

Commercial Development: Landscape Standards

The Green Valley Institute exists to help the communities and citizens of The Last Green Valley, also known as the Quinebaug-Shetucket National Heritage Corridor, sustain their environment and quality of life while growing their economics.

We are a non-regulatory organization dedicated to:

- Improving the knowledge base from which land use and natural resource decisions are made,
- Building local capacity to protect and manage natural resources as our region grows.

The GVI was created through a formal partnership of the Quinebaug-Shetucket National Heritage Corridor and the University of Connecticut's College of Agriculture and Natural Resources, University of Massachusetts' Cooperative Extension System and other partners.



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Regulations and design standards for commercial development can enhance town character, create a sense of place and encourage economic development. This fact sheet is the sixth in a series on this topic. Other fact sheets in the series are an overview of commercial development, and individual fact sheets with suggested regulation standards for site planning, architecture, signage and lighting. **Landscaping** is an integral component of all site plan developments and can visually enhance the development, create a pleasing destination and provide an attractive scene from the town roadway.

Objectives for Landscaping

Landscaping should enhance and complement commercial development through the use of properly selected and placed landscaping.



Wayfinding should be reinforced by the use of plant material to emphasize entrances and circulation patterns.

Parking lots should be landscaped to visually reduce their scale, provide shade, add seasonal interest and increase the attractiveness of development.

Landscaping should be used as a component of screening for residential properties and for the less attractive parts of the site.

General Landscaping Standards

Include a landscape plan as part of the site development proposal that is prepared by a licensed landscape architect for all sites in excess of 5 acres.

Prepare site analysis for landscape plan by:

- Identifying existing plantings with a goal to preserving healthy trees and shrubs,
- Identifying stone walls, rock outcropping and other natural elements on the site,
- Evaluating the physical characteristics, and growing conditions, for each area to be landscaped,
- Determining circulation patterns and key features to be highlighted, and areas to be screened.

Develop plan overall landscape plan that:

- Incorporates key existing features such as stone walls, rocks, ledges, mature trees and other natural elements,
- Defines the edge of travel ways with large spreading deciduous along town/ state roads and to lessen the visual impact of the development, clean the air and add scale to the corridor.

Provides sufficient area for root growth and mature size for trees and other plant material,

Coordinates landscape plan with the location of underground and above ground utilities and light fixtures, including screening for transformers, propane tanks and similar mechanical elements,

Stresses simplicity in form in the landscape plan and limits the number of species,

Uses protective measures during construction that avoids any ground disturbance within the drip edge of existing trees to be preserved.

Develop planting plan that:

Uses plant material and landscape elements that require a low degree of maintenance, are resistant to insect infestations, drought, disease, roadside salt, urban conditions, auto emissions and suitable for the growing conditions,

Reuses existing trees and other plantings when possible,

Uses masses or 'drifts' that emphasize colors and texture to soften edges and to integrate the building into the landscape,

Selects plants with consideration for multi-seasonal interest, wildlife value, native origination and deer resistance,



Careful selection of plant material can provide a site with year round interest.



Develop planting plan that (cont):

Strikes a balance between monoculture (the use of a single species) and too much variety,

Uses large rocks as landscape elements and as accents in mass plantings (buried at least half their depth and incorporated into the overall design theme),

Uses live ground cover such as grass and plantings for large areas and avoids mulch as a substitute for live ground cover,

Avoids plants with poisonous fruits, large thorns, or invasive growth patterns, or trees and shrubs that could provide hiding places along walkways or block the view of moving vehicles,

Uses plant materials and other landscape elements for buffers between residential and commercial properties that have a pleasing appearance from both viewpoints, and uses evergreen plantings that are deer resistant as an effective for year-round buffering,

Requires plant material to be installed in the following minimum sizes (unless otherwise required by site conditions):

Canopy Trees	2.5" caliper
Flowering Trees	2" caliper
Evergreen Trees	5-7' height
Deciduous Shrubs	24" height
Evergreen Shrubs	18" height
Perennials	2 gallon container
Ornamental Grasses	3 gallon container
Ground Covers	3" container

Guarantees all plant material for a period of not less than 2 years.

A list of recommended plant material for various locations is on the last four pages of this fact sheet.

Landscaping Standards for Parking Lots



Lot size and location determines the amount of landscaped areas: lots with 40 or more spaces, and lots visible from a public road, require at least 15% landscaped; smaller lots require 10% landscaped.



Break up paved areas with plant islands that are at least 5' wide plus the length of any car overhang; islands can also be used as a vegetative swale for stormwater.

