SDCI DIRECTOR'S RULE 07-2025

Applicant:

City of Seattle
Department of Construction and Inspections

Supersedes: 5-2004
Effective: January 8, 2026
Publication Date: December 24, 2025

Subject:

Alteration and Repair of Unreinforced Masonry Chimneys

Code and Section Reference: 2021 Seattle Residential Code Section R107.5.3
Index: Seattle Residential Code

Type of Rule: Code Interpretation
Ordinance Authority: SMC 3.06.040

Approved

(Signature on file)
Brooke Belman, Director, SDCI Date: January 8, 2026

Background:

Unreinforced masonry (URM) chimneys are extremely vulnerable to earthquake damage due to their height, weight and weak structural connections. URM chimneys may collapse during even a minor earthquake creating a serious safety risk to building occupants and pedestrians. SDCI has the authority to require mitigation of URM chimneys through the following building code sections:

- 2021 Seattle Residential Code R107.5.3,
- 2021 Seattle Building Code 102.2,
- 2021 Seattle Existing Building Code 101.14 and 302.9.

All alterations or repairs of existing chimneys and substantial alteration projects must comply with this rule to enhance life safety and reduce the risk posed by URM chimneys.

WARNING- Chimneys may be used for venting more than one appliance. For example, the same chimney may vent both a gas water heater and a fireplace. Before capping or removing a chimney, it is important to verify that it is not needed to vent any other appliance.

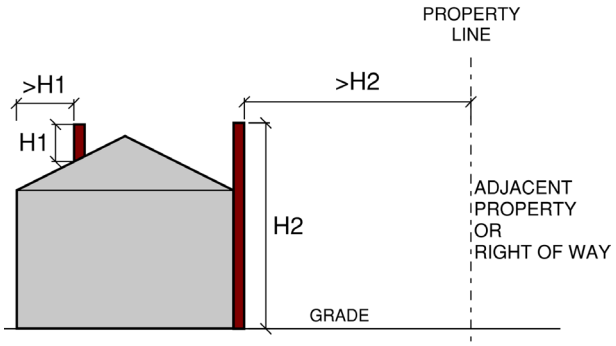
Rule:

Part A below applies to all alterations or repairs to URM chimneys or substantial alteration projects with URM chimneys. Part B provides prescriptive options for repair or alteration of a URM chimney, or an engineered design can be provided. Complete removal of a chimney is also a valid compliance method.

Part A: Policies for repairs and alterations

1. A building permit is required for all work, except as noted below, and the permit and plan review fees will be based on the value of construction. All work, even unpermitted, must conform to the requirements in this rule. **Exceptions:**
   1.1. Minor patching does not require a permit and need not comply with this rule.
   1.2. A permit is not required where the value of chimney alterations or repairs is less than $6,000 as permitted in exception 1 of the Seattle Residential Code (SRC) Section R105.2.
2. Chimney mitigation may consist of any of the following:
   2.1. Engineered design by a registered design professional.
   2.2. Prescriptive design in accordance with Part B of this rule for chimneys less than 12 feet tall above the roof line. Chimneys taller than 12 feet may be reduced in height to use prescriptive methods, otherwise engineered design is required.
   2.3. Removal of the URM chimney.

3. Any existing unreinforced masonry that is to remain must be evaluated for damage or deterioration, and tuckpointed as needed.
4. There are two exceptions where mitigation is recommended but not required. H1 and H2 dimensions must be checked in the direction which the chimney is most likely to collapse.
   4.1. When the chimney height above the roof (H1) is less than its distance to the edge of the roof (>H1), or
   4.2. When the chimney distance (>H2) to the property line is greater than the height of the chimney from grade (H2). See sketch below:



5. The owner or contractor must call SDCI for inspections at the following times:
   5.1. When the chimney demolition is complete and the contractor is ready to start repair,
   5.2. Prior to placing concrete for the bond beam (Attachment B, if used); and
   5.3. When the work is complete.

Part B: Options for Repair and Alteration

General Requirements:

These general requirements apply to both engineered design and the prescriptive options below.

1. All chimneys that extend more than 3 feet above the lowest portion of the roof adjacent to the chimney must be braced back to the building at a minimum of two points, e.g., roof and floor or roof and diagonal brace, unless exception 3.1of Part B is met.
2. Where chimney alterations or repairs extend below the top of the smoke chamber, the smoke chamber and the chimney must be entirely rebuilt in full compliance with current code requirements.
3. All chimney alterations or repairs must be constructed with reinforced masonry, or the chimney must be replaced with a factory-built metal chimney. **Exception:**
   3.1. Repair work limited to the top two feet of the chimney is considered minor patching. This exception does not apply to chimney alterations or substantial alteration projects.

