Prepared for:
The Grand Rapids Downtown Alliance

The Downtown Alliance is a Business Improvement District created in 2001 for the purpose of making downtown Grand Rapids even better. The activities of the Downtown Alliance are governed by a 24 person Board of Directors, which includes property and business owners, residents, non-profit entities, education and government representatives.

The majority of the budget of the Downtown Alliance is focused on maintenance and beautification. Surveys of downtown businesses find that almost all respondents rate the downtown as clean. Currently the Downtown Alliance plants 60 plus planters in the district, further creating a vibrant and lush downtown area. The Downtown Alliance also works on issues of downtown marketing, advocacy, communications and development.

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Downtown Streetscape Design Guidelines
November 3, 2006
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“Make no little plans; they have no magic to stir men’s blood and probably themselves will not be realized. Make big plans; aim high in hope and work, remembering that a noble, logical diagram once recorded will never die.”

........Daniel Burnham
Great streetscapes, in great downtowns, are the center of public life. They brand a city, giving it a cultural identity and guiding the perceptions of the downtown. They speak of the history of the city and convey the aspirations of what’s to come. When done right, with reasons to linger and places to gather, a streetscape sets the stage for the community; the elements of the streetscape can create a place of vitality and activity or can discourage interaction. When the streetscape is right, it provides the community with the location to live its best life.

Downtown Grand Rapids is a dynamic space that continues to evolve. More people than ever walk the sidewalks of downtown Grand Rapids, and the demands on the downtown grow daily. As we attract people seeking entertainment, larger conventions, and the headquarters of West Michigan’s best businesses, Grand Rapids must respond with a streetscape adequate to those uses.

The purpose of these guidelines is to direct streetscape projects so that they create a more vibrant downtown environment and work in harmony with each other. When people think of great cities they recall the downtown area. Downtowns create the identity for a region and as such, determine the livability and the quality of life. We want our downtown – and Grand Rapids is the downtown of West Michigan – to exude color, vibrancy and possibility. The future health of Grand Rapids will be based on many things, but perhaps most important is the attractiveness of the city and its desirability as a place to work, live and play. The downtown streetscape sets the stage for community life. The livability and beauty of the downtown is greatly determined by the streetscape. Buildings change from one location to the next, but the streetscape is
the continuous element throughout the downtown. The streetscape is the root of
the downtown’s sense of place, and it is the part of the public realm that is
most important to the pedestrian. A successful streetscape ties together all of the
other elements of the downtown; it is the fabric, the common landscape of the
downtown.

This report creates a plan for downtown beautification that establishes design
standards as well as guidance for execution. The design will establish
expectations for the streetscape that will result in a coherently designed, visually
stimulating downtown. While there are specific standards within this report, it is
intentionally less restrictive than a blueprint to allow for flexibility in
implementation. This will give the individual projects the room for creativity that
will lead to a more interesting streetscape. At the same time the guidelines will
create a unified composition for the downtown.

**Streetscape Definition**

For the purpose of this report, the term “streetscape” is defined as the space
between the building facade (or building line) and the curb, plus other
downtown public spaces, such as plazas or parks.

Good streetscape design happens when there is a design framework that
responds sensitively to the context of the surrounding natural and built
environment of the city. The beauty of the river and the near downtown
neighborhoods, the existing buildings, and the many uses of the downtown are
integral to the development of the streetscape framework. When all are taken
into consideration, the result is a downtown that is attractive, desirable, and
memorable. Together they create the downtown environment. While all have a
profound effect on the district, the ability of the streetscape to help or hinder the functionality of the downtown should not be underestimated. Good design of the streetscape is critical to the success of the downtown. Cy Paumier notes that, “Individual architectural landmarks may become icons, but it is the quality of the overall public environment that makes a city livable and memorable.”

How do you define a successful downtown? A successful downtown will attract and support a variety of uses and activities, with a strong economic base and 24 hour vitality. It will have a clear identity as the center of the West Michigan community. Donald Hildebrandt, in *Creating a Vibrant City Center*, says, “The city’s best expression of itself is best personified at its core or center. Unlocking the inherent qualities that are uniquely expressive of a particular city center provides the basis for the creation of memorable places, invigorating or restful spaces, and enriching environments. The health of the center city is critical to the broader economic development of a city and the region it serves.”

A number of downtown principles were identified in the development of this report. Their presence is found in these guidelines, and they can be used to answer questions beyond the scope of this report.

We believe that a successful downtown Grand Rapids will be:

- **A Pedestrian Friendly Environment** - The design of the streetscape will reflect this priority with an attention to scale, beauty, and function that work for and celebrate people rather than cars. The pedestrian will feel connected, inspired, comfortable and safe.
**Streetscape Design Principles**

- **An Urban Garden that is Bold, Attractive and Dramatic** - We know that greening enhances the downtown aesthetically, but it will also promote economic development, improve the public’s perception, reduce crime, slow traffic, improve the quality of the environment, encourage tourism, and create a sense of community pride.

- **A Beautiful Downtown** - Aesthetics are an integral part of good design. Focusing on the decorative elements will enhance the character of the downtown and define the distinction of urban from suburban.

- **The Heart of the Community** - The downtown’s highest use is as the center of the West Michigan community, from its role as a public gathering spot to the center of culture and commerce. The downtown streetscape should be the best that West Michigan has to offer.

- **A Place of Diversity** - A successful downtown will be welcoming to a diverse group of users. It will create an environment that is specifically designed to appeal to the full range of the West Michigan community, young and old, singles and families, and all ethnic groups. This will make the downtown stronger and more relevant, as it welcomes a variety of cultures and provides a diversity of experiences.

- **A Unified Sense of Place** - While the downtown has separate districts, the guidelines create a “signature downtown streetscape” and common framework that ensures there is a “downtown” identity throughout the area. The theme of continuity will create a visual identity for the downtown and expand of the regional downtown aspect of this area.
• **A Connective Downtown** - The guidelines will encourage the development of a network of pedestrian connections between districts, parks, and attractions through the placement of new paths, art, and greening. In a highly interconnected downtown, pedestrians have the opportunity for formal and informal interaction, and businesses and attractions are easily accessible.

• **Authentic** - Downtown Grand Rapids has its own unique collection and combination of historic and new buildings, streets, public spaces and parks that create a distinct urban environment. In addition, many of the businesses located in the downtown are locally owned and operated. Between the built environment, the businesses and the uses of the downtown, the visitor will have an experience that is real and is only found in downtown Grand Rapids.

• **A Diversity of Uses and a Balance of Activities** - The downtown streetscape will support a wide variety of uses - office, retail and entertainment – and activities - day and night – with an appropriate balance to ensure a vibrant district. This will attract both people and business to the downtown, making the sidewalks feel populated at a variety of times.

• **A Showcase for Public Art** - Downtown should be a location of visual wonder that speaks to the spirit as well as the eye. Public art enriches the streetscape, adding interest and supporting the downtown’s function as the cultural center of West Michigan.

This report will:

• **Ensure a Quality of Design, Materials and Functionality** - The guidelines will set a standard for streetscape components and ensure a level of quality.
Simplicity of design and ease of maintenance in streetscape items will have long term value.

- **Encourage Both Private and Public Efforts** - The only way to have a dramatic impact on the streetscape is through both private and public efforts. Education and an ease of effort will increase private projects.

- **Define a Quality Streetscape** - This report will raise the profile of a quality streetscape and provide a common approach to its design.

- **Build on Existing Assets** - The majority of the downtown streets and streetscape have been renovated during the past 20 years. The new design will build on the good design elements that are already in place, rather than call for a new design that would be slow to happen.

This design framework will serve as a guide for both private and public efforts; anyone proposing changes to the public right-of-way should refer to these guidelines. It will apply to new projects, to the renovation of existing buildings/streetscape, and to activities within the streetscape.

The Design Guidelines will ensure:

- A level of quality in the streetscape
- A coherent look for the downtown
- Maximized impact of the streetscape
- Continued momentum from initial re-development efforts
- Prevention of “out of character” streetscape elements
- A defined beautification process and model
- Identification of key locations for greening and art
The character of a place is much like the character of a person. In the 2006 Branding project by Hanon McKendry, the downtown was described as:

- **Personally:** inviting, fun, alive, educated, cultured, charming, friendly and energetic.

- **Physically:** attractive, authentic, safe, unassuming, clean, developing, strong.

- **Professionally:** traditional, independent, competent, service-oriented, entrepreneurial and established.

Maintaining and enhancing this character is an important aspect of these guidelines.
“Streets and their sidewalks, and the main public places of the city, are its most vital organs”

.........Jane Jacobs

Section Two: Existing Conditions
For the purpose of this study, the downtown boundaries are generally defined as:

- The I-196 Freeway on the north
- Wealthy Street on the south
- Lafayette Avenue on the east
- The Grand River on the west

Within this area is contained a complex arrangement of buildings and spaces that shape the patterns of people’s activity and interactions. This is the place where people live, work, go to school, are entertained or just hang out. While these guidelines have been developed for the downtown, they may be applied to a broader area or other older, pedestrian oriented neighborhood commercial districts.

Character Areas

Based, in part, on the concept put forth in the *Arts and Entertainment Strategy (2004)*; the downtown can be divided into four distinct “character areas.” Each of these areas is defined by building design, scale and placement, land uses and the types of activity patterns that occur. Understanding the experience to be created in these character areas is important to the development of the framework plan and design guidelines that will support the unique traits of each.

The Downtown Activity Center is the area that most people identify as downtown Grand Rapids; it is the traditional downtown experience. This is one of the older parts of the city. Many wonderful examples of ornate architecture give the area a certain charm.

The Downtown Activity Center is home to most of downtown Grand Rapids’ mainstream arts and culture related venues and retail offerings. It is the main marketplace of downtown with many West Michigan businesses locating their headquarters here. It also has an emerging residential component that increasingly supports the downtown retail and entertainment services. It is within this district that the majority of restaurants and entertainment venues are located. The Van Andel Arena, the Amway Grand Plaza Hotel and Monroe Center are anchors of the Downtown Activity Center.
Pedestrian Character

There is a high level of pedestrian activity and street life in the Downtown Activity Center due, for the most part, to the concentration of offices, restaurants, entertainment venues and colleges. This is the area where people will come to go out for dinner, have drinks with friends, see a play, or take a carriage ride. It is where the community comes to celebrate their accomplishments, and it is also the place where the community gathers to mourn. This is where we consider our history, both by appreciating the beauty of the older buildings and architectural elements, and by visiting museums.

The Arts and Entertainment Strategy (2004) recommendation for this area is, “to create a recognizable critical mass of high quality arts and related retail/commercial offerings that will stand out in people’s minds as the place to go for quality culture and experience.” For the arena area the recommendation is, “to enhance the overall arts and entertainment function and expand it southwards towards Cherry Street through infill development in the medium to long term. The focus will remain on eating, drinking, and complementary retail.”
One of the first uses of downtown was as the seat of local government, and it continues to serve that function, housing the city, county, state and federal buildings, and the new Kent County Courthouse. Large buildings such as the DeVos Place Convention Center are located in this area. Appropriately, this area includes the Spectrum Hospital on Michigan Street, the Van Andel Institute and Grand Rapids Community College.

There is a majestic and important feeling to this part of the downtown. The area also houses La Grande Vitesse by Alexander Calder, the signature sculpture in the downtown, on Calder Plaza, which serves a focal point and gathering spot for the community.
Pedestrian Character

The pedestrian environment in this district varies depending on land use. The massive architecture of the governmental and medical functions has created a somewhat sterile streetscape character dominated more by the automobile than people. There are many instances, however, of large lawns and wide sidewalks that can be enhanced with trees and flowers to establish a more human scale to the area.

The campuses of Grand Rapids Community College and Ferris State University, however, have a distinctly more intimate feel. While the architecture is just as monumental as in other parts of this district, large trees and abundant pedestrian spaces have created a more personal, human scaled environment. The partial closer of Bostwick Avenue is a good example of how to allow the pedestrian and the automobile to co-exist in the same space. There are numerous small seating areas used for study, conversation and quiet enjoyment of an urban college campus.

Crescent Park on Bostwick is a small park that has spectacular views west to the river valley. This park has potential to become a green link between the medical campus and the governmental area below.
The Heartside Neighborhood has recently begun to realize its potential as a significant and vibrant area of the downtown. For many years Heartside has served many of Grand Rapids’ disadvantaged population. In recent times, however, Heartside has experienced resurgence in private development and public improvements. Many of its buildings and infrastructure have received extensive renovations, and further exciting projects are being planned. The residential base is now diverse, ranging from low income to higher end residences.

The experience of Heartside is more edgy, more innovative, than the traditional downtown core. It is the trendsetting part of the downtown, with an orientation towards youth. It has a gritty side and celebrates diversity of residents, life-styles and interests; the district is always changing. Heartside is home to a developing arts and entertainment district.

*The Arts and Entertainment Strategy (2004)* recommends a strategy “to create a safe environment whereby visitors can come and experience a unique environment not available anywhere else in West Michigan. The rents in the area are low enough to allow art and retail experimentation.”
Pedestrian Character

Heartside is one of the city’s older neighborhoods with many fine old buildings that are of a much smaller dimension than those in the other downtown areas. This building-to-street relationship gives Heartside a more personal feel.

With the recent influx of restaurants, bars along Ionia, artist’s lofts and stores on Division and offices on Commerce, Heartside has experienced a dramatic increase in pedestrian activity at all hours of the day. In addition, Grand Rapids has made a significant public investment in the neighborhood with the development of Heartside Park and streetscape improvements on many of the corridors. The pedestrian environment has changed to one of vibrant activity.

Division Avenue is the signature corridor and one of the main southern gateways for Heartside, as well as the entire downtown area. The eclectic character created by the blending of the arts and entertainment community with the traditional Heartside population sets the Division Avenue streetscape apart from any other corridor in the city. The unique pedestrian environment created here needs to be preserved and encouraged.
The River’s Edge Experience

The most important natural feature in the city is the Grand River. The river is the reason the city was first established and was the center of commerce and industry in the early days.

The Grand River must continue to be rediscovered in a meaningful urban design context. The river is an area that could be celebrated further through continued definition of the river’s edge. It provides a soothing and natural experience for the visitor. It also suggests movement, current, refreshment, life, and change. It expresses the seasons well; it may be high on its banks, frozen, breaking up or flowing. It also represents a quieter life, as people fish or boat in the river. The Grand River plays an important role as a connector between the east and west side, providing dedicated pedestrian access across the river to the museums, parks and Grand Valley State University.

The Grand River view to the northwest

Fishing on the Fulton Street Bridge
Pedestrian Character

The River’s Edge pedestrian environment varies dramatically between the east and west shorelines of the Grand River. The east shoreline has been the most intensely developed, resulting in more limited interaction with the river. However, significant progress has been made on the construction of a river walk system, with pedestrian access from Fulton to the Sixth Street Bridge and beyond. Areas such as the amphitheatre at the end of Lyon Street offer opportunities for redevelopment as mini-plazas.

Areas on the east shoreline that may hold future opportunities for large plaza spaces are located on the south side of the Fulton Street Bridge and on the United States Post Office site if future plans relocate the post office out of downtown.

The west shoreline has many public and quasi-public uses, such as the Van Andel and Ford Museums, and Grand Valley State University’s downtown campus. The stately nature of the buildings coupled with grand open spaces with large, mature trees offers the pedestrian a refreshing break. Pedestrian access between each side is very convenient via the “blue bridge” and the Gillett pedestrian bridge.

Improved links to downtown, expanded riverfront activities and increased promotion is needed to make the most of downtown’s most important natural asset.
“The abundance of life, color, variety, and surprise makes cities the place to go to seek and discover, to entertain and be entertained, to see and be seen, to meet learn and enjoy.”

……..Cy Paumier, Creating a Vibrant City Center
Urban Design Framework
The Urban Design Framework is intended to be a catalyst for change. The goals of this plan and the streetscape design guidelines that follow are to improve the quality of life downtown by creating a welcoming, exciting and diverse network of pedestrian spaces connecting our downtown neighborhoods, parks and activities centers.

*The Arts and Entertainment Strategy* for the downtown states, “Unless pedestrian traffic flows between the various arts and entertainment venues and the retail commercial businesses in and between each attitude district, downtown’s diversity is compartmentalized. For this reason, it is crucial to ensure that linkages be established not only from a physical design perspective, but also with respect to economic development and marketing. These linkages need to be enhanced and maintained on a continual basis. Actions that promote a more cohesive feel should be encouraged. Physical design: gateway projects, linkages with colleges and universities, connections between retail commercial corridors and arts and entertainment venues, and other visual clues that allow the downtown visitor to continue their downtown experience (unique streetscaping that include manhole covers, light standards poles, banners, public art, benches, and physical design that incorporates, elements of safe design principles).”
Downtown Gateways

Framework Components

The Urban Design Framework outlined in this section describes four key components that help shape our “downtown experience:”

- Downtown Gateways
- Public Spaces
- The Pedestrian Loop
- The Riverfront

The guiding principles outlined in the previous section identify the creation of a “downtown identity” and a “sense of place” as important aspects to a successful downtown. The design framework has identified locations on the edges of downtown that offer the opportunity to change our experience of anonymously moving through a corridor, such as the freeway, to one of heightened expectation, identity and arrival. Gateway treatments at these locations will set the tone for the “downtown experience.”

While every street and sidewalk connected to downtown is, at some level, a “gateway,” the following eight locations are the most important.

- I – 196 Exit to Ottawa Avenue at Michigan Street
- Monroe Avenue at Michigan Street
- Pearl Street at the US – 131 Overpass
- Fulton Street at the US – 131 Overpass
- Southbound US – 131 Exit to Market Street
Downtown Alliance Streetscape Design Guidelines

• Northbound US – 131 Exit to Cherry Street
• Division Avenue at Wealthy Street
• Fulton Street at Jefferson Avenue

Gateway Design Principles
The specific characteristics vary significantly among the identified gateways. The volume and speed of traffic, spatial constraints and level of pedestrian activity will determine the appropriate level of design. Gateway treatments are not intended to be identical nor should they be. The diversity of the neighborhoods and experiences downtown should be reflected in the gateway treatments.

However, in order promote a consistent “downtown identity,” the following design principles are recommended.

- Create a grander sense of arrival through the use of flowers, art, creative lighting techniques, and other unique streetscape elements.
- Provide a greater sense of passage into the downtown by allowing specialty sidewalk paving materials, such as brick to extend beyond the pedestrian spaces into the roadway.
- Provide greater sidewalk space and create buffers between the pedestrian and vehicular traffic.
- Encourage the use of historical elements that speak to the character of the neighborhood.
Downtown Gateways

Proposed Gateway Treatment:
I-196/Ottawa Avenue Gateway at Michigan Street looking east

I-196/Ottawa Avenue Gateway at Michigan Street
Proposed Gateway Treatment:
I-196/Ottawa Avenue Gateway
on Ottawa Avenue looking north

I-196/Ottawa Avenue Gateway on Ottawa Avenue looking north
Providing public space for interaction and social connection is one of the main components to a successful downtown and can serve as a significant identity builder. In *Creating Walkable Places* it states, “Simply providing open spaces is not enough; the space must be welcoming, safe and attractive. The most successful public spaces are those that are active; provide ample and comfortable seating; offer protection from extremes of sun, wind and temperature; and connect seamlessly to the street but still maintain edges and definition.” The Project for Public Spaces says that, “Parks, plazas and squares succeed when people come first, not design.”

**Parks, Paths and Public Spaces**

The *Arts and Entertainment Report (2004)* says, “The public spaces of each district provide opportunities for several character reinforcing traits to be developed. Outdoor gathering areas provide promotional space and park space to soften the harshness of the urban environment. Grand Rapids has several green open spaces within the Downtown that provide this relief very effectively. Although the river area is a wonderful active greenway in the Downtown, its impact cannot be felt in the core of the city; thus, it is important to continue to embellish existing open space and create new open space whenever possible. The streetscape being developed along Monroe Center is a good example of the power of this quality. The tree canopy at the street provides protection and comfort for pedestrians and shade and shadow on buildings to create a rich urban experience and pedestrian friendly shopping street.”

*Monroe Center at lunch hour*
The intent of the following recommendations is to create spaces where people want to be. As the recommendations are enacted through the guidelines that follow, downtown will continue to evolve into an exciting place to live, work and play.

• Develop a hierarchy of urban spaces, both large and small. Pocket parks are a wonderful way to add greening to an urban environment.
• Develop a system of paths and sidewalks connecting the urban spaces. These walkways should be designed with the comfort and interest of the pedestrian in mind by considering elements, such as shade, seating, landscape, and art.
• Add art, a fountain or other amenities that will draw people into the area.
• Include elements that identify the city and its history.
• Provide permanent or movable seating, trash can, and other things for the ease of the visitor create a well used space.
• Encourage a variety of uses through the addition of items such as chess boards, a stage/amphitheatre, steps or changing levels, grassy areas, market stalls, paved pathways, etc.

Fountains
Some of the world best public spaces are centered on a fountain, such as Trevi Fountain in Rome or Buckingham Fountain in Chicago. What is the draw of a fountain? First, they offer a sensory experience; the sound, look and feel of water is soothing. Second, fountains are art, whether they are simple or extravagant in design. They often tell a story, in why they were created or in the design of the fountain. Finally, fountains often create an identity or an image for an area. They may be a symbol of a city or something more personal. Whatever the individual motivation, the intent of a fountain in a grand urban plaza is to create a distinctive water feature that will become the gathering space for the community.
The development of the Pedestrian Loop is one of the key recommendations of the design framework to further develop connectivity in the downtown that will enliven the district with vitality and movement. The character neighborhoods that make up the downtown encompass a variety of buildings, spaces, land uses and activities spread over a large area. The Pedestrian Loop will link these areas together and offer opportunities for the creation of new urban spaces, greening and art.

**Design Goals**

The intent of creating the Loop is to use the parks and pathways to unify and interconnect the downtown and to encourage pedestrian movement between the districts. While a specific route is being proposed, modifications to the Loop are encouraged as detail design begins. The route is not as important as the quality of the spaces and links created. To ensure the success of the Pedestrian Loop, the following design goals have been established.

- Create new or enhance existing walkways to more clearly link together the parks and open spaces downtown.
- Create new urban plazas and enhance existing urban spaces as the opportunities arise.
- Identify the Loop with specialty lighting, signage and landscaping.
- Take advantage of opportunities to introduce art in the plazas and along the walkway.
The Pedestrian Loop

The Northern Loop
The Northern Loop is located in portions of the Governmental and Institutional Campus, as well as the Downtown Activity Center. The route is generally along Monroe Avenue, Monroe Center, Library Plaza and Bostwick Avenue. It connects many of downtown’s signature parks and plazas, such as Calder Plaza, Rosa Park Circle, the Civil War Monument, and Veteran’s Memorial Park. The western leg of the loop along Monroe Avenue offers opportunities for linkages to the Grand River on Lyon Street at the amphitheatre.

The Monroe Center streetscape and Bostwick Avenue on the Grand Rapids Community College Campus are both well suited for the Pedestrian Loop. Numerous seating areas, memorials and sculptures have been placed. Both of these segments are heavily used by downtown residents, workers, visitors and students.
Northern Loop Development Opportunities

In order to complete the circuit in the Northern Loop it is proposed to develop a pedestrian connection from Crescent Park through Calder Plaza to Monroe Avenue. This link faces a number of design and political challenges, but creates a number of wonderful opportunities.

- The steep topography west of Crescent Park presents a significant barrier. However, a creative serpentine sidewalk design similar to Lombard Street in San Francisco would create a signature public space.

- The connection from Ionia to Calder Plaza would be between the Frey Building and Chase Bank. It is will require careful planning and significant cooperation between all parties along this segment.

- The final segment from Calder Plaza to Monroe Avenue presents an opportunity to open up the Monroe entrance to the City/County Building. The present configuration is dark and impersonal. A more open, welcoming entry could be created by developing a grand stairway from the upper plaza to street level on Monroe. This space, coupled with the large lawn areas, would provide a new significant public plaza to balance the dominating scale of DeVos Place across the street.
Northern Loop Greening and Art Opportunities

While much has been accomplished along the Northern Loop, there are still many opportunities for additional greening and art placement along the loop route and other open spaces in the nearby. The more significant spaces include:

- 300 Monroe Lawn Area at the City/County Complex
- Calder Plaza
- Kent County Courthouse on Ottawa Avenue
- Ford Federal Building
- I-196/Ionia Interchange area at Michigan Street
- Vandenberg Plaza
The Central Loop
The Central Loop is located entirely within the Downtown Activity Center. The route is generally along Monroe Center, Fulton Street and Monroe Avenue. Monroe Center is the common corridor between the Northern and Central Loops. The Central Loop has limited seating areas and green space. Fulton Street can be sterile when the Van Andel Arena is not hosting an event. Monroe Avenue, however, has large, mature trees on the Plaza Towers property that provide a restful, shaded environment.
The Pedestrian Loop
Central Loop Greening and Art Opportunities
The Central Loop has less green space than other parts of downtown, yet it holds great potential for exciting pedestrian spaces and wonderful opportunities for greening and art placement. The major opportunities include:

- The entry court to the Campau Square Plaza Building on Monroe Avenue
- The Campau Promenade from Monroe to the new hotel
- The open space at the east end of the parking structure on Fulton Avenue
- Van Andel Arena Plaza
- The parking lot at the corner of Louis and Fulton
- The southeast corner of Fulton and Market
- The front court of the new art museum

One site of particular importance for the placement of art is the Rosa Parks Circle lawn area on Monroe Avenue directly across from the Campau Promenade. This space would be an excellent opportunity for the placement of a memorial sculpture to the park’s namesake – Rosa Parks.
The Pedestrian Loop

Greening and Art Opportunity:
Van Andel Arena Plaza

Aerial view of Van Andel Arena
The Southern Loop

The Southern Loop is located in the Heartside neighborhood. The major pedestrian corridors of the Southern Loop are Fulton Street, Sheldon Avenue, Bartlett Street and Ionia Avenue. It will connect the St. Andrew’s Campus, Heartside Park, and Veteran’s Memorial Park.

Sheldon and Bartlett generally have not experienced significant growth. This presents an opportunity for future greening and sculpture placement as development occurs. Recent master plans developed by Saint Andrew’s Cathedral and Saint Mary’s Health Care both emphasize improved streetscape aesthetics, greening and art as core values.

