Town of Summit
Design Guidelines

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These Guidelines were prepared for the Town of Summit by Planning and Design Institute.

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The design guidelines contained within this document were prepared for the Town of Summit as a tool to implement the development goals and objectives outlined in the Town Master Plan 2010.

They are intended to be used by the development community in combination with the Town Plan and ordinances to gain an understanding of the desired development character in the Town. The Town will also use these guidelines in reviewing development proposals.

The focus of the guidelines are: commercial, industrial, and institutional development; mixed-use development, public aspects of residential development, and multifamily development.

Contents

Business

The following guidelines apply to business development (retail and office uses) as well as industrial and mixed-uses in the Town of Summit. Exceptions for different uses are noted where appropriate.

Vehicular and Pedestrian Access

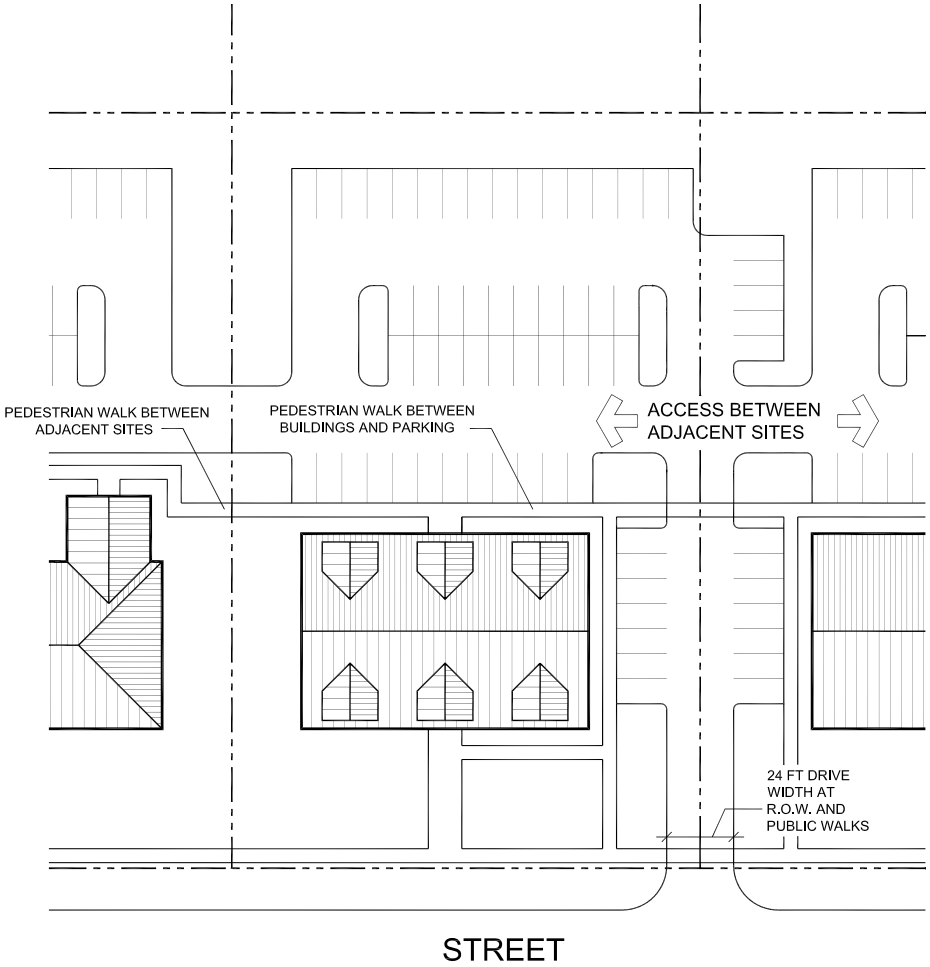
Well-organized vehicular and pedestrian access into and between sites provides clear and safe circulation.

Vehicular access along State and County Highways should follow the standards set forth by Wisconsin Department of Transportation and Waukesha County. Site access from local roads should be shared between sites whenever possible. New access drives should also be located directly across the street from existing drives. Driveways, where they cross public walks and at property edges should not exceed 24 feet except when deemed necessary to be larger for traffic, accommodation of service vehicles, etc. When driveways are wider than 24 feet, landscaped medians and other features should be incorporated into the entrance.

Vehicular access between adjacent sites should occur when possible, eliminating the need to return to the public street when visiting multiple adjacent sites. Along with the construction of shared parking, shared access agreement should be created.

Pedestrian walks should be incorporated into all site plans. Provide walks of at least 5 feet in width along the public edges of parcels, between parking areas and buildings, as connections between adjacent sites, and within large parking areas.

Bicycle travel should also be promoted through the use of trails and permanent bicycle racks.



Adjacent building sites should utilize a shared entrance when possible, with connecting walkways and paths.

Building Placement

The placement of a building(s) on a site and its relationship to the surroundings is the most critical factor in creating a memorable place. Irregular or unorganized building placement results in places that have little or no draw to them.

The building should orient itself toward the street. Given the rural context, buildings may be set back, however, the building and site design should relate to surrounding streets. The visibility of a building is greatly enhanced by moving it toward the street, allowing viewers to see a business or product displayed; a building located behind parking is dependent upon roadside signage to attract potential customers. The building should not be located at the rear of the parcel, with only a parking lot at the street. The majority of parking should be located on the side or behind the building with limited parking in front. If the parcel is at an intersection, parking should not be located on the corner.

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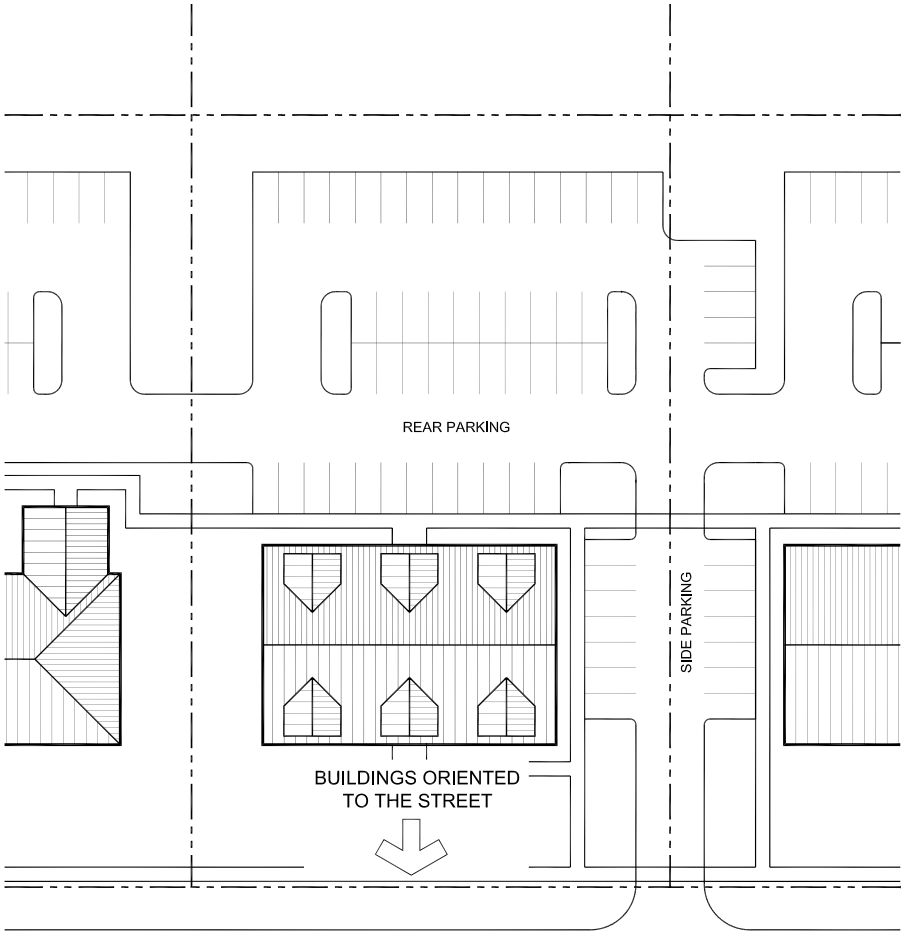
Large parcels capable of having multiple buildings placed on them should be master planned to ensure quality development within the Town of Summit.



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Parking

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Parking areas should be designed to have the least visual impact possible on the landscape. Lots should be organized as simple geometric shapes with strong edges of landscaping, decorative fences/garden walls, lighting and/or buildings to reinforce the space as well as provide screening from adjacent rights-of-way and public spaces and residential areas.

If large parking areas are recommended, plantings and other features should be located within the lot as well. Increase allowable building area through the use of underground parking. When possible, parking areas should be shared by adjacent users and mixed-use developments to eliminate unnecessary parking stalls and impervious asphalt. In particular, uses that generate their peak traffic at different times of the day are prime candidates for shared parking.

Pedestrian walkways provide a safe and attractive means of passage for pedestrians to and from their vehicles and they should be located on rows that terminate at the building entrance. Walkways should be buffered from driving lanes and parking stalls with landscaping and pronounced with decorative paving and pedestrian-scaled lighting. Pedestrian crossings should be provided to access the walkways from other locations within the lot.

Parking located on the side or rear of a building allows the building to be seen as the primary object, rather than the cars in front of it.

Landscaped walkways within parking areas provide safe pedestrian passage while adding aesthetic quality to the space.

Landscaping and Screening

Landscaping of new development is essential to preserving the character currently found in the Town of Summit.

Landscaping can enhance the natural environment, define outdoor spaces and, when used as a buffer, can successfully minimize the visual impact between incompatible uses.

Landscaping standards are divided into two sections: Residential Buffer Landscaping and General Site Landscaping.

Residential Buffer Landscaping

Landscaping is recommended within a 20-foot wide area adjacent to all residential districts. For each 100 feet of length (including percentages) along a residential district, the following is recommended or approved equivalent:

Two (2) Shade/canopy trees. Recommended caliper at time of planting is specified in the Landscape Appendix.

