WHITWOTH UNIVERSITY
SPOKANE, WASHINGTON
03/11/09

The Department of Grounds and Landscape services and Urban Forestry - purpose, procedures and policy Manual

1.1 Purpose and Mission

As set forth on this day, the purpose and mission of The Department of Grounds and Landscape Services and the Urban Forestry program at Whitworth University.

The purpose and scope of this manual is to provide a standard for operating specifics and procedures for forestry and landscape operations. This purpose shall be consistent with the mission and heritage of Whitworth University. It shall also serve as a guide to create a landscape that exceeds green industry standards.

The Department of Grounds and Landscape Services and the Urban Forestry program is responsible for: planning, developing and maintaining a collection of trees, shrubs, gardens, and landscapes within the campus. All procedures will adhere to local and state regulations.

It is recognized that the educational and spiritual experience of the students, faculty, staff and visitors at Whitworth University can be promoted and enhanced by a well maintained campus. It is the goal of the Department of Grounds and Landscape Services to express our commitment to the Christian Faith by the quality and care of our daily work.

2.1 Tree and Shrub Maintenance

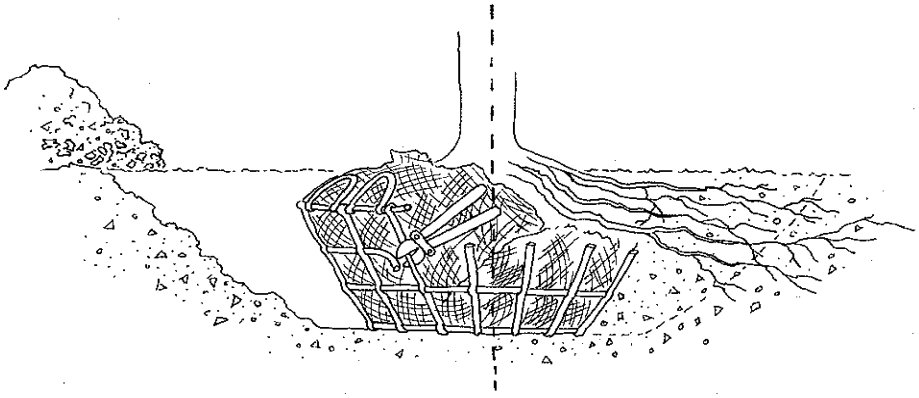
The University's ground department recognizes the term maintenance as a well defined term. Maintenance shall include, but is not limited to pruning, cultivating, mowing, weeding, fertilizing, watering, and application of appropriate pesticides necessary to maintain all plants in a healthy and well cared for condition on the Whitworth University campus.

3.1 Planting

Contractors are referred to:

1. *Principles and practice of Planting Trees and Shrubs by Gary W. Watson and E.B. Himelick*
2. *ANSI Z60.1 American Standard for Nursery Stock*
3. *ISA planting standards*

****** Contractors take note to check root balls from Nursery (i.e., usually soil must be removed from top of soil root ball to achieve correct planting depth).***



The tree planting must comply with and be approved by certain Facility Service personal. We strongly encourage contact with the appropriate Facilities personnel if questions should arise**. Call: 777-3254**

No tree, shrub or garden area shall be planted by any contractor or any Whitworth personal or associate that will grow too large in small areas.

3.1 Planting

avoid planting trees, or shrubs under power or telephone lines or too close to buildings.

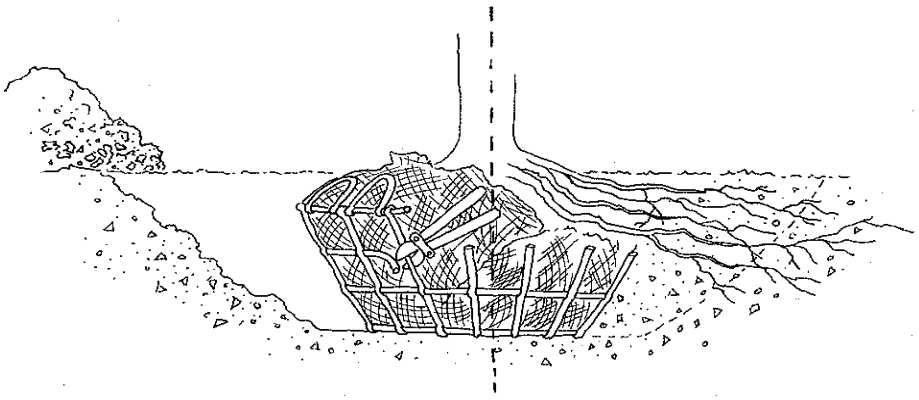
Site suitability for tree, shrub and garden planting(s) will be determined by Tree Task Force and certain Facility service personal.

Contractor, Facility service personal, or associates will be responsible for contacting local utilities before digging any tree or shrub pit prior to planting. Approval from appropriate facilities service personal is mandatory. Paint markings for the location of any underground lines is mandatory for contractors and or any Whitworth associate before digging begins. Contractors are liable for ANY AND ALL damages done to any utilities.

Containerized and B&B Trees shall not exceed 2" in Diameter. Tree pit shall be twice as wide as the root ball diameter. Do not disturb soil at bottom of planting holes. Remove all wire baskets, plastic, or metal containers from the root ball and planting pit.

