TOWN OF YARROW POINT

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CODE INTERPRETATION

ROOT PROTECTION ZONE (RPZ) REQUIREMENTS DURING CONSTRUCTION PROJECTS

REQUEST SUMMARY

Where should tree protection fencing be placed during construction projects? YPMC 20.22.120(A) and (B) require tree protection fencing to be installed (1) "as agreed upon by relevant parties," (2) "along all clearing limits just outside of a tree's root protection zone (RPZ)," and (3) "approved by town staff," creating potential conflicts in implementation.

INTERPRETATION

The Root Protection Zone (RPZ) serves as a starting point for tree protection analysis rather than an absolute requirement for fence placement. Town staff will work with project applicants and qualified professionals representing the project to determine appropriate tree protection fencing locations using industry best practices, considering site-specific conditions, tree health, and construction requirements. When circumstances warrant adjustment from the calculated RPZ, documentation from a qualified professional is required to justify alternative protection measures.

CONTEXT, FACTS, AND FINDINGS

Definition and Purpose of Root Protection Zone

YPMC 20.22.020(K) defines "Root protection zone" or "RPZ" as "the ground area around a tree with one foot of radius in all directions for each inch of DSH." This calculation provides a baseline protection area that corresponds to the area where the majority of a tree's structural and absorbing roots are located.

The RPZ concept aligns with International Society of Arboriculture (ISA) standards, which recognize that tree roots typically extend beyond the drip line, with both structural and fine roots extending throughout an area roughly equivalent to one foot per inch of trunk diameter.

Code Requirements and Practical Application

YPMC 20.22.120(B)(1) requires tree protection fencing to be "installed along all clearing limits just outside of a tree's root protection zone (RPZ)." However, strict application of this standard can create several challenges:

1. Oversized Protection Areas - Large trees can have RPZ calculations that extend well beyond what is necessary for preserving tree health and stability. As trees grow larger, the 1-foot-to-1-inch DSH ratio provides diminishing returns for tree protection after a certain point, potentially prohibiting reasonable property development or construction access.

2. Off-Site Tree Impacts - Trees located on adjacent properties with large RPZ

calculations could theoretically prohibit construction activities on neighboring lots, even when the trees are not at risk.

3. Site-Specific Conditions - Soil conditions, limited or restricted rooting area, existing infrastructure, tree species characteristics, and construction methods may warrant modified protection approaches that better balance tree preservation goals with site construction.

4. Practical Construction Needs - Rigid adherence to calculated RPZ boundaries may prevent necessary construction access or utilities installation while not providing meaningful additional tree protection.

Industry Best Practices and Flexibility

The International Society of Arboriculture (ISA) publishes Best Management Practice to guide arboricultural practice. The BMP for managing trees during construction recognizes that tree protection measures require site-specific assessment rather than universal application of calculated tree protection or root protection zones. Factors that qualified professionals may consider when recommending modified protection zones include:

- Individual tree species, age, health and structural condition
- Existing site characteristics like topography, hardscape, infrastructure, other trees/vegetation, and utility locations
- Root system architecture and distribution based on visual evaluation or exploratory excavation
- Construction methodology, equipment access and materials staging requirements
- Seasonal timing of construction activities
- Available space for protection measures

Implementation Guidelines

To address these competing requirements while maintaining tree protection effectiveness, the Town applies the following approach:

1. Default Requirement: Tree protection fencing shall be installed at the edge of the calculated RPZ unless existing, not proposed, site conditions warrant modification.

2. Professional Assessment: When applicants propose to reduce the RPZ protection area, they must provide documentation from a qualified professional (as defined in YPMC 20.22.020(J)) that:

a. Evaluates the specific tree(s) and site conditions
b. Recommends appropriate protection measures based on current ISA best practices.
c. Considers tree health, species tolerance to construction disturbance, soil conditions, and anticipated construction impacts
d. Provides justification for any recommended modifications to the calculated RPZ

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3. Town Review: The Town arborist, third party or other designated staff will review professional recommendations and approve alternative protection measures when they are:

a. Consistent with current ISA best management practices
b. Appropriate for the specific tree species, size, health, and location
c. Reasonable given existing site conditions and construction requirements
d. Likely to achieve the tree protection goals established in YPMC 20.22.010

4. Documentation Requirements: All approved modifications to RPZ protection areas must be documented in the tree protection plan and approved by town staff prior to commencement of construction activities.

Applicable Code Sections:
- YPMC 20.22.010 - Title, purpose, and intent
- YPMC 20.22.020(J) - Qualified professional definition
- YPMC 20.22.020(K) - Root protection zone definition
- YPMC 20.22.120 - Tree protection during construction

Related Resources:
- International Society of Arboriculture Best Management Practices: Managing Trees During Construction, Soil Management for Urban Trees, Root Management, Tree Risk Assessment
- ANSI A300 Professional Standards for Tree and Shrub
- "Tree Protection on Construction and Development Sites: A Best Management Guidebook for the Pacific Northwest"