



Tree Health Assessment Report
Morse-Kelly Playground

Somerville Parks Tree Health Program

IFB #23-26

Prepared by Alden Johnson, MCA, ISA, TRAQ

Feb 3, 2023

Overview:

Morse-Kelly playground is a recreation-focused park with a large concrete court, playground, community garden and several pocket pollinator perennial gardens. It is home to 12 young-mature aged deciduous shade and ornamental trees- primarily fastigate Red Maples.

General tree health

The predominant species in the park are Red Maples, and their overall health is fair on average. Some deadwood/canopy decline visible is likely be due to restricted root area and heat island effect, not uncommon for the species. The young Lindens and Chinese Elms are in good condition. Limited root area and reflected heat are likely the main stress factors of the trees in the park.

Soil Health

Trees within the park are largely restricted to small planting beds, mulched and surrounded by fences. The majority of the soil in the park is typical urban soil, with organic leaf litter and mulch mixed in. Soil throughout the park has good amount of organic matter in the top 3-6 inches, pale colored sandy-gravel base beginning at 4-8". Soil does not stick together. No odor noted. A soil-sample probe could be submerged about 8 inches deep into the bed areas. Overall, though limited in area, the soil quality seems better than most other parks due to being fenced off from foot traffic and with abundant leaf litter, no sod, and native perennial plantings. Soil sample has been sent to lab for further analysis to be included in final report.

Pests and Diseases

None noted at time of report.

Other correction of adverse conditions

None noted at time of report. My Level 1 TRAQ assessment of all the trees in this park results in a "low" risk rating, with the exception of the Red Maple at the corner of Craigie and Summer St that has been designated as Moderate risk and recommended for removal (see below).

Removal Needs:

Red Maple #40275 at the corner of Summer and Craigie St has extensive dieback and decay visible (fruiting bodies in the main trunk at 20-30'). Because there are no practical mitigation options and the tree leans over busy public way, I recommend it's timely removal and replacement. Remove volunteer Elm/Mulberry sprouts in center of park

Pruning needs

All trees in play areas and along sidewalks should be pruned provide 8-10' off the walkways and playing surface, as well as 3-4 off fences, lights, and structures, and 14' off the road. Canopy clean to remove dead and broken branches, and declining sections 2" and larger in trees throughout the park. Young tree training for the Lindens to improve future structure.

2023 Priorities:

- -Pruning: Canopy cleaning, raising. Young tree training
- -Declining/hazard tree removal
- Tree replacement and planting in the garden beds and community garden area

5-10 year Priorities:

- Biostimulant for all trees in the park:
- Planting new trees in the garden beds and Community Garden area

Morse-Kelly Tree Map



Site ID	Species	DBH	Park	TRAQ	Recommendations	Pruning Units	Pruning Cost
40238	stump (Stump)	11	MORSE-KELLEY PLGD	N/A	NA. habitat	█	█
40248	maple: Norway (Acer platanoides)	10	MORSE-KELLEY PLGD	Low	Prune to remove deadwood 2" and larger. Raise 4-6' fence 8' off ground.	█	█
40256	stump (Stump)	8	MORSE-KELLEY PLGD	N/A	NA (not a stump)	█	█
40260	maple: red (Acer rubrum)	18.5	MORSE-KELLEY PLGD	Low	Prune to remove deadwood 2" and larger. Raise 4-6' off signs, structures, 8-10' off ground, sidewalk 14' off street.	█	█
40264	linden: silver (Tilia tomentosa)	4	MORSE-KELLEY PLGD	Low	YTPP	█	█
40267	maple: red (Acer rubrum)	17	MORSE-KELLEY PLGD	Low	Prune to remove deadwood 2" and larger. Raise 4-6' off signs, structures, 8-10' off ground, sidewalk 14' off street.	█	█
40270	linden: silver (Tilia tomentosa)	4.4	MORSE-KELLEY PLGD	Low	YTPP	█	█
40273	maple: red (Acer rubrum)	12.5	MORSE-KELLEY PLGD	Low	Prune to remove deadwood 1" and larger. Raise 8-10' off ground, sidewalk.	█	█
40275	maple: red (Acer rubrum)	17.1	MORSE-KELLEY PLGD	moderate	Remove, grind stump. Tree is in decline 40% dieback in canopy, fruiting bodies visible in upper canopy from ground.	█	█
40276	maple: red (Acer rubrum)	11.5	MORSE-KELLEY PLGD	Low	Prune to remove deadwood 2" and larger. Raise 4-6' off signs, structures, 8-10' off ground.	█	█
40279	mulberry: white (Morus alba)	1.5	MORSE-KELLEY PLGD	Low	Actually Elm sprouts. Poor spot. remove	█	█
40280	elm: Chinese (Ulmus parvifolia)	6.2	MORSE-KELLEY PLGD	Low	Prune to remove deadwood 1" and larger. Raise 8-10' off ground, sidewalk.	█	█

