

# TREE PROTECTION ON LFUCG CAPITAL PROJECTS

*Environmental Quality & Public Works Committee*

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**LEXINGTON**



## Topics

- Scope of this Presentation
- What Damages Trees During Construction?
- What is Tree Protection?
- Helpful Practices for Municipalities
- Draft Tree Protection Standards
- Path Forward
- Questions?



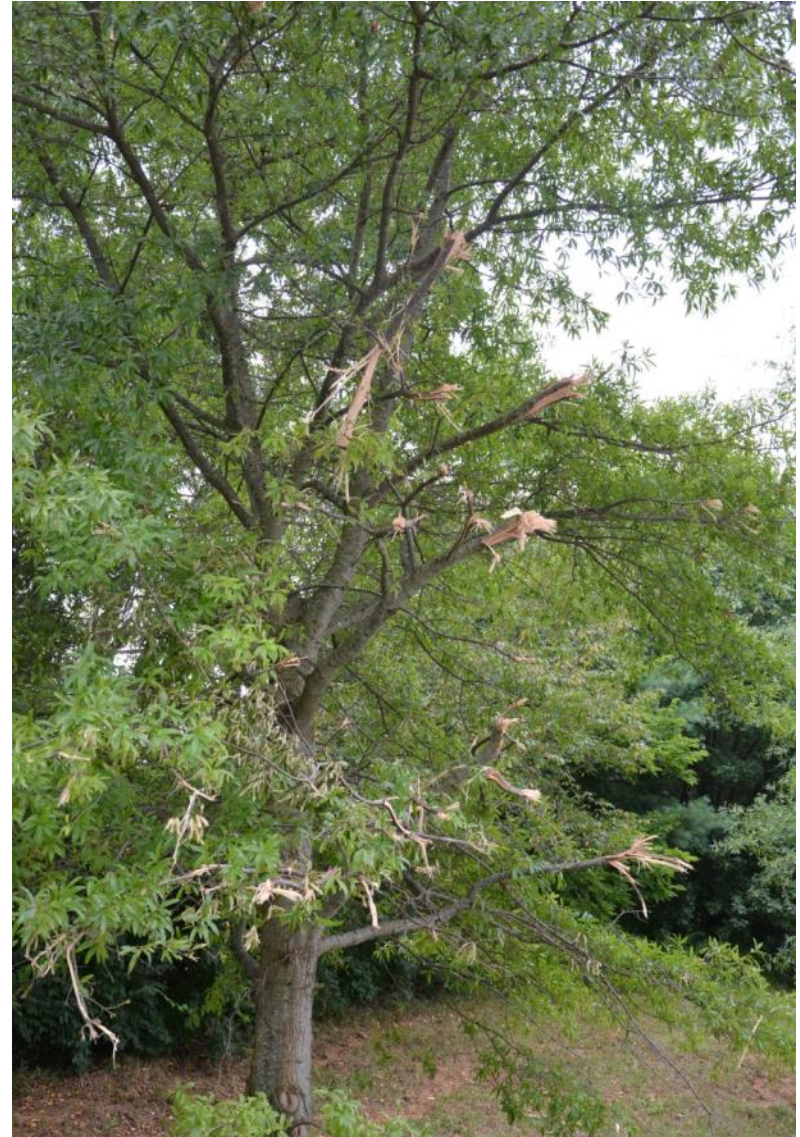
## Scope of this Presentation

- Tree protection measures are for existing trees that are to remain after a project is completed.



## What Damages Trees during Construction?

- Ripping of branches without proper pruning
- Creates open wounds which increases risk of disease or pests



## What Damages Trees during Construction?

- Damaging the trunk:
  - Creates open wounds which increases risk of disease or pests
  - Overtime can result in heart rot and structural damage

