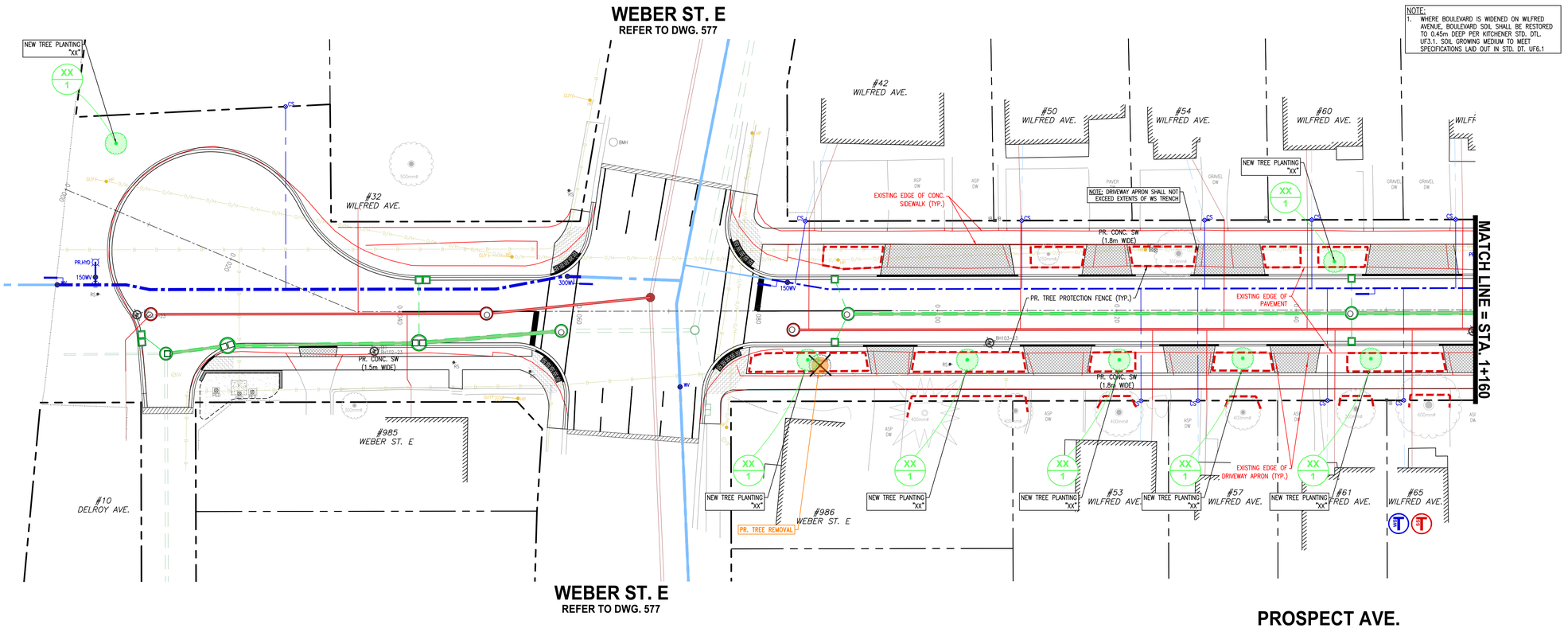
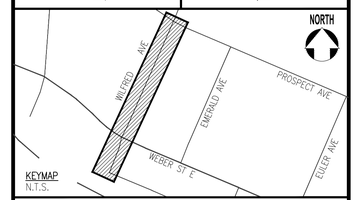


PLANT MATERIAL LIST

KEY	BOTANICAL NAME	COMMON NAME	CALIPER	CONDITION	QUANTITY

trueNORTH constructionNORTH



KEYMAP
N.T.S.

