



Standard Operating Procedure (SOP): Construction Tree Protection

Purpose:

To provide the Departments of Parks & Recreation and Public Works staff with clear procedures for tree protection during construction as directed by Ordinance 25-4, Tree Preservation.

Scope:

This SOP applies to all city-sponsored construction projects per Ordinance 25-4.

Intent:

This Standard Operating Procedure (SOP) applies to all public trees identified to be preserved and protected within the limits of construction or disturbance as defined in Ordinance 25-4. Tree protection measures are taken before and during construction to avoid negative impacts to trees and root systems associated with construction activities. Such measures provide guidance and best management practices to the Contractor to protect trees during construction.

Related Documents:

- City Ordinance 25-4 Tree Preservation (update with approved title)
- ANSI A-300 Standards
 - Part 5 – Management of Trees and Shrubs During Site Planning, Site Development and Construction (current version)
 - Part 8 – Root Management (current version)
- International Society of Arboriculture Best Management Practices
 - Managing Trees During Site Development and Construction (current version)
 - Root Management (current Version)
- City Governing Specification for Construction (current version)
- City Standard Plate 6001 Tree Protection (current version)
- MnDOT Specification 2572 Protection and Restoration of Vegetation (current version)
- Federal Public Right-of-way Accessibility Guidelines (PROWAG)



This SOP is organized according to project phase including:

- Design/Planning Phase
- Pre-Construction Phase
- Construction Phase
- Boulevard Restoration/Tree Planting Phase

Design/Planning Phase

Consultant Arborist:

A consultant will be hired during the design phase. The Consultant Arborist must be an ISA Certified Arborist and pre-approved by Parks Forestry. Consultant Arborist work to be funded by the city sponsored project.

Tree Preservation Plan (TPP):

A TPP will be developed during the Design Phase by the department responsible for the project in consultation with the Parks Forestry or Consultant Arborist. TPP's will be reviewed by Parks Forestry for approval. The TPP shall include the following and will be incorporated into the construction plans and contract documents:

- The identity of the city department(s) responsible for the Public Infrastructure project.
- Delineation of existing buildings, structures, impervious surfaces, utilities, and other site improvements situated in the limits of construction/disturbance.
- Delineation of all areas to be excavated, graded and otherwise subject to land disturbance in the limits of construction/disturbance of the Public Infrastructure project.
- Location, species (botanical name), diameter at breast height (DBH), condition, and Critical Root Zone (CRZ) of all trees located within the limits of construction/disturbance. The Tree Protection Zone (TPZ) for each tree intended for preservation must be noted on the TPP.
- Tree protection measures as outlined in the Tree Protection Section of this ordinance.



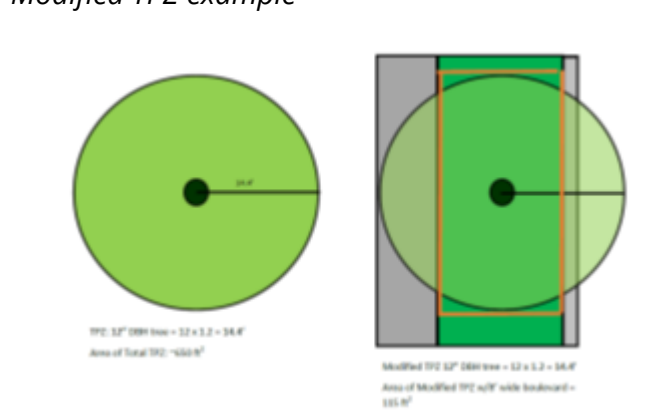
Plant Growth Regulators (PGR):

PGR's may be considered for public trees within the limits of construction/disturbance as designated by Parks Forestry. Any recommended PGR treatments will be applied during the growing season prior to construction and funded by the city sponsored project.

Modified TPZ:

A TPZ that is adjusted in size or shape to accommodate the existing infrastructure, planned construction, and specific aspects of the site, as well as the canopy conformation, visible root orientation, size, condition, maturity, and species response to construction impacts.

Modified TPZ example



Encroachment in TPZ:

Parks Forestry or Consultant Arborist will be notified by the Project Manager of any proposed encroachments into the TPZ of any protected tree prior to disturbance.

Parks Forestry or Consultant Arborist will make-the final determination of allowed encroachment into the TPZ of any protected tree in accordance with the intent of the ordinance and standard operating procedures.



