Lawrence Park Neighbourhood Investigation of Basement Flooding & Road Improvement Study

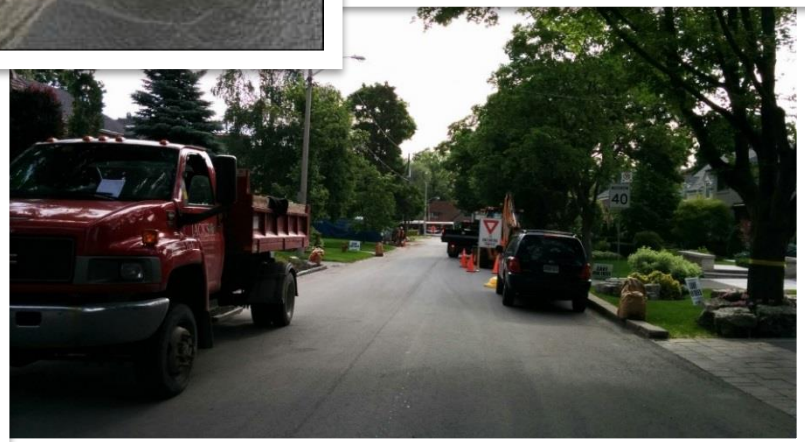
Public Information Centre
May 26, 2016
Lawrence Park Community Church, 2180 Bayview Avenue

Why are we doing this study?

The City has an obligation to ensure that its infrastructure is in a state of good repair and, when reconstructed, is brought up to date to meet today's policies and standards.

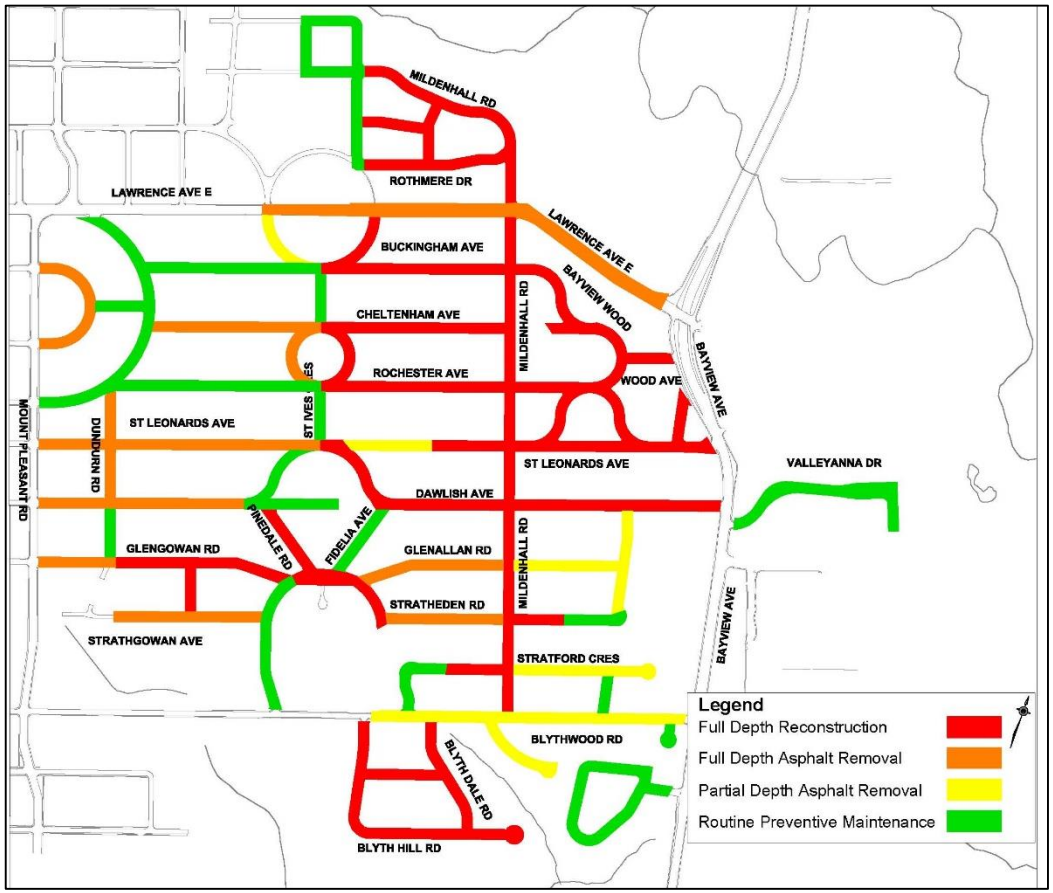
We must address these infrastructure problems:

- Deteriorated Road Infrastructure
- Pedestrian Safety
- Traffic Management
- Poor Road Drainage
- Incidences of Basement Flooding



Problem: Deteriorated Roads

- Many roads require full reconstruction; built over 50 years ago and are at the end of their service life



Graphic summarizes results of 2013 geotechnical assessment of pavement conditions.

Resurfacing vs. Reconstruction

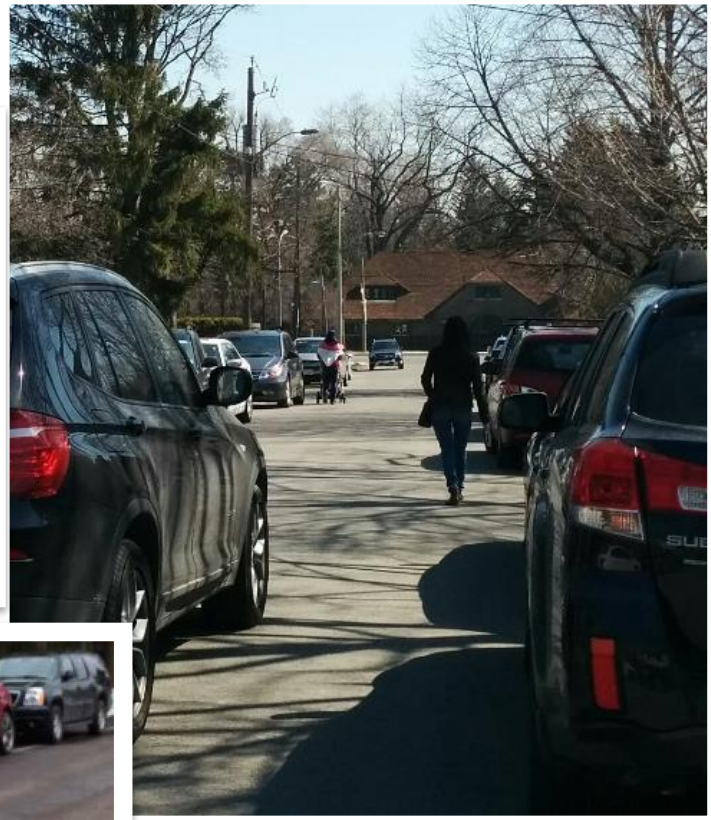
- Recent resurfacing is **only a temporary solution.** It is not a cost-effective, long-term solution for the road structure or drainage of the roads

- Reconstruction is required:
  - To improve underlying pavement structure deterioration
  - To correct major road drainage problems
  - To change the layout of the existing road features (i.e., width or location of road surface, curbs or sidewalks)

- With maintenance and rehabilitation, reconstructed roads will last up to 100 years

Problem: Pedestrian Safety

- Sidewalks exist on west-side of the neighbourhood; no pedestrian connection to east-side
- Vehicle and pedestrian conflicts
- Busiest street - Mildenhall Road provides only a 1.2m asphalt path with no separation from traffic



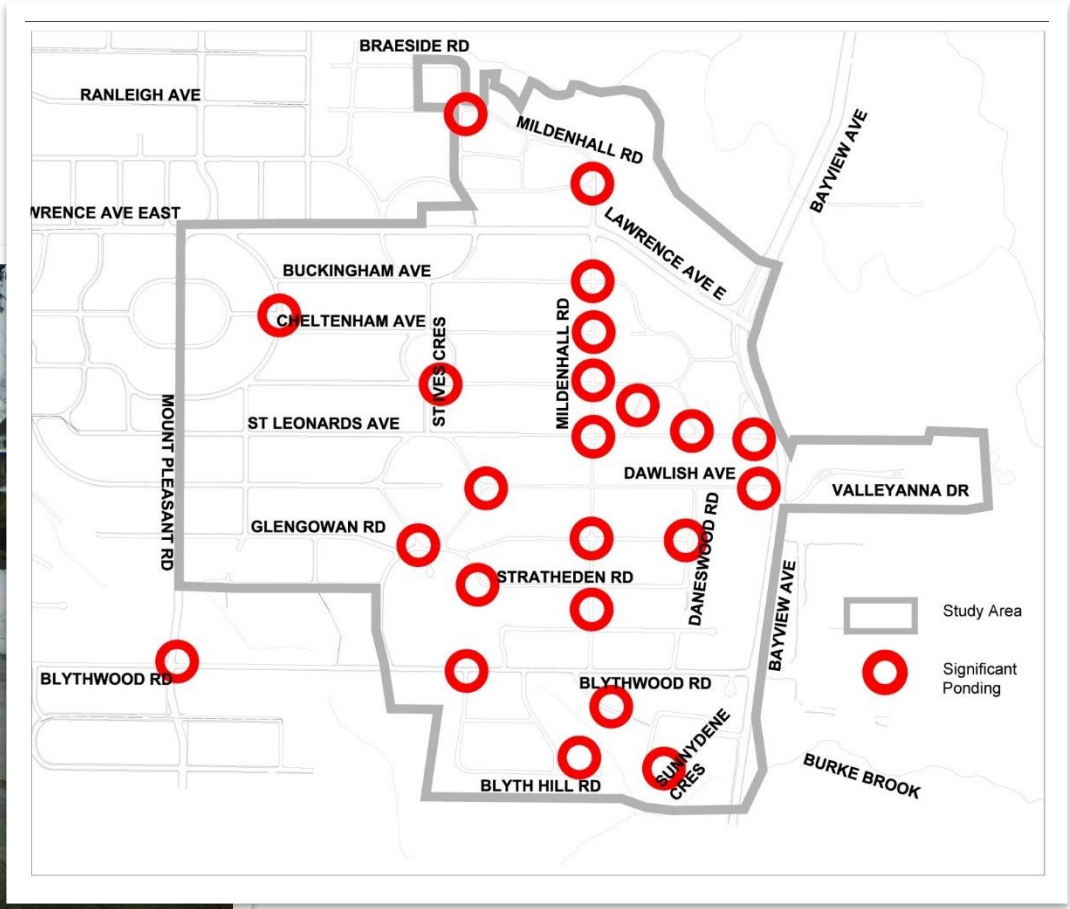
Problem: Traffic Management

- Concerns with intersection sight-lines and traffic infiltration

- Concerns with speeding can be addressed through road narrowing, traffic calming and enforcement
- Traffic Calming is a separate process and can be requested by residents or Councillor and is managed outside of the Environmental Assessment
  - Toronto's traffic calming policy requires a sidewalk on the street