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LEGEND:

- TREE TO REMAIN
- SIGNIFICANT TREE TO REMAIN
- TREE REMOVAL
- STUMP TO BE REMOVED
- PROPOSED TREE PLANTING
- TREE PROTECTION FENCING
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TPZ – TREE PROTECTION ZONE
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TOPSOIL AND GRASS WITHIN TREE PROTECTION ZONES TO REMAIN

SURVEY

CONDITION SURVEY BY CITY OF KITCHENER JUL. 2024
FIELDBOOK # 00-000

BENCHMARK

TOPOGRAPHICAL SURVEY TABLET IN SIDEWALK, OPPOSITE (DARE COOKIE FACTORY) NO NORTH SIDE OF KINGSWAY DR., 70 FEET NORTH FROM THE CENTRE OF INTERSECTION OF KINGSWAY DR. AND NINTH AVE., 67.2 FEET NE FROM FIRE HYDRANT, 89.7 FEET NW FROM A LAMP POST AND 46 FEET SE OF ANOTHER LAMP POST, 1.5 FEET SW FROM CONCRETE RETAINING WALL.
APPROX UTM 544768.47, 4809032.57
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NO.	REVISION	BY	MM/DD/YY
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2	ISSUED FOR 60% DESIGN	DP	07/11/25
1	ISSUED FOR 30% DESIGN	DP	06/06/25

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Development Services

Engineering Division

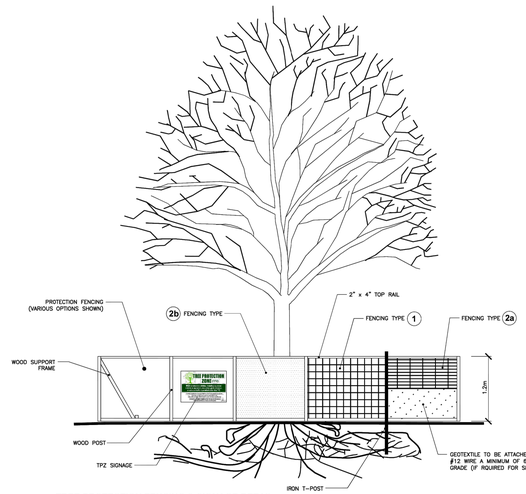
TREE MANAGEMENT PLAN
FROM HWY8 TO PROSPECT AVE
FROM PROSPECT AVE. TO END

DESIGNED BY:	APPROVED BY:	DRAWN BY:
D.PHAN	D.LUPSA	P. PAUDEL

DATE: (MM.DD.YYYY) 01.21.2025
SCALE: HOR.-1:250
SHEET No. 12 of 17
DWG. No. TMP-01

TMP-01

Date: Sep. 30, 2025 - 9:49 am Plotted by: DanaPh Filename: S:\General\GI\11-1430 Project Files\Update Projects (24-27)\#1Wilfred Ave\Drawings\04_Sheet\Plans\Wilfred_TMP_Sheets.dwg



C TREE PROTECTION FENCING & SIGNAGE DETAIL
N.T.S.

TREE PROTECTION FENCING NOTES

Tree Protection Zone **(TPZ)** signage mounted on Gator Board or Corrugated Plastic Sheet must be attached to the outside of the Tree Protection Fencing. Signage must be clearly visible to those entering the site, the minimum size is to be 40cm X 60cm (16" X 24").

TPZ signage must be paid for and installed by the Contractor. Any variations to the TPZ signage shown on this page require approval by Urban Forestry (UF).

Tree Protection Fencing (TPF) must be 1.2m in height and must consist of one of the following options:

1. Where sight lines or visibility may be impeded:
   Orange construction fence secured to 2" X 4" wood frame or iron T–posts @ 2.4m spacing with 2" X 4" top rail for support.
2. Where excavation or fill must be placed temporarily near TPZs:
   a. Paige wire fence strand attached to sediment control fencing and secured to iron T–posts @ 2.4m spacing.
   b. Solid plywood hoarding secured to 2" X 4" wood frame, wood posts, or iron T–posts @ 2.4m spacing.

