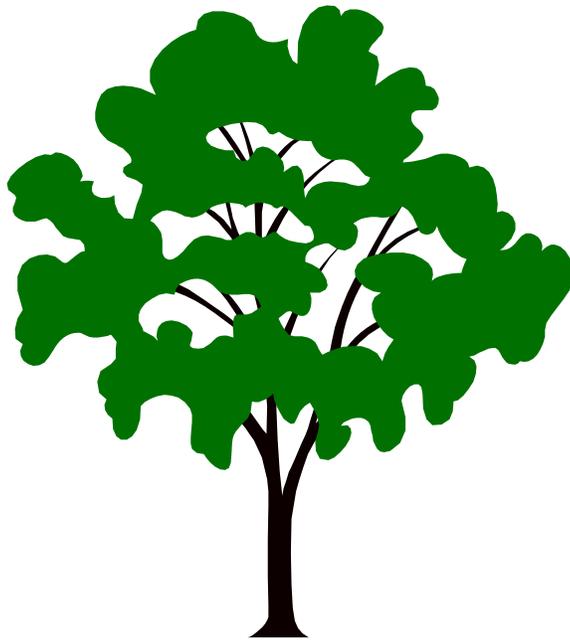


CITY OF DE PERE

ARBORICULTURAL SPECIFICATIONS MANUAL



Revised: February 2017

Table of Contents

INTRODUCTION.....	- 1 -
MASTER STREET TREE PLANTING PLAN.....	- 2 -
Street Tree Planting Programs.....	- 2 -
Installation Time Periods	- 2 -
Planting Permit.....	- 2 -
Recommended Street Tree Planting List	- 2 -
Banned Tree List	- 2 -
DIGGERS HOTLINE AND LOCAL UTILITIES.....	- 2 -
TREE PLANTING STANDARDS.....	- 3 -
Condition and Recommended Varieties	- 3 -
Diameter of Tree Trunk.....	- 3 -
Location	- 3 -
Parkway Width.....	- 3 -
Planting Depth.....	- 3 -
Spacing	- 3 -
Transplanted Trees	- 3 -
Tree Planting Procedures.....	- 4 -
Additional Care.....	- 5 -
MAINTENANCE OF NEWLY PLANTED TREES.....	- 6 -
Fertilization and Amendments.....	- 6 -
Mulching.....	- 6 -
Tree Pruning	- 6 -
Tree Staking.....	- 6 -
Tree Wrapping	- 6 -
Tree Guards	- 6 -
Watering	- 6 -
PRUNING.....	- 7 -
Training Pruning.....	- 7 -
Routine Pruning	- 7 -
PRUNING SPECIFICATIONS	- 7 -
Pruning Cuts.....	- 7 -
Wound Treatment.....	- 8 -
Miscellaneous Specifications	- 8 -
Tree Work Permit.....	- 8 -
PRUNING OPERATIONS.....	- 9 -
Section Pruning.....	- 9 -
Spot and Request Pruning	- 9 -

TREE PROTECTION	- 9 -
Bridging, Tunneling, Drilling, Etc.	- 9 -
Depositing Material Near Trees.....	- 9 -
Moving Of Buildings	- 9 -
Root Care	- 9 -
Sidewalk, Driveway, and Curb and Gutter Removal	- 10 -
Tree Replacement	- 10 -
Trunks and Lines.....	- 10 -
DISEASE AND INSECT PROBLEMS	- 10 -
Dutch Elm Disease	- 10 -
Gypsy Moth	- 10 -
Oak Wilt	- 10 -
Emerald Ash Borer.....	- 11 -
NUISANCE TREES.....	- 11 -
Hazardous Tree Policy.....	- 11 -
Nuisance Tree Policy	- 11 -
TREE REMOVAL POLICY	- 11 -
Reason for Removal.....	- 11 -
Safety Standards	- 11 -
Site.....	- 11 -
Removal Procedure.....	- 11 -
Clean Up.....	- 12 -
STUMP REMOVAL PROGRAM.....	- 12 -
Underground Utilities.....	- 12 -
Stump Removal Operations	- 12 -
Stump Cleanup Operations	- 12 -
STREET TREE EVALUATION AND ASSESSMENT PLAN.....	-12-
INTER DEPARTMENTAL COORDINATION AND COOPERATION.....	- 13 -
APPENDIX A - Tree Planting Permit Application & Guidelines.....	- 14-15 -
APPENDIX B - Tree Planting Permit	- 16 -
APPENDIX C - Tree Work Permit Application.....	- 17-
APPENDIX D - Tree Work Permit.....	- 18-
APPENDIX E - Recommended Street Tree Planting List.....	- 19-20-
APPENDIX F - Banned Street Tree Planting List.....	- 21-

INTRODUCTION

FUNCTION: The purpose of the Arboricultural Specifications Manual is to enable the City of De Pere to maintain and manage all trees located within the parkways, along City streets, and within the acres of public parks and recreational land by specifying proper treatments. This involves all phases of arboricultural work from planting to maintenance to removal. To carry out these functions, certain guiding policies and procedures have evolved and been adopted. Through these policies, the Parks, Recreation, and Forestry Department makes every effort to produce maximum public service for the City's urban forest.

PURPOSE: The policy of the City is to regulate and control the planting, transplanting, removal, maintenance, and protection of public trees and shrubs in the City in order to maximize utility and function of the urban forest and minimize and guard against dangerous conditions which may result in injury to persons using the streets, alleys, sidewalks, or other property of the City. It is also City policy to promote and enhance the beauty and general welfare of the City, and protect trees and shrubs located in the public areas from undesirable and unsafe planting, removal, treatment, and maintenance practices. (Exceptions - public school sites are not included.)

ORGANIZATION: The City's forestry effort is administered and managed by the City Forester of the Parks, Recreation, and Forestry Department. The City Forester maintains an office at the Municipal Service Center located at 925 S. Sixth Street. The Board of Park Commissioners and the Director of Parks, Recreation, and Forestry oversee and provide urban forestry guidance and input.

PERSONNEL: The City's forestry effort is supervised and managed by the Director of Parks, Recreation and Forestry and City Forester and is staffed by full-time and seasonal employees or contracted out to professional services. Recruiting and utilizing volunteers is also an important part of staffing.