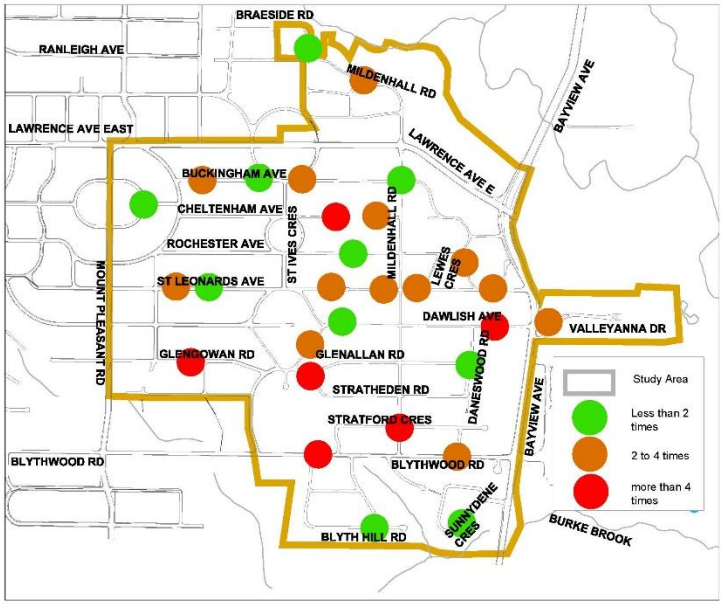
Problem: Poor Road Drainage

- Swales have been filled-in or landscaped
- As a result surface water (or road drainage) does not drain and causes excessive ponding on streets and private property



Problem: Basement Flooding

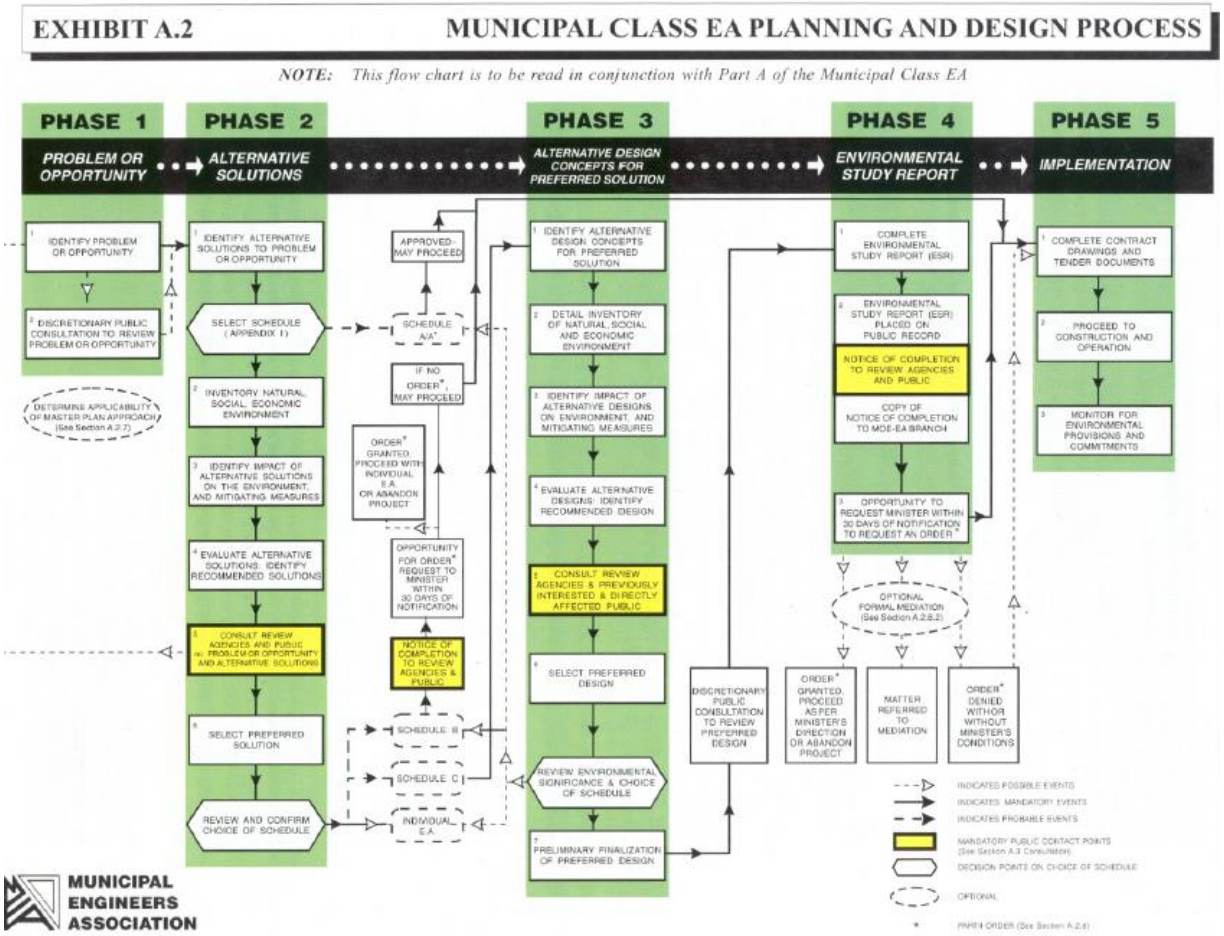
- Sewer back-ups have been reported during severe rainstorm events
- Storm drainage system in East-side (former North York) is not functioning during severe storm events, and is backing up in the sanitary sewers
- Sewer system in West-side (former Toronto) is sized to handle the average rainfall, not severe storm events



What is the study process?

To address the infrastructure problems, the City is carrying out a Master Plan study under the Municipal Class Environmental Assessment (a prescribed process to meet the requirements of the province's Environmental Assessment Act).

An EA assesses impacts on all aspects of the environment, the community and stakeholders, and produces recommendations based on a logical decision making process.



Three Stages – Study, Design, Construction

1

Environmental Assessment Study

Establish framework of road widths, streets with sidewalks, road drainage system, sewer improvements and traffic sight-lines

2

Detailed Engineering Design

Produce detailed drawings with:

- Road alignment
- Sidewalk and curb details (side of street, material)
- Incorporate locations of other utilities (e.g., hydro, gas)
- Coordinate other necessary upgrades (e.g., watermains, sanitary sewers)

3

Construction

Qualified contractor hired to carry out construction;
City oversees contract and inspection of work

What we've heard

- Study area streets
  - Preserving trees is a key priority
  - Desire to maintain rural, unique character
  - Mixed views on sidewalks
- Traffic safety
  - General agreement with traffic safety recommendations
  - Support for more traffic safety measures (parking restrictions, sight line improvements, signs and turning restrictions)
- Basement flooding
  - General agreement that sewer upgrades needed to reduce basement flooding risk
  - Some concern over potential implications of solutions (e.g., loss of trees, more paved surfaces)
  - Request to extend sewer improvements to additional streets

Infrastructure Standards

City standards and policies have been reviewed and consideration has been given to the study area conditions, and public and stakeholder feedback.

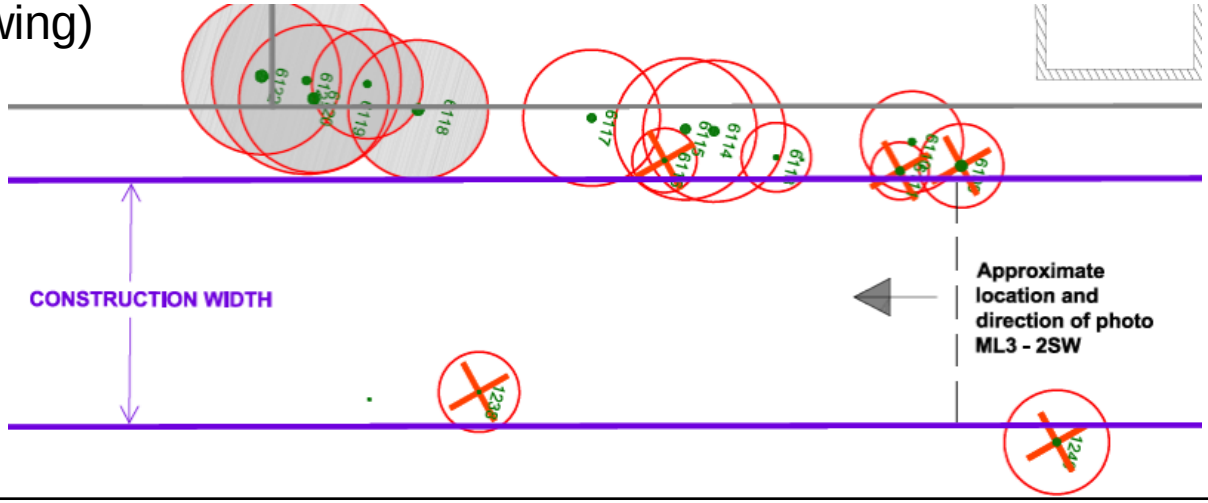
The EA report will capture the area specific considerations and will be a guide during the design work that will follow.

Standards and Policies	Study Considerations for Lawrence Park
Local Road - 8.5 m road width	7.2 m road width with localized narrowing to 6.6 m
Local Road - 1.7- 2.0 m sidewalk on one or both sides	Inclusion of a sidewalk on one side was evaluated. 1.5 m sidewalk on local roads that create or maintain a key linkage across the neighbourhood.
Collector Road - 9.5 m road width **1.7- 2.0 m sidewalk on both sides**	8.5 m road width, 1.5 m sidewalk on one side 7.2 m road width, 1.5 m sidewalk on both sides
Maintain existing ditches	Ditches and underground storm sewers evaluated. Storm sewers score higher because of significant tree loss associated with rebuilding ditches to standard.
Enhanced level of protection against sanitary sewer back-up for 25-50 year storm event and storm sewer back-up and surface flooding for 100-year storm event *Management of runoff on or between private property is the responsibility of the homeowners	

Assessment of Tree Impacts

Assessment of Tree Impacts

- During an EA study a worst case assessment of tree impacts is undertaken
- Hearing the community concern, a more detailed level of effort was conducted in Lawrence Park Neighbourhood to better define and minimize the impacts
- Each tree was assessed individually for a customized Tree Impact Zone (TIZ) - red circles in drawing)



	**Not Impacted:** The TIZ lies completely outside of the construction width and will not be impacted.
	**Preserved if Possible:** Construction inside the TIZ; the tree will be impacted by construction. Design, construction and post construction mitigation techniques will be used to preserve the tree.
	**Removed and Replaced:** Construction significantly inside the TIZ. Tree significantly impacted by construction to the extent that removal is expected.

