Committee of the Whole Report

Report Number:	**ENG2025-002**
Meeting Date:	February 4, 2025
Title:	**2025 Water and Wastewater Servicing and Capacity Master Plan Study Completion**
Description:	This report outlines the findings of Water and Wastewater Servicing and Capacity Master Plan study, and provides a guide to the City in planning for infrastructure and financial requirements to support the growth.
Author and Title:	Nafiur Rahman, Supervisor of Environmental Capital Project Management

Recommendation(s):

That Report ENG2025-002, **2025 Water and Wastewater Servicing and Capacity Master Plan Study Completion,** be received;

That the 2025 Water and Wastewater Servicing and Capacity Master Plan Study Completion in the form attached as Appendix A to the Report ENG2025-002 be endorsed by Council as the City of Kawartha Lakes' long-term servicing strategy and policy direction; and

That Staff be authorized to publish the notice of completion of the Municipal Class Environmental Assessment (Class EA) Planning and Design process for the Water and Wastewater Servicing and Capacity Master Plan Study, and file the Class EA Project File Report for the legislated 30-day comment period; and

That this recommendation be brought forward to Council for consideration at the next Regular Council Meeting.

Department Head: _____

Financial/Legal/HR/Other:_____

Chief Administrative Officer:_____

Background:

In the summer of 2022, Council awarded a contract to T. Y. Lin International Canada Inc. (TYLin) to update the Water and Wastewater Servicing and Capacity Master Plan, in compliance with the Class EA Process.

The City has been experiencing a significant increase in growth over the recent years which is driving demands for improvements and upgrades to its water and wastewater infrastructure. Based on planning forecasts from the 2025 Growth Management Strategy (GMS), the City is expected to grow to a population of approximately 130,000 people and 40,600 jobs by the year 2051.

The objective of this Servicing and Capacity Master Plan study is to assess any capacity deficiencies within the existing water and wastewater systems as well as identify the upgrades required to alleviate any capacity deficiencies to service the growth while providing the desired level of service to all residents and businesses. This study will assist the City in planning for infrastructure and the financial requirements, including Development Charges. The continuing infrastructure planning will ensure integrity for the existing users, projected growth and the protection of the environment.

The Master Plan Class EA process includes public and review agency consultation, an assessment of the problem and opportunities, an evaluation of alternative solutions, and an assessment of potential effects on the environment. The preferred solution(s) was determined based on engineering requirements, environmental considerations (natural, social, economic), public input, and information gathered during the studies.

Two Public Information Centre (PICs) events were held to discuss the project objectives and processes, study findings and recommended upgrades. The first PIC was held in-person in Lindsay on October 18, 2023 where presentation was also live-broadcasted with remote participation. The second PIC was held in Fenelon Falls (in-person only) on June 19, 2024 and also in Lindsay (both in-person and live-broadcasted) on June 20, 2024. During the study, a number of stakeholders including regulatory agencies, developers, consultants, Indigenous groups and organizations, and other interested parties were consulted to provide them with an opportunity to provide their input and address their comments/concerns.

At the Council Meeting of December 10, 2024, TYLin provided a presentation with an update on the study findings. Council adopted the following resolution:

CR2024-703

Moved By Councillor Perry,
Seconded By Councillor Richardson

That the presentation by Nafiur Rahman, Supervisor, Environmental Capital Project Management, et. al., **regarding the Water-Wastewater Master Servicing Strategy**, be received.

Carried

The Master Plan Class EA study is now complete and the final Project File Report is ready for Council endorsement. Once received, TYLin will be directed to file the Class EA Project File Report for the legislated 30 day comment period. The Class EA Project File Report (Appendix A) is available at the City website. The link of this report is provided in the Attachment Section of this report. A hard copy report is also available at the City Clerk's Office and Lindsay Library for public viewing.

