

**Report of the Higher Education Subcommittee
of the
Arkansas Legislative Council**

June 17, 2011

Co-Chairs:

Your Higher Education Subcommittee met on June 23, 2011, and reports the discussion and consideration of the following presentations and items by the noted speakers:

- A. Mrs. Jan Judy, Former State Representative, gave a background of House Concurrent Resolution 1024 and House Resolution 1013 of 2003.
- B. Mrs. Cathie Matthews, Director Arkansas Heritage, spoke on the significance of placement on the Historic Register.
- C. Three Representatives from the University of Arkansas Campus spoke about the construction on the University of Arkansas Campus.
 - Mr. Donald Pederson, Vice Chancellor for Finance of Administration
 - Mr. Alan Sugg, President of U of A System
 - Mr. Carl Johnson, President of U of A Board
- D. Senator Sue Madison, District 7, did a presentation on the construction that is taking place on the Old Main Lawn and surrounding areas.
- E. Mr. Doug Akin, Assistant State Forester- Management, spoke about concerns of the environmental issues on the University of Arkansas Campus and tree life.

Respectfully submitted,

Senator Sue Madison, Co-Chair

Representative Johnnie Roebuck, Co-Chair

AGENDA
Higher Education Subcommittee
of the
Arkansas Legislative Council

Thursday, June 23, 2011

01:00 PM

Room B, MAC

Little Rock, Arkansas

Sen. Sue Madison, Chair
Sen. Jimmy Jeffress, Vice Chair
Sen. Gilbert Baker
Sen. Kim Hendren
Sen. Gene Jeffress
Sen. Johnny Key
Sen. Joyce Elliott
Sen. Bruce Holland
Sen. Mary Anne Salmon, ex-officio
Sen. Robert Thompson, ex-officio

Rep. Johnnie J. Roebuck, Chair
Rep. Ann V. Clemmer, Vice Chair
Rep. Eddie L. Cheatham
Rep. James L. Word
Rep. Les "Skip" Carnine
Rep. Robert E. Dale
Rep. Tiffany Rogers
Rep. John Burris
Rep. Tommy Lee Baker, ex-officio
Rep. Terry Rice, ex-officio

- A. Call to Order
- B. Background of House Concurrent Resolution 1024 of 2003 and House Resolution 1013 of 2003 **[Exhibit B]**
Mrs. Jan Judy, Former State Representative
- C. The Significance of Placement on the Historic Register
Mrs. Cathie Matthews, Director of Arkansas Heritage
- D. Modifications to Ozark and Vol Walker Halls and the Impact on Old Main
Dr. Donald Pederson, Vice Chancellor for Finance and Administration, U of A
- E. The Public Hearing to comply with House Concurrent Resolution 1024 and House Resolution 1013 of 2003
Senator Sue Madison, District 7
- F. Concerns of the Environmental Issues on the University of Arkansas Campus **[Exhibit F]**
Mr. Doug Akin, Assistant State Forester-Management
- G. Response from Arkansas Department of Higher Education
Mr. Shane Broadway, Interim Director of Arkansas Department of Higher Education
- H. Public Comment
- I. Other Business
- J. Adjournment

Notice: Silence your cell phones. Keep your personal conversations to a minimum. Observe restrictions designating areas as "*Members and Staff Only*"

STATE OF ARKANSAS

HIGHER EDUCATION SUBCOMMITTEE (038)
OF THE ARKANSAS LEGISLATIVE COUNCIL
PER DIEM AND MILEAGE REQUEST FOR NON COMMITTEE MEMBERS

TO: Director of the Bureau of Legislative Research

SUBJECT: Request for Per Diem and Mileage for attending Meeting Held on June 23, 2011 in Room B, MAC.

We the undersigned, hereby certify that we attended the meeting designated above and do hereby request payment of per diem and mileage at the rates set by law in accordance with A.C.A. § 10-2-217.

