Construction Guidelines
for
Tree Protection

d.

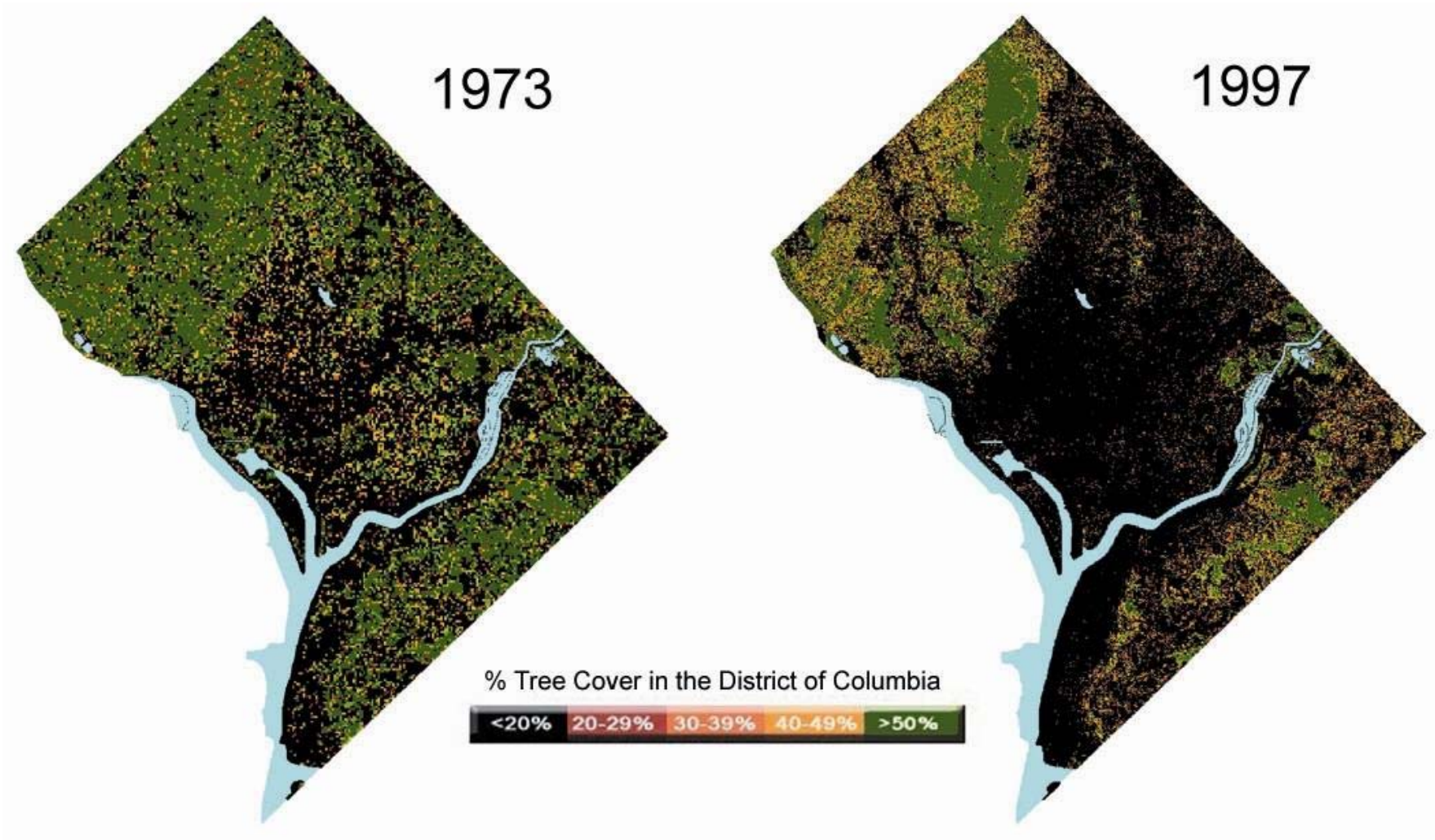
DISTRICT DEPARTMENT OF TRANSPORTATION
URBAN FORESTRY ADMINISTRATION

“ City of Trees” – Our time in history

Since 1872, when Governor Alexander Shepherd planted 60,000 street trees to improve the quality of life
DC has been known as

“The City of Trees”

In 1889, Harper’s Magazine proclaimed: *"The city of Washington, the capital of the nation, exceeds in beauty any city in the world. The grand conception of the plan of its broad streets and avenues paved with asphalt, smooth as marble, and its hundreds of palatial residences erected in the highest style of art, but above all, its magnificent trees, make it without peer."*



[1]American Forests “Urban Ecosystem Analysis for the Washington DC Metropolitan Area”. Urban Ecosystem Analysis. 2002. 6 June 2008. <http://www.americanforests.org/downloads/rea/AF_WashingtonDC2.pdf>

Why do we value our Trees?

