5.0

Design Manual: Plant Palette

DESIGN MANUAL: PLANT PALETTE

A majestic canopy of willow oaks stretches over the West End of Franklin Street, shading the sidewalk and establishing a strong visual presence among the varied storefronts along the street. Yet walking past University Square, the planting becomes less consistent, with small flowering trees dotting planting beds blanketed with mulch. These are snapshots of the visual character of Franklin Street, and from a quick glance, one can see that sharp contrasts exist, even from one block to the next.

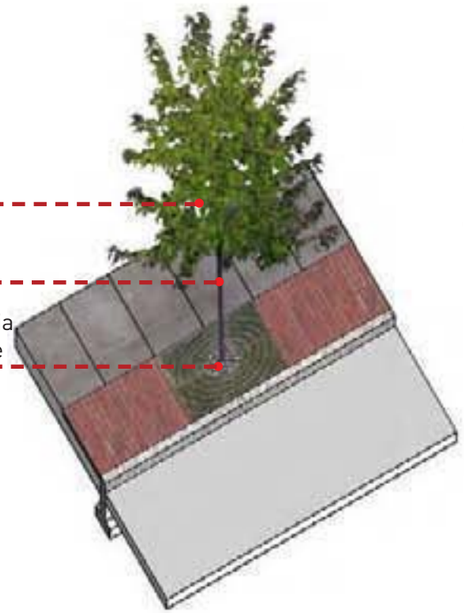
The previous chapter analyzed the differences in the programmatic and visual character of the five districts within Downtown Chapel Hill. The following chapter describes planting strategies for embracing diversity while establishing a consistent visual identity to unify Downtown Chapel Hill and define it as an urban destination.

Street tree plantings, when chosen carefully and well maintained, help to frame the street and visually enhance the streetscape. A long-term vision is needed to define the aesthetic quality of the streetscape in future years. Many of the majestic willow oaks are reaching their final mature stages, while young trees are growing under conditions that deserve greater attention in order to ensure proper growth. The proposed strategy phases in over time tree plantings and maintenance practices needed to establish a healthy canopy. The tree palette includes native and urban-tolerant species that will enhance and complement the architectural and spatial character of each of the streets of Downtown Chapel Hill.

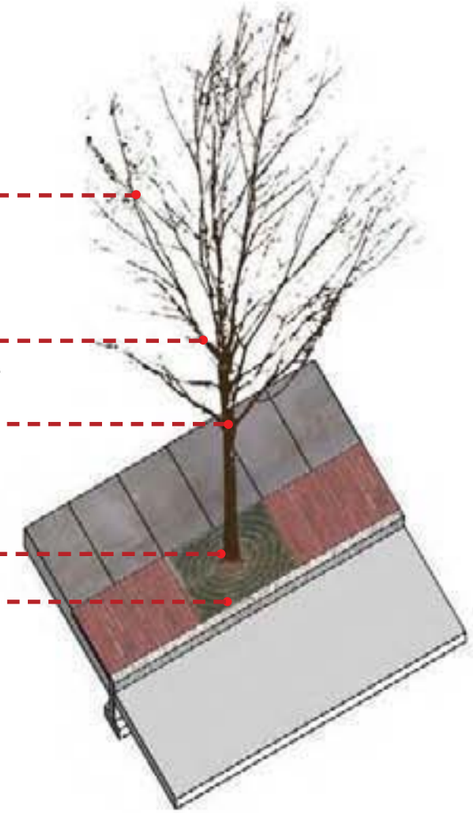
The Master Plan recommends establishment of a Town-managed street tree maintenance program prior to installation of new trees. Regular pruning and maintenance of trees will ensure that the Town's investment in new plantings is fully realized and will contribute to the long-term improvement of the streetscape. Additional recommendations regarding maintenance and implementation are described later on in Section 12.0: Implementation and Maintenance.

