

**URBAN FOREST & SHADE TREE
MANAGEMENT
COMPREHENSIVE MANUAL**





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Introduction

The urban forest is an important resource that contributes to the quality of life for the residents of Savage. Aside from the obvious benefits of improved air quality and water quality, the urban forest reduces energy costs, increases property values and increases economic stability, improves citizen's personal health, and beautifies our community among many other things. It is our responsibility as stewards to insure that these resources and their benefits are available to everyone and sustained for generations to come.

The City of Savage has adopted several ordinances that are intended to protect the urban forest resource. The following comprehensive manual has been compiled to guide contractors, builders, developers and residents in their construction and landscape practices as related to the policies and management of our urban forest and shade trees. You will find a glossary of terms and the relevant ordinances in the attached appendixes.

Additional information and references can be found on the City of Savage website at www.cityofsavage.com, Departments, Parks.





Contractors

Tree Contractors Registration

In accordance with Section 102.21 of Savage City Code, all professional contractors hired to perform tree maintenance services within the city must first register with the City. You must complete the following:

- Complete the registration application available at City Hall
- Provide proof of a public liability insurance policy
- Provide proof of worker's compensation insurance
- In the case of performing chemical applications, proof of certification, such as "chemical pesticide applicator license," by the Agronomy Division of the State Department of Agriculture
- Pay the nominal fee required to cover the administrative costs

Upon completion of the Tree Contractor Registration, the company name will be added to the "Registered Tree Contractors List", and will be available upon request.



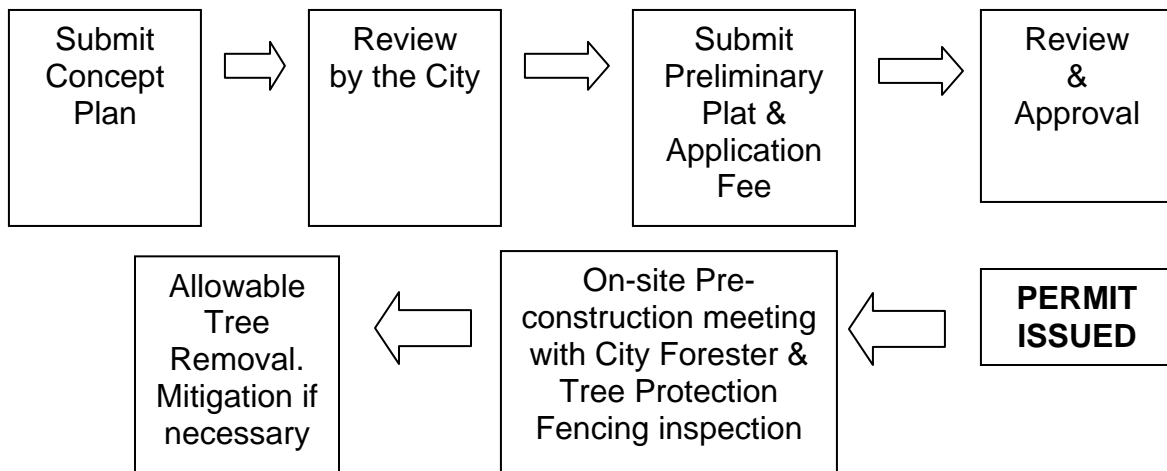
Builders and Developers

The City of Savage has adopted several ordinances that are important in protecting the urban forest and shade trees of our community. If you propose to perform any land alterations, you must acquire a tree preservation permit. If you are a builder, upon completion of the structure, the City requires that you meet specified landscaping requirements. The following provides an overview of all relevant information. The ordinances can be found in the appendix.

Tree Preservation Permit

Section 102.05 of Savage City Code makes it unlawful to perform any land alterations without first obtaining a Tree Preservation Permit from the City.

Steps in Acquiring a Tree Preservation Permit



Concept Plan for Proposed Subdivisions

The concept plan shall include the general site layout, including streets, ponding and building sites. The following should be adhered to in developing a concept plan with the objective of tree preservation:

- Identify forest stands and specimen trees that are most worthy of preservation
- Locate roads, building footprints, parking areas, storm water basins and utilities so as to minimize their impact on significant trees
- Preserve trees in groves or clusters, recognizing that survivability is greater for groups of trees than for individuals
- Manipulate proposed grading and the limits of disturbance by changing the elevation/location of building pads, parking lots, and streets, and consider the use of retaining walls to reduce the impact on trees
- Review all construction factors that influence tree survivability



Consult the Minnesota Department of Natural Resources publication, "Conserving Wooded Areas in Developing Communities – Best Management Practices in Minnesota." This publication can be downloaded at the following website address:

<http://www.dnr.state.mn.us/forestry/urban/bmps.html>

Application

Plan approval is subject to Engineering Department review and approval of all grading, utility, street, and stormwater management plans. The application must include the following:

1. Name and address of the person applying for the permit.
2. Name(s) and address(es) of the owner(s) of the land subject to the land alterations.
3. Estimated period of time within which the land alterations will occur.
4. Certificate of survey of the land on which the proposed land alteration is to occur showing the following:
 - Location, size and elevation of building pads
 - Location of the existing significant trees to be saved and the location of protective tree fencing at the critical root zone of such trees
 - Location of replacement trees
 - Drainage patterns
5. Statement relating to the proposed use of the land including the type of building or structure situated thereon or contemplated to be built thereon.
6. Tree inventory, certified by a Minnesota registered land surveyor, civil engineer, landscape architect or forester depicting the following:
 - Size, species, condition, and location of all significant trees on the land and designated specimen trees. Forest mensuration methods may be used to calculate total diameter inches of tree, when it has been determined by the city forester that areas within the parcel of land, but outside of land to be altered/graded, will not be encroached upon. Such areas will be required to comply with all other requirements of this document including protective fencing procedures.
7. Tree inventory/preservation plan, which coincides with necessary engineering documents such as topography, wetland information and grading plans, and includes:
 - A list of all significant trees that will be lost due to the proposed land alteration



- The number, type, size and location of trees required to be replaced pursuant to this chapter
- 8. Illustration of the designated site for material storage, debris disposal, vehicle parking, and burn location.
- 9. If requested by the City, large-scale plans, including specific structure types, tree locations and elevations may be required to adequately determine tree impacts.

Issuance of Permit & Conditions of Compliance

Issuance of the permit will be given based upon the following:

- Approval by the City Forester
- Payment of the application fee
- Provision of the security as required by Section 102.06 of Savage City Code.
- The substantial likelihood that the applicant will be able to comply with the rules and regulations established for tree preservation

The permit, when issued, will clearly describe:

- Time period within which the land alterations are to be completed
- Type and location of lost significant trees
- Type and location of saved trees
- Type and future location of replacement trees
- Location and type of protective devices to be used during construction activities to protect trees designated for preservation.
- Location of the designated site for material storage, debris disposal and vehicle/equipment parking.
- Any changes and/or conditions determined through the review process and/or site analysis.

Conditions of the Permit

1. Applicants must attend a pre-construction meeting, on site with the city forester, which entails:
 - A presentation of proposed road alignments, protective measures of equipment operators, construction supervisors and development representatives
 - An inspection of the placement of the tree protection fencing. No encroachment or trenching shall occur within the protected zone of the trees to be saved. The installation of tree protection fencing may be required prior to site clearing and grading



- An inspection of the site for land alterations that may have been done prior to the beginning of the project
2. Tree protection devices or fencing shall be maintained and repaired by the developer or contractor for the duration of construction, and once approved by the forester, must not be altered without prior approval by the forester. Periodically throughout the development process, the city forester may inspect the site to insure that protective fencing is in place. If the bark area or any branch of significant trees to be saved becomes damaged during May or June, a pruning paint must be applied immediately.