Select landscape material that surrounds parking lots and in islands that tolerate large quantities of snow storage during winter months.

Integrate the landscaping plan with the site plan's area for snow storage.

Separate parking lots from the street by plantings, earth berms, walls and/or other landscape elements to minimize the view of vehicles from streets, roads and drives, while still allowing the public to see the building.



Consider the branching habit of trees when selecting plant material, prune all branches below 7' at the time of installation of trees adjacent to walks. Avoid trees with sap or fruit that may damage automobiles.

Use the plant layout to reinforce the grid inherent in a parking lot.

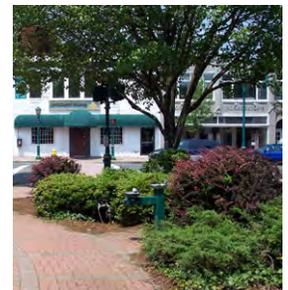
Landscaping Standards At Entrance, Near Buildings and at Other Features

Select plant material to coordinate with the building's facade, length and height. Locate to maintain a clear view of entryways, signs and lighting when plants material is at maturity.

Select predominately large shade trees for roadside planting and locate a minimum of 5' from the road right-of-way. Preserve adequate sight lines at intersections and driveway entries as determined by a traffic engineer.

In pedestrian areas, avoid trees whose future branching may interfere with pedestrian movement. In outdoor seating area also avoid trees with messy fruit or excessive leaf litter.

Design foundation and wall planted beds with care to enhance the form of the building. Use either a formal pattern or a naturalistic blend of heights, colors and textures. Generally use plant material, especially shrubs, grasses and perennials, large masses or 'drifts' rather than individual specimens to provide a pleasing effect for both the motorist and pedestrian.



Landscaping Maintenance Standards

Anticipate 3 to 8 years to achieve maturity for shrubs, and a 15-20 years for trees. Maintain site so the landscaping continues to improve as the plant material achieves maturity.

Include a written maintenance plan for all landscape elements installed that details initial installation, guarantee period, replacement policy, periodic and seasonal maintenance, special considerations, use of pesticides and fertilizers, irrigation and seasonal displays.

Allow all plant material to achieve their natural forms without excessive pruning. Avoid shaping evergreen shrubs into tight geometrical forms.

Replace plant materials that do not survive or are damaged.

Recommended Landscape Plant Material

The plants on these lists have been derived from a number of sources and would be appropriate for sites with a hardiness of 5 or less. The final selection shall consider specific growing requirements (full sun, part shade, etc) and the conditions present at each specific location on the site.

Street Trees (for planting within 5' of pavement)

		Mature	
		Ht (ft)	W (ft)
<i>Acer buergerianum</i>	Trident Maple	20	30
<i>Acer rubrum</i> 'Armstrong'	Armstrong Red Maple	60	15
<i>Acer rubrum</i> 'October Glory'	October Glory Maple	50	50
<i>Acer rubrum</i> 'Red Sunset'	Red Sunset Maple	45	35
<i>Acer x fremanii</i> 'Autumn Blaze'	Freeman Maple	55	50
<i>Aesculus flava</i>	Yellow Buckeye	50	40
<i>Aesculus x carnea</i>	Red Horsechestnut	30	30
<i>Carpinus caroliniana</i>	American Hophornbeam	25	20
<i>Cercidiphyllum japonicum</i>	Katsuratree	60	20
<i>Crataegus phaenopyrum</i>	Washington Hawthorn	30	25
<i>Crataegus viridis</i> 'Winter King'	Winter King Hawthorn	20	25
<i>Fraxinus americana</i>	White Ash	50	30
<i>Fraxinus pennsylvanica</i> 'Summit'	Green Ash	50	30
<i>Ginkgo biloba</i>	Ginkgo	50	25
<i>Malus</i> 'Donald Wyman'	Donald Wyman crabapple	20	25
<i>Malus</i> 'Prairiefire'	Prairiefire crabapple	15	15
<i>Pyrus calleryana</i> 'Aristocrat'	Aristocrat Pear	30	12
<i>Quercus coccinea</i>	Scarlet Oak	75	45
<i>Quercus palustris</i>	Pin Oak	60	35
<i>Quercus rubra</i>	Red Oak	60	60
<i>Quercus shumardii</i>	Shumard Oak	60	60
<i>Sophora japonica</i>	Japanese Pagodatree	50	50
<i>Syringa reticulata</i>	Japanese Tree Lilac	30	15
<i>Ulmus americana</i> 'Princeton'	American Elm	60	30
<i>Zelkova serrata</i> 'Green Vase'	Japanese Zelkova	60	50

