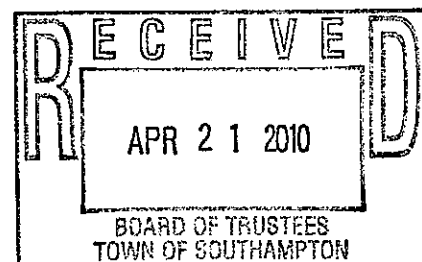


**LAKE AGAWAM BULKHEAD PROJECT
RAIN GARDEN PLANTING LIST**



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Date Prepared: April 21, 2010

| COMMON NAME | SCIENTIFIC NAME | SYMBOL |
|--------------------|-------------------------------|--------|
| Winterberry | <i>Ilex verticillata</i> | IV |
| Inkberry | <i>Ilex glabra</i> | IG |
| Black Chokeberry | <i>Aronia melanocarpa</i> | AM |
| Red Chokeberry | <i>Aronia arbutifolia</i> | AA |
| Arrowwood | <i>Viburnum dentatum</i> | VD |
| Shadbush | <i>Amelanchier canadensis</i> | AC |
| Sweet Pepperbush | <i>Clethra alnifolia</i> | CA |
| Highbush Blueberry | <i>Vaccinium corymbosum</i> | VC |
| Virginia Rose | <i>Rosa virginiana</i> | VR |
| Swamp Rose Mallow | <i>Hibiscus moscheutos</i> | HM |

Shrubs minimum 2-3 gallon container or where required, 4-6 gallon container grown, 4 feet on center. Shrubs to be planted on the periphery of the rain garden only in areas currently dominated by Common Reed (*Phragmites communis*) after removal of invasive vegetation and grading with clean sand to form suitable substrate on eastern and western end of project.

Rain garden plant materials are native wetlands species, native clump grasses and native wildflowers to be utilized in a shallow trough created by grading a flat swale 8 inches deep between the new bulkhead and the new pavement line, at the sloping face curb. 6 inch berms, measured from the top of curb, will be provided at the curb line and at the line of the new bulkhead. Existing soils will be utilized unless unsuitable. No soil amendments with the exception of bone meal and dehydrated cow manure added at the time of pocket planting. 3 inches bark chips mulch. The following species will be utilized:

| | | |
|-------------------|--------------------------------|----|
| Switch Grass | <i>Panicum virgatum</i> | PV |
| Beebalm | <i>Monarda didyma</i> | MD |
| Bergamot | <i>Monarda fistulosa</i> | MF |
| Swamp Milkweed | <i>Asclepias incarnata</i> | AI |
| Cardinal Flower | <i>Lobelia cardinalis</i> | LC |
| New England Aster | <i>Aster novae-angliae</i> | AN |
| New York Aster | <i>Aster novi-belgii</i> | AB |
| New York Ironweed | <i>Vernonia noveboracensis</i> | VN |
| Wild Columbine | <i>Aquilegia canadensis</i> | AQ |
| Wild Geranium | <i>Geranium maculatum</i> | GM |
| Joe-Pye-Weed | <i>Eupatorium purpureum</i> | EP |
| Boneset | <i>Eupatorium perfoliatum</i> | IF |

| | | |
|----------------------|--------------------|----|
| Blue Flag Iris | Iris versicolor | IB |
| Soft Rush | Juncus effusus | JE |
| Soft-stemmed Bulrush | Scirpus validus | SV |
| Sensitive Fern | Onoclea sensibilis | OS |
| White Turtlehead | Chelone glabra | CG |

Natural grasses plugs only, 12 inches on center. Mulching with native leaf litter, pine needles, or finely shredded wood. Temporary irrigation but typically, no permanent irrigation. 85% survival rate over two years, and where required, 3-5 years. Allowance for supplementation with native wildflowers 12 inches on center.

The size of the rain gardens is delineated immediately below:

| | |
|---------------------|--------------------------|
| Western Rain Garden | 2,390 Square Feet |
| Central Rain Garden | 2,191 Square Feet |
| Eastern Rain Garden | 3,054 Square Feet |
| TOTAL | 5,635 Square Feet |

The size of the shrub border at the west and east periphery of the rain gardens is, as follows:

| | |
|----------------------|--------------------------|
| Western Shrub Border | 1,426 Square Feet |
| Eastern Shrub Border | 1,067 Square Feet |
| TOTAL | 2,493 Square Feet |

These areas will receive native plantings in accordance with the criteria provided above. This Design Narrative shall be used by the contractor for landscaping purposes.

In terms of storage, the rain garden has the following capacity:

$$5,635 \text{ Square Feet} \times 8 \text{ Inches} / 12 \text{ Inches} = 3,756 \text{ Cubic Feet}$$

It is expected that inlets will be provided into the rain garden from the existing parking utilizing curb cuts at the Belgian block curbing. At the bulkhead, the grade will elevate 6 inches to form the waterward side of the rain garden. The slope, within the rain garden, will be 2 inches over 3.5 to 10 feet, resulting in a pitch which ranges from 1.67-5%. No overflow is needed as the soils are porous, the bulkheading will allow water to weep through the face and a flap valve currently drains water in the pond to an elevation 2'-9" below the current top of bulkhead.