

VERSION FOR PUBLIC CONSULTATION

PREPARED BY HEMSON FOR THE CITY OF VAUGHAN

DEVELOPMENT CHARGES BACKGROUND STUDY FOR THE TESTON ROAD EAST AND WEST SANITARY SEWER SERVICE AREA

September 17th 2024



1000 - 30 St. Patrick Street, Toronto ON M5T 3A3
416 593 5090 | hemson@hemson.com | www.hemson.com

CONTENTS

EXECUTIVE SUMMARY	1
1. INTRODUCTION AND BACKGROUND	7
2. AREA-SPECIFIC APPROACH IS USED TO ALIGN DEVELOPMENT-RELATED COSTS AND BENEFITS	10
A. Area-Specific Development Charges Are Calculated	10
B. Key Steps in Determining Area-Specific Development Charges for Future Development-Related Projects	11
3. DEVELOPMENT FORECAST	13
A. Net Developable Land Area	13
B. Maps of Area Specific Development Charges Area	14
4. THE DEVELOPMENT-RELATED CAPITAL PROGRAM AND AREA-SPECIFIC DEVELOPMENT CHARGES	17
A. A Development-Related Capital Forecast is Provided for Council's Approval	17
B. The Development-Related Capital Forecast for Sanitary Sewer Service	17
C. Area-Specific Development Charges Calculation	19
5. LONG-TERM CAPITAL AND OPERATING COSTS AND ASSET MANAGEMENT PROVISIONS	21
A. No Net Increase in Operating Costs Are Anticipated Over the Forecast Period	21
B. Annual Asset Management Plan Provision Requirements	21
6. OTHER ISSUES AND CONSIDERATION	23
A. Development Charges Administration	23
Appendix A – Supporting Maps and Applicable Rates	24

EXECUTIVE SUMMARY

The following summarizes the findings of the City of Vaughan's Area-Specific Development Charges (ASDC) Background Study for the Teston Road East and West Sanitary Sewer Service Area. The development charges identified in the study would be applied in addition to the City-wide DCs levied under DC By-law 109-2022.

A. STUDY CONSISTENT WITH DEVELOPMENT CHARGES LEGISLATION

- In 2020, the City initiated the City-wide Integrated Urban Water Plan to support projected growth to 2051. This plan was finalized in early 2024 and includes a comprehensive listing of capital expenditure requirements for new and expanded water, wastewater and stormwater infrastructure. As a part of this work, the Teston Road East and Teston Road West Sanitary infrastructure was identified to be required in the short term in order to increase capacity in the area and facilitate development in Block 27, 28, 34, 35, 41, 42 & 49.
- As development has already begun to occur in the area where the infrastructure is required, it was determined that an ASDC Study should be undertaken for both Teston East and Teston West as soon as possible, to establish ASDC rates, to allow the City to maximize the ASDC collections from the benefitting landowners of the infrastructure emplaced. Maximizing ASDC collections will allow the City to provide the required servicing to the area enabling development to occur in a timely manner.
- Importantly, this ASDC Study and corresponding by-laws can be used as the basis to help the City establish front-ending agreements with landowners to facilitate development in the immediate future. Front-ending agreements can be undertaken with landowners who wish to enter into an agreement with the City and are expected to be dealt with on a case by case basis. To facilitate this process, the costs, benefitting land areas, and calculated ASDC rates will continue to be further refined through the ongoing ASDC consultation process and over the coming years as better information becomes available.
- The DCA and Ontario Regulation (O. Reg.) 82/98 require that a development charges background study be prepared in which development charges are determined with reference to:

- A forecast of the amount, type and location of residential and non-residential development anticipated;
- A review of future capital projects, including an analysis of gross expenditures, funding sources and net expenditures incurred or to be incurred by the City to provide for the expected development, including the determination of the development and non-development-related components of the capital projects;
- An examination of the long-term capital and operating costs for the capital infrastructure required for each service to which the development charges by-law relates;
- An asset management plan to deal with all assets whose capital costs are proposed to be funded under the DC by-law, and that demonstrates that all assets are financial sustainable over their full life cycle;
- This report identifies the development-related net capital costs attributable to development that is forecast to occur in the Teston Road East and West Sanitary Sewer Service Area. These costs are apportioned to the benefitting properties within the service areas. Rates are calculated on a net developable land per hectare basis, consistent with the City's other ASDCs; and
- The calculated charges are the maximum charges the City may adopt. Lower charges may be approved; however, this will require a reduction in the capital plan and reduced service levels, or financing from other sources, likely utility rates.

B. DEVELOPMENT FORECAST

- A land area-based development charge is proposed for the purposes of calculating an ASDC for the Teston Road East and West Sanitary Sewer Service Area.
- As such, a land area forecast has been prepared with input from City staff to determine the total available developable land from 2024 to buildout (in hectares).
- The Teston Road East Sanitary Sewer Service Area includes 443.55 ha of net developable area while the Teston Road West Sanitary Sewer Service Area includes 1,164.03 ha of net developable area.

- The following is a summary of the land areas for which the Teston Road East and West Sanitary Sewer Service Area ASDC will apply:

Teston Road East and West Sanitary Sewer Service Area Summary of Net Developable Land Area in Hectares (ha)

Lands	Applicable Area	Gross Land Area	Less: Excluded Land Area	Net Developable Area
Teston Road - East Sanitary Sewer				
East Sanitary Sewer		486.21	42.66	443.55
Total Teston Road - East Sanitary Sewer		486.21	42.66	443.55
Teston Road - West Sanitary Sewer				
Area 1		480.02	47.55	432.48
Area 2		202.49	10.12	192.37
Area 3		288.57	14.43	274.14
Area 4		279.00	13.95	265.05
Total Teston Road - West Sanitary Sewer		1,250.08	86.05	1,164.03
Teston Road - West Sanitary Sewer (By Applicable Map)				
Map 1	Area 1, 2, 3, 4	1,250.08	86.05	1,164.03
Map 2	Area 2, 3, 4	770.06	38.50	731.55
Map 3	Area 3	288.57	14.43	274.14
Map 4	Area 4	279.00	13.95	265.05

Note: For the purposes of capital cost estimates and infrastructure planning, the infrastructure in Maps 1 to 4 in the Teston Road West Sanitary Sewer service area is referred to as Segments A through D. Details are provided in Appendix A.

C. DEVELOPMENT-RELATED CAPITAL PROGRAM

- City staff have prepared a development-related capital program setting out the projects that are required to service anticipated development in the Teston Road East and West Sanitary Sewer Service Area.
- Project costs amount to about \$139.0 million for servicing the Teston Road East and West Sanitary Sewer Service Area. As the City expects debt financing will be required to undertake the works, financing costs of about \$37.3 million is added to the project costs based on interest rate of 4.38% over a 20-year term. Total DC eligible costs amount to \$176.4 million.

- Of the total cost (financing included), \$27.6 million is related to sanitary sewer works for Teston Road East and \$148.8 million is related to sanitary sewer works for Teston Road West area.
- No grants, subsidies, other recoveries, have been identified to fund the works.
- As the works will fully benefit development in the area, no benefit to existing shares are identified. As the works identified will benefit development to build-out, all costs are recovered in-period and no post-period benefit has been identified for these works.