Allowable Tree Removal & Mitigation

Understanding that tree loss is likely during construction and development, the City of Savage has established guidelines that help minimize tree loss and ensure a sustainable urban forest. The following information outlines the amount of tree loss that is allowable throughout the typical development process.

Initial Site Development

Up to twenty-five percent (25%) of significant trees may be removed for the following reasons only:

- Site grading, not to exceed beyond road right-of-way
- Utilities installations, including sanitary and storm sewer, water, natural gas, electric service, and small utilities such as cable television
- Construction of streets, trails, and sidewalks
- Construction/grading of drainage ways and stormwater management areas

Building Development

Single Unit Residential:

- On individual lots, up to 25% of significant trees may be removed without replacement

Multi-Unit Residential, Commercial and Industrial

- Up to 50% of the significant trees on the land to be developed may be removed for development activities to include Initial Site Development and the construction of buildings and parking areas
- Applicant and staff may make a special review when a specimen tree is located within the building perimeter. Builders and developers shall make every effort to position building(s) at a location that best minimizes removal of significant trees

Collector Roadway Development

When collector or arterial roadways are dedicated to public use as part of a proposed development, not less than 25% of the total diameter inches of significant trees removed within the right-of-way shall be replaced in accordance with Categories A, B or C of the Tree Replacement Formula. The governing unit responsible for constructing a collector or



arterial roadway shall be responsible for the provisions of tree preservation. A grading and landscape plan is required and shall include the following:

- Future and/or existing locations of all utilities including poles and ground transformers
- Future locations of trees, shrubbery or approved vegetation including native grasses, wild flowers or specified grass mixes
- Locations of center islands, medians, sidewalks and trail ways

Tree Replacement Formula and Criteria

Significant trees that are removed beyond the amount allowed must be replaced in accordance with the Tree Replacement Formula, which is found in Section 102.08 of Savage City Code.

TREE REPLACEMENT FORMULA

Size of Tree Damaged or Removed	Tree Replacement Category		
	A	or B	or C
Coniferous 4" - 8" in d.b.h		1	2
Coniferous 9" – 12" in d.b.h	1	2	4
Deciduous 6" – 12" in d.b.h		1	2
Deciduous 13" – 20" in d.b.h	1	2	4
Deciduous 21" – 30" in d.b.h	2	4	8
Specimen Trees (deciduous) > 30" in d.b.h	3	6	12

TREE REPLACEMENT CATEGORIES

Category	Size of Replacement tree no less than
A	Deciduous - > 4" in diameter Coniferous - > 12' in height
B	Deciduous - > 2.5" in diameter Coniferous - > 6' in height
C	Deciduous - > 1.5" in diameter Coniferous - > 4' in height

Tree Replacement Criteria

The developer or builder shall be responsible for furnishing and installing the number and size of tree(s) according to the following:

- Significant tree replacement shall be calculated by considering the largest diameter tree first, and proceeding down to the smallest diameter significant tree



- The use of native tree species is recommended; a complete list is available on the City of Savage Natural Resource web page
- When 10 or more replacement trees are required, not more than 30% of the replacement trees shall be of the same species
- Replacement trees shall be planted on the subject property, not more than 12 months after the date of permit issuance. If for some reason all the replacement trees cannot be planted on the subject property, those remaining to be planted shall be planted on property owned by the City of Savage. The city forester shall determine placement of trees on City property
- The applicant shall notify the city forester when all replacement trees have been planted, at which time the city forester will inspect the site
- The developer/builder may also have the option of making a cash payment for replacement trees. The value of replacement trees shall be at a rate determined by the City Council. Such cash payments shall be made to the Tree Preservation Fund, and shall be used solely for the purchase, planting, and maintenance of trees on city-owned property

General Landscape Requirements

Landscaping requirements have been established to foster aesthetically pleasing neighborhoods that will protect and preserve the appearance, character, health, safety and welfare of the community. All development sites shall meet the following requirements:

1. Finished sites. All pervious land areas shall be brought to finished grade and planted in sod, native grasses, or other appropriate ground covers. Undisturbed areas containing existing viable natural vegetation may be left in their natural state, but shall be kept free of litter, debris, and noxious and unsightly weeds.
2. Sodding/Seeding Requirements. Sod shall be required between the curb and property line, and within front and side yards which have been disturbed. Seeding or other acceptable ground cover may be permitted in front, rear, and side yards provided that adequate cover is provided within one (1) growing season to prevent erosion or disruption.
3. Relationship to Tree Preservation Title. The tree planting requirements shall be in addition to, and shall not count towards, any tree replacement that is required.

Landscape and Screening Plan Required

All plans submitted in support of a site plan review, conditional use, or other development proposal shall include a landscape and screening plan, demonstrating compliance with the provisions of this Chapter. All development plans that require approval by the City Council and have a construction cost of over \$500,000 shall require that such plans be prepared by



a licensed landscape architect. The landscape and screening plan shall include the following information:

1. Planting schedule indicating symbols, quantities, common and botanical names, sizes of plant material, and special planting instructions.
2. Location, type, and size of all existing significant trees to be removed or preserved.
3. Planting detail, showing all species to scale at normal mature crown diameter or spread for local hardiness zone.
4. Typical sections with details of fences, tie walls, berms, and other site amenities.
5. Typical sections with details of landscape islands, planter beds, and foundation plantings with identification of materials used.
6. Note indicating how disturbed soil areas will be restored through the use of seeding, sodding, or other techniques.
7. Delineation of both sodded and seeded areas.
8. Where landscape or man-made materials are used to provide screening from adjacent and neighboring properties, a cross-through section shall be provided showing the perspective of the site from the neighboring property at the property line elevation.
9. Existing or proposed conditions that could potentially affect landscaping and screening of the site.

Landscape Design Requirements

Landscape design shall serve to provide visually interesting open space, to reduce the potential negative impact of development on adjacent land uses, and to facilitate the preservation and reestablishment of plants native to the region. The following design criteria shall be considered as part of the landscape plan submittal to the City:

1. The overall composition and location of landscaped areas should complement the scale of the development and its surroundings.
2. Plant materials should be selected and arranged to prevent blocking or obscuring of required site lighting during all stages of plant growth.
3. Plantings at intersections or driveway entrances shall be arranged to allow a permanently clear, safe sight distance.



4. Trees or shrubs shall not be planted under existing or proposed utility lines when their ultimate height may interfere with the lowest lines.
5. Trees and shrubs shall not be placed over underground drainage and shall maintain adequate distance from storm sewers, sanitary sewers, and water lines to prevent roots from entering such facilities.
6. Landscaped areas should be of adequate size to promote proper plant growth and to protect plantings from pedestrian traffic, vehicle traffic, and other types of concentrated activity.
7. Earthen berms and existing topography should, whenever practical, be incorporated into the landscape treatment of a site.
8. Landscaped areas and plantings should be located in a manner to prevent spread onto adjacent properties or right-of-way, and to allow adequate room for proper maintenance.
9. A variety of tree and shrub species should be utilized to provide visual, four season interest. Not more than one-third (1/3) of the required number of trees or shrubs may be comprised of any one (1) species and at least one-third (1/3) of the plantings must be of a coniferous or evergreen species.
10. Final slopes greater than a three to one (3:1) ratio will not be permitted without special approval or treatment, such as special seed mixtures or reforestation, terracing, or retaining walls.