<input type="checkbox"/> Sen. <input checked="" type="checkbox"/> Rep.	<u>John B. [Signature]</u> (signature)	<u>John B. [Print Name]</u> (print name)	<u>[Signature]</u> (Chair approval)
<input type="checkbox"/> Sen. <input checked="" type="checkbox"/> Rep.	<u>Clark Hall [Signature]</u> (signature)	<u>CLARK HALL</u> (print name)	<u>[Signature]</u> (Chair approval)
<input type="checkbox"/> Sen. <input checked="" type="checkbox"/> Rep.	<u>Bryan King [Signature]</u> (signature)	<u>Bryan King</u> (print name)	<u>[Signature]</u> (Chair approval)
<input type="checkbox"/> Sen. <input checked="" type="checkbox"/> Rep.	<u>Jane English [Signature]</u> (signature)	<u>Jane English</u> (print name)	<u>[Signature]</u> (Chair approval)
<input checked="" type="checkbox"/> Sen. <input type="checkbox"/> Rep.	<u>Paul Beekout [Signature]</u> (signature)	<u>Paul Beekout</u> (print name)	<u>[Signature]</u> (Chair approval)
<input type="checkbox"/> Sen. <input checked="" type="checkbox"/> Rep.	<u>Jon Woods [Signature]</u> (signature)	<u>Jon Woods</u> (print name)	<u>[Signature]</u> (Chair approval)
<input type="checkbox"/> Sen. <input checked="" type="checkbox"/> Rep.	<u>Andrea [Signature]</u> (signature)	<u>Andrea [Print Name]</u> (print name)	<u>[Signature]</u> (Chair approval)
<input type="checkbox"/> Sen. <input checked="" type="checkbox"/> Rep.	<u>Nate Steel [Signature]</u> (signature)	<u>Nate Steel</u> (print name)	<u>[Signature]</u> (Chair approval)
<input checked="" type="checkbox"/> Sen. <input type="checkbox"/> Rep.	<u>Randy Laverety [Signature]</u> (signature)	<u>RANDY LAVERETY</u> (print name)	<u>[Signature]</u> (Chair approval)
<input type="checkbox"/> Sen. <input checked="" type="checkbox"/> Rep.	<u>Larry Coakley [Signature]</u> (signature)	<u>LARRY COAKLEY</u> (print name)	<u>[Signature]</u> (Chair approval)
<input type="checkbox"/> Sen. <input type="checkbox"/> Rep.	_____ (signature)	_____ (print name)	_____ (Chair approval)
<input type="checkbox"/> Sen. <input type="checkbox"/> Rep.	_____ (signature)	_____ (print name)	_____ (Chair approval)

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<input type="checkbox"/> Sen. <input checked="" type="checkbox"/> Rep.	<u>Billy Gaskill</u> (signature)	<u>BILLY GASKILL</u> (print name)	<u>JR</u> (Chair approval)
<input type="checkbox"/> Sen. <input checked="" type="checkbox"/> Rep.	<u>David L. Branscum</u> (signature)	<u>DAVID L. BRANSCUM</u> (print name)	<u>JR</u> (Chair approval)
<input type="checkbox"/> Sen. <input checked="" type="checkbox"/> Rep.	<u>Betty Overbey</u> (signature)	<u>BETTY OVERBEY</u> (print name)	<u>JR</u> (Chair approval)
<input type="checkbox"/> Sen. <input checked="" type="checkbox"/> Rep.	<u>Nancy Bell</u> (signature)	<u>Nancy Bell</u> (print name)	<u>JR</u> (Chair approval)
<input type="checkbox"/> Sen. <input checked="" type="checkbox"/> Rep.	<u>Randy Stewart</u> (signature)	<u>RANDY STEWART</u> (print name)	<u>JR</u> (Chair approval)
<input type="checkbox"/> Sen. <input checked="" type="checkbox"/> Rep.	<u>Tommy Thompson</u> (signature)	<u>Tommy Thompson</u> (print name)	<u>JR</u> (Chair approval)
<input type="checkbox"/> Sen. <input checked="" type="checkbox"/> Rep.	<u>Jody Dickinson</u> (signature)	<u>Jody Dickinson</u> (print name)	<u>JR</u> (Chair approval)
<input type="checkbox"/> Sen. <input checked="" type="checkbox"/> Rep.	<u>James Rathiff</u> (signature)	<u>JAMES RATHIFF</u> (print name)	<u>JR</u> (Chair approval)
<input type="checkbox"/> Sen. <input checked="" type="checkbox"/> Rep.	<u>Thomas D. Wrenth</u> (signature)	<u>Thomas D. Wrenth</u> (print name)	<u>JR</u> (Chair approval)
<input type="checkbox"/> Sen. <input checked="" type="checkbox"/> Rep.	<u>Buddy Lovell</u> (signature)	<u>Buddy Lovell</u> (print name)	<u>JR</u> (Chair approval)
<input type="checkbox"/> Sen. <input checked="" type="checkbox"/> Rep.	<u>Lori Benedict</u> (signature)	<u>LORI BENEICT</u> (print name)	<u>JR</u> (Chair approval)
<input type="checkbox"/> Sen. <input checked="" type="checkbox"/> Rep.	<u>Jerry Brown</u> (signature)	<u>Jerry Brown</u> (print name)	<u>JR</u> (Chair approval)