Rationale:

The 2025 Water and Wastewater Servicing and Capacity Master Plan considered previous 2012 Water and Wastewater Masterplan and 2014 Capacity Study as the foundation to develop new water and wastewater servicing needs and recommendations to accommodate growth to 2051.

A Class EA Master Plan is a long-range plan that ties together the various needs of an overall system, and is typically comprised of a set of separate projects that are to be individually implemented as per servicing needs. A Master Plan considers the individual needs of a system within a broader context, and integrates infrastructure needs with environmental assessment planning principles.

The City provides municipal water servicing to twenty-one communities, and wastewater servicing to six communities. The servicing study began with reviewing the City's available background information. The information generally included previous capacity reviews, historical water demand and wastewater flow data, growth master plans, existing model information, various engineering reports, regulatory permits/approvals, and meeting with facility operators.

The basis for all Master Planning activities is ultimately the growth forecast for the municipality. The growth information from City's previous (2011) and current (2025) GMS study, and all known developments under review were utilized to determine the forecasted growth on a community-wide basis. These statistics were categorized as built-out conditions and provided a basis to evaluate the servicing needs.

To identify the existing servicing constraints as well as determine the capacity to service the growth projections through the Master Plan update process, a desktop level capacity assessment of each of the water and wastewater facilities was undertaken.

Additionally, field data collected from flow monitoring of the sanitary collection system and rainfall events across three major urban communities - Lindsay, Bobcaygeon and Fenelon Falls were analyzed to better quantify the wastewater flows generated, calibrate the network models and assess the actual usage of the wastewater infrastructure. To validate the water system model, field data was collected from water distribution system testing (hydrant test) focused on areas where low pressures could result with the population growth.

Using population growth projections and design criteria based on the Ministry of the Environment, Conservation and Parks (MECP) guidelines and the City's Engineering design standards, water demand and wastewater flow projections were developed. These projections formed the basis for determining future infrastructure requirements up to the planning horizon of 2051. (buildout).

One of the key deliverables from the servicing study includes development of updated digital water and sanitary system models for major urban communities – Lindsay, Bobcaygeon & Fenelon Falls (both water and sanitary models), Omemee (sanitary model only), and Woodville (water model only). The models are dynamic and can be used/updated to evaluate system needs and development impacts.

The various Master Planning-level alternative solutions were developed to determine how the City's water and wastewater infrastructure will support growth while also preserving the level of service to existing residents and businesses. The Alternatives considered include:

- **Do Nothing:** This may allow some growth to occur, but does not implement upgrades. So, the systems will not have sufficient capacity.

- **Limit Community Growth:** This does not fulfill the growth objectives established through the GMS.
- **Water Conservation and Inflow & Infiltration Reduction:** If water demands, wastewater flow generations, and inflow and infiltration within existing sanitary sewer systems can be reduced, the existing pipes can accommodate some increases in serviced population. This is always an objective, but rarely a complete solution.
- **Expand and Enhance Water & Wastewater Infrastructure:** This alternative considers a combination of enhancements to, and extension of, the existing infrastructure systems to provide for mandated growth within the developed portion of the communities as well as the new growth areas encompassed in the urban boundary as envisioned in the GMS.

Each of the alternatives was evaluated comparatively and qualitatively based on criteria in terms of technical merit, natural environment, socio-economic environment and financial impact, and scored based on its impact relative to the other Alternatives.

The objectives of the level of service considered to study the impact of the planned growth, and identify required solutions include:

- **Water Systems**
  - Water Treatment/Storage: Ensure that water supply needs can be provided, with planning for upgrades when plant flows reach 80% of Capacity;
  - System Pressure: Maintaining of operating pressures between 350 and 550 kPa (50 and 80 psi);
  - Fire Flow: Under fire flow conditions, the pressure should not drop below 140 kPa (20 psi) at any point in the water distribution system;