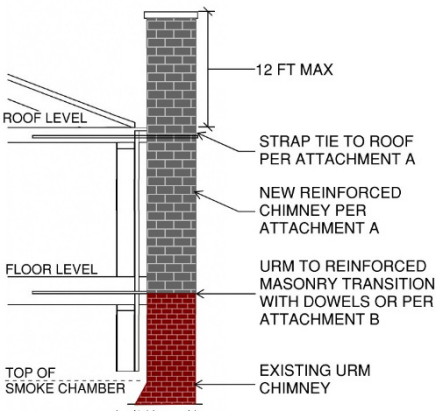
Prescriptive Options

Choose one of the options below which are a prescriptive alternative to current code for chimney repair and alteration. They are intended to mitigate the most common weaknesses in URM chimneys. Attachments A-C apply to all masonry chimney construction and Attachments D and E apply to new manufactured metal chimney installations. All attachments are appended to this rule.

- Attachment A "Typical Masonry Fireplace Chimney Repair"
- Attachment B "Concrete Bond Beam Anchorage Into Building"
- Attachment C "Typical Masonry Chimney Roof Brace"
- Attachment D "Transition from Masonry Fireplace to Metal Chimney"
- Attachment E "Adapter Kit, Transition from Masonry Fireplace to Metal Chimney"

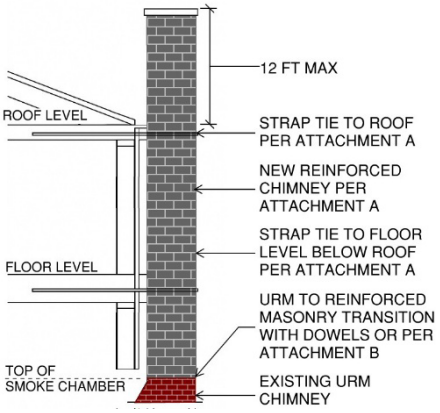
Option 1: Support at the floor and roof lines.

- Demolish the existing chimney to the floor line below the roof.
- Rebuild from that point upward in reinforced masonry, in compliance with Attachment A.
- New rebar must be dowelled into the existing chimney at least 12 inches, or Attachment B must be used at the transition from URM to new reinforced masonry.
- Tie the reinforced portion to the building at the roof line and the floor line below the roof with a strap per Attachment A.



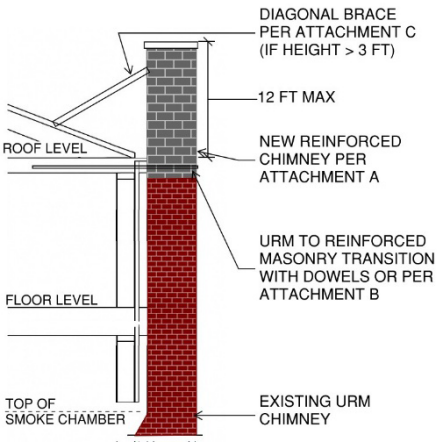
Option 2: Support at top of smoke chamber, floors and roof

- Demolish the existing chimney to the top of the fireplace smoke chamber.
- Rebuild from that point upward in reinforced masonry in compliance with Attachment A.
- New rebar must be dowelled into the existing chimney at least 12 inches, or Attachment B must be used at the transition from URM to new reinforced masonry.
- Tie the reinforced portion to the building at roof line and any floor line with a strap per Attachment A.



Option 3: Brace to roof and support at roof line

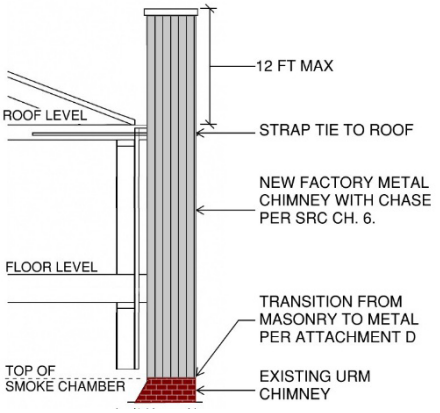
- Demolish the existing chimney to just below the roof line.
- Rebuild from that point upward in reinforced masonry in compliance with Attachment A.
- New rebar must be dowelled into the existing chimney at least 12 inches, or Attachment B must be used at the transition from URM to new reinforced masonry.
- Tie the chimney to the building at the roof line with a strap per Attachment A.