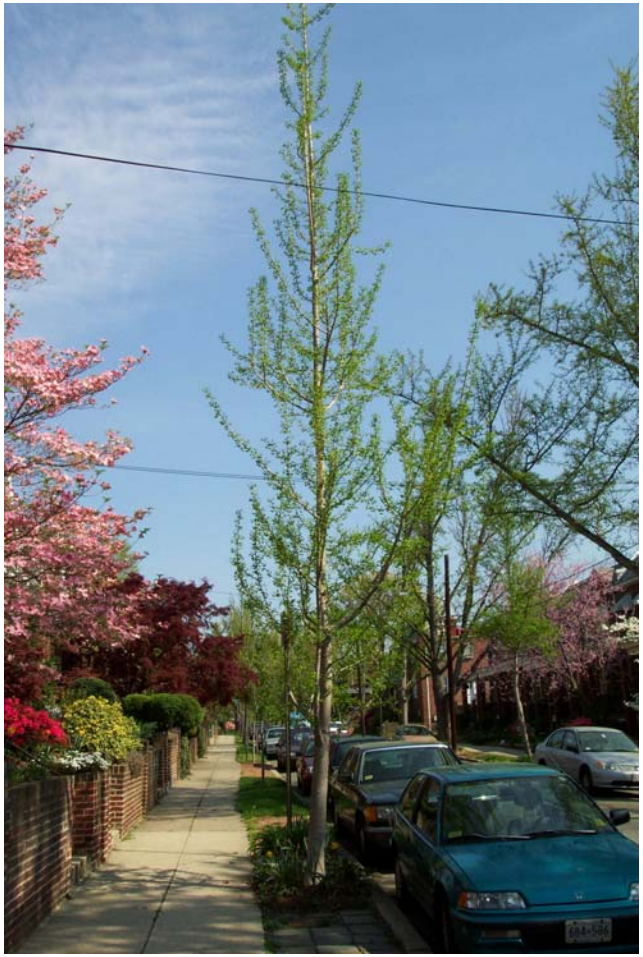
Street trees save the District:
• $138 million annually in stormwater retention capacity

• $220 million annually in removal of 878,000 lbs. of air pollutants including ozone, carbon monoxide, SOx, NOx, and fine particulates smaller than 10 microns

Street trees save District residents:
• 2.6 million dollars in energy costs every year
• increase property values

AND … Some people just enjoy them for their **beauty**

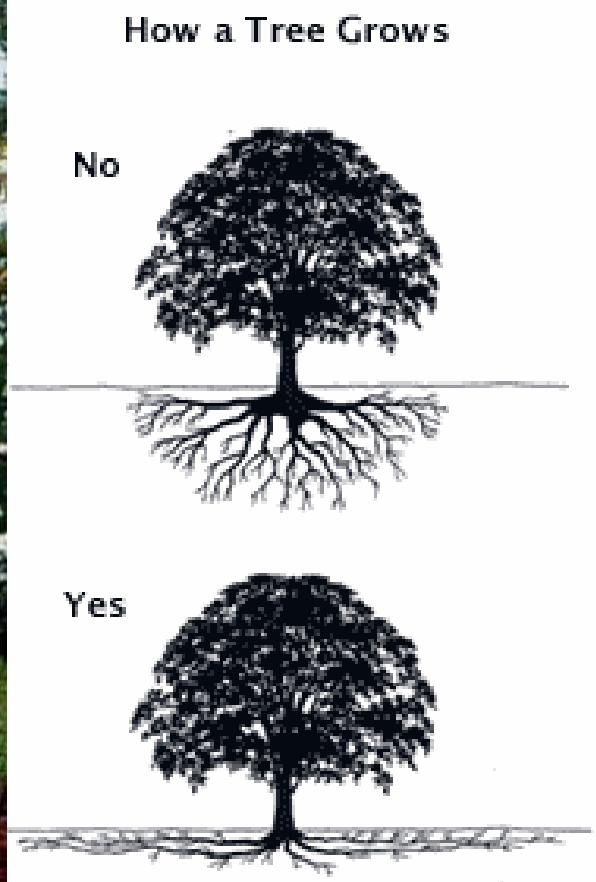
DDOT's Urban Forestry Administration is in charge of planting, pruning, maintaining, and removing street trees lining the District's roadways.



