VAUGHAN

COMMUNICATION C1
ITEM NO. 2
COMMITTEE OF THE WHOLE (WORKING SESSION)
September 15, 2021

Infrastructure Planning & Corporate Asset Management
Parks, Forestry & Horticulture Operations

Urban Forestry Asset Management Plan

September 15, 2021

Agenda

Objective: Provide an overview of the Urban Forestry Asset Management Plan in preparation for its endorsement by City Council and posting to the City's website as required by O. Reg. 588/17.

1. Ontario Regulation 588/17
2. Urban Forestry AM Plan – Approach
3. Urban Forestry AM Plan – State of the Infrastructure
4. Urban Forestry AM Plan – Proactive Tree Maintenance

Strategic Alignment

Good Governance

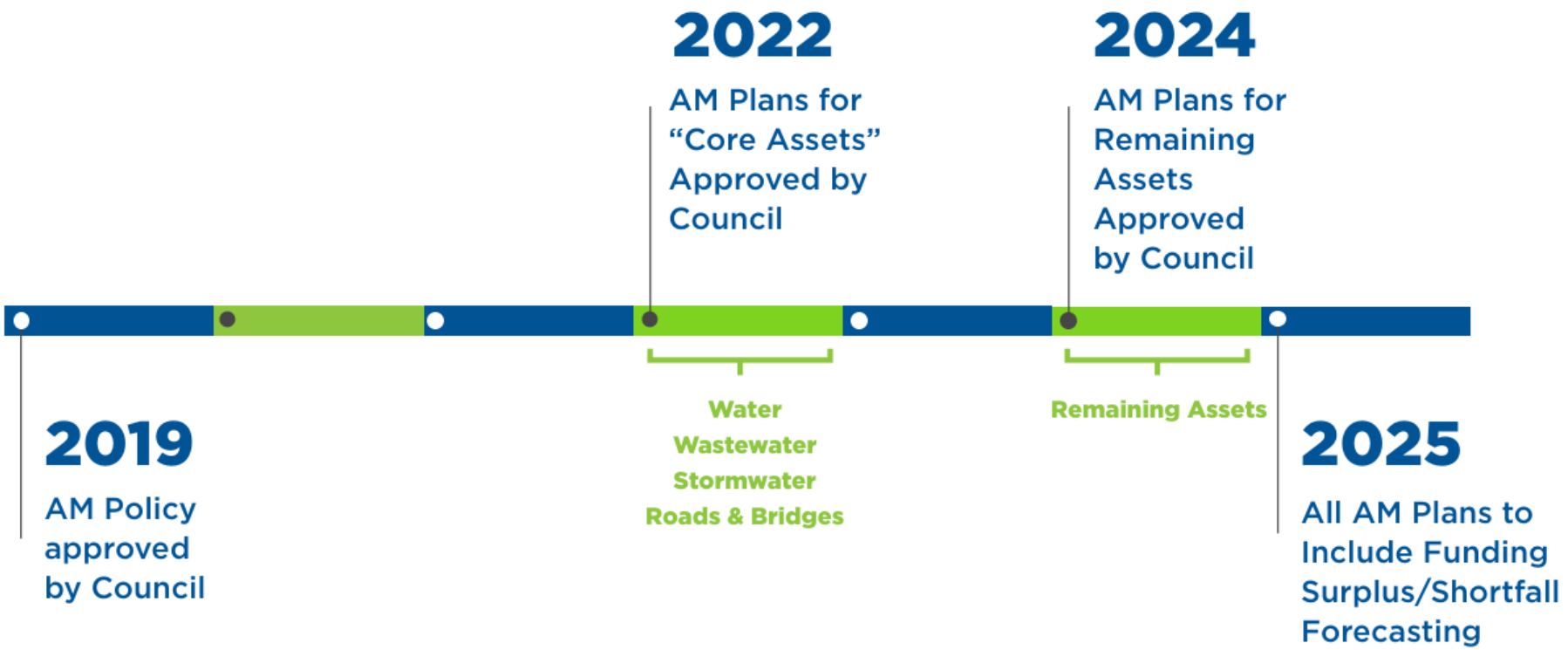
Financial Stewardship & Sustainability

Environmental Stewardship

Proactive Environmental Management

1. Ontario Regulation 588/17

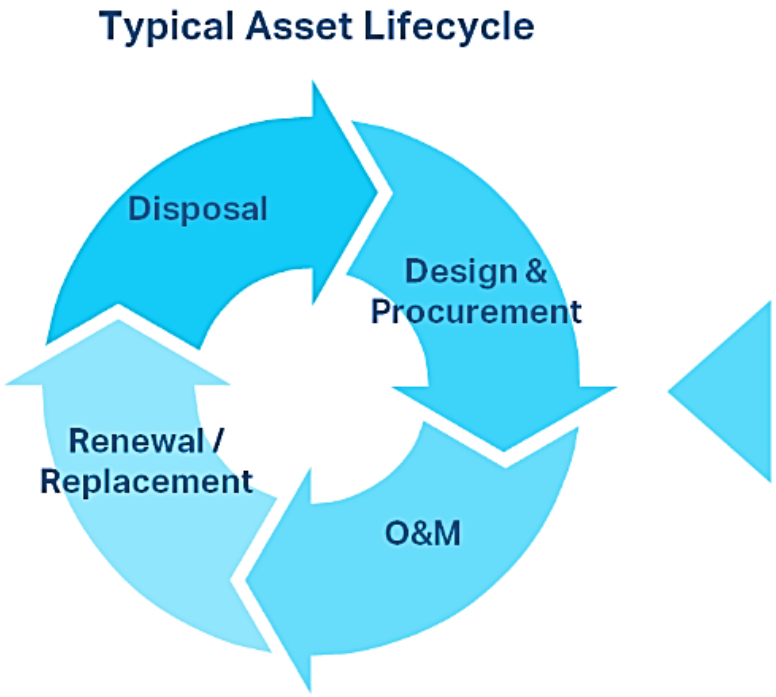
Ontario Regulation 588/17: AM Milestone Dates



