Summary Requirements for the conversion of an existing single family structure to a two family structure (duplex).

Due to the complexity of the building codes and the unknowns of existing construction a California licensed Architect or Engineer will be required to survey the existing structure and prepare plans for the division of the single family residence into a duplex residential structure. These plans and a permit application must be submitted to the Mariposa County Building Department for the creation of a duplex. In conjunction with the Mariposa County Building Department, the Architect or Engineer of record shall make periodic inspections and a final inspection of the conversion. Following the satisfactory inspections, the Architect or Engineer of record shall provide a stamped and signed letter to the Mariposa County Building Department stating that the conversion was constructed per plans and specifications.

Following is a summary of some of the requirements for converting an existing single family residential structure to a two family residential structure (duplex). It is highly suggested that you contact the following departments prior to your application to get an accurate idea on what will be required and if your project is feasible.

1. Contact Mariposa County Planning (209-966-5151) to determine if your project is allowed by the Mariposa County General Plan and Mariposa County Zoning Ordinance. A “residential use” (residence) is “any building or portion thereof designed or used exclusively for family living purposes which includes living, sleeping, cooking and sanitation facilities…” The Planning Department’s final requirements will be determined at the time of permit issuance.
2. Contact Mariposa County Environmental Health (209-966-2220) for any additional requirements for well and/or septic systems.
3. In the case of properties within a county-managed special district (Yosemite West for E.D.U. requirements, etc.) contact Mariposa County Public Works (209-966-5356). For properties in an independently managed special district (such as Mariposa Public Utility District, etc.) contact the district representative for any additional requirements for the conversion.
4. Contact Mariposa County Public Works (209-966-5356) for any possible encroachment issues associated with the conversion.
5. You will need to apply and receive a second address (it’s a duplex) from the Assessor’s office (209-966-2332).

Once you receive the tentative green light from the above Departments, please submit the following to the Building Department:

1. A building permit application.
2. Building plans prepared by the Design Professional of Record for the division of the existing structure. Contact the Mariposa County Building Department (209-966-3934) for application details, number of plan sets, etc.
The conversion shall meet the requirements of the California Residential Code and all applicable parts of California Title 24 as required by the Design Professional of Record and Mariposa County Building Department. Some of the Building code highlights and requirements are as follows:

1. Provide at least one side hinged egress door per unit, providing 32” clear (this usually requires a 36” door) opening per California Residential Code section R311.2. (code section attached).

2. California Residential Code section R302.3, the dwellings shall be separated by a one hour fire wall. Membrane penetrations shall not reduce the one hour rating. This addresses plastic electrical boxes, bath fans, light cans, etc. that exist in the rated fire wall separation (code section attached).

3. The California Mechanical Code section 314.4 states that return air cannot mix between the two units, which mean that each unit shall have its own separate heating and cooling system (mechanical code attached)

4. The California Electrical Code section 240.24 states that over-current devices (circuit breakers) shall be “readily accessible” to the occupants. This means that the circuit breakers for each dwelling must be “readily accessible” for each dwelling occupant. The sub-panel for the entire house cannot be located exclusively in one unit or the other. Breakers located outside of the house contained in the main service panel, accessible by everyone, is acceptable. Rewiring may be required.

5. All other basic requirements required in the California Residential Code for a dwelling shall be applicable.

6. All requirements of any Mariposa County special district shall be applicable.

For brand new duplex construction, separate electrical services, separate water heating, separate water service/metering, separate fire sprinkler systems and separate phone and cable connections shall be required also.

Thank you,

Mike Kinslow

Mike Kinslow
Building Director
Mariposa County
R310.1.1 Minimum opening area. All emergency escape and rescue openings shall have a minimum net clear opening of 5.7 square feet (0.53 m²).

Exception: Grade floor openings shall have a minimum net clear opening of 5 square feet (0.465 m²).

R310.1.2 Minimum opening height. The minimum net clear opening height shall be 24 inches (610 mm).

R310.1.3 Minimum opening width. The minimum net clear opening width shall be 20 inches (508 mm).

R310.1.4 Operational constraints. Emergency escape and rescue openings shall be maintained free of any obstructions other than those allowed by this section and shall be operational from the inside of the room without the use of keys, tools or special knowledge.