Southern Loop Greening and Art Opportunities

Major greening and art placement opportunities are:

• Saint Andrew’s Campus
• Saint Mary’s Health Care Campus
• Sheldon Avenue at numerous points
• Bartlett Street Road Reconstruction
• Heartside Park
• Ionia Avenue at numerous locations
The Pedestrian Loop

Downtown Alliance Streetscape Design Guidelines
The Pedestrian Loop

Proposed Bartlett Street Enhancement
Plan prepared by Walkable Communities, Inc.

West view down Bartlett Street

East view up Bartlett Street
Proposed Bartlett Street Enhancement
Sketch prepared by Walkable Communities, Inc.

Bartlett Street as viewed from Division Avenue
The Riverfront
A good riverfront design connects the river with the larger community. Grand Rapids has developed significant pedestrian access from Fulton to the Sixth Street Bridge, on both sides of the river. *The Arts and Entertainment Strategy (2004)* for the downtown recommends that we “integrate physical enhancement programs for the river to make it a focal point.”

Connectivity is very important in this part of the district. The river should be physically accessible by creating walkways, courtyards and plazas. The river also should be visually accessible by creating views; opportunities to continue the view up a street, such as Lyon, or from a business or restaurant should be encouraged. Vistas from across the river should also be considered. The bridges are an important element of the river and the connectivity; their visual presence with their lights is a recognized feature of the downtown, and they connect people with both sides of the river, allowing them to access the art and culture located there.
Riverfront Development Principles
While much of the riverfront area through the downtown has been developed with buildings, there is still the opportunity for renovation and new development. It is important to establish some guiding principles for consideration as proposals for development arise.

Create Spaces for Public Plazas & Improve Pedestrian Access
- Every effort should be made to incorporate at least one significant urban open space/plaza on the eastside of the river.
- Create a linked system of smaller plazas incorporated into the existing river walk system.
- Continue efforts to introduce greening and art to the riverfront.
- The proposed pedestrian loop system could be expanded through specific corridors to provide better access.

Create a Significant Water Feature
- Consider a large water feature in a riverfront plaza.
- Explore the concept of putting the “rapids” back in the river.
- Install a water fountain in the river.
- Put the “rapids” back in the Grand River
New Building Construction Should Embrace the River

- Avoid having any building act as a barrier between the downtown and the river. Development should be respectful of the river and its responsibility to the pedestrian.
- The river side should be seen as a front side to a building, not the back side. The river side should create a walkway for the pedestrian that is approachable and welcoming.

Riverfront Greening and Art Opportunities

Both sides of the Grand River are appropriate locations for art. The DDA recently renovated the Singer sculpture located on the edge of the river near the Blue Bridge. The Grand Valley campus has sculpture located on the banks of the west side of the river. And the placement of Otterness sculptures on the downtown bridges as part of a temporary art exhibit has encouraged connectivity between both sides of the river. Sites for art along the river include:

- The Amphitheatre on Lyon Square
- Art on the Pedestrian Bridges
- The new J. W. Marriott Riverfront Hotel
- Art along the River Promenade at the West End of the DeVos Place Grand Gallery
Downtown Alliance

Streetscape Design Guidelines
“While it may take mountains, hills, lakes, streams and trees to create a landscape, it takes the mind and hands of man – and the man-made structure to arrange a streetscape.”

…………….Martin Pegler, Streetscapes

Section Four:
Streetscape Design Guidelines:
The Public Realm
The character and design of the streetscape are some of the determining factors in the success of the downtown. The streetscape must create a good environment for people to visit and gather in order to be the center of the community. Social and economic interactions are communal goals of a good streetscape design.

These guidelines are intended to direct future streetscape work so that it creates an attractive setting for businesses and for the many diverse uses of the downtown. It will establish a visual image that is flexible, sustainable, distinct, appealing and comfortable.

The framework plan in the previous section identified the major character districts downtown. This section defines in greater detail the elements that make up the streetscape in each district. The Guidelines are organized into following sections:

- Sidewalk Zones
- Downtown Activity Center Guidelines
- Governmental & Institutional Campus Guidelines
- Heartside Neighborhood Guidelines
- Area-Wide Guidelines
The sidewalk is the primary zone for pedestrians, whether their trip is for recreation or for function. *In Creating Walkable Places*, a number of elements are identified to create places that encourage pedestrian activity:

- There must be destinations that draw people.
- The community must be built at a pedestrian scale, meaning that distances are short enough to walk and that buildings are close to the sidewalks.
- Destinations must be reachable, and interconnected by means of a continuous network of safe, convenient, comfortable and interesting sidewalks and paths.
- Walkers must feel safe from crime, traffic and weather conditions. Achieving this level of safety requires careful design, including “eyes on the street,” safe traffic speeds, and shelter at frequent intervals.

It is important to recognize all sidewalk functions when evaluating and planning streetscape designs. If a sidewalk is wide it allows a broader variety of uses. If space is limited, on-street parking may supplement a narrow sidewalk by providing the measure of protection for the pedestrian. Conversely, parking may be eliminated to provide the additional sidewalk space. Although sidewalks of 20 feet are optimal, in downtown Grand Rapids, the most common sidewalk dimension is 14 feet. This width provides a good balance between the pedestrian and retail functions of the streetscape.

*Sidewalk Zones*

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*People-Watching on Monroe Center*
The sidewalk can be divided into three zones of activity:

- The Storefront Zone
- The Walkway Zone
- The Amenities Zone

The Storefront Zone

- Description and Usage - The storefront zone is the window to the business, and is the business’ front yard. It should allow easy access to the front door, room for “window shopping” and protection from inclement weather through awnings and doorways. It is also the place for small, portable signage, movable planters, outdoor displays, etc. Because of its proximity to the business it should not be used for competing activities.

- Zone Width for 14’ Sidewalks - 3 feet.
- Zone Width for Sidewalks Over 14’ – Over 3 feet.

The storefront zone may be increased proportionally to the overall sidewalk dimension. The increased width will allow for increased landscaping, outdoor displays and café space.

- Zone Width for Sidewalks Under 14’ – 2 feet.

The storefront zone will not be of adequate width to support many elements or functions. Store access and window shopping are the priority uses.
Sidewalk Zones

The Walkway Zone

- **Description and Usage** - The main function of the sidewalk is for pedestrian circulation. This zone of the sidewalk should be kept clear of impediments at all times. This area is protected by the amenity buffer zone on the street side and the storefront zone on the building side.

- **Zone Width for 14’ Sidewalks** - 6 feet. The walkway zone is sized to feel populated but not overcrowded by normal use.

- **Zone Width for Sidewalks Over 14’** – Over 6 feet. The walkway zone may be increased proportionally to the overall sidewalk dimension. In most cases, wider sidewalks are located at large pedestrian generators, such as the DeVos Place and Van Andel Arena.

- **Zone Width for Sidewalks Under 14’** – 6 feet. Pedestrian movement is the priority function for narrow sidewalks. This may mean that the storefront and amenity zones will need to be reduced.

*The Walkway Zone on Lyon Street.*
Amenity Zone

- **Description and Usage** – This zone contains the amenities of the street and offers protection to the pedestrian from the vehicular traffic. It is the location of the street furniture, permanent planters, utilities, street lights, parking meters, etc. It is also can be an appropriate location for public art.
- **Zone Width for 14’ Sidewalks** – 5 feet.
- **Zone Width for Sidewalks Over 14’** – Over 5 feet. The amenity zone may be increased proportionally to the overall sidewalk dimension to accommodate larger seating areas and planters as on Monroe Center.
- **Zone Width for Sidewalks Under 14’** – Under 5 feet. The smaller sidewalk width will limit the amount and size of amenities that can be placed in this zone.
The Streetscape Design Guidelines begin with the sidewalk. The way the sidewalk is designed - the materials used, the accent bands, the location of trees and planters - all work to define a sense of place in the downtown. The intent is to define a quality downtown streetscape that is a good environment for the pedestrian.

The following recommendations and accompanying illustrations are based on a typical sidewalk width of 14 feet. Sidewalk widths vary throughout the Downtown Activity Center. The dimensions of the various pavements and placement of landscaping, planters and other street furnishings should be governed by the actual width of the sidewalk.

### Pavement Guidelines

#### Concrete Surface
- **Width** - 9 feet
- **Finish** – Medium Broom Finish
- **Scoring Pattern** – 4.5 ft. x 5.5 ft.

#### Paver Accent Band
- **Width** - 5 feet.
- **Pattern** - See accompanying illustration on this page.
- **Paver** – 4 in. x 8 in. Clay paver manufactured by Watsontown Brick Company (www.watsontownbrick.com)
- **Paver Colors** - Red for outer edges; Dark Red for center.
Landscape Guidelines

Single Tree in a Tree Grate Option

- Tree Grate - 5 ft. x 5 ft. tree grate. Manufactured by East Jordan Iron Works (www.ejiw.com). Model No. 8667 ADA
- Tree Spacing - 22 to 44 feet.

Tree spacing is determined by many factors. Tree placement should be coordinated with on-street parking spaces in order to avoid car door swing conflicts. The space between trees creates a pleasant pattern in the streetscape. In other areas there are advantages to shorter tree spacing, such as providing a denser canopy for shade.

- Placement - Tree locations should consider all other streetscape elements, such as street lighting, underground utilities, benches, etc.
Single Tree in Raised Planter Option

- Planter - 4 ft. x 8 ft. in ground concrete curbed planter. Planter dimensions will vary by location.
- Planter Spacing – 22 to 44 feet. Coordinate planter spacing with parking spaces to avoid door swing conflicts. In locations where there is no on-street parking, planter spacing can vary per street conditions.
- Planter Landscape - Under-plant trees with shrubs, perennials, annuals and ornamental grasses. Refer to plant lists in Appendix One.
- Placement - Tree locations should consider all other streetscape elements, such as street lighting, underground utilities, benches, etc.
Site Furnishings Guidelines

**Benches**
- Style – Plexus Series. Manufactured by Landscape Forms. ([www.landscapeforms.com](http://www.landscapeforms.com))
- Color – Black.
- Model - 2, 3 or 4-unit group; straight with back and arms (to discourage sleeping on the bench).

**Litter Receptacles**
- Style – Plexus Series. Manufactured by Landscape Forms. ([www.landscapeforms.com](http://www.landscapeforms.com))
- Color – Black.
- Model - Side-opening; 30-gallon.
Government and Institutional Campus Guidelines

The following recommendations and accompanying illustrations are based on a typical sidewalk width of 14 feet. Sidewalk widths vary throughout the Government and Institutional Campus. The dimensions of the pavement and placement of landscaping, planters and other street furnishings should be governed by the actual width of the sidewalk.

Pavement Guidelines

The sidewalk design for this district reflects the classic sidewalk patterning typical of many governmental and business institutions.

Concrete Surface

- **Width** – Minimum 8 feet between adjacent building and streetscape elements, such as, planters, tree grates and other site furnishings.
- **Finish** – Medium broom finish with a 2-inch. tooled edge.
- **Scoring Pattern** – 4 ft. x 6 ft. Alternating pattern. See illustration on this page.
Landscape Guidelines

Single Tree in a Tree Grate Option

- Tree Grate - 4 ft. x 4 ft. tree grate. Manufactured by East Jordan Iron Works (www.ejiw.com). Model No. 8674 ADA
- Tree Spacing - 22 to 44 feet.

Tree placement should be coordinated with on-street parking spaces in order to avoid car door swing conflicts. The space between trees creates a pleasant pattern in the streetscape. In other areas there are advantages to shorter tree spacing, such as providing a fuller canopy for shade, as long as there is consideration of the other items in the sidewalk.

- Placement - Coordinate tree locations with street lighting, underground utilities and other streetscape elements.

 Typical Layout
Tree Grate Detail
Grouped Trees in Planter Option

Planter Location:
- Minimum 2 feet from back of street curb when adjacent to an on-street parking lane.
- Minimum 2 feet from back of street curb when adjacent to traffic lane.
- Sidewalk area between planter and adjacent building should be 8 feet minimum.

Planter Dimensions:
- Width – Minimum 6 feet.
- Length – Will vary by location.
- Height – 6 to 18 inches.

There are many good reasons to create planters that are taller. The planters are more visible and have better definition. They provide greater protection for the plants than a lower planter. They also have a greater range of function and can be used as a place to sit, to put down packages, etc. See Seat Wall Option on page 77.

- Placement – Planter location should consider all other streetscape elements, such as, street lighting, underground utilities, benches, etc.
- Incorporate street lighting and other above grade utility structures into planter design where possible.
Downtown Alliance  Streetscape Design Guidelines

Landscape Guidelines:
- Tree Spacing – Spacing will vary by location and tree species. Use upright habit trees in locations where the tree may intrude into a through traffic lane. Refer to plant lists in Appendix One.
- Planter Landscape - Under-plant trees with shrubs, perennials, annuals and ornamental grasses. Refer to plant lists in Appendix One.

**Grouped Trees in Lawn Option**

Location:
- Lawn areas that will allow the massing of trees.

Landscape Guidelines:
- Tree Spacing – Spacing will vary by location and tree species. Avoid planting too close to buildings and sidewalks.
- Size – Varies by location. Generally, use large shade tree species in large lawn areas adjacent to large buildings and smaller ornamental tree species in smaller spaces.
- Placement - Coordinate tree locations with street lighting, underground utilities and other streetscape elements.
- Trees may be under-planted with cool season grass, shrubs, perennials and ornamental grasses. Refer to plant lists in Appendix One.
Trees in a Grassed Parkway Option

Sidewalk Guidelines:
- Finish – Medium broom finish with a 2 in. tooled edge.
- Width – Minimum 5 feet.
- Scoring Pattern – Standard scoring pattern. Distance between score lines should be equal to sidewalk width. See illustration on this page.

Landscape Guidelines:
- Maintain existing grassed parkways in areas where there is lower pedestrian activity.
- Tree Spacing – Maximum 22 to 44 feet. Spacing will vary by location and tree species. Trees may be grouped or evenly spaced. Use upright habit trees in locations where the tree may intrude into a through traffic lane. Refer to plant lists in Appendix One.
- Trees may be under-planted with shrubs, perennials, annuals and ornamental grasses. Refer to plant lists in Appendix One.
- Placement - Coordinate tree locations with street lighting, underground utilities and on-street parking spaces.
Site Furnishings Guidelines

Benches
- Style – Presidio Series. Manufactured by Landscape Forms. ([www.landscapeforms.com](http://www.landscapeforms.com))
- Color – Black.
- Size - 2, 3 or 4-unit group; straight with back and arms (to discourage sleeping).

Litter Receptacles
- Style – Chase Park Series by Landscape Forms. ([www.landscapeforms.com](http://www.landscapeforms.com))
- Color – Black.
- Size - Side-opening; 36-gallon.
The following recommendations and accompanying illustrations are based on a typical sidewalk width of 14 feet. Sidewalk widths vary throughout the Heartside Neighborhood. The dimensions of the pavement and placement of landscaping, planters and other street furnishings should be governed by the actual width of the sidewalk.

**Pavement Guidelines**

**Concrete Surface**
- Width - 9 ft.
- Finish – Medium broom finish with 2 in. tooled edge.
- Scoring Pattern – 4.5 ft. x 5.5 ft.

**Paver Accent Band**
- Width - 5 feet.
- Pattern – Pinwheel. See accompanying illustration on this page.
- Paver - 4 in. x 8 in. Clay paver manufactured by Watsontown Brick Company. ([www.watsontownbrick.com](http://www.watsontownbrick.com))
- Paver Colors - Red for perimeter; Dark Red for center.
Landscape Guidelines

**Single Tree in a Tree Grate Option**

- Tree Grate Option - 5 ft. x 5 ft. tree grate. Manufactured by East Jordan Iron Works ([www.ejiw.com](http://www.ejiw.com)). Model No. 8667 ADA
- Tree Spacing – 22 to 44 feet.
  
  Tree placement should be coordinated with on-street parking spaces in order to avoid car door swing conflicts. The space between trees creates a pleasant pattern in the streetscape. In other areas there are advantages to shorter tree spacing, such as providing a fuller canopy for shade, as long as there is consideration of the other items in the sidewalk.
- Placement - Coordinate tree locations with street lighting, underground utilities and other streetscape elements.
Heartside Neighborhood Guidelines

**Single Tree in Raised Planter Option**

- **Planter Size** - 3 ft. x 9 ft. in-ground concrete curbed planter. Planter dimensions will vary by location.
- **Planter Spacing** – 22 to 44 feet. Coordinate planter spacing with parking spaces to avoid door swing conflicts. In locations where there is no on-street parking, planter spacing can vary according to street conditions.
- **Planter Landscape** - Under-plant trees with shrubs, perennials, annuals and ornamental grasses. Refer to plant lists in Appendix One.
- **Placement** - Coordinate tree locations with street lighting, underground utilities and other streetscape elements.

*Tree in Landscaped Planter Detail*
Site Furnishings Guidelines

Benches

- Style – Plainwell Series with arms (to discourage sleeping on bench) Manufactured by Landscape Forms. (www.landscapeforms.com)
- Color – Black.
- Size: - 72 inch.
- Wood – Jarrah.

Litter Receptacles

- Style – Scarborough Series by Landscape Forms. (www.landscapeforms.com)
- Color – Black.
- Size: - Side-opening; 30-gallon

Plainwell Bench

Scarborough Litter Receptacle
In addition to specific standards that are unique to each of the character areas, there are many design features and elements that are common to the entire downtown area.

Street Corner Design

Street corners are one of the most important social spaces in the downtown. The intent of the street corner guidelines is to provide a clear, direct and safe place for people to cross the street and to gather. Bump-outs are often used at street corners to calm or slow vehicular traffic while providing the safety of a shorter pedestrian crosswalk. In addition street corners can provide space for greening and art.

“The greatest urban spaces are street corners.”

………………William H. Whyte, Rediscovering the Center City
Standard Corner Option

- **Use** – This corner option should be used at intersections that prevent the use of “bump-outs” because of vehicular traffic operational needs.
- **Pavement** – Poured-in-place concrete. All paver accent bands should be “returned” to building face before reaching the intersection. See illustration on this page.
- **Finish** – Medium broom finish with 2 in. tooled edge.
- **Scoring Pattern** - 3 ft. x 3 ft. square. See illustration on this page. Scoring dimensions will vary by location.
- **Accessibility** – Each street crossing shall have a barrier free ramp built in strict compliance with the current American Disability Act (ADA) standards. Place a 24 in. wide ADA compliant tactile warning strip at the bottom of each barrier-free ramp. See illustration on next page.
- **Planter Option** – Concrete curbed. Planters should be set back a minimum of 1 ft. from edge of curb. Incorporate newspaper vending machines and seating into planters.
- **Tree in Grate Option** - If planters are not possible because of limited space, trees in grates may be used. See tree grate details located in the individual character area sections of the guidelines.
- **Landscape** – Tree canopy should not encroach into the adjacent travel lane. Under-plant trees with shrubs, perennials, annuals and ornamental grasses. Refer to plant lists in Appendix One.

Typical Corner Bump-out Plan

3’x3’ Concrete scoring pattern
**Corner Bump-Out with Small Planter Option**

- **Use** – This corner option should be used in areas of higher pedestrian traffic. The expanded sidewalk area and smaller dimensions of the planters allows space for people to congregate, and socialize.

- **Pavement** – Pour-in-place concrete. All paver accent bands should be “returned” to building face before reaching the intersection. See illustration on this page.

- **Finish** – Medium broom finish with 2 in. tooled edge.

- **Scoring Pattern** - 3 ft. x 3 ft. square. See illustration on previous page. Scoring dimensions will vary by location.

- **Accessibility** – Each street crossing shall have a barrier free ramp built in strict compliance with the current American Disability Act (ADA) standards. Place a 24 in. wide ADA compliant tactile warning strip at the bottom of each barrier-free ramp. See illustration on this page.

- **Planters** – Concrete curbed. Planters should be set back a minimum of 3 ft. from edge of curb. Incorporate newspaper vending machines and seating into planters.

- **Landscape** – Tree canopy should not encroach into the adjacent travel lane. Under-plant trees with shrubs, perennials, annuals and ornamental grasses. Refer to plant lists in Appendix One.
**Corner Bump-Out with Large Planter Option**
- Use – This corner option should be used in areas of lower pedestrian traffic. Bigger planters create more space for additional trees, seating, and newspaper vending machines.

**Corner Bump-Out with Transit Stop Option**
- Use – Corner bump-outs are excellent locations for bus stops, especially on major transit lines.
- Amenities - The expanded sidewalk space permits the integration of shelters, information kiosks and other rider amenities into the bump-out planter.
- Accessibility – Provide a barrier-free ramp and tactile warning strip at the point of entry to the bus.
Parking Lot Screening

This section sets the minimum screening standards for parking lots downtown. They are based, in part, on the Grand Rapids City Center Parking Lot Landscape Ordinance. The intent is to provide a visual and physical separation between parking lots and the sidewalk.

Application:
The following standards should apply to all public and private parking lots downtown. However, the standards may need to be modified to accommodate existing site constraints.

Perimeter Buffer Zone:
- Width – Minimum 5 feet.
- Clear Zone – Minimum 2 feet. The clear zone is to be located at the edge of the parking lot to accommodate the overhang of parked cars, protect the screen fence and landscape plantings.
- Driveway Clear Vision Zone – No screen fence, wall or landscaping should be taller that 3 feet within 10 feet of any driveway.

Perimeter Screening Methods:
The following screening methods may be used singly or in combination:

*Type One – Architectural Screen:*
- Style - Masonry wall constructed of brick or similar material.
- Height – 36 to 48 inches.
Design – Architectural screens should avoid a monotonous appearance by using decorative patterns or architectural articulation such as piers, pilasters or breaks in the wall.

Type Two – Ornamental Fence Screen:
- Style – Decorative metal picket fence as shown below. Chain link fence and barbed wire are prohibited.
- Height – 36 to 48 inches.
- Design – The fence material may be used alone or in combination with brick piers as shown in the illustration on this page.

Perimeter Landscaping:
All parking lot screens should be landscaped according to the following standards.
- Trees – One shade tree every 30 feet maximum. Trees may be placed in front of or behind screen wall or fence.
- Under-story Plants - Shrubs, perennials, annuals and ornamental grasses should be placed in a minimum 3-foot wide planting bed. Planting bed should be located between the screen fence or wall and the sidewalk.

Interior Landscaping:
In order to break up the large expanses of pavement in parking lots with 40 or more cars, the following standards should apply.
- Landscape Area – 20 sq. ft. of area per parking space.
- Landscape Islands – The landscape area should be in islands dispersed evenly throughout the parking lot. The minimum inland size should be equivalent to 1 parking space. All landscape islands should be curbed.
Area-Wide Guidelines

• Trees – Provide one tree for every 40 parking spaces or fraction thereof in the parking lot. There should be at least 1 tree for each parking space sized island.

Parking Ramp Entries

The following guidelines should apply all parking ramp drives, alley openings and other major drives that cross the sidewalk.

• If paver accent bands are used, “return” bands to building face at edge of drive on each side as shown in the illustration on this page.
• Pavement in the driveway apron should be thickened or reinforced to accommodate the heavier weight of vehicle traffic.
• Pavement scoring should match the scoring on the adjacent sidewalk.
• If site distance is limited, provide an audible warning system to alert pedestrians of approaching vehicles.
• Provide permanent landscape planters or free-standing pots at entry to divert pedestrians away from opening and potential conflict with vehicles exiting the structure.

Typical Parking Ramp Entry
Seat Wall/Planter
A seat wall/planter may be used in place of the standard 6 in. curbed planter in locations that experience high pedestrian use or for protection of plant material.

- Location – Seat walls may be used in corner bump-outs, on sidewalks wider than 14 feet and urban plaza spaces.
- Planter Height – 18 inches.
- Planter Width – Minimum 6 feet.
- Seat Wall Width – Minimum 15 inches.
- Setback - Minimum 4 feet from back of street curb when adjacent to on-street parking lane. Minimum 3 feet from back of street curb when adjacent to traffic lane.
- Clear Sidewalk Travel Width - Minimum 8 feet.
- Vandalism – Protect edge of seat from skateboard “grinding” by installing metal deterrents or providing grooves in the sitting surface.
Roadway Medians

Medians are an effective method of making a streetscape more pedestrian friendly. They can visually break-up large expanses of street pavement, provide islands of refuge at pedestrian crossings and create additional opportunities landscaping and art. For the purposes of these guidelines, medians are placed into two categories according to width.

Wide Medians (Over 10 feet)

- Planter Type – In ground or free-standing.
- Planter Height - 6 to 24 inches.
  Taller medians are more visible and have greater decorative appeal than the traditional shorter medians. They offer better protection to the plant material, raising it up from salt spray and other street abuse. People are less likely to stand on a plant in a higher median. Tiered ends of the planter will maintain clear vision zones for safe traffic operations.
- Planter Setback- Minimum 2 feet. The planter setback will vary depending on median width, location and traffic operations
- Median Landscape - Deciduous trees and under-planted with shrubs, perennials, annuals, groundcovers or ornamental grasses. Careful selection for salt tolerant, hardy material is vital to the overall health of the landscape.
- Irrigation – Automatic irrigation is recommended.
- Amenities - Ornamental lighting, flag poles or art elements can create a dramatic effect when coordinated with elements used on the sidewalks. Care should be taken to prevent these elements from encroachment into the through-traffic lanes.
Narrow Medians (10 feet and Under)
- Median Landscape – Cool season grass, shrubs, perennials, annuals, groundcovers or ornamental grasses. If deciduous trees are used, select only columnar forms to prevent branch damage caused by vehicles. All plant material should be salt tolerant. Refer to the plant lists in Appendix One.
- Consider using pavers in the median surface with free standing pots.
- Planter Type – Free-standing Pots. 24 to 36 inches tall. Narrow medians will, most likely, limit the use of larger in-ground planters.
- Irrigation – Automatic irrigation is recommended.
- Amenities - Ornamental lighting, flag poles or art elements. These elements should not encroach into the through traffic lanes.

Area-Wide Guidelines
- Narrow median on North Monroe
- Proposed Median Treatment: Fulton Street at Jefferson Avenue
- Fulton Street median at Jefferson
Landscape Design
The most effective element used to enhance our streetscapes is landscaping. Trees, shrubs and flowers soften the hard urban edges of downtown and add color, texture and lushness to the sidewalk that can only be obtained through living plant material. To achieve these qualities the following design guidelines have been developed.

