

C i t y o f S i o u x F a l l s

# *Landscape Design Manual*



Prepared by the Sioux Falls Planning and Building Services,  
Public Works, and Parks and Recreation Offices

*Revised March 2010*

# Landscape Design Manual for the City of Sioux Falls

<b>CITY ORDINANCES</b>	<b>4</b>
<b>SPECIAL DESIGN REVIEW DISTRICTS</b>	<b>8</b>
<b>DOWNTOWN STREET TREES</b>	<b>8</b>
<b>LANDSCAPING OPTIONS IN THE PUBLIC RIGHT-OF-WAY</b>	<b>10</b>
<b>GROUNDCOVER MATERIALS</b>	<b>10</b>
<b>DIFFICULT SITES</b>	<b>11</b>
<b>SPRINKLER SYSTEMS</b>	<b>11</b>
<b>HARD-SURFACING</b>	<b>11</b>
<b>TREES</b>	<b>12-13</b>
<b>HEDGES AND SHRUBS</b>	<b>13</b>
<b>PLANT MATERIAL RECOMMENDATIONS</b>	<b>14-15</b>
<b>INTERSECTION AND DRIVEWAY SAFETY ZONES</b>	<b>16</b>
<b>LANDSCAPING PARKING LOTS</b>	<b>18-20</b>
<b>PLANT LISTS FOR SIOUX FALLS</b>	<b>22</b>
<b>PROHIBITED SPECIES OF STREET TREES</b>	<b>22-23</b>
<b>HINTS FOR KEEPING RIGHT-OF-WAY AND PARKING LOT TREES ALIVE AND HEALTHY</b>	<b>24</b>
<b>IMPORTANT PHONE NUMBERS</b>	<b>26</b>

## **Landscape Design Manual for the City of Sioux Falls**

*"It is the desire of the City of Sioux Falls to encourage development which is environmentally sensitive, socially responsive, as well as aesthetically pleasing."*

These objectives are set forth to ensure a higher standard of community quality in Sioux Falls than is found in many large cities. Their meaning is simple, but achieving them can be difficult. The information contained in this booklet is intended to serve as a guideline for property owners and City officials alike so that informed decisions can be made concerning the City's landscaping requirements. It is important to note that each piece of property presents its own unique opportunities and challenges. Exceptions to the guidelines presented here may be necessary. However, any deviations should be discussed with the appropriate City officials in Engineering, Planning and Building Services, or Parks and Recreation Offices.

The following four pages contain the City ordinances that pertain to landscaping requirements. They address issues concerning landscaping of front yard setbacks, required trees, screening of parking lots and dumpsters, installation requirements, maintenance, right-of-way landscaping, and intersection and driveway safety zones.

## City Ordinances

**15.49.060. Landscape Standards.** It is the desire of the City of Sioux Falls to encourage development which is environmentally sensitive, socially responsive, as well as aesthetically pleasing. To assist in these objectives, a minimum standard for a landscaped setback is prescribed and landscape features are implemented to minimize the adverse effects commonly incidental to higher density residential, commercial, and industrial property improvements. Under no circumstance is the use of artificial plantings acceptable to meet the requirements of this ordinance.

- (a) **Required landscaping of front yard setbacks:** At least 90 percent of the required front yard setback in any zoning district shall be landscaped and maintained with living ground cover. The required setback may include necessary hard-surfacing of walkways and gardens, or of driveways to reach allowable parking, loading, or stacking areas. Poured or laid asphalt, concrete, or similar hard-surfacing shall not be counted in calculations of living ground cover. Landscape areas must be capable of providing a substantially full expanse of foliage within three years after planting.
- (b) **Trees:** Valuing the benefits provided from the use of trees in reducing heat, pollution, and the loss of habitat resulting from the use of expansive areas of hard-surfacing for parking purposes, the following standards regarding trees shall be met and maintained:
- (1) *Total number of trees required:*
- Trees shall be required at the rate of one tree per 50 feet of frontage or one tree per six parking, loading, and stacking spaces provided on the site, whichever is greater. Where fractional trees result, the number of required trees shall be rounded to the nearest whole number.
- Exception:** If parking facilities or buildings can utilize zero setbacks, one tree per 50 feet of frontage shall be provided within the right-of-way subject to approval by the City Engineer. Street median locations may be acceptable subject to City Street Design Standards and review by the City Engineer.
- (2) *Placement according to type and percentage allowed:*
- Deciduous shade tree** (greater than 30 feet in height at maturity)—may be utilized for 100 percent of the total tree requirement. Only deciduous shade trees may be utilized for required interior trees or right-of-way planting. No more than 20 percent of the total tree requirement may be planted in the right-of-way area.
- Deciduous ornamental** (less than 30 feet in height at maturity) **and evergreen or coniferous trees**—up to 25 percent of the required trees may be deciduous ornamental, evergreen, or coniferous trees; however, they shall not be planted in a driveway or intersection safety zone nor utilized for parking lot interior trees or right-of-way plantings. When overhead power lines are located in the public right-of-way and street trees are

required, ornamental street trees may be used after approval by the City Engineer, with the consultation of the City Forester.