- **Wastewater Systems**
  - Wastewater Treatment: Ensure that wastewater treatment needs can be provided, with planning for upgrades when plant flows reach 80% of Capacity;
  - Design Flows: The sanitary sewers should not surcharge under Design Flow Conditions;
  - System Surcharge: Under Severe Storm Events, water levels in sanitary sewers shall be below basement levels;

Accordingly to MECP guideline, the rated capacity of Water Treatment Plant (WTP) and Water Pollution Control Plant (WPCP) is defined by Maximum Day Demand (MDD) and Annual Average Day Flow (ADF) respectively. The Table 1 shows the summary of rated capacity, current and future water demand and wastewater flow projections for water and wastewater facilities in five major communities.

Based on the development information from active applications and GMS, a phasing of growth has been assumed and a corresponding list of recommended water and wastewater infrastructure needs in major urban areas has been developed. A Class D cost estimates (broad concept approach) for the capital investments required for the proposed water and wastewater system upgrades were developed using recent unit rates. The estimates included material costs, excavation, restoration, etc. as well as estimated engineering costs (10%) and contingency (25%).

Table 1: Current and Future Water Demand and Wastewater Flow Projection

Community		Population	Employment Area (ha)	Water Treatment MDD Capacity, (m^3/d)	Wastewater Treatment ADF Capacity, (m^3/d)
Lindsay	Existing	23,046	153	22,730	24,500
	Utilization	-	-	58%	58%
	Future	**77,098**	**319**	**62,031**	**44,393**
Bobcaygeon	Existing	3,595	4	5,184	3,055
	Utilization	-	-	69%	85%
	Future	**8,736**	**24**	**8,900**	**5,594**
Fenelon Falls	Existing	2,502	11	4,100	1,800
	Utilization	-	-	41%	64%
	Future	**5,947**	**11**	**4,840**	**2,708**
Omemee	Existing	1,035	7	-	1,353
	Utilization	-	-	-	44%

	Future	**2,086**	**7**	**-**	**1,063**
Woodville	Existing	619	0	588	-
	Utilization	-	-	59%	-
	Future	**982**	**0**	**799**	**-**

The Tables 2 and Table 3 outline the Short Term (by 2031), Medium Term (by 2041) and Long Term (by 2051) water and wastewater infrastructure upgrades needs to accommodate the projected future growth in major urban areas. The Project File Report includes the maps (Fig 10-1 to 10-4 for water system upgrades and Fig 11-1 to 11-4 for wastewater system upgrades) showing the locations of corresponding upgrade IDs as shown in Table 2 and Table 3.

Table 2 Proposed Water System Upgrades

Upgrade ID	Type	Location/ Description	New/ Upgrade	Length/Size	Class EA Status	Total Cost (2025 Dollars)
Lindsay 2031 Upgrades						
WAT-LIN-01	Watermain	Along Angeline St from New Elevated Tank to existing watermain on Angeline St	New	800 m/400 mm	Exempt	$1,530,000
WAT-LIN-02	Watermain	Along St Joseph Rd from Colborne St W to Kent St W	New	795 m/400 mm	Exempt	$770,000
WAT-LIN-03	Watermain	Commerce Rd	Upsize	275 m/from 250 to 300 mm	Exempt	$370,000
WAT-LIN-04	Watermain	Glenelg St W	Upsize	1117 m/from (100/150/250) to 300 mm	Exempt	$1,650,000
WAT-LIN-06	Watermain	Mary St W	Upsize	1387 m/from (250/450) to 600 mm	Exempt	$3,920,000
WAT-LIN-10	Watermain	Along Lindsay St S from south of Logie St	New	1007 m/300 mm	Exempt	$1,240,000
WAT-LIN-11	WTP	Water Treatment Plant Capacity Increase	Expand	62 MLD	Schedule C	$409,000,000

