ABC Arboretum Tree Care Plan

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Purpose

The specific objective of the ABC College Tree Plan will be:

- To obtain Tree Campus USA status
- To establish a Campus Tree Advisory Committee
- To establish tree selection and planting guidelines
- To protect and maintain the existing campus urban forest during construction and renovation projects
- To promote tree health and safety by following the International Society of Arboriculture and the ANSI Standards guidelines when maintaining campus trees

Campus Tree Advisory Committee

A Campus Tree Advisory Committee shall be established to assist the Grounds Supervisor in providing guidance for future planning of the campus arboretum, educating the campus community in the benefits of the campus urban forest, annual review of the Tree Care Plan, and finding and setting up ways to bring in community members to enjoy and learn about the college arboretum.

Committee members shall consist of the Grounds Supervisor, Facilities Management staff members, a student representative, faculty representative, arborist representative, and a community representative. The committee members shall serve for a one year term with the option for renewal. The committee shall meet quarterly.

The responsibility of the enforcement of the plan will be the responsibility of the Grounds Supervisor, Grounds Department, and the Executive Director of Facilities Management.

Committee members

Grounds Supervisor

Service Manager

Groundskeeper

Groundskeeper
Director of Electronic Media
Student
Certified Arborist Bartlett Tree
Biology Professor
Park District
Development Officer

Planned campus tree advisory committee meeting dates

February 9, 2011
April 14, 2011
October 18, 2011
December 13, 2011

Tree Care Plan

Plant selection

The selection of plants to be installed on the campus shall be approved by the Grounds Supervisor prior to installation. Diversity, site conditions, pest susceptibility, form, mature height, and longevity will be the factors that determine species selection.

When utilizing a contractor, the landscape plan shall be approved by the Grounds Supervisor in regards to plant selection. The Grounds Supervisor reserves the right to make suggestions, refuse plant species, and request that substitutions be made.

Recommended plant species

As an arboretum we strive for diversity among our collection of plants on campus. This list contains the more common plants that are recommended for use in our college landscape. In obtaining diversification on campus we are not bound to the plants only on this list. If a plant is recommended that is not on this list it must have the approval of the Ground's Supervisor before it is installed. There may be different cultivars of the plants that are listed that may be installed with the approval of the Grounds Supervisor as well.