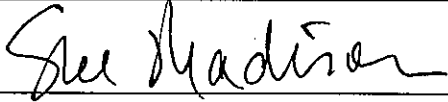
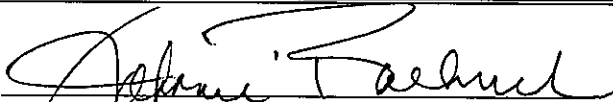
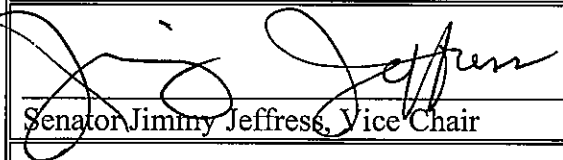

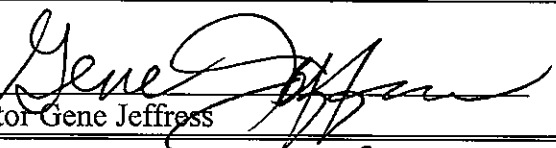

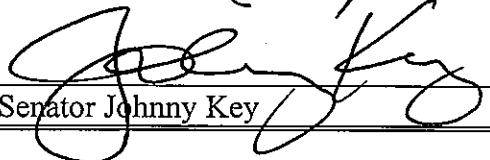
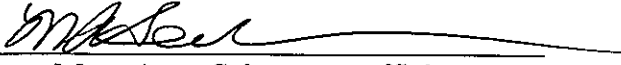
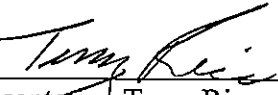
STATE OF ARKANSAS

**ALC – HIGHER EDUCATION SUBCOMMITTEE (038)
PER DIEM AND MILEAGE REQUEST**

TO: Director of the Bureau of Legislative Research

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We, the undersigned members of the above-referenced committee, hereby certify that we attended the meeting designated above and do hereby request payment of per diem and mileage at the rates set by law in accordance with Arkansas Code §10-2-217.

Senator Name	Representative Name
 _____ Senator Sue Madison, Co-Chair	 _____ Representative Johnnie J. Roebuck, Co-Chair
 _____ Senator Jimmy Jeffress, Vice Chair	 _____ Representative Ann V. Clemmer, Vice Chair
_____ Senator Gilbert Baker	_____ Representative John Burris
_____ Senator Joyce Elliott	_____ Representative Les "Skip" Carnine
_____ Senator Kim Hendren	_____ Representative Eddie L. Cheatham
_____ Senator Bruce Holland	_____ Representative Robert E. Dale
 _____ Senator Gene Jeffress	 _____ Representative Tiffany Rogers
 _____ Senator Johnny Key	_____ Representative James L. Word
 _____ Senator Mary Anne Salmon, ex officio	_____ Representative Tommy Lee Baker, ex officio
_____ Senator Robert Thompson, ex officio	 _____ Representative Terry Rice, ex officio

1 State of Arkansas
2 84th General Assembly
3 Regular Session, 2003
4
5 By: Representative Judy

6
7
8 **HOUSE CONCURRENT RESOLUTION**

9 ACKNOWLEDGING ARKANSAS' GREAT HISTORIC HERITAGE
10 AND ITS CULTURAL TREASURES AND SETTING THE GOAL
11 FOR THE STATE TO DISPLAY THE HIGHEST EXAMPLE OF
12 PRESERVING OUR HISTORIC STRUCTURES AND CULTURAL
13 SITES BY INSISTING THAT PUBLICLY-OWNED BUILDINGS
14 ARE GREAT ASSETS AND THAT THESE SITES MUST BE
15 MANAGED BY THE PRINCIPLES OF PRESERVATION.