WAT-LIN-12	Storage	Northwest Elevated Tank	New	10 ML	Schedule B	$15,000,000
WAT-LIN-13	Storage	Thornhill Road Reservoir Expansion	Expand	9 ML	Schedule B	$13,550,000
WAT-LIN-15	Watermain	Through Tribute Land	New	2085 m/300 mm	Exempt	$2,570,000
Lindsay 2041 Upgrades						
WAT-LIN-05	Watermain	Angeline St S	Upsize	1004 m/from 250 mm to 400 mm	Exempt	$7,660,000
Lindsay 2051 Upgrades						
WAT-LIN-07	Watermain	Upsize along Dobson St and extension to Verulam Rd S	Upsize & New	775 m/400 mm	Exempt	$1,390,000
WAT-LIN-08	Watermain	Upsize along Verulam Rd and extension to south	Upsize & New	3258 m/from (200/300) to 400 mm	Exempt	$6,110,000
WAT-LIN-09	Watermain	Extension along Verulam Rd south of Dobson St	New	1315 m/200 mm	Exempt	$1,330,000
WAT-LIN-14	Watermain	Through Flato Land	New	6940 m/400 mm	Exempt	$11,070,000
Bobcaygeon 2031 Upgrades						
WAT-BOB-01	Watermain	Along North St to intersection of Hillview Dr and Balaclava St	Upsize	1020 m/from 150 mm to 200 mm	Exempt	$1,240,000
WAT-BOB-03	Watermain	Along Canal St E & Boyd St to Island Bay Dr	Upsize	1466 m/from 150 mm to 200 mm	Exempt	$1,790,000
WAT-BOB-04	Watermain	Along Need St to East St S	Upsize	276 m/from 150 mm to 200 mm	Exempt	$340,000
WAT-BOB-05	Watermain	Mill St	Upsize	294 m/from 150 mm to 250 mm	Exempt	$360,000
WAT-BOB-06	Watermain	Twin from WTP to Front St	New	358 m/250 mm	Exempt	$400,000
WAT-BOB-08	Watermain	Balaclava St	New	256 m/250 mm	Exempt	$290,000
WAT-BOB-10	WTP	Water Treatment Plant Capacity Increase	Expand	8.9 MLD	Schedule C	$68,250,000
Bobcaygeon 2041 Upgrades						
WAT-BOB-02	Watermain	Sherwood St & Park St	Upsize	669 m/from 150 mm to 200 mm	Exempt	$810,000

WAT-BOB-07	Watermain	Along Cedartree Ln to Riverside Dr	New	274 m/150 mm	Exempt	$210,000
Bobcaygeon 2051 Upgrades						
WAT-BOB-09	Storage	Reservoir Expansion	Expand	1.5 ML	Schedule B	$3,760,000
Fenelon Falls 2031 Upgrades						
WAT-FF-01	Storage	East of Concession Rd	New	693 m/200 mm	Exempt	$700,000
WAT-FF-02	Watermain	East of Concession Rd	New	262 m/200 mm	Exempt	$270,000
WAT-FF-03	Watermain	East of Concession Rd	New	790 m/200 mm	Exempt	$800,000
WAT-FF-04	Watermain	East of Concession Rd	New	624 m/200 mm	Exempt	$630,000
WAT-FF-07	Watermain	West of Lindsay St	New	739 m/150 mm	Exempt	$580,000
WAT-FF-08	Storage	New Booster Pumping Station	New	13 MLD	Schedule B	$700,000
Fenelon Falls 2041 Upgrades						
WAT-FF-05	WTP	Water Treatment Plant Capacity Increase	Expand	4.9 MLD	Schedule C	$4,850,000
WAT-FF-06	Storage	Reservoir Expansion	Expand	2.9 ML	Schedule B	$24,750,000
Woodville Upgrades						
WAT-WV-01	WTP	Water Treatment Plant Capacity Increase	Expand	0.8 MLD	Schedule C	$7,150,000
Oakwood Upgrades						
WAT-OAK-01	Watermain	Along Colborne St W towards Oakwood	Upsize	3258 m/from (100/150) to 250 mm	Exempt	$4,390,000
WAT-OAK-02	Storage	Reservoir Expansion	Expand	0.5 ML	Schedule B	$1,590,000
					TOTAL	**$601,020,000**

