## OBJECTIVES

- Right Tree, Right Place
  - Eliminate or limit conflicts with urban infrastructure.
  - Avoid unnecessary tree maintenance costs.
  - Spacing between trees to optimize tree health.

## STREET TREES

### Residential street tree lawn

1. Suitable planting site must meet the following minimum distances and requirements:
   a. Tree lawn greater than 3 feet.
   b. 30 feet from an intersection or stop sign.
   c. 10 feet from driveway or fire hydrant.
   d. 5 feet from underground service or utility box.
   e. 10 feet from drip line of private tree overhanging the tree lawn.
   f. 15 feet from a streetlight.
2. Sites passing the minimum requirements are evaluated using the following standards to identify an acceptable planting site and determine acceptable tree size. Distances shall be measured from the most limiting site restriction.
   a. Large trees (greater than 50 feet at maturity)
      i. 10-foot or larger tree lawn.
      ii. No overhead primary or secondary utilities unless tree can be offset at least 25 feet.
      iii. 40-foot spacing between trees.
      iv. 30-foot building offset.
   b. Medium-sized trees (30-to-50-foot height at maturity)
      i. 5.1-to-9.9-foot tree lawn.
      ii. No overhead primary or secondary utilities unless tree can be offset at least 25 feet.
      iii. 30-foot spacing between trees.
   c. Small-sized trees (less than 30-foot height at maturity)
      i. 3-to-5-foot tree lawns.
      ii. 20-foot spacing between trees on residential streets.

### Arterial street tree lawn

1. Suitable planting site must meet the following minimum distances from itemized infrastructure:
   a. Tree lawn greater than 5 feet.
   b. 30 feet from an intersection or stop sign.
   c. 10 feet from driveway or fire hydrant.
   d. 5 feet from underground service or utility box.
   e. 10 feet from drip line of private tree overhanging the tree lawn.
   f. 15 feet from a streetlight.

2. Sites passing the minimum requirements are examined using the following guidelines to determine acceptable tree size. Distances shall be measured from the most limiting site restriction.

a. Large trees (greater than 50-foot height at maturity)
    i. 10-foot or larger tree lawn.
    ii. No overhead primary or secondary utilities unless tree can be offset at least 8 feet.
    iii. 45-foot spacing between trees.
    iv. 15-foot building offset for suitable root space.
b. Medium-sized trees (30-to-50-foot height at maturity)
    i. 5.1-to-9.9-foot tree lawn.
    ii. No overhead primary or secondary utilities unless tree can be offset at least 8 feet.
    iii. 45-foot spacing between trees.
c. Small-sized trees (less than 30-foot height at maturity)
    i. 45-foot spacing between trees on arterial streets.

**Tree pits (cut outs)**

1. Tree pits must meet minimum placement requirements from infrastructure.
2. Minimum 40-foot spacing between sites.
3. Minimum pit dimensions.
    a. New pit location projects -- 5 feet by 4 feet (length x width, parallel with street).
    b. Existing -- 4 feet by 3 feet (length x width, parallel with street).
4. Tree selection for planting
    a. Medium planting site – one-story building or 30-foot building offset.
    b. Small planting site -- multistory buildings, less than 30-foot building offset, 3-foot wide pit.
    c. Upright planting site -- requires upright tree form due to building offset.

**Tree islands** – parking lots & street medians

1. Large trees (greater than 50-foot at maturity)
    a. 10-foot or larger most limiting hardscape dimension.
    b. No overhead primary or secondary utilities unless tree can be offset at least 8 feet.
    c. 45-foot spacing between trees.
    d. 30-foot building offset.
2. Medium-sized trees (30-to-50-foot height at maturity)
    a. 5.1-to-9.9 most limiting hardscape dimension.
    b. No overhead primary or secondary utilities unless tree can be offset at least 8 feet.
    c. 35-foot spacing between trees.
3. Small-sized trees (less than 30-foot height at maturity)
    a. 3-to-5 most limiting hardscape dimension.
    b. 25-foot spacing between trees on residential streets.

**OPEN SPACE**

**Formal open space design**

Open spaces like parks still may have infrastructure that could limit tree planting so using the street tree standards is a good guide. Following the tree spacing recommendations will also favor tree health.

1. Suitable planting site must meet the following minimum distances and requirements:
    a. Most limiting hardscape dimension greater than 3 feet.
    b. 30 feet from an intersection or stop sign.
    c. 10 feet from driveway or fire hydrant.
    d. 5 feet from underground service or utility box.
    e. 10 feet from drip line of private tree overhanging the tree lawn.
    f. 15 feet from a streetlight.

2. Sites passing the minimum requirements are evaluated using the following standards to identify an acceptable planting site and determine acceptable tree size. Distances shall be measured from the most limiting site restriction.
    a. Large trees (greater than 50-foot at maturity)
        i. 10-foot or larger most limiting hardscape dimension.
        ii. No overhead primary or secondary utilities unless tree can be offset at least 8 feet.
        iii. 40-foot spacing between trees.
        iv. 30-foot building offset.
    b. Medium-sized trees (30-to-50-foot height at maturity)
        v. 5.1-to-9.9 most limiting hardscape dimension.
        vi. No overhead primary or secondary utilities unless tree can be offset at least 8 feet.
        vii. 30-foot spacing between trees.
    c. Small-sized trees (less than 30-foot height at maturity)
        viii. 3-to-5-foot most limiting hardscape dimension.
        ix. 20-foot spacing between trees.

**Grouping trees**

Grouping trees within a space is also an appealing natural design that enhances wildlife habitat and reduces lawn maintenance needs. Spacing between respective sized trees, large, medium and small should be maintained, but the spacing between trees is sacrificed.

- Large trees (greater than 50-foot at maturity)
    - 40-foot spacing between large trees.
- Medium-sized trees (30-to-50-foot height at maturity)
    - 30-foot spacing between medium trees.
- Small-sized trees (less than 30 feet height at maturity)
    - 20-foot spacing between trees.

**Forestation**

Forestation of a space with saplings is the most cost-effective method to reforest an area. Contact your N.C. Forest Service county ranger for guidance.