

Village of Glen Ellyn

Basement Remodeling Project Guidelines

Existing unfinished basement space is often remodeled to create more habitable (living, sleeping, eating, dining) space in a home. Building codes establish the minimum health and safety requirements for habitable space. The applicable code requirements for basement remodeling work are summarized in these guidelines and must be indicated on the plans submitted for building permit and included in the work. Please refer to the full text of the code sections (in parentheses) to insure that the proposed design is complete and accurate. In addition, you may contact the Planning and Development Department for questions and staff assistance.

1. Exit Stair:

In most cases an existing interior stairway provides access to and from the basement space. If this stair met the code requirements when it was first constructed and has been maintained in a safe condition, it does not need to comply with current stairway construction requirements. However, if the existing stair is altered it must completely conform to all applicable current code requirements. The existing stair must be provided with a handrail on at least one side, a guardrail if applicable, and must be lighted and switched at the top and bottom landing. Any enclosed but accessible space beneath the stair must be finished with ½” gypsum board on all surfaces. (AJ601.1) (R311.2.2)

2. Emergency Exit:

In addition to an exit stair, another exit must be provided from the basement level. This is generally provided through an emergency escape opening (window and well) or an exterior door from the basement to an outside stair up to the grade. If a room in the basement is to be used as a bedroom, then an emergency exit must be provided in each and every bedroom. (R310.1)

3. Emergency Escape Opening (window and well):

The emergency escape window opening must meet certain size, operation and sill height requirements. The window well also must meet size and clearance requirements and include an escape ladder if it is more than 44 inches deep. A cover may be placed over the window well if it can be removed or released without a key and without any special knowledge or effort. (R310.1) (R310.2)

4. Room Dimensions:

The minimum habitable room size is 70 square feet with a minimum room width of 7 feet. Bathrooms, closets, hallways, storage and utility spaces are not considered habitable spaces. The minimum room ceiling height is 7 feet except under structural or mechanical obstructions where it may be reduced to 6 feet 6 inches. The ceiling height above bathroom fixtures must be a minimum of 6 feet 8 inches. (R305.1)

5. Perimeter Wall Construction:

Typical 2x4 wall framing is generally provided around the perimeter foundation wall to accommodate electrical outlets and insulation with a R11 minimum rating. The wall sole plate must be preservative treated wood. A 1-inch air space must be provided between the face of the foundation wall and the back of the studs or the studs must be preservative treated. When this air space is provided, the opening at the top of the stud wall must be filled or covered (fire stopped). A vapor barrier must be provided to control moisture penetration from the interior, and if water enters through the basement wall, a means for stopping or controlling water entry is required. (R319.1)

6. Interior Finishes:

Generally ½ inch thick gypsum board is installed over wood stud walls, and is required over insulation that exceeds a 25 flame spread rating or 450 smoke density rating. Other materials may be used or installed over the gypsum board and as a ceiling finish provided they do not exceed a 200 flame spread rating or 450 smoke density rating. (R315)(R316)

7. Natural and Artificial Light:

Each habitable room must be provided with natural light through glass window or door areas that total at least 8% of the floor area of the room. As an alternative, the code permits artificial light at an average minimum of 6 foot candles measured 30 inches above the floor. Normal room lighting generally meets this requirement. (R303)

8. Natural and Mechanical Ventilation:

Each habitable room must be provided with natural ventilation through open screened window or door areas that total at least 4% of the floor area of the room. As an alternative, the code permits mechanical ventilation to be provided that is capable of producing .35 outside air changes per hour in the room. This is approximately equivalent to 1 CFM (cubic feet per minute) of outside supply and exhaust air for every 20 square feet of room floor area. Most major manufacturers of ventilation equipment offer balanced supply and exhaust fan units for this purpose. Simple exhaust fans are not permitted since the resulting negative house air pressure is a safety hazard and infiltration is insufficient. Another code permitted alternative is to provide outside air directly into the return air plenum of a forced air HVAC unit in the required amount of 15 CFM per bedroom plus 15 CFM. Mechanical ventilation equipment manufacturer's specifications must be provided. (AJ501.6)(R303)

9. Combustion Air:

Furnaces, boilers, water heaters or other natural vented fuel burning equipment must be provided with adequate outside combustion air. In older homes this combustion air may be supplied by infiltration through slight openings around doors and windows. Since this equipment is often enclosed in a small utility room or closet, a full louvered door or two wall openings, one within 12" of the ceiling and one within 12" of the floor, must be provided to transmit this air to the equipment. The size of each opening must equal 1 square inch for each 1,000 BTU/hr input rating of all equipment in the room, but not less than 100 square inches. In newer homes of tight construction one duct opening from the outdoors must be provided that is sized at one square inch for each 3,000 BTU/hr input rating of all equipment in the room, but not less than the total area of all equipment vents in the room. (G2407.1)

10. Electrical Work:

All electrical work must comply with the current applicable codes and be provided as required for any other habitable space in the home. This includes receptacle spacing, room light switching, and GFCI and AFCI receptacle protection. (E3301.4) (E3802.11)

11. Mechanical Work:

All mechanical work must comply with the current applicable codes and be provided as required for any other habitable space in the home. This includes venting a clothes dryer and bathroom exhaust fan directly to the exterior, and provisions for heating the space to the minimum requirements. (R303.4)

12. Plumbing Work:

All plumbing work must comply with the current applicable codes and be provided as required for any other habitable space in the home. (P2502.2)

13. Fire Protection Work:

If the home is provided with automatic sprinklers, additional or relocated sprinkler heads are usually required to accommodate the new room layout and must be indicated on the plan. A smoke detector is required on the basement level and in every bedroom. (R313.1)

The above items represent most typical code requirements for basement remodeling projects. Other code requirements may apply depending on the nature and extent of the work. Complete and accurate information on the submitted plan, indicating compliance with these code requirements, is necessary for permit plan approval.