Defining Quality:
How to write contract specifications to obtain the best tree specimens for your project

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Overview of Project Specifications

- Part of contract documents and requirements
- Include references to industry standards and guidelines
- Define Scope of Work
- Define benchmarks, standards, and key terminology/jargon
- Define warranty and maintenance period
- Should be coordinated with plans and details
- Are clear and enforceable
- Protect owners, clients, designers, and contractors
- Templates and open-source specifications are available from ISA and the Urban Tree Foundation
- Should VS Shall
- Do not take anything for granted!!!
What went wrong!?
Typical Reference Standards

- ANSI A300 – American National Standard for Tree Care Operations
- ANSI Z60.1 – American Standard for Nursery Stock
- Plant nomenclature standards –
  - Hortus
  - Dirr
Define Contractor Submittals

- Nursery sources, address, and contact information
- Plant photos
- Manifest indicating species, quantity, and sizes from each source
- Written notification/request for substitutions (if acceptable)
- 48 hour notice, preferably written (email/fax) of commencement of planting
- Warranty information
Indicate Planting Season & Restrictions

- Plants typically should be dug in dormancy (Fall or Spring unless special techniques are employed for summer digging)
- Some jurisdictions have specific planting windows/dates for planting. Occasionally they vary for broadleaf and evergreen trees (DC/DDOT) – verify local requirements and talk with Urban Forester/Arborist
- Heel in and properly store plants if not immediately installed/transplanted
- Plants should be freshly dug during the most recent favorable harvest season
Defining Required Tree Qualities

- Key highlights/requirements:
  - True to species and variety
  - Grown and harvested in accordance with good horticultural practices by Industry Standards (as referenced in spec)
  - Specimen quality (where appropriate)
  - Shall conform to measurements specified in plans/plant schedule
  - Define how to measure tree caliper (ISA or ANSI Z60.1)
  - State if substitutions are acceptable or not, or will be considered
Root ball

- Key highlights/requirements:
  - Properly dug per ANSI Standards
  - Firm in-tact root ball, sized per ANSI standards (ratio to diameter of trunk)
  - Wrapped with non-synthetic materials (e.g. degradable materials)
  - Remove wire basket and twine to prevent girdling roots/damage to trunk (per ISA detail)
  - Visible root collar (and trunk taper for larger DBH trees)
  - Structural root depth per industry standards (3” from surface)
  - Avoid obvious root defects
  - If quality of root stock is in question - consider sacrificial/destructive root investigation on several representative trees
Root ball

Container tree
Root flare
Top most root
Top of root ball

Root ball
Root ball – Planted too deeply

Top of root ball

Top of root system
Root ball – Root circling
# Root ball – Container undersized

## Table

<table>
<thead>
<tr>
<th>Trunk Caliper (Inches)</th>
<th>Min ball diameter on <strong>field</strong> grown shade trees</th>
<th>Min root ball diameter on <strong>fabric container</strong> grown trees</th>
<th>Min <strong>container</strong> size (gallons)</th>
<th>Min tree height on standard trees</th>
<th>Min tree height on slower grown trees</th>
<th>Max tree height</th>
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<tbody>
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Reference current ANSI Standards for Ratios
Pruning

• No heavy pruning at time of planting
• Central leader should be intact
• Co-dominant leaders should be subordinated by proper pruning techniques at the nursery, per ANSI standards and ISA Best Practices for pruning.
• Remove only dead/damaged branches after installation (unless directed otherwise due to wind loading concerns, etc.), except as needed to establish clear height requirements (for walks/visibility, etc.)

Flush cut

Good cut

Good
Poor
Inspections

- List requirements/desire for nursery/plant inspection:
  - Specify location – at nursery or project site? Both?
  - Timing – 48 hours advance notice (min) required
  - Some jurisdictions require officials to inspect plants – confirm local requirements and incorporate into specs
  - Right to, and terms of, rejection of materials (at cost to owner vs. at no cost to owner)
  - Option for destructive/sacrificial root investigation (if quality/nursery practices are in question - should compensate grower accordingly)
Tree ID and Tagging

• Plants should be labeled with durable, waterproof materials
• Tags shall include the common and scientific name, with cultivar information or an ID number corresponding to manifest
• Tags remain throughout the warranty period and should be attached in such a manner as to prevent any damage to trunk and branches during the initial maintenance and warranty period
• North-facing side of tree should be indicated (often with a 1-2” white dot painted at the base of the trunk) for reference when planting
Don’t forget…

Tree stabilization and protection  Proper maintenance and watering
Thank you!

Any Questions?

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