

This handout is intended only as a guide and is based in part on the 2020 Minnesota State Building Code, Cambridge City ordinances, and good building practice. While every attempt has been made to insure the correctness of this handout, no guarantees are made to its accuracy or completeness. Responsibility for compliance with applicable codes and ordinances falls on the owner or contractor. For specific questions regarding code requirements, refer to the applicable codes or contact the Cambridge Building Department.

## SCOPE

The scope of this handout will be limited to the installation of Asphalt Shingle roof coverings.

## PERMITS, INSPECTIONS, AND LICENSES

- Building permits are required for all roofing projects. Permits can be obtained from the Cambridge City Hall, 300 Third Ave NE; or online at [ci.cambridge.mn.us](http://ci.cambridge.mn.us)
- The Building Department will conduct 2 inspections: one inspection is done via digital pictures that are emailed to the Building Official which verify sheathing condition, flashing & ventilation, and that Ice & Water barrier is properly installed. And a final inspection after completion. If any after hours or weekend work is being performed, notify the building department first because specific pictures may be required to verify compliance before covering with shingles.
- All roofing contractors must be licensed to obtain a permit. Specific questions regarding contractors should be directed to the Minnesota Department of Labor and Industry.

## DEBRIS

The removal of existing roofing materials often results in debris moving about the neighborhood on windy days. All debris must be contained and removed in a timely manner to prevent it from blowing around onto adjacent properties.

## GENERAL

- All roof covering materials must be delivered in packages bearing the manufacturers identifying marks and approved testing agency labels when required.
- All asphalt shingles must be either self-sealing or interlocking.
- Roof decks must be solidly sheathed for asphalt shingles or mineral-surfaced roll roofing. Solid sheathing may be plywood, OSB, or 1-inch nominal boards.
- Wood shingles and shakes may be applied over solid or spaced sheathing.
- Roof decks that are rotted or unsound must be repaired prior to reroofing.



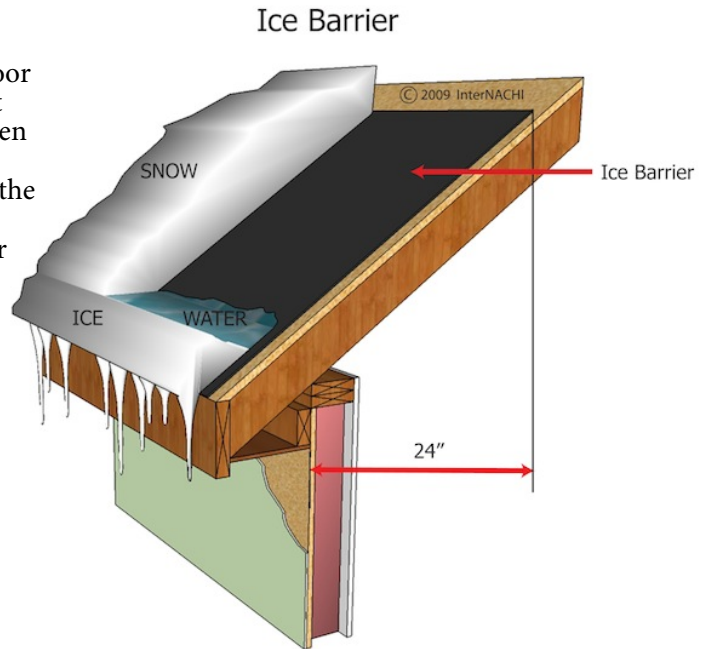
## REROOFING

New roofing may be installed over an existing roof but shall be limited to a total of two layers. Existing flashing, roof vents, etc. may not be reused. Flashing and other materials in good condition may only be reinstalled if it can be shown that flashing longevity can equal the shingle's rating. All roofing materials and fasteners are required to be compatible. Any sheathing that is replaced must be installed and fastened according to the code.