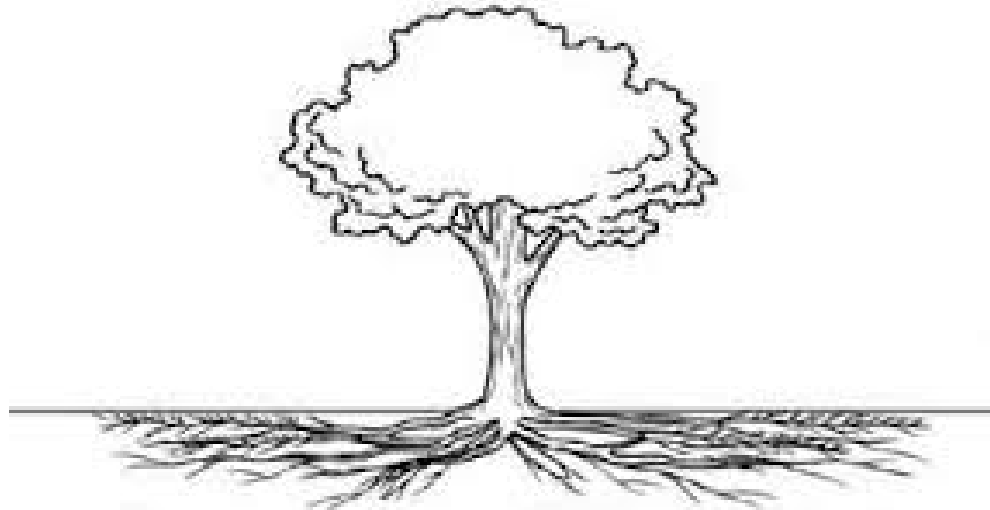






## What Damages Trees during Construction?

- Damaging the roots:
  - Soil Compaction compresses and damages roots
  - As little as 2” of fill dirt on top of roots can cut off oxygen supply
  - Creates open wounds which increases risk of disease or pests
  - Reduces tree stability



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

## What Damages Trees during Construction?

- Damaging the roots:
  - Creates open wounds which increases risk of disease or pests
  - Reduces tree stability

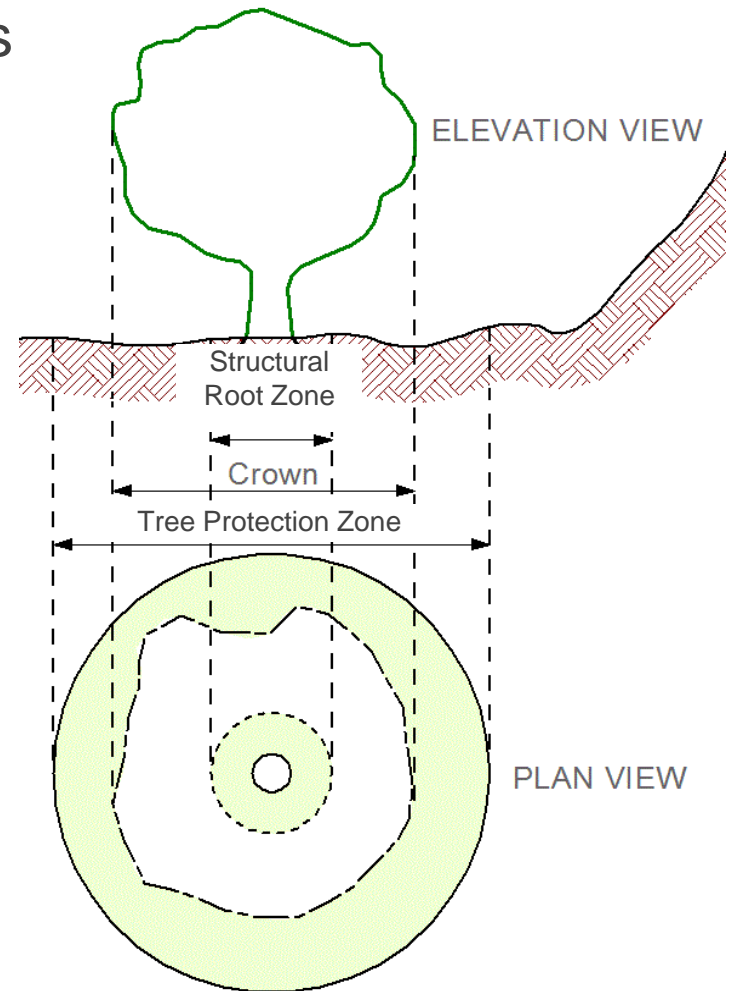




# What is Tree Protection?

Protecting the branches, trunk, and roots

1. Fenced off Tree Protection Area
  - No grade changes (mounding or excavating)
  - No trenching
  - No storage of materials
  - No equipment or vehicular traffic
  - No liquid disposal
2. Protect Critical Root Zone
3. Proper branch pruning
4. Proper root pruning or directional drilling when unavoidable
5. Wood chip mulch to protect roots
6. Trunk wraps to protect trunk