Caring for Trees during Construction

Construction Stage

- On-site supervision by certified arborists and communication plan
- Excavation techniques (hand excavation, pneumatic, hydraulic, etc.)
- Root pruning techniques and considerations
- Backfill techniques and considerations
- Tree care during construction

Pictured above: Pneumatic (air) and hydraulic (water) excavation techniques remove the surrounding soil without significantly damaging tree roots.

Post-Construction Care

Post-Construction

- Monitoring
- Irrigation
- Aeration
- Mulching
- Wound treatment, as necessary
- Fertilization (not recommended for at least 1 year post construction)

Monitoring

Irrigation

Aeration

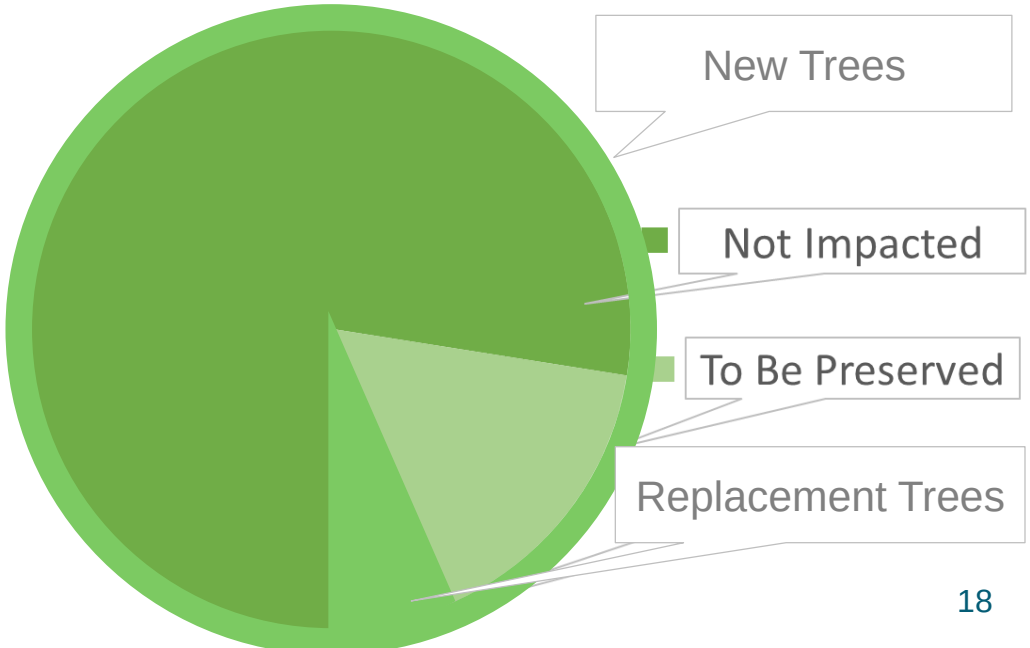
Tree Summary

Table shows the current count of trees estimated to be **removed and replaced, preserved if possible** and **not impacted** based on customized Tree Impact Zone

Project ID	Representative Street Name	Approximate Total Number of Trees	Number of Trees to be removed	Number of Trees to be preserved	Number of Trees not impacted
1	Mildenhall Rd	137	29	43	65
2	Buckingham Ave	59	7	9	43
3	Cheltenham Ave	44	3	9	32
4	Rochester Ave	77	6	13	58
5	St. Leonards Ave	79	11	20	48
6	Lewes Cres, Pembury Ave	39	4	8	27
7	Dawlish Ave	54	14	14	26
8	Glenallan Rd, Pinedale Rd, Strathgowan Cres	80	1	12	67
9	Stratheden Rd, Strathgowan Cres	58	2	8	48
10A	Garland Ave, Strathgowan Ave	42	5	12	25
10B	Strathgowan Ave	35	1	8	26
11	Blyth Hill Rd	86	3	6	77
12	Blyth Dale Rd, Blanchard Rd	79	2	9	68
13	Braeside Cres, Proctor Cres	28	0	8	20
14	Rothmere Dr	48	2	8	38
15	Mildenhall Rd North	90	2	12	76
16	Bayview Wood, St. Aubyns Cres, Wood Ave	96	8	22	66
17	Fidelia Ave, St. Leonards Cres, Dawlish Ave	70	6	26	38
	Total Number of Trees	1201	106	247	848

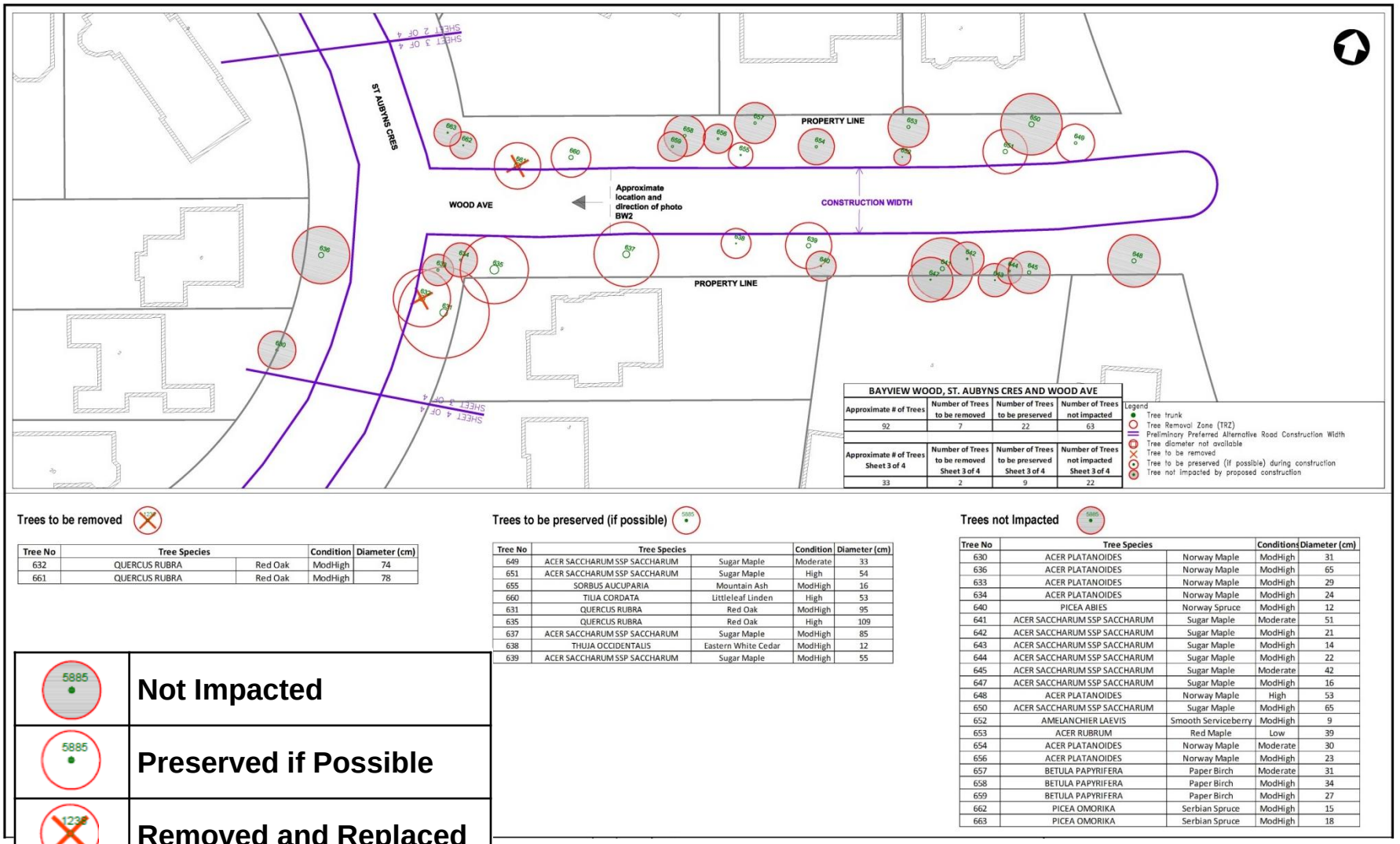
Adding to the Tree Canopy

- The City will plant new trees as early as this year
- The City will identify potential locations and species type, and will consult with affected property owners
- Overall tree canopy can increase by over a 100 trees
- Early planting will allow trees to become established well ahead of construction
- During construction, the City will replace each tree that is removed



Tree Assessment Example

Wood Avenue



BAYVIEW WOOD, ST. AUBYNS CRES AND WOOD AVE

Approximate # of Trees	Number of Trees to be removed	Number of Trees to be preserved	Number of Trees not impacted
92	7	22	63

Approximate # of Trees Sheet 3 of 4	Number of Trees to be removed Sheet 3 of 4	Number of Trees to be preserved Sheet 3 of 4	Number of Trees not impacted Sheet 3 of 4
33	2	9	22

Legend
- Tree trunk
- Tree Removal Zone (TRZ)
- Preliminary Preferred Alternative Road Construction Width
- Tree diameter not available
- Tree to be removed
- Tree to be preserved (if possible) during construction
- Tree not impacted by proposed construction

Trees to be removed

Tree No	Tree Species		Condition	Diameter (cm)
632	QUERCUS RUBRA	Red Oak	ModHigh	74
661	QUERCUS RUBRA	Red Oak	ModHigh	78

Trees to be preserved (if possible)

Tree No	Tree Species		Condition	Diameter (cm)
649	ACER SACCHARUM SSP SACCHARUM	Sugar Maple	Moderate	33
651	ACER SACCHARUM SSP SACCHARUM	Sugar Maple	High	54
655	SORBUS AUCUPARIA	Mountain Ash	ModHigh	16
660	TILIA CORDATA	Littleleaf Linden	High	53
631	QUERCUS RUBRA	Red Oak	ModHigh	95
635	QUERCUS RUBRA	Red Oak	High	109
637	ACER SACCHARUM SSP SACCHARUM	Sugar Maple	ModHigh	85
638	THUJA OCCIDENTALIS	Eastern White Cedar	ModHigh	12
639	ACER SACCHARUM SSP SACCHARUM	Sugar Maple	ModHigh	55