Four (4) Evergreen or ornamental trees. Recommended height or caliper at time of planting is specified in the Landscape Appendix.

Eighteen (18) shrubs. Recommended height at time of planting is specified in the Landscape Appendix.

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Berms can also be utilized for screening larger areas; however, berms should appear as natural as possible. Berms should not exceed a 3:1 slope (from public or adjacent property view) and the height and path of the berm should be undulated along its length. Berms should also be sufficiently planted with varied groups of vegetation to avoid the appearance of a simple linear mound of earth.

Landscaping used as buffers between adjacent land uses.

General Site Landscaping

In addition to the requirements of the Residential Buffer Landscaping, General Site Landscaping is recommended on the remainder of the lot.

For each acre of the lot not occupied by building footprint or Residential Buffer (20 feet wide area adjacent to residential districts), the following is recommended or approved equivalent:

Eight (6) Shade/canopy trees. Recommended caliper at time of planting is specified in the Landscape Appendix.

Sixteen (16) Evergreen or ornamental trees. Recommended height or caliper at time of planting is specified in the Landscape Appendix.

Sixty-four (64) shrubs. Recommended height at time of planting is specified in the Landscape Appendix.

General site landscaping should be organized to: accent architecture, define outdoor spaces, create natural settings and screen parking, service and loading areas from public view.

Service and Loading Areas

Service areas, loading areas, trash receptacles and ground floor mechanicals are to be screened from public view including adjacent rights-of-way, adjacent parcels and public spaces. Screening should be consistent with the materials and character of the building.

Densely planted trees, shrubs, and decorative opaque fencing/garden walls should be used to screen these areas. Screening elements should be at least 6 feet high (plant material should be at least 6 feet within 2 years of planting). Plants used for screening count toward satisfying the General Landscaping Requirements.

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Landscaped screening of parking areas defines public space and creates an attractive edge.

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Parking Landscaping

Landscaping within parking areas should be a combination of shade/ornamental trees and shrubs/ground cover. See also the Parking Guideline for additional information including pedestrian walkways.

Landscaped islands should occur not less than every 15 parking spaces.

In addition to the internal landscaping of parking areas, the perimeter, where visible from adjacent rights-of-way and public spaces should be screened/landscaped.

Trees (planted 25 feet on center), shrubs, ground cover and decorative fencing/garden walls are encouraged as components of parking lot screening.

Residential Buffer and General Site Landscaping requirements may be adjusted on a per project basis by the Town depending on specific requirements and circumstances of each development site.

Effective parking lot landscaping including walkway edges, public spaces, islands and perimeters.

General Landscaping Comments

There are many factors that affect plant growth and health and how well plants will perform in a particular environment. A list of plants for a streetscape situation (street trees and parking lots) would be different than a plant list for parks and open space applications while at the same time might also contain many of the same species and varieties of plants.

With this in mind, the trees and shrubs contained in the following list are generally plants that can withstand a fairly wide range of environmental conditions and would be able to remain fairly healthy in urban conditions (such areas as street tree terraces, parking lot buffer areas, buffer zones and side yards) with the proper care. These plants were for the most part selected with the thought that they would be able to survive in the more adverse conditions of various urban situations. However, due to the many factors that affect plant growth and health (i.e., extreme salt loading, soil conditions, exposure to extreme heat and drought) not all plants will do well in all situations and care must be taken in selecting the proper locations for various plants. The selected plants are also more common varieties that should be available at most reputable plant nurseries. This is only a partial list and is by no means all inclusive of plants meeting this description.

Many plants more at home in wooded areas and large open areas such as parks and linear open space corridors, are not included here. This would include plants such as dogwoods, some of the larger viburnums, white pine, etc.

It is suggested that a matrix be added to this plant list in the future to address limitations, advantages and potential problems. The matrix could include things such as sensitivity to salt and soil ph, general soil requirements, susceptibility to disease and pests, nuisances such as tree litter and roots that heave sidewalks, sun and shade requirements and positive aspects such as fall color, fruit and flower characteristics. A more comprehensive list could be developed by addressing additional areas such as parks and open space areas.

This list is divided into five categories and includes: deciduous street trees/canopy trees, deciduous small scale and ornamental trees, deciduous shrubs, coniferous trees and coniferous shrubs. Each category contains the botanical name, common name, mature size and suggested size at the time of planting. The deciduous tree categories also show the average tree size after 30 years.
Following are general comments for each category.

Deciduous Street/Canopy Trees: These trees tolerate a fairly wide range of conditions and should do well in most urban situations. However, most trees have some limitations. Plant Norway Maples sparingly.

Small Scale/Ornamental Trees: With the exception of the Serviceberries, Amur Maples and Cockspur Hawthorn, the trees in this category should function well when used as street trees. These trees are good for situations where a smaller tree is needed such as under overhead utility and power lines. Some of these trees tolerate shade.

Deciduous Shrubs: Most shrubs are adaptable to a wide range of conditions. Included are some suggested Rose varieties. Many of these shrubs are suitable for screening parking lots and other visually undesirable areas. The list includes some broadleaf evergreens (Boxwood, Winterberry). Many species are shade tolerant. Some shade tolerant varieties are more sensitive to extreme urban conditions (Boxwood, Winterberry, Yews) and should be located carefully.

Coniferous Trees: Most of these trees are excellent for screening purposes and are adaptable to urban conditions.

Coniferous Shrubs: This is only a partial list of the many species and varieties of evergreen shrubs available. These shrubs are adaptable to a wide range of situations from landscaped beds and foundation plantings to parking lot buffer areas. Yews are more sensitive to extreme urban conditions.

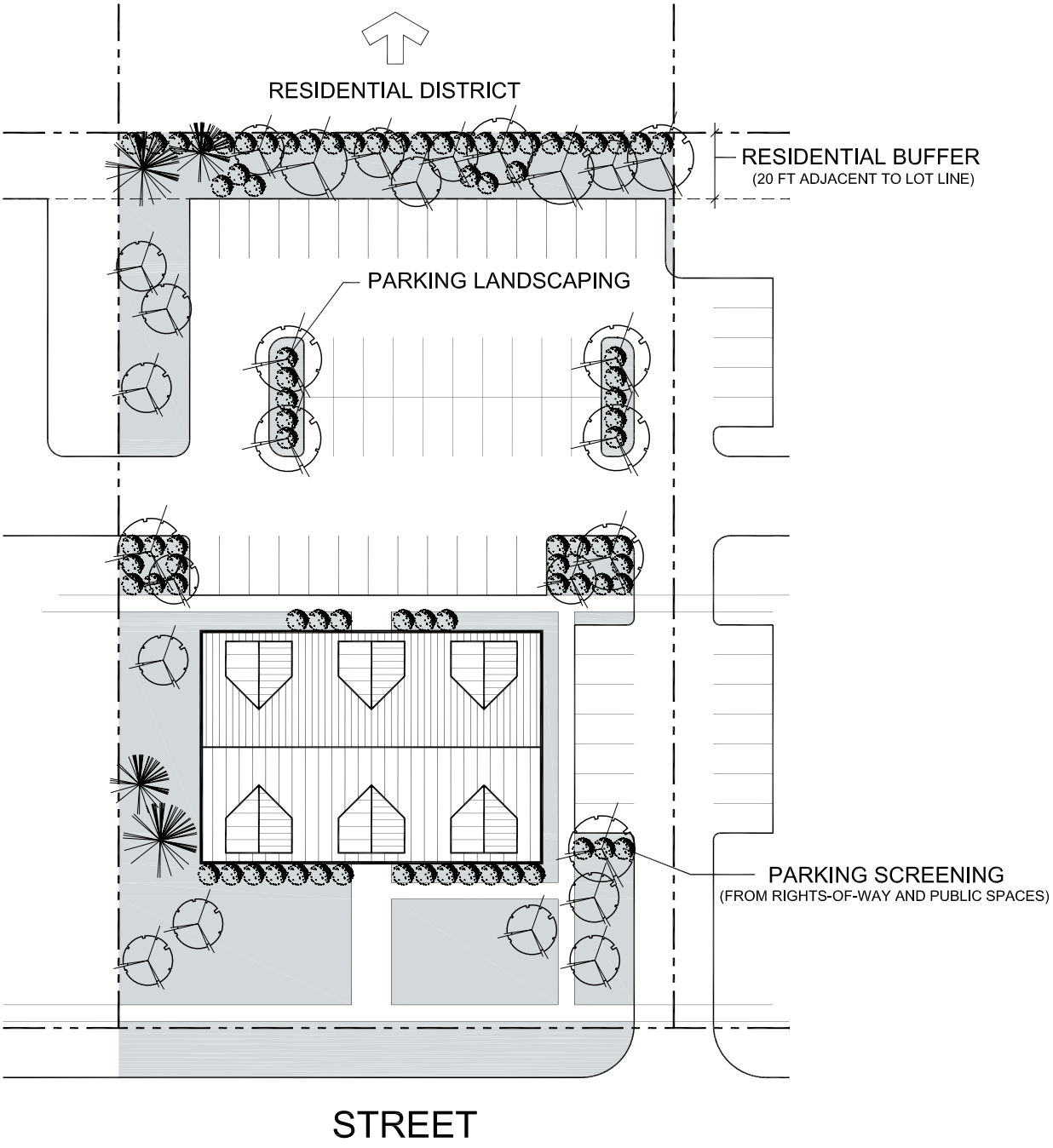
Large canopy trees take many years to mature. Average tree sizes at 30 years are shown as trees have generally "filled out" by this time. Shrubs, due to their smaller size, mature much faster and can reach their mature size in just a few years. Since shrubs grow relatively fast it is suggested that smaller sizes as listed be used at initial planting time unless immediate impact is desired.

Costs for both the plant itself and labor increase relatively fast for installing larger sizes of coniferous trees. Plant the recommended sizes unless immediate impact is desired.

The landscape appendix contains a list of recommended species of trees and shrubs with mature height and recommended height at time of planting.