Ornamental Trees (for planting away from salt-prone areas, in addition to above)

		Mature	
		Ht (ft)	W (ft)
<i>Acer griseum</i>	Paperbark Maple	25	15
<i>Acer palmatum</i> 'Bloodgood'	Bloodgood Japanese Maple	15	15
<i>Acer saccharum</i>	Sugar Maple	70	60
<i>Acer saccharum</i> 'Green Mountain'	Green Mtn Sugar Maple	60	40
<i>Amelanchier canadensis</i>	Shadblow Serviceberry	20	12
<i>Amelanchier laevis</i>	Allegheny Serviceberry	15	12
<i>Amelanchier x grandiflora</i>	Apple Serviceberry	25	20
<i>Amelanchier x grandiflora</i> 'Autumn Brilliance'	Allegheny Shadblow	20	12
<i>Betula nigra</i> 'Heritage'	Heritage Birch	60	40
<i>Betula jacquemontii</i>	White-Barked Birch	35	15
<i>Betula nigra</i>	River Birch	40	40
<i>Betula papyrifera</i>	Paper Birch	50	30
<i>Cornus florida</i>	Flowering Dogwood	25	25
<i>Cornus kousa</i>	Kousa Dogwood	20	20
<i>Cornus kousa</i> 'Milky Way'	Milky Way Dogwood	20	20
<i>Fagus sylvatica</i>	European Beech	70	55
<i>Magnolia liliiflora</i>	Lily Magnolia	20	20
<i>Magnolia stellata</i>	Star Magnolia	12	12
<i>Nyssa sylvatica</i>	Black Tupelo	30	20
<i>Oxydendrum arboreum</i>	Sourwood	40	20
<i>Prunus cerasifera</i> 'Thundercloud'	Thundercloud	20	20
<i>Quercus alba</i>	White Oak	60	60
<i>Styrax japonicus</i>	Japanese Snowbell	20	20

Evergreens for Screening and as Ornamental Trees

		Mature	
		Ht (ft)	W (ft)
<i>Abies concolor</i>	White Fir	30	12
<i>Abies fraseri</i>	Fraser Fir	30	20
<i>Gleditsia triacanthos</i>	Common Honeylocust	45	45
<i>Juniperus virginiana</i>	Eastern Redcedar	25	8
<i>Picea abies</i>	Norway Spruce	50	25
<i>Picea glauca</i>	White Spruce	40	10
<i>Picea pungens</i> 'Fat Albert'	Fat Albert Spruce	15	8
<i>Picea pungens</i> 'Glauca'	Glauca Colorado Spruce	40	20
<i>Pinus densiflora</i>	Japanese Red Pine	50	50
<i>Pinus flexilis</i>	Limber Pine	30	15
<i>Pinus koraiensis</i>	Korean Pine	35	60
<i>Pinus nigra</i>	Austrian Pine	50	35
<i>Pinus parviflora</i>	Japanese White Pine	35	35
<i>Pinus rigida</i>	Pitch Pine	50	35
<i>Pinus strobus</i>	Eastern White Pine	60	30
<i>Thuja occidentalis</i>	Eastern Arborvitae	50	10