R310.2 Window wells. The minimum horizontal area of the window well shall be 9 square feet (0.9 m²), with a minimum horizontal projection and width of 36 inches (914 mm). The area of the window well shall allow the emergency escape and rescue opening to be fully opened.

Exception: The ladder or steps required by Section R310.2 shall be permitted to encroach a maximum of 6 inches (152 mm) into the required dimensions of the window well.

R310.2.1 Ladder and steps. Window wells with a vertical depth greater than 44 inches (1118 mm) shall be equipped with a permanently affixed ladder or steps usable with the window in the fully open position. Ladders or steps required by this section shall not be required to comply with Sections R311.7 and R311.8. Ladders or rungs shall have an inside width of at least 12 inches (305 mm), shall project at least 3 inches (76 mm) from the wall and shall be spaced not more than 18 inches (457 mm) on center vertically for the full height of the window well.

R310.2.2 Drainage. Window wells shall be designed for proper drainage by connecting to the building’s foundation drainage system required by Section R405.1 or by an approved alternative method.

Exception: A drainage system for window wells is not required when the foundation is on well-drained soil or sand-gravel mixture soils according to the United Soil Classification System, Group I Soils, as detailed in Table R405.1.

R310.3 Bulkhead enclosures. Bulkhead enclosures shall provide direct access to the basement. The bulkhead enclosure with the door panels in the fully open position shall provide the minimum net clear opening required by Section R310.1.1. Bulkhead enclosures shall also comply with Section R311.7.10.2.

R310.4 Bars, grilles, covers and screens. Bars, grilles, covers, screens or similar devices are permitted to be placed over emergency escape and rescue openings, bulkhead enclosures, or window wells that serve such openings, provided the minimum net clear opening size complies with Sections R310.1.1 to R310.1.3, and such devices shall be releasable or removable from the inside without the use of a key, tool, special knowledge or force greater than that which is required for normal operation of the escape and rescue opening. The release mechanism shall be maintained operable at all times.

Such bars, grilles, grates or any similar devices shall be equipped with an approved exterior release device for use by the fire department only when required by the authority having jurisdiction.

Where security bars (burglar bars) are installed on emergency egress and rescue windows or doors, on or after July 1, 2000, such devices shall comply with California Building Standards Code. Part 12, Chapter 12-3 and other applicable provisions of this code.

SECTION R311
MEANS OF EGRESS

R311.1 Means of egress. All dwellings shall be provided with a means of egress as provided in this section. The means of egress shall provide a continuous and unobstructed path of vertical and horizontal egress travel from all portions of the dwelling to the exterior of the dwelling at the required egress door without requiring travel through a garage.

R311.2 Egress door. At least one egress door shall be provided for each dwelling unit. The egress door shall be side-hinged, and shall provide a minimum clear width of 32 inches (813 mm) when measured between the face of the door and the stop, with the door open 90 degrees (1.57 rad). The minimum clear height of the door opening shall not be less than 78 inches (1981 mm) in height measured from the top of the threshold to the bottom of the stop. Other doors shall not be required to comply with these minimum dimensions. Egress doors shall be readily openable from inside the dwelling without the use of a key or special knowledge or effort.

R311.3 Floors and landings at exterior doors. There shall be a landing or floor on each side of each exterior door. The width of each landing shall not be less than the door served. Every landing shall have a minimum dimension of 36 inches (914 mm) measured in the direction of travel. Exterior landings shall be permitted to have a slope not to exceed 1/4 unit vertical in 12 units horizontal (2-percent).

Exception: Exterior balconies less than 60 square feet (5.6 m²) and only accessible from a door are permitted to have a landing less than 36 inches (914 mm) measured in the direction of travel.

R311.3.1 Floor elevations at the required egress doors. Landings or finished floors at the required egress door shall not be more than 11/2 inches (38 mm) lower than the top of the threshold.

Exception: The landing or floor on the exterior side shall not be more than 1/2 inches (19 mm) below the top of the threshold provided the door does not swing over the landing or floor.