Place the tree upright in the center of the planting hole. Plant roots of a containerized tree that are pot bound, will be "teased out" and the root ball shallowly slit. The top-most root of root plate slightly higher (2 inches) than the surrounding landscape grade of planting site. The basal area of the tree shall be visible after mulching. Mulching layer shall not be touching tree trunk or root crown.

See attached illustration



B&B trees must have all rope/burlap tied around the trunk removed. Remove all reinforcement wire or basket, root ball must stay intact.

3.1 Planting

The planting area should be well-soaked. Watering frequency depends on the soil type, not the calendar. Contractors will create and maintain a 2-3" high soil berm around the edge of root ball to form a shallow saucer to collect water. Alternatively, in some cases a plastic edging could be installed at the edge of the root ball.

DO NOT put fertilizer into the planting hole; it may cause root injury. Most plants are well fertilized in quality plant nurseries. These plants will grow well for the first part of the growing season without adding fertilizer. Trees and shrubs **shall** be fertilized with a complete granular fertilizer, following recommended label rate. The fertilizer will be incorporated into the top 12" of soil the following spring after initial planting.

Rigid staking of a tree is counterproductive. If a tree can stand alone, no staking is preferred. Trees with good root systems do not require stakes to hold them firm in the soil because their root balls are heavy enough to prevent movement in moderately windy weather. However, some staking maybe necessary. Some trees may require staking, since the wire basket will be removed at planting, or if the roots are not firm in the root ball. Root balls must remain firm and stable in the soil so the fragile new roots growing into the backfill soil are not broken. Staking systems shall be removed within/or about

Tree staking <u>general guideline</u>

When a tree must be staked, use as a minimum, two sturdy stakes, such as 2x2 wood posts. Tree should be allowed some wind movement. Wooden Stakes should be driven 18 inches or so into the ground outside of root ball. Products like rope, twine, and wire, shall not be used to secure a tree(s) to stakes. Contractor shall use soft materials like wide cloth belting, or elastic webbing for tie straps.

Large trees with trunks greater than four inches in diameter. *Three to four small diameter cables with duckbills or the equivalent will be used with soft ties to anchor a large tree. Mark guy wires with bright orange fluorescent paint*

<u>Tree wraps shall only be used in transport</u>

Plastic, paper, or any stretchable material, or fiber-reinforced tape or paper tree wraps are recognized for their protective value during transport. However, these tree wraps shall not be used on the tree(s) after planted onto the Whitworth Campus.

<u>Light colored tree guards</u> shall be used for tree stem protection.

These tree guards shall be loose enough to allow air flow between the stem and the guard. These guards will extend from the ground to the first temporary branch (s). In addition these tree guards will have holes to moderate temperature and humidity.

3.1 Planting

DESCRIPTION OF WORK

Awarded contractor shall provide and install trees, shrubs and garden areas in accordance to landscape plan and specifications

DEFINITIONS

"Final Acceptance" shall mean that point in time when all requirements of landscape project are completed, including any punch-list items, to the satisfaction of the Whitworth University Facilities Director.

"Maintenance Period" or "Warranty Period" shall be specified when plant material is installed and continue for a minimum of 12 months after Final Acceptance.

Final Maintenance Inspection shall occur at the end of the 12 month maintenance period.

"Nursery-grown" shall mean grown in the nursery from liners or collected and then grown in a nursery not less than 2 years.

"Healthy, vigorous condition" shall mean live foliage out to the tips of all branches and stems, and a trunk caliper that supports the tree. It also means a healthy root ball capable of sustaining the plant until establishment.

QUALITY ASSURANCE

The installation shall be by a single firm specializing in landscape horticulture type work. Trees, shrubs, and garden material shall be provided by the awarded contractor as stated in the landscape contract or specifications.

Plant names indicated shall comply with "Standardized Plant Names" as adopted by the latest edition of the American Joint Committee of Horticultural Nomenclature. Names of varieties not listed there shall conform generally with names accepted by the nursery trade. All plant Stock provided shall be true to its botanical name and legibly tagged.

Plant selection shall comply with Whitworth College Future planting specifications

Plant Substitutions shall not be accepted without negations and will constitute an unresponsive bid.

Whitworth University representative will inspect for quality assurance and approve plant material at either nursery or project location and prior to installation.

Whitworth University reserves the right to reject any and all plant material.

3.1 Planting

SUBMITTALS

Awarded contractor must submit planting schedule dates and all information including tree, shrub, and ground cover tags as well any other information **before payment is issued.**

Awarded bidder must submit information concerning: analyses for soil amendments, labels for herbicides, insecticides, fertilizer materials and mulch type that will be used.

Awarded contractor is responsible for protecting utilities, paving, and other facilities from damage during landscape installation. Awarded contractor must protect plant material from desiccation during transport and installation period. In most instances, this means daily irrigation.

Awarded contractor must familiarize themselves with existing project conditions, e.g., utilities, soil strata, drainage, and sightlines, prior to installation. Conflicts should be addressed with Whitworth University Facility Service Director.

Work along city, county, or state right-of-way must comply with appropriate regulating authority's guidelines for, "Traffic Controls for Construction and Maintenance Operations". Awarded contractor shall be responsible to file and obtain any and all required agency permits.

SHIPPING & HANDLING

Tree root balls shall be irrigated just prior to shipping. Trees shall be secured in the truck so as not to roll. Do not allow closed trucks to remain standing in the sun in hot weather unless they are air-conditioned.

