLESS STATED OTHERWISE. METAL STUDS SHALL BE RIGIDLY ATTACHED ONLY AT HEAD AND FOOT. STRUCTURAL CROSS BRACING MUST NOT RIGIDLY CONNECT TO BOTH METAL STUD WALLS.
2. RE: LIFE SAFETY PLANS) FOR RATED WALL LOCATIONS.
3. RE: WALL TYPE DETAIL SHEET FOR TYPICAL WALL DETAILS AND ADDITIONAL WALL TYPE INFORMATION.
4. FOR TYPICAL TOP OF WALL CONDITIONS AT JOISTS AND BEAMS, REFER TO THE CLOSURE DETAILS ON THE WALL TYPE DETAILS SHEET.
5. WHERE "FIRE-RATED SEALANT" IS INDICATED ON WALL TYPES PROVIDE FIRE-RATED SEALANT ABOVE TOP TRACK, UNDER BOTTOM TRACK, AT ALL PENETRATIONS (BOTH SIDES), AND AS REQUIRED BY FIRE RATING UL NUMBER.
6. EXTEND FIRE-RATED WALL CONSTRUCTION BEHIND RECESSED OR BUILT-IN EQUIPMENT, SUCH AS FIRE EXTINGUISHER CABINETS (FEC), ELECTRICAL WATER COOLERS (EWC), ELECTRICAL PANELS, ETC., UNLESS NOTED OTHERWISE.
7. PROVIDE AND INSTALL ALL STIFFENERS, BRACING, BACK-UP PLATES AND SUPPORTING BRACKETS REQUIRED FOR THE INSTALLATION OF ALL CASEWORK AND OF ALL FLOOR MOUNTED OR SUSPENDED MECHANICAL, ELECTRICAL OR LABORATORY EQUIPMENT.
8. WHERE HVAC OR OTHER MECHANICAL, ELECTRICAL AND PLUMBING ITEMS PENETRATE PARTITIONS: STUDS SHALL BE BRACED AND FRAMED TO STRUCTURE AS REQUIRED TO PROVIDE ADEQUATE SUPPORT OF ALL PENETRATIONS THROUGH ACoustICAL AND FIRE RATED WALLS SHALL BE SEALED TO PROVIDE FIRE, SMOKE, AND/OR ACoustICAL ISOLATION OF SPACES WITH APPROPRIATE ACoustICAL FIRESTOP MATERIAL.
9. THERE SHALL BE NO BACK-TO-BACK ELECTRICAL TELEPHONE, OR OTHER OUTLETS, EXCEPT WHERE SPECIFICALLY SHOWN.
10. WALL BASE IS NOT SHOWN ON ALL WALL TYPES FOR CLARITY. REFER TO FINISH SCHEDULE.
11. PROVIDE GLASS-MAT, WATER RESISTANT BACKING BOARD AT ALL WET LOCATIONS.
12. EXCEPT AT FIRE-RATED PARTITIONS, ALL WALL AND COLUMN GYPSUM BOARD FACING SHALL BE HELD AT 5/8" INCH BELOW STRUCTURE, UNLESS NOTED OR SHOWN OTHERWISE.
13. PROVIDE AND INSTALL BLOCKING REQUIRED FOR ALL A.V. EQUIPMENT, O.C. TO COORDINATE WITH CONSULTANT FOR FINAL LOCATIONS AND SIZE REQUIREMENTS.
14. COMPRESSIBLE FILLER - ACCEPTABLE MATERIALS WOULD BE FIBERGLASS INSULATION OR FIRESTOPPING. VOIDS TO BE COMPLETELY FILLED AND A FIRESTOP SEALANT OVER ANY ENDS. THIS IS TYPICAL FOR ALL ACoustICAL WALL ASSEMBLIES WHERE "COMPRESSIBLE FILLER" IS CALLED FOR. THERE CAN BE NO VOIDS IN THE INSTALLATION.
15. MUD AND TAPE ALL 1ST AND 2ND LAYER GYP. BOARD JOINTS. PROVIDE 3RD LAYER FINISH PER GENERAL NOTES: FLOOR PLAN.
16. PROVIDE HORIZONTAL LATERAL BRACING WIRE WELDED TO STUD FOR ALL WALLS, AT APPROPRIATE GAGE AND SPACING SPECIFIED BY SUPPLIER.

## FIRE &amp; SMOKE RESISTIVE LEGEND DEFINITIONS

## FIRE WALLS (FW)

DEFINITION  
A FIRE RATED WALL THAT IS CONTINUOUS VERTICALLY FROM FOUNDATION TO ROOF TO SEPARATE CONSTRUCTION INTO SEPARATE BUILDINGS.

USE  
FIRE WALLS SERVE TO CREATE SEPARATE BUILDINGS FOR THE FOLLOWING REASONS:  
• CONSTRUCTION TYPE VARIES FROM ONE BUILDING TO ANOTHER.  
• COMPLIANCE WITH MAXIMUM ALLOWABLE AREA REQUIREMENTS.  
• TO SEPARATE BUILDINGS WITH DIFFERENT LEVELS OF FIRE PROTECTION.  
• TO ADDRESS A PROPERTY LINE DEFINING DIFFERENT OWNERSHIP.

## SPECIAL CONSIDERATIONS

- THE FIRE WALL REQUIRES SUFFICIENT STRUCTURAL STABILITY UNDER FIRE CONDITIONS TO ALLOW THE COLLAPSE OF CONSTRUCTION ON EITHER SIDE WITHOUT COLLAPSE OF THE WALL.
- OPENINGS ARE REQUIRED TO BE PROTECTED.
- OPENINGS ARE LIMITED BASED ON A PERCENTAGE OF WALL LENGTH.
- EXTENDING THE FIRE WALL THROUGH THE ROOF WITH A PARAPET IS REQUIRED FOR SOME CONSTRUCTION CLASSIFICATIONS.
- THE REQUIRED FIRE RATING OF A FIRE WALL IS BASED ON OCCUPANCY GROUPS AND CLASS OF CONSTRUCTION.
- HARDWARE FOR SWING DOORS SHALL INCLUDE A LATCH AND CLOSER.

## FIRE BARRIERS (FB)

DEFINITION

A FIRE RATED WALL CONSTRUCTED TO RESTRICT THE SPREAD OF FIRE. CONTINUITY SHALL BE MAINTAINED FROM TOP OF FLOOR TO UNDERSIDE OF THE FLOOR OR ROOF DECK ABOVE.

## USE

FIRE BARRIERS HAVE THE FOLLOWING APPLICATIONS:

- TO CREATE HORIZONTAL EXITS.
  - TO SEPARATE EXIT PASSAGeways.
  - OCCUPANCY SEPARATIONS.
  - TO SEPARATE INCIDENTAL USE AREAS.
  - ISOLATION OF HAZARDS.
  - TO SEPARATE ROOMS WITH DIFFERENT LEVELS OF FIRE PROTECTION.
  - SMOKE BARRIERS AND SHAFT ENCLOSURES ARE FIRE BARRIERS. SEE ADDITIONAL REQUIREMENTS.
- SPECIAL CONSIDERATIONS
- WITHIN SOME CONSTRUCTION CLASSIFICATIONS, CONSTRUCTION THAT PROVIDES STRUCTURAL SUPPORT OF A FIRE BARRIER IS REQUIRED TO BE OF THE SAME HOURLY FIRE RATING AS THE FIRE BARRIER, OR BETTER.
  - OPENINGS ARE REQUIRED TO BE PROTECTED.
  - HARDWARE FOR SWING DOORS SHALL INCLUDE A LATCH AND CLOSER.

## SHAFT ENCLOSURES (SE)

DEFINITION  
A SHAFT ENCLOSURE IS A FIRE BARRIER FORMING THE BOUNDARY OF A VERTICAL SHAFT.

USE

PROTECT OPENINGS IN FIRE RATED FLOOR/CEILING ASSEMBLIES.

## SPECIAL CONSIDERATIONS

- PENETRATIONS IN SHAFT ENCLOSURES ARE PROHIBITED UNLESS NECESSARY FOR THE FUNCTION OF THE SHAFT. WHERE ALLOWED, OPENINGS ARE REQUIRED TO BE PROTECTED.
- DUCT PENETRATIONS REQUIRE COMBINATION SMOKE AND FIRE DAMPERS EXCEPT FOR EXISTING CONDITIONS THAT ARE GRANDFATHERED.
- HARDWARE FOR SWING DOORS SHALL INCLUDE A LATCH, CLOSER, AND PERIMETER SMOKE SEALS.

## FIRE PARTITIONS (FP)

DEFINITION  
A FIRE RATED PARTITION THAT IS USED FOR THE APPLICATIONS LISTED BELOW. IT SHALL BE CONTINUOUS FROM TOP OF FLOOR TO UNDERSIDE OF A FIRE-RATED FLOOR/CEILING OR ROOF/CEILING ASSEMBLY, WHERE ALLOWED BY CODE. EXCEPTION: A FIRE PARTITION SHALL BE ALLOWED TO TERMINATE AT THE UPPER MEMBRANE OF A FIRE RATED CEILING.

USE  
FIRE PARTITIONS ARE USED IN CERTAIN OCCUPANCIES TO DO THE FOLLOWING:  
• SEPARATE DWELLING UNITS.  
• SEPARATE SLEEPING SPACES.  
• SEPARATE CORRIDORS FROM ADJACENT SPACES.  
• SEPARATE ELEVATOR LOBBIES.  
• SEPARATE TENANT SPACES IN COVERED MAIL BUILDINGS.

## SPECIAL CONSIDERATIONS

- OPENINGS ARE REQUIRED TO BE PROTECTED.
- HARDWARE FOR SWING DOORS SHALL INCLUDE A LATCH AND CLOSER.

## BEARING WALLS (BW)

DEFINITION  
AN INTERIOR OR EXTERIOR WALL DESIGNED TO SUPPORT FLOOR OR ROOF LOADS. A BEARING WALL IS FIRE-RATED ONLY TO MAINTAIN THE INTEGRITY OF ITSELF AS A FIRE RATED STRUCTURAL ELEMENT. THE WALL DOES NOT SERVE AS A FIRE SEPARATION FROM ONE SIDE TO THE OTHER SIDE.

## USE

A VERTICAL LOAD BEARING STRUCTURAL ELEMENT.

## SPECIAL CONSIDERATIONS

- DOORS AND WINDOWS ARE NOT REQUIRED TO BE RATED.
- HVAC DUCT PENETRATIONS ARE NOT REQUIRED TO BE FIRE-DAMPED.
- PLUMBING, ELECTRICAL, SPRINKLER SYSTEM, AND CABLE PENETRATIONS ARE REQUIRED TO BE FIRE-STOPPED WITH FIRE SEALANT AT BOTH SIDES, FOR WALLS CONSTRUCTED OF: HOLLOW CMU OR STUD FRAMING.

## GENERAL NOTES

1. THE FOLLOWING INFORMATION SERVES TO PROVIDE BUILDING OWNERS WITH CONCISE DEFINITIONS OF WALL TYPES RELATED TO LIFE SAFETY ISSUES. THIS INFORMATION IS NOT MEANT TO BE A SUBSTITUTE FOR APPLICABLE BUILDING CODES.
2. WHEN A WALL HAS MORE THAN ONE CLASSIFICATION, THE MOST RESTRICTIVE REQUIREMENTS FOR EACH CLASSIFICATION SHALL APPLY.
3. FOR NEW CONSTRUCTION, PERIMETER SMOKE-SEALS MAY BE REQUIRED AT FIRE RATED DOORS IN CERTAIN OCCUPANCIES.

## GENERAL DESCRIPTION

PROJECT NAME: BLACKWELL RESERVE (SINGLE-FAMILY HOMES)  
PROJECT LOCATION: LEE'S SUMMIT, MISSOURI  
COUNTY: JACKSON  
COLLINS WEBB ARCHITECTURE  
3078 SW MARKET STREET  
LEES SUMMIT, MISSOURI 64063

## APPLICABLE CODES:

## 2018 INTERNATIONAL RESIDENTIAL CODE

2018 INTERNATIONAL PLUMBING CODE  
2018 INTERNATIONAL MECHANICAL CODE  
2018 INTERNATIONAL FUEL GAS CODE  
2018 INTERNATIONAL FIRE CODE  
2017 NATIONAL ELECTRICAL CODE  
ICC/ANSI A117.1-2009, ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES

## FIRE EXTINGUISHERS

1. PROVIDE PORTABLE FIRE EXTINGUISHERS IN OCCUPANCIES AND LOCATIONS AS REQUIRED BY THE FIRE PREVENTION CODE.
2. PORTABLE FIRE EXTINGUISHERS SHALL BE INSTALLED, INSPECTED, AND MAINTAINED IN ACCORDANCE WITH NFPA 10, STANDARD FOR PORTABLE FIRE EXTINGUISHERS.

## CEILING HEIGHT NOTES: (IRC R305)

1. HABITABLE SPACE, HALLWAYS, BATHROOMS, TOILET ROOMS, LAUNDRY ROOMS AND PORTIONS OF 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'-0" A.F.F.

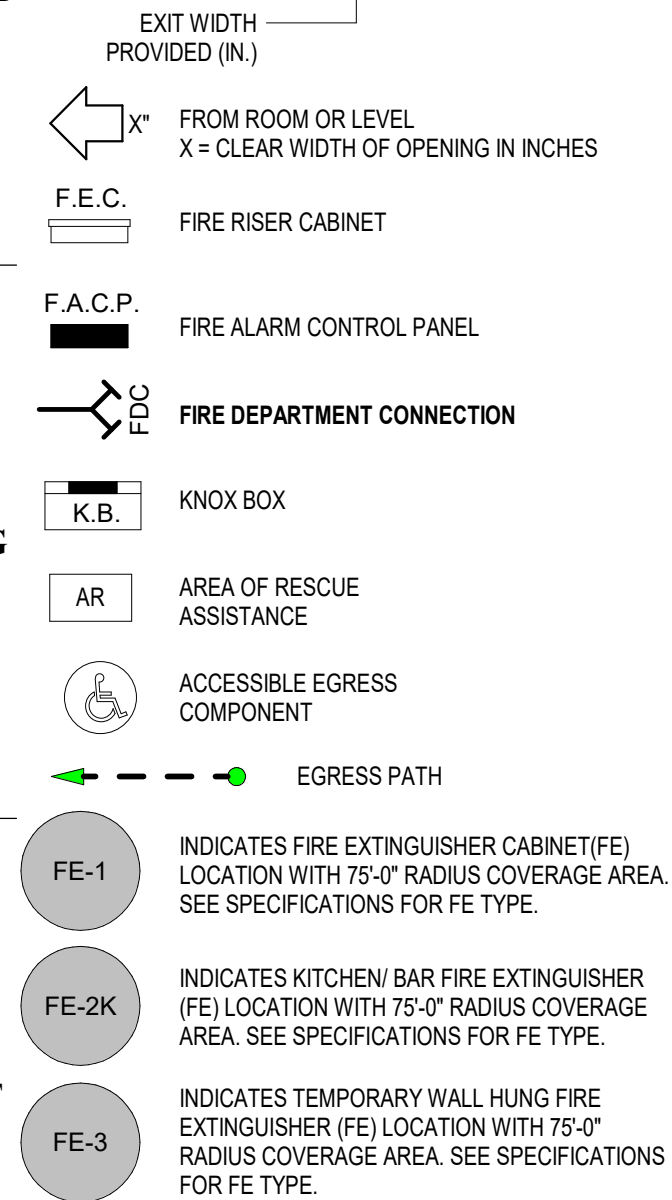
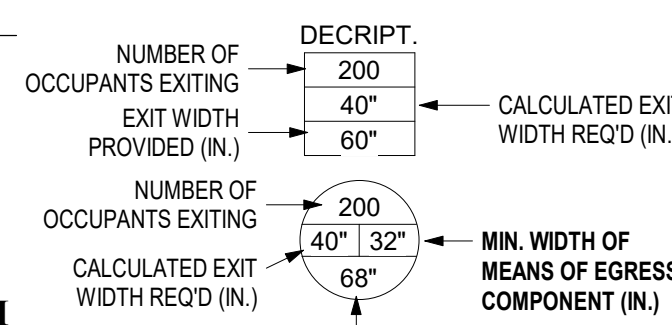
EXCEPTIONS: BEAMS, GIRDERS, DUCTS, OR OTHER OBSTRUCTIONS MAY PROJECT TO WITHIN 6'-4" OF THE FINISHED FLOOR.

## FIRE SPRINKLER NOTE: (IRC R302)

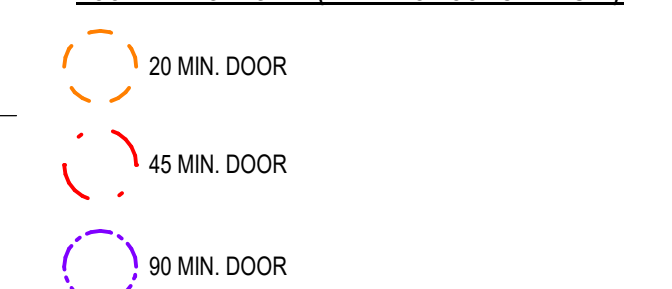
1. FIRE SPRINKLER NOT REQUIRED IF EXTERIOR WALLS OF DWELLINGS ARE SEPARATED BY FIVE FEET OR MORE IF WALL IS UNRATED. IF WALL IS RATED (1 HR) NO SEPARATION IS REQUIRED.

## FIRE RESISTIVE LEGEND

3FW	3FW	3FW	3FW	3 HOUR FIRE WALL
2FW	2FW	2FW	2FW	2 HOUR FIRE WALL
2FB	2FB	2FB	2FB	2 HOUR FIRE BARRIER
1FB	1FB	1FB	1FB	1 HOUR FIRE BARRIER
2S	2S	2S	2S	2 HOUR SHAFT ENCLOSURE
1SE	1SE	1SE	1SE	1 HOUR SHAFT ENCLOSURE
1FP	1FP	1FP	1FP	1 HOUR FIRE PARTITION
0.5FP	0.5FP	0.5FP	0.5FP	0.5 HOUR FIRE PARTITION
0.5X	0.5X	0.5X	0.5X	0.5 HOUR CORRIDOR PARTITION
SB	SB	SB	SB	1 HOUR SMOKE BARRIER
2BW	2BW	2BW	2BW	2 HOUR BEARING WALL
1BW	1BW	1BW	1BW	1 HOUR BEARING WALL



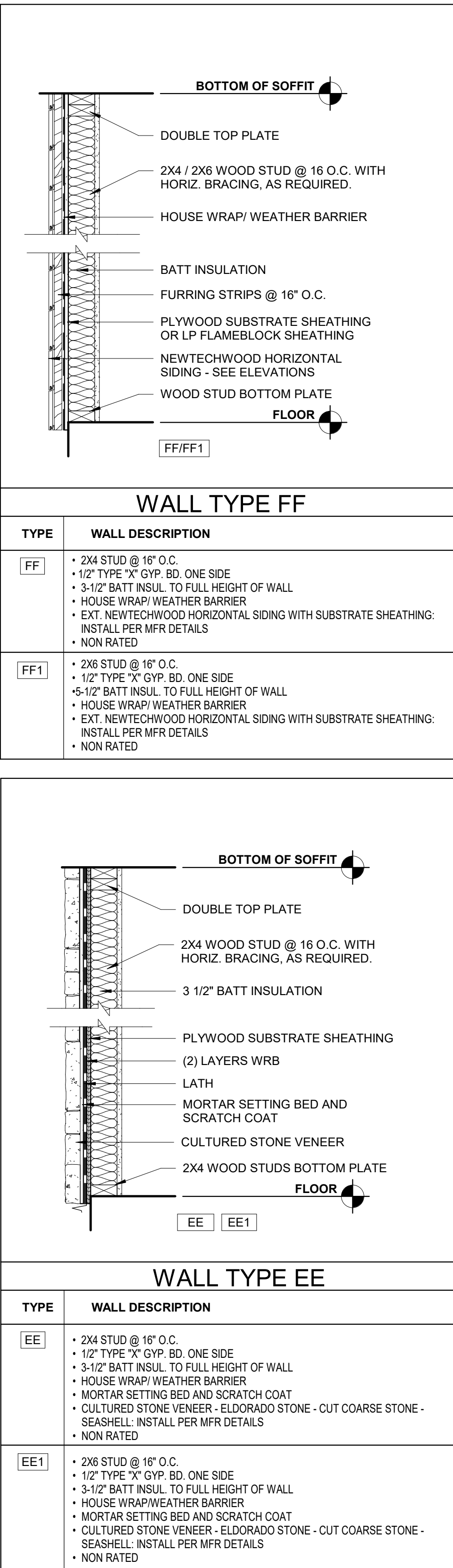
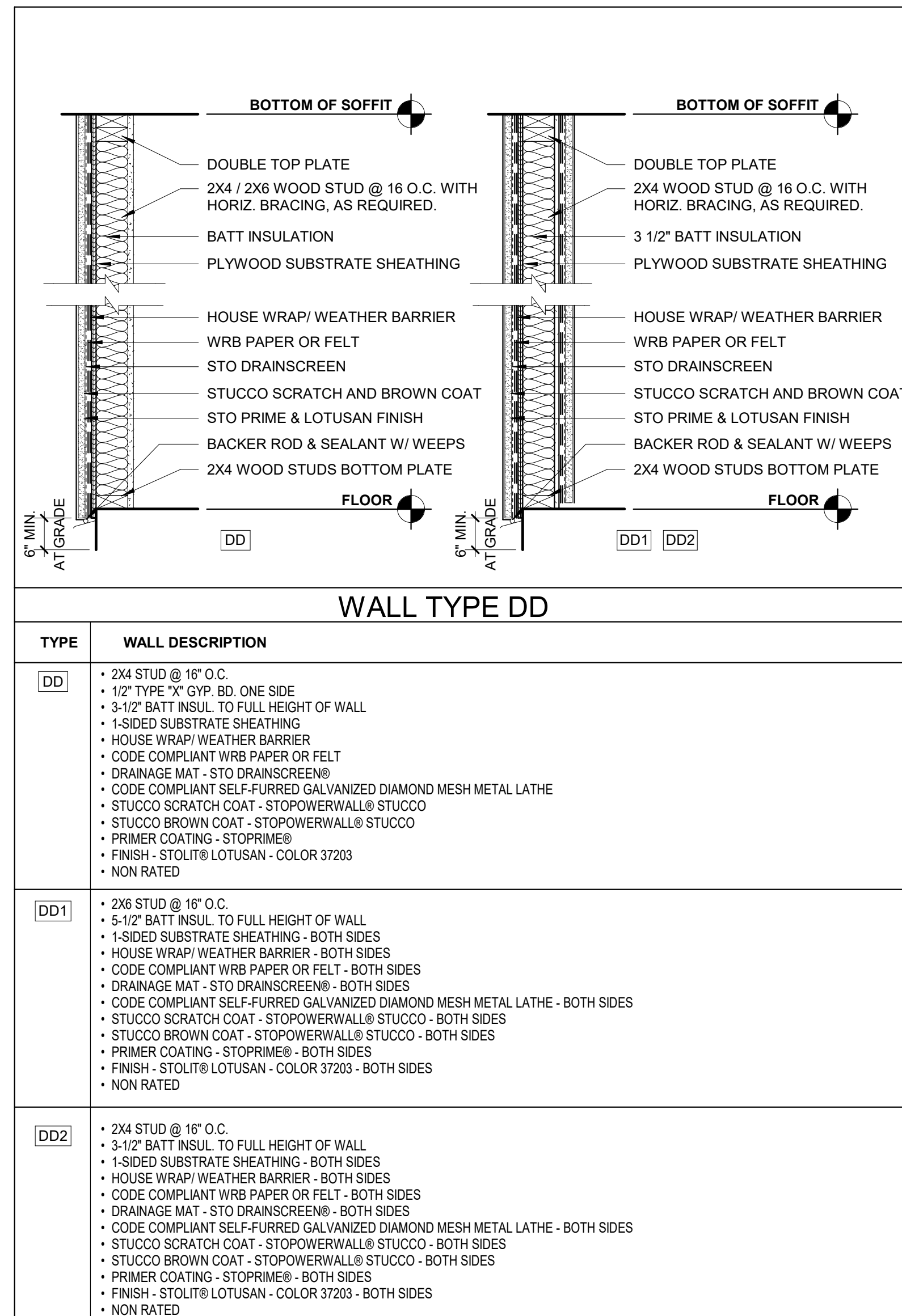
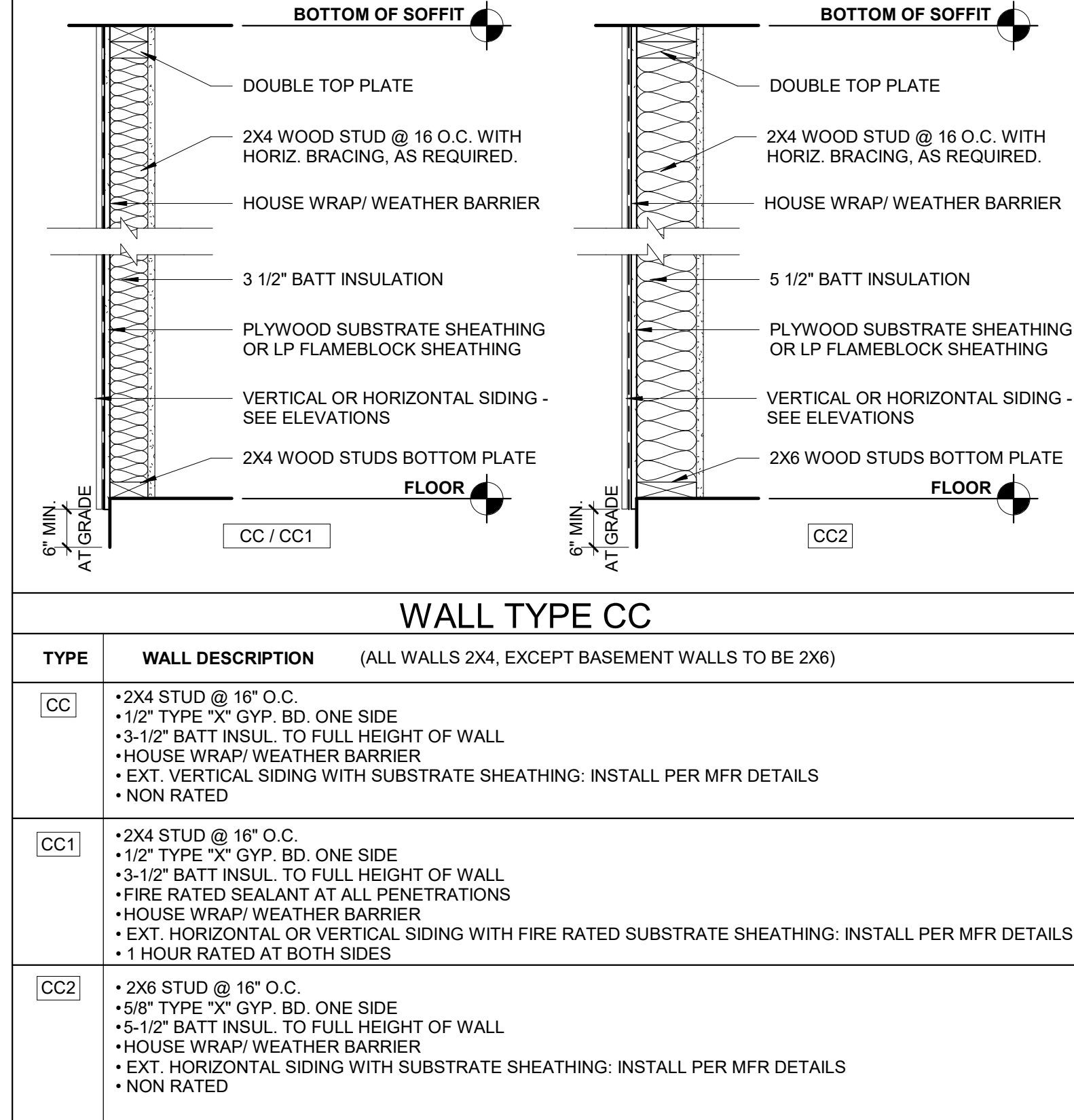
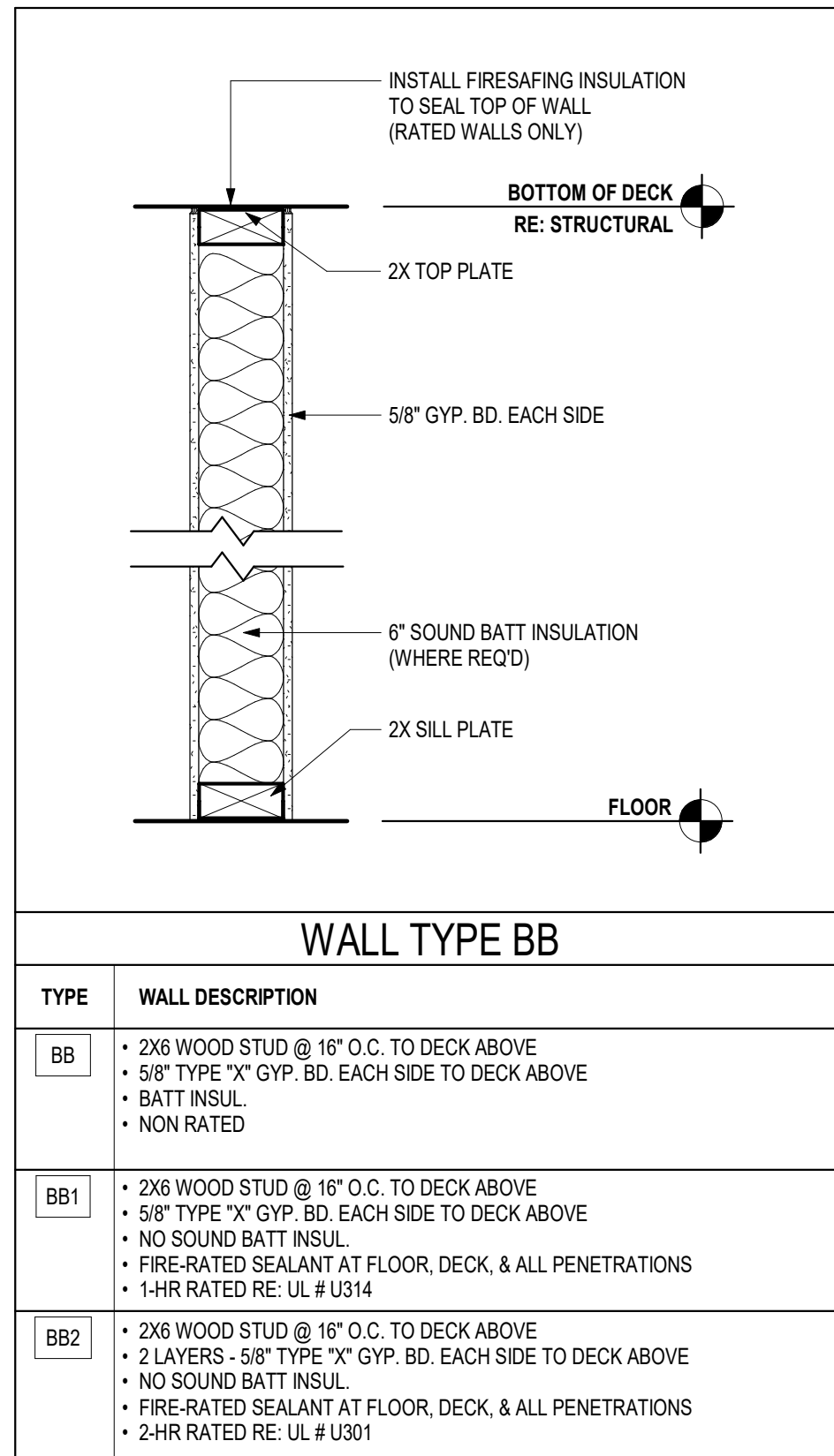
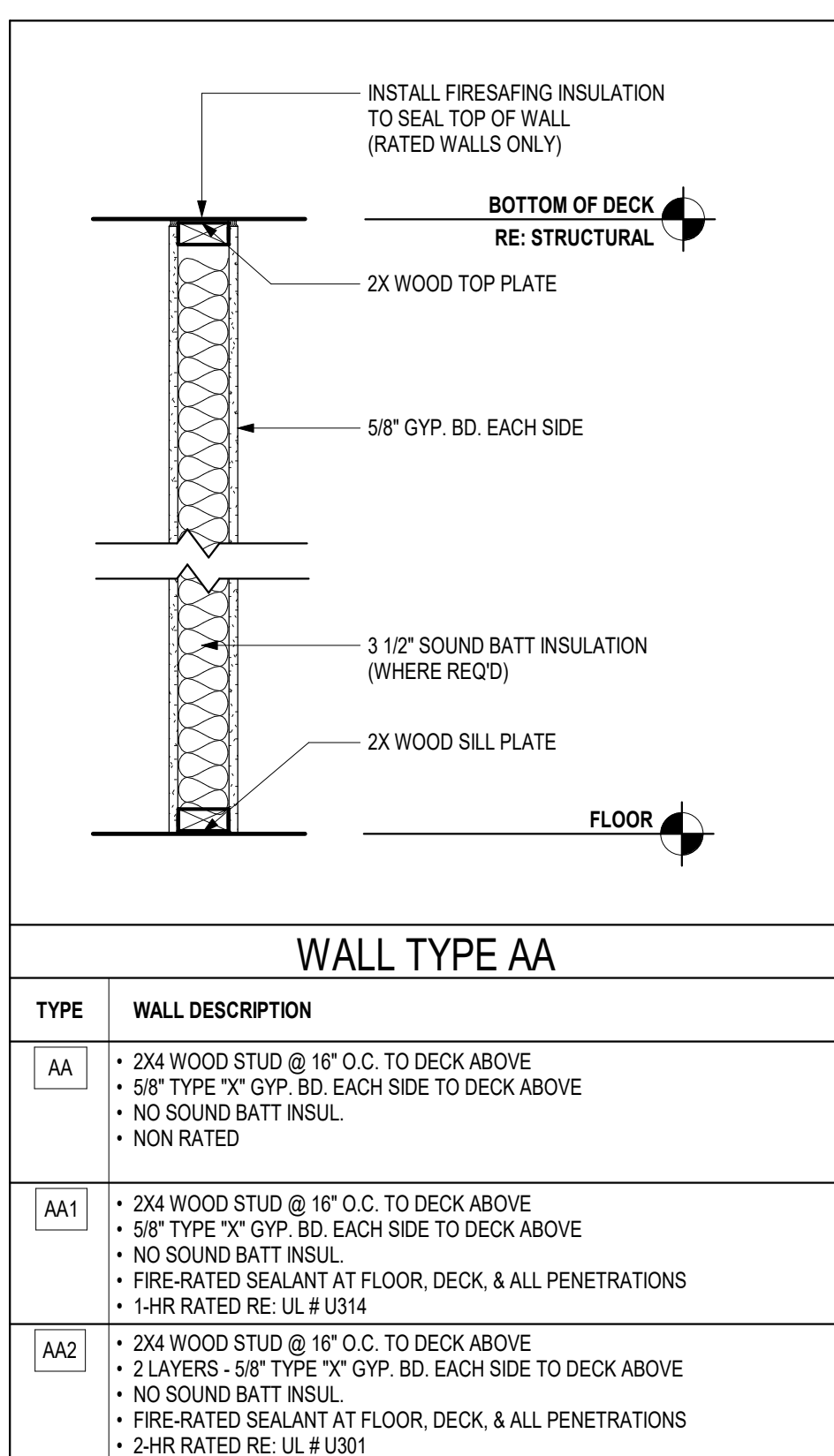
## DOOR RATING LEGEND (REFER TO DOOR SCHEDULE)

GENERAL NOTES:  
FIREBLOCKING PER  
SECTION R302.11:

1. IN CONCEALED SPACES OF STUD WALLS AND PARTITIONS, INCLUDING FURRED SPACES AND PARALLEL ROWS OF STUDS OR STAGGERED STUDS, AS FOLLOWS:
  - 1.1 VERTICALLY AT THE CEILING AND FLOOR LEVELS. 1.2 HORIZONTALLY AT INTERVALS NOT EXCEEDING 10 FEET.
2. AT INTERCONNECTIONS BETWEEN CONCEALED VERTICAL AND HORIZONTAL SPACES SUCH AS OCCUR AT SOFFITS, DROP CEILINGS AND COVE CEILINGS.
3. IN CONCEALED SPACES BETWEEN STUD STRINGERS AT THE TOP AND BOTTOM OF THE RUN, ENCLOSED SPACES UNDER STAIRS SHALL COMPLY WITH SECTION R302.7.
4. AT OPENINGS AROUND VENTS, PIPES, DUCTS, CABLES AND WIRES AT CEILING AND FLOOR LEVEL, MATERIAL TO RESIST THE FREE PASSAGE OF FLAME AND PRODUCTS OF COMBUSTION. THE MATERIAL FILLING THIS ANNULAR SPACE SHALL NOT BE REQUIRED TO MEET THE ASTM E182 REQUIREMENTS.
5. FOR THE FIREBLOCKING OF CHIMNEYS AND FIREPLACES, SEE SECTION R1003.9.
6. FIREBLOCKING OF CORNICES OF A TWO-FAMILY DWELLING IS REQUIRED AT THE LINE OF DWELLING UNIT SEPARATION.

R302.11.1 FIREBLOCKING MATERIALS  
EXCEPT AS PROVIDED IN SECTION R302.11, ITEM 4, FIREBLOCKING SHALL CONSIST OF THE FOLLOWING MATERIALS:

1. TWO-INCH NOMINAL LUMBER.
2. TWO THICKNESSES OF 1/2-INCH NOMINAL LUMBER WITH BROKEN LAP JOINTS.
3. ONE THICKNESS OF 2X2-INCH WOOD STRUCTURAL PANELS WITH JOINTS BACKED BY 2X2-INCH WOOD STRUCTURAL PANELS.
4. ONE THICKNESS OF 3/4-INCH PARTICLEBOARD WITH JOINTS BACKED BY 3/4-INCH PARTICLEBOARD.
5. ONE HALF-INCH GYPSUM BOARD.
6. ONE-QUARTER-INCH CEMENT-BASED MILLBOARD.
7. BATTLS OR BLANKETS OF MINERAL WOOL OR GLASS FIBER OR OTHER APPROVED MATERIALS INSTALLED IN SUCH A MANNER AS TO BE SECURELY RETAINED IN PLACE.
8. CELLULOSE INSULATION INSTALLED AS TESTED IN ACCORDANCE WITH ASTM E119 OR UL 263, FOR THE SPECIFIC APPLICATION.

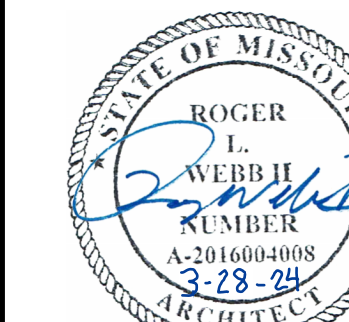


## RESERVE AT BLACKWELL - BUILDING H

SE SHENANDOAH DRIVE  
LEE'S SUMMIT, MO 64063

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REVISION DATES:



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## LIFE SAFETY INFORMATION



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LEES SUMMIT, MISSOURI 64063 | 816.249.2270 | www.collinswebb.com

PERMIT DOCUMENTS











SPECIFICATIONS - PRODUCT & INSTALLATION GENERAL REQUIREMENTS

09 5000 - RESILIENT FLOORING AND WALL BASE

A. SUBMITTALS: PRODUCT DATA AND (1) SAMPLES OF EACH TILE AND BASE SPECIFIED FOR VERIFICATION PURPOSES.

B. BASIS OF DESIGN:

1. METROFLOR/KONECTO PLANK, PROJECT 54012 OR APPROVED EQUIVAL.

C. ATTIC STOCK: 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.

D. RESILIENT TILE PRODUCTS: PROVIDE FLOOR TILE IN TYPE AND SIZES INDICATED IN THE CONSTRUCTION DOCUMENTS COMPLYING WITH THE FOLLOWING:

E. RESILIENT WALL BASE: ASTM TYPE TS (RUBBER, VULCANIZED THERMOSET) 1/8" THICK, FURNISHED IN COLES IN STYLES AND SIZES INDICATED IN THE CONSTRUCTION DOCUMENTS WITH JOB-FORMED INSIDE AND OUTSIDE CORNERS.

F. INSTALLATION ACCESSORIES:

- 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.
- 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.
- MOLDINGS, TRANSITION AND EDGE STRIPS: SAME MATERIAL AS FLOORING.

G. INSTALLATION:

- PREPARE CONCRETE SUBSTRATES PER ASTM F 710. VERIFY THAT SUBSTRATES ARE DRY AND FREE OF CURING COMPOUNDS, SEALERS AND HARDENERS.
- LAY OUT TILES 50 WIDTHS AT OPPOSITE EDGES OF ROOM ARE EQUAL AND NOT LESS THAN HALF-WIDTH.
- LAY TILES IN PATTERNS INDICATED WITH GRAIN DIRECTION ALTERNATING IN ADJACENT TILES, UNLESS NOTED OTHERWISE.
- CLEAN, SEAL, AND WAX RESILIENT FLOORING IN ACCORDANCE WITH MANUFACTURERS' INSTRUCTIONS.

H. WALL BASE AND ACCESSORY INSTALLATION:

- 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.
- INSTALL WALL BASE WITH MANUFACTURER'S RECOMMENDED ADHESIVE IN MAXIMUM LENGTHS POSSIBLE. APPLY TO WALLS, COLUMNS, PLASTERS, CASEWORK, AND OTHER PERMANENT FIXTURES.
- INSTALL TRANSITION STRIPS WHERE FLOORING MATERIALS MEET OR WHERE EDGE OF TILE IS EXPOSED AS INDICATED IN THE FINISH SCHEDULE.

09 6913 - TILE CARPETING

A. SUBMITTALS: 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 WORKSMANSHIP 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 INSTALLED. 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 1, NOT LESS THAN 45 W/50, CM PER ASTM E 648. ORDER ALL MATERIALS FROM THE SAME FACTORY DYE LOT.

E. INSTALLATION ACCESSORIES:

- TROWELABLE LEVELING AND PATCHING COMPOUNDS: LATEX-MODIFIED, HYDRAULIC-CEMENT-BASED FORMULATION PROVIDED OR RECOMMENDED BY CARPET MANUFACTURER.
- 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 WITH CR1 104, SECTION 13 "CARPET MODULES (TILES)".

- GENERAL: COMPLY WITH CR1'S "OR CARPET INSTALLATION STANDARD" AND WITH CARPET MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS FOR PREPARING SUBSTRATES.
- USE TROWELABLE LEVELING AND PATCHING COMPOUNDS, ACCORDING TO MANUFACTURERS' 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.
- BROOM AND VACUUM CLEAN SUBSTRATES TO BE COVERED IMMEDIATELY BEFORE INSTALLING CARPET.
- LAY CARPET TILE IN PATTERN AS INDICATED ON CONSTRUCTION DOCUMENTS AND 50 WIDTHS AT OPPOSITE EDGES OF ROOM ARE EQUAL AND NOT LESS THAN HALF-WIDTH.
- TRIM CARPET NEATLY AND TIGHT TO WALLS AND AROUND INTERFERTIONS.
- INSTALL PATTERN PARALLEL TO WALLS AND BORDERS UNLESS OTHERWISE INDICATED.
- DO NOT BRIDGE BUILDING EXPANSION JOINTS WITH CARPET.
- CUT AND FIT CARPET TO BUTT TIGHTLY TO VERTICAL SURFACES, PERMANENT FIXTURES, AND BUILT-IN FURNITURE INCLUDING CABINETS, PIPES, OUTLETS, EDGES, THRESHOLDS, AND NOSINGS. BIND OR SEAL CUT EDGES AS RECOMMENDED BY CARPET MANUFACTURER.
- EXTEND CARPET INTO TOE SPACES, DOOR REVEALS, CLOSETS, OPEN-BOTTOMED OBSTRUCTIONS, REMOVABLE FLANGES, ALCOVES, AND SIMILAR OPENINGS.
- 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.
- 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.
- INSTALL TRANSITION STRIPS AT CARPET TERMINATIONS AS SPECIFIED ON THE CONSTRUCTION DOCUMENTS.

09 6916 - SHEET CARPETING

A. SUBMITTALS: 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 WORKSMANSHIP OF CARPETING WORK DURING 1-YEAR WARRANTY PERIOD FOLLOWING SUBSTANTIAL COMPLETION. ATTACH COPIES OF PRODUCT WARRANTIES.

C. ATTIC STOCK: FULL-SIZE UNITS EQUAL TO 5 PERCENT OF AMOUNT INSTALLED FOR EACH TYPE INDICATED, BUT NOT LESS THAN 10 SQ. YD.

D. PRODUCTS: 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 REDOND PAD AS REQUIRED FOR A COMPLETE INSTALLATION.

E. INSTALLATION ACCESSORIES:

- TROWELABLE LEVELING AND PATCHING COMPOUNDS: LATEX-MODIFIED, HYDRAULIC-CEMENT-BASED FORMULATION PROVIDED OR RECOMMENDED BY CARPET MANUFACTURER.
- 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.
- 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.
- TACKLESS CARPET STRIPPING: WATER RESISTANT PLVWOOD 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.
- 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.

F. INSTALLATION:

- GENERAL: COMPLY WITH CR1'S "OR CARPET INSTALLATION STANDARD" AND WITH CARPET MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS FOR PREPARING SUBSTRATES.
- USE TROWELABLE LEVELING AND PATCHING COMPOUNDS, ACCORDING TO MANUFACTURERS' 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.
- BROOM AND VACUUM CLEAN SUBSTRATES TO BE COVERED IMMEDIATELY BEFORE INSTALLING CARPET.
- UNIT INSTALLATION: STRETCH-IN INSTALLATION WITH PAD.
- 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.
- INSTALL PATTERN PARALLEL TO WALLS AND BORDERS UNLESS OTHERWISE INDICATED.
- DO NOT BRIDGE BUILDING EXPANSION JOINTS WITH CARPET.
- CUT AND FIT CARPET TO BUTT TIGHTLY TO VERTICAL SURFACES, PERMANENT FIXTURES, AND BUILT-IN FURNITURE INCLUDING CABINETS, PIPES, OUTLETS, EDGES, THRESHOLDS, AND NOSINGS. BIND OR SEAL CUT EDGES AS RECOMMENDED BY CARPET MANUFACTURER.
- EXTEND CARPET INTO TOE SPACES, DOOR REVEALS, CLOSETS, OPEN-BOTTOMED OBSTRUCTIONS, REMOVABLE FLANGES, ALCOVES, AND SIMILAR OPENINGS.
- 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.
- 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 SPECIFIED.

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:

- ALL PAINT, STAIN, AND VARNISH SHALL BE PRODUCTS OF DEVCON, KVAL, SHERWIN WILLIAMS, PPG INDUSTRIES, PRATT & LAMBERT OR APPROVED EQUIV.
- ALL MATERIAL SHALL BE OF THE STANDARD RESIDENTIAL GRADE OF THE TYPES DESIGNATED.
- 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 APPLICATIONS 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.
- 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, ROPEINESS, OR OTHER SURFACE IMPERFECTIONS.
- APPLY PRODUCTS PER MANUFACTURER RECOMMENDED GUIDELINES. PRODUCT COVERAGE MINIMUM ONE COAT OF PRIMER AND TWO FINAL COATS ON MATERIALS APPLIED TO MATERIALS APPROVED BY MANUFACTURER PRODUCT DATA SHEETS.

A. Exterior Work:

1. ALL EXTERIOR GALVANIZED METAL FLASHINGS, CONNECTORS, ETC. TWO COAT COMMERCIAL METAL ETCH. ONE COAT EXTERIOR METAL PRIMER. TWO COATS EXTERIOR SEMI-GLOSS METAL PAINT.

2. ALL EXPOSED STEEL FRAMES, ANGLES, ETC. TWO COATS SEMI-GLOSS METAL PAINT. (PRIME COAT CHANNELS, POSTS, RAILINGS, BEAMS, ETC. SURFACES THAT ARE NOT PRIMED.)

3. ALL EXPOSED MISC. FERROUS METAL ITEMS INCLUDING RAILS, PLATES, ANGLES, BOLTS, GRATES, CONDUITS, POSTS, PIPING, ETC. TWO COATS SEMI-GLOSS METAL PAINT. (PRIME COAT SURFACES THAT ARE NOT PRIMED.)

4. ALL UNPRIMED EXTERIOR MILLWORK, TRIM, SMOOTH WOOD MATERIALS, ETC. PRIME AND BACK LATEX PRIMER. TWO COATS OF EXTERIOR LATEX SATIN OR SEMI-GLOSS PAINT.

5. PRIMED MILLWORK AND TRIM. TOUCH-UP PRIMER. TWO COATS OF EXTERIOR 100% SATIN OR SEMI-GLOSS ACRYLIC LATEX PAINT.

6. ROUGH SAWN TRIM, BEAMS, COLUMNS, ETC. ONE COAT PRIMER. TWO COATS EXTERIOR HEAVY BODIED STAIN.

7. PRIMED METAL ENTRY DOORS, FRENCH DOORS AND METAL FRAMES, GARAGE DOORS. PATCH DENTS, TOUCH UP PRIMER. TWO COATS OF OIL BASE SEMI-GLOSS PAINT INSIDE AND OUTSIDE.

8. ANY OTHER PAINTING REQUIRED BY THE DRAWINGS. TWO COATS TO MATCH ADJACENT SURFACES.

9. GYPSUM BOARD WALLS EXCEPT IN KITCHENS, BATHROOMS, LAUNDRIES AND COMMON AREA CORRIDORS, UNLESS SCHEDULED FOR WALLCOVERING. ONE COAT OF PRIME LATEX PAINT AND ONE FINISH COAT OF LATEX EGG-SHELL WALL PAINT. (TWO COATS IF REQUIRED TO ACHIEVE FULL COVERAGE.)

10. GYPSUM BOARD WALLS IN COMMON AREA CORRIDORS. ONE COAT OF PRIME LATEX PAINT AND ONE FINISH COAT OF SCRUBABLE LATEX FLAT WALL PAINT. (TWO COATS IF REQUIRED TO ACHIEVE FULL COVERAGE.)

11. GYPSUM BOARD CEILINGS. TWO COATS OF LATEX FLAT PAINT. TWO COATS OF CLASS I VAPOR RETARDER PAINT AT CEILINGS ADJACENT TO ATTICS.

12. DOOR CASINGS, BASE, WOOD, MILLWORK, ETC. (PRE-PRIMED.) ONE PRIME COAT OF LATEX PAINT. ONE COAT LATEX PAINT AND ONE FINISH COAT OF LATEX SEMI-GLOSS PAINT.

13. PRIMED HARDWOOD FLOORS. ONE COAT OF LATEX PAINT AND ONE FINISH COAT OF LATEX SEMI-GLOSS PAINT.

14. ALL MISCELLANEOUS FERROUS METAL, INCLUDING GRILLES, REGISTERS, ETC. TWO COATS METAL PAINT TO MATCH ADJACENT SURFACES, UNLESS FACTORY PREFINISHED WALL.

15. ANY OTHER PAINTING WORK REQUIRED BY THE DRAWINGS. FINISH TO MATCH SIMILAR CONDITIONS.

16. GYPSUM BOARD WALLS IN KITCHENS, BATHROOMS AND LAUNDRIES UNLESS SCHEDULED FOR WALLCOVERING OR TILE. ONE COAT OF EPOXY COMPATABLE PRIMER PAINT AND ONE FINISH COAT OF EPOXY EGG-SHELL WALL PAINT. (TWO COATS IF REQUIRED TO ACHIEVE FULL COVERAGE.)

17. GYPSUM BOARD WALLS IN COMMON AREA CORRIDORS. ONE COAT OF PRIME LATEX PAINT AND ONE FINISH COAT OF SCRUBABLE LATEX FLAT WALL PAINT. (TWO COATS IF REQUIRED TO ACHIEVE FULL COVERAGE.)

18. GYPSUM BOARD CEILINGS. TWO COATS OF LATEX FLAT PAINT. TWO COATS OF CLASS I VAPOR RETARDER PAINT AT CEILINGS ADJACENT TO ATTICS.

19. DOOR CASINGS, BASE, WOOD, MILLWORK, ETC. (PRE-PRIMED.) ONE PRIME COAT OF LATEX PAINT. ONE COAT LATEX PAINT AND ONE FINISH COAT OF LATEX SEMI-GLOSS PAINT.

20. PRIMED HARDWOOD FLOORS. ONE COAT OF LATEX PAINT AND ONE FINISH COAT OF LATEX SEMI-GLOSS PAINT.

21. ALL MISCELLANEOUS FERROUS METAL, INCLUDING GRILLES, REGISTERS, ETC. TWO COATS METAL PAINT TO MATCH ADJACENT SURFACES, UNLESS FACTORY PREFINISHED WALL.

22. ANY OTHER PAINTING WORK REQUIRED BY THE DRAWINGS. FINISH TO MATCH SIMILAR CONDITIONS.

23. GYPSUM BOARD WALLS IN KITCHENS, BATHROOMS AND LAUNDRIES UNLESS SCHEDULED FOR WALLCOVERING OR TILE. ONE COAT OF EPOXY COMPATABLE PRIMER PAINT AND ONE FINISH COAT OF EPOXY EGG-SHELL WALL PAINT. (TWO COATS IF REQUIRED TO ACHIEVE FULL COVERAGE.)

24. GYPSUM BOARD WALLS IN COMMON AREA CORRIDORS. ONE COAT OF PRIME LATEX PAINT AND ONE FINISH COAT OF SCRUBABLE LATEX FLAT WALL PAINT. (TWO COATS IF REQUIRED TO ACHIEVE FULL COVERAGE.)

25. GYPSUM BOARD CEILINGS. TWO COATS OF LATEX FLAT PAINT. TWO COATS OF CLASS I VAPOR RETARDER PAINT AT CEILINGS ADJACENT TO ATTICS.

26. DOOR CASINGS, BASE, WOOD, MILLWORK, ETC. (PRE-PRIMED.) ONE PRIME COAT OF LATEX PAINT. ONE COAT LATEX PAINT AND ONE FINISH COAT OF LATEX SEMI-GLOSS PAINT.

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57. ANY OTHER PAINTING WORK REQUIRED BY THE DRAWINGS. 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.

B. SUBMITTALS:

- PRODUCT DATA, MANUFACTURER'S DATA SHEETS ON EACH PRODUCT TO BE USED, INCLUDING: 1. PRODUCT DATA FOR EACH STONE, STONE ACCESSORY, AND MANUFACTURED PRODUCT.
- STORAGE AND HANDLING REQUIREMENTS AND RECOMMENDATIONS.
- INSTALLATION METHODS.

C. FIELD CONDITIONS:

1. FIELD MEASUREMENTS: VERIFY DIMENSIONS OF CONSTRUCTION TO RECEIVE STONE COUNTERTOPS BY FIELD MEASUREMENTS BEFORE FABRICATION.

D. PRODUCTS:

- SOURCE LIMITATIONS FOR STONE: OBTAIN FROM A SINGLE SOURCE TO PROVIDE MATERIALS OF CONSISTENT QUALITY IN APPEARANCE AND PHYSICAL PROPERTIES.
- COUNTERTOPS 1. QUALITY STANDARD: PREMIUM GRADE, IN ACCORDANCE WITH ANIA/MACWI (AWS) OR ANIA/MACWI (NAWS), UNLESS NOTED OTHERWISE.
- QUALITY STANDARD: SEFA 3 FOR LABORATORY WORKSURFACES.
- PLASTIC LAMINATE COUNTERTOPS: HIGH-PRESSURE DECORATIVE LAMINATE (HPDL) SHEET BONDED TO SUBSTRATE.
- LAMINATE SHEET: NEMA LD 3 GRADE HGS, 0.048 INCH NOMINAL THICKNESS.
- EXPOSED EDGE TREATMENT: AS NOTED. SUBSTRATE BUILT UP TO MINIMUM 1-1/4 INCH THICK.
- COVERED WITH MATCHING LAMINATE AND POLISHED.
- BACK AND END SPLASHES: SAME MATERIAL, SAME CONSTRUCTION.
- FABRICATE IN ACCORDANCE WITH ANIA/MACWI (AWS) OR ANIA/MACWI (NAWS), SECTION 11 - COUNTERTOPS, CUSTOM GRADE.

MANUFACTURERS: 1. REFER TO FINISH LEGEND.

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 SEFA 341 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 CONSISTENT THROUGHOUT THICKNESS.

MANUFACTURERS: 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.

F. INSTALLATION: 1. 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 SUBSTRATE BOARD OF 5/8 INCH.

3. SEAL JOINT BETWEEN BACKEND SPLASHES AND VERTICAL SURFACES.

4. GENERAL: INSTALL COUNTERTOPS OVER PLYWOOD SUBTOPS WITH FULL SPREAD OF WATER CLEANABLE EPOXY ADHESIVE.

5. GENERAL: INSTALL COUNTERTOPS BY ADHERING TO SUPPORTS WITH WATER CLEANABLE EPOXY ADHESIVE.

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 070200 "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 FASTER THAN SIX DAYS AFTER COMPLETION OF INSTALLATION, USING CLEAN WATER AND SOFT RAGS. DO NOT USE WIRE BRUSHES, AOD TYPE CLEANING AGENTS, CLEANING COMPOUNDS WITH CAUSTIC OR HARSH FILLERS, OR OTHER MATERIALS OR METHODS THAT COULD DAMAGE STONE.

14. SEALER APPLICATION: APPLY STONE SEALER TO COMPLY WITH STONE PRODUCERS AND SEALER MANUFACTURERS' WRITTEN INSTRUCTIONS.

DIVISION 32 - EXTERIOR IMPROVEMENTS

32 1313 - FENCES, GATES & HARDWARE



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

STRUCTURAL GENERAL NOTES

DESIGN CRITERIA:

- 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
- GROUND SNOW LOAD (Pg)..... 20 PSF
- BASIC WIND SPEED (3 SEC GUST)..... 115 MPH
- DECK GUARD RAIL LOAD..... 200# CONCENTRATED LOAD APPLIED IN ANY DIRECTION

- PREFABRICATED WOOD ROOF TRUSS DESIGN CRITERIA:
  - TOP CHORD DEAD LOAD..... 15 PSF
  - TOP CHORD ROOF LIVE LOAD..... 20 PSF
  - BOT CHORD DEAD LOAD..... 10 PSF
  - BOT CHORD LIVE LOAD..... 20 PSF OVER GARAGES
  - BOT CHORD LIVE LOAD..... 10 PSF EVERYWHERE EXCEPT GARAGES
  - LIVE LOAD DEFLECTION CRITERIA..... MIN OF L/240
  - TOTAL LOAD DEFLECTION CRITERIA..... MIN OF L/240

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:

- DESIGN AND CONSTRUCTION SHALL CONFORM TO THE "INTERNATIONAL RESIDENTIAL CODE, 2018 EDITION". CONSULT WITH THE LOCAL JURISDICTION FOR INSPECTION REQUIREMENTS
- CONTRACTOR TO VERIFY ALL DIMENSIONS, ELEVATIONS AND EXISTING CONDITIONS AND REPORT ANY DISCREPANCIES TO THE ARCHITECT IMMEDIATELY.
- 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.
- 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.
- FABRICATORS AND SUPPLIERS SHALL CLEARLY NOTE AND HIGHLIGHT CHANGES MADE IN SHOP DRAWINGS, WHICH DO NOT COMPLY WITH THE CONTRACT DOCUMENTS.
- BEAMS, COLUMNS, WALLS, AND FOOTING CENTERS SHALL BE CENTERED UNDER SUPPORTING MEMBERS (TYPICAL UNLESS NOTED OTHERWISE).

EARTHWORK AND FOUNDATIONS:

- 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.
- 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.
- 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 2% OR 8' MIN FOR THE FIRST TEN FEET.
- FOOTINGS MAY BE POURED TO NEAT LINES OF EXCAVATIONS PROVIDING VERTICAL LINES OF EXCAVATIONS CAN BE MAINTAINED DURING CONCRETE PLACEMENT.
- 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.
- 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.
- 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.

PREFABRICATED WOOD ROOF TRUSS NOTES:

- 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 GRADIES, 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 TRUSS/STRESS SYSTEM.
- THE CONTRACTOR SHALL FURNISH A COPY OF THE PREFAB TRUSS SHOP DRAWINGS TO BUILDING OFFICIAL FOR THEIR RECORDS.
- 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.

CONCRETE AND MASONRY REINFORCING STEEL:

- ALL REINFORCING BARS SHALL MEET ASTM A615 GRADE 40.
- ALL MESH SHALL MEET ASTM A-185: LAP A MINIMUM OF 8" OR ONE FULL MESH, WHICHEVER IS GREATER.
- CONCRETE PROTECTION FOR REINFORCEMENT SHALL BE 3/4" CLEAR FOR SLABS, 2" CLEAR FOR FORMED SURFACES AND 3" CLEAR FOR FOOTINGS (TYPICAL UNLESS NOTED OTHERWISE).
- 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 ALLOWED.

CAST IN PLACE CONCRETE:

- CONCRETE CONSTRUCTION SHALL ADHERE TO THE RECOMMENDATIONS AND REQUIREMENTS OF ACI 302, "REQUIREMENTS FOR RESIDENTIAL CONCRETE CONSTRUCTION" (UNLESS NOTED OTHERWISE)
- REQUIRED MINIMUM CONCRETE COMPRESSIVE STRENGTHS AT 28 DAYS:
  - FOOTING AND GRADEBEAM CONCRETE..... 3,500 PSI
  - FOUNDATION WALL CONCRETE..... 4,000 PSI
  - INTERIOR SOG..... 3,500 PSI
  - EXTERIOR SLAB ON GRADE AND GARAGE FLOOR SLABS..... 4,000 PSI
- EXTERIOR CONCRETE (FLOOR SLABS, WALLS, ETC) INCLUDING GARAGE FLOORS SHALL HAVE 6% (PLUS/MINUS 1%) EXTRANEAIR AIR.
- CHAMFER ALL EXPOSED CONCRETE EDGES 3/4" (VERIFY WITH ARCHITECT).
- NO ALUMINUM SHALL BE EMBEDDED IN ANY CONCRETE.
- NO CALCIUM CHLORIDE SHALL BE USED IN CONCRETE.
- THE DESIGN, CONSTRUCTION, AND SAFETY OF ALL FORMWORK IS THE RESPONSIBILITY OF THE CONTRACTOR.
- ALL CONCRETE IS REINFORCED UNLESS SPECIFICALLY NOTED AS UNREINFORCED. REINFORCE ALL CONCRETE NOT OTHERWISE SHOWN WITH THE SAME REINFORCING AS SIMILAR SECTIONS OR AREAS.
- CONSTRUCTION JOINTS IN GRADE BEAMS, CONTINUOUS FOOTINGS, AND WALLS THAT DID 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 CHANGES IN WALL THICKNESS.
- WHERE FRESH CONCRETE IS DEPOSITED AGAINST HARDENED CONCRETE (GREATER THAN 6 HRS OLD), CLEAN EXISTING SURFACE OF LAITANCE AND FOREIGN MATERIAL, AND DAMPEN THE EXISTING SURFACE. IF REQUIRED, ROUGHEN EXISTING CONCRETE TO 1/4" AMPLITUDE.
- SLABS ON GRADE SHALL BE 4" THICK MIN ON 6" OF GRANULAR FILL. REINF SLAB WITH 6 x 6 W2, W2, 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 UNLESS NOTED OTHERWISE.
- SAW CUT JOINTS OR KEVED 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.
- REINFORCEMENT SHALL BE CONTINUOUS AND LAPPED #3 BAR DIAMETERS (2'-6" MIN) EXCEPT AS NOTED AND PROVIDE CORNER BARS OF SAME SIZE AND SPACING.
- 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.
- MINIMUM REINFORCING IN PERIMETER STEM WALL SHALL BE #4 VERTS @ 16" OC WITH STD HOOKS INTO FOOTING AND #4 HORIZ @ 16" OC MAX. IN FOOTING PROVIDE (2) #4 CONTINUOUS W/ #4 TRANSVERSE @ 16" OC MAX.
- MINIMUM REINFORCING IN ROUND PIERS SHALL BE (5) #3 VERTS W/ #3 TIES AT 16" OC MAX.

