

# APPENDIX C - SUSTAINABLE MATERIALS & ORGANIC PRODUCTS

The following list of sustainable materials and organic products is intended to give ideas for more environmentally friendly construction. The products and supplier listed herein simply represent examples of available materials and sources and are not endorsed by MDC.

## Sustainable Materials

### **1. PAVING /SURFACE MATERIALS**

#### **Stabilized Aggregate**

*Description:* A semi-porous, firm surface composed of crushed stone and an organic binder.

*Uses:* Trails, paths, parking, gateways, and interpretive waysides

*Example:* Minuteman National Park

*Organic Binder Supplier:* Stabilizer Solutions ([www.StabilizerSolutions.com](http://www.StabilizerSolutions.com))

#### **Porous Asphalt**

*Description:* Modified bituminous concrete carefully sorted to remove all fines; its permeability is also contingent on a permeable subbase of crushed stone and filter fabric; requires periodic maintenance; long-term failure attributed to compaction of voids.

*Uses:* Parking stalls, paths

*Example:* Walden Pond Parking Lot

#### **Recycled Bituminous Concrete**

*Description:* Nonporous, flexible paving made from existing bituminous concrete; a paving machine can grind and repave.

*Use:* New bituminous concrete paths

#### **Unit Pavers on Permeable Subgrade**

*Description:* Concrete, brick, or asphaltic pavers set on a permeable subgrade of sand or crushed stone aggregate; paver joints must be open and edging is usually required; permeability aids in supplying water to rootzones of plants.

*Uses:* Gateways, parking stalls

### **Grassed Paving**

*Description:* turfgrass or groundcovers growing up through open cells of concrete or plastic; porous; transfers weight of vehicles to an underlying base course.

*Use:* Overflow parking (for example at Dilboy Field)

*Example:* Minuteman Park overflow parking area

### **Glassphalt**

*Description:* Crushed glass or “cullet” that has been made smooth through tumbling and used in place of sand in concrete or bituminous concrete, and to decorate outdoor tiles; must be used with other aggregates but can be quite colorful; not porous.

*Uses:* Paths, parking, interpretive paving, and concrete seat walls

*Example:* Danchy Park, Cambridge

### **Recycled Rubber**

*Description:* Ground and remanufactured “crumb” rubber is inert and used as an accessible surface for paths.

*Uses:* Playground surfacing, asphalt paths, overlook areas

## **2. BUILDING MATERIALS**

### **Plastic Lumber**

*Description:* A simulated wood product made from recycled plastic, including milk jugs; biologically inert, durable, long-lasting, and requires little maintenance; disadvantages include higher cost and structural limitations.

*Uses:* Boardwalk decking and bumpers, viewing platforms, benches, trash receptacles, signage, and picnic tables

### **Recycled Composite Wood**

*Description:* A simulated wood product made from fiber-reinforced polymers (FRP); biologically inert, durable, long-lasting, and requires little maintenance.

*Uses:* Pedestrian and vehicular bridges, boardwalk decking and bumpers, viewing platforms, benches, trash receptacles, signage, and picnic tables

*Supplier/testing:* The Advanced Engineered Wood Composites Center, University of Maine, Orono

### **Pressure-Treated Lumber**

*Description:* An arsenic- and chromium-free preservative used to protect against rot, decay, and termite damage; can be used in sensitive areas, i.e., wetlands; can be painted and stained

*Uses:* Bridges and boardwalks (piers and decking), playground equipment, picnic tables, benches, and signage.

*Supplier:* CSI ([www.treatedwood.com](http://www.treatedwood.com)); other suppliers available.

### **3. LIGHTING**

#### **Low Voltage Lighting**

*Description:* 12- and 24-volt systems place lighting only where needed (reducing waste), are very safe, and bulbs are recyclable.

*Uses:* Small parking areas and possibly gateways

#### **Fiber Optic Lighting**

*Description:* A single lamp transmitting light through optical fibers either at its end or side; very safe and can utilize colors.

*Uses:* Gateways, welcome center at Alewife Reservation, Mystic Gateway Park, or combined with interpretive features.

#### **Solar Lighting**

*Description:* 12- or 24-volt systems generated from photovoltaic (PV) cells; works best in areas removed from the power grid.