for full screening, place on center at 60% of mature width

Flowering and Ornamental Shrubs

		Mature	
		Ht (ft)	W (ft)
<i>Arctostaphylos uva-ursi</i>	Bearberry	0.5	4
<i>Buxus microphylla</i>	Littleleaf Box	3	4
<i>Buxus sempervirens</i>	Common Box	8	8
<i>Ceanothus americanus</i>	New Jersey Tea	3	4
<i>Clethra alnifolia</i>	Summersweet	6	7
<i>Cornus sericea</i>	Redosier Dogwood	6	8
<i>Cotinus coggygria</i>	Common Smoketree	10	10
<i>Cotoneaster dammeri</i>	Bearberry Cotoneaster	2	5
<i>Enkianthus campanulatus</i>	Redvein Enkianthus	6	5
<i>Hamamelis virginiana</i>	Common Witchhazel	15	15
<i>Hydrangea arborescens</i> 'Annabelle'	Annabelle Hydrangea	4	4
<i>Hydrangea macrophylla</i>	Bigleaf Hydrangea	4	4
<i>Hydrangea paniculata</i>	Panicle Hydrangea	10	10
<i>Hydrangea quercifolia</i>	Oakleaf Hydrangea	6	6
<i>Hypericum frondosum</i> 'Sunburst'	Yellow St. John's wort	3	2.5
<i>Ilex glabra</i> 'Densa'	Inkberry	3	3-4
<i>Ilex verticillata</i>	Common Winterberry	8	8
<i>Juniperus chinensis</i> 'Robusta Green'	Robusta Green Juniper	14	6
<i>Juniperus chinensis</i> 'Sargentii Viridis'	Green Sargent Juniper	1	8
<i>Juniperus communis</i> 'Blueberry Delight'	Blueberry Delight Juniper	1.5	6
<i>Juniperus conferta</i>	Shore Juniper	1	8
<i>Juniperus horizontalis</i> 'Bar Harbor'	Creeping Juniper	0.5	8
<i>Juniperus procumbens</i> 'Nana'	Dwarf Japanese Garden Juniper	0.5	6
<i>Kalmia latifolia</i>	Mountain-laurel	5	6
<i>Kalmia latifolia</i> 'Sarah'	Mountain Laurel	6	6
<i>Microbiota decessata</i>	Russian Carpet Juniper	1	10
<i>Myrica pensylvanica</i>	Northern Bayberry	5	8
<i>Physocarpus opulifolius</i> 'Summer Wine'	Summer Wine Ninebark	4	4
<i>Pieris floribunda</i>	Mountain Pieris	3	3
<i>Pieris japonica</i>	Japanese Pieris	5	5
<i>Pieris japonica</i> 'MountainFire'	Mountain Fire Andromeda	6	5
<i>Pinus mugo</i>	Swiss Mountain Pine	3	3
<i>Potentilla fruticosa</i>	Bush Cinquefoil	3	3

<i>Prunus maritima</i>	Beach Plum	6	6
<i>Prunus x cistena</i>	Purpleleaf Sand Cherry	7	5
<i>Rhododendron species</i>	Rhododendron	var	var
<i>Rhus aromatica</i>	Fragrant Sumac	1.5	5
<i>Rhus glabra</i>	Smooth Sumac	5	5
<i>Rosa virginiana</i>	Virginia Rose	5	6
<i>Sambucus nigra</i> 'Black Beauty'	Black Beauty Elderberry	8	8
<i>Sambucus canadensis</i>	American Elder	8	8
<i>Sambucus racemosa</i>	European Red Elder	10	10
<i>Syringa vulgaris</i>	Common Lilac	12	8
<i>Taxus cuspidata</i>	Japanese Yew	4	5
<i>Taxus x media</i>	Anglojap Yew	4	4
<i>Vaccinium angustifolium</i>	Lowbush Blueberry	0.75	2
<i>Vaccinium corymbosum</i>	Highbush Blueberry	6	6
<i>Viburnum trilobum</i>	American Cranberry	8	8
<i>Viburnum dentatum</i>	Arrowwood Viburnum	6	8
<i>Viburnum lantana</i>	Wayfaring Tree	7	7
<i>Viburnum plicatum tomentosum</i>	Doublefile Viburnum	8	9
<i>Viburnum prunifolium</i>	Blackhaw	10	6
<i>Viburnum sargentii</i>	Sargent Viburnum	12	12

Perennials and Grasses

		Mature	
		Ht (ft)	W (ft)
<i>Artemisia schmidtiana</i> 'Silvermound'	Silvermound Wormwood	1	1
<i>Aster</i> 'Woods's Blue'	Aster	1	1.5
<i>Athyrium felix femina</i> 'Crestata'	Crested Lady Fern	3	2
<i>Coreopsis verticillata</i> 'Moonbeam'	Moonbeam coreopsis	1.5	2.5
<i>Epimedium grandiflorum</i> 'Lilafee'	Lilafee Barrenwort	1	1
<i>Epimedium x rubrum</i>	Reb Barrenwort	1	1.2
<i>Eupatorium dubium</i> 'Little Joe'	Dwarf Joe Pye	3	3
<i>Hemerocallis</i> 'Black Eyed Stella'	Black Eyed Stella daylily	1.5	2
<i>Hemerocallis</i> 'Stella d'Oro'	Stella d'Oro daylily	1	1.5
<i>Lamium maculatum</i> 'Orchard Frost'	Orchard Frost Deadnettle	0.5	1
<i>Lamium maculatum</i> 'Red Nancy'	Red Nancy Deadnettle	0.5	1
<i>Lavendula angustifolia</i> 'Munstead Strain'	Munstead Lavender	1	2
<i>Leucanthemum</i> 'Broadway Lights'	Broadway Lights Shasta Daisy	1.2	1.5
<i>Leucanthemum x superbum</i> 'Snow Lady'	Snow Lady Shasta Daisy	1.2	2
<i>Liatris spicata</i> "Kobold"	Kobold Gay Feather	2	2.5
<i>Miscanthus sinensis</i> 'Adagio'	Dwarf Maiden Grass	4	4
<i>Pachysandra terminalis</i>	Japanese Pachysandra	0.5	1
<i>Pennisetum alopecuroides</i>	Fountain Grass	3	3
<i>Rudbeckia fulgida</i> var. <i>sullivantii</i> 'Goldstrum'	Black-eye Susan 'Goldstrum'	2	2
<i>Rudbeckia speciosa</i> 'Viette Little Suzy'	Little Suzy Dwarf Bk Eye Susan	1	1.5
<i>Sedum spectabilis</i> 'Autumn Joy'	Autumn Joy Sedum	2	2
<i>Thyme praecox</i> 'Albus'	White Thyme	0.1	1
<i>Thymus praecox</i>	Thyme	0.2	1
<i>Vinca minor</i>	Myrtle	0.5	1

