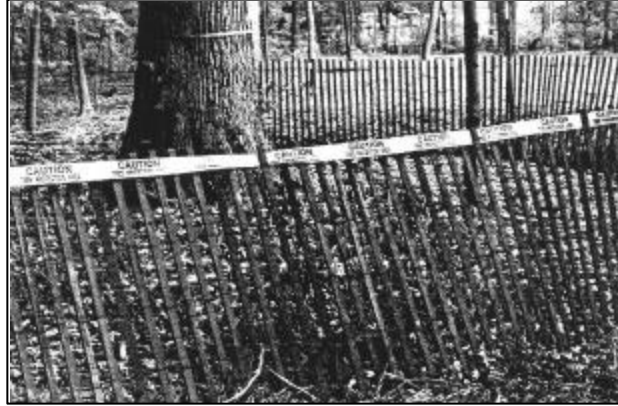


NATURAL RESOURCES CONSERVATION SERVICE
ILLINOIS URBAN MANUAL
PRACTICE STANDARD

TREE AND FOREST ECOSYSTEM PRESERVATION

(acre or sq. ft.)
CODE 984



(Source: IN Drainage Handbook)

DEFINITION

The preservation of contiguous stands of trees from damage during construction operations.

PURPOSE

The purpose of this practice is to preserve contiguous forested areas and stands of trees that have present and future value for erosion protection, wildlife habitat, landscape aesthetics, and other economic and environmental benefits.

CONDITIONS WHERE PRACTICE APPLIES

This practice applies on development sites containing stands of trees.

CRITERIA

The Critical Forest Edge Zone (CFEZ) is one foot outside the perimeter of the leaf canopy of the stand of trees to be protected. The area within the CFEZ

shall be protected from damage during construction operations.

All required protection measures shall be installed prior to the commencement of any site development activity and shall remain in place and in working, functional order until all site development activities have ceased or the surrounding area has been stabilized.

No construction activities shall be permitted within the CFEZ. In addition, all roadways, parking areas, and storage areas shall be located outside the CFEZ.

Construction fencing (florescent polyethylene laminar safety netting), wooden snow fence, or approved equivalent with a minimum height of 40 inches shall be installed around the CFEZ of all forested areas to be preserved, prior to pruning. The fencing shall be secured to ground-mounted metal or wood posts spaced a maximum of 6 feet apart and maintained to

prevent clearing, grading and development activities from encroaching within the CFEZ.

If a higher degree or more permanent protection is desired, a chain link fence following criteria in Construction Specification 91 CHAIN LINK FENCE, a wire fence following criteria in Construction Specification 92 FIELD FENCE, or a comparable wooden structure may be used.

Signs shall be posted which identify the enclosed areas as the CFEZ.

Appropriate soil erosion and sediment control measures shall be installed outside of the CFEZ to prevent sediment from reaching the CFEZ.

When utilities or other development features necessitate underground movement of the soil within the critical root zone, follow criteria in practice standard TREE PROTECTION - AUGERING 991. There shall be no trenching within the critical root zone of any tree within the protected area of the CFEZ. The critical root zone is defined as being one foot outside the perimeter of the dripline or leaf canopy of an individual tree.

Measures must be installed according to a site-specific plan and in accordance with all applicable local, state, and federal laws and regulations.

CONSIDERATIONS

Preserving and protecting trees and other natural plant groups often result in more stable soil and aesthetically pleasing development.

When working within the boundary of a municipality, local authorities such as

the Urban Forester, City Arborist, Municipal Forester or Horticulturist, or Public Works officials should be contacted to determine locally enforced tree protection/preservation standards.

Tree surveys should be required for all parcels that contain mature woodlands, groves, young woodlands or significant trees. Tree surveys should identify the location, size (caliper), species, and condition health rating of all trees having a diameter at breast height (DBH) of 12 inches or more. Property line and hedgerow trees should be included in the tree survey. Required tree surveys and inventories should be conducted by a certified arborist or a professional forester.