STRUCTURAL STEEL:

- STRUCTURAL STEEL SHAPES AND PLATE MATERIAL REQUIREMENTS (TYPICAL UNLESS NOTED OTHERWISE):
  - WIDE FLANGE SHAPES - ASTM A992 (FY = 50 KSI MIN.)
  - CHANNELS, ANGLES, AND PLATES - ASTM A36 (FY = 36 KSI MIN)
  - RECTANGULAR HSS - ASTM A501, OR B (FY = 46 KSI)
  - ANCHOR RODS - ASTM F1554 (FY = 36 KSI MIN)
  - ROUND PIPE - ASTM A53, GRB (FY=35 KSI MIN)
- 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", EXCLUDING SECTION 4.4.1.B.
- WELDING SHALL CONFORM TO THE CURRENT AND APPLICABLE AWS STANDARDS AND BE COMPLETED BY AN AWS CERTIFIED WELDER:
  - AWS D1.1 - STRUCTURAL WELDING CODE - STEEL
  - AWS D1.3 - STRUCTURAL WELDING CODE - SHEET STEEL
  - AWS D1.6 - STRUCTURAL WELDING CODE - STAINLESS STEEL
- WELD SIZES SHALL BE INCREASED TO MEET THE REQUIRED EFFECTIVE THROAT WIDTH IF GAPS EXIST AT THE FAYING SURFACE.
- NO COLUMN OR BEAM SPICES, UNLESS CLEARLY INDICATED ON THE STRUCTURAL DRAWINGS, WILL BE ALLOWED WITHOUT WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER.
- 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 CONFORMING TO ASTM C1107.
- 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:

- FRAMING MATERIAL:
  - NOMINAL STRUCTURAL LUMBER - NO 2 OR BETTER, KD D, FIR, MIN Fb = 900 PSI, MIN E = 1,400 KSI.
  - EXPOSED NOMINAL STRUCT LUMBER - PRESS TREATED NO 2 OR BETTER, MIN Fb = 1,000 PSI, MIN E = 1,300 KSI
  - MICROLAM LVL (LAMINATED VENEER LUMBER) BEAMS SHALL MEET TRUS JOIST SPECIFICATIONS: MINIMUM Fb = 2,600 PSI AND MINIMUM E = 1,900 KSI.
  - TIMBERSTRAND LSL (LAMINATED STRAND LUMBER) BEAMS SHALL MEET TRUS JOIST SPECIFICATIONS: MINIMUM Fb = 2,600 PSI AND MINIMUM E = 1,700 KSI.
  - GLULAM FRAMING: 24F V4 DOUGLAS FIR, ARCHITECTURAL FINISH (COORD W/ ARCH).
- SUBSTITUTIONS OF SPECIFIED WOOD MEMBERS SHALL NOT BE MADE WITHOUT REVIEW OF THE ARCHITECT/ENGINEER.
- WOOD SHEATHING:
  - 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.
  - 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.
  - 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.
  - ALL WOOD SHEATHING TO BE STAGGERED 4x8" SHEETS ORIENTED PERPENDICULAR TO SUPPORTING MEMBERS.
  - 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.
  - ALL HEADERS IN EXTERIOR OR INTERIOR BEARING WALLS SPANNING MORE THAN 3'-8" SHALL BE SUPPORTED ON DOUBLE STUDS UNLESS NOTED OTHERWISE.
  - 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 "2MAX" G185 HOT DIP GALVANIZED COATING OR REVIEWED EQUIVALENT.
  - STAINLESS STEEL FASTENERS, ANCHOR BOLTS, LIGHT GAUGE CONNECTORS, ETC, MAY BE SUBSTITUTED FOR HOT DIP GALVANIZED MATERIALS AT THE CONTRACTORS OPTION.
  - 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.
  - 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, WALLS BE CONTINUOUS (NOT INTERRUPTED) TO NEXT FLOOR ELEVATION OR ROOF.
  - 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" SD PLATE WASHERS AND NUTS.
  - PROVIDE FULL DEPTH 2x BLOCKING BETWEEN JOISTS OVER ALL INTERIOR LOAD BEARING WALLS AND AT DOWNSET GIRDERS
  - PROVIDE SOLID BLOCKING IN FLOOR FRAMING BELOW LOAD BEARING WALLS AND POINT LOADS ABOVE. BELOW POINT LOADS BLOCKING AREA SHALL MATCH SIZE OF POST ABOVE.

GARAGE

- THE GARAGE FLOOR SHALL SLOPE TOWARD THE GARAGE DOOR.
- NEW GARAGE DOOR SHALL BE A 20 MINUTE OR 1-38" SOLID WOOD DOOR BETWEEN THE HOUSE AND GARAGE.
- 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:

- 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.
- 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.
- CONTRACTOR SHALL ENSURE THAT ALL MECHANICAL, ELECTRICAL, AND PLUMBING IS DESIGNED AND INSTALLED TO MEET THE REQUIREMENTS OF THE APPLICABLE IRC.
- EGRESS WINDOWS SHALL COMPLY WITH SECTION 310 OF THE IRC.
- WALL COVERINGS SHALL BE WATER-RESISTANT AND COMPLY WITH SECTION 703.2 OF THE IRC.
- WINDOWS SHALL HAVE FALL PROTECTION PER IRC 312.2.
- PROVIDE CARBON MONOXIDE DETECTORS PER IRC SECTION R315.
- 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
- 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.
- THE THERMAL ENVELOPE OF THE BUILDING IS REQUIRED TO BE SEALED PER IRC SECTION N102.4.1 AND TABLE N102.4.1.1.
- ALL DUCTS, AIR HANDLERS, FILTER BOXES, AND BUILDING CAVITIES USED AS DUCTS SHALL BE SEALED PER IRC SECTION N103.2.2.

GLAZING

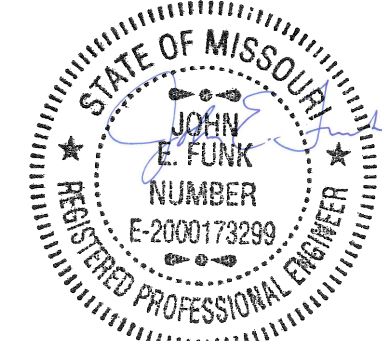
- GLAZING IN HAZARDOUS LOCATIONS SHALL BE APPROVED SAFETY GLAZING MATERIALS PER IRC SECTION R308.

Reserve at Blackwell

SE SHENANDOAH DRIVE  
LEE'S SUMMIT, MO 64063

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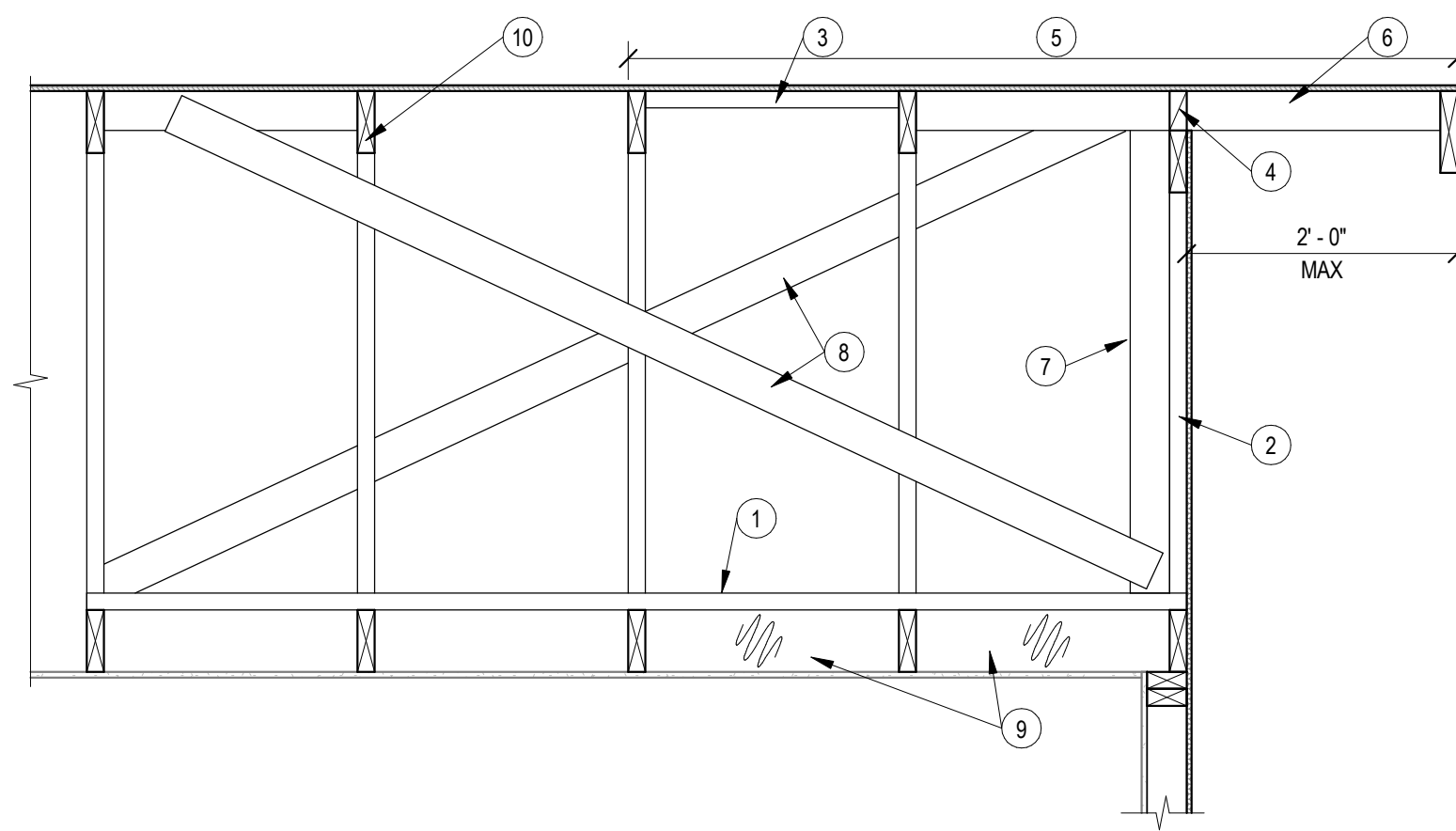
STRUCTURAL GENERAL NOTES



PERMIT DOCUMENTS

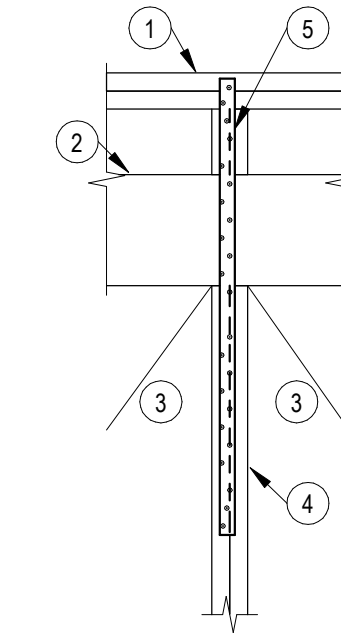
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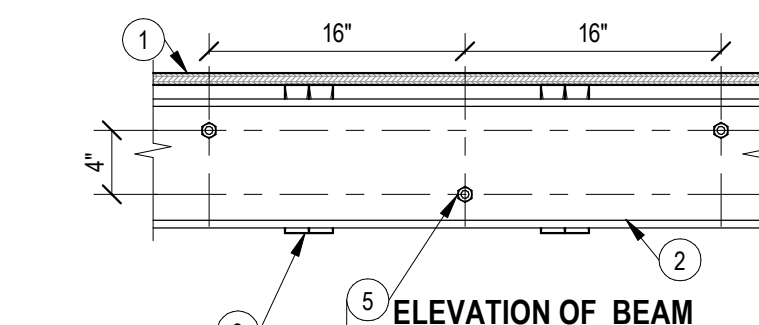
**DETAIL NOTES:**

- 2x4 @ 4'-0" OC FASTEN TO EA TRUSS BOT CHORD W/ (2) 16d NAILS
- CABLE TRUSS PER TRUSS SUPPLIER
- BLOCK SHEATHING EDGES WITHIN 4'-0" OF GABLE TRUSS
- BLOCKING BETWEEN EA OUTRIGGER, FASTEN TO GABLE TOP CHORD W/ 10d TOE NAILS @ 8'-0" OC
- FASTEN SHEATHING TO FRAMING @ 3'-0" OC ON DEEDE AND 8'-0" OC IN FIELD W/ 8d NAILS
- 2x4 OUTRIGGER @ 24'-0" OC
- L-REINIF. ON GABLE VERTS AS SPECIFIED BY TRUSS SUPPLIER
- 2x6 BRACE AT EA STRONG BACK
- PROVIDE BLOCKING AT FIRST TWO TRUSS BAYS @ 4'-0" OC
- TRUSSES RE: PLAN



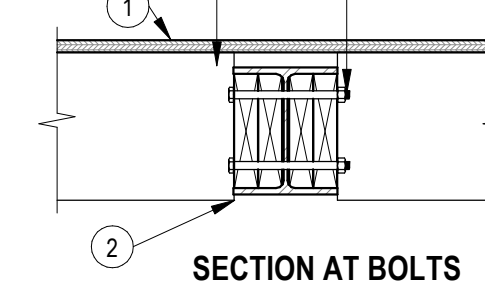
**DETAIL NOTES:**

- DOUBLE TOP PLATE
- HEADER, RE: PLAN FOR SIZE. RUN CONT OVER TOP OF CENTER STUDS
- WINDOW OR DOOR OPENING
- MIN (2) STUDS BTWN OPENINGS
- LSTA36 STRAP ON BOTH SIDES OF THE WALL

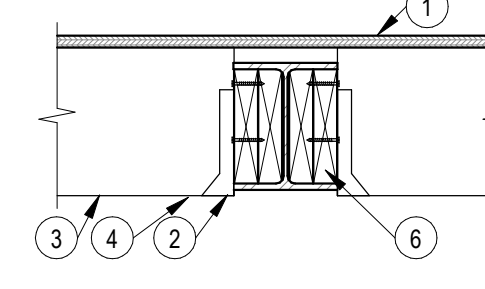


**DETAIL NOTES:**

- WOOD FLOOR SHEATHING, RE: GENERAL NOTES
- WF STEEL BEAM PER PLAN
- 2x FLOOR JOISTS PER PLAN
- SIMPSON JOIST HANGERS RE: PLAN
- 1/2" x THRU BOLTS @ 16'-0" STAGGER AND SPACE AS SHOWN IN ELEVATION. COORDINATE BOLT LOCATIONS TO AVOID INTERFERENCE WITH JOIST HANGERS
- PACK WEB WITH 2x'S EA SIDE OF BEAM WEB. PLANE 2x'S AS REQD TO FIT INTO BEAM WEB

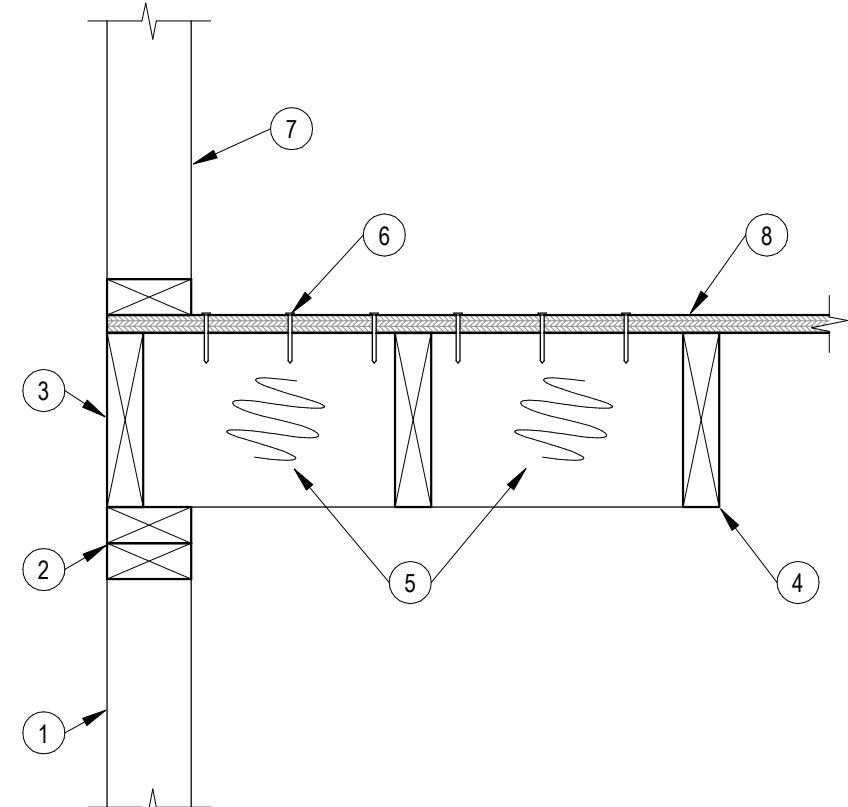


**SECTION AT BOLTS**



**SECTION AT HANGER**

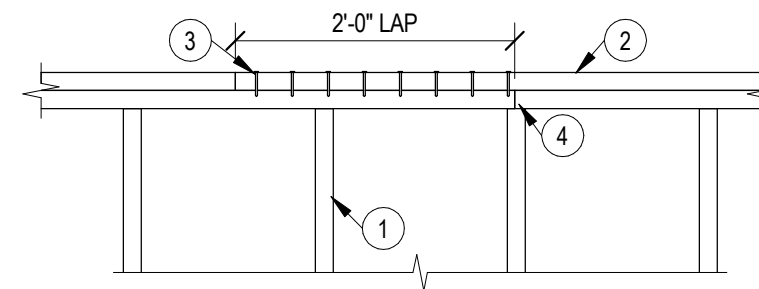
**12 RZ305 - UPSET WF STL BM**  
 1" = 1'-0"



**DETAIL NOTES:**

- STUD WALLS, RE: PLAN AND GENERAL NOTES
- DOUBLE TOP PLATE
- 2x RIM JOIST
- FLOOR JOISTS PARALLEL TO WALL, RE: PLAN FOR SIZE AND SPACING
- PROVIDE BLOCKING IN THE FIRST TWO JOIST SPACES NEXT TO RIM JOIST. MATCH FLOOR JOISTS SIZE & SPACE @ 4'-0" OC MAX
- NAIL SHEATHING TO BLOCKING
- STUD WALL ABOVE
- WOOD FLOOR SHEATHING, RE: GENERAL NOTES

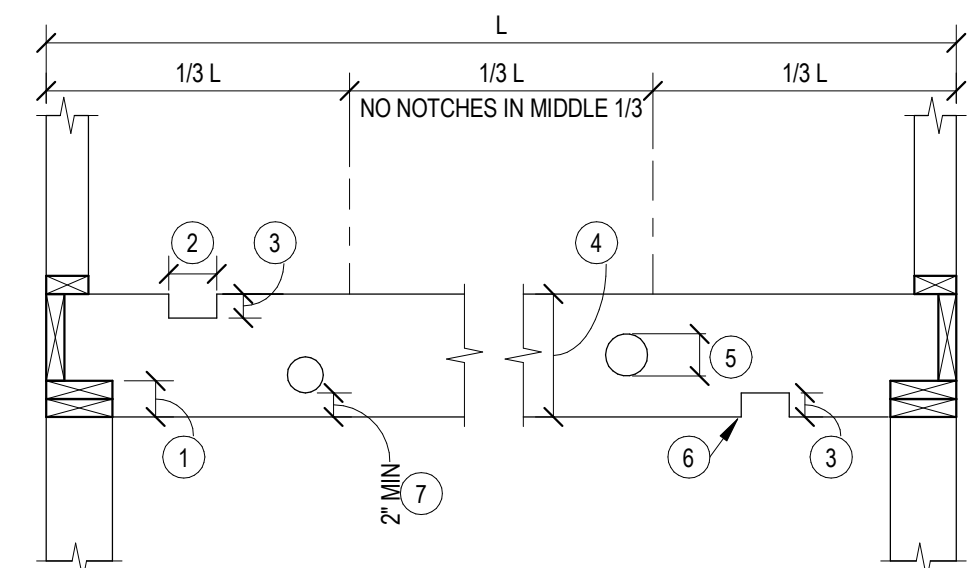
**11 EDGE FRAMING DETAIL**  
 1 1/2" = 1'-0"



**DETAIL NOTES:**

- WALL STUDS
- DOUBLE TOP PLATE
- 8 ROWS OF (2)16d NAILS AT SPICE
- JOINT IN LOWER PLATE MEMBERS SHALL OCCUR OVER A STUD

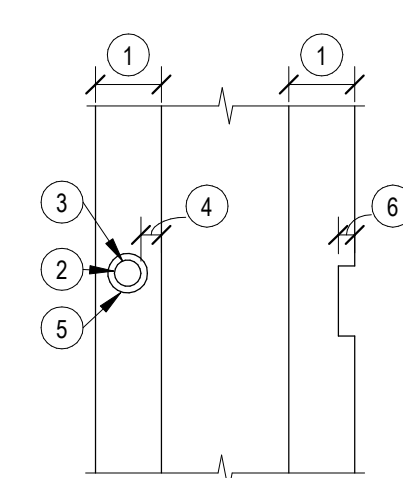
**10 TOP PLATE SPLICE**  
 3/4" = 1'-0"



**DETAIL NOTES:**

- MAX DIMENSION = JOIST DEPTH / 4
- MAX DIMENSION = JOIST DEPTH / 3
- MAX DIMENSION = JOIST DEPTH / 6
- JOIST DEPTH
- MAX DIMENSION = JOIST DEPTH / 3
- SQUARE HOLES AND NOTCHES NOT RECOMMENDED
- HOLES MAY BE ANYWHERE ALONG THE LENGTH OF THE SPAN MINUS 1'-0" ON EA END. HOLE EDGES SHALL BE 2" FROM TOP OF JOIST OR BOTTOM OF JOIST. THEY SHALL ALSO BE 2" FROM ANY OTHER HOLE OR NOTCH

**9 BORED HOLE & NOTCHES - HORIZ FRAMING**  
 3/4" = 1'-0"

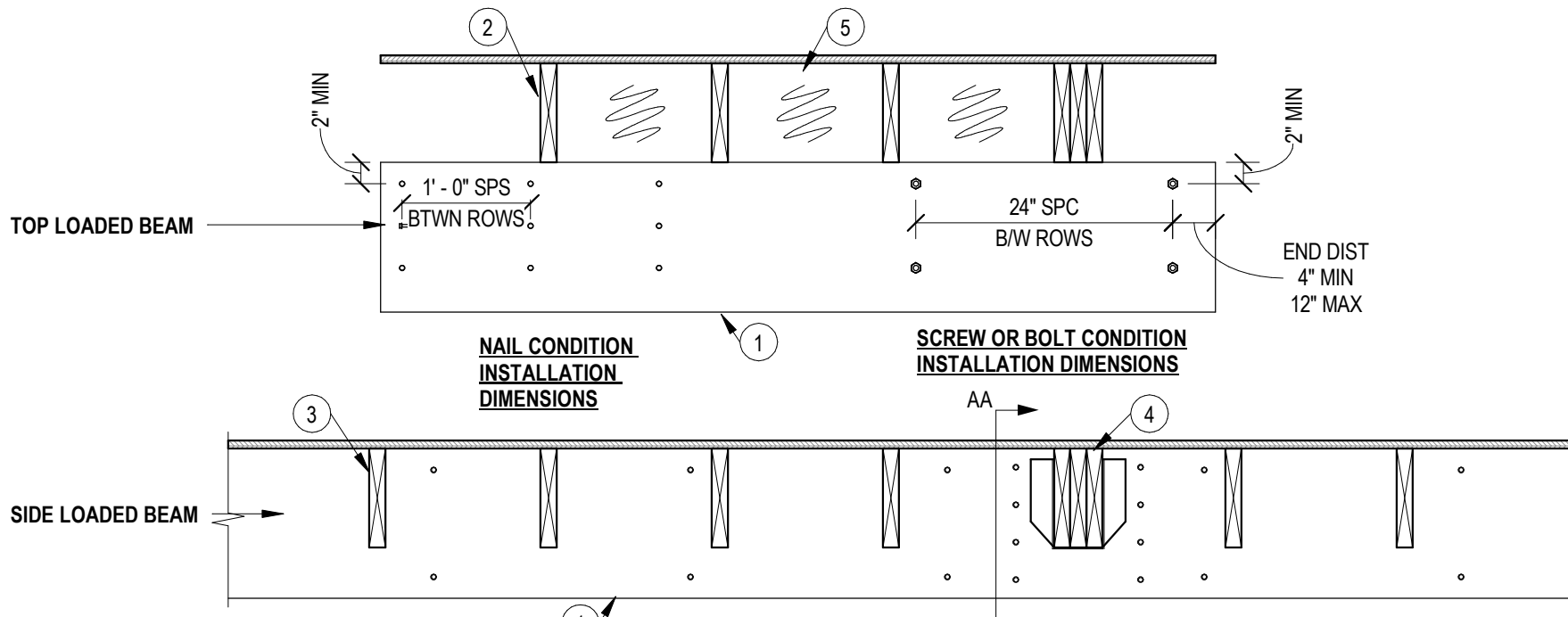


**DETAIL NOTES:**

- STUD DEPTH
- MAX DIAMETER OF BORED HOLE = STUD DEPTH / 2 1/2
- IF BORED HOLE IS GREATER THAN STUD DEPTH / 2 1/2 & LESS THAN 3" x STUD DEPTH / 5, THEN STUD MUST BE DOUBLED & NO MORE THAN TWO SUCCESSIVE STUDS ARE DOUBLED & BORED
- 5/8" MIN TO EDGE
- BORED HOLES SHALL NOT BE LOCATED IN THE SAME CROSS SECTION OF CUT OR NOTCH IN STUD
- MAX NOTCH = STUD DEPTH / 4

**8 BORED HOLE & NOTCHES - VERT FRAMING**  
 3/4" = 1'-0"

**7 GABLE END WALL TRUSS**  
 3/4" = 1'-0"



**DETAIL NOTES:**

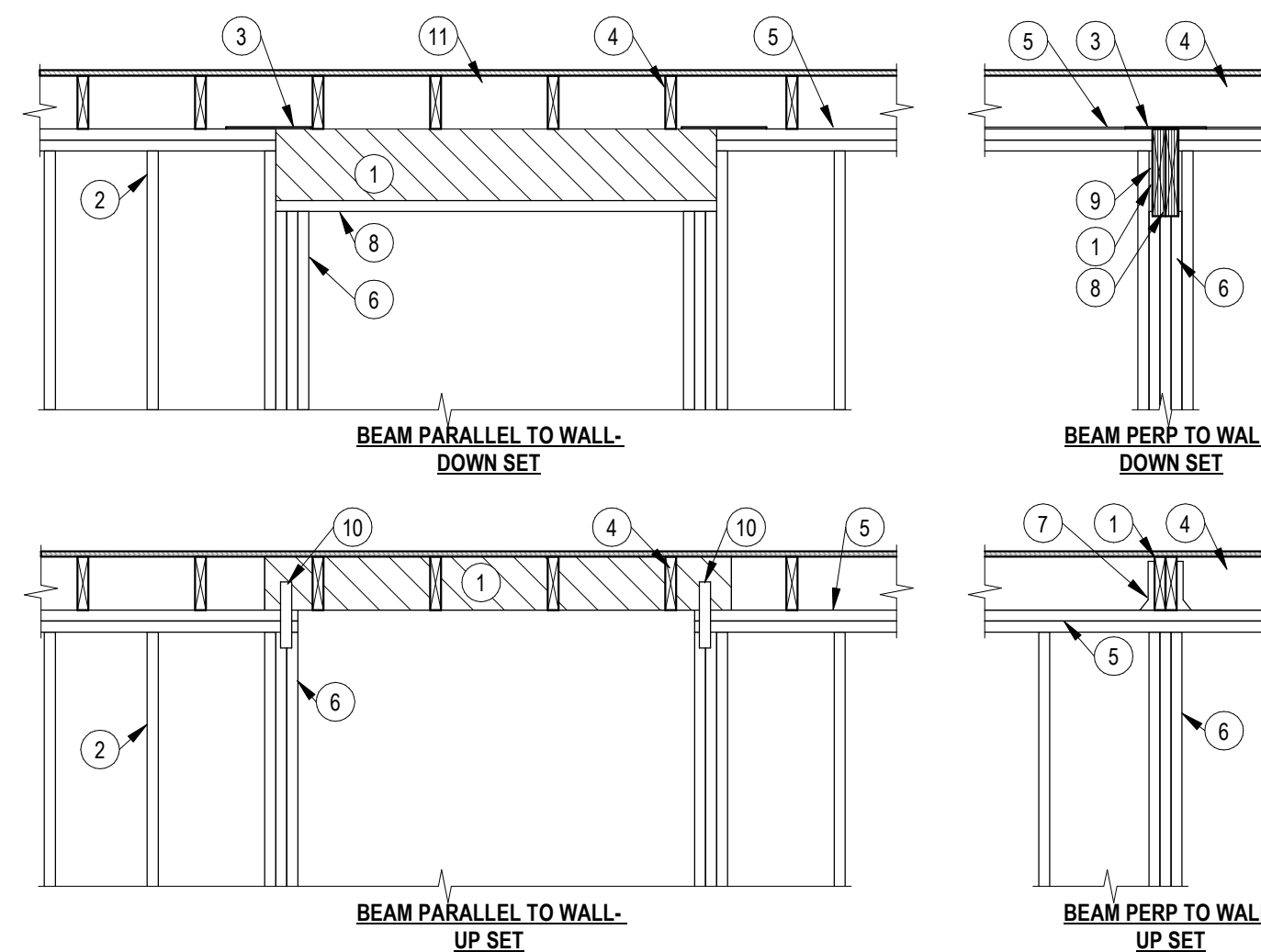
- MULTI-PLY LVL, LSL, OR PSL GIRDER MEMBER, FOR 2-PLY MEMBERS, FASTENERS MAY BE INSTALLED FROM ONE SIDE. FOR 3-PLY MEMBERS, FASTENERS SHOWN SHALL BE INSTALLED ON EA SIDE (2 ROWS @ 24" + 4 TOTAL SCREWS, TWO EA SIDE). REFER TO TABLE FOR FASTENER REQUIREMENTS
- FLOOR JOISTS, RE: PLAN, TOP LOADED CONDITION
- FLOOR JOISTS, RE: PLAN, SIDE LOADED CONDITION. PROVIDE FACE MOUNTED OR TOP FLANGE MOUNTED HANGERS ATTACHED TO GIRDER PER MFCR REQUIREMENTS
- AT HEAVY LOADED BEAM HANGER LOCATIONS, PROVIDE (4) STRUCTURAL SCREWS EA SIDE OF HANGER. SCREWS SHALL PENETRATE ALL PLYS (2 25" MIN FOR 2 PLY, 5" MIN FOR 3 PLY). THIS SHALL BE TYP UNO
- WHEN BEAM IS DOWNSET PROVIDE 2x FULL HEIGHT BLOCKING BTWN FLOOR JOISTS

**NOTES:**

- ALL GIRDER MEMBERS SHALL BE FULL LENGTH BTWN SUPPORTS UNO
- SCREWS INSTALLED IN OPPOSITE FACE SHALL BE STAGGERED FROM NEAR FACE SCREWS BY 2" (+/- 1")
- EXCESSIVELY WARPED OR CURVED LVL SHOULD NEVER BE FORCED INTO ALIGNMENT BY USE OF CLAMPS, SCREWS OR BOLTS AS SPLITTING MAY OCCUR
- IF COUNTERSINKING SCREWS OR BOLTS IS REQUIRED, USE A SPADE BIT TO CREATE THE COUNTERSINK PRIOR TO INSTALLING THE FASTENER
- BOLTS SHALL MEET OR EXCEED ASTM A307
- STRUCTURAL SCREWS MAY BE ONE OF THE FOLLOWING PRODUCTS: 1/4"x SIMPSON STRONG'S SDS, WS SCREWS BY USP, OR TRUSSLOK SCREWS BY FASTENMASTER

FASTENER OPTIONS				
FASTENER	BM DEPTH	2-PLY	3-PLY	4-PLY
10d (0.128"x3") NAILS	7.25" TO 14"	3 @ 12" OC	3 @ 12" OC EA SIDE	NOT ALLOWED
10d (0.128"x3") NAILS	14" OR GREATER	4 @ 12" OC	4 @ 12" OC EA SIDE	NOT ALLOWED
1/2" DIA THRU BOLTS	7.25" OR GREATER	2 @ 24" OC	2 @ 24" OC	2 @ 16" OC
STRUCTURAL SCREW	7.25" OR GREATER	2 @ 24" OC	2 @ 24" OC EA SIDE	2 @ 16" OC EA SIDE

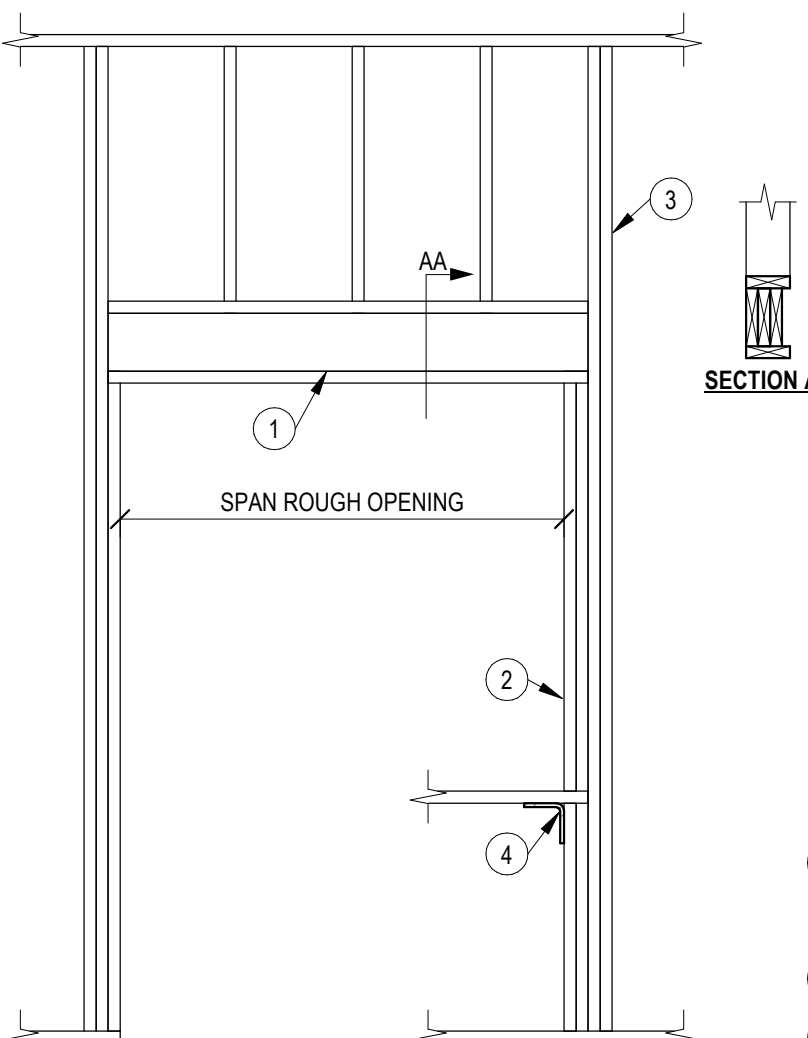
**6 BUILT-UP ENGR LUMBER BEAM**  
 3/4" = 1'-0"



**DETAIL NOTES:**

- WOOD BEAM, PER PLAN
- WALL STUDS
- IF TOP PLATE IS INTERRUPTED USE SIMPSON LSTA9 STRAP OR EQUIVALENT
- WOOD JOISTS, RE: PLAN
- DOUBLE 2x TOP PLATE
- MIN 3 STUDS TO SUPPORT BEAM UNO ON PLAN
- FACE MOUNT JOIST HANGER
- COORD BOT OF BEAM ELEV W/ ARCH REQUIREMENTS
- 1/2" OSB SPACERS AS REQD
- SIMPSON LSTA9 STRAP EA SIDE
- WHEN BEAM IS DOWNSET PROVIDE 2x FULL HT BLOCKING BTWN FLOOR JOISTS

**5 BEAM BEARING CONDITIONS**  
 1/2" = 1'-0"



EXTERIOR WALL - WOOD HEADER SCHEDULE*				
MARK	MEMBERS	MAX SPAN	JAMB MEMBERS	
H206	(2) 2x6	3'-6"	2x4 1 KING 1 TRIMMER	
H208	(2) 2x6	4'-6"	2x4 1 KING 1 TRIMMER	
H210	(2) 2x10	5'-9"	2x4 2 KING 2 TRIMMER	
H212	(2) 2x12	6'-9"	2x4 2 KING 2 TRIMMER	
HLVL	(2) 1.75"x11.875" LVL	13'-0"	2x4 3 KING 2 TRIMMER	

INTERIOR WALL - WOOD HEADER SCHEDULE				
MARK	MEMBERS	MAX SPAN	JAMB MEMBERS	
H206	(2) 2x6 NON LD BRG	4'-0"	2x4 1 KING 1 TRIMMER	
H208	(2) 2x6	3'-6"	2x4 1 KING 2 TRIMMER	
H210	(2) 2x10	4'-3"	2x4 2 KING 2 TRIMMER	
H212	(2) 2x12	5'-0"	2x4 2 KING 2 TRIMMER	
HLVL	(2) 1.75"x11.875" LVL	10'-0"	2x4 3 KING 2 TRIMMER	

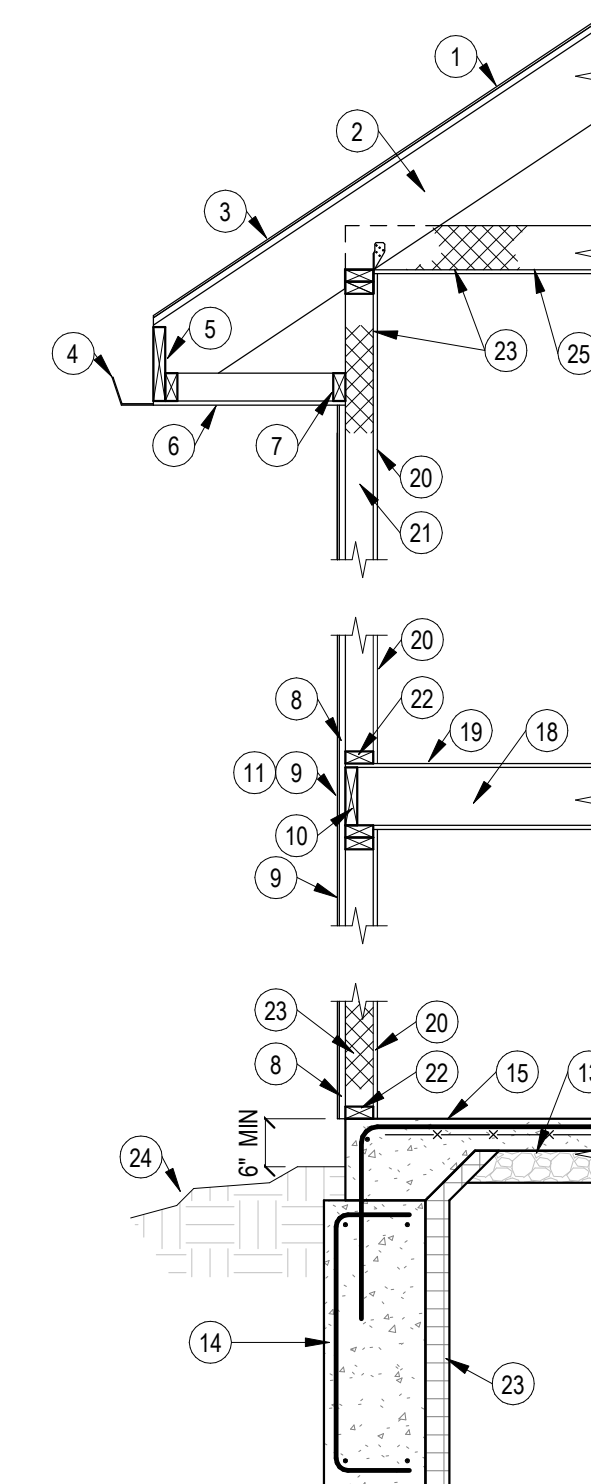
\* IF THERE IS A DECK @ THE EXTERIOR WALL USE THE INTERIOR WALL SCHEDULE

**DETAIL NOTES:**

- WOOD HEADER, RE: SCHEDULE. FOR EXTERIOR WALLS W/ DECK ON THE OUTSIDE USE THE INTERIOR WALL CHART. ALL HEADERS SHALL BE NAILED TOGETHER AT 16" OC MAX. PROVIDE PLYWOOD FILLER AS REQD TO MATCH STUD THICKNESS
- TRIMMER STUDS, RE: SCHEDULE
- KING STUDS, RE: SCHEDULE
- PROVIDE STUD UNDER SILL END OR SIMPSON A35 CLIP ANGLE

**4 HEADER SCHEDULE**  
 1/2" = 1'-0"

**2 HANGER SCHEDULE**  
 3/4" = 1'-0"

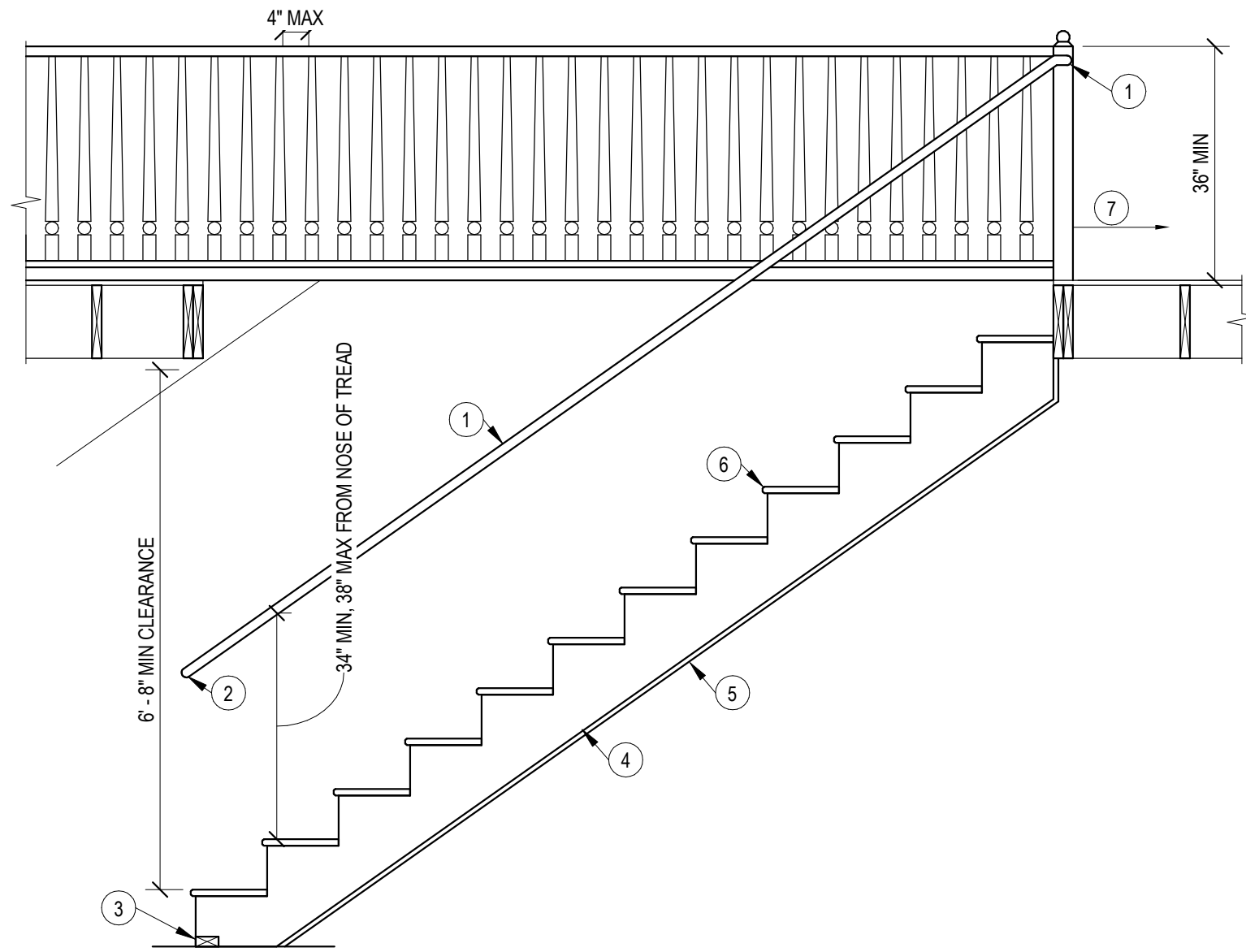


**DETAIL NOTES:**

- WOOD ROOF SHEATHING, RE: GENERAL NOTES
- ROOF RAFTERS, RE: PLAN
- ROOFING, RE: ARCH
- GUTTER ON FASCIA BOARD
- 2x6 SUB-FASCIA, OR AS REQD
- SOFFIT BOARD
- 2x4 NAILER
- WOOD EXTERIOR WALL SHEATHING, RE: STRUCTURAL GENERAL NOTES. CONTRACTOR TO VERIFY BRACED WALL REQUIREMENTS W/ PLANS
- SIDING, RE: ARCH
- RIM JOIST: USE 2x FRAMING W/ DIMENSIONAL LUMBER JOISTS. USE 1.5" LSL W/ JOISTS
- HOUSEWRAP OVER SHEATHING
- NOT USED
- VAPOR BARRIER BELOW SLAB, RE: GENERAL NOTES
- CONC FOOTING, SIZE & REINFORCEMENT, RE: FOUNDATION PLAN
- CONC FLOOR SLAB, RE: FOUNDATION PLAN & GENERAL NOTES
- NOT USED
- 2x6 TREATED SILL PLATE, ANCHOR, RE: GENERAL NOTES
- WOOD FLOOR JOIST, RE: PLAN. WHERE JOISTS RUN OPPOSITE DIRECTION, PROVIDE BLOCKING PER TYP DTL WD-110
- WOOD FLOOR SHEATHING, RE: GENERAL NOTES
- 1/2" GYPSUM BOARD OR SIMILAR, RE: BRACED WALL PLANS FOR ADDITIONAL FASTENER REQUIREMENT LOCATIONS
- STUDS @ 16" OC
- 2x SOLE PLATE
- INSULATION, RE: ENERGY REQUIREMENT NOTES
- GRADE
- CEILING JOISTS, RE: PLAN (2x6 MIN)

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

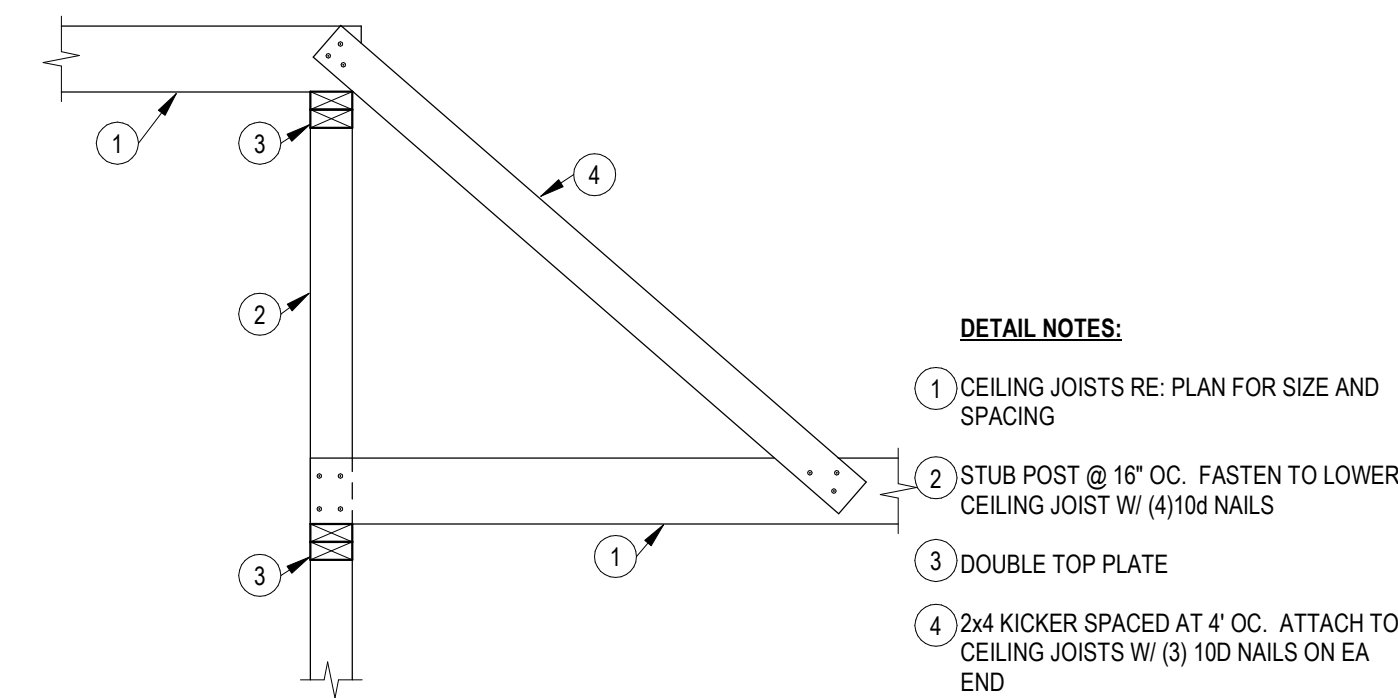




- DETAIL NOTES:**
- 1 DIAMETER OF HANDRAIL FROM 1 1/4" TO 2"
  - 2 RETURN HANDRAILS TO POST OR WALL
  - 3 PRESSURE TREATED PLATE
  - 4 2x12 STRINGERS @ 16" OC MAX
  - 5 MIN 1/2" GYP BOARD UNDER STAIRS
  - 6 IF RISERS ARE SOLID, NOSING IS REQUIRED. 3/4" TO 1 1/4"
  - 7 AT LANDING PROVIDE 36" MIN OF CLEARANCE
- NOTES:**
- A. MIN STAIR WIDTH IS 36"
- B. GUARD RAILS ARE REQD ALONG STAIRS WITH 3 OR MORE RISERS AND FLOOR OPENINGS WHERE ELEV DIFFERENCE IS GREATER THAN 30"
- C. ALL STAIR CONSTRUCTION SHALL SATISFY CODE REQUIREMENTS

## 9 WOOD STAIRS

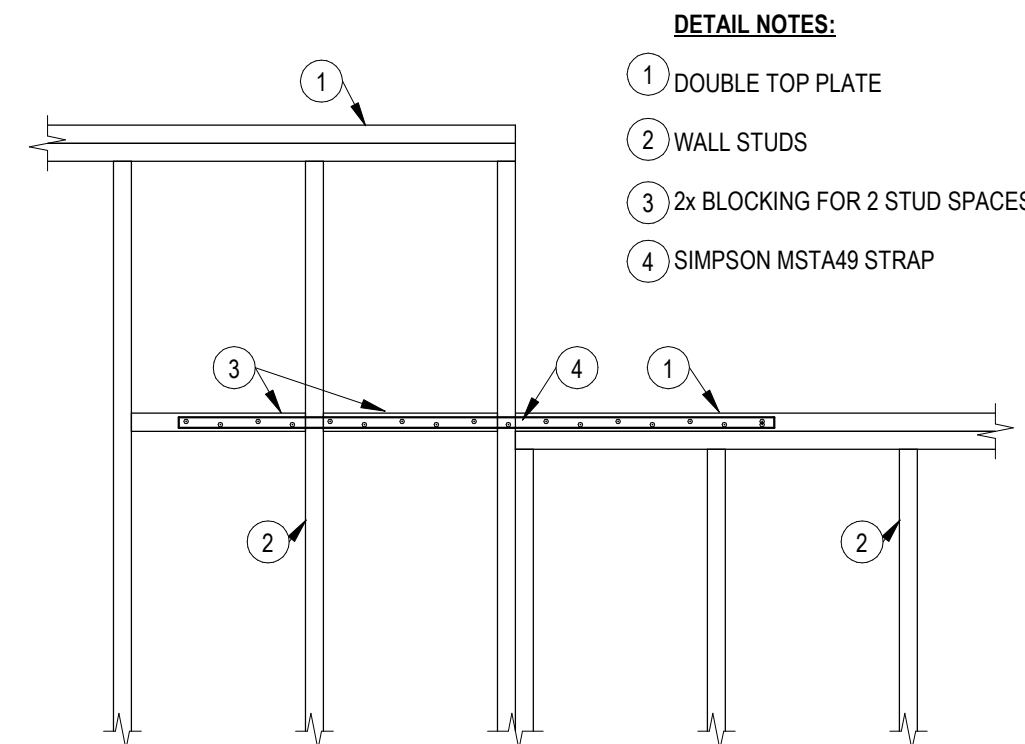
1/2" = 1'-0"



- DETAIL NOTES:**
- 1 CEILING JOISTS RE: PLAN FOR SIZE AND SPACING
  - 2 STUB POST @ 16" OC. FASTEN TO LOWER CEILING JOIST W/ (4) 10d NAILS
  - 3 DOUBLE TOP PLATE
  - 4 2x4 KICKER SPACED AT 4' OC. ATTACH TO CEILING JOISTS W/ (3) 10d NAILS ON EA END

## 8 RZ210A - CEILING STEP DETAIL

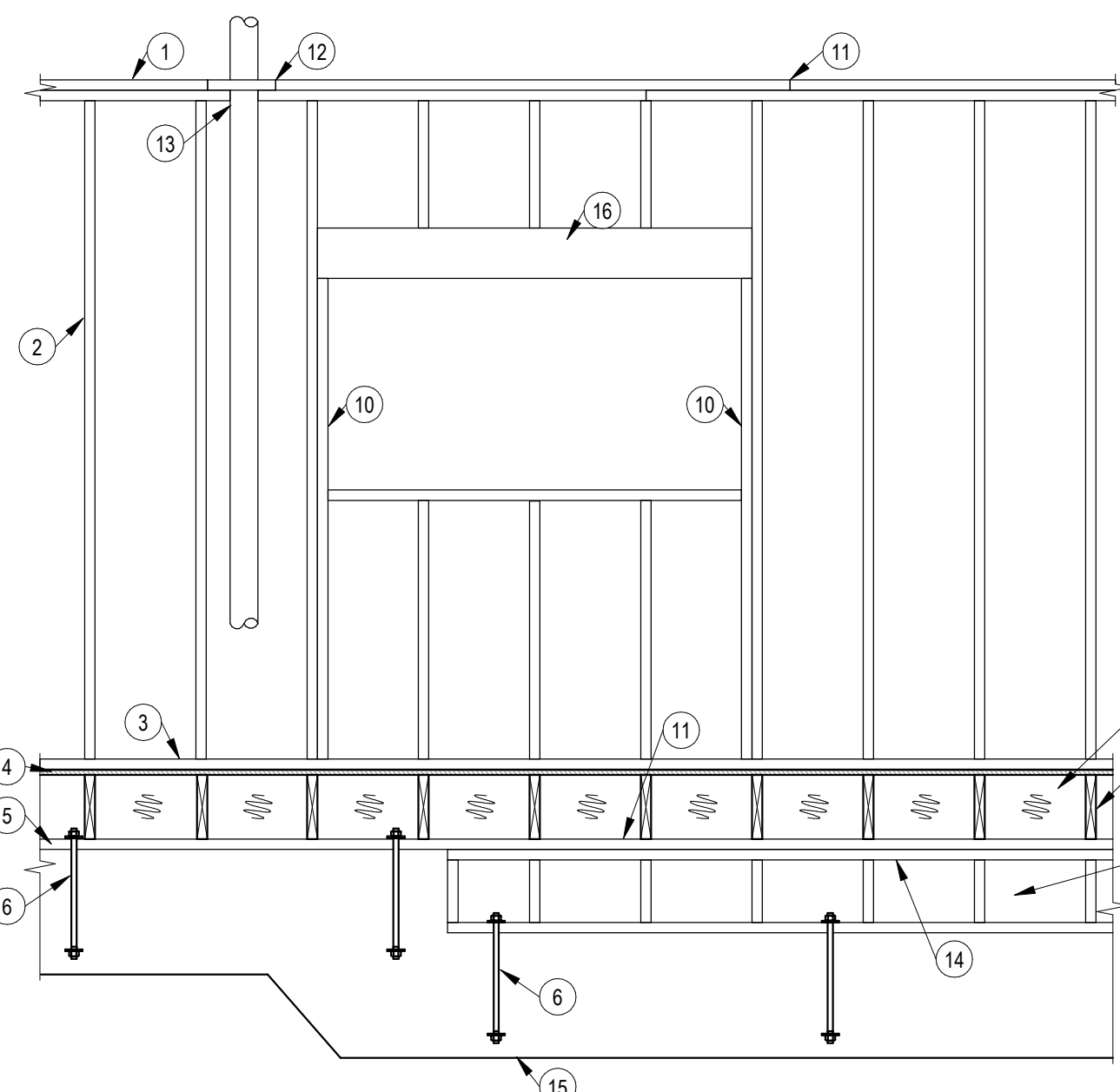
3/4" = 1'-0"



- DETAIL NOTES:**
- 1 DOUBLE TOP PLATE
  - 2 WALL STUDS
  - 3 2x BLOCKING FOR 2 STUD SPACES
  - 4 SIMPSON MST449 STRAP

## 7 RZ203B - STEPPED TOP PLATE

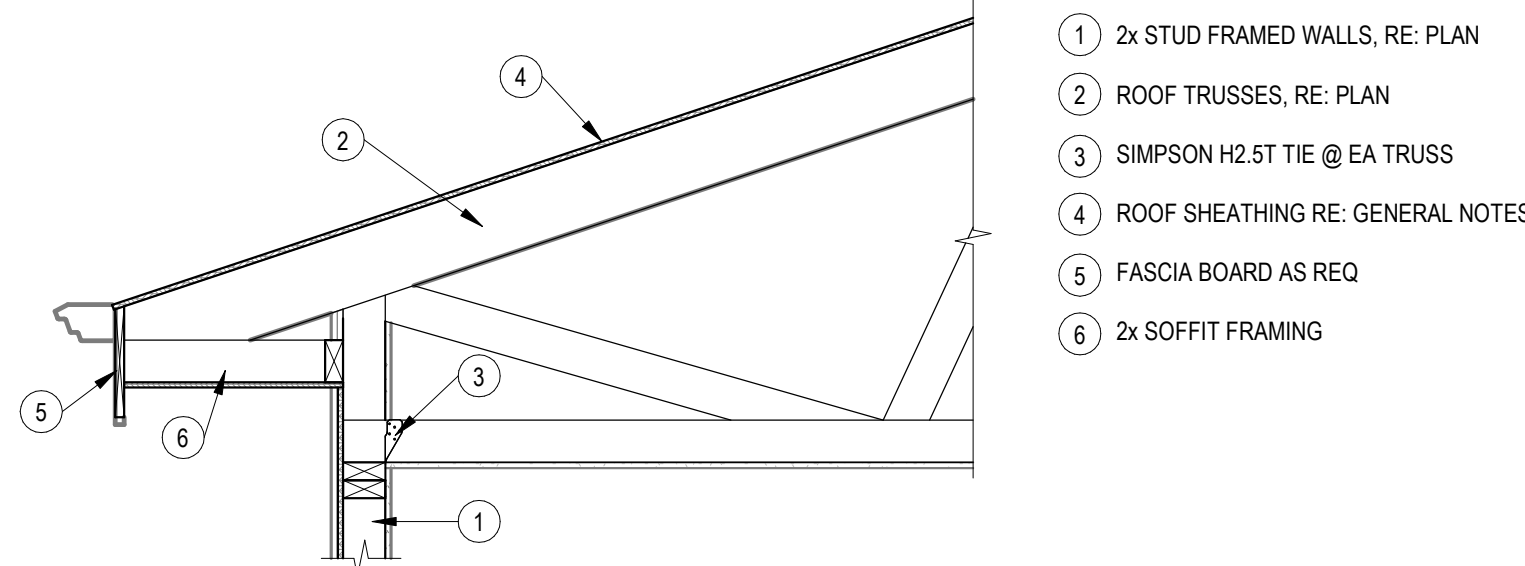
3/4" = 1'-0"



- DETAIL NOTES:**
- 1 SINGLE OR DOUBLE TOP PLATE
  - 2 WALL STUDS
  - 3 BOTTOM PLATE
  - 4 WOOD FLOOR SHEATHING, RE: GENERAL NOTES
  - 5 TREATED SILL PLATE
  - 6 1/2" @ ANCHOR RODS, RE: GENERAL NOTES
  - 7 FOUNDATION WALL CRIPPLE STUDS
  - 8 FLOOR JOISTS
  - 9 SOLID BLOCKING OR CONT RIM JOIST
  - 10 JACK STUDS OR TRIMMERS
  - 11 STAGGER JOINTS 24" OC OR USE SPLICE PLATES
  - 12 CUT PLATE TIED WITH 16 GA STEEL STRAP
  - 13 FIREBLOCK AROUND PIPE
  - 14 (2) 2x PLATE
  - 15 CONCRETE STEPPED WALL
  - 16 HEADER, RE: PLAN OR HEADER SCHEDULE

