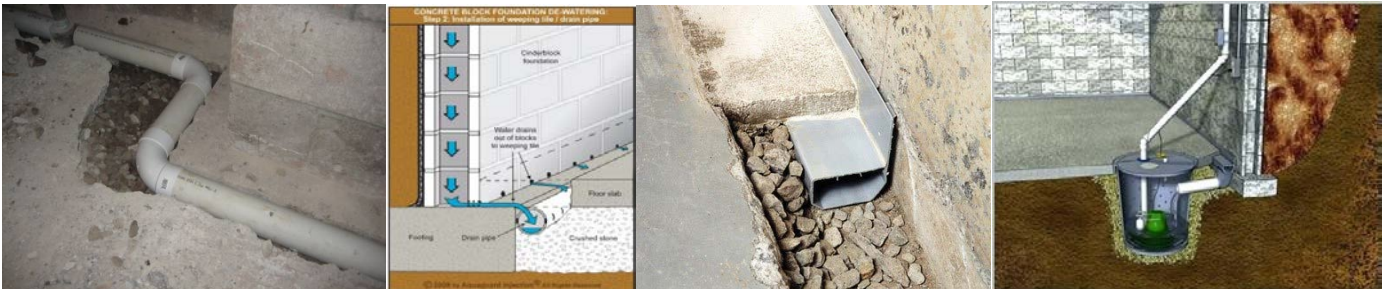


# Residential Interior Drain Tile Installation

1. Removal or alteration of footing or foundation walls requires an engineer design, [IRC 301.1.3](#).
2. Removed portion of slab and base course shall be replaced with same or better, [IRC 506](#).
3. Drain tile pipe: minimum 3" in diameter laid on minimum 3/4" diameter rock with at least 4" of rock surrounding the drain tile pipe, [PC 1101.5](#). **Exception:** other approved systems.
4. Manufacturer's drainage system installation instructions shall be available on the job site at time of inspection, [1300.0130 Subpart 3](#).
5. Sump basket shall have a sealed cover when used as part of a radon mitigation system, [1303.2402 Subpart 4 \(D\)](#). When the sump basket cover is sealed, it must be vented either by the radon pipe or another pipe. The lid should otherwise be secured to prevent child accidents.
6. In other than Group 1 soils, (well-drained sandy/gravel type) a sump basket shall be provided that it not less than 24 inches in diameter or 20 inches square, and extend at least 24 inches below the bottom of the basement floor. The drainage system shall be capable of positive gravity or mechanical drainage to daylight or an approved sewer system, [IRC 405.2.3](#).
7. Sump pumps shall be properly powered, no extension cords, [manufacture requirements](#).
8. A permit issued for the alteration of interior concrete slab and or foundation walls with installation of interior drain tile system requires the home to be updated with **smoke alarms**, [IRC 314.2.2](#), and **carbon monoxide alarms**, [R315.2.2](#) Refer to handout.
9. Inspections Required: [1300.0210 Subpart M](#).
  - a. Site/Final inspection, to view open trench after pipe and rock installed prior to covering. Other inspections are generally not done unless needed or requested.

**Note:** Ensure sump pump is properly sized for best performance and extended life of the pump. Sizing depends on the total vertical and horizontal length of pipe: This website offers a sizing calculation example: <https://www.sumpumpsdirect.com/stories/1496-How-to-Easily-Size-a-Primary-Sump-Pump.html>



Accuracy – Efficiency – Uniformity