16
17 **Subtitle**

18 ACKNOWLEDGING ARKANSAS' GREAT HISTORIC
19 HERITAGE AND ITS CULTURAL TREASURES AND
20 SETTING THE GOAL FOR THE STATE TO
21 DISPLAY THE HIGHEST EXAMPLE OF
22 PRESERVING OUR HISTORIC STRUCTURES AND
23 TRADITIONAL SITES.

24
25
26 WHEREAS, the State of Arkansas established its Arkansas Department of
27 Heritage in 1975 to promote the preservation of the natural, cultural, and
28 historic resources of the state; and

29
30 WHEREAS, the State of Arkansas established the Arkansas Historic
31 Preservation Program in 1977 to promote the preservation of historic
32 properties, to issue grants for their preservation, and to assist the private
33 sector towards this goal and the Program has the expertise, capability, and
34 charter to educate individuals, contractors, and architects on the values and
35 methods of performing work and repairs on historic structures and sites; and



1 WHEREAS, the State of Arkansas established the Arkansas Natural and
2 Cultural Resources Council in 1987 to dispense funds received from the real
3 estate transfer taxes to preserve state historic properties and the Council
4 works with the National Trust for Historic Preservation to preserve our
5 states historic structures and traditional sites; and

6
7 WHEREAS, the State of Arkansas spends almost twenty million dollars
8 (\$20,000,000) annually to promote preservation efforts by the state and local
9 governments and to educate the private business sector and the public
10 citizenry about the importance of preserving historic places and buildings
11 and promoting cultural resources; and

12
13 WHEREAS, historic structures and traditional sites of Arkansas are so
14 extremely important to our economy, as more than history when historic
15 buildings and archeological sites serve as magnets for tourism and economic
16 development, and when cultural assets and heritage sites are recognized by
17 business leaders as community assets to attract business development and to
18 enrich our cultural appreciation,

19
20 NOW THEREFORE,

21 BE IT RESOLVED BY THE HOUSE OF REPRESENTATIVES OF THE EIGHTY-FOURTH GENERAL
22 ASSEMBLY OF THE STATE OF ARKANSAS, THE SENATE CONCURRING THEREIN:

23
24 That the great State of Arkansas acknowledge its great historic
25 heritage and its cultural treasures and should set the highest example of
26 preserving our historic structures and cultural sites by insisting that
27 publicly-owned buildings are these kinds of assets that must be managed by
28 the best preservation principles.

29
30 BE IT FURTHER RESOLVED that all publicly-owned historic structures and sites
31 should not undergo any alteration that would compromise the historic
32 integrity without:

33 First a public announcement of the intent and goals of the alteration
34 or renovation project; and

35 Second, a review conducted in accordance with state and national
36 preservation guidelines under the direction of the Arkansas Historic

1 Preservation Program or a private consultant to insure that taxpayer money is
2 spent to enhance the historic property and not compromise the integrity of
3 the historic structure or site.

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1 State of Arkansas
2 84th General Assembly
3 Regular Session, 2003
4
5 By: Representative Judy

HOUSE RESOLUTION

9 RECOGNIZING THE HISTORIC NATURE OF HOUSE OF
10 REPRESENTATIVES' DISTRICT 92 IN THE CITY OF
11 FAYETTEVILLE, WASHINGTON COUNTY, ARKANSAS AND
12 ASKING FOR SUPPORT AND PRESERVATION OF ARKANSAS'
13 HISTORIC HERITAGE.

Subtitle

16 RECOGNIZING THE HISTORIC NATURE OF HOUSE
17 OF REPRESENTATIVES' DISTRICT 92 IN THE
18 CITY OF FAYETTEVILLE, WASHINGTON COUNTY,
19 ARKANSAS AND ASKING FOR SUPPORT AND
20 PRESERVATION OF ARKANSAS' HISTORIC
21 HERITAGE.

