

# Columbus Recreation and Parks Department

## Tree Mitigation Guidelines

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### 1. Purpose

Because of the value of trees in Columbus, and in an effort to achieve City urban forestry goals, the City of Columbus takes removal of Public Trees seriously. For this reason, if a removal is approved, steps will be required to make up for the loss of that tree – a practice that is termed Tree Mitigation.

Mitigation can take the form of replanting, payment into the Tree Fund, or a combination of both. Mitigation requirements vary depending on the application of the Columbus Tree Technical Manual (TTM) or the Executive Order 2015-01. The purpose of this document is to provide guidance on applying tree mitigation to Forestry Permit applicants, arborists, Natural Resource Professionals (NRPs), contractors, plan reviewers, and others.

### 2. Important Documents

Columbus Tree Technical Manual (TTM): <https://columbusrecparks.com/nature/urban-forestry/tree-technical-manual/>

Executive Order 2015-01: <https://columbusrecparks.com/wp-content/uploads/2025/03/Executive-Order-2015-01.pdf>

Tree Risk Assessment Manual (Second Edition or later)

### 3. Application of Mitigation by Policy

Previous Tree Mitigation and protection requirements under the 2015 Executive Order will apply to public and private projects that have submitted for first review of final site compliance, CC (stormwater management and sanitary sewer) plan, or E (street construction) plan; or private projects that have held a preliminary site compliance meeting, or have previously signed plans by August 1, 2024.

The TTM provisions are in full force and effect for:

1. Projects occurring outside Plan Review (as defined in TTM Section 3.3) that occur on or after August 1, 2024.

2. Projects undergoing Plan Review (as defined in TTM Section 3.2) if:

- The plan for a public project (CIP/3P/UIRF/DOW/DOP/DOSD) has not yet submitted the first plan submission for review by August 1, 2024.
- A private project has not yet submitted a final site compliance plan, a stormwater management and sanitary sewer plan ("CC"), or a street construction plan ("E") OR has not yet had a preliminary site engineering meeting by August 1, 2024.
- A project with previously signed plans has not been initiated by August 1, 2027, OR 12 months from final site compliance plan approval, whichever comes first.

All public tree removals must either install replacement trees as required by the Executive Order or the TTM, provide a Fee-in-Lieu contribution to the Tree Fund, or a combination of planting and fee. The Fee-in-Lieu is based on the size of the tree diameter at standard height (DSH) multiplied by the standard cost per inch of replacement trees, which is established by Columbus Recreation and Parks Department, Division of Forestry. The current replacement cost is calculated at \$260 per removed inch.

#### 4. Comparison of Requirements by Policy

Below is a comparison and quick reference guide of the requirements for the Executive Order versus the TTM. For more detailed information, please see the TTM.

Note that in the Executive Order:

- Invasive species are not exempt from mitigation. There is no deduction based on an invasive species.
- Trees are either alive or dead. There is no deduction based on tree condition.
- The threshold for mitigation is a 2" DSH tree.

|                                     | <b>Executive Order</b>                                                                                                                                                 | <b>Tree Technical Manual (TTM)</b>                                                                          |
|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| <b>Type of Required Plan Review</b> | Tree Replacement Plan                                                                                                                                                  | Public Tree Plan<br>(see Sections 2, 3 & 4)                                                                 |
| <b>Tree Inventory Collection</b>    | Consultant shall include species, location and size of trees within construction limits of project. Requirements for people collecting tree information are undefined. | Natural Resources Professional (NRP)<br>Tree information collected by NRP is subject to review by Forestry. |
| <b>Invasive Species Exemption</b>   | None                                                                                                                                                                   | 50% deduction in maintained landscaped areas or right-of-way.<br><br>100% deduction in naturalized areas.   |