UNLOADING AND HANDLING

Trees will be rejected if they are dropped to the ground suddenly. Container grown and boxed trees shall be lifted with a forklift under the container or carried by hand by the lip of the container. Trees may be lifted by wire loops inside the container. Trees may not be lifted by the trunk. B&B trees shall be handled by the root ball in a manner that does not deform the shape of the root ball. Trees shall not be handled by the trunk.

HOLDING TREES AT THE PLANTING SITE

Irrigate trees as soon as they arrive at the planting site. After trees are unloaded from the truck, they shall be stood and stored in the erect position and irrigated twice daily with 5 gallons per inch trunk diameter until planted. All trees in plastic containers, BB trees, or bare root shall be stored in the shade.

Nursery stock shall meet the minimum dimensions for height, spread, caliper and root ball as described within contract. (See ANSI) Trees with leaders topped or headed within the last year shall be rejected.

3.1 Planting

Tree Measurements and Miscellaneous

Caliper measurement shall be taken six (6) inches above grade if four (4) inches or less. Trees greater than four (4) inches in caliper shall be measured at twelve (12) inches above grade.

Field-grown trees shall be nursery-grown and hardened off (pre-dug) prior to delivery to job site. Container grown trees shall be nursery-grown.

Trees must be healthy, vigorous and full with good branch distribution. Trees with included bark within major branch unions will not be accepted.

Trees with root balls that have bound or girdled roots shall be rejected.

The top of the first major root originating from the trunk must be within one inch of the top of the root ball. If the first root is deeper than this, makes corrections and plant at correct depth.

Trees must have green, live foliage. Shocked plants (i.e. those with dead or dying leaves) will be rejected.

ACCESSORY MATERIALS

Refer to drawings and other parts of specifications for accessories specifically used on this project.

Backfill soil shall match textural condition of existing soil. No soil amendments are necessary. Soil in sidewalk cut outs, parking lot islands, and other small spaces can be replaced or amended to improve conditions.

Mulch shall be clean and free from weeds and other debris. Mulch type shall match existing mulch type used by the Whitworth College grounds department for particular growing season. See grounds department for mulch type.

Chemical Weeding Pre-emergent herbicide: apply granular at approved label rate.

Trees shall be secured with a soft material like arbor tie, or a plastic tree chain can be used. No nails, screws or other securing devices may be driven into the trunk.

All trees shall be bermed with existing soil or plastic edging or approved equal.
Trees and plants are to be planted in accordance to landscape plans and good horticultural practices must be observed.

Trees are to be planted in at the exact locations identified on the landscape plan. Awarded contractor shall stake and/or paint planting locations in the field.

3.1 Planting

ACCESSORY MATERIALS

In addition, these areas shall be sprayed with an approved herbicide and maintained weed-free for the duration of the project.

When planting on a slope, the top-most main root in the root ball shall be even with the grade on the uphill side of the tree. Site soil will need to be added on the downhill side to cover the sides of the root ball and to construct the soil berm to hold water. The amount of soil added on the downhill side will depend on the slope and size of the root ball.

Remove all wood, plastic, or bags from the root ball. Set plants in center of holes with the top-most root in the root ball slightly (2 inches) higher than finished landscape grades and plumb the tree so the trunk is vertical.

Plant Material must be thourgly watered in as planted. Provide atleast 5 gallons of water per inch of trunk caliper to the root ball once all backfill is filled in around the root ball.

A representative will inspect trees during installation. Material that is in shock or has been damaged during installation shall be replaced by awarded contractor within five (5) working days from notification.

Remove all excess materials (e.g., soil, debris and equipment) from job site daily, through out duration of project. Damages resulting from installation shall be repaired by awarded contractor.

Pruning: Remove broken portions or damaged branches back to a live lateral branch only. All pruning must adhere to ANSI 300 standards.

Remove all string or wire wrapped around the trunk. Remove all straps, rope and string used to lift the root ball. Remove all burlap from the top of the root ball. Remove entire wire basket from planting hole.

ACCEPTANCE

Inspection to determine acceptance of planted areas will be made by Whitworth College representative upon awarded contractor's request.

Planted areas will be accepted provided all requirements, including maintenance, have been satisfied and plant materials are in a healthy, vigorous condition.

Whitworth University representative will prepare a "punch list" of those items, which must be corrected before payment is made. The representative will determine an appropriate time period for corrections.

3.1 Planting

MAINTENANCE

Begin maintenance immediately after planting. Maintain all plant material until final acceptance and for a maintenance and warranty period of twelve months after final acceptance.

Maintenance shall include but is not limited to pruning, cultivating, mowing, weeding, fertilizing, watering, and application of appropriate pesticides necessary to maintain plants in healthy condition.

1.) Reset settled plants to proper grade and position.
2.) Restore soil berm and 2"- 4"mulch layer.
3.) Tighten and repair guys or other supports
4.) Correct defective work.
5.) Remove and replace rejected material within one (5) working day from notification.
6.) Maintain mulch surface weed and grass free.

The contractor is entirely responsible for the irrigation through final acceptance and twelve-month warranty period.