24 WHEREAS, House of Representatives' District 92 in the City of
25 Fayetteville, Washington County, Arkansas is an area densely populated with
26 historic structures and contains hundreds of properties on the National
27 Register of Historic Places, and contains the only three (3) historic
28 districts in Washington County, the Washington-Willow, Mount Nord, and Wilson
29 Park Historic Districts; and

31 WHEREAS, the City of Fayetteville contains many historic buildings and
32 sites that document the history of Arkansas and contains many historic areas
33 important to the history of the great State of Arkansas, including the grave
34 site of Archibald Yell, the second Governor of Arkansas; and

36 WHEREAS, West Lafayette Street had the first paved roads in the City of



1 Fayetteville, made possible by residents initiating the first improvement
2 district of the city in 1918, and the West Lafayette Street historic
3 neighborhood is actively engaged in preserving the historic neighborhoods for
4 future generations; and

5

6 WHEREAS, the West Lafayette Street historic neighborhood was home to
7 some of Arkansas' most famous and noteworthy residents like Senator J.
8 William Fulbright, Rosa Zagnoni Marinoni, Poet Laureate of Arkansas,
9 Lafayette Greg, who crafted legislation to create the University of Arkansas
10 at Fayetteville in 1871, and Jobelle Holcomb who founded the Chi Omega
11 national sorority in 1895,

12

13 NOW THEREFORE,

14 BE IT RESOLVED BY THE HOUSE OF REPRESENTATIVES OF THE EIGHTY-FOURTH GENERAL
15 ASSEMBLY OF THE STATE OF ARKANSAS:

16

17 That the State of Arkansas recognizes and appreciates the rich history
18 of places like the West Lafayette Street neighborhood that strives to set the
19 highest example for the preservation of our historic properties, places, and
20 neighborhoods and commends and appreciates the individual efforts being
21 extended in the West Lafayette Street historic neighborhood in Fayetteville
22 and in all other neighborhoods and historic districts across the State of
23 Arkansas and supports wherever possible the preservation of the state's
24 historic places and resources.

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Exhibit E

June 23, 2011

1 -----Original Message-----

2 From: Matt Horan

3 Sent: Wednesday, June 22, 2011 10:42 AM

4 Subject: Re: The East Lawn

5
6 To Whom It May Concern.

7
8 I have been very concerned about the plans to employ the East Lawn of the UofA campus as
9 an access point for heavy trucks to deliver construction materials for renovations to Ozark and
10 Vol Walker Halls.

11
12 It would be better far to use the existing Campus Drive access from Maple Street; however,
13 this is said to be impossible because Pi Beta Phi wishes to place a gate at that location to
14 celebrate its 100th anniversary on the UofA campus.

15
16 I yield to none in my admiration for the women and alumni of Pi Beta Phi. I only question
17 whether Pi Phi's are so intent on having the gate erected by November 2011 that they would
18 want the East Lawn to be scarred to secure the installation of the gate by the time projected.

19
20 Damage to the East Lawn of the campus would be a dubious legacy, and may set an
21 unfortunate precedent. Will another student organization be permitted to place a "choke point"
22 on traffic into and out of the core campus, necessitating the use of vacant space instead? The
23 problem here is that any aerial view of the campus will show that the "vacant space" left for
24 such purpose is the East Lawn. There will be more incursions into it, rather than fewer, unless
25 a line is drawn at this time. If this route must absolutely be employed, then no expense should
26 be spared to restore the Lawn.

27
28 The East Lawn of the campus is where young men drilled for duty in war, where they played
29 football and frisbee in times of peace. It is where alumnae walked with their suitors. It is where
30 students-to-be, such as myself, walked to reach Razorback Stadium for a first-ever football
31 game. The East Lawn is the one unchanged and irreplaceable part of the campus. It is the
32 repository of our best and dearest memories.

33
34 The UofA Fayetteville should be encouraged to develop a 100 year plan to keep the Lawn
35 intact for future generations of Razorbacks. This plan should include designation of alternate
36 routes into the core campus for maintenance and emergency vehicles. It should include
37 provisions to maintain existing trees and plantings, and preservation of the original Senior
38 Walk. It should include all conceivable contingencies.

39
40 The East Lawn was the McIlroy Farm, the foundation of the University. Let it always be seen
41 for what it was and what it has been for the generations that have proudly taken a degree from
42 the University of Arkansas.

43
44 Go Hogs!

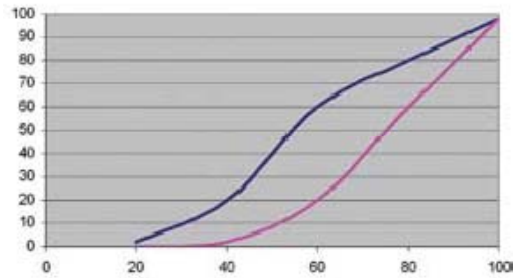
45
46 Matthew Horan BA '73

**SELECTED NOTES ON TREE PRESERVATION DURING
CONSTRUCTION**

- I. Plan**
 - a. Consult with an International Society of Arboriculture Certified Arborist**
 - b. Identify what trees can be protected and those that can't or shouldn't be protected**
- II. Protect**
 - a. Provide proper protection for trees – fencing or bridges**



A tree looks like a wine glass on a dinner plate



Tree survival depends on the amount of critical root area protected and the tolerance of a tree to damage. (Coder 1996). Right line is susceptible, left is resistant.