## 6 STEPPED WALL FRAMING ELEVATION

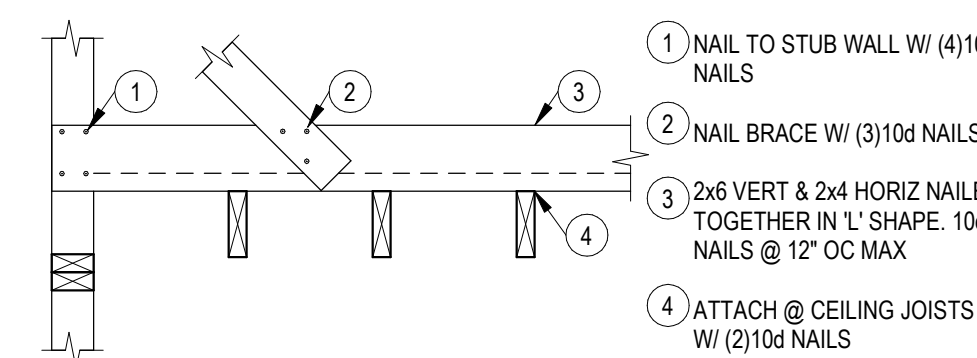
1/2" = 1'-0"



- DETAIL NOTES:**
- 1 2x STUD FRAMED WALLS, RE: PLAN
  - 2 ROOF TRUSSES, RE: PLAN
  - 3 SIMPSON H2 ST TIE @ EA TRUSS
  - 4 ROOF SHEATHING RE: GENERAL NOTES
  - 5 FASCIA BOARD AS REQ
  - 6 2x SOFFIT FRAMING

## 10 TYPICAL RAISED HEEL TRUSS BRG

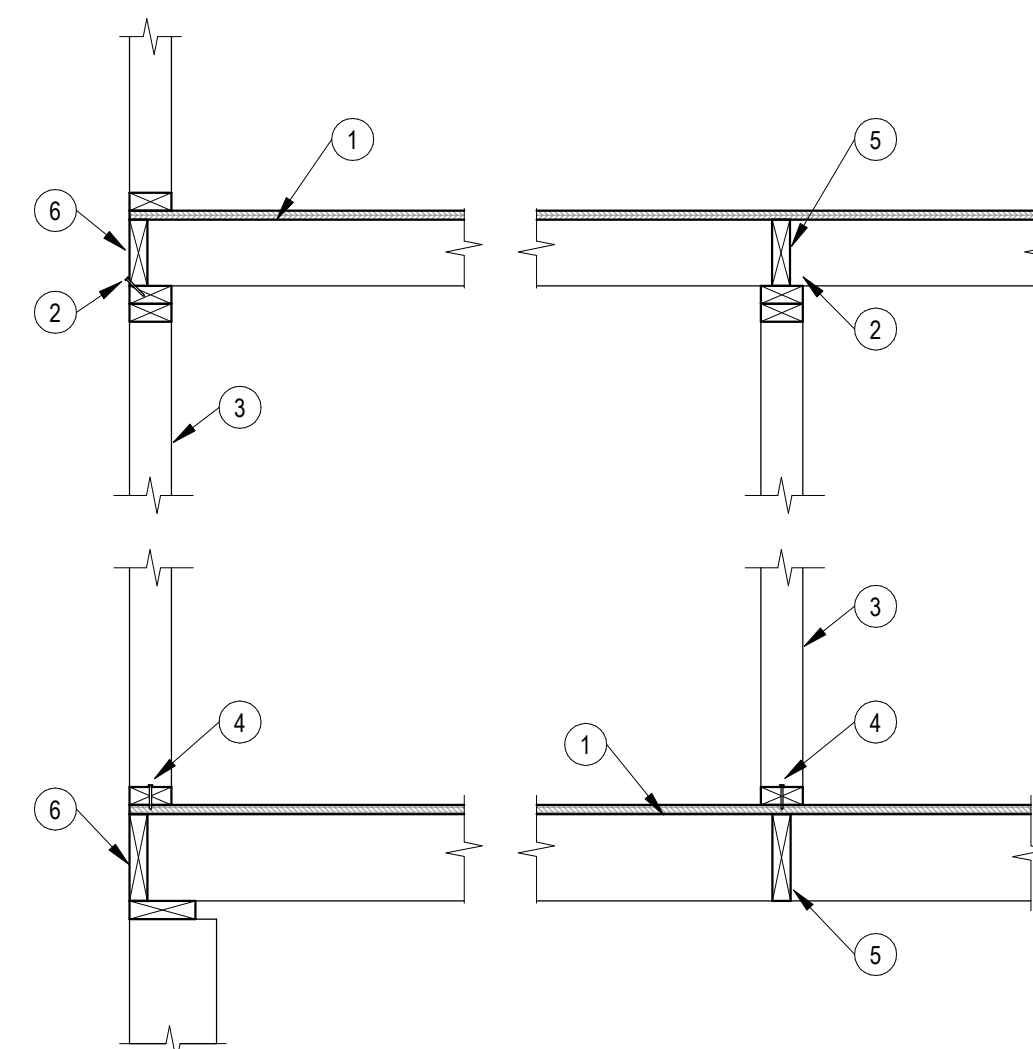
3/4" = 1'-0"



- DETAIL NOTES:**
- 1 NAIL TO STUB WALL W/ (4) 10d NAILS
  - 2 NAIL BRACE W/ (3) 10d NAILS
  - 3 2x6 VERT & 2x4 HORIZ NAILED TOGETHER IN L-SHAPE. 10d NAILS @ 12" OC MAX
  - 4 ATTACH @ CEILING JOISTS W/ (2) 10d NAILS

## 5 RZ210B - CEILING STEP DETAIL

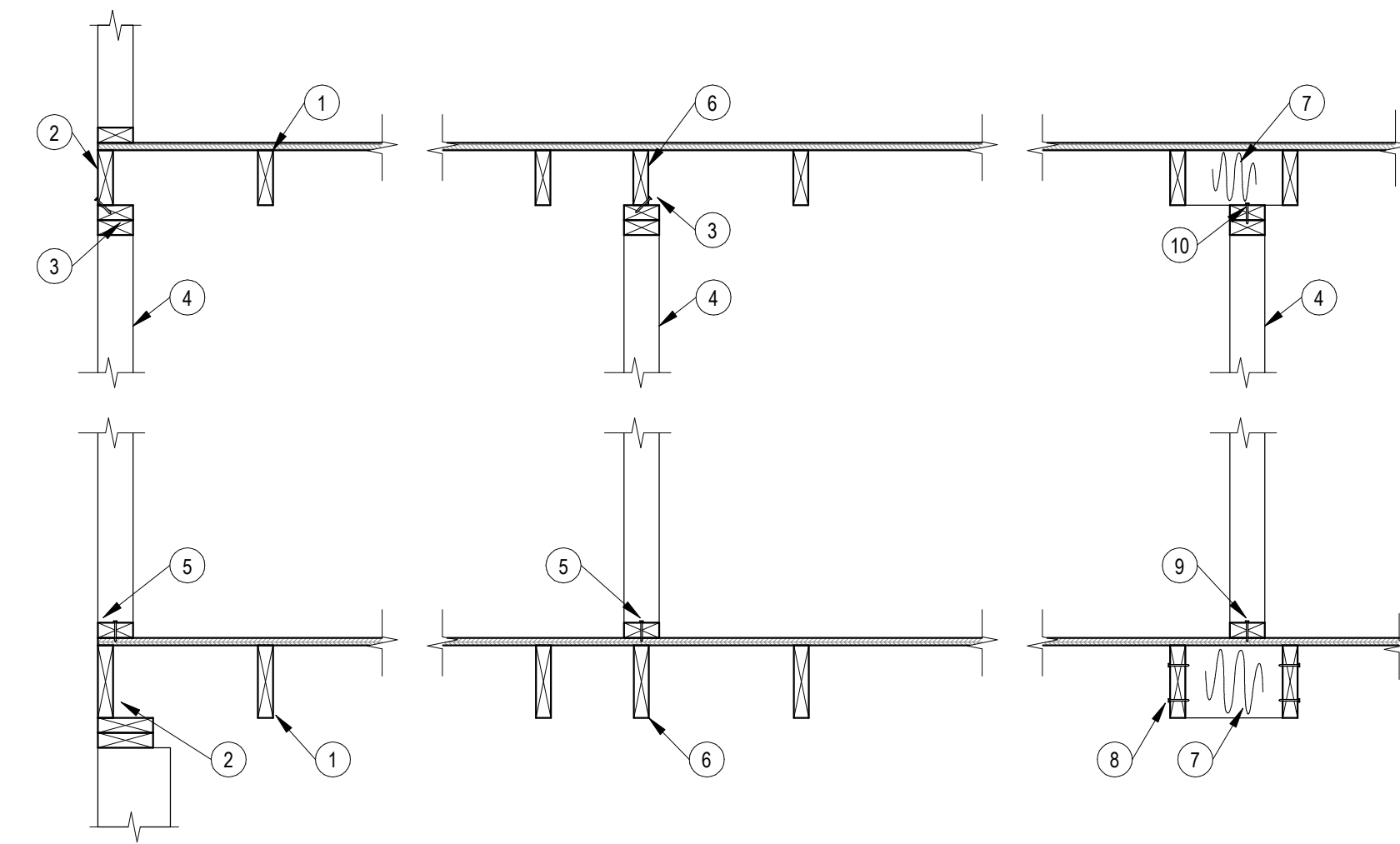
3/4" = 1'-0"



- DETAIL NOTES:**
- 1 PERPENDICULAR FRAMING
  - 2 8d @ 6" OC ALONG BRACED WALL PANEL
  - 3 BRACED WALL PANEL
  - 4 (3) 16d @ 16" OC ALONG BRACED WALL PANEL
  - 5 FULL HT BLOCKING CONT ALONG LENGTH OF BRACED WALL PANEL
  - 6 CONT RIM OR BAND JOIST

## 4 BWP CONN PERP TO FRAMING

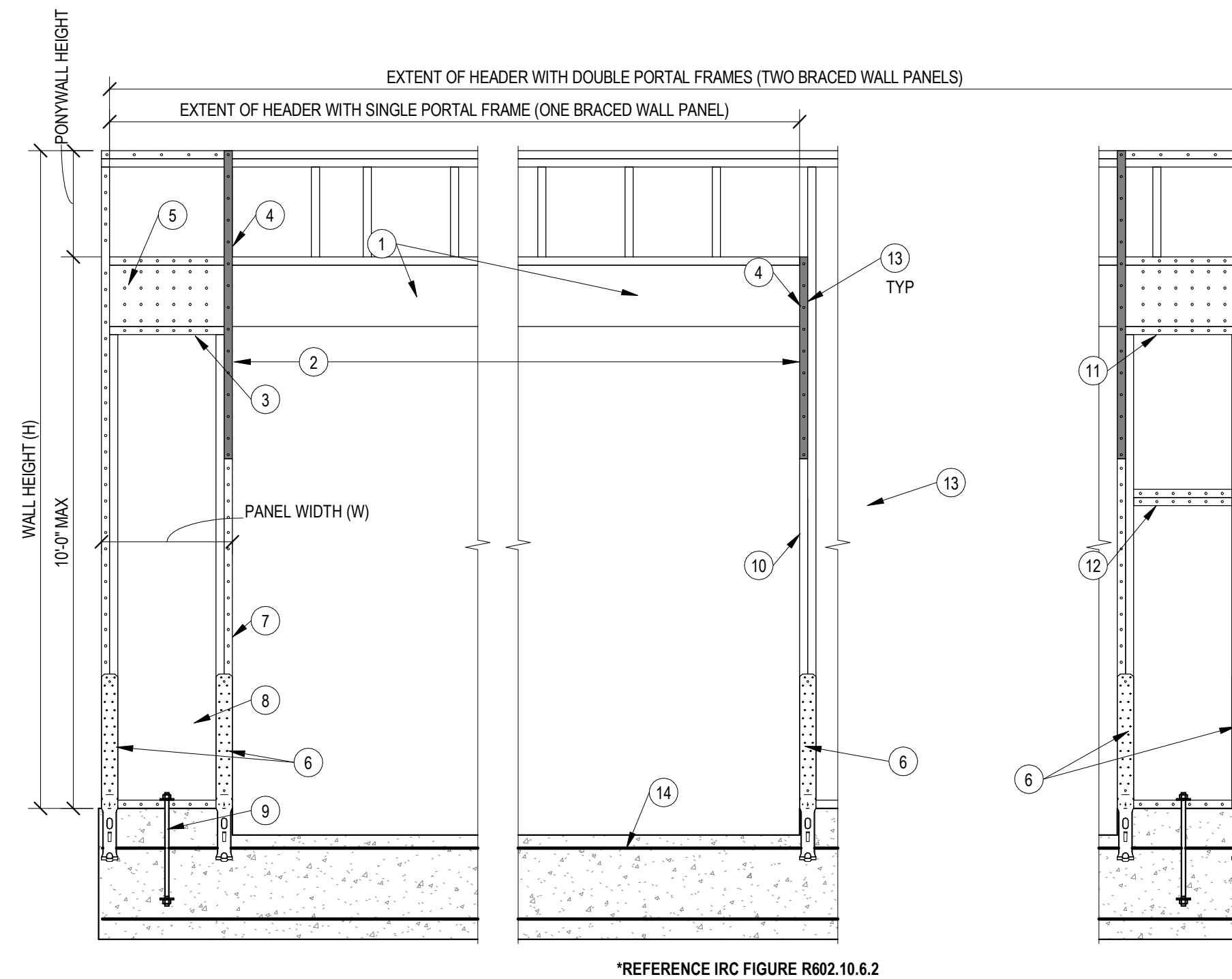
3/4" = 1'-0"



- DETAIL NOTES:**
- 1 FRAMING ORIENTED PARALLEL TO BRACED WALL PANEL
  - 2 CONT RIM OR END JOIST
  - 3 8d @ 6" OC ALONG BRACED WALL PANEL
  - 4 BRACED WALL PANEL
  - 5 (3) 16d @ 16" OC ALONG BRACED WALL PANEL
  - 6 ADDITIONAL FRAMING MEMBER DIRECTLY BELOW BRACED WALL PANEL
  - 7 FULL HEIGHT BLOCKING @ 16" OC ALONG BRACED WALL
  - 8 (2) 16d NAILS @ EA BLOCKING MEMBER
  - 9 (3) 16d NAILS @ EA BLOCKING MEMBER
  - 10 TOE NAIL (3) 8d NAILS @ EA BLOCKING MEMBER

## 3 BWP CONN PAR TO FRAMING

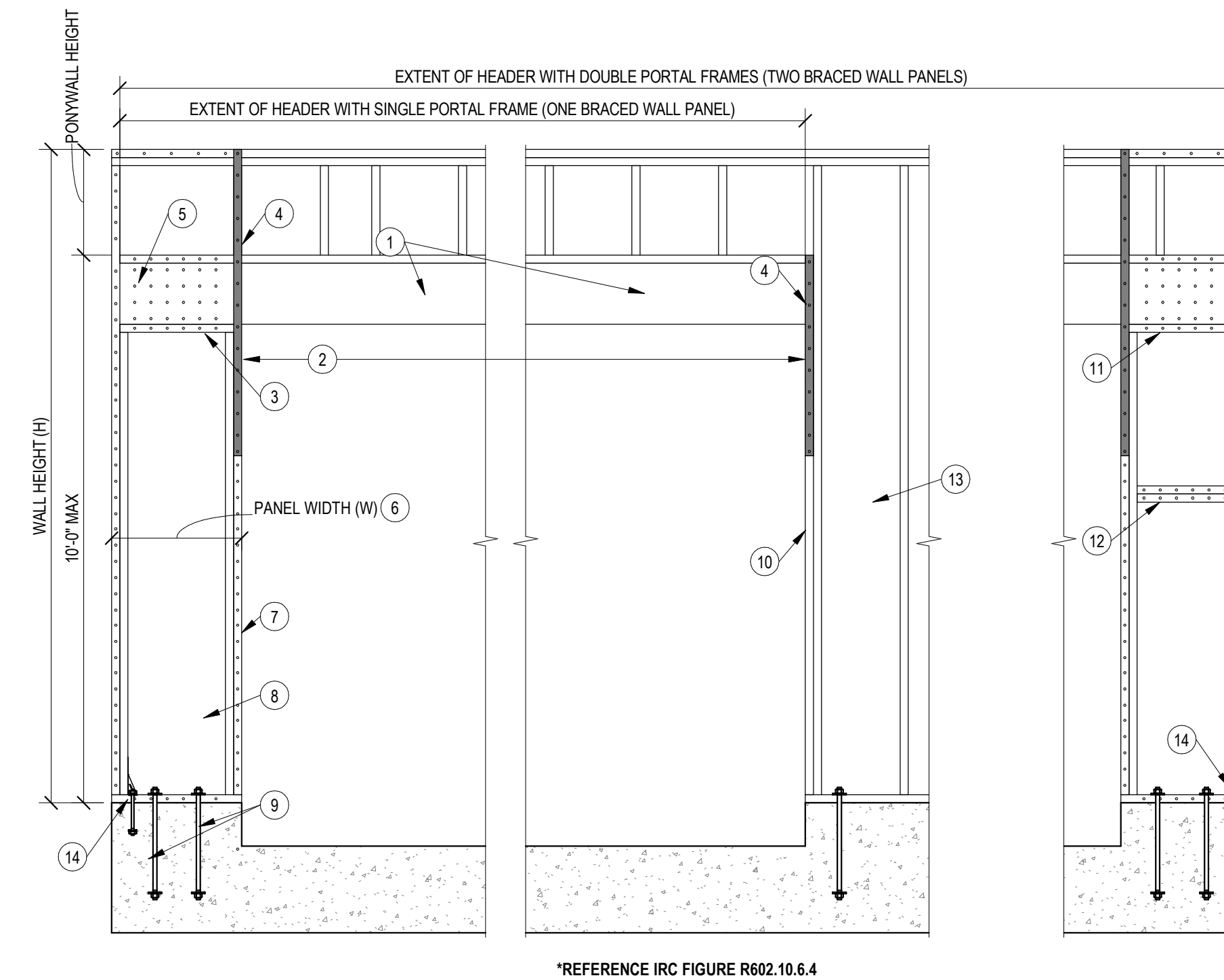
3/4" = 1'-0"



- DETAIL NOTES:**
- 1 MINIMUM 3" x 11 1/4" NET HEADER
  - 2 SPAN = 2'-0" TO 18'-0"
  - 3 FASTEN TOP PLATE TO HEADER WITH TWO ROWS OF 16d SINKER NAILS AT 3" OC TYP
  - 4 2500# STRAP ON OPPOSITE SIDE OF SHEATHING
  - 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
  - 6 MIN 3500 LB STRAP-TYPE HOLD-DOWNS (EMBED INTO CONCRETE AND NAILED INTO FRAMING)
  - 7 MIN 2x4 FRAMING
  - 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" @ ANCHOR RODS WITH 2" x 2" x 3/16" PLATE WASHER
  - 10 MIN DOUBLE 2x4 DOUBLE POST
  - 11 TYPICAL PORTAL FRAME CONSTRUCTION
  - 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 TOGETHER WITH (3) 16d SINKERS
  - 13 FASTEN KING STUD TOP HEADER W/ (6) 16d SINKERS
  - 14 MIN REIN. OF FND, ONE #4 BAR TOP & BOT OF FTG. LAP BARS 15" MIN

## 2 RZ206C - PFH DETAIL

1/2" = 1'-0"



- DETAIL NOTES:**
- 1 MINIMUM 3" x 11 25' NET HEADER
  - 2 SPAN = 6'-0" TO 18'-0"
  - 3 FASTEN TOP PLATE TO HEADER WITH TWO ROWS OF 16d SINKER NAILS AT 3" OC TYP
  - 4 1000# STRAP OPPOSITE SHEATHING
  - 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
  - 6 REFER TO PANEL WIDTH SCHEDULE
  - 7 MIN 2x4 FRAMING
  - 8 MIN 7/16" THICKNESS WOOD STRUCTURAL PANEL SHEATHING
  - 9 MIN (2) 1/2" ANCHOR RODS WITH 2" x 2" x 3/16" PLATE WASHER
  - 10 MIN DOUBLE 2x4 DOUBLE POST
  - 11 TYPICAL PORTAL FRAME CONSTRUCTION
  - 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 TOGETHER WITH (3) 16d SINKERS
  - 13 BRACED WALL LINE CONTINUOUSLY SHEATHED WITH WOOD STRUCTURAL PANELS
  - 14 AT CONDITIONS THAT REQ 800# HOLD DOWN DEVICE USE SIMPSON DTT2-SDS2.5 INSTALLED W/ (8) 1/4" x 2 1/2" SDS FASTENERS, 1/2" @ ANCHOR RODS (5" MIN EMBED), & SIMPSON AT-XP ADHESIVE

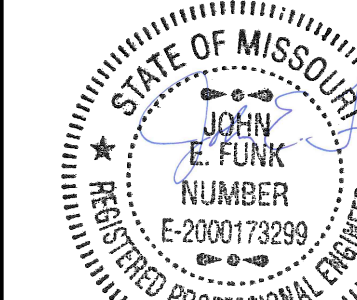
## 1 RZ206B - CS-PF

1/2" = 1'-0"

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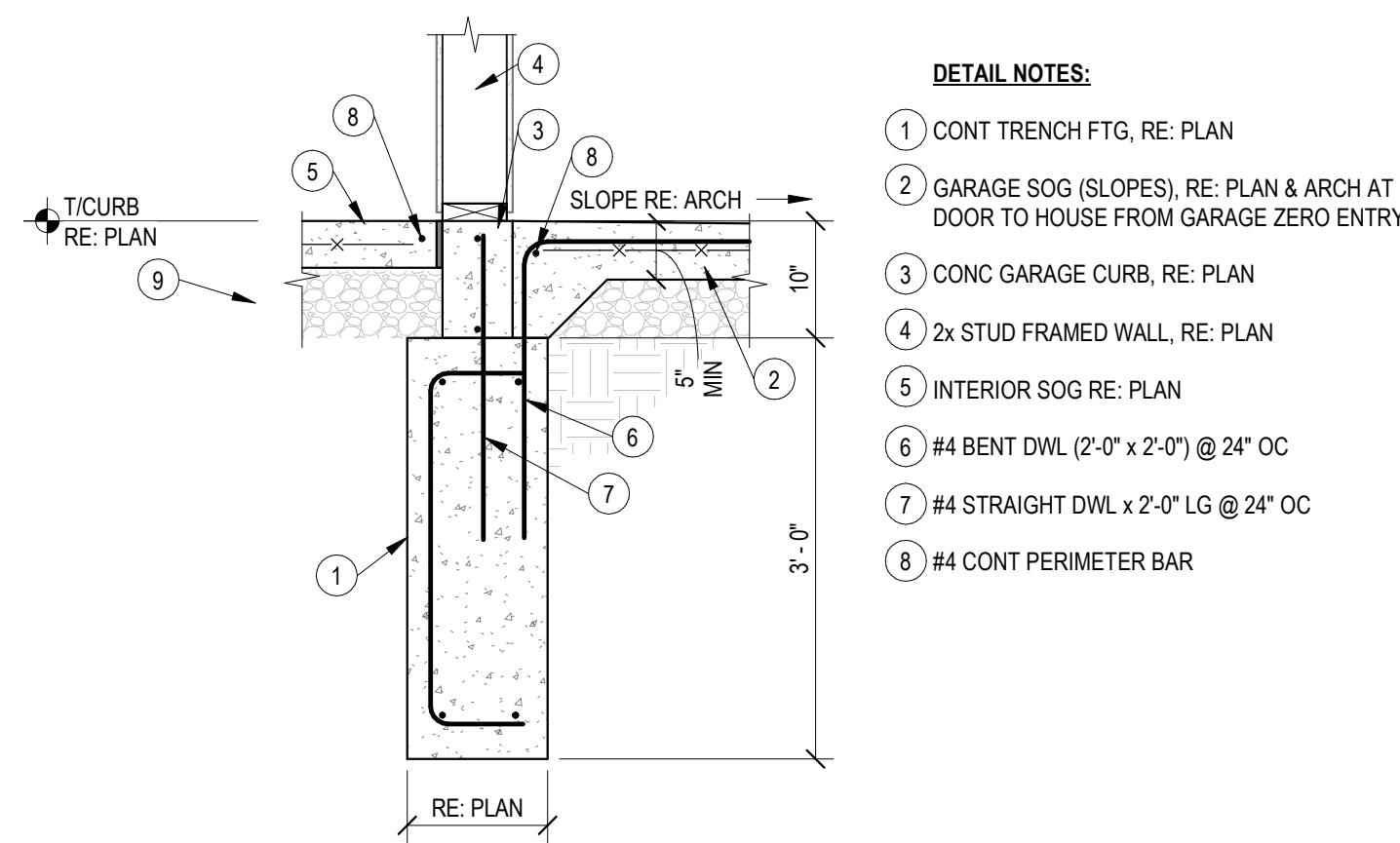
STRUCTURAL TYPICAL DETAILS



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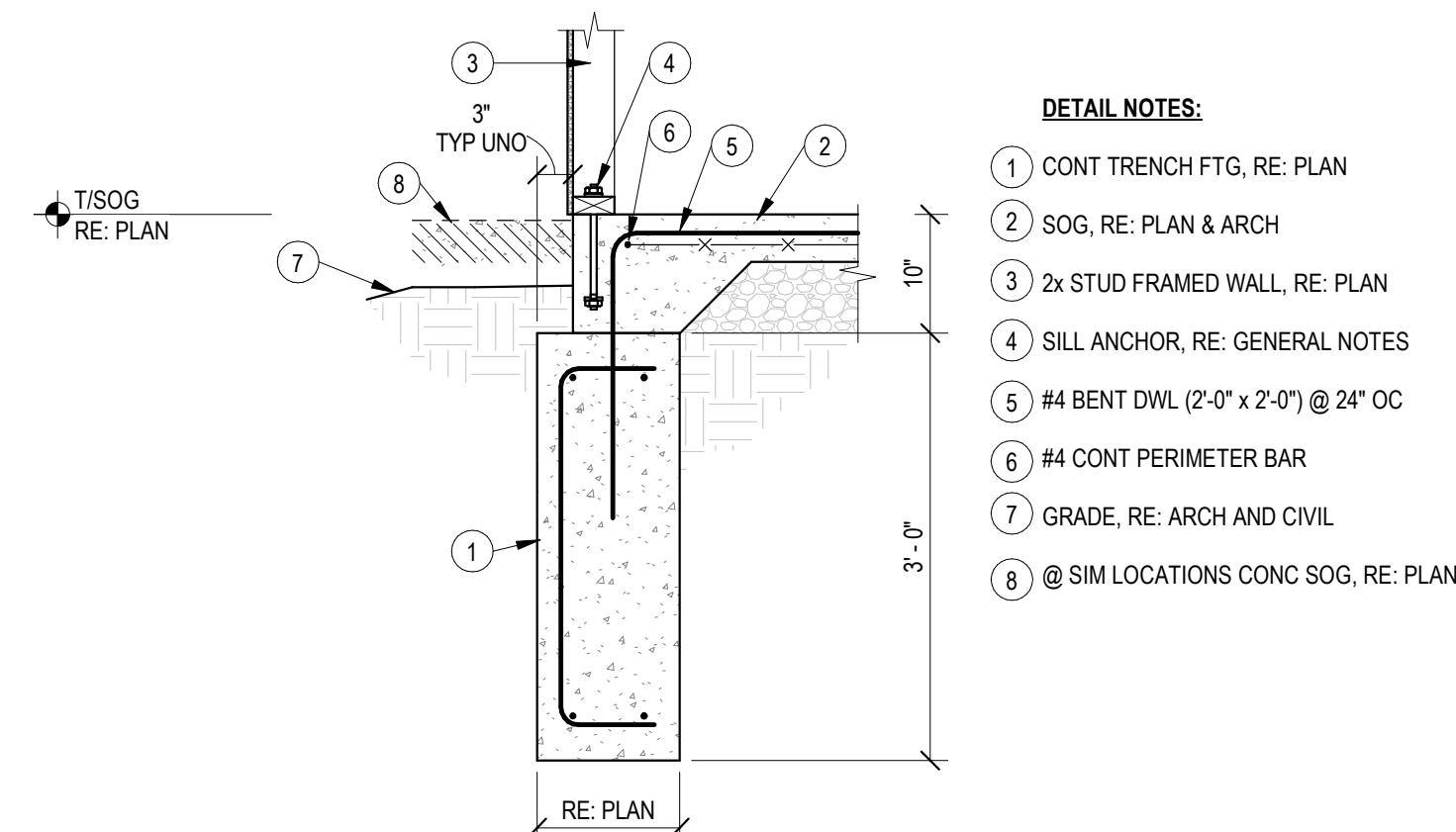
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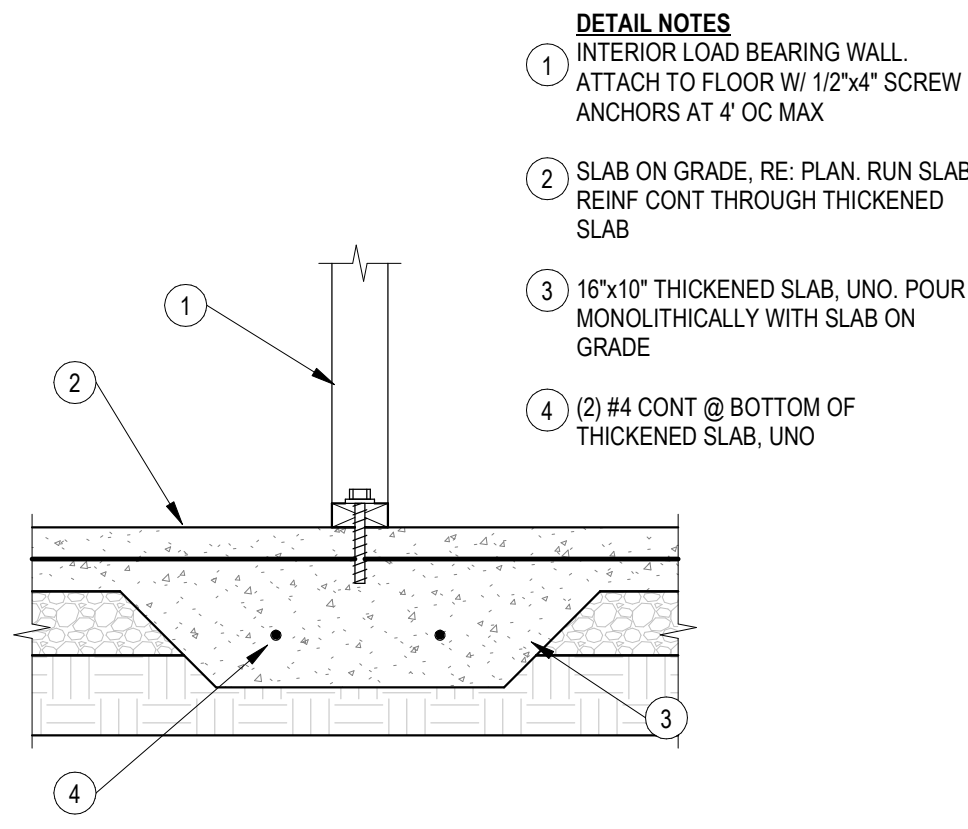
- DETAIL NOTES:**
- 1) CONT TRENCH FTG, RE: PLAN
  - 2) GARAGE SOG (SLOPES), RE: PLAN & ARCH AT DOOR TO HOUSE FROM GARAGE ZERO ENTRY
  - 3) CONC GARAGE CURB, RE: PLAN
  - 4) 2x STUD FRAMED WALL, RE: PLAN
  - 5) INTERIOR SOG RE: PLAN
  - 6) #4 BENT DWL (2'-0" x 2'-0") @ 24" OC
  - 7) #4 STRAIGHT DWL x 2'-0" LG @ 24" OC
  - 8) #4 CONT PERIMETER BAR

**6 TYPICAL GARAGE HOUSE WALL**  
3/4" = 1'-0"



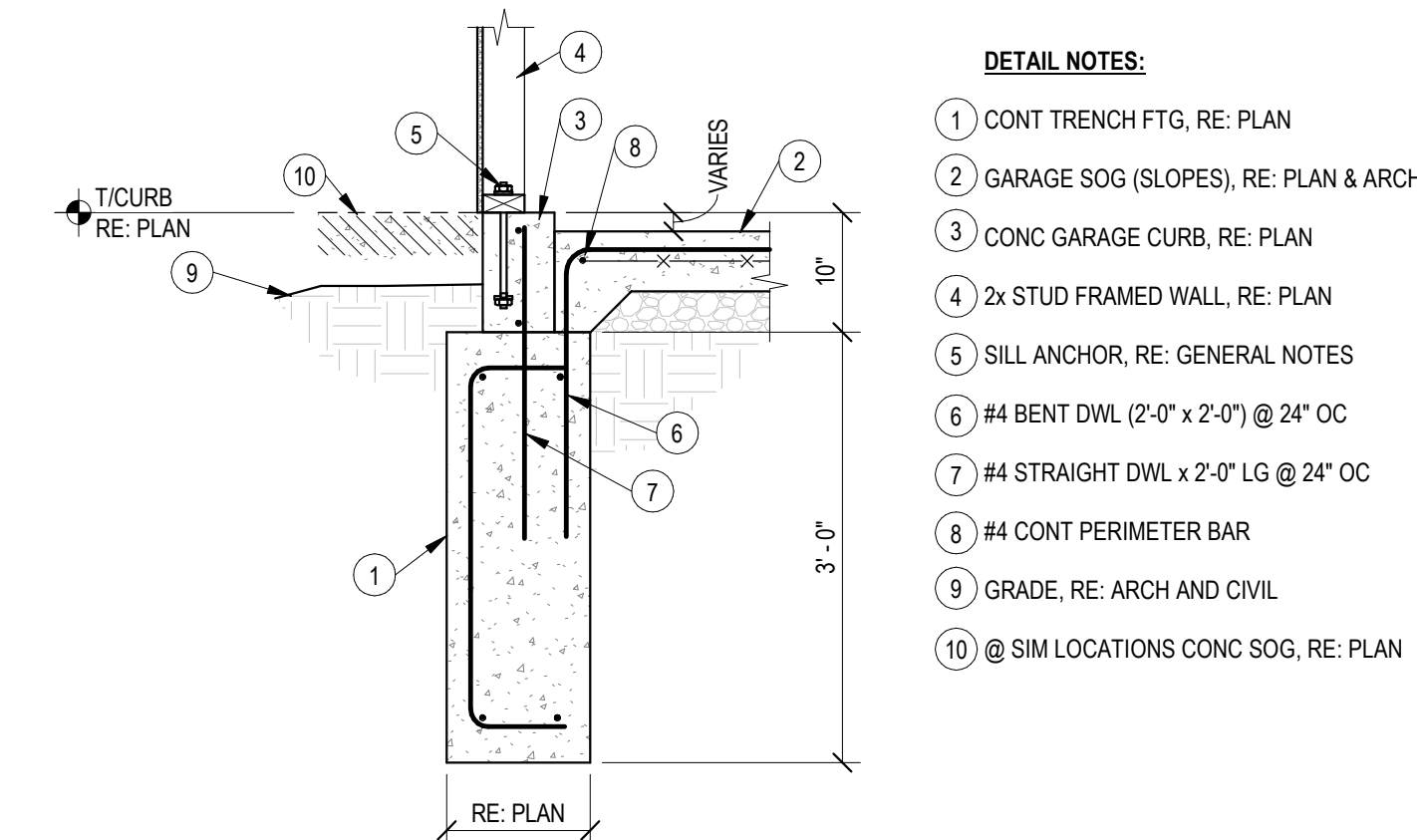
- DETAIL NOTES:**
- 1) CONT TRENCH FTG, RE: PLAN
  - 2) SOG, RE: PLAN & ARCH
  - 3) 2x STUD FRAMED WALL, RE: PLAN
  - 4) SILL ANCHOR, RE: GENERAL NOTES
  - 5) #4 BENT DWL (2'-0" x 2'-0") @ 24" OC
  - 6) #4 CONT PERIMETER BAR
  - 7) GRADE, RE: ARCH AND CIVIL
  - 8) @ SIM LOCATIONS CONC SOG, RE: PLAN

**4 TYPICAL SLAB FTG**  
3/4" = 1'-0"



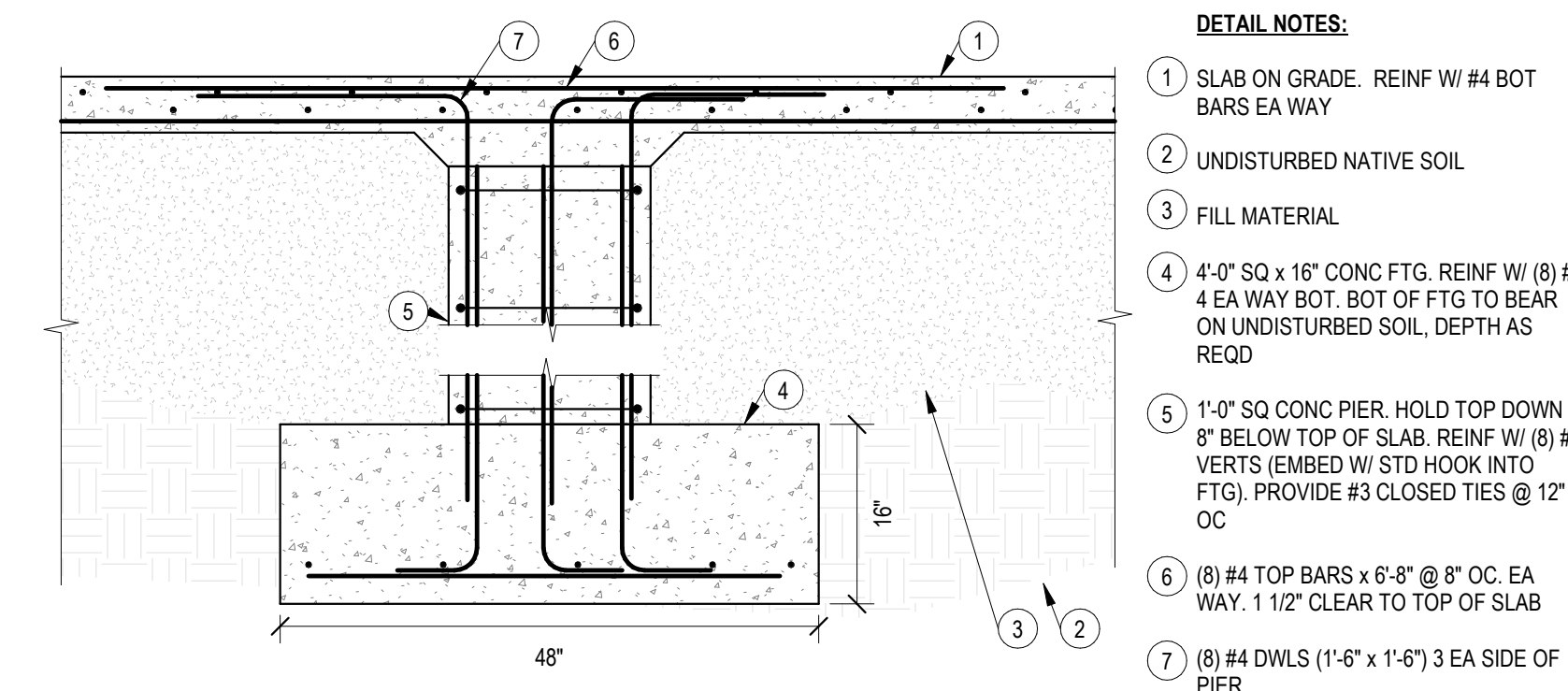
- DETAIL NOTES:**
- 1) INTERIOR LOAD BEARING WALL, ATTACH TO FLOOR W/ 1/2"x4" SCREW ANCHORS AT 4' OC MAX
  - 2) SLAB ON GRADE, RE: PLAN, RUN SLAB REINF CONT THROUGH THICKENED SLAB
  - 3) 16"x10" THICKENED SLAB, UNO, POUR MONOLITHICALLY WITH SLAB ON GRADE
  - 4) (2) #4 CONT @ BOTTOM OF THICKENED SLAB, UNO

**5 RZ108 - THICKENED SLAB**  
1" = 1'-0"



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

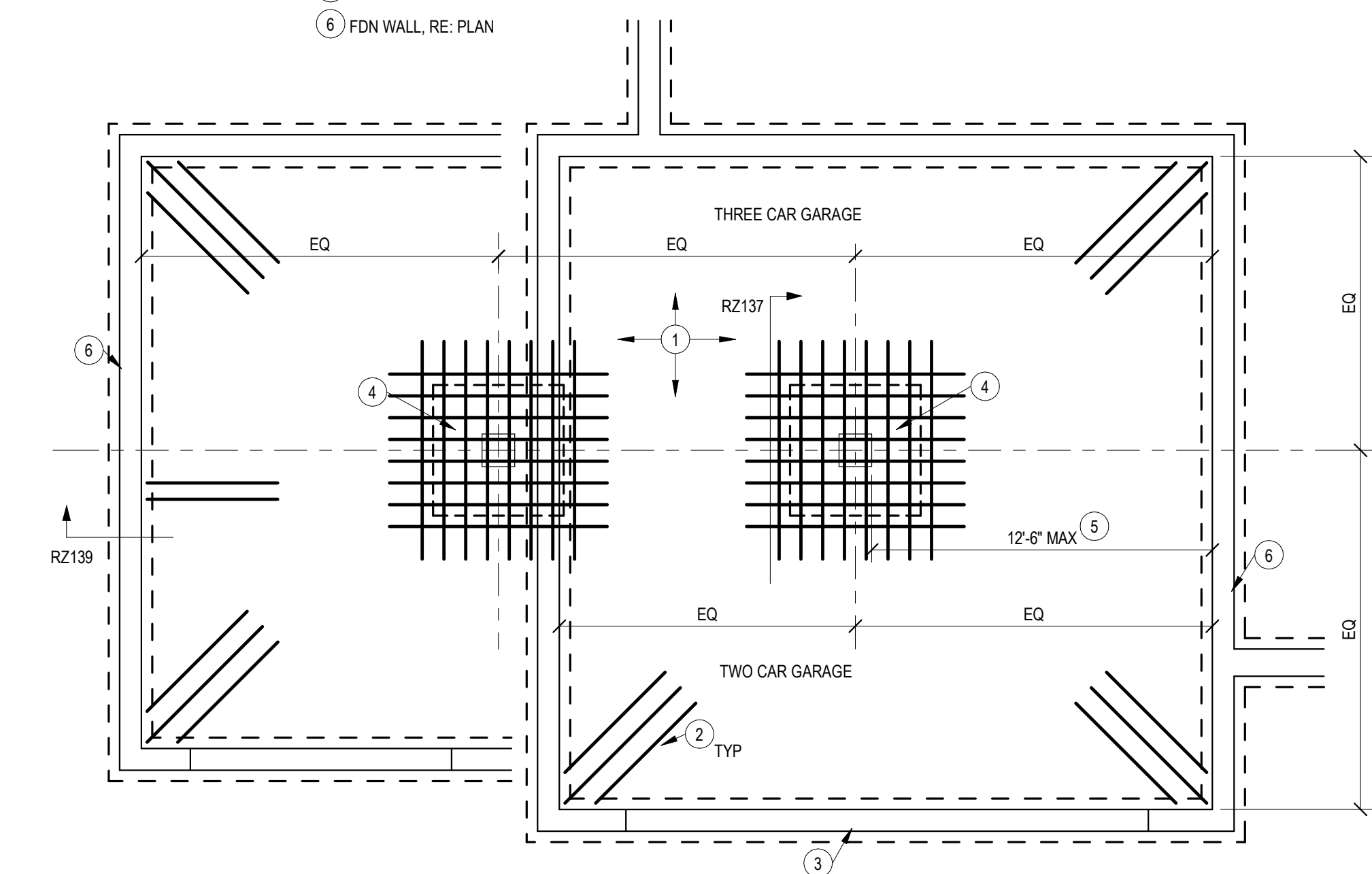
**3 TYPICAL GARAGE FTG**  
3/4" = 1'-0"



- DETAIL NOTES:**
- 1) SLAB ON GRADE, REINF W/ #4 BOT BARS EA WAY
  - 2) UNDISTURBED NATIVE SOIL
  - 3) FILL MATERIAL
  - 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" OC
  - 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

**2 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
  - 6) FDN WALL, RE: PLAN

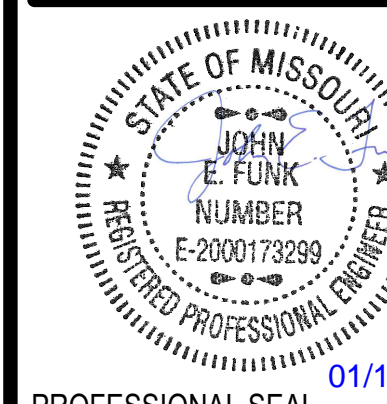


**1 RZ136 - GARAGE SLAB ON FILL**  
1/4" = 1'-0"

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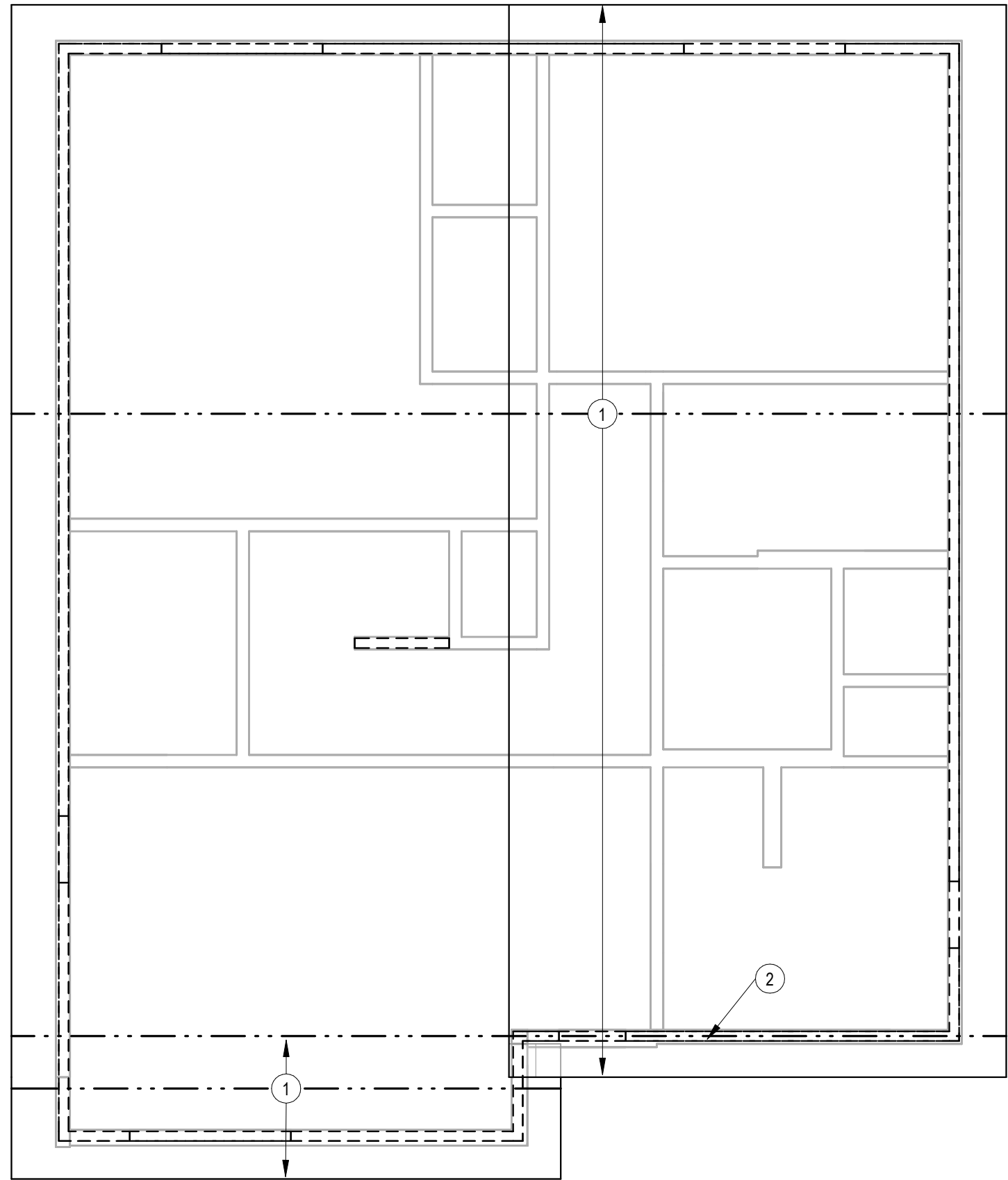
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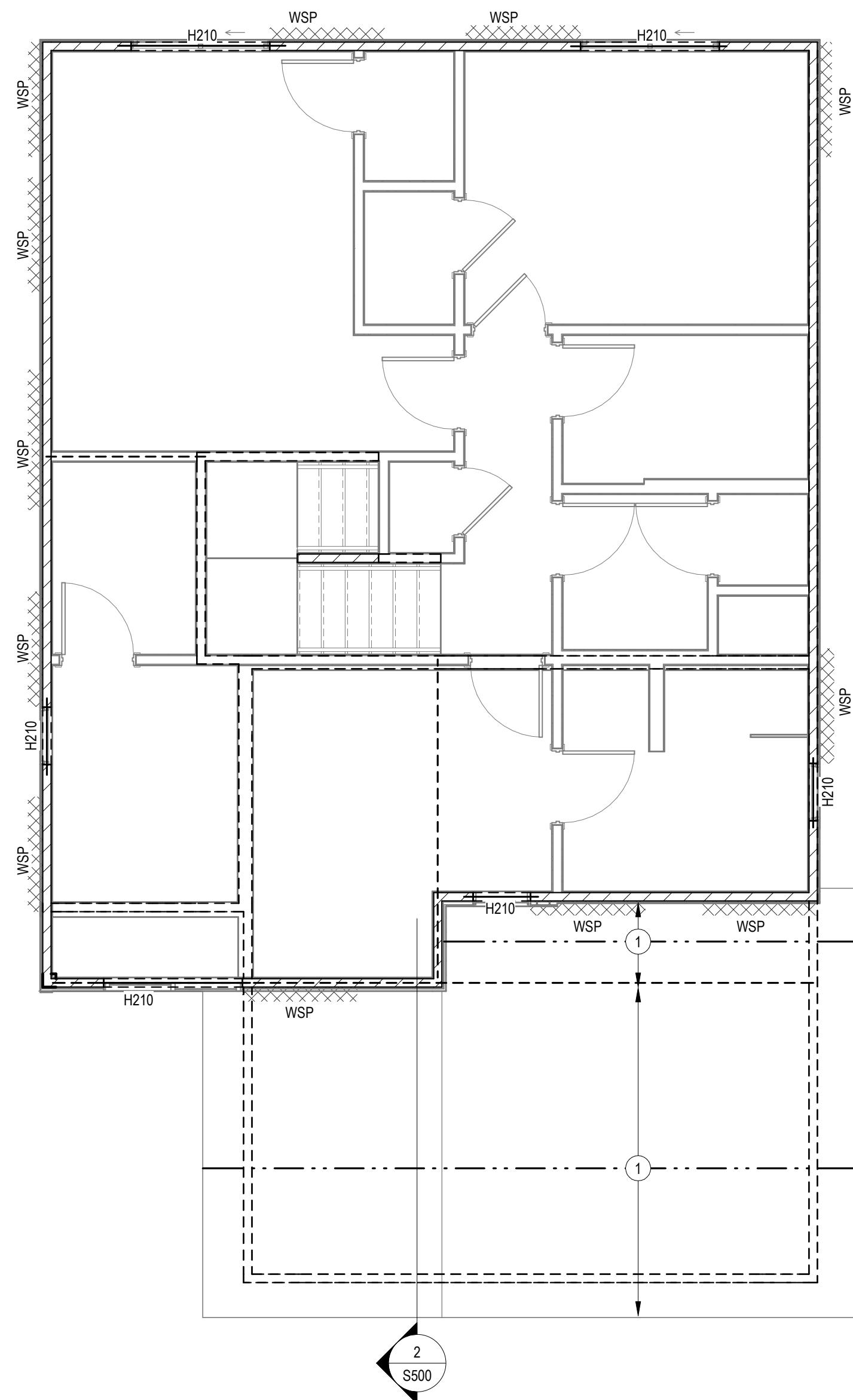
### 3 ROOF FRAMING PLAN

1/4" = 1'-0"



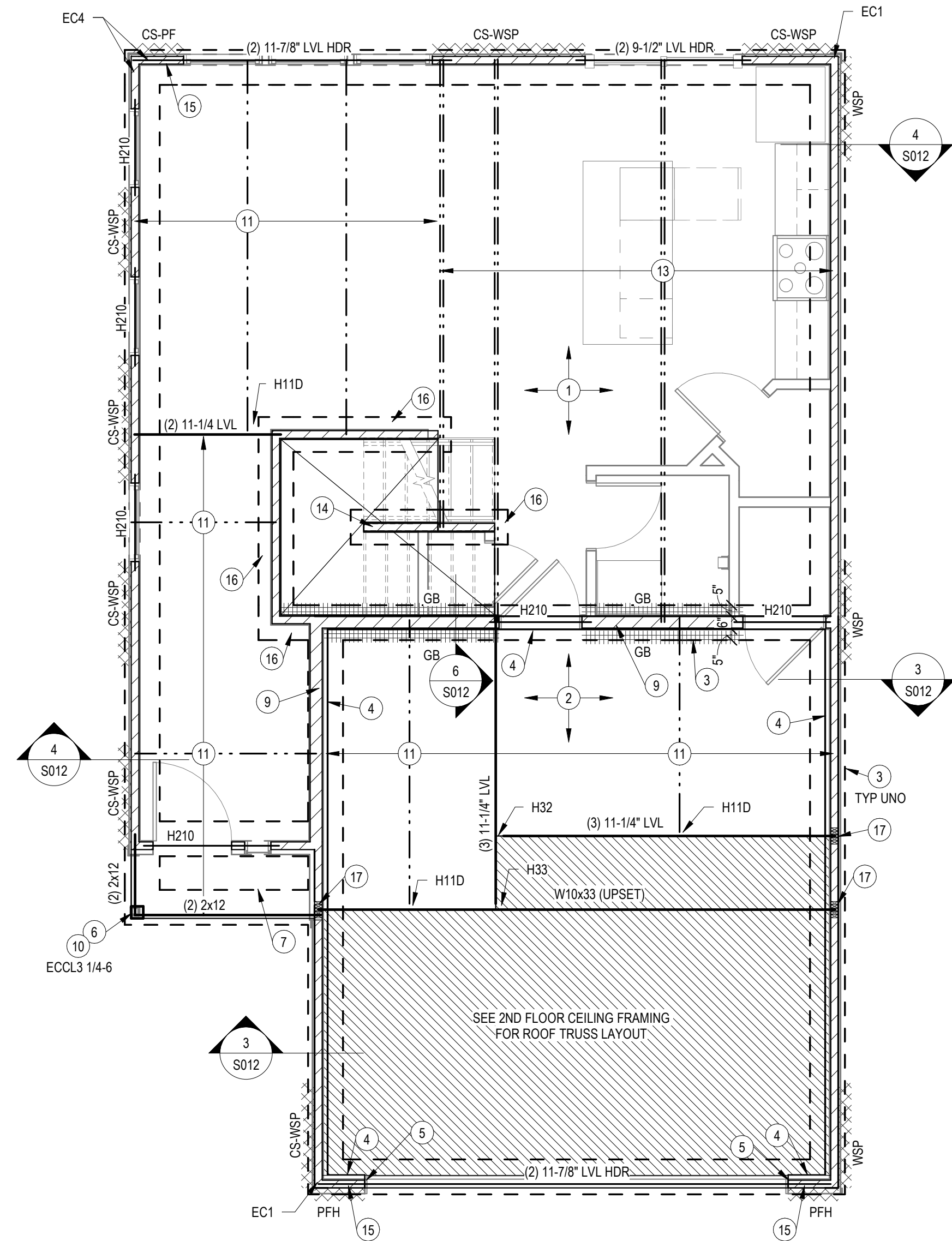
### 2 2ND FLOOR WALL/LOW ROOF FRAMING PLAN

1/4" = 1'-0"



### 1 FOUNDATION AND 2ND FLOOR FRAMING PLAN

1/4" = 1'-0"



#### BRACED WALL PANEL LEGEND:

WSP: WOOD STRUCTURAL PANEL. PANEL THICKNESS AND NAILING REQUIREMENTS IN GENERAL NOTES MEET BRACED WALL REQUIREMENTS.

GB: GYP BOARD. 1/2" GYP BOARD EA SIDE OF WALL. NAILS OR SCREWS PER GENERAL NOTES MAY BE USED. MAX FASTENER SPACING = 4" FOR BOTH EDGE AND FIELD FASTENERS.

PFG: PORTAL FRAME GARAGE, RE: TYP DETAIL RZ-206A FOR REQUIREMENTS.

CS-PF: CONTINUOUSLY SHEATHED PORTAL FRAME. CONSTRUCT SIMILAR TO TYP DETAIL RZ-206A EXCEPT THAT ALL SURFACES SHALL BE CONTINUOUSLY SHEATHED.

CS-WSP: CONTINUOUSLY SHEATHED WOOD STRUCTURAL PANEL.

EC-#: END CONDITION FOR CONTINUOUSLY SHEATH WALL PANEL.

#### END CONDITIONS (CONTINUOUSLY SHEATHED)

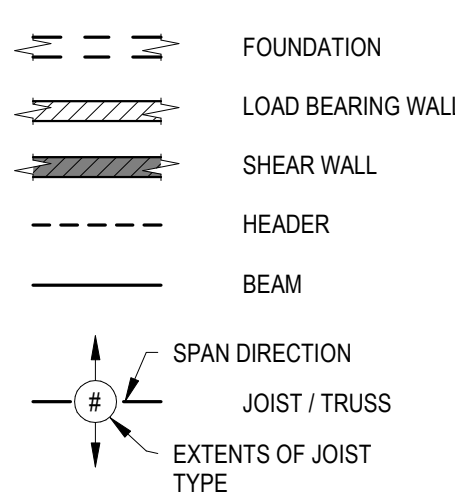
EC1: PROVIDE RETURN PANEL AT THE END OF THE WALL. MIN RETURN PANEL LENGTH = 24".

EC2: PROVIDE SIMPSON DTT2Z HOLDDOWN AT CORNER. FASTEN TO STUDS W/ (8) SIMPSON SDS SCREWS AND ANCHOR TO CONCRETE W/ 1/2" DIA SIMPSON TITEN HD SCREW ANCHOR. 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 UP TO 10'-0" AWAY FROM A CORNER.

#### FRAMING LEGEND



#### SHEET NOTES

- REFER TO SHEET S001 FOR STRUCTURAL GENERAL NOTES.
- REFER TO S010-S012 FOR TYPICAL STRUCTURAL DETAILS.
- ALL WOOD HEADERS IN PERIMETER WALLS AND INTERIOR LOAD BEARING WALLS NOT SPECIFICALLY CALLED OUT SHALL BE SELECTED FROM THE HEADER SCHEDULE ON TYPICAL DETAIL SHEETS.
- ALL WOOD BEAMS SHALL BEAR ON A MINIMUM OF (3) 2x4 STUDS OR SHALL ATTACH TO INTERSECTING WOOD BEAMS WITH A SIMPSON HUGS410 OR BETTER UNO.
- ALL MULTI-PLY ENGINEERING LUMBER BEAMS ARE DESIGNATED BY NUMBER OF PLYS AND DEPTH [EX: (3) 14" LVJ]. THE PLYS SHALL BE 1.75" WIDTH UNLESS NOTED OTHERWISE. AND STRENGTH SHALL BE PER THE GENERAL NOTES. BEAMS SHALL BE FASTENED TOGETHER PER THE TYPICAL DETAILS.
- REFER TO ARCHITECTURAL SHEETS FOR ALL DIMENSIONS.
- ALL STEEL BEAMS IN 1ST FLOOR FRAMING SHALL BE DOWNSET UNLESS NOTED OTHERWISE. ALL OTHER BEAMS IN 1ST FLOOR FRAMING SHALL BE UPSET, UNLESS NOTED OTHERWISE.
- ALL WALLS SHALL BE 2x4 @ 16" OC UNLESS NOTED OTHERWISE. ALL EXTERIOR WALLS ARE LOAD BEARING.
- REFER TO SHEET S011 FOR BRACED WALL INFORMATION & DETAILS.
- BEAM HANGERS ARE DENOTED ON PLANS AS "HXX". REFER TO SCHEDULE ON S010 FOR REQUIREMENTS. WHERE NOT CALLED OUT, CONTACT ENGINEER OR USED HEAVIEST HANGER FOR NUMBER OF PLYS IN BEAM BEING SUPPORTED.
- SPECIFIC BEAMS CALLED OUT ON PLANS SHALL BE LOCATED UNDER THE LOAD BEARING ELEMENTS ABOVE.
- PROVIDE DOUBLE FLOOR JOIST UNDER ALL WALLS PARALLEL W/ JOIST.
- TIGHTS ELEVATION = 99'-2"  
TISOG ELEVATION = 100'-0"  
TRUSS BRG = RE: ARCH
- ANCHOR RODS SHALL BE PLACED IN TO THE TOP OF THE FOUNDATION WALLS PER THE GENERAL NOTES
- PLANS SHOWN ARE FOR PROTOTYPE BUILDING. RE: ARCH AND SITE PLAN FOR LOCATIONS, VARIATIONS, GRADING CONDITIONS, ETC.
- BRACED WALL ARE SHOWN ON PLAN RE: BRACED WALL LEGEND ON THIS SHEET AND BRACED WALL DETAILS ON S011.