Landscaping Requirements, Single and Two-Family Residential Uses

Construction of new single-family and two-family housing units shall require the following:

1. The planting of two (2) trees per dwelling unit, one of which must be a deciduous shade tree.
2. When two (2) or more healthy, significant trees are present per dwelling unit, no trees are required to be planted. For the purpose of this Section, a significant tree shall be any healthy deciduous shade tree (except Russian Olive, Cottonwood, Box elder, Mulberry, Ash and Elm) that measures six inches or more in diameter, or any healthy coniferous (evergreen) tree that measures four inches or more in diameter.
3. Trees shall be planted only on private property, within a front, side, or rear yard, and shall not be planted in utility or drainage easements.
4. Cash escrow specifically for the planting of required trees shall be part of a



combined final turf, grade, and tree escrow. The escrow amount shall be established by the City Council and shall be refunded when all of the following are completed:

- Required trees are installed
- Final grade requirements are completed
- Ground cover requirements are completed

Landscaping Requirements, All Other Uses

With the exception of single-family and two-family residential uses, park/open space uses, and properties within the Hamilton Overlay District and I-2, Floodplain Limited Industrial District, all uses of land shall provide landscaping as follows:

1. Foundation Plantings. At least fifty (50) percent of each principal structure shall be sodded or landscaped with approved ground cover and shrubbery within an area of no less than three (3) feet in width.
2. Interior Landscaping of parking lots. In all parking areas, including those for the sale and display of autos, trucks, and other types of vehicles, that contain more than fifty (50) parking spaces, planting islands must be provided to occupy a minimum of three (3) percent of the parking area, subject to the following:
 - The interior dimensions of any planting area or landscaped islands shall be a minimum of one-hundred fifty (150) square feet in area
 - Each planting island shall contain at least one (1) tree that provides shade or is providing shade upon maturity. The remainder of the landscaped area shall be covered with turf grass, native grasses, ground cover, or other perennial flowering plants, vines, shrubs, or trees. If landscape rock or bark is to be utilized, provision should be made to prevent material from spilling into the parking area
 - Each landscaped island shall be protected by vertical curbs or similar structures and shall be designed and grouped into a parking area to create defined aisles and entrances for on-site traffic circulation
 - Landscape aisles or strips between parallel parking rows shall be a minimum of ten (10) feet in width. When incorporating pedestrian walkways, such strips shall be increased to at least twenty (20) feet in width to accommodate vehicle overhangs, walkways, light posts, and other appurtenances. Landscape aisles and strips shall include medium to large deciduous trees at a minimum of one (1) tree every thirty (30) linear feet, in addition to other parking lot landscape requirements.
3. Perimeter landscape requirements.



- Within the front and corner side yards where a street right-of-way separates a non-residential use from property zoned for residential use, a continuous fifteen (15) foot landscape area shall be provided with landscaping at a rate of one (1) deciduous shade or coniferous/evergreen tree for every thirty (30) feet of linear street frontage and one (1) deciduous ornamental tree for every three (3) required deciduous shade or evergreen trees. Screening shall be provided through berming and shrub plantings across one-hundred (100) percent of the street frontage to a minimum height of three (3) feet, as measured from the grade of the parking lot or adjacent street curb, whichever is the higher elevation
 - Within the front and corner side yards where a street right-of-way separates a non-residential use from property zoned for another non-residential use or where a street right-of-way separates a multi-family residential use from property zoned for another residential use, a continuous fifteen (15) foot landscape area shall be provided with landscaping at a rate of one (1) deciduous shade or coniferous/evergreen tree for every fifty (50) feet of linear street frontage and one (1) deciduous ornamental tree for every three (3) required deciduous shade or evergreen trees. Screening shall be provided through berming and shrub plantings across one-hundred (100) percent of all parking and vehicular areas to a minimum height of three (3) feet, as measured from the grade of the parking lot or adjacent street curb, whichever is the higher elevation
 - Within rear and interior side yards, a landscaped berm or berm/fence combination shall be provided at a minimum height of six (6) feet where a non-residential use abuts a property zoned for residential use. Said area shall require landscaping at a rate of one (1) deciduous shade or coniferous/evergreen tree for every thirty (30) feet of linear property line and one (1) deciduous ornamental tree for every three (3) required deciduous shade or evergreen trees. Such screening and landscaping shall be located within a continuous landscape area at least twenty (20) feet wide. When a fence is to be utilized, it shall be constructed of masonry, brick or wood, shall provide a solid screening effect, and is subject to the requirements for fences as identified in Section 152.077. Requirements for such landscape areas, plantings, and screening fences/berms may be modified by the Planning Commission and City Council, where either an increase or decrease is clearly warranted
4. Within rear and interior side yards where a non-residential use abuts property zoned for non-residential use or where a multi-family use abuts another residential use, a continuous ten (10) foot landscape area shall be provided with landscaping at a rate of one (1) deciduous shade or coniferous/evergreen tree for every fifty (50) feet of linear property and one (1) deciduous ornamental tree for every three (3) required deciduous shade or evergreen trees. Screening shall be provided through berming



and shrub plantings across twenty-five (25) percent of all parking and vehicular areas to a minimum height of three (3) feet, as measured from the grade of the parking lot or vehicular area.

Residential Buffer Yards

A residential buffer yard shall be required along the rear of all double frontage residential lots that abut a designated collector or arterial street. Whenever a residential subdivision is proposed that includes such lots, a buffer yard plan shall be submitted for approval by the City in conjunction with preliminary plat review. Installation of required plan elements shall be completed by the developer, or, if applicable, by the individual property owners, prior to issuance of a final certificate of occupancy.

A required residential buffer yard shall be located along the entire width of applicable lots to a minimum depth of twenty (20) feet, and shall meet the following standards:

1. Plantings within designated buffer yards shall adhere to the following:
 - a. Plant material centers shall be located at least three (3) feet from the fence line or property line and shall not conflict with sidewalks, trails, or other public improvements.
 - b. Landscape screen material shall be planted in two (2) or more staggered rows.
 - c. Deciduous shrubs shall not be planted more than four (4) feet on center and evergreen shrubs shall not be planted more than three (3) feet on center.
 - d. Deciduous trees intended for screening shall not be planted more than forty (40) feet apart and evergreen trees not more than fifteen (15) feet apart.
2. All walls and fences erected within designated buffer yards shall adhere to the following:
 - a. Only fences and walls formally approved as part of the subdivision and site plan process will be permitted.
 - b. At least fifty (50) percent of the street side of a screening fence shall be landscaped with plant materials.
 - c. Exposed fences shall run a maximum length of fifty (50) feet between landscape areas or clusters.
3. Earth berms within designated buffer yards shall adhere to the following:



- a. Except in areas of steep slopes or where other topographic features will not permit, as determined by the City Engineer, an earth berm at least four (4) feet in height shall be installed in all designated buffer yards.
- b. Earth berms shall contain no less than four (4) inches of topsoil and shall not exceed a three to one (3:1) slope unless approved by the City Engineer.

On-going maintenance of the buffer yard, including landscape materials and fencing, shall be the responsibility of the individual property owners, or, if applicable, the homeowner's association. All necessary repairs and replacement shall be completed in conformance with the approved buffer yard design.

Screening Requirements

Site plans or landscaping plans for all multi-family residential, commercial, industrial, and mixed-use developments shall include details regarding enclosure and screening methods. For purposes of this Section, the phrase screened from public view means not visible, at any distance, from adjoining properties or any street right-of-way.

1. Refuse and recycling receptacles and enclosures. All waste and recycling receptacles shall be stored within the principal structure or within an accessory enclosure area, subject to the following:
 - a. The enclosure shall be located in the side or rear yard and comply with setback requirements for accessory structures.
 - b. The exterior wall treatment of the enclosure shall be of similar color and materials as the principal structure. Exterior walls shall be at least six (6) feet in height and provide a minimum opacity of ninety (90) percent.
 - c. The enclosure must be accessible to waste and recycling collections vehicles.
 - d. Landscaping shall be provided surrounding enclosures to screen the structure from view of the public right-of-way or adjacent residential properties.
2. Mechanical and other equipment. Exterior ground-mounted or building-mounted equipment including, but not limited to, mechanical equipment, utility meter banks, and coolers shall be screened from public view with landscaping or with an architectural treatment compatible with the building's architecture.
3. Rooftop equipment. All rooftop equipment shall be screened from public view with an architectural treatment that is compatible with the building's architecture and integral to the overall appearance of the building. The methods of screening rooftop equipment include, but are not limited to, encasement or partition screens. Equipment screens shall be required at a height that is as high or higher than the equipment being screened.