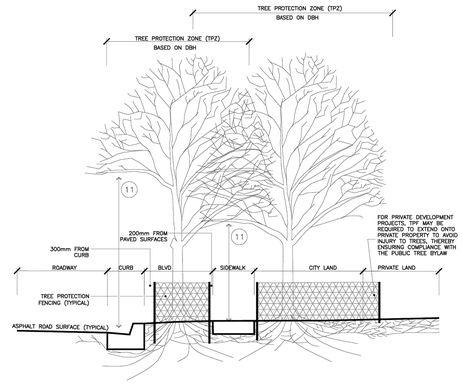
Horizontal hoarding shall be used in locations where movement of equipment through the **TPZ** is required and has been approved by UF. Horizontal hoarding options consist of:

a. Moderate root zone compaction: 3/4" plywood over 150mm of woodchip mulch over staked down permeable geotextile.

b. Heavy root zone compaction: Steel plate over 150mm of woodchip mulch over 100m of clear stone over staked down permeable geotextile.



TREE PROTECTION ZONE SIGNAGE



B TREE PRESERVATION DETAIL & NOTES (STREETS AND RIGHT-OF-WAYS)
N.T.S.

TREE PROTECTION DETAIL NOTES

Dripline – the area that extends from the trunk of the tree to the outer limits of the crown of the tree.

Tree Protection Zone (TPZ) – the area around the trunk where roots essential for tree health and stability are located. The TPZ is determined based on the measurements indicated in Table 1. TPZs are to be measured from the outside edge of the tree base towards the dripline and may be limited by an existing paved surface, provided the existing paved surface remains intact throughout construction.

Plantable Space – areas designated for tree planting that meet spacing, soil volume, and infrastructure clearance requirements as deemed by the City.

Diameter at breast height (DBH) – the diameter of a trunk of a tree from the outside bark at a height of 1.37m above ground. Where there are multiple trunks, means the square root of the sum of each stem diameter squared measured from the outside bark at a height of 1.37m.

Table 1 - Tree Protection Zones

Trunk DBH² Range (cm)	Street & Right-of-way Trees: Minimum Setback Radius (m)	Park & Open Area Trees: Minimum Setback Radius (m)
		Whichever of the two is greater:
<20	1.8	Dripline or 1.8
20 to 30	2.4	Dripline or 2.4
31 to 40	3.0	Dripline or 3.0
41 to 50	3.6	Dripline or 3.6
51 to 60	4.2	Dripline or 4.2
61 to 70	4.8	Dripline or 4.8
71 to 80	5.4	Dripline or 5.4
81 to 100	6.0	Dripline or 6.0
>100	6cm of protection for each 1cm of DBH	Dripline or 6cm of protection for each 1cm of DBH

The Public Tree Bylaw (Chapter 690) outlines the prohibitions and requirements for protecting City–owned trees, plantable spaces, and tree protection zones (TPZs), as defined in City standards. The **City of Kitchener Standard Specifications (CKSS 151)** further detail construction requirements near trees, which may be adjusted in consultation with and subject to approval by Urban Forestry (UF). Contractors will be held liable for any unauthorized injury to or removal of a City tree or its protection measures. Because damage may not become apparent until years after construction, it is critical that all preservation methods follow the guidelines below, along with generally accepted arboricultural and construction best practices.

1. Construction activities, grade alterations, and storage of equipment and materials are prohibited within the TPZ, except where approved by UF. All damage to trees shall be reported to UF.
2. All arborist work such as pruning of crown branches or roots within the TPZ shall be conducted by or under the supervision of UF or an ISA Certified Arborist.
3. All roots larger than 2.5cm that require removal are to be cut cleanly with bypass pruners or a pruning saw. Roots over 10cm are not to be cut without UF approval. All exposed roots will be covered as soon as possible to prevent root desiccation.
4. Special work practices for sidewalk and driveway works including hand work, minimal excavation, and hand forming may be required within a TPZ. Changes to the sidewalk design and elevation may be required to protect roots.
5. Soil compaction protection (horizontal hoarding) must be installed over the area of potential impact when temporary encroachment is permitted to facilitate work within a TPZ, as approved by UF. Refer to **TPF-1**.
6. Prior to tree removal or vegetation clearing, the Contractor must confirm that no migratory birds are making use of the site during nesting season (generally April 1 to August 31) to ensure conformance with the Migratory Bird Convention Act.