"This document was funded in part by an urban forestry grant from the State of Wisconsin Department of Natural Resources Forestry Program as authorized under Wis. stat. 23.097."

I. MASTER STREET TREE PLANTING PLAN

The Master Street Tree Planting Plan covers the street tree planting programs, installation time periods of street tree plantings, planting permits, recommended street tree species selection list, and banned street trees. This document should be referenced for all questions regarding how street tree planting is laid out, paid for, requirements for what trees are allowed and banned from planting in the right-of-way.

A. Street Tree Planting Programs:

1. Neighborhood Tree Program – This program is to allow property owners the opportunity to have the City plant trees along the street in front of their home or business. This is a cost share program where the owner can purchase a tree(s) thru the City at wholesale cost and the City will plant and maintain the tree for life. The City Forester will select and give property owners a choice of bare root trees in a size range of 1.25” – 1.75” diameter (caliper) at 6” above the ground line. Trees will only be planted where an established lawn exists.
2. Replacement – Trees destroyed by vandalism, vehicles, lawn equipment, etc. may be replaced at a cost to the person causing the damage, if known. If such person is unknown, the adjacent homeowner may request and pay for a new tree if conditions and space allow for a replacement planting. The City Forester, the Director of Parks, Recreation and Forestry or the Board of Park Commissioners may also request a new tree to be planted at no cost to the property owner to replace the lost tree.
3. Unimproved Streets – Trees shall not be planted in the terrace where curbing and/or established lawn area does not exist.
4. Memorial Tree Planting – Individuals or groups may choose to purchase (on their own or through the City), and have planted by the City, a tree to honor someone special. This planting can take place in a park of their choice if space and conditions allow. Planting can occur at various times of the year if weather and species permit.

B. Installation Time Periods:

1. Street tree plantings will normally take place during two time periods per year. The first plantings will be in the spring, typically mid-April until the end of May. The other planting period occurs in the fall, approximately from Mid-October to early November.
2. Some tree species can only be transplanted in the spring for optimal establishment so these species will only be available once per year.
3. Evergreen trees (not an approved street tree, but may be planted in parks) should only be planted in the spring or summer to ensure establishment prior to freezing weather in the fall. Evergreens continue to transpire throughout winter so they should not be planted after October 1st since optimal establishment would not take place.

C. Planting Permit: Property owners who wish to plant trees themselves in the City right-of-way must first complete a planting permit application (Appendix A). Upon completion, the City Forester will accept or deny this application following a site inspection and administer a planting permit for such plantings (Appendix B). Planting permit recipients must follow the tree planting procedures as outlined in Section III of these specifications.

D. Recommended Street Tree Planting List: (Appendix E)

E. Banned Tree List: (Appendix F)

II. DIGGERS HOTLINE AND LOCAL UTILITIES

Diggers Hotline and the local utility companies must be notified of all locations before any digging commences including planting, root repair, staking and stump removal. It takes three to ten days for the utilities to locate all facilities. This is required so that no underground utility facilities are damaged. This not only prevents the disruption of service to residents, but it also could prevent a serious accident to employees or property owners.