40281	elm: Chinese (Ulmus parvifolia)	5.2	MORSE-KELLEY PLGD	Low	Prune to remove deadwood 1" and larger. Raise 8-10' off ground, sidewalk.		
40282	pear: callery (Pyrus calleryana)	13	MORSE-KELLEY PLGD	Low	Could not locate. Removed?		
40283	maple: red (Acer rubrum)	20.1	MORSE-KELLEY PLGD	Low	Prune to remove deadwood 2" and larger. Raise 4-6' off signs, structures, 8-10' off ground, sidewalk.		
					Total pruning	1 day, large crew	
					Removals	3 trees	
					Permits	1	
					YTTP	2	
					Detail	1	
					Reports		
					Total		



Accredited Tree Care by Certified Arborists

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February 17, 2023
Proposal #: 66511

Job Site: 24
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Tree and Shrub Care Recommendations on 2/13/2023

Description of Services

***- Work Plan for Morse-Kelly Playground Pruning/Removal
March 8, 2023.***

Park will need to be closed from 7AM- 4PM Wednesday March 8 for the pruning and removal work. We schedule detail and post permits as needed on public streets. Equipment access will be limited to sidewalk /street. Trees within park will all be accessed by climbers.

- Pruning on Maturing-Mature deciduous Shade and Ornamental trees throughout the park. Individual tree specs listed on the attached spreadsheet.

Structural Pruning - Selective pruning to improve branch architecture; select, develop and maintain strong, properly spaced scaffold branches by reducing or removing interfering, overextended, defective and poorly attached limbs as specified

Canopy Cleaning - Selective pruning to remove declining, dead and broken branches as specified

Canopy Raising - Selective pruning to provide and envelope of clearance of walkways, roadways, utilities, structures, as specified.



This proposal is valid for 45 days, assuming there are no changes to the site (driveway, plantings, buildings etc. remain unchanged). All work performed in accordance with ANSI A300 Standards.

Payment due upon completion of work. 1 ½% per month, 18% per year on unpaid balances.



Tree and Shrub Care Recommendations on 2/13/2023

Description of Services

- **Red Maple in front of #40275 at the corner of Summer and Craigie St with extensive dieback and trunk decay visible**



Tree Removal & Stump Grinding - Take down, dispose of brush, logs and chipped debris generated from removal operations. Grind stump and exposed flare deep for replant; backfill and remove excess grinding debris. Machine will grind up to 4-6" from adjacent immobile objects. We will not remove other inorganic debris, nor are we responsible for damage to unmarked irrigation and underground non-utility services.



- **2" diameter Elm and Mulberry clumpings of sprouts in the park:**



Tree Removal - Take down and cut stump low to grade as equipment allows, dispose of brush, logs and chipped debris generated from removal operations.



- **Posting No Parking Permits.**



- **Police Detail**



- **Debris Disposal:** Costs include removal and disposal of brush, logs and chipped debris generated from tree care operations.



Thank you for considering Barrett Tree Service East, Inc. Sincerely,

Alden Johnson
Certified Arborist



This proposal is valid for 45 days, assuming there are no changes to the site (driveway, plantings, buildings etc. remain unchanged). All work performed in accordance with ANSI A300 Standards.

