

To: Warden and Members of County Council

From: Director of Public Works

2024 Water and Wastewater Master Plan

RECOMMENDATIONS

- 1. That County Council endorse, in principle, the draft 2024 Water and Wastewater Master Plan as the recommended servicing strategies to meet Oxford's growth needs to 2046 as well as provide effective on-going continuity to existing serviced settlement areas;**
- 2. And further, that County Council direct Staff to file a Notice of Completion and commence the 45-day public review period as required under the Municipal Class Environmental Assessment (MCEA) process.**

REPORT HIGHLIGHTS

- The purpose of this report is to seek County Council's endorsement, in principle, of the draft 2024 Water and Wastewater Master Plan (W/WW MP) which provides a strategic roadmap to service existing needs and accommodate future growth.
- The draft 2024 W/WW MP identifies water and wastewater infrastructure requirements to accommodate projected population and employment growth to 2046 in accordance with the 2020 Provincial Policy Statement and the County's approved Phase I Comprehensive Review (2020), while ensuring service continuity to existing serviced settlement areas. This approach strategically focuses future growth and development primarily in designated community settlement areas (i.e. existing areas that are currently fully or partially serviced).
- The draft 2024 W/WW MP is centered around several key servicing strategies to address risk and capacity considerations, including: optimization of existing infrastructure, new well supplies, water/wastewater treatment plant expansions, extensions of existing water distribution / wastewater collection systems, system redundancy projects, water conservation and sewer system inflow and infiltration reduction.
- A comprehensive public consultation and engagement campaign was undertaken throughout the Master Plan as per the MCEA process. The process involved Community Members, Area Municipalities, Review Agencies, Indigenous Communities, public interest groups, businesses and other stakeholders. Following the potential issuance of the Master Plan Study Notice of Completion, the final consultative stage will include a 45 day review opportunity for all interested parties to comment on the draft W/WW MP Study Report.

Implementation Points

Upon Council approval, staff will proceed to issue and file a Notice of Completion for the draft 2024 W/WW MP. Copies of the final draft of the Master Plan Study Report will be available upon request as well as posted to the Oxford County website and online engagement hub at *Speak Up, Oxford!*.

Following a 45 day public review period and subject to comments received, the 2024 W/WW MP Class Environmental Assessment (Class EA) Study Report can be finalized and filed.

It is recognized that the 2024 W/WW MP proceeded under Approach 1 of the MCEA process and does not address MCEA requirements for Schedule B and Schedule C projects. Class EA Studies for these applicable projects, as identified in the W/WW MP, will be carried out in greater detail in the future at which time the public, agencies, and Indigenous Communities will be provided an opportunity for ongoing review and comment on the same.

Financial Impact

There are no financial impacts to the 2023 Business Plan and Budget based on the recommendations contained within this report.

Once finalized, the 2024 W/WW MP will become an input to the County's 2024 Water and Wastewater Development Charges Technical Study which will inform the upcoming 2024 Development Charges Background Study. It is anticipated that the approved growth forecast to 2046 and associated capital implementation plan may be further refined through the ongoing 2024 Development Charges process.

Future implementation of projects identified in the 2024 W/WW MP will be considered by County Council through the annual budgeting process to which approved projects will be integrated within the County's 2022 Asset Management Plan which focuses on lifecycle needs of existing projects and incorporates the needs of growth projects identified in the Development Charges Background Study.

Increases to the level of services provided, or addition of new services, are not explicitly accounted for within the annual contribution to reserves. It is likely that additional funding and staff resourcing will be required to implement all projects identified in the W/WW MP, including the use of long-term debenture funding, increases to rates and possible prioritization of service projects over lifecycle projects to accommodate funding limitations. Staff will seek out additional funding opportunities wherever possible.

Communications

As noted in Report No. [PW 2022-47](#), an extensive public consultation and engagement program was carried out during the development of the 2024 W/WW MP in order to provide meaningful opportunities for public, Indigenous Communities and stakeholder input. The feedback and input received has been summarized in the draft 2024 W/WW MP Study Report.