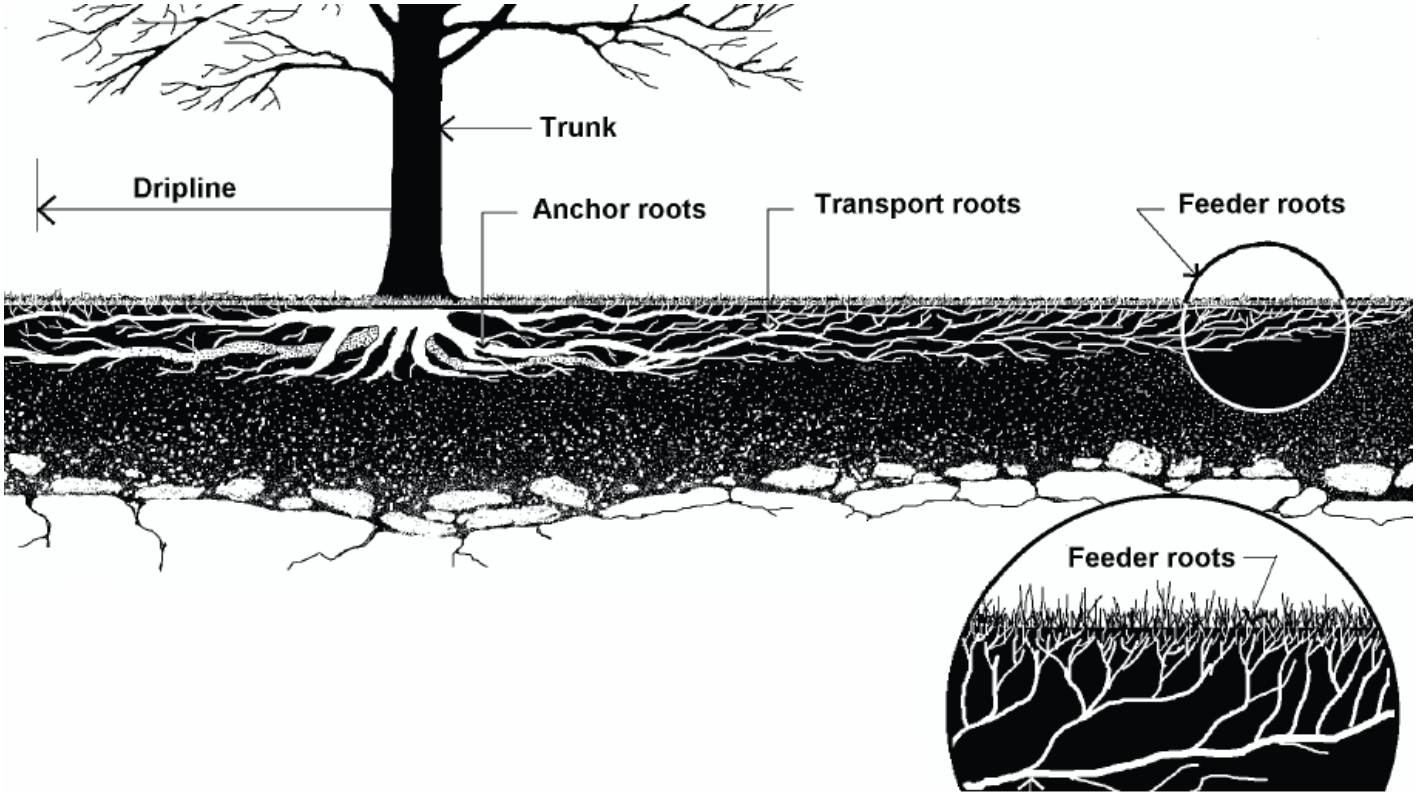
Trees are very important to this city. They provide not only environmental and social benefits, but also aesthetic benefits and we are taking steps to make sure we protect them.

As a result, the Urban Forestry Administration has updated the Districts tree protection standards and renewed its commitment to enforce proper tree protection especially during construction

UNDERSTANDING …



Compaction of soil in the critical root zone is the leading cause of tree death on construction sites

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Trees store energy in their branches and trunks which help them to survive after roots have been damaged

However …

Construction damage to tree roots is not always obvious and can take

- years to be seen in the tree canopy
- two or three years for trees to show signs of decline
- up to five or ten years to result in tree death

By this time the building contractors are gone and the city is left responsible.


4x4


DANGER
37

Construction Site Hazards

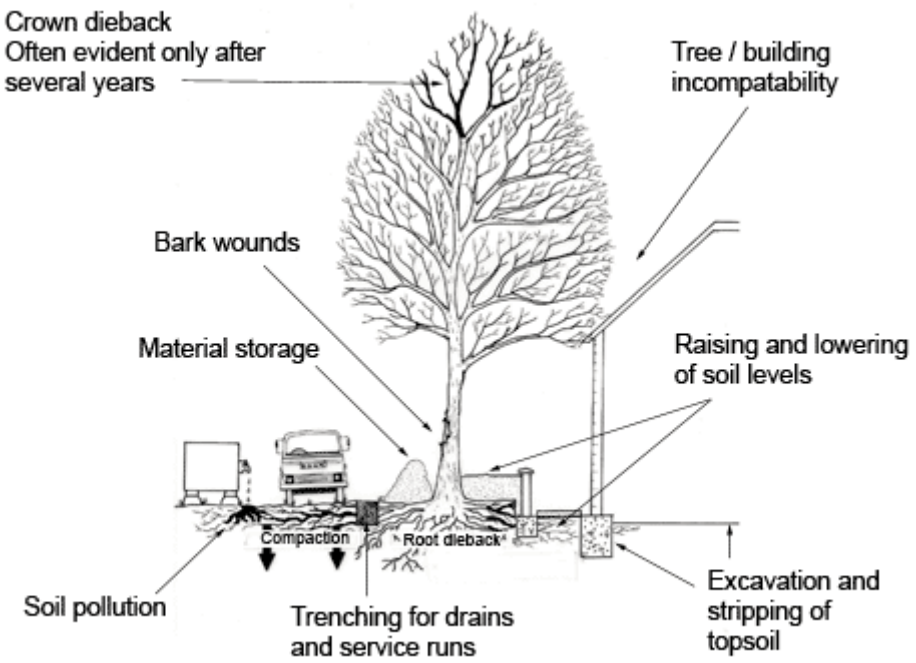


Image thanks to, **Leicestershine County in Britain** -http://www.leics.gov.uk/figure_rt3