4. The Planning Commission may grant exceptions to the screening requirements in cases where one of the following criteria are shown to exist:
 - a. A building is located at a high elevation in relation to surrounding properties and it is clearly demonstrated that rooftop equipment will not be visible.
 - b. A building is located within the middle of an industrial park and rooftop equipment will not be visible from arterial roadways or residential properties, nor will it have a negative impact upon any sensitive areas or scenic view or vistas.
 - c. A building is sited in such a manner that the location and setback of rooftop equipment from the building edge, in relation to the elevation and visibility of surrounding properties, is such that the equipment will not be visible from any distance.

Selection, Installation and Maintenance Requirements

All landscaping materials and screening methods depicted on development plans approved by the City shall be considered as required elements of the project. All plant materials must meet the standards set by the American Association of Nurserymen and be of a variety that is indigenous to the hardiness zone in which Savage is located, except that the following trees are expressly prohibited from being planted:

1. Box Elder - *Acer negundo*
2. Silver Maple - *Acer saccharinum*
3. Northern Catalpa - *Catalpa speciosa*
4. Mulberry - *Morus alba*
5. Cottonwood - *Populus deltoids* (seedless varieties are acceptable)
6. Willow - *Salix* species
7. Ash – *Fraxinus* specis

All required plant materials shall meet the minimum size standards identified below. For the purposes of determining tree trunk size, the diameter shall be measured six (6) inches above ground level.



Plant Type	Minimum Size
Deciduous Shade Tree	Two and one-half (2½) inch diameter
Deciduous Ornamental Tree	One and one-half (1½) inch diameter
Coniferous / Evergreen Tree	Six (6) feet in height
Shrubs	Five (5) gallons

The developer, its successor and/or subsequent owners shall be responsible for the continued maintenance of landscape materials on a continuing basis for the life of the development. Plant material that exhibits evidence of insect pests, disease, or damage shall be appropriately treated and dead plants promptly removed and replaced within the next planting season.

All landscaping shall be subject to periodic inspection by the Zoning Administrator. Landscaping that is not installed, maintained, or replaced as needed to comply with the approved landscape plan shall be considered in violation of the terms of the site plan or building permit. The landowner shall receive notice of such violation in accordance with code enforcement requirements as specified in Section 152.035 of the Savage Zoning Ordinance.



**INTERNATIONAL SOCIETY
OF ARBORICULTURE**

INTERNATIONAL SOCIETY OF ARBORICULTURE
1400 WEST ANTHONY DRIVE
CHAMPAIGN, IL 61821
(217) 355-9411
(217) 355-9516 FAX

DO NOT HEAVILY PRUNE THE TREE AT PLANTING. PRUNE ONLY CROSSOVER LIMBS, CO-DOMINANT LEADERS, AND BROKEN OR DEAD BRANCHES. SOME INTERIOR TWIGS AND LATERAL BRANCHES MAY BE PRUNED; HOWEVER, DO NOT REMOVE THE TERMINAL BUDS OF BRANCHES THAT EXTEND TO THE EDGE OF THE CROWN.

STAKE TREES ONLY UPON THE APPROVAL OF THE LANDSCAPE ARCHITECT. SEE STAKING DETAIL.

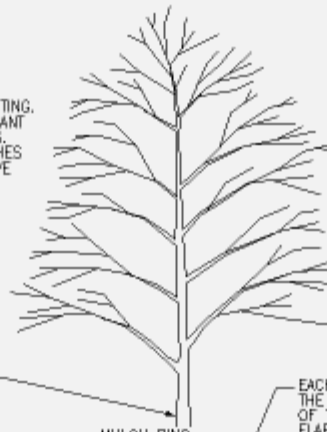
WRAP TREE TRUNKS ONLY UPON THE APPROVAL OF THE LANDSCAPE ARCHITECT. SEE WRAPPING DETAIL.

MARK THE NORTH SIDE OF THE TREE IN THE NURSERY, AND ROTATE TREE TO FACE NORTH AT THE SITE WHEN EVER POSSIBLE.

SET TOP OF ROOT BALL FLUSH TO GRADE OR 25-50 MM (1-2 IN.) HIGHER IN SLOWLY DRAINING SOILS.

50 MM (2 IN.) MULCH. DO NOT PLACE MULCH IN CONTACT WITH TREE TRUNK. MAINTAIN THE MULCH WEED-FREE FOR A MINIMUM OF THREE YEARS AFTER PLANTING.

NOTE: FOR DIMENSIONS OF PLANTING AREAS, TYPES OF SOIL AMENDMENTS, OR SOIL REPLACEMENT, SEE "SOIL IMPROVEMENT DETAILS."



EACH TREE MUST BE PLANTED SUCH THAT THE TRUNK FLARE IS VISIBLE AT THE TOP OF THE ROOT BALL. TREES WHERE THE TRUNK FLARE IS NOT VISIBLE SHALL BE REJECTED. DO NOT COVER THE TOP OF THE ROOT BALL WITH SOIL.

MULCH RING
1800 MM (6 FT.) DIAM. MIN.
2400 MM (8 FT.) DIAM. PREFERRED

200 MM (8 IN.)

100 MM (4 IN.) HIGH EARTH SAUCER BEYOND EDGE OF ROOT BALL.

REMOVE ALL TWINE, ROPE AND WIRE, AND BURLAP FROM TOP HALF OF ROOT BALL.

IF PLANT IS SHIPPED WITH A WIRE BASKET AROUND THE ROOT BALL, CUT THE WIRE BASKET IN FOUR PLACES AND FOLD DOWN 200 MM (8 IN.) INTO PLANTING HOLE.

PLACE ROOT BALL ON UNEXCAVATED OR TAMPED SOIL.

TAMP SOIL AROUND ROOT BALL BASE FIRMLY WITH FOOT PRESSURE SO THAT ROOT BALL DOES NOT SHIFT.

NOTES

- PLEASE REFER TO INTRODUCTION AND USE CRITERIA PRIOR TO USING THIS DETAIL.



TREE PLANTING DETAIL - B&B TREES IN ALL SOIL TYPES

NOTE: THIS DETAIL ASSUMES THAT THE PLANTING SPACE IS LARGER THAN 2400 MM (8 FT.) SQUARE, OPEN TO THE SKY, AND NOT COVERED BY ANY PAVING OR GRATING.



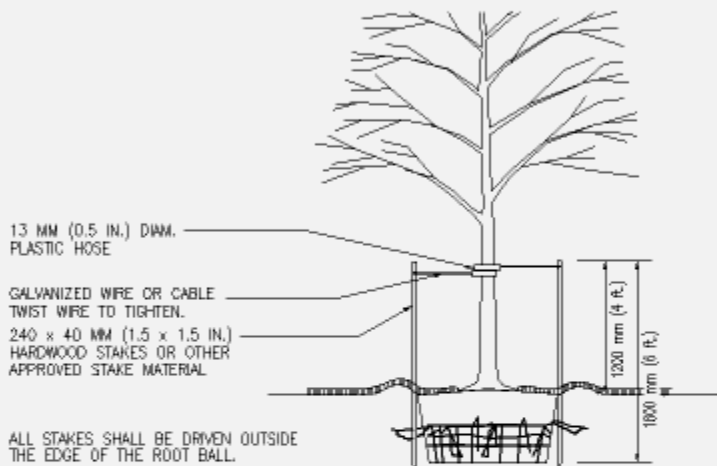
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WIRE OR CABLE SIZES SHALL BE AS FOLLOWS:
TREES UP TO 65 MM (2.5 IN.) CALIPER - 14 GAUGE
TREES 65 MM (2.5 IN.) TO 75 MM (3 IN.) CALIPER - 12 GAUGE

TIGHTEN WIRE OR CABLE ONLY ENOUGH TO KEEP FROM SLIPPING. ALLOW FOR SOME TRUNK MOVEMENT. PLASTIC HOSE SHALL BE LONG ENOUGH TO ACCOMMODATE 35MM (1.5 IN.) OF GROWTH AND BUFFER ALL BRANCHES FROM THE WIRE.