- For chimneys greater than 3 feet high above the roof, provide an external brace in the upper portion of the chimney in accordance with Attachment C.

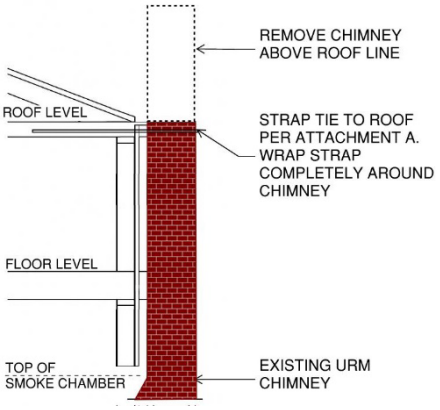
Option 4: Replacement with factory-built metal chimney

- Demolish the existing chimney to the top of the smoke chamber.
- Install a UL listed, or equivalent, metal chimney transition assembly and a factory-built metal chimney above in accordance with Attachment D and Attachment E standard details.
- Tie the metal chimney at the roof level and brace the upper portion back to the roof according to the manufacturer's recommendations.
- A chase enclosure may be constructed in compliance with SRC Chapter 6.

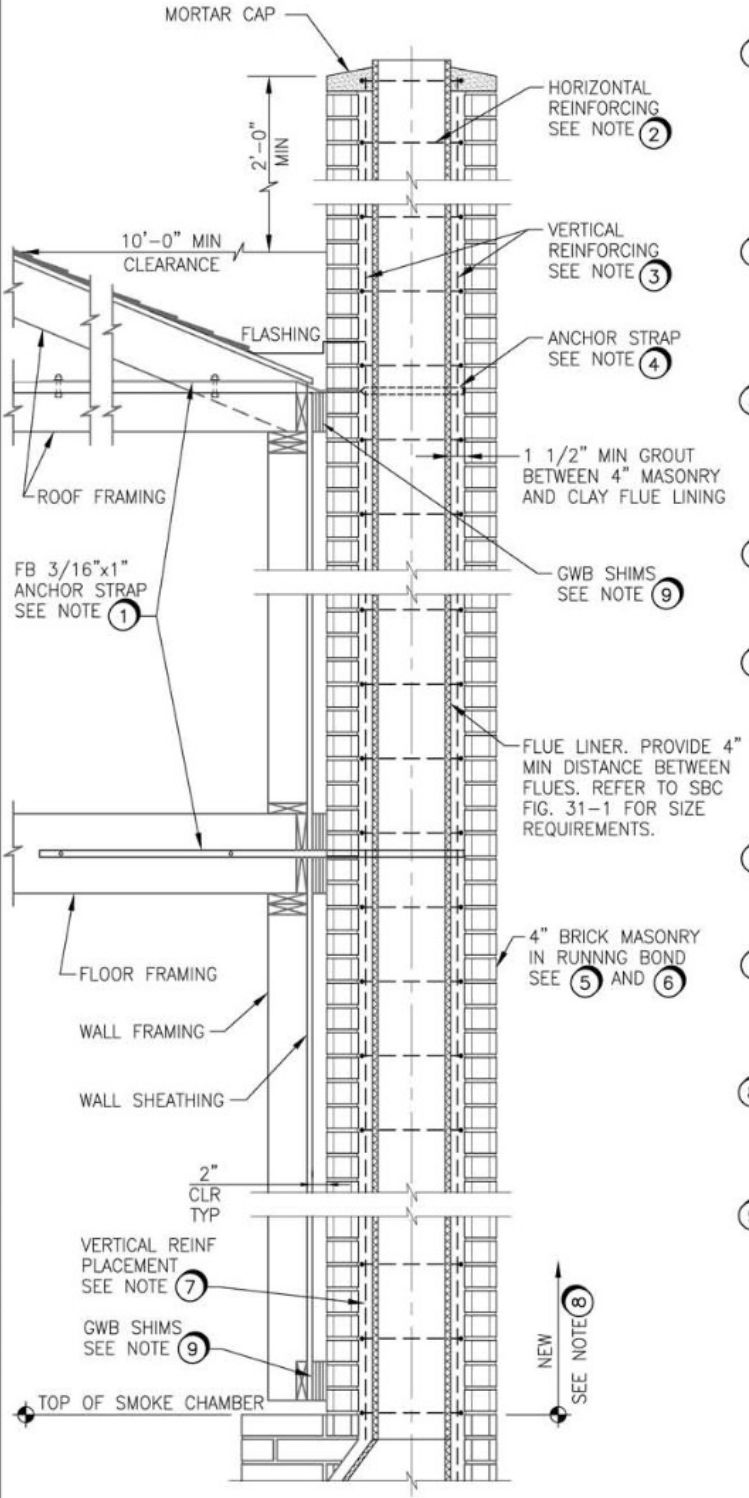


Option 5: Demo above the roof and support at roof line

- Demolish the existing chimney to the roof line, or lower.
- Cap the chimney and discontinue use.
- Tie the chimney to the building at roof line with a strap per Attachment A, Note 1. If a chimney is demolished below the roof line, tie the chimney to the floor level below the cap. The tie strap must be wrapped completely around the exterior of the chimney.



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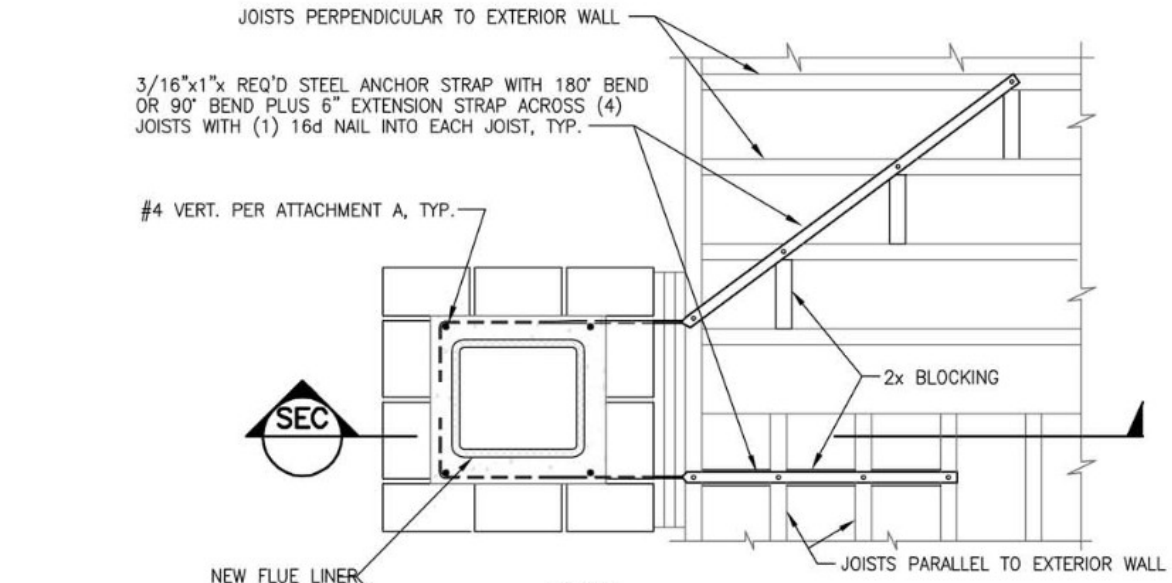


REPAIR NOTES:

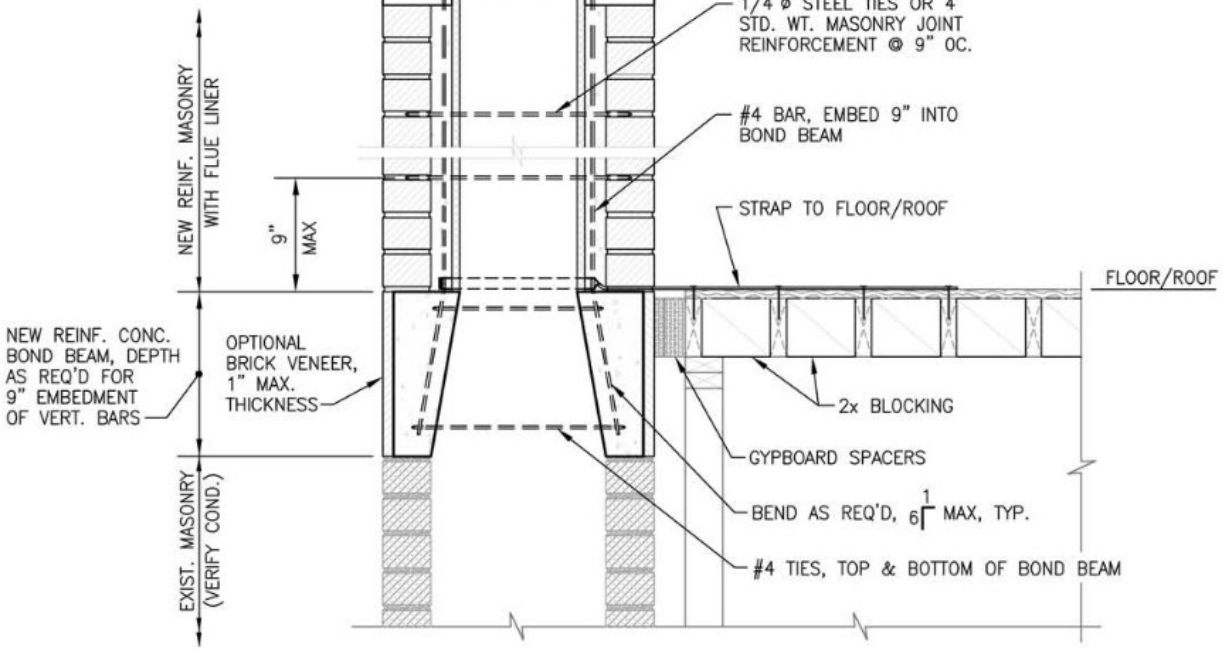
1. EACH STRAP SHALL BE FASTENED TO STRUCTURAL FRAMEWORK OF THE BUILDING W/ (2) 1/2"ø BOLTS PER STRAP. WHERE THE JOISTS DO NOT HEAD INTO THE CHIMNEY, THE ANCHOR STRAP SHALL BE CONN. TO 2x4 TIES CROSSING A MINIMUM OF 4 JOISTS. THE TIES SHALL BE CONNECTED TO EACH JOIST W/ (2) 16d NAILS. SEE ATTACHMENT B FOR ALTERNATE CONNECTION.
2. VERTICAL BARS SHALL BE TIED HORIZ. AT NOT MORE THAN 9" INTERVALS, WITH NOT LESS THAN 1/4"ø STEEL TIES OR 4" STD. WT. MASONRY JOINT REINFORCEMENT. HORIZ.L REINFORCEMENT SHALL BE PROVIDED AT ALL FLOOR AND CEILING LINES AS WELL AS IN THE CHIMNEY CAP.
3. (4) #4 FULL-LENGTH BARS FOR CHIMNEY UP TO 60" WIDE. ADD (2) #4 BARS FOR EACH ADD'L 60" (OR FRACTION THEREOF) OF WIDTH OR EACH ADD'L FLUE. VERTICAL BARS SHALL HAVE A MIN. COVER OF 1/2" OF GROUT OR MORTAR TEMPERED TO A POURING CONSISTENCY.
4. CONNECT ANCHOR STRAP AROUND THE NEAREST VERT. BARS WITH A 180° BEND OR A 90° BEND WITH AN EXTENSION OF AT LEAST 6" INTO THE GROUT SPACE.
5. MASONRY CHIMNEYS MAY BE OFFSET AT A SLOPE OF NOT MORE THAN 4 UNITS VERTICAL IN 24 UNITS HORIZONTAL (16.7% SLOPE), BUT NOT MORE THAN ONE THIRD OF THE DIMENSION OF THE CHIMNEY, IN THE DIRECTION OF THE OFFSET. THE SLOPE OF THE TRANSITION FROM THE FIREPLACE TO THE CHIMNEY SHALL NOT EXCEED 2 UNITS VERTICAL IN 1 UNIT HORIZONTAL (200% SLOPE).
6. MASONRY CHIMNEYS SHALL NOT CHANGE IN SIZE OR SHAPE WITHIN 6" ABOVE OR BELOW ANY COMBUSTIBLE FLOOR, CEILING, OR ROOF COMPONENT PENETRATED BY THE CHIMNEY.
7. BARS SHALL EXTEND FROM THE TOP OF THE SMOKE CHAMBER TO THE CHIMNEY CAP IN A FIREPLACE AND THE FULL HEIGHT OF THE CHIMNEY NOT SERVING A FIREPLACE AND SHALL BE SPLICED 20".
8. EXTEND VERTICAL REINF 12" MIN BELOW TRANSITION. FILL VOID SPACE AROUND THE EXISTING SMOKE BOX WITH GROUT BOX AS REQ'D. CHIMNEYS THAT EXTEND MORE THAN 12'-0" ABOVE THE EAVE MUST BE DESIGNED BY A STRUCTURAL ENGINEER.
9. COMBUSTIBLE MATERIALS SHALL NOT BE PLACED WITHIN 2 INCHES OF FIREPLACE, SMOKE CHAMBER, OR CHIMNEY WALLS.