4.1 PRUNING

WHITWORTH UNIVERSITY
TREE PRUNNING DEFINITIONS AND STANDARDS

all tree pruning, removals, and tree care operations shall comply and consult with: The American National Standard For Tree Care Operations (ANSI A300), and American Standard For Nursery Stock (ANSI Z60 update May 12, 2004).

Contractors shall be ISA certified, licensed and bonded Arborist

Pruning Techniques

All pruning cuts shall be in accordance with ANSI A300 pruning standards

No climbing spurs shall be used when climbing trees, except in some rare necessary circumstances.

4.1 Pruning

No equipment and work practices shall be employed that will damage bark or cambium

Rope damage from loading out heavy limbs should be avoided.

Violation of these procedures and techniques could result in termination of contract without payment

Topping is perhaps the most harmful tree pruning practice known.

Topping is the indiscriminate cutting of tree branches to stubs or lateral branches that are not large enough to assume the terminal role. Other names include "heading," "tipping," "hat-racking," and "rounding over." This practice results in Decay, sunburn, ugliness, tree death and lawsuit.

Safety practices

All work shall be performed by workers trained in accordance with ANSI Z133.1 safety regulations as required by DOSH (DEPT.OF OCCUPATIONAL HEALTH)

Contractors shall be required to furnish a certificate of insurance to include liability automotive, and worker's compensation before work is started to Ed Kelly, Director of Facility services.

All debris and Hazards shall be removed or appropriately blocked off from public use at the completion of each work day.

All debris and Hazards shall be removed at the completion of the job before payment is made.

Safety questions can be directed to: **Marisha Hamm**
Whitworth University Manager of Environmental Health, Safety and Security Whitworth University
Office number 777-4494

Pruning Practices

Reason for pruning – before pruning begins, primary objectives should be clearly defined in written- detailed specification. These specifications must be cleared with and signed off by appropriate Facility personal (grounds, supervisor, campus arborist, or facility director). ***{Objectives can include but not limited to: crown cleaning, crown thinning, crown raising, crown reduction, vista pruning, and crown restoration. }***

4.1 Pruning

Size specifications – minimum or maximum diameter of branches to be removed should be specified. {For example: all dead wood greater that 2 inches in diameter shall be removed. etc.} Deviation from these specifications is only after consulting with approved facility personal.

Maintain or improve tree health or structure / improve aesthetics

Standard Prune: Removes limbs 1" or more in diameter that are dead or damaged, also removes crossing and overcrowded limbs that are 2" or more in diameter or larger.
Fine Prune: Removes those limbs ½ or more in diameter that are dead or damaged, also removes crossing or over crowed limbs that are 1" in diameter or larger. This would also remove excessive water sprout growth.
Crown Reduction/Shaping: Reduces the size of the crown by up to 25% by cutting back to a strong lateral branch, no less that 1/3 the size of the main branch. Branches are selectively cut to maintain a natural shape and growth pattern. Ample foliage is left throughout the tree to allow for adequate photosynthesis and to keep the weight of the tree distributed evenly along the branches.
Crown Restoration: This is a corrective pruning technique to restore a tree that has been topped or incorrectly pruned. Selective pruning eliminates the weakest branches and allows for stronger branches to grow and develop a healthy canopy. The process requires continued maintenance over several years.

Reducing Hazards

Major Hazard Prune: Removes limbs 4" in diameter or more that are dead or damaged, this would also include large or any potentially dangerous hangers.
Dead Prune: Remove all dead limbs down to 1" in diameter and hangers that are 1" in diameter.
Fine Deadwood prune: Remove all dead limbs and twigs.
Crown Reduction/Shaping: Reduces the size of the crown by up to 25% by cutting back to lateral branches.
Other: Pleases specify giving a detailed prospectus of pruning specifications.

Wound treatment

- dressing not necessary except in some cases and or aesthetics
- tree cavities shall not be filled
- contact campus arborist

4.1 Pruning

Pruning – Mature Tree – general guide line

- three cuts to remove branches
- drop crotch limbing – no more than ¼ of foliage on that limb can be removed
- avoid lion tailing
- ½ of all foliage should originate from lower 2/3 of the crown
- Remove no more than ¼ of live foliage from live crown in any 1 season
- follow written detailed pruning specifications

C. Pruning – Young Tree - general guideline

Installation

- remove dead, broken or split branches
- develop good central leader or space apart multiple leaders
- Retain lower temporary branches to increase trunk tamper, reduce sunscald
- Mulch ring at least 24" in diameter
- Follow written detailed pruning specifications if any

First full year after installation

- remove crossing branches
- reduce or remove branches with inclusions
- remove or shorten branches that interfere with permanent scaffold limbs
- Follow written detailed pruning specifications

First Regular pruning cycle

- Continue scaffold limb selection
- Remove crossing/touching branches
- Reduce or remove branches with inclusions
- Raise crown as needed
- Follow written pruning specifications

Sec. 5.1 Construction, Protection, and contractors

TREE & LANDSCAPE PROTECTION SPECIFICATIONS

RELATED DOCUMENTS

Drawings and general provisions of the contract shall include provisions for tree and landscape protection as set forth by the following conditions and Specifications.

DESCRIPTION OF WORK

Some specific areas exterior to the building or construction site are scheduled for demolition or work and it is recognized that the site will likely be disturbed in the course of construction, so provisions must be made to protect the trees and landscape from damage, including the compaction of the soil surrounding the trees and landscape that is to remain after the project is over. Provide all labor, materials, services, and equipment necessary to protect and repair damaged trees and existing manicured landscape.