Abies concolor – White Fir

Acer ginnala – Amur Maple

Acer griseum – Paperbark Maple

Acer triflorum – Three-flower Maple

Acer miyabei – Miyabe Maple

Acer palmatum – Japanese Maple

Acer rubrum – Red Maple

Acer saccharum – Sugar Maple

Aesulus Glabra – Ohio Buckeye

Aesculus flave – Yellow Buckeye

Aesculus hippocastanum – Common Horsechestnut

Aesculus parviflora – Bottlebrush Buckeye

Aesculus pavia – Red Buckeye 6

Alnus glutinosa – Common Alder

Amelanchier arborea – Downy Serviceberry

Amelanchier canadensis – Shadblow Serviceberry

Amelanchier laevis – Allegheny Serviceberry

Aronia arbutifolia – Red Chokeberry

Aronia melanocarpa – Black Chokeberry

Asimina triloba – Pawpaw

Berberis x *mentorensis* – Mentor Barberry

Berberis thunbergii – Japanese Barberry

Betula nigra – River Birch

Betula lutea – Yellow Birch

Buxus microphylla – Littleleaf Boxwood

Buxus sempervirens – Common Boxwood

Calycanthus floridus – Carolina Allspice

Carpinus betulus – European Hornbeam

Carpinus caroliniana – American Hornbeam

Carya cordiformis – Bitternut Hickory

Carya illioinensis – Pecan

Carya ovata – Shagbark Hickory

Carya tomentosa – Mockernut Hickory
Catalpa speciosa – Northern Catalpa
Ceanothus americanus – New Jersey Tea
Celtis occidentalis – Common Hackberry
Cephalanthus occidentalis – Buttonbush
Cercidiphyllum japonicum – Katsuratree
Cercis canadensis – Eastern Redbud 7
Chionanthus virginicus – White Fringetree
Clethra alnifolia – Summersweet Clethra
Cornus alternifolia – Pagoda Dogwood
Cornus florida – Flowering Dogwood
Cornus kousa – Kousa Dogwood
Cornus mas – Corneliancherry Dogwood
Cornus racemosa – Gray Dogwood
Corylus americana – American Filbert
Corylus avellana – European Filbert
Corylus colurna – Turkish Filbert
Cotinus coggygria – Smokebush
Cotoneaster horizontalis – Rockspray Cotoneaster
Crataegus crusgalli inermis – Thornless Cockspur Hawthorn
Crataegus x *lavallei* – Lavalle Hawthorn
Crataegus phaenopyrum – Washington Hawthorn
Diospyros virginiana – Common Persimmon
Eucommia ulmoides – Hardy Rubber Tree
Euonymus alatus – Winged Euonymus
Fagus grandifolia – American Beech
Fagus sylvatica – European Beech
Forsythia x *intermedia* – Border Forsythia
Fothergilla gardenii – Dwarf Fothergilla
Fothergilla major – Large Fothergilla
Ginkgo biloba – Ginkgo

Gymnocladus dioicus – Kentucky Coffeetree
Halesia tetraptera – Carolina Silverbell 8
Hamamelis vernalis – Vernal Witchhazel
Hamamelis virginiana – Common Witchhazel
Hedera helix – Englich Ivy
Heptacodium miconioides – Seven-son Flower
Hydrangea anomala spp. Petiolaris – Climbing Hydrangea
Hydrangea arborescens – Smooth Hydrangea
Hydrangea quercifolia – Oakleaf Hydrangea
Hypericum prolificum – Shrubby St. Johnswort
Itea virginica – Virginia Sweetspire
Juglans cinerea – Butternut
Juglans nigra – Black Walnut
Kerria japonica – Japanese Kerria
Koelreuteria paniculata – Panicled goldenraintree
Kolkwitzia amabilis – Beautybush
Larix decidua – European Larch
Larix larcina – American Larch
Lindera benzoin – Spicebush
Liquidambar styraciflua – American Sweetgum
Liriodendron tulipifera – Tulpitree
Magnolia acuminata – Cucumbertree Magnolia
Magnolia x *loebneri* – Loebner Magnolia
Magnolia macrophylla – Bigleaf Maqnolia
Magnolia salicifolia – Anise Magnolia
Magnolia x *soulangiana* – Saucer Magnolia
Magnolia stellata – Star Magnolia
Magnolia tripetala – Umbrella Magnolia 9
Metasequoia glyptostroboides – Dawn Redwood
Myrica pensylvanica – Northern Bayberry
Nyssa sylvatica – Black Tupelo

Ostrya virginiana – American Hophornbeam
Parrotia persica – Persian Parrotia
Paulownia tomentosa – Royal Paulownia
Phellodendron amurense – Amur Corktree
Philadelphus coronarius – Sweet Mockorange
Physocarpus opulifolius – Common Ninebark
Picea abies – Norway Spruce
Picea glauca – White Spruce
Picea omorika – Serbian Spruce
Picea pungens – Colorado Spruce
Pinus flexilis –Llimber Pine
Pinus strobus – Eastern White Pine
Platanus x *acerifolia* – London Planetree
Platanus occidentalis – Sycamore
Populus tremuloides – Quaking Aspen
Pseudotsuga menziesii – Douglasfir
Quercus acutissima – Sawtooth Oak
Quercus alba – White Oak
Quercus bicolor – Swamp White Oak
Quercus imbricaria – Shingle Oak
Quercus macrocarpa – Bur Oak
Quercus muehlenbergii – Chinkapin Oak
Quercus coccinea – Scarlet Oak 10
Quercus shumardii – Shumard Oak
Quercus prinus – Chestnut Oak
Quercus robur – English Oak
Quercus rubra – Red Oak
Rhus aromatica – Fragrant Sumac
Rhus typhina – Staghorn Sumac
Ribes alpinum – Alpine Currant
Rosa rugosa – Rugosa Rose