Trees not Impacted

Tree No	Tree Species		Conditions	Diameter (cm)
630	ACER PLATANOIDES	Norway Maple	ModHigh	31
636	ACER PLATANOIDES	Norway Maple	ModHigh	65
633	ACER PLATANOIDES	Norway Maple	ModHigh	29
634	ACER PLATANOIDES	Norway Maple	ModHigh	24
640	PICEA ABIES	Norway Spruce	ModHigh	12
641	ACER SACCHARUM SSP SACCHARUM	Sugar Maple	Moderate	51
642	ACER SACCHARUM SSP SACCHARUM	Sugar Maple	ModHigh	21
643	ACER SACCHARUM SSP SACCHARUM	Sugar Maple	ModHigh	14
644	ACER SACCHARUM SSP SACCHARUM	Sugar Maple	ModHigh	22
645	ACER SACCHARUM SSP SACCHARUM	Sugar Maple	Moderate	42
647	ACER SACCHARUM SSP SACCHARUM	Sugar Maple	ModHigh	16
648	ACER PLATANOIDES	Norway Maple	High	53
650	ACER SACCHARUM SSP SACCHARUM	Sugar Maple	ModHigh	65
652	AMELANCHIER LAEVIS	Smooth Serviceberry	ModHigh	9
653	ACER RUBRUM	Red Maple	Low	39
654	ACER PLATANOIDES	Norway Maple	Moderate	30
656	ACER PLATANOIDES	Norway Maple	ModHigh	23
657	BETULA PAPYRIFERA	Paper Birch	Moderate	31
658	BETULA PAPYRIFERA	Paper Birch	ModHigh	34
659	BETULA PAPYRIFERA	Paper Birch	ModHigh	27
662	PICEA OMORIKA	Serbian Spruce	ModHigh	15
663	PICEA OMORIKA	Serbian Spruce	ModHigh	18

5885	**Not Impacted**
5885	**Preserved if Possible**
1238	**Removed and Replaced**

Before and After Illustration

FIGURE BW2
ILLUSTRATION OF EXISTING AND PROPOSED ROAD DIMENSIONS - **WOOD AVENUE**

Wood Avenue

Existing Conditions

- Pavement width (asphalt) – 6.8 m
- Roadway width – 8.2 m
- Swales/culverts on both sides

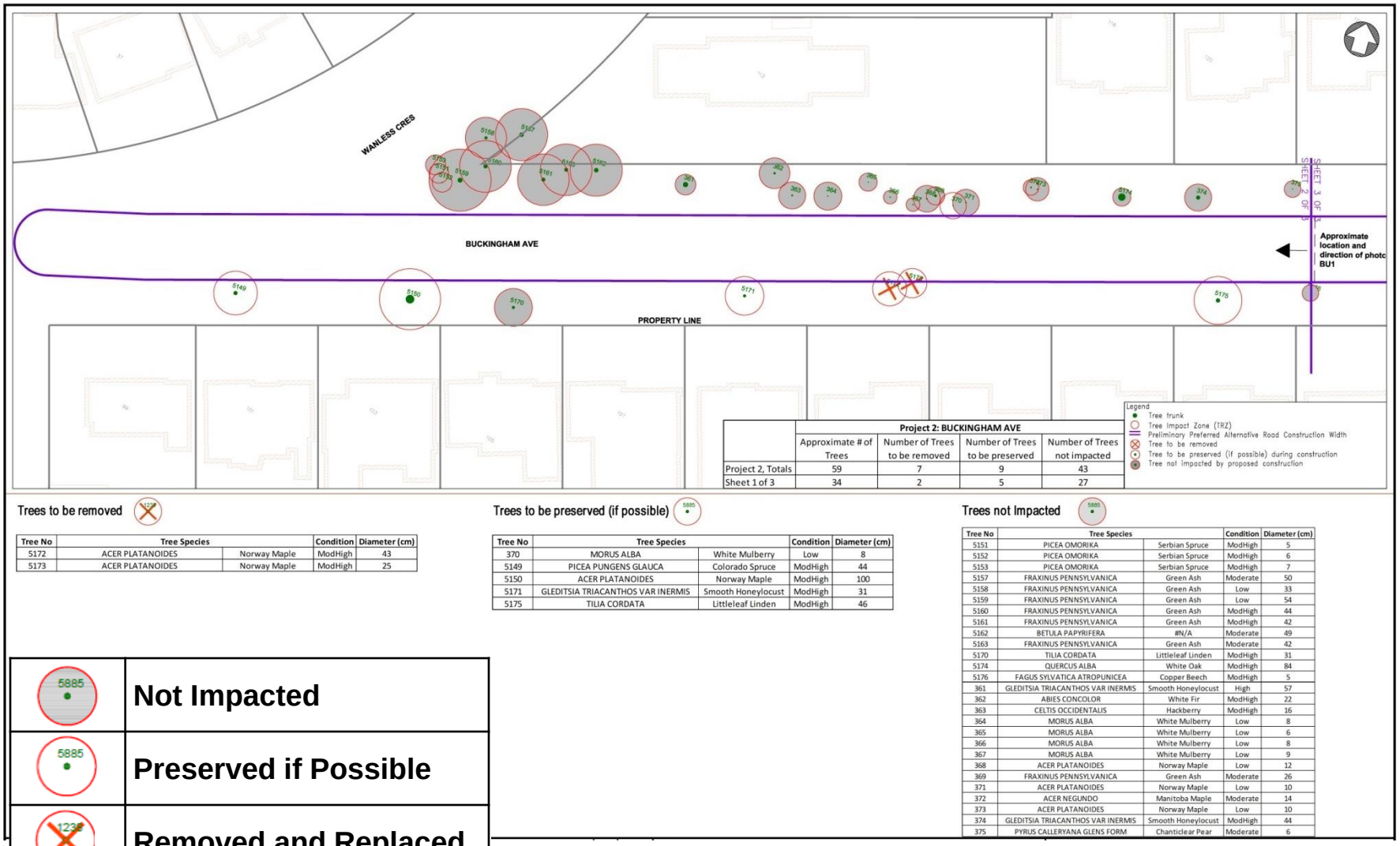
Post Construction

- Proposed Pavement width – 7.2 m
- Proposed Roadway width – 7.6 m

Features include:
Addition of curbs and storm sewer/catch basins within roadway

Tree Assessment Example

Buckingham Avenue



	Project 2: BUCKINGHAM AVE			
	Approximate # of Trees	Number of Trees to be removed	Number of Trees to be preserved	Number of Trees not impacted
Project 2, Totals	59	7	9	43
Sheet 1 of 3	34	2	5	27

Legend
- Tree trunk
- Tree Impact Zone (TRZ)
- Preliminary Preferred Alternative Road Construction Width
- Tree to be removed
- Tree to be preserved (if possible) during construction
- Tree not impacted by proposed construction

Trees to be removed

Tree No	Tree Species		Condition	Diameter (cm)
5172	ACER PLATANOIDES	Norway Maple	ModHigh	43
5173	ACER PLATANOIDES	Norway Maple	ModHigh	25

Trees to be preserved (if possible)

Tree No	Tree Species		Condition	Diameter (cm)
370	MORUS ALBA	White Mulberry	Low	8
5149	PICEA PUNGENS GLAUCA	Colorado Spruce	ModHigh	44
5150	ACER PLATANOIDES	Norway Maple	ModHigh	100
5171	GLEDITSIA TRIACANTHOS VAR INERMIS	Smooth Honeylocust	ModHigh	31
5175	TILIA CORDATA	Littleleaf Linden	ModHigh	46

Trees not Impacted

Tree No	Tree Species		Condition	Diameter (cm)
5151	PICEA OMORIKA	Serbian Spruce	ModHigh	5
5152	PICEA OMORIKA	Serbian Spruce	ModHigh	6
5153	PICEA OMORIKA	Serbian Spruce	ModHigh	7
5157	FRAXINUS PENNSYLVANICA	Green Ash	Moderate	50
5158	FRAXINUS PENNSYLVANICA	Green Ash	Low	33
5159	FRAXINUS PENNSYLVANICA	Green Ash	Low	54
5160	FRAXINUS PENNSYLVANICA	Green Ash	ModHigh	44
5161	FRAXINUS PENNSYLVANICA	Green Ash	ModHigh	42
5162	BETULA PAPYRIFERA	#N/A	Moderate	49
5163	FRAXINUS PENNSYLVANICA	Green Ash	Moderate	42
5170	TILIA CORDATA	Littleleaf Linden	ModHigh	31
5174	QUERCUS ALBA	White Oak	ModHigh	84
5176	FAGUS SYLVATICA ATROPUNICEA	Copper Beech	ModHigh	5
361	GLEDITSIA TRIACANTHOS VAR INERMIS	Smooth Honeylocust	High	57
362	ABIES CONCOLOR	White Fir	ModHigh	22
363	CELTIS OCCIDENTALIS	Hackberry	ModHigh	16
364	MORUS ALBA	White Mulberry	Low	8
365	MORUS ALBA	White Mulberry	Low	6
366	MORUS ALBA	White Mulberry	Low	8
367	MORUS ALBA	White Mulberry	Low	9
368	ACER PLATANOIDES	Norway Maple	Low	12
369	FRAXINUS PENNSYLVANICA	Green Ash	Moderate	26
371	ACER PLATANOIDES	Norway Maple	Low	10
372	ACER NEGUNDO	Manitoba Maple	Moderate	14
373	ACER PLATANOIDES	Norway Maple	Low	10
374	GLEDITSIA TRIACANTHOS VAR INERMIS	Smooth Honeylocust	ModHigh	44
375	PYRUS CALLERYANA GLENS FORM	Chanticlear Pear	Moderate	6

5885	**Not Impacted**
5885	**Preserved if Possible**
1234	**Removed and Replaced**

Before and After Illustration

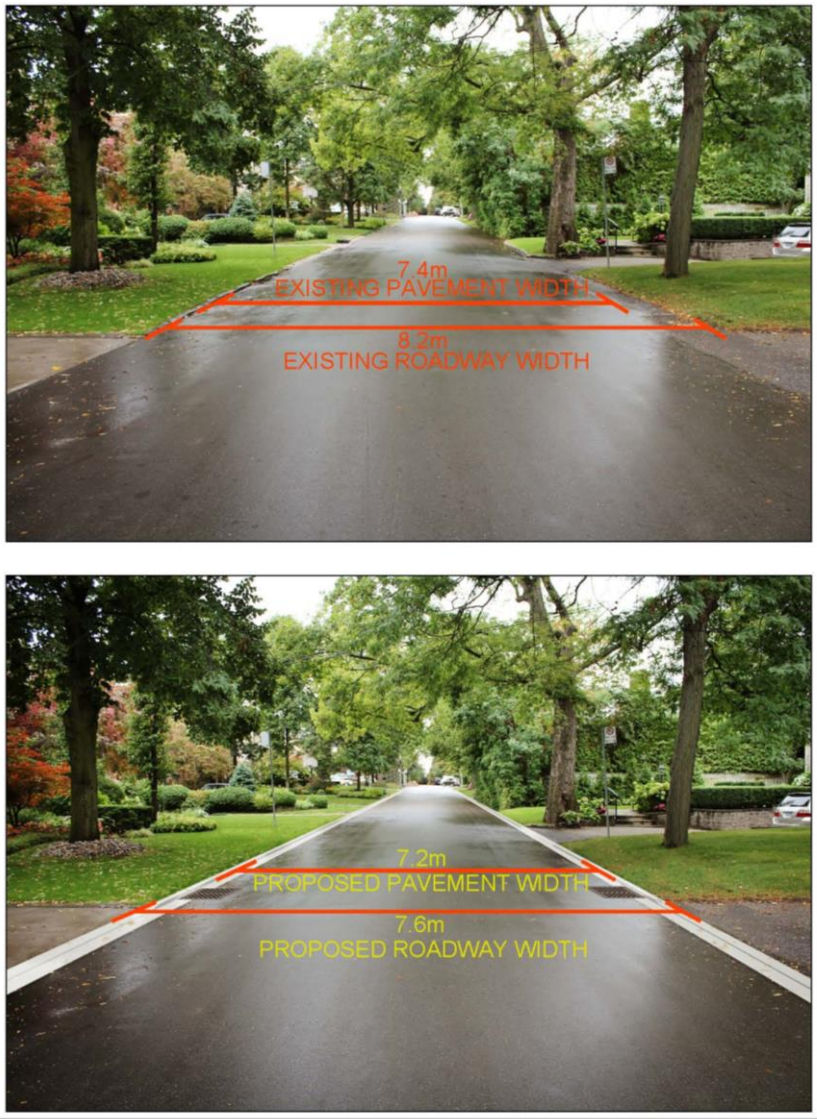


FIGURE BU1
ILLUSTRATION OF EXISTING AND PROPOSED ROAD DIMENSIONS - **BUCKINGHAM AVE**

Buckingham Avenue

Existing Conditions

- Pavement width (asphalt) – 7.4 m
- Roadway width – 8.2 m
- Swales/culverts on both sides