TUCK ANY LOOSE ENDS OF THE WIRE OR CABLE INTO THE WIRE WRAP SO THAT NO SHARP WIRE ENDS ARE EXPOSED.



ASSURE THAT THE BEARING SURFACE OF THE PROTECTIVE COVERING OF THE WIRE OR CABLE AGAINST THE TREE TRUNK IS A MINIMUM OF 12 MM (0.5 IN.).

REMOVE ALL STAKING AS SOON AS THE TREE HAS GROWN SUFFICIENT ROOTS TO OVERCOME THE PROBLEM THAT REQUIRED THE TREE TO BE STAKED. STAKES SHALL BE REMOVED NO LATER THE END OF THE FIRST GROWING SEASON AFTER PLANTING.

TREES NORMALLY DO NOT NEED TO BE STAKED AND STAKING CAN BE HARMFUL TO THE TREE. STAKING SHOULD BE DONE ONLY WITH THE APPROVAL OF THE LANDSCAPE ARCHITECT IF IT IS EXPECTED THAT THE TREE WILL NOT BE ABLE TO SUPPORT ITSELF. THE FOLLOWING ARE REASONS WHY TREES DO NOT REMAIN STRAIGHT.

- o TREES WITH POOR - QUALITY ROOT BALLS OR ROOT BALLS THAT HAVE BEEN CRACKED OR DAMAGED. REJECT RATHER THAN STAKE.
- o TREES THAT HAVE GROWN TOO CLOSE TOGETHER IN THE NURSERY, RESULTING IN WEAK TRUNKS. REJECT RATHER THAN STAKE.
- o PLANTING PROCEDURES THAT DO NOT ADEQUATELY TAMP SOILS AROUND THE ROOT BALL. CORRECT THE PLANTING PROCEDURE.
- o ROOT BALLS PLACED ON SOFT SOIL. TAMP SOILS UNDER ROOT BALL PRIOR TO PLANTING.
- o ROOT BALLS WITH VERY SANDY SOIL OR VERY WET CLAY SOIL. STAKING ADVISABLE.
- o TREES LOCATED IN A PLACE OF EXTREMELY WINDY CONDITIONS. STAKING ADVISABLE.

NOTES

1. PLEASE REFER TO INTRODUCTION AND USE CRITERIA PRIOR TO USING THIS DETAIL.



TREE STAKING DETAIL - TREES 75MM (3 IN.) CALIPER OR LESS



Residents

What do you need to know? The City of Savage has adopted several ordinances that protect the community's shade trees and ensure that this resource remains for generations to come. If you are hiring a tree service or tree care company, you should consult the list of registered tree contractors to be sure that you are hiring an insured and bonded company. The City of Savage is fortunate to have an abundant oak tree population. Unfortunately, most oak species are threatened by a devastating disease known as oak wilt. Savage has enacted an ordinance that helps to control the spread of this fatal disease (see Diseased Trees Section 102.13).

As a new homeowner you should become familiar with the City's Landscaping Requirements. The following information addresses all of these important issues and in addition to the appendix, provides you with what you need to know.

Tree Contractor Registration

In accordance with Section 102.21 of Savage City Code, all professional contractors hired to perform tree maintenance services within the city must first register with the City. This helps to ensure that residents are hiring bonded and insured tree contractors. The list of registered tree contractors in Savage can be obtained on the City of Savage website at http://www.cityofsavage.com/index.php?option=com_content&view=category&id=77&Itemid=615 or by calling Savage City Hall at 952.882.2660.

Diseased Trees

The City Council has determined that the health of oak trees within the municipal limits is threatened by the fatal disease oak wilt. It has further been determined that the loss of oak trees growing upon private and public property would be detrimental to the public. Savage City Code Section 102.11 has established management procedures to prevent the spread of oak wilt and to ensure the removal of infected trees.

Oak wilt is a vascular fungus that is spread primarily through root systems that have grown together and is also spread overland by picnic beetles. These beetles are most active from May 30 to July 31. You should not prune oak trees during this period as these beetles are attracted to fresh wounds. For more information regarding this disease, contact the City of Savage Natural Resource Department at 952.882.2678.

- To control the overland spread of oak wilt, the pruning of oaks must be avoided during the most susceptible period of infection. **DO NOT PRUNE OAK TREES from May 30 until July 31**
- If wounding is unavoidable during this period, a non-toxic tree wound paint shall be applied immediately



Abatement of Infected Trees

It is unlawful for any person to permit any diseased tree to remain on any premise owned or controlled by such person within the city. Such diseased trees shall be abated in the manner prescribed by city code.

- **White Oak:** Because trees in the white oak family do not produce fungal spore mats, infected trees that are not within 70' of other white oaks do not have to be removed. However, if there are other white oaks within 70' of an infected tree, vibratory plowing must be performed to disrupt any root grafts
- **Red Oak:** Because trees in the red oak family produce fungal spore mats, infected red oaks must be removed. If other healthy red oaks are within 70' of the infected red oak, but are not yet showing symptoms of infection, vibratory plowing must be performed *prior* to the removal of the infected tree

Proper Disposal and Handling of Infected Wood

Any infected red oak wood to be used as fuel wood or to be salvaged for other purposes must be debarked or covered with heavy plastic (4 mil or greater) from **March 30 until July 31** of the year following the appearance of the symptoms. After this time there is no danger of spore production, and the wood does not need to be covered.

All other infected red oak branches that are two inches or greater in diameter must be chipped, or disposed of at an authorized dumpsite prior to March 30 of the year following the appearance of symptoms

Dead standing red oaks that have advanced beyond the potential for spore production need not be removed except where they constitute a hazard to life and/or property, as determined by the tree inspector

Diseased material originating from white oaks does not require special treatment to prevent overland spread of the disease. Standing trees of this group showing early symptoms of oak wilt may be saved by removing affected branches and/or with approved fungicide injections

It is unlawful for any person to transport within the City any bark intact wood from the red oak group that is determined to be diseased, without having obtained a permit from the City Tree Inspector. The City Tree Inspector shall grant such permits only when such permission does not interfere with the provisions of the diseased tree ordinance

How do I know if my oak tree is infected with oak wilt?

The City of Savage has several State Certified Tree Inspectors who are responsible for annual routine inspections of diseased trees. If a tree on your property is found to be infected you will be notified by the city. The Tree Inspector has the authority to:

- Enter upon private premises at any reasonable time for the purpose of carrying out the duties assigned to him/her under this chapter. The Tree Inspector shall give



notice of said inspection to all affected residents and property owners either through oral or written notice

- Cause the immediate abatement of all public nuisances, hazardous or diseased trees that are determined by the Tree Inspector to be an immediate threat to any person or property
- Seek from any court of competent jurisdiction, an order directing immediate abatement of any public nuisance, hazardous or diseased tree

It is unlawful for any person to prevent, delay or interfere with the City Tree Inspector or the Inspector's agents while they are engaged in the performance of duties imposed by this chapter.

What happens if my Tree is infected?