## ICE AND WATER BARRIERS

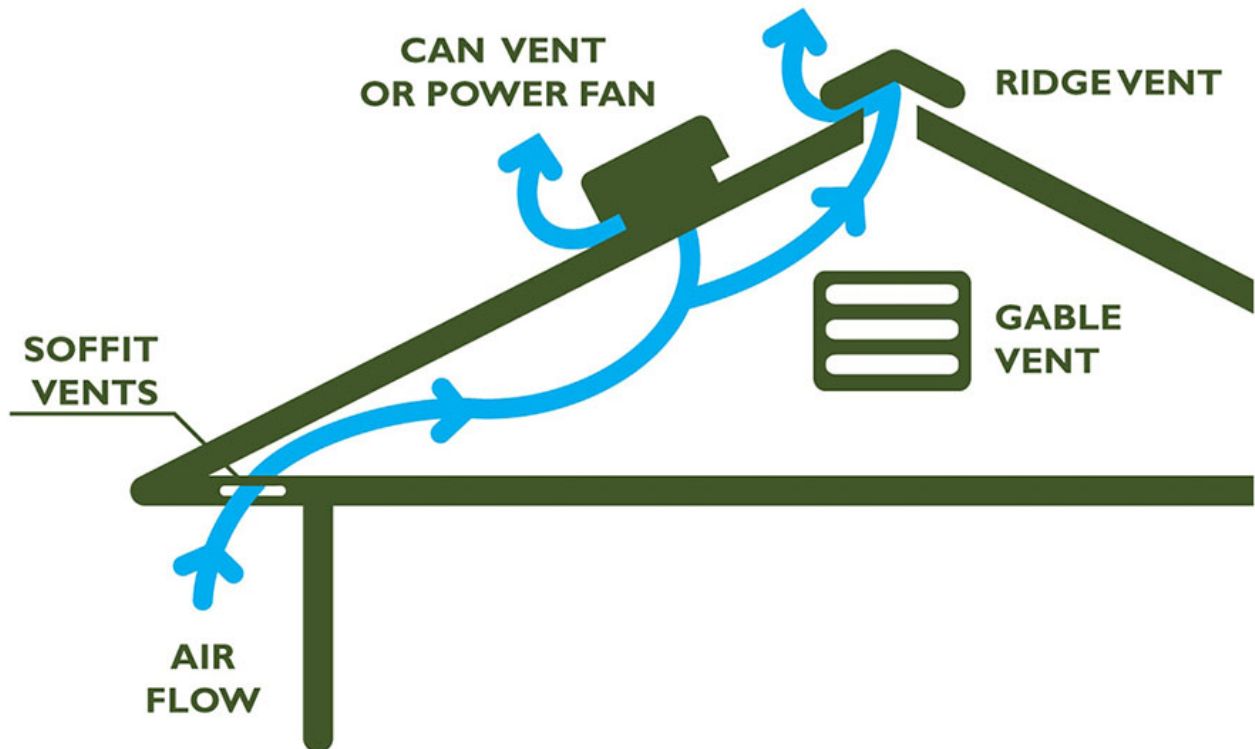
An ice and water barrier is required on all roofs, except for detached accessory structures that contain no conditioned floor area. The barrier must be at least two layers of underlayment cemented together or a self-adhering polymer modified between sheet. The ice and water barrier must extend from the edge of the eaves to a point at least 24 inches inside the exterior wall line of the building. There are several manufacturers who make materials specifically for Ice Barrier this requirement that are marketed under differing trade names. Ice and water barriers are not required along the rakes or in valleys.

Where the existing roof assembly includes an ice barrier membrane that is adhered to the roof deck, the existing ice barrier membrane shall be permitted to remain in place and covered with an additional layer of ice barrier membrane.



## VENTILATION

- Ventilation of enclosed attics and enclosed rafter spaces is required. Ventilated openings must be provided with corrosion resistant mesh with openings of  $\frac{1}{2}$ " to  $\frac{1}{4}$ " inch.
- For attics without ceiling vapor barriers, 1 square foot of net free ventilating area should be provided for each 150 square feet of attic area.
- For attics with vapor barriers, and/or having 40-50% of the ventilating area provided by ventilators located with 3 feet of the ridge and the balance of the ventilation provided in the eave or cornice vents, ventilation may be 1 square foot of net free ventilating area for each 300 square feet of attic area.



## DRIP EDGE/ GUTTERS

Roof Gutters and drip edge are optional and are not required by the building code.