Pre-Construction Phase

Tree Removals:

Trees identified for removal during the Design Phase will be completed by a city licensed tree contractor following the Forestry Tree Work Permit process. The contractor will be hired through the city sponsored project prior to construction. To meet the United States Fish and Wildlife Service and Minnesota Department of Natural Resources requirements for Northern Long-eared Bat and Migratory Bird protected species, removals will occur November - March, with an April 14th deadline for bats.

Tree Pruning:

Trees designated for preservation will be pruned for standard road clearance and completed by Parks Forestry or a licensed tree contractor. Pruning to be completed by a licensed contractor following the Forestry Tree Work Permit process. Pruning will be performed during the dormant season prior to construction (November–March) to reduce the possibility of disease transmission. ANSI A-300 standards and the International Society of Arboriculture (ISA) Best Management Practices will be followed. Tree pruning will be funded by the city sponsored project if performed by the licensed tree contractor.

Pre-construction Meetings:

A mandatory In-Person/Teams Meeting will be organized by the Project Manager and include the following attendees: Project Manager, Contractor, subcontractors (i.e. fencing, erosion control, restoration and landscaping), Utility Contractors, Consultant Arborist, and Parks Forestry

- The Consultant Arborist or Parks Forestry will provide required tree protection standards to all parties.
- A mandatory field meeting will be organized by the Project Manager and include the following attendees: Project Manager, Contractor, Utility Contractors, subcontractors, and Consultant Arborist or Parks Forestry
- Onsite meeting to review potential impacts to trees designated for preservation and TPZ requirements.



Tree Protection Fencing:

Fencing must be installed by the Contractor and approved by the Consultant Arborist or Parks Forestry through a field review prior to utility work or construction commencing. Installation will follow the Tree Preservation Plan, ANSI A-300 Standards and city Standard Plate 6001 - Tree Protection. Tree protection to be funded by the city sponsored project. Corrections to tree protection will be provided to the Contractor and Project Manager in writing by the Project Manager. The Contractor must make modifications to tree protection fencing prior to continuing the Work or construction near the tree protection area. If the contractor fails to cure the issue within one working day, the City can perform the work and bill the contractor.

Tree Protection Signage:

Signage must be installed on fenced TPZ's. A template will be developed by Parks Forestry and provided to the Contractor by the Project Manager.

Construction Phase

The following must stay out of the modified TPZ of any public tree:

- Equipment and Material Staging Areas
- Storage Areas
- Stockpiles
- Access Routes
- Equipment Cleaning Areas

The following work must be reviewed and approved by Parks Forestry or Consultant Arborists prior to work within the modified TPZ of any public tree:

- Subcontractor work
- Private utility work
- Public utility work

Weekly Construction Meetings:

Meetings will cover compliance with the Tree Protection Plan and tree protection reports, efforts, violations, corrections, and any modifications to the plan. Parks Forestry or Consultant Arborist will provide feedback and direction on tree protection efforts.



Contractor to provide two-week outlook on work areas with plans for tree protection. Weekly meeting notes will be documented and shared by the Project Manager with the Contractor, Parks Forestry and Consultant Arborist.

Tree Protection Reports:

Weekly reports will be provided by the Parks Forestry or Consultant Arborist, that cover tree protection inspections and required corrections. Any required-changes to the tree protection fencing will be provided in writing and corrected by the Contractor within 1 working day after notification. No work can commence near the Modified TPZ until corrective measures are completed and approved by Parks Forestry or Consultant Arborists.

Essential elements of a tree protection report cover:

- Review of tree protection fencing, identifying needed maintenance or modifications.
- Review Contractor's methods of root protection, exposure and removal.
- Verify that tree damage has been addressed within 1 working day.
- Provide photo documentation of review.

Alternative Construction Methods:

Alternative methods will be considered, such as trenchless technologies, shoring, construction mats, or designated off-site areas. Any methods utilized must accommodate the TPZ, as determined by Parks Forestry or Consultant Arborist and Project Manager.

Trenchless Technology Guidelines:

- **Minimum Depth:** Conduits should be installed at a minimum depth of 4 feet below grade.
- **Entry and Exit Pits:** All launch and reception pits must be located outside the TPZ of any public tree.
- **Vertical Clearance:** Boring must occur at least 18 inches beneath the critical root zone (CRZ) to ensure the stability of structural roots.
- **Monitoring:** Use electronic guidance systems to maintain a steady trajectory and prevent borehole collapse or unintended deviations into shallower root-heavy soil.



Root Protection Methods:

Methods to protect roots will include only approved construction methods (i.e. hand digging, low impact methods, or trenchless technology within the TPZ). No roots 2 inches in diameter or larger within the TPZ may be impacted or removed without approval of Parks Forestry or Consultant Arborist.