Rosa carefree – Carefree roses

Rosa knockout – Knockout Roses

Sambucus canadensis – American Elder

Sambucus nigra – Common Elder

Sassafras albidum – Common Sassafras

Sorbaria sorbifolia – Ural Falsespirea

Spiraea x *bumalda* – Bumald Spirea

Spiraea japonica – Japanese Spirea

Spiraea prunifolia – Bridalwreath Spirea

Spiraea x *vanhouttei* – Vanhoutte Spirea

Stephanandra incisa – Cutleaf Stephanandra

Symphoricarpus albus – Common Snowberry

Syringa microphylla – Littleleaf Lilac

Syringa reticulata – Japanese Tree Lilac

Syringa pekinensis – Pekin lilac

Taxodium distichum – common Baldcypress

Thuja occidentalis – Eastern Arborvitae

Tilia americana – American Linden 11

Tilia cordata – Littleleaf Linden

Tilia tomentosa – Silver Linden

Tsuga canadensis – Canadian Hemlock

Ulmus parviflora- Chinese Elm

Viburnum x *burkwoodii* – Burkwood Viburnum

Viburnum carlesii – Koreanspice Viburnum

Viburnum x *juddii* – Judd Viburnum

Viburnum dentatun – Arrowwood Viburnum

Viburnum plicatum var. tomentosum – Doublefile Viburnum

Viburnum prunifolium – Blackhaw Viburnum

Viburnum x *rhytidophylloides* – Lantanaphyllum Viburnum

Viburnum trilobum – American Cranberrybush Viburnum

Weigela florida – Old fashioned Weigela

Zelkova serrata – Japanese Zelkova

Planting

Depending on the size of the project the plantings shall be completed by the Grounds Department or an approved outside contractor. The following guidelines shall be followed when planting at the campus:

- When using an outside contractor, the Grounds Supervisor or a Grounds Department employee shall be on site at the time of the plant delivery. ABC College reserves the right to refuse any plant that is damaged, has signs of disease or insects, appears to be in poor health, poor form, poor structure, or does not meet the plant selection specifications.
- ABC College also reserves the right to refuse a planting due to improper planting techniques at the time of installation if the ABC College planting guidelines are not followed.
- All plants must be set with the root flare or bud union clearly visible above the soil grade. If the root flare or bud union is not exposed soil shall be carefully removed from the top of the root ball until it is exposed.
- The planting hole shall be no deeper than the height of the root ball when measured from the bottom of the root ball to the bottom of the root flare. The planting hole shall be 2 to 3 times the diameter of the root ball. Upon placing the plant in the hole, all burlap, twine, ropes, wire baskets shall be removed from the top one third of the root ball. When possible the entire wire basket, twine, and burlap shall be removed. All containers shall be completely removed on containerized plant material.
- The planting hole shall be backfilled with the existing soil. If the existing soil is of poor quality, soil amendments shall be incorporated into the soil. After the completion of the backfill, the root flare or bud union shall be visible and exposed.
- All new plantings shall be mulched with a shredded hardwood bark mulch or wood chips to a depth of 2-4". The mulch shall not touch the trunk of the tree or cover up the root flare or bud union of the plant.
- Newly planted trees shall be watered right after installation and must continue to receive adequate watering weekly during the first growing season up until the ground freezes.

Staking of trees at planting will only be done if the tree is unstable and shall be completed according to the most recent ANSI standard.

- All new plantings shall not receive any fertilization during their first year of growth. Broken branches and stubs shall be pruned at the time of planting. Structural pruning shall not take place until the plant has been in the ground for one growing season.
- When contracting out the tree planting, contractors shall provide a one-year warranty on all plant material against defective plant material and workmanship.
- All plant material shall be replaced if they are dead or growing poorly at no cost to the college. Replacement plant material shall be of a similar size and shall come with a new one-year warranty beginning at the time the replacement plant goes into the ground.

