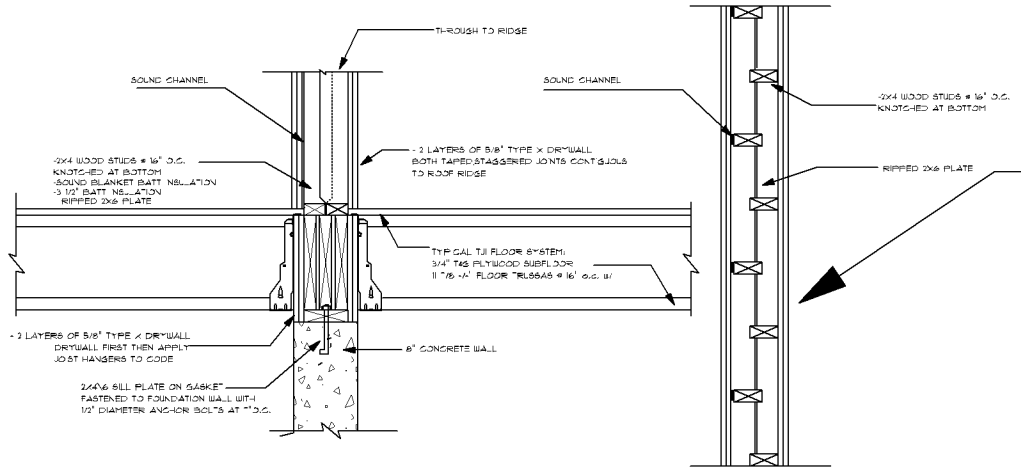

A Cross Section of the Two Family Dwelling Unit Separation (Section R302.3)

R302.2.3 Parapet construction. Parapets shall have the same fire-resistance rating as that required for the supporting wall or walls. On any side adjacent to a roof surface, the parapet shall have noncombustible faces for the uppermost 18 inches (457 mm), to include counterflashing and coping materials. Where the roof slopes toward a parapet at slopes greater than 2 units vertical in 12 units horizontal (16.7-percent slope), the parapet shall extend to the same height as any portion of the roof within a distance of 3 feet (914 mm), but in no case shall the height be less than 30 inches (762 mm).

R302.2.4 Structural independence. Each individual *townhouse* shall be structurally independent.

Exceptions:

1. Foundations supporting *exterior walls* or common walls.
2. Structural roof and wall sheathing from each unit may fasten to the common wall framing.
3. Nonstructural wall and roof coverings.
4. Flashing at termination of roof covering over common wall.
5. *Townhouses* separated by a common 1-hour fire-resistance-rated wall as provided in Section R302.2.

R302.3 Two-family dwellings. *Dwelling units* in two-family dwellings shall be separated from each other by wall and/or floor assemblies having not less than a 1-hour fire-resistance rating when tested in accordance with ASTM E 119 or UL 263. Fire-resistance-rated floor-ceiling and wall assemblies shall extend to and be tight against the *exterior wall*, and wall assemblies shall extend from the foundation to the underside of the

Exceptions:

1. A fire-resistance rating of $^1/_2$ hour shall be permitted in buildings equipped throughout with an automatic sprinkler system installed in accordance with NFPA 13.
2. Wall assemblies need not extend through *attic* spaces when the ceiling is protected by not less than $^5/_8$-inch (15.9 mm) Type X gypsum board and an *attic* draft stop constructed as specified in Section R302.12.1 is provided above and along the wall assembly separating the *dwellings*. The structural framing supporting the ceiling shall also be protected by not less than $^1/_2$-inch (12.7 mm) gypsum board or equivalent.

R302.3.1 Supporting construction. When floor assemblies are required to be fire-resistance rated by Section R302.3, the supporting construction of such assemblies shall have an equal or greater fire-resistance rating.

R302.4 Dwelling unit rated penetrations. Penetrations of wall or floor/ceiling assemblies required to be fire-resistance rated in accordance with Section R302.2 or R302.3 shall be protected in accordance with this section.

302.4.1 Through penetrations. Through penetrations of re-resistance-rated wall or floor assemblies shall comply ith Section R302.4.1.1 or R302.4.1.2.

Exception: Where the penetrating items are steel, ferrous or copper pipes, tubes or conduits, the annular space shall be protected as follows:

1. In concrete or masonry wall or floor assemblies, concrete, grout or mortar shall be permitted where installed to the full thickness of the wall or floor assembly or the thickness required to maintain the fire-resistance rating, provided:
   1.1. The nominal diameter of the penetrating item is a maximum of 6 inches (152 mm); and
   1.2. The area of the opening through the wall does not exceed 144 square inches (92 900 mm²).
2. The material used to fill the annular space shall prevent the passage of flame and hot gases sufficient to ignite cotton waste where subjected to ASTM E 119 or UL 263 time temperature fire conditions under a minimum positive pressure differential of 0.01 inch of water (3 Pa) at the location of the penetration for the time period equivalent to the fire resistance rating of the construction penetrated.

R302.4.1.1 Fire-resistance-rated assembly. Penetrations shall be installed as tested in the *approved* fire-resistance-rated assembly.

R302.4.1.2 Penetration firestop system. Penetrations shall be protected by an *approved* penetration firestop system installed as tested in accordance with ASTM E 814 or UL 1479, with a minimum positive pressure differential of 0.01 inch of water (3 Pa) and shall have an F rating of not less than the required fire-resistance rating of the wall or floor/ceiling assembly penetrated.

R302.4.2 Membrane penetrations. Membrane penetrations shall comply with Section R302.4.1. Where walls are required to have a fire-resistance rating, recessed fixtures shall be installed so that the required fire-resistance rating will not be reduced.

Exceptions:

1. Membrane penetrations of maximum 2-hour fire-resistance-rated walls and partitions by steel electrical boxes that do not exceed 16 square inches (0.0103 m²) in area provided the aggregate area of the openings through the membrane does not exceed 100 square inches (0.0645 m²) in any 100 square feet (9.29 m)² of wall area. The annular space between the wall membrane and the box shall not exceed $^1/_8$ inch (3.1 mm). Such boxes on opposite sides of the wall shall be separated by one of the following:
   1.1. By a horizontal distance of not less than 24 inches (610 mm) where the wall or parti-