ATTACHMENT A
TYPICAL MASONRY FIREPLACE CHIMNEY REPAIR

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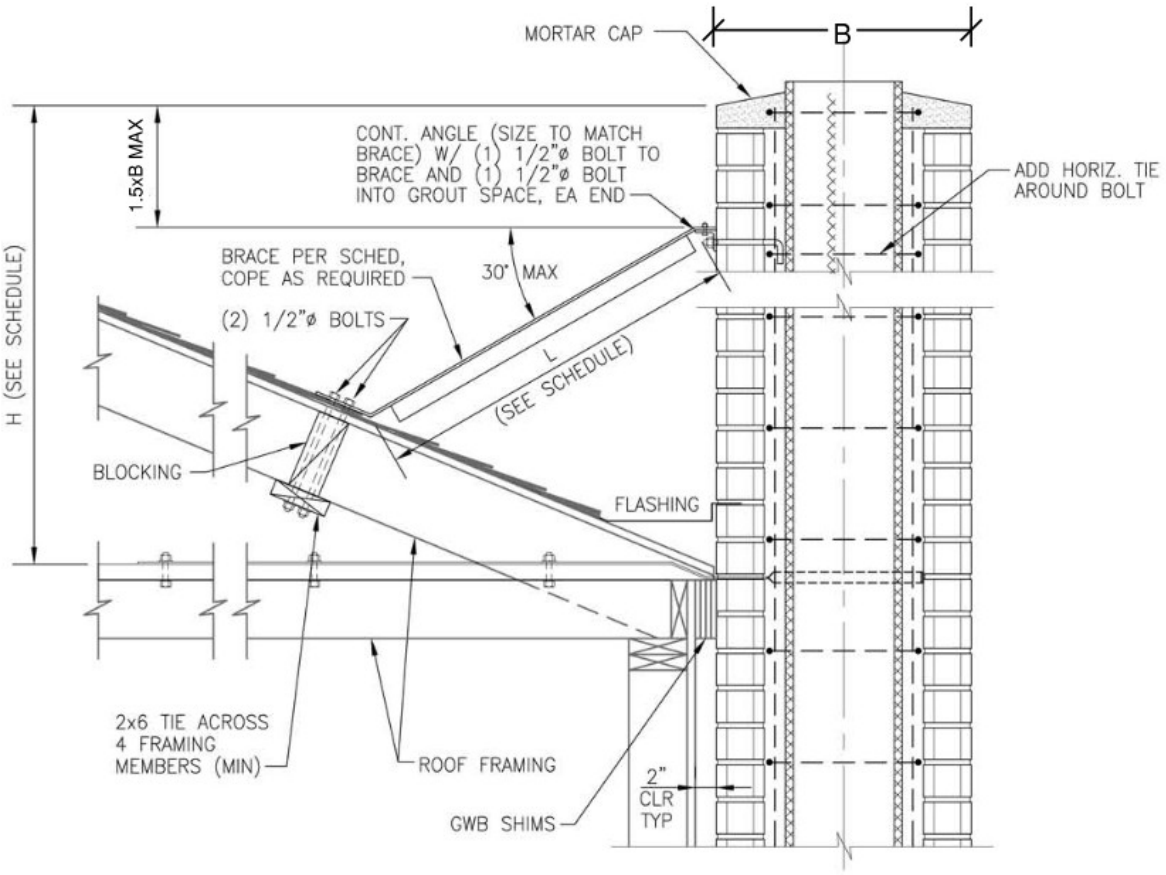
PLAN