- **Alternative Excavation:** If the TPZ must be entered, when feasible use non-mechanical methods such as pneumatic air excavation (e.g., Air-Spade™).
- **Clean Root Pruning:** When roots must be removed for installation of hardscape, appropriate tools will be utilized including Sawzall with wood blade, sharp handsaw, or other equipment meant for tree pruning.
- **Cut Root Treatment:** Immediately treat cut roots with shellac. Cover exposed roots with clean soil immediately following exposure.
- **Ground Protection:** Use interlocking heavy equipment mats, 3/4-inch plywood, a six-inch layer of mulch, or a combination of the above to distribute the weight of machinery.
- **Supplemental Irrigation:** May be required, as directed by Parks Forestry or Consultant Arborist, when tree roots are damaged during construction.
- **Corrective Actions:** For roots that are inadequately protected, as identified by Parks Forestry or Consultant Arborist, issues must be corrected by the Contractor within 1 workday of receiving notice. Parks Forestry or Consultant Arborist will verify that corrective action has been taken and follows ANSI A-300 Standards.

Boulevard Restoration/Tree Planting Phase

Boulevard Restoration:

Restoration shall be specified by the Project Manager following MnDOT Specification 2571 and approved by Parks Forestry or Consultant Arborist.

Boulevard restoration to be completed by the Contractor using construction methods that protect the trees and their root systems. Work within any TPZ will be limited to restoration of disturbance from curb, sidewalk, path installation, or utility disturbances. Restoration work within the TPZ will be completed under the direction of the on-site Consultant Arborist.

Only low impact methods will be allowed within the TPZ of any public tree. Typical low impact methods used:



- Light machinery with rubber tracks or tires, walk behind equipment, and hand labor for grading, landscaping and restoration.
- If soil compaction occurs within the TPZ, Parks Forestry or Consultant Arborist, may require corrective action utilizing an air-spade, loosening soil to a depth of 12" below finished grade, and amending with organic material. This method must be performed by a licensed tree care company.
- Low impact seeding, mulching, or sodding methods utilizing labor, walk-behind equipment, or aerial mechanical placement rather than heavy machinery methods.
- No machinery can be within the Modified TPZ.

Tree Planting:

Following the Tree Planting SOP, new trees shall be installed prior to sod installation. Protective fencing should not be removed until sod installation.

Final Report

The Consultant Arborist or Parks Forestry will provide, in writing, a final report following construction including:

- Number of trees preserved, and by which means;
- trees added, removed or saved as compared to the approved Tree Preservation Plan;
- Final count of number of trees added or subtracted as compared to pre-construction conditions
- Report damages and whether restitution was implemented.
- After action review of the effectiveness of the Standard Operating Procedures, contract documents, and implementation thereof by city, contractors and stakeholders.
- Document extraordinary circumstances and/or measures taken
- Provide suggested updates to SOPs and contract documents

Substantial Completion Payment to Contractor shall not be made until all tree related work and items have been resolved or retainage has been held to cover completion of work or damages. The Project Manager will coordinate with Parks Forestry prior to making substantial completion payment.

Final Payment to Contractor shall not be made until all tree related items have been resolved and final tree health assessment has been performed.



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DEPARTMENT OF PARKS & RECREATION



DEPARTMENT OF PUBLIC WORKS



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APPENDIX A



WEEKLY TREE PROTECTION & COMPLIANCE REPORT

Project Name/ID: _____ **Report**

Date: _____

Contractor: _____ **Correction Date:** _____

Arborist: _____

1. Site Condition Summary

- **Tree Protection Overall Status:** _____
- **Active Work Areas:** _____
- **Weather Conditions (Rain/Temps):** _____

2. Compliance Checklist

Requirement	Status (Yes/No/NA)	Comments or Corrective Action Taken
Fencing/Protection: Secure and in correct location?		
TPZ Encroachment: No unapproved equipment or storage?		
Root Pruning: Document location of root cutting and treatments		
Stock/Spoil Piles: Stockpiled outside of TPZ		
Equipment/Staging: Only in agreed-upon locations?		
Utility/Subcontractors: Following tree protection standards?		
Access Locations: Only in agreed-upon locations?		
Grading/Restoration: Signs for tree damage in the TPZ?		
Overall Tree Health: Any signs of stress or mechanical Damage?		

3. Root Disturbance & Damage Assessment

- **Unauthorized Activity:** _____
- **Root Exposure:** Yes No *(If yes, was the Arborist present for review?)*
- **Required Remediation:** _____

4. Corrective Actions Required

Note: Per SOP, all corrections must be completed within one (1) working day of this notice.