Residential Buffer and General Site Landscaping.
Residential Buffer Landscaping is recommended within a 20-foot zone adjacent to all residential districts. General Site Landscaping is recommended for the remainder of the site and includes parking lot, service and loading area landscaping.

The diagram below depicts the recommended plant material.

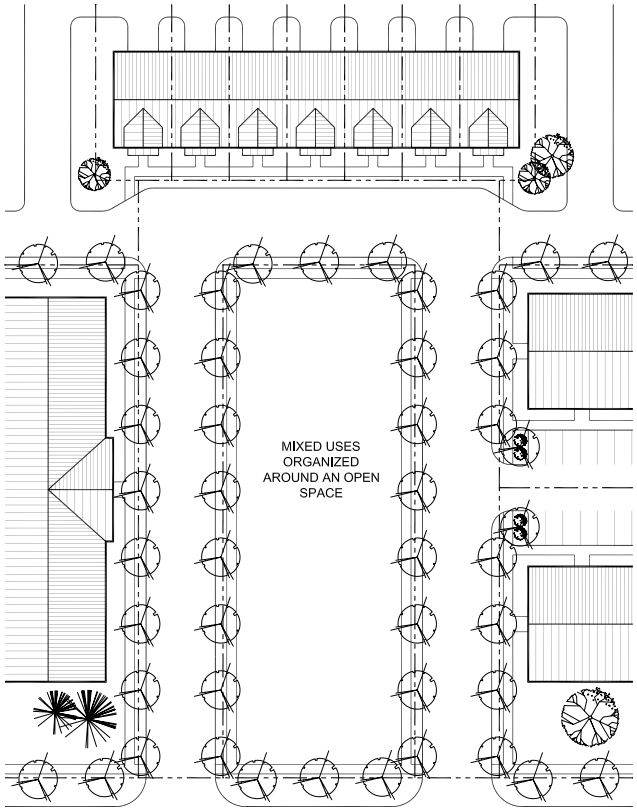


Mixed-Use Development

Successful mixed-use areas combine a variety of land use types into vibrant, cohesive places by properly locating the most active uses at the ground floor and organizing multiple buildings around a series of usable open spaces.

In mixed-use buildings, ground floor uses should be those that have the most interaction with the public such as retail spaces, lobbies and civic uses. Less active uses, including office or residential uses could be located on upper floors.

Consider organizing multiple buildings around public spaces to promote social gathering and provide distinction between uses. For example, a retail building (parking in rear), an apartment building and a series of town homes could all be organized around a small green. In this case, the green provides a place for visitors and residents to gather while providing enough separation between uses for each to maintain their own identity and still relate to their surroundings.



Building Composition and Massing

Implementation of basic architectural design principles ensures buildings compliment each other and create cohesive street faces and understandable architecture, while promoting individual building expression and style. Visually interesting facades appeal to the general public while enhancing spaces adjacent to buildings. In addition to aesthetics, well-designed buildings often lease faster and maintain occupancy longer than typical structures.

Base-Middle-Top

Buildings should be comprised of a visually distinct base, middle and top. Adopting a base-middle-top strategy not only ties the building to a long tradition of architectural expression, but provides a flexible method of relating the building to the pedestrian (base), to the surrounding architecture (middle), and the opportunity for unique identity where the building meets the sky (top). Expression of the elements should be handled through changes in plane, changes in material, horizontal bands, cornices, and/or varied window openings.

A base-middle-top approach to design allows for visual continuity and individual expression between buildings.

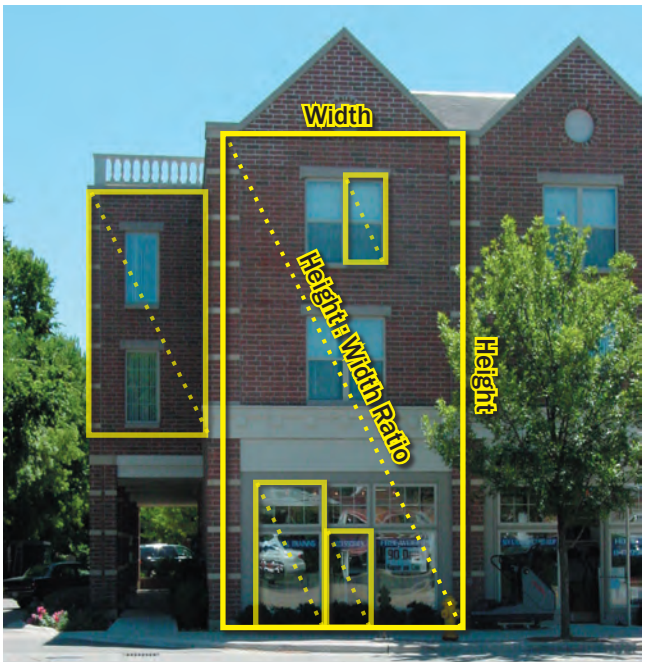
Massing

Large buildings should be comprised of a series of masses and forms to give the building scale and visual richness. Techniques include recess/projections, creating distinct building components, and varying heights and roof forms according to individual building components.


Distinct masses in a building's form provide scale and create interesting architecture.

Proportion

Building massing and components should demonstrate consistent proportional harmonies. Proportion in architecture is the consistent numeric ratio of two opposing dimensions such as height:width throughout various building components. The use of proportion is intended to provide a sense of visual harmony among elements of a building. For example: The window proportions could be similar to that of the structural bays of the building or the building as a whole. Elevations many times include multiple proportioning systems (i.e. some components relate to one height:width ratio, while other components relate to another. Buildings with vertically proportioned components (height greater than width) are encouraged to avoid squat-appearing buildings.



Visual harmony through the use of proportion among building elements (above). No proportioning system (below) often results in buildings with little visual harmony or architectural rhythm.

Facade Layering

Buildings elevations should be articulated in a way that give the appearance of multiple facade layers which add depth and avoid the appearance of flat facades. Suggested techniques include: setting windows back from the exterior wall plane, adding decorative elements such as cornices, lintels, sills, awnings and canopies, expressing structural columns through change of plane, creating arcade walkways, and extending roof eaves.

Layering of facades adds depth and visual interest to architecture.

Building Entry

Entries that are clearly identifiable, easily accessible, and visible from all public areas are inviting and provide visual interest at the street level.

The major public entry should be a prominent visual feature of a building. Users should be able to discern the entry of a building from a distance to ease the progression to the building. This entry should be oriented toward a public space such as the parking area or street right-of-way.

The entry should be easily distinguishable from rest of the building and given prominence through recess/projection, weather protection, change in material, height, added detail or other methods.

If multiple retail tenants occupy the ground floor of a building, each should have their owned separate and distinct entry. If the ground floor is occupied by office uses, a share entrance is appropriate. Upper floors of office or residential may be serviced by a single ground floor entry. Service entries and garage doors should be located away from public view to the greatest degree possible.

Building entries should be prominent visual features and easily distinguishable from the rest of the building.

Glazing

A high level of glazing/transparency on building façades enlivens the street environment, providing interest and activity, and at night a secondary, more intimate, source of lighting. Visual connection between the interior and exterior of a building also allows for viewing of displays, products, or other activity inside the building.

Windows should be located to maximize facade transparency along publicly accessible/visible areas.

Building layouts should be adjusted to locate active spaces such as shopping areas, product displays and office spaces toward the windows to further enhance the visual connection and activity outside of the building.

Examples of appropriate quantity and location of glazing for a variety of building types.

Awnings and Canopies

Awnings and canopies add color, create depth and a human scale, and provide shade and weather protection.

Awning and canopies are encouraged on commercial development. They should correspond with window and door placement and used to give prominence to openings. Awnings should be composed of straight planar surfaces and should not be constructed of vinyl plastic or lit from within.

Materials

Exterior materials used in construction greatly influence the way a building is perceived. Proper material selection creates buildings and spaces that people want to interact with, experience, and remember.

Buildings should be designed as four-sided architecture with finish grade materials used consistently on all facades.

Recommended primary materials include brick, stone and glass. Other materials such as precast concrete, decorative concrete block or decorative facade panels may be appropriate if properly detailed and integrated with the architecture.

Metal and finished wood may be used as accents, but not as the primary material for any facade.

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Signage

Signage is an integral part of business character. Over-simplification of standards can stifle creativity and excitement of the visual character of an area, while the lack of control can lead to visual chaos. Signage should be designed to: facilitate rapid orientation, add interest to the street-level environment, reduce visual clutter, unify the development as a whole, and enhance the appearance and safety of the area.

Signage should be integrated into and designed to be consistent with the building facade. Similar materials, colors, and styles should be used to ensure the signage is consistent with the building design. Materials must be of high quality to prevent premature weathering of the sign. All signage must be consistent with the Town of Summit signage ordinance.

Business signage should be wall mounted (projecting or flat), monument (if located away from the building), window, canopy or awning style. Pole signs should be avoided. Billboard style wall-mounted or roof-mounted signs should be avoided.

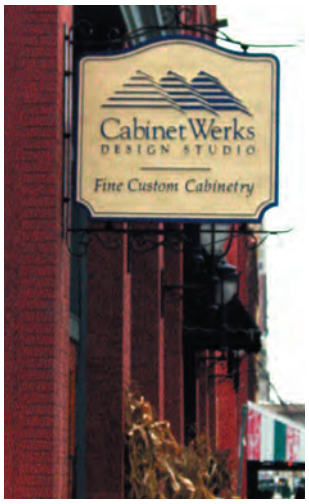
Within a unified development such as a business park or campus, signage should be consistent between buildings and areas.

To aid in wayfinding and destination location, it is encouraged that legible address information be displayed as a signage component.

