Shrub, Vine, and Groundcover Planting (SVG)

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Practice Description

Shrub, vine and groundcover planting is the practice of establishing shrubs, vines or groundcover to stabilize soil in areas where establishing grass is difficult and mowing is not feasible. The practice is especially suited for steep slopes where aesthetics are important. Incidental benefits include providing food and shelter for wildlife, windbreaks or screens and improved aesthetics.

Planning Considerations

Shrubs, vines and groundcovers provide alternatives to grasses and legumes as low-maintenance, long-term erosion control. However, they are normally planted only for special, high-value applications, or for aesthetic reasons, because there is additional cost and labor associated with their use.

Very few of these plants can be dependably planted from seed, and none are capable of providing the rapid cover possible with grasses. Consequently, short-term stabilization efforts must involve using dependable mulch along with special cultural practices to ensure establishment.

Shrubs vary in form and differ from most trees in that multiple stems arise from a common base.

Shrubs can be used to attain additional benefits including the following:

- Increase the aesthetic value of plantings
- Provide visual screening and protective barriers
- Enhance windbreaks
- Provide food and cover for wildlife
- Accelerate the transition to a diverse landscape
- Provide post-construction landscaping

Groundcovers differ in growth rate and shade tolerance. Some are suitable only as part of a high-maintenance landscape; others can be used to stabilize large areas with little maintenance.

Competition from volunteer plants inhibits development and maintenance of the groundcover. Thick durable mulch such as shredded bark (not chips) or pine straw can prevent erosion and reduce weed competition.

Mulch is beneficial to plants at most stages of development but is particularly important for new plantings.