Where exterior landings or floors serving the required egress door are not at grade, they shall be provided with access to grade by means of a ramp in accordance with
### Table R302.1(2)

<table>
<thead>
<tr>
<th>EXTERIOR WALL ELEMENT</th>
<th>MINIMUM FIRE-RESISTANCE RATING</th>
<th>MINIMUM FIRE SEPARATION DISTANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walls</td>
<td>Fire-resistance rated</td>
<td>1 hour—tested in accordance with ASTM E 119 or UL 263 with exposure from the outside</td>
</tr>
<tr>
<td></td>
<td>Not fire-resistance rated</td>
<td>0 hours</td>
</tr>
<tr>
<td>Projections</td>
<td>Fire-resistance rated</td>
<td>1 hour on the underside</td>
</tr>
<tr>
<td></td>
<td>Not fire-resistance rated</td>
<td>0 hours</td>
</tr>
<tr>
<td>Openings in walls</td>
<td>Not allowed</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>Unlimited</td>
<td>0 hours</td>
</tr>
<tr>
<td>Penetrations</td>
<td>All</td>
<td>Comply with Section R302.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>None required</td>
</tr>
</tbody>
</table>

For SI: 1 foot = 304.8 mm.

N/A = Not Applicable.

<sup>a</sup> For residential subdivisions where all dwellings and accessory buildings are equipped throughout with an automatic sprinkler system installed in accordance with Section R313, the fire separation distance for nonrated exterior walls and rated projections shall be permitted to be reduced to 0 feet, and unlimited unprotected openings and penetrations shall be permitted, where the adjoining lot provides an open setback yard that is 6 feet or more in width on the opposite side of the property line.

as an extension of exterior walls or common walls in accordance with the following:

1. Where roof surfaces adjacent to the wall or walls are at the same elevation, the parapet shall extend not less than 30 inches (762 mm) above the roof surfaces.

2. Where roof surfaces adjacent to the wall or walls are at different elevations and the higher roof is not more than 30 inches (762 mm) above the lower roof, the parapet shall extend not less than 30 inches (762 mm) above the lower roof surface.

Exception: A parapet is not required in the two cases above when the roof is covered with a minimum class C roof covering, and the roof decking or sheathing is of noncombustible materials or approved fire-retardant-treated wood for a distance of 4 feet (1219 mm) on each side of the wall or walls, or one layer of 5/16-inch (15.9 mm) Type X gypsum board is installed directly beneath the roof decking or sheathing, supported by a minimum of nominal 2-inch (51 mm) ledgers attached to the sides of the roof framing members, for a minimum distance of 4 feet (1219 mm) on each side of the wall or walls and there are no openings or penetrations in the roof within 4 feet (1219 mm) of the common walls.

3. A parapet is not required where roof surfaces adjacent to the wall or walls are at different elevations and the higher roof is more than 30 inches (762 mm) above the lower roof. The common wall construction from the lower roof to the underside of the higher roof deck shall have not less than a 1-hour fire-resistance rating. The wall shall be rated for exposure from both sides.

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 roof sheathing.

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 1/2-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.

**R302.4.1 Through penetrations.** Through penetrations of fire-resistance-rated wall or floor assemblies shall comply with 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 (92900 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 (0.103 m²) in area provided the aggregate area of the openings through the membrane does not exceed 100 square inches (0.645 m²) in any 100 square feet (9.29 m²) of wall area. The annular space between the wall membrane and the box shall not exceed 1/4 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 partition is constructed with individual noncommunicating stud cavities;
   1.2. By a horizontal distance of not less than the depth of the wall cavity where the wall cavity is filled with cellulose loose-fill, rockwool or slag mineral wool insulation;
   1.3. By solid fire blocking in accordance with Section R302.11;
   1.4. By protecting both boxes with listed putty pads; or
   1.5. By other listed materials and methods.
2. Membrane penetrations by listed electrical boxes of any materials provided the boxes have been tested for use in fire-resistance-rated assemblies and are installed in accordance with the instructions included in the listing. The annular space between the wall membrane and the box shall not exceed 1/4 inch (3.1 mm) unless listed otherwise. Such boxes on opposite sides of the wall shall be separated by one of the following:
   2.1. By the horizontal distance specified in the listing of the electrical boxes;
   2.2. By solid fire blocking in accordance with Section R302.11;
   2.3. By protecting both boxes with listed putty pads; or
   2.4. By other listed materials and methods.
3. The annular space created by the penetration of a fire sprinkler provided it is covered by a metal escutcheon plate.