The community engagement around the 2024 W/WW MP was undertaken through a range of tools to seek feedback from Oxford's various communities and demographics as follows:







- **Speak Up, Oxford!** This serves as the engagement hub for consultation. It was published in March 2022, with 2300 total visits to the site since its launch.
- **Feedback surveys and question form:** Together, the interactive tools solicited input from 94 visitors who reviewed information or participated in feedback forms (surveys) and/or a questions tool. There were also 583 downloads of documents (public notices, Public Consultation Centre presentations).
- **Public Consultation Centre (PCC) #1:** Taking place on September 29, 2022, this event drew approximately 10 participants for a nearly one and a half hour discussion.
- **PCC #2:** Took place on June 27, 2023, this event drew approximately 25 participants over a nearly two-hour discussion.
- **"Pop-up" events:** These in-person events provided an opportunity for members of the public to speak directly with the project team during the first consultation window, including Canada's Outdoor Farm Show (September 14, 2022), Tillsonburg Ribfest (September 23 and 24, 2022), Ingersoll Town Council Chamber (September 26, 2022).
- **Print advertising:** For audiences that prefer to receive news through newspapers and community publications, information on how to provide input was outlined in 28 **print ads** and **public notices** during the consultation period. Publications encompassed the *Oxford Review*, *Norfolk-Tillsonburg News*, *Woodstock Sentinel Review*, *Ayr News*, *Wilmot-Tavistock Gazette*, *St. Marys Independent*, *What's On Woodstock* and *Village Voice Oxford* editions.
- **Digital (web) and social media ads:** There was extensive online advertising throughout both consultation phases encompassing Facebook and Instagram for social media and digital advertising on popular websites geo-targeted to Oxford County residents. "Organic" (non-paid) postings on the County's social media pages has been ongoing.
- **Media:** A **news release** and posts to the Oxford County **website** were performed.
- **Stakeholder consultation meetings:** Sessions with Area Municipalities, community partners and other key stakeholders ensured such parties were informed about the process and were given opportunity to provide input.

Overall, feedback received through the public consultation and engagement campaign indicated general support for the 2024 W/WW MP strategy. The feedback centered on water and wastewater system service provisions, feasibility and cost effectiveness related to the following topics:

- Drinking water quality improvements (aesthetic);
- Water and wastewater servicing reliability;
- Changing servicing demands and infrastructure expansion (growth considerations);
- Water conservation programs and initiatives;
- Wastewater and water treatment enhancements; and
- Climate change resiliency.

Report No. PW 2023-33 will be circulated to Area Municipalities for information.

Strategic Plan (2020-2022)

					
WORKS WELL TOGETHER	WELL CONNECTED	SHAPES THE FUTURE	INFORMS & ENGAGES	PERFORMS & DELIVERS	POSITIVE IMPACT
1.ii.		3.iii.	4.i. 4.ii.	5.ii.	

DISCUSSION

Background

As noted in Report No. PW 2022-47, the draft 2024 W/WW MP was developed as a strategic planning document which prescribed Oxford County’s comprehensive long-term water and wastewater servicing strategies that will support existing needs and accommodate future growth in population and employment through to the year 2046 in accordance with the 2020 Provincial Policy Statement and the County’s approved Phase I Comprehensive Review (2020).

The draft 2024 W/WW MP was undertaken in accordance with the MCEA process for Master Plans (Appendix 4, Approach #1 of the MCEA, October 2000, as amended in 2007, 2011, 2015 and 2023). Accordingly, the draft 2024 W/WW MP considered all reasonable water and wastewater servicing alternatives and developed a preferred alternative that offered the lowest potential impacts on the natural, cultural, social and economic environment of the community.

In addition to the social, cultural, economic and environmental considerations, focus was placed on sustainability, constructability, operability and service integration with other existing or future water, wastewater and road infrastructure projects. The alternative water and wastewater servicing strategies were assessed for the greatest utility and potential impacts using the evaluation criteria framework shown in Table 1.

Table 1: Water and Wastewater Servicing Evaluation Criteria

Category	Criteria
Technical	<ul style="list-style-type: none"> • Constructability • Improvement to operations • Infrastructure required • Approval requirements • Risk mitigation– regulatory, supply security, climate change, etc.
Social and Cultural	<ul style="list-style-type: none"> • Public acceptance • Impact to cultural heritage infrastructure and landscapes • Impact to archaeological infrastructure and resources
Environmental	<ul style="list-style-type: none"> • Impact to aquatic and terrestrial species and habitat • Impact to surface water quantity and quality • Impact on climate change
Economic	<ul style="list-style-type: none"> • Capital costs • Operation and maintenance costs • Allows for planned community growth

Comments

Preferred Servicing Strategies

Following review of opportunities and constraints across Oxford County's 17 municipal drinking water systems and 11 wastewater systems, the need to develop alternative servicing concepts and strategies were based on ensuring that there is sufficient treatment and transmission capacity available in time to service projected growth as well as sustain service to existing residents and businesses.