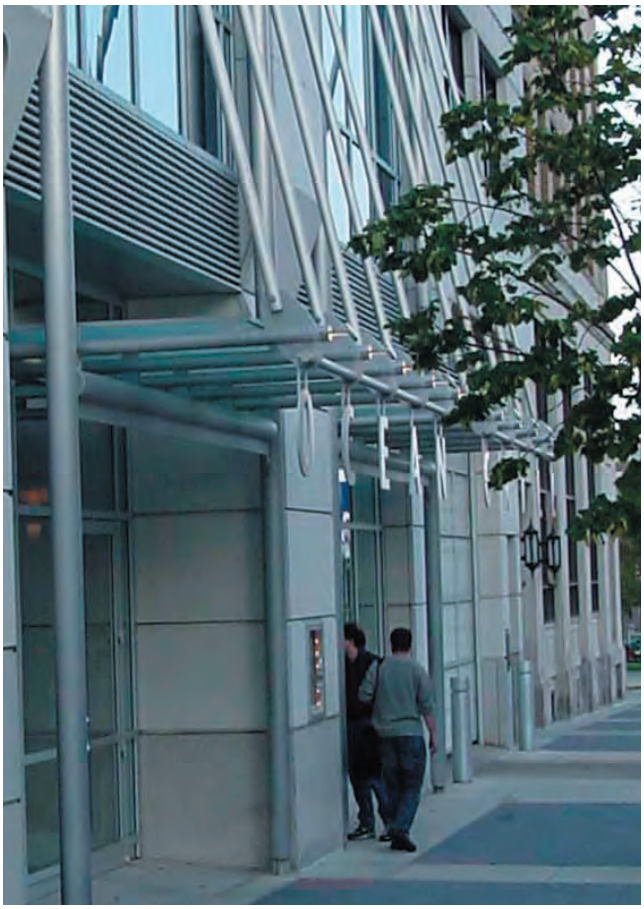
Freestanding signage should be monument style; pole style signs should be avoided. Materials and style should be consistent with the design of the building facade.

Signage (Continued)

Wall-mounted signage should consist of individual letters or symbols which may be individually illuminated or lit from a nearby point source.



Projecting signage may be lit from within (if individual letters and symbols) or lit from a nearby point source.



Window signage should be painted on the window, not placed behind it. Window signs must not significantly reduce visibility between the exterior and the interior or decrease the level of natural light within the building

Canopy and awning signage may consist of letters or symbols applied to the top as well as the front of these elements. Canopies or awnings should not be lit from within, though point source lighting may be used to light the signage.

Lighting

Appropriate illumination of a building and adjacent spaces can emphasize building elements and spaces , while creating a sense of security and intimacy.

Several types of lighting are encouraged to maintain activity in spaces into the night.

Storefronts should be illuminated allowing light to spill onto adjacent walkways and spaces.

Wall mounted and ground light fixtures should be used to highlight architectural elements and enliven facades. These can also illuminate public areas adjacent to the building.

Outdoor seating areas should be illuminated using pedestrian level lighting at comfortable illumination levels. Utilizing pole-mounted fixtures and lit bollards to illuminate walkways is also an effective approach to defining the pedestrian zone and surrounding areas.

All lighting, including lighting of signage, should be a consistent color per development.

Lighting fixtures should conceal the light source and provide diffused or soft reflected light. All lighting fixtures should be selected to avoid negative impacts on neighboring properties.

Illuminated storefronts provide an attractive glow on walks while creating visual interest.

Exterior lighting used to highlight architectural elements of the facade activates adjacent spaces at night.

Gathering Spaces

Commercial and mixed-use developments should create active spaces that people want to occupy. Lack of pedestrian activity gives the impression of a "dead" or under-utilized place.

The simplest way to make a place active is by creating outdoor places for people to gather. Outdoor spaces, such as cafes and restaurants with outdoor seating areas, should be visible from the public rights-of-way adding activity and visual richness. Landscaped areas, pavilions or other well-defined seating and gathering areas are also encouraged.

Office and Industrial uses should provide outdoor spaces such as small seating areas or planted lawns for employee and visitor enjoyment. These may be shared spaces within a business park or developed by individual businesses.

In mixed-use areas, projecting balconies and porches are recommended for residential development.

Outdoor space provided for employees and visitors creates a desirable areas for sitting, lunches and breaks.

Cafes and restaurants with outdoor seatings brings activity to public areas by increasing the number of people visible.

Stormwater Management Design

Stormwater management features should properly handle storm water run-off, but also be designed in a way to serve as focal points and aesthetic features.

When publicly visible, stormwater management ponds and basins should be designed as naturally appearing features surrounded by appropriate vegetation. Rigid geometric shapes should be avoided.

Stormwater ponds are encouraged to be located as prominent landscape features when possible, serving as development gateways and visible natural areas with adjacent gathering spaces.

All stormwater management areas should have a maintenance plan to ensure proper water handling as well as a pleasant aesthetic.

Rain gardens retain and filter stormwater from parking lots and buildings while existing as attractive landscaping or screening elements

A stormwater pond extended to the building creating a natural area surrounded by a patio with gathering opportunities.

A well-landscaped edge of a stormwater pond transforms the area into an asset and a focal point

Institutional

The following guidelines apply to institutional development in the Town of Summit.

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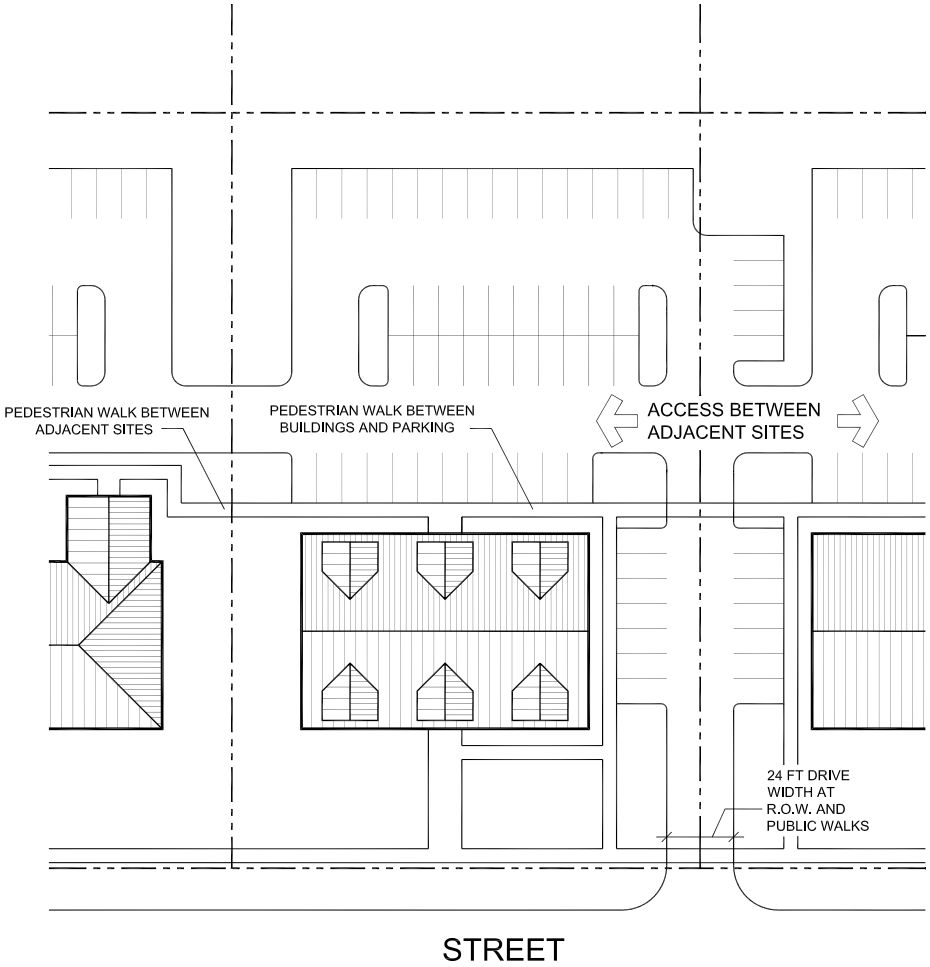

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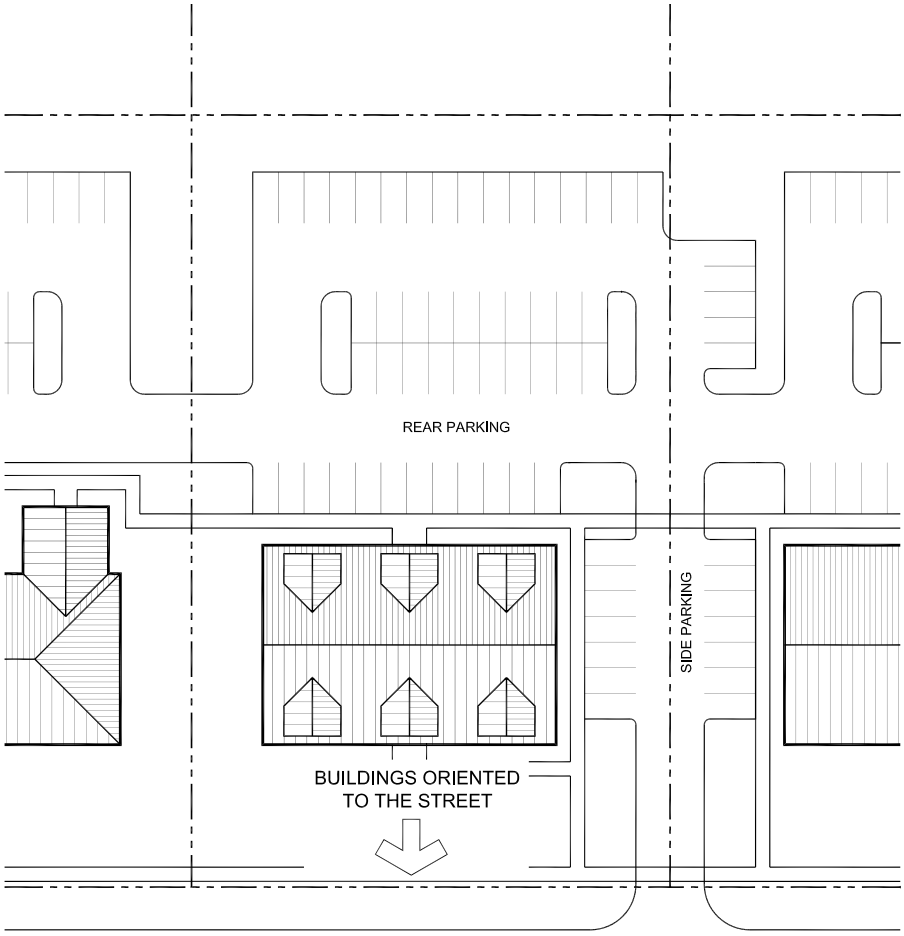