**R302.5 Dwelling/garage opening/penetration protection.** Openings and penetrations through the walls or ceilings separating the dwelling from the garage shall be in accordance with Sections R302.5.1 through R302.5.3.

**R302.5.1 Opening protection.** Openings from a private garage directly into a room used for sleeping purposes shall not be permitted. Other openings between the garage and residence shall be equipped with solid wood doors not
314.4 Return Air Limitations. Return air from one dwelling unit shall not discharge into another dwelling unit through the heating or cooling air system.

315.0 Water Supply.
315.1 General. Water supply and backflow protection shall be in accordance with the California Plumbing Code.

316.0 Pipe, Tube Hangers, and Supports.
316.1 General. Piping and tubing shall be supported in accordance with this section, the manufacturer's instructions, and in accordance with the Authority Having Jurisdiction.
316.2 Suspended Piping. Suspended piping shall be supported at intervals not to exceed those shown in Table 316.2.
316.3 Piping Support. Piping shall be supported in such a manner as to maintain its alignment and prevent sagging.
316.4 Strength. Hangers and anchors shall be of sufficient strength to support the weight of the pipe and its contents. Piping shall be isolated from incompatible materials.
316.5 Hanger Rod Sizes. Hanger rod sizes shall be not smaller than those shown in Table 316.5.

<table>
<thead>
<tr>
<th>PIPE AND TUBE SIZE (inches)</th>
<th>ROD SIZES (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2 - 4</td>
<td>8</td>
</tr>
<tr>
<td>5 - 8</td>
<td>8</td>
</tr>
<tr>
<td>10 - 12</td>
<td>8</td>
</tr>
</tbody>
</table>

For SI units: 1 inch = 25.4 mm

316.6 Gas Piping. Gas piping shall be supported by metal straps or hooks at intervals not to exceed those shown in Table 1311.2.5.1.
316.7 In Ground. Piping and tubing in the ground shall be laid on a firm bed for its entire length except where otherwise approved by the Authority Having Jurisdiction. Asbestos cement piping shall be provided with approved thrust blocking.

317.0 Balancing.
317.1 General. Heating, ventilating, and air-conditioning systems (including hydronic systems) shall be balanced in accordance with one of the following methods:
(1) AABC National Standards for Total System Balance
(2) ACCA Manual B
(3) ASHRAE III
(4) NEBB Procedural Standards for Testing Adjusting Balancing of Environmental Systems
(5) SMACNA HVAC Systems Testing, Adjusting, and Balancing

318.0 Louvers in Hurricane Prone Regions.
318.1 General. Louvers located in areas within hurricane-prone regions that are within 1 mile (2 km) of the coastal mean high water line where the basic wind speed is 110 miles per hour (mi/h) (49.2 m/s) or greater; or portions of hurricane-prone regions where the basic wind speed is 120 mi/h (53.6 m/s) or greater; or Hawaii, as described in ASCE 7 shall be tested in accordance with Section 318.1.1 and Section 318.1.2.
318.1.1 Testing. Louvers that protect air intake or exhaust openings shall be tested in accordance with AMCA 550 for resistance to wind-driven rain.
318.1.2 Impact Resistance Test. Upon request by the Authority Having Jurisdiction, louvers protecting intake and exhaust ventilation ducts that are not fixed in the open position and located within 30 feet (9144 mm) of the grade shall be tested for impact resistance in accordance with AMCA 540.

319.0 Protection of Piping, Materials, and Structures.
319.1 General. Piping passing under or through walls shall be protected from breakage. Piping passing through or under cinders or other corrosive materials shall be protected from external corrosion in an approved manner. Approved provisions shall be made for expansion of hot water piping. Voids around piping passing through concrete floors on the ground shall be sealed.