RELATED REQUIREMENTS SPECIFIED IN OTHER SECTIONS

Verbal and written terms of contract

PERFORMANCE STANDARDS

PROTECTION of trees and landscape on the construction site that are noted to remain means contractor maintenance is required for keeping the trees and landscape in good health and vitality, as well as protection from physical damage during construction operations. It should be noted that the designation of "tree and landscape protection zones" are the focal point of this section and that zone boundaries should not be trespassed into during anytime during the construction process. These protection zones will be designated and drawn on the plans before construction starts.

DEFINITIONS

LANDSCAPE The part of the construction site "not" occupied by a building. It is composed of plants such as trees, shrubs, flowers, and turf and of items such as irrigation systems, site furniture, hardscape, retaining walls, etc.

5.1 Construction

REPLACEABLE

Trees of replaceable size are determined by "height" and "caliper diameter measured at 12 inches above ground level". Replaceable tree species should be purchased from commercial nurseries within the climatic zone of Whitworth University. In general, trees 4 inches or less in caliper diameter as measured at 12 inches above ground level are considered replaceable. Trees 4 inches or more in caliper diameter at 12 inches above ground level are considered non-replaceable. Replacement of shrubs and flowers that have been destroyed during construction should be of similar size to the plants that were destroyed. If these are large specimen shrubs, then the largest plants available should be purchased and the difference in value of the "purchased" shrubs to the "specimen" shrubs lost will be credited to the Whitworth Grounds Department. This money will be used in adding further landscape materials around building or area where the construction occurred.

APPRAISAL The value of replaceable trees and plants lost due to construction activities will be established by a qualified tree and landscape appraiser utilizing the most current issue of the "Guide for Plant Appraisal" which is accepted by the Council of Tree and Landscape Appraisers. In establishing value, the tree condition prior to construction shall be determined using these guidelines. Plant reevaluations will occur upon completion of the construction project and one-year after the completion of the construction project to determine if any long-term damage was sustained by the landscape plants from the construction. The contractor is liable for any damages that have accrued.

GUARANTEE For trees and plants to be replaced, completely remove stump/root systems and replant replaceable trees and plants. These trees and plants shall be planted in acceptable topsoil and warranted against decline or death for the period of 12 months after final acceptance .Initial watering/composting/mulching is the responsibility of the landscape contractors for the project. After 12 month warranty has expired, Whitworth grounds personal will take over the care of the newly planted trees, shrubs, and flowers. For non-replaceable trees and plants, stumps and roots systems must be removed from the construction site and a credit or reimbursement of the plant's value will be given to Whitworth Grounds for purchasing new landscape materials around the building or construction site impacted.

5.1 Construction

LANDSCAPE PROTECTION BARRIERS

WOODEN PICKET SNOW FENCE, or an acceptable substitute, a minimum 48 inches tall, and supported by driven, metal, studded tee posts at 8' intervals are required for establishing the boundaries of all landscape protection zones listed above.

LANDSCAPE COMPACTION REDUCTION

TWO INCH THICK PLANKING OR ¾" THICK PLYWOOD OR GREATER should be placed over the landscape and along hardscape edges wherever rutting, irrigation system damage, or excessive compaction from Construction equipment and vehicles will likely occur.

WOOD CHIPS TO A DEPTH OF 8 INCHES should be used for landscape areas that will be heavily impacted for long periods of time by contractor equipment and vehicles. This will significantly reduce compaction over the landscape area. Depth of chips will be checked biweekly by the Project Manager to maintain the 8-inch protection depth required. After the construction project is completed, all wood chips must be removed from the site to accomplish landscape restoration.

EXECUTION

COORDINATE PROTECTION

Procedures and protection zones with Director for Facilities Services, Ed Kelly at 777-4780, and or Grounds Supervisor Janet Wright 777-4464. In general, trees agreed to remain shall be protected to the drip line with acceptable barriers as specified herein before. Photographs and/or videotape may be made by Whitworth Grounds personnel before construction begins to establish preconstruction conditions of the landscape.

PROTECTED ZONE Identify trees and other landscape items to remain and protect. Install and maintain barriers to at least the edge of the drip zone of trees and plants…further out is preferred. If contractors work is unable to be performed under this guideline, an accommodation agreed upon with Whitworth Grounds representative can be done and an 8" wood chip zone can be placed over the root zones to encompass the rest of the protection zone for the landscape plants.

5.1 Construction

CONTROL

Avoid activities causing compaction or contamination of the soil within the protected zone. Do not permit back-filling, vehicle or equipment parking, storage of any kind, and foot and construction traffic within the barrier. When trucks and equipment must access the construction site through landscape areas, these routes shall be as few as possible to provide minimum impact to the landscape site. These routes should be used solely for accessing the construction site. Storage or materials, parking, and lay down areas should be designated to hardscape areas whenever possible. Do not store liquids or powders in locations where spills may flow into root areas. DO NOT mix cement or chemicals within the landscape or construction site areas unless mixing materials are confined by an impermeable barrier or container that restricts access to any part of the soil or landscape. DO NOT rinse out concrete trucks, mixing tubs, chemical bottles, or any other construction chemical or compound onto any area where the rinsate will end up on and in the soil. Leaching and runoff of toxic materials is a major factor of long-term plant decline and soil poisoning. Please note the root area of major trees may extend up to 5 times the drip line diameter distance from any plant.