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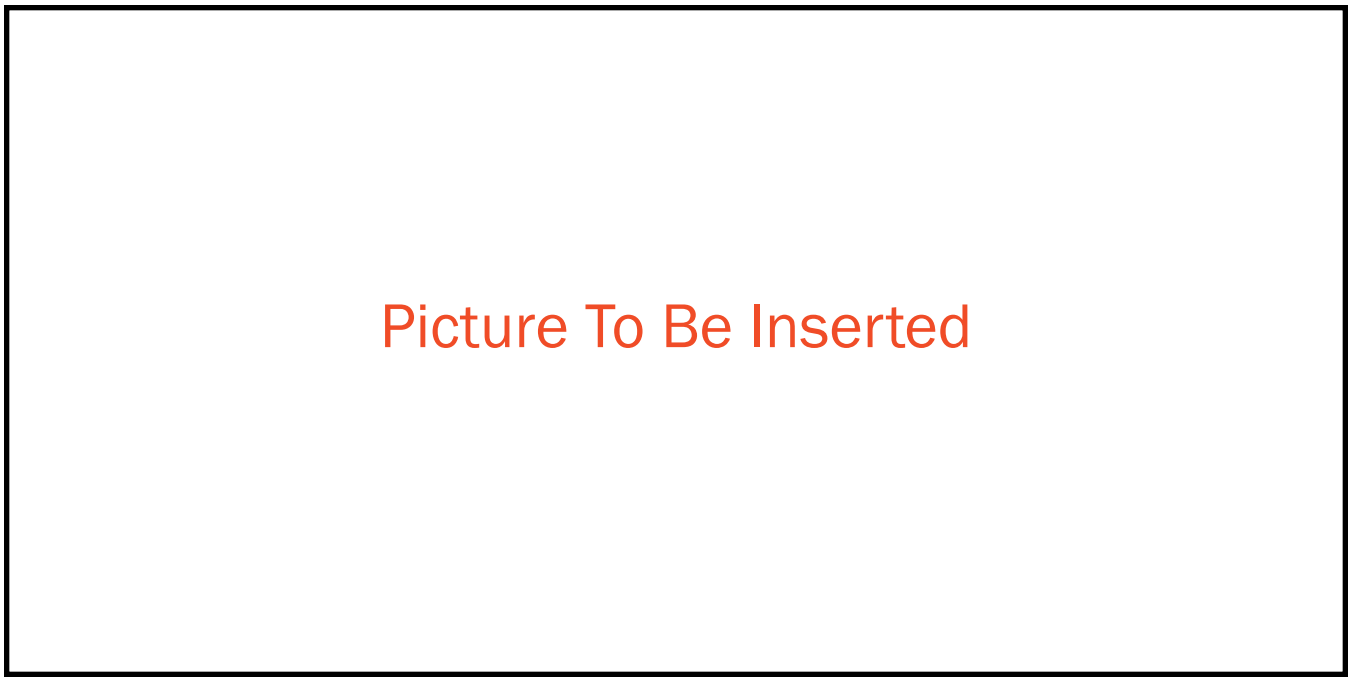

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Eighteen (18) shrubs. Recommended height at time of planting is specified in the Landscape Appendix.

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Berms can also be utilized for screening larger areas; however, berms should appear as natural as possible. Berms should not exceed a 3:1 slope (from public or adjacent property view) and the height and path of the berm should be undulated along its length. Berms should also be sufficiently planted with varied groups of vegetation to avoid the appearance of a simple linear mound of earth.

Landscaping used as buffers between adjacent land uses.

General Site Landscaping

In addition to the requirements of the Residential Buffer Landscaping, General Site Landscaping is recommended on the remainder of the lot.

For each acre of the lot not occupied by building footprint or Residential Buffer (20 feet wide area adjacent to residential districts), the following is recommended or approved equivalent:

Eight (6) Shade/canopy trees. Recommended caliper at time of planting is specified in the Landscape Appendix.

Sixteen (16) Evergreen or ornamental trees. Recommended height or caliper at time of planting is specified in the Landscape Appendix.

Sixty-four (64) shrubs. Recommended height at time of planting is specified in the Landscape Appendix.

General site landscaping should be organized to: accent architecture, define outdoor spaces, create natural settings and screen parking, service and loading areas from public view.

Service and Loading Areas

Service areas, loading areas, trash receptacles and ground floor mechanicals are to be screened from public view including adjacent rights-of-way, adjacent parcels and public spaces. Screening should be consistent with the materials and character of the building.

Densely planted trees, shrubs, and decorative opaque fencing/garden walls should be used to screen these areas. Screening elements should be at least 6 feet high (plant material should be at least 6 feet within 2 years of planting). Plants used for screening count toward satisfying the General Landscaping Requirements.

Berms can also be utilized for screening larger areas; however, berms should appear as natural as possible. Berms should not exceed a 3:1 slope (from public or ad-

Picture To Be Inserted

General site landscaping should be organized to: accent architecture, define outdoor spaces, create natural settings and screen parking, service and loading areas from public view.

Landscaped screening of parking areas defines public space and creates an attractive edge.

jacent property view) and the height and path of the berm should be undulated along its length. Berms should also be sufficiently planted with varied groups of vegetation to avoid the appearance of a simple linear mound of earth.

Parking Landscaping

Landscaping within parking areas should be a combination of shade/ornamental trees and shrubs/ground cover. See also the Parking Guideline for additional information including pedestrian walkways.

Landscaped islands should occur not less than every 15 parking spaces.

In addition to the internal landscaping of parking areas, the perimeter, where visible from adjacent rights-of-way and public spaces should be screened/landscaped.

Trees (planted 25 feet on center), shrubs, ground cover and decorative fencing/garden walls are encouraged as components of parking lot screening.

Residential Buffer and General Site Landscaping requirements may be adjusted on a per project basis by the Town depending on specific requirements and circumstances of each development site.

Effective parking lot landscaping including walkway edges, public spaces, islands and perimeters.

General Landscaping Comments

There are many factors that affect plant growth and health and how well plants will perform in a particular environment. A list of plants for a streetscape situation (street trees and parking lots) would be different than a plant list for parks and open space applications while at the same time might also contain many of the same species and varieties of plants.

With this in mind, the trees and shrubs contained in the following list are generally plants that can withstand a fairly wide range of environmental conditions and would be able to remain fairly healthy in urban conditions (such areas as street tree terraces, parking lot buffer areas, buffer zones and side yards) with the proper care. These plants were for the most part selected with the thought that they would be able to survive in the more adverse conditions of various urban situations. However, due to the many factors that affect plant growth and health (i.e., extreme salt loading, soil conditions, exposure to extreme heat and drought) not all plants will do well in all situations and care must be taken in selecting the proper locations for various plants. The selected plants are also more common varieties that should be available at most reputable plant nurseries. This is only a partial list and is by no means all inclusive of plants meeting this description.

Many plants more at home in wooded areas and large open areas such as parks and linear open space corridors, are not included here. This would include plants such as dogwoods, some of the larger viburnums, white pine, etc.

It is suggested that a matrix be added to this plant list in the future to address limitations, advantages and potential problems. The matrix could include things such as sensitivity to salt and soil ph, general soil requirements, susceptibility to disease and pests, nuisances such as tree litter and roots that heave sidewalks, sun and shade requirements and positive aspects such as fall color, fruit and flower characteristics. A more comprehensive list could be developed by addressing additional areas such as parks and open space areas.

This list is divided into five categories and includes: deciduous street trees/canopy trees, deciduous small scale and ornamental trees, deciduous shrubs, coniferous trees and coniferous shrubs. Each category contains the botanical name, common name, mature size and suggested size at the time of planting. The deciduous tree categories also show the average tree size after 30 years.
Following are general comments for each category.

Deciduous Street/Canopy Trees: These trees tolerate a fairly wide range of conditions and should do well in most urban situations. However, most trees have some limitations. Plant Norway Maples sparingly.

Small Scale/Ornamental Trees: With the exception of the Serviceberries, Amur Maples and Cockspur Hawthorn, the trees in this category should function well when used as street trees. These trees are good for situations where a smaller tree is needed such as under overhead utility and power lines. Some of these trees tolerate shade.

Deciduous Shrubs: Most shrubs are adaptable to a wide range of conditions. Included are some suggested Rose varieties. Many of these shrubs are suitable for screening parking lots and other visually undesirable areas. The list includes some broadleaf evergreens (Boxwood, Winterberry). Many species are shade tolerant. Some shade tolerant varieties are more sensitive to extreme urban conditions (Boxwood, Winterberry, Yews) and should be located carefully.

Coniferous Trees: Most of these trees are excellent for screening purposes and are adaptable to urban conditions.

Coniferous Shrubs: This is only a partial list of the many species and varieties of evergreen shrubs available. These shrubs are adaptable to a wide range of situations from landscaped beds and foundation plantings to parking lot buffer areas. Yews are more sensitive to extreme urban conditions.