General Design Guidelines
- Environmental Characteristics – Before anything else, it is important to understand the environment to be landscaped. Factors such as soil type, amounts of sunlight and shade, exposure to wind and spatial characteristics of the area, as well as the expected level of maintenance all need to be considered before plants can be selected.
- Plant Characteristics - Choose the right plant for the right place. Each plant has specific horticultural requirements and maintenance that need to be met for their long-term health and visual appeal.

Design Guidelines for Street Trees
- Variety – Plant a mix of tree species downtown to avoid a landscape monoculture. Not only does this provide more visual interest but also avoids mass removal of the downtown tree canopy if a one species is affected by a disease or exotic pests.
- Trees in Planters – The long term health of a street tree is profoundly affected by the way it is planted. In general, it is best to locate trees in an open, curbed planter. This method lessens soil compaction and increases air
circulation to the root system. This may not always be possible due to budget and spatial constraints.

- **Structural Soil** – Use CU - Structural Soil™ in large tree pits for all street tree installations. CU - Structural Soil™ is a planting medium developed by Cornell University’s Urban Horticultural Institute and is defined as, “a designed medium which can meet sidewalk design and installation requirements while remaining root penetrable and supportive of tree growth.”
These installation standards are intended to provide a better growing environment to improve the health and longevity of the urban landscape.

Tree in Raised Planter

- Planting Pit Depth – 3 ft. minimum below sidewalk pavement.
- Planting Pit Width – 10 ft. minimum on each side of tree. On the street side the planting pit should extend to the street curb.
- Planting Soil - CU - Structural Soil™ as manufactured by Amereq, Inc., 19 Squadron Boulevard, New City, NY 10956 and locally available from Midwest Trading Horticultural Supplies, Inc, P.O. Box 1005, 7N268 IL Route 25, Street Charles, IL 60174, Phone No. 847-742-1840, Fax No. 847-888-3818. Install per manufacturer’s written instructions and as shown in the detail on this page.
- Irrigation - If tree is not automatically irrigated, provide watering tubes as shown on page 84. An alternate method is to place a drip irrigation water bag, such as Treegator or similar product around the base of the tree. Always provide adequate tree pit drainage.
Tree in Tree Grate

- Planting Pit Depth – 3 ft. minimum below sidewalk pavement.
- Planting Pit Width – 10 ft. minimum on each side of tree. On the street side the planting pit should extend to the street curb.
- Planting Soil – CU - Structural Soil™ as manufactured by Amereq, Inc., 19 Squadron Boulevard., New City, NY 10956 and locally available from Midwest Trading Horticultural Supplies, Inc, P.O. Box 1005, 7N268 IL Route 25, Street Charles, IL 60174, Phone No. 847-742-1840, Fax No. 847-888-3818. Install per manufacturer’s written instructions and as shown in the detail on this page.
- Irrigation - If tree is not automatically irrigated, provide watering tubes as shown on page 84. An alternate method is to place a drip irrigation water bag, such as Treegator or similar product around the base of the tree. Always provide adequate tree pit drainage.
**Grouped Trees in a Continuous Trench**

In many locations downtown trees may be grouped together, either in a planter or in closely spaced tree grates. In these instances it will be an advantage to place the trees in a continuous planting pit or trench of CU – Structural Soils™. In addition to the requirements shown in the previous tree planting details, the following standards shall apply.

- Soil Depth – 3 ft. minimum below pavement.
- Trench Width – 10 ft. minimum.
- Trench Length – Varies by location and number of trees. CU-Structural Soil™ should extend 10 ft. beyond last tree on each end.

**Manual Irrigation Alternative**

In locations where manual watering of trees is necessary, an effective method of watering is to place four 4 inch perforated PVC pipes at the 4 corners of the root ball to a depth equal to the bottom of the root ball. Hand water through PVC pipe as needed. This method will convey the water deeper into the planting pit where it is most needed. The PVC pipe can also be used to make a visual inspection of the water level at the roots. This will help prevent over-watering of the tree.
Design Guidelines for Planters and Containers –

The Downtown Planter Model

The single most defining element in the streetscape is the dramatic floral displays in permanent planters and movable containers. In order to achieve this effect these guidelines propose the “downtown planter model.” This design model has five components:

- **Drama** – Unusual combinations of forms and textures creates a strong lasting impression.
- **Height** – Tall material creates a bold visual presence.
- **Lushness** – Planters and containers should be full of plants. Weak floral statements become lost in the urban environment.
- **Spill** – Containers should be overflowing with plants that cascade down the sides.
- **Color** – Bold use of color is the single most noticed feature in planter landscapes.
Every location offers an opportunity for planting, so be inventive and make good use of the space that is available. Consider the surrounding environment. Decide which views you want to draw attention to and that would benefit from being framed by a planting (i.e., storefront) and which views are unsightly and should be screened. In addition, bear in mind the mood to be created – lush, green, and tranquil, coolly formal, or hot and exotic, for example.

The key to beautiful, thriving container plants is simple: plenty of care. They are in an environment with a finite amount of soil from which to draw water and nutrients and little soil base to protect their roots from drying winds, scorching sun, or freezing cold. To ensure success, give the plants the best possible growing conditions.

### Choosing the Right Container

The process starts with choosing containers that suit the plants and the site. The choice is more than a matter of style; it can determine how well the plants will grow and how much time and attention they will need.

Materials such as terra cotta, fiberglass, polypropylene, concrete, ceramic, copper, lead, wire baskets and wood make wonderful containers. Self-watering containers and watering-system inserts for regular containers are very good choices. They are more costly initially, but the time saved by watering less often will compensate for these expenses. Also, if situations don’t allow for daily watering, plants in self-watering pots will be more successful. All containers need adequate drainage holes to prevent over watering and root rot.

Free-standing pots come in all shapes and sizes. When grouping a mixed selection of container plantings, the shape, size, and number of pots should be proportionate to the site. Baskets may be hung from brackets on walls, pots may be placed on stairs and door steps, and boxes may be mounted on
window ledges and facades of buildings. If there are no ledges, half-baskets or boxes can be supported on brackets attached to the wall below windows. Railings can hold half-baskets.

**Choosing the Right Plants**

Choosing the right plants for containers can provide year-round interest and enjoyment. Spring is a rich season because of the great number of pansies and bulbs that grow well in window boxes and pots. Spring flowering bulbs can be planted in autumn. In summer, many annuals are available that flower simultaneously over several months. Mums, pansies, vines and berries are good choices for autumn. During the coldest months, winter arrangements can be displayed into early spring. Assorted evergreen boughs, dried flowers and colorful branches in containers give several months of winter beauty. Potting soil works well to hold this plant material in place. Evergreen shrubs can also be planted for any season.

**Planting for Your Exposure**

The second consideration when choosing plants is the exposure (sun, shade, heat, wind, rain) of the intended site. Plants in pots do better with some respite from the sun. This is because container-grown plants, especially those in hanging baskets, have less soil to retain water; only regular watering will prevent leaves and flowers from scorching in hot, sunny locations. Deep shade is often cast by tall buildings or leafy trees. Protected sites are usually found beside walls or other features that act as a windbreak and shelter plants from strong sun and rain. Urban settings often have temperatures several degrees warmer than in outlying areas. This makes it possible to grow a range of tender plants (i.e., Zone 6 hardiness) very successfully.

Tough Mediterranean plants in well-drained soil or low-growing perennials that will not be battered by wind are good choices for windy, hot, dry, full sun sites. Succulents and cacti are also resilient in hot, dry, full sun conditions.
Planting for Color
Color is a matter of personal taste, but when planning designs for containers, an awareness of the mood that color combinations create is important. Warm colors (red, orange, and yellow) are associated with the sun and a sense of well-being. Cool colors (purple, blue and green) evoke a soothing, tranquil mood. Harmony is established by combining a range of dark and light tones of one color. Lively contrast is created when two colors are combined that have no pigment in common on the color wheel.

Planting for Shape and Proportion
To select the most suitable container, and then location, consider a plant’s natural habit – upright or trailing – and how tall the plant is going to grow. The shape of the pot and planting should look comfortable together. As a visual guideline, plants in containers should not be more than twice the height of the pot, or more than half as wide again as the width.

When grouping a mixed selection of container plantings, their shape, size, and number should be proportionate to the site. Ensure that they all form close-knit groupings, and they sit at a number of different levels for added interest. One large container can often create a much more pleasing shape than a group of small pots and plants placed randomly over an area.

If the container will be viewed from all sides, place an upright plant in the center, mounding plants around it, and trailing plants along the edges. To achieve pleasing proportions in container displays, it is helpful to bear in mind these basic design shapes.

1. Fan-shaped displays work well in conical pots since the plants grow up and spread out into a bushy fountain of flowers.
2. The rectangular-shaped displays can be either vertical, when growing upright plants in a wide pot, or horizontal, if you are using a window box or long trough.
Container Plant Requirements

Soil Mix
There are many brands of potting mix available in either soil or soil-less forms. For most plants, either will work well. For containers, hanging baskets, and window boxes, use a peat moss or bark formula; plus inorganic matter to increase drainage and stability. Some contain both water-retaining gel crystals (polymers) and slow-release fertilizer granules. Special formulations are best for aquatics, cacti, and acid-loving plants. In order to thrive, any container plant needs regular supplies of water and fertilizer. Even potting mixes with food added have to be replenished.

Potting soil is generally sold by the cubic foot, a 2 cubic foot bag is enough to fill:
- eight to ten standard 10-12” pots;
- two pots 12” in diameter and 15” deep;
- one window box or planter measuring 36” x 8” x 10”.

Watering
A small container should be watered at least once a day in hot weather, and even in rain, since the heaviest downpour cannot provide soil mix with sufficient moisture for a plant’s requirements.

To moisten soil mix thoroughly, drench the container until water runs out through the drainage holes at the bottom of the pot, and the pot feels heavy when lifted. If soil mix is very dry, water can run down the sides and out of the bottom without wetting the soil mix adequately. Water the soil mix directly at a plant’s base, where it will be of most benefit, by using a watering can or garden hose.
Fertilizing
Plants quickly absorb all the nutrients available in the soil mix and will need regular additional feeding. Apply a fertilizer high in nitrogen and phosphorus to encourage constant flowering. Use a water soluble formula, such as Miracle Gro or Bloom Builder. These should be applied to the foliage early in the day. Osmocote is a timed-released fertilizer placed in the root zone in either plug or granular forms. Always follow the manufacturer’s instructions so the plants are not damaged.

Deadheading
Deadheading is the process of removing spent flowers to keep the plants looking their best and ensure continual blooming. Weekly deadheading while inspecting plants for insects and disease is needed. To remove the spent flowers from the stems, pinch off with your fingers; some may need to be cut with hand pruners or scissors. Cut most stems just above a group of leaves, so there are no bare stalks at the tips. Some plants get leggy (top of plant is full and lush, but the base has few leaves) and need to be pruned back to encourage a fuller looking and healthier plant.

Pest and Disease Management
Plants will need to be monitored regularly for insects and diseases to keep them healthy. The first step is identifying the pest. Remedies can be found at garden centers or the volunteer Master Gardeners at the Kent MSU Extension office at 775 Ball Avenue NE, Grand Rapids, MI 49503. They assist people in identifying and treating plant problems. By taking a sample or a detailed photo of the problem plant or insect, they will provide free advice. The Master Gardener Hotline can be reached by calling 616-336-3881. There are many products available to keep pests under control. Organic insecticidal soaps are quite effective on soft-bodied insects and mites, yet are extremely safe to use. Always follow the manufacturer’s instructions.
Miscellaneous Street Furnishings

The following street furnishings are common to all of downtown. They are intended to compliment the benches and litter receptacles proposed for each character areas in previous sections of the guidelines.

Free-standing Pots and Planters

The following are just two examples of the many pots available. The actual pot manufacturer and style chosen will depend on the specific space, design and location the pot will be placed in.

Traditional Design

- Manufacturer – Dura Art Stone (www.duraartstone.com)
- Product – Ribbed Round (R) and Square (RS) Planter
- Color – S-5 Terra Cotta
- Sizes – Large selection. Most common sizes are:
  - 2’ wide x 12”, 17” and 22” h
  - 3’ wide x 12”, 17” and 22” h

Contemporary Design

- Manufacturer – Tournesol Siteworks (www.tournesolsiteworks.com)
- Product – Sea Crest Series with Irrigation Reservoir
- Color – Matrix Series
- Sizes – Large selection. Most common sizes are:
  - Round: 2’ dia. x 17” and 22” h, 38” dia. x 17” and 22” h
  - Square - 2’ wide x 22” h
  - Rectangular - 48” x 24” x 22” h
**Area-Wide Guidelines**

**Newspaper Stations and Corrals**

- **Enclosure** - All newspaper vending machines and local paper boxes should be housed in either a vending station or corral.
- **Location** - Newspaper stations and corrals should be placed in the Amenity Zone of the sidewalk at high traffic locations or street corners. Where possible, these items should be incorporated into a planter similar to that shown in the illustration on this page.
- **Color** - Black
- **Size:**
  - Station - Maximum 6 feet.
  - Corral - Maximum 6 feet.
- **Restrictions** - Newspaper boxes should never be attached to street light fixtures or traffic control signs posts. They should never be located in the Storefront or Walkway Zone of the sidewalk.
Bollards

- Style – Annapolis Series. Manufactured by Landscape Forms. ([www.landscapeforms.com](http://www.landscapeforms.com))
- Color – Black
- Size: 6 inch Diameter

Bicycle Racks

- Style – U/2 by Cycle-Safe ([www.cyclesafe.com](http://www.cyclesafe.com))
- Color – Black

Wayfinding and Information Kiosks

- Located in high traffic locations such as by the arena, the convention center or on Monroe Center.
- Vending or fixed display.
- Should not impede pedestrian traffic.
Utilities and Equipment

- Location - Utility boxes and mechanical equipment should be placed against a building when possible. When not they should be low and unobtrusive to the public’s view. They should not limit the visibility of landscaping, art or storefronts.
- They should be screened when possible.
- Should be well maintained and kept free of graffiti.
- Color – Black.

Banners

- Size – 30” x 94”, 30” x 60”, 18” x 36”
- Banners must include at least one air vent and be as low as possible as allowed by the City of Grand Rapids.
- Banners should be colorful, fun, and simple in design and text to quickly convey a message. Text should be limited to one-third of the banner area to create a more attractive and dramatic design.
- Event banners removed within 1-3 days of the completion of the event.
- Banners are an opportunity for public art/to use local artists. Sculptures can also be made for light poles.
- Fabric banners should be made of high quality fabric, and removed immediately when loose, frayed, or faded. Banners can also be made of metal.
Downtown Lighting
The primary purpose of street lights is to provide nighttime visibility, whether it is for the pedestrian or the car. The need to light the streets for cars is for safety, however, lighting can be used to emphasize the pedestrian focus of the downtown. The Project for Public Spaces says that, “The key to developing a good plan is to relate lighting to the evening functions of a particular space, because in the larger view, street lighting is more than just a technical requirement, a security need, or a design element. It can be thought of and utilized in terms of how the type, placement, and wattage affect how a street is perceived and used.”

Lighting can serve many purposes beyond street poles:
- Architectural - The unique architectural details on the downtown buildings can be highlighted with up lighting.
- Retail Display - Storefronts and restaurants can bring attention to their retail displays through lighting.
- Identity - The lights on the downtown bridges and monuments gives an identity to the downtown. Other focal points can benefit from the same treatment.
- Landscaping - Greenery and flowers can be enjoyed at night when it is well lit.
- Creating a 24 hour environment. If we want people to feel safe in the downtown at all times, proper – but not too much – light is necessary.
Downtown Lighting Master Plan

The City of Grand Rapids has a Downtown Lighting Master Plan that has served the city well for many years. In general, the plan works well to identify the character areas downtown. One modification to the plan would be to substitute the contemporary Square Taper street light for the more traditional Heritage Historic street light in the area shown in orange on the accompanying illustration. This area is generally bounded by Fulton on the north, Lafayette on the east, Wealthy on the south and Sheldon to the west. The Heritage pole would compliment the style of development existing and proposed for this quadrant of the downtown.
Public Art

Grand Rapids is known nationally for its public art. The City itself is identified by La Grande Vitesse, by Alexander Calder. Art attracts people and humanizes the downtown, making it an experience that all can share. As we strive to make the downtown a 24 hour experience, public art is available all the time. A Guide to Public Art in Downtown Cincinnati says, “Cincinnati's collection of outdoor sculptures, fountains, objects and paintings is a museum with no walls, no fees and no hours posted, and it is accessible to everyone every day.”

All of downtown Grand Rapids is no more than a short walk to a work of art. The connectivity of the downtown is strengthened through the promotion of art, as it calls people to explore the downtown and moves them from one sculpture to another. The 2004 Arts and Entertainment Strategy of the downtown suggests that we “Coordinate for the placement of more public art throughout Downtown recognizing the character of each attitude district. Perhaps the most important public element to be considered for the street and public areas is public art as it will continue to be the common thread from district to district and throughout the entire Downtown. As the Calder sculpture has suggested, art is a personality icon for Downtown. The public art selections should be thought through to help reinforce the unique personalities of each district.”
In addition to permanent art, temporary art is also important as a way to draw people into the downtown. The impact that public art can have has been felt by New York City, as “The Gates,” an installation piece by Christo and Jeanne-Claude, drew tourists by the thousands to Central Park. “The Gates’ make evident just how much the public is eager for meaningful and fresh encounters with our public spaces,” says Anne Pasternak, executive director of Creative Time, a non-profit public arts presenter. Grand Rapids has had its own success with the 2006 Otterness sculpture exhibit which placed sculptures of all sizes throughout the downtown, bringing in an estimated 500,000 people.

Public Art Action Plan
The downtown needs to develop an action plan for public art. A process needs to be developed for new public art, including acquisition and location guidelines. This is best accomplished through the development of a committee. Attention needs to be paid to the existing art with better recognition, maintenance, common signage and promotion. The Pedestrian Loop should be used to define the priority placement for new art and to connect existing art. The new art museum should play an anchor role in the art focus of the pedestrian loop; other arts organizations should be included. Major art works, both memorial and contemporary, should be placed at key gateways, major intersections, at the end of long vistas and in large urban plazas.
Functional Art
One of the ways to expand the opportunity for art is to take it beyond the decorative elements to the functional elements. It is possible and advisable to incorporate art into functional items (or functional items into art). This practice further creates the authentic and celebratory experience we want for the downtown. Streetscape elements, such as light poles, manhole covers, sidewalks, tree grates, tree guards and street furniture are all suitable elements for artistic expression.

There are two important factors to remember when considering functional art:
- “Function” is a key component; the items should be able to be used as intended. They should be easy to maintain, safe for the user, and reflect the character of the downtown.
- “Art” is also a key component; consider using local artists or the community to design these items.
“For many of our citizens, … the city is an entire world. For this reason, it is our responsibility to create and maintain cities that not only function properly but also afford moments of beauty.”

………….Jeff Speck,
Making Better Places:
Ten City Design Resolutions

Section Five:
Streetscape Design Guidelines:
Private Effort
In most areas downtown, the buildings are constructed to the public right-of-way line. This is the classic urban relationship between the building, the sidewalk and the street. It is because of this physical arrangement and the density it creates that downtown has as unique vitality and special charm that cannot be duplicated in suburban retail centers and regional malls.

By necessity and design, downtown businesses routinely use the public right-of-way to carry out their daily commercial tasks. The manner in how the sidewalk is used, as well as how the buildings are maintained, has a tremendous impact on how downtown is perceived as a whole.

The following guidelines have been developed to offer the private property owner guidance in preserving and fostering the unique character of the downtown streetscape.
Private Effort Guidelines

Sidewalk Café

The sidewalk café guidelines are intended to create a festive and vibrant atmosphere where people can eat outside and to provide additional places for dining.

- Location – Sidewalk cafés may be located next to the building. The sidewalk needs to be of sufficient width to allow for a clear walkway of 6 feet around the café.
- Landscaping – A minimum of 50% of the perimeter of the café should be landscaped. The landscape may be in free-standing pots or in baskets attached to the perimeter railing.
- Size – The size of the café is determined by the width of the storefront. In no case should the café encroach on adjacent storefronts.
- The design of the furniture can vary. However, the tables should be no larger than 3 feet wide with detached coordinating chairs. Picnic tables are not acceptable. All furniture should be constructed of durable materials specifically made for commercial use and properly maintained.
- Nothing may be chained to the street lights or other streetscape elements.
**Outdoor Merchandising**

The sidewalk is where commerce meets the public. Retail, done right, can energize the sidewalk. The following guidelines are proposed in order to create a vibrant streetscape and blur the area between the inside and outside in order to create an opportunity for retail business success.

- Merchandise is allowed in the storefront zone with the proper permits and must be associated with the store it is adjacent to.
- The outside merchandise must be removed daily when the business closes, or when the weather is bad.
- Outdoor merchandise is limited to fresh flowers, food, original artwork or temporary displays by local businesses within the City’s ordinances.

**Major Building Entries**

- Major building entries may be highlighted with special paving in all districts.
- The 5 ft. paver accent band used in the Downtown Activity Center and Heartside may extend to the doorway. See plan on this page.
- For use at large, single use or multiple tenant buildings.
- Medallions may be installed in pavers. Business names and advertisements are not allowed.
**Signage and Awnings**

Banners on Buildings:
- Should be festive, attractive and well maintained.
- The size should be in proportion to the size of the building.
- See the City’s ordinance for further guidelines.

Awnings:
- Backlighting or illuminated awnings are not permitted.
- Awnings cannot extend across multiple storefronts.
- Awning must be made of durable material/fabric; plastic awnings are not allowed.
- See the City’s ordinance for further guidelines.

Signage:
- Signs should be architecturally compatible with the building they are identifying.
- Business signs attached to a building should be appropriate to the style and size of the building; they are addressed the City’s ordinances.
- Sandwich signs on the sidewalks need to be placed in the storefront sidewalk zone next to the building; they should not be located in the walkway zone.

*Sandwich board signs blocking the walkway zone*
Art Opportunities
The introduction of art in unique ways is one way of expressing the charm and character of downtown businesses.

General Criteria:
- Building and site elements that can integrate art works include: blank facades, door thresholds, window displays, railings, and canopy structures.
- The creative use of architectural lighting can enliven many of the structures downtown.
- Every art work should be structurally sound and located to minimize interference with pedestrian and vehicle movement.
- Use of materials or symbols that can be interpreted as advertisements or commercial logos is prohibited.
Landscaping and Greening Opportunities

The addition of landscape to the sidewalk and facade gives a much needed burst of color and texture not always attainable in the typical urban streetscape environment. This section of the guidelines addresses some of the issues the property owner should consider when developing a storefront landscape.

Location:
- Free-standing pots at main entry.
- Window boxes at ground level and upper story windows.
- Hanging baskets on wall.
- Railings and walls.
- Roof-top gardens.

Refer to the Area-Wide Guidelines beginning on page 70 for Design Principles, Plant Selection and Maintenance Procedures.
General Maintenance
Intent: To ensure that all streetscape elements, public and private, are maintained at a high level.

General Maintenance:
- Items that are located in the streetscape should be maintained to the highest level of cleanliness, appearance and usage.
- Items looking worn (frayed fabrics, peeling paint, splintered wood, etc.) should not remain in the streetscape.
- Sidewalks should remain in good repair both for the visual aspects of the streetscape and the safety of the pedestrian.

Dumpster Screening:
- All trash dumpsters and mechanical equipment must be screened so it is not visible from the street or sidewalk.
- The screening structure should be designed so that it complements and blends with the design of the main building through the use of similar materials and colors.
Private Effort Guidelines

**New Construction**

When developing new construction the streetscape should be considered as a part of the total project.

- Building to building context - New construction, especially in-fill projects, should be planned in relation to the surrounding buildings. Using common elements from the façade and architecture of neighboring buildings will create a harmonious feel to the streetscape. Building size, height and materials all factor into a coherent sense of place. Grand Rapids has done a great job with this type of development, to the point that the parking ramps built by the City and by Ellis Parking can be mistaken at first glance as a traditional building.

- The building at the street level - New construction should be planned to relate positively to the street within the elements of the building structure. The first level should have a human scale with attention to items including the building entries, first floor storefronts, lighting, signage and windows.

- Streetscape - Buildings should also relate to the street in the treatment of the streetscape. Some things are obvious; a new building framed by an old and neglected sidewalk looks unfinished. Other items may be overlooked; landscaping and greening can have a major impact on the appearance of a building at a small percentage of the building budget. Downtowns have a hard urban
edge; the addition of window boxes and planters with trailing flowers make a dramatic difference over a stark structure void of greenery. The addition of art also creates a more interesting façade.

Building Renovation

When planning renovation on an existing building the end product will be more successful when it is combined with work on the streetscape. A building in need of attention is usually surrounded by a weary sidewalk. Doing one renovation without the other does not creates a completed look that a project is striving for.