- **Correction Item 1:** _____ **Due Date:** _____
- **Correction Item 2:** _____ **Due Date:** _____

5. Arborist Recommendations & Observations

(Specific notes on significant trees, upcoming high-risk activities, or necessity for supplemental watering/maintenance)

Prepared By: _____ **Title:** _____

Reviewed by Project Manager: _____ **Date:** _____

Reviewed by Parks Forestry: _____ **Date:** _____



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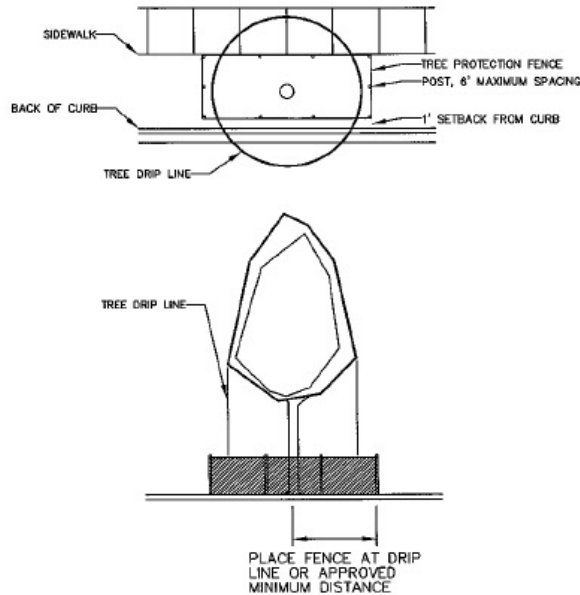


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APPENDIX B



TREE PROTECTION STANDARD PLATE



NOTES:

1. TREE PROTECTION FENCING SHALL BE INSTALLED, ACCORDING TO PLAN, PRIOR TO DEMOLITION OR OTHER SITE WORK. CONTACT CITY FORESTER (651.266.6400) PRIOR TO ANY RELOCATION OF THE TREE PROTECTION FENCING TO BE APPROVED BY CITY FORESTER. TREE PROTECTION FENCING SHALL BE MAINTAINED FOR THE DURATION OF THE CONSTRUCTION PROCESS.
2. CONSTRUCTION MATERIALS, STOCKPILES, EQUIPMENT, VEHICLES, AND TEMPORARY FACILITIES SHALL NOT BE STORED OR OPERATED WITHIN THE TREE PROTECTION ZONE.
3. ROOTS OUTSIDE OF THE TREE PROTECTION ZONE EXPOSED OR DAMAGED DURING EXCAVATION OR OTHER CONSTRUCTION ACTIVITY SHALL BE CLEANLY CUT AS DIRECTED BY THE CITY FORESTER.
4. ADDITIONAL TREE PROTECTION MEASURES MAY BE REQUIRED.
5. LIMIT GRADING WITHIN THE DRIP LINE OF EXISTING TREES, GRADING WITHIN 5' OF THE TRUNK OF TREE SHALL BE DONE BY HAND OR SMALL EQUIPMENT TO MINIMIZE DAMAGE TO TREE ROOTS.
6. SUPPLEMENTAL WATER IS TO BE PROVIDED DURING PERIODS OF DRY AND HOT WEATHER, TYPICALLY WHEN RAINFALL IS BELOW 1" PER WEEK.
7. SOIL COMPACTION WITHIN THE DRIP LINE OF A STREET TREE, DUE TO CONSTRUCTION ACTIVITIES, TO BE RESTORED TO THE SATISFACTION OF, AND AT NO COST TO, THE CITY.
8. EXISTING STREET TREES ARE TO BE PROTECTED AT ALL TIMES. TREES DAMAGED OR REMOVED DURING CONSTRUCTION SHALL BE RESTORED OR REPLACED TO THE SATISFACTION OF, AND AT NO COST TO, THE CITY AS DETERMINED BY THE FORESTRY MANAGER. THE CONTRACTOR IS ADVISED TO DOCUMENT PRE-EXISTING CONDITIONS PRIOR TO THE START OF CONSTRUCTION.

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Steven H. Dodge

Date 2/18/2026 Lic. No. 41933

APPROVED 2/19/2026
Nick...
CITY ENGINEER

CITY OF ST. PAUL
DEPARTMENT OF PUBLIC WORKS
TREE PROTECTION

Date of
Revision
FEB.
2026

Standard
Plate
No.
6001