|                                                            |                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                            |
|------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>How tree health affects mitigation</b>                  | Alive versus dead                                                                                                                                                                                                                                                          | Reductions in tree health qualify for deductions.                                                                                                                                                                                                                          |
| <b>Minimum threshold size to qualify for mitigation</b>    | 2" – regardless of location                                                                                                                                                                                                                                                | Any size in maintained landscaped areas or right-of-way.<br>4" in naturalized areas OR volunteer trees that are impacting infrastructure – see Section 5.4f.                                                                                                               |
| <b>Replant minimum caliper</b>                             | 2.5"                                                                                                                                                                                                                                                                       | 2" (see Section 5)<br><br>All planting standards (see Section 7)<br><br>7.10 Establishment warranty period                                                                                                                                                                 |
| <b>Large-scale Project mitigation greater than 2 acres</b> | Undefined                                                                                                                                                                                                                                                                  | See Section 5.4                                                                                                                                                                                                                                                            |
| <b>Tree planting inspection fees</b>                       | None                                                                                                                                                                                                                                                                       | Required for mitigation replanting (see Section 5.5)                                                                                                                                                                                                                       |
| <b>Fee-in-lieu</b>                                         | No exemptions for Executive Order or TTM after August 1, 2024. Trees removed or damaged beyond their ability to recover are eligible for option to contribute to The City of Columbus Tree Fund (\$260 per inch DSH of affected tree in place of replanting requirements). | No exemptions for Executive Order or TTM after August 1, 2024. Trees removed or damaged beyond their ability to recover are eligible for option to contribute to The City of Columbus Tree Fund (\$260 per inch DSH of affected tree in place of replanting requirements). |

Table 1. Comparison of requirements between the Executive Order and TTM.

## 5. Tree Mitigation by Policy

Ultimately, the Columbus Recreation and Parks Department, Division of Forestry, will make the final determination on every valuation assigned to tree mitigation projects. Inspecting arborists shall make every care to be judicious in application of requirements; conservative with respect to values; generous with respect to deductions granted; consistent from case to case; and predictable based on the values and conditions outlined herein and with respect to the Executive Order and TTM provisions.

Mitigation replanting and fee-in-lieu comparison between the Executive Order and TTM are shown below:

| Diameter<br>Standard Height<br>(DSH) in inches | Executive Order<br>Quantity of 2.5"<br>trees required | TTM - Quantity of<br>2.0" Installs required | Alternative to tree planting –<br>Tree Fund Contribution<br>Required (DSH x \$260) |
|------------------------------------------------|-------------------------------------------------------|---------------------------------------------|------------------------------------------------------------------------------------|
| 1"                                             | 1:1                                                   | 1                                           | \$260                                                                              |
| 2"                                             | 1:1                                                   | 1                                           | \$520                                                                              |
| 3"                                             | 1:1                                                   | 2                                           | \$780                                                                              |
| 4"                                             | 1:1                                                   | 2                                           | \$1,040                                                                            |

|     |     |    |          |
|-----|-----|----|----------|
| 5"  | 1:1 | 3  | \$1,300  |
| 6"  | 1:1 | 3  | \$1,560  |
| 7"  | 1:1 | 4  | \$1,820  |
| 8"  | 1:1 | 4  | \$2,080  |
| 9"  | 1:1 | 5  | \$2,340  |
| 10" | 1:1 | 5  | \$2,600  |
| 11" | 1:1 | 6  | \$2,860  |
| 12" | 1:1 | 6  | \$3,120  |
| 13" | 2:1 | 7  | \$3,380  |
| 14" | 2:1 | 7  | \$3,640  |
| 15" | 2:1 | 8  | \$3,900  |
| 16" | 2:1 | 8  | \$4,160  |
| 17" | 2:1 | 9  | \$4,420  |
| 18" | 2:1 | 9  | \$4,680  |
| 19" | 3:1 | 10 | \$4,940  |
| 20" | 3:1 | 10 | \$5,200  |
| 21" | 3:1 | 11 | \$5,460  |
| 22" | 3:1 | 11 | \$5,720  |
| 23" | 3:1 | 12 | \$5,980  |
| 24" | 3:1 | 12 | \$6,240  |
| 25" | 4:1 | 13 | \$6,500  |
| 26" | 4:1 | 13 | \$6,760  |
| 27" | 4:1 | 14 | \$7,020  |
| 28" | 4:1 | 14 | \$7,280  |
| 29" | 4:1 | 15 | \$7,540  |
| 30" | 4:1 | 15 | \$7,800  |
| 31" | 5:1 | 16 | \$8,060  |
| 32" | 5:1 | 16 | \$8,320  |
| 33" | 5:1 | 17 | \$8,580  |
| 34" | 5:1 | 17 | \$8,840  |
| 35" | 5:1 | 18 | \$9,100  |
| 36" | 5:1 | 18 | \$9,360  |
| 37" | 5:1 | 19 | \$9,620  |
| 38" | 5:1 | 19 | \$9,880  |
| 39" | 5:1 | 20 | \$10,140 |
| 40" | 5:1 | 20 | \$10,400 |
| 41" | 5:1 | 21 | \$10,660 |
| 42" | 5:1 | 21 | \$10,920 |
| 43" | 5:1 | 22 | \$11,180 |
| 44" | 5:1 | 22 | \$11,440 |
| 45" | 5:1 | 23 | \$11,700 |
| 46" | 5:1 | 23 | \$11,960 |
| 47" | 5:1 | 24 | \$12,220 |