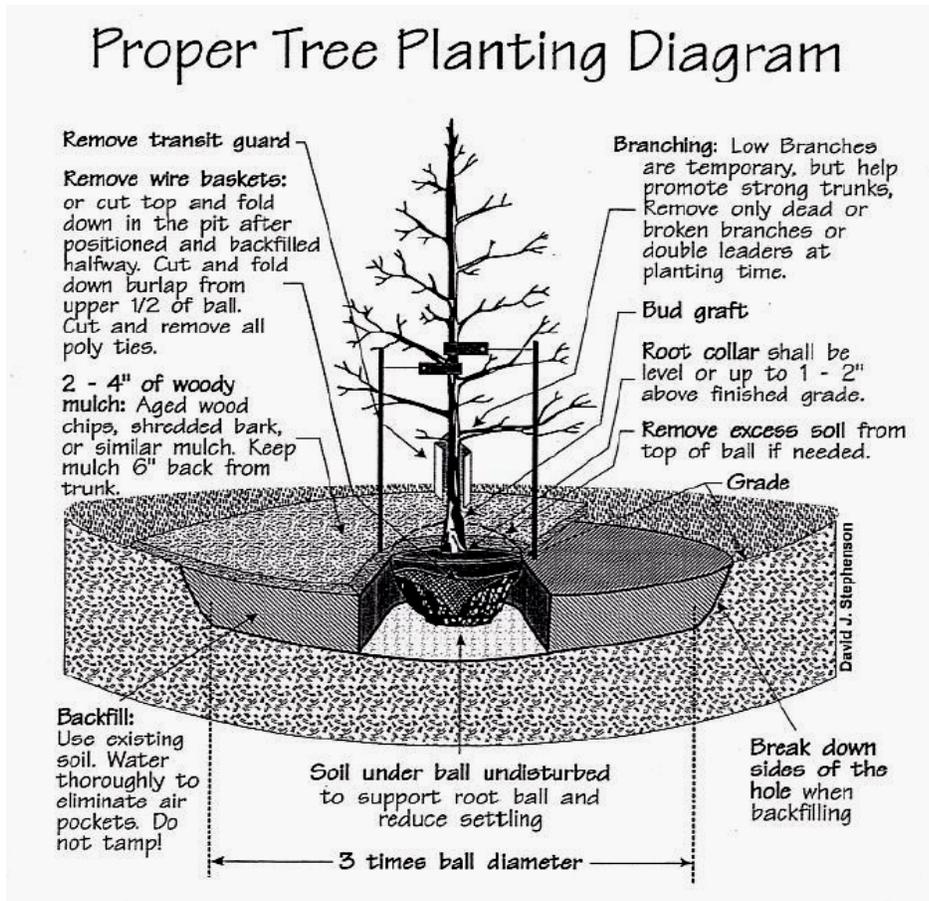
III. TREE PLANTING STANDARDS

- A. Condition and Recommended Varieties: All trees must be in healthy condition with evidence of vigorous growth during the previous year. Shade trees must have single trunks, with a dominant central leader, which will develop into a desirable crown. Ornamental trees may have multiple leaders, but only in areas of non-street right-of-ways. Varieties must be selected from the recommended tree planting list in Appendix E, unless prior approval is granted from the City Forester.
- B. Diameter of Tree Trunk: All trees planted along public streets must be of sufficient size to absorb the abuse and conditions common to street trees. Unless otherwise permitted for special reasons, the minimum size will be 1 1/4" diameter and may not exceed 3" diameter.
- C. Location: Generally all street trees shall be planted midway between the sidewalk and curb, following all guidelines listed below:
1. 30' in either direction from the street intersection
 2. 20' from a street light
 3. 10' from a driveway or carriage walk
 4. 10' from a fire hydrant
 5. 15' from man holes in terrace
 6. 10' from underground utility valves and t's
 7. 5' from adjacent property lines
 8. 25' from an approaching sign (front of sign)
 9. 10' from a non-approach sign (back side of sign)
- D. Parkway Width: No trees will be planted where the grassy terrace between the sidewalk and curb is less than 3 feet wide.
- E. Planting Depth: The planting depth is determined by root collar. All new plantings should be placed so that the root collar is even with the soil surface or slightly higher, where conditions and species favor the tree being slightly above grade.
- F. Spacing: All small trees will be planted a minimum of 25' apart. Medium trees will be spaced a minimum of 30' - 35' apart and large trees will be spaced a minimum of 35'-40' apart. Greater spacing may be needed depending on each species mature form.
- G. Transplanted Trees: When digging and planting trees bare root, care must be taken to prevent unnecessary injury to roots. All broken roots should be pruned. When digging balled and burlap trees, the following guide should be used to determine the diameter of the ball:

<u>Tree Diameter</u>	<u>Root Ball Diameter</u>	<u>Approximate Root Ball Weight</u>
1 1/2"	22"	270#
2"	24"	350#
2 1/2"	28"	625#
3"	32"	850#
4"	38"	1250#
5"	46"	2500#

H. Tree Planting Procedures:

1. Select the right tree for the right place:
 - a. Carefully review all aspects of the site.
 1. How much physical space is available above ground and below ground? Will the tree you want fit within this space at maturity? Don't plant a tree that will grow to a large size under power lines.
 2. Closely review the soil. Find out about the ability of moisture to drain through the soil. What is the pH?
 3. Consider environmental factors such as exposure to the sun, drying winds, and pollution.
 - b. Choose a tree species that matches, or is adaptable, to the growing conditions you have found during the site analysis.
2. Select a healthy tree from a reputable nursery.
 - a. Avoid plants that have damaged or broken twigs, branches, trunk, and/or roots.
 - b. Is the tree well anchored in the pot or burlap root ball?
 - c. Don't buy plants that look unhealthy and have dried out roots.
3. Plant the tree properly. The following is a diagram of proper installation for a balled and burlapped tree. Potted or bare root trees require similar steps with minor differences.



Wisconsin Dept. Of Natural Resources - Oct. 2000

- a. Prepare the site by digging a hole equal to the depth of the root ball/system and three times as wide. Digging too deeply can cause settling of the root system.
 - b. Find the root collar and plant the tree even or slightly higher than this point.
 - c. Remove at least ½ of the wire basket and burlap from the top part of the ball on balled and burlap trees. On either balled and burlapped or bare root trees, cleanly prune any torn, jagged or broken roots.
 - d. Use the soil removed from the hole as backfill. As a general rule, you should not add any amendments to the backfill. Discard any rocks, sod, and large objects from the soil before backfilling.
 - e. Water the soil thoroughly to remove air pockets. Don't pack the soil down (water will do this naturally with the help of gravity). Fill in any voids with more soil after watering.
 - f. Create a mulch bed using wood chips that extends approximately 6" from the trunk outward to at least the drip line of the canopy to a depth of 3-4". (Don't pile the woodchips up around the trunk!)
 - g. Stake the tree only if it will not remain upright in a moderate wind.
 - 1. If you must stake, use a soft, wide belt-like material when supporting the tree to avoid injuring the bark.
 - 2. Trees need to move in the wind. Make sure there is some play in the support system to allow the trunk to sway without being uprooted.
 - 3. Check tree following one (1) year and remove stakes if tree is stable.
 - h. Wrapping the trunk is not necessary. If rodent damage is a concern, place a plastic tile tree protector around trunk.
 - i. Prune any broken, dead, or dying limbs without damaging the branch collar at the time of planting. Routine pruning to train branching structure should be started one year after planting. Do not use pruning paint or wound dressing on the pruning cuts.
 - j. Wait until one year after planting to fertilize, if needed.
 - k. Diggers Hotline and the local utility companies must be notified of all locations before any digging occurs.
- I. Additional Care: Additional care should be given to newly planted trees in the following years, including pruning, mulching and fertilizing as needed.

IV. MAINTENANCE OF NEWLY PLANTED TREES

- A. Fertilization & Amendments: Fertilization of newly planted trees in the first year is not recommended. Typically a tree can be fertilized once it has become established, usually 2 or 3 years after planting. Fertilization is typically applied in spring or fall. Sulfur may be applied to bring down soil pH and provide an environment for trees to take up of some nutrients that aren't available in some soils. In addition to general fertilization or sulfur treatments, a micronutrient fertilizer may be used to supplement some specific deficiencies.
- B. Mulching: A layer of wood chip mulch around the drip line of the tree will help conserve the soil moisture, help protect the tree from lawn mower damage, and reduce competition from grass for nutrients and moisture. It will also decompose over the years to provide nutrients, organic matter, and to improve soil structure. Mulch should not be piled around the trunk, most specifically known as "mulch volcanoes". A pile of mulch at the base of trees provides a home for small rodents that may chew bark and can cause damage to the trunk. Mulch holds moisture by the trunk promoting fungal problems and it provides protection for insect pests that could cause structural damage. Mulch belongs on the ground, not on trees!
- C. Tree Pruning: No pruning should occur at the time of planting. Pruning at this time will reduce the amount of stored energy that the tree contains and could cause added stress to the tree. The exceptions to this rule are the pruning of any broken, dead, or dying limbs without damaging the branch collar at the time of planting. Routine pruning to train branching structure should be started one year after planting and continue every 3rd year for the first 15 years. Do not use pruning paint or wound dressing on the pruning cuts.
- D. Tree Staking: Stake only trees that will not stand in a moderate wind. If staking is required, use soft, wide bands of nylon strap, carpet, or canvas to support the tree. Make sure that the tree has a small amount of room to move. **It is advisable to never use garden hose with wire through it to go around the tree trunk.**
- E. Tree Wrapping: Is not normally necessary and should be avoided.
- F. Tree Guards: Plastic tile tree guards may be put on for winter protection from rodents. The guards should be removed in early spring to avoid damage to the tree.
- G. Watering: The City waters all trees at the time of planting. Following planting, the City requests that the homeowner water the tree for at least the first three years and in any period of dry weather thereafter. Trees and shrubs require 1" of water per week for optimal growth and maintenance.