(3) *Interior tree requirements:*

When unenclosed interior parking spaces are provided on the site, one tree shall be required for every 18 interior parking spaces. Every interior tree shall be located in a planting island entirely within the hard-surfaced area utilized for parking and maneuvering purposes. Said islands shall have dimensions of at least five feet wide and contain a minimum of 36 square feet per tree. Planting islands shall utilize raised curbs or wheel stops necessary to prevent damage from vehicles.

(4) *Existing tree bonus:*

The City encourages the preservation of any existing trees on a site which are in good condition and at least 1¾-inch caliper in size. Such trees may be counted as part of the required number of trees on a site. A credit of two trees toward the number of required trees shall be given for each existing tree on a site that is of an acceptable species which is over 10-inch caliper in size. This credit, however, may not be applied in reducing the number of required interior trees.

(5) *Unlawful cutting of trees and shrubs:*

No person may top, severely trim, destroy, or remove any trees, shrubs, or other vegetation in an area where such trees or shrubs are required to be placed under this code. Target pruning of trees shall not exceed 25 percent of the canopy height.

(6) *Tree and shrubbery replacement:* Any required trees or shrubs that are removed shall be replaced with similar plant material size and type in accordance with the standards of this code or permits issued under this code. Any required mature deciduous tree which has been removed shall be replaced with a similar plant type with a 2½-inch minimum caliper size. Any required mature evergreen or coniferous tree shall be replaced with a similar type tree with a minimum height of six feet. Any required mature shrubbery which is removed, shall be replaced with a similar plant type that has a three-gallon minimum pot size.

(c) **Parking Lot Buffer Areas:** A setback area of at least five feet shall be provided between the parking surface and property line where a parking lot abuts neighboring residentially used property.

**Exception:** Where a screen fence or wall is provided, the required setback may be reduced to two (2) feet.

(d) **Parking Lot Screening:** A fence, wall, berm, or shrubbery four feet in height and of a character necessary for adequate screening of a parking lot from adjacent residentially used property shall be provided. Where the residentially used property is across the right-of-way from a parking area, screening shall be provided in all cases except when the right-of-way is an arterial street.

Berms or other landscaping techniques may be used for all or part of the screening requirement and may be incorporated into a required landscaped setback area. Berms shall have a maximum grade of three feet horizontal to one-foot vertical and shall be sodded or planted with other acceptable living ground cover.

- (e) **Screening Dumpsters:** All outside dumpsters or other garbage receptacles on the site shall be screened by an opaque fence or wall a minimum of six feet in height.
- (f) **Installation Requirements:** A minimum quantity of trees calculated as one tree per 50 feet of street frontage shall be planted in the required front yard setback. Trees shall be located no closer than two feet to any curb or hard-surfaced area, and all landscape materials required by this section shall be installed in accordance with accepted industry standards. Minimum planting sizes of landscape material to meet the requirements of this ordinance are as follows:
  - (7) *Hedges:* If hedges are utilized for the required screening of the parking lot, plantings shall be a minimum height of 18 inches above ground level and of a species that is normally capable of reaching a height of four feet within three years. Spacing shall be 18 to 36 inches apart, depending upon species.
  - (8) *Ground covers and shrubs:* If ground covers or shrubs are utilized in areas required to be landscaped, plantings shall be a minimum 2-5 gallon pot size and spaced no more than four feet on center depending upon species.
  - (9) *Deciduous shade tree:* A minimum of 1¾-inch caliper measured at a point six inches above immediate ground level and normally capable of reaching a height of 30 feet or more at maturity.
  - (10) *Deciduous ornamental tree:* A minimum of 1¼-inch caliper measured at a point six inches above immediate ground level normally growing to a height of less than 30 feet at maturity.
  - (11) *Evergreen or coniferous tree:* A minimum height of five feet measured above immediate ground.
- (g) **Maintenance:** The use of in-ground sprinkler systems is encouraged, and at a minimum, water services shall be conveniently located to provide a permanent and easily accessible means of watering. Property owners shall be ultimately responsible for the proper maintenance of all required landscape materials and any dead or substantially damaged required landscape materials shall be replaced immediately.

**15.51.170. Intersection Safety Zone.** No monument style sign or other sign with its face less than twelve (12) feet above grade or any fence, wall, shrub, evergreen or coniferous tree, or other obstruction to vision exceeding three (3) feet in height above the established street grade shall be erected, planted, or maintained within the area of a corner lot that is included between the lines of the intersecting streets and a straight line connecting them at points thirty (30) feet distant from the intersection of the right-of-way lines.

**Exception:** In the C-3 Central Business Zoning District, where the Traffic Engineer deems that the potential for a traffic hazard is minimal, the requirement for the driveway safety zone may be waived.

**15.51.171. Driveway Safety Zone.** No monument style sign or other sign with its face less than ten (10) feet above grade or any fence, wall, shrub, evergreen or coniferous tree, or other obstruction to vision exceeding three (3) feet in height above the established street grade shall be erected, planted, or maintained within the area from the curb line to ten (10) feet behind the curb line.

**Exception:** In the C-3 Central Business Zoning District, where the Traffic Engineer deems that the potential for a traffic hazard is minimal, the requirement for the driveway safety zone may be waived.

**Section 38-12. Right-of-way landscaping:** The portion of a dedicated public right-of-way between the street and the property line except the sidewalk shall be landscaped and maintained by the abutting property owner. Landscape shall be limited to sod, seed, or other living ground cover approved by the city. Nonliving ground cover, including, but not limited to, rock, stone, brick, concrete, asphalt, or other like materials, shall *not* be used as landscape material except as provided herein.