DDOT Blue Book Requirements

ddot.dc.gov

Engineering Standards and Guidelines

Standard Specifications for Highways and Structures

- Tree Protection (611)
- Trenching and Boring (207, 611)
- Pruning (611)

Tree Protection

- Protect the *Critical Root Zone* (CRZ) by erecting fencing which protects the tree and root system by keeping out all detrimental construction activity

- If construction can not be avoided within the Critical Root Zone the tree must be protected with Tree Protection Fencing and all other unpaved areas must be covered with a protective 10” layer of wood chips

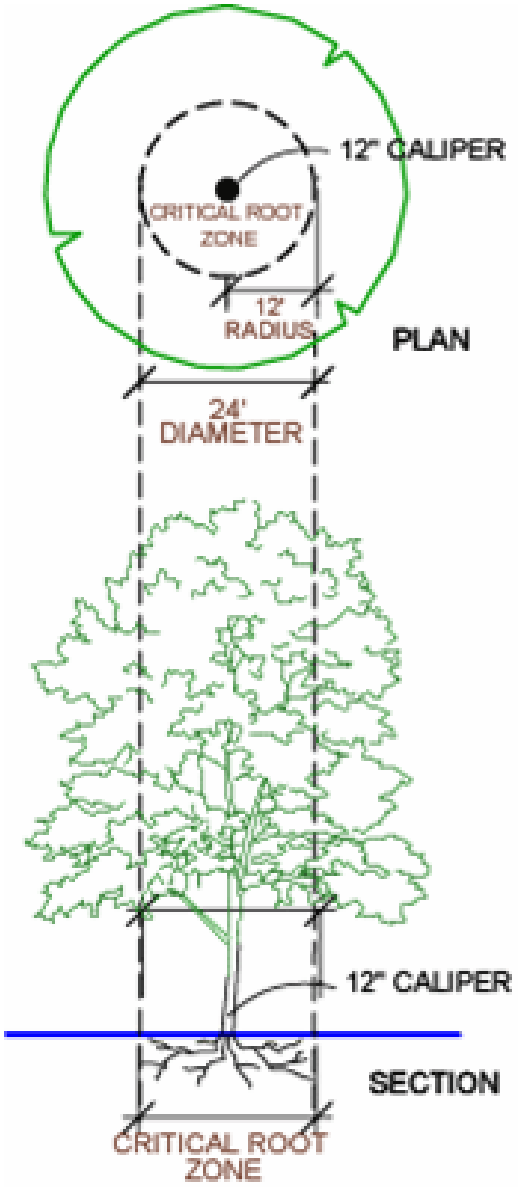
Critical Root Zone

The CRZ is equal to:

One foot of tree protection for every inch in tree diameter

For example, a tree with a 12-inch DBH or caliper breast height, would require 12 feet of protection on every side measured from the base of the tree.

This area must be protected using 4’ fence (orange mesh construction fence is acceptable)



In the CRZ:

(1) No alteration or disturbance to existing grade
(2) No storage of construction materials, equipment, soil, or debris
(3) No disposal of any liquids e.g. concrete, gas, oil, paint; and blacktop
(4) No trenching within the critical root zone
(5)Trees within the CRZ must be watered every 10 days from April-September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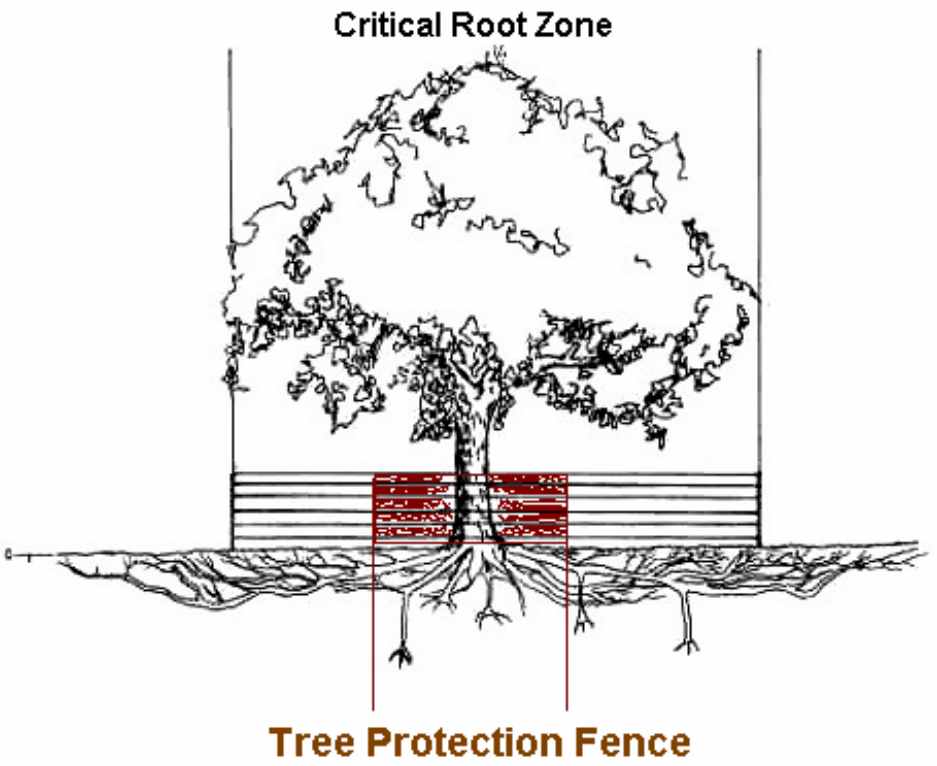
If construction traffic cannot be avoided within the CRZ:

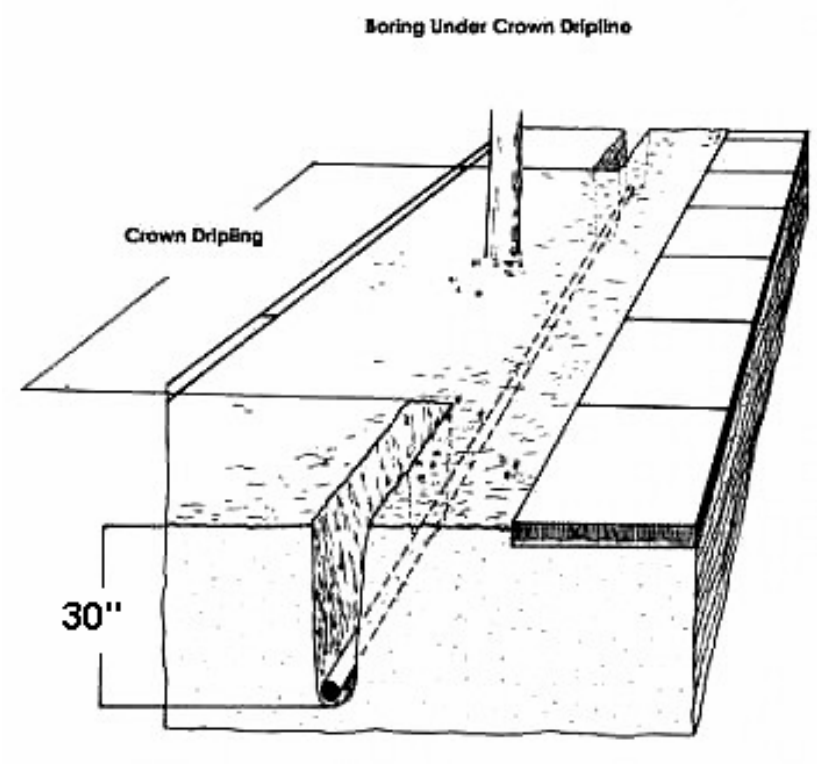


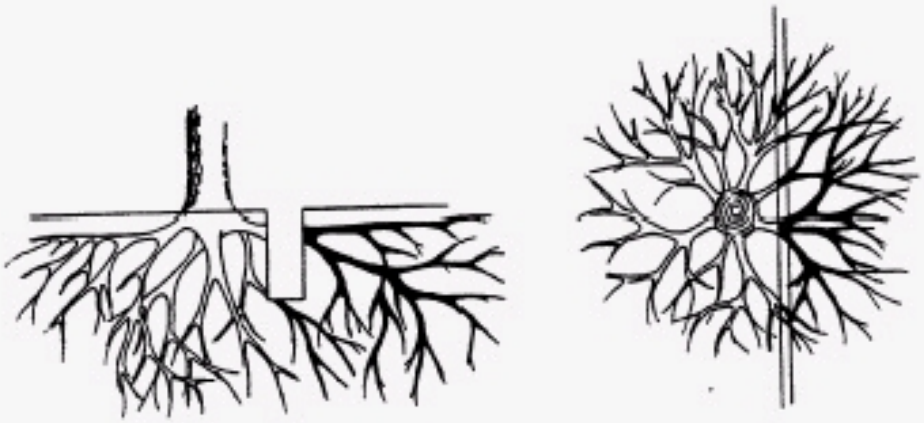
• Tree protection must be constructed of a rigid material (2” x 4” framing covered by stapled orange fence), 4’ tall, and a minimum area of 4’ X 9’ or constructed to the size of the tree box.