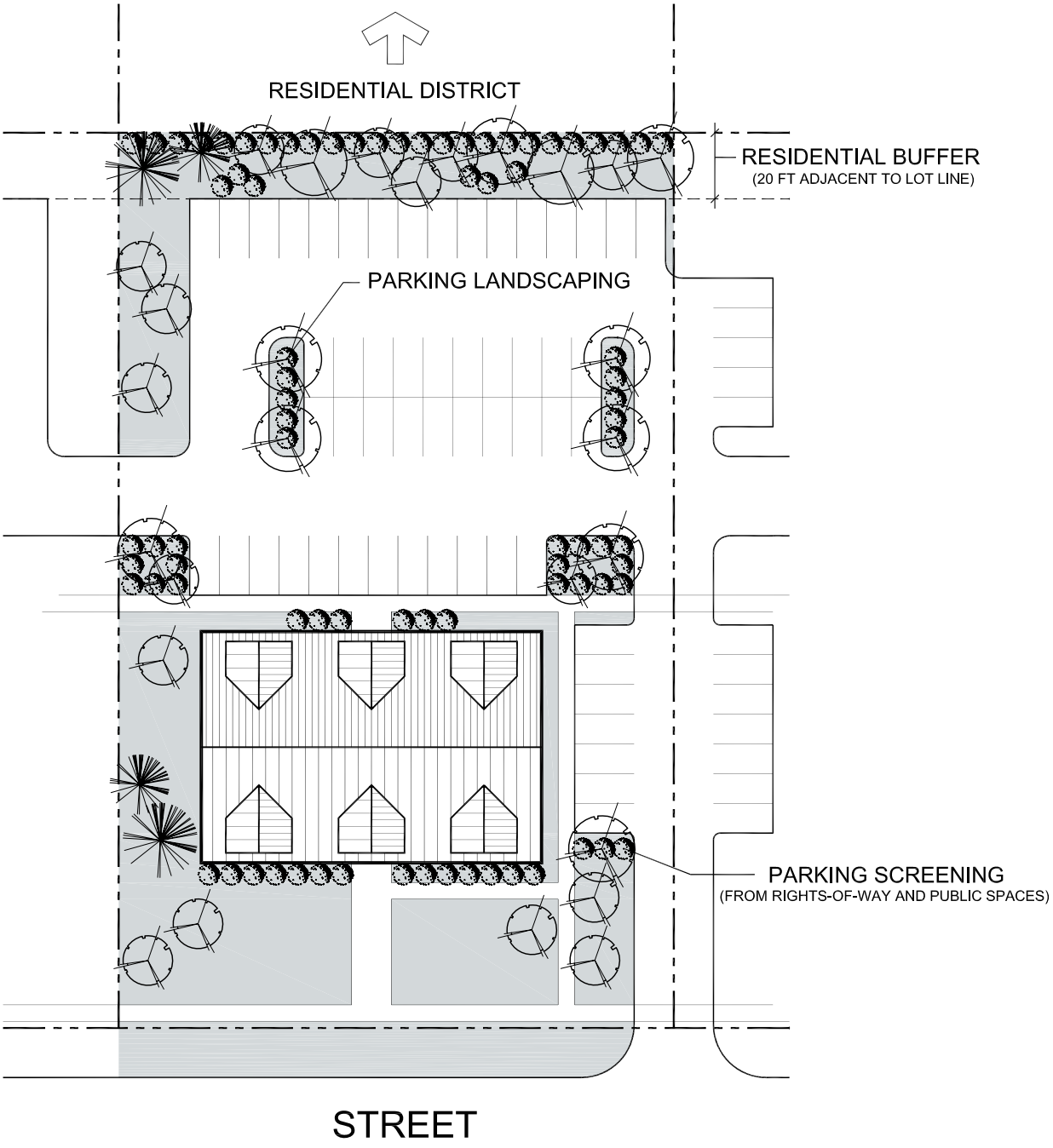
Large canopy trees take many years to mature. Average tree sizes at 30 years are shown as trees have generally "filled out" by this time. Shrubs, due to their smaller size, mature much faster and can reach their mature size in just a few years. Since shrubs grow relatively fast it is suggested that smaller sizes as listed be used at initial planting time unless immediate impact is desired.

Costs for both the plant itself and labor increase relatively fast for installing larger sizes of coniferous trees. Plant the recommended sizes unless immediate impact is desired.

The landscape appendix contains a list of recommended species of trees and shrubs with mature height and recommended height at time of planting.

Residential Buffer and General Site Landscaping.
Residential Buffer Landscaping is recommended within a 20-foot zone adjacent to all residential districts. General Site Landscaping is recommended for the remainder of the site and includes parking lot, service and loading area landscaping.

The diagram below depicts the recommended plant material.



Residential

The following guidelines apply to public areas of residential development in the Town of Summit.

Residential Gateways

The entry into residential areas should be easily identifiable and create a neighborhood image and character for the residents within the area.

A significant visible feature(s) should mark the primary entry or entries into a residential area. Landscaping, signage, a boulevard entry, open space or enhanced stormwater management areas identify neighborhoods as unique and attractive places within the Town.

Street trees should be included along the major entries but need not be planted at regularly spaced intervals. Street trees can, instead, be grouped to create groves and accent open spaces along the major streets.

Stormwater management ponds as a component of a neighborhood gateway should be designed as naturally appearing features surrounded by appropriate vegetation. Rigid geometric shapes should be avoided.

Top: Highly visible monument signs identify the neighborhood and aid in wayfinding.

Right: Boulevards celebrate the entry of neighborhoods while marking the significance of the primary entrance.

Garden walls, plantings, boulevards and paving patterns identify this entrance and give character to the overall development.

Signage

Appropriate signage identifies residential neighborhoods, creates character and identity, and is contextually sensitive to the character of the area.

Signage located at entries to residential neighborhoods should be a monument type sign constructed of natural materials such as brick, stone, and wood. Accent materials such as metal can be used in limited quantity. Individual, plaque-style engraved or wrought lettering and symbols should be used. Internally illuminated lettering and symbols should not be used but the sign may be illuminated from a nearby point source.

Signage should be durable and weather-resistant; painted signage should be avoided. The sign should not exceed five feet in height, however elements of the sign, such as light poles or street signs are exceptions. Landscaping should be incorporated at the base and surrounding the sign.

Unique street signage that further identifies the neighborhood within the Town of Summit is encouraged.

Low-profile residential signage constructed from natural materials identifies neighborhoods while creating a gateway feature for the primary entrance.

Vehicular Access

Increased connectivity of streets allows for shorter local trips, reduced traffic on rural roads and more options for pedestrian/bicycle travel.

Subdivisions should be designed to allow for maximum road connectivity to surrounding roads. Conventional subdivision design utilizes one or two entries, concentrating traffic onto those streets and increasing emergency response time. Increasing the number of entries decreases traffic volume on residential streets while creating more direct routes to local destinations.

Internal street systems should be designed as networks, with multiple routes and easily understood geometry. Connections to adjacent subdivisions are encouraged.

The cul-de-sac should not be the primary street type within residential areas. Street systems should balance cul-de-sacs and connecting neighborhood streets, yielding an easily accessible, desirable and quiet residential setting.

Conventional suburban development with limited access points concentrates traffic while limiting connectivity.

Layout balances cul-de-sacs and connections, creating a desirable residential setting with easy access, reduced traffic and decreases emergency response time. *Draft subdivision concept plan courtesy of Pabst Farms Development LLC.*

Arterial Road Buffers

Residential frontage along major roads should be screened to ensure privacy of the homeowners while preserving the rural character of the street section.

Residential frontage on major roads in the Town should use landscaping, decorative gardens walls or fencing to provide screening. Screening should obscure views from both the road and the home. Combination of trees and shrubs are appropriate to provide a buffer at all heights. Garden walls and decorative fencing further visually enhance the screening.

Open space may be located adjacent to the arterial to provide additional buffering between residences and the road.

Limited application of berms may be appropriate depending on topography and the availability of space to provide a gradual slope from both the road and home side. Berms should appear to be natural features to the greatest degree possible by undulating the height of the berm along its length. Berms should also be sufficiently planted with varied groups of vegetation to avoid the appearance of a simple linear mound of dirt.

Landscaping with a garden wall successfully buffers residential while creating a strong edge at the street.

Residential development buffered from an arterial using a variable slope berm defined by paths, fencing and plantings.

Open Spaces and Trail Features

Creating open space features in residential neighborhoods encourage the establishment of community and community pride. Distinct features and amenities also add value in the neighborhood. Public trails and paths provide scenic and safe walking and biking alternatives for recreation and travel.

Open spaces should be created within residential developments that are easily accessible to the neighborhood. Public rights-of-way around these spaces (including parks) should be maximized when possible, ensuring highly visible and accessible amenities. Larger publicly accessible parks should not be developed in a "backyard" condition, though appropriate for pocket parks. Open spaces within neighborhoods should be geographically distributed to serve all residents, rather than a select few.

Common open spaces surrounded by streets ensures visibility and access by all residents.

Small open spaces and features such as boulevard medians, landscaped cul-de-sac islands, and similar features managed by homeowner associations are encouraged in new developments. In addition to providing visual richness, these features also calm traffic.

Open spaces should protect existing site features, such as woodlands, wetlands and bodies of water, preserving the natural character desired in the Town of Summit. These spaces should also be connected to other areas of the neighborhood and Town via trails or paths developed as components of new residential development.

Open spaces should have an open space management plan to ensure continued maintenance.

Trails should be used to connect neighborhoods to each other and other areas in the Town of Summit

Open spaces should protect environmental amenities such as old growth trees and wetlands.

Stormwater Management Design

Stormwater management areas should be incorporated into residential development design as neighborhood amenities. Features should be sized to properly handle stormwater run-off, but also be designed in a way that add value as focal points and aesthetic features.

Stormwater management ponds should be considered open spaces and created in locations that the edges are easily accessible to the neighborhood when topography allows. Stormwater management ponds and basins should be designed as naturally appearing features surrounded by appropriate vegetation. Rigid geometric shapes should be avoided.

Stormwater ponds are encouraged to be located as prominent landscape features when possible, serving as development gateways, visible natural areas and open gathering spaces. Features can also be utilized as arterial buffers with sufficient amounts of vegetation at its edge.

In addition to, or in place of larger ponds, residential developments are encouraged to use small rain gardens as another means of storm water retention and filtration.

