

Transportation & Public Works Committee Meeting

July 28, 2015

Follow-up report to February 3, 2015 Tree Failure Study Presentation



Staff Directive:

February 3, 2015 Committee Meeting following the presentation by Public Works and Gary Johnson from U. of M.

- Staff directed to continue to work with the Minneapolis Park & Recreation Board Forestry Division, the Minneapolis Tree Advisory Commission, and the Minneapolis Pedestrian Advisory Committee on recommendations for changes to City policy and practice that will limit the impacts to trees from City sidewalk repair work, and report back to the Transportation & Public Works Committee by July 31, 2015.**

Work group formed comprised of representatives from above.

Working Group Meetings

- 1. Three major components to discussions and today's report**
 - a. Will look at broader efforts than just sidewalk repair work**
 - b. A look at what has been done to date over the last decade or so**
 - c. Specific options for sidewalk repair work to consider moving forward**

Brief descriptions of broader, long term efforts

- 1. Update the 2004 Urban Forestry Policy**
- 2. Incorporate best management practices for trees into Minneapolis for Construction Standards and Specifications**
- 3. Continue growing collaboration with Plan Development Review, Utility Connections, and others such as the Downtown Minneapolis Greening Task Force, to provide consistent standards and directions, best management practices and as-needed direction to foster optimal procedures for successful tree installation, particularly in hardscape environments.**

Tree Policy Influences

Pre-Urban Forestry Policy to Present

- **Prior to the 2004 Urban Forestry Policy being created and adopted**
 - Public Works did an initial inspection; made notes for sidewalk defects caused by tree root growth.
 - During construction, per City specs, only roots within 6.5 inches below surface new sidewalk were to be removed, by sharp axe. MPRB Forestry approved.
 - The sidewalk Inspector was not always present to monitor this work. Root removal was seldom evaluated by any MPRB Forestry Staff. Often tree roots would be removed by means other than the use of a sharp axe. Root removal was frequently in excess of specified limit.

Tree Policy Influences

Pre-Urban Forestry Policy to Present

- **After adoption of the 2004 Urban Forestry Policy**
 - Tree roots could be cut cleanly by use of a sharp axe, or use of engineer approved root grinding machinery, such as a root grinding attachment to a Bobcat.
 - The “tree ring” concept and specifications were adopted.
 - Sidewalk inspectors would monitor this work with more frequency, but were still not able to be present at all times.
 - A Park Board Forestry representative would monitor the work as schedules would allow. Root removal evaluation was still infrequent.
 - There was still some inconsistency in root cutting and loss, resulting in less, but still too much root loss.

Tree Policy Influences

Pre-Urban Forestry Policy to Present

- **At the time of the 2011 Northside tornado event**
 - Sidewalk Inspections started using interns. Intern assisted with the FEMA inventory of damaged sidewalks. It became routine that an intern also assisted sidewalk inspectors; these staff were present more frequently as sidewalk repair work around trees was being performed.
 - A Park Board Forestry representative was also more frequently present and involved regarding sidewalk repair work.
 - There was a strengthening of collaboration that resulted, that grew more as MPRB Forestry developed automated data collection to aid in FEMA reporting. The resulting spinoff was the ability to perform more data collection regarding normal operations.

Tree Policy Influences

Pre-Urban Forestry Policy to Present

- **Post 2013 windstorm events, during and after U of M study, and since activation of Acting FPC**
 - The MPRB created a new position called the Forestry Preservation Coordinator (FPC) for 2015, but did not fund it pending discussions with Public Works to discuss shared funding. However, a MPRB Forester was detailed into the position creating an Acting FPC.
 - A Sidewalk Inspections staff person (sidewalk inspector or intern) is almost always present when sidewalk repair work around trees is occurring. A potential 2" root cut or larger will trigger a visit by the Acting FPC.

Tree Policy Influences

Pre-Urban Forestry Policy to Present

- *Post 2013 windstorm events, during and after U of M study, and since activation of Acting FPC (continued)*

- A Park Board Forestry representative (currently Acting FPC) monitors sidewalk repair work on a daily basis, and coordinates with Sidewalk Inspections staff, the sidewalk contractor, and property owners where tree root cutting work is occurring. FPC advises Sidewalk Inspection staff and contractors in preferred ways that tree roots should be cut, and evaluates trees where root removal is required.



Tree Policy Influences

Pre-Urban Forestry Policy to Present

- Post 2013 windstorm events, during and after U of M study, and since activation of Acting FPC (continued)

- Tree ring designs are constantly being improved to plan for mature tree size, and account for site specific conditions (custom form rings) where appropriate. Rings may be used to prevent future slab heaving, or to minimize root cutting to mitigate tipping, or both.