Boring under the Critical Root Zone

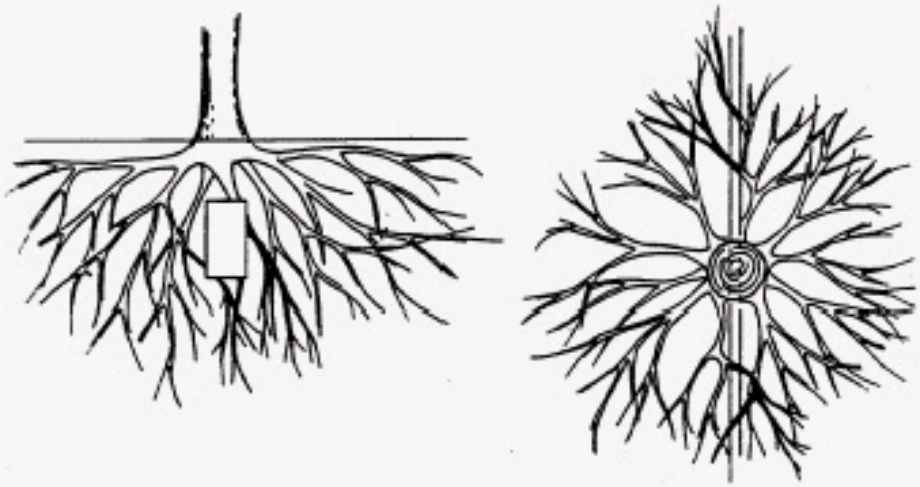
Mechanical boring is required to tunnel under the Critical Root Zone.

The boring shall be at a minimum depth of 30".





TRENCHING IMPACTS



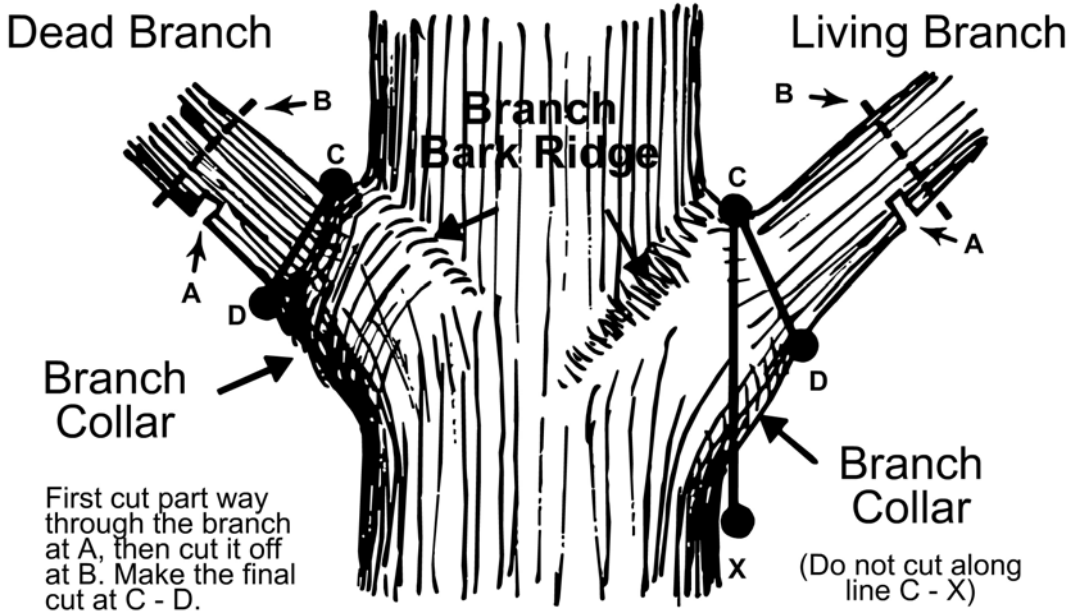
BORING IMPACTS

Pruning

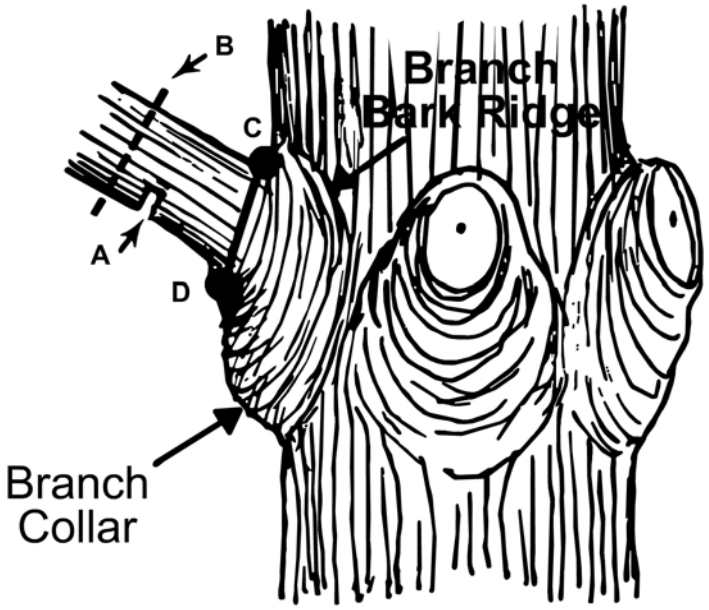
- Pruning of all trees should be in accordance with industry standards (International Society of Arboriculture or ANZI 133.1) or by a certified arborist.