SATURATE SURFACE SOIL WITH WATER around trees and plants at regular weekly or daily intervals, depending upon weather conditions. Turf areas that are to remain part of the landscape will need watering at regular weekly or daily intervals depending on weather conditions. If necessary install and maintain dikes around trees to maintain saturation as soil slope and permeability permits/requires. Remove dikes upon conclusion of construction operations.

PRUNING As required and directed by the Director for Facilities Services or a designated representative. These procedures will include standards set forth by the "American National Standard for Tree Care Operations" ANSI A300-1995 and the International Society of Arboriculture. If this service can not be performed by the contractor at a professional level, a certified, licensed, and insured arborist may be hired to perform the work or this service may be performed by the Whitworth Campus arborist and billed to the contractor directly. Pruning should only be done to allow access to the construction site or to accomplish the work needed to accomplish the construction project.

ROOT PRUNING Prune tree and/or large woody shrub roots with Whitworth Facilities Service/ grounds permission only. This will accomplish with methods which will not vibrate or displace remaining roots within the soil mass. Pruning with a, lopper, or tree saw will satisfy this requirement. Do not pound or pull roots with a shovel, axe, or backhoe bucket.

GRADING Use only methods which will not result in tire or track pressure in the protected zone for trees and landscape.

5.1 Construction

TRENCHING

Trenching under the drip line of any landscape tree is prohibited without negotiations. Where trenching under the drip line of a large tree (greater than 6 inches in caliper diameter) is required, tunneling under or going around the buttress and lateral-anchoring roots is imperative to ensure tree stability. ***DO NOT*** ***cut through these roots!*** Boring under this part of the root system is the recommended and preferred method for accomplishing the work and maintaining the integrity and safety of the tree in question.

IRRIGATION

Irrigation systems will be disturbed or damaged, contact the Director for grounds and Landscape Services, or a designated representative, so the damage and repair work can be performed by the contractor. Sprinkler heads and valve boxes for the irrigation systems within the construction site will be marked by Whitworth University Grounds personnel before construction is started. It is the contractor's responsibility to take adequate care to avoid damage to all marked parts of the irrigation system and use appropriate protection such as plywood to mitigate damage. The irrigation system will be checked for damage after the construction project is complete, and the contractor will contract for repairs from a reputable, licensed, and insured irrigation contractor. When irrigation parts are needed to make the repairs they will conform to the Whitworth Irrigation Specifications checklist.

SITE FURNITURE

Site furniture is located within the construction zone, and there is the possibility of damage to it, the contractor should take measures to remove and relocate the furniture out of harms way during the construction period or adequately protect the site furniture with protective fencing or barricades to keep it safe. After the construction is over, the contractor is liable for restoring the site furniture to its original location, or if the construction has impact the furniture's original site, to a location agreed upon by the Project Manager and Whitworth College representative.

PLANT SALVAGE & TRANSPLANTING

If necessary to remove and salvage small trees or shrubs from the construction site during the construction period, the contractor(**at their own expense**) may hire a Professional Landscape Contractor or Whitworth University grounds personal to do such work, and provide a location for storing and care of this plant material during the construction period. When the time to replant the stored landscape material has come, the contractor (at **their expense**) may again hire a Professional Landscape Contractor or Whitworth University Grounds department to do this work also.

6.1 Hazard Tree Policy

Trees sometimes get back at people for treating them badly.

Trees are an important part of our world. They offer a wide range of benefits to the environment and provide tremendous beauty. . Whitworth University and Facility services recognize the tremendous benefit that healthy vibrant plant life provides the Whitworth University Campus. This purpose is consistent with the mission and heritage of Whitworth University. This recognition also serves as a guide to continually create an environment that exceeds green industry standards and provide a safe environment for students, faculty, staff and visitors. The Department of Grounds and Landscape Services and the Urban Forestry program is dedicated to developing and maintaining a collection of trees, shrubs, and gardens that receives the best possible care and is free from hazards **In addition, it is the goal of the Urban Forestry program at Whitworth University to take care of tree hazards making the Whitworth University campus safer and prolonging the life of the trees.**

Hazard Tree Removal by Contractors

Tree Service contractors shall be: ISA Certified, insured, bonded and licensed

Safety practices

All work shall be performed by workers trained in accordance with ANSI Z133.1 safety regulations as required by DOSH (DEPT OF OCCUPATIONAL HEALTH).

Contractors shall be required to furnish a certificate of insurance to include liability automotive, and worker's compensation before work is started. Information can be drop of at Facility services.

All debris and Hazards shall be removed or appropriately blocked off from public use at the completion of each work day.

All debris and Hazards shall be removed at the completion of the job before payment is made.

Safety questions can be directed to:

Marisha Hamm
Manager of Environmental Health, Safety and Security
Whitworth University
Office phone 777-4494

6.1 Hazard Tree Policy

Mitigating Tree Hazards Whitworth University's Urban Forestry program shall provide treatments that help make trees safer, reducing the risk associated with hazardous trees

It is recognized trees or parts of trees may fall and cause injury to people or damage property. We call trees in such situations hazardous, to signify the risk involved with their presence. While every tree or parts of trees, has the potential to fall; statically, only a small number actually hit something or someone.