The following is a summary of the development-related capital forecast for the Teston Road East and West Sanitary Sewer Service Area:

Summary of Development-Related Capital Program for Area-Specific Services

Area	Project Cost*	Financing Cost**	DC Eligible Costs
Teston Road - East Sanitary Sewer			
East Sanitary Sewer	\$ 21,737,958	\$ 5,835,447	\$ 27,573,405
Total Teston Road - East Sanitary Sewer	\$ 21,737,958	\$ 5,835,447	\$ 27,573,405
Teston Road - West Sanitary Sewer			
(By Applicable Map)			
Map 1 - Teston Rd Sanitary Sewer	\$ 3,440,101	\$ 923,478	\$ 4,363,580
Map 2 - Weston/Teston Rd Sewer and Pumping Station	\$ 71,517,631	\$ 19,198,553	\$ 90,716,184
Map 3 - Weston (Kirby to K/V) Sewer	\$ 6,285,651	\$ 1,687,352	\$ 7,973,003
Map 4 - Kirby Sewer and Pumping Station	\$ 36,067,940	\$ 9,682,259	\$ 45,750,200
Total Teston Road - West Sanitary Sewer	\$ 117,311,324	\$ 31,491,643	\$ 148,802,967
Grand Total	\$ 139,049,283	\$ 37,327,089	\$ 176,376,372

Note*: Values include contingency, engineering, land, HST and City administration costs.

Note**: Financing costs assumed at rate of 4.38% over 20-year term. These costs are added to the total costs eligible for DC recovery.

D. DEVELOPMENT CHARGES ARE CALCULATED WITH FULL REFERENCE TO THE DCA

- The fully calculated ASDCs are recommended to vary by service area and on a net developable hectare basis, reflecting the difference in servicing requirements for the lands within the Teston Road East and West Sanitary Sewer Service Area.

Calculated ASDCs (\$/net ha)

Area	DC Eligible Costs	Net Developable Area (ha)	Charge per Net Hectare of Developable Area
Teston Road - East Sanitary Sewer			
East Sanitary Sewer	\$ 27,573,405	443.55	\$ 62,165.21
Total Teston Road - East Sanitary Sewer	\$ 27,573,405		
Teston Road - West Sanitary Sewer (By Applicable Map)			
Map 1 - Teston Rd Sanitary Sewer	\$ 4,363,580	1,164.03	\$ 3,748.68
Map 2 - Weston/Teston Rd Sewer and Pumping Station	\$ 90,716,184	731.55	\$ 124,005.07
Map 3 - Weston (Kirby to K/V) Sewer	\$ 7,973,003	274.14	\$ 29,084.04
Map 4 - Kirby Sewer and Pumping Station	\$ 45,750,200	265.05	\$ 172,609.70
Total Teston Road - West Sanitary Sewer	\$ 148,802,967		
Grand Total	\$ 176,376,372		

- The Teston Road West Sanitary Sewer Service Area is made up of four areas. For administration of the by-law, the development charges would be applied relative to the location of a property within a map. Maps 1 to 4 are made up of a combination of areas. Therefore, multiple DCs could be applied pending on the area to which is being developed. The table below shows the applicable charges for each area.
- Maps of the Teston Road East and West Sanitary Sewer Service Area are included in the following pages. Further detailed explanations of each map and applicable charges are provided in Appendix A.

Summary of Applicable Charges in Teston Road West Sanitary Sewer Area

Application of Charge for Teston Road West	Applicable Charge per Ha
Area 1	
Map 1 (Segment A)	\$ 3,748.68
Total	\$ 3,748.68
Area 2	
Map 1 (Segment A)	\$ 3,748.68
Map 2 (Segment B)	\$ 124,005.07
Total	\$ 127,753.75
Area 3	
Map 1 (Segment A)	\$ 3,748.68
Map 2 (Segment B)	\$ 124,005.07
Map 3 (Segment C)	\$ 29,084.04
Total	\$ 156,837.78
Area 4	
Map 1 (Segment A)	\$ 3,748.68
Map 2 (Segment B)	\$ 124,005.07
Map 4 (Segment D)	\$ 172,609.70
Total	\$ 300,363.44

1. INTRODUCTION AND BACKGROUND

This City of Vaughan Area-Specific Development Charges (ASDC) Background Study for the Teston Road East and West Sanitary Sewer Service Area is presented as part of a process to lead to the approval of a new ASDC by-law in compliance with the *Development Charges Act, 1997* (DCA) and its associated *Ontario Regulation 82/98* (O. Reg. 82/98).

In 2020, the City initiated the City-wide Integrated Urban Water Plan to support projected growth to 2051. This plan was finalized in early 2024 and includes a comprehensive listing of capital expenditure requirements for new and expanded water, wastewater and stormwater infrastructure. As a part of this work, the Teston Road East and Teston Road West Sanitary infrastructure was identified to be required in the short term in order to increase capacity in the area and facilitate development in Block 27, 28, 34, 35, 41, 42 & 49.

As development has already begun to occur in the area where the infrastructure is required, it was determined that an ASDC Study should be undertaken for both Teston East and Teston West as soon as possible, to establish ASDC rates, to allow the City to maximize the ASDC collections from the benefitting landowners. Maximizing ASDC collections will allow the City to provide the required servicing to the area enabling development to occur in a timely manner.

Importantly, this ASDC Study and corresponding by-laws can be used as the basis to help the City establish front-ending agreements with landowners to facilitate development in the immediate future. Front-ending agreements can be undertaken with landowners who wish to enter into an agreement with the City and are expected to be dealt with on a case by case basis. To facilitate this process, the costs, benefitting land areas, and calculated ASDC rates will continue to be further refined through the ongoing ASDC consultation process and over the coming years as better information becomes available.

The DCA and O. Reg. 82/98 require that a development charges background study be prepared in which development charges are determined with reference to:

- A forecast of the amount, type and location of development anticipated;
- A review of capital works in progress and anticipated future capital projects, including an analysis of gross expenditures, funding sources, and net expenditures incurred or to be incurred by the City or its local boards to provide for the expected development, including the determination of the development and non-development-related components of the capital projects;

- An examination of the long-term capital and operating costs for the capital infrastructure required for each service to which the development charges by-laws would relate; and
- An asset management plan to deal with all assets whose capital costs are proposed to be funded under the DC by-law, demonstrating that all assets included in the capital program are financially sustainable over their full life cycle.

This study presents the results of the review, which determines the net capital costs attributable to new development that is forecast to occur in the Teston Road East and West Sanitary Sewer Service Area.

The City of Vaughan currently levies development charges on a City-wide, uniform basis in addition to a series of other area-specific development charges. The City-wide charges recover for development-related costs for the provision of the following services: development related studies, library, fire and rescue, community services, services related to a highway: public works buildings and fleet, services related to a highway: roads and related infrastructure, water, wastewater and storm drainage and control. These City-wide services as well as the City's other area-specific development charge by-laws are not being reviewed as part of this study.

The DCA provides for a period of public review and comment regarding the proposed development charges. This process includes considering and responding to comments received by members of the public about the calculated charges and methodology used. Following completion of this process, and in accordance with the DCA and Council's review of this study, it is intended that Council will pass new ASDCs for the Teston Road East and West Sanitary Sewer Service Area.

The remainder of this study sets out the information and analysis upon which the proposed development charges are based.

- **Section 2** designates the services for which the development charges are proposed and the areas within the City to which the development charges will apply. It also briefly reviews the methodology that has been used in this background study.
- **Section 3** presents a summary of the forecast residential and non-residential development that is expected to occur within the Teston Road East and West Sanitary Sewer Service Area.

- **Section 4** summarizes the future development-related capital costs associated with the provision of sanitary sewer services related to development in the Teston Road East and West Sanitary Sewer Service Area. The details of the calculated ASDC rates on a net developable area basis are also outlined.
- **Section 5** provides an examination of the long-term capital and operating cost impacts for the infrastructure included in the ASDC calculation. It also addresses the asset management provisions required to maintain the development-related components of the capital projects included in the analysis.
- **Section 6** provides a discussion of other issues and considerations including by-law administration, rules and policies.

2. AREA-SPECIFIC APPROACH IS USED TO ALIGN DEVELOPMENT-RELATED COSTS AND BENEFITS

Several key steps are required when calculating any development charge. However, specific circumstances arise in each municipality that must be reflected in the calculation.