The city may authorize the use of nonliving ground cover for landscaping a public right-of-way when it is determined that a location will not allow for adequate maintenance of sod or other living ground cover. This exception shall not include the use of loose rock or asphalt as landscaping materials.

**42-49. Duties of Private Owners.** It shall be the duty of any person growing a tree within the parking strip or other public place or responsible for trees growing on property abutting on public places supporting trees or plants to:

1. Trim tree so as not to cause a hazard to public places or interfere with the proper lighting of public streets or avenues by the streetlights. All large established trees shall be trimmed to sufficient height to allow free passage of pedestrians and vehicular traffic and in such a manner so as to allow ten (10) feet clearance over sidewalks and twelve (12) feet clearance over all streets; provided, however, that trees along arterial or collector streets shall be trimmed to allow clearance of at least sixteen (16) feet.
2. Treat and remove any tree or plant so diseased or insect ridden as to constitute a hazard to trees or plants in public places.

## **Special Design Review Districts**

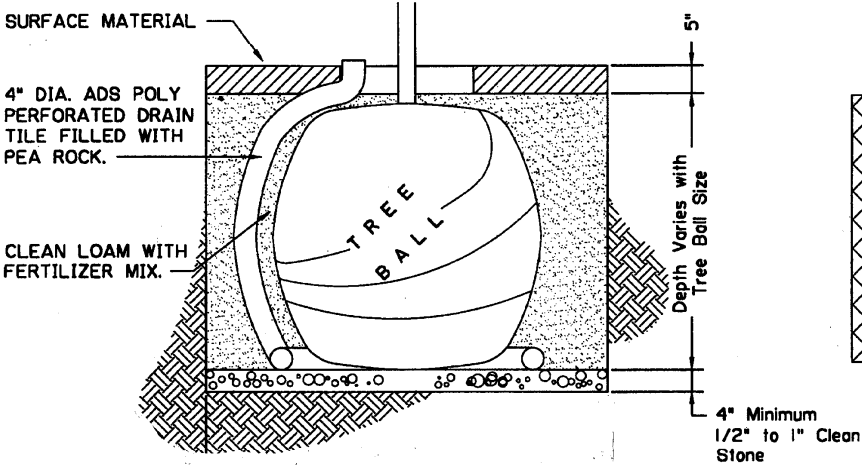
These districts are intended to provide both developing and redeveloping areas with special standards to protect and enhance unique features of specified locations in Sioux Falls. Examples include the 49th Street Corridor, the River Greenway, and the I-229 Design Review District. Generally, additional landscaping requirements are included for street trees and screening of parking and loading areas. Landscaped berms or groupings of conifers are also required in some locations to provide year round screening of certain buildings or land uses.

## **Downtown Street Trees**

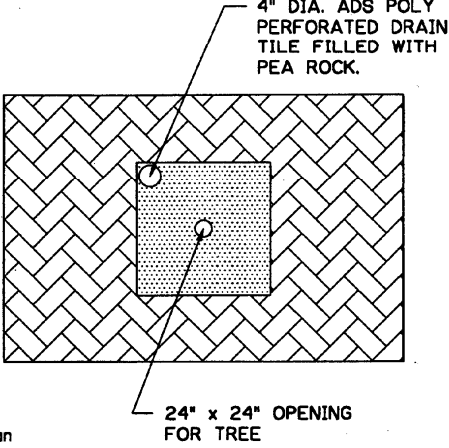
In the downtown area where structures and parking facilities are often constructed to the sidewalk, one street tree per 50 feet of frontage is to be provided within the right-of-way. Typically, a four-foot by six-foot planting area set with concrete pavers is the desired specification for street tree planters. (See Diagram A, page 9). Tree grates measuring at least four-foot by five-foot may also be used but should be ADA (Americans with Disabilities Act) approved. It is recommended that newly planted street trees in the downtown area include the following varieties: Green Ash, Shademaster variety of Honeylocust, and Sugar Maple.



**Diagram A**



**Planter Side View**



**Planter Top View**

NOTES:

- 1) TREE PIT AREA SHALL BE EXCAVATED THREE TIMES THE SIZE OF THE ROOT BALL AND TO THE DEPTH OF THE ROOT BALL.
- 2) PLACE LAYER OF CLEAN STONE GRADED BETWEEN 1/2" AND 1" TO A DEPTH OF AT LEAST 4".
- 3) DRAINAGE TILE: 4" DIA. PERFORATED TILE SHALL MEET ASTM F405.
- 4) PLACE THE TREE BALL ON THE STONE LAYER AND BACKFILL WITH CLEAN LOAM AND FERTILIZER MIX.
- 5) TREES SHALL BE THOROUGHLY WATERED FOR 2 TO 3 DAYS BEFORE SURFACE MATERIALS ARE PLACED TO ALLOW FOR SETTLEMENT. SHOULD SUBSTANTIAL SETTLEMENT OCCUR AFTER SURFACE MATERIALS ARE IN PLACE, PROPERTY OWNER SHALL MAKE THE NECESSARY REPAIRS.
- 6) FOR INTERIOR TREE PLANTING WITHIN PARKING AREAS, SUGGESTED SURFACE MATERIALS ARE WOOD MULCH OR A LIVING GROUND COVER. FOR DOWNTOWN AREA TREE PLANTING, CONSULT MAIN STREET SIOUX FALLS, INC.