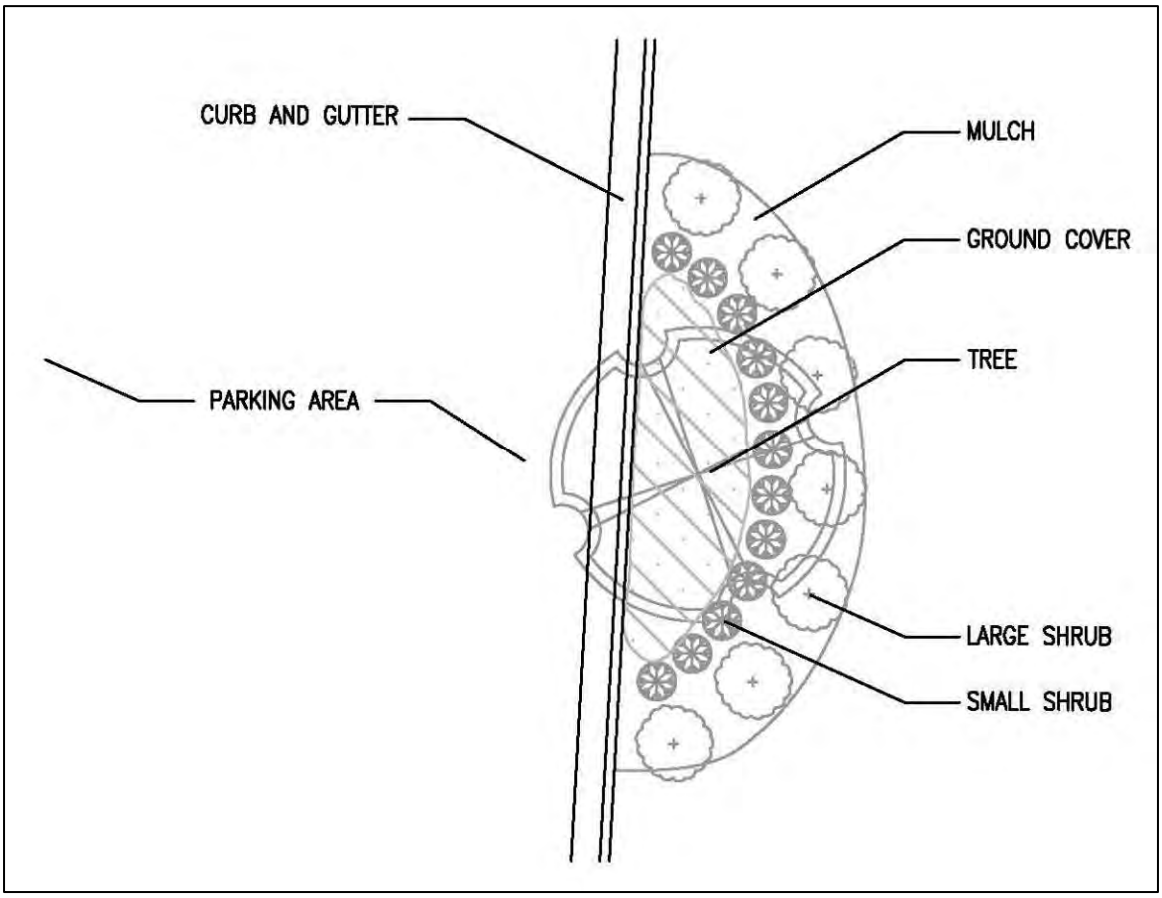

Figure SVG-1 Sample Planting Design Plan

Design Criteria

Plant Selection

Specific characteristics and requirements of recommended species are given in Tables SVG-1 through SVG-5 *Plants Suitable for Shrub, Vine and Groundcover Planting* in Mississippi. Other suitable plants may be identified by qualified design professionals based on plant suitability information including plant adaptation zones (see Figure SVG-2). Exotic invasive species should not be planted!

Site Preparation

Remove debris and other undesirable objects and smooth the area to accommodate the planting and mulching. Sites should be prepared in strips along the contour or at individual spots. Additional preparation will vary according to the type of plant and is discussed later under *Planting*.

On steep slopes, till the soil in contour rows or dig single holes for each plant. Blend the needed lime, fertilizer, and organic material with the soil removed from each hole or furrow. Mix fertilizer thoroughly with the soil before planting, and use it sparingly to avoid burning roots. To eliminate harmful competition from weeds, an appropriate preemergent herbicide may be useful if weeding is not practical.

Soil Amendments

Fertilizer and lime requirements are plant specific and the prescription for a planting should be based on a soil test or a plan prepared by a qualified design professional.

Soils low in organic matter may be improved by incorporating peat, compost, aged sawdust or well-rotted manure.

To eliminate competition from weeds, an appropriate preemergent herbicide may be useful if mechanical weeding is not practical or desired.