Elements that can be added to highlight a building during renovation work include:

- Lighting focused on architectural details of a building
- The addition of window boxes, planters and landscaping
- Banners on buildings
- Art accents on or around a building
Appendix One:
Landscape Plant Lists:

- Trees
- Shrubs
- Perennials
- Ornamental Grasses
- Ground Covers and Vines
- Annuals
<table>
<thead>
<tr>
<th>Scientific Name</th>
<th>Common Name</th>
<th>Growth Patterns</th>
<th>Environmental Tolerances</th>
<th>Aesthetics</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Concolor Fir</td>
<td>Width- 15’-30’</td>
<td>Light- Full sun/tolerates partial sun</td>
<td>Fruit- Brown cylindrical cones, upper 3rd of tree only, 3-6” long, 1 ½-1 ¾” wide.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Form- Pyramidal and branched to the base, holding a dense, formal shape well.</td>
<td>Soil- Prefers deep, rich, moist, well-drained gravelly or sandy-loam soils; dislikes heavy clay and compaction. Tolerates less moisture than other western firs.</td>
<td>Foliage- Beautiful. Bluish-green, upward pointing, flat needles, 1 ½-2 ½” long. Evergreen.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rate- Slow to medium</td>
<td></td>
<td>Bark- Smooth on young stems except for resin blisters; ashy gray, 4-7” thick on old trunks.</td>
<td></td>
</tr>
<tr>
<td>Acer campestre</td>
<td>Hedge Maple</td>
<td>Height- 25’-35’</td>
<td>Hardiness zone- 5</td>
<td>Flower- No ornamental significance; a few green ones in May.</td>
<td>Disease/Insect- Relatively pest free</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Width- 25’-35’</td>
<td>Light- Full sun/light shade</td>
<td>Fruit- No ornamental significance.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Form- Rounded, dense, low branching, can be limbed up.</td>
<td>Soil- Very tough plant preferring rich, well-drained soil; tolerant of any pH, dry soils, compaction, and air pollution.</td>
<td>Foliage- 3-5 lobed, 2-4” long and wide; dark green.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rate- Slow</td>
<td></td>
<td>Fall color- Yellow (inconsistent).</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Bark- Gray-black, shallow ridges and furrows.</td>
<td></td>
</tr>
</tbody>
</table>
### TREES

<table>
<thead>
<tr>
<th>SCIENTIFIC NAME</th>
<th>COMMON NAME</th>
<th>GROWTH PATTERNS</th>
<th>ENVIRONMENTAL TOLERANCES</th>
<th>AESTHETICS</th>
<th>COMMENTS</th>
</tr>
</thead>
</table>
| **Acer ginnala** now Acer tartarian | Amur Maple | **Height**- 15’-18’  
**Width**- 15’-20’  
**Form**- Round to wide spreading tree or large multi-stemmed shrub of bushy habit; easily pruned to shape.  
**Rate**- Slow to medium | **Hardiness zone**- 3  
**Light**- Full sun/light shade  
**Soil**- Prefers moist, well-drained soil; withstands heavy pruning; quite adaptable to wide range of soils and pH ranges. Drought tolerant. | **Flower**- Yellowish white; fragrant as leaves unfurl in April-May.  
**Fruit**- Ripens in September-October.  
**Foliage**- 3 lobed, middle lobe much longer; 1 ½-3” long; glossy dark green. Early to leaf out.  
**Fall color**- Yellow and red (inconsistent).  
**Bark**- Smooth grayish brown. | **Disease/Insect**- None serious  
**Suggested usage**- Wide street tree, patio tree, containers, screen, massing, corners or blank walls of large buildings. |
| **Acer pseudo-platanus** | Planetree Maple Sycamore Maple | **Height**- 40’-60’  
**Width**- 30’-50’  
**Form**- Upright, spreading branches forming an oval to rounded crown. | **Hardiness zone**- 4  
**Light**- Full sun/light shade  
**Soil**- Very adaptable to soil types, preferably well-drained; tolerates high lime to acid and exposed sites. Tolerates soil and airborne salt. | **Flower**- Yellowish green in May, upright panicles, 2-4” long.  
**Fruit**- No ornamental significance in September-October.  
**Foliage**- 3-5 lobed, leathery, and toothed; 3-6” wide; dark green.  
**Fall color**- Dull brown.  
**Bark**- Gray, reddish-brown, flaky. | **Disease/Insect**- Cankers (high maintenance to remove dead wood)  
**Suggested usage**- Park specimen, campuses, woodlands. |
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<tbody>
<tr>
<td>Acer truncatum</td>
<td>Shantung Maple Painted Maple</td>
<td>Height: 20’-40’ Width: 25’ Form: Small round-headed tree with a neat outline and regular branching; often dense. Rate: Slow</td>
<td>Hardiness zone: 4 Light: Full sun/light shade Soil: Prefers moist, well-drained soil; withstands heavy pruning; quite adaptable to wide range of soils and pH ranges.</td>
<td>Flower: Greenish-yellow, 1/3-1/2” diameter on ½” long stalks; very showy. Fruit: 1 1/4-1 ½” long; some cultivars are purple. Foliage: 5-lobed emerging purple/red then green; 3-5” wide; glossy dark green. Fall color: Yellow, orange, red. Bark: Gray-brown, rough and fissured.</td>
<td>Disease/Insect: None serious or limiting. Resistant to leaf scorch. Suggested usage: Narrow or wide street tree, lawns and parks. Note: Drought and heat tolerant. Hardy tree.</td>
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<tr>
<td>Acer saccharum</td>
<td>Sugar Maple Hard Maple</td>
<td>Height: 60’-75’ Width: 40’-60’ Form: Upright-oval to rounded; quite dense foliage. Rate: Slow to medium</td>
<td>Hardiness zone: 4 Light: Full sun/shade Soil: Prefers well-drained, moderately moist, fertile soil; best in slightly acid but tolerant of any pH.</td>
<td>Flower: Subtly attractive and small in May. Fruit: No ornamental significance in September-October. Foliage: 3-5 lobed, 3-6” long and wide with deep sinuses; medium to dark green. Fall color: Yellow, burnt orange, and limited red tones; great variation. Bark: Smooth, gray-brown in youth; with age it becomes deeply furrowed and scaly.</td>
<td>Disease/Insect: Leaf scorch in drought. Suggested usage: Very wide street tree, lawns and parks. Note: Susceptible to salt. Not pollution tolerant.</td>
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## TREES

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</table>
| **Acer x freemanii** *(A. rubrum x A. saccharinum)* | Freeman Maple cultivars such as ‘Autumn Blaze’, ‘Celebration’ and ‘Lee’s Red’ | **Height** 45'-70'  
**Width** 20'-40'  
**Form** Columnar to oval; dense foliage.  
**Rate** Fast | **Hardiness zone** 4  
**Light** Full sun  
**Soil** Prefers well-drained, moderately moist, fertile soil; best in slightly acid but tolerant of any pH. | **Flower** Red in dense clusters during March-April.  
**Fruit** Samara, often red, maturing to brown, ¾-1” long in May-June.  
**Foliage** 3-5 lobed, 2-4” long and wide, medium to dark green leaves; new growth often red.  
**Fall color** Excellent red, orange, and yellow variations.  
**Bark** Silver-gray in youth; dark gray and rough in old age. | **Disease/Insect** Relatively pest free  
**Suggested usage** Lawns, wide street tree and parks.  
**Note** Highly ranked for tolerance of urban stresses. |
| **Aesculus hippocastanum** | Horsechestnut | **Height** 50'-70'  
**Width** 30'-70'  
**Form** Dense, upright oval to rounded.  
**Rate** Medium | **Hardiness zone** 4  
**Light** Full sun/light shade  
**Soil** Moist, well-drained soil; pH adaptable; avoid extremely dry situations. | **Flower** Very showy in May; 4-5 petals, white with a blotch of yellow, maturing to reddish; 5-12” long and 2-5” wide.  
**Fruit** Light brown, spiny, 2-2 ¼” diameter in September-October.  
**Foliage** Palmately compound, 7 leaflets, 4-10” long, 2-5” wide, dark green.  
**Fall color** Poor yellow and often brown.  
**Bark** Dark gray-brown, exfoliating. | **Disease/Insect** Leaf blotch, leaf scorch and mildew.  
**Suggested usage** Lawns, parks, and campuses.  
**Note** Fruit and leaves could pose as a litter problem. Casts dense shade. |
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<tbody>
<tr>
<td>Aesculus x carnea</td>
<td>‘Briotii’ Red</td>
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<td></td>
<td>Horsechestnut</td>
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<tr>
<td>Height- 30'-40'</td>
<td>Width- 30'</td>
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<tr>
<td>Form- Dense, rounded</td>
<td>Rate- Medium</td>
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<tr>
<td>to broad rounded.</td>
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<tr>
<td>Hardiness zone- 4</td>
<td>Light- Full sun/light shade</td>
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<tr>
<td>Soil- Moist, well-drained soil; pH adaptable; avoid extremely dry situations.</td>
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<td>Flower- Spectacular rose-red in May on 6-8” high and 3-4” wide panicles.</td>
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<td>Fruit- Light brown, spiny, 2-2 1/4” diameter in September-October.</td>
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<td>Foliage- Palmately compound, 5 leaflets, 3-6” long; leathery, lustrous dark green.</td>
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<td>Fall color- Brilliant red.</td>
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<td>Bark- Dark gray-brown, exfoliating.</td>
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<td>Disease/Insect- Less susceptible to leaf blotch and mildew than A. hippocastanum.</td>
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<td>Suggested usage- Lawns, parks and campuses.</td>
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<tr>
<td>Alnus glutinosa</td>
<td>European Alder</td>
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<tr>
<td>Height- 40'-60’</td>
<td>Width- 20'-40’</td>
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<tr>
<td>Form- Narrow,</td>
<td>Rate- Fast</td>
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<td>pyramidal, or columnar.</td>
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<td>Hardiness zone- 4a</td>
<td>Light- Full sun/partial shade</td>
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<td>Soil- Prefers moist or wet soil, but performs well in dry soils, tolerant of acid or slightly alkaline soils.</td>
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<td>Flower- No ornamental significance in March.</td>
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<td>Fruit- Small nutlet in October-November.</td>
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<td>Foliage- Oval, 2-4” long, 3-4” wide; dark green; handsome.</td>
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<td>Fall color- No ornamental significance.</td>
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<td>Bark- Lustrous gray-green in youth; polished brown with age.</td>
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<td>Disease/Insect- Numerous diseases and insects can be problematic.</td>
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<td>Suggested usage- Difficult, infertile wet sites.</td>
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<td>Note- Good for reclamation sites because it fixes nitrogen. Avoid waterway plantings because reseeding can overtake a large area.</td>
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</table>
| Amelanchier arborea | Downy Service-berry | **Height**- 15'-25'  
**Width**- 15'-25'  
**Form**- Multi-stemmed large shrub or small tree with a rounded crown of many small branches. Beautiful in winter.  
**Rate**- Medium | **Hardiness zone**- 4  
**Light**- Full sun/partial shade  
**Soil**- Prefers moist, well-drained, acid soil; adaptable to many soil types. | **Flower**- White, 2-4” long, showy for 4-7 days in April.  
**Fruit**- Berry-like pome, ¼-1/3” diameter, from green to red to purplish black in June. Attractive to birds.  
**Foliage**- Oblong, 1-3” long, ½-3/4” wide; medium to dark green.  
**Fall color**- Varies from yellow to orange to dull red.  
**Bark**- Gray smooth, vertical fishers, very ornamental. | **Disease/Insect**- Many newer cultivars are free of problems.  
**Suggested usage**- Lawns, edge of woodlands and ponds, parks, shrub borders with evergreen background.  
**Note**- Avoid polluted and high stress conditions. Native. |
| Betula nigra | River Birch | **Height**- 40’-70’  
**Width**- 40’-60’  
**Form**- Broadly pyramidal, rounded crown in maturity; arching branches close to the ground; single or multi-stemmed trunk.  
**Rate**- Medium to fast | **Hardiness zone**- 3  
**Light**- Full sun/partial shade  
**Soil**- Best in moist soils, fertile areas; prefers acid soil. Chlorosis will develop in high pH. | **Flower**- Males have 2-3” long, slender dark brown catkins.  
**Fruit**- Small nutlet in a 1 – 1 ½” long catkin in the spring.  
**Foliage**- Sharp-pointed, oblong, 1 ½-3 ½” long, ¾-2-1/2” wide; lustrous medium to dark green.  
**Fall color**- Yellow.  
**Bark**- Young trunks and branches are thin, cream, salmon, orange-brown, peeling freely; older trunks are reddish brown to grayish brown. | **Disease/Insect**- Aphids. Leaf spot in moist years. The species is bronze birch borer resistant.  
**Suggested usage**- Large lawns, parks and campuses.  
**Note**- Heat, but not dry, tolerant. Prune in summer when sap is not flowing. |
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<tbody>
<tr>
<td>Carpinus betulus</td>
<td>European Hornbeam</td>
<td>Height: 40'-60' Width: 40'-60' Form: Pyramidal to rounded in youth. Oval to rounded at maturity. Rate: Slow to medium</td>
<td>Hardiness zone: 5</td>
<td>Flower: No ornamental significance in April.</td>
<td>Disease/Insect: None serious or limiting.</td>
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<td>Fruit: Nutlet, ¼&quot; long in September-October.</td>
<td>Suggested usage: A highly ranked tree for screens, hedges, groupings, around large buildings, planter boxes.</td>
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<td>Foliage: Oblong with round base and pointed tip, heavily textured; 2 ½-5” long, 1-2” wide; dark green.</td>
<td>Note: Wide areas are recommended due to low branching. Withstands pruning very well.</td>
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<td>Fall color: Yellow in late fall.</td>
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<td>Bark: Steel gray, smooth; showy.</td>
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<tr>
<td>Catalpa speciosa</td>
<td>Northern Catalpa</td>
<td>Height: 50'-60' Width: 20'-40' Form: Narrow, open, irregular oval crown. Coarse. Rate: Medium to fast</td>
<td>Hardiness zone: 4</td>
<td>Flower: White bell-shaped, 2” long and wide in May-June; attractive.</td>
<td>Disease/Insect: Catalpa sphinx, moth and fungal diseases.</td>
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<td>Fruit: Long bean-like, 8”-20” long, ½-3/4” wide, seeds fringed, persisting into winter.</td>
<td>Suggested usage: Limited use in lawns and parks.</td>
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<td>Foliage: Large heart shaped, 6-12” long, 3-8” wide; medium green.</td>
<td>Note: Native.</td>
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<td>Fall color: Dull yellow to brownish.</td>
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<td>Bark: Grayish-brown, ridged and furrowed.</td>
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| Celtis occidentalis | Hackberry     | **Height**: 40’-60’  
**Width**: 30’-50’  
**Form**: Weakly pyramidal in youth; in old age the crown is a broad top of ascending arching branches.  
**Rate**: Medium to fast | **Hardiness zone**: 3  
**Light**: Full sun/tolerates partial shade  
**Soil**: Prefers rich, moist, soils, but grows in dry, heavy or sandy, rocky soils. | Flower: No ornamental significance in April-May.  
Fruit: Tiny fleshy, multi-colored September-October, eaten by wildlife.  
Foliage: Oblique base, serrated leaf margin, 2-5” long; dull light to medium green.  
Fall color: Dull yellow.  
Bark: Gray with lenticels, corky ridges. | Disease/Insect: Seems to have overcome its problems.  
Suggested usage: Lawns and parks, dry soils, windy conditions.  
Note: Under-used and very nice. Withstands urban conditions, any pH, wet or very dry areas, and wind. |
| Cercidiphyllum japonicum | Katsuratree   | **Height**: 30’-40’  
**Width**: 20’-30’ or more  
**Form**: Full and dense; pyramidal in youth, rounding with age, single or multi-stemmed.  
**Rate**: Medium to fast | **Hardiness zone**: 4  
**Light**: Full sun  
**Soil**: Rich, moist and well-drained; prefers acid soil. | Flower: No ornamental significance in late March.  
Fruit: ½-3/4” long pods.  
Foliage: Heart-shaped like Redbud, 2-4” long and wide. Emerging leaves are reddish purple and change to bluish green.  
Fall color: Yellow to apricot; outstanding by mid-October. Fragrance similar to cotton candy.  
Bark: Brown, slightly shaggy. Very handsome. | Disease/Insect: Relatively pest free  
Suggested usage: Highly ranked for lawns and parks. Wide areas are recommended due to tree size and drought sensitivity.  
### Trees

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<th>Environmental Tolerances</th>
<th>Aesthetics</th>
<th>Comments</th>
</tr>
</thead>
</table>
| Cercis canadensis | Eastern Redbud    | Height: 20'-30'  
Width: 25'-35'  
Form: Multi-trunk, open spreading, flat topped crown; low branching.  
Rate: Medium | Hardiness zone: 4  
Light: Full sun/part shade  
Soil: Moist, well-drained, deep soils; performs well in many types and pH. | Flower: Pink/purple, ½" long, clusters of 4-8, in March-April.  
Fruit: Numerous pods (legume), 2-3" long, often persists through winter.  
Foliage: Wide heart-shaped, 3-5" high and wide, emerging reddish purple changing to dark green.  
Fall color: Yellow.  
Bark: Black or brownish-black; scaly. | Disease/Insect: Canker and Xylaria polymorpha root rot.  
Suggested usage: Specimen, groupings, in a shrub border, woodlands.  
Note: Regular watering and fertilization keeps it vigorous. Does not withstand excessive stress. Native. |
| Cladrastis kentukea | American Yellowwood | Height: 30'-50'  
Width: 40'-55'  
Form: Broadly rounded, arching, low branching, single/multi-stemmed.  
Rate: Medium; fast with adequate water and fertilizer | Hardiness zone: 4  
Light: Full sun  
Soil: Well-drained; tolerates high pH and acid situations. | Flower: Fragrant white pea, like Wisteria; on 8-14" long panicles in May-June.  
Fruit: Brown pod in October, 2 ½-4" long.  
Foliage: Ovate, odd-pinnately compound, 7-9 leaflets, entire leaf is 8-12" long; rich bright green.  
Fall color: Yellow to golden yellow.  
Bark: Very smooth, gray to light brown; beautiful. | Disease/Insect: Relatively pest free  
Suggested usage: Shade tree, parks, specimen, groupings.  
Note: Prune only in summer as it bleeds profusely if pruned in winter or spring. Native. |
## TREES

