Background

Weston values the benefits of its trees. They provide the picturesque, semi-rural character the town is known for, they clean particulates and CO2 from the air, reduce waterway pollution and storm water runoff, and keep our air temperature cooler. Unfortunately, our trees are suffering from the impact of climate change - warmer weather, longer droughts, more frequent and severe storms, and new invasive pests and diseases which our native trees are not resistant to. The resulting damage - from storms especially - results in power disruptions, increased budget demands and additional work for town crews.

Beginning In 2017, a multi-phase Tree Inventory was conducted to survey Weston's public Right of Way (RoW) trees. Over 15,000 trees were assessed for size, species, condition and risk. Despite Weston's seemingly robust tree population, a surprising 66% of those trees were rated in "Fair", "Poor" or "Critical" condition. These findings mean that a high proportion of Weston's RoW trees are highly susceptible to storm failure, drought impact, as well as the pressures of insect infestation and disease. As this survey is a snapshot in time - trees in "fair" condition can deteriorate to "poor" condition and "poor" trees can deteriorate to "critical" and become high-hazard trees. The time to act is now as climate change is forecast to shift our hardiness zone from zone 6b to zone 7 by 2050*. Zone 7 is the current hardiness zone of the mid-Atlantic states. Without town intervention to revitalize our RoW tree canopy to positively handle climate change, extensive and costly tree loss must be anticipated.

Call to Action

However, a proactive management approach can improve Weston's "fair" trees to "good" trees— making them more resilient to changing conditions and less of a risk to the community. When coordinated with a robust planting plan of new trees suitable to the new climate, Weston can restore the town's tree canopy. Like neighboring towns, Weston needs a thoughtful, actionable, and fiscally responsible long-term management plan to reduce risk and manage cost, rather than reacting to storm-related demands as they occur. Such a plan will enable the town to grow and maintain a healthy street canopy and urban forest suited to the changing conditions of 2021 and beyond.

* The National Climate Assessment https://nca2014.globalchange.gov/report/appendices/climate-science-supplement/graphics/shifts-plant-hardiness-zones

Request for Proposal of a Public Tree Management Plan

ISSUES & DELIVERABLES

The Tree Management Proposal should address three main focus areas:

1. Risk Reduction

2. Preventative Maintenance

3. Planting Strategy

The following sections will outline the main issues within the focus area and describe the associated deliverables ~~to help remedy the issue.~~

1. Risk Reduction – manage immediate hazards

Issue: Weston's tree inventory report has identified over 1,210 Moderate Risk trees and 92 High Risk trees that are recommended for removal. They are trees that cannot be rehabilitated. Due to the large number of moderate and high-risk trees in addition to high cost associated with tree removals, a prioritized risk reduction plan is required.

Deliverables:

   A. Prioritized ~~Hazardous~~ Tree Removal Plan:

   i) Strategy and prioritization list of tree removals

   ii) Annual budget and labor requirements and options to remove designated trees (5-year window)

iii) Estimate time and effort necessary to bring Weston tree hazards to normal expectations.

iv) Process and cost for annual identification including labor requirements.

B. <u>Tree Classification Re-evaluation</u>:

    i) Recommend a detailed process how to evaluate and manage changes in a tree's condition.

C. <u>Cause Analysis of canopy rating of "fair" and specific reasons for Tree Defects</u>

D. <u>Future Risk Assessment</u>:

    i) Impact assessment of hardiness zone-shift, including drought, invasive insects, diseases, etc. to Weston's dominate species.

2. Preventative Maintenance – rehabilitate trees before they become hazards

<u>Issue</u>: Over 8,300 trees were classified as "Fair" in the Tree Inventory. This means that over 50% of Weston's inventoried trees are at risk for deterioration without town intervention. A timely maintenance schedule can improve these trees from "Fair" to "Good" and prevent them from becoming high risk trees that require removal. Due to the scale of the work, a well-considered, fiscally possible plan is required to promote healthy growth of existing trees and saplings.

Deliverables:

A. Rejuvenation Sites: Identify and prioritize sites which require pruning/clearing to promote healthy growth of existing trees and saplings.

    i. Annual budget and labor requirements and options (5 year window)

    ii. Tasks including

        - Remove invasives

        - Remove/grind stumps

        - Prune trees/vegetation

        - Amend soil

        - Fertilize

        - Pest/disease remediation

B. Pest Management Plan

    i. Coordinate efforts with ongoing ConCom Land Management efforts

    ii. Strategy

    iii. Annual budget and labor requirements and options (5 year window)

C. Disease Management Plan

    i. Coordinate efforts with ongoing ConCom Land Management efforts

    ii. Strategy and prioritization list of trees and sites

    iii. Annual budget and labor requirements and options (5 year window)

3. Planting Strategy – restock the tree canopy with a healthy diversity of species and genus.

Issue: The tree inventory documented that Weston does not have the tree species diversity necessary to withstand significant harm done by insects or disease. According to Davey Tree's analysis, Pinus strobus (white pine) and Quercus rubra (red oak) exceed the 10% threshold for healthy species diversity, comprising 24% and 13%, respectively, of the total population. Without proper diversity our canopy is exceedingly vulnerable. Additionally, over 16% of Weston's young trees are ranked as "poor", "critical" or "dead". Due to the failure rate of young canopy succession trees as well as the imbalance in species and genus diversity, a strategy is required to help Weston plant trees with a higher success rate for a more resilient future canopy.

Deliverable:

A. Approved Tree List: Develop a tree list with weighted criteria to identify, prioritize and quantify suitable trees for planting including:

   i. canopy goals

   ii. stocking level `

   iii. species diversity/balance

   iv. hardiness zone migration

   v. pest resistance

   vi. salt resistance

   vii. appropriate to Weston semi-rural character

   viii. industry rating

   ix. bare root vs. balled and burlap options

   x. cost to plant.

   xi. cost to maintain.

   xii. longevity

   xiii. sterile or seedlings

B. Site/Location Planting Plan: should reference the specific aspects and requirements of the site so it can be cross matched with an appropriate from the Approved Tree List. Site considerations include:

   i. open space availability

   ii. soil conditions and volume

   iii. utility lines

   iv. slope

   v. sidewalk

   vi. tree size and quantity

   vii. cost to prepare site and cost of trees.

   viii. Watering schedule

C. Watering Protocols:

   i. Schedule and frequency

   ii. Equipment and labor options

iii. Water truck availability

iv. Abutter water source

v. Fire hydrants

vi. Gator bags

vii. Estimated cost schedule

ADDITIONAL CONSIDERATIONS to be addressed

⇒ Given the ongoing costs of a PTMP - what economies, innovative thinking and alternative funding paths can Weston use to fund this effort?

⇒ How best could these new responsibilities be taken on by DPW, Facilities, volunteers - including TAG (Tree Advisory Group), state agencies, private contractors or even a new town department subgroup?

⇒ How are other towns handling these issues?

⇒ What equipment/employees we can share with other towns

⇒ Lists, reports and plans should be in an Excel format which can be easily maintained by the Town

Schedule Milestones and Meetings
Public Tree Group Meetings:

1) Kick off Zoom meeting with the Public Tree Group to review the PTMP process, project schedule, expectations, responsibilities, deliverables etc.

2) Mid-project report to Public Tree Group

3) Draft report to Public Tree Group for review and comment

4) Final report to Public Tree group

TAG Meetings
1) Work with TAG to research and establish tree choices – assume 3 meetings.

DPW Meetings
1) Work with DPW to establish existing equipment and labor availability and future planning – assume 3 meetings.