Maintenance

Maintenance of the plant material will begin the day it is put into the ground and continue until the plant is no longer viable or safe. Maintenance will be performed to provide a safe, functional, and visually appealing environment for the campus and surrounding communities. All trees shall be inspected visually on an annual basis. All maintenance procedures shall be performed by the Grounds Department staff when possible. If the Grounds Department staff is unable to safely perform or does not have the necessary tools to perform the maintenance tasks, an ISA-certified Arborist approved by the Grounds Supervisor shall be contracted to perform the tasks.

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Pruning

All pruning shall be done according to the current ANSI standards and the International Society of Arboriculture (ISA) guidelines. Preventative maintenance pruning will be done on an as-needed basis as determined by the Grounds Supervisor. Trees will be inspected annually to determine their pruning needs. Trees will be pruned for safety first, then for tree health, and then for aesthetics. Trees shall be left low-branched and natural in appearance when possible.

Cabling and bracing

All cabling and bracing shall be performed according to the current ANSI cabling and bracing standards.

Tree removal

Trees will only be removed when they are determined to be unsafe, dead, in poor health, or detract from the quality of the landscape. Before a tree is removed a thorough investigation will be performed by the Grounds Supervisor or a Certified Arborist and a decision will be made whether or not to remove the tree. The tree shall then be marked with spray paint by the Grounds Supervisor indicating that it is to be removed. This is done so that the wrong tree is not removed. If the tree removal is too large or technical for the Grounds Department to handle, it will be contracted out to an approved tree care company. Where possible the remaining stumps will be ground out below the soil level. The stump grindings will be raked back into the hole once the stump has been ground.

Mulching

Trees and shrubs shall be mulched to a depth of 2-4 inches with shredded hardwood mulch or wood chips. Mulch shall be kept off and away from the trunks of the trees. There shall be no volcano mulching. As the canopy of the tree expands so shall the mulch ring where it is possible and within reason to expand. Additional much shall be added on an as-need basis.

Fertilization

Newly installed plant material shall not receive fertilization the first year. A soil test shall be performed prior to fertilizing to determine the specific soil needs and to choose the correct fertilizer for the site. Fertilizers shall be chosen and applied with the protection of the environment first in mind. Fertilizers shall be applied by the Grounds Crew with supervision from the Grounds Supervisor or by an approved tree care company.

Disease and pest management

Trees and shrubs shall be monitored by the grounds crew, a professional plant health care technician, or a Certified Arborist on a regular basis to scout for insect and disease problems. An infected plant shall be monitored to determine when the plant has reached the injury level where a biological or chemical treatment is needed. When possible a biological control shall be

used over a chemical treatment in order to preserve and lessen the damaging impact on the environment and beneficial insects that may be present.

Catastrophic events

In the event of severe weather conditions that may cause harm to the campus landscape the following procedures shall be followed:

- The Grounds Supervisor shall assess the damage and determine the resources that are needed to address the damage and safety concerns. If needed, a professional tree care company shall be called in for assistance.
- Roadways shall be opened and cleared first.
- Emergency exits and entrances to buildings shall be cleared next.
- All other areas shall then be cleared in order of importance.
- All removed plant material shall be documented for replacement purposes.
- In the case of a catastrophic event pertaining to an invasive pest, the college shall follow the guidelines that have been set forth by the USDA, Illinois Department of Agriculture, or other government agency that is overseeing the situation.

Protection and preservation policies and procedures

All construction projects that will have an impact on the campus landscape shall involve the Grounds Supervisor from the beginning of the project to the completion of the project. The protection and preservation of the plant material needs to begin with the design phase and continues through and after the construction is completed. The Grounds Supervisor shall be responsible for policing the site and making sure that the Tree Protection and Preservation Policies and Procedures are being followed.