MAINTAINING AND PRESERVING THE STREET CANOPY

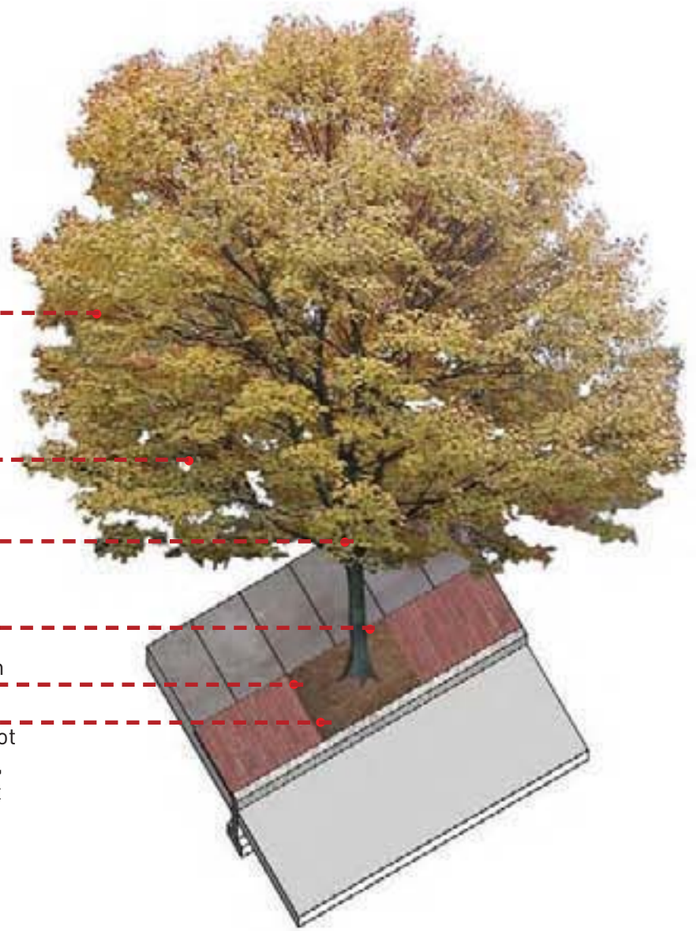
A Diagram Illustrating Street Tree Maturation



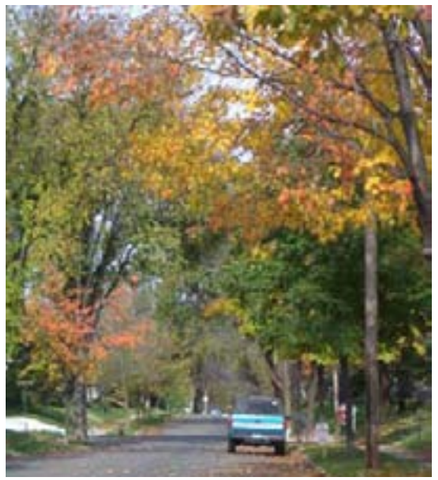
A NEW TREE PLANTING W/ GRATE



B TREE PLANTING W/ GRATE



C MATURE TREE W/ GRATE REMOVED



Street Tree Canopy: Deciduous Trees

PLANT PALETTE

The Town of Chapel Hill 'Green Infrastructure'

A major reason for the decline of the health and spatial impact of the original canopy of Downtown Chapel Hill was its domination by a single species, the American Elm. In the mid 20th century, these trees were plagued with Dutch Elm Disease, which wiped out the majority of American Elms across the country. Although only a few species have been so dramatically affected by disease as the elm, single species of plantings of any kind are uniquely vulnerable to disease and infestation. Such monoculture plantings should be avoided in favor of more diverse plantings, which are less vulnerable to environmental stress, and which, if carefully composed, can offer greater seasonal interest and visual richness.

Downtown Chapel Hill's trees should be planted primarily as a family, not as individual specimens. This will produce the qualities of a continuous canopy, high branched trunks, and filtered light that make the historic photographs of Chapel Hill so compelling. To achieve this effect, trees of similar but not identical form should be planted at varied distances from one another, typically 20 to 30 feet apart. Each tree should have no branches lower than 7 feet in height at the time of planting. Further "limbing up" to 10 to 16 feet as part of a regular pruning program will encourage the formation of a high continuous canopy. This continuous canopy will be disrupted only due to lighting requirements and existing curb cuts. Curb cuts shall be kept to a minimum to provide reasonable and adequate circulation requirements with the intent of minimizing any disruptions with the tree canopy.

Uniformity of age can create artificial cycles of maturity, decline, and replanting as well as an awkward appearance when a large tree dies and is replaced by a significantly smaller sized tree. To ensure a more steady state planting, new trees should be added each year. In establishing plantings, it is important to provide systematic watering in the first two years after a tree is transplanted. After that period, irrigation is not required, but if installed should be zoned to accommodate the specific needs of trees, which benefit from deeper but less frequent 'waterings' than needed by lawns.

Tree Species Selection

Selections for each area are based on its character and scale, its surrounding established plantings, and observed site conditions including topography, solar aspect, condition of existing vegetation, and exposure to environmental stresses such as pavements and soil compaction. Further investigation of each site should be made before plant selections are finalized. The planting strategy will maintain the current direction and vision of establishing a diverse palette of trees; establishing an urban forest.

Primary plantings are the trees that will make up the street-side canopy. These are large shade trees whose high branches will meet to form a continuous canopy along the street and sidewalk. This canopy will define both the pedestrian way and street. The species below have been selected for their formal character, urban tolerance and fall color. It is recommended that trees be planted that will offer a bright palette of autumn foliage, defined by deep reds and bright yellows that will signal the changing of the seasons.