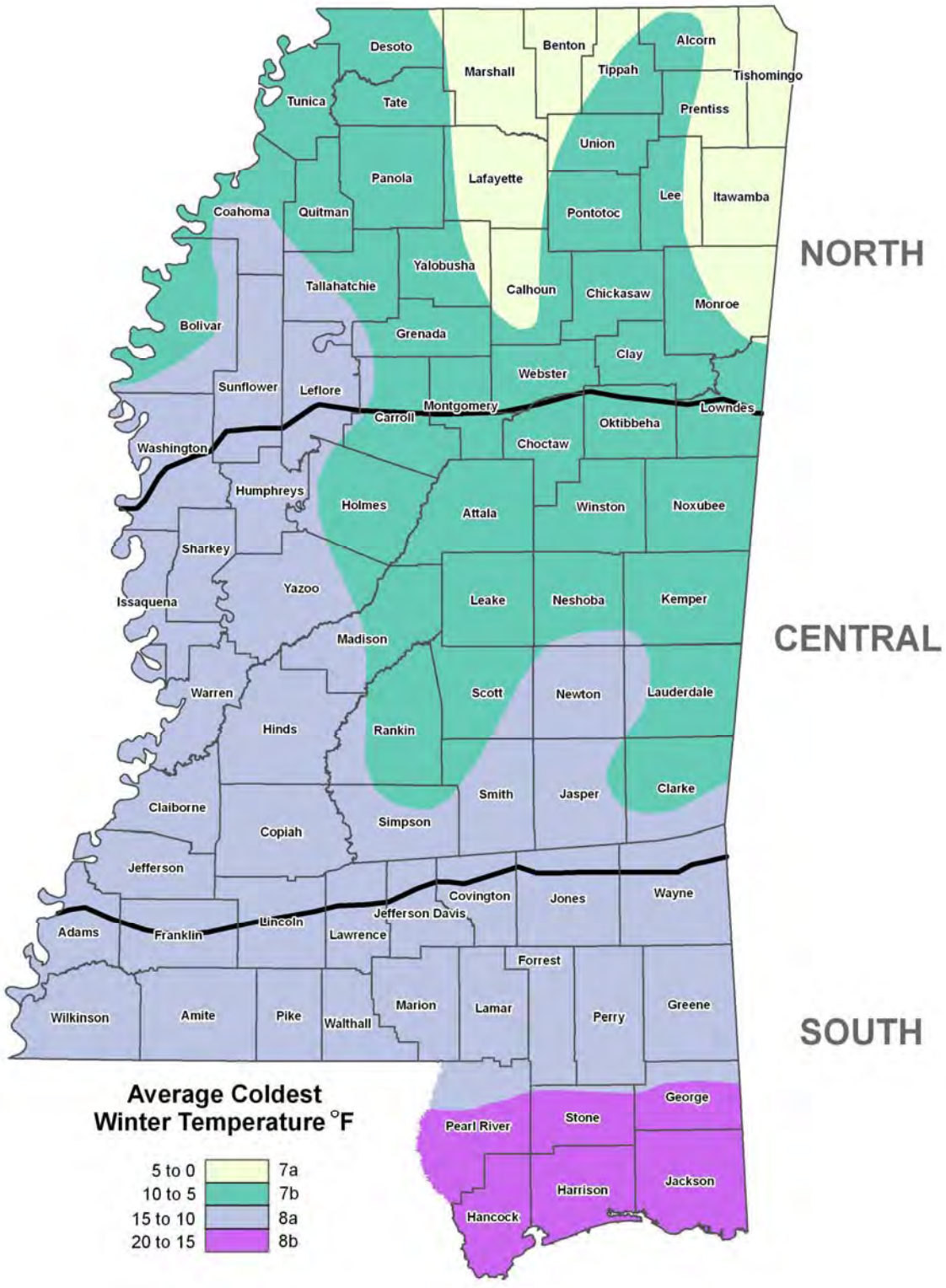

Figure SVG-2 Plant Adaption Zones

Table SVG-1 Plants Suitable for Groundcover Planting in Mississippi

Botanical Name and Common Name	Size	Foliage	Exposure	Native/ Introduced
Bugleweed *Ajuga reptans*	3″-6″	Deciduous	Shade	Introduced
Cast iron plant *Aspidistra elatior*	30″-36″	Evergreen	Shade	Introduced
Holly fern *Cyrtomium falcatum*	24″-30″	Evergreen	Shade	Introduced
English ivy *Hedera helix*	30-40 ft.	Evergreen	Shade	Introduced (May be Invasive)
Liriope a.k.a. Lillyturf *Liriope muscari*	12″-18″	Evergreen	Sun/Shade	Introduced
Moneywort *Lysimachia nummularia*	3″-18″	Deciduous	Sun/Part Sun	Introduced
Monkey grass *Ophiopogon japonicus*	6″-8″	Evergreen	Sun/Shade	Introduced
Stonecrop *Sedum acre*	4″-12″	Evergreen	Sun	Introduced
Asian jasmine *Trachelospermum asiaticum*	12″-10’	Evergreen	Sun/Shade	Introduced
Periwinkle *Vinca major*	12″-3’	Evergreen	Part Shade	Introduced (May be Invasive)
Littleleaf periwinkle *Vinca minor*	10″-3’	Evergreen	Part Shade	Introduced (May be Invasive)
Daylily *Hemerocallis spp.*	30″-36″	Evergreen/ Deciduous	Sun	Introduced
Wild ginger *Asarum canadense*	4″-6″	Evergreen	Shade	Native
Confederate jasmine *Trachelospermum jasminoides*	12″-10’	Evergreen	Sun	Introduced
Ardisia *Ardisia crenata*	24″-24″	Evergreen	Shade	Introduced
Japanese ardisia *Ardisia japonica*	10″-10″	Evergreen	Shade	Introduced
Butterfly iris *Bietes vegeta*	24″-24″	Herbaceous	Sun	Introduced
Louisiana iris *Iris spp.*	36″-36″	Evergreen	Sun	Introduced
Indigo *Indigofera kirilowii*	24″-24″	Deciduous	Part Shade	Introduced