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</table>
| **Cornus florida** | Flowering Dogwood   | **Height**: 20’-30’  
**Width**: 30’+  
**Form**: Round, flat top, low almost horizontal branching.  
**Rate**: Slow, then medium | **Hardiness zone**: 5.  
Purchase trees with seed source from northern climate.  
**Light**: Partial shade.  
Tolerates full sun or shade.  
**Soil**: Acid, well-drained with organic matter; mulch to maintain a cool, moist soil. Will not survive poorly drained soils and open areas where summer water is limited. | **Flower**: 2” white bracts, showy in April to May.  
**Fruit**: Drooping glossy red berries, 3-4 per cluster in September to October; attractive to birds.  
**Foliage**: Simple ovate leaf, 3-6” long, 1 ½-3” wide, dark green.  
**Fall color**: Long-lasting reddish-purple.  
**Bark**: Grayish-brown to blackish blocks; scaly. | **Disease/Insect**: Some concerns, but desirable features justify planting it.  
**Suggested usage**: Lawns, parks, specimen, groupings, against dark backgrounds where flowers are accentuated.  
**Note**: Not disturbance or pollution tolerant. Native. |
| **Corylus americana** | American Hazelnut  
American Filbert | **Height**: 15’-18’  
**Width**: 10’-12’  
**Form**: Strongly multi-stemmed shrub, rounded top with leggy or open base, wide spreading.  
**Rate**: Medium to fast | **Hardiness zone**: 4  
**Light**: Full sun/light shade  
**Soil**: Well-drained, loamy soil; pH adaptable. | **Flower**: Male catkins, yellow-brown showy in early spring.  
**Fruit**: Nut matures in September-October, edible.  
**Foliage**: Heart-shaped leaf base, 2 ½-6” long, dark green.  
**Fall color**: Dull yellow-green; insignificant.  
**Bark**: Brown. | **Disease/Insect**: Blight, leaf spot, scales and caterpillars.  
**Suggested usage**: Naturalizing and other informal areas.  
**Note**: Good for difficult sites. Prune anytime to thin often. Native. |
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<tbody>
<tr>
<td>Corylus colurna</td>
<td>Turkish Filbert</td>
<td><strong>Height</strong>: 40'-50'  &lt;br&gt;<strong>Width</strong>: 20'-40'  &lt;br&gt;<strong>Form</strong>: Broadly pyramidal, upright, short trunk and branches touching the ground. Unique outline, heavy-textured leaves, fruit and bark.  &lt;br&gt;<strong>Rate</strong>: Medium</td>
<td><strong>Hardiness zone</strong>: 4  &lt;br&gt;<strong>Light</strong>: Full sun  &lt;br&gt;<strong>Soil</strong>: Well-drained, loamy is preferable, pH adaptable. Quite drought tolerant once established. Tolerant of adverse conditions.</td>
<td><strong>Flower</strong>: Catkins, 2-3” long on males in March.  &lt;br&gt;<strong>Fruit</strong>: Edible nut ½”-5/8” diameter, 3 or more together in September-October.  &lt;br&gt;<strong>Foliage</strong>: Simple, obovate, 2 1/2-6” long, doubly serrate; dark green.  &lt;br&gt;<strong>Fall color</strong>: Potentially yellow to purple, seldom handsome.  &lt;br&gt;<strong>Bark</strong>: Pale brown to orange-brown; flaky.</td>
<td><strong>Disease/Insect</strong>: None serious  &lt;br&gt;<strong>Suggested usage</strong>: Highly rated wide street tree. Campuses, lawns, parks, formal settings.  &lt;br&gt;<strong>Note</strong>: Outstanding tree; substitute for maples where scorch is a problem. Needs watering the first few summers until it re-establishes.</td>
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<td>Cotinus obovatus</td>
<td>American Smoketree</td>
<td><strong>Height</strong>: 20'-30’  &lt;br&gt;<strong>Width</strong>: 15’-30’  &lt;br&gt;<strong>Form</strong>: Large, upright shrub or small, oval-rounded tree.  &lt;br&gt;<strong>Rate</strong>: Medium</td>
<td><strong>Hardiness zone</strong>: 4  &lt;br&gt;<strong>Light</strong>: Full sun  &lt;br&gt;<strong>Soil</strong>: Prefers well-drained loam. Well-adapted to limestone soils and pH ranges; dry and rocky soils.</td>
<td><strong>Flower</strong>: Ineffective, sparse 5 petaled yellowish flower. Hairs are showy.  &lt;br&gt;<strong>Fruit</strong>: No ornamental significance.  &lt;br&gt;<strong>Foliage</strong>: Obovate, blue-green, 2-5” long.  &lt;br&gt;<strong>Fall color</strong>: Intense yellow, orange, red, and purple.  &lt;br&gt;<strong>Bark</strong>: Gray to gray-brown; scaly.</td>
<td><strong>Disease/Insect</strong>: None serious or limiting  &lt;br&gt;<strong>Suggested usage</strong>: Narrow or wide street tree, lawns, parks, and shrub border.</td>
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<tr>
<td>Eucommia ulmoides</td>
<td>Hardy Rubber Tree</td>
<td><strong>Height</strong>: 40'-60' <strong>Width</strong>: 40'-60' <strong>Form</strong>: Rounded to broad-spreading at maturity; in youth somewhat pyramidal. <strong>Rate</strong>: Medium</td>
<td><strong>Hardiness zone</strong>: 5 <strong>Light</strong>: Full sun <strong>Soil</strong>: Very soil tolerant; resists drought, pH adaptable.</td>
<td><strong>Flower</strong>: No ornamental significance. <strong>Fruit</strong>: Insignificant. <strong>Foliage</strong>: 3-6&quot; long, lustrous dark green; torn leaves exhibits rubbery substance. <strong>Fall color</strong>: Nonexistent. <strong>Bark</strong>: Grayish-brown; ridged and furrowed; attractive.</td>
<td><strong>Disease/Insect</strong>: Branch decline; dieback due to disease. <strong>Suggested usage</strong>: Shade tree in parks; outstanding summer foliage.</td>
</tr>
<tr>
<td>Ginkgo biloba</td>
<td>Ginkgo Maidenhair Tree</td>
<td><strong>Height</strong>: 50'-80' <strong>Width</strong>: 30'-40' <strong>Form</strong>: Pyramidal, open wide branches. <strong>Rate</strong>: Slow</td>
<td><strong>Hardiness zone</strong>: 4 <strong>Light</strong>: Full sun <strong>Soil</strong>: Prefers sandy, deep, moderately moist soil, but grows in almost any situation. Very pH adaptable. Tolerant of restricted root space and salt.</td>
<td><strong>Flower</strong>: Males have 1&quot; long catkins during March-April. <strong>Fruit</strong>: Foul smelling, female not wanted. <strong>Foliage</strong>: Unique fan shape, 2-3&quot; long and wide, bright green. <strong>Fall color</strong>: Yellow; showy. <strong>Bark</strong>: Grayish brown, ridges.</td>
<td><strong>Disease/Insect</strong>: Leaf spot, extremely pest free <strong>Suggested usage</strong>: Excellent city tree, public areas, and streets. <strong>Note</strong>: Only male trees should be planted. Prune in spring. Pollution and heat tolerant.</td>
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| Gleditsia triacanthos   | Thornless Common Honey-locust | **Height**: 30'-70'  
**Width**: 30'-70'  
**Form**: Oval to rounded, open spreading crown, short trunk. Very delicate and sophisticated silhouette.  
**Rate**: Fast | **Hardiness zone**: 4  
**Light**: Full sun  
**Soil**: Prefers rich, moist or lime soils; tolerant of disturbance, drought, high pH and salt. | **Flower**: Small, greenish.  
**Fruit**: Large pods.  
**Foliage**: Pinnately or bipinnately compound, 6-8" long with small leaflets, glossy bright green.  
**Fall colors**: Clear yellow.  
**Bark**: Grayish brown; long, narrow scaly ridges. | **Disease/Insect**: Honeylocust plant bug, borer, canker, aphids, web worms.  
**Suggested usage**: Narrow or wide street tree, lawns and parks.  
**Note**: Highly over-used. |
| Juglans cinerea         | Butternut           | **Height**: 40'- 60'  
**Width**: 30'- 50'  
**Form**: Rounded top with short, usually crooked trunk and wide spreading crown with horizontal branches.  
**Rate**: Slow | **Hardiness zone**: 3  
**Light**: Full sun  
**Soil**: Prefers moist, rich, deep soils. Tolerates drier, rocky, lime soils. | **Flower**: No ornamental significance.  
**Fruit**: Oblong nut, covered with sticky hairs.  
**Foliage**: Pinnately compound, 10-20" long, dark green.  
**Fall color**: Yellow.  
**Bark**: Gray with ridges and furrows. | **Disease/Insect**: Susceptible to canker  
**Suggested usage**: Lawns and parks.  
**Note**: Fruit may pose a litter problem. Native. |
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<tr>
<td>Juniperus virginiana</td>
<td>Emerald Sentinel</td>
<td><strong>Height</strong>: 15’-20’</td>
<td><strong>Hardiness zone</strong>: 3</td>
<td><strong>Flower</strong>: No ornamental significance.</td>
<td><strong>Disease/Insect</strong>: Bag worm</td>
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<tr>
<td>‘Emerald Sentinel’</td>
<td>Eastern Red Cedar</td>
<td><strong>Width</strong>: 6’-8’</td>
<td><strong>Light</strong>: Full sun. <strong>Color fades in shade.</strong></td>
<td><strong>Fruit</strong>: Berry-like, blue cones in abundance.</td>
<td><strong>Suggested usage</strong>: Specimen, grouping, hedges, small areas.</td>
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<td></td>
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<td><strong>Form</strong>: Pyramidal</td>
<td><strong>Soil</strong>: Prefers deep moist loam on well-drained subsoil; airy location. Tolerant of adverse conditions, poor gravelly soils; acid and high pH.</td>
<td><strong>Foliage</strong>: Dense, dark green, scale-like, somewhat tufted. Holds color in winter better than typical seedlings.</td>
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<td></td>
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<td><strong>columnar.</strong></td>
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<td><strong>Bark</strong>: Gray to reddish brown, exfoliating in long strips.</td>
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<td><strong>Rate</strong>: Medium</td>
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<tr>
<td>Koelreuteria paniculata</td>
<td>Goldenrain Tree</td>
<td><strong>Height</strong>: 30’-40’</td>
<td><strong>Hardiness zone</strong>: 5</td>
<td><strong>Flower</strong>: ½” wide yellow with red centers, borne in 12-15” long and wide panicles in July. Very showy.</td>
<td><strong>Disease/Insect</strong>: Relatively pest free</td>
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<td></td>
<td><strong>Width</strong>: 30’+</td>
<td><strong>Light</strong>: Full sun</td>
<td><strong>Fruit</strong>: Large inflated papery capsules changing from green to yellow to brown from August-October.</td>
<td><strong>Suggested usage</strong>: Excellent small lawn tree, streets, shading, specimen.</td>
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<td><strong>Form</strong>: Dense, rounded</td>
<td><strong>Soil</strong>: Adaptable to a wide range of soils; withstands drought, heat, wind and alkaline soils.</td>
<td><strong>Foliage</strong>: 6-18” long, 7-15 leaflets, serrate, rich green.</td>
<td><strong>Note</strong>: Prune during winter. One of the very few yellow-flowering trees. Tolerates air pollution.</td>
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<td>outline, sparingly</td>
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<td><strong>Fall color</strong>: Yellow or orange (inconsistent).</td>
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<td>branched, upright and</td>
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<td><strong>Bark</strong>: Light gray-brown, ridged and furrowed.</td>
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<td>spreading.</td>
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<tr>
<td>Liriodendron tulipifera</td>
<td>Tuliptree</td>
<td>Height: 70'-90'</td>
<td>Hardiness zone: 4</td>
<td>Flower: Tulip shaped, 6 yellow petals with orange center, 2-3” high.</td>
<td>Disease/Insect: Aphids, cankers</td>
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<td>Tulip Magnolia</td>
<td>Width: 35'-50'</td>
<td>Light: Full sun</td>
<td>Fruit: Tan cone-like, 2-3” long, persisting through winter.</td>
<td>Suggested usage: Large areas only.</td>
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<td>Tulip Poplar</td>
<td>Form: Pyramidal youth, oval-rounded with age.</td>
<td>Soil: Moist, well-drained loam; pH adaptable, preferring slightly acid soil.</td>
<td>Foliage: 3-8” wide and long, 3-4 lobes, bright green.</td>
<td>Note: Flowers on upper third of tree, so viewing from higher ground is best. Truly an aristocratic tree. Prune in winter. Native.</td>
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<td>Yellow Poplar</td>
<td>Rate: Fast</td>
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<td>Fall color: Yellow or golden-yellow from October-November.</td>
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<td>Bark: Brownish-gray with narrow ridges and crevices.</td>
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<tr>
<td>Maackia amurensis</td>
<td>Amur Maackia</td>
<td>Height: 14'-20’</td>
<td>Hardiness zone: 4</td>
<td>Flower: Dull white, ½” long, closely set on stiff racemes, 4-6” long, in June-July.</td>
<td>Disease/Insect: None serious</td>
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<td>Rate: Slow</td>
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<td>Fall color: Nonexistent.</td>
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<td>Bark: Handsome bronze colored peeling bark with maturity.</td>
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<tr>
<td>Maclura pomifera</td>
<td>Denmark Osage Orange</td>
<td><strong>Height</strong>: 20’-40’ <strong>Width</strong>: 20’-40’ <strong>Form</strong>: Short trunk and low, rounded, irregular crown. Moderate density. Thornless. <strong>Rate</strong>: Fast</td>
<td><strong>Hardiness zone</strong>: 4 <strong>Light</strong>: Full sun <strong>Soil</strong>: The poorer the site the better. Extremely adaptable; very tough under all conditions.</td>
<td>Flower: Green, non-showy in June. Fruit: Fruitless cultivar. Foliage: Alternate; ovate 3-6” long; dark green. Fall color: Pale lemon yellow. Bark: Brown, deeply furrowed and fibrous with flattened ridges.</td>
<td>Disease/Insect: None serious; very resistant. Suggested usage: Hedgerows, parks, windbreaks. Note: Male tree does not have fruit litter. Pruning required for good form and structure. Native.</td>
</tr>
<tr>
<td>Magnolia acuminata</td>
<td>Cucumber-tree Magnolia</td>
<td><strong>Height</strong>: 50’ -80’ <strong>Width</strong>: 50’ -80’ <strong>Form</strong>: Pyramidal in youth and becoming more open with age wide-spreading branches. <strong>Rate</strong>: Medium to fast</td>
<td><strong>Hardiness zone</strong>: 4 <strong>Light</strong>: Full sun/partial shade <strong>Soil</strong>: Loamy, deep, moist, well-drained, slightly acid soil. Intolerant of extreme drought or wetness and pollution.</td>
<td>Flower: Greenish yellow petals. 2 ½-3” long, borne high in the tree in May to early June, fragrant. Fruit: Looks like small cucumber, has red seeds. Foliage: Large ovate yellowish green leaves. Fall color: Yellowish bronze. Bark: Thin gray brown.</td>
<td>Disease/Insect: Relatively pest free. Suggested usage: Lawns and parks.</td>
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<tr>
<td>Metasequoia glyptostroboideae</td>
<td>Dawn Redwood</td>
<td>Height: 70'-100'+</td>
<td>Hardiness zone: 5</td>
<td>Flower: Males are panicles up to 12’ long. Females are solitary.</td>
<td>Disease/Insect: None serious. Mites will defoliate under drought stress. Japanese beetles will feed on foliage.</td>
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<td>Width: 25’</td>
<td>Light: Full sun</td>
<td>Fruit: Elongated round cones, ¾ to 1 ¼” long.</td>
<td>Suggested usage: Campus lawns, parks, screening, lining long streets where width allows, groves, along streams.</td>
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<td>Form: Feathery-pyramidal, conical, single straight trunk in youth. Neat and uniform. Grows into early fall and can be damaged by an early freeze, but recovers.</td>
<td>Soil: Best in moist, deep, well-drained, slightly acid soil. Grows well in wet soils.</td>
<td>Foliage: Deciduous, opposite needles, linear, ½” long; bright green.</td>
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<td>Rate: Fast</td>
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<td>Fall color: Brown; can be orange-brown to red-brown.</td>
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<tr>
<td>Nyssa sylvatica</td>
<td>Black Tupelo</td>
<td>Height: 30'-50’</td>
<td>Hardiness zone: 4</td>
<td>Flower: Small, greenish yellow appearing with leaves, not effective.</td>
<td>Disease/Insect: None serious or limiting</td>
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<td>Sour Gum</td>
<td>Form: Pyramidal when young with densely set branches, aging to horizontal branches, irregularly rounded.</td>
<td>Soil: Prefers moist, well-drained. Requires acid (pH 5.5-6.5), deep soils. Tolerates heat and dry conditions.</td>
<td>Foliage: Simple ovate leaf, 3-6” long, 1 1/2-3” wide; lustrous dark green.</td>
<td>Note: One of the best and most consistent natives for fall color. Difficult to transplant because of taproot. Not for heavily polluted areas.</td>
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<td>Rate: Slow to medium</td>
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<td>Fall color: Fluorescent yellow, orange, red and purple; beautiful.</td>
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<td>Bark: Gray, brown, sometimes black; an alligator hide appearance. Variable.</td>
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| Parrotia persica      | Persian Parrotia  | **Height**: 20’-40’  
|                       | Persian Ironwood  | **Width**: 15’-30’  
|                       | Irontree          | **Form**: Small, single-stemmed tree or large, multi-stemmed shrub with an oval crown of upright, ascending branches.  
|                       |                   | **Rate**: Medium  
|                       |                   | **Hardiness zone**: 5  
|                       |                   | **Light**: Full sun/light shade  
|                       |                   | **Soil**: Prefers well-drained, loamy, slightly acid (pH 6.0-6.5) soils; will tolerate chalky soils.  
|                       |                   | **Flower**: Showy red to yellow in March-April before the leaves.  
|                       |                   | **Fruit**: No ornamental significance, 3/8” brown capsule.  
|                       |                   | **Foliage**: Oblong shape, serrated leaf margins, 2 ½-5” long; medium-dark green.  
|                       |                   | **Fall color**: Brilliant yellow to orange to scarlet.  
|                       |                   | **Bark**: Exfoliating gray, green, white, brown when branches grow to 4-8’ diameter.  
|                       |                   | **Disease/Insect**: Very pest free  
|                       |                   | **Suggested usage**: Excellent specimen, small lawn or street tree.  
|                       |                   | **Note**: Once established, stress tolerant to drought, heat, wind, and cold.  |
| Phellodendron amurense| Amur Cork Tree    | **Height**: 30’-45’  
|                       |                   | **Width**: 30’-50’  
|                       |                   | **Form**: Broad with a short trunk; open, rounded crown of a few large, horizontal branches.  
|                       |                   | **Rate**: Medium  
|                       |                   | **Hardiness zone**: 3  
|                       |                   | **Light**: Full sun  
|                       |                   | **Soil**: Does well on many types of soils; withstands acid or alkaline, drought and pollution.  
|                       |                   | **Flower**: No ornamental significance, late May.  
|                       |                   | **Fruit**: Pea size, black, only on females.  
|                       |                   | **Foliage**: Opposite pinnately compound, 10-15” long, lustrous dark green.  
|                       |                   | **Fall color**: Yellow or bronzy yellow; not showy.  
|                       |                   | **Bark**: Ridged and furrowed into a cork-like pattern when mature.  
|                       |                   | **Disease/Insect**: Pest free  
|                       |                   | **Suggested usage**: Parks and other large areas.  
<p>|                       |                   | <strong>Note</strong>: Fruit litter may be problematic and may naturalize. Use male clones to solve both. Very tough. Males preferred.  |</p>
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<tr>
<td><strong>Picea glauca</strong></td>
<td>White Spruce</td>
<td>Height: 40’-60’&lt;br&gt;Width: 10’-20’&lt;br&gt;Form: Dense pyramid in youth; becoming tall, fairly narrow with horizontal to ascending branches.&lt;br&gt;Rate: Medium</td>
<td>Hardiness zone: 2&lt;br&gt;Light: Full sun/part shade&lt;br&gt;Soil: Prefers moist loam; typically found at stream banks, lakeshores and adjacent slopes.</td>
<td>Flower: No ornamental significance.&lt;br&gt;Fruit: Cones are cylindrical, 1-2 1/2&quot; long, pendulous, light brown.&lt;br&gt;Foliage: Blue-green needles crowned on upper-side of branch, stiff and pointed; ½-3/4” long.&lt;br&gt;Bark: Thin, scaly, ashy brown; silver inner bark.</td>
<td>Disease/Insect: Spruce bagworm, red spiders and trunk and root rot.&lt;br&gt;Suggested usage: Specimen, hedge, windbreak.&lt;br&gt;Note: Tolerant of wind, heat, cold, salt, drought and crowding. Native.</td>
</tr>
<tr>
<td><strong>Picea omorika</strong></td>
<td>Serbian Spruce</td>
<td>Height: 50’-60’&lt;br&gt;Width: 20’-25’&lt;br&gt;Form: Slender trunk and short branches forming a very narrow, pyramidal head.&lt;br&gt;Rate: Slow to medium</td>
<td>Hardiness zone: 4&lt;br&gt;Light: Partial shade/adapts to full sun&lt;br&gt;Soil: Prefers a deep rich soil, moist and well-drained; limestone and acid peats.</td>
<td>Flower: Males are a strawberry color and shape.&lt;br&gt;Fruit: Elongate, oval cone, 1 ¼-1 ¾” long.&lt;br&gt;Foliage: Glossy dark green surface with 2 white stomatic lines underneath.&lt;br&gt;Bark: Thin, scaling, coffee brown.</td>
<td>Disease/Insect: None serious&lt;br&gt;Suggested usage: Specimen for smaller areas.&lt;br&gt;Note: Much superior to Norway and White spruces. Likes a dry atmosphere; tolerates city air; protect from strong winds. One of the most adaptable spruces.</td>
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<td><strong>Picea orientalis</strong></td>
<td>Oriental Spruce</td>
<td><strong>Height</strong>: 50'-60'  <strong>Width</strong>: 10'-20'  <strong>Form</strong>: Dense, compact, narrow pyramid with horizontal branches.  <strong>Rate</strong>: Slow</td>
<td><strong>Hardiness zone</strong>: 4  <strong>Light</strong>: Full sun  <strong>Soil</strong>: Tolerates poor, gravelly soils.</td>
<td><strong>Flower</strong>: Males are a strawberry color and shape.  <strong>Fruit</strong>: Nodding cylindrical cones, 2-4&quot; long by 1&quot; wide.  <strong>Foliage</strong>: Needles are ¼-1/2&quot; long, 4 sided, lustrous dark green; holds color better than other spruces during winter.  <strong>Bark</strong>: Brown, exfoliating in thin scales.</td>
<td><strong>Disease/Insect</strong>- Spruce gall adelgid, red spiders and tip weevils.  <strong>Suggested usage</strong>- Specimen.  <strong>Note</strong>- Protect from harsh winter winds. Plant where winters are not excessively cold or dry.</td>
</tr>
<tr>
<td><strong>Pinus nigra</strong></td>
<td>Austrian Pine</td>
<td><strong>Height</strong>: 50'-60'  <strong>Width</strong>: 20'-40'  <strong>Form</strong>: Densely pyramidal at youth; broad, flat-topped, short trunk and low branches at maturity.  <strong>Rate</strong>: Medium</td>
<td><strong>Hardiness zone</strong>: 3  <strong>Light</strong>: Full sun  <strong>Soil</strong>: Very tolerant of soils, if moist; withstands urban conditions better than many pines; resists heat, drought, salt, heavy clay and alkaline soils.</td>
<td><strong>Flower</strong>: No ornamental significance.  <strong>Fruit</strong>: Cones are shiny yellow brown, thick and irregular.  <strong>Foliage</strong>: Needles in pairs, very dense, stiff, 3-5&quot; long; lustrous dark green.  <strong>Bark</strong>: Dark brown furrows, gray ridges; handsome.</td>
<td><strong>Disease/Insect</strong>- Pine nematode and Diplodia tip blight.  <strong>Suggested usage</strong>- Specimen, screen, windbreak, mass planting.</td>
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<tr>
<td>Platanus x acerifolia</td>
<td>London Planetree</td>
<td>Height: 70’-100’ Width: 65’-80’ Form: Pyramidal in youth; open wide-spreading massive branches with age. Rate: Medium</td>
<td>Hardiness zone: 5 Light: Full sun/very light shade Soil: Prefers deep, rich, moist well-drained soils, but will grow in about anything.</td>
<td>Flower: No ornamental significance in April. Fruit: Rounded, bristly 1”; 2 per stem from October into late winter. Foliage: Maple like shape, coarsely toothed, 6-7” long, 8-10” wide; medium to dark green. Fall color: Yellow-brown. Bark: Exfoliating plates, cream, olive, light brown bark. Winter interest.</td>
<td>Disease/Insect: Cankerstain fungus, lace bug, frost cracking. Suggested usage: Wide open areas, campuses and parks, pollarding, allees. Note: Withstands high pH, pollution, and heavy pruning.</td>
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</table>
| Prunus sargentii 'Accolade' | Accolade Flowering Cherry | **Height:** 20’-30’  
**Width:** 20’-25’  
**Form:** Open, spreading.  
**Rate:** Fast for Prunus | **Hardiness zone:** 5  
**Light:** Full sun/light shade  
**Soil:** Prefers moist, well-drained soils; pH adaptable. | **Flower:** Semi-double, 12-15 petals, deep rose-pink in bud, opening blush pink; 1 ½” across; late April-May.  
**Fruit:** Pendulous cluster.  
**Foliage:** Deeply serrated, green into fall.  
**Bark:** Reddish-brown horizontal lenticels. | **Disease/Insect:** Prunus have many potential problems.  
**Suggested usage:** Narrow or wide street tree, lawns, parks, large border.  
**Note:** Life expectancy is 30-50 years. Withstands heavy pruning. |
| Pseudotsuga glauca (Colorado type in the North) | Douglas Fir | **Height:** 40’-80’  
**Width:** 12’-20’  
**Form:** Conical shape, horizontal branches with pendulous branchlets; dense becoming loose in maturity.  
**Rate:** Medium | **Hardiness zone:** 4-6  
**Light:** Full sun  
**Soil:** Prefers neutral or slightly acid, well-drained, moist soils. Fails on dry, poor soils. | **Flower:** Blooms on 2-year old wood, rose-red when young.  
**Fruit:** Tan cones with conspicuous 3 pointed bracts from between cone scales.  
**Foliage:** Small spirally arranged needles bluish green to green in color. Evergreen.  
**Bark:** Mature bark has reddish brown ridges and furrows. | **Disease/Insect:** Cottony aphids, needle casts and twig blight.  
**Suggested usage:** Lawns, campuses, parks, specimen, groupings, Christmas tree.  
**Note:** Choose open, roomy conditions. Not suited for underplanting or windbreaks. |
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<tr>
<td>Pyrus calleryana ‘Aristocrat’ or ‘Cleveland Select’</td>
<td>Aristocrat or Cleveland Select Callery Pear</td>
<td><strong>Height</strong>- 40’-45’</td>
<td><strong>Hardiness zone</strong>- 5</td>
<td><strong>Flower</strong>- In early-mid May, looking like a white cloud; showy.</td>
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<td><strong>Width</strong>- 20’-25’</td>
<td><strong>Light</strong>- Full sun</td>
<td><strong>Fruit</strong>- Small round pome; ½” or less across.</td>
<td>Disease/Insect- Susceptible to fire blight.</td>
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<td><strong>Form</strong>- Pyramidal to broad-pyramidal, horizontal, thornless branches.</td>
<td><strong>Soil</strong>- Very adaptable to many different soils. Tolerates dryness and pollution.</td>
<td><strong>Foliage</strong>- Lustrous, green leaves with a wavy edge; 1½ - 3” long.</td>
<td>Suggested usage- Narrow or wide street tree, lawns and parks.</td>
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<td></td>
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<td><strong>Rate</strong>- Fast</td>
<td></td>
<td><strong>Fall color</strong>- Aristocrat-yellow to red. Cleveland Select - reddish-purple.</td>
<td>Note- Severe branch and limb damage is probable during ice and snow loads. Plant and prune in winter or early spring.</td>
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<td></td>
<td><strong>Bark</strong>- Light brown, gray.</td>
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<tr>
<td>Quercus alba</td>
<td>White Oak</td>
<td><strong>Height</strong>- 50’-80’</td>
<td><strong>Hardiness zone</strong>- 3</td>
<td><strong>Flower</strong>- No ornamental significance.</td>
<td>Disease/Insect- Numerous susceptibilities but most are superficial.</td>
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<td></td>
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<td><strong>Width</strong>- 60’-80’</td>
<td><strong>Light</strong>- Full sun</td>
<td><strong>Fruit</strong>- Acorn in pairs, elongated, numerous some years; may be problematic.</td>
<td>Suggested usage- Large lawns and parks.</td>
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<td><strong>Form</strong>- Pyramidal when young, broad, rounded and wide branches at maturity.</td>
<td><strong>Soil</strong>- Prefers deep, moist, well-drained, acid soils.</td>
<td><strong>Foliage</strong>- Oblong, 4-8 ½” long, 5-9 rounded lobes, dark green to dark blue green.</td>
<td>Note- Very attractive specimen tree. Long-lived. Prune in winter or early spring.</td>
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<tr>
<td></td>
<td></td>
<td><strong>Rate</strong>- Slow</td>
<td></td>
<td><strong>Fall color</strong>- Brown to a rich red to wine, lasting a long time.</td>
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<td><strong>Bark</strong>- White or flaky gray; thick.</td>
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<tr>
<td>Quercus coccinea</td>
<td>Scarlet Oak</td>
<td>Height- 70’-75’ Width- 40’-50’ Form- Similar to Pin Oak in youth. Rounded and open at maturity. Rate- Slow</td>
<td>Hardiness zone- 4 Light- Full sun Soil- A native generally found on dry, sandy soils. Prefers moist, rich, acid, well-drained soil; very intolerant of high pH or compacted soils.</td>
<td>Flower- No ornamental significance. Fruit- Acorn is ½-1” long and wide, oval shaped in a deep cap. Foliage- Oblong, 3-6” long, 2 ½-4 ½” long, 7 lobes, bristled tips; glossy dark green. Leaves persist into winter. Fall color- Scarlet, although some turn russet red. Bark- Grayish- black.</td>
<td>Disease/Insect- None serious or limiting Suggested usage- Lawns and parks. Note- Less tolerant of adverse conditions than Pin Oak and Red Oak.</td>
</tr>
<tr>
<td>Quercus ellipsoidalis</td>
<td>Northern Pin Oak Hill’s Oak</td>
<td>Height-50’-60’ Width- 50’-60’ Form- Oval, distinct branching: upper branches are up-right, middle are horizontal, lower are pendulous. Rate- Fast for Quercus</td>
<td>Hardiness zone- 4 Light- Full sun Soil- Prefers moist, rich, acid, well-drained soil; very intolerant of high pH soils. Will tolerate wet soils.</td>
<td>Flower- No ornamental significance. Fruit- Brown acorn, ½-3/4” long. Foliage- 5-7 sharp pointed lobes, 2 ½-6” long, 2-4 ½” wide, lustrous dark green. Fall color- Russet, bronze, or red (variable); showy. Bark- Gray, brown shallow furrows and ridges.</td>
<td>Disease/Insect- None serious or limiting Suggested usage- Lawn and street tree, parks; very popular shade tree. Note- Midwest version of Q. palustris (Pin Oak).</td>
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<tr>
<td><strong>Quercus macrocarpa</strong></td>
<td>Bur Oak, Mossycup Oak</td>
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<tr>
<td><strong>Height</strong></td>
<td>70'-80'</td>
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<tr>
<td><strong>Width</strong></td>
<td>70'-80'</td>
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<tr>
<td><strong>Form</strong></td>
<td>Broadly oval, massive trunk; distinct corky branches.</td>
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<tr>
<td><strong>Rate</strong></td>
<td>Slow</td>
<td></td>
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</tr>
<tr>
<td><strong>Hardiness zone</strong></td>
<td>3</td>
<td></td>
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</tr>
<tr>
<td><strong>Light</strong></td>
<td>Full sun</td>
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<tr>
<td><strong>Soil</strong></td>
<td>Exceedingly adaptable to a variety of soils.</td>
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<tr>
<td><strong>Flower</strong></td>
<td>No ornamental significance.</td>
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<tr>
<td><strong>Fruit</strong></td>
<td>Acorn, ¾-1 ½&quot; long brown; fringed cap.</td>
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<tr>
<td><strong>Foliage</strong></td>
<td>Obovate, 4-10” long, half as wide, rounded lobes; lustrous dark green.</td>
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<tr>
<td><strong>Fall color</strong></td>
<td>Dull yellow-green, to yellow-brown.</td>
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<tr>
<td><strong>Bark</strong></td>
<td>Rough, dark gray to gray-brown.</td>
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<tr>
<td><strong>Disease/Insect</strong></td>
<td>Numerous susceptibilities but most are superficial.</td>
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<tr>
<td><strong>Suggested usage</strong></td>
<td>Specimen, parks or large areas.</td>
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<tr>
<td><strong>Note</strong></td>
<td>More tolerant of city conditions than most oaks. Native.</td>
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<tr>
<td><strong>Quercus rubra</strong></td>
<td>Red Oak, Northern Red Oak</td>
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<tr>
<td><strong>Height</strong></td>
<td>60'-75'</td>
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<tr>
<td><strong>Width</strong></td>
<td>60'-75'</td>
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<tr>
<td><strong>Form</strong></td>
<td>Rounded in youth, in old age often round-topped and symmetrical.</td>
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<tr>
<td><strong>Rate</strong></td>
<td>Fast for Quercus</td>
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<tr>
<td><strong>Hardiness zone</strong></td>
<td>3</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td><strong>Light</strong></td>
<td>Full sun</td>
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<tr>
<td><strong>Soil</strong></td>
<td>Prefers sandy loam, well-drained, acid soil. Will develop chlorosis in high pH soils.</td>
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<tr>
<td><strong>Flower</strong></td>
<td>No ornamental significance.</td>
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<tr>
<td><strong>Fruit</strong></td>
<td>Acorn, 3/4 -1” long, brown, 1-2 in a bunch.</td>
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<tr>
<td><strong>Foliage</strong></td>
<td>Alternate, oval, 4 ½-8 ½” long, 4-6” wide, 7-11 lobes, bristle tips, lustrous dark green.</td>
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<tr>
<td><strong>Fall color</strong></td>
<td>Russet-red to bright red.</td>
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<tr>
<td><strong>Bark</strong></td>
<td>Brown to black, distinct flat gray areas with shallow furrows and ridges.</td>
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<tr>
<td><strong>Disease/Insect</strong></td>
<td>Numerous susceptibilities but most are superficial.</td>
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<tr>
<td><strong>Suggested usage</strong></td>
<td>Wide street tree, lawns and parks.</td>
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<tr>
<td><strong>Note</strong></td>
<td>Withstands urban pollution. Native.</td>
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</table>
| Sophora japonica      | Japanese Pagodatree | **Height**: 50'-75'  
**Width**: 50'-75'  
**Form**: Oval to round, upright spreading branches; casts relatively light shade.  
**Rate**: Medium to fast | **Hardiness zone**: 4  
**Light**: Full sun  
**Soil**: Prefers loamy, well-drained soil. Once established, withstands heat and drought well and pollution. | **Flower**: Very showy, mildly fragrant, 6-12" long and wide panicles, creamy white in July-August.  
**Fruit**: Pod, necklace like.  
**Foliage**: Pinnately compound, 6-10" long, 7-17 leaflets, lustrous bright to medium green.  
**Bark**: Pale grayish-brown, furrows in rounded interlaced ridges. | **Disease/Insect**: Twig blight and stem cankers.  
**Suggested usage**: Lawns and parks, poor soil areas. Excellent flower and good foliage are assets. Can take several years before flowering. |
| Syringa reticulata 'Ivory Silk' | Japanese Tree Lilac  | **Height**: 20'-25'  
**Width**: 15'-20'  
**Form**: Large shrub or small tree with stiff, spreading branches; oval crown becoming more graceful.  
**Rate**: Slow | **Hardiness zone**: 3  
**Light**: Full sun  
**Soil**: Prefers loose, well-drained and slightly acid soil and cool summers. | **Flower**: Creamy white, fragrant from early to mid-June for 2 weeks, 6-12" long; 6-10" wide panicles. Looks best to prune after flowering.  
**Fruit**: ¾" long capsules.  
**Foliage**: Entire leaves, rounded, 2-5 ½" long, 1-3" wide; dark green; leafs out by late March.  
**Fall color**: Not significant.  
**Bark**: Reddish-brown; old trunks are gray and scaly. | **Disease/Insect**: Susceptible to many lilac diseases, resistant to powdery mildew.  
**Suggested usage**: Excellent specimen, narrow or wide street tree, lawns, groups, near large buildings. Can be cut to ground for rejuvenation. |
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<tr>
<td><em>Taxodium distichum</em></td>
<td>Common Baldcypress</td>
<td><strong>Height</strong>: 50'-70'  <strong>Width</strong>: 20'-30'  <strong>Form</strong>: A lofty deciduous conifer; slender pyramidal, short horizontal branching; picturesque in old age.  <strong>Rate</strong>: Medium</td>
<td><strong>Hardiness zone</strong>: 4  <strong>Light</strong>: Full sun</td>
<td><strong>Flower</strong>: Drooping 4-5&quot; long panicles in March-April.  <strong>Fruit</strong>: Cones ½-1” across. Green to purple turning brown at maturity in 1 year.  <strong>Foliage</strong>: Flattened needles 1/3-3/4” long; yellow-green in spring, soft sage green in summer.  <strong>Fall color</strong>: Rich orange to pumpkin brown.  <strong>Bark</strong>: Reddish-brown, fibrous; the 'cypress knees' occur only in moist situations.</td>
<td><strong>Disease/Insect</strong>: None serious or limiting  <strong>Suggested usage</strong>: Lawns, parks, wet areas, groves, highways, streets.  <strong>Note</strong>: Withstands wind very well.</td>
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<tr>
<td><em>Thuja occidentalis</em> ‘Emerald’  (<em>Smaragd</em>)</td>
<td>Eastern Arborvitae ‘Emerald’  White Cedar</td>
<td><strong>Height</strong>: 10'-15'  <strong>Width</strong>: 3'-4'  <strong>Form</strong>: Narrow, compact, pyramidal, dense vertical sprays.  <strong>Rate</strong>: Slow to medium</td>
<td><strong>Hardiness zone</strong>: 3  <strong>Light</strong>: Full sun</td>
<td><strong>Flower</strong>: No ornamental significance.  <strong>Fruit</strong>: Small ½” tan cones with overlapping scales.  <strong>Foliage</strong>: Scale-like, 2mm leaves form flattened rope-like shoots. Bright lustrous emerald green. Holds color in winter.  <strong>Bark</strong>: Grayish brown to reddish brown.</td>
<td><strong>Disease/Insect</strong>: Bag worm, leaf miner, spider mites.  <strong>Suggested usage</strong>: Foundations, hedges, specimen, accent.  <strong>Note</strong>: Not deer resistant. Susceptible to strong wind, snow or ice damage. 'Techny' ('Mission') is another good cultivar.</td>
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| *Thuja plicata* | Giant (Western) Arborvitae | **Height**: 35’-50’  
**Width**: 15’-20’  
**Form**: Pyramidal tree with several leaders. Billowing lower branches with flat, horizontal or hanging sprays of foliage.  
**Rate**: Slow to medium | **Hardiness zone**: 4  
**Light**: Full sun/partial shade  
**Soil**: Prefers moist, well-drained, fertile soils; pH adaptable. | **Flower**: No ornamental significance.  
**Fruit**: Cones erect, ½” long, green in summer, brown in winter.  
**Foliage**: Glossy dark green fern-like needles, ¼” long.  
**Bark**: Red-brown on young stems; stringy gray-brown on old trunks. | **Disease/Insect**: Bagworm and heart rot.  
**Suggested usage**: Specimen, tall hedges, screens.  
**Note**: Deer resistant. Choose cultivars that hold color in winter. |
| *Tilia cordata* | Littleleaf Linden  | **Height**: 60’-70’  
**Width**: 30’-50’  
**Form**: Pyramidal in youth; upright-oval to rounded and densely branched in old age.  
**Rate**: Medium | **Hardiness zone**: 3  
**Light**: Full sun  
**Soil**: Prefers moist, well-drained, fertile soil; pH adaptable. | **Flower**: Yellow, fragrant clusters, 2-3” wide in late June.  
**Fruit**: Round nutlets.  
**Foliage**: 1 ½-3” long and wide; heart shaped; doubly serrated leaf margins; dark shiny green.  
**Fall color**: Yellow-green; soft yellow on occasion.  
**Bark**: Gray-brown. | **Disease/Insect**: Verticillium wilt, aphids, Japanese beetles and more.  
**Suggested usage**: One of the best city and street trees, planters, malls, parks.  
**Note**: Quite pollution tolerant. Can be pruned into hedges. |
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| Tilia tomentosa | Silver Linden | Height- 50'- 70'  
Width- 35'- 55'  
Form- Pyramidal in youth; upright-oval to pyramidal-oval in old age. Can be grown as a multi-stemmed specimen.  
Rate- Medium | Hardiness zone- 4  
Light- Full sun  
Soil- Prefers moist, well-drained, fertile soil; pH adaptable. | Flower- Yellowish white, fragrant clusters, 2-3" wide in late June.  
Fruit- Egg-shaped with a short point, 1/3-3/8" long.  
Foliage- 2-5" long and wide; heart shaped; doubly serrated leaf margins; dark shiny green with a silvery underside.  
Fall color- Yellow on occasion.  
Bark- Light gray and smooth in youth, becoming gray-brown, ridged and furrowed. | Disease/Insect- Various pests. ‘Sterling’ is resistant to Japanese beetles and Gypsy moth.  
Suggested usage- One of the best city and street trees, planters, malls, parks.  
Note- Tolerates heat and drought better than other Lindens. Can be pruned into hedges. Basal suckers are maintenance problems. |
| Ulmus carpinifolia | Smoothleaf Elm  
Many good cultivars, i.e., Accolade™, ‘Homestead’ and ‘Patriot’ | Height- 70'-90'  
Width- 40'-80'  
Form- Straight trunk and slender, ascending branches forming a weakly pyramidal tree.  
Rate- Medium to fast | Hardiness zone- 5  
Light- Full sun/tolerates partial shade  
Soil- Prefers rich, moist soils but grows well under a variety of conditions. Salt and pH tolerant. | Flower- Greenish red in March, not ornamental.  
Fruit- Rounded, ½" long, maturing in May-June, not ornamental.  
Foliage- Simple, double serrated leaf margins, 1 ½-4" long, 1-2" wide; glossy dark green.  
Fall color- Yellow.  
Bark- Dark gray with deep intersecting ridges. | Disease/Insect- Many pests. Relatively resistant to Dutch elm disease.  
Suggested usage- Narrow or wide street tree, lawns and parks. |
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<tr>
<td>Ulmus parvifolia</td>
<td>Lacebark Elm</td>
<td>Height: 40’-50’</td>
<td>Flower- Inconspicuous in August-September.</td>
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<tr>
<td></td>
<td>Chinese Elm</td>
<td>Width: 40’-50’</td>
<td>Fruit- 1/3” long, ripens in September-October, not ornamental.</td>
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<td></td>
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<td>Form- Graceful round-headed with pendulous branchlets; some forms are upright-spreading; others broader than tall. No two seedlings alike.</td>
<td>Foliage- Simply serrated leaf margins, ¾-2 ½” long, 1/3-1 1/3” wide; glossy dark green.</td>
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<tr>
<td></td>
<td></td>
<td>Rate- Medium to fast</td>
<td>Fall color- Yellow, and reddish purple.</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Bark- Beautiful combination of gray, green, orange and brown.</td>
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<td></td>
<td></td>
<td>Hardiness zone- 5</td>
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<tr>
<td></td>
<td></td>
<td>Light- Full sun</td>
<td>Disease/Insect- Considerable resistance to Dutch elm disease and elm leaf and Japanese beetle.</td>
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<tr>
<td></td>
<td></td>
<td>Soil- Best in moist, well-drained, fertile soils; excellent urban soil tolerance.</td>
<td>Suggested usage- Narrow or wide street tree, lawns and parks.</td>
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<td></td>
<td>Note- Do not confuse this with Ulmus pumila, Siberian Elm, often offered as Chinese Elm.</td>
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<tr>
<td>Zelkova serrata</td>
<td>Japanese Zelkova</td>
<td>Height: 50’-80’</td>
<td>Flower- Blooms in April with the leaves. Not showy.</td>
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<td></td>
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<td>Width: 40’-60’</td>
<td>Fruit- Small, kidney bean-shaped drupe, ¼” across, ripening in fall.</td>
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<td></td>
<td></td>
<td>Form- Vase-shaped with many ascending branches.</td>
<td>Foliage- Simple, sharply serrate, 1 ¼-2” long, dark green.</td>
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<tr>
<td></td>
<td></td>
<td>Rate- Medium to fast</td>
<td>Fall color- Yellow-orange-brown possibly deep red to reddish-purple.</td>
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<td>Bark- Handsome, exfoliating gray-brown to expose orange inner bark. Reddish brown in youth.</td>
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<tr>
<td></td>
<td></td>
<td>Hardiness zone- 5</td>
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<tr>
<td></td>
<td></td>
<td>Light- Full sun</td>
<td>Disease/Insect- This tree is in the Elm family and susceptible to some of the same Elm problems. Resistant to Dutch elm disease, elm leaf beetle and Japanese beetle.</td>
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<td></td>
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<td>Soil- Prefers moist, deep soil; pH adaptable. Drought tolerant.</td>
<td>Suggested usage- Streets, lawns and parks.</td>
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<td>Note: Good replacement for American Elm.</td>
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<tr>
<td>Berberis thunbergi atropurpurea</td>
<td>Japanese Red Leaf Barberry</td>
<td>Height- 5'-6' Width- 5'-7' Form (shape)- Very dense rounded; multi-stemmed.</td>
<td>Light- Prefers full sun/tolerates shade. Soil type- Withstands most soils, preferring moist, well-drained. Very drought tolerant after established.</td>
<td>Foliage- Leaves are reddish or purplish shades turning to rich red in fall. Flower- Yellow in April-May; red berries from October into winter.</td>
<td>Suggested usage- Hedge, barrier, groupings. Note- It has thorns. Very low maintenance.</td>
</tr>
<tr>
<td>Calycanthus floridus ‘Athens’</td>
<td>Sweetshrub</td>
<td>Height- 6'-9' Width- 6'-12' Form- Dense, mounded.</td>
<td>Light- Full sun to shade. Soil- Adaptable to acid or alkaline soils; preferably deep, moist loam.</td>
<td>Foliage- Lustrous dark green turning yellow in fall. Leaves persist into November. Flower- Yellow with tremendous fragrance.</td>
<td>Suggested usage- Borders. Note- Native.</td>
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<tr>
<td>Chamaecyparis pisifera 'Mops'</td>
<td>Gold Thread Mops False Cypress</td>
<td>Height: 3'-4'</td>
<td>Light: Full sun for best color; open conditions.</td>
<td>Foliage: Thread-like, twisted pendulous clusters of golden yellow all year.</td>
<td>Suggested usage: Small specimen, foundations, rock garden, borders.</td>
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<tr>
<td></td>
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<td>Width: 3'-4'</td>
<td>Soil: Moist, loamy, well-drained; humid climate; prefers lime-free soil.</td>
<td>Flower: Non-flowering conifer.</td>
<td>Note: Heat tolerant.</td>
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<td>Form: Mounded, drooping.</td>
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<tr>
<td>Chamaecyparis thyoides 'Blue Sport'</td>
<td>Blue Sport White Cedar</td>
<td>Height: 10'</td>
<td>Light: Full sun.</td>
<td>Foliage: Soft textured blue, turning brown the second year, but persists for several years.</td>
<td>Suggested usage: Low lands and boggy sites where it is native.</td>
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<tr>
<td></td>
<td></td>
<td>Width: 4'-5'</td>
<td>Soil: Wet sites; moist sandy soils; dry sites under irrigation.</td>
<td>Flower: Insignificant; small cones are green to bluish purple.</td>
<td>Note: Performs well in garden situations. Maintain as a compact shrub or will develop large upright habit. A beautiful specimen.</td>
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<td></td>
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<td>Form: Slender column in youth, forming a narrow, spire-like crown.</td>
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<tr>
<td>Cornus alba 'Argenteo-marginata'</td>
<td>Variegated Redtwig Dogwood</td>
<td>Height: 7'-8'</td>
<td>Light: Full sun to part shade.</td>
<td>Foliage: Creamy-white margin and grayish green center.</td>
<td>Suggested usage: Winter interest from the blood red stems; borders, masses along ponds and roadsides.</td>
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<td></td>
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<td>Form: Upright in youth, arching somewhat with age. Open loose appearance.</td>
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<td>Form: Mounded to horizontal, spreading, flat-topped.</td>
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<td>Blooms: May.</td>
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<tr>
<td>Hydrangea arborescens</td>
<td>Annabelle Hydrangea</td>
<td>Height: 3'-5'</td>
<td>Light: Full sun to light shade.</td>
<td>Foliage: Dark green in summer turning lemon yellow to brown in fall.</td>
<td>Suggested usage: Borders and massing where there is irrigation. Dried arrangements.</td>
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<tr>
<td></td>
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<td>Width: 3'-5'</td>
<td>Soil: Best in rich, well-drained, moist soil, but very adaptable.</td>
<td>Flower: Many 4-6&quot; wide blossoms passing from apple green to white to brown.</td>
<td>Note: Cut stems to ground in late winter and lightly fertilize. Suckers freely; plant ground cover underneath.</td>
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<tr>
<td></td>
<td></td>
<td>Form: Clumpy, rounded; often broader than tall. Fast grower.</td>
<td>Blooms: Late June through September every year on the new growth.</td>
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<tr>
<td>Hydrangea quericifolia</td>
<td>Oakleaf Hydrangea</td>
<td>Height: 4'-6'</td>
<td>Light: Full sun or part shade.</td>
<td>Foliage: Excellent deep green, then red, orangish brown and purple in fall.</td>
<td><strong>Suggested usage</strong>: Borders, massing or shady situations.</td>
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<tr>
<td></td>
<td></td>
<td>Width: 5'-6'</td>
<td>Soil: Moist, fertile, well-drained.</td>
<td>Flower: White, changing to purplish pink then brown.</td>
<td><strong>Note</strong>: Suckers form colonies. Do not cut stems back. Next season’s flower is forming during the current season’s growth.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Form: Upright, little-branched; forming mounded colonies.</td>
<td>Bloom time: Late June persisting to late summer.</td>
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<tr>
<td>Juniperus chinensis</td>
<td>Sea Green Juniper</td>
<td>Height: 4'-6'</td>
<td>Light: Full sun.</td>
<td>Foliage: Mint green needles turning darker in winter.</td>
<td><strong>Suggested usage</strong>: Screening, specimen, and mass planting.</td>
</tr>
<tr>
<td>‘Sea Green’</td>
<td></td>
<td>Width: 6'-8'</td>
<td>Soil: Extremely adaptable to hot dry, alkaline, heavy, rocky, gravelly, salty and wet soils.</td>
<td>Flower: None.</td>
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<td></td>
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<td>Form: Mounding shape, arching branches.</td>
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<tr>
<td>Kerria japonica</td>
<td>Japanese Kerria</td>
<td>Height- 7’&lt;br&gt;Width- 6’-7’&lt;br&gt;Form- Upright, arching forming a low, dense, twiggy mass.</td>
<td>Light- Part shade-shade or only morning sun.&lt;br&gt;Soil- Loamy, well-drained of moderate fertility.</td>
<td>Foliage- Leaves out early in bright green, sometimes yellow in late fall.</td>
<td>Suggested usage- Borders, massing, highways, large public areas, shady areas. Note- Prune dead branches that are constantly evident.</td>
</tr>
<tr>
<td>Magnolia virginiana</td>
<td>Sweetbay Magnolia</td>
<td>Height- 15'-20’&lt;br&gt;Width- 15'-20’&lt;br&gt;Form- Slender upright, broadening with age.</td>
<td>Light- Full sun; tolerates shade.&lt;br&gt;Soil- Requires acid soil; does well in wet and swampy areas.</td>
<td>Foliage- Long bluish-green stays semi-evergreen in protected areas.&lt;br&gt;Flower- Sweet fragrant creamy white. Fruit is orange.</td>
<td>Suggested usage- Specimen. Note- Plant in protected areas. Native to eastern U.S.</td>
</tr>
<tr>
<td>Rhus copalina v. latifolia ‘Prairie Flame’</td>
<td>Prairie Flame Shining Sumac&lt;br&gt;Dwarf Sumac</td>
<td>Height- 4'-6’&lt;br&gt;Width- 4’-6’&lt;br&gt;Form- Upright, deciduous, often suckering shrub; branching hairy shoots.</td>
<td>Light- Full sun to part shade.&lt;br&gt;Soil- Adaptable to many types; prefers acid, well-drained soil.</td>
<td>Foliage- Glossy dark green to 14” long. Brilliant red-orange fall color.&lt;br&gt;Flower- Yellowish-white.</td>
<td>Suggested usage- Hot dry areas, naturalizer for large areas, banks, highways and large commercial plantings. Note- Native.</td>
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**SHRUBS**
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<tbody>
<tr>
<td><strong>Rosa rugosa</strong></td>
<td><strong>Rugosa Rose</strong></td>
<td><strong>Height-</strong> 4’-6’ <strong>Width-</strong> 4’-6’ <strong>Form-</strong> Sturdy stout, upright stems form dense rounded shape.</td>
<td>Light- Full sun. <strong>Soil-</strong> Prefers well-drained soil with organic matter, slightly acid. Salt and drought tolerant.</td>
<td><strong>Foliage-</strong> Dark green then yellowish to orange to red. <strong>Flower-</strong> Rose-purple to white, 2 1/2 -3 ½” across, very fragrant forming orange to red hips lasting all winter. <strong>Blooms-</strong> June-September.</td>
<td><strong>Suggested usage-</strong> Borders, masses, hedges. <strong>Note-</strong> Disease resistant, vigorous hardy and trouble-free. Very heavy with thorns. Avoid deadheading so the hips will form.</td>
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</tbody>
</table>
| **Rosa rugosa**  
 ‘Knockout’  
 ‘Radrazz’ | **Knockout Rose**  
 ‘Radrazz’ | **Height-** 3’-4’  
 **Width-** 3’  
 **Form-** Rounded bushy shrub with short stems. | Light- Full sun. **Soil-** Moist, well-drained soil; does not tolerate wet feet. | **Foliage-** Deep mossy-green leaves on thorny short stems. **Flower-** Single 3” cherry red, 3-15 flowers per cluster, light fragrance. **Blooms-** Early summer until frost. | **Suggested usage-** Borders, masses, foundations, low hedge. **Note-** Disease resistant, vigorous hardy and trouble-free. |
| **Spiraea bumalda**  
 ‘Anthony Waterer’ | **Anthony Waterer**  
 **Spirea** | **Height-** 3’-4’  
 **Width-** 4’-5’  
 **Form-** Broad, flat-topped, densely twiggy, often mounded. | Light- Prefers full sun and open areas. **Soil-** Tolerant of many soils except extremely wet. | **Foliage-** Brownish- red changing to bluish-green. May turn red in the fall. **Flower-** 4-6” carmine pink. **Blooms-** Late May and June. | **Suggested usage-** Low massing, banks, fillers. **Note-** Prune to 6” in early spring. |
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<tbody>
<tr>
<td></td>
<td></td>
<td>Width: 2’- 3’</td>
<td>Soil: Tolerant of many soils except extremely wet.</td>
<td>Flower: Pink.</td>
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<td></td>
<td></td>
<td>Form: Low mounded.</td>
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<td>Blooms: May and June.</td>
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<td></td>
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<td>Width: 2- 2½”</td>
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<td>Flower: Pink.</td>
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<td></td>
<td>Form: Low mounded.</td>
<td></td>
<td>Blooms: June.</td>
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<tr>
<td><strong>Syringa patula ‘Miss Kim’</strong></td>
<td>Miss Kim Lilac</td>
<td>Height: 4’- 6’</td>
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<td>Foliage: Dark green leaves turn bronze-red in fall.</td>
<td>Suggested usage: Border, groupings.</td>
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<td></td>
<td>Width: 4’- 5’</td>
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<td>Flower: Lilac purple buds open to fragrant icy blue.</td>
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<td>Form: Small, dense,</td>
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<td>Blooms: May-June.</td>
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<td>neat, broad-rounded; clean branch structure.</td>
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<tr>
<td><strong>Syringa vulgaris ‘Ludwig Spaeth’</strong></td>
<td>Ludwig Spaeth Common Lilac</td>
<td>Height: 8’-15’</td>
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<td>Foliage: Dark green almost bluish-green.</td>
<td>Suggested usage: Border, groupings.</td>
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<td></td>
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<td>Width: 6’-12’</td>
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<td>Flower: Prolific reddish purple 4-8” panicles. Flowers are nostalgic.</td>
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<td>Form: Upright leggy</td>
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<td>Blooms: May.</td>
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<td>becoming a cloud-like head of foliage.</td>
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| Taxus media 'Densiformis' | Densi Yew | Height- 3'-4'  
Width- 4'-6'  
Form- Broad spreading, dense. Fast grower. | Light- Full sun to shade.  
Soil- Moist, sandy, acid to neutral loam. Must be well-drained. | Foliage- Bright green needles. Evergreen.  
Flower- None. | Suggested usage- Hedges, screens, foundations, and mass plantings. Winter interest. |
| Taxus media 'Hicksii' | Hicks Upright Yew | Height- 20’ or pruned to size  
Width- 3’  
Form- Columnar, dense. Fast grower. | Light- Full sun to shade.  
Soil- Moist, sandy, acid to neutral loam. Must be well-drained. | Foliage- Lustrous dark green needles. Evergreen.  
Flower- None. | Suggested usage- Hedges, screens, along tall buildings, and mass plantings. Winter interest. |
| Thuja ‘Smaragd’ | Emerald Green Arborvitae | Height- 10’-15’  
Width- 3’-4’  
Form- Narrow compact pyramidal. | Light- Full sun to shade.  
Flower- None. | Suggested usage- Hedges, screens, along tall buildings, and mass plantings. Winter interest. |
| Viburnum burkwoodii ‘Chenaulti’ | Chenaulti Viburnum | Height- 7’-9’  
Width- 5’-7’  
Form- Upright, multi-stemmed; often tangled mass of stems. | Light- Full sun to part shade.  
Soil- Slightly moist, well-drained, preferring acid soil. | Foliage- Small, dense, semi-evergreen.  
Flower- Pink buds open to fragrant white snowball blossoms.  
Blooms- April-May. | Suggested usage- Screening, shrub border combining with broadleaf evergreens.  
Note- Thrives in pollution, heat and cold tolerant. Prune to maintain nice shape. |
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</table>
| Viburnum carlesii    | Korean Spice Viburnum  | Height- 6'-8'  
Width- 4'-8'  
Form- Rounded, dense shrub with stiff, upright spreading branches. | Light- Full sun to part shade.  
Soil- Well-drained, slightly acid with even moisture. | Folage- Dull dark green with a satiny sheen. Reddish to wine-red in fall color.  
| Viburnum dentatum    | Arrowwood Viburnum     | Height- 8'-10'  
Width- 6'-12'  
Form- Multi-stemmed, dense, rounded with spreading, arching branches. Colonizes. | Light- Full sun to part shade.  
Soil- Prefers well-drained, but adapts to heavy soils, high pH, sandy soil. | Folage- Lustrous dark green turns to yellow/red/purple in fall.  
Flower- Creamy white, 2-4” across. Not fragrant.  
Note- Valued for durability and utility. Birds love the blue/black fruit in late Sept. through October. Native. |
| Viburnum opulus      | Compact European Cranberry | Height- 4'-6'  
Width- 6'-8’  
Form- Upright, spreading, very dense; excellent in flower and fruit. | Light- Full sun to part shade.  
Soil- Adapts to all extremes and is rampant in wet or boggy situations. | Folage- Glossy dark green turning to yellow-red and reddish-purple in the fall.  
Flower- Attractive lacy white.  
Bloom- May. | Suggested usage- Borders, screen, large areas, massing.  
Note- Fruit is shiny, scarlet red berry-like drupes through winter. |
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<tr>
<td>Weigela florida</td>
<td>Wine and Roses</td>
<td><strong>Height</strong>: 4'-5'</td>
<td><strong>Light</strong>: Full sun for best foliage color.</td>
<td><strong>Foliage</strong>: Dark burgundy-purple.</td>
<td><strong>Suggested usage</strong>: Borders, groupings or massing, areas to break up a lot of green foliage.</td>
</tr>
<tr>
<td>'Alexandra'</td>
<td>Weigela</td>
<td><strong>Width</strong>: 4'-5'</td>
<td><strong>Soil</strong>: Prefers well-drained soil, but extremely adaptable.</td>
<td><strong>Flower</strong>: Hot rose-pink.</td>
<td><strong>Note</strong>: Quite pollution tolerant.</td>
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<td></td>
<td></td>
<td><strong>Form</strong>: Compact, dense, rounded with coarse branches.</td>
<td><strong>Blooms</strong>: May-June and sporadically.</td>
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</tr>
<tr>
<td>Weigela florida</td>
<td>Midnight Wine</td>
<td><strong>Height</strong>: 10”-12”</td>
<td><strong>Light</strong>: Full sun.</td>
<td><strong>Foliage</strong>: Dark burgundy-purple.</td>
<td><strong>Suggested usage</strong>: Front of border.</td>
</tr>
<tr>
<td>'Elvera'</td>
<td>Weigela</td>
<td><strong>Width</strong>: 12”</td>
<td><strong>Soil</strong>: Prefers well-drained soil, but extremely adaptable.</td>
<td><strong>Flower</strong>: Rose-pink.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Form</strong>: Low mounding, dwarf version of Wine &amp; Roses.</td>
<td><strong>Blooms</strong>: May-June and sporadically.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weigela florida</td>
<td>Variegated Weigela</td>
<td><strong>Height</strong>: 4’-6’</td>
<td><strong>Light</strong>: Full sun to part shade.</td>
<td><strong>Foliage</strong>: Green edged in pale yellow to creamy white.</td>
<td><strong>Suggested usage</strong>: Borders, groupings or massing, areas to break up a lot of green foliage.</td>
</tr>
<tr>
<td>'Variegata'</td>
<td></td>
<td><strong>Width</strong>: 4’-6’</td>
<td><strong>Soil</strong>: Prefers well-drained soil, but extremely adaptable.</td>
<td><strong>Flower</strong>: Deep rose fading to white.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Form</strong>: Compact, dense, rounded with coarse branches.</td>
<td><strong>Blooms</strong>: May-June and sporadically.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## PERENNIALS