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Soil Test Report

Prepared For:

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Sample Information:

Sample ID: H8137

Order Number: 64152

Lab Number: S230221-103

Area Sampled:

Received: 2/21/2023

Reported: 3/3/2023

Results

<i>Analysis</i>	<i>Value Found</i>	<i>Optimum Range</i>	<i>Analysis</i>	<i>Value Found</i>	<i>Optimum Range</i>
Soil pH (1:1, H ₂ O)	6.0		Cation Exch. Capacity, meq/100g	17.0	
Modified Morgan extractable, ppm			Exch. Acidity, meq/100g	6.4	
<i>Macronutrients</i>			Base Saturation, %		
Phosphorus (P)	8.2	4-14	Calcium Base Saturation	52	50-80
Potassium (K)	160	100-160	Magnesium Base Saturation	8	10-30
Calcium (Ca)	1782	1000-1500	Potassium Base Saturation	2	2.0-7.0
Magnesium (Mg)	161	50-120	Scoop Density, g/cc	0.94	
Sulfur (S)	15.9	>10	Optional tests		
<i>Micronutrients *</i>			Soil Organic Matter (LOI), %	8.1	
Boron (B)	0.2	0.1-0.5			
Manganese (Mn)	8.9	1.1-6.3			
Zinc (Zn)	17.6	1.0-7.6			
Copper (Cu)	0.3	0.3-0.6			
Iron (Fe)	7.2	2.7-9.4			
Aluminum (Al)	35	<75			
Lead (Pb)	7.2	<22			

* Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the normal range found in soils and are for reference only.

Soil Test Interpretation

Nutrient	Very Low	Low	Optimum	Above Optimum
Phosphorus (P):				
Potassium (K):				
Calcium (Ca):				
Magnesium (Mg):				

Recommendations for Deciduous Trees, Shrubs & Vines-Maintenance

Limestone (Target pH of 6.0)	Nitrogen, N	Phosphorus, P2O5	Potassium, K2O
0	.1 - .2	0.1	0.1

Comments:

*To supply Nitrogen, apply EITHER 1 - 1.5 lbs. Dried Blood (12-0-0) OR 0.2 - 0.4 lbs. Urea (45-0-0) per 100 square feet. Application should be split between early spring and mid-June.

*To supply Phosphorus, apply EITHER 0.8 lbs. Bone Meal (4-12-0) OR 0.2 lb. Triple Phosphate (0-45-0) per 100 square feet.

*To supply Potassium, apply 0.2 lbs. Potash (0-0-60) per 100 square feet.

-For instructions on converting nutrient recommendations to fertilizer applications in home gardens and landscapes, see Reference "Step-by-Step Fertilizer Guide for Home Grounds and Gardening" (listed below).

-The lead level in this soil is less than 22 ppm, which falls below the listed optimum level. However, many variables affect this result, and safety thresholds vary by location and soil use. There is still a potential risk of lead exposure for soils used for growing food or as play areas for children. Our Total Sorbed Metals test provides an accurate measurement of soil lead. For more information about lead levels in soil, see the fact sheet entitled "Soil Lead: Testing, Interpretation, & Recommendations," listed under General References at the end of this report. ATTN: The Total Sorbed Metals Test is currently unavailable. We apologize for any inconvenience.

References:

Home Lawn and Garden Information

<http://ag.umass.edu/resources/home-lawn-garden>

Step-by-Step Fertilizer Guide for Home Grounds and Gardening

<https://ag.umass.edu/SPNTL-4>

General References:

Interpreting Your Soil Test Results

<http://soiltest.umass.edu/fact-sheets/interpreting-your-soil-test-results>

Soil Lead: Testing, Interpretation & Recommendations

<http://ag.umass.edu/soil-plant-nutrient-testing-laboratory/fact-sheets/soil-lead-fact-sheet>

For current information and order forms, please visit

<http://soiltest.umass.edu/>

UMass Extension Nutrient Management

<http://ag.umass.edu/agriculture-resources/nutrient-management>