V. PRUNING

STREET TREE PRUNING PLAN AND POLICY: The City of De Pere is divided into 10 different management units for management, maintenance, and increased efficiency by reducing crew travel time. To establish an orderly way of pruning street trees for an appearance of uniformity and tree health, a "Rotation Prune Schedule" is in operation.

- A. Training Pruning (Trees up to 15 years of age) – These trees are pruned on a rotation of every three years after planting for the following reasons:
1. Develop a central leader
 2. Raise the crown
 3. Establish good branch structure
 4. Eliminate poor branch angles
 5. Heading of temporary branches
 6. Remove damaged, dead, or diseased branches
- B. Routine Pruning (Trees older than 15 years old) – Routine pruning of mature trees on a 6 year cycle. With this pruning system, street trees are thoroughly pruned for low hanging branches, deadwood, and clearance of branches overhanging buildings. Class II type pruning will be used in most cases, which is standard pruning. The selective removal of plant parts for specific reasons, such as:
1. Policy: See Above.
 2. Sanitation: Remove dead, dying, or diseased branches.
 3. Traffic Clearance: Provide for 12' minimum over sidewalks and at least 14' over streets, along with providing a clear line of site to street signs and intersections.
 4. Light Clearance: Remove sufficient branch wood to allow adequate street lighting pattern on pavement.
 5. Tree Structure: Remove interfering branches and those that form weak branch unions. Prune for proper balance around the tree and proper branch spacing to equalize wind resistance and weight.
 6. Storm Damage Repair: Preserve as much of the tree as possible, and train new growth for the future.
 7. Building Clearance: Remove interfering branches extending over buildings, and a minimum of a 10' clearance from buildings.

VI. PRUNING SPECIFICATIONS

All specifications shall be in accordance with ANSI A300 Standards.

- A. Pruning Cuts
1. All cuts should be made sufficiently close to the trunk or parent limb without cutting into the branch bark ridge or branch collar so that callus growth can readily start under normal conditions.
 2. Branches too large to support with one hand shall be precut (3 cut method) to avoid tearing or splitting of the bark. (See figure 1)
 3. Removal of dead branches shall have the final cut outside of the collar of live tissue.
 4. All limbs 4" in diameter or larger should be lowered to the ground by proper ropes when hazards are present on the ground.
 5. No more than 1/4 of the foliage on mature trees should be removed within one growing season.
 6. Heading cuts should consist of cutting the parent branch back to a lateral branch at minimum 1/3 the size of the parent limb.
 7. Topping of trees shall not be allowed. Topping consists of cutting a branch between lateral branches or pruning the parent limb to a lateral branch that is less than 1/3 the size of the parent limb.

B. Wound Treatment

1. Pruning paints and wound dressings shall not be used to cover pruning cuts. Research has shown that wound dressings do not improve wound closure and may actually promote disease at site of application. *The only exceptions to this rule are if oaks or elms need to be pruned in the months of banned activity (as seen in Section IX, DISEASE AND INSECT PROBLEMS); then anything over a 2" cut should be covered with pruning paint to discourage disease-carrying insects. Stumps should also be removed or covered for this same reason.
2. Repairing of bark wounds should only include the removal of loose bark, disturbing as little of the live tissue as possible, and using rounded edges.
3. Tree cavities shall not be filled with concrete, bricks, wire, or any other non-flexible substances. If cavity filling is required, expandable foam should be used.

C. Miscellaneous Specifications

1. Climbing spikes or spurs shall not be used during pruning operations.
2. Vehicle and pedestrian warning devices shall be properly placed prior to any tree work being performed.
3. On thin bark species, just enough limbs are to be removed to obtain necessary results. Sucker growth can result from too much pruning.
4. All girdling roots visible to the eye, where practicable, should be treated with one of the following: Cutting of the root at either end, notching of the root in center with chisel, or removing the root without injury to bark or parent stem.
5. All wires are to be considered as "HOT" or "LIVE"; any branches that are within 10' should not be pruned. All tree workers shall abide by clearance standards outlined in the ANSI Z133.1 Standards. Call the appropriate utility for assistance if necessary. Any branches that accidentally fall against or hang on wires must be removed by the appropriate utility.
6. All cabling, bracing and lightning protection shall be in accordance with ANSI A300 Standards.
7. Chainsaws shall be handled in an appropriate manner and as directed in the newest revision of ANSI Z133.1.

- D. Tree Work Permit: Property owners who wish to remove, maintain or protect trees themselves in the City right-of-way, must first complete a tree work permit application (Appendix C). Upon completion, the City Forester will accept or deny this application following a site inspection and administer a tree work permit (Appendix D). Tree work permit recipients must follow the procedures as outlined in Section VI of these specifications.