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The Corporation Of The CITY OF KITCHENER Development Services
Engineering Division

NOTES:

TREE PROTECTION FENCING AND SIGNAGE DETAIL - TPF-1

DESIGNED BY:	APPROVED BY:	DRAWN BY:	SCALE:	DATE: (MM/DD/YYYY)	SHEET No.	DWG. No.
****	****	S.E.O.	AS NOTED	3.31.2025	- - of - -	TPF-1

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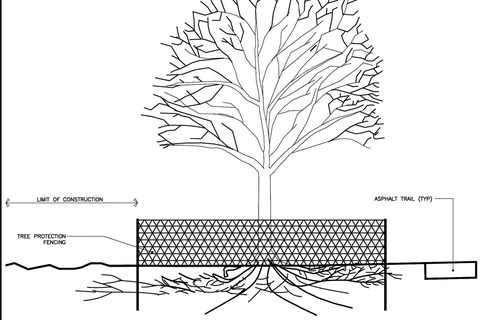
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NOTES:

TREE PRESERVATION DETAIL & NOTES STREETS AND RIGHT-OF-WAYS - TPD-2

DESIGNED BY:	APPROVED BY:	DRAWN BY:	SCALE:	DATE: (MM/DD/YYYY)	SHEET No.	DWG. No.
****	****	S.E.O.	AS NOTED	4.11.2025	- - of - -	TPD-2



A TREE PRESERVATION DETAIL & NOTES (PARKS AND OPEN AREAS)
N.T.S.

TREE PROTECTION DETAIL NOTES

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TREE PRESERVATION DETAIL & NOTES PARKS AND OPEN AREAS - TPD-1

DESIGNED BY:	APPROVED BY:	DRAWN BY:	SCALE:	DATE: (MM/DD/YYYY)	SHEET No.	DWG. No.
****	****	S.E.O.	AS NOTED	4.11.2025	- - of - -	TPD-1

Growing Medium – Urban Forestry Soil Specification for Trees (Revised January 14, 2019 Version 2.0)

	Sandy Loam	Silt Loam	Loam
% Sand	55 - 70%	0-35 %	30 – 55 %
% Silt	% silt will make up the remainder of the mix		
% Clay	8 – 20 %	0 – 25 %	8 – 25 %
Screening	≥ 7.5 cm mesh Clumps of soil or peds shall be present in the soil at the time the soil is being spread at the following rates: Sandy loam- 25mm 1 inch diameter or larger peds, 10% or greater of the soil volume. Silt loam- 30mm 1.5-inch diameter or larger peds, 15% or greater of the soil volume. Loam- 50mm 2-inch diameter or larger peds, 20% or greater of the soil volume. Ped dispersal in the soil shall be estimated by visual inspection.		
% rocks & sticks	Maximum 10 %		
pH	6.5 to 7.8 (Note where pH is above 7.4 confirm that the trees can tolerate high pH soil conditions)		
% organic content	Organic matter by dry weight 2.25% or greater		
Phosphorus(P)	10 - 60 ppm		
Potassium (K)	80 - 250 ppm		
Calcium (Ca)	1,000 – 4,000 ppm		
Magnesium (Mg)	100 – 300 ppm		
Chloride (Cl)	< 100 ppm		
Sodium (Na+)	< 200 ppm (Sodium absorption ratio < 15)		
Total Salts E.C.	<1.5 mS/cm		
Herbicides	Testing will identify any growth inhibiting herbicides present in the soil.		
CEC (Cation Exchange Capacity)	8 - 15 centimoles\kilogram	10 - 20 centimoles\kilogram	15 - 25 centimoles\kilogram
Soil Compaction	All existing and installed soil to meet soil volume requirements shall have a density of between 70 and 83% of maximum density by the standard proctor test ASTM D698. Test shall be conducted at 300mm intervals throughout the depth of the required soil profile. Alternatively the soil may be tested with a cone penetrometer with a 750 mm long probe to a resistance of between 7kg/cm2(100 psi) and 20kg/cm2(285psi). Testing frequency shall be a minimum of one test for each 500 square meters of installed soil area.		
Soil Drainage	Soil to meet soil volume requirements must drain through the entire installed soil profile at a rate of no less than 25mm per hour as tested by a double ring infiltrometer. Testing shall be undertaken at 300 and 600 mm depths. The subsoil shall be tested for drainage rates prior to installing additional soil. If the subsoil below required soil drains at less than 8mm per hour, install drain lines connected to a storm drain or day lighted outfall at the low point in each soil area. Testing frequency shall be a minimum of one test for each 500 square meters of installed soil area. The city may require additional testing in areas that the inspector feels soil or subsoil may be draining below the required rates.		
Soil Source	Where onsite soils being removed meet the above specifications they are to be harvested in a manner that preserves soil peds, stored and protected to be reused. Up to 20% composted yard waste can be added to improve the harvested soil. All imported soils must meet the above specification. Manufactured soils, unless approved for storm water projects, are not permitted.		

