

## Soil Safety Guidelines for Commercial Urban Farming

To operate a commercial urban farm in the City of Boston, an individual or organization must apply to the City of Boston Inspectional Services Department, Building Department (ISD) for a Use and Occupancy Permit. A soil safety compliance application will be required as part of that application. The Boston Public Health Commission will review the application in its entirety to ensure that the applicant has met all the steps of the Soil Safety Protocol and will send a letter to ISD to certify compliance.

### 89-7 Soil Safety: Protocol and Requirements

Definitions (to be added to beginning of Art. 89)

“Imported soil” means soil that is brought to the site where an urban farm is proposed.

“Licensed site professional” means a hazardous waste site cleanup professional as defined in MGL c. 21A s. 19.

“Geotextile barrier” means any permeable textile material used to increase soil stability, provide erosion control or aid in drainage.

“MCP” means the Massachusetts Contingency Plan, at 310 CMR 40, *et seq.*, promulgated by the Commissioner of the Massachusetts Department of Environmental Protection pursuant to authority under M.G.L. c. 21E, s.s. 3(c), 3(d), 3(e), 3A(d), 3A(f), 3A(g), 3A(m), 3B, 5A, 6, 7 and 14, and M.G.L. c. 21A, s. 2(28), M.G.L. c. 21C and M.G.L. c. 111, s. 160.

“Native soil” means the soil existing at a site where an urban farm is proposed.

“Qualified Environmental Professional” means a professional whose training and education meets current ASTM standards.

1. Any proposed urban farm shall submit the following:
  - a. A completed soil safety application; and
  - b. Results of soil testing.
2. Requirements
  - a. Every urban farm, with the exception of farms that intend to use soilless cultivation methods, shall either:
    - i. Use imported soil and the raised bed cultivation method, including installation of a geotextile barrier between the native soil and imported soil, consistent with the requirements in section (3) below; or
    - ii. Use the native soil, with or without soil amendments, after the site has undergone an environmental site assessment and the results of Phase I

and, if warranted, limited Phase II environmental site assessment document there is no significant risk based on unlimited use of the site in accordance with the MCP, consistent with section (4) below.

3. Raised Bed Cultivation Method. Raised beds shall be constructed over native soil, using a geotextile barrier between native soil and imported soil. Raised beds shall be constructed to retain and prevent erosion of imported soil.
  - a. Materials.
    - i. Geotextile barrier. A geotextile barrier shall be selected that meets the following criteria:
      - a. It shall withstand a woven tensile strength (grab) of at least 200 lbs in accordance to ASTM D-4632.
      - b. It shall have a thickness of at least 24.4 mils in accordance with ASTM D-1777.
      - c. It shall have an elongation (stretch) of 90 (.400)% in accordance with ASTM D-4632.
      - d. It shall have a puncture resistance of at least 75 lbs in accordance with ASTM D-4833.
      - e. It shall be resistant to bursting in accordance with ASTM D-3786.
      - f. It shall be tear resistant 75 lbs or greater in accordance with ASTM D-4533.
      - g. It shall be UV Resistant (70%) in accordance with ASTM D-4355.
      - h. It shall retain soil particles in accordance with ASTM D-4751.
    - ii. Lumber. Any pressure-treated lumber used to build raised beds shall not contain chromate-copper arsenate. Old railroad ties containing coal tar creosote materials containing polynuclear aromatic hydrocarbons (PAHs) and phenols shall not be used.
    - iii. Imported soil. Imported soil shall be tested by a laboratory for contaminants prior to transport to the urban farm. Imported soil shall be analyzed by at least a laboratory that can perform EPA Methods 3050B and 6010 metals/trace elements (i.e. UMASS Extension Laboratory Service or Penn State Extension Service. Laboratories shall analyze one (1) composite soil sample per 500 cubic yards of imported soil that is representative of each source of imported material.
4. Native Soil Cultivation. If the urban farm will be planted in native soil, the applicant must submit documentation that the site has undergone an environmental site assessment by a Qualified Environmental Professional or Licensed Site Professional. At a minimum, the assessment shall include an ASTM Phase I Environmental Site Assessment and a Limited Phase II Subsurface Investigation to evaluate soil relative to

the MCP standards for compounds of concern associated with urban fill including, but not limited to, the CAM 14 metals and polycyclic aromatic hydrocarbon (PAH) compounds. The Licensed Site Professional shall document there is no significant risk based on unlimited use of the site in accordance with the MCP and Massachusetts Department of Environmental Protection requirements.

5. Evidence of Soil Testing. Every urban farm shall submit evidence of soil testing, including results that show lead, arsenic and selenium below levels prescribed by the MCP.