#### FDN PLAN NOTES:

- 4" THICK MIN SLAB ON GRADE, RE: GENERAL NOTES FOR REIN. VAPOR BARRIER AND JOINTING REQMT'S. SLAB SHALL BE INSTALLED OVER PROPERLY COMPACTED SUITABLE FILL.
- 5" THICK MIN GARAGE SLAB ON GRADE, RE: GENERAL NOTES FOR REIN. VAPOR BARRIER AND JOINTING REQMT'S. SLAB SHALL BE INSTALLED OVER PROPERLY COMPACTED SUITABLE FILL.
- 16" WIDE TRENCH FTG REIN W/ (2) #5 CONT TOP & BOT BARS & #4 C-SHAPED TIES @ 24" OC
- 6" WIDE CONC GARAGE CURB REIN W/ A CONT #5 TOP & BOT
- RECESS GARAGE CURB FOR DOOR OPENING
- 6x6 WOOD COLUMN. BASE CONNECTION: SIMPSON ABUG2Z OR EQUIV
- 6" THICK PORCH SLAB REIN W/ #4 @ 12" OC EA WAY & #4 BENT DOWELS (2'-0" x 2'-0") INTO TRENCH FTG
- 4" THICK PATIO SLAB REIN W/ #4 @ 12" OC EA WAY. PROVIDE 12" THICKENED SLAB EDGE REIN W/ (2) #4 CONT BOT BAR. RE: ARCH FOR PATIO EXTENTS
- 2x6 STUD FRAMED WALL @ 16" OC
- PROVIDE EITHER A SIMPSON POST CAP PER PLAN OR NOTCH TOP OF COLUMN FOR BEAM BEARING & INSTALL WITH (4) FASTENMASTER LEDGERLOK SCREWS
- 2x12 @ 16" OC. PROVIDE FULL DEPTH BLOCKING @ MID SPAN OF SPANS OVER 16'-0"
- 2x12 @ 12" OC. PROVIDE FULL DEPTH BLOCKING @ MID SPAN OF SPANS OVER 16'-0"
- (2) 2x12 @ 16" OC. PROVIDE FULL DEPTH BLOCKING @ MID SPAN OF SPANS OVER 16'-0"
- FULL HEIGHT STUD FRAMED WALL FROM SOG TO TRUSS BEARING. PROVIDE STUD BAY BLOCKING @ 4'-0" OC UP ENTIRE WALL
- EXTEND HEADER TO END OF BRACED WALL PANEL
- THICKENED SLAB BELOW WALL RE: TYPICAL DETAIL S/S012
- 2x4 BRG STUD PACK BELOW BEAM

#### SECOND FLOOR CEILING FRAMING PLAN

- ROOF TRUSSES BY TRUSS SUPPLIER PROVIDE SIMPSON H25T @ EA TRUSS BRG. RE: GENERAL NOTES FOR DESIGN CRITERIA & ARCH FOR ADDITIONAL INFO
- 2x STRUCTURAL FASCIA TO MATCH DEPTH OF OTHER FASCIA BOARDS, 2x6 MIN
- 2x6 LEDGERS (1) TOP & (1) BOT ATTACHED W/ SD WOOD SCREWS @ 16" OC STAGGERED
- CANTILEVER ROOF TRUSSES BY TRUSS SUPPLIER. RE: GENERAL NOTES FOR DESIGN CRITERIA & ARCH FOR ADDITIONAL INFO

#### ROOF FRAMING PLAN

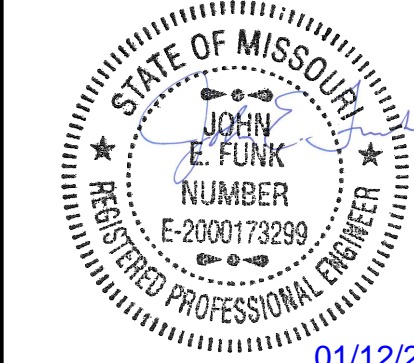
- ROOF TRUSSES BY TRUSS SUPPLIER PROVIDE SIMPSON H25T @ EA TRUSS BRG. RE: GENERAL NOTES FOR DESIGN CRITERIA & ARCH FOR ADDITIONAL INFO
- TRANSITION GABLE END ROOF TRUSS BY TRUSS SUPPLIER. RE: GENERAL NOTES FOR DESIGN CRITERIA & ARCH FOR ADDITIONAL INFO

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FOUNDATION & FRAMING PLANS - H

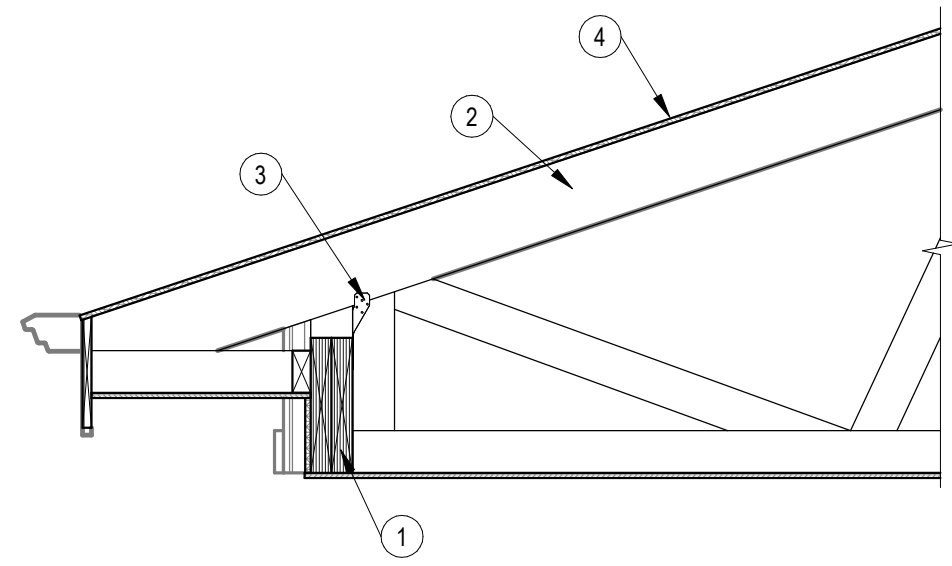


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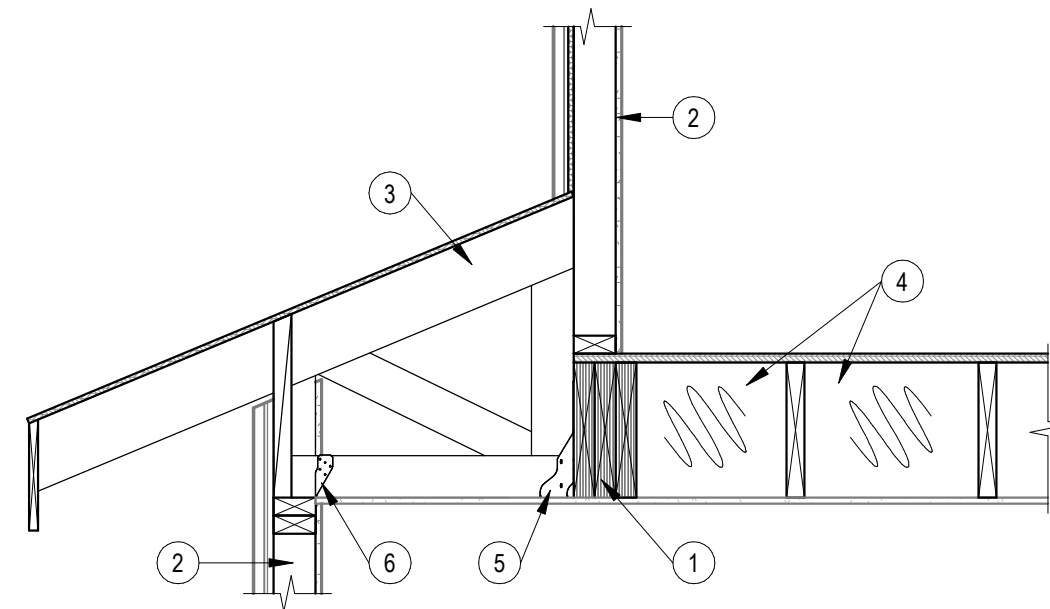


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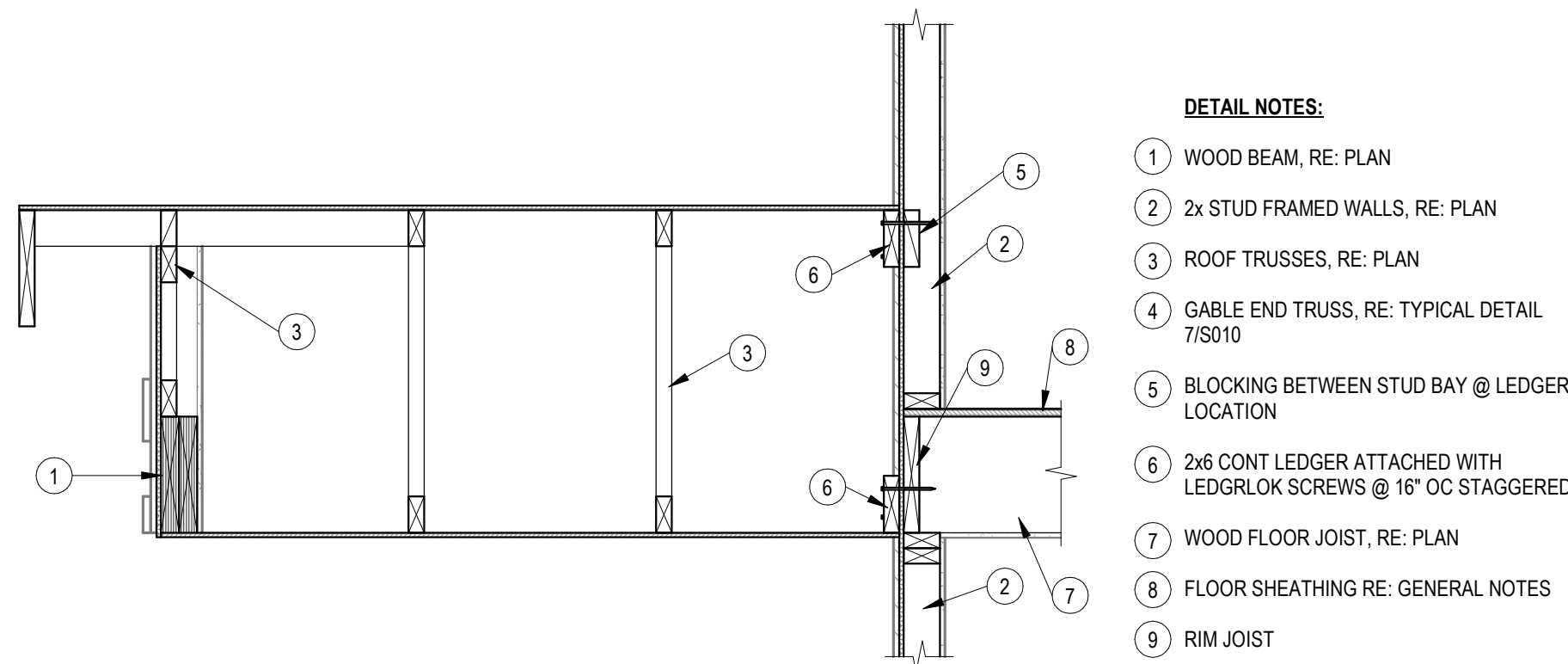
- DETAIL NOTES:
- 1 LVL BEAM, RE: PLAN
  - 2 ROOF TRUSSES, RE: PLAN
  - 3 SIMPSON H2.5T TIE @ EA TRUSS
  - 4 ROOF SHEATHING RE: GENERAL NOTES

**9 SECTION @ ENTRY ROOF BLDG G**  
3/4" = 1'-0"



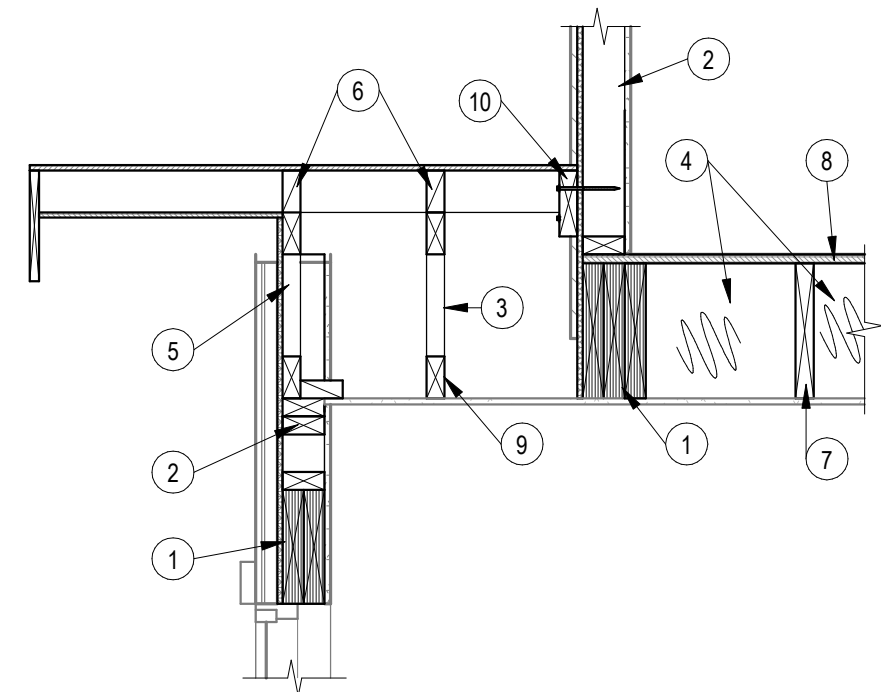
- DETAIL NOTES:
- 1 LVL BEAM, RE: PLAN
  - 2 2x STUD FRAMED WALLS, RE: PLAN
  - 3 ROOF TRUSSES, RE: PLAN
  - 4 PROVIDE FULL DEPTH BLOCKING @ 2'-0" OC FOR FIRST TWO JOIST BAYS
  - 5 SIMPSON THA29 HANGER
  - 6 SIMPSON H2.5T TIE @ EA TRUSS

**8 SECTION @ LOW ROOF BLDG E & F**  
3/4" = 1'-0"



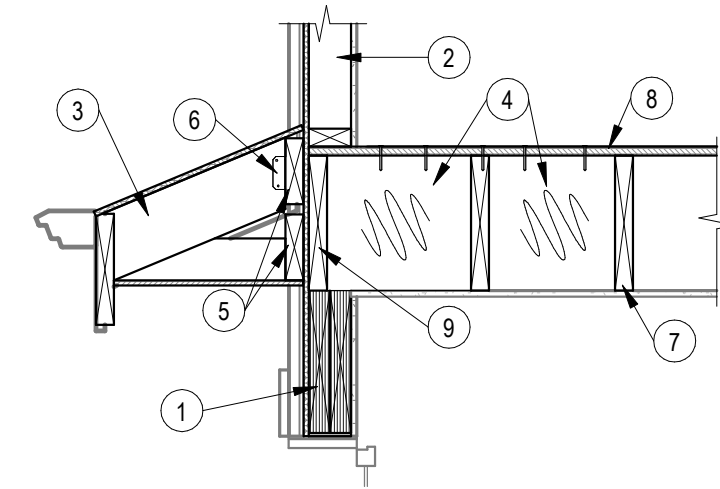
- DETAIL NOTES:
- 1 WOOD BEAM, RE: PLAN
  - 2 2x STUD FRAMED WALLS, RE: PLAN
  - 3 ROOF TRUSSES, RE: PLAN
  - 4 GABLE END TRUSS, RE: TYPICAL DETAIL 7/5010
  - 5 BLOCKING BETWEEN STUD BAY @ LEDGER LOCATION
  - 6 2x6 CONT. LEDGER ATTACHED WITH LEDGRLOK SCREWS @ 16" OC STAGGERED
  - 7 WOOD FLOOR JOIST, RE: PLAN
  - 8 FLOOR SHEATHING RE: GENERAL NOTES
  - 9 RIM JOIST

**7 SECTION @ ROOF ENTRY BLDG E1 & F1**  
3/4" = 1'-0"



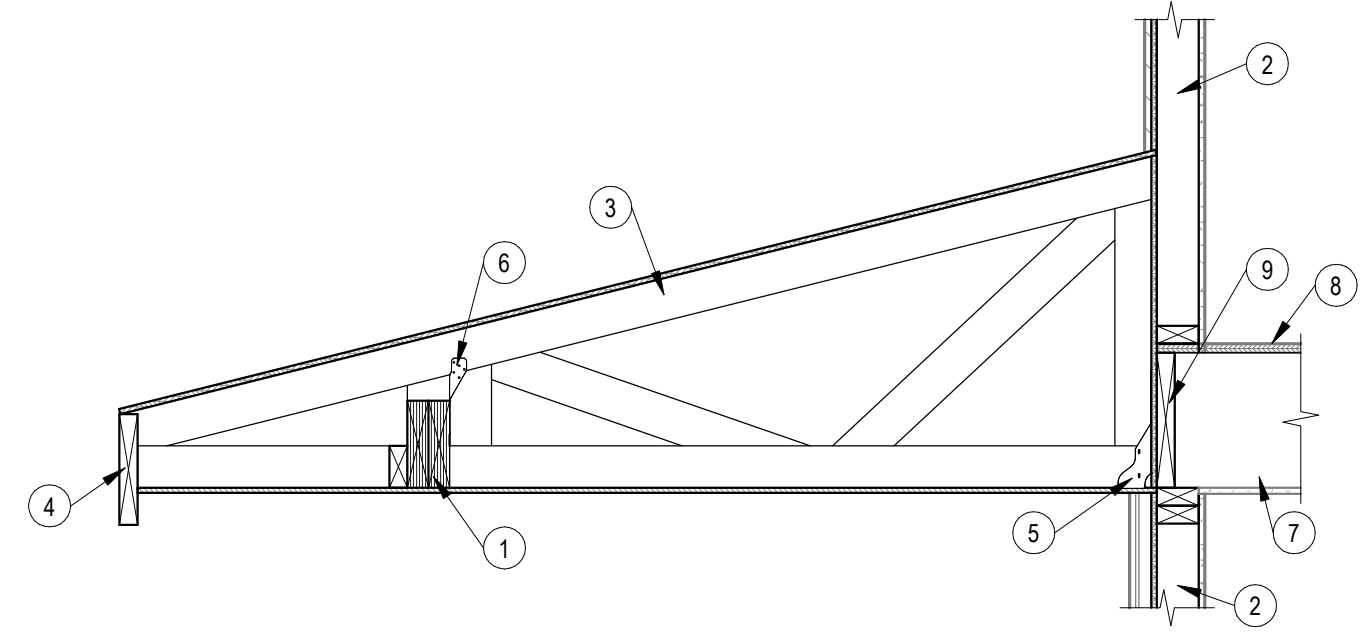
- DETAIL NOTES:
- 1 LVL BEAM, RE: PLAN
  - 2 2x STUD FRAMED WALLS, RE: PLAN
  - 3 ROOF TRUSSES, RE: PLAN
  - 4 PROVIDE FULL DEPTH BLOCKING @ 2'-0" OC FOR FIRST TWO JOIST BAYS
  - 5 GABLE END TRUSS RE: 7/5010
  - 6 BLOCKING BETWEEN OUTRIGGERS
  - 7 WOOD FLOOR JOIST, RE: PLAN
  - 8 FLOOR SHEATHING RE: GENERAL NOTES
  - 9 HOLD DOWN TRUSS FOR OUTRIGGER
  - 10 2x6 LEDGER ATTACHED W/ LEDGERLOK SCREWS @ 16" OC STAGGERED

**6 SECTION @ ROOF BLDG E2 & F2**  
3/4" = 1'-0"



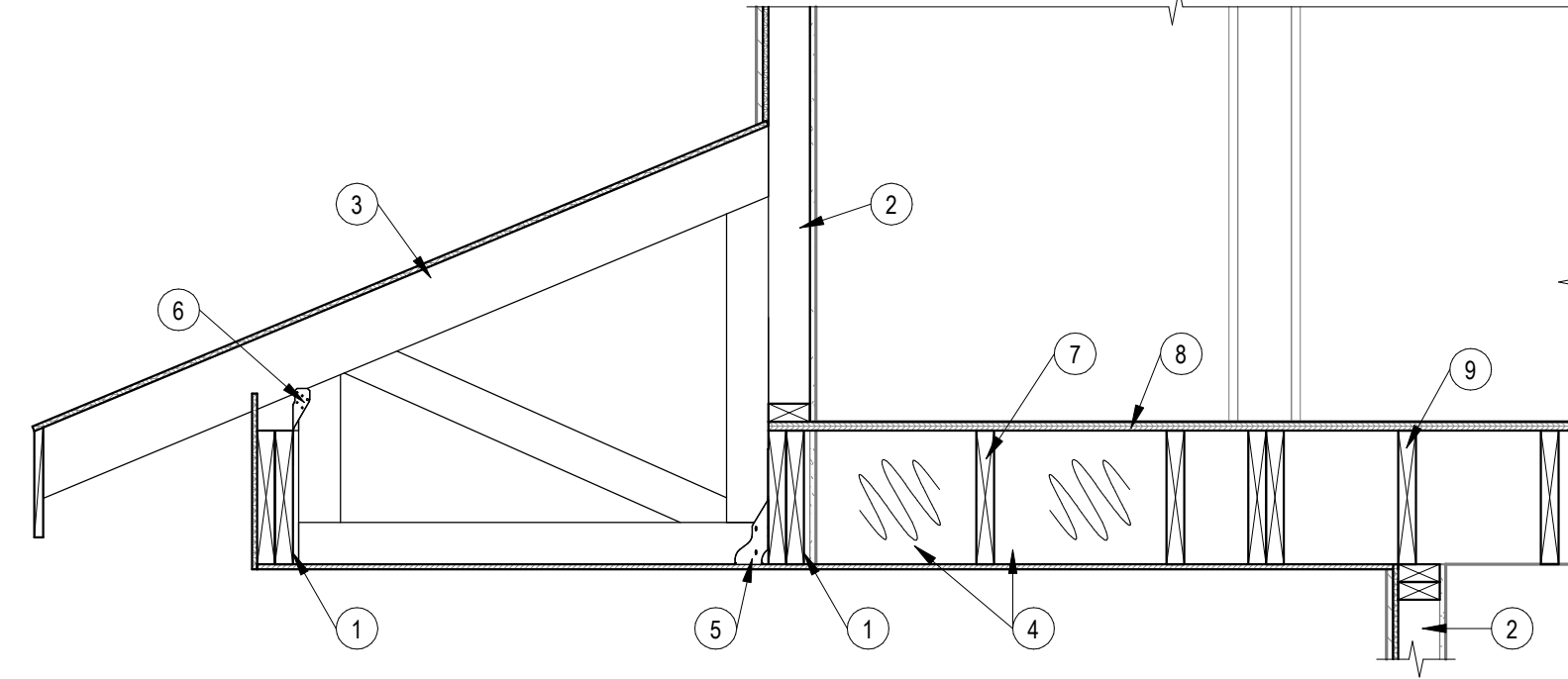
- DETAIL NOTES:
- 1 LVL BEAM, RE: PLAN
  - 2 2x STUD FRAMED WALLS, RE: PLAN
  - 3 ROOF TRUSSES, RE: PLAN
  - 4 PROVIDE FULL DEPTH BLOCKING RE: TYPICAL DETAILS
  - 5 WOOD LEDGER, RE: PLAN
  - 6 SIMPSON GAT ANGLE INSTALLED W/ SD CONNECTOR SCREWS
  - 7 WOOD FLOOR JOIST, RE: PLAN
  - 8 FLOOR SHEATHING RE: GENERAL NOTES
  - 9 RIM JOIST

**5 CANT ROOF OVER GARAGE BLDG E & F**  
3/4" = 1'-0"



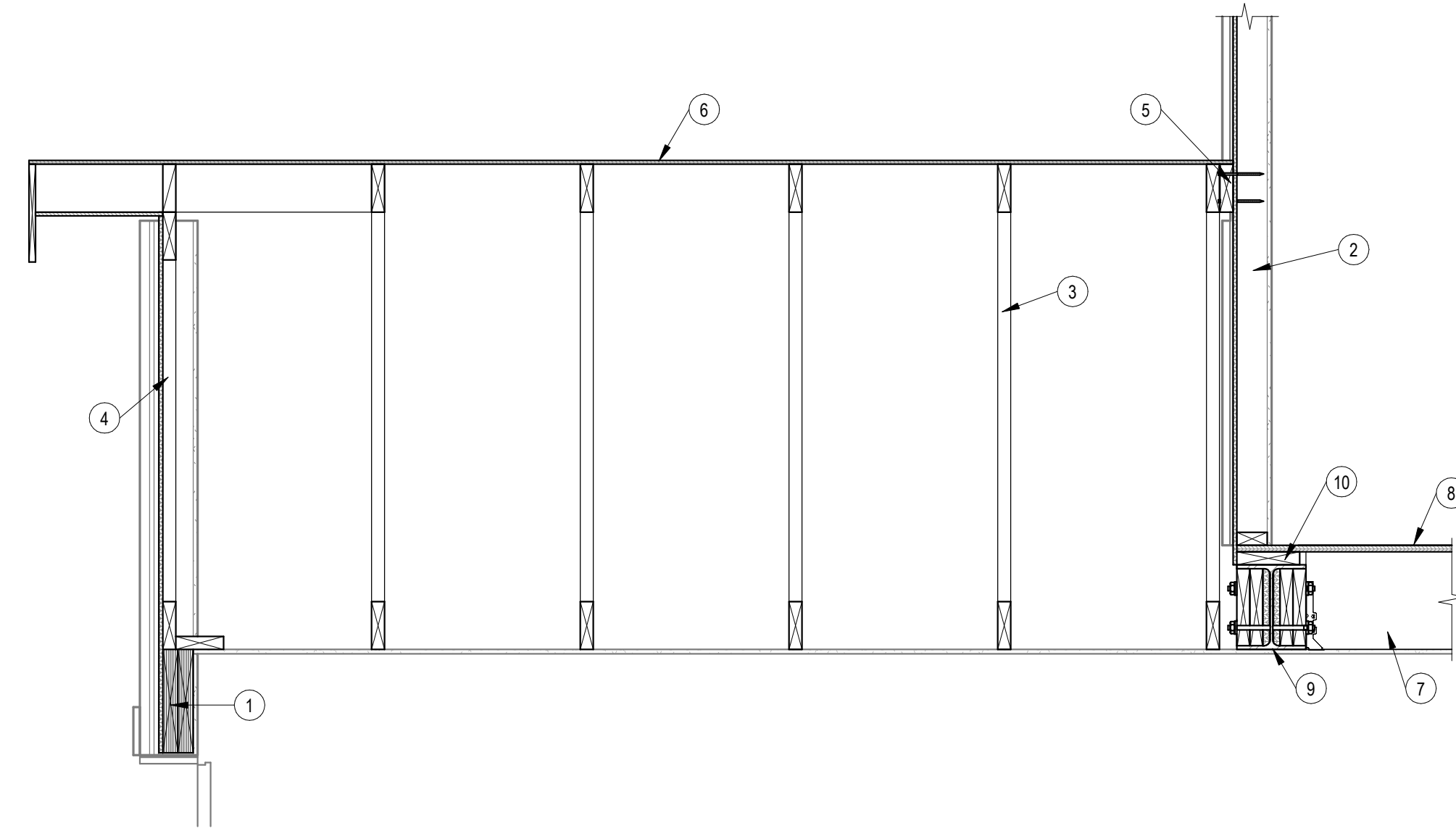
- DETAIL NOTES:
- 1 WOOD BEAM, RE: PLAN
  - 2 2x STUD FRAMED WALLS, RE: PLAN
  - 3 ROOF TRUSSES, RE: PLAN
  - 4 STRUCTURAL FASCIA RE: PLAN
  - 5 SIMPSON THA29 HANGER
  - 6 SIMPSON H2.5T TIE @ EA TRUSS
  - 7 WOOD FLOOR JOIST, RE: PLAN
  - 8 FLOOR SHEATHING RE: GENERAL NOTES
  - 9 RIM JOIST

**4 SECTION @ ENTRY ROOF BLDG E2 & F2**  
3/4" = 1'-0"



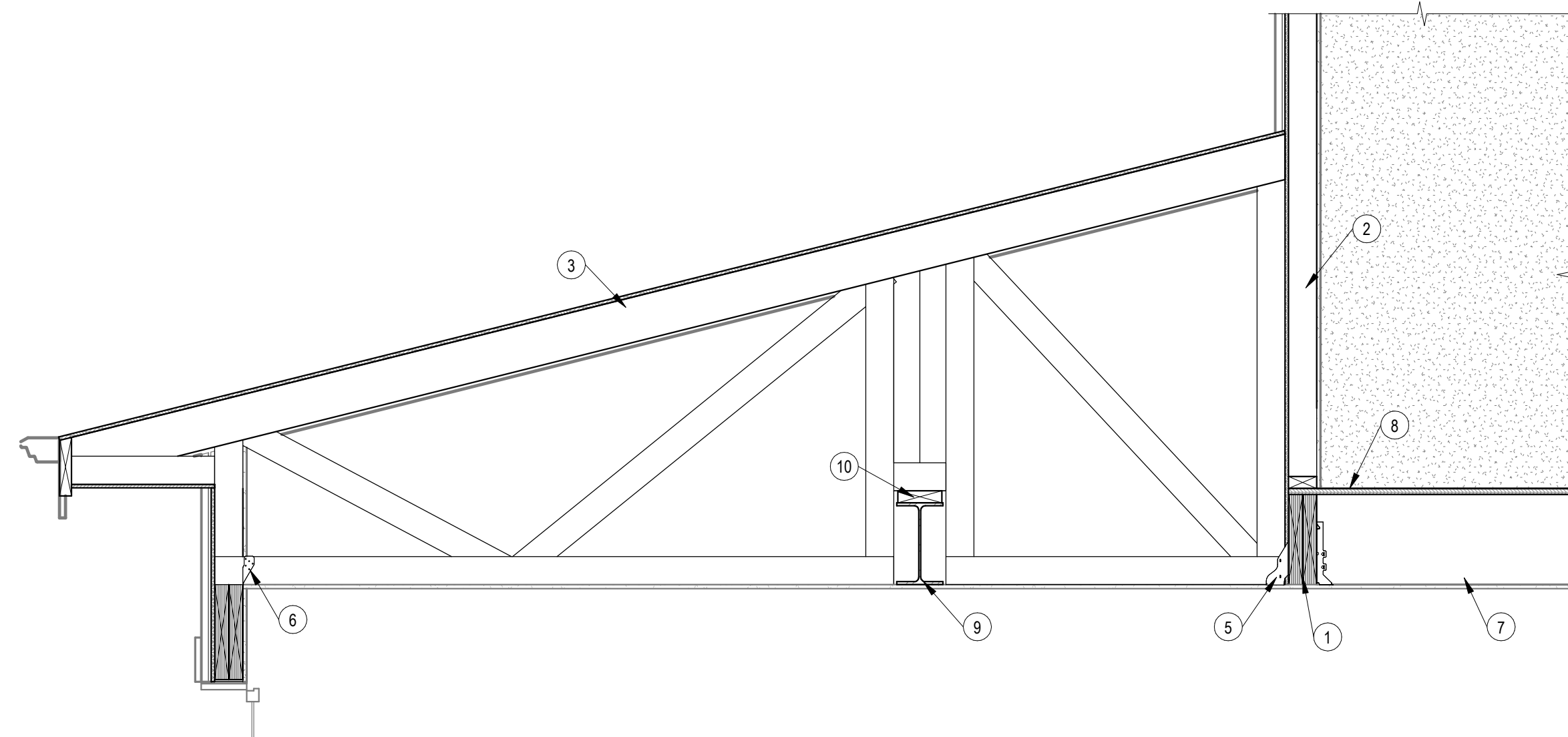
- DETAIL NOTES:
- 1 WOOD BEAM, RE: PLAN
  - 2 2x STUD FRAMED WALLS, RE: PLAN
  - 3 ROOF TRUSSES, RE: PLAN
  - 4 PROVIDE FULL DEPTH BLOCKING @ 2'-0" OC FOR FIRST TWO JOIST BAYS
  - 5 SIMPSON THA29 HANGER
  - 6 SIMPSON H2.5T TIE @ EA TRUSS
  - 7 WOOD FLOOR JOIST, RE: PLAN
  - 8 FLOOR SHEATHING RE: GENERAL NOTES
  - 9 RIM JOIST

**3 SECTION @ ROOF ENTRY FRAMING BLDG E1 & F1**  
3/4" = 1'-0"



- DETAIL NOTES:
- 1 LVL BEAM, RE: PLAN
  - 2 2x STUD FRAMED WALLS, RE: PLAN
  - 3 ROOF TRUSSES, RE: PLAN
  - 4 GABLE END TRUSS, RE: 7/5010
  - 5 2x6 LEDGER ATTACH W/ LEDGERLOK SCREWS @ 16" OC
  - 6 ROOF SHEATHING, RE: GENERAL NOTES
  - 7 WOOD FLOOR JOIST, RE: PLAN
  - 8 FLOOR SHEATHING RE: GENERAL NOTES
  - 9 PACKED OUT WF STEEL BEAM RE: PLAN AND TYPICAL DETAIL 12/5010
  - 10 2x NAILER ATTACH TO STEEL BEAM WITH EITH SELF TAPPING SCREWS OR PAF @ 12" OC

**2 SECTION @ LOW ROOF BLDG H**  
3/4" = 1'-0"



- DETAIL NOTES:
- 1 LVL BEAM, RE: PLAN
  - 2 2x STUD FRAMED WALLS, RE: PLAN
  - 3 ROOF TRUSSES, RE: PLAN
  - 4 PROVIDE FULL DEPTH BLOCKING RE: TYPICAL DETAILS
  - 5 SIMPSON THA29 HANGER
  - 6 SIMPSON H2.5T TIE @ EA TRUSS
  - 7 WOOD FLOOR JOIST, RE: PLAN
  - 8 FLOOR SHEATHING RE: GENERAL NOTES
  - 9 WF STEEL BEAM RE: PLAN
  - 10 2x NAILER ATTACH TO STEEL BEAM WITH EITH SELF TAPPING SCREWS OR PAF @ 12" OC

**1 SECTION @ LOW ROOF BLDG J**  
3/4" = 1'-0"

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FRAMING SECTIONS



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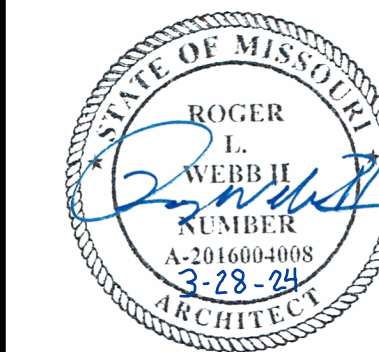
1 ARCHITECTURAL SITE PLAN  
1/4" = 1'-0"



SITE PLAN KEY  
Building Type H



GENERAL NOTES - FURNITURE & EQUIPMENT PLANS:  
1. RE: CIVIL DRAWINGS - FOR ADDITIONAL SITE INFORMATION AND DETAILS.  
2. RE: SHEET G402 - FOR TYPICAL MOUNTING HEIGHTS.  
3. RE: SHEET AG003 - FOR DETAILED PLANS OF EACH SPECIFIED A-TYPE UNIT.



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A100

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ARCHITECTURAL SITE PLAN

REUNION AT BLACKWELL - BUILDING H  
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A12 ROOF PLAN - BUILDING H  
1/4" = 1'-0"

A8 2ND FLOOR - BUILDING H  
1/4" = 1'-0"

A4 1ST FLOOR - BUILDING H  
1/4" = 1'-0"

FLOOR PLANS - BUILDING H

GENERAL NOTES:  
FLOOR PLANS

1. SEE GENERAL ARCHITECTURAL SHEETS FOR ADDITIONAL NOTES AND DETAILS THAT ARE APPLICABLE.
2. ARCHITECTURAL ELEVATION 100'-0".
3. DIMENSIONS SHOWN ON THE FLOOR PLAN ARE TO THE FACE OF STUD (FOS), FACE OF MASONRY (FOM), FACE OF CONCRETE WALLS (FOC), AND COLUMN GRID LINES, UNLESS NOTED OR SHOWN OTHERWISE.
4. NOTE: WALL THICKNESSES ARE ACTUAL DIMENSIONS AND PER WALL TYPES. SEE GENERAL SHEETS.
5. DOOR OPENINGS NOT LOCATED BY DIMENSION SHALL BE CENTERED IN WALL SHOWN OR LOCATED 4 INCHES FROM FINISH WALL TO HINGE SIDE OF THE DOOR, ALWAYS ALLOWING A MINIMUM OF 18" FROM THE PULL SIDE (STRIKE SIDE) OF THE DOOR TO THE INTERSECTING WALL, OR OTHER PROTRUDING OBJECTS.
6. ALL ALCOVES WITHOUT A SPACE IDENTIFICATION NUMBER SHALL HAVE THE SAME FINISHES AS THE ADJOINING SPACES.
7. RE. FINISH LEGEND, FINISH SCHEDULE AND SPECIFICATIONS FOR DOOR AND DOOR FRAME FINISHES.
8. STAIR ENCLOSURES, SHAFT WALLS, EXIT PASSAGE WAYS AND EXTERIOR WALLS TO BE COORDINATED FOR PHASE OF WORK PER MATRIX AND PROJECT SCOPING.

GENERAL NOTES:  
ROOF PLANS

1. RE. SHEET G001 FOR ADDITIONAL GENERAL NOTES THAT ARE APPLICABLE.
2. DIMENSIONS SHOWN ON THE ROOF PLAN ARE TO THE FACE OF EXTERIOR WALL, FACE OF MASONRY (FOM), FACE OF CONCRETE WALLS (FOC), AND COLUMN GRID LINES, UNLESS NOTED OR SHOWN OTHERWISE.
3. PROVIDE 1/2" FT. TAPERED INSULATION AT ALL ROOF CURBS AND AT EQUIPMENT WHICH EXCEEDS 18 INCHES IN WIDTH.

ROOF PLAN LEGEND

- ← SLOPE DIRECTION
- AREA WHERE ROOF PENETRATIONS ARE NOT ALLOWED PER IRC 2018, R302.2.4 EXCEPTION.
- LEVEL 01 COMMON WALLS TO UNDERSIDE OF SHEATHING PER DETAIL A11/G003
- EXTENTS OF RIDGE VENTS ALLOWED BETWEEN COMMON WALLS
- EXTENTS OF CONTINUOUS SOFFIT VENTS ALLOWED BETWEEN COMMON WALLS
- SHINGLE ROOF
- STANDING SEAM METAL ROOF

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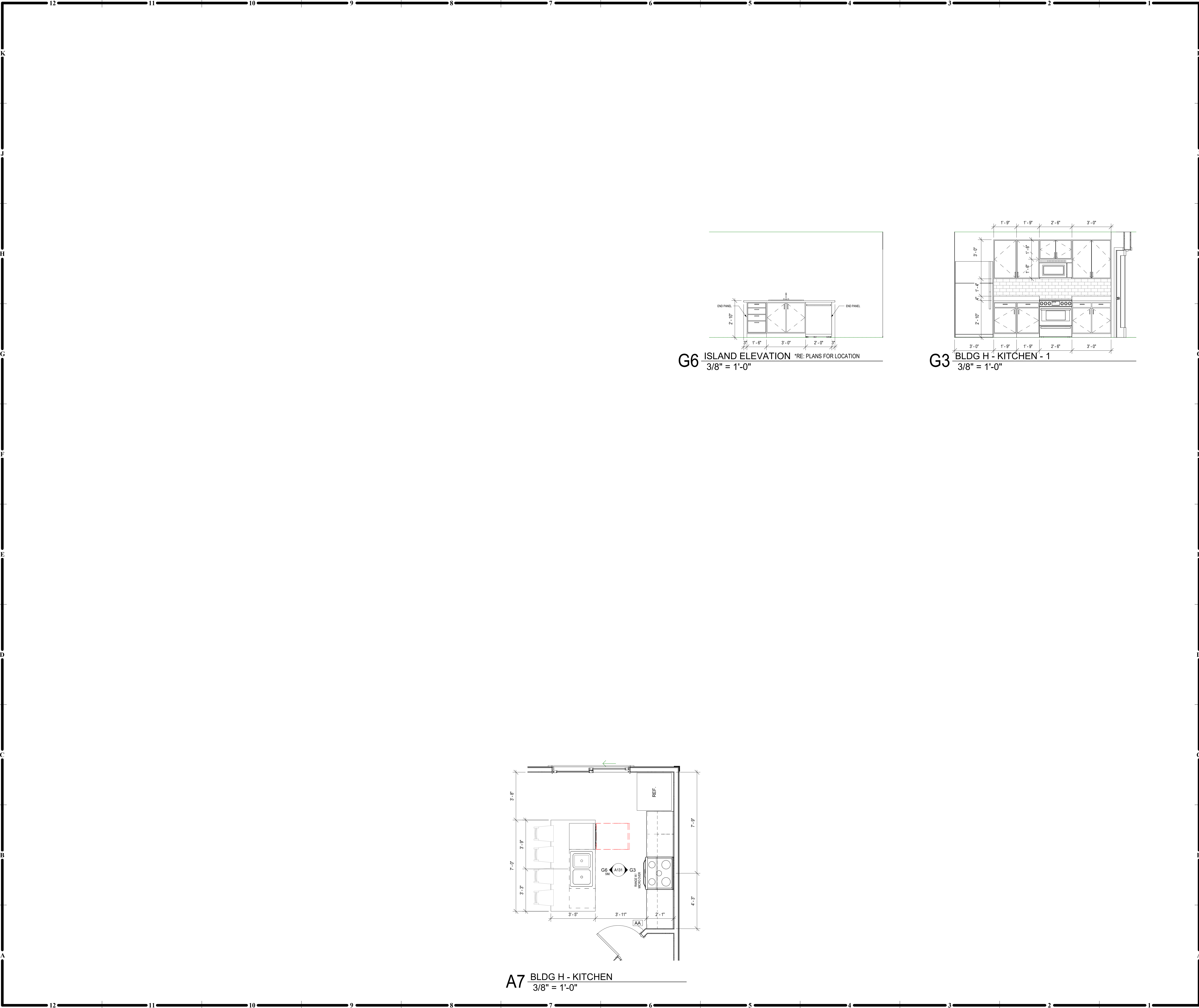


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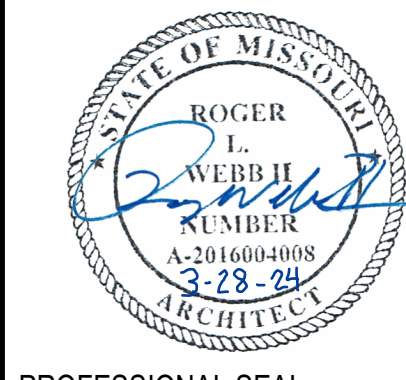
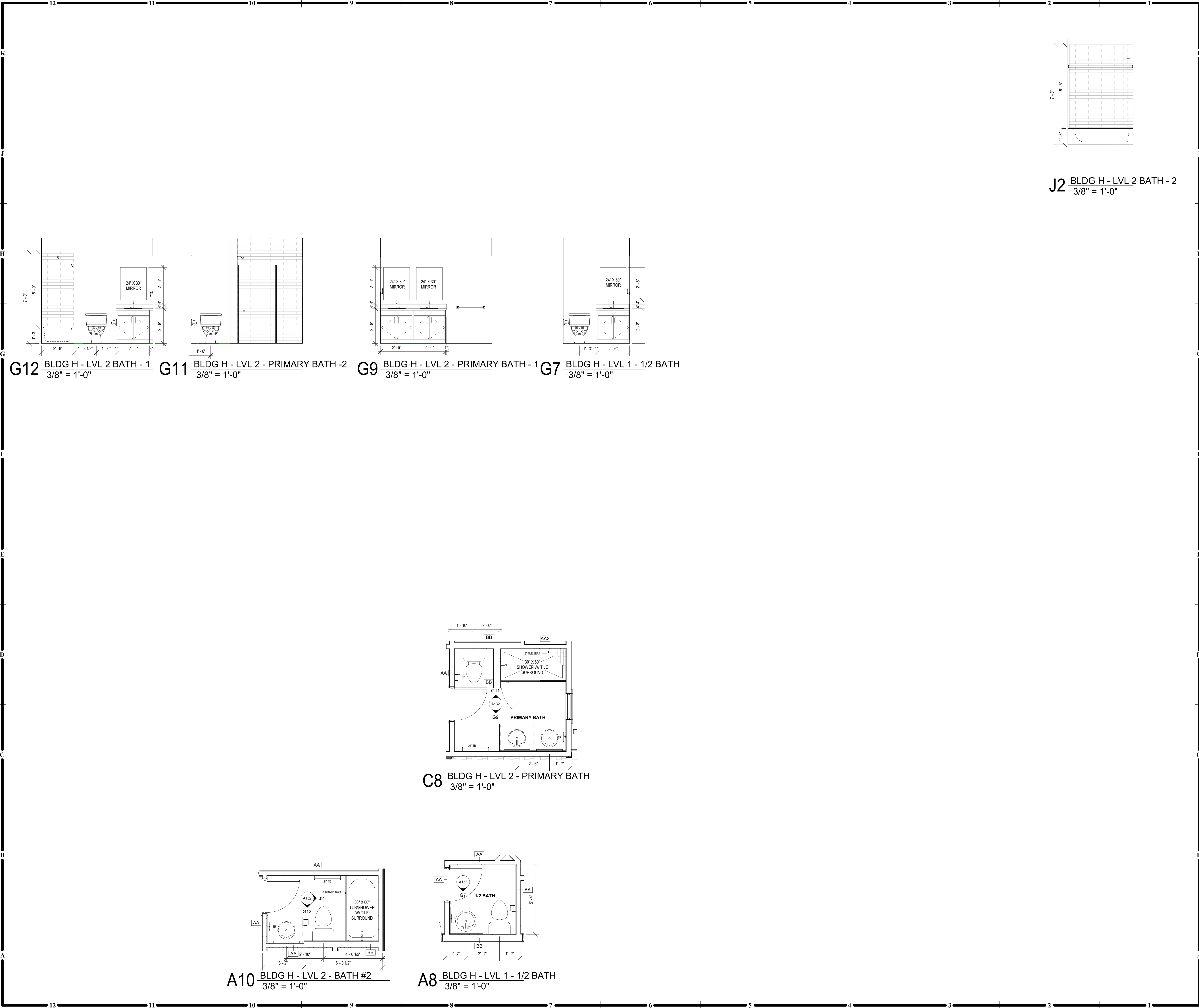
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KITCHEN ENLARGED PLANS AND ELEVATIONS

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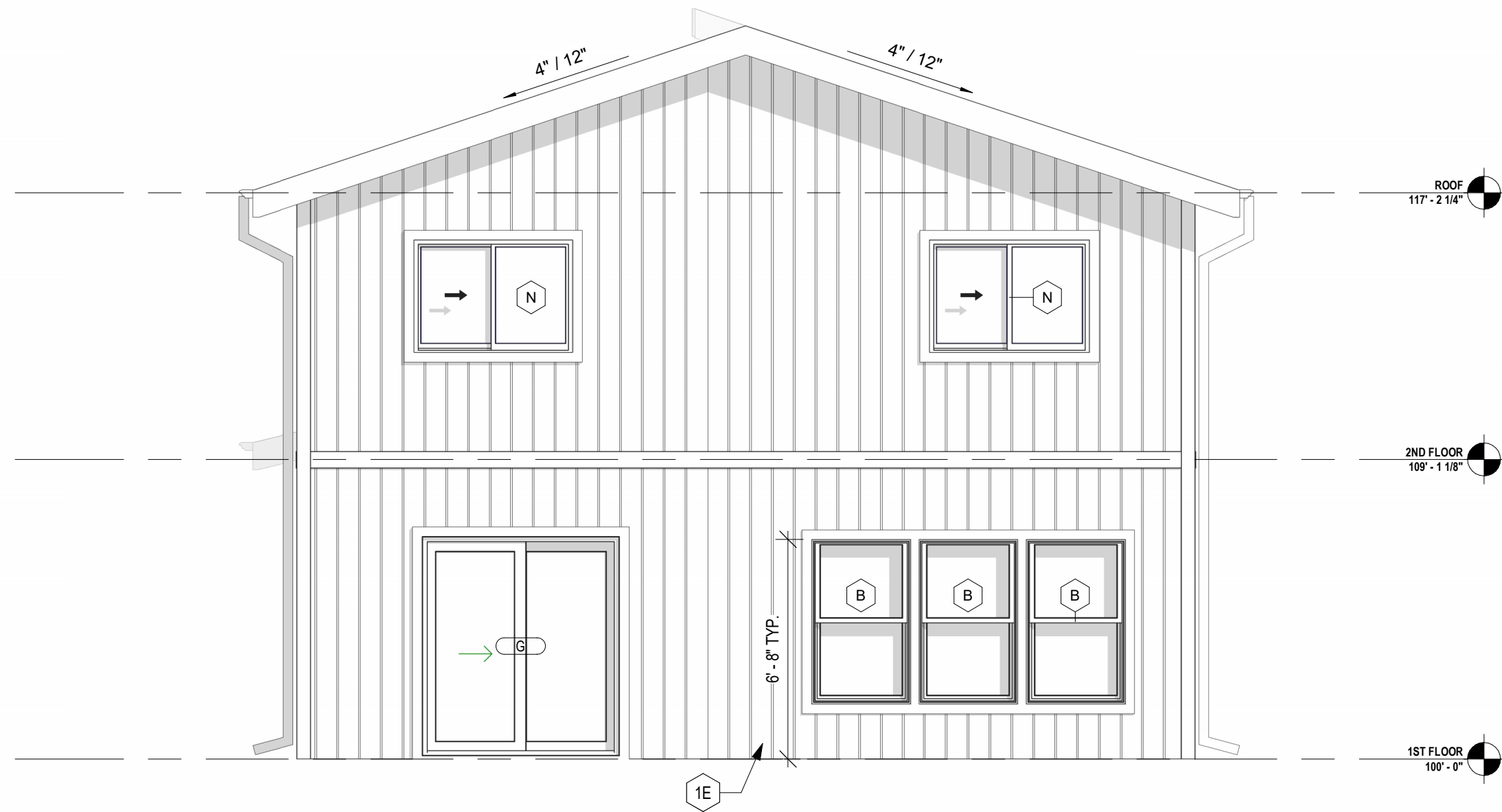
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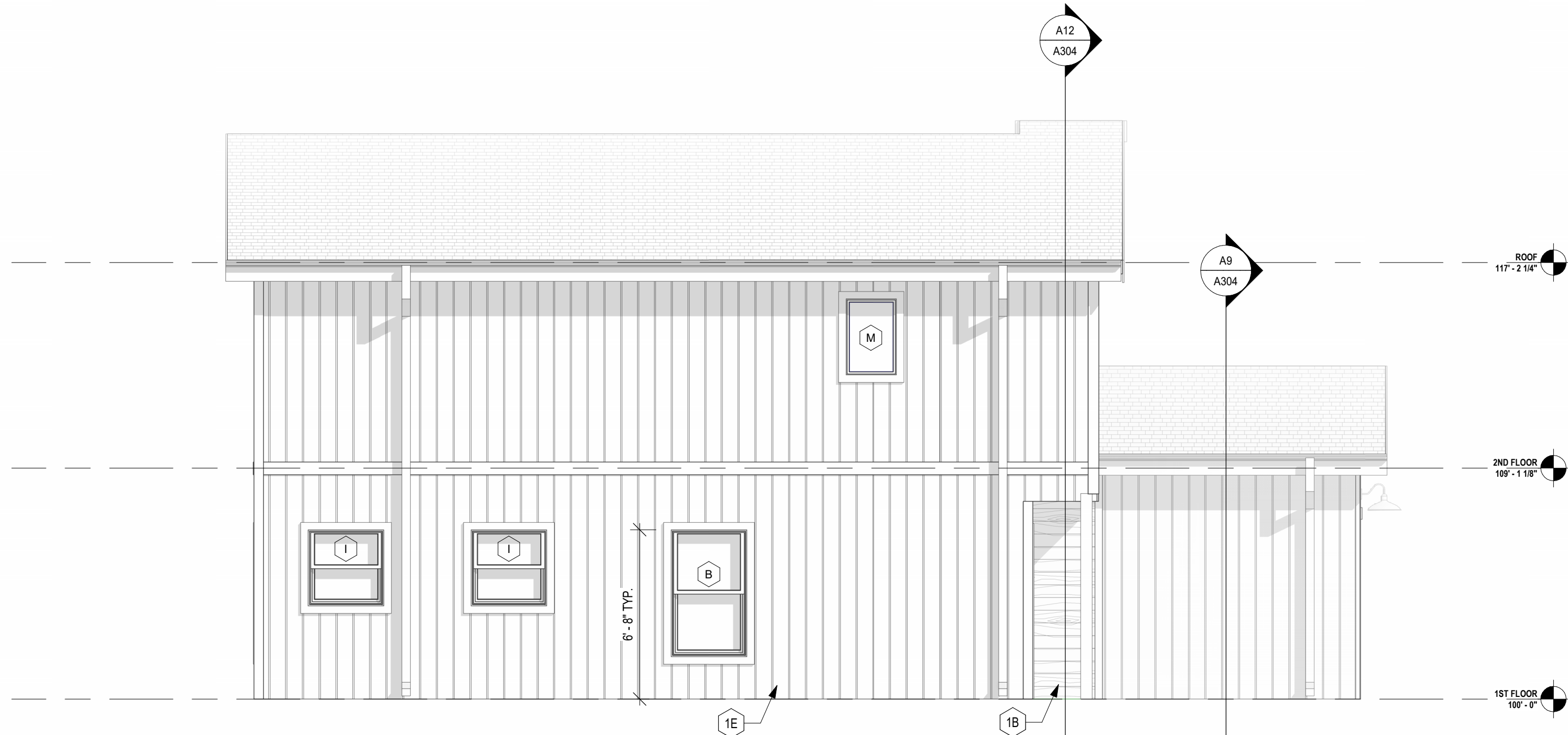
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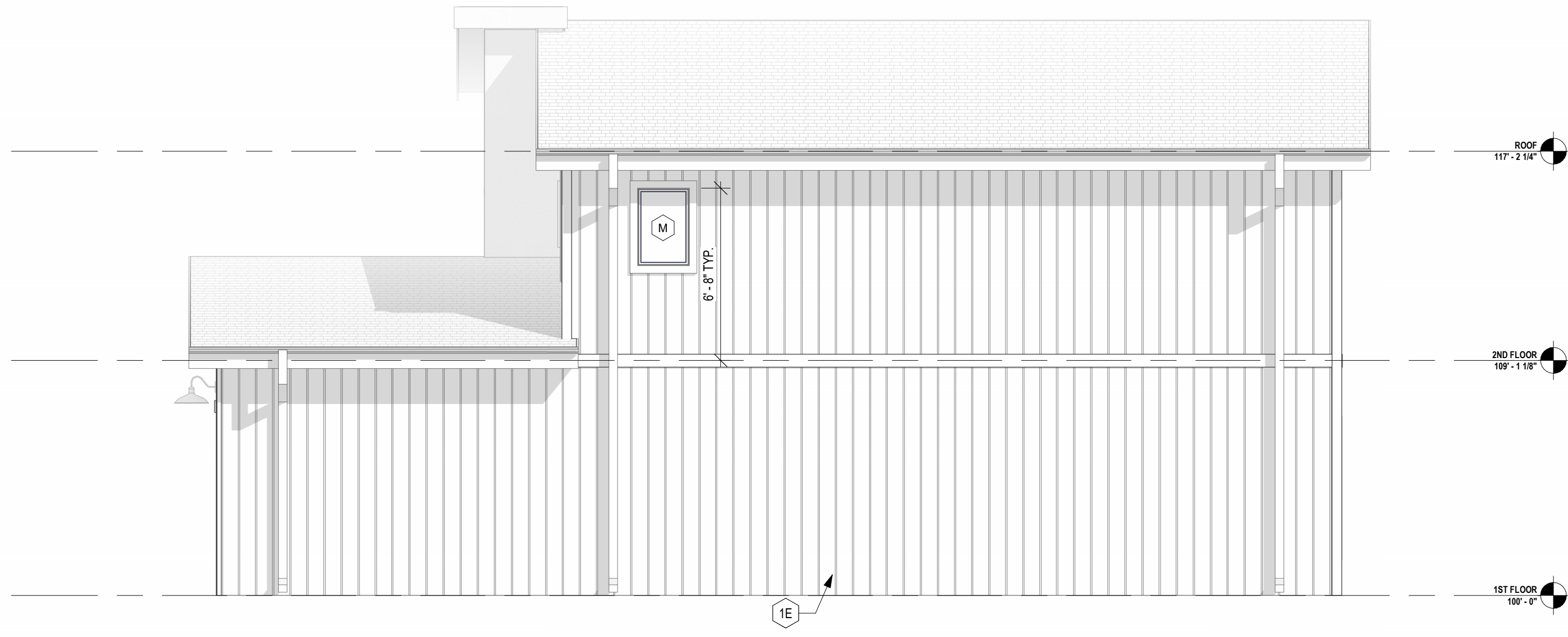
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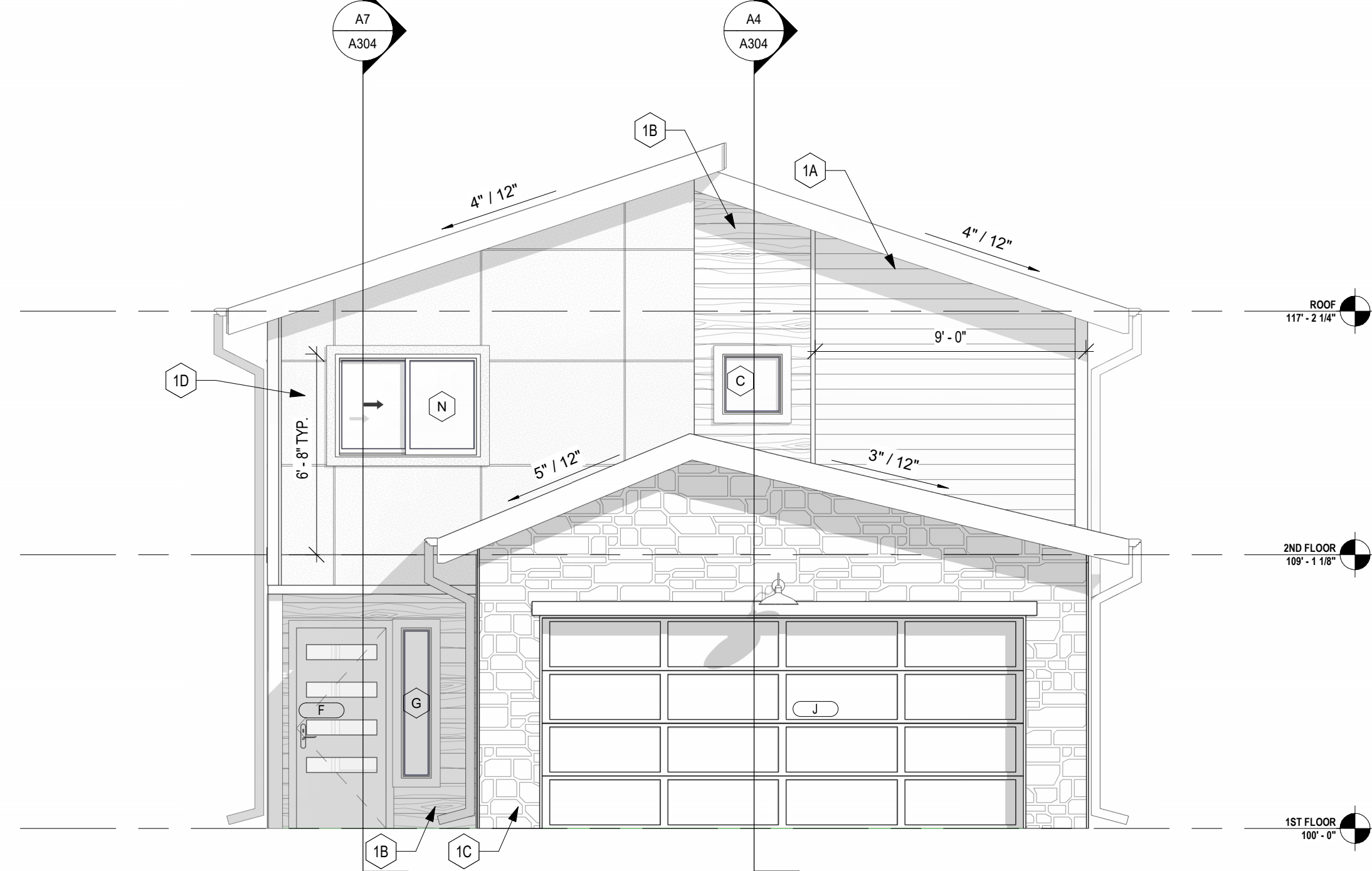
E12 ELEVATION - H - REAR  
1/4" = 1'-0"



A12 ELEVATION - H - LEFT  
1/4" = 1'-0"



E6 ELEVATION - H - RIGHT  
1/4" = 1'-0"



A5 ELEVATION - H - FRONT  
1/4" = 1'-0"

GENERAL NOTES  
EXTERIOR ELEVATIONS:

1. RE: SHEET 0201 FOR ADDITIONAL GENERAL NOTES THAT ARE APPLICABLE.
2. DIMENSIONS SHOWN ON THE EXTERIOR ELEVATIONS ARE TO THE FACE OF EXTERIOR WALL, FACE OF MASONRY (FOM), FACE OF CONCRETE WALLS (FOC), FACE OF STUD, AND COLUMN GRID LINES, UNLESS OTHERWISE NOTED OR INDICATED.
3. RE: THE WINDOW TYPES SHEET FOR ALL EXTERIOR WINDOW TYPES AND GLASS TYPES.
4. PROVIDE ALL BLOCKING AND POWER AS REQUIRED FOR EXTERIOR SIGNAGE.

KEY NOTES  
EXTERIOR ELEVATIONS:

MARK	DESCRIPTION
1A	6" LAP SIDING - WHITE - SEE EXTERIOR MATERIAL LEGEND BELOW.
1B	6" LAP SIDING - BROWN - SEE EXTERIOR MATERIAL LEGEND BELOW.
1C	CULTURED STONE VENEER - SEE EXTERIOR MATERIAL LEGEND BELOW.
1D	EXTERIOR STUCCO SYSTEM. SEE EXTERIOR MATERIAL LEGEND BELOW.
1E	6" BATT SIDING - WHITE - SEE EXTERIOR MATERIAL LEGEND BELOW.
2A	ARCHITECTURAL ASPHALT SHINGLES.
2B	ARCHITECTURAL STANDING SEAM METAL ROOF.
3A	PREFINISHED ALUMINUM GUTTER. RE: EXT. FINISH LEGEND.
3B	PREFINISHED ALUMINUM DOWNSPUT WITH SPASH BLOCKS. RE: EXT. FINISH LEGEND.
4A	1X4 TRIM BOARD.
4B	1X6 TRIM BOARD.
5A	LIGHT FIXTURE. RE: ELECTRICAL.
6A	CONCRETE FOUNDATION. PAINT WITH EXTERIOR CONCRETE PAINT. RE: EXT. FINISH LEGEND.
7A	ROOF VENT.
7B	POST FOR ROOF STRUCTURE. RE: STRUCT.
8A	ALUMINUM DOOR. RE: DOOR SCHEDULE.
8B	VINYL WINDOW SYSTEM. BASIS OF DESIGN: MI 3500 SERIES.
8C	VINYL DOOR. RE: DOOR SCHEDULE.
8D	GARAGE OVERHEAD DOOR. RE: DOOR SCHEDULE.