- Pruning should be limited to the removal of dead wood and the correction of potentially hazardous conditions, as evaluated by a certified arborist.

Proper Pruning Principles

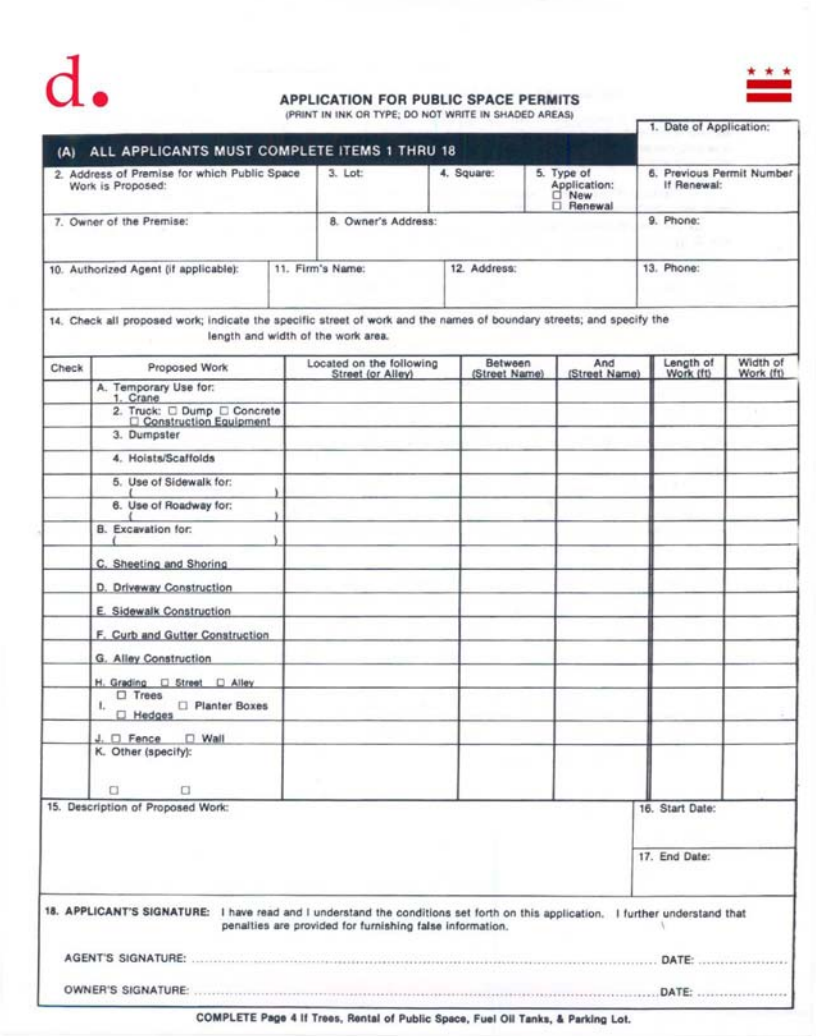


Hardwoods



Conifers

Any street tree pruning, removal, or planting requires A Public Space Permit



d.

APPLICATION FOR PUBLIC SPACE PERMITS

(PRINT IN INK OR TYPE; DO NOT WRITE IN SHADED AREAS)

1. Date of Application:

(A) ALL APPLICANTS MUST COMPLETE ITEMS 1 THRU 18

2. Address of Premise for which Public Space Work is Proposed:	3. Lot:	4. Square:	5. Type of Application: ☐ New ☐ Renewal	6. Previous Permit Number If Renewal:
7. Owner of the Premise:	8. Owner's Address:			9. Phone:
10. Authorized Agent (if applicable):	11. Firm's Name:	12. Address:		13. Phone:

14. Check all proposed work; indicate the specific street of work and the names of boundary streets; and specify the length and width of the work area.

Check	Proposed Work	Located on the following Street (or Alley)	Between (Street Name)	And (Street Name)	Length of Work (ft)	Width of Work (ft)
	A. Temporary Use for: 1. Crane					
	2. Truck: ☐ Dump ☐ Concrete ☐ Construction Equipment					
	3. Dumpster					
	4. Hoists/Scaffolds					
	5. Use of Sidewalk for: ( )					
	6. Use of Roadway for: ( )					
	B. Excavation for: ( )					
	C. Sheeting and Shoring					
	D. Driveway Construction					
	E. Sidewalk Construction					
	F. Curb and Gutter Construction					
	G. Alley Construction					
	H. Grading ☐ Street ☐ Alley					
	I. ☐ Trees ☐ Planter Boxes ☐ Hedges					
	J. ☐ Fence ☐ Wall					
	K. Other (specify): ☐ ☐					

15. Description of Proposed Work:

16. Start Date:

17. End Date:

18. **APPLICANT'S SIGNATURE:** I have read and I understand the conditions set forth on this application. I further understand that penalties are provided for furnishing false information.