2. Urban Forestry AM Plan

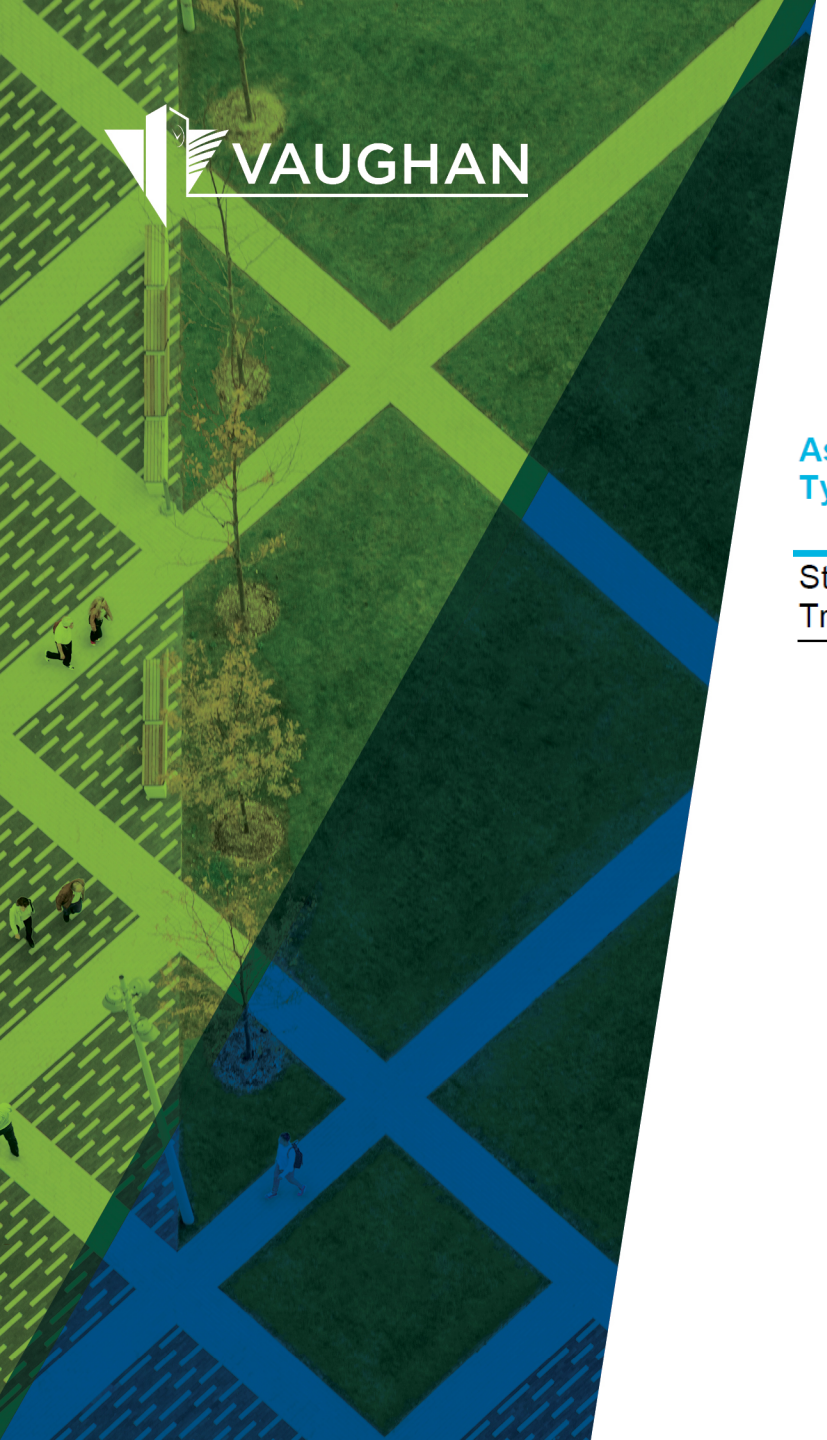
Approach

Asset Management Plans: Approach



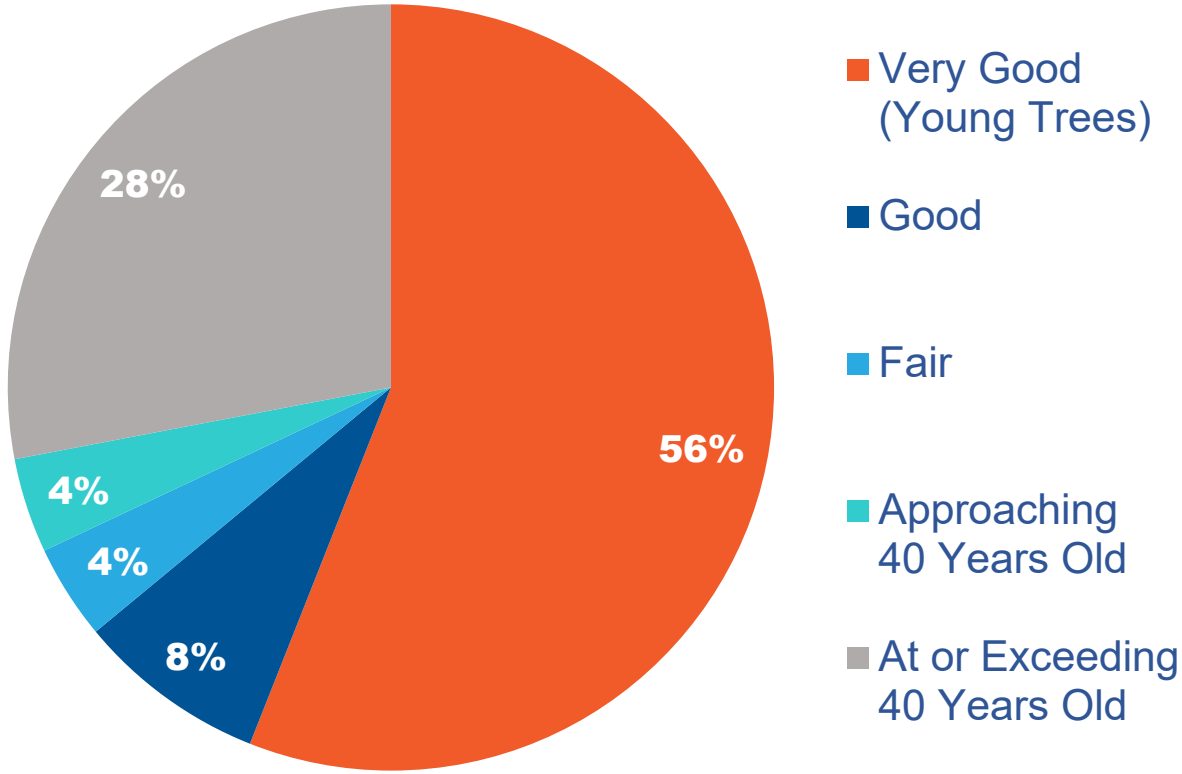
3. Urban Forestry AM Plan

State of the Infrastructure



Street Trees: Asset Inventory & Age-based Condition

Asset Type	No.	Unit of Measure	Average DBH (cm)	New tree Unit Replacement Cost	Mature tree Replacement Cost per DBH class per Species	Total Replacement Cost
Street Trees	126,541	Ea.	18	$435 - $510	$1,100 - $12,484,000	$ 114,825,000



Street Trees: Environmental Benefits

Asset Type	Benefit Type	Amount	Unit of Measure	Value	Unit of Measure
Street trees	Pollution removal	13.73	Tons/year	$70,000	Per year
	Carbon Storage	15.63	Thousand tons	$1,799,660	Per year
	Carbon Sequestration	459.6	Tons	$52,890	Per year
	Oxygen production	1.226	Thousand tons/year	-	-
	Avoided runoff	1.408	Million cubic feet/year	$102,350	Per year

Carbon equivalent of taking 4,685 cars off the road for one day.

Oxygen equivalent of providing 604 people clean air to breathe for one day.