320.0 Sleeves for Piping.
320.1 General. Sleeves shall be provided to protect piping through concrete and masonry walls and concrete floors.
Exception: Sleeves shall not be required where openings are drilled or bored.
320.2 Bearing. Piping through concrete or masonry walls shall not be subject to a load from building construction.
320.3 Sealing. In exterior walls, annular space between sleeves and pipes shall be sealed and made watertight, as approved by the Authority Having Jurisdiction. A penetration through fire-resistant construction shall be in accordance with the building code and applicable standards referenced in Table 1701.0.
320.4 Through Firewall. A pipe sleeve through a firewall shall have the space around the pipe completely sealed with an approved fire-resistant material in accordance with other codes.

321.0 Cutting Structure.
321.1 General. A structural member weakened or impaired by cutting, notching, or otherwise shall be reinforced,
(F) Motor Circuit Taps. Motor-feeder and branch-circuit conductors shall be permitted to be protected against overcurrent in accordance with 430.28 and 430.53, respectively.

(G) Conductors from Generator Terminals. Conductors from generator terminals that meet the size requirement in 445.13 shall be permitted to be protected against overload by the generator overload protective device(s) required by 445.12.

(H) Battery Conductors. Overcurrent protection shall be permitted to be installed as close as practicable to the storage battery terminals in an unclassified location. Installation of the overcurrent protection within a hazardous classified location shall also be permitted.

240.22 Grounded Conductor.

No overcurrent device shall be connected in series with any conductor that is intentionally grounded, unless one of the following two conditions is met:

1. The overcurrent device opens all conductors of the circuit, including the grounded conductor, and is designed so that no pole can operate independently.

2. Where required by 430.36 or 430.37 for motor overload protection.

240.23 Change in Size of Grounded Conductor. Where a change occurs in the size of the ungrounded conductor, a similar change shall be permitted to be made in the size of the grounded conductor.

240.24 Location in or on Premises.

(A) Accessibility. Overcurrent devices shall be readily accessible and shall be installed so that the center of the grip of the operating handle of the switch or circuit breaker, when in its highest position, is not more than 2.0 m (6 ft 7 in.) above the floor or working platform, unless one of the following applies:

1. For busways, as provided in 368.17(C).

2. For supplementary overcurrent protection, as described in 240.10.

3. For overcurrent devices, as described in 225.40 and 230.92.

4. For overcurrent devices adjacent to utilization equipment that they supply, access shall be permitted to be by portable means.

(B) Occupancy. Each occupant shall have ready access to all overcurrent devices protecting the conductors supplying that occupancy, unless otherwise permitted in 240.24(B)(1) and (B)(2).

(I) Service and Feeder Overcurrent Devices. Where electric service and electrical maintenance are provided by the building management and where these are under continuous building management supervision, the service overcurrent devices and feeder overcurrent devices supplying more than one occupancy shall be permitted to be accessible only to authorized management personnel in the following:

1. Multiple-occupancy buildings

2. Guest rooms or guest suites

(2) Branch-Circuit Overcurrent Devices. Where electric service and electrical maintenance are provided by the building management and where these are under continuous building management supervision, the branch-circuit overcurrent devices supplying any guest rooms or guest suites without permanent provisions for cooking shall be permitted to be accessible only to authorized management personnel.

(C) Not Exposed to Physical Damage. Overcurrent devices shall be located where they will not be exposed to physical damage.

Informational Note: See 110.11, Deteriorating Agents.

(D) Not in Vicinity of Easily Ignitable Material. Overcurrent devices shall not be located in the vicinity of easily ignitable material, such as in clothes closets.

(E) Not Located in Bathrooms. In dwelling units, dormitories, and guest rooms or guest suites, overcurrent devices, other than supplementary overcurrent protection, shall not be located in bathrooms.

(F) Not Located over Steps. Overcurrent devices shall not be located over steps of a stairway.

III. Enclosures

240.30 General.

(A) Protection from Physical Damage. Overcurrent devices shall be protected from physical damage by one of the following:

1. Installation in enclosures, cabinets, cutout boxes, or equipment assemblies

2. Mounting on open-type switchboards, panelboards, or control boards that are in rooms or enclosures free from dampness and easily ignitable material and are accessible only to qualified personnel

(B) Operating Handle. The operating handle of a circuit breaker shall be permitted to be accessible without opening a door or cover.

240.32 Damp or Wet Locations. Enclosures for overcurrent devices in damp or wet locations shall comply with 312.2.