SEC SECTION – PARTIAL CHIMNEY REBUILD

ATTACHMENT B
CONCRETE BOND BEAM ANCHORAGE INTO BUILDING

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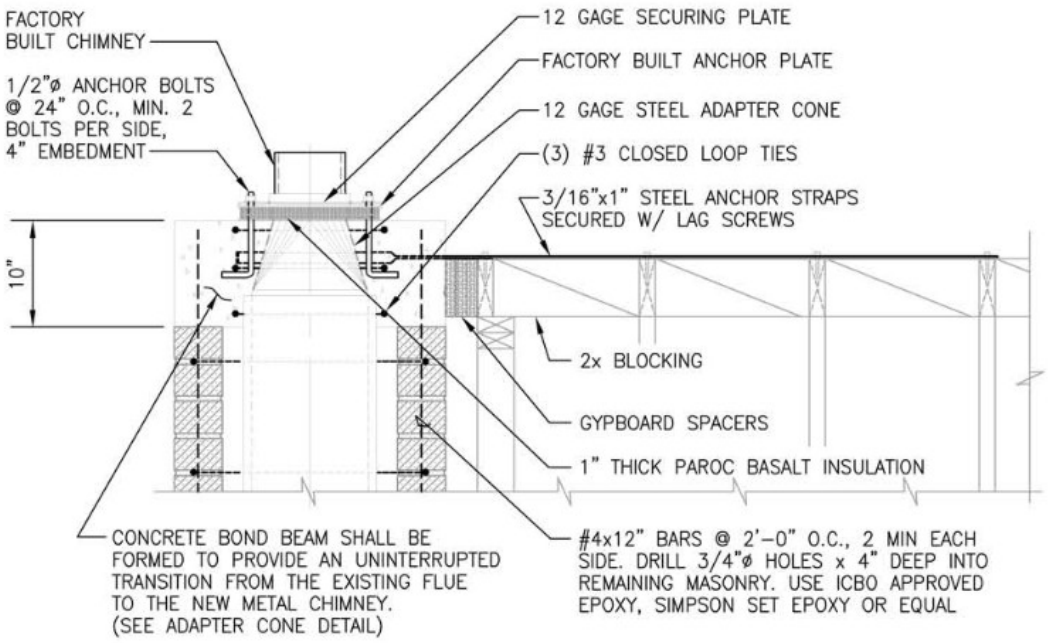
BRACE SCHEDULE			
HEIGHT ABOVE EAVE (H)	LENGTH OF BRACE (L)	BRACE SIZE	NO. OF BRACES
6'–0" MAX	6'–0" MAX	L 2 x 2 x 1/4	1 (CENTERED)
12'–0" MAX	12'–0" MAX	L 2 1/2 x 2 1/2 x 3/8	2 (1 EACH END)

NOTES:

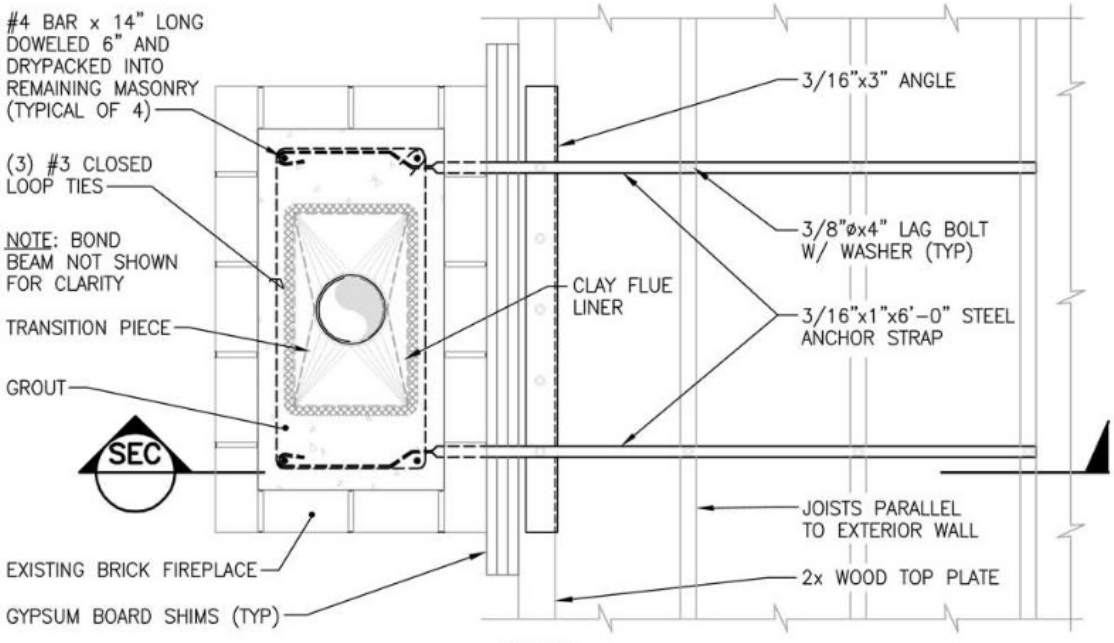
1. THIS DETAIL APPLIES TO CHIMNEYS WITH CROSS–SECTIONAL AREA ≤ 720 SQ. IN. (36"x20").
2. FOR CHIMNEYS WITH CONDITIONS IN EXCESS OF THAT SHOWN, BRACES SHALL BE DESIGNED BY A STRUCTURAL ENGINEER.
3. SEE ATTACHMENT "A" FOR INFORMATION NOT SHOWN.