Therefore, the approach is tailored to the unique circumstances in the City of Vaughan and the Teston Road East and West Sanitary Sewer Service Area. The approach to the proposed area-specific development charges is focused on providing a reasonable alignment of development-related costs with the development that necessitates them.

A. AREA-SPECIFIC DEVELOPMENT CHARGES ARE CALCULATED

The DCA provides municipalities with flexibility to define services that will be included in the development charge by-laws, provided that the other provisions of the Act and its associated regulations are met. The DCA also requires that the by-laws designate the areas within which the by-laws shall be imposed. The development charges may apply to all lands in the municipality or to other designated development areas as specified in the by-laws. The City of Vaughan currently levies development charges on both a City-wide and Area-Specific basis.

This ASDC Background Study calculates development charges related to the provision of engineered services related to sanitary sewers within the Teston Road East and West Sanitary Sewer Service Area. The area-specific approach is applied to the service to align the capital costs with the areas that will be serviced by the required infrastructure. It is important to note that both the City-wide development charges and the calculated area-specific development charges would apply to development in the Teston Road East and West Sanitary Sewer Service Area.

No changes to the City-wide DC by-law or other City ASDC by-laws are proposed as part of this study.

B. KEY STEPS IN DETERMINING AREA-SPECIFIC DEVELOPMENT CHARGES FOR FUTURE DEVELOPMENT-RELATED PROJECTS

Several key steps are required in calculating development charges for future development-related projects. These are summarized below.

1. Developable Land Area Forecast

A land area-based development charge is proposed for the purposes of calculating an ASDC for the Teston Road East and West Sanitary Sewer Service Area. As such, a land area forecast has been prepared with input from City staff to determine the total available developable land.

For the purposes of the ASDC calculation, the gross developable land area, net of areas such as open spaces, hydro right-of-way, school and other public uses, parks, walkways and buffers, table land woodlots, Region buffers and road widenings and stormwater blocks.

2. Development-Related Capital Program and DC Eligible Costs to be Recovered through the ASDCs

A development-related capital program has been prepared by the City based on estimated costs and the best available information available at the time of developing this study. The development related capital program includes construction of sanitary sewers, forcemains and pumping stations to service development in the area. The program identifies development-related projects and their gross and net costs, after allowing for capital grants, subsidies or other contributions as required by the Act (DCA, s. 5. (2)). The capital forecast provides another cornerstone upon which development charges are based. The DCA requires that the increase in the need for service attributable to the anticipated development may include an increase:

... only if the council of the municipality has indicated that it intends to ensure that such an increase in need will be met. (s. 5. (1) 3.)

The development-related capital program prepared for this study ensures that development charges are only imposed to help pay for projects that have been or are intended to be purchased or built to accommodate future anticipated development. It is not sufficient in the calculation of development charges merely to have had the service in the past. There must also be a demonstrated commitment to continue to emplace facilities or infrastructure in the future. In this regard, Ontario Regulation 82/98, s. 3 states that:

For the purposes of paragraph 3 of subsection 5 (1) of the Act, the council of a municipality has indicated that it intends to ensure that an increase in the need for service will be met if the increase in service forms part of an Official Plan, capital forecast or similar expression of the intention of the council and the plan, forecast or similar expression of the intention of the council has been approved by the council.

As required by the DCA, s. 5. (1) 6., any portion of projects and their associated net costs that are considered to benefit existing residents are the funding responsibility of the City from non-development charges sources. However, the projects identified in the development-related capital program are for the Teston Road East and West Sanitary Sewer Service Area are eligible for development charge funding.

3. Attribution to Net Developable Land Area

Once the total gross capital project costs have been identified and all necessary reductions and adjustments have been made, the ASDC is calculated based on the net developable land area and expressed as a rate per net hectare. This approach is consistent with other area-specific development charges the City currently levies.

3. DEVELOPMENT FORECAST

This section provides the basis for the net developable land area forecasts used in calculating area-specific development charges on the Teston Road East and West Sanitary Sewer Service Area. The net developable land area was informed based on data provided by City staff. This practice aligns with the provisions of the DCA, which require that development charges be determined with reference to “the amount, type and location of development for which development charges can be imposed...” (s.5.(1)1.).

A. NET DEVELOPABLE LAND AREA

The net developable land area is calculated based on gross land area for the areas for which the area-specific development charges are applicable net of open spaces, hydro right-of-way, school and other public uses, parks, walkways and buffers, table land woodlots, Region buffers and Region road widenings and stormwater blocks. The net developable area has been determined for the purposes of calculating the total applicable ASDCs payable on a per net hectare basis.

Table 1 outlines a summary of the net developable land area. The Teston Road East Service Area has a gross land area of 486.21 ha. Net of excluded lands, the net developable area is 443.55 ha. The Teston Road West Service Area has a gross land area of 1,250.08 ha. Net of excluded lands, the net developable area is 1,164.03 ha.

For the purposes of the ASDC calculation the Teston Road West Service Area is delineated by areas that reflect the needs of the proposed infrastructure. The Teston Road West Service Area is made up of four areas as shown in Table 1. The applicable areas that benefit from the infrastructure is further categorized by maps, which are made up of areas as shown in Table 1. Further discussion on infrastructure and benefitting areas is provided in Section 4.

Table 1 – The City of Vaughan – Teston Road East and West Sanitary Sewer Service Area Summary of Net Developable Land Area in Hectares (ha)

Lands	Applicable Area	Gross Land Area	Less: Excluded Land Area	Net Developable Area
Teston Road - East Sanitary Sewer				
East Sanitary Sewer		486.21	42.66	443.55
Total Teston Road - East Sanitary Sewer		486.21	42.66	443.55
Teston Road - West Sanitary Sewer				
Area 1		480.02	47.55	432.48
Area 2		202.49	10.12	192.37
Area 3		288.57	14.43	274.14
Area 4		279.00	13.95	265.05
Total Teston Road - West Sanitary Sewer		1,250.08	86.05	1,164.03
Teston Road - West Sanitary Sewer (By Applicable Map)				
Map 1	Area 1, 2, 3, 4	1,250.08	86.05	1,164.03
Map 2	Area 2, 3, 4	770.06	38.50	731.55
Map 3	Area 3	288.57	14.43	274.14
Map 4	Area 4	279.00	13.95	265.05

Note: For the purposes of capital cost estimates and infrastructure planning, the infrastructure in Maps 1 to 4 in the Teston Road West Sanitary Sewer service area are referred to as Segments A through D. Details are provided in Appendix A.

B. MAPS OF AREA SPECIFIC DEVELOPMENT CHARGES AREA

Figure 1 and 2 provides an outline of the areas to which the proposed ASDCs will apply. Figure 1 shows the Teston Road East Service Area while Figure 2 shows the Teston Road West Service Area. Figure 2 also outlines the areas that make up the Teston Road West Service Area as outlined in Table 1. Detailed land area maps of the Teston Road West Service Area and the areas where specific ASDCs are applicable are provided in Appendix A.