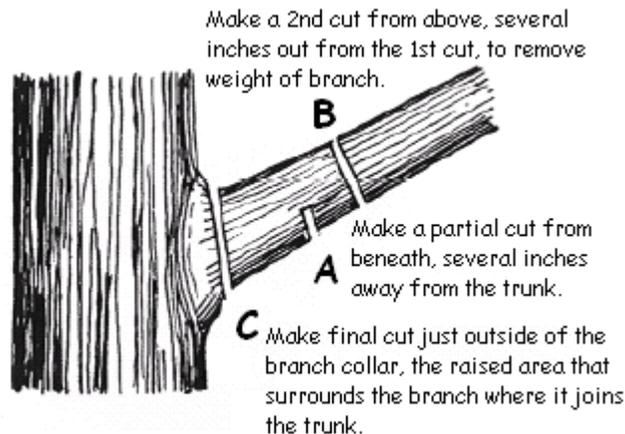


Figure 1

Tree City USA Bulletin #2

VII. PRUNING OPERATIONS

A. Section Pruning:

1. The City is divided into 10 management units. Trees will be pruned on the appropriate cycle (3 or 6 year) depending on age. All public trees are to be inspected at the time of pruning and appropriate maintenance will be performed if needed.
2. Vehicle and pedestrian traffic must be adequately warned and controlled during operations.
3. Trees found to be in unsafe condition and/or require major repair or maintenance are to be reported immediately to the City Forester.
4. All residents and pedestrians are to be treated with respect and courtesy at all times, regardless of conditions.
5. At the end of each working day, all limbs, branches, twigs, and debris shall be cleaned up before leaving work area.
6. No equipment shall be left at the work site overnight.
7. Report all unusual situations or conditions to the City Forester.
8. Update tree inventory.

B. Spot & Request Pruning:

1. Pruning for special purpose: Safety, light clearance, traffic clearance, building clearance, house moving, and construction. These are special assignments and should be handled as such.
2. Whenever possible, contact with adjoining property owner should be made before work is assigned. Exceptions may include pruning for immediate public safety, storm damage or construction.
3. Homeowner requests for pruning will be inspected by the City Forester and appropriate maintenance will be scheduled at earliest available time.

VIII. TREE PROTECTION

- A. Bridging, Tunneling, Drilling, Etc.: The protection of trees shall involve bridging, tunneling, drilling or boring underneath the existing trees. The surface area directly adjacent to the tree shall not be disturbed under the following guidelines (where DBH = diameter at breast height):
1. 3" DBH trees or less - three feet on either side of tree with a minimum three foot depth
 2. 3" to 8" DBH trees - six feet on either side of tree with a minimum three foot depth
 3. 8" to 14" DBH trees - eight feet on either side of tree with a three foot minimum depth
 4. 14" to 19" DBH trees - ten feet on either side of tree with a three foot minimum depth
 5. 19" DBH trees + - fifteen feet on either side of tree with a three foot minimum depth
- B. Depositing Material Near Trees: No person shall place and maintain upon the ground in a public street or right-of-way of the City of De Pere any soil, stone, cement, lumber, or other substance or material which shall impede the free passage of water and air to any tree or shrub without leaving an open space of ground outside of said tree or the base of said shrub of an area as is determined in Section A above. Before depositing any such materials near to trees or shrubs, the person so depositing said material shall place such guards around the trees and shrubs as shall effectively prevent injury to them.
- C. Moving of Buildings: The property owner shall notify the City Forester at least 48 hours in advance of moving any buildings. If any pruning is necessary as the building is being moved or if any plant material is required to be relocated, the City Forester will coordinate the activity and the property owner will incur the costs. Should such pruning or relocating cause the death of such plant material, the property owner shall replace the same at his/her expense.
- D. Root Care: Exposed tree roots shall be covered with backfill as soon as possible following curb and gutter removal. Torn, jagged or broken roots should be cleanly cut with approved root pruning equipment.

- E. Sidewalk, Driveway, and Curb and Gutter Removal:
1. Caution should be used during removal to avoid any unnecessary damage to the tree or its root system.
 2. Roots requiring removal shall not be cut by means of mechanical root cutting machines. If root removal is essential, roots shall be manually cut with sharp hand implements.
 3. Root systems on the sidewalk or driveway side of the tree shall be cut no deeper than 9 inches below the finished grade of the new walk and not more than 4 inches from the edge of the new walk or driveway.
 4. Root systems on the curb side shall be cut not more than 4 inches behind the back of the new curb and not more than 21 inches in depth when constructing new curb and gutter.
- F. Tree Replacement: The City Forester may remove and replace, at the contractor's expense, any tree(s) and/or shrub(s) that has/have been excessively damaged due to construction activities.
- G. Trunks and Lines:
1. At least 48 hours before start of construction, the contractor shall contact the City Forester or engineer to discuss problems with overhanging branches that might be damaged in spite of his/her exercising care in construction.
 2. Tree trunks shall be enclosed with wood slats, rubber tires, or snow fence wired in place where contractor's operation may scar the trunk or compact the root zone of the tree. The contractor shall exercise care to assure tree trunks, limbs, and roots are not damaged by its operation.
 3. Damage to branches of the trees due to contractor's negligence will be repaired by the City Forestry Division and may be billed to the contractor by the Parks, Recreation, and Forestry Department.

IX. DISEASE AND INSECT PROBLEMS

- A. Dutch Elm Disease: Dutch Elm Disease is caused by the fungus *Ceratocystis ulmi* attacking American elms by infecting the water carrying xylem vessels resulting in wilting and eventual death of the tree. Spread of this disease is either via root grafts or from overland spread via sap feeding elm bark beetles. Stopping the spread is virtually impossible; however, sanitation and removal of dead elms to try and prevent the spread where practical can limit or slow the spread of the disease. Wood from infected trees should either be debarked or destroyed to prevent further spread to new areas. Pruning of all American elms is prohibited in the City of De Pere from **April 1 to September 1**.
- B. Gypsy Moth: The gypsy moth is an exotic insect that feeds on leaves of trees and shrubs and can defoliate many species, most especially oaks. The City of De Pere has been monitoring their numbers and has worked with the WDNR to aerial spray *Bacillus thuringiensis kurstaki* (*Btk*) on high population areas since 2002. This is a cost share program in which the City is reimbursed a portion of the money spent in monitoring and spraying for the gypsy moth. This insect has become established in our area and we will need to continue to monitor and control pockets of higher populations for a long time. The Forestry Division also applies Golden Natural Pest Spray Oil to egg masses on public trees and burlaps those same trees during the caterpillar stage to aid in the control of the gypsy moth.
- C. Oak Wilt: The City of De Pere has an Oak Wilt Policy that imposes a ban on the pruning or wounding of any Oak trees growing within the City limits during the period from **April 1 to September 1**. This ban is necessary to prevent the further spread of Oak Wilt Disease, which can be spread by sap feeding Picnic Beetles.