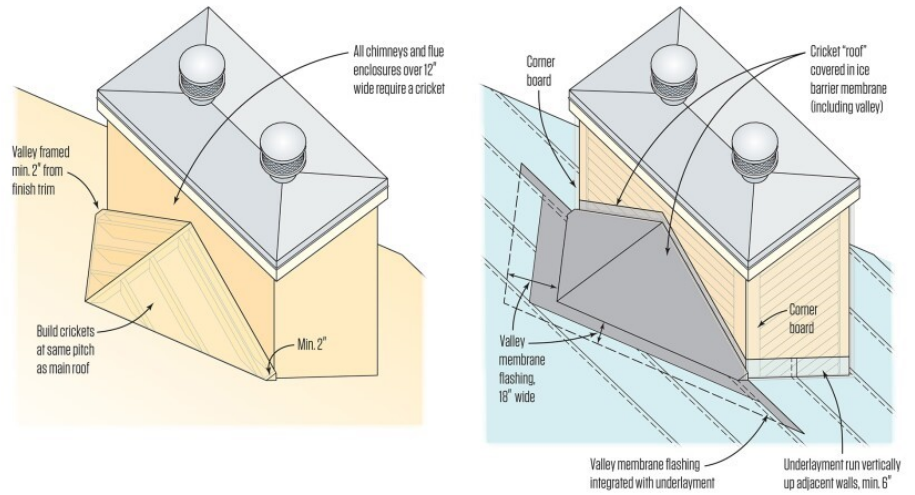
## FLASHING

Flashing is required at all wall and roof intersections, wherever there is a change in roof slope or direction, and around roof openings. When flashing is metal, it must be corrosion resistant metal with a thickness of not less than 0.019 inch (No. 26 galvanized sheet). Flashing against vertical front walls, soil stacks, vent pipes, and chimney flashing must be in accordance with the asphalt shingle manufacturer's printed instructions. Sidewall flashing may be either step flashing or continuous flashing and is required whenever wall and roof intersections occur. Crickets or saddles are required on the ridge side of any chimney greater than 30 inches wide. Cricket or saddle coverings must be of sheet metal or of the same material as the roof covering.

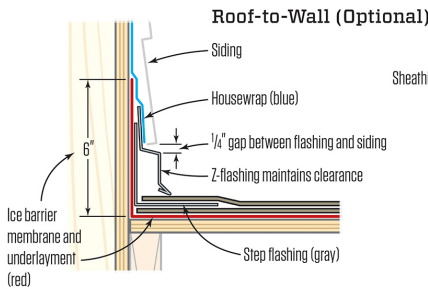
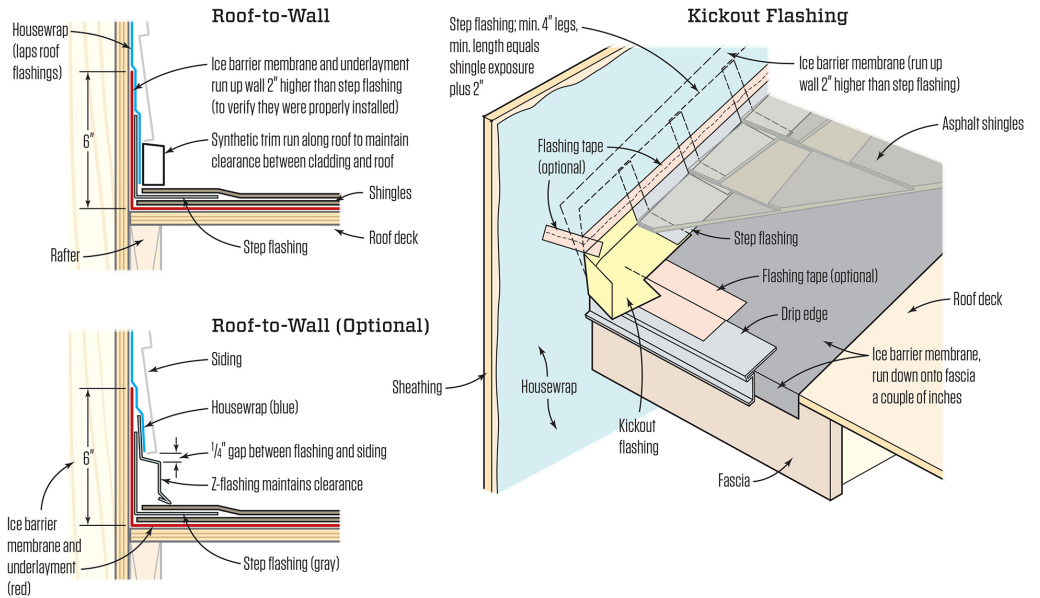
## KICK-OUT FLASHING

Locations. Flashings shall be installed at wall and roof intersections, wherever there is a change in roof slope or direction and around roof openings. A kick-out flashing shall be installed to divert the water away from where the eave of a sloped roof intersects a vertical sidewall. The kick-out flashing on the roof shall be a minimum of 2 1/2" long. Where flashing is of metal, the metal shall be corrosion resistant with a thickness of not less than 0.019 inch (No. 26 galvanized sheet).