Upon finding indications of oak wilt, the Tree Inspector will take steps for diagnosis as may be appropriate, which may include analysis of twig samples from actively wilting branches by the Department of Agriculture tree disease laboratory or other laboratories capable of performing such services approved by the Minnesota Commissioner of Agriculture. Whenever possible, diagnosis shall be based upon accepted field symptoms which are defined in the USDA Forest Service Oak Wilt publication.

The Tree Inspector will deliver a written notice either personally served or by registered mail to the person to whom the tax bill was sent for general taxes during the preceding year. The notice will contain the following information:

- Description of tree that has been declared to be diseased
- Location on the property
- Reason for declaring it a diseased tree
- Legal description or street address of the infected tree
- Listing of actions that the property owner must undertake to abate the diseased tree

Notice shall order the elimination of the diseased tree no more 30 days after the notice is delivered or sent to the person to whom the tax bill was sent for general taxes for the preceding year. The notice will include a copy of the diseased tree ordinance.

In the event that the diseased tree is not abated by the date specified in the notice, the tree inspector is authorized to cause abatement of the diseased tree. The reasonable cost of such abatement shall be filed as a special assessment against the property on which the nuisance, hazardous or diseased tree is located. In addition, the property on which the diseased tree is located will be subject to prosecution according to Section 102.20 of the Savage City Code.



The City of Savage encourages but does not require the removal of elm trees infected with Dutch elm disease. American Elm trees, once famous for lining city boulevards, have been almost entirely decimated in many communities, including Savage since the severe outbreak of Dutch elm disease during the 1970's. The remaining elm species are consequently of lesser value and character form.

Public Trees

It is unlawful for any resident to intentionally damage, cut, carve, transplant, or without authorization, remove any public tree. No person may attach any rope, wire nails, advertisements, or other contrivance to any public tree. Nor may any person allow any gaseous liquid, or solid substance which is harmful to such trees to come in contact with them; or set fire or permit any fire to burn when such fire or the heat thereof will injure any portion of any public tree.

Planting in the Public Right-of-Way

According to Section 102.10 of Savage City Code, it is unlawful for any resident to plant a tree on public property without first obtaining a permit or permission from the City Forester. The City is responsible for the planting and maintenance of public trees. This includes trees in parks, boulevards, out lots, and all other properties owned by the City.

Landscape Requirements

To promote and preserve a healthy and diverse urban forest and attractive neighborhoods, the city of Savage has adopted a Landscape Ordinance. The landscaping ordinance defines the minimum amount of vegetation that is required for each residential lot.

The City of Savage encourages homeowners to plant tree and shrub species that are native or naturalized to Minnesota. A list of tree and shrub species that are ideal for this area can be found on the City of Savage Natural Resource Department website. Each spring the City of Savage honors Arbor Day by holding an annual tree sale, where residents can purchase bare-root and containerized trees at discount rates. To learn proper tree planting techniques for long-term health and tree vigor, you are encouraged to consult the "tree planting 101" link at the City of Savage Natural Resource web page at www.cityofsavage.com, Departments, Parks



Residential Landscape Requirements – Single and Two Family Uses

Finished sites. All pervious land areas shall be brought to finished grade and planted in sod, native grasses, or other appropriate ground covers. Undisturbed areas containing existing viable natural vegetation may be left in their natural state, but shall be kept free of litter, debris, and noxious and unsightly weeds.

Sodding/Seeding Requirements. Sod shall be required between the curb and property line, and within front and side yards which have been disturbed. Seeding or other acceptable ground cover may be permitted in front, rear, and side yards provided that adequate cover is provided within one (1) growing season to prevent erosion or disruption.

Due to the nature of their growth and seeding characteristics, the following tree species are prohibited from being planted within the city limits:

- Box elder – *Acer Negundo*
- Silver maple – *Acer saccharinum*
- Northern catalpa – *Catalpa speciosa*
- Russian Olive – *Elaeagnus Angustifolia*
- Ginkgo (Female only) – *Ginkgo biloba*
- Mulberry – *Morus alba*
- Cottonwood – *Populus deltoids* (seedless varieties are acceptable)
- Willow – *Salix spp.*

Construction of new single-family and two-family housing units shall require the following minimum landscape requirements:

- The planting of two (2) trees per dwelling unit, one of which must be a deciduous shade tree
- When two (2) or more healthy, significant trees are present per dwelling unit, no trees are required to be planted. A significant tree shall be any healthy deciduous shade tree (except Russian Olive, Cottonwood, Boxelder, Mulberry, and Elm) that measures six inches (6) or more in diameter, or any healthy coniferous (evergreen) tree that measures four inches (4) or more in diameter
- Trees shall be planted only on private property, within a front, side, or rear yard, and shall not be planted in utility or drainage easements.
- A cash escrow specifically for the planting of required trees shall be part of a combined final turf, grade, and tree escrow. The escrow amount shall be established by the City Council and shall be refunded when all of the following are completed:



1. Required trees are installed
2. Final grade requirements are completed
3. Ground cover requirements are completed

Plant Type	Minimum Size
Deciduous Shade Tree	Two and one-half (2½) inch diameter
Deciduous Ornamental Tree	One and one-half (1½) inch diameter
Coniferous / Evergreen Tree	Six (6) feet in height
Shrubs	Five (5) gallons



Municipal Standard Operating Procedures

The following is an outline of all urban forest and shade tree management procedures and ordinances as they pertain to the City of Savage.

Tree Planting & Maintenance

The following regulations apply to the planting of trees on public streets, parks and public lands according to Section 102.10 of Savage City Code:

- Street trees in existing residential areas, which are located in the public right-of-way shall be managed by the City. Trees that die as the result of disease, insects, construction activity or natural disaster shall be removed and replaced at the City's discretion
- The City shall be responsible for the planting and maintenance of public trees. This includes trees in parks, boulevards, out lots, and all other properties owned by the City
- Site criteria used to determine tree-planting locations shall be: visibility of the site, probability of long-term tree survival, likelihood of private participation and financing, and overall benefit to the community
- Public tree planting can be balled-and-burlap, tree spade, container method, or bare-root
- Only those species recommended for planting in the State of Minnesota shall be selected



**INTERNATIONAL SOCIETY
OF ARBORICULTURE**

INTERNATIONAL SOCIETY OF ARBORICULTURE
1400 WEST ANTHONY DRIVE
CHAMPAIGN, IL 61821
(217) 355-9411
(217) 355-9516 FAX

DO NOT HEAVILY PRUNE THE TREE AT PLANTING. PRUNE ONLY CROSSOVER LIMBS, CO-DOMINANT LEADERS, AND BROKEN OR DEAD BRANCHES. SOME INTERIOR TWIGS AND LATERAL BRANCHES MAY BE PRUNED; HOWEVER, DO NOT REMOVE THE TERMINAL BUDS OF BRANCHES THAT EXTEND TO THE EDGE OF THE CROWN.

STAKE TREES ONLY UPON THE APPROVAL OF THE LANDSCAPE ARCHITECT. SEE STAKING DETAIL.

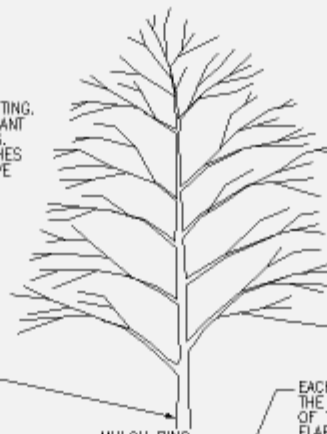
WRAP TREE TRUNKS ONLY UPON THE APPROVAL OF THE LANDSCAPE ARCHITECT. SEE WRAPPING DETAIL.

MARK THE NORTH SIDE OF THE TREE IN THE NURSERY, AND ROTATE TREE TO FACE NORTH AT THE SITE WHEN EVER POSSIBLE.