## **Landscaping Options in the Public Right-of-Way**

The Sioux Falls Engineering Department regulates the use of all public right-of-ways. The right-of-way includes the sidewalk, the street, and the land between. The Parks and Recreation Department regulates the planting of trees in the public right-of-way. Although it is public property, adjacent property owners are responsible for the maintenance of vegetation including street trees. The City landscaping ordinances are designed to promote the aesthetic beauty of the streets of Sioux Falls, and to ensure that landscaping material placed in the right-of-way does not interfere with snow removal, water drainage, public walking, and maintenance of streets and utilities; nor contribute to the deterioration of streets.

### ***Groundcover Materials***

The establishment and maintenance of grass is encouraged along all streets in the city because of its aesthetic value. Grass improves the appearance of the street and adjacent properties, and reduces accumulation of trash, litter, and weeds.

Nonliving groundcovers such as rock and asphalt are not acceptable landscaping materials in the right-of-way. Rock areas tend to fill with sand and debris from the street and soon become very weedy. Rocks are often scattered on streets, sidewalks, and onto adjacent yards causing potential for personal injury or vehicle damage. They can also accelerate deterioration of curb and gutter by disrupting natural drainage and allowing water to accumulate. Asphalt paving can fade and is subject to cracking and heaving from weeds growing through the surface.

Berms, whether covered with grass or other groundcover, should not be used in the public right-of-way. If poorly designed, berms can interfere with drainage, and can cause problems with sidewalk installation and sight distance. The City Engineer shall review all berms to be located in the public right-of-way.

### ***Difficult Sites***

Due to various environmental factors, the maintenance of grass in some right-of-way is difficult. However, through the use of irrigation, fertilization, and the removal of salt and sand after snowmelt in the spring, an acceptable quality of grass can be maintained. In areas where it is determined that grass cannot be adequately maintained, other groundcover plant materials may be approved by the City Engineer.

### ***Sprinkler Systems***

Underground sprinkler systems may present special problems when installed in the right-of-way. Spray heads placed at the back of curb may be damaged by snow removal and street maintenance operations and may damage the curb and street due to leaks. All damage should be reported to Public Works. Mister-type spray heads should be used in the area between the sidewalk and back of curb to avoid spraying over the sidewalk or into the street.

### ***Hard-Surfacing***

The use of some surfacing materials can be considered in areas where maintenance of living groundcover is not possible. Locations where the space between the sidewalk and curb is 2 1/2 feet or less in width, or where excessive slope or erosion potential exists may warrant use of pavers or concrete surfacing. Pavers or brick set on a sand base are the preferred choice for surfacing materials. Pavers are available in a variety of shapes, sizes, and colors, allowing an attractive design. They allow the passage of air and water, which is beneficial to plant material planted in the right-of-ways. Concrete can be used in some locations such as commercial zones where an extra wide sidewalk becomes the best use of a limited right-of-way. Asphalt cannot be used.

Where any hard-surfacing materials are used, open areas of at least 25 square feet should be maintained around street trees. Written approval should always be received from the City Engineer's Office at (605) 367-8601 prior to any installation of hard-surfacing materials in a right-of-way.

## **Trees**

The right-of-way, whether surfaced with grass or other material, can also be planted with trees in most situations. As previously mentioned, trees help to improve the aesthetic appearance of the street. They serve several other important functions as well. Street trees will:

- ◆ Reduce and stabilize summer temperatures.
- ◆ Help maintain a desirable humidity level.
- ◆ Help reduce noise levels.
- ◆ Reduce wind velocities.
- ◆ Control airborne dust.
- ◆ Increase property values.

Deciduous shade trees are recommended exclusively for use in the right-of-way. They supply the greatest amount of shade for the street and adjacent properties. The plant list referenced in the back of this booklet outlines which species are prohibited.

Trees should be pruned to a height of 10 feet above the sidewalk so that pedestrians can walk under them without obstruction. This increases to a height of 12 feet over the street to allow for passage of cars and trucks. For street trees along arterial or collector streets, the required pruning height is 16 feet. Please refer to Section 42-49 in the City Ordinance.

Ornamental trees located in the public right-of-way shall be permitted only after approval by the directors of Public Works and City Parks and Recreation Departments. They are discouraged because they either produce fruit that creates a mess on the sidewalk and street or because they create traffic hazards by blocking motorists' vision.

The use of evergreen trees in the right-of-way is strictly prohibited. The growth habit of these trees result in obstructed sidewalks and impeded vision of motorists.

### ***Trees, Continued***

Right-of-way plantings must not obstruct the clear view of any traffic control sign for a distance of 150 feet or any traffic signal light for a distance of 300 feet, according to the Institute of Transportation Engineer's Handbook. Trees near intersections controlled by a stop or yield sign should be planted at least 30 feet back from the sign to alleviate any sign visibility problems.

### ***Hedges and Shrubs***

Living screens, or hedges, are a common landscaping requirement—particularly around parking lots and commercial properties. City ordinance requires that hedges be a minimum height of 18 inches when planted and of a species that is typically capable of reaching a height of four feet in three years or less. For minimum pot size requirements, cross reference items 7 and 8 on page 6 of this manual.