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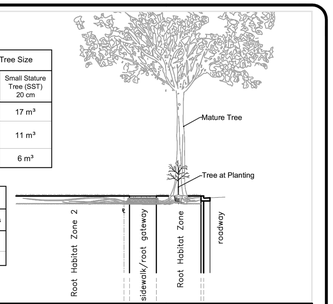
Infrastructure Services Parks & Cemeteries Design & Development

DRAWING TITLE: **GROWING MEDIUM SPECIFICATION FOR TREES, PLANTING BEDS & LAWNS**

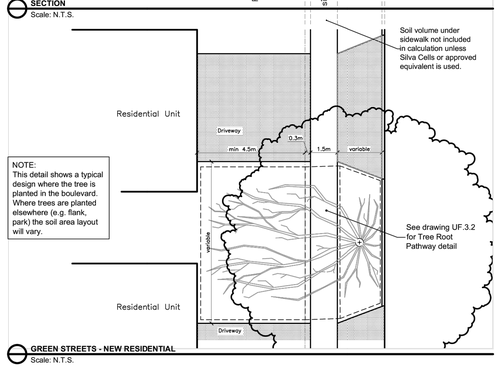
DESIGN	LAST REVISED	SCALE	DWG No.
Urban Forestry	October 08, 2019	NTS	UF.6.1
DRAWN: R.ROY	PLOT DATE: October 08, 2019	FILE NAME	

Minimum Soil Volume (SV) Requirements by Tree Size			
	Large Stature Tree (LST) ≥60cm	Medium Stature Tree (MST) ≥40cm	Small Stature Tree (SST) 20 cm
Minimum SV for one tree	45 m³	28 m³	17 m³
Minimum SV per tree where soils shared	30 m³	18.5 m³	11 m³
Allowable shared soil volume	15 m³	9.5 m³	6 m³

Minimum Soil Depths for Residential Street Tree Plantings		
	Boulevard with utilities	All other areas
Restored Soil Depth	0.45 m	0.90 m
Soil Depth Will Not Exceed 1 m		



SECTION
Scale: N.T.S.



GREEN STREETS - NEW RESIDENTIAL
Scale: N.T.S.

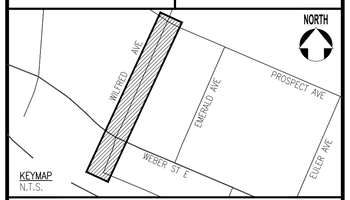
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Infrastructure Services Operations - Urban Forestry

DRAWING TITLE: **Soil Habitat Zones & Volume Requirements for Trees in Boulevards**

DESIGN	LAST REVISED	SCALE	DWG No.
YWC	May 02, 2016	NTS	UF.3.1
DRAWN: YWC	PLOT DATE: May 02, 2016	FILE NAME	

trueNORTH constructionNORTH



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TOPSOIL AND GRASS WITHIN TREE PROTECTION ZONES TO REMAIN

SURVEY
CONDITION SURVEY BY CITY OF KITCHENER JUL. 2024
FIELDBOOK # 00–000

BENCHMARK
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FROM HWY8 TO PROSPECT AVE
FROM PROSPECT AVE. TO END

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SCALE: HOR.-1:250
SHEET No. 13 of 17
DWG. No. TMP-02

TMP-02

Date: Sep. 30, 2025 - 9:49 am Plotted by: DrivePh Filename: S:\Users\PJ\11-1-KEI\ Project Files\Capital Projects (24-27)\#Weber Ave\Drawings\Civil_Sheet\Plans\Weber_TMP_Sheets.dwg