EXTERIOR ELEVATION MATERIALS

	STO CRACK DEFENSE STUCCO SYSTEM - TEXTURE: FINE - GRAY DAWN
	NEW TECH WOOD - ALL WEATHER SIDING - BRAZILIAN (PE) (IP)
	LP SMARTSIDE LAP SIDING - SMOOTH FINISH - SNOWSCAPE WHITE
	EL DORADO STONE (SIMULATED)- CUT COARSE STONE VENEER - SEASHELL
	LP SMARTSIDE VERTICAL SIDING- CEDAR TEXTURE PANEL - SNOWSCAPE WHITE

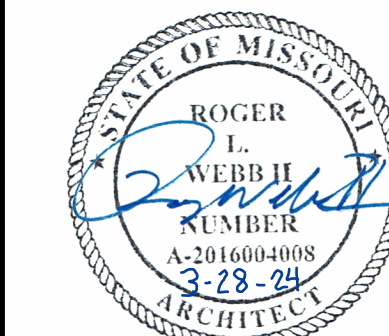


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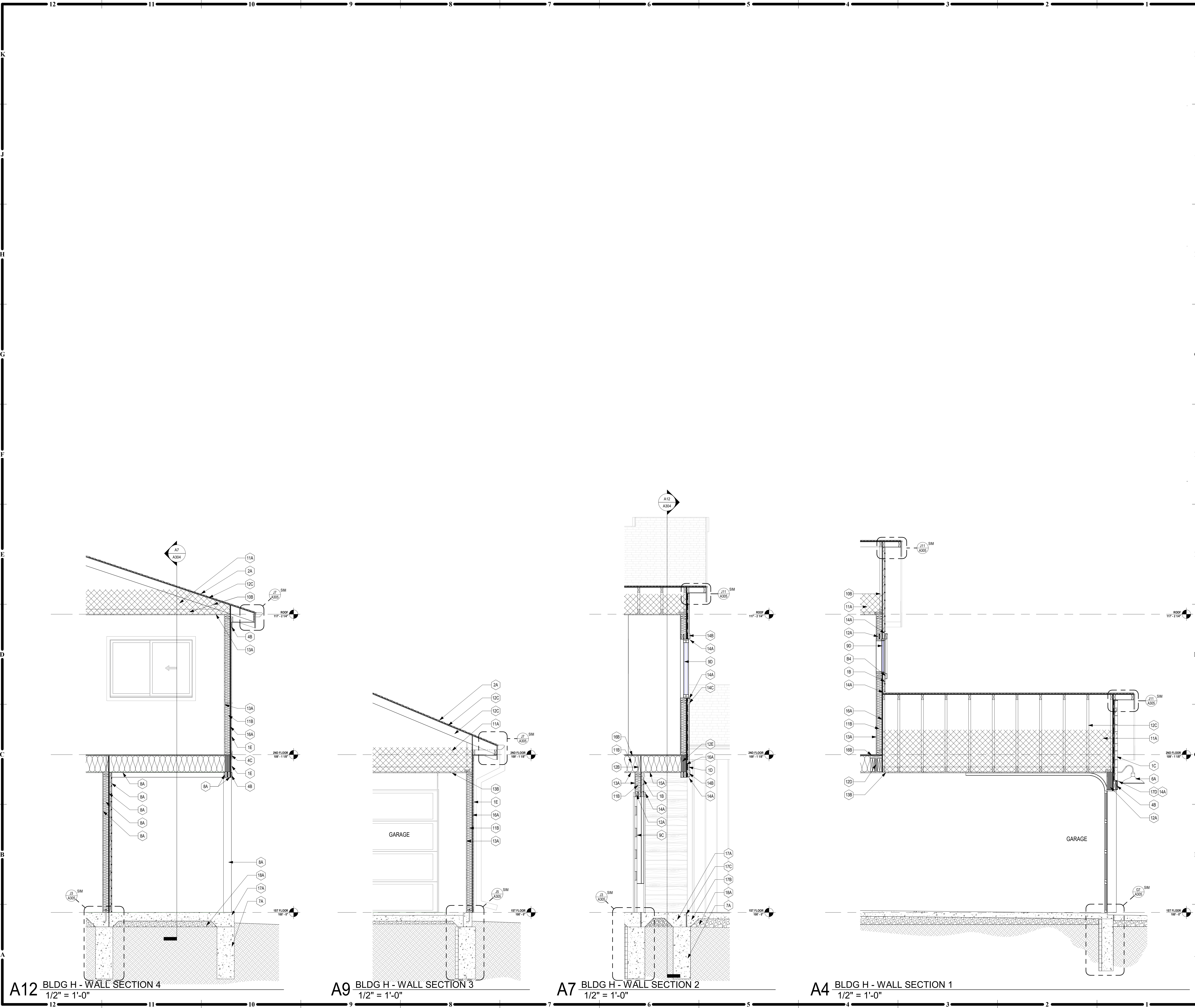
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GENERAL NOTES:  
EXTERIOR WALL SECTIONS/  
DETAILS

1. RE: SHEET G001 FOR ADDITIONAL GENERAL NOTES THAT ARE APPLICABLE.
2. RE: FLOOR PLANS, ROOF PLAN AND ELEVATIONS FOR SECTION CUT LOCATIONS.
3. ALL WINDOW AND DOOR OPENING DIMENSIONS ARE ROUGH OPENING DIMENSIONS, UNLESS NOTED OTHERWISE.
4. DIMENSIONS SHOWN ON THE WALL SECTIONS ARE TO THE FACE OF EXTERIOR WALL, FACE OF MASONRY (FORM), FACE OF CONCRETE WALLS (FORM), AND COLUMN GRID LINES, UNLESS NOTED OR SHOWN OTHERWISE.
5. PAINT ALL EXPOSED STEEL, INCLUDING STEEL LINTELS, ETC. (TYP.)

KEY NOTES  
WALL SECTIONS:

MARK	DESCRIPTION
1A	6" LP SMARTSIDE LAP SIDING OVER HOUSE WRAP - WHITE - RE: MFR. FOR INSTALLATION DETAILS
1B	NEW TECH WOOD - ALL WEATHER SIDING - BROWN - RE: MFR. FOR INSTALLATION DETAILS
1C	CULTURED STONE VENEER - RE: MFR. FOR INSTALLATION DETAILS
1D	STUCCO FINISH SYSTEM - RE: MFR. FOR INSTALLATION DETAILS
1E	SMARTSIDE VERTICAL SIDING OVER HOUSE WRAP - WHITE - RE: MFR. FOR INSTALLATION DETAILS
2A	ARCHITECTURAL ASPHALT SHINGLES OVER FELT PAPER AND ICE DAM (AT FASCIA EDGES)
3A	PREFINISHED ALUMINUM GUTTER, RE: EXT. FINISH LEGEND
3B	PREFINISHED ALUMINUM DOWNSPUT WITH SPASH BLOCKS, RE: EXT. FINISH LEGEND
4A	FASCIA BOARD
4B	1X4 TRIM BOARD
4C	1X6 TRIM BOARD
5A	ROOF VENT.
6A	LIGHT FIXTURE, RE: ELECTRICAL
7A	CONCRETE FOUNDATION, RE: STRUCTURAL
7B	CONCRETE CURB (@ GARAGE), RE: STRUCT.
8A	POST FOR ROOF STRUCTURE, RE: STRUCT.
8B	TREATED WOOD JOIST SYSTEM, RE: STRUCT.
8C	TREATED WOOD BEAM SYSTEM, RE: STRUCT.
9A	DECORATIVE INSULATED METAL PANEL OVERHEAD DOOR, RE: DOOR SCHEDULE
9B	FIBERGLASS DOOR, RE: DOOR SCHEDULE
9C	DECORATIVE WOOD ENTRY DOOR, RE: DOOR SCHEDULE
9D	WHITE VINYL WINDOW SYSTEM, BASIS OF DESIGN: MI 3500 SERIES
10A	ROOF SHEATHING, RE: STRUCT.
10B	ROOF STRUCTURE, RE: STRUCT.
11A	MIN. R-38 BATT INSULATION
11B	R-15 BATT INSULATION
11C	WEATHER RESISTANT PVC SOFFIT VENT, COLOR: WHITE
11D	2" RIGID INSULATION
12A	2X WOOD HEADER, RE: STRUCT.
12B	RIM BOARD, RE: STRUCT.
12C	ENGINEERED TRUSS SYSTEM, RE: STRUCT.
12D	STEEL BEAM, RE: STRUCT.
12E	LVL WOOD BEAM, RE: STRUCT.
13A	1/2" GYPSUM BOARD
13B	5/8" TYPE 'X' GYPSUM BOARD (GARAGE CEILINGS)
14A	PREFINISHED ALUMINUM FLASHING
14B	FLANGED WINDOW/DOOR HEAD DETAIL PER MFR'S SPECS
14C	FLANGED WINDOW-SILL DETAIL PER MFR'S SPECS
15A	SOFFIT PANEL TO MATCH SIDING MATERIAL, RE: ROOF PLANS FOR CONDITIONS WHERE RATED PLYWOOD OCCURS
16A	1/2" FIRE RATED PLYWOOD SHEATHING, RE: PLAN FOR CONDITIONS WHERE RATED PLYWOOD OCCURS
16B	3/4" SUBFLOOR SHEATHING
17A	CONCRETE PAD, RE: STRUCT.
17B	4" CONCRETE SIDEWALK, RE: STRUCT.
17C	1/2" EXPANSION JOINT
17D	BACKER ROD AND SEALANT
17E	CONCRETE DRIVEWAY, RE: CIVIL
18A	GRAVEL BASE
18B	EARTH FILL
19A	SILL PLATE ANCHOR, RE: STRUCT.
19B	2X TREATED SILL PLATE

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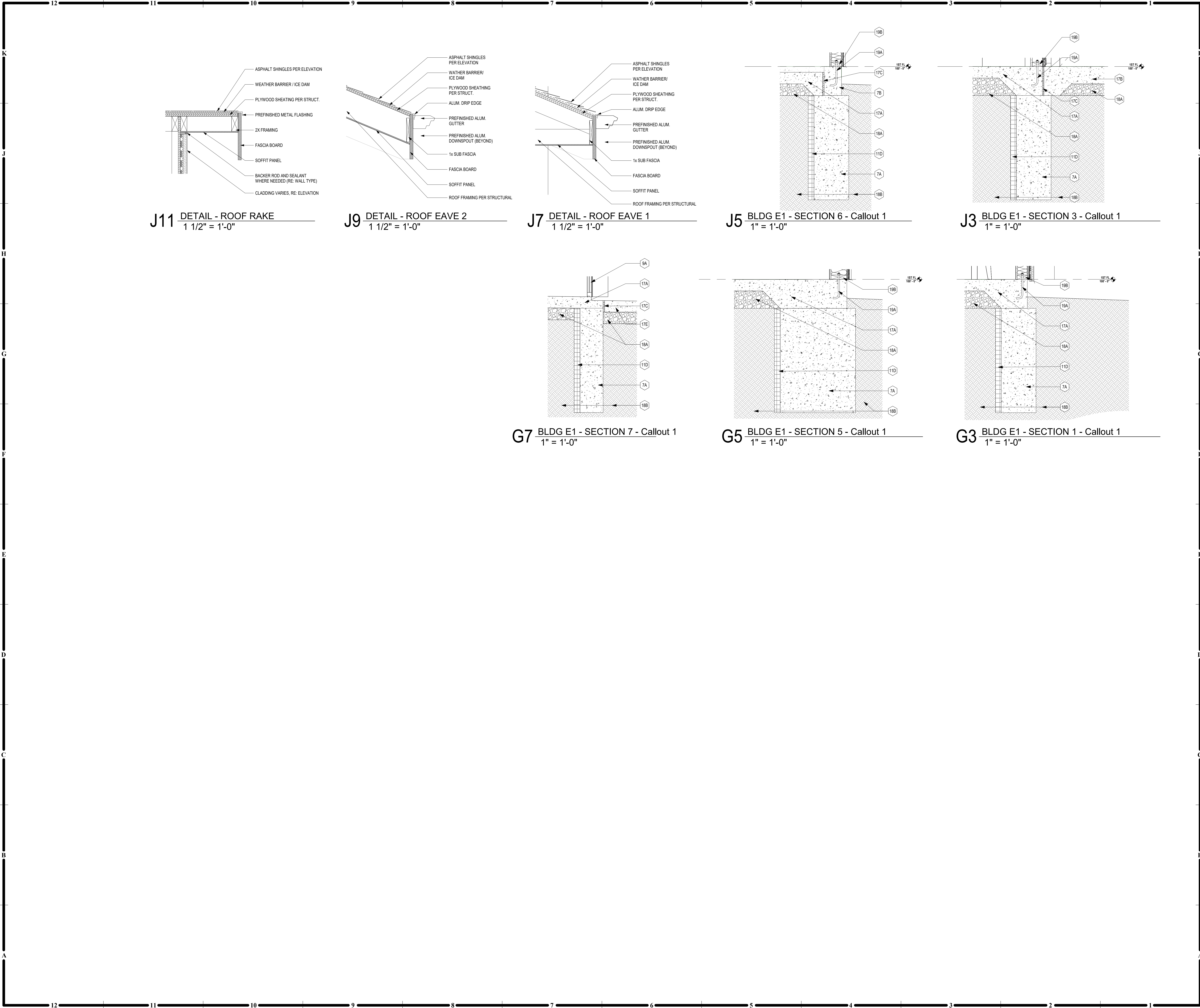
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GENERAL NOTES:  
EXTERIOR WALL SECTIONS/  
DETAILS

1. RE: SHEET G001 FOR ADDITIONAL GENERAL NOTES THAT ARE APPLICABLE.
2. RE: FLOOR PLANS, ROOF PLAN AND ELEVATIONS FOR SECTION CUT LOCATIONS.
3. ALL WINDOW AND DOOR OPENING DIMENSIONS ARE ROUGH OPENING DIMENSIONS, UNLESS NOTED OTHERWISE.
4. DIMENSIONS SHOWN ON THE WALL SECTIONS ARE TO THE FACE OF EXTERIOR WALL, FACE OF MASONRY (FROM FACE OF CONCRETE WALLS, FOOT, AND COLUMN GRID LINES, UNLESS NOTED OR SHOWN OTHERWISE).
5. PAINT ALL EXPOSED STEEL, INCLUDING STEEL LINTELS, ETC. (TYP.)

KEY NOTES  
WALL SECTIONS:

MARK	DESCRIPTION
1A	6" LP SMARTSIDE LAP SIDING OVER HOUSE WRAP - WHITE - RE: MFR. FOR INSTALLATION DETAILS
1B	NEW TECH WOOD - ALL WEATHER SIDING - BROWN - RE: MFR. FOR INSTALLATION DETAILS
1C	CULTURED STONE VENEER - RE: MFR. FOR INSTALLATION DETAILS
1D	STUCCO FINISH SYSTEM - RE: MFR. FOR INSTALLATION DETAILS
1E	SMARTSIDE VERTICAL SIDING OVER HOUSE WRAP - WHITE - RE: MFR. FOR INSTALLATION DETAILS
2A	ARCHITECTURAL ASPHALT SHINGLES OVER FELT PAPER AND ICE DAM (AT FASCIA EDGES)
3A	PREFINISHED ALUMINUM GUTTER, RE: EXT. FINISH LEGEND
3B	PREFINISHED ALUMINUM DOWNSPUT WITH SPASH BLOCKS, RE: EXT. FINISH LEGEND
4A	FASCIA BOARD
4B	1X4 TRIM BOARD
4C	1X6 TRIM BOARD
5A	ROOF VENT.
6A	LIGHT FIXTURE, RE: ELECTRICAL
7A	CONCRETE FOUNDATION, RE: STRUCTURAL
7B	CONCRETE CURB (@ GARAGE), RE: STRUCT.
8A	POST FOR ROOF STRUCTURE, RE: STRUCT.
8B	TREATED WOOD JOIST SYSTEM, RE: STRUCT.
8C	TREATED WOOD BEAM SYSTEM, RE: STRUCT.
9A	DECORATIVE INSULATED METAL PANEL OVERHEAD DOOR, RE: DOOR SCHEDULE
9B	FIBERGLASS DOOR, RE: DOOR SCHEDULE
9C	DECORATIVE WOOD ENTRY DOOR, RE: DOOR SCHEDULE
9D	WHITE VINYL WINDOW SYSTEM, BASIS OF DESIGN: MI 3500 SERIES
10A	ROOF SHEATHING, RE: STRUCT.
10B	ROOF STRUCTURE, RE: STRUCT.
11A	MIN. R-38 BATT INSULATION
11B	R-15 BATT INSULATION
11C	WEATHER RESISTANT PVC SOFFIT VENT, COLOR: WHITE
11D	2" RIGID INSULATION
12A	2X WOOD HEADER, RE: STRUCT.
12B	RIM BOARD, RE: STRUCT.
12C	ENGINEERED TRUSS SYSTEM, RE: STRUCT.
12D	STEEL BEAM, RE: STRUCT.
12E	LVL WOOD BEAM, RE: STRUCT.
13A	1/2" GYPSUM BOARD
13B	5/8" TYPE 'X' GYPSUM BOARD (GARAGE CEILINGS)
14A	PREFINISHED ALUMINUM FLASHING
14B	FLANGED WINDOW/DOOR HEAD DETAIL PER MFR'S SPECS
14C	FLANGED WINDOW-SILL DETAIL PER MFR'S SPECS
15A	SOFFIT PANEL TO MATCH SIDING MATERIAL, RE: ROOF PLANS FOR CONDITIONS WHERE RATED PLYWOOD OCCURS
16A	1/2" FIRE RATED PLYWOOD SHEATHING, RE: PLAN FOR CONDITIONS WHERE RATED PLYWOOD OCCURS
16B	3/4" SUBFLOOR SHEATHING
17A	CONCRETE PAD, RE: STRUCT.
17B	4" CONCRETE SIDEWALK, RE: STRUCT.
17C	1/2" EXPANSION JOINT
17D	BACKER ROD AND SEALANT
17E	CONCRETE DRIVEWAY, RE: CIVIL
18A	GRAVEL BASE
18B	EARTH FILL
19A	SILL PLATE ANCHOR, RE: STRUCT.
19B	2X TREATED SILL PLATE

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A305

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EXTERIOR WALL SECTIONS +  
DETAILS



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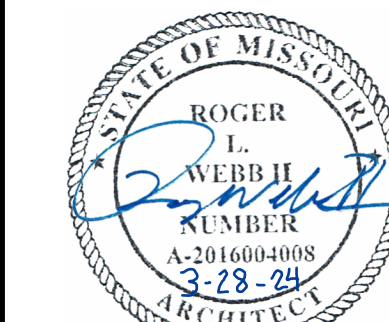
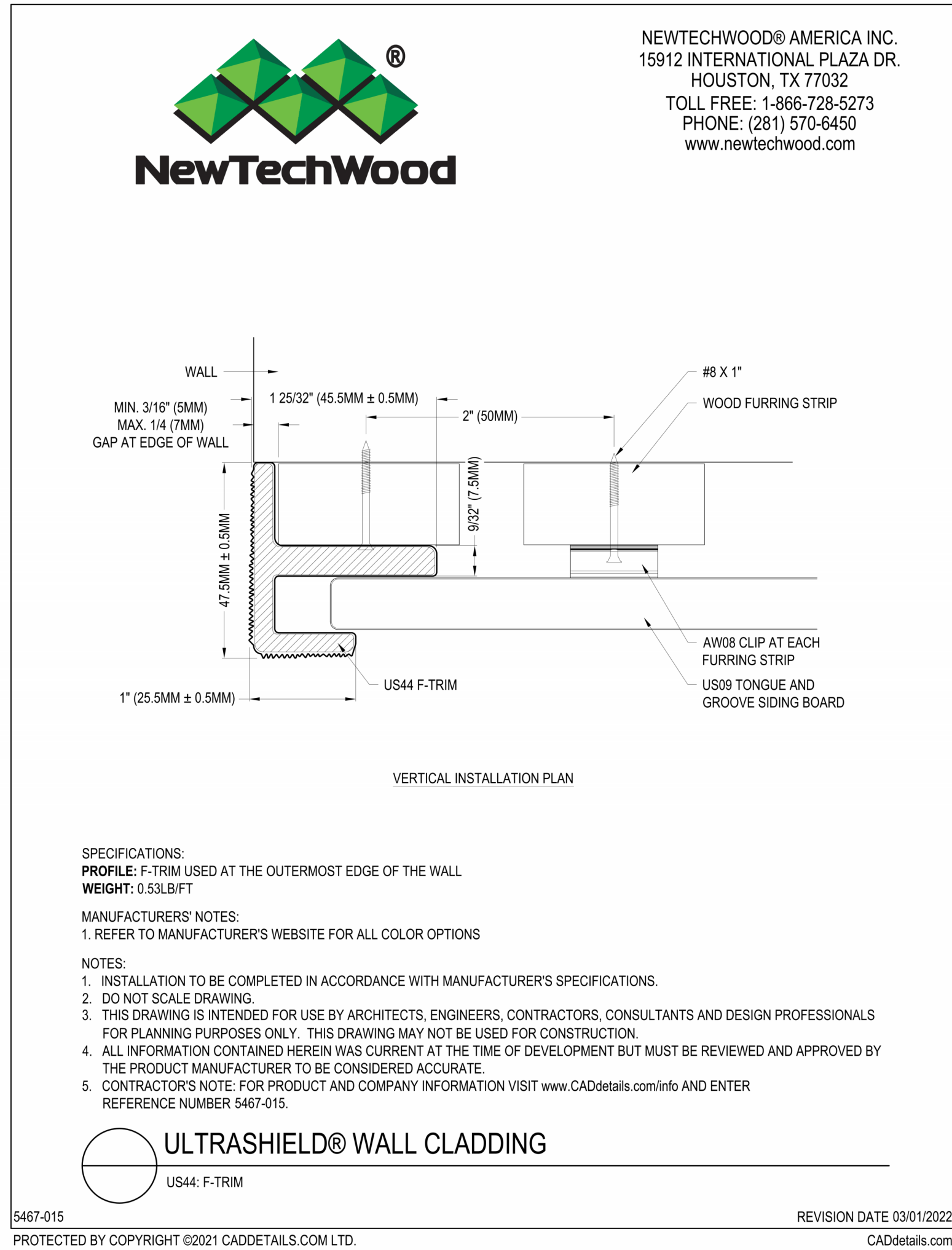
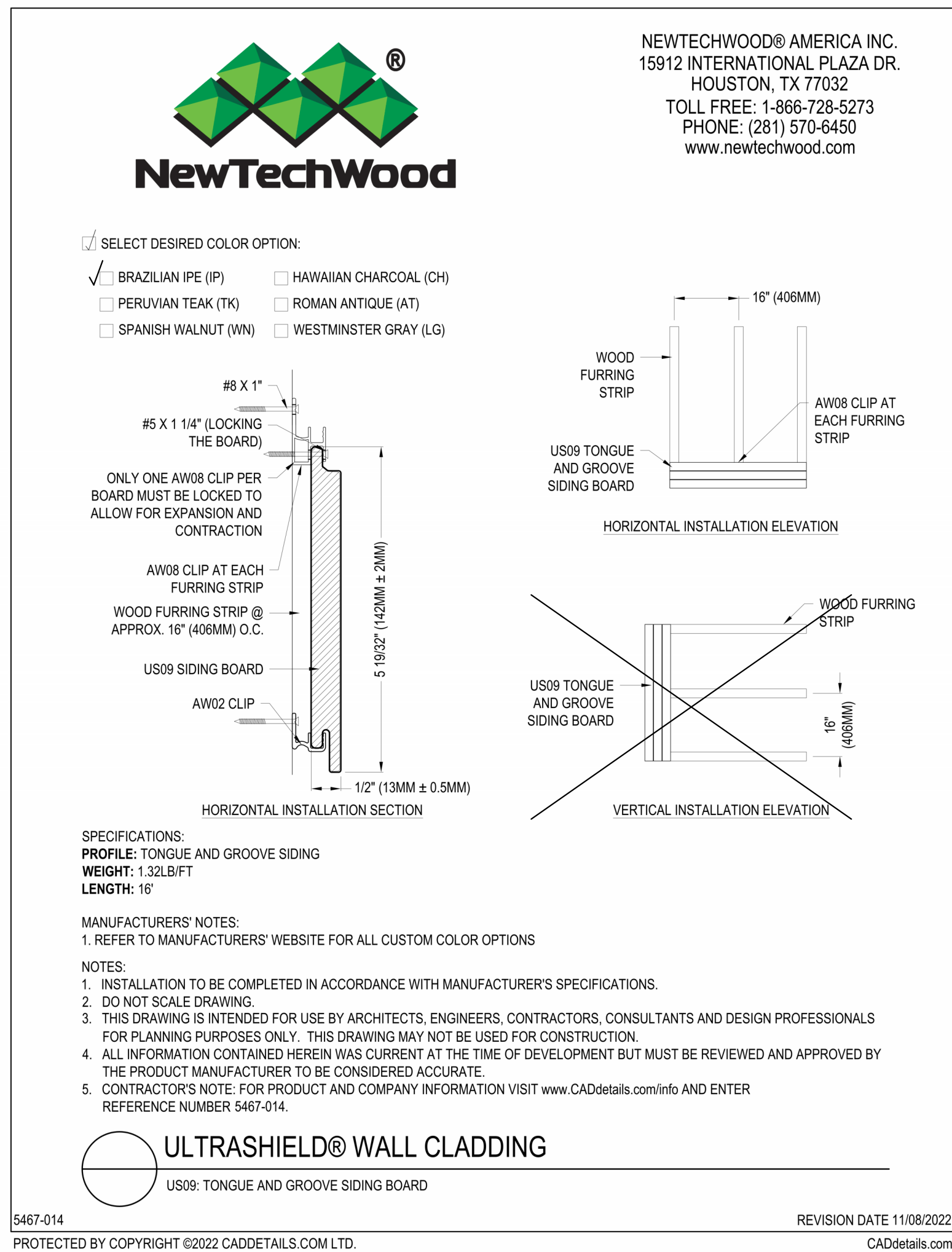
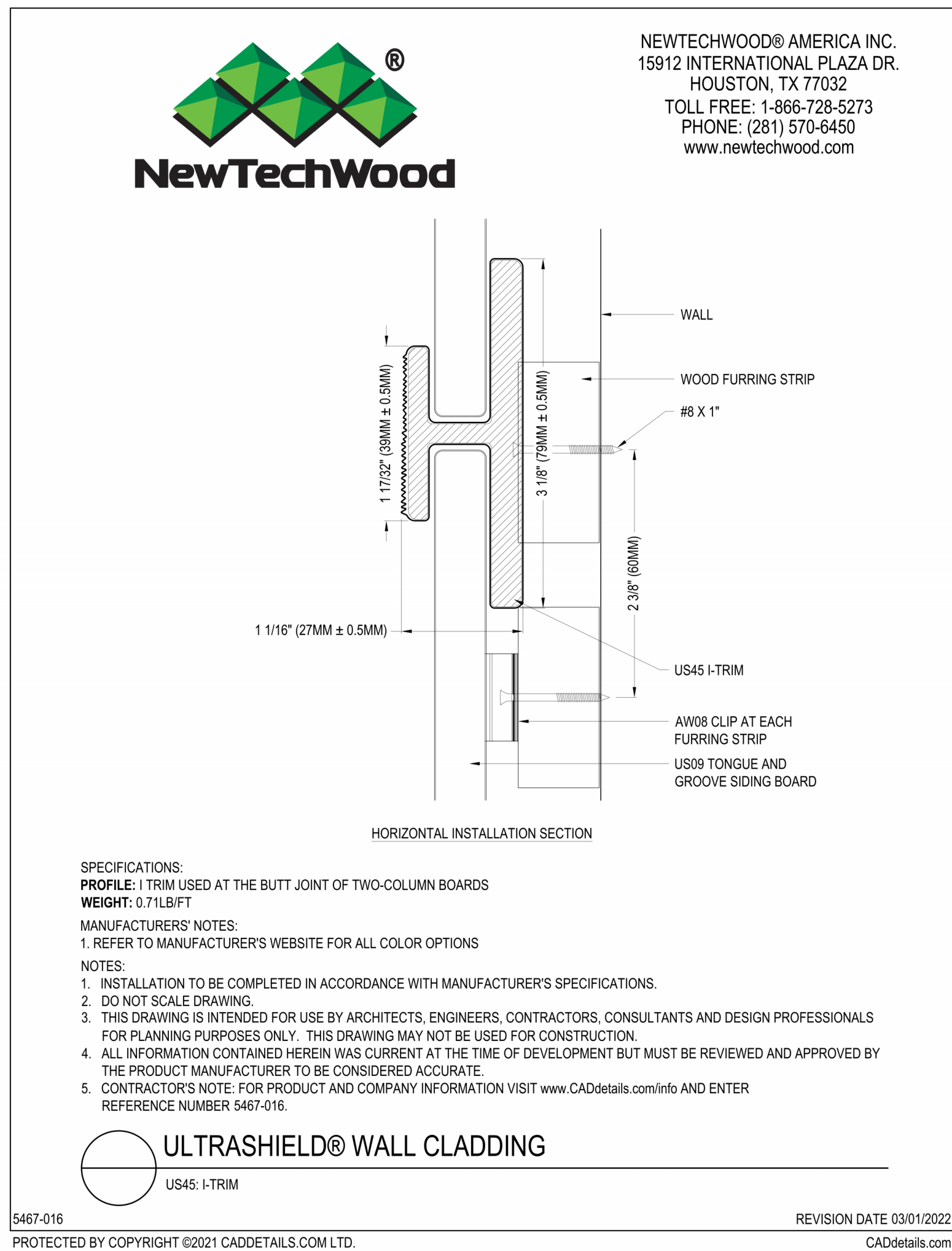
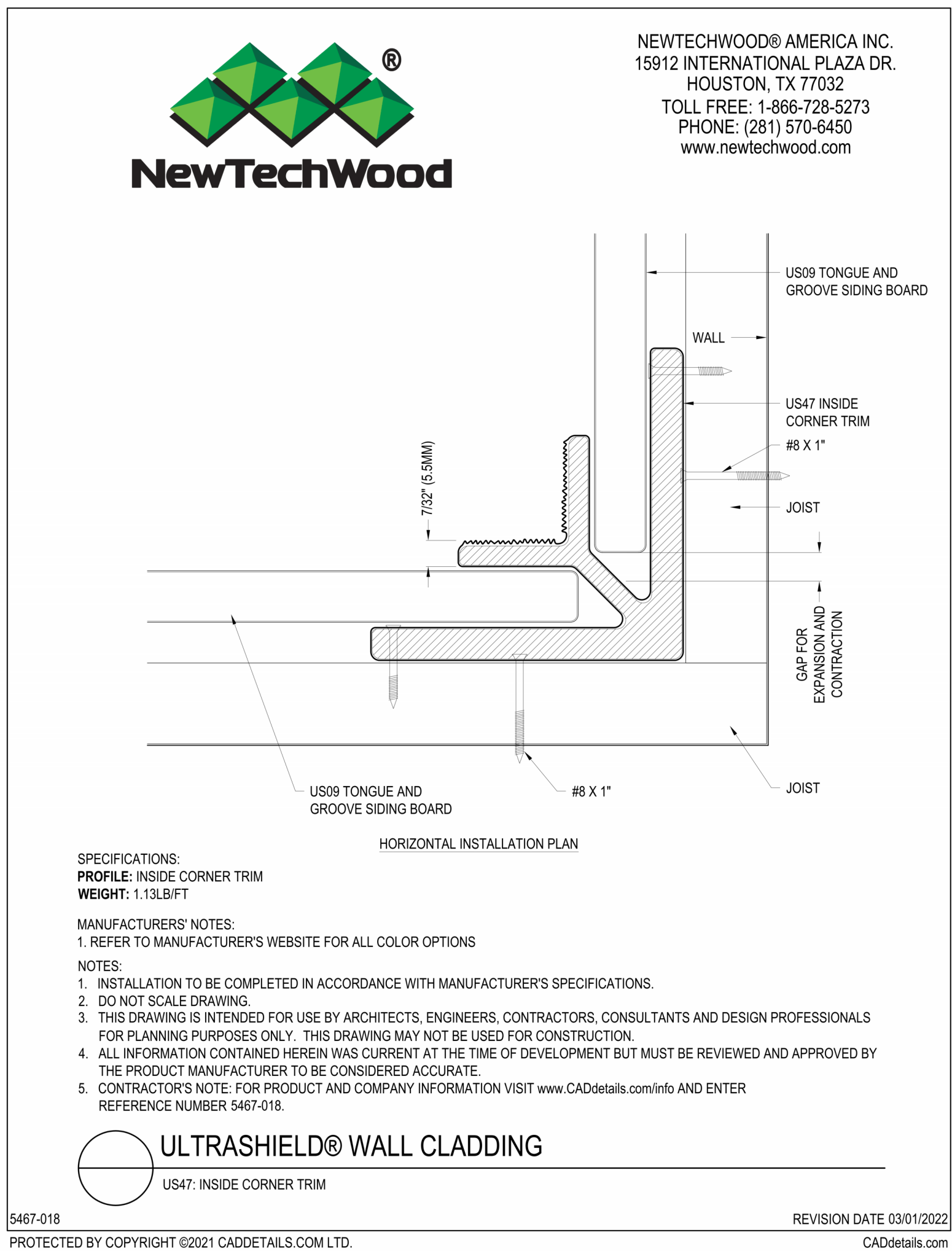
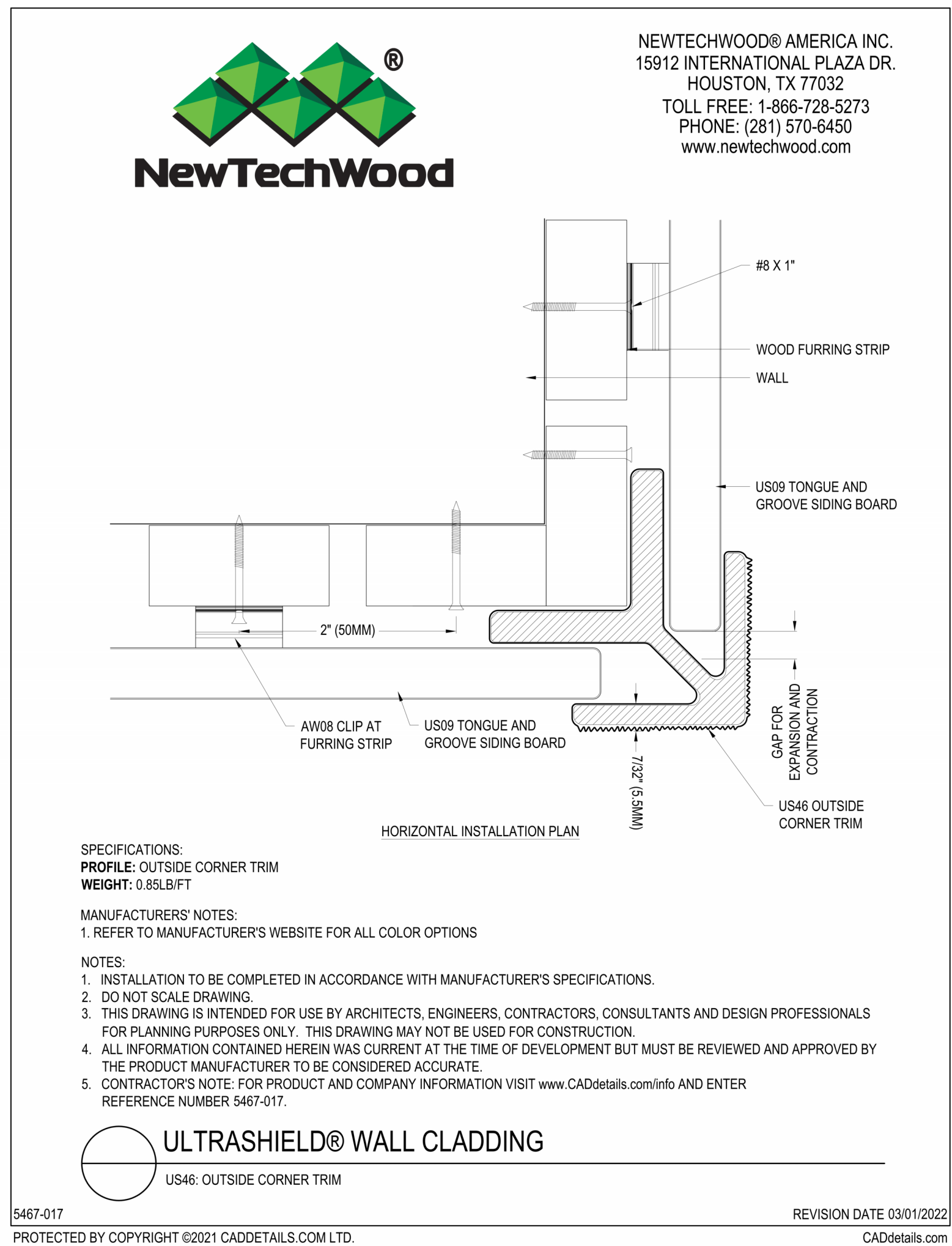
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WALL CLADDING DETAILS -  
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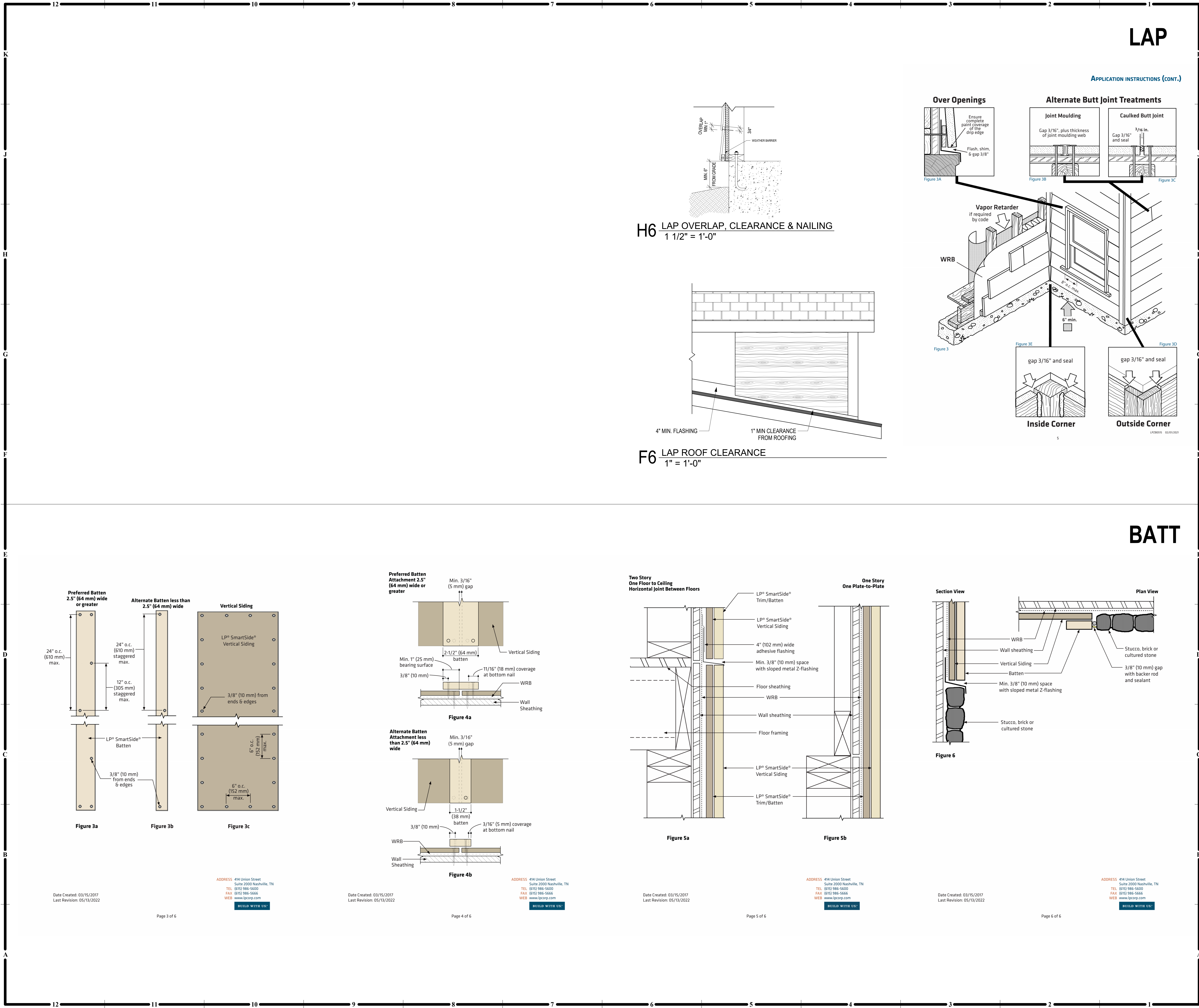
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SMARTLAP & BATT

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Figure 3. Wall Assembly Transition