<table>
<thead>
<tr>
<th>SCIENTIFIC NAME</th>
<th>COMMON NAME</th>
<th>GROWTH PATTERNS</th>
<th>ENVIRONMENTAL TOLERANCES</th>
<th>AESTHETICS</th>
<th>COMMENTS</th>
</tr>
</thead>
</table>
| Achillea ‘Moonshine’                   | Yarrow      | Height- Foliage-10”  
Flower-18-24”  
Width- 24”  
Form- Clump | Foliage- Evergreen,  
bright silver, ferny.  
Flower- Canary to sulphur yellow flat heads to 4” across.  
| Agastache’Blue Fortune’                | Anise Hyssop| Height- 24-36”  
Width- 18”  
Form- Upright | Foliage- Rich green, licorice fragrance.  
Flower- Blue-violet spikes  
Blooms- July to fall | Suggested usage- Large masses, backdrop, focal point, center of border, cutting, dried flowers. |
| Dianthus gratianopolitanus ‘Firewitch’ | Firewitch Cheddar Pink | Height- 3-4”  
Width- 6-12”  
Form- Matted | Foliage- Bluish-gray, silvery evergreen  
Flower- 6-8” tall, brilliant pink, clove-like scent. Deadhead for rebbloom.  
Suggested usage- Walkways, borders, slopes, wall crevices. | Suggested usage- 2006 Perennial Plant of the Year |
| Echinecea purpurea spp.                | Coneflower  
Purple, Pink, White, Red, Orange, Yellow, or Gold | Height- 20-40” range  
Form- stems | Foliage- Slender, dark green, bristly leaves.  
Flower- Various petal colors with coppery-brown cone shaped central disks. Bold, daisy-like flower heads.  
1998 Perennial Plant of the Year |
<table>
<thead>
<tr>
<th><strong>Epimedium</strong> 30-40 species</th>
<th><strong>Barrenwort</strong></th>
<th><strong>See Ground Covers and Vines section</strong></th>
<th><strong>Foliage</strong></th>
<th><strong>Suggested usage</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gaillardia x grandiflora</strong></td>
<td><strong>Blanket Flower ‘Goblin’</strong> (also called ‘Kobold’)</td>
<td></td>
<td>Toothed hairy leaves in basal rosettes and on stems.</td>
<td>Ground cover, edging, cut flowers or accent.</td>
</tr>
<tr>
<td><strong>Height</strong></td>
<td>12”</td>
<td>Full sun</td>
<td></td>
<td>Will not survive winter in heavy clay soil.</td>
</tr>
<tr>
<td><strong>Width</strong></td>
<td>15”</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Form</strong></td>
<td>Compact, mounding, bushy, leafy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Light</strong></td>
<td></td>
<td>Full sun</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Soil</strong></td>
<td>Fertile, well-drained. Tolerates poor soil, heat, wind and drought.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Flower</strong></td>
<td>Rich red, petals and golden tips and red button-like centers.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Blooms</strong></td>
<td>June – September</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| **Gaura lindheimeri** | **Siskiyou Wand Flower** | | Spoon-shaped, toothed, medium green leaves, 1-3” long. | Masses, accent, companion plant with lavender, white Echinacea, blue flowered geraniums. Native to south central U.S. |
| **Height** | 24-30” | Full sun | | |
| **Width** | 36” | | | |
| **Form** | Bushy, clump-forming with numerous slender, wiry stems. | | | |
| **Light** | | | | |
| **Soil** | Prefers moist, well-drained soil. Tolerates humidity, drought and heat well. | | | |
| **Flower** | Dozens of butterfly shaped, deep pink veined pink petaled flowers. Wind responsive. | | | |
| **Blooms** | June to frost | | | |