*Uses:* Emergency call boxes along Wayside Trail and Alewife Brook Parkway, seasonal lighting at fish viewing platforms

### **4. MANUFACTURED SOIL COMPONENTS**

#### **Biosolids Compost**

*Description:* Nutrient-rich compost composed of biosolids (by-products of the wastewater treatment process) and sawdust or other carbonaceous materials; improves soil structure, provides essential plant nutrients, and plays an important role in preventing groundwater pollution; weed seeds and pathogens are killed through exposure to higher temperatures for an extended period of time.

*Uses:* Biofiltration areas, planting medium

*Suppliers:* Agresource ([www.agresource.com](http://www.agresource.com)); Coverttechnologies ([coverttech@msn.com](mailto:coverttech@msn.com)); other suppliers available

#### **Brewing Byproducts**

*Description:* Both spent hops (dried flowers and leaves) and malt (sprouted barley and often other grains) are potent nutrient sources with low C/N ratios; cheap and locally available.

*Use:* Planting medium

### **Organic Products**

#### **1. ALL-AROUND ORGANIC PRODUCT SUPPLY COMPANY IN NEW ENGLAND:**

- North Country Organics, P.O. Box 372, Depot St., Bradford, Vermont 05033, ph: 802.222.4277, fax: 802.222.9661, web: [www.norganics.com](http://www.norganics.com)

This company provides a wide range of products including dry fertilizers and soil amendments in small bags (usually 50 lbs.), bulk bags, or bulk; organic compost (without biosolids) by the bulk trailer load; liquid fertilizers; inoculants; “natural” pest controls; and turf seed mixes. They also custom-

blend fertilizers in large quantities, 1 ton minimum.

#### **North Country Organics Retail Suppliers in Eastern Massachusetts:**

- Allendale Farm, 259 Allendale Rd., Brookline, MA 02146, phone: 617.524.1531 (also carries other organic supplies and plants)
- City Farm Florist and Nursery, 717 American Legion Hwy, Roslindale, MA 02131, ph: 800.676.3276 (also carries plants)
- Kipp's Greenhouse, Treat Rd., Marblehead, MA 01945, ph: 781.631.5035 (also carries tools, other organic supplies and plants)
- Marblehead Garden Center, 164 W. Shore Dr., Marblehead, MA 01945, ph: 800.356.8558 (also carries plants)
- Osborne Florist and Greenhouse, 10 Ocean Ave., Marblehead, MA 01945, ph: 781.631.2467 (also carries plants)
- Russell's Garden Center, 397 Boston Post Rd., Wayland, MA 01778, ph: 508.358.2283, [www.russellsgardencenters.com](http://www.russellsgardencenters.com) (also carries tools, other organic supplies and plants)

#### **North Country Organics Retail Distributors in Massachusetts:**

- Bramen & Co./Snow Pond Farm Supply, 53 Mason St., Suite 102, Salem, 01970, ph: 978.745.7765, [www.snow-pond.com](http://www.snow-pond.com) (also carries tools and other organic supplies, but NO plants)

### **2. BOSTON AREA ORGANIC RETAIL SUPPLIERS OF PLANTS AND SOIL AMENDMENTS**

- Mahoney's Garden Center, 880 Memorial Dr., Cambridge, MA 02138, ph: 617.354.4145
- Marino's Lookout Farm, 89 Pleasant Street, South Natick, MA 01760, ph: 508.651.1539, [www.lookoutfarm.com](http://www.lookoutfarm.com)
- Needham Garden Center, 53-R Chestnut St., Needham, MA 02492, ph: 781.444.2401
- Northeast Nurseries, 234 Newbury Street/Route 1 South, Peabody, MA 01960, ph: 978.535.6550, [www.northeastnursery.com](http://www.northeastnursery.com) (also carries tools, other organic supplies, mulch, etc.)
- Windy-Lo Nursery, 309 Eliot St./Route 16, Natick, MA 01760, ph: 781.237.3014

Please note: Product lines at retail outfits may change from season to season, so always call first to confirm product availability.

### **3. NORTHEAST BIOSOLID COMPOST SUPPLIERS**

- Agresource, 100 Main Street, Amesbury, MA 01913, ph: 800.313.3320, fax: 978.388.4198, email: [info@agresourceinc.com](mailto:info@agresourceinc.com), web: [www.agresourceinc.com](http://www.agresourceinc.com)