Generally, 3 types of construction damage

- 1. Physical damage above the ground**
- 2. Physical damage below the ground**
- 3. Soil Compaction**



The roots of a tree extend far from the trunk and are found mostly in the upper 6 to 12 inches of soil.

1

What Are Critical Roots/Critical Root Zones

There hasn't been a lot of research on what is THE critical root zone and what part of the root zone should be protected during construction. However, there are some generally agreed upon guidelines for root protection. These guidelines use a formula based on tree diameter OR based on the drip line of the tree.

Damage to tree roots and to trees from soil compaction is affected by soil type and condition, the extent of compaction, tree species, and the tree's current condition or health.

What is the Critical Roots/Critical Root Zone of a Tree?

Below is Virginia Tech Professor Susan Day's response to this email from Ingrid Sather, USDA Forest Service Forester.

Ingrid Sather: "I often get calls from communities who are writing or revising their tree ordinance and they want to incorporate a critical root zone/tree protection zone into the ordinance but are not sure what formula or criteria to use. I've been trying to track down research on this topic and I'm not finding very much. It seems like there are formulas/criteria floating around but they are not substantiated with research. Do you have any leads for me on this topic?"

Susan Day, Virginia Tech

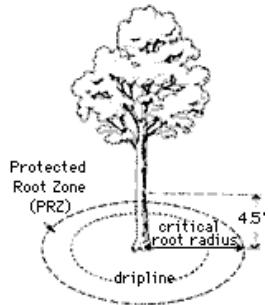
"There are formulas floating around, and they are not substantiated by research. To my knowledge there is no research that directly addresses this. There have been a few things looking at trenching on one side, two sides, etc. and there is research with that in apple orchards--but these results haven't been very informative for this issue. I think the

¹ International Society of Arboriculture: Avoiding Tree Damage During Construction;
http://www.treesaregood.org/treecare/avoiding_construction.aspx

recommendations in the latest edition of Harris' Arboriculture text book are as good as any. These say 1 foot radius per inch of dbh with some adjustments for species and age. My personal opinion is that the impact is so heavily affected by soil conditions and maintenance before and after the event that these zones are only guidelines. Also, many sites do not have enough space for these protection zones to be installed at the "recommended size". What disturbs me sometimes is when I meet with people who say that they tell clients to just give up on trees where they can't protect at least two-thirds (or another amount) of the root zone. Certainly younger trees can easily handle more damage if they have good soil conditions and proper after care. Trees in marginal conditions with no aftercare, can usually handle only very minor damage to roots. I would suggest an ordinance specify certain aftercare procedures (watering, and mulching in non-woodland cases) in addition to protection zones. Also, the timing of the installation of the protection zone is as important as the size. It needs to be installed before any kind of activity, brush clearing, etc., occurs. Hope this helps you. I often recommend the book by Nelda Matheny and Jim Clark that the ISA publishes. I don't agree 100% with everything they say, but overall it is excellent. Good luck. Susan Day"²

² Compiled by: Ingrid Sather; Southern Center for Urban Forestry
Information & Research USDA Forest Service
www.urbanforestrysouth.usda.gov

Publications surveyed contained various methods for determining the “Critical Root Zone” of a tree. Below is a sample.



“Approximate a tree’s **Protected Root Zone** by calculating the critical root radius (*crr*). First, measure the tree diameter in inches at breast height (*DBH*). Then multiply that number by 1.5 or 1.0. Express the result in feet.

Example:

dbh=8 inches

$8 \times 1.5 = 12$

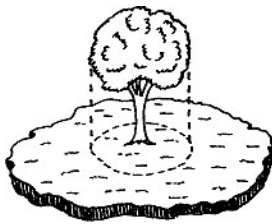
crr=12 feet

Measure diameter (width)=dbh

dbh X 1.5=critical root radius for older, unhealthy, or sensitive species or dbh X

1.0=critical root radius for younger, healthy, or tolerant species”³

“Tree roots are not mirror images of the treetop. Roots are concentrated in the top 12 to 18 inches of soil and spread two to three times the width of branches. Protecting roots within the drip line of the tree is most critical, but damage to roots outside the drip line on only one side of the tree may remove one-third or more of the tree’s roots.