- D. **Emerald Ash Borer:** The Emerald Ash Borer (EAB) is an exotic beetle from Asia that has become established in a majority of the states east of the Mississippi and causes damage to all ash (*Fraxinus spp.*) trees. The larvae of the EAB feed in the cambium between the bark and the wood, producing galleries that eventually girdle the branches and/or trunk and in effect kill the tree. In July and October of 2016 the City identified our first cases of Emerald Ash Borer in De Pere. Research has shown that if an infestation breaks out within 15 miles of your property you may reasonably choose to treat your trees. There are numerous options available to you – you can treat yourself with various products (if your tree is less than about 47 inches in circumference [i.e., 15 inches in diameter at breast height (DBH)]) or you can have a professional treat your trees (for trees typically over that size). If you choose to do nothing, unfortunately the ash in your yard are likely to succumb to EAB.

X. NUISANCE TREES

- A. **Nuisance Tree Policy:** Governed by the City of De Pere Ordinance Chapter 78, Nuisances.
- B. **Hazardous Tree Policy:** See Section XI. Tree Removal Policy, subsection A. Reason for Removal.

XI. TREE REMOVAL POLICY

- A. **Reason For Removal:**
1. Trees located in the City right-of-way, parks, and other public properties are removed only when they are dead, dying, dangerous or condemned (due to insect, disease, storm damage, or construction). The City Forester will make a determination for removal based on a tree evaluation and/or examination from field crews. The cost of removal will be assumed by the City of De Pere.
 2. The City Forester will determine public trees that must be removed due to street reconstruction and the City of De Pere or that same reconstruction project funding shall assume cost of said removals.
 3. Damage to any public tree that is determined, by the City Forester, to require removal may be assumed by and charged to the individual causing damage, if known.
 4. Property owner requests for the removal of any public tree will be evaluated and a determination made by the City Forester and/or the Parks, Recreation & Forestry Director. The decision can also be appealed to the Board of Park Commissioners at the next regularly scheduled meeting.
 5. The City Forester will determine the removal of any undesirable tree species.
- B. **Safety Standards:** All safety standards shall be in accordance of, but not limited to, ANSI Z133.1 Standards. Proper PPE shall be worn at all times while performing tree work.
- C. **Site:**
1. Check location and description of tree on work order before starting removal.
 2. Vehicle and pedestrian traffic must be adequately warned and controlled prior to and during removal operations according to the Work Zone Safety manual.
 3. If both lanes of traffic are to be closed in the removal operations, the Public Works Director, Police, and Fire & Rescue must be notified prior to work commencing.
 4. Note the locations of overhead power lines, utilities, homeowner obstructions, etc. and avoid or take necessary precautions to work around.
 5. All residents and pedestrians are to be treated with respect and courtesy at all times, regardless of conditions.
- D. **Removal Procedure:**
1. The tree shall be removed using the safest and most efficient arboricultural procedures.
 2. All precautions shall be made to prevent damage to any public or private property. A walk around should be conducted before hand to determine any preexisting conditions, problems

- 3. or concerns. Any damage that occurs should be reported to the City Forester immediately.
- 3. To avoid damage to property below, any limb that cannot be appropriately controlled while being cut off shall have a rope or ropes attached.
- 4. No equipment shall be left at the work site overnight.
- 5. Climbing spikes or spurs may be used **only** during the removal of a tree.

E. Clean Up:

- 1. At the end of each working day, all limbs, branches, twigs, and debris shall be cleaned up before leaving work area.
- 2. Any wood generated from the removal process can be offered to the property owner at the location where the tree is being removed providing:
 - a. The wood is placed off of the right-of-way.
 - b. The City employee is not to perform extra work for said property owner (i.e. cutting wood into firewood size pieces, stacking wood, etc.)
- 3. If the property owner does not want the wood, then any wood remaining shall be hauled to the City of De Pere compost site prior to the end of the following day, unless circumstances dictate removal on that same day. Large, oversized wood will be hauled on the day of the removal. All wood to be transported, unless in an enclosed box, shall be tied or strapped down to prevent movement.
- 4. At no time is wood to be left in the street or right-of-way without safety cones.
- 5. Report all unusual situations or conditions to the City Forester as soon as possible.

XII. STUMP REMOVAL PROGRAM

The City of De Pere's stump removal program consists of removal of stumps where trees were formally standing on the street right-of-way, in City Parks or on other public property within the City.

A. Underground Utilities: Diggers Hotline shall be contacted at least 3 days prior to any stump grinding operations.

B. Stump Removal Operations:

- 1. This operation will be performed by qualified City of De Pere employees or will be contracted out to a professional service.
- 2. All precautions shall be made to limit flying debris and damaging private property.
- 3. All stumps are to be removed completely or to a depth of 18", whichever is reached first.
- 4. All surface roots and mounded turf shall be ground down to final grade for a 10' radius around the stump.
- 5. Any stump grindings and holes that are not immediately cleaned up should be barricaded or coned to alert vehicles and pedestrians of a hazardous situation.

C. Stump Clean Up Operations:

- 1. All of the debris generated from stump grinding operations located outside of hole and at least ½ of the debris in the hole shall be removed from the site.
- 2. Topsoil is placed in hole and graded to a finish grade.
- 3. Initial seeding of the area is to be done by the City and it is the responsibility of the property owner to water and establish the grass in these locations.

XIII. STREET TREE EVALUATION AND ASSESSMENT PLAN

Street trees are recommended, at a minimum, to have an annual inspection to evaluate their condition regarding public safety. Inspections can often identify repairable problems that left unchecked could lead to tree decline or failure. Inspecting will be accomplished during regular Forestry maintenance operations, during a windshield survey by the City Forester and as a walking survey in areas of increased risk. This will be done on a yearly basis. The documentation will be both a page indicating all City trees were inspected and a list detailing each street that may require closer inspection. The

documentation will be signed and dated by inspecting personnel and supervisor. The age, species, and condition of a tree or trees may deem them necessary to provide more frequent inspections.