Botanical Name	Common Name	Tree Type	Fall Color	Typical Height
1. *Acer rubrum*	Red Maple	Deciduous	red	50'
2. *Nyssa sylvatica*	Black Gum	Deciduous	red	40'
3. *Quercus shumardii*	Shumard Oak	Deciduous	burgundy	60'
4. *Quercus phellos*	Willow Oak	Deciduous	yellow	50'
5. *Quercus laurifolia*	Laurel Oak	Deciduous	red	50'
6. *Quercus hemisphaerica*	Darlington Oak	Deciduous	red	40'
7. *Ulmus americana* 'Princeton'	Princeton Elm	Deciduous	yellow	50'

(NOTE: There are a total of 9 existing non-resistant elms – Dutch Elm Disease)

Groundcover Plantings

Within planters, groundcover plantings should be planted and maintained by the Town rather than individual store owners in order to establish a consistent palette. This will ensure that these plantings receive adequate maintenance and care, while improving the aesthetics of the streetscape. Suggested groundcover plant species that are well adapted to the urban condition include *Vinca minor* and *Pachysandra terminalis*.

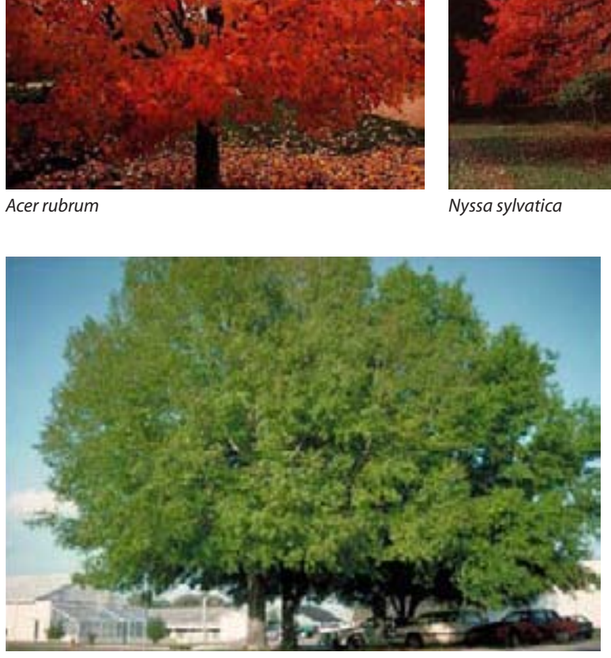
PLANT PALETTE: CANOPY TREE SPECIES

Acer rubrum

Nyssa sylvatica

Quercus shumardii

Quercus phellos



Quercus laurifolia

Quercus hemisphaerica

Ulmus americana 'Princeton'

A diverse palette of tree species will have greater resistance to damage due to drought, disease or pollution than a monoculture of a single species. When a disaster such as extensive drought occurs, it will not damage the entire area of streetscape planting; instead, some species will be better adapted to survive and will maintain a canopy even as other trees decline and need to be replaced. This ensures that the streetscape will continue to have a strong presence in terms of planting.

The species above have been selected for their consistent canopy, while being particularly well adapted to the harsh conditions of urban environments. See Section 11.0: Sustainable Initiatives regarding biodiversity and its benefits.

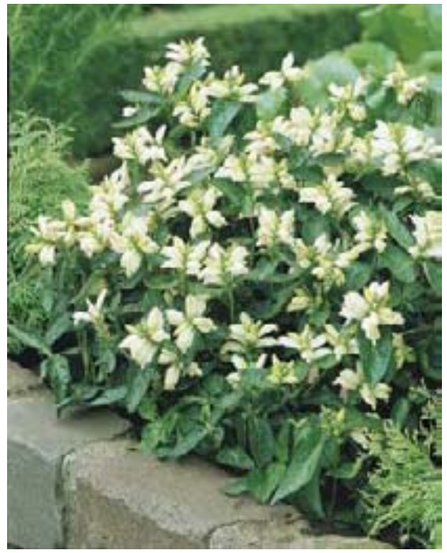
RAIN GARDEN PALETTE

The Master Plan proposes the installation of rain gardens as a sustainable initiative. The plants and soil of these rain gardens will help to filter storm water runoff from roadways and sidewalks. For design details, see Section 11.0: Sustainable Initiatives.

Rain garden plantings are composed of perennial plants that can contribute to the surface water mitigation and will be hardy in soil conditions that reach saturated and dry conditions. These plants will be installed within a coir mesh fabric for stability and structure. Coir is a material comprised of coconut fiber that is commonly used for reducing erosion. The rain garden plant palette will include:

Botanical Name	**Common Name**	**Flower Color**
1. *Lobelia cardinalis*	Cardinal Flower red	
2. *Chelone glabra*	White Turtlehead	white
3. *Matteuccia struthiopteris*	Ostrich Fern	n/a
4. *Osmunda cinnamonea*	Cinnamon Fern	n/a
5. *Pennisetum* 'Fairytales'	Fountain Grass	n/a

Lobelia cardinalis



Chelone glabra

Matteuccia struthiopteris

Osmunda cinnamomeum

Pennisetum "Fairytales"