Tree Policy Influences

Pre-Urban Forestry Policy to Present

- Post 2013 windstorm events, during and after U of M study, and since activation of Acting FPC (continued)

- But even the best intentions may be no match for Mother Nature
- Tree blown down where tree ring installed



Tree Policy Influences

Pre-Urban Forestry Policy to Present

- *Post 2013 windstorm events, during and after U of M study, and since activation of Acting FPC (continued)*
- In cases where no drainage issues may occur, avoiding root cutting by ramping sidewalks over tree roots is now being done. This treatment was not previously considered.



Tree Policy Influences

Pre-Urban Forestry Policy to Present

- *Post 2013 windstorm events, during and after U of M study, and since activation of Acting FPC (continued)*

- If right of way space is available, sidewalks may be realigned around a tree to avoid root removal. This treatment was also not previously considered.



Tree Policy Influences

Pre-Urban Forestry Policy to Present

- *Post 2013 windstorm events, during and after U of M study, and since activation of Acting FPC (continued)*
 - Where unavoidable excessive root loss occurs, trees are promptly removed to limit opportunity for failure.
 - Replacement decisions are site specific.
 - Species selection of replacement trees based on boulevard width is being implemented to avoid foreseeable future conflicts. In some cases, there may be a recommendation to not plant a tree.

Tree Policy Influences

Pre-Urban Forestry Policy to Present

- Post 2013 windstorm events, during and after U of M study, and since activation of Acting FPC (continued)

- Treatments and quantitative record of root cutting is documented in the tree inventory to build a database for future study and reference.

Species: Acer platanoides (Maple Norway)

DBH: 15 Condition for ISA value: Fair / Generally Healthy

Urban Forestry Maintenance: Routine Location Type for ISA value: Street Tree (Boulevard)

Planting Width: No Data Service Area: Southwest

MinAvailableRootSpace:

Neighborhood: 101 - Bryn - Mawr / Harrison Park: _na

Primary Wires Overhead: No Lights or Conduit at Tree Site: No

Tree Watering Bag: No Tree Stake: _na

Tree Grate: _na Structure Soil Type: regular soil

Treated Tree: _na Research Tree: _na

Removal Cause: _na Removal DBH: 0

Planted Tree Size Inches: 0 Planted Root Type: na

Planting Project: na Unique Planting Situation: _na

Stump Grinding: _na Contact Info:

Stump Size: 0 Preservation Project: 2015 Sidewalk Replacement

Preservation Type: arc walk Root Damage: roots cut

Stem Damage: na Canopy Damage: na

Damage Extent: 3, 2 Research Field Crew Names:

DAVEY RESOURCE GROUP

7:47 AM 7/22/2015

Tree Policy Influences

Pre-Urban Forestry Policy to Present

- *Post 2013 windstorm events, during and after U of M study, and since activation of Acting FPC (continued)*
 - Today there is more communication with property owners than previously occurred.
 - PW and MPRB more “tuned in” to citizen’s requests. Taking time to describe issues and work description.
 - We are aware of more options to give them or discuss.
 - So far not doing anything that anything that adds costs. If it does, we’re using the standard “Owners Request Slip for Extra Work,” and property owner pays the cost.

Tree Policy Influences

Pre-Urban Forestry Policy to Present

- Post 2013 windstorm events, during and after U of M study, and since activation of Acting FPC (continued)
- **Note:** To help mitigate future sidewalk/root conflicts, in the Project Design Review process, species selection, boulevard width, and available rooting area including engineered root space are being considered and applied to limit opportunity for sidewalk root conflicts and root volume related failure.

Tree Policy Influences

Pre-Urban Forestry Policy to Present

- Post 2013 windstorm events, during and after U of M study, and since activation of Acting FPC ([continued](#))
 - Utility Excavation: Working with underground utility installers to mitigate root cutting and damage
 - Consider “roots as utilities.”



Looking Forward...

- **Potential procedures and policy considerations:**
 - **Consider ramping more, or more aggressive ramping of sidewalks to avoid root cutting.**
 - **Could require additional funding to avoid assessing property owner.**
 - **Corrections to private walls, steps or enhanced grading may be needed.**
 - **Consider arching the sidewalk around “magnificent” trees, where the change in the alignment of the sidewalk may be allowed to encroach onto *private property***
 - **Could require additional funding to avoid assessing property owner**
 - **Easements or agreements may be required**
 - **May also conflict with private infrastructure**

Ramping...