It is recommended that a professional forester review the pre-construction plan; supervise/inspect the on-site tree protection operation; and review the site for compliance during the post-construction phase.

It is recommended that a professional forester, licensed landscape architect, or an agency designee with biological, natural resource or environmental credentials select the trees to be preserved before siting roads, buildings or other structures.

If trees are to be removed, it is recommended that a professional forester should be present to supervise the tree removals to make recommendations to ensure the dropped trees minimize damage to protected trees. All trees to be removed will be recorded by stem diameter so that responsible party can conduct natural area mitigation by planting enough trees to replace the trees on at least one for one replacement schedule.

Complete removal of all the trees on site followed by total site compaction well beyond the project perimeter is not recommended.

For sites greater than 15 acres in size that are unique examples of biodiversity as identified by authorized agencies/commissions, or where the area will be greatly impacted by the project and no other viable option exists, a natural resources team consisting of a forester, soil scientist, and botanist should be formed to determine the alternative that least damages the resource.

The following features should be considered when developing sites in and around wooded areas:

1. Rare and endangered species
2. Historical or archeological significance
3. Quantity and quality of forested area in the county or local governmental area
4. Frailty of resources without existing trees
5. Potential for soil erosion with the absence of the forest cover
6. The loss of aesthetic quality of the site; existence of critical areas (such as flood plains, steep slopes, and wet lands)
7. Unique flora and fauna
8. Health and condition of the individual trees and the forest ecosystem
9. Loss of habitat and flora and fauna species diversity
10. Groups of trees to be saved on the erosion control plan

A mitigation plan for damaged trees should be prepared in consultation with a professional forester or certified arborist and included with construction plans and contract documents.

PLANS AND SPECIFICATIONS

Plans and specifications for tree and forest ecosystem preservation shall be in keeping with this standard and will describe the requirements for applying the practice. At a minimum include the following items:

1. Forested areas to be preserved.
2. Location and type of fencing to be used to protect the trees.
3. Locations of construction areas, traffic patterns and roadways, storage areas and parking pads, and the construction project in relationship to the CFEZ to be preserved.
4. Types and locations of signs.

All plans shall include the installation, inspection and maintenance schedules with the responsible person clearly identified.

Standard drawing IL-690 TREE PROTECTION - FENCING may be used as the plan sheet.

OPERATION AND MAINTENANCE

On active construction sites protected areas should be inspected at least every 7 days for compliance and any repairs made as needed.

The protective signs and fences shall be removed only after all construction work has been finished, including final grading and shaping of the site, and the site has been inspected by a professional forester for damages to the trees.

Inspections shall include a listing of trees with damage to trunks, mounding of soil around the trunk, evidence of root

damage, and evidence of improper pruning.

and John Hartman. University of Kentucky Agricultural Communications.

REFERENCES

NRCS IL April 2000

Website

urbst984.doc

<http://www2.champaign.isa-arbor.com/catalog/publications.html>

Publications

Clark and Metheny, 1998. Trees and Development: A Technical Guide to Preservation of Trees During Land Development. International Society of Arboriculture, Champaign, IL

Fazio, J.R., ed., 1991. How to Save Trees During Construction. Tree City USA Bulletin #7. The National Arbor Day Foundation, Nebraska City, NE

Fazio, J.R., ed., 1991. A Systematic Approach to Building With Trees. Tree City USA Bulletin #20. The National Arbor Day Foundation, Nebraska City, NE

Fazio, J.R., ed. 1996. How to Manage Community Natural Areas. Tree City USA Bulletin #27. The National Arbor Day Foundation, Nebraska City, NE

Videos

Root Injury and Tree Health. Illinois Arborists, the Morton Arboretum, the USDA Forest Service and the International Society of Arboriculture.

Effects of Construction Damage to Trees in Wooded Areas. Mark Timmons and John Hartman. International Society of Arboriculture.

Avoidance of Construction Damage to Trees on Wooded Lots. Mark Timmons