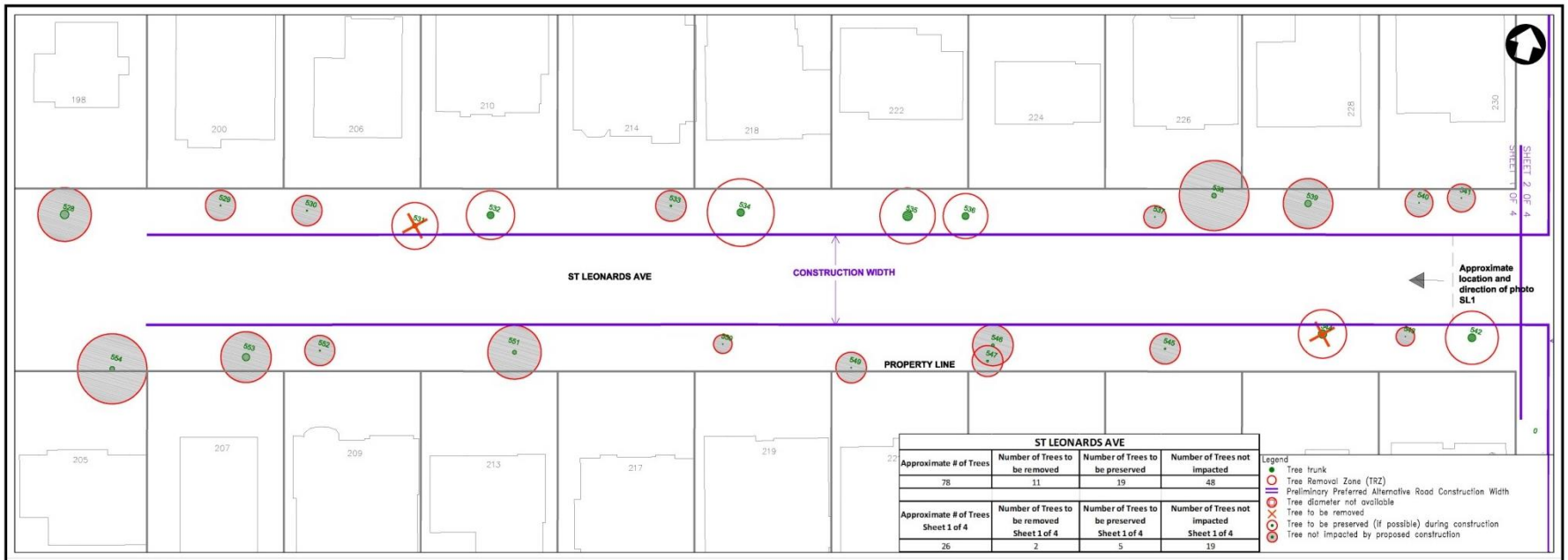
Post Construction

- Proposed Pavement width – 7.2 m
- Proposed Roadway width – 7.6 m

Features include:
Addition of curbs and storm sewer/catch basins within roadway

Tree Assessment Example

St. Leonards Avenue



ST LEONARDS AVE			
Approximate # of Trees	Number of Trees to be removed	Number of Trees to be preserved	Number of Trees not impacted
78	11	19	48
Approximate # of Trees Sheet 1 of 4	Number of Trees to be removed Sheet 1 of 4	Number of Trees to be preserved Sheet 1 of 4	Number of Trees not impacted Sheet 1 of 4
26	2	5	19

Legend
- Tree trunk
- Tree Removal Zone (TRZ)
- Preliminary Preferred Alternative Road Construction Width
- Tree diameter not available
- Tree to be removed
- Tree to be preserved (if possible) during construction
- Tree not impacted by proposed construction

Trees to be removed

Tree No	Tree Species		Condition	Diameter (cm)
544	ACER SACCHARINUM	Silver Maple	ModHigh	94
531	SALIX SP	Willow sp.	Moderate	52

Trees to be preserved (if possible)

Tree No	Tree Species		Condition	Diameter (cm)
542	ACER PLATANOIDES	Norway Maple	ModHigh	86
532	ACER PLATANOIDES	Norway Maple	Moderate	77
534	ACER PLATANOIDES	Norway Maple	High	82
535	ACER SACCHARINUM	Silver Maple	ModHigh	105
536	ACER SACCHARINUM	Silver Maple	High	76

Trees not impacted

Tree No	Tree Species		Conditions	Diameter (cm)
545	SYRINGA RETICULATA IVORY SILK	Japanese Tree Lilac	ModHigh	17
546	ACER PALMATUM	Japanese Maple	ModHigh	32
547	PICEA PUNGENS GLAUCA	Colorado Spruce	ModHigh	22
549	GLEDITSIA TRIACANTHOS VAR INERMIS	Smooth Honeylocust	ModHigh	9
550	GINKGO BILOBA	Ginkgo	ModHigh	6
551	PICEA PUNGENS GLAUCA	Colorado Spruce	ModHigh	43
552	GINKGO BILOBA	Ginkgo	ModHigh	14
553	ACER PLATANOIDES	Norway Maple	ModHigh	80
554	ABIES CONCOLOR	White Fir	High	52
543	ACER SACCHARINUM	Silver Maple	ModHigh	6
537	AMELANCHIER LAEVIS	Smooth Serviceberry	ModHigh	8
538	GLEDITSIA TRIACANTHOS VAR INERMIS	Smooth Honeylocust	High	52
539	TILIA CORDATA	Littleleaf Linden	High	71
540	LIRIODENDRON TULIPIFERA	Tulip Tree	ModHigh	8
541	LIRIODENDRON TULIPIFERA	Tulip Tree	ModHigh	8
533	SYRINGA RETICULATA IVORY SILK	Japanese Tree Lilac	ModHigh	19
528	ACER SACCHARINUM	Silver Maple	Moderate	94
529	SYRINGA RETICULATA IVORY SILK	Japanese Tree Lilac	ModHigh	14
530	ACER SACCHARINUM	Silver Maple	ModHigh	14

5885	**Not Impacted**
5885	**Preserved if Possible**
1234	**Removed and Replaced**

Before and After Illustration

FIGURE SL1
ILLUSTRATION OF EXISTING AND PROPOSED ROAD DIMENSIONS - **ST LEONARDS AVE**

St. Leonards Avenue

Existing Conditions
- Pavement width (asphalt) – 7.0 m
- Roadway width – 9.2 m
- Swales/culverts on both sides

Post Construction
- Pavement width – 7.2 m
- Roadway width – 9.1 m

Features to include:
Addition of one sidewalk, curbs and storm sewer/catchbasins within roadway
(note: sidewalk on right-side for illustration purpose only)

Reducing Tree Impacts & Removals

We will continue to find opportunities to reduce tree impacts and removals

Design Stage

- Narrowing sections of local roads to 6.6 metres
- Shifting road alignment
- Detail tree removals and retentions on plan drawings
- Plan areas for construction access, staging, material storage
- Examine tunneling vs trenching, grade changes, slope stabilization, etc.

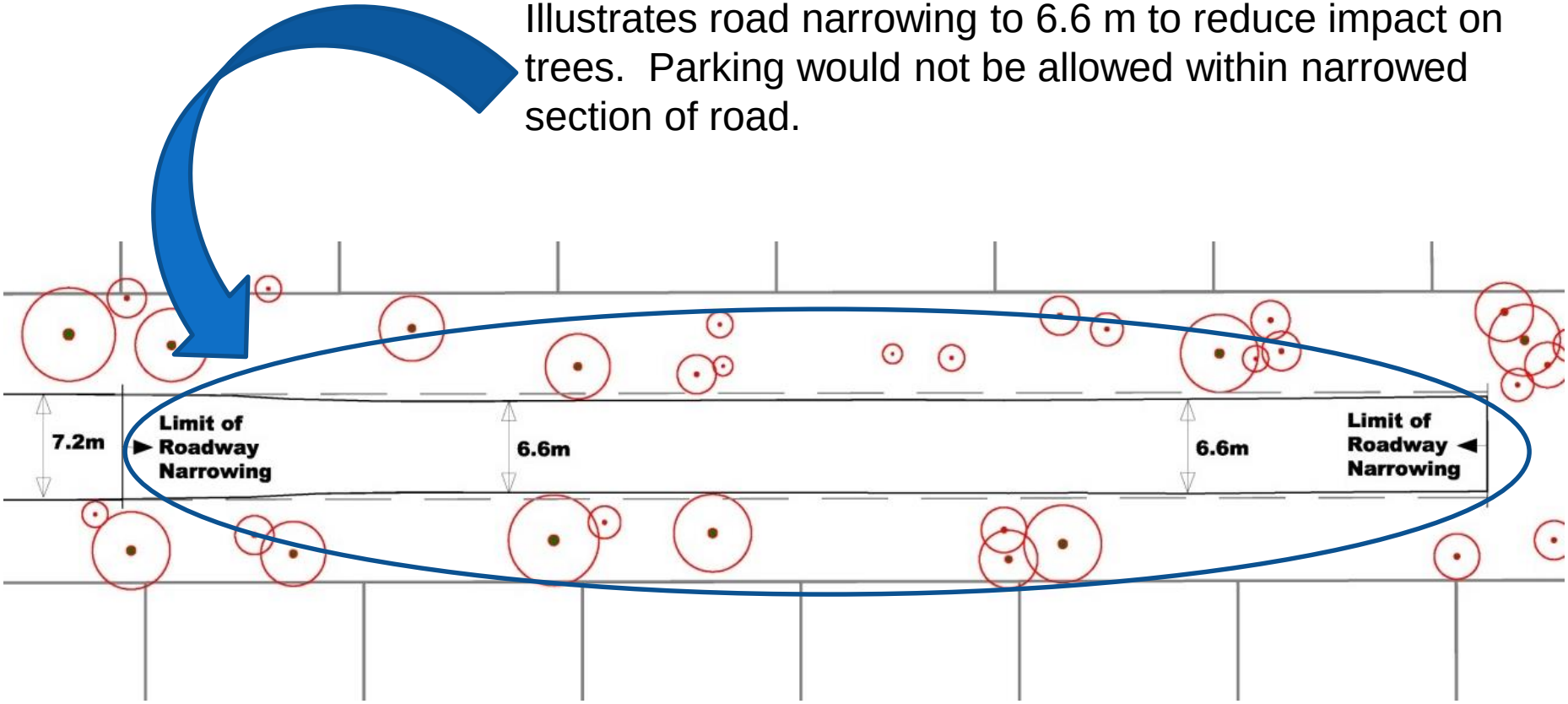
...

