Typical Basement Conversion to Habitable Space

- All fuel burning appliances (furnaces, water heaters, etc.) must be provided with adequate amounts of air for combustion.
- Mechanical ventilation of bathrooms is required at the ventilation rates noted in 780 CMR §R303.3.
- § AJ102.3 Smoke Heat Detection and Carbon Monoxide Alarm Systems and CO Detection and Alarm. When one or more sleeping rooms are added or created in existing dwellings, the entire existing building shall be provided with smoke detectors, heat detector and carbon monoxide detectors designed, located and installed in accordance with the provisions for new construction, 780 CMR.

FLOOR PLAN FOR BASEMENT FINISH

- Specify ceiling material to be used
- Fire blocking is required between the top plate of the furred wall and foundation wall.
- Fire blocking material may consist of gypsum board, mineral wool unfaced insulation, 3/4" particulated board or 2" nominal lumber.
- Insulation, minimum R-13
- Specify wall construction method and materials: stud size and spacing
- Specify wall covering material to be used
- R305.1.1 Basements areas, including but not limited to areas with suspended ceilings, shall have a ceiling height of not less than six feet eight inches. Insert your ceiling height ___feet ___inches
- Insert your lowest ceiling height ___feet ___inches
- Fire block entire gap between furred wall stud and foundation every 10ft R302.11
- Any wood framing members attached directly to the interior of exterior masonry or concrete walls below grade must be pressure treated or protected from decay by an approved vapor retarder.

TYPICAL WALL SECTION
Soffit Firestopping Detail

Bars, grilles, covers, screens or similar devices are permitted to be placed over emergency escape openings or window wells provided they meet the minimum net clear opening requirements and such devices are 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.

§ R310 Minimum Opening Area.
All emergency escape and rescue openings shall have a minimum net clear opening of 5.7 square feet.

Exceptions:
1. Grade floor openings shall have a minimum net clear opening of five square feet (0.465 m²).
2. Double hung windows used for emergency escape shall be permitted to have a net clear opening of 3.3 square feet (0.31 m²) provided that at least one operable sash meets the minimum height and width required by 780 CMR § R310.1.2 and § R310.1.3 and operational constraints defined by 780 CMR § R310.1.4.

Emergency Escape Window Detail
Windows measured from floor to top of sill

Emergency escape and rescue openings shall be operational from the inside of the room without the use of keys, tools or special knowledge.
Emergency escape window under decks or porches are permitted as long as the window can be fully opened and a path not less than 36" in height is provided to a court or yard.

EMERGENCY ESCAPE WINDOW UNDER EXISTING STRUCTURES
R311.7.2 Headroom. The minimum headroom in all parts of the stairway shall not be less than 6 feet 8 inches (2032 mm) measured vertically from the sloped line adjoining the tread nosing or from the floor surface of the landing or platform on that portion of the stairway.

Stairway Illumination. All interior and exterior stairways shall be provided with an artificial light source to illuminate the stairs, including the landings and treads.

Interior or stairways with 6 or more steps shall have a wall switch at each floor level to control the stair lighting.

Handrail height: 34" min. 38" max., measured from the nose of each step. Maximum handrail width: 2 - 3/4" and must have a graspable surface.

Guardrails at platforms and landing cannot have openings greater than 4".

R311.7.7.1 Height. Handrail height, measured vertically from the sloped plane adjoining the tread nosing, or finish surface of ramp slope, shall be not less than 34 inches (864 mm) and not more than 38 inches (965 mm).

All openings in stairguardrail must be less than 4-3/8".

This space shall not allow the passage of a 6" sphere.

Openings at back of stairs must be less than 4".

Required light switch

Enclosed accessible space under stairs shall have walls, under stair surface and any soffits protected on the enclosed side with 1/2" gypsum board.

INTERIOR STAIR DETAIL

The greatest riser height within any flight of stairs shall not exceed the smallest by more than 3/8".

Nosing shall not project more than 1 1/2 beyond the face of the riser below.

TREAD AND RISER DETAIL