Erect a fence at the drip line or farther out, if possible, to prevent damage from excavation, soil compaction or stockpiling of soil over roots. It is easier to save groups of trees than individual ones. Build

³ University of Minnesota Cooperative Extension Service; Protecting Trees from Construction Damage: A Homeowner's Guide

<http://www.extension.umn.edu/distribution/housingandclothing/dk6135.html>

Gary R. Johnson, Associate Professor, Urban and Community Forestry, University of Minnesota Extension Service, Department of Forest Resources; Publication details protection of trees during construction, symptoms of construction damage, and remediation of damage; contains a table listing several species and their relative sensitivity to damage (species are generally native to upper Midwest).

a fence around the drip line of the outside trees to keep construction machinery away from the grove. Remove protective fences only after all construction work is done, including final grading and smoothing of the site.”⁴

“After a tree is established, any activity that changes the soil condition is extremely detrimental to its health. Construction traffic compacts soil most severely near the surface, the area where the majority of tree roots lie. Soil compaction decreases soil permeability and interferes with essential gas exchange processes as well as surface and subsurface drainage. When root growth is restricted by compacted soils, less nutrients and water are available for plant growth. These factors limit root growth, reduce tree vigor and can cause tree death. Decline and dieback may gradually appear over a period of years.

It is much easier to avoid soil compaction than to correct it. Keep construction traffic and material storage away from tree root areas. Apply a 4 to 6 inch layer of wood chips around all protected trees to help reduce compaction from vehicles that inadvertently cross the barricades.”⁵

“An effective zone encircles a radius of at least 1.25 feet of protected area for every inch of trunk diameter. A tree with a trunk diameter of 12 inches requires a protected radius of at least 15 feet and ideally 30 feet.”⁶

Tree Protection Plans

Most tree care professionals agree that some sort of preconstruction tree protection plan be created before construction begins. A tree care plan will designate trees to protect, and trees that may not be worthy of protection because of condition or species. What follows is an excerpt about tree protection plans from a North Carolina State University publication.

“A tree protection plan designates the valuable trees that must be protected during the construction process. Assemble a team to write a tree protection plan before ground is broken. The team should include the site managers as well as professionals who can

⁴ University of Missouri Cooperative Extension Service; Preventing Construction Damage to Trees; <http://extension.missouri.edu/publications/DisplayPub.aspx?P=G6885>; Denny Schrock, University of Missouri Dept. of Horticulture

⁵ Colorado State University Cooperative Extension Service; Protecting Trees During Construction <http://www.ext.colostate.edu/pubs/garden/07420.html>; C. Dennis, Colorado State Forest Service; and W.R. Jacobi, professor, bioagricultural sciences and pest management

⁶ North Carolina State University Cooperative Extension Service; Construction and Tree Protection; <http://www.ces.ncsu.edu/forestry/pdf/ag/ag685.pdf>; Robert E. Bardou, Ph.D., Forestry Extension Specialist, Mark A. Megalos, Ph.D., Forestry Outreach Associate, Amy L. Graul, Environmental Technology Undergraduate; Department of Forestry and Environment Resources

provide tree protection advice (Table 1). Do not leave anyone out who should be involved. By working together, the team can identify potential conflicts between construction needs and tree protection, and identify compromise solutions.”⁷