Wetland Plants for Detention/Retention Basins

Trees:		Mature	
		Ht (ft)	W (ft)
<i>Acer rubrum</i>	Red maple	45	40
<i>Amelanchier canadensis</i>	Shadbush	20	12
<i>Betula nigra</i>	River birch	40	40
<i>Celtis occidentalis</i>	Hackberry	35	20
<i>Chionanthus virginicus</i>	Fringetree	15	15
<i>Magnolia virginiana</i>	Sweetbay	30	20
<i>Nyssa sylvatica</i>	Blackgum	30	20
<i>Quercus bicolor</i>	Swamp white oak	50	50
<i>Quercus palustris</i>	Pin oak	60	35

Shrubs: (plant in groups of 3-7 of one species)

<i>Andromeda glaucophylla</i>	Bog rosemary	2	2
<i>Aronia arbutifolia</i>	Red chokeberry	8	4
<i>Aronia melanocarpa</i>	Black chokeberry	4	3
<i>Cephalanthus occidentalis</i>	Buttonbush	8	6
<i>Clethra alnifolia</i>	Summersweet	6	7
<i>Cornus racemosa</i>	Grey dogwood	7	11
<i>Cornus sericea</i>	Redosier dogwood	6	8
<i>Ilex glabra</i>	Inkberry	5	5
<i>Ilex verticillata</i>	Winterberry holly	8	8
<i>Lindera benzoin</i>	Spicebush	8	8
<i>Myrica pensylvanica</i>	Bayberry	5	8
<i>Physocarpus opulifolius</i>	Ninebark	6	6
<i>Rhododendron viscosum</i>	Swamp azalea	6	6
<i>Salix discolor</i>	Pussy willow	20	18
<i>Sambucus canadensis</i>	Elderberry	8	8
<i>Spiraea tomentosa</i>	Meadowsweet	5	5
<i>Vaccinium angustifolium</i>	Lowbush blueberry	0.75	2
<i>Vaccinium corymbosium</i>	Highbush blueberry	6	6
<i>Viburnum dentatum</i>	Arrowwood	6	8
<i>Viburnum prunifolium</i>	Blackhaw	10	8
<i>Viburnum trilobum</i>	Cranberrybush	8	8

Perennials: (plant in massings for naturalized effect)

<i>Asclepias incarnata</i>	Swamp milkweed	3	1.5
<i>Caltha palustris</i>	Marsh marigold	1.5	1.5
<i>Chelone glabra</i>	Turtlehead	2	1.5
<i>Eupatorium maculatum</i>	Joe pye weed	5	5
<i>Geranium maculatum</i>	Wild geranium	1	1.5
<i>Iris versicolor</i>	Blue flag iris	3	2
<i>Lobelia cardinalis</i>	Cardinal flower	2	2
<i>Osmunda cinnamomea</i>	Cinnamon fern	2	2
<i>Osmunda regalis</i>	Royal fern	2	2
<i>Physostegia virginiana</i>	Obedient plant	2	2
<i>Tiarella cordifolia</i>	Foamflower	1	1
<i>Verbena hastata</i>	Blue vervain	0.5	2
<i>Veronicastrum virginicum</i>	Culver's root	4	3

Additional Information:

Green Valley Institute: www.GreenValleyInstitute.org

UConn's Plant Selection Database: www.hort.uconn.edu/plants/

Manual of Woody Landscape Plants. M. A. Dirr. Champaign, Illinois: Stripes Publishing LLC. 1998.

Urban Tree Selection Manual. John Alexopoulos, ASLA Paula Stahl, ASLA Robert Ricard, PhD.

University of Connecticut Extension. 2007.



A publication of the Green Valley Institute. Please contact us at 860-774-9600 to schedule a workshop on this topic.