Figure 1 – Teston Road East Sanitary Sewer Service Area

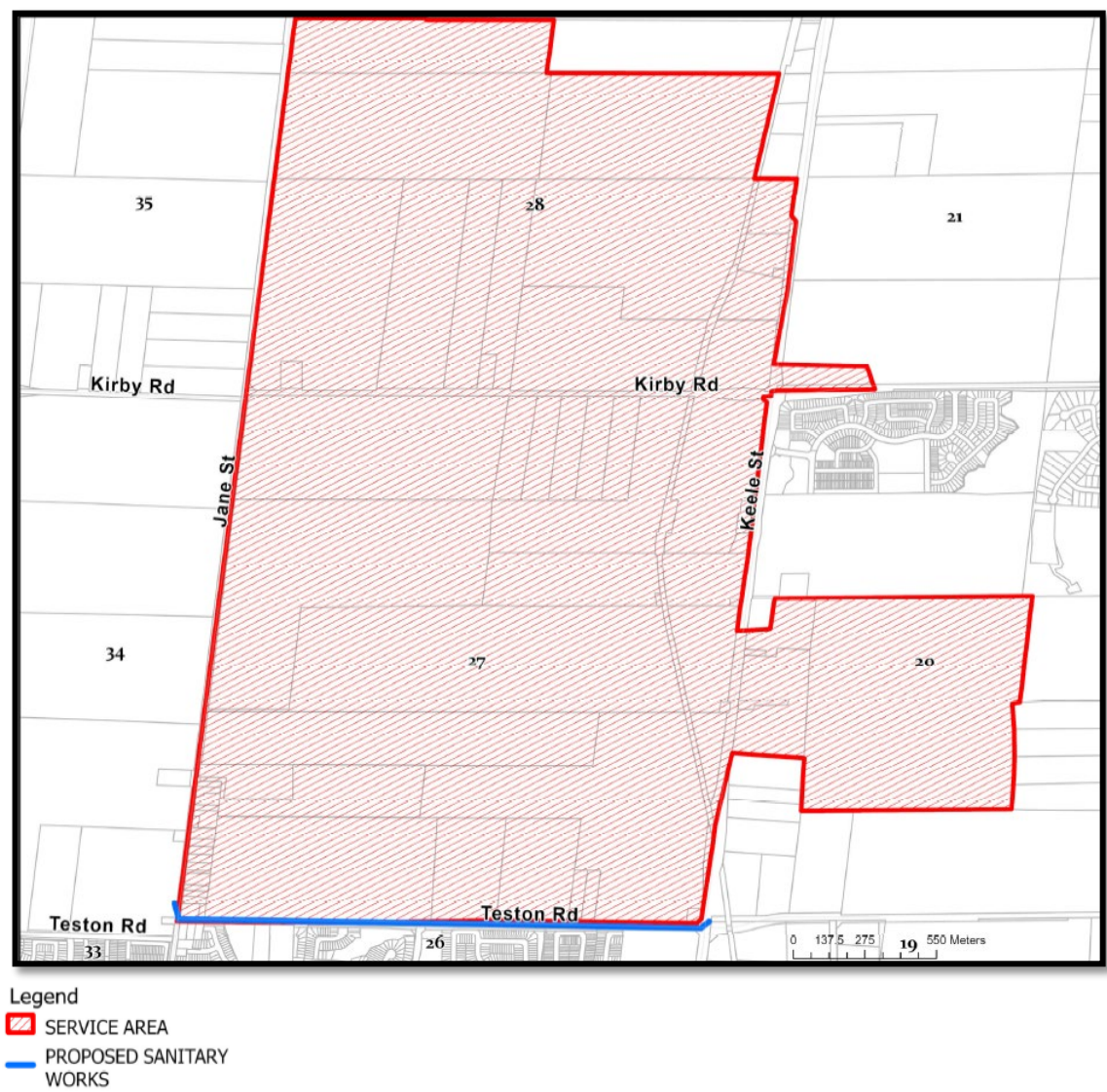
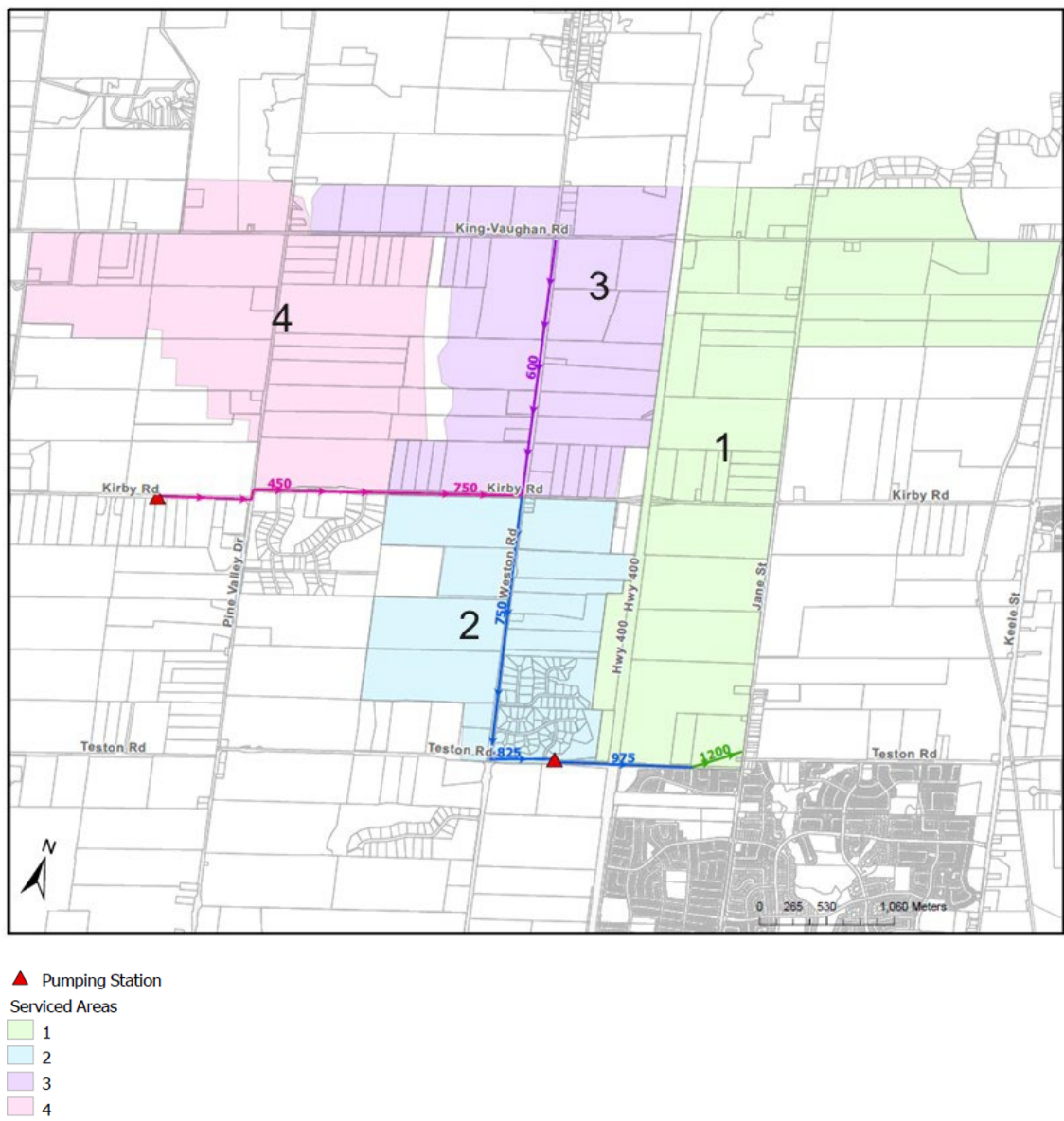


Figure 2 – Teston Road West Sanitary Sewer Service Area



Note: Coloured lines with arrows denote proposed linear works. Numbers on this map denote “areas.”

4. THE DEVELOPMENT-RELATED CAPITAL PROGRAM AND AREA-SPECIFIC DEVELOPMENT CHARGES

The DCA requires the Council of a municipality to express its intent to provide future capital facilities. Ontario Regulation 82/98, s. 3 states that:

For the purposes of paragraph 3 of subsection 5 (1) of the Act, the council of a municipality has indicated that it intends to ensure that an increase in the need for service will be met if the increase in service forms part of an official plan, capital forecast or similar expression of the intention of the council and the plan, forecast or similar expression of the intention of the council has been approved by the council.