All stormwater management areas should have a maintenance plan to ensure proper water handling as well as a pleasant aesthetic.

Naturalistic stormwater management pond designed as a neighborhood open space adds value to surrounding properties.

Small residential rain gardens on individual parcels or open space collect stormwater from roofs, driveways and roads while serving to beautify the neighborhood.

Multifamily Development

Multifamily development should be visually compatible with existing and future single family residential in the area.

Multifamily residential in the Town of Summit should be limited to planned areas according to the Town Master Plan. Development should follow the guidelines set forth as follows.

Building Aesthetic

Multifamily development should be designed to compliment single family homes through similar massing, height, materials, and character. Building architecture should be varied to add visual diversity to neighborhoods.

Building Scale

The maximum number of units per building should not exceed six in order to maintain a scale and character compatible with adjacent single-family uses. Building massing and articulation should be organized to reflect that of single-family homes in the area.

Building Orientation

Buildings should be oriented and respond to adjacent public streets, internal drives, parking areas and open spaces.

Entries

Each unit within a building should have its own separate and distinct entrance facing the street; corridor style multifamily buildings should be avoided.

Garages

Garage parking should be provided for each unit.

Garages and garage doors should be de-emphasized. Garages should be located in the rear of buildings, oriented to be side loaded, or set back from the main facade so that the architecture is not dominated by the garages/ garage doors.

Garage facades and doors should include windows and detailing consistent with the overall building composition.

Surface Parking

Visitor surface parking should be located away from view from public streets behind buildings or landscaping.

Landscaping

Landscaping should be provided as an integral component of all multi-family developments. Landscaping should be focused in the following areas:

Along the base of buildings (Plantings such as shrubs, perennials and annuals, especially along building edges visible from streets and public areas).

Along lot edges that border single-family uses (Combinations of trees, shrubs and garden walls to separate uses and ensure privacy).

Between surface parking areas and public streets (Combinations of trees, shrubs and garden walls to screen parking areas when visible from streets and public areas).

In groupings throughout the site (Combinations of trees, shrubs, ground cover and flowers to: add visual interest to the site; accent the architecture; and define open spaces).

Multifamily Building Composition and Massing

Implementation of basic architectural design principles ensures residences compliment each other, create a cohesive neighborhood feel, and understandable architecture while not limiting individual building expression and style. Visually interesting facades appeal to the general public while enhancing adjacent open spaces and residences.

Base-Middle-Top

Buildings should be comprised of a visually distinct base, middle and top. Adopting a base-middle-top strategy not only ties the building to a long tradition of architectural expression, but provides a flexible method of relating the building to the pedestrian (base), to the surrounding architecture (middle), and the opportunity for unique identity where the building meets the sky (top). Expression of the elements should be handled through changes in plane, changes in material, horizontal bands, cornices, and/or varied window openings.

A base-middle-top approach to design allows for visual continuity and individual expression between buildings.

Massing

Multifamily buildings should be comprised of a series of residential masses and forms to give the building scale and visual richness. Recess/projections, distinct building components, and varying heights and roof forms according to individual building components are encouraged.


Distinct masses in a building's form provide scale and create interesting architecture.

Proportion

Building massing and components should demonstrate consistent proportional harmonies. Proportion is the numeric ratio of two opposing dimensions such as height: width. The use of proportion is intended to provide a sense of visual harmony among elements of a building. For example: The window proportions could be similar to that of the structural bays of the building or the building as a whole. Elevations many times include multiple proportioning systems (i.e. some components relate to one height:width ratio, while other components relate to another. Buildings with vertically proportioned components (height greater than width) are encouraged to avoid squat-appearing buildings.

Visual harmony through the use of proportion among building elements. This building uses a single proportion rotated 90 degrees to organize both horizontal and vertical elements.

Facade Layering

Elevations should be articulated in a way that give the appearance of multiple facade layers which add depth and avoid the appearance of flat residential facades. Suggested techniques include: porches and balconies, bay windows, roof projections and extending roof eaves.

Landscape Appendix

The following section outlines recommended tree and shrub species along with minimum sizes at time of planting.

Deciduous Street/Canopy Trees	Variety/Cultivar	Mature Size H x W; (at 30 Yrs.)	Planting Size
Acer platanoides (Norway Maple)	'Cleveland' (Cleveland Maple)	55' x 35' (40' x 30')	2 – 3" cal.
	'Crimson King' (Crimson King Maple)	45' x 35' (35' x 25')	2 – 3" cal.
	'Emerald Queen' (Emerald Queen Maple)	75' x 60' (50' x 40')	2 – 3" cal.
	'Pond' (Emerald Luster Maple)	60' x 40' (40' x 30')	2 – 3" cal.
Acer x freemanii (Freeman Maple)	'Jeffersred' (Autumn Blaze Freeman Maple)	50-60' x 40-50' (50' x 40')	2 – 3" cal.
	'Celzam' (Celebration Freeman Maple)	45-65' x 25-40' (45' x 30')	2 – 3" cal.
	'Marmo' (Marmo Freeman Maple)	60-80' x 30-35' (40' x 25')	2 – 3" cal.
	'Morgan' (Morgan Freeman Maple)	45' x 40' (35' x 30')	2 – 3" cal.
Celtis occidentalis (Common Hackberry)*	species	40-60' x 40-60' (40' x 40')	2 – 3" cal.
	'Prairie Pride' (Prairie Pride Hackberry)	40-50' x 40-50' (40' x 40')	2 – 3" cal.
Cercidiphyllum japonica (Katsuratree)	species	40-60' x 25-40' (50' x 30')	2 – 3" cal.
Fraxinus americana (White Ash)*	'Autumn Applause' (Autumn Applause White Ash)	50-60' x 40-50' (45' x 30')	2 – 3" cal.
	'Autumn Purple' (Autumn Purple White Ash)	50-60' x 45-55' (45' x 40')	2 - 3" cal.
	'Skycole' (Skyline White Ash)	50-60' x 40-50' (45' x 35')	2 – 3" cal.
Fraxinux pennsylvanica (Green Ash)*	'Cimmzam' (Cimmaron Green Ash)	45-60' x 25-30' (40 x 20)	2 – 3" cal.
	'Patmore' (Patmore Green Ash)	50-60' x 40-50' (45' x 35')	2 – 3" cal.
	'Summit' (Summit Green Ash)	50-60' x 45-55' (45' x 30')	2 – 3" cal.
Ginkgo biloba (Ginkgo)*	'Autumn Gold' (Autumn Gold Ginkgo)	45-55' x 30-40' (35' x 30')	2 – 3" cal.
	'Princeton Sentry' (Princeton Sentry Ginkgo)	55-65' x 25-35' (40' x 20')	2 – 3" cal.
Gleditsia triacanthos inermis	'Impcole' (Imperial Honeylocust)	30-40' x 35-45' (35' x 35')	2 - 3" cal.
(Thornless Common Honeylocust)	'Shademaster' (Shademaster Honeylocust)	60-70' x 50-60' (50' x 40')	2 – 3" cal.
	'Skycole' (Skyline Honeylocust)	65-75' x 55-65' (50' x 40')	2 – 3" cal.
Gymnocladus dioica (Kentucky Coffeetree)	species	55-75' x 45-65' (40' x 30')	2 – 3" cal.
Quercus robur (English Oak)*	species	60-80' x 50-70' (40' x 35')	2 – 3" cal.
	'Pyramich' (Skymaster English Oak)	50-60' x 25-30' (50' x 20')	2 – 3" cal.
robur x Q. bicolor	'Asjes' (Rosehill Oak)	40' x 20' (30' x 15')	1-1/2 – 3" cal.

Deciduous Street/Canopy Trees (Cont)	Variety/Cultivar	Mature Size H x W; (at 30 Yrs.)	Planting Size
Quercus rubra (Red Oak)*	species	60-80' x 45-65' (40' x 30')	2 – 3" cal.
Tilia americana (Basswood)	'Redmond' (Redmond Linden)	50-70' x 30-45' (45' x 30')	2 – 3" cal.
	'Sentry' (Sentry Linden)	50-60' x 25-35' (45' x 20')	2 – 3" cal.
Tilia cordata (Littleleaf Linden)	'Chancole' (Chancellor Littleleaf linden)	50-70' x 20-30' (50' x 20')	2 – 3" cal.
	'Corzam' (Corinthian Littleleaf Linden)	45-65' x 15-25' (45' x 15')	2 – 3" cal.
	'Glenleven' (Glenleven Littleleaf Linden)	50-70' x 35-50' (50' x 35')	2 – 3" cal.
	'Greenspire' (Greenspire Littleleaf Linden)	50-70' x 35–50' (45' x 30')	2 – 3" cal.
Ulmus x (Hybrid Elms)	'New Horizon' (New Horizon Hybrid Elm)	50-60' x 40-50' (50' x 40')	2 – 3" cal.
	'Pioneer' (Pioneer hybrid Elm)	50-60' x 50-60' (50' x 40')	2 – 3" cal.
	'Regal' (Regal Hybrid Elm)	55-65' x 40-50' (50' x 35')	2 – 3" cal.

* Plants reported in some sources to be resistant to deer and/or rabbits.