Table 3 Proposed Wastewater System Upgrades

Upgrade ID	Type	Location/ Description	New/ Upgrade	Length/Size	Class EA Status	Total Cost (2025 Dollars)
Lindsay 2031 Upgrades						
WW-LIN-02	Sewer	Along Laurent Blvd to Angeline St	Upsize	86 m/from 200 mm to 300 mm	Exempt	$610,000

WW-LIN-03	Sewer	Angeline St S	Upsize	629 m/from 200 mm 300 mm	Exempt	$3,270,000
WW-LIN-04	Sewer	Auk Trail	Upsize	343 m/from 300 mm to 375 mm	Exempt	$2,230,000
WW-LIN-05	Sewer	Adelaide St S	Upsize	206 m/from 300 mm to 375 mm	Exempt	$1,400,000
WW-LIN-17	Sewer	McLaughlin Rd	Upsize	100 m/from 250 mm to 300 mm	Exempt	$680,000
WW-LIN-20	Sewer	Along Lindsay St S from Kent St to Glenelg St	Upsize	334 m/from 300 mm to 375 mm	Exempt	$2,030,000
WW-LIN-33	WPCP	Wastewater Treatment Plant Capacity Increase	Expand	45 MLD	Schedule C	$206,000,000
WW-LIN-34	SPS	Ridout St SPS upgrades	Upgrade	508 L/s	Schedule B	$14,730,000
WW-LIN-36	SPS	Riverview St SPS upgrades	Upgrade	16 L/s	Schedule B	$460,000
WW-LIN-40	Sewer	Through Tribute Lands	New	1399 m/375 mm	Exempt	$6,720,000
WW-LIN-41	Sewer	Lindsay St S	New	1129 m/300 mm	Exempt	$5,070,000
WW-LIN-43	SPS	Mary St SPS and Forcemain upgrades	Upgrade	60 L/s	Schedule B	$3,610,000
WW-LIN-44	Sewer	Wolfe St	Upsize	219 m/from 225 mm to 250 mm	Exempt	$1,110,000
WW-LIN-45	Sewer	Durham St	Upsize	160 m/300 mm	Exempt	$860,000
WW-LIN-46	Sewer	Huron St	Upsize	83 m/300 mm	Exempt	$450,000
Lindsay 2041 Upgrades						
WW-LIN-01	Sewer	Laurent Blvd	Upsize	1024 m/from 200 mm to 250 mm	Exempt	$5,180,000
WW-LIN-06	Sewer	Albert St S	Upsize	464 m/600 mm	Exempt	$2,970,000
WW-LIN-07	Sewer	Durham St W	Upsize	191 m/450 mm to 600 mm	Exempt	$1,370,000
WW-LIN-08	Sewer	Sussex St S from Glenelg to Durham St	Upsize	269 m/450 mm to 600 mm	Exempt	$1,930,000
WW-LIN-09	Sewer	Along Sussex St S from south of Kent St	Upsize	221 m/from 500 mm to 600 mm	Exempt	$1,590,000