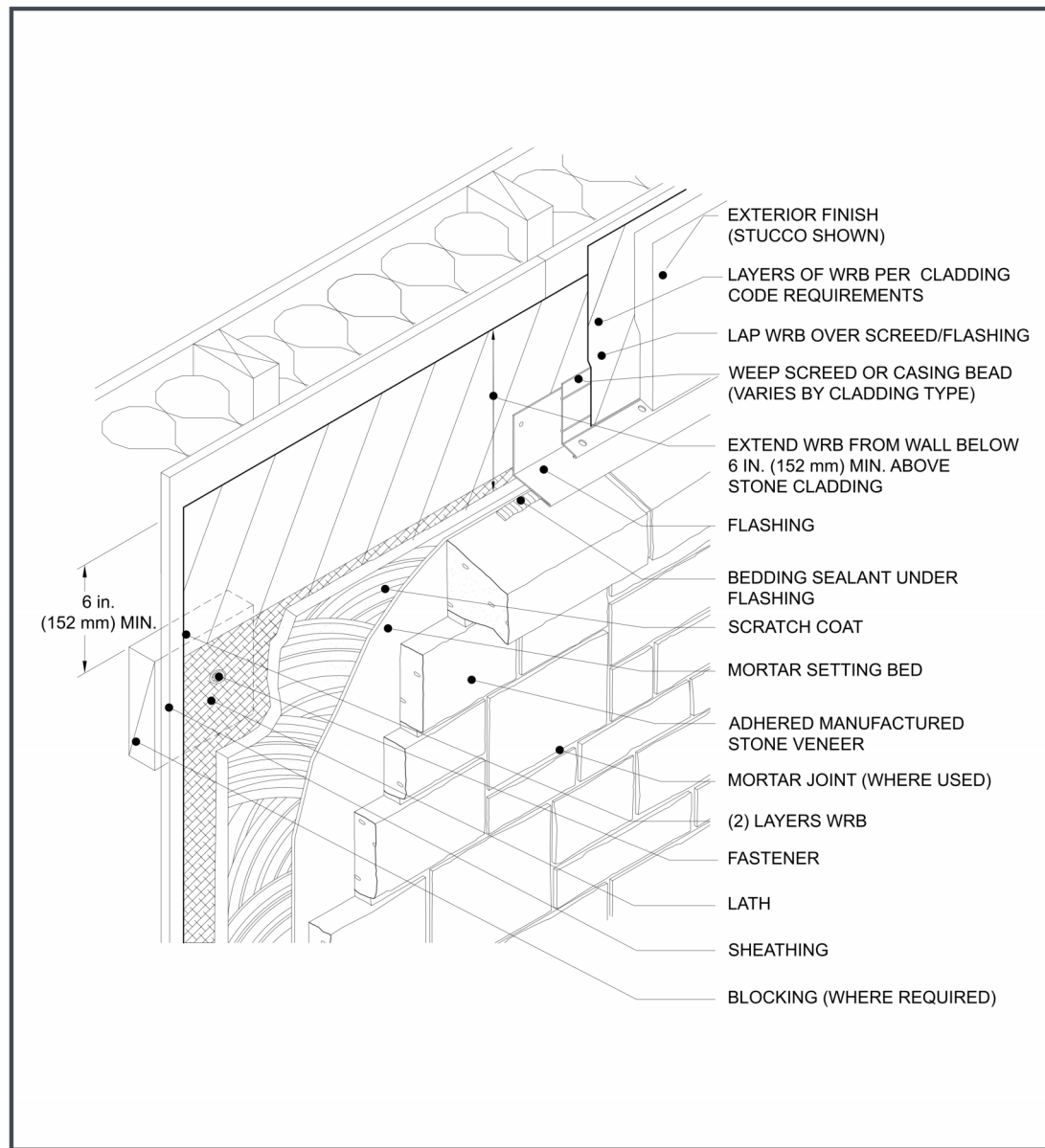


Figure 5a. Foundation Wall Base

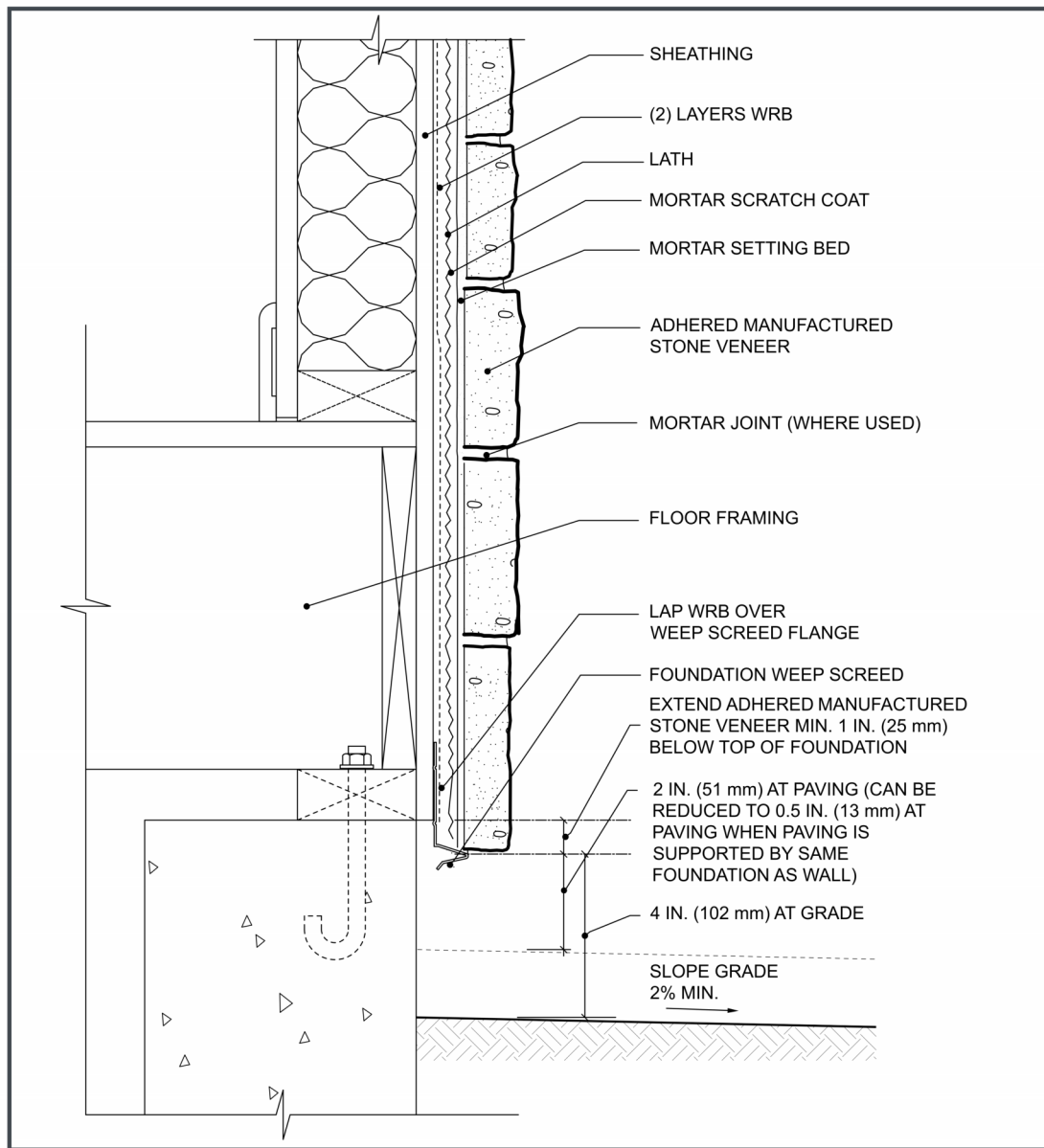


Figure 6a. Cladding Transition

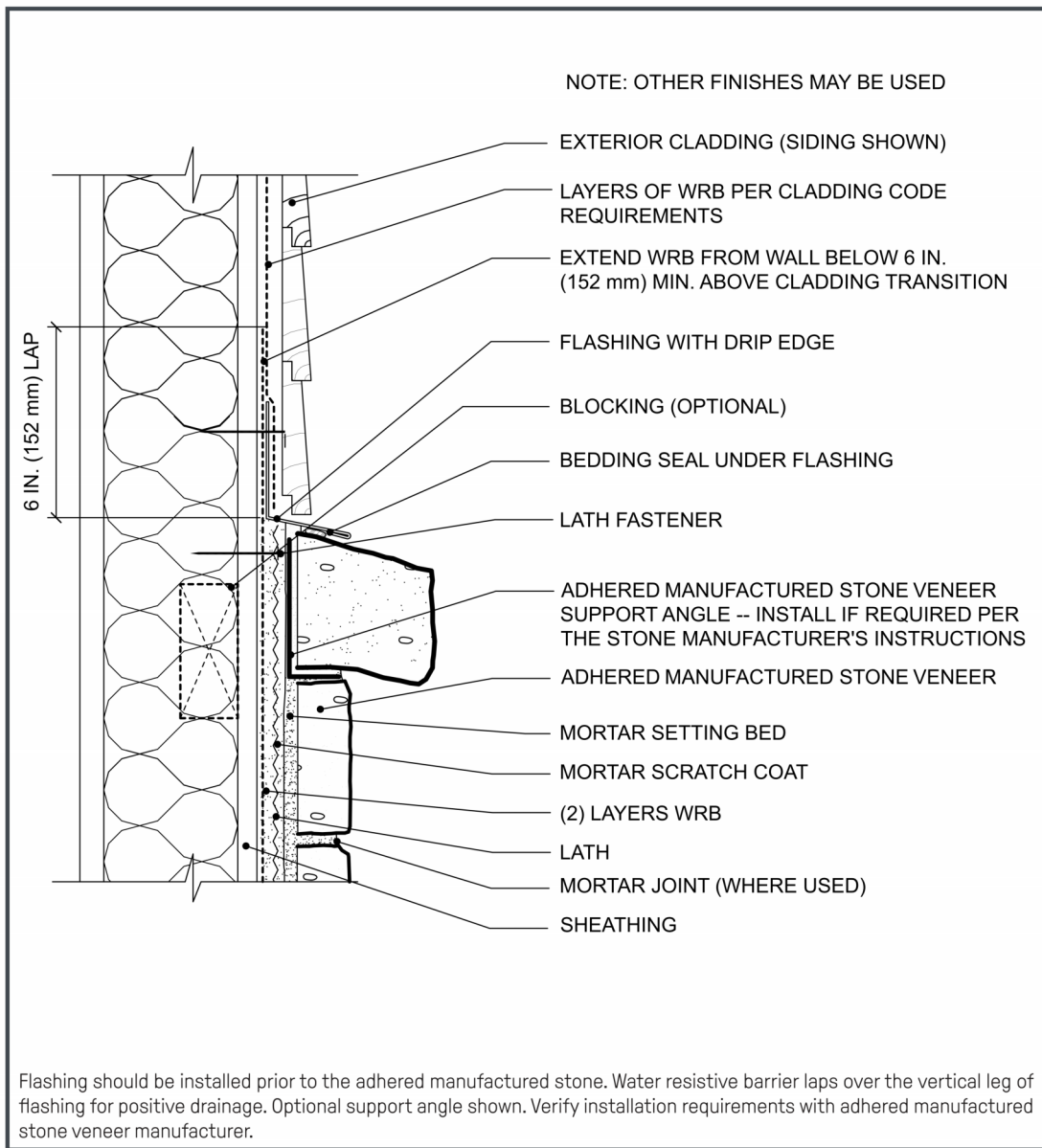


Figure 9a. Outside Corner

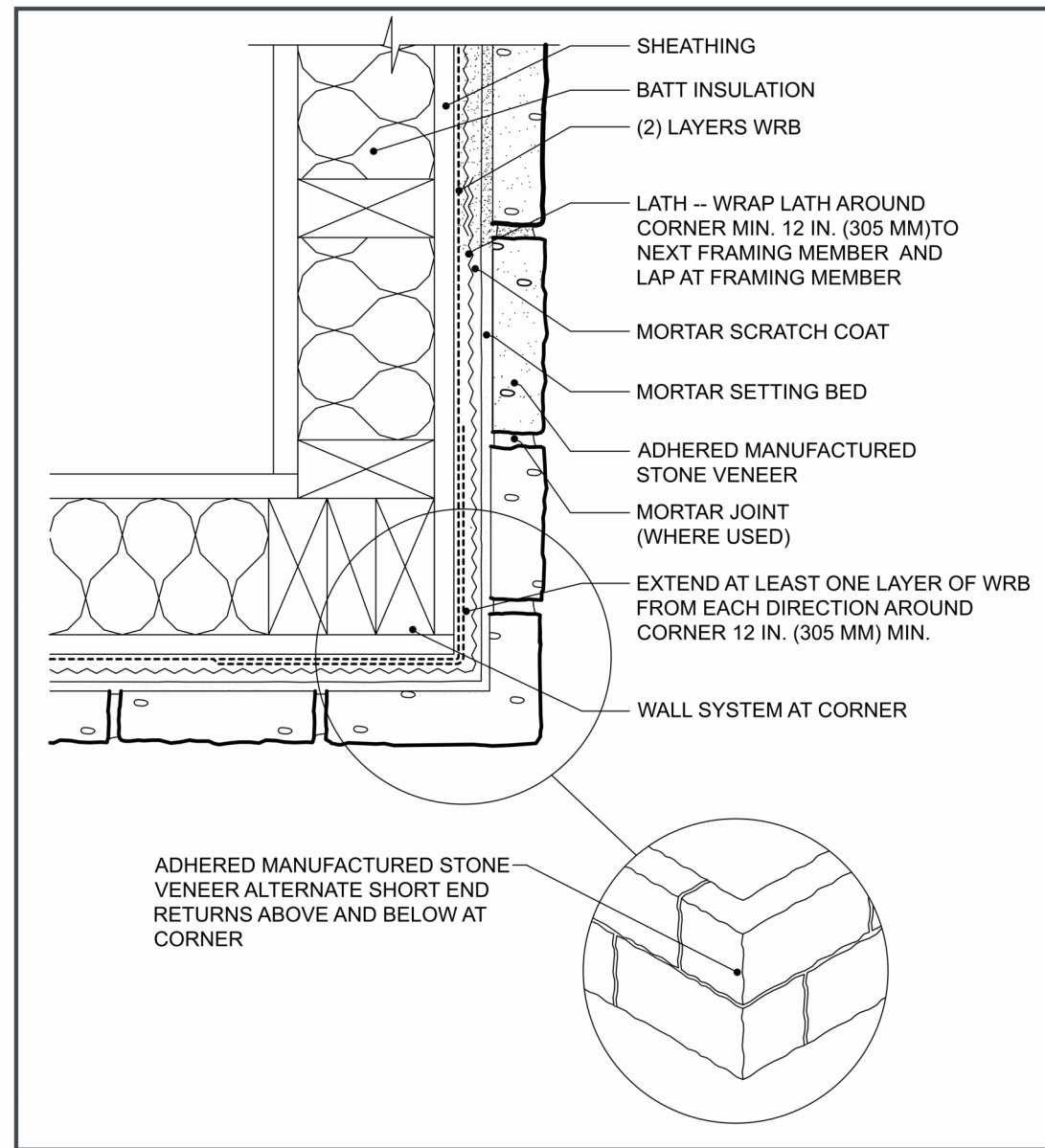


Figure 10a. Inside Corner

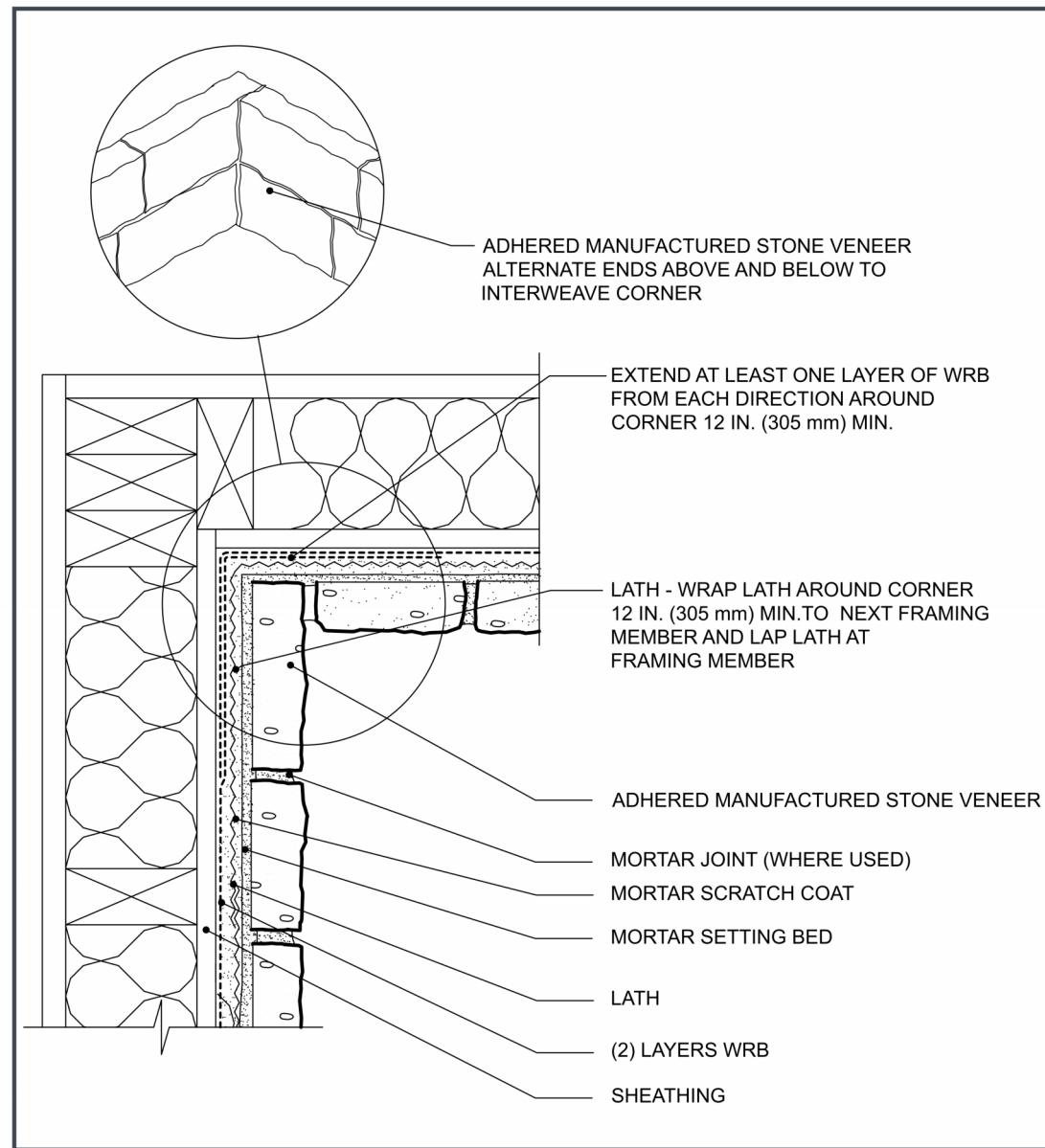


Figure 11a. Horizontal Transition

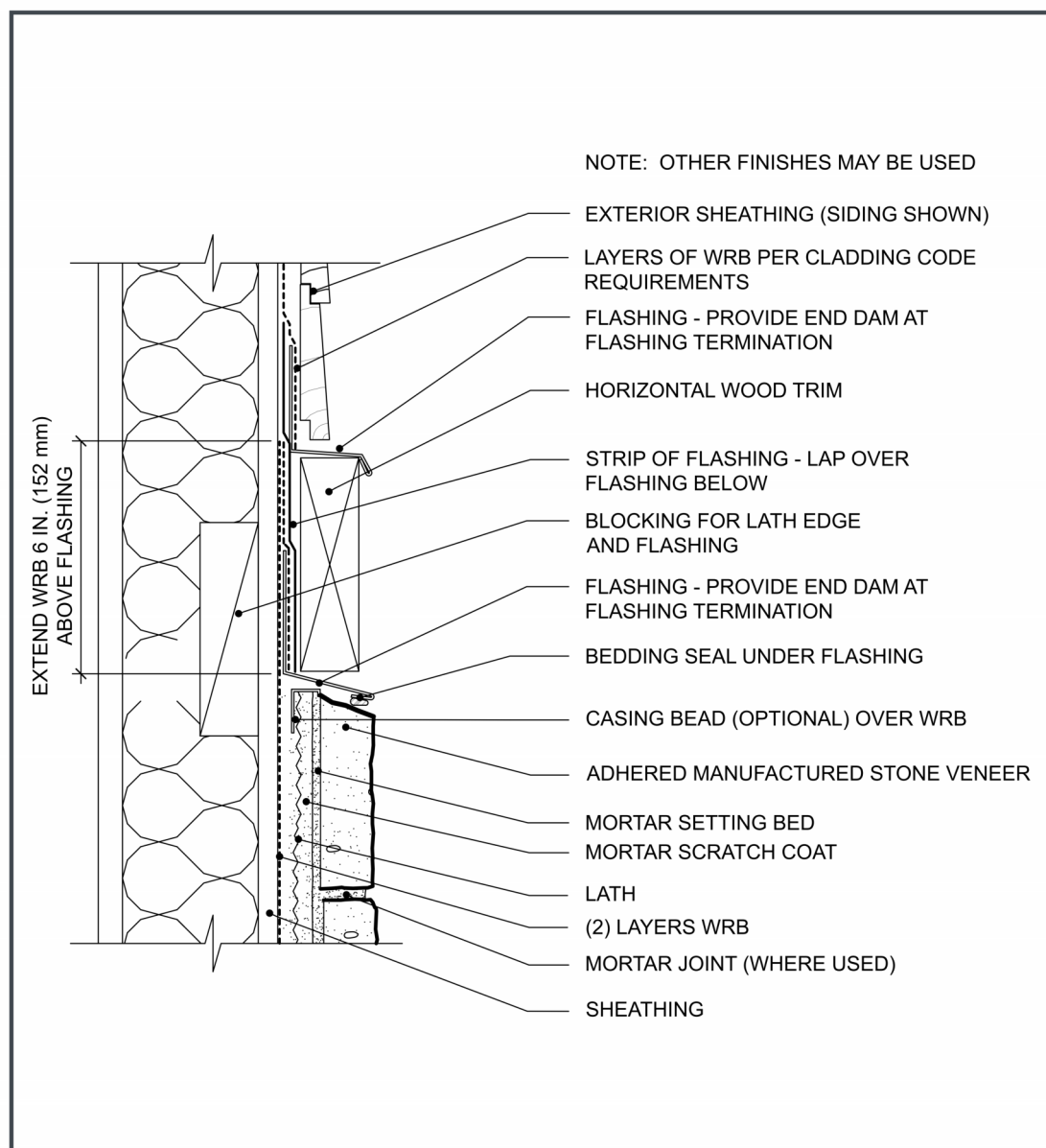


Figure 12a. Vertical Transition

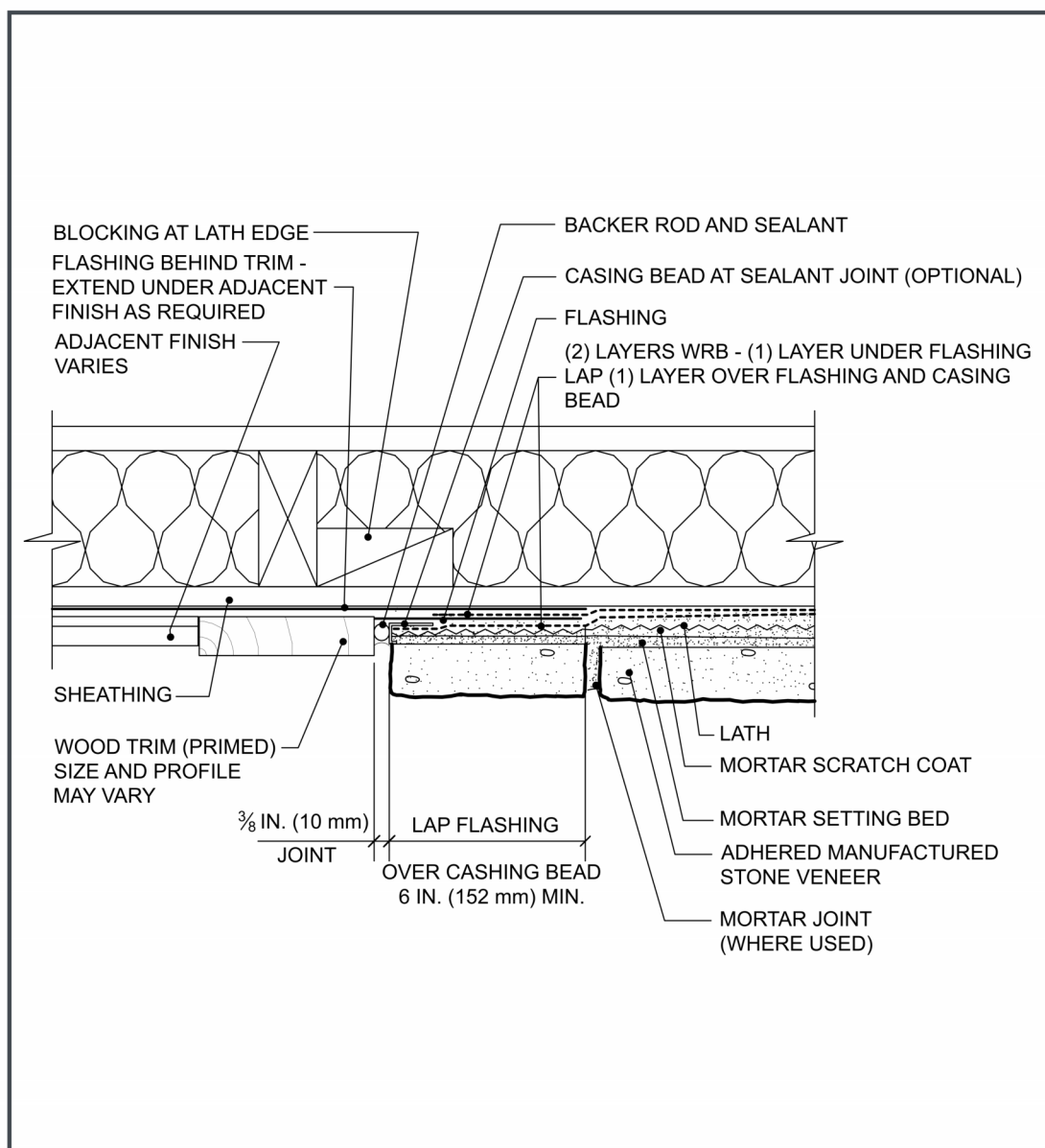


Figure 13a. Open Eave - Overhang

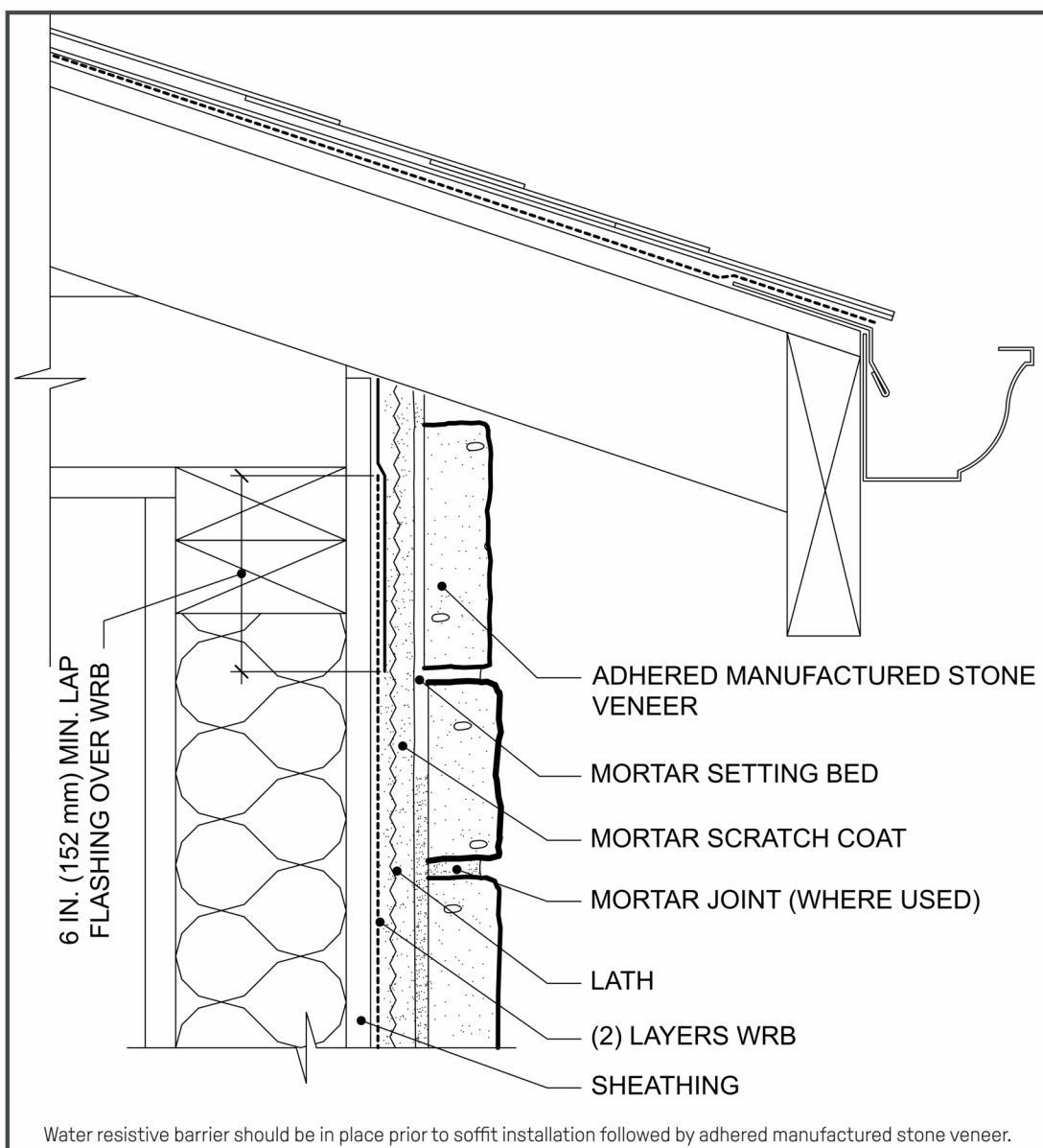


Figure 15. Rake - Overhang

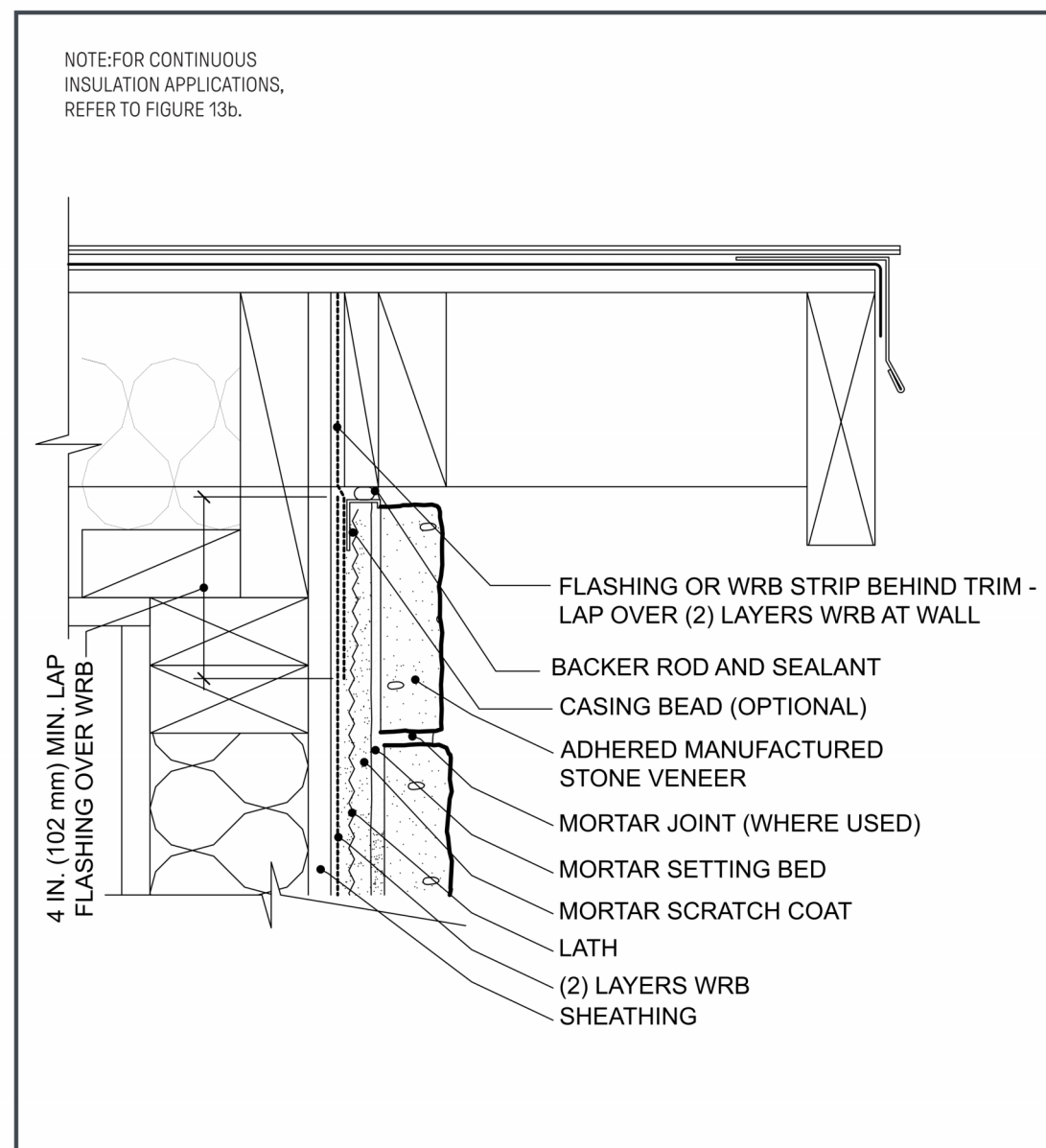


Figure 17a. Side Wall - Composition Shingles

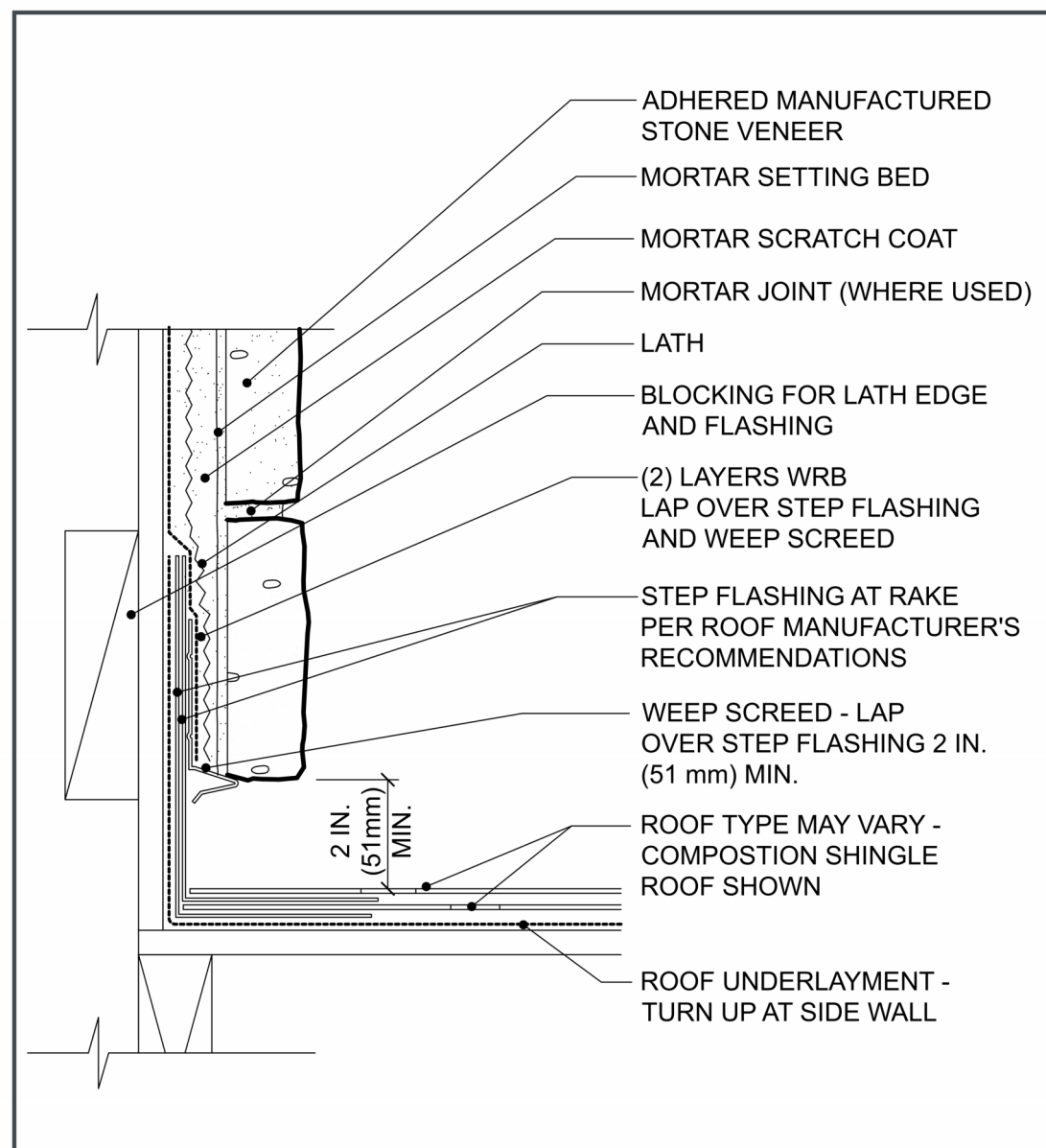


Figure 21a. Window Sill

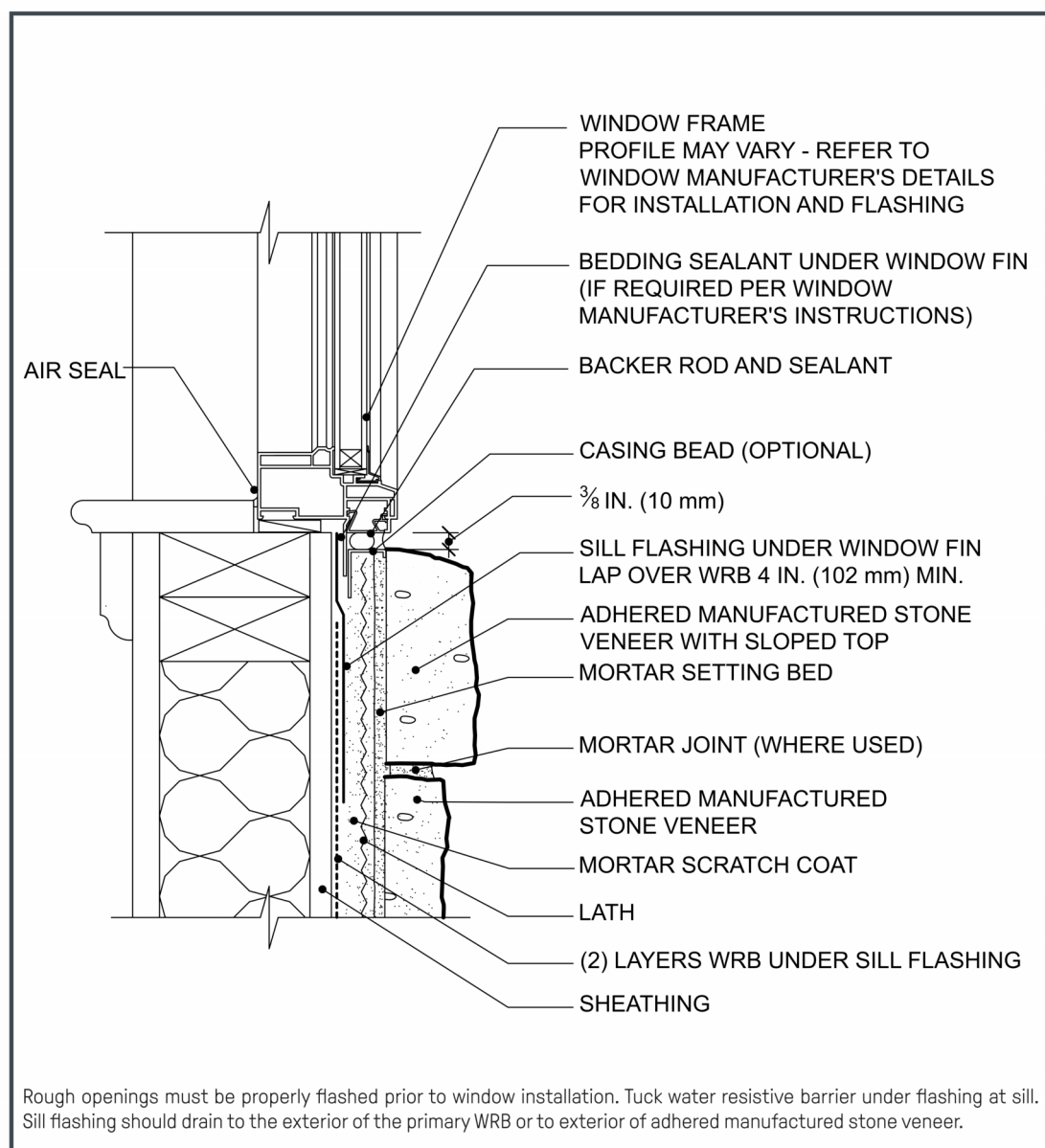


Figure 22. Window Jamb

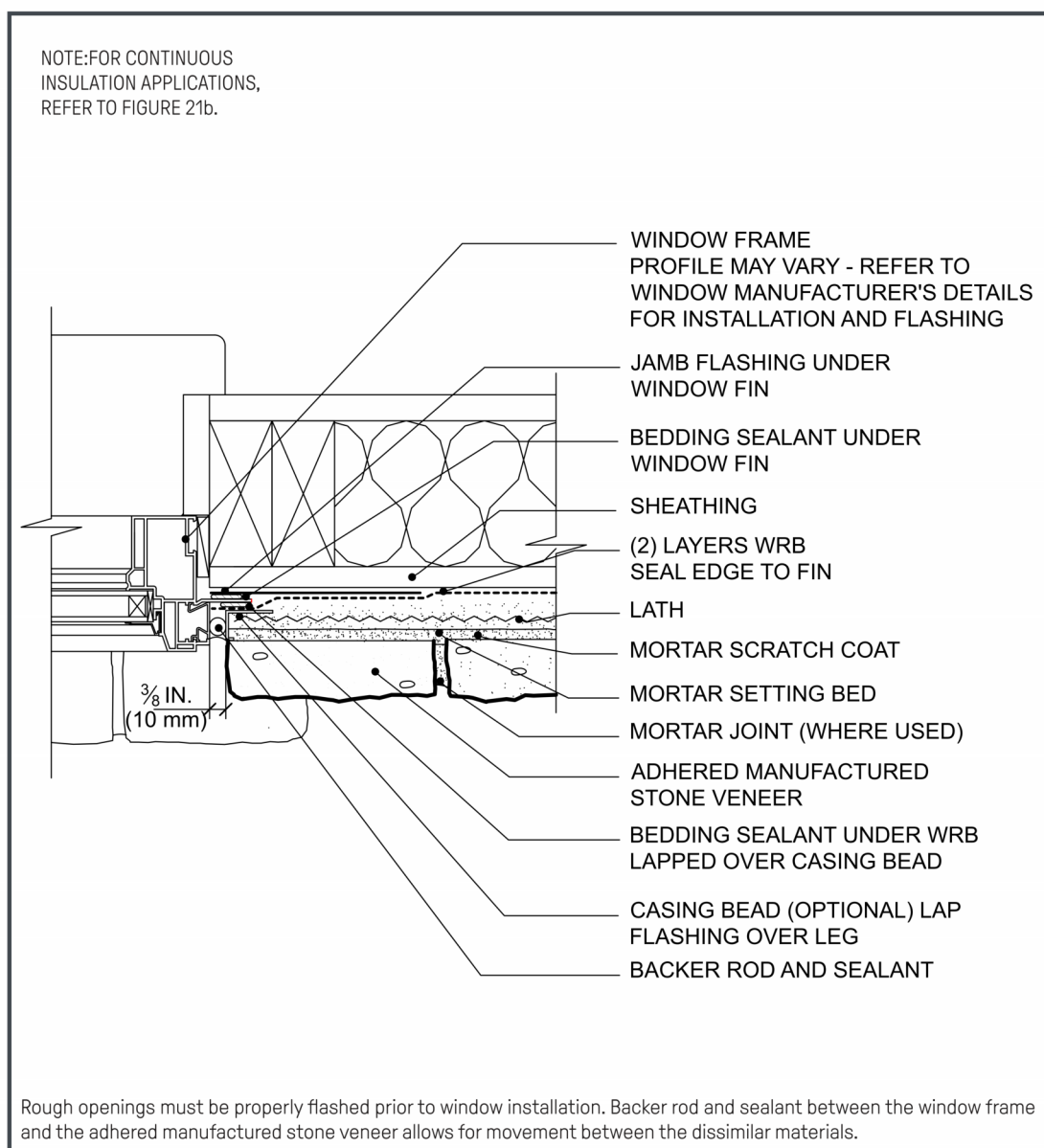


Figure 23. Window Head

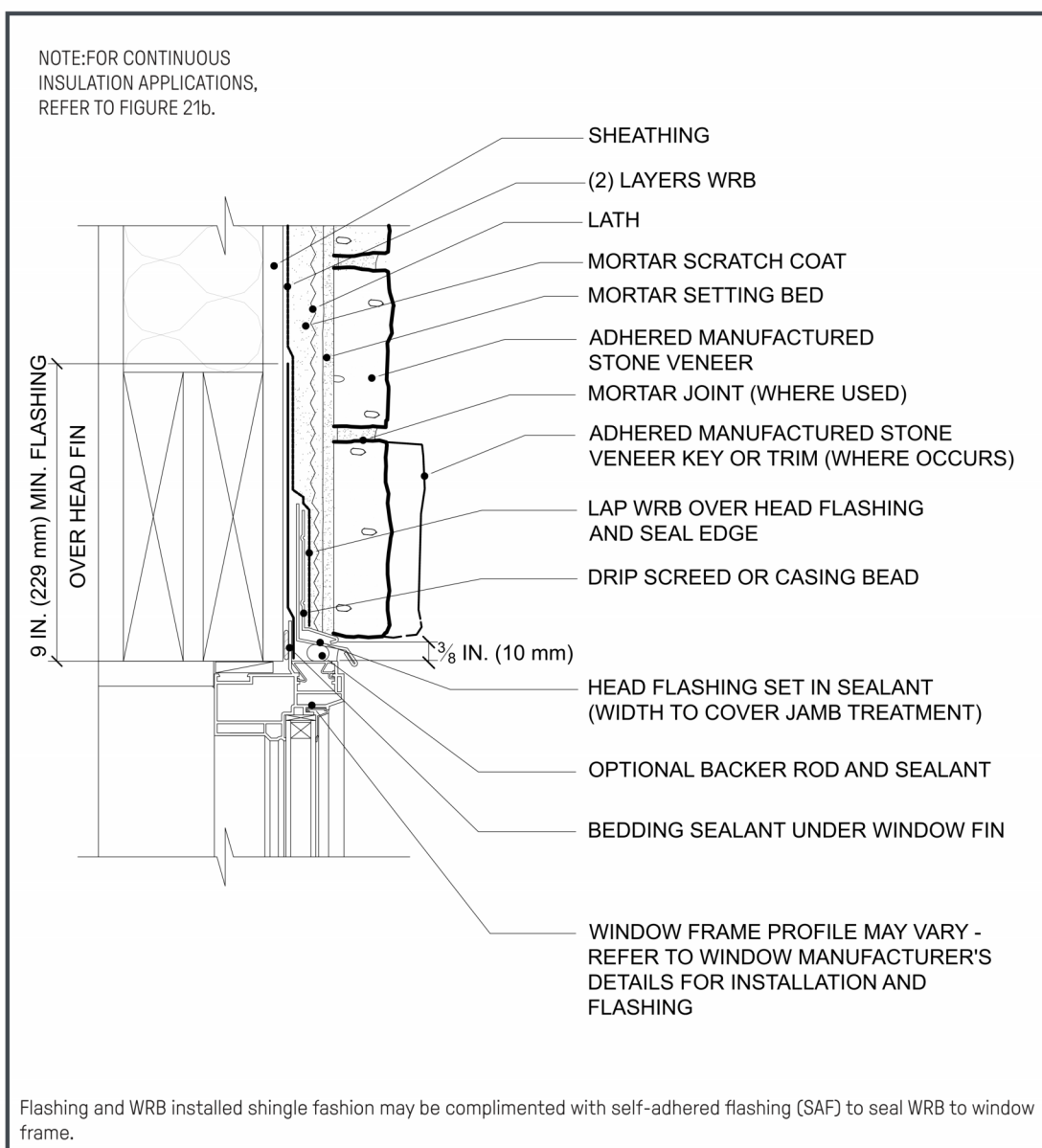


Figure 24. Kick-Out Flashing

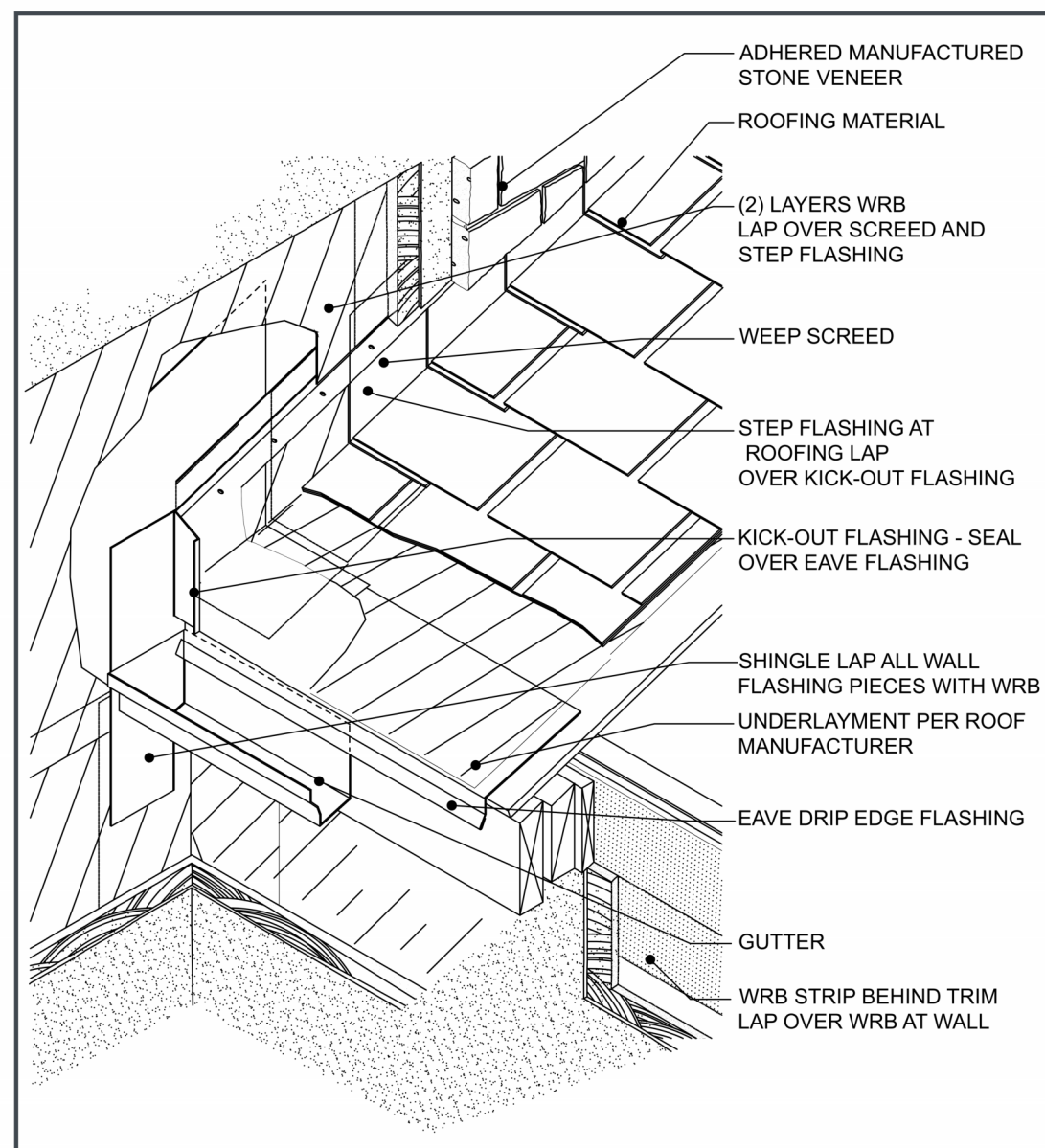


Figure 45. Wall-Section Multi-Floor Joint Detail

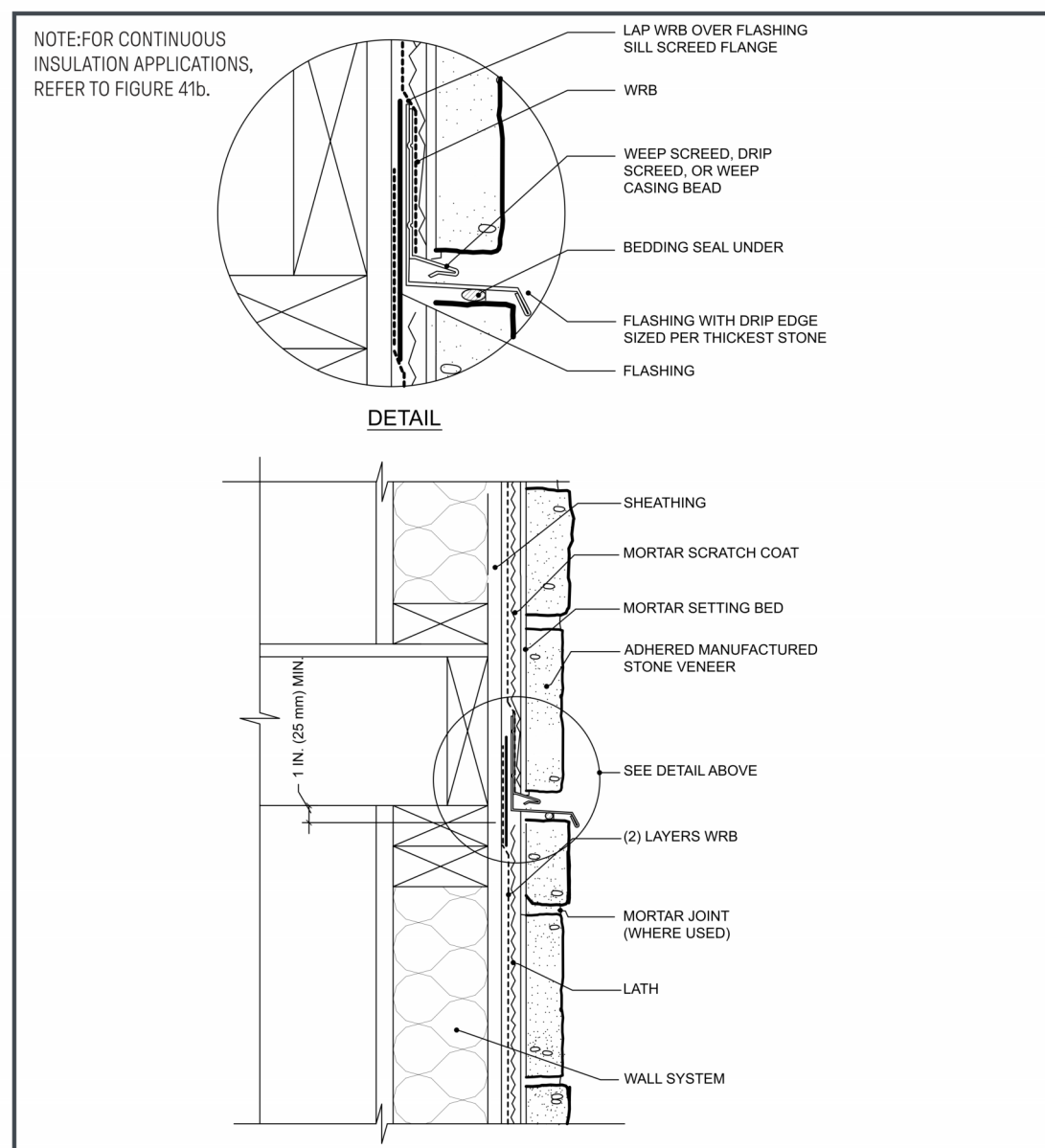




Figure 30. Penetration Non-Flanged, with Housewrap WRB

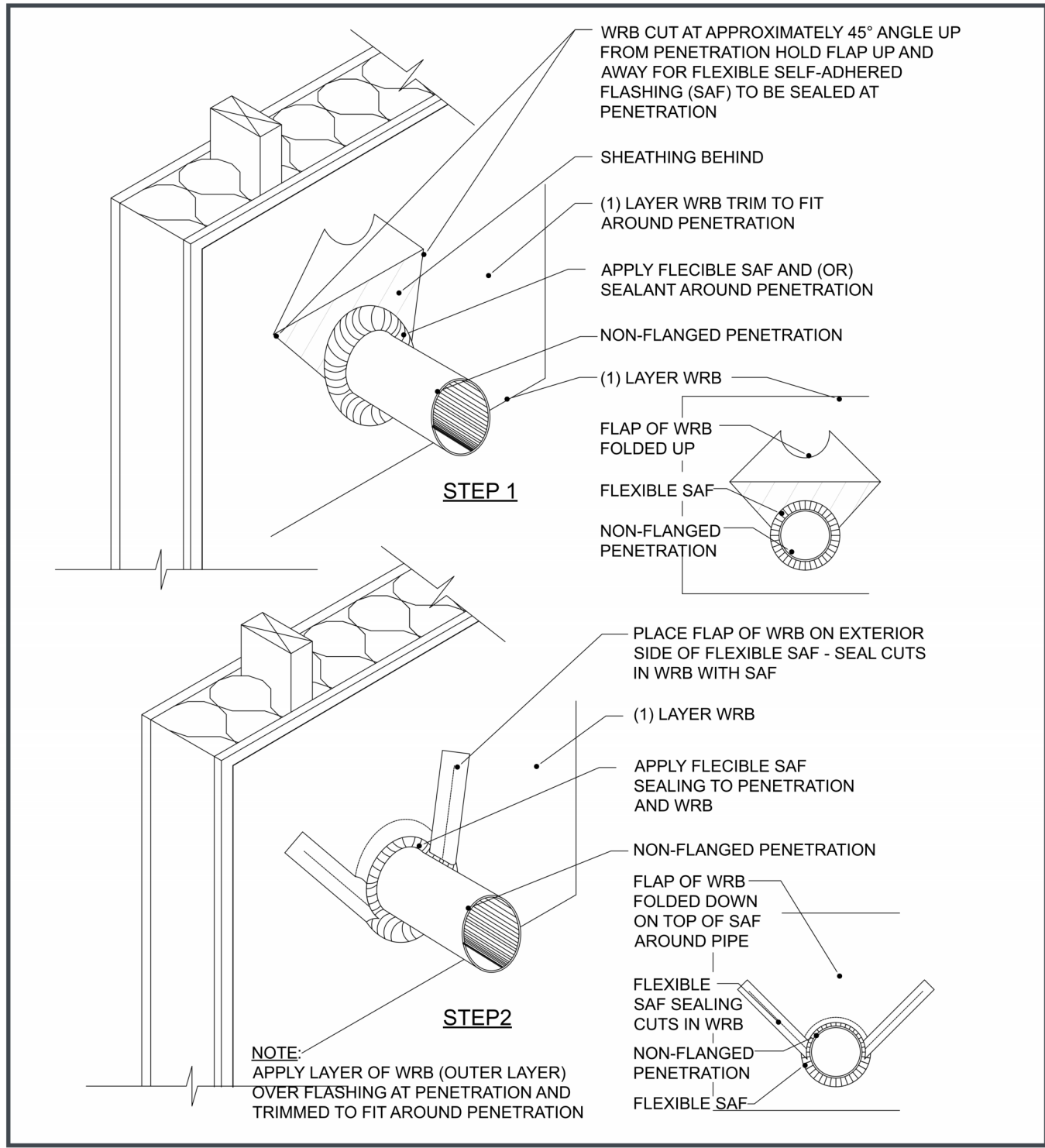


Figure 31. Penetration, Fixture

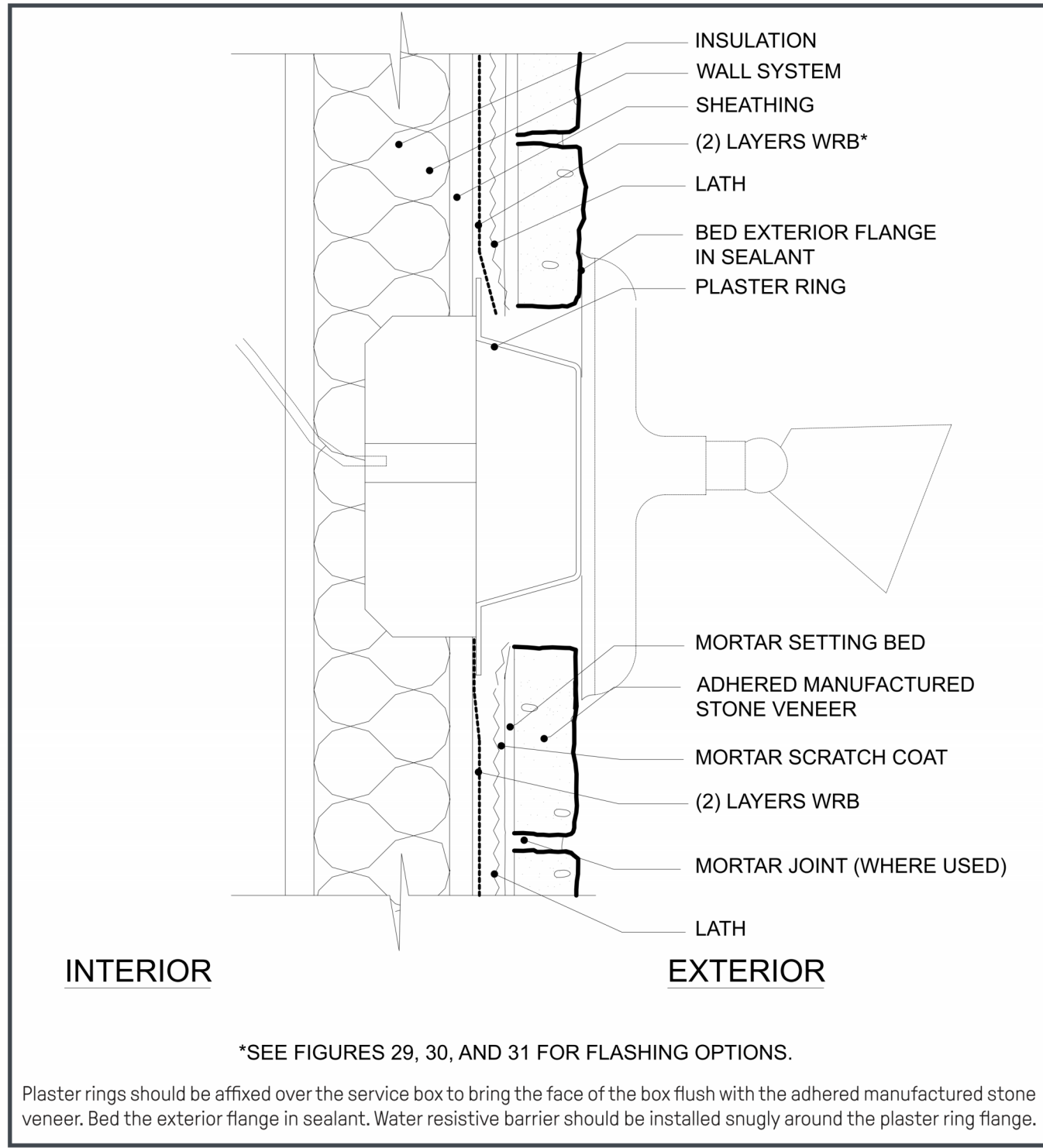


Figure 32. Penetration, Dryer Vent

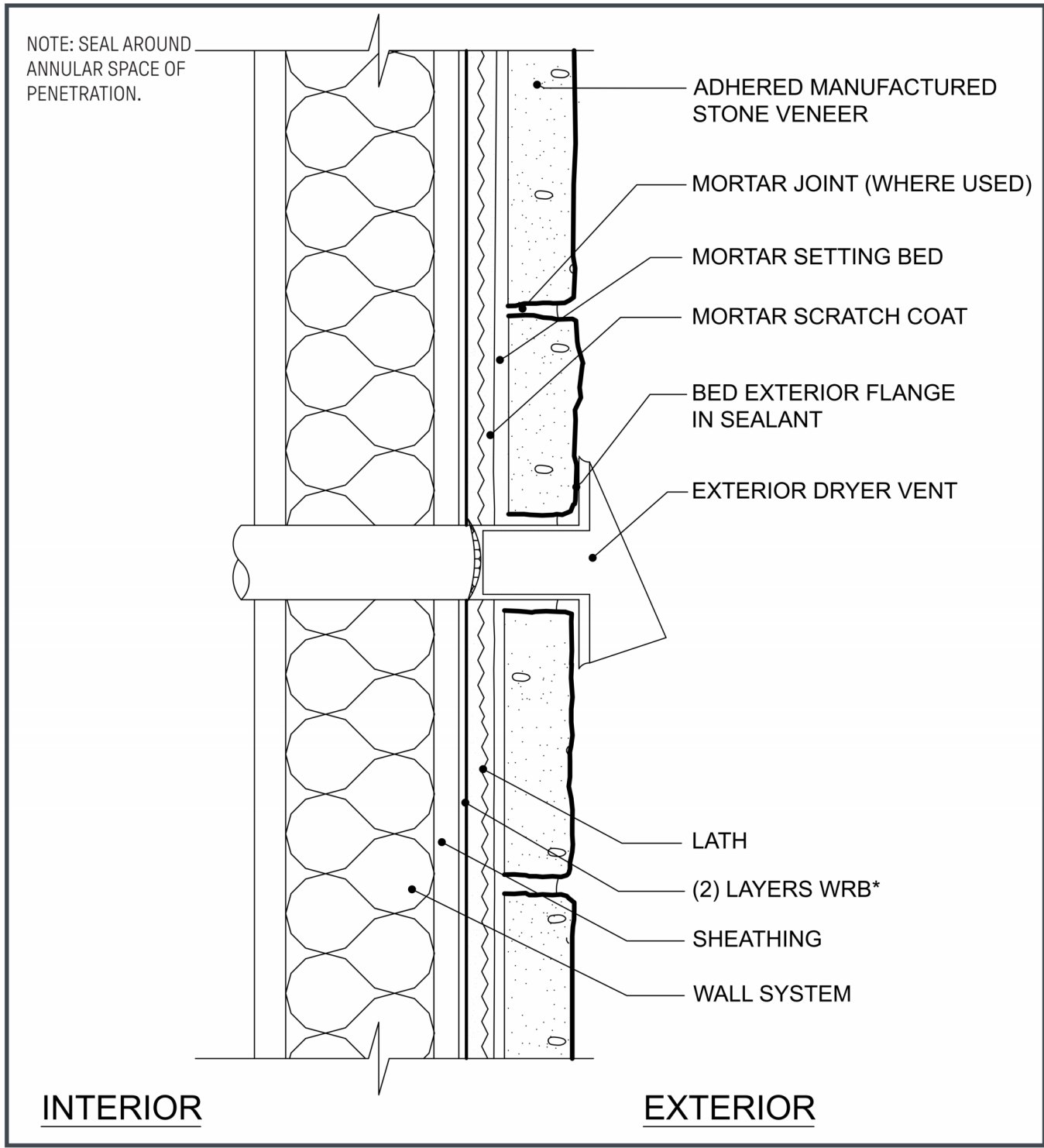


Figure 41a. Forward Mounted Commercial Window

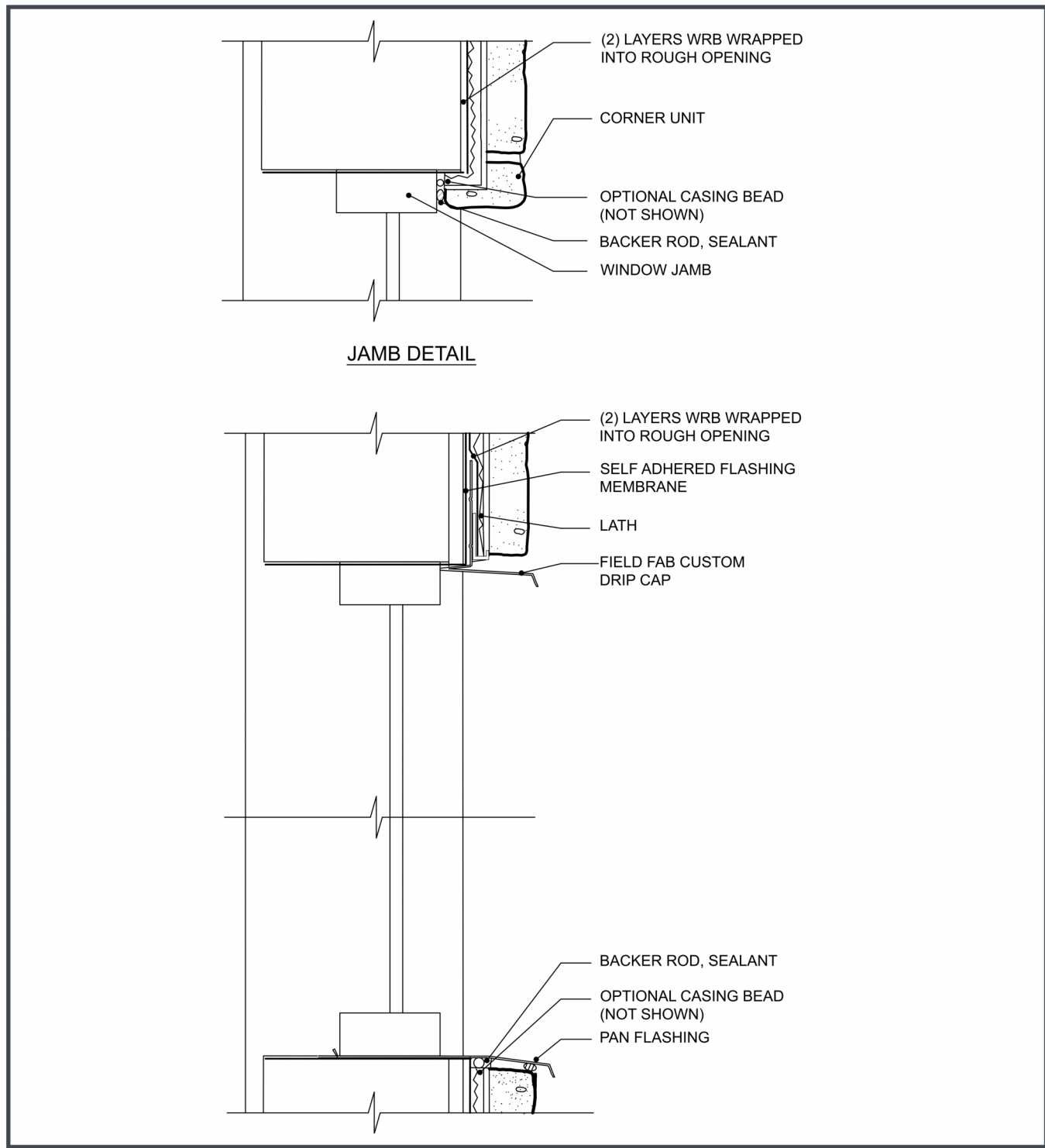


Figure 43. Commercial Storefront Window - Top View

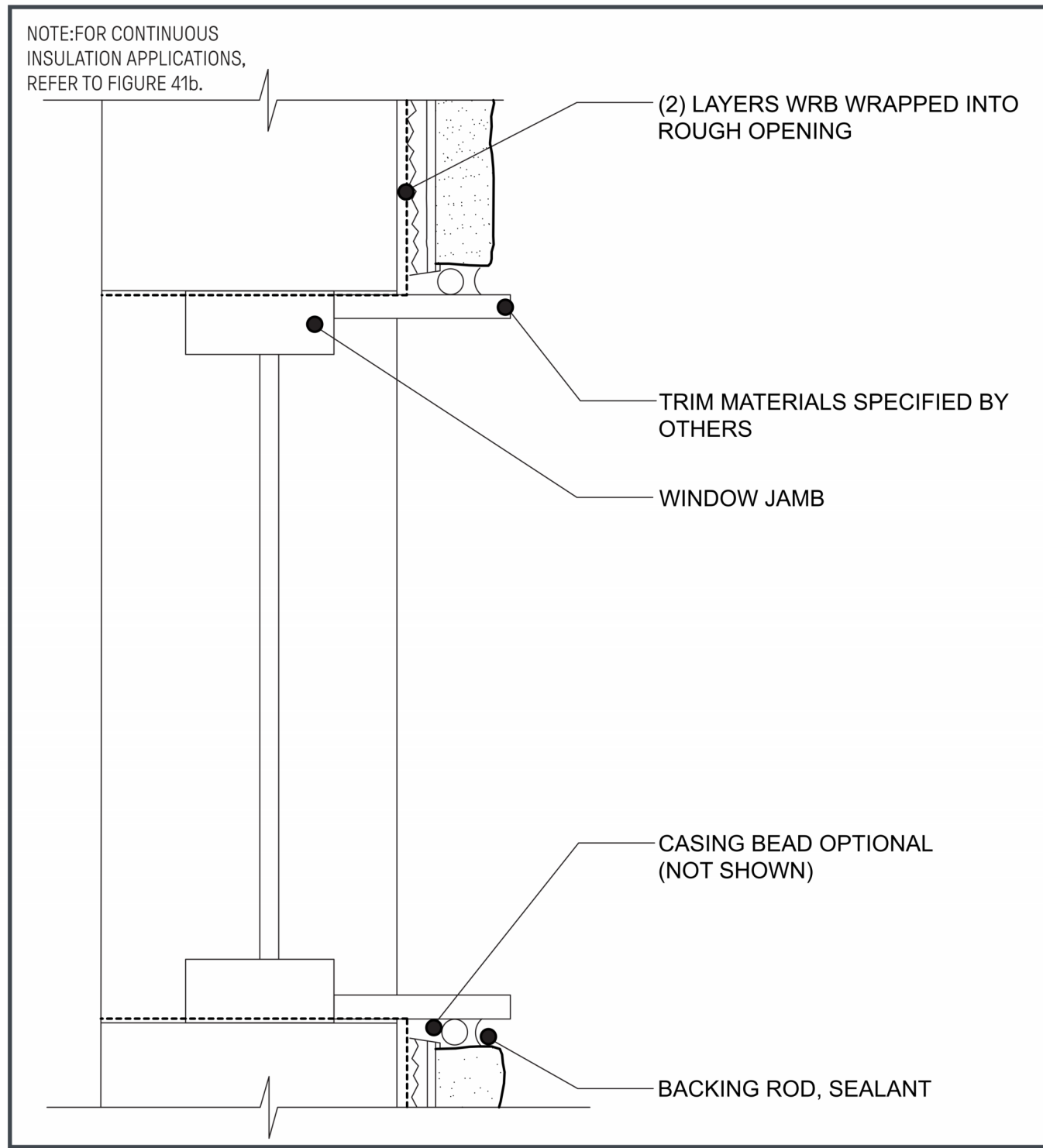
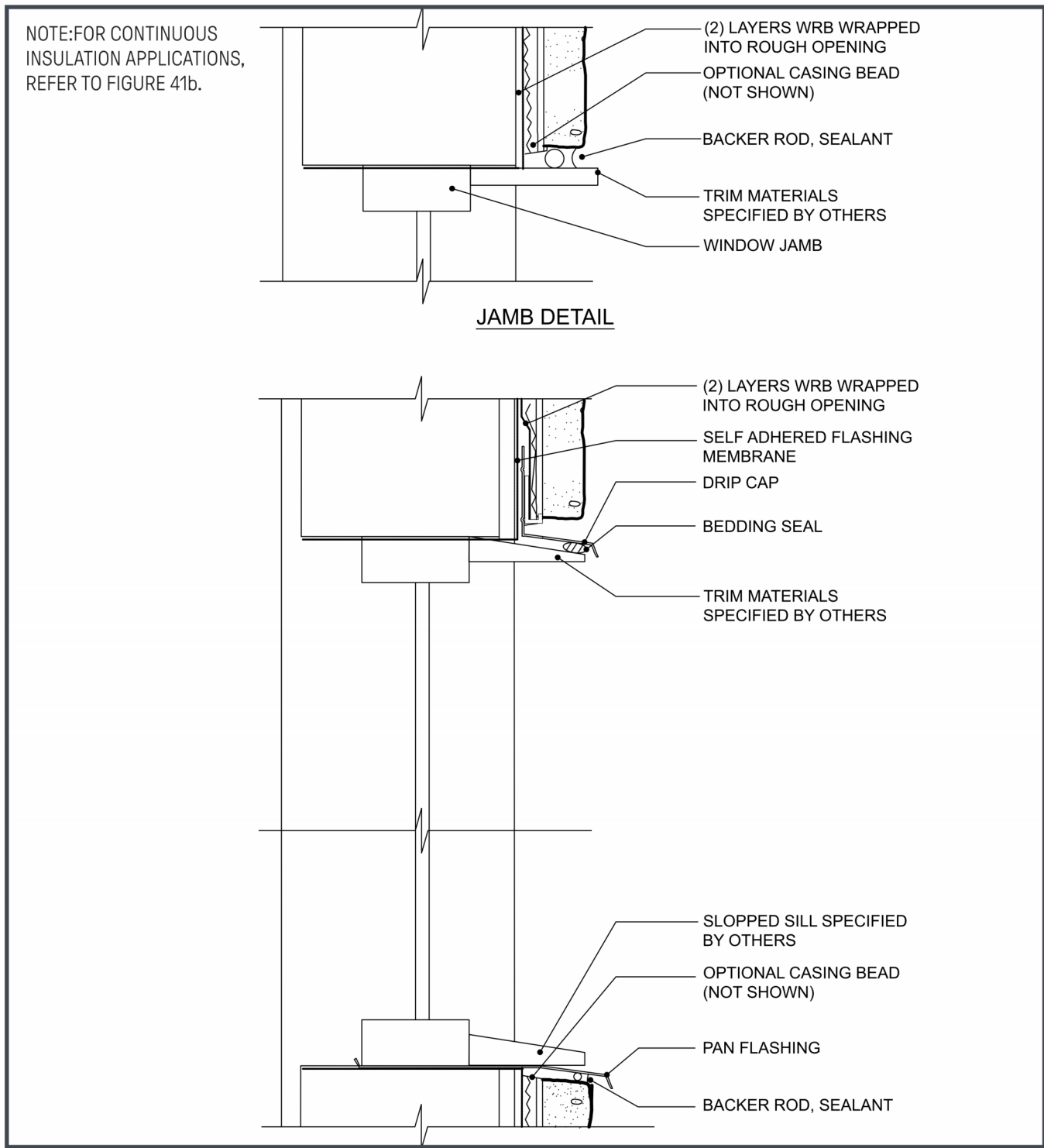


Figure 44. Commercial Storefront Window





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## A12 DETAIL - WINDOW HEAD

6" = 1'-0"

## A9 DETAIL - WINDOW JAMB

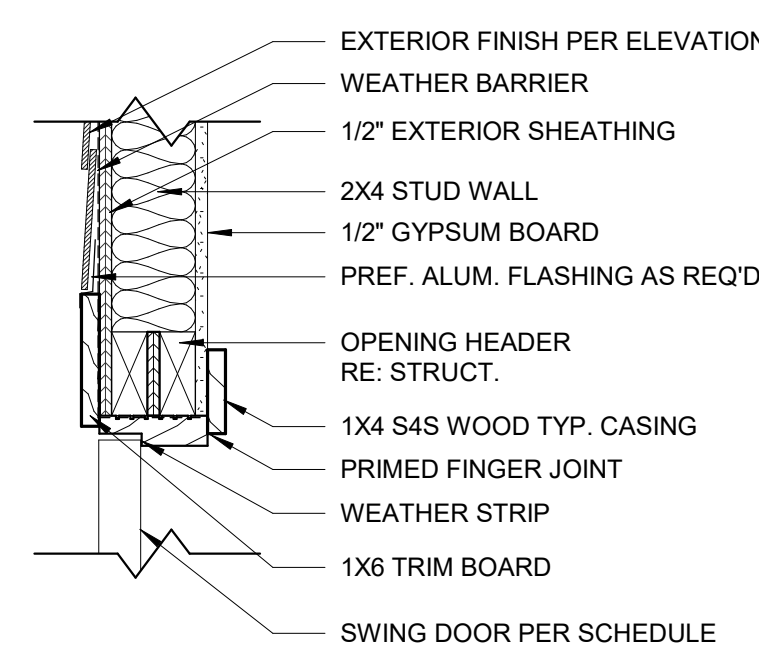
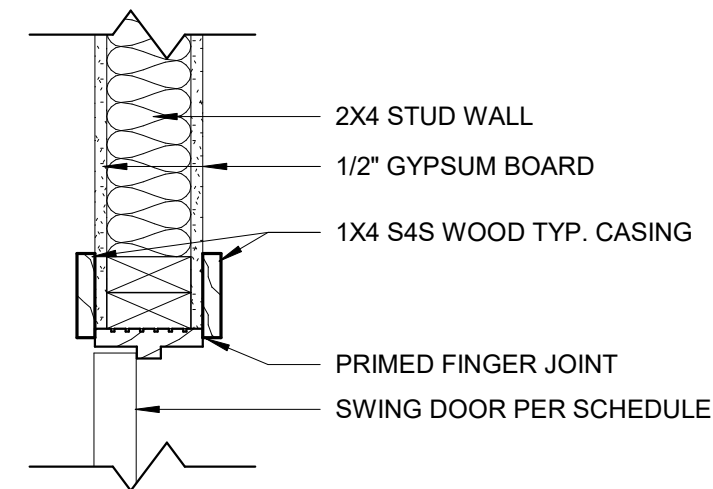
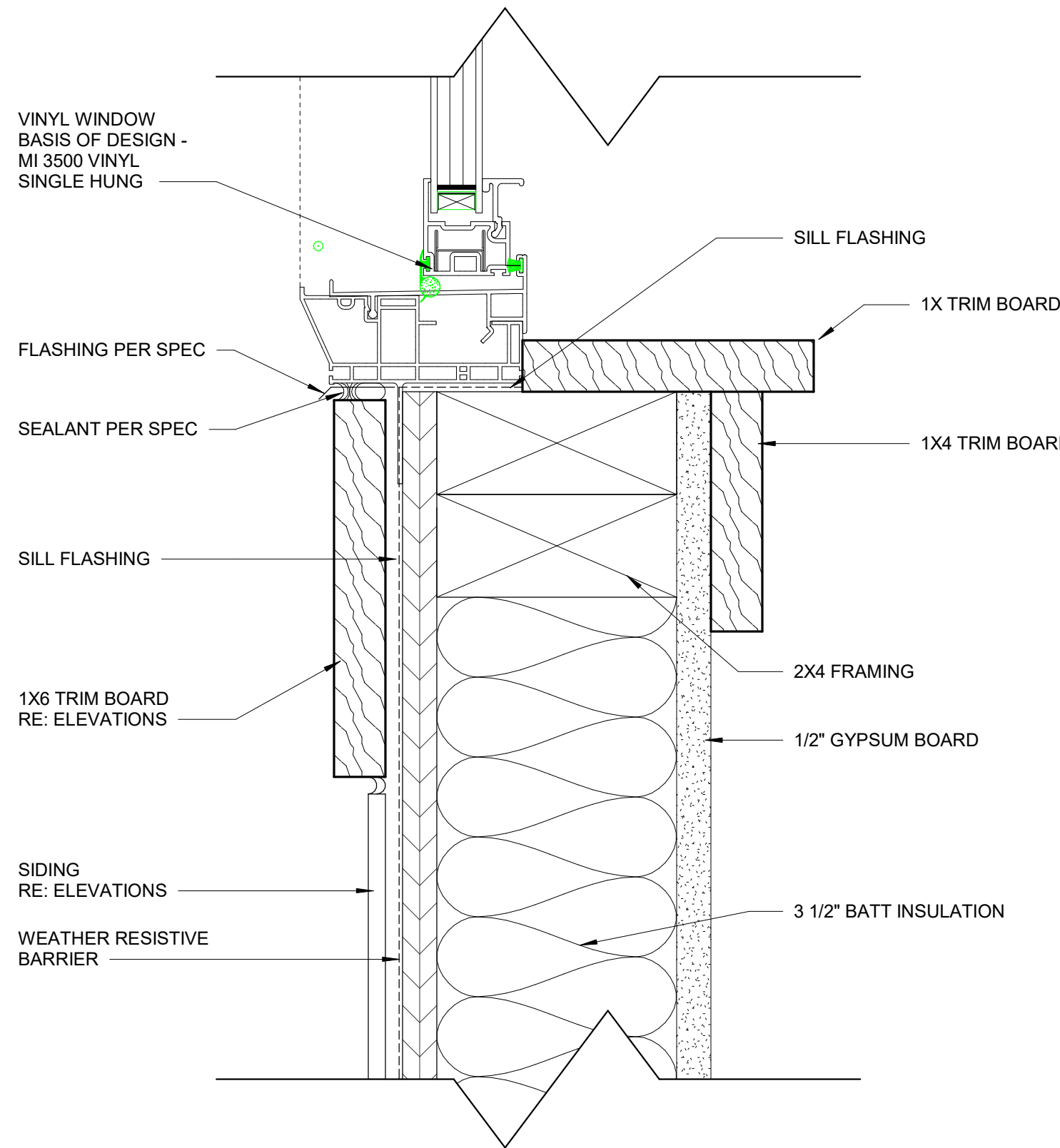
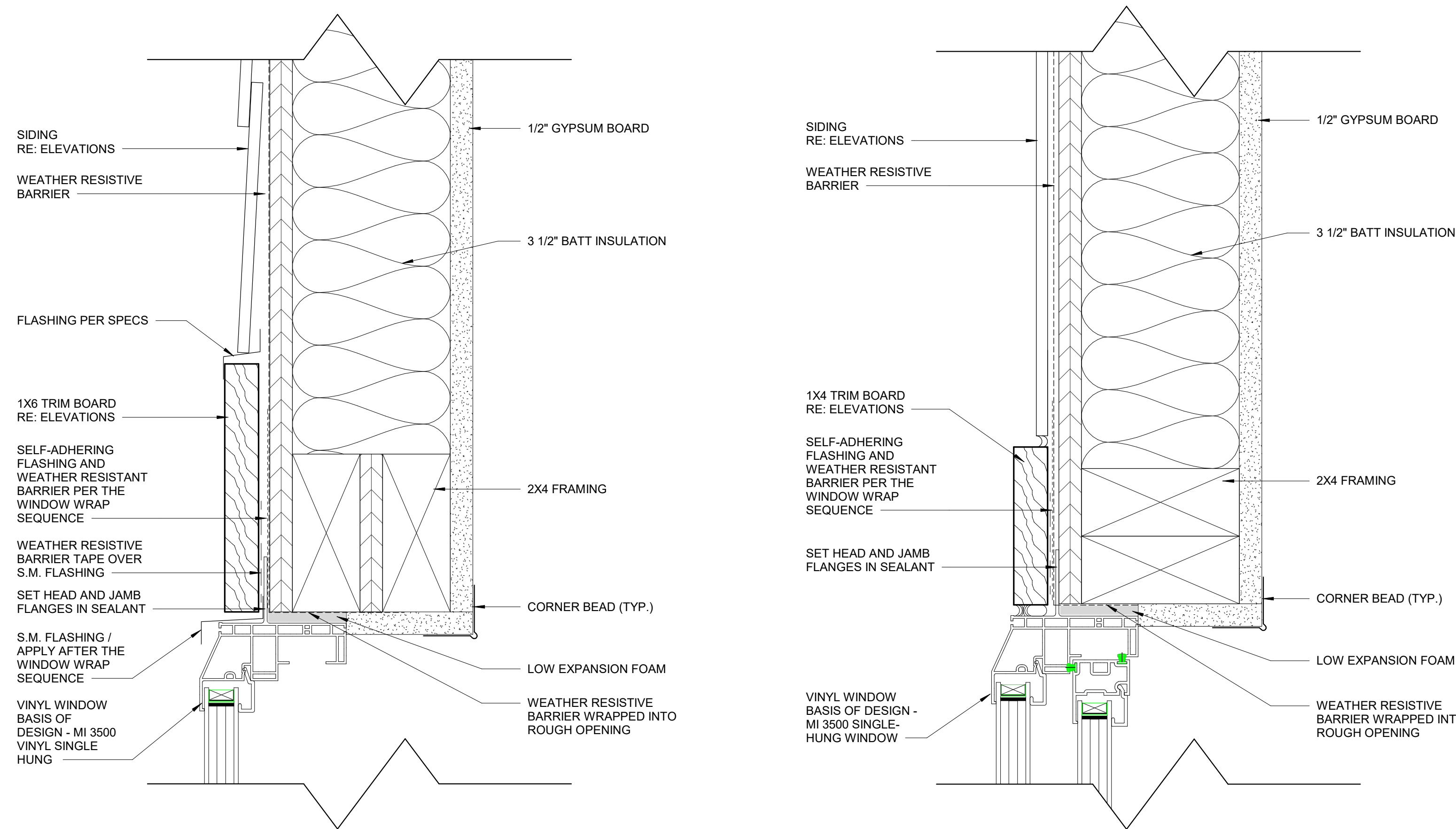
6" = 1'-0"

