

- (b) The presumed soil bearing values shall be confirmed by exploring the type of soil to a depth of at least 5 feet below the footings during or before construction. The designer shall submit a report of confirmation to the department upon request.
- (c) Where the bearing materials directly under a foundation overlie a stratum having smaller allowable bearing values, such smaller values shall not be exceeded at the level of such stratum.

COMM 53.22 UNPREPARED FILL MATERIAL, ORGANIC MATERIAL.

No foundation of buildings or structures shall be placed upon unprepared fill material, organic soil, alluvial soil or mud unless evidence has been presented to the department showing that the proposed load will be adequately supported. This evidence shall be in the form of a written report and shall be based on soil analyses, load tests or other acceptable criteria.

Note: The decomposition of organic material in landfill sites established for the disposal of organic wastes may produce odorous, toxic and explosive concentrations of gas which may seep into buildings through storm sewers and similar underground utilities unless provisions are taken to release the gases to the atmosphere.

COMM 53.23 FROST PENETRATION.

- (1) **DEPTH.** Footings and foundations shall be placed below the frost penetration level, but in no case less than 42 inches below adjacent ground. Such footings shall not be placed over frozen material.

Frost Penetration. Frost penetration depths of more than 42 inches may occur in areas without sod cover or where there is snow removal, especially in the central and northern parts of the state. Local building codes may require footings and foundations to be placed at a greater depth.

- (2) **FLOATING SLABS AND GRADE BEAMS.** The edges of floating slabs and grade beams need not be installed below the minimum frost penetration provided adequate measures have been taken to prevent frost forces from damaging the structure.

- (3) **WALKS, STOOPS AND RAMPS ADJACENT TO REQUIRED EXITS.** The edges of walks, stoops or ramps or the footing and foundation of walks, stoops or ramps need not be installed below the minimum frost penetration line provided adequate measures have been taken to prevent frost forces from damaging the structure or affecting the structure in such a manner as to obstruct the exit.

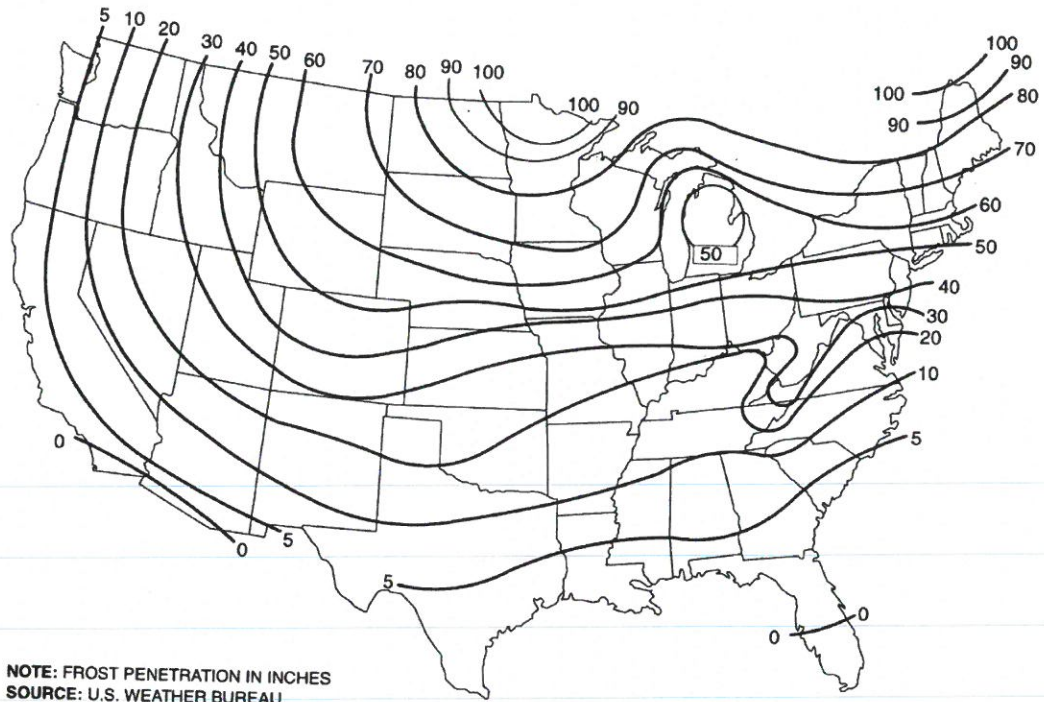
Stoops. (Also see COMM 51.16 commentary.) The walk or stoop outside an out-swinging exit door is considered to be a part of the building and requires special attention to prevent frost action from obstructing the exit.

Note: Also see s. COMM 52.21--location and maintenance of exits.

COMM 53.24 PILING.

- (1) **GENERAL REQUIREMENT.** Pile foundations shall be designed and installed to adequately transfer the structure loads to underlying or adjacent soil bearing strata.
- (2) **INSTALLATION.** Piles shall be handled and installed to the required penetration by methods which leave their strength unimpaired and that develop and retain the required load bearing capacity. Any damaged pile shall be satisfactorily repaired or the pile shall be rejected.
- (3) **ALLOWABLE LOADS BASED ON SOIL CONDITIONS.**

- (a) *By driving formula.* For individual pile design loads not exceeding 40 tons per pile, the safe working load may be determined by a recognized formula or by the following formula:



FROST PENETRATION DEPTHS

FIGURE 3