WW-LIN-10	Sewer	Along Kent St W from Sussex St to Victoria Ave	Upsize	122 m/from 500 mm to 600 mm	Exempt	$880,000
WW-LIN-11	Sewer	Victoria Ave N	Upsize	292 m/from 500 mm to 600 mm	Exempt	$2,100,000
WW-LIN-12	Sewer	Along Wellington St from Victoria Ave to Cambridge St	Upsize	128 m/from 500 mm to 600 mm	Exempt	$920,000
WW-LIN-13	Sewer	Along Cambridge St N from Wellington to Bond St	Upsize	130 m/from 500 mm to 600 mm	Exempt	$930,000
WW-LIN-14	Sewer	Along Bond St from Cambridge to William St	Upsize	186 m/from 500mm to 600 mm	Exempt	$1,340,000
WW-LIN-15	Sewer	Along William St N from Bond St to Francis St	Upsize	145 m/from 500 mm to 600 mm	Exempt	$1,040,000
WW-LIN-16	Sewer	Along Francis St to east	Upsize	83 m/from 525 mm to 600 mm	Exempt	$600,000
WW-LIN-21	Sewer	Logan Lane	Upsize	92 m/from 200 mm to 300 mm	Exempt	$640,000
WW-LIN-22	Sewer	Maguire St	Upsize	254 m/from 200 mm to 375 mm	Exempt	$1,550,000
WW-LIN-23	Sewer	Maguire St, east of Logan Lane	Upsize	49 m/from 200 mm to 250 mm	Exempt	$250,000
WW-LIN-24	Sewer	Logie St	Upsize	994 m/600 mm	Exempt	$7,000,000
WW-LIN-25	Sewer	Parkside St	Upsize	166 m/from 375 mm to 450 mm	Exempt	$1,200,000
WW-LIN-26	Sewer	Along Logie St from Hillside Dr to Riverview Rd	Upsize	518 m/from 450 mm to 500 mm	Exempt	$3,520,000
WW-LIN-27	Sewer	Along Logie St from Hillside Dr to Riverview Rd	Upsize	210 m/from 450 mm to 500 mm	Exempt	$1,570,000
WW-LIN-28	Sewer	Highway 36	New	1782 m/600 mm	Exempt	$10,660,000
WW-LIN-29	Sewer	Wilson Rd.	New	131 m/600 mm	Exempt	$930,000
WW-LIN-30	Sewer	Lagoon St.	New	515 m/600 mm	Exempt	$3,080,000
WW-LIN-31	Sewer	Lagoon St to WPCP	New	98 m/600 mm	Exempt	$590,000
WW-LIN-35	SPS	Logie St SPS and Forcemain Upgrades	Upgrade	176 L/s	Schedule B	$5,860,000
WW-LIN-37	SPS	Lindsay Fairground SPS upgrades	Upgrade	28 L/s	Schedule B	$810,000

WW-LIN-38	Sewer	Flato Lands North	New	2806 m/600 mm	Exempt	$15,440,000
WW-LIN-39	Sewer	Flato Lands South	New	2023 m/ 450mm	Exempt	$9,580,000
WW-LIN-42	SPS	Two Proposed SPSs and Forcemain for Flato Lands	New	407 L/s (North SPS) 192 L/s (South SPS)	Schedule B	$19,520,000
Lindsay 2051 Upgrade						
WW-LIN-18	Sewer	From south end of Heritage Way then crossing Angeline St to Chadwin Dr	Upgrade	576 m/from 200 mm to 250 mm	Exempt	$3,060,000
WW-LIN-19	Sewer	Along Angeline St N from Chadwin Dr to Regent St	Upgrade	236 m/from 225 mm to 300 mm	Exempt	$1,270,000
WW-LIN-32	Sewer	East of William St N	Upgrade	95 m/from 375 mm to 400 mm	Exempt	$580,000
Bobcaygeon 2031 Upgrades						
WW-BOB-01	Sewer	Helen St	Upsize	111 m/from 200 mm to 300 mm	Exempt	$600,000
WW-BOB-08	WPCP	Treatment Capacity Increase	Expand	5.6 MLD	Schedule C	$46,500,000
WW-BOB-10	SPS	Front Street SPS	Upgrade	61 L/s	Schedule B	$1,770,000
WW-BOB-11	SPS	Anne St SPS and Forcemain Upgrades	Upgrade	162 L/s	Schedule B	$10,450,000
Bobcaygeon 2041 Upgrades						
WW-BOB-02	Sewer	West St	Upsize	61 m/from 200 mm to 300 mm	Exempt	$330,000
WW-BOB-03	Sewer	Little Bob Dr	Upsize	198 m/from 150 mm to 200 mm	Exempt	$930,000
WW-BOB-12	SPS	Little Bob Drive SPS	Upgrade	15 L/s	Schedule B	$440,000
Bobcaygeon 2051 Upgrades						
WW-BOB-04	Sewer	Helen St	Upsize	239 m/from 200 mm to 250 mm	Exempt	$1,210,000
WW-BOB-05	Sewer	Cedartree Ln	Upsize	719 m/from 200 mm to 250 mm	Exempt	$3,640,000
WW-BOB-06	Sewer	Front St W	Upsize	383 m/from 250 mm to 300 mm	Exempt	$2,070,000