The Whitworth University Urban Forestry program shall provide Regular tree and proactive hazard tree abatement. While Acts of God (**natural causes that could not have been prevented by ordinary skill and foresight) cannot be prevented, every step will be taken in a timely manner to reduce the perceived risk potential of any one tree on the Whitworth University Campus.**

This management shall include: routine tree care, annual tree inspection (SHEF FORM standard hazard evaluation form) to assure consistency; Visual Tree Assessments (VTA) after storms, and emergency inspection if deemed necessary.

In addition, it is also recognized that the presence of large veteran trees, increases the risk for potential failure. Hazard mitigation is a component of an on going risk management procedure for the Landscape services department at Whitworth University.

Possible steps to hazard mitigation

Prune the tree. Remove the defective branches of the tree. Because inappropriate pruning may weaken a tree, pruning work will be performed only by campus Arborist or ISA Certified contractor.
Cable and brace the tree. Provide physical support for weak branches and stems to increase their strength and stability.

Provide routine care. Mature trees need routine care in the form of water, fertilizer (in some cases), mulch, and pruning as dictated by the season and their structure.
Remove the tree. Some hazardous trees are best removed. If possible, plant a new tree in an appropriate place as a replacement.

When a tree is deemed Hazardous

Once the hazard is recognized, steps will be immediately taken to ameliorate and secure the area. These steps are necessary to reduce the likelihood of the tree or branches falling and injuring an object or a person.

The Whitworth University's Landscape supervisor, Campus Arborist, the Director of facility Services, and the Manager of Environmental Health, Safety and Security will be notified. The Director of Facility services or Director of Health, safety and Security will post a **notice of action** via Campus Email.

Negligence is the failure to exercise due care. Negligence occurs when somebody fails to perform a duty or obligation recognized by law for the protection of others against unreasonable risks.

6.1 Hazard Tree Policy

- **See Whitworth University Standard Hazard Evaluation Form (SHEF FORM)**

Sec. 7.1 Tree Memorials and Recognition

Whitworth University recognizes the value of a campus well-endowed with healthy and vibrant trees and recognizes the importance of honoring college patrons, groups, events, and organizations by creating opportunities for trees and plaques to be placed in memorial or recognition of those who/which have promoted and fostered the success of the University.

This program provides the process by which trees can be planted in honor of a patron, group, or organization and the act acknowledged by a plaque placed at the foot of the tree.

Eligible Participants. Persons, groups, events, or organizations directly affiliated with Whitworth University or its established traditions, may be so honored on the grounds of the Whitworth University campus.

Tree Memorial/Recognition Plaque Requests. It is mandatory that a plague accompany any donated tree or garden. Requests for a memorial or recognition plaque(s) for placement near a recently established or newly planted campus landscape area or tree [3 inches or less in trunk caliper size] are reviewed by the **Memorial/Recognition Review Committee** (Facilities Director, Grounds supervisor, Campus Arborist, faculty member and or Tree Task Force Committee).

No tree, shrub, plant, or garden will be recognized as a Memorial unless authorized by the Tree Task Force Committee, or Facility service personal.

A standard bronze plaque is 4 inches by 7 inches. Text selections for the plaque must follow Whitworth College standards and guidelines concerning content, titles, font, and punctuation.
Tree Memorial/Recognition Request forms are also available from the Facilities grounds Department (509) 777-4464.

- SEE TREE MEMORIAL RECOGNITION FORM

Tree Selections The Whitworth University Facilities Department/grounds will provide a "Tree List" of tree species/cultivars/sizes, for consideration. The selection(s) will then be ordered with appropriated funds. Tree types chosen from this list are preferred, but others may be requested by the donor, subject to approval by the Tree Task Force committee or appropriate Facility personal. **In addition it should be noted that when a donation is made, it becomes the sole property of Whitworth University.**

7.1 Tree Memorials and Recognition

Site or Planting Locations The Whitworth University grounds Department will offer one or more appropriate planting sites for consideration to the requestor(s). These sites are selected on the basis of future construction, species needs, soil types, and growth area needed for the tree(s). Tree location near a particular building or area will be considered upon request, but if these spaces are filled or inappropriate, the Tree Task Force and or appropriate facility service personal will determine acceptable alternate sites or species.

Fee(s) for Selected Memorial/Recognition Tree and Plaque. The fee(s) for a Memorial/Recognition tree plaque is mandated by the manufacturer/retailer and is subject to change. This fee(s) shall be in hand and shall cover the entire cost of the plaque before purchase is made.

Groves or groupings of trees are reserved for Whitworth University events, initiatives, or goals, rather than for individual persons.

It is noted that larger specimen trees (over 2" in Dia.) may be selected and planted on campus, but cost and survivability risks are considerably higher.

Tree Memorial/Recognition Plaque Archives Trees have a natural life span usually between 25 and 100 years. When a Memorial/Recognition tree reaches the end of its natural life on the Whitworth University campus, it will be removed.

At this time the plaque will also be removed and placed in the University's library Archive. Unless another individual, group, or organization wishes to sponsor a new Memorial/Recognition tree(s) to be located with the plaque. This process allows for continuing opportunities for new Memorial/Recognition trees to be placed on campus throughout the years, while maintaining a record of all those honored in the past.

