

# TABLE OF CONTENTS

## CHAPTER 14 TREE PRESERVATION

<u>NUMBER</u>	<u>SECTION</u>	<u>PAGE</u>
14.1	PURPOSE	14-1
14.2	GUIDELINES AND GENERAL INFORMATION	14-1
14.2.1	General	14-1
14.2.2	Survey Information Needed	14-1
14.2.3	Alignment	14-2
14.2.4	Tunneling or Boring	14-2
14.2.5	Selection & Location	14-2
14.2.6	Arborist	14-3
14.2.7	Utility Easements	14-3
14.2.8	Root Barrier	14-3
14.2.9	Replacement	14-3
14.2.10	Relocation	14-3
14.2.11	Construction	14-3

## **TABLE OF CONTENTS (cont.)**

### **CHAPTER 14 TREE PRESERVATION EXHIBITS**

<u>EXHIBIT</u>	<u>TITLE</u>	<u>PAGE</u>
14-1	COMMON ROOT STRUCTURES	14-4
14-2	DRIPLINE	14-5
14-3	TUNNEL OR BORE LENGTHS FOR TREE PROTECTION	14-6

# **CHAPTER 14**

## **TREE PRESERVATION**

### **14.1 PURPOSE**

MSD's objective is to preserve as many trees as possible during design and construction of facilities. Trees are beneficial to a community and provide an aesthetically pleasing environment. Trees reduce noise, purify the air, modify the climate, in most cases increase property values and provide wildlife habitats.

To meet these objectives, during the planning and design stages, the proposed routing of the facility must be carefully reviewed. The routing should avoid trees when possible and stay outside of the tree's dripline.

The Louisville and Jefferson County Planning Commission is further developing the following guidelines. The contents of this chapter are intended to be interim guidelines pending completion of the final document.

### **14.2 GUIDELINES AND GENERAL INFORMATION**

#### **14.2.1 General**

Generally, cutting the root of a tree within the dripline will reduce the tree's life support system by as much as 25%, outside the dripline only 5%. These percentages can vary with different species of trees.

Exhibit 14-1 shows the common root structure of trees. Exhibit 14-2 shows the dripline and root zones for trees.

#### **14.2.2 Survey Information Needed**

- a. Species of Tree (Use the Audubon Society Field Guide to North American Trees, Eastern Region).
- b. Size (DBH - Diameter at Breast Height).
- c. Value of the Tree ("Valuation of Trees in Kentucky" - KY Arborist Assoc., Inc.).
- d. Dripline (Diameter).
- e. Encroachment Allowed within the Dripline.

- f. Location
  - 1. All trees, 6-inches in diameter or greater, shall be located and the species given within 30-feet of the centerline of the pipe or 14-feet outside the top of slope of ditches.
  - 2. All trees less than 6-inches in diameter shall be located and species given, when within an existing or proposed sewer and drainage easement.
  - 3. When trees are grouped together, at a very close interval, locate the approximate center of the grouping and list the most dominant species of the group.

### **14.2.3 Alignment**

Pipelines and ditches shall be designed to meander around trees when possible, but necessary measures shall be taken to reinforce ditches in these meandering bends to prevent erosion. The use of the "Green Approach" to reinforce these bends is preferred. The "Green Approach" refers to the use of vegetative solutions to erosion rather than hard liners such as concrete, riprap or gabion, andrevet mattresses.

### **14.2.4 Tunneling or Boring**

- a. When within a dripline of a tree, consider boring or tunneling. A minimum of 2 feet to the top of the bore or tunnel is recommended. A distance of 3 feet to the top of the tunnel or bore for trees under 12 inches in diameter and 4 feet to the top of the tunnel or bore for trees 12 inches in diameter or more is preferred.
- b. For trees 6 inches in diameter and smaller at the DBH, the work pits wall for tunneling or boring should come no closer than the dripline of the tree or as shown on Exhibit 14-3.
- c. The side of the tunnel or bore shall be at least 2 feet from the outside of the tree.
- d. Most roots live in the top 18 inches of soil. However, root patterns vary depending on the species, size of the tree and the kind of soil. A test pit should be dug to determine if the tunnel or bore should be lowered or could be raised.

### **14.2.5 Selection & Location**

For the answer to "What tree to plant and where to plant it?" contact the City of Louisville's Arborist or Forester or another qualified Arborist.

#### **14.2.6 Arborist**

A qualified Arborist shall review all plans, where construction is to take place in a treed area. This plan review and a site visit should determine the effect of the project on the trees that are present. The Arborist should make recommendations on how to prevent or minimize tree damage.