There are many species of shrubs that can be effectively used as a hedge. As a general rule, the shorter a hedge is maintained, the closer the plants will need to be spaced. Although all shrubs can be trimmed occasionally, some of the plants give best results when they are not severely sheared and shaped.

The Landscape Standards Ordinance requires that at least 90 percent of the required front yard setback be landscaped and maintained with living groundcover. The plant material in this landscaped area should be sod or seed or be capable of providing a full expanse of foliage within three years of planting. If shrubs are planted close together to fulfill the ground cover requirement, shrubs shall be planted at a distance so that the three-year spread of foliage will fill the gaps between shrubs.

## **Plant Material Recommendations**

A list of recommended deciduous shade trees, evergreen trees, ornamental trees, ground covers, hedges, and shrubs can be obtained from the Forestry Supervisor of the City Parks and Recreation Department at (605) 367-8150.

### **Conifers**

Coniferous evergreen trees are often used as a method of screening objectionable views as well as the cold winter wind. There are many different species of evergreen trees; however, some are more tolerant of urban conditions than others. In general, evergreen trees are very tolerant of poor soils and droughty conditions. They are not at all tolerant of extended periods of wet, saturated soils. As previously stated, evergreen trees are not allowed to be planted in the right-of-way due to visibility problems.

### **Ornamental Trees**

In some special cases, it may be acceptable to plant smaller ornamental trees. An example of such a situation would be where the height of the tree is limited by overhead powerlines. The City Zoning Ordinance prohibits ornamental trees of all types in the public right-of-way and parking lot interiors. However, they are allowed to be used for up to 25 percent of the total required trees in other required landscaping situations such as the front yard setback and parking lot perimeters.

## **Groundcovers**

Groundcovers other than turf may be allowed to be planted in the right-of-way only if it is not possible to maintain an acceptable quality of turf. If a ground cover other than grass is desired, the property owner must submit a request in writing to the City Engineer for review and determination. The request must include the list of desired plants by scientific name. By department policy, the City will not accept liability for damage caused by street chemicals or liability beyond the cost of replacement with grass for damages caused by street snow removal, or street improvements or maintenance. Whatever groundcover is used, it must not exceed one-foot in height and it must provide a dense foliage cover.

## **Intersection and Driveway Safety Zones**

As written in the City Zoning Ordinance, a triangular Intersection Safety Zone exists on corner lots. The triangle is defined on two sides by lines originating at the intersection of the right-of-way lines and extending 30 feet along the right-of-way lines in each direction. The third leg of the triangle is made by connecting the ends of the first two lines. (See Diagram B on page 17). No structure or plant material inside this triangular area may exceed three feet in height, with the exception of trees.

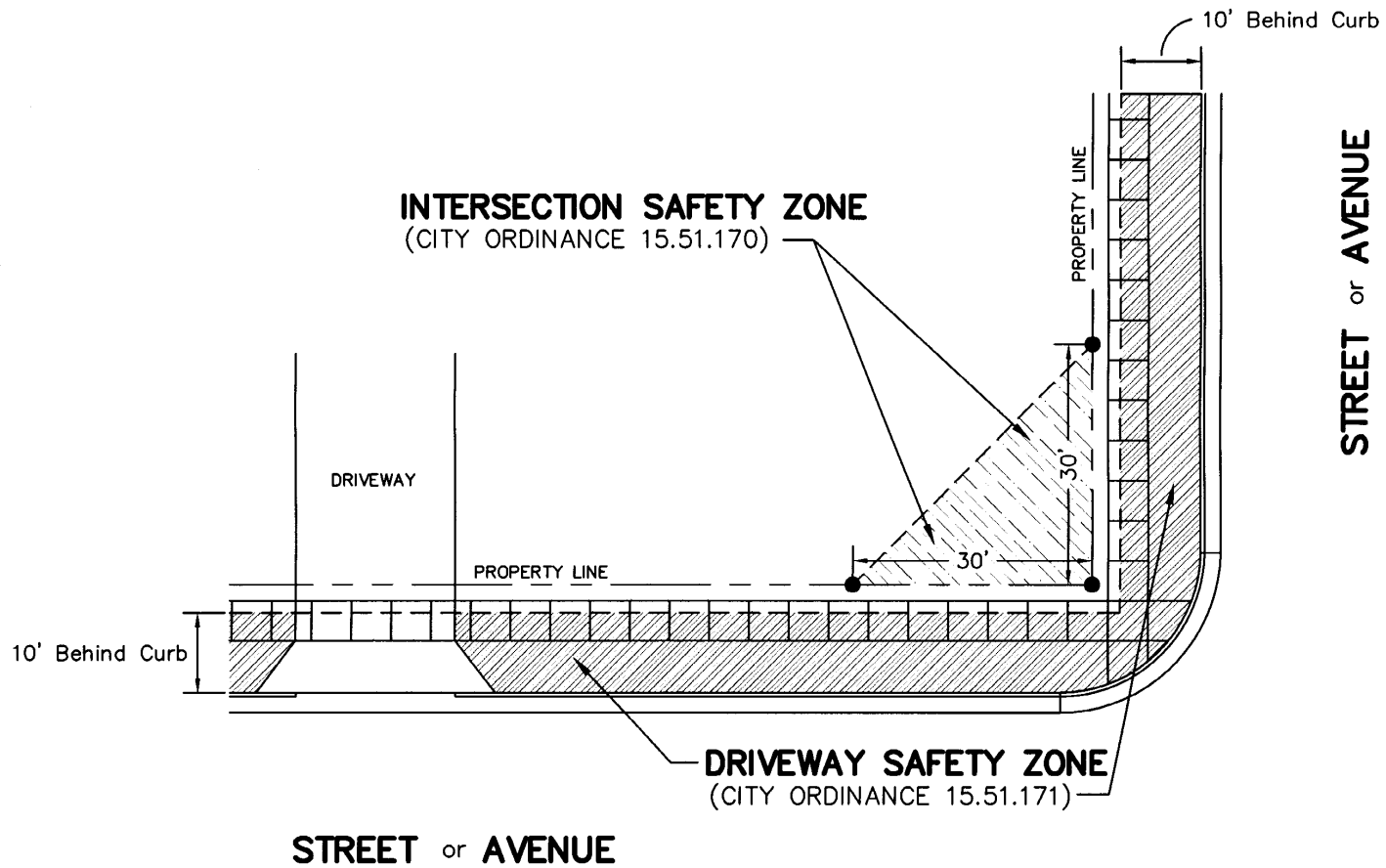
If trees are planted within the Intersection Safety Zone, their canopy must be maintained at a height of 12 feet or more. Any shrub listed as being three feet or less in height at maturity would be allowable in the Intersection Safety Zone. Plants taller than three feet in height at maturity would not be allowable. Fences, sculptures, or other structures are likewise limited to three feet within the Intersection Safety Zone.