## A6 DETAIL - WINDOW SILL

6" = 1'-0"

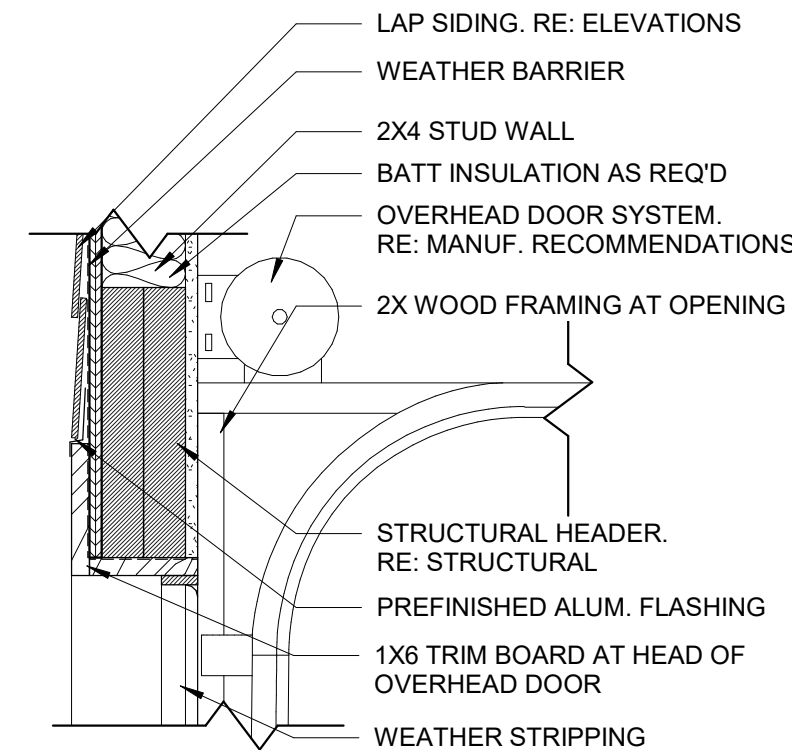
## A2 DETAIL - WOOD HEAD

1 1/2" = 1'-0"



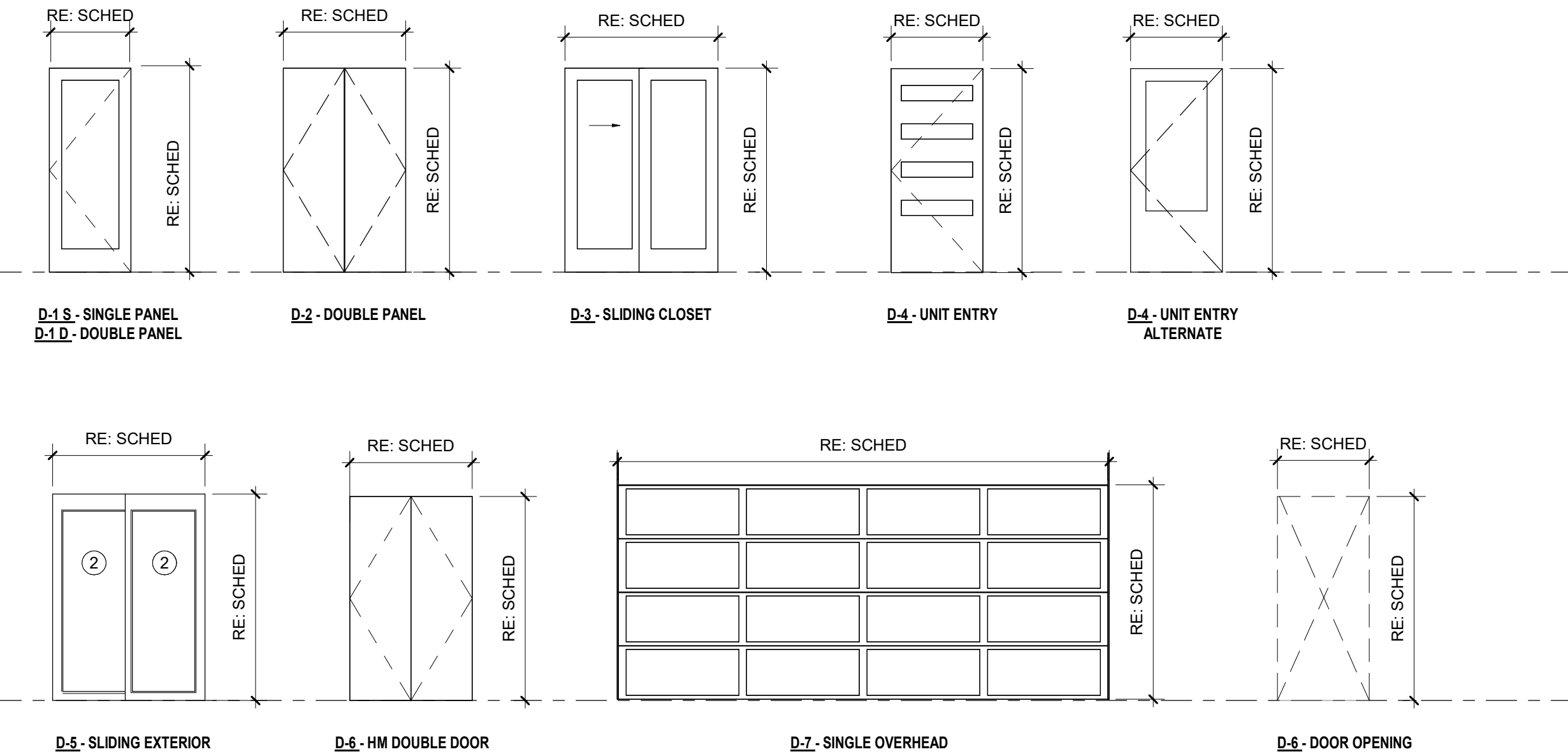
## D2 DETAIL - WOOD HEAD GARAGE

1 1/2" = 1'-0"



DOOR SCHEDULE										
DOOR NO.	LOCATION	WIDTH	HEIGHT	DOOR TYPE	DOOR MAT.	DOOR FINISH	FRAME TYPE	FRAME MATERIAL	FRAME FINISH	REMARKS
A	Interior	3'-0"	6'-8"	D-1	SCWD	PAINT	C2//A501	WD	PAINT	
B	Interior	2'-6"	6'-8"	D-1	SCWD	PAINT	C2//A501	WD	PAINT	
C	Interior	2'-4"	6'-8"	<varies>	SCWD	PAINT	C2//A501	WD	PAINT	
D	Interior	5'-0"	6'-8"	D-2	SCWD	PAINT	C2//A501	WD	PAINT	
F	Exterior	3'-0"	6'-8"	D-4	FIBERGLASS	PAINT	A2//A501	WD	PAINT	
G	Exterior	6'-0"	6'-8"	D-5	METAL / GLASS	MANUF.	C2//A501	WD	PAINT	
H	Exterior	2'-0"	6'-8"	<varies>	HM	PAINT	C2//A501	WD	PAINT	
J	Exterior	16'-0"	7'-0"	D-7	INSUL. METAL	PAINT	D2//A501	WD	PAINT	
K	Interior	3'-0"	6'-8"	D-6	N/A	N/A	C2//A501	WD	PAINT	
L	Interior	2'-6"	6'-8"	D-8	N/A	N/A	C2//A501	WD	PAINT	
M	Interior	2'-8"	6'-8"	D-8	N/A	N/A	C2//A501	WD	PAINT	

GLASS TYPE LEGEND	
DESIGNATION NUMBER	DESCRIPTION
①	TEMPERED GLASS COLOR: CLEAR



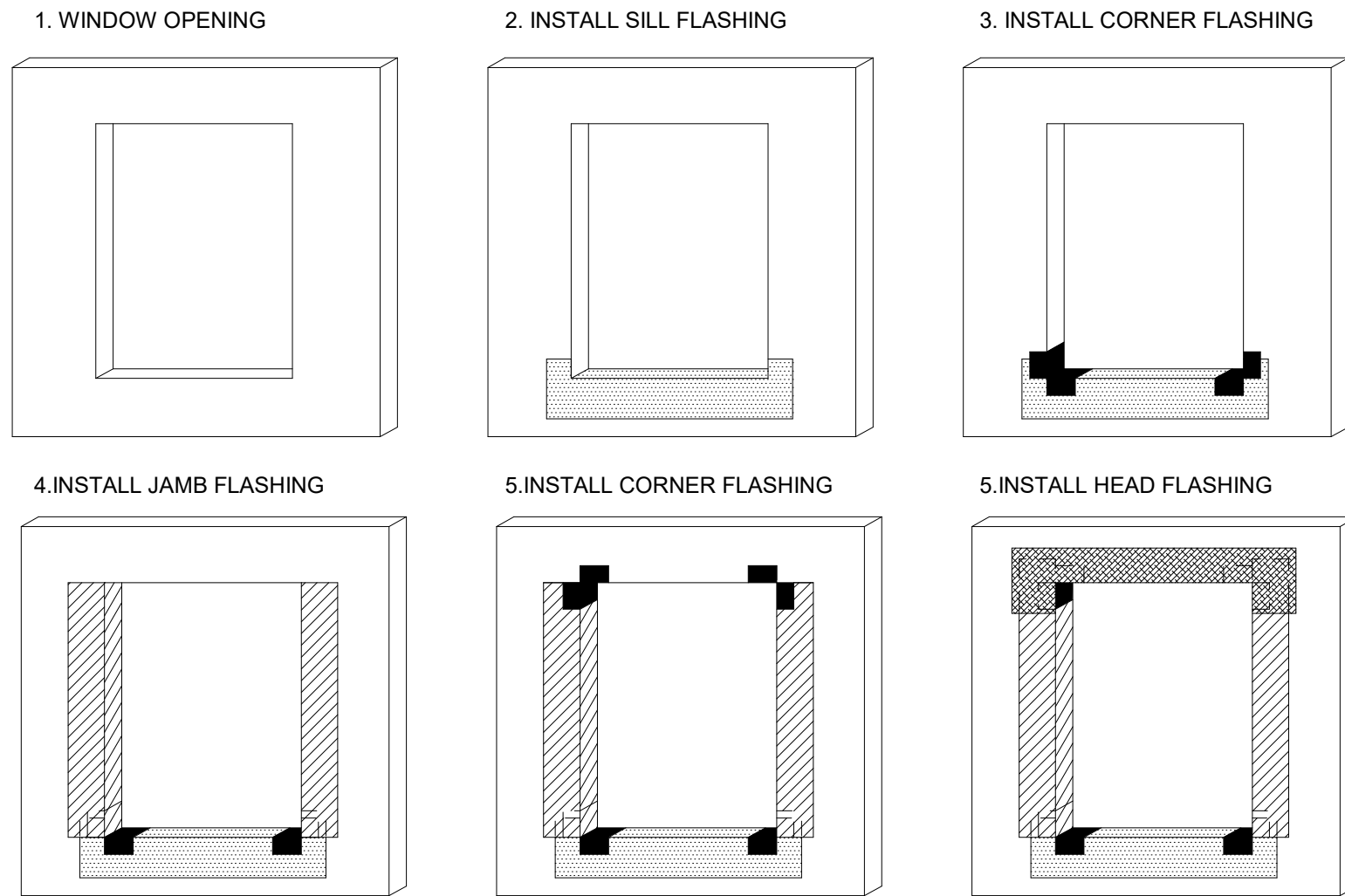
NOTE: SOME SYMBOLS MAY NOT BE USED IN THIS DRAWING OR PROJECT

- WINDOW SCHEDULE GENERAL NOTES:**
- GENERAL CONTRACTOR TO VERIFY ALL WINDOW & DOOR SIZES PRIOR TO ORDERING.
  - FOR MODEL NO. 3500, INCORPORATE A SINGLE BALANCE IN TOP HOLE TO MEET EGRESS REQUIREMENTS OF 5.7 SQUARE FEET.
  - WINDOWS BASIS OF DESIGN MI 3500 SINGLE HUNG WINDOW.
  - PROVIDE SAFETY GLAZING AT HAZARDOUS LOCATIONS PER IRC SECTION R308. RE: GLASS TYPE LEGEND AND WINDOW ELEVATIONS.
  - OPERABLE WINDOWS WITH SILL MORE THAN 72" ABOVE FINISH GRADE & LESS THAN 36" A.F.F. SHALL BE EQUIPPED WITH WINDOW OPENING CONTROL DEVICE AS PER IRC SECTION R312.2.1.
  - ALL WINDOW HEAD HEIGHTS ARE 6'-8" A.F.F. UNLESS NOTED OTHERWISE.
  - REFER TO DETAILS A3, A8, AND A11 ON SHEET A501 FOR TYPICAL HEAD, JAMB, AND SILL DETAILS.
  - REFER TO ELEVATIONS FOR WINDOW GRID LOCATIONS.
  - SAFETY GLAZING REQ'D IN AN INDIVIDUAL FIXED OR OPERABLE PANEL THAT MEETS ALL THE FOLLOW CONDITIONS:
    - THE EXPOSED AREA OF AN INDIVIDUAL PANEL IS LARGER THAN 9 SQFT
    - THE BOTTOM EDGE OF THE GLAZING IS LESS THAN 18 INCHES ABOVE THE FLOOR.
    - THE TOP EDGE OF THE GLAZING IS MORE THAN 36 INCHES ABOVE THE FLOOR
    - ONE OR MORE WALKING SURFACES ARE WITHIN 36 INCHES, MEASURED HORIZONTALLY AND IN A STRAIGHT LINE, OF THE GLAZING.

- DOOR SCHEDULE REMARKS:**
- PROVIDE EACH ENTRY DOOR WITH PEEP HOLE WITH A 180 DEGREE VIEWER AND A DEADBOLT LOCK
  - WEATHERSTRIP ALL EXTERIOR DOORS
  - PROVIDE SAFETY GLAZING AT HAZARDOUS LOCATIONS PER IRC SECTION R308. SEE PLAN FOR LOCATIONS.
  - SAFETY GLAZING REQUIRED AT DOORS WHEN:
    - GLAZING IS WITHIN 24" OF EITHER SIDE OF THE DOOR IN A CLOSED POSITION.
    - GLAZING IS ON A WALL LESS THAN 180 DEGREES FROM THE PLANE OF THE DOOR IN A CLOSED POSITION AND WITHIN 24" OF THE HINGE SIDE OF AN IN-SWING DOOR.
  - CONTRACTOR TO CONFIRM PROPER SWING WITH UNIT AND BUILDING LAYOUT PLANS.
  - REFERENCE SPEC ON G SERIES SHEETS FOR HARDWARE TYPES.
  - ALL DOORS LEADING TO GARAGE FROM LIVING SPACE MUST BE PROVIDED WITH A SELF-CLOSING CLOSER.

## H3 WINDOW FLASHING SEQUENCE

1/2" = 1'-0"



- NOTES:**
- SURFACES SHALL BE CLEAN AND DRY AND PRIMED WITH CONTACT ADHESIVE.
  - FLASHING SHALL BE A MIN. OF 3" WIDE. THE FLASHING SHALL WRAP INTO WINDOW OPENING GREATER THAN THE DEPTH OF THE WINDOW AND OUT ONTO THE WALL A MIN. OF 3".
  - THE SEQUENCE FLASHING INSTALLATION TO PROVIDE SHINGLED OVERLAPS. OVERLAPS SHALL BE A MIN. OF 2".
  - INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
  - DO NOT SCALE DRAWINGS.

## GENERAL NOTES: DOOR SCHEDULE

- HM REFERS TO HOLLOW METAL
- AL REFERS TO ALUMINUM
- WD REFERS TO WOOD
- SCWD REFERS TO SOLID CORE WOOD
- ALL EXTERIOR ALUMINUM DOORS & FRAMES ARE TO BE FINISHED TO MATCH ADJACENT ALUMINUM WINDOW FRAME. UNO.
- FOR FINISH COLOR DESIGNATION FOR INTERIOR DOOR AND FRAMES, REFER TO FINISH LEGEND.
- REFER TO SPECIFICATION FOR DOOR HARDWARE SET DESIGNATIONS.
- 2 HOUR FIRE BARRIED DOORS = 90 MINUTE RATING
- 1 HOUR FIRE BARRIED DOORS = 45 MINUTE RATING
- 1 HOUR SMOKE BARRIER = 20 MINUTE RATING
- PROTECT ALL DOORS & FRAMES FROM DAMAGE THROUGHOUT CONSTRUCTION PHASES.
- ALL EGRESS DOORS TO BE PROVIDED WITH PANIC HARDWARE.

## GENERAL NOTES:

### WINDOW TYPES / GLASS TYPES

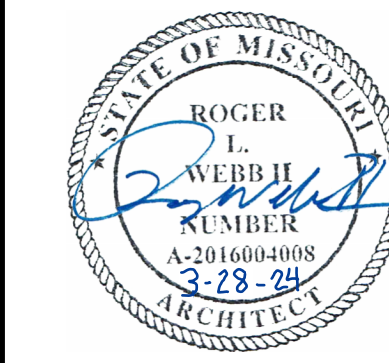
- RE: SHEET G001 FOR ADDITIONAL GENERAL NOTES THAT ARE APPLICABLE.
- ALL WINDOW TYPES ARE ALUMINUM STOREFRONT, UNLESS NOTED OTHERWISE.
- ALL DIMENSIONS ARE TO ROUGH OPENING AND TO TOP OR BOTTOM OF MULLION, UNLESS NOTED OR SHOWN OTHERWISE.
- ALL OPENINGS ARE TO BE FIELD VERIFIED, AND NOTED AS SUCH ON SHOP DRAWINGS, PRIOR TO ARCHITECT'S REVIEW.
- GLASS DOORS, ADJACENT PANELS AND ALL GLAZED OPENINGS WITHIN 1'-6" OF THE FLOOR, AND WITHIN A 24-INCH ARC OF EITHER VERTICAL EDGE OF A DOOR, ETC., SHALL BE SAFETY GLAZING AS APPROVED FOR IMPACT BY APPLICABLE BUILDING CODES, AND SHALL BE LABELED AS SUCH.
- REFER TO SPECIFICATIONS FOR GLAZING & FRAME PRODUCT INFORMATION.

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DOOR / WINDOW SCHEDULE + DETAILS



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K  
J  
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11											10											9											8											7											6											5											4											3											2																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							

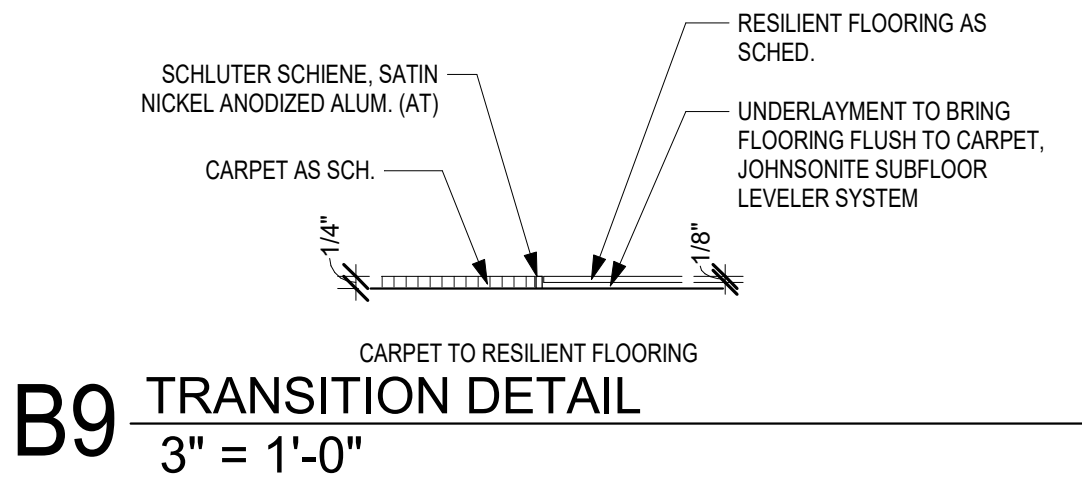
**GENERAL NOTE:**

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

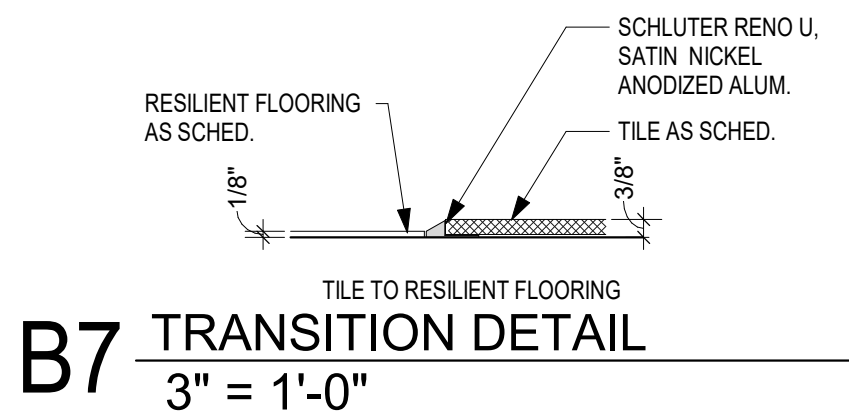
ROOM FINISH SCHEDULE						
ROOM NAME	FLOORS		CEILING FINISH	Wall Finish	CASEWORK COUNTERTOP	REMARKS
	FLOOR	WALL BASE				
RESERVE						
1/2 BATH	TILE	TB1	P2	P1	QUARTZ	
BATH #2	TILE	TB1	P2	P1	QUARTZ	
BEDROOM #2	CPT	WB	P2	P1		
BEDROOM #3	CPT	WB	P2	P1		
BEDROOM #4	CPT	WB	P2	P1		
CLO.	MATCH ADJACENT FLOORING	WB	P2	P1		
CORR.	CPT	WB	P2	P1		
DININGS	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						
1/2 BATH						
BATH #2						
BATHROOM #2						
BEDROOM #2						
BEDROOM #3						

- GENERAL NOTES:**
- INTERIOR FINISHES**
- RE: SHEET G001 FOR ADDITIONAL GENERAL NOTES THAT ARE APPLICABLE
  - RE: G002 FOR ACCESSIBILITY GUIDELINES
  - RE: A600 SERIES SHEETS FOR ADDITIONAL CEILING FINISH INFORMATION
  - RE: A700 SERIES SHEETS FOR ADDITIONAL WALL FINISH CLARIFICATION
  - RE: A800 SERIES SHEETS FOR ADDITIONAL FLOOR FINISH & WALL PROTECTION INFORMATION
  - ALL AUDITORIUM WALLS TO RECEIVE SEMI-GLOSS FINISH. WHERE WALL COLOR IS DIFFERENT ON EACH SIDE OF THE HOLLOW METAL FRAME, PAINT FRAME TO MATCH CORRIDOR WALL, UNLESS NOTED OR SHOWN OTHERWISE
  - CONTINUE WALL FINISH AS SCHEDULED BEHIND EQUIPMENT
  - CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO CASEWORK FABRICATION AND INSTALLATION
  - ALL EXPOSED CASEWORK SURFACES SHALL BE FINISHED PLASTIC LAMINATE AS SCHEDULED, U.N.O.
  - ALL PLASTIC LAMINATE DOOR AND DRAWERS TO RECEIVE 1MM PVC EDGEBAND AND ALL COUNTERTOPS TO RECEIVE 3MM PVC EDGEBANDING
  - ALL BACKSPLASH MATERIAL SHALL MATCH COUNTERTOP MATERIAL
  - WHERE TWO MODULAR TILES (PORCELAIN, MARBLE, OR QUARRY) OF VARYING THICKNESSES MEET, THE SETTING BED FOR THE THINNER TILE SHALL BE BUILT UP TO ENSURE THAT THE FACES OF THE DIFFERENT TILES ARE FLUSH
  - AT ALL EXPOSED OUTSIDE EDGES OF MARBLE WALL TILE (T1), PROVIDE BULLNOSE POLISHED EDGES, RE: DETAIL J7000
  - TRANSITION ALL WALL FINISHES/COLOR CHANGES AT INSIDE CORNERS, UNLESS NOTED OTHERWISE (U.N.O.)
  - TRANSITION WALL BASE AT INSIDE CORNERS, U.N.O.
  - INSTALL METAL TRANSITION STRIP WHERE WALL TILE MEETS PAINTED GYP. BG. WALL IN ALL VERTICAL AND/OR HORIZONTAL CONDITIONS, U.N.O.

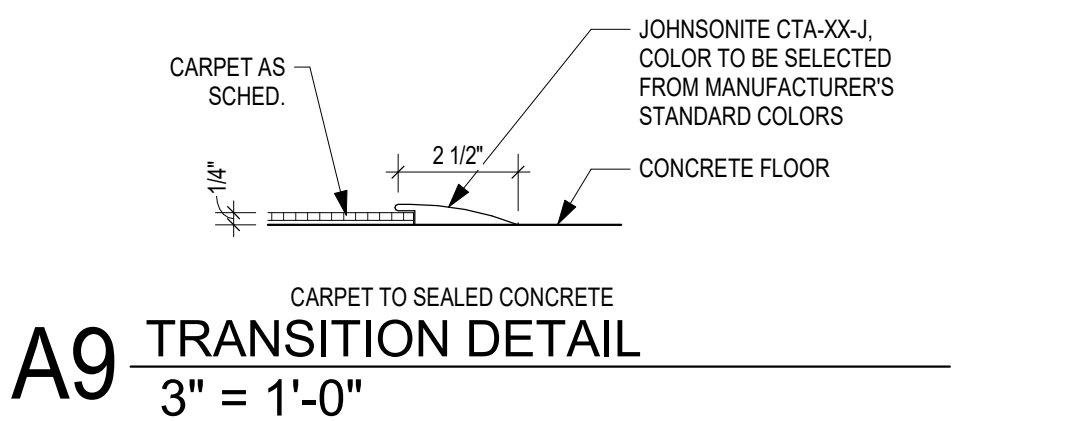
- ROOM FINISH SCHEDULE REMARKS:**
- AREAS WITH MULTIPLE DESIGNATED FINISHES, RE: FINISH FLOOR PLANS & INTERIOR ELEVATIONS FOR ADDITIONAL CLARIFICATION
- PROVIDE FULL HEIGHT WALL TILE AT WET WALL, RE: INTERIOR ELEVATIONS
  - PROVIDE WALL TILE TO 6'-0" AFF ON ALL WALLS IN ROOMSPACE, RE: INTERIOR ELEVATIONS
  - PROVIDE FRP FULL HEIGHT
  - PROVIDE FRP TO 3'-0" AFF
  - PROVIDE FRP AT INSIDE OF BAR DIE WALL
  - PROVIDE PLYWOOD PANELS FULL HEIGHT (ABOVE WALL BASE) AT WALLS DESIGNATED PER FINISH FLOOR PLANS
  - PROVIDE CAULK JOINT BETWEEN EDGE OF STAIR AND/OR AUDITORIUM RISER AND HORIZONTAL FINISH, CAULK JOINT COLOR TO MATCH LVT AND SELECTED BY ARCHITECT FROM MANUFACTURER'S STANDARD COLORS. JOINT SHOULD BE 1/8" OR LESS AND BE FINISHED PER SPECIFICATIONS
  - PROVIDE WALL TILE TO 5'-0" AFF AT WET WALL, RE: INTERIOR ELEVATIONS
  - PROVIDE FULL HEIGHT WALL TILE ON ALL WALLS IN ROOMSPACE, RE: INTERIOR ELEVATIONS
  - PROVIDE LEVEL 4 FINISH FOR ALL WALLS TO RECEIVE WC2, WC3, AND WC4
  - PROVIDE LEVEL 5 FINISH FOR ALL WALLS TO RECEIVE WC1 AND WC2
  - PROVIDE LEVEL 3 FINISH FOR ALL WALLS TO RECEIVE WALL CARPET, WC1. PROVIDE WC1 ALONG PERIMETER OF ALL AUDITORIUM WALLS & KNEE WALLS, WITH THE EXCEPTION OF THE SCREEN WALL, RE: INTERIOR ELEVATIONS FOR SPECIFIC HEIGHTS
  - PROVIDE FULL HEIGHT WALL CARPET, WC1/WC2 AS SPECIFIED, ALONG PERIMETER OF ALL WALLS, RE: FINISH FLOOR PLANS FOR SPECIFIC LOCATIONS



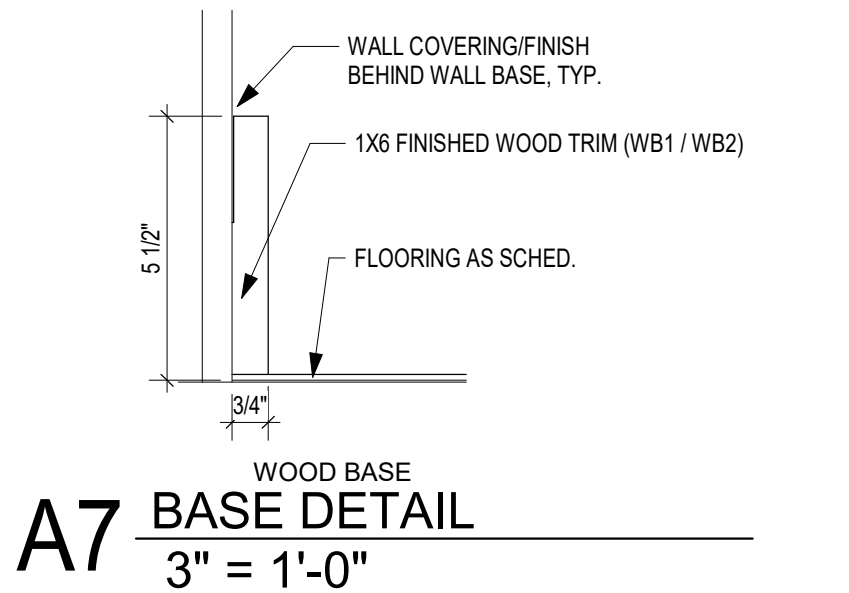
**B9** TRANSITION DETAIL  
3" = 1'-0"



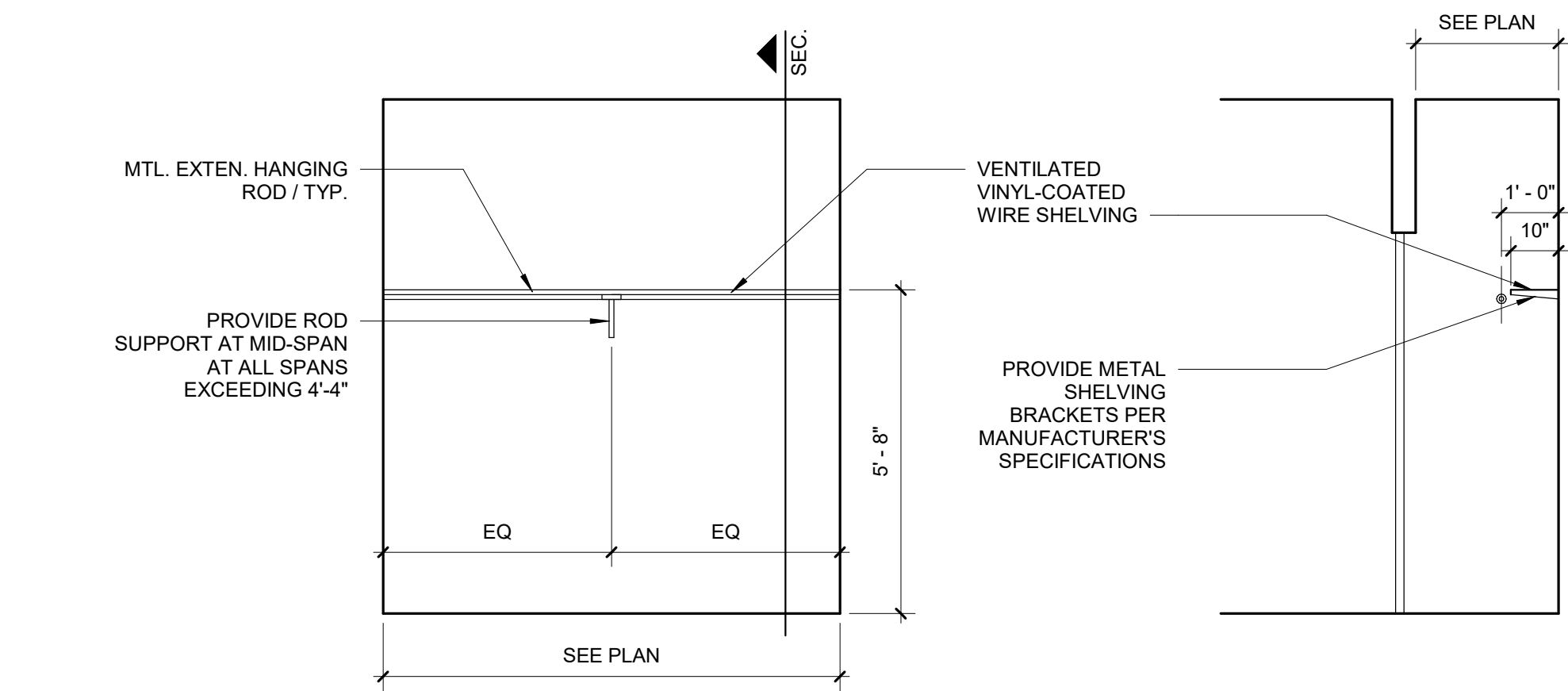
**B7** TRANSITION DETAIL  
3" = 1'-0"



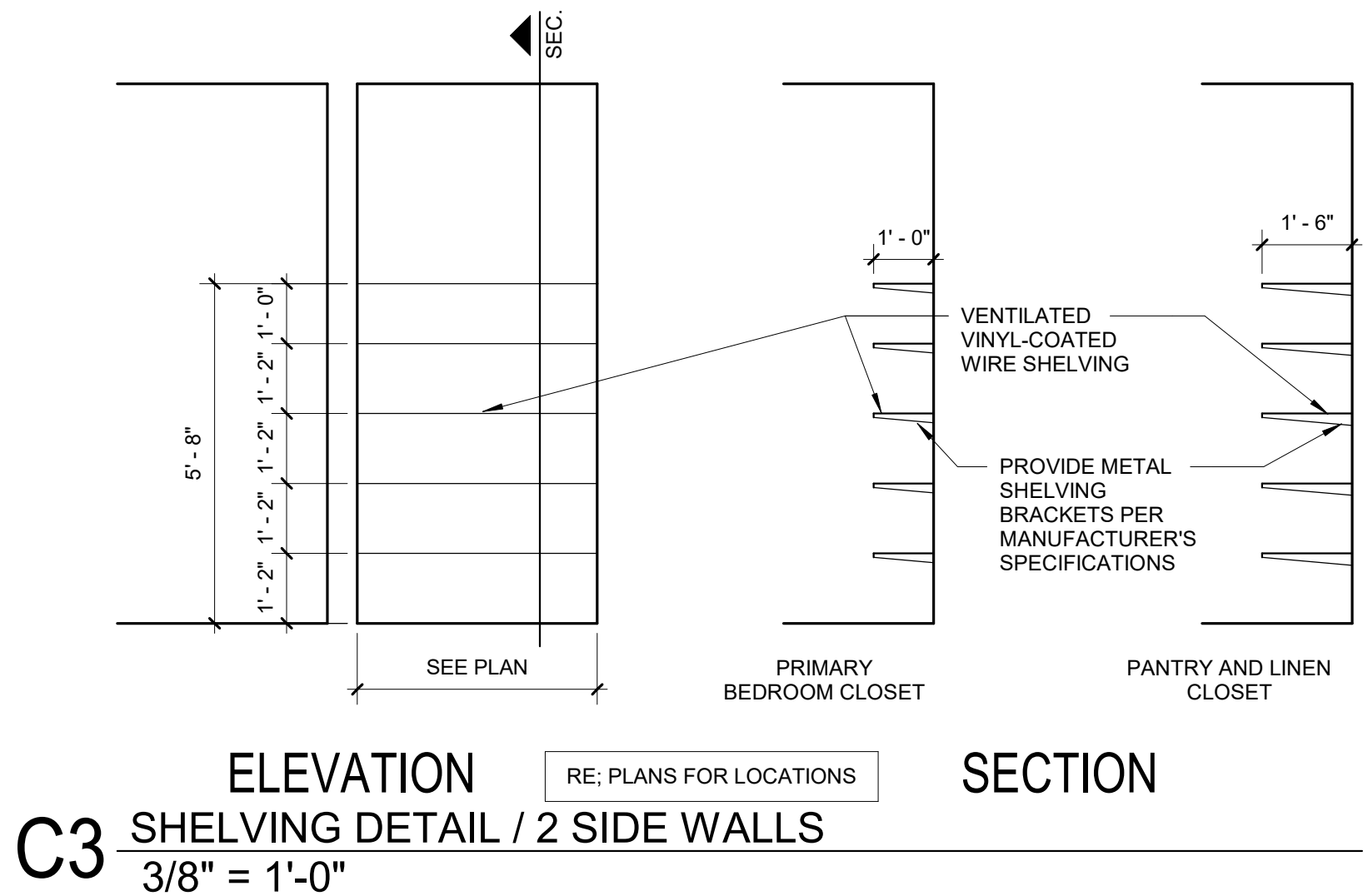
**A9** TRANSITION DETAIL  
3" = 1'-0"



**A7** BASE DETAIL  
3" = 1'-0"



**A5** 1 ROD / 1 SHELF DETAIL  
3/8" = 1'-0"



**C3** SHELVING DETAIL / 2 SIDE WALLS  
3/8" = 1'-0"

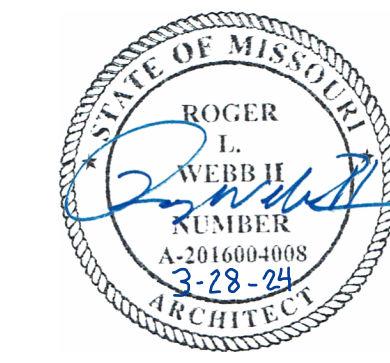


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PROFESSIONAL SEAL

**A901**

ISSUE DATE: 17 JAN 2024  
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## FINISH SCHEDULE + DETAILS



ELECTRICAL ABBREVIATIONS	
AC	ALTERNATING CURRENT
AHU	AIR HANDLING UNIT
A OR AMPS	AMPERES
AFC	ABOVE FINISH COUNTER
AFCI	ARC FAULT CIRCUIT INTERRUPTER
AFI	ABOVE FINISHED FLOOR
AMC	AMPERES INTERRUPTING CAPACITY
ATS	AUTOMATIC TRANSFER SWITCH
BTC	BRANCH TO CONNECTION POINT AND CONNECT EQUIPMENT
C	CONDUIT (E.C. IS EMPTY CONDUIT)
CF	CEILING FAN
CM	COFFEE MAKER
CT	COOKTOP
D	DEDICATED CIRCUIT
DDO	DUPLEX CONVENIENCE OUTLET
DP	DISPOSAL
DW	DISHWASHER
DY	DRYER
EMT	ELETRICAL METALLIC TUBING
EF	EXHAUST FAN
EW	ELECTRIC WATER COOLER (WATER-COOLED DRINKING FOUNTAIN)
EX	EXISTING
FCU	FAN COIL UNIT
GFICFI	GROUND FAULT CIRCUIT INTERRUPTER
GFI	GROUND FAULT INTERRUPTER PROTECTED
GRD	GROUND
H	HORIZONTAL MOUNT (RECEPTACLE)
HO	VENTILATION HOOD
HP	HORSEPOWER
HT	HEAT TRACE POWER (PROVIDE W/ 20A/1P GFI BREAKER)
HVAC	HEATING, VENTILATING, & AIR CONDITIONING
Hz	HERTZ
IG	ISOLATED GROUND (DUPLEX RECEPTS. - NEMA 5-20RIG)
ICM	THOUSAND CIRCULAR MILLS
KVA	KILOVOLT-AMPERES (1000 VOLT-AMPERES)
KW	KILOWATTS (1000 WATTS)
MLO	MAIN LUGS ONLY
MCB	MAIN CIRCUIT BREAKER
MW	MICROWAVE (COORD MTG HT W/ ARCHITECT)
NC	NOT IN CONTRACT
NEC	NATIONAL ELECTRICAL CODE
NF	NOT FUSED
OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
PNL	PANEL
PH OR Ø	PHASE
P	POLE
PVC	POLYVINYL CHLORIDE
RF	REFRIGERATOR
RG	RANGE
SPD	SURGE PROTECTIVE DEVICE
T	TAMPERPROOF RECEPTACLE
TTB	TELEPHONE TERMINAL BOARD
TV	TELEVISION RECEPTACLE
UC	UNDERCOUNTER REFRIGERATOR (OR ICE MACHINE)
UL	UNDERWRITERS LABORATORIES
UNO	UNLESS NOTED OTHERWISE
V	VOLTS
VA	VOLT-AMPERES
VD	VENDING MACHINE (24" AFF)
VFD	VARIABLE FREQUENCY DRIVE
W	WATTS
WA	WASHER
WD	WARDING DRAWER
WO	WALL OVEN
WP	WEATHERPROOF
WPAR	WEATHERPROOF/WEATHER RESISTANT
WUNT	DISCONNECT IS SUPPLIED WITH THE UNIT

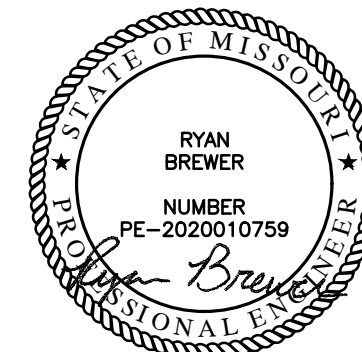
GENERAL ELECTRICAL NOTES	
1. COMPLETE INSTALLATION SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, REQUIREMENTS OF THE AHJ AND ALL LOCAL & STATE CODES.	
2. DO NOT SCALE FROM THESE DRAWINGS.	
3. REFER TO ARCHITECTURAL DRAWINGS AND REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF ALL LIGHTING FIXTURES AND ELECTRICAL DEVICES.	
4. ALL EMPTY CONDUITS SHALL BE PROVIDED WITH PULL STRINGS AND BUSHINGS.	
5. ALL JUNCTION BOXES SHALL HAVE A COVER.	
6. COORDINATE EACH LIGHT FIXTURE INSTALLATION(S) W/ ACTUAL CEILING TO BE FURNISHED.	
7. ALL BRANCH CIRCUITS WITHOUT A CONDUCTOR & CONDUIT INDICATED SHALL BE ROUTED TO A 20A-1P BREAKER W/ 2412, 110/250, 34°C.	
8. ALL BRANCH CIRCUIT CONDUCTORS SHALL NOT BE SMALLER THAN #12 AWG AND ALL CONDUIT SHALL NOT BE SMALLER THAN 3/4" C. UNLESS SPECIFICALLY NOTED OTHERWISE.	
9. ALL CIRCUITS (LIGHTING AND POWER) SHALL BE PROVIDED WITH DEDICATED NEUTRALS UNLESS NOTED OTHERWISE. WHERE NEUTRALS ARE INDICATED TO BE SHARED, MULTIWIRE BRANCH CIRCUITS SHALL BE PROVIDED WITH 2P OR 3P BREAKERS AS REQUIRED PER NEC 210.4.	
10. ALL CIRCUITS (LIGHTING AND POWER) SHALL BE PROVIDED WITH AN INSULATED EQUIPMENT GROUND CONDUCTOR SIZED IN ACCORDANCE WITH THE NEC. THE RACEWAY SHALL NOT BE USED AN EQUIPMENT 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 1'0" AFF TO TOP OF PANEL SWITCHES 48" AFF TO CENTER OF SWITCH RECEPTACLES 18" AFF TO CENTER OF RECEPTACLE TELEDATA OUTLETS 48" AFF TO CENTER OF RECEPTACLE APARTMENT LOADCENTERS PER ANSI A117.1 REQUIREMENTS (VERIFY WITH LOCAL INSPECTOR)	
13. ELECTRICAL EQUIPMENT (PANELBOARDS, 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.	

ELECTRICAL SYMBOLS					
LIGHTING FIXTURES/DEVICES			POWER EQUIPMENT/DEVICES		
SYMBOL	DESCRIPTION	MOUNTING	SYMBOL	DESCRIPTION	MOUNTING
	DOWNLIGHT (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	CEILING		SWITCHBOARD OR DISTRIBUTION PANEL REFER TO PANEL SCHEDULES	
	DIRECTIONAL DOWNLIGHT (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	CEILING		DRY-TYPE TRANSFORMER REFER TO PLANS FOR KVA RATING	
	WALL MOUNTED LIGHT FIXTURE (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	WALL		120/208V, 3Ø, 4W PANELBOARD REFER TO PANEL SCHEDULES	
	LINEAR LIGHT FIXTURE (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	CEILING OR SUSPENDED		277/480V, 3Ø, 4W PANELBOARD REFER TO PANEL SCHEDULES	
	2x4 LIGHT FIXTURE (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	CEILING		JUNCTION BOX	WALL OR CEILING
	2x2 LIGHT FIXTURE (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	CEILING		FUSED SAFETY SWITCH (E.G. 3Ø/2Ø/3 INDICATES A 3ØA, 3-POLE SWITCH WITH 2ØA FUSES)	
	HATCHING ON FIXTURE INDICATES FIXTURE TO HAVE EMERGENCY BACK-UP			NON-FUSED SAFETY SWITCH (E.G. 3Ø/1N/Ø/3 INDICATES A 3ØA, 3-POLE SWITCH WITHOUT FUSES)	
	TWO HEAD EMERGENCY LIGHT FIXTURE (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	WALL OR CEILING		MOTOR RATED SWITCH	
	EMERGENCY EXIT SIGN. PROVIDE ARROWS) AS INDICATED. SHADING INDICATES FACE (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	WALL OR CEILING		MOTOR	
	SINGLE POLE SWITCH 2ØA (120/277V)	WALL - 48" AFF		NEMA 5-2ØR SIMPLEX RECEPTACLE	WALL - 18" AFF
	THREE WAY SWITCH 2ØA (120/277V)	WALL - 48" AFF		NEMA 5-2ØR DUPLEX RECEPTACLE	WALL - 18" AFF
	FOUR WAY SWITCH 2ØA (120/277V)	WALL - 48" AFF		NEMA 5-2ØR DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER	WALL - 6" ABOVE FINISHED COUNTER U.N.O.
	WALL BOX DIMMER SWITCH	WALL - 48" AFF		NEMA 5-2ØR QUAD-PLEX RECEPTACLE	WALL - 18" AFF
	CEILING OR WALL MOUNTED OCCUPANCY SENSOR (LETTER INDICATES SENSOR TYPE) REFER TO LIGHTING CONTROLS SCHEDULE	WALL OR CEILING		NEMA 5-2ØR SPLIT RECEPTACLE. TOP OUTLET WIRED HOT. BOTTOM OUTLET SWITCHED.	WALL - 18" AFF OR CEILING
	LOW-VOLTAGE CONTROL STATION (LETTER INDICATES CONTROL STATION TYPE) REFER TO LIGHTING CONTROLS SCHEDULE	WALL - 48" AFF		SPECIAL PURPOSE RECEPTACLE REFER TO PLANS FOR NEMA CONFIGURATION	WALL - 18" AFF OR CEILING
	PHOTOCELL SENSOR (LETTER INDICATES SENSOR TYPE) REFER TO LIGHTING CONTROLS SCHEDULE	FIELD VERIFY		NEMA 5-2ØR - DUPLEX RECEPTACLE WITH USB PORTS SIMILAR TO HUBBELL FUS5Ø2Ø4C5W	WALL - 18" AFF
	POWERPACK (LETTER INDICATES POWERPACK TYPE) REFER TO LIGHTING CONTROLS SCHEDULE	ACCESSIBLE CEILING		NEMA 5-2ØR DUPLEX RECEPTACLE MOUNTED ON CEILING	CEILING - FLUSH
COMMUNICATION/LOW-VOLTAGE DEVICES				HUBBELL CFB4 SERIES FLOOR BOX (OR EQUAL) WITH (2) DUPLEX RECEPTACLES AND DATA/COMMUNICATION CONNECTION CAPABILITY	FLOOR - FLUSH
SYMBOL	DESCRIPTION	MOUNTING		HUBBELL B24 SERIES FLOOR BOX (OR EQUAL) WITH (1) DUPLEX RECEPTACLE AND DATA/COMMUNICATION CONNECTION CAPABILITY	FLOOR - FLUSH
	CARD READER (VERIFY EXACT REQUIREMENTS)			HUBBELL B24 SERIES FLOOR BOX (OR EQUAL) FOR POWER AND DATA CONNECTIONS TO PRE-WIRED FURNITURE. VERIFY EXACT CONNECTION WITH FURNITURE VENDOR.	FLOOR - FLUSH
	DATA, TELEPHONE, OR COMBO TELE/ATA OUTLET PROVIDE PULLSTRING IN CONDUIT TO ACCESSIBLE CEILING	WALL - 18" AFF		HUBBELL S1PT SERIES 4" POKE-THRU (OR EQUAL) WITH (2) DUPLEX RECEPTACLES AND DATA/COMMUNICATION CONNECTION CAPABILITY	FLOOR - FLUSH
	DATA, TELEPHONE, OR COMBO TELE/ATA OUTLET PROVIDE PULLSTRING IN CONDUIT TO ACCESSIBLE CEILING	FLOOR OR CEILING		HUBBELL S1PTFF SERIES 4" POKE-THRU (OR EQUAL) FOR POWER AND DATA CONNECTIONS TO PRE-WIRED FURNITURE. VERIFY EXACT CONNECTION WITH FURNITURE VENDOR.	FLOOR - FLUSH
	TELEVISION OUTLET	WALL OR CEILING		HUBBELL S1R6 SERIES 6" POKE-THRU (OR EQUAL) WITH (2) DUPLEX RECEPTACLES AND DATA/COMMUNICATION AND AV CONNECTION CAPABILITY	FLOOR - FLUSH
	SPEAKER OUTLET	FIELD VERIFY	-----	CONDUIT IN OR UNDER FLOOR/GRADE	
	TELEPHONE TERMINAL BOARD	WALL		CONDUCTOR HOME RUN - (H) HOT, (N) NEUTRAL, (G) EQUIPMENT GROUND, & (I) ISOLATED GROUND	
	SECURITY CAMERA OUTLET	FIELD VERIFY		EQUIPMENT CONNECTION	
	PUSH BUTTON		-----	CONDUIT IN CEILING OR WALL	
NOTE: NOT ALL SYMBOLS MAY BE USED.					
FIRE ALARM DEVICES			SYMBOL	DESCRIPTION	MOUNTING
	HEAT DETECTOR			HEAT DETECTOR	CEILING
	SMOKE DETECTOR			SMOKE DETECTOR	WALL/CEILING
	COMBINATION SMOKE/CARBON MONOXIDE DETECTOR			COMBINATION SMOKE/CARBON MONOXIDE DETECTOR	WALL/CEILING

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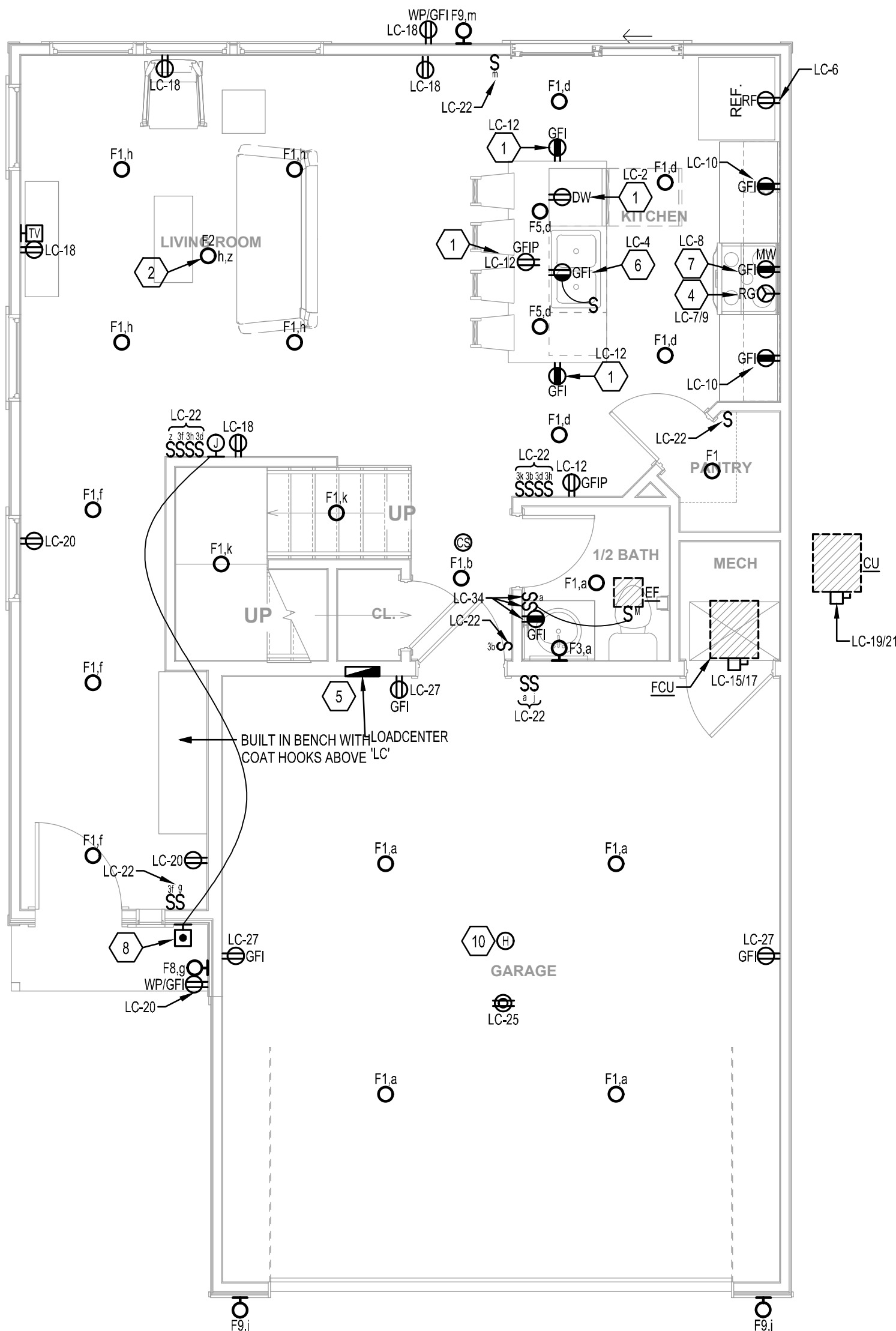
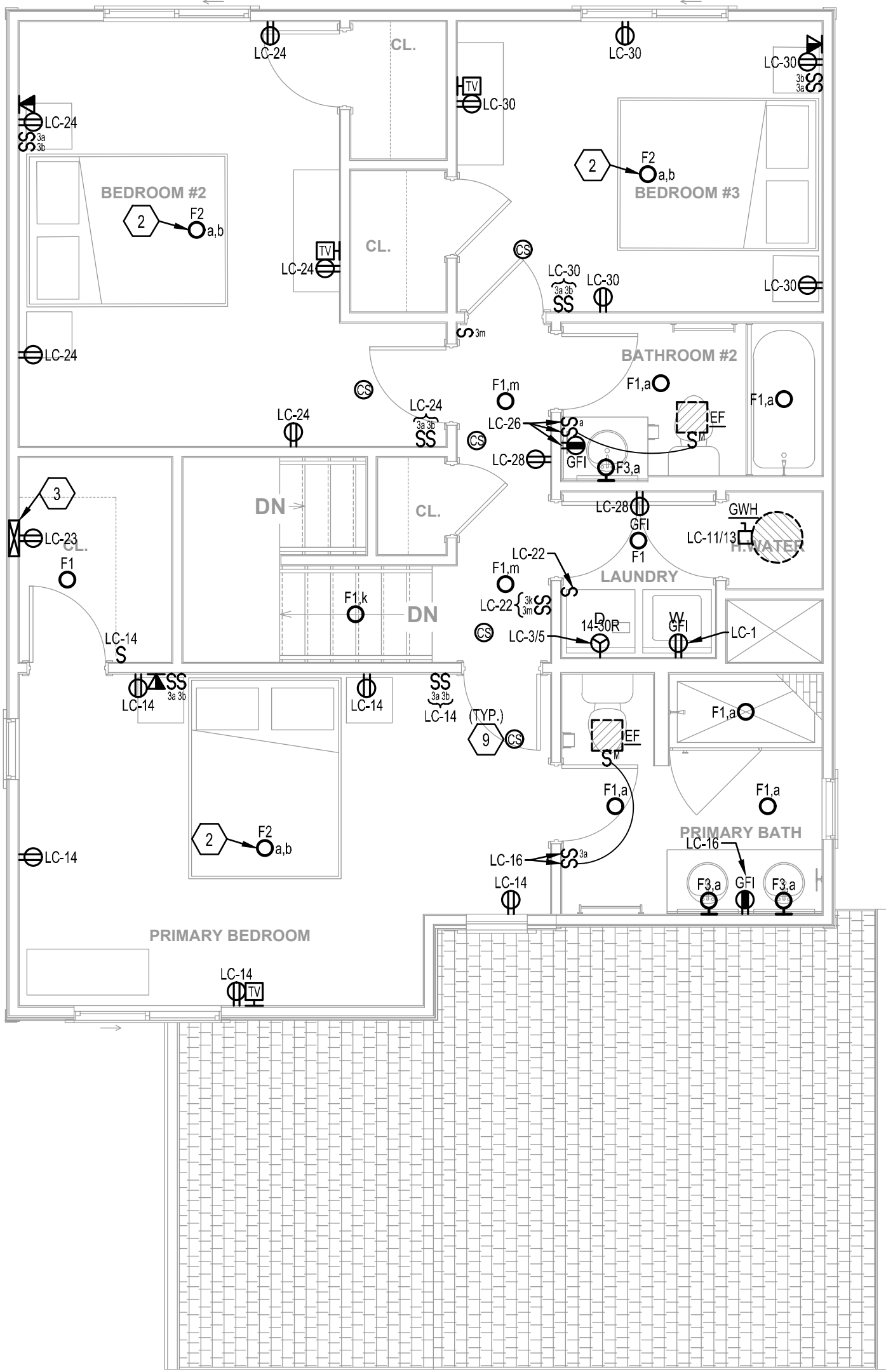
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PROFESSIONAL SEAL  
E101  
ISSUE DATE: 18 JAN 2024  
COLLINS WEBB #:

ELECTRICAL NOTES,  
SYMBOLS & ABBREVIATIONS





1 ELECTRICAL POWER AND LIGHTING PLANS  
SCALE: 1/4" = 1'-0"

TYPICAL UNIT LOAD CENTER 'LC' 125A, MLO, 120/240V, 1Ø, 3W+EG (REF. ONE-LINE DIAGRAM)													
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	A	2	20/1	DFCI	DISHWASHER (DW)	2#12, 1#12EG, 3/4" C.	1,2	
6	3#10, 1#10EG, 3/4" C.	DRYER (NEMA 14-30R)			30	3	B	4	20/1	AFCI	DISPOSAL (DP)	2#12, 1#12EG, 3/4" C.	1,2
					2	5	A	6	20/1	DFCI	REFRIGERATOR (RF)	2#12, 1#12EG, 3/4" C.	1,2
6	3#8, 1#10EG, 3/4" C.	ELECTRIC RANGE (NEMA 14-50R)		50	7	B	8	20/1	AFCI	MICROWAVE (MW)	2#12, 1#12EG, 3/4" C.	1,2	
					2	9	A	10	20/1	AFCI	KIT SMALL APPL CKT#1 (COUNTER GFCI'S)	2#12, 1#12EG, 3/4" C.	1,2,3
4,6	2#10, 1#10EG, 3/4" C.	WATER HEATER 'EWH'		30	11	B	12	20/1	AFCI	KIT SMALL APPL CKT#2 (WHERE APPLICABLE)	2#12, 1#12EG, 3/4" C.	1,2,3	
					2	13	A	14	20/1	AFCI	BEDROOM #1 RCPTS & LTS	2#12, 1#12EG, 3/4" C.	1,2
4,6	2#8, 1#10EG, 3/4" C.	FAN COIL UNIT 'FCU-'	HACR	45	15	B	16	20/1	AFCI	BATHROOM #1 RCPTS AND EF	2#12, 1#12EG, 3/4" C.	1,2	
					2	17	A	18	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	25	19	B	20	20/1	AFCI	GENERAL RCPTS (6 RCPTS/CKT MAX)	2#12, 1#12EG, 3/4" C.	1,2	
					2	21	A	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	B	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	A	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	B	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	A	30	20/1	AFCI	BEDROOM #3 RCPTS & LTS	2#12, 1#12EG, 3/4" C.	1,2	
		SPACE ONLY			31	B	32	20/1	AFCI	SPARE			
		SPACE ONLY			33	A	34	20/1	AFCI	BATHROOM #3 RCPTS AND EF	2#12, 1#12EG, 3/4" C.	1,2	
		SPACE ONLY			35	B	36			SPACE ONLY			
		SPACE ONLY			37	A	38			SPACE ONLY			
		SPACE ONLY			39	B	40			SPACE ONLY			

NOTES:

- ALL 120V-1Ø, 15 AMP AND 2Ø AMP DWELLING UNIT CIRCUITS SERVING OUTLETS OR DEVICES SHALL BE PROVIDED WITH A COMBINATION TYPE AFCI CIRCUIT BREAKER PER NEC 210.12(A).
- ALL 120V AND 2ØV, 15 AMP AND 2Ø AMP NON-LOCKING RECEPTACLES IN DWELLING UNITS SHALL BE LISTED AS TAMPER-RESISTANT TYPE PER NEC 406.12.
- RECEPTACLES IN KITCHENS, PANTRIES, BREAKFAST ROOMS, DINING ROOMS AND SIMILAR AREAS SHALL COMPLY WITH NEC 210.52(B) & (C).
- PROVIDE NON-FUSED DISCONNECT SWITCH FOR UNIT.
- PROVIDE NEMA 3R FUSED DISCONNECT SWITCH FOR UNIT.
- VERIFY EXACT CONNECTION WITH EQUIPMENT SUPPLIER PRIOR TO ROUGH-IN.