Of note, the draft 2024 W/WW MP was established to service growth and development that was focused within designated settlement areas, including fully serviced (municipal) large urban centers and villages as well as partially serviced (municipal) villages. The draft 2024 W/WW MP was directed to assume that any current privately serviced (well and/or septic) villages and/or rural clusters will remain on such servicing given that County approved growth was limited to minor infilling in those areas.

The preferred water and wastewater strategies were developed with the intent to:

- Optimize and maximize the available capacity in existing infrastructure before adding new infrastructure that may be required for additional treatment or transmission capacity;
- Provide reliability, redundancy and security in the infrastructure systems;
- Develop infrastructure systems which meet the MECP legislative requirements, best management practices and County's established asset level of service framework;
- Utilize proven, reliable, and financially sustainable technologies;
- Recognize water conservation and sewage system infiltration reduction measures which support environmental sustainability;
- Optimize pumping and storage infrastructure to maintain level of service under emergency conditions and extreme weather events; and
- Offer infrastructure solutions that recognize potential for growth beyond current planning horizons.

A high-level executive summary of the draft 2024 W/WW MP strategies, associated key actions and implementation plan is provided in Attachment 1. The complete final draft W/WW MP Report can be viewed on W/WW MP project webpage at <https://speakup.oxfordcounty.ca/wwwmp>.

Preferred Water Servicing Strategy and Projects

The preferred water servicing strategy involves extending existing water distribution systems (watermain extensions, new booster pumping stations, new storage facilities) to service infill areas and employment lands, optimizing existing well supply yields, expanding existing water treatment plant capacities, developing new well supplies, ongoing source water protection initiatives and continuing water conservation best management practices.

The preferred water servicing strategy has identified numerous water capital projects which are required to service existing needs and anticipated growth in Oxford County. The overall water capital program from 2024 to 2046 has been estimated to be approximately \$245 million (2023 dollars).

Below is a list of significant water projects for various County drinking water systems (DWS) anticipated for implementation over this timeframe:

Township of Blandford-Blenheim

- *Drumbo DWS* – Standby power to existing wells, trunk watermain extensions/upsizing, new well supply, new water treatment plant with filtration
- *Plattsville DWS* – Water treatment plant filtration upgrades, new well supply
- *Bright DWS* - Plattsville to Bright water system interconnection, Well 5 decommissioning

Township of East Zorra-Tavistock

- *Tavistock DWS* – New Well Supply, New Treatment Plant with Onsite Water Storage, Trunk watermain extensions/upsizing, Water Treatment Plant Filtration Upgrades, Water Tower Rehabilitation
- *Innerkip DWS* – Water Infrastructure Refurbishment
- *Hickson DWS* – Water Infrastructure Refurbishment

Township of Zorra

- *Embro DWS* – New Water Storage, Reservoir disinfection (contact time) alterations, water storage enhancements
- *Thamesford DWS* – Trunk watermain extensions, Reservoir disinfection (contact time) alterations
- *Lakeside DWS* – Water Infrastructure Refurbishment

Township of South-West Oxford

- *Mount Elgin DWS* – Water Treatment Plant Optimization, Ingersoll to Mount Elgin Water System Interconnection
- *Beachville DWS* – New Well Supply and Water Storage
- *Brownsville DWS* – Water Quality Improvements, Water Treatment Plant Filtration Addition
- *Dereham Centre DWS* – Water Infrastructure Refurbishment

Township of Norwich

- *Norwich-Otterville-Springford DWS* – Norwich Water Treatment Plant Filtration and Storage

Town of Tillsonburg

- *Tillsonburg DWS* – Upgrades to Wells 3 and 6A Treatment Facilities (Off-line), Well 7A Filtration Upgrades, Replacements of Wells 1A and 2, Standby Power, Water Storage Expansion, Trunk watermain extensions/upsizing, Source Water Protection