A similar safety zone exists for driveways. No sign with its face less than 10 feet above grade or any fence, wall, shrub, or other obstruction to vision exceeding three feet in height above established street grade shall be erected, planted, or maintained within the area from the curb line to ten feet behind the curb line. (See Diagram B on page 17).



# Diagram B

## VISIBILITY ORDINANCES FOR PROPERTY OWNERS



## Landscaping Parking Lots

There are few areas in the urban environment as harsh and unsightly as bare, open, parking lots. Winds howl across them unabated in the winter. During the summer, the intense heat from the sun is magnified as it reflects off the parking lot surface. The enormous amount of paved surface prevents infiltration of rain and speeds runoff. This necessitates larger and more expensive storm sewers and contributes to stream flooding as the runoff is quickly channeled away. Traffic flow within parking lots is often extremely confusing due to the absence of clear directional structures. Parking lots thus often tend to degrade the buildings they were built to serve.

Landscaping can make all the difference. With an integrated parking lot and landscape design, parking lots can contribute to the environment rather than detract from it. Many of the benefits that are offered by street tree plantings also apply to parking lots. A good parking lot landscape will:

- ◆ Help purify and add oxygen to the atmosphere.
- ◆ Reduce and stabilize summer temperatures.
- ◆ Help maintain a desirable humidity level.
- ◆ Control the quantity and rate of run-off.
- ◆ Help reduce noise levels.
- ◆ Reduce wind velocities.
- ◆ Control airborne dust.
- ◆ Help control and direct traffic.
- ◆ Screen undesirable views.
- ◆ Increase property values.
- ◆ Beautify the environment.

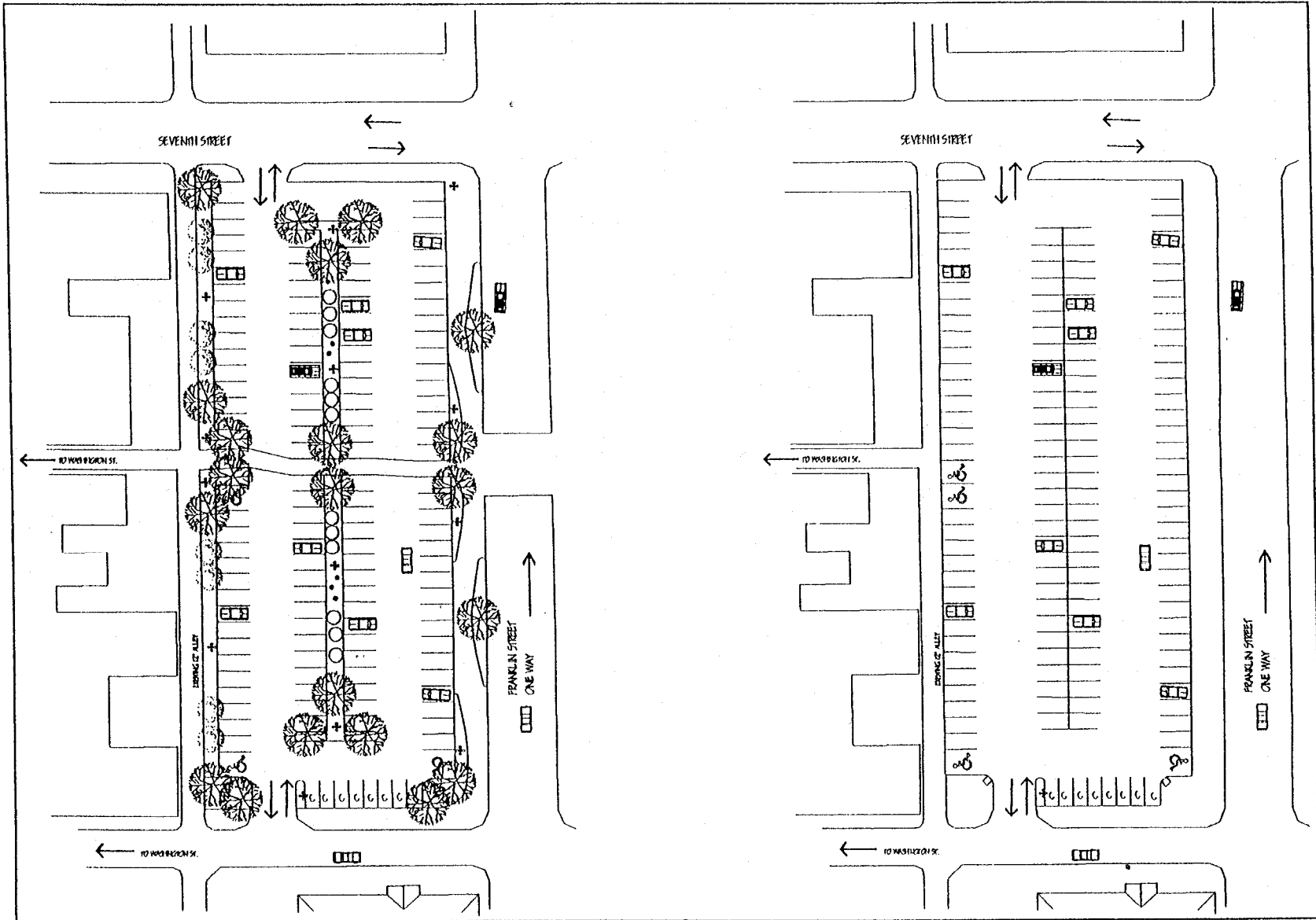
The best way to develop a quality parking lot design is to consult with a local landscape design firm. They will be able to offer expert advice on plant material selection as well as additional hardscape features such as walkways, berms, and fences. The following are a few suggestions for maximizing the aesthetics of a parking lot:

- Screen parking lots next to residential uses with hedges or other barriers. This will reduce visual clutter caused by parked cars and prevent headlight glare onto adjoining properties.
- Trees planted in the parking lot are required to be deciduous shade trees and in planting islands, and should have a minimum of 36 square feet of unpaved surface per tree. This will ensure that the tree remains healthy and vigorous. These islands should be a minimum of five feet in width to allow for adequate spacing and water infiltration for the plants.
- Plant trees around the perimeter of the parking lot as well. This will provide more plant mass to help in atmospheric purification as well as reducing the rate of run-off and reducing summer temperatures.
- Conifers should be utilized sparingly. They are best used as a screen for the harsh northwest winter winds, and thus are effective when placed on the northwest corner of the parking lot.
- Small ornamental trees are allowed in the perimeter of parking lot landscapes; however, they should be used sparingly. They do not provide as much shade as larger trees. They are best used as accent points that serve to draw attention to building entrances.

Diagram C on page 21 shows two options for the same parking lot. The parking lot on the right shows a typical parking lot as they are commonly built. It is a sea of asphalt with absolutely no function except that of holding cars. This is the type of design that should be avoided.

The parking lot on the left, however, has been designed with an integrated landscape. Notice the use of both interior and perimeter trees to provide not only shade, but direction. The major pedestrian walkways are set in pavers. This encourages people to use a central pathway rather than wandering through the parking lot. It also alerts motorists that this is a spot where pedestrians are likely to be walking. Plantings around the edges of the lot are integrated with the sidewalk, making them part of the streetscape. All of this has been gained with only four parking stalls lost. This is a good example of proper parking lot design.

# Diagram C



## Plant Lists for Sioux Falls

Sioux Falls is in the United States Department of Agriculture's (USDA) hardiness Zone No. 4. This means that all plants listed as being hardy from zones one through four are hardy for the Sioux Falls area. The following pages contain plant lists describing recommended plants for a variety of landscaping situations. These lists are not all inclusive. A local landscape nursery should be consulted for more information about specific plant materials.

### Street Trees and Shade Trees

Large deciduous shade trees are most recommended for planting in the right-of-way and around parking lots. The next few pages contain lists of deciduous shade trees that are *prohibited* for planting in the right-of-way and other areas where shade trees are required. Certain types of trees are not allowed to be planted in the street right-of-way for various reasons, including: high susceptibility to certain diseases, production of large or messy fruit, and growth habit. The following varieties of trees are prohibited for planting in the right-of-way:

### ***Prohibited Species of Street Trees and Shrubs***

#### **Soft or Silver Maple—*Acer saccharinum*:**

All varieties prohibited.

Soft Maples are shallow-rooted causing sidewalks and curbs to heave and break. Soft Maples are also weak crotched, which makes them subject to severe wind damage.

#### **Cottonwoods and Poplar—*Populus sp.*:**

All varieties prohibited.

Cause broken curbs and sidewalks. They are subject to wind damage. Produce cotton. Most are short-lived. Create traffic hazards.

**Linden—Tilia:**

All varieties prohibited.

**Honeylocust—Gleditsia (Skyline and Common):**

The Skyline variety is susceptible to canker and is short-lived.  
Common Honey Locust has dangerous thorns and seeds.

**Siberian Elm (Chinese Elm)—Ulmus pomila:**

Susceptible to canker and are short-lived.