Table SVG-2 Plants Suitable for Vine Planting in Mississippi

Botanical Name and Common Name	Size	Foliage	Exposure	Support Needed	Native / Introduced
Coral vine *Antigonon leptopus*	Grows to 40’	Deciduous	Sun/Part sun	Yes	Introduced
Crossvine *Bignonia capreolatar*	Grows to 60’	Evergreen	Sun/Shade	No	Native
Trumpet creeper *Campsis radicans*	Grows to 30’	Deciduous	Sun/part sun	No	Native
Autumn clematis *Clematis paniculata*	Grows to 30’	Deciduous	Sun	Yes	Introduced
Yellow jessamine *Gelsemium sempervirens*	Grows to 25’	Evergreen	Sun/Part sun	Yes	Native
Climbing hydrangea *Hydrangea petiolaris*	Grows to 50’	Deciduous	Sun/Part Shade	No	Native
Coral honeysuckle *Lonicera sempervirens*	Grows to 20’	Evergreen	Sun/ Part shade	Yes	Native
Lady banks’ rose *Rosa banksiae*	Grows to 20’	Evergreen	Sun	Yes	Introduced
Confederate jasmine *Trachelospermum jasminoides*	Grows to 25’	Evergreen	Sun/Part sun	Yes	Introduced
Virginia creeper *Parthenocissus quinquefolia*	Grows to 40’	Deciduous	Sun/Shade	No	Native
Muscadine grape *Vitis rotundifolia*	Grows to 30’	Deciduous	Sun/Part sun	Yes	Native
American wisteria *Wisteria frutescens*	Grows to 30’	Deciduous	Sun/Part sun	Yes	Native (very aggressive)
Dutchman’s pipe *Aristolochia macrophylla*	Grows to 30’	Deciduous	Shade	Yes	Native
Passion flower *Passiflora incarnate*	Grows to 20’	Deciduous	Sun/Part sun	Yes	Native

Table SVG-3 Plants Suitable for Small Shrub Planting in Mississippi

Botanical Name and Common Name	Normal Height	Foliage	Exposure
Callicarpa Americana American Beautyberry	4-6 ft.	Deciduous	Part Shade
Calycanthus floridus Sweetshrub	6-10 ft.	Deciduous	Full Sun to Shade
Clethra alnifolia Summersweet	2-4 ft.	Deciduous	Full Sun to Part Sun
Fothergilla major Witch Alder	6-10 ft.	Deciduous	Full Sun to Part Sun
Gaylussacia dumosa Dwarf Huckleberry	4-6 ft.	Deciduous	Full Sun to Part Sun
Hydrangea quercifolia Oakleaf Hydrangea	6 ft.	Deciduous	Part Sun to Shade
Illicium floridanum Star Anise	8 ft.	Evergreen	Shade to Part Sun
Itea Virginica Virginia Sweetspire	3-6 ft.	Deciduous	Full Sun to Part Sun
Leucothoe axillaris Leucothoe	3 ft.	Evergreen	Full Sun to Part Sun
Lyonia lucida Lyonia	3 ft.	Evergreen	Part Sun to Shade
Sabal minor Dwarf Palmetto	6 ft.	Evergreen	Full Sun to Part Sun
Viburnum dentatum Arrow-wood Virburnum	5-9 ft.	Deciduous	Full Sun to Part Sun