SET TOP OF ROOT BALL FLUSH TO GRADE OR 25-50 MM (1-2 IN.) HIGHER IN SLOWLY DRAINING SOILS.

50 MM (2 IN.) MULCH. DO NOT PLACE MULCH IN CONTACT WITH TREE TRUNK. MAINTAIN THE MULCH WEED-FREE FOR A MINIMUM OF THREE YEARS AFTER PLANTING.

NOTE: FOR DIMENSIONS OF PLANTING AREAS, TYPES OF SOIL AMENDMENTS, OR SOIL REPLACEMENT, SEE "SOIL IMPROVEMENT DETAILS."



EACH TREE MUST BE PLANTED SUCH THAT THE TRUNK FLARE IS VISIBLE AT THE TOP OF THE ROOT BALL. TREES WHERE THE TRUNK FLARE IS NOT VISIBLE SHALL BE REJECTED. DO NOT COVER THE TOP OF THE ROOT BALL WITH SOIL.

MULCH RING
1800 MM (6 FT.) DIAM. MIN.
2400 MM (8 FT.) DIAM. PREFERRED

200 MM (8 IN.)

100 MM (4 IN.) HIGH EARTH SAUCER BEYOND EDGE OF ROOT BALL.

REMOVE ALL TWINE, ROPE AND WIRE, AND BURLAP FROM TOP HALF OF ROOT BALL.

IF PLANT IS SHIPPED WITH A WIRE BASKET AROUND THE ROOT BALL, CUT THE WIRE BASKET IN FOUR PLACES AND FOLD DOWN 200 MM (8 IN.) INTO PLANTING HOLE.

PLACE ROOT BALL ON UNEXCAVATED OR TAMPED SOIL.

TAMP SOIL AROUND ROOT BALL BASE FIRMLY WITH FOOT PRESSURE SO THAT ROOT BALL DOES NOT SHIFT.

NOTES

- PLEASE REFER TO INTRODUCTION AND USE CRITERIA PRIOR TO USING THIS DETAIL.



TREE PLANTING DETAIL - B&B TREES IN ALL SOIL TYPES

NOTE: THIS DETAIL ASSUMES THAT THE PLANTING SPACE IS LARGER THAN 2400 MM (8 FT.) SQUARE, OPEN TO THE SKY, AND NOT COVERED BY ANY PAVING OR GRATING.



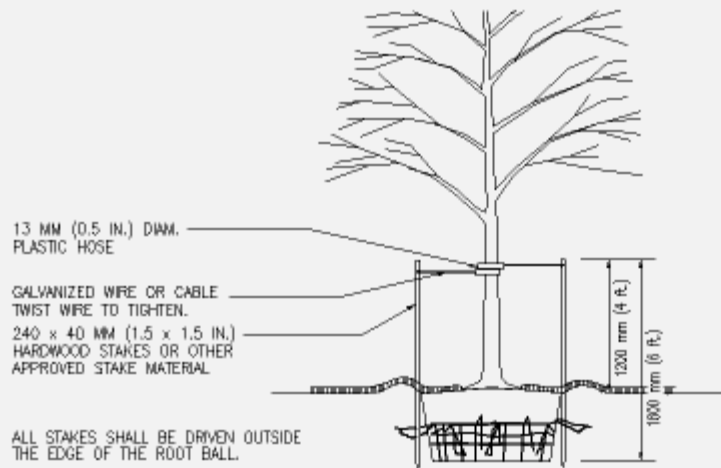
**INTERNATIONAL SOCIETY
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WIRE OR CABLE SIZES SHALL BE AS FOLLOWS:
TREES UP TO 65 MM (2.5 IN.) CALIPER - 14 GAUGE
TREES 65 MM (2.5 IN.) TO 75 MM (3 IN.) CALIPER - 12 GAUGE

TIGHTEN WIRE OR CABLE ONLY ENOUGH TO KEEP FROM SLIPPING. ALLOW FOR SOME TRUNK MOVEMENT. PLASTIC HOSE SHALL BE LONG ENOUGH TO ACCOMMODATE 35MM (1.5 IN.) OF GROWTH AND BUFFER ALL BRANCHES FROM THE WIRE.

TUCK ANY LOOSE ENDS OF THE WIRE OR CABLE INTO THE WIRE WRAP SO THAT NO SHARP WIRE ENDS ARE EXPOSED.



ASSURE THAT THE BEARING SURFACE OF THE PROTECTIVE COVERING OF THE WIRE OR CABLE AGAINST THE TREE TRUNK IS A MINIMUM OF 12 MM (0.5 IN.).

REMOVE ALL STAKING AS SOON AS THE TREE HAS GROWN SUFFICIENT ROOTS TO OVERCOME THE PROBLEM THAT REQUIRED THE TREE TO BE STAKED. STAKES SHALL BE REMOVED NO LATER THE END OF THE FIRST GROWING SEASON AFTER PLANTING.

TREES NORMALLY DO NOT NEED TO BE STAKED AND STAKING CAN BE HARMFUL TO THE TREE. STAKING SHOULD BE DONE ONLY WITH THE APPROVAL OF THE LANDSCAPE ARCHITECT IF IT IS EXPECTED THAT THE TREE WILL NOT BE ABLE TO SUPPORT ITSELF. THE FOLLOWING ARE REASONS WHY TREES DO NOT REMAIN STRAIGHT:

- o TREES WITH POOR - QUALITY ROOT BALLS OR ROOT BALLS THAT HAVE BEEN CRACKED OR DAMAGED. REJECT RATHER THAN STAKE.
- o TREES THAT HAVE GROWN TOO CLOSE TOGETHER IN THE NURSERY, RESULTING IN WEAK TRUNKS. REJECT RATHER THAN STAKE.
- o PLANTING PROCEDURES THAT DO NOT ADEQUATELY TAMP SOILS AROUND THE ROOT BALL. CORRECT THE PLANTING PROCEDURE.
- o ROOT BALLS PLACED ON SOFT SOIL. TAMP SOILS UNDER ROOT BALL PRIOR TO PLANTING.
- o ROOT BALLS WITH VERY SANDY SOIL OR VERY WET CLAY SOIL. STAKING ADVISABLE.
- o TREES LOCATED IN A PLACE OF EXTREMELY WINDY CONDITIONS. STAKING ADVISABLE.

NOTES

1. PLEASE REFER TO INTRODUCTION AND USE CRITERIA PRIOR TO USING THIS DETAIL.



TREE STAKING DETAIL - TREES 75MM (3 IN.) CALIPER OR LESS

Diseased Trees

The City Council has determined that the health of oak trees within the municipal limits is threatened by the fatal disease oak wilt. It has further been determined that the loss of oak trees growing upon private and public property would be detrimental to the public. Savage City Code 102.13 has established management procedures to prevent the spread of oak wilt and to ensure the removal of infected trees.



Nuisance Declared

The following are declared to be public nuisances whenever and wherever they may be found within the City:

- Any living or standing tree or part thereof infected to any degree with oak wilt fungus, *Ceratocystis Fagacerum*, or any living or standing oak that poses a threat of transmission of the oak wilt fungus to other trees of the same species through interconnected root systems
- Any tree, shrub, or other planting, whether located on City-owned or private property which:
 - Harbors insects or diseases which may be expected to injure or harm any tree, shrub or other plant; or
 - By any reason of location or condition constitutes an imminent danger to the health, safety or welfare of the general public; or
 - Obstructs the free passage of pedestrian or vehicle traffic, or which obstructs an uncontrolled or controlled intersection or other vehicular signage; or
 - Which dangerously obstructs the view in the “visibility triangle” as determined by the City Engineer.

Abatement Required

It is unlawful for any person to permit any public nuisance, hazardous or diseased tree as defined in Section 102.12 of Savage City Code to remain on any premises owned or controlled by such person within the City. Such nuisances, hazardous or diseased trees shall be abated in the manner prescribed by the diseased tree Section 102.13.