#### **14.2.7 Utility Easements**

Do not replant trees within the utility or sewer and drainage easement without written permission from the utility for which the easement was granted.

#### **14.2.8 Root Barrier**

Use a root barrier device where necessary to prevent roots from causing damage to pavement or structures.

#### **14.2.9 Replacement**

Where removing a tree of significant size and if the property owner agrees, a note shall be placed on the plans stating that a replacement tree, 3-inch caliper, will be planted within the same property and outside the permanent easement.

#### **14.2.10 Relocation**

Where it is not possible to leave a tree in a permanent easement undisturbed, investigate the possibility of moving the tree outside the permanent easement upon agreement of the property owner.

#### **14.2.11 Construction**

- a. Protection of the bark of trees shall be prescribed by specifying a method of protection in the specifications or the special provisions.
- b. Protection of the tree's root system from compaction by construction equipment, vehicular parking, or excessive foot traffic shall be specified in the specifications or the special provisions.
- c. Design facilities to reduce the operating of vehicles, equipment, or parking within the dripline of all trees.

Blank Page

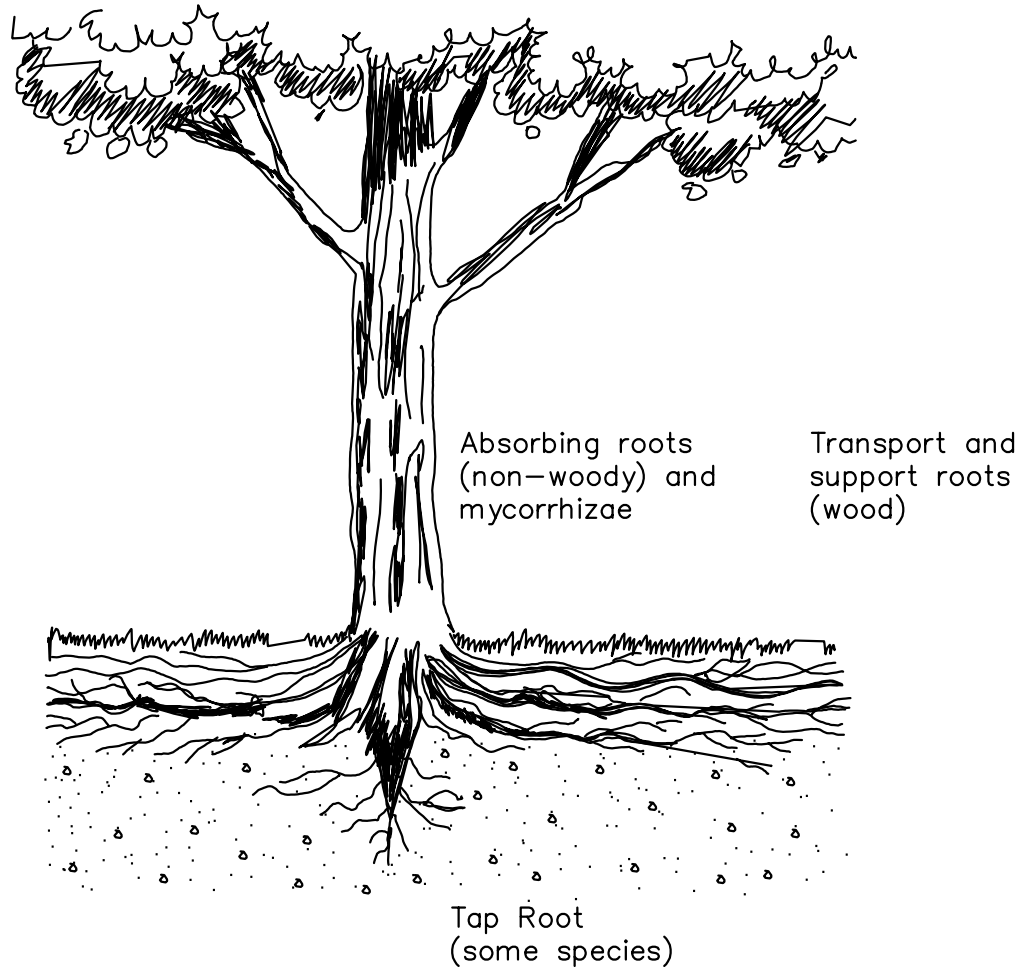


# MSD

Louisville and Jefferson County  
Metropolitan Sewer District

## EXHIBIT 14-1 COMMON ROOT STRUCTURE

EFFECTIVE DATE: JANUARY 1, 2001



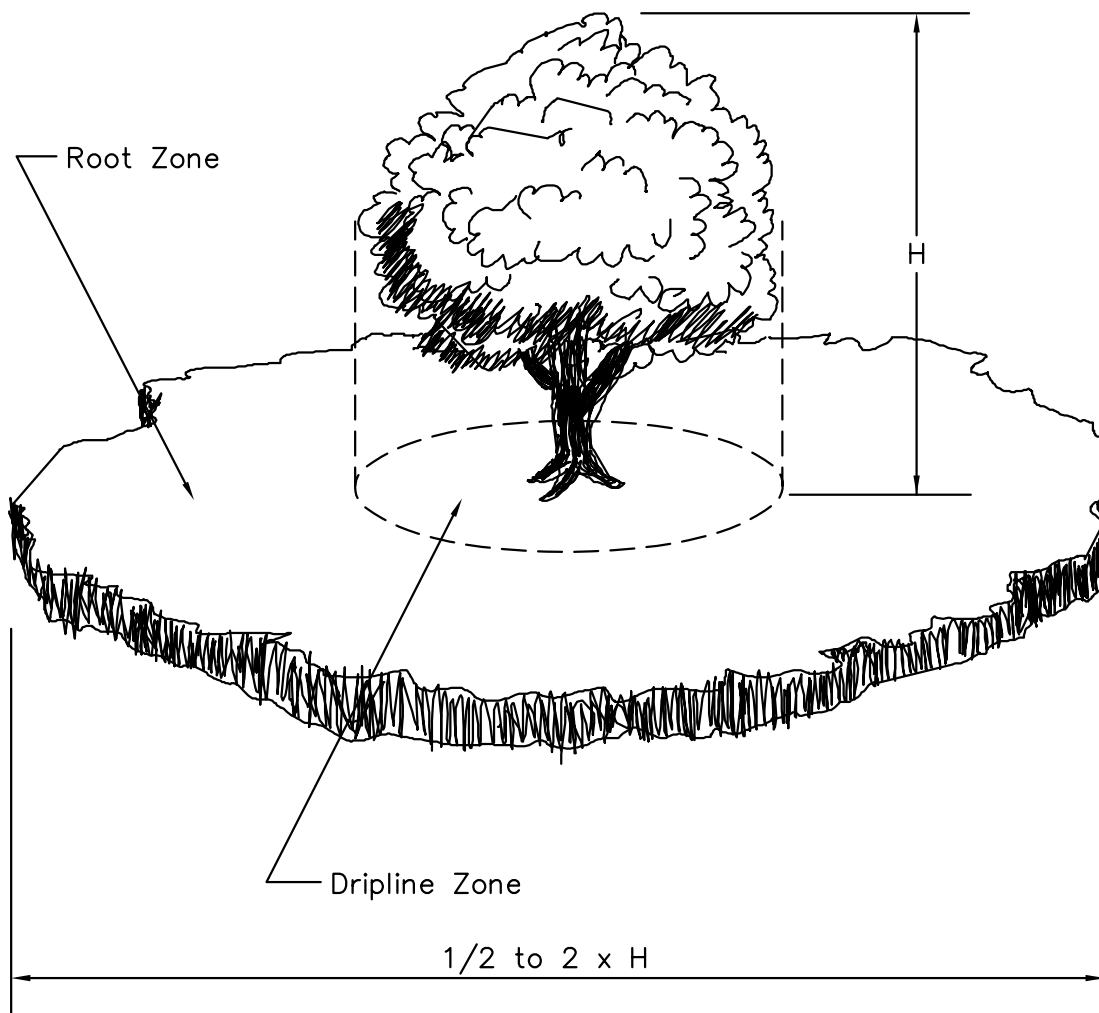


# MSD

Louisville and Jefferson County  
Metropolitan Sewer District

EXHIBIT 14-2  
DRIPLINE

EFFECTIVE DATE: JANUARY 1, 2001





# MSD

Louisville and Jefferson County  
Metropolitan Sewer District

## EXHIBIT 14-3 TUNNEL OR BORE LENGTHS FOR TREE PROTECTION

EFFECTIVE DATE: JANUARY 1, 2001

<u>Diameter</u>	<u>Distance "X"</u>
6"–9"	5–Feet
10"–14"	10–Feet
15"–19"	12–Feet
over 19"	15–Feet