A. A DEVELOPMENT-RELATED CAPITAL FORECAST IS PROVIDED FOR COUNCIL'S APPROVAL

Based on the development forecasts summarized in Section 3 of this report, City staff have created a development-related capital program setting out those projects that are required to service the development anticipated.

One of the recommendations contained in this ASDC Background Study is for Council to adopt the capital programs created for the purposes of this area-specific development charges calculation. It is assumed that future capital budgets and forecasts will continue to bring forward the development-related projects contained herein, that are consistent with the development occurring in the Teston Road East and West Sanitary Sewer Service Area. It is acknowledged that changes to the capital requirements presented here may occur through the City's normal capital budget process.

B. THE DEVELOPMENT-RELATED CAPITAL FORECAST FOR SANITARY SEWER SERVICE

Table 2 provides the development-related capital recoveries for the engineered service of sanitary sewers. The total gross costs of the program to service both the East and West area amounts to about \$139.0 million. As the City expects to require financing to undertake

the works, financing costs have been included totaling about \$37.3 million. These financing costs are based on the best available information on borrowing rates for the City at 4.38% over a 20-year term. No grants, subsidies, other recoveries have been identified for funding. As the infrastructure is needed to service development in the Teston Road East and West Sanitary Sewer Service Area, the entire program will be funded from the benefitting landowners. As the infrastructure will service development to build-out, no post-period benefit has been identified. Finally, as this is a new ASDC for the City, there are no available development charge reserves available.

The following provides a brief description of the capital works included in each area:

- **Teston Rd East Sanitary Sewer:** construction of a 900 mm diameter sewer and a 450 mm diameter sewer for a total cost, inclusive of financing, of about \$27.6 million.
- **Teston Rd West Sanitary Sewer – Map 1 (Segment A):** construction of a 1,200 mm diameter sewer for a total cost of about \$4.4 million.
- **Teston Rd West Sanitary Sewer – Map 2 (Segment B):** construction of a forcemain, sewage pumping station on Teston Rd, 825 mm and 750 mm sewer for a total cost of about \$90.7 million.
- **Teston Rd West Sanitary Sewer – Map 3 (Segment C):** construction of a 600 mm diameter sewer for a total cost of about \$8.0 million.
- **Teston Rd West Sanitary Sewer – Map 4 (Segment D):** construction of a forcemain, Kirby sewage pumping station and 750 mm diameter sewer for a total cost of about \$45.8 million.

Table 2 – Summary of Development-Related Capital Program for Area-Specific Services

Area	Project Cost*	Financing Cost**	DC Eligible Costs
Teston Road - East Sanitary Sewer			
East Sanitary Sewer	\$ 21,737,958	\$ 5,835,447	\$ 27,573,405
Total Teston Road - East Sanitary Sewer	\$ 21,737,958	\$ 5,835,447	\$ 27,573,405
Teston Road - West Sanitary Sewer			
(By Applicable Map)			
Map 1 - Teston Rd Sanitary Sewer	\$ 3,440,101	\$ 923,478	\$ 4,363,580
Map 2 - Weston/Teston Rd Sewer and Pumping Station	\$ 71,517,631	\$ 19,198,553	\$ 90,716,184
Map 3 - Weston (Kirby to K/V) Sewer	\$ 6,285,651	\$ 1,687,352	\$ 7,973,003
Map 4 - Kirby Sewer and Pumping Station	\$ 36,067,940	\$ 9,682,259	\$ 45,750,200
Total Teston Road - West Sanitary Sewer	\$ 117,311,324	\$ 31,491,643	\$ 148,802,967
Grand Total	\$ 139,049,283	\$ 37,327,089	\$ 176,376,372

Note: Values include contingency, engineering, land, HST and City administration costs.*

*Note**: Financing costs assumed at rate of 4.38% over 20-year term. These costs are added to the total costs eligible for DC recovery.*

C. AREA-SPECIFIC DEVELOPMENT CHARGES CALCULATION

As shown in Table 3, the total DC eligible costs of \$176.4 million is attributed to the net developable land area of the Teston Road East and West Sanitary Sewer lands. Of the total cost, \$27.6 million is related to servicing the Teston Road East area while the remaining \$148.8 million is related to servicing the Teston Road West area. The estimated costs for each ASDC area is calculated by dividing the DC eligible costs by the corresponding net developable land area (in hectares). The resulting ASDCs are show in Table 3.

Table 3 – Calculated ASDCs (\$/net ha)

Area	DC Eligible Costs	Net Developable Area (ha)	Charge per Net Hectare of Developable Area
Teston Road - East Sanitary Sewer			
East Sanitary Sewer	\$ 27,573,405	443.55	\$ 62,165.21
Total Teston Road - East Sanitary Sewer	\$ 27,573,405		
Teston Road - West Sanitary Sewer (By Applicable Map)			
Map 1 - Teston Rd Sanitary Sewer	\$ 4,363,580	1,164.03	\$ 3,748.68
Map 2 - Weston/Teston Rd Sewer and Pumping Station	\$ 90,716,184	731.55	\$ 124,005.07
Map 3 - Weston (Kirby to K/V) Sewer	\$ 7,973,003	274.14	\$ 29,084.04
Map 4 - Kirby Sewer and Pumping Station	\$ 45,750,200	265.05	\$ 172,609.70
Total Teston Road - West Sanitary Sewer	\$ 148,802,967		
Grand Total	\$ 176,376,372		

5. LONG-TERM CAPITAL AND OPERATING COSTS AND ASSET MANAGEMENT PROVISIONS

This section provides a brief examination of the long-term capital and operating costs for the area-specific capital facilities and infrastructure to be included in the ASDC by-laws. The required asset management provisions are also considered.

A. NO NET INCREASE IN OPERATING COSTS ARE ANTICIPATED OVER THE FORECAST PERIOD

The DCA requires that a background study estimate the future tax supported operating cost implications of the development-related capital program contained in the study. The capital program contained in this background study relates to the provision of sewer services in the Teston Road East and West Sanitary Sewer areas.

Funds required for operating the water and sewer systems are generated through the utility rates. Any additional operating costs triggered by the capital program will be included in the rates. As the projects identified in the development-related capital program for the Teston Road East and West Sanitary Sewer Service Area only relate to servicing new development, the entire amount will be funded through development charges and no component of the program will require funding from non-development charge sources.

B. ANNUAL ASSET MANAGEMENT PLAN PROVISION REQUIREMENTS

Table 4 summarizes the annual capital provisions required to replace the capital infrastructure proposed to be funded through ASDCs under this by-law. This estimate is based on useful life assumptions typically used by City staff and the capital cost of acquiring and/or emplacing each asset based on the costs from Section 4.

Table 4 illustrates that at build-out, the City will need to fund an additional \$2.2 million per year in order to properly fund the full life cycle costs of the new assets supported under this by-law.

The calculated annual provisions identified are considered financially sustainable as it is expected that the increased capital asset management requirements will be incorporated into the City's utility rates over the long-term.

Table 4 – Calculated Annual Provision by Build-Out

Area	Capital Program*		Calculated Annual Provision to Build-Out**	
	DC Recoverable	Non-DC Funded	DC Related	Non-DC Related
Teston Road - East Sanitary Sewer				
East Sanitary Sewer	\$ 21,737,958	\$ -	\$ 337,538	\$ -
Total Teston Road - East Sanitary Sewer	\$ 21,737,958	\$ -	\$ 337,538	\$ -
Teston Road - West Sanitary Sewer				
(By Applicable Map)				
Map 1 - Teston Rd Sanitary Sewer	\$ 3,440,101	\$ -	\$ 53,416	\$ -
Map 2 - Weston/Teston Rd Sewer and Pumping Station	\$ 71,517,631	\$ -	\$ 1,110,496	\$ -
Map 3 - Weston (Kirby to K/V) Sewer	\$ 6,285,651	\$ -	\$ 97,601	\$ -
Map 4 - Kirby Sewer and Pumping Station	\$ 36,067,940	\$ -	\$ 560,048	\$ -
Total Teston Road - West Sanitary Sewer	\$ 117,311,324	\$ -	\$ 1,821,562	\$ -
Grand Total	\$ 139,049,283	\$ -	\$ 2,159,100	\$ -

Note:* For the purposes of calculating the annual provision the capital program costs exclude financing costs.