A site survey map shall be completed at the beginning of the project, prior to any construction equipment arriving on site, that identifies all plants whose root systems may be impacted by construction (Critical Root Zone Area), showing cut and fill areas, utilities, walks, roadways, and foundations, staging areas. After the site survey map is completed it shall be determined which trees will require protection, which trees can be relocated, which trees will require pruning to prevent broken limbs, which trees will require root pruning, and which trees will require removal. All tree protection work, relocating of trees, pruning of remaining trees,

root pruning, and removal of trees shall take place before any construction equipment arrives on site.

All trees remaining in the construction area must be protected with tree protection fencing following the guidelines stated below before any construction equipment arrives on the jobsite. Tree protection fencing shall be chain link or bright orange snow fencing. The orange snow fencing shall have a post at every 4 feet along the span of the fence. Tree protection fencing shall be a minimum of four feet in height. The tree protection fencing shall extend a distance from the trunk of 1.25 feet per each inch of trunk diameter at breast height or 6 feet, whichever is greater. The area within the tree protection fencing shall be mulched with wood chips to a depth of 4 inches. The Grounds Supervisor shall approve the installation of the tree protection area before any equipment is brought on site.

The fencing shall remain for the completion of the project and not be removed for any circumstances. The fence shall not be removed until all equipment has left the site and the college has deemed the job complete. No equipment, vehicles, materials shall be inside the tree protection fencing at any time. No substances shall be poured or disposed of within the tree protection fencing. The contractor will be held liable and be required to pay tree replacement and/or soil compaction remediation costs determined by an outside Certified Consulting Arborist if the contractor is found to have been within the tree protection fencing.

Root pruning shall be performed by a Certified Arborist only. All tree pruning shall be completed by a Certified Arborist only.

Tree damage assessment

Any damage to a campus tree or shrub shall be reported to the Grounds Supervisor. The Grounds Supervisor will then assess the damage and the action that needs to be taken. If needed, an outside Certified Consulting Arborist may be brought in to provide an assessment of the damages. The assessment shall determine whether the plant should be removed, pruned, or require treatment. A cost shall be associated with the action that is taken and charged to the person or persons that are responsible for the damage. A copy of the assessment and of the cost that is to be charged to those found responsible shall be submitted to the Grounds Supervisor and Campus Security.

Prohibited Practices

- No work shall be performed or any plant disturbed on campus without the consent of the Grounds Supervisor.
- No plants shall be planted on the campus without the approval of the Grounds Supervisor.
- No signage shall be affixed to a tree in any manner.
- No bicycles or mopeds shall be locked to a tree at any time. A violation will result in a citation from Campus Security.
- No topping or heading cuts shall be made to any campus trees.

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Goals and Targets

Our first goal was to complete the GIS-based tree inventory. This goal was completed on October 10, 2011. All trees on campus are now inventoried. The second part of this goal is to rebuild the ABC College Arboretum website utilizing the GIS data to create an interactive website for visitors and donors to utilize. The ground work is currently underway for this project.

Our second goal is to increase public awareness and draw more visitors to the arboretum and campus. This will be an ongoing goal for us. We have developed a logo for the arboretum to utilize on documents, signage, etc. We are currently in the process of developing signs to place on campus as there are currently no signs advertising the ABC College Arboretum. A Facebook page was launched in September 2011 to reach out and increase awareness of the arboretum and that ABC College is a Tree Campus USA.

Our third goal was to implement an Arbor Day tree planting ceremony. Our first Arbor Day tree planting took place on Arbor Day 2011. Two trees were donated by ABC Nursery. A crabapple and a hawthorn were planted at the event. Our goal this year is to draw a larger crowd for the Arbor Day tree planting and reach out and invite elementary school classes to attend.

Another new goal this year is to work with the Sustainability Committee and our events office to bring speakers and seminars to campus who will speak about topics related to the environment and trees. We are currently working with the Midwest Ecological Landscape Association to hold their board member retreat on campus, as well as the Illinois Landscape Contractors Association to hold a pruning workshop on campus.

One of our other goals is to increase student participation in the arboretum and other activities supporting trees. Dr. ABC will be conducting classes and studies in our prairie gardens starting this spring to begin work on accomplishing this goal.