## Tree Protection: None



## Tree Protection: None







## Tree Protection: Moderate





## Tree Protection: High





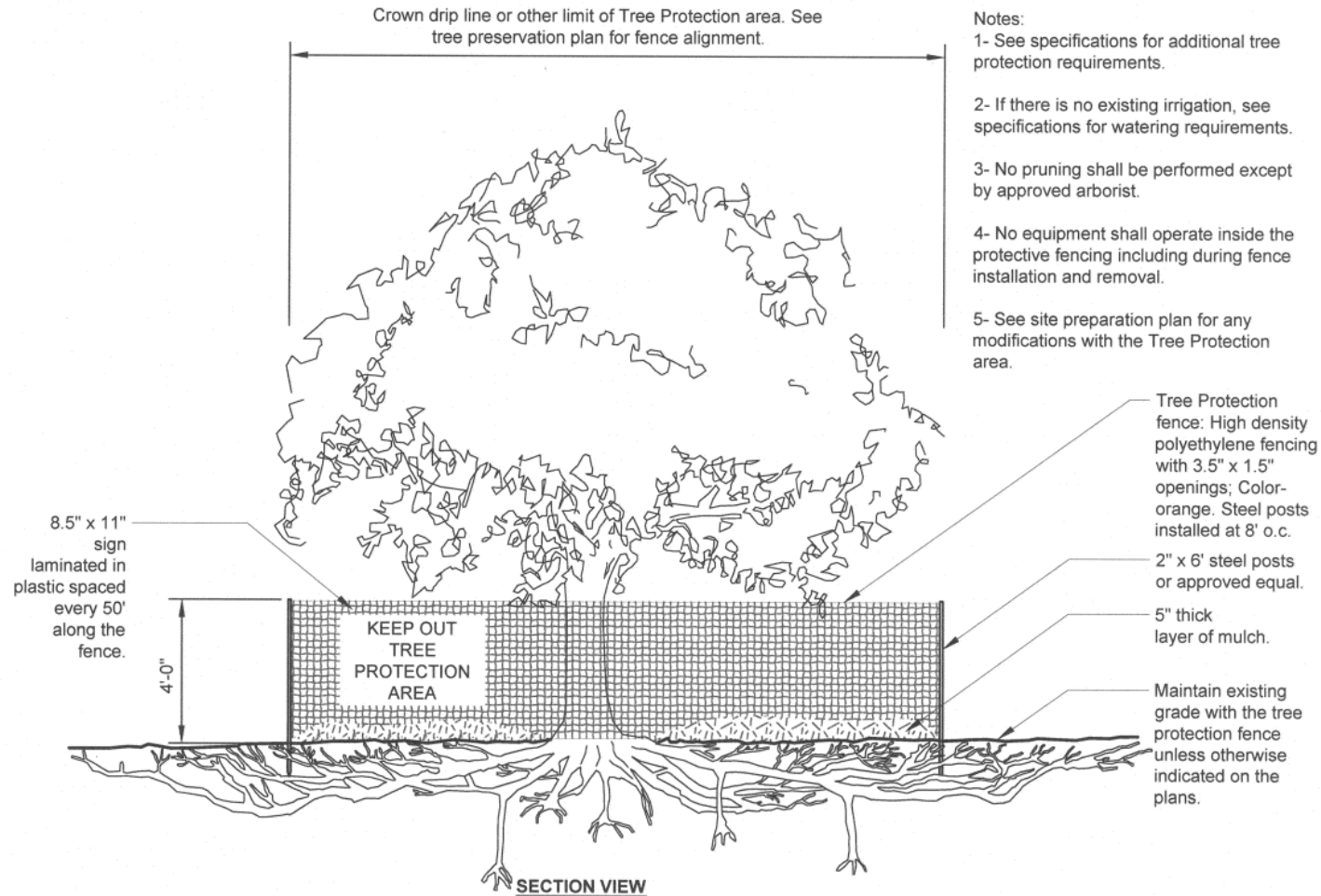
## Helpful Practices for Municipalities

1. Tree protection goals are project specific and considered during conceptual design.
2. “Boilerplate” specifications are established for tree protection on city projects – typical standard notes and detail.
3. Significant trees and/or healthy trees are identified during initial project survey and noted on site plan. Tree risk assessments are performed if necessary.
4. Protocols are in place to provide for coordination between urban forestry office and the project lead divisions – during design and construction.
5. Hire independent arborists for assistance.





# Draft Tree Protection Standards







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# Draft Tree Protection Standards

## DRAFT NOTE:

“Prior to mobilization, all trees to remain, as identified on the plans, shall be guarded by installing orange plastic fencing set into the ground using metal T-posts at the dropline of the tree, where possible. All building materials, dirt or other debris shall be kept outside the fenced tree protection areas. Any trees damaged beyond repair due to excavation or construction shall be replaced in the original location or as close to the original location as possible by the contractor, with tree species and size approved by the Division of Environmental Services. The fenced tree protection areas shall only be removed once the project is completed or by written approval by personnel in the Division of \_\_\_\_\_.”



## Path Forward

1. Develop dialogue between Environmental Services (DES) urban forestry staff and city divisions on this issue.
2. DES provides the standard note and detail and specifications for root pruning and other technical measures where trenching is unavoidable.
3. DES provides tree risks assessments and input to design teams as requested or recommends third party arborists.
4. DES provides inspection assistance as requested.
5. Initiate pilot program with Division of Engineering for higher level of involvement.



## Path Forward

5. Initiate pilot program with Division of Engineering for higher level of involvement.
  - Design Consultant shows Tree Protection Fencing on design plans with distance from tree marked.
  - Plans shall be reviewed by DES prior to bidding to ensure adequate Tree Protection Zones.
  - Tree Protection Fencing to be installed by contractor and inspected by DES prior to major construction beginning.
  - Onsite lead division inspector enforces tree protection during construction.
  - DES provides support to lead division during construction.
  - Protocols can be extended to other city divisions who bid or conduct construction projects.

# Questions?