*Note**:* Provision calculated using long-term inflation of 2%, investment rate of 3.5% with useful life of 75 years.

6. OTHER ISSUES AND CONSIDERATION

A. DEVELOPMENT CHARGES ADMINISTRATION

No significant changes are recommended to the City's current policies and practices regarding development charge administration. In this regard:

- It is recommended that the City implement the new ASDCs through two by-laws separately for the Teston Road East and West Sanitary Sewer charges.
- It is recommended that the City's existing practices regarding collection of development charges and by-law administration continue to the extent possible.
- As required under the DCA, the City should codify any rules regarding application of the by-laws and exemptions within the development charges by-laws proposed for adoption.
- It is recommended that Council adopt the development-related capital program included in this background study, subject to annual review through the City's normal capital budget process.

APPENDIX A

SUPPORTING MAPS AND

APPLICABLE RATES

APPENDIX A – SUPPORTING MAPS AND APPLICABLE RATES

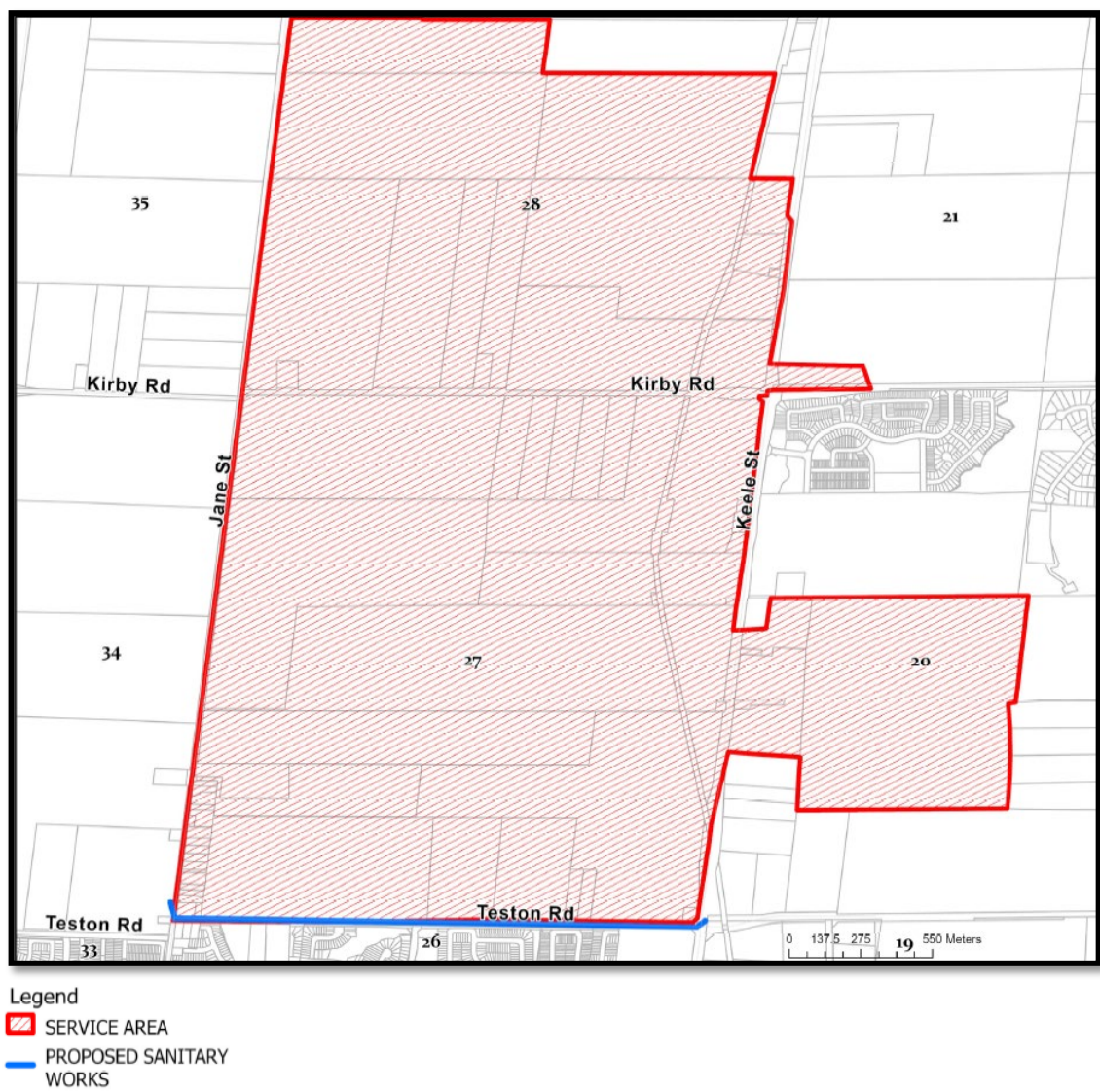
This appendix provides details of the benefitting areas used to prepare the 2024 Area-Specific Development Charges (ASDC) Background Study for the Teston Road East and West Sanitary Sewer Service Area in Vaughan.

A. TESTON ROAD EAST SANITARY SEWER SERVICE

The Teston Road East Sanitary Sewer Service Area includes 443.55 ha of net developable area. It is located north of Teston Rd between Jane St and Keele St. The area also includes some lands north of Kirby Rd and east of Keele Street. Figure A1 includes a map of the service area.

The calculated charge for this service area is \$62,165.21 per net developable hectare.

Figure A1 –Teston Road East Sanitary Sewer Service Area



B. TESTON ROAD WEST SANITARY SEWER SERVICE

The Teston Road West Sanitary Sewer Service Area includes 1,164.03 ha of net developable area. The area is located north of Teston Road and south of the boundary with the Township of King. It is generally located between Pine Valley Drive and Jane St however some lands west of Pine Valley Drive and east of Jane St are also included. The service area is categorized into four (4) areas which are outlined in Figure A2.