Table SVG-4 Plants Suitable for Medium Shrub Planting in Mississippi

Botanical Name and Common Name	Normal Height	Foliage	Exposure
Aesculus pavia Red Buckeye	10 ft.	Deciduous	Full Sun to Part Shade
Baccharis halimifolia Groundsel Bush	12 ft.	Evergreen	Part Shade
Cephalanthus occidentalis Buttonbush	10 ft.	Deciduous	Full Sun to Part Sun (needs a lot of water)
Ilex verticillata Winterberry Holly	6-10 ft.	Deciduous	Full Sun to Part Sun
Rhododendron austrinum Yellow Native Azalea	12 ft.	Deciduous	Part Sun to Shade
Rhododendron canescens Honeysuckle Azalea	12 ft.	Deciduous	Part Sun to Shade
Styrax americana Snowbell	10 ft.	Deciduous	Full Sun to Part Sun
Vaccinium elliottii Elliott's Blueberry	12 ft.	Deciduous	Full Sun to Part Sun

Table SVG-5 Plants Suitable for Large Shrub Planting in Mississippi

Botanical Name and Common Name	Normal Height	Foliage	Exposure
Alnus serrulata Tag Alder	15 ft.	Deciduous	Sun to shade
Chionanthus virginicus Fringe Tree	20 ft.	Deciduous	Full Sun to Part Sun
Cliftonia monophylla Buckwheat Tree	6-12 ft.	Evergreen	Full Sun to Part Sun
Hamamelis virginiana Witch Hazel	8-20 ft.	Deciduous	Full Sun to Shade
Ilex coriacea Bigleaf Gallberry Holly	15 ft.	Evergreen	Full Sun to Part Sun
Kalmia latifolia Mountain Laurel	5-10 ft.	Evergreen	Full Sun to Part Sun
Osmanthus americanus American Sweet Olive	20 ft.	Evergreen	Full Sun to Part Sun
Rhododendron serrulatum Summer Azalea	15 ft.	Deciduous	Part Sun to Shade
Rhus typhina Staghorn Sumac	20 ft.	Deciduous	Full Sun to Part Sun
Vaccinium arboretum Tree Huckleberry	20 ft.	Evergreen	Full Sun to Part Sun

Table SVG-6 Plants Suitable for Ornamental Grass Planting in Mississippi

Botanical Name and Common Name	Height and Spread	Exposure
Andropogon virginicus Broomsedge	2-3 ft. / 1-2 ft.	Sun to Part Sun
Carex sp. Carex	1-1.5 ft. / 1.5 ft.	Sun to Shade
Pennisetum alopecuroides Fountain Grass	3 ft. / 4 ft.	Full Sun
Miscanthus sinensis Miscanthus (maiden grass)	4-7 ft. / 4-5 ft.	Full Sun to Part Sun
Cortaderia selloana Pampass Grass (Not reliable in North MS)	12 ft. / 6 ft.	Full Sun to Light Shade
Chasmanthium latifolium River Oats	2-5 ft. / 2-3 ft.	Full Sun to Partial Shade
Phalaris arundinacea Variegated Ribbon Grass	3-4 ft. / 4 ft.	Full to Partial Sun

Planting

In the absence of a site-specific planting plan consider the following guidelines.

Shrubs

Late winter (before leaves emerge) is the best time for planting deciduous shrubs and early fall is the best for evergreens. Shrubs grown and marketed in containers can be planted anytime during the year except when the ground is frozen.

Individual Shrubs with Root Ball

Provide a relatively large area for initial root development. The hole should be dug to a depth that allows the root ball to extend 1″ above the soil surface. The top diameter of the hole should be as big around as 2-3 times the diameter of the root ball. As soil is added the hole should be filled with water to moisten the soil until the filling of the hole is complete.

Shrubs in Prepared Beds

Till or spade a bed to a depth of 8″ to 12″. Contrary to the individual planting, soil amendments, such as peat or compost at a rate of 1 part amendment to 3 parts native soil, are beneficial to shrubs because they provide a uniform root environment across the bed area. Organic soil amendments enable plants to respond positively to water and fertilizers when they are applied. The hole for the shrub planted in a bed area should be a few inches wider in diameter than the root ball.