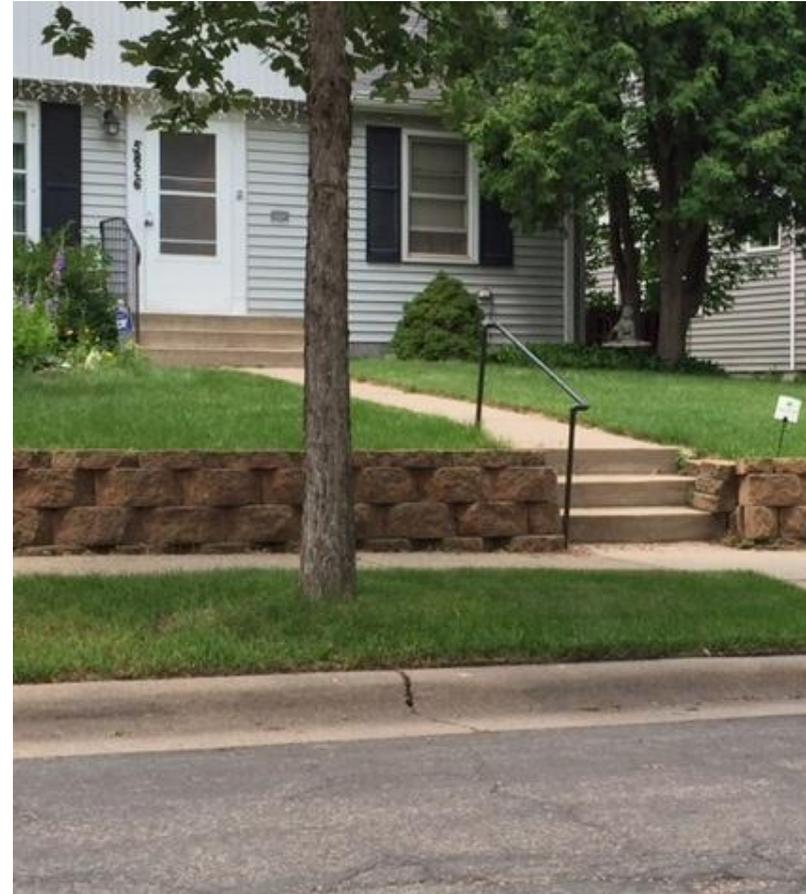


Realignment...



Looking Forward...

- *Potential procedures and policy considerations (continued)*
 - **Build retaining walls if necessary to save tree roots**
 - Could require additional funding.
 - Ownership of wall comes into question
 - Easements or agreements may be required
 - May also conflict with private infrastructure



Looking Forward...

- **Potential procedures and policy considerations**
(continued)
 - Grind projecting sidewalk edges instead of removal and replacement of sections of sidewalk
 - Need to check ADA compliance
 - ADA community may not view it as acceptable if it still results in a rough ride
 - Not viewed as a “permanent fix.”



Looking Forward...

- **Potential procedures and policy considerations**
(continued)
 - **Use of new types of sidewalk materials or products that can move with tree root growth and not have projecting, trip-able edges**
 - **Could require additional funding**



Looking Forward...

- **Potential procedures and policy considerations**
(continued)
 - If there is no appetite to pass on costs for mitigation to property owners, investigate the creation of new funding sources to apply these new methodologies
 - May take an ordinance, or even Charter change
 - Adapt a Sidewalk Repair funding program in order to relieve property owners of the cost of assessable sidewalk repairs related to tree root caused sidewalk defects. The City of Wauwatosa, WI provides one example.



Looking Forward...

- **Potential procedures and policy considerations (continued)**
 - **Fund (support) the FPC position. There is no single, or other more effective deterrent to tree loss from construction and maintenance conflicts and activities.**
 - **Having an expert and experienced Arborist as a daily partner and resource is invaluable.**
 - **More than just a person, doing so helps support whatever procedures and policies that may be otherwise adopted.**
 - **Without a champion, any initiatives may go by the wayside and many good intentions could be lost, as happened with the 2004 Urban Forestry Policy.**
 - **Current budget proposal calls for annual PW funding contribution of \$94,075**

Looking Forward...

- **Public Works and MPRB Forestry will continue to:**
 - **Work on updating the Urban Forestry Policy**
 - **Continually review industry best practices and incorporate them into Standard Specifications and procedures**
 - **May consider policy changes, and work with Finance regarding alternative funding options for sidewalk repairs and other projects.**