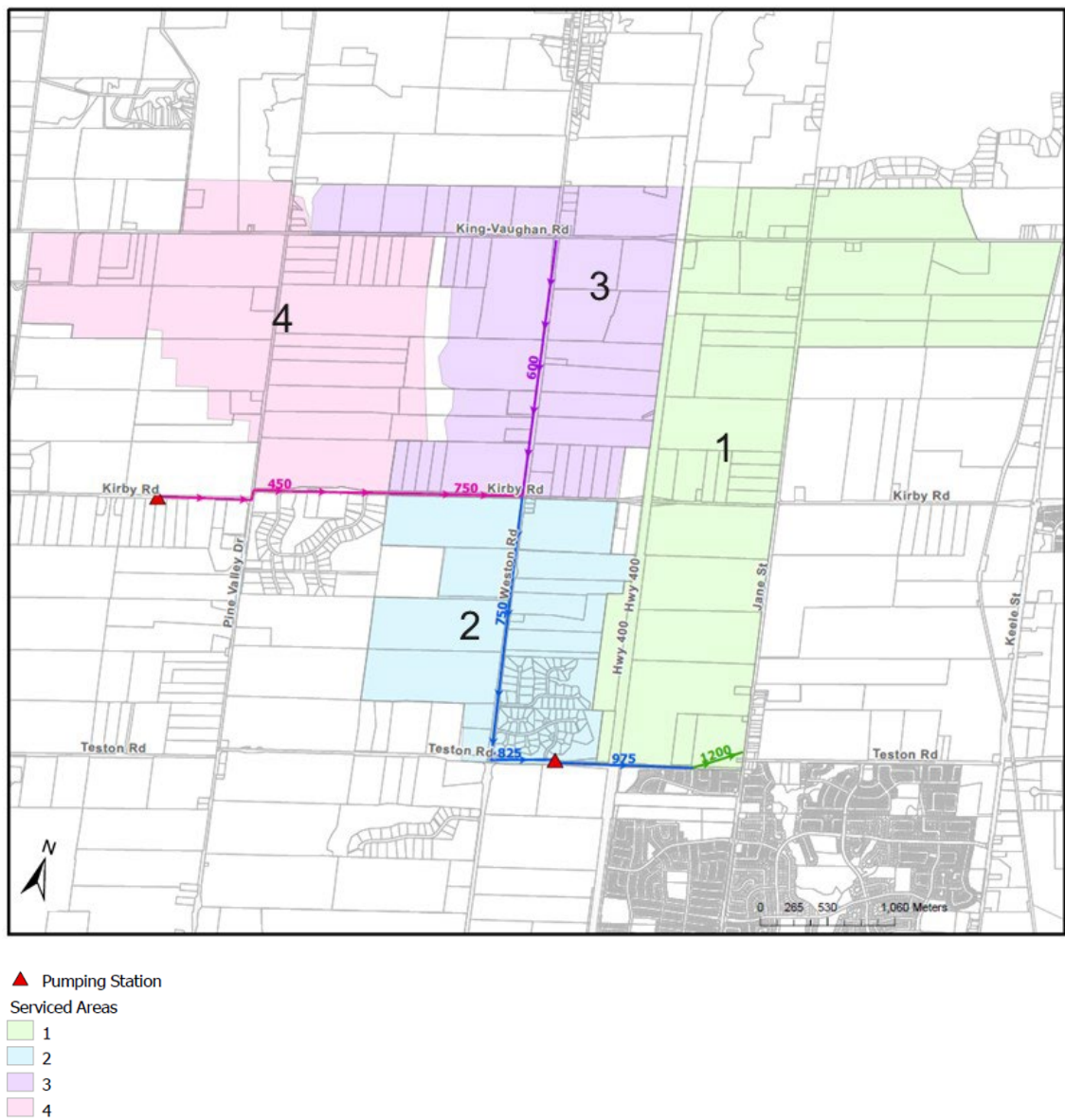
For the purposes of infrastructure planning and the application of ASDCs in the Teston Road West Sanitary Sewer Service Area, the areas are categorized as follows:

- The costs associated to the infrastructure necessary to facilitate development is delineated by segments A through D as shown in Figures A3 to A6. Each segment corresponds to a map where the ASDCs are applicable. For example, Segment A costs correspond to Map 1, Segment B to Map 2 and so on.
- Map 1 through 4 are shown in Figures A3 to A6 respectively. Each map represents the lands that benefit from each segment of infrastructure.
- The applicable ASDC charge is dependent on which area a particular property is located in. Therefore, multiple DCs could be applied pending on the area to which is being developed. Table A1 below outlines the applicable charges for development occurring in each of the four areas (related to the Test Road West Sanitary Sewer Area).

Table A1 – Application of Charge per Net Developable Hectare for Teston Road West

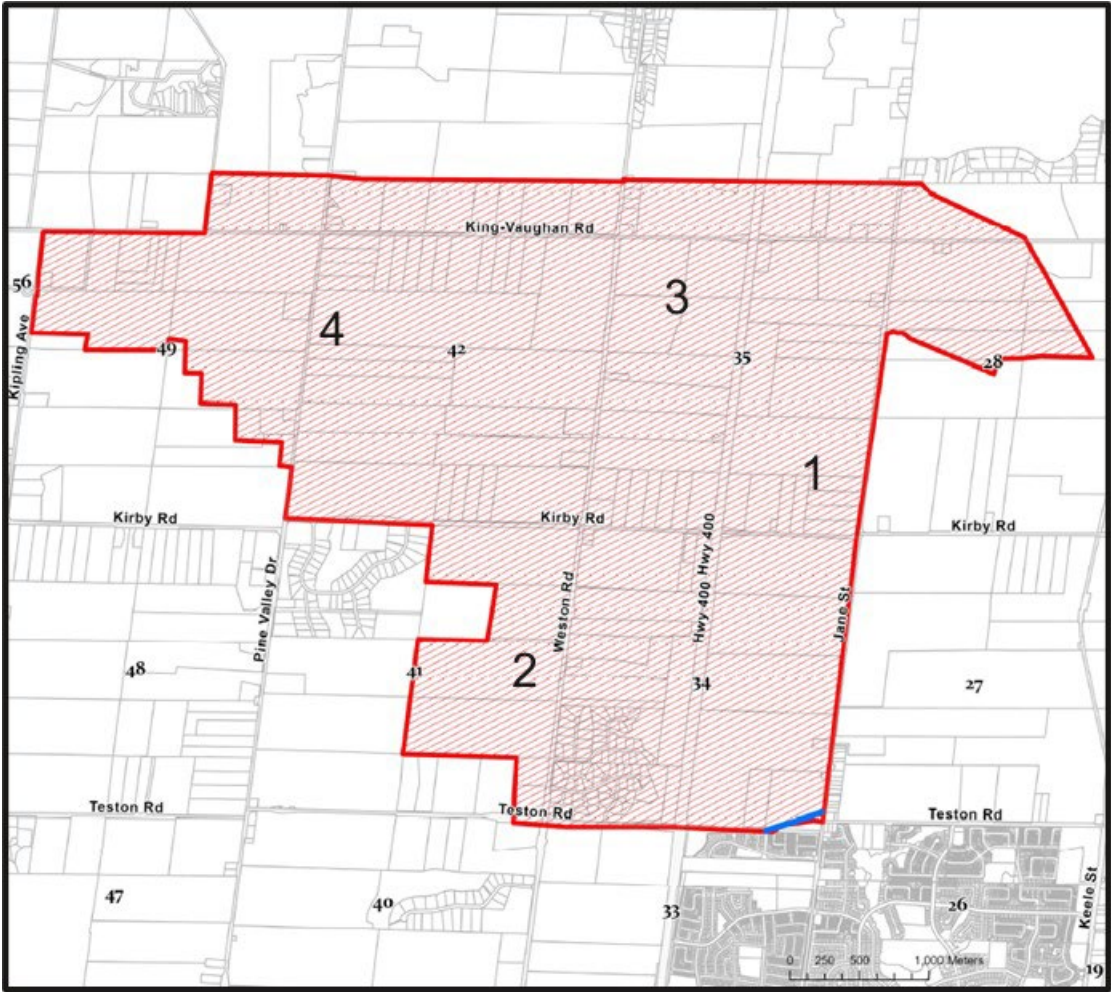
Application of Charge for Teston Road West	Applicable Charge per Ha
Area 1	
Map 1 (Segment A)	\$ 3,748.68
Total	\$ 3,748.68
Area 2	
Map 1 (Segment A)	\$ 3,748.68
Map 2 (Segment B)	\$ 124,005.07
Total	\$ 127,753.75
Area 3	
Map 1 (Segment A)	\$ 3,748.68
Map 2 (Segment B)	\$ 124,005.07
Map 3 (Segment C)	\$ 29,084.04
Total	\$ 156,837.78
Area 4	
Map 1 (Segment A)	\$ 3,748.68
Map 2 (Segment B)	\$ 124,005.07
Map 4 (Segment D)	\$ 172,609.70
Total	\$ 300,363.44