| **Heliopsis helianthoides** | **Venus False Sunflower** | | Crisp, serrated dark green | Borders, mass planting, cutting. |
| **Height** | 30-36” | Full sun or part shade | | |
| **Form** | Clump | | | |
| **Light** | | | | |
| **Soil** | Moderately fertile, humus-rich, well-drained. | | | |
| **Flower** | 4-6” golden yellow, double, very long lasting and face upward. | | | |
| **Blooms** | Mid-summer to fall | | | |
| **Helleborus orientalis**
**Lenten Rose** | **Height** 12-15”
**Width** 18”
**Form** Clump | **Light** Light to moderate shade
**Soil** All but very poorly drained or dry.
**Deer & rabbit resistant** | **Foliage** Thick glossy deep green serrated leaves, 16” long. Evergreen.
**Flower** Range from cream to rich dusty rose with a hint of green, 3-4” wide.
**Blooms** Late winter and early spring | **Suggested usage** Parks, woodland landscapes, north side of buildings.
**2005 Perennial Plant of the Year** |

| **Hemerocallis**
**‘Happy Returns’**
**Happy Returns Daylily** | **Height** 16”
**Width** 18-24”
**Form** Clump | **Light** Full sun-light shade
**Soil** Adapt to almost any soil, preferring moist, rich, acidic, well-drained loam.
**Flower** Fragrant canary yellow 3 ½” wide compliments other colors in the landscape nicely.
**Blooms** Repeating June-September | **Foliage** Arching, strap-shaped, dark green.
**Suggested usage for Daylilies** - Sloping terrain, along walkways, erosion control, edge of pond or stream, mass plantings.
**Daylilies** have superb heat and drought tolerance. |

| **Hemerocallis**
**‘Little Grapette’**
**Little Grapette Daylily** | **Height** 12”
**Width** 12”
**Form** Clump | **Light** Full sun-light shade
**Soil** Adapt to almost any soil, preferring moist, rich, acidic, well-drained loam.
**Flower** 2” purple-grape, semi-fragrant with yellow halo and green throat.
**Blooms** Repeats June-July | **Foliage** Arching, strap-shaped, dark green

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### Downtown Alliance Streetscape Design Guidelines

**PERENNIALS**
<table>
<thead>
<tr>
<th>Perennials</th>
<th>Light</th>
<th>Form</th>
<th>Height</th>
<th>Width</th>
<th>Foliage</th>
<th>Flower</th>
<th>Blooms</th>
<th>Suggested Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hemerocallis ‘Pardon Me’</strong></td>
<td>Full sun-light shade</td>
<td>Clump</td>
<td>18”</td>
<td>18”</td>
<td>Arching, strap-shaped, dark green</td>
<td>Fragrant 2 ¾” bright red, yellow/green throat</td>
<td>Repeats June-July</td>
<td></td>
</tr>
<tr>
<td><strong>Hosta ‘Blue Angel’</strong></td>
<td>Part Sun-Shade</td>
<td>Clump</td>
<td>36”</td>
<td>48”</td>
<td>Wavy, bluish gray, 16” long</td>
<td>White on 36” scapes</td>
<td>Mid-summer</td>
<td>Excellent for perennial borders, mass planting and groundcover.</td>
</tr>
<tr>
<td><strong>Hosta ‘Fragrant Bouquet’</strong></td>
<td>Shade</td>
<td>Clump</td>
<td>18”</td>
<td>26”</td>
<td>Glossy, pale green with cream margins; 8” long</td>
<td>Fragrant mauvish-white on 36” scapes</td>
<td>Late summer</td>
<td></td>
</tr>
<tr>
<td><strong>Hosta ‘Gold Standard’</strong></td>
<td>Part Sun-Shade</td>
<td>Clump</td>
<td>26”</td>
<td>36”</td>
<td>Dark green margins, light green centers turning to gold; 7” long</td>
<td>Pale lavender</td>
<td>Mid-summer</td>
<td></td>
</tr>
</tbody>
</table>
## PERENNIALS

<table>
<thead>
<tr>
<th>Hosta ‘Halcyon’</th>
<th>Hosta ‘Halcyon’</th>
<th>Height- 14-18”</th>
<th>Width- 28”</th>
<th>Form- Clump</th>
<th>Light- Part Sun-Shade</th>
<th>Foliage- Frosty bright blue/green; coarse texture, heavy substance; 8” long.</th>
<th>Flower- Lavender-gray on 18” scapes</th>
<th>Blooms- Summer</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Hosta ‘Patriot’</th>
<th>Hosta ‘Patriot’</th>
<th>Height- 22”</th>
<th>Width- 36”</th>
<th>Form- Clump</th>
<th>Light- Part Sun-Shade</th>
<th>Foliage- Puckered olive-green and crisp white leaves; 8” long.</th>
<th>Flower- Lavender-blue on 30” scapes.</th>
<th>Blooms- Summer</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Leucanthemum ‘Becky’</th>
<th>Becky Shasta Daisy</th>
<th>Height- 40”</th>
<th>Width- 30-40”</th>
<th>Form- Upright, robust, stout stem</th>
<th>Light- Full sun-light shade</th>
<th>Foliage- Medium texture green leaves on sturdy stems without flopping.</th>
<th>Flower- 3” wide white with yellow centers</th>
<th>Blooms- July-September. Deadhead to extend bloom.</th>
<th>Suggested usage- Excellent for commercial applications in masses and accent with daylilies, nepeta, lavender and more.</th>
<th>2003 Perennial Plant of the Year</th>
</tr>
</thead>
</table>

| Leucanthemum ‘Snowcap’ | Snowcap Shasta Daisy | Height- 10-12” | Width- 12” | Form- Compact mound | Light- Full sun-light shade | Foliage- Dark shiny green | Flower- Pure white petals with yellow centers | Blooms- July | Suggested usage- Masses, cutting, companion with Pennisetum, dwarf Miscanthus, sedum. |

|-----------------------|------------------|----------------|----------|----------------|----------------------|-------------------------------------------------------------------------------------------------|---------------------------------------|---------------|-------------------------------------------------------------------------------------------------|---------------------------------|
| **Perovskia atriplicifolia**  
| 'Little Spire' | **Height**- 18-24”  
| **Width**- 24”  
| **Form**- Multi-stemmed, compact, upright shrub-like. Never flops in wind or rain. | **Light**- Full sun-light shade  
| **Soil**- Grows well in almost any, well-drained soil. Does not like wet feet. | **Foliage**- Small silvery-green leaves with a sage fragrance.  
| **Flower**- Long spikes of lavender-blue  
| **Blooms**- Mid-summer into fall | **Suggested usage**- Masses, ground cover, edging, companion to coneflowers, Rudbeckia, grasses and many others.  
| Prune to 12” in late winter. |
| **Perovskia atriplicifolia**  
| 'Longin'  
| **Height**- 36-48”  
| **Width**- 24-36”  
| **Form**- Upright, non-lodging form of the species | **Light**- Full sun-light shade  
| **Soil**- Highly drought tolerant in infertile sandy and gravelly soils. | **Foliage**- Gray-green aromatic.  
| **Flower**- Masses of long lasting iridescent lavender blue florets.  
| **Blooms**- Late summer into fall | **Suggested usage**- Masses, ground cover, edging, companion to coneflowers, Rudbeckia, grasses and many others.  
| Prune to 12” in late winter. |
| **Persicaria filiformis**  
| 'Variegatus'  
| **Height**- 24”  
| **Width**- 24”  
| **Form**- Upright, rhizomatous but not invasive. | **Light**- Light to moderate shade  
| **Soil**- Average garden soil and tolerates moist soils. | **Foliage**- Colorful, broadly oval deciduous. Marbled white and green.  
| **Flower**- Tiny red similar to coral bells.  
| **Blooms**- Summer and fall | **Suggested usage**- Brighten shade garden, moderate to large scale, good with English ivy or pachysandra. Native. |
### PERENNIALS

<table>
<thead>
<tr>
<th><strong>Rudbeckia ‘Goldsturm’</strong></th>
<th><strong>Black Eyed Susan</strong></th>
<th><strong>Height</strong>- 24-36”</th>
<th><strong>Light</strong>- Full sun-part sun</th>
<th><strong>Foliage</strong>- Roughened deep green on branched or unbranched stems.</th>
<th><strong>Suggested usage</strong>- Mass planted with ornamental grasses, Russian Sage and Sedum.</th>
<th><strong>Flower</strong>- 3-4” Daisy-like golden yellow with black cone.</th>
<th><strong>Blooms</strong>- July-September</th>
<th><strong>1999 Perennial Plant of the Year</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Width</strong>- 36”</td>
<td><strong>Soil</strong>- Moist, well-drained</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Form</strong>- Spreader</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>**Salvia x sylvestris ‘May Night’ (‘Mainacht’)</th>
<th><strong>Salvia ‘May Night’</strong></th>
<th><strong>Height</strong>- 28”</th>
<th><strong>Light</strong>- Full sun-part sun</th>
<th><strong>Foliage</strong>- Fragrant, mid- green, wrinkled, softly hairy.</th>
<th><strong>Suggested usage</strong>- Deadheading brings a second bloom.</th>
<th><strong>Flower</strong>- Large, indigo-blue.</th>
<th><strong>Blooms</strong>- June–July and September.</th>
<th><strong>1997 Perennial Plant of the Year</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Width</strong>- 18”</td>
<td><strong>Soil</strong>- Prefers moist, well-drained soil. Resists drought.</td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td><strong>Form</strong>- Clump, erect, branched</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>**Sedum ‘Autumn Joy’</th>
<th><strong>Sedum ‘Autumn Joy’</strong></th>
<th><strong>Height</strong>- 15-24”</th>
<th><strong>Light</strong>- Full sun-part sun</th>
<th><strong>Foliage</strong>- Fleshy stems with oblong, 5” succulent green leaves.</th>
<th><strong>Suggested usage</strong>- Perennial borders, short hedge, a moderate to large scale general cover, winter interest.</th>
<th><strong>Flower</strong>- Clusters change from deep pink to pinkish-bronze to copper-red.</th>
<th><strong>Blooms</strong>- Late summer-late fall.</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Width</strong>- 24”</td>
<td><strong>Soil</strong>- Grow well in dry, infertile, sandy and rocky soils.</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td><strong>Form</strong>- Clump, bushy; looks like broccoli.</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ornamental Grasses</td>
<td>Height</td>
<td>Width</td>
<td>Form</td>
<td>Light</td>
<td>Soil</td>
<td>Foliage</td>
<td>Flower</td>
<td>Blooms</td>
</tr>
<tr>
<td>----------------------------</td>
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<td>--------------------------</td>
</tr>
<tr>
<td>Calamagrostis x acutiflora ‘Karl Foerster’</td>
<td>5-6’</td>
<td>2’</td>
<td>Upright</td>
<td>Full sun-light  shade</td>
<td>Dry</td>
<td>Very early grower</td>
<td>Plumes look like wheat</td>
<td>June-frost</td>
</tr>
<tr>
<td>Feather Reed Grass</td>
<td>12-15’</td>
<td>Clump</td>
<td>Upright</td>
<td>Full sun-light  shade</td>
<td>Well-drained sandy</td>
<td>Blades are 24-30” long, 1” wide, narrowing to a point.</td>
<td>Large plumes on 12’ upright stalks</td>
<td>Mid-September</td>
</tr>
<tr>
<td>Giant Chinese Silver Grass</td>
<td>1 ½-2’</td>
<td>2-3’</td>
<td>Clump</td>
<td>Full sun-part sun</td>
<td>Tolerant of most conditions but best in moderately fertile, moist but well-drained soil.</td>
<td>Vibrant sky blue, coarse textured, spiky evergreen.</td>
<td>Rises high above the foliage</td>
<td>Summer</td>
</tr>
<tr>
<td>Blue Oat Grass</td>
<td>5-6’</td>
<td>3-4’</td>
<td>Clump</td>
<td>Full sun-part sun</td>
<td>Tolerant of most conditions but best in moderately fertile, moist but well-drained soil.</td>
<td>Broadly white centered green leaves oriented at right angles to the stalks. Bamboo-like.</td>
<td>Begin pinkish-purple turning silver, then soft straw brown.</td>
<td>Early fall</td>
</tr>
</tbody>
</table>
### ORNAMENTAL GRASSES

<table>
<thead>
<tr>
<th>Ornamental Grass</th>
<th>Height</th>
<th>Width</th>
<th>Form</th>
<th>Light</th>
<th>Soil</th>
<th>Foliage</th>
<th>Flower</th>
<th>Suggested usage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Miscanthus sinensis ‘Morning Light’</strong></td>
<td>4-5’</td>
<td>3-5’</td>
<td>Clump</td>
<td>Full sun-part sun</td>
<td>Tolerant of most conditions but best in moderately fertile, moist but well-drained soil.</td>
<td>Fine textured gently arching silvery; thin leaf appears silver at a distance.</td>
<td>4-6’ Purplish silvery plumes</td>
<td>Excellent grass for its foliage with other pastel perennials.</td>
</tr>
<tr>
<td><strong>Miscanthus sinensis ‘Purpurascens’</strong></td>
<td>3-5’</td>
<td>Several feet</td>
<td>Slow runner to form lush leathery thickets</td>
<td>Full sun-part sun</td>
<td>Tolerant of most conditions but best in moderately fertile, moist but well-drained soil.</td>
<td>Orange-red fall color.</td>
<td>4-6’ tight silvery plumes</td>
<td><strong>Miscanthus</strong> may be specimens, accents, hedges, masses, or tropical-like screening. Very easy to grow.</td>
</tr>
<tr>
<td><strong>Pennisetum alopecuroides ‘Hameln’</strong></td>
<td>2-2½’</td>
<td>2½’</td>
<td>Clump</td>
<td>Full sun-part sun</td>
<td>Tolerant of most conditions but best in moderately fertile, moist but well-drained soil.</td>
<td>Loosely tufted, graceful narrow blades.</td>
<td>3-4” long, pale green in mid-summer; matures to creamy tan.</td>
<td>Erosion control, mass planting or accent where a neat, compact, low maintenance plant is desired.</td>
</tr>
</tbody>
</table>

**Morning Light**

- **Height**: 4-5’
- **Width**: 3-5’
- **Form**: Clump
- **Light**: Full sun-part sun
- **Soil**: Tolerant of most conditions but best in moderately fertile, moist but well-drained soil.
- **Foliage**: Fine textured gently arching silvery; thin leaf appears silver at a distance.
- **Flower**: 4-6’ Purplish silvery plumes
- **Blooms**: Late fall

**Flame Japanese Silver Grass**

- **Height**: 3-5’
- **Width**: Several feet
- **Form**: Slow runner to form lush leathery thickets
- **Light**: Full sun-part sun
- **Soil**: Tolerant of most conditions but best in moderately fertile, moist but well-drained soil.
- **Foliage**: Orange-red fall color.
- **Flower**: 4-6’ tight silvery plumes
- **Blooms**: Fall