AGENT'S SIGNATURE: ..... DATE: .....

OWNER'S SIGNATURE: ..... DATE: .....

COMPLETE Page 4 If Trees, Rental of Public Space, Fuel Oil Tanks, & Parking Lot.

It can be found by going to our website and trees.ddot.dc.gov

and selecting Permits for Street Trees

Inspections

Inspections may happen at any time:

Pre-Construction: City staff may require an on-site pre-construction meeting with the contractor and or applicant to discuss tree protection with the site supervisor, grading equipment contractors, and demolition crew.

Special Activity in the Tree Protection Zone: City staff may require the direct on-site supervision of work in the tree protection zone.

Periodic Inspections: City staff may require inspections verifying adherence to tree protection measures during the on-going construction process.

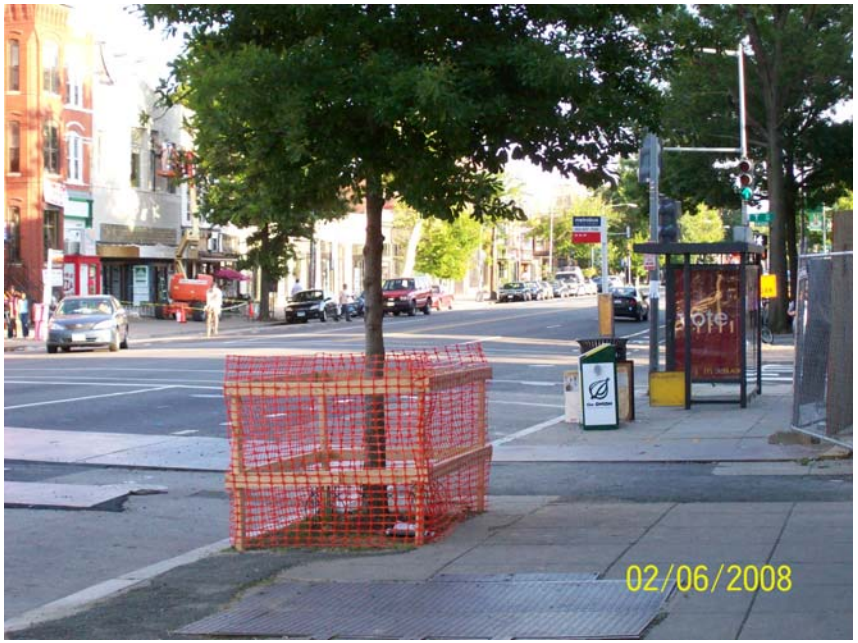
The best thing to do is have a plan for Tree Protection just as you would for all other building plans

1. Have the proper tree protection in place

2. Have your staff trained in the requirements of city regulations regarding tree protection

3. File all necessary permits

4. Maintain Tree protect throughout Construction



If your site is found to be in violation

(1) DDOT can issue a stop work order until proper tree protection is in place

(2) If any trees not designated to be removed or severely injured or killed by the Contractor's operations, they shall be replaced in kind by the Contractor at no additional cost to the District :

Fines according to Standards for Highways and Structures:

2 to 6 inch caliper	$ 250.00 per inch of caliper
> 6 to 12 inch caliper	$ 400.00 per inch of caliper
> 12 inch caliper	$1000.00 per inch of caliper

(3) Fines according to the Urban Forestry Preservation Act:

- $5,000 for removal of vines, shrubs and smaller trees
- $15,000 for removal of 18" trunk

ANY TREE on public or private property

over 55 inches in circumference

needs a separate permit under the Tree Bill also

known as the “Urban Forest Preservation Act of 2002”.

How to get a Special Tree Removal Permit

You can find it on the web at
trees.ddot.dc.gov/removal

Or by visiting Urban Forestry Administrations' home page at trees.ddot.dc.gov
And then clicking on Special Tree Removal

or

Visit the Public Space Office at

941 North Capitol St. NE

Washington, DC 20002

A PERMIT WILL BE ISSUED IF:

(1) An International Society of Arboriculture (ISA) certified arborist asserts the tree as hazardous to life and/or property.

(2) Three tree species are exempt from Special Tree Permit fees: *Ailanthus altissima* (Tree of Heaven); *Morus species* (Mulberry); *Acer platanoides* (Norway maple). *Note: a permit is still required*

(3) The property owner declares on the permit application to:

(a) Plant a quantity of saplings whose aggregated circumference equals or exceeds the circumference of the Special Tree (s) to be removed, or

(b) Pay into the Tree Fund a tree replacement fee of $35 per inch of circumference of each Special Tree to be removed, or

(c) Perform a combination of both (a) and (b)

Failure to Comply

Failure to comply with the conditions contained in a Special Tree removal permit, shall constitute a violation subject to a fine of not less than $100 per each inch of the circumference of the Special Tree in question.

Remember

- Have a plan for protecting tree and take time to educate workers
- Install all protection devices **BEFORE** the job begins
- Keep trees well watered during construction to reduce stress
- Report any problems or question to the **Urban Forestry Administration** at 202.671.5133

THE END