Figure A2 – Teston Road West Sanitary Sewer Service Area



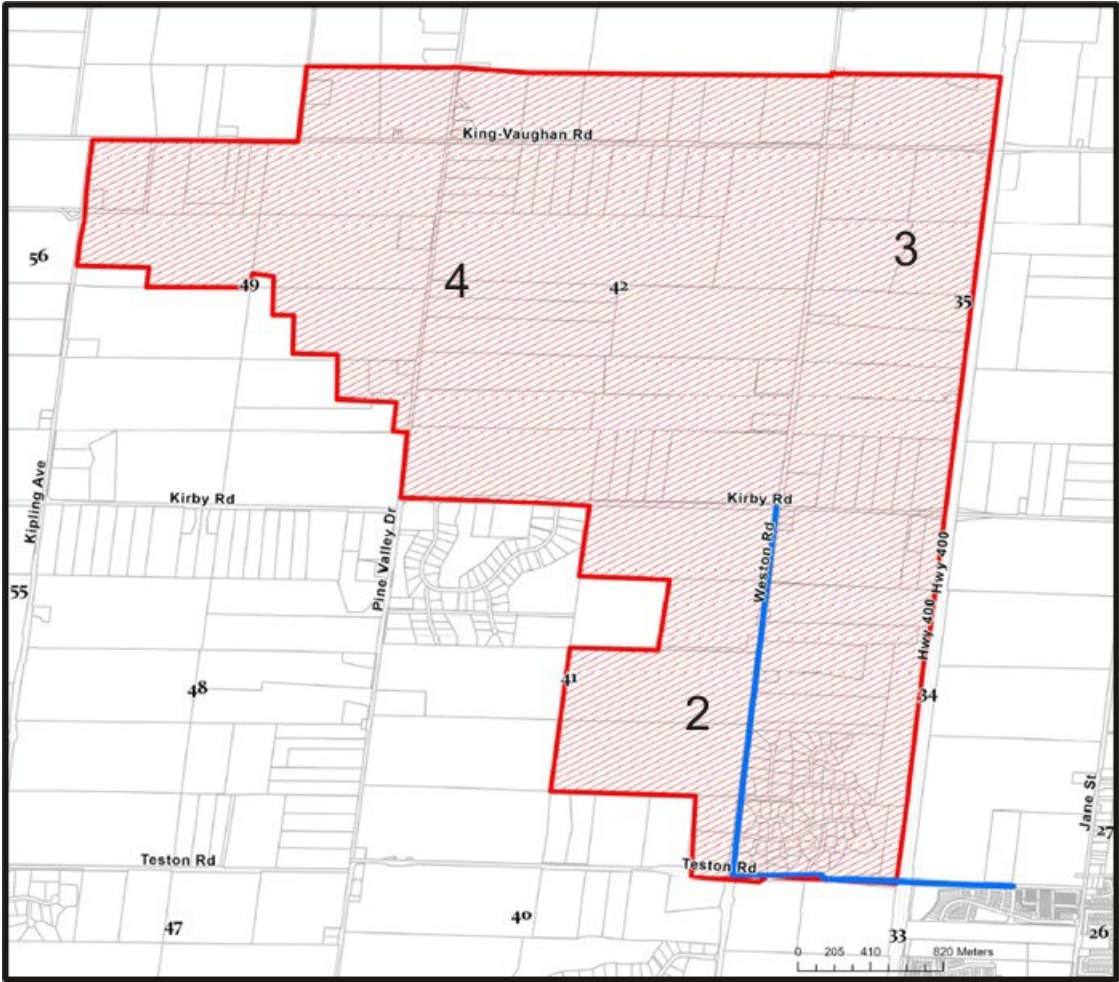
Note: Coloured lines with arrows denote proposed linear works. Numbers on this map denote “areas.”

Figure A3 – Teston Road West Map 1 (Segment A)



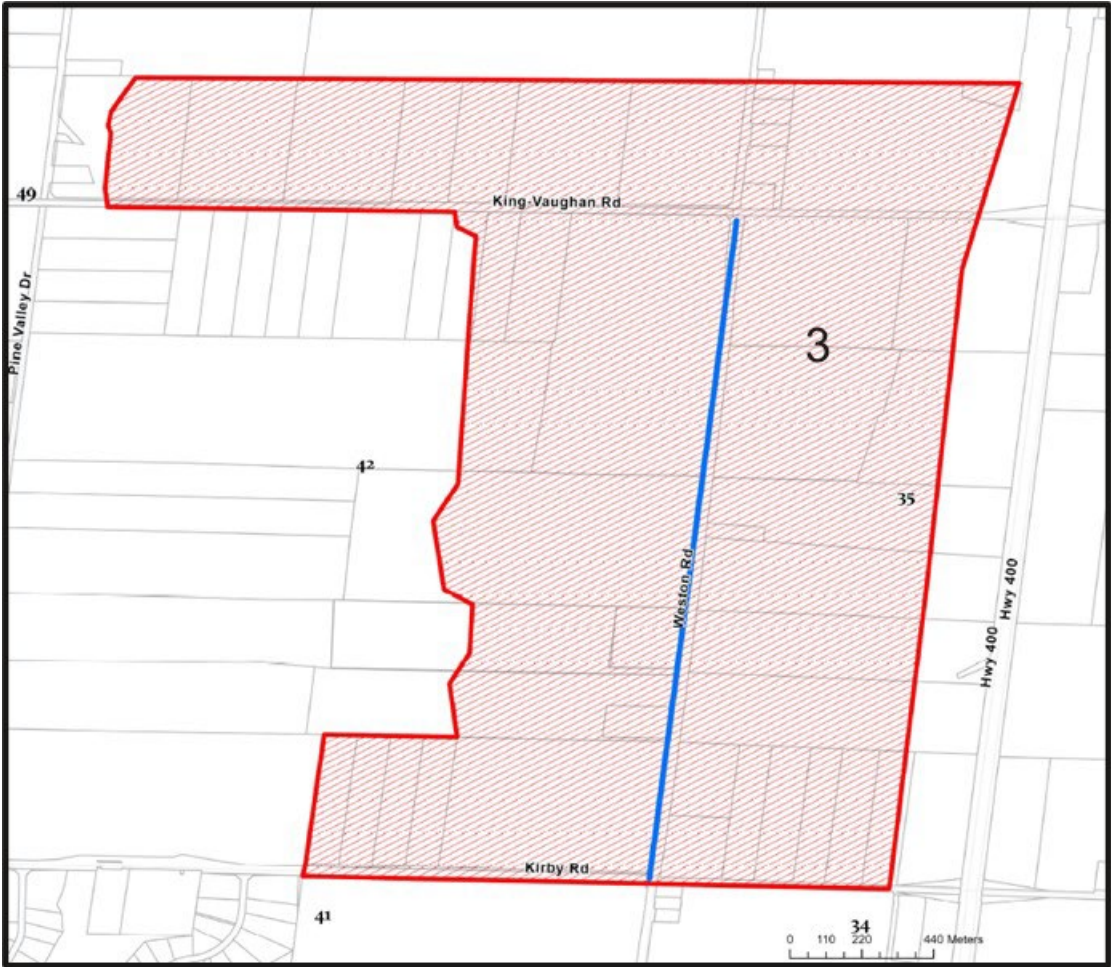
- Legend
-  SERVICE AREA
 -  PROPOSED SANITARY WORKS

Figure A4 - Teston Road West Map 2 (Segment B)



- Legend
-  SERVICE AREA
 -  PROPOSED SANITARY WORKS

Figure A5 – Teston Road West Map 3 (Segment C)



- Legend
-  SERVICE AREA
 -  PROPOSED SANITARY WORKS

Figure A6 – Teston Road West Map 4 (Segment D)