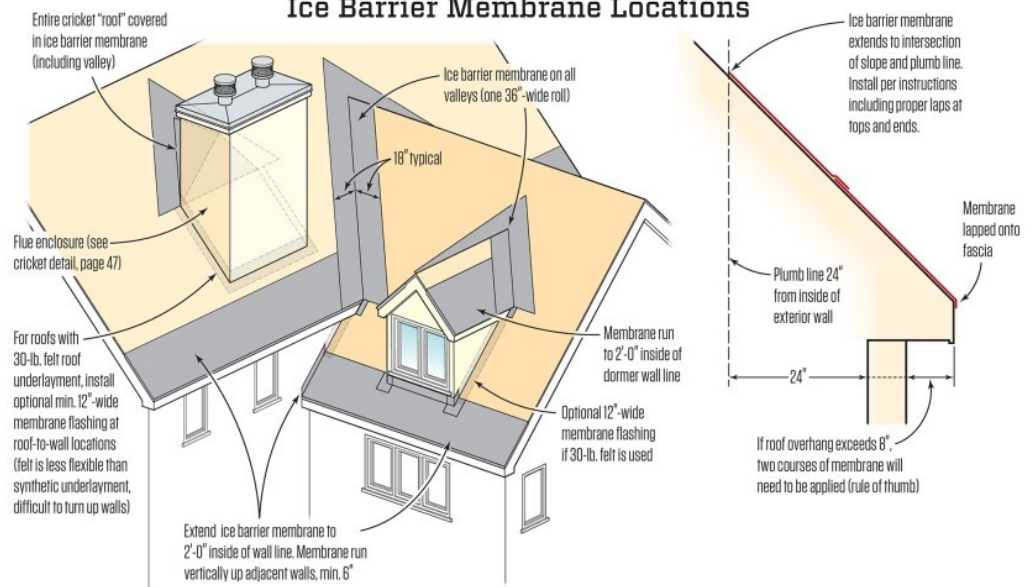
## Cricket Details



## Sidewall Flashing Details

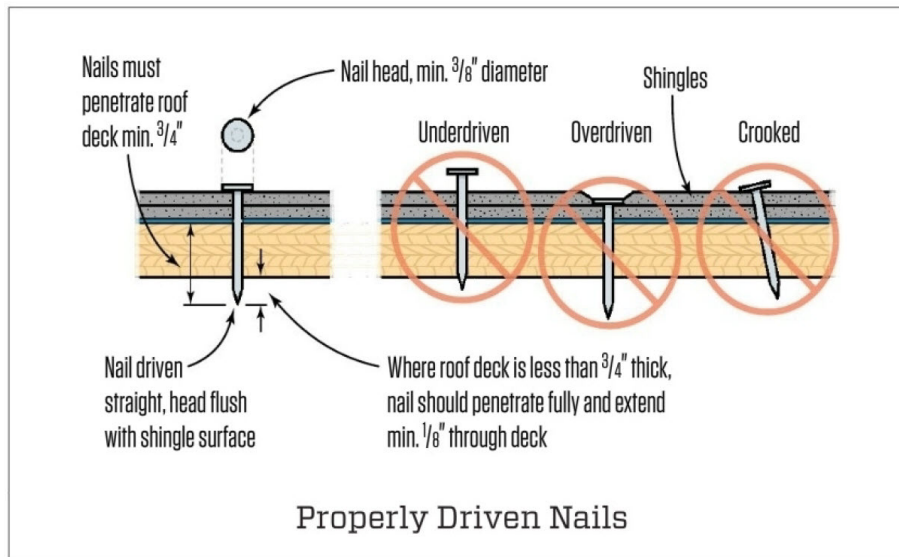


## Ice Barrier Membrane Locations



## ASPHALT SHINGLES

- Fasteners: Must be galvanized steel, stainless steel, aluminum, or copper roofing nails. Minimum 12 gauge shank, min. 3/8 diameter head, and of a length to penetrate through decking, or a min. 3/4 of the way into 3/4" decking.
- Asphalt shingles may only be used on roof slopes of two units vertical in 12 units horizontal (2: 12) or greater. For roof slopes from 2: 12 to 4: 12, double underlayment is required. Underlayment must conform to ASTM D 226, Type I; ASTM D 4869, Type I; or ASTM D 6757. For slopes of 4: 12 and greater, underlayment must be applied shingle fashion. Laps must be a minimum of 2 inches. End laps must be offset by at least 6 feet.
- For normal application, strip shingles must be fastened with a minimum of four nails. For interlocking shingles, two nails are required. See the manufacturer's installation instructions.
- Valleys must be lined in accordance with the shingle manufacturers written instructions. In addition, valleys may be of any of the following:
  - For open valleys lined with metal, the valley lining must be at least 24 inches wide and of galvanized steel of at least 26 gage or other approved materials.
  - For open valleys, two plies of roll roofing may be permitted. The bottom layer must be at least 18 inches wide and the top layer at least 36 inches wide.
  - For closed valleys (valleys covered with shingles), valley lining of one ply of smooth roll roofing complying with ASTM D 224 Type II or Type III and at least 36 inches wide or one of the two methods previously listed may be used.



## Eaves Details