Construction Stage

- Tree impact zone (TIZ) fencing and signage, trunk protection, etc.
- Examine considerations for root and crown pruning to avoid damage by construction equipment
- On-site supervision by certified arborists and communication plan

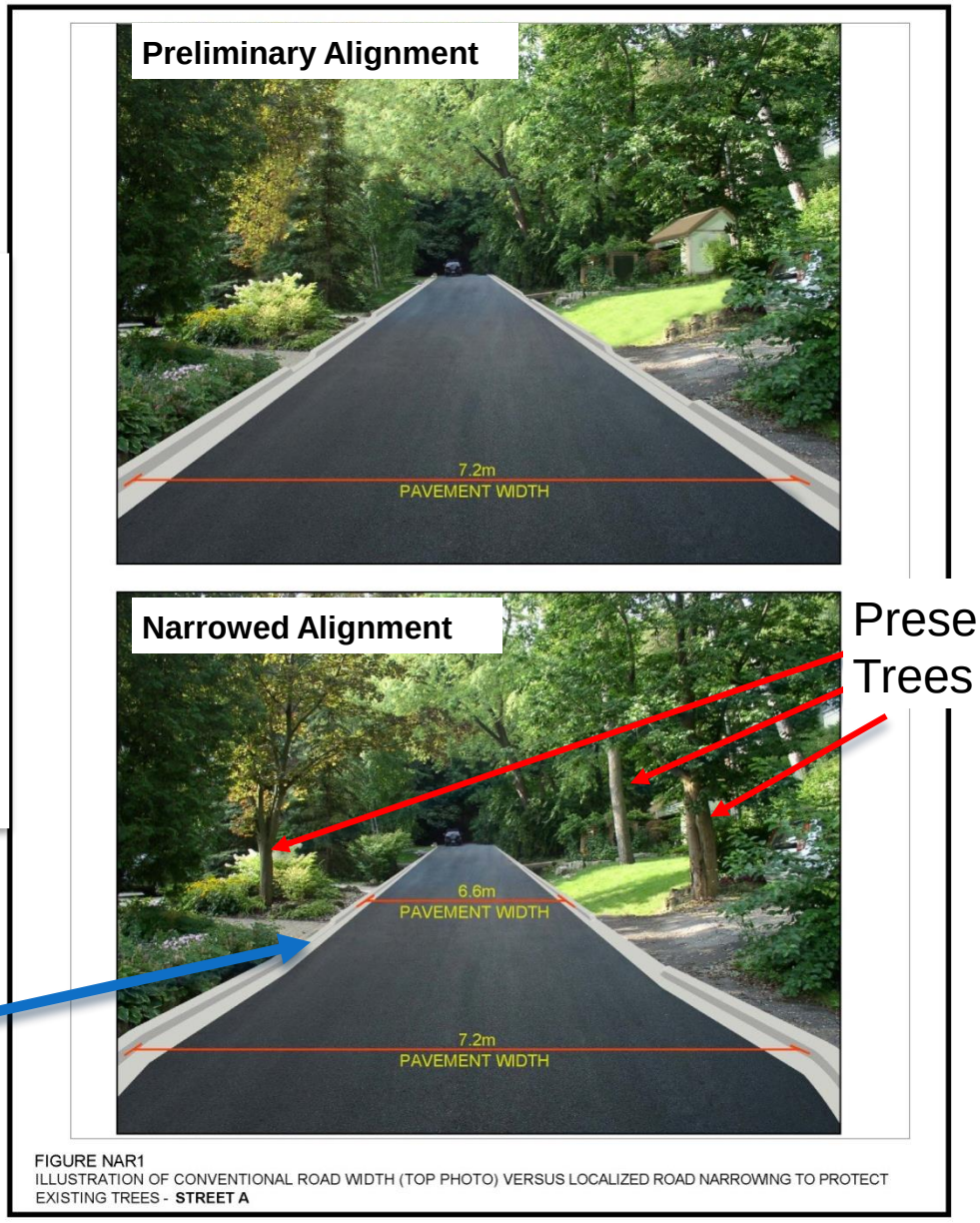
Localized Road Narrowing

Illustrates road narrowing to 6.6 m to reduce impact on trees. Parking would not be allowed within narrowed section of road.



Localized Road Narrowing

Existing Road

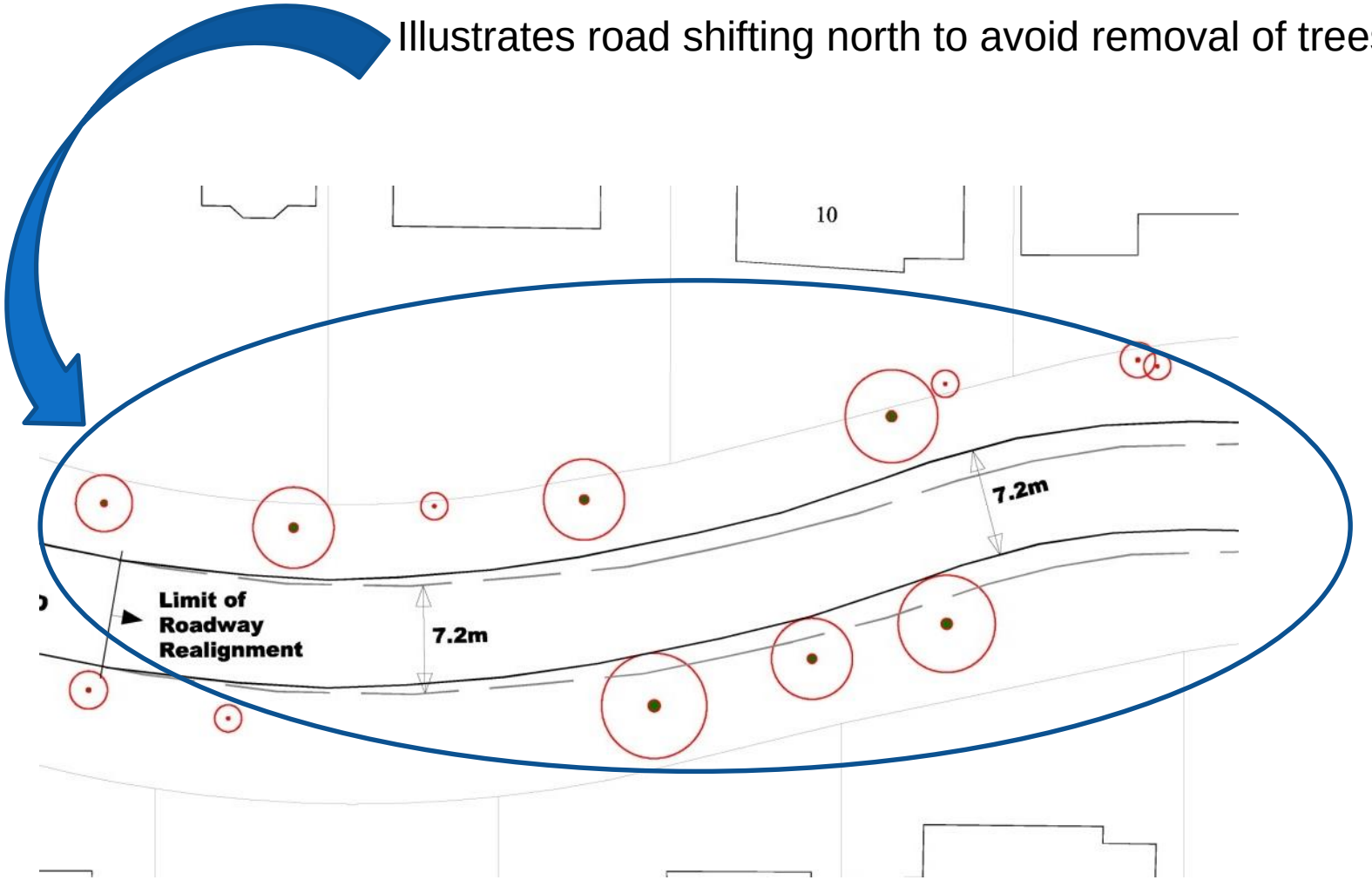


Road narrowed to 6.6 m

FIGURE NAR1
ILLUSTRATION OF CONVENTIONAL ROAD WIDTH (TOP PHOTO) VERSUS LOCALIZED ROAD NARROWING TO PROTECT EXISTING TREES - **STREET A**

Localized Shifting of Road

Illustrates road shifting north to avoid removal of trees



Localized Shifting of Road

Existing Conditions

FIGURE SHI2
ILLUSTRATION OF CONVENTIONAL ALIGNMENT (TOP PHOTO) VERSUS SHIFTING OF ROAD ALIGNMENT TO PROTECT EXISTING TREES (LOWER PHOTO) - **STREET D**