Deciduous Small Scale/Ornamental Trees	Variety/Cultivar	Mature Size H x W (at 30 yrs.)	Planting Size
Acer ginnala (Amur Maple)	species	15-20' x 15-20' (15' x 15')	5 – 6' MS
	'Flame' (Flame Amur Maple)	15-25' x 15-25' (15' x 15')	1-1/2 – 2" cal.
Amelanchier canadensis (Shadblow Serviceberry)	species	10-15' x 10' (10' x 10')	5 – 6' MS
	'Glennform' (Rainbow Pillar Serviceberry)	10-15' x 8-10' (10' x 8')	5 – 6' MS
Amelanchier laevis (Allegheny Serviceberry)	species	25' x 15' (20' x 15')	1-1/2 – 2" cal./ 5 - 6' MS
	'Cumulus' (Cumulus Serviceberry)	25-30' x 12-18' (25' x 15')	1-1/2 – 2" cal.
Amelanchier x grandiflora (Apple Serviceberry)	'Autumn Brilliance' (Autumn Brilliance Serviceberry)	20-25' x 15-18' (20' x 15')	1-1/2 – 2" cal./5 - 6' MS
	'Princess Diana' (Princess Diana Serviceberry)	20-30' x 15-20' (20' x 15')	1-1/2 – 2" cal./5 – 6' MS
Crateagus crus-galli (Cockspur Hawthorn)*	var. inermis (Thornless Cockspur Hawthorn)	15-20' x 20-25' (15' x 20')	1-1/2" – 2" cal.
Malus spp. (Flowering Crabapple)	'Adams' (Adams Crabapple)	18-22' x 20-24' (20' x 22')	1-1/2 – 2" cal./ 8' MS
	'Centzam' (Centurian Crabapple)	20-25' x 15-20' (20' x 15')	1-1/2 – 2" cal./ 8' MS
	'Donald Wyman' (Donald Wyman Crabapple)	20-22' x 20-25' (22' x 25')	1-1/2 – 2" cal./ 8' MS
	'Prairiefire' (Prairiefire Crabapple)	18-22' x 15-22' (20' x 18')	1-1/2 – 2" cal./ 8' MS
	'Sentinel (Sentinel Crabapple)	15-20' x 12-20' (16' x 13')	1-1/2 – 2" cal./ 8' MS
	'Spring Snow' (Spring Snow Crabapple)	25-30' x 20-30' (25' x 22')	1-1/2 – 2" cal./ 8' MS
Malus x zumi	'Calocarpa' (Redbud Crabapple)	20-25' x 25-30' (20' x 20')	1-1/2" – 2" cal./ 8' MS
Ostrya virginiana (American Hophornbeam)	species	30-40' x 20-30' (30' x 22')	2 – 3" cal.
Pyrus calleryana (Callery Pear)	'Autumn Blaze' (Autumn Blaze Callery Pear)	35-45' x 25-35' (40' x 25')	2 – 3" cal.
	'Cleveland Select' (Cleveland Select Callery Pear)	35-40' x 15-20' (35' x 15')	1-3/4 – 2-1/2" cal.
	'Redspire' (Redspire Callery Pear)	40-45' x 20-25' (40' x 22')	1-3/4 – 2-1/2" cal.
Pyrus ussuriensis	'MorDak' (Prairie Gem Pear)	20-25' x 15-20' (20' x 15')	1-3/4 – 2-1/2" cal.
Syringa reticulate (Japanese Tree Lilac)	'Ivory Silk' (Ivory Silk Tree Lilac)	20-30' x 15-20' (25' x 15')	1-3/4 – 2-1/2" cal.
	'Summer Snow' (Summer Snow Tree Lilac)	20-25' x 20-25' (20' x 15')	1-3/4 – 2-1/2" cal.

* Plants reported in some sources to be resistant to deer and/or rabbits.

Deciduous Shrubs	Variety/Cultivar	Mature Size H x W	Planting Size
Aronia arbutifolia (Red Chokeberry)	'Brilliantissima' (Brilliant Red Chokeberry)	6-8' x 5-6'	24-36"
Aronia melanocarpa (Black Chokeberry)	var. elata (Glossy Black Chokeberry)	5-6' x 4-5'	24-36"
Berberis thunbergii (Japanese Barberry)*	'Crimson Pygmy' (Crimson Pygmy Barberry)	2' x 2-3'	15-18"
	'J.N. Redleaf' (Ruby Jewel Barberry)	3-5' x 4-5'	18–24"
	'Thornless' (Thornless Barberry)	3-5' x 4-6'	18-24"
Buxus microphylla var. koreana (Korean Boxwood)*	'Wintergreen' (Wintergreen Boxwood)	4-5' x 3-4'	18-24"
Cotoneaster apiculatus (Cranberry Cotoneaster)*	species	2-3' x 3-6'	15-18"
	x 'Hessii' (Hess Cotoneaster)	1-2' x 5-8'	15-18"
Forsythia hybrids*	x 'Happy Centennial' (Happy Centennial Forsythia)	3' x 5'	18-24"
	x 'Sunrise' (Sunrise Forsythia)	5-6' x 7-8'	24-36"
Ilex verticillata (Common Winterberry)	'Red Sprite' (Red Sprite Winterberry)	3-5' x 3-5'	18-24"
	'Jim Dandy' (Jim Dandy Winterberry)	3-6' x 3-6'	18-24"
Physocarpus opulifolius (Common Ninebark)	'Nanus' (Dwarf Ninebark)	5-6' x 5-6'	24-36"
Potentilla fruticosa (Bush Cinquefoil)*	'Abbotswood' (Abbotswood Potentilla)	2-3' x 3'	15-18"
	'Goldfinger' (Goldfinger Potentilla)	3' x 3-4'	18-24"
Rhus aromatica (Fragrant Sumac)*	'Grow Low' (Grow Low Sumac)	2-3' x 6-8'	15-18"
	'Green Globe' (Green Globe Sumac)	4' x 4-6'	18-24"
Ribes alpinum (Alpine Currant)*	'Green Mound' (Green Mound Alpine Currant)	3-5' x 3-5'	18-24"
Rosa rugosa (Rugosa Rose)	species	4' x 6'	24-36"
	'Jens Monk' (Jens Monk Rugosa Rose)	4-6' x 5'	2 gal. pot
Rosa x (Shrub Roses)	'Nearly Wild' (Nearly Wild Rose)	2-3' x 3'	2 gal. pot
	'Noaschee' (Flower Carpet White Rose)	2-3' x 3'	2 gal. pot
	'Noatraum' (Flower Carpet Pink Rose)	2-3' x 3'	2 gal. pot

Deciduous Shrubs (Cont)	Variety/Cultivar	Mature Size H x W	Planting Size
Spiraea japonica (Japanese Spirea) *	'Froebelii' (Froebel Spirea)	3-4' x 3-5'	18-24"
	'Goldflame' (Goldflame Spirea)	2-3' x 3-4'	18-24"
	'Little Princess' (Little Princess Spirea)	2-3' x 3-4'	18-24"
Viburnum carlesii (Koreanspice Viburnum)*	'Compactum' (Compact Koreanspice Viburnum)	4-5' x 5-6'	18-24"
	'J.N. Select' (Spiced Bouquet Viburnum)	4-6' x 5-7'	18-24"
Viburnum x juddii (Judd Viburnum)*	species	6-8' x 6-8'	24-36"
Viburnum opulus (European Cranberrybush Viburnum)*	'Compactum' (Compact Euro. Cran. Viburnum)	4-6' x 5-6'	18-24"
	'Nanum' (Dwarf Euro. Cran. Viburnum)	2-3' x 3-4'	15-18"
Viburnum trilobum (American Cranberrybush Viburnum)*	'Alfredo' (Alfredo Viburnum)	5-6' x 5-6'	24-36"
	'Hahs' (Hahs Viburnum)	6-8' x 6-8'	24-36"
	'J.N. Select' (Redwing Viburnum)	8-12' x 8-12'	24-36"
Coniferous Trees	**Variety/Cultivar**	**Mature Size H x W**	**Planting Size**
Abies concolor (White Fir)*	species	30-50' x 15-30'	5-6'
Juniperus chinensis (Chinese Juniper)*	'Mountbatten' (Mountbatten Juniper)	15' x 6-8'	4-6'
	'Iowa' (Iowa Juniper)	10-15' x 4-5'	4-6'
Juniperus virginiana (Eastern Red Cedar)*	'Canaerti' (Canaert Juniper)	25' x 10-15'	4-6'
	'Cupressifolia' (Hillspire Juniper)	30' x 8-10'	4-6'
	'Hillii' (Hill Dundee Juniper)	20' x 6-8'	4-6'
Picea glauca (White Spruce)*	species	40-60' x 10-20'	5-6'
	var. densata (Black Hills Spruce)	20-40' x 15-25'	5-6'
Picea pungens (Green Colorado Spruce)*	species	40-60' x 20-30'	5-6'
	f. glauca (Blue Colorado Spruce)	40-60' x 20-30'	5-6'
Pinus mugo (Mugo Pine)*	species	15-20' x 20-25'	6-8'

Coniferous Trees (Cont)	Variety/Cultivar	Mature Size H x W	Planting Size
Pinus nigra (Austrian Pine)*	species	50-60' x 20-40'	6-8'
Thuga occidentalis (American Arborvitae)	'Hetz Wintergreen' (Hetz Wintergreen Arborvitae)	20-30' x 5-10'	4-6'
	'Nigra' (Dark Green Arborvitae)	20-30' x 8-10'	4-6'
	'Smaragd' (Emerald Arborvitae)	15-20' x 3-5'	4-6'
	'Techny' (Techny Arborvitae)	25-30' x 10-15'	4-6'
Coniferous Shrubs	**Variety/Cultivar**	**Mature Size**	**Planting Size**
Juniperus chinensis (Chinese Juniper)*	'Nick's Compact' (Nick's Compact Juniper)	3' x 6'	18"
	'Pfitzer Kallay' (Kallays Compact Pfitzer Juniper)	2-3' x 5'	18"
	'Sea Green' (Sea Green Juniper)	4-6' x 6-8'	24"
Juniperus horizontalis (Creeping Juniper)*	'Youngstown' (Andorra Juniper)	12-18" x 6'	18"
Taxus cuspidata (Japanese Yew)	'Monloo' (Emerald Spreader Yew)	2-1/2' x 8-10'	18"
	'Sieboldii' (Siebold Yew)	3-5' x 4-6'	18-24"
Taxus x media (Anglojap Yew)	'Brownii' (Brownii Yew)	4-8' x 4-8'	24"
	'Densiformis' (Densi Yew)	3-6' x 4-8'	24"
	'Wardii' (Ward Yew)	3-5' x 6-10'	24"

* Plants reported in some sources to be resistant to deer and/or rabbits.