Garden and Planting Bed Sites. It is also possible to dedicate niche spaces on campus for Dedication or Memorial Plantings. However, small gardens or planting beds are rare. However, these areas come available on occasion and are located around campus. These types of sites may include one (1) small tree and/or a mix of shrubs and perennials.

i) The guidelines for these types of dedicated areas follow the tree memorial guidelines, and are considered on a case by case basis.

[**Note:** The lifespan of a shrub/garden area is much shorter than that of a tree. Other environmental impacts of these areas can also greatly influence the growth and health of the plant materials selected.]

* *Since our primary goal and purpose is to maintain a beautiful campus, removal of non-successful plants and replanting of more tolerant plants in any dedicated area remains an option available to the Whitworth University grounds and facilities services.*

Sec. 8.1 Tree Removal Policy

Contracted Tree Removal

ISA CERTIFIED ARBORIST, TREE SERVICE, LISENCED, BONDED INSURED.

The campus at Whitworth University is one of the first and last views students, parents and visitors encounter on a visit to our school. In a large part and for years to come these people will associate the quality of the university with a perception of the campus landscape. It is imperative that the personal in the department of grounds and landscape services to perform their job related duties with excellence.

The Whitworth University campus is an inviting green space that serves as a common bond that ties all of the landscape features at Whitworth University features together. This not only includes hardscapes such as buildings, sidewalks, benches, etc. but also the trees. The facilities department and the Campus Urban Forestry program recognize trees as an integral part in an inviting green space.

Because the trees at Whitworth University are extremely important, it is not the intent of Whitworth University grounds Department or the Campus Urban Forestry program to remove any living trees from the campus, unnecessarily. It is in fact, the policy of Whitworth University to protect the trees from needless removal and every effort is made to preserve the trees until such time removal is warranted and prudent.

However, hazardous, dead, dying or diseased trees will be put on a list for removal. Trees determined to be an immediate threat will be handled as soon as possible.

The Landscape Supervisor and Campus Arborist will inspect the suspected tree and determine whether removal is warranted. The Landscape Supervisor and or Campus Arborist will report the findings to Director of Facilities, and a Representative of TTF (Tree Task Force). If Director of Facilities deems necessary a notice of action will be posted via campus email.

There are many reasons why trees need to be removed from a campus environment. Each tree is evaluated and considered for removal on a case-by-case basis. The criterion listed below is used by the Campus Arborist and the Landscape supervisor when evaluating trees for possible removal. The criteria are not listed in order of importance and individually may not justify removal.

Sec. 8.1 Tree Removal Policy

Tree Removal Criteria

The following criteria are used in evaluating a tree for possible removal:

Tree is dead or dying.

The tree is deemed hazardous, when the hazardous condition cannot be corrected through pruning or other reasonable arboricultural practices.

When trees are not deemed dead, dying or hazardous, the following factors will be considered:

1. Life expectancy of the tree.
2. Desirability of the tree species.
3. Amount of space allowable for tree growth.
4. Overall quality and structural integrity of the tree.
5. Persistent and uncontrollable insect, disease or fruiting problems.
6. Frequency and extensiveness of the tree's maintenance requirements.
7. Feasibility and timeliness in which a replacement tree will be planted.
8. Proximity and quality of trees near to the one considered for removal.
9. Quality and extent of past pruning and other tree maintenance practices the tree has undergone.
10. Extent and frequency of damage the tree is causing to surrounding infrastructure such as sidewalks, streets, sewers, etc.
11. Location of the tree with regard to hardscapes such as light poles and buildings. In addition, the requirements of the tree as it relates to available growing space.

In all instances where tree removal is necessary the campus community will be notified via campus email.

The notice of actions will include: the proposed removal (identifying which tree it is and location of tree), the reason for the removal, and a number to call to receive further information concerning the tree. Unless the tree is deemed a hazard, there will be ample time between the time it is marked for removal and the actual removal date. Shortly after the tree is removed the stump will be ground out.

Tree stump removal -Stump Grinding

Contractors shall be responsible for all repairs to damage to underground utilities

Contractors shall supply Facility Services with proof of insurances

Sec. 8.1 Tree Removal Policy

Replanting

The grounds department and the Whitworth University Campus Forestry program will replant where trees have been removed, and where a tree vacancy has been established. In most cases the replacement tree will not be planted in the exact location due to the presence of roots, utilities, etc. The cost of removal will be assumed by Facilities services.

9.1 OTHER

Mulching

Weed and turf suppression during establishment is essential. Apply a 2-4 inch-thick layer of mulch around the plant to help discourage grasses and forbs. A minimum 2 foot diameter up to a 7 foot diameter tree ring for introduced and established landscape trees. Avoid "volcano mulching" and mulch contact with the tree trunk. Contact Facility services for mulch specifications.
Mulch shall be clean and free from weeds and other debris. Mulch type shall match existing mulch type used by the Whitworth University grounds department for particular

Nursery Stock

American Standard for Nursery Stock (ANSI Z60 update May 12, 2004).

GOAL - providing a consistent supply of high quality nursery stock to support sustainable Campus forestry and garden program

Nursery stock grown in Whitworth Tree Nursery and green house will assure well structured trees, shrubs and plants that will be hardy. These plants will acclimate quickly to the Whitworth University Campus.

Nursery stock purchased for immediate campus planting must comply with Whitworth University Standards as set forth in this policy manual.