Plants in Containers

Remove container plants from their containers, cutting the container if necessary. If the plant is root-bound (roots circling the outside of the root ball), score the root-ball from top to bottom about 4 times, cutting about ¼ ″ deep with a knife, or gently massage the root ball until roots point outward. Place the shrub into the hole. Using only the native backfill, add soil back to the hole until it is ½ to ⅔ full. Water in the backfill soil around the root ball. Add soil to ground level and thoroughly water again. A small dike may be formed around the edge of the planting hole to hold water around the root ball if the plant is in sandy soils or on slopes. *Caution: in a dense clay soil, trapping additional water in the root zone can be detrimental because water drains poorly and creates an extended period of wetness.*

Bare Root Plants

Soak bare root plants in water. When planting, spread the roots in the hole and gradually add soil. Firm the soil, being careful to avoid breaking roots. Fill the hole with water, and allow it to drain. Then fill the hole with soil, and water again thoroughly.

Burlapped Plants

Cut any wire or string that is around plants stems. Do not remove the burlap. Fold the burlap back so it will be buried by soil. Burlap which is allowed to remain exposed after planting can act as a wick, causing the root ball to dry out. Follow the same procedure for filling the hole as that described for container plants.

Vine and Groundcovers

Most groundcovers are planted from container-grown nursery stock. Planting density determines how quickly full cover is achieved; a 1 foot spacing is often used for rapid cover. Large plants such as junipers can be spaced on 3 foot centers. Transplanting to the prepared seedbed can be done using a small trowel or a spade. Make a hole large enough to accommodate the roots and soil. Backfill and firm the soil around the plant, water immediately, and keep well watered until established. Water slowly and over longer periods to allow for infiltration and reduce runoff.

When to plant

Late winter (before leaves emerge) is the best time for planting deciduous shrubs and early fall is the best for evergreen shrubs. Assuming the plants are well-watered during the summer, shrubs grown in containers can be planted anytime during the year except when the ground is frozen.

Vines and groundcovers are best planted in early fall or early spring.

Mulching

Once plants are installed, add mulch. On steep slopes or highly erodible soils, install erosion control netting or matting prior to planting, and tuck plants into the soil through slits in the net. Plant in a staggered pattern (see *Mulching Practice* for more details on mulching).

Watering

Shrubs

Water shrubs immediately after planting and keep well watered for the first few weeks. Apply water weekly if rainfall does not supply 1″ of water per week. Be conscious of plants that have been in the ground for less than 1 year and water them regularly and thoroughly during extended dry periods.

Vines and Groundcover

Water vines and groundcover immediately after planting and keep well watered until established. Vines and groundcover need about an inch of water a week for the first 2 years after planting.

Verification of Practice

Check all components of the practice during installation to ensure that specifications are being met.

Common Problems

Consult with a qualified design professional if any of the following occur:

Soil compaction at planting time appears so significant that it will prevent adequate plant growth. Compaction should be addressed during site preparation.

Design specifications for plants (species, variety, planting dates) and mulch cannot be met. Unapproved substitutions could lead to failure.

Problems that require remedial actions:

Erosion, washout and poor plant establishment – repair eroded surface, replant, reapply mulch and anchor.

Mulch is lost to wind or stormwater runoffs – reapply mulch and anchor.

Maintenance

Replant shrubs, vines or groundcovers where needed to maintain adequate cover for erosion control. Repair eroded surfaces by reapplying the previous treatment and determine if an additional practice is needed, i.e. installing erosion netting. Maintain shrubs, vines and ground covers with applications of fertilizer and mulching. Reapply mulch that is lost to wind, stormwater runoff or decomposition.

Shrubs, vines and groundcovers need about an inch of water a week for the first 2 years after planting. When rain does not supply this need, shrubs should be watered deeply not less than once a week.

Fertilization needs should be determined by a professional because different plants have different needs. In the absence of a recommendation from a landscape professional, a soil test is the best way to determine what nutrient elements are needed. Fertilizer formulations of 12-4-8 or 15-0-15 can be used in the absence of a soil test. Apply 2 lbs of fertilizer per 1000 ft^2 of area.

References

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