BREAKER TYPES: AFCI - ARC FAULT CIRCUIT INTERRUPTER, GFCI - GROUND FAULT CIRCUIT INTERRUPTER, DFCI - DUAL FUNCTION ARC FAULT/GROUND FAULT CIRCUIT INTERRUPTER

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.

- GENERAL NOTES**  
(NOT ALL NOTES APPLY)
- REFERENCE SHEET E101 FOR GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS.
  - REFERENCE SHEET E102 FOR ELECTRICAL DETAILS.
  - COORDINATE ALL MOUNTING HEIGHTS AND LOCATIONS FOR ALL DEVICES WITH ARCHITECT AND/OR INTERIOR ELEVATIONS PRIOR TO ROUGH-IN.
  - ALL 120V-1Ø, 15-AMP AND 2Ø AMP DWELLING UNIT CIRCUITS SERVING OUTLETS OR DEVICES SHALL BE PROVIDED WITH A COMBINATION TYPE AFCI CIRCUIT BREAKER PER NEC 210.12(A).
  - ALL 15 AMP AND 2Ø AMP, 120V AND 2ØV NON-LOCKING RECEPTACLES IN DWELLING UNITS SHALL BE LISTED AS TAMPER-RESISTANT TYPE PER NEC 406.12.
  - RECEPTACLES IN KITCHENS, PANTRIES, BREAKFAST ROOMS, DINING ROOMS AND SIMILAR AREAS SHALL COMPLY WITH NEC 210.52(B) & (C).
  - PROVIDE AND INSTALL 3/4" CONDUIT AND PULL STRINGS FROM TELEPHONE/DATA OUTLETS TO ABOVE ACCESSIBLE CEILING. VERIFY EXACT REQUIREMENTS WITH TELEPHONE EQUIPMENT SUPPLIER AND/OR OWNER.
  - VERIFY SPACING & LOCATIONS OF RECEPTACLES WITHIN DWELLING UNITS WITH LOCAL ELECTRICAL INSPECTOR PRIOR TO INSTALLATION. PROVIDE ADDITIONAL RECEPTACLES IF REQUIRED.
  - COORDINATE EXACT LOCATION AND CONNECTION REQUIREMENTS OF ALL MECHANICAL AND PLUMBING EQUIPMENT WITH MECHANICAL AND PLUMBING DRAWINGS/SUB-CONTRACTORS PRIOR TO ROUGH-IN.
  - PROVIDE CABLING (OR CONDUIT PATHWAY) FROM ALL TV, TV AND DATA CONNECTIONS BACK TO STRUCTURED MEDIA CENTER AS REQUIRED. COORDINATE ALL TELEDATA REQUIREMENTS WITH OWNER AND TELEDATA SERVICE PROVIDER PRIOR TO ROUGH-IN.

**KEYED NOTES:**

- COORDINATE EXACT MOUNTING LOCATION OF RECEPTACLE WITH MILLWORK AND COUNTER ELEVATIONS AS REQUIRED.
- CEILING MOUNTED FAN WITH LIGHT KIT. FIELD VERIFY EXACT LOCATION PRIOR TO ROUGH-IN.
- PROVIDE STRUCTURED MEDIA CENTER FOR TELEDATA SERVICE TO DWELLING UNIT. ROUTE (1) 1-1/4" EMPTY CONDUIT WITH PULLSTRING FROM STRUCTURED MEDIA CENTER TO TELEDATA DEMARCATION POINT ON DWELLING EXTERIOR. COORDINATE ALL TELEDATA SERVICE REQUIREMENTS WITH OWNER AND TELEDATA SERVICE PROVIDER PRIOR TO ROUGH-IN.
- RECEPTACLE CONNECTION FOR ELECTRIC RANGE. FIELD VERIFY EXACT RECEPTACLE CONFIGURATION WITH EQUIPMENT SUPPLIER PRIOR TO ROUGH-IN. IF UNIT IS TO BE HARD-WIRED, PROVIDE A LOCKABLE CIRCUIT BREAKER IN THE LOAD CENTER AS REQUIRED TO SERVE AS EQUIPMENT DISCONNECTING MEANS.
- DWELLING UNIT LOAD CENTER. REFER TO PANEL SCHEDULE (THIS SHEET) AND RISER DIAGRAM ON SHEET E401 FOR ADDITIONAL INFORMATION.
- PROVIDE HALF-SWITCHED RECEPTACLE FOR GARAGE DISPOSAL POWER. COORDINATE EXACT LOCATION OF SWITCH WITH MILLWORK AND COUNTER ELEVATIONS AS REQUIRED. IN HANDICAP ACCESSIBLE UNITS, SWITCH LOCATION TO BE PER ADA REQUIREMENTS.
- RECEPTACLE FOR COMBINATION MICROWAVE & EXHAUST HOOD. FIELD VERIFY EXACT LOCATION PRIOR TO ROUGH-IN. IN HANDICAP ACCESSIBLE UNITS WHERE MICROWAVE SITS ON COUNTER, PROVIDE A SWITCHED RECEPTACLE ABOVE THE RANGE FOR EXHAUST HOOD POWER CONTROL AND LOCATE SWITCH PER ADA REQUIREMENTS.
- LOW-VOLTAGE DOOR BELL SYSTEM. FIELD LOCATE LOW-VOLTAGE TRANSFORMER AND CONNECT TO NEAREST RECEPTACLE CIRCUIT. PROVIDE ALL LOW-VOLTAGE WIRING BETWEEN PUSH BUTTON, TRANSFORMER AND CHIME FOR A COMPLETE AND OPERATIONAL SYSTEM.
- 12ØV, COMBINATION SMOKE/CARBON MONOXIDE DETECTOR WITH BATTERY BACKUP. ALL DETECTORS SHALL BE INTERCONNECTED AND INSTALLED PER IRC 314 AND 315, AS WELL AS NFPA 72 AND 74. WHERE NECESSARY, PROVIDE ADDITIONAL DEVICES TO MEET CODE MINIMUM COVERAGE REQUIREMENTS. FIELD VERIFY EXACT LOCATION OF DETECTORS TO AVOID CLOSE PROXIMITY TO HVAC GRILLES AND DIFFUSERS.
- 12ØV, RATE-OF-RISE HEAT DETECTOR WITH BATTERY BACKUP. ALL DETECTORS SHALL BE INTERCONNECTED AND INSTALLED PER IRC 314 AND 315, AS WELL AS NFPA 72 AND 74. ONLY PROVIDE HEAT DETECTOR(S) WHERE REQUIRED BY LOCAL CODE.

**RESERVE AT BLACKWELL**  
SE SHENANDOAH DRIVE  
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MO CONTRACTORS & ARCHITECTS REG. NO. 000000



PROFESSIONAL SEAL

**E201H**

ISSUE DATE: 18 JAN 2024  
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**ELECTRICAL POWER  
& LIGHTING PLANS  
BUILDING H**



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PERMIT DOCUMENTS



Single-Family Dwelling Load Calculation				
Unit Type:	UNIT TYPE 'H'	Unit Square Footage:	1420	
1	General Lighting and Receptacle Load - NEC 220.84(C)(1) Note: Do not include open porches, garages, unused or unfinished spaces not adaptable for future use. Square Footage = 1,420 sf VA Unit Load = 3 VA/sf	1	4260	
2	Small Appliance Branch Circuits - NEC 220.84(C)(2) At least two small appliance branch circuits must be included per NEC 210.11(C)(1) Quantity of Small Appliance Circuits = 2 x 1500 VA (E.a.)	2	3000	
3	Laundry Branch Circuits - NEC 220.52B and NEC 220.84(C)(2) At least one laundry branch circuit must be included per NEC 210.11(C)(2) Quantity of Laundry Circuits = 1 x 1500 VA (E.a.)	3	1500	
4	Fastened-in-Place Appliances - NEC 220.53 and NEC 220.84(C)(3)(4) Use the nameplate rating. Do not include electric ranges, clothes dryers, space-heating equipment, or air-conditioning. Appliances Load #1 Refrigerator 1200 #2 Microwave 1200 #3 Dishwasher 1200 #4 Garbage Disposal 684 #5 Water Heater 4500 #6 Garage Door Opener 1200 #7	4	9984	
5	Clothes Dryer - NEC 220.54 Use the larger of 5,000 watts or the nameplate rating. Dryer Type Electric	5	5000	
6	Ranges, Ovens, Cooktops, and Other Household Cooking Appliances Over 1,750 Watts - NEC T220.55 Note: Do not include gas appliances which are under 1,750 watts. Cooking Appliances Load #1 Electric Range 8000 #2 #3	6	8000	
7	General Connected Load - Subtotal of Items 1-6	7	31744	
8	General Demand Load - First 10 KVA at 100% plus Remainder at 40% - NEC 220.82(B) Calculation ( 10000 KVA + 8698 KVA ) =	8	18698	
9	HVAC System (Compare heat & A/C, exclude the smaller of the two) NEC 220.18(A) and NEC 220.84(C)(5) Air handling unit to be included for both scenarios. Heat pumps shall include the compressor and maximum amount of electric heating that can operate simultaneously with the compressor. HVAC Units #1 D/X Unit w/ Condenser 1080 HP or Cond Elec. Heat 7500 Load 8580 #2 0 #3 0	9	8580	
10	Total General Connected Load - Total of Items 7 & 9	10	40324	
11	Total General Demand Load - Total of Items 8 & 9	11	27278	
13	Minimum Amperes Divide the total VA by the voltage Supply Voltage 240/120V-1Ph	13	113.7	
14	Minimum Size Service and/or Feeder - NEC 240.6(A)	14	125	

Single-Family Dwelling Load Calculation				
Unit Type:	UNIT TYPE 'J'	Unit Square Footage:	1685	
1	General Lighting and Receptacle Load - NEC 220.84(C)(1) Note: Do not include open porches, garages, unused or unfinished spaces not adaptable for future use. Square Footage = 1,685 sf VA Unit Load = 3 VA/sf	1	5055	
2	Small Appliance Branch Circuits - NEC 220.84(C)(2) At least two small appliance branch circuits must be included per NEC 210.11(C)(1) Quantity of Small Appliance Circuits = 2 x 1500 VA (E.a.)	2	3000	
3	Laundry Branch Circuits - NEC 220.52B and NEC 220.84(C)(2) At least one laundry branch circuit must be included per NEC 210.11(C)(2) Quantity of Laundry Circuits = 1 x 1500 VA (E.a.)	3	1500	
4	Fastened-in-Place Appliances - NEC 220.53 and NEC 220.84(C)(3)(4) Use the nameplate rating. Do not include electric ranges, clothes dryers, space-heating equipment, or air-conditioning. Appliances Load #1 Refrigerator 1200 #2 Microwave 1200 #3 Dishwasher 1200 #4 Garbage Disposal 684 #5 Water Heater 4500 #6 Garage Door Opener 1200 #7	4	9984	
5	Clothes Dryer - NEC 220.54 Use the larger of 5,000 watts or the nameplate rating. Dryer Type Electric	5	5000	
6	Ranges, Ovens, Cooktops, and Other Household Cooking Appliances Over 1,750 Watts - NEC T220.55 Note: Do not include gas appliances which are under 1,750 watts. Cooking Appliances Load #1 Electric Range 8000 #2 #3	6	8000	
7	General Connected Load - Subtotal of Items 1-6	7	32539	
8	General Demand Load - First 10 KVA at 100% plus Remainder at 40% - NEC 220.82(B) Calculation ( 10000 KVA + 8016 KVA ) =	8	19016	
9	HVAC System (Compare heat & A/C, exclude the smaller of the two) NEC 220.18(A) and NEC 220.84(C)(5) Air handling unit to be included for both scenarios. Heat pumps shall include the compressor and maximum amount of electric heating that can operate simultaneously with the compressor. HVAC Units #1 D/X Unit w/ Condenser 1080 HP or Cond Elec. Heat 7500 Load 8580 #2 0 #3 0	9	8580	
10	Total General Connected Load - Total of Items 7 & 9	10	41119	
11	Total General Demand Load - Total of Items 8 & 9	11	27596	
13	Minimum Amperes Divide the total VA by the voltage Supply Voltage 240/120V-1Ph	13	115.0	
14	Minimum Size Service and/or Feeder - NEC 240.6(A)	14	125	

Single-Family Dwelling Load Calculation				
Unit Type:	UNIT TYPES 'E' & 'F'	Unit Square Footage:	1495	
1	General Lighting and Receptacle Load - NEC 220.84(C)(1) Note: Do not include open porches, garages, unused or unfinished spaces not adaptable for future use. Square Footage = 1,495 sf VA Unit Load = 3 VA/sf	1	4485	
2	Small Appliance Branch Circuits - NEC 220.84(C)(2) At least two small appliance branch circuits must be included per NEC 210.11(C)(1) Quantity of Small Appliance Circuits = 2 x 1500 VA (E.a.)	2	3000	
3	Laundry Branch Circuits - NEC 220.52B and NEC 220.84(C)(2) At least one laundry branch circuit must be included per NEC 210.11(C)(2) Quantity of Laundry Circuits = 1 x 1500 VA (E.a.)	3	1500	
4	Fastened-in-Place Appliances - NEC 220.53 and NEC 220.84(C)(3)(4) Use the nameplate rating. Do not include electric ranges, clothes dryers, space-heating equipment, or air-conditioning. Appliances Load #1 Refrigerator 1200 #2 Microwave 1200 #3 Dishwasher 1200 #4 Garbage Disposal 684 #5 Water Heater 4500 #6 Garage Door Opener 1200 #7	4	9984	
5	Clothes Dryer - NEC 220.54 Use the larger of 5,000 watts or the nameplate rating. Dryer Type Electric	5	5000	
6	Ranges, Ovens, Cooktops, and Other Household Cooking Appliances Over 1,750 Watts - NEC T220.55 Note: Do not include gas appliances which are under 1,750 watts. Cooking Appliances Load #1 Electric Range 8000 #2 #3	6	8000	
7	General Connected Load - Subtotal of Items 1-6	7	31969	
8	General Demand Load - First 10 KVA at 100% plus Remainder at 40% - NEC 220.82(B) Calculation ( 10000 KVA + 8788 KVA ) =	8	18788	
9	HVAC System (Compare heat & A/C, exclude the smaller of the two) NEC 220.18(A) and NEC 220.84(C)(5) Air handling unit to be included for both scenarios. Heat pumps shall include the compressor and maximum amount of electric heating that can operate simultaneously with the compressor. HVAC Units #1 D/X Unit w/ Condenser 1080 HP or Cond Elec. Heat 7500 Load 8580 #2 0 #3 0	9	8580	
10	Total General Connected Load - Total of Items 7 & 9	10	40549	
11	Total General Demand Load - Total of Items 8 & 9	11	27368	
13	Minimum Amperes Divide the total VA by the voltage Supply Voltage 240/120V-1Ph	13	114.0	
14	Minimum Size Service and/or Feeder - NEC 240.6(A)	14	125	

Single-Family Dwelling Load Calculation				
Unit Type:	UNIT TYPE 'G'	Unit Square Footage:	1205	
1	General Lighting and Receptacle Load - NEC 220.84(C)(1) Note: Do not include open porches, garages, unused or unfinished spaces not adaptable for future use. Square Footage = 1,205 sf VA Unit Load = 3 VA/sf	1	3615	
2	Small Appliance Branch Circuits - NEC 220.84(C)(2) At least two small appliance branch circuits must be included per NEC 210.11(C)(1) Quantity of Small Appliance Circuits = 2 x 1500 VA (E.a.)	2	3000	
3	Laundry Branch Circuits - NEC 220.52B and NEC 220.84(C)(2) At least one laundry branch circuit must be included per NEC 210.11(C)(2) Quantity of Laundry Circuits = 1 x 1500 VA (E.a.)	3	1500	
4	Fastened-in-Place Appliances - NEC 220.53 and NEC 220.84(C)(3)(4) Use the nameplate rating. Do not include electric ranges, clothes dryers, space-heating equipment, or air-conditioning. Appliances Load #1 Refrigerator 1200 #2 Microwave 1200 #3 Dishwasher 1200 #4 Garbage Disposal 684 #5 Water Heater 4500 #6 Garage Door Opener 1200 #7	4	9984	
5	Clothes Dryer - NEC 220.54 Use the larger of 5,000 watts or the nameplate rating. Dryer Type Electric	5	5000	
6	Ranges, Ovens, Cooktops, and Other Household Cooking Appliances Over 1,750 Watts - NEC T220.55 Note: Do not include gas appliances which are under 1,750 watts. Cooking Appliances Load #1 Electric Range 8000 #2 #3	6	8000	
7	General Connected Load - Subtotal of Items 1-6	7	31099	
8	General Demand Load - First 10 KVA at 100% plus Remainder at 40% - NEC 220.82(B) Calculation ( 10000 KVA + 8440 KVA ) =	8	18440	
9	HVAC System (Compare heat & A/C, exclude the smaller of the two) NEC 220.18(A) and NEC 220.84(C)(5) Air handling unit to be included for both scenarios. Heat pumps shall include the compressor and maximum amount of electric heating that can operate simultaneously with the compressor. HVAC Units #1 D/X Unit w/ Condenser 1080 HP or Cond Elec. Heat 7500 Load 8580 #2 0 #3 0	9	8580	
10	Total General Connected Load - Total of Items 7 & 9	10	39679	
11	Total General Demand Load - Total of Items 8 & 9	11	27020	
13	Minimum Amperes Divide the total VA by the voltage Supply Voltage 240/120V-1Ph	13	112.6	
14	Minimum Size Service and/or Feeder - NEC 240.6(A)	14	125	

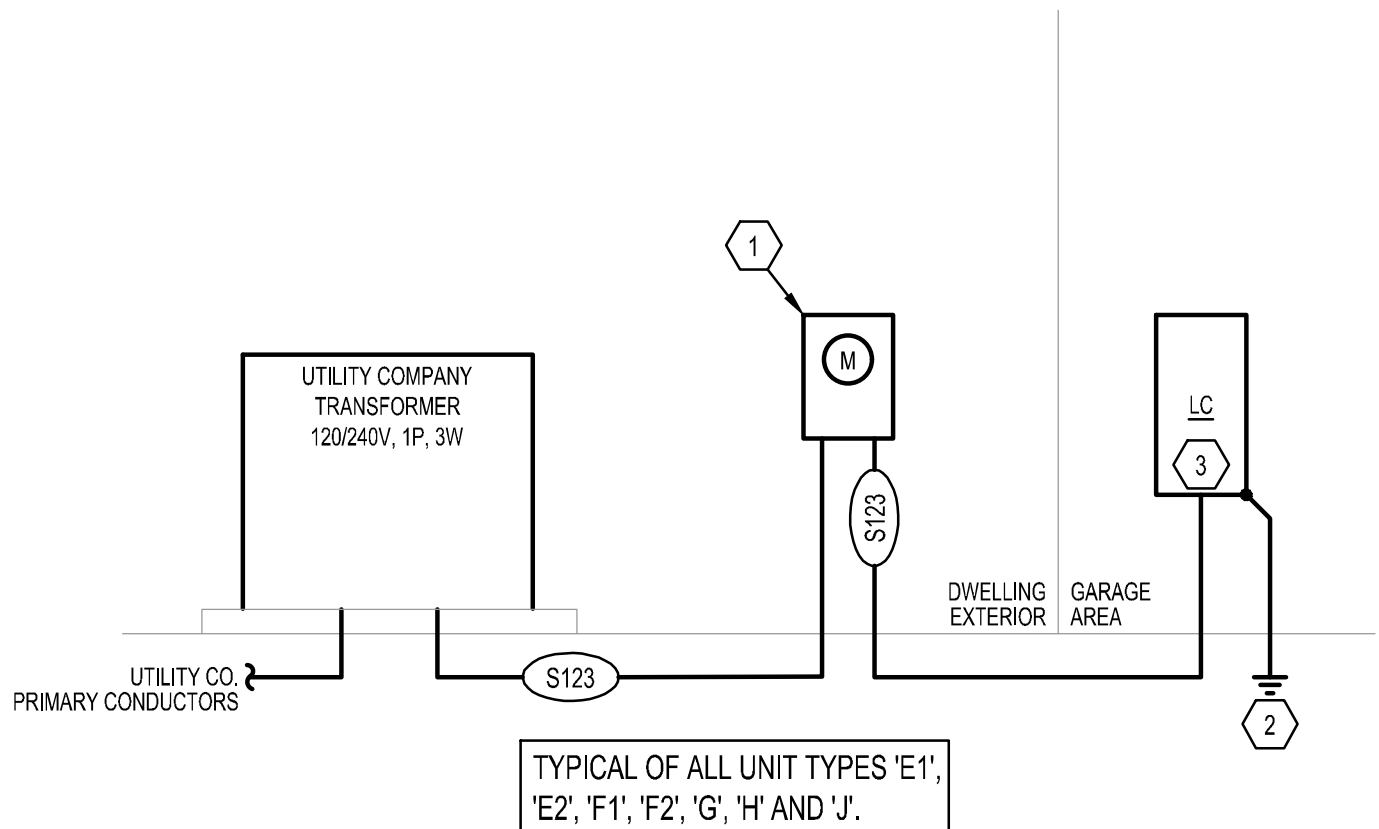
HVAC DESIGN TO BE COMPLETED BY OTHERS. LOADS SHOWN IN FEEDER CALCULATION ARE ASSUMED VALUES AND SHOULD BE VERIFIED WITH ACTUAL HVAC SYSTEM TO BE INSTALLED. NOTIFY ENGINEER IF ACTUAL LOADS ARE GREATER THAN THOSE SHOWN IN THE CALCULATIONS.

FEEDER SCHEDULE				
CONDUCTORS & GROUND				AMPS
CODE	SETS	CONDUCTORS	RAYWAY	
S123	-	3#1 (CU)	1-1/2"	130
NOTES: 1. ALL CONDUCTORS AMPACITY BASED ON THE NEC TABLE 310-16 FOR CONDUCTORS W/ 75°C INSULATION. 2. ALL RACEWAY SIZES [EMT/RMC/PVC 40] BASED ON THE NEC TABLE 4(CHAPTER 9), 40% FILL COLUMN. 3. ELECTRICAL CONTRACTOR TO VERIFY ALL EQUIPMENT CONDUCTOR TERMINATION TEMPERATURE RATINGS (IE, 60°C OR 75°C), ADJUST CONDUCTOR AMPACITY AND CONDUIT SIZES ACCORDINGLY. 4. VERIFY MAXIMUM NO. OF SETS OF SERVICE ENTRANCE CONDUCTORS ALLOWED W/ UTILITY CO. 5. EQUIPMENT GROUNDING CONDUCTORS BASED ON T250.122. GROUND TO BE ADJUSTED PER T250.66 FOR SEPARATELY DERIVED SYSTEMS. 6. ALUMINUM FEEDERS NOT TO BE USED ON TRANSFORMER SECONDARY CONDUCTORS.				

VOLTAGE DROP CHART		
VOLTAGE DROP WIRING SCHEDULE FOR 1Ø LOADCENTER FEEDERS		
FEEDER CIRCUIT RATING (AMPS)	MAX LENGTH OF FEEDER (FEET)	FEEDER WIRE (AWG) & CONDUIT SIZE (IN.)
125A	150	REFER TO FEEDER SCHEDULE
	225	(3)#1/0, (1)#4G - 1-1/2".
	300	(3)#2/0, (1)#4G - 2".
150A	150	REFER TO FEEDER SCHEDULE
	225	(3)#2/0, (1)#4G - 2".
	300	(3)#3/0, (1)#4G - 2".
NOTES: 1. 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%. 2. 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. 3. 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%.		

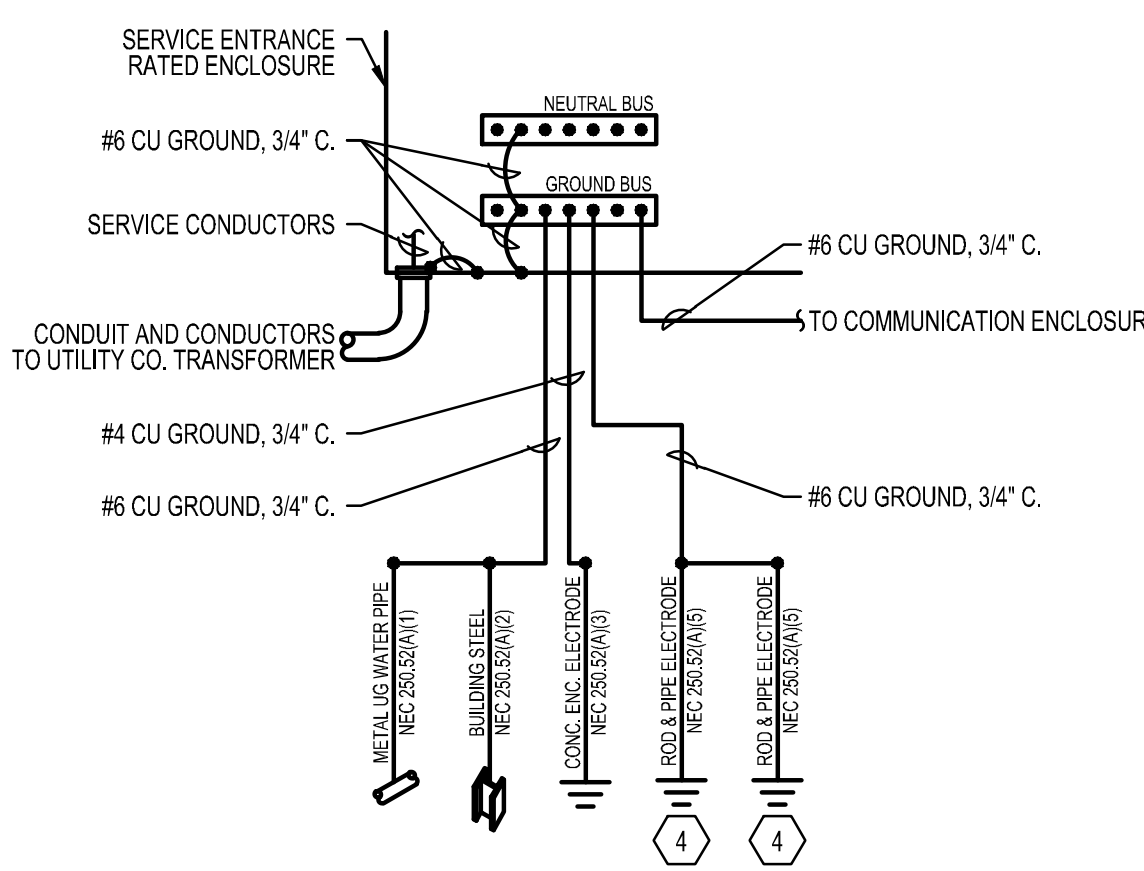
VOLTAGE DROP CHART						
BRANCH CIRCUIT VOLTAGE DROP WIRING SCHEDULE FOR 1Ø CIRCUITS						
BRANCH CIRCUIT RATING (AMPS)	WIRE SIZE (AWG)	MAXIMUM LENGTH OF BRANCH CIRCUIT (FEET)				
		120V	208V	240V	277V	480V
20A	#12	50	90	110	125	200
	#10	80	150	175	200	350
	#8	140	230	280	320	550
	#6	215	375	430	500	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: 1. 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%. 2. 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. 3. 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 UTILISING VOLTAGE DROP TABLE PROVIDED.



## 1 ELECTRICAL RISER DIAGRAM

SCALE: NO SCALE



## 2 SERVICE GROUNDING DETAIL

SCALE: NO SCALE

LIGHTING FIXTURE SCHEDULE											
FIXT. TYPE	DESCRIPTION & MANUFACTURER OPTIONS		NO.	LAMPS		FIXT. VOLT	TOTAL WATTS		FINISH	REMARKS/MOUNTING	NOTES
				LED	TYPE						
F1		SURFACE MOUNTED LED DOWNLIGHT, 1200 LUMEN, 3000K, WHITE FINISH	1	LED		120V	15W		Coord. w/ Architect	Surface (Ceiling)	1
	MF	HALO HSLD612/0030/WH									
F2		52" 5-BLADE FAN, 3 SPEED, REVERSIBLE, WITH GLOBE LIGHT KIT, BRUSHED NICKEL FINISH	1	LED		120V	15W		Coord. w/ Architect	Surface (Ceiling)	1
	MF	ROYAL PACIFIC #1067-L									
F3		DUAL VANITY WALL SCONCE, CHROME FINISH	1	LED		120V	20W		Coord. w/ Architect	Surface (Wall)	1
	MF	MINIKA #6642-77									
F5		COUNTERTOP PENDANT LIGHT, CHROME FINISH	1	LED		120V	10W		Coord. w/ Architect	Pendant (Verify Ht w/ Architect)	1
	MF	HOMEDECORATION #7434P-15									
F8		ENTRY LIGHT, FINISH BY ARCHITECT	1	LED		120V	36W		Coord. w/ Architect	Wall (Refer Arch Elevation)	1
	MF	TERON #GRW024-CH-L-118-120V-WALL									
F9		PATIO LIGHT, BRONZE FINISH	1	LED		120V	10W		Standard	Wall (Refer Arch Elevation)	1
	MF	HALVO #60-631									
NOTES: 1. Coordinate Exact Fixture Spec, Mounting Height and Location of All Fixtures With Owner and Architect Prior to Rough-in.											

## GENERAL NOTES

(NOT ALL NOTES APPLY)

- REFERENCE SHEET E101 FOR GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS.
- COORDINATE MOUNTING HEIGHTS AND LOCATIONS FOR ALL DEVICES WITH ARCHITECT AND/OR INTERIOR ELEVATIONS PRIOR TO ROUGH-IN.
- FIELD VERIFY ALL ELECTRICAL WORK WITH OWNER PRIOR TO START OF PROJECT.

## KEYED NOTES:

- PROVIDE METER PER UTILITY COMPANY STANDARDS. INSTALLATION SHALL MEET ALL UTILITY COMPANY REQUIREMENTS AND LOCAL CODES.
- PROVIDE A GROUNDING ELECTRODE SYSTEM COMPLIANT WITH IRC SECTION 3608. REFER TO DETAIL 2 (THIS SHEET) FOR ADDITIONAL INFORMATION.
- PROVIDE SERVICE ENTRANCE RATED, 125A MAIN CIRCUIT BREAKER LOAD CENTER, REFER TO PANEL SCHEDULE ON E201 SHEET(S) FOR ADDITIONAL INFORMATION.
- REFER TO NEC 250.53 FOR ADDITIONAL INFORMATION.



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**EBS**  
ENGINEERED BUILDING SOLUTIONS, LLC  
ENGINEERED FROM 1987  
2025-2026  
NO CONTRACTS OR PROJECTS ARE CURRENTLY IN PROGRESS



**E301**  
ISSUE DATE: 18 JAN 2024  
COLLINS WEBB #:

ELECTRICAL ONE-LINE  
DIAGRAM & SCHEDULES



18000 - ELECTRICAL

GENERAL

DESCRIPTION

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 CONTRACTORS), AND TO ALL EQUIPMENT ITEMS AND AS INDICATED ON DRAWINGS OR AS REQUIRED.

THE ARCHITECTURAL SPECIFICATIONS AND DRAWINGS INCLUDING THE GENERAL CONDITIONS, INCLUDING ALL SUPPLEMENTS ISSUED THERETO, INSTRUCTIONS TO BIDDERS, AND OTHERS PERTINENT DOCUMENTS ISSUED BY THE ARCHITECT ARE 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 CONSULT THE DRAWINGS AND LAYOUTS OF OTHER TRADES TO VERIFY LOCATION 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 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 TO THE OWNER) ASSOCIATED WITH LIGHTING AND LIGHTING CONTROLS COMMISSIONING. ALL COMMISSIONING DOCUMENTATION SHALL BE CERTIFIED AND GIVEN TO OWNER AND DESIGN PROFESSIONAL.

QUALITY ASSURANCE

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 CONTRACTORS 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 MANUFACTURERS 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.

SUBMITTALS

SUBMIT SHOP DRAWINGS AND PRODUCT DATA FOR EQUIPMENT TO THE ARCHITECT FOR ENGINEERS 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 ENGINEERS SUBMITTAL REVIEWS WILL NOT RELIEVE THE CONTRACTOR FROM RESPONSIBILITY FOR ERRORS, OMISSIONS, 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.

OWNER RECORDS

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 MANUFACTURERS 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 CURRENTLY ADOPTED ENERGY CODE REQUIREMENTS.

MANUFACTURERS' NAMES AND CATALOG NUMBERS  
IN SOME INSTANCES, SPECIFIC REFERENCES HAVE BEEN MADE TO ONE OR MORE MANUFACTURER'S NAME AND MODEL OR CATALOG NUMBERS. USE OF NAMES AND CATALOG NUMBERS DOES NOT INDICATE THAT THE EQUIPMENT SPECIFIED IS 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 OUTLETS 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.

PROTECTION OF EQUIPMENT  
ELECTRICAL EQUIPMENT SHALL BE PROTECTED FROM THE WEATHER, IN PARTICULAR, DRIPPING OR SPLASHING WATER, AT ALL TIMES DURING SHIPMENT, STORAGE AND CONSTRUCTION. MANUFACTURER'S RECOMMENDATIONS WITH REGARD TO STORAGE, PROTECTION, AND HANDLING SHALL BE FOLLOWED.

SHOULD ANY APPARATUS BE SUBJECTED TO POSSIBLE INJURY DUE TO WATER, IT 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 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.

WORKING CLEARANCE

THE SIZE OF ELECTRICAL EQUIPMENT SHOWN ON THE DRAWINGS IS BASED ON DIMENSIONS OF A PARTICULAR MANUFACTURER. (GENERALLY THE FIRST NAMED). WHILE OTHER MANUFACTURERS MAY BE ACCEPTABLE, IT IS THE RESPONSIBILITY OF THE TRADE TO DETERMINE IF THE EQUIPMENT PROPOSED WILL FIT IN THE ALLOCATED SPACE.

INSTALL ALL EQUIPMENT IN A MANNER TO PERMIT ACCESS TO ALL SURFACES. MAINTAIN PROPER CLEARANCE TO MEET ALL SAFETY AND OPERATING CODES, PARTICULARLY N.E.C. INCLUDE ALL REQUIREMENTS DICTATED BY OPERATION, CONTROL, ADJUSTMENT, MAINTENANCE AND POSITIVE REPLACEMENT OF EQUIPMENT IN DETERMINING CLEARANCE.

SHOULD THERE BE APPARENT VIOLATIONS OF N.E.C. CLEARANCE, NOTIFY THE ARCHITECT-ENGINEER BEFORE PROCEEDING WITH CONNECTION OR PLACEMENT OF EQUIPMENT.

COORDINATION

INSTALLATION STUDIES ARE REQUIRED TO COORDINATE THE ELECTRICAL WORK WITH THE WORK OF OTHER TRADES. PREPARE COORDINATION DRAWINGS AT 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.

PROVIDE APPROVED SHOP DRAWINGS TO ALL REQUIRED DISCIPLINES AND VERIFY FINAL ELECTRICAL CHARACTERISTICS BEFORE ROUGHING POWER FEEDS TO ANY EQUIPMENT. WHEN ELECTRICAL DATA ON APPROVED SHOP DRAWINGS DIFFERS FROM CONTEMPLATED DESIGN, MAKE NECESSARY ADJUSTMENTS TO 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.

WORKMANSHIP

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

ANY MATERIAL ITEMS OR WORK NOT SHOWN ON THE DRAWINGS, BUT MENTIONED IN THESE SPECIFICATIONS OR VISA-VERSA, OR ANY ACCESSORIES NECESSARY TO MAKE THE WORK COMPLETE IN ALL RESPECTS AND READY FOR OPERATION SHALL BE PROVIDED WITHOUT ADDITIONAL COST TO THE OWNER.

THIS TRADE SHALL DO OR HAVE DONE BY COMPETENT TRADESMEN ALL CUTTING AND PATCHING NECESSARY FOR THE INSTALLATION OF THIS WORK. NO CUTTING IN CONSTRUCTIVE PARTS OF THE BUILDING LIKELY TO IMPAIR ITS STRENGTH SHALL BE DONE WITHOUT THE ARCHITECT-ENGINEERS 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 SLABS 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 OR EXTERIOR FOOTINGS. COMPLETE INSTALLATION SHALL CONFORM TO N.E.C.

PENETRATIONS

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 TERMINATING 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 53A 33M, TYPE E, GRADE B, SCHEDULE 40.  
GALVANIZED STEEL, PLAIN ENDS AND DRIP RINGS.

CAST IRON PIPE SLEEVES: CAST OR FABRICATED "WALL PIPE," EQUIVALENT TO DUCTILE-IRON PRESSURE PIPE, WITH PLAIN ENDS AND INTEGRAL SATERSTOP, UNLESS OTHERWISE INDICED.

FIRESTOPPING: FIRE RESISTANT THROUGH PENETRATION SEALANTS, TWO PART, FOAMED-IN-PLACE, SILICONE SEALANT FORMULATED FOR USE IN THROUGH-PENETRATION FIRE-STOPPING AROUND CABLES, RACEWAYS, AND CABLE TRAY PENETRATIONS THROUGH FIRE-RATED WALLS AND FLOORS. SEALANTS AND ACCESSORIES SHALL HAVE FIRE-RESISTANCE RATINGS INDICATED, AS ESTABLISHED BY TESTING IDENTICAL ASSEMBLIES IN ACCORDANCE WITH ASTM E 814, BY UNDERWRITERS LABORATORIES, INC., OR OTHER NRTL ACCEPTABLE TO AHJ.

ACCEPTABLE MANUFACTURERS - HULTI, INC., 3M CORP., RECTORS&EAL, SPECIFY TECHNOLOGY INC., UNITED STATES GYPSUM COMPANY.

ELECTRICAL SERVICE

SERVICE SHALL BE AS SHOWN ON DRAWINGS.

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.

PROVIDE ALL REQUIRED GROUNDING FOR A COMPLETE SERVICE ENTRANCE 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 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 REQUIREMENTS.

PRODUCTS

GENERAL

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

PROVIDE ACCESS PANELS FOR ALL EQUIPMENT AND DEVICES REQUIRING SUCH PANELS. SIZE AS REQUIRED FOR PROPER ACCESS AND MAINTENANCE. MINIMUM ACCEPTABLE IS 12 IN BY 12 IN CLEAR OPENING WHERE HAND ACCESS ONLY IS REQUIRED.

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 1/4" HIGH. SIZE STRIPS TO PROPERLY FIT MANUFACTURERS BRACKETS AND BE LEGIBLE. WHERE MANUFACTURERS BRACKETS ARE NOT PROVIDED, MOUNT LABELS WITH PROPER SCREWS, OR AN APPROVED ADHESIVE.

RACEWAYS

CONDUIT, RIGID STEEL, GALVANIZED OR SHERADIZED AND MANUFACTURED IN ACCORDANCE WITH ANSI STANDARD C80.1. 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 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 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 IN ACCORDANCE WITH ANSI STANDARD C80.3. FITTINGS 1/2 INCH THROUGH 2 INCH 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.

CONDUCTORS AND CABLES

GENERAL: SERVICE LATERALS AND PANELBOARD FEEDERS SHALL BE OF ANNEALED (SOFT) COPPER COMPLYING WITH ICSA S-95-658NEMA WC70, SOLID CONDUCTOR FOR NO. 10 AWG AND SMALLER. CONCENTRIC, COMPRESSED STRANDED FOR NO. 8 AWG AND LARGER. ALL BRANCH CIRCUIT CONDUCTORS NO. 8 AWG AND LARGER- STRANDED. TYPE THHN-1 OR XHHW-2 INSULATION. ALL CONDUCTORS, NO. 10 AWG AND SMALLER, USED FOR POWER AND LIGHTING 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-1. 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 BASED ON THE INDICATED BRANCH CIRCUIT OVERCURRENT PROTECTIVE DEVICE RATING AND NUMBER OF CIRCUITS. CONDUCTORS AND 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 ICSA S-95-658NEMA 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 AS RECOMMENDED BY THE SYSTEM EQUIPMENT MANUFACTURER.

CONTROL WIRING: STRANDED COPPER CONDUCTORS, 800V INSULATION, OF THE PROPER TYPE, SIZE AND NUMBER AS REQUIRED TO ACCOMPLISH SPECIFIED 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 E84, UL STANDARDS 44 OR 83 (AS APPLICABLE), AND 1589, NFPA 70 ARTICLE 330, ALUMINUM OR GALVANIZED STEEL, INTERLOCKED ARMOR, THHN- OR XHHW-INSULATED CONDUCTORS; COLOR CODE: ICSA METHOD 1, WITH GREEN INSULATED GROUNDING 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.

BOXES

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 LOCKMOUNTED TYPE FIXTURE STUDS.

JUNCTION AND PULL BOXES: FABRICATE IN ACCORDANCE WITH NEMA AND N.E.C. STANDARDS AND REQUIREMENTS INSOPAR AS MATERIAL, GAUGES, DIMENSIONS, AND FABRICATION METHODS. BOXES SHALL BEAR THE UL LABEL. WHERE BOXES ARE NOT SIZED ON THE DRAWINGS, THEY SHALL BE SIZED IN ACCORDANCE WITH

N.E.C. REQUIREMENTS. FINISH IN STANDARD GRAY ENAMEL, WITH SIDES AND BACK SPOT-WELDED IN POSITION AND THE REMOVABLE SCREW COVER MOUNTED WITH BRASS MACHINE SCREWS.

WIRING DEVICES

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 DESCRIBED BELOW UNDER "PLATES".

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 #R362 OR EQUAL. COORDINATE RECEPTACLE COLOR WITH COVERPLATE AS DESCRIBED BELOW UNDER "PLATES". SINGLE RECEPTACLE, 20 AMPERE, 120 VOLT, SPECIFICATION GRADE, HUBBELL #R361 OR EQUAL.

DUST AND MOISTURE RESISTANT, MELAMINE BODY, GRAY NYLON FACE BACKED BY FABRIC REINFORCED NEOPRENE GASKET SLIT TO PROVIDE WIPING ACTION ON CAP BLADES. PASS & SEYMOUR R6307 OR APPROVED EQUAL. GROUND FAULT CIRCUIT INTERRUPTER, NYLON FACE CLASS A, NEMA 5-20R, SPECIFICATION GRADE, HUBBELL #R6F-3622" 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 5-11R - HUBBELL #R2CM61).

ISOLATED GROUND, DUPLEX OR SIMPLEX THREE WIRE GROUNDING TYPE, SPECIFICATION GRADE, ORANGE FACE, GROUND CONTACT FULLY ISOLATED FROM STRAP AND EQUIPPED WITH SCREW TERMINAL. HUBBELL #IG-3622" OR EQUAL.

RECEPTABLES, 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 PRIOR TO INSTALLATION.

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 UNATTENDED USE AS APPLICABLE.

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

CABINETS AND ENCLOSURES

FURNISH 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 AND TRIM SHALL BE PRIME PAINTED FOR FIELD PAINTING TO MATCH WALL FINISHES. PROVIDE KNOCK-OUTS, LOUVERS AND IDENTIFICATION ENGRAVING AS REQUIRED TO MEET FIELD CONDITIONS. EXACT BOXES 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 SHALL BE HEAVY DUTY, QUICK-MAKE, QUICK-BREAK FUSED OR UNFUSED SWITCH RATED FOR MOTOR CIRCUITS AND/OR SERVICE ENTRANCE DUTY, IF REQUIRED. UNITS SHALL BE FURNISHED FOR SURFACE OR FLUSH MOUNTING WITH EITHER GENERAL PURPOSE OR RAIN/TIGHT ENCLOSURES, AS REQUIRED. FUSED UNITS SHALL BE FURNISHED COMPLETE WITH PROPER FUSES.

PANELBOARDS

SHALL CONSIST OF BOX, INTERIOR, FRONT, AND CIRCUIT PROTECTIVE DEVICES. THE ASSEMBLY SHALL BE UL-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-85) AND SHALL HAVE A TURNED EDGE AROUND THE FRONT FOR RIGIDITY AND FOR CLAMPING ON FRONT. PROVIDE STANDARD KNOCKOUTS ON REMOVABLE BOX ENDS. FABRICATE FROM SHEET STEEL AND FINISH WITH BAKED ON GRAY ENAMEL OVER RUST INHIBITOR. EACH FRONT SHALL HAVE A DOOR MOUNTED ON SEMI-CONCEALED HINGES WITH A CYLINDER LOCK, INDEX CARD CIRCUIT DIRECTORY MOUNTED BEHIND CLEAR 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 (5% CONDUCTIVITY) OF RECTANGULAR CROSS-SECTION. BUS BARS FOR PANELS RATED LESS THAN 600 AMPERES SHALL BE TIN PLATED 98% CONDUCTIVITY COPPER OR RECTANGULAR CROSS-SECTION. BUS BAR CONNECTIONS TO BRANON CIRCUIT BREAKERS ONLY SHALL BE THE PHASE SEQUENCE TYPE AND ACCEPT BOLT OR 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 LONG SIDE CABLES. EQUIPMENT NEUTRAL BUSING 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 CROSSBAR FOR MULTI-POLE UNITS, EQUIPPED WITH AN OVERCENTER, TRIP-FREE, TOGGLE-TYPE OPERATING ACTION AND POSITIVE HANDLED INDICATION OF BREAKER STATUS. CIRCUIT BREAKERS SHALL BE UL LISTED IN ACCORDANCE WITH UL STANDARDS.

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 VOLTAGE.

APPROVED MANUFACTURERS: SQUARE-D CO. OR EQUAL, BY GE, SIEMENS AND/OR Eaton.

OVERCURRENT PROTECTIVE DEVICES

FUSES OF THE PROPER SIZE, RATING AND ELECTRICAL CHARACTERISTICS SHALL BE PROVIDED IN EACH FUSIBLE DEVICE. FUSES OF 800 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 AND UL CLASS RK-5, TIME-DELAY, DUAL-ELEMENT, 200,000 AMPERES RMS SYMMETRICAL INTERRUPTING CAPACITY ON MOTOR CIRCUITS.

APPROVED MANUFACTURERS: RUSSMANN, LITFELFUSE OR FERRAZ-SHAWMUT (ALL FUSES SHALL BE OF SAME MANUFACTURER TO ENSURE SEPARATE COORDINATION).

CIRCUIT BREAKERS: CIRCUIT BREAKERS OF THE PROPER SIZE, RATING, AND 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.

TIMESWITCHES

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 SUBSTITUTE FOR ON-OFF FUNCTION OF A PROGRAM. ASTRONOMIC TIME ON ALL CHANNELS. BATTERY BACKUP FOR SCHEDULES AND TIME CLOCK.

OUTDOOR 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.

TELEPHONE AND DATA SYSTEMS

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 INCONVENIENCE 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 SPECIAL FINISHES.

RACEWAYS: MATERIALS FOR TELEPHONE RACEWAY SYSTEM WORK SHALL BE IN ACCORDANCE WITH CORRESPONDING SPECIFICATIONS SPECIFIED HEREIN AND IN OTHER SECTIONS.

VERIFY LOCATION OF WALL OUTLETS BEFORE ROUGHING IN TO ENSURE COORDINATION WITH OWNERS 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.

TELEPHONE SERVICE CONDUIT LAYOUT SHALL HAVE THE JOB SITE APPROVAL OF AN AUTHORIZED REPRESENTATIVE OF THE TELEPHONE CO. COORDINATE WORK SO THAT BOTH TELEPHONE CO. AND OWNERS REPRESENTATIVES ARE PRESENT AT THE SAME TIME FOR APPROVAL OR CHANGES IN AMPLI TIME FOR ANY REQUIRED CORRECTIONS BEFORE COMPLETION OF PROJECT.

FROM EACH TELEPHONE OUTLET, PROVIDE 3/4" EMT CONDUIT CONCEALED IN WALL TO P 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 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.

LIGHTING

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.

PROVIDE FLUORESCENT FIXTURES WITH ELECTRONIC BALLASTS SUITABLE FOR 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/EETC, CATEGORY A. APPROVED MANUFACTURERS: ADVANCE OR EQUAL, BY MAGNETEK, MOTOROLA OR OSRAM.

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

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.







**WIRING OF MECHANICAL EQUIPMENT**  
PROVIDE ALL RACEWAYS AND POWER WIRING FOR ALL DIVISION 15 EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS, INCLUDING, BUT NOT LIMITED TO, PUMPS, WATER HEATERS, AND HVAC EQUIPMENT, AND ALL LINE-VOLTAGE CONTROL AND 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.

VERIFY THE ACTUAL "MAXIMUM OVERCURRENT PROTECTION" DEVICE RATINGS AND "MINIMUM CIRCUIT AMPACITY" CONDUCTOR SIZING FOR MECHANICAL 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 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 PROTECTIVE DEVICES FOR ALL EQUIPMENT, AND CORRECT OVERLOAD HEATERS 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 DIAGRAM. 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 BE INSTALLED IN CONDUIT WITHIN WALLS AND WHERE EXPOSED IN THE WORK AREAS.

**EXECUTION**  
**METHOD OF PROCEDURE**  
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 WHEN THE EQUIPMENT WILL BE READY. THE OWNER SHALL BE NOTIFIED AS FAR IN ADVANCE AS POSSIBLE, OF THE DATE THE VARIOUS ITEMS OF EQUIPMENT WILL BE COMPLETE.

THE WORK OF THIS TRADE INCLUDES ROUGH-IN FOR AND FINAL CONNECTION AND 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 ROUGH-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, PARTITIONS, ROOFS, AND FLOORS. SLEEVES SHALL EXTEND THROUGH FLOORS, WALLS AND PARTITIONS AND SHALL BE CUT FLUSH WITH EACH SURFACE UNLESS OTHERWISE SPECIFIED. FIRE WALL AND/OR FLOOR INTEGRITY SHALL BE RESTORED AFTER PENETRATION. SLEEVES IN CONCRETE AND MASONRY WALLS, 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 FROM 22 U.S. GAUGE GALVANIZED STEEL. FLOOR SLEEVES SHALL EXTEND THREE INCHES ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED. SPACE BETWEEN FLOOR SLEEVES AND PASSING CONDUIT SHALL BE FILLED WITH DUCT SEAL PACKING AND CAULKED WITH WATERPROOF COMPOUND AS APPROVED. WHERE CONDUITS PASS THROUGH WATERPROOFED FLOORS OR WALLS, SLEEVES SHALL BE FABRICATED SUCH THAT WATERPROOFING CAN BE FLASHED ONTO AND AROUND THE SLEEVE.

**RACEWAYS**  
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 RATED CABLE. PROVIDE LOW VOLTAGE CABLE IN CONDUIT IF REQUIRED BY LOCAL A.H.I. VERIFY ALL REQUIREMENTS PRIOR TO INSTALLATION. METALLIC CONDUIT 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 COORDINATION WITH BUILDING STRUCTURE AND THE WORK OF OTHER TRADES. FURNISH ALL REQUIRED BENDS, ELBOWS, FITTINGS, JUNCTION AND PULL BOXES, WHETHER OR NOT SPECIFICALLY SHOWN ON DRAWINGS, THAT MAY BE REQUIRED TO SATISFY CODES AND THE STANDARDS OF GOOD PRACTICE. WHERE CONDUITS FOR BOTH BRANCH AND FEEDER CIRCUITS ARE RUN CONCEALED, THEY MAY BE RUN OUT OF SQUARE TO THE BUILDING PROVIDING THE SHORTEST POSSIBLE RUN IS UTILIZED. RACEWAY SIZES ARE BASED ON THE USE OF COPPER CONDUCTORS 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 OR BELOW INTERIOR SUBS - GRS. (NOTE: PVC CONDUIT IS PERMITTED OUTSIDE FOR PARKING AREA LIGHTING, SIGNS, ETC. ELBOWS SHALL BE GRS). EXPOSED ON BUILDING EXTERIOR - GRS.

CONDUIT BENDS SHALL BE MADE TO THE LARGEST POSSIBLE RADIUS FOR EASE IN PULLING CONDUCTORS AND TO PROVIDE A NEATLY INSTALLED APPEARANCE. EQUIPMENT AND CONDITIONS PERMITTING, POWER CONDUIT BENDS SHALL CONFORM TO THE FOLLOWING: 1-1/2 IN. - 18 IN. RADIUS; 2 IN. - 24 IN. RADIUS; 2-1/2 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.

EMPTY CONDUIT SYSTEMS INSTALLED FOR COMMUNICATION SYSTEMS, PUBLIC TELEPHONES, OWNER ITEMS AND OTHER SYSTEMS AS INDICATED ON DRAWINGS SHALL BE INSTALLED COMPLETE WITH NYLON PULL WIRES PROPERLY TAGGED AT BOTH ENDS FOR IDENTIFICATION.

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

ALL CONNECTIONS TO MOTORS, SOLENOID VALVES, PRESSURE SWITCHES, LIMIT SWITCHES, AND SIMILAR APPARATUS SHALL BE FLEXIBLE CONDUIT WHERE PERMITTED. WHERE EQUIPMENT IS INSTALLED OUTDOORS OR EXPOSED TO MOISTURE, USE LIQUIDTIGHT FLEXIBLE CONDUIT WITH WATERTIGHT FITTINGS.

**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 MULTIPLE CONDUITS USING CHANNEL TRAPEZE SUPPORTS TIGHT TO STRUCTURE 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" ON CENTERS  
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 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.

**WIRING 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 OF EVERY CHARACTER. IT IS THE INTENT OF THESE SPECIFICATIONS AND DRAWINGS THAT ALL SYSTEMS AND EQUIPMENT SHALL BE PROVIDED WITH ALL NECESSARY UTILITY CONNECTIONS, COMPLETED TO ALLOW SAFE AND PROPER OPERATION OF S&D SYSTEMS, WHEN IT IS NECESSARY FOR TRADES 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 INSTALLATION. A 5% VOLTAGE DROP MAY OCCUR FOR ANY BRANCH CIRCUIT WHERE MORE THAN THREE CURRENT CARRYING CONDUCTORS ARE ENCLOSED IN THE SAME RACEWAY. CONDUCTORS ARE TO BE DERATED PER N.E.C. AND WIRE SIZE INCREASED AS REQUIRED. WHERE THE INCREASED CONDUCTOR SIZE REQUIRES INCREASE THE RACEWAY SIZE AS WELL. FOR CONTROL WIRING, USE #14 AWG MINIMUM. FOR FUTURE WIRING, AS PERMITTED BY N.E.C., USE #18 AWG 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 MADE AT AN ACCESSIBLE LOCATION WITHIN A BOX BY TWISTING THE BARE CONDUCTOR ENDS TOGETHER AND APPLYING A WIRE CONNECTOR IN ALL SIZES UP TO THE MAXIMUM CAPACITY OF THE CONNECTOR. JOINTS SHALL BE TAPED WITH AN APPROVED ELECTRICAL TAPE. SPLICES FOR CONDUCTORS LARGER THAN #10 AWG SHALL BE MADE WITH AN APPROVED COMPRESSION (SQUEEZE) CONNECTOR INSULATED WITH NOT LESS THAN TWO LAYERS OF ELECTRICAL FILL 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 N.E.C.

IDENTIFY ALL WIRES AND CABLES WITH BRADY ADHESIVE WIRE MARKERS AT EACH BOX, PANEL, AND OUTLET. IDENTIFICATION SHALL, AS A MINIMUM, INDICATE THE PANEL AND CIRCUIT SUPPLYING THE OUTLET. AT THE PANEL END, THE LOAD SERVED AND ITS LOCATION SHALL BE INDICATED. PROVIDE A MINIMUM OF 8 IN. SLACK WIRE AT EACH OUTLET FOR MAKING CONNECTION TO THE DEVICE OR TO PROVIDE FOR A FUTURE DEVICE IN THE BOX.

**BOXES**  
EACH BOX SHALL BE OF PROPER SIZE TO ACCOMMODATE THE DEVICE AND FUNCTION FOR WHICH IT IS SHOWN. BOXES FOR WALL DEVICES SHALL BE FURNISHED COMPLETE WITH PLASTER RING OR TILE RING ACCORDING TO WALL CONSTRUCTION WHERE REQUIRED. BOXES FOR INSTALLATION IN MASONRY WALLS SHALL BE SPECIAL SQUARE CORNER MASONRY TYPE. BOXES FOR MOUNTING OF LIGHTING FIXTURES SHALL BE FOUR INCH OCTAGON, EQUIPPED WITH 3/8 IN. "NO-BOLT" FIXTURE STUD. BOXES FOR FLOOR OUTLETS SHALL BE CONCRETE PROOF STEEL BOXES WITH ADJUSTABLE TOPS AND DEVICES AS 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.

TELEPHONE, ALARM AND SIGNAL SYSTEM OUTLET BOXES SHALL BE STANDARD 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 ADAPTER RING.

LOCATE ALL OUTLETS AS INDICATED ON DRAWINGS, HOWEVER, AT INSTALLATION INSPECT ARCHITECTURAL DRAWINGS AND LOCATE LOCAL SWITCHES ON THE STRIKE SIDE OF THE DOOR.

**SYSTEM GROUNDING**

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.

GROUND RECEPTACLES AND POWER OUTLETS TO THE CONDUIT SYSTEM WITH A GREEN GROUNDING CONDUCTOR SIZE IN ACCORDANCE WITH N.E.C. AND CONNECTED BETWEEN THE DEVICE GROUNDING SCREW AND THE OUTLET BOX. CONNECTION TO THE BOX MAY BE A 1" CLIP OR BY A 1024 SCREW THREADED INTO A HOLE IN THE BACK OF THE BOX AND USED FOR NO OTHER PURPOSE. EQUIPMENT CONNECTED TO THE ELECTRICAL SYSTEM SHALL BE GROUNDED 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 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 GROUND CONDUCTOR - SIZE AS PER N.E.C. REQUIREMENTS, SOFT DRAWN OR 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.-4IN. ABOVE FINISH FLOOR, EXCEPT THAT THE HIGHEST BREAKER HANDLE SHALL BE BELOW 8 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 CONDUCTORS WITH ADHESIVE WRAP LABELS WITHIN 2 IN. OF THE CONDUCTOR 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 EXT LIGHTING.

**CLEANING**  
THOROUGHLY CLEAN ALL FIXTURES, SWITCHES, OTHER DEVICES, PANELBOARDS, AND EQUIPMENT PROVIDED OR CONNECTED IN THIS CONTRACT. ALL SURFACES SHALL BE PROPERLY POLISHED AND SHALL BE FREE OF PAINT AND ALL OTHER DIRT OR DEBRIS. TOUCHUP OR COMPLETELY REFINISH ALL EQUIPMENT FURNISHED WITH FACTORY FINISHES THAT IS DAMAGED DURING DELIVERY OR CONSTRUCTION. PROPERLY PROTECT THE FRONTS OF ALL PANELBOARDS, SWITCHBOARDS AND SIMILAR EQUIPMENT TO PREVENT MARRING AND OTHER 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**  
TEST ALL CIRCUITS TO ASSURE THEM TO BE FREE OF GROUNDS AND SHORTS. 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 CAPACITY, SPEED, AND OVERALL SATISFACTORY OPERATION. CHECK THAT THE PROPER OVERLOAD HEATERS HAVE BEEN INSTALLED BY READING THE MOTOR NAMEPLATE. ADJUST THE SIZE OF THE OVERLOAD HEATER AS REQUIRED TO MATCH THE MOTOR NAMEPLATE. OPERATE ALL MAIN AND FEEDER SWITCHES AND 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



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