Table 2. Mitigation replanting and fee-in-lieu comparison between the Executive Order and TTM.

## 6. Tree Technical Manual Mitigation Rate Specifics

For more information, refer to TTM Section 5.4.

### 6a. Tree Conditions and Deductions

The following observations should be used when determining whether a tree's condition qualifies for a mitigation deduction. The observations are examples and may not be all-inclusive. The NRP should note their observations if a mitigation deduction is proposed, these observations can be noted within the Public Tree Data Table; all mitigation deductions are at Forestry's discretion.

| Tree Condition           | Mitigation Deduction | Observations                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|--------------------------|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Good                     | None                 | <ul style="list-style-type: none"> <li>• 100-90% live canopy</li> <li>• No more than 10% wind damage</li> <li>• Normal amount of deadwood for the species</li> <li>• No visible or recent structural damage or defects</li> <li>• No observable root damage</li> </ul>                                                                                                                                                                                              |
| Fair                     | None                 | <ul style="list-style-type: none"> <li>• 90-75% live canopy</li> <li>• Minor visible damage to roots or trunk</li> <li>• 10-25% deadwood present for that species</li> <li>• Some defects, but no structural defects that pose an imminent threat to failure</li> <li>• No visible decay</li> </ul>                                                                                                                                                                 |
| Poor                     | 50%                  | <ul style="list-style-type: none"> <li>• 75-30% live canopy</li> <li>• Visible structural defects</li> <li>• Significant decay. Fungal bodies, basal decay, root rot, or cavities present</li> <li>• Canopy, trunk, or root collar damage</li> <li>• Evidence of previous storm damage, including previous branch failures</li> <li>• Evidence of excavation damage</li> <li>• Dead or missing bark</li> <li>• Lightning damage</li> <li>• Stem girdling</li> </ul> |
| Invasive                 | 50%                  | <ul style="list-style-type: none"> <li>• Invasive species in maintained landscape areas that are in good or fair condition</li> </ul>                                                                                                                                                                                                                                                                                                                               |
| Invasive                 | 100%                 | <ul style="list-style-type: none"> <li>• Invasive species in naturalized areas, any condition</li> </ul>                                                                                                                                                                                                                                                                                                                                                            |
| Poor and Invasive        | 75%                  | <ul style="list-style-type: none"> <li>• Invasive species in maintained landscape areas that are in poor condition</li> </ul>                                                                                                                                                                                                                                                                                                                                       |
| Dead, Dying or Hazardous | 100%                 | <ul style="list-style-type: none"> <li>• Dead</li> <li>• Hazard to public or private property</li> </ul>                                                                                                                                                                                                                                                                                                                                                            |

Table 3. Tree Conditions and Mitigation Deductions.

### 6b. Mitigation when trees and stumps have been removed, with iTree Canopy

In cases where mitigation is required, but trees and stumps have already been removed, it is necessary to estimate the area of tree canopy lost and its ecological value using [i-Tree Canopy](#). The inspecting arborist will use this tool to define the extent of the clearing, assess aerial imagery at sample points within this extent for canopy cover, then generate a report containing estimated dollar values of

ecological benefits provided by the area of canopy that was cleared. The more sample points assessed, the smaller the standard error (SE) of the estimate. Therefore, the inspecting arborist will assess enough sample points to reduce SE to less than 5%, to produce a confident estimate of canopy lost. iTree Canopy re-calculates SE with each sample point assessed, so the arborist can monitor throughout their assessment when the threshold SE has been reached. The arborist will then generate the project report that will provide a dollar value of 'Carbon Stored' and will be the basis for the mitigation fee to be assessed.