XV. INTER DEPARTMENTAL COORDINATION AND COOPERATION

- A. Due to the complex nature and often conflicting interrelationships between living plants such as trees, shrubs and turf; and public improvements such as streets, sidewalks and underground facilities; it is recognized that there is a need to manage both plants and improvements in a manner that will minimize conflict and maximize the benefits to be realized from each.
- B. Therefore, it is hereby declared to be the intent of the City of De Pere, Wisconsin that there shall exist at all times, a policy of open communication and coordination between the various departments and divisions of city government regarding the management, installation and maintenance of the plants or improvements for which they are each responsible.

Appendix A

CITY OF DE PERE
TREE PLANTING PERMIT APPLICATION

As required by Ordinance # 30-8

A planting permit is required before planting any tree within the City Right-of Way. This is the area from the curb to the back of the sidewalk (or where the sidewalk would be). The location of the sidewalk can often be seen in the driveways. If you are unsure please contact the City Forester.

The City Forester MUST approve tree species and location prior to any planting in the City right-of-way.

Site Address: _____

Name of Applicant: _____

Street Address: _____

City-State-Zip: _____ Phone: _____

Estimated date of planting _____

Species of tree(s) to be planted (choose from recommended street trees on back page).

Specific location of tree(s) to be planted (i.e. number of feet from property line or driveway, left or right side, etc.) NOTE: Trees shall be planted ½ the distance from the curb to the street side of the sidewalk. No trees will be planted in a terrace that is three feet or less in width.

Number of trees to be planted (using guidelines found in Section III) _____

Diameter (caliper) at 6" above the ground line of the tree(s) to be planted. (1.25"–3")

Signature of Applicant: _____ Date _____

PLEASE RETURN TO: CITY OF DE PERE
Attn: City Forester
925 S. Sixth Street
De Pere, WI 54115

GUIDELINES: *(keep for your records)*

- ❖ **There are tree restrictions!** Please see “Recommended and Banned Street Tree Planting Lists”, Appendix E & F in the Standards and Specifications.
- ❖ Trees must be single stem form. No multi-stem specimens will be allowed.
- ❖ Species selection should be based on surrounding space, soil type and microenvironment.
- ❖ **Minimum Clearances:**
 - 30' in either direction from the street intersection
 - 20' from a streetlight
 - 10' from a driveway or carriage walk
 - 10' from a fire hydrant
 - 15' from manholes in terrace
 - 10' from underground utility valves and t's
 - 5' from adjacent property lines
 - 25' from an approaching sign (front of sign)
 - 10' from a non-approach sign (back side of sign)
- ❖ All trees shall be planted in the center of the terrace, ½ the distance between the curb and the street side of the sidewalk (or where the sidewalk would be).
- ❖ The City Forester will mark the planting location with a wooden stake or a paint mark in the terrace.
- ❖ Minimum caliper size is 1.25” at 6” above the root collar.
- ❖ Trees shall be planted with root collar at grade; contact City Forester for proper tree planting procedures.
- ❖ Trees shall be mulched to a depth of 2 - 4” and a diameter of 5’ with wood mulch following planting. Mulch shall not be mounded around the tree trunk.
- ❖ If trees need to be staked for stability please contact the City Forester.
- ❖ Plastic trunk protectors can be obtained from the City free of charge for street trees.
- ❖ Obtain a “post planting care” informational handout from the City Forester following tree planting.
- ❖ Trees become the property of the City of De Pere following planting and will be maintained by the City for the life of the tree.

**Before you dig please call
Diggers Hotline 1-800-242-8511**

Appendix B

CITY OF DE PERE
RIGHT-OF-WAY PLANTING PERMIT

As required by Ordinance # 30-8

Permit No. _____

Site Address: _____

Name of Applicant: _____

Street Address: _____

City-State-Zip: _____ Phone: _____

Approved: _____

Tree Species 1. _____

2. _____

Quantity _____

Location of Planting _____

Tree Caliper _____ inches

Comments _____

Allowable Planting Period

From _____ to _____ 20__

Denied: _____

Reason for Denial: _____

If work is not completed within this allowable planting period, and planting is still desired, another planting permit must be obtained.

City Forester

Date

Appendix C

CITY OF DE PERE
TREE WORK PERMIT APPLICATION

As required by Ordinance # 30-8

A permit is required before removing, maintaining or protecting any tree within the City Right-of-Way or parkland areas. A City ROW is typically the area from the curb to the back of the sidewalk (or where the sidewalk would be). The location of the sidewalk can often be seen in the driveways. If you are unsure please contact the City Forester.

The City Forester MUST approve tree removal, maintenance or protection prior to any work in the City right-of-way.

Site Address: _____

Name of Applicant: _____

Street Address: _____

City-State-Zip: _____ Phone: _____

Estimated date of work: _____

Location of proposed work (if different from above): _____

Briefly describe the proposed work to be done (attach any blueprints): _____

Work to be done by whom: _____

Signature of Applicant: _____ Date _____

PLEASE RETURN TO: CITY OF DE PERE
Attn: City Forester
925 S. Sixth Street
De Pere, WI 54115

Appendix D

**CITY OF DE PERE
WORK PERMIT**

As required by Ordinance # 30-8

Permit No. _____

Site Address: _____

Name of Applicant: _____

Street Address: _____

City-State-Zip: _____ Phone: _____

Approved: _____ Tree Species and Nature of Allowable Work _____

Location of Work _____

Additional Comments, Directions or Restrictions _____

Allowable Work Period

From _____ to _____ 20____

Denied: _____ Reason for Denial: _____

If work is not completed within this allowable period and is still desired, another work permit must be obtained.

City Forester

Date

Appendix E

Recommended Street Tree Planting List

(Other cultivars/varieties may be acceptable upon City Forester approval)

SMALL TREES (30' Maximum Height) - Acceptable trees for terraces w/overhead power lines and/or if terrace is 3-5 feet wide. These can be planted in wider terraces.