ATTACHMENT C
TYPICAL MASONRY CHIMNEY ROOF BRACE

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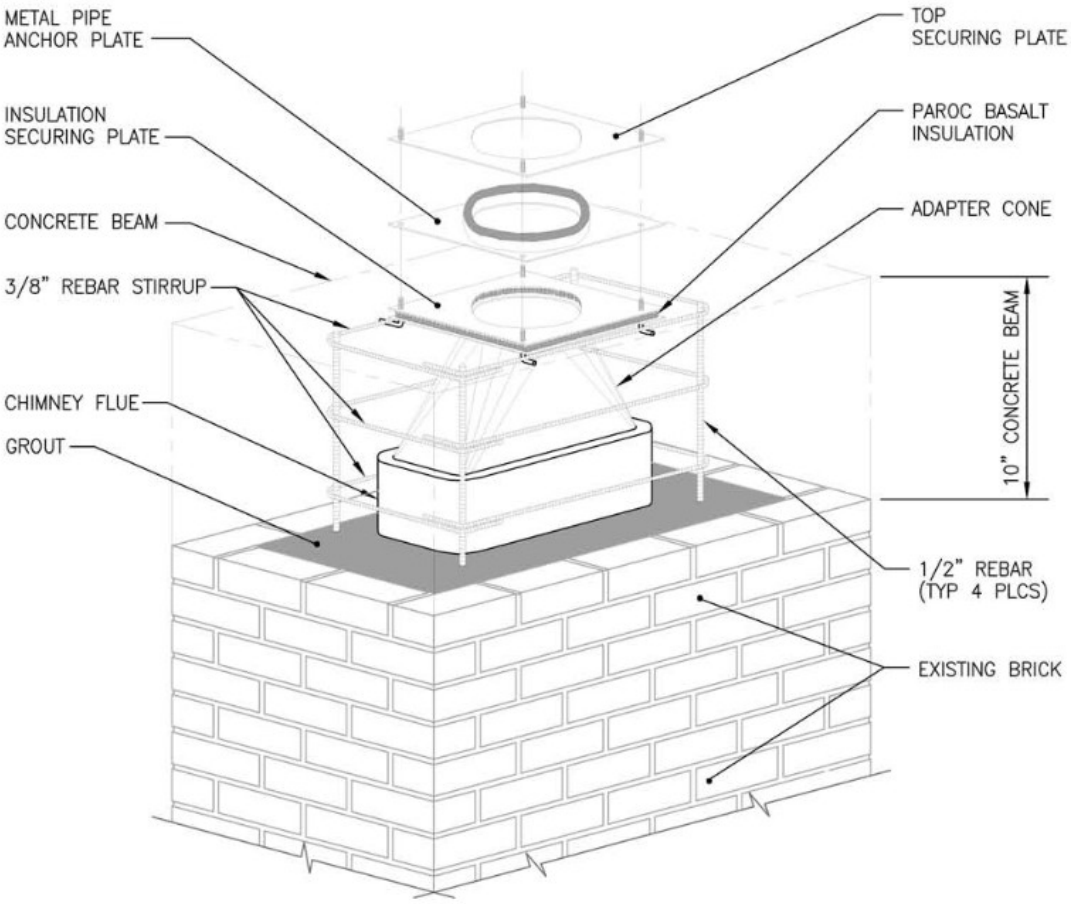
SEC SECTION AT BOND BEAM



PLAN

ATTACHMENT D
TRANSITION FROM MASONRY FIREPLACE TO METAL CHIMNEY

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NOTE:
REFER TO ATTACHMENT D FOR ADDITIONAL INSTALLTION REQUIREMENTS.

ATTACHMENT E
ADAPTER KIT, TRANSITION FROM MASONRY FIREPLACE TO METAL CHIMNEY