Roads, Sidewalks and Drainage

Road Reconstruction

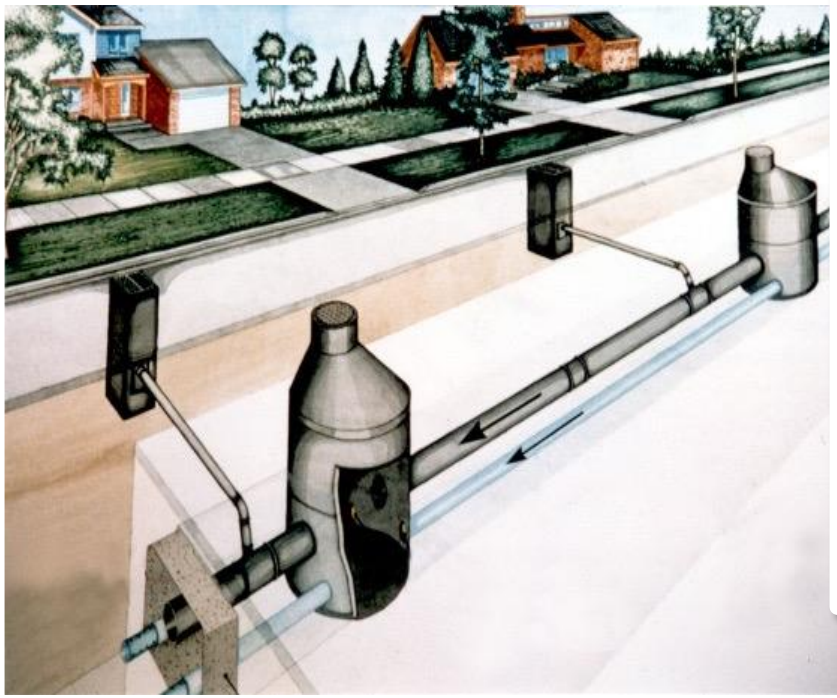
- Full depth reconstruction required for 26 roads in the study area due to deteriorated road conditions
- For each road, the City must address varying road width, pedestrian access and road drainage
- Based on review of City policies/standards and characteristics of the study area, the following set of alternative options were evaluated:

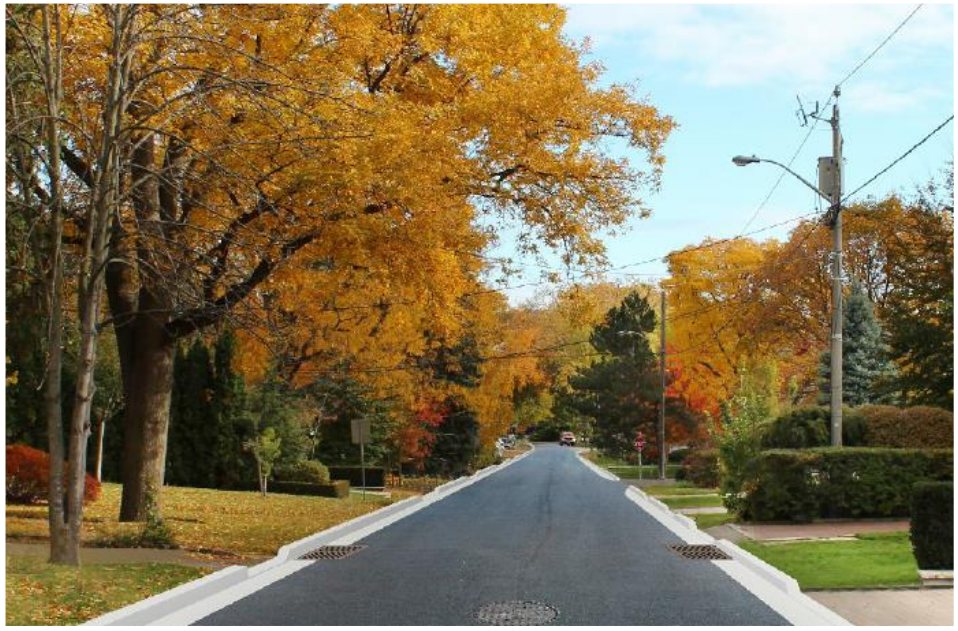
Local Road Width	8.5 m or 7.2 m
Collector Road Width (Mildenhall South)	9.5 m, 8.5 m or 7.2 m
Sidewalks	Local Road - 0 or 1 sidewalk Collector Road - 1 or 2 sidewalks
Road Drainage	Urban (storm sewers + catch basins) Rural (ditches)

- Sidewalk width of 1.5 m, which is the provincial minimum

Urban Road Drainage

- Urban road drainage will result in the fewest impacts to trees as the sewer is located under the road surface
- Storm sewers will have perforated pipes to allow storm water to naturally infiltrate into soil
- At time of construction, existing swales will be filled-in and landscaped





Sidewalks

- In review of the study area characteristics, City has examined creating pedestrian linkages to key destinations in the neighbourhood (schools, church, nursery, TTC stops) and connecting existing sidewalks
- Sidewalks are recommended for 5 out of 26 roads
  - **Mildenhall Road South:** Safer and accessible connection along street with high traffic volumes
  - **St. Leonards Ave & Dawlish Ave**: Adds west-east connectors to Bayview Avenue
  - **Glenallen Rd & Pinedale Rd:** Safer connection to local school
- Sidewalks will run alongside the road curb; location (side of street) to be determined during detailed design stage
- City's new Green Standards may provide alternative sidewalk materials
- Recommendations will help improve accessibility in the neighbourhood

Recommended Alternative Solutions:
LOCAL ROAD

7.2 metre road + 1 sidewalk + urban cross section

7.2 metre road + urban cross section

Parking on 7.2 m road width will be limited to one side of road; where road is narrowed to 6.6 m parking will not be allowed

Previously Recommended Alternative (since revised): Mildenhall Road, south of Lawrence Avenue

Alternative #5: 8.5m road + 1 sidewalk + urban cross section

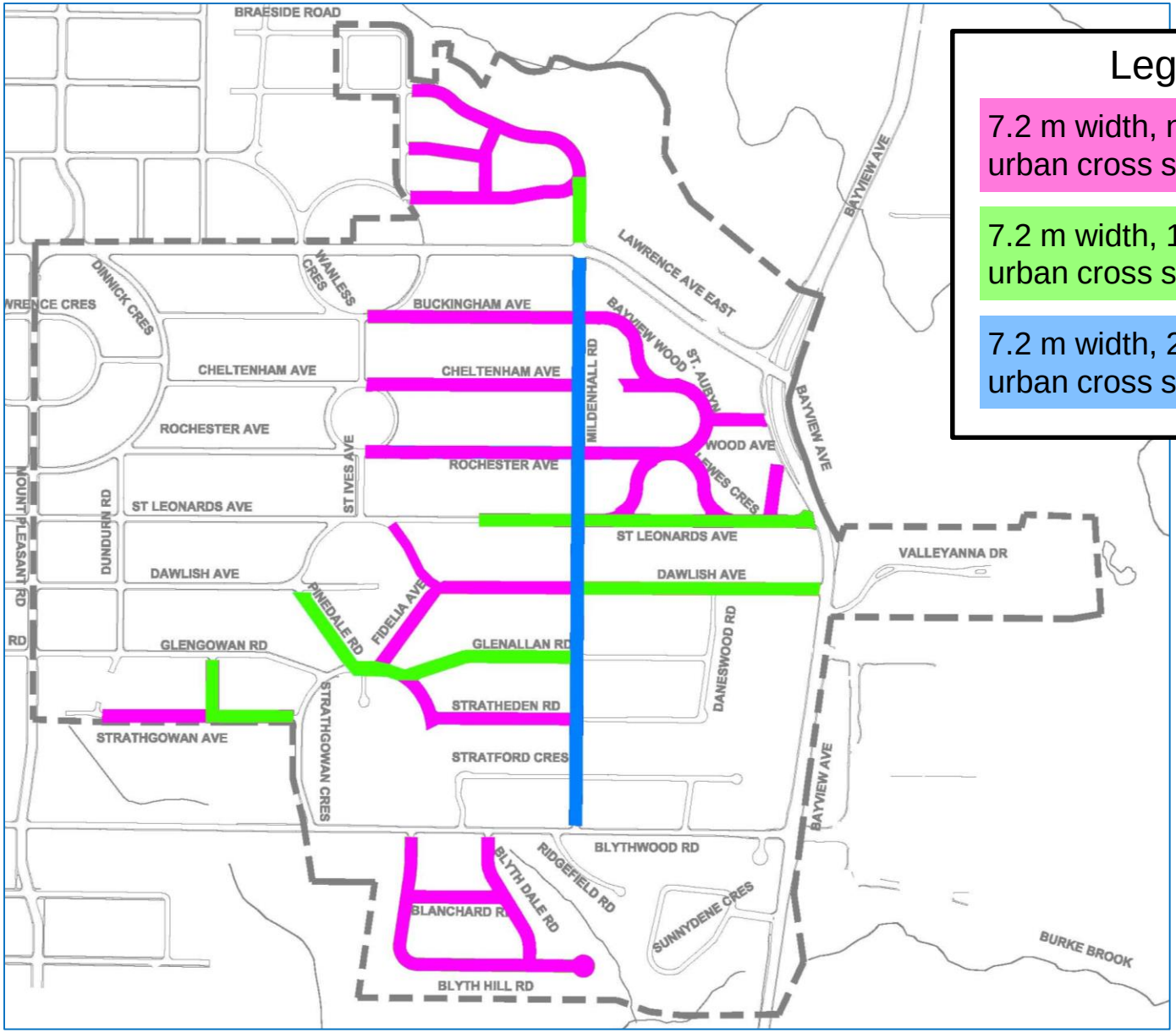
- Six alternatives were evaluated; Alternative #5 scored highest and was presented at third PIC (May 2015) as recommended alternative
- We heard concerns from the public about safety and traffic speed and request for a narrower road
- This alternative was reconsidered and is not being recommended

Recommended Alternative (based on public feedback):
Mildenhall Road, south of Lawrence Avenue

Alternative #6: 7.2m road width + 2 sidewalks + urban cross section

- Narrower road option addresses concerns about traffic speed
- Narrower width on a busy road requires a second sidewalk to avoid pedestrians having to walk on the road
- Construction width is 20 cm wider than Alternative #5; this may result in an estimated 3 additional tree removal requirements
- Parking restrictions will largely remain unchanged on Mildenhall Road. Parking around Cheltenham Park will be examined at the detailed design stage.