<u>Scientific Name</u>	<u>Common Name</u>	<u>Cultivars</u>
<i>Acer ginnala</i>	Amur Maple (Tree Form)	
<i>Acer platanoides</i>	Norway Maple	'Crimson Sentry', 'Globosum'
<i>Acer tataricum</i>	Tartarian Maple	
<i>Amalanchier canadensis</i>	Serviceberry	'Autumn Brilliance'
<i>Carpinus caroliniana</i>	American Hornbeam/Musclewood	
<i>Crataegus crusgalli</i> var. <i>inermis</i>	Cockspur Thornless Hawthorn	
<i>Ginkgo biloba</i>	Ginkgo (male)	'Saratoga'
<i>Maackia amurensis</i>	Amur Maackia	
<i>Malus spp.</i>	Flowering Crab	'Bob White', 'David', 'Sugar Tyme', 'Prairiefire', 'Snowdrift', 'Spring Snow', (other cultivars/varieties upon approval)
<i>Ostrya virginiana</i>	Ironwood	
<i>Prunus cerasifera</i>	Newport Plum	
<i>Prunus nigra</i>	Princess Kay Plum	'Princess Kay'
<i>Prunus virginiana</i>	Canada Red Chokecherry	'Canada Red'
<i>Syringa pekinensis</i>	Peking Tree Lilac	'China Snow', 'Summer Charm'
<i>Syringa reticulata</i>	Japanese Tree Lilac	'Ivory Silk', 'Summer Snow'

MEDIUM TREES (30' - 45' Maximum Height) - Acceptable trees for terraces that are 5-6 feet wide. These can be planted in wider terraces if desired. Some species may also be acceptable under power lines.

<i>Acer platanoides</i>	Norway maple	'Cleveland', 'Columnar', 'Crimson King', 'Royal Red'
<i>Acer truncatum x platanoides</i>	Shantung Hybrid Maple	'Norwegian Sunset', 'Pacific Sunset'
<i>Corylus colurna</i>	Turkish Filbert	
<i>Phellodendron amurense</i>	Amur Cork Tree	'Macho', 'Shademaster'
<i>Pyrus calleryana</i>	Callery Pear	'Aristocrat', 'Autumn Blaze', 'Bradford', 'Cleveland Select', 'Chanticleer', 'Red Spire'
<i>Sorbus alnifolia</i>	Korean Mountain Ash	

LARGE TREES (50' Minimum Height) - Acceptable trees for terraces of 6 feet and wider.

<i>Acer x freemanii</i>	Freeman Maple	'Armstrong', 'Autumn Blaze', 'Celebration', 'Marmo', 'Sienna Glen'
<i>Acer miyabei</i>	State Street Maple	'State Street'
<i>Acer platanoides</i>	Norway Maple	'Crystal', 'Deborah', 'Emerald Lustre', 'Emerald Queen', 'Schwedleri', 'Superform'
<i>Acer saccharum</i>	Sugar Maple	'Green Mountain', 'Fairview', 'Goldspire', 'Legacy'
<i>Aesculus hippocastanum</i>	Horsechestnut	'Baumannii', 'Ruby Red'
<i>Celtis occidentalis</i>	Hackberry	'Prairie Pride', 'Windy City'
<i>Cercidiphyllum japonicum</i>	Katsuratree	
<i>Eucommia ulmoides</i>	Hardy Rubber Tree	
<i>Fraxinus mandshurica</i>	Manchurian Ash	'Mancana'
<i>Ginkgo biloba</i>	Ginkgo (male)	'Autumn Gold', 'Magyar', 'Princeton Sentry'
<i>Gleditsia triacanthos</i>	Thornless Honeylocust	'Imperial', 'Moraine', 'Shademaster', 'Skyline', 'Sunburst'
<i>Gymnocladus dioica</i>	Kentucky coffeetree	'Espresso', 'Prairie Titan'
<i>Liriodendron tulipifera</i>	Tuliptree	
<i>Tilia americana</i>	American Linden	'Redmond', 'Sentry'
<i>Tilia cordata</i>	Littleleaf Linden	'Fairview', 'Glenleven', 'Greenspire', 'Prestige'
<i>Tilia tomentosa</i>	Silver Linden	'Sterling Silver'
<i>Ulmus x</i>	Hybrid Elm	'Accolade', 'Frontier', 'Homestead', 'New Horizon', 'Pioneer', 'Prospector', 'Regal', 'Triumph', 'Valley Forge'

Appendix F

Banned Street Tree Planting List

Nuisance Species – banned from planting in the right-of-way

<u>Scientific Name</u>	<u>Common Name</u>	<u>Reason</u>
	All Evergreen & Coniferous Species	Obstruct visibility
<i>Acer negundo</i>	Boxelder	Weak wooded, attracts boxelder bug
<i>Salix spp.</i>	All Willow Species	Weak wooded, diseased foliage
<i>Juglans nigra</i>	Black Walnut	Undesirable and large fruit
<i>Populus spp.</i>	Cottonwood, Poplar	Weak wooded, heaves pavement, heavy seed crop
<i>Ginkgo biloba</i>	Ginkgo (female)	Messy and smelly fruit
<i>Robinia pseudoacacia</i>	Black Locust	Weak wooded, thorns, spread from root suckers

Undesirable Species – unacceptable for planting in the right-of-way

<u>Scientific Name</u>	<u>Common Name</u>	<u>Reason</u>
<i>Acer rubrum</i>	Red Maple	Intolerant of alkaline soils
<i>Acer saccharinum</i>	Silver Maple	Weak wooded, heaves pavement, heavy seed crop
<i>Betula spp</i>	Birch	Susceptible to insect & disease, intolerant of disturbed sites, iron chlorosis
<i>Carya spp.</i>	Hickory	Littering fruit
<i>Catalpa spp.</i>	Catalpa	Littering fruit
<i>Malus spp.</i>	Common Apple	Fruit tree
<i>Morus spp.</i>	Mulberry	Littering fruit
<i>Prunus serotina</i>	Black Cherry	Fruit tree
<i>Prunus spp.</i>	Garden Plum, Cherry	Fruit tree
<i>Pyrus communis</i>	Common Pear	Fruit tree
<i>Quercus species</i>	Oak	Undesirable acorn crops
<i>Sorbus americana</i>	American Mountain Ash	Susceptible to disease & fungal rot, heavy fruit set
<i>Sorbus aucuparia</i>	European Mountain Ash	Susceptible to disease & fungal rot, heavy fruit set
<i>Ulmus parvifolia</i>	Chinese Elm	Weak wooded
<i>Ulmus pumila</i>	Siberian Elm	Weak wooded