**Hameln Dwarf Fountain Grass**

- **Height**: 2-2½’
- **Width**: 2½’
- **Form**: Clump
- **Light**: Full sun-part sun
- **Soil**: Tolerant of most conditions but best in moderately fertile, moist but well-drained soil.
- **Foliage**: Loosely tufted, graceful narrow blades.
- **Flower**: 3-4” long, pale green in mid-summer; matures to creamy tan.
- **Blooms**: Mid-summer
<table>
<thead>
<tr>
<th>SCIENTIFIC NAME</th>
<th>COMMON NAME</th>
<th>GROWTH PATTERNS</th>
<th>ENVIRONMENTAL TOLERANCES</th>
<th>AESTHETICS</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epimedium</td>
<td>Barrenwort</td>
<td><strong>Height</strong>: Ranges 8” to 15”</td>
<td><strong>Light</strong>: Full sun-dense shade</td>
<td><strong>Foliage</strong>: Dense heart shaped. Deciduous and semi-evergreen types.</td>
<td>Suggested Usage- Edging walkways and steps, masses, ground cover, accent, borders, around bases of trees and shrubs, companion to hostas and ferns. Pachysandra alternative.</td>
</tr>
<tr>
<td>30-40 species</td>
<td></td>
<td><strong>Width</strong>: avg. 12”</td>
<td><strong>Soil</strong>: Fertile, humus-rich, moist, well-drained. Many tolerate poor soil, heat and drought.</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>Flower</strong>: Profuse 1” wide, 4-pointed starlike florets in many colors.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>Blooms</strong>: Mid to late spring</td>
<td></td>
</tr>
<tr>
<td>Euonymus fortunei</td>
<td>Purple Leaf Winter-creeper</td>
<td><strong>Height</strong>: 12-15” as ground cover. Clinging vine reaches 40-70’</td>
<td><strong>Light</strong>: Full sun-dense shade</td>
<td><strong>Foliage</strong>: Dark green, leathery turn reddish-purple in autumn. Evergreen.</td>
<td>Suggested usage- Ground cover, vine, wall cover, massing and groupings.</td>
</tr>
<tr>
<td>‘Coloratus’</td>
<td></td>
<td><strong>Form</strong>: Ground cover or high climbing, clinging vine.</td>
<td><strong>Soil</strong>: Tolerant of most soils except heavy wet soils. Excellent drought tolerance.</td>
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<td>Collects debris. Very hardy.</td>
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<td><strong>Flower</strong>: Only on adult types; greenish white, ¼” diameter; insignificant.</td>
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<td><strong>Blooms</strong>: June-July</td>
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<tr>
<td>Hedera helix</td>
<td>English Ivy</td>
<td><strong>Height</strong>: 5” as ground cover. Clinging, clinging vine to 50’.</td>
<td><strong>Light</strong>: Full sun-dense shade</td>
<td><strong>Foliage</strong>: Shiny, dark green. Evergreen.</td>
<td>Suggested usage- Climb brick walls or tree trunks, massing, ground cover. Highly recommended. Withstands high foot traffic.</td>
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<tr>
<td></td>
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<td></td>
<td><strong>Soil</strong>: Prefers rich, fairly moist, well-drained; tolerates alkaline and acid soil, salt tolerant.</td>
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<td>Maintenance- may need pruned often to keep in bounds.</td>
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<td></td>
<td><strong>Protect from winter sun and wind as the leaves develop necrotic areas.</strong></td>
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<tr>
<td>Pachysandra terminalis</td>
<td>Japanese Pachysandra Spurge</td>
<td><strong>Height</strong>: 6-12”&lt;br&gt;<strong>Width</strong>: Spreading&lt;br&gt;<strong>Form</strong>: Solid mat if provided proper soil conditions.</td>
<td><strong>Light</strong>: Part sun-dense shade&lt;br&gt;<strong>Soil</strong>: Prefers moist, well-drained, acid soil</td>
<td><strong>Foliage</strong>: Light green changes to rich dark green. Evergreen. Yellowing occurs if sited in full sun or exposed, windy situations.&lt;br&gt;<strong>Flower</strong>: White, 1-2” upright spike&lt;br&gt;<strong>Blooms</strong>: March-April</td>
<td><strong>Suggested usage</strong>: Among the best ground covers for deep shade and shallow rooted trees. Can be mowed if it has problems. Do not fertilize. Withstands light foot traffic.</td>
</tr>
<tr>
<td>Parthenocissus quinquefolia</td>
<td>Virginia Creeper Woodbine</td>
<td><strong>Height</strong>: 30-50’, structure it climbs is the limiting factor.&lt;br&gt;<strong>Form</strong>: Vigorous woody climbing vine. Clings by tendrils. Needs no support. Suckers.</td>
<td><strong>Light</strong>: Full sun-moderate shade&lt;br&gt;<strong>Soil</strong>: Prefers rich, fairly moist, well-drained. Tolerates poor, dry soil very well.</td>
<td><strong>Foliage</strong>: Deeply toothed 5-lobed, shiny green, coarse texture. Deciduous.&lt;br&gt;<strong>Flower</strong>: Insignificant tiny yellow in summer.&lt;br&gt;<strong>Early fall color</strong>: Brilliant scarlet, yellow and gold.</td>
<td><strong>Suggested usage</strong>: Climb brick walls, trees and fences or large slopes as a ground cover. Fruit- deep blue, grapelike berries eaten by songbirds. Native.</td>
</tr>
<tr>
<td>Parthenocissus tricuspidata</td>
<td>Boston Ivy</td>
<td><strong>Height</strong>: 60’+&lt;br&gt;<strong>Form</strong>: Vigorous woody climbing vine. Clings to any rough surface.</td>
<td><strong>Light</strong>: Full sun-moderate shade&lt;br&gt;<strong>Soil</strong>: Prefers rich, fairly moist, well-drained; any pH; salt tolerant&lt;br&gt;<strong>Avoid</strong>: windy locations</td>
<td><strong>Foliage</strong>: Deeply toothed 3-lobed, shiny green, coarse texture. Deciduous.&lt;br&gt;<strong>Flower</strong>: Insignificant&lt;br&gt;<strong>Fall color</strong>: Brilliant scarlet, yellow and gold.</td>
<td><strong>Suggested usage</strong>: Climb brick walls and fences. Fruit- dark blue, grapelike berries persist well into winter, eaten by songbirds. 'Fenway Park' has golden foliage, turning orange in fall.</td>
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</table>
| Sedum ‘Kamtschaticum’ | Russian Stonecrop | Height- 4-6”  
Width- 10”  
Form- Dense, creeping habit | Light- Full sun-light shade  
Soil- Grows well once established in dry, infertile, sandy and rocky soils. | Foliage- Glossy, succulent deep green to 1 ½” long. Semi-evergreen, stays nice all season.  
Flower- ½” wide, star- | Suggested usage- Ground cover for banks or dry, sunny areas.  
Withstands light foot traffic. Can be mowed after bloom to deadhead. |
| Vinca minor | Myrtle Common Periwinkle | Height- 4-6”  
Width- Spreads indefinitely  
Form- Prostrate, mat-forming ground cover. | Light- Part sun-dense shade  
Soil- Best in moist, well-drained, organic. Tolerates poor soil, but will not fill in as fast. | Foliage- 1/2-1 1/2” rounded, glossy medium to dark green. Evergreen.  
Flower- Dainty lilac-blue, blue-violet, 1” diameter  
Blooms- March-April and sporadically later. | Suggested usage- Excellent ground cover, weed smothering. Mix with daffodils to bring a mass to life.  
Do not fertilize. Withstands light foot traffic. |
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<tr>
<td>Ageratum Floss Flower</td>
<td>Ageratum</td>
<td><strong>Height:</strong> 6-8” and 12”</td>
<td><strong>Light:</strong> Full sun/part sun</td>
<td><strong>Foliage:</strong> Oval, downy leaves, 2-3” long, dark green.</td>
<td><strong>Suggested usage:</strong> Beds, edging, containers.</td>
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<td></td>
<td></td>
<td><strong>Width:</strong> 6-8” and 12”</td>
<td><strong>Soil:</strong> Fertile, moist, well-drained.</td>
<td><strong>Flower:</strong> Small, rounded, brush-like clusters in blue, white and pink.</td>
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<tr>
<td></td>
<td></td>
<td><strong>Form:</strong> Mounding, upright, or spreading.</td>
<td><strong>Flower:</strong> -</td>
<td><strong>Foliage:</strong> -</td>
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<tr>
<td>Amaranthus Love-Lies-Bleeding Joseph’s coat</td>
<td>Amaranthus caudatus Several cultivars available</td>
<td><strong>Height:</strong> 3-5’</td>
<td><strong>Light:</strong> Full sun</td>
<td><strong>Foliage:</strong> Oblong, light green or red leaves to 6” long.</td>
<td><strong>Suggested usage:</strong> Beds, accent, temporary shrub, cut flowers.</td>
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<td></td>
<td></td>
<td><strong>Width:</strong></td>
<td><strong>Soil:</strong> Prefers poor soil in a hot, dry location. Do not over water or over fertilize.</td>
<td><strong>Flower:</strong> Tassel-like, crimson red panicles, 18-24” long, drooping to the ground.</td>
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<td><strong>Form:</strong> Bushy, erect; bold texture. Red, purple or green stems.</td>
<td><strong>Flower:</strong> -</td>
<td><strong>Foliage:</strong> -</td>
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<tr>
<td>Argeranthemum ‘Butterfly’</td>
<td>Argeranthemum frutescens ‘Butterfly’</td>
<td><strong>Height:</strong> 12-24”</td>
<td><strong>Light:</strong> Full sun</td>
<td><strong>Foliage:</strong> Finely dissected or coarsely lobed, 2-4” long, dark green.</td>
<td><strong>Suggested usage:</strong> Beds, borders, containers. Great performer.</td>
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<tr>
<td></td>
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<td><strong>Width:</strong> 12”</td>
<td><strong>Soil:</strong> Fertile, moist, well-drained.</td>
<td><strong>Flower:</strong> Golden centers and pure yellow daisy-like petals; prolific.</td>
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<tr>
<td></td>
<td></td>
<td><strong>Form:</strong> Upright, branching.</td>
<td><strong>Flower:</strong> -</td>
<td><strong>Foliage:</strong> -</td>
<td></td>
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<tr>
<td>Asparagus Fern Sprengeri</td>
<td>Asparagus densiflorus</td>
<td><strong>Height:</strong> 12-16”</td>
<td><strong>Light:</strong> Sun/part shade without strong direct sun.</td>
<td><strong>Foliage:</strong> ¼-1/2” needles on 12-16” long stems; emerald green.</td>
<td><strong>Suggested usage:</strong> Compliments upright container combinations, hanging baskets, floral arrangements.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Width:</strong> Arching then pendant</td>
<td><strong>Soil:</strong> Fertile, moist, well-drained.</td>
<td><strong>Flower:</strong> none</td>
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<tr>
<td></td>
<td></td>
<td><strong>Form:</strong> Upright and trailing; airy.</td>
<td><strong>Flower:</strong> -</td>
<td><strong>Foliage:</strong> -</td>
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<tr>
<td>Bacopa ‘Snowflake’</td>
<td>Sutera cordata</td>
<td>Height- 3”</td>
<td>Light- Full sun/shade</td>
<td>Foliage- Toothed, rounded, mid- green, ¾” long leaves.</td>
<td>Suggested usage- Hanging baskets, containers, ground cover.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Width- 12-20”</td>
<td>Soil- Fertile, moist, well-drained. Heat tolerant.</td>
<td>Flower- Open, star-shaped, 5-lobed white, ½” across.</td>
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<td>Form- Low, spreading to upright stems.</td>
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<tr>
<td>Begonia, Dragon Wing</td>
<td>Begonia</td>
<td>Height- 12-20”</td>
<td>Light- Full sun/medium shade</td>
<td>Foliage- Glossy green, waxy, winged-shaped medium green leaves.</td>
<td>Suggested usage- Beds, massing, containers, hanging baskets.</td>
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<td></td>
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<td>Width- 9-12”</td>
<td>Soil- Prefers fertile, light, well-drained; slightly acidic. Heat tolerant.</td>
<td>Flower- Pendant in red and pink; 2-2 ½” long.</td>
<td>Fertilize heavily.</td>
</tr>
<tr>
<td>Begonia, Wax</td>
<td>Begonia</td>
<td>Height- 6-10”</td>
<td>Light- Full sun/medium shade</td>
<td>Foliage- Glossy, waxy, rounded rich green or bronze leaves.</td>
<td>Suggested usage- Beds, massing, edging, borders, containers.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Width- 12”</td>
<td>Soil- Prefers fertile, light, well-drained; slightly acidic. Heat tolerant.</td>
<td>Flower- Clusters in red, pink, and white.</td>
<td>Fertilize heavily.</td>
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<td></td>
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<td>Form- Clump; mounding.</td>
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<tr>
<td>Caladium</td>
<td>Caladium bicolor</td>
<td>Height- 6-18”</td>
<td>Light- Part shade/full shade</td>
<td>Foliage- Broad, arrowhead-shaped, 6-12” long, streaked white, pink or red with green.</td>
<td>Suggested usage- Beds, containers for a tropical look.</td>
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<tr>
<td></td>
<td></td>
<td>Width- 9-20”</td>
<td>Soil- Moist, well-drained. Heat tolerant.</td>
<td>Flower- None</td>
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<td>Form- Upright, slender stems, wide leaves.</td>
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<tr>
<td>Canna</td>
<td>Canna</td>
<td>Height- 4-6”; dwarfs are 12-24”</td>
<td>Light- Full sun</td>
<td>Foliage- Alternate, paddle-shaped, 12-24” long in green, brown-purple, and variegated.</td>
<td>Suggested usage- Beds, massing, parks, dwarf varieties for containers.</td>
</tr>
<tr>
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<td>Width- 20”</td>
<td>Soil- Fertile, moist, well-drained.</td>
<td>Flower- Racemes of brightly colored flowers, 3-4” across.</td>
<td>Deadhead to promote continued flowering. Dig tubers after first frost, dry, store and replant year after year.</td>
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<td></td>
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<td>Form- Striking architectural plant; upright.</td>
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<td></td>
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<td>Width- 6-9”</td>
<td>Soil- Prefers rich, moist, well-drained; tolerates heat and poor, dry soils.</td>
<td>Flower- Feathery, deep red plumes.</td>
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<td>Form- Wide-based small bush, pyramidal.</td>
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<tr>
<td>Cleome</td>
<td>Cleome Spider Flower</td>
<td>Height- 3-5’</td>
<td>Light- Full sun</td>
<td>Foliage- 3 to 7 palmate, bright green to 5” long.</td>
<td>Suggested usage- Background, cut flowers, beds, borders, temporary shrub.</td>
</tr>
<tr>
<td>Spider Flower</td>
<td>Cleome</td>
<td>Width- up to 3’</td>
<td>Soil- Prefers moist soil, but tolerates any type. Heat and drought tolerant.</td>
<td>Flower- Racemes of spider-like 4 petaled, with prominent stamens; 5-6” across; rose, white, pink. Fragrant.</td>
<td>Self-sows prolifically.</td>
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<td>Form- Upright, strong, yet flexible, stems with graceful clouds of blooms.</td>
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<tr>
<td>Coleus</td>
<td>Coleus hybrids</td>
<td>Height- Mid and trailing</td>
<td>Light- Full sun/shade</td>
<td>Foliage- Many variegated forms available; 4” long, heart-shaped, scalloped edges.</td>
<td>Suggested usage- Containers, hanging baskets, beds.</td>
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<td>Width- 6-12”</td>
<td>Soil- Moist, well-drained, rich loam. Heat tolerant.</td>
<td>Flower- Pinch off as flowers form to develop bushiness.</td>
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<td>Form- Upright and trailing; branching.</td>
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<tr>
<td>Dusty Miller</td>
<td>Senecio cineraria</td>
<td>Height- 8-12”</td>
<td>Light- Full sun/light shade</td>
<td>Foliage- Lacy, silver-white, deeply lobed; felt-like.</td>
<td>Suggested usage- Beds, containers, edging.</td>
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<td>Width- 5-8”</td>
<td>Soil- Prefers light, well-drained, rich soil, but performs well in dry sandy soil. Heat and drought tolerant.</td>
<td>Flower- None</td>
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| Euphorbia 'Diamond Frost' | Euphorbia 'Diamond Frost' | Height- 10-14”  
Width- 5”  
Form- Excellent branching and compact habit. | Light- Part sun/light shade  
| Geranium, Zonal     | Pelargonium x hortorum  | Height- 10-14”  
Width- 9-15”  
Form- Mounding, dense. | Light- Full sun/light shade  
Soil- Light, well-drained, neutral soil. | Foliage- Round, 2-5’ wide, medium green.  
Flower- Numerous clusters are often flat-topped in red, pink, coral, orange or white. | Suggested usage- Containers, hanging baskets, beds, patio pots.  
Avoid overwatering. Deadhead to promote continued flowering. |
| Impatiens           | Impatiens balsamina     | Height- 10-12”  
Width- 6-9”  
Form- Upright forming a mound. | Light- Shade/part shade; sun if ample moisture  
Soil- Fertile, sandy, well-drained. | Foliage- Lance-shaped, bright green.  
Flower- Single or double spurred, 1-2” across; prolific bloomer. Red, pink, white, coral, violet, orange. | Suggested usage- Beds, borders, containers, hanging baskets.  
Fertilize and water plentifully. |
| Ivy                 | Hedera helix            | Height- 2-6”  
Form- Trailing, branching. | Light- Full sun/shade  
Soil- Tolerates many conditions; preferring fertile, humus-rich, moist, well-drained soil. | Foliage- Numerous sizes, colors, variegated.  
Flower- None | Suggested usage- Containers, hanging baskets, accents. |
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<tr>
<td>Lantana</td>
<td>Lantana</td>
<td>Height- Low</td>
<td>Light- Full sun</td>
<td>Foliage- Toothed, wrinkled, in pairs or whorls of 3.</td>
<td>Suggested usage- Beds, containers, hanging baskets</td>
</tr>
<tr>
<td>Marigold</td>
<td>Tagetes Several Series</td>
<td>Height- Varieties from 6” to 36”</td>
<td>Light- Full sun-light shade</td>
<td>Foliage- Fern-like, scented, mid-dark green.</td>
<td>Suggested usage- Beds, edging, containers, cut flowers.</td>
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<td>Width- 6-12”</td>
<td>Soil- Moist, well-drained. Tolerates heat.</td>
<td>Flower- Carnation- or daisy-shaped heads in yellow, orange, scarlet, cream and bi-colors.</td>
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<tr>
<td>Moss Rose</td>
<td>Portulaca grandiflora</td>
<td>Height- 4-8”</td>
<td>Light- Full sun</td>
<td>Foliage- Red-stemmed with cluster of cylindrical, fleshy, mid-dark green leaves to 1” long.</td>
<td>Suggested usage- Borders, banks, containers.</td>
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<td>Width- 6”</td>
<td>Soil- Dry, well-drained soils. Tolerates heat and drought.</td>
<td>Flower- Cup-shaped, rose-like, 4-7 petaled in yellow, red, pink, or white to 1” or more.</td>
<td>Typically open their flowers in bright sunlight.</td>
</tr>
<tr>
<td>Pansy</td>
<td>Viola x wittrockiana</td>
<td>Height- 6-9”</td>
<td>Light- Full sun/part shade</td>
<td>Foliage- Heart-shaped, mid-green.</td>
<td>Suggested usage- Beds, containers, hanging baskets. Best used in spring and fall for their cold tolerance.</td>
</tr>
<tr>
<td></td>
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<td>Width- 9-12”</td>
<td>Soil- Fertile, humus-rich, moist, well-drained. Not heat tolerant.</td>
<td>Flower- Up to 2-4” across in many colors, 5 petals create a flat face.</td>
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<tr>
<td><em>Periwinkle Vinca</em></td>
<td><em>Catharanthus roseus</em></td>
<td>Height- 8-10”</td>
<td>Light- Full sun/light shade</td>
<td>Foliage- Glossy, oblong dark green, 1-3” long.</td>
<td><em>Suggested usage</em> - the hottest, driest areas, beds, borders, massing. Deadhead; fertilize every 2-3 weeks.</td>
</tr>
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<td></td>
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<td>Width- 4-6”</td>
<td>Soil- Prefers somewhat rich, moist, well-drained. Tolerates heat and drought.</td>
<td>Flower- Pinks, white, bicolor; 1 ½” wide.</td>
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<td>Form- Upright, branching.</td>
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<td>Foliage-</td>
<td></td>
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<tr>
<td><em>Petunia Several Varieties</em></td>
<td><em>Solanaceae</em></td>
<td>Height- 4-20”</td>
<td>Light- Full sun/light shade</td>
<td><strong>Foliage-</strong> Mid-dark green, 2-5” long leaves.</td>
<td><em>Suggested usage</em> - Carpet series for ground cover, containers, hanging baskets. Deadhead and prune to prolong flowering and bushiness.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Width- Spreading</td>
<td>Soil- Prefers moist, acid, well-drained soils; tolerates heat and poor, dry soils.</td>
<td><strong>Flower-</strong> Several colors to choose from.</td>
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<td></td>
<td></td>
<td>Form- Trailing; upright; and mounding.</td>
<td></td>
<td><strong>Flower-</strong> Mid-dark green, 1-3” long leaves.</td>
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<td></td>
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<td></td>
<td><strong>Flower-</strong> Larger flowers than Million Bells; 3-4” across in red, pink, purple, white, peach, orange.</td>
<td></td>
</tr>
<tr>
<td><em>Petunias, Superbells</em></td>
<td><em>Calibrachoa</em></td>
<td>Height- 3-10”</td>
<td>Light- Full sun/light shade</td>
<td><strong>Foliage-</strong> Clumps of large, linear, keeled straps, each folded into a V-shape at the base. Leaves are green, bronze, and variegated.</td>
<td><em>Suggested usage</em> - Beds, borders, large containers, specimen, water gardens.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Width- Trailing</td>
<td>Soil- Fertile, moist, well-drained.</td>
<td><strong>Flower-</strong> None</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Form- Semi-upright, bushy.</td>
<td></td>
<td><strong>Flower-</strong></td>
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<tr>
<td><em>Phormium New Zealand Flax</em></td>
<td><em>Phormium</em></td>
<td>Height- 2-5’ depending on age.</td>
<td>Light- Full sun/shade</td>
<td><strong>Foliage-</strong></td>
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<td></td>
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<td>Width- 1-4’</td>
<td>Soil- Fertile, moist, well-drained.</td>
<td><strong>Foliage-</strong> Clumps of large, linear, keeled straps, each folded into a V-shape at the base. Leaves are green, bronze, and variegated.</td>
<td><em>Suggested usage</em> - Beds, borders, large containers, specimen, water gardens.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Form- Striking architectural plant; fan-shaped.</td>
<td></td>
<td><strong>Flower-</strong> None</td>
<td></td>
</tr>
<tr>
<td><em>Purple Fountain Grass</em></td>
<td><em>Pennisetum s.rubrum</em></td>
<td>Height- 30-48”</td>
<td>Light- Full sun/part shade</td>
<td><strong>Foliage-</strong> Burgundy tinted.</td>
<td><em>Suggested usage</em> - Masses, accent, large containers, specimen. Very popular for its beautiful foliage and plumes.</td>
</tr>
</tbody>
</table>
### ANNUALS

<table>
<thead>
<tr>
<th>COMMON NAME</th>
<th>SCIENTIFIC NAME</th>
<th>GROWTH PATTERNS</th>
<th>ENVIRONMENTAL TOLERANCES</th>
<th>AESTHETICS</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Salvia ‘Victoria Blue’</strong></td>
<td><strong>Salvia farinacea ‘Victoria Blue’</strong></td>
<td><strong>Height- 18-22”</strong></td>
<td><strong>Light- Full sun/light shade</strong></td>
<td><strong>Foliage-</strong> Pointed, narrow, to 3” long, mid-green leaves.</td>
<td><strong>Suggested usage-</strong> Beds, massing, containers.</td>
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<td></td>
<td></td>
<td><strong>Width- 9-12”</strong></td>
<td><strong>Soil- Fertile, moist, well-drained. Heat and drought tolerant.</strong></td>
<td><strong>Flower-</strong> Violet-blue, to ¾” long, in slender, dense spikes.</td>
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<td></td>
<td></td>
<td><strong>Form- Upright, stiff, multi-branched; uniform.</strong></td>
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<tr>
<td><strong>Seascape Daisy</strong></td>
<td><strong>Osteospermum</strong></td>
<td><strong>Height- 8-12”</strong></td>
<td><strong>Light- Full sun; open</strong></td>
<td><strong>Foliage-</strong> Lance-shaped, dark green.</td>
<td><strong>Suggested usage-</strong> Beds, containers, borders, banks, hanging baskets.</td>
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<tr>
<td></td>
<td></td>
<td><strong>Width- 6-10”</strong></td>
<td><strong>Soil- Moderately fertile, well-drained. Heat and cold tolerant.</strong></td>
<td><strong>Flower-</strong> Daisy-like, 2-4” across in yellow, white, peach, purple and orange.</td>
<td>Deadhead to promote continued flowering.</td>
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<td></td>
<td></td>
<td><strong>Form- Compact.</strong></td>
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<tr>
<td><strong>Spike</strong></td>
<td><strong>Dracaena cordyline indivisa</strong></td>
<td><strong>Height- 24-36”</strong></td>
<td><strong>Light- Full sun/part shade</strong></td>
<td><strong>Foliage-</strong> Strap-shaped, leathery, glossy deep green leaves.</td>
<td><strong>Suggested usage-</strong> Adds height for upright containers.</td>
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<td></td>
<td></td>
<td><strong>Width- 12-20”</strong></td>
<td><strong>Soil- Fertile, moist, well-drained.</strong></td>
<td><strong>Flower-</strong> None</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Form- Striking architectural plant; fan-shaped.</strong></td>
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<tr>
<td><strong>Sweet Potato Vine</strong></td>
<td><strong>Ipomoea Marguerite</strong></td>
<td><strong>Height- 6”</strong></td>
<td><strong>Light- Full sun/shade</strong></td>
<td><strong>Foliage-</strong> Striking chartreuse; velvety, large heart-shaped leaves.</td>
<td><strong>Suggested usage-</strong> Beds, containers, hanging baskets.</td>
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<td></td>
<td></td>
<td><strong>Width- 18-48”</strong></td>
<td><strong>Soil- Prefers moist, well-drained; will withstand poor soil. Heat and drought tolerant.</strong></td>
<td><strong>Flower-</strong> None significant</td>
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<td></td>
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<td><strong>Form- Dense, trailing, vigorous.</strong></td>
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<tr>
<td>COMMON NAME</td>
<td>SCIENTIFIC NAME</td>
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<tr>
<td>Verbena</td>
<td>Verbena x hybrida</td>
<td>Height- 6-18”</td>
<td>Light- Full sun</td>
<td>Foliage- Toothed, spatula-shaped, wrinkled, 2-4” long leaves.</td>
<td>Suggested usage- Beds, ground cover, walls, containers, hanging baskets. Deadhead.</td>
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<td></td>
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<td>Width- 8-12”</td>
<td>Soil- Prefers fertile, well-drained sandy soil. Tolerates heat and drought.</td>
<td>Flower- Small rounded heads to 2” across in pink, red, blue, purple, and white.</td>
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<td>Form- Mounding, and trailing types.</td>
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<tr>
<td></td>
<td></td>
<td>Form- Trailing.</td>
<td>Soil- Any dry soil.</td>
<td>Flower- None as annuals.</td>
<td></td>
</tr>
<tr>
<td>Zinnia ‘Profusion’ or ‘Star’ series</td>
<td>Zinnia haageana</td>
<td>Height- ‘Profusion’ is 8-10” and ‘Star’ is 12-14”.</td>
<td>Light- Full sun</td>
<td>Foliage- Dark green</td>
<td>Suggested usage- Beds, massing, containers. Deadheading is optional.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Width- 8”</td>
<td>Soil- Any well-drained garden soil. Good air circulation. Tolerates heat humidity, and drought.</td>
<td>Flower- 2 ½-3” wide single or double flowers in yellow, gold, orange, white and cherry red.</td>
<td></td>
</tr>
</tbody>
</table>
Appendix Two:

Case Studies:

- North Division Avenue Streetscape Concept
- Saint Mary’s Health Care Community Campus Plan
Division Avenue is a signature street in Grand Rapids. It is a major north/south thoroughfare through downtown that stretches from the southern suburbs to the northern limits of the city. A trip along this corridor will introduce one to all facets of the downtown; from the developing artist community along South Division to the medical campus along North Division. Some of the city's major cultural, religious and educational institutions have Division Avenue as their address. In short, Division Avenue reflects the personality of downtown and the City as a whole.
A number of physical improvements to South Division have been implemented recently. Among them are streetscape improvements, building renovations and art placement. All of these have had a dramatic effect on the appearance and vitality of this section of the corridor.

With the recent completion of the renovation to the Civic Theatre, it is now time to consider streetscape improvements to North Division. In its current state, North Division is not a comfortable or safe place for the pedestrian. The sidewalks are exceptionally narrow, leaving the pedestrian too close to the vehicular traffic and exposed to the snow or rain being sprayed at them by passing cars. In addition to the pedestrian experience has dettracted from it’s economic future; it does not adapt well to first floor retail or restaurant use, and businesses cannot easily claim North Division as their storefront.
It is the recommendation of this report that this portion of North Division needs to be renovated to be more pedestrian friendly. The preferred design is to change North Division into a 3 lane street (one north lane, one south lane and a turn lane.) The final design solution will require extensive additional study. If this configuration is not feasible, aesthetics may need to be sacrificed in order to protect the pedestrian.

Other suggested designs include:

- Place high, narrow planters along the edge of the street to create a pedestrian area and offer protection from the road.
- Construct a black metal fence along the street with a metal shield on the inside of the fence, to define the sidewalk space and protect the pedestrian.

On the following pages are several initial sketches of the preferred design option.
North Division Avenue Streetscape Concept

North Division Avenue - Fountain to Library

Typical Mid-Block Plan

Typical Street Corner Plan
North Division Avenue Streetscape Concept

Proposed North Division Avenue Enhancement
Parking Lot Screening at Division and Library

North Division Avenue at Library
The vision of Saint Mary’s for its downtown facilities is to create a community that reflects an innovative, safe, and connected mixed use neighborhood campus.

In order to achieve this vision, Saint Mary’s has created a Community Campus Plan. Through a series of design charrettes and community meetings, Saint Mary’s has developed the following design principles and concept sketches that will guide future growth and development opportunities.

**Integrate and Expand Green Space**
- Provide informal areas of green space which promote safe community gathering and collaboration.
- Provide areas of green space to promote respite and healing for the community.
- Implement planned maintenance to maintain the up-keep of public spaces.
Create a Pedestrian-Oriented Community

- Provide improved comfort and a walkable community for pedestrians.
- Enhance attributes of public transportation and decrease additional surface parking.

Create an Identifiable Image for the Community

- Enhance the image of the surrounding community through the expansion of branding and the improvement of existing structures.
- Provide an identity and sense of ownership
- Reflect all aspects of the community; cultural and economic backgrounds.
- Create a campus that is identifiable throughout the community.
- Create a clear identity of major businesses (Saint Mary’s; Mary Free Bed; Catholic Diocese).
Create a Collaborative Neighborhood
- Encourage interaction between all cultures to promote diversity.
- Encourage interaction between neighborhood, governmental, and commercial associations to aid in successful community growth.
- Find a financial balance regarding community’s needs and expectations.

Design for Safe and Secure Surroundings
- Improve and build upon the relationship between public safety and the community.
- Allow diverse economies to coincide and prosper together.
- Implement characteristics of CPTED (Crime Prevention Through Environmental Design).
Provide Opportunities for Small Businesses
- Encourage community to support and utilize local businesses.
- Encourage local interior-focused businesses to supply street accessible health amenities to external customers.

Create Spaces for Mixed Use Housing
- Encourage infill of affordable housing that can be utilized by local patrons.
- Work towards a balance between the preservation of historic homes while providing progressive housing options.
- Encourage the development of mixed use buildings that provide housing opportunities combined with retail.
“I believe very strongly that the cities that pay attention – really pay attention – to the quality of life will be the cities that thrive in the 21st century.”

Remarks from Mayor Richard M. Daley, City of Chicago, Revitalizing Chicago through Parks and Public Spaces.
1. Downtown Alliance Streetscape Design Guidelines
• Arts and Entertainment Strategy, City of Grand Rapids; 2004
• City, Rediscovering the Center; William Whyte; 1988
• Creating a Vibrant City Center; Cy Paumier; Urban Land Institute
• Creating Walkable Places; Adrienne Schmitz and Jason Scully; Urban Land Institute
• Division Avenue Community Vision,; Walkable Communities, Inc.; 2000
• Downtown Alliance Brand Guide; 2006
• Grand Rapids Zoning Ordinance; Central City Zoning; 1998
• Making Better Places: Ten City Design Resolutions; Jeff Speck
• Plan Grand Rapids; City of Grand Rapids Master Plan; 2002
• Project for Public Spaces; www.pps.org
• The Social Life of Small Urban Spaces; William Whyte; 1980
• Streetscape; Martin Pegler