Study Recommendations



Legend

- 7.2 m width, no sidewalk, urban cross section
- 7.2 m width, 1 sidewalk, urban cross section
- 7.2 m width, 2 sidewalk, urban cross section

Traffic Management

Traffic Management

- Findings for area bound by Mt. Pleasant / Bayview / Blythwood / Lawrence Avenue show traffic volumes within City standards of:
  - < 2500 vehicles per day (local road) and,
  - 2500-8000 vehicles per day (collector road)


Blythwood Road at Strathgowan Cres, facing East

- Recommendations include addressing sightline issues at 3 locations:
  - Remove or relocate stone wall at Blythwood Road / Strathgowan Crescent
  - Trimming of tree branches at Mount Pleasant Road / Lawrence Crescent and Mount Pleasant Road / St. Leonards Avenue

- Requests for a stop sign at Dawlish Ave and Mildenhall Road reviewed
  - Analysis shows a potential decrease in angled collisions but an increase in rear-end collisions
  - Staff will review sightlines at intersection for further action

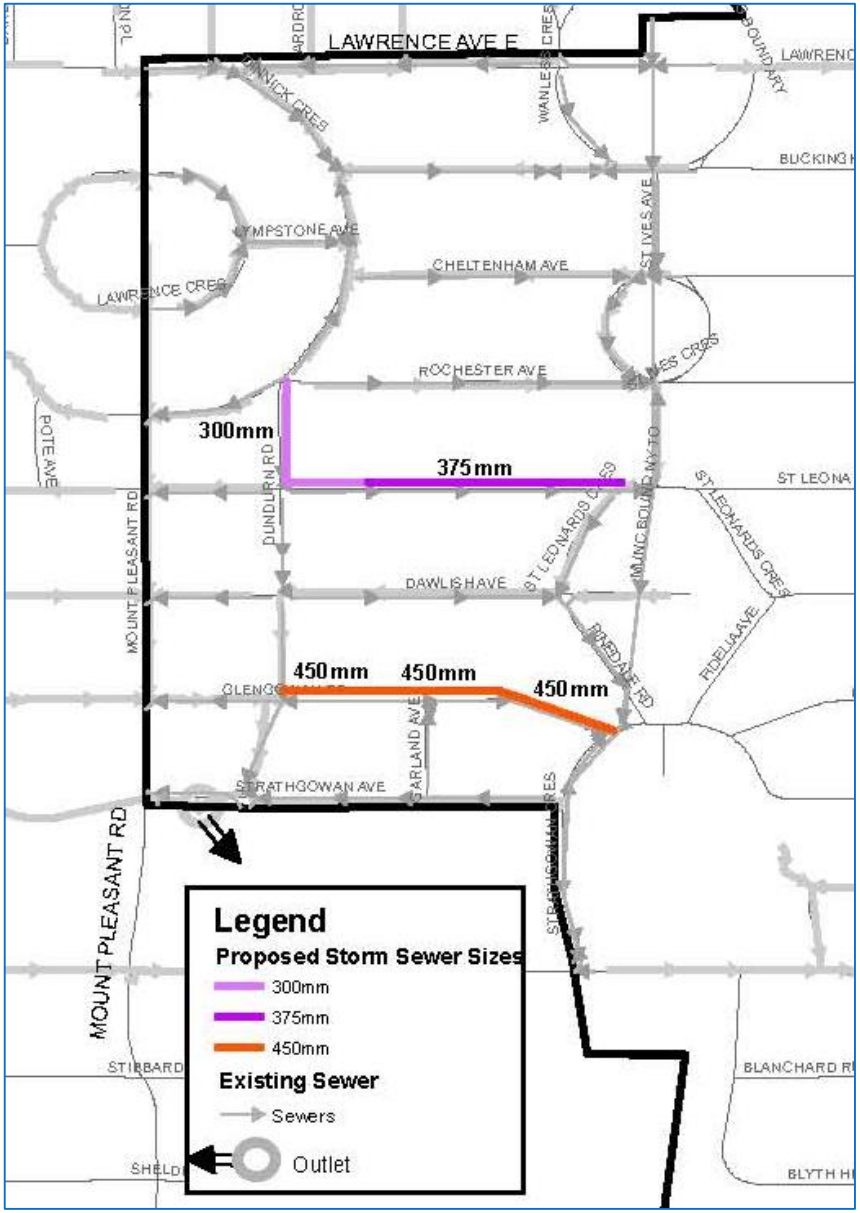
- Staff will continue to work with the Toronto French School to identify further improvements that can be made

Basement Flooding

Addressing Basement Flooding

- Two separate areas based on former municipalities
  - **West-side (former Toronto)**
    - Combined sewers
    - Storm sewers convey road drainage
  - **East-side (former North York)**
    - Sanitary sewers
    - Swales and a partial storm sewer system convey road drainage
- Data from field surveys, soil conditions, sewer flow monitoring and questionnaires were collected and reviewed
- A hydrologic-hydraulic computer model created to analyze operation of sewer systems under different rainstorm conditions
- Model shows the risks based on the ability of sewers to convey flows without flooding basements
- Surface ponding addressed as part of road reconstruction work

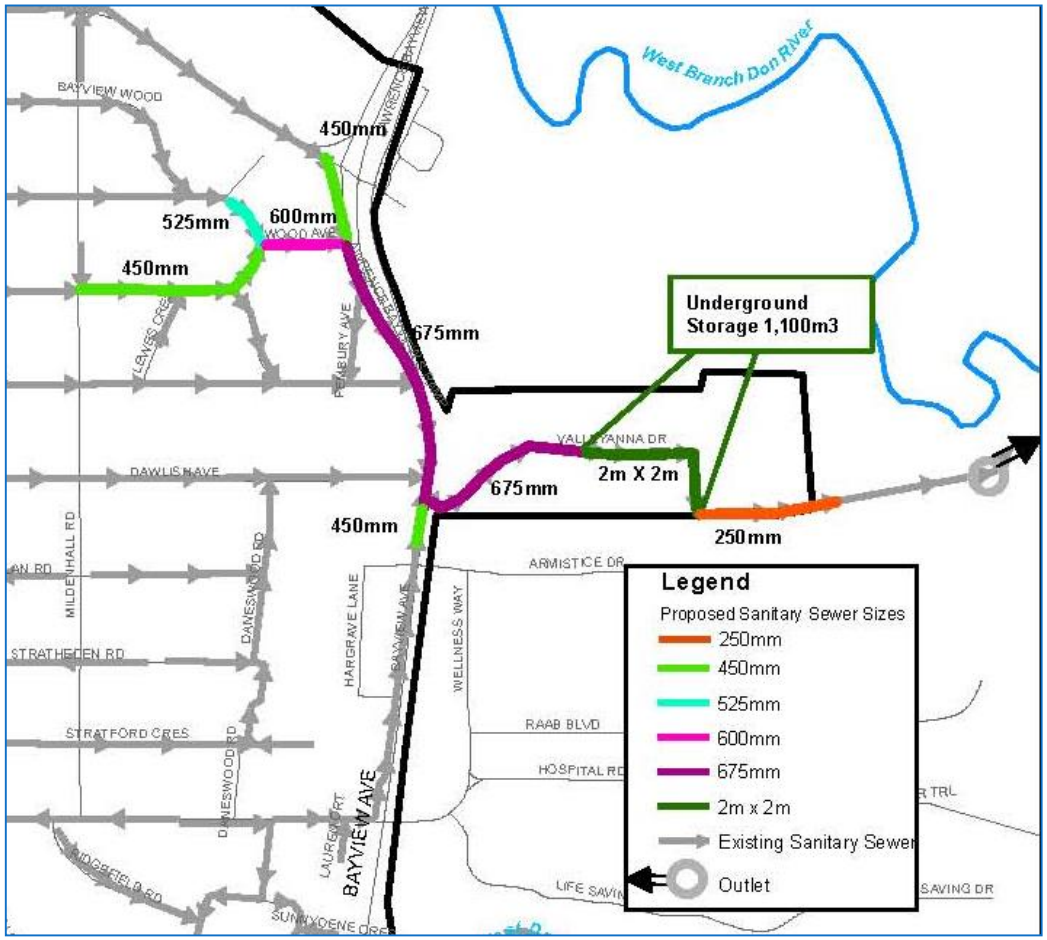
Basement Flooding Protection – West-side



West-side (former Toronto)

- Additional capacity needed in the combined sewer to reduce basement flooding risks
- Storm sewers to be added on St. Leonards Ave, Glengowan Rd., & Dundurn Rd. to capture and convey road drainage will reduce flow into the combined sewer

Basement Flooding – East-side



East-side (former North York)

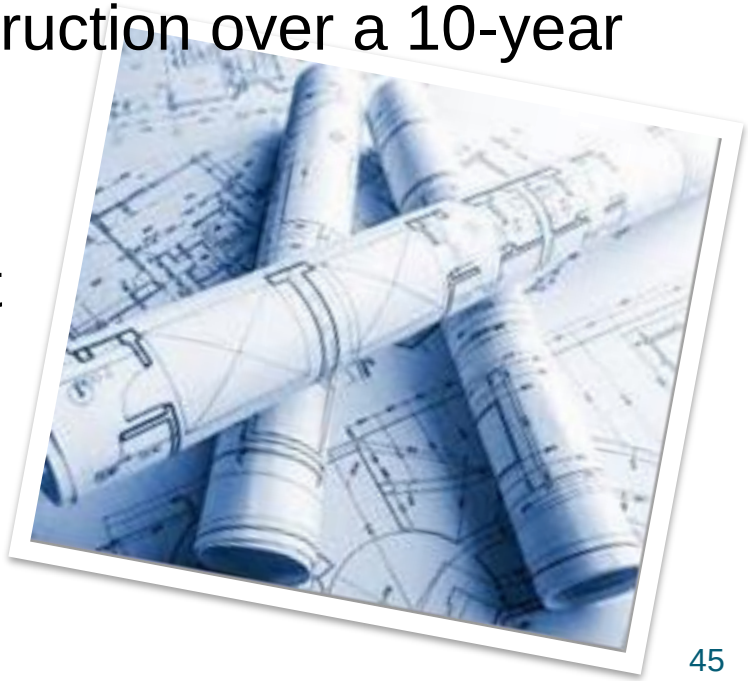
- Additional capacity needed in the sanitary sewer system to reduce basement flooding risks
- Existing sanitary sewers on Rochester Ave., Bayview Ave., Wood Ave., Bayview Wood, and Valleyanna Dr. to be enlarged
- Underground storage tank to be constructed within the road on Valleyanna Dr.
- Sanitary manholes to be sealed in low lying areas

Reducing Your Risks of Flooding

- Downspout disconnection can help us to reduce the amount of water entering the sewer system
  - City has implemented a bylaw requiring owners to disconnect downspouts, where feasible
- Homeowners can take other steps on private property to help reduce the chances of basement flooding
  - Seal cracks or openings in walls, floors, windows and foundations, and seal all window wells
  - Clear eavestroughs and downspouts of leaves
  - Proper grading around home
  - Increase green space around your home to help absorb rainwater and melted snow
  - Repair/replace damaged weeping tile systems
  - Install a backwater valve and sump pump

SCHEDULE OF WORK

- All infrastructure work will be designed and constructed based on **Priority, Coordination and Funding**
- Earliest start for detailed design is 2019-2020, construction following approximately 1 year later
- Projects will be scheduled based on priority and technical sequencing requirements
- Projects to be sequenced for construction over a 10-year period
- City is committed to working with community to engage and consult with residents on design details and construction



NEXT STEPS

- Once study is completed, City will report to Committee of Council for approval of study recommendations
- If approved, a study report will be published and made available on-line for a 30-day public review period
- During the 30-day review period, a resident can contact the City to resolve any outstanding issues, if the issue cannot be resolved, the resident can request Minister of Environment & Climate Change to review and make decision

THANK YOU AND QUESTIONS