Town of Ingersoll

- *Ingersoll DWS* - Trunk watermain extensions/upsizing, New Booster Pumping Station, New Elevated Water Storage, Water Quality Improvement Pilot (taste / smell)

City of Woodstock

- *Woodstock DWS* – Standby Power, Southside Water Treatment Plant Replacement, Feedermain Twinning, Upgrades to Wells 6 and 9, Trunk watermain extensions/upsizing, New Water Booster Pumping Stations, Pressure Zone Boundary Adjustments, Source Water Protection

Preferred Wastewater Servicing Strategy and Projects

The preferred wastewater servicing strategy involves expanding existing wastewater collection systems (sewer mains extensions, new/upsized forcemains, new/upgraded sewage pumping stations) to service infill areas and employment lands, rehabilitating aging trunk sewers, expanding existing water treatment plant capacities and initiating sewer system inflow and infiltration reduction best management practices.

The preferred wastewater servicing strategy has identified numerous wastewater capital projects which are required to service existing needs and anticipated growth in Oxford County. The overall wastewater capital program from 2024 to 2046 has been estimated to be approximately \$329 million (2023 dollars). Below is a list of significant wastewater projects for various County wastewater systems (WWS) anticipated for implementation over this timeframe:

Township of Blandford-Blenheim

- *Drumbo WWS* – Wastewater Treatment Plant Capacity Expansion (Phase 2), Standby power to SPS locations
- *Plattsville WWS* – Wastewater Treatment Plant Optimization, Lagoon biosolids removal and berm repair, Trunk sewer extensions, forcemain twinning and capacity review

Township of East Zorra-Tavistock

- *Tavistock WWS* – Wastewater Treatment Plant Capacity Expansion (Phase 2), Sewage Pumping Station Capacity Upgrades, Trunk sewer extensions/upsizing, Sewer System Inflow and Infiltration Reduction
- *Innerkip WWS* – Upsizing/Twinning of Forcemain to Woodstock

Township of Zorra

- *Embro WWS* – Sewage Pumping Station Capacity Upgrades, Upsizing/Twinning of Forcemain to Woodstock
- *Thamesford WWS* – Wastewater Treatment Plant Upgrades

Township of South-West Oxford

- *Mount Elgin WWS* – Wastewater Treatment Plant Capacity Expansion (Phase 3 / 4), Ingersoll to Mount Elgin Wastewater System Interconnection (Forcemain)

Township of Norwich

- *Norwich WWS* – Wastewater Treatment Plant Capacity Expansion (Phase 2), Lagoon biosolids removal and berm repair

Town of Tillsonburg

- *Tillsonburg WWS* – Wastewater Treatment Plant Capacity Expansion (Phase 2), Trunk sewer rehabilitation, Upgrades to Sewage Pumping Stations, Forcemain Upgrades, Trunk sewer extensions/upsizing

Town of Ingersoll

- *Ingersoll WWS* - Trunk sewer extensions/upsizing, New Sewage Pumping Stations, New Forcemains, New Trunk sewer river crossing, Wastewater Treatment Plant Upgrades

City of Woodstock

- *Woodstock DWS* – Trunk sewer extensions/upsizing, New Forcemains, New/Upgraded Sewage Pumping Stations, Wastewater Treatment Plant Upgrades, Brick Pond Trunk sewer realignment, Sewer Inflow and Infiltration Reduction

Conclusions

As part of integrated growth management in Oxford County, the water and wastewater servicing strategies and identified infrastructure projects will accommodate the servicing needs in accordance with the County's approved Phase I Comprehensive Review (2020) growth forecast. Further, the preferred servicing strategies will enhance existing system needs and reliability of water and wastewater servicing provisions for existing County residents and businesses.

All project needs have been incorporated in the County's water and wastewater multi-year capital implementation plan to 2046, at a total estimated cost of approximately \$574 million between the years of 2024 and 2046 (~ \$25 million annually).

It is anticipated that the approved growth forecast to 2046 and associated capital implementation plan may be further refined through the ongoing 2024 Development Charges process.

SIGNATURES

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Original signed by

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Approved for submission:

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ATTACHMENT

Attachment 1 – Draft 2024 Water and Wastewater Master Plan Executive Summary (July 2023)