Urban Forestry
Tree Maintenance Strategy

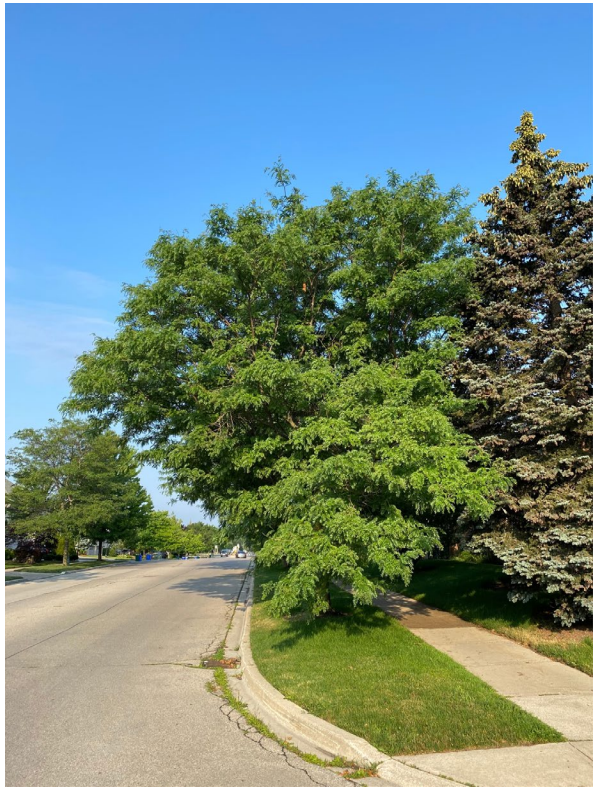
Current Tree Maintenance – Pruning Cycle Length

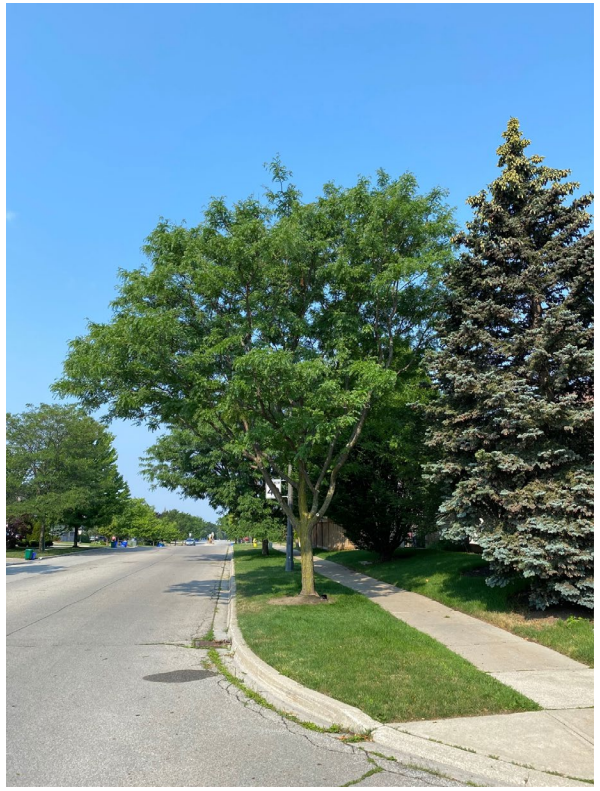
6,000 trees are pruned annually, representing a 22-year Street Tree pruning cycle.

5,000 trees are planted and assumed annually, requiring care and maintenance.

Current reactive pruning activities will be operating on a 25-year Street Tree pruning cycle by 2024.

Impact of Proactive Tree Maintenance





Improved tree vitality and condition and reduced failures and lifecycle costs.

Mitigates against potential safety and liability issues.

Proactive Tree Maintenance – Municipal Scan

Municipality	Maintenance Rotation (Years)	Comments
Vaughan	**Current: 22 Proposed: 7**	**Tree health and structure-based strategy in 1st rotation, priority-based with focus on early development and risk, thereafter**
Toronto	7	Starting 3 years after assumption
Ottawa	7	Starting 3 years after assumption
Oshawa	7	Higher frequency at early development and at decline
Richmond Hill	10	
Markham	7	Proactive program under development
Oakville	10	
Mississauga	-	Reactive only
London	10	
Calgary	7	Priority-based strategy with focus on early development and risk
Surrey	5	Focus on early development
Fredericton	7	Focus on early development

7-Year Pruning Cycle Length – Program Costs

A proactive 7-year cycle pruning program would require 21,000 trees to be inspected and pruned annually.

Year	2022*	2023	2024	2025
Operating	$148,000	$338,000	$338,000	$338,000
Capital	$35,000			
Total	$183,000	$338,000	$338,000	$338,000
Cycle	18 – 14 Year Cycle	14 Year Cycle	10 Year Cycle	7 Year Cycle

* Note; 2022 doesn't require an operating ask of $338,000 as Forestry was able to secure grant funding.

VAUGHAN

Thank You.