How to Protect Trees During Construction

Erect Barriers

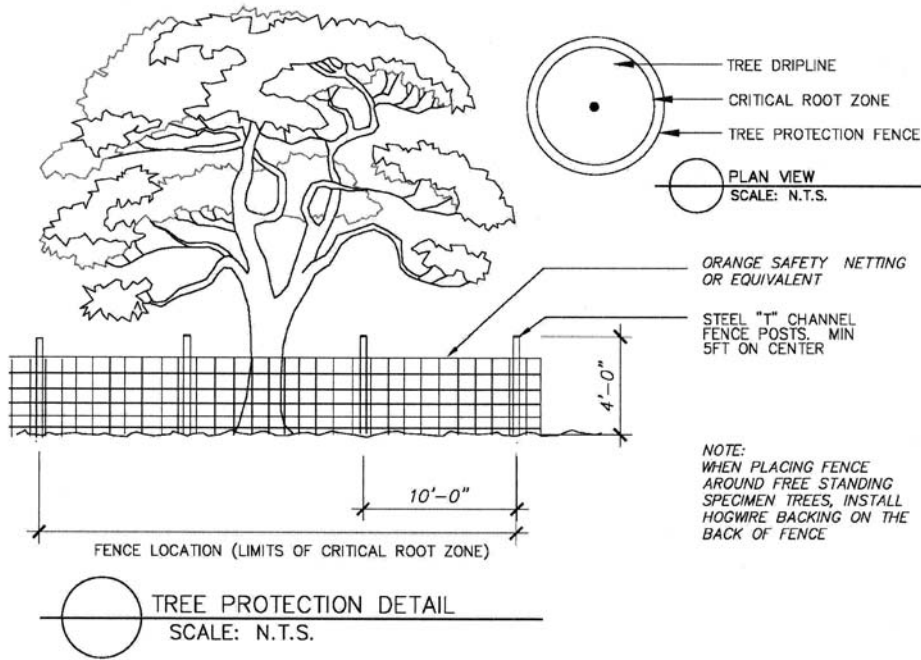
“Because our ability to repair construction damage to trees is limited, it is vital that trees be protected from injury. The single most important action you can take is to set up construction fences around all of the trees that are to remain. The fences should be placed as far out from the trunks of the trees as possible. As a general guideline, allow 1 foot of space from the trunk for each inch of trunk diameter. The intent is not merely to protect the aboveground portions of the trees but also the root systems. Remember that the root systems extend much farther than the drip lines of the trees.

Instruct construction personnel to keep the fenced area clear of building materials, waste, and excess soil. No digging, trenching, or other soil disturbance should be allowed in the fenced area.

Protective fences should be erected as far out from the trunks as possible in order to protect the root system.”⁸

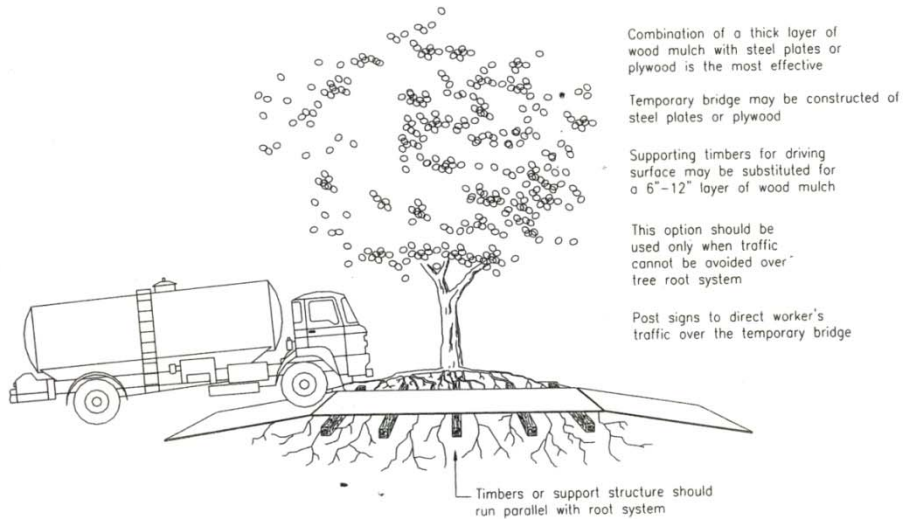
⁷ North Carolina State University Cooperative Extension Service; Construction and Tree Protection; <http://www.ces.ncsu.edu/forestry/pdf/ag/ag685.pdf>; Robert E. Bardon, Ph.D., Forestry Extension Specialist, Mark A. Megalos, Ph.D., Forestry Outreach Associate, Amy L. Graul, Environmental Technology Undergraduate; Department of Forestry and Environment Resources

⁸ International Society of Arboriculture: Avoiding Tree Damage During Construction; http://www.treesaregood.org/treecare/avoiding_construction.aspx



Tree Protection Diagram from Garden City, GA Tree Protection Ordinance

Where Critical Root Zone cannot be avoided construct a temporary bridge.



Temporary Bridge Diagram from City of Fayetteville Landscape Manual