WW-BOB-07	Sewer	Need St	Upsize	112 m/from 300 mm to 350 mm	Exempt	$640,000
WW-BOB-09	SPS	Need St SPS	Upgrade	61 L/s	Schedule B	$1,770,000
Fenelon Falls 2031 Upgrades						
WW-FF-01	Sewer	Bond St E	Upsizing	142 m/from 200 mm to 300 mm	Exempt	$770,000
WW-FF-02	Sewer	Lindsay St	Upsizing	277 m/from 200 mm to 250 mm	Exempt	$1,400,000
WW-FF-13	WPCP	Wastewater Treatment Plant Capacity Increase	Expand	2.8 MLD	Schedule C	$20,400,000
WW-FF-14	SPS	Colborne St SPS and Forcemain Upgrades	Upgrade	145 L/s	Schedule B	$5,210,000
WW-FF-15	SPS	Ellice St SPS and Forcemain Upgrades	Upgrade	225 L/s	Schedule B	$9,580,000
WW-FF-16	SPS	Francis St SPS Upgrades	Upgrade	50 L/s	Schedule B	$1,450,000
Fenelon Falls 2041 Upgrades						
WW-FF-03	Sewer	Bond St E	Upsize	101 m/from 200 mm to 300 mm	Exempt	$550,000
WW-FF-04	Sewer	Elgin St	Upsize	115 m/from 200 mm to 375 mm	Exempt	$700,000
WW-FF-05	Sewer	Clifton St	Upsize	141 m/from 250 mm to 375 mm	Exempt	$860,000
WW-FF-06	Sewer	Francis St W	Upsize	341 m/375 mm	Exempt	$2,050,000
WW-FF-07	Sewer	Colborne St	Upsize	116 m/from 300 mm to 375 mm	Exempt	$710,000
WW-FF-08	Sewer	Lindsay St	Upsize	76 m/from 400 mm to 450 mm	Exempt	$480,000
WW-FF-09	Sewer	Elliot St to Ellice St SPS	Upsize	605 m/from 450 mm to 600 mm	Exempt	$4,340,000
WW-FF-10	Sewer	West of Sturgeon Point Rd	New	1209 m/250 mm	Exempt	$4,930,000
WW-FF-11	Sewer	Short St	New	330 m/200 mm	Exempt	$1,300,000
Fenelon Falls 2051 Upgrades						

WW-FF-12	Sewer	Along Francis St E to Francis St SPS	Upsize	103 m/from 200 mm to 250 mm	Exempt	$520,000
Omemee Upgrades						
WW-OME-01	Sewer	Beaver Rd	Upsize	781 m/from 300 mm to 450 mm	Exempt	$4,960,000
					TOTAL	**$487,750,000**

The Tables 4 and 5 summarize the Capital Cost Forecast by Community for proposed water and wastewater infrastructure upgrades.

