

MICRO-HOUSING – FIRE SAFETY PROVISIONS IN THE BUILDING CODE

General Principles in Building Code (Fire Safety):

1. Early warning – let people know there’s a problem before it’s too late
2. Suppression – put out the fire before it grows too large
3. Containment – keep the fire from spreading too far
4. Structural protection – keep the structure standing long enough to get people out
5. Egress – get people out

As applied to micro-housing:

	Townhouse-Style Boarding House (Multi-Story)	Townhouse-Style Boarding House/ Congregate Res (Multi-Story)	Apartment-Style Boarding House (Flats)	Townhouse (Multi-Story)²	Congregate Residence, Apartment, or Townhouse
Code	Building Code + Director’s Rule	Building Code	Building Code	Residential Code	Building Code
Limitations	≤2000 sq ft ≤8 bedrooms ≤5 Stories	≤3200 sq ft ≤16 bedrooms ¹ ≤5 Stories	≤3200 sq ft ≤16 bedrooms ¹ ≤5 Stories	No limit on area No limit on bedrooms ≤3 Stories	≤4000 sq ft No limit on bedrooms ≤5 Stories
Early Warning	<ul style="list-style-type: none"> • Smoke alarms, interconnected within boarding house • Manual and automatic fire alarm system for building 	<ul style="list-style-type: none"> • Smoke alarms, interconnected within boarding house • Manual and automatic fire alarm system for building³ 	<ul style="list-style-type: none"> • Smoke alarms, interconnected within boarding house • Manual and automatic fire alarm system for building 	<ul style="list-style-type: none"> • Smoke alarms, interconnected within dwelling unit 	<ul style="list-style-type: none"> • Smoke alarms, interconnected within dwelling/congregate unit • Manual and automatic fire alarm system for building
Suppression	<ul style="list-style-type: none"> • Automatic fire sprinkler system • Fire Dept standpipe⁴ 	<ul style="list-style-type: none"> • Automatic fire sprinkler system • Fire Dept standpipe⁴ 	<ul style="list-style-type: none"> • Automatic fire sprinkler system • Fire Dept standpipe 	<ul style="list-style-type: none"> • None 	<ul style="list-style-type: none"> • Automatic fire sprinkler system • Fire Dept standpipe
Containment	<ul style="list-style-type: none"> • Fire rated walls between bedrooms within boarding house • Fire-rated walls for common kitchen • Fire rated wall between each boarding house 	<ul style="list-style-type: none"> • Fire-rated walls between bedrooms within boarding house • Fire-rated walls for common kitchen • Fire rated wall between at least every other boarding house³ 	<ul style="list-style-type: none"> • Fire-rated walls between bedrooms within boarding house • Fire-rated walls for common kitchen • Fire rated wall between each boarding house 	<ul style="list-style-type: none"> • Fire rated wall between each dwelling unit • No fire rated walls within dwelling unit 	<ul style="list-style-type: none"> • Fire rated wall between dwelling/sleeping units • Fire rated wall between dwelling/sleeping units and common spaces • No fire rated walls within dwelling/sleeping unit
Structural Protection	<ul style="list-style-type: none"> • Fire protection if boarding house is >3 stories 	<ul style="list-style-type: none"> • Fire protection if boarding house is >3 stories 	<ul style="list-style-type: none"> • Fire protection if building is >2 stories 	<ul style="list-style-type: none"> • None 	<ul style="list-style-type: none"> • Fire protection if building is >2 stories³

Egress	<ul style="list-style-type: none"> Egress path within boarding house protected by fire-rated walls and smoke-rated doors from bedrooms to outside—cannot pass through kitchen Egress path direct to outside Max. 125 feet of travel from any location in boarding house to exterior Single stair allowed within boarding house Secondary escape/rescue window from each sleeping area 	<ul style="list-style-type: none"> Egress path within boarding house protected by fire-rated walls and doors from bedrooms to outside—cannot pass through kitchen Egress path direct to outside Max. 125 feet of travel from any location in boarding house to stair Single stair allowed within boarding house Secondary escape/rescue window from each sleeping area³ 	<ul style="list-style-type: none"> Egress path within boarding house protected by fire-rated walls and smoke-rated doors from bedrooms to corridor—cannot pass through kitchen Egress path (corridor) protected by fire-rated walls and smoke-rated doors from door of boarding house to exit stair Egress path (exit stair) protected by fire-rated walls and doors from corridor to exterior Max. 125 feet of travel from any location in boarding house to a fire-rated exit stair or exterior 2 protected exit stairs required, leading to outside Note: Secondary escape/rescue window from each sleeping area not required 	<ul style="list-style-type: none"> No fire rated protection for egress path within dwelling unit No limit on distance of travel to exit door Secondary escape/rescue window from each sleeping area 	<ul style="list-style-type: none"> No fire rated protection for egress path within dwelling/sleeping unit Egress path (corridor) protected by fire-rated walls and smoke-rated doors from door of dwelling/sleeping unit to exit stair Egress path (exit stair) protected by fire-rated walls and doors from corridor to exterior Max. 125 feet of travel from any location in dwelling/congregate unit to a fire-rated exit stair or exterior 2 protected exit stairs required, leading to outside (limited option for enhanced single stair) Note: Secondary escape/rescue window from each sleeping area not required
Other safety features	<ul style="list-style-type: none"> CO alarms in each bedroom and min. 1 in common areas 	<ul style="list-style-type: none"> CO alarms in each bedroom and min. 1 in common areas 	<ul style="list-style-type: none"> CO alarms in each bedroom and min. 1 in common areas 	<ul style="list-style-type: none"> CO alarm outside bedrooms in each dwelling unit 	<ul style="list-style-type: none"> CO alarm outside bedrooms in each dwelling/sleeping unit

1. Although 16 is allowed by the Building Code, typical designs limit the number of bedrooms to 8 to comply with Land Use Code definitions for a dwelling unit.
2. Maximum 3 stories
3. Provided if certain design option selected by designer.
4. Not required if sprinklered to higher standard, and furthest unit is not too far from Fire Dept access to lot

Note: Items listed above are illustrative of typical 5-story designs built with a wood structure, and do not encompass all code requirements for all micro-housing buildings. Designer choices may change the application of some of the items.