Tree Inspector

The City Council may, at its discretion, appoint a tree inspector or tree inspectors, certified by the Minnesota Commission of Agriculture, who shall administer the oak wilt control programs for the City in accordance with the provisions of this Chapter. The tree inspector is empowered to do the following:

- Enter upon private premises at any reasonable time for the purpose of carrying out the duties assigned to him/her under this chapter. The Tree Inspector shall give notice of said inspection to all affected residents and property owners either through oral or written notice
- Cause the immediate abatement of all public nuisance, hazardous or diseased tree provided that subject tree(s) is determined by the Tree Inspector to be an immediate threat to any person or property
- Seek from any court of competent jurisdiction an order directing immediate abatement of any public nuisance, hazardous or diseased tree.



Diagnosis

The Tree Inspector shall, upon finding indications of oak wilt, take such steps for diagnosis as may be appropriate, which may include analysis of twig samples from actively wilting branches by the Department of Agriculture tree disease laboratory or other laboratories capable of performing such services approved by the Minnesota Commissioner or Agriculture. Whenever possible, diagnosis shall be based upon accepted field symptoms.

Procedure for Abatement and Removal

Whenever it is found with reasonable certainty that a tree has oak wilt, the tree inspector shall proceed as follows:

- The tree inspector shall cause a written notice to be personally served or sent by registered mail to the person to whom the tax bill was sent for general taxes during the preceding year
- Such notice shall describe the kind of tree, shrub or other plant or portion thereof which has been declared to be a public nuisance, hazardous or diseased; its location on the property; the reason for declaring it a nuisance, hazardous or diseased tree
- Such notice shall describe the subject premises by legal description or by street
- Such notice shall state the actions that the property owner shall undertake to abate the nuisance, hazardous or diseased tree
- Such notice shall order the elimination of the nuisance; hazardous or diseased tree no more than 30 days after the notice is delivered or sent to the person to whom the tax bill was sent for general taxes for the preceding year
- Such notice shall include a copy of this chapter

Criteria for Abatement

Abatement procedures shall be carried out in accordance with current technical and expert opinions such as may be dispensed by the Commissioner of Agriculture. Criteria to be followed in regard to abatement requirements are as follows:

- **Oak Trees.** All oak trees diagnosed as having oak wilt shall be isolated from neighboring healthy oak trees of the same species within thirty (30) days, by chemical or mechanical disruption of common root systems to prevent root graft transmission of oak wilt fungus
- **Spread of Tree Diseases Across Property Lines.** If the tree inspector finds that oak wilt threatens to cross property boundaries, the tree inspector may require root graft disruption to prevent the spread of the disease in this manner. If



trenching is not possible due to terrain, location, or buried utilities, the-tree inspector may require other acceptable methods of control, including trunk girdling and/or applications of herbicides and/or fungicides

Any cost incurred by the City for oak wilt control and abatement, including administrative time, shall be assessed to the property for which the control occurred.

Failure to abate

In the event the nuisance, hazardous or diseased tree is not abated by the date specified in the notice, the Tree Inspector is authorized to cause abatement of said nuisance, hazardous or diseased tree. The reasonable cost of such abatement shall be filed as a special assessment against the property on which the nuisance, hazardous or diseased tree is located. In addition, the property on which the nuisance, hazardous or diseased tree is located shall be subject to prosecution under this chapter according to City Code Section 102.20.

Natural Areas Management

In the midst of increasing urbanization and a lesser connection with the land, the acquisition, establishment, and maintenance of Natural Areas will assure that important natural resources are preserved for future generations.

- To maintain the natural environment, as it exists or to restore to desirable condition and function when practical, those areas deemed necessary or appropriate for restoration
- Natural processes and change shall be allowed to take place insofar as is desirable
- Acceptable land and wildlife management practices may be used to recreate, maintain, or preserve the natural setting and native wildlife populations, or to protect the health and safety of the public. Occasionally, serving as storm sewer or storm water detention basins and may require periodic maintenance
- Planting of trees, shrubs or other vegetation, and not approved as a city project, shall be prohibited. Plants native to this area shall be used whenever possible; however, non-native plantings may be deemed necessary for providing buffer, erosion control, and creating special wildlife habitat
- Storage and/or removal of firewood and other natural materials, including lawn waste and compost bins, shall also be prohibited
- Forest trees adjacent to or within Natural Areas will not be routinely inspected by the city. However, if through routine maintenance, a forest tree is determined to present risk, it will be trimmed or felled as needed to prevent it from falling on trails or structures.



- Natural areas generally contain little or no constructed amenities and therefore will not receive routine scheduled maintenance.
- Public easements may exist or be platted by the City to allow access into Natural Areas for maintenance if necessary or to serve as pedestrian trail systems.



APPENDIX A GLOSSARY

Applicant - the person who is applying for a permit.

Building parameter - the footprint of the building plus a distance not to exceed twenty (20) feet in each direction thereof. The area of disturbance on either side of a driveway, when added together, not to exceed 20 feet.

Caliper inches - the length of a straight line measured through the tree six (6) inches above the root ball, up to and including four-inch caliper size.

Canopy - the horizontal extension of a tree's branches in all directions from its trunk.

Council - the City Council or its designee.

Critical Root Zone - The area near trees that must be protected and avoided during construction. The critical root zone is determined by projecting the tree drip line downward from the outermost edge of the canopy to the ground.

Diameter at breast height/d.b.h. - the width of a tree trunk measured four and half (4.5) feet above the ground.

Drip line - an imaginary vertical line that extends from the outermost branches of a tree's canopy to the ground.

Forester - the City Forester and/or his/her designated representative.

Land/parcel of land - an entire lot, as defined by the zoning ordinance, on or within the boundaries of which land alteration has occurred or is to occur.

Land alteration - any excavation, grading, clearing, filling or other earth change that may result in:

1. The movement of more than three hundred fifty (350) cubic yards of earth where significant trees are present; or
2. Any alteration of land of more than twelve (12) inches from the natural contour of the ground on any contiguous four hundred fifty (450) square feet of ground where significant trees are present.

Lost significant tree - a significant healthy tree lost as a result of:



1. Grade change of land alteration, whether temporary or permanent, greater than six inches, measured vertically, affecting thirty (30) percent (as measured on a horizontal plane) or more of the tree's critical root zone; or
2. Utility construction (i.e., sewer, water, storm sewer, gas, electric, telephone, cable TV, and trenching) resulting in the cutting of thirty (30) percent or more of the tree's roots within the critical root zone; or
3. Mechanical injury to the trunk of a significant tree causing loss of more than twenty (20) percent of the bark; or
4. Compaction of ninety (90) percent of proctor (moisture density test) to a depth of six (6) inches or more, of sixty (60) percent or more of the surface of the soil within a significant tree's critical root zone.

Natural areas - areas containing representative natural resources, typically not actively managed for general recreational opportunities by the public.

Significant tree - any healthy deciduous tree (except Russian Olive, Cottonwood, Box Elder, Mulberry, and Elm) measuring six inches in d.b.h. or greater, or a coniferous tree measuring four inches in d.b.h. or greater.

Specimen tree - a particularly impressive or unusual example of a species due to its size, shape, age, or any other trait that epitomizes the character of the species.

Tree inspector - the City Tree Inspector and/or his/her designated representatives.

Tree inventory - an inventory of all significant trees and wooded lots in an area of development, to include specimen trees.

Tree trunk - the stem portion of a tree from the ground to the first branch thereof.

Trees and shrubs - all vegetation, deciduous or coniferous (except lawn grass and flowers) greater than 24 - inches in height.

For additional City Code references, please refer to the City of Savage website at www.cityofsavage.com.