Table 4 Water Infrastructure Costs – By Community

Water System	2031 Forecasted Growth [Res. Units]	2031 Estimated Capital Costs	2041 Forecasted Growth [Res. Units]	2041 Estimated Capital Costs	2051 Forecasted Growth [Res. Units]	2051 Estimated Capital Costs	Total Estimated Capital Costs
Lindsay	6,101	$449,600,000	5,120	$7,660,000	12,280	$19,900,000	$477,160,000
Bobcaygeon	532	$72,670,000	770	$1,020,000	959	$3,760,000	$77,450,000
Fenelon Falls	456	$3,680,000	793	$29,600,000	249	/	$33,280,000
Woodville	/	/	/	/	148	$7,150,000	$7,150,000
Oakwood	/	/	/	/	93	$5,980,000	$5,980,000
Omemee	/	/	/	/	427		
TOTAL	**7,089**	**$525,950,000**	**6,683**	**$38,280,000**	**14,156**	**$36,790,000**	**$601,020,000**

Table 5 Wastewater Infrastructure Costs – By Community

Wastewater System	2031 Forecasted Growth [Res. Units]	2031 Estimated Capital Costs	2041 Forecasted Growth [Res. Units]	2041 Estimated Capital Costs	2051 Forecasted Growth [Res. Units]	2051 Estimated Capital Costs	Total Estimated Capital Costs
Lindsay	6,101	$249,230,000	5,120	$103,050,000	12,280	$4,910,000	$357,190,000
Bobcaygeon	532	$59,320,000	770	$1,700,000	959	$9,330,000	$70,350,000
Fenelon Falls	456	$38,810,000	793	$15,920,000	249	$520,000	$55,250,000
Omemee	/	/	/	/	427	$4,960,000	$4,960,000

TOTAL	**7,089**	**$347,360,000**	**6,683**	**$120,670,000**	**13,915**	**$19,720,000**	**$487,750,000**

The projections and recommendations of this Master Plan are based on data and assumptions that are influenced by a wide range of circumstances. Unpredicted changes to growth, development, and service demand would alter the recommendations and timelines. As such, this document will be continually reviewed for how it integrates into the long-term financial plan.

Other Alternatives Considered:

No other alternative is being considered as the information produced through the Master Plan Study will be used to develop a long-term strategy, and generate both the future capital budget requirements and the growth requirements that are recoverable through Development Charges (DC). Deferring the approval of the Master Plan document could result in delays in the preparation of the City's DC Study and Water-Wastewater Rate Study, as well as other large servicing projects. Undertaking these plans will ensure current and future servicing is sustainable, cost effective and able to meet future growth demands.

Alignment to Strategic Priorities

Servicing Master Planning supports the City's priority of Good Government and Healty Environment by planning for and providing critical assets and infrastructure in an affordable and sustainable manner, and to continue to protect our environment. Water-wastewater infrastructure is critical in supporting a vibrant and growing economy.

Financial/Operation Impacts:

This report has no direct financial implications. The Master Plan documents will help guide the City in its policy initiatives and infrastructure investments. The Master Plan will be used to update the City's Development Charge Background Study process and ultimately set the future requirement for the Development Charges to be endorsed by Council, and support immediate and long-term Capital and Operational budgeting for the City. Projects or initiatives identified in the Master Plan document will still be subject to the budget approval process.

Servicing Implications:

The Water and Wastewater Servicing and Capacity Master Plan Update study was commissioned to identify gaps in existing data, make recommendations to close those

gaps and ultimately deliver updated models of existing infrastructure and new expansion to service the anticipated growth projections. The study identified reasonable and feasible servicing solutions and infrastructure improvement projects with associated costs required to address each growth strategy as well as those projects needed for sustainability and security of current and future infrastructure capacity and operations.

Consultations:

Director of Engineering and Corporate Assets
Director of Development Services, CKL
Manager of Infrastructure Design and Construction
Manage of Corporate Assets
TYLin International Canada Inc.

Attachments:

Appendix A - Class EA Project File Report

Department Head email: jrojas@kawarthalakes.ca

Department Head: Juan Rojas, Director of Engineering & Corporate Assets

Department File: Engineering and Corporate Assets