**American Elm—Ulmus americana:**

Susceptible to Dutch Elm Disease.

**Birch—Betula sp.:**

All varieties prohibited.

Susceptible to attack by bronze birch borers which cause death of the tree.

**Fruit Trees:**

All varieties prohibited.

**Shrubs:**

All varieties prohibited.

Cause traffic hazards and impede pedestrian movement.

**Evergreens and Conifers:**

All varieties prohibited.

Cause traffic hazards and impede pedestrian movement.

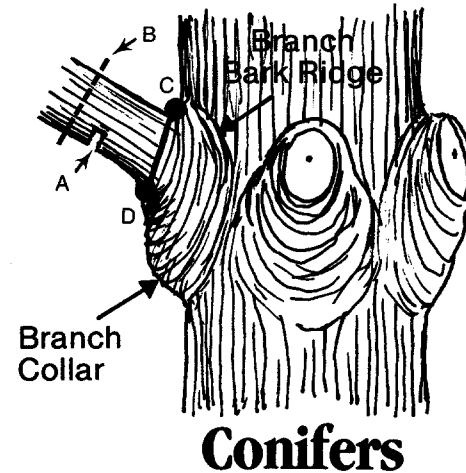
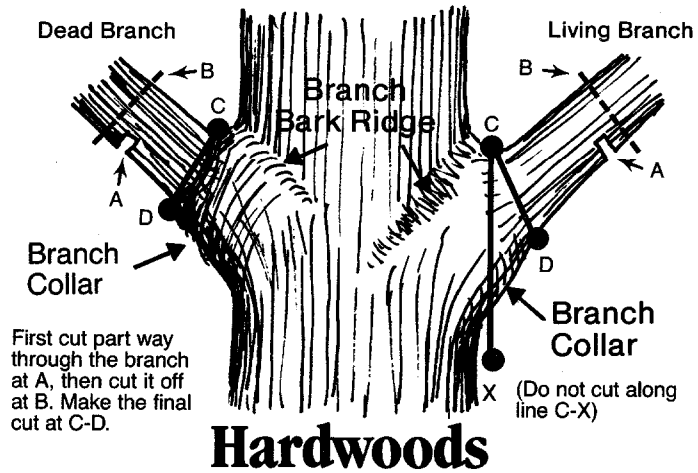
## Hints for Keeping Right-of-Way and Parking Lot Trees Alive and Healthy

1. Leave a ring around trees that is not planted in grass. Grass must be mowed, and when mowers or weed eaters are used right next to a tree, the bark is often scraped or nicked. Over time, the bark can be damaged all the way around the tree, resulting in the death of the tree. This condition is commonly referred to as “mower blight” and can be avoided by providing a small ring around the tree filled with shredded wood mulch. This eliminates the need for mowers to be used immediately adjacent to the tree.
2. Monitor the trees occasionally. It takes only a few minutes to walk around your lot and take a quick look at the trees. Look for signs of distress such as excessive leaf drop, leaf discoloration, large bare branches, excessive damage to the bark, or any noticeable insect problems. The time you spend monitoring the trees will give you some personal satisfaction from the landscape and may save money in replacement costs.
3. It is the property owner’s responsibility to check their trees each year to determine if there are any pruning needs. If the trees do need to be pruned, the property owner can have them pruned at any time during the year; however, the best time is late February and March. Never prune out more than one-third of the total green area of the tree. **Remember:** If you are not sure whether a limb should go or stay, it should probably stay. Once it is cut off, it cannot be put back on. Diagram D on page 25 depicts proper pruning principles. Further information on correct pruning techniques can be obtained from the Forestry Supervisor of the City Parks and Recreation Department at (605) 367-8150.
4. Most importantly, *plant the correct tree for the situation*. Different species of trees show different levels of tolerance to urban environment conditions such as heat, drought, salt, compacted soils, and air pollution. For example: a Sugar Maple would not be the best choice for a parking lot interior due to its intolerance to the highly compacted clay types of soils that are typically used in that situation. Further information and suggestions can be obtained from local landscape nurseries or from the City agencies listed on page 26.



## Diagram D

### Proper Pruning Principles



Thanks largely to the work of Dr. Alex L. Shigo and other scientists at the USDA Forest Service's Northeastern Forest Experiment Station in Durham, NH, much is now understood about a tree's natural system of defense against infections from wounds. Based on this knowledge, these methods of making pruning cuts are recommended to help

work *with* rather than against a tree's natural tendency to wall off injured tissues and prevent the spread of decay. In these illustrations, final cuts should be made from points C to D. Do *not* cut along line C-X, which is simply an imaginary vertical line to help you locate C-D.

## Important Phone Numbers

<b>City Agency</b>	<b>Call for Information on:</b>	<b>Phone Number</b>
Planning and Building Services Department	General zoning requirements and landscaping standards.	(605) 367-8888 (Planning) (605) 367-8254 (Zoning)
Zoning Office (Private Property Vegetation)	Landscape plan review and approval outside of the public right-of-way.	(605) 367-8254
Engineering Department (Public Right-of-Way Vegetation)	Groundcovers and hard-surfacing within the public right-of-way	(605) 367-8601
Parks and Recreation Department/Forestry Supervisor	Street tree maintenance and recommended plant materials.	(605) 367-8150