Our final goal is to develop a self-guided interactive tour of the arboretum that people can access via their smartphone, tablet, or PDA. We are also currently working on becoming a Level II-accredited arboretum in the ArbNet Arboretum Accreditation Program, developed by the Morton Arboretum.

Definitions

ANSI: American National Standards Institute.

Beneficial Insect: Insects that are predators or parasites of insects that cause harm to plant material.

Biological control: The control or suppression of pests by the action of one or more organisms through natural means or by manipulation of the pest, organism, or environment.

Bud union: The junction on a stem, usually swollen, where a graft bud has joined the stock following the process of budding. Usually found at or near soil level.

Canopy: Above ground portion of the tree formed by the crown.

Certified Arborist: Certified Arborist credential identifies professional arborists who have a minimum of three years' full-time experience working in the professional tree care industry and who have passed an extensive examination covering all facets of arboriculture from the International Society of Arboriculture.

Critical root zone: Area of a tree's root system that contains the majority of woody and fine roots. The area is determined by allowing 1–1½ feet of root radius for each inch of trunk diameter at breast height.

Cultivar: A cultivated variety of a plant. A named plant selection from which identical or near identical plants can be produced, usually by vegetative reproduction or cloning.

DBH: Diameter at breast height. Trunk diameter measured at 4 and half feet above ground level.

GIS: Geographic Information System.

ISA: International Society of Arboriculture.

Root ball: The containment of the roots and soil of a tree.

Root flare: Transitional area connecting the stem tissues and root tissues, usually exhibiting a larger diameter as the stem approaches the root system.

Topping: A poor maintenance practice that is often used to control the size of trees. It involves the indiscriminate cutting of branches and stems at right angles leaving long stubs. Also referred to as heading back.

Tree protection zone: Area surrounding a tree that is essential to the tree's health and survival

USDA: United States Department of Agriculture.

Communication Strategy

The Tree Care Plan shall be posted as a link on the Facilities Management page as well as the Arboretum page of the ABC College website. Copies shall be emailed to all who will be affected or need to be made aware of the Tree Care Plan. Any contractor that will be involved with or working around any part of the college landscape will be provided with a copy of the Tree Care Plan and be made aware of the policies and procedures.

Arbor Day Observance

The goal is to hold an annual event that will celebrate the observance of Arbor Day and Earth Day together, as well as educate the college community about the important roles that trees play in our environment. Over time the goal is to expand this celebration to include the surrounding community and school systems and make this the Arbor Day event of ABC. An annual tree planting will take place at this celebration and the tree will receive a plaque stating that it was planted in observance of Arbor Day and Earth Day and the year that it was planted.

At the time of the tree planting a short talk will be given to educate those attending on the importance of trees. Volunteers will be able to donate their time to help with beautifying the campus on this day by lending the Grounds Department a hand in weeding plant beds, mulching, and picking up trash, and more.

To accomplish this goal the Grounds Department will seek assistance from the following offices and groups to make it possible; EC Sustainability Committee, Facilities Management, Chaplains Office, Science Department, Office of the President, Special Events and Projects, Marketing Department, and outside vendors/contractors.

Service Learning Project

A current program of ours is the Student Employment Program. The Grounds Department hires student employees part-time to assist in caring for the Arboretum. This program benefits the students in that it helps them fulfill financial aid requirements, assists them in paying for their education, as well as providing the student an opportunity to learn about trees and tree care. Students assist with labeling plant material so that they can become familiar with and identify tree species. They learn how to plant, prune, mulch, and water trees correctly. This is a real hands-on approach that students enjoy.

We engage our community members by offering Arboretum tours on campus. The Grounds Employees will lead a group of community members around the campus to learn about the different types of trees. This is a hand-on tour as everyone is encouraged to get up close to the tree and utilize their senses of touch, sight, smell, and taste to experience what nature has to offer. We have provided tours to garden clubs, senior citizen groups, Boy Scouts, and women's groups, to name a few.